3R – 432

2014 AGWMR

04 / 16 / 2015

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ConocoPhillips

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

April 16, 2015

Re: NMOCD Case No. 3R-432, 2014 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 2014.

Please let me know if you have any questions.

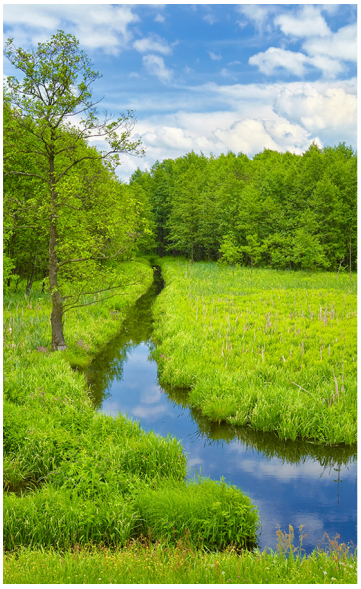
Sincerely,

Rick Greiner

Enc

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com



2014 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

February 2015 • 074935 • Report No. 6

Partners in Sustainability

Table of Contents

Page

List of Figures
(Following Text)

List of Tables
(Following Text)

List of Appendices

Section 1.0 Introduction

This report presents the results of quarterly groundwater sampling events conducted during 2014 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 New Mexico Oil Conservation Division (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/monitoring wells using a hand auger between June 25 and 26, 2008. Solar-powered soil vapor extraction (SVE) equipment was installed over Monitoring Well MW-1 on August 14, 2008 to facilitate the remediation of the area. To date, the SVE equipment continues to operate and remains in place over Monitoring Well MW-1.

Envirotech conducted quarterly groundwater sampling events beginning June 25, 2008 and recommended discontinuing the sampling of Monitoring 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 21, June 16, September 19, and December 17, 2014.

2.2 Groundwater Monitoring Methodology

Prior to collection of groundwater samples, depth to groundwater in each Site monitoring well was measured using an oil/water interface probe (**Table 2**).

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

multi-parameter sonde and results were recorded and are summarized in **Table 3**, Field Paramater Summary.

2.3 Groundwater Monitoring Results

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 2014 quarterly groundwater elevations are presented as **Figures 3, 4, 5, and 6**.

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 of 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 and results of the 2014 quarterly groundwater sampling events are discussed below.

- **Benzene:** NNPDWR drinking water quality standard for benzene is 0.005 milligrams per liter (mg/L). Groundwater samples collected from Monitoring Well MW-1 during the June, September, and December 2014 quarterly sampling events were found to contain benzene at concentrations of 0.133 mg/L, 0.159 mg/L, and 0.0137 mg/L, respectively.
- **Toluene:** The NNPDWR drinking water quality standard for toluene is 1.0 mg/L. Groundwater samples collected from MW-1 during the June and September 2014 quarterly sampling events were found to contain toluene at concentrations of 1.94 mg/L and 2.34 mg/L, respectively.
- **Ethylbenzene:** The NNPDWR drinking water quality standard for ethylbenzene is 0.7 mg/L. The groundwater sample collected from MW-1 during the June 2014 quarterly sampling event was found to contain ethylbenzene at a concentration of 0.994 mg/L.

Copies of Laboratory Analytical Reports for the 2014 quarterly groundwater sampling events are included in **Appendix A**. A historical laboratory analytical summary is available as **Table 4**. 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 Conclusions and Recommendations

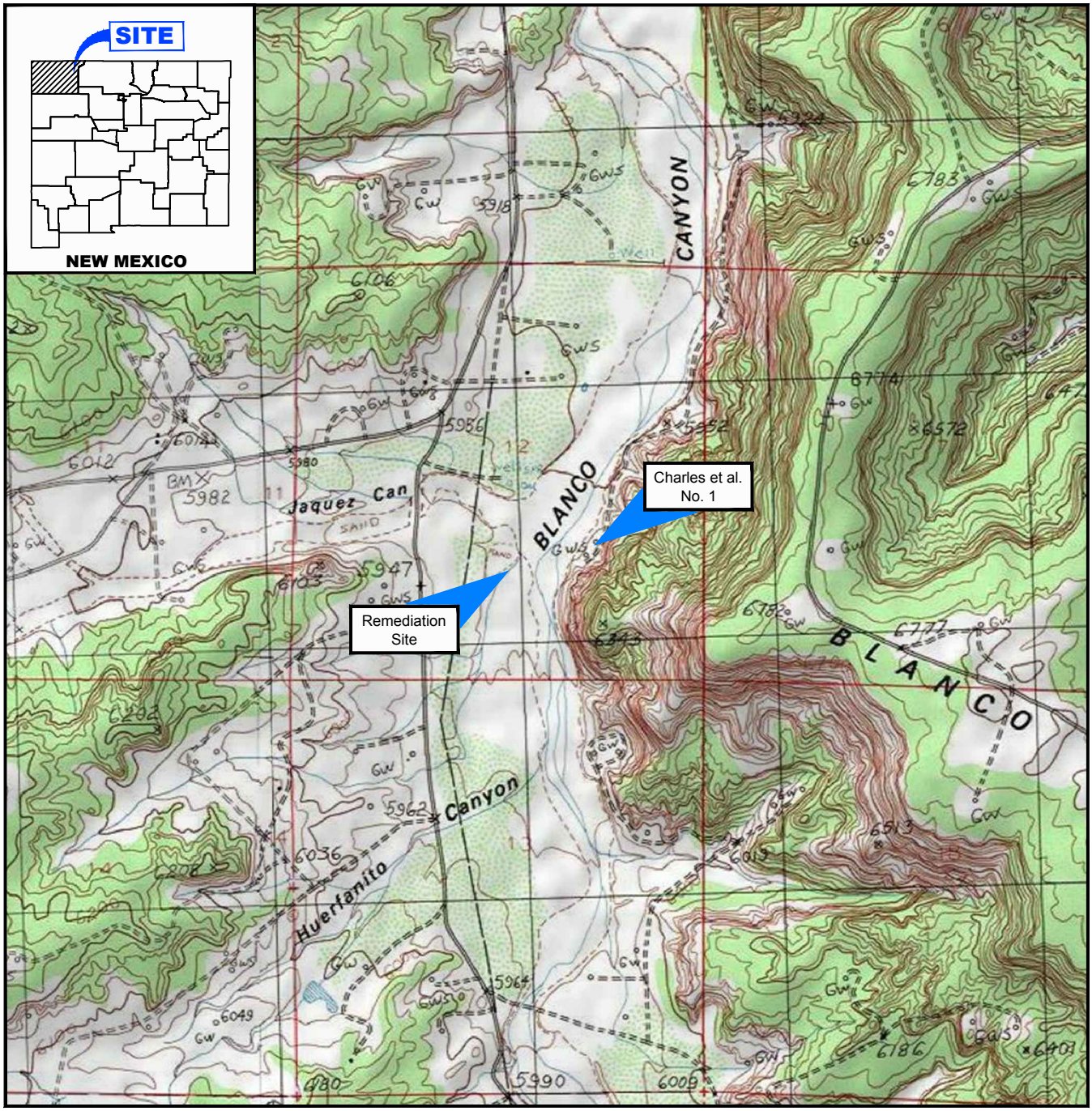
Groundwater samples collected from MW-1 have continually exceeded NNPDWR drinking water quality standards for benzene from June 2008 to December of 2014 and have intermittently exceeded the standards for toluene and ethylbenzene.

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 the localization of hydrocarbon impacts and unknown well construction, CRA, after discussions with Mr. Jim Griswold of the NMOCD, recommends the plugging and abandonment of all Site monitoring wells. A new monitoring well will be installed immediately adjacent to the location of MW-1 and will be installed using appropriate drilling and installation methods. The new monitoring well will be subsequently sampled and analyzed for BTEX. Data from this sampling event will be reviewed in order to develop a plan to move towards Site closure.

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.

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(006)GN-DL004_TOPO OCT 28/2014

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

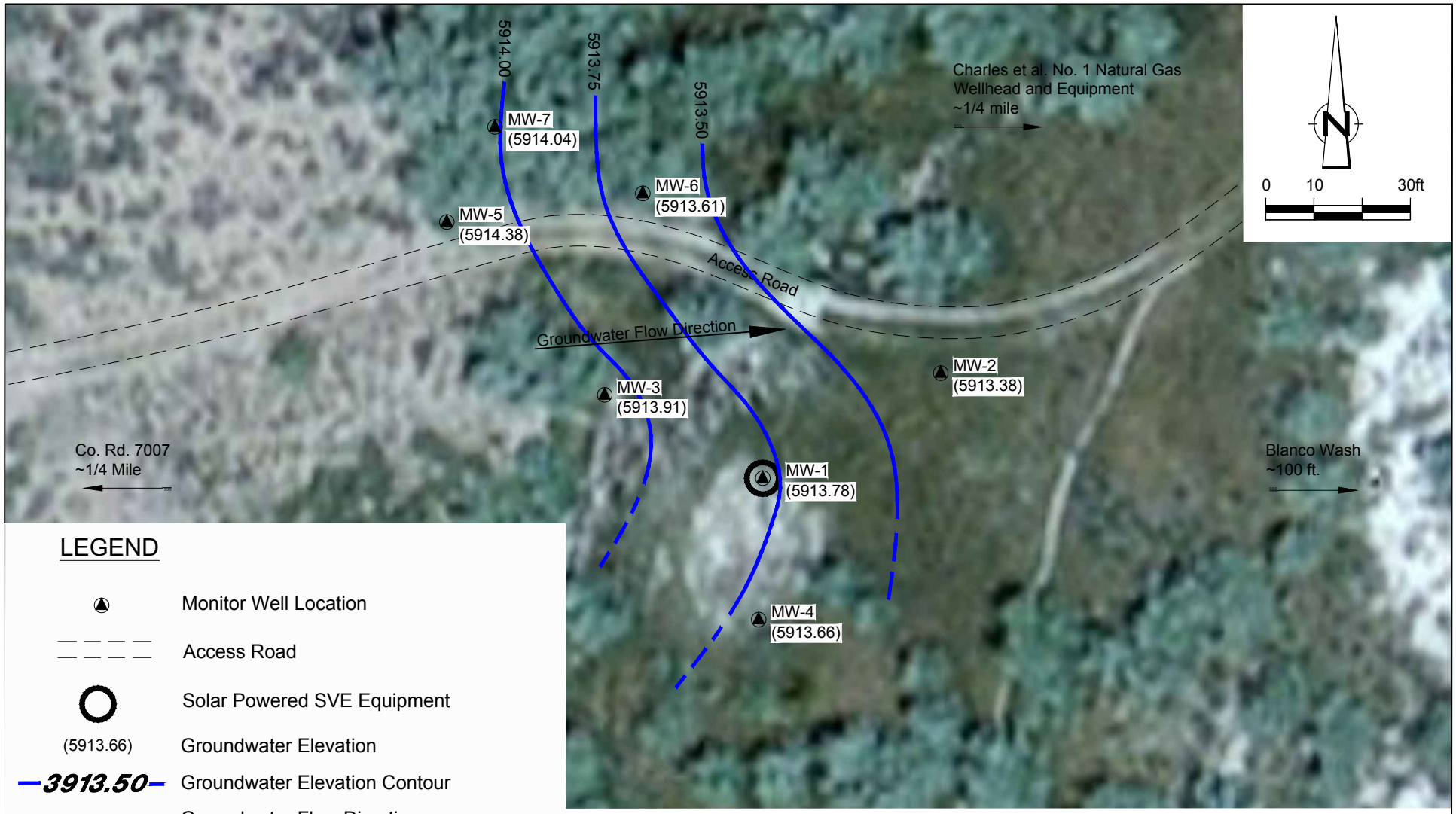


Figure 3

MARCH 2014 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(006)GN-DL002_GG OCT 28/2014

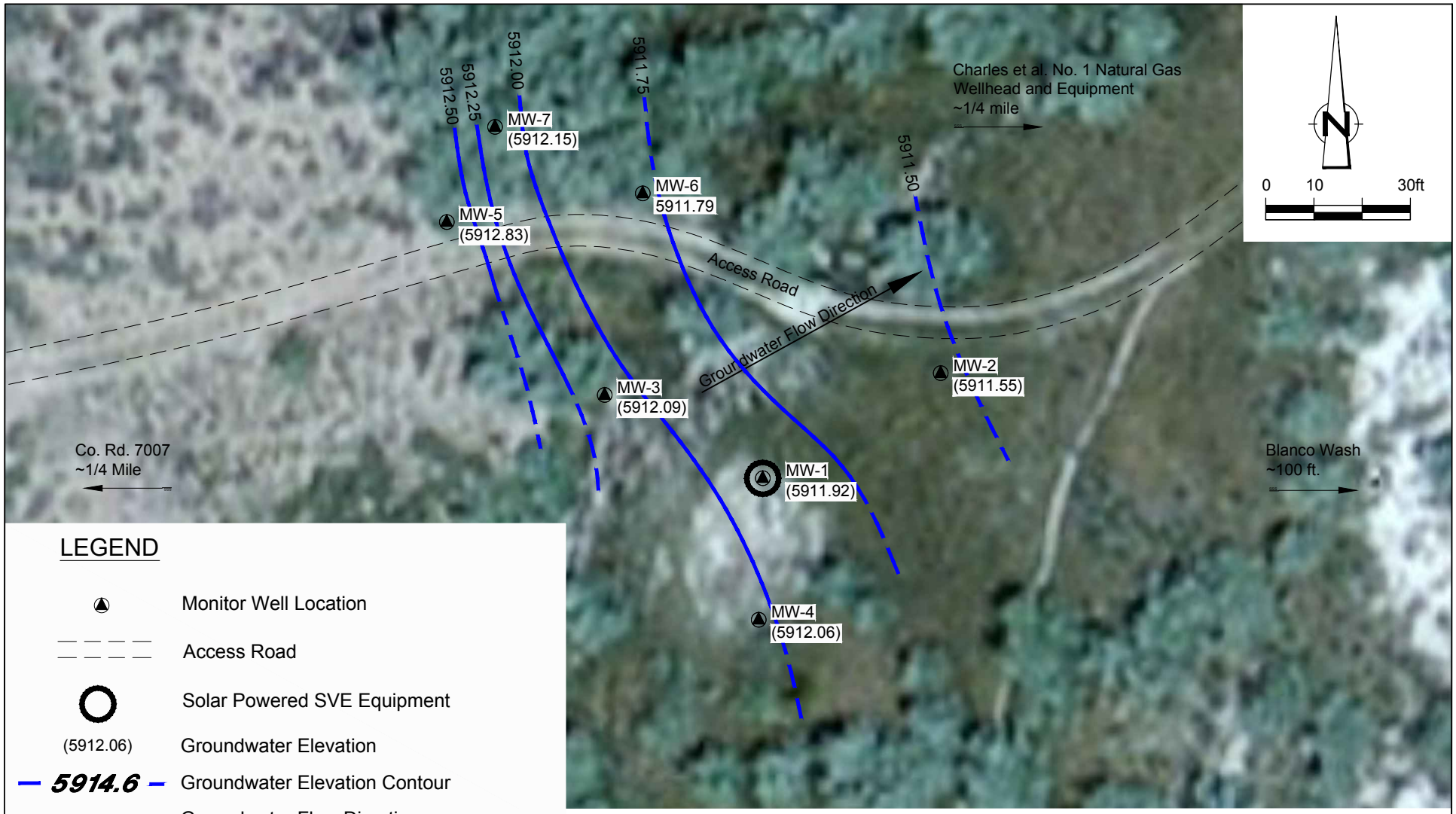


Figure 4

JUNE 2014 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"

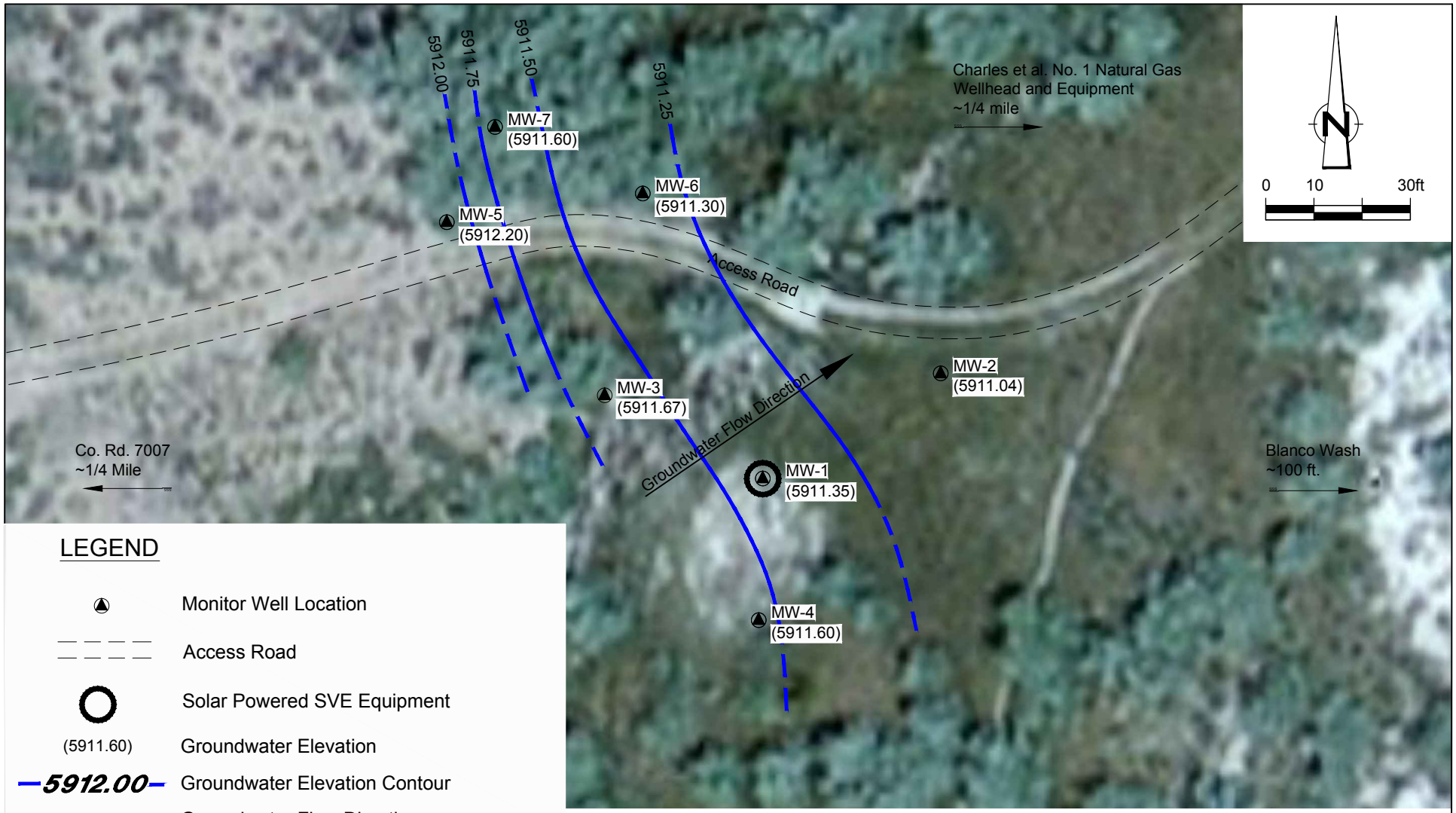


Figure 5

SEPTEMBER 2014 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(006)GN-DL002_GG OCT 28/2014

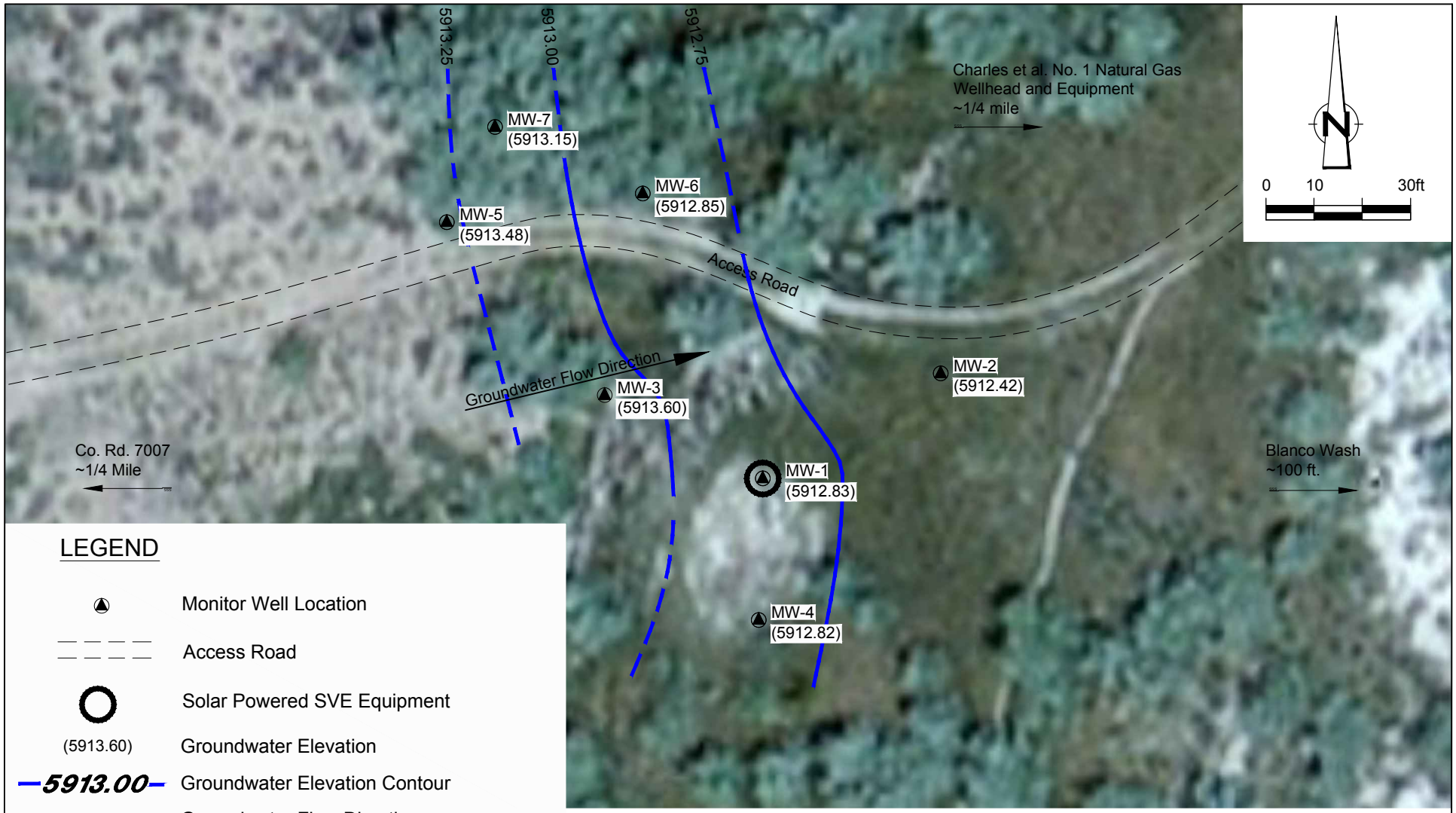


Figure 6

DECEMBER 2014 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(006)GN-DL002_GG JAN 16/2015

Figure 7

MARCH 2014 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(006)GN-DL003_BENZ OCT 28/2014

Figure 8

JUNE 2014 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(006)GN-DL003_BENZ OCT 28/2014

LEGEND

- Monitor Well Location
- Access Road
- Solar Powered SVE Equipment
- (0.159) 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 2014 BENZENE CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074935-95(006)GN-DL003_BENZ OCT 28/2014

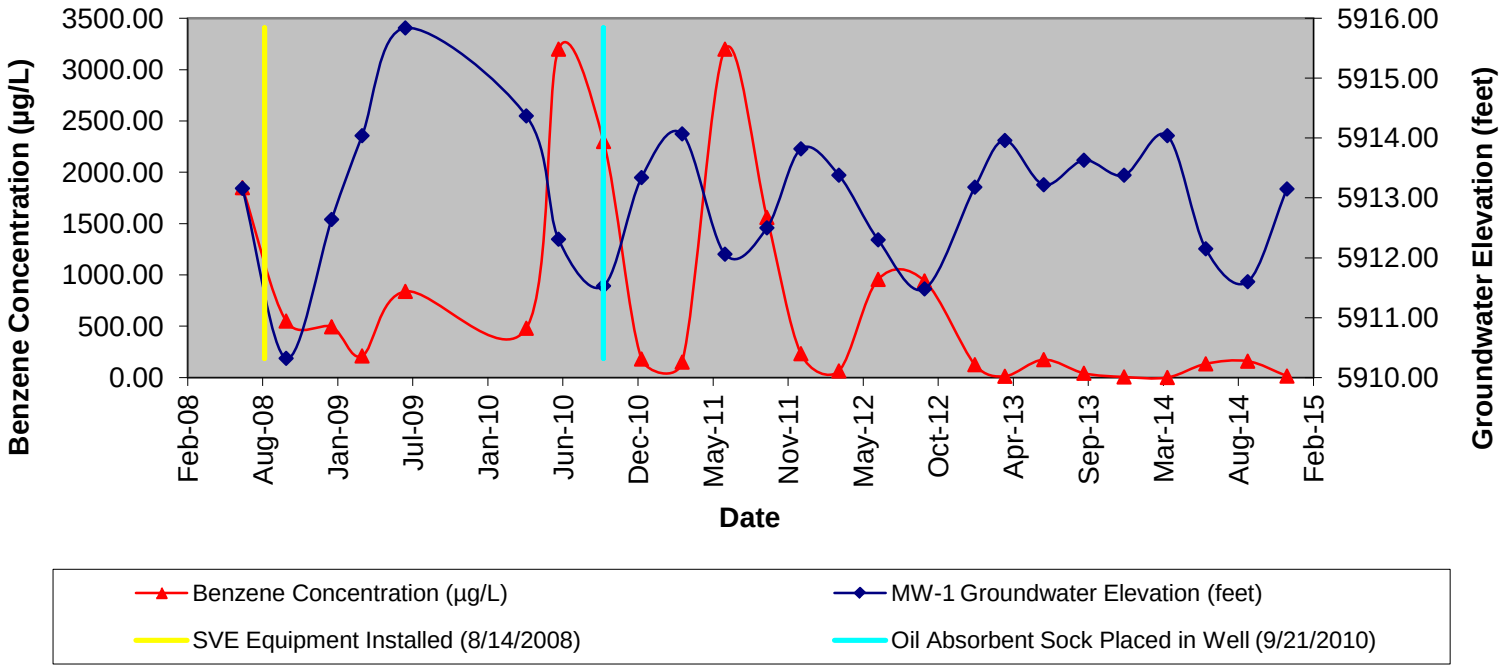
Adapted from Tetratech, Inc. figure,
"Site Layout Map"

Figure 10

DECEMBER 2014 BENZENE CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074935-95(006)GN-DL003_BENZ JAN 16/2015

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.
March 21, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 did not exceed the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
June 16, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 19, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 17, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards.

TABLE 2

MONITORING 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
		3/21/2014	3.27	5913.78
		6/16/2014	5.13	5911.92
		9/19/2014	5.70	5911.35
		12/17/2014	4.22	5912.83
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
		3/21/2014	3.15	5913.38
		6/16/2014	4.98	5911.55
		9/19/2014	5.49	5911.04
		12/17/2014	4.11	5912.42

TABLE 2

MONITORING 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-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
		3/21/2014	5.89	5913.91
		6/16/2014	7.71	5912.09
		9/19/2014	8.13	5911.67
		12/17/2014	6.71	5913.09
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
		3/21/2014	6.03	5913.66
		6/16/2014	7.63	5912.06
		9/19/2014	8.09	5911.60
		12/17/2014	6.87	5912.82

TABLE 2

MONITORING 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-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
		3/21/2014	7.17	5914.38
		6/16/2014	8.72	5912.83
		9/19/2014	9.35	5912.20
		12/17/2014	8.07	5913.48
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
		3/21/2014	5.03	5913.61
		6/16/2014	6.85	5911.79
		9/19/2014	7.34	5911.30
		12/17/2014	5.79	5912.85

TABLE 2

MONITORING 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
		3/21/2014	4.70	5914.04
		6/16/2014	6.59	5912.15
		9/19/2014	7.14	5911.60
		12/17/2014	5.59	5913.15

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

FIELD PARAMETERS SUMMARY
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (µS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-1	3/21/2014	4.11	6.56	5.442	8371	2.48	-170.9	1.00
	3/21/2014	4.03	6.81	5.412	8325	2.05	-196.2	1.50
	3/21/2014	3.97	6.79	5.405	8315	1.85	-211.9	2.00
	6/16/2014	12.62	6.90	3.118	4792	6.49	-332.9	0.25
	6/16/2014	13.02	6.94	3.130	4818	1.02	-367.4	0.75
	9/19/2014	No parameters collected due to low well volume.						
	12/17/2014	5.30	6.32	3.100	4860	8.81	-236.0	1.50
MW-2	3/21/2014	5.21	6.86	3.161	4864	4.14	-103.7	1.25
	3/21/2014	5.34	6.95	3.129	4813	3.25	-107.2	1.75
	3/21/2014	5.56	6.96	3.208	4933	3.16	-118.3	2.25
	6/16/2014	12.89	5.74	2.485	3816	2.46	-167.6	0.25
	9/19/2014	15.60	8.02	1.700	2660	13.20	-246.0	0.25
	12/17/2014	6.70	6.47	2.900	4540	9.87	-151.0	1.25
MW-3	3/21/2014	5.74	6.82	2.216	3410	3.84	-90.9	1.25
	3/21/2014	5.76	6.87	2.215	3409	3.04	-122.7	1.75
	3/21/2014	5.60	6.99	2.227	3426	2.47	-148.2	2.25
	6/16/2014	11.62	6.82	2.027	3118	3.94	-132.8	0.50
	6/16/2014	11.62	6.63	2.016	3102	3.63	-135.0	1.00
	6/16/2014	11.44	6.65	2.011	3094	3.15	-140.7	1.50
	9/19/2014	15.30	7.35	1.70	2590	11.55	-117.0	0.25
	9/19/2014	15.40	7.07	1.60	2580	11.08	-129.0	0.40
	12/17/2014	7.30	6.44	2.400	3720	10.07	-35.0	1.00
MW-4	3/21/2014	5.44	6.90	4.284	6591	4.17	-95.4	1.25
	3/21/2014	5.23	6.86	4.571	7036	3.17	-98.5	1.75
	3/21/2014	5.30	6.80	4.576	7042	3.34	-100.7	2.25
	6/16/2014	11.26	6.99	3.250	5009	6.36	-100.0	0.75
	6/16/2014	11.24	6.95	3.225	4961	4.35	-112.1	1.00
	6/16/2014	11.52	6.63	3.190	4907	4.41	-106.0	1.25
	9/19/2014	15.10	7.89	3.90	6130	12.48	-120.0	0.25
	12/17/2014	7.40	6.31	4.900	7720	9.63	-49.0	1.25

Notes:
TDS = total dissolved solids
DO = dissolved oxygen
ORP = oxidation-reduction potential

TABLE 4

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
	GW-074935-032114-CK-MW-1	3/21/2014	(orig)	< 0.001	0.0348	0.0591	0.247
	GW-074935-032114-CK-DUP	3/21/2014	(Duplicate)	< 0.001	0.0385	0.0651	0.260
	GW-074935-061614-CK-MW-1	6/16/2014	(orig)	**0.133**	**1.940**	**0.994**	4.50
	GW-074935-061614-CK-DUP	6/16/2014	(Duplicate)	**0.134**	**1.920**	**0.921**	4.50
	GW-074935-091914-CB-MW-1	9/19/2014	(orig)	**0.159**	**2.34**	0.630	3.38
	GW-074935-121714-JW-MW-1	12/17/2014	(orig)	**0.0138**	0.422	0.248	1.48
	GW-074935-121714-JW-DUP	12/17/2014	(Duplicate)	**0.0137**	0.440	0.251	1.52

TABLE 4

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-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)	0.0006	< 0.001	< 0.001	< 0.003
	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
	GW-074935-032114-CK-MW-2	3/21/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061614-CK-MW-2	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-MW-2	9/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121714-JW-MW-2	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
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)	< 0.001	< 0.001	< 0.001	< 0.003
	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
	GW-074935-032114-CK-MW-3	3/21/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061614-CK-MW-3	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-MW-3	9/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-DUP	9/19/2014	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121714-JW-MW-3	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003

TABLE 4

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-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)	< 0.001	< 0.001	< 0.001	< 0.003
	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
	GW-074935-032114-CK-MW-4	3/21/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061614-CK-MW-4	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-MW-4	9/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121714-JW-MW-4	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
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 = monitoring 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

Groundwater Laboratory Analytical Reports

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

April 07, 2014

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.: 60165503

Dear Jeff Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 2014. 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

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CERTIFICATIONS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

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.: 60165503

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165503001	**GW-074935-032114-CK-MW-1**	Water	03/21/14 11:50	03/22/14 09:00
60165503002	**GW-074935-032114-CK-MW-2**	Water	03/21/14 11:35	03/22/14 09:00
60165503003	**GW-074935-032114-CK-MW-3**	Water	03/21/14 11:40	03/22/14 09:00
60165503004	**GW-074935-032114-CK-MW-4**	Water	03/21/14 11:45	03/22/14 09:00
60165503005	**GW-074935-032114-CK-DUP**	Water	03/21/14 08:00	03/22/14 09:00
60165503006	**TB-074935-032114-CK-1**	Water	03/21/14 00:00	03/22/14 09:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165503001	**GW-074935-032114-CK-MW-1**	EPA 5030B/8260	JTS	8
60165503002	**GW-074935-032114-CK-MW-2**	EPA 5030B/8260	JTS	8
60165503003	**GW-074935-032114-CK-MW-3**	EPA 5030B/8260	JTS	8
60165503004	**GW-074935-032114-CK-MW-4**	EPA 5030B/8260	JTS	8
60165503005	**GW-074935-032114-CK-DUP**	EPA 5030B/8260	JTK	8
60165503006	**TB-074935-032114-CK-1**	EPA 5030B/8260	JTK	8

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PROJECT NARRATIVE

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 07, 2014

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/60338

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

QC Batch: MSV/60433

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.: 60165503

Sample: GW-074935-032114-CK-MW-1 **Lab ID: 60165503001** Collected: 03/21/14 11:50 Received: 03/22/14 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		03/31/14 12:50	71-43-2	
Ethylbenzene	**59.1**	ug/L	1.0	1		03/31/14 12:50	100-41-4	
Toluene	**34.8**	ug/L	1.0	1		03/31/14 12:50	108-88-3	
Xylene (Total)	**247**	ug/L	3.0	1		03/31/14 12:50	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		03/31/14 12:50	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		03/31/14 12:50	17060-07-0	
Toluene-d8 (S)	102	%	80-120	1		03/31/14 12:50	2037-26-5	
Preservation pH	**1.0**		0.10	1		03/31/14 12:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Sample: GW-074935-032114-CK-MW-2 **Lab ID: 60165503002** Collected: 03/21/14 11:35 Received: 03/22/14 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		03/27/14 01:28	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/27/14 01:28	100-41-4	
Toluene	ND	ug/L	1.0	1		03/27/14 01:28	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/27/14 01:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		03/27/14 01:28	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		03/27/14 01:28	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		03/27/14 01:28	2037-26-5	
Preservation pH	**1.0**		0.10	1		03/27/14 01:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Sample: GW-074935-032114-CK-MW-3 **Lab ID: 60165503003** Collected: 03/21/14 11:40 Received: 03/22/14 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		03/27/14 01:44	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/27/14 01:44	100-41-4	
Toluene	ND	ug/L	1.0	1		03/27/14 01:44	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/27/14 01:44	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		03/27/14 01:44	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		03/27/14 01:44	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		03/27/14 01:44	2037-26-5	
Preservation pH	**1.0**		0.10	1		03/27/14 01:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Sample: GW-074935-032114-CK-MW-4 **Lab ID: 60165503004** Collected: 03/21/14 11:45 Received: 03/22/14 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		03/27/14 02:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/27/14 02:00	100-41-4	
Toluene	ND	ug/L	1.0	1		03/27/14 02:00	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/27/14 02:00	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		03/27/14 02:00	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		03/27/14 02:00	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		03/27/14 02:00	2037-26-5	
Preservation pH	**1.0**		0.10	1		03/27/14 02:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Sample: GW-074935-032114-CK-DUP **Lab ID: 60165503005** Collected: 03/21/14 08:00 Received: 03/22/14 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		03/28/14 16:22	71-43-2	
Ethylbenzene	**65.1**	ug/L	1.0	1		03/28/14 16:22	100-41-4	
Toluene	**38.5**	ug/L	1.0	1		03/28/14 16:22	108-88-3	
Xylene (Total)	**260**	ug/L	3.0	1		03/28/14 16:22	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		03/28/14 16:22	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		03/28/14 16:22	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		03/28/14 16:22	2037-26-5	
Preservation pH	**1.0**		0.10	1		03/28/14 16:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

Sample: TB-074935-032114-CK-1 **Lab ID: 60165503006** Collected: 03/21/14 00:00 Received: 03/22/14 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		03/28/14 16:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/28/14 16:38	100-41-4	
Toluene	ND	ug/L	1.0	1		03/28/14 16:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/28/14 16:38	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		03/28/14 16:38	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		03/28/14 16:38	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		03/28/14 16:38	2037-26-5	
Preservation pH	**1.0**		0.10	1		03/28/14 16:38		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

QC Batch: MSV/60338 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60165503002, 60165503003, 60165503004

METHOD BLANK: 1350438 Matrix: Water
Associated Lab Samples: 60165503002, 60165503003, 60165503004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/26/14 20:35	
Ethylbenzene	ug/L	ND	1.0	03/26/14 20:35	
Toluene	ug/L	ND	1.0	03/26/14 20:35	
Xylene (Total)	ug/L	ND	3.0	03/26/14 20:35	
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/26/14 20:35	
4-Bromofluorobenzene (S)	%	97	80-120	03/26/14 20:35	
Toluene-d8 (S)	%	97	80-120	03/26/14 20:35	

LABORATORY CONTROL SAMPLE: 1350439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.6	103	80-120	
Ethylbenzene	ug/L	20	21.3	106	80-121	
Toluene	ug/L	20	20.5	102	80-122	
Xylene (Total)	ug/L	60	63.8	106	80-121	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			99	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.: 60165503

QC Batch: MSV/60387
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60165503005, 60165503006

METHOD BLANK: 1351610 Matrix: Water
Associated Lab Samples: 60165503005, 60165503006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/28/14 14:00	
Ethylbenzene	ug/L	ND	1.0	03/28/14 14:00	
Toluene	ug/L	ND	1.0	03/28/14 14:00	
Xylene (Total)	ug/L	ND	3.0	03/28/14 14:00	
1,2-Dichloroethane-d4 (S)	%	95	80-120	03/28/14 14:00	
4-Bromofluorobenzene (S)	%	102	80-120	03/28/14 14:00	
Toluene-d8 (S)	%	101	80-120	03/28/14 14:00	

LABORATORY CONTROL SAMPLE: 1351611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.7	103	80-120	
Ethylbenzene	ug/L	20	21.0	105	80-121	
Toluene	ug/L	20	20.8	104	80-122	
Xylene (Total)	ug/L	60	62.8	105	80-121	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351612 1351613

Parameter	Units	60165212002 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	21.5	21.4	108	107	37-157	1	32	
Ethylbenzene	ug/L	ND	20	20	22.6	21.9	111	108	31-160	3	32	
Toluene	ug/L	0.0014 mg/L	20	20	24.1	24.2	113	114	35-157	1	37	
Xylene (Total)	ug/L	ND	60	60	64.7	60.8	108	101	34-156	6	37	
1,2-Dichloroethane-d4 (S)	%						94	94	80-120			
4-Bromofluorobenzene (S)	%						101	101	80-120			
Toluene-d8 (S)	%						101	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

QC Batch: MSV/60433
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60165503001

METHOD BLANK: 1352732 Matrix: Water
Associated Lab Samples: 60165503001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/31/14 09:31	
Ethylbenzene	ug/L	ND	1.0	03/31/14 09:31	
Toluene	ug/L	ND	1.0	03/31/14 09:31	
Xylene (Total)	ug/L	ND	3.0	03/31/14 09:31	
1,2-Dichloroethane-d4 (S)	%	94	80-120	03/31/14 09:31	
4-Bromofluorobenzene (S)	%	98	80-120	03/31/14 09:31	
Toluene-d8 (S)	%	101	80-120	03/31/14 09:31	

LABORATORY CONTROL SAMPLE: 1352733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.5	92	80-120	
Ethylbenzene	ug/L	20	21.1	105	80-121	
Toluene	ug/L	20	22.8	114	80-122	
Xylene (Total)	ug/L	60	65.6	109	80-121	
1,2-Dichloroethane-d4 (S)	%			92	80-120	
4-Bromofluorobenzene (S)	%			92	80-120	
Toluene-d8 (S)	%			110	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60165503

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/60338

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

Batch: MSV/60433

[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.: 60165503

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165503001	**GW-074935-032114-CK-MW-1**	EPA 5030B/8260	MSV/60433		
60165503002	**GW-074935-032114-CK-MW-2**	EPA 5030B/8260	MSV/60338		
60165503003	**GW-074935-032114-CK-MW-3**	EPA 5030B/8260	MSV/60338		
60165503004	**GW-074935-032114-CK-MW-4**	EPA 5030B/8260	MSV/60338		
60165503005	**GW-074935-032114-CK-DUP**	EPA 5030B/8260	MSV/60387		
60165503006	**TB-074935-032114-CK-1**	EPA 5030B/8260	MSV/60387		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60165503

60165503

Client Name: COP- ORA N.M.

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 8046 2935 6313 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: 2-0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/22/14 [illegible]

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): 032414-3PFD	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. 1of2 TB
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: [illegible] Date: 3/24/14

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

Start: 1115	Start:
End: 1120	End:
Temp:	Temp:

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

Page: 1 of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	
Project Name:	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

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074935-032114-CK-MW-1	WT	G			3/21/14	1150		3				3					X			30H9H 01
2	GW-074935-032114-CK-MW-2	WT	G			3/21/14	1135		3				3					X			02
3	GW-074935-032114-CK-MW-3	WT	G			3/21/14	1140		3				3					X			03
4	GW-074935-032114-CK-MW-4	WT	G			3/21/14	1145		3				3					X			04
5	GW-074935-032114-CK-DUP	WT	G			3/21/14	—		3				3					X			05
6	TB-074935-032114-CK-1	WT	/			3/—	—		3				3					X			2DH9H (TB) 06
7																					
8																					
9																					
10																					
11																					
12																					

60165503

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Cale Kanack / CRA	3/21/14	1600	E Brockett / Pace	3/22/14	0900	20	4	4	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CALE KANACK

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/21/14

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

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

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

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July 02, 2014

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

RE: Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

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.: 60171758

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171758001	**GW-074935-061614-CK-MW-1**	Water	06/16/14 11:10	06/18/14 08:20
60171758002	**GW-074935-061614-CK-MW-2**	Water	06/16/14 11:15	06/18/14 08:20
60171758003	**GW-074935-061614-CK-MW-3**	Water	06/16/14 10:55	06/18/14 08:20
60171758004	**GW-074935-061614-CK-MW-4**	Water	06/16/14 11:00	06/18/14 08:20
60171758005	**GW-074935-061614-CK-DUP**	Water	06/16/14 00:00	06/18/14 08:20
60171758006	**TRIP BLANK**	Water	06/16/14 10:55	06/18/14 08:20

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SAMPLE ANALYTE COUNT

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171758001	**GW-074935-061614-CK-MW-1**	EPA 5030B/8260	PRG	8
60171758002	**GW-074935-061614-CK-MW-2**	EPA 5030B/8260	PRG	8
60171758003	**GW-074935-061614-CK-MW-3**	EPA 5030B/8260	PRG	8
60171758004	**GW-074935-061614-CK-MW-4**	EPA 5030B/8260	PRG	8
60171758005	**GW-074935-061614-CK-DUP**	EPA 5030B/8260	PRG	8
60171758006	**TRIP BLANK**	EPA 5030B/8260	PRG	8

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PROJECT NARRATIVE

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: July 02, 2014

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/62423

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

QC Batch: MSV/62441

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.: 60171758

Sample: GW-074935-061614-CK-MW-1 **Lab ID: 60171758001** Collected: 06/16/14 11:10 Received: 06/18/14 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**133**	ug/L	1.0	1		06/20/14 06:19	71-43-2	
Ethylbenzene	**994**	ug/L	10.0	10		06/21/14 01:47	100-41-4	
Toluene	**1940**	ug/L	10.0	10		06/21/14 01:47	108-88-3	
Xylene (Total)	**4500**	ug/L	30.0	10		06/21/14 01:47	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	109	%	80-120	1		06/20/14 06:19	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		06/20/14 06:19	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		06/20/14 06:19	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/20/14 06:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Sample: GW-074935-061614-CK-MW-2 **Lab ID: 60171758002** Collected: 06/16/14 11:15 Received: 06/18/14 08:20 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		06/20/14 05:22	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 05:22	100-41-4	
Toluene	ND	ug/L	1.0	1		06/20/14 05:22	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 05:22	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		06/20/14 05:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		06/20/14 05:22	17060-07-0	
Toluene-d8 (S)	102	%	80-120	1		06/20/14 05:22	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/20/14 05:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Sample: GW-074935-061614-CK-MW-3 **Lab ID: 60171758003** Collected: 06/16/14 10:55 Received: 06/18/14 08:20 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		06/20/14 05:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 05:36	100-41-4	
Toluene	ND	ug/L	1.0	1		06/20/14 05:36	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 05:36	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		06/20/14 05:36	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		06/20/14 05:36	17060-07-0	
Toluene-d8 (S)	96	%	80-120	1		06/20/14 05:36	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/20/14 05:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Sample: GW-074935-061614-CK-MW-4 **Lab ID: 60171758004** Collected: 06/16/14 11:00 Received: 06/18/14 08:20 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		06/20/14 05:50	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 05:50	100-41-4	
Toluene	ND	ug/L	1.0	1		06/20/14 05:50	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 05:50	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		06/20/14 05:50	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		06/20/14 05:50	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		06/20/14 05:50	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/20/14 05:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Sample: GW-074935-061614-CK-DUP **Lab ID: 60171758005** Collected: 06/16/14 00:00 Received: 06/18/14 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**134**	ug/L	1.0	1		06/20/14 06:04	71-43-2	
Ethylbenzene	**921**	ug/L	10.0	10		06/21/14 02:02	100-41-4	
Toluene	**1920**	ug/L	10.0	10		06/21/14 02:02	108-88-3	
Xylene (Total)	**4500**	ug/L	30.0	10		06/21/14 02:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		06/20/14 06:04	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		06/20/14 06:04	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		06/20/14 06:04	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/20/14 06:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

Sample: TRIP BLANK **Lab ID: 60171758006** Collected: 06/16/14 10:55 Received: 06/18/14 08:20 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		06/20/14 05:07	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 05:07	100-41-4	
Toluene	ND	ug/L	1.0	1		06/20/14 05:07	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 05:07	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		06/20/14 05:07	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		06/20/14 05:07	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		06/20/14 05:07	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/20/14 05:07		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

QC Batch: MSV/62423 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60171758001, 60171758002, 60171758003, 60171758004, 60171758005, 60171758006

METHOD BLANK: 1397110 Matrix: Water
Associated Lab Samples: 60171758001, 60171758002, 60171758003, 60171758004, 60171758005, 60171758006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/20/14 01:34	
Ethylbenzene	ug/L	ND	1.0	06/20/14 01:34	
Toluene	ug/L	ND	1.0	06/20/14 01:34	
Xylene (Total)	ug/L	ND	3.0	06/20/14 01:34	
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/20/14 01:34	
4-Bromofluorobenzene (S)	%	98	80-120	06/20/14 01:34	
Toluene-d8 (S)	%	98	80-120	06/20/14 01:34	

LABORATORY CONTROL SAMPLE: 1397111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.3	107	80-120	
Ethylbenzene	ug/L	20	22.0	110	80-121	
Toluene	ug/L	20	21.6	108	80-122	
Xylene (Total)	ug/L	60	67.5	113	80-121	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			102	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

QC Batch: MSV/62441 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60171758001, 60171758005

METHOD BLANK: 1397698 Matrix: Water
Associated Lab Samples: 60171758001, 60171758005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	ND	1.0	06/20/14 21:17	
Toluene	ug/L	ND	1.0	06/20/14 21:17	
Xylene (Total)	ug/L	ND	3.0	06/20/14 21:17	
1,2-Dichloroethane-d4 (S)	%	102	80-120	06/20/14 21:17	
4-Bromofluorobenzene (S)	%	96	80-120	06/20/14 21:17	
Toluene-d8 (S)	%	95	80-120	06/20/14 21:17	

LABORATORY CONTROL SAMPLE: 1397699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	22.3	112	80-121	
Toluene	ug/L	20	21.2	106	80-122	
Xylene (Total)	ug/L	60	66.8	111	80-121	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			98	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 Charles et al No.1
Pace Project No.: 60171758

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.

PQL - Practical Quantitation 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.

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/62423

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

Batch: MSV/62441

[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.: 60171758

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171758001	**GW-074935-061614-CK-MW-1**	EPA 5030B/8260	MSV/62423		
60171758001	**GW-074935-061614-CK-MW-1**	EPA 5030B/8260	MSV/62441		
60171758002	**GW-074935-061614-CK-MW-2**	EPA 5030B/8260	MSV/62423		
60171758003	**GW-074935-061614-CK-MW-3**	EPA 5030B/8260	MSV/62423		
60171758004	**GW-074935-061614-CK-MW-4**	EPA 5030B/8260	MSV/62423		
60171758005	**GW-074935-061614-CK-DUP**	EPA 5030B/8260	MSV/62423		
60171758005	**GW-074935-061614-CK-DUP**	EPA 5030B/8260	MSV/62441		
60171758006	**TRIP BLANK**	EPA 5030B/8260	MSV/62423		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60171758

60171758

Client Name: COP CBA NM

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 5689 1205 1446 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: 4.2

Date and initials of person examining contents: JMD 6/18/14 1125

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:	☒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 N/A / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 05914-3		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: AMC Date: 6/19/14

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

Start:	1115	Start:	
End:	1125	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.:		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

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	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. 60171756
1	GW-074935-041414-CK-MW-1	WT	G			4/14/14	1110		3				X						X		3(DEIH) 001
2	GW-074935-041414-CK-MW-2	WT	G			4/14/14	1115		3				X						X		002
3	GW-074935-041414-CK-MW-3	WT	G			4/14/14	1055		3				X						X		003
4	GW-074935-041414-CK-MW-4	WT	G			4/14/14	1100		3				X						X		004
5	GW-074935-041414-CK-dup	WT	G			4/14/14			3				X						X		↓ 005
6	TRIP BLANK																				3(DEIH) 006
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] / CRA	6/17/14	0800	[signature] / Pace	6/18/14	820	4.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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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October 03, 2014

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

RE: Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 20, 2014. 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
Angela Bown, Conestoga Rovers & Associates
Chris Fetters, 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.: 60178508

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178508001	**GW-074935-091914-CB-MW-1**	Water	09/19/14 09:20	09/20/14 08:15
60178508002	**GW-074935-091914-CB-MW-2**	Water	09/19/14 09:30	09/20/14 08:15
60178508003	**GW-074935-091914-CB-MW-3**	Water	09/19/14 09:40	09/20/14 08:15
60178508004	**GW-074935-091914-CB-MW-4**	Water	09/19/14 09:50	09/20/14 08:15
60178508005	**GW-074935-091914-CB-DUP**	Water	09/19/14 08:00	09/20/14 08:15
60178508006	**TRIP BLANK**	Water	09/19/14 15:00	09/20/14 08:15

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SAMPLE ANALYTE COUNT

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178508001	**GW-074935-091914-CB-MW-1**	EPA 5030B/8260	PRG	8
60178508002	**GW-074935-091914-CB-MW-2**	EPA 5030B/8260	PRG	8
60178508003	**GW-074935-091914-CB-MW-3**	EPA 5030B/8260	PRG	8
60178508004	**GW-074935-091914-CB-MW-4**	EPA 5030B/8260	PRG	8
60178508005	**GW-074935-091914-CB-DUP**	EPA 5030B/8260	PRG	8
60178508006	**TRIP BLANK**	EPA 5030B/8260	PRG	8

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: CRA Conoco New Mexico
Date: October 03, 2014

General Information:
6 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- GW-074935-091914-CB-MW-1 (Lab ID: 60178508001)

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/64579

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

QC Batch: MSV/64586

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.: 60178508

Sample: GW-074935-091914-CB-MW-1 **Lab ID: 60178508001** Collected: 09/19/14 09:20 Received: 09/20/14 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**159**	ug/L	1.0	1		09/23/14 17:55	71-43-2	
Ethylbenzene	**630**	ug/L	50.0	50		09/25/14 17:07	100-41-4	
Toluene	**2340**	ug/L	50.0	50		09/25/14 17:07	108-88-3	
Xylene (Total)	**3380**	ug/L	150	50		09/25/14 17:07	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		09/23/14 17:55	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		09/23/14 17:55	17060-07-0	
Toluene-d8 (S)	103	%	80-120	1		09/23/14 17:55	2037-26-5	
Preservation pH	**3.0**		0.10	1		09/23/14 17:55		pH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Sample: GW-074935-091914-CB-MW-2 **Lab ID: 60178508002** Collected: 09/19/14 09:30 Received: 09/20/14 08:15 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		09/23/14 17:07	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/14 17:07	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/14 17:07	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/14 17:07	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		09/23/14 17:07	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		09/23/14 17:07	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		09/23/14 17:07	2037-26-5	
Preservation pH	**1.0**		0.10	1		09/23/14 17:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Sample: GW-074935-091914-CB-MW-3 **Lab ID: 60178508003** Collected: 09/19/14 09:40 Received: 09/20/14 08:15 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		09/23/14 17:23	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/14 17:23	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/14 17:23	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/14 17:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		09/23/14 17:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/23/14 17:23	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		09/23/14 17:23	2037-26-5	
Preservation pH	**1.0**		0.10	1		09/23/14 17:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Sample: GW-074935-091914-CB-MW-4 **Lab ID: 60178508004** Collected: 09/19/14 09:50 Received: 09/20/14 08:15 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		09/23/14 17:39	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/14 17:39	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/14 17:39	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/14 17:39	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		09/23/14 17:39	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		09/23/14 17:39	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		09/23/14 17:39	2037-26-5	
Preservation pH	**1.0**		0.10	1		09/23/14 17:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Sample: GW-074935-091914-CB-DUP **Lab ID: 60178508005** Collected: 09/19/14 08:00 Received: 09/20/14 08:15 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		09/23/14 18:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/25/14 16:51	100-41-4	
Toluene	ND	ug/L	1.0	1		09/25/14 16:51	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/25/14 16:51	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		09/23/14 18:11	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/23/14 18:11	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		09/23/14 18:11	2037-26-5	
Preservation pH	**1.0**		0.10	1		09/23/14 18:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Sample: TRIP BLANK **Lab ID: 60178508006** Collected: 09/19/14 15:00 Received: 09/20/14 08:15 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		09/24/14 02:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/24/14 02:47	100-41-4	
Toluene	ND	ug/L	1.0	1		09/24/14 02:47	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/24/14 02:47	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		09/24/14 02:47	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	80-120	1		09/24/14 02:47	17060-07-0	
Toluene-d8 (S)	94	%	80-120	1		09/24/14 02:47	2037-26-5	
Preservation pH	**1.0**		0.10	1		09/24/14 02:47		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

QC Batch: MSV/64579 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60178508001, 60178508002, 60178508003, 60178508004, 60178508005

METHOD BLANK: 1447667 Matrix: Water
Associated Lab Samples: 60178508001, 60178508002, 60178508003, 60178508004, 60178508005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/23/14 12:49	
Ethylbenzene	ug/L	ND	1.0	09/23/14 12:49	
Toluene	ug/L	ND	1.0	09/23/14 12:49	
Xylene (Total)	ug/L	ND	3.0	09/23/14 12:49	
1,2-Dichloroethane-d4 (S)	%	100	80-120	09/23/14 12:49	
4-Bromofluorobenzene (S)	%	100	80-120	09/23/14 12:49	
Toluene-d8 (S)	%	100	80-120	09/23/14 12:49	

LABORATORY CONTROL SAMPLE: 1447668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.4	97	80-120	
Ethylbenzene	ug/L	20	20.0	100	80-121	
Toluene	ug/L	20	19.6	98	80-122	
Xylene (Total)	ug/L	60	62.2	104	80-121	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

QC Batch: MSV/64586
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60178508006

METHOD BLANK: 1447818
Matrix: Water
Associated Lab Samples: 60178508006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/24/14 02:33	
Ethylbenzene	ug/L	ND	1.0	09/24/14 02:33	
Toluene	ug/L	ND	1.0	09/24/14 02:33	
Xylene (Total)	ug/L	ND	3.0	09/24/14 02:33	
1,2-Dichloroethane-d4 (S)	%	107	80-120	09/24/14 02:33	
4-Bromofluorobenzene (S)	%	102	80-120	09/24/14 02:33	
Toluene-d8 (S)	%	93	80-120	09/24/14 02:33	

LABORATORY CONTROL SAMPLE: 1447819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.3	106	80-120	
Ethylbenzene	ug/L	20	19.6	98	80-121	
Toluene	ug/L	20	20.2	101	80-122	
Xylene (Total)	ug/L	60	61.7	103	80-121	
1,2-Dichloroethane-d4 (S)	%			106	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			94	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

QC Batch: MSV/64640
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60178508001, 60178508005

METHOD BLANK: 1448937 Matrix: Water
Associated Lab Samples: 60178508001, 60178508005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	ND	1.0	09/25/14 16:19	
Toluene	ug/L	ND	1.0	09/25/14 16:19	
Xylene (Total)	ug/L	ND	3.0	09/25/14 16:19	
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/25/14 16:19	
4-Bromofluorobenzene (S)	%	99	80-120	09/25/14 16:19	
Toluene-d8 (S)	%	100	80-120	09/25/14 16:19	

LABORATORY CONTROL SAMPLE: 1448938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	21.0	105	80-121	
Toluene	ug/L	20	19.7	99	80-122	
Xylene (Total)	ug/L	60	63.3	106	80-121	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1448939 1448940

Parameter	Units	60178755003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethylbenzene	ug/L	ND	20	20	20.2	20.0	99	98	31-160	1	32	
Toluene	ug/L	ND	20	20	19.6	19.2	96	94	35-157	2	37	
Xylene (Total)	ug/L	ND	60	60	61.6	61.0	103	102	34-156	1	37	
1,2-Dichloroethane-d4 (S)	%						100	98	80-120			
4-Bromofluorobenzene (S)	%						103	102	80-120			
Toluene-d8 (S)	%						99	100	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

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.

PQL - Practical Quantitation 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/64579

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

Batch: MSV/64586

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

ANALYTE QUALIFIERS

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60178508

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178508001	**GW-074935-091914-CB-MW-1**	EPA 5030B/8260	MSV/64579		
60178508001	**GW-074935-091914-CB-MW-1**	EPA 5030B/8260	MSV/64640		
60178508002	**GW-074935-091914-CB-MW-2**	EPA 5030B/8260	MSV/64579		
60178508003	**GW-074935-091914-CB-MW-3**	EPA 5030B/8260	MSV/64579		
60178508004	**GW-074935-091914-CB-MW-4**	EPA 5030B/8260	MSV/64579		
60178508005	**GW-074935-091914-CB-DUP**	EPA 5030B/8260	MSV/64579		
60178508005	**GW-074935-091914-CB-DUP**	EPA 5030B/8260	MSV/64640		
60178508006	**TRIP BLANK**	EPA 5030B/8260	MSV/64586		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60178508

60178508

Client Name: COP CRA

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 6113 5279 8990 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: 1.8

Date and initials of person examining contents: JB 9/10

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): 9/10/14	☒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: _____

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

Project Manager Review: RAF Date: 9/10/14

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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:	Jeff Walker, Angela Bown
Purchase Order No.:	
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

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074935-091914-CB-MW-1	WT	G	—	—	9.19.14	920		3				3						X	(3) DGYH	60178508 01
2	GW-074935-091914-CB-MW-2	WT	G	—	—	9.19.14	930		3				3						X		02
3	GW-074935-091914-CB-MW-3	WT	G	—	—	9.19.14	940		2				3						X	(2) DGYH	03
4	GW-074935-091914-CB-MW-4	WT	G	—	—	9.19.14	960		3				3						X	(3) DGYH	04
5	GW-074935-091914-CB-dup	WT	G	—	—	9.19.14			3				3						X		05
6	Trip Blank	WT	G	—	—	9.19.14	1500		3				3						X		06
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Cassie Brown / CRA	9/19/14	1600	Pace	9/20	0815	1.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cassie Brown

SIGNATURE of SAMPLER: Cassie Brown — DATE Signed (MM/DD/YY): 9/19/14

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 31, 2014

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

RE: Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2014. 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
Angela Bown, Conestoga Rovers & Associates
Chris Fetters, 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.: 60185071

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60185071001	**GW-074935-121714-JW-MW-1**	Water	12/17/14 14:15	12/19/14 10:00
60185071002	**GW-074935-121714-JW-MW-2**	Water	12/17/14 14:20	12/19/14 10:00
60185071003	**GW-074935-121714-JW-MW-3**	Water	12/17/14 14:25	12/19/14 10:00
60185071004	**GW-074935-121714-JW-MW-4**	Water	12/17/14 14:30	12/19/14 10:00
60185071005	**GW-074935-121714-JW-DUP**	Water	12/17/14 00:00	12/19/14 10:00
60185071006	**TRIP BLANK**	Water	12/17/14 00:00	12/19/14 10:00

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SAMPLE ANALYTE COUNT

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60185071001	**GW-074935-121714-JW-MW-1**	EPA 5030B/8260	PRG	8
60185071002	**GW-074935-121714-JW-MW-2**	EPA 5030B/8260	PRG	8
60185071003	**GW-074935-121714-JW-MW-3**	EPA 5030B/8260	PRG	8
60185071004	**GW-074935-121714-JW-MW-4**	EPA 5030B/8260	PRG	8
60185071005	**GW-074935-121714-JW-DUP**	EPA 5030B/8260	PRG	8
60185071006	**TRIP BLANK**	EPA 5030B/8260	PRG	8

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PROJECT NARRATIVE

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: CRA Conoco New Mexico
Date: December 31, 2014

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/66658
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/66660
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/66689
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.: 60185071

Sample: GW-074935-121714-JW-MW-1 **Lab ID: 60185071001** Collected: 12/17/14 14:15 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**13.8**	ug/L	1.0	1		12/22/14 23:47	71-43-2	
Ethylbenzene	**248**	ug/L	10.0	10		12/23/14 19:39	100-41-4	
Toluene	**422**	ug/L	10.0	10		12/23/14 19:39	108-88-3	
Xylene (Total)	**1480**	ug/L	30.0	10		12/23/14 19:39	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		12/22/14 23:47	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		12/22/14 23:47	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		12/22/14 23:47	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/22/14 23:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Sample: GW-074935-121714-JW-MW-2 **Lab ID: 60185071002** Collected: 12/17/14 14:20 Received: 12/19/14 10:00 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		12/23/14 00:02	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/23/14 19:24	100-41-4	
Toluene	ND	ug/L	1.0	1		12/23/14 19:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/23/14 19:24	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		12/23/14 00:02	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		12/23/14 00:02	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		12/23/14 00:02	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/23/14 00:02		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Sample: GW-074935-121714-JW-MW-3 **Lab ID: 60185071003** Collected: 12/17/14 14:25 Received: 12/19/14 10:00 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		12/23/14 00:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/23/14 00:17	100-41-4	
Toluene	ND	ug/L	1.0	1		12/23/14 00:17	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/23/14 00:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		12/23/14 00:17	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	80-120	1		12/23/14 00:17	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		12/23/14 00:17	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/23/14 00:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Sample: GW-074935-121714-JW-MW-4 **Lab ID: 60185071004** Collected: 12/17/14 14:30 Received: 12/19/14 10:00 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		12/23/14 00:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/23/14 00:32	100-41-4	
Toluene	ND	ug/L	1.0	1		12/23/14 00:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/23/14 00:32	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	88	%	80-120	1		12/23/14 00:32	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		12/23/14 00:32	17060-07-0	
Toluene-d8 (S)	96	%	80-120	1		12/23/14 00:32	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/23/14 00:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Sample: GW-074935-121714-JW-DUP **Lab ID: 60185071005** Collected: 12/17/14 00:00 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**13.7**	ug/L	1.0	1		12/23/14 07:55	71-43-2	
Ethylbenzene	**251**	ug/L	10.0	10		12/23/14 19:55	100-41-4	
Toluene	**440**	ug/L	10.0	10		12/23/14 19:55	108-88-3	
Xylene (Total)	**1520**	ug/L	30.0	10		12/23/14 19:55	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		12/23/14 07:55	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	80-120	1		12/23/14 07:55	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		12/23/14 07:55	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/23/14 07:55		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

Sample: TRIP BLANK **Lab ID: 60185071006** Collected: 12/17/14 00:00 Received: 12/19/14 10:00 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		12/23/14 03:58	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/23/14 03:58	100-41-4	
Toluene	ND	ug/L	1.0	1		12/23/14 03:58	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/23/14 03:58	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	1		12/23/14 03:58	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	80-120	1		12/23/14 03:58	17060-07-0	
Toluene-d8 (S)	95	%	80-120	1		12/23/14 03:58	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/23/14 03:58		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

QC Batch: MSV/66658 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60185071001, 60185071002, 60185071003, 60185071004

METHOD BLANK: 1498761 Matrix: Water
Associated Lab Samples: 60185071001, 60185071002, 60185071003, 60185071004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/22/14 21:50	
Ethylbenzene	ug/L	ND	1.0	12/22/14 21:50	
Toluene	ug/L	ND	1.0	12/22/14 21:50	
Xylene (Total)	ug/L	ND	3.0	12/22/14 21:50	
1,2-Dichloroethane-d4 (S)	%	89	80-120	12/22/14 21:50	
4-Bromofluorobenzene (S)	%	99	80-120	12/22/14 21:50	
Toluene-d8 (S)	%	98	80-120	12/22/14 21:50	

LABORATORY CONTROL SAMPLE: 1498762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.7	104	80-120	
Ethylbenzene	ug/L	20	19.8	99	80-120	
Toluene	ug/L	20	19.7	98	80-120	
Xylene (Total)	ug/L	60	60.5	101	80-120	
1,2-Dichloroethane-d4 (S)	%			88	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

QC Batch: MSV/66660
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60185071005, 60185071006

METHOD BLANK: 1498771
Matrix: Water
Associated Lab Samples: 60185071005, 60185071006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/23/14 03:44	
Ethylbenzene	ug/L	ND	1.0	12/23/14 03:44	
Toluene	ug/L	ND	1.0	12/23/14 03:44	
Xylene (Total)	ug/L	ND	3.0	12/23/14 03:44	
1,2-Dichloroethane-d4 (S)	%	89	80-120	12/23/14 03:44	
4-Bromofluorobenzene (S)	%	98	80-120	12/23/14 03:44	
Toluene-d8 (S)	%	95	80-120	12/23/14 03:44	

LABORATORY CONTROL SAMPLE: 1498772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.1	105	80-120	
Ethylbenzene	ug/L	20	19.7	98	80-120	
Toluene	ug/L	20	20.7	104	80-120	
Xylene (Total)	ug/L	60	61.7	103	80-120	
1,2-Dichloroethane-d4 (S)	%			83	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

QC Batch: MSV/66689 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60185071001, 60185071002, 60185071005

METHOD BLANK: 1499302 Matrix: Water
Associated Lab Samples: 60185071001, 60185071002, 60185071005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	ND	1.0	12/23/14 16:27	
Toluene	ug/L	ND	1.0	12/23/14 16:27	
Xylene (Total)	ug/L	ND	3.0	12/23/14 16:27	
1,2-Dichloroethane-d4 (S)	%	88	80-120	12/23/14 16:27	
4-Bromofluorobenzene (S)	%	95	80-120	12/23/14 16:27	
Toluene-d8 (S)	%	99	80-120	12/23/14 16:27	

LABORATORY CONTROL SAMPLE: 1499303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.5	98	80-120	
Toluene	ug/L	20	19.5	98	80-120	
Xylene (Total)	ug/L	60	61.6	103	80-120	
1,2-Dichloroethane-d4 (S)	%			86	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			99	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 Charles et al No.1
Pace Project No.: 60185071

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.

PQL - Practical Quantitation 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/66658

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

Batch: MSV/66660

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

Batch: MSV/66689

[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.: 60185071

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60185071001	**GW-074935-121714-JW-MW-1**	EPA 5030B/8260	MSV/66658		
60185071001	**GW-074935-121714-JW-MW-1**	EPA 5030B/8260	MSV/66689		
60185071002	**GW-074935-121714-JW-MW-2**	EPA 5030B/8260	MSV/66658		
60185071002	**GW-074935-121714-JW-MW-2**	EPA 5030B/8260	MSV/66689		
60185071003	**GW-074935-121714-JW-MW-3**	EPA 5030B/8260	MSV/66658		
60185071004	**GW-074935-121714-JW-MW-4**	EPA 5030B/8260	MSV/66658		
60185071005	**GW-074935-121714-JW-DUP**	EPA 5030B/8260	MSV/66660		
60185071005	**GW-074935-121714-JW-DUP**	EPA 5030B/8260	MSV/66689		
60185071006	**TRIP BLANK**	EPA 5030B/8260	MSV/66660		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60185071

60185071

Client Name: CRA COP

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 780161998564 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 ☑ ZPIC

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

Cooler Temperature: 1.7

Date and initials of person examining contents: DV 12/19/14

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:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 112414-3		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: AAF Date: 12/22/14

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

Start: 1520	Start:
End: 1525	End:
Temp:	Temp:

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	CRA COP NM	Report To:	Christine Mathews	Attention:	CRA
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.:	4071726	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 #:	7801, 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

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074935-121714-SW-MW-1	WT	G	12/17/14	1415		←		3				X					X	X		3D6494 001
2	GW-074935-121714-SW-MW-2	"	"	"	1420		←		3				X					X	X		002
3	GW-074935-121714-SW-MW-3	"	"	"	1425		←		3				X					X	X		003
4	GW-074935-121714-SW-MW-4	"	"	"	1430		←		3				X					X	X		004
5	GW-074935-121714-SW-DUP	"	"	"	—		←		3				X					X	X		005
6																					3D6494TB 006
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	CRA	12-18-14	1100	PASE	12/19/14	1000	1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CALE KANACK

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/18/14

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.