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March 27, 2012

Reference No. 074935

Mr. Steve Austin
Navajo Nation Environmental Protection Agency
PO Box 1999
Shiprock, New Mexico 87420

Re: ConocoPhillips Company Charles et al No. 1, San Juan County, NM, Quarterly
Groundwater Monitoring Report - September and December 2011

Dear Mr. Austin:

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

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

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Kelly E. Blanchard
Project Manager

KB/cd/2
Encl. (1)

cc: Glenn von Gonten, NMOCD

Equal
Employment Opportunity
Employer



3R-432

**SEPTEMBER AND DECEMBER 2011 QUARTERLY
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

Risk Management and Remediation

420 South Keeler Avenue

Bartlesville, OK, 74004

MARCH 2012

REF. NO. 074935-95(3)

This report is printed on recycled paper.

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1.0 INTRODUCTION

This report presents the results of the quarterly groundwater sampling events conducted on September 26 and December 12, 2011 by Conestoga-Rovers & Associates, Inc. (CRA) at the ConocoPhillips Company (ConocoPhillips) Charles et al. No. 1 remediation site (Site) located near the Angel Peak area 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.

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

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

2.0 GROUNDWATER MONITORING SUMMARY, METHODOLOGY, AND ANALYTICAL RESULTS

2.1 GROUNDWATER MONITORING SUMMARY

Quarterly groundwater sampling events were conducted at the Site on September 26 and December 12, 2011. Prior to collection of groundwater samples from Monitor Wells MW-1, MW-2, MW-3 and MW-4, depth to groundwater was measured in all Site monitor wells using an oil/water interface probe. Groundwater potentiometric surface maps reflecting September and December 2011 groundwater elevations are presented as Figures 3 and 4, respectively. A historical groundwater elevation summary is included in Table 2.

2.2 GROUNDWATER MONITORING METHODOLOGY

During the September and December 2011 groundwater monitoring events, Monitor Wells MW-1, MW-2, MW-3, and MW-4 were purged of at least 3 casing volumes of groundwater using a 1.5-inch diameter, polyethylene dedicated bailer. While bailing Monitor Wells MW-1, MW-2, MW-3, and MW-4, groundwater parameters were collected using a YSI 556 multi-parameter sonde and results were recorded on CRA Groundwater Sampling Field Forms (Appendix A). Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Pace Analytical Services, Inc. of Lenexa, Kansas. Groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260.

2.3 GROUNDWATER MONITORING ANALYTICAL RESULTS

The Navajo Nation Environmental Protection Agency (NNEPA) has not established groundwater quality standards; however, drinking water quality on Navajo Nation land is mandated in Part II the Navajo Nation Primary Drinking Water Regulations (NNPDWR). Drinking water quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedences of NNPDWR water quality standards in Site monitor wells are discussed below.

September 2011

- **Benzene** – The NNPDWR drinking water quality standard for benzene is 0.005 milligrams per liter (mg/L). The concentration of benzene found in the groundwater sample collected from Monitor Well MW-1 was 1.56 mg/L.
- **Toluene** – The NNPDWR drinking water quality standard for toluene is 1.0 mg/L. The concentration of toluene found in the groundwater sample collected from Monitor Well MW-1 was 2.61 mg/L.

December 2011

- **Benzene** – The NNPDWR drinking water quality standard for benzene is 0.005 mg/L. The concentration of benzene found in the groundwater sample collected from Monitor Well MW-1 was 0.232 mg/L.

The corresponding laboratory analytical reports for the September and December 2011 groundwater sampling events are included in **Appendix B**. A historical laboratory analytical summary is available as **Table 3**. Site maps showing the concentration of benzene present in groundwater are included as **Figures 5 and 6**. A hydrograph showing benzene concentrations vs. groundwater levels over time in MW-1 is included as **Figure 7**.

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 2011 and have intermittently exceeded the standards for toluene and ethylbenzene.

Based on historical groundwater quality data, groundwater samples collected from MW-3 and MW-4 have never exceeded NNPDWR drinking water quality standards for BTEX constituents during sampling conducted from June 2008 to December 2011. Groundwater samples collected from MW-2 have not exceeded the NNPDWR standards for BTEX constituents since the September 2008 sampling event when benzene was detected above the standard.

Due to intermittent presence of a hydrocarbon sheen, Tetra Tech placed an oil absorbent sock in MW-1 during the September 2010 monitoring event. The sock has remained in place continuously since.

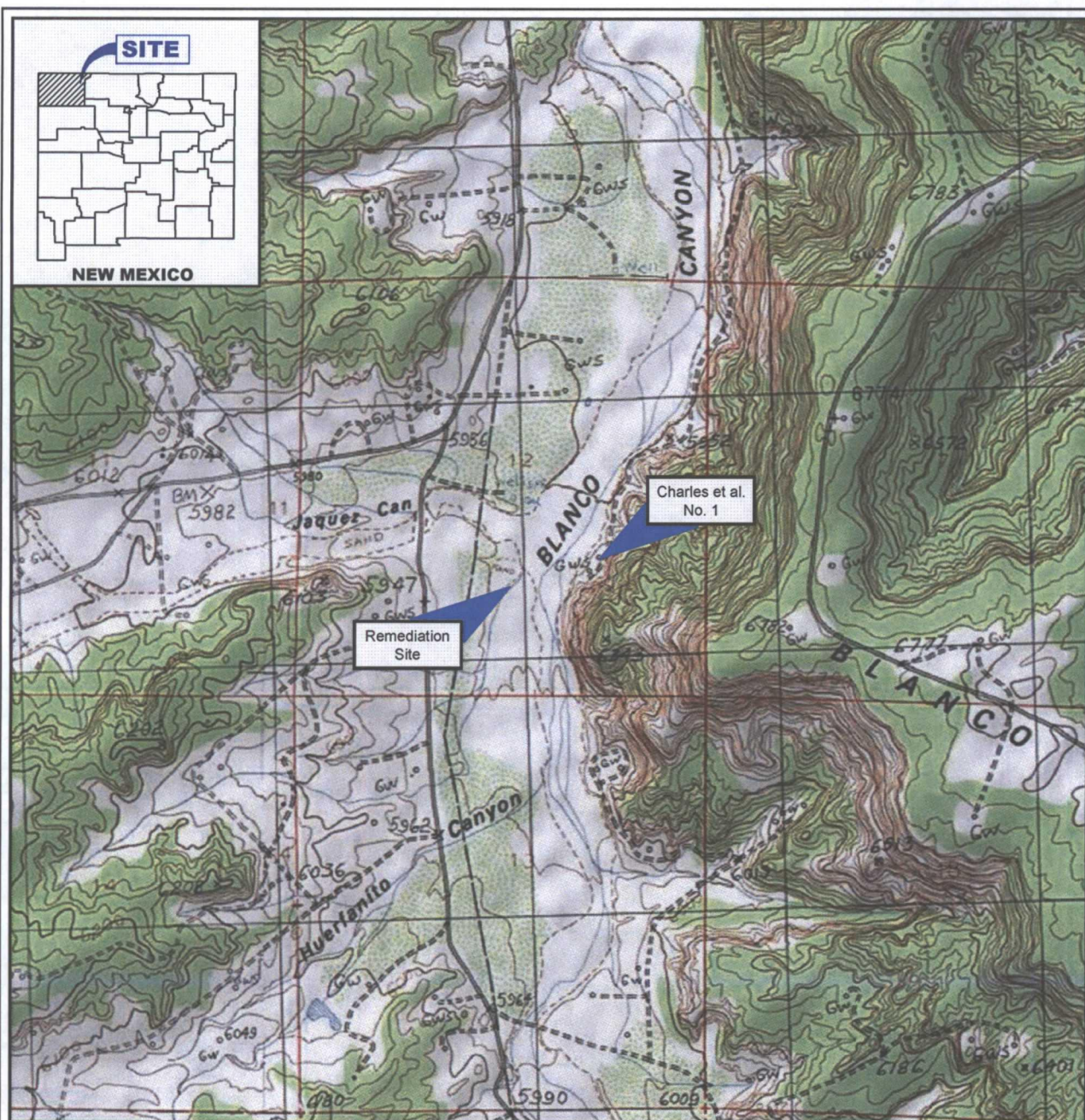
CRA recommends continued quarterly groundwater sampling at the Site. Remediation Site closure will be requested when groundwater analytical results indicate that all monitored groundwater quality parameters are consistently below NNPDWR drinking water quality standards.

4.0 REFERENCES

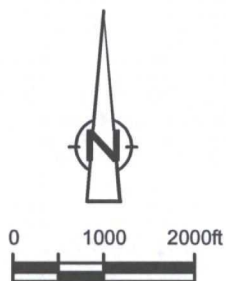
Envirotech Incorporated (2009). *June 2009 Groundwater Monitoring Report*.
Prepared for ConocoPhillips. Report Dated August 2009.

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

FIGURES



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



SEC 12 36.5860050 N, -107.740131 W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Figure 1

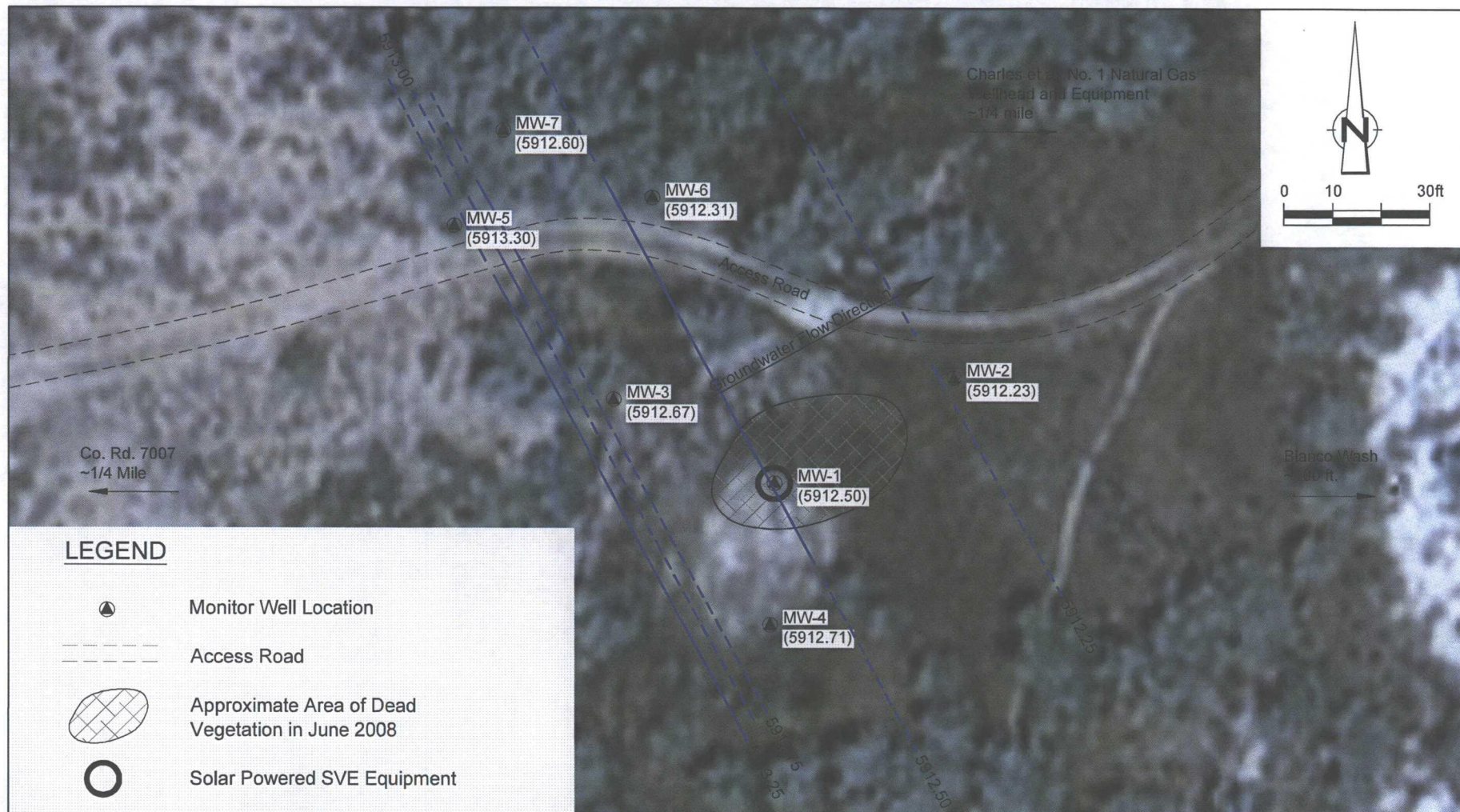
SITE VICINITY MAP
CHARLES et al. No. 1



Adapted from Tetrattech, 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



LEGEND



Monitor Well Location



Access Road



Approximate Area of Dead
Vegetation in June 2008



Solar Powered SVE Equipment

(5914.60)

Groundwater Elevation

— 5914.6 —

Groundwater Elevation Contour



Groundwater Flow Direction



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

Figure 3
SEPTEMBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
CHARLES et al. NO. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

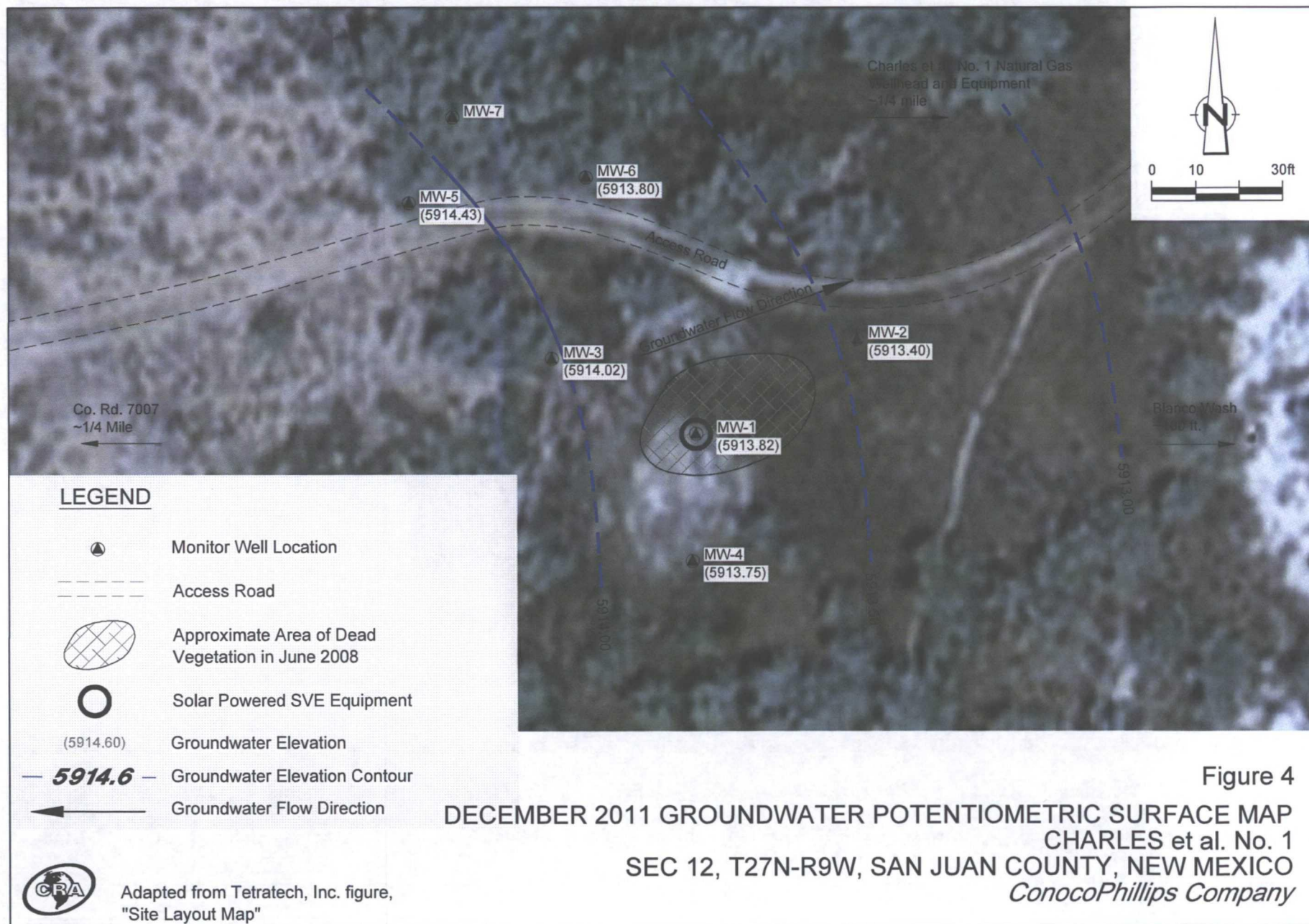


Figure 4



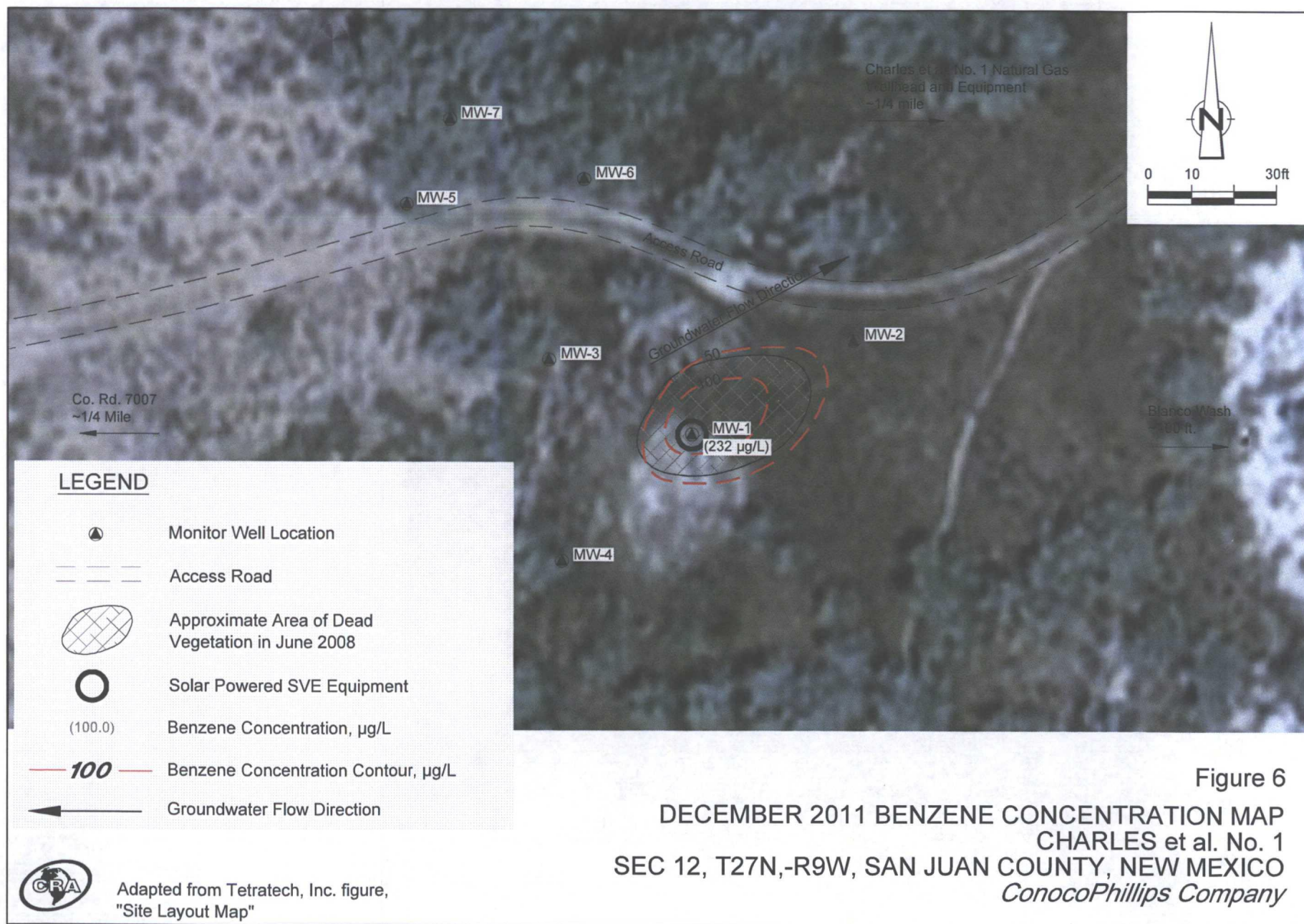
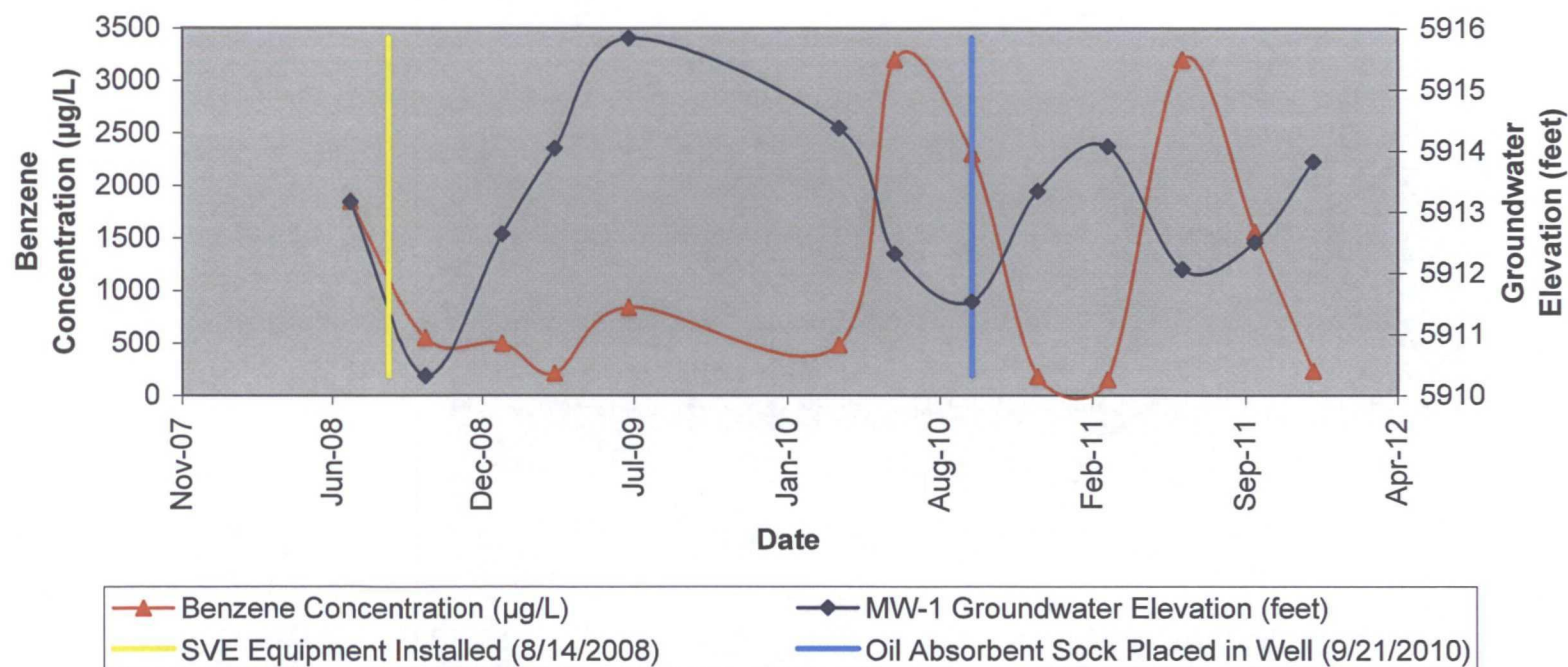


Figure 6
 DECEMBER 2011 BENZENE CONCENTRATION MAP
 CHARLES et al. No. 1
 SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
 ConocoPhillips Company

Figure 7. 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

<i>Date/Time Period</i>	<i>Event/Action</i>	<i>Description/Comments</i>
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 pipe running from the wellhead to the meter house; upon walking the pipeline, an area of dead vegetation was also discovered approximately 100 feet from
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 the seventh round of groundwater sampling.
June 11, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed the eighth round of groundwater sampling.
September 21, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed the ninth round of groundwater sampling. An oil absorbant sock was placed in MW-1.
December 16, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed the tenth round of groundwater sampling. The benzene level 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 the 11th round of groundwater sampling. The benzene level 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 the 12th round of groundwater sampling. Benzene and ethylbenzene levels in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 26, 2011	Groundwater Monitoring	CRA completed the 13th round of groundwater sampling. Benzene and ethylbenzene levels in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 12, 2011	Groundwater Monitoring	CRA completed the 14th round of groundwater sampling. Benzene level in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
JUNE 2008 - DECEMBER 2011
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	5914.64
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
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
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

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
JUNE 2008 - DECEMBER 2011
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
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
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

Notes:

- (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.
- ft = feet
- AMSL = Above mean sea level
- NA = Not available
- NM = Not measured
- Note: Measurements between 6/25/2008 and 6/29/2009 obtained by Envirotech, Inc.

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
JUNE 2008 - DECEMBER 2011
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
MW-2	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
	MW-2	6/25/2008	(orig)	0.0042	0.0046	0.0016	0.0011
	MW-2	9/25/2008	(orig)	0.0195	0.0258	0.0051	0.1008
	MW-2	1/13/2009	(orig)	0.0021	0.002	0.0022	0.0281
	MW-2	3/23/2009	(orig)	0.0014	0.0004	0.0006	0.0073
	MW-2	6/29/2009	(orig)	0.0015	<0.0002	0.0002	0.0004
	MW-2	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG02	6/23/2011	(orig)	0.00060	< 0.0010	< 0.0010	< 0.0030
	GW-074935-092611-JP-010	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-2	12/12/2011	(orig)	0.00034	< 0.001	< 0.001	< 0.003
MW-3	MW-3	6/25/2008	(orig)	ND	ND	ND	ND
	MW-3	9/25/2008	(orig)	ND	0.0023	0.0009	0.0121
	MW-3	1/13/2009	(orig)	ND	ND	ND	ND
	MW-3	3/23/2009	(orig)	<0.0002	0.0002	0.0002	0.0014
	MW-3	6/29/2009	(orig)	<0.0002	0.0017	0.0007	0.0082
	MW-3	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG01	6/23/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	GW-074935-092611-CM-006	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-3	12/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY

JUNE 2008 - DECEMBER 2011

CONOCOPHILLIPS COMPANY

CHARLES ET AL. NO. 1

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)
MW-4	MW-4	6/25/2008	(orig)	0.0038	0.0199	0.0014	0.007
	MW-4	9/25/2008	(orig)	ND	ND	ND	ND
	MW-4	1/13/2009	(orig)	ND	ND	ND	ND
	MW-4	3/23/2009	(orig)	<0.0002	<0.0002	<0.0002	<0.0002
	MW-4	6/29/2009	(orig)	<0.0002	<0.0002	0.0002	0.0029
	MW-4	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG03	6/23/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	GW-074935-092611-SP-007	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-4	12/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
MW-5	MW-5	6/26/2008	(orig)	ND	ND	ND	ND
	MW-5	9/25/2008	(orig)	ND	ND	ND	ND
	MW-5	1/13/2009	(orig)	ND	ND	ND	ND
	MW-5	3/23/2009	(orig)	ND	ND	ND	ND
MW-6	MW-6	6/26/2008	(orig)	ND	ND	ND	ND
	MW-6	9/25/2008	(orig)	ND	ND	ND	ND
	MW-6	1/13/2009	(orig)	ND	ND	ND	ND
	MW-6	3/23/2009	(orig)	ND	ND	ND	ND
MW-7	MW-7	6/26/2008	(orig)	ND	ND	ND	ND
	MW-7	9/25/2008	(orig)	ND	ND	ND	ND
	MW-7	3/23/2009	(orig)	ND	ND	ND	ND

Notes:

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

APPENDIX A

SEPTEMBER AND DECEMBER 2011
QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME: Charles Et al No 1 JOB# 074935
 SAMPLE ID: GW-074935-092611-CM-008 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 9.26.11 SAMPLE DATE (MM DD YY) 9.26.11 SAMPLE TIME (24 HOUR) 1735 WATER VOL. IN CASING (GALLONS) 0.436 ACTUAL VOL. PURGED (GALLONS) 1.75

PURGING AND SAMPLING EQUIPMENT

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

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

FILTERING DEVICES 0.45 N/A A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM

FIELD MEASUREMENTS

DEPTH TO WATER 4.55 (feet) WELL ELEVATION 5917.05 (feet)
 WELL DEPTH 7.28 (feet) GROUNDWATER ELEVATION 5912.50 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>14.79</u> (°C)	<u>7.36</u> (std)	<u>1.876</u> (g/L)	<u>2323</u> (µS/cm)	<u>-322.6</u> (mV)	<u>1.25</u> (gal)
<u>14.88</u> (°C)	<u>7.41</u> (std)	<u>1.838</u> (g/L)	<u>2280</u> (µS/cm)	<u>-334.7</u> (mV)	<u>1.50</u> (gal)
<u>14.96</u> (°C)	<u>7.44</u> (std)	<u>1.809</u> (g/L)	<u>2247</u> (µS/cm)	<u>-337.7</u> (mV)	<u>1.75</u> (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: hydrocarbon/Bio COLOR: black SHEEN Y
 WEATHER CONDITIONS: TEMPERATURE 85° WINDY N PRECIPITATION Y (NIFY TYPE) _____
 SPECIFIC COMMENTS: _____

1 well volume = 2.73' x 0.16 = 0.436

3 volumes = 1.31 gal

Duplicate GW-074935-092611-CM-008 @ 1745

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

DATE 9.26.11

PRINT

SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

TE/PROJECT NAME:

Charles Et al.

JOB# 074935

SAMPLE ID:

GW-074935-092611-JP-010

WELL#

MW-2

WELL PURGING INFORMATION

<u>9.26.11</u>	<u>9.26.11</u>	<u>1805</u>	<u>0.508</u>	<u>1.5</u>
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED ☒ D ☐ N

(CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED ☒ D ☐ N

(CIRCLE ONE)

PURGING DEVICE	<u>G</u>	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X=
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	<u>G</u>	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X=
					SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	<u>E</u>	A - TEFLON	D - PVC		X=
		B - STAINLESS STEEL	E - POLYETHYLENE		PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	<u>E</u>	C - POLYPROPYLENE	X - OTHER		X=
					SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	<u>C</u>	A - TEFLON	D - POLYPROPYLENE	G - COMBINATION	X=
		B - TYGON	E - POLYETHYLENE	TEFLON/POLYPROPYLENE	PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	<u>C</u>	C - ROPE	F - SILICONE	X - OTHER	X=
					SAMPLING TUBING OTHER (SPECIFY)

FILTERING DEVICES 0.45

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

FIELD MEASUREMENTS

DEPTH TO WATER	<u>4.30</u>	(feet)	WELL ELEVATION	<u>5916.53</u>	(feet)
WELL DEPTH	<u>7.48</u>	(feet)	GROUNDWATER ELEVATION	<u>5912.23</u>	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>14.44</u> (°C)	<u>7.15</u> (std)	<u>1.778</u> (g/L)	<u>2183</u> (µS/cm)	<u>-188.9</u> (mV)	<u>1.0</u> (gal)
<u>13.97</u> (°C)	<u>7.23</u> (std)	<u>1.605</u> (g/L)	<u>1950</u> (µS/cm)	<u>-182.7</u> (mV)	<u>1.25</u> (gal)
<u>14.16</u> (°C)	<u>7.04</u> (std)	<u>1.802</u> (g/L)	<u>2198</u> (µS/cm)	<u>-146.7</u> (mV)	<u>1.5</u> (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: Bio COLOR: gray SHEEN Y/N ☒ Y ☐ N

WEATHER CONDITIONS: TEMPERATURE ~85° WINDY Y/N ☒ Y ☐ N PRECIPITATION Y/N (IF Y TYPE)

SPECIFIC COMMENTS:

1 well volume = 3.18' x 0.16 = .508
3 volumes = 1.53

0.75 in bucket & Dry

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

9.26.11

DATE

Jason Ross

PRINT

[Signature]

SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles Et al No. 1 JOB# 074935
 SAMPLE ID: GW-074935-092611-0068m-006 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 9.26.11 SAMPLE DATE (MM DD YY) 9.26.11 SAMPLE TIME (24 HOUR) 1645 WATER VOL. IN CASING (GALLONS) 0.52 ACTUAL VOL. PURGED (GALLONS) 1.75

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	<u>7.13</u>	(feet)	WELL ELEVATION	<u>5919.80</u>	(feet)
WELL DEPTH	<u>10.38</u>	(feet)	GROUNDWATER ELEVATION	<u>5912.67</u>	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>14.18</u> (°C)	<u>7.17</u> (std)	<u>1.881</u> (g/L)	<u>2295</u> (µS/cm)	<u>-71.5</u> (mV)	<u>1.25</u> (gal)
<u>14.01</u> (°C)	<u>6.97</u> (std)	<u>1.869</u> (g/L)	<u>2271</u> (µS/cm)	<u>-68.1</u> (mV)	<u>1.5</u> (gal)
<u>13.94</u> (°C)	<u>6.87</u> (std)	<u>1.870</u> (g/L)	<u>2270</u> (µS/cm)	<u>-63.8</u> (mV)	<u>1.75</u> (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: Cloudy ODOR: Bio/organic COLOR: gray SHEEN Y/N ☒
 WEATHER CONDITIONS: TEMPERATURE 89°F WINDY Y/N ☒ PRECIPITATION Y/N (IF Y TYPE) 8
 SPECIFIC COMMENTS: 1 well volume = 3.25' x 0.16 = 0.52
3 volumes = 1.56

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

DATE 9.26.11

PRINT

SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME:

Charles Et al No. 1

JOB#

074935

SAMPLE ID:

GW-074935-092611-JP-007

WELL#

MW-4

WELL PURGING INFORMATION

9.26.11

PURGE DATE
(MM DD YY)

9.26.11

SAMPLE DATE
(MM DD YY)

1725

SAMPLE TIME
(24 HOUR)

0.54

WATER VOL. IN CASING
(GALLONS)

1.75

ACTUAL VOL. PURGED
(GALLONS)

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED ☒ N

(CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED ☒ N

(CIRCLE ONE)

PURGING DEVICE

G

A - SUBMERSIBLE PUMP

D - GAS LIFT PUMP

G - BAILER

X=

B - PERISTALTIC PUMP

E - PURGE PUMP

H - WATERRA®

PURGING DEVICE OTHER (SPECIFY)

SAMPLING DEVICE

G

C - BLADDER PUMP

F - DIPPER BOTTLE

X - OTHER

X=

SAMPLING DEVICE OTHER (SPECIFY)

PURGING MATERIAL

E

A - TEFLON

D - PVC

X=

B - STAINLESS STEEL

E - POLYETHYLENE

PURGING MATERIAL OTHER (SPECIFY)

SAMPLING MATERIAL

E

C - POLYPROPYLENE

X - OTHER

X=

SAMPLING MATERIAL OTHER (SPECIFY)

PURGE TUBING

C

A - TEFLON

D - POLYPROPYLENE

G - COMBINATION

X=

B - TYGON

E - POLYETHYLENE

TEFLON/POLYPROPYLENE

PURGE TUBING OTHER (SPECIFY)

SAMPLING TUBING

C

C - ROPE

F - SILICONE

X - OTHER

X=

SAMPLING TUBING OTHER (SPECIFY)

FILTERING DEVICES 0.45

N/A

A - IN-LINE DISPOSABLE

B - PRESSURE

C - VACUUM

FIELD MEASUREMENTS

DEPTH TO WATER

6.98

(feet)

WELL ELEVATION

5919.69

(feet)

WELL DEPTH

10.97

(feet)

GROUNDWATER ELEVATION

5912.71

(feet)

TEMPERATURE

pH

TDS

CONDUCTIVITY

ORP

VOLUME

13.70 (°C)

7.03 (std)

1.313 (g/L)

1583 (µS/cm)

-36.9 (mV)

1.25 (gal)

13.39 (°C)

6.91 (std)

1.322 (g/L)

1583 (µS/cm)

-30.0 (mV)

1.5 (gal)

13.45 (°C)

6.88 (std)

1.338 (g/L)

1664 (µS/cm)

-30.7 (mV)

(gal)

13.45 (°C)

6.90 (std)

1.393 (g/L)

1670 (µS/cm)

-27.2 (mV)

1.75 (gal)

(°C)

(std)

(g/L)

(µS/cm)

(mV)

(gal)

FIELD COMMENTS

SAMPLE APPEARANCE:

cloudy

ODOR:

NO B.O.

COLOR:

gray

SHEEN Y/☒ N

WEATHER CONDITIONS:

TEMPERATURE

85°

WINDY Y/☒ N

PRECIPITATION Y/☒ N (IF Y TYPE)

SPECIFIC COMMENTS:

1 volume = 3.39' x 0.16 = .54

3 volumes = 1.63 gal

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

DATE 9.26.11

PRINT Jason Ploss

SIGNATURE [Signature]

WELL SAMPLING FIELD INFORMATION FORM

TE/PROJECT NAME:

Charles et al

JOB#

074935

SAMPLE ID:

11/10/11 QW-074935-12/11-CB-MW-1

WELL#

MW-1

WELL PURGING INFORMATION

12/12/11

PURGE DATE
(MM DD YY)

12/12/11

SAMPLE DATE
(MM DD YY)

13:30

SAMPLE TIME
(24 HOUR)

.15

WATER VOL. IN CASING
(GALLONS)

2.25

ACTUAL VOL. PURGED
(GALLONS)

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED

Y N

(CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED

Y N

(CIRCLE ONE)

PURGING DEVICE

G

A - SUBMERSIBLE PUMP

D - GAS LIFT PUMP

G - BAILER

X=

SAMPLING DEVICE

G

B - PERISTALTIC PUMP

E - PURGE PUMP

H - WATERA®

PURGING DEVICE OTHER (SPECIFY)

C - BLADDER PUMP

F - DIPPER BOTTLE

X - OTHER

X=

PURGING MATERIAL

E

A - TEFLON

D - PVC

X=

SAMPLING MATERIAL

E

B - STAINLESS STEEL

E - POLYETHYLENE

PURGING MATERIAL OTHER (SPECIFY)

C - POLYPROPYLENE

X - OTHER

X=

PURGE TUBING

C

A - TEFLON

D - POLYPROPYLENE

G - COMBINATION

X=

SAMPLING TUBING

C

B - TYGON

E - POLYETHYLENE

TEFLON/POLYPROPYLENE

PURGE TUBING OTHER (SPECIFY)

C - ROPE

F - SILICONE

X - OTHER

X=

FILTERING DEVICES 0.45

A

IN-LINE DISPOSABLE

B - PRESSURE

C - VACUUM

SAMPLING TUBING OTHER (SPECIFY)

FIELD MEASUREMENTS

DEPTH TO WATER

3.23

(feet)

WELL ELEVATION

5917.05

(feet)

WELL DEPTH

7.3

(feet)

GROUNDWATER ELEVATION

5913.82

(feet)

TEMPERATURE

pH

TDS

CONDUCTIVITY

ORP

VOLUME

	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE:

black/white

ODOR

yes

COLOR:

black

SHEN Y/N

Y

WEATHER CONDITIONS:

TEMPERATURE

cold

WIND Y/N

Y

PRECIPITATION Y/N (IF Y TYPE)

snow

SPECIFIC COMMENTS:

4.07 x 0.15 = 0.65

x 3 = 1.95

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

12/12/11

Cassie Brown

Cassie Brown

DATE

PRINT

SIGNATURE

don @ 1335
No parameters due to snow

WELL SAMPLING FIELD INFORMATION FORM

IE/PROJECT NAME: Charles et. al JOB# 074935
 SAMPLE ID: GW-074935-121211-B-MW-2 WELL# MW-2

PURGE DATE (MM DD YY) 12.12.11 WELL PURGING INFORMATION
 SAMPLE DATE (MM DD YY) 12.12.11 SAMPLE TIME (24 HOUR) 1900 WATER VOL. IN CASING (GALLONS) 0.70 ACTUAL VOL. PURGED (GALLONS) 2.10

PURGING AND SAMPLING EQUIPMENT

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

PURGING DEVICE	☒ G	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X=	
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERA®		PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	☒ G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X=	
						SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	☒ E	A - TEFLON	D - PVC		X=	
		B - STAINLESS STEEL	E - POLYETHYLENE			PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	☒ E	C - POLYPROPYLENE	X - OTHER		X=	
						SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	☒ C	A - TEFLON	D - POLYPROPYLENE	G - COMBINATION	X=	
		B - TYGON	E - POLYETHYLENE	TEFLON/POLYPROPYLENE		PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	☒ C	C - ROPE	F - SILICONE	X - OTHER	X=	
						SAMPLING TUBING OTHER (SPECIFY)

FILTERING DEVICES 0.45 ☒ A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM

FIELD MEASUREMENTS

DEPTH TO WATER 3.13 (feet) WELL ELEVATION 5916.53 (feet)
 WELL DEPTH 7.5 (feet) GROUNDWATER ELEVATION 5914.20 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
1405 <u>6.80</u> (°C)	<u>6.59</u> (std)	<u>31037</u> (g/L)	<u>2908</u> (µS/cm)	<u>-64.7</u> (mV)	<u>1.75</u> (gal)
1456 <u>5.84</u> (°C)	<u>6.16</u> (std)	<u>31124</u> (g/L)	<u>3054</u> (µS/cm)	<u>-67.8</u> (mV)	<u>2.0</u> (gal)
<u> </u> (°C)	<u> </u> (std)	<u> </u> (g/L)	<u> </u> (µS/cm)	<u> </u> (mV)	<u> </u> (gal)
<u> </u> (°C)	<u> </u> (std)	<u> </u> (g/L)	<u> </u> (µS/cm)	<u> </u> (mV)	<u> </u> (gal)
<u> </u> (°C)	<u> </u> (std)	<u> </u> (g/L)	<u> </u> (µS/cm)	<u> </u> (mV)	<u> </u> (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: _____ ODOR: _____ COLOR: _____ SHEEN Y/N _____
 WEATHER CONDITIONS: TEMPERATURE _____ WINDY Y/N _____ PRECIPITATION Y/N (IF Y TYPE) _____
 SPECIFIC COMMENTS:

H2O is black and cloudy

4.3 / x 0.16 = 0.70 x 3 = 2.10

boiled clean @ 1 gallon, let recharge before collecting parameters

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

12.12.11

Cassie Brown

Cassie Brown

DATE

PRINT

SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

TE/PROJECT NAME:

Charles et al

JOB#

074935

SAMPLE ID:

GW-074935-12/11-1B-MW3

WELL#

MW-3

WELL PURGING INFORMATION

12.12.11

PURGE DATE
(MM DD YY)

12.12.11

SAMPLE DATE
(MM DD YY)

1325

SAMPLE TIME
(24 HOUR)

73

WATER VOL. IN CASING
(GALLONS)

2.2

ACTUAL VOL. PURGED
(GALLONS)

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE

☒ G

A - SUBMERSIBLE PUMP

D - GAS LIFT PUMP

G - BAILER

X=

B - PERISTALTIC PUMP

E - PURGE PUMP

H - WATERRA®

PURGING DEVICE OTHER (SPECIFY)

SAMPLING DEVICE

☒ G

C - BLADDER PUMP

F - DIPPER BOTTLE

X - OTHER

X=

SAMPLING DEVICE OTHER (SPECIFY)

PURGING MATERIAL

☒ E

A - TEFLON

D - PVC

X=

B - STAINLESS STEEL

E - POLYETHYLENE

PURGING MATERIAL OTHER (SPECIFY)

SAMPLING MATERIAL

☒ E

C - POLYPROPYLENE

X - OTHER

X=

SAMPLING MATERIAL OTHER (SPECIFY)

PURGE TUBING

☒ C

A - TEFLON

D - POLYPROPYLENE

G - COMBINATION

X=

B - TYGON

E - POLYETHYLENE

TEFLON/POLYPROPYLENE

PURGE TUBING OTHER (SPECIFY)

SAMPLING TUBING

☒ C

C - ROPE

F - SILICONE

X - OTHER

X=

SAMPLING TUBING OTHER (SPECIFY)

FILTERING DEVICES 0.45

☒ A

A - IN-LINE DISPOSABLE

B - PRESSURE

C - VACUUM

FIELD MEASUREMENTS

DEPTH TO WATER

5.78

(feet)

WELL ELEVATION

5919.8

(feet)

WELL DEPTH

10.33

(feet)

GROUNDWATER ELEVATION

5914.9

(feet)

TEMPERATURE

pH

TDS

CONDUCTIVITY

ORP

VOLUME

1422 *6.28* (°C)

6.44 (std)

2,380 (g/L)

2294 (µS/cm)

1718 (mV)

4.5 (gal)

143 *6.36* (°C)

6.47 (std)

2,389 (g/L)

2297 (µS/cm)

16.3 (mV)

1.75 (gal)

1424 *6.40* (°C)

6.49 (std)

2,309 (g/L)

2291 (µS/cm)

5.9 (mV)

2.25 (gal)

(°C)

(std)

(g/L)

(µS/cm)

(mV)

(gal)

(°C)

(std)

(g/L)

(µS/cm)

(mV)

(gal)

FIELD COMMENTS

SAMPLE APPEARANCE:

cloudy

ODOR:

no

COLOR:

brown

SHEEN Y/N

no

WEATHER CONDITIONS:

TEMPERATURE

35

WINDY Y/N

y

PRECIPITATION Y/N (IF Y TYPE)

slow

SPECIFIC COMMENTS:

4.55 x 0.16 = 0.73 X3 = 2.18

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

12.12.11

DATE

Cassie Brown

PRINT

Cassie Brown

SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

FE/PROJECT NAME:

Charles et al

JOB#

074935

SAMPLE ID:

CW-074935 CB MW-A

WELL#

MW-4

12.12.11
PURGE DATE
(MM DD YY)

12.12.11
SAMPLE DATE
(MM DD YY)

WELL PURGING INFORMATION

16.0
SAMPLE TIME
(24 HOUR)

.71
WATER VOL. IN CASING
(GALLONS)

2.3
ACTUAL VOL. PURGED
(GALLONS)

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED ☒ N

(CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED ☒ N

(CIRCLE ONE)

PURGING DEVICE

☒

A - SUBMERSIBLE PUMP

D - GAS LIFT PUMP

G - BAILER

X=

B - PERISTALTIC PUMP

E - PURGE PUMP

H - WATERRA®

PURGING DEVICE OTHER (SPECIFY)

SAMPLING DEVICE

☒

C - BLADDER PUMP

F - DIPPER BOTTLE

X - OTHER

X=

SAMPLING DEVICE OTHER (SPECIFY)

PURGING MATERIAL

☒

A - TEFLON

D - PVC

X=

B - STAINLESS STEEL

E - POLYETHYLENE

PURGING MATERIAL OTHER (SPECIFY)

SAMPLING MATERIAL

☒

C - POLYPROPYLENE

X - OTHER

X=

SAMPLING MATERIAL OTHER (SPECIFY)

PURGE TUBING

☒

A - TEFLON

D - POLYPROPYLENE

G - COMBINATION

X=

B - TYGON

E - POLYETHYLENE

TEFLON/POLYPROPYLENE

PURGE TUBING OTHER (SPECIFY)

SAMPLING TUBING

☒

C - ROPE

F - SILICONE

X - OTHER

X=

SAMPLING TUBING OTHER (SPECIFY)

FILTERING DEVICES 0.45

☒

A - IN-LINE DISPOSABLE

B - PRESSURE

C - VACUUM

FIELD MEASUREMENTS

DEPTH TO WATER

5.94
10.35

(feet)

WELL ELEVATION

5919.69
5914.54

(feet)

WELL DEPTH

(feet)

GROUNDWATER ELEVATION

(feet)

TEMPERATURE

pH

TDS

CONDUCTIVITY

ORP

VOLUME

10.1.03 (°C)

6.76 (std)

2.972 (g/L)

21916 (µS/cm)

-47.0 (mV)

1.3 (gal)

10.1.03 (°C)

6.80 (std)

3.122 (g/L)

3866 (µS/cm)

-49.5 (mV)

1.5 (gal)

10.1.04 (°C)

6.81 (std)

3.131 (g/L)

3076 (µS/cm)

-51.2 (mV)

2.1 (gal)

10.1.05 (°C)

6.85 (std)

2.989 (g/L)

2940 (µS/cm)

-50.2 (mV)

2.3 (gal)

(°C)

(std)

(g/L)

(µS/cm)

(mV)

(gal)

FIELD COMMENTS

SAMPLE APPEARANCE:

Cloudy

ODOR:

NO

COLOR:

orange/black

WEATHER CONDITIONS:

TEMPERATURE

53

WINDY Y/N

X

PRECIPITATION Y/N (IF Y TYPE)

NO

SPECIFIC COMMENTS:

4.41 x 0.16 = 0.71 x 3 = 2.12

The is orange & cloudy, changed to brown @ ~1 volume bailed down @ 0.8 gallons allow time to recharge

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

12.12.11

Core Brown

Core Brown

DATE

PRINT

SIGNATURE

APPENDIX B

SEPTEMBER AND DECEMBER 2011

QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORTS



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

October 13, 2011

Angela Bown
COP Conestoga-Rovers & Associa
6121 Indian School Rd
#200
Albuquerque, NM 87110

RE: Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Dear Angela Bown:

Enclosed are the analytical results for sample(s) received by the laboratory on September 29, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Anna Custer for
Dianna Meier
dianna.meier@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Cassie Brown, COP Conestoga-Rovers & Associa



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CERTIFICATIONS

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60107174001	GW-074935-092611-CM-006	Water	09/26/11 16:45	09/29/11 09:00
60107174002	GW-074935-092611-SP-007	Water	09/26/11 17:25	09/29/11 09:00
60107174003	GW-074935-092611-CM-008	Water	09/26/11 17:35	09/29/11 09:00
60107174004	GW-074935-092611-CM-009	Water	09/26/11 17:45	09/29/11 09:00
60107174005	GW-074935-092611-JP-010	Water	09/26/11 18:05	09/29/11 09:00
60107174006	TB-092611-001	Water	09/26/11 18:10	09/29/11 09:00

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SAMPLE ANALYTE COUNT

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60107174001	GW-074935-092611-CM-006	EPA 8260	BRM	9
60107174002	GW-074935-092611-SP-007	EPA 8260	BRM	9
60107174003	GW-074935-092611-CM-008	EPA 8260	BRM	9
60107174004	GW-074935-092611-CM-009	EPA 8260	BRM	9
60107174005	GW-074935-092611-JP-010	EPA 8260	BRM	9
60107174006	TB-092611-001	EPA 8260	BRM	9

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 13, 2011

General Information:

6 samples were analyzed for EPA 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.

QC Batch: MSV/40680

S0: Surrogate recovery outside laboratory control limits.

- GW-074935-092611-CM-008 (Lab ID: 60107174003)
- Dibromofluoromethane (S)

Method Blank:

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

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

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

QC Batch: MSV/40680

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

QC Batch: MSV/40730

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

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO.1

Pace Project No.: 60107174

Sample: GW-074935-092611-CM-006 Lab ID: 60107174001 Collected: 09/26/11 16:45 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 05:19	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 05:19	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 05:19	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 05:19	1330-20-7	
Dibromofluoromethane (S)	110	%	86-112		1		10/08/11 05:19	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		10/08/11 05:19	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113		1		10/08/11 05:19	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	82-119		1		10/08/11 05:19	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		10/08/11 05:19		

Date: 10/13/2011 04:11 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Sample: GW-074935-092611-SP-007 Lab ID: 60107174002 Collected: 09/26/11 17:25 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report		MDL	DF	Prepared	Analyzed	CAS No.	Qual
			Limit							
8260 MSV UST, Water										
Analytical Method: EPA 8260										
Benzene	ND	ug/L	1.0		0.055	1		10/08/11 05:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0		0.056	1		10/08/11 05:36	100-41-4	
Toluene	ND	ug/L	1.0		0.066	1		10/08/11 05:36	108-88-3	
Xylene (Total)	ND	ug/L	3.0		0.12	1		10/08/11 05:36	1330-20-7	
Dibromofluoromethane (S)	109	%	86-112			1		10/08/11 05:36	1868-53-7	
Toluene-d8 (S)	98	%	90-110			1		10/08/11 05:36	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113			1		10/08/11 05:36	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119			1		10/08/11 05:36	17060-07-0	
Preservation pH	1.0		1.0		0.10	1		10/08/11 05:36		

Date: 10/13/2011 04:11 PM

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Sample: GW-074935-092611-CM-008 Lab ID: 60107174003 Collected: 09/26/11 17:35 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water Analytical Method: EPA 8260									
Benzene	1560	ug/L	50.0	2.8	50		10/09/11 15:58	71-43-2	
Ethylbenzene	624	ug/L	5.0	0.28	5		10/08/11 05:52	100-41-4	
Toluene	2610	ug/L	50.0	3.3	50		10/09/11 15:58	108-88-3	
Xylene (Total)	6590	ug/L	150	6.0	50		10/09/11 15:58	1330-20-7	
Dibromofluoromethane (S)	113	%	86-112		5		10/08/11 05:52	1868-53-7	S0
Toluene-d8 (S)	100	%	90-110		5		10/08/11 05:52	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		5		10/08/11 05:52	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	82-119		5		10/08/11 05:52	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		10/08/11 05:52		



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ANALYTICAL RESULTS

Project: CHARLES ET AL NO.1

Pace Project No.: 60107174

Sample: GW-074935-092611-CM-009 Lab ID: 60107174004 Collected: 09/26/11 17:45 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	1570	ug/L	50.0	2.8	50		10/09/11 16:14	71-43-2	
Ethylbenzene	756	ug/L	5.0	0.28	5		10/08/11 06:09	100-41-4	
Toluene	3020	ug/L	50.0	3.3	50		10/09/11 16:14	108-88-3	
Xylene (Total)	7260	ug/L	150	6.0	50		10/09/11 16:14	1330-20-7	
Dibromofluoromethane (S)	110	%	86-112		5		10/08/11 06:09	1868-53-7	
Toluene-d8 (S)	99	%	90-110		5		10/08/11 06:09	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113		5		10/08/11 06:09	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	82-119		5		10/08/11 06:09	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		10/08/11 06:09		

Date: 10/13/2011 04:11 PM

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO.1

Pace Project No.: 60107174

Sample: GW-074935-092611-JP-010 Lab ID: 60107174005 Collected: 09/26/11 18:05 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report	MDL	DF	Prepared	Analyzed	CAS No.	Qual
			Limit						
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	ND	ug/L	1.0	0.055	1		10/09/11 16:31	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/09/11 16:31	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/09/11 16:31	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/09/11 16:31	1330-20-7	
Dibromofluoromethane (S)	107	%	86-112		1		10/09/11 16:31	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		10/09/11 16:31	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113		1		10/09/11 16:31	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119		1		10/09/11 16:31	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		10/09/11 16:31		

Date: 10/13/2011 04:11 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Sample: TB-092611-001		Lab ID: 60107174006		Collected: 09/26/11 18:10		Received: 09/29/11 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 06:42	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 06:42	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 06:42	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 06:42	1330-20-7	
Dibromofluoromethane (S)	109 %		86-112		1		10/08/11 06:42	1868-53-7	
Toluene-d8 (S)	99 %		90-110		1		10/08/11 06:42	2037-26-5	
4-Bromofluorobenzene (S)	102 %		87-113		1		10/08/11 06:42	460-00-4	
1,2-Dichloroethane-d4 (S)	105 %		82-119		1		10/08/11 06:42	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		10/08/11 06:42		

QUALITY CONTROL DATA

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

QC Batch: MSV/40680 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV.UST-WATER
Associated Lab Samples: 60107174001, 60107174002, 60107174003, 60107174004, 60107174006

METHOD BLANK: 887910 Matrix: Water
Associated Lab Samples: 60107174001, 60107174002, 60107174003, 60107174004, 60107174006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	10/08/11 00:56	
Ethylbenzene	ug/L	ND	1.0	10/08/11 00:56	
Toluene	ug/L	ND	1.0	10/08/11 00:56	
Xylene (Total)	ug/L	ND	3.0	10/08/11 00:56	
1,2-Dichloroethane-d4 (S)	%	109	82-119	10/08/11 00:56	
4-Bromofluorobenzene (S)	%	100	87-113	10/08/11 00:56	
Dibromofluoromethane (S)	%	108	86-112	10/08/11 00:56	
Toluene-d8 (S)	%	98	90-110	10/08/11 00:56	

LABORATORY CONTROL SAMPLE: 887911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	82-117	
Ethylbenzene	ug/L	20	21.5	108	79-121	
Toluene	ug/L	20	20.5	102	80-120	
Xylene (Total)	ug/L	60	62.8	105	79-120	
1,2-Dichloroethane-d4 (S)	%			107	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			108	86-112	
Toluene-d8 (S)	%			99	90-110	

QUALITY CONTROL DATA

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

QC Batch: MSV/40730 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60107174003, 60107174004, 60107174005

METHOD BLANK: 888881 Matrix: Water

Associated Lab Samples: 60107174003, 60107174004, 60107174005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	10/09/11 11:15	
Ethylbenzene	ug/L	ND	1.0	10/09/11 11:15	
Toluene	ug/L	ND	1.0	10/09/11 11:15	
Xylene (Total)	ug/L	ND	3.0	10/09/11 11:15	
1,2-Dichloroethane-d4 (S)	%	106	82-119	10/09/11 11:15	
4-Bromofluorobenzene (S)	%	99	87-113	10/09/11 11:15	
Dibromofluoromethane (S)	%	108	86-112	10/09/11 11:15	
Toluene-d8 (S)	%	99	90-110	10/09/11 11:15	

LABORATORY CONTROL SAMPLE: 888882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.3	92	82-117	
Ethylbenzene	ug/L	20	19.1	95	79-121	
Toluene	ug/L	20	19.1	95	80-120	
Xylene (Total)	ug/L	60	57.0	95	79-120	
1,2-Dichloroethane-d4 (S)	%			104	82-119	
4-Bromofluorobenzene (S)	%			98	87-113	
Dibromofluoromethane (S)	%			108	86-112	
Toluene-d8 (S)	%			99	90-110	

QUALIFIERS

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

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.

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.

BATCH QUALIFIERS

Batch: MSV/40680

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

Batch: MSV/40730

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

ANALYTE QUALIFIERS

S0 Surrogate recovery outside laboratory control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CHARLES ET AL NO.1
Pace Project No.: 60107174

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60107174001	GW-074935-092611-CM-006	EPA 8260	MSV/40680		
60107174002	GW-074935-092611-SP-007	EPA 8260	MSV/40680		
60107174003	GW-074935-092611-CM-008	EPA 8260	MSV/40680		
60107174003	GW-074935-092611-CM-008	EPA 8260	MSV/40730		
60107174004	GW-074935-092611-CM-009	EPA 8260	MSV/40680		
60107174004	GW-074935-092611-CM-009	EPA 8260	MSV/40730		
60107174005	GW-074935-092611-JP-010	EPA 8260	MSV/40730		
60107174006	TB-092611-001	EPA 8260	MSV/40680		



Sample Condition Upon Receipt - ESI Tech Specs

Client Name: Col CPA NM

Project #: 0007174

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

Tracking #: 0700 0337 5909

Pace Shipping Label Used? Yes ☒ No ☐

Optional

Proj Due Date: 10/11/11
Proj Name:

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

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

Thermometer Used: T-192 / T-194

Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.3

Date and initials of person examining contents: JS 9/29/11 1.35

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: <u>water</u>		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 <u>NA</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>UNAPD</u>		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: <u>h</u>

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: 1130 Start: _____

End: 1135 End: _____

Temp: _____ Temp: _____

Project Manager Review: TXM

Date: 9/30/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

F-KS-C-004-Rev.0, 02February2011



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December 27, 2011

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

RE: Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2011. 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,

Anna Custer

anna.custer@pacelabs.com
Project Manager

Enclosures

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



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CERTIFICATIONS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112073001	GW-074935-121211-CB-MW-3	Water	12/12/11 13:25	12/14/11 09:00
60112073002	GW-074935-121211-CB-MW-4	Water	12/12/11 14:10	12/14/11 09:00
60112073003	GW-074935-121211-CB-MW-2	Water	12/12/11 14:00	12/14/11 09:00
60112073004	GW-074935-121211-CB-MW-1	Water	12/12/11 13:30	12/14/11 09:00
60112073005	GW-074935-121211-CB-DUP	Water	12/12/11 13:35	12/14/11 09:00
60112073006	TB-074935-121211-CB-TB1	Water	12/12/11 14:20	12/14/11 09:00

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SAMPLE ANALYTE COUNT

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112073001	GW-074935-121211-CB-MW-3	EPA 8260	PRG	9
60112073002	GW-074935-121211-CB-MW-4	EPA 8260	PRG	9
60112073003	GW-074935-121211-CB-MW-2	EPA 8260	PRG	9
60112073004	GW-074935-121211-CB-MW-1	EPA 8260	PRG	9
60112073005	GW-074935-121211-CB-DUP	EPA 8260	PRG	9
60112073006	TB-074935-121211-CB-TB1	EPA 8260	PRG	9

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 27, 2011

General Information:

6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

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

Surrogates:

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

Method Blank:

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

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

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

QC Batch: MSV/42517

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

QC Batch: MSV/42540

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

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Sample: GW-074935-121211-CB- Lab ID: 60112073001 Collected: 12/12/11 13:25 Received: 12/14/11 09:00 Matrix: Water
MW-3

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	ND	ug/L	1.0	0.050	1		12/16/11 05:51	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/16/11 05:51	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/16/11 05:51	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/16/11 05:51	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	106 %		86-112		1		12/16/11 05:51	1868-53-7	
Toluene-d8 (S)	99 %		90-110		1		12/16/11 05:51	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-113		1		12/16/11 05:51	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		82-119		1		12/16/11 05:51	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/16/11 05:51		

Date: 12/27/2011 12:30 PM

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Sample: GW-074935-121211-CB- Lab ID: 60112073002 Collected: 12/12/11 14:10 Received: 12/14/11 09:00 Matrix: Water
MW-4

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	ND	ug/L	1.0	0.050	1		12/16/11 06:05	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/16/11 06:05	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/16/11 06:05	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/16/11 06:05	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	86-112		1		12/16/11 06:05	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		12/16/11 06:05	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113		1		12/16/11 06:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119		1		12/16/11 06:05	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/16/11 06:05		



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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Sample: GW-074935-121211-CB- Lab ID: 60112073003 Collected: 12/12/11 14:00 Received: 12/14/11 09:00 Matrix: Water
MW-2

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	0.34J	ug/L	1.0	0.050	1		12/16/11 06:19	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/16/11 06:19	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/16/11 06:19	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/16/11 06:19	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	104	%	86-112		1		12/16/11 06:19	1868-53-7	
Toluene-d8 (S)	97	%	90-110		1		12/16/11 06:19	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113		1		12/16/11 06:19	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119		1		12/16/11 06:19	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/16/11 06:19		

Date: 12/27/2011 12:30 PM

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Sample: GW-074935-121211-CB- Lab ID: 60112073004 Collected: 12/12/11 13:30 Received: 12/14/11 09:00 Matrix: Water
MW-1

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	232	ug/L	20.0	1.0	20		12/16/11 16:47	71-43-2	
Ethylbenzene	500	ug/L	20.0	1.6	20		12/16/11 16:47	100-41-4	
Toluene	947	ug/L	20.0	1.4	20		12/16/11 16:47	108-88-3	
Xylene (Total)	3940	ug/L	60.0	3.6	20		12/16/11 16:47	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	86-112		20		12/16/11 16:47	1868-53-7	
Toluene-d8 (S)	99	%	90-110		20		12/16/11 16:47	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113		20		12/16/11 16:47	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119		20		12/16/11 16:47	17060-07-0	
Preservation pH	1.0		1.0	0.10	20		12/16/11 16:47		

Date: 12/27/2011 12:30 PM

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Sample: GW-074935-121211-CB-DUP Lab ID: 60112073005 Collected: 12/12/11 13:35 Received: 12/14/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water Analytical Method: EPA 8260									
Benzene	244	ug/L	20.0	1.0	20		12/16/11 17:01	71-43-2	
Ethylbenzene	580	ug/L	20.0	1.6	20		12/16/11 17:01	100-41-4	
Toluene	994	ug/L	20.0	1.4	20		12/16/11 17:01	108-88-3	
Xylene (Total)	4650	ug/L	60.0	3.6	20		12/16/11 17:01	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105	%	86-112		20		12/16/11 17:01	1868-53-7	
Toluene-d8 (S)	98	%	90-110		20		12/16/11 17:01	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		20		12/16/11 17:01	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119		20		12/16/11 17:01	17060-07-0	
Preservation pH	1.0		1.0	0.10	20		12/16/11 17:01		

Date: 12/27/2011 12:30 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Sample: TB-074935-121211-CB-TB1 Lab ID: 60112073006 Collected: 12/12/11 14:20 Received: 12/14/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water									
Analytical Method: EPA 8260									
Benzene	ND	ug/L	1.0	0.050	1		12/16/11 17:15	71-43-2	
Ethylbenzene	0.14J	ug/L	1.0	0.080	1		12/16/11 17:15	100-41-4	
Toluene	0.12J	ug/L	1.0	0.070	1		12/16/11 17:15	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/16/11 17:15	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	106 %		86-112		1		12/16/11 17:15	1868-53-7	
Toluene-d8 (S)	99 %		90-110		1		12/16/11 17:15	2037-26-5	
4-Bromofluorobenzene (S)	102 %		87-113		1		12/16/11 17:15	460-00-4	
1,2-Dichloroethane-d4 (S)	106 %		82-119		1		12/16/11 17:15	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/16/11 17:15		

QUALITY CONTROL DATA

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

QC Batch: MSV/42517 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60112073001, 60112073002, 60112073003

METHOD BLANK: 926898 Matrix: Water

Associated Lab Samples: 60112073001, 60112073002, 60112073003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/16/11 02:45	
Ethylbenzene	ug/L	ND	1.0	12/16/11 02:45	
Toluene	ug/L	ND	1.0	12/16/11 02:45	
Xylene (Total)	ug/L	ND	3.0	12/16/11 02:45	
1,2-Dichloroethane-d4 (S)	%	100	82-119	12/16/11 02:45	
4-Bromofluorobenzene (S)	%	98	87-113	12/16/11 02:45	
Dibromofluoromethane (S)	%	103	86-112	12/16/11 02:45	
Toluene-d8 (S)	%	98	90-110	12/16/11 02:45	

LABORATORY CONTROL SAMPLE: 926899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.1	101	82-117	
Ethylbenzene	ug/L	20	19.2	96	79-121	
Toluene	ug/L	20	19.0	95	80-120	
Xylene (Total)	ug/L	60	57.0	95	79-120	
1,2-Dichloroethane-d4 (S)	%			105	82-119	
4-Bromofluorobenzene (S)	%			98	87-113	
Dibromofluoromethane (S)	%			105	86-112	
Toluene-d8 (S)	%			96	90-110	

QUALITY CONTROL DATA

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

QC Batch: MSV/42540 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60112073004, 60112073005, 60112073006

METHOD BLANK: 927833 Matrix: Water

Associated Lab Samples: 60112073004, 60112073005, 60112073006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/16/11 13:28	
Ethylbenzene	ug/L	ND	1.0	12/16/11 13:28	
Toluene	ug/L	ND	1.0	12/16/11 13:28	
Xylene (Total)	ug/L	ND	3.0	12/16/11 13:28	
1,2-Dichloroethane-d4 (S)	%	104	82-119	12/16/11 13:28	
4-Bromofluorobenzene (S)	%	104	87-113	12/16/11 13:28	
Dibromofluoromethane (S)	%	105	86-112	12/16/11 13:28	
Toluene-d8 (S)	%	101	90-110	12/16/11 13:28	

LABORATORY CONTROL SAMPLE: 927834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.6	93	82-117	
Ethylbenzene	ug/L	20	18.4	92	79-121	
Toluene	ug/L	20	17.6	88	80-120	
Xylene (Total)	ug/L	60	54.3	91	79-120	
1,2-Dichloroethane-d4 (S)	%			100	82-119	
4-Bromofluorobenzene (S)	%			92	87-113	
Dibromofluoromethane (S)	%			104	86-112	
Toluene-d8 (S)	%			96	90-110	

QUALIFIERS

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

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.

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.

BATCH QUALIFIERS

Batch: MSV/42517

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

Batch: MSV/42540

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



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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CHARLES ET AL NO. 1 (074935)
Pace Project No.: 60112073

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112073001	GW-074935-121211-CB-MW-3	EPA 8260	MSV/42517		
60112073002	GW-074935-121211-CB-MW-4	EPA 8260	MSV/42517		
60112073003	GW-074935-121211-CB-MW-2	EPA 8260	MSV/42517		
60112073004	GW-074935-121211-CB-MW-1	EPA 8260	MSV/42540		
60112073005	GW-074935-121211-CB-DUP	EPA 8260	MSV/42540		
60112073006	TB-074935-121211-CB-TB1	EPA 8260	MSV/42540		



Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP-CRA NM

Project #: 60012073

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

Tracking #: 898608913871

Pace Shipping Label Used? Yes ☒ No ☐

Optional
Proj Due Date: 12/21/11
Proj Name:

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

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

Thermometer Used: T-191 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.8

Date and initials of person examining contents: 12/14/11 AD

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: <u>WT</u>		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
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>111411-3</u>		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: <u>NC</u>

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: <u>11:30</u>	Start:
End: <u>11:38</u>	End:
Temp:	Temp:

Project Manager Review: AK

Date: 12/14/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).