3R-340

JUNE, SEPTEMBER, AND DECEMBER 2011 QUARTERLY GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS RANDLEMAN No. 1
SAN JUAN COUNTY, NEW MEXICO

API# 30-045-10698

NMOCD# 3R-340

Prepared For:

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1.0 INTRODUCTION

This report discusses the groundwater sampling events performed by Conestoga-Rovers & Associates, Inc. (CRA) on June 22, September 27 and December 13, 2011 at the ConocoPhillips Company (ConocoPhillips) Randleman No. 1 site located outside of Aztec, New Mexico (Site). The Site is situated on private land in Section 13, Township 31N, Range 11W, of San Juan County, New Mexico. Geographical coordinates for the Site are 36°53'46.09"North and 107°56'43.78"West. A Site location map and detail map 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**.

In April 1997, an unlined surface impoundment (**Figure 2**) was discovered to have been impacted by petroleum hydrocarbons. On April 29, 1997, excavation of the soil beneath the impoundment began. A total of 613 cubic yards of hydrocarbon impacted soil were removed and landfarmed at the nearby Randleman No. 3 site (Williams 2002). Three monitor wells were installed at the Site on May 14, 1997, and quarterly groundwater monitoring was conducted through March 1998. Evaluation of groundwater monitoring results initiated another excavation in April 1998. In total, 2,220 cubic yards of hydrocarbon impacted soil were excavated "to address residual soil contamination extending to the south of the original excavated area" (Williams, 2002). Quarterly groundwater monitoring was continued through September 2000, and after 4 consecutive quarters of groundwater monitoring results below New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards for benzene, toluene, ethylbenzene, and total xylenes (BTEX), Williams Environmental Services (Williams) requested that the New Mexico Oil Conservation Division (OCD) grant closure status for the Site. In June 2002, OCD granted closure for the Site, provided that Williams plug and abandon all Site groundwater monitor wells according to OCD standards (NMEMNRD, 2002). The historical excavation area and historical groundwater monitor wells are displayed in **Figure 2**.

On February 23, 2009, a release of approximately 60 barrels of condensate occurred as a result of a hole in an on-Site production tank. Envirotech Inc. of

Farmington, NM (Envirotech) excavated an area of approximately 42 ft x 51 ft x 7 ft deep on February 26, 2009. Seven composite soil samples were collected during excavation activities and were field analyzed for total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) Method 418.1. Additionally, samples were field analyzed for organic vapors using a photoionization detector (PID) and heated headspace techniques. TPH results ranged from 8 to 1,080 parts per million (ppm) in the walls of the excavation. Organic vapor concentrations ranged from 6.8 ppm to 898 ppm. Because TPH and organic vapor levels were found to be above OCD action levels, the excavation was continued on February 27, 2009 (Envirotech, 2009). The total area of excavation measured 81 ft x 43 ft x 20 ft deep. The excavation area is depicted in **Figure 2.**

On March 2, 2009, groundwater was found seeping into the southeast corner of the excavation at a depth of approximately 20 feet below ground surface (bgs). A vacuum truck was utilized to recover groundwater from the excavation. After removal of accumulated groundwater, Envirotech obtained a soil sample from the southeast corner of the excavation at a depth of 20 feet bgs. TPH and organic vapor results were found to be above OCD action levels. During field analysis of the soil sample, groundwater continued to seep into the excavation. Groundwater was again removed from the excavation, and additional excavation was performed to obtain a soil sample below OCD action levels. A groundwater sample was collected and sent for laboratory analysis of volatile organic compounds by EPA Method 8260B. The groundwater sample was found to contain benzene, total xylenes and total naphthalenes above NMWQCC groundwater quality standards. Soon after the groundwater sample was taken, the excavation sidewalls collapsed, making further water removal via the vacuum truck impossible (Envirotech, 2009).

A total of 611 cubic yards of soil were removed from the Site and were transported to an OCD-permitted facility. Clean fill was obtained from the landowner to backfill the excavation. Envirotech recommended the installation of groundwater monitor wells at the Site under OCD guidelines (Envirotech, 2009).

Tetra Tech, Inc. (Tetra Tech) installed four groundwater monitor wells at the Site between June 9 and 10, 2009. A generalized geologic cross section was produced using soil boring data collected during monitor well installation (**Figure 3**). Following drilling activities in June 2009, the casings for Site monitor wells were surveyed using an arbitrary reference-elevation of 100 feet above mean sea level

(amsl). Data obtained from the Site survey is used in conjunction with quarterly monitoring data to produce groundwater elevation maps for the Site (**Figure 4**). Groundwater flow direction at the Site is to the east/southeast.

Tetra Tech began conducting groundwater monitoring events at the Site on June 12, 2009. Hydrocarbon absorbent socks were placed in Monitor Wells MW-2 and MW-3 on June 18, 2009 due to a light non-aqueous phase liquid (LNAPL) sheen being observed intermittently in purge water during groundwater sampling. The socks were removed during the March 2010 sampling event. Since the removal of the socks, LNAPL has not been detected in MW-2 or in MW-3. Soil and groundwater samples were also collected from the Kiffen Canyon Wash on October 21, 2009 and analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). In both the soil and groundwater collected from Kiffen Canyon Wash, BTEX constituents were found to be below New Mexico Water Quality Control Commision (NMWQCC) standards.

On June 15, 2011 Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM.

2.0 GROUNDWATER MONITORING METHODOLOGY AND ANALYTICAL RESULTS

2.1 GROUNDWATER MONITORING SUMMARY

Groundwater sampling events were conducted at the Site on June 22, September 27, and December 13, 2011. Prior to collection of groundwater samples from Monitor Wells MW-1, MW-2, MW-3 and MW-4, depth to groundwater in each well was measured using an oil/water interface probe (**Table 2**). Groundwater potentiometric surface maps reflecting June, September, and December, 2011 groundwater elevations are presented as **Figures 4, 5,** and **6**, respectively.

2.2 GROUNDWATER MONITORING METHODOLOGY

During groundwater monitoring events, Site monitor wells were purged of at least three casing volumes of groundwater using a 1.5-inch diameter, polyethylene, dedicated bailer. While bailing each well, groundwater parameters were collected using a YSI 556 multi-parameter sonde and results were recorded on CRA Well Sampling Field Information 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, KS.

Groundwater samples were analyzed for BTEX by EPA Method 8260; sulfate and chloride by EPA Method E300.0; TDS by EPA Method 2540C; and dissolved manganese by EPA Method 6010. A summary of analytical results is displayed in **Table 3.**

2.3 GROUNDWATER MONITORING ANALYTICAL RESULTS

The NMWQCC mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedence of NMWQCC groundwater quality standards in Site monitor wells are discussed below.

June 2011

- **Chloride**
  - The NMWQCC domestic water supply groundwater quality standard for chloride is 250 milligrams per liter (mg/L); in June 2011, the groundwater sample collected from MW-4, the upgradient monitor well, was found to contain chloride at concentration of 2,150 mg/L.

- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater samples collected in June 2011 from Monitor Well MW-1, MW-2, MW-3 and MW-4 were found to contain sulfate at concentrations of 2,060 mg/L, 1,730 mg/L, 1,780 mg/L, and 4,050 mg/L, respectively. MW-4, the upgradient monitor well, often yields sample results with the highest level of sulfate at the Site.

- **Dissolved Manganese**
  - The NMWQCC domestic water supply groundwater quality standard for dissolved manganese is 0.2 mg/L. In June 2011, groundwater samples collected from monitor wells MW-2, MW-3, and MW-4 were found to contain concentrations of dissolved manganese exceeding the standard at 2.59 mg/L, 0.906 mg/L, and 1.61 mg/L, respectively.

- **Total Dissolved Solids**
  - The NMWQCC groundwater quality standard for total dissolved solids (TDS) is 1,000 mg/L. The June 2011 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 exceeded this standard with concentrations of 3,120 mg/L, 2,510 mg/L, 3,270 mg/L and 8,760 mg/L, respectively. The upgradient well, MW-4, consistently contains TDS concentrations at higher levels than other Site monitor wells.

September 2011

- **Chloride**
  - The NMWQCC domestic water supply groundwater quality standard for chloride is 250 mg/L. In September 2011, the groundwater samples collected from MW-3 and MW-4, the upgradient monitor well, were found to contain chloride at concentrations of 272 mg/L and 2,350 mg/L, respectively.

- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L. Groundwater samples collected in September 2011 from Monitor Well MW-1, MW-2, MW-3 and MW-4 were found to contain sulfate at concentrations of 2,240 mg/L, 1,330 mg/L, 2,130 mg/L, and 3,650 mg/L, respectively. MW-4, the upgradient monitor well, often yields sample results with the highest level of sulfate at the Site.

- **Dissolved Manganese**
  - The NMWQCC domestic water supply groundwater quality standard for dissolved manganese is 0.2 mg/L. In September 2011, groundwater samples collected from monitor wells MW-2, MW-3, and MW-4 were found to contain concentrations of dissolved manganese exceeding the standard at 1.92 mg/L, 0.842 mg/L, and 1.31 mg/L, respectively.

- **Total Dissolved Solids**
  - The NMWQCC groundwater quality standard for total dissolved solids (TDS) is 1,000 mg/L. The September 2011 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 were above the standard with concentrations of 3,420 mg/L, 2,070 mg/L, 2,940 mg/L and 8,270 mg/L, respectively. The upgradient well, MW-4, consistently contains TDS concentrations at higher levels than the other Site monitor wells.

December 2011

- **Chloride**
  - The NMWQCC domestic water supply groundwater quality standard for chloride is 250 mg/L. In December 2011, the groundwater sample collected from MW-4, the upgradient monitor well, was found to contain chloride at a concentration of 2,240 mg/L.

- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L. Groundwater samples collected in December 2011 from Monitor Well MW-1, MW-2, MW-3 and MW-4 were found to contain sulfate at concentrations of 2,600 mg/L, 1,150 mg/L, 1,840 mg/L, and 1,530 mg/L, respectively.

- **Dissolved Manganese**
  - The NMWQCC domestic water supply groundwater quality standard for dissolved manganese is 0.2 mg/L. In December 2011, groundwater samples collected from monitor wells MW-1, MW-2, MW-3, and MW-4 were found to contain concentrations of dissolved manganese exceeding the standard at 0.518 mg/L, 2.08 mg/L, 0.747 mg/L, and 1.82 mg/L, respectively.

- **Total Dissolved Solids**
  - The NMWQCC groundwater quality standard for total dissolved solids (TDS) is 1,000 mg/L. The December 2011 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 were above the standard with concentrations of 4,050 mg/L, 2,170 mg/L, 2,810 mg/L and 7,850 mg/L, respectively. The upgradient well, MW-4, consistently contains TDS concentrations at higher levels than the other Site monitor wells.

The corresponding laboratory analytical reports, including quality control summaries, are included as **Appendix B**.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The June, September, and December, 2011 sampling events represent the fourth, fifth, and sixth consecutive quarters in which BTEX constituents have been below NMWQCC groundwater quality standards in all four Site monitor wells. CRA recommends continued quarterly groundwater sampling at the Site in order to provide eight quarters of data with BTEX concentrations below NMWQCC standards. Remediation Site closure will be requested when groundwater analytical results indicate that all groundwater quality parameters are consistently below NMWQCC groundwater quality standards or have reached background levels found in MW-4.

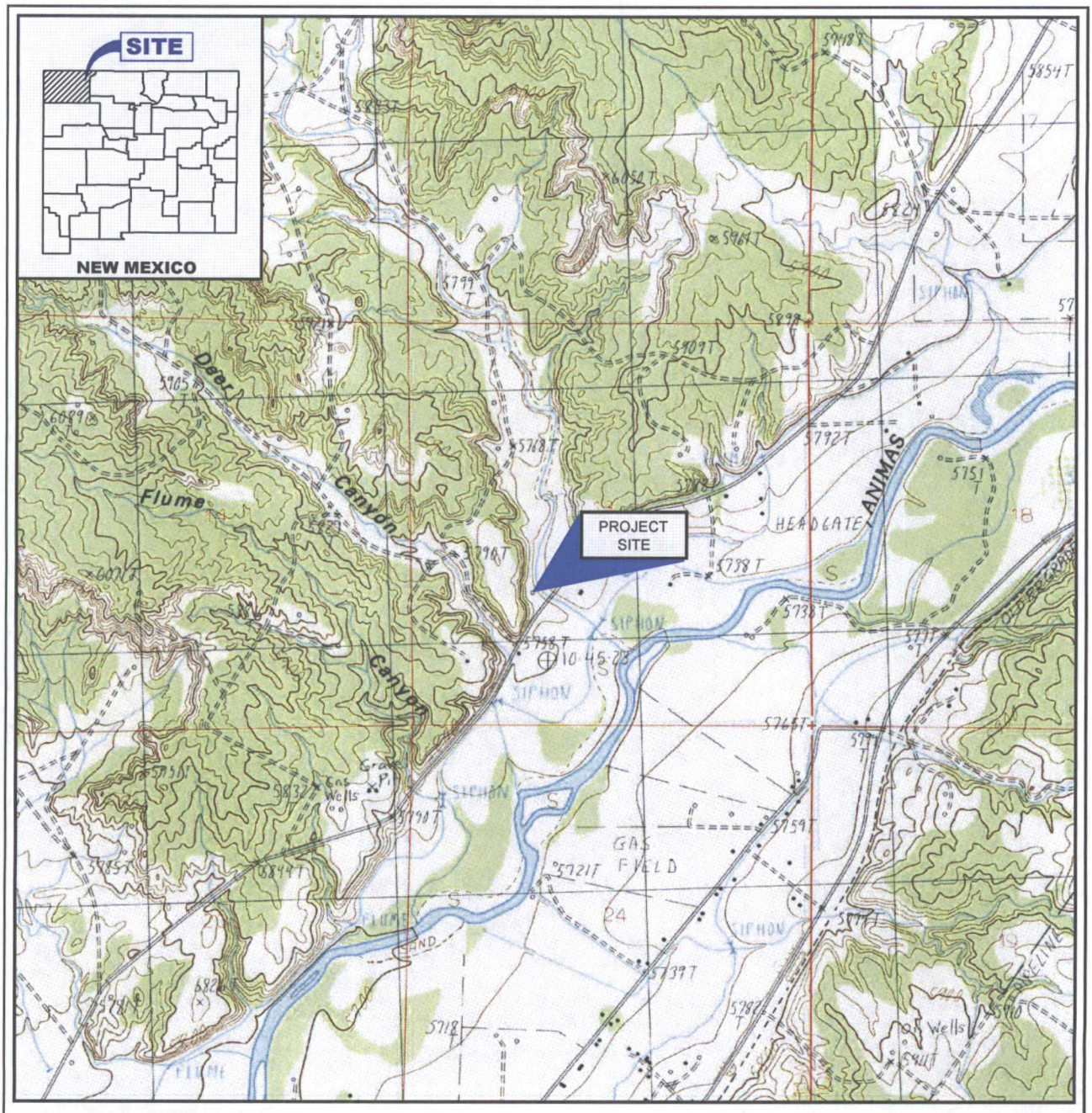
4.0 REFERENCES

Envirotech Incorporated (2009). *Spill Cleanup Report, Located at: Burlington Resources [sic] Randleman #1 Well Site, Section 13, Township 31N, Range 11W, San Juan County, New Mexico.* Prepared for ConocoPhillips. Report Dated February 2009. 3 pp.

New Mexico Energy, Minerals and Natural Resources Department (2002). *Case # 3R0-340, Randleman #1 Dehy Pit, San Juan County [sic], New Mexico.* Letter from NMEMNRD to Williams Field Services. Dated June 14, 2002. 6 pp.

Williams Environmental Services (2002). *Randleman #1 Pit Remediation and Closure Report. Prepared for the New Mexico Oil Conservation Division.* Report Dated February 11, 2002. 3 pp.

FIGURES



SOURCE: USGS 7.5 MINUTE QUAD
"CEDER HILL, NEW MEXICO"

Figure 1

SITE VICINITY MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31N-R11W, SAN JUAN COUNTY, N.M.
ConocoPhillips Company

074933-95(003)GN-DL005 FEB 2/2012

ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074933-95(003)GN-DL001 FEB 2/2012

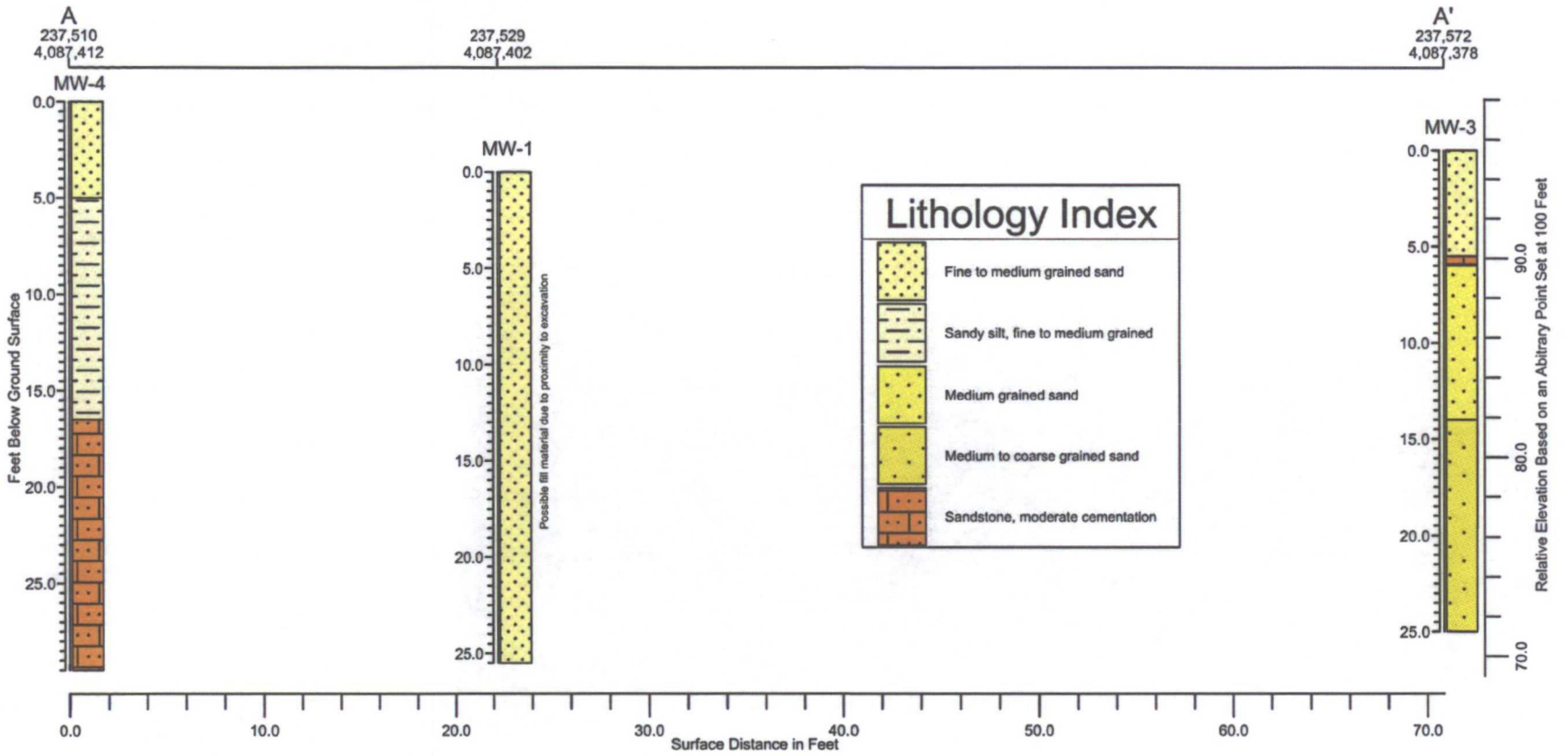


Figure 3

GEOLOGICAL CROSS SECTION
RANDLEMAN NO. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

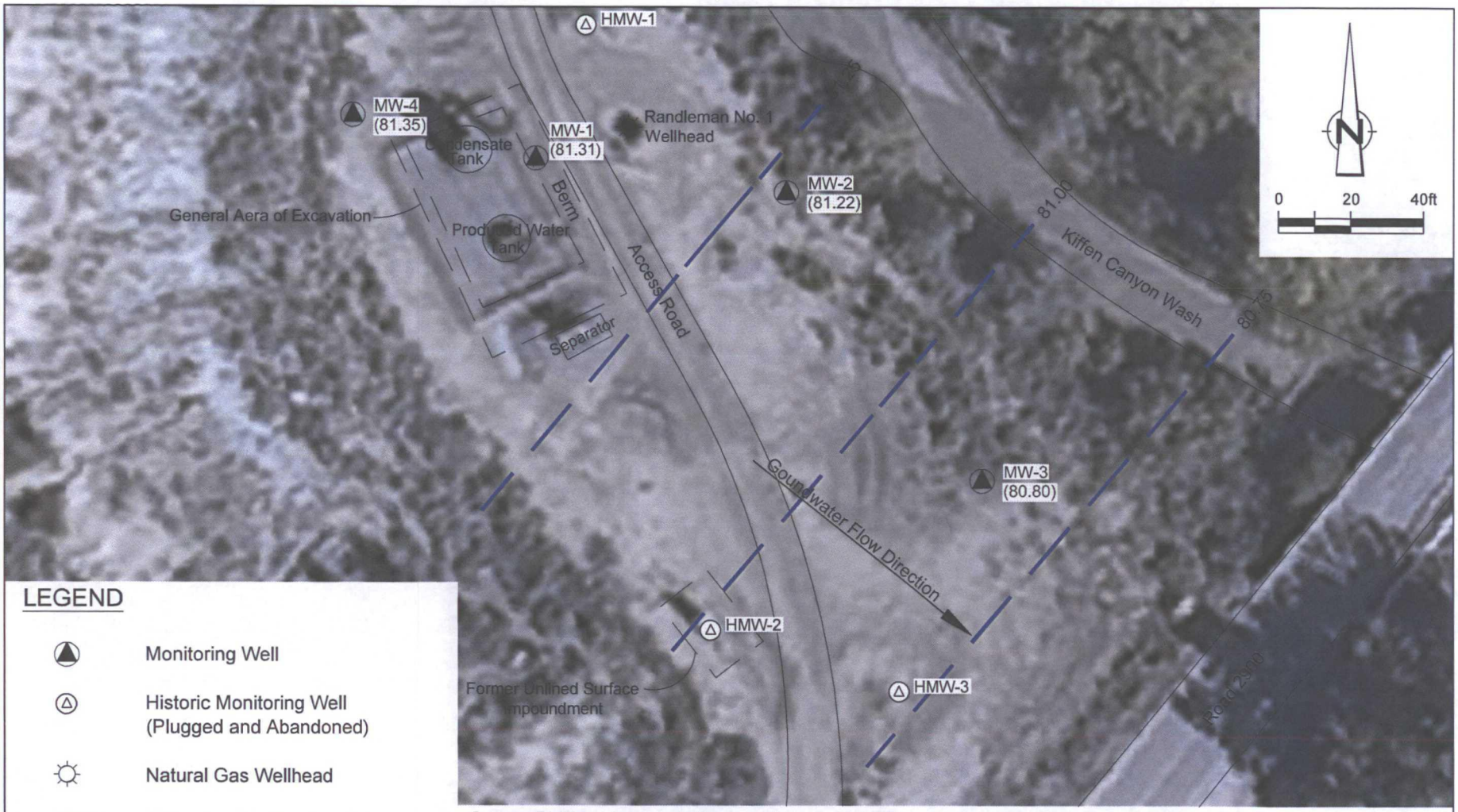
074933-95(003)GN-DL002 JAN 06/2012

ConocoPhillips high resolution aerial imagery 2008.

Figure 4

JUNE 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074933-95(003)GN-DL003 FEB 3/2012

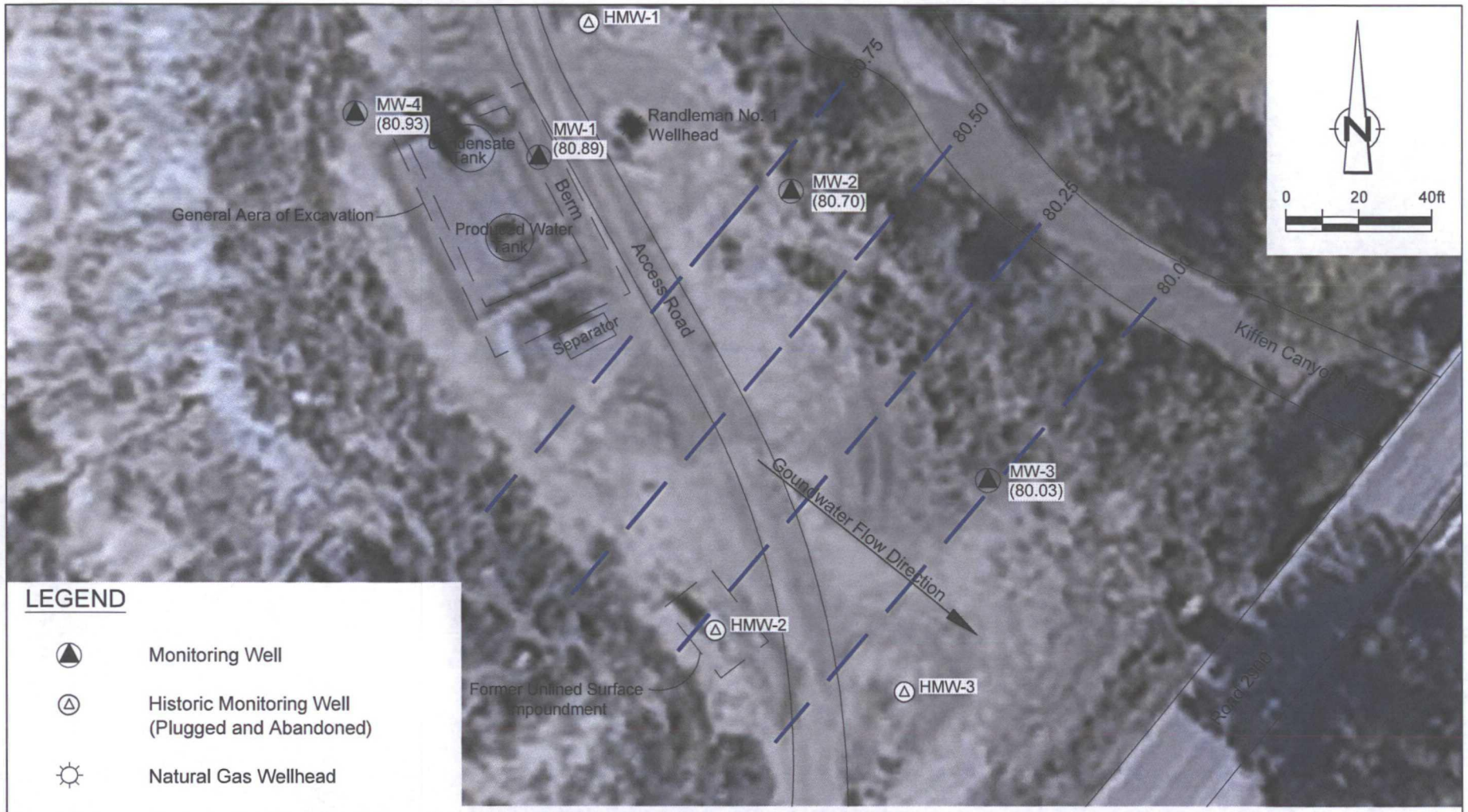


ConocoPhillips high resolution aerial imagery 2008.

Figure 5

SEPTEMBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074933-95(003)GN-DL003 FEB 3/2012



LEGEND

- Monitoring Well
- Historic Monitoring Well (Plugged and Abandoned)
- Natural Gas Wellhead
- (80.8) Groundwater Elevation, Ft
- 72.0 Groundwater Elevation Contour, Ft
- Groundwater Flow Direction

ConocoPhillips high resolution aerial imagery 2008.

Figure 6

DECEMBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

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TABLES

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
RANDLEMAN NO 1
SAN JUAN COUNTY, NM

DATE/TIME PERIOD	EVENT/ACTION	DESCRIPTION/COMMENTS
September 20, 1951	Well spudded	Well spudded by Southern Union Gas Company.
August 1, 1952	Transfer of ownership	Well acquired by Aztec Oil and Gas Company.
December 1, 1976	Transfer of ownership	Southland Royalty Company acquired Aztec Oil and Gas Company.
November 22, 1985	Transfer of ownership	Southland Royalty Company acquired by Burlington Resources.
April 1, 1997	Discovery of impacted soil	An unlined surface impoundment was discovered to have been impacted by petroleum hydrocarbons.
April 29, 1997	Excavation of impacted soil	Excavation of the soil beneath the impoundment began; once complete, a total of 613 cubic yards of hydrocarbon impacted soil were removed and landfarmed at the nearby Randleman #3 site.
May 14, 1997	Installation of monitor wells	Three groundwater monitor wells were installed at the Site. Groundwater monitoring was initiated on a quarterly basis through March 1998.
April 1, 1998	Excavation of impacted soil	Evaluation of groundwater monitoring results initiated another excavation of 2,220 cubic yards of hydrocarbon impacted soil "to address residual soil contamination extending to the south of the original excavated area" (Williams, 2002).
February 1, 2002	Closure requested	Quarterly groundwater monitoring was continued through September 2000, and after 4 consecutive quarters of groundwater quality monitoring results below New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards for benzene, toluene, ethylbenzene, and total xylenes (BTEX), Williams Environmental Services (Williams) requested that the New Mexico Oil Conservation Division (OCD) grant closure status for the Site.
June 1, 2002	Closure granted by NMOCD	OCD granted closure for the Site, provided that Williams plug and abandon all Site groundwater monitoring wells according to OCD standards (NMEMNRD, 2002). The historical excavation area and historical groundwater monitor wells are displayed in Figure 2.
March 31, 2006	Transfer of ownership	ConocoPhillips Company acquired Burlington Resources and all assets.
February 23, 2009	Release from condensate tank	Approximately 60 barrels of condensate were found to have spilled from a hole located on the back side of an on-Site condensate tank into the bermed area. The spilled fluids remained in the berm and none of the condensate was recovered. Form C-141 stated that the spill impacted the soil on the ground surface around the tank, that the production tank was to be removed, and the affected soils were to be excavated.
February 26, 2009	Excavation and site assessment	Envirotech Inc. of Farmington, NM (Envirotech) performed the soil excavation and collected soil samples for analysis. The area of release was excavated to approximately 42 feet by 51 feet by 7 feet deep. 7 composite soil samples were collected from the excavation and were analyzed for total petroleum hydrocarbons (TPH) using EPA Method 418.1. Additionally, organic vapors were measured using a Photoionization Detector (PID). TPH results ranged from 8 parts per million (ppm) in the north wall sample to 1,080 ppm in the south wall sample. The OCD recommended action level for TPH at the Site was determined to be 100 ppm. Organic vapor concentrations ranged from 6.8 ppm from the north wall sample, to 898 ppm in the south wall sample. Due to high levels of TPH and organic vapors, the excavation was continued on February 27, 2009.
February 27, 2009	Further excavation and site assessment	Envirotech continued the excavation and sampling activities. Samples collected from the north, west, and east ends of the excavation on February 26, 2009 were found to be below OCD action levels for TPH, the focus of the excavation on February 27, 2009 was the south wall, the southeast wall, and the bottom of the southeast corner. The final excavation measured 81 feet by 43 feet by 20 feet deep (total depth is given for the deepest part of the excavation; other areas determined to be below OCD action levels went to approximately 8 feet bgs). Eight soil samples were collected and analyzed in the field for TPH and organic vapors. Excavation continued until all samples were found to be below 100 ppm for both TPH and organic vapors.
March 2, 2009	Further excavation and site assessment	Groundwater began to seep into the southeast corner of the excavation at 20 feet bgs. A vacuum truck was contracted to remove groundwater from the excavation. After removal of groundwater, a soil sample from the southeast corner of the excavation was collected. TPH and organic vapor results were found to be above OCD action levels. More water was then removed from the excavation, and additional soil removal was performed. A groundwater sample was collected from the area where water continued to seep into the excavation, and was analyzed for volatile organic compounds by EPA Method 8260. The groundwater sample was found to contain benzene, total xylenes and total naphthalenes above New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards. Once this sample had been obtained, the excavation caved in, making further water removal impossible (Envirotech, 2009). A total of 611 cubic yards of soil were romoved from the Site. Clean fill was used to backfill the excavation.

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
RANDLEMAN NO 1
SAN JUAN COUNTY, NM

DATE/TIME PERIOD	EVENT/ACTION	DESCRIPTION/COMMENTS
June 9 through 11, 2009	Installation of monitor wells	Tetra Tech installs four groundwater monitor wells at the Site; MW-1, MW-2, MW-3 and MW-4.
June 12, 2009	Groundwater monitoring	Tetra Tech conducts the first groundwater monitoring event at the Site.
June 17, 2009	Depth to water measurements	Depth to water measurements were taken by Tetra Tech in Site monitor wells to determine if hydrocarbons were accumulating in the water column. Hydrocarbon sheen was detected in MW-2 and MW-3.
June 18, 2009	Absorbent socks placed in wells	Hydrocarbon-absorbent socks were placed in monitor wells MW-2 and MW-3 by Tetra Tech.
September 23, 2009	Groundwater monitoring	Second quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
October 1, 2009	Site assessment	Tetra Tech on Site to hand auger one boring near the Kiffen Canyon Wash, which is located downgradient and east of the Site. Groundwater and soil samples collected from boring. No BTEX impacts were found.
December 16, 2009	Groundwater monitoring	Third quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
April 1, 2010	Groundwater monitoring	Fourth quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
June 9, 2010	Groundwater monitoring	Fifth quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
September 20, 2010	Groundwater monitoring	Sixth quarterly groundwater monitoring event at the Site conducted by Tetra Tech. Lock and cap were observed missing from MW-4. The ground surface near MW-3 shifted, resulting in the well casing sticking out of the completion. The PVC casing was cut and the site was resurveyed by Tetra Tech.
December 17, 2010	Groundwater monitoring	Seventh quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
March 16, 2011	Groundwater monitoring	Eighth quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
June 15, 2011	Transfer of Site consulting responsibilities	Site consulting responsibilities transferred from Tetra Tech of Albuquerque, NM to CRA of Albuquerque, NM.
June 22, 2011	Groundwater monitoring	Ninth quarterly groundwater monitoring event at the Site conducted by CRA.
September 27, 2011	Groundwater monitoring	Tenth quarterly groundwater monitoring event at the Site conducted by CRA.
December 13, 2011	Groundwater monitoring	Eleventh quarterly groundwater monitoring event at the Site conducted by CRA.

TABLE 2

MONITORING WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
JUNE 2009 - DECEMBER 2011
CONOCOPHILLIPS COMPANY
RANDLEMAN NO. 1
SAN JUAN COUNTY, NM

Well ID	Total Depth (ft below TOC)	Surface Elevation*	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level (ft)
MW-1	25.5	95.19	9 - 24	6/12/2009	13.98	81.21
				6/14/2009	13.96	81.23
				9/23/2009	13.97	81.22
				12/16/2009	14.30	80.89
				4/1/2010	14.39	80.80
				6/9/2010	13.99	81.20
				9/20/2010	14.54	80.36
		94.9		12/17/2010	14.40	80.50
				3/16/2011	14.78	80.12
				6/22/2011	13.65	81.25
				9/27/2011	13.59	81.31
				12/13/2011	14.01	80.89
MW-2	23.8	96.79	8.9 - 23.8	6/12/2009	15.57	81.22
				6/14/2009	15.63	81.16
				9/23/2009	15.67	81.12
				12/16/2009	16.41	80.38
				4/1/2010	16.75	80.04
				6/9/2010	15.71	81.08
				9/20/2010	16.28	80.23
		96.51		12/17/2010	16.67	79.84
				3/16/2011	16.52	79.99
				6/22/2011	15.32	81.19
				9/27/2011	15.29	81.22
				12/13/2011	15.81	80.70
MW-3	22	96.31	6.5 - 21.5	6/12/2009	16.00	80.31
				6/14/2009	15.97	80.34
				9/23/2009	15.78	80.53
				12/16/2009	16.77	79.54
				4/1/2010	16.79	79.52
				6/9/2010	15.89	80.42
				9/20/2010	16.95	79.12
		96.07		12/17/2010	17.95	78.12
				3/16/2011	17.36	78.71
				6/22/2011	15.54	80.53
				9/27/2011	15.27	80.80
				12/13/2011	16.04	80.03
MW-4	29.5	98.83	11 - 26	6/12/2009	17.68	81.15
				6/14/2009	17.52	81.31
				9/23/2009	17.56	81.27
				12/16/2009	17.86	80.97
				4/1/2010	17.94	80.89
				6/9/2010	17.57	81.26
				9/20/2010	18.06	80.48
		98.54		12/17/2010	16.14	82.40
				3/16/2011	18.27	80.27
				6/22/2011	17.23	81.31
				9/27/2011	17.19	81.35
				12/13/2011	17.61	80.93

Notes:
1. ft = Feet
2. TOC = Top of casing
3. bgs = below ground surface
4. * Elevation relative to an arbitrary data point of 100 feet; resurveyed during 9/20/10 sampling event

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
JUNE 2009 - DECEMBER 2011
CONOCOPHILLIPS COMPANY
RANDLEMAN NO. 1
SAN JUAN COUNTY, NM

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Naphthalene (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Total dissolved solids (TDS) (mg/L)
MW-1	MW-1	6/14/2009	(orig)	0.0051	0.0076	< 0.005	0.0097	< 0.005	--	--	119	**1690**	--
	MW-1	9/23/2009	(orig)	**0.018**	0.0054	0.0013	0.0116	< 0.001	< 0.02	0.17	80.5	**1640**	2.88
	MW-1	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.108	127	**1960**	3.14
	MW-1	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.0849	72.3	**1440**	2.85
	MW-1	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.114	83.8	**1450**	3.34
	MW-1	9/20/2010	(orig)	0.0053	< 0.001	< 0.001	< 0.001	--	--	**0.207**	84.9	**1710**	4.07
	MW-1	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.131	93.5	**2100**	4.34
	MW-1	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.102	120	**1690**	3.23
	GW-74933-062211-PG-04	6/22/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	--	--	< 0.015	95.7	**2060**	**3120**
	GW-074933-092711-CM-009	9/27/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0988	107	**2240**	**3420**
	GW-074933-121311-CB-MW-1	12/13/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.518**	113	**2600**	**4050**
	GW-074933-121311-CB-MW-DUP	12/13/2011	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	--	--	--
MW-2	MW-2	6/14/2009	(orig)	0.0094	**1.1**	0.18	**2.28**	0.021	--	--	40.1	**1360**	--
	MW-2	9/23/2009	(orig)	0.0077	< 0.001	0.11	**0.72**	0.016	0.0239	**6.82**	39.4	**1390**	2.48
	MW-2	12/16/2009	(orig)	**0.02**	0.0079	0.24	**0.7778**	--	--	**5.26**	63.3	**1510**	2.39
	MW-2	4/1/2010	(orig)	0.009	0.027	0.18	0.547	--	--	**4.1**	56.5	**1170**	2.46
	MW-2	6/9/2010	(orig)	0.0038	0.0093	0.099	0.2656	--	--	**3.24**	48.7	**1280**	2.59
	MW-2	9/20/2010	(orig)	0.005	0.0076	0.061	0.1365	--	--	**2.7**	48.7	**1390**	2.44
	MW-2	12/17/2010	(orig)	0.0068	0.019	0.071	0.1177	--	--	**2.28**	38.3	**1520**	2.76
	MW-2	3/16/2011	(orig)	0.0088	0.093	0.083	0.259	--	--	**2.94**	66.7	**1470**	2.68
	GW-74933-062211-PG-03	6/22/2011	(orig)	0.0013	0.0036	0.0058	0.0180	--	--	**2.59**	39.8	**1730**	**2510**
	GW-074933-092711-CM-008	9/27/2011	(orig)	0.0076	0.0091	0.0104	0.0316	--	--	**1.92**	34.4	**1330**	**2070**
	GW-074933-092711-CM-010	9/27/2011	(Duplicate)	0.0075	0.0093	0.0104	0.0314	--	--	--	--	--	--
	GW-074933-121311-CB-MW-2	12/13/2011	(orig)	0.009	0.0476	0.0144	0.07	--	--	**2.08**	36.9	**1150**	**2170**

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
JUNE 2009 - DECEMBER 2011
CONOCOPHILLIPS COMPANY
RANDLEMAN NO. 1
SAN JUAN COUNTY, NM

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Naphthalene (mg/L)*	*Iron (dissolved) (mg/L)*	*Manganese (dissolved) (mg/L)*	*Chloride (mg/L)*	*Sulfate (mg/L)*	*Total dissolved solids (TDS) (mg/L)*
MW-3	MW-3	6/14/2009	(orig)	0.01	**1.4**	0.49	**4.05**	**0.036**	--	--	40.3	**1510**	--
	MW-3 duplicate	6/14/2009	(Duplicate)	0.01	**1.4**	0.54	**4.3**	--	--	--	--	--	--
	MW-3	9/23/2009	(orig)	**0.013**	0.0085	0.089	0.32	0.0039	0.0486	**1.11**	64.5	**1500**	2.72
	MW-3	12/16/2009	(orig)	**0.018**	0.017	0.096	0.28	--	--	**0.932**	99.1	**1920**	2.56
	MW-3	4/1/2010	(orig)	**0.018**	0.076	0.19	0.59	--	--	**1.04**	5.34	**796**	1.65
	MW-3	6/9/2010	(orig)	**0.012**	0.02	0.024	0.069	--	--	0.193	30.8	**989**	2.2
	MW-3	9/20/2010	(orig)	0.009	0.011	0.079	0.142	--	--	**0.818**	49.9	493	2.84
	MW-3	12/17/2010	(orig)	0.004	0.0034	0.048	0.071	--	--	**0.41**	64.8	**1760**	2.59
	MW-3	3/16/2011	(orig)	0.0077	0.028	0.22	0.44	--	--	**1.63**	63.4	**1180**	2.5
	GW-74933-062211-PG-01	6/22/2011	(orig)	0.0024	0.0203	0.0502	0.0980	--	--	**0.906**	92.2	**1780**	**3270**
	GW-74933-062211-PG-02	6/22/2011	(Duplicate)	0.0026	0.0224	0.0548	0.107	--	--	--	--	--	--
	GW-074933-092711-CM-007	9/27/2011	(orig)	< 0.001	< 0.001	0.0034	0.0043	--	--	**0.842**	272	**2130**	**2940**
	GW-074933-121311-CB-MW-3	12/13/2011	(orig)	0.00079 J	0.00053 J	0.0042	0.0042	--	--	**0.747**	82.7	**1840**	**2810**
MW-4	MW-4	6/14/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	--	--	**2310**	**4190**	--
	MW-4	9/23/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0308	**2.73**	**2130**	**3320**	8.6
	MW-4	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.8**	**3430**	**4110**	9.6
	MW-4	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.52**	**2350**	**3110**	8.56
	MW-4	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.06**	**2190**	**2710**	4.72
	MW-4	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.24**	**2640**	**3260**	9.55
	MW-4	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.68**	**2350**	**3570**	9.4
	MW-4	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.82**	**2310**	**3300**	8.44
	GW-74933-062211-PG-05	6/22/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	--	--	**1.61**	**2150**	**4050**	**8760**
	GW-074933-092711-CM-006	9/27/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.31**	**2350**	**3650**	**8270**
	GW-074933-121311-CB-MW-4	12/13/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.82**	**2240**	**1530**	**7850**
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**	**0.03**	**1.0**	**0.2**	**250**	**600**	**1000**

Notes:

MW = monitoring well

NMWQCC = New Mexico Water Quality Control Commission

Constituents in **BOLD** are in excess of NMWQCC groundwater quality standards

mg/L = milligrams per liter (parts per million)

< 1.0 = Below laboratory detection limit of 1.0 mg/L

APPENDIX A

JUNE, SEPTEMBER, AND DECEMBER 2011
QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No 1 JOB# 074933

SAMPLE ID: GW-074933-062211-PG-004 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
6.22.11	6.22.11	1400	1.62	4.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	13.65	(feet)	WELL ELEVATION	94.90	(feet)
WELL DEPTH	23.79	(feet)	GROUNDWATER ELEVATION	81.25	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
14.10 (°C)	6.78 (std)	(g/L)	6958 (µS/cm)	-38.4 (mV)	4.0 (gal)
13.41 (°C)	6.73 (std)	(g/L)	8806 (µS/cm)	-31.0 (mV)	4.5 (gal)
12.98 (°C)	6.60 (std)	(g/L)	8694 (µS/cm)	-22.3 (mV)	4.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: tan SHEEN Y/N

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

SPECIFIC COMMENTS:

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

6.22.11 DATE | Cassie Braun PRINT | Cassie Braun SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No1 JOB# 074933

SAMPLE ID: GW-074933-062211-PG-003 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
6.22.11	6.22.11	1340	1.77	5.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 15.32 (feet) WELL ELEVATION 96.51 (feet)

WELL DEPTH 26.39 (feet) GROUNDWATER ELEVATION 81.19 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
11.47 (°C)	7.41 (std)	(g/L)	6282 (µS/cm)	-182.1 (mV)	4.5 (gal)
11.05 (°C)	7.32 (std)	(g/L)	6250 (µS/cm)	-198.9 (mV)	5.0 (gal)
10.85 (°C)	7.32 (std)	(g/L)	6256 (µS/cm)	-232.9 (mV)	5.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: black ODOR: Sulfur COLOR: black SHEEN Y/N

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

SPECIFIC COMMENTS:

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

6.22.11 DATE | PRINT | SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 JOB# 074933

SAMPLE ID: GW-074933-062211-PG-001 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
6.22.11	6.22.11	1315	1.41	4.5

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 15.54 (feet) WELL ELEVATION 96.07 (feet)

WELL DEPTH 24.40 (feet) GROUNDWATER ELEVATION 80.53 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
11.99 (°C)	6.86 (std)	(g/L)	7317 (µS/cm)	-186.0 (mV)	3.0 (gal)
11.98 (°C)	6.80 (std)	(g/L)	7266 (µS/cm)	-191.8 (mV)	3.5 (gal)
11.88 (°C)	6.76 (std)	(g/L)	7234 (µS/cm)	-198.4 (mV)	4.0 (gal)
11.57 (°C)	6.76 (std)	(g/L)	7168 (µS/cm)	-196.0 (mV)	4.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: COLOR: black SHEEN Y/N

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

SPECIFIC COMMENTS:

Duplicate GW-074933-062211-PG-002 collected @ 1325

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

6.22.11 (DATE) Cassie Brown (PRINT) (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No 1 JOB# 074933

SAMPLE ID: GW-074933-062211-PG-005 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
6.22.11	6.22.11	1405	1.76	5.25

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 17.23 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 28.24 (feet) GROUNDWATER ELEVATION 81.31 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
13.56 (°C)	7.09 (std)	(g/L)	29584 (µS/cm)	-26.0 (mV)	4.25 (gal)
13.65 (°C)	7.01 (std)	(g/L)	29546 (µS/cm)	-35.5 (mV)	4.75 (gal)
13.5 (°C)	7.01 (std)	(g/L)	29417 (µS/cm)	-37.0 (mV)	5.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: COLOR: white SHEEN Y/N

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

SPECIFIC COMMENTS:

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

6.22.11 (DATE) Cassie Brown (PRINT) (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 JOB# 074933

SAMPLE ID: GW-074933-092711-CM-009 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9-27-11	9-27-11	1615	1.624	5.5

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	.45 micron for metals only

FIELD MEASUREMENTS

DEPTH TO WATER	13.59 (feet)		WELL ELEVATION	94.9	(feet)
WELL DEPTH	23.74 (feet)		GROUNDWATER ELEVATION	81.31	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
15.69 (°C)	7.78 (std)	2.664 (g/L)	3368 (µS/cm)	-212.3 (mV)	4.5 (gal)
16.03 (°C)	7.57 (std)	2.646 (g/L)	3372 (µS/cm)	-210.5 (mV)	5.0 (gal)
16.2 (°C)	7.47 (std)	2.632 (g/L)	3369 (µS/cm)	-206.5 (mV)	5.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: light brown/gray SHEEN Y/(N)

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

SPECIFIC COMMENTS:

10.15' X 0.16 = 1.624 X 3 = 4.87

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

9-27-11 DATE | Jason Ross PRINT | SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 cm JOB# 074933

SAMPLE ID: GW-074933-092711-~~008~~-COM WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.27.11	9.27.11	1605	1.819	5.5

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 15.29 (feet) WELL ELEVATION 96.51 (feet)

WELL DEPTH 26.66 (feet) GROUNDWATER ELEVATION 81.22 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
13.23 (°C)	7.92 (std)	1.486 (g/L)	1771 (µS/cm)	-301.3 (mV)	4.5 (gal)
13.01 (°C)	7.82 (std)	1.483 (g/L)	1759 (µS/cm)	-288.0 (mV)	5.0 (gal)
12.89 (°C)	7.77 (std)	1.483 (g/L)	1754 (µS/cm)	-280.3 (mV)	5.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: hydrocarbon/bio COLOR: dark gray SHEEN Y/N Y very slight spotty sheen

WEATHER CONDITIONS: TEMPERATURE 85 WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE)

SPECIFIC COMMENTS:

11.37' x .16 = 1.819 x 3 = 5.45

Duplicate collected @ 1610 GW-074933-092711-COM-010

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

9.27.11 DATE | Jason Ross PRINT | SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 am JOB# 074933

SAMPLE ID: GW-074933-092711-~~BD~~-007 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.27.11	9.27.4	1520	1.458	4.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	15.27 (feet)	WELL ELEVATION	96.07	(feet)
WELL DEPTH	24.38 (feet)	GROUNDWATER ELEVATION	80.80	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
14.47 (°C)	6.43 (std)	2.146 (g/L)	2635 (µS/cm)	-42.8 (mV)	3.75 (gal)
15.10 (°C)	6.51 (std)	2.098 (g/L)	2618 (µS/cm)	-60.8 (mV)	4.25 (gal)
15.01 (°C)	6.53 (std)	2.096 (g/L)	2609 (µS/cm)	-69.8 (mV)	4.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: ODOR: COLOR: SHEEN Y/N

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

SPECIFIC COMMENTS:

9.11' X 0.16 = 1.458 X 3 = 4.37

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

9.27.11 DATE | Jason Ross PRINT | SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No.1 JOB# 074933

SAMPLE ID: SW-074933-092711-CM-006 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.27.11	9.27.11	1530	1.765	5.5

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 28.22 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 77.19 (feet) GROUNDWATER ELEVATION 81.35 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
15.47 (°C)	6.91 (std)	7.423 (g/L)	9337 (µS/cm)	-14.3 (mV)	4.5 (gal)
15.60 (°C)	7.00 (std)	7.293 (g/L)	9216 (µS/cm)	-21.4 (mV)	5.0 (gal)
15.88 (°C)	7.00 (std)	7.141 (g/L)	9074 (µS/cm)	-23.5 (mV)	5.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: light gray SHEEN Y (N)

WEATHER CONDITIONS: TEMPERATURE ~85° WINDY Y (N) PRECIPITATION Y (N) IF Y.TYPE)

SPECIFIC COMMENTS:

11.03' x 0.16 = 1.765 x 3 = 5.29

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

9.27.11 DATE Jason Moss PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 JOB# 074933

SAMPLE ID: GW-074933-121311-CB-MW WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12·13·11	12·13·11	1140	1.53	4.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER: 14.01 (feet) WELL ELEVATION: 94.9 (feet)

WELL DEPTH: 23.59 (feet) GROUNDWATER ELEVATION: 80.89 (feet)

	TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
1137	14.95 (°C)	6.56 (std)	2.902 (g/L)	3613 (µS/cm)	130.8 (mV)	3.25 (gal)
1188	15.04 (°C)	6.71 (std)	2.921 (g/L)	3639 (µS/cm)	123.9 (mV)	4.25 (gal)
1140	15.10 (°C)	6.77 (std)	2.930 (g/L)	3656 (µS/cm)	120.4 (mV)	4.75 (gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: brown SHEEN Y/N No

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

SPECIFIC COMMENTS:

1.53 x 3 = 4.59

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

12·13·11 (DATE) Cassie Brown (PRINT) Cassie Brown (SIGNATURE)

duplicate @ 11:45

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 JOB# 074933

SAMPLE ID: GW074933-12/3/11-CB-MW-2 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12/13/11	12/13/11	1200	1.69	5.25

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 15.81 (feet) WELL ELEVATION 96.07 (feet)

WELL DEPTH 26.39 (feet) GROUNDWATER ELEVATION 80.70 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
13.43 (°C)	7.71 (std)	1.654 (g/L)	1983 (µS/cm)	-268.9 (mV)	4.75 (gal)
13.43 (°C)	7.75 (std)	1.636 (g/L)	1960 (µS/cm)	-297.8 (mV)	4.75 (gal)
13.45 (°C)	7.78 (std)	1.624 (g/L)	1948 (µS/cm)	-306.2 (mV)	5.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: Slt/Hydrocarbon COLOR: black SHEEN (Y)N VERY slight, spotty

WEATHER CONDITIONS: TEMPERATURE ~40° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

1.69 x 3 = 5.07

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

12/13/11 DATE Cassie Brown PRINT Cassie Brown SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No. 1 JOB# 074933

SAMPLE ID: GW.074933.12131.CB.MW3 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12.13.11	12.13.11	1230	1.33	4.5

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 16.09 (feet) WELL ELEVATION 96.01 (feet)

WELL DEPTH 29.41 (feet) GROUNDWATER ELEVATION 80.03 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
13.75 (°C)	7.67 (std)	2.136 (g/L)	2581 (µS/cm)	-191.0 (mV)	3.5 (gal)
13.82 (°C)	7.48 (std)	2.124 (g/L)	2571 (µS/cm)	-194.0 (mV)	4.0 (gal)
13.77 (°C)	7.41 (std)	2.122 (g/L)	2564 (µS/cm)	-200.1 (mV)	4.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: black/gray SHEEN Y/(N) possible very slight

WEATHER CONDITIONS: -TEMPERATURE ~40° WINDY Y/(N) PRECIPITATION Y/(N) IF Y TYPE)

SPECIFIC COMMENTS:

1.33x3 = 4.01 possible very slight sheen

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

12.13.11 (DATE) Jessie Brown (PRINT) Jessie Brown (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Rardman No. 1 JOB# 074933

SAMPLE ID: GW074933-12131-CB-MW-4 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12·B·11	12·13·11	1215	1.70	5.25

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 17.61 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 28.24 (feet) GROUNDWATER ELEVATION 80.93 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
14.85 (°C)	8.04 (std)	7.687 (g/L)	9537 (µS/cm)	-229.6 (mV)	4.25 (gal)
14.80 (°C)	8.02 (std)	7.767 (g/L)	9619 (µS/cm)	-230.6 (mV)	5.00 (gal)
14.81 (°C)	7.99 (std)	7.802 (g/L)	9659 (µS/cm)	-230.0 (mV)	5.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: light brown SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~40° WINDY Y/(N) PRECIPITATION Y/(N) IF Y-TYPE)

SPECIFIC COMMENTS:

1.70x3 = 5.10

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

12·13·11 Cassie Brown Cassie Brown

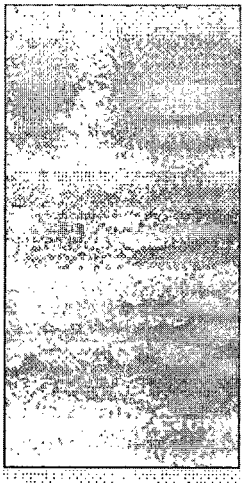
DATE PRINT SIGNATURE

APPENDIX B

JUNE, SEPTEMBER, AND DECEMBER 2011
QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORTS

Gulf Coast ACCUTEST LABORATORIES

07/11/11



Technical Report for

Conoco Phillips

CRA: Randleman

Randleman - Aztec, NM

Accutest Job Number: T79561

Sampling Date: 06/22/11

Report to:

Conestoga Rovers & Associates
6121 Indian School Rd. NE, Ste. 200
Albuquerque, NM 87110
keblanchard@craworld.com; christine.mathews@tetratech.com;
cassandre.brown@tetratech.com
ATTN: Kelly Blanchard

Total number of pages in report: **47**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Erica Cardenas 713-271-4700

Certifications: TX (T104704220-10-3) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103)

Test results relate only to samples analyzed.

Sections:

Table of Contents

-1-

Accutest Laboratories

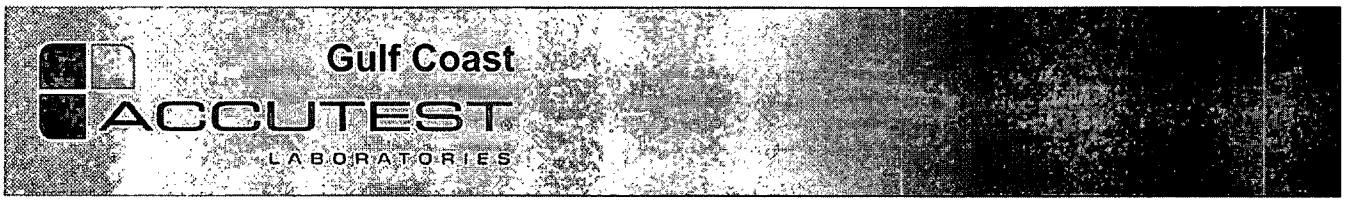
Sample Summary

Conoco Phillips

Job No: T79561

CRA: Randleman
Project No: Randleman - Aztec, NM

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T79561-1	06/22/11	13:15	06/24/11	AQ	Ground Water	56161GW-74933-062211-PG-01
T79561-1F	06/22/11	13:15	06/24/11	AQ	Groundwater Filtered	GW-74933-062211-PG-01 (DISSOLVED)
T79561-2	06/22/11	13:40	06/24/11	AQ	Ground Water	GW-74933-062211-PG-02
T79561-3	06/22/11	13:40	06/24/11	AQ	Ground Water	GW-74933-062211-PG-03
T79561-3F	06/22/11	13:40	06/24/11	AQ	Groundwater Filtered	GW-74933-062211-PG-03 (DISSOLVED)
T79561-4	06/22/11	13:40	06/24/11	AQ	Ground Water	GW-74933-062211-PG-04
T79561-4F	06/22/11	13:40	06/24/11	AQ	Groundwater Filtered	GW-74933-062211-PG-04 (DISSOLVED)
T79561-5	06/22/11	14:05	06/24/11	AQ	Ground Water	GW-74933-062211-PG-05
T79561-5F	06/22/11	14:05	06/24/11	AQ	Groundwater Filtered	GW-74933-062211-PG-05 (DISSOLVED)
T79561-6	06/22/11	00:00	06/24/11	AQ	Trip Blank Water	TRIP BLANK



Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	56161GW-74933-062211-PG-01		
Lab Sample ID:	T79561-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CRA: Randleman		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F035761.D	1	07/02/11	AK	n/a	n/a	VF4319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0024	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.0203	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.0502	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.0980	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		79-122%
17060-07-0	1,2-Dichloroethane-D4	112%		75-121%
2037-26-5	Toluene-D8	113%		87-119%
460-00-4	4-Bromofluorobenzene	122%		80-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	56161GW-74933-062211-PG-01		
Lab Sample ID:	T79561-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	92.2	5.0	mg/l	10	07/08/11 10:30	ES	EPA 300/SW846 9056
Solids, Total Dissolved	3270	20	mg/l	1	06/28/11	BG	SM 2540C
Sulfate	1780	50	mg/l	100	07/08/11 10:47	ES	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-01 (DISSOLVED)		
Lab Sample ID:	T79561-1F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	906	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-02		
Lab Sample ID:	T79561-2	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CRA: Randleman		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F035762.D	1	07/02/11	AK	n/a	n/a	VF4319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0026	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.0224	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.0548	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.107	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		79-122%
17060-07-0	1,2-Dichloroethane-D4	111%		75-121%
2037-26-5	Toluene-D8	110%		87-119%
460-00-4	4-Bromofluorobenzene	119%		80-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-03		
Lab Sample ID:	T79561-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CRA: Randleman		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F035763.D	1	07/02/11	AK	n/a	n/a	VF4319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0013	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.0036	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.0058	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	0.0180	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		79-122%
17060-07-0	1,2-Dichloroethane-D4	107%		75-121%
2037-26-5	Toluene-D8	107%		87-119%
460-00-4	4-Bromofluorobenzene	121%		80-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-03		
Lab Sample ID:	T79561-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	398	5.0	mg/l	10	07/08/11 11:04	ES	EPA 300/SW846 9056
Solids, Total Dissolved	2510	14	mg/l	1	06/28/11	BG	SM 2540C
Sulfate	1730	50	mg/l	100	07/08/11 11:21	ES	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-03 (DISSOLVED)		
Lab Sample ID:	T79561-3F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	2590	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-04		
Lab Sample ID:	T79561-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CRA: Randleman		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F035736.D	1	07/01/11	AK	n/a	n/a	VF4318
Run #2 [a]	F035711.D	1	06/30/11	AK	n/a	n/a	VF4317

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
108-88-3	Toluene	ND	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	100%	75-121%
2037-26-5	Toluene-D8	112%	110%	87-119%
460-00-4	4-Bromofluorobenzene	119%	120%	80-133%

(a) Reported for QC purposes only.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-04		
Lab Sample ID:	T79561-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	957	5.0	mg/l	10	07/08/11 11:38	ES	EPA 300/SW846 9056
Solids, Total Dissolved	3120	33	mg/l	1	06/28/11	BG	SM 2540C
Sulfate	2060	100	mg/l	200	07/08/11 12:10	ES	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-04 (DISSOLVED)		
Lab Sample ID:	T79561-4F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	<15	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-05		
Lab Sample ID:	T79561-5	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CRA: Randleman		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F035725.D	1	07/01/11	AK	n/a	n/a	VF4317
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
108-88-3	Toluene	ND	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00025	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	109%		87-119%
460-00-4	4-Bromofluorobenzene	119%		80-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-05		
Lab Sample ID:	T79561-5	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	2150	250	mg/l	500	07/08/11 12:27	ES	EPA 300/SW846 9056
Solids, Total Dissolved	8760	200	mg/l	1	06/28/11	BG	SM 2540C
Sulfate	4050	250	mg/l	500	07/08/11 12:27	ES	EPA 300/SW846 9056

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74933-062211-PG-05 (DISSOLVED)		
Lab Sample ID:	T79561-5F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	CRA: Randleman		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	1610	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	T79561-6	**Date Sampled:**	06/22/11
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/24/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	CRA: Randleman		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0008863.D	1	06/27/11	LT	n/a	n/a	VE442
Run #2							

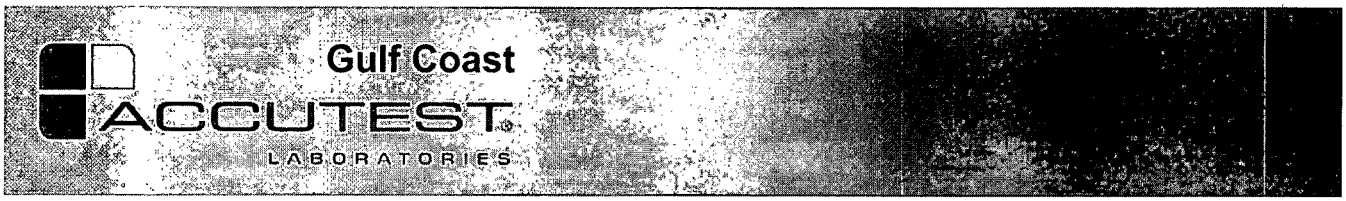
	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00025	mg/l	
108-88-3	Toluene	0.0041	0.0010	0.00026	mg/l	
100-41-4	Ethylbenzene	0.00079	0.0010	0.00025	mg/l	J
1330-20-7	Xylene (total)	0.0033	0.0030	0.00071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		79-122%
17060-07-0	1,2-Dichloroethane-D4	98%		75-121%
2037-26-5	Toluene-D8	94%		87-119%
460-00-4	4-Bromofluorobenzene	93%		80-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No.: T79561 — 302627 — page 1 of 2

Client Name: CRA
Address: 6121 Indian School Rd NE #200
City: Albuquerque State: NM Zip: 87110
Phone/Fax: 505-884-0672
Client Contact: Kelly Blanchard Email: KBlanchard@CRAworld.com
Project Name/No.: 74933
Site Name: Randleman
Site Location: Aztec, NM
Invoice To: Ph:

matrix: W=water S=soil O=oil A=air SL=sludge E=encore X=other
bottle: P=plastic A=amber glass V=vial G=glass X=other
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other
pres.: 1=HCl 2=HNO3 3=H2SO4 X=other

	SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	Requested Analysis: dissolved Mn	Chloride, Sulfate	TDS	BTEX
1.	GW-74933-062211-PG-01	6.22.11	1315		X	W	P	16	None	1	X			
12	GW-74933-062211-PG-01	6.22.11	1315		X	W	P	16	Na	1		X		
18	GW-74933-062211-PG-01	6.22.11	1315		X	W	P	X	Nay	1			X	
14	GW-74933-062211-PG-01	6.22.11	1315		X	W	V	40	1	3				X
2	GW-74933-062211-PG-02	6.22.11	1320		X	W	V	40	1	3				X
3	GW-74933-062211-PG-03	6.22.11	1340		X	W	P	16	None	1	X			
3	GW-74933-062211-PG-03	6.22.11	1340		X	W	P	16	None	1		X		
3	GW-74933-062211-PG-03	6.22.11	1340		X	W	P	X	None	1			X	
3	GW-74933-062211-PG-03	6.22.11	1340		X	W	V	40	1	3				X
4.	GW-74933-062211-PG-04	6.22.11	1400		X	W	P	16	None	1	X			

Client/Consultant Remarks: Please filter and preserve metals @ lab
Laboratory remarks:
Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp:

Requested TAT
☐ 1 Business Day ☐ Contract
☐ 2 Business Days ☐ Standard
☐ 3 Business Days
☐ Other
Rush TAT requires prior notice

Special Reporting Requirements Results: Fax ☐ Email ☒ PDF ☒
Standard QC ☒ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler:	date 6.22.11	time 2300	2. Received by: FEDEX		
3. Relinquished by: FEDEX	date 6/24/11	time 1010	4. Received by: Belinda		
5. Relinquished by:	date	time	6. Received by Laboratory:		

☒ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (337) 237-4775
☐ 459 Hughes Drive, Traverse City, MI 49686 (231) 947-5777

3.1 (3)

T79561: Chain of Custody
Page 1 of 5

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No. T79561 — 320235 — page 2 of 2

Client Name:	CRA
Address:	6121 Indian School Rd NE #200
Phone/Fax:	505-884-0672
Client Contact:	Kelly Blanchard Email: kblanchard@cravo
Project Name/No.:	74933
Site Name:	Randleman
Site Location:	Aztec, NM
Invoice To:	Ph:

matrix: W=water S=soil/solid SL=sludge O=oil X=other
bottle: P=plastic A=amber glass G=glass V=vial X=other
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other
pres.: 1=HCl 2=HNO3 3=H2SO4 X=other

Requested Analysis

	SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	dissolved Mn	chloride, sulfate	TDS	BTEX					
4	GW-74933-062211-PG-04	6.22.11	1400		X	W	P	16	None	1		X							
4	GW-74933-062211-PG-04	6.22.11	1400		X	W	P	X	None	1			X						
4	GW-74933-062211-PG-04	6.22.11	1400		X	W	V	40	1	3				X					
5	GW-74933-062211-PG-05	6.22.11	1405		X	W	P	16	None	1	X								
5	GW-74933-062211-PG-05	6.22.11	1405		X	W	P	16	None	1		X							
5	GW-74933-062211-PG-05	6.22.11	1405		X	W	P	X	None	1			X						
5	GW-74933-062211-PG-05	6.22.11	1405		X	W	V	40	1	3				X					
6	trip blank	6.22.11	—		—	W	V	40	1	2				X					

Client/Consultant Remarks: Please filter and preserve metals @ lab

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp:

Requested TAT

Contract ☐ 72hr ☐ 24hr ☐ Standard ☐ 48hr ☐ Other ☐ _____

Special Reporting Requirements Results: Fax ☐ Email ☒ PDF ☒
Standard QC ☒ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler: Chase Brown	date 6.22.11	time 2300	2. Received by: FEDEX
3. Relinquished by: FEDEX	date 6/24/11	time 1010	4. Received by: Belinda
5. Relinquished by:	date	time	6. Received by Laboratory:

☒ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (337) 237-4775
☐ 459 Hughes Drive, Traverse City, MI 49686 (231) 947-5777

3.1 (3)

T79561: Chain of Custody
Page 2 of 5

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: T79561 **Client:** CRA **Project:** 74933

Date / Time Received: 6/24/2011 **Delivery Method:** **Airbill #'s:** 4868-9990-5011

No. Coolers: 1 **Therm ID:** IRGUN4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (1.4/1.3);

Cooler Security	Y or N		Y or N
1. Custody Seals Present:	☑ ☐	3. COC Present:	☑ ☐
2. Custody Seals Intact:	☑ ☐	4. Smpl Dates/Time OK	☑ ☐

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Cooler temp verification:	IR Gun
3. Cooler media:	Ice (Bag)

Quality Control Preservation	Y or N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐ ☐	☑	☐	☐
2. Trip Blank listed on COC:	☐ ☐	☑		
3. Samples preserved properly:	☑ ☐			
4. VOCs headspace free:	☐ ☐	☑		

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	☑ ☐
2. All containers accounted for:	☑ ☐
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	☑ ☐	
2. Bottles received for unspecified tests	☐ ☑	
3. Sufficient volume recvd for analysis:	☑ ☐	
4. Compositing instructions clear:	☐ ☐	☑
5. Filtering instructions clear:	☐ ☐	☑

Comments

4/24/11

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

3.1

T79561: Chain of Custody
Page 3 of 5

Sample Receipt Log

Job #: T79561 **Date / Time Received:** 6/24/2011 10:10:00 AM **Initials:** BG

Client: CRA

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T79561-1	500 ml	1	1AA	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-1	500 ml	2	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-1	250 ml	3	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-1	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-1	40 ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-1	40 ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-2	40 ml	1	VR	HCL	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-2	40 ml	2	VR	HCL	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-2	40 ml	3	VR	HCL	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-3	500 ml	1	1AA	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-3	500 ml	2	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-3	250 ml	3	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-3	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-3	40 ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-3	40 ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-4	500 ml	1	1AA	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-4	500 ml	2	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-4	250 ml	3	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-4	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-4	40 ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-4	40 ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-5	500 ml	1	1AA	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-5	500 ml	2	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3

3.1

T79561: Chain of Custody
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ACCUTEST LABORATORIES

Sample Receipt Log

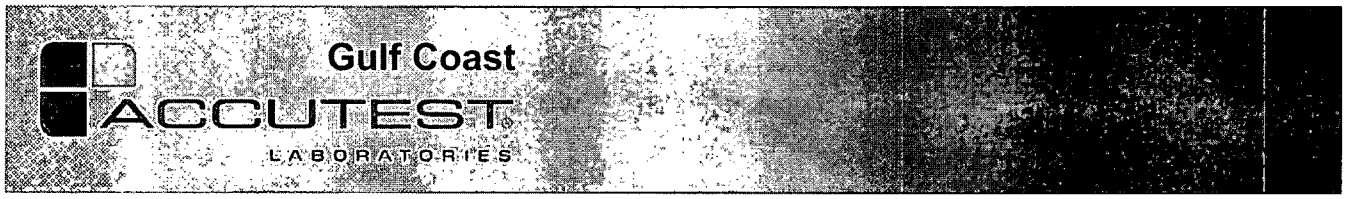
Job #: T79561 **Date / Time Received:** 6/24/2011 10:10:00 AM **Initials:** BG

Client: CRA

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T79561-5	250 ml	3	3R	N/P	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-5	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-5	40 ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-5	40 ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IRGUN4	1.4	-0.1	1.3
1	T79561-6	40 ml	1	VR	HCL	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3
1	T79561-6	40 ml	2	VR	HCL	Note #2 - Preservative check not applicable.	IRGUN4	1.4	-0.1	1.3

3.1

T79561: Chain of Custody
Page 5 of 5



GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE442-MB	E0008849.D	1	06/27/11	LT	n/a	n/a	VE442

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	79-122%
17060-07-0	1,2-Dichloroethane-D4	96%	75-121%
2037-26-5	Toluene-D8	94%	87-119%
460-00-4	4-Bromofluorobenzene	92%	80-133%

Method Blank Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4317-MB	F035709.D	1	06/30/11	AK	n/a	n/a	VF4317

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-4, T79561-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene [a]	0.36	1.0	0.26	ug/l	J
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	79-122%
17060-07-0	1,2-Dichloroethane-D4	100%	75-121%
2037-26-5	Toluene-D8	113%	87-119%
460-00-4	4-Bromofluorobenzene	121%	80-133%

(a) Not detected in associated samples.

Method Blank Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4318-MB	F035735.D	1	07/01/11	AK	n/a	n/a	VF4318

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	79-122%
17060-07-0	1,2-Dichloroethane-D4	97%	75-121%
2037-26-5	Toluene-D8	110%	87-119%
460-00-4	4-Bromofluorobenzene	116%	80-133%

Method Blank Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4319-MB	F035760.D	1	07/02/11	AK	n/a	n/a	VF4319

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-1, T79561-2, T79561-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.26	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	114%	79-122%
17060-07-0	1,2-Dichloroethane-D4	107%	75-121%
2037-26-5	Toluene-D8	108%	87-119%
460-00-4	4-Bromofluorobenzene	117%	80-133%

Blank Spike Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE442-BS	E0008847.D	1	06/27/11	LT	n/a	n/a	VE442

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.3	89	76-118
100-41-4	Ethylbenzene	25	23.8	95	75-112
108-88-3	Toluene	25	23.1	92	77-114
1330-20-7	Xylene (total)	75	72.6	97	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	111%	79-122%
17060-07-0	1,2-Dichloroethane-D4	112%	75-121%
2037-26-5	Toluene-D8	109%	87-119%
460-00-4	4-Bromofluorobenzene	106%	80-133%

Blank Spike Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4317-BS	F035708.D	1	06/30/11	AK	n/a	n/a	VF4317

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-4, T79561-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.7	95	76-118
100-41-4	Ethylbenzene	25	23.1	92	75-112
108-88-3	Toluene	25	23.6	94	77-114
1330-20-7	Xylene (total)	75	71.0	95	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	79-122%
17060-07-0	1,2-Dichloroethane-D4	103%	75-121%
2037-26-5	Toluene-D8	111%	87-119%
460-00-4	4-Bromofluorobenzene	117%	80-133%

Blank Spike Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4318-BS	F035733.D	1	07/01/11	AK	n/a	n/a	VF4318

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.1	100	76-118
100-41-4	Ethylbenzene	25	23.8	95	75-112
108-88-3	Toluene	25	24.8	99	77-114
1330-20-7	Xylene (total)	75	73.5	98	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	112%	79-122%
17060-07-0	1,2-Dichloroethane-D4	104%	75-121%
2037-26-5	Toluene-D8	115%	87-119%
460-00-4	4-Bromofluorobenzene	118%	80-133%

Blank Spike Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF4319-BS	F035758.D	1	07/02/11	AK	n/a	n/a	VF4319

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-1, T79561-2, T79561-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.7	95	76-118
100-41-4	Ethylbenzene	25	22.2	89	75-112
108-88-3	Toluene	25	22.5	90	77-114
1330-20-7	Xylene (total)	75	68.9	92	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	117%	79-122%
17060-07-0	1,2-Dichloroethane-D4	112%	75-121%
2037-26-5	Toluene-D8	116%	87-119%
460-00-4	4-Bromofluorobenzene	119%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T79299-1MS	E0008851.D	1	06/27/11	LT	n/a	n/a	VE442
T79299-1MSD	E0008852.D	1	06/27/11	LT	n/a	n/a	VE442
T79299-1	E0008850.D	1	06/27/11	LT	n/a	n/a	VE442

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-6

CAS No.	Compound	T79299-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	22.8	91	21.7	87	5	76-118/16
100-41-4	Ethylbenzene	ND		25	23.2	93	23.2	93	0	75-112/12
108-88-3	Toluene	ND		25	22.9	92	22.7	91	1	77-114/12
1330-20-7	Xylene (total)	ND		75	70.0	93	69.1	92	1	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T79299-1	Limits
1868-53-7	Dibromofluoromethane	97%	95%	98%	79-122%
17060-07-0	1,2-Dichloroethane-D4	94%	96%	96%	75-121%
2037-26-5	Toluene-D8	92%	92%	96%	87-119%
460-00-4	4-Bromofluorobenzene	93%	89%	93%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T79561-4MS	F035712.D	1	07/01/11	AK	n/a	n/a	VF4317
T79561-4MSD	F035713.D	1	07/01/11	AK	n/a	n/a	VF4317
T79561-4 [a]	F035711.D	1	06/30/11	AK	n/a	n/a	VF4317

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-4, T79561-5

CAS No.	Compound	T79561-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	23.4	94	23.2	93	1	76-118/16
100-41-4	Ethylbenzene	ND		25	22.5	90	22.5	90	0	75-112/12
108-88-3	Toluene	0.30	J	25	22.9	90	23.3	92	2	77-114/12
1330-20-7	Xylene (total)	ND		75	69.2	92	70.1	93	1	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T79561-4	Limits
1868-53-7	Dibromofluoromethane	113%	110%	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	109%	105%	100%	75-121%
2037-26-5	Toluene-D8	113%	113%	110%	87-119%
460-00-4	4-Bromofluorobenzene	122%	119%	120%	80-133%

(a) Reported for QC purposes only.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T79284-2MS	F035739.D	100	07/01/11	AK	n/a	n/a	VF4318
T79284-2MSD	F035740.D	100	07/01/11	AK	n/a	n/a	VF4318
T79284-2	F035738.D	100	07/01/11	AK	n/a	n/a	VF4318

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-4

CAS No.	Compound	T79284-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2010		2500	4110	84	3970	78	3	76-118/16
100-41-4	Ethylbenzene	407		2500	2450	82	2390	79	2	75-112/12
108-88-3	Toluene	54.0	J	2500	2110	82	2070	81	2	77-114/12
1330-20-7	Xylene (total)	228	J	7500	6630	85	6470	83	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T79284-2	Limits
1868-53-7	Dibromofluoromethane	110%	111%	110%	79-122%
17060-07-0	1,2-Dichloroethane-D4	102%	101%	99%	75-121%
2037-26-5	Toluene-D8	111%	113%	110%	87-119%
460-00-4	4-Bromofluorobenzene	117%	119%	115%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T79561
Account: CONOCO Conoco Phillips
Project: CRA: Randleman

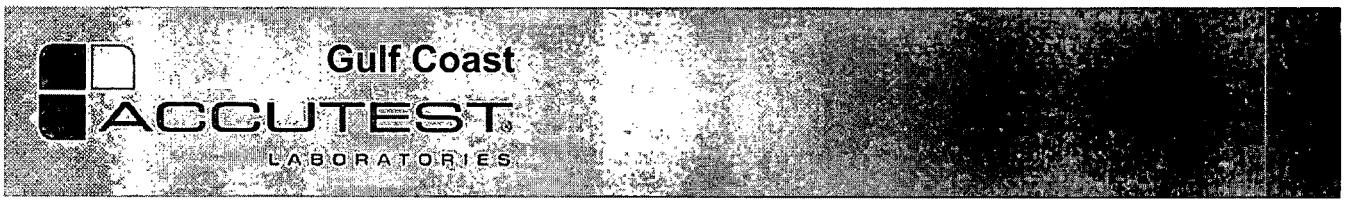
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T79993-1MS	F035766.D	1	07/02/11	AK	n/a	n/a	VF4319
T79993-1MSD	F035767.D	1	07/02/11	AK	n/a	n/a	VF4319
T79993-1	F035765.D	1	07/02/11	AK	n/a	n/a	VF4319

The QC reported here applies to the following samples: **Method:** SW846 8260B

T79561-1, T79561-2, T79561-3

CAS No.	Compound	T79993-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.96	J	25	29.0	112	28.6	111	1	76-118/16
100-41-4	Ethylbenzene	ND		25	24.9	100	25.0	100	0	75-112/12
108-88-3	Toluene	ND		25	25.6	102	25.7	103	0	77-114/12
1330-20-7	Xylene (total)	ND		75	77.5	103	77.0	103	1	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T79993-1	Limits
1868-53-7	Dibromofluoromethane	115%	113%	116%	79-122%
17060-07-0	1,2-Dichloroethane-D4	110%	111%	110%	75-121%
2037-26-5	Toluene-D8	109%	110%	110%	87-119%
460-00-4	4-Bromofluorobenzene	117%	115%	122%	80-133%



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	12		
Antimony	5.0	1	1		
Arsenic	5.0	1.7	1		
Barium	200	.97	3.4		
Beryllium	5.0	.056	.16		
Boron	100	1.4	7.8		
Cadmium	4.0	.11	.09		
Calcium	5000	7.4	25		
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	25	1.1	5.9		
Iron	100	1.1	23		
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9		
Manganese	15	.054	1.9	0.33	<RL
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45		
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100		
Strontium	10	.061	.4		
Thallium	10	.67	1.2		
Tin	20	.69	2.8		
Titanium	20	.29	.3		
Vanadium	50	.3	.3		
Zinc	20	.51	3.5		

Associated samples MP15156: T79561-1F, T79561-3F, T79561-4F, T79561-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11 07/04/11

Metal	T79629-1F Original	DUP	RPD	QC Limits	T79629-1F Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	46.0	46.3	0.7	0-20	46.0	434	400	97.0	80-120
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP15156: T79561-1F, T79561-3F, T79561-4F, T79561-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	T79629-1F Original MSD		Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper						
Iron	anr					
Lead	anr					
Lithium						
Magnesium	anr					
Manganese	46.0	432	400	96.5	0.5	20
Molybdenum						
Nickel						
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP15156: T79561-1F, T79561-3F, T79561-4F, T79561-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	anr			
Lithium				
Magnesium	anr			
Manganese	395	400	98.8	80-120
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP15156: T79561-1F, T79561-3F, T79561-4F, T79561-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	T79629-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	anr			
Lithium				
Magnesium	anr			
Manganese	46.0	50.8	10.6*(a)	0-10
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP15156: T79561-1F, T79561-3F, T79561-4F, T79561-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP13803/GN32798	0.50	0.0	mg/l	10	9.42	94.2	90-110%
Solids, Total Dissolved	GN32476	10	0.0	mg/l	500	486	97.2	80-120%
Sulfate	GP13803/GN32798	0.50	0.0	mg/l	10	10.5	105.0	90-110%

Associated Samples:
Batch GN32476: T79561-1, T79561-3, T79561-4, T79561-5
Batch GP13803: T79561-1, T79561-3, T79561-4, T79561-5
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP13803/GN32798	T80144-1	mg/l	2030	2030	0.0	0-20%
Solids, Total Dissolved	GN32476	T79399-1	mg/l	998	1000	0.2	0-5%
Sulfate	GP13803/GN32798	T80144-1	mg/l	1360	1380	1.5	0-20%

Associated Samples:
Batch GN32476: T79561-1, T79561-3, T79561-4, T79561-5
Batch GP13803: T79561-1, T79561-3, T79561-4, T79561-5
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T79561
Account: CONOCO - Conoco Phillips
Project: CRA: Randleman

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP13803/GN32798	T80144-1	mg/l	2030	5000	6630	92.0	80-120%
Sulfate	GP13803/GN32798	T80144-1	mg/l	1360	5000	6380	100.4	80-120%

Associated Samples:
Batch GP13803: T79561-1, T79561-3, T79561-4, T79561-5
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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October 17, 2011

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

RE: Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

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

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

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: RANDLEMAN NO. 1
Pace Project No.: 60107161

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60107161001	GW-074933-092711-CM-007	Water	09/27/11 15:20	09/29/11 09:00
60107161002	GW-074933-092711-CM-006	Water	09/27/11 15:30	09/29/11 09:00
60107161003	GW-074933-092711-CM-008	Water	09/27/11 16:05	09/29/11 09:00
60107161004	GW-074933-092711-CM-009	Water	09/27/11 16:15	09/29/11 09:00
60107161005	GW-074933-092711-CM-010	Water	09/27/11 16:10	09/29/11 09:00
60107161006	TB-092711-001	Water	09/27/11 16:30	09/29/11 09:00

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SAMPLE ANALYTE COUNT

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60107161001	**GW-074933-092711-CM-007**	EPA 6010	JGP	1
		EPA 8260	BRM	9
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60107161002	**GW-074933-092711-CM-006**	EPA 6010	JGP	1
		EPA 8260	BRM	9
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60107161003	**GW-074933-092711-CM-008**	EPA 6010	JGP	1
		EPA 8260	BRM	9
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60107161004	**GW-074933-092711-CM-009**	EPA 6010	JGP	1
		EPA 8260	BRM	9
		SM 2540C	KLB	1
		EPA 300.0	JPF	2
60107161005	**GW-074933-092711-CM-010**	EPA 8260	BRM	9
60107161006	**TB-092711-001**	EPA 8260	BRM	9

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PROJECT NARRATIVE

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 17, 2011

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

Method Blank:
All analytes were below the report limit in the method blank 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.

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 17, 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

S3: Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- GW-074933-092711-CM-006 (Lab ID: 60107161002)
  - 1,2-Dichloroethane-d4 (S)
  - 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.

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 17, 2011

General Information:
4 samples were analyzed for SM 2540C. 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.

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.

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 17, 2011

General Information:
4 samples were analyzed for EPA 300.0. 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.

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.

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: RANDLEMAN NO. 1
Pace Project No.: 60107161

Sample: GW-074933-092711-CM-007 **Lab ID: 60107161001** Collected: 09/27/11 15:20 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**842**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 16:46	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 03:41	71-43-2	
Ethylbenzene	**3.4**	ug/L	1.0	0.056	1		10/08/11 03:41	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 03:41	108-88-3	
Xylene (Total)	**4.3**	ug/L	3.0	0.12	1		10/08/11 03:41	1330-20-7	
Dibromofluoromethane (S)	110	%	86-112		1		10/08/11 03:41	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		10/08/11 03:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		1		10/08/11 03:41	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	82-119		1		10/08/11 03:41	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/08/11 03:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2940**	mg/L	5.0	5.0	1		10/03/11 09:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**272**	mg/L	50.0	1.4	50		10/13/11 22:00	16887-00-6	
Sulfate	**2130**	mg/L	500	49.0	500		10/14/11 13:46	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Sample: GW-074933-092711-CM-006 **Lab ID: 60107161002** Collected: 09/27/11 15:30 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**1310**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 16:59	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 03:57	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 03:57	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 03:57	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 03:57	1330-20-7	
Dibromofluoromethane (S)	114	%	86-112		1		10/08/11 03:57	1868-53-7	S3
Toluene-d8 (S)	99	%	90-110		1		10/08/11 03:57	2037-26-5	
4-Bromofluorobenzene (S)	104	%	87-113		1		10/08/11 03:57	460-00-4	
1,2-Dichloroethane-d4 (S)	126	%	82-119		1		10/08/11 03:57	17060-07-0	S3
Preservation pH	**1.0**		1.0	0.10	1		10/08/11 03:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**8270**	mg/L	5.0	5.0	1		10/03/11 09:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2350**	mg/L	200	5.4	200		10/14/11 14:03	16887-00-6	
Sulfate	**3650**	mg/L	200	19.6	200		10/14/11 14:03	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Sample: GW-074933-092711-CM-008 **Lab ID: 60107161003** Collected: 09/27/11 16:05 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**1920**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 17:03	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**7.6**	ug/L	1.0	0.055	1		10/08/11 04:14	71-43-2	
Ethylbenzene	**10.4**	ug/L	1.0	0.056	1		10/08/11 04:14	100-41-4	
Toluene	**9.1**	ug/L	1.0	0.066	1		10/08/11 04:14	108-88-3	
Xylene (Total)	**31.6**	ug/L	3.0	0.12	1		10/08/11 04:14	1330-20-7	
Dibromofluoromethane (S)	108	%	86-112		1		10/08/11 04:14	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		10/08/11 04:14	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		1		10/08/11 04:14	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	82-119		1		10/08/11 04:14	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/08/11 04:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2070**	mg/L	5.0	5.0	1		10/03/11 09:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**34.4**	mg/L	2.0	0.054	2		10/14/11 14:37	16887-00-6	
Sulfate	**1330**	mg/L	100	9.8	100		10/14/11 14:54	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Sample: GW-074933-092711-CM-009 **Lab ID: 60107161004** Collected: 09/27/11 16:15 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**98.8**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 17:06	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 04:30	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 04:30	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 04:30	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 04:30	1330-20-7	
Dibromofluoromethane (S)	107	%	86-112		1		10/08/11 04:30	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		10/08/11 04:30	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		1		10/08/11 04:30	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119		1		10/08/11 04:30	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/08/11 04:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3420**	mg/L	5.0	5.0	1		10/03/11 09:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**107**	mg/L	10.0	0.27	10		10/14/11 16:02	16887-00-6	
Sulfate	**2240**	mg/L	200	19.6	200		10/14/11 15:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Sample: GW-074933-092711-CM-010 **Lab ID: 60107161005** Collected: 09/27/11 16:10 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	**7.5**	ug/L	1.0	0.055	1		10/08/11 04:46	71-43-2	
Ethylbenzene	**10.4**	ug/L	1.0	0.056	1		10/08/11 04:46	100-41-4	
Toluene	**9.3**	ug/L	1.0	0.066	1		10/08/11 04:46	108-88-3	
Xylene (Total)	**31.4**	ug/L	3.0	0.12	1		10/08/11 04:46	1330-20-7	
Dibromofluoromethane (S)	109	%	86-112		1		10/08/11 04:46	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		10/08/11 04:46	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		1		10/08/11 04:46	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	82-119		1		10/08/11 04:46	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/08/11 04:46		

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Sample: TB-092711-001 **Lab ID: 60107161006** Collected: 09/27/11 16:30 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 05:03	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 05:03	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 05:03	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 05:03	1330-20-7	
Dibromofluoromethane (S)	108	%	86-112		1		10/08/11 05:03	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		10/08/11 05:03	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		1		10/08/11 05:03	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	82-119		1		10/08/11 05:03	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/08/11 05:03		

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

QC Batch: MPRP/15521 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004

METHOD BLANK: 885373 Matrix: Water
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/04/11 16:40	

LABORATORY CONTROL SAMPLE: 885374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	954	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885375 885376

Parameter	Units	60107161001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	842	1000	1000	1730	1790	89	95	75-125	3	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

QC Batch: MSV/40680 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004, 60107161005, 60107161006

METHOD BLANK: 887910 Matrix: Water
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004, 60107161005, 60107161006

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	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

QC Batch: WET/31291 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004

METHOD BLANK: 885204 Matrix: Water
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/03/11 09:49	

SAMPLE DUPLICATE: 885205

Parameter	Units	60107069005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2030	2000	1	17	

SAMPLE DUPLICATE: 885206

Parameter	Units	60107114002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1090	1080	1	17	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

QC Batch: WETA/17893 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004

METHOD BLANK: 890058 Matrix: Water
Associated Lab Samples: 60107161001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/13/11 16:37	

METHOD BLANK: 892356 Matrix: Water
Associated Lab Samples: 60107161001, 60107161002, 60107161003, 60107161004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/14/11 10:22	
Sulfate	mg/L	ND	1.0	10/14/11 10:22	

LABORATORY CONTROL SAMPLE: 890059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 892354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	91	90-110	
Sulfate	mg/L	5	4.6	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 890060 890061

Parameter	Units	60107114003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	23.9	10	10	34.8	33.2	108	92	64-118	5	12	
Sulfate	mg/L	529	500	500	1030	1070	101	108	61-119	3	10	

MATRIX SPIKE SAMPLE: 890062

Parameter	Units	60107161002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2350	1000	3430	108	64-118	
Sulfate	mg/L	3650	1000	4620	97	61-119	

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QUALIFIERS

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

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.

ANALYTE QUALIFIERS

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RANDLEMAN NO. 1
Pace Project No.: 60107161

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60107161001	**GW-074933-092711-CM-007**	EPA 3010	MPRP/15521	EPA 6010	ICP/13476
60107161002	**GW-074933-092711-CM-006**	EPA 3010	MPRP/15521	EPA 6010	ICP/13476
60107161003	**GW-074933-092711-CM-008**	EPA 3010	MPRP/15521	EPA 6010	ICP/13476
60107161004	**GW-074933-092711-CM-009**	EPA 3010	MPRP/15521	EPA 6010	ICP/13476
60107161001	**GW-074933-092711-CM-007**	EPA 8260	MSV/40680		
60107161002	**GW-074933-092711-CM-006**	EPA 8260	MSV/40680		
60107161003	**GW-074933-092711-CM-008**	EPA 8260	MSV/40680		
60107161004	**GW-074933-092711-CM-009**	EPA 8260	MSV/40680		
60107161005	**GW-074933-092711-CM-010**	EPA 8260	MSV/40680		
60107161006	**TB-092711-001**	EPA 8260	MSV/40680		
60107161001	**GW-074933-092711-CM-007**	SM 2540C	WET/31291		
60107161002	**GW-074933-092711-CM-006**	SM 2540C	WET/31291		
60107161003	**GW-074933-092711-CM-008**	SM 2540C	WET/31291		
60107161004	**GW-074933-092711-CM-009**	SM 2540C	WET/31291		
60107161001	**GW-074933-092711-CM-007**	EPA 300.0	WETA/17893		
60107161002	**GW-074933-092711-CM-006**	EPA 300.0	WETA/17893		
60107161003	**GW-074933-092711-CM-008**	EPA 300.0	WETA/17893		
60107161004	**GW-074933-092711-CM-009**	EPA 300.0	WETA/17893		

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical™ www.pacelabs.com

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

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	COP CRA NM	Report To:	Christine Mathews	Attention:	ENFOS
Address:	6121 Indian School Rd NE, Ste 200 Albequerque, NM 87110	Copy To:	Kelly Blanchard, Angela Bown	Company Name:	
Email To:	cmathews@craworld.com	Purchase Order No.:		Address:	
Phone:	(505)884-0672 Fax: (505)884-4932	Project Name:	Randleman No. 1	Pace Quote Reference:	
Requested Due Date/TAT:	standard	Project Number:	074933	Pace Project Manager:	Colleen Koporc
				Pace Profile #:	5341, 4

REGULATORY AGENCY: ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: NM

Requested Analysis Filtered (Y/N)

Section D Required Client Information

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

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

Pace Project No./Lab I.D.: 6007161

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	8260 BTEX	300.0 Sulfate	300.0 Chloride	2540 TDS	Dissolved Mn		Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
1	GW-074933-092711-CM-007	WT	G	1BP3F 1.5		9.27.11	1520		5	X		X	X						X	X	X	X	X	3 DG9 H, ~~BP3N~~		1.5 1BP3U 001
2	GW-074933-092711-CM-006	WT	G	↓		9.27.11	1530		5	X		X	X						X	X	X	X	X	↓ .9112		↓ 002
3	GW-074933-092711-CM-008	WT	G	↓		9.27.11	1605		5	X		X	X						X	X	X	X	X	↓		1BP3U 003
4	GW-074933-092711-CM-009	WT	G	↓		9.27.11	1615		6	X		X	X						X	X	X	X	X	↓		2BP3U 004
5	GW-074933-092711-CM-010	WT	G			9.27.11	1610		3				X						X					↓		005
6	TB-092711-001	WT				9.27.11	1630		2				X						X					2 DG9 H (TB)		006
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Include MDLs on report - J-flag	Christine Mathews	9/28/11	0730	E Brockett	9/29	0900	2.5	Y	Y	Y
* Metals were filtered in the field										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: Christine Mathews DATE Signed (MM/DD/YY): 9/27/11

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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Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP CRA Project #: 6010761

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

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

Tracking #: 876800246819 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-193 / T-194 Type of Ice: Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2-5

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

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	there are 2 BP3u for sample CM-009, no unpres container for
-Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	~~CM-009~~ ⊕ 9/29/11
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): Covered		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: DKM Date: 9/30/11

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

Start: 1040	Start:
End: 1050	End:
Temp:	Temp:

DKM

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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January 04, 2012

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

RE: Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on December 15, 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,

Alice Tracy

Alice Tracy

alice.tracy@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112224001	GW-074933-121311-CB-MW-1	Water	12/13/11 11:40	12/15/11 09:00
60112224002	GW-074933-121311-CB-MW-2	Water	12/13/11 12:00	12/15/11 09:00
60112224003	GW-074933-121311-CB-MW-3	Water	12/13/11 12:30	12/15/11 09:00
60112224004	GW-074933-121311-CB-MW-4	Water	12/13/11 12:15	12/15/11 09:00
60112224005	GW-074933-121311-CB-DUP	Water	12/13/11 11:45	12/15/11 09:00
60112224006	GW-074933-121311-CB-TB1	Water	12/13/11 08:10	12/15/11 09:00

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SAMPLE ANALYTE COUNT

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112224001	GW-074933-121311-CB-MW-1	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	BGM	1
		EPA 300.0	JML	2
60112224002	GW-074933-121311-CB-MW-2	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	BGM	1
		EPA 300.0	JML	2
60112224003	GW-074933-121311-CB-MW-3	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	BGM	1
		EPA 300.0	JML	2
60112224004	GW-074933-121311-CB-MW-4	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	BGM	1
		EPA 300.0	JML	2
60112224005	GW-074933-121311-CB-DUP	EPA 8260	PRG	9
60112224006	GW-074933-121311-CB-TB1	EPA 8260	PRG	9

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Method: EPA 6010
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: January 04, 2012

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

Method Blank:
All analytes were below the report limit in the method blank 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.

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: January 04, 2012

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/42550

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60112233002

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 927961)
  - Ethylbenzene
  - Toluene
- MSD (Lab ID: 927962)
  - Benzene
  - Ethylbenzene
  - Toluene

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: January 04, 2012

General Information:
4 samples were analyzed for SM 2540C. 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.

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.

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: January 04, 2012

General Information:
4 samples were analyzed for EPA 300.0. 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.

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.

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: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Sample: GW-074933-121311-CB-MW-1 **Lab ID: 60112224001** Collected: 12/13/11 11:40 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**518**	ug/L	5.0	0.90	1	12/22/11 08:30	12/28/11 15:59	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.050	1		12/17/11 02:03	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/17/11 02:03	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/17/11 02:03	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/17/11 02:03	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	86-112		1		12/17/11 02:03	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		12/17/11 02:03	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		1		12/17/11 02:03	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119		1		12/17/11 02:03	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/17/11 02:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**4050**	mg/L	5.0	5.0	1		12/19/11 08:45		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**113**	mg/L	10.0	0.54	10		12/29/11 16:37	16887-00-6	
Sulfate	**2600**	mg/L	200	15.2	200		12/28/11 20:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Sample: GW-074933-121311-CB-MW-2 **Lab ID: 60112224002** Collected: 12/13/11 12:00 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**2080**	ug/L	5.0	0.90	1	12/22/11 08:30	12/28/11 16:10	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**9.0**	ug/L	1.0	0.050	1		12/17/11 02:17	71-43-2	
Ethylbenzene	**14.4**	ug/L	1.0	0.080	1		12/17/11 02:17	100-41-4	
Toluene	**47.6**	ug/L	1.0	0.070	1		12/17/11 02:17	108-88-3	
Xylene (Total)	**70.0**	ug/L	3.0	0.18	1		12/17/11 02:17	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105	%	86-112		1		12/17/11 02:17	1868-53-7	
Toluene-d8 (S)	97	%	90-110		1		12/17/11 02:17	2037-26-5	
4-Bromofluorobenzene (S)	108	%	87-113		1		12/17/11 02:17	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119		1		12/17/11 02:17	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/17/11 02:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2170**	mg/L	5.0	5.0	1		12/19/11 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**36.9**	mg/L	5.0	0.27	5		12/29/11 17:10	16887-00-6	
Sulfate	**1150**	mg/L	100	7.6	100		12/28/11 21:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Sample: GW-074933-121311-CB-MW-3 **Lab ID: 60112224003** Collected: 12/13/11 12:30 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**747**	ug/L	5.0	0.90	1	12/22/11 08:30	12/28/11 16:24	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**0.79J**	ug/L	1.0	0.050	1		12/17/11 02:31	71-43-2	
Ethylbenzene	**4.2**	ug/L	1.0	0.080	1		12/17/11 02:31	100-41-4	
Toluene	**0.53J**	ug/L	1.0	0.070	1		12/17/11 02:31	108-88-3	
Xylene (Total)	**4.2**	ug/L	3.0	0.18	1		12/17/11 02:31	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105	%	86-112		1		12/17/11 02:31	1868-53-7	
Toluene-d8 (S)	98	%	90-110		1		12/17/11 02:31	2037-26-5	
4-Bromofluorobenzene (S)	104	%	87-113		1		12/17/11 02:31	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119		1		12/17/11 02:31	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/17/11 02:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2810**	mg/L	5.0	5.0	1		12/19/11 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**82.7**	mg/L	10.0	0.54	10		12/29/11 17:43	16887-00-6	
Sulfate	**1840**	mg/L	200	15.2	200		12/28/11 21:54	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Sample: GW-074933-121311-CB-MW-4 **Lab ID: 60112224004** Collected: 12/13/11 12:15 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**1820**	ug/L	5.0	0.90	1	12/22/11 08:30	12/28/11 16:28	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.050	1		12/17/11 02:45	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/17/11 02:45	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/17/11 02:45	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/17/11 02:45	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	107	%	86-112		1		12/17/11 02:45	1868-53-7	
Toluene-d8 (S)	98	%	90-110		1		12/17/11 02:45	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		1		12/17/11 02:45	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	82-119		1		12/17/11 02:45	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/17/11 02:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**7850**	mg/L	5.0	5.0	1		12/19/11 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2240**	mg/L	500	27.0	500		12/28/11 23:00	16887-00-6	
Sulfate	**1530**	mg/L	500	38.0	500		12/28/11 23:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Sample: GW-074933-121311-CB-DUP **Lab ID: 60112224005** Collected: 12/13/11 11:45 Received: 12/15/11 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		12/17/11 03:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/17/11 03:00	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/17/11 03:00	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/17/11 03:00	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	106	%	86-112		1		12/17/11 03:00	1868-53-7	
Toluene-d8 (S)	98	%	90-110		1		12/17/11 03:00	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113		1		12/17/11 03:00	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119		1		12/17/11 03:00	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/17/11 03:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Sample: GW-074933-121311-CB-TB1 **Lab ID: 60112224006** Collected: 12/13/11 08:10 Received: 12/15/11 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		12/17/11 03:14	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		12/17/11 03:14	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		12/17/11 03:14	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		12/17/11 03:14	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	106	%	86-112		1		12/17/11 03:14	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		12/17/11 03:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113		1		12/17/11 03:14	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119		1		12/17/11 03:14	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/17/11 03:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

QC Batch: MPRP/16527 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

METHOD BLANK: 930169 Matrix: Water
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	12/28/11 16:20	

LABORATORY CONTROL SAMPLE: 930170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	995	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 930171 930172

Parameter	Units	60112029001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	1.1 mg/L	1000	1000	2030	2060	98	100	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

QC Batch: MSV/42550 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004, 60112224005, 60112224006

METHOD BLANK: 927959 Matrix: Water
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004, 60112224005, 60112224006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/17/11 00:51	
Ethylbenzene	ug/L	ND	1.0	12/17/11 00:51	
Toluene	ug/L	ND	1.0	12/17/11 00:51	
Xylene (Total)	ug/L	ND	3.0	12/17/11 00:51	
1,2-Dichloroethane-d4 (S)	%	99	82-119	12/17/11 00:51	
4-Bromofluorobenzene (S)	%	102	87-113	12/17/11 00:51	
Dibromofluoromethane (S)	%	104	86-112	12/17/11 00:51	
Toluene-d8 (S)	%	98	90-110	12/17/11 00:51	

LABORATORY CONTROL SAMPLE: 927960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.3	96	82-117	
Ethylbenzene	ug/L	20	18.6	93	79-121	
Toluene	ug/L	20	18.6	93	80-120	
Xylene (Total)	ug/L	60	56.6	94	79-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			104	86-112	
Toluene-d8 (S)	%			97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927961 927962

Parameter	Units	60112233002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	11500	2000	2000	12800	12200	65	37	58-139	5	21	M0
Ethylbenzene	ug/L	208	2000	2000	1130	1140	46	46	56-138	1	19	M0
Toluene	ug/L	ND	2000	2000	953	976	45	47	59-140	2	19	M0
Xylene (Total)	ug/L	ND	6000	6000	3090	3070	47	47	52-146	1	19	ES
1,2-Dichloroethane-d4 (S)	%						106	101	82-119			
4-Bromofluorobenzene (S)	%						99	104	87-113			
Dibromofluoromethane (S)	%						107	104	86-112			
Toluene-d8 (S)	%						97	101	90-110			
Preservation pH		1.0			1.0	1.0				0		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

QC Batch: WET/32640 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

METHOD BLANK: 928797 Matrix: Water
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	12/19/11 08:39	

SAMPLE DUPLICATE: 928798

Parameter	Units	60112007002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1590	1580	1	17	

SAMPLE DUPLICATE: 928799

Parameter	Units	60112216003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	27500	25700	7	17	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

QC Batch: WETA/18792 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

METHOD BLANK: 932044 Matrix: Water
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	0.34J	1.0	12/28/11 00:49	
Sulfate	mg/L	ND	1.0	12/28/11 00:49	

METHOD BLANK: 933366 Matrix: Water
Associated Lab Samples: 60112224001, 60112224002, 60112224003, 60112224004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	12/28/11 12:38	
Sulfate	mg/L	ND	1.0	12/28/11 12:38	

LABORATORY CONTROL SAMPLE: 932045

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	102	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 933367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 932046 932047

Parameter	Units	60112265001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	14.2	5	5	19.3	18.9	101	94	64-118	2	12	
Sulfate	mg/L	8.9	5	5	13.6	13.6	94	94	61-119	0	10	

MATRIX SPIKE SAMPLE: 932048

Parameter	Units	60112265002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	11.7	5	16.6	97	64-118	
Sulfate	mg/L	2.1	5	7.4	105	61-119	

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QUALIFIERS

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

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.

ANALYTE QUALIFIERS

ES	The reported result is estimated because one or more of the constituent results are qualified as such.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RANDLEMAN NO 1 (074933)
Pace Project No.: 60112224

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112224001	GW-074933-121311-CB-MW-1	EPA 3010	MPRP/16527	EPA 6010	ICP/14220
60112224002	GW-074933-121311-CB-MW-2	EPA 3010	MPRP/16527	EPA 6010	ICP/14220
60112224003	GW-074933-121311-CB-MW-3	EPA 3010	MPRP/16527	EPA 6010	ICP/14220
60112224004	GW-074933-121311-CB-MW-4	EPA 3010	MPRP/16527	EPA 6010	ICP/14220
60112224001	GW-074933-121311-CB-MW-1	EPA 8260	MSV/42550		
60112224002	GW-074933-121311-CB-MW-2	EPA 8260	MSV/42550		
60112224003	GW-074933-121311-CB-MW-3	EPA 8260	MSV/42550		
60112224004	GW-074933-121311-CB-MW-4	EPA 8260	MSV/42550		
60112224005	GW-074933-121311-CB-DUP	EPA 8260	MSV/42550		
60112224006	GW-074933-121311-CB-TB1	EPA 8260	MSV/42550		
60112224001	GW-074933-121311-CB-MW-1	SM 2540C	WET/32640		
60112224002	GW-074933-121311-CB-MW-2	SM 2540C	WET/32640		
60112224003	GW-074933-121311-CB-MW-3	SM 2540C	WET/32640		
60112224004	GW-074933-121311-CB-MW-4	SM 2540C	WET/32640		
60112224001	GW-074933-121311-CB-MW-1	EPA 300.0	WETA/18792		
60112224002	GW-074933-121311-CB-MW-2	EPA 300.0	WETA/18792		
60112224003	GW-074933-121311-CB-MW-3	EPA 300.0	WETA/18792		
60112224004	GW-074933-121311-CB-MW-4	EPA 300.0	WETA/18792		

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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:

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

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Kelly Blanchard, Angela Bown
Purchase Order No.:	4515860228
Project Name:	Randleman No. 1
Project Number:	074933

Section C Invoice Information:

Attention:	ENFOS
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Tracy
Pace Profile #:	5514, 4

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER NMOCD

Site Location STATE: NM

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Valid Matrix Codes: MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	300.0 Sulfate	300.0 Chloride	2540 TDS	Dissolved Mn	12-15-11	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. (6011224)
1	GW-074933-121311-CB-MW-1	WT	WT	G			12.13.11	1140		5			X	X	1BP	2	4			X	X	X	X	X	1BP3F		a1
2	GW-074933-121311-CB-MW-2	WT	WT	G			12.13.11	1200		5			X	X						X	X	X	X	X				a2
3	GW-074933-121311-CB-MW-3	WT	WT	G			12.13.11	1230		5			X	X						X	X	X	X	X				a3
4	GW-074933-121311-CB-MW-4	WT	WT	G			12.13.11	1215		5			X	X						X	X	X	X	X				a4
5	GW-074933-121311-CB-DUP	WT	WT	G			12.13.11	1145		3				X						X								a5
6	TB-074933-121311-TB 1	WT	WT				12.14.11	0810		3				X						X								a6
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Include MDLs on report - J-flag	Jason Ploss / CRA	12.14.11	0900	[signature]	12-15-11	0900	1.8	Y	Y	Y
Metals container filtered in field.										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason Ploss

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12.14.11

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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Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP CRA   Project #: 60112224

Optional
Proj Due Date: 12/21
Proj Name:

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

Tracking #: 898608913893   Pace Shipping Label Used? Yes ☑ No ☐

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☑ None ☐ Other ☑ ZPLC

Thermometer Used: (T-191) / T-194   **Type of Ice:** (Wet) Blue None (circle one)   ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 12-15-11

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): 111411-3		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: ______

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.	
Start: 1533	Start:
End: 1537	End:
Temp:	Temp:

Project Manager Review: AFT   Date: 12/16/11

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