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2012 QUARTERLY GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS RANDLEMAN No. 1
SAN JUAN COUNTY, NEW MEXICO
API# 30-045-10698
NMOCD# 3R-340

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1.0 INTRODUCTION

This report discusses the 2012 quarterly groundwater sampling events performed by Conestoga-Rovers & Associates, Inc. (CRA) 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 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. 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 (NMOCD) grant closure status for the Site. In June 2002, the NMOCD granted closure for the Site, provided that Williams plug and abandon all Site groundwater monitor wells according to NMOCD 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 NMOCD 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 NMOCD 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 NMOCD 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 NMOCD-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 NMOCD 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 potentiometric surface maps for the Site (**Figures 4, 5, 6,** and **7**). 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. CRA has continued quarterly groundwater monitoring since that time.

2.0 GROUNDWATER MONITORING METHODOLOGY AND ANALYTICAL RESULTS

2.1 GROUNDWATER MONITORING SUMMARY

Groundwater sampling events were conducted at the Site on March 8, June 6, September 20, and December 12, 2012. 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 March, June, September, and December 2012 groundwater elevations are presented as **Figures 4, 5, 6,** and **7**, 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; total dissolved solids (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. Exceedences of NMWQCC groundwater quality standards in Site monitor wells are discussed below.

March 2012

- **Benzene**
  - The NMWQCC domestic water supply groundwater quality standard for benzene is 0.010 milligrams per liter (mg/L). In March 2012, groundwater samples collected from MW-2 and MW-3 contained benzene at concentrations of 0.0107 mg/L and 0.016 mg/L, respectively.

- **Chloride**
  - The NMWQCC domestic water supply groundwater quality standard for chloride is 250 mg/L; in March 2012, the groundwater sample collected from MW-4, the upgradient monitor well, contained chloride at a concentration of 2,610 mg/L.

- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater samples collected in March 2012 from Monitor Wells MW-1, MW-2, MW-3, and MW-4 were found to contain sulfate at concentrations of 2,230 mg/L, 1,380 mg/L, 1,460 mg/L, and 3,250 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 March 2012, groundwater samples collected from Monitor Wells MW-1, MW-2, and MW-3 were found to contain concentrations of dissolved manganese at 1.230 mg/L, 2.010 mg/L, and 1.760 mg/L, respectively.

- **Total Dissolved Solids**
  - The NMWQCC groundwater quality standard for TDS is 1,000 mg/L. The March 2012 groundwater samples collected from MW-1, MW-2, MW-3, and MW-4 exceeded this standard with concentrations of 3,590 mg/L, 2,500 mg/L, 2,730 mg/L and 8,700 mg/L, respectively. MW-4, the upgradient monitor well, often yields sample results with the highest level of sulfate at the Site.

June 2012

- **Chloride**
  - In June 2012, the groundwater sample collected from MW-4, the upgradient monitor well, was found to contain chloride at concentration of 2,520 mg/L.

- **Sulfate**
  - Groundwater samples collected in June 2012 from Monitor Wells MW-1, MW-2, MW-3, and MW-4 were found to contain sulfate at concentrations of 1,780 mg/L, 1,640 mg/L, 2,100 mg/L, and 3,740 mg/L, respectively.

- **Dissolved Manganese**
  - In June 2012, 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 2.12 mg/L, 0.50 mg/L, and 1.29 mg/L, respectively.

- **Total Dissolved Solids**
  - June 2012 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3, and MW-4 contained TDS concentrations of 3,250 mg/L, 2,560 mg/L, 3,000 mg/L and 8,270 mg/L, respectively.

September 2012

- **Chloride**
  - In September 2012, the groundwater sample collected from MW-4, the upgradient monitor well, was found to contain chloride at concentration of 2,420 mg/L.

- **Sulfate**
  - Sulfate analysis was not performed in September of 2012.

- **Dissolved Manganese**
  - In September 2012, groundwater samples collected from Monitor Wells MW-2, MW-3, and MW-4 were found to contain dissolved manganese concentrations of 1.8 mg/L, 0.578 mg/L, and 1.32 mg/L, respectively.

- **Total Dissolved Solids**
  - September 2012 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3, and MW-4 contained TDS concentrations of 3,260 mg/L, 2,150 mg/L, 2,990 mg/L and 7,590 mg/L, respectively.

December 2012

- **Benzene**
  - In December 2012, groundwater samples collected from MW-2 and MW-3 contained benzene at concentrations of 0.0106 mg/L and 0.0137 mg/L, respectively.

- **Chloride**
  - In December 2012, the groundwater sample collected from MW-4, the upgradient monitor well, was found to contain chloride at concentration of 2,460 mg/L.

- **Sulfate**
  - Groundwater samples collected in December 2012 from Monitor Wells MW-1, MW-2, MW-3, and MW-4 were found to contain sulfate at concentrations of 1,850 mg/L, 1,160 mg/L, 1,550 mg/L, and 3,250 mg/L, respectively.

- **Dissolved Manganese**
  - In December 2012, groundwater samples collected from Monitor Wells MW-2, MW-3, and MW-4 were found to contain dissolved manganese concentrations of 1.22 mg/L, 0.509 mg/L, and 1.51 mg/L, respectively.

- **Total Dissolved Solids**
  - December 2012 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3, and MW-4 contained TDS at concentrations of 3,100 mg/L, 2,040 mg/L, 2,650 mg/L and 8,830 mg/L, respectively.

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

3.0 CONCLUSIONS AND RECOMMENDATIONS

Benzene was detected at concentrations slightly above the NMWQCC standard in groundwater samples from Monitor Wells MW-2 and MW-3 during March and December of 2012. 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.

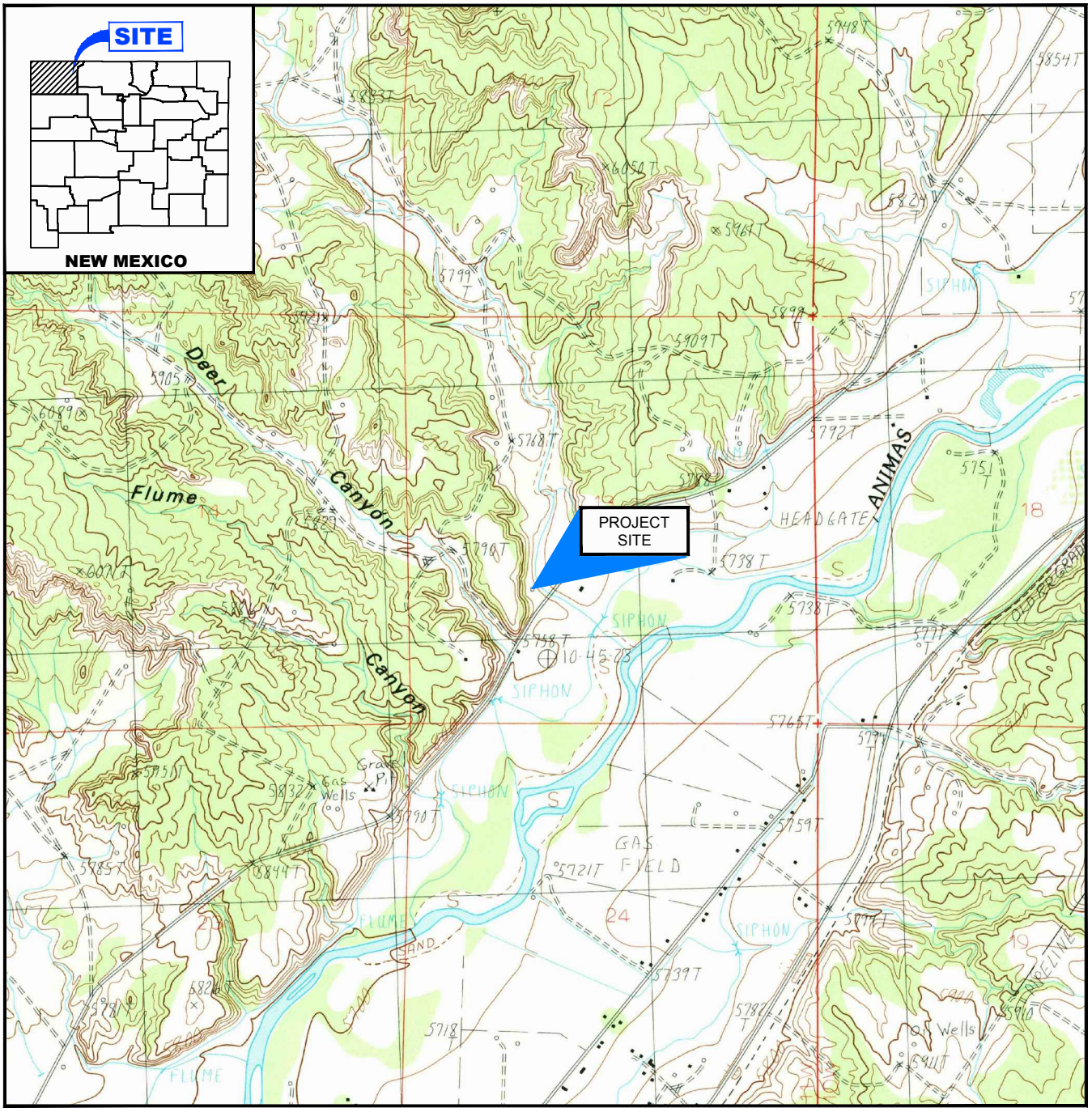
4.0 REFERENCES

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(004)GN-DL001_Topo JUL 27/2012

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

CRA

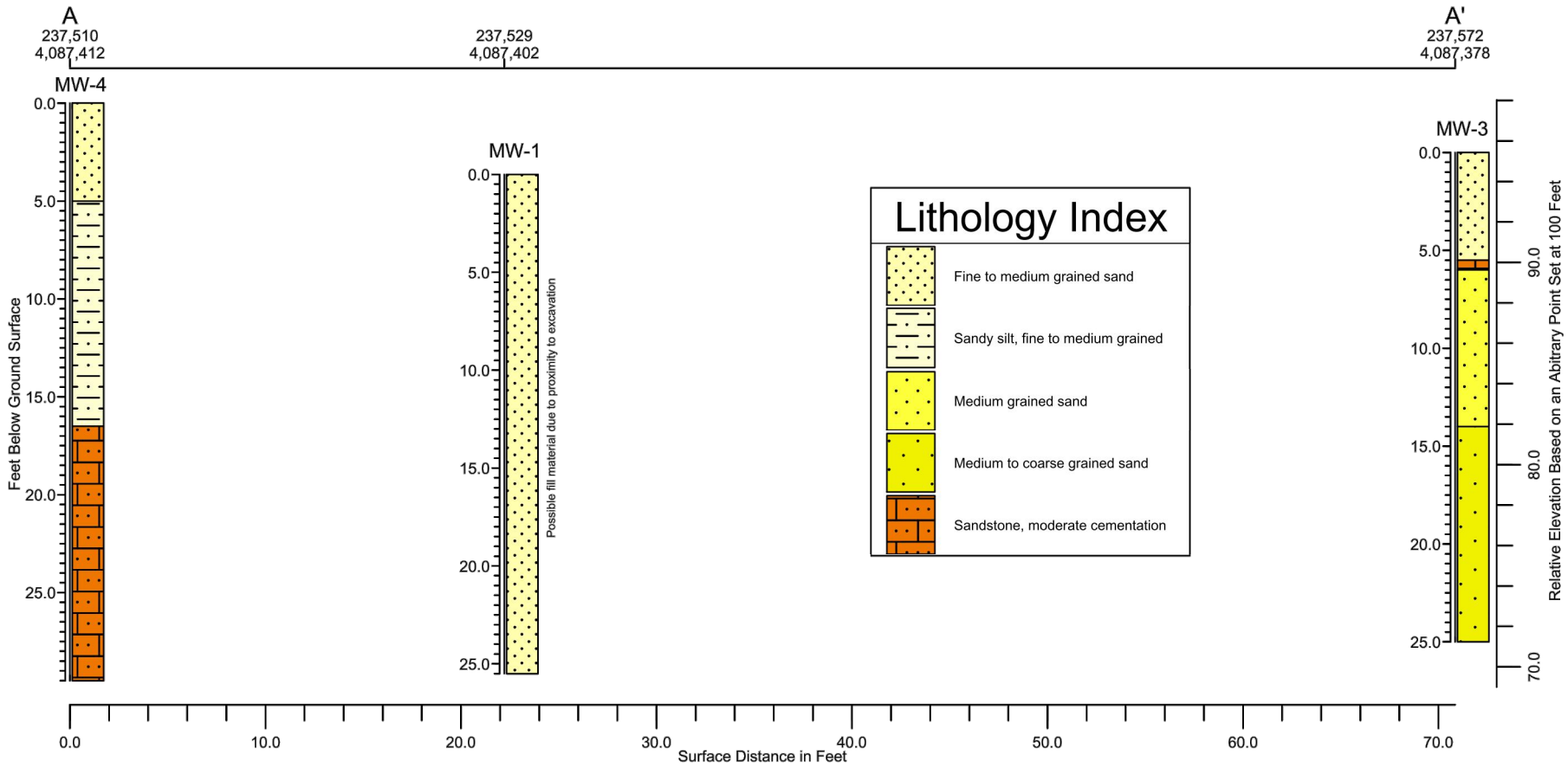
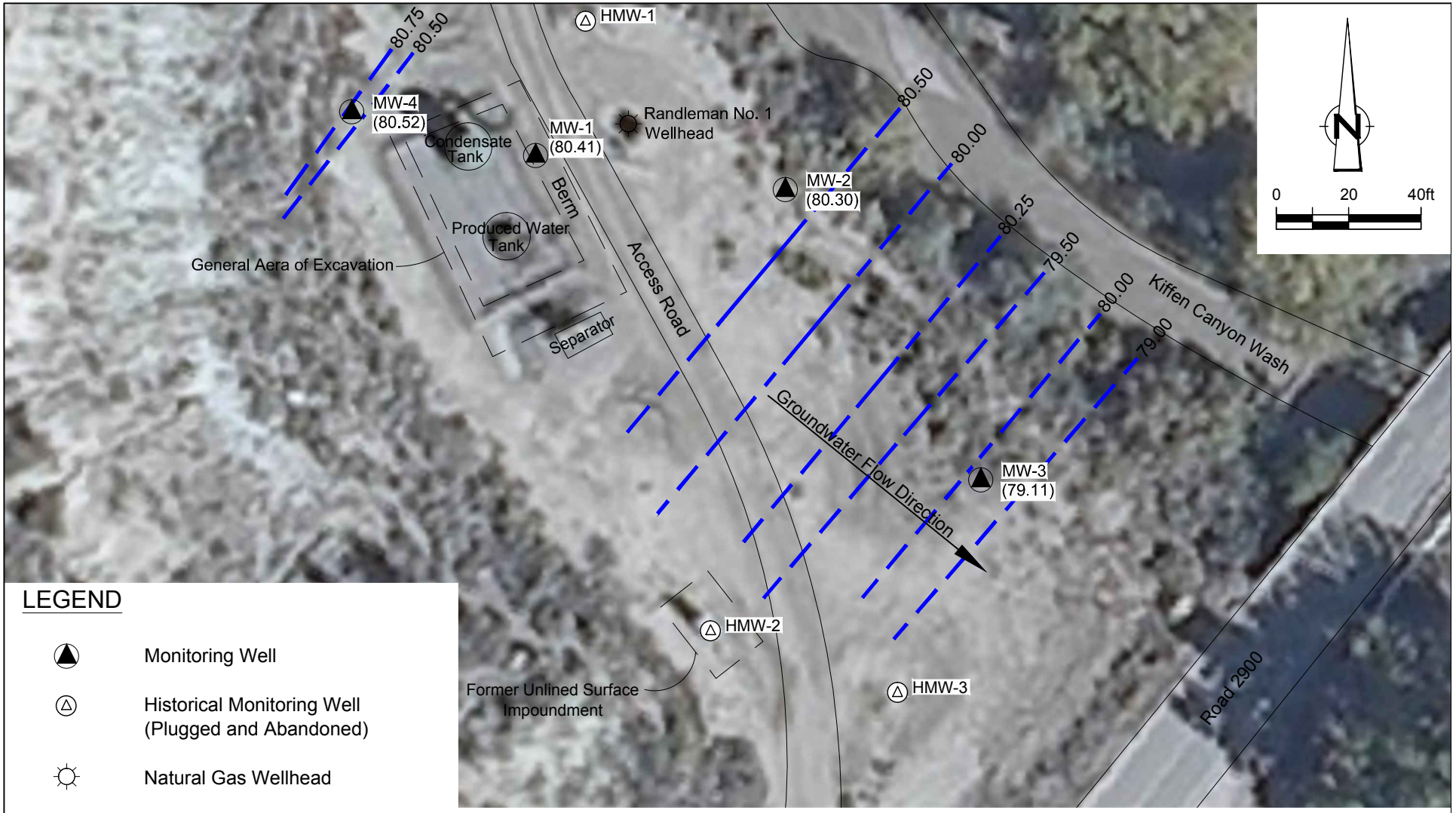


Figure 3

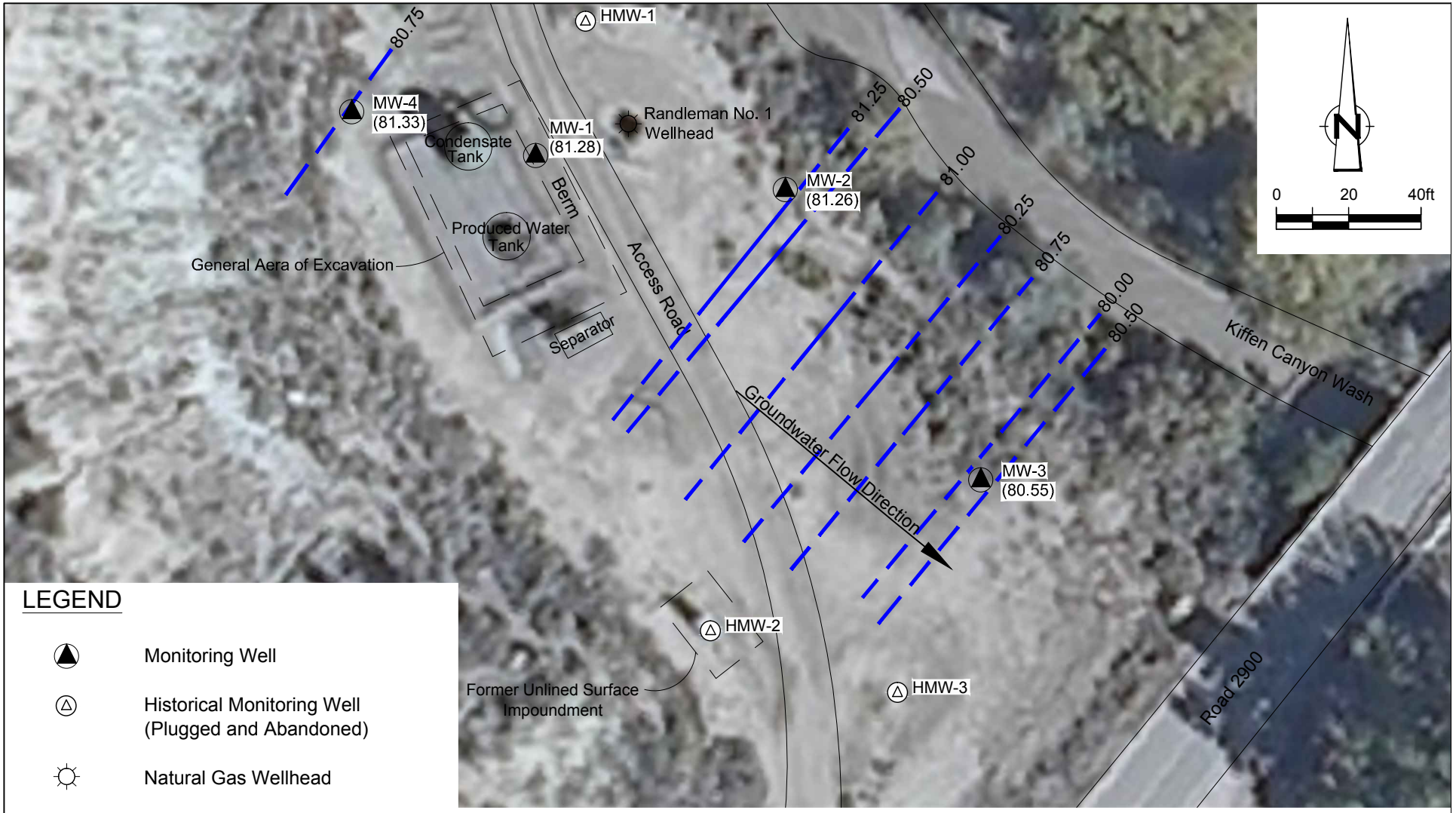
GEOLOGICAL CROSS SECTION
RANDLEMAN NO. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



ConocoPhillips high resolution aerial imagery 2008.

Figure 4

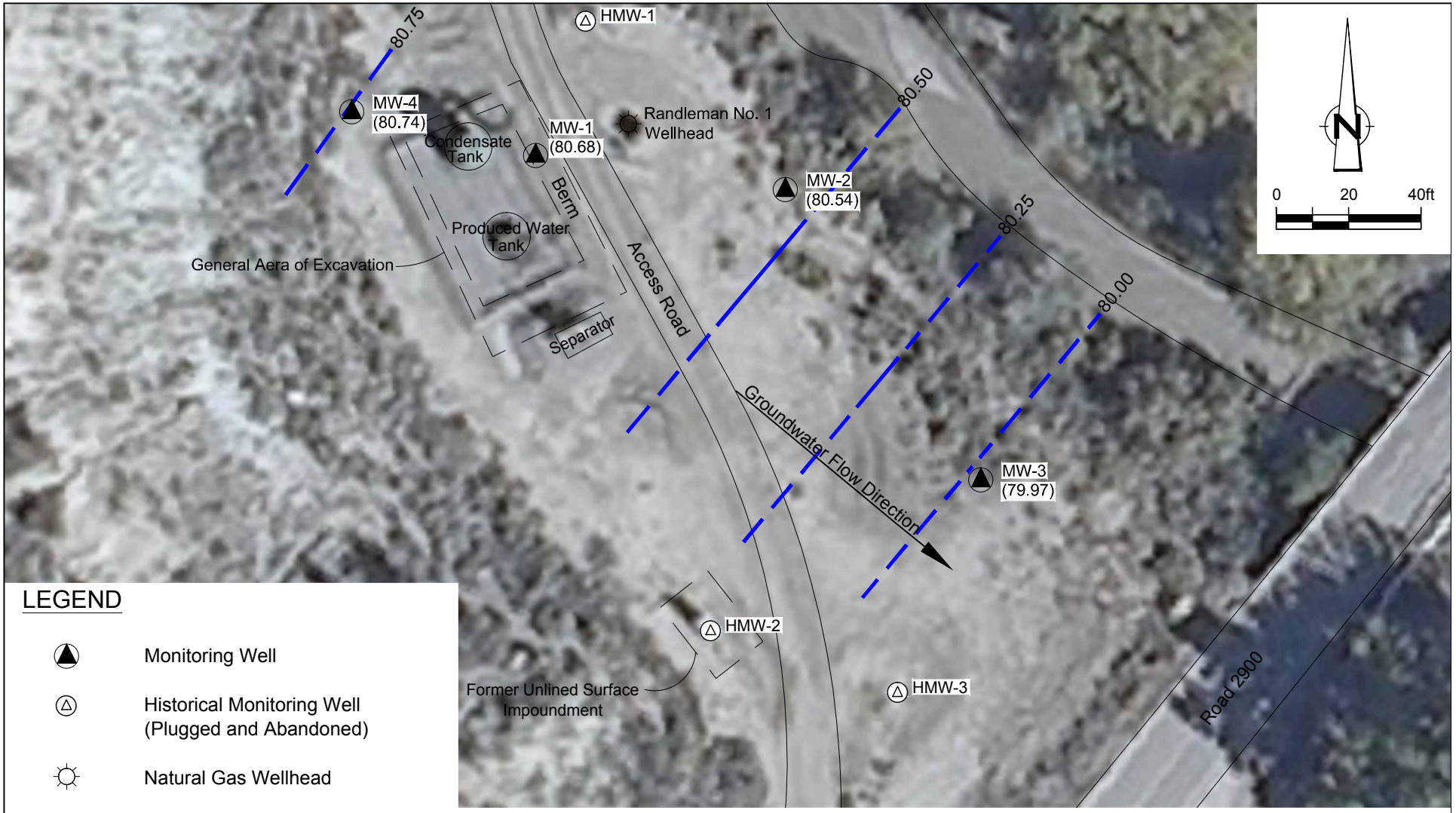
MARCH 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



ConocoPhillips high resolution aerial imagery 2008.

Figure 5

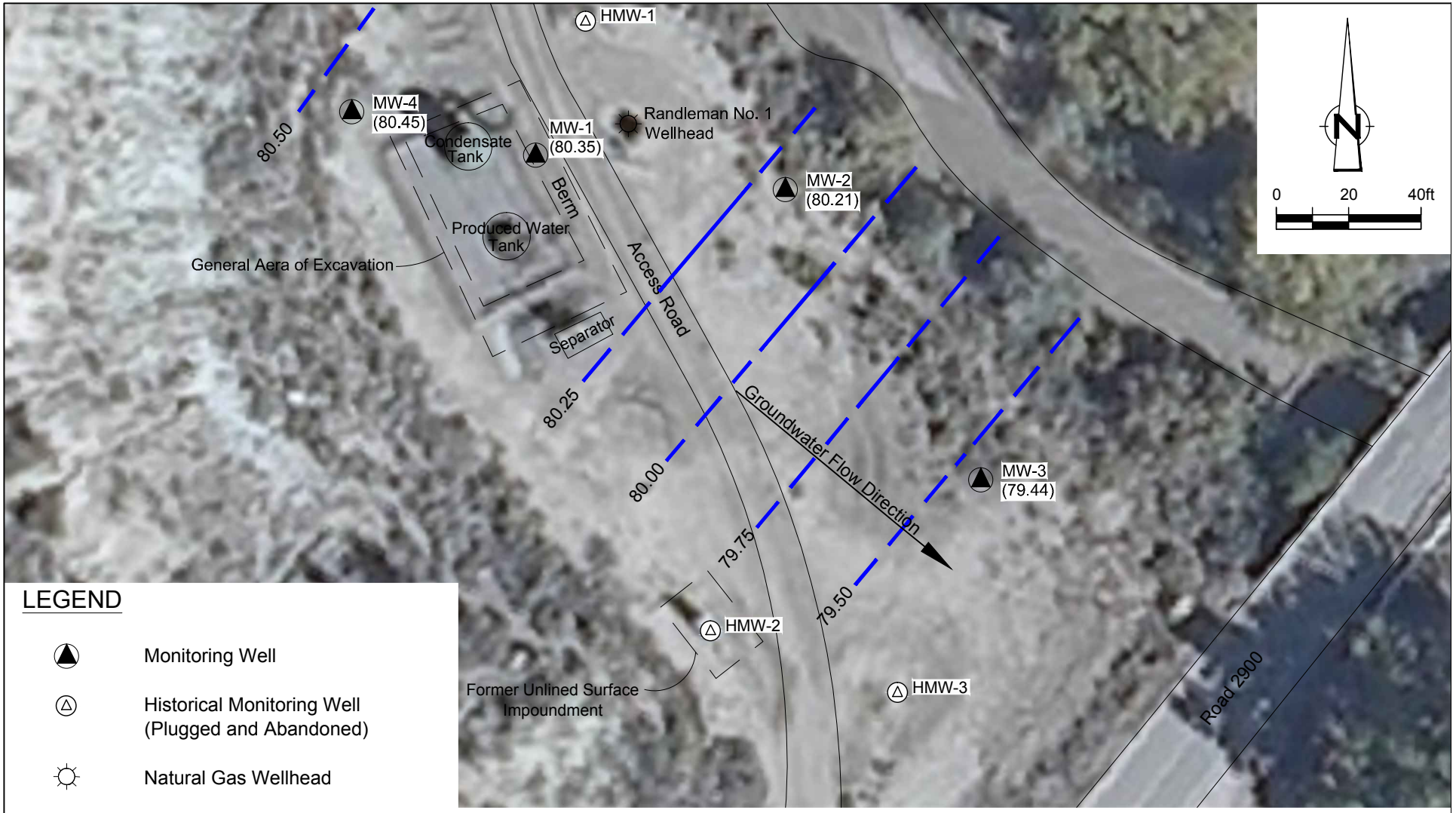
JUNE 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



ConocoPhillips high resolution aerial imagery 2008.

Figure 6

SEPTEMBER 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



ConocoPhillips high resolution aerial imagery 2008.

Figure 7

DECEMBER 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP
RANDLEMAN No. 1 NATURAL GAS WELL SITE
SECTION 13, T31-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

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	Quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
April 1, 2010	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
June 9, 2010	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
September 20, 2010	Groundwater monitoring	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	Quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
March 16, 2011	Groundwater monitoring	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	Quarterly groundwater monitoring event at the Site conducted by CRA.
September 27, 2011	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by CRA.
December 13, 2011	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by CRA.
March 8, 2012	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by CRA.
June 6, 2012	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by CRA.
September 20, 2012	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by CRA.
December 12, 2012	Groundwater monitoring	Quarterly groundwater monitoring event at the Site conducted by CRA.

TABLE 2

MONITORING WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
RANDLEMAN NO. 1
SAN JUAN COUNTY, NM

Well ID	*Total Depth (ft below TOC)*	*Top of Casing 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
		94.9		9/20/2010	14.54	80.36
				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
				3/8/2012	14.49	80.41
				6/6/2012	13.62	81.28
				9/20/2012	14.22	80.68
				12/12/2012	14.55	80.35
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
		96.51		9/20/2010	16.28	80.23
				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
				3/8/2012	16.21	80.30
				6/6/2012	15.25	81.26
				9/20/2012	15.97	80.54
				12/12/2012	16.30	80.21
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
		96.07		9/20/2010	16.95	79.12
				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
				3/8/2012	16.96	79.11
				6/6/2012	15.52	80.55
				9/20/2012	16.10	79.97
				12/12/2012	16.63	79.44

TABLE 2

MONITORING WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
RANDLEMAN NO. 1
SAN JUAN COUNTY, NM

Well ID	*Total Depth (ft below TOC)*	*Top of Casing Elevation**	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft)*
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
		98.54		9/20/2010	18.06	80.48
				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
				3/8/2012	18.02	80.52
				6/6/2012	17.21	81.33
				9/20/2012	17.80	80.74
				12/12/2012	18.09	80.45

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

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
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**	**2880**
	MW-1	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.108	127	**1960**	**3140**
	MW-1	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.0849	72.3	**1440**	**2850**
	MW-1	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.114	83.8	**1450**	**3340**
	MW-1	9/20/2010	(orig)	0.0053	< 0.001	< 0.001	< 0.001	--	--	**0.207**	84.9	**1710**	**4070**
	MW-1	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.131	93.5	**2100**	**4340**
	MW-1	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	0.102	120	**1690**	**3230**
	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	--	--	--	--	--	--
	GW-074933-3812-CB-MW-1	3/8/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.230**	99.0	**2230**	**3590**
	GW-074933-3812-CB-DUP	3/8/2012	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	--	--	--
	GW-074933-060612-CB-MW-1	6/6/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0175	122	**1780**	**3250**
	GW-074933-092012-JP-MW-1	9/20/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0177	79.2	--	**3260**
	GW-074933-121212-CM-MW-1	12/12/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0227	99.1	**1850**	**3100**
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**	**2480**
	MW-2	12/16/2009	(orig)	**0.02**	0.0079	0.24	**0.7778**	--	--	**5.26**	63.3	**1510**	**2390**
	MW-2	4/1/2010	(orig)	0.009	0.027	0.18	0.547	--	--	**4.1**	56.5	**1170**	**2460**
	MW-2	6/9/2010	(orig)	0.0038	0.0093	0.099	0.2656	--	--	**3.24**	48.7	**1280**	**2590**
	MW-2	9/20/2010	(orig)	0.005	0.0076	0.061	0.1365	--	--	**2.7**	48.7	**1390**	**2440**
	MW-2	12/17/2010	(orig)	0.0068	0.019	0.071	0.1177	--	--	**2.28**	38.3	**1520**	**2760**
	MW-2	3/16/2011	(orig)	0.0088	0.093	0.083	0.259	--	--	**2.94**	66.7	**1470**	**2680**
	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**
	GW-074933-3812-CB-MW-2	3/8/2012	(orig)	**0.0107**	0.0959	0.0232	0.149	--	--	**2.01**	66.0	**1380**	**2500**
	GW-074933-060612-CB-MW-2	6/6/2012	(orig)	0.0054	0.0404	0.0139	0.0797	--	--	**2.12**	76.9	**1640**	**2560**
	GW-074933-060612-CB-DUP	6/6/2012	(Duplicate)	0.0066	0.0405	0.0135	0.0728	--	--	--	--	--	--
	GW-074933-092012-JP-MW-2	9/20/2012	(orig)	0.0063	0.0329	0.0120	0.0612	--	--	**1.800**	32.7	--	**2150**
	GW-074933-092012-JP-DUP	9/20/2012	(Duplicate)	0.0066	0.0338	0.0127	0.0623	--	--	--	--	--	--
	GW-074933-121212-CM-MW-2	12/12/2012	(orig)	**0.0106**	0.0670	0.0147	0.0991	--	--	**1.220**	40.3	**1160**	**2040**
	GW-074933-121212-CM-DUP	12/12/2012	(Duplicate)	**0.0103**	0.0662	0.0156	0.0984	--	--	--	--	--	--

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
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**	**2720**
	MW-3	12/16/2009	(orig)	**0.018**	0.017	0.096	0.28	--	--	**0.932**	99.1	**1920**	**2560**
	MW-3	4/1/2010	(orig)	**0.018**	0.076	0.19	0.59	--	--	**1.04**	5.34	**796**	**1650**
	MW-3	6/9/2010	(orig)	**0.012**	0.02	0.024	0.069	--	--	0.193	30.8	**989**	**2200**
	MW-3	9/20/2010	(orig)	0.009	0.011	0.079	0.142	--	--	**0.818**	49.9	493	**2840**
	MW-3	12/17/2010	(orig)	0.004	0.0034	0.048	0.071	--	--	**0.41**	64.8	**1760**	**2590**
	MW-3	3/16/2011	(orig)	0.0077	0.028	0.22	0.44	--	--	**1.63**	63.4	**1180**	**2500**
	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**
	GW-074933-3812-CB-MW-3	3/8/2012	(orig)	**0.016**	0.0320	0.143	0.226	--	--	**1.760**	63.4	**1460**	**2730**
	GW-074933-060612-CB-MW-3	6/6/2012	(orig)	< 0.001	0.0038	0.0273	0.0267	--	--	**0.500**	88.8	**2100**	**3000**
	GW-074933-092012-JP-MW-3	9/20/2012	(orig)	0.0038	< 0.001	0.0428	0.0288	--	--	**0.578**	105	**--**	**2990**
	GW-074933-121212-CM-MW-3	12/12/2012	(orig)	**0.0137**	0.0132	0.0442	0.0613	--	--	**0.509**	72.1	**1550**	**2650**
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**	**8600**
	MW-4	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.8**	**3430**	**4110**	**9600**
	MW-4	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.52**	**2350**	**3110**	**8560**
	MW-4	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.06**	**2190**	**2710**	**4720**
	MW-4	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.24**	**2640**	**3260**	**9550**
	MW-4	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.68**	**2350**	**3570**	**9400**
	MW-4	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**1.82**	**2310**	**3300**	**8440**
	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**
	GW-074933-3812-CB-MW-4	3/8/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.106	**2610**	**3250**	**8700**
	GW-074933-060612-CB-MW-4	6/6/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.290**	**2520**	**3740**	**8270**
	GW-074933-092012-JP-MW-4	9/20/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.320**	**2420**	**--**	**7590**
	GW-074933-121212-CM-MW-4	12/12/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.510**	**2460**	**3250**	**8830**
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
Previous report submitted in March 2012 reported TDS values in the analytical summary table with incorrect unit conversion for June 2009 through March 2011, this table reflects the correct unit conversions for all historical data.

APPENDIX A

2012

QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME: Randleman No 1 **JOB#** 074933

SAMPLE ID: GW-074933-3812-CB-MW-1 **WELL#** MW-1

WELL PURGING INFORMATION

3-8-12	3-8-12	1510	1.46	2.75
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X=	
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®		PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X=	SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON	D - PVC		X=	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=	
		B - TYGON	E - POLYETHYLENE			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	14.49	(feet)	WELL ELEVATION	94.90	(feet)
WELL DEPTH	23.63	(feet)	GROUNDWATER ELEVATION	80.41	(feet)

TEMPERATURE (°C)	pH (std)	TDS (g/L)	CONDUCTIVITY (µS/cm)	ORP (mV)	VOLUME (gal)
12.04	6.49	2.654	3074	124.8	1.75
12.03	6.46	2.650	3071	120.1	2.25
11.83	6.44	2.634	3030	118.2	2.75

FIELD COMMENTS

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

WEATHER CONDITIONS: TEMPERATURE ~50° WINDY (Y)/N PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

~~5.46 x .16 = 0.89 x 3 = 2.69~~

Dup @ 1515

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

3-8-12 Jason Ploss [signature]

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-3812-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)
3.8.12	3.8.12	1535	1.67	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 16.21 (feet) WELL ELEVATION 96.51 (feet)

WELL DEPTH 26.68 (feet) GROUNDWATER ELEVATION 80.30 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
11.29 (°C)	7.50 (std)	1.701 (g/L)	1932 (µS/cm)	-327.5 (mV)	4.25 (gal)
11.31 (°C)	7.46 (std)	1.700 (g/L)	1931 (µS/cm)	-335.7 (mV)	4.75 (gal)
11.32 (°C)	7.41 (std)	1.696 (g/L)	1928 (µS/cm)	-328.6 (mV)	5.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: black ODOR: bio/hydrocarbon COLOR: black SHEEN Y/N ~~Washed~~ ~~Very spotty~~ *

WEATHER CONDITIONS: TEMPERATURE ~50° WINDY Y/N PRECIPITATION Y/N (IF Y TYPE)

SPECIFIC COMMENTS:

10.47 x .16 = 1.67 = 5.02

* Very spotty sheen present

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

3.8.12 Jason Moss

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME: Randleman No. 1 **JOB#** 074933

SAMPLE ID: GW.074933812.CB.MW-3 **WELL#** MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
3.8.12	3.8.12	1600	1.18	3.75

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	

FIELD MEASUREMENTS

DEPTH TO WATER 16.96 (feet) WELL ELEVATION 96.07 (feet)

WELL DEPTH 24.38 (feet) GROUNDWATER ELEVATION 79.11 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
11.12 (°C)	7.16 (std)	1.903 (g/L)	2151 (µS/cm)	-326.2 (mV)	3.25 (gal)
11.12 (°C)	7.14 (std)	1.904 (g/L)	2153 (µS/cm)	-323.7 (mV)	3.50 (gal)
11.07 (°C)	7.18 (std)	1.902 (g/L)	2148 (µS/cm)	-312.6 (mV)	3.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: black ODOR: low/hydrocarbon COLOR: black SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~50° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

7.42 x .16 = 1.18 = 3.56

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

3.8.12 Jason Ploss

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME: Randleman #1 **JOB#** 074933

SAMPLE ID: GW-074933812-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)
3·8·12	3·8·12	1545	1.63	5.0

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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 18.02 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 28.26 (feet) GROUNDWATER ELEVATION 80.52 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
13.32 (°C)	7.92 (std)	7.216 (g/L)	8729 (µS/cm)	-293.8 (mV)	4.0 (gal)
13.46 (°C)	7.85 (std)	7.289 (g/L)	8744 (µS/cm)	-244.8 (mV)	4.5 (gal)
13.52 (°C)	7.82 (std)	7.353 (g/L)	8836 (µS/cm)	-239.0 (mV)	5.0 (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: lt. brown SHEEN Y/N NO

WEATHER CONDITIONS: TEMPERATURE 35 WINDY Y/N Y PRECIPITATION Y/N (IF Y TYPE) N

SPECIFIC COMMENTS:

10.23 x .16 = 1.63 x 3 = 4.91

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

3·8·12 (DATE) Cassie Brown (PRINT) Cassie Brown (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

TE/PROJECT NAME: GW.074933.0000.12.CB.MW-1 JOB# 074933

SAMPLE ID: Randleman No.1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
6/6/12	6/6/12	1400	1.6	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	

FIELD MEASUREMENTS

DEPTH TO WATER	13.62	(feet)	WELL ELEVATION	94.90	(feet)
WELL DEPTH	23.65	(feet)	GROUNDWATER ELEVATION	81.28	(feet)

TEMPERATURE		pH		TDS		CONDUCTIVITY		ORP		VOLUME	
12.80	(°C)	7.26	(std)	2,308	(g/L)	2720	(µS/cm)	-123.5	(mV)	4.5	(gal)
12.7	(°C)	7.15	(std)	2,214	(g/L)	2607	(µS/cm)	-114.0	(mV)	5.0	(gal)
12.63	(°C)	7.07	(std)	2,187	(g/L)	2562	(µS/cm)	-108.4	(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 brn SHEEN Y/N NO

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

SPECIFIC COMMENTS:

10.03 x 1.6 = 1.60 x 3 = 4.8

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

DATE	PRINT	SIGNATURE
6.6.12	Abbie Brown	Abbie Brown

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-20612-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)
6/6/12	6/6/12	1415	1.78	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	

FIELD MEASUREMENTS

DEPTH TO WATER 15.25 (feet) WELL ELEVATION 96.51 (feet)

WELL DEPTH 26.40 (feet) GROUNDWATER ELEVATION 81.26 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
11.11 (°C)	7.32 (std)	1.739 (g/L)	1964 (µS/cm)	-195.1 (mV)	1.5 (gal)
10.85 (°C)	7.36 (std)	1.129 (g/L)	1941 (µS/cm)	-220.3 (mV)	3.0 (gal)
10.82 (°C)	7.41 (std)	1.723 (g/L)	1935 (µS/cm)	-230.8 (mV)	5.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: BLACK SILT ODOR: SLIGHT-PETRO COLOR: BLACK SHEEN Y/N N

WEATHER CONDITIONS: TEMPERATURE ~90° WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N

SPECIFIC COMMENTS:

11.5 x 1.0 = 1.78 x 3 (5.35)

dup @ 1415

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

6/6/12 (DATE) Cassie Braun (PRINT) Cassie Braun (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-060612-CB-MW-3 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
6.6.12	6.6.12	1350	1.42	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	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 15.52 (feet) WELL ELEVATION 96.07 (feet)

WELL DEPTH 24.40 (feet) GROUNDWATER ELEVATION 80.55 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
11.03 (°C)	7.12 (std)	1.980 (g/L)	2234 (µS/cm)	-189.9 (mV)	3.5 (gal)
10.97 (°C)	6.99 (std)	1.950 (g/L)	2196 (µS/cm)	-201.7 (mV)	4.0 (gal)
10.92 (°C)	6.97 (std)	1.956 (g/L)	2200 (µS/cm)	-200.3 (mV)	4.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: black ODOR: hydrocarbon COLOR: black SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~90° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

8.88x.16=1.42x3=4.26

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

6.6.12 (DATE) Gabbo Braun (PRINT) Gabbo Braun (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-060612-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)
6/6/12	6/6/12	1340	1.76	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	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 17.21 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 28.25 (feet) GROUNDWATER ELEVATION 81.33 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
14.10 (°C)	7.50 (std)	6.864 (g/L)	8381 (µS/cm)	57.7 (mV)	4.5 (gal)
13.54 (°C)	7.27 (std)	6.617 (g/L)	7944 (µS/cm)	10.6 (mV)	5 (gal)
13.39 (°C)	7.17 (std)	6.348 (g/L)	7838 (µS/cm)	-11.8 (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: white/brown SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~90° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

1.109 x 1.6 = 1.76 x 3 = (5.29)

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

6/6/12 (DATE) Cassie Brown (PRINT) Cassie Brown (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Randleman No 1 JOB# 074933

SAMPLE ID: GW-074933-092012-JP-MW-1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.20.12	9.20.12	~~1440~~ 1445	1.49	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 14.22 (feet) WELL ELEVATION 94.90 (feet)

WELL DEPTH 23.55 (feet) GROUNDWATER ELEVATION 80.68 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
16.47 (°C)	6.86 (std)	2.559 (g/L)	3296 (µS/cm)	13.3 (mV)	4.75 (gal)
15.90 (°C)	6.72 (std)	2.564 (g/L)	3264 (µS/cm)	26.0 (mV)	5.00 (gal)
15.44 (°C)	6.68 (std)	2.580 (g/L)	3246 (µS/cm)	34.1 (mV)	5.25 (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:

Dissolved	Oxygen mg/L
4.75 gal	1.14
5.00 gal	1.20
5.25	0.93

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

9.20.12 Jason Ross

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-092012-JP-MW-2 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.20.12	9.20.12	1500	1.66	5.0

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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 18.97 (feet) WELL ELEVATION 96.51 (feet)

WELL DEPTH 26.36 (feet) GROUNDWATER ELEVATION 80.54 (feet)

	TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
DO mg/L	13.44 (°C)	7.33 (std)	1.640 (g/L)	1966 (µS/cm)	-272.6 (mV)	4.0 (gal)
2.46	13.45 (°C)	7.32 (std)	1.648 (g/L)	1975 (µS/cm)	-278.6 (mV)	4.5 (gal)
1.05	13.29 (°C)	7.36 (std)	1.637 (g/L)	1959 (µS/cm)	-278.9 (mV)	5.0 (gal)
0.94	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: black ODOR: hydrocarbon COLOR: black SHEEN Y (N)

WEATHER CONDITIONS: TEMPERATURE ~85 WIND (Y) N breezy PRECIPITATION Y (N) (IF Y TYPE)

SPECIFIC COMMENTS:

VOX3=4.99

Dup @ 1510

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

9.20.12 Jason Phebus

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-092012-JP-MW-3 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.20.12	9.20.12	1515	1.33	4.0

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 16.10 (feet) WELL ELEVATION 96.07 (feet)

WELL DEPTH 24.39 (feet) GROUNDWATER ELEVATION 79.97 (feet)

DO mg/L

	TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME	
2.10	14.54 (°C)	7.49 (std)	2.261 (g/L)	2785 (µS/cm)	-316.8 (mV)	3.0 (gal)	
7.71	14.79 (°C)	7.39 (std)	2.261 (g/L)	2771 (µS/cm)	-320.7 (mV)	~~3.25~~ (gal)	3.5
6.93	14.47 (°C)	7.30 (std)	2.264 (g/L)	2772 (µS/cm)	-321.6 (mV)	~~3.75~~ (gal)	4.0
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)	
	(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)	

FIELD COMMENTS

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

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

SPECIFIC COMMENTS:

Volx3z 3.98

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

9.20.12 Jason Ploss

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

TE/PROJECT NAME: Randlemon No. 1 **JOB#** 074933

SAMPLE ID: GW-074933-092012-JP-MW-4 **WELL#** MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.20.12	9.20.12	1410	1.67	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 17.80 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 28.24 (feet) GROUNDWATER ELEVATION 80.74 (feet)

DO mg/L	TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
6.90	15.25 (°C)	6.80 (std)	8.196 (g/L)	10265 (µS/cm)	-18.0 (mV)	4.0 (gal)
1.59	15.08 (°C)	6.84 (std)	8.202 (g/L)	10237 (µS/cm)	-22.1 (mV)	4.5 (gal)
1.15	15.30 (°C)	6.89 (std)	8.202 (g/L)	10286 (µS/cm)	-25.8 (mV)	5.0 (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)

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

SPECIFIC COMMENTS:

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

9.20.12 Jason Moss

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-121212-CM-MW-1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12.12.12	12.12.12	~~1015~~ 1050	1.44	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 - ~~POLY~~PROPYLENE	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 for metals only

FIELD MEASUREMENTS

DEPTH TO WATER 14.55 (feet) WELL ELEVATION 94.90 (feet)

WELL DEPTH 23.57 (feet) GROUNDWATER ELEVATION 80.35 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME	DO mg
15.42 (°C)	6.85 (std)	~~3786~~ 2.610 (g/L)	3286 (µS/cm)	-61.5 (mV)	3.75 (gal)	4.6
15.32 (°C)	6.83 (std)	2.588 (g/L)	3241 (µS/cm)	-57.4 (mV)	4.25 (gal)	4.44
15.40 (°C)	6.81 (std)	2.555 (g/L)	3210 (µS/cm)	-54.1 (mV)	4.75 (gal)	4.33
(°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 25° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS: ~~Duplicate for BTEX @ 1020~~

1.44 x 3 = 4.33

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

12/12/12 (DATE) Christine Matthews (PRINT) (SIGNATURE)

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-121212-CM-MW-2 **WELL#** MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12.12.12	12.12.12	1015	1.614	5.0

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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 for metals only

FIELD MEASUREMENTS

DEPTH TO WATER 16.30 (feet) WELL ELEVATION 96.51 (feet)

WELL DEPTH 26.39 (feet) GROUNDWATER ELEVATION 80.21 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME	DO mg/L
13.03 (°C)	7.35 (std)	1.643 (g/L)	1956 (µS/cm)	-256.6 (mV)	4.0 (gal)	19.7
13.67 (°C)	7.51 (std)	1.632 (g/L)	1966 (µS/cm)	-263.4 (mV)	4.5 (gal)	17.6
13.74 (°C)	7.50 (std)	1.627 (g/L)	1965 (µS/cm)	-274.4 (mV)	5.0 (gal)	16.34
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)	
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)	

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: Sulfury COLOR: gray SHEEN Y/N very spotty discontinuous

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

SPECIFIC COMMENTS: Duplicate for BTEX @ 1020

well dry @ 2.25 gallons. Will wait for re-charge

1.614 X 3 = 4.84

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

12/12/12 Christine Mathews [signature]

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074933-121212-CM-MW-3 **WELL#** MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12.12.12	12.12.12	1120	1.45	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	.45 for metals only

FIELD MEASUREMENTS

DEPTH TO WATER 16.63 (feet) WELL ELEVATION 96.07 (feet)

WELL DEPTH 25.69 (feet) GROUNDWATER ELEVATION 79.44 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME	DO%
14.15 (°C)	7.10 (std)	2.083 (g/L)	2540 (µS/cm)	-281.9 (mV)	3.75 (gal)	8.23
13.99 (°C)	7.14 (std)	2.076 (g/L)	2520 (µS/cm)	-280.2 (mV)	4.25 (gal)	4.50
13.96 (°C)	7.16 (std)	2.078 (g/L)	2523 (µS/cm)	-274.1 (mV)	4.75 (gal)	4.17
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)	
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)	

FIELD COMMENTS

SAMPLE APPEARANCE: Cloudy ODOR: Sulfury COLOR: gray/black SHEEN Y/N no

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

SPECIFIC COMMENTS:

well dry @ 2.25 gallons. Will wait for re-charge

1.45 x 3 = 4.35

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

12/12/12 Christine Mathews [signature]

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Rankenian No.1 **JOB#** 074933

SAMPLE ID: GW-074933-121212-CM-MW-4 **WELL#** MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12.12.12	12.12.12	1035	1.624	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	, 45 for metals only

FIELD MEASUREMENTS

DEPTH TO WATER 18.09 (feet) WELL ELEVATION 98.54 (feet)

WELL DEPTH 28.24 (feet) GROUNDWATER ELEVATION 80.45 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME	DO mg/L
14.95 (°C)	7.24 (std)	8.187 (g/L)	10151 (µS/cm)	-103.5 (mV)	4.0 (gal)	7.96
14.92 (°C)	7.36 (std)	8.299 (g/L)	10317 (µS/cm)	-94.9 (mV)	4.5 (gal)	7.30
14.89 (°C)	7.38 (std)	8.337 (g/L)	10347 (µS/cm)	-90.3 (mV)	5.0 (gal)	6.80
(°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 no

WEATHER CONDITIONS: TEMPERATURE 250 WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1.624 X 3 = 4.87

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

12/12/12 Christine Mathews [signature]

DATE PRINT SIGNATURE

APPENDIX B

2012

QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORTS

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

April 04, 2012

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

RE: Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 2012. 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@pacelabs.com
Project Manager

Enclosures

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

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

CERTIFICATIONS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

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

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

SAMPLE SUMMARY

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60117004001	**GW-074933-3812-CB-MW-1**	Water	03/08/12 15:10	03/10/12 09:00
60117004002	**GW-074933-3812-CB-MW-2**	Water	03/08/12 15:35	03/10/12 09:00
60117004003	**GW-074933-3812-CB-MW-3**	Water	03/08/12 16:00	03/10/12 09:00
60117004004	**GW-074933-3812-CB-MW-4**	Water	03/08/12 15:45	03/10/12 09:00
60117004005	**GW-074933-3812-CB-DUP**	Water	03/08/12 15:15	03/10/12 09:00
60117004006	**TRIP BLANK**	Water	03/08/12 17:00	03/10/12 09:00

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SAMPLE ANALYTE COUNT

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60117004001	**GW-074933-3812-CB-MW-1**	EPA 6010	JGP	1	PASI-K
		EPA 8260	RNS	9	PASI-K
		SM 2540C	CMG	1	PASI-K
		EPA 300.0	JCJ	2	PASI-G
60117004002	**GW-074933-3812-CB-MW-2**	EPA 6010	JGP	1	PASI-K
		EPA 8260	RNS	9	PASI-K
		SM 2540C	CMG	1	PASI-K
		EPA 300.0	JCJ	2	PASI-G
60117004003	**GW-074933-3812-CB-MW-3**	EPA 6010	JGP	1	PASI-K
		EPA 8260	PRG	9	PASI-K
		SM 2540C	CMG	1	PASI-K
		EPA 300.0	JCJ	2	PASI-G
60117004004	**GW-074933-3812-CB-MW-4**	EPA 6010	JGP	1	PASI-K
		EPA 8260	PRG	9	PASI-K
		SM 2540C	CMG	1	PASI-K
		EPA 300.0	JCJ	2	PASI-G
60117004005	**GW-074933-3812-CB-DUP**	EPA 8260	PRG	9	PASI-K
60117004006	**TRIP BLANK**	EPA 8260	PRG	9	PASI-K

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PROJECT NARRATIVE

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

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

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

PROJECT NARRATIVE

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 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/44363
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/44364
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/44384
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:

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

PROJECT NARRATIVE

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

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

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

PROJECT NARRATIVE

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

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

QC Batch: WETA/11788

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4058159001,4058200001

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

- MS (Lab ID: 584717)
  - Sulfate
- MSD (Lab ID: 584718)
  - Sulfate

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.

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

ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Sample: GW-074933-3812-CB-MW-1 **Lab ID: 60117004001** Collected: 03/08/12 15:10 Received: 03/10/12 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	**1230**	ug/L	5.0	0.90	1	03/14/12 16:35	03/19/12 14:19	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.040	1		03/20/12 19:57	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.10	1		03/20/12 19:57	100-41-4	
Toluene	ND	ug/L	1.0	0.10	1		03/20/12 19:57	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.30	1		03/20/12 19:57	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97	%	86-112		1		03/20/12 19:57	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		03/20/12 19:57	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		1		03/20/12 19:57	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119		1		03/20/12 19:57	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		03/20/12 19:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3590**	mg/L	5.0	5.0	1		03/15/12 10:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**99.0**	mg/L	40.0	20.0	10		03/31/12 00:37	16887-00-6	
Sulfate	**2230**	mg/L	400	200	100		03/31/12 00:51	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Sample: GW-074933-3812-CB-MW-2 **Lab ID: 60117004002** Collected: 03/08/12 15:35 Received: 03/10/12 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	**2010**	ug/L	5.0	0.90	1	03/14/12 16:35	03/19/12 14:22	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**10.7**	ug/L	1.0	0.040	1		03/21/12 16:29	71-43-2	
Ethylbenzene	**23.2**	ug/L	1.0	0.10	1		03/21/12 16:29	100-41-4	
Toluene	**95.9**	ug/L	1.0	0.10	1		03/21/12 16:29	108-88-3	
Xylene (Total)	**149**	ug/L	3.0	0.30	1		03/21/12 16:29	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97	%	86-112		1		03/21/12 16:29	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		03/21/12 16:29	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		1		03/21/12 16:29	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	82-119		1		03/21/12 16:29	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		03/21/12 16:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2500**	mg/L	5.0	5.0	1		03/15/12 10:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**66.0**	mg/L	20.0	10.0	5		03/31/12 01:06	16887-00-6	
Sulfate	**1380**	mg/L	400	200	100		03/31/12 01:20	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Sample: GW-074933-3812-CB-MW-3 **Lab ID: 60117004003** Collected: 03/08/12 16:00 Received: 03/10/12 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	**1760**	ug/L	5.0	0.90	1	03/14/12 16:35	03/19/12 14:30	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**16.0**	ug/L	1.0	0.050	1		03/21/12 04:26	71-43-2	
Ethylbenzene	**143**	ug/L	1.0	0.080	1		03/21/12 04:26	100-41-4	
Toluene	**32.0**	ug/L	1.0	0.070	1		03/21/12 04:26	108-88-3	
Xylene (Total)	**226**	ug/L	3.0	0.18	1		03/21/12 04:26	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99	%	86-112		1		03/21/12 04:26	1868-53-7	
Toluene-d8 (S)	97	%	90-110		1		03/21/12 04:26	2037-26-5	
4-Bromofluorobenzene (S)	108	%	87-113		1		03/21/12 04:26	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119		1		03/21/12 04:26	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		03/21/12 04:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2730**	mg/L	5.0	5.0	1		03/15/12 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**63.4**	mg/L	20.0	10.0	5		03/31/12 01:34	16887-00-6	
Sulfate	**1460**	mg/L	400	200	100		03/31/12 01:48	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Sample: GW-074933-3812-CB-MW-4 **Lab ID: 60117004004** Collected: 03/08/12 15:45 Received: 03/10/12 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	**106**	ug/L	5.0	0.90	1	03/14/12 16:35	03/19/12 14:32	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.050	1		03/21/12 04:41	71-43-2	
Ethylbenzene	**0.21J**	ug/L	1.0	0.080	1		03/21/12 04:41	100-41-4	
Toluene	**0.18J**	ug/L	1.0	0.070	1		03/21/12 04:41	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		03/21/12 04:41	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	86-112		1		03/21/12 04:41	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		03/21/12 04:41	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-113		1		03/21/12 04:41	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119		1		03/21/12 04:41	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		03/21/12 04:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**8700**	mg/L	5.0	5.0	1		03/15/12 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2610**	mg/L	400	200	100		03/31/12 15:57	16887-00-6	
Sulfate	**3250**	mg/L	400	200	100		03/31/12 15:57	14808-79-8	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Sample: GW-074933-3812-CB-DUP **Lab ID: 60117004005** Collected: 03/08/12 15:15 Received: 03/10/12 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		03/21/12 04:55	71-43-2	
Ethylbenzene	**0.16J**	ug/L	1.0	0.080	1		03/21/12 04:55	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		03/21/12 04:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		03/21/12 04:55	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	86-112		1		03/21/12 04:55	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		03/21/12 04:55	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		1		03/21/12 04:55	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119		1		03/21/12 04:55	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		03/21/12 04:55		

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ANALYTICAL RESULTS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

Sample: TRIP BLANK **Lab ID: 60117004006** Collected: 03/08/12 17:00 Received: 03/10/12 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		03/21/12 05:10	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		03/21/12 05:10	100-41-4	
Toluene	**0.12J**	ug/L	1.0	0.070	1		03/21/12 05:10	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		03/21/12 05:10	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	86-112		1		03/21/12 05:10	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		03/21/12 05:10	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113		1		03/21/12 05:10	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119		1		03/21/12 05:10	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		03/21/12 05:10		

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

QC Batch: MPRP/17309 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

METHOD BLANK: 965098 Matrix: Water
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	03/19/12 13:28	

LABORATORY CONTROL SAMPLE: 965099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	971	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 965100 965101

Parameter	Units	60116936001 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	0.0023J mg/L	1000	1000	938	955	94	95	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

QC Batch: MSV/44363
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60117004001

METHOD BLANK: 968486
Matrix: Water
Associated Lab Samples: 60117004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/20/12 15:51	
Ethylbenzene	ug/L	ND	1.0	03/20/12 15:51	
Toluene	ug/L	ND	1.0	03/20/12 15:51	
Xylene (Total)	ug/L	ND	3.0	03/20/12 15:51	
1,2-Dichloroethane-d4 (S)	%	94	82-119	03/20/12 15:51	
4-Bromofluorobenzene (S)	%	101	87-113	03/20/12 15:51	
Dibromofluoromethane (S)	%	97	86-112	03/20/12 15:51	
Toluene-d8 (S)	%	99	90-110	03/20/12 15:51	

LABORATORY CONTROL SAMPLE: 968487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.9	100	82-117	
Ethylbenzene	ug/L	20	19.6	98	79-121	
Toluene	ug/L	20	19.5	98	80-120	
Xylene (Total)	ug/L	60	60.2	100	79-120	
1,2-Dichloroethane-d4 (S)	%			92	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			96	86-112	
Toluene-d8 (S)	%			98	90-110	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

QC Batch: MSV/44364 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60117004003, 60117004004, 60117004005, 60117004006

METHOD BLANK: 968493 Matrix: Water
Associated Lab Samples: 60117004003, 60117004004, 60117004005, 60117004006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/21/12 03:58	
Ethylbenzene	ug/L	ND	1.0	03/21/12 03:58	
Toluene	ug/L	ND	1.0	03/21/12 03:58	
Xylene (Total)	ug/L	ND	3.0	03/21/12 03:58	
1,2-Dichloroethane-d4 (S)	%	99	82-119	03/21/12 03:58	
4-Bromofluorobenzene (S)	%	101	87-113	03/21/12 03:58	
Dibromofluoromethane (S)	%	103	86-112	03/21/12 03:58	
Toluene-d8 (S)	%	98	90-110	03/21/12 03:58	

LABORATORY CONTROL SAMPLE: 968494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.4	107	82-117	
Ethylbenzene	ug/L	20	20.1	101	79-121	
Toluene	ug/L	20	20.2	101	80-120	
Xylene (Total)	ug/L	60	62.7	104	79-120	
1,2-Dichloroethane-d4 (S)	%			96	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

QC Batch: MSV/44384
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60117004002

METHOD BLANK: 969122
Matrix: Water
Associated Lab Samples: 60117004002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/21/12 14:44	
Ethylbenzene	ug/L	ND	1.0	03/21/12 14:44	
Toluene	ug/L	ND	1.0	03/21/12 14:44	
Xylene (Total)	ug/L	ND	3.0	03/21/12 14:44	
1,2-Dichloroethane-d4 (S)	%	94	82-119	03/21/12 14:44	
4-Bromofluorobenzene (S)	%	100	87-113	03/21/12 14:44	
Dibromofluoromethane (S)	%	98	86-112	03/21/12 14:44	
Toluene-d8 (S)	%	99	90-110	03/21/12 14:44	

LABORATORY CONTROL SAMPLE: 969123

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.9	99	82-117	
Ethylbenzene	ug/L	20	20.2	101	79-121	
Toluene	ug/L	20	19.9	100	80-120	
Xylene (Total)	ug/L	60	62.8	105	79-120	
1,2-Dichloroethane-d4 (S)	%			95	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			98	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

QC Batch: WET/34000 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

METHOD BLANK: 965602 Matrix: Water
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	03/15/12 10:31	

SAMPLE DUPLICATE: 965603

Parameter	Units	60117274001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	636	599	6	17	

SAMPLE DUPLICATE: 965604

Parameter	Units	60116775003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1000	1100	10	17	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

QC Batch: WETA/11788 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

METHOD BLANK: 584715 Matrix: Water
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	4.0	03/30/12 09:44	
Sulfate	mg/L	ND	4.0	03/30/12 09:44	

LABORATORY CONTROL SAMPLE: 584716

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	19.6	98	90-110	
Sulfate	mg/L	20	19.3	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 584717 584718

Parameter	Units	4058200001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	758	1000	1000	1800	1790	104	103	90-110	1	20	
Sulfate	mg/L	119	400	400	453	444	83	81	90-110	2	20	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 584719 584720

Parameter	Units	4058159001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	37.4	40	40	79.9	79.5	106	105	90-110	1	20	
Sulfate	mg/L	49.3	40	40	92.7	92.9	108	109	90-110	0	20	

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QUALIFIERS

Project: RANDLEMAN NO. 1 (074933)
Pace Project No.: 60117004

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.

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TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-K	Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/44363
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/44364
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/44384
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

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.: 60117004

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60117004001	**GW-074933-3812-CB-MW-1**	EPA 3010	MPRP/17309	EPA 6010	ICP/14764
60117004002	**GW-074933-3812-CB-MW-2**	EPA 3010	MPRP/17309	EPA 6010	ICP/14764
60117004003	**GW-074933-3812-CB-MW-3**	EPA 3010	MPRP/17309	EPA 6010	ICP/14764
60117004004	**GW-074933-3812-CB-MW-4**	EPA 3010	MPRP/17309	EPA 6010	ICP/14764
60117004001	**GW-074933-3812-CB-MW-1**	EPA 8260	MSV/44363		
60117004002	**GW-074933-3812-CB-MW-2**	EPA 8260	MSV/44384		
60117004003	**GW-074933-3812-CB-MW-3**	EPA 8260	MSV/44364		
60117004004	**GW-074933-3812-CB-MW-4**	EPA 8260	MSV/44364		
60117004005	**GW-074933-3812-CB-DUP**	EPA 8260	MSV/44364		
60117004006	**TRIP BLANK**	EPA 8260	MSV/44364		
60117004001	**GW-074933-3812-CB-MW-1**	SM 2540C	WET/34000		
60117004002	**GW-074933-3812-CB-MW-2**	SM 2540C	WET/34000		
60117004003	**GW-074933-3812-CB-MW-3**	SM 2540C	WET/34000		
60117004004	**GW-074933-3812-CB-MW-4**	SM 2540C	WET/34000		
60117004001	**GW-074933-3812-CB-MW-1**	EPA 300.0	WETA/11788		
60117004002	**GW-074933-3812-CB-MW-2**	EPA 300.0	WETA/11788		
60117004003	**GW-074933-3812-CB-MW-3**	EPA 300.0	WETA/11788		
60117004004	**GW-074933-3812-CB-MW-4**	EPA 300.0	WETA/11788		

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

April 04, 2012

Alice Tracy
Pace Analytical Kansas
9608 Loiret Blvd
Lenexa, KS 66219

RE: Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Dear Alice Tracy:
Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2012. 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,

Alee Her

alee.her@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

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SAMPLE SUMMARY

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60117004001	**GW-074933-3812-CB-MW-1**	Water	03/08/12 15:10	03/28/12 10:05
60117004002	**GW-074933-3812-CB-MW-2**	Water	03/08/12 15:35	03/28/12 10:05
60117004003	**GW-074933-3812-CB-MW-3**	Water	03/08/12 16:00	03/28/12 10:05
60117004004	**GW-074933-3812-CB-MW-4**	Water	03/08/12 15:45	03/28/12 10:05

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SAMPLE ANALYTE COUNT

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60117004001	**GW-074933-3812-CB-MW-1**	EPA 300.0	JCJ	2	PASI-G
60117004002	**GW-074933-3812-CB-MW-2**	EPA 300.0	JCJ	2	PASI-G
60117004003	**GW-074933-3812-CB-MW-3**	EPA 300.0	JCJ	2	PASI-G
60117004004	**GW-074933-3812-CB-MW-4**	EPA 300.0	JCJ	2	PASI-G

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PROJECT NARRATIVE

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: PACE ANALYTICAL SERVICES, INC.
Date: April 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.

QC Batch: WETA/11788

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 4058159001,4058200001

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

- MS (Lab ID: 584717)
  - Sulfate
- MSD (Lab ID: 584718)
  - Sulfate

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: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Sample: GW-074933-3812-CB-MW-1 **Lab ID: 60117004001** Collected: 03/08/12 15:10 Received: 03/28/12 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**99.0**	mg/L	40.0	20.0	10		03/31/12 00:37	16887-00-6	
Sulfate	**2230**	mg/L	400	200	100		03/31/12 00:51	14808-79-8	

Sample: GW-074933-3812-CB-MW-2 **Lab ID: 60117004002** Collected: 03/08/12 15:35 Received: 03/28/12 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**66.0**	mg/L	20.0	10.0	5		03/31/12 01:06	16887-00-6	
Sulfate	**1380**	mg/L	400	200	100		03/31/12 01:20	14808-79-8	

Sample: GW-074933-3812-CB-MW-3 **Lab ID: 60117004003** Collected: 03/08/12 16:00 Received: 03/28/12 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**63.4**	mg/L	20.0	10.0	5		03/31/12 01:34	16887-00-6	
Sulfate	**1460**	mg/L	400	200	100		03/31/12 01:48	14808-79-8	

Sample: GW-074933-3812-CB-MW-4 **Lab ID: 60117004004** Collected: 03/08/12 15:45 Received: 03/28/12 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2610**	mg/L	400	200	100		03/31/12 15:57	16887-00-6	
Sulfate	**3250**	mg/L	400	200	100		03/31/12 15:57	14808-79-8	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

QC Batch: WETA/11788 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

METHOD BLANK: 584715 Matrix: Water
Associated Lab Samples: 60117004001, 60117004002, 60117004003, 60117004004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	4.0	03/30/12 09:44	
Sulfate	mg/L	ND	4.0	03/30/12 09:44	

LABORATORY CONTROL SAMPLE: 584716

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	19.6	98	90-110	
Sulfate	mg/L	20	19.3	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 584717 584718

Parameter	Units	4058200001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	758	1000	1000	1800	1790	104	103	90-110	1	20	
Sulfate	mg/L	119	400	400	453	444	83	81	90-110	2	20	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 584719 584720

Parameter	Units	4058159001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	37.4	40	40	79.9	79.5	106	105	90-110	1	20	
Sulfate	mg/L	49.3	40	40	92.7	92.9	108	109	90-110	0	20	

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QUALIFIERS

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

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.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

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

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

Project: 60117004 RANDLEMANN NO. 1
Pace Project No.: 4058187

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60117004001	**GW-074933-3812-CB-MW-1**	EPA 300.0	WETA/11788		
60117004002	**GW-074933-3812-CB-MW-2**	EPA 300.0	WETA/11788		
60117004003	**GW-074933-3812-CB-MW-3**	EPA 300.0	WETA/11788		
60117004004	**GW-074933-3812-CB-MW-4**	EPA 300.0	WETA/11788		

4058187

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: 60117004 **Workorder Name:** RANDLEMAN NO. 1 (074933) **Owner Received Date:** 3/10/2012 **Results Requested By:** 3/26/2012

Report To	Subcontract To
Alice Tracy Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Fax (913)599-1759	~~Pace Analytical Dallas~~ ~~400 West Bethany Drive~~ ~~Suite 190~~ ~~Allen, TX 75013~~ ~~Phone (972)727-1123~~ GB PACE 1241 Bellevue St. Suite 9 Green Bay, WI 54302 920-469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: none	Requested Analysis: 300.0 anions – Sulfate, Chloride	LAB USE ONLY
1	GW-074933-3812-CB-MW-1	PS	3/8/2012 15:10	60117004001	Water	1	X	1-500ml pA
2	GW-074933-3812-CB-MW-2	PS	3/8/2012 15:35	60117004002	Water	1	X	
3	GW-074933-3812-CB-MW-3	PS	3/8/2012 16:00	60117004003	Water	1	X	
4	GW-074933-3812-CB-MW-4	PS	3/8/2012 15:45	60117004004	Water	1	X	
5								

01 02 03 04

Comments

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	3/27/12 1700		
2	Fed Ex	3/28/12 1005	K Mielke Pace GB	3/28/12 1005
3				

Cooler Temperature on Receipt 3 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

Pace Analytical Services, Inc.
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Green Bay, WI 54302

Sample Condition Upon Receipt

Pace Analytical

Client Name: PACE - KS Project # 4058187

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

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

Thermometer Used NB

Cooler Temperature 3°C

Type of Ice: (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Optional
Proj. Due Date:
Proj. Name:

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 3/28/12
Initials: KM

		Comments:
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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Initial when completed / Lot # of added preservative
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Field Data Required? Y / N

Client Notification/ Resolution:
Person Contacted: _____ Date/Time: _____
Comments/ Resolution: _____

Project Manager Review: CRL4 **Date:** 3/28/12

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

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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

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 8260 BTEX	300.0 Sulfate	300.0 Chloride	2540 TDS	Dissolved Mn	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60117204
1	GW:074933:3812:CB:MW-1	WT	G			3.8.12	1510		5	X		X	X					X	X	X	X	X		001
2	GW:074933:3812:CB:MW-2	WT	G			3.8.12	1585		5	X		X	X					X	X	X	X	X		002
3	GW:074933:3812:CB:MW-3	WT	G			3.8.12	1600		5	X		X	X					X	X	X	X	X		003
4	GW:074933:3812:CB:MW-4	WT	G			3.8.12	1545		5	X		X	X					X	X	X	X	X		004
5	GW:074933:3812:CB:dup	WT	G			3.8.12	1515		3				X					X						005
6	trip blank	WT				3.8.12	1700		3				X					X						TB 006
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals were field filtered.	Cassie Brown/CRA	3.8.12	1730		3/10/12	0900	3.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cassie Brown

SIGNATURE of SAMPLER: Cassie Brown

DATE Signed (MM/DD/YY): 3.8.12

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

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

Pace Analytical®
www.pacelabs.com

Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP CRA NM Project #: 60117004

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

Optional
Proj Due Date: 3/12/12
Proj Name:

Tracking #: 8986 5553 9536 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-191 / T-194 **Type of Ice:** (Wet) Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 3.5

Date and initials of person examining contents: 3/10/12 hy

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
-Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☑Yes ☐No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
-Includes date/time/ID/analyses Matrix: WD		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: hy Lot # of added preservative:
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: hy

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AKT Date: 3/12/12

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

Start: 1130	Start:
End: 1135	End:
Temp:	Temp:

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).

cff

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

June 21, 2012

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

RE: Project: Randelman No. 1
Pace Project No.: 60122948

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: Randelman No. 1
Pace Project No.: 60122948

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: Randelman No. 1
Pace Project No.: 60122948

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60122948001	**GW-074933-060612-CB-MW-1**	Water	06/06/12 14:00	06/08/12 08:45
60122948002	**GW-074933-060612-CB-MW-2**	Water	06/06/12 14:15	06/08/12 08:45
60122948003	**GW-074933-060612-CB-MW-3**	Water	06/06/12 13:50	06/08/12 08:45
60122948004	**GW-074933-060612-CB-MW-4**	Water	06/06/12 13:40	06/08/12 08:45
60122948005	**GW-074933-060612-CB-DUP**	Water	06/06/12 13:40	06/08/12 08:45
60122948006	**TRIP BLANK**	Water	06/06/12 08:00	06/08/12 08:45

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SAMPLE ANALYTE COUNT

Project: Randelman No. 1
Pace Project No.: 60122948

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60122948001	**GW-074933-060612-CB-MW-1**	EPA 6010	JDH	1
		EPA 8260	PRG	9
		SM 2540C	DJR	1
		EPA 300.0	OL	2
60122948002	**GW-074933-060612-CB-MW-2**	EPA 6010	JDH	1
		EPA 8260	HNS	9
		SM 2540C	DJR	1
		EPA 300.0	OL	2
60122948003	**GW-074933-060612-CB-MW-3**	EPA 6010	JDH	1
		EPA 8260	PRG	9
		SM 2540C	DJR	1
		EPA 300.0	OL	2
60122948004	**GW-074933-060612-CB-MW-4**	EPA 6010	JDH	1
		EPA 8260	PRG	9
		SM 2540C	DJR	1
		EPA 300.0	OL	2
60122948005	**GW-074933-060612-CB-DUP**	EPA 8260	PRG	9
60122948006	**TRIP BLANK**	EPA 8260	PRG	9

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PROJECT NARRATIVE

Project: Randelman No. 1
Pace Project No.: 60122948

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 21, 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:

Analyte Comments:

QC Batch: MPRP/18387

B: Analyte was detected in the associated method blank.

- GW-074933-060612-CB-MW-2 (Lab ID: 60122948002)
  - Manganese, Dissolved
- GW-074933-060612-CB-MW-3 (Lab ID: 60122948003)
  - Manganese, Dissolved
- GW-074933-060612-CB-MW-4 (Lab ID: 60122948004)
  - Manganese, Dissolved

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PROJECT NARRATIVE

Project: Randelman No. 1
Pace Project No.: 60122948

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 21, 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.

QC Batch: MSV/46472

S2: Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

- GW-074933-060612-CB-DUP (Lab ID: 60122948005)
  - 4-Bromofluorobenzene (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/46307

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

QC Batch: MSV/46343

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

QC Batch: MSV/46472

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.

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PROJECT NARRATIVE

Project: Randelman No. 1
Pace Project No.: 60122948

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 21, 2012

Additional Comments:

Analyte Comments:

QC Batch: MSV/46343

B: Analyte was detected in the associated method blank.

- GW-074933-060612-CB-MW-2 (Lab ID: 60122948002)
  - Ethylbenzene
  - Toluene

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PROJECT NARRATIVE

Project: Randelman No. 1
Pace Project No.: 60122948

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 21, 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: Randelman No. 1
Pace Project No.: 60122948

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 21, 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:

Analyte Comments:

QC Batch: WETA/20584

B: Analyte was detected in the associated method blank.

- GW-074933-060612-CB-MW-1 (Lab ID: 60122948001)
  - Chloride
  - Sulfate
- GW-074933-060612-CB-MW-2 (Lab ID: 60122948002)
  - Chloride
  - Sulfate
- GW-074933-060612-CB-MW-3 (Lab ID: 60122948003)
  - Chloride
  - Sulfate
- GW-074933-060612-CB-MW-4 (Lab ID: 60122948004)
  - Chloride
  - Sulfate

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

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ANALYTICAL RESULTS

Project: Randelman No. 1
Pace Project No.: 60122948

Sample: GW-074933-060612-CB-MW-1 **Lab ID: 60122948001** Collected: 06/06/12 14:00 Received: 06/08/12 08:45 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	**17.5**	ug/L	5.0	0.60	1	06/18/12 16:40	06/19/12 10:31	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.050	1		06/13/12 18:40	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		06/13/12 18:40	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		06/13/12 18:40	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		06/13/12 18:40	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105	%	86-112		1		06/13/12 18:40	1868-53-7	
Toluene-d8 (S)	101	%	90-110		1		06/13/12 18:40	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-113		1		06/13/12 18:40	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119		1		06/13/12 18:40	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		06/13/12 18:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3250**	mg/L	5.0	5.0	1		06/13/12 09:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**122**	mg/L	20.0	1.1	20		06/19/12 12:13	16887-00-6	B
Sulfate	**1780**	mg/L	200	15.2	200		06/20/12 11:38	14808-79-8	B

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ANALYTICAL RESULTS

Project: Randelman No. 1
Pace Project No.: 60122948

Sample: GW-074933-060612-CB-MW-2 **Lab ID: 60122948002** Collected: 06/06/12 14:15 Received: 06/08/12 08:45 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	**2120**	ug/L	5.0	0.60	1	06/15/12 15:55	06/18/12 12:16	7439-96-5	B
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**5.4**	ug/L	1.0	0.055	1		06/14/12 20:00	71-43-2	
Ethylbenzene	**13.9**	ug/L	1.0	0.056	1		06/14/12 20:00	100-41-4	B
Toluene	**40.4**	ug/L	1.0	0.066	1		06/14/12 20:00	108-88-3	B
Xylene (Total)	**79.7**	ug/L	3.0	0.12	1		06/14/12 20:00	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	86-112		1		06/14/12 20:00	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		06/14/12 20:00	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113		1		06/14/12 20:00	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	82-119		1		06/14/12 20:00	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		06/14/12 20:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2560**	mg/L	5.0	5.0	1		06/13/12 09:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**76.9**	mg/L	10.0	0.56	10		06/19/12 12:44	16887-00-6	B
Sulfate	**1640**	mg/L	200	30.0	200		06/19/12 13:00	14808-79-8	B

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ANALYTICAL RESULTS

Project: Randelman No. 1
Pace Project No.: 60122948

Sample: GW-074933-060612-CB-MW-3 **Lab ID: 60122948003** Collected: 06/06/12 13:50 Received: 06/08/12 08:45 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	**500**	ug/L	5.0	0.60	1	06/15/12 15:55	06/18/12 12:18	7439-96-5	B
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.050	1		06/13/12 19:09	71-43-2	
Ethylbenzene	**27.3**	ug/L	1.0	0.080	1		06/13/12 19:09	100-41-4	
Toluene	**3.8**	ug/L	1.0	0.070	1		06/13/12 19:09	108-88-3	
Xylene (Total)	**26.7**	ug/L	3.0	0.18	1		06/13/12 19:09	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	86-112		1		06/13/12 19:09	1868-53-7	
Toluene-d8 (S)	97	%	90-110		1		06/13/12 19:09	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113		1		06/13/12 19:09	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119		1		06/13/12 19:09	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		06/13/12 19:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3000**	mg/L	5.0	5.0	1		06/13/12 09:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**88.8**	mg/L	10.0	0.56	10		06/19/12 13:46	16887-00-6	B
Sulfate	**2100**	mg/L	200	30.0	200		06/19/12 14:01	14808-79-8	B

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ANALYTICAL RESULTS

Project: Randelman No. 1
Pace Project No.: 60122948

Sample: GW-074933-060612-CB-MW-4 **Lab ID: 60122948004** Collected: 06/06/12 13:40 Received: 06/08/12 08:45 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	**1290**	ug/L	5.0	0.60	1	06/15/12 15:55	06/18/12 12:21	7439-96-5	B
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.050	1		06/13/12 19:23	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		06/13/12 19:23	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		06/13/12 19:23	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		06/13/12 19:23	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	86-112		1		06/13/12 19:23	1868-53-7	
Toluene-d8 (S)	99	%	90-110		1		06/13/12 19:23	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-113		1		06/13/12 19:23	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119		1		06/13/12 19:23	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		06/13/12 19:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**8270**	mg/L	5.0	5.0	1		06/13/12 09:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2520**	mg/L	500	28.0	500		06/19/12 14:17	16887-00-6	B
Sulfate	**3740**	mg/L	500	75.0	500		06/19/12 14:17	14808-79-8	B

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ANALYTICAL RESULTS

Project: Randelman No. 1
Pace Project No.: 60122948

Sample: GW-074933-060612-CB-DUP **Lab ID: 60122948005** Collected: 06/06/12 13:40 Received: 06/08/12 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**6.6**	ug/L	1.0	0.050	1		06/19/12 19:04	71-43-2	
Ethylbenzene	**13.5**	ug/L	1.0	0.080	1		06/19/12 19:04	100-41-4	
Toluene	**40.5**	ug/L	1.0	0.070	1		06/19/12 19:04	108-88-3	
Xylene (Total)	**72.8**	ug/L	3.0	0.18	1		06/19/12 19:04	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	86-112		1		06/19/12 19:04	1868-53-7	
Toluene-d8 (S)	95	%	90-110		1		06/19/12 19:04	2037-26-5	
4-Bromofluorobenzene (S)	116	%	87-113		1		06/19/12 19:04	460-00-4	S2
1,2-Dichloroethane-d4 (S)	97	%	82-119		1		06/19/12 19:04	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		06/19/12 19:04		

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ANALYTICAL RESULTS

Project: Randelman No. 1
Pace Project No.: 60122948

Sample: TRIP BLANK **Lab ID: 60122948006** Collected: 06/06/12 08:00 Received: 06/08/12 08:45 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		06/13/12 16:31	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.080	1		06/13/12 16:31	100-41-4	
Toluene	ND	ug/L	1.0	0.070	1		06/13/12 16:31	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.18	1		06/13/12 16:31	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	104	%	86-112		1		06/13/12 16:31	1868-53-7	
Toluene-d8 (S)	100	%	90-110		1		06/13/12 16:31	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113		1		06/13/12 16:31	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119		1		06/13/12 16:31	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		06/13/12 16:31		

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: MPRP/18387 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60122948002, 60122948003, 60122948004

METHOD BLANK: 1014959 Matrix: Water
Associated Lab Samples: 60122948002, 60122948003, 60122948004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	11.2	5.0	06/18/12 11:47	

LABORATORY CONTROL SAMPLE: 1014960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	934	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1014961 1014962

Parameter	Units	60122912001 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	886	1000	1000	1770	1790	88	91	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: MPRP/18413
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60122948001

METHOD BLANK: 1016073 Matrix: Water
Associated Lab Samples: 60122948001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	06/19/12 10:24	

LABORATORY CONTROL SAMPLE: 1016074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	969	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1016075 1016076

Parameter	Units	60122948001 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	17.5	1000	1000	819	951	80	93	75-125	15	20	

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: MSV/46307 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60122948001, 60122948003, 60122948004, 60122948006

METHOD BLANK: 1013449 Matrix: Water
Associated Lab Samples: 60122948001, 60122948003, 60122948004, 60122948006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/13/12 15:34	
Ethylbenzene	ug/L	ND	1.0	06/13/12 15:34	
Toluene	ug/L	ND	1.0	06/13/12 15:34	
Xylene (Total)	ug/L	ND	3.0	06/13/12 15:34	
1,2-Dichloroethane-d4 (S)	%	98	82-119	06/13/12 15:34	
4-Bromofluorobenzene (S)	%	101	87-113	06/13/12 15:34	
Dibromofluoromethane (S)	%	99	86-112	06/13/12 15:34	
Toluene-d8 (S)	%	101	90-110	06/13/12 15:34	

LABORATORY CONTROL SAMPLE: 1013450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.8	104	82-117	
Ethylbenzene	ug/L	20	20.0	100	79-121	
Toluene	ug/L	20	20.7	103	80-120	
Xylene (Total)	ug/L	60	61.9	103	79-120	
1,2-Dichloroethane-d4 (S)	%			102	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			98	90-110	

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: MSV/46343
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60122948002

METHOD BLANK: 1014000 Matrix: Water
Associated Lab Samples: 60122948002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/14/12 18:22	
Ethylbenzene	ug/L	ND	1.0	06/14/12 18:22	
Toluene	ug/L	ND	1.0	06/14/12 18:22	
Xylene (Total)	ug/L	ND	3.0	06/14/12 18:22	
1,2-Dichloroethane-d4 (S)	%	85	82-119	06/14/12 18:22	
4-Bromofluorobenzene (S)	%	103	87-113	06/14/12 18:22	
Dibromofluoromethane (S)	%	101	86-112	06/14/12 18:22	
Toluene-d8 (S)	%	98	90-110	06/14/12 18:22	

LABORATORY CONTROL SAMPLE: 1014001

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.5	113	82-117	
Ethylbenzene	ug/L	20	22.5	112	79-121	
Toluene	ug/L	20	21.4	107	80-120	
Xylene (Total)	ug/L	60	67.9	113	79-120	
1,2-Dichloroethane-d4 (S)	%			86	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			104	86-112	
Toluene-d8 (S)	%			98	90-110	

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: MSV/46472
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60122948005

METHOD BLANK: 1016388
Matrix: Water
Associated Lab Samples: 60122948005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/19/12 15:15	
Ethylbenzene	ug/L	ND	1.0	06/19/12 15:15	
Toluene	ug/L	ND	1.0	06/19/12 15:15	
Xylene (Total)	ug/L	ND	3.0	06/19/12 15:15	
1,2-Dichloroethane-d4 (S)	%	107	82-119	06/19/12 15:15	
4-Bromofluorobenzene (S)	%	101	87-113	06/19/12 15:15	
Dibromofluoromethane (S)	%	105	86-112	06/19/12 15:15	
Toluene-d8 (S)	%	95	90-110	06/19/12 15:15	

LABORATORY CONTROL SAMPLE: 1016389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.9	110	82-117	
Ethylbenzene	ug/L	20	21.4	107	79-121	
Toluene	ug/L	20	20.5	103	80-120	
Xylene (Total)	ug/L	60	62.7	105	79-120	
1,2-Dichloroethane-d4 (S)	%			104	82-119	
4-Bromofluorobenzene (S)	%			104	87-113	
Dibromofluoromethane (S)	%			107	86-112	
Toluene-d8 (S)	%			97	90-110	

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: WET/35515 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60122948001, 60122948002, 60122948003, 60122948004

METHOD BLANK: 1013090 Matrix: Water
Associated Lab Samples: 60122948001, 60122948002, 60122948003, 60122948004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	06/13/12 09:47	

SAMPLE DUPLICATE: 1013091

Parameter	Units	60122870017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2230	2200	1	17	

SAMPLE DUPLICATE: 1013092

Parameter	Units	60122948004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8270	8240	0	17	

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

QC Batch: WETA/20584 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60122948001, 60122948002, 60122948003, 60122948004

METHOD BLANK: 1016193 Matrix: Water
Associated Lab Samples: 60122948001, 60122948002, 60122948003, 60122948004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	06/18/12 19:11	
Sulfate	mg/L	ND	1.0	06/18/12 19:11	

METHOD BLANK: 1017235 Matrix: Water
Associated Lab Samples: 60122948001, 60122948002, 60122948003, 60122948004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	06/19/12 08:38	
Sulfate	mg/L	ND	1.0	06/19/12 08:38	

METHOD BLANK: 1017340 Matrix: Water
Associated Lab Samples: 60122948001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	06/20/12 11:03	

LABORATORY CONTROL SAMPLE: 1016194

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	91	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 1017236

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 1017341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	101	90-110	

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QUALITY CONTROL DATA

Project: Randelman No. 1
Pace Project No.: 60122948

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1016195 1016196

Parameter	Units	60122892004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.6	5	5	13.3	13.1	93	89	64-118	2	12	
Sulfate	mg/L	96.5	50	50	147	149	102	104	61-119	1	10	

MATRIX SPIKE SAMPLE: 1016197

Parameter	Units	60122981003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	431	250	683	101	64-118	
Sulfate	mg/L	23300	10000	34100	108	61-119	

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QUALIFIERS

Project: Randelman No. 1
Pace Project No.: 60122948

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/46307

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

Batch: MSV/46343

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

Batch: MSV/46472

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

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Randelman No. 1
Pace Project No.: 60122948

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60122948001	**GW-074933-060612-CB-MW-1**	EPA 3010	MPRP/18413	EPA 6010	ICP/15419
60122948002	**GW-074933-060612-CB-MW-2**	EPA 3010	MPRP/18387	EPA 6010	ICP/15405
60122948003	**GW-074933-060612-CB-MW-3**	EPA 3010	MPRP/18387	EPA 6010	ICP/15405
60122948004	**GW-074933-060612-CB-MW-4**	EPA 3010	MPRP/18387	EPA 6010	ICP/15405
60122948001	**GW-074933-060612-CB-MW-1**	EPA 8260	MSV/46307		
60122948002	**GW-074933-060612-CB-MW-2**	EPA 8260	MSV/46343		
60122948003	**GW-074933-060612-CB-MW-3**	EPA 8260	MSV/46307		
60122948004	**GW-074933-060612-CB-MW-4**	EPA 8260	MSV/46307		
60122948005	**GW-074933-060612-CB-DUP**	EPA 8260	MSV/46472		
60122948006	**TRIP BLANK**	EPA 8260	MSV/46307		
60122948001	**GW-074933-060612-CB-MW-1**	SM 2540C	WET/35515		
60122948002	**GW-074933-060612-CB-MW-2**	SM 2540C	WET/35515		
60122948003	**GW-074933-060612-CB-MW-3**	SM 2540C	WET/35515		
60122948004	**GW-074933-060612-CB-MW-4**	SM 2540C	WET/35515		
60122948001	**GW-074933-060612-CB-MW-1**	EPA 300.0	WETA/20584		
60122948002	**GW-074933-060612-CB-MW-2**	EPA 300.0	WETA/20584		
60122948003	**GW-074933-060612-CB-MW-3**	EPA 300.0	WETA/20584		
60122948004	**GW-074933-060612-CB-MW-4**	EPA 300.0	WETA/20584		

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Sample Condition Upon Receipt – ESI Tech Specs

60122948

Client Name: COP CRA

Project #: Randleman No 1

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

Optional
Proj Due Date: 6/20
Proj Name: Randleman No 1

Tracking #: 8993 9001 6551 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 ☑ epic

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

Cooler Temperature: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JV 6-8-12

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): 052112-3		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: 1430	Start:
End: 1437	End:
Temp:	Temp:

Project Manager Review: [signature] Date: 6/8/12

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).

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	Christine Mathews
Copy To:	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

Site Location STATE: NM

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 60122948

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	8260 BTEX	300.0 Sulfate	300.0 Chloride	2540 TDS	6010 Dissolved Mn	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074933-060612-CB-MW-1	GW	G	—	—	6/6/12	1400		5	X		X	X					X	X	X	X	X		2BP3U 1BP3N 1S 3D69H 001
2	GW-074933-060612-CB-MW-2	GW	G	—	—	6/6/12	1415		5	X		X	X					X	X	X	X	X		002
3	GW-074933-060612-CB-MW-3	GW	G	—	—	6/6/12	1350		5	X		X	X					X	X	X	X	X		003
4	GW-074933-060612-CB-MW-4	GW	G	—	—	6/6/12	1340		5	X		X	X					X	X	X	X	X		004
5	GW-074933-060612-CB-dup	GW	G	—	—	6/6/12	1415		3				X					X						005
6	trip blank			—	—	6/7/12	1500		3				X					X						1DG9H 006
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Cassie Brown / CRA	6/7/12	1530	[signature]	6/8/12	845	1.8	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cassie Brown

SIGNATURE of SAMPLER: Cassie Brown

DATE Signed (MM/DD/YY): 06/07/2012

*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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October 04, 2012

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

RE: Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

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

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SAMPLE SUMMARY

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129643001	**GW-074933-092012-JP-MW-1**	Water	09/20/12 14:45	09/22/12 08:50
60129643002	**GW-074933-092012-JP-MW-2**	Water	09/20/12 15:00	09/22/12 08:50
60129643003	**GW-074933-092012-JP-MW-3**	Water	09/20/12 15:15	09/22/12 08:50
60129643004	**GW-074933-092012-JP-MW-4**	Water	09/20/12 14:00	09/22/12 08:50
60129643005	**TB-074933-092012**	Water	09/20/12 00:00	09/22/12 08:50
60129643006	**GW-074933-092012-JP-DUP**	Water	09/20/12 15:10	09/22/12 08:50

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SAMPLE ANALYTE COUNT

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60129643001	**GW-074933-092012-JP-MW-1**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	1
60129643002	**GW-074933-092012-JP-MW-2**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	1
60129643003	**GW-074933-092012-JP-MW-3**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	1
60129643004	**GW-074933-092012-JP-MW-4**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	1
60129643005	**TB-074933-092012**	EPA 8260	PRG	9
60129643006	**GW-074933-092012-JP-DUP**	EPA 8260	PRG	9

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 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/48823

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

Additional Comments:

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PROJECT NARRATIVE

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 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
Pace Project No.: 60129643

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

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.: 60129643

Sample: GW-074933-092012-JP-MW-1 **Lab ID: 60129643001** Collected: 09/20/12 14:45 Received: 09/22/12 08:50 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	**17.7**	ug/L	5.0	0.60	1	09/24/12 13:45	10/01/12 11:46	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.098	1		10/01/12 06:12	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		10/01/12 06:12	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		10/01/12 06:12	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		10/01/12 06:12	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	111	%	80-120		1		10/01/12 06:12	1868-53-7	
Toluene-d8 (S)	106	%	80-120		1		10/01/12 06:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		1		10/01/12 06:12	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	80-120		1		10/01/12 06:12	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/01/12 06:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3260**	mg/L	5.0	5.0	1		09/26/12 14:24		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**79.2**	mg/L	10.0	5.0	10		10/03/12 13:45	16887-00-6	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Sample: GW-074933-092012-JP-MW-2 **Lab ID: 60129643002** Collected: 09/20/12 15:00 Received: 09/22/12 08:50 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	**1800**	ug/L	5.0	0.60	1	09/24/12 13:45	10/01/12 11:48	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**6.3**	ug/L	1.0	0.098	1		10/01/12 06:27	71-43-2	
Ethylbenzene	**12.0**	ug/L	1.0	0.23	1		10/01/12 06:27	100-41-4	
Toluene	**32.9**	ug/L	1.0	0.15	1		10/01/12 06:27	108-88-3	
Xylene (Total)	**61.2**	ug/L	3.0	0.41	1		10/01/12 06:27	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	111	%	80-120		1		10/01/12 06:27	1868-53-7	
Toluene-d8 (S)	109	%	80-120		1		10/01/12 06:27	2037-26-5	
4-Bromofluorobenzene (S)	107	%	80-120		1		10/01/12 06:27	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	80-120		1		10/01/12 06:27	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/01/12 06:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2150**	mg/L	5.0	5.0	1		09/26/12 14:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**32.7**	mg/L	10.0	5.0	10		10/03/12 14:02	16887-00-6	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Sample: GW-074933-092012-JP-MW-3 **Lab ID: 60129643003** Collected: 09/20/12 15:15 Received: 09/22/12 08:50 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	**578**	ug/L	5.0	0.60	1	09/24/12 13:45	10/01/12 11:51	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**3.8**	ug/L	1.0	0.098	1		10/01/12 06:41	71-43-2	
Ethylbenzene	**42.8**	ug/L	1.0	0.23	1		10/01/12 06:41	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		10/01/12 06:41	108-88-3	
Xylene (Total)	**28.8**	ug/L	3.0	0.41	1		10/01/12 06:41	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	112	%	80-120		1		10/01/12 06:41	1868-53-7	
Toluene-d8 (S)	106	%	80-120		1		10/01/12 06:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1		10/01/12 06:41	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	80-120		1		10/01/12 06:41	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/01/12 06:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2990**	mg/L	5.0	5.0	1		09/26/12 14:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**105**	mg/L	10.0	5.0	10		10/03/12 14:20	16887-00-6	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Sample: GW-074933-092012-JP-MW-4 **Lab ID: 60129643004** Collected: 09/20/12 14:00 Received: 09/22/12 08:50 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	**1320**	ug/L	5.0	0.60	1	09/24/12 13:45	10/01/12 11:53	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.098	1		10/01/12 06:56	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		10/01/12 06:56	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		10/01/12 06:56	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		10/01/12 06:56	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	113	%	80-120		1		10/01/12 06:56	1868-53-7	
Toluene-d8 (S)	106	%	80-120		1		10/01/12 06:56	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		1		10/01/12 06:56	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	80-120		1		10/01/12 06:56	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/01/12 06:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**7590**	mg/L	5.0	5.0	1		09/26/12 14:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2420**	mg/L	200	100	200		10/04/12 06:52	16887-00-6	

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Sample: TB-074933-092012 **Lab ID: 60129643005** Collected: 09/20/12 00:00 Received: 09/22/12 08:50 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	0.098	1		10/01/12 07:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		10/01/12 07:11	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		10/01/12 07:11	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		10/01/12 07:11	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	112	%	80-120		1		10/01/12 07:11	1868-53-7	
Toluene-d8 (S)	110	%	80-120		1		10/01/12 07:11	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		1		10/01/12 07:11	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	80-120		1		10/01/12 07:11	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/01/12 07:11		

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ANALYTICAL RESULTS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Sample: GW-074933-092012-JP-DUP **Lab ID: 60129643006** Collected: 09/20/12 15:10 Received: 09/22/12 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**6.6**	ug/L	1.0	0.098	1		10/01/12 07:26	71-43-2	
Ethylbenzene	**12.7**	ug/L	1.0	0.23	1		10/01/12 07:26	100-41-4	
Toluene	**33.8**	ug/L	1.0	0.15	1		10/01/12 07:26	108-88-3	
Xylene (Total)	**62.3**	ug/L	3.0	0.41	1		10/01/12 07:26	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	117	%	80-120		1		10/01/12 07:26	1868-53-7	
Toluene-d8 (S)	108	%	80-120		1		10/01/12 07:26	2037-26-5	
4-Bromofluorobenzene (S)	105	%	80-120		1		10/01/12 07:26	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	80-120		1		10/01/12 07:26	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		10/01/12 07:26		

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

QC Batch: MPRP/19622 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004

METHOD BLANK: 1066225 Matrix: Water
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/01/12 11:09	

LABORATORY CONTROL SAMPLE: 1066226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	999	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1066227 1066228

Parameter	Units	60129643004 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	1320	1000	1000	2270	2270	95	95	75-125	0	20	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

QC Batch: MSV/48823 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004, 60129643005, 60129643006

METHOD BLANK: 1069198 Matrix: Water
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004, 60129643005, 60129643006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	10/01/12 03:00	
Ethylbenzene	ug/L	ND	1.0	10/01/12 03:00	
Toluene	ug/L	ND	1.0	10/01/12 03:00	
Xylene (Total)	ug/L	ND	3.0	10/01/12 03:00	
1,2-Dichloroethane-d4 (S)	%	118	80-120	10/01/12 03:00	
4-Bromofluorobenzene (S)	%	98	80-120	10/01/12 03:00	
Dibromofluoromethane (S)	%	111	80-120	10/01/12 03:00	
Toluene-d8 (S)	%	105	80-120	10/01/12 03:00	

LABORATORY CONTROL SAMPLE: 1069199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.8	94	74-123	
Ethylbenzene	ug/L	20	19.0	95	76-123	
Toluene	ug/L	20	18.4	92	75-123	
Xylene (Total)	ug/L	60	56.5	94	76-123	
1,2-Dichloroethane-d4 (S)	%			114	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			112	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

QC Batch: WET/37332 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004

METHOD BLANK: 1067517 Matrix: Water
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	09/26/12 14:23	

SAMPLE DUPLICATE: 1067518

Parameter	Units	60129472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	988	989	0	17	

SAMPLE DUPLICATE: 1067519

Parameter	Units	60129673004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1200	1	17	

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QUALITY CONTROL DATA

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

QC Batch: WETA/21858 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004

METHOD BLANK: 1071943 Matrix: Water
Associated Lab Samples: 60129643001, 60129643002, 60129643003, 60129643004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/03/12 12:00	

LABORATORY CONTROL SAMPLE: 1071944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	

MATRIX SPIKE SAMPLE: 1071238

Parameter	Units	60129584001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	ND	500	500	84	64-118	

MATRIX SPIKE SAMPLE: 1071239

Parameter	Units	60129866006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	142	100	227	85	64-118	

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QUALIFIERS

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/48823

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RANDLEMAN NO 1
Pace Project No.: 60129643

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129643001	**GW-074933-092012-JP-MW-1**	EPA 3010	MPRP/19622	EPA 6010	ICP/16166
60129643002	**GW-074933-092012-JP-MW-2**	EPA 3010	MPRP/19622	EPA 6010	ICP/16166
60129643003	**GW-074933-092012-JP-MW-3**	EPA 3010	MPRP/19622	EPA 6010	ICP/16166
60129643004	**GW-074933-092012-JP-MW-4**	EPA 3010	MPRP/19622	EPA 6010	ICP/16166
60129643001	**GW-074933-092012-JP-MW-1**	EPA 8260	MSV/48823		
60129643002	**GW-074933-092012-JP-MW-2**	EPA 8260	MSV/48823		
60129643003	**GW-074933-092012-JP-MW-3**	EPA 8260	MSV/48823		
60129643004	**GW-074933-092012-JP-MW-4**	EPA 8260	MSV/48823		
60129643005	**TB-074933-092012**	EPA 8260	MSV/48823		
60129643006	**GW-074933-092012-JP-DUP**	EPA 8260	MSV/48823		
60129643001	**GW-074933-092012-JP-MW-1**	SM 2540C	WET/37332		
60129643002	**GW-074933-092012-JP-MW-2**	SM 2540C	WET/37332		
60129643003	**GW-074933-092012-JP-MW-3**	SM 2540C	WET/37332		
60129643004	**GW-074933-092012-JP-MW-4**	SM 2540C	WET/37332		
60129643001	**GW-074933-092012-JP-MW-1**	EPA 300.0	WETA/21858		
60129643002	**GW-074933-092012-JP-MW-2**	EPA 300.0	WETA/21858		
60129643003	**GW-074933-092012-JP-MW-3**	EPA 300.0	WETA/21858		
60129643004	**GW-074933-092012-JP-MW-4**	EPA 300.0	WETA/21858		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information		**Section B** Required Project Information		**Section C** Invoice Information:	
Company:	COP CRA NM	Report To:	Christine Mathews	Attention:	ENFOS
Address:	6121 Indian School Rd NE, Ste 200	Copy To:	Kelly Blanchard, Angela Bown	Company Name:	
	Albequerque, NM 87110			Address:	
Email To:	cmathews@craworld.com	Purchase Order No.:	4515860228	Pace Quote Reference:	
Phone:	(505)884-0672 Fax (505)884-4932	Project Name:	Randleman No. 1	Pace Project Manager:	Alice Flanagan
Requested Due Date/TAT:	standard	Project Number:	074933	Pace Profile #:	5514, 4

REGULATORY AGENCY

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

Site Location STATE: NM

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	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	6010 Dissolved Mn		Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 6029643
1	GW-074933-092012-JP-MW-1	WT	G			9-20-12	1445		[illegible]	[illegible]		X	X						X		X	X	X	3 0Ga H		2B834 1BP3N 14 001
2	GW-074933-092012-JP-MW-2	WT	G			9-20-12	1500		6	X		X	X						X		X	X	X			002
3	GW-074933-092012-JP-MW-3	WT	G			9-20-12	1515		6	X		X	X						X		X	X	X			003
4	GW-074933-092012-JP-MW-4	WT	G			9-20-12	1400		6	X		X	X						X		X	X	X			004
5	TB-074933-092112	WT	G			9-21-12	1100		2				X						X					2 0Ga H		005
6	GW-074933-092012-JP-DUP	WT	G			9-20-12	1510		3				X						X					3 0Ga H		006
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Sarah Fickett / CRA	9-21-2012	1200	[signature]	9/22	0850	3.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sarah Fickett

SIGNATURE of SAMPLER: Sarah Fickett

DATE Signed (MM/DD/YY): 09/21/2012

*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 NM Project #: 60129643

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

Tracking #: 8006 9527 2562 Pace Shipping Label Used? Yes ☐ No ☑

Optional
Proj Due Date: 10/4
Proj Name:

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☑ None ☐ Other ☑ zip/c

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

Cooler Temperature: 3-2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 9/22/12

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: NT		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): 080612-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. 2of2 DGH TB
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

Start: 1448	Start:
End: 1450	End:
Temp:	Temp:

Project Manager Review: APM Date: 9/24/12

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).

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(913)599-5665

December 27, 2012

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

RE: Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on December 13, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

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

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SAMPLE SUMMARY

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60135336001	**GW-074933-121212-CM-MW-2**	Water	12/12/12 10:15	12/13/12 08:30
60135336002	**GW-074933-121212-CM-MW-4**	Water	12/12/12 10:35	12/13/12 08:30
60135336003	**GW-074933-121212-CM-MW-1**	Water	12/12/12 10:50	12/13/12 08:30
60135336004	**GW-074933-121212-CM-MW-2**	Water	12/12/12 11:20	12/13/12 08:30
60135336005	**GW-074933-121212-CM-DUP**	Water	12/12/12 10:20	12/13/12 08:30
60135336006	**TB-074933-121212-CM-001**	Water	12/12/12 11:30	12/13/12 08:30

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SAMPLE ANALYTE COUNT

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60135336001	**GW-074933-121212-CM-MW-2**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	2
60135336002	**GW-074933-121212-CM-MW-4**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	2
60135336003	**GW-074933-121212-CM-MW-1**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	2
60135336004	**GW-074933-121212-CM-MW-2**	EPA 6010	JGP	1
		EPA 8260	PRG	9
		SM 2540C	FJF	1
		EPA 300.0	AJM	2
60135336005	**GW-074933-121212-CM-DUP**	EPA 8260	PRG	9
60135336006	**TB-074933-121212-CM-001**	EPA 8260	PRG	9

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PROJECT NARRATIVE

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 27, 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.

Additional Comments:

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PROJECT NARRATIVE

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 27, 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/50915

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

QC Batch: MSV/50916

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

Additional Comments:

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PROJECT NARRATIVE

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 27, 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: 074933 Randleman No. 1
Pace Project No.: 60135336

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 27, 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.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Sample: GW-074933-121212-CM-MW-2 **Lab ID: 60135336001** Collected: 12/12/12 10:15 Received: 12/13/12 08:30 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	**1220**	ug/L	5.0	0.60	1	12/19/12 14:45	12/26/12 16:20	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**10.6**	ug/L	1.0	0.098	1		12/20/12 02:31	71-43-2	
Ethylbenzene	**14.7**	ug/L	1.0	0.23	1		12/20/12 02:31	100-41-4	
Toluene	**67.0**	ug/L	1.0	0.15	1		12/20/12 02:31	108-88-3	
Xylene (Total)	**99.1**	ug/L	3.0	0.41	1		12/20/12 02:31	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	105	%	80-120		1		12/20/12 02:31	1868-53-7	
Toluene-d8 (S)	111	%	80-120		1		12/20/12 02:31	2037-26-5	
4-Bromofluorobenzene (S)	110	%	80-120		1		12/20/12 02:31	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	80-120		1		12/20/12 02:31	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/20/12 02:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2040**	mg/L	5.0	5.0	1		12/18/12 12:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**40.3**	mg/L	10.0	5.0	10		12/15/12 01:13	16887-00-6	
Sulfate	**1160**	mg/L	100	5.9	100		12/17/12 15:34	14808-79-8	

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ANALYTICAL RESULTS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Sample: GW-074933-121212-CM-MW-4 **Lab ID: 60135336002** Collected: 12/12/12 10:35 Received: 12/13/12 08:30 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	**1510**	ug/L	5.0	0.60	1	12/19/12 14:45	12/26/12 16:23	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.098	1		12/20/12 03:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/20/12 03:29	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		12/20/12 03:29	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		12/20/12 03:29	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	80-120		1		12/20/12 03:29	1868-53-7	
Toluene-d8 (S)	109	%	80-120		1		12/20/12 03:29	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1		12/20/12 03:29	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120		1		12/20/12 03:29	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/20/12 03:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**8830**	mg/L	5.0	5.0	1		12/18/12 12:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2460**	mg/L	500	250	500		12/17/12 15:50	16887-00-6	
Sulfate	**3250**	mg/L	500	29.5	500		12/17/12 15:50	14808-79-8	

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ANALYTICAL RESULTS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Sample: GW-074933-121212-CM-MW-1 **Lab ID: 60135336003** Collected: 12/12/12 10:50 Received: 12/13/12 08:30 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	**22.7**	ug/L	5.0	0.60	1	12/19/12 14:45	12/26/12 16:27	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.098	1		12/20/12 03:43	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/20/12 03:43	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		12/20/12 03:43	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		12/20/12 03:43	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	107	%	80-120		1		12/20/12 03:43	1868-53-7	
Toluene-d8 (S)	106	%	80-120		1		12/20/12 03:43	2037-26-5	
4-Bromofluorobenzene (S)	95	%	80-120		1		12/20/12 03:43	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	80-120		1		12/20/12 03:43	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/20/12 03:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3100**	mg/L	5.0	5.0	1		12/18/12 12:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**99.1**	mg/L	10.0	5.0	10		12/15/12 01:47	16887-00-6	
Sulfate	**1850**	mg/L	200	11.8	200		12/17/12 16:07	14808-79-8	

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ANALYTICAL RESULTS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Sample: GW-074933-121212-CM-MW-2 **Lab ID: 60135336004** Collected: 12/12/12 11:20 Received: 12/13/12 08:30 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	**509**	ug/L	5.0	0.60	1	12/19/12 14:45	12/26/12 16:37	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**13.7**	ug/L	1.0	0.098	1		12/20/12 03:58	71-43-2	
Ethylbenzene	**44.2**	ug/L	1.0	0.23	1		12/20/12 03:58	100-41-4	
Toluene	**13.2**	ug/L	1.0	0.15	1		12/20/12 03:58	108-88-3	
Xylene (Total)	**61.3**	ug/L	3.0	0.41	1		12/20/12 03:58	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	107	%	80-120		1		12/20/12 03:58	1868-53-7	
Toluene-d8 (S)	105	%	80-120		1		12/20/12 03:58	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		1		12/20/12 03:58	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120		1		12/20/12 03:58	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/20/12 03:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2650**	mg/L	5.0	5.0	1		12/18/12 12:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**72.1**	mg/L	10.0	5.0	10		12/15/12 02:04	16887-00-6	
Sulfate	**1550**	mg/L	200	11.8	200		12/17/12 16:24	14808-79-8	

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ANALYTICAL RESULTS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Sample: GW-074933-121212-CM-DUP **Lab ID: 60135336005** Collected: 12/12/12 10:20 Received: 12/13/12 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260								
Benzene	**10.3**	ug/L	1.0	0.098	1		12/20/12 04:12	71-43-2	
Ethylbenzene	**15.6**	ug/L	1.0	0.23	1		12/20/12 04:12	100-41-4	
Toluene	**66.2**	ug/L	1.0	0.15	1		12/20/12 04:12	108-88-3	
Xylene (Total)	**98.4**	ug/L	3.0	0.41	1		12/20/12 04:12	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99	%	80-120		1		12/20/12 04:12	1868-53-7	
Toluene-d8 (S)	107	%	80-120		1		12/20/12 04:12	2037-26-5	
4-Bromofluorobenzene (S)	111	%	80-120		1		12/20/12 04:12	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	80-120		1		12/20/12 04:12	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/20/12 04:12		

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ANALYTICAL RESULTS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Sample: TB-074933-121212-CM-001 **Lab ID: 60135336006** Collected: 12/12/12 11:30 Received: 12/13/12 08:30 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	0.098	1		12/20/12 04:27	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/20/12 04:27	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		12/20/12 04:27	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		12/20/12 04:27	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99	%	80-120		1		12/20/12 04:27	1868-53-7	
Toluene-d8 (S)	106	%	80-120		1		12/20/12 04:27	2037-26-5	
4-Bromofluorobenzene (S)	97	%	80-120		1		12/20/12 04:27	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	80-120		1		12/20/12 04:27	17060-07-0	
Preservation pH	**1.0**		1.0	0.10	1		12/20/12 04:27		

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QUALITY CONTROL DATA

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

QC Batch: MPRP/20910 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

METHOD BLANK: 1117297 Matrix: Water
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	12/26/12 15:46	

LABORATORY CONTROL SAMPLE: 1117298

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1117299 1117300

Parameter	Units	60135324001 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	979	1000	1000	1950	1920	97	94	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

QC Batch: MSV/50915
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60135336001

METHOD BLANK: 1117217 Matrix: Water
Associated Lab Samples: 60135336001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/19/12 21:43	
Ethylbenzene	ug/L	ND	1.0	12/19/12 21:43	
Toluene	ug/L	ND	1.0	12/19/12 21:43	
Xylene (Total)	ug/L	ND	3.0	12/19/12 21:43	
1,2-Dichloroethane-d4 (S)	%	106	80-120	12/19/12 21:43	
4-Bromofluorobenzene (S)	%	98	80-120	12/19/12 21:43	
Dibromofluoromethane (S)	%	97	80-120	12/19/12 21:43	
Toluene-d8 (S)	%	110	80-120	12/19/12 21:43	

LABORATORY CONTROL SAMPLE: 1117218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	102	74-123	
Ethylbenzene	ug/L	20	22.5	113	76-123	
Toluene	ug/L	20	23.0	115	75-123	
Xylene (Total)	ug/L	60	68.4	114	76-123	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Dibromofluoromethane (S)	%			106	80-120	
Toluene-d8 (S)	%			107	80-120	

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QUALITY CONTROL DATA

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

QC Batch: MSV/50916 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60135336002, 60135336003, 60135336004, 60135336005, 60135336006

METHOD BLANK: 1117219 Matrix: Water
Associated Lab Samples: 60135336002, 60135336003, 60135336004, 60135336005, 60135336006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/20/12 03:14	
Ethylbenzene	ug/L	ND	1.0	12/20/12 03:14	
Toluene	ug/L	ND	1.0	12/20/12 03:14	
Xylene (Total)	ug/L	ND	3.0	12/20/12 03:14	
1,2-Dichloroethane-d4 (S)	%	104	80-120	12/20/12 03:14	
4-Bromofluorobenzene (S)	%	99	80-120	12/20/12 03:14	
Dibromofluoromethane (S)	%	107	80-120	12/20/12 03:14	
Toluene-d8 (S)	%	106	80-120	12/20/12 03:14	

LABORATORY CONTROL SAMPLE: 1117220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.0	105	74-123	
Ethylbenzene	ug/L	20	22.5	112	76-123	
Toluene	ug/L	20	22.9	115	75-123	
Xylene (Total)	ug/L	60	67.6	113	76-123	
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			99	80-120	
Toluene-d8 (S)	%			104	80-120	

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QUALITY CONTROL DATA

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

QC Batch: WET/38853 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

METHOD BLANK: 1116277 Matrix: Water
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	12/18/12 11:59	

SAMPLE DUPLICATE: 1116278

Parameter	Units	60135274001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	449	430	4	17	

SAMPLE DUPLICATE: 1116279

Parameter	Units	60135336001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2040	2020	1	17	

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QUALITY CONTROL DATA

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

QC Batch: WETA/22895 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

METHOD BLANK: 1114581 Matrix: Water
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	12/14/12 19:23	
Sulfate	mg/L	ND	1.0	12/14/12 19:23	

METHOD BLANK: 1115797 Matrix: Water
Associated Lab Samples: 60135336001, 60135336002, 60135336003, 60135336004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	12/17/12 12:47	
Sulfate	mg/L	ND	1.0	12/17/12 12:47	

LABORATORY CONTROL SAMPLE: 1114582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 1115798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Sulfate	mg/L	5	4.8	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1114583 1114584

Parameter	Units	60135296010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.7	5	5	7.8	7.9	102	103	64-118	1	12	
Sulfate	mg/L	151	100	100	238	238	87	87	61-119	0	10	

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QUALIFIERS

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/50915

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

Batch: MSV/50916

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074933 Randleman No. 1
Pace Project No.: 60135336

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60135336001	**GW-074933-121212-CM-MW-2**	EPA 3010	MPRP/20910	EPA 6010	ICP/16950
60135336002	**GW-074933-121212-CM-MW-4**	EPA 3010	MPRP/20910	EPA 6010	ICP/16950
60135336003	**GW-074933-121212-CM-MW-1**	EPA 3010	MPRP/20910	EPA 6010	ICP/16950
60135336004	**GW-074933-121212-CM-MW-2**	EPA 3010	MPRP/20910	EPA 6010	ICP/16950
60135336001	**GW-074933-121212-CM-MW-2**	EPA 8260	MSV/50915		
60135336002	**GW-074933-121212-CM-MW-4**	EPA 8260	MSV/50916		
60135336003	**GW-074933-121212-CM-MW-1**	EPA 8260	MSV/50916		
60135336004	**GW-074933-121212-CM-MW-2**	EPA 8260	MSV/50916		
60135336005	**GW-074933-121212-CM-DUP**	EPA 8260	MSV/50916		
60135336006	**TB-074933-121212-CM-001**	EPA 8260	MSV/50916		
60135336001	**GW-074933-121212-CM-MW-2**	SM 2540C	WET/38853		
60135336002	**GW-074933-121212-CM-MW-4**	SM 2540C	WET/38853		
60135336003	**GW-074933-121212-CM-MW-1**	SM 2540C	WET/38853		
60135336004	**GW-074933-121212-CM-MW-2**	SM 2540C	WET/38853		
60135336001	**GW-074933-121212-CM-MW-2**	EPA 300.0	WETA/22895		
60135336002	**GW-074933-121212-CM-MW-4**	EPA 300.0	WETA/22895		
60135336003	**GW-074933-121212-CM-MW-1**	EPA 300.0	WETA/22895		
60135336004	**GW-074933-121212-CM-MW-2**	EPA 300.0	WETA/22895		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO#: 60135336

60135336

Client Name: COP CRA NM

Optional
Proj Due Date:
Proj Name: Randleman No. 1

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

Tracking #: 9011 3631 7084 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 ☒ zip

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

Cooler Temperature: 1-3

Date and initials of person examining contents: AV 12-13-12

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 102912-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AAF Date: 12/13/12

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

Start: 1230	Start:
End: 1235	End:
Temp:	Temp:

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information		Section B Required Project Information:		Section C Invoice Information:	
Company:	COP CRA NM	Report To:	Christine Mathews	Attention:	ENFOS
Address:	6121 Indian School Rd NE, Ste 200	Copy To:	Kelly Blanchard, Angela Bown, Cassie Brown	Company Name:	
	Albequerque, NM 87110			Address:	
Email To:	cmathews@craworld.com	Purchase Order No:		Pace Quote Reference:	
Phone:	(505)884-0672 Fax: (505)884-4932	Project Name:	Randleman No. 1	Pace Project Manager:	Alice Flanagan
Requested Due Date/TAT:	standard	Project Number:	074933	Pace Profile #:	5514, 4

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

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	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	Y/N	Analysis Test: 8260 BTEX	300.0 Sulfate	300.0 Chloride	2540 TDS	6010 Dissolved Mn				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
	Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS																										60135336
1	GW-074933-121212-CM-MW-2	WT	G	12/12/12	1015			1.5	6	X		X	X						X	X	X	X	X				1.5	001
2	GW-074933-121212-CM-MW-4	WT	G			12/12/12	1035		6	X		X	X						X	X	X	X	X					002
3	GW-074933-121212-CM-MW-1	WT	G			12/12/12	1050		6	X		X	X						X	X	X	X	X					003
4	GW-074933-121212-CM-MW-2	WT	G			12/12/12	1120		6	X		X	X						X	X	X	X	X					004
5	GW-074933-121212-CM-DUP	WT	G			12/12/12	1020		3				X						X									005
6	TB-074933-121212-CM-001	WT				12/12/12	1130		3				X						X									006
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	CRA	12/12/12	1530		12-13	0830	1-3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 12/12/12

*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