# 3R - 090

# GWMR

# JUN 2013



# 2012 QUARTERLY GROUNDWATER MONITORING REPORT

# CONOCOPHILLIPS NELL HALL No. 1 SAN JUAN COUNTY, NEW MEXICO API# 30-045-09619 NMOCD# 3R-090

**Prepared For:** 

# **CONOCOPHILLIPS COMPANY**

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#### 1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring events conducted by Conestoga-Rovers & Associates (CRA) on March 7, 2012, June 4, 2012, September 20, 2012, and December 28, 2012 at the ConocoPhillips Company (ConocoPhillips), Nell Hall No. 1 remediation site (Site), located on private land in Section 07, Township 30N, Range 11W of San Juan County, New Mexico, approximately 2 miles west of the city of Aztec. Geographical coordinates for the Site are 36.821659° North, 108.037319° West. The Site consists of a natural gas well and associated equipment. The location and Site layout are presented as **Figures 1** and **2**, respectively.

# 1.1 <u>BACKGROUND</u>

The history of the Site is presented in **Table 1** and is summarized in the following paragraphs.

Environmental investigation at the Site began when closure of an unlined dehydrator discharge pit was attempted in the early 1990's. Soil impacts were discovered during earthmoving activities and groundwater Monitor Wells MW-1, MW-2, and MW-3 were subsequently installed to determine if hydrocarbons had impacted groundwater beneath the Site. An ongoing drought caused the water table to fall below the screened intervals of MW-1, MW-2, and MW-3. On February 17 and 18, 2004, Souder Miller and Associates (SMA) installed Monitor Wells MW-4, MW-5, and MW-6 at sufficient depths to intersect the water table and to account for the effects of further seasonal or drought-based water table fluctuations (Souder Miller and Associates, 2004). Boring log data from MW-4 and MW-6 were used to create a geologic cross-section for the Site (**Figure 3**).

Tetra Tech, Inc. (Tetra Tech) began quarterly sampling of Monitor Wells MW-4, MW-5, and MW-6 in 2004, and then adjusted the sampling schedule to a semi-annual basis in 2005, and then annually beginning in 2006. Semi-annual sampling was resumed in 2007 due to seasonal groundwater fluctuations.

It should be noted that the March 2004 groundwater sample was collected immediately following installation of MW-6 in February 2004, in which soil samples collected at 25 and 30 feet below ground surface each resulted in an exceedence of the 50 milligram per kilogram (mg/kg) regulatory limit for BTEX, and soil samples collected at 25, 30, and 35 feet bgs were found to contain total petroleum hydrocarbons (TPH) at levels greater than the 100 mg/kg regulatory limit (SMA, 2004).

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

#### 2.0 GROUNDWATER MONITORING METHODOLOGY AND ANALYTICAL RESULTS

#### 2.1 <u>GROUNDWATER MONITORING METHODOLOGY</u>

#### Groundwater Elevation Measurements

Depth to groundwater was gauged at Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 using an oil/water interface probe prior to sampling. Groundwater elevations were recorded in a hard bound field book and on CRA well sampling field information forms (**Appendix A**) and are presented in **Table 2**.

Groundwater potentiometric surface maps detailing groundwater elevations, groundwater flow direction, and gradient, using data collected during the 2012 quarterly sampling events are presented as **Figures 4**, **5**, **6** and **7**, respectively.

Hydrographs illustrating groundwater level fluctuations since March 2004 in Monitor Wells MW-5 and MW-6 are presented as **Figure 8** and **Figure 9**, respectively. These data indicate that groundwater elevations are consistently lowest during the late winter and early spring months. Historically, the groundwater flow direction and gradient vary from season to season. These fluctuations are believed to be the result of changes in irrigation rates and/or baseflow conditions in the Animas River, which, at its closest point, lies approximately 0.6 mile to the south/southeast of the Site (**Figure 1**). Additionally, there is an irrigation ditch to the east of the site which may also influence groundwater gradient. Annual variation in groundwater elevation fluctuates approximately 18 feet over the course of a year. Groundwater flow direction at the site also varies in direction from south to southeast.

### Groundwater Sampling

Groundwater samples were collected from Monitor Wells MW-4, MW-5 and MW-6 during the 2012 sampling events. Approximately three well volumes were purged from each monitor well with a dedicated, polyethylene, 1.5-inch, disposable bailer prior to sampling or monitor wells were bailed dry and sampled following recharge. Purge water generated during the event was disposed of in the on-site produced water tank (**Figure 2**). 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.

The samples were analyzed for the presence of benzene, toluene, ethylbenzene and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260 and for dissolved iron by EPA Method 6010.

#### 2.2 GROUNDWATER MONITORING ANALYTICAL RESULTS

The New Mexico Water Quality Control Commission (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 0.01 milligrams per liter (mg/L). The groundwater sample collected in March 2012 from Monitor Well MW-6 exceeded this standard with a concentration of 0.0477 mg/L.

#### **Dissolved** Iron

• The groundwater quality standard for dissolved iron is 1.0 mg/L. The groundwater sample collected in March 2012 from Monitor Well MW-6 was found to contain dissolved iron at a concentration of 22.50 mg/L.

#### <u>June 2012</u>

#### Benzene

 The NMWQCC domestic water supply groundwater quality standard for benzene is 0.01 milligrams per liter (mg/L). The groundwater sample collected in June 2012 from Monitor Well MW-6 exceeded this standard with a concentration of 0.649 mg/L.

#### **Dissolved** Iron

The groundwater quality standard for dissolved iron is 1.0 mg/L. The groundwater samples collected in June 2012 from Monitor Wells MW-4 and MW-6 contained dissolved iron at concentrations of 1.17 mg/L and 19.20 mg/L, respectively.

#### September 2012

#### Benzene

• The NMWQCC domestic water supply groundwater quality standard for benzene is 0.01 milligrams per liter (mg/L). The groundwater sample collected in September 2012 from Monitor Well MW-6 exceeded this standard with a concentration of 0.266 mg/L.

#### **Dissolved** Iron

• The groundwater quality standard for dissolved iron is 1.0 mg/L. The groundwater sample collected in September 2012 from Monitor Well MW-6 contained dissolved iron at a concentration of 9.53 mg/L.

#### December 2012

#### Benzene

 The NMWQCC domestic water supply groundwater quality standard for benzene is 0.01 milligrams per liter (mg/L). The groundwater sample collected in December 2012 from Monitor Well MW-6 exceeded this standard with a concentration of 0.319 mg/L.

### **Dissolved Iron**

• The groundwater quality standard for dissolved iron is 1.0 mg/L. The groundwater sample collected in December 2012 from Monitor Well MW-6 contained dissolved iron at a concentration of 8.06 mg/L.

Benzene concentrations in MW-6 have fluctuated regularly since monitoring began in March 2004. An inverse correlation between water levels and benzene concentrations was observed in the past. A graph detailing this relationship is presented as **Figure 10**.

Benzene concentration maps for 2012 quarterly sampling events are presented as **Figures 11, 12, 13** and **14**, respectively.

A summary of historical laboratory analytical results is presented as **Table 3**. Groundwater laboratory analytical reports can be found in **Appendix B**.

#### 3.0 <u>CONCLUSIONS AND RECOMMENDATIONS</u>

Based on the detection of BTEX and dissolved iron in MW-6 during 2012 quarterly sampling events, CRA recommends continued groundwater quality monitoring for BTEX and dissolved iron in order to move toward remediation Site closure with NMOCD. Remediation Site closure will be requested when all groundwater quality parameters are below NMWQCC groundwater quality standards, are stable, or are representative of background conditions at the Site.

All Site monitor wells will be gauged quarterly. Monitor Wells MW-4, MW-5, and MW-6 will be sampled when possible due to the fluctuating groundwater levels at the Site.

In addition to future groundwater sampling at the site, CRA recommends the installation of additional monitor wells to further delineate groundwater impacts associated with Monitor Well MW-6. A total of three additional monitor wells are being recommended with location of the wells to the west, south, and southeast of MW-6. Proposed boring locations for additional monitor well installation are presented on **Figure 15**.

## 4.0 <u>REFERENCES</u>

Souder Miller and Associates (2004). *Nell Hall Monitor Well Installation Report*. Prepared for ConocoPhillips Company Report Dated May 7. 64 pp.

FIGURES



074941-95(003)GN-DL004 DEC 7/2011



ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL001 DEC 7/2011



074941-95(003)GN-DL003 DEC 7/2011



MARCH 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL002 JUN 11/2013



JUNE 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL002 AUG 08/2012



SEPTEMBER 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL002-GG NOV 2/2012



DECEMBER 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL002 JUN 11/2013









MARCH 2012 BENZENE CONCENTRATION MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 



JUNE 2012 BENZENE CONCENTRATION MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 



SEPTEMBER 2012 BENZENE CONCENTRATION MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL005 JUN 11/2013



DECEMBER 2012 BENZENE CONCENTRATION MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074941-95(003)GN-DL005 JUN 11/2013



ConocoPhillips high resolution aerial imagery 2008.

Figure 15



PROPOSED MONITOR WELL LOCATION MAP NELL HALL NO. 1 NATURAL GAS WELL SITE SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

#### SITE HISTORY TIMELINE CONOCO PHILLIPS COMPANY NELL HALL NO. 1 SAN JUAN COUNTY

Date/Time Period	Event/Action	Description/Comments				
February 20, 1961	Well Spudded	Southwest Production Company spudded the Nell Hall No. 1 natural gas production well.				
September 1, 1963	Operator Change	Beta Development Company acquired the Nell Hall No. 1 site from Southwest Production Company.				
September 15, 1988	Operator Change	Mesa Operating Limited Partnership acquired the Nell Hall No. 1 site from Beta Development Company.				
July 1, 1991	Operator Change	Conoco Inc. acquired the Nell Hall No. 1 from Mesa Operating Limited Partnership.				
May 3, 1994	Pit Remediation	Conoco stopped flow to the dehydrator, sampled the soil in the unlined dehydrator pit and encountered hydrocarbon-impacted soil.				
August 31 through September 1, 1994	Pit Remediation	Conoco removed the dehydrator and Flint Engineering & Construction Co. excavated soil in the vicinity of the former dehydrator pit to a depth of 16 feet. A soil sample at the bottom of the excavation revealed TPH of 380 ppm.				
September 21 through October 7, 1994	Pit Remediation	Flint Engineering & Construction Co. landfarmed the excavated soil on site.				
June 1 and 2, 1995	Soil Borings and Groundwater Sampling	Phillip Environmental Services Corp. completed initial subsurface assessment (3 temporary monitor wells and 3 additional borings).				
June 15, 1995	Soil Borings and Groundwater Sampling	Phillip Environmental Services Corp. completed an additional soil boring.				
March 27, 1997	Monitor Well Sampling	On Site Technologies, LTD found insufficient water in the 3 monitor wells for sampling.				
June 19, 2002	Groundwater sampling	Souder Miller and Associates (SMA) conducted groundwater sampling at the Site. Samples were collected from MW-1, and sparge points SP-6, SP-7 and SP-8. The only constituent over the NMWQCC standard was benzene in SP-7 at a concentration of 0.018, milligrams per liter (mg/L).				
September 17, 2002	Groundwater sampling	SMA conducted groundwater sampling at the Site. Samples were collected from MW-1, and sparge points SP-6, SP-7 and SP-8. The only constituent over the NMWQCC standard was benzene in SP-7 at a concentration of 0.021 mg/L.				
January 1, 2003	Operator Name Change	Conoco Inc. and Phillips Petroleum Company merged to form ConocoPhillips Company.				
February 17 and 18, 2004	Monitor Well Installation	Monitor Wells MW-4, MW-5, and MW-6 were installed at deeper depths (35 to 39 feet BGS) to adequately intersect the water table, since previously installed groundwater monitoring wells continually went dry. The lowest water levels at the site are found to occur in early spring and late winter. 30 to 35 feet of screen was installed in each well to allow for seasonal groundwater fluctuations of up to 25 feet.				
March 8 through December 27, 2004	Monitor Well Sampling	Quarterly groundwater sampling of Monitor Wells MW-4, MW-5, and MW-6; benzene spike in March (MW-6) coincides with MW-6 well installation and discovery of BTEX and TPH impacts to soil at 25-35 feet bgs in MW-6 soil samples collected during drilling.				
May 11 through November 22, 2005	Monitor Well Sampling	Semi-annual sampling of monitor wells MW-4, MW-5, and MW-6.				
November 15, 2006	Monitor Well Sampling	Annual sampling of monitor wells MW-4, MW-5, and MW-6.				
February 21, 2007 through October 22, 2008	Monitor Well Sampling	Resumption of semi-annual sampling of Monitor Wells MW-4, MW-5, and MW-6 during summer and fall months when water is most likely to be present in wells.				
February 6, 2009	BTEX vs. depth to water plotted for MW-6	BTEX concentrations show inverse relationship to water column thickness in MW-6; plotted from $2/21/07$ to $10/22/08$ .				
March 30, 2009	Monitor Well sampling	Monitor Wells MW-5 and MW-6 were sampled. MW-4 was found to be dry during the sampling event. Benzene was reported at a concentration above the groundwater quality standard in MW-6 with a concentration of 0.042 mg/L.				
September 30, 2009	Monitor Well Sampling	Groundwater samples were collected from MW-4, MW-5 and MW-6. MW-6 indicated a benzene concentration of 0.096 mg/L and a dissolved iron concentration of 1.06 mg/L.				
March 31 and April 1, 2010	Monitor Well Sampling	Groundwater samples collected from MW-5 and MW-6; MW-4 was dry. MW-6 indicated a benzene concentration of 0.480 mg/L and a sample for dissolved iron was not obtained due to low water levels in MW-6.				

#### SITE HISTORY TIMELINE CONOCO PHILLIPS COMPANY NELL HALL NO. 1 SAN JUAN COUNTY

Date/Time Period	Event/Action	Description/Comments				
June 9, 2010	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6 as a continuation of semi-annual sampling event. MW-6 indicated a benzene concentration of 0.710 mg/L and a dissolved iron concentration of 11.4 mg/L.				
September 27, 2010	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. MW-6 indicated a benzene concentration of 0.30 mg/L and a dissolved iron concentration of 0.676 mg/L.				
March 16, 2011	Monitor Well Sampling	Groundwater samples collected from MW-5 and MW-6. MW-4 was observed to be dry during this monitoring event. Laboratory analysis of the groundwater sample from MW-6 indicated a benzene concentration of 0.18 mg/L and a dissolved iron concentration of 8.66 mg/L; however, during the March 2011 sampling event MW-6 contained a very low volume of water and the sample collected may not be representative of actual aquifer conditions.				
June 15, 2011	Transfer of Consulting Responsibilities to CRA	On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to CRA of Albuquerque, NM.				
June 21, 2011	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.461 mg/L, a xylenes concentration of 0.677 mg/L, and a dissolved iron concentration of 9.45 mg/L.				
September 27, 2011	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.237 mg/L, and a dissolved iron concentration of 19.6 mg/L.				
December 13, 2011	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.298 mg/L, and a dissolved iron concentration of 11.6 mg/L.				
March 7, 2012	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.0477 mg/L, and a dissolved iron concentration of 22.50 mg/L.				
June 4, 2012	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.649 mg/L, and a dissolved iron concentration of 19.2 mg/L. The sample from MW-4 indicated a dissolved iron concentration of 1.17 mg/L.				
September 20, 2012	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.266 mg/L, and a dissolved iron concentration of 9.53 mg/L.				
December 28, 2012	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. Groundwater sampled from MW-6 indicated a benzene concentration of 0.319 mg/L, and a dissolved iron concentration of 8.06 mg/L.				

#### MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS CONOCOPHILLIPS COMPANY NELL HALL NO. 1 SAN JUAN COUNTY, NM

Well ID	Total Depth (ft below TOC)	Surface Elevation (amsl)	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level	
	<i>() · · · · · · · · · · · /</i>	(	y = -8=/	5/10/2005	DRY	NA	
				10/20/2005	19.25	5596.47	
				11/22/2005	24.15	5591.57	
				5/17/2006	NM	NM	
				11/15/2006	21.40	5594.32	
				2/19/2007	DRY	NA	
				5/14/2007	24.85	5590.87	
		5615.72		8/22/2007	24.61	5591.11	
				11/6/2007	20.87	5594.85	
				3/17/2008	DRY	NA	
				10/22/2008	19.38	5596.34	
NAV 1	20 55		I I a lua anna	3/30/2009	28.25	5587.47	
10100-1	26.55		Unknown	9/30/2009	16.56	5599.16	
				3/31/2010	DRY	NA	
				6/9/2010	24.16	5591.56	
				9/27/2010	20.00	77.95	
				3/16/2011	DRY	NA	
				6/21/2011	26.80	71.15	
				9/27/2011	17.85	80.10	
		97.95		12/13/2011	25.39	72.56	
				3/7/2012	DRY	NA	
				6/4/2012	26.40	71.55	
				9/20/2012	17.57	80.38	
				12/28/2012	DRY	NA	
				5/10/2005	DRY	NA	
				10/20/2005	18.81	5596.13	
				11/22/2005	23.74	5591.20	
				5/17/2006	22.06	5592.88	
				11/15/2006	21.01	5593.93	
				2/19/2007	DRY	NA	
				5/14/2007	DRY	NA	
		5614.94		8/22/2007	18.03	5596.91	
				11/6/2007	20.43	5594.51	
				3/17/2008	DRY	NA	
				10/22/2008	18.83	5596.11	
MIAZ 2	27.22		Unknown	3/30/2009	27.15	5587.79	
10100-2	27.52		Unknown	9/30/2009	16.01	5598.93	
				3/31/2010	DRY	NA	
				6/9/2010	23.36	5591.58	
				9/27/2010	19.42	77.74	
				3/16/2011	DRY	NA	
				6/21/2011	26.43	70.73	
				9/27/2011	17.28	79.88	
		97.16		12/13/2011	25.10	72.06	
				3/7/2012	DRY	NA	
				6/4/2012	25.17	71.99	
				9/20/2012	17.30	79.86	
				12/28/2012	DRY	NA	
				5/10/2005	DRY	NA	
				10/20/2005	19.36	5596.17	
				11/22/2005	24.24	5591.29	
				5/17/2006	22.82	5592.71	
				11/15/2006	21.53	5594.00	
				2/19/2007	DRY	NA	
				5/14/2007	DRY	NA	
		5615.53		8/22/2007	18.36	5597.17	
				11/6/2007	20.95	5594.58	
				3/17/2008	DRY	NA	
				10/22/2008	19.34	5596.19	
MW-3	27.45		Unknown	3/30/2009	DRY	NA	
				9/30/2009	NM	NM	
				3/31/2010	DRY	NA	
			1	6/9/2010	23.87	5591.66	
				9/2//2010	19.93	77.84	
				3/16/2011	DRY	NA	
				6/21/2011	27.06	70.71	
		07.77		9/2//2011	17.82	/9.95	
		97.77		12/13/2011	25.66	72.11	
				3/7/2012	DRY 25.52	NA 70.21	
				6/4/2012	25.53	72.24	
				9/20/2012	17.97	79.80	
		l		12/28/2012	DRY	NA	

#### MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS CONOCOPHILLIPS COMPANY NELL HALL NO. 1 SAN JUAN COUNTY, NM

Well ID	Total Depth (ft below TOC)	Surface Elevation (amsl)	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level	
			·	3/8/2004	36.04	5578.83	
				7/19/2004	8.44	5606.43	
				10/27/2004	19.69	5595.18	
				12/27/2004	27.58	5587.29	
				5/10/2005	DRY	NA	
				10/20/2005	18.87	5596.00	
				11/22/2005	23.93	5590.94	
				5/17/2006	NM	NM	
				11/15/2006	21.02	5593.85	
		5614.87		2/19/2007	34.40	5580.47	
				5/14/2007	27.56	5587.31	
				8/22/2007	18.18	5596.69	
				11/6/2007	20.48	5594.39	
				3/17/2008	36.08	5578.79	
MW-4	37.57		7.57 - 37.57	10/22/2008	18.96	5595.91	
				3/30/2009	37.36	5577.51	
				9/30/2009	16.15	5598.72	
				3/31/2010	DRY	NA	
				6/9/2010	23.61	5591.26	
				9/27/2010	19.61	78.14	
				3/16/2011	DRY	NA	
				6/21/2011	26.79	70.96	
				9/27/2011	17.47	80.28	
		97.75		12/13/2011	25.35	72.40	
				3/7/2012	35.73	62.02	
				6/4/2012	25.39	72.36	
				9/20/2012	17.43	80.32	
				12/28/2012	28.02	69.73	
				3/8/2004	37.19	5578.67	
				7/19/2004	9.38	5606.48	
				10/27/2004	21.07	5594.79	
				12/27/2004	28.99	5586.87	
				5/10/2005	39.79	5576.07	
				10/20/2005	20.34	5595.52	
				11/22/2005	25.23	5590.63	
				5/17/2006	23.80	5592.06	
				11/15/2006	22.51	5593.35	
		5615.86		2/19/2007	35.31	5580.55	
				5/14/2007	27.59	5588.27	
				8/22/2007	19.45	5596.41	
				11/6/2007	21.94	5593.92	
	10.7		77 107	3/17/2008	37.33	5578.53	
IV1VV-5	42.7		7.7 - 42.7	10/22/2008	19.30	5596.56	
				3/30/2009	38.68	5577.18	
				9/30/2009	17.54	5598.32	
				3/31/2010	39.05	5576.81	
				6/9/2010	24.91	5590.95	
				9/27/2010	20.92	77.89	
				3/16/2011	39.25	59.56	
				6/21/2011	28.02	70.79	
				9/27/2011	18.79	80.02	
		98.81		12/13/2011	26.62	72.19	
1				3/7/2012	37.00	61.81	
				6/4/2012	26.57	72.24	
				9/20/2012	18.92	79.89	
				12/28/2012	29.37	69.44	

# MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS CONOCOPHILLIPS COMPANY NELL HALL NO. 1 SAN JUAN COUNTY, NM

Well ID	Total Depth (ft below TOC)	Surface Elevation (amsl)	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level
				3/8/2004	36.27	5579.17
				7/19/2004	9.43	5606.01
				10/27/2004	19.33	5596.11
				12/27/2004	28.62	5586.82
				5/10/2005	DRY	NA
				10/20/2005	19.94	5595.50
				11/22/2005	25.02	5590.42
				5/17/2006	NM	NM
				11/15/2006	21.12	5594.32
		5615.44		2/19/2007	34.82	5580.62
				5/14/2007	26.12	5589.32
				8/22/2007	19.41	5596.03
				11/6/2007	21.51	5593.93
MW 6	38 21		8.21 - 38.21	3/17/2008	36.34	5579.10
10100-0	30.21			10/22/2008	19.99	5595.45
				3/30/2009	37.04	5578.40
				9/30/2009	17.26	5598.18
				3/31/2010	37.24	5578.20
				6/9/2010	24.43	5591.01
				9/27/2010	20.79	77.62
				3/16/2011	DRY	NA
				6/21/2011	27.56	70.85
				9/27/2011	18.58	79.83
		98.41		12/13/2011	26.32	72.09
				3/7/2012	36.01	62.40
				6/4/2012	26.55	71.86
				9/20/2012	18.25	80.16
				12/28/2012	29.11	69.30

Notes: amsl = Above mean sea level bgs = Below ground surface ft = Feet NM = Not measured NA = Not available TOC = Top of casing \* = Top of casing elevation based on an arbitrary reference elevation of 100 feet

#### GROUNDWATER ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY NELL HALL NO. 1

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Sulfate (mg/L)	Iron (dissolved) (mg/L)	Nitrate (as N) (mg/L)
	MW-4	3/8/2004	(orig)	0.013	0.012	0.064	1.4			
	MW-4	7/19/2004	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005			
	MW-4	10/27/2004	(orig)	0.011	0.008	0.021	0.13			
	MW-4	12/27/2004	(orig)	< 0.0025	< 0.0025	< 0.0025	< 0.0005			
	MW-4	11/22/2005	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	105		< 0.40
	MW-4	11/15/2006	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	110		< 0.25
	MW-4	2/21/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	59.6		< 0.25
	MW-4	8/22/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	96.5		< 0.25
	MW-4	11/6/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	111		3.3
	MW-4	3/17/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	64.5		< 0.5
	MW-4	10/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	93.8		1.9
MW-4	MW-4	9/30/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	MW-4	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	1
	MW-4	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	GW-74941-062111-CMB-001	6/21/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030		1.21	-
	GW-074941-092711-CM-007	9/27/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.05	
	GW-074941-121311-CB-MW-4	12/13/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		0.201	
	GW-074941-3712-CB-MW-4	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.25	
	GW-074941-3712-CB-DUP	3/7/2012	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003			
	GW-074941-060412-CB-MW-4	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		1.17	
	GW-074941-092012-JP-MW-4	9/20/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.25	
	GW-074941-122812-JMK-MW4	12/28/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		0.748	
	GW-074941-122812-JMK-DUP	12/28/2012	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003			
## TABLE 3

# GROUNDWATER ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY NELL HALL NO. 1

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Sulfate (mg/L)	Iron (dissolved) (mg/L)	Nitrate (as N) (mg/L)
	MW-5	3/8/2004	(orig)	0.0011	< 0.0005	0.001	0.017			
	MW-5	7/19/2004	(orig)	< 0.0005	0.00055	< 0.0005	0.00072			
	MW-5	10/27/2004	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001			
	MW-5	12/27/2004	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001			
	MW-5	5/11/2005	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	139		2.3
	MW-5	11/22/2005	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	38		< 0.40
	MW-5	11/15/2006	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	77.9		2.3
	MW-5	2/21/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	83.3		1.3
	MW-5	8/22/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	125		5.6
	MW-5	11/6/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	59		4
	MW-5	3/17/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	69.7		0.986
	MW-5	10/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	105		0.532
MW-5	MW-5	3/30/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005			
	MW-5	9/30/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	MW-5	3/31/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	MW-5	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	MW-5	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	MW-5	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		< 0.02	
	GW-74941-062111-CMB-002	6/21/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030		< 0.1	
	GW-074941-092711-CM-005	9/27/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		0.0835	
	GW-074941-121311-CB-MW-5	12/13/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.05	
[	GW-074941-3712-CB-MW-5	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.05	
[	GW-074941-060412-CB-MW-5	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.05	
[	GW-074941-092012-JP-MW-5	9/20/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.05	
	GW-074941-122812-JMK-MW5	12/28/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003		< 0.05	

#### TABLE 3

# GROUNDWATER ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY NELL HALL NO. 1

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Sulfate (mg/L)	Iron (dissolved) (mg/L)	Nitrate (as N) (mg/L)
	MW-6	3/8/2004	(orig)	2.5	0.014	1.6	21.031			
	MW-6	7/19/2004	(orig)	< 0.0005	< 0.0005	0.00098	0.0026			
	MW-6	10/27/2004	(orig)	0.0004	0.0003	0.0005	0.0021			
	MW-6	12/27/2004	(orig)	0.045	0.0068	0.014	0.0717			
	MW-6	11/22/2005	(orig)	0.01	0.0007	0.016	0.15	3.4		< 0.40
	MW-6	11/15/2006	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	41.3		< 0.25
	MW-6	2/21/2007	(orig)	0.54	< 0.001	0.076	0.81	1.8		< 0.25
	MW-6	8/22/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008	12.6		< 0.25
	MW-6	11/6/2007	(orig)	0.015	< 0.0007	0.047	0.39	5.6		< 0.25
	MW-6	3/18/2008	(orig)	0.16	< 0.005	< 0.005	0.033			
	MW-6	10/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	5.15		< 1.0
	MW-6	3/30/2009	(orig)	0.042	< 0.005	< 0.005	0.01			
	MW-6	9/30/2009	(orig)	0.096	0.0047	0.062	0.12		1.06	
	MW-6	4/1/2010	(orig)	0.48	< 0.001	0.078	0.2			
MW-6	MW-6	6/9/2010	(orig)	0.71	< 0.001	0.42	0.52		11.4	
	MW-6	9/27/2010	(orig)	0.3	< 0.001	0.25	0.41		0.676	
	MW-6	3/16/2011	(orig)	0.18	< 0.001	0.044	0.072		8.66	
	GW-74941-062111-CMB-003	6/21/2011	(orig)	0.461	0.00048	0.454	0.677		9.45	
	GW-74941-062111-CMB-DUP	6/21/2011	(Duplicate)	0.383	0.00057	0.407	0.607			
	GW-074941-092711-CM-006	9/27/2011	(orig)	0.237	< 0.005	0.197	0.225		19.6	
	GW-074941-092711-CM-008	9/27/2011	(Duplicate)	0.249	< 0.005	0.216	0.248			
	GW-074941-121311-CB-MW-6	12/13/2011	(orig)	0.298	0.0083	0.154	0.141		11.6	
	GW-074941-121311-CB-DUP	12/13/2011	(Duplicate)	0.359	0.0061	0.19	0.183			
	GW-074941-3712-CB-MW-6	3/7/2012	(orig)	0.0477	< 0.001	0.0073	0.0192		22.5	
	GW-074941-060412-CB-MW-6	6/4/2012	(orig)	0.649	< 0.01	0.309	0.314		19.2	
	GW-074941-060412-CB-DUP	6/4/2012	(Duplicate)	0.62	< 0.01	0.267	0.266			
	GW-074941-092012-JP-MW-6	9/20/2012	(orig)	0.266	< 0.005	0.065	0.0355		9.53	
	GW-074941-092012-JP-DUP	9/20/2012	(Duplicate)	0.282	< 0.005	0.0634	0.0348			
	GW-074941-122812-JMK-MW6	12/28/2012	(orig)	0.319	< 0.005	0.0764	0.0452		8.06	
	NMWQCC Groundwater Qu	ality Standards	6	0.01	0.75	0.75	0.62	600	1	10

## **Explanation**

mg/L = milligrams per liter (parts per million) NA = Not Analyzed NMWQCC = New Mexico Water Quality Control Commission APPENDIX A

# 2012 QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM				
TE/PROJECT NAME: SAMPLE ID:	Nell Hall Ib. J JOB# 074941 CW-074941-3712-CB-MW-Y WELL# MW-4			
PURGE DATE (MM DD YY) PURGING EQUIPMENTDEDICA	Well PURGING INFORMATION         SAMPLE DATE         (MM DD YY)         (MM DD YY)         (24 HOUR)         (24 HOUR)         (Actual vol. purged (Gallons)         (Gallons)         (Gallons)         PURGING AND SAMPLING EQUIPMENT         ATED (I) N         (CHICLE ONE)			
PURGING DEVICE	C:RCLE ONE)       (CIRCLE ONE)         (CIRCLE ONE)       (CIRCLE ONE)			
SAMPLING MATERIAL	C - POLYPROPYLENE       X - OTHER       X=         SAMPLING MATERIAL OTHER (SPECIFY)       X=         A - TEFLON       D - POLYPROPYLENE       G - COMBINATION         B - TYGON       E - POLYETHYLENE       TEFLON/POLYPROPYLENE       TEFLON/POLYPROPYLENE         C - ROPE       F - SILICONE       X - OTHER       X=         A - IN-LINE DISPOSABLE       B - PRESSURE       C - VACUUM			
DEPTH TO WATER WELL DEPTH TEMPERATURE [5, 35] (°C) $[(15, 3]$ (°C) $[(15, 3]$ (°C) $[(15, 3]$ (°C) $[(15, 3]$ (°C) $[($	FIELD MEASUREMENTS         35       73       (feet)       WELL ELEVATION       97       75       (feet)         37       69       (feet)       GROUNDWATER ELEVATION       62       02       (feet)         pH       TDS       CONDUCTIVITY       ORP       VOLUME         0.90       (std)       0.505       (g/L)       709       (µS/cm)       -024.6       (mV)       0.55       (gal)         0.90       (std)       0.505       (g/L)       705       (µS/cm)       -58,4       (mV)       0.74       (gal)         0.91       (std)       0.624       (g/L)       705       (µS/cm)       -50,9       (mV)       0.74       (gal)         (std)       0.624       (g/L)       705       (µS/cm)       mV)       (gal)         (std)       (g/L)       (µS/cm)       (mV)       (gal)         (std)       (g/L)       (µS/cm)       (mV)       (gal)			
FIELD COMMENTS         FIELD COMMENTS         MEATHER CONDITIONS:       Darkic Gals, Good       Sight color:       H. g(Gy sheen y/n N         TEMPERATURE       50       Windy y/n       N       PRECIPITATION Y/N (IF Y TYPE)         SPECIFIC COMMENTS:       Image: Gale for the state of the sta				

W	WELL SAMPLING FIELD INFORMATION FORM				
ITE/PROJECT NAME: SAMPLE ID:	Nell Hall No. 1 Cur 074941-3712-C	JOB# <u>074</u> <u>B-MW-5</u> WELL# <u>M</u>	1941		
<b>3.7.1</b> PURGE DATE (MM DD YY) PURGING EQUIPMENTDEDICA	WELL PURGIN 3.7.12 SAMPLE DATE SAM (MM DD YY) (24 PURGING AND S, TED N (CIRCLE ONE)	NG INFORMATION 45 PLE TIME WATER VOL. IN CASE HOUR) (GALLONS) AMPLING EQUIPMENT SAMPLING	ACTUAL VOL. PURGED (GALLONS) EQUIPMENTDEDICATED () N (CIRCLE ONE)		
PURGING DEVICE	A - SUBMERSIBLE PUMP       D - GAS LIFT PU         B - PERISTALTIC PUMP       E - PURGE PUMP         C - BLADDER PUMP       F - DIPPER BOT         A - TEFLON       D - PVC         B - STAINLESS STEEL       E - POLYETHYL         C - POLYPROPYLENE       X - OTHER	MP G - BAILER P H - WATERRA® FLE X - OTHER ENE	X= PURGING DEVICE OTHER (SPECIFY) X= SAMPLING DEVICE OTHER (SPECIFY) X= PURGING MATERIAL OTHER (SPECIFY) X= SAMPLING MATERIAL OTHER (SPECIFY)		
PURGE TUBING	A - TEFLON D - POLYPROPY B - TYGON E - POLYETHYL C - ROPE F - SILICONE A - IN-LINE DISPOSABLE B - PR	LENE G - COMBINATION ENE TEFLON/POLYPROPYLENE X - OTHER ESSURE C - VACUUM	X= PURGE TUBING OTHER (SPECIFY) X= SAMPLING TUBING OTHER (SPECIFY)		
FIELD MEASUREMENTS         DEPTH TO WATER $37$ $00$ (feet)       WELL ELEVATION $98$ $81$ (feet)         WELL DEPTH $42$ $72$ (feet)       GROUNDWATER ELEVATION $61$ $81$ (feet)         TEMPERATURE       pH       TDS       CONDUCTIVITY       ORP       VOLUME $5.10$ $(°C)$ $7.06$ (std) $0.649$ (g/L) $806$ (us/cm) $0.7$ (mv) $2.25$ (gal) $5.26$ $(°C)$ $7.06$ (std) $0.649$ (g/L) $806$ (us/cm) $70.5$ (mv) $2.75$ (gal) $(6C)$ $7.09$ (std) $0.649$ (g/L) $806$ (us/cm) $31.7$ (mv) $2.75$ (gal) $(6C)$ $7.13$ (std) $(g/L)$ $806$ (us/cm) $31.7$ (mv)       (gal)       (gal) $(°C)$ $(std)$ $(g/L)$ $(us/cm)$ $(mv)$ (gal)       (mv)       (gal) $stheen y/k0$ $yk0dy$ $yk0dy$ $ykecipitation y/k0 if y t yye)$ $yk0dy$ <					
STREETIE COMMENTS. 5.72 K.167 ( ICERTIFY THAT SAMPLING PROCE $\frac{3.7.17}{DATE}$	3.92 $\kappa$ 3= 2.75 pures were an accordance with applicable $a_{50}$ n $1055$ RINT	CRA PROTOCOLS			

I .TE/PROIECT NAMF•	11111	191	IOR#	M74aul	
SAMPLE ID:	GW-074941	- 3812-CB-MI		MW-6	
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WELL PURGING INF SAMPLE TIME (24 HOUR) RGING AND SAMPLI	ORMATION ORMATION O.3 WATER VC (GAI NG EQUIPMENT	2 C DL. IN CASING ACTUA LLONS) ((	AL VOL. PURGED GALLONS)
PURGING EQUIPMENTDEDICATE	D 🕅 N (CIRCLE ONE)		SA	MPLING EQUIPMENTDI	EDICATED () N (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BAILER H - WATERRA® X - OTHER	X= PURGING DEVICE X= SAMPLING DEVIC	E OTHER (SPECIFY) CE OTHER (SPECIFY)
PURGING MATERIAL	A - TEFLON B - STAINLESS STEEL C - POLYPROPYLENE	D - PVC E - POLYETHYLENE X - OTHER		X= PURGING MATER X= SAMPLING MATE	IAL OTHER (SPECIFY) RIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON B - TYGON C - ROPE	D - POLYPROPYLENE E - POLYETHYLENE F - SILICONE B- PRESSURE	G - COMBINATION TEFLON/POLYPROPYL X - OTHER C - VACUUM	X= ENE PURGE TUBING O X= SAMPLING TUBIN	THER (SPECIFY)
		FIELD MEASURE	MENTS		
DEPTH TO WATER	36     01       38     03       54     03       (std)     0.       (std)     0.       (std)     0.       (std)     0.	(feet) V (feet) GROUNDW TDS Cr ?07(g/L) (g/L) (g/L) (g/L)	VELL ELEVATION /ATER ELEVATION ONDUCTIVITY 97.3 (μS/ci (μS/ci (μS/ci (μS/ci (μS/ci	98 41 62 40 0 RP - 57.9 (m m) (m m) (m n) (m n) (m n) (m	
SAMPLE APPEARANCE: WEATHER CONDITIONS: SPECIFIC COMMENTS:	ature <u>45°</u>	FIELD COMMI Sis/hylocalan WINDY Y/O	COLOR: <u>Cleur</u>	SHEEN Y/ND RECIPITATION Y/N IF Y TYPE)	
2.02 x. 16 = 32 Well bailed	x>20.97 dry on 3.7	·12			
3.8.12	ACCORDANCE W	VITH APPLICABLE CRATRC	- N		

	WELL SAMPLING FIELD INFORMATION FORM
TE/PROJECT NAME	: Nell hall No. 1 JOB# 074941 Gw.074941. 2004 12. CB. MW-4 WELL# MW-4
UNGE DATE (MM DD YY)	Well PURGING INFORMATION       198       SAMPLE DATE       (MM DD YY)       (24 HOUR)       (24 HOUR)       (34
PURGING EQUIPMENTDED	ICATED (Y) N SAMPLING EQUIPMENTDEDICATED (Y) N (CIRCLE ONE) (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)         G       C - BLADDER PUMP       F - DIPPER BOTTLE       X - OTHER       X=
PURGING MATERIAL	E     A - TEFLON     D - PVC     X=       B - STAINLESS STEEL     E - POLYETHYLENE     PURGING MATERIAL OTHER (SPECIFY)       E     C - POLYPROPYLENE     X - OTHER
PURGE TUBING	A - TEFLON       D - POLYPROPYLENE       G - COMBINATION       X=         B - TYGON       E - POLYETHYLENE       TEFLON/POLYPROPYLENE       PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C - ROPE F - SILICONE X - OTHER $X = $ SAMPLING TUBING OTHER (SPECIFY)
DEPTH TO WATER WELL DEPTH TEMPERATURE 5.76 (°C) 5.79 (°C) 5.79 (°C) 5.74 (°C) 0 0 SAMPLE APPEARANCE: $(100 - 100)$ WEATHER CONDITIONS: THE SPECIFIC COMMENTS: 12.33 $1.10$ - $146$	FIELD MEASUREMENTS         FIELD MEASUREMENTS         26.72       (feet)       GROUNDWATER ELEVATION $72_36$ (feet)         PH       TDS       CONDUCTIVITY       ORP       VOLUME         6.72       (std) $0.630$ (g/L) $799$ (IIS/cm) $-39.8$ (mV) $5.0$ (gal) $6.72$ (std) $0.630$ (g/L) $799$ (IIS/cm) $-39.8$ (mV) $5.5$ (gal) $6.691$ $6.633$ (g/L) $802$ (IIS/cm) $-56.6$ (mV) $6.0$ (mV) $6.0$ (gal) $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ $6.691$ <
I CERTIFY THAT SAMPLING PRO	CEDURES WERE IN ACCORDANCE WITH APPLICABLE CRAPROTOCOLS

	WELL SAMPLING FIELD INFORMATION FORM
( .TE/PROJECT NAM SAMPLE I	E: Noll hall No. 1 JOB# 07494/ D: GW:074941:0700912, CB: MW-5 WELL# MW-5
PURGE DATE (MM DD YY)	Well purging information     210       Sample date     Sample time       (MM DD YY)     (24 HOUR)
PURGING EQUIPMENTDE	DICATED Y N (CIRCLE ONE) CIRCLE ONE) CIRCLE ONE) CIRCLE ONE)
PURGING DEVICE SAMPLING DEVICE	G       A - SUBMERSIBLE PUMP       D - GAS LIFT PUMP       G - BAILER       X=         B - PERISTALTIC PUMP       E - PURGE PUMP       H - WATERRA®       PURGING DEVICE OTHER (SPECIFY)         C - BLADDER PUMP       F - DIPPER BOTTLE       X - OTHER       X=
PURGING MATERIAL SAMPLING MATERIAL	E       A - TEFLON       D - PVC       X=         B - STAINLESS STEEL       E - POLYETHYLENE       PURGING MATERIAL OTHER (SPECIFY)         E       C - FOLYPROPYLENE       X - OTHER       X=
PURGE TUBING	SAMPLING MATERIAL OTHER (SPECIFY)       A - TEFLON       D - POLYPROPYLENE       G - COMBINATION       X=       TEFLON/POLYPROPYLENE       D - POLYPROPYLENE       TEFLON/POLYPROPYLENE
SAMPLING TUBING	C-ROPE F-SILICONE X-OTHER X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM
DEPTH TO WATER WELL DEPTH	FIELD MEASUREMENTS $\begin{array}{c c c c c c c c c c c c c c c c c c c $
темрегатите [](°С)  [6, 2, (]	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
15,19 (°C)	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
(°C)	(std)         (g/L)         (μS/cm)         (mV)         (gal)           (std)         (g/L)         (μS/cm)         (mV)         (gal)
	FIELD COMMENTS
SAMPLE APPEARANCE: WEATHER CONDITIONS:	<u>Charles</u> odor: <u>WM</u> color: <u>Charles</u> sheen y/n <u>N/3</u> TEMPERATURE <u>EX</u> WINDY Y/N <u>WELDU</u> PRECIPITATION Y/N (IF Y TYPE) <u>MO</u>
SPECIFIC COMMENTS: $16.35 \times 10 = 2.0 \times 10^{-10}$	3 = (7184)
LCERTIFY THAT CAMPLING P	ROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS, ABUILDANCE PRINT SIGNATURE

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TEPROFECT NAME:       Nell Hall Ab. I       JOB#       074941         SAMPLE ID:       GWUTANAL QUALL OLES AWU' WELL#       MW-G         WELL FURGING INFORMATION       Interview       ACTIVAL VOL PERCENT         PURCING FORT       GMUTONY       SAMPLE OLD       ACTIVAL VOL PERCENT         PURCING FORT       GMUTONY       SAMPLE OLD       ACTIVAL VOL PERCENT         PURCING FORT       JEDECATE       SAMPLE OLD       ACTIVAL VOL PERCENT         PURCING FORTHT       JEDECATE       N       CLARCE ONE       ACTIVAL VOL PERCENT         PURCING DEVICE       A-SEGURABERIER FORM       In-ANTERNA       X       PURCING TOPICS         SAMPLING DEVICE       A-SEGURABERIER FORM       In-ANTERNA       X       PURCING TOPICS       N         SAMPLING DEVICE       A-SEGURABERIER FORM       In-ANTERNA       X       PURCING TOPICS       N         SAMPLING DEVICE       A-TERION       IN-OUNTPROVIDE       X-OTHER       Y       PURCE TOPICS       N         SAMPLING DEVICE       A-TERION       IN-OUNTPROVIDE       X-OTHER       Y       PURCE TORING COTHER GPRCPY         SAMPLING DEVICE       A-TERION       IN-OUNTPROVIDE       X-OTHER       Y       PURCE TORING COTHER GPRCPY         SAMPLING TUBICS       A-TERION	WEI	L SAMPLING FIELD	) INFORMATION	FORM	
SAMPLE ID:       C.M. UTAL (I. COTAL (I. COMPLET C. R. RUCC)       MUTCH         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       ACTUAL VOL, PURCHD         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         UNCL DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE         SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE DATE       SAMPLE	.TE/PROJECT NAME:	Nell Hall No.	JOB#	074941	
WHEL PURCING INFORMATION       B. 225         WATER ATT       SAMIFLING         PURCING PAT       GALLONG         PURCING PURCHATE       WATER ATT         PURCING PURCHATE       NATURALINE         PURCING PURCHATE       NATURALINE         PURCING PURCHATE       N         PURCING PURCHATE       N         PURCING PURCHATE       N         PURCING DEVICE       A-SUMMENTE         PURCING DEVICE       A-SUMMENT         PURCING DEVICE       A-SUMMENT         PURCING DEVICE       A-SUMMENT         PURCING DEVICE       A-TERION         PURCING MATERIAL       A-TERION         PURCING MATERIAL       A-TERION         PURCING MATERIAL       PURCING PURCE         SAMPLING TURING       A-TERION         PURCING MATERIAL       PURCING PURCE         SAMPLING TURING       A-TERION         PURCING MATERIAL       PURCING PURCE         SAMPLING TURING       A-TERION         PURCING PURCHAR       PURCING PURCHAR         SAMPLING TURING       A-TERION         PURCE TURING       A-TERION         PURCE TURING       A-TERION         PURCE TURING       A-TERION         PURCE TURING	SAMPLE ID:	(gW:0749 11.0000412)	<u>CB MW-</u> @ WELL#	MW-Q	
PURGING EQUIPMENTDEDICATED       N       SAMPLING EQUIPMENTDEDICATED       N         PURGING DEVICE       A.SUMMERSULE PUMP       D-GAS LET PUMP       G-MALER       X-         PURGING DEVICE       A.SUMMERSULE PUMP       D-GAS LET PUMP       G-MALER       X-         PURGING DEVICE       A.SUMMERSULE PUMP       P-DEPER NUMP       G-MALER       X-         PURGING DEVICE       A.SUMMERSULE PUMP       P-DEPER NUMP       G-MALER       X-         PURGING MATERIAL       A.TERION       D-PVC       X-       SAMPLING EQUIPMENTDEDICATED (SPECTPY)         SAMPLING MATERIAL       B-STAINESSTREE       F-NONTETHYLENE       X-OTHER       X-       SAMPLING EQUIPMENTDEDICATED (SPECTPY)         SAMPLING MATERIAL       G-CONTRIVIENE       X-OTHER       X-       TELON       POLICIPOPYLENE       X-OTHER         SAMPLING TUBING       A-TEPLON       D-PVC       X-       TELON (SPECTPY)       X-       SAMPLING TUBING OTHER (SPECTPY)         SAMPLING TUBING       A-TEPLON       D-POLYTPOPYLENE       C-OMINITON       X-       X-         FILTERING DEVICES DAS       A-IN-LINE DEVICENER       R-ONLERVINE       X-OTHER       X-       Y-         FILTERING DEVICES DAS       A-IN-LINE DEVICENER       C-OMINITIANE YOUND ON TER (SPECTPY)	PURGE DATE (MM DD YY)	WELL PURGI SAMPLE DATE SAM (MM DD YY) (2: PURGING AND S	NG INFORMATION 725 PILE TIME 4 HOUR) GALLA GAMPLING EQUIPMENT	6.25 IN CASING ACTUAL VOL. PURGED (GALLONS)	
PURCING DEVICE PURCING ALTERIAL PURCING DEVICE A-SUMMERSITAL PUMP PURCING PUMP PURCING MATERIAL A-TERION PURCING MATERIAL C-ROLPTPOYLENE A-TOHER PURCING MATERIAL C-ROLPTPOYLENE A-TOHER PURCING MATERIAL C-ROLPTOYLENE A-TERION PURCING TUBING A-TERION P-ROLPTPOYLENE A-TOHER PURCING TUBING A-TERION P-ROLPTPOYLENE A-TOHER A-TERION P-ROLPTPOYLENE A-TOHER P-RESUME C-ROLPTPOYLENE A-TOHER PURCING TUBING A-TERION P-ROLPTPOYLENE A-TOHER P-RESUME C-ROLPTOYLENE A-TERION P-ROLPTOYLENE A-TOHER PURCING TUBING A-TERION P-ROLPTOYLENE A-TOHER P-RESUME C-ROLPTOYLENE A-TERION P-ROLPTOYLENE A-TOHER P-RESUME C-ROLPTOYLENE A-TOHER P-RESUME P-RESUME C-ROLPTOYLENE A-TOHER P-RESUME C-ROLPTOYLENE A-TOHER P-RESUME P-RESUME C-ROLPT P-RESUME P	PURGING EQUIPMENTDEDICATED	(CIRCLE ONE)	SAM	PLING EQUIPMENTDEDICATE	
PURCING MATERIAL       Image: A - TEFLON       D - PVC         B - STAINLESS STEEL       Image: A - TEFLON       D - PVC         SAMPLING MATERIAL       Image: A - TEFLON       Image: A - TEFLON         PURCING MATERIAL       Image: A - TEFLON       Image: A - TEFLON         PURCING MATERIAL       Image: A - TEFLON       Image: A - TEFLON         PURCING MATERIAL       Image: A - TEFLON       Image: A - TEFLON         PURCING MATERIAL       Image: A - TEFLON       Image: A - TEFLON         PURCING MATERIAL       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         SAMPLING TUBING       Image: A - TEFLON       Image: A - TEFLON         DEPTH       TO WATER       Image: A - TEFLON       Image: A - TEFLON         DEPTH       TO WATER	PURGING DEVICE	A - SUBMERSIBLE PUMPD - GAS LIFT PB - PERISTALTIC PUMPE - PURGE PUMC - BLADDER PUMPF - DIPPER BOT	UMP G - BAILER AP H - WATERRA® TLE X - OTHER	X= PURGING DEVICE OTHER (SPECIFY) X=	
SAMPLING MATERIAL  B - STANLESS STEREL B - KONTHYLENE B - TOKON SAMPLING MATERIAL OTHER (SPECIPY) SAMPLING MATERIAL OTHER (SPECIPY) PURCE TUBING A - TEFLON B - TOCON B - TOCON B - TOCON B - TOCON C - ROPE F - SLICONE X - OTHER TO BE OFFICIPY) SAMPLING TUBING OTHER (SPECIPY) TELETERING DEVICES 0.45 A - IN-LINE DEFOSABLE B - PRESSURE C - VACUUM FIELD MEASUREMENTS DEPTH TO WATER PH TOS CONDUCTIVITY OR VOLUME SCANDUCTIVITY OR VOLUME SCANDUCTIVITY OR VOLUME SCANDUCTIVITY OR VOLUME (see) C - ST. 4 (sev) S - S (gev) S - S (	PURGING MATERIAL	A - TEFLON D - PVC		SAMPLING DEVICE OTHER (SPECIFY) X=	
PURCE TUBING A - TEFLON D - POLYTROPYLENE G - COMBINATION X= B - TCGON E - POLYTROPYLENE G - COMBINATION TEFLOR/POLYTRENE X- TEFLOR/POLYTROPYLENE X - OTHER X= DURCE TUBING OTHER (SPECTPY) X - THER X - THER X - THER X- SAMPLING TUBING OTHER (SPECTPY) FILLERING DEVICES 0.45 A - IN-LINE DEFICIABLE B - PRESSURE C - VACUUM FIELD MEASUREMENTS DEPTH TO WATER PH TDS CONDUCTIVITY ORP VOLUME (feet) (Feet) WELL ELEVATION 7 86 (feet) WELL DEPTH 20 23 (feet) GROUNDWATER ELEVATION 7 86 (feet) TEMPERATURE PH TDS CONDUCTIVITY ORP VOLUME (feet) 6.0 2 (etd) 0.7733 (g/L) 93 (g/L) 0.75.4 (mV) 5.5 (gal) (feet) (g/L) 0.75.5 (gal) (g/L) 0.75.4 (mV) (g/L) 5.5 (gal) (feet) (g/L) 0.55.6 (feet) (g/L) 0.75.4 (mV) (g/L) 0.75.6 (gal) (feet) (g/L) 0.7733 (g/L) 0.75.6 (gal) (g/L) 0.75.7 (gal) (g/L) 0.75.6 (gal) (feet) (g/L) 0.773.5 (g/L) 0.75.7 (gal) (g/L) 0.773.5 (g/L) 0.75.7 (gal) (g/L) 0.773.5 (g/L) 0.75.7 (gal) (g/L) 0.75.7 (gal) (g/L) 0.773.5 (g/L) 0.75.7 (gal) (g/L) 0.75.7 (gal) (g/L) 0.773.5 (g/L) 0.773.5 (g/L) 0.773.5 (g/L) 0.75.7 (gal) (g/L) 0.773.5 (g/L) 0	SAMPLING MATERIAL	B - STAINLESS STEEL E - POLYETHY C - POLYPROPYLENE X - OTHER	LENE	PURGING MATERIAL OTHER (SPECIFY) X= SAMPLING MATERIAL OTHER (SPECIFY)	
SAMPLING TUBING	PURGE TUBING	A - TEFLON D - POLYPROP B - TYGON E - POLYETHYI	YLENE G - COMBINATION ENE TEFLON/POLYPROPYLEN	X= IE PURGE TUBING OTHER (SPECIFY)	
FILTERING DEVICES 0.45       A - IN-LINE DEPOSABLE       B - PRESSURE       C - VACUUM         FIELD MEASUREMENTS         DEPTH TO WATER       10 - 55       (feet)       WELL ELEVATION       98 41       (feet)         WELL DEPTH       20 - 23       (feet)       GROUNDWATER ELEVATION       71 - 86       (feet)         TEMPERATURE       pH       TDS       CONDUCTIVITY       ORP       VOLUME         15:82       (°C)       6.672       (std)       0.7733       (g/L)       93 - (g/S)       (g/S	SAMPLING TUBING	C - ROPE F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)	
FIELD MEASUREMENTS         DEPTH TO WATER       10.5%       (feet)       WELL ELEVATION       98.41       (feet)         WELL DEPTH       OPPH TO WATER       98.41       (feet)       WELL ELEVATION       7.86       (feet)         TEMPERATURE       pH       TDS       CONDUCTIVITY       ORP       VOLUME         15.782       (°C)       6.672       (std)       (°C).733       (g/L)       9.5       (g/L)       -5.7.4       (mV)       5.5       (gal)         15.748       (°C)       6.624       (std)       0.711       (g/L)       9.5       (gal)       -5.5       (gal)         15.748       (°C)       (std)       (g/L)       (g/L)       (g/L)       (gal)       -2.5       (gal)         16.748       (°C)       (std)       (g/L)       (g/L)       (g/L)       (gal)       -2.5       (gal)         16.748       (°C)       (std)       (g/L)       (g/L)       (g/L)       (gal)       (mV)       (gal)         16.75       (std)       (g/L)       (g/L)       (g/L)	FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - P	RESSURE C - VACUUM		
(°C)       (std)       (g/L)       (µS/cm)       (mV)       (gal)         SAMPLE APPEARANCE:       \$13414_2 (love)       ODOR:       hydroca-bc./b,o       COLOR:       clear       sheen y/S)         WEATHER CONDITIONS:       TEMPERATURE       ~ 80°       WINDYO/N       Breerey       PRECIPITATION Y/COFYTYPE)         SPECIFIC COMMENTS:	DEPTH TO WATER WELL DEPTH TEMPERATURE PH 5.82 (°C) 6.0 [5.48 (°C) 8.1 (°C) 6.0	FIELD MI         210       55       (feet)         23       (feet)       G         4       TDS       TDS         2       (std)       0,711       (g/L        (std)      (g/L       (g/L        (std)      (g/L       (g/L	EASUREMENTS WELL ELEVATION ROUNDWATER ELEVATION CONDUCTIVITY ) 9 9 5 (μS/cm) ) 0 0 (μS/cm)	$\begin{array}{c c} 98 & 41 & \text{(feet)} \\ \hline 71 & 86 & \text{(feet)} \\ \hline 0RP & VOLUME \\ \hline -57.4 & \text{(mV)} & \underline{5.5} & \text{(gal)} \\ \hline 765. & \text{(mV)} & 6.25 & \text{(gal)} \\ \hline \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	
FIELD COMMENTS         SAMPLE APPEARANCE: \$1.44/2004/0000000000000000000000000000000	(°C)	(std) (g/L	)(μS/cm)	(mV) (gal)	
DATE PRINT SIGNATURE	FIELD COMMENTS FIELD COMMENTS field Color: clear				
	<u>()/4/// (//</u> DATE PRINT	M MM	SIGNATURE		

	W	ELL SAMPLING FIELD IN	FORMATION F	ORM
(	TE/PROJECT NAME: SAMPLE ID:	Nell Hall No. 1 Gw.074941-092017-JP-MW	JOB#	074941 MW-5-MW-4
	9.20 ° 17 PURGE DATE (MM DD YY)	WELL PURGING IN 9.20.17   800 SAMPLE DATE SAMPLE TIN (MM DD YY) (24 HOUR) PURGING AND SAMPL	FORMATION	CASING ACTUAL VOL. PURGED (GALLONS)
	PURGING EQUIPMENTDEDICA	ed 🕢 n (CIRCLE ONE)	~ SAMPLIN	NG EQUIPMENTDEDICATED 🔇 N (CIRCLE ONE)
	PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP B - PERISTALTIC PUMP E - PURGE PUMP C - BLADDER PUMP F - DIPPER BOTTLE	G - BAILER H - WATERRA® X - OTHER	X= PURGING DEVICE OTHER (SPECIFY) X= SAMPLING DEVICE OTHER (SPECIFY)
	PURGING MATERIAL	A - TEFLON     D - PVC       B - STAINLESS STEEL     E - POLYETHYLENE       C - POLYPROPYLENE     X - OTHER		X= PURGING MATERIAL OTHER (SPECIFY) X= SAMPLING MATERIAL OTHER (SPECIFY)
	PURGE TUBING	A - TEFLON D - POLYPROPYLENE B - TYGON E - POLYETHYLENE C - ROPE F - SILICONE	G - COMBINATION TEFLON/POLYPROPYLENE X - OTHER	X= PURGE TUBING OTHER (SPECIFY) X= SAMPLING TUBING OTHER (SPECIFY)
ľ		FIELD MEASUR	REMENTS	
	DEPTH TO WATER $\begin{bmatrix} \\ WELL DEPTH \\ TEMPERATURE \\ 0 \\ 18.50 \\ 0 \\ 18.35 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $	17       43       (feet)         37       75       (feet)       GROUNI         pH       TDS       0.72.0       (g/L)       1.000000000000000000000000000000000000	WELL ELEVATION         DWATER ELEVATION         CONDUCTIVITY         970         (μS/cm)         958         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)         (μS/cm)	$\begin{array}{c c} 97,75 & (feet) \\ \hline 80,32 & (feet) \\ \hline 0RP & VOLUME \\ \hline -29,5 & (mV) & 9,0 & (gal) \\ \hline -10,4 & (mV) & 9,5 & (gal) \\ \hline 4,6 & (mV) & 100,0 & (gal) \\ \hline (mV) & (gal) & (gal) \\ \hline (mV) & (gal) & (gal) \\ \hline \end{array}$
	AMPLE APPEARANCE: $C_{4}$ WEATHER CONDITIONS: TEMP SPECIFIC COMMENTS: I CERTIFY THAT SAMPLING PROCEL $\underline{9.20.12}$	JAC ODOR:	ROTOCOLS	

.TE/PROJECT NAME:	Nell Ha	(1 No.1	JOB#	074941
SAMPLE ID:	Gw-074941-09	12012-SP-MW-S	S WELL#	MW-4 MW-5
PURGING DEVICE	$\frac{9.20.12}{\text{SAMPLE DATE}}$ $\frac{\text{SAMPLE DATE}}{\text{(MM DD YY)}}$ $PUR$ $O \otimes N$ $(CIRCLE ONE)$ $A - SUBMERSIBLE PUMP$ $B - PERISTALTIC PUMP$	WELL PURGING INFO SAMPLE TIME (24 HOUR) GING AND SAMPLING D-GAS LIFT PUMP E-PURGE PUMP H	RMATION WATER VOL. (GALLO G EQUIPMENT SAMI	3 IN CASING DNS) ACTUAL VOL. PURGED (GALLONS) PLING EQUIPMENTDEDICATED O (CIRCLE ONE X= 
SAMPLING DEVICE G PURGING MATERIAL E SAMPLING MATERIAL	C - BLADDER PUMP A - TEFLON B - STAINLESS STEEL C - POLYPROPYLENE	F - DIPPER BOTTLE X D - PVC E - POLYETHYLENE X - OTHER	- OTHER	X= SAMPLING DEVICE OTHER (SPECIFY) X= PURGING MATERIAL OTHER (SPECIFY) X=
PURGE TUBING	A - TEFLON B - TYGON C - ROPE A - IN-LINE DISPOSAB	D - POLYPROPYLENE G E - POLYETHYLENE F - SILICONE X LE B - PRESSURE	- COMBINATION TEFLON/POLYPROPYLEN - OTHER C - VACUUM	SAMPLING MATERIAL OTHER (SPECIFY)       X=       Y       X=       SAMPLING TUBING OTHER (SPECIFY)
		FIELD MEASUREM	IENTS	
DEPTH TO WATER $\$ WELL DEPTH $\$ TEMPERATURE F $0 + 7 \cdot 50 + co$ $(6 + 1)$ $4 + 17 \cdot 4 + cc$ $(6 + 1)$ $8 + 7 \cdot (6 \cdot 5 + cc)$ $(6 + 1)$ (c) + 1 + cc) $(c) + 1(c) + 1 + cc)$ $(c) + 1(c) + 1 + c$	1892 429 H ,81 (std) 0, 85 (std) 0 (std) 0 (std) 0	(feet) WE (feet) GROUNDWA TDS CO 7 (g/L) , 7 (g/L) (g/L	ELL ELEVATION	<u>98</u> 81 (feet) <u>79</u> 89 (feet) ORP VOLUME <u>20.9</u> (mV) <u>11.75</u> <u>73.9</u> (mV) <u>12.00</u> <u>27.9</u> (mV) <u>12.26</u> (mV) <u>12.26</u>
SAMPLE APPEARANCE: 3 Julty WEATHER CONDITIONS: TEMPERA SPECIFIC COMMENTS:	clouely ODOR: TURE 750	FIELD COMMEN None Co Windy Y/N	PLOR: Ight brown precey PREC	SHEEN Y N CIPITATION Y/II /IF Y TYPE)
I CERTIFY THAT SAMPLING PROCEDUR $G_{1}$ $O_{1}$ $O_{2}$ $O_{2}$	es were Daccordance w	TTH APPLICABLE CRA PROF	2603	

M	ELL SAMPLING FIELD I	NFORMATION 1	FORM
I .TE/PROJECT NAME:	New Hall No. 1	JOB#	074941
SAMPLE ID:	66-074941-092012-21-	<u>ист-6</u> WELL#	MW-6
. 9.70 17	WELL PURGING	INFORMATION	120
PURGE DATE (MM DD YY)	SAMPLE DATE SAMPLE (MM DD YY) (24 HOL	TIME WATER VOL. II JR) (GALLO	Image: Constraint of the second se
	PURGING AND SAM	PLING EQUIPMENT	
PURGING EQUIPMENTDEDIC	ATED () N (CIRCLE ONE)	SAMP	LING EQUIPMENTDEDICATED () N (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP B. PERISTALTIC PUMP E. PURCE PUMP	G - BAILER	
SAMPLING DEVICE	C - BLADDER PUMP F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	A - TEFLON D - PVC		X=
SAMPLING MATERIAL	C - POLYPROPYLENE X - OTHER		X=SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON D - POLYPROPYLEN	E G - COMBINATION TEFLON/POLYPROPYLENE	X=
SAMPLING TUBING	C - ROPE F - SILICONE	X - OTHER	X=
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESS	JRE C-VACUUM	SAMPLING IUDING OTHER (SPECIFT)
	FIELD MEAS	UREMENTS	
DEPTH TO WATER	18 25 (feet)	WELL ELEVATION	98 41 (feet)
DD 44 WELL DEPTH	pH TDS (feet) GROU	NDWATER ELEVATION	
0 a [7, 14 (c) L	6.03 (std) 1.155 (g/L)	(\$70 (µS/cm)	-9.5 (mV) $9.0$ (gal)
0,82 16,99 (0)	5,08 (std) 1,139 (g/L)	1486 (µS/cm)	-99.Z (mV) 9.5 (gal)
0.8 1 17.02 (m)	6.13 (std) 1.147 (g/L)	1497 (µS/cm)	-loy (.3) (mV) (D.O) (gal)
(°C)	(std) (g/L)	(μS/cm)	(mV) (gal)
(°C)	(std) (g/L)	(μS/cm)	(mV) (gal)
SAMPLE APPEARANCE:	FIELD CON lack ODOR: hydrocarbon	COLOR: <u>black</u>	SHEEN Y/
WEATHER CONDITIONS: TEM SPECIFIC COMMENTS:	PERATURE <u>~ 20</u> WINDY Y/	N <u>brezy</u> PREC	IPITATION Y/ (III) Y TYPE)
Dp@	1190		
I CERTIFY THAT SAMPLING PROCE	DURES WERE IN ACCORDANCE WITH APPLICABLE CRA	report	
A · 20·12	ason Nors	IGNATURE	
		)	

WELL SAMPLING FIELD INFORMATION FORM					
	Noll [] II N I				
VITE/PROJECT NAM	$E: \underline{N(4)}   \underline{TA}   \underline{N_{0}}   \underline{JOB} # JOB$				
SAMPLE II	D: <u>6w-074991-122812-3MK-MW WELL#</u>				
PURGE DATE (MM DD YY)	WELL PURGING INFORMATION         12-7.8       1130       1.557       5         SAMPLE DATE       SAMPLE TIME       WATER VOL. IN CASING         GALLONS)         PURCING AND SAMPLING FOLUPMENT				
PURGING EQUIPMENTDE	DICATED Y N SAMPLING EQUIPMENTDEDICATED Y N (CIRCLE ONE) (CIRCLE ONE)				
PURGING DEVICE	G A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X=				
SAMPLING DEVICE	B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRA® PURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER X = SAMPLING DEVICE OTHER (SPECIFY)				
PURGING MATERIAL	A - TEFLON     D - PVC     X=       B - STAINLESS STEEL     E - POLYETHYLENE     PURGING MATERIAL OTHER (SPECIFY)				
SAMPLING MATERIAL	C - POLYPROPYLENE X - OTHER X= SAMPLING MATERIAL OTHER (SPECIFY)				
PURGE TUBING	C     A - TEFLON     D - POLYPROPYLENE     G - COMBINATION     X=				
SAMPLING TUBING	C     B - TYGON     E - POLYETHYLENE     Indicition formation     Polyethylene     Polyethylene       C - ROPE     F - SILICONE     X - OTHER     X=       SAMPLING TUBING OTHER (SPECIFY)				
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM				
-	FIELD MEASUREMENTS				
DEPTH TO WATER	28 02 (feet) WELL ELEVATION 97 (feet)				
TEMPERATURE	pH TDS CONDUCTIVITY ORP VOLUME				
15-95 (m) -	$\frac{1}{\sqrt{2}} (\text{std}) \qquad \frac{1}{\sqrt{2}} (\text{g/L}) \qquad \frac{1}{\sqrt{2}} (\text{g/L}) \qquad \frac{1}{\sqrt{2}} (\text{uS/cm}) \qquad \frac{1}{\sqrt{2}} (\text{mV}) \qquad \frac{5}{\sqrt{2}} (\text{gal})$				
(C) 57. (C)	1/2 (std) $(-88)$ (g/L) $871$ (µS/cm) $-877$ (mV) $4$ (gal)				
1 4.78 (°C)	$(std)$ $(g/L)$ $(g/L)$ $(g/L)$ $(\mu S/cm)$ $(-70)$ $(mV)$ $(4.5)$ $(gal)$				
(°C)	(std) (g/L) (µS/cm) (mV) (gal)				
(°C)	(std) (g/L) (µS/cm) (mV) (gal)				
	FIELD COMMENTS				
SAMPLE APPEARANCE: WEATHER CONDITIONS:	ODOR:     COLOR:     SHEEN Y/N       TEMPERATURE     WINDY Y/N     PRECIPITATION Y/N (IF Y TYPE)				
SPECIFIC COMMENTS:					
· · · · · · · · · · · · · · · · · · ·					
I CERTIFY THAT SAMPLING P	ROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS				
DATE	PRINT SIGNATURE				

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	WELL SAMPLIN	NG FIELD INI	FORMATIO	N FORM	
 `ITE/PROJECT NAM	ne: Nell A	all No. 1	JOB#	07494	f/
SAMPLE	<b>D</b> : <u><u><u><u></u></u><u><u><u></u></u><u><u></u><u><u></u></u><u><u></u><u></u><u></u><u></u><u><u></u><u></u><u></u><u></u><u></u></u></u></u></u></u></u>	122FIZ-SMK-M	W5 WELL#	5	
12-28 Purge date (MM dd yy)	(2-28 SAMPLE DATE (MM DD YY)	WELL PURGING IN SAMPLE TIM (24 HOUR) URGING AND SAMPLI	FORMATION	/66 /ol. in casing Allons)	G 5 ACTUAL VOL. PURGED (GALLONS)
PURGING EQUIPMENTD	EDICATED () N (CIRCLE ONE)		S	AMPLING EQUIPMEN	TDEDICATED 🔗 N (CIRCLE ONE)
PURGING DEVICE SAMPLING DEVICE	C       A - SUBMERSIBLE PUMP         B - PERISTALTIC PUMP         C - BLADDER PUMP	P D - GAS LIFT PUMP E - PURGE PUMP F - DIPPER BOTTLE	G - BAILER H - WATERRA® X - OTHER	X= 	G DEVICE OTHER (SPECIFY)
PURGING MATERIAL SAMPLING MATERIAL	A - TEFLON B - STAINLESS STEEL C - POLYPROPYLENE	D - PVC E - POLYETHYLENE X - OTHER		X= PURGINC X= SAMPLIN	G MATERIAL OTHER (SPECIFY)
PURGE TUBING SAMPLING TUBING	A - TEFLON B - TYGON C - ROPE	D - POLYPROPYLENE E - POLYETHYLENE F - SILICONE	G - COMBINATION TEFLON/POLYPROPY X - OTHER	$X = \underline{\qquad}$ $YLENE \qquad PURGE T$ $X = \underline{\qquad}$ $SAMPLIN$	UBING OTHER (SPECIFY) IG TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A - IN-LINE DISPO	SABLE B - PRESSURE	C - VACUUM		
DEPTH TO WATE WELL DEPTH TEMPERATURE	x 29 3 H 42 7 pH 1.21 (std) (0.	Image: President of the second sec	EVIENTS WELL ELEVATION DWATER ELEVATION CONDUCTIVITY	28 67 (cm) 62	S/ (feet) 44 (feet) VOLUME (mV) 53 (gal)
$\begin{array}{c} \underline{1} \underline{5} \underline{1} \\ \underline{1} \underline{6} \underline{3} \underline{6} \\ \underline{1} $	<u>¬,7,4</u> (std)	(g/L) (g/L) (g/L) (g/L) (g/L)	(εμ) <u>557</u> (με, (με, (με, (με,	/cm) 12.05 /cm) 11.7 /cm) 1.7	(mV) <u>6.</u> (gal) (mV) <u>(5.5</u> (gal) (mV) (gal) (mV) (gal)
	(300)	FIELD COMM	(µ37		
SAMPLE APPEARANCE: WEATHER CONDITIONS: SPECIFIC COMMENTS:	ODC	WINDY Y/N	COLOR:	SHEEN Y/N PRECIPITATION Y/N (IF	7 Y TYPE)
I CERTIFY THÁT SAMPLING	PROCEDURES WERE IN ACCORDANC	CE WITH APPLICABLE CRA PI	ROTOCOLS		
DATE	PRINT	SIG	NATURE		

	WELL SAMP	LING FIELD I	INFORM.	ATION 1	FORM	
`ITE/PROJECT NAM	$\mathbf{E}: \qquad \underbrace{Nel}_{G_{1}, \dots, T_{2}, Y_{9}}$	tal Na. (		JOB#	274941	
12-28 PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLI PURCINC AND SAM	E TIME DUR)	WATER VOL. II (GALLO	N CASING ACTUAL NS) (G	vol. purged Allons)
PURGING EQUIPMENTD	EDICATED 🕢 N (CIRCLE C	DNE)	in Lind Equil	SAMP	LING EQUIPMENTDEI	DICATED Y N (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE	PUMP D - GAS LIFT PUM	P G - BAILER		X=	
SAMPLING DEVICE	B - PERISTALTIC	PUMP E - PURGE PUMP MP F - DIPPER BOTTLI	H - WATERR E X - OTHER	A®	PURGING DEVICE C X= SAMPLING DEVICE	OTHER (SPECIFY)
PURGING MATERIAL	A - TEFLON	D - PVC			X=	
SAMPLING MATERIAL	B - STAINLESS ST	EEL E - POLYETHYLEN ENE X - OTHER	IE		PURGING MATERIA X= SAMPLING MATERI	L OTHER (SPECIFY)
PURGE TUBING	A - TEFLON	D - POLYPROPYLE	NE G - COMBIN	ATION	, X=	
SAMPLING TUBING	B-TYGON C-ROPE	E - POLYETHYLEN F - SILICONE	IE TERLON/ X - OTHER	POLYPKOPYLENI	PURGE TUBING OTI X= SAMPLING TUBING	HER (SPECIFY)
FILTERING DEVICES 0.45	A - IN-LINE	DISPOSABLE B - PRES	SURE C-VAC	CUUM		official ty
	20	FIELD MEAS	SUREMENTS		00 111	
DEPTH TO WATE	$x = \frac{\lambda^2}{20}$	(feet)	WELL ELEVA	ATION	78 -11	(feet)
WELL DEPTH	H <u>58</u>	● <u> </u>	OUNDWATER ELE		67 30	(feet)
15165 (°C)	L S   (std)	103 1 2 1 8 2 (g/L)	I ART	(μS/cm)	-177 9 (mV	(gal)
1 5.95 (0)	6.81 (std)	, 7 7 C (g/L)	1003	(μS/cm)	_ 13 4, 8 (mV	) 3.75 (gal)
15.19 (0)	(std)	(g/L)	100'	[(μS/cm)	_130 0 (mV	) 4,25 (gal)
(°C)	(std)	(g/L)		(µS/cm)	(mV	)(gal)
(°C)	(std)	(g/L)		(µS/cm)	(mV	) (gal)
		FIELD CC	OMMENTS			
SAMPLE APPEARANCE;		ODOR:	COLOR:	•••••	SHEEN Y/N	
WEATHER CONDITIONS: SPECIFIC COMMENTS:	TEMPERATURE	WINDY *	Y/N	PREC	CIPITATION Y/N (IF Y TYPE)	
·						
I CERTIFY THAT SAMPLING	PROCEDURES WERE IN ACCOR	RDANCE WITH APPLICABLE C	RA PROTOCOLS			
DATE	PRINT		SIGNATURE			

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APPENDIX B

# 2012 QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORTS



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

March 23, 2012

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

RE: Project: NELL HALL NO. 1 (074941) Pace Project No.: 60117007

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 Fracy

Alice Tracy

alice.tracy@pacelabs.com Project Manager

Enclosures

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



# **REPORT OF LABORATORY ANALYSIS**

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## CERTIFICATIONS

## Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

## **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:NELL HALL NO. 1 (074941)Pace Project No.:60117007

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60117007001	GW-074941-3712-CB-MW-4	Water	03/07/12 17:35	03/10/12 09:00
60117007002	GW-074941-3712-CB-MW-5	Water	03/07/12 17:45	03/10/12 09:00
60117007003	GW-074941-3712-CB-MW-6	Water	03/08/12 16:45	03/10/12 09:00
60117007004	GW-074941-3712-CB-DUP	Water	03/07/12 17:40	03/10/12 09:00
60117007005	TRIP BLANK	Water	03/08/12 18:45	03/10/12 09:00

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# SAMPLE ANALYTE COUNT

Project:NELL HALL NO. 1 (074941)Pace Project No.:60117007

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60117007001	GW-074941-3712-CB-MW-4	EPA 6010	JGP	1
		EPA 8260	RNS	9
60117007002	GW-074941-3712-CB-MW-5	EPA 6010	JGP	1
		EPA 8260	RNS	9
60117007003	GW-074941-3712-CB-MW-6	EPA 6010	JGP	1
		EPA 8260	RNS	9
60117007004	GW-074941-3712-CB-DUP	EPA 8260	RNS	9
60117007005	TRIP BLANK	EPA 8260	RNS	9

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## **PROJECT NARRATIVE**

Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

### Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:March 23, 2012

## General Information:

3 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:

# REPORT OF LABORATORY ANALYSIS

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## **PROJECT NARRATIVE**

Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

### Method: EPA 8260

Description:8260 MSV UST, WaterClient:COP Conestoga-Rovers & Associates, Inc. NMDate:March 23, 2012

## General Information:

5 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/44313

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

#### QC Batch: MSV/44314

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:

# **REPORT OF LABORATORY ANALYSIS**

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## **PROJECT NARRATIVE**

Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

Method:EPA 8260Description:8260 MSV UST, WaterClient:COP Conestoga-Rovers & Associates, Inc. NMDate:March 23, 2012

Analyte Comments:

QC Batch: MSV/44314

B: Analyte was detected in the associated method blank.

• TRIP BLANK (Lab ID: 60117007005)

Toluene

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

# **REPORT OF LABORATORY ANALYSIS**

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## Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

Sample: GW-074941-3712-CB-MW-4	Lab ID: 60117007	001 Collected	d: 03/07/12	2 17:35	Received: 03/	(10/12 09:00 Ma	atrix: Water	
Parameters	Results Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: El	PA 6010 Prepa	ration Metho	od: EPA	3010			
Iron, Dissolved	<b>782</b> ug/L	50.0	6.0	1	03/14/12 16:35	03/20/12 12:19	7439-89-6	
8260 MSV UST, Water	Analytical Method: El	PA 8260						
Benzene	ND ug/L	1.0	0.040	1		03/21/12 12:59	71-43-2	
Ethylbenzene	ND ug/L	1.0	0.10	1		03/21/12 12:59	100-41-4	
Toluene	ND ug/L	1.0	0.10	1		03/21/12 12:59	108-88-3	
Xylene (Total)	ND ug/L	3.0	0.30	1		03/21/12 12:59	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96 %	86-112		1		03/21/12 12:59	1868-53-7	
Toluene-d8 (S)	99 %	90-110		1		03/21/12 12:59	2037-26-5	
4-Bromofluorobenzene (S)	100 %	87-113		1		03/21/12 12:59	460-00-4	
1,2-Dichloroethane-d4 (S)	93 %	82-119		1		03/21/12 12:59	17060-07-0	
Preservation pH	1.0	1.0	0.10	1		03/21/12 12:59		

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## Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

Sample: GW-074941-3712-CB-MW-5	5 Lab ID:	60117007002	Collected:	03/07/12	2 17:45	Received: 03/	10/12 09:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	010 Prepara	ation Metho	od: EPA	3010			
Iron, Dissolved	<b>9.0J</b> ug	g/L	50.0	6.0	1	03/14/12 16:35	03/20/12 12:29	7439-89-6	
8260 MSV UST, Water	Analytical	Method: EPA 8	260						
Benzene	ND ug	g/L	1.0	0.040	1		03/21/12 13:16	71-43-2	
Ethylbenzene	ND ug	g/L	1.0	0.10	1		03/21/12 13:16	100-41-4	
Toluene	ND ug	g/L	1.0	0.10	1		03/21/12 13:16	108-88-3	
Xylene (Total)	ND ug	g/L	3.0	0.30	1		03/21/12 13:16	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	97 %		86-112		1		03/21/12 13:16	1868-53-7	
Toluene-d8 (S)	98 %		90-110		1		03/21/12 13:16	2037-26-5	
4-Bromofluorobenzene (S)	102 %		87-113		1		03/21/12 13:16	460-00-4	
1,2-Dichloroethane-d4 (S)	95 %		82-119		1		03/21/12 13:16	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		03/21/12 13:16		

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## Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

Sample: GW-074941-3712-CB-MW-6	6 Lab ID: (	60117007003	Collected	1: 03/08/12	2 16:45	Received: 03/	10/12 09:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical N	Method: EPA 6	010 Prepar	ation Meth	od: EPA	3010			
Iron, Dissolved	<b>22500</b> ug	ı/L	50.0	6.0	1	03/14/12 16:35	03/20/12 12:33	7439-89-6	
8260 MSV UST, Water	Analytical N	Method: EPA 8	260						
Benzene	<b>47.7</b> ug	ı/L	1.0	0.040	1		03/21/12 15:02	71-43-2	
Ethylbenzene	7.3 ug	/L	1.0	0.10	1		03/21/12 15:02	100-41-4	
Toluene	ND ug	/L	1.0	0.10	1		03/21/12 15:02	108-88-3	
Xylene (Total)	<b>19.2</b> ug	I/L	3.0	0.30	1		03/21/12 15:02	1330-20-7	
Surrogates	-								
Dibromofluoromethane (S)	95 %		86-112		1		03/21/12 15:02	1868-53-7	
Toluene-d8 (S)	102 %		90-110		1		03/21/12 15:02	2037-26-5	
4-Bromofluorobenzene (S)	99 %		87-113		1		03/21/12 15:02	460-00-4	
1,2-Dichloroethane-d4 (S)	92 %		82-119		1		03/21/12 15:02	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		03/21/12 15:02		

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## Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

Sample: GW-074941-3712-CB-DUP	Lab ID:	60117007004	Collected	: 03/07/12	2 17:40	Received: 03	/10/12 09:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical	Method: EPA 8	260						
Benzene	ND u	g/L	1.0	0.040	1		03/21/12 15:19	71-43-2	
Ethylbenzene	ND u	g/L	1.0	0.10	1		03/21/12 15:19	100-41-4	
Toluene	ND u	g/L	1.0	0.10	1		03/21/12 15:19	108-88-3	
Xylene (Total)	ND u	g/L	3.0	0.30	1		03/21/12 15:19	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %	/ 0	86-112		1		03/21/12 15:19	1868-53-7	
Toluene-d8 (S)	100 %	/ 0	90-110		1		03/21/12 15:19	2037-26-5	
4-Bromofluorobenzene (S)	102 %	/ 0	87-113		1		03/21/12 15:19	460-00-4	
1,2-Dichloroethane-d4 (S)	94 %	0	82-119		1		03/21/12 15:19	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		03/21/12 15:19		

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## Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

Sample: TRIP BLANK	Lab ID: 601	17007005 Collect	ed: 03/08/12	2 18:45	Received: 03	B/10/12 09:00 Ma	atrix: Water	
Parameters	Results	Report Units Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Met	hod: EPA 8260						
Benzene	<b>0.20J</b> ug/L	1.0	0.040	1		03/20/12 11:28	71-43-2	
Ethylbenzene	ND ug/L	1.0	0.10	1		03/20/12 11:28	100-41-4	
Toluene	0.68J ug/L	1.0	0.10	1		03/20/12 11:28	108-88-3	В
Xylene (Total)	ND ug/L	3.0	0.30	1		03/20/12 11:28	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98 %	86-112		1		03/20/12 11:28	1868-53-7	
Toluene-d8 (S)	99 %	90-110		1		03/20/12 11:28	2037-26-5	
4-Bromofluorobenzene (S)	101 %	87-113		1		03/20/12 11:28	460-00-4	
1,2-Dichloroethane-d4 (S)	97 %	82-119		1		03/20/12 11:28	17060-07-0	
Preservation pH	1.0	1.0	0.10	1		03/20/12 11:28		

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Project:	NELL HALL	NO. 1 (07494	41)										
Pace Project No.:	60117007												
QC Batch:	MPRP/173	10		Analysi	s Method:	E	PA 6010						
QC Batch Method:	EPA 3010			Analysi	s Descript	tion: 6	010 MET Di	ssolved					
Associated Lab Sar	nples: 6011	7007001, 60	117007002,	601170070	03								
METHOD BLANK:	965102			М	latrix: Wat	ter							
Associated Lab Sar	nples: 6011	7007001, 60	117007002,	601170070	03								
				Blank	R	eporting							
Paran	neter		Units	Result		Limit	Analyz	ed	Qualifiers				
Iron, Dissolved		ug/L		4	1.8J	50.0	03/20/12	11:47					
LABORATORY CO	NTROL SAMP	LE: 96510	3										
				Spike	LCS	5	LCS	% Re	С				
Paran	neter	I	Units	Conc.	Resu	ılt	% Rec	Limits	s Q	ualifiers			
Iron, Dissolved		ug/L		10000	1	10000	100	80	)-120				
MATRIX SPIKE & M	ATRIX SPIKE	DUPLICATE	E: 965104	4		965105							
				MS	MSD								
		601	17005001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parame	ter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Iron, Dissolved		ug/L	40.9J	10000	10000	10800	10800	107	107	75-125	0	20	

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

QC Batch:	MSV/44313
QC Batch Method:	EPA 8260

Analysis Method:

Analysis Description:

Matrix: Water

60117007001, 60117007002

8260 MSV UST-WATER

EPA 8260

METHOD BLANK: 967865

Associated Lab Samples:

Associated Lab Samples: 60117007001, 60117007002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/21/12 10:21	
Ethylbenzene	ug/L	ND	1.0	03/21/12 10:21	
Toluene	ug/L	0.14J	1.0	03/21/12 10:21	
Xylene (Total)	ug/L	ND	3.0	03/21/12 10:21	
1,2-Dichloroethane-d4 (S)	%	95	82-119	03/21/12 10:21	
4-Bromofluorobenzene (S)	%	102	87-113	03/21/12 10:21	
Dibromofluoromethane (S)	%	96	86-112	03/21/12 10:21	
Toluene-d8 (S)	%	98	90-110	03/21/12 10:21	

#### LABORATORY CONTROL SAMPLE: 967866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.2	106	82-117	
Ethylbenzene	ug/L	20	21.8	109	79-121	
Toluene	ug/L	20	21.3	107	80-120	
Xylene (Total)	ug/L	60	68.1	113	79-120	
1,2-Dichloroethane-d4 (S)	%			92	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			96	86-112	
Toluene-d8 (S)	%			98	90-110	

## **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

QC Batch:	MSV/44314	Analysis Method:	EPA 8260	
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV UST-WATER	
Associated Lab San	nples: 60117007005			
METHOD BLANK:	967867	Matrix: Water		
Associated Lab San	nples: 60117007005			
		Blank Reportin	q	

		Dialik	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/20/12 10:01	
Ethylbenzene	ug/L	ND	1.0	03/20/12 10:01	
Toluene	ug/L	0.14J	1.0	03/20/12 10:01	
Xylene (Total)	ug/L	ND	3.0	03/20/12 10:01	
1,2-Dichloroethane-d4 (S)	%	96	82-119	03/20/12 10:01	
4-Bromofluorobenzene (S)	%	102	87-113	03/20/12 10:01	
Dibromofluoromethane (S)	%	97	86-112	03/20/12 10:01	
Toluene-d8 (S)	%	100	90-110	03/20/12 10:01	

## LABORATORY CONTROL SAMPLE: 967868

Parameter	Linite	Spike	LCS Result	LCS % Rec	% Rec	Qualifiers
				/0 1100		Qualifiers
Benzene	ug/L	20	20.8	104	82-117	
Ethylbenzene	ug/L	20	20.5	102	79-121	
Toluene	ug/L	20	20.3	102	80-120	
Xylene (Total)	ug/L	60	64.1	107	79-120	
1,2-Dichloroethane-d4 (S)	%			95	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			99	86-112	
Toluene-d8 (S)	%			100	90-110	

# **REPORT OF LABORATORY ANALYSIS**

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EPA 8260

8260 MSV UST-WATER

Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

QC Batch:	MSV/44384
QC Batch Method:	EPA 8260

QC Batch Method: EPA 8260 Associated Lab Samples: 60117007003, 60117007004

Matrix: Water

Analysis Method:

Analysis Description:

METHOD BLANK: 969122

Associated Lab Samples: 60117007003, 60117007004

		Blank	Reporting		
Parameter	Units	Result	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	

Date: 03/23/2012 01:54 PM

## **REPORT OF LABORATORY ANALYSIS**

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Pace Package 16 of 20



## QUALIFIERS

Project: NELL HALL NO. 1 (074941)

Pace Project No.: 60117007

### 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.

## **BATCH QUALIFIERS**

Batch: MSV/44313

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume. Batch: MSV/44314

[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

B Analyte was detected in the associated method blank.

## **REPORT OF LABORATORY ANALYSIS**

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NELL HALL NO. 1 (074941) Pace Project No.: 60117007

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60117007001	GW-074941-3712-CB-MW-4	EPA 3010	MPRP/17310	EPA 6010	ICP/14765
60117007002	GW-074941-3712-CB-MW-5	EPA 3010	MPRP/17310	EPA 6010	ICP/14765
60117007003	GW-074941-3712-CB-MW-6	EPA 3010	MPRP/17310	EPA 6010	ICP/14765
60117007001	GW-074941-3712-CB-MW-4	EPA 8260	MSV/44313		
60117007002	GW-074941-3712-CB-MW-5	EPA 8260	MSV/44313		
60117007003	GW-074941-3712-CB-MW-6	EPA 8260	MSV/44384		
60117007004	GW-074941-3712-CB-DUP	EPA 8260	MSV/44384		
60117007005	TRIP BLANK	EPA 8260	MSV/44314		

# **REPORT OF LABORATORY ANALYSIS**

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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.

Section A Required Cliv	ent Information:	Section B Required Project Information:	Section C Invoice Information:	Page: Cof	Campone
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:	REGULATORY AGENCY	
	Albequerque, NM 87110		Adress:	L NPDES L GROUND WATER L DRINKING	G WATER
Email To:	cmathews@craworld.com	Purchase Order No.: 4515860215	Pace Quote Reference:	L UST F RCRA	NWCC
Phone: (5(	15)884-0672 Fax: (505)884-4932	Project Name: Neli Hall No.1	Pace Project Alice Tracy	Site Location	
Requested L	Due Date/TAT: standard	Project Number: 074941	Pace Profile #: 5514, 4	STATE: NM STATE:	
			Request	d Analysis Filtered (Y/N)	
Sec	tion D Valid Matrix C ured Client Information MATRIX	odes € D D COLLECTED	Preservatives ≥		
	DRINKING WATER WATER WASTE WASTE WASTE PRODUCT SOILSOUD	DW WT WW F COMPOSITE ENDIGRAB START ENDIGRAB START ENDIGRAB		(N/X)	
	SAMPLE ID WIFE (A-Z, 0-9/,-) OTHER Sample IDs MUST BE UNIQUE TISSUE	역 홍 운 호 20DE (se 20DE (se	Part cc System Poed I I I I I I I I I I I I I I I I I I I	Chlorine	
# MƏTI		ААРРЦЕТ Т МАРАРЦЕТ ДАТЕ ДАТЕ ДАТЕ ТІМЕ ДАТЕ ТІМЕ	SAMPLE T SAMPLE T SAM		るイ No./ Lab I.D.
-	W.NYA41.3712 VR - MW-4	1 L + L + L +		3 DGGH IRPENTS	-
2 6	W. 0744137121CB MW	2 wild 3/1/1 1-45			1
<u>ې</u>	W. 0749413812. (B. MW	1-10 Will 6 319/2 164			M
4	W. 07 4441. 3712. CB. dul	D WITC 37/1/2/740		he he	
-1	why blank	WT 38/2 1045	X		
9					
~ °					
• 5					
9					
7					
12					
	ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION DATE	TIME ACCEPTED BY / AFFILIATIO	DATE TIME SAMPLE CONDIT	rions
		(DER DOWN/CRA 3811	2 130 Phurgers	5-10-12 0900 2-7	
P			<u></u>		
ace		· ·			
Ра		SAMPLER NAME AND SIGNA		,(N) )) ) ) ) , ) , ) , ) , ) , ) , , , ,	lact
cka		PRINT Name of SAMPL	ER ADSIC DOUN	i ni qm: Celived V/Y) screved V/Y) screved V/Y) screved	ni səlqı (N\Y)
ge		SIGNATURE of SAMPL	ER: COBSU BORNAN WIDDOW	3.812 TE REL CUS	neS
19 c	*Important Note <sup>.</sup> By signing this form you are accepting I	Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per mor	th for any invoices not paid within 30 days.	F-ALL-Q-020rev.08, 12-Oct-2	2007
of 20					

	on Unon Pacoint - Eg	Toch Space		
Client Name: <u>COP</u> CR		Project #:_	60117,007	
Courier: Fed Ex 🖓 UPS 🗆 USPS 🗆 Client 🗆	Commercial  Pace	Other 🗆 🔄	Optional	
racking #: 898638321843	Pace Shipping Label Used?	Yes 🗹 🛛 No 🗆	Proj Due Date: 5 Proj Name:	reary
Custody Seal on Cooler/Box Present: Yes 🖉 No	□ Seals intact: Yes Ø	No 🗆	• <u>•</u> •	
Packing Material: Bubble Wrap □ Bubble Ba	gs 🗆 🛛 🛛 🗖	None 🗆	Other 🗆	
Thermometer Used: $(\underline{T-19} / T-194)$	npe of Ice: (Vet) Blue No	one 🗆 Samples r	eceived on ice, cooling process ha	s begun.
Sooler Temperature:	(circle one)	Dat	e and initials of person examining	ıg
emperature 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.		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	
Short Hold Time analyses (<72hr):	UYes ØNo □N/A 6.			
Rush Turn Around Time requested:			C	
Sufficient volume:	Yes INO IN/A 8.			
Correct containers used:	Yes INO IN/A			
-Pace containers used:	Yes INO IN/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 ØN/A 12.		······································	
Sample labels match COC:	Yes INO IN/A			
-Includes date/time/ID/analyses Matrix	"C-T 13.			
All containers needing preservation have been checked.	Øryes ⊡No □N/A		· · · · · · · · · · · · · · · · · · ·	
All containers needing preservation are found to be in				
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water),		when	Lot # of added	
Irip Blank present:		elea	preservauve	
Pace Trip Blank lot # (if purchased): 013012-3				
Headspace in VOA vials ( >6mm):				
	/			)
Project sampled in LISDA Regulated Area		ist State		b
Fiojest sampleu in USDA Regulateu Alea.				
Client Notification/ Resolution: Copy C	OC to Client? Y $I(N)$	Field Data Req	uired? Y / N	inh fires
Person Contacted: D	ate/Time:		when unpacking cooler, if >20 m	isri timės iin,
Comments/ Resolution:			recheck sample temps.	
	Ann 184 - 14 - 16 - 16 - 16 - 16 - 16 - 16 - 1	, 1	End: ////9 End:	
ALS ALS	Date:	3/2/12	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).

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


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

June 19, 2012

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

RE: Project: NELL HALL NO 1 074941 Pace Project No.: 60122809

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 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 Flanazan

Alice Flanagan

alice.flanagan@pacelabs.com Project Manager

Enclosures

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



# **REPORT OF LABORATORY ANALYSIS**

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# CERTIFICATIONS

Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

#### **Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219 A2LA Certification #: 2456.01 Arkansas Certification #: 05-008-0 Illinois Certification #: 001191 Iowa Certification #: 118 Kansas/NELAP Certification #: E-10116 Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-08-TX Utah Certification #: 9135995665

# **REPORT OF LABORATORY ANALYSIS**

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# SAMPLE SUMMARY

Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60122809001	GW-074941-060412-CB-MW-4	Water	06/04/12 18:05	06/07/12 09:00
60122809002	GW-074941-060412-CB-MW-5	Water	06/04/12 17:40	06/07/12 09:00
60122809003	GW-074941-060412-CB-MW-6	Water	06/04/12 17:25	06/07/12 09:00
60122809004	GW-074941-060412-CB-DUP	Water	06/04/12 17:30	06/07/12 09:00
60122809005	TRIP BLANK	Water	06/04/12 09:00	06/07/12 09:00

# **REPORT OF LABORATORY ANALYSIS**

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# SAMPLE ANALYTE COUNT

Project:NELL HALL NO 1074941Pace Project No.:60122809

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60122809001	GW-074941-060412-CB-MW-4	EPA 6010	JDH	1
		EPA 8260	PRG	9
60122809002	GW-074941-060412-CB-MW-5	EPA 6010	JDH	1
		EPA 8260	PRG	9
60122809003	GW-074941-060412-CB-MW-6	EPA 6010	JDH	1
		EPA 8260	PRG	9
60122809004	GW-074941-060412-CB-DUP	EPA 8260	RNS	9
60122809005	TRIP BLANK	EPA 8260	PRG	9

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

#### Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:June 19, 2012

#### General Information:

3 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/18386

- B: Analyte was detected in the associated method blank.
  - GW-074941-060412-CB-MW-4 (Lab ID: 60122809001) • Iron, Dissolved
  - GW-074941-060412-CB-MW-6 (Lab ID: 60122809003)
    - Iron, Dissolved

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

#### Method: EPA 8260

Description:8260 MSV UST, WaterClient:COP Conestoga-Rovers & Associates, Inc. NMDate:June 19, 2012

#### General Information:

5 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/46219

S0: Surrogate recovery outside laboratory control limits.

- GW-074941-060412-CB-MW-4 (Lab ID: 60122809001)
  - 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/46219

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

#### QC Batch: MSV/46307

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:

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Method:EPA 8260Description:8260 MSV UST, WaterClient:COP Conestoga-Rovers & Associates, Inc. NMDate:June 19, 2012

Batch Comments:

• QC Batch: MSV / 46346

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

# **REPORT OF LABORATORY ANALYSIS**

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#### Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Sample: GW-074941-060412-CB- MW-4	Lab ID:	60122809001	Collecte	d: 06/04/12	2 18:05	Received: 06/07/12 09:00 Matrix: Water			
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	6010 Prepa	ration Metho	od: EPA	A 3010			
Iron, Dissolved	<b>1170</b> ug	g/L	50.0	17.2	1	06/15/12 15:55	06/18/12 12:48	7439-89-6	В
8260 MSV UST, Water	Analytical	Method: EPA 8	3260						
Benzene	ND ug	g/L	1.0	0.050	1		06/12/12 07:22	71-43-2	
Ethylbenzene	ND ug	g/L	1.0	0.080	1		06/12/12 07:22	100-41-4	
Toluene	ND ug	g/L	1.0	0.070	1		06/12/12 07:22	108-88-3	
Xylene (Total)	ND ug	g/L	3.0	0.18	1		06/12/12 07:22	1330-20-7	
Surrogates		-							
Dibromofluoromethane (S)	104 %	D	86-112		1		06/12/12 07:22	1868-53-7	
Toluene-d8 (S)	98 %	D	90-110		1		06/12/12 07:22	2037-26-5	
4-Bromofluorobenzene (S)	119 %	D	87-113		1		06/12/12 07:22	460-00-4	S0
1,2-Dichloroethane-d4 (S)	101 %	D	82-119		1		06/12/12 07:22	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		06/12/12 07:22		

# **REPORT OF LABORATORY ANALYSIS**

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#### Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Sample: GW-074941-060412-CB- MW-5	Lab ID: 60122809002 Collected: 06/04/12 17:40 Received: 06/07/12 09:00						07/12 09:00 Ma	Matrix: Water		
			Report							
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	6010 Prepa	ration Metho	od: EPA	A 3010				
Iron, Dissolved	ND u	g/L	50.0	17.2	1	06/15/12 15:55	06/18/12 12:51	7439-89-6		
8260 MSV UST, Water	Analytical	Method: EPA 8	3260							
Benzene	ND u	g/L	1.0	0.050	1		06/12/12 07:36	71-43-2		
Ethylbenzene	ND u	g/L	1.0	0.080	1		06/12/12 07:36	100-41-4		
Toluene	ND u	g/L	1.0	0.070	1		06/12/12 07:36	108-88-3		
Xylene (Total)	ND u	g/L	3.0	0.18	1		06/12/12 07:36	1330-20-7		
Surrogates		-								
Dibromofluoromethane (S)	102 %	, D	86-112		1		06/12/12 07:36	1868-53-7		
Toluene-d8 (S)	98 %	, D	90-110		1		06/12/12 07:36	2037-26-5		
4-Bromofluorobenzene (S)	104 %	, D	87-113		1		06/12/12 07:36	460-00-4		
1,2-Dichloroethane-d4 (S)	101 %	, D	82-119		1		06/12/12 07:36	17060-07-0		
Preservation pH	1.0		1.0	0.10	1		06/12/12 07:36			

# **REPORT OF LABORATORY ANALYSIS**

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#### Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Sample: GW-074941-060412-CB- MW-6	Lab ID:	60122809003	Collecte	d: 06/04/12	2 17:25	Received: 06/	07/12 09:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical I	Method: EPA 6	010 Prepa	ration Metho	od: EP/	A 3010			
Iron, Dissolved	<b>19200</b> ug	ı/L	50.0	17.2	1	06/15/12 15:55	06/18/12 13:02	7439-89-6	В
8260 MSV UST, Water	Analytical I	Method: EPA 8	260						
Benzene	<b>649</b> ug	ı/L	10.0	0.50	10		06/13/12 17:29	71-43-2	
Ethylbenzene	<b>309</b> ug	ı/L	10.0	0.80	10		06/13/12 17:29	100-41-4	
Toluene	ND ug	ı/L	10.0	0.70	10		06/13/12 17:29	108-88-3	
Xylene (Total)	<b>314</b> ug	ı/L	30.0	1.8	10		06/13/12 17:29	1330-20-7	
Surrogates	-								
Dibromofluoromethane (S)	106 %		86-112		10		06/13/12 17:29	1868-53-7	
Toluene-d8 (S)	100 %		90-110		10		06/13/12 17:29	2037-26-5	
4-Bromofluorobenzene (S)	105 %		87-113		10		06/13/12 17:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		82-119		10		06/13/12 17:29	17060-07-0	
Preservation pH	1.0		1.0	0.10	10		06/13/12 17:29		

# **REPORT OF LABORATORY ANALYSIS**

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#### Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Sample: GW-074941-060412-CB- DUP	Lab ID: 60122809004		Collecte	d: 06/04/12	2 17:30	Received: 06/07/12 09:00 Matrix: Water			
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical M	lethod: EPA 8	260						
Benzene	<b>620</b> ug/	/L	10.0	0.40	10		06/14/12 21:53	71-43-2	
Ethylbenzene	<b>267</b> ug/	/L	10.0	1.0	10		06/14/12 21:53	100-41-4	
Toluene	ND ug	/L	10.0	1.0	10		06/14/12 21:53	108-88-3	
Xylene (Total)	<b>266</b> ug/	/L	30.0	3.0	10		06/14/12 21:53	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	94 %		86-112		10		06/14/12 21:53	1868-53-7	
Toluene-d8 (S)	100 %		90-110		10		06/14/12 21:53	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-113		10		06/14/12 21:53	460-00-4	
1,2-Dichloroethane-d4 (S)	93 %		82-119		10		06/14/12 21:53	17060-07-0	
Preservation pH	1.0		1.0	0.10	10		06/14/12 21:53		

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#### Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

Sample: TRIP BLANK	Lab ID: 6	60122809005	Collected	d: 06/04/12	2 09:00	Received: 06	6/07/12 09:00 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical M	lethod: EPA 8	260						
Benzene	ND ug/	/L	1.0	0.050	1		06/13/12 16:03	71-43-2	
Ethylbenzene	ND ug/	/L	1.0	0.080	1		06/13/12 16:03	100-41-4	
Toluene	ND ug/	/L	1.0	0.070	1		06/13/12 16:03	108-88-3	
Xylene (Total)	ND ug/	/L	3.0	0.18	1		06/13/12 16:03	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103 %		86-112		1		06/13/12 16:03	1868-53-7	
Toluene-d8 (S)	99 %		90-110		1		06/13/12 16:03	2037-26-5	
4-Bromofluorobenzene (S)	106 %		87-113		1		06/13/12 16:03	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		82-119		1		06/13/12 16:03	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		06/13/12 16:03		

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Project:	NELL HALL NO	01 07494	1										
Pace Project No.:	60122809												
QC Batch:	MPRP/18386			Analys	is Method	: 6	EPA 6010						
QC Batch Method:	EPA 3010			Analys	is Descrip	tion: 6	6010 MET Di	ssolved					
Associated Lab Sar	mples: 601228	309001, 60	122809002	, 60122809	003								
METHOD BLANK:	1014955			N	latrix: Wa	iter							
Associated Lab Sar	mples: 601228	309001, 60	122809002	, 60122809	003								
				Blank	R	Reporting							
Parar	neter		Units	Result	t	Limit	Analyz	ed	Qualifiers				
Iron, Dissolved		ug/L			ND	50.	0 06/18/12	10:42					
LABORATORY CO	NTROL SAMPLE	: 10149	56	<b>o</b> "		_							
Darar	motor		Linite	Spike	LCS	5	LCS	% Re		alifiare			
	lietei		Offits				/0 11.00			ainers	-		
Iron, Dissolved		ug/L		10000		9620	96	80	)-120				
MATRIX SPIKE & N	ATRIX SPIKE D	UPLICATE	E: 10149	57		1014958							
				MS	MSD								
		601	22799001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parame	ter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Iron, Dissolved	u	g/L	7.1 mg/L	10000	10000	16200	16400	92	93	75-125	1	20	

Date: 06/19/2012 05:25 PM

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

QC Batch: MSV/46219 QC Batch Method: EPA 8260

Associated Lab Samples:

Analysis Method:

Analysis Description: 8260 MSV UST-WATER

EPA 8260

METHOD BLANK: 1012030

Matrix: Water

Associated Lab Samples: 60122809001, 60122809002

60122809001, 60122809002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/12/12 03:32	
Ethylbenzene	ug/L	ND	1.0	06/12/12 03:32	
Toluene	ug/L	ND	1.0	06/12/12 03:32	
Xylene (Total)	ug/L	ND	3.0	06/12/12 03:32	
1,2-Dichloroethane-d4 (S)	%	96	82-119	06/12/12 03:32	
4-Bromofluorobenzene (S)	%	101	87-113	06/12/12 03:32	
Dibromofluoromethane (S)	%	100	86-112	06/12/12 03:32	
Toluene-d8 (S)	%	100	90-110	06/12/12 03:32	

#### LABORATORY CONTROL SAMPLE: 1012031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.8	104	82-117	
Ethylbenzene	ug/L	20	20.5	102	79-121	
Toluene	ug/L	20	21.2	106	80-120	
Xylene (Total)	ug/L	60	60.9	101	79-120	
1,2-Dichloroethane-d4 (S)	%			102	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			106	86-112	
Toluene-d8 (S)	%			102	90-110	

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# **REPORT OF LABORATORY ANALYSIS**

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Pace Package 14 of 20



Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

QC Batch: MSV/46307 QC Batch Method: EPA 8260 Analysis Method:

Analysis Description:

EPA 8260

8260 MSV UST-WATER

Associated Lab Samples: 60122809003, 60122809005

METHOD BLANK: 1013449

Matrix: Water

Associated Lab Samples: 60122809003, 60122809005

		Blank	Reporting		
Parameter	Units	Result	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	

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

 QC Batch:
 MSV/46346
 Analysis Method:
 EPA 8260

 QC Batch Method:
 EPA 8260
 Analysis Description:
 8260 MSV UST-WATER

 Associated Lab Samples:
 60122809004
 Matrix: Water

Associated Lab Samples: 60122809004

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/14/12 21:38	
Ethylbenzene	ug/L	ND	1.0	06/14/12 21:38	
Toluene	ug/L	ND	1.0	06/14/12 21:38	
Xylene (Total)	ug/L	ND	3.0	06/14/12 21:38	
1,2-Dichloroethane-d4 (S)	%	95	82-119	06/14/12 21:38	
4-Bromofluorobenzene (S)	%	100	87-113	06/14/12 21:38	
Dibromofluoromethane (S)	%	97	86-112	06/14/12 21:38	
Toluene-d8 (S)	%	101	90-110	06/14/12 21:38	

#### LABORATORY CONTROL SAMPLE: 1014007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.0	100	82-117	
Ethylbenzene	ug/L	20	18.3	91	79-121	
Toluene	ug/L	20	19.1	96	80-120	
Xylene (Total)	ug/L	60	55.4	92	79-120	
1,2-Dichloroethane-d4 (S)	%			93	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			96	86-112	
Toluene-d8 (S)	%			100	90-110	

MATRIX SPIKE & MATRIX SP	E: 10140	08		1014009								
			MS	MSD								
	60	122831003	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Benzene	ug/L	ND	100	100	95.1	111	92	109	58-139	16	21	
Ethylbenzene	ug/L	29.9	100	100	113	127	83	97	56-138	12	19	
Toluene	ug/L	ND	100	100	89.2	106	85	102	59-140	17	19	
Xylene (Total)	ug/L	ND	300	300	249	295	83	98	52-146	17	19	
1,2-Dichloroethane-d4 (S)	%						96	96	82-119			
4-Bromofluorobenzene (S)	%						101	102	87-113			
Dibromofluoromethane (S)	%						99	98	86-112			
Toluene-d8 (S)	%						101	100	90-110			
Preservation pH		1.0			1.0	1.0				0		

Date: 06/19/2012 05:25 PM

# **REPORT OF LABORATORY ANALYSIS**

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# QUALIFIERS

Project: NELL HALL NO 1 074941

Pace Project No.: 60122809

#### 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/46219

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

Batch: MSV/46307

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

Batch: MSV/46346

[1]

#### ANALYTE QUALIFIERS

- B Analyte was detected in the associated method blank.
- S0 Surrogate recovery outside laboratory control limits.

# **REPORT OF LABORATORY ANALYSIS**

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:NELL HALL NO 1074941Pace Project No.:60122809

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60122809001	GW-074941-060412-CB-MW-4	EPA 3010	MPRP/18386	EPA 6010	ICP/15406
60122809002	GW-074941-060412-CB-MW-5	EPA 3010	MPRP/18386	EPA 6010	ICP/15406
60122809003	GW-074941-060412-CB-MW-6	EPA 3010	MPRP/18386	EPA 6010	ICP/15406
60122809001	GW-074941-060412-CB-MW-4	EPA 8260	MSV/46219		
60122809002	GW-074941-060412-CB-MW-5	EPA 8260	MSV/46219		
60122809003	GW-074941-060412-CB-MW-6	EPA 8260	MSV/46307		
60122809004	GW-074941-060412-CB-DUP	EPA 8260	MSV/46346		
60122809005	TRIP BLANK	EPA 8260	MSV/46307		

Date: 06/19/2012 05:25 PM

# **REPORT OF LABORATORY ANALYSIS**

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Pace Analytical <sup>®</sup> Sample Condi	tion Upon Rece	ipt – ESI Tech Spe	ecs
Client Name: <u>Cop- cr</u>	<u>Ą</u>	Project	#: 66122809
Courier: Fed Ex UPS UPS USPS Client	Commercial	Pace  Other	Optional Proj Due Date: (// g
Tracking #: <u>871570016518</u>	Pace Shipping Labe	el Used? Yes ⊔ No	Proj Name:
Custody Seal on Cooler/Box Present: Yes N	o □ Seals intact:		
Packing Material: Bubble Wrap U Bubble B	Bags ⊔ Foa		Other []
Cooler Temperature: 2.7	Type of Ice: Wet (c	Blue None ⊔ Samp ircle one)	Date and initials of person examining contents: 0712
Period of Control of C		///	
Chain of Custody present:		//	
Unain of Custody filled out:		/A _2.	
Chain of Custody relinquished:		/A 3.	· · · · · · · · · · · · · · · · · · ·
Sampler name & signature on COC:		/A 4.	
Samples arrived within holding time:		/A 5.	
Short Hold Time analyses (<72hr):		/A 6.	a na hair an
Rush Turn Around Time requested:	□Yes DNo □N	//A 7.	
Sufficient volume:	Pres DNo DN	1/A 8.	
Correct containers used:	Yes No N	I/A	
-Pace containers used:	Dres 🗆 No 🗆 N	I/A 9.	
Containers intact:		I/A 10.	
Unpreserved 5035A soils frozen w/in 48hrs?		//A 11.	
Filtered volume received for dissolved tests?	Yes DNo-25	17A 12.	· · · · · · · · · · · · · · · · · · ·
Sample labels match COC:		I/A	
-Includes date/time/ID/analyses Matrix: UT		13.	
All containers needing preservation have been checked.		I/A	
All containers needing preservation are found to be in compliance with EPA recommendation. Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenodics	Yes No No	I/A 14. Initial when	Lot # of added
Trip Blank present:		I/A	[[********
Pace Trip Blank lot # (if purchased): 052(12-3		15.	
Headspace in VOA vials ( >6mm):		i/A	,,
		16	
Project sampled in USDA Regulated Area:	Yes No DI	V/A 17. List State:	h
Client Notification/ Resolution: Copy	COC to Client? Y	/ N Field Data I	Required? Y / N
Person Contacted:	Date/Time:		Temp Log: Record start and finish time: when unpacking cooler, if >20 min, recheck sample temps.
			Start: 1235 Start:
		dat.	End: 1239 End:
Project Manager Review:		Date:	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).

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

	Analytical	ww.pacelabs.com
Ś	Pace	

Contraction of the second

# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

	WWW.pacetacs for			
Section		Section B Regulied Project Information:	Section C Invoice Information:	- rage:
Require		Report To: Christine Mathews	Attention: ENFOS	
Adroce	e124 Indian School Bd NF Ste 200 (	Copy To: Kelly Blanchard, Angela Bown	Company Name:	REGULATORY AGENCY
	Albenueraue. NM 87110		Address.	F NPDES K GROUND WATER F" DRINKING WATER
Email TC	· · · · · · · · · · · · · · · · · · ·	Purchase Order No.: 4515860215	Pace Ouote Reference	F UST F RCRA F OTHER
Dhone:	/f0/5/884_0672 Fax (505)884-4932	Project Name: Nell Hall No.1	Pace Project Alice Tracy Manager	Site Location NM ///////////////////////////////////
	red Due Date/TAT standard	Project Number: 074941	Pace Profile #: 5514, 4	STATE:
Sanhau			Requested	Analysis Filtered (YIN)
	Section D Valid Matrix Co	ades 🖻 💭		
	Required Client Information <u>MATRIX</u> WATER WATER WASTE WATER PRODUCT SOLUSOLD	Point of the second sec	E= ff contection	(N/A) et
	SAMPLE ID WIPE (A-Z, 0-9 / -) OTHER Sample IDS MUST BE UNIQUE TISSUE	E TYPE (G=	LE TEMP AT C CONTRINER escryed 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
# W3.		MATR SAMPL DATE TIME DATE TIME DATE	жог жог жог жог жог жог жог жог	V C 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	M. Contraction of the second second	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1-181377, 3106914 U
	Color Of 441 Clevel 2 (B. M.W.	15 who - 04/10/74		
4 0	C.W. OPAAI, JONAID, CB, MW	1-10 WTG 10/4/12 1-12		
4	Low orage. Closed 2. CB. du	P witch	X	Ctal Ctal cta
2	The Bauk			
9 1				
~ ~				
<b>•</b>				
위 :				
- 2			ATE TIME ACCEPTED BY / AFFILIATION	DATE TIME SAMPLE CONDITIONS
	NYA: NOTAL COMMENTS	COPAN BRAIN APPLICATION COR	119 EBreckett	binter 2000 2.7 4 4 4
ace	WHI THAN TIMPA			
нас				•C •C •C
kag		SAMPLEK NAME AND SI PRINT Name of SA	AMPLER: 17000 - 6179.00	(Y/N) ropies ( cceived cceived fody S fody S
e 20		SIGNATURE of SI	AMPLER MAN DI WW (MMIDDM)	$\frac{1}{2} \alpha_0 \beta_0 / 1 \beta_1$ Te Re Cuso Sa
7 O	0			F-ALL-Q-020rev.08, 12-Oct-2007

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

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

October 01, 2012

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

RE: Project: NELL HALL NO 1 Pace Project No.: 60129629

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

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



# **REPORT OF LABORATORY ANALYSIS**

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# CERTIFICATIONS

Project: NELL HALL NO 1

Pace Project No.: 60129629

#### **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: NELL HALL NO 1

Pace Project No.: 60129629

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129629001	GW-074941-092012-JP-MW-4	Water	09/20/12 17:35	09/22/12 08:50
60129629002	GW-074941-092012-JP-MW-5	Water	09/20/12 17:35	09/22/12 08:50
60129629003	GW-074941-092012-JP-MW-6	Water	09/20/12 17:30	09/22/12 08:50
60129629004	GW-074941-092012-JP-DUP	Water	09/20/12 17:40	09/22/12 08:50
60129629005	TB-074941-092012	Water	09/20/12 00:00	09/22/12 08:50

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# SAMPLE ANALYTE COUNT

Project: NELL HALL NO 1 Pace Project No.: 60129629

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60129629001	GW-074941-092012- IP-MW-4	 ΕΡΔ 6010		1
00120020001	GW-074341-032012-01-WW-4	EPA 5030B/8260	JTS	9
60129629002	GW-074941-092012-JP-MW-5	EPA 6010	SMW	1
		EPA 5030B/8260	JTS	9
60129629003	GW-074941-092012-JP-MW-6	EPA 6010	SMW	1
		EPA 5030B/8260	JTS	9
60129629004	GW-074941-092012-JP-DUP	EPA 5030B/8260	JTS	9
60129629005	TB-074941-092012	EPA 5030B/8260	JTS	9

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Project: NELL HALL NO 1

Pace Project No.: 60129629

#### Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:October 01, 2012

#### General Information:

3 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:

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1

Pace Project No.: 60129629

#### Method: EPA 5030B/8260

Description:8260 MSVClient:COP Conestoga-Rovers & Associates, Inc. NMDate:October 01, 2012

#### General Information:

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

#### Hold Time:

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

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

#### Continuing Calibration:

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

#### **Internal Standards:**

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

#### Surrogates:

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

#### Method Blank:

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

#### Laboratory Control Spike:

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

#### Matrix Spikes:

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

#### QC Batch: MSV/48681

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

#### Additional Comments:

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

# **REPORT OF LABORATORY ANALYSIS**

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Project: NELL HALL NO 1

Pace Project No.: 60129629

Sample: GW-074941-092012-JP- MW-4	Lab ID: 60129629001 Collected: 09/20/12 17:35 Received: 09/22/12 08:50 Matrix: Water								
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	6010 Prepa	ration Metho	od: EP/	A 3010			
Iron, Dissolved	ND u	ıg/L	250	86.0	5	09/24/12 13:45	09/28/12 11:37	7439-89-6	
8260 MSV	Analytical	Method: EPA 5	5030B/8260						
Benzene	ND u	ıg/L	1.0	0.12	1		09/24/12 21:32	71-43-2	
Ethylbenzene	ND u	ıg/L	1.0	0.060	1		09/24/12 21:32	100-41-4	
Toluene	ND u	ıg/L	1.0	0.054	1		09/24/12 21:32	108-88-3	
Xylene (Total)	ND u	ıg/L	3.0	0.67	1		09/24/12 21:32	1330-20-7	
Surrogates		-							
4-Bromofluorobenzene (S)	99 %	6	80-120		1		09/24/12 21:32	460-00-4	
Dibromofluoromethane (S)	101 %	6	80-120		1		09/24/12 21:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %	6	80-120		1		09/24/12 21:32	17060-07-0	
Toluene-d8 (S)	100 %	6	80-120		1		09/24/12 21:32	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		09/24/12 21:32		

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Project: NELL HALL NO 1

Pace Project No.: 60129629

Sample: GW-074941-092012-JP- MW-5	Lab ID: 60129629002 Collected: 09/20/12 17:35 Received: 09/22/12 08:50 Matrix: Water								
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	6010 Prepa	ration Metho	od: EPA	A 3010			
Iron, Dissolved	ND u	g/L	50.0	17.2	1	09/24/12 13:45	09/26/12 15:41	7439-89-6	
8260 MSV	Analytical	Analytical Method: EPA 5030B/8260							
Benzene	ND u	g/L	1.0	0.12	1		09/24/12 21:47	71-43-2	
Ethylbenzene	ND u	g/L	1.0	0.060	1		09/24/12 21:47	100-41-4	
Toluene	ND u	g/L	1.0	0.054	1		09/24/12 21:47	108-88-3	
Xylene (Total)	ND u	g/L	3.0	0.67	1		09/24/12 21:47	1330-20-7	
Surrogates		-							
4-Bromofluorobenzene (S)	98 %	, 0	80-120		1		09/24/12 21:47	460-00-4	
Dibromofluoromethane (S)	97 %	, D	80-120		1		09/24/12 21:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	93 %	, D	80-120		1		09/24/12 21:47	17060-07-0	
Toluene-d8 (S)	110 %	, D	80-120		1		09/24/12 21:47	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		09/24/12 21:47		

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Project: NELL HALL NO 1

Pace Project No.: 60129629

Sample: GW-074941-092012-JP- MW-6	Lab ID	: 60129629003	Collecte	d: 09/20/12	2 17:30	Received: 09/	22/12 08:50 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	al Method: EPA 6	6010 Prepa	ration Metho	od: EP/	A 3010			
Iron, Dissolved	9530	ug/L	50.0	17.2	1	09/24/12 13:45	09/26/12 15:44	7439-89-6	
8260 MSV	Analytica	al Method: EPA 5	5030B/8260						
Benzene	266	ug/L	5.0	0.60	5		09/24/12 22:03	71-43-2	
Ethylbenzene	65.0	ug/L	5.0	0.30	5		09/24/12 22:03	100-41-4	
Toluene	ND	ug/L	5.0	0.27	5		09/24/12 22:03	108-88-3	
Xylene (Total)	35.5	ug/L	15.0	3.4	5		09/24/12 22:03	1330-20-7	
Surrogates		-							
4-Bromofluorobenzene (S)	99	%	80-120		5		09/24/12 22:03	460-00-4	
Dibromofluoromethane (S)	100	%	80-120		5		09/24/12 22:03	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	80-120		5		09/24/12 22:03	17060-07-0	
Toluene-d8 (S)	99	%	80-120		5		09/24/12 22:03	2037-26-5	
Preservation pH	1.0		0.10	0.10	5		09/24/12 22:03		

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Project: NELL HALL NO 1

Pace Project No.: 60129629

Sample: GW-074941-092012-JP- DUP	Lab ID:	60129629004	Collected	l: 09/20/12	2 17:40	Received: 09	/22/12 08:50 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 5	030B/8260						
Benzene	<b>282</b> u	g/L	5.0	0.60	5		09/24/12 22:18	71-43-2	
Ethylbenzene	<b>63.4</b> u	g/L	5.0	0.30	5		09/24/12 22:18	100-41-4	
Toluene	ND u	g/L	5.0	0.27	5		09/24/12 22:18	108-88-3	
Xylene (Total)	<b>34.8</b> u	g/L	15.0	3.4	5		09/24/12 22:18	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97 %	, 0	80-120		5		09/24/12 22:18	460-00-4	
Dibromofluoromethane (S)	103 %	, 0	80-120		5		09/24/12 22:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %	, 0	80-120		5		09/24/12 22:18	17060-07-0	
Toluene-d8 (S)	98 %	, 0	80-120		5		09/24/12 22:18	2037-26-5	
Preservation pH	1.0		0.10	0.10	5		09/24/12 22:18		

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Project: NELL HALL NO 1

Pace Project No.: 60129629

Sample: TB-074941-092012	Lab ID:	60129629005	Collected	09/20/12	2 00:00	Received: 09	/22/12 08:50 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytica	l Method: EPA 5	030B/8260						
Benzene	ND u	ug/L	1.0	0.12	1		09/24/12 22:34	71-43-2	
Ethylbenzene	ND u	ug/L	1.0	0.060	1		09/24/12 22:34	100-41-4	
Toluene	ND u	ug/L	1.0	0.054	1		09/24/12 22:34	108-88-3	
Xylene (Total)	ND u	ug/L	3.0	0.67	1		09/24/12 22:34	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100 9	%	80-120		1		09/24/12 22:34	460-00-4	
Dibromofluoromethane (S)	97 9	%	80-120		1		09/24/12 22:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	94 9	%	80-120		1		09/24/12 22:34	17060-07-0	
Toluene-d8 (S)	109 9	%	80-120		1		09/24/12 22:34	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		09/24/12 22:34		

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Project:	NELL HALL	NO 1											
Pace Project No.:	60129629												
QC Batch:	MPRP/196	623		Analysi	is Method	l: E	PA 6010						
QC Batch Method:	EPA 3010			Analysi	is Descrip	otion: 6	010 MET Di	ssolved					
Associated Lab Sar	nples: 601	29629001, 60	129629002	, 601296290	003								
METHOD BLANK:	1066229			N	latrix: Wa	ater							
Associated Lab Sar	nples: 601	29629001, 60	129629002	, 601296290	003								
				Blank	F	Reporting							
Paran	neter		Units	Result	t	Limit	Analyz	ed	Qualifiers				
Iron, Dissolved		ug/L			ND	50.0	09/26/12	14:46					
LABORATORY CO	NTROL SAMI	PLE: 10662	30										
				Spike	LC	S	LCS	% Re	C				
Paran	neter	I	Units	Conc.	Res	ult	% Rec	Limits	s Qi	ualifiers			
Iron, Dissolved		ug/L		10000		9850	98	80	)-120		-		
MATRIX SPIKE & M	IATRIX SPIK	E DUPLICATE	E: 10662	31		1066232							
				MS	MSD								
		601	29627003	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parame	ter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Iron, Dissolved		ug/L	ND	10000	10000	9560	9630	96	96	75-125	1	20	

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EPA 5030B/8260

8260 MSV Water 7 day

Project: NELL HALL NO 1

Pace Project No.: 60129629

QC Batch:	MSV/48681
QC Batch Method:	EPA 5030B/8260

Analysis Method: Analysis Description:

Associated Lab Samples: 60129629001, 60129629002, 60129629003, 60129629004, 60129629005

METHOD BLANK: 1066323

Matrix: Water

Associated Lab Samples: 60129629001, 60129629002, 60129629003, 60129629004, 60129629005

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/24/12 18:10	
Ethylbenzene	ug/L	ND	1.0	09/24/12 18:10	
Toluene	ug/L	ND	1.0	09/24/12 18:10	
Xylene (Total)	ug/L	ND	3.0	09/24/12 18:10	
1,2-Dichloroethane-d4 (S)	%	90	80-120	09/24/12 18:10	
4-Bromofluorobenzene (S)	%	99	80-120	09/24/12 18:10	
Dibromofluoromethane (S)	%	99	80-120	09/24/12 18:10	
Toluene-d8 (S)	%	95	80-120	09/24/12 18:10	

#### LABORATORY CONTROL SAMPLE: 1066324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.9	94	74-123	
Ethylbenzene	ug/L	20	19.1	95	76-123	
Toluene	ug/L	20	18.8	94	75-123	
Xylene (Total)	ug/L	60	57.1	95	76-123	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			95	80-120	
Toluene-d8 (S)	%			102	80-120	

Date: 10/01/2012 01:29 PM

# **REPORT OF LABORATORY ANALYSIS**

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# QUALIFIERS

Project: NELL HALL NO 1

Pace Project No.: 60129629

#### 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/48681

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

# **REPORT OF LABORATORY ANALYSIS**

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	NELL HALL NO 1
Pace Project No.:	60129629

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129629001	GW-074941-092012-JP-MW-4	EPA 3010	MPRP/19623	EPA 6010	ICP/16167
60129629002	GW-074941-092012-JP-MW-5	EPA 3010	MPRP/19623	EPA 6010	ICP/16167
60129629003	GW-074941-092012-JP-MW-6	EPA 3010	MPRP/19623	EPA 6010	ICP/16167
60129629001	GW-074941-092012-JP-MW-4	EPA 5030B/8260	MSV/48681		
60129629002	GW-074941-092012-JP-MW-5	EPA 5030B/8260	MSV/48681		
60129629003	GW-074941-092012-JP-MW-6	EPA 5030B/8260	MSV/48681		
60129629004	GW-074941-092012-JP-DUP	EPA 5030B/8260	MSV/48681		
60129629005	TB-074941-092012	EPA 5030B/8260	MSV/48681		

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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.

Sectio	IA 1 Client information:	Section B Required Proje	sct Informa	tion:				Sectio Invoice	n C Informatio	ï							Pag	<u></u>	2	-	
Compar	Y: COP CRA NM	Report To Cl	Iristine N	lathews				Attentio		NFOS				Γ			]				
Address	6121 Indian School Rd NE, Ste 200	Copy To: K€	ally Blanc	shard, Ang	iela Bow	_		Compai	'y Name:					2	GULATO	RY AGE	NCY	ľ		1.0	
	Albequerque, NM 87110							Addres	u.						NPDES	5	W DNDO	ATER F	DRIN	KING WATE	ж.
Email To	cmathews@craworld.com	Purchase Orde	r No 4.	51586021	5			Pace Qu Referent	ote e:						UST .	L R	RA	£	OTHE	  2	
Phone	(505)884-0672 Fax (505)884-4932 H	Project Name	Nell H	ali No.1				Pace Pro Manager	ject A	lice Flar	hagan			S	ite Locati	E					
Reques	ed Due Date/TAT: standard	Project Numbe	r: 07494	 				Pace Pro	ofile # 5!	514, 4				Γ	STAT	1					
												Н	Reque	sted Ani	Ilysis Fil	ered (Y/I	1				
	Section D Valid Matrix Co Required Client Information MATRIX	CODE	(awc		COLLEC	CTED			Pr	eservati	ives	<b>1</b> N /A									
	WATER I WATER WATER V WATER V VASTE WATER V SOUSOUCT F SOUSOUCT F	2 년 2 일 년 일 년 2 2 년 2 일 년 2 2 년 2 년 2 년 2 년 2 년 2 년 2 년 2 년 2 년	))=0 8AAB=	COMPOSI. START	ų	COMPOSIT		SE			-	<b>t</b> ‡	Еę			-368 - 5 		(N/J) ƏI		01.1	
	Sample ID Mice ID AR (A-Z, 0-9 /) OTHER Sample IDs MUST BE UNIQUE TISSUE	CODF S CAR	түре (а				_, 0H31;		Dəviə		ء اەر	ysis Tes	TEX TEX						2100	d a '	
# MƏTI		хіятам	SAMPLE	DATE	TIME	DATE	TIME	# OF CC	HNO <sup>2</sup> H <sup>5</sup> 2O <sup>4</sup> Oublea	HO <sup>B</sup> N HCI	Na <sub>2</sub> S <sub>2</sub> C Methan	Then A nai	8260 B					Nesian	N 84 al	ta 12 ct No./ La	b I.D.
-	WM -92-21269-1441-09-2012-12	W P	3		2	1 61.02.	8	7	×	X			XX				_	13069	H-18P3F	-1-5	al
8	WM 92-21 09212 JP MW	1-5- W	70		. 6.	71.02	735	4		X			XX					-			200
m	CW-074941-092012-JP-MW	1-6 W	16		2	1.20.12	730	14	X	X	_		XX			-			>		E
4	10-96-5100-149470-W	AP W	5	-	0	21.02.	240	Ч		×			×				_				End
ŝ	TB.074941-09212	, m	5	_	a.	21.12.	100	4		×			×					appe	Ŧ		3
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10		-							-			T						_			
1																		_			
12		_					-								_	_	-	_			
	ADDITIONAL COMMENTS	E C	HSINONT	IED BY / AF	FILIATION	-	DATE	Ē	je		ACCEP	TED BY /	AFFILIATI	N	DATE	TIM		SP	MPLE CO	NDITIONS	
	45 leaked HCI and y not be preserved: day hold.		1 K	100	t	5	21/12/	120	8	Ben	nt C	St	x		1-22-1	9 85(	6	>	<u>&gt;</u>	3-	
Pack	2				AMPLER	NAME AN	D SIGNATI	- B	-			н					c		pali		act
age				1	H H	UNT Name	of SAMPLE		and the second	4							, ui di	bevie (N\Y)	ieS (b		
e 16					S	GNATURE	of SAMPLE	C:2	R	-			DATE Sig	med YY):	1/17/1	٦.	neT	eeci Reci	oisuO		) Juues
of 1	"Important Note, By signing this form you are accepting P.	ace's NET 30 da	y payment t	sms and agre	eing to late	charges of 1.	5% per month	for any invo	ces not pai	id within 30	) days						F-AL	L-Q-020re	v.08, 12-C	)ct-2007	
17								ķ													
6)																					
--	-------------------------------------	--------------------	---																		
Pace Analytical Sample Condition	on Upon Receipt –	ESI Tech Specs																			
Client Name: COP CRA NM		Project #:_(į	0129629																		
Courier: Fed Ex 🗹 UPS 🗆 USPS 🗀 Client 🗆	Commercial 🗆 Pace	e D Other D	Optional Proj Due Date: ////																		
Tracking #: <u>8993 90016573</u> , F	Pace Shipping Label Use	ed? Yes 🗆 No 🗹	Proj Name: 16/09																		
Custody Seal on Cooler/Box Present: Yes 🖄 No	□ Seals intact: Yes	5 🗹 No 🗆																			
Packing Material: Bubble Wrap D Bubble Ba	gs □ Foam 12	None 🗆 Oth	ner 🗹 LYLC																		
Thermometer Used: Ty	vpe of Ice: (Vet) Blue (circle o	None Samples rece	ived on ice, cooling process has begun.																		
Cooler Temperature:		Date a conter	nd initials of person examining $9-22-12$ BA																		
Chain of Custodu property																					
Chain of Custody present.		·																			
Chain of Custody relinquished:		ê																			
Sampler name & signature on COC:		N																			
Samples arrived within holding time:		¢																			
Short Hold Time analyses (<72hr):	Yes NINO LIN/A 6																				
Rush Turn Around Time requested:	Yes MNo N/A 7	•																			
Sufficient volume:	Vyes INO IN/A 8	·																			
Correct containers used:	Yes DNo DN/A																				
-Pace containers used:	Yes No N/A 9																				
Containers intact:	Yes No N/A 1	0																			
Unpreserved 5035A soils frozen w/in 48hrs?	DYes DNO DNA 1	1.																			
Filtered volume received for dissolved tests?	Tyes DNo DNA 1	2)]2 2.																			
Sample labels match COC:	MYes □No □N/A																				
-Includes date/time/ID/analyses Matrix: WT	1	3.																			
All containers needing preservation have been checked.	MYes DNo DN/A																				
All containers needing preservation are found to be in	Tyes DNO DN/A	4																			
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water),		nitial when	Lot # of added																		
Trip Blank present:		ompieteu	preservative																		
Pace Trip Blank lot # (if purchased): 090/12-3		5.																			
Headspace in VOA vials ( >6mm):																					
	1	16.																			
Project sampled in USDA Regulated Area:		17. List State:	Au																		
Client Notification/ Resolution: Copy C	COC to Client? Y	Field Data Require	d? Y / N																		
Person Contacted: D	Date/Time:		Femp Log: Record start and finish times when unpacking cooler, if >20 min.																		
Comments/ Resolution:			echeck sample temps.																		
		BDA	Start 1410 Start:																		
		alater	End: 1420 End:																		
Project Manager Review:	D	Date:	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).



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

January 07, 2013

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

RE: Project: 074941 Nell Hall No. 1 Pace Project No.: 60136178

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on December 29, 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 Flanazan

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



# **REPORT OF LABORATORY ANALYSIS**

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#### CERTIFICATIONS

Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

#### 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: 074941 Nell Hall No. 1

Pace Project No.: 60136178

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60136178001	GW-074941-122812-JMK-MW4	Water	12/28/12 11:30	12/29/12 08:45
60136178002	GW-074941-122812-JMK-MW5	Water	12/28/12 12:15	12/29/12 08:45
60136178003	GW-074941-122812-JMK-MW6	Water	12/28/12 13:00	12/29/12 08:45
60136178004	GW-074941-122812-JMK-DUP	Water	12/28/12 12:15	12/29/12 08:45
60136178005	TRIP BLANK	Water	12/28/12 08:00	12/29/12 08:45

# **REPORT OF LABORATORY ANALYSIS**

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# SAMPLE ANALYTE COUNT

 Project:
 074941 Nell Hall No. 1

 Pace Project No.:
 60136178

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60136178001	GW-074941-122812-JMK-MW4	EPA 6010	SMW	1
		EPA 8260	PRG	9
60136178002	GW-074941-122812-JMK-MW5	EPA 6010	SMW	1
		EPA 8260	PRG	9
60136178003	GW-074941-122812-JMK-MW6	EPA 6010	SMW	1
		EPA 8260	PRG	9
60136178004	GW-074941-122812-JMK-DUP	EPA 8260	PRG	9
60136178005	TRIP BLANK	EPA 8260	PRG	9

# **REPORT OF LABORATORY ANALYSIS**

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#### **PROJECT NARRATIVE**

Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

#### Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:January 07, 2013

#### General Information:

3 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:

# REPORT OF LABORATORY ANALYSIS

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#### **PROJECT NARRATIVE**

Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

#### Method: EPA 8260

Description:8260 MSV UST, WaterClient:COP Conestoga-Rovers & Associates, Inc. NMDate:January 07, 2013

#### General Information:

5 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/51101

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

#### QC Batch: MSV/51129

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

#### Additional Comments:

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

# **REPORT OF LABORATORY ANALYSIS**

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Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

Sample: GW-074941-122812-JMK- MW4	Lab ID: 6	60136178001	Collecte	d: 12/28/12	) Received: 12/29/12 08:45 Matrix: Water				
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical M	lethod: EPA 6	6010 Prepa	ration Methe	od: EPA	3010			
Iron, Dissolved	<b>748</b> ug/	/L	50.0	17.2	1	12/31/12 15:00	01/03/13 15:06	7439-89-6	
8260 MSV UST, Water	Analytical M	lethod: EPA 8	3260						
Benzene	ND ug	/L	1.0	0.098	1		01/01/13 05:03	71-43-2	
Ethylbenzene	ND ug	/L	1.0	0.23	1		01/01/13 05:03	100-41-4	
Toluene	ND ug	/L	1.0	0.15	1		01/01/13 05:03	108-88-3	
Xylene (Total)	ND ug	/L	3.0	0.41	1		01/01/13 05:03	1330-20-7	
Surrogates	-								
Dibromofluoromethane (S)	106 %		80-120		1		01/01/13 05:03	1868-53-7	
Toluene-d8 (S)	96 %		80-120		1		01/01/13 05:03	2037-26-5	
4-Bromofluorobenzene (S)	105 %		80-120		1		01/01/13 05:03	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		80-120		1		01/01/13 05:03	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		01/01/13 05:03		

# **REPORT OF LABORATORY ANALYSIS**

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Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

Sample: GW-074941-122812-JMK- MW5	Lab ID: 60136178002 Collected: 12/28/12 12:15 Received: 12/29/12 08:45 Matrix: Wate								
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	6010 Prepa	ration Methe	od: EPA	3010			
Iron, Dissolved	ND ug	g/L	50.0	17.2	1	12/31/12 15:00	01/03/13 15:19	7439-89-6	
8260 MSV UST, Water	Analytical	Method: EPA 8	3260						
Benzene	ND ug	g/L	1.0	0.098	1		01/01/13 05:18	71-43-2	
Ethylbenzene	ND ug	g/L	1.0	0.23	1		01/01/13 05:18	100-41-4	
Toluene	ND ug	g/L	1.0	0.15	1		01/01/13 05:18	108-88-3	
Xylene (Total)	ND ug	g/L	3.0	0.41	1		01/01/13 05:18	1330-20-7	
Surrogates		-							
Dibromofluoromethane (S)	109 %	)	80-120		1		01/01/13 05:18	1868-53-7	
Toluene-d8 (S)	97 %	•	80-120		1		01/01/13 05:18	2037-26-5	
4-Bromofluorobenzene (S)	104 %	,	80-120		1		01/01/13 05:18	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %	,	80-120		1		01/01/13 05:18	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		01/01/13 05:18		

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Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

Sample: GW-074941-122812-JMK- MW6	Lab ID:	60136178003	Collecte	d: 12/28/12	0 Received: 12/29/12 08:45 Matrix: Water				
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	6010 Prepa	ration Methe	od: EPA	3010			
Iron, Dissolved	<b>8060</b> ug	g/L	50.0	17.2	1	12/31/12 15:00	01/03/13 15:23	7439-89-6	
8260 MSV UST, Water	Analytical	Method: EPA 8	3260						
Benzene	<b>319</b> ug	g/L	5.0	0.49	5		01/01/13 05:32	71-43-2	
Ethylbenzene	<b>76.4</b> ug	g/L	5.0	1.2	5		01/01/13 05:32	100-41-4	
Toluene	ND ug	g/L	5.0	0.75	5		01/01/13 05:32	108-88-3	
Xylene (Total)	45.2 u	g/L	15.0	2.0	5		01/01/13 05:32	1330-20-7	
Surrogates		-							
Dibromofluoromethane (S)	106 %	D	80-120		5		01/01/13 05:32	1868-53-7	
Toluene-d8 (S)	95 %	D	80-120		5		01/01/13 05:32	2037-26-5	
4-Bromofluorobenzene (S)	106 %	D	80-120		5		01/01/13 05:32	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %	D	80-120		5		01/01/13 05:32	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		01/01/13 05:32		

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Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

Sample: GW-074941-122812-JMK- DUP	Lab ID: 6013617	8004 Collecte	Collected: 12/28/12 12:15			Received: 12/29/12 08:45 Matrix: Water		
		Report						
Parameters	Results Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: E	EPA 8260						
Benzene	ND ug/L	1.0	0.098	1		01/02/13 18:46	71-43-2	
Ethylbenzene	ND ug/L	1.0	0.23	1		01/02/13 18:46	100-41-4	
Toluene	ND ug/L	1.0	0.15	1		01/02/13 18:46	108-88-3	
Xylene (Total)	ND ug/L	3.0	0.41	1		01/02/13 18:46	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103 %	80-120		1		01/02/13 18:46	1868-53-7	
Toluene-d8 (S)	99 %	80-120		1		01/02/13 18:46	2037-26-5	
4-Bromofluorobenzene (S)	102 %	80-120		1		01/02/13 18:46	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %	80-120		1		01/02/13 18:46	17060-07-0	
Preservation pH	1.0	1.0	0.10	1		01/02/13 18:46		

# **REPORT OF LABORATORY ANALYSIS**

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Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

Sample: TRIP BLANK	Lab ID: 6013	6178005 Collecte	d: 12/28/12	2 08:00	Received: 12	2/29/12 08:45 Ma	atrix: Water	
		Report						
Parameters	Results U	nits Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Meth	od: EPA 8260						
Benzene	ND ug/L	1.0	0.098	1		01/01/13 06:01	71-43-2	
Ethylbenzene	ND ug/L	1.0	0.23	1		01/01/13 06:01	100-41-4	
Toluene	ND ug/L	1.0	0.15	1		01/01/13 06:01	108-88-3	
Xylene (Total)	ND ug/L	3.0	0.41	1		01/01/13 06:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	111 %	80-120		1		01/01/13 06:01	1868-53-7	
Toluene-d8 (S)	98 %	80-120		1		01/01/13 06:01	2037-26-5	
4-Bromofluorobenzene (S)	102 %	80-120		1		01/01/13 06:01	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %	80-120		1		01/01/13 06:01	17060-07-0	
Preservation pH	1.0	1.0	0.10	1		01/01/13 06:01		

# **REPORT OF LABORATORY ANALYSIS**

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# **QUALITY CONTROL DATA**

Project:	074941 Nell	Hall No. 1											
Pace Project No.:	60136178												
QC Batch:	MPRP/210	)25		Analysi	is Method:	E	EPA 6010						
QC Batch Method:	EPA 3010			Analysi	is Descript	tion: 6	6010 MET Di	ssolved					
Associated Lab Sar	mples: 601	36178001, 60	136178002	, 601361780	003								
METHOD BLANK:	1121151			N	latrix: Wat	ter							
Associated Lab Sar	mples: 601	36178001, 60	136178002	, 601361780	003								
				Blank	R	eporting							
Parar	neter	I	Jnits	Result	t	Limit	Analyz	ed	Qualifiers				
Iron, Dissolved		ug/L			ND	50.0	01/03/13	14:59					
LABORATORY CO	NTROL SAM	PLE: 11211	52										
				Spike	LCS	;	LCS	% Red	<b>b</b>				
Parar	neter	I	Jnits	Conc.	Resu	llt	% Rec	Limits	s Qı	alifiers			
Iron, Dissolved		ug/L		10000		9960	100	80	)-120		-		
MATRIX SPIKE & N	MATRIX SPIK	E DUPLICATE	: 11211;	53		1121154							
				MS	MSD								
		601	36178001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parame	ter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Iron, Dissolved		ug/L	748	10000	10000	10800	10700	100	100	75-125	0	20	

Date: 01/07/2013 03:44 PM

# **REPORT OF LABORATORY ANALYSIS**

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## **QUALITY CONTROL DATA**

EPA 8260

Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

QC Batch:	MSV/51101
QC Batch Method:	EPA 8260

Analysis Method:

Analysis Description: 8260 MSV UST-WATER

Associated Lab Samples: 60136178001, 60136178002, 60136178003, 60136178005

METHOD BLANK: 1121041

Associated Lab Samples:

1 Matrix: Water 60136178001, 60136178002, 60136178003, 60136178005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/01/13 03:08	
Ethylbenzene	ug/L	ND	1.0	01/01/13 03:08	
Toluene	ug/L	ND	1.0	01/01/13 03:08	
Xylene (Total)	ug/L	ND	3.0	01/01/13 03:08	
1,2-Dichloroethane-d4 (S)	%	101	80-120	01/01/13 03:08	
4-Bromofluorobenzene (S)	%	100	80-120	01/01/13 03:08	
Dibromofluoromethane (S)	%	110	80-120	01/01/13 03:08	
Toluene-d8 (S)	%	100	80-120	01/01/13 03:08	

#### LABORATORY CONTROL SAMPLE: 1121042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.8	104	74-123	
Ethylbenzene	ug/L	20	20.9	104	76-123	
Toluene	ug/L	20	20.0	100	75-123	
Xylene (Total)	ug/L	60	62.8	105	76-123	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Dibromofluoromethane (S)	%			108	80-120	
Toluene-d8 (S)	%			99	80-120	

#### **REPORT OF LABORATORY ANALYSIS**

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# **QUALITY CONTROL DATA**

Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

QC Batch:	MSV/51129		Analysis Met	hod: E	PA 8260	
QC Batch Method:	EPA 8260		Analysis Des	scription: 8	260 MSV UST-WAT	ER
Associated Lab Sam	oles: 60136178	004				
METHOD BLANK:	1121342		Matrix:	Water		
Associated Lab Sam	oles: 60136178	004				
			Blank	Reporting		
Param	eter	Units	Result	Limit	Analyzed	Qualifiers
Benzene		ug/L	ND	1.0	01/02/13 15:40	

Benzene	ug/L	ND	1.0	01/02/13 15:40	
Ethylbenzene	ug/L	ND	1.0	01/02/13 15:40	
Toluene	ug/L	ND	1.0	01/02/13 15:40	
Xylene (Total)	ug/L	ND	3.0	01/02/13 15:40	
1,2-Dichloroethane-d4 (S)	%	101	80-120	01/02/13 15:40	
4-Bromofluorobenzene (S)	%	100	80-120	01/02/13 15:40	
Dibromofluoromethane (S)	%	103	80-120	01/02/13 15:40	
Toluene-d8 (S)	%	99	80-120	01/02/13 15:40	

#### LABORATORY CONTROL SAMPLE: 1121343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.0	105	74-123	
Ethylbenzene	ug/L	20	20.5	102	76-123	
Toluene	ug/L	20	19.7	99	75-123	
Xylene (Total)	ug/L	60	62.6	104	76-123	
1,2-Dichloroethane-d4 (S)	%			104	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

# **REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 074941 Nell Hall No. 1

Pace Project No.: 60136178

#### 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/51101

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

Batch: MSV/51129

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

# **REPORT OF LABORATORY ANALYSIS**

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	074941 Nell Hall No. 1
Pace Project No.:	60136178

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60136178001	GW-074941-122812-JMK-MW4	EPA 3010	MPRP/21025	EPA 6010	ICP/17024
60136178002	GW-074941-122812-JMK-MW5	EPA 3010	MPRP/21025	EPA 6010	ICP/17024
60136178003	GW-074941-122812-JMK-MW6	EPA 3010	MPRP/21025	EPA 6010	ICP/17024
60136178001	GW-074941-122812-JMK-MW4	EPA 8260	MSV/51101		
60136178002	GW-074941-122812-JMK-MW5	EPA 8260	MSV/51101		
60136178003	GW-074941-122812-JMK-MW6	EPA 8260	MSV/51101		
60136178004	GW-074941-122812-JMK-DUP	EPA 8260	MSV/51129		
60136178005	TRIP BLANK	EPA 8260	MSV/51101		

# **REPORT OF LABORATORY ANALYSIS**

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# Sample Condition Upon Receipt ESI Tech Spec Client

# WO#:60136178

Client Name: CAP CLA	Ontional
Pace Shipping Lab	
Desking Metarials – Rubble Wrap – Rubble Rags – Fas	
Thermometer Used: T-191 / T-194 Type of Ice: Wat	
Cooler Temperature: 1:4	ircle one)
Temperature should be above freezing to 6°C	contents: 12/29/12 20
	/A 1.
Chain of Custody filled out:	/A 2.
Chain of Custody relinguished:	/A 3.
Sampler name & signature on COC:	/A 4.
Samples arrived within holding time:	/A 5.
Short Hold Time analyses (<72hr):	//A 6.
Rush Turn Around Time requested:	//A 7.
	I/A 8.
Correct containers used:	I/A
Pace containers used:	I/A 9.
Containers intact:	I/A 10.
Unpreserved 5035A soils frozen w/in 48hrs?	VA 11.
Filtered volume received for dissolved tests?	I/A 12.
Sample labels match COC:	I/A
Includes date/time/ID/analyses Matrix:	13.
All containers needing preservation have been checked.	V/A
All containers needing preservation are found to be in compliance with EPA recommendation.	<sup>1/A</sup> 14.
Exceptions: YOA, coliform, TOC, O&G, WI-DRO (water),	Initial when Lot # of added completed preservative
Trip Blank present:	J/A
Pace Trip Blank lot # (if purchased): 102912-3	15.
Headspace in VOA vials ( >6mm):	N/A
· /	16.
Project sampled in USDA Regulated Area:	VA 17. List State:
Client Notification/ Resolution: Copy COC to Client? Y	/ N Field Data Required? Y / N
Person Contacted: Date/Time:	Temp Log: Record start and finish times
Comments/ Resolution:	recheck sample temps.
	Start: 0927 Start:
	End: 0930 End:
Project Manager Review: XXX	Date: 125112 Temp: Temp:

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

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

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