



3R-090

**JUNE, SEPTEMBER, AND DECEMBER 2011
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
Risk Management and Remediation
420 South Keeler Avenue
Bartlesville, OK, 74004**

MARCH 2012

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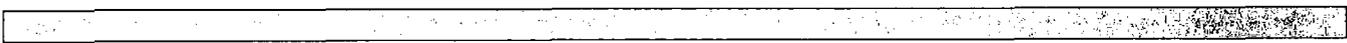


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1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring events conducted by Conestoga-Rovers & Associates (CRA) on June 21, September 27, and December 13, 2011 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 BACKGROUND

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, 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 GROUNDWATER MONITORING METHODOLOGY

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 June, September, and December 2011 sampling events are presented as **Figures 4, 5 and 6**, respectively.

Hydrographs illustrating groundwater level fluctuations since March 2004 in Monitor Wells MW-5 and MW-6 are presented as **Figure 7 and Figure 8**, 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**).

Groundwater Sampling

Groundwater samples were collected from Monitor Wells MW-4, MW-5 and MW-6 during the June, September, and December 2011 sampling events. Approximately three well volumes were purged from each monitor well with a dedicated, polyethylene, 1.5-inch, disposable bailer prior to sampling. 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, Kansas.

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.

June 2011

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 2011 from Monitor Well MW-6 exceeded this standard with a concentration of 0.461 mg/L.

Xylenes (total)

- The groundwater quality standard for total xylenes is 0.620 mg/L. The groundwater sample collected in June 2011 from MW-6 was found to contain total xylenes at a concentration of 0.677 mg/L.

Dissolved Iron

- The groundwater quality standard for dissolved iron is 1.0 mg/L. Groundwater samples collected in June 2011 from Monitor Wells MW-4 and MW-6 were found to contain dissolved iron at concentrations of 1.21 mg/L, and 9.45 mg/L, respectively.

September 2011

Benzene

- The NMWQCC domestic water supply groundwater quality standard for benzene is 0.01 mg/L. The groundwater sample collected in September 2011 from Monitor Well MW-6 exceeded this standard with a concentration of 0.237 mg/L.

Dissolved Iron

- The groundwater quality standard for dissolved iron is 1.0 mg/L. The groundwater sample collected in September 2011 from Monitor Well MW-6 was found to contain dissolved iron at a concentration of 19.6 mg/L.

December 2011

Benzene

- The NMWQCC domestic water supply groundwater quality standard for benzene is 0.01 mg/L. The groundwater sample collected in December 2011 from Monitor Well MW-6 exceeded this standard with a concentration of 0.298 mg/L.

Dissolved Iron

- The groundwater quality standard for dissolved iron is 1.0 mg/L. The groundwater sample collected in December 2011 from Monitor Well MW-6 was found to contain dissolved iron at a concentration of 11.6 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 9**.

Benzene concentration maps for the June, September, and December 2011 sampling events are presented as **Figures 10, 11, and 12**, 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 CONCLUSIONS AND RECOMMENDATIONS

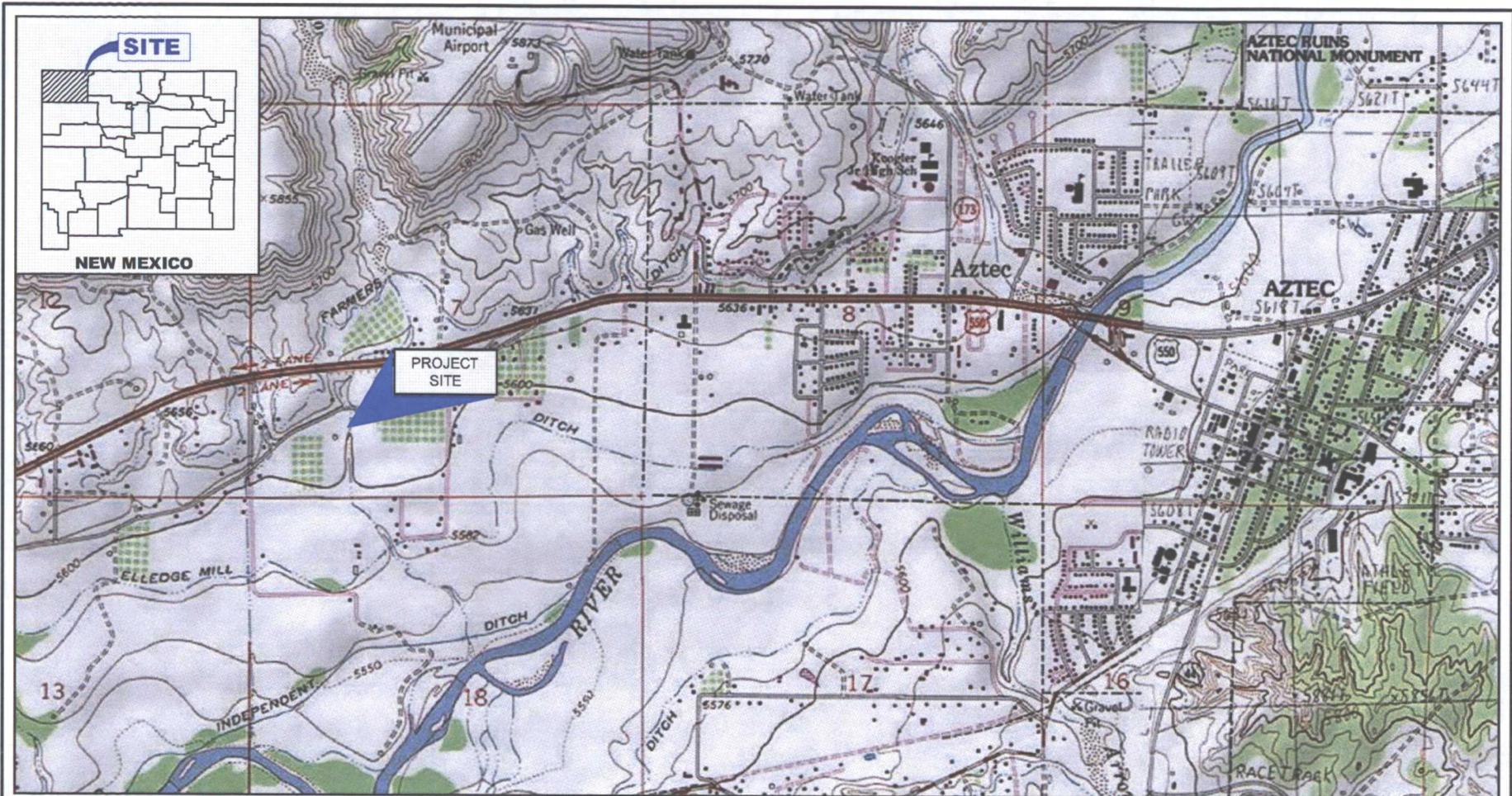
Based on the detection of BTEX and dissolved iron in MW-6 during the June, September, and December 2011 sampling events, CRA recommends continued groundwater quality monitoring for BTEX and dissolved iron in order to move toward remediation Site closure with NMOCD. Remediation Site closure will be requested 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. Historically, sampling has been possible semi-annually.

4.0 **REFERENCES**

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

FIGURES



SOURCE: USGS 7.5 MINUTE QUADS
 "FLORA VISTA AND AZTEC, NEW MEXICO"

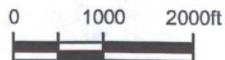
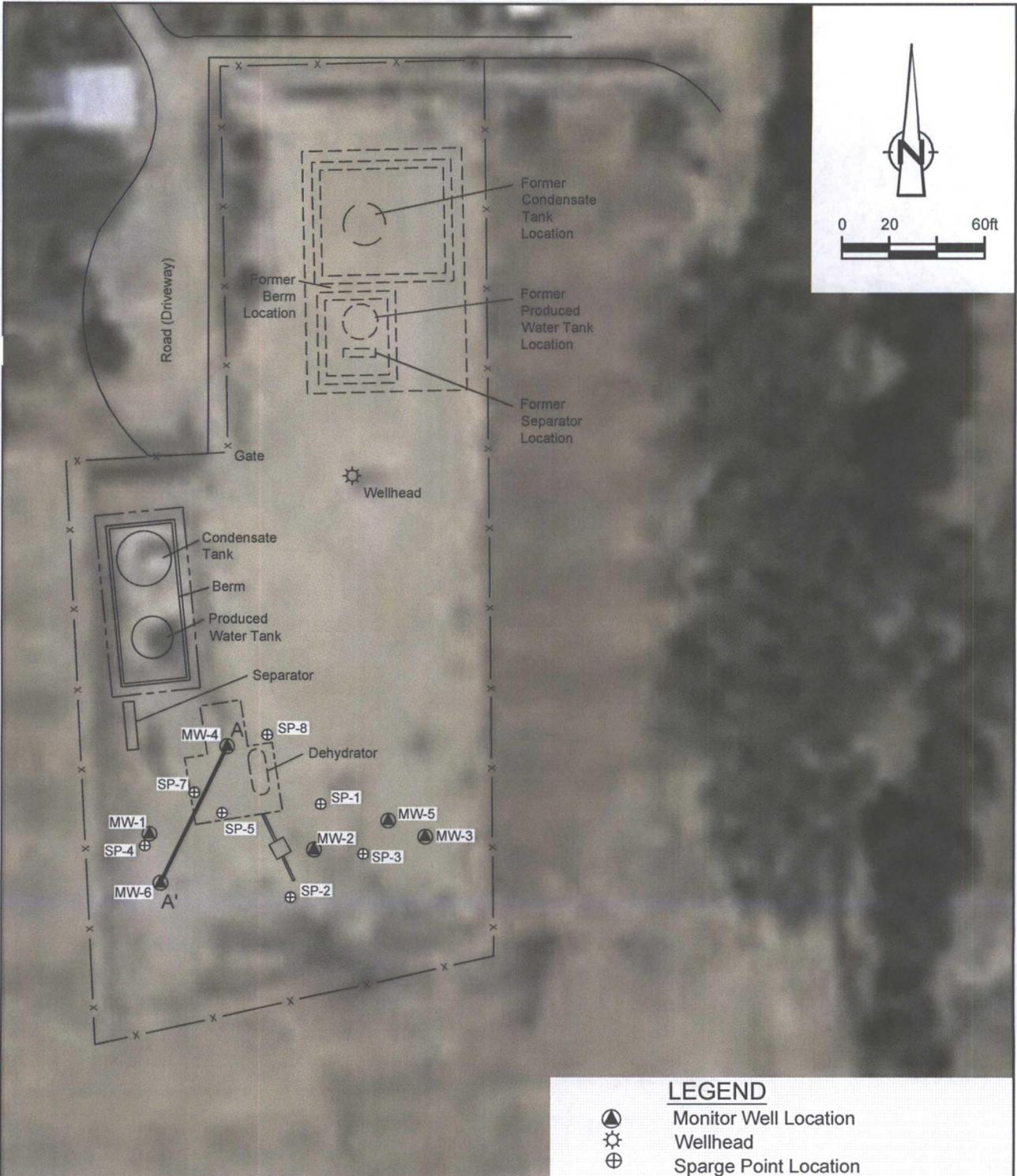


Figure 1
 SITE VICINITY MAP
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
 ConocoPhillips Company



ConocoPhillips high resolution aerial imagery 2008.

- LEGEND**
- Monitor Well Location
 - Wellhead
 - Sparge Point Location

Figure 2
SITE PLAN
NELL HALL No. 1 NATURAL GAS WELL SITE
SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company





Figure 3
 GEOLOGIC CROSS SECTION
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



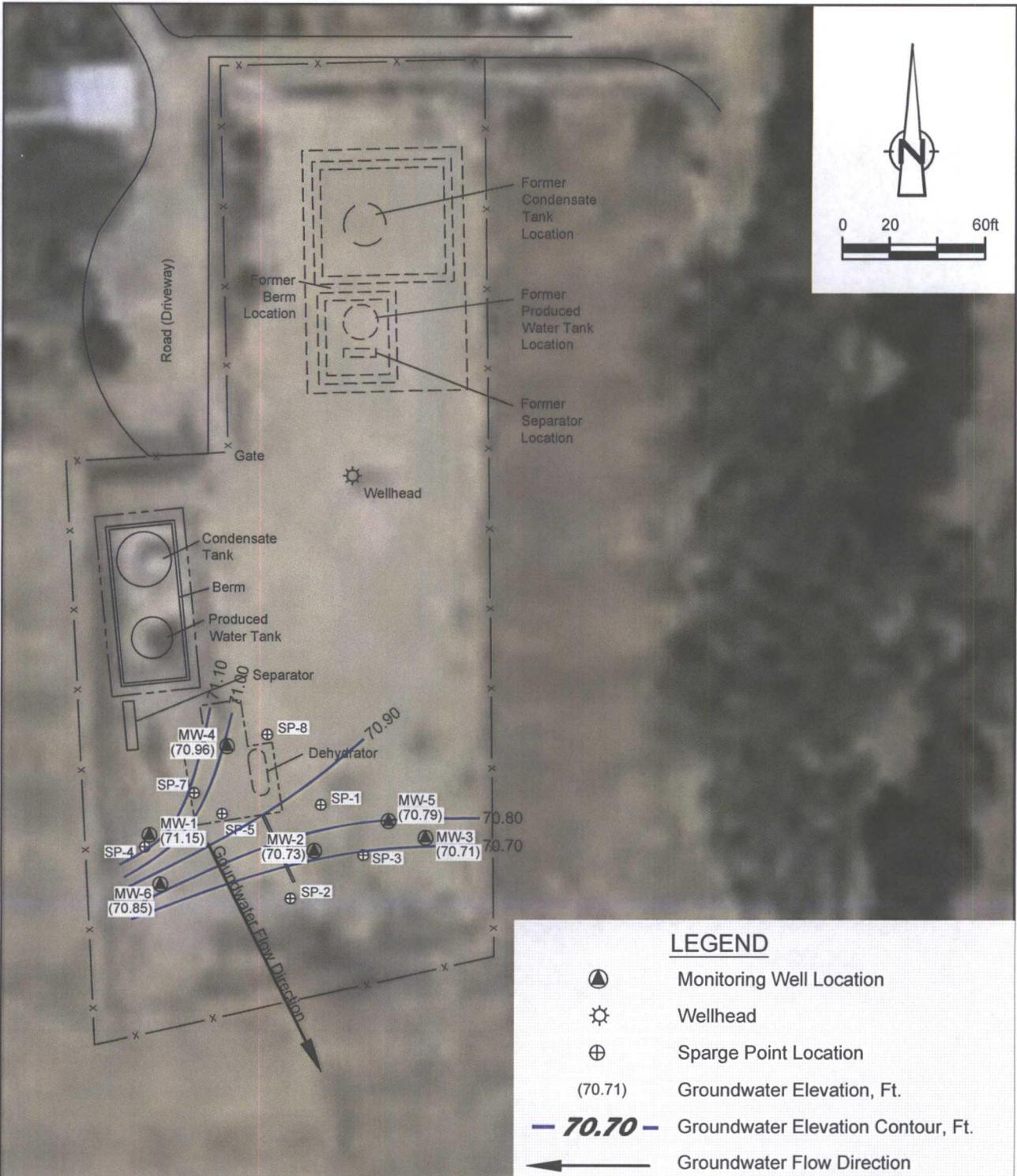


Figure 4

JUNE 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO

ConocoPhillips Company



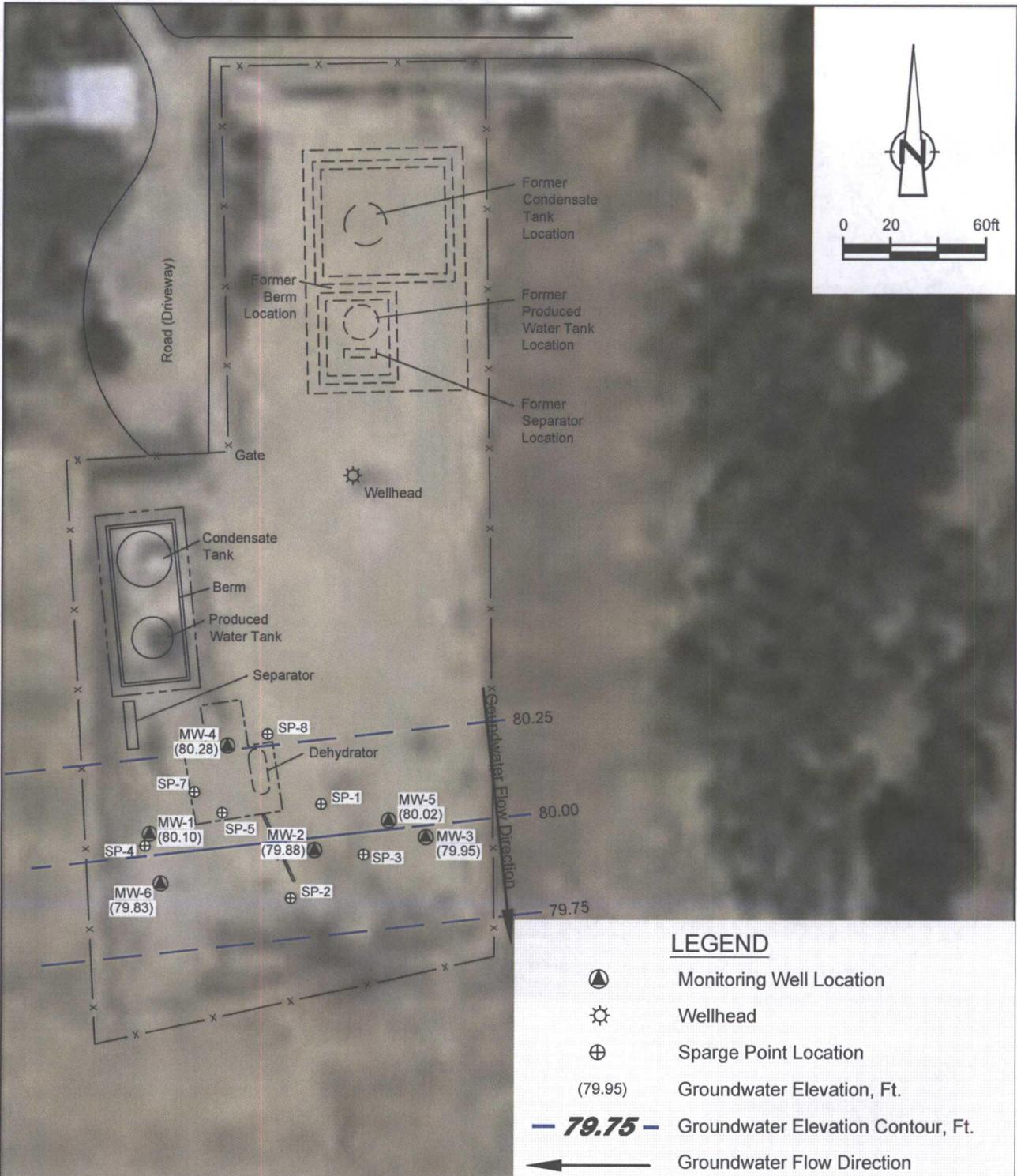


Figure 5

SEPTEMBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO



ConocoPhillips Company

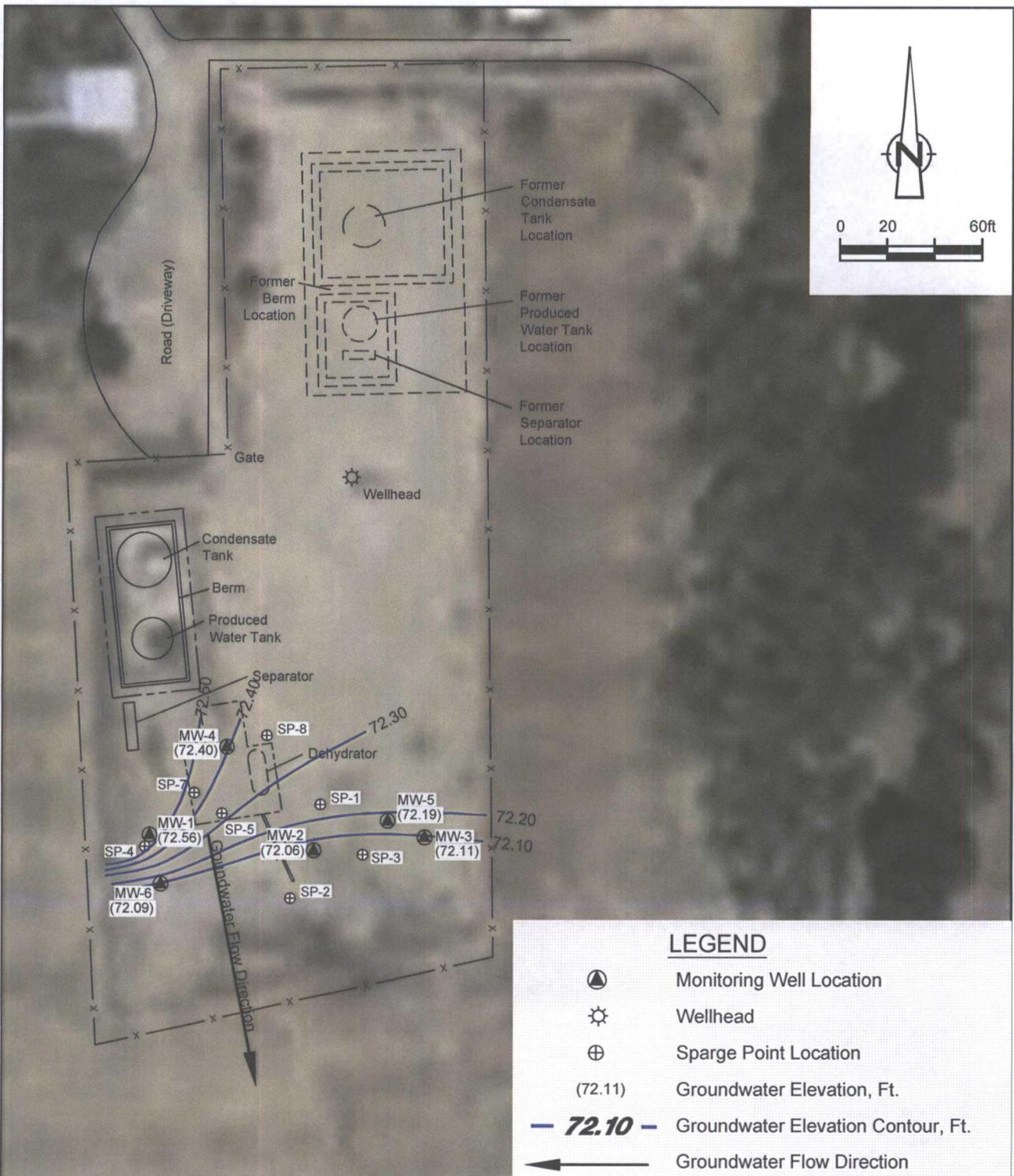


Figure 6

DECEMBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO

ConocoPhillips Company



Figure 7
MW-5 Hydrograph (March 2004 - December 2011)
ConocoPhillips Company Nell Hall No.1

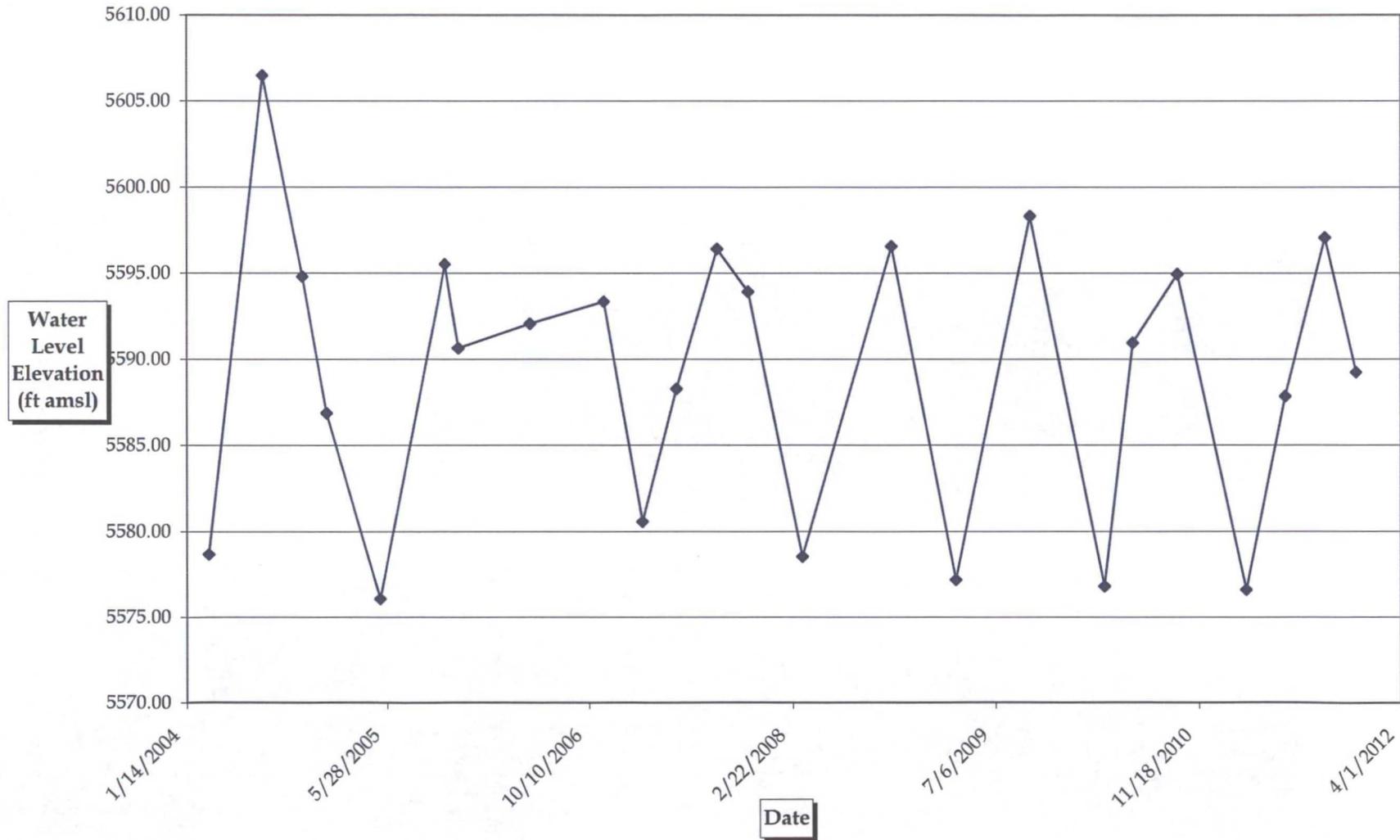


Figure 8
MW-6 Hydrograph (March 2004 - December 2011)
ConocoPhillips Company Nell Hall No. 1

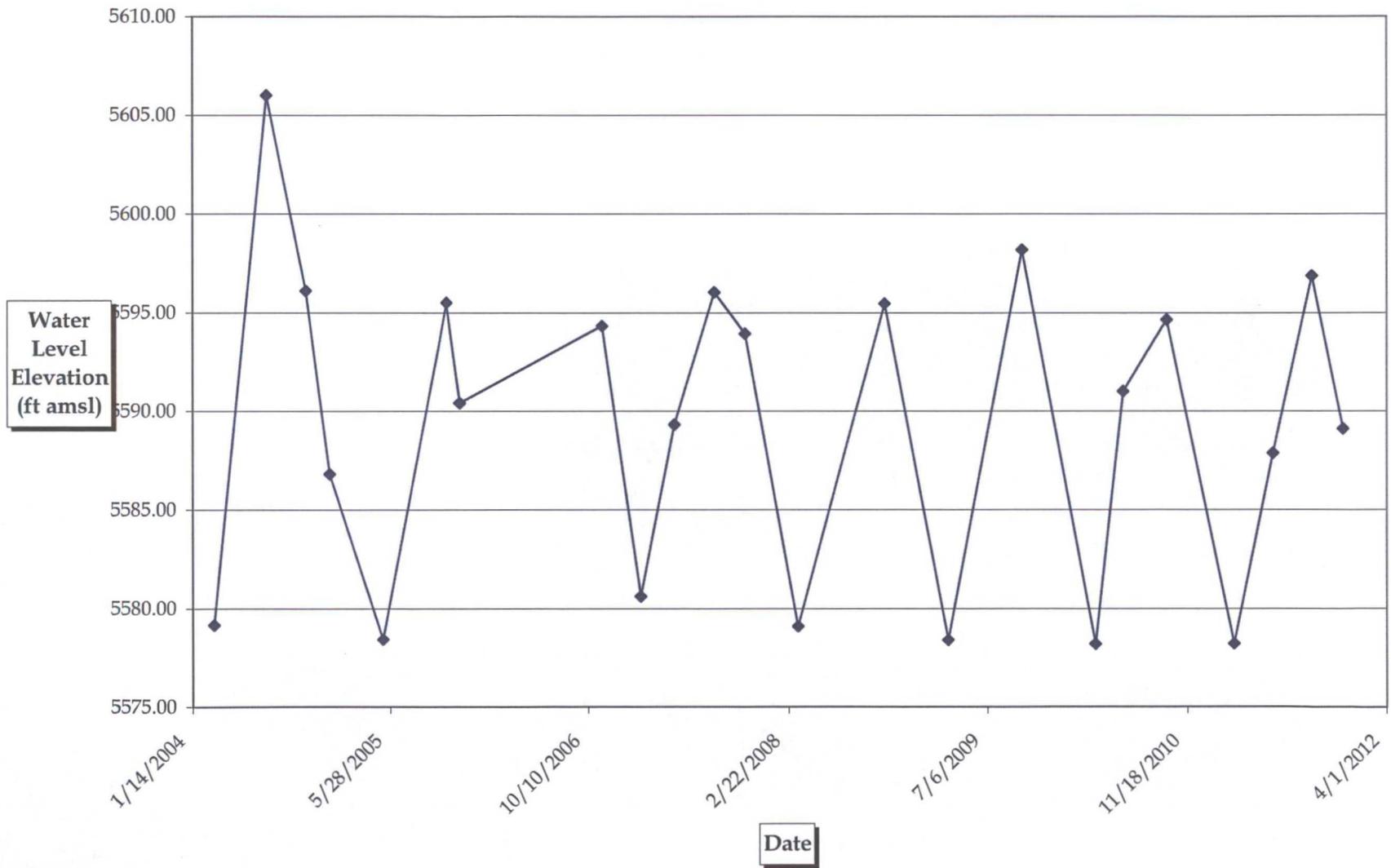
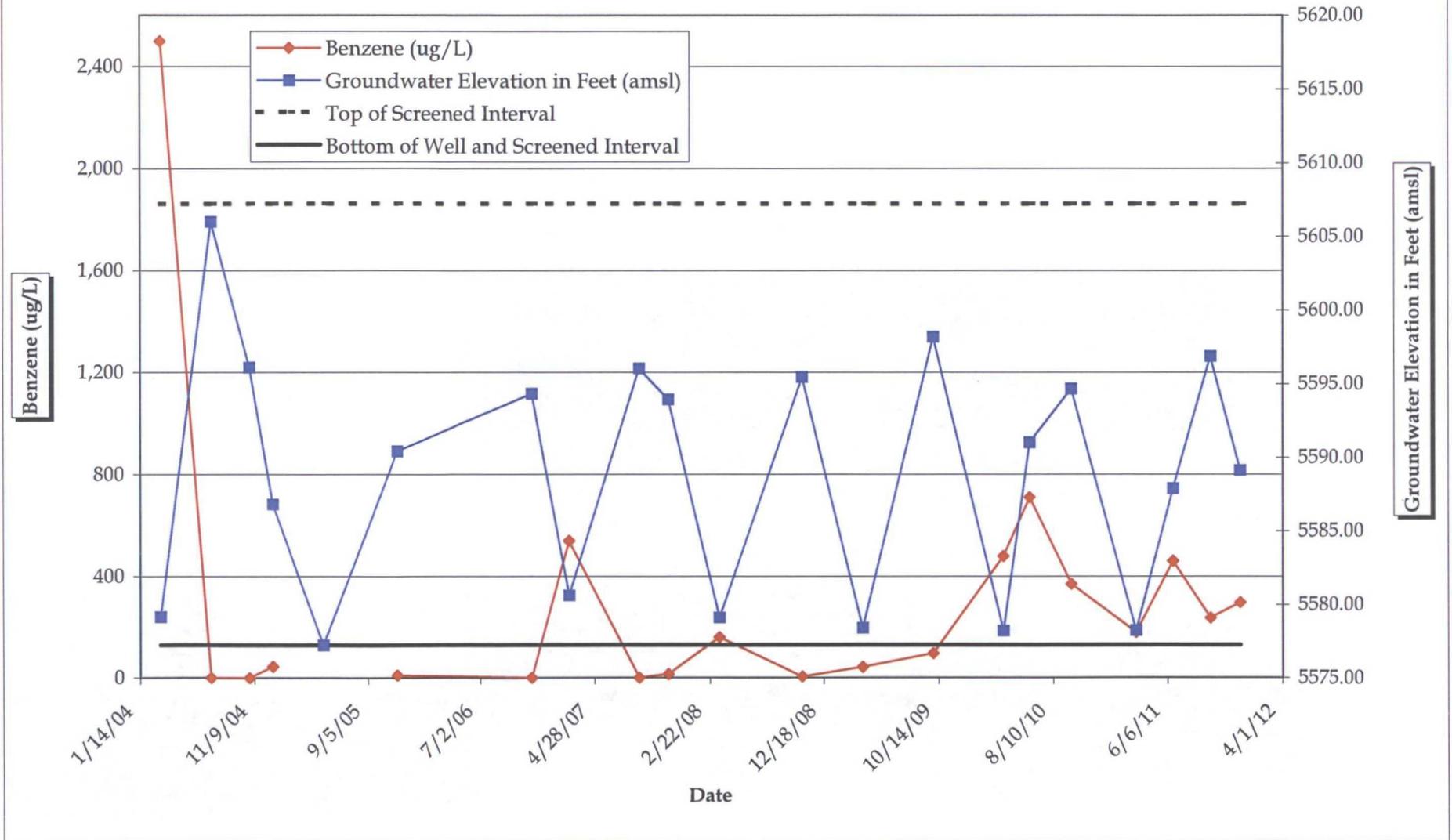


Figure 9
Graph of Benzene Concentrations and Groundwater Elevations in MW-6
ConocoPhillips Company Nell Hall No.1 Site



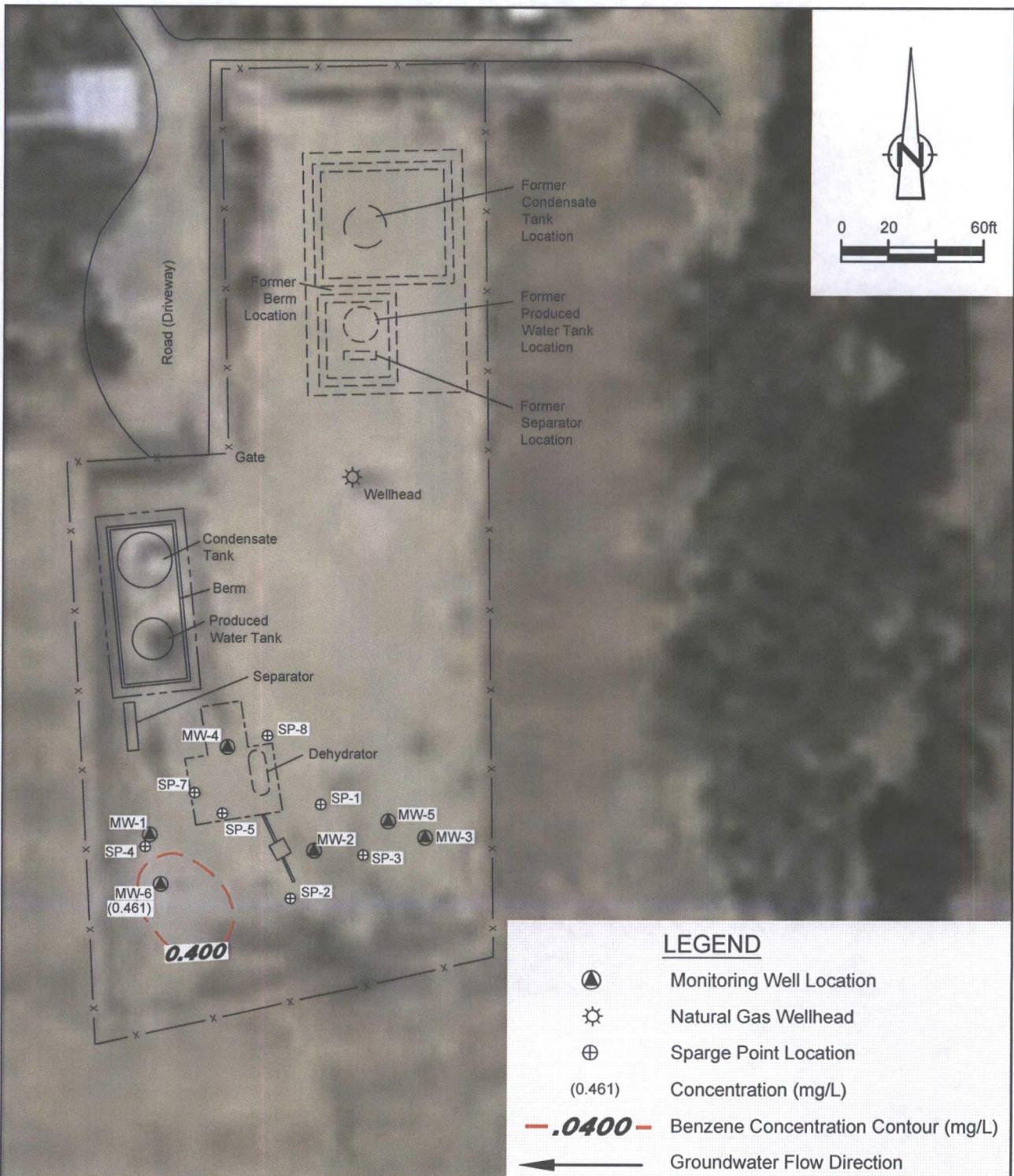


Figure 10
 JUNE 2011 BENZENE CONCENTRATION MAP
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
 ConocoPhillips Company



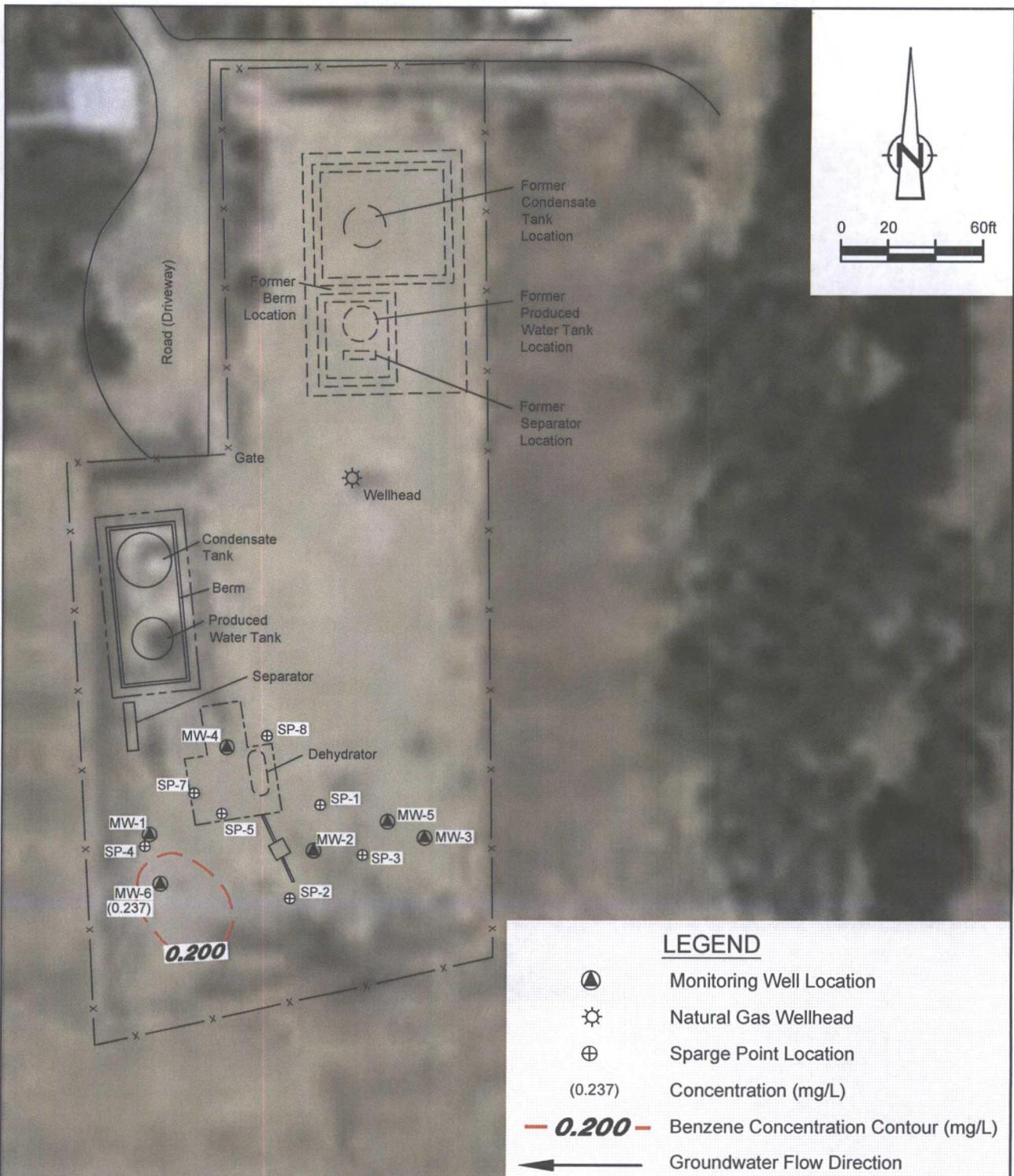


Figure 11

SEPTEMBER 2011 BENZENE CONCENTRATION MAP
NELL HALL No. 1 NATURAL GAS WELL SITE
SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company



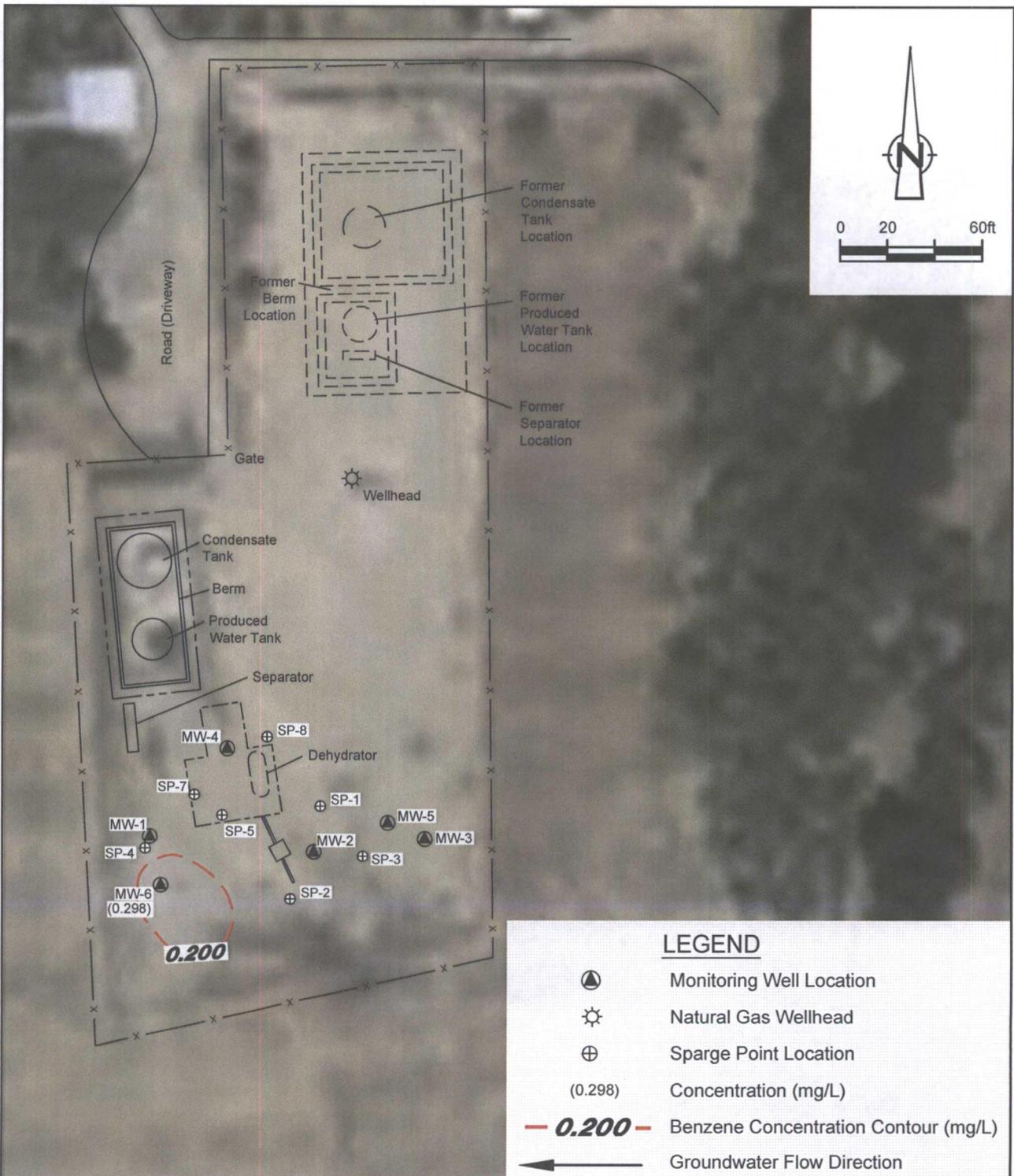


Figure 12

DECEMBER 2011 BENZENE CONCENTRATION MAP
 NELL HALL No. 1 NATURAL GAS WELL SITE
 SECTION 07, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO

ConocoPhillips Company



TABLES

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

<i>Date/Time Period</i>	<i>Event/Action</i>	<i>Description/Comments</i>
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 assesment (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.

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

<i>Date/Time Period</i>	<i>Event/Action</i>	<i>Description/Comments</i>
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.

TABLE 2
 MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
 MARCH 2004 - DECEMBER 2011
 CONOCOPHILLIPS COMPANY
 NELL HALL NO.1
 SAN JUAN COUNTY, NM

Well ID	Total Depth below TOC (ft)	Surface Elevation (amsl)	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level
MW-1	28.55	5615.72	Unknown	05/10/05	DRY	NA
				10/20/05	19.25	5596.47
				11/22/05	24.15	5591.57
				05/17/06	NM	NM
				11/15/06	21.40	5594.32
				02/19/07	DRY	NA
				05/14/07	24.85	5590.87
				08/22/07	24.61	5591.11
				11/06/07	20.87	5594.85
				03/17/08	DRY	NA
				10/22/08	19.38	5596.34
				03/30/09	28.25	5587.47
				09/30/09	16.56	5599.16
				03/31/10	DRY	NA
				06/09/10	24.16	5591.56
				09/27/10	20.00	77.95
				03/16/11	DRY	NA
		06/21/11		26.80	71.15	
		09/27/11		17.85	80.10	
12/13/2011	25.39	72.56				
MW-2	27.32	5614.94	Unknown	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
				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
				3/30/2009	27.15	5587.79
				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	
12/13/2011	25.10	72.06				
MW-3	27.45	5615.53	Unknown	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
				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
				3/30/2009	DRY	NA
				9/30/2009	NM	NM
				3/31/2010	DRY	NA
				6/9/2010	23.87	5591.66
				9/27/2010	19.93	77.84
				3/16/2011	DRY	NA
		6/21/2011		27.06	70.71	
		9/27/2011		17.82	79.95	
12/13/2011	25.66	72.11				
MW-1	28.55	97.95	Unknown	06/21/11	26.80	71.15
		09/27/11		17.85	80.10	
MW-2	27.32	97.16	Unknown	9/27/2010	19.42	77.74
		3/16/2011		DRY	NA	
MW-3	27.45	97.77	Unknown	6/21/2011	27.06	70.71
		9/27/2011		17.82	79.95	

TABLE 2
 MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
 MARCH 2004 - DECEMBER 2011
 CONOCOPHILLIPS COMPANY
 NELL HALL NO.1
 SAN JUAN COUNTY, NM

Well ID	Total Depth below TOC) (ft)	Surface Elevation (amsl)	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level
MW-4	37.57	5614.87	7.57 - 37.57	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
				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
				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				
12/13/2011	25.35	72.40				
MW-5	42.7	5615.86	7.7 - 42.7	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
				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
				3/17/2008	37.33	5578.53
				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				
12/13/2011	26.62	72.19				
		97.75				

TABLE 2
 MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
 MARCH 2004 - DECEMBER 2011
 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
MW-6	38.21	5615.44	8.21 - 38.21	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
				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
				3/17/2008	36.34	5579.10
				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				
12/13/2011	26.32	72.09				
		98.41				

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

TABLE 3
GROUNDWATER ANALYTICAL RESULTS SUMMARY
(MARCH 2004-DECEMBER 2011)
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	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	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	--	
	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	--	

TABLE 3
GROUNDWATER ANALYTICAL RESULTS SUMMARY
(MARCH 2004-DECEMBER 2011)
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	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	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	--	0.0212J	--

TABLE 3
GROUNDWATER ANALYTICAL RESULTS SUMMARY
(MARCH 2004-DECEMBER 2011)
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	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	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	--	--	--	
NMWQCC Groundwater Quality Standards				0.01	0.75	0.75	0.62	600	1	10	

Explanation

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

NA = Not Analyzed

NE = Not Established

NMWQCC = New Mexico Water Quality Control Commission

APPENDIX A

JUNE 2011 QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Nell Hall #1 JOB# 074941
 SAMPLE ID: GW-74941-062111-CMB-001 WELL# MW-4

WELL PURGING INFORMATION

6-21-11 PURGE DATE (MM DD YY) 6-21-11 SAMPLE DATE (MM DD YY) 1230 SAMPLE TIME (24 HOUR) 1.75 WATER VOL. IN CASING (GALLONS) 5.5 ACTUAL VOL. PURGED (GALLONS)

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	<u>26.79</u>	(feet)	WELL ELEVATION	<u>97.75</u>	(feet)
WELL DEPTH	<u> </u>	(feet)	GROUNDWATER ELEVATION	<u>70.96</u>	(feet)
TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>16.68</u> (°C)	<u>6.70</u> (std)	<u> </u> (g/L)	<u>52056</u> (µS/cm)	<u> </u> (mV)	<u>1.5</u> (gal)
<u>16.13</u> (°C)	<u>6.70</u> (std)	<u> </u> (g/L)	<u>51532</u> (µS/cm)	<u> </u> (mV)	<u>2.5</u> (gal)
<u>15.90</u> (°C)	<u>6.72</u> (std)	<u> </u> (g/L)	<u>51209</u> (µS/cm)	<u> </u> (mV)	<u>3.5</u> (gal)
<u>15.90</u> (°C)	<u>6.83</u> (std)	<u> </u> (g/L)	<u>51488</u> (µS/cm)	<u> </u> (mV)	<u>4.5</u> (gal)
<u>15.87</u> (°C)	<u>6.79</u> (std)	<u> </u> (g/L)	<u>51278</u> (µS/cm)	<u> </u> (mV)	<u>5.5</u> (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: black sediment ODOR: None COLOR: Clear SHEEN Y/N _____
 WEATHER CONDITIONS: TEMPERATURE _____ WINDY Y/N _____ PRECIPITATION Y/N (IF Y TYPE) _____
 SPECIFIC COMMENTS: _____

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

6-21-11 DATE Cassie Brown PRINT Cassie Brown SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Well Hall #1 JOB# 074941
 SAMPLE ID: GW-74941-062111-C48-002 WELL# MW-5

WELL PURGING INFORMATION

6.21.11 PURGE DATE (MM DD YY) 6.21.11 SAMPLE DATE (MM DD YY) 1530 SAMPLE TIME (24 HOUR) 2.2 WATER VOL. IN CASING (GALLONS) 6.5 ACTUAL VOL. PURGED (GALLONS)

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 28.02 (feet) WELL ELEVATION 98.81 (feet)
 WELL DEPTH _____ (feet) GROUNDWATER ELEVATION 70.79 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>15.37</u> (°C)	<u>7.11</u> (std)	_____ (g/L)	<u>44727</u> (µS/cm)	_____ (mV)	<u>4.5</u> (gal)
<u>15.56</u> (°C)	<u>7.05</u> (std)	_____ (g/L)	<u>44980</u> (µS/cm)	_____ (mV)	<u>5.5</u> (gal)
<u>16.02</u> (°C)	<u>7.05</u> (std)	_____ (g/L)	<u>45575</u> (µS/cm)	_____ (mV)	<u>6.5</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: tan SHEEN Y/N _____
 WEATHER CONDITIONS: TEMPERATURE _____ WINDY Y/N _____ PRECIPITATION Y/N (IF Y TYPE) _____
 SPECIFIC COMMENTS: _____

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

6.21.11
DATE

[Signature]
PRINT

[Signature]
SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Well Hall #1 JOB# 074941
 SAMPLE ID: GW-74941-062111-CMB-003 WELL# MW-6

WELL PURGING INFORMATION

6.21.11 PURGE DATE (MM DD YY) 6.21.11 SAMPLE DATE (MM DD YY) 1730 SAMPLE TIME (24 HOUR) 1.74 WATER VOL. IN CASING (GALLONS) 5.5 ACTUAL VOL. PURGED (GALLONS)

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	<u>27.56</u>	(feet)	WELL ELEVATION	<u>98.41</u>	(feet)
WELL DEPTH	<u> </u>	(feet)	GROUNDWATER ELEVATION	<u>70.85</u>	(feet)
TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>15.97</u> (°C)	<u>6.55</u> (std)	<u> </u> (g/L)	<u>62691</u> (µS/cm)	<u> </u> (mV)	<u>3.5</u> (gal)
<u>15.66</u> (°C)	<u>6.59</u> (std)	<u> </u> (g/L)	<u>61099</u> (µS/cm)	<u> </u> (mV)	<u>4.5</u> (gal)
<u>15.60</u> (°C)	<u>6.57</u> (std)	<u> </u> (g/L)	<u>60075</u> (µS/cm)	<u> </u> (mV)	<u>5.5</u> (gal)
<u> </u> (°C)	<u> </u> (std)	<u> </u> (g/L)	<u> </u> (µS/cm)	<u> </u> (mV)	<u> </u> (gal)
<u> </u> (°C)	<u> </u> (std)	<u> </u> (g/L)	<u> </u> (µS/cm)	<u> </u> (mV)	<u> </u> (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: b.O COLOR: clear SHEEN N slight, spotty sheen
 WEATHER CONDITIONS: TEMPERATURE _____ WINDY Y/N _____ PRECIPITATION Y/N (IF Y TYPE) _____
 SPECIFIC COMMENTS: _____
dup @ 1735 GW-74941-062111-DUP

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

DATE 6.21.11

SIGNATURE [Signature]

SIGNATURE [Signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Nell Hall No. 1 **JOB#** 074941
SAMPLE ID: GW-074941-092711-CM-007 **WELL#** MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 9-27-11 **SAMPLE DATE (MM DD YY)** 9-27-11 **SAMPLE TIME (24 HOUR)** 1810 **WATER VOL. IN CASING (GALLONS)** 3.24 **ACTUAL VOL. PURGED (GALLONS)** 10

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	<u>17.47</u>	(feet)	WELL ELEVATION	<u>97.75</u>	(feet)
WELL DEPTH	<u>37.74</u>	(feet)	GROUNDWATER ELEVATION	<u>80.28</u>	(feet)
TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>17.94</u> (°C)	<u>7.24</u> (std)	<u>0.594</u> (g/L)	<u>791</u> (µS/cm)	<u>36.7</u> (mV)	<u>9.0</u> (gal)
<u>18.00</u> (°C)	<u>7.22</u> (std)	<u>0.596</u> (g/L)	<u>795</u> (µS/cm)	<u>37.4</u> (mV)	<u>9.5</u> (gal)
<u>18.00</u> (°C)	<u>7.18</u> (std)	<u>0.598</u> (g/L)	<u>799</u> (µS/cm)	<u>39.4</u> (mV)	<u>10.0</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear **ODOR:** none **COLOR:** clear **SHEEN** Y N
WEATHER CONDITIONS: **TEMPERATURE** 85° **WINDY** Y N **PRECIPITATION** Y N (IF Y TYPE) _____
SPECIFIC COMMENTS: _____

20.27' x 0.16 = 3.24 x 3 = 9.73

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

DATE 9-27-11 **PRINT** Jabor Hoss **SIGNATURE**

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: New Hall No. 1 **JOB#** 074941
SAMPLE ID: GW-074941-092711-CM-005 **WELL#** MW-5

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 9-27-11 **SAMPLE DATE (MM DD YY)** 9-27-11 **SAMPLE TIME (24 HOUR)** 1820 **WATER VOL. IN CASING (GALLONS)** 3.858 **ACTUAL VOL. PURGED (GALLONS)** 11.75

PURGING AND SAMPLING EQUIPMENT

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

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

FILTERING DEVICES 0.45 A B C A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM 0.45 micron for metals only

FIELD MEASUREMENTS

DEPTH TO WATER	<u>18.79</u>	(feet)	WELL ELEVATION	<u>98.81</u>	(feet)
WELL DEPTH	<u>42.90</u>	(feet)	GROUNDWATER ELEVATION	<u>80.02</u>	(feet)
TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>16.06</u> (°C)	<u>7.41</u> (std)	<u>0.629</u> (g/L)	<u>803</u> (µS/cm)	<u>48.2</u> (mV)	<u>10.75</u> (gal)
<u>16.58</u> (°C)	<u>7.22</u> (std)	<u>0.610</u> (g/L)	<u>787</u> (µS/cm)	<u>56.4</u> (mV)	<u>11.25</u> (gal)
<u>16.72</u> (°C)	<u>7.15</u> (std)	<u>0.600</u> (g/L)	<u>778</u> (µS/cm)	<u>59.9</u> (mV)	<u>11.75</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear **ODOR:** none **COLOR:** clear **SHEEN Y/N** Y N
WEATHER CONDITIONS: **TEMPERATURE** _____ **WINDY Y/N** Y N **PRECIPITATION Y/N (BY TYPE)** _____
SPECIFIC COMMENTS: _____

24.011 x 0.16 = 3.858 x 3 = 11.57

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS
DATE 9.27.11 **PRINT** Jason Hiss **SIGNATURE** _____

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME: Nell Hall No.1 JOB# 074941
 SAMPLE ID: GW-074941-092711-CM-008 WELL# MW-6

PURGE DATE (MM DD YY) 9-27-11 SAMPLE DATE (MM DD YY) 9-27-11 WELL PURGING INFORMATION
 SAMPLE TIME (24 HOUR) 1845 WATER VOL. IN CASING (GALLONS) 3.173 ACTUAL VOL. PURGED (GALLONS) 9.75

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

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

0.45 micron for metals only

FIELD MEASUREMENTS

DEPTH TO WATER 18.53 (feet) WELL ELEVATION 98.41 (feet)
 WELL DEPTH 38.41 (feet) GROUNDWATER ELEVATION 79.83 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>17.29</u> (°C)	<u>6.79</u> (std)	<u>0.945</u> (g/L)	<u>1240</u> (µS/cm)	<u>-70.3</u> (mV)	<u>8.75</u> (gal)
<u>17.21</u> (°C)	<u>6.79</u> (std)	<u>0.925</u> (g/L)	<u>1211</u> (µS/cm)	<u>-76.6</u> (mV)	<u>9.25</u> (gal)
<u>17.18</u> (°C)	<u>6.79</u> (std)	<u>0.917</u> (g/L)	<u>1200</u> (µS/cm)	<u>-80.6</u> (mV)	<u>9.25</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: Hydrocarbon/bio COLOR: dark gray SHEEN Y/N
 WEATHER CONDITIONS: TEMPERATURE ~80° WINDY Y/N PRECIPITATION Y/N (IF TYPE) _____
 SPECIFIC COMMENTS: _____

$19.83 \times 0.16 = 3.173 \times 3 = 9.52$

Duplicate GW-074941-092711-CM-008 @ 1850

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

DATE 9-27-11 PRINT Jason Glass SIGNATURE [Signature]

WELL SAMPLING FIELD INFORMATION FORM

TE/PROJECT NAME: Well Hall No. 1 JOB# 074941
 SAMPLE ID: GW-074941-121311-CB-MW4 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 12-13-11 SAMPLE DATE (MM DD YY) 12-13-11 SAMPLE TIME (24 HOUR) 0905 WATER VOL. IN CASING (GALLONS) 2.0 ACTUAL VOL. PURGED (GALLONS) 6.0

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	<u>25.55</u>	(feet)	WELL ELEVATION	<u>97.75</u>	(feet)
WELL DEPTH	<u>37.80</u>	(feet)	GROUNDWATER ELEVATION	<u>72.40</u>	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>15.78</u> (°C)	<u>6.34</u> (std)	<u>0.712</u> (g/L)	<u>903</u> (µS/cm)	<u>134.4</u> (mV)	<u>4.75</u> (gal)
<u>15.78</u> (°C)	<u>6.45</u> (std)	<u>0.710</u> (g/L)	<u>901</u> (µS/cm)	<u>128.0</u> (mV)	<u>5.25</u> (gal)
<u>15.88</u> (°C)	<u>6.62</u> (std)	<u>0.707</u> (g/L)	<u>898</u> (µS/cm)	<u>115.0</u> (mV)	<u>5.75</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: None COLOR: clear SHEEN Y/O _____
 WEATHER CONDITIONS: TEMPERATURE ~ 35° WINDY Y/N N PRECIPITATION Y/O (IF Y TYPE) _____
 SPECIFIC COMMENTS: 2.0 x 3 = 6.0

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

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

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Well Hall JOB# 074941
 SAMPLE ID: GW-074941-121311B-MW5 WELL# MW5

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 12.13.11 SAMPLE DATE (MM DD YY) 12.13.11 SAMPLE TIME (24 HOUR) 0945 WATER VOL. IN CASING (GALLONS) 2.60 ACTUAL VOL. PURGED (GALLONS) 8.0

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 26.62 (feet) WELL ELEVATION 98.81 (feet)
 WELL DEPTH 42.91 (feet) GROUNDWATER ELEVATION 72.19 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
<u>16.57</u> (°C)	<u>6.98</u> (std)	<u>0.789</u> (g/L)	<u>1019</u> (µS/cm)	<u>46.4</u> (mV)	<u>6.5</u> (gal)
<u>16.54</u> (°C)	<u>6.99</u> (std)	<u>0.790</u> (g/L)	<u>1019</u> (µS/cm)	<u>50.7</u> (mV)	<u>7.5</u> (gal)
<u>16.37</u> (°C)	<u>9.98</u> (std)	<u>0.788</u> (g/L)	<u>1013</u> (µS/cm)	<u>54.3</u> (mV)	<u>8.0</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: slightly cloudy ODOR: None COLOR: light brown SHEEN Y/
 WEATHER CONDITIONS: TEMPERATURE ~35° WINDY Y/ PRECIPITATION Y/ (IF Y TYPE) _____
 SPECIFIC COMMENTS: 2.60 x 3 = 7.81

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GEA PROTOCOLS
 DATE 12.13.11 PRINT Cassie Brown SIGNATURE Cassie Brown

WELL SAMPLING FIELD INFORMATION FORM

WELL/PROJECT NAME: Well Hall JOB# 074941
 SAMPLE ID: (W-074941-121311-B-MW-6) WELL# MW-6

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) 12-13-11 SAMPLE DATE (MM DD YY) 12-13-11 SAMPLE TIME (24 HOUR) 0920 WATER VOL. IN CASING (GALLONS) 1.92 ACTUAL VOL. PURGED (GALLONS) 6.0

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 26.32 (feet) WELL ELEVATION 98.41 (feet)
 WELL DEPTH 30.44 (feet) GROUNDWATER ELEVATION 72.09 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
0917 <u>16.09</u> (°C)	<u>6.64</u> (std)	<u>0.736</u> (g/L)	<u>940</u> (µS/cm)	<u>-69.2</u> (mV)	<u>5.5</u> (gal)
0918 <u>16.18</u> (°C)	<u>6.64</u> (std)	<u>0.724</u> (g/L)	<u>926</u> (µS/cm)	<u>-71.7</u> (mV)	<u>5.75</u> (gal)
0919 <u>16.20</u> (°C)	<u>6.64</u> (std)	<u>0.719</u> (g/L)	<u>921</u> (µS/cm)	<u>-73.6</u> (mV)	<u>6.0</u> (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)
_____ (°C)	_____ (std)	_____ (g/L)	_____ (µS/cm)	_____ (mV)	_____ (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: Cloudy ODOR: Dio/Ahlo carbon COLOR: Clean w/ black particles PRECIPITATION Y/N (IF Y TYPE) _____
 WEATHER CONDITIONS: TEMPERATURE ~35° WINDY Y/N N
 SPECIFIC COMMENTS: 1.92 x 3 = 5.76

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS.
 DATE 12-13-11 PRINT Cobin Brown SIGNATURE Cobin Brown

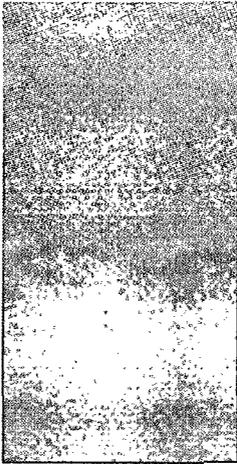
duplicate collected @ 0925

APPENDIX B

JUNE 2011 QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORT



07/07/11



Technical Report for

Conoco Phillips

Nell Hall #1

Nell Hall #1 - Aztec, NM

Accutest Job Number: T79406

Sampling Date: 06/21/11

Report to:

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

Total number of pages in report: 27



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

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Erica Cardenas 713-271-4700

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

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Test results relate only to samples analyzed.

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5.1: Prep QC MP15062: Fe	23



Sample Summary

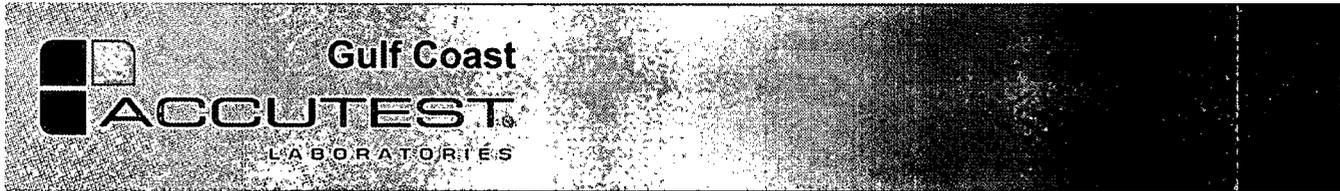
Conoco Phillips

Job No: T79406

Nell Hall #1

Project No: Nell Hall #1 - Aztec, NM

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
T79406-1	06/21/11	12:30	06/23/11	AQ	Ground Water	GW-74941-062111-CMB-001
T79406-1F	06/21/11	12:30	06/23/11	AQ	Groundwater Filtered	GW-74941-062111-CMB-001 (DISSOLVED)
T79406-2	06/21/11	15:30	06/23/11	AQ	Ground Water	GW-74941-062111-CMB-002
T79406-2F	06/21/11	15:30	06/23/11	AQ	Groundwater Filtered	GW-74941-062111-CMB-002 (DISSOLVED)
T79406-3	06/21/11	17:30	06/23/11	AQ	Ground Water	GW-74941-062111-CMB-003
T79406-3F	06/21/11	17:30	06/23/11	AQ	Groundwater Filtered	GW-74941-062111-CMB-003 (DISSOLVED)
T79406-4	06/21/11	00:00	06/23/11	AQ	Trip Blank Water	TRIP BLANK
T79406-5	06/21/11	17:35	06/23/11	AQ	Ground Water	GW-74941-062111-CMB-DUP



Sample Results

Report of Analysis

Report of Analysis

2.1
2

Client Sample ID: GW-74941-062111-CMB-001	Date Sampled: 06/21/11
Lab Sample ID: T79406-1	Date Received: 06/23/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Nell Hall #1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0008746.D	1	06/24/11	LT	n/a	n/a	VE438
Run #2							

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

Purgeable Aromatics

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		79-122%
17060-07-0	1,2-Dichloroethane-D4	99%		75-121%
2037-26-5	Toluene-D8	93%		87-119%
460-00-4	4-Bromofluorobenzene	94%		80-133%

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

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

Report of Analysis

Client Sample ID: GW-74941-062111-CMB-001 (DISSOLVED)	
Lab Sample ID: T79406-1F	Date Sampled: 06/21/11
Matrix: AQ - Groundwater Filtered	Date Received: 06/23/11
	Percent Solids: n/a
Project: Nell Hall #1	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	1210	100	ug/l	1	06/24/11	06/30/11 EG	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA5885

(2) Prep QC Batch: MP15062

RL = Reporting Limit

Report of Analysis

Client Sample ID: GW-74941-062111-CMB-002	Date Sampled: 06/21/11
Lab Sample ID: T79406-2	Date Received: 06/23/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Nell Hall #1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0008747.D	1	06/24/11	LT	n/a	n/a	VE438
Run #2							

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

Purgeable Aromatics

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

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

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

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

Report of Analysis

2.4
2

Client Sample ID:	GW-74941-062111-CMB-002 (DISSOLVED)	Date Sampled:	06/21/11
Lab Sample ID:	T79406-2F	Date Received:	06/23/11
Matrix:	AQ - Groundwater Filtered	Percent Solids:	n/a
Project:	Nell Hall #1		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	<100	100	ug/l	1	06/24/11	06/30/11 EG	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA5885

(2) Prep QC Batch: MP15062

RL = Reporting Limit

Report of Analysis

Client Sample ID: GW-74941-062111-CMB-003	Date Sampled: 06/21/11
Lab Sample ID: T79406-3	Date Received: 06/23/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Nell Hall #1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0008757.D	1	06/24/11	LT	n/a	n/a	VE438
Run #2	E0008752.D	10	06/24/11	LT	n/a	n/a	VE438

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.461 ^a	0.010	0.0025	mg/l	
108-88-3	Toluene	0.00048	0.0010	0.00026	mg/l	J
100-41-4	Ethylbenzene	0.454 ^a	0.010	0.0025	mg/l	
1330-20-7	Xylene (total)	0.677 ^a	0.030	0.0071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	96%	79-122%
17060-07-0	1,2-Dichloroethane-D4	99%	96%	75-121%
2037-26-5	Toluene-D8	102%	96%	87-119%
460-00-4	4-Bromofluorobenzene	95%	94%	80-133%

(a) Result is from Run# 2

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

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

Report of Analysis

Client Sample ID: GW-74941-062111-CMB-003 (DISSOLVED)	Date Sampled: 06/21/11
Lab Sample ID: T79406-3F	Date Received: 06/23/11
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: Nell Hall #1	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	9450	100	ug/l	1	06/24/11	06/30/11 EG	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA5885

(2) Prep QC Batch: MP15062

RL = Reporting Limit

Report of Analysis

Client Sample ID: TRIP BLANK	Date Sampled: 06/21/11
Lab Sample ID: T79406-4	Date Received: 06/23/11
Matrix: AQ - Trip Blank Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Nell Hall #1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0008738.D	1	06/24/11	LT	n/a	n/a	VE438
Run #2							

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

Purgeable Aromatics

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

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

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

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

Report of Analysis

Client Sample ID: GW-74941-062111-CMB-DUP	Date Sampled: 06/21/11
Lab Sample ID: T79406-5	Date Received: 06/23/11
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Nell Hall #1	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0008758.D	1	06/24/11	LT	n/a	n/a	VE438
Run #2	E0008753.D	10	06/24/11	LT	n/a	n/a	VE438

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

Purgeable Aromatics

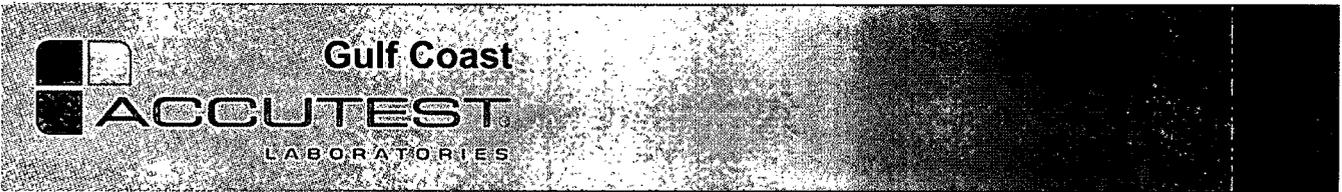
CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.383 ^a	0.010	0.0025	mg/l	
108-88-3	Toluene	0.00057	0.0010	0.00026	mg/l	J
100-41-4	Ethylbenzene	0.407 ^a	0.010	0.0025	mg/l	
1330-20-7	Xylene (total)	0.607 ^a	0.030	0.0071	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	79-122%
17060-07-0	1,2-Dichloroethane-D4	97%	96%	75-121%
2037-26-5	Toluene-D8	101%	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	94%	80-133%

(a) Result is from Run# 2

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

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



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest Job Number: T79406 Client: CONOCO PHILLIPS Project: NELL HALL # 1
 Date / Time Received: 6/23/2011 09:55 Delivery Method: FedEx Airbill #'s: 486899904910
 No. Coolers: 1 Therm ID: 110; Temp Adjustment Factor: -0.5;
 Cooler Temps (Initial/Adjusted): #1: (1.5/1)

 3.1


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

Cooler Temperature Y or N
 1. Temp criteria achieved:
 2. Cooler temp verification: Glass Thermometer
 3. Cooler media: Ice (Bag)

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

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

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

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

Comments COC ID GW-74941-062111-CMB-003, 500 ML bottle ID GW-7494062111-CBB-003.



Problem Resolution

Accutest Job Number: T79406

CSR: ERICA CARDENAS

Response Date: 6/28/2011

Response: LOGGED IN USING ID ON COC.

3.1

T79406: Chain of Custody
Page 3 of 4

Job #: T79406

Date / Time Received: 6/23/2011 9:55:00 AM

Initials: DARRELLH

Client: CONOCO PHILLIPS

3.1
25

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T79406-1	500 ml	1	1 AA	N/P	Note #2 - Preservative check not applicable.	110	1.5	-0.5	1
1	T79406-1	40 ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-1	40 ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-1	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-2	500 ml	1	1 AA	N/P	Note #2 - Preservative check not applicable.	110	1.5	-0.5	1
1	T79406-2	40 ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-2	40 ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-2	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-3	500 ml	1	1 AA	N/P	Note #2 - Preservative check not applicable.	110	1.5	-0.5	1
1	T79406-3	40 ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-3	40 ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-3	40 ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-4	40 ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-4	40 ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-5	40 ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-5	40 ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1
1	T79406-5	40 ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	110	1.5	-0.5	1

T79406: Chain of Custody
Page 4 of 4

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T79406
Account: CONOCO Conoco Phillips
Project: Nell Hall #1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE438-MB	E0008736.D	1	06/24/11	LT	n/a	n/a	VE438

4.1.1
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T79406-1, T79406-2, T79406-3, T79406-4, T79406-5

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

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

Blank Spike Summary

Job Number: T79406
Account: CONOCO Conoco Phillips
Project: Nell Hall #1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE438-BS	E0008734.D	1	06/24/11	LT	n/a	n/a	VE438

4.2.1
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T79406-1, T79406-2, T79406-3, T79406-4, T79406-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.4	90	76-118
100-41-4	Ethylbenzene	25	23.7	95	75-112
108-88-3	Toluene	25	22.7	91	77-114
1330-20-7	Xylene (total)	75	71.4	95	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	79-122%
17060-07-0	1,2-Dichloroethane-D4	99%	75-121%
2037-26-5	Toluene-D8	95%	87-119%
460-00-4	4-Bromofluorobenzene	95%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T79406
 Account: CONOCO Conoco Phillips
 Project: Nell Hall #1

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T78978-13MS	E0008740.D	50	06/24/11	LT	n/a	n/a	VE438
T78978-13MSD	E0008741.D	50	06/24/11	LT	n/a	n/a	VE438
T78978-13	E0008739.D	50	06/24/11	LT	n/a	n/a	VE438

4.3.1
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T79406-1, T79406-2, T79406-3, T79406-4, T79406-5

CAS No.	Compound	T78978-13 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3730	1250	4710	78	4520	63 ^a	4	76-118/16
100-41-4	Ethylbenzene	712	1250	1850	91	1760	84	5	75-112/12
108-88-3	Toluene	ND	1250	1150	92	1140	91	1	77-114/12
1330-20-7	Xylene (total)	2490	3750	5860	90	5660	85	3	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T78978-13	Limits
1868-53-7	Dibromofluoromethane	165%* ^b	159%* ^b	96%	79-122%
17060-07-0	1,2-Dichloroethane-D4	165%* ^b	165%* ^b	99%	75-121%
2037-26-5	Toluene-D8	160%* ^b	160%* ^b	98%	87-119%
460-00-4	4-Bromofluorobenzene	161%* ^b	157%* ^b	95%	80-133%

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Outside control limits biased high.



Metals Analysis



QC Data Summaries

Includes the following where applicable:

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T79406
Account: CONOCO - Conoco Phillips
Project: Nell Hall #1

QC Batch ID: MP15062
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/24/11

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

Associated samples MP15062: T79406-1F, T79406-2F, T79406-3F

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

5.1.1
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T79406
 Account: CONOCO - Conoco Phillips
 Project: Nell Hall #1

QC Batch ID: MP15062
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/24/11 06/24/11

Metal	T79318-1F Original	DUP	RPD	QC Limits	T79318-1F Original MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic	anr							
Barium	anr							
Beryllium								
Boron								
Cadmium	anr							
Calcium								
Chromium								
Cobalt								
Copper								
Iron	7.3	11.2	42.2 (a)	0-20	7.3	53500	50000	107.0 80-120
Lead	anr							
Lithium								
Magnesium								
Manganese	anr							
Molybdenum								
Nickel								
Potassium								
Selenium	anr							
Silver								
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc								

Associated samples MP15062: T79406-1F, T79406-2F, T79406-3F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) RPD acceptable due to low duplicate and sample concentrations.

5.1.2
 5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T79406
 Account: CONOCO - Conoco Phillips
 Project: Nell Hall #1

QC Batch ID: MP15062
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/24/11

Metal	T79318-1F Original MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron					
Cadmium	anr				
Calcium					
Chromium					
Cobalt					
Copper					
Iron	7.3	51800	50000	103.6	3.2 20
Lead	anr				
Lithium					
Magnesium					
Manganese	anr				
Molybdenum					
Nickel					
Potassium					
Selenium	anr				
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP15062: T79406-1F, T79406-2F, T79406-3F

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

5.1.2


SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T79406
 Account: CONOCO - Conoco Phillips
 Project: Nell Hall #1

QC Batch ID: MP15062
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/24/11

Metal	BSP Result	Spikelet MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium				
Cobalt				
Copper				
Iron	53100	50000	106.2	80-120
Lead	anr			
Lithium				
Magnesium				
Manganese	anr			
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP15062: T79406-1F, T79406-2F, T79406-3F

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

5.1.3


SERIAL DILUTION RESULTS SUMMARY

Login Number: T79406
 Account: CONOCO - Conoco Phillips
 Project: Nell Hall #1

QC Batch ID: MP15062
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/24/11

Metal	T79318-1F	Original	SDL 1:5	%DIF	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron					
Cadmium	anr				
Calcium					
Chromium					
Cobalt					
Copper					
Iron	7.28	7.20	1.1		0-10
Lead	anr				
Lithium					
Magnesium					
Manganese	anr				
Molybdenum					
Nickel					
Potassium					
Selenium	anr				
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP15062: T79406-1F, T79406-2F, T79406-3F

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

5.1.4
 5



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

October 11, 2011

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

RE: Project: NELL HALL NO.1
Pace Project No.: 60107158

Dear Christine Matthews:

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

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

Sincerely,

Colleen Koporc for
Dianna Meier
dianna.meier@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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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: NELL HALL NO.1
Pace Project No.: 60107158

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

Page 2 of 15

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SAMPLE SUMMARY

Project: NELL HALL NO.1
Pace Project No.: 60107158

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60107158001	GW-074941-092711-CM-007	Water	09/27/11 18:10	09/29/11 09:00
60107158002	GW-074941-092711-CM-005	Water	09/27/11 18:20	09/29/11 09:00
60107158003	GW-074941-092711-CM-006	Water	09/27/11 18:45	09/29/11 09:00
60107158004	GW-074941-092711-CM-008	Water	09/27/11 18:50	09/29/11 09:00
60107158005	TB-092711-001	Water	09/27/11 19:00	09/29/11 09:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: NELL HALL NO.1
Pace Project No.: 60107158

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60107158001	GW-074941-092711-CM-007	EPA 6010	SMW	1
		EPA 8260	BRM	9
60107158002	GW-074941-092711-CM-005	EPA 6010	SMW	1
		EPA 8260	BRM	9
60107158003	GW-074941-092711-CM-006	EPA 6010	SMW	1
		EPA 8260	BRM	9
60107158004	GW-074941-092711-CM-008	EPA 8260	BRM	9
60107158005	TB-092711-001	EPA 8260	BRM	9

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: NELL HALL NO.1
Pace Project No.: 60107158

Method: EPA 6010
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 11, 2011

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



PROJECT NARRATIVE

Project: NELL HALL NO.1
Pace Project No.: 60107158

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 11, 2011

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/40680

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

Duplicate Sample:

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

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS

Project: NELL HALL NO.1
 Pace Project No.: 60107158

Sample: GW-074941-092711-CM-007 Lab ID: 60107158001 Collected: 09/27/11 18:10 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	ND ug/L		50.0	6.0	1	10/03/11 13:37	10/06/11 09:38	7439-89-6	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND ug/L		1.0	0.055	1		10/08/11 02:18	71-43-2	
Ethylbenzene	ND ug/L		1.0	0.056	1		10/08/11 02:18	100-41-4	
Toluene	ND ug/L		1.0	0.066	1		10/08/11 02:18	108-88-3	
Xylene (Total)	ND ug/L		3.0	0.12	1		10/08/11 02:18	1330-20-7	
Dibromofluoromethane (S)	109 %		86-112		1		10/08/11 02:18	1868-53-7	
Toluene-d8 (S)	98 %		90-110		1		10/08/11 02:18	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-113		1		10/08/11 02:18	460-00-4	
1,2-Dichloroethane-d4 (S)	108 %		82-119		1		10/08/11 02:18	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		10/08/11 02:18		



ANALYTICAL RESULTS

Project: NELL HALL NO.1
 Pace Project No.: 60107158

Sample: **GW-074941-092711-CM-005** Lab ID: **60107158002** Collected: 09/27/11 18:20 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	83.5	ug/L	50.0	6.0	1	10/03/11 13:37	10/06/11 09:47	7439-89-6	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 02:35	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 02:35	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 02:35	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 02:35	1330-20-7	
Dibromofluoromethane (S)	107	%	86-112		1		10/08/11 02:35	1868-53-7	
Toluene-d8 (S)	98	%	90-110		1		10/08/11 02:35	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113		1		10/08/11 02:35	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119		1		10/08/11 02:35	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		10/08/11 02:35		



ANALYTICAL RESULTS

Project: NELL HALL NO.1
 Pace Project No.: 60107158

Sample: **GW-074941-092711-CM-006** Lab ID: **60107158003** Collected: 09/27/11 18:45 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	19600	ug/L	50.0	6.0	1	10/03/11 13:37	10/06/11 09:49	7439-89-6	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	237	ug/L	5.0	0.28	5		10/08/11 02:51	71-43-2	
Ethylbenzene	197	ug/L	5.0	0.28	5		10/08/11 02:51	100-41-4	
Toluene	ND	ug/L	5.0	0.33	5		10/08/11 02:51	108-88-3	
Xylene (Total)	225	ug/L	15.0	0.60	5		10/08/11 02:51	1330-20-7	
Dibromofluoromethane (S)	108	%	86-112		5		10/08/11 02:51	1868-53-7	
Toluene-d8 (S)	100	%	90-110		5		10/08/11 02:51	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		5		10/08/11 02:51	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	82-119		5		10/08/11 02:51	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		10/08/11 02:51		



ANALYTICAL RESULTS

Project: NELL HALL NO.1
Pace Project No.: 60107158

Sample: **GW-074941-092711-CM-008** Lab ID: **60107158004** Collected: 09/27/11 18:50 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	249	ug/L	5.0	0.28	5		10/08/11 03:08	71-43-2	
Ethylbenzene	216	ug/L	5.0	0.28	5		10/08/11 03:08	100-41-4	
Toluene	ND	ug/L	5.0	0.33	5		10/08/11 03:08	108-88-3	
Xylene (Total)	248	ug/L	15.0	0.60	5		10/08/11 03:08	1330-20-7	
Dibromofluoromethane (S)	110	%	86-112		5		10/08/11 03:08	1868-53-7	
Toluene-d8 (S)	99	%	90-110		5		10/08/11 03:08	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113		5		10/08/11 03:08	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	82-119		5		10/08/11 03:08	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		10/08/11 03:08		



ANALYTICAL RESULTS

Project: NELL HALL NO.1
 Pace Project No.: 60107158

Sample: TB-092711-001 Lab ID: 60107158005 Collected: 09/27/11 19:00 Received: 09/29/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.055	1		10/08/11 03:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.056	1		10/08/11 03:24	100-41-4	
Toluene	ND	ug/L	1.0	0.066	1		10/08/11 03:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.12	1		10/08/11 03:24	1330-20-7	
Dibromofluoromethane (S)	109 %		86-112		1		10/08/11 03:24	1868-53-7	
Toluene-d8 (S)	97 %		90-110		1		10/08/11 03:24	2037-26-5	
4-Bromofluorobenzene (S)	99 %		87-113		1		10/08/11 03:24	460-00-4	
1,2-Dichloroethane-d4 (S)	108 %		82-119		1		10/08/11 03:24	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		10/08/11 03:24		



QUALITY CONTROL DATA

Project: NELL HALL NO.1
 Pace Project No.: 60107158

QC Batch: MPRP/15522 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
 Associated Lab Samples: 60107158001, 60107158002, 60107158003

METHOD BLANK: 885377 Matrix: Water
 Associated Lab Samples: 60107158001, 60107158002, 60107158003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	10/06/11 09:34	

LABORATORY CONTROL SAMPLE: 885378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10200	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885379 885380

Parameter	60107158001		MS	MSD	MS		MSD		% Rec	Max	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Iron, Dissolved	ug/L	ND	10000	10000	10100	10200	100	101	75-125	1	20



QUALITY CONTROL DATA

Project: NELL HALL NO.1
 Pace Project No.: 60107158

QC Batch: MSV/40680 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
 Associated Lab Samples: 60107158001, 60107158002, 60107158003, 60107158004, 60107158005

METHOD BLANK: 887910 Matrix: Water
 Associated Lab Samples: 60107158001, 60107158002, 60107158003, 60107158004, 60107158005

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

LABORATORY CONTROL SAMPLE: 887911

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



QUALIFIERS

Project: NELL HALL NO.1
Pace Project No.: 60107158

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

BATCH QUALIFIERS

Batch: MSV/40680

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NELL HALL NO.1
Pace Project No.: 60107158

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60107158001	GW-074941-092711-CM-007	EPA 3010	MPRP/15522	EPA 6010	ICP/13475
60107158002	GW-074941-092711-CM-005	EPA 3010	MPRP/15522	EPA 6010	ICP/13475
60107158003	GW-074941-092711-CM-006	EPA 3010	MPRP/15522	EPA 6010	ICP/13475
60107158001	GW-074941-092711-CM-007	EPA 8260	MSV/40680		
60107158002	GW-074941-092711-CM-005	EPA 8260	MSV/40680		
60107158003	GW-074941-092711-CM-006	EPA 8260	MSV/40680		
60107158004	GW-074941-092711-CM-008	EPA 8260	MSV/40680		
60107158005	TB-092711-001	EPA 8260	MSV/40680		



Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP CRA

Project #: 60007158

Courier: Fed Ex UPS USPS Client Commercial Pace Other

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

Tracking #: 876803375910 Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-191 / T-194

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

Cooler Temperature: 0.6

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

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.	
Start: <u>1000</u>	Start:
End: <u>1025</u>	End:
Temp:	Temp:

Project Manager Review: DKM Date: 9/30/11

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



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

December 27, 2011

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

RE: Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on December 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Tracy

alice.tracy@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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Pace Package 1 of 17



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CERTIFICATIONS

Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

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.: 60112207

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112207001	GW-074941-121311-CB-MW-4	Water	12/13/11 09:05	12/15/11 09:00
60112207002	GW-074941-121311-CB-MW-5	Water	12/13/11 09:45	12/15/11 09:00
60112207003	GW-074941-121311-CB-MW-6	Water	12/13/11 09:20	12/15/11 09:00
60112207004	GW-074941-121311-CB-DUP	Water	12/13/11 09:25	12/15/11 09:00
60112207005	GW-074941-121311-TB1	Water	12/13/11 08:00	12/15/11 09:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112207001	GW-074941-121311-CB-MW-4	EPA 6010	JDH	1
		EPA 8260	JTS	9
60112207002	GW-074941-121311-CB-MW-5	EPA 6010	JDH	1
		EPA 8260	JTS	9
60112207003	GW-074941-121311-CB-MW-6	EPA 6010	JDH	1
		EPA 8260	JTS	9
60112207004	GW-074941-121311-CB-DUP	EPA 8260	JTS	9
60112207005	GW-074941-121311-TB1	EPA 8260	JTS	9

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

Method: EPA 6010
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 27, 2011

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



PROJECT NARRATIVE

Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

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

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/42549

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

Duplicate Sample:

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

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

Sample: **GW-074941-121311-CB-MW-4** Lab ID: **60112207001** Collected: 12/13/11 09:05 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	201	ug/L	50.0	6.0	1	12/22/11 09:00	12/23/11 10:03	7439-89-6	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		12/17/11 02:30	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.13	1		12/17/11 02:30	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/17/11 02:30	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.20	1		12/17/11 02:30	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	92 %		86-112		1		12/17/11 02:30	1868-53-7	
Toluene-d8 (S)	99 %		90-110		1		12/17/11 02:30	2037-26-5	
4-Bromofluorobenzene (S)	96 %		87-113		1		12/17/11 02:30	460-00-4	
1,2-Dichloroethane-d4 (S)	91 %		82-119		1		12/17/11 02:30	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/17/11 02:30		



ANALYTICAL RESULTS

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

Sample: **GW-074941-121311-CB-MW-5** Lab ID: **60112207002** Collected: 12/13/11 09:45 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	21.2J	ug/L	50.0	6.0	1	12/22/11 09:00	12/23/11 10:13	7439-89-6	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		12/17/11 02:48	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.13	1		12/17/11 02:48	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/17/11 02:48	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.20	1		12/17/11 02:48	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	92 %		86-112		1		12/17/11 02:48	1868-53-7	
Toluene-d8 (S)	104 %		90-110		1		12/17/11 02:48	2037-26-5	
4-Bromofluorobenzene (S)	96 %		87-113		1		12/17/11 02:48	460-00-4	
1,2-Dichloroethane-d4 (S)	92 %		82-119		1		12/17/11 02:48	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/17/11 02:48		



ANALYTICAL RESULTS

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

Sample: **GW-074941-121311-CB-MW-6** Lab ID: **60112207003** Collected: 12/13/11 09:20 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	11600	ug/L	50.0	6.0	1	12/22/11 09:00	12/23/11 10:16	7439-89-6	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	298	ug/L	5.0	0.75	5		12/17/11 03:05	71-43-2	
Ethylbenzene	154	ug/L	5.0	0.65	5		12/17/11 03:05	100-41-4	
Toluene	8.3	ug/L	5.0	0.65	5		12/17/11 03:05	108-88-3	
Xylene (Total)	141	ug/L	15.0	1.0	5		12/17/11 03:05	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98 %		86-112		5		12/17/11 03:05	1868-53-7	
Toluene-d8 (S)	99 %		90-110		5		12/17/11 03:05	2037-26-5	
4-Bromofluorobenzene (S)	96 %		87-113		5		12/17/11 03:05	460-00-4	
1,2-Dichloroethane-d4 (S)	89 %		82-119		5		12/17/11 03:05	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		12/17/11 03:05		



ANALYTICAL RESULTS

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

Sample: **GW-074941-121311-CB-DUP** Lab ID: **60112207004** Collected: 12/13/11 09:25 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	359	ug/L	5.0	0.75	5		12/17/11 03:23	71-43-2	
Ethylbenzene	190	ug/L	5.0	0.65	5		12/17/11 03:23	100-41-4	
Toluene	6.1	ug/L	5.0	0.65	5		12/17/11 03:23	108-88-3	
Xylene (Total)	183	ug/L	15.0	1.0	5		12/17/11 03:23	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	93 %		86-112		5		12/17/11 03:23	1868-53-7	
Toluene-d8 (S)	91 %		90-110		5		12/17/11 03:23	2037-26-5	
4-Bromofluorobenzene (S)	98 %		87-113		5		12/17/11 03:23	460-00-4	
1,2-Dichloroethane-d4 (S)	89 %		82-119		5		12/17/11 03:23	17060-07-0	
Preservation pH	1.0		1.0	0.10	5		12/17/11 03:23		



ANALYTICAL RESULTS

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

Sample: **GW-074941-121311-TB1** Lab ID: **60112207005** Collected: 12/13/11 08:00 Received: 12/15/11 09:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	ND ug/L		1.0	0.15	1		12/17/11 00:46	71-43-2	
Ethylbenzene	ND ug/L		1.0	0.13	1		12/17/11 00:46	100-41-4	
Toluene	ND ug/L		1.0	0.13	1		12/17/11 00:46	108-88-3	
Xylene (Total)	ND ug/L		3.0	0.20	1		12/17/11 00:46	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	94 %		86-112		1		12/17/11 00:46	1868-53-7	
Toluene-d8 (S)	96 %		90-110		1		12/17/11 00:46	2037-26-5	
4-Bromofluorobenzene (S)	97 %		87-113		1		12/17/11 00:46	460-00-4	
1,2-Dichloroethane-d4 (S)	91 %		82-119		1		12/17/11 00:46	17060-07-0	
Preservation pH	1.0		1.0	0.10	1		12/17/11 00:46		



QUALITY CONTROL DATA

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

QC Batch: MPRP/16530 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
 Associated Lab Samples: 60112207001, 60112207002, 60112207003

METHOD BLANK: 930306 Matrix: Water
 Associated Lab Samples: 60112207001, 60112207002, 60112207003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	12/23/11 09:58	

LABORATORY CONTROL SAMPLE: 930307

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9770	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 930308 930309

Parameter	60112207001		MS	MSD	MS		MSD		% Rec Limits	RPD	Max RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
Iron, Dissolved	ug/L	201	10000	10000	9880	9790	97	96	75-125	1	20	



QUALITY CONTROL DATA

Project: Nell Hall No.1 (074941)
 Pace Project No.: 60112207

QC Batch: MSV/42549 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
 Associated Lab Samples: 60112207001, 60112207002, 60112207003, 60112207004, 60112207005

METHOD BLANK: 927952 Matrix: Water
 Associated Lab Samples: 60112207001, 60112207002, 60112207003, 60112207004, 60112207005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/16/11 23:36	
Ethylbenzene	ug/L	ND	1.0	12/16/11 23:36	
Toluene	ug/L	ND	1.0	12/16/11 23:36	
Xylene (Total)	ug/L	ND	3.0	12/16/11 23:36	
1,2-Dichloroethane-d4 (S)	%	94	82-119	12/16/11 23:36	
4-Bromofluorobenzene (S)	%	98	87-113	12/16/11 23:36	
Dibromofluoromethane (S)	%	95	86-112	12/16/11 23:36	
Toluene-d8 (S)	%	100	90-110	12/16/11 23:36	

LABORATORY CONTROL SAMPLE: 927953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.1	96	82-117	
Ethylbenzene	ug/L	20	18.7	93	79-121	
Toluene	ug/L	20	19.2	96	80-120	
Xylene (Total)	ug/L	60	58.1	97	79-120	
1,2-Dichloroethane-d4 (S)	%			94	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			95	86-112	
Toluene-d8 (S)	%			102	90-110	



QUALIFIERS

Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

BATCH QUALIFIERS

Batch: MSV/42549

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Nell Hall No.1 (074941)
Pace Project No.: 60112207

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112207001	GW-074941-121311-CB-MW-4	EPA 3010	MPRP/16530	EPA 6010	ICP/14221
60112207002	GW-074941-121311-CB-MW-5	EPA 3010	MPRP/16530	EPA 6010	ICP/14221
60112207003	GW-074941-121311-CB-MW-6	EPA 3010	MPRP/16530	EPA 6010	ICP/14221
60112207001	GW-074941-121311-CB-MW-4	EPA 8260	MSV/42549		
60112207002	GW-074941-121311-CB-MW-5	EPA 8260	MSV/42549		
60112207003	GW-074941-121311-CB-MW-6	EPA 8260	MSV/42549		
60112207004	GW-074941-121311-CB-DUP	EPA 8260	MSV/42549		
60112207005	GW-074941-121311-TB1	EPA 8260	MSV/42549		



Sample Condition Upon Receipt – ESI Tech Specs

Client Name: COP CPA NM

Project #: 60112207

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Optional	
Proj Due Date:	<u>12/20</u>
Proj Name:	<u>NC11/14/11</u> No. 1

Tracking #: 8906 0891 3930 Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-101 / T-194

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

Cooler Temperature: 0.9

Date and initials of person examining contents: JWS 12/19/11 1415

Temperature should be above freezing to 6°C

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

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

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

Start:	<u>1415</u>	Start:	
End:	<u>1920</u>	End:	
Temp:		Temp:	

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

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