# 3R – 430

# 2013 AGWMR

# 08/22/2014

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Mr. Glenn von Gonten New Mexico Oil Conservation Division 1220 South St. Francis DR Santa Fe, NM 87505

August 22, 2014

#### Re: NMOCD Case No. 3R-430, 2013 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2013 Annual Groundwater Monitoring Report for the Wilmuth No. 1 site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of groundwater monitoring from March, June, September, and December 2013.

Please let me know if you have any questions.

Sincerely,

David C. Hathaway, P.E.

Enc



#### www.CRAworld.com



**Final Report** 

#### 2013 Annual Groundwater Monitoring Report

ConocoPhillips Wilmuth No. 1 San Juan County, New Mexico API# 30-045-10370 NMOCD# 3R-430

Prepared for: ConocoPhillips Company

**Conestoga-Rovers & Associates** 

6121 Indian School Road, NE Suite 200 Albuquerque, New Mexico 87110



September 2014 • 074937 • Report No. 4

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#### Section 1.0 Introduction

This report presents the results of quarterly groundwater monitoring events conducted during 2013 by Conestoga-Rovers & Associates, Inc. (CRA) at the ConocoPhillips Company (ConocoPhillips) Wilmuth No. 1 remediation site located north of Aztec, New Mexico (Site). The Site is located on private land leased to ConocoPhillips and is situated in Section 26, Township 31N, Range 11W, of San Juan County, New Mexico (**Figure 1**). Geographical coordinates for the Site are 36.864823° North and 107.964516° West. A Site vicinity map and Site plan are included as **Figures 1** and **2**, respectively.

#### 1.1 Background

The Wilmuth No. 1 natural gas well was spudded in 1958 by El Paso Natural Gas Company. Meridian Oil, Inc., a subsidiary of Burlington Resources, Inc. (Burlington), took over operation of the well on November 1, 1986. ConocoPhillips acquired Burlington on March 31, 2006.

A release of approximately 22 barrels (bbls) of produced water occurred within the bermed area surrounding the produced water tank on May 17, 2001. Twenty bbls were later recovered. A release of condensate occurred on December 17, 2002 from a corrosion hole in the condensate tank. Burlington excavated a total of 85 cubic yards of impacted soil and disposed of it at JFJ landfarm, located in Aztec, NM.

ConocoPhillips personnel notified the New Mexico Oil Conservation Division (NMOCD) in December 2009 of groundwater seeping into two separate areas that were undergoing excavation to remove stained soil discovered during line tie-in procedures. Four groundwater monitor wells were subsequently installed under the supervision of Tetra Tech in April, 2010. A generalized geologic cross section was produced using boring logs from monitor well installation at the Site. The cross section is presented as **Figure 3**. Tetra Tech began quarterly sampling immediately following development of the wells by collecting a baseline round of groundwater samples on April 8, 2010.

On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM. The most recent sampling event took place on December 12, 2013. The December 2013 sampling event marks the 16th consecutive round of quarterly sampling at the Site. A historical timeline is presented in **Table 1**.

#### Section 2.0 Monitoring Summary, Sampling Methodology, and analytical Results

#### 2.1 Monitoring Summary

Groundwater quality monitoring events were conducted on March 18, June 14, September 12, and December 12, 2013 at the Wilmuth No. 1 site.



#### 2.2 Groundwater Sampling Methodology

Prior to collection of groundwater samples from Monitor Wells MW-1, MW-2, MW-3, and MW-4, depth to groundwater in each well was determined using an oil/water interface probe. Groundwater elevation data are summarized in **Table 2**. The casings for Site monitor wells were surveyed on April 8, 2010 using an arbitrary reference-elevation of 100 feet. The data obtained from the Site survey and groundwater elevations collected during the 2013 sampling events were used to create groundwater potentiometric surface maps for the Site (**Figures 4, 5, 6** and **7**, respectively). Using these data, it was determined that the groundwater flow direction at the Site is to the southwest.

During the 2013 quarterly groundwater monitoring events, Site monitor wells were purged of at least 3 casing volumes of groundwater using 1.5-inch diameter, polyethylene, dedicated bailers. While bailing each well, groundwater parameter data, including temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential were collected using a YSI 556 multi-parameter Sonde and recorded on CRA Well Sampling Field Information Forms (**Appendix A**).

Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Pace Analytical Services, Inc. of Lenexa, KS for analysis. Samples were analyzed for total dissolved solids (TDS) by SM 2540C and dissolved manganese by EPA Method 6010.

#### 2.3 Groundwater 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).

Results of 2013 groundwater monitoring events are discussed below.

#### March 2013

- Dissolved Manganese: The groundwater quality standard for dissolved manganese is 0.2 milligrams per liter (mg/L). Groundwater collected from all Site monitor wells was found to be above the standard for dissolved manganese during March 2013. Dissolved manganese concentrations were 1.12 mg/L, 1.56 mg/L, 1.58 mg/L, and 1.54 mg/L for wells MW-1, MW-2, MW-3, and MW-4, respectively.
- Total Dissolved Solids: The groundwater quality standard for TDS is 1000 mg/L. Groundwater collected from Monitor Well MW-1 was found to be above the standard for TDS during March 2013. TDS was detected at 1070 mg/L for Monitor Well MW-1.



#### <u>June 2013</u>

 Dissolved Manganese: Groundwater collected from all Site monitor wells was found to be above the standard for dissolved manganese during June 2013. Dissolved manganese concentrations were 0.930 mg/L, 1.38 mg/L, 1.64 mg/L, and 1.74 mg/L for wells MW-1, MW-2, MW-3, and MW-4, respectively.

#### September 2013

 Dissolved Manganese: Groundwater collected from all Site monitor wells was found to be above the standard for dissolved manganese during September 2013. Dissolved manganese concentrations were 0.921 mg/L, 1.45 mg/L, 1.65 mg/L, and 1.81 mg/L for wells MW-1, MW-2, MW-3, and MW-4, respectively.

#### December 2013

 Dissolved Manganese: Groundwater collected from all Site monitor wells was found to be above the standard for dissolved manganese during December 2013. Dissolved manganese concentrations were 1.10 mg/L, 1.30 mg/L, 1.50 mg/L, and 1.20 mg/L for wells MW-1, MW-2, MW-3, and MW-4, respectively.

Historical analytical results are summarized in **Table 3**. The corresponding laboratory analytical reports, including quality control summaries, are included in **Appendix B**.

#### Section 3.0 Conclusion and Recommendations

BTEX analysis was discontinued at the Site following the December 14, 2011 groundwater quality monitoring event, which represented the eighth consecutive quarterly sampling event with BTEX constituents below laboratory detection limits.

Groundwater samples from all Site monitor wells have continually exceeded the NMWQCC groundwater quality standard for dissolved manganese, which has remained stable over time in all Site monitor wells. Groundwater samples from all Site monitor wells have intermittently exceeded the standard for TDS.

Following the December 2013 sampling event, dissolved manganese analysis will be performed every two years during September. Once manganese is detected at levels below the NMWQCC standard for all Site monitor wells, quarterly sampling will resume for manganese. TDS analysis will continue to be performed quarterly. When eight consecutive quarters of data within compliance levels or at background concentrations has been achieved, remediation Site closure will be requested.



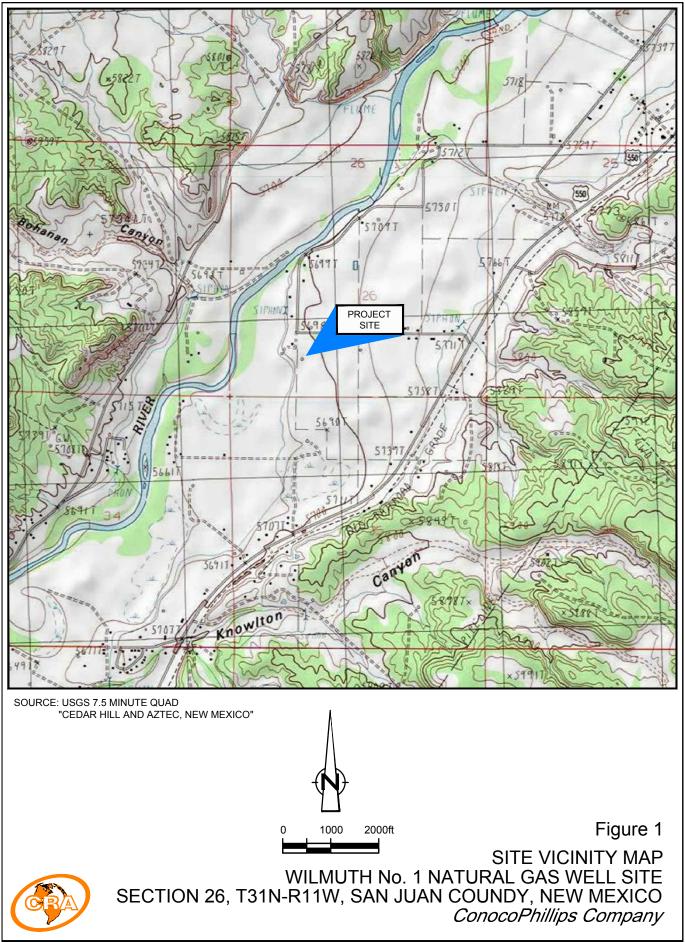
In addition to future groundwater sampling at the site, CRA recommends the installation of an upgradient monitor well to assess background groundwater conditions at the site. **Figure 8** depicts the proposed location of this up-gradient monitor well.

The next groundwater monitoring event at the Site is scheduled for March 2014.



**Figures** 



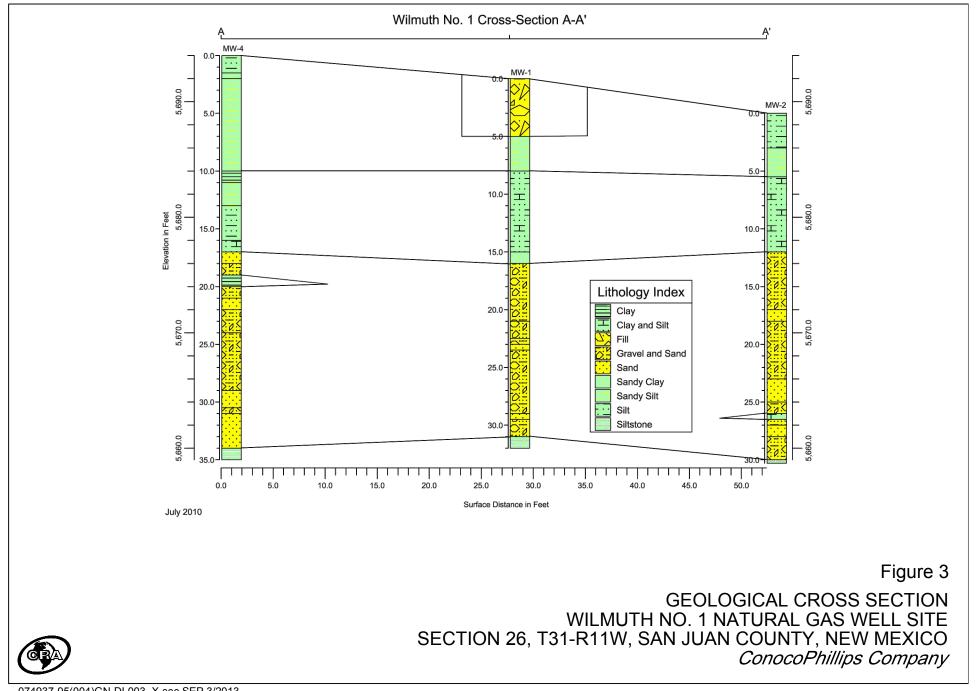


074937-95(004)GN-DL001\_TOPO SEP 3/2013



SITE PLAN WILMUTH No. 1 NATURAL GAS WELL SITE SECTION 26, T31-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074937-95(004)GN-DL002\_SD SEP 3/2013



074937-95(004)GN-DL003 X-sec SEP 3/2013



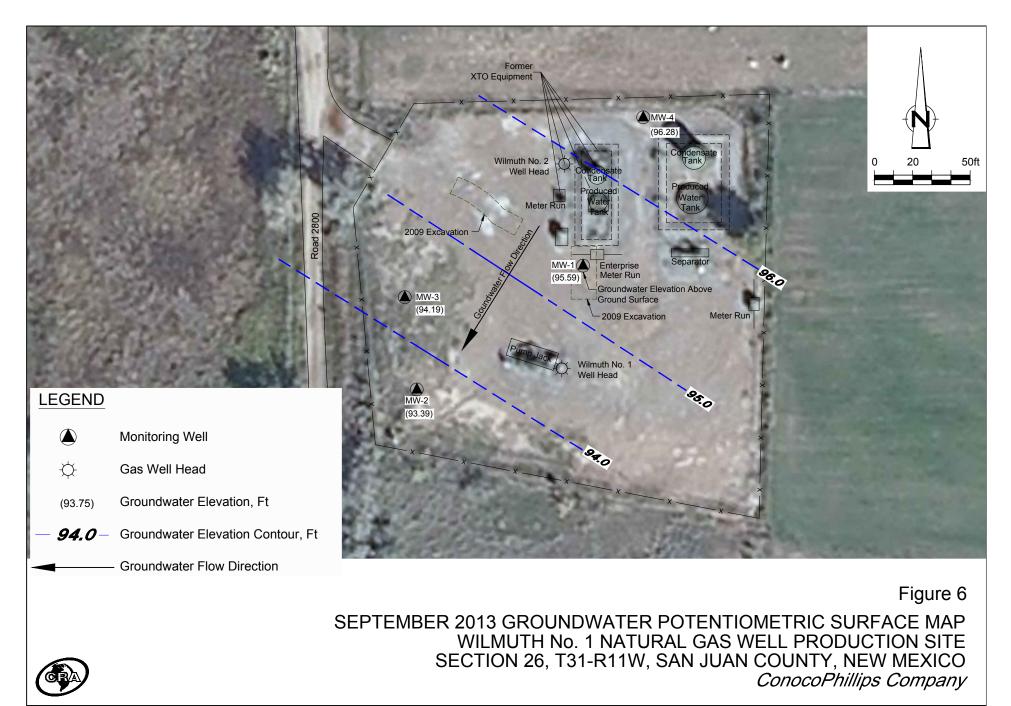
MARCH 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP WILMUTH No. 1 NATURAL GAS WELL PRODUCTION SITE SECTION 26, T31-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074937-95(004)GN-DL004\_GG SEP 3/2013

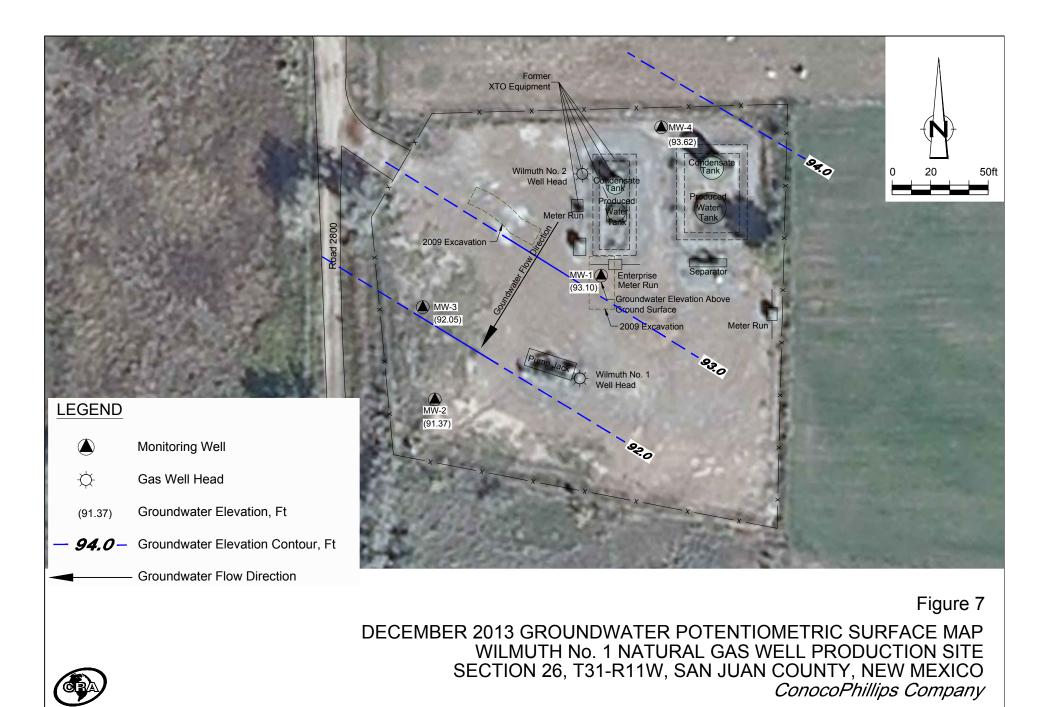


JUNE 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP WILMUTH No. 1 NATURAL GAS WELL PRODUCTION SITE SECTION 26, T31-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074937-95(004)GN-DL004\_GG MAR 17/2014



074937-95(004)GN-DL004\_GG MAR 17/2014



074937-95(004)GN-DL004\_GG MAR 17/2014



#### Figure 8

PROPOSED MONITOR WELL LOCATION MAP WILMUTH No. 1 NATURAL GAS WELL SITE SECTION 26, T31-R11W, SAN JUAN COUNTY, NEW MEXICO *ConocoPhillips Company* 

074937-95(004)GN-DL002\_SD APR 17/2014



#### Site History Timeline ConocoPhillips Company Wilmuth No. 1 San Juan County, New Mexico

Date/Time Period	Event/Action	Description/Comments
July 24, 1958 to August 11, 1958	Production Well Completion	Well spudded and completed by El Paso Natural Gas Company.
November 1, 1986	Change of Operator	Operator changed from El Paso Natural Gas Company to Meridian Oil Inc. (a subsidiary of Burlington Resources, Inc.)
May 17, 2001	Release	Due to a broken dump arm, 22 barrels (bbls) of produced water were released within the bermed area around the produced water tank. 20 bbls were reported to be recovered.
December 17, 2002	Release	A corrosion hole in the bottom of a steel pit tank that collected fluids from the separator and condensate tank drain allowed an unknown volume of produced water and condensate to leak onto the ground. All fluids were contained inside the tank berm. Impacted gravel and soils were excavated and disposed of at JFJ Landfarm. Excavation dimensions were approximately 30 feet by 25 feet by 3 feet for a total of 85 cubic yards.
May 21, 2004	Workover Pit Proposal Approved	A lined workover pit was approved by Denny Faust of the NMOCD as detailed in Burlington Resources general pit construction plan dated April 26, 2004 which was also approved by the NMOCD.
March 31, 2006	Change of Operator	ConocoPhillips Company completed acquisition of Burlington Resources.
December 22 and 23, 2009	Potential for Groundwater Impacts Discovered	ConocoPhillips company notified Brandon Powell and Kelly Roberts of the NMOCD about groundwater seeping into two excavated areas on Site where discolored soils had been found during line tie-in procedures. The type, volume, and origin of the initial release was unknown. Groundwater samples were collected from the two areas and analyzed by Envirotech Inc. of Farmington, NM for benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons (TPH) and chloride. Analytical results indicated that BTEX and TPH are below NMWQCC groundwater standards; however, chloride was present at a concentration above the standard of 250 mg/L with a concentration of 2,500 mg/L in the area of the excavation and a concentration of 950 mg/L in an trench associated with line tie-in procedures. Soil samples were collected from where discolored soil was present. The soil was analyzed by Envirotech for BTEX, TPH and Chloride. Analytical results for all soil samples were below NMOCD recommended soil action levels.

#### Site History Timeline ConocoPhillips Company Wilmuth No. 1 San Juan County, New Mexico

Date/Time Period	Event/Action	Description/Comments
January 7, 2010	NMOCD Correspondence	A C-141 Release Notification and Corrective Action form was submitted to the NMOCD by ConocoPhillips.
April 5, 2010 through April 7, 2010	Groundwater Monitoring Well Installation and Baseline Soil Sampling	Tetra Tech supervised the installation of 4 groundwater Monitor Wells; MW- 1, MW-2, MW-3 and MW-4, by Enviro-Drill Inc. of Albuquerque, NM. Each well was installed with 25 feet of screen. MW-1, MW-2 and MW-3 were all set at 30 feet below ground surface. MW-4 was set at 35 feet below ground surface. A confining layer of gray siltstone was found at depth in each of the four boring locations. Soil samples were collected from all four soil borings and analyzed for major ions, total metals, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs) including BTEX, diesel range organics, and gasoline range organics. Analytical results for all soil samples were below NMOCD recommended soil action levels.
April 8, 2010	Baseline Groundwater Sampling	Tetra Tech conducted the initial groundwater sampling from Site Monitor Wells, MW-1, MW-2, MW-3 and MW-4. A baseline suite was completed including major ions, NMWQCC dissolved metals, SVOCs , VOCs including BTEX, diesel range organics, and gasoline range organics. All four Site monitor wells were below NMWQCC standards for BTEX constituents. All four wells were above the standard for dissolved manganese. MW-1, MW-2 and MW-4 were above the standard for total dissolved solids (TDS). MW-1 and MW-4 were also above the standard for sulfate.
June 9, 2010	Quarterly Groundwater Monitoring Event	Quarterly groundwater sampling was conducted by Tetra Tech. Samples were collected from all Site monitor wells and analyzed for BTEX, dissolved manganese, chloride, sulfate, and TDS. All four Site monitor wells were below NMWQCC standards for BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese. Samples collected from MW-1, MW-2 and MW-4 were above the standard for TDS.
September 20, 2010	Quarterly Groundwater Monitoring Event	Quarterly groundwater sampling was conducted by Tetra Tech. Samples were collected from all Site monitor wells and analyzed for BTEX, dissolved manganese, chloride, sulfate, and TDS. All four Site monitor wells were below NMWQCC standards for BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese. Samples collected from MW-1, MW-2 and MW-4 were above the standard for TDS.

#### Site History Timeline ConocoPhillips Company Wilmuth No. 1 San Juan County, New Mexico

Date/Time Period	Event/Action	Description/Comments
December 16, 2010	Quarterly Groundwater Monitoring Event	Forth quarterly groundwater sampling was conducted by Tetra Tech. Samples were collected from all Site monitor wells and analyzed for BTEX, dissolved manganese, sulfate, and TDS. All four Site monitor wells were below NMWQCC standards for BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese. Samples collected from MW-1, MW-2 and MW-4 were above the standard for TDS.
March 16, 2011	Quarterly Groundwater Monitoring Event	Fifth quarterly groundwater sampling was conducted by Tetra Tech. Samples were collected from all Site monitor wells and analyzed for BTEX, dissolved manganese, chloride, sulfate, and TDS. All four Site monitor wells were below NMWQCC standards for chloride, sulfate and BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese. The sample collected from MW-1 was above the standard for TDS.
June 15, 2011	Transfer of Consulting Responsibilities	Site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to Conestoga-Rovers & Associates (CRA) of Albuquerque, NM.
June 22, 2011	Quarterly Groundwater Monitoring Event	Sixth quarterly groundwater sampling was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for BTEX, dissolved manganese, chloride, sulfate, and TDS. All four Site monitoring wells were below NMWQCC standards for chloride, sulfate and BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese. The sample collected from MW-1 was above the standard for TDS.
October 12, 2011	Quarterly Groundwater Monitoring Event	Seventh quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for BTEX, dissolved manganese, and TDS. All four Site monitoring wells were below NMWQCC standards for TDS and BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese.
December 14, 2011	Quarterly Groundwater Monitoring Event	Eighth quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for BTEX, dissolved manganese, and TDS. All four Site monitoring wells were below NMWQCC standards for TDS and BTEX constituents. Samples collected from all four Site wells were above the standard for dissolved manganese.

#### Site History Timeline ConocoPhillips Company Wilmuth No. 1 San Juan County, New Mexico

Date/Time Period	Event/Action	Description/Comments
March 7, 2012	Quarterly Groundwater Monitoring Event	Ninth quarterly groundwater sampling event was conducted by CRA. BTEX analysis was discontinued following the December 2011 sampling event. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.
June 6, 2012	Quarterly Groundwater Monitoring Event	Tenth quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.
September 19, 2012	Quarterly Groundwater Monitoring Event	11th quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.
December 12, 2012	Quarterly Groundwater Monitoring Event	12th quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese. TDS below standard for 6th consecutive quarterly event.
March 18, 2013	Quarterly Groundwater Monitoring Event	13th quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. MW-1 was above NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.
June 14, 2013	Quarterly Groundwater Monitoring Event	14th quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.
September 12, 2013	Quarterly Groundwater Monitoring Event	15th quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.
December 12, 2013	Quarterly Groundwater Monitoring Event	16th quarterly groundwater sampling event was conducted by CRA. Samples were collected from all Site monitoring wells and analyzed for dissolved manganese and TDS. All four Site monitoring wells were below NMWQCC standards for TDS. Samples collected from all four Site wells were above the standard for dissolved manganese.

#### Notes:

NMOCD = New Mexico Oil Conservation Division NMWQCC = New Mexico Water Quality Control Commission

### Monitoring Well Specifications and Groundwater Elevations ConocoPhillips Company Wilmuth No. 1 San Juan County, New Mexico

MW-1         30         95.8         4.5-29.5	Well ID	Total Depth (feet bgs)	Top of Casing Elevation*	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Relative Water Level*
MW-1         30         95.8         4.5 - 295					4/8/2010	5.21	
MW-1         30         95.8         4.5 - 29.5					6/9/2010	1.94	93.86
MW-1         30         95.8         4.5-29.5					9/20/2010	1.51	
MW-1         30         95.8         4.5 - 29.5					12/16/2010	3.31	, =, =,
MW-1         30         95.8         4.5 - 29.5							
MW-1         30         95.8         4.5-295         12/14/2011         2.62         93.8           MW-1         30         95.8         4.5-295         3/17/2012         4.36         91.44           6/6/2012         1.11         94.90         9/19/2012         0 <sup>10</sup> 95.80           3/18/2013         4.52         91.32         3/18/2013         4.52         91.32           MW-2         30         95.8         4.5-295         4/8/2010         6.48         89.22           9/20/2010         3.88         92.12         9/20/2010         3.88         92.12           9/20/2010         3.88         99.71         3/16/2011         4.83         90.97           3/16/2011         6.31         89.49         9/20/2010         3.88         92.12           12/14/2011         4.83         90.97         3/16/2010         4.83         90.97           3/16/2010         4.83         90.95         12/14/2011         4.83         90.97           12/14/2011         4.83         90.97         3/16/2010         4.31         94.94           12/12/2012         2.05         9.37         9/12/2013         12/14/2011         12/14/2011         12/14/2011					6/22/2011	2.45	
MW-1         50         95.8         4.5-29.5         37/2012         4.36         91.4           MW-1         50         95.8         4.5-29.5         37/2012         0"         95.8         91.4           MW-2         30         95.8         4.5-29.5         37/2012         2.6         93.24           MW-2         30         95.8         4.5-29.5         37/2012         2.70         93.10           MW-2         30         95.8         4.5-29.5         37/2012         2.70         93.10           MW-2         30         95.8         4.5-29.5         37/2012         3.03         96.32           MW-3         30         95.8         4.5-29.5         37/2012         3.05         92.57           12/12/2012         4.38         99.92         12/14/2011         4.38         99.92           12/12/2012         4.33         91.49         3/18/2013         5.66         88.44           6/14/2013         2.96         92.84         91.27         91.33         91.49           3/18/2013         5.66         88.44         91.47         1.31         94.99           12/12/2012         4.33         91.97         91.92         91.97 <td></td> <td></td> <td></td> <td></td> <td>10/12/2011</td> <td>0<sup>(1)</sup></td> <td>95.80<sup>(1)</sup></td>					10/12/2011	0 <sup>(1)</sup>	95.80 <sup>(1)</sup>
MW-2         30         95.8         4.5 - 295         37/2012         4.36         91.44           MW-2         30         95.8         4.5 - 295         37/2012         0.9         9.9           MW-2         30         95.8         4.5 - 295         37/2012         3.28         9.2.2           MW-2         30         95.8         4.5 - 295         37/2012         4.38         9.9.2           MW-2         30         95.8         4.5 - 295         37/16/2011         6.31         88.49           MW-2         30         95.8         4.5 - 295         37/16/2011         6.31         89.49           MW-3         30         95.8         4.5 - 295         37/17/2012         4.31         91.49           MW-3         30         96.32         4.5 - 295         37/12/12/2013         2.41         93.39           MW-3         30         96.32         4.5 - 295         37/16/2011         6.69         92.44           MW-3         30         96.32         4.5 - 295         37/16/2011         4.33         91.39           MW-3         30         96.32         4.5 - 295         37/12/12/2013         2.41         93.39           30/16/2011	MM 1	20	05.9	4 5 20 5	12/14/2011	2.62	93.18
MW-3         30         95.8         4.5 - 29.5         97.92/012         2.6         93.24           MW-3         30         96.32         4.5 - 29.5         97.92/013         2.70         99.10           MW-4         35         98.7         95.8         4.5 - 29.5         12/12/2013         0.21         95.8           MW-2         30         95.8         4.5 - 29.5         12/12/013         2.70         93.10           MW-2         30         95.8         4.5 - 29.5         12/14/2011         4.81         99.9           MW-2         30         95.8         4.5 - 29.5         12/14/2011         4.81         99.9           MW-3         30         95.8         4.5 - 29.5         12/14/2011         4.81         99.9           MW-3         30         96.32         4.5 - 29.5         12/12/2012         4.31         91.49           12/12/2012         4.33         99.7         12/12/2012         4.33         99.7           12/12/2012         4.33         91.97         12/12/2012         4.31         91.49           12/12/2012         4.33         91.97         12/14/2011         4.35         91.97           12/12/2013         4.44	10100-1	30	95.6	4.3 - 29.3	3/7/2012	4.36	91.44
MW-2         30         95.8         4.5-29.5					6/6/2012		94.69
MW-2         30         95.8         4.5 - 29.5         3/18/2013         0.90         99.49           MW-2         30         95.8         4.5 - 29.5         12/12/2013         2.270         93.10           MW-2         30         95.8         4.5 - 29.5         6/9/2010         3.68         92.12           12/16/2010         4.83         99.97         3/16/2011         6.31         89.49           10/12/2011         1.83         99.97         3/16/2011         4.18         99.92           12/14/2010         4.83         99.97         3/16/2011         4.18         99.92           10/12/2011         1.88         99.97         3/16/2011         4.25         91.55           3/7/2012         2.05         93.75         12/14/2011         4.25         91.57           3/18/2013         5.96         89.84         6/14/2013         2.96         92.84           9/12/2013         2.41         99.39         12/14/2013         4.45         91.37           12/14/2013         4.45         91.27         1.39         92.93         12/14/2010         4.65         91.67           3/16/2011         1.55         94.77         12/14/2010         3.09					9/19/2012	0 <sup>(1)</sup>	95.80 <sup>(1)</sup>
MW-2         30         95.8         4.5 - 29.5         6/14/2013 9/12/12/2013 4/8/2010         0.21 6/9/2010 3.68         99.92 9/20/2010 3.28         92.52 9/20/2010 3.28         92.52 9/20/2010         9.631 8/9/2010           MW-2         30         95.8         4.5 - 29.5         12/14/2011 9/20/2010         4.83 9/907         9.99.9           MW-2         30         95.8         4.5 - 29.5         12/14/2011 12/14/2011         4.83 9/907         9.99.9           MW-3         30         95.8         4.5 - 29.5         12/14/2011 12/14/2011         4.83 9/907         9.91.35           MW-3         30         96.32         4.5 - 29.5         12/14/2011 12/12/2012         4.31 9/19/2012         9.05 9/19/2012         2.05 9/37/2012         9.89.5           MW-3         30         96.32         4.5 - 29.5         4/8/2010         6.37 89.95 9/20/2010         3.02 9/20/2010         9.30.2           MW-3         30         96.32         4.5 - 29.5         4/8/2010         6.37 89.95 9/20/2010         9.29 9/20/2010         3.02 99.30 9/20/2010         9.241 10/12/2011         10.15 94.77           MW-3         30         96.32         4.5 - 29.5         4/8/2010         6.37 89.90 3/16/2011         8.9 89.02 6/6/2012         2.75 99.37 9/10/2012         9.17 12/14/2011         9.04					12/12/2012	2.56	93.24
MW-2         30         95.8         4.5 - 29.5         97/12/013         0.21         99.59           MW-2         30         95.8         4.5 - 29.5         97/02/010         3.68         92.12           9/12/010         6.48         39.30         95.8         4.5 - 29.5         97/02/010         3.28         99.57           10/12/2011         1.88         99.30         95.8         4.5 - 29.5         97/12/010         4.83         90.97           3/16/2011         6.31         39.49         97/12/10         4.83         99.57         97/12/010         4.83         99.375           3/17/2012         3.05         92.75         9/19/2012         2.05         93.75         12/12/2012         4.31         91.49           9/12/2013         2.44         91.37         12/12/2012         4.31         91.39         12/12/2012         4.31         91.39           10/12/2013         2.44         91.37         12/12/2013         2.44         91.37         12/12/2013         4.30         91.37           11/14/2013         3.00         96.32         4.5 - 29.5         6/9/2010         3.39         92.93         97/20/2010         3.02         93.30         12/14/2011         4.6					3/18/2013	4.52	91.28
MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         4.6 - 20.5           MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         4.5 - 29.5           MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         4.5 - 29.5           MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         4.5 - 29.5           MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         4.5 - 29.5           MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         4.5 - 29.5           MW-3         30         95.8         4.5 - 29.5         3.7/2012         5.67         90.13           MW-3         30         96.32         4.5 - 29.5         3.7/2012         3.05         92.75           9/12/12/12         1.3         1.91.49         93.99         9/12/1013         2.41         93.39           9/12/2013         2.41         93.30         92.32         4.5 - 29.5         4/8/2010         6.37         89.95           9/12/2013         2.41         93.30         92.32         9/20/2010         3.02         99.30           12/14/2011         1.55         94.77						0.90	
MW-2         30         95.8         4.5 - 29.5         4.5 - 29.5         12/16/2010         3.68         92.12           MW-2         30         95.8         4.5 - 29.5         12/16/2011         4.83         90.97           MW-2         30         95.8         4.5 - 29.5         12/16/2010         4.83         99.92           MW-2         30         95.8         4.5 - 29.5         12/14/2011         4.83         99.92           MW-3         30         95.8         4.5 - 29.5         3/7/2012         5.67         90.13           MW-3         95.8         4.5 - 29.5         3/7/2012         4.31         91.49           MW-3         96.32         4.5 - 29.5         3/7/2012         4.31         91.49           MW-3         30         96.32         4.5 - 29.5         4/8/2010         6.37         89.95           6/9/2010         3.30         92.41         10/12/2011         3.91         92.41           10/12/2011         3.91         92.41         10/12/2011         3.91         92.41           10/12/2011         3.91         92.41         10/12/2011         3.91         92.41           10/12/2011         3.91         92.41         10/					9/12/2013	0.21	95.59
MW-2         30         95.8         4.5-29.5         4.5-29.5         4.5-29.5         4.5-29.5         4.5-29.5           MW-2         30         95.8         4.5-29.5         3/1/2/2011         4.83         90.97           MW-2         30         95.8         4.5-29.5         3/1/2/2011         4.83         90.97           MW-2         30         95.8         4.5-29.5         3/7/2012         5.67         90.13           MW-3         30         95.8         4.5-29.5         3/7/2012         3.05         92.75           12/12/2012         4.31         91.39         91.97         2.015         93.75         12/12/2012         4.31         91.37           12/12/2013         2.44         9.13         5.96         89.84         6/14/2013         2.96         92.84           9/12/2013         2.44         9.39         92.93         9/20/2010         3.30         92.93           12/14/2011         4.65         91.67         10/12/2011         3.55         94.77           12/14/2011         4.65         91.67         10/12/2011         3.02         93.30           12/14/2011         4.04         92.28         3/7/2012         5.59         90.07 <td></td> <td></td> <td></td> <td>12/12/2013</td> <td>2.70</td> <td>93.10</td>					12/12/2013	2.70	93.10
MW-2         30         95.8         4.5 - 29.5         9/20/2010         3.28         92.52           12/16/2011         6.31         89.49         6/22/2011         6.31         89.49           6/22/2011         1.411         91.69         91.57         3/16/2011         1.88         93.92           10/12/2011         1.88         93.92         12/14/2011         4.25         91.55         3/7/2012         3.05         92.275           9/19/2012         2.05         92.75         9/19/2012         2.05         97.7         9/19/2012         4.31         91.49           12/12/2013         2.41         93.39         12/12/2013         2.41         93.39         12/12/2013         2.41         93.39           12/12/2013         2.41         93.39         12/12/2013         2.41         93.39           12/12/2013         2.41         93.39         92.93         9/20/2010         3.02         93.69           12/14/2011         1.55         94.77         12/14/2011         6.62/2011         3.01         92.41           10/12/2011         1.55         94.77         12/14/2011         1.55         94.77           12/14/2011         1.55         94.77 <t< td=""><td></td><td></td><td></td><td></td><td>4/8/2010</td><td>6.48</td><td>89.32</td></t<>					4/8/2010	6.48	89.32
MW-2         30         95.8         4.5 - 29.5					6/9/2010	3.68	
MW-2         30         95.8         4.5 - 29.5         3/16/2011         6.31         89.49         6/22/2011         4.11         91.69           MW-2         30         95.8         4.5 - 29.5         12/14/2011         4.11         91.69         91.92							
MW-2         30         95.8         4.5 - 29.5         6/22/2011 (1/2/2011 (1/2/2011 (4.25)         4.11 (9/2) (1/2/2011 (4.25)         9/9 (9/2) (1/2/2011 (4.25)         9/9 (9/2) (1/2/2012 (2.05)         9/9 (9/2) (2.05)         9/9 (9/2) (1							
MW-2         30         95.8         4.5 - 29.5         10/12/2011         1.88         99.92           MW-2         30         95.8         4.5 - 29.5         12/14/2011         4.25         91.55           3/7/2012         5.67         90.13         6/6/2012         3.05         92.75           9/19/2012         2.05         93.75         12/12/2012         4.31         91.49           3/18/2013         5.96         88.84         6/14/2013         2.96         92.84           9/12/2013         4.43         91.37         12/12/2013         4.43         91.37           12/12/2013         4.43         91.37         12/12/2013         4.43         91.37           12/12/2013         4.43         91.37         12/12/2013         4.43         91.37           12/12/2013         4.43         91.37         6/9/2010         3.30         93.30         12/16/2010         4.65         91.67           3/16/2011         6.20         90.12         1.39         92.41         10/12/2011         1.04         92.28           3/16/2011         1.55         94.77         12/14/2011         4.04         92.28           3/17/2012         5.59         90.03						6.31	
MW-2         30         95.8         4.5-29.5         12/14/2011         4.25         91.55           3/7/2012         5.67         90.13         6/6/2012         3.05         92.75           9/19/2012         2.05         93.75         12/12/2012         4.31         91.49           3/18/2013         5.96         88.84         6/14/2013         2.96         92.84           9/12/2013         2.41         93.39         12/12/2013         4.43         91.37           12/12/2013         2.43         91.37         89.95         6/9/2010         3.39         92.93           9/20/2010         3.02         93.30         12/16/2010         4.65         91.67           12/16/2010         4.5         91.07         6/9/2010         3.02         93.30           12/16/2010         4.5         91.67         3/16/2011         6.20         90.12           MW-3         30         96.32         4.5<-29.5							
MW-2         30         93.5         4.3-23.3         3/7/2012         5.67         90.13           6/6/2012         3.05         92.75         9/19/2012         2.05         93.75           9/19/2012         2.05         93.75         12/12/2012         4.31         91.49           3/18/2013         5.96         99.84         6/14/2013         2.96         92.84           9/12/2013         2.41         93.39         92.93         9/12/2013         4.43         91.37           12/12/2013         4.43         91.37         84.95         9/20/2010         3.02         93.30           12/12/2010         4.65         91.67         3.02         93.30         12/16/2010         4.65         91.67           3/16/2011         6.20         90.12         6/9/2010         3.02         93.30         12/14/2011         4.04         92.28           3/16/2011         6.20         90.12         6/17/2012         4.09         92.28         3/16/2011         3.02         93.57           9/19/2012         1.71         49.461         12/14/2011         4.04         92.28         3/17/2012         4.09         92.23           3/18/2013         5.89         90.43							
MW-3         30         96.32         4.5 - 29.5         3/1/2012         5.67         9/19/2012         2.05         93.75           12/12/2012         4.31         91.49         3/18/2013         5.96         92.84           9/19/2013         2.41         93.39         12/12/2013         2.41         93.39           112/12/2013         2.41         93.39         12/12/2013         2.44         9.3.39           112/12/2013         2.44         3.39         92.93         9/20/2010         3.30         92.93           9/20/2010         3.30         92.93         9/20/2010         3.30         92.93           9/20/2010         3.30         92.93         9/20/2010         3.30         92.93           9/20/2010         3.30         92.93         9/20/2010         3.30         92.93           9/16/2011         6.20         90.12         6/9/2010         3.39         92.93           9/12/2010         1.5         94.77         12/14/2011         4.04         92.28           3/16/2011         4.04         92.28         3/1/2012         1.71         94.61           12/14/2011         4.09         9/22         3/18/2013         5.89         90.03	MW-2	30	95.8	45-295			
$MW-3 = 35 = 98.7 \\ MW-4 = 35 =$	11111-2	50	20.0	4.0 - 29.0			
MW-3 = 35 = 98.7 MW-4 = 35 = 98.7 = 9.5 - 34.5 = 9.5 -							
$MW-3 = 35 = 98.7 \\ MW-4 = 35 =$							
$MW-3 = 35 = 98.7 \\ MW-4 = 35 =$							
$MW-3 = 35 = 98.7 \\ MW-4 = 35 =$							
MW-3         30         96.32         4.5 - 29.5         12/12/2013         4.43         91.37           MW-4         35         98.7         9.5 - 34.5         9.5 - 34.5         9.5 - 34.5         91.07         93.99           MW-4         35         98.7         9.5 - 34.5         9.5 - 34.5         91.70         3.02         93.99           MW-4         35         98.7         9.5 - 34.5         91.67         3.02         93.01           MW-4         35         98.7         9.5 - 34.5         91.67         3.02         93.01           MW-4         35         98.7         9.5 - 34.5         91.71         91.61         91.02           MW-4         35         98.7         9.5 - 34.5         91.71         91.61         91.71           MW-4         35         98.7         9.5 - 34.5         91.91         91.92         91.92           MW-4         35         98.7         9.5 - 34.5         91.92         91.92         91.92           MW-4         35         98.7         9.5 - 34.5         91.92         91.92         91.92           MW-4         35         98.7         9.5 - 34.5         91.92         91.92         91.92  <							
$MW-3 = 35 = 98.7 \\ MW-4 = 36 = 98.7 \\ MW-4 = 98.7 \\ MW-4$							
MW-3         30         96.32         4.5 - 29.5							
MW-3         30         96.32         4.5 - 29.5         9/20/2010         3.02         93.30           MW-3         30         96.32         4.5 - 29.5         12/16/2010         4.65         91.67           3/10/12/101         1.55         94.77         12/14/2011         1.55         94.77           10/12/2011         1.55         94.77         12/14/2011         4.04         92.28           3/7/2012         5.59         90.73         6/6/2012         2.75         93.57           9/19/2012         1.71         94.61         12/12/2013         5.89         90.43           6/14/2013         2.72         93.60         9/12/2013         2.13         94.19           12/12/2013         2.13         94.19         12/12/2013         4.27         92.05           4/8/2010         9.68 <sup>69</sup> 89.02         6/9/2010         4.41         94.29           9/20/2010         3.78         94.92         12/16/2010         5.70         93.80           3/16/2011         7.44         91.26         6/22/2011         4.81         93.89           10/12/2011         2.05         96.65         12/14/2011         5.01         93.60           3/16/2010 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
MW-3         30         96.32         4.5 - 29.5         12/16/2010         4.65         91.67           MW-3         30         96.32         4.5 - 29.5         10/12/2011         1.55         94.77           10/12/2011         1.55         94.77         12/14/2011         4.04         92.28           3/7/2012         5.59         90.73         6/6/2012         2.75         93.57           9/19/2012         1.71         94.61         12/12/2012         4.09         92.23           3/18/2013         5.89         90.43         6/14/2013         2.72         93.60           9/12/2013         2.13         94.19         12/12/2013         4.27         92.05           4/8/2010         9.68 <sup>12</sup> 89.02         4/8/2010         9.68 <sup>12</sup> 89.02           9/20/2010         3.78         94.92         12/16/2010         5.70         93.00           3/16/2011         7.44         91.26         6/22/2011         4.81         93.89           10/12/2011         2.05         96.65         12/14/2011         5.01         93.69           3/16/2010         5.70         93.00         3/16/2011         7.44         91.26           6/22/2010 <td></td> <td rowspan="9">30</td> <td></td> <td></td> <td></td> <td></td>		30					
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$					9/20/2010		
MW-3         30         96.32         4.5 - 29.5         6/22/2011         3.91         92.41           10/12/2011         1.55         94.77         12/14/2011         1.55         94.77           12/14/2011         4.04         92.28         3/7/2012         5.59         90.73           6/6/2012         2.75         93.57         9/19/2012         1.71         94.61           12/12/2013         5.89         90.43         6/14/2013         2.72         93.60           9/12/2013         2.13         94.19         12/12/2012         4.09         92.23           3/18/2013         5.89         90.43         6/14/2013         2.72         93.60           9/12/2013         2.13         94.19         12/12/2013         4.27         92.05           4/8/2010         9.68 <sup>10</sup> 89.02         6/9/2010         3.78         94.92           12/12/2013         4.27         92.05         93.60         3/7/2012         5.70         93.00           3/16/2010         5.70         93.00         3/16/2010         5.70         93.00         3/16/2010         5.70         93.89           MW-4         35         98.7         9.5 - 34.5         12/16/2010							
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$							
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$							
MW-3         30         96.32         4.5-29.5         3/7/2012         5.59         90.73           6/6/2012         2.75         93.57         9/19/2012         1.71         94.61           12/12/2012         4.09         92.23         3/18/2013         5.89         90.43           6/14/2013         2.72         93.60         9/12/2013         2.13         94.19           12/12/2013         4.27         92.05         9/12/2013         4.27         92.05           4/8/2010         9.686 <sup>20</sup> 89.02         6/9/202010         3.78         94.92           12/12/2013         4.27         92.05         9/202010         3.78         94.92           12/16/2010         5.70         93.00         3/16/2011         7.44         91.26           6/22/2011         4.81         93.89         10/12/2011         2.05         96.65           12/14/2011         5.01         93.69         3/7/2012         6.83         91.87           9/5 - 34.5         9.5 - 34.5         9.5 - 34.5         9.5 - 34.5         9.5 - 34.5         9.5 - 34.5							
$MW-4 \qquad 35 \qquad 98.7 \qquad 9.5-34.5 \qquad \begin{array}{c ccccccccccccccccccccccccccccccccccc$	MW-3		96.32	4.5 - 29.5			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$							
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$							
MW-4         35         98.7         9.5 - 34.5         3.5 (6/14/2013)         5.89         90.43         90.43         6/14/2013         2.72         93.60         9/12/2013         2.72         93.60         9/12/2013         2.13         94.19         12/12/2013         4.27         92.05         92.05         4/8/2010         9.68 <sup>(2)</sup> 89.02         6/9/2010         4.41         94.29         9/20/2010         3.78         94.92         12/12/2013         1.21         94.19         9/20/2010         3.78         94.92         12/16/2010         5.70         93.00         9/10/12         1.21         9/12/12         1.21         9.126         6/22/2011         4.81         93.89         10/12/2011         2.05         96.65         12/14/2011         2.01         93.69         3/7/2012         6.83         91.87         6/6/2012         3.34         95.36         9/19/2012         2.11         96.59         12/12/2012         4.93         93.77         3/18/2013         6.96         91.74         6/14/2013         3.10         95.60							
MW-4         35         98.7         9.5 - 34.5         9.5 - 34.5         10/12/2013         2.72         93.60         9/12/2013         2.13         94.19         12/12/2013         2.13         94.19         12/12/2013         4.27         92.05         99.02         6/9/2010         4.427         92.05         89.02         6/9/2010         4.41         94.29         9/20/2010         3.78         94.92         9/20/2010         3.78         94.92         9/20/2010         3.78         94.92         12/16/2010         5.70         93.00         3/16/2011         7.44         91.26         6/22/2011         4.81         93.89         10/12/2011         2.05         96.65         12/14/2011         5.01         93.69         3/3/7/2012         6.83         91.87         6/6/2/212         3.34         95.36         9/19/2012         2.11         96.59         12/12/2012         4.93         93.77         3/18/2013         6.96         91.74         6/14/2013         3.10         95.60							
MW-4         35         98.7         9.5 - 34.5         9.5 - 34.5         92.7 (3/2)         92.05 (3/2)         93.01 (3/2)         93.01 (3/2)         93.02 (3/2)							
MW-4         35         98.7         9.5 - 34.5         12/12/2013         4.27         92.05           MW-4         35         98.7         9.5 - 34.5         4/8/2010         9.68 <sup>[2]</sup> 89.02           6/9/2010         4.41         94.29         9/20/2010         3.78         94.92           12/16/2010         5.70         93.00         3/16/2011         7.44         91.26           6/22/2011         4.81         93.89         10/12/2011         2.05         96.65           12/14/2011         5.01         93.69         3/7/2012         6.83         91.87           9.5 - 34.5         9.5 - 34.5         12/14/2011         5.01         93.69           3/17/2012         6.83         91.87         95.76         91.97           12/12/2012         3.34         95.36         9/19/2012         2.11         96.59           12/12/2012         4.93         93.77         3/18/2013         6.96         91.74           6/14/2013         3.10         95.60         91.74         6/14/2013         56.06							
MW-4         35         98.7         9.5 - 34.5         4/8/2010         9.68 <sup>(2)</sup> 89.02         6/9/2010         4.41         94.29         9/20/2010         3.78         94.92         12/16/2010         5.70         93.00         3/16/2011         7.44         91.26         6/22/2011         4.81         93.89         10/12/2011         2.05         96.65         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         6/6/2012         3.34         95.36         9/19/2012         2.11         96.59         12/12/2012         4.93         93.77         3/18/2013         6.96         91.74         6/14/2013         3.10         95.60							
$MW\text{-}4 \qquad 35 \qquad 98.7 \qquad 9.5 \text{-} 34.5 \qquad \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$							
$MW-4  35  98.7  9.5 - 34.5  \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$							
MW-4         35         98.7         9.5 - 34.5         12/16/2010         5.70         93.00         3/16/2011         7.44         91.26         6/22/2011         4.81         93.89         10/12/2011         2.05         96.65         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         9.5 - 34.5         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         9.5 - 34.5         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         9.5 - 34.5         12/12/2012         4.81         93.89         3.69         3/7/2012         6.83         91.87         9.5 - 34.5         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         95.36         9/19/2012         2.11         96.59         91.74         6/14/2013         6.96         91.74         6/14/2013         3.10         95.60							
MW-4         35         98.7         9.5 - 34.5         3/16/2011         7.44         91.26         6/22/2011         4.81         93.89         93.89         10/12/2011         2.05         96.65         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         9.5 - 34.5         9/19/2012         2.11         96.59         12/14/2011         5.01         93.79         12/12/2012         4.93         93.77         3/18/2013         6.96         91.74         6/14/2013         3.10         95.60							
MW-4         35         98.7         9.5 - 34.5         6/22/2011         4.81         93.89         10/12/2011         2.05         96.65         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87         6/6/2012         3.34         95.36         9/19/2012         2.11         96.59         12/12/2012         4.93         93.77         3/18/2013         6.96         91.74         6/14/2013         3.10         95.60							
MW-4         35         98.7         9.5 - 34.5         10/12/2011         2.05         96.65         12/14/2011         5.01         93.69         3/7/2012         6.83         91.87           MW-4         35         98.7         9.5 - 34.5         10/12/2011         5.01         93.69         3/7/2012         6.83         91.87           MW-4         35         98.7         9.5 - 34.5         10/12/2012         6.83         91.87           MW-4         35         91.74         6/14/2013         6.96         91.74           6/14/2013         3.10         95.60							
MW-4         35         98.7         9.5 - 34.5         12/14/2011         5.01         93.69           3/7/2012         6.83         91.87           6/6/2012         3.34         95.36           9/19/2012         2.11         96.59           12/12/2012         4.93         93.77           3/18/2013         6.96         91.74           6/14/2013         3.10         95.60							
MW4         33         36.7         3.7 34.3         3/7/2012         6.83         91.87           6/6/2012         3.34         95.36         9/19/2012         2.11         96.59           12/12/2012         4.93         93.77         3/18/2013         6.96         91.74           6/14/2013         3.10         95.60							
$\begin{array}{c ccccc} 6/6/2012 & 3.34 & 95.36 \\ \hline 9/19/2012 & 2.11 & 96.59 \\ 12/12/2012 & 4.93 & 93.77 \\ \hline 3/18/2013 & 6.96 & 91.74 \\ \hline 6/14/2013 & 3.10 & 95.60 \\ \end{array}$	MW-4	35	98.7	9.5 - 34.5			
9/19/2012         2.11         96.59           12/12/2012         4.93         93.77           3/18/2013         6.96         91.74           6/14/2013         3.10         95.60							
12/12/2012         4.93         93.77           3/18/2013         6.96         91.74           6/14/2013         3.10         95.60							
3/18/2013         6.96         91.74           6/14/2013         3.10         95.60							
6/14/2013 3.10 95.60							
9/12/2013 2.42 96.28							
12/12/2013 5.08 93.62							

Notes: TOC = Top of casing bgs = Below ground surface \* = Elevation relative to an arbitrary reference elevation of 100 feet (1) = Water flowing up and out of well casing. (2) = Anomalous data point

#### TABLE 3

#### GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY WILMUTH NO. 1 SAN JUAN COUNTY, NEW MEXICO

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Manganese (dissolved) (mg/L)	Total dissolved solids (TDS) (mg/L)
	MW-1	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	143	879	3.03	1780
	MW-1 Duplicate	4/8/2010	(Duplicate)	< 0.001	0.0011	< 0.001	0.001				
	MW-1	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	26.9	375	1.08	1190
	MW-1 Duplicate	6/9/2010	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.001				
	MW-1	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	30.0	425	0.933	1020
	MW-1 Duplicate	9/20/2010	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.001				
	MW-1	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		381	0.896	1010
	MW-1 Duplicate	12/16/2010	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.001				
	MW-1	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	26.0	499	2.36	1200
	MW-1 Duplicate	3/16/2011	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.001				
	GW-74937-062211-PG-04	6/22/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	21.6	585	2.32	1100
	GW-74937-062211-PG-05	6/22/2011	(Duplicate)	< 0.0010	< 0.0010	< 0.0010	< 0.0030				
MW-1	GW-074937-101211-CM-009	10/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003			1.04	939
10100-1	GW-074937-101211-CM-010	10/12/2011	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003				
	GW-074937-121411-CB-MW-1	12/14/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003			0.972	913
	GW-074937-121411-CB-DUP	12/14/2011	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003				
	GW-074937-3712-CB-MW-1	3/7/2012	(orig)							0.955	980
[	GW-074937-060612-CB-MW-1	6/6/2012	(orig)							0.886	851
	GW-074937-091912-JP-MW-1	9/19/2012	(orig)							0.915	853
	GW-074937-091912-JP-DUP	9/19/2012	(Duplicate)							0.939	
	GW-074937-121212-CM-MW-1	12/12/2012	(orig)							0.979	927
	GW-074937-031813-CM-MW-1	3/18/2013	(orig)	-	-			-	1	1.120	1070
	074937-061413-JK-MW1	6/14/2013	(orig)							0.930	831
[	GW-074937-091213-CM-MW-1	9/12/2013	(orig)							0.921	942
	GW-074937-091213-CM-DUP	9/12/2013	(Duplicate)								870
	GW-074937-121213-CM-MW-1	12/12/2013	(orig)	-	-				1	1.10	930
	MW-2	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	27.7	533	2.48	1120
[	MW-2	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	19.8	337	1.66	1070
[	MW-2	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	20.4	304	0.822	1130
	MW-2	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		281	1.37	1410
	MW-2	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	20.1	280	1.57	858
	GW-74937-062211-PG-02	6/22/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	18.5	324	1.51	718
	GW-074937-101211-CM-007	10/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	-	1	1.49	743
MW-2	GW-074937-121411-CB-MW-2	12/14/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	-	1	1.47	812
101 0 0 -2	GW-074937-3712-CB-MW-2	3/7/2012	(orig)							1.62	857
	GW-074937-060612-CB-MW-2	6/6/2012	(orig)							1.26	688
	GW-074937-091912-JP-MW-2	9/19/2012	(orig)							1.39	736
[	GW-074937-121212-CM-MW-2	12/12/2012	(orig)	-					-	1.11	709
[	GW-074937-031813-CM-MW-2	3/18/2013	(orig)							1.56	804
[	074937-061413-JK-MW2	6/14/2013	(orig)							1.38	699
[	GW-074937-091213-CM-MW-2	9/12/2013	(orig)							1.450	760
	GW-074937-121213-CM-MW-2	12/12/2013	(orig)							1.30	747

#### TABLE 3

#### GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY WILMUTH NO. 1 SAN JUAN COUNTY, NEW MEXICO

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Manganese (dissolved) (mg/L)	Total dissolved solids (TDS) (mg/L)
	MW-3	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	19.2	259	1.38	930
	MW-3	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	18.5	241	1.43	769
	MW-3	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	20.3	271	0.736	830
	MW-3	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		265	1.33	1200
	MW-3	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	18.1	263	1.57	896
[	GW-74937-062211-PG-01	6/22/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	19.2	324	1.71	726
[	GW-074937-101211-CM-008	10/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003			1.67	716
[	GW-074937-121411-CB-MW-3	12/14/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003			1.56	713
1.047.0	GW-074937-3712-CB-MW-3	3/7/2012	(orig)							1.69	739
MW-3	GW-074937-060612-CB-MW-3	6/6/2012	(orig)							1.74	709
[	GW-074937-091912-JP-MW-3	9/19/2012	(orig)							1.60	723
[	GW-074937-121212-CM-MW-3	12/12/2012	(orig)							1.57	709
[	GW-074937-121212-CM-DUP	12/12/2012	(Duplicate)								717
	GW-074937-031813-CM-MW-3	3/18/2013	(orig)							1.58	770
	GW-074937-031813-CM-DUP	3/18/2013	(Duplicate)								766
	074937-061413-JK-MW3	6/14/2013	(orig)							1.64	711
[	GW-074937-091213-CM-MW-3	9/12/2013	(orig)							1.650	764
	GW-074937-121213-CM-MW-3	12/12/2013	(orig)							1.50	756
	MW-4	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	40	918	3.94	1900
	MW-4	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	29.6	542	3.44	1380
	MW-4	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	22.4	445	2.59	1160
	MW-4	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001		464	2.85	1350
	MW-4	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	20.6	385	2.18	970
	GW-74937-062211-PG-03	6/22/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	22.1	408	2.31	814
[	GW-074937-101211-CM-006	10/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003			2.13	779
[	GW-074937-121411-CB-MW-4	12/14/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003			1.94	776
MW-4	GW-074937-3712-CB-MW-4	3/7/2012	(orig)							1.70	772
[	GW-074937-060612-CB-MW-4	6/6/2012	(orig)							1.46	662
[	GW-074937-091912-JP-MW-4	9/19/2012	(orig)							1.90	771
	GW-074937-121212-CM-MW-4	12/12/2012	(orig)							1.42	731
[	GW-074937-031813-CM-MW-4	3/18/2013	(orig)							1.54	766
	074937-061413-JK-MW4	6/14/2013	(orig)							1.74	676
	GW-074937-091213-CM-MW-4	9/12/2013	(orig)		-					1.810	822
	GW-074937-121213-CM-MW-4	12/12/2013	(orig)							1.20	776
∥∣∣	GW-074937-121213-CM-DUP	12/12/2013	(Duplicate)							1.20	795
NMWQ	CC Groundwater Quality Standards	<u> </u>		0.01	0.75	0.75	0.62	250	600	0.2	1000

#### Notes:

 MW = monitoring well

 NMWQCC = New Mexico Water Quality Control Commission

 Constituents in BOLD are in excess of NMWQCC groundwater quality standards

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

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

-- = not analyzed

#### Appendix A

2013 Quarterly Groundwater Sampling Field Forms



WELL SAMPLING FIELD INFORMATION FORM WILMUTH NO. 1 JOB# 074937 6W-074837-031813-CM-MW-1 WELL# MIN-1 WILMUTH NO. 1 SITE/PROJECT NAME: SAMPLE ID; WELL PURGING INFORMATION PURGE DATE (MM DD YY) SAMPLE DATE (MM DD YY) SAMPLE TIME WATER VOL IN CASING ACTUAL VOL. PURGED (24 HOUR) (GALLONS) (GALLONS) PURGING AND SAMPLING EOUIPMENT PURGING EQUIPMENT ...... DEDICATED SAMPLING EQUIPMENT .......... DEDICATED (CIRCLE ONE) (CIRCLE ON  $\nabla$ A - SUBMERSIBLE PUMP D - GAS LIFT PUMP PURGING DEVICE G - BAILER B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRAD PURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER SAMPLING DEVICE X⇔ SAMPLING DEVICE OTHER (SPECIFY) A - TEFLON PURGING MATERIAL D-PVC χ= TAINLESS STEEL E - POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C - POLYPROPYLENE X - OTHER SAMPLING MATERIAL χ= SAMPLING MATERIAL OTHER (SPECIFY) PURGE TUBING TEFLON D - POLYPROPYLENE G - COMBINATION X= TEFLON/POLYPROPYLENE E - POLYETHYLENE PURGE TUBING OTHER (SPECIFY) X - OTHER SAMPLING TUBING F-SILICONE ROPE X≈ SAMPLING TUBING OTHER (SPECIFY) FILTERING DEVICES 0.45 - IN-LINE DISPOSABLE B. PRESSURF FIELD MEASUREMENTS (feet) DEPTH TO WATER WELL ELEVATION (feet) WELL DEPTH (feet) GROUNDWATER ELEVATION (feet) TEMPERATURE TDS DO ORI VOLUME 10 ViV L 6/1) (uS/cm) (std) °C) ίmV (gal) (g/L) (uS/cm) ng/L (gal) FIELD COMMENTS no braw COLOR: SAMPLE APPEARANCE:  $\Delta \sqrt{k}$ SHEEN Y/N ODOR: TEMPERATURE 550 WEATHER CONDITIONS: ΝÒ WINDY Y/N PRECIPITATION Y/N (IF Y TYPE) SPECIFIC COMMENTS: 36 D, ORDANCE WITH APPLICABLE CRA PRO I CERTIFY THAT SAMPLE G PROCEDURES WERE IN SIGNATURE DATE PRINT

	WELL SAMPLING FIELD INFORMATION FORM
SITE/PROJECT NAME:	WILMUTH No. 1 JOB# 074937 6W-074937-031813-CM-MW-2 WELL# MW-2
SAMPLE ID:	6w-074937-031813-CM-MW-2 WELL# MW-2
3.18.13 PURGE DATE (MM DD YY) PURGING EQUIPMENTDEDICAT	
	(CIRCLE ONE) (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE FUMP D - GAS LIFT PUMP G - BAILER X= B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRA® PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	C - BLADDER FUMP F - DIPPER BOTTLE X - OTHER X=
 	A - TEFLON D - PVC
PURGING MATERIAL	B-STAINLESS STEEL E-POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	C - POLYPROPYLENE X - OTHER X- SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	
. (	B-TYGON E-POLYETHYLENE PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C - ROPE F - SILICONE X - OTHER X =
FILTERING DEVICES 0.45	A IN-LINE DISPOSABLE B-PRESSURE - For metals only
	FIELD MEASUREMENTS
DEPTH TO WATER	5.96 (feet) WELL ELEVATION (feet)
WELL DEPTH	31.74 (feet) GROUNDWATER ELEVATION (feet)
TEMPERATURE	pH TDS C DO ORP VOLUME
	$\frac{1}{2}$
	$\frac{1}{100} (\text{std}) = \frac{1}{100} (\text{g/L}) = \frac{1}{100} (\text{g/L}) = \frac{1}{100} (\text{mv}) = \frac{1}{100} (\text{mv}) = \frac{1}{100} (\text{gal})$
U.04 (0)	$\underbrace{0}_{(\text{std})} \underbrace{0}_{6} \underbrace{0}_{6} \underbrace{0}_{(\text{g/L})} \underbrace{0}_{(\text{uS/cm})} \underbrace{4}_{1,73} \underbrace{10}_{(\text{mg/L})} \underbrace{10}_{0,3} \underbrace{12}_{(\text{mV})} \underbrace{12}_{3,3} \underbrace{12}_{(\text{gal})}$
(°C)	(std) (g/L) (μ5/cm) (mV) (gal)
(°C)	(std) (g/L) (uS/cm) (mg/L) (mV) (gal)
AMPLE APPEARANCE: CLULA NEATHER CONDITIONS: TEMP. PECIFIC COMMENTS:	FIELD COMMENTS HSI HU goor: NON COLOR: DYOLUN SHEEN Y/N NO KATURE
	·
4125×3=	12,274
	EVERTUN ACCORDINGE WITT PRODUCTIONS (CULTURE)

		(
	WELL SAMPLING FIELD INFORMA	
SITE/PROJECT NAME: SAMPLE ID:	WILMUTH No. 1 GW-074937-031813-CM-MW-3	JOB# 074937 WELL# MW-3
URGE DATE (MM DD Y)	WELL PURGING INFORMATION	WATER VOL IN CASING (GALLONS) ACTUAL VOL PURGED (GALLONS)
PURGING EQUIPMENT DEDICATE	PURGING AND SAMPLING EQUIPMENT N (CIRCLE ONE)	SAMPLING EQUIPMENTDEDICATED Y N
	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER B - PERISTALITC PUMP E - PURGE PUMP H - WATERRAD	X=
	C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER	PURGING DEVICE OTHER (SPECIFY) X=
PURGING MATERIAL	A - TEFLON D - PVC	SAMPLING DEVICE OTHER (SPECIFY) X=
15-1	B-STAINLESS STEEL E- POLYETHYLENE C-POLYPROPYLENE X-OTHER	PURGING MATERIAL OTHER (SPECIFY)
	A - TEFLON D - POLYPROPYLENE G - COMBINATION TEFLON/POLYPROPYLEN	SAMPLING MATERIAL OTHER (SPECIFY) X=
17 1	B-TYGON E-POLYETHYLENE C-ROPE F-SILICONE X-OTHER	E PURGE TUBING OTHER (SPECIFY)
	A - IN-LINE DISPOSABLE B - PRESSURE - HAR MY	SAMPLING TUBING OTHER (SPECIFY)
	FIELD MEASUREMENTS	l I
DEPTH TO WATER	<u> </u>	ATION (feet)
WELL DEPTH	<u>JCWO</u> (feet) GROUNDWATER ELEV	/ATION (feel)
темрегатове рн	TDS 636 (std) 0,560 (g/L) 6.67 (uS/cm) 6	DO ORP VOLUME
11.3.6 co 7.0		
11,30 0 7:0		
(°C)	(sld) (µS/cm)	(mg/ <u>1.)</u> (mV) (gal)
(°C)	(std) [g/L] [μ5/m]	(mg/ <u>L)</u> (mV) (gal)
AMPLE APPEARANCE:	Sitty odor MUMU COLOR: DA	
eather conditions: temperatur pecific comments: DJPLICATE	$\frac{(allectel)}{(allectel)} = \frac{(allectel)}{(allectel)} = $	
4,192×3= 1	7.547	
DATE 3/18/13 PRINT	EIN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS	LI DI DI MARI ROO

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WELL SAMPLING FIELD INFORMATION FORM јов#\_<u>074</u>937 WILMUTH No. 1 6W-074937-031813-CM-MW-4 SITE/PROJECT NAME: WELL# 19 W-4 SAMPLE ID: WELL PURGING INFORMATION 1800 5 1202 PURGE DATE (MM DD YY) SAMPLE DATE (MM DD YY) SAMPLE TIME WATER VOL. IN CASING ACTUAL VOL. PURGED (24 HOUR) (GALLONS) (GALLONS) PURGING AND SAMPLING EQUIPMENT PURGING EQUIPMENT ....... DEDICATI SAMPLING EQUIPMENT .......... DEDICATED (CIRCLE ONE)  $( \land )$ A - SUBMERSIBLE PUMP G - BAILER PURGING DEVICE D - GAS LIFT PUMP B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRAS FURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER SAMPLING DEVICE X= SAMPLING DEVICE OTHER (SPECIFY) A - TEFLON PURGING MATERIAL D-PVC B - STAINLESS STEEL, E - POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C - POLYPROPYLENE X - OTHER SAMPLING MATERIAL SAMPLING MATERIAL OTHER (SPECIFY) PURGE TUBING A - TEFLON D - POLYPROPYLENE G - COMBINATION TEFLON/POLYPROPYLENE - TYGON E - POLYETHYLENE PURGE TUBING OTHER (SPECIFY) X - OTHER SAMPLING TUBING C - ROPE F-SILICONE X= SAMPLING TUBING OTHER (SPECIFY) FILTERING DEVICES 0.45 A - IN-LINE DISPOSABLE B. PRESSURE FIELD MEASUREMENTS DEPTH TO WATER WELL ELEVATION (feet) WELL DEPTH (feet) GROUNDWATER ELEVATION (feet) TEMPERATURE CS pН TDS DO ORP VOLUME 11.35 (std) 0.561 (g/L) 638 7.01 2.28 11,25 (gal) 7.05 (std) 0,560 (g/L) 640 89.6 7,08 (std) 0,560 (8/1) રેત 6 85, 112.25 1640 11.53 (g/L) (std) (uS/cm) C) (g/L) (µS/cm) (mV) (gal) FIELD COMMENTS foli DYAUN no SAMPLE APPEARANCE: COLOR: SHEEN Y/N Č7 WINDY Y/N WEATHER CONDITIONS: TEMPERAT PRECIPITATION Y/N (IF Y TYPE) SPECIFIC COMMENTS: I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS DATE SIGNATURE 10

SITE/PROJECT NAMI SAMPLE I	Well SAMPLING I 	FIELD INFORM		4937
	WELL P	URGING INFORMATION		
G. 14.13 PURGEDATE (MMDD YY)		346	3.61 WATER VOL. IN CASING (GALLONS)	ACTUAL VOL PURGED (GALLONE)
	PURGING A	ND SAMPLING EQUIPMEN		Ò
PURGING EQUIPMENTDEL	(CIRCLE ONE)		SAMPLING E	QUIPMENTDEDICATED
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP B - PERISTALTIC PUMP E - PURGE PUMP	G - BAILER H - WATERRAS	-	URGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	C - BLADDER PUMP F - DIPPER BOTTLE		X=	
			S	AMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	B - STAINLESS STEEL E - POLYETHYLENE	3	X= P	RGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	C-FOLYTROPYLENE X-OTHER		X=	AMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON D - POLYPROPYLEN B - TYCON E - POLYPROPYLEN	TEFLON/POLYPROPYLE	Х= NE Р	IRGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C - ROPE F - SILICONE	X - OTHER	. X=	MPLING TUBING OTHER (SPECIFY)
VILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESS	SURE		
FILTERING DEVICES 0.45		D MEASUREMENTS		
ILTERING DEVICES 0.45	FIEL		VATION	(feet)
	FIEL (feet) (feet)	D MEASUREMENTS	1	(feal)
	FIEL (feet) (feet)	D MEASUREMENTS WELL ELE	EVATION	
DEPTH TO WATEL	FIEL FIEL	D MEASUREMENTS WELL ELE GROUNDWATER EL SC	EVATION	(feet)
DEPTH TO WATEL	FIFEL PH TDS PH TDS FIFEL (feet) (feet) PH TDS	D MEASUREMENTS WELL ELE GROUNDWATER EI SC	EVATION DO	(feet) ORP VOLUME
DEPTH TO WATEL	FIEL pH TDS $[6:72]_{(etd)}$ $[6et]$ $[6:72]_{(etd)}$ $[6et]$ $[6:72]_{(etd)}$ $[6et]$	D MEASUREMENTS WELL ELE GROUNDWATER EI SC	evation do <u>D.405</u>	(feet) ORP VOLUME
DEPTH TO WATEL	FIEL pH TDS 6.72 (std) $0.715$ (g/L) 6.76 (std) $0.715$ (g/L) 6.76 (std) $0.715$ (g/L)	D MEASUREMENTS WELL ELE GROUNDWATER EL SC UD7 (j(15/cm) [ UD2 (j(15/cm) ] L D, G, G ]	EVATION DO D.405 <u>,336</u> 746	(feet) $(Feet)$ $ORP VOLUME$ $(feet)$ $(ffeet)$ $(fffeet)$ $(ffeet)$ $(ffeet)$ $(ffeet)$ $(fffeet$
DEPTH TO WATEH WELL DEPTH TEMPERATURE 16.15.000 (°C) 15.38 (°C)	FIEL pH TDS (feet) pH TDS (feet) (fee) (f	D MEASUREMENTS WELL ELE GROUNDWATER EL SC 	EVATION DO D.405 ,336 .766	(feet) ORP VOLUME VOLUME (mv) (0.0 (gal) (mv) (0.5 (gal) (mv) (0.0 (gal)
DEPTH TO WATEH WELL DEPTH TEMPERATURE 15.62 (co) 15.38 (co) 15.38 (co)	FIEL pH TDS (feet) (feet) pH TDS (g/L) (feet) (fee)	D MEA SUREMENTS WELL ELE GROUNDWATER EI SC 1007 (uS/cm) 1022 (uS/cm)	EVATION DO D. 4D ,33 .76 [(mg/L)	(feet)         ORP       VOLUME         (mv)       [0.0] (gal)         2[       (mv)       [0.5] (gal)         []       (mv)       [[0.0] (gal)

	WELL SAMPLING FIELD INFORMATION FORM	
OWNER ODD OLD OT MAN	10B# 674937	
SITE/PROJECT NAM SAMPLE I		-
	WELL PURGING INFORMATION	
6.14.13	6.14.13 345 427 13.0	
PURGE DATE (MM DD YY)	SAMPLE DATE         SAMPLE TIME         WATER VOL IN CASING         ACTUAL VOL PURGED           (MM DD YY)         (24 HOUR)         (GALLONS)         (GALLONS)	
	PURGING AND SAMPLING EQUIPMENT	
PURGING EQUIPMENTDEI	DICATE N SAMPLING EQUIPMENTDEDICATED Y N (CIRCLE ONE) (CIRCLE ONE)	
PURGING DEVICE	A-SUBMERSIBLE PUMP D-GAS LIFT PUMP G-BAILER X=	
SAMPLING DEVICE	B - PERISTALTIC PUMP E - PUKGE PUMP H - WATERRA P C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER X=	
SAMIF LING DEVICE	SAMPLING DEVICE OTHER (SPECIFY)	
PURGING MATERIAL	С л-теяLON D-FVC Х=	
SAMPLING MATERIAL	B-STAINLESS STEEL E-POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C-POLYEROPYLENE X-OTHER X-OTHER X=	•
	SAMPLING MATERIAL OTHER (SPECIFY)	
PURGE TUBING	A - TEFLON D - POLYPROPYLENE G - COMBINATION X= TEFLON/POLYPROPYLENE PURGE TUBING OTHER (SPECIFY)	
SAMPLING TUBING	B-TYGON E-POLYETHYLENE FURGE TUBING OTHER (SPECIFY) C-ROPE F-SILCONE X-OTHER X= SAMPLING TUBING OTHER (SPECIFY)	
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESSURE	
	FIELD MEASUREMENTS	
DEPTH TO WATE	er 2,96 (feet) WELL ELEVATION (feet)	
WELL DEPT	H 31.91 (feet) GROUNDWATER ELEVATION (feet)	
TEMPERATURE	pH TDS SC DO ORP VOLUME	
14.02 m	[].03 (st.d)608 (g/L) [938 (us/cm)].25 (mg/L) 52.3 (mv) [12.0]	(gal)
13.470	(e:98 (ord) 1608 (er) 936 (us/m) 123 (me/1) 59.0 (mv) 12.5	(gal)
13320	6.87 (std) 607 (e/1) 933 (us/cm) 15 (me/1)67.0 (my 13.0)	(gal)
		(gal)
		(gal)
(°C)		.gai/
SAMPLE APPEARANCE	FIELD COMMENTS	
VEATHER CONDITIONS:		
· · · · · · · · · · · · · · · · · · ·		
	RIGHT CS/1 1 0.01.077 SIGNTURE	
DATE	PRINTS 954 KIREMORZ SIGNATURE	

	WELL SAMPLING FIELD INFORMATION FORM
SITE/PROJECT NAMI	
SAMPLE I	D: 074937-061413-5K-MW3 WELL# (1112-3
	WELL PURGING INFORMATION
PURCE DATE (MM DD YY)	6.14     1355     9.38     13.25       SAMPLE DATE (MM DD YY)     SAMPLE TIME (24 HOUR)     WATER VOL IN CASING (GALLONS)     ACTUAL VOL PURGED (CALLONS)
PURGING EQUIPMENTDEL	PURGING AND SAMPLING EQUIPMENT SAMPLING EQUIPMENTDEDICATE()) N (CIRCLE ONE) (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X=
SAMPLING DEVICE	B - PERISTALTIC PUMP E - PUKGE PUMP H - WATERRAP PURGING DEVICE OTHER (SPECIFY) C - FLADDER PUMP F - DIFFER BOTTLE X - OTHER X =
PURGING MATERIAL	A - TEFLON D - FVC X=
SAMPLING MATERIAL	B - STAINLESS STEEL     E - POLYPETHYLENE     PURGING MATERIAL OTHER (SPECIFY)       C - POLYPROPYLENE     X - OTHER     X*   SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON D - FOLYPROPYLENE G - COMBINATION X= TEFLON/FOLYPROPYLENE PURCE TUBING OTHER (SPECIFY)
SAMPLING TUBING	B. TYGON E-POLYETHYLENE PURGETUBING OTHER (PECIFY) C-ROPE F-SILICONE X-OTHER X-OTHER X- SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESSURE
	FIELD MEASUREMENTS
DEPTH TO WATE	R L.72 (feel) WELL ELEVATION (feel)
WELL DEPTH	H 31.92 (feet) GROUNDWATER ELEVATION (feet)
TEMPERATURE	PH TDS SC DO ORP VOLUME
14.050	1.10 (std) ,604 (g/L) 928 (us/cm) ,30 (mg/L) 61.3 (my 12.25 (gal)
13.86 10	).03 (std) 1602 (g/L) 927 (15/cm) ,20 (mg/L) (03.8 (mv) 12.75 (gal)
13.17 m	6.96 lota 1603 (c/c) 977 (us/an) 171 (mg/1) 68.5 (my 13.25 (ca)
(°C)	(std) (g/L) (u5/cm) (mg/L) (mV) (gal)
(7)	(std) (g/L) (uS/cm) (mV) (gal)
	FIELD COMMENTS
AMPLE APPEARANCE: VEATHER CONDITIONS: PECIFIC COMMENTS:	ODOR:     COLOR:     SHEEN Y/N       TEMPERATURE     YINDY Y/N     PRECIPITATION Y/N (F Y TYPE)
DATE	PRINT ROL KIRAWA SIGNATURE

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SITE/PROJECT NAME;	Withuch			IOB# 6	21937	
SAMPLE ID:	074937-061413-JX-MW4 WELL#				671937 NIW: 4	
		WELL PURG	NG INFORMATION		10	
6.14.13	6.14.13	1,346		4.30	13.0	
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE (24 HC		WATER VOL. IN C. (GALLONS)		
PURGING EQUIPMENTDEDICATED	у N	PURGING AND S	AMPLING EQUIPME		PLING EQUIPMENTDEDICATED	
16	(CIRCLE ONE)				(CIRC	
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER B - PERISTALTIC PUMP E - PURCE PUMP H - WATERRAU C - FLADDER PUMP F - DIFPER BOTTLE X - OTHER			X=		
SAMPLING DEVICE				X=		
	A - TEFLON	D-PVC				
	B - STAINLESS STEEL E - POLYETHYLENE			PURGING MATERIAL OTHER (SPEC		
SAMPLING MATERIAL					X	
	A - TEFLON	- FOLYPROPYLENE	G - COMBINATION TEFLON/POLYPROPYI	UNIC	X <sup>44</sup>	
SAMPLING TUBING	l l	- POLYETHYLENE	X-OTHER	1111	PURGE TUBING OTHER (SPECIFY)	
FILTERING DEVICES 0.45		8 - PRESSURE				
<b>H</b>	904974	FIELD ME	ASUREMENTS		, , , , , , , , , , , , , , , , , , ,	
DEPTH TO WATER	3.10	(feet)	WELL EL	EVATION	(feet)	
WELL DEPTH	31.15	(feet)	groundwater i	LEVATION	(feet)	
TEMPERATURE	pH TDs		SC	DO	ORP VOL	
177.93 to 7	36 (std) .59	(g/L)	121 (µS/m)	2. <sup>2</sup> (mg/	1) J3.0 (my 1/2	
17.66 00 1	.32 (std) .5°	19 (6/1) 19	(µS/cm)	,17 (mg/	157.2 mm 12.	
1531 10 T.	31 (std) 154	(g/L)	718 (us/cm)	, Z. (mg/	152.5 [my 13.	
(°C)	(std)	(g/L)	ربته/m)	(mg/	i.) (niV)	
(°G)	(std)	(g/L)	(µS/cm)	(nyg/	L) (mV)	
		FIELD C	OMMENTS			
MAPLE APPEARANCE: TEATHER CONDITIONS: TEMPER		WINDY Y/N	COLOR:		SHEEN Y/N	
PECIFIC COMMENTS:			· V	PRECIPITA		
I CENTIFY THAT SAMPLING PROCEDURES			1	1		

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WELL SAMPLING FIELD INFORMATION FORM JOB# SITE/PROJECT NAME: nu-l WELL# SAMPLE ID: WELL PURGING INFORMATION 98 3 WATER VOL. IN CASING (GALLONS) ACTUAL VOL. PURGED SAMPLE TIME PURGE DATE SAMPLE DATE (GALLONS) MM DD YY (MM DD YY) (24 HOUR) PURGING AND SAMPLING EQUIPMENT PURGING EQUIPMENT......DEDICATE SAMPLING EQUIPMENT......DEDICATI Ν (CIRCLE ONE) (CIRCLE ON Æ A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER PURGING DEVICE B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRAD PURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER X≕ SAMPLING DEVICE SAMPLING DEVICE OTHER (SPECIFY) - TEFLON D - PVC X= PURGING MATERIAL TAINLESS STEEL E - POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C - POLYPROPYLENE X - OTHER X= SAMPLING MATERIAL SAMPLING MATERIAL OTHER (SPECIFY) A - TEFLON G - COMBINATION PURGE TUBING D - FOLYPROPYLENE TEFLON/POLYPROPYLENE PURGE TUBING OTHER (SPECIFY) E - POLYETHYLENE X - OTHER F - SILICONE SAMPLING TUBING C - ROPE χ= SAMPLING TUBING OTHER (SPECIFY) A - IN-LINE DISPOSABLE B - PRESSURE FILTERING DEVICES 0.45 FIELD MEASUREMENTS WELL ELEVATION (feel) DEPTH TO WATER (feet) Я GROUNDWATER ELEVATION (feel) WELL DEPTH (feet) VOLUME TEMPERATURE TDS DO ORF 10 (g/L) (gal) (g/L) (gal) (std) (µS/cm) (mg/L രന mΜ (gal) (g/L) (std) (°C) FIELD COMMENTS LIGHT CLOUDY NONE BOWN COLOR: SHEEN Y/N SAMPLE APPEARANCE: Path no No PRECIPITATION Y/N (IF Y TYPE) WEATHER CONDITIONS: TEMPERATURE WINDY Y/N SPECIFIC COMMENTS: ING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA TROTOCOLS I CERTIFY THAT SAME SIGNATURE DATE PRIN

WELL SAMPLING FIELD INFORMATION FORM 074937 JOB# SITE/PROJECT NAME: WELL# SAMPLE ID: WELL PURGING INFORMATION ACTUAL VOL. PURGED (GALLONS) WATER VOL. IN CASING SAMPLE TIME AMPLE DATE (24 HOUR) (GALLONS) (MM DD YY) MM DD YY PURGING AND SAMPLING EQUIPMENT SAMPLING EQUIPMENT......DEDICATEI PURGING EQUIPMENT......DEDICATER N (CIRCLE ONE (CIRCLE ONE) D - GAS LIFT PUMP G - BAILER A - SUBMERSIBLE PUMP PURGING DEVICE H - WATERRA® PURGING DEVICE OTHER (SPECIFY) B - PERISTALTIC PUMP E - PURGE PUMP C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER X≔ SAMPLING DEVICE SAMPLING DEVICE OTHER (SPECIFY) D - PVC A - TEFLON PURGING MATERIAL B - STAINLESS STEEL E - POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C - POLYPROPYLENE X - OTHER SAMPLING MATERIAL SAMPLING MATERIAL OTHER (SPECIFY) G - COMBINATION TEFLON/POLYPROPYLENE D - POLYPROPYLENE PURGE TUBING A - TEFLON PURGE TUBING OTHER (SPECIFY) TYGON E - POLYETHYLENE X - OTHER F - SILICONE X= SAMPLING TUBING ROPE SAMPLING TUBING OTHER (SPECIFY) 0,45 micron for netals only B - PRESSURE A - IN-LINE DISPOSABLE FILTERING DEVICES 0.45 FIELD MEASUREMENTS 0 WELL ELEVATION (feet) DEPTH TO WATER (feet) 36 3 (feet) GROUNDWATER ELEVATION WELL DEPTH VOLUME DO TEMPERATURE TDS D (g/L) (mg/L) (mV) (gal (uS/cm) (std) (gal) (mg/L) (g/L) (uS/cm) FIELD COMMENTS braon ЛO none SHEEN Y/N COLOR: SAMPLE APPEARANCE: PRECIPITATION MAN (IF Y TYPE)  $h^{l}$ WINDY Y/N WEATHER CONDITIONS: TEMPERATURE SPECIFIC COMMENTS: ANCE WITH APPLICABLE OF A PROTOCOLS I CERTIFY THAT SAMPLING PROCEDURES W SIGNATURE DAT

SITE/PROJECT NAMI SAMPLE I	The American Way and Con Mult Zument of March 7
9/12/13 PURGE DATE (NIM DD YY)	WELL PURGING INFORMATION 1040 SAMPLE DATE (MMDD YY) SAMPLE TIME (ALLONE) WELL PURGING INFORMATION 1040 4.25 14.25 ACTUAL VOL PURGED (GALLONE) ACTUAL VOL PURGED
PURGING EQUIPMENTDEI	DICATET N SAMPLING EQUIPMENT SAMPLING EQUIPMENT
PURGING DEVICE SAMPLING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X= B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRAD C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL SAMPLING MATERIAL	A - TEFLON     D - PVC     X*       B - STAINLESS STEEL     E - POLYETHYLENE     PURGING MATERIAL OTHER (SPECIFY)       C - POLYPROPYLENE     X - OTHER     X*       SAMPLING MATERIAL OTHER (SPECIFY)     SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING SAMPLING TUBING	A - TEFLON     D - POLYPROPYLENE     G - COMBINATION     X=       B - TYGON     E - POLYETHYLENE     PURGE TUBING OTHER (SPECIFY)       C - ROPE     F - SILICONE     X - OTHER       X=
FILTERING DEVICES 0.45	A-IN-LINE DESPOSABLE B- PRESSURE 0745 for metals only
DEPTH TO WAT	31.80
TEMPERATURE 14,56 (°C) 14,56 (°C) 14,44 (°C) (°C) (°C)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
SAMPLE APPEARANCE WEATHER CONDITIONS: SPECIFIC COMMENTS:	COUDY       ODOR       FROM MONR       COLOR       BROWN       SHEEN Y/N       N         TEMPERATURE       901       WINDY Y/N       PRECIPITATION Y/N (IF Y TYPE)       N
I CERTIFY THAT SAMILING F	PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS PRINT MASTON ACHTER BIONATURE

SITE/PROJECT NAM SAMPLE	TAIL X- LIAM CALOR	JOB# 3- <i>CM-MW-2</i> / Well#	
9/12/13 PURGE DATE (MIN DD YY)	9/12/13 [13 SAMPLE DATE 5/		67 VOL IN CASING GALLONS) ACTUAL VOL PURGED (GALLONS)
URGING EQUIPMENTDE	μ	ND SAMPLING EQUIPMENT	SAMPLING EQUIPMENTDEDICATER N (CIRCLE ONE)
URGING DEVICE AMPLING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP B - PERISTALTIC PUMP E - PURGE PUMP C - BLADDER PUMP F - DIPPER BOTTLE	H - WATERRAD	X= PURGING DEVICE OTHER (SPECIFY) X= SAMPLING DEVICE OTHER (SPECIFY)
URGING MATERIAL AMPLING MATERIAL	A - TEFLON D - PVC B - STAINLESS STEEL E - POLYETHYLENE C - FOLYPROPYLENE X - OTHER		X= PURGING MATERIAL OTHER (SPECIFY) X=
JRGE TUBING AMPLING TUBING	A - TEFLON D - POLYFROPYLEN B - TYGON E - POLYETHYLENE C - ROPE F - SILICONE	TEFLON/POLYPROPYLENE	SAMPLING MATERIAL OTHER (SPECIFY)  X= PURGE TUBING OTHER (SPECIFY)  X= CAMPLING TUBING OTHER (SPECIFY)
LTERING DEVICES 0,45	A - IN-LINE DISPOSABLE B - PRESS	TURE 0,45 For	vetals only
	FIEL	D MEASUREMENTS	
DEPTH TO WAT	$= \frac{2 \cdot 42}{2 \cdot 42}  (\text{feet})$	WELL ELEVATION	(feel)
WELL DEP	TH JIO (feel)	GROUNDWATER ELEVATION	(feet)
16,74 (C)	$\begin{array}{c c} pH & TDS \\ \hline 7, 2 \\ \hline 2_1 CS \\ \hline (std) \\ \hline 0, 76 \\ \hline 0, 76 \\ \hline (g/L) \\ \hline (g/L) \\ \hline \end{array}$		(mg/L) 76.8 (mV) 13.75 (gal
16.39	7.03 (std) 0,761 (g/L)	1171 (US/CM) 2.14	(mg/L) 77.3 (mV) 14,25 (ga
(°C)	(std) (g/L)	(µS/cm)	(mg/L)(mV)(gal
MPLE APPEARANCE: EATHER CONDITIONS: PECIFIC COMMENTS;	TEMPFERATURE 90 S WINDY Y	eld comments color: Brown /n	SHEEN Y/N
<u></u>			

PURGE DATE (NM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL PURGED (GALLONS)	
PURGING EQUIPMENTDEDICA	TRE N (CIRCLE ONE)	PURGING AND SAMPLING EQUIPM		UIPMENTDEDICATED Y N (CIRCLE ONE)	
PURGING DEVICE	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP C - BLADDER PUMP	D - GAS LIFT PUMP G - BAILER E - PURGE PUMP H - WATERRAØ F - DIPPER BOTTLE X - OTHER	X=	JRGING DEVICE OTHER (SPECIFY)	
PURGING MATERIAL	A - TEFLON B - STAINLESS STEEL C - POLYPROPYLENE	D - FVC E - POLYETHYLENE X - OTHER	X= PT X=	JRGING MATERIAL OTHER (SPECIFY)	
PURGE TUBING	A - TEFLON B - TYGON C - ROPE	D - FOLYPROPYLENE G - COMBINATION E - POLYETHYLENE F - SILICONE X - OTHER	YLENE PL X=	JRGE TUBING OTHER (SPECIFY)	
DEPTH TO WATER WELL DEPTH TEMPERATURE	2,70 24,91	FIELD MEASUREMENTS	<b>1</b>	(feet) (feet) ORP VOLUME	A Contraction of the second seco
14.35 m ( 14.24 m ( 14.26 m (	(std)	1894 (g/L) 375 (µS/cm 898 (g/L) 381 (µS/cm 897 (g/L) 380 (µS/cm (g/L) (µS/cm		$6.4_{(mV)}$ $9.75_{(gal)}$ $1.9_{(mV)}$ $10.25_{(gal)}$ $8.8_{(mV)}$ $10.75_{(gal)}$ (mV) $(gal)$	
AMPLE APPEARANCE:	(std)		(mg/L)		
255V3=	- 10,66		······································		

SITE/PROJECT NAME: SAMPLE ID:	
PURGE DATE (MM DD YY)	WELL PURGING INFORMATION 12, 12, 12, 13, 15, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10
PURGING EQUIPMENTDEDI	CATED (Y) N SAMPLING EQUIPMENT SAMPLING EQUIPMENTDEDICATED (Y) N (CIRCLE ONE)
PURGING DEVICE	G A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X=
SAMPLING DEVICE	B - PERISTALTIC PUMP     E - PURGE PUMP     H - WATERRA®     PURGING DEVICE OTHER (SPECIFY)       C - BLADDER PUMP     F - DIPPER BOTTLE     X - OTHER     X =
PURGING MATERIAL SAMPLING MATERIAL	A - TEFLON D - PVC X= B - STAINLESS STEEL E - POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C - POLYPROPYLENE X - OTHER X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON D - POLYPROPYLENE G - COMBINATION X=
SAMPLING TUBING	B-TYGON E-POLYETHYLENE PURGE TUBING OTHER (SPECIFY) C-ROPE F-SILICONE X-OTHER X=
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABLE B - PRESSURE - PAN WOLTALS ONLY
DEPTH TO WATER WELL DEPTH TEMPERATURE 2.15 (°C) 12.51 (°C) 12.92 (°C) 12.92 (°C) 12.92 (°C) (°C) (°C) SAMPLE APPEARANCE WEATHER CONDITIONS: SPECIFIC COMMENTS:	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	PRINT CONDANCE WITH APPLICABLE CAPBORT OF BELLS OF CONDENSE OF CON

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SITE/PROJECT NAME SAMPLE II	
UZIZI3 PURGE DATE (MIN DD YY)	WELL PURGING INFORMATION 1005 SAMPLE DATE (MIM DD YY) SAMPLE TIME (21 HOUR) WELL PURGING INFORMATION 1005 SAMPLE TIME (21 HOUR) WATER VOL IN CASING (GALLONS) MATER VOL IN CASING (GALLONS)
PURGING EQUIPMENTDEC	PURGING AND SAMPLING EQUIPMENT DICATED N CIRCLE ONE) PURGING AND SAMPLING EQUIPMENTDEDICATED N (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X=
SAMPLING DEVICE	B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRA® PURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER (SPECIFY)
PURGING MATERIAL	A-TEFLON D-PVC X=
SAMPLING MATERIAL	B-STAINLESS STEEL E- POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C- POLYPROPYLENE X- OTHER X- OTHER X- OTHER SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON D - POLYPROPYLENE G - COMBINATION X=
SAMPLING TUBING	B-TYCON E-POLYETHYLENE PURGE TUBING OTHER (SPECIFY) C-ROPE F-SILICONE X-OTHER X=
FILTERING DEVICES 0.45	A-IN-LINE DISPOSABLE B-PRESSURE For Motals any
DEPTH TO WATER	FIELD MEASUREMENTS
WELL DEPTH	a 3,58 (feet) GROUNDWATER ELEVATION (feet)
TEMPERATURE	pH TDS SC DO ORP VOLUME
	6.75 (std) .760 (g/L) 1168 (µS/cm) 1.99 (mg/L) 23.6 (mV) 12.25 (gal)
12.98 (°)	6,76 (std) ,76/ (g/L) //7/ (uS/cm) 1,65 (mg/L) 10,2 (mV) 12.7.5 [gal)
<b>12.87</b> (c)	6.75 (std) .760 (g/L) 1/69 (uS/cm) 1,47 (mg/L) 2.7 (mV) 13.25 (al)
(°)	(std) (g/L) (µS/cm) (mg/L) (mV) (gal)
(0)	(std) (g/L) (µS/cm) (mg/L) (mV) (gal)
SAMPLE APPEARANCE: WEATHER CONDITIONS: SPECIFIC COMMENTS:	Clouchy     Sultg odor:     No oclor     Brought       TEMPERATURE     QQ     WINDY Y/N     N     PRECIPITATION Y/N (IF Y TYPE)
4,37x3=	13.11
	PRINT SIGNATURE

. . .

SITF/PROJECT NAME SAMPLE II	wiln	MPLING FIE NUH No 7- 121213-(1	LD INFORMATION J M- MW-4 WEL	в# 0749	37
PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPL	E TIME WAT	1,20 TER VOL IN CASING (GALLONS)	ACTUAL VOL PURGED (GALLONS)
PURGING EQUIPMENTDEL	ICATED (Y) N (CIRCLE ONE)	PURGING AND	SAMPLING EQUIPMENT	SAMPLING EQUIPM	IENTDEDICATED
PURGING DEVICE		D - GAS LIFT PUMP	G - BAILER	x=	· · · · ·
SAMPLING DEVICE	C - BLADDER PUMP	E – PURGE PUMP F – DIPPER BOTTLE	H - WATERRA® X - OTHER	x=	IG DEVICE OTHER (SPECIFY)
PURGING MATERIAL	A - TEFLON	D-PVC		X=	
SAMPLING MATERIAL	B - STAINLESS STEEL C - POLYPROPYLENE	E - POLYETHYLENE X - OTHER		PURGIN	G MATERIAL OTHER (SPECIFY)
r	(			SAMPLI	NG MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE		UBING OTHER (SPECIFY)
SAMPLING TUBING	C-ROPE	F - SILICONE	X-OTHER	X=SAMPLI	NG TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A - IN-LINE DISPOSABL	E B - PRESSURE	tar motal	sonly	
DEPTH TO WATEF	5.08	FIELD M	EASUREMENTS WELL ELEVATION	I	(feet)
WELL DEPTH	1.31.33	(feet)	GROUNDWATER ELEVATION		(feet)
TEMPERATURE	pH	IDS	SC DC	) ORP	VOLUME
12.44	6,84 (std) ,7	67 (g/L)	18/ (µ5/cm) 1.8		•••
1225 m	6.79 (std) .7	<u>66</u> (g/L)	179 (µ5/cm) 44	4 <u>-58.</u>	9 (mV) 12,25 (gal)
12.54 <sub>100</sub>	6180 (std)	167 <sub>(g/L)</sub>		(mg/L) 60.	3 (mV) 12.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV) (gal)
	(std)	(g/L)	(µS/cm)	(mg/ <u>L)</u>	(mV) (gal)
SAMPLE APPEARANCE ( WEATHER CONDITIONS: SPECIFIC COMMENTS;	temperature 30°		COMMENTS	SHEEN Y/N PRECIPITATION Y/N (IF )	(TYPE) <u>NÔ</u>
4.20x3	= 12,6				
	Pup	licate (	Collected @ ]	/16	
			ius fle	Vasi	nduere

£

# Appendix B

2013 Quarterly Groundwater Laboratory Analytical Report





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

March 29, 2013

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

RE: Project: 074937 WILMUTH NO 1 Pace Project No.: 60140770

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on March 20, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan

Alice Flanagan

alice.flanagan@pacelabs.com Project Manager

Enclosures

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



# **REPORT OF LABORATORY ANALYSIS**

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# CERTIFICATIONS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219 A2LA Certification #: 2456.01 Arkansas Certification #: 12-019-0 Illinois Certification #: 002885 Iowa Certification #: 118 Kansas/NELAP Certification #: E-10116 Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-12-3 Utah Certification #: KS000212012-2 Illinois Certification #: 003097

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# SAMPLE SUMMARY

Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60140770001	GW-074937-031813-CM-MW-1	Water	03/18/13 12:50	03/20/13 08:30
60140770002	GW-074937-031813-CM-MW-2	Water	03/18/13 17:10	03/20/13 08:30
60140770003	GW-074937-031813-CM-MW-3	Water	03/18/13 16:55	03/20/13 08:30
60140770004	GW-074937-031813-CM-MW-4	Water	03/18/13 18:00	03/20/13 08:30
60140770005	GW-074937-031813-CM-DUP	Water	03/18/13 17:00	03/20/13 08:30

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Page 3 of 15



# SAMPLE ANALYTE COUNT

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60140770

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60140770001		EPA 6010	JGP	1
		SM 2540C	DJR	1
60140770002	GW-074937-031813-CM-MW-2	EPA 6010	JGP	1
		SM 2540C	DJR	1
60140770003	GW-074937-031813-CM-MW-3	EPA 6010	JGP	1
		SM 2540C	DJR	1
60140770004	GW-074937-031813-CM-MW-4	EPA 6010	JGP	1
		SM 2540C	DJR	1
60140770005	GW-074937-031813-CM-DUP	SM 2540C	DJR	1

# **REPORT OF LABORATORY ANALYSIS**

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# **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

### Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:March 29, 2013

### General Information:

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

### Hold Time:

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

### Sample Preparation:

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

### Initial Calibrations (including MS Tune as applicable):

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

### Continuing Calibration:

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

### Method Blank:

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

### Laboratory Control Spike:

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

### Matrix Spikes:

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

### **Additional Comments:**

# **REPORT OF LABORATORY ANALYSIS**



# **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

### Method: SM 2540C

Description:2540C Total Dissolved SolidsClient:COP Conestoga-Rovers & Associates, Inc. NMDate:March 29, 2013

### General Information:

5 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

### Hold Time:

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

### Method Blank:

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

### Laboratory Control Spike:

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

### Matrix Spikes:

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

### **Duplicate Sample:**

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

### **Additional Comments:**

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

# **REPORT OF LABORATORY ANALYSIS**

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# Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

Sample: GW-074937-031813-CM- MW-1	Lab ID:	Lab ID: 60140770001		Collected: 03/18/13 12:50		Received: 03/	20/13 08:30 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	<b>1120</b> ug/L		5.0	0.49	1	03/21/13 15:30	03/26/13 13:32	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	1070	mg/L	5.0	5.0	1		03/23/13 07:56		

# **REPORT OF LABORATORY ANALYSIS**

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# Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

Sample: GW-074937-031813-CM- MW-2	-CM- Lab ID: 60140770002		Collected: 03/18/13 17:10		Received: 03/	20/13 08:30 Ma	atrix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	<b>1560</b> ug/L		5.0	0.49	1	03/21/13 15:30	03/26/13 13:36	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	804	mg/L	5.0	5.0	1		03/23/13 07:57		

# **REPORT OF LABORATORY ANALYSIS**

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Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

Sample: GW-074937-031813-CM- MW-3	- Lab ID: 60140770003		Collected: 03/18/13 16:55		Received: 03/	20/13 08:30 Ma	trix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	<b>1580</b> ug/L		5.0	0.49	1	03/21/13 15:30	03/26/13 13:38	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	770	mg/L	5.0	5.0	1		03/23/13 07:57		

# **REPORT OF LABORATORY ANALYSIS**

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# Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

Sample: GW-074937-031813-CM- MW-4	Lab ID:	60140770004	Collecte	d: 03/18/13	3 18:00	Received: 03/	20/13 08:30 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	1540	ug/L	5.0	0.49	1	03/21/13 15:30	03/26/13 13:44	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	766	mg/L	5.0	5.0	1		03/23/13 07:57		

Date: 03/29/2013 11:19 AM

# **REPORT OF LABORATORY ANALYSIS**

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Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

Sample: GW-074937-031813-CM- DUP	Lab ID:	60140770005	Collecte	d: 03/18/13	3 17:00	Received: 03/2	20/13 08:30 Ma	atrix: Water	
<b>D</b>			Report		55	<b>D</b>		040 N	0 1
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytica	I Method: SM 2	540C						
Total Dissolved Solids	<b>766</b> r	mg/L	5.0	5.0	1		03/23/13 07:57		

# **REPORT OF LABORATORY ANALYSIS**

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# **QUALITY CONTROL DATA**

Project:	074937 WIL	MUTH NO 1											
Pace Project No.:	60140770												
QC Batch:	MPRP/219	57		Analys	is Method	: E	PA 6010						
QC Batch Method:	EPA 3010			Analys	is Descrip	tion: 6	010 MET Di	ssolved					
Associated Lab San	nples: 6014	0770001, 60	0140770002	, 60140770	003, 6014	0770004							
METHOD BLANK:	1157434			N	latrix: Wa	iter							
Associated Lab San	nples: 6014	0770001, 60	0140770002	, 60140770	003, 6014	0770004							
				Blank	R	Reporting							
Paran	neter		Units	Resul	t	Limit	Analyz	ed	Qualifiers				
Manganese, Dissolv	ved	ug/L			ND	5.0	03/26/13	13:24					
LABORATORY COM	NTROL SAMP	LE: 11574	35										
				Spike	LCS		LCS	% Red					
Paran	neter		Units	Conc.	Resu	ult	% Rec	Limits	s Q	alifiers	_		
Manganese, Dissolv	ved	ug/L		1000		990	99	80	)-120				
MATRIX SPIKE & M	IATRIX SPIKE		E: 11574;	36		1157437							
				MS	MSD								
				-	-	MO	MSD	MS	MSD	% Rec		Max	
		601	40751001	Spike	Spike	MS	10130	1013	10100	70 IXEC		wax	
Paramet	er	601 Units	40751001 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD		Qual

# **REPORT OF LABORATORY ANALYSIS**

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# **QUALITY CONTROL DATA**

Project:	074937 WILMU	ITH NO 1					
Pace Project No.:	60140770						
QC Batch:	WET/40352		Analysis Meth	iod: SM	A 2540C		
QC Batch Method:	SM 2540C		Analysis Desc	cription: 25	40C Total Dissolve	ed Solids	
Associated Lab San	nples: 601407	70001, 601407700	02, 60140770003, 60	0140770004, 60	0140770005		
METHOD BLANK:	1158722		Matrix:	Water			
Associated Lab San	nples: 601407	70001, 601407700	02, 60140770003, 60	140770004, 60	0140770005		
			Blank	Reporting			
Paran	neter	Units	Result	Limit	Analyzed	Qualifiers	
Total Dissolved Solid	ds	mg/L	ND	5.0	03/23/13 07:55		
SAMPLE DUPLICAT	FE: 1158723						
_			60140665001	Dup		Max	
Paran	neter	Units	Result	Result	RPD	RPD	Qualifiers
Total Dissolved Solid	ds	mg/L	487	472	3	17	
SAMPLE DUPLICA	E: 1158724						
			60140770005	Dup		Max	
Paran	neter	Units	Result	Result	RPD	RPD	Qualifiers
Total Dissolved Solid	ds	mg/L	766	782	2	17	

Date: 03/29/2013 11:19 AM

# **REPORT OF LABORATORY ANALYSIS**

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# QUALIFIERS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60140770

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

# **REPORT OF LABORATORY ANALYSIS**

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60140770

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60140770001	GW-074937-031813-CM-MW-1	EPA 3010	MPRP/21957	EPA 6010	ICP/17547
60140770002	GW-074937-031813-CM-MW-2	EPA 3010	MPRP/21957	EPA 6010	ICP/17547
60140770003	GW-074937-031813-CM-MW-3	EPA 3010	MPRP/21957	EPA 6010	ICP/17547
60140770004	GW-074937-031813-CM-MW-4	EPA 3010	MPRP/21957	EPA 6010	ICP/17547
60140770001	GW-074937-031813-CM-MW-1	SM 2540C	WET/40352		
60140770002	GW-074937-031813-CM-MW-2	SM 2540C	WET/40352		
60140770003	GW-074937-031813-CM-MW-3	SM 2540C	WET/40352		
60140770004	GW-074937-031813-CM-MW-4	SM 2540C	WET/40352		
60140770005	GW-074937-031813-CM-DUP	SM 2540C	WET/40352		

# **REPORT OF LABORATORY ANALYSIS**

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# Sample Condition Upon Receipt ESI Tech Spec Client

WO#:60140770	

Client Name: COP- CRA NW			Optional
Courier: Fed Ex / UPS USPS Client	Commercial 🗆 🛛	Pace 🗆 Other 🗆	Proj Due Date:
Tracking #: 8023 6946 6397	Pace Shipping Label	Used? Yes No 🗆	Proj Name:
Custody Seal on Cooler/Box Present: Yes	D 🗆 Seals intact:	Yes 🖉 No 🗆	
Packing Material: Bubble Wrap  Bubble B	ags 🗆 🛛 Foam	None 🗆 🖸	Other 2 2, cc
Thermometer Used: T-112 / T-194 1			ceived on ice, cooling process has begun.
Cooler Temperature:), 닉	(CIr	cle one) Date	and initials of person examining
Temperature should be above freezing to 6°C			
Chain of Custody present:	Pres No N/A		
Chain of Custody filled out:	Yes No N/A	2,	
Chain of Custody relinquished:	Tres No NIA	3,	
Sampler name & signature on COC:	PYes INO IN/A	4.	
Samples arrived within holding time:	Thes DNO DN/A	5.	
Short Hold Time analyses (<72hr):		6.	
Rush Turn Around Time requested:		7.	
Sufficient volume:		8.	
Correct containers used:		N	
Pace containers used:		9.	
Containers intact:		10.	
Unpreserved 5035A soils frozen w/in 48hrs?		11.	1
Filtered volume received for dissolved tests?		12.	
Sample labels match COC:		A	
Includes date/time/ID/analyses Matrix:	M	13.	
All containers needing preservation have been checked.		A	
All containers needing preservation are found to be in compliance with EPA recommendation.	PYes DNO DN/	A 14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	□Yes ₽No	Initial when completed	Lot # of added preservative
Trip Blank present:		-	
Pace Trip Blank lot # (if purchased):		15	
Headspace in VOA vials ( >6mm):		Ŧ	
		16.	
Project sampled in USDA Regulated Area:	Yes No	17. List State:	
Client Notification/ Resolution: Copy	COC to Client? Y	Field Data Requ	ired? Y / N
Person Contacted	Date/Time:		Temp Log: Record start and finish times when unpacking cooler, if >20 min,
Comments/ Resolution:			recheck sample temps
			Start: 1048 Start:
			End: 1055 End:
Project Manager Review:		Date JUB	Temp. Temp.

Pace Analytical

# CHAIN-OF-CUSTODY / Anatytical Request Document

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

Mul	Section A Required C	Section A Remining Client Information	Section B Required Project Information:	oject Inform	nation:			Sei	Section C Invoice Information:	ation:				1		Page:	-	ď	-	
6121 Indian School Red (E, Sie 200 Americanian, Multi affinition)         Control Name (12) Multi affinition         Recurrention (12) Multi affinition         Recurrention (12) Multi affinition         Recurrention (12) Multi affinition         Recurrention (12) Multi affinition         Recurrention         Recurention         Recurrention <th< th=""><th>Company</th><th>COP CRA NM</th><th>Report To: (</th><th>Christine</th><th>Mathews</th><th></th><th></th><th>Atte</th><th>intion:</th><th>ePayab</th><th>es</th><th></th><th>8</th><th></th><th></th><th></th><th></th><th></th><th></th><th>ſ</th></th<>	Company	COP CRA NM	Report To: (	Christine	Mathews			Atte	intion:	ePayab	es		8							ſ
Meetaregram. Not 8710         Process         Process <thprocess< th="">         Process         Proc</thprocess<>	Address:	6121 Indian School Rd NE, Ste 200		Kelly Blar	nchard, An	igela Bown, Ca			npany Nar	le:				REGULA	<b>FORY AGEN</b>	ζ			y	
0         ставляетой соли         с. 4/15/22         Гентика соли         Г. 1057		Albequerque, NM 87110						Adt	ress:						۲.,	GROUND WATER	TER	DRINKIN	DRINKING WATER	
(600)         (700)         <	Email To	cmathews@craworld.com	Purchase Or		45176302			Pac	e Quote trence:					_		ŚĀ	L	OTHER		
Павлан         Перен Ман или сове         Перен сов			Project Nam	1	nuth No 1			Pac	e Project ager	Alice Fli	anagan			Site Loc		WN				
Contraction         Molecular Method for Method for Method for Method for Method for Method for Method for Method for Method for Method Me	Requested		Project Num		337			bad	e Profile #.	5514, 2	~			ST	NTE:					
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Common State         Common State<	01 12		Codes CODE	<u> </u>		COLLECTEE				Preservi	atives	<b>1</b> N /A								
S.MPLE ID         Similar         Source         Sou		DRINKING WATER WATER WASTE WATER PRODUCT SOILSOLID OII			COMPOS		APOSITE D/GRAB									(N/X) 90	5			
E.W074(37-05)8(3-CAI-ATW-1     WT 6     3/6/13 (135)     3 1     1     N     X     N       E.W074(37-05)8(3-CAI-ATW-1     WT 6     3/6/13 (135)     3 1     1     N     X     N       E.W074(37-05)8(3-CAI-ATW-2)     WT 6     3/6/13 (155)     3 1     1     N     X     N       E.W074(37-05)8(3-CAI-ATW-2)     WT 6     3/6/13 (155)     3 1     1     N     X     N       E.W074(37-03)8(3-CAI-ATW-3)     WT 6     3/6/13 (155)     3 1     1     N     X     N       E.W074(37-03)8(3-CAI-ATW-3)     WT 6     3/6/13 (155)     3 1     1     N     X     N       E.W074(37-03)8(3-CAI-ATW-3)     WT 6     3/6/13 (170)     3 1     1     N     X     N       E.W074(37-03)8(3-CAI-ATHU-3)     WT 6     3/6/13 (170)     3 1     1     N     X     N       E.W074(37-03)8(3-CAI-ATHU-3)     WT 6     3/6/13 (170)     1     1     N     X     N       E.W074(37-03)8(3-CAI-ATHU-3)     WT 6     3/6/13 (170)     1     1     N     X     N       E.W074(37-03)8(3-10)     MT 10     N     N     N     N     N     N       E.W074(37-03)8(3-10)     MT 10     N     N     <	# W	WIPE AIR OTHER TISSUE	AR AT TS						pevreserved	CI NO <sup>3</sup>	€O₂S₂B	səT sisylsnA				inold) Chlorii		U140710		c
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6w-074937-031813-CM-MW-3     wT 6     3/8/3     160     3/11     1     x     x       6w-074937-031813-CM-MW-3     wT 6     3/8/3     1700     1     1     1     1     x       6w-074937-031813-CM-MW-3     wT 6     3/6/3     1700     1     1     1     1     1       6w-074937-031813-CM-MW-3     wT 6     3/6/3     1700     1     1     1     1       6w-074937-031813-CM-MW-3     wT 6     3/6/3     1700     1     1     1     1       6w-074937-031813-CM     wT 6     3/6/3     1700     1     1     1     1       6w-074937-031813-CM     wT 6     3/6/3     1700     0     1     1     1       6w-074937-031813-CM     wT 6     3/6/3     1     0     1     1     1       6w-074937-031813-CM     wT 6     3/6/3     1     0     1     1     1       6w-074937-031813     wT 6     wT 6     1     0     1     1     1       6w-074937-031813     wT 6     wT 6     wT 6     1     1     1     1       6w-074937-031813     wT 6     wT 6     wT 6     wT 6     1     1     1       6w-074937-031813     wT 6		-1-1-	10	-1					·	-		1					_	1		M
Gw-074937-031813 - Cn - Dup     VT 6     3/8/3   506     3   1     VX       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     1     1       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     1     1       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     1     1       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     1     1       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     1     1       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     0     0       Gw-074937-031813 - Cn - Dup     VT 6     3/6/3   706     0     0       ADDITIONAL COMMENTS     Relinicities of ARPLER     DATE     1     0       ADDITIONAL COMMENTS     ADDITIONAL COMMENT     DATE     1     0       ADDITIONAL COMMENTS     ADDITIONAL COMMENT     DATE     1     0       ADDITIONAL COMMENTS     ADDITIONAL OF ARREN     ADDITIONAL COMMENT     0		7-031813-CM-	M	1		3/38/1	-		17	~					_	_			0	S.
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F-ALL-O-020/ev 08, 12-Oct-2007

"Important Note. By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1 5% per month for any invoices not paid within 30 days.

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

July 01, 2013

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

RE: Project: 074937 WILMUTH NO 1 Pace Project No.: 60147042

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on June 15, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanazan

Alice Flanagan

alice.flanagan@pacelabs.com Project Manager

Enclosures

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





# CERTIFICATIONS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

### **Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219 WY STR Certification #: 2456.01 Arkansas Certification #: 13-012-0 Illinois Certification #: 003097 Iowa Certification #: 118 Kansas/NELAP Certification #: E-10116 Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-13-4 Utah Certification #: KS000212013-3 Illinois Certification #: 003097



# SAMPLE SUMMARY

Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60147042001	074937-061413-JK-MW1	Water	06/14/13 13:40	06/15/13 11:40
60147042002	074937-061413-JK-MW2	Water	06/14/13 13:45	06/15/13 11:40
60147042003	074937-061413-JK-MW3	Water	06/14/13 13:55	06/15/13 11:40
60147042004	074937-061413-JK-MW4	Water	06/14/13 13:46	06/15/13 11:40



# SAMPLE ANALYTE COUNT

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60147042

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60147042001	074937-061413-JK-MW1	EPA 6010	TJT	1
		SM 2540C	JML	1
60147042002	074937-061413-JK-MW2	EPA 6010	TJT	1
		SM 2540C	JML	1
60147042003	074937-061413-JK-MW3	EPA 6010	TJT	1
		SM 2540C	JML	1
60147042004	074937-061413-JK-MW4	EPA 6010	TJT	1
		SM 2540C	JML	1



# **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

### Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:July 01, 2013

### General Information:

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

### Hold Time:

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

### Sample Preparation:

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

### Initial Calibrations (including MS Tune as applicable):

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

### Continuing Calibration:

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

### Method Blank:

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

### Laboratory Control Spike:

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

### Matrix Spikes:

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

# Additional Comments:



# **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

### Method: SM 2540C

Description:2540C Total Dissolved SolidsClient:COP Conestoga-Rovers & Associates, Inc. NMDate:July 01, 2013

### General Information:

4 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

### Hold Time:

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

### Method Blank:

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

### Laboratory Control Spike:

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

### Matrix Spikes:

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

### **Duplicate Sample:**

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

### **Additional Comments:**

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



# Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

Sample: 074937-061413-JK-MW1	Lab ID: 60147	042001 Collecte	ed: 06/14/13	3 13:40	Received: 06/	15/13 11:40 Ma	atrix: Water	
Parameters	Results Uni	Report ts Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Metho	d: EPA 6010 Prepa	aration Meth	od: EPA	3010			
Manganese, Dissolved	<b>930</b> ug/L	5.0	0.49	1	06/18/13 14:00	06/20/13 13:54	7439-96-5	
2540C Total Dissolved Solids	Analytical Metho	d: SM 2540C						
Total Dissolved Solids	<b>831</b> mg/L	5.0	5.0	1		06/21/13 16:27		



# Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

Sample: 074937-061413-JK-MW2	Lab ID: 6	0147042002	Collected	1: 06/14/13	3 13:45	Received: 06/	15/13 11:40 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical M	lethod: EPA 6	010 Prepar	ation Meth	od: EPA	3010			
Manganese, Dissolved	<b>1380</b> ug/l	L	5.0	0.49	1	06/18/13 14:00	06/20/13 14:01	7439-96-5	
2540C Total Dissolved Solids	Analytical M	lethod: SM 25	40C						
Total Dissolved Solids	<b>699</b> mg/	/L	5.0	5.0	1		06/21/13 16:27		



# Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

Sample: 074937-061413-JK-MW3	Lab ID: 601	47042003 Colle	cted: 06/14/1	3 13:55	Received: 06/	15/13 11:40 Ma	atrix: Water	
Parameters	Results L	Report Jnits Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Meth	nod: EPA 6010 Pre	paration Meth	od: EPA	3010			
Manganese, Dissolved	<b>1640</b> ug/L	5.	0 0.49	1	06/18/13 14:00	06/20/13 14:03	7439-96-5	
2540C Total Dissolved Solids	Analytical Meth	nod: SM 2540C						
Total Dissolved Solids	<b>711</b> mg/L	5.	0 5.0	1		06/21/13 16:27		



# Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

Sample: 074937-061413-JK-MW4	Lab ID: 60147042	004 Collecte	Collected: 06/14/13 13:46			15/13 11:40 Ma	Matrix: Water			
Parameters	Results Units	Report Limit			Prepared	Analyzed	CAS No.	Qual		
6010 MET ICP, Dissolved Analytical Method: EPA 6010 Preparation Method: EPA 3010										
Manganese, Dissolved	<b>1740</b> ug/L	5.0	0.49	1	06/18/13 14:00	06/20/13 14:06	7439-96-5			
2540C Total Dissolved Solids	Analytical Method: SM 2540C									
Total Dissolved Solids	676 mg/L	5.0	5.0	1		06/21/13 16:27				



# **QUALITY CONTROL DATA**

Project: 0	74937 WILMI	UTH NO 1												
Pace Project No.: 6	0147042													
QC Batch:	MPRP/23127				Analysis Method:			EPA 6010						
QC Batch Method:	Analysis Description:		tion: 6	6010 MET Di										
Associated Lab Samp	les: 60147	042001, 60	147042002	, 60147042	003, 60147	7042004								
METHOD BLANK: 1	206781			N	Aatrix: Wat	ter								
Associated Lab Samp	les: 60147	042001, 60	147042002	, 60147042	003, 60147	7042004								
				Blank	K R	eporting								
Parame	ter		Units	Resul	t	Limit	Analyz	ed	Qualifiers					
Manganese, Dissolved	Ł	ug/L			ND	5.0	5.0 06/20/13 12:56							
LABORATORY CONT	ROL SAMPL	E: 12067	82											
				Spike	LCS	;	LCS	% Re	с					
Parame	ter		Units	Conc.	Resu	llt	% Rec	Limits	s Q	ualifiers				
Manganese, Dissolved	Ł	ug/L		1000		1040	104	80	0-120		-			
MATRIX SPIKE & MA	TRIX SPIKE [	OUPLICATE	E: 12067	83		1206784								
				MS	MSD									
		60146960001		Spike	Spike	MS	MSD	MS	MSD	% Rec		Max		
Parameter		Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Manganese, Dissolved	u t	ıg/L	1840	1000	1000	2630	2640	78	80	75-125	1	20		



## **QUALITY CONTROL DATA**

Project: 0	074937 WILMUT	H NO 1					
Pace Project No.: 6	60147042						
QC Batch:	WET/41976		Analysis M	ethod:	SM 2540C		
QC Batch Method:	SM 2540C		Analysis D	escription:	2540C Total Dis	ssolved Solids	
Associated Lab Samp	oles: 6014704	2001, 601470420	002, 60147042003,	60147042004			
METHOD BLANK:	1209054		Matri	x: Water			
Associated Lab Samp	oles: 6014704	2001, 601470420	002, 60147042003,	60147042004			
			Blank	Reporting			
Parame	eter	Units	Result	Limit	Analyze	d Quali	fiers
Total Dissolved Solids	S	mg/L	N	5 5	5.0 06/21/13 10	6:26	
Total Dissolved Solids	S	mg/L	N	) 5	5.0 06/21/13 10	6:26	
Total Dissolved Solids	-	mg/L 1209055	N		5.0 06/21/13 10	6:26	
	-		Spike	LCS	5.0 06/21/13 10	6:26 % Rec	
	TROL SAMPLE:						Qualifiers
LABORATORY CON	TROL SAMPLE:	1209055	Spike	LCS	LCS	% Rec	Qualifiers
LABORATORY CON	TROL SAMPLE:	1209055 Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
LABORATORY CON	TROL SAMPLE: eter s	1209055 Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
LABORATORY CON Parame Total Dissolved Solids	TROL SAMPLE: eter s	1209055 Units	Spike Conc.	LCS Result 998	LCS % Rec	% Rec Limits	Qualifiers
LABORATORY CON Parame Total Dissolved Solids	TROL SAMPLE: eter s E: 1209056	1209055 Units	Spike Conc. 1000	LCS Result 998	LCS % Rec	% Rec Limits 80-120	Qualifiers



## QUALIFIERS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60147042

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60147042

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60147042001	074937-061413-JK-MW1	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60147042002	074937-061413-JK-MW2	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60147042003	074937-061413-JK-MW3	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60147042004	074937-061413-JK-MW4	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60147042001	074937-061413-JK-MW1	SM 2540C	WET/41976		
60147042002	074937-061413-JK-MW2	SM 2540C	WET/41976		
60147042003	074937-061413-JK-MW3	SM 2540C	WET/41976		
60147042004	074937-061413-JK-MW4	SM 2540C	WET/41976		



## Sample Condition Upon Receipt ESI Tech Spec Client

## WO#:60147042

Client Name: COP- CRA		Optional
Courier: Fed Ex UPS UPS USPS Client Commercia	Pace      Other	Proj Due Date:
Tracking #: 8011 3631 7370 Pace Shipping	Label Used? Yes 🗆 N	Proj Name:
Custody Seal on Cooler/Box Present: Yes D No	ntact: Yes	
Packing Material: Bubble Wrap  Bubble Bags	Foam 🗆 None 🗆	Other Zorc
Thermometer Used: T-1/2 / T-194 Type of Ice:		ples received on ice, cooling process has begun.
Cooler Temperature:	(circle one)	Date and initials of person examining contents: 41513
Temperature should be above freezing to 6°C		contents: <u>41315</u>
Chain of Custody present:	□N/A 1.	
Chain of Custody filled out:	□N/A 2.	
Chain of Custody relinquished:	□n/A 3.	
Sampler name & signature on COC;	□N/A 4.	
Samples arrived within holding time:	□N/A 5.	
Short Hold Time analyses (<72hr):	<sup>−</sup> □N/A 6.	
Rush Turn Around Time requested:		
	⊡n/a <mark>8</mark> .	
Correct containers used:		
Pace containers used:		
Containers intact:	□N/A 10.	
Unpreserved 5035A soils frozen w/in 48hrs?	DHN/A 11.	
Filtered volume received for dissolved tests?	DN/A 12.	
Sample labels match COC:	□ N/A	
Includes date/time/ID/analyses Matrix: WT	13.	
All containers needing preservation have been checked.		
All containers needing preservation are found to be in <b>Compliance with EPA recommendation</b> .	□ <sup>[]</sup> N/A 14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water).	Initial when completed	Lot # of added preservative
Trip Blank present:		J
Pace Trip Blank lot # (if purchased):		P BLANK VOLUME RECENED
Headspace in VOA vials ( >6mm): □Yes □No		
	/ 16.	
Project sampled in USDA Regulated Area:	DINA 17. List State:	
Client Notification/ Resolution: Copy COC to Client?	Y (N) Field Data	Required? Y / N
Person Contacted: Date/Time:		<b>Temp Log</b> : Record start and finish times when unpacking cooler, if >20 min,
Comments/ Resolution:		recheck sample temps
· · · · · · · · · · · · · · · · · · ·	1	Start: 12 Start:
	1. Into	End: 12(2 End:
Project Manager Review:	Date: Cell 112	7 Temp: Temp:

Pace Analytical

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

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	·····							Requested Analysis Filtered (Y/N)	1 N /A	nM bevio	0ther <b>I Analysis Tes</b> EPA 6010 Disso SGT CTDS SGT CTDS		XX	XX	XX				ż				ACCEPTED BY / AFFILIATION	+   Peee			ÿ	6	Sh Kurhhur DATE Signed	(WM/DD/YY)	
	mation:	ePayables	ame:	16.1	1	Alice Flanagan	* 5514, 21		Preservatives		Utpot Methanol NaCH HCI HNO <sup>3</sup> H <sup>3</sup> SO <sup>4</sup>		į					X					ACCEPTI	EBrickett 1					1) compillin	- Jank	5% per month for any invoices not part within 30 days
	Section C Invoice Information	Attention:	Company Name	Address:	Pace Quote Reference:	Pace Project Manager	Pace Profile #:			S	# OF CONTAINER Unpreserved	2	21	12	21			-					TIME	1508				KE	Kelly I	MUM	ir any invoices i
y r			e Brown								H H H H H H H H H H H H H H H H H H H	1 2 4	1245 N	13EE &	1346 &	(SAR)							DATE	E-4-2)				ND SIGNATUF	of SAMPLER:		
2		ews	Kelly Blanchard, Angela Bown, Cassie Brown		6302	40 1			COLLECTED	COMPOSITE COMPOSITE END/GRAB	TIME DATE	0	2 color	Silvino S	Sull of 12		Ŧ						RELINQUISHED BY / AFFILIATION	<ra< td=""><td></td><td></td><td></td><td>SAMPLER NAME AND SIGNATURE</td><td>PRINT Name</td><td></td><td>and agreeing to late charges of</td></ra<>				SAMPLER NAME AND SIGNATURE	PRINT Name		and agreeing to late charges of
1	Section B Required Project Information:	Report To. Christine Mathews	Copy To: Kelly Blanchar	- 7	Purchase Order No: 45176302	Project Name: Wilmuth No 1	Project Number 074937		() () କା ଦା ଆ	See valid codes	MATRIX CODE	10	we 6	N7 6	2 WT C	147							RELINQUISHED	Colla allin 1	2	Sec. 2.	z · J				ce's NET 30 day payment terms
www.pacajabs.com	Section A Set Required Client Information:	MN	6121 Indian School Rd NE, Ste 200	Albequerque, NM-87110	cmathews@craworld.com	(505)884-0672 Fax: (505)884-4932	Requested Due Date/TAT: standard Proj		Section D Valid Matrix Codes Required Client Information <u>MATRIX</u> COI		SAMPLE ID WIFE WIFE AR (A.Z. 0-97) OTHER AR Sample IDS MUST BE UNIQUE TISSUE TS	CTUREST-CCOLUPS-IC-house	いっちん-いいいいい	こうしているようにものので、	074933-061413-JK- MWY	TERP BUANE	A A A A A A A A A A A A A A A A A A A	and the second sec	and the second se	-			ADDITIONAL COMMENTS								"Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1
	Section Required	Company:	Address:		Email To	Phone:	Request				# WELL	-		3	4	5	9	7	60	6	10	= :					F	Page	e 16 o	f 16	1



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

September 27, 2013

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

RE: Project: 074937 WILMUTH NO 1 Pace Project No.: 60153081

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanazan

Alice Flanagan

alice.flanagan@pacelabs.com Project Manager

Enclosures

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





## CERTIFICATIONS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

## **Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219 WY STR Certification #: 2456.01 Arkansas Certification #: 13-012-0 Illinois Certification #: 003097 Iowa Certification #: 118 Kansas/NELAP Certification #: E-10116 Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-13-4 Utah Certification #: KS000212013-3 Illinois Certification #: 003097



## SAMPLE SUMMARY

Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60153081001	GW-074937-091213-CM-MW-1	Water	09/12/13 11:20	09/13/13 08:30
60153081002	GW-074937-091213-CM-MW-2	Water	09/12/13 10:50	09/13/13 08:30
60153081003	GW-074937-091213-CM-MW-3	Water	09/12/13 10:40	09/13/13 08:30
60153081004	GW-074937-091213-CM-MW-4	Water	09/12/13 11:35	09/13/13 08:30
60153081005	GW-074937-091213-CM-DUP	Water	09/12/13 11:25	09/13/13 08:30



## SAMPLE ANALYTE COUNT

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60153081

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60153081001		EPA 6010	NDJ	1
		SM 2540C	RAH	1
60153081002	GW-074937-091213-CM-MW-2	EPA 6010	NDJ	1
		SM 2540C	RAH	1
60153081003	GW-074937-091213-CM-MW-3	EPA 6010	NDJ	1
		SM 2540C	RAH	1
60153081004	GW-074937-091213-CM-MW-4	EPA 6010	NDJ	1
		SM 2540C	RAH	1
60153081005	GW-074937-091213-CM-DUP	SM 2540C	RAH	1



## **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

## Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:September 27, 2013

## General Information:

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

### Hold Time:

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

## Sample Preparation:

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

## Initial Calibrations (including MS Tune as applicable):

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

## Continuing Calibration:

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

## Method Blank:

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

## Laboratory Control Spike:

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

## Matrix Spikes:

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

## Additional Comments:



## **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

## Method: SM 2540C

Description:2540C Total Dissolved SolidsClient:COP Conestoga-Rovers & Associates, Inc. NMDate:September 27, 2013

## General Information:

5 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

## Hold Time:

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

## Method Blank:

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

## Laboratory Control Spike:

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

## Matrix Spikes:

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

## **Duplicate Sample:**

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

## **Additional Comments:**

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



## Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

Sample: GW-074937-091213-CM- MW-1	Lab ID:	60153081001	Collecte	d: 09/12/13	3 11:20	Received: 09/	13/13 08:30 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP	A 3010			
Manganese, Dissolved	921	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 12:51	7439-96-5	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	540C						
Total Dissolved Solids	942	mg/L	5.0	5.0	1		09/18/13 15:49		



## Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

Sample: GW-074937-091213-CM- MW-2	Lab ID:	60153081002	Collecte	d: 09/12/13	3 10:50	Received: 09/	13/13 08:30 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	1450	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 12:53	7439-96-5	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	540C						
Total Dissolved Solids	760	mg/L	5.0	5.0	1		09/18/13 15:49		



## Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

Sample: GW-074937-091213-CM- MW-3	Lab ID:	60153081003	Collecte	d: 09/12/1:	3 10:40	Received: 09/	(13/13 08:30 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	al Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	1650	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 12:55	7439-96-5	
2540C Total Dissolved Solids	Analytica	al Method: SM 2	540C						
Total Dissolved Solids	764	mg/L	5.0	5.0	1		09/18/13 15:49		



## Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

Sample: GW-074937-091213-CM- MW-4	Lab ID:	60153081004	Collecte	d: 09/12/13	3 11:35	Received: 09/	(13/13 08:30 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	6010 Prepa	ration Meth	od: EP/	A 3010			
Manganese, Dissolved	1810	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 12:57	7439-96-5	
2540C Total Dissolved Solids	Analytica	I Method: SM 2	540C						
Total Dissolved Solids	822	mg/L	5.0	5.0	1		09/18/13 15:50		



Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

Sample: GW-074937-091213-CM- DUP	Lab ID:	60153081005	Collecte	d: 09/12/13	3 11:25	Received: 09/	13/13 08:30 Ma	Matrix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
2540C Total Dissolved Solids	Analytica	I Method: SM 25	540C							
Total Dissolved Solids	<b>870</b> r	mg/L	5.0	5.0	1		09/18/13 15:50			



## **QUALITY CONTROL DATA**

Project:	074937 WIL	7 WILMUTH NO 1											
Pace Project No.:	60153081												
QC Batch:	MPRP/243	49		Analys	is Method:	E	PA 6010						
QC Batch Method:	EPA 3010			Analys	is Descript	tion: 60	010 MET Di	ssolved					
Associated Lab San	nples: 601	53081001, 60	0153081002	, 60153081	003, 6015	3081004							
METHOD BLANK:	1256522			N	latrix: Wa	ter							
Associated Lab San	nples: 6015	53081001, 60	0153081002	, 60153081	003, 6015	3081004							
				Blank	R	eporting							
Paran	neter		Units	Result	t	Limit	Analyz	ed	Qualifiers				
Manganese, Dissolv	red	ug/L			ND	5.0	09/20/13	12:26					
LABORATORY CON	ITROL SAMP	LE: 12565	523										
				Spike	LCS	5	LCS	% Re	С				
Paran	neter		Units	Conc.	Resu	ılt	% Rec	Limits	s Q	ualifiers			
Manganese, Dissolv	red	ug/L		1000		973	97	80	)-120				
MATRIX SPIKE & M	ATRIX SPIKE		E: 12565	24		1256525							
				MS	MSD								
		601	53083001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
				<b>-</b>				-					
Paramet	er	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual



## **QUALITY CONTROL DATA**

Project: 074	937 WILMUTH NO 1						
Pace Project No.: 601	53081						
QC Batch: WI	ET/43476	Analysis M	ethod: S	SM 2540C			
QC Batch Method: SN	M 2540C	Analysis De	escription: 2	2540C Total Dis	solved Solids		
Associated Lab Samples	: 60153081001, 601530810	002, 60153081003,	60153081004, 6	60153081005			
METHOD BLANK: 125	5501	Matrix	k: Water				
Associated Lab Samples	60153081001, 601530810	002, 60153081003,	60153081004, 6	60153081005			
		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzeo	d Quali	fiers	
Total Dissolved Solids	mg/L	NE	5.0	0 09/18/13 15	5:47		
LABORATORY CONTRO	DL SAMPLE: 1255502						
_		Spike	LCS	LCS	% Rec	_	
Parameter	Units	Conc.	Result	% Rec	Limits	Qu	alifiers
Total Dissolved Solids	mg/L	1000	952	95	80-120		
SAMPLE DUPLICATE:	1255503						
_		60152910002			Max		
Parameter	Units	Result	Result	RPD	RPD		Qualifiers
Total Dissolved Solids	mg/L	375	5 391	1	4	17	
SAMPLE DUPLICATE:	1255504		_				
Parameter	Units	60153050006 Result	Dup Result	RPD	Max RPD		Qualifiers
Total Dissolved Solids		Kesult 85400			 13	17	
			1 07200	1			



## QUALIFIERS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60153081

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60153081

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60153081001	GW-074937-091213-CM-MW-1	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153081002	GW-074937-091213-CM-MW-2	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153081003	GW-074937-091213-CM-MW-3	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153081004	GW-074937-091213-CM-MW-4	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153081001	GW-074937-091213-CM-MW-1	SM 2540C	WET/43476		
60153081002	GW-074937-091213-CM-MW-2	SM 2540C	WET/43476		
60153081003	GW-074937-091213-CM-MW-3	SM 2540C	WET/43476		
60153081004	GW-074937-091213-CM-MW-4	SM 2540C	WET/43476		
60153081005	GW-074937-091213-CM-DUP	SM 2540C	WET/43476		



## Sample Condition Upon Receipt ESI Tech Spec Client

## WO#:60153081

Client Name: Col CRA NM	Optional
Courier: Fed Ex 🖄 UPS 🗆 USPS 🗆 Client 🖾 Commercial 🖾 Pac	ce 🗆 Other 🗆 🛛 Proj Due Date:
Tracking #: 802368275400 Pace Shipping Label Us	sed? Yes 💋 No 🗆 🛛 Proj Name:
Custody Seal on Cooler/Box Present: Yes 🔀 No 🗆 Seals intact: Ye	es 🖉 No 🗆
Packing Material: Bubble Wrap 🖉 Bubble Bags 🗆 Foam 🗆	None D Other D
	e None Samples received on ice, cooling process has begun.
Cooler Temperature: 1.7 (circle	Date and initials of person examining
Temperature should be above freezing to 6°C	contents: 043 1/13/15 1130
Chain of Custody present:	1.
Chain of Custody filled out: Pres No N/A	2
Chain of Custody relinquished: Yes No N/A	3.
Sampler name & signature on COC;Yes □No □N/A	4.
Samples arrived within holding time: Ares INO IN/A	5
Short Hold Time analyses (<72hr):	6.
Rush Turn Around Time requested:	7.
Sufficient volume: Diva	8.
Correct containers used:	
Pace containers used: ØYes □No □N/A	9.
Containers intact.	10.
Unpreserved 5035A soils frozen w/in 48hrs?	11.
Filtered volume received for dissolved tests?	12.
Sample labels match COC: Dryes No N/A	
Includes date/time/ID/analyses Matrix:	13.
All containers needing preservation have been checked. 27 Yes No N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	14
Exceptions: VOA, coliform, TOC. 0&G, WI-DRO (water),	Initial when Lot # of added preservative
Phenolics     □ res     □ res     □ res       Trip Blank present:     □ Yes     □ No     ☑ N/A	
Pace Trip Blank lot # (if purchased):	15.
Headspace in VOA vials ( >6mm):	
T	16.
Project sampled in USDA Regulated Area:  Yes No Ph/A	M. List State:
Client Notification/ Resolution: Copy COC to Client? Y	N Field Data Required? Y / N
Person Contacted Date/Time:	Temp Log: Record start and finish times when unpacking cooler, if >20 min,
Comments/ Resolution:	recheck sample temps
	Start: 11 2-5 Start:
MAKE	End: 1130 End:
Project Manager Review:	Date (11) Temp: Temp:

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

Page: [ or	REGULATORY AGENCY		L UST CRA L OTHER	Site Location NAM	STATE: NIN	Requested Analysis Filtered (YIN)		nM bevlossiQ	SM 2540C					((83%)		ACCEPTED RY / AFEILIATION DATE TIME SAMPLE CONDITIONS	9/3/5 830 1.7	no t (V) belee	olér (1
Invoice Information: Attention: ePayables	Company Name:	Address:		Pace Project Alice Flanagan Manager.	Pace Profile #: 5514, 21		Preservatives	P SNJEKS	Cther Methanol Machanol HCI HCI H2C0 <sup>4</sup> H2C0 <sup>4</sup> Dhpreserve # OF CONTA	1 1 2	211	110	- 1 8				1320	1. AA	PARTING 1/12
Required Project Information: Report To: Christine Mathews	<ul> <li>Jeff Walker, Angela Bown</li> </ul>		Purchase Order No.: 4517664593	Name: Wilmuth No 1	Project Number. 074937		(fiel of		INT TO XINTAN INT TO XINTAN INT TO XINTAN INT TO XINTAN INT TO XINTAN INT TO XINTAN	6 9-12-13 1120	WT 6 8-1273	N6 9-12-13	M 6 9-12-13/1	N 6 9-12-131125			H d	SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER
Required Client Information: Required Client Information: Report T	6121 Indian School Rd NE, Ste 200 Copy To:	Albequerque, NM 87110	cmathews@craworld.com Purchas	(505)884-0672 Fax: (505)884-4932 Project Name:	Requested Due Date/TAT: standard Project N			BRINKING WATER DW WATER WT WATER WT WATER WT SOUSDLD P SOUSDLD SL OL OL MIFE OL AR AR AR		1-074937-091213-CM-MW-1	6w-074837-091213-CM-MW-0	6W-074937-091213-CM-MW-3	5W-024932-091213-CM-MW-4	EW-074937-091213- CM-DUP			als field filleredo		



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

December 27, 2013

Jeff Walker COP Conestoga-Rovers & Associa 6121 Indian School Rd. NE Ste 200 Albuquerque, NM 87110

RE: Project: 074937 WILMUTH NO 1 Pace Project No.: 60159735

Dear Jeff Walker:

Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanazan

Alice Flanagan

alice.flanagan@pacelabs.com Project Manager

Enclosures

cc: Angela Bown, COP Conestoga-Rovers & Associa Christine Matthews, CRA





## CERTIFICATIONS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

## **Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219 WY STR Certification #: 2456.01 Arkansas Certification #: 13-012-0 Illinois Certification #: 003097 Iowa Certification #: 118 Kansas/NELAP Certification #: E-10116 Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-13-4 Utah Certification #: KS000212013-3 Illinois Certification #: 003097



## SAMPLE SUMMARY

Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

-

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60159735001	GW-074937-121213-CM-MW-1	Water	12/12/13 10:50	12/17/13 09:00
60159735002	GW-074937-121213-CM-MW-2	Water	12/12/13 09:50	12/17/13 09:00
60159735003	GW-074937-121213-CM-MW-3	Water	12/12/13 10:05	12/17/13 09:00
60159735004	GW-074937-121213-CM-MW-4	Water	12/12/13 11:10	12/17/13 09:00
60159735005	GW-074937-121213-CM-DUP	Water	12/12/13 11:15	12/17/13 09:00



## SAMPLE ANALYTE COUNT

 Project:
 074937 WILMUTH NO 1

 Pace Project No.:
 60159735

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60159735001		EPA 6010	TDS	1
		SM 2540C	RAH	1
60159735002	GW-074937-121213-CM-MW-2	EPA 6010	TDS	1
		SM 2540C	RAH	1
60159735003	GW-074937-121213-CM-MW-3	EPA 6010	TDS	1
		SM 2540C	RAH	1
60159735004	GW-074937-121213-CM-MW-4	EPA 6010	TDS	1
		SM 2540C	RAH	1
60159735005	GW-074937-121213-CM-DUP	EPA 6010	TDS	1
		SM 2540C	RAH	1



## **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

## Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:December 27, 2013

## General Information:

5 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, where applicable, with any exceptions noted below.

## Laboratory Control Spike:

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

## Matrix Spikes:

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

## Additional Comments:



## **PROJECT NARRATIVE**

Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

## Method: SM 2540C

Description:2540C Total Dissolved SolidsClient:COP Conestoga-Rovers & Associates, Inc. NMDate:December 27, 2013

## General Information:

5 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

## Hold Time:

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

## Method Blank:

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

## Laboratory Control Spike:

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

## Matrix Spikes:

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

## **Duplicate Sample:**

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

## **Additional Comments:**

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



Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

Sample: GW-074937-121213-CM- MW-1	Lab ID: 601	59735001	Collected: 12/1	2/13 10:5	0 Received: 12	2/17/13 09:00	Matrix: Water	
Parameters	Results	Units	Report Limi	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Mether	nod: EPA 601	0 Preparation M	ethod: EF	PA 3010			
Manganese, Dissolved	<b>1.1</b> mg	g/L	0.005	0 1	12/18/13 13:30	12/27/13 13:53	3 7439-96-5	
2540C Total Dissolved Solids	Analytical Mether	nod: SM 2540	C					
Total Dissolved Solids	<b>930</b> mg	g/L	5	0 1		12/18/13 15:05	5	



Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

Sample: GW-074937-121213-CM- MW-2	Lab ID: 601	59735002	Collected: 12/12/	13 09:50	Received: 12	2/17/13 09:00 I	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Met	hod: EPA 601	0 Preparation Met	hod: EP/	A 3010			
Manganese, Dissolved	<b>1.3</b> m	g/L	0.0050	1	12/18/13 13:30	12/27/13 14:00	) 7439-96-5	
2540C Total Dissolved Solids	Analytical Met	hod: SM 2540	C					
Total Dissolved Solids	<b>747</b> m	g/L	5.0	1		12/18/13 15:06	3	



Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

Sample: GW-074937-121213-CM- MW-3	Lab ID: 6015	59735003	Collected: 12/12/2	13 10:05	Received: 12	/17/13 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Meth	od: EPA 60	10 Preparation Met	hod: EPA	A 3010			
Manganese, Dissolved	<b>1.5</b> mg	/L	0.0050	1	12/18/13 13:30	12/27/13 14:02	2 7439-96-5	
2540C Total Dissolved Solids	Analytical Meth	od: SM 254	0C					
Total Dissolved Solids	<b>756</b> mg	/L	5.0	1		12/18/13 15:06	6	



Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

Sample: GW-074937-121213-CM- MW-4	Lab ID: 60159	9735004	Collected: 12/12/1	3 11:10	Received: 12	2/17/13 09:00 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Metho	od: EPA 601	0 Preparation Meth	nod: EPA	A 3010			
Manganese, Dissolved	<b>1.2</b> mg/	L	0.0050	1	12/18/13 13:30	12/27/13 14:04	7439-96-5	
2540C Total Dissolved Solids	Analytical Metho	od: SM 2540	)C					
Total Dissolved Solids	<b>776</b> mg/	L	5.0	1		12/18/13 15:07		



Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

Sample: GW-074937-121213-CM- DUP	Lab ID: 6015	9735005	Collected: 12/12/1	3 11:15	Received: 12	/17/13 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Metho	od: EPA 601	0 Preparation Met	nod: EP/	A 3010			
Manganese, Dissolved	<b>1.2</b> mg/	Ľ	0.0050	1	12/18/13 13:30	12/27/13 14:07	7439-96-5	
2540C Total Dissolved Solids	Analytical Metho	od: SM 2540	C					
Total Dissolved Solids	<b>795</b> mg/	Ľ	5.0	1		12/18/13 15:07		



## **QUALITY CONTROL DATA**

Project:	074937 WIL	MUTH NO 1											
Pace Project No.:	60159735												
QC Batch:	MPRP/256	48		Analys	sis Method	: E	PA 6010						
QC Batch Method:	EPA 3010			Analys	sis Descrip	tion: 6	010 MET Di	ssolved					
Associated Lab Sar	nples: 6015	59735001, 60	0159735002	, 60159735	5003, 6015	9735004, 6	6015973500	5					
METHOD BLANK:	1307870				Matrix: Wa	ter							
Associated Lab Sar	nples: 6015	59735001, 60	0159735002	, 60159735	5003, 6015	9735004, 6	015973500	5					
				Blan	k R	eporting							
Paran	neter		Units	Resu	lt	Limit	Analyz	ed	Qualifiers				
Manganese, Dissolv	ved	mg/L			ND	0.0050	) 12/27/13	13:33					
LABORATORY CO	NTROL SAMP	PLE: 13078	371										
Deve			Linite	Spike	LCS		LCS	% Red					
Paran	neter	·	Units	Conc.	Resu		% Rec	Limits		ualifiers	-		
Manganese, Dissolv	ved	mg/L		1		0.94	94	80	)-120				
MATRIX SPIKE & M	ATRIX SPIKE		E: 13078	72		1307873							
				MS	MSD								
		601	59732001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramet	ter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual



## **QUALITY CONTROL DATA**

Project: 074937 WILMUT	TH NO 1					
Pace Project No.: 60159735						
QC Batch: WET/45205		Analysis Me	ethod:	SM 2540C		
QC Batch Method: SM 2540C		Analysis De	scription:	2540C Total Dis	solved Solids	
Associated Lab Samples: 6015973	35001, 6015973500	2, 60159735003,	60159735004,	60159735005		
METHOD BLANK: 1307730		Matrix	: Water			
Associated Lab Samples: 6015973	35001, 6015973500	2, 60159735003,	60159735004,	60159735005		
		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	d Qualif	iers
Total Dissolved Solids	mg/L	ND	5	0 12/18/13 15	5:05	
LABORATORY CONTROL SAMPLE:	1307731					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	960	96	80-120	
SAMPLE DUPLICATE: 1307732						
SAMPLE DUPLICATE: 1307732		60159735001	Dup		Мах	
SAMPLE DUPLICATE: 1307732 Parameter	Units	60159735001 Result	Dup Result	RPD	Max RPD	Qualifiers



## QUALIFIERS

Project: 074937 WILMUTH NO 1

Pace Project No.: 60159735

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074937 WILMUTH NO 1 35

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60159735001	GW-074937-121213-CM-MW-1	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159735002	GW-074937-121213-CM-MW-2	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159735003	GW-074937-121213-CM-MW-3	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159735004	GW-074937-121213-CM-MW-4	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159735005	GW-074937-121213-CM-DUP	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159735001	GW-074937-121213-CM-MW-1	SM 2540C	WET/45205		
60159735002	GW-074937-121213-CM-MW-2	SM 2540C	WET/45205		
60159735003	GW-074937-121213-CM-MW-3	SM 2540C	WET/45205		
60159735004	GW-074937-121213-CM-MW-4	SM 2540C	WET/45205		
60159735005	GW-074937-121213-CM-DUP	SM 2540C	WET/45205		



## Sample Condition Upon Receipt ESI Tech Spec Client

## WO#:60159735

Client Name: CoPCRA			Optional
Courier: Fed Exter UPS USPS Client	Commercial 🗆 Pa	ace 🗆 Other 🗆	
Tracking #: 803974916674	Pace Shipping Label U		Proj Due Date:
	lo  Seals intact:	· · · · ·	Proj Name:
Packing Material: Bubble Wrap  Bubble			Other & ZPIL
Thermometer Used: 7-239 / T-194			received on ice, cooling process has begun.
Cooler Temperature: 7.6			te and initials of person examining
Temperature should be above freezing to 6°C		CO	ntents: <u>101 pr(2/11/13</u>
Chain of Custody present:	Yes DNO DN/A	1.	
Chain of Custody filled out:		2.	
Chain of Custody relinquished:		3	
Sampler name & signature on COC:		4.	
Samples arrived within holding time:	Yes DNO DN/A	5.	
Short Hold Time analyses (<72hr):		6.	
Rush Turn Around Time requested:		7.	
Sufficient volume:		8.	
Correct containers used:			
Pace containers used:		9.	
Containers intact:		10.	
Unpreserved 5035A soils frozen w/in 48hrs?		11.	
Filtered volume received for dissolved tests?		12.	
Sample labels match COC:			
Includes date/time/ID/analyses Matrix:	bT	13.	
All containers needing preservation have been checked.			
All containers needing preservation are found to be in compliance with EPA recommendation.		14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	TYes INO	Initial when completed	Lot # of added preservative
Trip Blank present:		Completed	preservative
Pace Trip Blank lot # (if purchased):	1	15.	
Headspace in VOA vials ( >6mm):			
		16.	
Project sampled in USDA Regulated Area:		17. List State	
	COC to Client? Y	N Field Data Reg	juired? Y / N
Person Contacted:	Date/Time:		Temp Log: Record start and finish times
Comments/ Resolution:			when unpacking cooler, if >20 min, recheck sample temps.
			Start: //05 Start:
nnx		12/20/2	End: /108 End:
Project Manager Review:		Date:	Temp: Temp:

					12	11	10	9	09	7	6	cn	4	w	N	4	ITEM #				Reque	Phone:	Email To:		Address	Company:	Requir	Section A
				~								GW-0	K-Me)	500-0	10-MIS	200-072	Sample <b>S</b>	Required Client Information	Section D		Requested Due Date/TAT:	(505)		Albe			Client	on A
				ADDITIONAL COMMENTS								27493	20410	14937	4437	074937-	SAMPLE ID (A-Z, 0-9/) Sample IDs MUST BE UNIQUE	ent Informat			e/TAT:	-0672	cmathews@craworld.com	Albequerque, NM 87110	6121 Indian School Rd NE,	COP CRA NM	rmation:	
	1	- 6		L COMME			3					7-12	212	-121	-1212	21213		ión			standard	Fax: (	craworld	, NM 8	School I	Z		
				INTS		-	20				2	1213	12130	No.	213-6	N-5		9 M	<		4	Fax: (505)884-4932	l.com	7110	Rd NE,			
		1					T)				u,	CM)	1-1-1	my	1-0	P-M	WATER PRODUCT SOLLSOLD OIL WIPE AIR OTHER TISSUE	MATRIX DRINKING WA	Valid Matrix Codes			1-4932			, Ste 200			
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			10L	RELINQUISHED BY LAFFILLATION			_					240	D L	ALL C	MB	NIG	MATRIX CODE (see valid code SAMPLE TYPE (G=GRAB C=4	_	-				rder No.		Jeff Walker, Angela Bown	Christi	roject Int	
			WW	JISHED										~			D.	T	-	014901	7007	Wilmuth No 1			alker, /	ne Mat	ormatior	
	S		AND.	BYLAE	-			-		_	_	_					START					No 1	4517664593		Angela	hews	2	
	AMPLE	-	100/	FILIATIO													TIME	COLL					8		Bown			
PRINT Name of SAMPLER:	SAMPLER NAME AND SIGNATURE		XH	N Co							1.1	12/12/	2 2	2/12	222	22	DATE	COLLECTED										
ame of S	AND		1								9	H	1 2	3	1	i.	/GRAB											
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P	3		TI	TIME								12	2	10	1	12	Unpreserved	-	-	ave F 101	Manager:	Pace Project	ice Quo	Address	Company Name:	Attention:	Invoice Information:	Section C
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1-5	5			CCEP					-	-							Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol	es.			- Series							
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. by signing one room you are accepting Mace's NET 30 gay ment terms and agreeing to late charges of 1.5% per month to any involces not paid within 30 days.

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