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ConocoPhillips

Mr. Randolph Bayliss, P. E.
District III & IV Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

March 21, 2017

**Re: NMOCD Case No. 3R-425, 2016 Annual Groundwater Monitoring Report**

Dear Mr. Bayliss:

Enclosed is the 2016 Annual Groundwater Monitoring Report for the San Juan 29-7 Unit 37 site. This report, prepared by GHD Services, Inc., contains the results of groundwater monitoring activities in 2016.

Please let me know if you have any questions.

Sincerely,

Joseph B. Crouch

J. Brady Crouch

Enc

# 2016 Annual Groundwater Monitoring Report

ConocoPhillips San Juan 29-7 Unit 37
Rio Arriba County, New Mexico
API# 30-039-07643
NMOCD# 3R-425

ConocoPhillips Company

**GHD** | 6121 Indian School Rd NE Suite 200 Albuquerque NM 87110 USA

075034| 5MN00| Report No 8 | March 21, 2017

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# Table Index



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# 1. Introduction

This report presents the results of 2016 groundwater monitoring activities conducted on behalf of ConocoPhillips Company (ConocoPhillips) by GHD Services, Inc. (GHD) at the San Juan 29-7 Unit 37 natural gas well (Site). The Site is located within Unit Letter N, Section 12, Township 29N, Range 7W, Rio Arriba County, New Mexico (Latitude: 36.73552N; Longitude: 107.52488W) (Figure 1). This report summarizes the groundwater data that were collected during four quarterly events in 2016.

## 1.1 Site History

The Site is located on private land leased by ConocoPhillips. The well is currently operated by Burlington Resources Oil and Gas Company LP, a wholly owned subsidiary of ConocoPhillips. A Site detail map is included as Figure 2.

ConocoPhillips discovered a leaking inspection plate gasket on the above ground condensate tank on August 26, 2010. Approximately 23 barrels of condensate were released and fully contained within the berm; however, no liquids were recovered. The release was immediately reported to the New Mexico Oil Conservation Division (NMOCD) with a C-141 Release Notification and Corrective Action form, filed by ConocoPhillips on September 16, 2010.

Site characterization activities were conducted at the Site in 2010 and 2011 to delineate soil and groundwater impacted by a release that occurred from an above ground condensate tank. The Site characterization indicated hydrocarbon impacts from the release that exceeded New Mexico Water Quality Control Commission (NMWQCC) standards, including benzene, toluene and total xylenes in groundwater and total benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH) in the vadose zone soil. Soil impacts were delineated in the area of the release to a maximum depth of approximately 130 feet below ground surface (bgs). Groundwater was impacted in the immediate area of the release and extended to approximately 60 feet down gradient from the release. A total of 18 soil borings and eight monitoring wells have been utilized to characterize and monitor subsurface soil and groundwater conditions. Soil and groundwater impacts at the Site were treated in 2012 with a chemical oxidant.

## 1.2 Site Setting

The Site is located in Rio Arriba County, New Mexico, on privately owned ranch land. The elevation at the Site is approximately 6,292 feet above mean sea level (amsl).

The Tertiary aged San Jose Formation crops out as sandstone bluffs visible to the north and south of the Site and locally reaching an elevation of approximately 6,652 feet amsl.

Subsurface soils at the Site consist primarily of silts inter bedded with fine sands and clays. Groundwater is located at approximately 110 feet (ft) below ground surface (bgs) and locally flows towards the south southwest.

## 1.3 Summary of Previous Investigations

Following the discovery of the release, approximately 5,100 cubic yards (cy) of soil was excavated from the Site between September 24, 2010 and January 3, 2011. The excavation measured approximately 70 ft by 120 ft by 30 ft deep (Figure 2). The horizontal and vertical extent of the hydrocarbon impacted area was not completely determined at that time. For practical and safety reasons and due to limitations posed by surface structures, the southern extent of the excavation and the vertical extent of the excavation were halted at approximately 30 ft bgs. At completion of the excavation approximately 3,444 cy of hydrocarbon impacted soil had been removed and transported to the Industrial Ecosystems, Incorporated landfarm located in Aztec, New Mexico. The excavation was subsequently backfilled with clean soil.

To further delineate vertical impacts of the release, Tetra Tech Inc. sampled subsurface soils in the impacted area and in close proximity to the release point between January 12 and 14, 2011 (Site Details Map, Figure 2). Impacts were noted in the soil above the NMOCD recommended field screening level for organic vapors (100 parts per million (ppm)) from 30 ft bgs to the total depth of the soil boring at 129.5 ft bgs. All analytical results for soil samples collected from boring B-1 were below the NMOCD recommended remediation action levels (RRALs) with the exception of the sample collected from 30 to 32 ft bgs that had a total BTEX concentration and total TPH concentration exceeding the RRALs for total BTEX and TPH at 50 mg/kg and 100 mg/kg, respectively.

Analytical results from the groundwater sample collected from the open borehole, B 1, indicated BTEX in groundwater above the NMWQCC standard.

Tetra Tech advanced two additional soil borings, B-2 and B-3 (Figure 2), between February 28 and March 4, 2011, near the center of the previously excavated area and also installed monitoring wells, MW-1 through MW-4, at the Site.

Field screening of B-2 soil samples indicated soil impacts above the NMOCD RRAL of 100 ppm. The total BTEX concentration of 122.5 mg/kg also exceeded the NMOCD RRAL from 45 to 47 feet bgs in boring B-2.

Field screening of soil samples collected from B-3 showed no signs of hydrocarbon impacts to a total depth of 57 ft bgs. No samples were collected for laboratory analysis from B-3 since no hydrocarbon impacts were observed during field screening activities and groundwater was not encountered.

Monitoring well MW-1 was installed approximately 20 ft south of B-2 due to the elevated organic vapors encountered in B 2,. The analytical results for this well from the March 2011 groundwater sampling event indicated that only benzene was detected above the NMWQCC standard at a concentration of 0.066 mg/L. Three additional monitoring wells, MW-2, MW-3 and MW-4, were installed at the Site (Figure 2). None of these monitoring wells showed any detection of hydrocarbon constituents above the NMWQCC groundwater quality standards.

Eleven soil borings and four monitoring wells were installed by GHD at the Site from September 2011 to October 2011 to further evaluate Site conditions and to delineate areas for remediation (Figure 2). The network of monitoring wells now consisted of MW-1 and MW-8 within

the release area, MW-4 and MW-7 up gradient of the release area, and MW-2, MW-3, MW-5 and MW-6 down gradient of the release area.

Field screening of soil samples and laboratory results indicated impacts (organic vapors exceeding 100 ppm) in the immediate area of the release to depths ranging from 40 feet bgs to 110 feet bgs. Soil analytical results indicated Total BTEX and TPH above the NMOCD RRALs in four of the borings, B-4, B-5/MW-8, and B-8, which are located within the excavation area and one boring, B-10, located approximately 10 feet south of the excavation. In addition, soil boring B-6/MW-6 located approximately 60 feet southeast of the excavation indicated the TPH concentration above the NMOCD RRAL.

During this portion of the Site characterization, groundwater was encountered at approximately 110 feet bgs, which is consistent with groundwater levels encountered during previous phases of the site characterization. The groundwater flow direction was determined to be towards the south southwest. The analytical results for groundwater indicated that the benzene concentrations exceeded the NMWQCC standard at three locations (MW-1, MW-6 and MW-8). Toluene and total xylenes concentrations exceeded the standards at one location (MW-8).

For in situ site remediation activities, GHD retained DeepEarth Technologies, Inc. (DTI) to implement the Cool Ox™ Technology, a patented in situ process that uses a solution of calcium peroxide that generates a slow release of hydrogen peroxide and facilitates the oxidation of petroleum hydrocarbons.

From December 2011 to February 2012, the Cool Ox™ solution was injected in the area shown in Figure 2. DTI utilized a direct push technology (DPT) drill rig supported by DTI's mixing and injection trailer (the Deep Shot RigTM) to advance temporary 1.5 inch diameter injection points.

Approximately 52,889 gallons of solution were injected into the subsurface soil and groundwater using 93 injection points space approximately 8 feet in an approximate area of 5,950 square feet (70 feet x 85 feet) to treat approximately 8,815 yd3 of impacted soil. The injection process generally began at 30 feet bgs and continued to the depth that was assessed during the investigative phase. The depth of vadose zone soil impacts that were delineated during the investigative phase varied from 40 feet bgs to top of groundwater, which was encountered at approximately 110 feet bgs. In addition to groundwater treatment using the direct push rig, approximately 8,000 gallons of the solution was directly injected into groundwater monitoring wells MW-1, MW-6, MW-7 and MW-8.

To evaluate the effectiveness of the Cool Ox™ treatment, subsurface soil and groundwater conditions were analyzed at the Site after the treatment. Groundwater samples were collected and analyzed on a quarterly basis (February 2012, June 2012, September 2012, and January 2013). The subsurface soil was sampled in the area of the Cool Ox™ treatment by advancing five soil borings in August 2012.

A more thorough discussion of the Cool Ox™ treatment site activities can be found in the April 2013 Conestoga Rovers and Associates Subsurface Remediation and Annual Groundwater Monitoring Report.

Monitoring well MW-8 was plugged and abandoned by National Exploration, Wells, and Production (EWP) of Peralta, New Mexico on July 16, 2013 because of damaged casing. National EWP installed a replacement monitoring well MW-8R directly adjacent to the MW-8 location.

# 2. Groundwater Monitoring Summary

Groundwater sampling events were conducted at the Site on March 29, June 21, September 7, and December 2, 2016. Prior to collection of groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8R, depth to groundwater in each well was measured using an oil/water interface probe. Groundwater elevations are detailed in Table 1. Groundwater potentiometric surface maps from quarterly 2016 data are presented as Figures 3, 4, 5, and 6, respectively. The groundwater potentiometric surface elevations have been consistent with little variability by season and throughout the history of monitoring the wells at the Site. Generally, groundwater was encountered across the Site at approximately 108 feet bgs.

For all of these monitoring periods, the groundwater flow at the site was towards the south-southwest at an average 0.002 feet per foot gradient, consistent with historical results.

## 2.1 Groundwater Monitoring Methodology

Prior to sampling, at least three well volumes were purged from Site monitoring wells with a Monsoon™ submersible pump or a dedicated, polyethylene, 1.5 inch disposable bailer. Purge water was placed in the on Site produced water tank. While purging each well, groundwater parameter data including temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential were collected using a multi parameter Sonde. Field parameters are summarized on Table 2. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace Analytical Services, Inc. of Lenexa, KS for analysis.

Groundwater samples were analyzed for the presence of BTEX by EPA method 8260, dissolved manganese and selenium by EPA method 6010, nitrate (as nitrogen) by EPA method 353.2, sulfate by EPA method 300.0, and total dissolved solids (TDS) by method SM 2540C. A summary of analytical results is presented in Table 3. Completed groundwater laboratory analytical results are presented in Appendix A.

## 2.2 Groundwater Monitoring Analytical Results

The NMWQCC regulates groundwater quality in New Mexico under Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use.

A groundwater inorganic concentration map and a groundwater hydrocarbon concentration map are included as Figures 7 and 8, respectively. Groundwater concentrations above NMWQCC standards during the 2016 sampling events are discussed below:

### *Hydrocarbons*

- BTEX: Benzene in groundwater of monitoring well MW-8R was detected at concentrations above NMWQCC standards during all 2016 sampling events. Toluene and xylenes were detected in MW-8R above NMWQCC standards during he September 2016 monitoring event. No BTEX constituents were detected in groundwater above laboratory detection limits in any of the other Site wells during 2016.

### *Inorganics*

- TDS and sulfate were detected in groundwater of all Site monitoring wells at concentrations above NMWQCC standards during all 2016 sampling events, including in up-gradient monitoring well MW-4. Manganese was detected in groundwater of monitoring wells MW-1, MW-3, MW-5 and MW-8R for all or some of the 2016 sampling events. Nitrate was detected in groundwater of monitoring wells MW-2, MW-3, MW-6, MW-7 and MW-8R for all or some of the 2016 sampling events. Dissolved selenium was detected in groundwater of monitoring well MW-2 for four of the 2016 sampling events.

Both inorganic and BTEX constituents by quarter for 2016 are depicted on Figures 7 and 8. Complete laboratory analytical reports are also presented in Appendix A to this annual report.

# 3. Conclusions and Recommendations

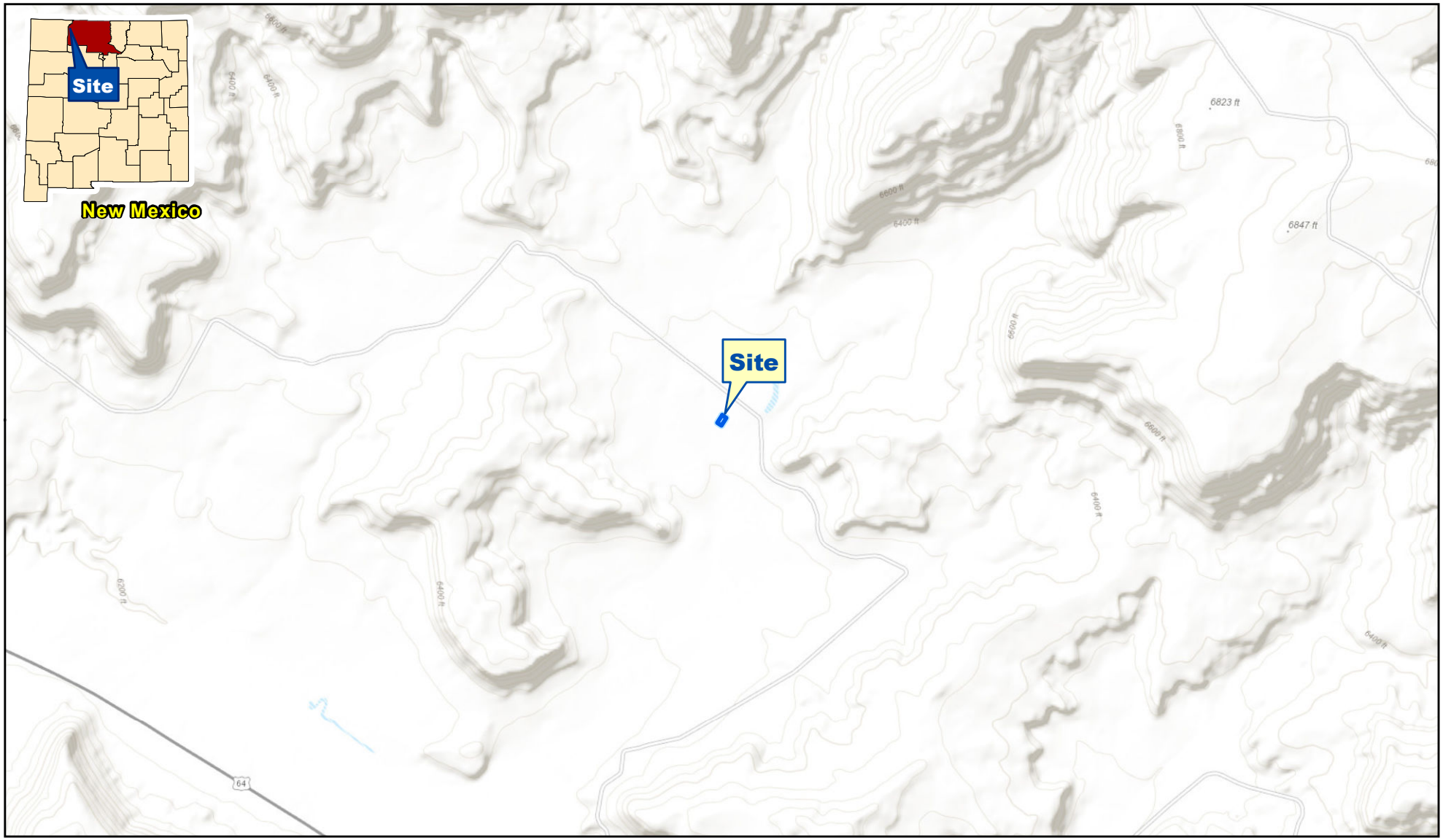
Groundwater samples collected from replacement monitoring well MW-8R continue to exceed NMWQCC standards for BTEX constituents. Groundwater samples from Site monitoring wells also continue to exceed NMWQCC standards for inorganic constituents including dissolved manganese, dissolved selenium, nitrate, sulfate, and TDS.

Monitoring well MW-4 is located up gradient of the hydrocarbon release area and therefore can be considered to represent background conditions. Sulfate and TDS concentrations in groundwater samples collected from this well consistently exceed NMWQCC standards. Sulfate and TDS concentrations in down gradient monitoring wells are within the same order of magnitude as the background concentrations.

All Site monitoring wells, with the exception of MW-8R, have displayed at least eight consecutive quarters of BTEX concentrations below the NMWQCC standards and therefore discontinuation of analysis for BTEX constituents in these wells is recommended.

BTEX constituents in monitoring wells downgradient from MW-8R (MWs-2,3,5 and 6) have not been detected in over 5 years and indicating the plume of BTEX in groundwater of MW-8R is stable and confined to the immediate vicinity of this well. This observation, coupled with the presence of inorganic constituents that are likely naturally occurring, ubiquitous throughout the San Juan Basin, it is recommended this Site be moved to annual sampling schedule for monitored natural attenuation.

# Figures




Source: ESRI World Topographic Maps.

0 1,000 2,000
Feet

Coordinate System:
NAD 1983 UTM Zone 13N

N

GHD

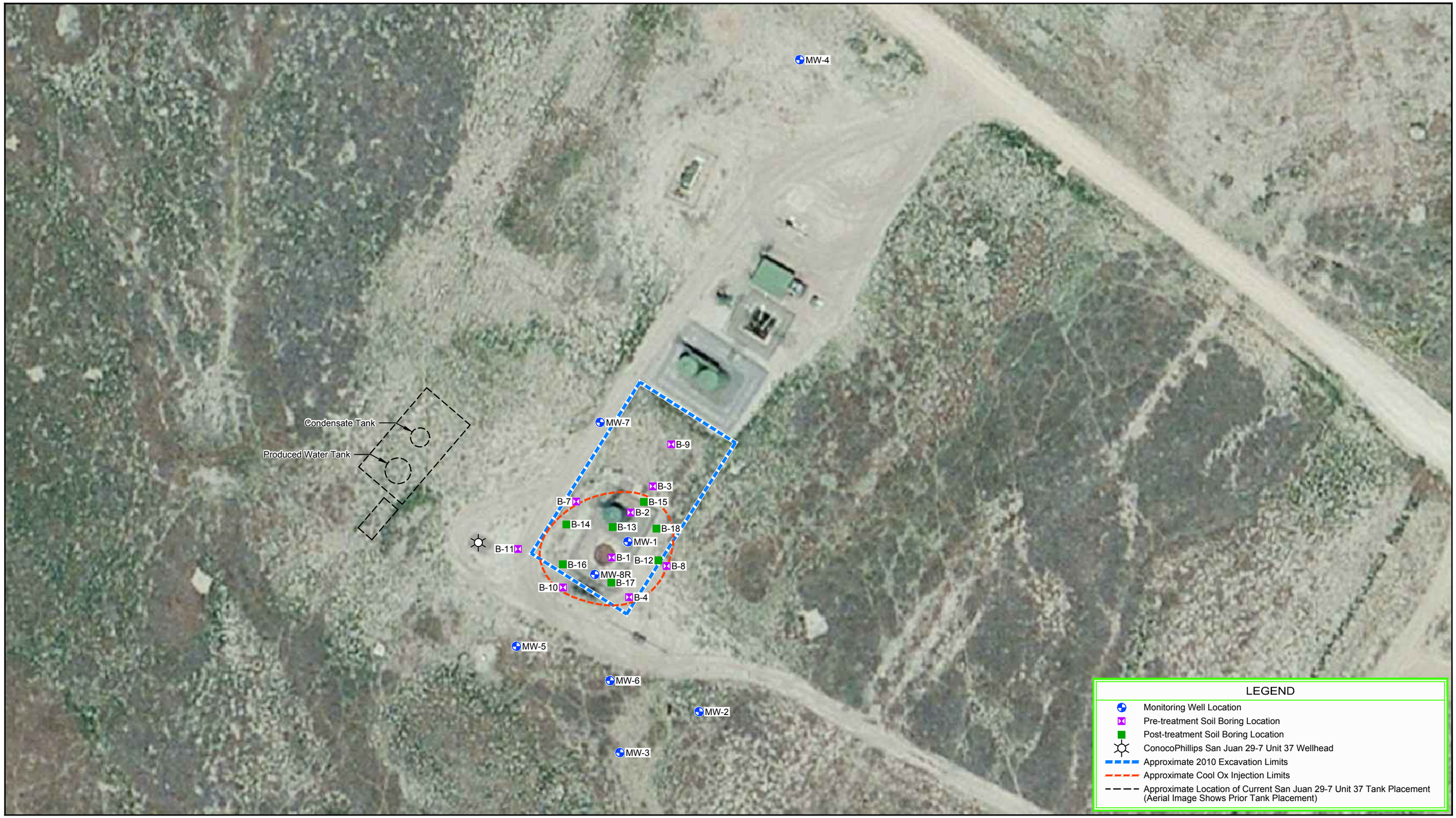
CONOCOPHILLIPS COMPANY
SAN JUAN 29-7 UNIT 37, NATURAL GAS WELL SITE
UNIT LETTER N. SEC 12, T29N, R07W, RIO ARRIBA COUNTY, NEW MEXICO

Dec 23, 2015

# VICINITY MAP

FIGURE 1

GIS File: J:\GIS\Client Project Data Library\ConocoPhillips\San Juan 29-7 Unit 37\Vicinity Maps\San Juan 29-7 Unit 37 - Vicinity Map.mxd

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0 30 60ft

Coordinate System:
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SAN JUAN 29-7 UNIT 37, NATURAL GAS WELL SITE

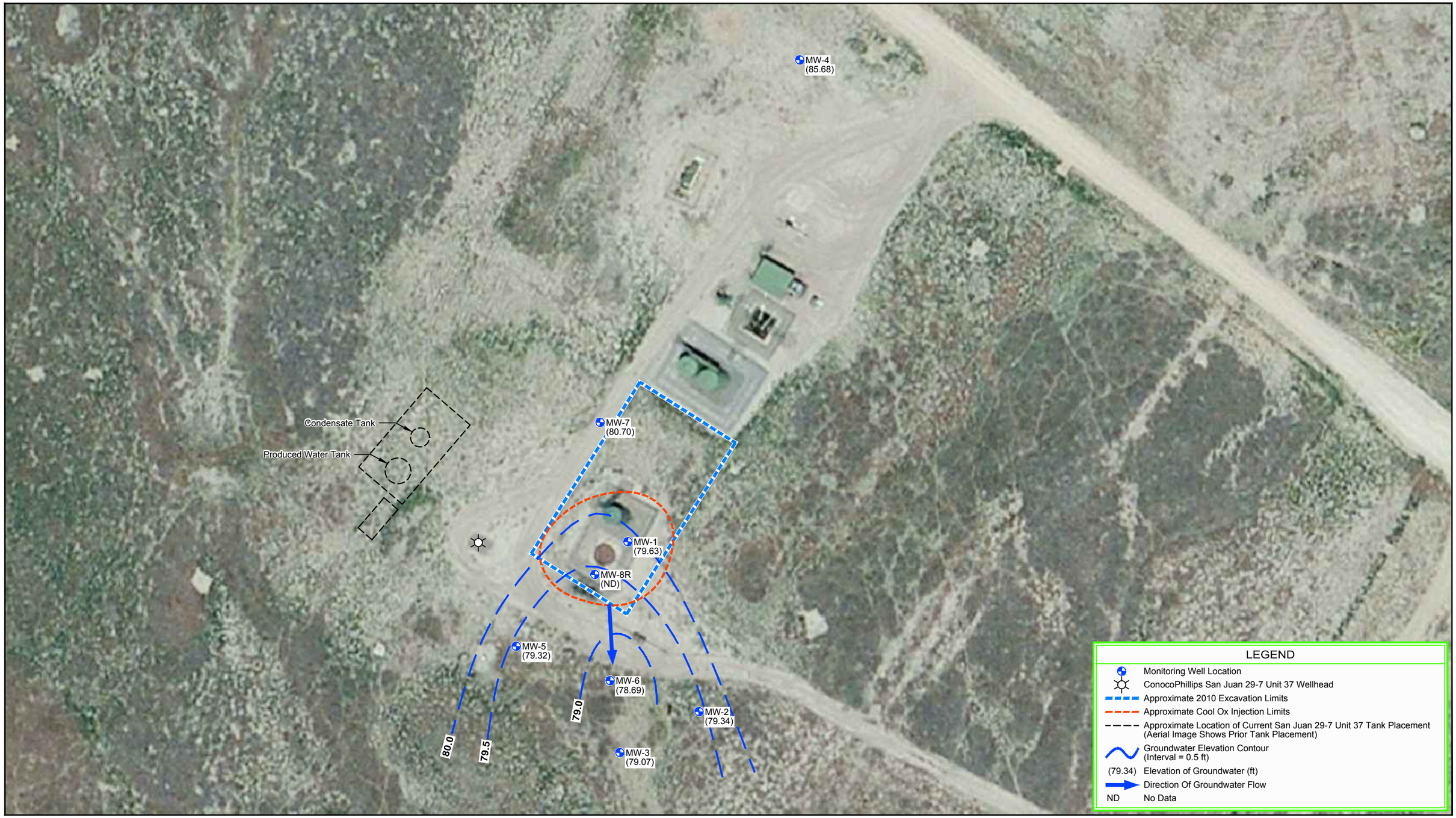
075034-00

Feb 13, 2017

SITE DETAILS MAP

FIGURE 2

CAD File: I:\CAD\Files\07----\075---\075034-CoPSan Juan\075034-00(xxx)GN-DL001.dwg

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# GROUNDWATER POTENTIOMETRIC SURFACE MAP - MARCH 2016

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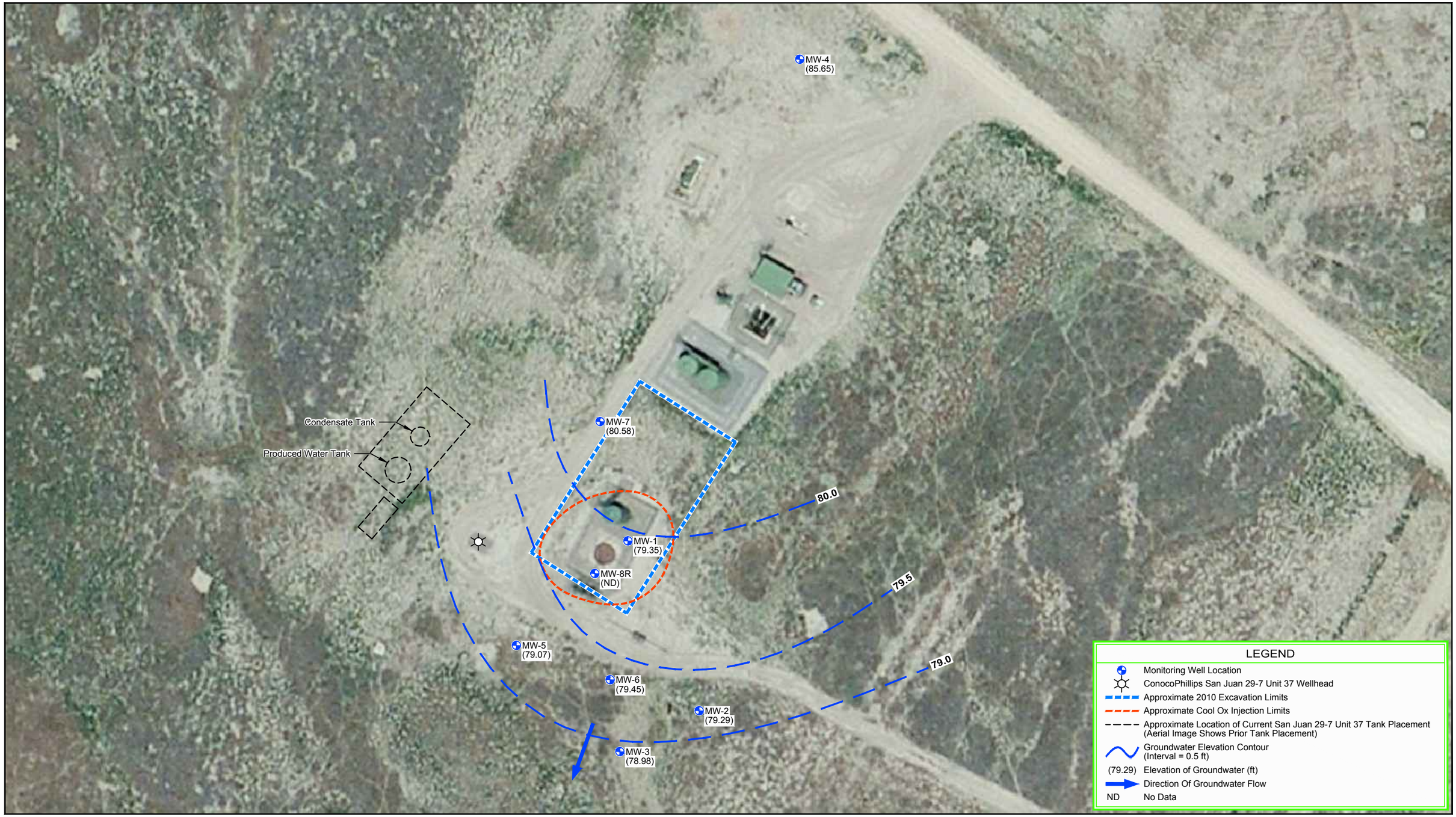
FIGURE 3

CAD File: I:\CAD\Files\07----\075---\075034-CoPSan Juan\075034-00(xxx)GN-DL001.dwg

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# GROUNDWATER POTENTIOMETRIC SURFACE MAP - JUNE 2016

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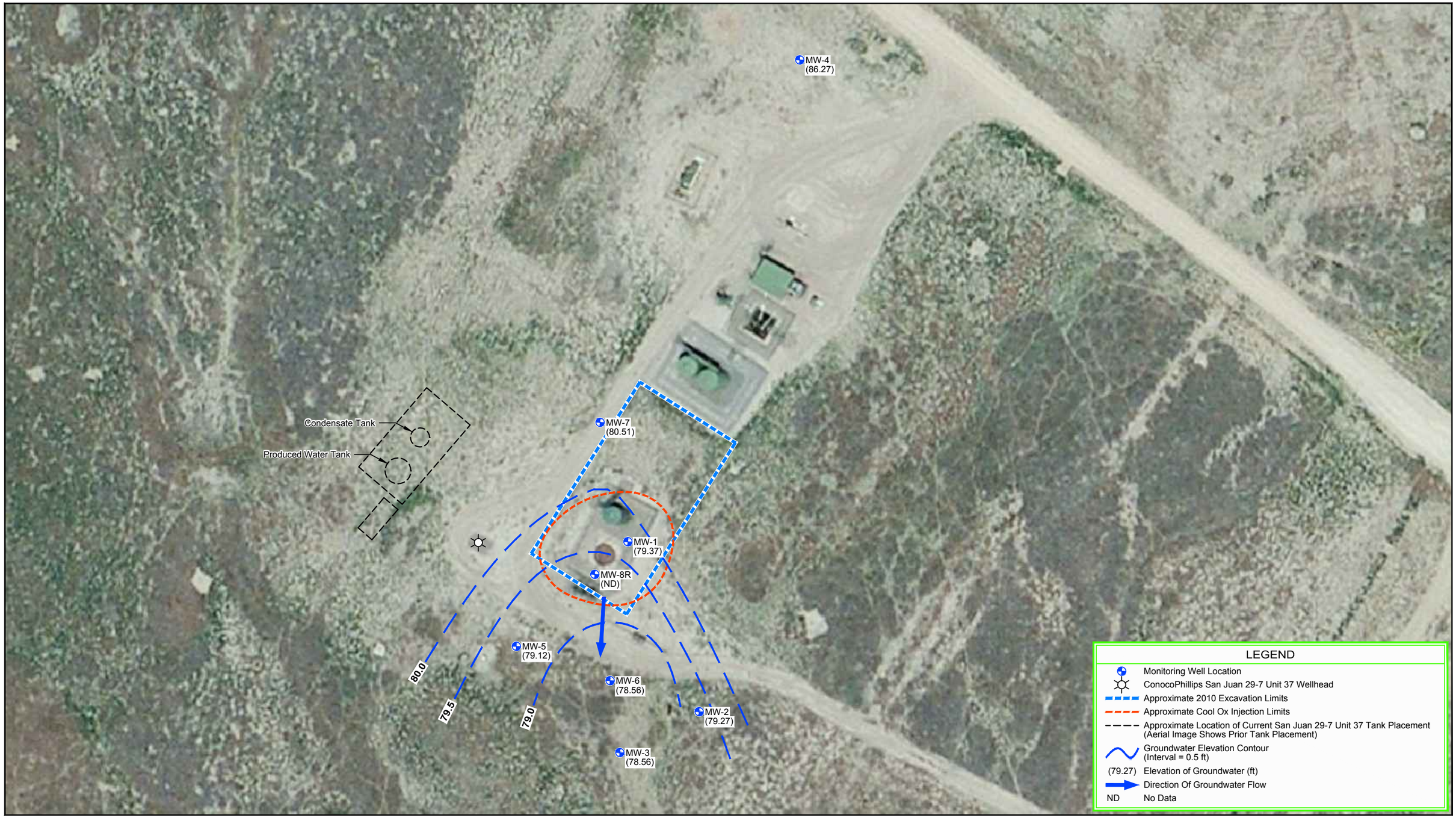
FIGURE 4

CAD File: I:\CAD\Files\07----\075---\075034-CoPSan Juan\075034-00(xxx)GN-DL001.dwg

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# GROUNDWATER POTENTIOMETRIC SURFACE MAP -

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FIGURE 5

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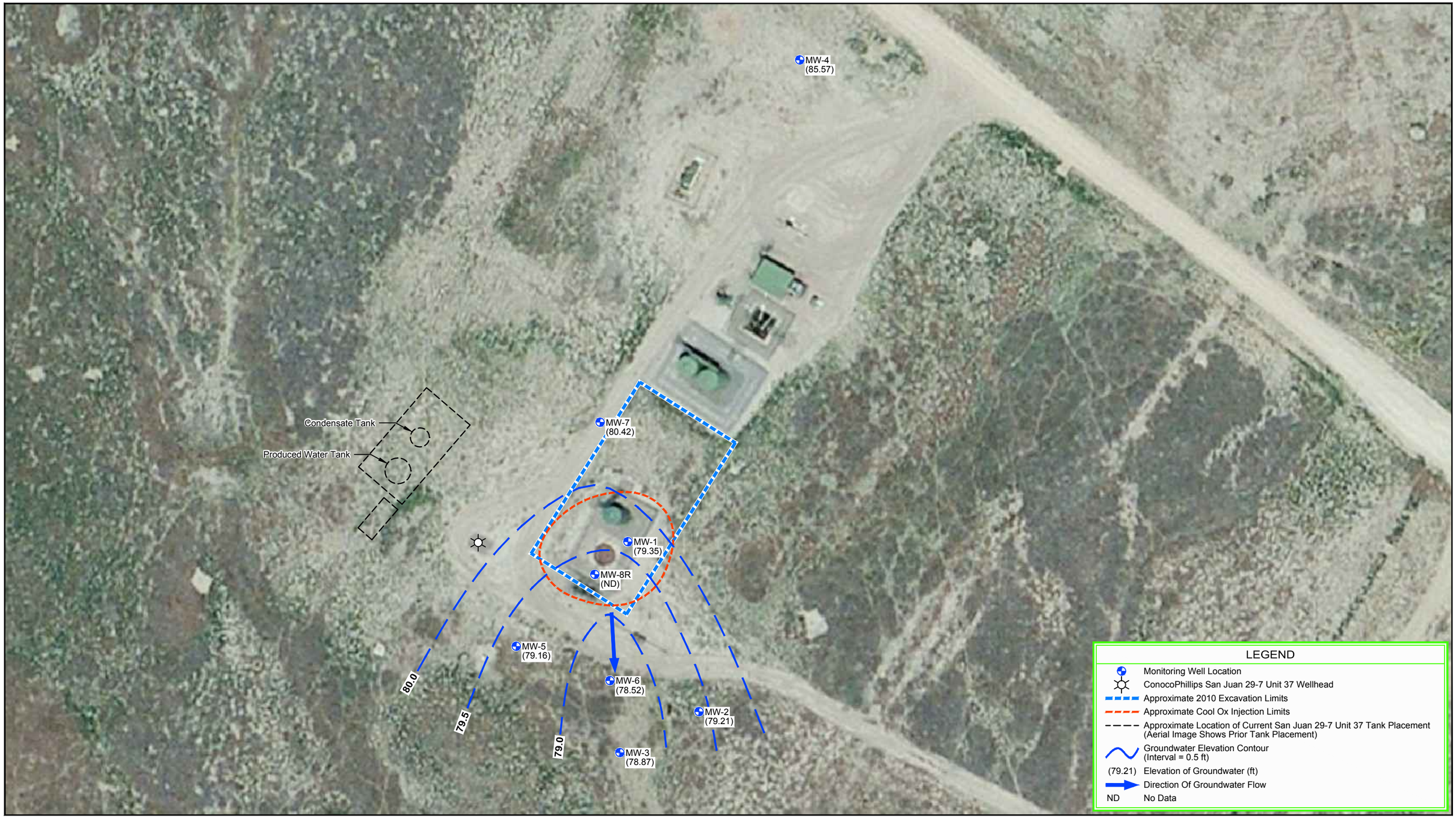


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# GROUNDWATER POTENTIOMETRIC SURFACE MAP -

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FIGURE 6

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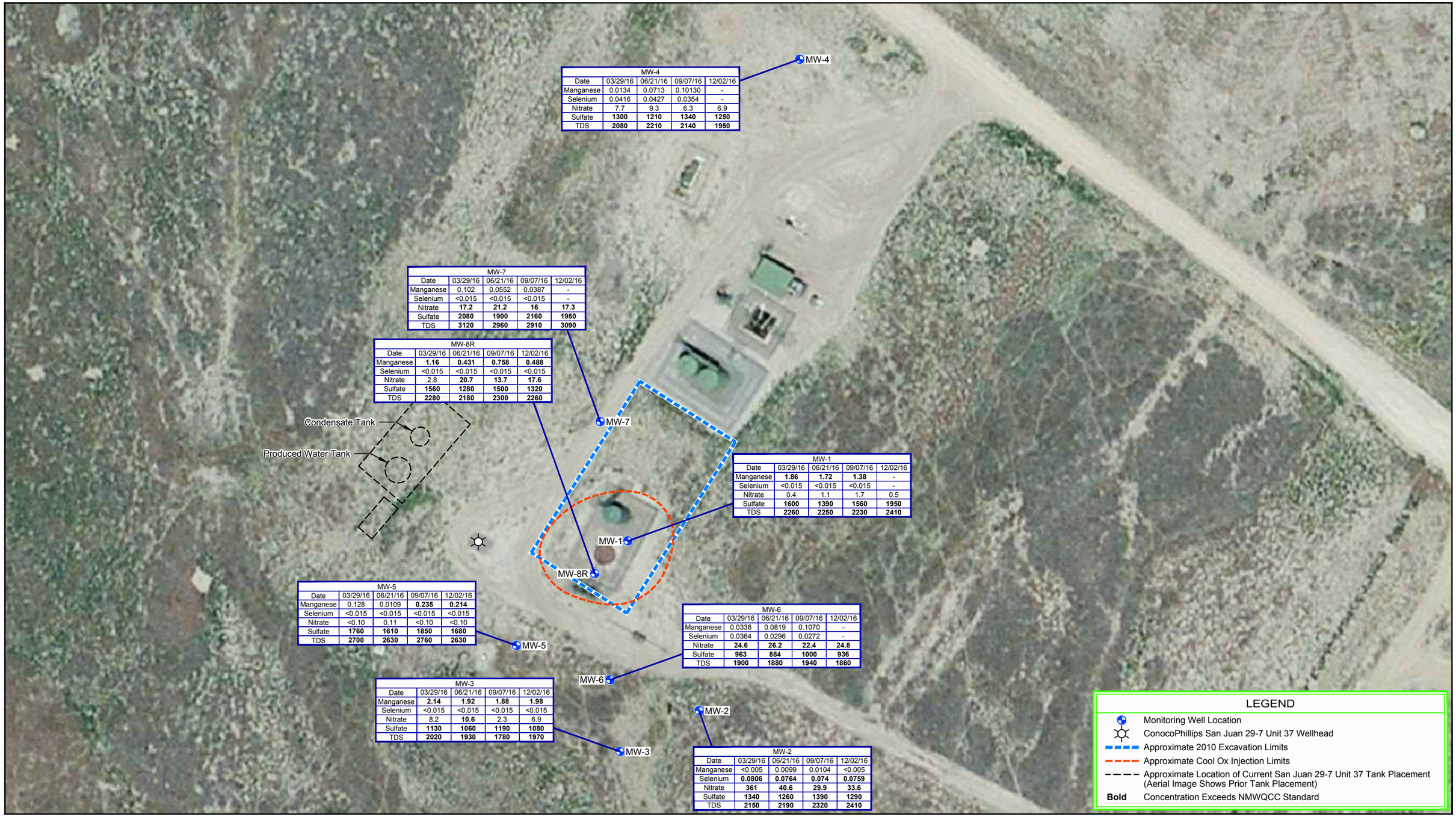


MW-4

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | 0.0134 | 0.0713 | 0.10130 | - |
| Selenium | 0.0416 | 0.0427 | 0.0354 | - |
| Nitrate | 7.7 | 9.3 | 6.3 | 6.9 |
| Sulfate | **1300** | **1210** | **1340** | **1250** |
| TDS | **2080** | **2210** | **2140** | **1950** |

MW-7

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | 0.102 | 0.0552 | 0.0387 | - |
| Selenium | <0.015 | <0.015 | <0.015 | - |
| Nitrate | **17.2** | **21.2** | **16** | **17.3** |
| Sulfate | **2080** | **1900** | **2160** | **1950** |
| TDS | **3120** | **2960** | **2910** | **3090** |

MW-8R

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | **1.16** | **0.431** | **0.758** | **0.488** |
| Selenium | <0.015 | <0.015 | <0.015 | <0.015 |
| Nitrate | 2.8 | **20.7** | **13.7** | **17.6** |
| Sulfate | **1560** | **1280** | **1500** | **1320** |
| TDS | **2280** | **2180** | **2300** | **2260** |

MW-1

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | **1.86** | **1.72** | **1.38** | - |
| Selenium | <0.015 | <0.015 | <0.015 | - |
| Nitrate | 0.4 | 1.1 | 1.7 | 0.5 |
| Sulfate | **1600** | **1390** | **1560** | **1950** |
| TDS | **2260** | **2250** | **2230** | **2410** |

MW-5

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | 0.128 | 0.0109 | **0.235** | **0.214** |
| Selenium | <0.015 | <0.015 | <0.015 | <0.015 |
| Nitrate | <0.10 | 0.11 | <0.10 | <0.10 |
| Sulfate | **1760** | **1610** | **1850** | **1680** |
| TDS | **2700** | **2630** | **2760** | **2630** |

MW-6

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | 0.0338 | 0.0819 | 0.1070 | - |
| Selenium | 0.0364 | 0.0296 | 0.0272 | - |
| Nitrate | **24.6** | **26.2** | **22.4** | **24.8** |
| Sulfate | **963** | **884** | **1000** | **936** |
| TDS | **1900** | **1880** | **1940** | **1860** |

MW-3

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | **2.14** | **1.92** | **1.88** | **1.98** |
| Selenium | <0.015 | <0.015 | <0.015 | <0.015 |
| Nitrate | 8.2 | **10.6** | 2.3 | 6.9 |
| Sulfate | **1130** | **1060** | **1190** | **1080** |
| TDS | **2020** | **1930** | **1780** | **1970** |

MW-2

| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
|---|---|---|---|---|
| Manganese | <0.005 | 0.0099 | 0.0104 | <0.005 |
| Selenium | **0.0806** | **0.0764** | **0.074** | **0.0759** |
| Nitrate | **361** | **40.6** | **29.9** | **33.6** |
| Sulfate | **1340** | **1260** | **1390** | **1290** |
| TDS | **2150** | **2190** | **2320** | **2410** |

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*NOTES:*

1. Analytical results reported in milligrams per liter (mg/L).
2. Bold notation indactes a level that exceeds the New Mexico Water Quality Control Commission standard.

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# GROUNDWATER INORGANIC ANALYTICAL RESULTS MAP

FIGURE 7

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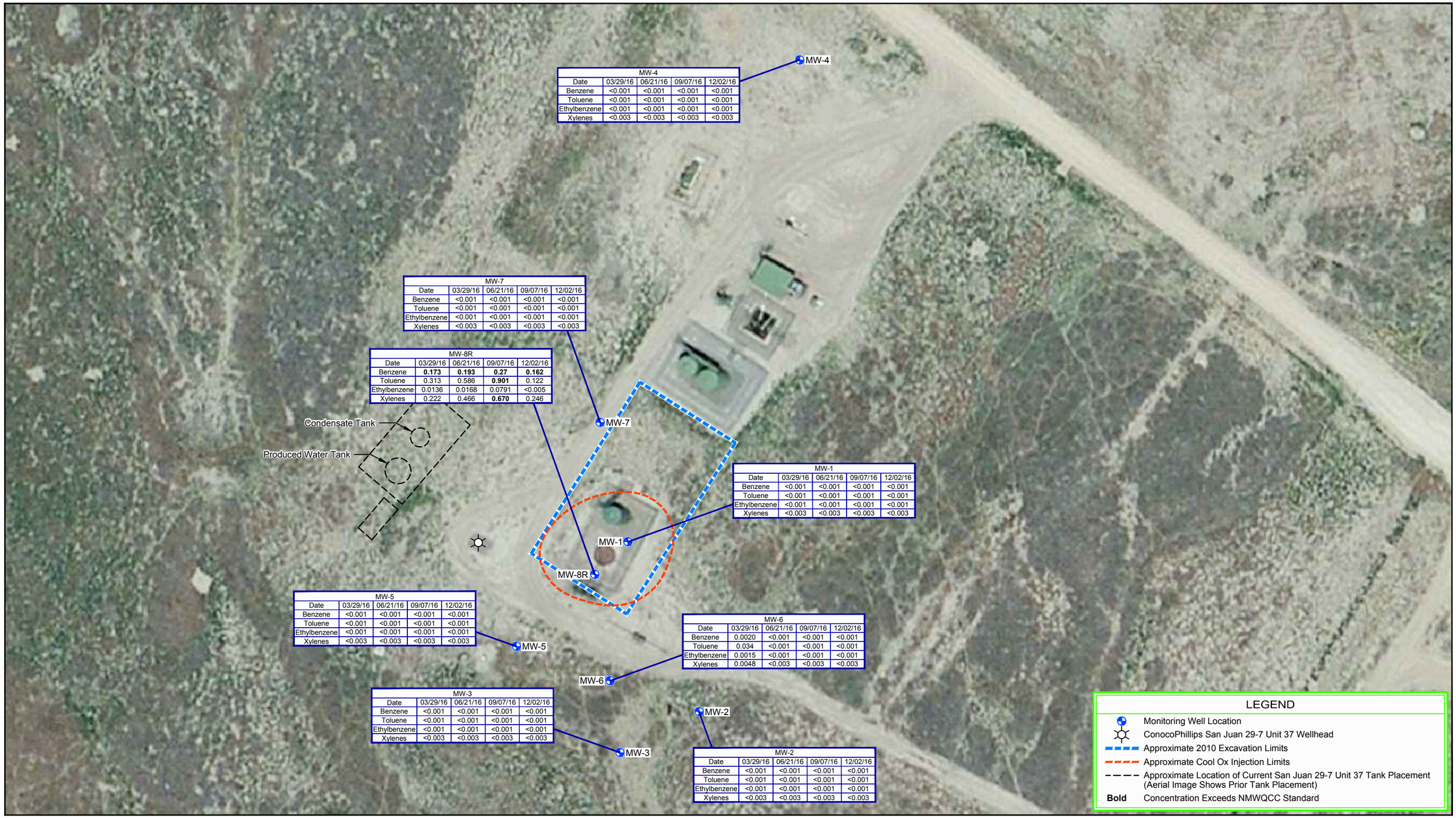


| MW-4 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | <0.003 | <0.003 | <0.003 | <0.003 |

| MW-7 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | <0.003 | <0.003 | <0.003 | <0.003 |

| MW-8R | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | **0.173** | **0.193** | **0.27** | **0.162** |
| Toluene | 0.313 | 0.586 | **0.901** | 0.122 |
| Ethylbenzene | 0.0136 | 0.0168 | 0.0791 | <0.005 |
| Xylenes | 0.222 | 0.466 | **0.670** | 0.246 |

| MW-1 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | <0.003 | <0.003 | <0.003 | <0.003 |

| MW-5 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | <0.003 | <0.003 | <0.003 | <0.003 |

| MW-6 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | 0.0020 | <0.001 | <0.001 | <0.001 |
| Toluene | 0.034 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | 0.0015 | <0.001 | <0.001 | <0.001 |
| Xylenes | 0.0048 | <0.003 | <0.003 | <0.003 |

| MW-3 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | <0.003 | <0.003 | <0.003 | <0.003 |

| MW-2 | | | | |
|---|---|---|---|---|
| Date | 03/29/16 | 06/21/16 | 09/07/16 | 12/02/16 |
| Benzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Toluene | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | <0.001 | <0.001 | <0.001 | <0.001 |
| Xylenes | <0.003 | <0.003 | <0.003 | <0.003 |

LEGEND

- Monitoring Well Location
- ConocoPhillips San Juan 29-7 Unit 37 Wellhead
- Approximate 2010 Excavation Limits
- Approximate Cool Ox Injection Limits
- Approximate Location of Current San Juan 29-7 Unit 37 Tank Placement (Aerial Image Shows Prior Tank Placement)
- **Bold** Concentration Exceeds NMWQCC Standard

Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 35.482687° North, 97.716997° West

0 30 60ft

Coordinate System:
NAD 1983 StatePlane-
Oklahoma North (US Feet)

*NOTES:*

1. Analytical results reported in milligrams per liter (mg/L).
2. Bold notation indactes a level that exceeds the New Mexico Water Quality Control Commission standard.

CONOCOPHILLIPS COMPANY
UNIT LETTER N. SEC 12, T29N, R07W, RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 29-7 UNIT 37, NATURAL GAS WELL SITE

075034-00

Feb 21, 2017

# GROUNDWATER HYDROCARBON ANALYTICAL RESULTS MAP

FIGURE 8

CAD File: I:\CAD\Files\07----\075---\075034-CoPSan Juan\075034-00\075034-00(008)\075034-00(008)GN-DL001.dwg

# Tables

Table 1

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| *Well ID* | **TOC Elevation (ft)* | *Date Measured* | *Depth to Groundwater (ft-below TOC)* | *Groundwater Elevation (ft)* |
|---|---|---|---|---|
| MW-1 | 189.24 | 3/17/2011 | 108.91 | 80.33 |
| | | 8/17/2011 | 108.81 | 80.43 |
| | | 10/18/2011 | 108.87 | 80.37 |
| | | 2/23/2012 | 108.74 | 80.50 |
| | | 6/5/2012 | 108.75 | 80.49 |
| | | 9/18/2012 | 108.68 | 80.56 |
| | | 1/8/2013 | 108.62 | 80.62 |
| | | 3/26/2013 | 108.69 | 80.55 |
| | | 6/11/2013 | 108.81 | 80.43 |
| | | 9/10/2013 | 109.04 | 80.2 |
| | | 1/7/2014 | 109.26 | 79.98 |
| | | 3/18/2014 | 109.10 | 80.14 |
| | | 6/16/2014 | 109.31 | 79.93 |
| | | 9/25/2014 | 109.54 | 79.70 |
| | | 12/16/2014 | 109.59 | 79.65 |
| | | 3/17/2015 | 109.61 | 79.63 |
| | | 6/16/2015 | 109.68 | 79.56 |
| | | 9/15/2015 | 109.62 | 79.62 |
| | | 12/1/2015 | 109.78 | 79.46 |
| | | 3/29/2016 | 109.61 | 79.63 |
| | | 6/21/2016 | 109.89 | 79.35 |
| | | 9/7/2016 | 109.87 | 79.37 |
| | | 11/30/2016 | 109.89 | 79.35 |
| MW-2 | 189.6 | 3/17/2011 | 109.20 | 80.40 |
| | | 8/17/2011 | 109.10 | 80.50 |
| | | 10/18/2011 | 109.13 | 80.47 |
| | | 2/23/2012 | 109.05 | 80.55 |
| | | 6/5/2012 | 109.10 | 80.50 |
| | | 9/18/2012 | 109.28 | 80.32 |
| | | 1/8/2013 | 109.07 | 80.53 |
| | | 3/26/2013 | 109.12 | 80.48 |
| | | 6/11/2013 | 109.32 | 80.28 |
| | | 9/10/2013 | 109.32 | 80.28 |
| | | 1/7/2014 | 109.71 | 79.89 |
| | | 3/18/2014 | 109.71 | 79.89 |
| | | 6/16/2014 | 109.83 | 79.77 |
| | | 9/16/2014 | 109.94 | 79.66 |
| | | 12/16/2014 | 110.04 | 79.56 |
| | | 3/17/2015 | 110.09 | 79.51 |
| | | 6/16/2015 | 110.17 | 79.43 |
| | | 9/15/2015 | 110.14 | 79.46 |
| | | 12/1/2015 | 110.23 | 79.37 |
| | | 3/29/2016 | 110.26 | 79.34 |
| | | 6/21/2016 | 110.31 | 79.29 |
| | | 9/7/2016 | 110.33 | 79.27 |
| | | 11/30/2016 | 110.39 | 79.21 |

Table 1

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| *Well ID* | **TOC Elevation (ft)* | *Date Measured* | *Depth to Groundwater (ft-below TOC)* | *Groundwater Elevation (ft)* |
|---|---|---|---|---|
| MW-3 | 189.13 | 3/17/2011 | 109.42 | 79.71 |
| | | 8/17/2011 | 109.35 | 79.78 |
| | | 10/18/2011 | 109.37 | 79.76 |
| | | 2/23/2012 | 109.26 | 79.87 |
| | | 6/5/2012 | 109.28 | 79.85 |
| | | 9/18/2012 | 109.3 | 79.83 |
| | | 1/8/2013 | 109.28 | 79.85 |
| | | 3/26/2013 | 109.33 | 79.80 |
| | | 6/11/2013 | 109.41 | 79.72 |
| | | 9/10/2013 | 109.58 | 79.55 |
| | | 1/7/2014 | 109.7 | 79.43 |
| | | 3/18/2014 | 109.68 | 79.45 |
| | | 6/16/2014 | 109.84 | 79.29 |
| | | 9/16/2014 | 109.97 | 79.16 |
| | | 12/16/2014 | 110.08 | 79.05 |
| | | 3/17/2015 | 110.03 | 79.10 |
| | | 6/16/2015 | 110.08 | 79.05 |
| | | 9/15/2015 | 110.08 | 79.05 |
| | | 12/1/2015 | 110.24 | 78.89 |
| | | 3/29/2016 | 110.04 | 79.09 |
| | | 6/21/2016 | 110.15 | 78.98 |
| | | 9/7/2016 | 110.27 | 78.86 |
| | | 11/30/2016 | 110.26 | 78.87 |
| MW-4 | 197.6 | 3/17/2011 | 111.11 | 86.49 |
| | | 8/17/2011 | 111.10 | 86.50 |
| | | 10/18/2011 | 111.16 | 86.44 |
| | | 2/23/2012 | 111.14 | 86.46 |
| | | 6/5/2012 | 111.20 | 86.40 |
| | | 9/18/2012 | 111.12 | 86.48 |
| | | 1/8/2013 | 111.14 | 86.46 |
| | | 3/26/2013 | 111.23 | 86.37 |
| | | 6/11/2013 | 111.41 | 86.19 |
| | | 9/10/2013 | 111.47 | 86.13 |
| | | 1/7/2014 | 111.66 | 85.94 |
| | | 3/18/2014 | 111.60 | 86.00 |
| | | 6/16/2014 | 111.68 | 85.92 |
| | | 9/25/2014 | 111.77 | 85.83 |
| | | 12/16/2014 | 111.80 | 85.80 |
| | | 3/17/2015 | 111.77 | 85.83 |
| | | 6/16/2015 | 111.78 | 85.82 |
| | | 9/15/2015 | 111.76 | 85.84 |
| | | 12/1/2015 | 111.89 | 85.71 |
| | | 3/29/2016 | 111.92 | 85.68 |
| | | 6/21/2016 | 111.95 | 85.65 |
| | | 9/7/2016 | 111.33 | 86.27 |
| | | 11/30/2016 | 112.03 | 85.57 |

Table 1

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| *Well ID* | **TOC Elevation (ft)* | *Date Measured* | *Depth to Groundwater (ft-below TOC)* | *Groundwater Elevation (ft)* |
|---|---|---|---|---|
| MW-5 | 188.7 | 10/18/2011 | 118.05 | 70.65 |
| | | 2/23/2012 | 108.44 | 80.26 |
| | | 6/5/2012 | 108.38 | 80.32 |
| | | 9/18/2012 | 108.11 | 80.59 |
| | | 1/8/2013 | 108.36 | 80.34 |
| | | 3/26/2013 | 108.72 | 79.98 |
| | | 6/11/2013 | 108.56 | 80.14 |
| | | 9/10/2013 | 108.77 | 79.93 |
| | | 1/7/2014 | 108.91 | 79.79 |
| | | 3/18/2014 | 108.91 | 79.79 |
| | | 6/16/2014 | 109.01 | 79.69 |
| | | 9/16/2014 | 109.2 | 79.5 |
| | | 12/16/2014 | 109.22 | 79.48 |
| | | 3/17/2015 | 109.25 | 79.45 |
| | | 6/16/2015 | 109.33 | 79.37 |
| | | 9/15/2015 | 109.37 | 79.33 |
| | | 12/1/2015 | 109.37 | 79.33 |
| | | 3/29/2016 | 109.38 | 79.32 |
| | | 6/21/2016 | 109.63 | 79.07 |
| | | 9/7/2016 | 109.58 | 79.12 |
| | | 11/30/2016 | 109.54 | 79.16 |
| MW-6 | 188.03 | 10/18/2011 | 109.55 | 78.48 |
| | | 2/23/2012 | 108.01 | 80.02 |
| | | 6/5/2012 | 108.05 | 79.98 |
| | | 9/18/2012 | 108.06 | 79.97 |
| | | 1/8/2013 | 108.07 | 79.96 |
| | | 3/26/2013 | 108.09 | 79.94 |
| | | 6/11/2013 | 108.25 | 79.78 |
| | | 9/10/2013 | 108.43 | 79.6 |
| | | 1/7/2014 | 108.70 | 79.33 |
| | | 3/18/2014 | 108.70 | 79.33 |
| | | 6/16/2014 | 108.85 | 79.18 |
| | | 9/16/2014 | 108.99 | 79.04 |
| | | 12/16/2014 | 109.10 | 78.93 |
| | | 3/17/2015 | 109.14 | 78.89 |
| | | 6/16/2015 | 109.23 | 78.80 |
| | | 9/15/2015 | 109.20 | 78.83 |
| | | 12/1/2015 | 109.30 | 78.73 |
| | | 3/29/2016 | 109.34 | 78.69 |
| | | 6/21/2016 | 108.58 | 79.45 |
| | | 9/7/2016 | 109.47 | 78.56 |
| | | 11/30/2016 | 109.51 | 78.52 |

Table 1

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| *Well ID* | **TOC Elevation (ft)* | *Date Measured* | *Depth to Groundwater (ft-below TOC)* | *Groundwater Elevation (ft)* |
|---|---|---|---|---|
| MW-7 | 189.93 | 10/18/2011 | 119.70 | 70.23 |
| | | 2/23/2012 | 106.58 | 83.35 |
| | | 6/5/2012 | 107.95 | 81.98 |
| | | 9/18/2012 | 108.1 | 81.83 |
| | | 1/8/2013 | 108.13 | 81.8 |
| | | 3/26/2013 | 108.24 | 81.69 |
| | | 6/11/2013 | 108.45 | 81.48 |
| | | 9/10/2013 | 108.64 | 81.29 |
| | | 1/7/2014 | 108.80 | 81.13 |
| | | 3/18/2014 | 108.83 | 81.10 |
| | | 6/16/2014 | 108.96 | 80.97 |
| | | 9/25/2014 | 109.1 | 80.83 |
| | | 12/16/2014 | 109.13 | 80.80 |
| | | 3/17/2015 | 109.12 | 80.81 |
| | | 6/16/2015 | 109.14 | 80.79 |
| | | 9/15/2015 | 109.07 | 80.86 |
| | | 12/1/2015 | 109.15 | 80.78 |
| | | 3/29/2016 | 109.23 | 80.70 |
| | | 6/21/2016 | 109.39 | 80.54 |
| | | 9/7/2016 | 109.42 | 80.51 |
| | | 11/30/2016 | 109.51 | 80.42 |
| MW-8 | 189.86 | 10/19/2011 | -- | -- |
| | | 2/23/2012 | 108.71 | 81.15 |
| | | 6/5/2012 | 108.65 | 81.21 |
| | | 9/20/2012 | 108.64 | 81.22 |
| | | 1/8/2013 | 108.56 | 81.30 |
| | | 3/26/2013 | 108.63 | 81.23 |
| | | 6/11/2013 | 108.85 | 81.01 |
| | | 7/13/2013 | Plugged and Abandoned | |
| MW-8R | -- | 9/10/2013 | 108.39 | -- |
| | | 1/7/2014 | 108.65 | -- |
| | | 3/18/2014 | 108.62 | -- |
| | | 6/16/2014 | 108.77 | -- |
| | | 9/25/2014 | 108.91 | -- |
| | | 12/16/2014 | 108.95 | -- |
| | | 3/17/2015 | 109.00 | -- |
| | | 6/16/2015 | 109.12 | -- |
| | | 9/15/2015 | 109.01 | -- |
| | | 12/1/2015 | 109.18 | -- |
| | | 3/29/2016 | 109.12 | -- |
| | | 6/21/2016 | 109.32 | -- |
| | | 9/7/2016 | 109.31 | -- |
| | | 11/30/2016 | 109.26 | -- |

Notes:
ft = Feet
TOC = Top of Casing
* = Elevation relative to an arbitrary 200 feet

Table 2

Field Parameters Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Sample Date | Temperature (°C) | pH | TDS (g/L) | Conductivity (µS/cm) | DO (mg/L) | ORP (mV) | Volume (gallons) |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 3/17/2015 | 18.10 | 7.28 | 2.200 | 3380 | -- | 53.0 | 2.75 |
| | 6/16/2015 | 17.70 | 7.30 | 1.970 | 3030 | 1.39 | -12.4 | 7.00 |
| | 9/15/2015 | 16.12 | 7.13 | 2.212 | 3403 | 1.09 | 50.2 | 7.00 |
| | 12/1/2015 | 16.63 | 7.72 | 2.361 | 3632 | 1.08 | -100.5 | 6.50 |
| | 3/29/2016 | 16.64 | 7.22 | 2.100 | 3350 | 4.20 | 126.0 | 7.00 |
| | 6/21/2016 | 17.10 | 7.44 | -- | 3320 | 0.46 | 6.5 | 7.00 |
| | 9/7/2016 | 16.31 | 7.34 | 2.139 | 3290 | 0.56 | -66.0 | 6.75 |
| | 12/1/2016 | 12.71 | 7.55 | -- | 2989 | 5.29 | 23.5 | 7.00 |
| MW-2 | 3/17/20015 | 14.80 | 7.30 | 2.200 | 3430 | -- | 165.0 | 5.00 |
| | 6/16/2015 | 14.90 | 6.91 | 1.925 | 2961 | 6.23 | 25.2 | 5.25 |
| | 9/15/2015 | 14.62 | 6.99 | 2.162 | 3327 | 6.27 | 75.5 | 3.75 |
| | 12/1/2015 | 13.50 | 7.61 | 2.277 | 3504 | 5.27 | 80.8 | 5.25 |
| | 3/29/2016 | -- | -- | -- | -- | -- | -- | 5.25 |
| | 6/21/2016 | 15.40 | 7.38 | -- | 2850 | 0.56 | -121.6 | 5.25 |
| | 9/7/2016 | 13.96 | 6.98 | 2.064 | 3175 | 6.37 | 60.7 | 5.25 |
| | 12/1/2016 | 13.33 | 7.92 | -- | 2932 | 7.31 | 29.7 | 5.00 |
| MW-3 | 3/17/2015 | 15.10 | 7.45 | 1.900 | 3040 | -- | -94.0 | 5.50 |
| | 6/16/2015 | 15.09 | 7.31 | 1.717 | 2641 | 1.23 | -123.5 | 5.50 |
| | 9/15/2015 | 15.03 | 7.30 | 1.912 | 2941 | 1.39 | -125.0 | 5.75 |
| | 12/1/2015 | 13.73 | 7.78 | 2.044 | 3144 | 1.48 | -164.2 | 5.50 |
| | 3/29/2016 | 15.82 | 7.34 | 1.900 | 2940 | 5.66 | -103.0 | 5.75 |
| | 6/21/2016 | 14.70 | 7.00 | -- | 3230 | 4.62 | 56.2 | 5.50 |
| | 9/7/2016 | 14.55 | 7.10 | 1.816 | 2794 | 1.50 | -102.7 | 5.50 |
| | 12/1/2016 | 14.91 | 7.74 | -- | 2556 | 1.97 | -116.2 | 5.50 |
| MW-4 | 3/17/2015 | 16.30 | 7.43 | 2.000 | 3120 | -- | 125.0 | 3.00 |
| | 6/16/2015 | 14.68 | 7.38 | 1.760 | 2707 | 6.38 | 13.6 | 5.75 |
| | 9/15/2015 | 14.75 | 6.99 | 1.980 | 3047 | 7.23 | 48.3 | 5.75 |
| | 12/1/2015 | 14.57 | 7.89 | 1.451 | 2231 | 5.92 | -12.2 | 5.50 |
| | 3/29/2016 | 16.94 | 7.33 | 1.900 | 3030 | 7.71 | 110.0 | 5.50 |
| | 6/21/2016 | 15.30 | 7.62 | -- | 2980 | 4.10 | 58.9 | 5.50 |
| | 9/7/2016 | 14.52 | 7.50 | 1.919 | 2953 | 6.36 | 65.1 | 5.75 |
| | 12/2/2016 | 12.48 | 7.81 | -- | 2688 | 9.18 | 76.9 | 5.50 |

Table 2

Field Parameters Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Sample Date | Temperature (°C) | pH | TDS (g/L) | Conductivity (µS/cm) | DO (mg/L) | ORP (mV) | Volume (gallons) |
|---|---|---|---|---|---|---|---|---|
| MW-5 | 3/17/2015 | 18.00 | 6.80 | 2.400 | 3790 | -- | 87.0 | 3.50 |
| | 6/16/2015 | 17.17 | 6.49 | 2.174 | 3345 | 2.36 | 63.2 | 5.00 |
| | 9/15/2015 | 16.10 | 6.64 | 2.468 | 3796 | 1.97 | 64.7 | 5.00 |
| | 12/1/2015 | 15.73 | 7.10 | 2.603 | 4004 | 2.66 | 168.2 | 5.00 |
| | 3/29/2016 | 19.44 | 6.87 | 2.400 | 3750 | 3.01 | 66.0 | 5.00 |
| | 6/21/2016 | 18.00 | 6.68 | -- | 3660 | 0.92 | 91.1 | 5.00 |
| | 9/7/2016 | 15.71 | 6.89 | 2.331 | 3586 | 3.99 | 55.4 | 5.00 |
| | 12/1/2016 | 16.15 | 7.40 | -- | 3266 | 3.55 | 22.4 | 5.00 |
| MW-6 | 3/17/2015 | 17.30 | 6.90 | 1.800 | 2800 | -- | 103.0 | 3.25 |
| | 6/16/2015 | 17.77 | 6.73 | 1.584 | 2437 | 2.12 | 1.9 | 4.00 |
| | 9/15/2015 | 15.96 | 6.57 | 1.784 | 2745 | 2.87 | 84.3 | 3.75 |
| | 12/1/2015 | 16.18 | 7.32 | 1.867 | 2873 | 2.93 | 82.9 | 3.75 |
| | 3/29/2016 | 16.64 | 6.77 | 1.700 | 2630 | 4.89 | 103.0 | 3.75 |
| | 6/21/2016 | 17.00 | 7.11 | -- | 27 | 3.86 | 59.8 | 4.25 |
| | 9/7/2016 | 16.48 | 7.00 | 1.676 | 2578 | 1.87 | 8.7 | 3.75 |
| | 12/2/2016 | 12.07 | 7.29 | -- | 2409 | 4.10 | 50.8 | 4.00 |
| MW-7 | 3/17/2015 | 17.40 | 7.64 | 2.600 | 4100 | -- | 118.0 | 3.50 |
| | 6/16/2015 | 17.05 | 8.28 | 2.366 | 3639 | 3.73 | -48.2 | 6.25 |
| | 9/15/2015 | 16.47 | 7.66 | 2.663 | 4096 | 6.44 | 85.4 | 6.25 |
| | 12/1/2015 | 16.03 | 7.90 | 2.853 | 4389 | 2.00 | -65.0 | 6.00 |
| | 3/29/2016 | 18.42 | 7.45 | 2.600 | 4050 | 7.12 | 108.0 | 6.25 |
| | 6/21/2016 | 16.40 | 7.50 | -- | 3990 | 5.73 | 58.1 | 6.00 |
| | 9/7/2016 | 16.04 | 7.54 | 2.581 | 3970 | 6.15 | 59.2 | 6.00 |
| | 12/2/2016 | 14.19 | 7.57 | -- | 3604 | 5.91 | 47.7 | 6.00 |
| MW-8R | 3/17/2015 | 19.30 | 6.96 | 2.100 | 3310 | -- | 30.0 | 3.00 |
| | 6/16/2015 | 17.82 | 7.07 | 1.970 | 3033 | 0.48 | -50.3 | 5.00 |
| | 9/15/2015 | 18.30 | 6.91 | 2.222 | 3431 | 1.20 | -10.7 | 5.25 |
| | 12/1/2015 | 16.75 | 7.41 | 2.341 | 3595 | 1.08 | -91.3 | 5.00 |
| | 3/29/2016 | 15.86 | 7.24 | 2.100 | 3340 | 4.49 | -56.0 | 5.25 |
| | 6/21/2016 | 18.20 | 7.15 | -- | 3230 | 0.18 | -104.8 | 5.00 |
| | 9/7/2016 | 17.21 | 7.07 | 2.128 | 3274 | 0.53 | -81.1 | 5.00 |
| | 12/1/2016 | 13.01 | 7.10 | -- | 2930 | 2.36 | 39.6 | 5.00 |

Notes:

TDS = total dissolved solids
DO = dissolved oxygen
ORP = oxidation-reduction potential

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Xylenes (total) (mg/L) | TPH-DRO (mg/L) | TPH-GRO (mg/L) | Manganese (dissolved) (mg/L) | Selenium (dissolved) (mg/L) | Nitrate (as N) (mg/L) | Sulfate (mg/L) | Total Dissolved Solids (TDS) (mg/L) | Heterotrophic Plate Count (CFU/mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMWQCC Standards** | | **0.01** | **0.75** | **0.75** | **0.62** | **NE** | **NE** | **0.2** | **0.05** | **10** | **600** | **1,000** | **NE** |
| MW-1 | 3/17/2011 | **0.066** | 0.39 | 0.011 | 0.084 | 0.28 | 1.5 | **2.77** | < 0.01 | <0.500 | **1,610** | **2,730** | NA |
| | 8/17/2011 | **0.0189** | 0.0068 | < 0.001 | 0.0044 | < 0.50 | < 0.50 | **0.318** | < 0.015 | 0.25 | **1,500** | **2,480** | 180,000 |
| | 10/18/2011 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 300,000 |
| | 2/23/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **6.40** | **0.055** | 0.78 | **1,710** | **2,480** | 23,000 |
| | 6/5/2012 | < 0.001 | 0.002 | < 0.001 | < 0.003 | NA | NA | **5.15** | 0.033 | 9.4 | **1,520** | NA | 93,000 |
| | 6/5/2012 (DUP) | < 0.001 | 0.002 | < 0.001 | < 0.003 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.60** | 0.044 | **27.5** | **1,070** | **2,140** | >80000 |
| | 9/18/2012 (DUP) | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | NA | NA | NA | NA | NA | >80,000 |
| | 1/8/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.10** | **0.568** | **25.3** | **1,150** | **2,180** | 76,000 |
| | 1/8/2013 (DUP) | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **NA** | **NA** | **NA** | **NA** | **NA** | 142,000 |
| | 3/26/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.49** | **0.079** | **37** | **1,000** | **1,980** | 280,000 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.52** | **0.056** | **31.1** | **1,050** | NA | 81,500 |
| | 6/11/2013 (DUP) | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.164 | 0.0492 | **18.7** | **1,130** | **2,090** | 2,300 |
| | 1/7/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.132 | 0.0349 | **22.5** | **1,040** | **1,990** | 335,000 |
| | 3/18/2014 | 0.0036 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.643** | < 0.015 | **20.1** | **1,170** | **2,270** | 6,700 |
| | 6/16/2014 | NA | NA | NA | NA | NA | NA | **1.200** | < 0.015 | 5.7 | **1,380** | **2,300** | NA |
| | 9/25/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.570** | < 0.015 | 4.4 | **1,690** | NA | NA |
| | 12/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.49** | < 0.015 | 2.9 | **1,580** | **2,410** | NA |
| | 3/17/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.60** | < 0.015 | 3.4 | **1,430** | **2,560** | NA |
| | 6/16/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.36** | < 0.015 | 2.5 | **1,470** | **1,920** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.52** | < 0.015 | 2.8 | **1,500** | **2,400** | NA |
| | 12/1/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.76** | < 0.015 | 1.2 | **1,420** | **2,370** | NA |
| | 3/29/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.86** | < 0.015 | 0.4 | **1,600** | **2,260** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.72** | < 0.015 | 1.1 | **1,390** | **2,250** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.38** | < 0.015 | 1.7 | **1,560** | **2,230** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **--** | -- | 0.5 | **1,450** | **2,410** | NA |

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Xylenes (total) (mg/L) | TPH-DRO (mg/L) | TPH-GRO (mg/L) | Manganese (dissolved) (mg/L) | Selenium (dissolved) (mg/L) | Nitrate (as N) (mg/L) | Sulfate (mg/L) | Total Dissolved Solids (TDS) (mg/L) | Heterotrophic Plate Count (CFU/mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMWQCC Standards** | | **0.01** | **0.75** | **0.75** | **0.62** | **NE** | **NE** | **0.2** | **0.05** | **10** | **600** | **1,000** | **NE** |
| MW-2 | 3/17/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | < 0.11 | < 0.1 | **0.334** | **0.0664** | **55.8** | **1,000** | **2950** | NA |
| | 8/17/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | < 0.50 | < 0.50 | 0.179 | **0.0726** | **71.9 E / 54.1** | **1,040** | **2110** | 61,000 |
| | 10/18/2011 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 124,000 |
| | 2/23/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0360 | **0.059** | **44.9** | **1,350** | **2,220** | 14,900 |
| | 6/5/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0078 | **0.061** | 4.3 | **1,500** | NA | 32,000 |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0194 | **0.067** | **42.5** | **1,150** | **2,440** | 6,500 |
| | 1/8/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0057 | **0.0688** | **41.8** | **1,230** | **2,590** | 29,000 |
| | 3/26/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0188 | **0.0728** | **43.3** | **1,200** | **1,930** | 4,100 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0086 | **0.0666** | **40.6** | **1,230** | NA | 18,000 |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | < 0.0050 | **0.0657** | **35.6** | **1,200** | **2,210** | 160 |
| | 1/7/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0069 | **0.0745** | **33.5** | **1,300** | **2,390** | 2,435 |
| | 3/18/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.281** | **0.080** | **40.2** | **1,320** | **2,580** | 670 |
| | 6/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.09 | **0.073** | **22.2** | **1,280** | **2,360** | NA |
| | 9/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.783** | **0.0734** | **34** | **1,140** | **2,440** | NA |
| | 12/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.746** | **0.0715** | **31.0** | **1,380** | **2,360** | NA |
| | 3/17/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0195 | **0.0774** | **38.3** | **1,330** | **2,570** | NA |
| | 6/16/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0703 | **0.0776** | **32.7** | **1,310** | **1,840** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | < 0.005 | **0.0811** | **37.4** | **1,310** | **2,360** | NA |
| | 12/1/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0144 | **0.0779** | **34.7** | **1,250** | **2,840** | NA |
| | 3/29/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | < 0.005 | **0.0806** | **36.1** | **1,340** | **2,150** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0099 | **0.0764** | **40.6** | **1,260** | **2,190** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0104 | **0.074** | **29.9** | **1,390** | **2,320** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | < 0.005 | **0.0759** | **33.6** | **1,290** | **2,410** | NA |
| MW-3 | 3/17/2011 | < 0.001 | 0.013 | < 0.001 | 0.0042 | < 0.1 | < 0.1 | **1.79** | 0.0316 | **29.7** | **857** | **2360** | NA |
| | 8/17/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | < 0.50 | < 0.50 | **1.42** | **0.0524** | **33.0** | **972** | **1960** | 18,000 |
| | 10/18/2011 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 230,000 |
| | 2/23/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.600** | 0.038 | **22.0** | **1,140** | **2,050** | 11,900 |
| | 6/5/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.43** | 0.048 | **15.0** | **1,380** | NA | 22,000 |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.24** | 0.032 | **12.2** | 1,050 | 2,150 | 23,000 |
| | 1/8/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.62** | **0.0673** | **24.6** | 1,140 | 2,240 | 51,000 |
| | 3/26/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.83** | < 0.015 | 0.42 | **1,080** | **2,030** | 70 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.75** | < 0.015 | 0.76 | **1,110** | NA | 830 |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.7** | < 0.015 | 1.4 | **1,120** | **1,910** | 110 |
| | 1/7/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.77** | < 0.015 | 0.15 | **1,180** | **1,970** | 284 |
| | 1/7/2014 (DUP) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 350 |
| | 3/18/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.81** | < 0.015 | 0.11 | **1,150** | **2,050** | 870 |
| | 6/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2** | 0.024 | 8.8 | **1,130** | **1,190** | NA |
| | 9/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.29** | 0.0261 | **11.3** | **1,060** | **2,240** | NA |
| | 12/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.06** | < 0.015 | 6.1 | **1,210** | **2,110** | NA |
| | 3/17/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.06** | < 0.015 | 4.3 | **1,150** | **2,100** | NA |
| | 6/16/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.88** | < 0.015 | 6 | **1,120** | **1,380** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.1** | < 0.015 | 8.1 | **1,120** | **2,040** | NA |
| | 12/1/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.17** | < 0.015 | 7.2 | **1,040** | **2,210** | NA |
| | 3/29/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **2.14** | < 0.015 | 8.2 | **1,130** | **2,020** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.92** | < 0.015 | **10.6** | **1,060** | **1,930** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.88** | < 0.015 | 2.3 | **1,190** | **1,780** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.98** | < 0.015 | 6.9 | **1,080** | **1,970** | NA |

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Xylenes (total) (mg/L) | TPH-DRO (mg/L) | TPH-GRO (mg/L) | Manganese (dissolved) (mg/L) | Selenium (dissolved) (mg/L) | Nitrate (as N) (mg/L) | Sulfate (mg/L) | Total Dissolved Solids (TDS) (mg/L) | Heterotrophic Plate Count (CFU/mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMWQCC Standards** | | **0.01** | **0.75** | **0.75** | **0.62** | **NE** | **NE** | **0.2** | **0.05** | **10** | **600** | **1,000** | **NE** |
| MW-4 | 3/17/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.001 | 0.14 | < 0.1 | 0.022 | 0.042 | **10.4** | **1,290** | **2,650** | NA |
| | 8/17/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | < 0.50 | < 0.50 | 0.0062 | 0.0402 | 9.4 | **1,240** | **2,000** | 9,800 |
| | 10/18/2011 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 90,000 |
| | 2/23/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0170 | 0.0350 | 8.6 | **1,380** | **2,070** | 40,000 |
| | 6/5/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0814 | 0.0369 | 7.5 | **1,540** | NA | 49,000 |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.1030 | 0.0394 | 7.8 | **1,190** | **2,180** | 4,000 |
| | 1/8/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0289 | 0.0386 | 9.3 | **1,240** | **2,230** | 202,000 |
| | 3/26/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0605 | 0.0441 | 8.9 | **1,200** | **1,950** | 42,500 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0484 | 0.0369 | 7.3 | **1,260** | NA | 33,000 |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0303 | 0.0369 | 8.6 | **1,180** | **2,090** | 910 |
| | 1/7/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0265 | 0.0381 | 5.5 | **1,350** | **1,960** | 1,160 |
| | 3/18/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0227 | 0.0410 | 8.2 | **1,280** | **2,180** | 1,865 |
| | 6/16/2014 | NA | NA | NA | NA | NA | NA | 0.0080 | 0.0340 | 6.5 | **1,240** | **1,950** | NA |
| | 9/25/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0160 | 0.0335 | 7 | **1,260** | NA | NA |
| | 12/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0155 | 0.0314 | 6.8 | **1,330** | **2,250** | NA |
| | 3/17/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0156 | 0.0432 | 6.7 | **1,300** | **2,280** | NA |
| | 6/16/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0226 | 0.0408 | 5.6 | **1,280** | **2,100** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0088 | 0.0406 | 7.1 | **1,260** | **1,960** | NA |
| | 12/1/2015 | < 0.001 | 0.0023 | < 0.001 | < 0.003 | NA | NA | 0.0118 | 0.0402 | 7.1 | **1,210** | **2,320** | NA |
| | 3/29/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0134 | 0.0416 | 7.7 | **1,300** | **2,080** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0713 | 0.0427 | 9.3 | **1,210** | **2,210** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0138 | 0.0354 | 6.3 | **1,340** | **2,140** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | -- | -- | 6.9 | **1,250** | **1,950** | NA |
| MW-5 | 10/18/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | < 0.5 | < 0.5 | NA | NA | NA | NA | NA | 970,000 |
| | 2/23/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.10** | < 0.015 | 0.12 | **3,500** | **2,760** | 252,000 |
| | 6/5/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.868** | < 0.015 | < 0.10 | **2,040** | NA | 63,000 |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.791** | < 0.015 | < 0.10 | **1,620** | **2,830** | 130,000 |
| | 1/8/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.58** | < 0.015 | < 0.10 | **1,710** | **2,950** | 102,000 |
| | 3/26/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.356** | < 0.015 | 0.3 | **1,700** | **2,370** | 16,950 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.609** | < 0.015 | 0.25 | **1,630** | NA | 20,500 |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.368** | < 0.015 | < 0.10 | **1,640** | **2,540** | 660 |
| | 1/7/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.396** | < 0.015 | < 0.10 | **1,740** | **2,770** | 5,450 |
| | 3/18/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.606** | < 0.015 | < 0.10 | **1,760** | **2,800** | 1,315 |
| | 6/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.93** | < 0.015 | 0.17 | **1,730** | **2,320** | NA |
| | 9/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.433** | < 0.015 | 0.14 | **1,490** | **2,850** | NA |
| | 12/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0706 | < 0.015 | 0.13 | **1,790** | **2,710** | NA |
| | 3/17/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0433 | < 0.015 | 0.11 | **1,730** | **3,030** | NA |
| | 6/16/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0331 | < 0.015 | < 0.10 | **1,720** | **2,780** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0215 | < 0.015 | 0.14 | **1,810** | **3,180** | NA |
| | 12/1/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0163 | < 0.015 | 0.16 | **1,670** | **3,100** | NA |
| | 3/29/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.128 | < 0.015 | < 0.10 | **1,760** | **2,700** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0109 | < 0.015 | 0.11 | **1,610** | **2,630** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.235** | < 0.015 | < 0.10 | **1,850** | **2,760** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.214** | < 0.015 | < 0.10 | **1,680** | **2,630** | NA |

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Xylenes (total) (mg/L) | TPH-DRO (mg/L) | TPH-GRO (mg/L) | Manganese (dissolved) (mg/L) | Selenium (dissolved) (mg/L) | Nitrate (as N) (mg/L) | Sulfate (mg/L) | Total Dissolved Solids (TDS) (mg/L) | Heterotrophic Plate Count (CFU/mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMWQCC Standards** | | **0.01** | **0.75** | **0.75** | **0.62** | **NE** | **NE** | **0.2** | **0.05** | **10** | **600** | **1,000** | **NE** |
| MW-6 | 10/18/2011 | **0.033** | < 0.001 | < 0.001 | 0.012 | < 0.5 | < 0.5 | NA | NA | NA | NA | NA | 720,000 |
| | 2/23/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | <0.005 | **0.0590** | **25.8** | **950** | **1,760** | 8,900 |
| | 6/5/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.600** | 0.0454 | **35.0** | **1,090** | NA | 35,000 |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **1.110** | 0.0460 | **29.5** | **955** | **1,990** | 12,000 |
| | 1/8/2013 | 0.0012 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.158 | **0.0536** | **25.6** | **978** | **1,980** | 1,910,000 |
| | 3/26/2013 | 0.0022 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.282** | **0.0602** | **30.9** | **945** | **1,740** | 25,500 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.328** | **0.0621** | **27.6** | **946** | NA | 4,750 |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.299** | 0.0389 | **22.7** | **929** | **1,710** | 65 |
| | 1/7/2014 | 0.0026 | < 0.001 | < 0.001 | 0.0034 | NA | NA | **0.268** | 0.0417 | **19.5** | **984** | **2,060** | 2,460 |
| | 3/18/2014 | 0.0012 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.246** | 0.0392 | **23.6** | **1,000** | **2,000** | 710 |
| | 6/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.140 | 0.0360 | 4.6 | **955** | **1,780** | NA |
| | 9/16/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.115 | 0.0386 | **23.2** | **846** | **1,930** | NA |
| | 12/16/2014 | 0.0014 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.147 | 0.0343 | **27.2** | **1,000** | **1,830** | NA |
| | 3/17/2015 | < 0.001 | 0.0018 | < 0.001 | < 0.003 | NA | NA | 0.114 | 0.0360 | **26** | **986** | **1,990** | NA |
| | 6/16/2015 | < 0.001 | 0.002 | < 0.001 | 0.0037 | NA | NA | 0.0917 | 0.0370 | **22.2** | **988** | **1,400** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0456 | 0.0369 | **26.4** | **980** | **1,940** | NA |
| | 12/1/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0396 | 0.0373 | **25.3** | **904** | **2,130** | NA |
| | 3/29/2016 | 0.0020 | 0.0034 | 0.0015 | 0.0048 | NA | NA | 0.0338 | 0.0364 | **24.6** | **963** | **1,900** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0819 | 0.0296 | **26.2** | **884** | **1,880** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.1070 | 0.0272 | **22.4** | **1,000** | **1,940** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | -- | -- | **24.8** | **936** | **1,860** | NA |
| MW-7 | 10/18/2011 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | < 0.5 | < 0.5 | NA | NA | NA | NA | NA | 2,000,000 |
| | 2/23/2012 | < 0.001 | 0.0011 | < 0.001 | 0.0034 | NA | NA | < 0.005 | 0.022 | 4.6 | **3,320** | **4,660** | < 1 |
| | 6/5/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.019 | 0.030 | 1.1 | **1,820** | NA | 8 |
| | 9/18/2012 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.012 | 0.024 | 1.0 | **1,610** | **4,280** | 1,900 |
| | 1/8/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0093 | 0.0164 | 1.3 | **1,770** | **3,400** | 145,000 |
| | 3/26/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | < 0.005 | < 0.015 | 5.3 | **1,730** | **3,050** | 79 |
| | 6/11/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0082 | < 0.015 | **18.7** | **1,700** | NA | 18 |
| | 9/10/2013 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.168 | < 0.015 | **31.4** | **1,740** | **3,080** | 110 |
| | 1/7/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.452** | < 0.015 | **28.5** | **1,950** | **3,320** | 8,300 |
| | 3/18/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.438** | < 0.015 | **35** | **1,920** | **3,350** | 940 |
| | 6/16/2014 | NA | NA | NA | NA | NA | NA | **0.49** | < 0.015 | 2.7 | **1,930** | **2,940** | NA |
| | 9/25/2014 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.231** | < 0.015 | **29.7** | **1,970** | NA | NA |
| | 12/16/2014 | 0.0013 | 0.0031 | < 0.001 | < 0.003 | NA | NA | **0.435** | < 0.015 | 3.9 | **2,140** | **2,610** | NA |
| | 3/17/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.321** | < 0.015 | **23.9** | **2,030** | **3,530** | NA |
| | 6/16/2015 | 0.0023 | 0.0071 | < 0.001 | 0.0045 | NA | NA | **0.256** | < 0.015 | **18.2** | **1,970** | **2,300** | NA |
| | 9/15/2015 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | **0.227** | < 0.015 | **20.2** | **2,010** | **3,100** | NA |
| | 12/1/2015 | 0.0012 | 0.0053 | < 0.001 | < 0.003 | NA | NA | 0.108 | < 0.015 | **20.2** | **1,900** | **2,600** | NA |
| | 3/29/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.102 | < 0.015 | **17.2** | **2,080** | **3,120** | NA |
| | 6/21/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0552 | < 0.015 | **21.2** | **1,900** | **2,960** | NA |
| | 9/7/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | 0.0387 | < 0.015 | **16** | **2,160** | **2,910** | NA |
| | 12/2/2016 | < 0.001 | < 0.001 | < 0.001 | < 0.003 | NA | NA | -- | -- | **17.3** | **1,950** | **3,090** | NA |

Table 3

Groundwater Analytical Results Summary
ConocoPhillips Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

| Well ID | Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Xylenes (total) (mg/L) | TPH-DRO (mg/L) | TPH-GRO (mg/L) | Manganese (dissolved) (mg/L) | Selenium (dissolved) (mg/L) | Nitrate (as N) (mg/L) | Sulfate (mg/L) | Total Dissolved Solids (TDS) (mg/L) | Heterotrophic Plate Count (CFU/mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMWQCC Standards** | | **0.01** | **0.75** | **0.75** | **0.62** | **NE** | **NE** | **0.2** | **0.05** | **10** | **600** | **1,000** | **NE** |
| MW-8 | 10/19/2011 | **0.15** | **1.24** | 0.070 | **1.43** | < 0.5 | 7.1 | NA | NA | NA | NA | NA | 2,300,000 |
| | 2/23/2012 | **0.036** | **0.772** | 0.054 | **1.35** | NA | NA | < 0.005 | 0.049 | 3.2 | **813** | **5,790** | 14 |
| | 2/23/2012 (DUP) | **0.069** | **0.876** | 0.109 | **1.66** | NA | NA | NA | NA | NA | NA | NA | NA |
| | 6/5/2012 | **0.013** | 0.120 | 0.025 | 0.447 | NA | NA | 0.022 | 0.045 | **18.1** | **793** | NA | 630 |
| | 9/20/2012 | 0.0098 | 0.002 | 0.006 | 0.342 | NA | NA | NA | NA | **21.8** | **1,130** | **2,960** | NA |
| | 1/8/2013 | **0.0369** | 0.0199 | 0.0018 | 0.0488 | NA | NA | NA | NA | **30.4** | **1,260** | **2,700** | 222,000 |
| | 3/26/2013 | Not sampled due to damaged well casing. | | | | | | | | | | | |
| | 6/11/2013 | Not sampled due to damaged well casing. | | | | | | | | | | | |
| | 7/13/2013 | Plugged and Abandoned | | | | | | | | | | | |
| MW-8R | 9/10/2013 | **0.0100** | 0.0171 | 0.0017 | 0.0615 | NA | NA | **0.395** | 0.038 | **38.6** | **1,230** | **2,430** | 5,700 |
| | 9/10/2013 (DUP) | 0.0083 | 0.0125 | 0.0018 | 0.0443 | NA | NA | NA | NA | NA | NA | NA | 8,700 |
| | 1/7/2014 | **0.179** | 0.353 | 0.0105 | **0.69** | NA | NA | **0.255** | 0.0374 | **28.3** | **1,360** | **2,900** | 425,000 |
| | 1/7/2014 (DUP) | **0.192** | 0.344 | 0.0107 | **0.715** | NA | NA | NA | NA | NA | NA | NA | NA |
| | 3/18/2014 | **0.103** | 0.154 | 0.0076 | 0.164 | NA | NA | 0.106 | < 0.015 | **35.0** | **1,290** | **2,460** | 8,550 |
| | 3/18/2014 (DUP) | **0.116** | 0.149 | 0.0077 | 0.156 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 6/16/2014 | **0.319** | **0.846** | 0.0305 | 0.505 | NA | NA | **1.5** | < 0.015 | 4.4 | **1,510** | **2,330** | NA |
| | 6/16/2014 (DUP) | **0.291** | **0.816** | 0.0296 | **0.642** | NA | NA | NA | NA | NA | NA | NA | NA |
| | 9/25/2014 | **0.172** | 0.0022 | < 0.001 | 0.0067 | NA | NA | **1.38** | < 0.015 | 6.6 | **1,530** | NA | NA |
| | 9/25/2014 (DUP) | **0.182** | 0.0025 | < 0.001 | 0.0068 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 12/16/2014 | **0.187** | 0.301 | 0.0248 | 0.368 | NA | NA | **1.01** | < 0.015 | **13** | **1,470** | **2,440** | NA |
| | 12/16/2014 (DUP) | **0.195** | 0.283 | 0.0246 | 0.353 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 3/17/2015 | **0.262** | 0.0205 | 0.714 | 0.501 | NA | NA | **0.323** | 0.021 | **27** | **1,320** | **2,240** | NA |
| | 3/17/2015(DUP) | **0.263** | 0.0205 | 0.701 | 0.494 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 6/16/2015 | **0.191** | 0.418 | 0.0147 | 0.300 | NA | NA | **0.707** | < 0.015 | **11.2** | **1,410** | **2,040** | NA |
| | 6/16/2015 (DUP) | **0.193** | 0.412 | 0.0141 | 0.293 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 9/15/2015 | **0.451** | **1.04** | 0.0587 | **0.881** | NA | NA | **0.7** | < 0.015 | **18** | **1,340** | **2,340** | NA |
| | 9/15/2015 (DUP) | **0.449** | **0.965** | 0.0603 | **0.83** | NA | NA | NA | NA | NA | NA | NA | NA |
| | 12/1/2015 | **0.412** | **0.873** | 0.0257 | 0.508 | NA | NA | **0.84** | < 0.015 | **13.1** | **1,290** | **2,180** | NA |
| | 12/1/2015 (DUP) | **0.418** | **0.922** | 0.0264 | 0.526 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 3/29/2016 | **0.173** | 0.313 | 0.0136 | 0.222 | NA | NA | **1.16** | < 0.015 | 2.8 | **1560** | **2280** | NA |
| | 3/29/2016 (DUP) | **0.17** | 0.278 | 0.0148 | 0.247 | NA | NA | **NA** | NA | NA | NA | NA | NA |
| | 6/21/2016 | **0.193** | 0.586 | 0.0168 | 0.466 | NA | NA | **0.431** | < 0.015 | **20.7** | **1280** | **2180** | NA |
| | 6/21/2016 (DUP) | **0.204** | 0.625 | 0.0182 | 0.456 | NA | NA | NA | NA | NA | NA | NA | NA |
| | 9/7/2016 | **0.27** | **0.901** | 0.0291 | **0.670** | NA | NA | **0.758** | < 0.015 | **13.7** | **1500** | **2300** | NA |
| | 9/7/2016 (DUP) | **0.3** | **1.12** | 0.0372 | **0.812** | NA | NA | NA | NA | NA | NA | NA | NA |
| | 12/2/2016 | **0.162** | 0.122 | < 0.005 | 0.246 | NA | NA | **0.488** | < 0.015 | **17.6** | **1320** | **2260** | NA |

Notes:
MW = Monitoring Well
NMWQCC = New Mexico Water Quality Control Commission
BOLD = Exceeds NMWQCC Groundwater Quality Standard
mg/L = milligrams per liter (parts per million)
'< ' = Analyte not detected above set laboratory detection limit
E = Analyte concentration exceeded the calibration range
NE = Not Established
NA = Not analyzed
TPH DRO = total petroleum hydrocarbons diesel range organics
TPH GRO = total petroleum hydrocarbons gasoline range organics
-- = No data
Cells shaded in gray indicate groundwater samples collected prior to CoolOx™ treatment

# Appendix A
# Groundwater Laboratory Analytical Reports

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

April 11, 2016

Jeffrey Walker
GHD Services, Inc
6121 Indian School Rd NE
Ste 200
Albuquerque, NM 87110

RE: Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

Dear Jeffrey Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on March 30, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Cassie Brown, GHD Services, Inc,
Cale Kanack, GHD

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

## CERTIFICATIONS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

## REPORT OF LABORATORY ANALYSIS

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

## SAMPLE SUMMARY

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **60215883001** | **GW-075034-032916-CM-MW-4** | Water | 03/29/16 09:25 | 03/30/16 08:40 |
| **60215883002** | **GW-075034-032916-CM-MW-7** | Water | 03/29/16 10:20 | 03/30/16 08:40 |
| **60215883003** | **GW-075034-032916-CM-MW-3** | Water | 03/29/16 11:10 | 03/30/16 08:40 |
| **60215883004** | **GW-075034-032916-CM-MW-5** | Water | 03/29/16 11:20 | 03/30/16 08:40 |
| **60215883005** | **GW-075034-032916-CM-MW-2** | Water | 03/29/16 12:35 | 03/30/16 08:40 |
| **60215883006** | **GW-075034-032916-CM-MW-1** | Water | 03/29/16 13:10 | 03/30/16 08:40 |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | Water | 03/29/16 13:30 | 03/30/16 08:40 |
| **60215883008** | **GW-075034-032916-CM-MW-6** | Water | 03/29/16 14:00 | 03/30/16 08:40 |
| **60215883009** | **DUP-075034-032916-CM-001** | Water | 03/29/16 00:00 | 03/30/16 08:40 |
| **60215883010** | **TB-075034-032916-CM-001** | Water | 03/29/16 15:30 | 03/30/16 08:40 |

Pace Analytical Services, Inc.
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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **60215883001** | **GW-075034-032916-CM-MW-4** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883002** | **GW-075034-032916-CM-MW-7** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883003** | **GW-075034-032916-CM-MW-3** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883004** | **GW-075034-032916-CM-MW-5** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883005** | **GW-075034-032916-CM-MW-2** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883006** | **GW-075034-032916-CM-MW-1** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JKL | 8 |
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883008** | **GW-075034-032916-CM-MW-6** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
9608 Loiret Blvd.
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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| | | SM 2540C | AGO | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60215883009** | **DUP-075034-032916-CM-001** | EPA 8260 | JDH, JTK | 8 |
| **60215883010** | **TB-075034-032916-CM-001** | EPA 8260 | JTK | 8 |

**Pace Analytical Services, Inc.**
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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Method:** **EPA 6010**
**Description:** 6010 MET ICP, Dissolved
**Client:** GHD Services_COP NM
**Date:** April 11, 2016

**General Information:**
8 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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

# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Method:** **EPA 8260**
**Description:** 8260 MSV UST, Water
**Client:** GHD Services_COP NM
**Date:** April 11, 2016

**General Information:**
10 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

**Internal Standards:**
All internal standards were within QC limits with any exceptions noted below.

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

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

QC Batch: MSV/74964

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

QC Batch: MSV/74973

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

QC Batch: MSV/74999

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

**Additional Comments:**

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

# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Method:** **SM 2540C**
**Description:** 2540C Total Dissolved Solids
**Client:** GHD Services_COP NM
**Date:** April 11, 2016

**General Information:**
8 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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

# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Method:** **EPA 300.0**
**Description:** 300.0 IC Anions 28 Days
**Client:** GHD Services_COP NM
**Date:** April 11, 2016

**General Information:**
8 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

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

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Method:** **EPA 353.2**
**Description:** 353.2 Nitrogen, NO2/NO3 unpres
**Client:** GHD Services_COP NM
**Date:** April 11, 2016

**General Information:**
8 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

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

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-4** **Lab ID: 60215883001** Collected: 03/29/16 09:25 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **13.4** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 12:31 | 7439-96-5 | |
| Selenium, Dissolved | **41.6** | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 12:31 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 04/02/16 06:55 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 04/02/16 06:55 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 04/02/16 06:55 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 04/02/16 06:55 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 04/02/16 06:55 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 77-130 | 1 | | 04/02/16 06:55 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 04/02/16 06:55 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 04/02/16 06:55 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2080** | mg/L | 5.0 | 1 | | 04/01/16 12:04 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1300** | mg/L | 100 | 100 | | 04/02/16 17:18 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **7.7** | mg/L | 0.50 | 5 | | 03/30/16 14:59 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-7** **Lab ID: 60215883002** Collected: 03/29/16 10:20 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **102** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 12:35 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 12:35 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:09 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:09 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:09 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 04/02/16 07:09 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 04/02/16 07:09 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 04/02/16 07:09 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 81-127 | 1 | | 04/02/16 07:09 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 04/02/16 07:09 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **3120** | mg/L | 5.0 | 1 | | 04/01/16 12:04 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **2080** | mg/L | 200 | 200 | | 04/02/16 17:33 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **17.2** | mg/L | 1.0 | 10 | | 03/30/16 15:00 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-3** **Lab ID: 60215883003** Collected: 03/29/16 11:10 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **2140** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 12:39 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 12:39 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:23 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:23 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:23 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 04/02/16 07:23 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 100 | % | 80-120 | 1 | | 04/02/16 07:23 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 04/02/16 07:23 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 81-127 | 1 | | 04/02/16 07:23 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 04/02/16 07:23 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2020** | mg/L | 5.0 | 1 | | 04/01/16 12:05 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1130** | mg/L | 100 | 100 | | 04/02/16 17:49 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **8.2** | mg/L | 0.50 | 5 | | 03/30/16 15:01 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-5** **Lab ID: 60215883004** Collected: 03/29/16 11:20 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **128** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 12:57 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 12:57 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:37 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:37 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:37 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 04/02/16 07:37 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 101 | % | 80-120 | 1 | | 04/02/16 07:37 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 77-130 | 1 | | 04/02/16 07:37 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 81-127 | 1 | | 04/02/16 07:37 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 04/02/16 07:37 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2700** | mg/L | 5.0 | 1 | | 04/01/16 12:06 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1760** | mg/L | 200 | 200 | | 04/02/16 18:34 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | ND | mg/L | 0.10 | 1 | | 03/30/16 14:38 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-2** **Lab ID: 60215883005** Collected: 03/29/16 12:35 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | ND | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 13:01 | 7439-96-5 | |
| Selenium, Dissolved | **80.6** | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 13:01 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:51 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:51 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 04/02/16 07:51 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 04/02/16 07:51 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 100 | % | 80-120 | 1 | | 04/02/16 07:51 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 77-130 | 1 | | 04/02/16 07:51 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 04/02/16 07:51 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 04/02/16 07:51 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2150** | mg/L | 5.0 | 1 | | 04/01/16 12:06 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1340** | mg/L | 100 | 100 | | 04/02/16 18:49 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **36.1** | mg/L | 1.0 | 10 | | 03/30/16 15:02 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-1** **Lab ID: 60215883006** Collected: 03/29/16 13:10 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1860** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 13:05 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 13:05 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 04/02/16 08:05 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 04/02/16 08:05 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 04/02/16 08:05 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 04/02/16 08:05 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 100 | % | 80-120 | 1 | | 04/02/16 08:05 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 04/02/16 08:05 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 81-127 | 1 | | 04/02/16 08:05 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 04/02/16 08:05 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2260** | mg/L | 5.0 | 1 | | 04/01/16 12:07 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1600** | mg/L | 100 | 100 | | 04/02/16 19:05 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **0.43** | mg/L | 0.10 | 1 | | 03/30/16 14:47 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-8R** **Lab ID: 60215883007** Collected: 03/29/16 13:30 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1160** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 13:09 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 13:09 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **173** | ug/L | 10.0 | 10 | | 04/02/16 08:20 | 71-43-2 | |
| Ethylbenzene | **13.6** | ug/L | 10.0 | 10 | | 04/02/16 08:20 | 100-41-4 | |
| Toluene | **313** | ug/L | 10.0 | 10 | | 04/02/16 08:20 | 108-88-3 | |
| Xylene (Total) | **222** | ug/L | 30.0 | 10 | | 04/02/16 08:20 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 10 | | 04/02/16 08:20 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 10 | | 04/02/16 08:20 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 81-127 | 10 | | 04/02/16 08:20 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 10 | | 04/02/16 08:20 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2280** | mg/L | 5.0 | 1 | | 04/01/16 12:07 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1560** | mg/L | 100 | 100 | | 04/02/16 19:20 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **2.8** | mg/L | 0.10 | 1 | | 03/30/16 14:48 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: GW-075034-032916-CM-MW-6** **Lab ID: 60215883008** Collected: 03/29/16 14:00 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **33.8** | ug/L | 5.0 | 1 | 04/01/16 15:30 | 04/05/16 13:13 | 7439-96-5 | |
| Selenium, Dissolved | **36.4** | ug/L | 15.0 | 1 | 04/01/16 15:30 | 04/05/16 13:13 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **2.0** | ug/L | 1.0 | 1 | | 03/31/16 10:22 | 71-43-2 | |
| Ethylbenzene | **1.5** | ug/L | 1.0 | 1 | | 03/31/16 10:22 | 100-41-4 | |
| Toluene | **3.4** | ug/L | 1.0 | 1 | | 03/31/16 10:22 | 108-88-3 | |
| Xylene (Total) | **4.8** | ug/L | 3.0 | 1 | | 03/31/16 10:22 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 03/31/16 10:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 77-130 | 1 | | 03/31/16 10:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 81-127 | 1 | | 03/31/16 10:22 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 03/31/16 10:22 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1900** | mg/L | 5.0 | 1 | | 04/01/16 12:08 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **963** | mg/L | 100 | 100 | | 04/02/16 19:35 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **24.6** | mg/L | 1.0 | 10 | | 03/30/16 15:04 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: DUP-075034-032916-CM-001** **Lab ID: 60215883009** Collected: 03/29/16 00:00 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **170** | ug/L | 1.0 | 1 | | 03/31/16 10:37 | 71-43-2 | |
| Ethylbenzene | **14.8** | ug/L | 1.0 | 1 | | 03/31/16 10:37 | 100-41-4 | |
| Toluene | **278** | ug/L | 5.0 | 5 | | 04/01/16 09:19 | 108-88-3 | |
| Xylene (Total) | **247** | ug/L | 3.0 | 1 | | 03/31/16 10:37 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 03/31/16 10:37 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 77-130 | 1 | | 03/31/16 10:37 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 81-127 | 1 | | 03/31/16 10:37 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 03/31/16 10:37 | | |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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(913)599-5665

## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

**Sample: TB-075034-032916-CM-001** **Lab ID: 60215883010** Collected: 03/29/16 15:30 Received: 03/30/16 08:40 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 03/31/16 10:52 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 03/31/16 10:52 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 03/31/16 10:52 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 03/31/16 10:52 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 03/31/16 10:52 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 03/31/16 10:52 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 81-127 | 1 | | 03/31/16 10:52 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 03/31/16 10:52 | | |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: MPRP/35416 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

METHOD BLANK: 1734700 Matrix: Water
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | ND | 5.0 | 04/05/16 12:06 | |
| Selenium, Dissolved | ug/L | ND | 15.0 | 04/05/16 12:06 | |

LABORATORY CONTROL SAMPLE: 1734701

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 1000 | 1000 | 100 | 80-120 | |
| Selenium, Dissolved | ug/L | 1000 | 979 | 98 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1734702 1734703

| Parameter | Units | 60216014002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 0.13 mg/L | 1000 | 1000 | 1140 | 1120 | 101 | 99 | 75-125 | 2 | 20 | |
| Selenium, Dissolved | ug/L | ND | 1000 | 1000 | 1060 | 1060 | 106 | 106 | 75-125 | 0 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: MSV/74964 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007

METHOD BLANK: 1733258 Matrix: Water
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 04/02/16 03:51 | |
| Ethylbenzene | ug/L | ND | 1.0 | 04/02/16 03:51 | |
| Toluene | ug/L | ND | 1.0 | 04/02/16 03:51 | |
| Xylene (Total) | ug/L | ND | 3.0 | 04/02/16 03:51 | |
| 1,2-Dichloroethane-d4 (S) | % | 101 | 81-127 | 04/02/16 03:51 | |
| 4-Bromofluorobenzene (S) | % | 100 | 77-130 | 04/02/16 03:51 | |
| Toluene-d8 (S) | % | 101 | 80-120 | 04/02/16 03:51 | |

LABORATORY CONTROL SAMPLE: 1733259

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 20.8 | 104 | 79-116 | |
| Ethylbenzene | ug/L | 20 | 20.8 | 104 | 81-110 | |
| Toluene | ug/L | 20 | 21.4 | 107 | 82-111 | |
| Xylene (Total) | ug/L | 60 | 59.4 | 99 | 80-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 101 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 102 | 77-130 | |
| Toluene-d8 (S) | % | | | 100 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: MSV/74973 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60215883008, 60215883009, 60215883010

METHOD BLANK: 1733376 Matrix: Water
Associated Lab Samples: 60215883008, 60215883009, 60215883010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 03/31/16 07:23 | |
| Ethylbenzene | ug/L | ND | 1.0 | 03/31/16 07:23 | |
| Toluene | ug/L | ND | 1.0 | 03/31/16 07:23 | |
| Xylene (Total) | ug/L | ND | 3.0 | 03/31/16 07:23 | |
| 1,2-Dichloroethane-d4 (S) | % | 93 | 81-127 | 03/31/16 07:23 | |
| 4-Bromofluorobenzene (S) | % | 104 | 77-130 | 03/31/16 07:23 | |
| Toluene-d8 (S) | % | 108 | 80-120 | 03/31/16 07:23 | |

LABORATORY CONTROL SAMPLE: 1733377

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 19.3 | 96 | 79-116 | |
| Ethylbenzene | ug/L | 20 | 19.0 | 95 | 81-110 | |
| Toluene | ug/L | 20 | 19.5 | 98 | 82-111 | |
| Xylene (Total) | ug/L | 60 | 59.9 | 100 | 80-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 98 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 103 | 77-130 | |
| Toluene-d8 (S) | % | | | 107 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: MSV/74999
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60215883009

METHOD BLANK: 1733979
Matrix: Water
Associated Lab Samples: 60215883009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Toluene | ug/L | ND | 1.0 | 04/01/16 07:19 | |
| 1,2-Dichloroethane-d4 (S) | % | 100 | 81-127 | 04/01/16 07:19 | |
| 4-Bromofluorobenzene (S) | % | 105 | 77-130 | 04/01/16 07:19 | |
| Toluene-d8 (S) | % | 102 | 80-120 | 04/01/16 07:19 | |

LABORATORY CONTROL SAMPLE: 1733980

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Toluene | ug/L | 20 | 20.7 | 104 | 82-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 99 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 98 | 77-130 | |
| Toluene-d8 (S) | % | | | 102 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: WET/60933 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

METHOD BLANK: 1734119 Matrix: Water
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | ND | 5.0 | 04/01/16 11:56 | |

LABORATORY CONTROL SAMPLE: 1734120

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1000 | 993 | 99 | 80-120 | |

SAMPLE DUPLICATE: 1734121

| Parameter | Units | 60215882006 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1010 | 1020 | 1 | 10 | |

SAMPLE DUPLICATE: 1734122

| Parameter | Units | 60215998001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 925 | 939 | 1 | 10 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: WETA/38808 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

METHOD BLANK: 1735346 Matrix: Water
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 04/02/16 10:16 | |

LABORATORY CONTROL SAMPLE: 1735347

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1735348 1735349

| Parameter | Units | 60215777001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 100000 | 100000 | 105000 | 103000 | 105 | 103 | 80-120 | 2 | 15 | |

MATRIX SPIKE SAMPLE: 1735350

| Parameter | Units | 60215633001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 500 | 571 | 97 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

QC Batch: WETA/38772 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

METHOD BLANK: 1733204 Matrix: Water
Associated Lab Samples: 60215883001, 60215883002, 60215883003, 60215883004, 60215883005, 60215883006, 60215883007, 60215883008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | ND | 0.10 | 03/30/16 14:26 | |

LABORATORY CONTROL SAMPLE: 1733205

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 1.6 | 1.6 | 102 | 85-115 | |

MATRIX SPIKE SAMPLE: 1733206

| Parameter | Units | 60215882006 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | ND | 1.6 | 1.4 | 85 | 85-115 | |

MATRIX SPIKE SAMPLE: 1733208

| Parameter | Units | 60215884010 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 0.12 | 1.6 | 1.7 | 97 | 85-115 | |

SAMPLE DUPLICATE: 1733207

| Parameter | Units | 60215887001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 35.8 | 36.2 | 1 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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# QUALIFIERS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## BATCH QUALIFIERS

Batch: MSV/74964

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

Batch: MSV/74973

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

Batch: MSV/74999

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

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60215883

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **60215883001** | **GW-075034-032916-CM-MW-4** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883002** | **GW-075034-032916-CM-MW-7** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883003** | **GW-075034-032916-CM-MW-3** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883004** | **GW-075034-032916-CM-MW-5** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883005** | **GW-075034-032916-CM-MW-2** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883006** | **GW-075034-032916-CM-MW-1** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883008** | **GW-075034-032916-CM-MW-6** | EPA 3010 | MPRP/35416 | EPA 6010 | ICP/25911 |
| **60215883001** | **GW-075034-032916-CM-MW-4** | EPA 8260 | MSV/74964 | | |
| **60215883002** | **GW-075034-032916-CM-MW-7** | EPA 8260 | MSV/74964 | | |
| **60215883003** | **GW-075034-032916-CM-MW-3** | EPA 8260 | MSV/74964 | | |
| **60215883004** | **GW-075034-032916-CM-MW-5** | EPA 8260 | MSV/74964 | | |
| **60215883005** | **GW-075034-032916-CM-MW-2** | EPA 8260 | MSV/74964 | | |
| **60215883006** | **GW-075034-032916-CM-MW-1** | EPA 8260 | MSV/74964 | | |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | EPA 8260 | MSV/74964 | | |
| **60215883008** | **GW-075034-032916-CM-MW-6** | EPA 8260 | MSV/74973 | | |
| **60215883009** | **DUP-075034-032916-CM-001** | EPA 8260 | MSV/74973 | | |
| **60215883009** | **DUP-075034-032916-CM-001** | EPA 8260 | MSV/74999 | | |
| **60215883010** | **TB-075034-032916-CM-001** | EPA 8260 | MSV/74973 | | |
| **60215883001** | **GW-075034-032916-CM-MW-4** | SM 2540C | WET/60933 | | |
| **60215883002** | **GW-075034-032916-CM-MW-7** | SM 2540C | WET/60933 | | |
| **60215883003** | **GW-075034-032916-CM-MW-3** | SM 2540C | WET/60933 | | |
| **60215883004** | **GW-075034-032916-CM-MW-5** | SM 2540C | WET/60933 | | |
| **60215883005** | **GW-075034-032916-CM-MW-2** | SM 2540C | WET/60933 | | |
| **60215883006** | **GW-075034-032916-CM-MW-1** | SM 2540C | WET/60933 | | |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | SM 2540C | WET/60933 | | |
| **60215883008** | **GW-075034-032916-CM-MW-6** | SM 2540C | WET/60933 | | |
| **60215883001** | **GW-075034-032916-CM-MW-4** | EPA 300.0 | WETA/38808 | | |
| **60215883002** | **GW-075034-032916-CM-MW-7** | EPA 300.0 | WETA/38808 | | |
| **60215883003** | **GW-075034-032916-CM-MW-3** | EPA 300.0 | WETA/38808 | | |
| **60215883004** | **GW-075034-032916-CM-MW-5** | EPA 300.0 | WETA/38808 | | |
| **60215883005** | **GW-075034-032916-CM-MW-2** | EPA 300.0 | WETA/38808 | | |
| **60215883006** | **GW-075034-032916-CM-MW-1** | EPA 300.0 | WETA/38808 | | |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | EPA 300.0 | WETA/38808 | | |
| **60215883008** | **GW-075034-032916-CM-MW-6** | EPA 300.0 | WETA/38808 | | |
| **60215883001** | **GW-075034-032916-CM-MW-4** | EPA 353.2 | WETA/38772 | | |
| **60215883002** | **GW-075034-032916-CM-MW-7** | EPA 353.2 | WETA/38772 | | |
| **60215883003** | **GW-075034-032916-CM-MW-3** | EPA 353.2 | WETA/38772 | | |
| **60215883004** | **GW-075034-032916-CM-MW-5** | EPA 353.2 | WETA/38772 | | |
| **60215883005** | **GW-075034-032916-CM-MW-2** | EPA 353.2 | WETA/38772 | | |
| **60215883006** | **GW-075034-032916-CM-MW-1** | EPA 353.2 | WETA/38772 | | |
| **60215883007** | **GW-075034-032916-CM-MW-8R** | EPA 353.2 | WETA/38772 | | |
| **60215883008** | **GW-075034-032916-CM-MW-6** | EPA 353.2 | WETA/38772 | | |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical
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## Sample Condition Upon Receipt

WO# : 60215883

60215883

Client Name: GHD

Optional
Proj Due Date:
Proj Name:

**Courier:** FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

**Tracking #:** 6508 8165 2136 Pace Shipping Label Used? Yes ☐ No ☐

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

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

**Thermometer Used:** CF +1.0 T-239 / CF 0.0 T-262 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

**Cooler Temperature:** 4.3

Temperature should be above freezing to 6°C

**Date and initials of person examining contents:** BB 3/30/16

| | | |
|---|---|---|
| Chain of Custody present: | ☐Yes ☐No ☐N/A | 1. |
| Chain of Custody filled out: | ☐Yes ☐No ☐N/A | 2. |
| Chain of Custody relinquished: | ☐Yes ☐No ☐N/A | 3. |
| Sampler name & signature on COC: | ☐Yes ☐No ☐N/A | 4. |
| Samples arrived within holding time: | ☐Yes ☐No ☐N/A | 5. |
| **Short Hold Time analyses (<72hr):** | ☐Yes ☐No ☐N/A | 6. NO 2/3 |
| **Rush Turn Around Time requested:** | ☐Yes ☐No ☐N/A | 7. |
| Sufficient volume: | ☐Yes ☐No ☐N/A | 8. |
| Correct containers used: | ☐Yes ☐No ☐N/A | |
| Pace containers used: | ☐Yes ☐No ☐N/A | 9. |
| Containers intact: | ☐Yes ☐No ☐N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | ☐Yes ☐No ☐N/A | 11. |
| Filtered volume received for dissolved tests? | ☐Yes ☐No ☐N/A BB | 12. |
| Sample labels match COC: | ☐Yes ☐No ☐N/A | |
| Includes date/time/ID/analyses Y Matrix: WT | | 13. |
| All containers needing preservation have been checked. | ☐Yes ☐No ☐N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☐N/A | 14. |
| Exceptions: VOA, Coliform, O&G, WI-DRO (water) | ☐Yes ☐No | Initial when completed / Lot # of added preservative |
| Trip Blank present: | ☐Yes ☐No ☐N/A | |
| Pace Trip Blank lot # (if purchased): 121015-3AXI | | 15. |
| Headspace in VOA vials ( >6mm): | ☐Yes ☐No ☐N/A | 16. |
| Project sampled in USDA Regulated Area: | ☐Yes ☐No ☐N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | ☐Yes ☐No ☐N/A | 18. |

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AAF Date: 03/30/16

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | GHD Services_COP NM | Report To: | Christine Mathews | Attention: | |
| Address: | 6212 Indian School Rd. NE St2 | Copy To: | Jeff Walker | Company Name: | |
| Albuquerque, NM 87110 | | Angela Bown | | Address: | |
| Email: | christine.mathews@ghd.com | Purchase Order #: | | Pace Quote: | |
| Phone: | 505-884-0672 Fax: | Project Name: | 075034 COP San Juan 29-7 No 37 | Pace Project Manager: | alice.flanagan@pacelabs.com, |
| Requested Due Date: | | Project #: | | Pace Profile #: | |

Regulatory Agency:

State / Location: NM

| ITEM # | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | 8260 BTEX | Dissolved Mn,Se | Nitrates | TDS | Sulfate | Residual Chlorine (Y/N) | 60215883 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GW-075034-032916-CM-MW-4 | WT | G | | | 3-29-16 | 0925 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 001 |
| 2 | GW-075034-032916-CM-MW-7 | WT | G | | | 3-29-16 | 1020 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 002 |
| 3 | GW-075034-032916-CM-MW-3 | WT | G | | | 3-29-16 | 1110 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 003 |
| 4 | GW-075034-032916-CM-MW-5 | WT | G | | | 3-29-16 | 1120 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 004 |
| 5 | GW-075034-032916-CM-MW-2 | WT | G | | | 3-29-16 | 1235 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 005 |
| 6 | GW-075034-032916-CM-MW-1 | WT | G | | | 3-29-16 | 1310 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 006 |
| 7 | GW-075034-032916-CM-MW-8R | WT | G | | | 3-29-16 | 1330 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 007 |
| 8 | GW-075034-032916-CM-MW-6 | WT | G | | | 3-29-16 | 1400 | | 5 | 1 | | 1 | 3 | | | | | | X | X | X | X | X | | 008 |
| 9 | DUP-075034-032916-CM-001 | WT | G | | | 3-29-16 | — | | 3 | | | | 3 | | | | | | X | | | | | | 009 |
| 10 | TB-075034-032916-CM-001 | WT | | | | 3-29-16 | ~~1530~~ 1530 | | 3 | | | | 3 | | | | | | X | | | | | | 010 |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| | C. Mathews / GHD | 3-29-16 | 1545 | [signature] | 3/30/16 | 0840 | 4.3 Y Y Y |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: C. Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed: 3/29/16

| TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| 4.3 | Y | Y | Y |

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

July 06, 2016

Christine Mathews
GHD Services, Inc.
6212 Indian School Rd. NE St2
Albuquerque, NM 87110

RE: Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 22, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Jeffrey Walker, GHD Services, Inc

**Pace Analytical Services, Inc.**
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(913)599-5665

## CERTIFICATIONS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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(913)599-5665

## SAMPLE SUMMARY

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **60221830001** | **GW-075034-062116-SP-MW-5** | Water | 06/21/16 11:20 | 06/22/16 08:50 |
| **60221830002** | **GW-075034-062116-SP-MW-2** | Water | 06/21/16 11:45 | 06/22/16 08:50 |
| **60221830003** | **GW-075034-062116-SP-MW-3** | Water | 06/21/16 12:05 | 06/22/16 08:50 |
| **60221830004** | **GW-075034-062116-SP-MW-6** | Water | 06/21/16 12:45 | 06/22/16 08:50 |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | Water | 06/21/16 13:25 | 06/22/16 08:50 |
| **60221830006** | **GW-075034-062116-SP-MW-7** | Water | 06/21/16 14:00 | 06/22/16 08:50 |
| **60221830007** | **GW-075034-062116-SP-MW-4** | Water | 06/21/16 14:15 | 06/22/16 08:50 |
| **60221830008** | **GW-075034-062116-SP-MW-1** | Water | 06/21/16 14:45 | 06/22/16 08:50 |
| **60221830009** | **GW-075034-062116-SP-DUP** | Water | 06/21/16 08:00 | 06/22/16 08:50 |
| **60221830010** | **TRIP BLANK** | Water | 06/21/16 08:00 | 06/22/16 08:50 |

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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **60221830001** | **GW-075034-062116-SP-MW-5** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830002** | **GW-075034-062116-SP-MW-2** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830003** | **GW-075034-062116-SP-MW-3** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830004** | **GW-075034-062116-SP-MW-6** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830006** | **GW-075034-062116-SP-MW-7** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830007** | **GW-075034-062116-SP-MW-4** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830008** | **GW-075034-062116-SP-MW-1** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JDH | 8 |

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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| | | SM 2540C | HAC | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | CRS | 1 |
| **60221830009** | **GW-075034-062116-SP-DUP** | EPA 8260 | JDH | 8 |

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Method:** **EPA 6010**
**Description:** 6010 MET ICP, Dissolved
**Client:** GHD Services_COP NM
**Date:** July 06, 2016

**General Information:**
8 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Method:** **EPA 8260**
**Description:** 8260 MSV UST, Water
**Client:** GHD Services_COP NM
**Date:** July 06, 2016

**General Information:**
9 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

**Internal Standards:**
All internal standards were within QC limits with any exceptions noted below.

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

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

QC Batch: MSV/76608

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

QC Batch: MSV/76642

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

**Additional Comments:**

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Method:** **SM 2540C**
**Description:** 2540C Total Dissolved Solids
**Client:** GHD Services_COP NM
**Date:** July 06, 2016

**General Information:**
8 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Method:** **EPA 300.0**
**Description:** 300.0 IC Anions 28 Days
**Client:** GHD Services_COP NM
**Date:** July 06, 2016

**General Information:**
8 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

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

QC Batch: WETA/40363

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60222038006,60222038007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1786773)
  - Sulfate

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Method:** **EPA 353.2**
**Description:** 353.2 Nitrogen, NO2/NO3 unpres
**Client:** GHD Services_COP NM
**Date:** July 06, 2016

**General Information:**
8 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

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

**Pace Analytical Services, Inc.**
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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-5** **Lab ID: 60221830001** Collected: 06/21/16 11:20 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **10.9** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:05 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:05 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 06/23/16 17:51 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 17:51 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 17:51 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 17:51 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 06/23/16 17:51 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 06/23/16 17:51 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 06/23/16 17:51 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 17:51 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2630** | mg/L | 5.0 | 1 | | 06/24/16 08:58 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1610** | mg/L | 200 | 200 | | 07/01/16 13:44 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **0.11** | mg/L | 0.10 | 1 | | 06/22/16 15:16 | | |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-2** **Lab ID: 60221830002** Collected: 06/21/16 11:45 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1920** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:09 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:09 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:06 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:06 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:06 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 18:06 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 06/23/16 18:06 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 06/23/16 18:06 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 06/23/16 18:06 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 18:06 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1930** | mg/L | 5.0 | 1 | | 06/24/16 08:59 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1060** | mg/L | 100 | 100 | | 07/01/16 13:59 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **10.6** | mg/L | 0.50 | 5 | | 06/22/16 15:32 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-3** **Lab ID: 60221830003** Collected: 06/21/16 12:05 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **9.9** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:12 | 7439-96-5 | |
| Selenium, Dissolved | **76.4** | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:12 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:22 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:22 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:22 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 18:22 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 06/23/16 18:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 06/23/16 18:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 81-127 | 1 | | 06/23/16 18:22 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 18:22 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2190** | mg/L | 5.0 | 1 | | 06/24/16 09:01 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1260** | mg/L | 100 | 100 | | 07/01/16 14:14 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **40.6** | mg/L | 1.0 | 10 | | 06/22/16 15:33 | | |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-6** **Lab ID: 60221830004** Collected: 06/21/16 12:45 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **81.9** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:33 | 7439-96-5 | |
| Selenium, Dissolved | **29.6** | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:33 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **1.0** | ug/L | 1.0 | 1 | | 06/23/16 18:37 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:37 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 18:37 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 18:37 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 06/23/16 18:37 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 06/23/16 18:37 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 06/23/16 18:37 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 18:37 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1880** | mg/L | 5.0 | 1 | | 06/24/16 09:02 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **884** | mg/L | 100 | 100 | | 07/01/16 14:29 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **26.2** | mg/L | 1.0 | 10 | | 06/22/16 15:34 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-8R** **Lab ID: 60221830005** Collected: 06/21/16 13:25 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **431** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:37 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:37 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **193** | ug/L | 5.0 | 5 | | 06/23/16 18:52 | 71-43-2 | |
| Ethylbenzene | **16.8** | ug/L | 5.0 | 5 | | 06/23/16 18:52 | 100-41-4 | |
| Toluene | **586** | ug/L | 5.0 | 5 | | 06/23/16 18:52 | 108-88-3 | |
| Xylene (Total) | **466** | ug/L | 15.0 | 5 | | 06/23/16 18:52 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 98 | % | 80-120 | 5 | | 06/23/16 18:52 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 5 | | 06/23/16 18:52 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 81-127 | 5 | | 06/23/16 18:52 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 5 | | 06/23/16 18:52 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2180** | mg/L | 5.0 | 1 | | 06/24/16 09:02 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1280** | mg/L | 100 | 100 | | 07/01/16 14:44 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **20.7** | mg/L | 1.0 | 10 | | 06/22/16 15:37 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-7** **Lab ID: 60221830006** Collected: 06/21/16 14:00 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **55.2** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:41 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:41 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:07 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:07 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:07 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 19:07 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 06/23/16 19:07 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 06/23/16 19:07 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 109 | % | 81-127 | 1 | | 06/23/16 19:07 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 19:07 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2960** | mg/L | 5.0 | 1 | | 06/24/16 09:03 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1900** | mg/L | 200 | 200 | | 07/01/16 15:29 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **21.2** | mg/L | 0.50 | 5 | | 06/22/16 15:39 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-4** **Lab ID: 60221830007** Collected: 06/21/16 14:15 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **71.3** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:45 | 7439-96-5 | |
| Selenium, Dissolved | **42.7** | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:45 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:22 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:22 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:22 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 19:22 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 98 | % | 80-120 | 1 | | 06/23/16 19:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 77-130 | 1 | | 06/23/16 19:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 06/23/16 19:22 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 19:22 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2210** | mg/L | 5.0 | 1 | | 06/24/16 09:04 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1210** | mg/L | 100 | 100 | | 07/01/16 15:44 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **9.3** | mg/L | 0.50 | 5 | | 06/22/16 15:39 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-MW-1** **Lab ID: 60221830008** Collected: 06/21/16 14:45 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1720** | ug/L | 5.0 | 1 | 06/24/16 09:30 | 06/27/16 10:49 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 06/24/16 09:30 | 06/27/16 10:49 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:37 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:37 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 06/23/16 19:37 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 06/23/16 19:37 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 06/23/16 19:37 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 06/23/16 19:37 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 06/23/16 19:37 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 19:37 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2250** | mg/L | 5.0 | 1 | | 06/24/16 09:05 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1390** | mg/L | 200 | 200 | | 07/01/16 15:58 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **1.1** | mg/L | 0.10 | 1 | | 06/22/16 15:30 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

**Sample: GW-075034-062116-SP-DUP** **Lab ID: 60221830009** Collected: 06/21/16 08:00 Received: 06/22/16 08:50 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **204** | ug/L | 5.0 | 5 | | 06/24/16 22:03 | 71-43-2 | |
| Ethylbenzene | **18.2** | ug/L | 1.0 | 1 | | 06/23/16 19:52 | 100-41-4 | |
| Toluene | **625** | ug/L | 5.0 | 5 | | 06/24/16 22:03 | 108-88-3 | |
| Xylene (Total) | **456** | ug/L | 3.0 | 1 | | 06/23/16 19:52 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 06/23/16 19:52 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 77-130 | 1 | | 06/23/16 19:52 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 81-127 | 1 | | 06/23/16 19:52 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 06/23/16 19:52 | | |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

QC Batch: MPRP/36443 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

METHOD BLANK: 1782187 Matrix: Water
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | ND | 5.0 | 06/27/16 09:39 | |
| Selenium, Dissolved | ug/L | ND | 15.0 | 06/27/16 09:39 | |

LABORATORY CONTROL SAMPLE: 1782188

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 1000 | 961 | 96 | 80-120 | |
| Selenium, Dissolved | ug/L | 1000 | 995 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1782189 1782190

| Parameter | Units | 60221546001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 0.18 mg/L | 1000 | 1000 | 1120 | 1120 | 94 | 94 | 75-125 | 0 | 20 | |
| Selenium, Dissolved | ug/L | ND | 1000 | 1000 | 1030 | 1030 | 103 | 103 | 75-125 | 0 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

QC Batch: MSV/76608 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008, 60221830009

METHOD BLANK: 1781585 Matrix: Water
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008, 60221830009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 06/23/16 17:21 | |
| Ethylbenzene | ug/L | ND | 1.0 | 06/23/16 17:21 | |
| Toluene | ug/L | ND | 1.0 | 06/23/16 17:21 | |
| Xylene (Total) | ug/L | ND | 3.0 | 06/23/16 17:21 | |
| 1,2-Dichloroethane-d4 (S) | % | 105 | 81-127 | 06/23/16 17:21 | |
| 4-Bromofluorobenzene (S) | % | 101 | 77-130 | 06/23/16 17:21 | |
| Toluene-d8 (S) | % | 97 | 80-120 | 06/23/16 17:21 | |

LABORATORY CONTROL SAMPLE: 1781586

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 21.2 | 106 | 79-116 | |
| Ethylbenzene | ug/L | 20 | 20.5 | 103 | 81-110 | |
| Toluene | ug/L | 20 | 20.4 | 102 | 82-111 | |
| Xylene (Total) | ug/L | 60 | 60.0 | 100 | 80-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 108 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 102 | 77-130 | |
| Toluene-d8 (S) | % | | | 98 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

QC Batch: MSV/76642
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60221830009

METHOD BLANK: 1782522 Matrix: Water
Associated Lab Samples: 60221830009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 06/24/16 18:48 | |
| Toluene | ug/L | ND | 1.0 | 06/24/16 18:48 | |
| 1,2-Dichloroethane-d4 (S) | % | 102 | 81-127 | 06/24/16 18:48 | |
| 4-Bromofluorobenzene (S) | % | 103 | 77-130 | 06/24/16 18:48 | |
| Toluene-d8 (S) | % | 99 | 80-120 | 06/24/16 18:48 | |

LABORATORY CONTROL SAMPLE: 1782523

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 21.5 | 107 | 79-116 | |
| Toluene | ug/L | 20 | 19.9 | 100 | 82-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 104 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 77-130 | |
| Toluene-d8 (S) | % | | | 97 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

QC Batch: WET/62608 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

METHOD BLANK: 1782112 Matrix: Water
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | ND | 5.0 | 06/24/16 08:56 | |

LABORATORY CONTROL SAMPLE: 1782113

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1000 | 958 | 96 | 80-120 | |

SAMPLE DUPLICATE: 1782114

| Parameter | Units | 60222038001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 937 | 943 | 1 | 10 | |

SAMPLE DUPLICATE: 1782115

| Parameter | Units | 60221932001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1130 | 1130 | 0 | 10 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

QC Batch: WETA/40363 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

METHOD BLANK: 1786770 Matrix: Water
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 07/01/16 08:59 | |

LABORATORY CONTROL SAMPLE: 1786771

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1786772 1786773

| Parameter | Units | 60222038006 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 479 | 250 | 250 | 695 | 671 | 86 | 77 | 80-120 | 4 | 15 | M1 |

MATRIX SPIKE SAMPLE: 1786774

| Parameter | Units | 60222038007 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 618 | 250 | 903 | 114 | 80-120 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

QC Batch: WETA/40206 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

METHOD BLANK: 1780663 Matrix: Water
Associated Lab Samples: 60221830001, 60221830002, 60221830003, 60221830004, 60221830005, 60221830006, 60221830007, 60221830008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | ND | 0.10 | 06/22/16 15:19 | |

LABORATORY CONTROL SAMPLE: 1780664

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 1.6 | 1.6 | 102 | 85-115 | |

MATRIX SPIKE SAMPLE: 1780665

| Parameter | Units | 60221830001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 0.11 | 1.6 | 1.8 | 108 | 85-115 | |

SAMPLE DUPLICATE: 1780666

| Parameter | Units | 60221830003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 40.6 | 35.9 | 12 | 20 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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(913)599-5665

# QUALIFIERS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## BATCH QUALIFIERS

Batch: MSV/76608

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

Batch: MSV/76642

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

## ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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(913)599-5665

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60221830

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **60221830001** | **GW-075034-062116-SP-MW-5** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830002** | **GW-075034-062116-SP-MW-2** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830003** | **GW-075034-062116-SP-MW-3** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830004** | **GW-075034-062116-SP-MW-6** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830006** | **GW-075034-062116-SP-MW-7** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830007** | **GW-075034-062116-SP-MW-4** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830008** | **GW-075034-062116-SP-MW-1** | EPA 3010 | MPRP/36443 | EPA 6010 | ICP/26565 |
| **60221830001** | **GW-075034-062116-SP-MW-5** | EPA 8260 | MSV/76608 | | |
| **60221830002** | **GW-075034-062116-SP-MW-2** | EPA 8260 | MSV/76608 | | |
| **60221830003** | **GW-075034-062116-SP-MW-3** | EPA 8260 | MSV/76608 | | |
| **60221830004** | **GW-075034-062116-SP-MW-6** | EPA 8260 | MSV/76608 | | |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | EPA 8260 | MSV/76608 | | |
| **60221830006** | **GW-075034-062116-SP-MW-7** | EPA 8260 | MSV/76608 | | |
| **60221830007** | **GW-075034-062116-SP-MW-4** | EPA 8260 | MSV/76608 | | |
| **60221830008** | **GW-075034-062116-SP-MW-1** | EPA 8260 | MSV/76608 | | |
| **60221830009** | **GW-075034-062116-SP-DUP** | EPA 8260 | MSV/76608 | | |
| **60221830009** | **GW-075034-062116-SP-DUP** | EPA 8260 | MSV/76642 | | |
| **60221830001** | **GW-075034-062116-SP-MW-5** | SM 2540C | WET/62608 | | |
| **60221830002** | **GW-075034-062116-SP-MW-2** | SM 2540C | WET/62608 | | |
| **60221830003** | **GW-075034-062116-SP-MW-3** | SM 2540C | WET/62608 | | |
| **60221830004** | **GW-075034-062116-SP-MW-6** | SM 2540C | WET/62608 | | |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | SM 2540C | WET/62608 | | |
| **60221830006** | **GW-075034-062116-SP-MW-7** | SM 2540C | WET/62608 | | |
| **60221830007** | **GW-075034-062116-SP-MW-4** | SM 2540C | WET/62608 | | |
| **60221830008** | **GW-075034-062116-SP-MW-1** | SM 2540C | WET/62608 | | |
| **60221830001** | **GW-075034-062116-SP-MW-5** | EPA 300.0 | WETA/40363 | | |
| **60221830002** | **GW-075034-062116-SP-MW-2** | EPA 300.0 | WETA/40363 | | |
| **60221830003** | **GW-075034-062116-SP-MW-3** | EPA 300.0 | WETA/40363 | | |
| **60221830004** | **GW-075034-062116-SP-MW-6** | EPA 300.0 | WETA/40363 | | |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | EPA 300.0 | WETA/40363 | | |
| **60221830006** | **GW-075034-062116-SP-MW-7** | EPA 300.0 | WETA/40363 | | |
| **60221830007** | **GW-075034-062116-SP-MW-4** | EPA 300.0 | WETA/40363 | | |
| **60221830008** | **GW-075034-062116-SP-MW-1** | EPA 300.0 | WETA/40363 | | |
| **60221830001** | **GW-075034-062116-SP-MW-5** | EPA 353.2 | WETA/40206 | | |
| **60221830002** | **GW-075034-062116-SP-MW-2** | EPA 353.2 | WETA/40206 | | |
| **60221830003** | **GW-075034-062116-SP-MW-3** | EPA 353.2 | WETA/40206 | | |
| **60221830004** | **GW-075034-062116-SP-MW-6** | EPA 353.2 | WETA/40206 | | |
| **60221830005** | **GW-075034-062116-SP-MW-8R** | EPA 353.2 | WETA/40206 | | |
| **60221830006** | **GW-075034-062116-SP-MW-7** | EPA 353.2 | WETA/40206 | | |
| **60221830007** | **GW-075034-062116-SP-MW-4** | EPA 353.2 | WETA/40206 | | |
| **60221830008** | **GW-075034-062116-SP-MW-1** | EPA 353.2 | WETA/40206 | | |

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## Sample Condition Upon Receipt

WO# : 60221830

60221830

Client Name: GHD

| Optional |
|---|
| Proj Due Date: |
| Proj Name: |

**Courier:** FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

**Tracking #:** 6703 1644 5810 Pace Shipping Label Used? Yes ☐ No ☐

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

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

**Thermometer Used:** CF -0.1 T-239 / CF 0.0 T-262 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun. (circle one)

**Cooler Temperature:** 2.3

Temperature should be above freezing to 6°C

**Date and initials of person examining contents:** JB 6/22

| | | |
|---|---|---|
| Chain of Custody present: | ☒Yes ☐No ☐N/A | 1. |
| Chain of Custody filled out: | ☒Yes ☐No ☐N/A | 2. |
| Chain of Custody relinquished: | ☒Yes ☐No ☐N/A | 3. |
| Sampler name & signature on COC: | ☒Yes ☐No ☐N/A | 4. |
| Samples arrived within holding time: | ☒Yes ☐No ☐N/A | 5. |
| **Short Hold Time analyses (<72hr):** | ☒Yes ☐No ☐N/A | 6. $NO_2/NO_3$ |
| **Rush Turn Around Time requested:** | ☐Yes ☒No ☐N/A | 7. |
| Sufficient volume: | ☒Yes ☐No ☐N/A | 8. |
| Correct containers used: | ☒Yes ☐No ☐N/A | |
| Pace containers used: | ☒Yes ☐No ☐N/A | 9. |
| Containers intact: | ☒Yes ☐No ☐N/A | 10. |
| Unpreserved 5035A soils frozen w/in 48hrs? | ☐Yes ☐No ☒N/A | 11. |
| Filtered volume received for dissolved tests? | ☐Yes ☐No ☒N/A | 12. |
| Sample labels match COC: | ☒Yes ☐No ☐N/A | |
| Includes date/time/ID/analyses Matrix: WT | | 13. |
| All containers needing preservation have been checked. | ☒Yes ☐No ☐N/A | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☒Yes ☐No ☐N/A | 14. |
| Exceptions: (VOA), Coliform, O&G, WI-DRO (water) | ☒Yes ☐No | Initial when completed / Lot # of added preservative |
| Trip Blank present: | ☒Yes ☐No ☐N/A | |
| Pace Trip Blank lot # (if purchased): 6/14/16 | | 15. |
| Headspace in VOA vials ( >6mm): | ☐Yes ☒No ☐N/A | 16. |
| Project sampled in USDA Regulated Area: | ☐Yes ☐No ☒N/A | 17. List State: |
| Additional labels attached to 5035A vials in the field? | ☐Yes ☐No ☒N/A | 18. |

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AAF Date: 06/22/16

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | GHD Services_COP NM | Report To: | Christine Mathews | Attention: | |
| Address: | 6212 Indian School Rd. NE St2 | Copy To: | Jeff Walker | Company Name: | |
| Albuquerque, NM 87110 | | Angela Bown | | Address: | |
| Email: | christine.mathews@ghd.com | Purchase Order #: | | Pace Quote: | |
| Phone: | 505-884-0672 Fax: | Project Name: | 075034 COP San Juan 29-7 No 37 | Pace Project Manager: | alice.flanagan@pacelabs.com, |
| Requested Due Date: | | Project #: | | Pace Profile #: | |

Regulatory Agency: | State / Location: NM

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

| ITEM # | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | 8260 BTEX | Dissolved Mn,Se | Nitrates | TDS | Sulfate | Residual Chlorine (Y/N) | 60221830 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GW-075034-062116-SP-MW-5 | WT | G | 6-21-16 | 1120 | — | — | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | X | | | BP3U BP3N (3)D69H |
| 2 | GW-075034-062116-SP-MW-2 | | | | 1145 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 3 | GW-075034-062116-SP-MW-3 | | | | 1205 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 4 | GW-075034-062116-SP-MW-6 | | | | 1245 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 5 | GW-075034-062116-SP-MW-8R | | | | 1325 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 6 | GW-075034-06216-SP-MW-7 | | | | 1400 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 7 | GW-075034-062116-SP-MW-4 | | | | 1415 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 8 | GW-075034-06216-SP-MW-1 | | | | 1445 | | | | 5 | 1 | | 1 | 3 | | | | | | | | | | | | |
| 9 | GW-075034-062116-SP-DUP | | | | | | | | 3 | | | | 3 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

BP3U BP3N (3)D69H TO

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Steven Perez | 6-21-16 | 16:40 | | 6/22 | 0850 | 2.3 | Y | Y | Y |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steven Perez

SIGNATURE of SAMPLER: Steven Perez DATE Signed: 6-21-16

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

**Pace Analytical Services, Inc.**
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(913)599-5665

September 26, 2016

Christine Mathews
GHD Services, Inc.
6212 Indian School Rd. NE St2
Albuquerque, NM 87110

RE: Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2016. 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 Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Jeffrey Walker, GHD Services, Inc

**Pace Analytical Services, Inc.**
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## CERTIFICATIONS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, Inc.**
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## SAMPLE SUMMARY

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **60227374001** | **GW-075034-090716-SP-MW-1** | Water | 09/07/16 13:05 | 09/10/16 09:29 |
| **60227374002** | **GW-075034-090716-SP-MW-2** | Water | 09/07/16 11:48 | 09/10/16 09:29 |
| **60227374003** | **GW-075034-090716-SP-MW-3** | Water | 09/07/16 10:11 | 09/10/16 09:29 |
| **60227374004** | **GW-075034-090716-SP-MW-4** | Water | 09/07/16 14:15 | 09/10/16 09:29 |
| **60227374005** | **GW-075034-090716-SP-MW-5** | Water | 09/07/16 10:25 | 09/10/16 09:29 |
| **60227374006** | **GW-075034-090716-SP-MW-6** | Water | 09/07/16 11:00 | 09/10/16 09:29 |
| **60227374007** | **GW-075034-090716-SP-MW-7** | Water | 09/07/16 13:10 | 09/10/16 09:29 |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | Water | 09/07/16 13:40 | 09/10/16 09:29 |
| **60227374009** | **GW-075034-090716-SP-DUP** | Water | 09/07/16 12:00 | 09/10/16 09:29 |
| **60227374010** | **TRIP BLANK** | Water | 09/07/16 12:00 | 09/10/16 09:29 |

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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **60227374001** | **GW-075034-090716-SP-MW-1** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374002** | **GW-075034-090716-SP-MW-2** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374003** | **GW-075034-090716-SP-MW-3** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374004** | **GW-075034-090716-SP-MW-4** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374005** | **GW-075034-090716-SP-MW-5** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374006** | **GW-075034-090716-SP-MW-6** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374007** | **GW-075034-090716-SP-MW-7** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |

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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | RAB | 1 |
| **60227374009** | **GW-075034-090716-SP-DUP** | EPA 8260 | JTK | 8 |

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Method:** **EPA 6010**
**Description:** 6010 MET ICP, Dissolved
**Client:** GHD Services_COP NM
**Date:** September 26, 2016

**General Information:**
8 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Method:** **EPA 8260**
**Description:** 8260 MSV UST, Water
**Client:** GHD Services_COP NM
**Date:** September 26, 2016

**General Information:**
9 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

**Internal Standards:**
All internal standards were within QC limits with any exceptions noted below.

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

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

QC Batch: 446568

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60227293005,60227374008

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1825963)
  - Toluene

QC Batch: 446710

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

**Additional Comments:**

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## PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Method:** **SM 2540C**
**Description:** 2540C Total Dissolved Solids
**Client:** GHD Services_COP NM
**Date:** September 26, 2016

**General Information:**
8 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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## PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Method:** **EPA 300.0**
**Description:** 300.0 IC Anions 28 Days
**Client:** GHD Services_COP NM
**Date:** September 26, 2016

**General Information:**
8 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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.

QC Batch: 447747

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60227374008,60227819001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1831532)
  - Sulfate
- MSD (Lab ID: 1831533)
  - Sulfate

**Additional Comments:**

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Method:** **EPA 353.2**
**Description:** 353.2 Nitrogen, NO2/NO3 unpres
**Client:** GHD Services_COP NM
**Date:** September 26, 2016

**General Information:**
8 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

H3: Sample was received or analysis requested beyond the recognized method holding time.
- GW-075034-090716-SP-MW-1 (Lab ID: 60227374001)
- GW-075034-090716-SP-MW-2 (Lab ID: 60227374002)
- GW-075034-090716-SP-MW-3 (Lab ID: 60227374003)
- GW-075034-090716-SP-MW-4 (Lab ID: 60227374004)
- GW-075034-090716-SP-MW-5 (Lab ID: 60227374005)
- GW-075034-090716-SP-MW-6 (Lab ID: 60227374006)
- GW-075034-090716-SP-MW-7 (Lab ID: 60227374007)
- GW-075034-090716-SP-MW-8R (Lab ID: 60227374008)

**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.

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-1** **Lab ID: 60227374001** Collected: 09/07/16 13:05 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1380** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 13:58 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 13:58 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **1.2** | ug/L | 1.0 | 1 | | 09/15/16 01:40 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 01:40 | 100-41-4 | |
| Toluene | **5.8** | ug/L | 1.0 | 1 | | 09/15/16 01:40 | 108-88-3 | |
| Xylene (Total) | **4.1** | ug/L | 3.0 | 1 | | 09/15/16 01:40 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 09/15/16 01:40 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 77-130 | 1 | | 09/15/16 01:40 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 81-127 | 1 | | 09/15/16 01:40 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 01:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2230** | mg/L | 5.0 | 1 | | 09/13/16 10:59 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1560** | mg/L | 100 | 100 | | 09/24/16 18:07 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **1.7** | mg/L | 0.10 | 1 | | 09/10/16 16:31 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-2** **Lab ID: 60227374002** Collected: 09/07/16 11:48 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **10.4** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:01 | 7439-96-5 | |
| Selenium, Dissolved | **74.0** | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:01 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 09/15/16 01:55 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 01:55 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 09/15/16 01:55 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 09/15/16 01:55 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 09/15/16 01:55 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 104 | % | 77-130 | 1 | | 09/15/16 01:55 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 1 | | 09/15/16 01:55 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 01:55 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2320** | mg/L | 5.0 | 1 | | 09/13/16 11:00 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1390** | mg/L | 100 | 100 | | 09/24/16 18:21 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **29.9** | mg/L | 1.0 | 10 | | 09/10/16 16:47 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-3** **Lab ID: 60227374003** Collected: 09/07/16 10:11 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1880** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:03 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:03 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:10 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:10 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:10 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 09/15/16 02:10 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 09/15/16 02:10 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 77-130 | 1 | | 09/15/16 02:10 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 1 | | 09/15/16 02:10 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 02:10 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1780** | mg/L | 5.0 | 1 | | 09/13/16 11:02 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1190** | mg/L | 100 | 100 | | 09/24/16 18:35 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **2.3** | mg/L | 0.10 | 1 | | 09/10/16 16:34 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-4** **Lab ID: 60227374004** Collected: 09/07/16 14:15 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **13.8** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:05 | 7439-96-5 | |
| Selenium, Dissolved | **35.4** | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:05 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:25 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:25 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:25 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 09/15/16 02:25 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 09/15/16 02:25 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 104 | % | 77-130 | 1 | | 09/15/16 02:25 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 81-127 | 1 | | 09/15/16 02:25 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 02:25 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2140** | mg/L | 5.0 | 1 | | 09/13/16 11:02 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1340** | mg/L | 100 | 100 | | 09/24/16 18:49 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **6.3** | mg/L | 0.20 | 2 | | 09/10/16 16:48 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-5** **Lab ID: 60227374005** Collected: 09/07/16 10:25 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **235** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:08 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:08 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:40 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:40 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:40 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 09/15/16 02:40 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 09/15/16 02:40 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 77-130 | 1 | | 09/15/16 02:40 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 81-127 | 1 | | 09/15/16 02:40 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 02:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2760** | mg/L | 5.0 | 1 | | 09/13/16 11:03 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1850** | mg/L | 200 | 200 | | 09/24/16 19:03 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | ND | mg/L | 0.10 | 1 | | 09/10/16 16:36 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-6** **Lab ID: 60227374006** Collected: 09/07/16 11:00 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **107** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:10 | 7439-96-5 | |
| Selenium, Dissolved | **27.2** | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:10 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **1.0** | ug/L | 1.0 | 1 | | 09/15/16 02:54 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:54 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 09/15/16 02:54 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 09/15/16 02:54 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 09/15/16 02:54 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 77-130 | 1 | | 09/15/16 02:54 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 81-127 | 1 | | 09/15/16 02:54 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 02:54 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1940** | mg/L | 5.0 | 1 | | 09/13/16 11:03 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1000** | mg/L | 100 | 100 | | 09/24/16 19:18 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **22.4** | mg/L | 1.0 | 10 | | 09/10/16 16:49 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-7** **Lab ID: 60227374007** Collected: 09/07/16 13:10 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **38.7** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:12 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:12 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 09/15/16 03:09 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 09/15/16 03:09 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 09/15/16 03:09 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 09/15/16 03:09 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 09/15/16 03:09 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 104 | % | 77-130 | 1 | | 09/15/16 03:09 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 81-127 | 1 | | 09/15/16 03:09 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 03:09 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2910** | mg/L | 5.0 | 1 | | 09/13/16 11:04 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **2160** | mg/L | 200 | 200 | | 09/24/16 19:32 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **16.0** | mg/L | 1.0 | 10 | | 09/10/16 16:50 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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(913)599-5665

## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-MW-8R** **Lab ID: 60227374008** Collected: 09/07/16 13:40 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **758** | ug/L | 5.0 | 1 | 09/13/16 14:30 | 09/16/16 14:15 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 09/13/16 14:30 | 09/16/16 14:15 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **270** | ug/L | 5.0 | 5 | | 09/15/16 03:24 | 71-43-2 | |
| Ethylbenzene | **29.1** | ug/L | 5.0 | 5 | | 09/15/16 03:24 | 100-41-4 | |
| Toluene | **901** | ug/L | 5.0 | 5 | | 09/15/16 03:24 | 108-88-3 | M1 |
| Xylene (Total) | **670** | ug/L | 15.0 | 5 | | 09/15/16 03:24 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 94 | % | 80-120 | 5 | | 09/15/16 03:24 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 77-130 | 5 | | 09/15/16 03:24 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 5 | | 09/15/16 03:24 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 5 | | 09/15/16 03:24 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2300** | mg/L | 5.0 | 1 | | 09/13/16 11:04 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1500** | mg/L | 100 | 100 | | 09/24/16 20:14 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **13.7** | mg/L | 1.0 | 10 | | 09/10/16 16:50 | | H3 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

**Sample: GW-075034-090716-SP-DUP** **Lab ID: 60227374009** Collected: 09/07/16 12:00 Received: 09/10/16 09:29 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **300** | ug/L | 10.0 | 10 | | 09/15/16 20:39 | 71-43-2 | |
| Ethylbenzene | **37.2** | ug/L | 1.0 | 1 | | 09/15/16 04:09 | 100-41-4 | |
| Toluene | **1120** | ug/L | 10.0 | 10 | | 09/15/16 20:39 | 108-88-3 | |
| Xylene (Total) | **812** | ug/L | 30.0 | 10 | | 09/15/16 20:39 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 101 | % | 80-120 | 1 | | 09/15/16 04:09 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 77-130 | 1 | | 09/15/16 04:09 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 81-127 | 1 | | 09/15/16 04:09 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 09/15/16 04:09 | | |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 446323 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

METHOD BLANK: 1824777 Matrix: Water
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | ND | 5.0 | 09/16/16 13:54 | |
| Selenium, Dissolved | ug/L | ND | 15.0 | 09/16/16 13:54 | |

LABORATORY CONTROL SAMPLE: 1824778

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 1000 | 976 | 98 | 80-120 | |
| Selenium, Dissolved | ug/L | 1000 | 1000 | 100 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824779 1824780

| Parameter | Units | 60227374008 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 758 | 1000 | 1000 | 1730 | 1750 | 97 | 99 | 75-125 | 1 | 20 | |
| Selenium, Dissolved | ug/L | ND | 1000 | 1000 | 1090 | 1100 | 108 | 109 | 75-125 | 1 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 446568 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008, 60227374009

METHOD BLANK: 1825959 Matrix: Water
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008, 60227374009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 09/15/16 00:26 | |
| Ethylbenzene | ug/L | ND | 1.0 | 09/15/16 00:26 | |
| Toluene | ug/L | ND | 1.0 | 09/15/16 00:26 | |
| Xylene (Total) | ug/L | ND | 3.0 | 09/15/16 00:26 | |
| 1,2-Dichloroethane-d4 (S) | % | 96 | 81-127 | 09/15/16 00:26 | |
| 4-Bromofluorobenzene (S) | % | 104 | 77-130 | 09/15/16 00:26 | |
| Toluene-d8 (S) | % | 97 | 80-120 | 09/15/16 00:26 | |

LABORATORY CONTROL SAMPLE: 1825960

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 21.0 | 105 | 79-116 | |
| Ethylbenzene | ug/L | 20 | 18.6 | 93 | 81-110 | |
| Toluene | ug/L | 20 | 19.3 | 97 | 82-111 | |
| Xylene (Total) | ug/L | 60 | 54.1 | 90 | 80-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 93 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 77-130 | |
| Toluene-d8 (S) | % | | | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1825961 1825962

| Parameter | Units | 60227293005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/L | 22.9 | 200 | 200 | 228 | 223 | 103 | 100 | 37-151 | 2 | 40 | |
| Ethylbenzene | ug/L | 332 | 200 | 200 | 521 | 510 | 94 | 89 | 29-151 | 2 | 45 | |
| Toluene | ug/L | ND | 200 | 200 | 188 | 187 | 94 | 93 | 37-147 | 1 | 43 | |
| Xylene (Total) | ug/L | 3450 | 600 | 600 | 4020 | 3940 | 94 | 82 | 27-156 | 2 | 46 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 96 | 94 | 81-127 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 100 | 100 | 77-130 | | | |
| Toluene-d8 (S) | % | | | | | | 98 | 98 | 80-120 | | | |
| Preservation pH | | 1.0 | | | 1.0 | 1.0 | | | | 0 | | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1825963 1825964

| Parameter | Units | 60227374008 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/L | 270 | 100 | 100 | 383 | 361 | 113 | 91 | 37-151 | 6 | 40 | |
| Ethylbenzene | ug/L | 29.1 | 100 | 100 | 125 | 116 | 96 | 87 | 29-151 | 7 | 45 | |
| Toluene | ug/L | 901 | 100 | 100 | 1070 | 987 | 168 | 86 | 37-147 | 8 | 43 | M1 |
| Xylene (Total) | ug/L | 670 | 300 | 300 | 1000 | 942 | 110 | 91 | 27-156 | 6 | 46 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 94 | 96 | 81-127 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 101 | 101 | 77-130 | | | |
| Toluene-d8 (S) | % | | | | | | 99 | 97 | 80-120 | | | |
| Preservation pH | | 1.0 | | | 1.0 | 1.0 | | | | 0 | | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 446710 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227374009

METHOD BLANK: 1826755 Matrix: Water
Associated Lab Samples: 60227374009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 09/15/16 18:10 | |
| Toluene | ug/L | ND | 1.0 | 09/15/16 18:10 | |
| Xylene (Total) | ug/L | ND | 3.0 | 09/15/16 18:10 | |
| 1,2-Dichloroethane-d4 (S) | % | 97 | 81-127 | 09/15/16 18:10 | |
| 4-Bromofluorobenzene (S) | % | 104 | 77-130 | 09/15/16 18:10 | |
| Toluene-d8 (S) | % | 99 | 80-120 | 09/15/16 18:10 | |

LABORATORY CONTROL SAMPLE: 1826756

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 21.9 | 109 | 79-116 | |
| Toluene | ug/L | 20 | 20.1 | 100 | 82-111 | |
| Xylene (Total) | ug/L | 60 | 56.3 | 94 | 80-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 95 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 77-130 | |
| Toluene-d8 (S) | % | | | 99 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 446270 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60227374001, 60227374002

METHOD BLANK: 1824412 Matrix: Water
Associated Lab Samples: 60227374001, 60227374002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | ND | 5.0 | 09/13/16 10:44 | |

LABORATORY CONTROL SAMPLE: 1824413

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1000 | 959 | 96 | 80-120 | |

SAMPLE DUPLICATE: 1824414

| Parameter | Units | 60227342001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 808 | 852 | 5 | 10 | |

SAMPLE DUPLICATE: 1824415

| Parameter | Units | 60227342010 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 2890 | 2870 | 0 | 10 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 446271 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

METHOD BLANK: 1824416 Matrix: Water
Associated Lab Samples: 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | ND | 5.0 | 09/13/16 11:01 | |

LABORATORY CONTROL SAMPLE: 1824417

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1000 | 962 | 96 | 80-120 | |

SAMPLE DUPLICATE: 1824418

| Parameter | Units | 60227374008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 2300 | 2410 | 5 | 10 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 447747 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

METHOD BLANK: 1831529 Matrix: Water
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 09/24/16 16:27 | |

LABORATORY CONTROL SAMPLE: 1831530

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

MATRIX SPIKE SAMPLE: 1831531

| Parameter | Units | 60227374008 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 1500 | 500 | 2050 | 109 | 80-120 | |

MATRIX SPIKE SAMPLE: 1831532

| Parameter | Units | 60227819001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 954 | 500 | 1050 | 19 | 80-120 | M1 |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

QC Batch: 446048 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

METHOD BLANK: 1823496 Matrix: Water
Associated Lab Samples: 60227374001, 60227374002, 60227374003, 60227374004, 60227374005, 60227374006, 60227374007, 60227374008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | ND | 0.10 | 09/10/16 16:23 | |

LABORATORY CONTROL SAMPLE: 1823497

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 1.6 | 1.7 | 108 | 85-115 | |

MATRIX SPIKE SAMPLE: 1823498

| Parameter | Units | 60227300002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 0.25 | 1.6 | 2.0 | 107 | 85-115 | |

MATRIX SPIKE SAMPLE: 1823688

| Parameter | Units | 60227374008 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 13.7 | 16 | 29.2 | 97 | 85-115 | H3 |

SAMPLE DUPLICATE: 1823499

| Parameter | Units | 60227369001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 0.13 | 0.12 | 12 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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# QUALIFIERS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## BATCH QUALIFIERS

Batch: 446710

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

## ANALYTE QUALIFIERS

H3 Sample was received or analysis requested beyond the recognized method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60227374

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **60227374001** | **GW-075034-090716-SP-MW-1** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374002** | **GW-075034-090716-SP-MW-2** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374003** | **GW-075034-090716-SP-MW-3** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374004** | **GW-075034-090716-SP-MW-4** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374005** | **GW-075034-090716-SP-MW-5** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374006** | **GW-075034-090716-SP-MW-6** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374007** | **GW-075034-090716-SP-MW-7** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | EPA 3010 | 446323 | EPA 6010 | 446417 |
| **60227374001** | **GW-075034-090716-SP-MW-1** | EPA 8260 | 446568 | | |
| **60227374002** | **GW-075034-090716-SP-MW-2** | EPA 8260 | 446568 | | |
| **60227374003** | **GW-075034-090716-SP-MW-3** | EPA 8260 | 446568 | | |
| **60227374004** | **GW-075034-090716-SP-MW-4** | EPA 8260 | 446568 | | |
| **60227374005** | **GW-075034-090716-SP-MW-5** | EPA 8260 | 446568 | | |
| **60227374006** | **GW-075034-090716-SP-MW-6** | EPA 8260 | 446568 | | |
| **60227374007** | **GW-075034-090716-SP-MW-7** | EPA 8260 | 446568 | | |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | EPA 8260 | 446568 | | |
| **60227374009** | **GW-075034-090716-SP-DUP** | EPA 8260 | 446568 | | |
| **60227374009** | **GW-075034-090716-SP-DUP** | EPA 8260 | 446710 | | |
| **60227374001** | **GW-075034-090716-SP-MW-1** | SM 2540C | 446270 | | |
| **60227374002** | **GW-075034-090716-SP-MW-2** | SM 2540C | 446270 | | |
| **60227374003** | **GW-075034-090716-SP-MW-3** | SM 2540C | 446271 | | |
| **60227374004** | **GW-075034-090716-SP-MW-4** | SM 2540C | 446271 | | |
| **60227374005** | **GW-075034-090716-SP-MW-5** | SM 2540C | 446271 | | |
| **60227374006** | **GW-075034-090716-SP-MW-6** | SM 2540C | 446271 | | |
| **60227374007** | **GW-075034-090716-SP-MW-7** | SM 2540C | 446271 | | |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | SM 2540C | 446271 | | |
| **60227374001** | **GW-075034-090716-SP-MW-1** | EPA 300.0 | 447747 | | |
| **60227374002** | **GW-075034-090716-SP-MW-2** | EPA 300.0 | 447747 | | |
| **60227374003** | **GW-075034-090716-SP-MW-3** | EPA 300.0 | 447747 | | |
| **60227374004** | **GW-075034-090716-SP-MW-4** | EPA 300.0 | 447747 | | |
| **60227374005** | **GW-075034-090716-SP-MW-5** | EPA 300.0 | 447747 | | |
| **60227374006** | **GW-075034-090716-SP-MW-6** | EPA 300.0 | 447747 | | |
| **60227374007** | **GW-075034-090716-SP-MW-7** | EPA 300.0 | 447747 | | |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | EPA 300.0 | 447747 | | |
| **60227374001** | **GW-075034-090716-SP-MW-1** | EPA 353.2 | 446048 | | |
| **60227374002** | **GW-075034-090716-SP-MW-2** | EPA 353.2 | 446048 | | |
| **60227374003** | **GW-075034-090716-SP-MW-3** | EPA 353.2 | 446048 | | |
| **60227374004** | **GW-075034-090716-SP-MW-4** | EPA 353.2 | 446048 | | |
| **60227374005** | **GW-075034-090716-SP-MW-5** | EPA 353.2 | 446048 | | |
| **60227374006** | **GW-075034-090716-SP-MW-6** | EPA 353.2 | 446048 | | |
| **60227374007** | **GW-075034-090716-SP-MW-7** | EPA 353.2 | 446048 | | |
| **60227374008** | **GW-075034-090716-SP-MW-8R** | EPA 353.2 | 446048 | | |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

**Sample Condition Upon Receipt**
**ESI Tech Spec Client**

**WO# : 60227374**

60227374

Client Name: GHD COP

**Courier:** FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

**Tracking #:** No tracking info on cooler  Pace Shipping Label Used? Yes ☐ No ☐

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

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

**Thermometer Used:** (CF +1.1 T-266 / CF -0.1 T-239)  **Type of Ice:** (Wet) Blue None

**Cooler Temperature (°C):** **As-read** 2.5 **Corr. Factor** (CF +1.1 / CF -0.1) **Corrected** 3.6

**Date and initials of person examining contents:** JB 9/10

Temperature should be above freezing to 6°C

| | | |
|---|---|---|
| Chain of Custody present: | ☒Yes ☐No ☐N/A | |
| Chain of Custody relinquished: | ☒Yes ☐No ☐N/A | |
| Samples arrived within holding time: | ☐Yes ☒No ☐N/A | NO3 out of 48 hr hold |
| **Short Hold Time analyses (<72hr):** | ☒Yes ☐No ☐N/A | NO3 |
| **Rush Turn Around Time requested:** | ☐Yes ☒No ☐N/A | |
| Sufficient volume: | ☒Yes ☐No ☐N/A | |
| Correct containers used: | ☒Yes ☐No ☐N/A | |
| Pace containers used: | ☒Yes ☐No ☐N/A | |
| Containers intact: | ☒Yes ☐No ☐N/A | |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | ☐Yes ☐No ☒N/A | |
| Filtered volume received for dissolved tests? | ☐Yes ☐No ☒N/A | |
| Sample labels match COC: Date / time / ID / analyses | ☒Yes ☐No ☐N/A | |
| Samples contain multiple phases? Matrix: WT | ☐Yes ☒No ☐N/A | |
| Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | ☒Yes ☐No ☐N/A | |
| Cyanide water sample checks: ☒N/A<br>Lead acetate strip turns dark? (Record only)<br>Potassium iodide test strip turns blue/purple? (Preserve) | ☐Yes ☐No<br>☐Yes ☐No | |
| Trip Blank present: | ☒Yes ☐No ☐N/A | |
| Headspace in VOA vials ( >6mm): | ☐Yes ☒No ☐N/A | |
| Samples from USDA Regulated Area: State: | ☐Yes ☐No ☒N/A | |
| Additional labels attached to 5035A / TX1005 vials in the field? | ☐Yes ☐No ☒N/A | |

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: alice Date: 09/12/16

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

| | |
|---|---|
| Start: 0915 | Start: |
| End: 0924 | End: |
| 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.

Page : 1 Of 1

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | GHD Services_COP NM | Report To: | Christine Mathews | Attention: | |
| Address: | 6212 Indian School Rd. NE St2 | Copy To: | Jeff Walker, Angela Bown | Company Name: | |
| | Aibuquerque, NM 87110 | | | Address: | |
| Email: | christine.mathews@ghd.com | Purchase Order #: | 34005849 | Pace Quote: | |
| Phone: | 505-884-0672 Fax | Project Name: | 075034 COP San Juan 29-7 No 37 | Pace Project Manager: | alice.spiller@pacelabs.com, |
| Requested Due Date: | | Project #: | | Pace Profile #: | 8644 , 3 |

Regulatory Agency

State / Location: NM

Requested Analysis Filtered (Y/N)

**SAMPLE ID**
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

| MATRIX | CODE |
|---|---|
| Drinking Water | DW |
| Water | WT |
| Waste Water | WW |
| Product | P |
| Soil/Solid | SL |
| Oil | OL |
| Wipe | WP |
| Air | AR |
| Other | OT |
| Tissue | TS |

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | 8260 BTEX | Dissolved Mn,Se-Fld Fltrd | 353.2 Nitrate | 300.0 Sulfate | Total Dissolved Solids | | | | | | Residual Chlorine (Y/N) | 09227374 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GW-075034-090716-SP-MW-1 | WT | G | 9-7-16 | 1305 | | | | 5 | | | | | | | | | | X | X | X | X | X | BP2h | BP3F | (3)DCA | H | | 01 |
| 2 | GW-075034-090716-SP-MW-2 | | | | 1145 | | | | 5 | | | | | | | | | | | | | | | | | | | | 02 |
| 3 | GW-075034-090716-SP-MW-3 | | | | 1011 | | | | 5 | | | | | | | | | | | | | | | | | | | | 03 |
| 4 | GW-075034-090716-SP-MW-4 | | | | 1415 | | | | 5 | | | | | | | | | | | | | | | | | | | | 04 |
| 5 | GW-075034-090716-SP-MW-5 | | | | 1025 | | | | 5 | | | | | | | | | | | | | | | | | | | | 05 |
| 6 | GW-075034-090716-SP-MW-6 | | | | 1100 | | | | 5 | | | | | | | | | | | | | | | | | | | | 06 |
| 7 | GW-075034-090716-SP-MW-7 | | | | 1310 | | | | 5 | | | | | | | | | | | | | | | | | | | | 07 |
| 8 | GW-075034-090716-SP-MW-8R | | | | 1340 | | | | 8 | | | | | | | | | | | | | | | | | | | | QA/QC BTEX samples collected 08 |
| 9 | GW-075034-090716-SP-DUP | | | | 1200 | | | | 3 | | | | | | | | | | | | | | | | (3)DCA | | | | 09 |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | (3)DCA | | | | 10 |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Steve Perez | 9-7-16 | 1545 | | 9/10 | 0829 | 3.6 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve Perez

SIGNATURE of SAMPLER: Steve Perez

DATE Signed:

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

December 19, 2016

Jeffrey Walker
GHD Services, Inc
6121 Indian School Rd NE
Ste 200
Albuquerque, NM 87110

RE: Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

Dear Jeffrey Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on December 03, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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 Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,

**Pace Analytical Services, LLC**
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Lenexa, KS 66219
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## CERTIFICATIONS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Kansas Certification IDs**

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, LLC**
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Lenexa, KS 66219
(913)599-5665

## SAMPLE SUMMARY

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **60233523001** | **GW-075034-120116-JK-MW-1** | Water | 12/01/16 16:00 | 12/03/16 08:20 |
| **60233523002** | **GW-075034-120116-JK-MW-2** | Water | 12/01/16 15:20 | 12/03/16 09:15 |
| **60233523003** | **GW-075034-113016-JK-MW-3** | Water | 12/01/16 11:00 | 12/03/16 09:15 |
| **60233523004** | **GW-075034-120216-JK-MW-4** | Water | 12/02/16 10:00 | 12/03/16 09:15 |
| **60233523005** | **GW-075034-120116-JK-MW-5** | Water | 12/01/16 15:20 | 12/03/16 09:15 |
| **60233523006** | **GW-075034-120216-JK-MW-6** | Water | 12/02/16 09:02 | 12/03/16 09:15 |
| **60233523007** | **GW-075034-120216-JK-MW-7** | Water | 12/02/16 09:15 | 12/03/16 09:15 |
| **60233523008** | **GW-075034-120116-JK-MW-8R** | Water | 12/01/16 15:42 | 12/03/16 09:15 |
| **60233523009** | **TRIP BLANK** | Water | 12/01/16 11:00 | 12/03/16 09:15 |

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## SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **60233523001** | **GW-075034-120116-JK-MW-1** | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523002** | **GW-075034-120116-JK-MW-2** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523003** | **GW-075034-113016-JK-MW-3** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523004** | **GW-075034-120216-JK-MW-4** | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523005** | **GW-075034-120116-JK-MW-5** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523006** | **GW-075034-120216-JK-MW-6** | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523007** | **GW-075034-120216-JK-MW-7** | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |
| **60233523008** | **GW-075034-120116-JK-MW-8R** | EPA 6010 | JGP | 2 |
| | | EPA 8260 | JTK | 8 |
| | | SM 2540C | JSS | 1 |
| | | EPA 300.0 | OL | 1 |
| | | EPA 353.2 | LDB | 1 |

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Method:** **EPA 6010**
**Description:** 6010 MET ICP, Dissolved
**Client:** GHD Services_COP NM
**Date:** December 19, 2016

**General Information:**
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Method:** **EPA 8260**
**Description:** 8260 MSV UST, Water
**Client:** GHD Services_COP NM
**Date:** December 19, 2016

**General Information:**
8 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

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

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

**Internal Standards:**
All internal standards were within QC limits with any exceptions noted below.

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

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

QC Batch: 458436

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

**Additional Comments:**

**Pace Analytical Services, LLC**
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# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Method:** **SM 2540C**
**Description:** 2540C Total Dissolved Solids
**Client:** GHD Services_COP NM
**Date:** December 19, 2016

**General Information:**
8 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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:**

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## PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Method:** **EPA 300.0**
**Description:** 300.0 IC Anions 28 Days
**Client:** GHD Services_COP NM
**Date:** December 19, 2016

**General Information:**
8 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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.

**Additional Comments:**

**Pace Analytical Services, LLC**
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(913)599-5665

# PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Method:** **EPA 353.2**
**Description:** 353.2 Nitrogen, NO2/NO3 unpres
**Client:** GHD Services_COP NM
**Date:** December 19, 2016

**General Information:**
8 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**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.

QC Batch: 457507

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60233523003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1873124)
  - Nitrogen, Nitrate

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

**Additional Comments:**

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

**Pace Analytical Services, LLC**
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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120116-JK-MW-1** **Lab ID: 60233523001** Collected: 12/01/16 16:00 Received: 12/03/16 08:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 20:44 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 20:44 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 20:44 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 20:44 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 12/12/16 20:44 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 12/12/16 20:44 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 81-127 | 1 | | 12/12/16 20:44 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 20:44 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2410** | mg/L | 5.0 | 1 | | 12/07/16 13:36 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1450** | mg/L | 100 | 100 | | 12/17/16 11:00 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **0.53** | mg/L | 0.10 | 1 | | 12/03/16 10:09 | | |

## REPORT OF LABORATORY ANALYSIS

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

## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120116-JK-MW-2** **Lab ID: 60233523002** Collected: 12/01/16 15:20 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | ND | ug/L | 5.0 | 1 | 12/07/16 11:10 | 12/14/16 11:52 | 7439-96-5 | |
| Selenium, Dissolved | **75.9** | ug/L | 15.0 | 1 | 12/07/16 11:10 | 12/14/16 11:52 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 20:59 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 20:59 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 20:59 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 20:59 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 12/12/16 20:59 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 12/12/16 20:59 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 1 | | 12/12/16 20:59 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 20:59 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2410** | mg/L | 5.0 | 1 | | 12/07/16 13:36 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1290** | mg/L | 100 | 100 | | 12/17/16 11:42 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **33.6** | mg/L | 1.0 | 10 | | 12/03/16 10:06 | | |

## REPORT OF LABORATORY ANALYSIS

**Pace Analytical Services, LLC**
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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-113016-JK-MW-3** **Lab ID: 60233523003** Collected: 12/01/16 11:00 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **1980** | ug/L | 5.0 | 1 | 12/07/16 11:10 | 12/14/16 11:56 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 12/07/16 11:10 | 12/14/16 11:56 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:14 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:14 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:14 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 21:14 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 12/12/16 21:14 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 77-130 | 1 | | 12/12/16 21:14 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 1 | | 12/12/16 21:14 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 21:14 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1970** | mg/L | 5.0 | 1 | | 12/07/16 13:37 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1080** | mg/L | 100 | 100 | | 12/17/16 12:38 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **6.9** | mg/L | 0.30 | 3 | | 12/03/16 10:04 | | M1 |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120216-JK-MW-4** **Lab ID: 60233523004** Collected: 12/02/16 10:00 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:28 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:28 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:28 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 21:28 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 12/12/16 21:28 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 77-130 | 1 | | 12/12/16 21:28 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 1 | | 12/12/16 21:28 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 21:28 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1950** | mg/L | 5.0 | 1 | | 12/07/16 13:39 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1250** | mg/L | 100 | 100 | | 12/17/16 12:52 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **6.9** | mg/L | 0.30 | 3 | | 12/03/16 10:15 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120116-JK-MW-5** **Lab ID: 60233523005** Collected: 12/01/16 15:20 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **214** | ug/L | 5.0 | 1 | 12/07/16 11:10 | 12/14/16 12:00 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 12/07/16 11:10 | 12/14/16 12:00 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:43 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:43 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:43 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 21:43 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 12/12/16 21:43 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 12/12/16 21:43 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 81-127 | 1 | | 12/12/16 21:43 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 21:43 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2630** | mg/L | 5.0 | 1 | | 12/07/16 13:37 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1680** | mg/L | 200 | 200 | | 12/17/16 13:06 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | ND | mg/L | 0.10 | 1 | | 12/03/16 10:02 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120216-JK-MW-6** **Lab ID: 60233523006** Collected: 12/02/16 09:02 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:58 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:58 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 21:58 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 21:58 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 12/12/16 21:58 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 12/12/16 21:58 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 81-127 | 1 | | 12/12/16 21:58 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 21:58 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **1860** | mg/L | 5.0 | 1 | | 12/07/16 13:40 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **936** | mg/L | 100 | 100 | | 12/18/16 10:42 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **24.8** | mg/L | 1.0 | 10 | | 12/03/16 10:14 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120216-JK-MW-7** **Lab ID: 60233523007** Collected: 12/02/16 09:15 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 12/12/16 22:13 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 12/12/16 22:13 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 12/12/16 22:13 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 12/12/16 22:13 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 12/12/16 22:13 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 1 | | 12/12/16 22:13 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 81-127 | 1 | | 12/12/16 22:13 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 1 | | 12/12/16 22:13 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **3090** | mg/L | 5.0 | 1 | | 12/07/16 13:40 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1950** | mg/L | 200 | 200 | | 12/17/16 13:33 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **17.3** | mg/L | 1.0 | 10 | | 12/03/16 10:14 | | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

**Sample: GW-075034-120116-JK-MW-8R** **Lab ID: 60233523008** Collected: 12/01/16 15:42 Received: 12/03/16 09:15 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Manganese, Dissolved | **488** | ug/L | 5.0 | 1 | 12/07/16 11:10 | 12/14/16 12:04 | 7439-96-5 | |
| Selenium, Dissolved | ND | ug/L | 15.0 | 1 | 12/07/16 11:10 | 12/14/16 12:04 | 7782-49-2 | |
| **8260 MSV UST, Water** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | **162** | ug/L | 5.0 | 5 | | 12/12/16 22:28 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 5.0 | 5 | | 12/12/16 22:28 | 100-41-4 | |
| Toluene | **122** | ug/L | 5.0 | 5 | | 12/12/16 22:28 | 108-88-3 | |
| Xylene (Total) | **246** | ug/L | 15.0 | 5 | | 12/12/16 22:28 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| Toluene-d8 (S) | 104 | % | 80-120 | 5 | | 12/12/16 22:28 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 77-130 | 5 | | 12/12/16 22:28 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 81-127 | 5 | | 12/12/16 22:28 | 17060-07-0 | |
| Preservation pH | **1.0** | | 1.0 | 5 | | 12/12/16 22:28 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | |
| Total Dissolved Solids | **2260** | mg/L | 5.0 | 1 | | 12/07/16 13:38 | | |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | |
| Sulfate | **1320** | mg/L | 100 | 100 | | 12/17/16 13:47 | 14808-79-8 | |
| **353.2 Nitrogen, NO2/NO3 unpres** | Analytical Method: EPA 353.2 | | | | | | | |
| Nitrogen, Nitrate | **17.6** | mg/L | 1.0 | 10 | | 12/03/16 10:13 | | |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

QC Batch: 457895 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60233523002, 60233523003, 60233523005, 60233523008

METHOD BLANK: 1874477 Matrix: Water
Associated Lab Samples: 60233523002, 60233523003, 60233523005, 60233523008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | ND | 5.0 | 12/14/16 11:08 | |
| Selenium, Dissolved | ug/L | ND | 15.0 | 12/14/16 11:08 | |

LABORATORY CONTROL SAMPLE: 1874478

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 1000 | 1020 | 102 | 80-120 | |
| Selenium, Dissolved | ug/L | 1000 | 1040 | 104 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1874479 1874481

| Parameter | Units | 60233393001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Manganese, Dissolved | ug/L | 95.9 | 1000 | 1000 | 1080 | 1060 | 98 | 97 | 75-125 | 1 | 20 | |
| Selenium, Dissolved | ug/L | ND | 1000 | 1000 | 1050 | 1050 | 105 | 105 | 75-125 | 1 | 20 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

QC Batch: 458436 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523006, 60233523007, 60233523008

METHOD BLANK: 1876730 Matrix: Water
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523006, 60233523007, 60233523008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 12/12/16 20:29 | |
| Ethylbenzene | ug/L | ND | 1.0 | 12/12/16 20:29 | |
| Toluene | ug/L | ND | 1.0 | 12/12/16 20:29 | |
| Xylene (Total) | ug/L | ND | 3.0 | 12/12/16 20:29 | |
| 1,2-Dichloroethane-d4 (S) | % | 95 | 81-127 | 12/12/16 20:29 | |
| 4-Bromofluorobenzene (S) | % | 99 | 77-130 | 12/12/16 20:29 | |
| Toluene-d8 (S) | % | 104 | 80-120 | 12/12/16 20:29 | |

LABORATORY CONTROL SAMPLE: 1876731

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 17.0 | 85 | 79-116 | |
| Ethylbenzene | ug/L | 20 | 18.8 | 94 | 81-110 | |
| Toluene | ug/L | 20 | 18.1 | 90 | 82-111 | |
| Xylene (Total) | ug/L | 60 | 57.3 | 96 | 80-111 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 94 | 81-127 | |
| 4-Bromofluorobenzene (S) | % | | | 100 | 77-130 | |
| Toluene-d8 (S) | % | | | 105 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

QC Batch: 457970 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523006, 60233523007, 60233523008

METHOD BLANK: 1874702 Matrix: Water
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523006, 60233523007, 60233523008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | ND | 5.0 | 12/07/16 13:33 | |

LABORATORY CONTROL SAMPLE: 1874703

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1000 | 1030 | 103 | 80-120 | |

SAMPLE DUPLICATE: 1874704

| Parameter | Units | 60233523001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 2410 | 2300 | 5 | 10 | |

SAMPLE DUPLICATE: 1874705

| Parameter | Units | 60233523007 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 3090 | 3070 | 1 | 10 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

QC Batch: 458963 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523007, 60233523008

METHOD BLANK: 1878843 Matrix: Water
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523007, 60233523008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 12/17/16 09:14 | |

LABORATORY CONTROL SAMPLE: 1878844

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1878845 1878846

| Parameter | Units | 60233523001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 1450 | 500 | 500 | 1990 | 1980 | 108 | 107 | 80-120 | 0 | 15 | |

MATRIX SPIKE SAMPLE: 1878847

| Parameter | Units | 60233523002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 1290 | 500 | 1820 | 105 | 80-120 | |

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

QC Batch: 459380
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60233523006

METHOD BLANK: 1881099
Matrix: Water
Associated Lab Samples: 60233523006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 12/18/16 09:25 | |

LABORATORY CONTROL SAMPLE: 1881100

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

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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

## QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

QC Batch: 457507 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523006, 60233523007, 60233523008

METHOD BLANK: 1873122 Matrix: Water
Associated Lab Samples: 60233523001, 60233523002, 60233523003, 60233523004, 60233523005, 60233523006, 60233523007, 60233523008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | ND | 0.10 | 12/03/16 09:58 | |

LABORATORY CONTROL SAMPLE: 1873123

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 1 | 1.1 | 105 | 85-115 | |

MATRIX SPIKE SAMPLE: 1873124

| Parameter | Units | 60233523003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | 6.9 | 3 | 9.4 | 82 | 85-115 | M1 |

SAMPLE DUPLICATE: 1873125

| Parameter | Units | 60233523005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate | mg/L | ND | .025J | | 20 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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# QUALIFIERS

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

## BATCH QUALIFIERS

Batch: 458436

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

## ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 075034 COP SAN JUAN 29-7 NO 37
Pace Project No.: 60233523

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| 60233523002 | GW-075034-120116-JK-MW-2 | EPA 3010 | 457895 | EPA 6010 | 457953 |
| 60233523003 | GW-075034-113016-JK-MW-3 | EPA 3010 | 457895 | EPA 6010 | 457953 |
| 60233523005 | GW-075034-120116-JK-MW-5 | EPA 3010 | 457895 | EPA 6010 | 457953 |
| 60233523008 | GW-075034-120116-JK-MW-8R | EPA 3010 | 457895 | EPA 6010 | 457953 |
| 60233523001 | GW-075034-120116-JK-MW-1 | EPA 8260 | 458436 | | |
| 60233523002 | GW-075034-120116-JK-MW-2 | EPA 8260 | 458436 | | |
| 60233523003 | GW-075034-113016-JK-MW-3 | EPA 8260 | 458436 | | |
| 60233523004 | GW-075034-120216-JK-MW-4 | EPA 8260 | 458436 | | |
| 60233523005 | GW-075034-120116-JK-MW-5 | EPA 8260 | 458436 | | |
| 60233523006 | GW-075034-120216-JK-MW-6 | EPA 8260 | 458436 | | |
| 60233523007 | GW-075034-120216-JK-MW-7 | EPA 8260 | 458436 | | |
| 60233523008 | GW-075034-120116-JK-MW-8R | EPA 8260 | 458436 | | |
| 60233523001 | GW-075034-120116-JK-MW-1 | SM 2540C | 457970 | | |
| 60233523002 | GW-075034-120116-JK-MW-2 | SM 2540C | 457970 | | |
| 60233523003 | GW-075034-113016-JK-MW-3 | SM 2540C | 457970 | | |
| 60233523004 | GW-075034-120216-JK-MW-4 | SM 2540C | 457970 | | |
| 60233523005 | GW-075034-120116-JK-MW-5 | SM 2540C | 457970 | | |
| 60233523006 | GW-075034-120216-JK-MW-6 | SM 2540C | 457970 | | |
| 60233523007 | GW-075034-120216-JK-MW-7 | SM 2540C | 457970 | | |
| 60233523008 | GW-075034-120116-JK-MW-8R | SM 2540C | 457970 | | |
| 60233523001 | GW-075034-120116-JK-MW-1 | EPA 300.0 | 458963 | | |
| 60233523002 | GW-075034-120116-JK-MW-2 | EPA 300.0 | 458963 | | |
| 60233523003 | GW-075034-113016-JK-MW-3 | EPA 300.0 | 458963 | | |
| 60233523004 | GW-075034-120216-JK-MW-4 | EPA 300.0 | 458963 | | |
| 60233523005 | GW-075034-120116-JK-MW-5 | EPA 300.0 | 458963 | | |
| 60233523006 | GW-075034-120216-JK-MW-6 | EPA 300.0 | 459380 | | |
| 60233523007 | GW-075034-120216-JK-MW-7 | EPA 300.0 | 458963 | | |
| 60233523008 | GW-075034-120116-JK-MW-8R | EPA 300.0 | 458963 | | |
| 60233523001 | GW-075034-120116-JK-MW-1 | EPA 353.2 | 457507 | | |
| 60233523002 | GW-075034-120116-JK-MW-2 | EPA 353.2 | 457507 | | |
| 60233523003 | GW-075034-113016-JK-MW-3 | EPA 353.2 | 457507 | | |
| 60233523004 | GW-075034-120216-JK-MW-4 | EPA 353.2 | 457507 | | |
| 60233523005 | GW-075034-120116-JK-MW-5 | EPA 353.2 | 457507 | | |
| 60233523006 | GW-075034-120216-JK-MW-6 | EPA 353.2 | 457507 | | |
| 60233523007 | GW-075034-120216-JK-MW-7 | EPA 353.2 | 457507 | | |
| 60233523008 | GW-075034-120116-JK-MW-8R | EPA 353.2 | 457507 | | |

Pace Analytical
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**Sample Condition Upon Receipt**
**ESI Tech Spec Client**

**WO# : 60233523**

60233523

AFS

Client Name: GHD - COP

**Courier:** FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

**Tracking #:** 7044 6656 7916 Pace Shipping Label Used? Yes ☐ No ☐

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

**Packing Material:** Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

**Thermometer Used:** CF +0.7 T-266 / CF -0.5 T-239 **Type of Ice:** Wet Blue None

**Cooler Temperature (°C):** **As-read** 2.1 **Corr. Factor** CF +0.7 CF -0.5 **Corrected** 2.8

**Date and initials of person examining contents:** SR 12/3/16

Temperature should be above freezing to 6°C

| | | |
|---|---|---|
| Chain of Custody present: | ☑Yes ☐No ☐N/A | - $NO_2/3$ for All Samples ISR 12/3 MW-3 rec'd out of hold → |
| Chain of Custody relinquished: | ☑Yes ☐No ☐N/A | Containers labels say collected 11/30/16, |
| Samples arrived within holding time: | ☑Yes ☐No ☐N/A | COC says collected 12/01/16, 12/02 |
| **Short Hold Time analyses (<72hr):** | ☑Yes ☐No ☐N/A | $NO_2/3$ will log w/ date on COC |
| **Rush Turn Around Time requested:** | ☐Yes ☑No ☐N/A | |
| Sufficient volume: | ☑Yes ☐No ☐N/A | |
| Correct containers used: | ☑Yes ☐No ☐N/A | - Client requesting lab filter of |
| Pace containers used: | ☑Yes ☐No ☐N/A | $HNO_3$ containers for 4 samples → |
| Containers intact: | ☑Yes ☐No ☐N/A | this would lead to pot. diss. analysis |
| Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs? | ☐Yes ☐No ☑N/A | of metals. |
| Filtered volume received for dissolved tests? | ☑Yes ☐No ☐N/A | ISR 12/3 - if unpreserved volume is filtered |
| Sample labels match COC: Date / time / ID / analyses | ☑Yes ☐No ☐N/A | for diss. metals it will show volume |
| Samples contain multiple phases? Matrix: WT | ☐Yes ☑No ☐N/A | w/ TDS anions and $NO_2/3$ analysis. |
| Containers requiring pH preservation in compliance? ($HNO_3$, $H_2SO_4$, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) | ☑Yes ☐No ☐N/A | - The date portion of all container labels say 11/30/16 → meaning only MW-3 |
| Cyanide water sample checks: ☐N/A | | labels match COC ID. |
| Lead acetate strip turns dark? (Record only) | ☐Yes ☐No | |
| Potassium iodide test strip turns blue/purple? (Preserve) | ☐Yes ☐No | |
| Trip Blank present: | ☑Yes ☐No ☐N/A | on TB vial reid broken |
| Headspace in VOA vials ( >6mm): | ☐Yes ☑No ☐N/A | |
| Samples from USDA Regulated Area: State: | ☐Yes ☐No ☑N/A | |
| Additional labels attached to 5035A / TX1005 vials in the field? | ☐Yes ☐No ☑N/A | |

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Alice Date: 12/5/16

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

| | |
|---|---|
| Start: 0905 | Start: |
| End: 0915 | End: |
| Temp: | Temp: |

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | GHD Services_COP NM | Report To: | Christine Mathews | Attention: | |
| Address: | 6212 Indian School Rd. NE St2 | Copy To: | Jeff Walker, Angela Bown | Company Name: | |
| | Albuquerque, NM 87110 | | | Address: | |
| Email: | christine.mathews@ghd.com | Purchase Order #: | 34005849 | Pace Quote: | |
| Phone: | 505-884-0672 Fax: | Project Name: | 075034 COP San Juan 29-7 No 37 | Pace Project Manager: | alice.spiller@pacelabs.com, |
| Requested Due Date: | | Project #: | | Pace Profile #: | 8644 , 3 |

Regulatory Agency

State / Location: NM

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique) | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED START DATE | COLLECTED START TIME | COLLECTED END DATE | COLLECTED END TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | H2SO4 | HNO3 | HCl | NaOH | Na2S2O3 | Methanol | Other | Analyses Test Y/N | 8260 BTEX | Dissolved Mn,Se-Fld Fltrd | 353.2 Nitrate | 300.0 Sulfate | Total Dissolved Solids | | | | | | Residual Chlorine (Y/N) | 60233523 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GW-075034-120116-JK-MW-1 | WT | G | 12-01-16 | 1600 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | Y | B8260W | | B8260W | | | | | filtr Nitric 3060H 001 |
| 2 | GW-075034-120116-JK-MW-2 | WT | G | 12-01-16 | 1520 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | X | | | B8260F | | | | | 002 |
| 3 | GW-075034-120116-JK-MW-3 | WT | G | 12-01-16 | 1100 | | | | 6 | 1 | | 1 | 3 | | | | | X | X | X | X | Y | | | | | | | | 003 |
| 4 | GW-075034-120216-JK-MW-4 | WT | G | 12-02-16 | 1000 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | X | | | B8260W | | | | | filtr Nitric 004 |
| 5 | GW-075034-120216-JK-MW-5 | WT | G | 12-01-16 | 1520 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | X | | | B8260F | | | | | 005 |
| 6 | GW-075034-120216-JK-MW-6 | WT | G | 12-02-16 | 0902 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | X | | | B8260W | | | | | filtr Nitric 006 |
| 7 | GW-075034-120216-JK-MW-7 | WT | G | 12-02-16 | 0915 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | Y | | | | | | | | filtr Nitric 007 |
| 8 | GW-075034-120116-JK-MW-8R | WT | G | 12-01-16 | 1542 | | | | 5 | 1 | | 1 | 3 | | | | | X | X | X | X | X | | | B8260F | | | | | 008 |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2060H TB 009 |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Please filter the Nitric containers for Samples 1, 4, 6 and 7 | Chris Neligh | 12-02-16 1500 | 1500 | | 12/3/16 | 0800 | 2.8 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Josh Kirchner

SIGNATURE of SAMPLER: DATE Signed:

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)