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ConocoPhillips

Mr. Jim Griswold
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

January 30, 2017

Re: NMOCD Case No. 3R-071, 2016 Annual Groundwater Monitoring Report

Dear Mr. Griswold:

Enclosed is the 2016 Annual Groundwater Monitoring Report for the Johnston Federal No. 4 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 Johnston Federal No. 4 Metering Station
San Juan County, New Mexico
API# 30-045-10130
NMOCD # 3RP-071

ConocoPhillips Company

December 2016

6121 Indian School Rd NE Suite 200 Albuquerque NM 87110

074925 | 6MN00 | Report No 7

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1. Introduction

This report presents the results of the 2016 annual groundwater monitoring events. Activities were conducted by GHD Services, Inc. (GHD) at the ConocoPhillips Company (ConocoPhillips) Johnston Federal No. 4 Metering Station (hereafter referred to as the "Site").

The Johnston Federal No. 4 wellhead is located approximately 1.5 mile to the southwest of the metering station. The Site is located on both Bureau of Land Management (BLM) and private land, approximately 13 miles east-northeast of Aztec, San Juan County, New Mexico, in Unit Letter M, Section 27, Township 31N, Range 9W (Figure 1). Geographic coordinates for the Site are 36.8626° North and 107.7723° West. A Site Plan is included as Figure 2.

1.1 Background

Burlington Resources (Burlington) conducted initial site assessments of two production pits in August 1998. Soil from the separator pit was collected and analyzed for total petroleum hydrocarbons (TPH). The concentration of TPH in separator pit (Production Pit #1, Figure 2) soil was found to be below New Mexico Oil Conservation Division (NMOCD) recommended action levels for this constituent, and the pit was subsequently granted closure by NMOCD. Soil from the tank drain pit (Production Pit #2, Figure 2) was collected and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and TPH. Concentrations of these constituents were found to be above NMOCD recommended action levels. Based on laboratory results, approximately 3,055 cubic yards of hydrocarbon-impacted soil was excavated in December 1998. Once complete, the excavation was backfilled with clean fill material, and the NMOCD granted pit closure.

A groundwater monitoring well, MW 1, was installed at the Site to a depth of 50 feet below ground surface (bgs) in May of 1999. Burlington sampled MW 1 on a quarterly basis until the acquisition of Burlington by ConocoPhillips in March of 2006. Following the acquisition, Tetra Tech, Inc. (Tetra Tech) began sampling MW 1 in November 2007. In August 2008, three additional groundwater monitoring wells (MW 2, MW 3 and MW 4) were installed under the supervision of Tetra Tech by WDC Exploration and Drilling of Peralta, NM. Based on information obtained during monitoring well installation in 2008, a generalized geologic cross section was completed for the Site and is presented as Figure 3. Monitoring wells MW 1, MW 2, MW 3, and MW 4 were incorporated into an annual sampling schedule beginning on October 24, 2008.

El Paso CGP Company (El Paso) is a co-producer on the Site well pad and owns additional Site monitoring wells, wells from which free product is being recovered. El Paso groundwater impacts are down gradient from the ConocoPhillips monitoring wells.

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

A historical timeline for the Site is presented in Table 1.

2. Groundwater Sampling Methodology and Analytical Results

2.1 Groundwater Sampling Methodology

Groundwater Elevation Measurements

On September 14, 2016, groundwater elevation measurements were obtained for monitoring wells MW 1, MW 2, MW 3, and MW 4 using an oil/water interface probe. A 0.01 foot thickness of light non-aqueous phase liquid, or free product, was measured on the groundwater surface in well MW-1. Groundwater elevations are detailed in Table 2. A groundwater potentiometric surface map based on the September 2016 data is presented as Figure 4. Based on this data, groundwater flow is to the east and is consistent with historical data at the Site.

Groundwater sampling

Groundwater samples for the 2016 annual monitoring event were collected from monitoring wells MW 2, MW 3, and MW 4 on September 14, 2016. Approximately three well volumes were purged from each monitoring well with a dedicated polyethylene 1.5 inch bailer prior to sampling. While bailing 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 3.

Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace Analytical Services, Inc. of Lenexa, Kansas. The samples were analyzed for the presence of BTEX in accordance with Environmental Protection Agency (EPA) Method 8260, naphthalene by EPA Method 8270, sulfate by EPA Method 300.0, and for dissolved manganese and iron by EPA Method 6010.

No sample was collected from MW-1 due to the presence of free product.

2.2 Groundwater Analytical Results

The NMWQCC mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedances of NMWQCC groundwater quality standards in Site monitoring wells are discussed below. Results are summarized in Table 4.

September 2016

- Benzene
  - The NMWQCC standard for benzene is 0.01 milligrams per liter (mg/L). The groundwater samples collected from MW-2, MW-3 and MW-4 were below NMWQCC standards.

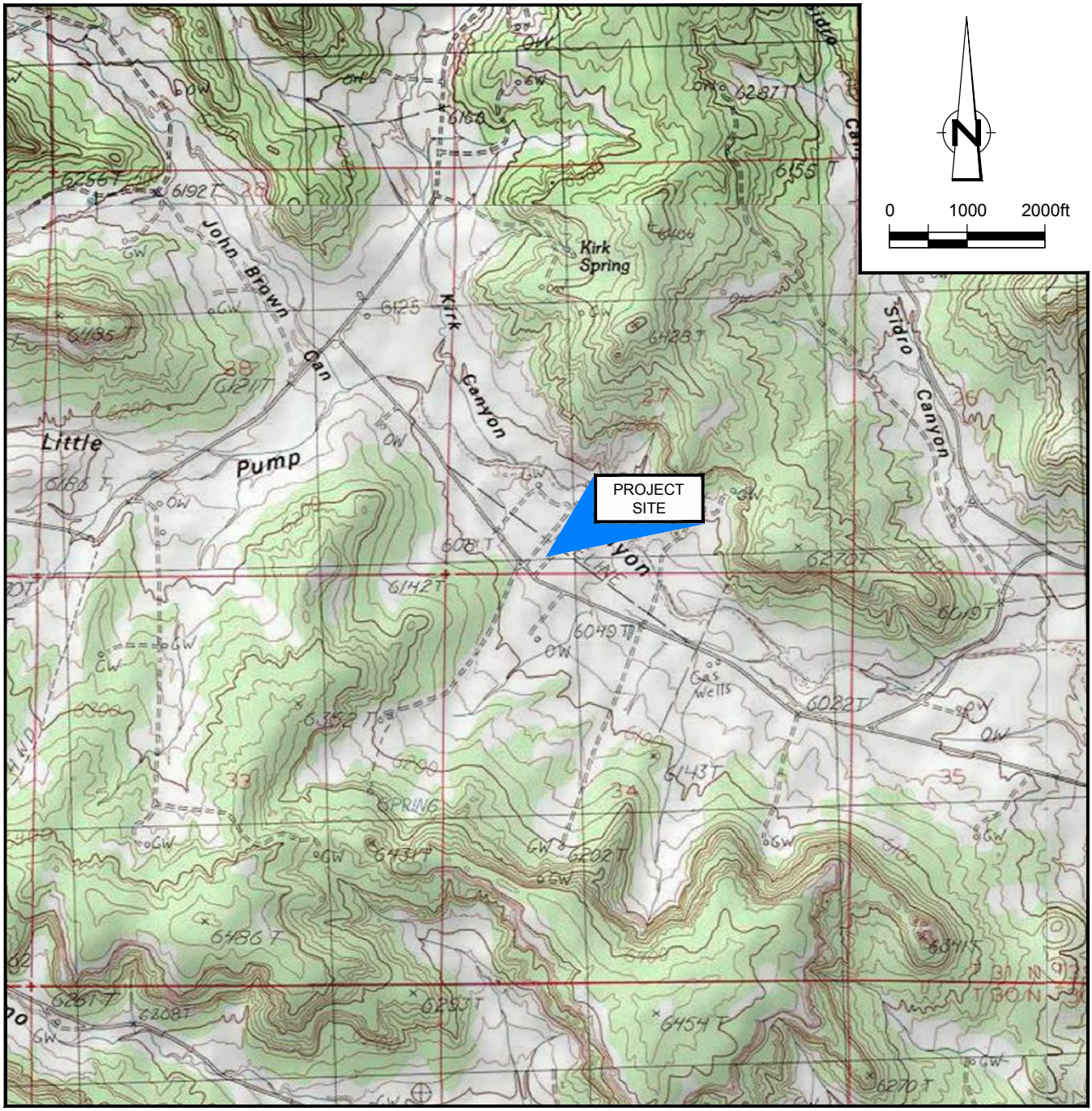
- Toluene
  - The NMWQCC standard for toluene is 0.75 mg/L. The groundwater samples collected from MW-2, MW-3 and MW-4 were below NMWQCC standards.
- Ethylbenzene
  - The NMWQCC standard for ethylbenzene is 0.75 mg/L. The groundwater samples collected from MW-2, MW-3 and MW-4 were below NMWQCC standards.
- Xylenes
  - The NMWQCC standard for total xylenes is 0.620 mg/L. The groundwater samples collected from MW-2, MW-3 and MW-4 were below NMWQCC standards.
- Naphthalene
  - The NMWQCC standard for naphthalene is 0.03 mg/L. The groundwater samples collected from MW-2, MW-3 and MW-4 were below NMWQCC standards.
- Sulfate
  - The NMWQCC standard for sulfate is 600 mg/L. The groundwater samples collected from MW 2, MW 3, and MW 4 exceeded the standard for sulfate with concentrations of 1270 mg/L, 671 mg/L, and 943 mg/L, respectively.
- Dissolved Manganese
  - The NMWQCC standard for dissolved manganese is 0.2 mg/L. The groundwater samples collected from MW 3, and MW 4 exceeded the standard for dissolved manganese with concentrations 0.48 mg/L, and 2.0 mg/L, respectively.

3. Conclusions and Recommendations

Concentrations of BTEX, naphthalene, sulfate, and dissolved manganese continue to be detected above NMWQCC groundwater quality standards in Site monitoring wells. GHD recommends continued annual sampling of Site monitoring wells until monitored groundwater quality parameters approach NMWQCC standards. GHD will begin a quarterly sampling schedule once parameters are near or below NMWQCC standards or background levels.

The next groundwater monitoring event at the Site is scheduled for September 2017 and will include analyses for BTEX, naphthalenes, dissolved manganese, dissolved iron, and sulfate.

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"TURLEY, NEW MEXICO"

LAT/LONG: 36.8626° NORTH, 107.7723° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 1

SITE LOCATION MAP
JOHNSTON FEDERAL No. 4 METERING STATION
SECTION 27, T31N-R09W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

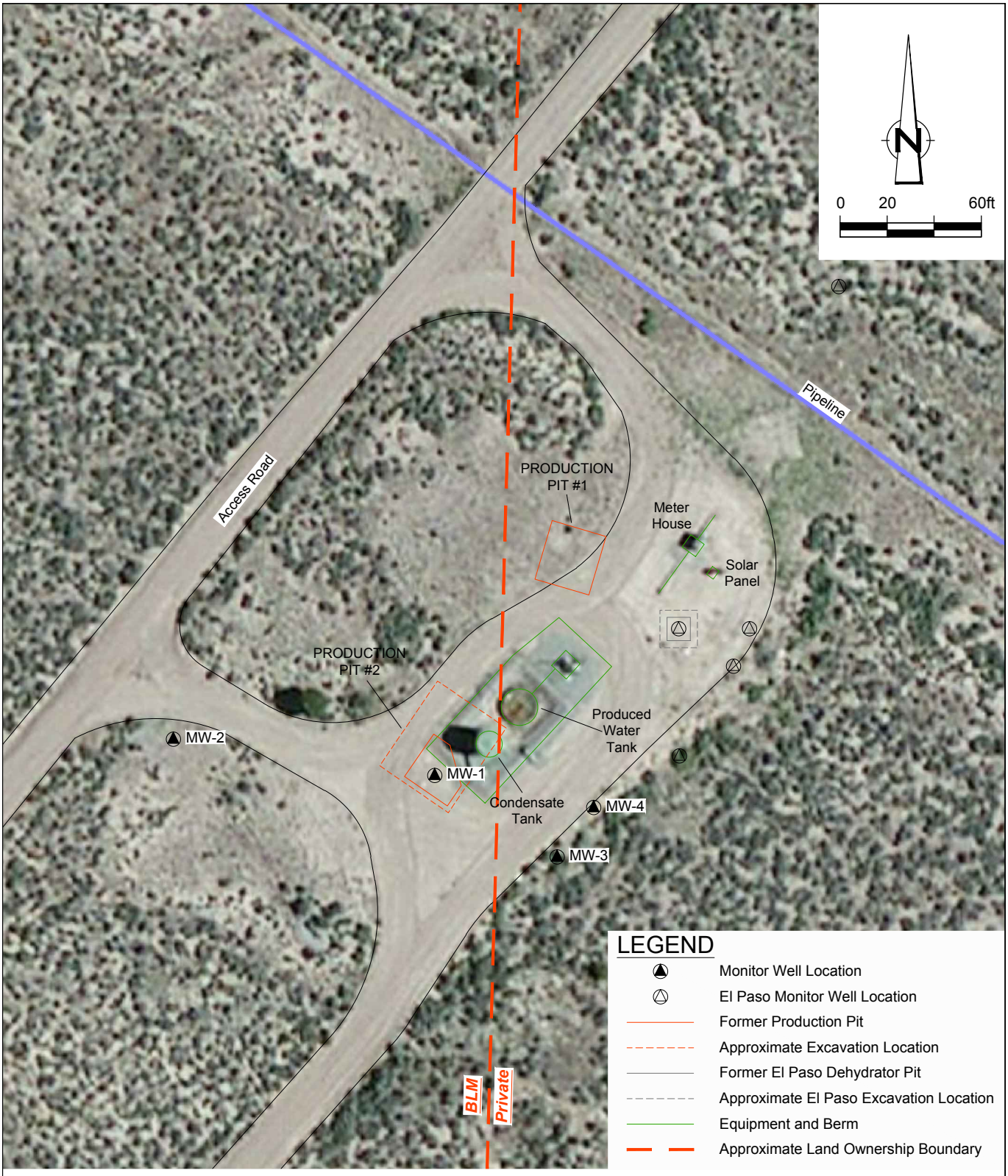


Figure 2

SITE PLAN
JOHNSTON FEDERAL No. 4 METERING STATION
SECTION 27, T31N-R09W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074925-95(007)GN-DL001 DEC 1, 2016

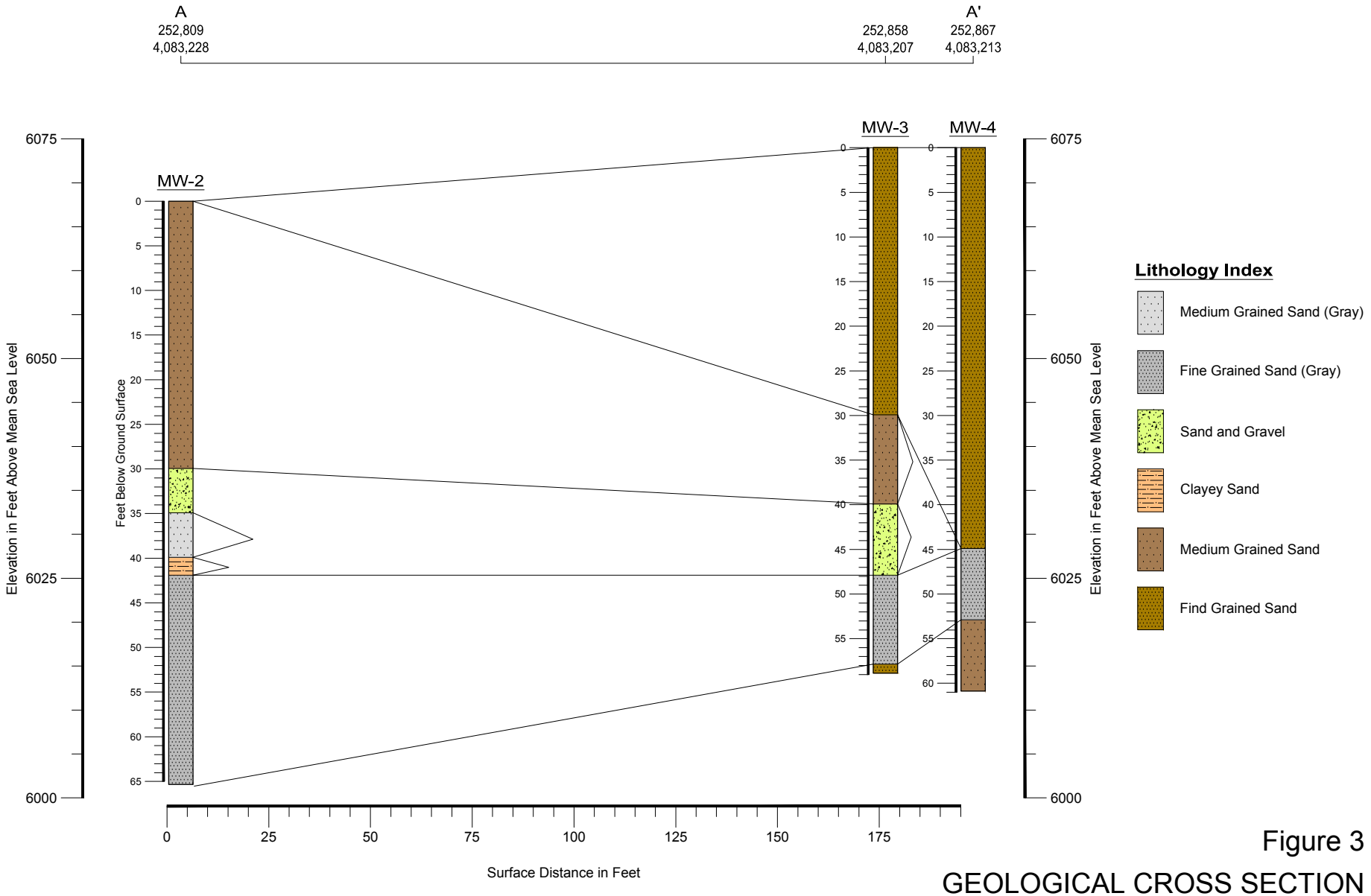


Figure 3

GEOLOGICAL CROSS SECTION
JOHNSTON FEDERAL No. 4 METERING STATION
SECTION 27, T31N-R09W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

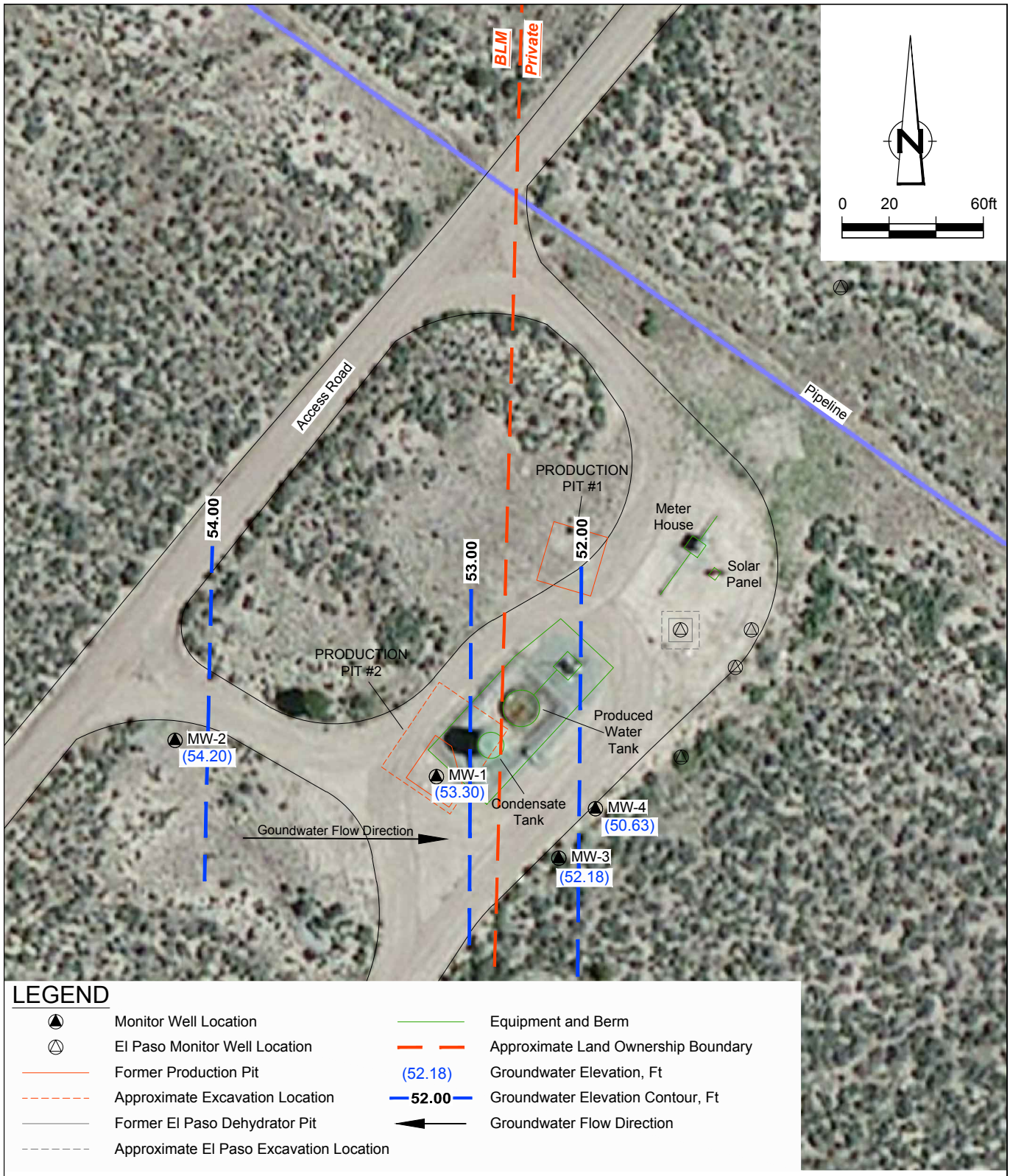


Figure 4

SEPTEMBER 2016 GROUNDWATER POTENTIOMETRIC SURFACE MAP
JOHNSTON FEDERAL No. 4 METERING STATION
SECTION 27, T31N-R09W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074925-95(007)GN-DL001 DEC 1, 2016

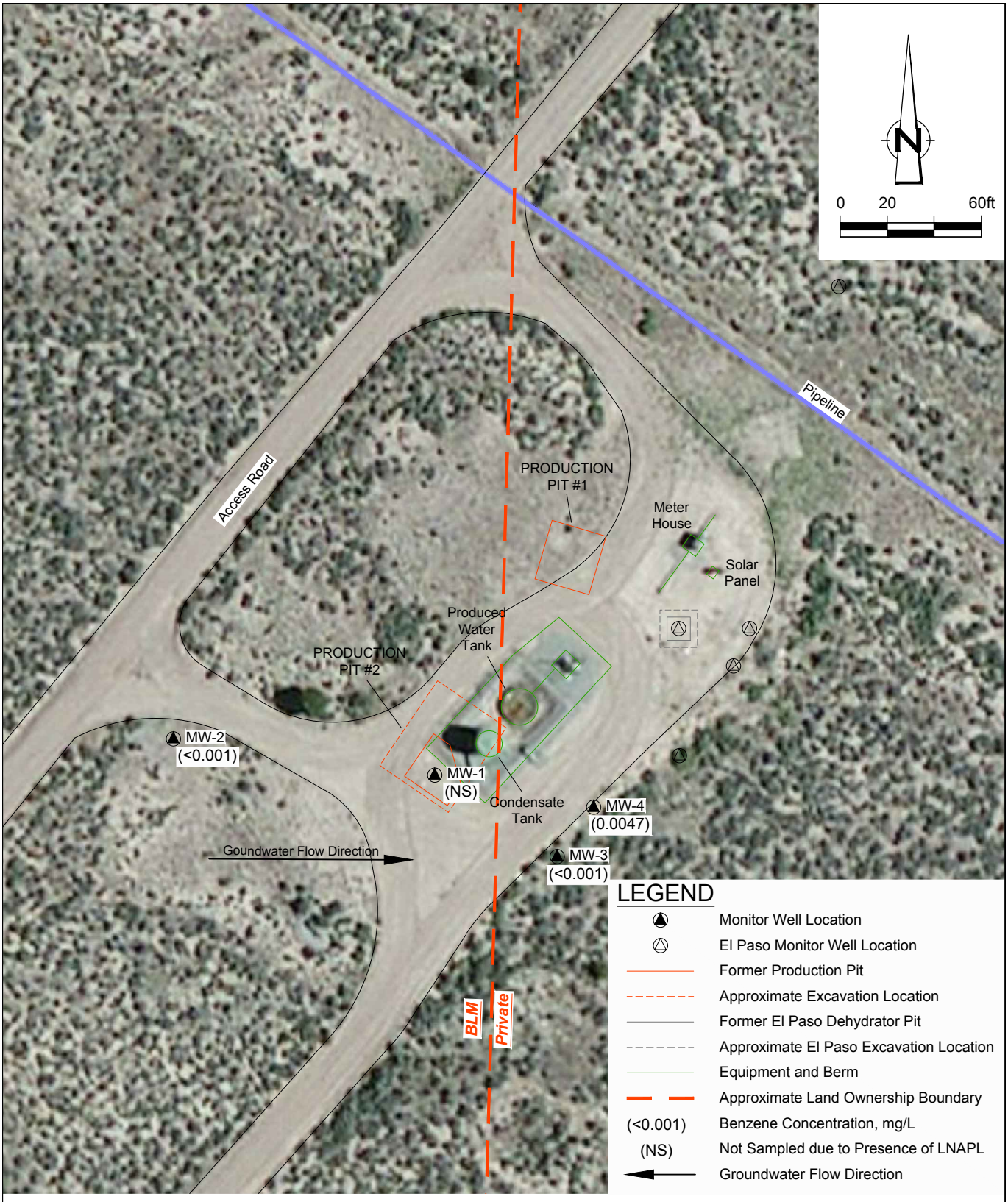


Figure 5

SEPTEMBER 2016 BENZENE CONCENTRATION MAP
JOHNSTON FEDERAL No. 4 METERING STATION
SECTION 27, T31N-R09W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074925-95(007)GN-DL001 DEC 1, 2016

Tables

Table 1

Site History Timeline
ConocoPhillips Company
Johnston Federal No. 4 Metering Station
San Juan County, New Mexico

Date/Time Period	***Event/Action***	***Description/Comments***
August 1952	Well Spudded	Well was spudded by Anderson-Prichard Oil Corporation on August 21, 1952.
April 1961	Transfer of Well Ownership	Ownership of the well transferred from Anderson-Prichard Oil Corporation to Union Texas Natural Gas Corporation on April 26, 1961.
September 1971	Transfer of Well Ownership	Meridian Oil Inc., a wholly-owned subsidiary of Burlington Resources, took over operation of well from Union Texas Petroleum Corporation on September 17, 1991.
August 1994	Initial Site Assesment	El Paso Energy conducted a site assessment of a former unlined pit near the metering station.
September 1994	Pit Excavation	El Paso Energy excavated ~60 cubic yards of soil from their former unlined pit.
August 1995	Monitor Well Installation	El Paso contracted Philip Environmental Services Corporation to install a monitor well in the vicinity of their former pit on August 9, 1995.
December 1995	Monitor Well Installation	El Paso contracted Philip Environmental Services Corporation to install two downgradient monitor wells between December 12 and 15, 1995.
August 1997	Product Removal	El Paso Energy commenced product removal from their MW-1 on August 26, 1997.
September 1997	Piezometer Installation	El Paso contracted Philip Environmental Services Corp. to install 3 temporary piezometers on September 15, 1997.
July 1998	NMOCD Communication With Site Operators	New Mexico Oil Conservation Division (NMOCD) issued a response letter to El Paso Field Services (EPFS) on July 8, 1998, indicating that they would be sending letters to the operators of the sites (including Burlington Resources) and that EPFS should work cooperatively with the operators on investigation and remediation activities.
July 1998	NMOCD Requests Groundwater Investigation by Burlington Resources	NMOCD issued a letter to Burlington Resources on July 9, 1998, referencing work done at the Site by EPFS and requiring Burlington Resources (BR) to immediately implement their previously approved pit closure plan. The letter also required BR to submit a comprehensive groundwater investigation and remediation plan for all pit closure Sites in the San Juan Basin that encounter groundwater.
August 1998	Burlington Resources Granted Closure of Pit #1	Burlington Resources sampled Pit #1 on August 10, 1998 and laboratory analytical results indicated closure was warranted.
August 1998	Initial Site Assessment	Initial site assessment conducted on the site separator pit. Soil from this area was collected and analyzed for total petroleum hydrocarbons (TPH) and was found to contain TPH below NMOCD recommended action levels. The pit was subsequently granted closed status by NMOCD.
August 1998	Initial Site Assessment	Initial site assessment conducted on the tank drain pit. Soil from this area was collected and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and for TPH. Concentrations of these constituents were found to be above NMOCD recommended action levels.
December 1998	Pit Excavation	Burlington Resources excavated ~3,055 cubic yards of hydrocarbon-impacted soil from Pit #2 (58 ft x 45 ft x 30 ft deep), starting on December 17, 1998. The excavation extended to ~30 feet below ground surface (practical extent). The bottom of the excavation was sampled on December 28, 1998.
May 1999	Monitor Well Installation	Monitor Well MW-1 installed to a depth of 50 feet below ground surface (bgs); the screened interval was placed from 35 to 50 feet bgs, and was installed in the center of pit #2. Burlington Resources began monitoring MW-1 on a quarterly basis.
June 1999	Confirmation of Groundwater Impacts	Laboratory analysis of groundwater from MW-1 shows levels of benzene, toluene, and total xylenes in excess of New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards. Burlington Resources notified NMOCD via E-mail on June 1, 1999.
July 2001	NMOCD Communication With Site Operators	NMOCD response letter sent to EPFS on July 18, 2001 again urges EPFS to work cooperatively with the operators to investigate and remediate contaminated groundwater.

Table 1

Site History Timeline
ConocoPhillips Company
Johnston Federal No. 4 Metering Station
San Juan County, New Mexico

Date/Time Period	*Event/Action*	*Description/Comments*
April 2003	NMOCD Requests Monitor Well Installation	NMOCD response letter to EPFS sent on April 3, 2003, requires EPFS to install additional monitor wells to determine the real extent of groundwater impacts.
March 2006	Acquisition of Burlington Resources by ConocoPhilips Company	ConocoPhillips Company acquired Burlington Resources on March 31, 2006.
November 2007 and January 2008	3rd and 4th Quarter 2007 Groundwater Monitoring	Johnston Federal No. 4 Monitoring Station groundwater sampled during November 2007 and January 2008 by Tetra Tech.
March 2008	Reporting	2007 Annual Groundwater Monitoring Report submitted to NMOCD.
March 2008	Groundwater Monitoring	Tetra Tech conducts quarterly groundwater monitoring at the Site for BTEX.
April 2008	NMOCD Requests Further Investigation	NMOCD indicates additional investigation and sampling is necessary for closure consideration during a meeting with Glenn Von Gonten.
April 2008	1st Quarter 2008 Groundwater Monitoring	Tetra Tech conducts quarterly groundwater monitoring at the Site for BTEX in MW-1 on April 30, 2008. Note: Prior to this date the location of MW-1 was not clear and the incorrect well was sampled. This was the first quarter that ConocoPhillips MW-1 was sampled. BTEX constituents were found to be above NMWQCC standards in MW-1.
July 2008	2nd Quarter 2008 Groundwater Monitoring	Tetra Tech conducts quarterly groundwater monitoring at the Site for BTEX in MW-1.
August 2008	Groundwater Monitor Well Installation	Monitor Wells MW-2, MW-3, and MW-4 installed under the supervision of Tetra Tech by WDC Exploration and Wells of Peralta, NM.
October 2008	3rd Quarter 2008 groundwater Monitoring	Tetra Tech conducts quarterly monitoring at the Site for MW-1 through MW-4. MW-2, MW-3 and MW-4 groundwater samples are analyzed for baseline parameters including major ions, total metals, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs) including BTEX, diesel range organics, and gasoline range organics as requested by the NMOCD. In addition, an expanded list (beyond BTEX analysis) of VOCs were included for MW 1.
January 2009	4th Quarter 2008 Groundwater Monitoring	Tetra Tech conducts quarterly monitoring at the Site for MW-1 through MW-4. The groundwater sample obtained for MW-1 is analyzed for baseline parameters including major ions, total metals, SVOCs, VOCs, diesel range organics, and gasoline range organics. As of January 2009, baseline parameters have been collected for all 4 groundwater monitor wells at the Site.
September 25, 2009	2009 Annual Groundwater Monitoring	Tetra Tech conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved Fe and Mn and sulfate.
September 22, 2010	2010 Annual Groundwater Monitoring	Tetra Tech conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved Mn and sulfate.
June 15, 2011	Transfer of Site Consulting Responsibilities	Site consulting responsibilities tranferred from Tetra Tech, Inc. to Conestoga-Rovers & Associates, Inc. (CRA) of Albuquerque, NM.
September 28, 2011	2011 Annual Groundwater Monitoring	CRA conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved Mn, dissolved Fe, and sulfate.
September 26, 2012	2012 Annual Groundwater Monitoring	CRA conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved Mn, dissolved Fe, and sulfate.
August 23, 2013 - August 27, 2013	Dual-Phase Extraction	AcuVac, under CRA oversight, performs three days of dual-phase extraction on MW-1.
September 17, 2013	2013 Annual Groundwater Monitoring	CRA conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved Mn, dissolved Fe, and sulfate.
September 23, 2014	2014 Annual Groundwater Monitoring	CRA conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved Mn, dissolved Fe, and sulfate.
November 12, 2014 - November 13, 2014	Dual-Phase Extraction	AcuVac, under CRA oversight, performs two days of dual-phase extraction on MW-1.
December 17, 2014	2014 Post-MDPE Groundwater Monitoring	CRA conducts post-MDPE groundwater monitoring at the Site for MW-1, MW-3, and MW-4 with analyses for BTEX and naphthalene.
January 8, 2015	2015 Post-MDPE Groundwater Monitoring	CRA conducts post-MDPE groundwater monitoring at the Site for MW-1 with analyses for BTEX and naphthalene.
April 20, 2015 - April 23, 2015	Dual-Phase Extraction	AcuVac, under CRA oversight, performs four days of dual-phase extraction on MW-1.
June 18, 2015	2015 Post-MDPE Groundwater Monitoring	GHD conducts post-MDPE groundwater monitoring at the Site for MW-1 and MW-4 with analyses for BTEX and naphthalene.
September 22, 2015	2015 Annual Groundwater Monitoring	GHD conducts annual groundwater monitoring at the Site for MW-1 through MW-4 with analyses for BTEX, naphthalene, dissolved, Mn, dissolved Fe and sulfate.
September 14, 2016	2016 Annual Groundwater Monitoring	GHD conducts annual groundwater monitoring at the Site for MW-2 through MW-4 with analyses for BTEX, naphthalene, dissolved, Mn, dissolved Fe and sulfate. MW-1 not sampled due to presense of product on the water table.

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Johnston Federal No. 4
San Juan County, New Mexico

Well ID	*Total Depth (ft bgs)*	*Screen Interval (ft)*	**Elevation (ft) (TOC)*	*Date Measured*	*Depth to LNAPL (ft below TOC)*	*Depth to Groundwater (ft below TOC)*	*Relative Groundwater Elevation*
MW-1	51.79	35 - 50	100	25/05/1999	--	NM	NM
				1/09/1999	--	47.02	52.98
				1/12/1999	--	46.96	53.04
				18/01/2000	--	44.05	55.95
				17/05/2000	--	46.90	53.10
				8/09/2000	--	46.91	53.09
				20/12/2000	--	46.88	53.12
				27/03/2001	--	NM	NM
				27/06/2001	--	47.05	52.95
				17/09/2001	--	46.93	53.07
				19/12/2001	--	46.97	53.03
				25/03/2002	--	46.99	53.01
				25/06/2002	--	47.01	52.99
				24/09/2002	--	46.98	53.02
				30/12/2002	--	47.40	52.60
				27/03/2003	--	NM	NM
				27/06/2003	--	NM	NM
				10/10/2003	--	NM	NM
				10/12/2003	--	NM	NM
				16/03/2004	--	47.28	52.72
				22/06/2004	--	47.06	52.94
				30/09/2004	--	47.24	52.76
				13/12/2004	--	47.14	52.86
				23/03/2005	--	46.91	53.09
				22/06/2005	--	46.93	53.07
				28/10/2005	--	46.87	53.13
				14/12/2005	--	46.72	53.28
				20/03/2006	--	46.75	53.25
				21/06/2006	--	46.84	53.16
				20/10/2006	--	46.89	53.11
				13/12/2006	--	46.92	53.08
				9/11/2007	--	NM	NM
				15/01/2008	--	NM	NM
				30/04/2008	--	46.45	53.55
				23/07/2008	--	46.63	53.37
				24/10/2008	--	46.60	53.40
				29/01/2009	--	46.57	53.43
				23/04/2009	--	46.40	53.60
				25/09/2009	--	46.52	53.48
				22/09/2010	--	46.60	53.40
				28/09/2011	--	46.65	53.35
				26/09/2012	--	46.80	53.20
				17/09/2013	--	46.88	53.12
				23/09/2014	--	46.94	53.06
				17/12/2014	--	46.94	53.06
				8/01/2015	--	46.92	53.08
				18/06/2015	--	46.94	53.06
				22/09/2015	--	46.91	53.09
				14/09/2016	46.70	46.71	53.30

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Johnston Federal No. 4
San Juan County, New Mexico

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	*Elevation (ft) (TOC)	Date Measured	Depth to LNAPL (ft below TOC)	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
MW-2	65.5	41.5 - 61.5	97.71	24/10/2008	--	42.85	54.86
				29/01/2009	--	42.83	54.88
				23/04/2009	--	42.75	54.96
				25/09/2009	--	42.82	54.89
				22/09/2010	--	43.01	54.70
				28/09/2011	--	43.14	54.57
				26/09/2012	--	43.33	54.38
				17/09/2013	--	43.51	54.20
				23/09/2014	--	43.56	54.15
				17/12/2014	--	43.59	54.12
				18/06/2015	--	43.57	54.14
				22/09/2015	--	43.58	54.13
				14/09/2016		43.51	54.20
MW-3	59	35 - 55	94.65	24/10/2008	--	43.91	50.74
				29/01/2009	--	41.97	52.68
				23/04/2009	--	41.87	52.78
				25/09/2009	--	42.04	52.61
				22/09/2010	--	42.17	52.48
				28/09/2011	--	42.22	52.43
				26/09/2012	--	42.36	52.29
				17/09/2013	--	42.47	52.18
				23/09/2014	--	42.70	51.95
				17/12/2014	--	42.62	52.03
				18/06/2015	--	43.67	50.98
				22/09/2015	--	42.65	52.00
				14/09/2016		42.47	52.18
MW-4	61	37 - 57	94.79	24/10/2008	--	43.11	51.68
				29/01/2009	--	43.11	51.68
				23/04/2009	--	43.06	51.73
				25/09/2009	--	43.20	51.59
				22/09/2010	--	43.39	51.40
				28/09/2011	--	43.45	51.34
				26/09/2012	--	43.57	51.22
				17/09/2013	--	43.65	51.14
				23/09/2014	--	44.81	49.98
				17/12/2014	--	44.80	49.99
				18/06/2015	--	45.85	48.94
				22/09/2015	--	44.73	50.06
				14/09/2016		44.16	50.63

Notes:

ft = Feet
TOC = Top of casing
bgs = below ground surface
* Elevation relative to the TOC of MW-1, set at arbitrary 100 feet.
LNAPL = light non aqueoud phase liquid
When LNAPL present: GW Elevation + (LNAPL Thickness X LNAPL Density [0.75])
NM = Not Measured

Table 3

Field Parameters Summary
ConocoPhillips Company
Johnston Federal No. 4
San Juan 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	23/09/2014	No parameters collected due to LNAPL sheen.						
	18/06/2015	No parameters collected due to LNAPL sheen.						
	9//22/2015	No parameters collected due to LNAPL sheen.						
	14/09/2016	No parameters collected due to LNAPL sheen.						
MW-2	23/09/2014	15.00	7.22	1.50	2310	11.30	57.0	9.50
	23/09/2014	14.80	7.18	1.50	2360	10.89	63.0	10.00
	23/09/2014	14.80	7.17	1.50	2360	10.70	67.0	10.50
	22/09/2015	13.95	7.62	0.80	1235	12.50	59.2	9.00
	22/09/2015	13.69	6.98	1.48	2276	5.62	82.6	9.50
	22/09/2015	13.55	6.64	1.48	2273	5.05	93.0	10.00
	14/09/2016	13.53	7.26	1.53	2368	5.10	6.9	10.00
MW-3	23/09/2014	15.70	7.01	1.20	1820	10.13	-104.0	6.25
	23/09/2014	15.70	7.01	1.20	1840	9.12	-127.0	6.75
	23/09/2014	15.70	7.01	1.20	1850	8.48	-137.0	7.25
	17/12/2014	14.76	7.48	1.379	2123	2.40	-149.1	5.75
	17/12/2014	14.72	7.48	1.402	2158	2.66	-159.7	6.25
	17/12/2014	14.78	7.49	1.441	2218	2.39	-164.0	6.75
	22/09/2015	15.11	7.71	0.735	1130	9.05	5.7	6.25
	22/09/2015	15.07	7.50	1.321	2032	4.70	-53.7	6.75
	22/09/2015	15.07	7.32	1.314	2021	2.34	-79.2	7.25
	14/09/2016	14.91	7.21	1.206	1856	2.01	-158.8	7.00
MW-4	23/09/2014	16.40	6.65	1.400	2130	10.81	-124.0	3.50
	23/09/2014	16.00	6.72	1.400	2110	9.17	-136.0	4.00
	23/09/2014	15.80	6.77	1.300	2110	8.42	-142.0	4.50
	23/09/2014	15.90	6.81	1.300	2110	8.10	-150.0	5.00
	17/12/2014	14.79	7.22	1.508	2320	4.74	-145.4	6.25
	17/12/2014	14.91	7.35	1.511	2324	3.70	-158.7	6.75
	17/12/2014	14.98	7.37	1.509	2323	2.94	-166.6	7.25
	18/06/2015	15.65	6.67	1.421	2186	2.52	-133.8	6.00
	18/06/2015	15.49	6.68	1.420	2184	2.44	-130.2	6.25
	18/06/2015	15.38	6.71	1.419	2183	2.20	-129.3	6.50
	18/06/2015	15.38	6.72	1.418	2182	2.21	-146.6	6.75
	18/06/2015	15.37	6.73	1.417	2184	2.05	-140.1	7.00
	22/09/2015	15.17	7.15	1.327	2042	2.45	-105.6	6.50
	22/09/2015	15.14	6.89	1.328	2043	2.07	-12.5	7.00
	22/09/2015	15.13	6.82	1.326	2041	2.04	-126.5	7.50
	14/09/2016	14.92	7.23	1.363	2096	7.69	-205.4	5.00

Notes:

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

Groundwater Laboratory Analytical Results Summaty
ConocoPhillips Company
Johnston Federal No. 4
San Juan County, New Mexico

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Napthalene (mg/L)	Sulfate (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**	**0.03**	**600**	**1**	**0.2**
MW-1	MW-1	5/25/1999	(orig)	**8.7**	**2.9**	**2.8**	**2.9**	--	--	--	--
	MW-1	12/1/1999	(orig)	**4.7**	**1.3**	**0.9**	**10**	--	--	--	--
	MW-1	1/18/2000	(orig)	**3.6**	**0.82**	**0.84**	**7.5**	--	--	--	--
	MW-1	5/17/2000	(orig)	**6.9**	**1.1**	**1.5**	**17**	--	--	--	--
	MW-1	9/8/2000	(orig)	**4.6**	0.62	**0.93**	**10**	--	--	--	--
	MW-1	12/20/2000	(orig)	< 0.0002	0.0005	0.034	0.061	--	--	--	--
	MW-1	3/27/2001	(orig)	**5.43**	0.641	**0.991**	**9.83**	--	--	--	--
	MW-1	6/27/2001	(orig)	**5.87**	**0.9**	**0.99**	**10.4**	--	--	--	--
	MW-1	9/17/2001	(orig)	**5.91**	0.75	**0.98**	**10.7**	--	--	--	--
	MW-1	12/19/2001	(orig)	**7.2**	0.65	**1.02**	**11.3**	--	--	--	--
	MW-1	3/25/2002	(orig)	**5.52**	**0.83**	**1.19**	**10.5**	--	--	--	--
	MW-1	6/26/2002	(orig)	**0.516**	0.0662	0.0787	**0.863**	--	--	--	--
	MW-1	9/24/2002	(orig)	**5.31**	**8**	**0.88**	**13.96**	--	--	--	--
	MW-1	12/30/2002	(orig)	**7.66**	**10.2**	**0.76**	**14.14**	--	--	--	--
	MW-1	6/22/2004	(orig)	**6.16**	**8.1**	0.47	**15.84**	--	--	--	--
	MW-1	3/20/2006	(orig)	**3.17**	**3.74**	**1.06**	**30.13**	--	--	--	--
	MW-1	6/21/2006	(orig)	**4.9**	**3.28**	0.448	**2.39**	--	--	--	--
	MW-1	12/13/2006	(orig)	**5.3**	**7.2**	**0.87**	**15.45**	--	--	--	--
	MW-1	3/27/2007	(orig)	**6.87**	**5.72**	0.21	**12.16**	--	--	--	--
	MW-1	6/25/2007	(orig)	**5.68**	**1.83**	0.4	**9.48**	--	--	--	--
	MW-1	4/30/2008	(orig)	**6.3**	**1.8**	0.28 J	**8.6**	--	--	--	--
	MW-1	7/23/2008	(orig)	**7.1**	**2.2**	0.45	**10.6**	--	--	--	--
	MW-1	10/24/2008	(orig)	**6**	**2.1**	0.4	**9**	**0.044**	--	--	--
	MW-1	1/29/2009	(orig)	**6.7**	**2.2**	0.63	**14.5**	**0.061**	315	--	--
	MW-1	9/25/2009	(orig)	**3.9**	**1.5**	0.68	**9.8**	**0.04**	429	< 0.02	**1.11**
	MW-1	9/22/2010	(orig)	**3.5**	**0.98**	0.63	**7.5**	**0.049**	190	--	**0.752**
	GW-074925-092811-CM-004	9/28/2011	(orig)	**3.36**	**1.05**	0.667	**6.81**	**0.037**	202	< 0.05	**0.774**
	GW-074925-092811-CM-005	9/28/2011	(Duplicate)	**3.43**	**1.12**	**0.779**	**8.29**	--	--	--	--
	GW-074925-092612-CM-MW-1	9/26/2012	(orig)	**3.07**	0.599	0.577	**5.16**	**0.0398**	113	< 0.05	**0.67**
	August 2013 Mobile Dual Phase Extraction Event										
	GW-074925-091713-CM-MW-1	9/17/2013	(orig)	**4.69**	**7.55**	**1.17**	**11.0**	**0.0365**	371	< 0.05	**0.89**
	GW-074925-091713-CM-DUP	9/17/2013	(Duplicate)	**4.70**	**7.21**	**1.04**	**9.97**	--	--	--	--
	GW-074925-092314-SP-MW-1	9/23/2014	(orig)	**2.970**	**4.250**	**0.778**	**6.89**	**0.0446**	155	<0.050	**0.85**
	GW-074925-092314-SP-DUP	9/23/2014	(Duplicate)	**2.820**	**3.880**	**0.754**	**6.690**	--	--	--	--
	November 2014 Mobile Dual Phase Extraction Event										
	GW-074925-010815-JW-MW-1	1/8/2015	(orig)	**4.35**	**6.15**	**1.07**	**10.0**	**0.0787**	--	--	--
	GW-074925-061815-CB-MW-1	6/18/2015	(orig)	**4.05**	**6.26**	**1.04**	**10.8**	**0.0625**	--	--	--
	GW-074925-061815-CB-DUP	6/18/2015	(Duplicate)	**4.34**	**6.46**	**0.933**	**11.1**	--	--	--	--
	April 2015 Mobile Dual Phase Extraction Event										
	GW-074925-092215-CB-MW-1	9/22/2015	(orig)	**3.360**	**4.570**	0.741	**8.620**	**0.0504**	44.2	< 0.050	**0.72**
	GW-074925-092215-CB-DUP	9/22/2015	(Duplicate)	**3.370**	**4.280**	0.724	**7.980**	--	--	--	--
		9/14/2016		Not sampled due to presense of LNAPL							
MW-2	MW-2	10/24/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.005	**974**	--	--
	MW-2	1/29/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--	--	--	--
	MW-2	9/25/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	**1260**	< 0.02	0.04
	MW-2	9/22/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**1350**	--	0.0074
	GW-074925-092811-CM-002	9/28/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.0001	**1290**	**2.49**	0.0956
	GW-074925-092612-CM-MW-2	9/26/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.0005	**1210**	< 0.05	< 0.005
	GW-074925-091713-CM-MW-2	9/17/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.0005	**1230**	< 0.05	< 0.005
	GW-074925-092314-SP-MW-2	9/23/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.00045	**1190**	< 0.05	< 0.005
	GW-074925-092215-CB-MW-2	9/22/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.0005	**1210**	< 0.050	< 0.005
	GW-074925-091516-CM-MW-2	9/14/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.00045	**1270**	< 0.050	< 0.005
MW-3	MW-3	10/24/2008	(orig)	**0.02**	< 0.0005	< 0.0005	0.024	< 0.005	**714**	--	--
	MW-3	1/29/2009	(orig)	**0.012**	< 0.0005	< 0.0005	0.005	--	--	--	--
	MW-3	9/25/2009	(orig)	0.0021	< 0.001	< 0.001	< 0.002	< 0.001	**1070**	< 0.02	**1.24**
	MW-3	9/22/2010	(orig)	0.0042	< 0.001	< 0.001	< 0.001	< 0.001	**1060**	--	**1.11**
	GW-074925-092811-CM-003	9/28/2011	(orig)	0.0038	< 0.001	< 0.001	< 0.003	< 0.0001	**809**	**1.58**	**0.704**
	GW-074925-092612-CM-MW-3	9/26/2012	(orig)	0.0016	< 0.001	< 0.001	< 0.003	< 0.0005	**892**	0.063	**0.67**
	GW-074925-091713-CM-MW-3	9/17/2013	(orig)	0.0012	< 0.001	< 0.001	< 0.003	< 0.0005	**808**	0.80	**0.67**
	GW-074925-092314-SP-MW-3	9/23/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.00053	598	0.83	**0.65**
	GW-074925-121714-CM-MW-3	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.00045	--	--	--
	GW-074925-092215-CB-MW-3	9/22/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.00045	**943**	0.079	**0.79**
	GW-074925-091516-CM-MW-3	09/14/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.00045	**671**	0.22	**0.48**
MW-4	MW-4	10/24/2008	(orig)	**0.024**	< 0.0005	0.006	0.01	< 0.005	**678**	--	--
	MW-4	1/29/2009	(orig)	**0.11**	0.006	0.009	0.147	< 0.005	--	--	--
	MW-4	9/25/2009	(orig)	0.0088	< 0.001	0.0057	0.002	< 0.001	**968**	0.508	**1.24**
	MW-4	9/22/2010	(orig)	**0.019**	0.005	0.0069	0.0057	< 0.001	**1040**	--	**1.27**
	GW-074925-092811-CM-001	9/28/2011	(orig)	**0.0256**	0.0078	0.0017	0.0106	< 0.0001	**960**	0.532	**1.82**
	GW-074925-092612-CM-MW-4	9/26/2012	(orig)	**0.0124**	0.0023	< 0.001	< 0.003	< 0.0005	**949**	0.57	**1.5**
	GW-074925-092612-CM-DUP	9/26/2012	(Duplicate)	**0.0130**	0.0022	< 0.001	0.0031	--	**--**	--	**--**
	August 2013 Mobile Dual Phase Extraction Event										
	GW-074925-091713-CM-MW-4	9/17/2013	(orig)	0.0065	< 0.001	< 0.001	< 0.003	< 0.0005	**925**	0.51	**1.6**
	GW-074925-092314-SP-MW-4	9/23/2014	(orig)	0.0068	< 0.001	0.0011	< 0.003	< 0.00053	**905**	0.39	**2.2**
	November 2014 Mobile Dual Phase Extraction Event										
	GW-074925-121714-CM-MW-4	12/17/2014	(orig)	0.003	< 0.001	< 0.001	< 0.003	< 0.00045	--	--	--
	GW-074925-092314-CM-DUP	12/17/2014	(Duplicate)	0.0039	< 0.001	< 0.001	< 0.003	--	--	--	--
	April 2015 Mobile Dual Phase Extraction Event										
	GW074925-061815-CB-MW-4	6/18/2015	(orig)	0.0039	< 0.001	< 0.001	< 0.003	< 0.00045	--	--	--
	GW-074925-092215-CB-MW-4	9/22/2015	(orig)	0.0018	< 0.001	< 0.001	< 0.003	< 0.0005	**911**	0.21	**1.9**
	GW-074925-091516-CM-MW-4	9/14/2016	(orig)	0.0047	< 0.001	< 0.001	< 0.003	< 0.00045	**943**	0.24	**2.0**

Notes:

NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter (parts per million)
<0.7 = Below laboratory detection limit of 0.7 mg/L
J = Estimated value between MDL and PQL
Bold = concentrations that exceed the NMWQCC groundwater quality standard

Appendices

Appendix A
Groundwater Laboratory Analytical Reports

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

October 03, 2016

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

RE: Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 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,
Jeffrey Walker, GHD Services, Inc

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

CERTIFICATIONS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

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

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

SAMPLE SUMMARY

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60227944001	**GW-074925-091516-CM-MW-2**	Water	09/14/16 13:50	09/16/16 09:10
60227944002	**GW-074925-091516-CM-MW-3**	Water	09/14/16 14:25	09/16/16 09:10
60227944003	**GW-074925-091516-CM-MW-4**	Water	09/14/16 14:30	09/16/16 09:10
60227944004	**GW-074925-091516-CM-DUP**	Water	09/14/16 00:00	09/16/16 09:10
60227944005	**TB-074925-091516-CM-001**	Water	09/14/16 14:30	09/16/16 09:10

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60227944001	**GW-074925-091516-CM-MW-2**	EPA 6010	JGP	2
		EPA 8270C by SIM	JMT	3
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227944002	**GW-074925-091516-CM-MW-3**	EPA 6010	JGP	2
		EPA 8270C by SIM	JMT	3
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227944003	**GW-074925-091516-CM-MW-4**	EPA 6010	JGP	2
		EPA 8270C by SIM	JMT	3
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227944004	**GW-074925-091516-CM-DUP**	EPA 8260	JTK	8
60227944005	**TB-074925-091516-CM-001**	EPA 8260	JTK	8

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

PROJECT NARRATIVE

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: October 03, 2016

General Information:
3 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: 074925 COP Johnston Fed
Pace Project No.: 60227944

Method: **EPA 8270C by SIM**
Description: 8270 MSSV PAH by SIM
Client: GHD Services_COP NM
Date: October 03, 2016

General Information:
3 samples were analyzed for EPA 8270C by SIM. 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 3510C with any exceptions noted below.

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

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

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

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

QC Batch: 446943

S0: Surrogate recovery outside laboratory control limits.

- LCS (Lab ID: 1828466)
  - 2-Fluorobiphenyl (S)
- MS (Lab ID: 1828469)
  - 2-Fluorobiphenyl (S)
- MSD (Lab ID: 1828470)
  - 2-Fluorobiphenyl (S)
  - Terphenyl-d14 (S)

S3: Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- BLANK (Lab ID: 1828465)
  - 2-Fluorobiphenyl (S)
  - Terphenyl-d14 (S)
- GW-074925-091516-CM-MW-2 (Lab ID: 60227944001)
  - 2-Fluorobiphenyl (S)
- GW-074925-091516-CM-MW-3 (Lab ID: 60227944002)
  - 2-Fluorobiphenyl (S)
- GW-074925-091516-CM-MW-4 (Lab ID: 60227944003)
  - 2-Fluorobiphenyl (S)
  - Terphenyl-d14 (S)

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

PROJECT NARRATIVE

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Method: **EPA 8270C by SIM**
Description: 8270 MSSV PAH by SIM
Client: GHD Services_COP NM
Date: October 03, 2016

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: 074925 COP Johnston Fed
Pace Project No.: 60227944

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: October 03, 2016

General Information:
5 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: 447494

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

QC Batch: 447653

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: 074925 COP Johnston Fed
Pace Project No.: 60227944

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: GHD Services_COP NM
Date: October 03, 2016

General Information:
3 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:

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

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(913)599-5665

ANALYTICAL RESULTS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Sample: GW-074925-091516-CM-MW-2 **Lab ID: 60227944001** Collected: 09/14/16 13:50 Received: 09/16/16 09:10 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							
Iron, Dissolved	ND	mg/L	0.050	1	09/23/16 11:55	09/26/16 15:36	7439-89-6	
Manganese, Dissolved	ND	mg/L	0.0050	1	09/23/16 11:55	09/26/16 15:36	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Naphthalene	ND	ug/L	0.45	1	09/19/16 00:00	09/21/16 12:51	91-20-3	
Surrogates								
2-Fluorobiphenyl (S)	96	%	39-85	1	09/19/16 00:00	09/21/16 12:51	321-60-8	S3
Terphenyl-d14 (S)	95	%	48-95	1	09/19/16 00:00	09/21/16 12:51	1718-51-0	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/23/16 02:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/16 02:29	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/16 02:29	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/16 02:29	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		09/23/16 02:29	2037-26-5	
4-Bromofluorobenzene (S)	105	%	77-130	1		09/23/16 02:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	81-127	1		09/23/16 02:29	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/23/16 02:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**1270**	mg/L	100	100		09/30/16 22:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Sample: GW-074925-091516-CM-MW-3 **Lab ID: 60227944002** Collected: 09/14/16 14:25 Received: 09/16/16 09:10 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							
Iron, Dissolved	**0.22**	mg/L	0.050	1	09/23/16 11:55	09/26/16 15:40	7439-89-6	
Manganese, Dissolved	**0.48**	mg/L	0.0050	1	09/23/16 11:55	09/26/16 15:40	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Naphthalene	ND	ug/L	0.45	1	09/19/16 00:00	09/21/16 13:10	91-20-3	
Surrogates								
2-Fluorobiphenyl (S)	88	%	39-85	1	09/19/16 00:00	09/21/16 13:10	321-60-8	S3
Terphenyl-d14 (S)	92	%	48-95	1	09/19/16 00:00	09/21/16 13:10	1718-51-0	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/22/16 10:55	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/22/16 10:55	100-41-4	
Toluene	ND	ug/L	1.0	1		09/22/16 10:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/22/16 10:55	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	1		09/22/16 10:55	2037-26-5	
4-Bromofluorobenzene (S)	106	%	77-130	1		09/22/16 10:55	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		09/22/16 10:55	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/22/16 10:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**671**	mg/L	50.0	50		09/30/16 22:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Sample: GW-074925-091516-CM-MW-4 **Lab ID: 60227944003** Collected: 09/14/16 14:30 Received: 09/16/16 09:10 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							
Iron, Dissolved	**0.24**	mg/L	0.050	1	09/23/16 11:55	09/26/16 15:44	7439-89-6	
Manganese, Dissolved	**2.0**	mg/L	0.0050	1	09/23/16 11:55	09/26/16 15:44	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270C by SIM Preparation Method: EPA 3510C							
Naphthalene	ND	ug/L	0.45	1	09/19/16 00:00	09/21/16 13:29	91-20-3	
Surrogates								
2-Fluorobiphenyl (S)	96	%	39-85	1	09/19/16 00:00	09/21/16 13:29	321-60-8	S3
Terphenyl-d14 (S)	98	%	48-95	1	09/19/16 00:00	09/21/16 13:29	1718-51-0	S3
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**4.7**	ug/L	1.0	1		09/23/16 02:44	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/16 02:44	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/16 02:44	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/16 02:44	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	80-120	1		09/23/16 02:44	2037-26-5	
4-Bromofluorobenzene (S)	106	%	77-130	1		09/23/16 02:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		09/23/16 02:44	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/23/16 02:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**943**	mg/L	100	100		09/30/16 23:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Sample: GW-074925-091516-CM-DUP **Lab ID: 60227944004** Collected: 09/14/16 00:00 Received: 09/16/16 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**5.8**	ug/L	1.0	1		09/23/16 02:58	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/16 02:58	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/16 02:58	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/16 02:58	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		09/23/16 02:58	2037-26-5	
4-Bromofluorobenzene (S)	103	%	77-130	1		09/23/16 02:58	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		09/23/16 02:58	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/23/16 02:58		

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ANALYTICAL RESULTS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Sample: TB-074925-091516-CM-001 **Lab ID: 60227944005** Collected: 09/14/16 14:30 Received: 09/16/16 09:10 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		09/23/16 03:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/23/16 03:13	100-41-4	
Toluene	ND	ug/L	1.0	1		09/23/16 03:13	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/23/16 03:13	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	1		09/23/16 03:13	2037-26-5	
4-Bromofluorobenzene (S)	107	%	77-130	1		09/23/16 03:13	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	81-127	1		09/23/16 03:13	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/23/16 03:13		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

QC Batch: 447699 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60227944001, 60227944002, 60227944003

METHOD BLANK: 1831364 Matrix: Water
Associated Lab Samples: 60227944001, 60227944002, 60227944003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	ND	0.050	09/26/16 15:09	
Manganese, Dissolved	mg/L	ND	0.0050	09/26/16 15:09	

LABORATORY CONTROL SAMPLE: 1831365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	10	100	80-120	
Manganese, Dissolved	mg/L	1	1.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1831366 1831367

Parameter	Units	60227942002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	2870 ug/L	10	10	11.3	11.4	85	85	75-125	0	20	
Manganese, Dissolved	mg/L	5.9	1	1	6.7	6.7	80	78	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

QC Batch: 447494
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227944002

METHOD BLANK: 1830525
Matrix: Water
Associated Lab Samples: 60227944002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/22/16 05:57	
Ethylbenzene	ug/L	ND	1.0	09/22/16 05:57	
Toluene	ug/L	ND	1.0	09/22/16 05:57	
Xylene (Total)	ug/L	ND	3.0	09/22/16 05:57	
1,2-Dichloroethane-d4 (S)	%	99	81-127	09/22/16 05:57	
4-Bromofluorobenzene (S)	%	105	77-130	09/22/16 05:57	
Toluene-d8 (S)	%	97	80-120	09/22/16 05:57	

LABORATORY CONTROL SAMPLE: 1830526

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.9	99	79-116	
Ethylbenzene	ug/L	20	17.9	90	81-110	
Toluene	ug/L	20	18.9	95	82-111	
Xylene (Total)	ug/L	60	52.3	87	80-111	
1,2-Dichloroethane-d4 (S)	%			94	81-127	
4-Bromofluorobenzene (S)	%			103	77-130	
Toluene-d8 (S)	%			100	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

QC Batch: 447653 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227944001, 60227944003, 60227944004, 60227944005

METHOD BLANK: 1831148 Matrix: Water
Associated Lab Samples: 60227944001, 60227944003, 60227944004, 60227944005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/23/16 00:14	
Ethylbenzene	ug/L	ND	1.0	09/23/16 00:14	
Toluene	ug/L	ND	1.0	09/23/16 00:14	
Xylene (Total)	ug/L	ND	3.0	09/23/16 00:14	
1,2-Dichloroethane-d4 (S)	%	98	81-127	09/23/16 00:14	
4-Bromofluorobenzene (S)	%	105	77-130	09/23/16 00:14	
Toluene-d8 (S)	%	99	80-120	09/23/16 00:14	

LABORATORY CONTROL SAMPLE: 1831149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	102	79-116	
Ethylbenzene	ug/L	20	18.5	93	81-110	
Toluene	ug/L	20	19.2	96	82-111	
Xylene (Total)	ug/L	60	53.4	89	80-111	
1,2-Dichloroethane-d4 (S)	%			98	81-127	
4-Bromofluorobenzene (S)	%			101	77-130	
Toluene-d8 (S)	%			100	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

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QUALITY CONTROL DATA

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

QC Batch: 446943 Analysis Method: EPA 8270C by SIM
QC Batch Method: EPA 3510C Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 60227944001, 60227944002, 60227944003

METHOD BLANK: 1828465 Matrix: Water
Associated Lab Samples: 60227944001, 60227944002, 60227944003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Naphthalene	ug/L	ND	0.50	09/20/16 16:33	
2-Fluorobiphenyl (S)	%	101	39-85	09/20/16 16:33	S3
Terphenyl-d14 (S)	%	100	48-95	09/20/16 16:33	S3

LABORATORY CONTROL SAMPLE: 1828466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	10	10	100	40-106	
2-Fluorobiphenyl (S)	%			94	39-85	S0
Terphenyl-d14 (S)	%			90	48-95	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1828469 1828470

Parameter	Units	60227863005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	1.4	9.1	9.1	10	10.5	95	101	35-117	5	48	
2-Fluorobiphenyl (S)	%						90	97	39-85		78	S0
Terphenyl-d14 (S)	%						84	102	48-95		79	S0

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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QUALITY CONTROL DATA

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

QC Batch: 448685 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60227944001, 60227944002, 60227944003

METHOD BLANK: 1835745 Matrix: Water
Associated Lab Samples: 60227944001, 60227944002, 60227944003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	09/30/16 20:36	

LABORATORY CONTROL SAMPLE: 1835746

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: 1835747 1835748

Parameter	Units	60227942002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2550	1000	1000	3620	3590	107	104	80-120	1	15	

MATRIX SPIKE SAMPLE: 1835749

Parameter	Units	60227942003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	2240	1000	3250	101	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

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QUALIFIERS

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

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.

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 447494

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

Batch: 447653

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

ANALYTE QUALIFIERS

S0 Surrogate recovery outside laboratory control limits.

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074925 COP Johnston Fed
Pace Project No.: 60227944

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60227944001	**GW-074925-091516-CM-MW-2**	EPA 3010	447699	EPA 6010	447798
60227944002	**GW-074925-091516-CM-MW-3**	EPA 3010	447699	EPA 6010	447798
60227944003	**GW-074925-091516-CM-MW-4**	EPA 3010	447699	EPA 6010	447798
60227944001	**GW-074925-091516-CM-MW-2**	EPA 3510C	446943	EPA 8270C by SIM	447216
60227944002	**GW-074925-091516-CM-MW-3**	EPA 3510C	446943	EPA 8270C by SIM	447216
60227944003	**GW-074925-091516-CM-MW-4**	EPA 3510C	446943	EPA 8270C by SIM	447216
60227944001	**GW-074925-091516-CM-MW-2**	EPA 8260	447653		
60227944002	**GW-074925-091516-CM-MW-3**	EPA 8260	447494		
60227944003	**GW-074925-091516-CM-MW-4**	EPA 8260	447653		
60227944004	**GW-074925-091516-CM-DUP**	EPA 8260	447653		
60227944005	**TB-074925-091516-CM-001**	EPA 8260	447653		
60227944001	**GW-074925-091516-CM-MW-2**	EPA 300.0	448685		
60227944002	**GW-074925-091516-CM-MW-3**	EPA 300.0	448685		
60227944003	**GW-074925-091516-CM-MW-4**	EPA 300.0	448685		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60227944

60227944

Client Name: GHD Gal NM

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

Tracking #: 7044 6652 7895 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** 3.4

Date and initials of person examining contents: 1435 9/16/16

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	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
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: water	☐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 Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐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: 09/16/16

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

Start: 1430	Start:
End: 1435	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		Angela Bown		Address:	
Email:	christine.mathews@ghd.com	Purchase Order #:	34005859	Pace Quote:	
Phone:	505-884-0672 Fax	Project Name:	074925 COP Johnston Fed	Pace Project Manager:	alice.spiller@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	8644 , 20

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	Sulfate by 300.0	Dissolved Fe,Mn	8270 PAH SIM Naphthalene	Residual Chlorine (Y/N)	
1	GW-074925-091416-CM-MW-2	WT	G			9/14/16	1350		7	3		1	3						X	X	X	X	1(BTEX)	3(DRO,917) 1(BPZn) 2(MEAN) 001
2	GW-074925-091416-CM-MW-3	WT	G			9/14/16	1425		7	3		1	3						X	X	X	X		002
3	GW-074925-091416-CM-MW-4	WT	G			9/14/16	1430		7	3		1	3						X	X	X	X		003
4	GW-074925-091416-CM-DUP	WT	G			9/14/16	—		3				3						X					3(DRO,917H) 004
5	TB-074925-091516-CM-001	WT				9/15/16	1430		3				3						X					005
6																								—
7																								
8																								
9																								
10																								
11																								
12																								

Lab # 22794

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]/GHD	9/15/16	1445	[signature] Pace	9/16/16	910	3.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/15/16

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