3R - 069

2013 AGWMR

03 / 21 / 2014

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

March 21, 2014

Re: NMOCD Case No. 3RP-069, 2013 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2013 Annual Groundwater Monitoring Report for the Hampton No. 4M site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of the mobile dual phase extraction event and annual groundwater monitoring conducted during August and September 2013, respectively.

Please let me know if you have any questions.

Sincerely,

Terry S. Lauck

Enc

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Report

2013 Annual Groundwater Monitoring Report

ConocoPhillips Hampton No. 4M
San Juan County, New Mexico
API# 30-045-25810
NMOCD# 3R-069

Prepared for: ConocoPhillips Risk Management and Remediation

Conestoga-Rovers & Associates
6121 Indian School Road, NE Suite 200
Albuquerque, New Mexico 87110

January 2014 • 074927 • Report No. 4

Partners in Sustainability

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Section 1.0 Introduction

This report details the results of a mobile dual phase extraction (MDPE) event and annual groundwater monitoring conducted by Conestoga-Rovers & Associates (CRA) during August and September 2013, respectively, at the ConocoPhillips Company (ConocoPhillips) Hampton No. 4M site (Site) located in Unit Letter N, Section 13, Township 30N, Range 11W, of San Juan County, New Mexico.

The Site is located on federal land approximately ¼ mile south of Hampton Arroyo and 2 miles southeast of Aztec, New Mexico off Hwy 173 on Hampton Canyon Road. The Site consists of a gas well and associated equipment and installations. The location and general features of the Hampton No. 4M site are presented as **Figure 1** and **Figure 2**, respectively.

1.1 Background

The Hampton No. 4M gas well was spudded on November 22, 1983 by Southland Royalty Company (Southland). Burlington Resources, Inc. (Burlington) acquired Southland in January of 1996; Burlington was subsequently acquired by ConocoPhillips in March of 2006.

Public Service Company of New Mexico (PNM) operated a dehydration unit and an unlined earthen pit at the site from 1990 to 1996. Closure of the dehydrator pit in 1996 revealed impacted soil and groundwater. While drilling a monitor well upgradient of the former pit in January 1997, impacted groundwater was encountered adjacent to Burlington equipment. A groundwater seep was discovered near the well pad in April 1997. PNM, Burlington, and the New Mexico Oil Conservation Division (NMOCD) agreed on the installation of a collection trench. In March 2000, the NMOCD named Burlington responsible party of impacts upgradient of the pit, while PNM was named responsible party of impacts downgradient of the pit. Burlington excavated approximately 120 cubic yards of impacted soil from the vicinity of MW-13 and MW-14 in mid-2000, destroying both monitor wells in the process. Maps outlining the excavation area for these activities, as well as a former excavation conducted by Burlington in December 1997 are provided in **Appendix A**.

Tetra Tech Inc. (Tetra Tech) began conducting monitoring events at the Site in November 2007. The existing monitor well network consists of 9 wells: MW-1, MW-5, MW-7, MW-9, MW-11, MW-12, MW-15, MW-16, and TMW-1. Monitoring of the groundwater seep is also part of the current program to evaluate natural attenuation at the Site. A generalized geologic cross section for the Site is provided as **Figure 3**. On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM. Currently annual groundwater sampling takes place during September of each year. During August of 2013 a Mobile Dual Phase Extraction (MDPE) event was conducted at the Site.

Detailed Site history is presented in **Table 1**.

Section 2.0 Mobile Dual Phase Extraction

In addition to annual groundwater sampling during September 2013, CRA provided oversight for an MDPE event conducted on August 26th 2013 by AcuVac of Houston, TX. MDPE is a process combining soil vapor extraction (SVE) with groundwater depression to maximize mass removal of liquid and vapor phase hydrocarbons. A submersible pump is used to simultaneously remove dissolved-phase contaminated groundwater, induce a hydraulic gradient toward the extraction well, and to create the groundwater depression, exposing the capillary fringe or smear zone to SVE. Recovered liquids were discharged to the on-site produced water tank. Recovered vapors were used as fuel and burned in the MDPE internal combustion engine (ICE). Power generated by the ICE is used to create the induced vacuum for SVE.

During the August 26th MDPE event at the Site approximately 0.92 gallons of hydrocarbons were extracted from Monitor Well MW-16 in 3.5 hours and approximately 0.07 gallons of hydrocarbons were extracted from Monitor Well MW-12 in 4 hours. In addition, at Monitor Well MW-12, 500 gallons of dissolved-phase hydrocarbon impacted groundwater were pumped and disposed into the onsite produced water tank during the MDPE event. Data from the September 2013 groundwater monitoring event indicate that the benzene concentrations in MW-12 and in down-gradient MW-5 have decreased since the 2012 annual monitoring event and recent MDPE event; however, it was noted during the MDPE event that the vapor recovery rates were low indicating there is very little light non-aqueous phase liquid (LNAPL) in the surrounding soil. The complete report for MDPE activities performed at the Site was provided by AcuVac and is included as **Appendix B.**

Section 3.0 Groundwater Sampling Methodology and Analytical Results

3.1 Groundwater Sampling Methodology

Groundwater Elevation Measurements

On September 18, 2013 groundwater elevation measurements were collected from Monitor Wells MW-1, MW-5, MW-7, MW-9, MW-11, MW-12, MW-15, MW-16, and TMW-1 using an oil/water interface probe. Groundwater elevations are detailed in Table 2. A groundwater potentiometric surface map is presented as Figure 4. Based on September 2013 monitoring event data, groundwater flow is to the north and is consistent with historical records at this Site.

Groundwater sampling

Monitor Wells MW-1, MW-5, MW-9, MW-11, MW-12, and MW-15 were sampled on September 18, 2013. Monitor Wells MW-7, TMW-1, and the groundwater seep were dry at the time of the 2013 sampling event. Monitor Well MW-7 appeared to have sustained damage at the surface and to the subsurface casing; likely from heavy rain events and resulting erosion that occurred during the summer months of 2013. MW-16 was not sampled due to the presence of approximately 0.81 feet of LNAPL.

Approximately three well volumes were purged from each monitor well with a 1.5 inch dedicated polyethylene disposable bailer prior to sampling. Purge water was disposed of in the on-site evaporation tank. 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. Samples were analyzed for the presence of benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260. CRA groundwater sampling field forms are included as **Appendix C**.

3.2 Groundwater Analytical Results

The New Mexico Water Quality Control Commission (NMWQCC) mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedences of NMWQCC groundwater quality standards in Site monitor wells are discussed below. Results are summarized in **Table 3**. The corresponding laboratory analytical report for the September 2013 sampling event is included as **Appendix D**.

- **Benzene**
  - The NMWQCC standard for benzene is 0.010 milligrams per liter (mg/L). The groundwater sample collected from MW-5 during September 2013 contained benzene at a concentration of 0.0359 mg/L; the groundwater sample collected from MW-12 contained a concentration of 0.202 mg/L.
- **Total Xylenes**
  - The NWQCC standard for total xylenes is 0.620 mg/L. The groundwater sample collected from MW-5 contained total xylenes at a concentration of 1.320 mg/L.

Section 4.0 Conclusions and Recommendations

Dissolved-phase contamination has decreased notably in Monitor Wells MW-5 and MW-12 based on September 2013 monitoring results. These results may be attributable to the removal of dissolved-phase hydrocarbon impacted groundwater during the August MDPE event. This apparent dissolved-phase plume "shrinking" affect was noted at other sites undergoing this treatment in the San Juan Basin during August 2013. The longevity of this phenomenon will be revealed in subsequent groundwater monitoring events.

The mass removal accomplished via the SVE portion of the MDPE method, as measured in the aforementioned total LNAPL recovery, was less than anticipated, and is likely due to short-circuiting to the atmosphere based on the location of the MDPE extraction wells, MW-12 and MW-16, adjacent to

the steep edges of the natural gas well pad on which the Site is located. The potential for SVE short-circuiting was noted by the AccuVac engineer on Site during the MDPE event.

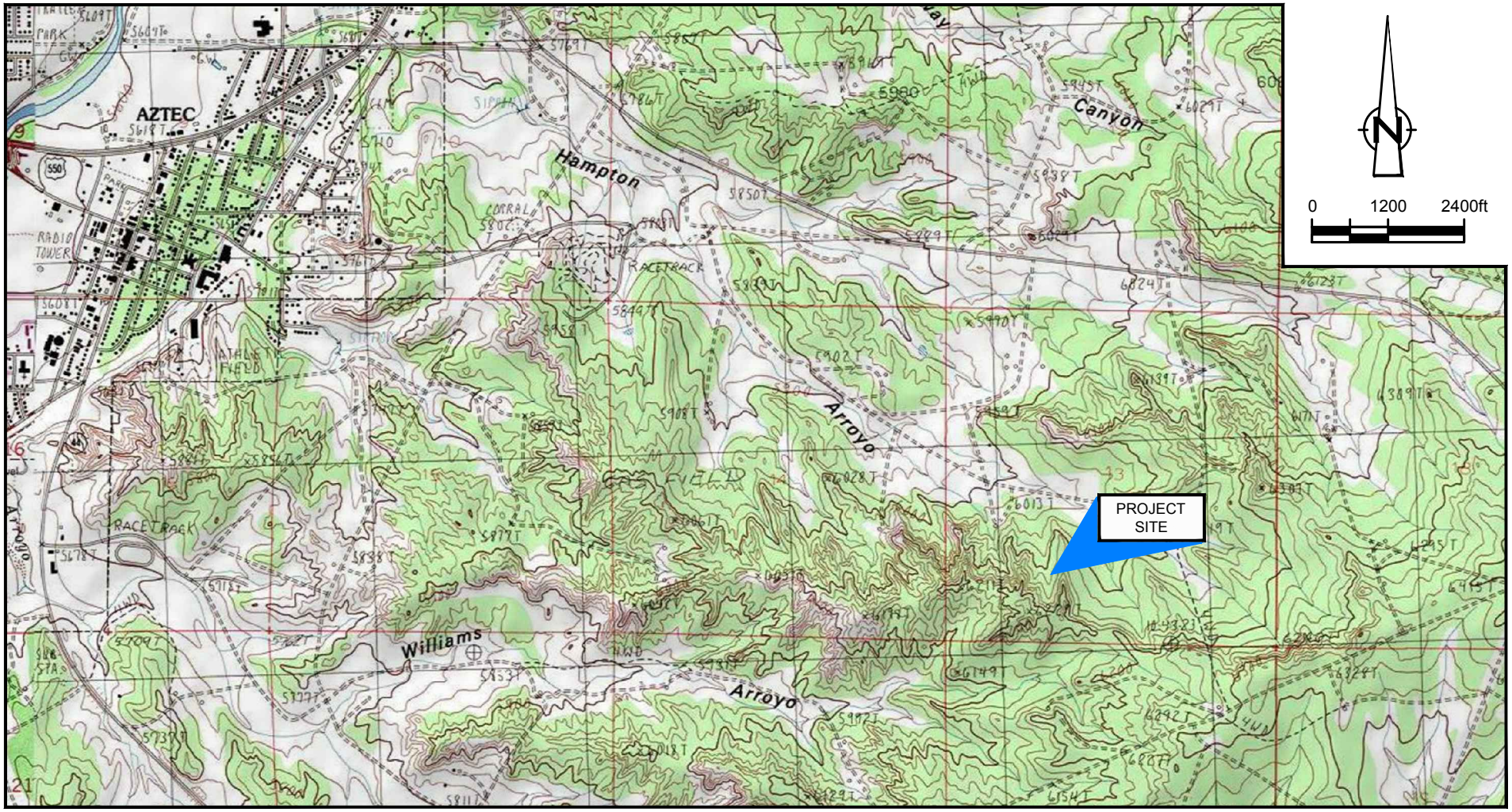
Additional monitoring events will be necessary to determine whether or not the removal of 500 gallons of dissolved-phase hydrocarbon impacted groundwater during the MDPE event will have a sustaining affect on reducing contaminant concentrations in Site monitoring wells. However, based on the minimal LNAPL recovery via the MDPE method, and the persistence of LNAPL in MW-16, MDPE may not be a cost-effective method for LNAPL removal or for soil and groundwater remediation at the Site.

LNAPL was encountered in MW-16 quarterly during December 2012 and March, June and September 2013. On each occasion CRA bailed one quarter to one half gallon of product from MW-16 and replaced oil absorbent socks.

CRA recommends continued annual groundwater sampling from Monitor Wells MW-5 and MW-12, and quarterly free product removal from MW-16. Annual groundwater sampling from Monitor Wells MW-1, MW-9, MW-11 and MW-15 will be discontinued. BTEX constituents have not been detected in these wells over the last several years. The seep, which has been dry during the past two annual sampling events, will be checked quarterly for the presence of water. Once all monitored groundwater quality parameters approach compliance levels, CRA will begin sampling from all Site wells on a quarterly basis. When eight consecutive quarters of data within compliance levels have been achieved, remediation Site closure will be requested.

CRA also recommends the plugging and abandonment of MW-7, which was damaged by the heavy rain events of September 2013. Groundwater samples from this well did not contain BTEX in excess of NMWQCC standards in 2009 or 2010 and the well was dry during 2011 through 2013 groundwater monitoring events.

Figures



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

LAT/LONG: 36.8089° NORTH, 107.9463° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

Figure 1

SITE LOCATION MAP
HAMPTON No. 4M SITE
SECTION 13, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

CRA

074927-95(003)GN-DL001 NOV 01/2012

LAT/LONG: 36.8089° NORTH, 107.9463° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

LEGEND

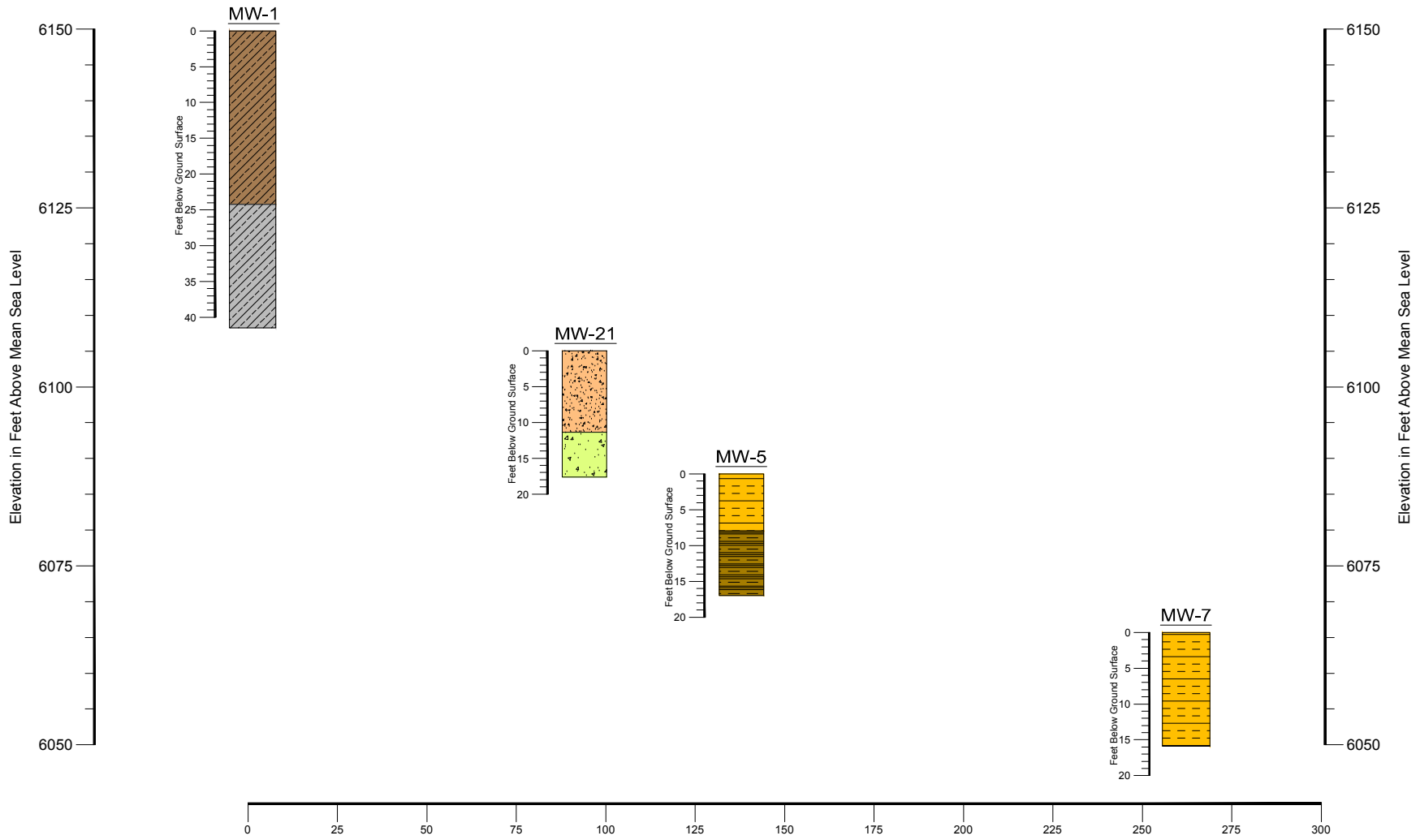
- Monitor Well Location
- Seep
- El Paso Gas Pipeline

Figure 2

SITE MAP
HAMPTON No. 4M SITE
SECTION 13, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

CRA

074927-95(003)GN-DL001 NOV 01/2012



Lithology Index

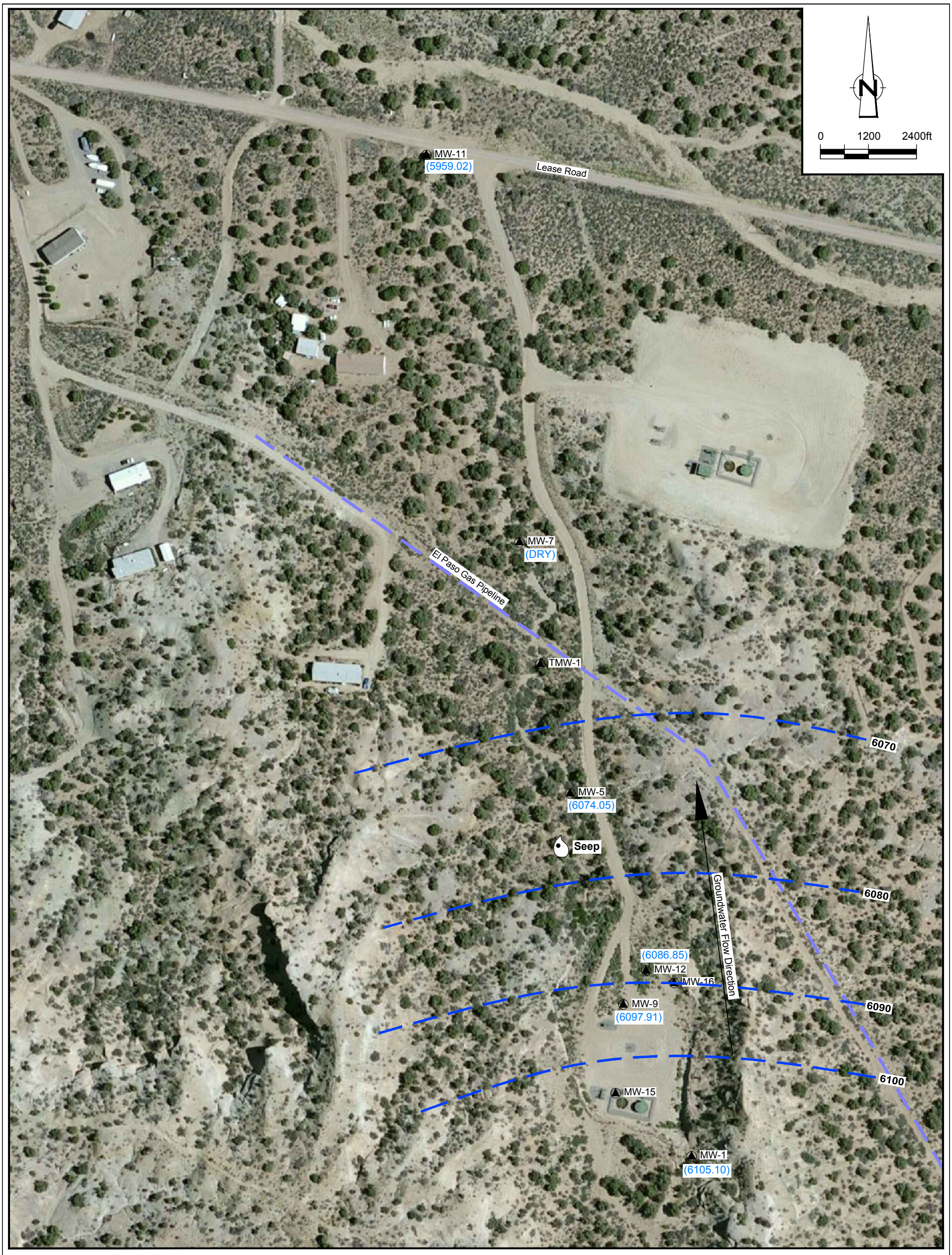
- Brown Weathered Sandstone
- Gray Weathered Sandstone
- Very Coarse Grained Sand
- Coarse Grained Sand
- Silty Sand
- Clayey Sand

Figure 3

GEOLOGICAL CROSS SECTION
HAMPTON No. 4M SITE
SECTION 13, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

CRA

074927-95(003)GN-DL001 NOV 01/2012



LAT/LONG: 36.8089° NORTH, 107.9463° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

LEGEND

- Monitor Well Location
- Seep
- El Paso Gas Pipeline
- (6105.10) Groundwater Elevation, Ft
- 6100 Groundwater Elevation Contour, Ft
- Groundwater Flow Direction

Figure 4

SEPTEMBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
HAMPTON No. 4M SITE
SECTION 13, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074927-95(004)GN-DL001 DEC 18/2013

Tables

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY, NM

Date	*Event/Action*	*Description/Comments*
11/22/1983	Well Spudded	Hampton No. 4M spudded by Southland Royalty Company (Southland Royalty).
3/1/1990	Operator Change	Southland Royalty entered into an agreement with Gas Company of New Mexico (predecessor to Public Service Company of New Mexico -- PNM) to sell production from the Hampton No. 4M well. PNM installed and operated dehydration equipment in the northern-most portion of the site as part of the contract.
6/30/1995	Transfer of Dehydration Equipment Ownership	Williams Field Services purchased the dehydration equipment from PNM.
1/2/1996	Transfer of Well Ownership	Burlington Resources completed the acquisition of Southland Royalty Company.
4/23/1996	Site Assessment	PNM discovered potential hydrocarbon contamination beneath PNM's dehydrator discharge pit during a site assessment. PNM subsequently began pit closure work.
12/16/1996	Site Assessment	PNM discovered hydrocarbon-impacted groundwater while drilling to determine the vertical extent of hydrocarbon contamination beneath a former unlined, earthen dehydrator discharge pit located on the north end of the Hampton No. 4M well pad. Total BTEX in groundwater was 20,620 parts per billion (ug/L) and benzene was 3,840 ug/L.
1/13/1997	NMOCD Notified of Contamination	PNM notified NMOCD in writing of the discovery of groundwater contamination at the site.
1/28/1997	LNAPL Discovered	PNM gauged Monitor Well MW-2 and discovered approximately 4 feet of LNAPL.
1/31/1997	Monitor Well Installation	PNM installed two monitor wells upgradient from PNM's former pit. Impacted groundwater was discovered in the well adjacent to Burlington's equipment.
1/31/1997	Monitor Well Installation	PNM installed MW-3 and MW-4.
4/14/1997	Seep Discovered	During a site visit, Burlington discovered a surface seep north of the well pad with LNAPL discharging to a small drainage area. Burlington notified NMOCD and PNM on the same day.
4/16/1997	On-Site Meeting	Burlington hosted an on-site meeting with PNM and NMOCD to discuss the seep. NMOCD asked for immediate action to contain the seep. The group agreed to install a collection trench.
4/17/1997	Collection Trench Constructed	Burlington constructed a collection trench between the seep and the wellhead. A sandstone shelf was encountered 6 to 8 feet bgs. Black to grey saturated soil was found above the sandstone. Hydrocarbon vapors were monitored during construction of the trench with a photoionization detector (PID). PID readings were between 1,000 - 2,000 ppm.
4/30/1997	Site Assessment	Burlington attempted to excavate the area of the former tank discharge pit. Sandstone was encountered at one foot below the bottom of the pit. The excavator could not penetrate the sandstone. There was no indication of hydrocarbon contamination in this area. Burlington subsequently excavated 9 to 10 test holes in the vicinity of the well pad. No hydrocarbon impacts were found in any of the test holes.
6/05/1997 through 6/6/1997	Monitor Well Installation	Burlington advanced 7 boreholes around the well pad. Each of the 7 boreholes was subsequently completed as a temporary monitor well.
8/1/1997	NMOCD Letter Issued	NMOCD issued a letter to PNM and Burlington. PNM was directed to assess contamination downgradient of its pit and Burlington was directed to submit an assessment plan for the portion of the site upgradient of the PNM disposal pit.

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY, NM

Date	*Event/Action*	*Description/Comments*
November 1997	Recovery Well System Installation	PNM installed an LNAPL recovery well system adjacent to PNM's former pit in November 1997 (exact dates unknown).
December 1997 - 2000	Pit Excavations	Hydrocarbon impacted soil was excavated from December 1997 to 2000 at various locations to the depth of groundwater. Potassium permanganate was applied to the excavations.
January 1998	LNAPL Recovery Initiated	PNM initiated LNAPL recovery (exact date unknown).
2/23/1998	Letter From Downgradient Land Owner	Mr. J. Burton Everett, the owner of property downgradient of the Site, wrote a letter to the NMOCD, expressing concern over the migration of hydrocarbons onto his property.
3/13/1998	NMOCD Letter Issued	NMOCD sent a letter to PNM directing the removal, within 30 days, of the remaining source areas of LNAPL in the vicinity and immediately downgradient of PNM's former pit.
April/May 1998	Monitor Well Installation	LNAPL was discovered upgradient from the dehydration pit and Burlington installed two additional monitor wells.
10/28/1998	Burlington Responds to NMOCD Letter	Burlington responded to NMOCD's letter of September 1, 1998. The letter stated that if PNM did not begin remediation of PNM's former pit by October 30, 1998, Burlington would begin remediating the entire site, starting at PNM's former pit and working south to Burlington's former pit.
November 1998	LNAPL Recovery Efforts Terminated	PNM's LNAPL recovery efforts were terminated (exact date unknown) as a result of Burlington's removal of PNM's system during excavation activities.
4/14/1999	Seep Sampled	NMOCD sampled a groundwater seep to the northwest of the well pad. The analytical results revealed benzene in excess of NMWQCC groundwater quality standards.
3/24/2000	Order No. R-11134-A Issued to Burlington and PNM	NMOCD issued Order No. R-11134-A to Burlington and PNM. The Order: 1) denied the application by PNM for rescinding the prior directive, 2) declared Burlington the responsible party for any contamination south and upgradient to the PNM disposal pit, 3) declared PNM the responsible party for any soil contamination remaining below its former pit, 4) directed PNM and Burlington to share responsibility of remediation for any groundwater or soil contamination, other than soil contamination below the former PNM pit, remaining north and downgradient of the property for which Burlington is responsible, 5) directed PNM and Burlington to submit remediation plans to NMOCD, 6) directed both PNM and Burlington to begin remedial activities within 10 days of NMOCD approval of the plans, 7) directed PNM to have oversight and reporting responsibilities for GW remediation in the area north and downgradient of the property for which Burlington is responsible, and 8) retained jurisdiction for NMOCD for any further orders as may be necessary.
Second Quarter 2000	Pit Excavation	Burlington excavated approximately 120 cubic yards of hydrocarbon-impacted soil to groundwater depth in the vicinity of MW-13 and MW-14 in mid-2000 (exact dates unknown). Both wells were destroyed in the process. A shale confining layer was discovered at the bottom of the excavation. The excavated soil was landfarmed on a nearby wellpad lease.

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY, NM

Date	*Event/Action*	*Description/Comments*
Third Quarter 2001	Excavation Backfilled	Burlington backfilled the mid-2000 excavation area with clean fill.
3/31/2006	Operator Change	ConocoPhillips Company completed the acquisition of Burlington Resources.
11/8/2007	Groundwater Monitoring	Tetra Tech conducted quarterly groundwater monitoring activities.
1/17/2008	Groundwater Monitoring	Tetra Tech conducted quarterly groundwater monitoring activities.
3/19/2008	Groundwater Monitoring	Tetra Tech conducted quarterly groundwater monitoring activities.
7/22/2008	Groundwater Monitoring	Tetra Tech conducted quarterly groundwater monitoring activities.
10/23/2008	Groundwater Monitoring	Tetra Tech conducted quarterly groundwater monitoring activities.
1/29/2009	Groundwater Monitoring	Tetra Tech conducted quarterly groundwater monitoring activities.
9/24/2009	Groundwater Monitoring	Tetra Tech completed annual groundwater monitoring activities.
9/28/2010	Groundwater Monitoring	Tetra Tech completed annual groundwater monitoring activities. LNAPL was encountered in MW-16. Tetra Tech purged LNAPL from the well and placed two absorbent socks in MW-16.
12/15/2010	Assessment of MW-16	Tetra Tech returned to the Site to check the status of the absorbent socks in MW-16. The socks were saturated. Tetra Tech purged approximately 3.5 gallons of LNAPL and water from the well and placed three additional absorbent socks in MW-16.
6/15/2011	Transfer of Site Consulting Responsibilities	Site consulting responsibilities were transferred from Tetra Tech to Conestoga-Rovers & Associates (CRA), Inc. of Albuquerque, NM.
10/4/2011 and 10/11/2011	Groundwater Monitoring	CRA completed annual groundwater monitoring activities. Oil absorbent socks in MW-16 were found saturated and were replaced on 10/4/11. The new socks were found to be saturated on 10/11/11, and were not replaced due to the rapidity of saturation. One gallon of LNAPL was recovered during the sampling event.
4/25/2012	Assessment of MW-16	CRA recovered approximately one half gallon of product from MW-16 and placed three oil absorbent socks in the well.
6/6/2012	Assessment of MW-16	CRA recovered approximately one quarter gallon of product from MW-16 and replaced oil absorbent socks.
9/25/2012 and 9/26/2012	Groundwater Monitoring	CRA completed annual groundwater monitoring activities. One half gallon of LNAPL was recovered from MW-16 during the sampling event and the oil absorbent socks were replaced.
8/26/2013	Mobile Dual Phase Extraction Event	Mobile dual phase extraction (MDPE) was attempted using Monitor Wells MW-16 and MW-12. Only a minimal amount of LNAPL was recovered; 0.92 gallons from MW-16 and only 0.07 gallons from MW-12. Vapor recovery rates indicated very little LNAPL present in soil surrounding MW-12 and MW-16.
9/18/2013	Groundwater Monitoring	CRA completed annual groundwater monitoring activities. One half gallon of LNAPL was recovered from MW-16 during the sampling event and the oil absorbent socks were replaced.

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Monitor Well	*TOC Elevation (ft AMSL)*	*Sample Date*	*Depth to Water (ft)*	*GW Elevation (ft AMSL)*
MW-1	6149.42	11/8/2007	42.81	6106.61
		1/17/2008	42.96	6106.46
		3/19/2008	42.93	6106.49
		7/22/2008	42.74	6106.68
		10/23/2008	32.80	6116.62
		1/21/2009	42.90	6106.52
		9/24/2009	43.09	6106.33
		9/28/2010	43.19	6106.23
		10/11/2011	43.55	6105.87
		9/25/2012	43.88	6105.54
		9/18/2013	44.32	6105.10
MW-5	6090.83	11/8/2007	16.52	6074.31
		1/17/2008	15.65	6075.18
		3/19/2008	13.64	6077.19
		7/22/2008	15.72	6075.11
		10/23/2008	16.53	6074.3
		1/21/2009	16.04	6074.79
		9/24/2009	16.89	6073.94
		9/28/2010	16.55	6074.28
		10/11/2011	17.39	6073.44
		9/25/2012	17.46	6073.37
		9/18/2013	16.78	6074.05
MW-7	6066.91	11/8/2007	20.22	6046.69
		1/17/2008	20.50	6046.41
		3/19/2008	20.02	6046.89
		7/22/2008	19.29	6047.62
		10/23/2008	19.95	6046.96
		1/21/2009	20.44	6046.47
		9/24/2009	20.55	6046.36
		9/28/2010	21.24	6045.67
		10/11/2011	DRY	--
		9/25/2012	DRY	--
		9/18/2013	DRY	--
MW-9	6122.52	11/8/2007	22.91	6099.61
		1/17/2008	22.76	6099.76
		3/19/2008	22.38	6100.14
		7/22/2008	23.10	6099.42
		10/23/2008	23.02	6099.5
		1/21/2009	22.85	6099.67
		9/24/2009	23.64	6098.88
		9/28/2010	23.70	6098.82
		10/11/2011	24.03	6098.49
		9/25/2012	24.61	6097.91
		9/18/2013	24.61	6097.91

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Monitor Well	*TOC Elevation (ft AMSL)*	*Sample Date*	*Depth to Water (ft)*	*GW Elevation (ft AMSL)*
MW-11	6015.75	11/8/2007	56.00	5959.75
		1/17/2008	55.86	5959.89
		3/19/2008	55.88	5959.87
		7/22/2008	55.71	5960.04
		10/23/2008	55.91	5959.84
		1/21/2009	55.75	5960
		9/24/2009	56.02	5959.73
		9/28/2010	56.06	5959.69
		10/11/2011	56.21	5959.54
		9/25/2012	56.41	5959.34
		9/18/2013	56.73	5959.02
MW-12	6109.02	11/8/2007	20.46	6088.56
		1/17/2008	20.24	6088.78
		3/19/2008	19.85	6089.17
		7/22/2008	20.54	6088.48
		10/23/2008	20.61	6088.41
		1/21/2009	20.37	6088.65
		9/24/2009	21.23	6087.79
		9/28/2010	21.27	6087.75
		10/11/2011	21.58	6087.44
		9/25/2012	22.14	6086.88
		9/18/2013	22.17	6086.85
MW-15	No survey - DTW only	11/8/2007	18.03	NA
		1/17/2008	18.20	NA
		3/19/2008	17.60	NA
		7/22/2008	17.79	NA
		10/23/2008	18.01	NA
		1/21/2009	18.20	NA
		9/24/2009	18.33	NA
		9/28/2010	18.25	NA
		10/11/2011	18.65	NA
		9/25/2012	18.97	NA
		9/18/2013	19.23	NA
MW-16	No survey - Theoretical DTW only	11/8/2007	25.03	NA
		1/17/2008	24.88	NA
		3/19/2008	24.37	NA
		7/22/2008	25.00	NA
		10/23/2008	25.57	NA
		1/21/2009	24.97	NA
		9/24/2009	25.75	NA
		9/28/2010	25.41	NA
		10/11/2011	28.26	NA
		9/25/2012	26.74	NA
		9/18/2013	28.15	NA

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Monitor Well	*TOC Elevation (ft AMSL)*	*Sample Date*	*Depth to Water (ft)*	*GW Elevation (ft AMSL)*
TMW-1	No survey - DTW only	11/8/2007	19.06	NA
		1/17/2008	19.37	NA
		3/19/2008	18.55	NA
		7/22/2008	18.10	NA
		10/23/2008	19.19	NA
		1/21/2009	19.25	NA
		9/24/2009	19.61	NA
		9/28/2010	19.11	NA
		10/11/2011	19.39	NA
		9/25/2012	DRY	NA
		9/18/2013	DRY	NA

Notes:
ft = feet
AMSL = Above mean sea level
DTW = Depth to water
NA = Not available

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-1	MW-1	10/30/1997	(orig)	0.0024	0.0023	< 0.0002	0.0011
	MW-1	1/12/1998	(orig)	0.0043	0.0033	0.0002	0.001
	MW-1	4/14/1998	(orig)	0.001	0.0013	< 0.0005	< 0.0005
	MW-1	7/1/1998	(orig)	0.0013	0.001	< 0.0005	0.0037
	MW-1	10/5/1998	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	MW-1	1/27/1999	(orig)	0.0008	0.0009	< 0.0005	< 0.0015
	MW-1	7/12/1999	(orig)	0.0011	0.0005	< 0.0005	< 0.0005
	MW-1	9/24/2003	(orig)	0.0009 J	0.001	<	0.0004 J
	MW-1	12/15/2003	(orig)	0.0011	0.0009 J	<	<
	MW-1	3/15/2004	(orig)	<	<	<	<
	MW-1	6/21/2004	(orig)	<	<	<	<
	MW-1	9/29/2004	(orig)	<	<	<	<
	MW-1	12/31/2004	(orig)	<	0.0009 J	<	0.0033 J
	MW-1	3/22/2005	(orig)	<	0.0003 J	<	<
	MW-1	10/24/2005	(orig)	<	<	<	<
	MW-1	12/12/2005	(orig)	<	0.0007 J	<	0.0006 J
	MW-1	3/20/2006	(orig)	0.0011	0.0009 J	<	0.0006 J
	MW-1	6/21/2006	(orig)	0.0003 J	0.0014	0.0004 J	0.0018 J
	MW-1	10/18/2006	(orig)	<	0.0002	0.0002	0.0013
	MW-1	12/12/2006	(orig)	<	0.0002	0.0002	0.0014
	MW-1	3/26/2007	(orig)	< 0.0003	0.0003 J	0.0002 J	0.0004 J
	MW-1	6/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	MW-1	11/8/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-1	1/15/2008	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-1	3/19/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-1	7/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-1	10/23/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-1	1/21/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-1	9/24/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-1	9/28/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-074927-100411-CM-002	10/4/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-092612-CM-MW-1	9/26/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-091813-CM-MW-1	9/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-5	MW-5	10/29/1997	(orig)	**5.934**	**10.024**	0.709	**8.188**
	MW-5	1/12/1998	(orig)	**7.521**	**11.213**	**0.779**	**8.436**
	MW-5	4/14/1998	(orig)	**7**	**11**	0.72	**7.8**
	MW-5	7/1/1998	(orig)	**6.5**	**10**	**0.78**	**7.5**
	MW-5	10/5/1998	(orig)	**6.8**	**8.4**	0.74	**6.9**
	MW-5	11/9/1998	(orig)	**6.2**	**8.2**	0.67	**6.5**
	MW-5	1/27/1999	(orig)	**6.4**	**8.9**	0.66	**6.7**
	MW-5	5/5/1999	(orig)	**6.8**	**9.8**	**0.9**	**7.8**
	MW-5	5/26/1999	(orig)	**6.6**	**10**	0.65	**8.1**
	MW-5	7/12/1999	(orig)	**6.3**	**10**	0.75	**8.8**
	MW-5	8/17/1999	(orig)	**5.4**	**9.8**	0.67	**7.5**
	MW-5	8/17/1999	(Duplicate)	**5.9**	**8.9**	0.5	**6.2**
	MW-5	10/21/1999	(orig)	**5.2**	**9.6**	0.65	**6.9**
	MW-5	1/27/2000	(orig)	**4.7**	**10**	0.68	**7.4**
	MW-5	6/13/2000	(orig)	**8.4**	**19**	**1.7**	**22**
	MW-5	3/29/2001	(orig)	**3.89**	**9.6**	0.64	**7.73**
	MW-5	6/26/2001	(orig)	**3.8**	**11**	0.7	**9**
	MW-5	9/18/2001	(orig)	**4.1**	**11**	**0.76**	**10**
	MW-5	12/18/2001	(orig)	**3.2**	**9.7**	0.6	**7.8**
	MW-5	3/22/2002	(orig)	**3.5**	**10**	**0.83**	**8.5**
	MW-5	6/28/2002	(orig)	**3.7**	**12**	**0.76**	**10**
	MW-5	9/23/2002	(orig)	**3**	**9.8**	0.64	**8.3**
	MW-5	12/31/2002	(orig)	**2.9**	**8.9**	0.58	**7.3**
	MW-5	3/27/2003	(orig)	**1.22**	**4.87**	0.487	**6.01**
	MW-5	6/27/2003	(orig)	**2.04**	**8.55**	0.64	**8.05**
	MW-5	9/24/2003	(orig)	**2.11**	**9.09**	0.7	**9.2**
	MW-5	12/15/2003	(orig)	**2.15**	**9.24**	0.72	**8.81**
	MW-5	6/21/2004	(orig)	**1.61**	**8.74**	0.64	**8.22**
	MW-5	9/29/2004	(orig)	**1.71**	**7.25**	0.67	**8.09**
	MW-5	12/31/2004	(orig)	**1.82**	**9.15**	0.73	**9.03**
	MW-5	3/15/2005	(orig)	**1.37**	**8.1**	0.66	**8.71**
	MW-5	3/22/2005	(orig)	**0.42**	**1.42**	0.11	**1.16**
	MW-5	10/24/2005	(orig)	**1.07**	**6.66**	0.61	**7.62**
	MW-5	12/12/2005	(orig)	**0.9**	**5.93**	0.52	**6.28**
	MW-5	3/20/2006	(orig)	**0.82**	**6.27**	0.51	**6.04**
	MW-5	6/21/2006	(orig)	**0.93**	**6.11**	0.58	**6.69**
	MW-5	10/18/2006	(orig)	**0.69**	**5.14**	0.5	**5.87**
	MW-5	12/18/2006	(orig)	**0.64**	**5.09**	0.5	**5.61**
	MW-5	3/26/2007	(orig)	**0.66**	**6.47**	0.53	**5.45**
	MW-5	6/26/2007	(orig)	**0.74**	**8.07**	0.64	**7.32**
	MW-5	11/8/2007	(orig)	**0.41**	**4.8**	0.39	**5**
	MW-5	1/17/2008	(orig)	**0.44**	**6.4**	0.51	**6.1**
	MW-5	3/19/2008	(orig)	**0.37**	**2.9**	0.24	**2.57**
	MW-5	7/22/2008	(orig)	**0.34**	**6.1**	0.55	**6.4**
	MW-5	10/23/2008	(orig)	**0.27**	**6.2**	0.44	**6.3**
	MW-5	1/21/2009	(orig)	**0.25**	**3.8**	0.51	**5.2**
	MW-5	9/24/2009	(orig)	**0.19**	**4.3**	0.47	**5.1**
	MW-5	9/28/2010	(orig)	**0.13**	**2.4**	0.6	**5.2**
	GW-074927-100411-CM-006	10/12/2011	(orig)	**0.0652**	**1.22**	0.443	**3.21**
	GW-074927-100411-CM-007	10/12/2011	(Duplicate)	**0.0796**	**1.22**	0.488	**3.46**
	GW-074927-092612-CM-MW-5	9/26/2012	(orig)	**0.0898**	0.626	0.551	**3.59**
	GW-074927-091813-CM-MW-5	9/18/2013	(orig)	**0.0359**	0.154	0.227	**1.32**

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-7	MW-7	1/12/1998	(orig)	**0.78**	0.246	0.258	**3.942**
	MW-7	4/14/1998	(orig)	**0.82**	0.34	0.19	**2.45**
	MW-7	7/1/1998	(orig)	**0.95**	0.44	0.2	**3.02**
	MW-7	10/5/1998	(orig)	**1.6**	**0.93**	0.18	**1.53**
	MW-7	11/9/1998	(orig)	**1.8**	**1**	0.16	**1.24**
	MW-7	1/27/1999	(orig)	**2.1**	**1**	0.16	**1.05**
	MW-7	5/5/1999	(orig)	**0.21**	0.0029	0.03	0.147
	MW-7	5/26/1999	(orig)	**0.19**	0.0074	0.032	0.15
	MW-7	7/12/1999	(orig)	**0.13**	0.0072	0.022	0.1013
	MW-7	10/21/1999	(orig)	**0.26**	0.011	0.015	0.089
	MW-7	1/27/2000	(orig)	**0.67**	0.58	0.054	**0.68**
	MW-7	6/17/2000	(orig)	**0.42**	**1.1**	0.075	**1.4**
	MW-7	3/29/2001	(orig)	**0.83**	0.15	0.32	**1.79**
	MW-7	6/26/2001	(orig)	**0.54**	0.33	0.25	**1.41**
	MW-7	9/18/2001	(orig)	**0.87**	0.56	0.32	**2.02**
	MW-7	12/18/2001	(orig)	**0.4**	0.03	0.16	**0.885**
	MW-7	3/22/2002	(orig)	**0.18**	<	0.078	0.26
	MW-7	6/28/2002	(orig)	**0.089**	0.001	0.041	0.079
	MW-7	9/23/2002	(orig)	**0.08**	0.003	0.031	0.01889
	MW-7	12/31/2002	(orig)	**0.16**	0.0022	0.074	0.0315
	MW-7	3/27/2003	(orig)	**0.195**	0.0004	0.0442	0.109
	MW-7	6/27/2003	(orig)	**0.3**	0.0014 J	0.117	0.4616
	MW-7	9/24/2003	(orig)	**0.09**	0.012	0.002	**0.694**
	MW-7	3/15/2004	(orig)	**0.056**	0.001 J	0.006	0.003
	MW-7	6/21/2004	(orig)	**0.18**	<	0.055	0.058 J
	MW-7	9/29/2004	(orig)	**0.163**	0.0009 J	0.0545	0.0698
	MW-7	12/15/2004	(orig)	**0.15**	0.004 J	0.115	0.549
	MW-7	12/31/2004	(orig)	**0.094**	0.003 J	0.01	0.024 J
	MW-7	3/22/2005	(orig)	**0.0208**	<	0.0024	0.0048
	MW-7	10/24/2005	(orig)	**0.0652**	0.0007 J	0.002	0.0027 J
	MW-7	12/12/2005	(orig)	**0.0662**	0.001 J	0.0087	0.0085 J
	MW-7	3/20/2006	(orig)	**0.072**	<	0.0126	0.0169
	MW-7	6/21/2006	(orig)	**0.0899**	0.0106	0.0048	0.0145
	MW-7	10/18/2006	(orig)	**0.0319**	0.0004 J	0.0018	0.0041
	MW-7	12/12/2006	(orig)	**0.0294**	0.0015	0.0031	0.0057
	MW-7	3/26/2007	(orig)	**0.0115**	0.001	0.0006 J	0.0008 J
	MW-7	6/26/2007	(orig)	**0.056**	0.0004 J	0.0177	0.0013
	MW-7	11/8/2007	(orig)	**0.044**	< 0.0007	0.002	< 0.0008
	MW-7	1/17/2008	(orig)	**0.017**	< 0.0007	0.003	< 0.0008
	MW-7	3/19/2008	(orig)	0.005	< 0.005	< 0.005	< 0.005
	MW-7	7/22/2008	(orig)	**0.032**	< 0.005	0.012	0.007
	MW-7	10/23/2008	(orig)	**0.017**	< 0.005	< 0.005	< 0.005
	MW-7	1/21/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-7	9/24/2009	(orig)	0.0037	< 0.001	< 0.001	< 0.001
	MW-7	9/28/2010	(orig)	0.0013	< 0.001	0.0023	< 0.001
	MW-7	10/11/2011	No sample collected; well dry.				
	MW-7	9/26/2012	No sample collected; well dry.				
	MW-7	9/18/2013	No sample collected; well dry.				

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-9	MW-9	7/1/1998	(orig)	**0.012**	< 0.001	< 0.001	< 0.003
	MW-9	10/5/1998	(orig)	0.0008	< 0.0005	< 0.0005	0.0022
	MW-9	11/9/1998	(orig)	**0.073**	< 0.0005	0.0022	0.0016
	MW-9	1/27/1999	(orig)	**0.12**	< 0.0005	0.0025	0.0018
	MW-9	5/5/1999	(orig)	**0.12**	< 0.0005	0.0016	0.0008
	MW-9	5/26/1999	(orig)	**0.14**	< 0.0005	0.0015	< 0.0005
	MW-9	5/26/1999	(Duplicate)	**0.29**	< 0.0005	0.0006	< 0.0015
	MW-9	7/12/1999	(orig)	**0.32**	< 0.0005	0.0006	< 0.0015
	MW-9	8/17/1999	(orig)	**0.13**	<	<	<
	MW-9	10/21/1999	(orig)	< 0.0005	0.0019	< 0.0005	0.0025
	MW-9	1/27/2000	(orig)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	MW-9	6/13/2000	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	MW-9	3/29/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	MW-9	6/26/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	MW-9	9/18/2001	(orig)	<	<	<	<
	MW-9	12/18/2001	(orig)	<	<	<	<
	MW-9	3/22/2002	(orig)	<	<	<	<
	MW-9	6/28/2002	(orig)	<	<	<	<
	MW-9	9/23/2002	(orig)	0.0004 J	<	<	<
	MW-9	3/27/2003	(orig)	<	<	<	<
	MW-9	6/27/2003	(orig)	0.0005 J	<	<	<
	MW-9	9/24/2003	(orig)	<	<	<	<
	MW-9	12/15/2003	(orig)	<	<	<	<
	MW-9	3/15/2004	(orig)	<	<	<	<
	MW-9	6/21/2004	(orig)	<	0.0004 J	<	0.0007 J
	MW-9	9/29/2004	(orig)	<	<	<	<
	MW-9	3/22/2005	(orig)	<	<	<	<
	MW-9	6/23/2005	(orig)	<	0.0003 J	<	<
	MW-9	3/20/2006	(orig)	<	<	<	<
	MW-9	6/21/2006	(orig)	<	<	<	<
	MW-9	10/18/2006	(orig)	<	<	<	0.0003 J
	MW-9	12/12/2006	(orig)	0.0003 J	0.0007 J	0.0003 J	0.0012 J
	MW-9	3/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	MW-9	6/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	MW-9	11/8/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-9	1/17/2008	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-9	3/19/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-9	7/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-9	10/23/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-9	1/21/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-9	9/24/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-9	9/28/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-074927-100411-CM-004	10/4/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-092612-CM-MW-9	9/26/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-091813-CM-MW-9	9/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-11	MW-11	1/27/1999	(orig)	< 0.0005	0.0025	0.0007	0.0131
	MW-11	5/5/1999	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0015
	MW-11	5/26/1999	(orig)	0.0008	0.0017	< 0.0005	0.0011
	MW-11	10/21/1999	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0015
	MW-11	1/27/2000	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	MW-11	6/13/2000	(orig)	< 0.0005	< 0.0005	< 0.0005	0.0009
	MW-11	3/29/2001	(orig)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	MW-11	6/26/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	MW-11	9/18/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	MW-11	12/18/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	MW-11	12/19/2001	(orig)	<	<	<	<
	MW-11	12/20/2001	(orig)	<	<	<	<
	MW-11	12/21/2001	(orig)	<	<	<	<
	MW-11	12/22/2001	(orig)	<	<	<	<
	MW-11	5/24/2003	(orig)	<	<	<	<
	MW-11	6/27/2003	(orig)	0.0004 J	0.0003 J	<	0.0004 J
	MW-11	9/24/2003	(orig)	<	<	<	<
	MW-11	12/15/2003	(orig)	0.0005 J	<	<	<
	MW-11	3/15/2004	(orig)	<	<	<	<
	MW-11	6/21/2004	(orig)	<	<	<	0.0005 J
	MW-11	9/29/2004	(orig)	<	<	<	<
	MW-11	12/31/2004	(orig)	<	<	<	<
	MW-11	3/22/2005	(orig)	<	<	<	<
	MW-11	10/24/2005	(orig)	<	<	<	<
	MW-11	12/12/2005	(orig)	<	0.0003 J	<	<
	MW-11	3/20/2006	(orig)	<	<	<	<
	MW-11	6/21/2006	(orig)	<	0.0003 J	<	0.0008 J
	MW-11	10/18/2006	(orig)	<	0.0003 J	0.0004 J	0.0012 J
	MW-11	12/12/2006	(orig)	<	<	<	0.0003 J
	MW-11	3/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	MW-11	6/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	MW-11	11/8/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-11	1/17/2008	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-11	3/19/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-11	7/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-11	10/23/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-11	1/21/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-11	9/24/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-11	9/28/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-074927-100411-CM-005	10/11/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-092612-CM-MW-11	9/26/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-091813-CM-MW-11	9/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-12	MW-12	5/5/1999	(orig)	**0.79**	**0.84**	0.26	**2.88**
	MW-12	5/5/1999	(Duplicate)	**1.2**	**13**	**5.1**	**68**
	MW-12	5/26/1999	(orig)	**1.9**	**0.82**	0.2	**1.72**
	MW-12	5/26/1999	(Duplicate)	**1.8**	0.64	0.16	**1.6**
	MW-12	7/12/1999	(orig)	**4.5**	**0.76**	0.4	**3.1**
	MW-12	7/12/1999	(Duplicate)	**4.6**	0.73	0.39	**3.08**
	MW-12	8/17/1999	(orig)	**4.8**	**5**	0.32	**3.39**
	MW-12	8/17/1999	(Duplicate)	**5.9**	**6.1**	0.39	**4.1**
	MW-12	10/21/1999	(orig)	**5.6**	0.65	0.54	**2.89**
	MW-12	1/27/2000	(orig)	**4.1**	0.55	0.43	**2.379**
	MW-12	6/13/2000	(orig)	**5**	**1.3**	0.49	**2.7**
	MW-12	3/29/2001	(orig)	**5.17**	**1.79**	0.366	**2.62**
	MW-12	6/26/2001	(orig)	**4.8**	**1.9**	0.39	**2.56**
	MW-12	9/18/2001	(orig)	**5.1**	**2.4**	0.43	**2.82**
	MW-12	12/18/2001	(orig)	**4**	**1.5**	0.32	**1.88**
	MW-12	3/22/2002	(orig)	**3.3**	**0.93**	0.29	**1.27**
	MW-12	6/28/2002	(orig)	**4.2**	**1.8**	0.41	**1.94**
	MW-12	9/23/2002	(orig)	**3.8**	**1.5**	0.31	**1.51**
	MW-12	12/31/2002	(orig)	**3.6**	**0.84**	0.28	**1.01**
	MW-12	5/24/2003	(orig)	**3.99**	**2.23**	0.299	**1.47**
	MW-12	6/27/2003	(orig)	**5.29**	**2.75**	0.36	**1.6**
	MW-12	9/24/2003	(orig)	**4.6**	**1.69**	0.29	**1.15**
	MW-12	12/15/2003	(orig)	**4.2**	**1.36**	0.24	**1.15**
	MW-12	3/15/2004	(orig)	**2.09**	**1.12**	0.3	**1.25**
	MW-12	6/21/2004	(orig)	**3.87**	**1.82**	0.28	**1.5**
	MW-12	6/29/2004	(orig)	**5.14**	**2.22**	0.24	**1.28**
	MW-12	12/31/2004	(orig)	**4.16**	**1.22**	0.25	**1.15**
	MW-12	3/22/2005	(orig)	**2.38**	**1.1**	0.13	**0.71**
	MW-12	10/24/2005	(orig)	**1.35**	0.15	0.08	0.33
	MW-12	12/16/2005	(orig)	**2.38**	0.422	0.111	0.341
	MW-12	3/20/2006	(orig)	**2.1**	0.21	0.071	0.225
	MW-12	6/21/2006	(orig)	**2.27**	0.385	0.085	0.355
	MW-12	10/18/2006	(orig)	**1.74**	0.477	0.112	0.399
	MW-12	12/12/2006	(orig)	**2.4**	**1.11**	0.142	**0.668**
	MW-12	3/26/2007	(orig)	**4.13**	**1.68**	0.34	**1.18**
	MW-12	6/26/2007	(orig)	**1.52**	0.432	0.118	0.34
	MW-12	11/8/2007	(orig)	**0.78**	0.31	0.043	0.17
	MW-12	1/17/2008	(orig)	**2**	**1.4**	0.18	**0.79**
	MW-12	3/19/2008	(orig)	**1.6**	0.56	0.16	0.53
	MW-12	7/22/2008	(orig)	**0.73**	0.022	0.014	0.021
	MW-12	10/23/2008	(orig)	**0.5**	0.03	0.022	0.04
	MW-12	1/21/2009	(orig)	**1.1**	0.43	0.11	0.41
	MW-12	9/24/2009	(orig)	**0.61**	0.0083	0.01	0.0195
	MW-12	9/28/2010	(orig)	**0.55**	< 0.001	0.015	0.016
	GW-074927-100411-CM-003	10/4/2011	(orig)	**0.494**	< 0.01	0.0235	< 0.03
	GW-074927-092612-CM-MW-12	9/26/2012	(orig)	**0.617**	<0.001	0.015	0.0207
	GW-074927-091813-CM-MW-12	9/18/2013	(orig)	**0.202**	<0.005	<0.005	<0.015
	GW-074927-091813-CM-DUP	9/18/2013	(Duplicate)	**0.210**	<0.005	<0.005	<0.015

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-15	MW-15	10/21/1999	(orig)	< 0.0005	0.0012	< 0.0005	0.0015
	MW-15	1/27/2000	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	MW-15	6/13/2000	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	MW-15	3/29/2001	(orig)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	MW-15	6/26/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	MW-15	9/18/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	MW-15	12/18/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	MW-15	3/22/2002	(orig)	<	<	<	<
	MW-15	6/28/2002	(orig)	<	<	<	<
	MW-15	9/23/2002	(orig)	<	<	<	<
	MW-15	12/31/2002	(orig)	<	<	<	<
	MW-15	3/27/2003	(orig)	<	0.0003 J	<	0.0009 J
	MW-15	6/27/2003	(orig)	0.0004 J	<	<	<
	MW-15	9/24/2003	(orig)	<	<	<	<
	MW-15	3/15/2004	(orig)	<	0.0003 J	<	<
	MW-15	6/21/2004	(orig)	<	<	<	<
	MW-15	9/29/2004	(orig)	<	<	<	<
	MW-15	12/15/2004	(orig)	0.0007 J	<	<	<
	MW-15	12/31/2004	(orig)	<	0.0009 J	0.0003 J	0.0014 J
	MW-15	3/22/2005	(orig)	<	<	<	<
	MW-15	10/24/2005	(orig)	<	<	<	<
	MW-15	12/12/2005	(orig)	<	0.0003 J	<	0.0004 J
	MW-15	3/20/2006	(orig)	<	<	<	<
	MW-15	6/21/2006	(orig)	0.0007 J	<	0.0003 J	<
	MW-15	10/18/2006	(orig)	<	0.0003 J	<	0.0002 J
	MW-15	12/12/2006	(orig)	<	<	<	<
	MW-15	3/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	MW-15	6/26/2007	(orig)	< 0.0003	0.0005 J	< 0.0002	< 0.0006
	MW-15	11/8/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-15	1/17/2008	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	MW-15	3/19/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-15	7/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-15	10/23/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-15	1/21/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	MW-15	9/24/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-15	9/28/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-074927-100411-CM-001	10/4/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-092612-CM-MW-15	9/26/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074927-091813-CM-MW-15	9/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
MW-16	MW-16	10/21/1999	(orig)	**0.22**	0.3	0.0054	0.142
	MW-16	10/21/1999	(Duplicate)	**0.214**	0.268	0.004	0.151
	MW-16	1/27/2000	(orig)	**1.6**	0.17	0.056	0.225
	MW-16	6/13/2000	(orig)	**8.7**	0.43	0.68	**2.2**
	MW-16	6/26/2001	(orig)	**9.3**	**1.1**	**0.81**	**3.41**
	MW-16	9/18/2001	(orig)	**11**	**6.4**	0.59	**6.4**
	MW-16	12/18/2001	(orig)	**9.9**	**6.9**	0.57	**7.4**
	MW-16	6/28/2002	(orig)	**11**	**7**	**0.77**	**5.7**
	MW-16	9/23/2002	(orig)	**8.9**	**9.9**	0.61	**8.5**
	MW-16	12/31/2002	(orig)	**8.8**	**7.9**	**0.77**	**7.4**
	MW-16	3/22/2003	(orig)	**10**	**6.6**	**1.1**	**7.4**
	MW-16	3/27/2003	(orig)	**10.4**	**11.2**	**0.84**	**8.67**
	MW-16	9/24/2003	(orig)	**10.3**	**15.4**	**0.87**	**10.59**
	MW-16	3/15/2004	(orig)	**9.2**	**16**	**1.31**	**12**
	MW-16	6/21/2004	(orig)	**8.04**	**18.1**	**2.45**	**18.58**
	MW-16	9/29/2004	(orig)	**8.33**	**14**	**0.76**	**8.23**
	MW-16	12/15/2004	(orig)	**9.64**	**12.6**	0.72	**1.55**
	MW-16	12/31/2004	(orig)	**8.34**	**17.1**	**1.55**	**18.83**
	MW-16	3/28/2005	(orig)	**4.14**	**5.81**	**0.76**	**10.48**
	MW-16	10/24/2005	(orig)	**6.28**	**9.8**	0.67	**6.91**
	MW-16	12/12/2005	(orig)	**6.94**	**11.5**	0.75	**8.06**
	MW-16	3/20/2006	(orig)	**6.82**	**11.5**	**0.83**	**8.55**
	MW-16	6/21/2006	(orig)	**6.64**	**11.2**	0.69	**7.57**
	MW-16	10/18/2006	(orig)	**5.7**	**10.2**	0.62	**6.52**
	MW-16	12/12/2006	(orig)	**4.6**	**10**	0.55	**6.83**
	MW-16	3/26/2007	(orig)	**2.97**	**2.82**	0.26	**5.22**
	MW-16	6/26/2007	(orig)	**5.23**	**9.11**	**0.77**	**7.76**
	MW-16	11/8/2007	(orig)	**5.5**	**12**	0.57	**6.2**
	MW-16	1/17/2008	(orig)	**4.6**	**9.1**	0.55	**5.6**
	MW-16	3/19/2008	(orig)	**5.5**	**9.6**	0.51	**6.9**
	MW-16	7/22/2008	(orig)	**3.6**	**6.1**	0.43	**4.5**
	MW-16	10/23/2008	(orig)	**4.7**	**9.1**	0.48	**6.6**
	MW-16	1/21/2009	(orig)	**4.2**	**7.5**	0.48 J	**6.9**
	MW-16	9/24/2009	(orig)	**3.2**	**4.6**	0.34	**3.5**
	MW-16	9/29/2010	(orig)	**3**	**4.6**	**3.4**	**23.6**
	MW-16	12/15/2010	(orig)	**5.2**	**13**	**1.1**	**14.5**
	MW-16	10/11/2011	No sample collected due to presence of LNAPL.				
	MW-16	9/26/2012	No sample collected due to presence of LNAPL.				
	MW-16	9/18/2013	No sample collected due to presence of LNAPL.				

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
Seep	Seep	7/1/1998	(orig)	0.0016	0.0007	0.0006	0.00036
	Seep	4/14/1999	(orig)	**0.04**	0.0022	0.0021	0.019
	Seep	10/21/1999	(orig)	**0.065**	0.23	0.011	0.434
	Seep	3/29/2001	(orig)	**0.0116**	< 0.0002	0.0007 J	0.0254
	Seep	6/26/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	Seep	9/18/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	Seep	12/18/2001	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.001
	Seep	3/22/2002	(orig)	0.0059	<	0.0008	0.0034
	Seep	6/28/2002	(orig)	<	<	<	<
	Seep	9/23/2002	(orig)	<	<	<	<
	Seep	12/31/2002	(orig)	0.0007	<	<	<
	Seep	3/27/2003	(orig)	0.0063	0.0002 J	0.0018	0.0101
	Seep	9/24/2003	(orig)	<	0.0003 J	<	<
	Seep	12/15/2003	(orig)	0.0004 J	0.0003 J	<	<
	Seep	3/15/2004	(orig)	<	<	<	<
	Seep	6/21/2004	(orig)	<	<	<	<
	Seep	9/29/2004	(orig)	<	<	<	<
	Seep	12/31/2004	(orig)	<	0.0002 J	<	0.0004 J
	Seep	3/28/2005	(orig)	<	<	<	<
	Seep	10/24/2005	(orig)	<	J	<	<
	Seep	12/12/2005	(orig)	<	0.0005 J	0.0003 J	0.0009 J
	Seep	3/20/2006	(orig)	<	<	<	<
	Seep	6/21/2006	(orig)	0.004	0.0129	0.0008 J	0.015
	Seep	10/18/2006	(orig)	<	0.0005 J	0.0003 J	0.0014 J
	Seep	12/12/2006	(orig)	<	<	<	<
	Seep	3/26/2007	(orig)	< 0.0003	0.0003 J	< 0.0002	< 0.0006
	Seep	6/26/2007	(orig)	< 0.0003	< 0.0002	< 0.0002	< 0.0006
	Seep	11/8/2007	(orig)	< 0.0005	< 0.0007	< 0.0008	< 0.0008
	Seep	3/19/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	Seep	10/23/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	Seep	1/21/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	Seep	9/24/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	Seep	9/28/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	Seep	10/11/2011	No sample collected; seep dry.				
	Seep	9/26/2012	No sample collected; seep dry.				
	Seep	9/18/2013	No sample collected; seep dry.				

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
HAMPTON No. 4M
SAN JUAN COUNTY

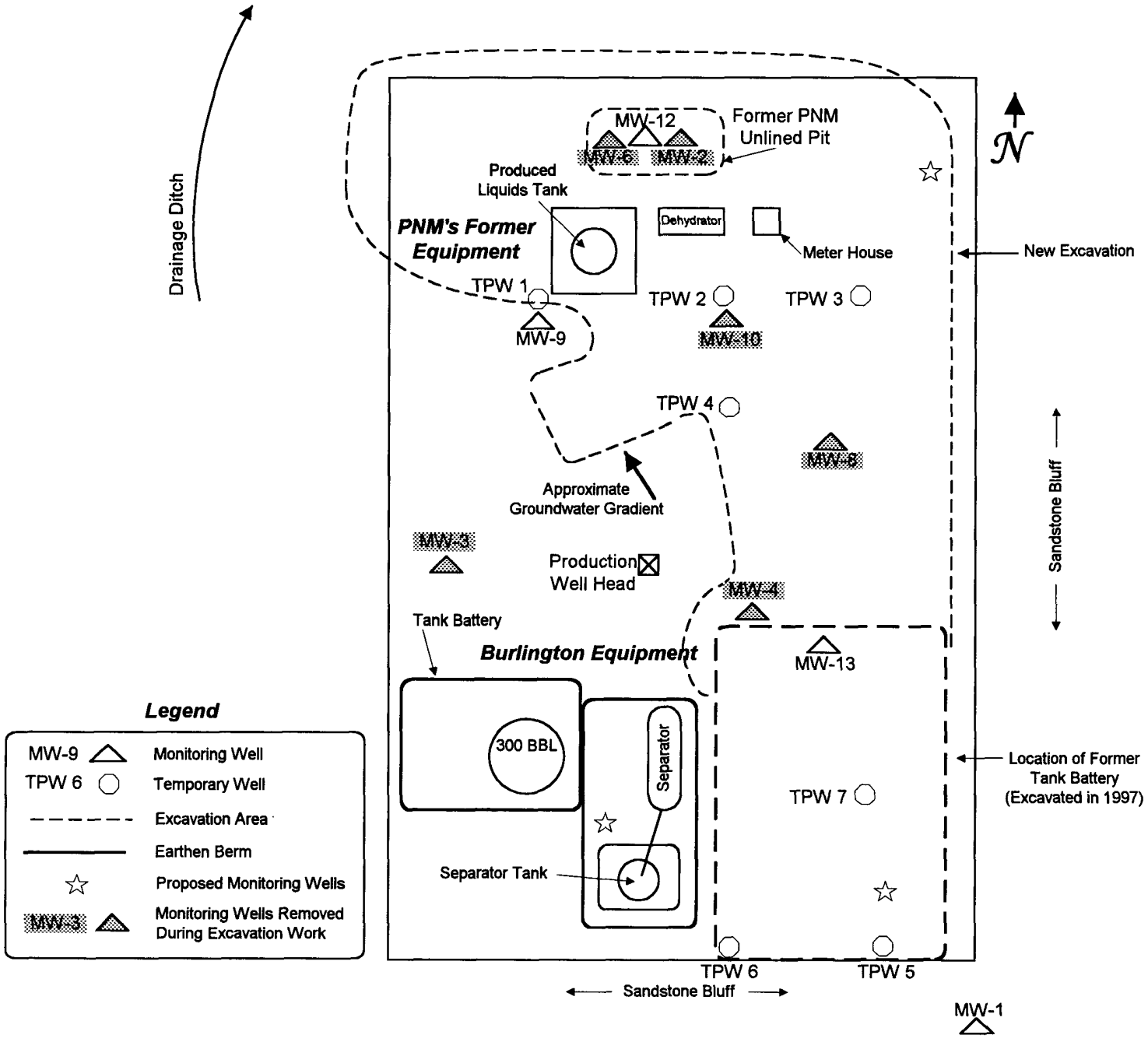
Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
TMW-1	TMW-1	1/27/2000	(orig)	**0.93**	**1.4**	0.35	**6.7**
	TMW-1	6/13/2000	(orig)	**2.4**	**3.4**	0.55	**9.1**
	TMW-1	6/26/2001	(orig)	**1.1**	**3.5**	0.33	**5.5**
	TMW-1	5/23/2003	(orig)	**0.83**	0.123	0.107	**1.0047**
	TMW-1	6/27/2003	(orig)	**0.474**	0.0366	0.0596	0.4907
	TMW-1	9/24/2003	(orig)	**0.292**	0.139	0.017	0.221
	TMW-1	12/15/2003	(orig)	**0.0559**	0.0013	0.0039	0.0425
	TMW-1	6/21/2004	(orig)	**0.0406**	<	0.0141	0.0147
	TMW-1	9/29/2004	(orig)	**0.41**	0.0087	0.0596	0.4585
	TMW-1	12/31/2004	(orig)	0.003 J	0.005 J	0.001 J	0.011 J
	TMW-1	3/22/2005	(orig)	**0.0678**	0.0133	0.0081	0.1017
	TMW-1	10/24/2005	(orig)	**0.483**	0.705	0.045	0.328
	TMW-1	12/12/2005	(orig)	**0.122**	0.317	0.019	0.16
	TMW-1	3/20/2006	(orig)	**0.071**	0.082	0.016	0.151
	TMW-1	6/21/2006	(orig)	**0.159**	0.0657	0.0569	0.36
	TMW-1	10/18/2006	(orig)	0.0064	0.0016	0.0021	0.0138
	TMW-1	6/26/2007	(orig)	**0.269**	0.0026	0.0049	0.0157
	TMW-1	11/8/2007	(orig)	**0.3**	0.012	0.006	0.038
	TMW-1	1/17/2008	(orig)	0.0008	< 0.0007	< 0.0008	0.001
	TMW-1	3/19/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005
	TMW-1	7/22/2008	(orig)	**0.13**	0.029	0.011	0.022
	TMW-1	1/21/2009	(orig)	**0.013**	< 0.005	< 0.005	< 0.005
	TMW-1	9/28/2010	(orig)	**0.013**	< 0.001	< 0.001	0.0032
	TMW-1	10/11/2011	No sample collected; insufficient water present in well.				
	TMW-1	9/26/2012	No sample collected; well dry.				
	TMW-1	9/18/2013	No sample collected; well dry.				
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**

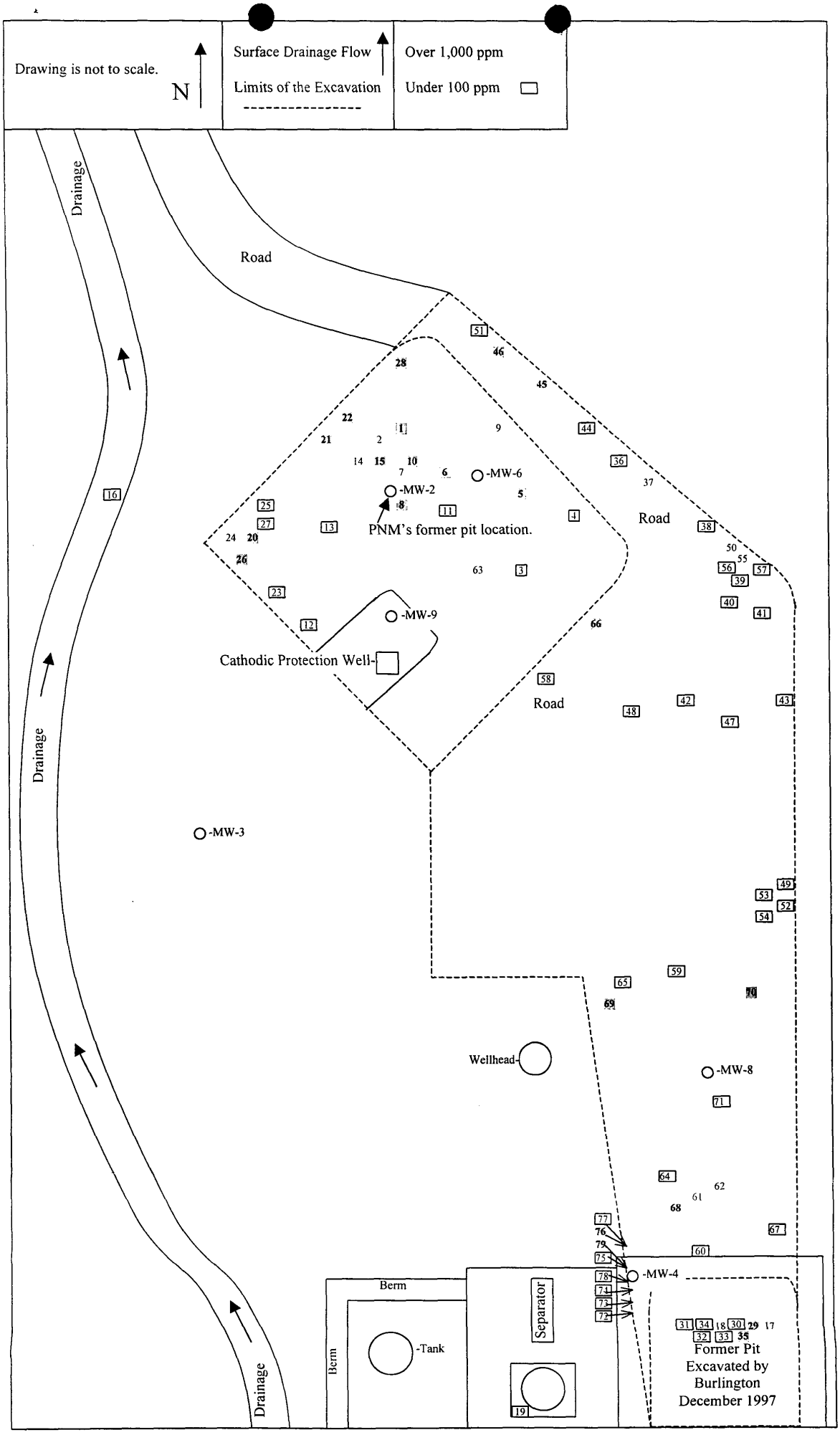
Notes:
J = Analyte concetration detected at a value between MDL and PQL
MDL = Method Detection Limit
PQL = Practical Quantitation Limit
NS = Not Sampled
NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter (parts per million)
< 0.001 = Below Laboratory Detection Limit of 0.001 mg/L
< = Below Laboratory Detection Limit
BOLD = Concentrations that exceed the NMWQCC groundwater quality standard

Appendix A

Diagram of Former Excavation Area

Hampton #4M Site Diagram




Drawing is not to scale.
N
Surface Drainage Flow
Limits of the Excavation
Over 1,000 ppm
Under 100 ppm
Drainage
Road
-MW-6
-MW-2
PNM's former pit location.
Road
-MW-9
Cathodic Protection Well-
Road
-MW-3
Drainage
Drainage
Wellhead-
-MW-8
-MW-4
Berm
-Tank
Berm
Separator
Former Pit
Excavated by
Burlington
December 1997

Appendix B

August 2013 Acuvac Mobile Dual Phase Extraction Report

AcuVac Remediation, LLC.

1656-H Townhurst, Houston, Texas 77043
713.468.6688 • Fax: 713.468.6689 • www.acuvac.com

August 30, 2013

Mr. Jeff Walker
Project Manager
Conestoga-Rovers & Associates
6121 Indian School Road NE
Albuquerque, NM 67110

Dear Jeff:

Re: MDP Events, Hampton No.4M, Aztec, NM

Enclosed is a copy of the Operating Data collected during the Mobile Dual Phase (MDP) Events #1A and 1B, at the above location on August 26, 2013. Table #1 is the Well Data Information on wells MW-16 and MW-12. PSH is referred to as LNAPL in this report. GW samples are taken frequently in a 2,000 ml beaker, to determine the average LNAPL percentage and volume.

Summary of MDP Event #1A - Well MW-16

- The total Event time was 3.5 hours. There is no comparative data. The Event was conducted on August 26, 2013.
- The total liquid volume recovered was 4.2 gals, none of which were LNAPL.
- Total vapor LNAPL burned as IC engine fuel was 0.24 gals, **for a total liquid and vapor LNAPL recovery of 0.92 gals. This equates to an average of 0.26 gals/hr.**
- Average HORIBA Analytical Data from the influent vapor samples was: HC = 1,191 ppmv, CO_2 = 3.53%, CO = 0%, O_2 = 17.7% and H_2S = 2.25 ppm.
- The Average Induced Vacuum was 115.0"H_2O with a maximum vacuum of 140"H_2O and the average EW well vapor flow was 29.94 scfm.
- The GW pump was set at 29.5 ft BTOC. The average GW pump rate was 0.02 gpm.
- The average GW depression, based on the positioning of the GW pump, was 3.0 ft below static level.
- A LNAPL thickness of 0.36 ft was recorded prior to the start of Event #1A and no LNAPL was recorded at the conclusion of the Event.

The total LNAPL removed, including liquid and vapor, during the 3.5 hour Event #1A Well MW-16 was 0.92 gals.

Additional Information:

- A minimal LNAPL volume of 0.68 gals was recovered during the Event period.
- The recovered groundwater was dark with biomass at the start of the Event and remained on an increasing trend throughout the Event.
- The low HC (TPH) levels indicate little LNAPL in the soil surrounding the well.
- The high O_2 levels in the influent vapors indicate SVE short circuiting from the ground surface most likely occurred.

Summary of MDP Event #1B: Well MW-12

- The total Event time was 4.0 hours. The Event was conducted on August 26, 2013. There is no comparative data.
- The total liquid volume recovered was 500 gals, of which none were LNAPL.
- Total vapor LNAPL burned as IC engine fuel was 0.07 gals, **for a total liquid and vapor LNAPL recovery of 0.07 gals. This equates to an average of 0.02 gals/hr.**
- Average HORIBA Analytical Data from the influent vapor samples was: HC = 177 ppmv, CO_2 = 2.93%, CO =0%, O_2 =18.0% and H_2S = 0 ppm.
- The Average Induced Vacuum was 44"H_2O with a maximum vacuum of 50"H_2O and the average EW well vapor flow was 50.16 scfm.
- The GW pump was set at 28.9 ft BTOC. The average GW pump rate was 1.89 gpm.
- The average GW depression, based on the positioning of the GW pump, was 6.5 ft below static level.
- No LNAPL was recorded prior to the start of Event #1B and no LNAPL was recorded at the conclusion of the Event.

The total LNAPL removed, including liquid and vapor, during the 4.0 hour Event #1B Well MW-12 was 0.07 gals.

Additional Information:

- No LNAPL was recovered from the dual phase operation.
- The extremely low HC (TPH) levels indicate very little LNAPL in the area surrounding the well.
- The HC (TPH) levels in the influent vapors varied from a low of 54 ppmv to a high of 242 ppmv. This is considered in the exceptionally low range.
- The high O_2 levels in the influent vapors indicate SVE short circuiting from the ground surface most likely occurred.

Other Information - Events #1A & 1B

The total LNAPL removed, including liquid and vapor, during the 7.5 hr Events (wells MW-16 and MW-12) was 0.99 gals. This equates to 0.13 gals/hr.

The HORIBA Analytical instrument is calibrated with Hexane and CO_2. In all subsequent Events, the test data will be compared to the previous Event to evaluate the progress for this remediation project.

The formula used to calculate the emission rate is:

$$ER = HC\ (ppmv) \times MW\ (Hexane) \times Flow\ Rate\ (scfm) \times 1.58E^{-7} \frac{(min)(lb\ mole)}{(hr)(ppmv)(ft^3)} = lbs/hr$$

Additional information included with Report

- Recorded Data
- Photographs of the MDP System and wells MW-16 and MW-12.

After you have reviewed the report and if you have any questions, please contact me. We appreciate you selecting AcuVac to provide this service.

Sincerely,

James E. Sadler, VP
Engineering/Environmental

130038.REP

Well and Recovery Data Information

Table #1

Event		1A	1B
WELL NO.		**MW-16**	**MW-12**
Total Event Hours		3.5	4.0
TD	ft	30.0	30.0
Well Screen	ft	Unknown	Unknown
Well Size	in	2.0	2.0
DTGW - Static - Start Event	ft	26.95	22.35
DTLNAPL - Static - Start Event	ft	26.59	-
LNAPL	ft	0.36	-
DTGW - End Event	ft	27.71	22.67
DTLNAPL - End Event	ft	-	-
LNAPL	ft	-	-
Average Extraction Well Vacuum	"H_2O	115.0	44.0
Average Extraction Well Vapor Flow	scfm	29.94	50.16
Average GWL/NAPL Pump Rate	gpm	0.02	1.89
Total Liquid Volume Recovered	gals	4	500
Average TPH	ppmv	1,191	177
Average CO_2	%	3.53	2.93
Average CO	%	-	-
Average O_2	%	17.7	18.0
Average H_2S	ppm	2.25	-
Total Liquid LNAPL Recovered	gals	-	-
Total Liquid LNAPL Recovered	%	-	-
Total Vapor and Liquid LNAPL Recovered	gals	0.92	0.07
Total LNAPL Recovered	lbs	6.4	0.5
Total Volume of Well Vapors	cu. ft	6,287	12,038

OPERATING DATA - EVENT # 12 **PAGE # 1** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Hampton No. #4M, San Juan County, NM **Project Managers:** Sadler/Faucher

	Date:	8-26-13	-	-	-	-	-
	Parameters	Time 0915	Time 0945	Time 1015	Time 1045	Time 1115	Time 1145
	WELL # **MW- 16**	Hr Meter 6555.0	Hr Meter 6555.5	Hr Meter 6556.0	Hr Meter 6556.5	Hr Meter 6557.0	Hr Meter 6557.5
ENGINE/BLOWER	R.P.M.	2000	2000	2000	2000	2000	2000
	Oil Pressure psi	50	50	50	50	50	50
	Water Temp °F	140	160	160	160	160	160
	Volts	13	13	13	13	13	13
	Intake Vacuum "Hg	14	14	14	14	14	12
	Gas Flow Fuel/Propane cfh	150	150	150	150	150	150
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	OFF	ON	ON	ON	ON	ON
	Extraction Well Flow scfm	26.87	26.87	26.87	26.87	26.87	35.06
	Extraction Well Vacuum "H_2O	100	100	100	100	100	140
	Pump Rate gals/min	OFF	0.04	0.04	0.04	0.03	0.01
	Total Volume gals	-	-	1.2	2.4	3.3	3.6
	Influent Vapor Temp. °F	60	60	60	60	60	60
	Air Temperature °F	67.8	71.6	77.3	79.9	81.3	82.5
	Barometric Pressure "Hg	30.27	30.27	30.27	30.27	30.26	30.26
	Absolute Pressure "Hg (ELV = 6890)	24.18	24.18	24.18	30.18	24.17	24.17
VAPOR /INFLUENT	HC ppmv	1,830	1,710	1,640	1,078	936	896
	CO_2 %	4.64	4.52	4.48	3.80	3.18	3.02
	CO %	0	0	0	0	0	0
	O_2 %	16.4	16.5	16.2	17.2	18.4	18.7
	H_2S ppm	3	3	2	3	3	2
NOTES	Arrived @ site @ 0745 Hrs - Difficulty locating well MW-16 - SAFETY Tailgate Meeting - 0900 Mobilized SVE & GW recovery systems - Gauged well - TD ≈ 30' - START (0915) EVENT #12 - SVE only for 0.5 hours to reduce LNAPL thickness - Initial EW wellhead vacuum = 100" Hg, VOF = 26.87 scfm - GW/VAPOR PR = 0.04 gpm - decreased to 0.03 gpm - NOTE: 10% LNAPL biomass, increasing to 15 - 20 - 60, GW PR decreasing 0.04 - 0.03 - 0.01 gpm NOTE: High O2 % - SVE short circuiting most likely - 1115 hrs INCREASE EW = 140" Hg						
MANIFOLD	LNAPL % Vol Gals	-	-	10/.12	15/.18	20/.18	60/.18
	Depth of GW Depression ft	-	-3.0	-3.0	-3.0	-3.0	-3.0
	Extraction Well DTLNAPL ft	26.59					
	Extraction Well DTGW ft	26.95					

( ) Indicates Well Pressure

LNAPL = 0.36'

7FORMS/TestForms/1210017B

OPERATING DATA - EVENT # 1A **PAGE # 2**

ACUVAC MOBILE DUAL PHASE SYSTEM

Location: Hampton No. #4M, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-26-13	-				
	Parameters	Time 1215	Time 1245	Time	Time	Time	Time
	WELL # MW-16	Hr Meter 6558.0	Hr Meter 6558.5	Hr Meter	Hr Meter	Hr Meter	Hr Meter
ENGINE/BLOWER	R.P.M.	2000	2000				
	Oil Pressure psi	50	50				
	Water Temp °F	160	160				
	Volts	13	13				
	Intake Vacuum "Hg	12	12				
	Gas Flow Fuel/Propane cfh	150	150				
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON				
	Extraction Well Flow scfm	35.06	35.06				
	Extraction Well Vacuum "H_2O	140	146				
	Pump Rate gals/min	0.01	0.01				
	Total Volume gals	3.9	4.2				
	Influent Vapor Temp. °F	61	61				
	Air Temperature °F	83.1	83.9				
	Barometric Pressure "Hg	30.25	30.23				
	Absolute Pressure "Hg	2416	2415				
VAPOR /INFLUENT	HC ppmv	738	698				
	CO_2 %	2.56	2.04				
	CO %	0	0				
	O_2 %	18.9	19.7				
	H_2S ppm	1	1				
NOTES	EW induced vacuum and MW-5 steady @ 140 "H_2O, 35.06 scfm PL = 0.01 gpm						
	TPH influent vapors on steady decreasing trend.						
	1245 Hrs - Discontinued Event #1A due to low TPH ppm and GW/LNAPL recovery - Moved to MW-12						
MANIFOLD	LNAPL % Vol / Gals	10 / 0.03	0				
	Depth of GW Depression ft	-3.0	-3.0				
	Extraction Well DTLNAPL ft		ND				
	Extraction Well DTGW ft		27.71				

( ) Indicates Well Pressure

OPERATING DATA - EVENT # 13 **PAGE # 1**

ACUVAC MOBILE DUAL PHASE SYSTEM

Location: Hampton No. #4M, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-26-13	-	-	-	-	-
	Parameters	Time 1315	Time 1345	Time 1415	Time 1445	Time 1515	Time 1545
	WELL # **MW- 12**	Hr Meter 6558.5	Hr Meter 6559.0	Hr Meter 6559.5	Hr Meter 6560.0	Hr Meter 6560.5	Hr Meter 6561.0
ENGINE/BLOWER	R.P.M.	2000	2000	2000	2000	2000	2200
	Oil Pressure psi	50	50	50	50	50	50
	Water Temp °F	160	160	160	160	160	160
	Volts	13	13	13	13	13	13
	Intake Vacuum "Hg	14	14	14	14	14	12
	Gas Flow Fuel/Propane cfh	150	150	150	150	150	150
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON	ON	ON
	Extraction Well Flow scfm	47.03	47.03	47.03	47.03	47.03	54.06
	Extraction Well Vacuum "H_2O	40	40	40	40	40	50
	Pump Rate gals/min	OFF	2.5	2.5	2.5	2.5	2.5
	Total Volume gals	-	-	75	150	225	300
	Influent Vapor Temp. °F	60	60	60	60	60	60
	Air Temperature °F	84.1	85.3	85.7	86.6	87.7	88.2
	Barometric Pressure "Hg	30.24	30.22	30.20	30.19	30.18	30.17
	Absolute Pressure "Hg	24.16	24.14	24.13	24.12	24.11	24.10
VAPOR /INFLUENT	HC ppmv	54	114	154	178	206	184
	CO_2 %	3.42	3.30	3.10	2.92	2.80	2.92
	CO %	0	0	0	0	0	0
	O_2 %	18.6	17.8	17.9	17.9	18.0	18.2
	H_2S ppm	0	0	0	0	0	0

NOTES

1230HRS - Mobilized SVE/GW Recovery System near well MW-12 as the extraction well - Initial EW induced vacuum @ 40" H_2O, VWF = 47.03 scfm - GWPR = 2.5 gpm - No liquid LNAPL observed

NOTE: Extremely low TPH levels - 1515 HRS - INCREASED EW induced vacuum = 50" H_2O, VWF = 54.06 scfm - GWPR @ 2.5 gpm

NOTE: System vacuum @ 1715 "H_2O; vacuum @ well 50" H_2O - Reason - Had to connect System to well with 1.0" (60ft) vacuum hose instead of 2.0" due to distance

MANIFOLD							
	LNAPL % Vol Gals	-	-	-	-	-	-
	Depth of GW Depression ft	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5
	Extraction Well DTLNAPL ft	NO					
	Extraction Well DTGW ft	22.35					

( ) Indicates Well Pressure

OPERATING DATA - EVENT # 1B **PAGE # 2**

ACUVAC MOBILE DUAL PHASE SYSTEM

Location: Hampton No. #4M, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-26-13	–	–			
	Parameters	Time 1615	Time 1645	Time 1715	Time	Time	Time
	WELL # **MW-**	Hr Meter 6561.5	Hr Meter 6562.0	Hr Meter 6562.5	Hr Meter	Hr Meter	Hr Meter
ENGINE/BLOWER	R.P.M.	2200	2200	2200			
	Oil Pressure psi	50	50	50			
	Water Temp °F	160	160	160			
	Volts	13	13	13			
	Intake Vacuum "Hg	12	12	12			
	Gas Flow Fuel/Propane cfh	160	160	160			
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON			
	Extraction Well Flow scfm	54.06	54.06	54.06			
	Extraction Well Vacuum "H_2O	50	50	50			
	Pump Rate gals/min	2.2	2.2	2.2			
	Total Volume gals	366	432	500			
	Influent Vapor Temp. °F	61	61	61			
	Air Temperature °F	89.5	90.7	91.4			
	Barometric Pressure "Hg	30.15	30.14	30.13			
	Absolute Pressure "Hg	24.08	24.07	24.06			
VAPOR /INFLUENT	HC ppmv	224	242	236			
	CO_2 %	2.75	2.60	2.52			
	CO %	0	0	0			
	O_2 %	18.1	18.1	18.2			
	H_2S ppm	0	0	0			

NOTES

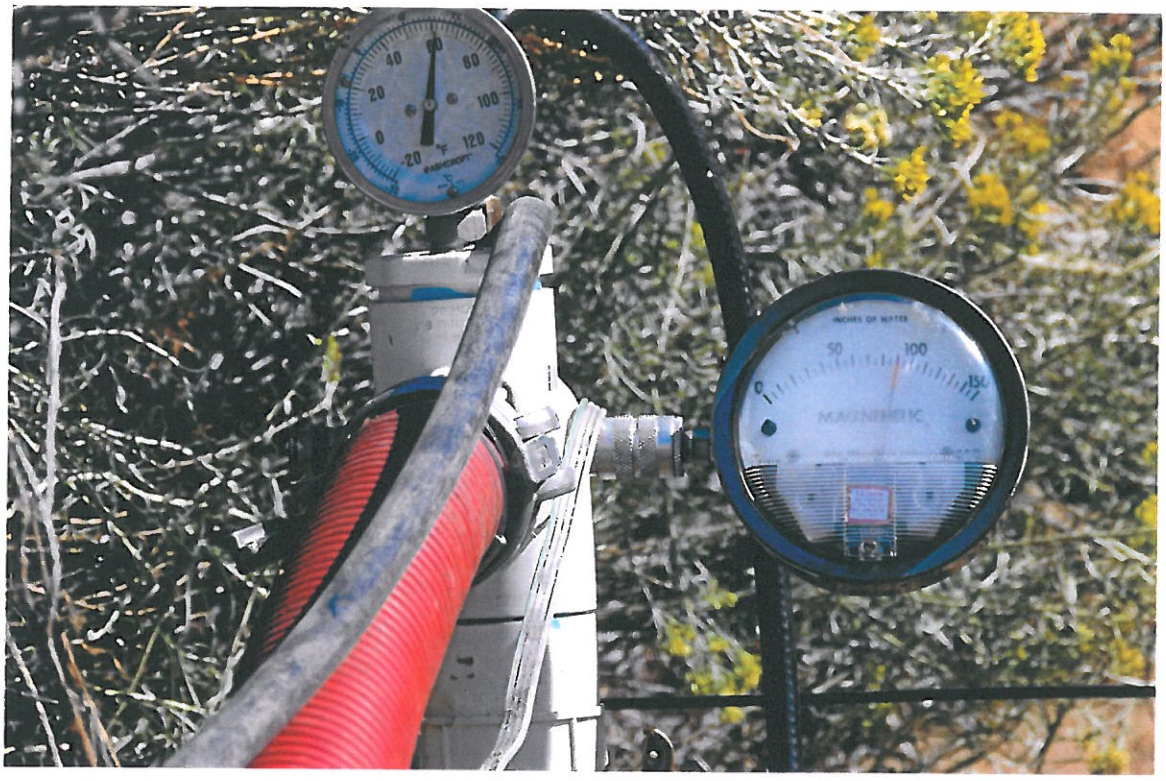
EW induced vacuum and UWF steady @ 50"H_2O, 54.06 scfm - GWPR @ 2.2 gpm
GW murky gray with strong biomass odor, - NOTE GWPR on
a slight decreasing trend @ 2.2 gpm.
1715 Hrs - EVENT # 1B completed
Secured all wells - Departed site at 1800 hrs

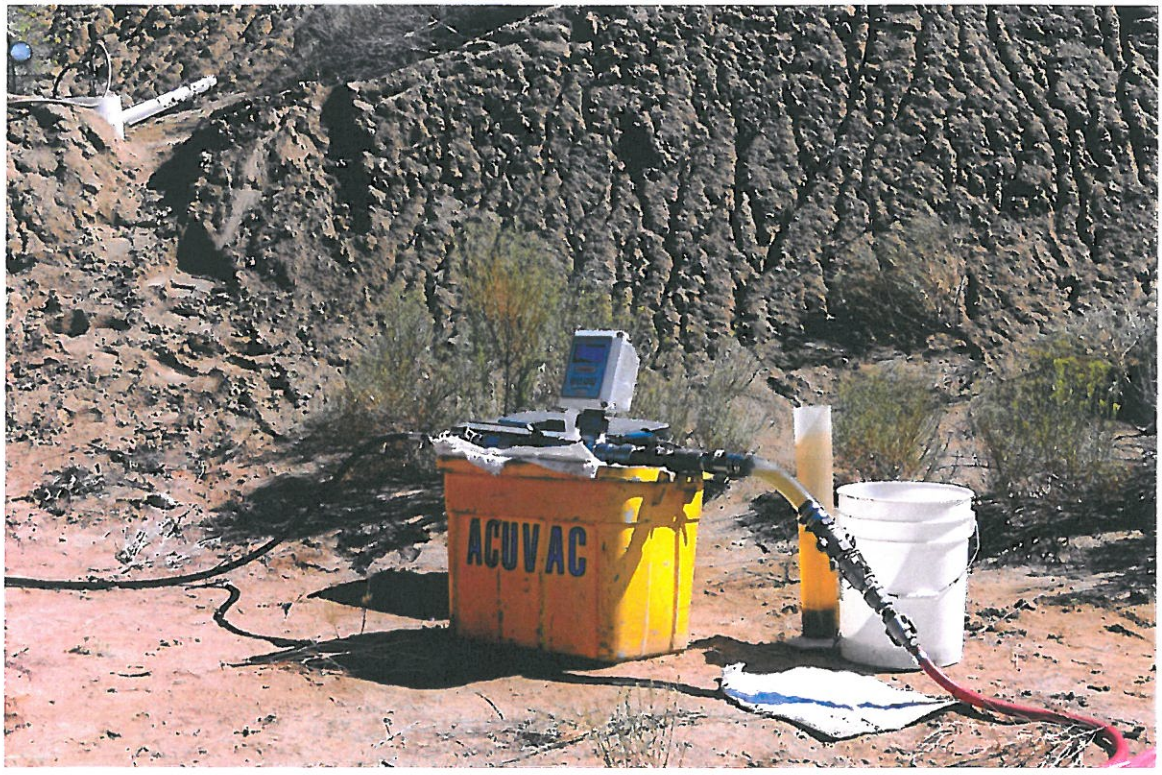
MANIFOLD	LNAPL % Vol Gals	–	–	–			
	Depth of GW Depression ft	-6.5	-6.5	-6.5			
	Extraction Well DTLNAPL ft			No			
	Extraction Well DTGW ft			22.67			

( ) Indicates Well Pressure

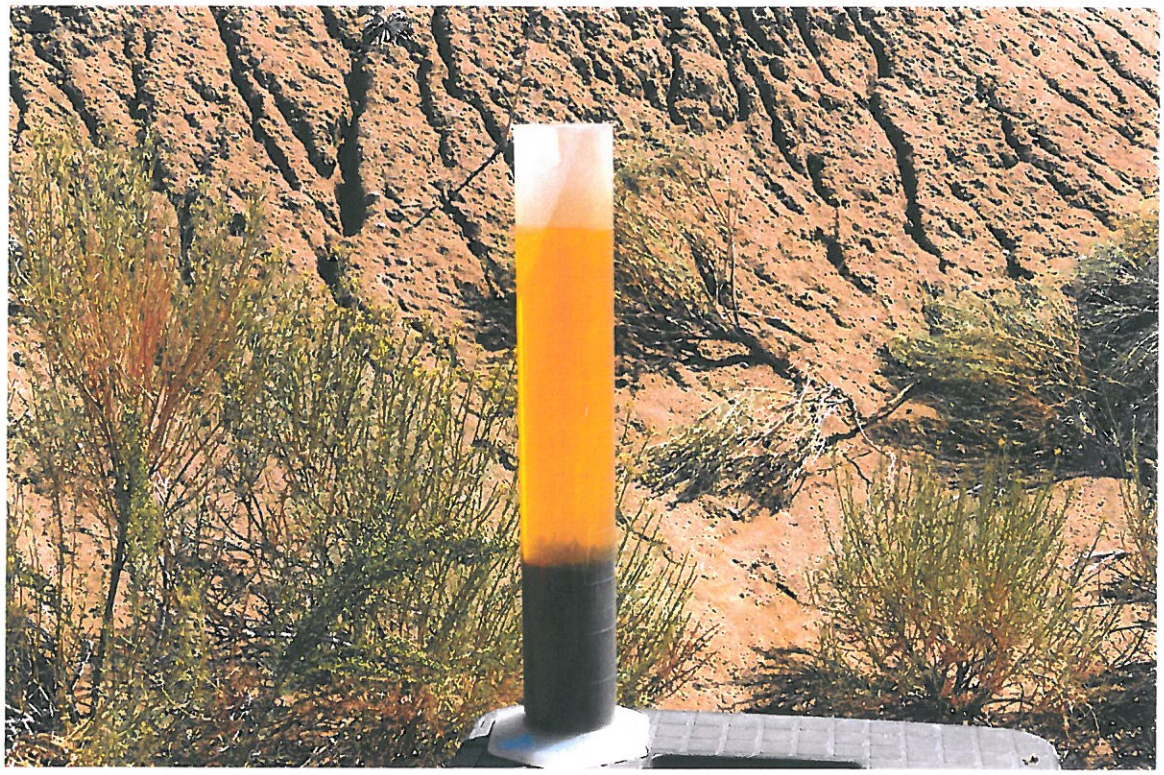
HAMPTON NO. 4 SITE
AZTEC, NM

HAMPTON NO. 4 SITE
AZTEC, NM



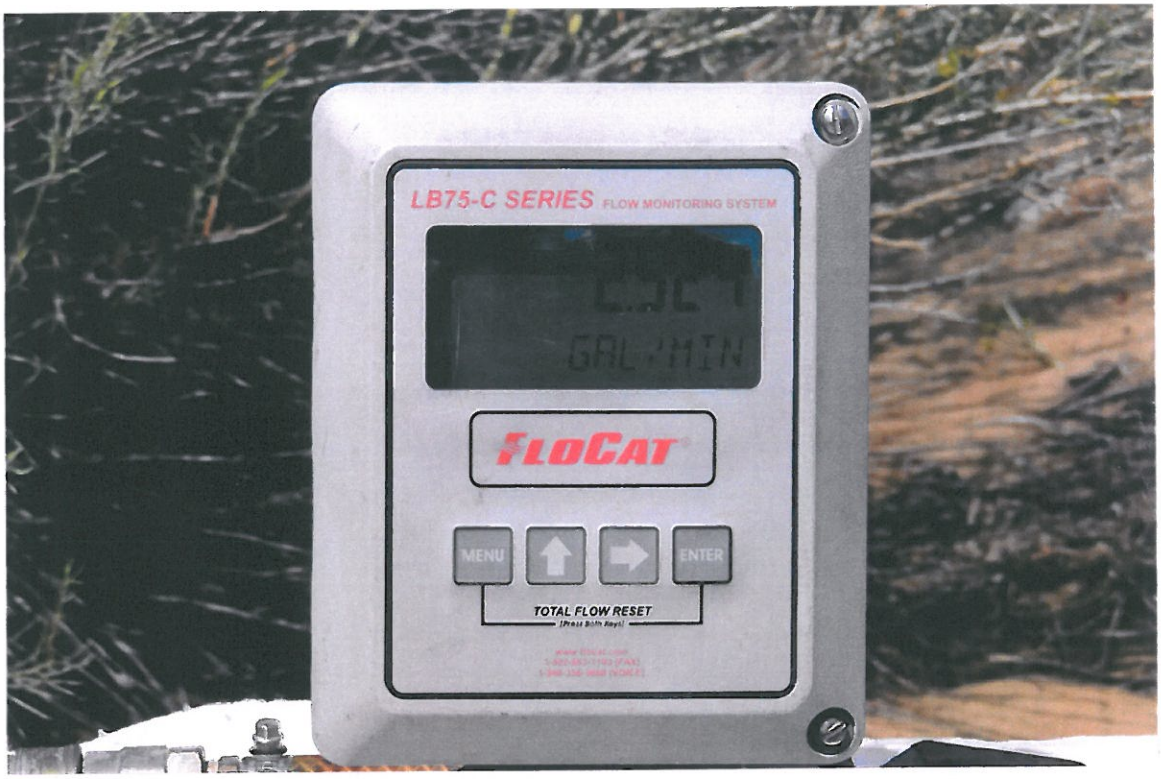


HAMPTON NO. 4 SITE
AZTEC, NM



HAMPTON NO. 4 SITE
AZTEC, NM

HAMPTON NO. 4 SITE
AZTEC, NM



Appendix C

September 2013 Annual Groundwater Sampling Field Forms

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: HAMPTON 4M JOB# 074927

SAMPLE ID: GW-074927-091813-CM-MW-1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/18/13	9/18/13	1215	0.51	1.75

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	6	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X= PURGING DEVICE OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	6	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON	D - PVC		X= PURGING MATERIAL OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON	D - POLYPROPYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE		
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	NA	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER: 44.32 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 47.50 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
13.48 (°C)	3.71 (std)	2.049 (g/L)	3152 (µS/cm)	6.51 (mg/L)	304.9 (mV)	0.75 (gal)
13.23 (°C)	3.61 (std)	2.064 (g/L)	3175 (µS/cm)	5.12 (mg/L)	291.0 (mV)	1.25 (gal)
13.19 (°C)	3.69 (std)	2.073 (g/L)	3190 (µS/cm)	4.95 (mg/L)	265.2 (mV)	1.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: Lt brown SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE: 80s WINDY Y/N: no PRECIPITATION Y/N (IF Y TYPE): no

SPECIFIC COMMENTS:

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

DATE 9/18/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: HAMPTON 4M JOB# 074927

SAMPLE ID: GW-074927-091813-CM-MW-5 WELL# MW-5

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/18/13	9/18/13	1405	0.52	~~1.25~~ 1.25

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 16.78 (feet) WELL ELEVATION (feet)

WELL DEPTH 20.02 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.98 (°C)	5.90 (std)	2.676 (g/L)	4117 (µS/cm)	2.99 (mg/L)	-138.4 (mV)	1.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloud ODOR: hydrocarbon/bio COLOR: black SHEEN Y/N very slight spotty

WEATHER CONDITIONS: TEMPERATURE 80s WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

Bailed dry @ ~1.0 gallon

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

DATE 9/18/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: HAMPTON 4M JOB# 074927

SAMPLE ID: GW-074927-091813-CM-MW-9 WELL# MW-9

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL PURGED (GALLONS)
9/18/13	9/18/13	1240	1.23	3.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 24.61 (feet) WELL ELEVATION (feet)

WELL DEPTH 32.27 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
14.97 (°C)	5.51 (std)	2528 (g/L)	3890 (µS/cm)	2.79 (mg/L)	124.1 (mV)	2.75 (gal)
14.82 (°C)	5.58 (std)	2,537 (g/L)	3903 (µS/cm)	2.59 (mg/L)	105.0 (mV)	3.25 (gal)
14.73 (°C)	5.59 (std)	2542 (g/L)	3908 (µS/cm)	2.40 (mg/L)	91.4 (mV)	3.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: light brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 80° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

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

DATE 9/18/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: HAMPTON 4M JOB# 074927

SAMPLE ID: GW-074927-091813-CM-MW11 WELL# MW-11

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/18/13	9/18/13	1340	1.91	5.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	56.73	(feet)		WELL ELEVATION		(feet)	
WELL DEPTH	68.68	(feet)		GROUNDWATER ELEVATION		(feet)	

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
14.01 (°C)	6.25 (std)	1.900 (g/L)	2922 (µS/cm)	3.01 (mg/L)	-65.3 (mV)	4.75 (gal)
13.99 (°C)	6.24 (std)	1.898 (g/L)	2921 (µS/cm)	2.79 (mg/L)	-67.9 (mV)	5.25 (gal)
14.01 (°C)	6.26 (std)	1.898 (g/L)	2920 (µS/cm)	2.68 (mg/L)	-71.8 (mV)	5.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: slightly cloudy COLOR: none COLOR: clear/light brown SHEEN Y/N none

WEATHER CONDITIONS: TEMPERATURE 80's WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

H2O orange in color for first volume

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

DATE 9/18/13 PRINT Anna Mathews SIGNATURE Anna Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: HAMPTON 4M JOB# 074927

SAMPLE ID: GW-074927-091813-CM-MW-12 WELL# MW-12

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/18/13	9/18/13	1300	1.32	4.00

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 22.17 (feet) WELL ELEVATION (feet)

WELL DEPTH 30.39 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
14.70 (°C)	6.16 (std)	2.382 (g/L)	3665 (µS/cm)	2.84 (mg/L)	-126.2 (mV)	3.0 (gal)
14.58 (°C)	6.17 (std)	2.384 (g/L)	3668 (µS/cm)	2.73 (mg/L)	-131.3 (mV)	3.5 (gal)
14.58 (°C)	6.18 (std)	2.384 (g/L)	3668 (µS/cm)	2.52 (mg/L)	-134.2 (mV)	4.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: bio COLOR: dark gray SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE: 60s WINDY Y/N: no PRECIPITATION Y/N (IF Y TYPE): no

SPECIFIC COMMENTS:

Duplicate @ 1305

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

DATE 9/18/13 PRINT Christine Mathews SIGNATURE [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: HAMPTON 4M JOB# 074927

SAMPLE ID: GW-074927-091813-CM-MW-15 WELL# MW-15

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/18/13	9/18/13	1230	0.91	2.75

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 19.23 (feet) WELL ELEVATION (feet)

WELL DEPTH 24.91 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.71 (°C)	3.84 (std)	2.263 (g/L)	3484 (µS/cm)	6.06 (mg/L)	307.7 (mV)	1.75 (gal)
15.70 (°C)	3.77 (std)	2.281 (g/L)	3510 (µS/cm)	5.79 (mg/L)	317.6 (mV)	2.25 (gal)
15.63 (°C)	3.76 (std)	2.292 (g/L)	3527 (µS/cm)	5.81 (mg/L)	321.8 (mV)	2.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: CLOUDY ODOR: NONE COLOR: LIGHT BROWN SHEEN Y/N N

WEATHER CONDITIONS: TEMPERATURE 80s WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N

SPECIFIC COMMENTS:

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

DATE 9/18/13 PRINT Christine Mathews SIGNATURE Christine Mathews

Appendix D

September 2013 Annual Groundwater Laboratory Analytical Report

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

October 03, 2013

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

RE: Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

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

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

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

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

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SAMPLE SUMMARY

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60153661001	**GW-074927-091813-CM-MW-1**	Water	09/18/13 12:15	09/20/13 08:30
60153661002	**GW-074927-091813-CM-MW-15**	Water	09/18/13 12:30	09/20/13 08:30
60153661003	**GW-074927-091813-CM-MW-9**	Water	09/18/13 12:40	09/20/13 08:30
60153661004	**GW-074927-091813-CM-MW-12**	Water	09/18/13 13:00	09/20/13 08:30
60153661005	**GW-074927-091813-CM-MW-11**	Water	09/18/13 13:40	09/20/13 08:30
60153661006	**GW-074927-091813-CM-MW-5**	Water	09/18/13 14:05	09/20/13 08:30
60153661007	**GW-074927-091813-CM-DUP**	Water	09/18/13 13:05	09/20/13 08:30
60153661008	**TB-074927-091813-CM-001**	Water	09/18/13 16:45	09/20/13 08:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60153661001	**GW-074927-091813-CM-MW-1**	EPA 5030B/8260	PRG	8
60153661002	**GW-074927-091813-CM-MW-15**	EPA 5030B/8260	PRG	8
60153661003	**GW-074927-091813-CM-MW-9**	EPA 5030B/8260	PRG	8
60153661004	**GW-074927-091813-CM-MW-12**	EPA 5030B/8260	PRG	8
60153661005	**GW-074927-091813-CM-MW-11**	EPA 5030B/8260	PRG	8
60153661006	**GW-074927-091813-CM-MW-5**	EPA 5030B/8260	PRG	8
60153661007	**GW-074927-091813-CM-DUP**	EPA 5030B/8260	PRG	8
60153661008	**TB-074927-091813-CM-001**	EPA 5030B/8260	PRG	8

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PROJECT NARRATIVE

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 03, 2013

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

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

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

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

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

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

Method Blank:
All analytes were below the report limit in the method blank, 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/56552

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

QC Batch: MSV/56580

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-MW-1 **Lab ID: 60153661001** Collected: 09/18/13 12:15 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/26/13 01:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/26/13 01:52	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/26/13 01:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/26/13 01:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		09/26/13 01:52	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120		1		09/26/13 01:52	17060-07-0	
Toluene-d8 (S)	106	%	80-120		1		09/26/13 01:52	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/26/13 01:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-MW-15 **Lab ID: 60153661002** Collected: 09/18/13 12:30 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/26/13 02:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/26/13 02:06	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/26/13 02:06	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/26/13 02:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		09/26/13 02:06	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	80-120		1		09/26/13 02:06	17060-07-0	
Toluene-d8 (S)	104	%	80-120		1		09/26/13 02:06	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/26/13 02:06		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-MW-9 **Lab ID: 60153661003** Collected: 09/18/13 12:40 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/26/13 02:20	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/26/13 02:20	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/26/13 02:20	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/26/13 02:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		09/26/13 02:20	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	80-120		1		09/26/13 02:20	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		09/26/13 02:20	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/26/13 02:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-MW-12 **Lab ID: 60153661004** Collected: 09/18/13 13:00 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**202**	ug/L	5.0	0.30	5		09/26/13 15:42	71-43-2	
Ethylbenzene	ND	ug/L	5.0	0.90	5		09/26/13 15:42	100-41-4	
Toluene	ND	ug/L	5.0	0.85	5		09/26/13 15:42	108-88-3	
Xylene (Total)	ND	ug/L	15.0	2.1	5		09/26/13 15:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		5		09/26/13 15:42	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120		5		09/26/13 15:42	17060-07-0	
Toluene-d8 (S)	99	%	80-120		5		09/26/13 15:42	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	5		09/26/13 15:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-MW-11 **Lab ID: 60153661005** Collected: 09/18/13 13:40 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/26/13 02:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/26/13 02:47	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/26/13 02:47	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/26/13 02:47	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/26/13 02:47	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	80-120		1		09/26/13 02:47	17060-07-0	
Toluene-d8 (S)	105	%	80-120		1		09/26/13 02:47	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/26/13 02:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-MW-5 **Lab ID: 60153661006** Collected: 09/18/13 14:05 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**35.9**	ug/L	20.0	1.2	20		09/26/13 03:01	71-43-2	
Ethylbenzene	**227**	ug/L	20.0	3.6	20		09/26/13 03:01	100-41-4	
Toluene	**154**	ug/L	20.0	3.4	20		09/26/13 03:01	108-88-3	
Xylene (Total)	**1320**	ug/L	60.0	8.4	20		09/26/13 03:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		20		09/26/13 03:01	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	80-120		20		09/26/13 03:01	17060-07-0	
Toluene-d8 (S)	104	%	80-120		20		09/26/13 03:01	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	20		09/26/13 03:01		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: GW-074927-091813-CM-DUP **Lab ID: 60153661007** Collected: 09/18/13 13:05 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**210**	ug/L	5.0	0.30	5		09/26/13 15:56	71-43-2	
Ethylbenzene	ND	ug/L	5.0	0.90	5		09/26/13 15:56	100-41-4	
Toluene	ND	ug/L	5.0	0.85	5		09/26/13 15:56	108-88-3	
Xylene (Total)	ND	ug/L	15.0	2.1	5		09/26/13 15:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		5		09/26/13 15:56	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120		5		09/26/13 15:56	17060-07-0	
Toluene-d8 (S)	100	%	80-120		5		09/26/13 15:56	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	5		09/26/13 15:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

Sample: TB-074927-091813-CM-001 **Lab ID: 60153661008** Collected: 09/18/13 16:45 Received: 09/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/25/13 23:34	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/25/13 23:34	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/25/13 23:34	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/25/13 23:34	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		09/25/13 23:34	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	80-120		1		09/25/13 23:34	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/25/13 23:34	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/25/13 23:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

QC Batch: MSV/56552 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60153661001, 60153661002, 60153661003, 60153661005, 60153661006, 60153661008

METHOD BLANK: 1260052 Matrix: Water
Associated Lab Samples: 60153661001, 60153661002, 60153661003, 60153661005, 60153661006, 60153661008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/25/13 22:39	
Ethylbenzene	ug/L	ND	1.0	09/25/13 22:39	
Toluene	ug/L	ND	1.0	09/25/13 22:39	
Xylene (Total)	ug/L	ND	3.0	09/25/13 22:39	
1,2-Dichloroethane-d4 (S)	%	100	80-120	09/25/13 22:39	
4-Bromofluorobenzene (S)	%	100	80-120	09/25/13 22:39	
Toluene-d8 (S)	%	98	80-120	09/25/13 22:39	

LABORATORY CONTROL SAMPLE: 1260053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.3	106	73-122	
Ethylbenzene	ug/L	20	21.0	105	76-123	
Toluene	ug/L	20	19.7	98	76-122	
Xylene (Total)	ug/L	60	60.6	101	76-122	
1,2-Dichloroethane-d4 (S)	%			104	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			96	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

QC Batch: MSV/56580
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60153661004, 60153661007

METHOD BLANK: 1260568
Matrix: Water
Associated Lab Samples: 60153661004, 60153661007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/26/13 12:02	
Ethylbenzene	ug/L	ND	1.0	09/26/13 12:02	
Toluene	ug/L	ND	1.0	09/26/13 12:02	
Xylene (Total)	ug/L	ND	3.0	09/26/13 12:02	
1,2-Dichloroethane-d4 (S)	%	87	80-120	09/26/13 12:02	
4-Bromofluorobenzene (S)	%	102	80-120	09/26/13 12:02	
Toluene-d8 (S)	%	98	80-120	09/26/13 12:02	

LABORATORY CONTROL SAMPLE: 1260569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.1	101	73-122	
Ethylbenzene	ug/L	20	20.3	102	76-123	
Toluene	ug/L	20	20.0	100	76-122	
Xylene (Total)	ug/L	60	59.1	99	76-122	
1,2-Dichloroethane-d4 (S)	%			84	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALIFIERS

Project: 074927 Hampton No. 4M
Pace Project No.: 60153661

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/56552

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

Batch: MSV/56580

[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: 074927 Hampton No. 4M
Pace Project No.: 60153661

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60153661001	**GW-074927-091813-CM-MW-1**	EPA 5030B/8260	MSV/56552		
60153661002	**GW-074927-091813-CM-MW-15**	EPA 5030B/8260	MSV/56552		
60153661003	**GW-074927-091813-CM-MW-9**	EPA 5030B/8260	MSV/56552		
60153661004	**GW-074927-091813-CM-MW-12**	EPA 5030B/8260	MSV/56580		
60153661005	**GW-074927-091813-CM-MW-11**	EPA 5030B/8260	MSV/56552		
60153661006	**GW-074927-091813-CM-MW-5**	EPA 5030B/8260	MSV/56552		
60153661007	**GW-074927-091813-CM-DUP**	EPA 5030B/8260	MSV/56580		
60153661008	**TB-074927-091813-CM-001**	EPA 5030B/8260	MSV/56552		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60153661

60153661

Client Name: COP CEA NM

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 8023 6827 9432 Pace Shipping Label Used? Yes ☒ No ☐

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

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

Thermometer Used: ~~T-113~~ / T-194 **Type of Ice:** ~~Wet~~ Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.9

Date and initials of person examining contents: JMD 9/20/13 1025

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
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: Includes date/time/ID/analyses Matrix: water	☒Yes ☐No ☐N/A	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, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: NA / Lot # of added preservative:
Trip Blank present: Pace Trip Blank lot # (if purchased): 060513-3	☒Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AMF Date: 9/20/13

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

Start: 1025	Start:
End: 1030	End:
Temp:	Temp:

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:

Company:	COP CRA NM
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone: (505)884-0672	Fax: (505)884-4932
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	
Project Name:	Hampton No. 4M
Project Number:	74927

Section C Invoice Information:

Attention:	COP epayables
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 14

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Section D Required Client Information

Valid Matrix Codes

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

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074927-091813-CM-MW-1	WT	G			9/18/13	1215		3				X						X		30(9W) 001
2	GW-074927-091813-CM-MW-15	WT	G			9/18/13	1230		3				X						X		002
3	GW-074927-091813-CM-MW-9	WT	G			9/18/13	1240		3				X						X		003
4	GW-074927-091813-CM-MW-12	WT	G			9/18/13	1300		3				X						X		004
5	GW-074927-091813-CM-MW-11	WT	G			9/18/13	1340		3				X						X		005
6	GW-074927-091813-CM-MW-5	WT	G			9/18/13	1405		3				X						X		006
7	GW-074927-091813-CM-DUP	WT	G			9/18/13	1305		3				X						X		007
8	~~GW-074927-091813~~																				
9	TB-074927-091813-CM-001	WT				9/18/13	1645		3				X						X		30(9W) 008
10																					
11																					
12																					

00153601

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] /CRA	9/18/13	1700	[signature] /Pace	9/20/13	830	3.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/18/13

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

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

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