3R - 090

QUARTERLY GWMR

06/03/2011

TETRA TECH, INC.

6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
(505) 237-8440

June 3, 2011

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

RE: **(1 and 2)** ConocoPhillips Company, Nell Hall No. 1, San Juan County, New Mexico - September 2010 and March 2011 Semi-Annual Groundwater Monitoring Reports
(3) ConocoPhillips Company Randleman No. 1 Site, San Juan County, New Mexico - September 2010 Quarterly Groundwater Monitoring Report
(4) ConocoPhillips Company, San Juan 27-5 No. 34A, Rio Arriba County, New Mexico - March 2011 Quarterly Groundwater Monitoring Report
(5) ConocoPhillips Company, Sategna No. 2E, San Juan County, New Mexico - March 2011Quarterly Groundwater Monitoring Report
(6) ConocoPhillips Company, Shepherd & Kelsey No. 1E, San Juan County, New Mexico - March 2011 Quarterly Groundwater Monitoring Report
(7 and 8) ConocoPhillips Company Wilmuth No. 1 Site, San Juan County, New Mexico - December 2010 and March 2011 Quarterly Groundwater Monitoring Reports

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced documents as compiled by Tetra Tech, Inc., for these San Juan Basin sites.

Please do not hesitate to contact me at (505) 237-8440 if you have any questions or require additional information.

Sincerely,

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager/Geologist

Enclosures (8)

Cc: Brandon Powell, New Mexico Oil Conservation Division (Aztec, NM Office)
Terry Lauck, ConocoPhillips Company Risk Management and Remediation (electronic only)
Chris Jaquez, Landowner (Nell Hall No. 1 only)

3R090

MARCH 2011 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS COMPANY
NELL HALL No. 1
FLORA VISTA, SAN JUAN COUNTY, NEW MEXICO

OCD # 3R0090

API # 30-045-09619

Prepared for:

ConocoPhillips

Risk Management and Remediation
420 South Keeler Avenue
Bartlesville, OK 74004

Prepared by:

TETRA TECH, INC.

6121 Indian School Rd. NE, Suite 200
Albuquerque, NM 87110
Tetra Tech Project No. 114-690134

June 2011

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SEMI-ANNUAL GROUNDWATER MONITORING REPORT CONOCOPHILLIPS COMPANY NELL HALL NO. 1 FLORA VISTA, SAN JUAN COUNTY, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of a semi-annual groundwater monitoring event conducted by Tetra Tech, Inc. (Tetra Tech) on March 14, 2011 at the ConocoPhillips Company, Nell Hall No. 1 site in Flora Vista, San Juan County, New Mexico (Site).

The Site is located on private land in Section 07, Township 30N, Range 10W of San Juan County, New Mexico, approximately 2 miles west of the city of Aztec. The Site consists of a gas production well and associated equipment. The location and general features of the Site are presented as **Figures 1** and **2**, respectively.

1.1 Site History

The history of the Site is outlined in **Table 1** and discussed in more detail in the following paragraphs.

Environmental investigation at the Site began when closure of an unlined dehydrator discharge pit was attempted in the early 1990's. Soil impacts were discovered during earthmoving activities and groundwater Monitor Wells MW-1, MW-2, and MW-3 were subsequently installed to determine if hydrocarbons had impacted groundwater beneath the Site. An ongoing drought caused the water table to fall below the screened intervals of MW-1, MW-2, and MW-3. On February 17 and 18, 2004, Souder Miller and Associates (SMA) installed Monitor Wells MW-4, MW-5, and MW-6 at sufficient depths to intersect the water table and to account for the effects of further seasonal or drought-based water table fluctuations (Souder Miller and Associates, 2004).

Tetra Tech began quarterly sampling of Monitor Wells MW-4, MW-5, and MW-6 in 2004; then moved to sampling on a semi-annual basis in 2005, and annually beginning in 2006. Semi-annual sampling was resumed in 2007 due to seasonal groundwater fluctuations. The latest semi-annual sampling event was performed by Tetra Tech on March 14, 2011.

2.0 METHODOLOGY AND RESULTS

2.1 Groundwater Monitoring Methodology

Groundwater Elevation Measurements

Depth to groundwater was gauged at Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 using a dual interface probe prior to sampling. Groundwater elevations were recorded in a hard bound field book and on Tetra Tech groundwater sampling field forms (**Appendix A**) and are presented in **Table 2**.

Hydrographs illustrating groundwater level fluctuations since March 2004 in Monitor Wells MW-5 and MW-6 are presented as **Figure 3** and **Figure 4**, respectively. These data indicate that groundwater elevations

are consistently lowest during the late-winter and early-spring months. Historically, the groundwater flow direction and gradient vary from season to season. These fluctuations are believed to be the result of changes in irrigation rates or in base-flow conditions in the Animas River, which, at its closest point, lies approximately 0.6 mile to the south/southeast of the Site (**Figure 1**). Due to all wells being dry except for MW-5 during the March 2011 monitoring event, a groundwater elevation contour map could not be created.

Groundwater Sampling

Groundwater samples were collected from Monitor Wells MW-5 and MW-6 during the March 2011 event as a continuation of semi-annual monitoring at the Site. MW-4 was observed to be dry and was not sampled during this event. Approximately three well volumes were purged from MW-5 with a dedicated, polyethylene, 1.5-inch, disposable bailer prior to sampling. Purge water generated during the event was disposed of in the on-site produced water tank (**Figure 2**). The sample from MW-6 is likely to be non representative of actual groundwater due to such a low volume in the well casing. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Accutest Laboratories located in Houston, Texas. The samples were analyzed for the presence of benzene, toluene, ethylbenzene and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B and for dissolved iron by EPA Method 6010B.

Ferrous iron testing was conducted during prior sampling events. Tetra Tech changed the sampling protocol in September of 2009 to analyze for dissolved iron instead of ferrous iron since New Mexico Water Quality Control Commission (NMWQCC) standards are based on dissolved iron. Dissolved iron samples were collected during the March 2011 event in unpreserved containers supplied by the laboratory, and were filtered and preserved by laboratory personnel prior to analysis. Results from the March 2011 sampling event indicate that concentrations of dissolved iron are above the NMWQCC standard in Monitoring Well, MW-6. The elevated levels of dissolved iron in MW-6 are likely not representative of aquifer conditions due to the low volume of water present in the well during sampling.

2.2 Groundwater Sampling Analytical Results

During the March 14, 2011 sampling event, samples were collected from MW-5 and MW-6. The groundwater sample collected from MW-5 was below laboratory detection limits for BTEX and dissolved iron. The groundwater sample collected from MW-6 contained 8.66 milligrams per liter (mg/L) dissolved iron, which is above the NMWQCC groundwater quality standard of 1 mg/L. Benzene, ethylbenzene and xylenes were detected in MW-6 at concentrations of 180 micrograms per liter (ug/L), 44 ug/L and 72 ug/L, respectively. The benzene concentration for MW-6 is above the NMWQCC quality standard of 10 ug/L. It should be noted that due to such low levels of water present in MW-6, the analytical results reported for the March 2011 event are likely unrepresentative of a actual groundwater concentrations due to volatilization and the inability to properly purge the well prior to sample collections. During future sampling events, MW-6 will not be sampled if an inadequate volume of water is not present in the well.

Benzene concentrations in MW-6 have fluctuated throughout previous groundwater sampling events at the Site (**Table 3**). These results are postulated to be related to the fluctuating water table at the Site. To

demonstrate this possibility, a graph depicting benzene and groundwater elevation versus time in MW-6 was prepared and is attached as **Figure 6**. Data from the March 16, 2011 event was not used since it is possible the water level was below the screen. The graph illustrates an inverse relationship between benzene concentrations and water column thickness in this monitor well. Historically, elevated benzene concentrations in MW-6 (peaking at 2,500 ug/L in March 2004) should be viewed in this regard. It should also be noted that the March 2004 groundwater sample was collected immediately following installation of MW-6 in February 2004, in which soil samples collected at 25 and 30 feet bgs each resulted in an exceedence of the 50 milligram per kilogram (mg/kg) regulatory limit for BTEX, and soil samples collected at 25, 30, and 35 feet bgs were found to contain total petroleum hydrocarbons (TPH) at levels greater than the 100 mg/kg regulatory limit (SMA, 2004).

Historical laboratory analytical data are summarized on **Table 3**. A geologic cross-section is included as **Figure 7**. The March 2011 laboratory analytical report is presented in **Appendix B**.

3.0 CONCLUSIONS

Tetra Tech will continue semi-annual groundwater sampling at the Site. The next groundwater sampling event is tentatively scheduled for September 2011. Samples will be collected from MW-4, MW-5, and MW-6 for BTEX analyses by EPA Method 8260B and dissolved iron by EPA Method 6010B. Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetratech.com if you have any questions or require additional information.

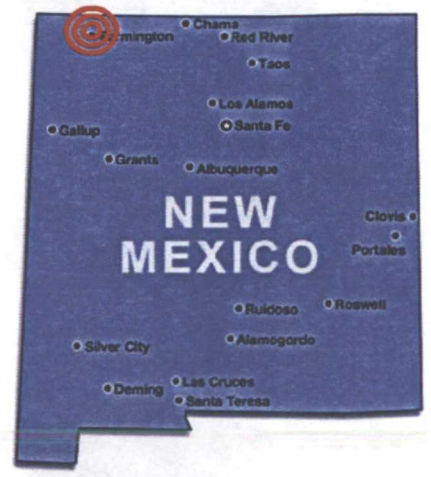
4.0 REFERENCES

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

FIGURES

FIGURE 1.

Site Location Map
ConocoPhillips Company
Nell Hall No. 1
Flora Vista, New Mexico
Sec 07, Twp 30N, Rng 11W



Approximate ConocoPhillips Nell Hall #1 Site location

Lat = 36.81657N
Lon = -108.037308W

N

SCALE

0 120' 240' 480'

TETRA TECH, INC.

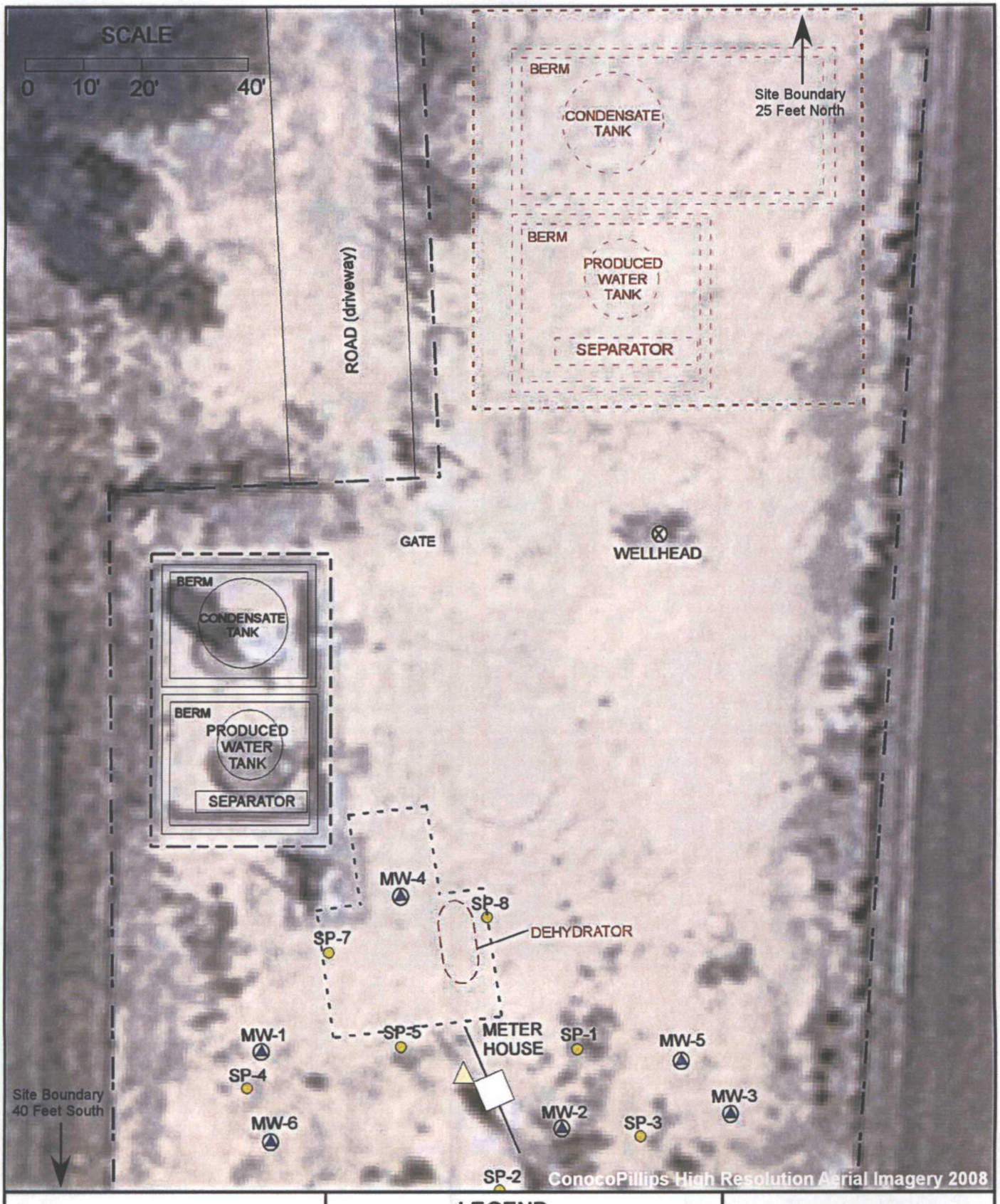


FIGURE 2:
SITE LAYOUT MAP
CONOCOPHILLIPS COMPANY
Nell Hall No. 1
Flora Vista, New Mexico
Sec 07, Twp 30N, Rng 11W

LEGEND

MW-2 - Monitoring Well Locations
SP-3 - Sparge Point Locations
- Survey Control Point
- Fence
- Previous Equipment Placement
- Approximate 1994 Excavation Location

NOTE: SP-1 Removed.

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Figure 3. MW-5 Hydrograph (March 2004 - March2011) - ConocoPhillips Company Nell Hall No.1

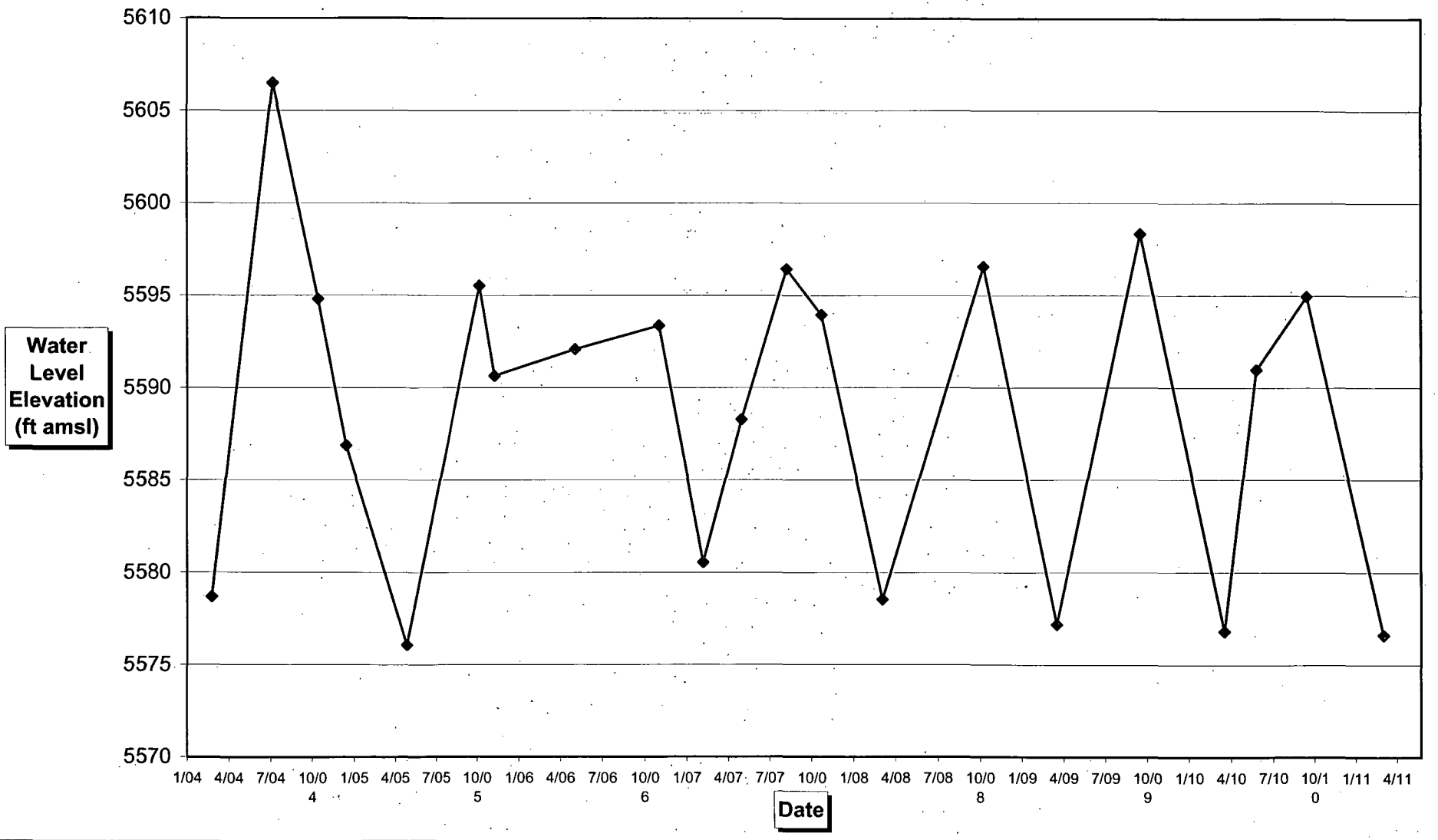

Figure 4. MW-6 Hydrograph (March 2004 - March 2011) - ConocoPhillips Company Nell Hall No. 1

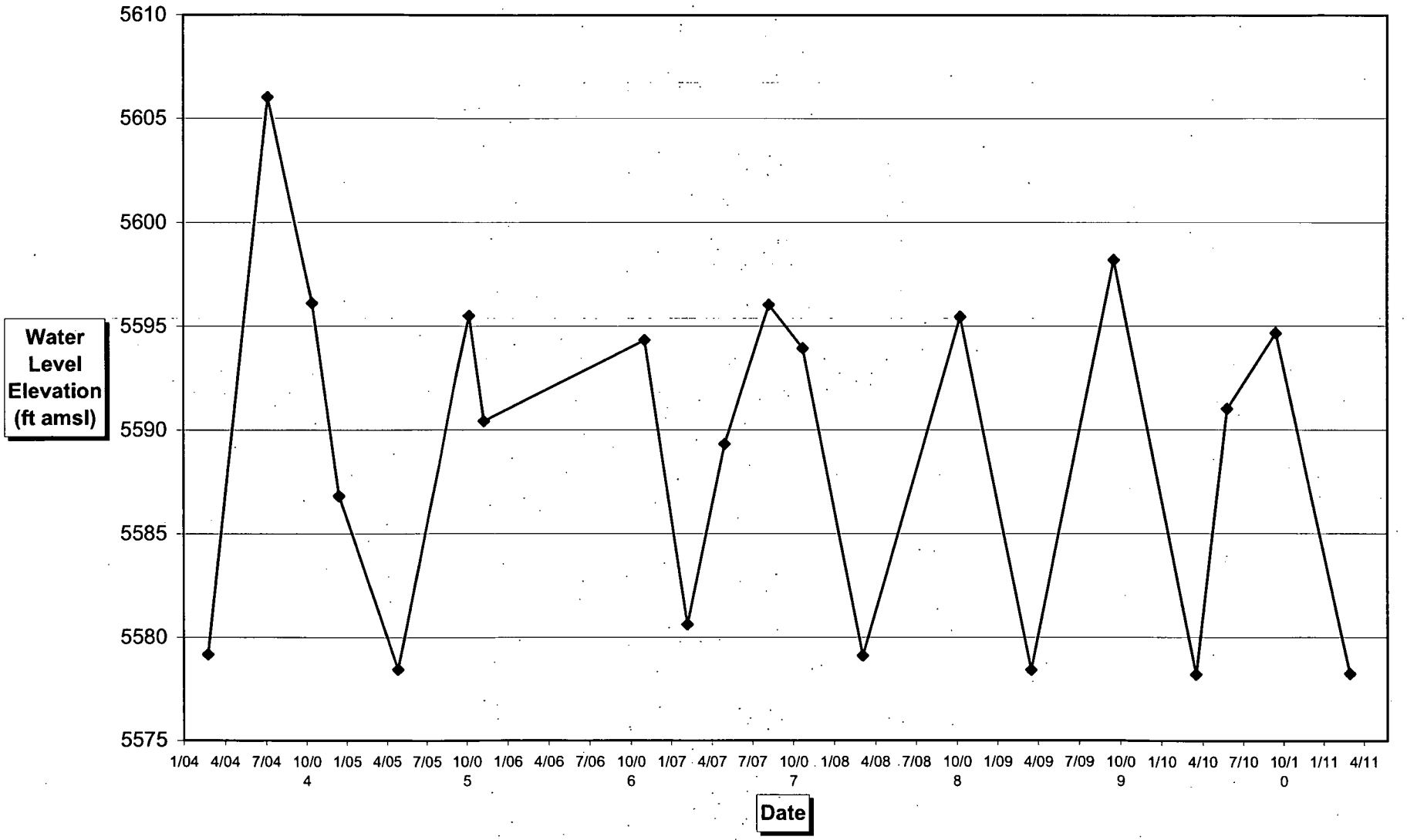

FIGURE 5:
GROUNDWATER ELEVATION MAP MARCH 2011
CONOCOPHILLIPS COMPANY
Nell Hall No. 1 (Sept. 27, 2010)
Unit M, Sec 07, T30N, R11W
API # - 30-045-09619
San Juan County, New Mexico

LEGEND

- Monitoring Well Locations
- Sparge Point Locations
- Fence
- Previous Equipment Placement
- Approximate Excavation Location
- Groundwater Elevation Contour (dashed where inferred)

NOTE: SP-1 Removed.

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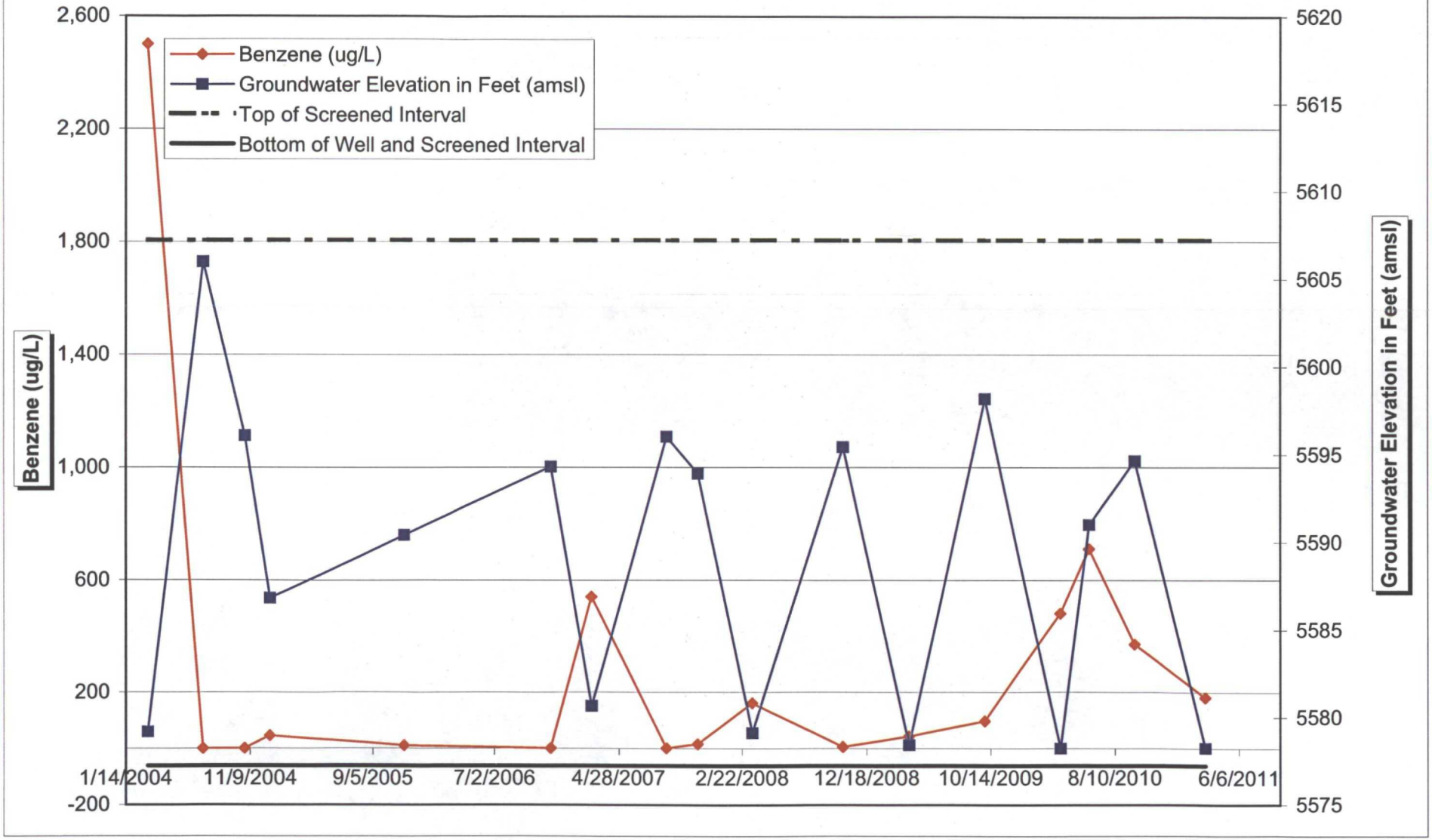
Figure 6. Inverse Relationship Between Benzene and Groundwater Elevation in MW-6
ConocoPhillips Company Nell Hall No.1



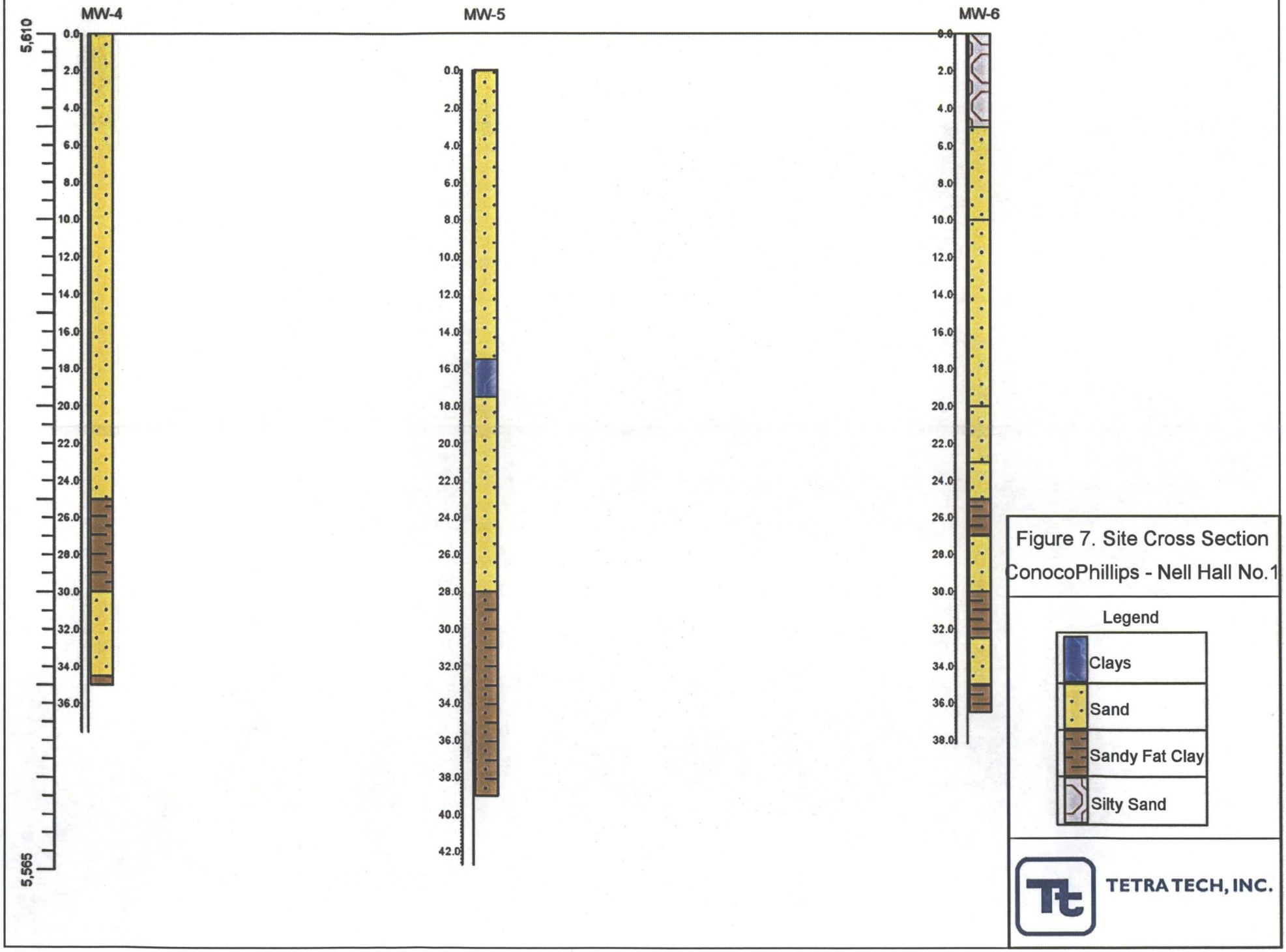


Figure 7. Site Cross Section
ConocoPhillips - Nell Hall No.1

TABLES

Table 1. Site History Timeline - ConocoPhillips Company Nell Hall No. 1

Date/Time Period	Event/Action	Description/Comments
February 20, 1961	Well Spudded	Southwest Production Company spudded the Nell Hall No. 1 natural gas production well.
September 1, 1963	Operator Change	Beta Development Company acquired the Nell Hall No. 1 site from Southwest Production Company.
September 15, 1988	Operator Change	Mesa Operating Limited Partnership acquired the Nell Hall No. 1 site from Beta Development Company.
July 1, 1991	Operator Change	Conoco Inc. acquired the Nell Hall No. 1 from Mesa Operating Limited Partnership.
May 3, 1994	Pit Remediation	Conoco stopped flow to the dehydrator, sampled the soil in the unlined dehydrator pit and encountered hydrocarbon-impacted soil.
August 31 through September 1, 1994	Pit Remediation	Conoco removed the dehydrator and Flint Engineering & Construction Co. excavated soil in the vicinity of the former dehydrator pit to a depth of 16 feet. A soil sample at the bottom of the excavation revealed TPH of 380 ppm.
September 21 through October 7, 1994	Pit Remediation	Flint Engineering & Construction Co. landfarmed the excavated soil on site.
June 1 and 2, 1995	Soil Borings and Groundwater Sampling	Phillip Environmental Services Corp. completed initial subsurface assesment (3 temporary monitor wells and 3 additional borings).
June 15, 1995	Soil Borings and Groundwater Sampling	Phillip Environmental Services Corp. completed an additional soil boring.
March 27, 1997	Monitor Well Sampling	On Site Technologies, LTD found insufficient water in the 3 monitor wells for sampling.
June 19, 2002	Groundwater sampling	Souder Miller and Associates (SMA) conducted groundwater sampling at the Site. Samples were collected from MW-1, and sparge points SP-6, SP-7 and SP-8. The only constituent over the NMWQCC standard was benzene in SP-7 at a concentration of 18 µg/L.
September 17, 2002	Groundwater sampling	SMA conducted groundwater sampling at the Site. Samples were collected from MW-1, and sparge points SP-6, SP-7 and SP-8. The only constituent over the NMWQCC standard was benzene in SP-7 at a concentration of 21 µg/L.
January 1, 2003	Operator Name Change	Conoco Inc. and Phillips Petroleum Company merged to form ConocoPhillips Company.
February 17 and 18, 2004	Monitor Well Installation	Monitor Wells MW-4, MW-5, and MW-6 were installed at deeper depths (35 to 39 feet BGS) to adequately intersect the water table, since previously installed groundwater monitoring wells continually went dry. The lowest water levels at the site are found to occur in early spring and late winter. 30 to 35 feet of screen was installed in each well to allow for seasonal groundwater fluctuations of up to 25 feet.
March 8 through December 27, 2004	Monitor Well Sampling	Quarterly groundwater sampling of Monitor Wells MW-4, MW-5, and MW-6; benzene spike in March (MW-6) coincides with MW-6 well installation and discovery of BTEX and TPH impacts to soil at 25-35 feet bgs in MW-6 soil samples collected during drilling.
May 11 through November 22, 2005	Monitor Well Sampling	Semi-annual sampling of monitor wells MW-4, MW-5, and MW-6.

Table 1. Site History Timeline - ConocoPhillips Company Nell Hall No. 1

Date/Time Period	Event/Action	Description/Comments
November 15, 2006	Monitor Well Sampling	Annual sampling of monitor wells MW-4, MW-5, and MW-6.
February 21, 2007 through October 22, 2008	Monitor Well Sampling	Resumption of semi-annual sampling of Monitor Wells MW-4, MW-5, and MW-6 during summer and fall months when water is most likely to be present in wells.
February 6, 2009	BTEX vs. depth to water plotted for MW-6	BTEX concentrations show inverse relationship to water column thickness in MW-6; plotted from 2/21/07 to 10/22/08.
March 30, 2009	Monitor Well sampling	Monitor Wells MW-5 and MW-6 were sampled. MW-4 was found to be dry during the sampling event. Benzene was reported at a concentration above the groundwater quality standard in MW-6 with a concentration of 42 µg/L.
September 30, 2009	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. MW-6 benzene concentration of 96 µg/L; dissolved iron concentration of 1.06 milligrams per liter (mg/L).
March 31 and April 1, 2010	Monitor Well Sampling	Groundwater samples collected from MW-5 and MW-6; MW-4 was dry. MW-6 benzene concentration of 480 µg/L; a sample for dissolved iron was not obtained due to low water levels in MW-6.
June 9, 2010	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6 as a continuation of semi-annual sampling event. MW-6 benzene concentration of 710 µg/L; dissolved iron concentration of 11.4 milligrams per liter (mg/L).
September 27, 2010	Monitor Well Sampling	Groundwater samples collected from MW-4, MW-5 and MW-6. MW-6 benzene concentration of 300 µg/L; dissolved iron concentration of 0.676 milligrams per liter (mg/L).
March 16, 2011	Monitor Well Sampling	Groundwater samples collected from MW-5 and MW-6. MW-4 was observed to be dry during this monitoring event. MW-6 benzene concentration of 180 µg/L; dissolved iron concentration of 8.66 milligrams per liter (mg/L) but contained a very low volume of water and is likely not representative of actual aquifer conditions.

Table 2. Groundwater Elevation Summary (March 2004 - March 2011) - ConocoPhillips Company Nell Hall No. 1

Well ID	Date Installed	Total Depth (ft. below TOC)	Screen Interval (ft below TOC)	Elevation (ft. msl) (TOC)	Date Measured	Groundwater Level (ft below TOC)	Groundwater Elevation (ft amsl)
MW-1	Unknown	28.55	Unknown	5615.72	5/10/2005	Dry	NC
					10/20/2005	19.25	5596.47
					11/22/2005	24.15	5591.57
					5/17/2006	NM	NC
					11/15/2006	21.40	5594.32
					2/19/2007	Dry	NC
					5/14/2007	24.85	5590.87
					8/22/2007	24.61	5591.11
					11/6/2007	20.87	5594.85
					3/17/2008	Dry	NC
					10/22/2008	19.38	5596.34
					3/30/2009	28.25	5587.47
					9/30/2009	16.56	5599.16
					3/31/2010	Dry	NC
					6/9/2010	24.16	5591.56
				97.95*	9/27/2010	20.00	77.95
					3/16/2011	Dry	NC
MW-2	Unknown	27.32	Unknown	5614.94	5/10/2005	Dry	NC
					10/20/2005	18.81	5596.13
					11/22/2005	23.74	5591.20
					5/17/2006	22.06	5592.88
					11/15/2006	21.01	5593.93
					2/19/2007	Dry	NC
					5/14/2007	Dry	NC
					8/22/2007	18.03	5596.91
					11/6/2007	20.43	5594.51
					3/17/2008	Dry	NC
					10/22/2008	18.83	5596.11
					3/30/2009	27.15	5587.79
					9/30/2009	16.01	5598.93
					3/31/2010	Dry	NC
					6/9/2010	23.36	5591.58
				97.16*	9/27/2010	19.42	77.74
					3/16/2011	Dry	NC
MW-3	Unknown	27.45	Unknown	5615.53	5/10/2005	Dry	NC
					10/20/2005	19.36	5596.17
					11/22/2005	24.24	5591.29
					5/17/2006	22.82	5592.71
					11/15/2006	21.53	5594.00
					2/19/2007	Dry	NC
					5/14/2007	Dry	NC
					8/22/2007	18.36	5597.17
					11/6/2007	20.95	5594.58
					3/17/2008	Dry	NC
					10/22/2008	19.34	5596.19
					3/30/2009	Dry	NC
					9/30/2009	NM	NC
					3/31/2010	Dry	NC
					6/9/2010	23.87	5591.66
				97.77*	9/27/2010	19.93	77.84
					3/16/2011	Dry	NC

Table 2. Groundwater Elevation Summary (March 2004 - March 2011) - ConocoPhillips Company Nell Hall No. 1

Well ID	Date Installed	Total Depth (ft. below TOC)	Screen Interval (ft below TOC)	Elevation (ft. msl) (TOC)	Date Measured	Groundwater Level (ft below TOC)	Groundwater Elevation (ft amsl)
MW-4	2/18/2004	37.57	7.57 - 37.57	5614.87	3/8/2004	36.04	5578.83
					7/19/2004	8.44	5606.43
					10/27/2004	19.69	5595.18
					12/27/2004	27.58	5587.29
					5/10/2005	Dry	NC
					10/20/2005	18.87	5596.00
					11/22/2005	23.93	5590.94
					5/17/2006	NM	NC
					11/15/2006	21.02	5593.85
					2/19/2007	34.40	5580.47
					5/14/2007	27.56	5587.31
					8/22/2007	18.18	5596.69
					11/6/2007	20.48	5594.39
					3/17/2008	36.08	5578.79
					10/22/2008	18.96	5595.91
					3/30/2009	37.36	5577.51
					9/30/2009	16.15	5598.72
					3/31/2010	Dry	NC
					6/9/2010	23.61	5591.26
				97.75*	9/27/2010	19.61	78.14
					3/16/2011	Dry	NC
MW-5	2/17/2004	42.7	7.7 - 42.7	5615.86	3/8/2004	37.19	5578.67
					7/19/2004	9.38	5606.48
					10/27/2004	21.07	5594.79
					12/27/2004	28.99	5586.87
					5/10/2005	39.79	5576.07
					10/20/2005	20.34	5595.52
					11/22/2005	25.23	5590.63
					5/17/2006	23.80	5592.06
					11/15/2006	22.51	5593.35
					2/19/2007	35.31	5580.55
					5/14/2007	27.59	5588.27
					8/22/2007	19.45	5596.41
					11/6/2007	21.94	5593.92
					3/17/2008	37.33	5578.53
					10/22/2008	19.3	5596.56
					3/30/2009	38.68	5577.18
					9/30/2009	17.54	5598.32
					3/31/2010	39.05	5576.81
					6/9/2010	24.91	5590.95
				98.81*	9/27/2010	20.92	77.89
					3/16/2011	39.25	59.56

Table 2. Groundwater Elevation Summary (March 2004 - March 2011) - ConocoPhillips Company Nell Hall No. 1

Well ID	Date Installed	Total Depth (ft. below TOC)	Screen Interval (ft below TOC)	Elevation (ft. msl) (TOC)	Date Measured	Groundwater Level (ft below TOC)	Groundwater Elevation (ft amsl)
MW-6	2/18/2004	38.21	8.21 - 38.21	5615.44	3/8/2004	36.27	5579.17
					7/19/2004	9.43	5606.01
					10/27/2004	19.33	5596.11
					12/27/2004	28.62	5586.82
					5/10/2005	Dry	NC
					10/20/2005	19.94	5595.50
					11/22/2005	25.02	5590.42
					5/17/2006	NM	NC
					11/15/2006	21.12	5594.32
					2/19/2007	34.82	5580.62
					5/14/2007	26.12	5589.32
					8/22/2007	19.41	5596.03
					11/6/2007	21.51	5593.93
					3/17/2008	36.34	5579.10
					10/22/2008	19.99	5595.45
					3/30/2009	37.04	5578.40
					9/30/2009	17.26	5598.18
					3/31/2010	37.24	5578.20
					6/9/2010	24.43	5591.01
				98.41*	9/27/2010	20.79	77.62
					3/16/2011	37.21 (Dry)	NC

Explanation

amsl = Above mean sea level
bgs = Below ground surface
ft = Feet
NC = Not calculated
NM = Not measured
TOC = Top of casing
* = Top of casing elevation based on an arbitrary reference elevation of 100 feet

Table 3. Groundwater Analytical Results Summary (March 2004 - March 2011)
ConocoPhillips Company Nell Hall No. 1

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Phosphate (mg/L)	Dissolved Iron (mg/L)
MW-4	3/8/2004	**13**	12	64	**1,400**	NA	NA	NA	NA	NA
	7/19/2004	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA
	10/27/2004	**11**	8	21	130	NA	NA	NA	NA	NA
	12/27/2004	<2.5	<2.5	<2.5	<0.5	NA	NA	NA	NA	NA
	5/11/2005	Dry								
	11/22/2005	<0.5	<0.7	<0.8	<0.8	<0.40	105	2.7	<0.25	NA
	11/15/2006	<0.5	<0.7	<0.8	<0.8	<0.25	110	0.083	<0.25	NA
	2/21/2007	<0.5	<0.7	<0.8	<0.8	<0.25	59.6	1.6	0.28	NA
	8/22/2007	<0.5	<0.7	<0.8	<0.8	<0.25	96.5	0.04	<0.25	NA
	11/6/2007	<0.5	<0.7	<0.8	<0.8	3.3	111	<0.008	0.17	NA
	3/17/2008	<5	<5	<5	<5	<0.5	64.5	0.187	0.9	NA
	10/22/2008	<5	<5	<5	<5	1.9	93.8	<0.1	0.18	NA
	3/30/2009	Dry								
	9/30/2009	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	3/31/2010	Dry								
	6/9/2010	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	9/27/2010	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	3/16/2011	Dry								
MW-5	3/8/2004	1.1	<0.5	1	17	NA	NA	NA	NA	NA
	7/19/2004	<0.5	0.55	<0.5	0.72	NA	NA	NA	NA	NA
	10/27/2004	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
	12/27/2004	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA
	5/11/2005	<0.5	<0.7	<0.8	<0.8	2.3	139	<0.0080	1.2	NA
	11/22/2005	<0.5	<0.7	<0.8	<0.8	<0.40	38	<0.0080	0.43	NA
	11/15/2006	<0.5	<0.7	<0.8	<0.8	2.3	77.9	<0.0080	<0.25	NA
	2/21/2007	<0.5	<0.7	<0.8	<0.8	1.3	83.3	<0.0080	0.28	NA
	8/22/2007	<0.5	<0.7	<0.8	<0.8	5.6	125	<0.0080	<0.25	NA
	11/6/2007	<0.5	<0.7	<0.8	<0.8	4	59	<0.0080	<0.25	NA
	3/17/2008	<5	<5	<5	<5	0.986	69.7	0.876	1.4	NA
	10/22/2008	<5	<5	<5	<5	0.532	105	<.1	<.15	NA
	3/30/2009	<5	<5	<5	<5	NA	NA	0.822	NA	NA
	9/30/2009	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	3/31/2010	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	6/9/2010	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	9/27/2010	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
	3/16/2011	<1	<1	<1	<1	NA	NA	NA	NA	<0.02
MW-6	3/8/2004	**2,500**	14	**1,600**	**21,031**	NA	NA	NA	NA	NA
	7/19/2004	<0.5	<0.5	0.98	2.6	NA	NA	NA	NA	NA
	10/27/2004	0.4	0.3	0.5	2.1	NA	NA	NA	NA	NA
	12/27/2004	**45**	6.8	14	71.7	NA	NA	NA	NA	NA
	5/11/2005	Dry								
	11/22/2005	10	0.7	16	150	<0.40	3.4	7.7	2.8	NA
	11/15/2006	<0.5	<0.7	<0.8	<0.8	<0.25	41.3	0.19	<0.25	NA
	2/21/2007	**540**	<1	76	**810**	<0.25	1.8	6.4	9.0	NA
	8/22/2007	<0.5	<0.7	<0.8	<0.8	<0.25	12.6	0.95	<0.25	NA
	11/6/2007	**15**	<0.7	47	390	<0.25	5.6	3.6	0.1	NA
	3/18/2008	**160**	<5	<5	33	NA	NA	8.88	NA	NA
	10/22/2008	<5	<5	<5	<5	<1.0	5.15	38.7	0.9	NA
	3/30/2009	**42**	<5	<5	10	NA	NA	31.8	NA	NA
	9/30/2009	**96**	4.7	62	120	NA	NA	NA	NA	**1.06**
	4/1/2010	**480**	<1.0	78	200	NA	NA	NA	NA	NA
	6/9/2010	**710**	<1.0	420	520	NA	NA	NA	NA	**11.4**
	9/27/2010	**300**	<1.0	250	410	NA	NA	NA	NA	0.676
	3/16/2011	**180**	<1.0	44	72	NA	NA	NA	NA	**8.66**
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**	**10 (mg/L)**	**600 (mg/L)**	**NE**	**NE**	**1 (mg/L)**

Explanation

mg/L = milligrams per liter (parts per million)
NA = Not Analyzed
NE = Not Established
NMWQCC = New Mexico Water Quality Control Commission
µg/L = micrograms per liter (parts per billion)

APPENDIX A

MARCH 2011 GROUNDWATER SAMPLING FIELD FORMS

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Nell Hall No. 1 Page 1 of 3

Project No.

Site Location Flora Vista, NM

Site/Well No. MW-4 Coded/ Replicate No. Date 3.16.11

Weather Sunny, warm 65° Time Sampling Began Time Sampling Completed —

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface — MP Elevation 97.75

Total Sounded Depth of Well Below MP ~~37.57~~ 37.75 Water-Level Elevation DRY

Held ____ Depth to Water Below MP 37.38 Diameter of Casing 2"

Wet ____ Water Column in Well 0.19 Gallons Pumped/Bailed Prior to Sampling —

Gallons per Foot 0.16

Gallons in Well 0.0304 Sampling Pump Intake Setting (feet below land surface) —

Purging Equipment Purge pump / Bailer X3=0.0912

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Fe	16 oz plastic	None

Remarks DRY - no sample collected

Sampling Personnel C. Mathews & C. Brown

Well Casing Volumes

Gal./ft.							
	1¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.66
	1½" = 0.10	2½" = 0.24	3"½ = 0.50	6" = 1.46

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Nell Hall No. 1 Page 2 of 3

Act No.

Site Location Flora Vista, NM

Site/Well No. MW-5 Coded/ Replicate No. Date 3.16.11

Weather Sunny, warm 65° Time Sampling Began 1155 Time Sampling Completed 1210

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface — MP Elevation 98.81

Total Sounded Depth of Well Below MP ~~42.7~~ 42.98 Water-Level Elevation 59.56

Held ____ Depth to Water Below MP 39.25 Diameter of Casing 2"

Wet ____ Water Column in Well 3.63 Gallons Pumped/Bailed Prior to Sampling 1.50

Gallons per Foot 0.16

Gallons in Well .5808 Sampling Pump Intake Setting (feet below land surface) ____

Purging Equipment Purge pump / Bailer X3 = 1.742

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1202	16.13	7.24	777	0.608	4.14	41.8	-46.8	.75
1204	15.97	7.18	768	0.603	3.33	33.8	-39.0	1.25
1206	15.90	7.15	765	0.602	3.53	35.8	-26.2	1.50

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Fe	16 oz plastic	None

Remarks H2O is light brown. no odor or sheen observed.

Sampling Personnel C. Mathews & A. Brown

Well Casing Volumes

Gal./ft.							
	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Neil Hall No. 1 Page 3 of 3

Project No.

Site Location Flora Vista, NM

Site/Well No. MW-6 Coded/ Replicate No. 1235 Date 3.16.11

Weather Sunny, warm 65 Time Sampling Began 1225 Time Sampling Completed 1230

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface —

MP Elevation 98.41

Total Sounded Depth of Well Below MP ~~38.21~~ 37.42

Water-Level Elevation DRY (water likely in silt trap @ bottom of well)

Held ____ Depth to Water Below MP 37.21

Diameter of Casing 2"

Wet ____ Water Column in Well .21

Gallons Pumped/Bailed Prior to Sampling 0.1

Gallons per Foot 0.16

Gallons in Well 0.0336

Sampling Pump Intake Setting (feet below land surface) —

Purging Equipment Purge pump (Bailer) X3 = 0.1003

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)

Sampling Equipment Purge Pump/(Bailer)

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Fe	16 oz plastic	None

Remarks H_2O is clear w/ black particulate. Bio odor observed, no sheen.

Sampling Personnel C. Mathews & C. Brown

Well Casing Volumes

Gal./ft.							
	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

APPENDIX B

MARCH 2011 LABORATORY ANALYTICAL REPORT

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Conoco Phillips

Certificate of Analysis Number:

11030465

Report To:		Project Name:	Nell Hall
Tetra Tech, Inc.		Site:	Flora Vista, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	3/28/2011
ph (505) 237-8440 fax: (505) 881-3283			

This Report Contains A Total Of 13 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

3/28/2011

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:
Conoco Phillips

Certificate of Analysis Number:
11030465

Report To:		Project Name:	Nell Hall
Tetra Tech, Inc.		Site:	Flora Vista, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	3/28/2011
ph (505) 237-8440 fax: (505) 881-3283			

I. SAMPLE RECEIPT:

All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II: ANALYSES AND EXCEPTIONS:

Per the Conoco Phillips TSM Revision 0, a copy of the internal chain of custody is to be included in final data package. However, due to LIMS limitations, this cannot be provided at this time.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by

3/28/2011

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

11030465

his designee, as verified by the following signature.

Erica Cardenas

3/28/2011

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Conoco Phillips

Certificate of Analysis Number:

11030465

Report To: Tetra Tech, Inc.
Kelly Blanchard
6121 Indian School Road, N.E.
Suite 200
Albuquerque
NM
87110-
ph (505) 237-8440 fax: (505) 881-3283

Fax To:

Project Name: Nell Hall
Site: Flora Vista, NM
Site Address:
PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 3/28/2011

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-5	11030465-01	Water	03/16/2011 12:10	3/18/2011 9:06:00 AM	302852	☐
MW-6	11030465-02	Water	03/16/2011 12:30	3/18/2011 9:06:00 AM	302852	☐
Duplicate	11030465-03	Water	03/16/2011 12:35	3/18/2011 9:06:00 AM	302852	☐
Trip Blank	11030465-04	Water	03/16/2011 15:00	3/18/2011 9:06:00 AM	302852	☐

Erica Cardenas
Project Manager

3/28/2011
Date

Kesavalu M. Bagawandoss Ph.D., J.D.
Laboratory Director

Ted Yen
Quality Assurance Officer

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID MW-5 **Collected:** 03/16/2011 12:10 **SPL Sample ID:** 11030465-01

Site: Flora Vista, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED			**MCL**	**SW6010B**	**Units: mg/L**		
Iron	ND		0.02	1	03/25/11 20:04	EG	5752227

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	03/18/2011 10:15	M_W	1.00

VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1	1	03/18/11 14:39	JC	5747516
Ethylbenzene	ND		1	1	03/18/11 14:39	JC	5747516
Toluene	ND		1	1	03/18/11 14:39	JC	5747516
m,p-Xylene	ND		2	1	03/18/11 14:39	JC	5747516
o-Xylene	ND		1	1	03/18/11 14:39	JC	5747516
Xylenes,Total	ND		1	1	03/18/11 14:39	JC	5747516
Surr: 1,2-Dichloroethane-d4	83.1	%	70-130	1	03/18/11 14:39	JC	5747516
Surr: 4-Bromofluorobenzene	88.6	%	74-125	1	03/18/11 14:39	JC	5747516
Surr: Toluene-d8	97.6	%	82-118	1	03/18/11 14:39	JC	5747516

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID MW-6 **Collected:** 03/16/2011 12:30 **SPL Sample ID:** 11030465-02

Site: Flora Vista, NM

Analyses/Method	Result	QUAL	Rep.Limit		Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED				MCL	SW6010B	Units: mg/L		
Iron	8.66		0.02		1	03/25/11 20:10	EG	5752228

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	03/18/2011 10:15	M_W	1.00

VOLATILE ORGANICS BY METHOD 8260B				MCL	SW8260B	Units: ug/L		
Benzene	180		5	5	03/18/11 19:29	JC	5747526
Ethylbenzene	44		1	1	03/18/11 15:08	JC	5747517
Toluene	ND		1	1	03/18/11 15:08	JC	5747517
m,p-Xylene	72		2	1	03/18/11 15:08	JC	5747517
o-Xylene	ND		1	1	03/18/11 15:08	JC	5747517
Xylenes,Total	72		1	1	03/18/11 15:08	JC	5747517
Surr: 1,2-Dichloroethane-d4	73.1	%	70-130	5	03/18/11 19:29	JC	5747526
Surr: 1,2-Dichloroethane-d4	70.5	%	70-130	1	03/18/11 15:08	JC	5747517
Surr: 4-Bromofluorobenzene	91.7	%	74-125	5	03/18/11 19:29	JC	5747526
Surr: 4-Bromofluorobenzene	102	%	74-125	1	03/18/11 15:08	JC	5747517
Surr: Toluene-d8	95.8	%	82-118	5	03/18/11 19:29	JC	5747526
Surr: Toluene-d8	98.8	%	82-118	1	03/18/11 15:08	JC	5747517

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID Duplicate | **Collected:** 03/16/2011 12:35 | **SPL Sample ID:** 11030465-03

Site: Flora Vista, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	190		1	1	03/18/11 15:37	JC	5747518
Ethylbenzene	43		1	1	03/18/11 15:37	JC	5747518
Toluene	ND		1	1	03/18/11 15:37	JC	5747518
m,p-Xylene	70		2	1	03/18/11 15:37	JC	5747518
o-Xylene	ND		1	1	03/18/11 15:37	JC	5747518
Xylenes,Total	70		1	1	03/18/11 15:37	JC	5747518
Surr: 1,2-Dichloroethane-d4	70.0		% 70-130	1	03/18/11 15:37	JC	5747518
Surr: 4-Bromofluorobenzene	95.8		% 74-125	1	03/18/11 15:37	JC	5747518
Surr: Toluene-d8	94.2		% 82-118	1	03/18/11 15:37	JC	5747518

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID Trip Blank **Collected:** 03/16/2011 15:00 **SPL Sample ID:** 11030465-04

Site: Flora Vista, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1	1	03/18/11 16:06	JC	5747519
Ethylbenzene	ND		1	1	03/18/11 16:06	JC	5747519
Toluene	ND		1	1	03/18/11 16:06	JC	5747519
m,p-Xylene	ND		2	1	03/18/11 16:06	JC	5747519
o-Xylene	ND		1	1	03/18/11 16:06	JC	5747519
Xylenes,Total	ND		1	1	03/18/11 16:06	JC	5747519
Surr: 1,2-Dichloroethane-d4	77.5		% 70-130	1	03/18/11 16:06	JC	5747519
Surr: 4-Bromofluorobenzene	90.3		% 74-125	1	03/18/11 16:06	JC	5747519
Surr: Toluene-d8	87.8		% 82-118	1	03/18/11 16:06	JC	5747519

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

Nell Hall

Analysis: Metals by Method 6010B, Dissolved
Method: SW6010B

WorkOrder: 11030465
Lab Batch ID: 105539

Method Blank

RunID: ICP2_110325A-5752201 Units: mg/L
Analysis Date: 03/25/2011 17:25 Analyst: EG
Preparation Date: 03/18/2011 10:15 Prep By: M_ Method SW3005A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030465-01A	MW-5
11030465-02A	MW-6

Analyte	Result	Rep Limit
Iron	ND	0.02

Laboratory Control Sample (LCS)

RunID: ICP2_110325A-5752202 Units: mg/L
Analysis Date: 03/25/2011 17:31 Analyst: EG
Preparation Date: 03/18/2011 10:15 Prep By: M_ Method SW3005A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Iron	1.000	1.036	103.6	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 11030446-02
RunID: ICP2_110325A-5752204 Units: mg/L
Analysis Date: 03/25/2011 17:43 Analyst: EG
Preparation Date: 03/18/2011 10:15 Prep By: M_ Method SW3005A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Iron	109.1	1	112.6	N/C	1	109.6	N/C	N/C	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

3/28/2011 3:57:48 PM

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

Nell Hall

Analysis: Volatile Organics by Method 8260B
Method: SW8260B

WorkOrder: 11030465
Lab Batch ID: R317287

Method Blank

RunID: Q_110318B-5747512 Units: ug/L
Analysis Date: 03/18/2011 9:48 Analyst: JC

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	2.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,2-Dichloroethane-d4	85.3	70-130
Surr: 4-Bromofluorobenzene	92.5	74-125
Surr: Toluene-d8	100.7	82-118

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030465-01B	MW-5
11030465-02B	MW-6
11030465-03B	Duplicate
11030465-04B	Trip Blank

Laboratory Control Sample (LCS)

RunID: Q_110318B-5747511 Units: ug/L
Analysis Date: 03/18/2011 9:20 Analyst: JC

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	17.2	85.8	74	123
Ethylbenzene	20.0	19.8	99.2	72	127
Toluene	20.0	20.0	100	74	126
m,p-Xylene	40.0	40.0	100	71	129
o-Xylene	20.0	19.8	99.2	74	130
Xylenes,Total	60.0	59.8	99.8	71	130
Surr: 1,2-Dichloroethane-d4	50.0	41.2	82.5	70	130
Surr: 4-Bromofluorobenzene	50.0	47	94.1	74	125
Surr: Toluene-d8	50.0	48.3	96.7	82	118

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

Nell Hall

Analysis: Volatile Organics by Method 8260B
Method: SW8260B

WorkOrder: 11030465
Lab Batch ID: R317287

Sample Spiked: 11030446-02
RunID: Q_110318B-5747514 Units: ug/L
Analysis Date: 03/18/2011 13:12 Analyst: JC

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	21.0	20	36.2	75.9	20	36.4	77.0	0.639	22	70	124
Ethylbenzene	ND	20	20.1	101	20	19.3	96.3	4.47	20	76	122
Toluene	ND	20	21.3	106	20	19.6	97.8	8.37	24	80	117
m,p-Xylene	ND	40	40.4	101	40	39.2	97.9	3.09	20	69	127
o-Xylene	ND	20	20.0	99.9	20	19.4	97.1	2.85	20	84	114
Xylenes,Total	ND	60	60.4	101	60	58.6	97.7	3.01	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	50	43.2	86.4	50	43.9	87.8	1.68	30	70	130
Surr: 4-Bromofluorobenzene	ND	50	46.6	93.2	50	46.9	93.9	0.705	30	74	125
Surr: Toluene-d8	ND	50	49.6	99.1	50	46.3	92.7	6.73	30	82	118

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Sample Receipt Checklist

And

Chain of Custody

ACCUTEST LABORATORIES

SPL ENVIRONMENTAL
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	11030465	Received By:	NB
Date and Time Received:	3/18/2011 9:06:00 AM	Carrier name:	Fedex-Standard Overnight
Temperature:	5.0/5.0°C	Chilled by:	Water Ice

1.	Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present ☐
2.	Custody seals intact on shippping container/cooler?	Yes	☑	No	☐	Not Present ☐
3.	Custody seals intact on sample bottles?	Yes	☐	No	☐	Not Present ☑
4.	Chain of custody present?	Yes	☑	No	☐	
5.	Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
6.	Chain of custody agrees with sample labels?	Yes	☑	No	☐	
7.	Samples in proper container/bottle?	Yes	☑	No	☐	
8.	Sample containers intact?	Yes	☑	No	☐	
9.	Sufficient sample volume for indicated test?	Yes	☑	No	☐	
10.	All samples received within holding time?	Yes	☑	No	☐	
11.	Container/Temp Blank temperature in compliance?	Yes	☑	No	☐	
12.	Water - VOA vials have zero headspace?	Yes	☑	No	☐	VOA Vials Not Present ☐
13.	Water - Preservation checked upon receipt (except VOA*)?	Yes	☐	No	☐	Not Applicable ☑

*VOA Preservation Checked After Sample Analysis

SPL Representative: | Contact Date & Time:

Client Name Contacted:

Non Conformance Issues:

Client Instructions:

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No.: 302852
1103046S
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Client Name: Tetra tech
Address: 6121 Indian School Rd NE Ste 200
City: Albuquerque State: NM Zip: 87110 MD
Phone/Fax: 505.237.8440
Client Contact: Kelly Blanchard Email: kelly.blanchard@tetratech.com
Project Name/No.: Nell Hall
Site Name:
Site Location: Flora Vista, NM
Invoice To: Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air SL=sludge E=encore X=other)	bottle (P=plastic A=amber glass G=glass V=vial X=other)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other)	pres. (1=HCl 2=HNO3 3=H2SO4 X=other)	Number of Containers	Requested Analysis: BTEX	Requested Analysis: dissolved Fe
MW-5	3.16.11	1210		X	W	P	16	Na	1		X
MW-5	3.16.11	1210		X	W	V	40	1	3	X	
MW-6	3.16.11	1230		X	W	P	16	Na	1		X
MW-6	3.16.11	1230		X	W	V	40	1	3	X	
duplicate	3.16.11	1235		X	W	V	40	1	3	X	
trip blank	3.16.11	2130			W	V	40	1	2	X	

SHORT HOLDS

Client/Consultant Remarks: Please filter & preserve metals @ lab
Laboratory remarks:
Intact? Y N
Ice? Y N
Temp:

Requested TAT
- 1 Business Day
- 2 Business Days
- 3 Business Days
- Contract
- Standard
- Other
- Rush TAT requires prior notice

Special Reporting Requirements Results: Fax Email PDF
Standard QC Level 3 QC Level 4 QC TX TRRP LA RECAP
Special Detection Limits (specify):
PM review (initial):

1. Relinquished by Sampler:	date 3.17.11	time 0730	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 3/18/11	time 0906	6. Received by Laboratory:

8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777