# 3R - 0090

# REPORTS

# 08/20/2008

3R0090

TETRA TECH, INC.

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



August 20, 2008

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

**RE: (1) ConocoPhillips Nell Hall #1 2008 Semi-Annual Report**
**Flora Vista, New Mexico**
**(2) ConocoPhillips Shephard & Kelsey #1 2008 Quarterly Report**
**Bloomfield, New Mexico**
**(3) ConocoPhillips Federal #15 2008 Quarterly Report**
**Farmington, New Mexico**

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced documents as compiled by Tetra Tech, Inc. for these Farmington area ConocoPhillips sites. We are currently working to incorporate the additional elements we discussed during our April 2, 2008 meeting at your office into the next set of reports.

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 (3)

# SEMI-ANNUAL GROUNDWATER MONITORING REPORT
# MARCH 2008 SAMPLING EVENT
# CONOCOPHILLIPS
# NELL HALL #1
# FLORA VISTA, NM
# OCD # 3R0090

ConocoPhillips

TETRA TECH, INC.

APRIL 2008

# SEMI-ANNUAL GROUNDWATER MONITORING REPORT MARCH 2008 SAMPLING EVENT

# CONOCOPHILLIPS NELL HALL #1 FLORA VISTA, NEW MEXICO

OCD # 3R0090

**Prepared for:**

ConocoPhillips

600 North Dairy Ashford
Houston, TX 77079

**Prepared by:**

TETRA TECH, INC.

6121 Indian School Rd. NE, Suite 200
Albuquerque, NM 87110
Tetra Tech Project No. 7690022.100

April 23, 2008

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# SEMI-ANNUAL GROUNDWATER MONITORING REPORT CONOCOPHILLIPS NELL HALL #1 FLORA VISTA, NEW MEXICO

## 1.0 INTRODUCTION

This report presents the results of the semi-annual groundwater monitoring event conducted by Tetra Tech, Inc. (Tetra Tech) on March 18, 2008, at the ConocoPhillips Nell Hall #1 site in Flora Vista, New Mexico.

The site is located northeast of Farmington, New Mexico on Flora Vista Road in Flora Vista, New Mexico approximately 2 miles west of Aztec, New Mexico. The site consists of a gas production well and associated equipment and installations. The location and general features of the Nell Hall #1 site are shown on Figures 1 and 2, respectively.

### 1.1 Site History

The history of the ConocoPhillips Nell Hall #1 site is outlined on Table 1 and discussed in more detail in the following paragraphs.

The environmental investigation at this site began with the attempted closure of an unlined dehydrator discharge pit in the early 1990's. Soil impacts were discovered during earthmoving activities and monitor wells MW-1, MW-2, and MW-3 were installed to determine if groundwater had been impacted. Due to an ongoing drought, the water table fell below the screened intervals of the wells, rendering them unusable. On February 17 and 18, 2004, Souder Miller and Associates installed three additional monitoring wells (MW-4, MW-5, and MW-6) at sufficient depths to intersect the water table. Monitor wells MW-4 and MW-6 were installed to 35 feet below ground surface (bgs) with a 30-foot screened interval and MW-5 was installed to 39 feet bgs with a 35-foot screened interval.

Following installation, monitor wells MW-4, MW-5, and MW-6 were sampled by Tetra Tech quarterly in 2004, semi-annually in 2005, annually in 2006, and then semiannually beginning in February 2007. The latest semi-annual sampling event was performed by Tetra Tech on March 18, 2008. Samples collected during these events were analyzed for the presence of benzene, toluene, ethylbenezene, and xylenes (BTEX), sulfate, nitrate, phosphate, and ferrous iron.

## 2.0 METHODOLOGY AND RESULTS

The following describes the groundwater monitoring methodology and results:

### 2.1 Groundwater Monitoring Methodology

Groundwater Elevation Measurements

During the March 18, 2008 sampling event, monitoring wells MW-1, MW-2, and MW-3 were checked for the presence of water and found to be dry. Groundwater elevation measurements were recorded in monitor wells MW-4, MW-5, and MW-6. Table 2 presents the monitor well specifications and groundwater

level data. Seasonal fluctuations in the groundwater levels and flow direction at the site are likely related to changes in irrigation rates and/or fluvial base-flow conditions. Hydrographs illustrating the groundwater level fluctuations since March 2004 in monitor wells MW-4, MW-5, and MW-6 are presented on Figures 3, 4, and 5, respectively. The data indicates that groundwater elevations are consistently lowest during the late-winter/early-spring months. A groundwater elevation contour map is presented on Figure 6 that indicates groundwater at the site flows along a shallow gradient to the east during this time period.

Groundwater Sampling

Monitor wells MW-4, MW-5, and MW-6 were sampled during this event as a continuation of semi-annual monitoring at the site. Three well volumes were purged from each monitoring well before sampling was performed. A 1.5-inch clear, poly-vinyl, disposable bailer was used to purge each well and to collect the groundwater sample. The purge water generated during the event was disposed of in the waste water tank located on site (Figure 2). The groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain-of-custody documentation to Southern Petroleum Laboratory located in Houston, Texas. The samples were analyzed for the presence of BTEX by Environmental Protection Agency (EPA) Method 8260B, sulfate and nitrate by EPA Method 300.0, phosphate by EPA Method 365.1, and ferrous iron by Standard Method 20, 3500-Fe B Modified.

## 2.2 Groundwater Sampling Analytical Results

The March 2008 analytical results indicate that samples collected from monitor wells MW-4 and MW-5 were below New Mexico Water Quality Control Commission (NMWQCC) standards for all constituents of concern (COCs). Samples collected from MW-6 contained concentrations of 160 micrograms per liter (µg/L) benzene and 8.88 milligrams per liter (mg/L) ferrous iron, which are above the NMWQCC standards of 10 µg/L and 1 mg/L, respectively. Due to a limited amount of water available in the well bore, no samples were collected for nitrate, sulfate, and phosphate analysis. Historical laboratory analytical data, including the March 2008 data, are summarized on Table 3. The field groundwater sampling forms are presented in Appendix A and the laboratory analytical report is presented in Appendix B.

# 3.0 CONCLUSIONS

Tetra Tech will continue semi-annual groundwater sampling at the Nell Hall #1 site. The next groundwater sampling event is scheduled for August 2008. Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetratech.com if you have any questions or require additional information.

# FIGURES

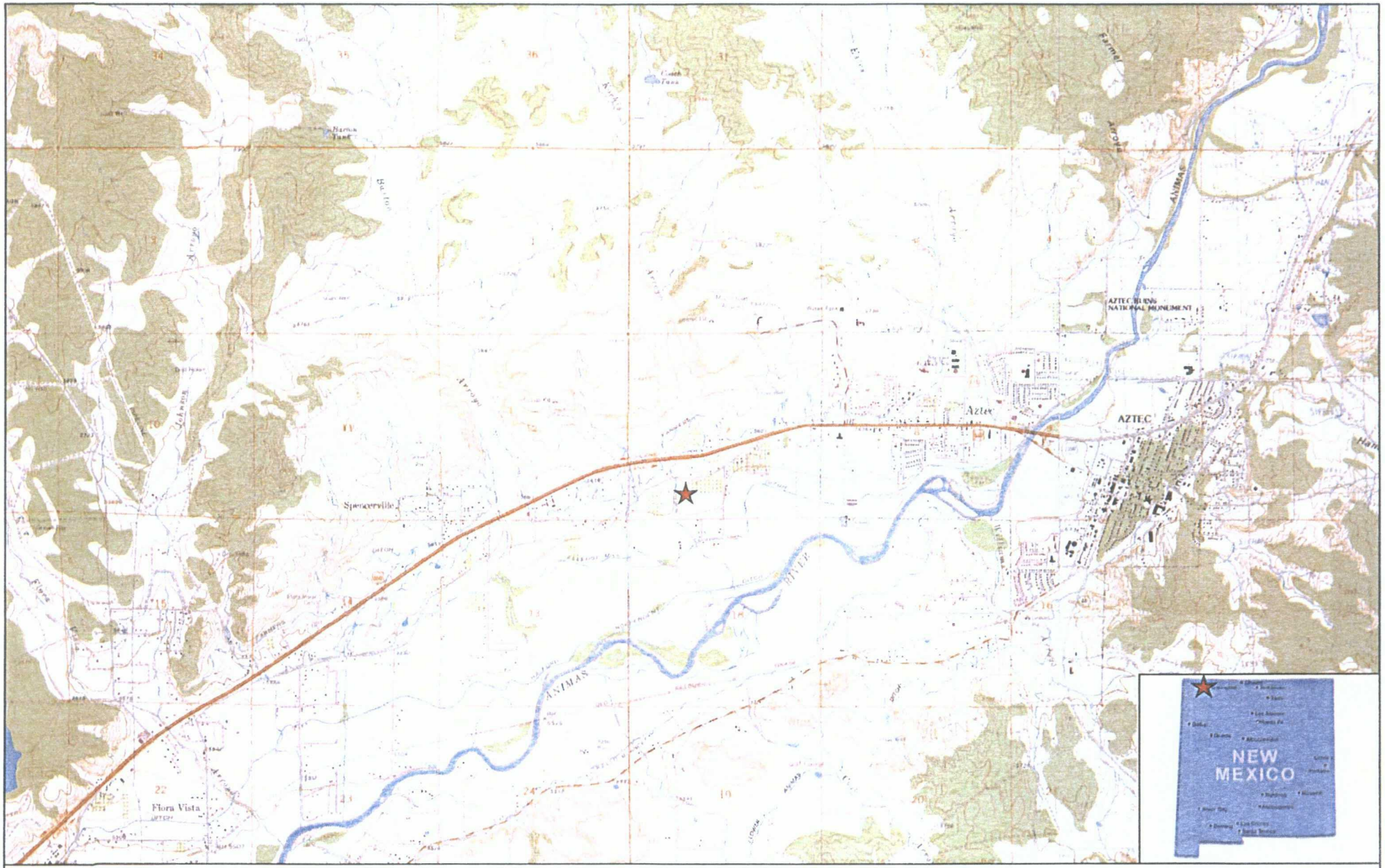
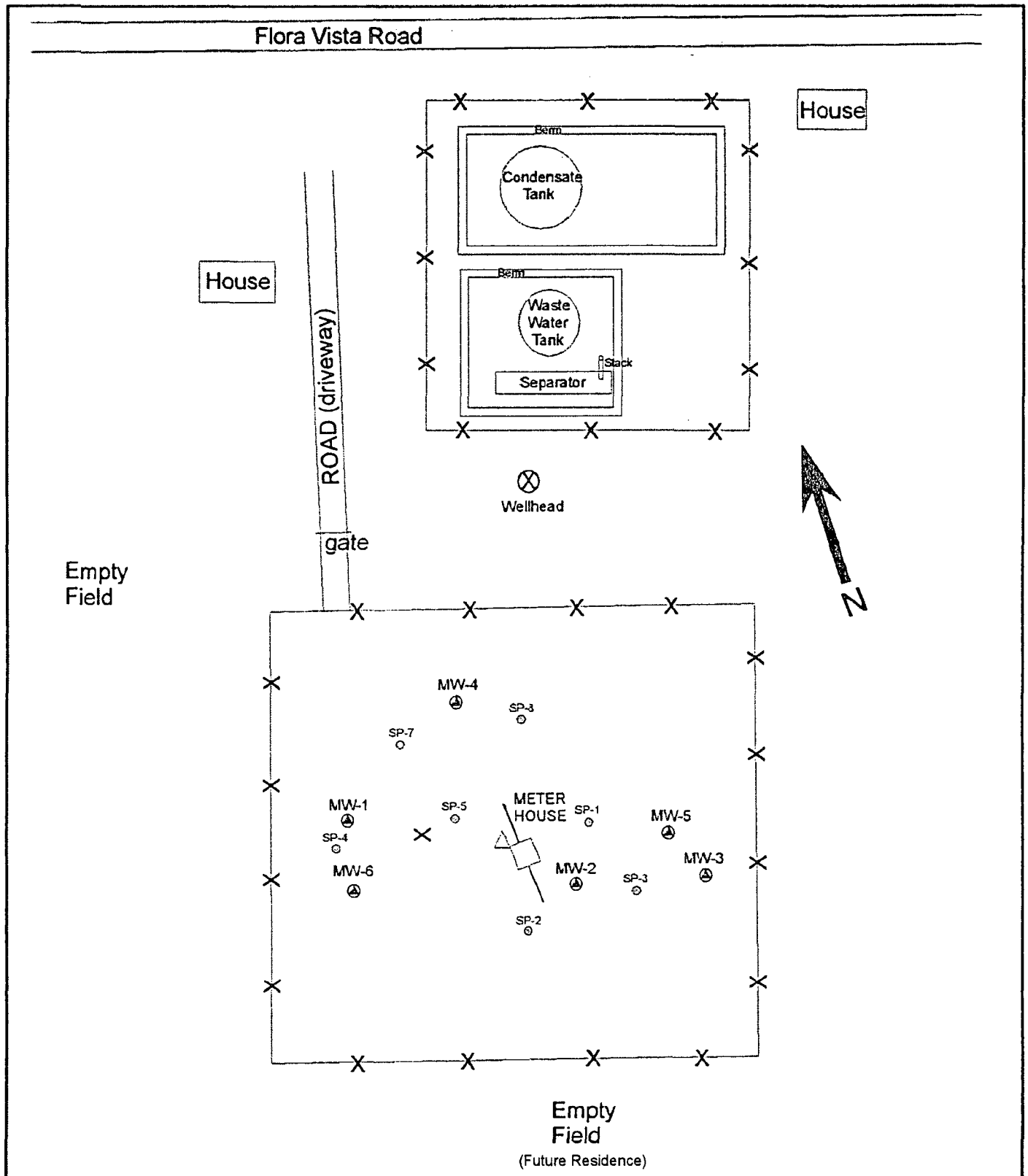



Figure 1. Site Location Map

ConocoPhillips
Nell Hall #1
Flora Vista, New Mexico

TETRA TECH, INC.

= Approximate Site Location




SCALE

0 20' 40' 80'

TETRA TECH, INC.

LEGEND

MW-2 - Monitoring Well Locations

SP-3 - Sparge Point Locations

△ - Survey Control Point

—X— - Fence

NOTE: SP-1 Removed.

Figure 2. Site Layout Map

ConocoPhillips Nell Hall #1

**Figure 3. MW-04 Hydrograph (March 2004 - March 2008) - ConocoPhillips Nell Hall #1**

**Figure 4. MW-05 Hydrograph (March 2004 - March 2008) - ConocoPhillips Nell Hall #1**

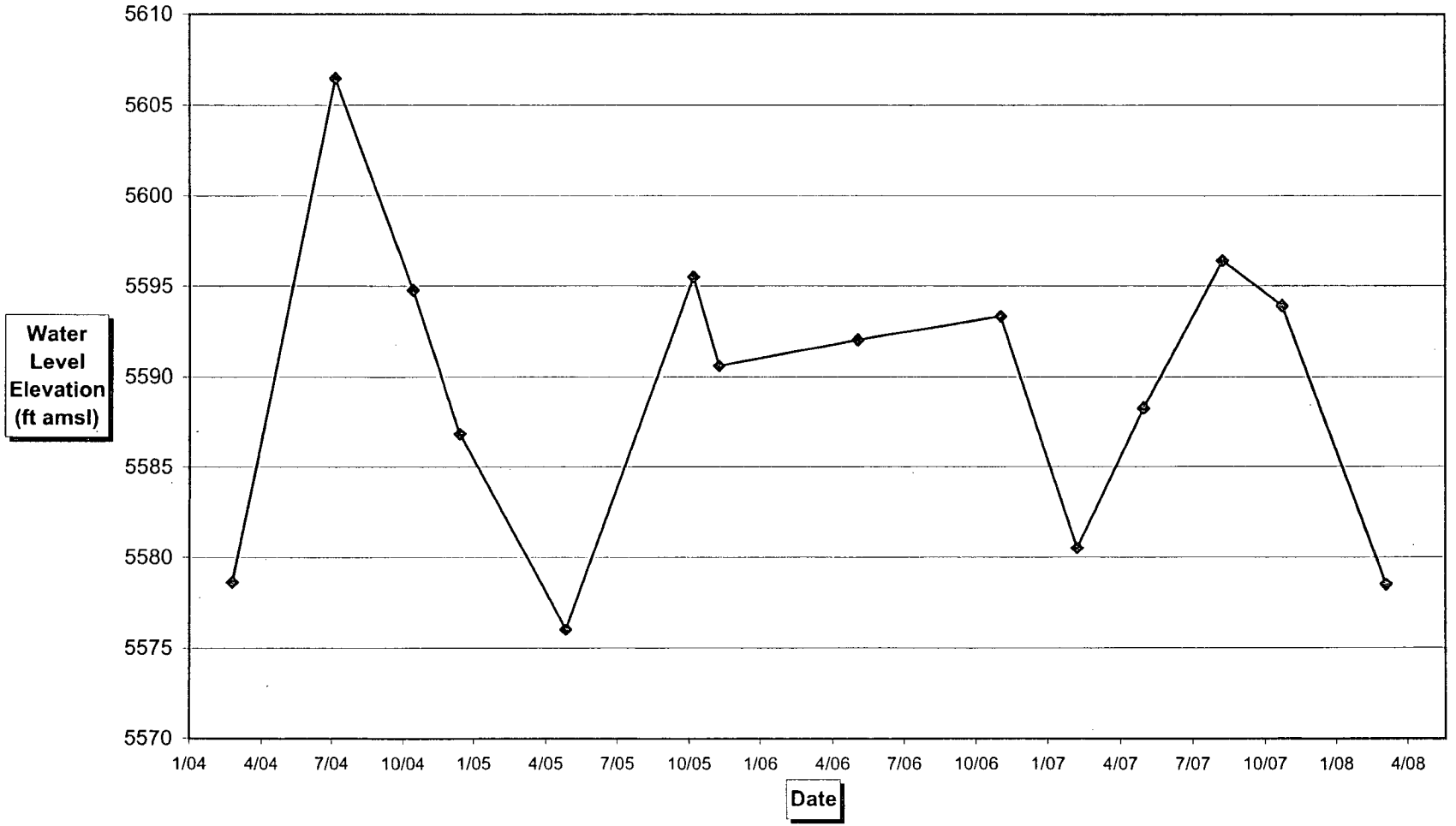
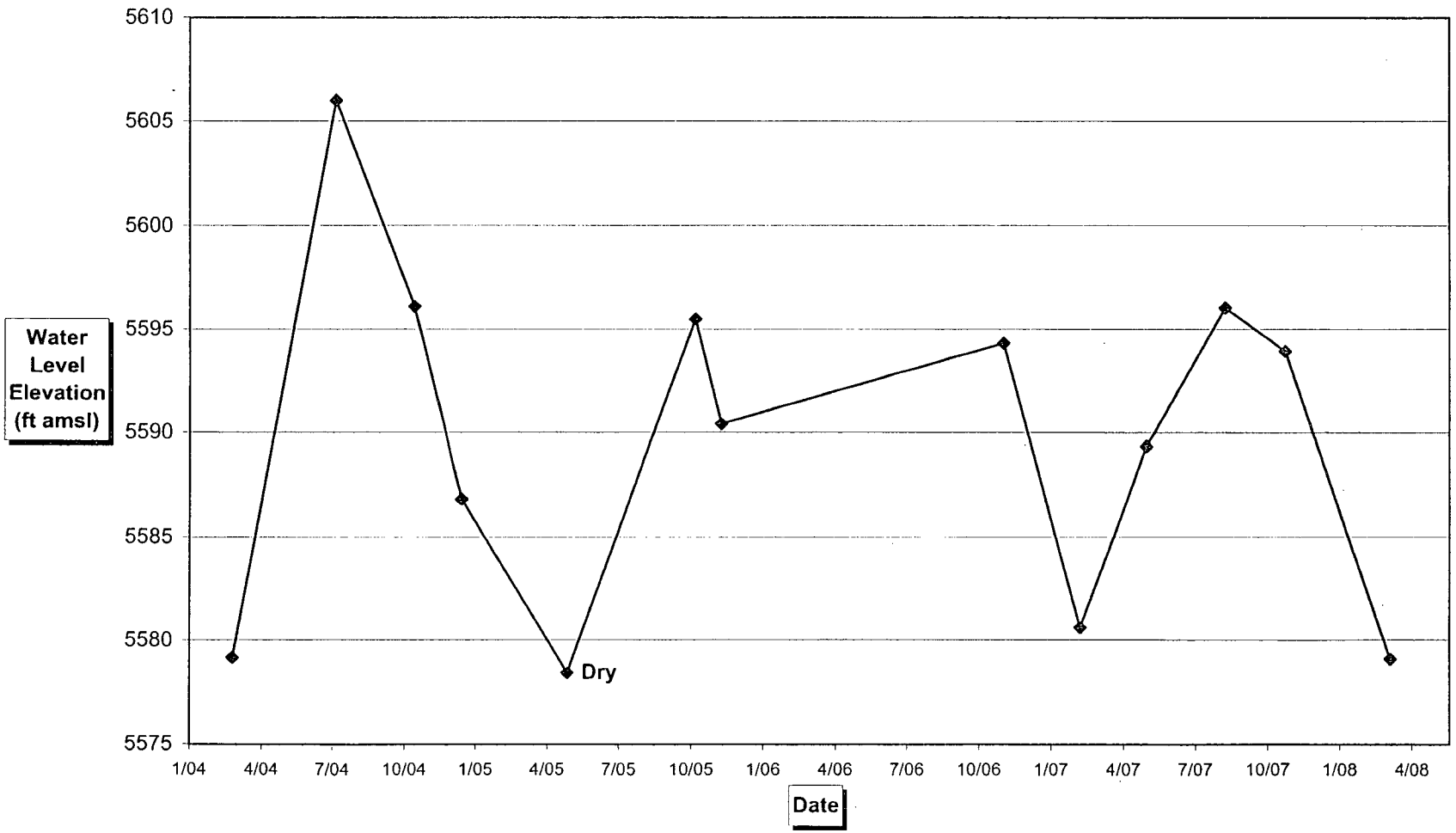


Figure 5. MW-06 Hydrograph (March 2004 - March 2008) - ConocoPhillips Nell Hall #1



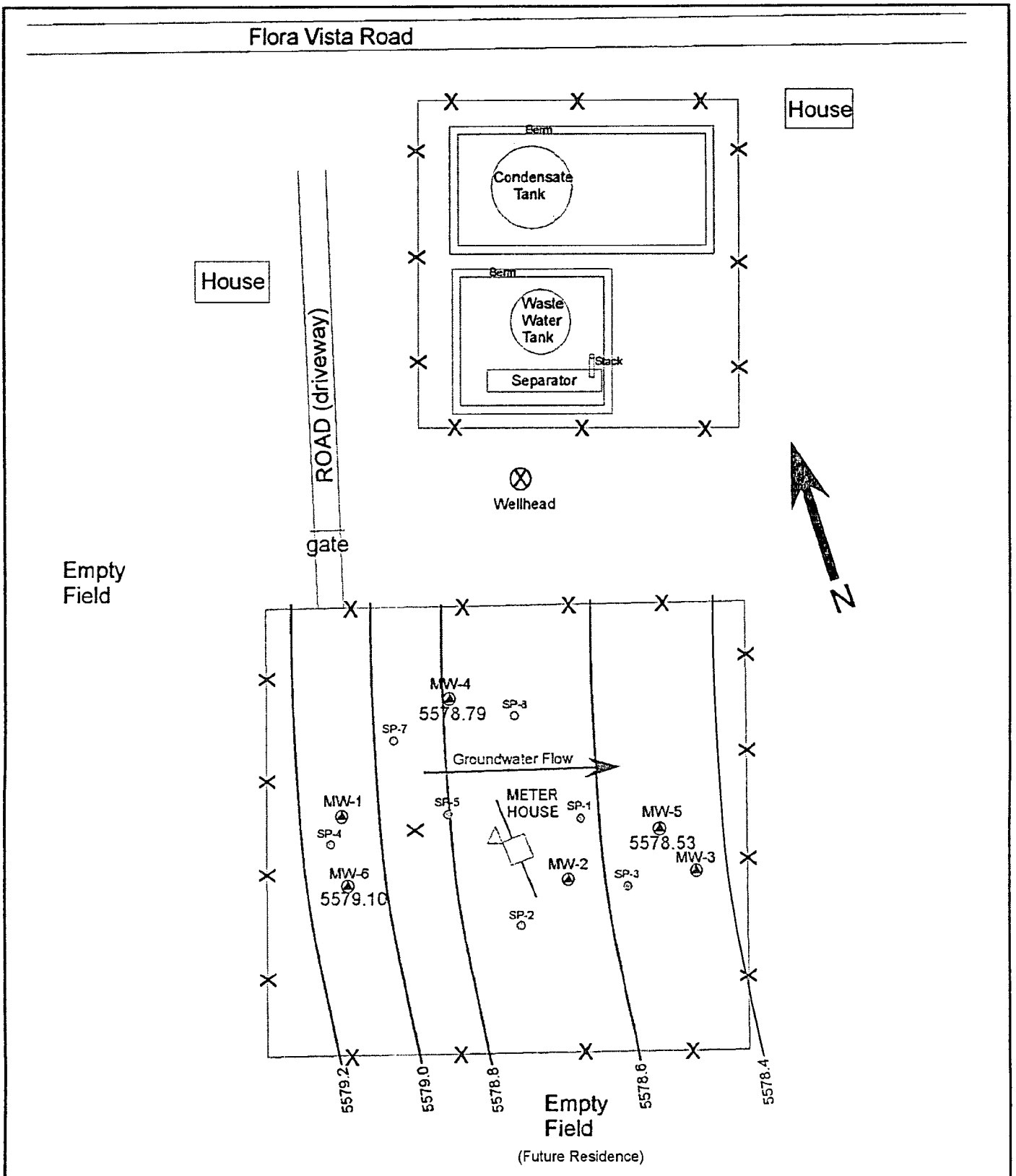



Figure 6. Groundwater Elevation Contour Map (3/08)

ConocoPhillips - Nell Hall #1

# TABLES

**Table 1. Site History Timeline - ConocoPhillips Nell Hall #1**

| Date/Time Period | Event/Action | Description |
|---|---|---|
| Early 1990's | Soil and Groundwater Impacts Discovered | Impacts discovered during attempted closure of an unlined dehydrator discharge pit |
| | Monitor Well Installation | Monitor wells MW-1, MW-2, and MW-3 were installed to evaluate groundwater impacts but the wells went dry due to an ongoing drought |
| February 17-18, 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 |
| March 8 - December 27, 2004 | Monitor Well Sampling | Quarterly sampling of monitor wells MW-4, MW-5, and MW-6 |
| May 11 - November 22, 2005 | | Semi-annual sampling of monitor wells MW-4, MW-5, and MW-6 |
| November 15, 2006 | | Annual sampling of monitor wells MW-4, MW-5, and MW-6 |
| February 21, 2007 - March 17, 2008 | | Resumption of semi-annual sampling of monitor wells MW-4, MW-5, and MW-6 |

**Table 2. Groundwater Elevation Summary (March 2004 - March 2008) - ConocoPhillips Nell Hall #1**

| Well ID | Date Installed | Total Depth (ft. bgs) | Screen Interval (ft) | Elevation (ft. msl) (TOC) | Date Measured | Groundwater Level (ft TOC) | Groundwater Elevation (ft amsl) |
|---|---|---|---|---|---|---|---|
| MW-1 | Unknown | 28.61 | 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 |
| MW-2 | Unknown | 27.31 | 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 |
| MW-3 | Unknown | 27.03 | 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 |
| MW-4 | 2/18/2004 | 35 | 5-35 | 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 |

## Table 2. Groundwater Elevation Summary (March 2004 - March 2008) - ConocoPhillips Nell Hall #1

| Well ID | Date Installed | Total Depth (ft. bgs) | Screen Interval (ft) | Elevation (ft. msl) (TOC) | Date Measured | Groundwater Level (ft TOC) | Groundwater Elevation (ft amsl) |
|---|---|---|---|---|---|---|---|
| MW-5 | 2/17/2004 | 39 | 4-39 | 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 |
| MW-6 | 2/18/2004 | 35 | 5-35 | 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 |

**Explanation**

amsl = Above mean sea level
bgs = Below ground surface
ft = Feet
NC = Not calculated
NM = Not measured
TOC = Top of casing

## Table 3. Groundwater Analytical Results Summary (March 2004 - March 2008) - ConocoPhillips Nell Hall #1

| Well ID | Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | Nitrate (mg/L) | Sulfate (mg/L) | Ferrous Iron (mg/L) | Phosphate (mg/L) |
|---|---|---|---|---|---|---|---|---|---|
| MW-4 | 3/8/2004 | **13** | 12 | 64 | **1,400** | NA | NA | NA | NA |
| | 7/19/2004 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA | NA |
| | 10/27/2004 | **11** | 8 | 21 | 130 | NA | NA | NA | NA |
| | 12/27/2004 | <2.5 | <2.5 | <2.5 | <0.5 | 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 |
| | 11/15/2006 | <0.5 | <0.7 | <0.8 | <0.8 | <0.25 | 110 | 0.083 | <0.25 |
| | 2/21/2007 | <0.5 | <0.7 | <0.8 | <0.8 | <0.25 | 59.6 | **1.6** | 0.28 |
| | 8/22/2007 | <0.5 | <0.7 | <0.8 | <0.8 | <0.25 | 96.5 | 0.04 | <0.25 |
| | 11/6/2007 | <0.5 | <0.7 | <0.8 | <0.8 | 3.3 | 111 | <0.008 | 0.17 |
| | 3/17/2008 | <5 | <5 | <5 | <5 | <0.5 | 64.5 | 0.187 | 0.9 |
| MW-5 | 3/8/2004 | 1.1 | <0.5 | 1 | 17 | NA | NA | NA | NA |
| | 7/19/2004 | <0.5 | 0.55 | <0.5 | 0.72 | NA | NA | NA | NA |
| | 10/27/2004 | <0.5 | <0.5 | <0.5 | <1.0 | NA | NA | NA | NA |
| | 12/27/2004 | <0.5 | <0.5 | <0.5 | <1.0 | NA | NA | NA | NA |
| | 5/11/2005 | <0.5 | <0.7 | <0.8 | <0.8 | 2.3 | 139 | <0.0080 | 1.2 |
| | 11/22/2005 | <0.5 | <0.7 | <0.8 | <0.8 | <0.40 | 38 | <0.0080 | 0.43 |
| | 11/15/2006 | <0.5 | <0.7 | <0.8 | <0.8 | 2.3 | 77.9 | <0.0080 | <0.25 |
| | 2/21/2007 | <0.5 | <0.7 | <0.8 | <0.8 | 1.3 | 83.3 | <0.0080 | 0.28 |
| | 8/22/2007 | <0.5 | <0.7 | <0.8 | <0.8 | 5.6 | 125 | <0.0080 | <0.25 |
| | 11/6/2007 | <0.5 | <0.7 | <0.8 | <0.8 | 4 | 59 | <0.0080 | <0.25 |
| | 3/17/2008 | <5 | <5 | <5 | <5 | 0.986 | 69.7 | 0.876 | 1.4 |
| MW-6 | 3/8/2004 | **2,500** | 14 | **1,600** | **21,031** | NA | NA | NA | NA |
| | 7/19/2004 | <0.5 | <0.5 | 0.98 | 2.6 | NA | NA | NA | NA |
| | 10/27/2004 | 0.4 | 0.3 | 0.5 | 2.1 | NA | NA | NA | NA |
| | 12/27/2004 | **45** | 6.8 | 14 | 71.7 | NA | NA | NA | NA |
| | 5/11/2005 | dry | | | | | | | |
| | 11/22/2005 | 10 | 0.7 | 16 | 150 | <0.40 | 3.4 | **7.7** | 2.8 |
| | 11/15/2006 | <0.5 | <0.7 | <0.8 | <0.8 | <0.25 | 41.3 | 0.19 | <0.25 |
| | 2/21/2007 | **540** | <1 | 76 | **810** | <0.25 | 1.8 | **6.4** | 9.0 |
| | 8/22/2007 | <0.5 | <0.7 | <0.8 | <0.8 | <0.25 | 12.6 | 0.95 | <0.25 |
| | 11/6/2007 | **15** | <0.7 | 47 | 390 | <0.25 | 5.6 | **3.6** | 0.1 |
| | 3/18/2008 | **160** | <5 | <5 | 33 | NA | NA | **8.88** | NA |
| **NMWQCC Standards** | | **10 (µg/L)** | **750 (µg/L)** | **750 (µg/L)** | **620 (µg/L)** | **10 (mg/L)** | **600 (mg/L)** | **1 (mg/L)** | **NE** |

**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

# GROUNDWATER SAMPLING FIELD FORMS

TETRA TECH, INC.

# WATER SAMPLING FIELD FORM

Project Name: Nell Hall #1 — Page 1 of 3

Project No.: 1158690044

Site Location: Flora Vista, NM

Site/Well No.: MW-4 — Coded/ Replicate No.: — Date: 3/17/2008

Weather: cold, snowing — Time Sampling Began: 13:50 — Time Sampling Completed: 14:00

## EVACUATION DATA

Description of Measuring Point (MP): Top of Casing

Height of MP Above/Below Land Surface: — MP Elevation: 5614.87 feet AMSL

Total Sounded Depth of Well Below MP: 37.57 feet — Water-Level Elevation: 5578.79 feet AMSL

Held: — Depth to Water Below MP: 36.08 feet — Diameter of Casing: 2 inches

Wet: — Water Column in Well: 1.49 feet — Gallons Pumped/Bailed Prior to Sampling: 1.0

Gallons per Foot: 0.16

Gallons in Well: 0.23 — Sampling Pump Intake Setting (feet below land surface): NA

Purging Equipment: Disposable polyethylene bailer

## SAMPLING DATA/FIELD PARAMETERS

| Time | Temperature (C°) | pH | Conductivity | TDS (g/L) | ORP (mV) |
|---|---|---|---|---|---|
| 13:54 | 16.72 | 6.84 | 452 | 0.294 | -117.9 |
| 13:57 | 17.29 | 6.97 | 398 | 0.274 | -119.9 |
| | | | | | |
| | | | | | |
| | | | | | |

Sampling Equipment: Disposable polyethylene bailer

| Constituents Sampled | Container Description | Preservative |
|---|---|---|
| BTEX | 3 - 40 mL glass VOAs | HCL |
| Phosphate | 1 - 1000 mL plastic | $H_2SO_4$ |
| Nitrate/Sulfate | 1 - 1000 mL plastic | None |
| Ferrous Iron | 1- 500 mL amber glass | None |

Remarks:

Sampling Personnel: Mitch Crooks and Ana Moreno

**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: Nell Hall #1 — Page 2 of 3

Project No.: 1158690044

Site Location: Flora Vista, NM

Site/Well No.: MW-5 — Coded/ Replicate No.: — Date: 3/17/2008

Weather: cold, snowing — Time Sampling Began: 14:15 — Time Sampling Completed: 15:00

## EVACUATION DATA

Description of Measuring Point (MP): Top of Casing

Height of MP Above/Below Land Surface: — MP Elevation: 5615.86 feet AMSL

Total Sounded Depth of Well Below MP: 42.7 feet — Water-Level Elevation: 5578.53 feet AMSL

Held: — Depth to Water Below MP: 37.33 feet — Diameter of Casing: 2 inches

Wet: — Water Column in Well: 5.37 feet — Gallons Pumped/Bailed Prior to Sampling: 3.0

Gallons per Foot: 0.16

Gallons in Well: 0.859 — Sampling Pump Intake Setting (feet below land surface): NA

Purging Equipment: Disposable polyethylene bailer

## SAMPLING DATA/FIELD PARAMETERS

| Time | Temperature | pH | Conductivity | Turbidity | Other |
|---|---|---|---|---|---|
| **14:22** | **14.82** | **7.16** | **540** | **0.351** | **-42.1** |
| **14:27** | **16.17** | **7.11** | **543** | **0.353** | **-49** |
| **14:33** | **16.2** | **7.09** | **547** | **0.356** | **-91.3** |
| | | | | | |
| | | | | | |

Sampling Equipment: Disposable polyethylene bailer

| Constituents Sampled | Container Description | Preservative |
|---|---|---|
| BTEX | 3 - 40 mL glass VOAs | HCL |
| Phosphate | 1 - 1000 mL plastic | $H_2SO_4$ |
| Nitrate/Sulfate | 1 - 1000 mL plastic | None |
| Ferrous Iron | 1- 500 mL amber glass | None |

Remarks:

Sampling Personnel: Mitch Crooks and Ana Moreno

**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: Nell Hall #1 — Page 3 of 3

Project No.: 1158690044

Site Location: Flora Vista, NM

Site/Well No.: MW-6 — Coded/ Replicate No.: — Date: 3/18/2008

Weather: sunny, 70° — Time Sampling Began: 16:00 — Time Sampling Completed: 16:15

## EVACUATION DATA

Description of Measuring Point (MP): Top of Casing

Height of MP Above/Below Land Surface: — MP Elevation: 5615.44 feet AMSL

Total Sounded Depth of Well Below MP: 38.21 feet — Water-Level Elevation: 5579.1 feet AMSL

Held: — Depth to Water Below MP: 36.34 feet — Diameter of Casing: 2 inches

Wet: — Water Column in Well: 1.87 feet — Gallons Pumped/Bailed Prior to Sampling: bailed dry at <1 gallon

Gallons per Foot: 0.16

Gallons in Well: 0.3 — Sampling Pump Intake Setting (feet below land surface): NA

Purging Equipment: Disposable polyethylene bailer

## SAMPLING DATA/FIELD PARAMETERS

| Time | Temperature | pH | Conductivity | Turbidity | Other |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Sampling Equipment: Disposable polyethylene bailer

| Constituents Sampled | Container Description | Preservative |
|---|---|---|
| BTEX | 3 - 40 mL glass VOAs | HCL |
| Ferrous Iron | 1- 500 mL amber glass | None |
| | | |
| | | |

Remarks: Well bailed dry on 3/17/08; returned to collect groundwater samples on 3/18/08 after well had recharged

Sampling Personnel: Kelly Blanchard and Ana Moreno

**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

# LABORATORY ANALYTICAL REPORT

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

## Conoco, Inc.

**Certificate of Analysis Number:**

**08030977**

| Report To: | | Project Name: | COP Nell Hall |
|---|---|---|---|
| Tetra Tech EM, Inc.<br>Kelly Blanchard<br>6121 Indian School Road, N.E.<br>Suite 200<br>Albuquerque<br>NM<br>87110-<br>ph: (505) 881-3188 fax: | | Site: | Flora Vista, NM |
| | | Site Address: | |
| | | PO Number: | 4509596741 |
| | | State: | New Mexico |
| | | State Cert. No.: | |
| | | Date Reported: | 3/28/2008 |

This Report Contains A Total Of 13 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

3/28/2008

Date

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

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

## Case Narrative for:

# Conoco, Inc.

## Certificate of Analysis Number:

## 08030977

| Report To: | | Project Name: | COP Nell Hall |
|---|---|---|---|
| Tetra Tech EM, Inc. | | Site: | Flora Vista, NM |
| Kelly Blanchard | | Site Address: | |
| 6121 Indian School Road, N.E. | | | |
| Suite 200 | | PO Number: | 4509596741 |
| Albuquerque | | State: | New Mexico |
| NM | | State Cert. No.: | |
| 87110- | | | |
| ph: (505) 881-3188 | fax: | Date Reported: | 3/28/2008 |

At the time of sample receipt, it was noted that the chain of custody lists sample location as Aztec, NM, however per your email on March 21, 2008, the site location is Flora Vista, NM.

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.

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.

Your sample ID "MW-4" (SPL ID:08030977-01) was randomly selected for use in SPL's quality control program for the Ion Chromatography analysis by EPA Method E300.1. The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries were outside of the advisable quality control limits for Sulfate (Batch ID:R231669S) due to matrix interference. A Laboratory Control Sample (LCS) was analyzed as a quality control check for the analytical batch and all recoveries were within acceptable limits.

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.

Bethany Agarwal



Bethany A. Agarwal
Senior Project Manager

Date

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

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

# Conoco, Inc.

## Certificate of Analysis Number:

## 08030977

**Report To:** Tetra Tech EM, Inc.
Kelly Blanchard
6121 Indian School Road, N.E.
Suite 200
Albuquerque
NM
87110-
ph: (505) 881-3188 fax: (505) 881-3283

**Fax To:**

**Project Name:** COP Nell Hall
**Site:** Flora Vista, NM
**Site Address:**

**PO Number:** 4509596741
**State:** New Mexico
**State Cert. No.:**
**Date Reported:** 3/28/2008

| Client Sample ID | Lab Sample ID | Matrix | Date Collected | Date Received | COC ID | HOLD |
|---|---|---|---|---|---|---|
| MW-4 | 08030977-01 | Water | 3/17/2008 2:00:00 PM | 3/18/2008 10:00:00 AM | 278987 | ☐ |
| MW-5 | 08030977-02 | Water | 3/17/2008 3:00:00 PM | 3/18/2008 10:00:00 AM | 278987 | ☐ |

Bethany Agarwal

3/28/2008

Bethany A. Agarwal
Senior Project Manager

Date

Richard R. Reed
Laboratory Director

Ted Yen
Quality Assurance Officer

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

**Client Sample ID:** MW-4 **Collected:** 03/17/2008 14:00 **SPL Sample ID:** 08030977-01

**Site: Flora Vista, NM**

| Analyses/Method | Result | QUAL | Rep.Limit | | Dil. Factor | Date Analyzed | Analyst | Seq. # |
|---|---|---|---|---|---|---|---|---|
| **ION CHROMATOGRAPHY** | | | | **MCL** | **E300.0** | **Units: mg/L** | | |
| Sulfate | 64.5 | | 2 | | 4 | 03/22/08 15:03 | A_E | 4340740 |
| Nitrogen,Nitrate (As N) | ND | | 0.5 | | 1 | 03/18/08 19:46 | TW | 4334871 |
| **IRON, FERROUS** | | | | **MCL** | **M3500-FE D** | **Units: mg/L** | | |
| Iron, Ferrous | 0.187 | | 0.1 | | 1 | 03/18/08 13:00 | A_E | 4336619 |
| **PHOSPHATE** | | | | **MCL** | **E365.2** | **Units: mg/L** | | |
| Phosphate | 0.9 | | 0.15 | | 1 | 03/21/08 16:30 | A_E | 4342138 |
| **VOLATILE ORGANICS BY METHOD 8260B** | | | | **MCL** | **SW8260B** | **Units: ug/L** | | |
| Benzene | ND | | 5 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| Ethylbenzene | ND | | 5 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| Toluene | ND | | 5 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| m,p-Xylene | ND | | 5 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| o-Xylene | ND | | 5 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| Xylenes,Total | ND | | 5 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| Surr: 1,2-Dichloroethane-d4 | 96.0 | | % 62-130 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| Surr: 4-Bromofluorobenzene | 98.0 | | % 70-130 | | 1 | 03/19/08 12:39 | E_G | 4336916 |
| Surr: Toluene-d8 | 96.0 | | % 74-122 | | 1 | 03/19/08 12:39 | E_G | 4336916 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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

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

**Client Sample ID:** MW-5 **Collected:** 03/17/2008 15:00 **SPL Sample ID:** 08030977-02

**Site:** Flora Vista, NM

| Analyses/Method | Result | QUAL | Rep.Limit | | Dil. Factor | Date Analyzed | Analyst | Seq. # |
|---|---|---|---|---|---|---|---|---|
| **ION CHROMATOGRAPHY** | | | | **MCL** | **E300.0** | **Units: mg/L** | | |
| Sulfate | 69.7 | | 2 | | 4 | 03/22/08 16:25 | A_E | 4340745 |
| Nitrogen,Nitrate (As N) | 0.986 | | 0.5 | | 1 | 03/18/08 20:35 | TW | 4334874 |
| **IRON, FERROUS** | | | | **MCL** | **M3500-FE D** | **Units: mg/L** | | |
| Iron, Ferrous | 0.876 | | 0.1 | | 1 | 03/18/08 13:00 | A_E | 4336622 |
| **PHOSPHATE** | | | | **MCL** | **E365.2** | **Units: mg/L** | | |
| Phosphate | 1.4 | | 0.15 | | 1 | 03/21/08 16:30 | A_E | 4342141 |
| **VOLATILE ORGANICS BY METHOD 8260B** | | | | **MCL** | **SW8260B** | **Units: ug/L** | | |
| Benzene | ND | | 5 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| Ethylbenzene | ND | | 5 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| Toluene | ND | | 5 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| m,p-Xylene | ND | | 5 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| o-Xylene | ND | | 5 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| Xylenes,Total | ND | | 5 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| Surr: 1,2-Dichloroethane-d4 | 96.0 | | % 62-130 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| Surr: 4-Bromofluorobenzene | 98.0 | | % 70-130 | | 1 | 03/19/08 20:32 | E_G | 4336923 |
| Surr: Toluene-d8 | 96.0 | | % 74-122 | | 1 | 03/19/08 20:32 | E_G | 4336923 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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*

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

# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Volatile Organics by Method 8260B **WorkOrder:** 08030977
**Method:** SW8260B **Lab Batch ID:** R231434

### Method Blank

RunID: L_080319B-4336914 Units: ug/L
Analysis Date: 03/19/2008 11:49 Analyst: E_G
Preparation Date: 03/19/2008 11:49 Prep By: Method

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08030977-01A | MW-4 |
| 08030977-02A | MW-5 |

| Analyte | Result | Rep Limit |
|---|---|---|
| Benzene | ND | 5.0 |
| Ethylbenzene | ND | 5.0 |
| Toluene | ND | 5.0 |
| m,p-Xylene | ND | 5.0 |
| o-Xylene | ND | 5.0 |
| Xylenes,Total | ND | 5.0 |
| Surr: 1,2-Dichloroethane-d4 | 94.0 | 62-130 |
| Surr: 4-Bromofluorobenzene | 98.0 | 70-130 |
| Surr: Toluene-d8 | 98.0 | 74-122 |

### Laboratory Control Sample (LCS)

RunID: L_080319B-4336913 Units: ug/L
Analysis Date: 03/19/2008 11:12 Analyst: E_G
Preparation Date: 03/19/2008 11:12 Prep By: Method

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Benzene | 20.0 | 16.0 | 80.0 | 76 | 126 |
| Ethylbenzene | 20.0 | 17.0 | 85.0 | 67 | 122 |
| Toluene | 20.0 | 17.0 | 85.0 | 70 | 131 |
| m,p-Xylene | 40.0 | 35.0 | 87.5 | 72 | 150 |
| o-Xylene | 20.0 | 18.0 | 90.0 | 78 | 141 |
| Xylenes,Total | 60 | 53 | 88 | 72 | 150 |
| Surr: 1,2-Dichloroethane-d4 | 50.0 | 47 | 94.0 | 62 | 130 |
| Surr: 4-Bromofluorobenzene | 50.0 | 50 | 100 | 70 | 130 |
| Surr: Toluene-d8 | 50.0 | 49 | 98.0 | 74 | 122 |

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

Sample Spiked: 08030977-01
RunID: L_080319B-4336917 Units: ug/L
Analysis Date: 03/19/2008 13:04 Analyst: E_G

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

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

## Quality Control Report

### Conoco, Inc.

**COP Nell Hall**

**Analysis:** Volatile Organics by Method 8260B **WorkOrder:** 08030977
**Method:** SW8260B **Lab Batch ID:** R231434

| 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 | ND | 20 | 18.0 | 80.0 | 20 | 18.0 | 80.0 | 0 | 22 | 76 | 127 |
| Ethylbenzene | ND | 20 | 18.0 | 90.0 | 20 | 19.0 | 95.0 | 5.41 | 20 | 35 | 175 |
| Toluene | ND | 20 | 18.0 | 90.0 | 20 | 18.0 | 90.0 | 0 | 24 | 70 | 131 |
| m,p-Xylene | ND | 40 | 37.0 | 92.5 | 40 | 38.0 | 95.0 | 2.67 | 20 | 35 | 175 |
| o-Xylene | ND | 20 | 18.0 | 90.0 | 20 | 19.0 | 95.0 | 5.41 | 20 | 35 | 175 |
| Xylenes,Total | ND | 60 | 55 | 92 | 60 | 57 | 95 | 3.6 | 20 | 35 | 175 |
| Surr: 1,2-Dichloroethane-d4 | ND | 50 | 48 | 96.0 | 50 | 47.0 | 94.0 | 2.11 | 30 | 62 | 130 |
| Surr: 4-Bromofluorobenzene | ND | 50 | 51 | 102 | 50 | 51.0 | 102 | 0 | 30 | 70 | 130 |
| Surr: Toluene-d8 | ND | 50 | 48 | 96.0 | 50 | 49.0 | 98.0 | 2.06 | 30 | 74 | 122 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

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

# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Ion Chromatography **WorkOrder:** 08030977
**Method:** E300.0 **Lab Batch ID:** R231314

### Method Blank

RunID: IC1_080318A-4334867 Units: mg/L
Analysis Date: 03/18/2008 18:40 Analyst: TW

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08030977-01C | MW-4 |
| 08030977-02C | MW-5 |

| Analyte | Result | Rep Limit |
|---|---|---|
| Nitrogen,Nitrate (As N) | ND | 0.50 |

### Laboratory Control Sample (LCS)

RunID: IC1_080318A-4334868 Units: mg/L
Analysis Date: 03/18/2008 18:57 Analyst: TW

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Nitrogen,Nitrate (As N) | 10.00 | 9.670 | 96.70 | 85 | 115 |

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

Sample Spiked: 08030977-01
RunID: IC1_080318A-4334872 Units: mg/L
Analysis Date: 03/18/2008 20:02 Analyst: TW

| Analyte | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD | RPD Limit | Low Limit | High Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen,Nitrate (As N) | ND | 10 | 8.920 | 89.20 | 10 | 8.907 | 89.07 | 0.1458 | 20 | 80 | 120 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
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
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits



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.

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

# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Iron, Ferrous
**Method:** M3500-Fe D
**WorkOrder:** 08030977
**Lab Batch ID:** R231411

### Method Blank

RunID: WET_080318ZB-4336615 Units: mg/L
Analysis Date: 03/18/2008 13:00 Analyst: A_E

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08030977-01B | MW-4 |
| 08030977-02B | MW-5 |

| Analyte | Result | Rep Limit |
|---|---|---|
| Iron, Ferrous | ND | 0.10 |

### Laboratory Control Sample (LCS)

RunID: WET_080318ZB-4336616 Units: mg/L
Analysis Date: 03/18/2008 13:00 Analyst: A_E

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Iron, Ferrous | 2.000 | 1.900 | 95.01 | 85 | 115 |

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

Sample Spiked: 08030977-01
RunID: WET_080318ZB-4336620 Units: mg/L
Analysis Date: 03/18/2008 13:00 Analyst: A_E

| 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, Ferrous | 0.1870 | 1 | 1.115 | 92.84 | 1 | 1.115 | 92.84 | 0 | 20 | 85 | 115 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

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

# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Ion Chromatography **WorkOrder:** 08030977
**Method:** E300.0 **Lab Batch ID:** R231669S

### Method Blank

RunID: IC1_080322B-4340737 Units: mg/L
Analysis Date: 03/22/2008 14:13 Analyst: A_E

| Analyte | Result | Rep Limit |
|---|---|---|
| Sulfate | ND | 0.50 |

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08030977-01C | MW-4 |
| 08030977-02C | MW-5 |

### Laboratory Control Sample (LCS)

RunID: IC1_080322B-4340738 Units: mg/L
Analysis Date: 03/22/2008 14:30 Analyst: A_E

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Sulfate | 10.00 | 10.38 | 103.8 | 85 | 115 |

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

Sample Spiked: 08030977-01
RunID: IC1_080322B-4340741 Units: mg/L
Analysis Date: 03/22/2008 15:19 Analyst: A_E

| Analyte | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD | RPD Limit | Low Limit | High Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | 64.45 | 40 | 118.5 | 135.2 * | 40 | 114.7 | 125.5 * | 3.314 | 20 | 80 | 120 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

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

# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Phosphate
**Method:** E365.2

**WorkOrder:** 08030977
**Lab Batch ID:** R231774

### Method Blank

RunID: WET_080321M-4342134 Units: mg/L
Analysis Date: 03/21/2008 16:30 Analyst: A_E

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08030977-01D | MW-4 |
| 08030977-02D | MW-5 |

| Analyte | Result | Rep Limit |
|---|---|---|
| Phosphate | ND | 0.15 |

### Laboratory Control Sample (LCS)

RunID: WET_080321M-4342135 Units: mg/L
Analysis Date: 03/21/2008 16:30 Analyst: A_E

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Phosphate | 0.770 | 0.743 | 96.5 | 80 | 120 |

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

Sample Spiked: 08030977-01
RunID: WET_080321M-4342139 Units: mg/L
Analysis Date: 03/21/2008 16:30 Analyst: A_E

| Analyte | Sample Result | MS Spike Added | MS Result | MS % Recovery | MSD Spike Added | MSD Result | MSD % Recovery | RPD | RPD Limit | Low Limit | High Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phosphate | 0.901 | 0.77 | 1.62 | 93.1 | 0.77 | 1.62 | 93.1 | 0 | 20 | 80 | 120 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

# *Sample Receipt Checklist*

# *And*

# *Chain of Custody*

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

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Workorder: | 08030977 | Received By: | RE |
| Date and Time Received: | 3/18/2008 10:00:00 AM | Carrier name: | Fedex-Standard Overnight |
| Temperature: | 3.0°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. 08030977

## Analysis Request & Chain of Custody Record

SPL Workorder No. ~~08030958~~ (A) 278987 page ____ of ____

Client Name: Tetra Tech
Address: 6121 Indian School Rd NE
Phone/Fax: 505-237-8440 / 237-8666
Client Contact: Kelly Blanchard Email:
Project Name/No.: Nell Hall
Site Name:
Site Location: Aztec, NM
Invoice To: Ph:

| SAMPLE ID | DATE | TIME | comp | grab | matrix (W=water S=soil O=oil SL=sludge 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 | Ferrous Iron | $NO_3$, $SO_4$ | $PO_4$ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4 | 3/17/08 | 1400 | | X | W | P,A,V | 40,X | | 6 | X | X | X | X | | | | | |
| MW-5 | 3/17/08 | 1500 | | X | W | P,A,V | 40,X | | 6 | X | X | X | X | | | | | |

RUSH

Client/Consultant Remarks: MW-6 samples to follow to be included in this report.

Laboratory remarks:

Intact? Y N
Ice? Y N
Temp: 3.0°C

### Requested TAT

Contract ☐ 72hr ☐
24hr ☐ Standard ☒
48hr ☐
Other ☐ _____

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): RA

| | date | time | | |
|---|---|---|---|---|
| 1. Relinquished by Sampler: | 3/17/08 | 1500 | 2. Received by: | |
| 3. Relinquished by: | date | time | 4. Received by: | |
| 5. Relinquished by: | 3/18/08 | 10:00 | 6. Received by Laboratory: | Brenda Blanco |

☒ 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

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

## Conoco, Inc.

**Certificate of Analysis Number:**

**08031057**

| Report To: | | Project Name: | COP Nell Hall |
|---|---|---|---|
| Tetra Tech EM, Inc.<br>Kelly Blanchard<br>6121 Indian School Road, N.E.<br>Suite 200<br>Albuquerque<br>NM<br>87110-<br>ph: (505) 881-3188 fax: | | Site: | Flora Vista, NM |
| | | Site Address: | |
| | | PO Number: | 4509596741 |
| | | State: | New Mexico |
| | | State Cert. No.: | |
| | | Date Reported: | 3/31/2008 |

This Report Contains A Total Of 9 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

4/2/2008

Date

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

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

## Case Narrative for:

# Conoco, Inc.

## Certificate of Analysis Number:

## 08031057

| Report To: | | Project Name: | COP Nell Hall |
|---|---|---|---|
| Tetra Tech EM, Inc. | | Site: | Flora Vista, NM |
| Kelly Blanchard | | Site Address: | |
| 6121 Indian School Road, N.E. | | | |
| Suite 200 | | PO Number: | 4509596741 |
| Albuquerque | | State: | New Mexico |
| NM | | State Cert. No.: | |
| 87110- | | Date Reported: | 3/31/2008 |
| ph: (505) 881-3188 | fax: | | |

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.

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.



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

Bethany Agarwal

Bethany A. Agarwal
Senior Project Manager



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

HOUSTON LABORATORY
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HOUSTON, TX 77054
(713) 660-0901

# Conoco, Inc.

## Certificate of Analysis Number:

## 08031057

| | | | |
|---|---|---|---|
| **Report To:** | Tetra Tech EM, Inc.<br>Kelly Blanchard<br>6121 Indian School Road, N.E.<br>Suite 200<br>Albuquerque<br>NM<br>87110-<br>ph: (505) 881-3188 fax: (505) 881-3283 | **Project Name:** | COP Nell Hall |
| | | **Site:** | Flora Vista, NM |
| | | **Site Address:** | |
| | | **PO Number:** | 4509596741 |
| | | **State:** | New Mexico |
| | | **State Cert. No.:** | |
| **Fax To:** | | **Date Reported:** | 3/31/2008 |

| Client Sample ID | Lab Sample ID | Matrix | Date Collected | Date Received | COC ID | HOLD |
|---|---|---|---|---|---|---|
| MW-6 | 08031057-01 | Water | 3/18/2008 4:15:00 PM | 3/19/2008 2:00:00 PM | 297483 | ☐ |

Bethany Agarwal

4/2/2008

Bethany A. Agarwal
Senior Project Manager

Date

Richard R. Reed
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
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**Client Sample ID:** MW-6 **Collected:** 03/18/2008 16:15 **SPL Sample ID:** 08031057-01

**Site: Flora Vista, NM**

| Analyses/Method | Result | QUAL | | Rep.Limit | | Dil. Factor | Date Analyzed | Analyst | Seq. # |
|---|---|---|---|---|---|---|---|---|---|
| **IRON, FERROUS** | | | | | **MCL** | **M3500-FE D** | **Units: mg/L** | | |
| Iron, Ferrous | 8.88 | | | 0.5 | | 5 | 03/19/08 14:30 | A_E | 4336653 |
| **VOLATILE ORGANICS BY METHOD 8260B** | | | | | **MCL** | **SW8260B** | **Units: ug/L** | | |
| Benzene | 160 | | | 5 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| Ethylbenzene | ND | | | 5 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| Toluene | ND | | | 5 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| m,p-Xylene | 33 | | | 5 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| o-Xylene | ND | | | 5 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| Xylenes,Total | 33 | | | 5 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| Surr: 1,2-Dichloroethane-d4 | 88.0 | | % | 62-130 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| Surr: 4-Bromofluorobenzene | 96.0 | | % | 70-130 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |
| Surr: Toluene-d8 | 88.0 | | % | 74-122 | | 1 | 03/27/08 5:46 | LU_L | 4347835 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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*

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

# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Volatile Organics by Method 8260B **WorkOrder:** 08031057
**Method:** SW8260B **Lab Batch ID:** R232164

### Method Blank

RunID: K_080326D-4347832 Units: ug/L
Analysis Date: 03/27/2008 5:19 Analyst: LU_L
Preparation Date: 03/27/2008 5:19 Prep By: Method

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08031057-01A | MW-6 |

| Analyte | Result | Rep Limit |
|---|---|---|
| Benzene | ND | 5.0 |
| Ethylbenzene | ND | 5.0 |
| Toluene | ND | 5.0 |
| m,p-Xylene | ND | 5.0 |
| o-Xylene | ND | 5.0 |
| Xylenes,Total | ND | 5.0 |
| Surr: 1,2-Dichloroethane-d4 | 90.0 | 62-130 |
| Surr: 4-Bromofluorobenzene | 100.0 | 70-130 |
| Surr: Toluene-d8 | 90.0 | 74-122 |

### Laboratory Control Sample (LCS)

RunID: K_080326D-4347831 Units: ug/L
Analysis Date: 03/27/2008 4:50 Analyst: LU_L
Preparation Date: 03/27/2008 4:50 Prep By: Method

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Benzene | 20.0 | 21.0 | 105 | 76 | 126 |
| Ethylbenzene | 20.0 | 19.0 | 95.0 | 67 | 122 |
| Toluene | 20.0 | 19.0 | 95.0 | 70 | 131 |
| m,p-Xylene | 40.0 | 38.0 | 95.0 | 72 | 150 |
| o-Xylene | 20.0 | 20.0 | 100 | 78 | 141 |
| Xylenes,Total | 60 | 58 | 97 | 72 | 150 |
| Surr: 1,2-Dichloroethane-d4 | 50.0 | 44 | 88.0 | 62 | 130 |
| Surr: 4-Bromofluorobenzene | 50.0 | 49 | 98.0 | 70 | 130 |
| Surr: Toluene-d8 | 50.0 | 44 | 88.0 | 74 | 122 |

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

Sample Spiked: 08031200-06
RunID: K_080326D-4347844 Units: ug/L
Analysis Date: 03/27/2008 9:29 Analyst: LU_L

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

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## Quality Control Report

**Conoco, Inc.**
**COP Nell Hall**

**Analysis:** Volatile Organics by Method 8260B **WorkOrder:** 08031057
**Method:** SW8260B **Lab Batch ID:** R232164

| 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 | ND | 20 | 22.0 | 110 | 20 | 22.0 | 110 | 0 | 22 | 76 | 127 |
| Ethylbenzene | ND | 20 | 20.0 | 100 | 20 | 20.0 | 100 | 0 | 20 | 35 | 175 |
| Toluene | ND | 20 | 20.0 | 100 | 20 | 20.0 | 100 | 0 | 24 | 70 | 131 |
| m,p-Xylene | ND | 40 | 42.0 | 105 | 40 | 42.0 | 105 | 0 | 20 | 35 | 175 |
| o-Xylene | ND | 20 | 21.0 | 105 | 20 | 21.0 | 105 | 0 | 20 | 35 | 175 |
| Xylenes,Total | ND | 60 | 63 | 100 | 60 | 63 | 100 | 0 | 20 | 35 | 175 |
| Surr: 1,2-Dichloroethane-d4 | ND | 50 | 45 | 90.0 | 50 | 46.0 | 92.0 | 2.20 | 30 | 62 | 130 |
| Surr: 4-Bromofluorobenzene | ND | 50 | 48 | 96.0 | 50 | 50.0 | 100 | 4.08 | 30 | 70 | 130 |
| Surr: Toluene-d8 | ND | 50 | 44 | 88.0 | 50 | 44.0 | 88.0 | 0 | 30 | 74 | 122 |

**Qualifiers:**
ND/U - Not Detected at the Reporting Limit
B/V - 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.

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# Quality Control Report

## Conoco, Inc.

**COP Nell Hall**

**Analysis:** Iron, Ferrous
**Method:** M3500-Fe D

**WorkOrder:** 08031057
**Lab Batch ID:** R231413

### Method Blank

RunID: WET_080319ZJ-4336649 Units: mg/L
Analysis Date: 03/19/2008 14:30 Analyst: A_E

**Samples in Analytical Batch:**

| Lab Sample ID | Client Sample ID |
|---|---|
| 08031057-01B | MW-6 |

| Analyte | Result | Rep Limit |
|---|---|---|
| Iron, Ferrous | ND | 0.10 |

### Laboratory Control Sample (LCS)

RunID: WET_080319ZJ-4336650 Units: mg/L
Analysis Date: 03/19/2008 14:30 Analyst: A_E

| Analyte | Spike Added | Result | Percent Recovery | Lower Limit | Upper Limit |
|---|---|---|---|---|---|
| Iron, Ferrous | 2.000 | 1.884 | 94.18 | 85 | 115 |

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

Sample Spiked: 08031057-01
RunID: WET_080319ZJ-4336654 Units: mg/L
Analysis Date: 03/19/2008 14:30 Analyst: A_E

| 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, Ferrous | 8.882 | 5 | 13.46 | 91.45 | 5 | 13.46 | 91.45 | 0 | 20 | 85 | 115 |

**Qualifiers:**

ND/U - Not Detected at the Reporting Limit
B/V - 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.

# *Sample Receipt Checklist*

# *And*

# *Chain of Custody*

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

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Workorder: | 08031057 | Received By: | RE |
| Date and Time Received: | 3/19/2008 2:00:00 PM | Carrier name: | Fedex-Standard Overnight |
| Temperature: | 4.0°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.: 0803105 7 — 297483 — page 1 of 1

Client Name: TetraTech
Address: 6121 Indian School Rd NE, 200
Phone/Fax: 505 237 8440 / 8656
Client Contact: Kelly Blanchard email: kelly.blanchard@tetratech.com
Project Name/No.: Nell Hall #1
Site Name: Nell Hall
Site Location: ~~#~~ Flora Vista, NM
Invoice To: Conoco Phillips Ph:

matrix: W=water S=soil O=oil SL=sludge 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

| SAMPLE ID | DATE | TIME | comp | grab | matrix | bottle | size | pres. | Number of Containers | Requested Analysis: BTEX | Requested Analysis: Ferrous Iron |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-6 | 3-18-08 | 16:15 | | X | GW | V/G | 40/81 | | ~~1~~ 4 | X | X |

RUSH

Client/Consultant Remarks:

Laboratory remarks: Not enough water for Nitrate / Sulfate / Phosphate samples

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp: 4.0 C

**Requested TAT**

Contract ☐ 72hr ☐
24hr ☐ Standard ☒
48hr ☐
Other ☐ _____

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): LF

| | date | time | |
|---|---|---|---|
| 1. Relinquished by Sampler: Kelly Blanchard | 3-18-08 | 17:00 | 2. Received by: |
| 3. Relinquished by: | date | time | 4. Received by: |
| 5. Relinquished by: | date 3/19/08 | time 1400 | 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