

**3R - 434**

**APR 2010**  
**GWMR**

**06/10/2011**



**TETRATECH, INC.**

**3R 434**  
6121 Indian School Rd. NE Suite 200  
Albuquerque, NM 87110  
(505) 237-8440

June 10, 2011

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

RE: ConocoPhillips Company Faye Burdette No. 1 – April 2010 Groundwater Monitoring  
Report  
San Juan County, New Mexico

Dear Mr. von Gonten:

Enclosed please find one copy of the above-referenced document as compiled by Tetra Tech, Inc. for this San Juan County area site.

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

Sincerely,

Kelly E. Blanchard  
Project Manager/Geologist

Enclosures (1)

Cc: Brandon Powell, NMOCD (hardcopy)  
Terry Lauck, ConocoPhillips Company (electronic)

RECEIVED OGD  
2011 JUN 15 P 2:52

**QUARTERLY GROUNDWATER  
MONITORING REPORT  
APRIL 2010 SAMPLING EVENT  
CONOCOPHILLIPS COMPANY  
FAYE BURDETTE NO. 1  
AZTEC, NEW MEXICO  
API NO. 30-045-09725**

Prepared for:



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. 9690127.100

July 2010

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# QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS FAYE BURDETTE NO. 1, AZTEC, NEW MEXICO

## 1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed by Tetra Tech, Inc. (Tetra Tech) on April 1, 2010, at the ConocoPhillips Company Faye Burdette No. 1 natural gas well site located on private land in Aztec, New Mexico (Site). This event represents the seventh quarter of groundwater sampling conducted by Tetra Tech at the Site.

The Site is located near the intersection of Highway 550 and Pioneer Avenue in Aztec, NM. The Site consists of a gas production well head and associated equipment and installations. The location and general features of the Site are presented as **Figures 1** and **2**, respectively. A generalized cross section of the site is included as **Figure 3**.

## 1.1 Site History

The Faye Burdette No. 1 wellhead was spudded by Southwest Production Company in April 1962. Ownership was transferred to Beta Development Company in September 1963 and again to Mesa Operating Limited Partnership in August 1988. Conoco Inc., predecessor to ConocoPhillips Company, acquired the well in July 1991. A release occurred in May 2007 from a rusted portion of the on-site produced water tank. Evidence of pre-existing hydrocarbon impacted soil was encountered during excavation; possibly related to a former earthen pit. Temporary Monitoring Well, MW-1, was drilled by Envirotech in September 2007. Groundwater samples from MW-1 indicate that benzene, toluene, ethylbenzene, and xylenes (BTEX) were below the New Mexico Water Quality Control Commission (NMWQCC) standards. Subsequently, Envirotech recommended plugging and abandoning MW-1 (Envirotech, 2007).

To complete additional investigation and sampling of the Site, Monitor Wells MW-2, MW-3, and MW-4 were installed under the supervision of Tetra Tech during January 2009 at the request of the New Mexico Oil Conservation Division (OCD). All four monitor wells have been incorporated into a quarterly monitoring program that was initiated on January 29, 2009. Site history is outlined in **Table 1**.

## 2.0 METHODOLOGY AND RESULTS

### 2.1 Groundwater Monitoring Methodology

#### Groundwater Elevation Measurements

On April 1, 2010, groundwater elevation measurements were recorded in Monitor Wells MW-1, MW-2, MW-3, and MW-4 using a dual interface probe. Groundwater elevations are detailed in **Table 2**. A groundwater elevation contour map is presented as **Figure 4**. Based on April 2010 monitoring event

data, groundwater flow is to the northwest and is consistent with historic records at this site. The Animas River is approximately 1/3 mile from the site and flows west.

#### Groundwater sampling

Monitor Wells MW-1, MW-2, MW-3 and MW-4 were sampled, representing the seventh round of consecutive quarterly groundwater monitoring at the Site. Approximately three well volumes were purged from each monitor well with a dedicated polyethylene 1.5-inch disposable bailer. Purge water was placed in the on site produced water tank. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Southern Petroleum Laboratories in Houston, Texas. The samples were analyzed for the presence of BTEX in accordance with Environmental Protection Agency (EPA) Method 8260B and dissolved manganese according to EPA Method 6010B. Groundwater sampling field forms are included as **Appendix A**.

## **2.2 Groundwater Sampling Analytical Results**

Groundwater quality samples collected during the April 1, 2010 monitoring event indicate that Monitor Well MW-1 exceeds NMWQCC standard for manganese at 1.71 milligrams per liter (mg/L). The NMWQCC standard for manganese is 0.2 mg/L. BTEX concentrations were below laboratory detection limits for all monitor wells. **Table 3** summarizes the laboratory analytical results for the April 2010 groundwater sampling event. The corresponding laboratory analysis report is included in **Appendix B**.

## **3.0 CONCLUSIONS**

Tetra Tech recommends continued quarterly groundwater sampling at the Site in order to provide sufficient data for Site closure. Site closure will be requested when groundwater quality results begin to indicate that all constituents of concern are consistently below NMWQCC groundwater quality standards; or are representative of background conditions at the Site. Please contact Kelly Blanchard at 505-237-8440 or [kelly.blanchard@tetrattech.com](mailto:kelly.blanchard@tetrattech.com) if you have any questions or require additional information.

## **REFERENCES**

Envirotech, Inc. (2007). *Drilling and Groundwater Sampling Report at Faye Burdette No. 1 Aztec, NM*. Prepared for ConocoPhillips, dated December 12, 2007.

## **FIGURES**

1. Site Location Map
2. Site Layout Map
3. Geologic Cross Section
4. Groundwater Contour Map – April 2010





**FIGURE 1.**  
Site Location Map  
CONOCOPhillips COMPANY  
FAYE BURDETTE NO.1 GAS  
PRODUCTION WELL SITE  
Sec 9, T30N, R11W  
Aztec, New Mexico

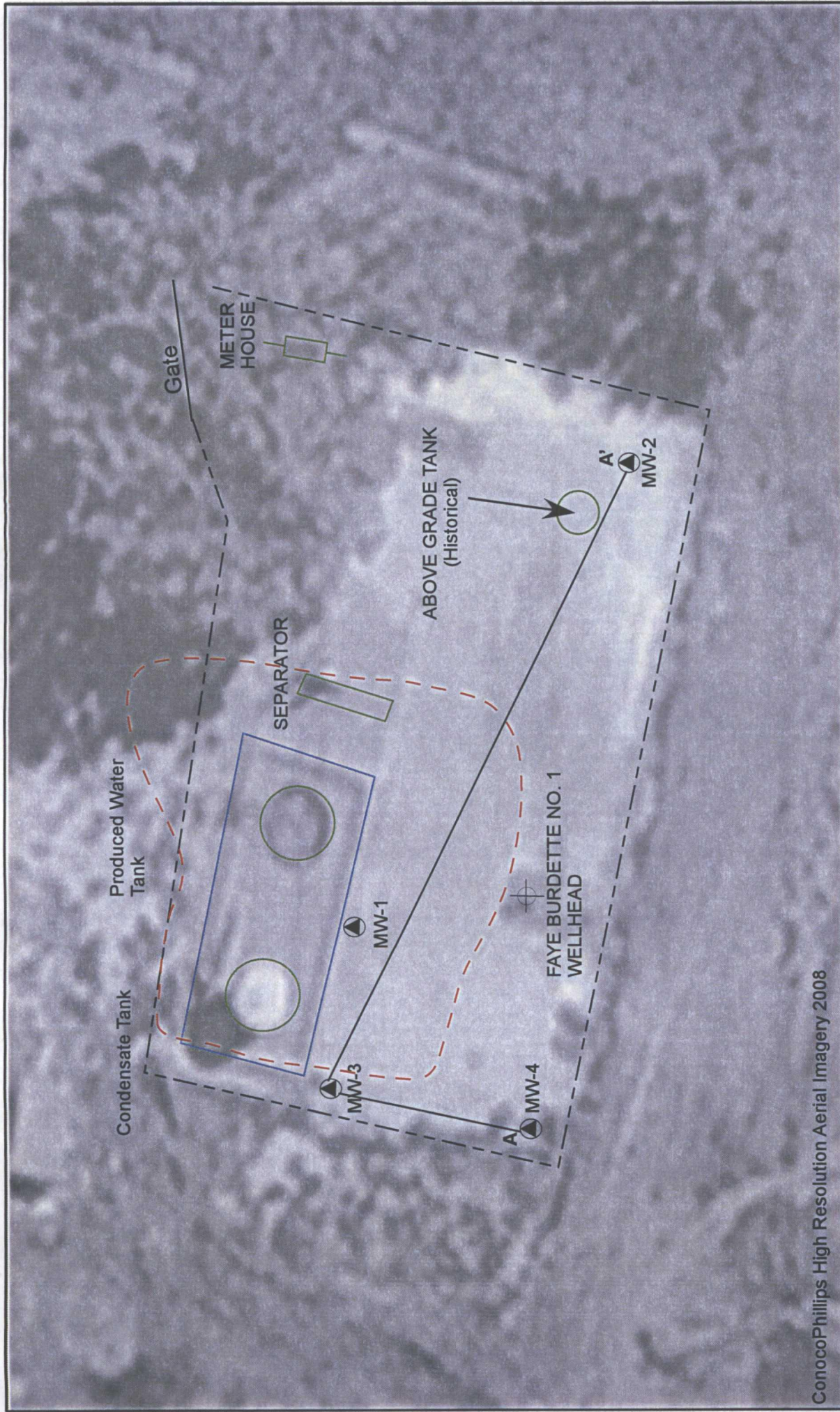


Approximate ConocoPhillips  
Faye Burdette No.1 Site  
location



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ConocoPhillips High Resolution Aerial Imagery 2008

**FIGURE 2.**

**Site Layout Map**  
**CONOCOPHILLIPS COMPANY**  
**FAYE BURDETTE NO.1 GAS**  
**PRODUCTION WELL SITE**  
 Sec 9, T30N, R11W  
 Aztec, New Mexico

**LEGEND**

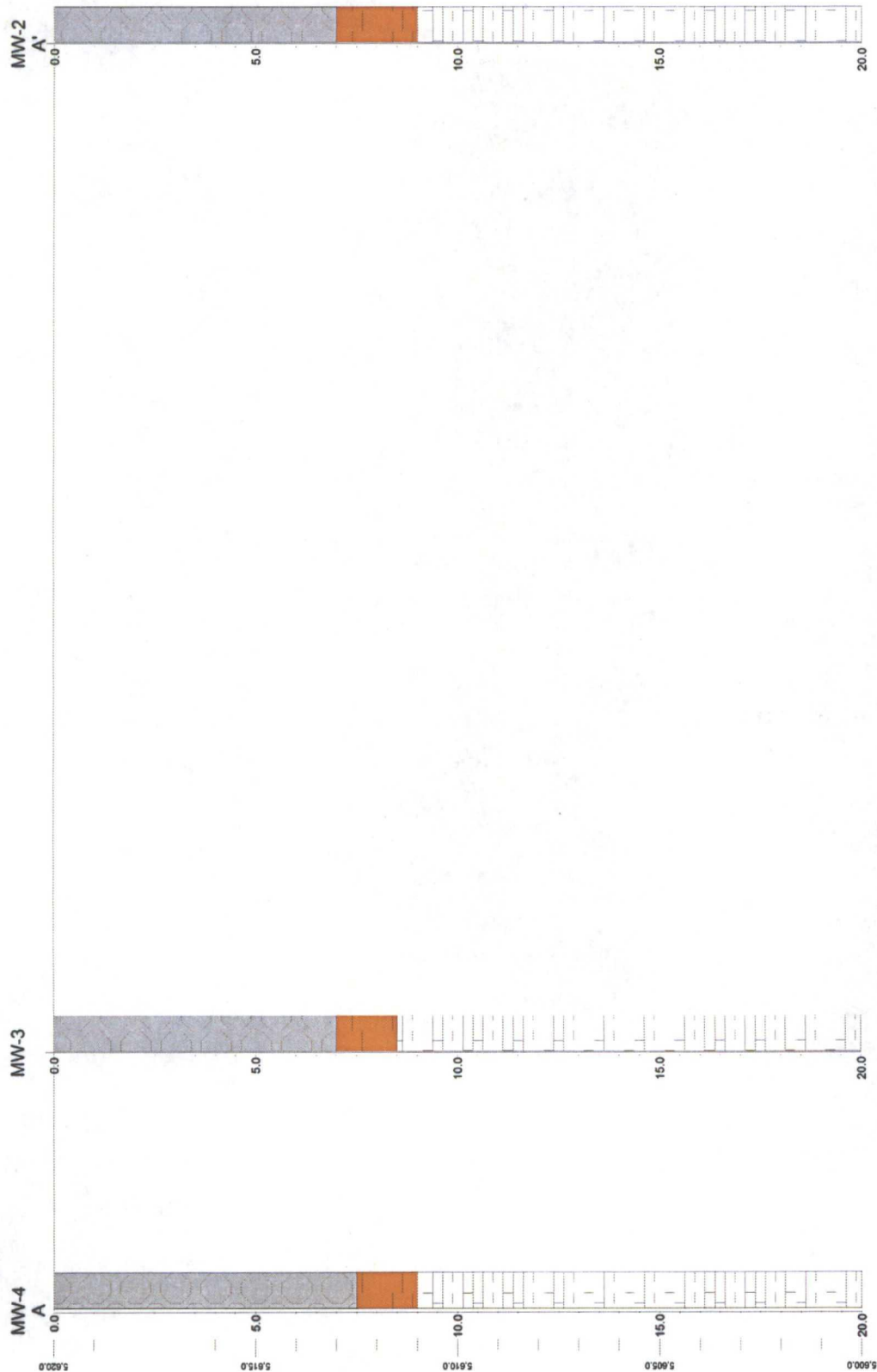
- MONITORING WELL
- BERM
- FENCE LINE
- EQUIPMENT
- APPROXIMATE 2007 EXCAVATION AREA



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**FIGURE 3:**  
**Geologic Cross Section**  
 CONOCOPHILLIPS COMPANY  
 FAYE BURDETTE NO. 1 GAS  
 PRODUCTION WELL SITE  
 Sec 9, T30N, R11W  
 San Juan County, New Mexico

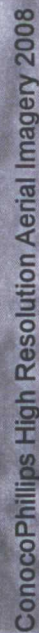
**LEGEND**

- Medium grained sand
- Silty Sand
- Undefined



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**Azteco, New Mexico**

APPROXIMATE 2007  
EXCAVATION AREA

A horizontal scale bar with alternating black and white segments. It is marked with '0' at the left end, '25' in the middle, and '50' at the right end. The word 'FEET' is written vertically below the '25' mark.





## **TABLES**

1. Site History Timeline
2. Groundwater Elevation Data Summary
3. Groundwater Laboratory Analytical Results Summary

**Table 1. Site History Timeline - ConocoPhillips Company Faye Burdette No. 1**

| DATE        | ACTIVITY  |
|-------------|---|
| 29-Apr-1962 | Well was spudded by Southwest Production Company.   |
| 1-Sep-1963  | Ownership of well transferred to Beta Development Company.  |
| 21-Feb-1983 | NMOCD inspection noted a leaky 2-inch valve on a storage tank.  |
| 15-Aug-1988 | Ownership of well transferred to Mesa Operating Limited Partnership.  |
| 1-Jul-1991  | Ownership of well transferred to Conoco Inc.  |
| 24-May-2007 | A small (<25 gallons) release occurred from the produced water tank after a rusty spot was scraped off. Follow-up excavation encountered evidence of pre-existing hydrocarbon-impacted soil, apparently related to a former earthen pit beneath the tank.   |
| Jul-07      | Contaminated soil excavated from the Site. Two ground water samples were obtained at the time of this excavation, and one (1) of these samples was found to contain total xylenes above the State of New Mexico drinking water standard.  |
| 26-Sep-07   | Ground water monitoring well installed to a depth of 15 feet below ground surface (bgs) by Envirotech Inc. of Farmington, NM (Envirotech). A soil sample obtained from the well boring was analyzed for benzene, BTEX and total petroleum hydrocarbons (TPH). Results were below NMOCD regulations of 10 parts per million (ppm), 50 ppm, and 100 ppm, respectively.<br>A ground water sample was collected from the temporary monitoring well (MW-1) and analyzed for BTEX; results were below the State of New Mexico drinking water standard for this constituent. Depth to ground water recorded at 9.5 feet bgs. |
| Nov-07      | Envirotech report recommends plugging and abandonment of the temporary ground water monitoring well and a no further action determination for the Site (Envirotech, 2007).  |
| Apr-08      | Oil Conservation Division of NM Energy, Minerals, and Resources Dept. indicates additional investigation and sampling is necessary for closure consideration during a meeting with Glenn Von Gonten.  |
| 22-Oct-08   | 1st quarter sampling of MW-1 by Tetra Tech.   |
| Jan-09      | WDC installed additional Monitoring Wells MW-2, MW-3 and MW-4 under the supervision of Tetra Tech.  |
| 29-Jan-09   | Second quarter sampling of MW-1 by Tetra Tech. Initial sampling of Monitoring Wells MW-2, MW-3, and MW-4.   |
| 31-Mar-09   | Third consecutive quarter of sampling MW-1 by Tetra Tech. Second quarter sampling of Monitoring Wells MW-2, MW-3, and MW-4.   |
| 17-Jun-09   | Fourth consecutive quarter of sampling MW-1 by Tetra Tech. Third quarter of sampling Monitoring Wells MW-2, MW-3, and MW-4.   |
| 22-Sep-09   | Fifth consecutive quarter of sampling MW-1 by Tetra Tech. Fourth consecutive quarter of sampling Monitoring Wells MW-2, MW-3, and MW-4. Sampling for total metals discontinued as requested by NMOCD. Sampling for select dissolved metals based on total metals analyses begins since standards are based on these.  |
| 16-Dec-09   | Sixth consecutive quarter sampling of MW-1 by Tetra Tech. Fifth consecutive quarter sampling of Monitoring Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.  |
| 1-Apr-10    | Seventh consecutive quarter sampling of MW-1 by Tetra Tech. Sixth consecutive quarter sampling of Monitoring Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.  |

Table 2. Groundwater Elevation Data Summary - ConocoPhillips Company Faye Burdette No. 1

| Well ID | Total Depth<br>(ft bgs) | Screen<br>Interval (ft) | *Elevation<br>(ft) (TOC) | Date<br>Measured | Depth to Groundwater (ft below<br>TOC) | Relative Groundwater<br>Elevation |
|---------|-------------------------|-------------------------|--------------------------|------------------|--|-----------------------------------|
| MW-1    | 17.52                   | 4.8 - 14.8              | 97.66                    | 10/22/2008       | 10.91                                  | 86.75                             |
|         |                         |                         |                          | 1/29/2009        | 11.72                                  | 85.94                             |
|         |                         |                         |                          | 3/31/2009        | 11.88                                  | 85.78                             |
|         |                         |                         |                          | 6/17/2009        | 11.24                                  | 86.42                             |
|         |                         |                         |                          | 9/22/2009        | 10.87                                  | 86.79                             |
|         |                         |                         |                          | 12/16/2009       | 11.56                                  | 86.1                              |
| MW-2    | 19.45                   | 5.0 - 20.0              | 98.54                    | 4/1/2010         | 11.91                                  | 85.75                             |
|         |                         |                         |                          | 1/29/2009        | 10.91                                  | 87.63                             |
|         |                         |                         |                          | 3/31/2009        | 11.12                                  | 87.42                             |
|         |                         |                         |                          | 6/17/2009        | 10.48                                  | 88.06                             |
|         |                         |                         |                          | 9/22/2009        | 10.76                                  | 87.78                             |
|         |                         |                         |                          | 12/16/2009       | 10.61                                  | 87.93                             |
| MW-3    | 22.96                   | 5.0 - 20.0              | 97.16                    | 4/1/2010         | 11.2                                   | 87.34                             |
|         |                         |                         |                          | 1/29/2009        | 11.44                                  | 85.72                             |
|         |                         |                         |                          | 3/31/2009        | 11.62                                  | 85.54                             |
|         |                         |                         |                          | 6/17/2009        | 10.97                                  | 86.19                             |
|         |                         |                         |                          | 9/22/2009        | 10.57                                  | 86.59                             |
|         |                         |                         |                          | 12/16/2009       | 11.32                                  | 85.84                             |
| MW-4    | 22.28                   | 5.0 - 20.0              | 97.06                    | 4/1/2010         | 11.66                                  | 85.50                             |
|         |                         |                         |                          | 1/29/2009        | 11.02                                  | 86.04                             |
|         |                         |                         |                          | 3/31/2009        | 11.18                                  | 85.88                             |
|         |                         |                         |                          | 6/17/2009        | 10.59                                  | 86.47                             |
|         |                         |                         |                          | 9/22/2009        | 10.16                                  | 86.90                             |
|         |                         |                         |                          | 12/16/2009       | 10.87                                  | 86.19                             |
|         |                         |                         |                          | 4/1/2010         | 11.04                                  | 86.02                             |

ft = Feet

TOC = Top of casing

bgs = below ground surface

\* Elevation relative to an arbitrary point set at 100 feet



Table 3. Groundwater Laboratory Analytical Results - ConocoPhillips Company Faye Burdette No. 1

| Well ID                             | Date       | Aluminum<br>(mg/L) | Iron<br>(mg/L) | Manganese<br>(mg/L) | Benzene<br>(µg/L) | Toluene<br>(µg/L) | Ethylbenzene<br>(µg/L) | Total Xylenes (µg/L) |
|-------------------------------------|------------|--------------------|----------------|---------------------|-------------------|-------------------|------------------------|----------------------|
| MW-1                                | 10/22/2008 | NA                 | 3.74*          | 2.09*               | <5                | <5                | <5                     | <5                   |
|                                     | 1/29/2009  | 2.14*              | 2.77*          | 1.41*               | <5                | <5                | <5                     | <5                   |
|                                     | 3/31/2009  | 3.64*              | 4.83*          | 1.24*               | <5                | <5                | <5                     | <5                   |
|                                     | 6/17/2009  | 2.5*               | 5.58*          | 2.47*               | <5                | <5                | <5                     | <5                   |
|                                     | 9/22/2009  | 0.443              | 0.445          | 1.44                | <1                | <1                | <1                     | <1                   |
|                                     | 12/16/2009 | NA                 | NA             | 0.732               | <1                | <1                | <1                     | <1                   |
| MW-1 Duplicate                      | 4/1/2010   | NA                 | NA             | 1.71                | <1                | <1                | <1                     | <1                   |
|                                     | 1/29/2009  | NA                 | NA             | NA                  | <5                | <5                | <5                     | <5                   |
|                                     | 3/31/2009  | NA                 | NA             | NA                  | <5                | <5                | <5                     | <5                   |
|                                     | 6/17/2009  | 2.83               | 6.13*          | 2.52*               | <5                | <5                | <5                     | <5                   |
|                                     | 9/22/2009  | NA                 | NA             | NA                  | <1                | <1                | <1                     | <1                   |
|                                     | 12/16/2009 | NA                 | NA             | NA                  | <1                | <1                | <1                     | <1                   |
| MW-2                                | 4/1/2010   | NA                 | NA             | NA                  | <1                | <1                | <1                     | <1                   |
|                                     | 1/29/2009  | 4.15*              | 3.15*          | 1.79*               | <5                | <5                | <5                     | <5                   |
|                                     | 3/31/2009  | 1.17*              | 1.02*          | 0.326*              | <5                | <5                | <5                     | <5                   |
|                                     | 6/17/2009  | 3.4*               | 2.8*           | 1.37*               | <5                | <5                | <5                     | <5                   |
|                                     | 9/22/2009  | <0.1               | <0.02          | 0.0264              | <1                | <1                | <1                     | <1                   |
|                                     | 12/16/2009 | NA                 | NA             | 0.0654              | <1                | <1                | <1                     | <1                   |
| MW-3                                | 4/1/2010   | NA                 | NA             | 0.16                | <1                | <1                | <1                     | <1                   |
|                                     | 1/29/2009  | 1.82*              | 2.24*          | 0.374*              | <5                | <5                | <5                     | <5                   |
|                                     | 3/31/2009  | 1.64*              | 1.91*          | 0.271*              | <5                | <5                | <5                     | <5                   |
|                                     | 6/17/2009  | 1.68*              | 2.14*          | 0.628*              | <5                | <5                | <5                     | <5                   |
|                                     | 9/22/2009  | <0.1               | 0.0291         | 0.0201              | <1                | <1                | <1                     | <1                   |
|                                     | 12/16/2009 | NA                 | NA             | 0.0607              | <1                | <1                | <1                     | <1                   |
| MW-4                                | 4/1/2010   | NA                 | NA             | 0.0232              | <1                | <1                | <1                     | <1                   |
|                                     | 1/29/2009  | 6.92*              | 3.17*          | 4.15*               | <5                | <5                | <5                     | <5                   |
|                                     | 3/31/2009  | 4.21*              | 3.22*          | 1.45*               | <5                | <5                | <5                     | <5                   |
|                                     | 6/17/2009  | 2.43*              | 2.05*          | 0.854*              | <5                | <5                | <5                     | <5                   |
|                                     | 9/22/2009  | <0.1               | 0.108          | 0.476               | <1                | <1                | <1                     | <1                   |
|                                     | 12/16/2009 | NA                 | NA             | 0.0149              | <1                | <1                | <1                     | <1                   |
| Method                              | 4/1/2010   | NA                 | NA             | <0.005              | <1                | <1                | <1                     | <1                   |
|                                     | SW6010B    | 5.0                | 1.0            | 0.2                 | 10                | 750               | 750                    | 620                  |
| NMWQCC Groundwater Quality Standard |            | SW6010B            | SW6010B        | SW6010B             | 8260B             | 8260B             | 8260B                  | 8260B                |

**Notes:**

MW = monitoring well

NMWQCC = New Mexico Water Quality Control Commission

Constituents in **BOLD** exceed NMWQCC groundwater quality standards

mg/L = milligrams per liter

µg/L = micrograms per liter

NA = not analyzed

&lt;5 = result below laboratory detection limit

Total Metals analysis run for all samples through June 2009; September 2009 dissolved metals analysis run in order to compare to standards

\* = total metals analysis result (NMWQCC standards do not apply)

## **APPENDIX A**



## WATER SAMPLING FIELD FORM

Project Name Faye Burdette No. 1Page 1 of 4

Project No. \_\_\_\_\_

Site Location Aztec, NMSite/Well No. MW-1 MW-2Coded/  
Replicate No. \_\_\_\_\_Date 2-4-1-10

Weather \_\_\_\_\_

Time Sampling  
Began 1020Time Sampling  
Completed 1030

## EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface \_\_\_\_\_ MP Elevation \_\_\_\_\_

Total Sounded Depth of Well Below MP 17.52 1945

Water-Level Elevation \_\_\_\_\_

Held \_\_\_\_\_ Depth to Water Below MP 11.80Diameter of Casing 2"Wet \_\_\_\_\_ Water Column in Well 8.25Gallons Pumped/Bailed  
Prior to Sampling 4 gallonsGallons per Foot 0.16Gallons in Well 1.32 x 3 = 3.96Sampling Pump Intake Setting  
(feet below land surface) \_\_\_\_\_Purging Equipment Purge pump Bailer

## SAMPLING DATA/FIELD PARAMETERS

| Time        | Temperature (°C) | pH          | Conductivity (µS/cm³) | TDS (g/L)  | DO (mg/L)   | ORP (mV)     | DO %        |
|-------------|------------------|-------------|-----------------------|------------|-------------|--------------|-------------|
| <u>1025</u> | <u>12.46</u>     | <u>7.33</u> | <u>1157</u>           | <u>752</u> | <u>8.15</u> | <u>-37.3</u> | <u>69.0</u> |
| <u>1026</u> | <u>12.51</u>     | <u>7.32</u> | <u>1152</u>           | <u>749</u> | <u>4.20</u> | <u>-41.6</u> | <u>39.0</u> |
| <u>1028</u> | <u>12.50</u>     | <u>7.29</u> | <u>1153</u>           | <u>750</u> | <u>3.80</u> | <u>-42.6</u> | <u>35.5</u> |
|             |                  |             |                       |            |             |              |             |
|             |                  |             |                       |            |             |              |             |

Sampling Equipment Purge Pump/Bailer

## Constituents Sampled

## Container Description

## Preservative

BTEX 3 40mL VOA's HClDissolved Mn 16 oz Plastic None

Remarks \_\_\_\_\_

Sampling Personnel Christine Matthews / Kelly Blanchard

## 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 |





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## WATER SAMPLING FIELD FORM

Project Name Faye Burdette No. 1Page 2 of 4

Project No. \_\_\_\_\_

Site Location Aztec, NMSite/Well No. MW-2 MW-1Coded/  
Replicate No. 1135Date 4-1-10Weather cloudy, coldTime Sampling  
Began 11:15Time Sampling  
Completed 11:30  
1135

## EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface \_\_\_\_\_

MP Elevation \_\_\_\_\_

Total Sounded Depth of Well Below MP 19.45 17.92

Water-Level Elevation \_\_\_\_\_

Held \_\_\_\_\_ Depth to Water Below MP 11.20 11.91Diameter of Casing 2"Wet \_\_\_\_\_ Water Column in Well 1328.25Gallons Pumped/Bailed  
Prior to Sampling \_\_\_\_\_Gallons per Foot 6.01 0.16Gallons in Well 0.96 1.32 3Sampling Pump Intake  
(feet below land) \_\_\_\_\_

Purging Equipment

Purge pumpBailerx3  
2.88 = 3.096

## SAMPLING DATA/FIELD PARAMETERS

| Time  | Temperature (°C) | pH   | Conductivity (µS/cm³) | TDS (g/L) | DO (mg/L) | ORP (mV) | DO % |
|-------|------------------|------|-----------------------|-----------|-----------|----------|------|
| 11:22 | 11.07            | 7.00 | 1422                  | 0.925     | 2.08      | -46.7    | 19.4 |
| 11:23 | 11.05            | 7.02 | 1418                  | 0.921     | 1.68      | -50.1    | 14.6 |
| 11:25 | 11.03            | 7.02 | 1425                  | 0.926     | 1.47      | -51.7    | 13.4 |
|       |                  |      |                       |           |           |          |      |
|       |                  |      |                       |           |           |          |      |

Sampling Equipment

Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX3 40mL VOA'sHClDissolved Mn16 oz PlasticNone

Remarks \_\_\_\_\_

Sampling Personnel \_\_\_\_\_

## 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 |



## WATER SAMPLING FIELD FORM

Project Name Faye Burdette No. 1Page 3 of 4

Project No. \_\_\_\_\_

Site Location Aztec, NMSite/Well No. MW-3Coded/  
Replicate No. \_\_\_\_\_Date 4-1-10Weather cloudy, coldTime Sampling  
Began 1057Time Sampling  
Completed 1110

## EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface \_\_\_\_\_ MP Elevation \_\_\_\_\_

Total Sounded Depth of Well Below MP 22.96 Water-Level Elevation \_\_\_\_\_Held \_\_\_\_\_ Depth to Water Below MP 11.66 Diameter of Casing 2"Wet \_\_\_\_\_ Water Column in Well 11.3 Gallons Pumped/Bailed  
Prior to Sampling 5.5 gallonsGallons per Foot 0.16Gallons in Well 1.808 x 3 Sampling Pump Intake Setting  
(feet below land surface) \_\_\_\_\_Purging Equipment Purge pump / Bailer = 5.42

## SAMPLING DATA/FIELD PARAMETERS

| Time        | Temperature (°C) | pH          | Conductivity (µS/cm <sup>3</sup> ) | TDS (g/L)   | DO (mg/L)   | ORP (mV)     | DO %        |
|-------------|------------------|-------------|------------------------------------|-------------|-------------|--------------|-------------|
| <u>1105</u> | <u>12.61</u>     | <u>7.16</u> | <u>1280</u>                        | <u>0.32</u> | <u>2.38</u> | <u>-47.1</u> | <u>22.0</u> |
| <u>1106</u> | <u>12.49</u>     | <u>7.14</u> | <u>1282</u>                        | <u>0.33</u> | <u>1.91</u> | <u>-48.2</u> | <u>17.5</u> |
| <u>1108</u> | <u>12.31</u>     | <u>7.13</u> | <u>1282</u>                        | <u>0.34</u> | <u>2.55</u> | <u>-49.6</u> | <u>22.1</u> |
|             |                  |             |                                    |             |             |              |             |
|             |                  |             |                                    |             |             |              |             |

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX 3 40mL VOA's HClDissolved Mn 16 oz Plastic None

Remarks \_\_\_\_\_

Sampling Personnel Christine Matthews & Kelly Blanchard

## 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 Faye Burdette No. 1Page 4 of 4

Project No. \_\_\_\_\_

Site Location Aztec, NMSite/Well No. MW-4Coded/  
Replicate No. \_\_\_\_\_Date 4-1-10Weather snow, cloudy,  
cold.Time Sampling  
Began 1039Time Sampling  
Completed 1050

## EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface \_\_\_\_\_ MP Elevation \_\_\_\_\_

Total Sounded Depth of Well Below MP 22.28 Water-Level Elevation \_\_\_\_\_Held \_\_\_\_\_ Depth to Water Below MP 11.24 Diameter of Casing 2"Wet \_\_\_\_\_ Water Column in Well 11.04 Gallons Pumped/Bailed Prior to Sampling 5.5Gallons per Foot 0.16Gallons in Well 1.766 x 3 Sampling Pump Intake Setting (feet below land surface) \_\_\_\_\_= 5.28Purging Equipment Purge pump / Bailer

## SAMPLING DATA/FIELD PARAMETERS

| Time        | Temperature (°C) | pH          | Conductivity (µS/cm³) | TDS (g/L)    | DO (mg/L)   | ORP (mV)     | DO %        |
|-------------|------------------|-------------|-----------------------|--------------|-------------|--------------|-------------|
| <u>1044</u> | <u>10.89</u>     | <u>7.27</u> | <u>1431</u>           | <u>0.930</u> | <u>3.71</u> | <u>-37.2</u> | <u>31.1</u> |
| <u>1046</u> | <u>11.92</u>     | <u>7.21</u> | <u>1428</u>           | <u>0.928</u> | <u>2.12</u> | <u>-42.9</u> | <u>19.8</u> |
| <u>1048</u> | <u>11.89</u>     | <u>7.21</u> | <u>1428</u>           | <u>0.929</u> | <u>2.13</u> | <u>-44.3</u> | <u>19.9</u> |
|             |                  |             |                       |              |             |              |             |
|             |                  |             |                       |              |             |              |             |

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX 3 40mL VOA's HClDissolved Mn 16 oz Plastic None

Remarks \_\_\_\_\_

Sampling Personnel K. Blanchard, C. Matthews

## 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**



SPL Inc.  
8880 Interchange Drive  
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Phone: (713) 660-0901  
Fax: (713) 660-8975

### Certificate of Analysis

April 15, 2010

**Workorder: H10040049**

Kelly Blanchard  
Tetra Tech  
6121 Indian School Road NE  
Suite 200  
Albuquerque, NM 87110

**Project: Faye Burdette No.1**  
Project Number: Faye Burdette No.1  
Site: Albuquerque, NM  
PO Number: ENFOS#4510713617  
NELAC Cert. No.: T104704205-09-1

This Report Contains A Total Of 17 Pages

Excluding Any Attachments



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## Certificate of Analysis

April 15, 2010

**Workorder: H10040049**

Kelly Blanchard  
Tetra Tech  
6121 Indian School Road NE  
Suite 200  
Albuquerque, NM 87110

**Project: Faye Burdette No.1**  
Project Number: Faye Burdette No.1  
Site: Albuquerque, NM  
PO Number: ENFOS#4510713617  
NELAC Cert. No.: T104704205-09-1

### 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:

There were no exceptions noted.

### 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.



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### Certificate of Analysis

April 15, 2010

**Workorder: H10040049**

Kelly Blanchard  
Tetra Tech  
6121 Indian School Road NE  
Suite 200  
Albuquerque, NM 87110

**Project: Faye Burdette No.1**  
Project Number: Faye Burdette No.1  
Site: Albuquerque, NM  
PO Number: ENFOS#4510713617  
NELAC Cert. No.: T104704205-09-1

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 his designee, as verified by the following signature.

Erica Cardenas, Senior Project Manager

Enclosures



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## SAMPLE SUMMARY

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

| Lab ID       | Sample ID  | Matrix | COC ID | Date/Time<br>Collected | Date/Time<br>Received |
|--------------|------------|--------|--------|------------------------|-----------------------|
| H10040049001 | MW-1       | Water  |        | 4/1/2010 11:35         | 4/2/2010 09:15        |
| H10040049002 | MW-2       | Water  |        | 4/1/2010 10:30         | 4/2/2010 09:15        |
| H10040049003 | MW-3       | Water  |        | 4/1/2010 11:10         | 4/2/2010 09:15        |
| H10040049004 | MW-4       | Water  |        | 4/1/2010 10:50         | 4/2/2010 09:15        |
| H10040049005 | Trip Blank | Water  |        | 4/1/2010 00:00         | 4/2/2010 09:15        |
| H10040049006 | Duplicate  | Water  |        | 4/1/2010 11:25         | 4/2/2010 09:15        |





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## ANALYTICAL RESULTS

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

Lab ID: H10040049001

Date/Time Received: 4/2/2010 09:15

Matrix: Water

Sample ID: MW-1

Date/Time Collected: 4/1/2010 11:35

### ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R\_V

Analytical Batches:

Batch: 1334 SW-846 6010B on 04/11/2010 16:29 by EBG

| Parameters | Results | Qual | Report Limit | MDL      | DF | RegLmt | Batch Information |          |
|------------|---------|------|--------------|----------|----|--------|-------------------|----------|
|            | mg/l    |      |              |          |    |        | Prep              | Analysis |
| Manganese  | 1.71    |      | 0.00500      | 0.000300 | 1  |        | 1638              | 1334     |

### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 1745 SW-846 8260B on 04/13/2010 03:42 by LKT

| Parameters                | Results | Qual | Report Limit | MDL  | DF | RegLmt | Batch Information |          |
|---------------------------|---------|------|--------------|------|----|--------|-------------------|----------|
|                           | ug/l    |      |              |      |    |        | Prep              | Analysis |
| Benzene                   | ND      |      | 1.0          | 0.10 | 1  |        |                   | 1745     |
| Ethylbenzene              | ND      |      | 1.0          | 0.15 | 1  |        |                   | 1745     |
| Toluene                   | ND      |      | 1.0          | 0.29 | 1  |        |                   | 1745     |
| m,p-Xylene                | ND      |      | 1.0          | 0.18 | 1  |        |                   | 1745     |
| o-Xylene                  | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| Xylenes, Total            | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| 4-Bromofluorobenzene (S)  | 96.5 %  |      | 74-125       |      | 1  |        |                   | 1745     |
| 1,2-Dichloroethane-d4 (S) | 100 %   |      | 70-130       |      | 1  |        |                   | 1745     |
| Toluene-d8 (S)            | 92.4 %  |      | 82-118       |      | 1  |        |                   | 1745     |



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## ANALYTICAL RESULTS

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

Lab ID: H10040049002

Date/Time Received: 4/2/2010 09:15

Matrix: Water

Sample ID: MW-2

Date/Time Collected: 4/1/2010 10:30

### ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R\_V

Analytical Batches:

Batch: 1334 SW-846 6010B on 04/11/2010 16:34 by EBG

| Parameters | Results | Qual | Report Limit | MDL      | DF | RegLmt | Batch Information |          |
|------------|---------|------|--------------|----------|----|--------|-------------------|----------|
|            | mg/l    |      |              |          |    |        | Prep              | Analysis |
| Manganese  | 0.160   |      | 0.00500      | 0.000300 | 1  |        | 1638              | 1334     |

### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 1745 SW-846 8260B on 04/13/2010 04:09 by LKT

| Parameters                | Results | Qual | Report Limit | MDL  | DF | RegLmt | Batch Information |          |
|---------------------------|---------|------|--------------|------|----|--------|-------------------|----------|
|                           | ug/l    |      |              |      |    |        | Prep              | Analysis |
| Benzene                   | ND      |      | 1.0          | 0.10 | 1  |        |                   | 1745     |
| Ethylbenzene              | ND      |      | 1.0          | 0.15 | 1  |        |                   | 1745     |
| Toluene                   | ND      |      | 1.0          | 0.29 | 1  |        |                   | 1745     |
| m,p-Xylene                | ND      |      | 1.0          | 0.18 | 1  |        |                   | 1745     |
| o-Xylene                  | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| Xylenes, Total            | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| 4-Bromofluorobenzene (S)  | 95.1 %  |      | 74-125       |      | 1  |        |                   | 1745     |
| 1,2-Dichloroethane-d4 (S) | 92.3 %  |      | 70-130       |      | 1  |        |                   | 1745     |
| Toluene-d8 (S)            | 92.7 %  |      | 82-118       |      | 1  |        |                   | 1745     |



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## ANALYTICAL RESULTS

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

Lab ID: H10040049003

Date/Time Received: 4/2/2010 09:15

Matrix: Water

Sample ID: MW-3

Date/Time Collected: 4/1/2010 11:10

### ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R\_V

Analytical Batches:

Batch: 1334 SW-846 6010B on 04/11/2010 16:40 by EBG

| Parameters | Results | Qual | Report Limit | MDL      | DF | RegLmt | Batch Information |          |
|------------|---------|------|--------------|----------|----|--------|-------------------|----------|
|            | mg/l    |      |              |          |    |        | Prep              | Analysis |
| Manganese  | 0.0232  |      | 0.00500      | 0.000300 | 1  |        | 1638              | 1334     |

### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 1745 SW-846 8260B on 04/13/2010 04:37 by LKT

| Parameters                | Results | Qual | Report Limit | MDL  | DF | RegLmt | Batch Information |          |
|---------------------------|---------|------|--------------|------|----|--------|-------------------|----------|
|                           | ug/l    |      |              |      |    |        | Prep              | Analysis |
| Benzene                   | ND      |      | 1.0          | 0.10 | 1  |        |                   | 1745     |
| Ethylbenzene              | ND      |      | 1.0          | 0.15 | 1  |        |                   | 1745     |
| Toluene                   | ND      |      | 1.0          | 0.29 | 1  |        |                   | 1745     |
| m,p-Xylene                | ND      |      | 1.0          | 0.18 | 1  |        |                   | 1745     |
| o-Xylene                  | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| Xylenes, Total            | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| 4-Bromofluorobenzene (S)  | 96.2 %  |      | 74-125       |      | 1  |        |                   | 1745     |
| 1,2-Dichloroethane-d4 (S) | 101 %   |      | 70-130       |      | 1  |        |                   | 1745     |
| Toluene-d8 (S)            | 92.2 %  |      | 82-118       |      | 1  |        |                   | 1745     |



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## ANALYTICAL RESULTS

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

Lab ID: H10040049004

Date/Time Received: 4/2/2010 09:15

Matrix: Water

Sample ID: MW-4

Date/Time Collected: 4/1/2010 10:50

### ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R\_V

Analytical Batches:

Batch: 1334 SW-846 6010B on 04/11/2010 16:46 by EBG

| Parameters | Results | Qual | Report Limit | MDL      | DF | RegLmt | Batch Information |          |
|------------|---------|------|--------------|----------|----|--------|-------------------|----------|
|            | mg/l    |      |              |          |    |        | Prep              | Analysis |
| Manganese  | ND      |      | 0.00500      | 0.000300 | 1  |        | 1638              | 1334     |

### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 1745 SW-846 8260B on 04/13/2010 05:04 by LKT

| Parameters                | Results | Qual | Report Limit | MDL  | DF | RegLmt | Batch Information |          |
|---------------------------|---------|------|--------------|------|----|--------|-------------------|----------|
|                           | ug/l    |      |              |      |    |        | Prep              | Analysis |
| Benzene                   | ND      |      | 1.0          | 0.10 | 1  |        |                   | 1745     |
| Ethylbenzene              | ND      |      | 1.0          | 0.15 | 1  |        |                   | 1745     |
| Toluene                   | ND      |      | 1.0          | 0.29 | 1  |        |                   | 1745     |
| m,p-Xylene                | ND      |      | 1.0          | 0.18 | 1  |        |                   | 1745     |
| o-Xylene                  | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| Xylenes, Total            | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| 4-Bromofluorobenzene (S)  | 96.1 %  |      | 74-125       |      | 1  |        |                   | 1745     |
| 1,2-Dichloroethane-d4 (S) | 92.7 %  |      | 70-130       |      | 1  |        |                   | 1745     |
| Toluene-d8 (S)            | 93.4 %  |      | 82-118       |      | 1  |        |                   | 1745     |



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## ANALYTICAL RESULTS

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

Lab ID: H10040049005

Date/Time Received: 4/2/2010 09:15

Matrix: Water

Sample ID: Trip Blank

Date/Time Collected: 4/1/2010 00:00

### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 1745 SW-846 8260B on 04/13/2010 01:53 by LKT

| Parameters:               | Results |      |              |      |    | Batch Information |               |
|---------------------------|---------|------|--------------|------|----|-------------------|---------------|
|                           | ug/l    | Qual | Report Limit | MDL  | DF | RegLimit          | Prep Analysis |
| Benzene                   | ND      |      | 1.0          | 0.10 | 1  |                   | 1745          |
| Ethylbenzene              | ND      |      | 1.0          | 0.15 | 1  |                   | 1745          |
| Toluene                   | ND      |      | 1.0          | 0.29 | 1  |                   | 1745          |
| m,p-Xylene                | ND      |      | 1.0          | 0.18 | 1  |                   | 1745          |
| o-Xylene                  | ND      |      | 1.0          | 0.13 | 1  |                   | 1745          |
| Xylenes, Total            | ND      |      | 1.0          | 0.13 | 1  |                   | 1745          |
| 4-Bromofluorobenzene (S)  | 96.7 %  |      | 74-125       |      | 1  |                   | 1745          |
| 1,2-Dichloroethane-d4 (S) | 99 %    |      | 70-130       |      | 1  |                   | 1745          |
| Toluene-d8 (S)            | 92 %    |      | 82-118       |      | 1  |                   | 1745          |





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## ANALYTICAL RESULTS

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

Lab ID: **H10040049006**

Date/Time Received: 4/2/2010 09:15

Matrix: Water

Sample ID: **Duplicate**

Date/Time Collected: 4/1/2010 11:25

### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 1745 SW-846 8260B on 04/13/2010 02:20 by LKT

| Parameters                | Results |      |              |      | DF | RegLmt | Batch Information |          |
|---------------------------|---------|------|--------------|------|----|--------|-------------------|----------|
|                           | ug/l    | Qual | Report Limit | MDL  |    |        | Prep              | Analysis |
| Benzene                   | ND      |      | 1.0          | 0.10 | 1  |        |                   | 1745     |
| Ethylbenzene              | ND      |      | 1.0          | 0.15 | 1  |        |                   | 1745     |
| Toluene                   | ND      |      | 1.0          | 0.29 | 1  |        |                   | 1745     |
| m,p-Xylene                | ND      |      | 1.0          | 0.18 | 1  |        |                   | 1745     |
| o-Xylene                  | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| Xylenes, Total            | ND      |      | 1.0          | 0.13 | 1  |        |                   | 1745     |
| 4-Bromofluorobenzene (S)  | 98.4 %  |      | 74-125       |      | 1  |        |                   | 1745     |
| 1,2-Dichloroethane-d4 (S) | 93.2 %  |      | 70-130       |      | 1  |        |                   | 1745     |
| Toluene-d8 (S)            | 93.1 %  |      | 82-118       |      | 1  |        |                   | 1745     |



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## QUALITY CONTROL DATA

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

|                         |              |                  |                         |              |              |              |
|-------------------------|--------------|------------------|-------------------------|--------------|--------------|--------------|
| QC Batch:               | DIGM/1638    | Analysis Method: | SW-846 6010B            |              |              |              |
| QC Batch Method:        | SW-846 3010A | Preparation:     | 04/05/2010 17:00 by R_V |              |              |              |
| Associated Lab Samples: | H10040019001 | H10040019002     | H10040019003            | H10040019004 | H10040021001 | H10040021002 |
|                         | H10040021003 | H10040021004     | H10040025001            | H10040025002 | H10040025003 | H10040049001 |
|                         | H10040049002 | H10040049003     | H10040049004            | H10040050001 | H10040051001 | H10040051002 |
|                         | H10040051003 | H10040051004     |                         |              |              |              |

METHOD BLANK: 37509

Analysis Date/Time Analyst: 04/11/2010 13:44 EBG

| Parameter | Units | Blank Result | Qualifiers | Reporting Limit |
|-----------|-------|--------------|------------|-----------------|
| Manganese | mg/l  | ND           |            | 0.00500         |

LABORATORY CONTROL SAMPLE: 37510

Analysis Date/Time Analyst: 04/11/2010 13:49 EBG

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits |
|-----------|-------|-------------|------------|-----------|--------------|
| Manganese | mg/l  | 0.10        | 0.1052     | 105       | 80-120       |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 37507 37508 Original: H10040025002

MS Analysis Date/Time Analyst: 04/11/2010 14:00 EBG

MSD Analysis Date/Time Analyst: 04/11/2010 14:06 EBG

| Parameter | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
| Manganese | mg/l  | 0.136           | 0.10        | 0.2285    | 0.2325     | 92.9     | 96.9      | 75-125      | 1.7 | 20      |

QC results presented in the QC Control Data 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. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



## QUALITY CONTROL DATA

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

QC Batch: MSV/1744

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030

Preparation: 04/12/2010 00:00 by LKT

Associated Lab Samples: H10040042005 H10040049001 H10040049002 H10040049003 H10040049004 H10040049005  
H10040049006

METHOD BLANK: 38947

Analysis Date/Time Analyst: 04/12/2010 22:41 LKT

| Parameter                 | Units | Blank<br>Result | Qualifiers | Reporting<br>Limit |
|---------------------------|-------|-----------------|------------|--------------------|
| Benzene                   | ug/l  | ND              |            | 1.0                |
| Ethylbenzene              | ug/l  | ND              |            | 1.0                |
| Toluene                   | ug/l  | ND              |            | 1.0                |
| m,p-Xylene                | ug/l  | ND              |            | 1.0                |
| o-Xylene                  | ug/l  | ND              |            | 1.0                |
| Xylenes, Total            | ug/l  | ND              |            | 1.0                |
| 4-Bromofluorobenzene (S)  | %     | 95.2            |            | 74-125             |
| 1,2-Dichloroethane-d4 (S) | %     | 91.5            |            | 70-130             |
| Toluene-d8 (S)            | %     | 92.2            |            | 82-118             |

LABORATORY CONTROL SAMPLE: 38948

Analysis Date/Time Analyst: 04/12/2010 21:47 LKT

| Parameter                 | Units | Spike<br>Conc. | LCS<br>Result | LCS<br>% Rec | % Rec<br>Limits |
|---------------------------|-------|----------------|---------------|--------------|-----------------|
| Benzene                   | ug/l  | 20             | 18.7          | 93.7         | 74-123          |
| Ethylbenzene              | ug/l  | 20             | 18.3          | 91.4         | 72-127          |
| Toluene                   | ug/l  | 20             | 18.2          | 91.1         | 74-126          |
| m,p-Xylene                | ug/l  | 40             | 35.9          | 89.7         | 71-129          |
| o-Xylene                  | ug/l  | 20             | 18.0          | 90.2         | 74-130          |
| Xylenes, Total            | ug/l  | 60             | 53.92         | 89.9         | 71-130          |
| 4-Bromofluorobenzene (S)  | %     |                |               | 97.7         | 74-125          |
| 1,2-Dichloroethane-d4 (S) | %     |                |               | 102          | 70-130          |
| Toluene-d8 (S)            | %     |                |               | 91.2         | 82-118          |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38949

38950

Original: H10040049006

MS Analysis Date/Time Analyst: 04/13/2010 02:47 LKT

MSD Analysis Date/Time Analyst: 04/13/2010 03:15 LKT

| Parameter    | Units | Original<br>Result | Spike<br>Conc. | MS<br>Result | MSD<br>Result | MS<br>% Rec | MSD<br>% Rec | % Rec<br>Limit | RPD  | Max<br>RPD |
|--------------|-------|--------------------|----------------|--------------|---------------|-------------|--------------|----------------|------|------------|
| Benzene      | ug/l  | ND                 | 20             | 20.2         | 24.0          | 101         | 120          | 70-124         | 17.2 | 20         |
| Ethylbenzene | ug/l  | ND                 | 20             | 19.3         | 18.7          | 96.4        | 93.5         | 35-175         | 3.0  | 20         |
| Toluene      | ug/l  | ND                 | 20             | 19.4         | 19.2          | 96.9        | 95.9         | 70-131         | 1.0  | 20         |

QC results presented in the QC Control Data 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. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



SPL Inc.  
8880 Interchange Drive  
Houston, TX 77054  
Phone: (713) 660-0901  
Fax: (713) 660-8975

## QUALITY CONTROL DATA

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38949

38950

Original: H10040049006

MS Analysis Date/Time Analyst: 04/13/2010 02:47 LKT

MSD Analysis Date/Time Analyst: 04/13/2010 03:15 LKT

| Parameter                 | Units | Original<br>Result | Spike<br>Conc. | MS<br>Result | MSD<br>Result | MS<br>% Rec | MSD<br>% Rec | % Rec<br>Limit | RPD | Max<br>RPD |
|---------------------------|-------|--------------------|----------------|--------------|---------------|-------------|--------------|----------------|-----|------------|
| m,p-Xylene                | ug/l  | ND                 | 40             | 37.5         | 36.7          | 93.7        | 91.8         | 35-175         | 2.0 | 20         |
| o-Xylene                  | ug/l  | ND                 | 20             | 19.7         | 19.3          | 98.7        | 96.3         | 35-175         | 2.5 | 20         |
| Xylenes, Total            | ug/l  | ND                 | 60             | 57.22        | 55.99         | 95.4        | 93.3         | 35-175         | 2.2 | 20         |
| 4-Bromofluorobenzene (S)  | %     | 98.4               |                |              |               | 99.0        | 97.1         | 74-125         |     | 30         |
| 1,2-Dichloroethane-d4 (S) | %     | 93.2               |                |              |               | 103         | 94.4         | 70-130         |     | 30         |
| Toluene-d8 (S)            | %     | 93.1               |                |              |               | 92.0        | 91.7         | 82-118         |     | 30         |

QC results presented in the QC Control Data 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. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



## Legend

(S) - Indicates analyte is a surrogate

| Qualifier | Qualifier Description                                     |
|-----------|---|
| MI        | Matrix Interference                                       |
| I         | Estimated value, between MDL and PQL (Florida)            |
| JN        | The analysis indicates the presence of an analyte         |
| C         | MTBE results were not confirmed by GCMS                   |
| NC        | Not Calculated - Sample concentration > 4 times the spike |
| *         | Recovery/RPD value outside QC limits                      |
| E         | Results exceed calibration range                          |
| H         | Exceeds holding time                                      |
| J         | Estimated value   |
| Q         | Received past holding time                                |
| B         | Analyte detected in the Method Blank                      |
| N         | Recovery outside of control limits                        |
| D         | Recovery out of range due to dilution                     |
| NC        | Not Calculable (Sample Duplicate)                         |
| P         | Pesticide dual column results, greater than 25%           |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10040049 : Faye Burdette No.1

Project Number: Faye Burdette No.1

| Lab ID       | Sample ID  | QC Batch Method | QC Batch  | Analytical Method | Analytical Batch |
|--------------|------------|-----------------|-----------|-------------------|------------------|
| H10040049001 | MW-1       | SW-846 3010A    | DIGM/1638 | SW-846 6010B      | ICP/1334         |
| H10040049002 | MW-2       | SW-846 3010A    | DIGM/1638 | SW-846 6010B      | ICP/1334         |
| H10040049003 | MW-3       | SW-846 3010A    | DIGM/1638 | SW-846 6010B      | ICP/1334         |
| H10040049004 | MW-4       | SW-846 3010A    | DIGM/1638 | SW-846 6010B      | ICP/1334         |
| H10040049001 | MW-1       | SW-846 5030     | MSV/1744  | SW-846 8260B      | MSV/1745         |
| H10040049002 | MW-2       | SW-846 5030     | MSV/1744  | SW-846 8260B      | MSV/1745         |
| H10040049003 | MW-3       | SW-846 5030     | MSV/1744  | SW-846 8260B      | MSV/1745         |
| H10040049004 | MW-4       | SW-846 5030     | MSV/1744  | SW-846 8260B      | MSV/1745         |
| H10040049005 | Trip Blank | SW-846 5030     | MSV/1744  | SW-846 8260B      | MSV/1745         |
| H10040049006 | Duplicate  | SW-846 5030     | MSV/1744  | SW-846 8260B      | MSV/1745         |





### Sample Receipt Checklist

|               |                  |               |           |
|---------------|------------------|---------------|-----------|
| WorkOrder:    | H10040049        | Received By   | LOG       |
| Date and Time | 04/02/2010 09:15 | Carrier Name: | FEDEXS    |
| Temperature:  | 3.0°C            | Chilled By:   | Water Ice |

1. Shipping container/cooler in good condition? YES
2. Custody seals intact on shipping container/cooler? YES
3. Custody seals intact on sample bottles? Not Present
4. Chain of custody present? YES
5. Chain of custody signed when relinquished and received? YES
6. Chain of custody agrees with sample labels? YES
7. Samples in proper container/bottle? YES
8. Samples containers intact? YES
9. Sufficient sample volume for indicated test? YES
10. All samples received within holding time? YES
11. Container/Temp Blank temperature in compliance? YES
12. Water - VOA vials have zero headspace? VOA Vials Not Present
13. Water - Preservation checked upon receipt(except VOA\*)? YES

\*VOA Preservation Checked After Sample Analysis

SPL Representative:  
Client Name Contacted:  
Client Instructions:

Contact Date & Time:



### Analysis Request & Chain of Custody Record

**SPL, Inc.**



H10040049

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