3R - 398

CLOSURE REPORT

07/22/2010

3R398

Terry S. Lauck
Site Manager

ConocoPhillips Company
Risk Management & Remediation
420 South Keeler Avenue
Bartlesville, OK 74004
Phone: 918.661.0935
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ConocoPhillips

Mr. Glenn von Gonten
State of New Mexico
Oil Conservation Division
Environmental Bureau
1220 South Saint Francis Drive
Santa Fe, NM 87505

RECEIVED OCD
2010 JUL 26 A 11: 25

July 22, 2010

Re: Formal Request for Site Closure and No Further Action Status
Site Name: Scott No. 1 (Drake Ranch)
OCD Number: 3R-398
API Number: 30-045-13094

Dear Mr. von Gonten:

ConocoPhillips Company (ConocoPhillips) submits this letter as a formal request for site closure and no further action status for the ConocoPhillips-operated Scott No. 1 natural gas production well site (Site), located on private property in Farmington, San Juan County.

BTEX concentrations at the Site have *never* exceeded New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards since the initial well installation and groundwater sampling conducted in September 2005. The most recent sampling event, on September 29, 2009, represents the fourth consecutive quarter with BTEX concentrations in Monitor Wells MW-4, MW-5 and MW-6 below laboratory detection limits and NMWQCC quality standards. The September 2009 sampling event also revealed that dissolved iron concentrations were below NMWQCC groundwater quality standards. Please see the attached final groundwater monitoring report for additional information.

ConocoPhillips requests no further action be granted by NMOCD. Upon approval of closure by the NMOCD, ConocoPhillips will plug and abandon all monitoring wells at the Site. Since the Site is located on private property leased by ConocoPhillips, timeliness of this decision is important. I look forward to your response in the near future.

Sincerely,

Terry S. Lauck

Cc: Brandon Powell, NMOCD
Kelly Blanchard, Tetra Tech, Inc.

Attachments (1)

QUARTERLY GROUNDWATER MONITORING REPORT
CONOCOPHILLIPS COMPANY
SCOTT No. 1 DRAKE RANCH
PRODUCTION FACILITY
FARMINGTON, NEW MEXICO

OCD # 3R-398

API # 30-045-13094

Prepared for:

ConocoPhillips

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

Prepared by:

TETRA TECH, INC.

6121 Indian School Rd. NE, Suite 200
Albuquerque, NM 87110
Tetra Tech Project No. 9690116.100

July 2010

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS COMPANY, SCOTT NO. 1 DRAKE RANCH FARMINGTON, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of the groundwater monitoring events conducted by Tetra Tech, Inc. (Tetra Tech) on June 16 and September 29, 2009 at the ConocoPhillips Company Scott No. 1 Drake Ranch site in Farmington, New Mexico (Site). The September 2009 sampling event was the fourth consecutive quarterly sampling event since October of 2008 for the Site.

The Site is located in the northeast quarter of the southwest quarter of Section 2, Township 29 North, Range 13 West within the Drake Ranch in the City of Farmington, New Mexico. The Site consists of a gas production well and associated equipment. The location and general features of the Site are shown on **Figures 1** and **2**, respectively.

1.1 Site History

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

The environmental investigation at the Site began as a result of a failure in a high level detection alarm in a 90 barrel horizontal underground storage tank (UST) on June 18, 2003. As a result of this failure, approximately 5 barrels (210 gallons) of condensate was discharged onto Site soils. An excavation began on June 19, 2003, the purpose of which was to remove hydrocarbon contaminated soils from the Site, to backfill the excavation with clean soils, and to remove the UST from the Site. During the course of the excavation, black, hydrocarbon stained soils were encountered at a depth of three (3) feet below ground surface (bgs) to a depth of ten (10) feet bgs. The New Mexico Oil Conservation Division (OCD) form C-141, Release Notification and Corrective Action, was filled out on the date of the incident by ConocoPhillips staff (**Appendix A**). An attachment to this report stated that a historical spill occurred at the Site approximately 15 years prior to the June 2003 incident and that a large remediation project took place at the Site as a result of this prior spill; the bulk of the stained soils from three (3) to ten (10) feet bgs were thought to be from the historical spill. The excavation was completed on June 20, 2003, and was successful in removing approximately 150 cubic yards of hydrocarbon-impacted soils from the Site.

Three (3) piezometers were installed at the Site in July 2003 by Blagg Engineering of Bloomfield, New Mexico. The first piezometer (MW-1) was found to be dry at a depth of 13.3 feet bgs; cobbles prevented further drilling below this depth. Water was found at a depth of six (6) feet bgs and 7.2 feet bgs in piezometers MW-2 and MW-3, respectively. No groundwater or soil samples were collected during the installation of the piezometers (Blagg Engineering, 2004).

In January 2005, Blagg Engineering began the installation of three (3) groundwater monitor wells at the Site (MW-4, MW-5, and MW-6). Due to large cobbles and boulders discovered in the subsurface during well installation, the project was postponed in order to bring a high pressure, down-hole hammer rig to the Site. All three groundwater monitor wells were complete by March 9, 2005. The first groundwater samples were collected on March 23, 2005. Groundwater analytical results from this date indicated that the two down-gradient monitor wells (MW-4, MW-6) were not impacted by hydrocarbons, and only trace amounts of metals were detected at concentrations well below New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards for human health or domestic water supply. Groundwater monitor well MW-5 was installed in the original source area of the hydrocarbon spill, and analytical results revealed the presence of ethylbenzene, naphthalenes and xylenes, but in concentrations below NMWQCC groundwater quality standards (Blagg Engineering, 2005). Blagg Engineering states that the groundwater direction at the Site is to the south/southwest, and mentions that the groundwater gradient is "substantial" at 0.18 feet/feet (ft/ft), with "normal" gradients in the area on the order of 0.01 to 0.05 ft/ft. The steep groundwater gradient at the Site is thought to be a result of a sandstone bench beneath the Site that contains a steep drop off (Blagg Engineering, 2005).

2.0 METHODOLOGY AND RESULTS

The following sections describe the groundwater monitoring methodology used by Tetra Tech at the Site and results of laboratory analysis of groundwater samples.

2.1 Groundwater Monitoring Methodology

Groundwater Elevation Measurements

Prior to the start of groundwater sampling activities on June 16 and September 29, 2009, the depth to water within groundwater monitor wells MW-4, MW-5, and MW-6 was gauged using an interface probe, and the results were recorded on groundwater sampling field forms (**Appendix B**). The probe was decontaminated with an Alconox® solution and de-ionized water before each monitor well was gauged. Depths to water in monitor wells MW-4, MW-5, and MW-6 were recorded from the top of casings on June 16, 2009 at 17.97, 11.56, and 18.73 feet, respectively. During the September 29, 2009 sampling event, groundwater levels were recorded at 17.31, 11.56, and 18.10 feet, respectively.

Table 2 presents the monitor well specifications and groundwater level data. The June and September 2009 groundwater elevation contour maps indicate that groundwater at the Site flows along an initially steep gradient to the south/southwest, which turns to a shallow gradient near the private road located to the south of the Site (**Figure 3 and Figure 4**). See Section 1.1 for a brief synopsis of the 2005 Blagg Engineering report wherein the steepness of the groundwater gradient at the Site is discussed. A generalized geologic cross section is included for reference and can be seen as **Figure 5**.

Groundwater Sampling

Groundwater monitor wells MW-4, MW-5, and MW-6 were sampled on June 16 and September 29, 2009 as a continuation of quarterly monitoring at the Site which was reinitiated as of October 2008. Three well volumes were purged from each monitor well before sampling was performed. A 1.5-inch polyethylene disposable bailer was used to purge each well and to collect groundwater samples. The purge water generated during the event was disposed of on an impervious surface at the site where it was allowed to evaporate since no constituents of concern had been detected at concentrations above NMWQCC standards during prior sampling events. 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. During both the June and September 2009 sampling events, groundwater monitor wells MW-4, MW-5, and MW-6 were analyzed for the presence of benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8260B and for total iron during June and dissolved iron during September by EPA method 8260B.

Total metals testing was conducted during events prior to September 2009 as requested by the OCD in April of 2008; however, since all NMWQCC drinking water standards pertain to dissolved metals concentrations, Tetra Tech requested and received approval from the OCD on September 8, 2009 to run dissolved metals analyses for only those metals which had exceeded the NMWQCC drinking water standards for metals previously run by total metals analysis. Metals sampling was limited to iron at the Site. The dissolved iron samples were collected in unpreserved containers supplied by the laboratory, which were then filtered and preserved by laboratory personnel prior to analysis.

2.2 Groundwater Sampling Analytical Results

Results from the June and September 2009 groundwater sampling events at the Site revealed no hydrocarbon impacts to groundwater. BTEX results for all Site wells were not detected above laboratory method detection limits (MDLs) for these constituents. Dissolved iron was not detected at concentrations above the NMWQCC domestic water supply groundwater quality standard (GWQS) of 1.0 mg/l.

Laboratory analytical data is summarized on **Table 3**, the field groundwater sampling forms from both June and September 2009 events are presented in **Appendix B**, and the laboratory analytical reports from both events are presented in **Appendix C**.

3.0 CONCLUSIONS

BTEX concentrations at the Site have never exceeded NMWQCC standards since the initial well installation and groundwater sampling conducted in September 2005. The most recent sampling event on September 29, 2009 represents the fourth consecutive quarter with results indicating concentrations of BTEX in monitor wells MW-4, MW-5 and MW-6 below laboratory detection limits and NMWQCC standards. This sampling event also revealed dissolved iron concentrations below

NMWQCC standards. Tetra Tech recommends no further action be granted by NMOCD. Upon approval of closure by the NMOCD, ConocoPhillips will plug and abandon all wells at the Scott No. 1 Drake Ranch site. Since the Site is located on private property leased by ConocoPhillips, timeliness of this decision is important. Please respond as soon as possible. If you have any questions or require additional information please contact Kelly Blanchard at Tetra Tech at 505-237-8440 or kelly.blanchard@tetratech.com.

4.0 REFERENCES

Blagg Engineering, Inc. (2004). *ConocoPhillips - Scott No. 1 – Letter Report on Piezometer Installation, (K) Sec 2 – T29N-R13W, San Juan County, New Mexico.* Prepared for ConocoPhillips Threadneedle Office, Houston, TX. Report Dated March 29. 7 pp.

Blagg Engineering, Inc. (2005). *Groundwater Quality Investigation, ConocoPhillips Scott No. 1, (K) Sec 2 – T29N-R13W, San Juan County, New Mexico.* Prepared for ConocoPhillips Threadneedle Office, Houston, TX. Report Dated April 19. 55 pp.

FIGURES

FIGURE 1.

Site Location Map
ConocoPhillips Company
Scott No. 1 Drake Ranch
Farmington, NM

Site location

0 175 350
FEET

Source: Google Earth™; scale is approximate

N

TETRA TECH, INC.

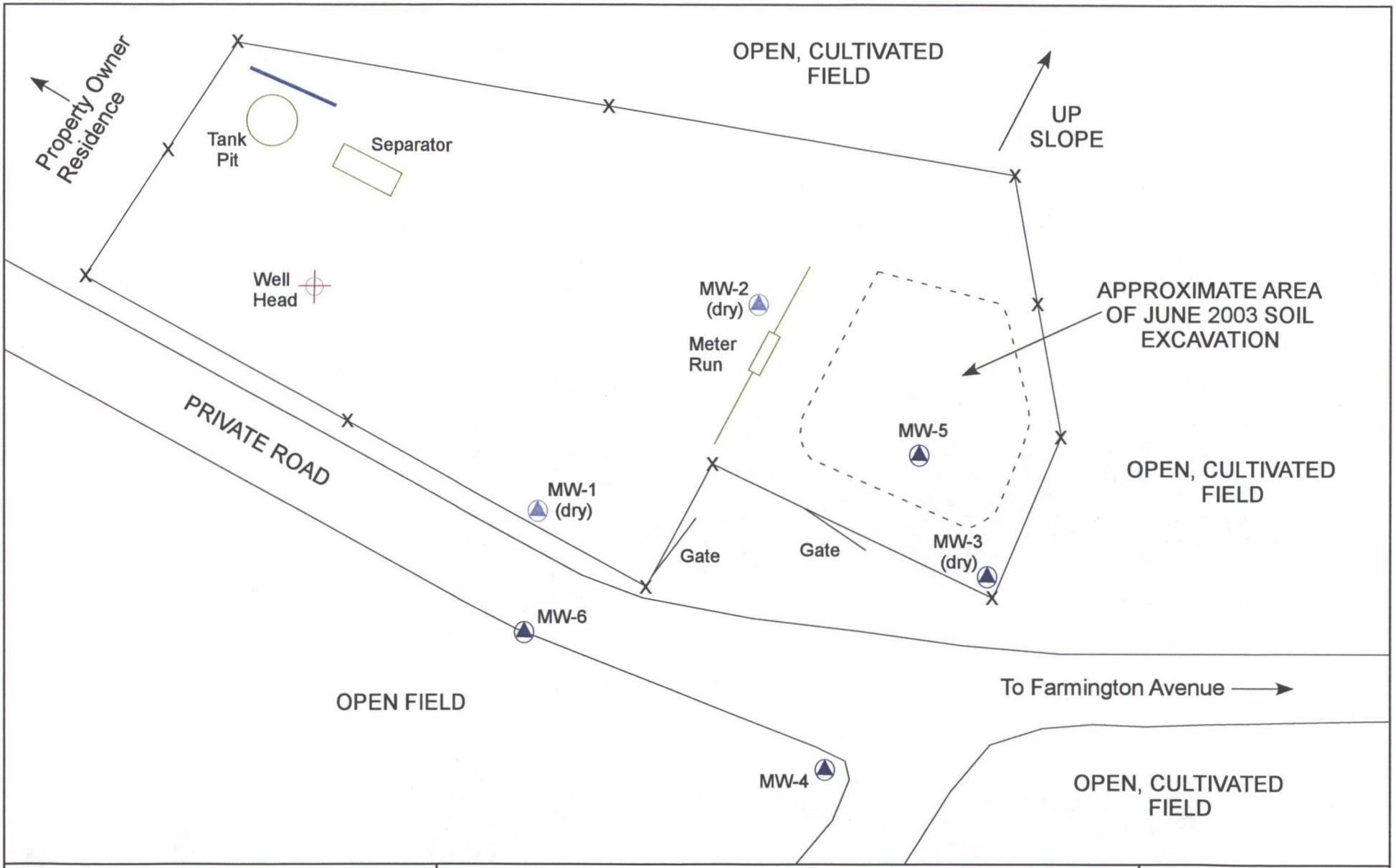


FIGURE 2:
SITE LAYOUT MAP
CONOCOPHILLIPS COMPANY
Scott No. 1 Drake Ranch
Sec 2, T29N, R13W
Farmington, New Mexico

LEGEND

- WELLHEAD
- MONITOR WELL
- FENCE
- BERM
- EQUIPMENT

0 30 60 FEET

Site Layout Source: Blagg Engineering, 2005

N

TETRA TECH, INC.

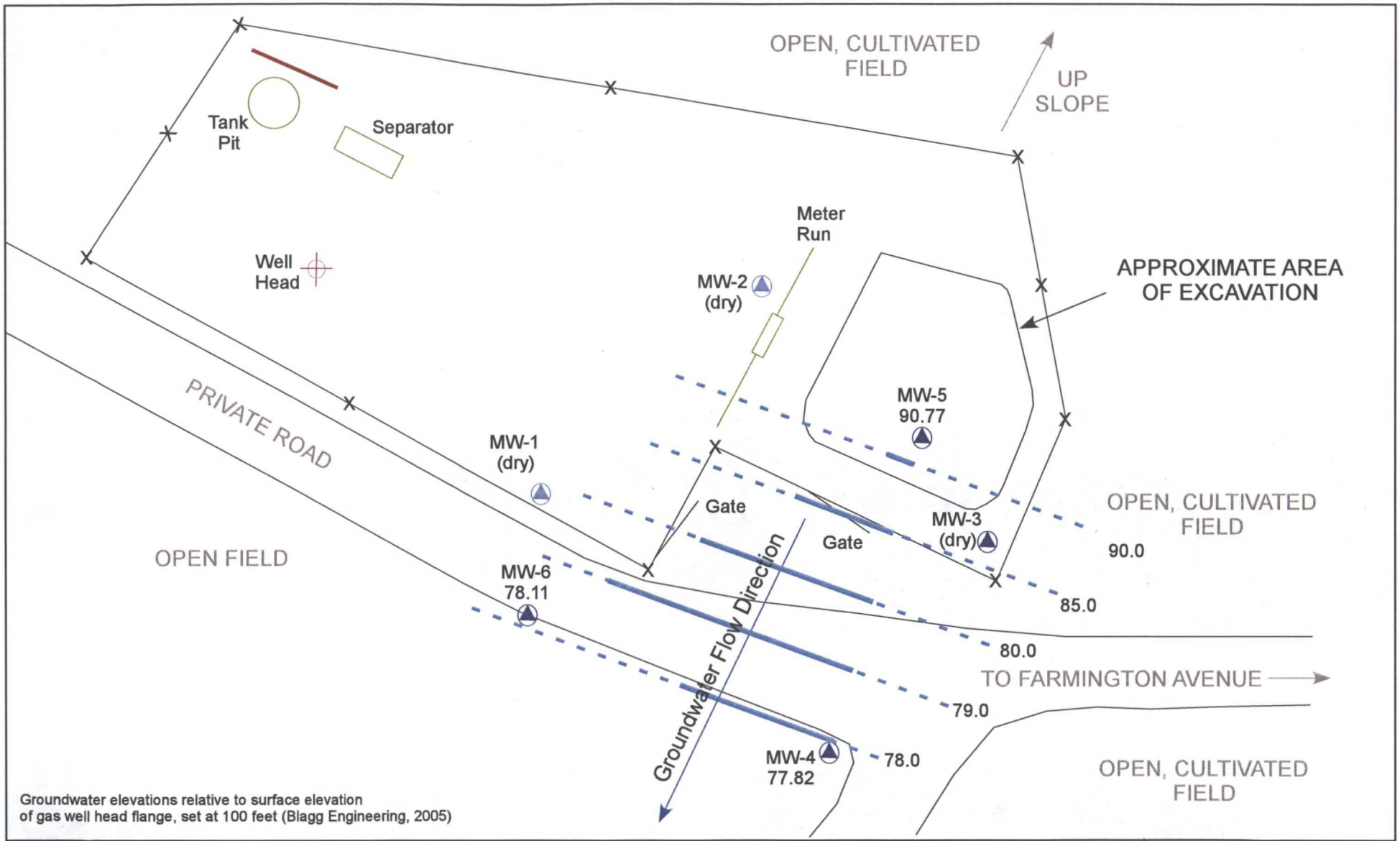


FIGURE 3:
GROUNDWATER ELEVATION MAP
JUNE 2009
CONOCOPHILLIPS COMPANY
SCOTT No. 1 DRAKE RANCH
Sec 2, T29N, R13W
Farmington, New Mexico
OCD #3R-398

LEGEND

- 73.0 — GROUNDWATER GRADIENT & RELATIVE ELEVATION (dashed where inferred)
- BERM
- EQUIPMENT
- MONITOR WELL
- WELLHEAD
- FENCE

Site Layout Source: Blagg Engineering, 2005

0 30 60 FEET

N

TETRA TECH, INC.

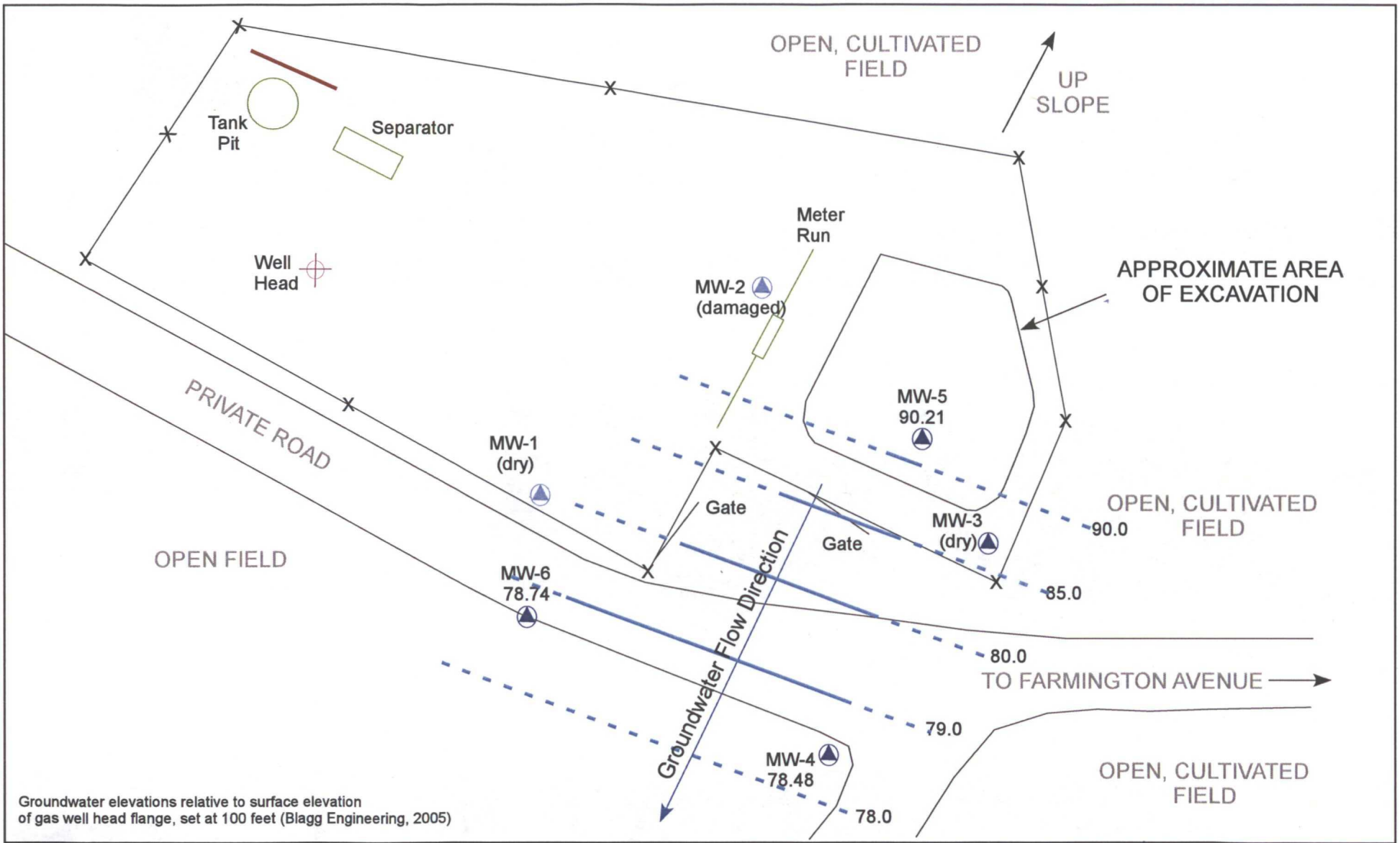


FIGURE 4:
GROUNDWATER ELEVATION MAP
SEPTEMBER 2009
CONOCOPHILLIPS COMPANY
Scott No. 1 Drake Ranch
Sec 2, T29N, R13W
Farmington, New Mexico

LEGEND

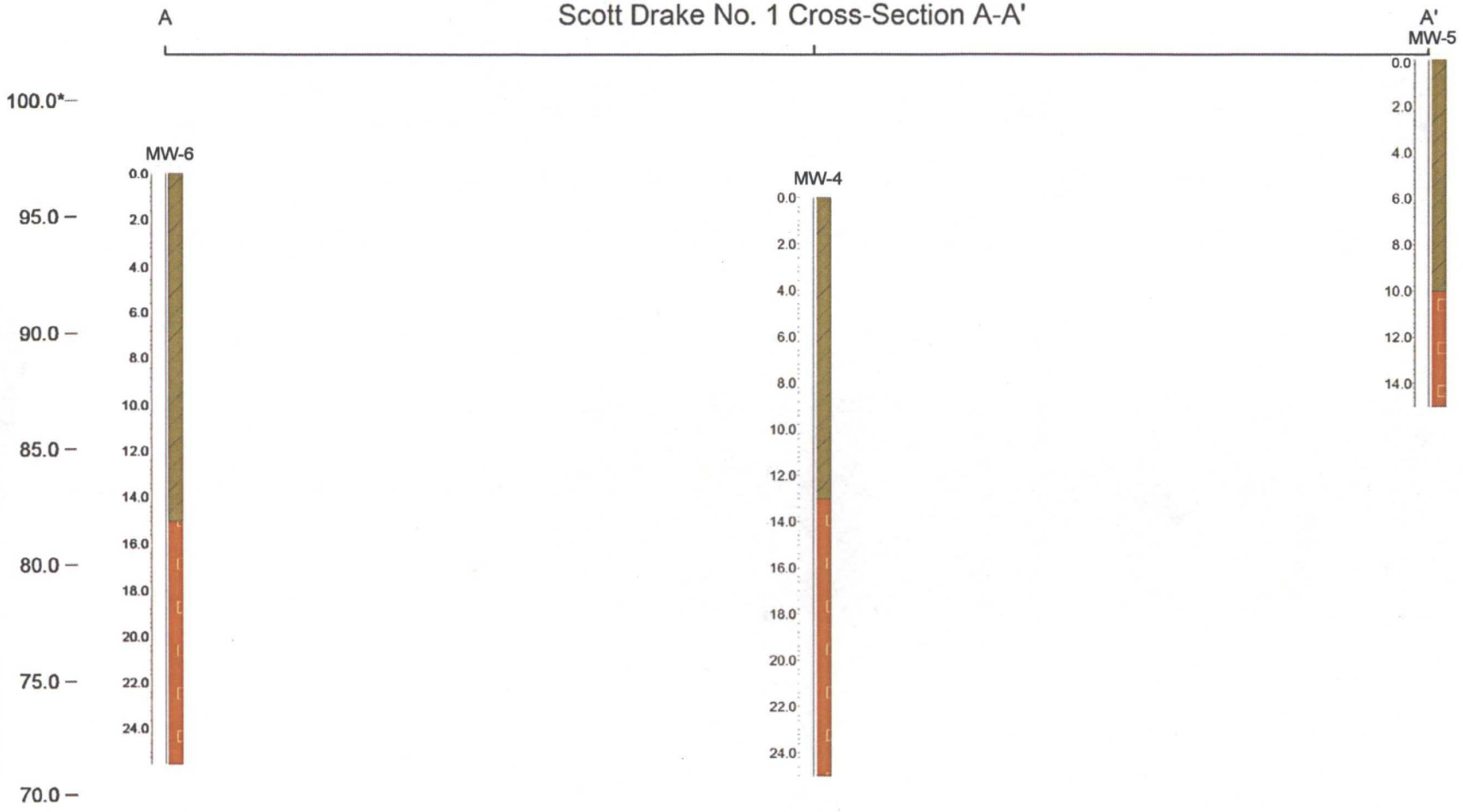
- 73.0 — GROUNDWATER GRADIENT & RELATIVE ELEVATION (dashed where inferred)
- BERM
- EQUIPMENT
- MONITOR WELL
- WELLHEAD
- FENCE

Site Layout Source: Blagg Engineering, 2005

0 30 60 FEET

N

TETRA TECH, INC.



*Groundwater elevations relative to surface elevation of gas well head flange, set at 100 feet (Blagg Engineering, 2005)

FIGURE 5:
GEOLOGIC CROSS SECTION
CONOCOPHILLIPS COMPANY
SCOTT DRAKE No. 1
Sec 2, T29N, R13W
Farmington, New Mexico
OCD #3R-398

LEGEND

- Silty, sandy clay
- River cobbles and boulders

TETRA TECH, INC.

TABLES

Scott No. 1 Drake Ranch
Table 1 - Site History Timeline

Date/Time Period	Event/Action	Description/Comments
June 18, 2003	5 barrel (BBL) condensate spill discovered	Spill is the result of a high level detection alarm failure in a 90 BBL horizontal underground storage tank (UST).The New Mexico Oil Conservation Division (OCD) and the site landowners Alan and Gail McCulloch are notified regarding the spill.
June 19, 2003	Excavation begins at the site	An excavation begins and goes to 10 feet below ground surface (bgs) where water is encountered. Black soils present from 3 to 10 feet bgs; a large remediation project took place at the site 15 years prior to the 2003 spill, and the majority of the stained soils are thought to be from the prior event.
June 20, 2003	UST removed, excavation completed	UST removed and taken for leak testing. Approximately 150 cubic yards of soil removed from an excavation measuring 20 ft x 20 ft x 10 ft deep.
March 29, 2004	Letter report sent to ConocoPhillips by Blagg Engineering of Bloomfield, NM	Report documents installation of three piezometers at the site. Piezometers installed within the fenced area of the site, and extended from 8 to 13 feet bgs. Below this depth, cobbles were encountered that prevented further boring advancement. Depth to water in MW-1 was not found at a total depth of 13.3 feet bgs, MW-2 depth to water was measured at 6.0 feet bgs, and depth to water in MW-3 was measured at 7.2 feet bgs. Although only two wells produce depth to water data, the general groundwater flow direction was stated to be to the southwest.
September 28, 2004	OCD letter sent to Mr. Neal Goates of ConocoPhillips in Houston, TX	OCD requires ConocoPhillips to install a groundwater monitoring well "downgradient and directly adjacent to the excavated area of the spill". OCD directs ConocoPhillips to sample this well no less than 24 hours after the well is developed, and to submit groundwater samples for benzene, toluene, ethylbenzene, and xylenes (BTEX); polycyclic aromatic hydrocarbons (PAH), total dissolved solids (TDS); and New Mexico Water Quality Control Commission (NMWQCC) metals and major cations and anions using EPA approved methods. OCD requests an opportunity to split samples with ConocoPhillips. OCD requires ConocoPhillips to submit a comprehensive report to OCD by December 28, 2004.
April 19, 2005	Groundwater Quality Investigation report submitted to ConocoPhillips by Blagg Engineering	Groundwater monitoring wells MW-4, MW-5, and MW-6 installed at the site; groundwater is found at depths ranging between 12 and 20 feet bgs. The monitoring wells were all developed and subsequently sampled for OCD required parameters. Analytical test results from downgradient monitoring wells MW-4 and MW-6 indicate an absence of hydrocarbon impacts and trace amounts of metals well below NMWQCC drinking water standards. MW-5 was installed in the original source area of the release, and analytical results reveal the presence of ethylbenzene, naphthalenes, and xylenes; however concentrations of these analytes were all below NMWQCC drinking water standards. The groundwater gradient was determined to be 0.18 ft/ft in a south/southwest direction. Blagg Engineering recommends a minimum of one additional sampling event to confirm water quality results.

Scott No. 1 Drake Ranch
Table 1 - Site History Timeline

Date/Time Period	Event/Action	Description/Comments
April 19, 2005	Groundwater Quality Investigation report submitted to ConocoPhillips by Blagg Engineering	Report notes that the groundwater gradient is substantial at 0.18 ft/ft, with normal gradients in the San Juan Basin ranging from 0.01 to 0.05 ft/ft. Blagg Engineering states that although none of the borings penetrated the cobble layer beneath the site, regional stratigraphy indicates that a sandstone bench may be found beneath the site. Blagg states that this bench may contain a steep drop off that is dictating the steep site gradient. In addition, an irrigation season in the area of the site runs from April 15 to October 15, which can be expected to cause the water table to rise during this time. The time frame for sampling at the site is therefore recommended for late summer, after seasonal irrigation of area crops "has time to affect local groundwater flow".
October 24, 2008	Groundwater sampling of MW-5	Tetra Tech, Inc. (Tetra Tech) samples MW-5 for semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), total metals, and major ions. All analytes are either substantially below NMWQCC drinking water standards or are not found above their respective method detection limits.
January 20, 2009	Groundwater sampling of MW-4, MW-5, MW-6	Tetra Tech samples site wells for BTEX. None of the groundwater samples are found to contain any BTEX constituent above the 5 microgram per liter (µg/L) method detection limit.
April 1, 2009	Groundwater sampling of MW-4, MW-5, MW-6	Tetra Tech samples site wells for BTEX. None of the groundwater samples are found to contain any BTEX constituent above the 5 microgram per liter (µg/L) method detection limit. Total iron is added to the list of analytes at the site.
June 16, 2009	Groundwater sampling of MW-4, MW-5, MW-6	Tetra Tech samples site wells for BTEX and total iron. None of the groundwater samples are found to contain any BTEX constituent above the 5 microgram per liter (µg/L) method detection limit.
September 29, 2009	Groundwater sampling of MW-4, MW-5, MW-6	Tetra Tech samples site wells for BTEX and dissolved iron. None of the groundwater samples are found to contain any BTEX or dissolved iron constituents above laboratory detection limits. Tetra Tech requests site closure from the NMOCD.

Scott No. 1 Drake Ranch
Table 2 - Groundwater Elevation Summary (March 2005 - September 2009)

Well No.	Date	Surface Elevation, Top of Casing* (ft)	Well Total Depth (ft below ground surface)	Screened Interval (ft below TOC)	Depth to Water (ft below TOC)	Relative Water Table Elevation (ft BMP)
MW-1	3/23/2005	99.74	14.63	9.58 - 14.08	Dry to TD	N/A
	10/24/2008					
	1/20/2009					
	4/1/2009					
	6/16/2009					
	9/29/2009					
MW-2	3/23/2005	Damaged	10.00	5.00 - 10.00	Well damaged	N/A
	10/24/2008					
	1/20/2009					
	4/1/2009					
	6/16/2009					
	9/29/2009					
MW-3	3/23/2005	98.76	9.92	4.92 - 9.92	Dry to TD	N/A
	10/24/2008					
	1/20/2009					
	4/1/2009					
	6/16/2009					
	9/29/2009					
MW-4	3/23/2005	95.79	24.70	15.00 - 24.00	20.25	75.54
	10/24/2008				NM	NM
	1/20/2009				20.37	75.42
	4/1/2009				20.86	74.93
	6/16/2009				17.97	77.82
	9/29/2009				17.31	78.48
MW-5	3/23/2005	101.77	16.34	5.83 - 14.83	13.18	88.59
	10/24/2008				11.43	90.34
	1/20/2006				12.33	89.44
	4/1/2009				13.24	88.53
	6/16/2009				11.00	90.77
	9/29/2009				11.56	90.21
MW-6	3/23/2005	96.84	23.85	14.50 - 23.5	21.89	74.95
	10/24/2008				NM	NM
	1/20/2009				23.85	72.99
	4/1/2009				22.60	74.24
	6/16/2009				18.73	78.11
	9/29/2009				18.10	78.74

*Casing elevations are based on a 100 foot relative surface elevation of the gas well head flange (Blagg Engineering, 2005).
BMP = Below measuring point
TOC = Top of Casing
NM = Not measured
N/A = Not applicable; elevations never determined since wells have always been dry

Scott No. 1 Drake Ranch
Table 3 - Groundwater Laboratory Analytical Results Summary (March 2005 through September 2009)

Sample Location	Date Sampled	SW846 8260B (µg/L)				SW846 6010B (mg/L)
		Benzene	Toluene	Ethylbenzene	Xylenes	Dissolved Iron
MW-4	3/23/2005	< 1.0	< 1.0	< 1.0	< 1.0	NS
	10/24/2008	NS	NS	NS	NS	NS
	1/20/2009	< 5	< 5	< 5	< 5	NS
	4/1/2009	< 5	< 5	< 5	< 5	1.45*
	6/16/2009	< 5	< 5	< 5	< 5	1.11*
	9/29/2009	< 1	< 1	< 1	< 1	<0.02
MW-5	3/23/2005	< 2.0	< 2.0	40	220	NS
	10/24/2008	< 5	< 5	< 5	< 5	2.05*
	1/20/2009	< 5	< 5	< 5	< 5	NS
	4/1/2009	< 5	< 5	< 5	< 5	0.911*
	6/16/2009	<5	< 5	< 5	< 5	3.75*
	9/29/2009	< 1	< 1	< 1	< 1	0.0547
MW-6	3/23/2005	< 1.0	< 1.0	< 1.0	< 1.0	NS
	10/24/2008	NS	NS	NS	NS	NS
	1/20/2009	< 5	< 5	< 5	< 5	NS
	4/1/2009	< 5	< 5	< 5	< 5	1.57*
	6/16/2009	< 5	< 5	< 5	< 5	5.22*
	9/29/2009	< 1	< 1	< 1	< 1	<0.02
NMWQCC Groundwater Standards for Human Health or Domestic Water Supply		**10**	**750**	**750**	**620**	**1.0**

Explanation
MW - Monitoring Well
NMWQCC - New Mexico Water Quality Control Commission
NS - Not Sampled
SW846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986, updates included
mg/L - milligrams per liter
µg/L - micrograms per liter
* = Results reported for total metals analysis, results can not be compared to NMWQCC Standards for dissolved metals

APPENDIX A

FORM C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	ConocoPhillips Company	Contact	Neal Goates	
Address	5525 Hwy. 64, Farmington, NM 87401	Telephone No.	832-379-6427	
Facility Name	Scott #1	Facility Type	Gas well	API #30-045-13094

Surface Owner Fee	Mineral Owner Fee	Lease No. Fee

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	2	T29N	R13W	2220	South	1450	West	San Juan

NATURE OF RELEASE

Type of Release: Condensate	Volume of Release: Estimated 5 BBL	Volume Recovered: none
Source of Release: Underground tank overflowed due to detection system failure	Date and Hour of Occurrence: 6/18/2003	Date and Hour of Discovery: 6/18/2003 – 1130 hr
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Alan & Gail McCulloch – 6/18/03 @ 1330 hr – via phone Denny Foust – OCD – 6/18/2003 @ 1600 hr – via email	
By Whom? Monica D. Rodahl	Date and Hour: 6/18/2003 – 1600 hr	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* Shallow water from what appears to be an irrigation supply was impacted.

Describe Cause of Problem and Remedial Action Taken.* **A high level / leak detection alarm failed on an underground condensate tank, causing the tank to overflow, resulting in an estimated 5 BBL spill. Lines were shut in and an emergency one-call was placed to excavate stained soils and investigate detection failure.**

Describe Area Affected and Cleanup Action Taken.*
The area affected is on the Drake Ranch south of 30th Street in Farmington. The landowner (Gail McCulloch) was promptly notified. Remediation commenced on 6/19/03. See attached report.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Neal Goates	OIL CONSERVATION DIVISION
Printed Name: Neal Goates	Approved by District Supervisor:
Title: Site Manager	Approval Date: / Expiration Date:
Date: 2-17-06 Phone: 832-379-6427	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary

APPENDIX B

GROUNDWATER SAMPLING FIELD FORMS

WATER SAMPLING FIELD FORM

Project No. Scott Drake _____ of _____

Site Location Farmington, NM

Site/Well No. MW-4 Coded/ Replicate No. _____ Date 6/16/09

Weather Overcast. 80° Time Sampling Began 1530 Time Sampling Completed 1550

EVACUATION DATA

Description of Measuring Pt (MP) _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 24.70 Water-Level Elevation _____

Held _____ Depth to Water Below MP 17.97 Diameter of Casing (2 inch / 4 inch)

Wet _____ Water Column in Well 6.73 Gallons Pumped/Bailed Prior to Sampling 4

Gallons per Foot 0.16

Gallons in Well 1.07 x 3 = 3.21 Sampling Pump Intake (feet below land surface) _____

Purging Equipment _____

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature	pH	Conductivity	TDS	DO	DO%	ORP	Other
1539	16.13	7.38	1143	0.735	2.75	28.0	-73.2	
1543	15.26	7.37	1118	0.727	2.61	25.1	-62.0	
1547	15.09	7.39	1117	0.726	2.36	23.1	-72.2	

Sampling Equipment Low Flow Pump / Disposable Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 VOAs	HCl
Iron	~~500 mL~~ 1L 0.7 Plastic	HNO_3

Remarks gray color; slight ~~odor~~ odor, slight sheen

Sampling Personnel GD, AM

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 No. Scott Drake _____ of _____

Site Location Farmington, NM

Site/Well No. MW- 5 Coded/ Replicate No. _____ Date 6/16/09

Weather Sunny, 80° Time Sampling Began 1635 Time Sampling Completed 1645

EVACUATION DATA

Description of Measuring Pt (MP) _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 16.34 Water-Level Elevation _____

Held _____ Depth to Water Below MP 11.00 Diameter of Casing 2 inch / 4 inch

Wet _____ Water Column in Well 5.34 Gallons Pumped/Bailed Prior to Sampling _____

Gallons per Foot 0.16

Gallons in Well 0.85 x 3 = 2.55 Sampling Pump Intake (feet below land surface) _____

Purging Equipment _____

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature	pH	Conductivity	TDS	DO	DO%	ORP	Other
1639	15.54	7.37	1110	0.720	3.97	38.3	-111.3	
1641	15.26	7.07	1138	0.740	2.01	20.1	-114.4	
1644	15.31	7.04	1115	0.725	1.77	17.6	-127.8	

Sampling Equipment Low Flow Pump / Disposable Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 VOAs	HCl
Iron	16 oz Plastic	HNO_3

Remarks light brown w/ black stringers, organic odor

Sampling Personnel GD, AM

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 No. Scott Drake _____ of _____

Site Location Farmington, NM

Site/Well No. MW-6 Coded/ Replicate No. _____ Date 6/16/09

Weather Sunny, 80° Time Sampling Began 1600 Time Sampling Completed 1620

EVACUATION DATA Duplicate @ 1615

Description of Measuring Pt (MP) _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 23.85 Water-Level Elevation _____

Held _____ Depth to Water Below MP 18.73 Diameter of Casing (2 inch) 4 inch

Wet _____ Water Column in Well 5.12 Gallons Pumped/Bailed Prior to Sampling 3.5

Gallons per Foot 0.16

Gallons in Well 0.82 x 3 = 2.46 Sampling Pump Intake (feet below land surface) _____

Purging Equipment _____

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature	pH	Conductivity	TDS	DO	DO%	ORP	Other
1608	15.22	7.17	1608	0.395	13.94	136.8	-184.2	
1611	15.19	7.13	1142	0.742	2.26	22.0	-195.8	
1613	14.91	7.11	1146	0.745	1.10	10.9	-202.4	

Sampling Equipment Low Flow Pump / (Disposable Bailer)

Constituents Sampled	Container Description	Preservative
BTEX	3 VOAs	HCl
Iron	16oz. Plastic	HNO_3

Remarks dark gray color; strong odor; no sheen

Sampling Personnel GD, AM

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 Scott Drake No. 1 Page 1 of 3

Project No.

Site Location Farmington, NM

Site/Well No. MW-4 Coded/ Replicate No. Date 9.29.09

Weather Cloudy, 80° Time Sampling Began 1637 Time Sampling Completed 1645

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 ~~24.7~~ 24.4 Water-Level Elevation

Held ____ Depth to Water Below MP 17.31 Diameter of Casing 2"

Wet ____ Water Column in Well 7.09 Gallons Pumped/Bailed Prior to Sampling ~3.75

Gallons per Foot 0.16

Gallons in Well 1.1344 x 3 = 3.4032 Sampling Pump Intake Setting (feet below land surface) N/A

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	ORP (mV)	turb
1637	18.81	7.06	994	0.640	1.60	-221.9	152.5
1640	18.75	7.07	982	0.638	1.25	-232.6	180.5
1642	18.83	7.08	985	0.640	1.33	-234.9	168.9

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Iron (Dissolved)	1 16 oz. plastic	~~HNO_3~~

Remarks H_2O dark gray with plant matter in purge water strong bio odor

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

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Scott Drake No. 1 Page 2 of 3

Project No.

Site Location Farmington, NM

Site/Well No. MW-5 Coded/ Replicate No. 1720 Date 9-29-09

Weather Sunny, 80° Time Sampling Began 1704 Time Sampling Completed 1715

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 16.34 Water-Level Elevation

Held ____ Depth to Water Below MP 11.56 Diameter of Casing 2"

Wet ____ Water Column in Well 4.78 Gallons Pumped/Bailed Prior to Sampling 3 gallons

Gallons per Foot 0.16

Gallons in Well ~~3.2867 = .987~~ Sampling Pump Intake Setting (feet below land surface) N/A

Purging Equipment Purge pump / Bailer ~~1.6119 x 3 = 5.5419~~ .765 x 3 = 2.294

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	ORP (mV)	Turbidity
1709	17.76	7.14	987	.642	3.60	-201.9	192.7
1713	17.71	7.09	976	.634	1.59	-219.6	339.0
1713	17.75	7.04	968	.629	1.21	-224.8	167.0

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Iron (dissolved)	1 16 oz. plastic	~~HNO₃~~

Remarks Iron oxide noticed on outside of bailer during bailing in begining, some bailers retreived with orange particulate in bottom 2 inches of bailer

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

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Scott Drake No. 1 Page 3 of 3

Project No.

Site Location Farmington, NM

Site/Well No. MW-6 Coded/ Replicate No. Date 9-29-09

Weather Sunny, 80° Time Sampling Began 1615 Time Sampling Completed 1635

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 23.85 Water-Level Elevation

Held ____ Depth to Water Below MP 18.10 Diameter of Casing 2"

Wet ____ Water Column in Well 5.75 Gallons Pumped/Bailed Prior to Sampling 3 gallons

Gallons per Foot 0.16

Gallons in Well .92 x 2.76 Sampling Pump Intake Setting (feet below land surface) N/A

Purging Equipment Purge pump / (Bailer)

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	ORP (mV)
1627	19.98	6.80	991	.644	3.24	-152.6
1630	19.95	6.79	990	.643	2.20	-160.8
1632	20.00	6.82	991	.644	1.78	-162.9

Turbidity
29.34
19.81
21.67

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Iron (dissolved)	1 16 oz. plastic	~~HNO₃~~

Remarks light gray H_2O w/ slight plant matter, bio odor

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

APPENDIX C

LABORATORY ANALYTICAL REPORT

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

Conoco Phillips

Certificate of Analysis Number:

09060992

Report To:		Project Name:	COP Scott Drake No 1
Tetra Tech, Inc. Kelly Blanchard 6121 Indian School Road, N.E. Suite 200 Albuquerque NM 87110- ph: (505) 237-8440 fax:		Site:	Farmington, NM
		Site Address:	
		PO Number:	4510447839
		State:	New Mexico
		State Cert. No.:	
		Date Reported:	6/30/2009

This Report Contains A Total Of 13 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

6/30/2009

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 Phillips

Certificate of Analysis Number:
09060992

Report To:		Project Name:	COP Scott Drake No 1
Tetra Tech, Inc.		Site:	Farmington, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	4510447839
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	6/30/2009
ph: (505) 237-8440	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.

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.

E Cardenas

Erica Cardenas
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 Phillips

Certificate of Analysis Number:

09060992

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

Fax To:

Project Name: COP Scott Drake No 1
Site: Farmington, NM
Site Address:

PO Number: 4510447839
State: New Mexico
State Cert. No.:
Date Reported: 6/30/2009

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-4	09060992-01	Water	6/16/2009 3:50:00 PM	6/18/2009 9:30:00 AM	327799	☐
MW-5	09060992-02	Water	6/16/2009 4:45:00 PM	6/18/2009 9:30:00 AM	327799	☐
MW-6	09060992-03	Water	6/16/2009 4:20:00 PM	6/18/2009 9:30:00 AM	327799	☐
Duplicate	09060992-04	Water	6/16/2009 4:15:00 PM	6/18/2009 9:30:00 AM	327799	☐
Trip Blank	09060992-05	Water	6/16/2009	6/18/2009 9:30:00 AM	327799	☐

Erica Cardenas
Project Manager

6/30/2009
Date

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

Ted Yen
Quality Assurance Officer

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

Client Sample ID: MW-4 **Collected:** 06/16/2009 15:50 **SPL Sample ID:** 09060992-01

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, TOTAL			**MCL**	**SW6010B**	**Units: mg/L**		
Iron	1.11		0.02	1	06/26/09 16:18	EG	5088529

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	06/22/2009 9:00	AB1	1.00

VOLATILE ORGANICS BY METHOD 8260B			MCL	SW8260B	Units: ug/L		
Benzene	ND		5	1	06/19/09 22:26	LT	5079004
Ethylbenzene	ND		5	1	06/19/09 22:26	LT	5079004
Toluene	ND		5	1	06/19/09 22:26	LT	5079004
m,p-Xylene	ND		5	1	06/19/09 22:26	LT	5079004
o-Xylene	ND		5	1	06/19/09 22:26	LT	5079004
Xylenes,Total	ND		5	1	06/19/09 22:26	LT	5079004
Surr: 1,2-Dichloroethane-d4	102	%	78-116	1	06/19/09 22:26	LT	5079004
Surr: 4-Bromofluorobenzene	110	%	74-125	1	06/19/09 22:26	LT	5079004
Surr: Toluene-d8	92.6	%	82-118	1	06/19/09 22:26	LT	5079004

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:** 06/16/2009 16:45 **SPL Sample ID:** 09060992-02

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, TOTAL			**MCL**	**SW6010B**	**Units: mg/L**		
Iron	3.75		0.02	1	06/26/09 16:22	EG	5088530

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	06/22/2009 9:00	AB1	1.00

VOLATILE ORGANICS BY METHOD 8260B				MCL	SW8260B	Units: ug/L	
Benzene	ND		5	1	06/19/09 23:56	LT	5079007
Ethylbenzene	ND		5	1	06/19/09 23:56	LT	5079007
Toluene	ND		5	1	06/19/09 23:56	LT	5079007
m,p-Xylene	ND		5	1	06/19/09 23:56	LT	5079007
o-Xylene	ND		5	1	06/19/09 23:56	LT	5079007
Xylenes,Total	ND		5	1	06/19/09 23:56	LT	5079007
Surr: 1,2-Dichloroethane-d4	96.8	%	78-116	1	06/19/09 23:56	LT	5079007
Surr: 4-Bromofluorobenzene	108	%	74-125	1	06/19/09 23:56	LT	5079007
Surr: Toluene-d8	93.5	%	82-118	1	06/19/09 23:56	LT	5079007

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-6 **Collected:** 06/16/2009 16:20 **SPL Sample ID:** 09060992-03

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, TOTAL				**MCL**	**SW6010B**	**Units: mg/L**	
Iron	5.22		0.02	1	06/26/09 16:26	EG	5088531

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	06/22/2009 9:00	AB1	1.00

VOLATILE ORGANICS BY METHOD 8260B				**MCL**	**SW8260B**	**Units: ug/L**	
Benzene	ND		5	1	06/20/09 0:26	LT	5079008
Ethylbenzene	ND		5	1	06/20/09 0:26	LT	5079008
Toluene	ND		5	1	06/20/09 0:26	LT	5079008
m,p-Xylene	ND		5	1	06/20/09 0:26	LT	5079008
o-Xylene	ND		5	1	06/20/09 0:26	LT	5079008
Xylenes,Total	ND		5	1	06/20/09 0:26	LT	5079008
Surr: 1,2-Dichloroethane-d4	97.9		% 78-116	1	06/20/09 0:26	LT	5079008
Surr: 4-Bromofluorobenzene	109		% 74-125	1	06/20/09 0:26	LT	5079008
Surr: Toluene-d8	91.4		% 82-118	1	06/20/09 0:26	LT	5079008

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: Duplicate **Collected:** 06/16/2009 16:15 **SPL Sample ID:** 09060992-04

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, TOTAL				**MCL**	**SW6010B**	**Units: mg/L**	
Iron	4.22		0.02	1	06/26/09 16:30	EG	5088532

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	06/22/2009 9:00	AB1	1.00

VOLATILE ORGANICS BY METHOD 8260B				MCL	SW8260B	Units: ug/L	
Benzene	ND		5	1	06/20/09 0:56	LT	5079009
Ethylbenzene	ND		5	1	06/20/09 0:56	LT	5079009
Toluene	ND		5	1	06/20/09 0:56	LT	5079009
m,p-Xylene	ND		5	1	06/20/09 0:56	LT	5079009
o-Xylene	ND		5	1	06/20/09 0:56	LT	5079009
Xylenes,Total	ND		5	1	06/20/09 0:56	LT	5079009
Surr: 1,2-Dichloroethane-d4	87.5	%	78-116	1	06/20/09 0:56	LT	5079009
Surr: 4-Bromofluorobenzene	113	%	74-125	1	06/20/09 0:56	LT	5079009
Surr: Toluene-d8	93.6	%	82-118	1	06/20/09 0:56	LT	5079009

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: Trip Blank **Collected:** 06/16/2009 0:00 **SPL Sample ID:** 09060992-05

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		5	1	06/19/09 21:55	LT	5079003
Ethylbenzene	ND		5	1	06/19/09 21:55	LT	5079003
Toluene	ND		5	1	06/19/09 21:55	LT	5079003
m,p-Xylene	ND		5	1	06/19/09 21:55	LT	5079003
o-Xylene	ND		5	1	06/19/09 21:55	LT	5079003
Xylenes,Total	ND		5	1	06/19/09 21:55	LT	5079003
Surr: 1,2-Dichloroethane-d4	89.4		% 78-116	1	06/19/09 21:55	LT	5079003
Surr: 4-Bromofluorobenzene	112		% 74-125	1	06/19/09 21:55	LT	5079003
Surr: Toluene-d8	92.1		% 82-118	1	06/19/09 21:55	LT	5079003

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 Phillips

COP Scott Drake No 1

Analysis: Metals by Method 6010B, Total
Method: SW6010B
WorkOrder: 09060992
Lab Batch ID: 91317a

Method Blank

RunID: ICP2_090626A-5088512 Units: mg/L
Analysis Date: 06/26/2009 15:05 Analyst: EG
Preparation Date: 06/22/2009 9:00 Prep By: AB1 Method: SW3010A

Analyte	Result	Rep Limit
Iron	ND	0.02

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09060992-01B	MW-4
09060992-02B	MW-5
09060992-03B	MW-6
09060992-04B	Duplicate

Laboratory Control Sample (LCS)

RunID: ICP2_090626A-5088513 Units: mg/L
Analysis Date: 06/26/2009 15:10 Analyst: EG
Preparation Date: 06/22/2009 9:00 Prep By: AB1 Method: SW3010A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Iron	1.000	1.058	105.8	80	120

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

Sample Spiked: 09061012-01
RunID: ICP2_090626A-5088515 Units: mg/L
Analysis Date: 06/26/2009 15:18 Analyst: EG
Preparation Date: 06/22/2009 10:00 Prep By: AB1 Method: SW3010A

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	0.5748	1	1.638	106.3	1	1.521	94.62	7.407	20	75	125

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 Phillips

COP Scott Drake No 1

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 09060992
Lab Batch ID: R276166

Method Blank

RunID: N_090619C-5079002 Units: ug/L
Analysis Date: 06/19/2009 21:25 Analyst: LT

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	86.9	78-116
Surr: 4-Bromofluorobenzene	112.5	74-125
Surr: Toluene-d8	93.5	82-118

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09060992-01A	MW-4
09060992-02A	MW-5
09060992-03A	MW-6
09060992-04A	Duplicate
09060992-05A	Trip Blank

Laboratory Control Sample (LCS)

RunID: N_090619C-5079074 Units: ug/L
Analysis Date: 06/19/2009 20:25 Analyst: LT

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	21.1	106	74	123
Ethylbenzene	20.0	20.9	105	72	127
Toluene	20.0	22.1	111	74	126
m,p-Xylene	40.0	44.2	111	71	129
o-Xylene	20.0	20.1	100	74	130
Xylenes,Total	60.0	64.3	107	71	130
Surr: 1,2-Dichloroethane-d4	50.0	45.3	90.6	78	116
Surr: 4-Bromofluorobenzene	50.0	53.6	107	74	125
Surr: Toluene-d8	50.0	49.1	98.1	82	118

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

Sample Spiked: 09060992-01
RunID: N_090619C-5079075 Units: ug/L
Analysis Date: 06/19/2009 22:56 Analyst: LT

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 Phillips

COP Scott Drake No 1

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 09060992
Method: SW8260B **Lab Batch ID:** R276166

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	21.3	107	20	20.9	105	2.00	22	70	124
Ethylbenzene	ND	20	21.3	106	20	19.8	99.0	7.27	20	76	122
Toluene	ND	20	19.6	97.8	20	19.7	98.6	0.830	24	80	117
m,p-Xylene	ND	40	42.3	106	40	41.0	102	3.26	20	69	127
o-Xylene	ND	20	19.9	99.4	20	18.7	93.7	5.91	20	84	114
Xylenes,Total	ND	60	62.2	104	60	59.7	99.5	4.10	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	50	48.9	97.9	50	42.9	85.7	13.2	30	78	116
Surr: 4-Bromofluorobenzene	ND	50	55.5	111	50	56.3	113	1.47	30	74	125
Surr: Toluene-d8	ND	50	49.7	99.3	50	47.7	95.4	4.00	30	82	118

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:	**09060992**	Received By:	**RE**
Date and Time Received:	**6/18/2009 9:30:00 AM**	Carrier name:	**Fedex-Priority**
Temperature:	**2.3°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: received trip blanks but not listed on chain

Client Instructions:

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No. 09060992 — 327799 — page ____ of ____

Client Name: Tetra Tech
Address: 6121 Indian School Rd. NE Suite 200
City Albuquerque State NM Zip [redacted]
Phone/Fax: 505-237-8440
Client Contact: Kelly Blanchard Email: Kelly.blanchard@tetratech.com
Project Name/No.: Scott Drake
Site Name:
Site Location: Farmington, NM
Invoice To: Ph:

matrix: W=water S=soil O=oil A=air SL=sludge E=encore X=other
bottle: P=plastic A=amber glass G=glass V=vial X=other
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other
pres.: 1=HCl 2=HNO3 3=H2SO4 X=other

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	Requested Analysis: BTEX	Requested Analysis: Iron
MW-4	6/16/09	1550		X	W	V	40	1	3	X	
MW-5	6/16/09	1645		X	W	V	40	1	3	X	
MW-6	6/16/09	1620		X	W	V	40	1	3	X	
Duplicate	6/16/09	1615		X	W	V	40	1	3	X	
MW-4	6/16/09	1550		X	W	P	16	2	1		X
MW-5	6/16/09	1645		X	W	P	16	2	1		X
MW-6	6/16/09	1620		X	W	P	16	2	1		X
Duplicate	6/16/09	1615		X	W	P	16	2	1		X

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp: 2.3c

Requested TAT
☐ 1 Business Day ☐ Contract
☐ 2 Business Days ☒ Standard
☐ 3 Business Days
☐ Other _____
Rush TAT requires prior notice

Special Reporting Requirements Results: Fax ☐ Email ☐ PDF ☐
Standard QC ☒ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

	date	time		
1. Relinquished by Sampler:	6/17/09	1630	2. Received by:	
3. Relinquished by:	date	time	4. Received by:	
5. Relinquished by:	6/18/09	0930	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

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

Conoco Phillips

Certificate of Analysis Number:

09100093

Report To:		Project Name:	COP Scott Drake No 1
Tetra Tech, Inc.		Site:	Farmington, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	10/14/2009
ph: (505) 237-8440	fax:		

This Report Contains A Total Of 13 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

10/14/2009

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 Phillips

Certificate of Analysis Number:

09100093

Report To:		Project Name:	COP Scott Drake No 1
Tetra Tech, Inc.		Site:	Farmington, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	10/14/2009
ph: (505) 237-8440	fax:		

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.

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
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 Phillips

Certificate of Analysis Number:

09100093

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

Fax To:

Project Name: COP Scott Drake No 1
Site: Farmington, NM
Site Address:
PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 10/14/2009

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-4	09100093-01	Water	9/29/2009 4:45:00 PM	10/2/2009 9:15:00 AM	331732	☐
MW-5	09100093-02	Water	9/29/2009 5:15:00 PM	10/2/2009 9:15:00 AM	331732	☐
MW-6	09100093-03	Water	9/29/2009 4:35:00 PM	10/2/2009 9:15:00 AM	331732	☐
Duplicate	09100093-04	Water	9/29/2009 5:20:00 PM	10/2/2009 9:15:00 AM	331732	☐
Trip Blank	09100093-05	Water	10/1/2009 4:10:00 PM	10/2/2009 9:15:00 AM	331732	☐

Erica Cardenas
Project Manager

10/14/2009
Date

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

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
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Client Sample ID: MW-4 **Collected:** 09/29/2009 16:45 **SPL Sample ID:** 09100093-01

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED				**MCL**	**SW6010B**	**Units: mg/L**	
Iron	ND		0.02	1	10/13/09 11:56	AB1	5243656

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	10/05/2009 15:30	R_V	1.00

VOLATILE ORGANICS BY METHOD 8260B				**MCL**	**SW8260B**	**Units: ug/L**	
Benzene	ND		1	1	10/05/09 19:04	JC	5232595
Ethylbenzene	ND		1	1	10/05/09 19:04	JC	5232595
Toluene	ND		1	1	10/05/09 19:04	JC	5232595
m,p-Xylene	ND		1	1	10/05/09 19:04	JC	5232595
o-Xylene	ND		1	1	10/05/09 19:04	JC	5232595
Xylenes,Total	ND		1	1	10/05/09 19:04	JC	5232595
Surr: 1,2-Dichloroethane-d4	95.8		% 78-116	1	10/05/09 19:04	JC	5232595
Surr: 4-Bromofluorobenzene	104		% 74-125	1	10/05/09 19:04	JC	5232595
Surr: Toluene-d8	103		% 82-118	1	10/05/09 19:04	JC	5232595

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:** 09/29/2009 17:15 **SPL Sample ID:** 09100093-02

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED			**MCL**	**SW6010B**	**Units: mg/L**		
Iron	0.0547		0.02	1	10/13/09 12:00	AB1	5243657

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	10/05/2009 15:30	R_V	1.00

VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1	1	10/05/09 19:32	JC	5232596
Ethylbenzene	ND		1	1	10/05/09 19:32	JC	5232596
Toluene	ND		1	1	10/05/09 19:32	JC	5232596
m,p-Xylene	ND		1	1	10/05/09 19:32	JC	5232596
o-Xylene	ND		1	1	10/05/09 19:32	JC	5232596
Xylenes,Total	ND		1	1	10/05/09 19:32	JC	5232596
Surr: 1,2-Dichloroethane-d4	99.6	%	78-116	1	10/05/09 19:32	JC	5232596
Surr: 4-Bromofluorobenzene	98.0	%	74-125	1	10/05/09 19:32	JC	5232596
Surr: Toluene-d8	100	%	82-118	1	10/05/09 19:32	JC	5232596

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
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Client Sample ID: MW-6 **Collected:** 09/29/2009 16:35 **SPL Sample ID:** 09100093-03

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED			MCL	SW6010B	Units: mg/L		
Iron	ND		0.02	1	10/13/09 12:05	AB1	5243658

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	10/05/2009 15:30	R_V	1.00

VOLATILE ORGANICS BY METHOD 8260B			MCL	SW8260B	Units: ug/L		
Benzene	ND		1	1	10/05/09 19:59	JC	5232597
Ethylbenzene	ND		1	1	10/05/09 19:59	JC	5232597
Toluene	ND		1	1	10/05/09 19:59	JC	5232597
m,p-Xylene	ND		1	1	10/05/09 19:59	JC	5232597
o-Xylene	ND		1	1	10/05/09 19:59	JC	5232597
Xylenes,Total	ND		1	1	10/05/09 19:59	JC	5232597
Surr: 1,2-Dichloroethane-d4	95.6	%	78-116	1	10/05/09 19:59	JC	5232597
Surr: 4-Bromofluorobenzene	97.6	%	74-125	1	10/05/09 19:59	JC	5232597
Surr: Toluene-d8	98.8	%	82-118	1	10/05/09 19:59	JC	5232597

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: Duplicate **Collected:** 09/29/2009 17:20 **SPL Sample ID:** 09100093-04

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1	1	10/05/09 20:27	JC	5232598
Ethylbenzene	ND		1	1	10/05/09 20:27	JC	5232598
Toluene	ND		1	1	10/05/09 20:27	JC	5232598
m,p-Xylene	ND		1	1	10/05/09 20:27	JC	5232598
o-Xylene	ND		1	1	10/05/09 20:27	JC	5232598
Xylenes,Total	ND		1	1	10/05/09 20:27	JC	5232598
Surr: 1,2-Dichloroethane-d4	93.9		% 78-116	1	10/05/09 20:27	JC	5232598
Surr: 4-Bromofluorobenzene	98.7		% 74-125	1	10/05/09 20:27	JC	5232598
Surr: Toluene-d8	99.0		% 82-118	1	10/05/09 20:27	JC	5232598

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: Trip Blank **Collected:** 10/01/2009 16:10 **SPL Sample ID:** 09100093-05

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit		Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B				**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1		1	10/05/09 20:54	JC	5232599
Ethylbenzene	ND		1		1	10/05/09 20:54	JC	5232599
Toluene	ND		1		1	10/05/09 20:54	JC	5232599
m,p-Xylene	ND		1		1	10/05/09 20:54	JC	5232599
o-Xylene	ND		1		1	10/05/09 20:54	JC	5232599
Xylenes,Total	ND		1		1	10/05/09 20:54	JC	5232599
Surr: 1,2-Dichloroethane-d4	96.8		% 78-116		1	10/05/09 20:54	JC	5232599
Surr: 4-Bromofluorobenzene	101		% 74-125		1	10/05/09 20:54	JC	5232599
Surr: Toluene-d8	102		% 82-118		1	10/05/09 20:54	JC	5232599

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 Phillips

COP Scott Drake No 1

Analysis: Metals by Method 6010B, Dissolved
Method: SW6010B
WorkOrder: 09100093
Lab Batch ID: 94379

Method Blank

RunID: ICP2_091013A-5243640 Units: mg/L
Analysis Date: 10/13/2009 10:46 Analyst: AB1
Preparation Date: 10/05/2009 15:30 Prep By: R_V Method SW3005A

Analyte	Result	Rep Limit
Iron	ND	0.02

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09100093-01B	MW-4
09100093-02B	MW-5
09100093-03B	MW-6

Laboratory Control Sample (LCS)

RunID: ICP2_091013A-5243641 Units: mg/L
Analysis Date: 10/13/2009 10:50 Analyst: AB1
Preparation Date: 10/05/2009 15:30 Prep By: R_V Method SW3005A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Iron	1.000	1.013	101.3	80	120

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

Sample Spiked: 09100090-01
RunID: ICP2_091013A-5243643 Units: mg/L
Analysis Date: 10/13/2009 10:59 Analyst: AB1
Preparation Date: 10/05/2009 15:30 Prep By: R_V Method SW3005A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Iron	0.02370	1	0.9650	94.13	1	1.010	98.63	4.557	20	75	125

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 Phillips

COP Scott Drake No 1

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 09100093
Lab Batch ID: R285561

Method Blank

RunID: Q_091005B-5232589 Units: ug/L
Analysis Date: 10/05/2009 13:35 Analyst: JC

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,2-Dichloroethane-d4	101.8	78-116
Surr: 4-Bromofluorobenzene	100.3	74-125
Surr: Toluene-d8	101.5	82-118

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09100093-01A	MW-4
09100093-02A	MW-5
09100093-03A	MW-6
09100093-04A	Duplicate
09100093-05A	Trip Blank

Laboratory Control Sample (LCS)

RunID: Q_091005B-5232588 Units: ug/L
Analysis Date: 10/05/2009 13:07 Analyst: JC

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	19.0	95.1	74	123
Ethylbenzene	20.0	19.5	97.3	72	127
Toluene	20.0	18.6	93.2	74	126
m,p-Xylene	40.0	38.5	96.3	71	129
o-Xylene	20.0	19.5	97.3	74	130
Xylenes,Total	60	58	97	71	130
Surr: 1,2-Dichloroethane-d4	50.0	48.3	96.7	78	116
Surr: 4-Bromofluorobenzene	50.0	51.2	102	74	125
Surr: Toluene-d8	50.0	49.8	99.6	82	118

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

Sample Spiked: 09091126-09
RunID: Q_091005B-5232591 Units: ug/L
Analysis Date: 10/05/2009 14:55 Analyst: JC

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 Phillips

COP Scott Drake No 1

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 09100093
Method: SW8260B **Lab Batch ID:** R285561

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	200	187	93.7	200	195	97.6	4.06	22	70	124
Ethylbenzene	ND	200	184	92.2	200	187	93.7	1.60	20	76	122
Toluene	ND	200	182	91.2	200	189	94.6	3.64	24	80	117
m,p-Xylene	ND	400	372	93.0	400	377	94.3	1.33	20	69	127
o-Xylene	ND	200	186	93.1	200	197	98.6	5.77	20	84	114
Xylenes,Total	ND	600	558	93.0	600	574	95.7	2.84	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	500	483	96.5	500	523	105	8.02	30	78	116
Surr: 4-Bromofluorobenzene	ND	500	502	100	500	514	103	2.31	30	74	125
Surr: Toluene-d8	ND	500	490	98.0	500	503	101	2.61	30	82	118

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:	**09100093**	Received By:	**AMV**
Date and Time Received:	**10/2/2009 9:15:00 AM**	Carrier name:	**Fedex-Priority**
Temperature:	**0.5°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: 0910D093 | 331732 | page 1 of 1

Client Name: Tetra Tech / ConocoPhillips
Address: 6121 Indian School Rd Ste 200
City: Albuquerque State: NM Zip: 87110
Phone/Fax: 505.237.8440 505.237.8656
Client Contact: Kelly Blanchard Email: kelly.blanchard@tetratech.com
Project Name/No.: Scott Drake #1
Site Name:
Site Location: Farmington, NM
Invoice To: ConocoPhillips Ph:

matrix: W=water S=soil O=oil A=air SL=sludge E=encore X=other
bottle: P=plastic A=amber glass G=glass V=vial X=other
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other
pres.: 1=HCl 2=HNO3 3=H2SO4 X=other

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	Requested Analysis: BTEX ONLY	Requested Analysis: Dissolved Iron
MW-4	9.29.09	1645		X	W	V	40	1	3	X	
MW-4	9.29.09	1645		X	W	P	16	NONE	1		X
~~MW-2~~ cm	cm	cm	cm	X	W	V					
MW-5	9.29.09	1715		X	W	P	16	NONE	1		X
MW-5	9.29.09	1715		X	W	V	40	1	3	X	
MW-6	9.29.09	1635		X	W	P	16	NONE	1		X
MW-6	9.29.09	1635		X	W	V	40	1	3	X	
Duplicate	9.29.09	1720		X	W	V	40	1	3	X	
Trip Blank	10-1-09	1610			W	V	40	1	2	X	

Client/Consultant Remarks: please filter & preserve metals container prior to analysis
Laboratory remarks:
Intact? Y N
Ice? Y N
Temp: 0.5

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

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

	date	time		
1. Relinquished by Sampler:	10-1-09	1630	2. Received by:	
3. Relinquished by:	date	time	4. Received by:	
5. Relinquished by:	date 10/2/09	time 9:15	6. Received by Laboratory: Amanda Vickman	

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