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



TETRA TECH, INC.

July 22, 2010

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

**RE: Sategna No. 2E, Quarterly Groundwater Monitoring Report – June 2010
Sampling Event**

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced document created by Tetra Tech, Inc. for this Bloomfield area ConocoPhillips 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

Cc: Brandon Powell, NMOCD

Enclosures (1)

RECEIVED OGD
2010 JUL 27 A 10:58

**2010 QUARTERLY GROUNDWATER
MONITORING REPORT
JUNE 2010**

**CONOCOPHILLIPS COMPANY
SATEGNA No. 2E
PRODUCTION FACILITY
SAN JUAN COUNTY, NEW MEXICO**

OCD No. - TBD
API # 30-045-24060

Prepared for:



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. 1158690090

July 2010

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QUARTERLY GROUNDWATER MONITORING REPORT SATEGNA NO. 2E, SAN JUAN COUNTY, NEW MEXICO JUNE 2010

1.0 INTRODUCTION

This report presents the results of the June 2010 quarterly groundwater monitoring event conducted by Tetra Tech, Inc. (Tetra Tech) at the ConocoPhillips Company (ConocoPhillips) Sategna No. 2E gas well production facility (Site) located on private land within Section 21, Township 29N, Range 11W of Bloomfield, New Mexico (**Figure 1**). A Site detail map is included as **Figure 2**.

1.1 Site Background

The historical timeline for the privately-owned Site is summarized below, and is presented in more detail in **Table 1**.

On November 24, 2008, approximately 8 barrels of condensate were found to have been released from an on-Site, aboveground storage tank (AST) as a result of corrosion in the tank. New Mexico Oil Conservation Division (OCD) Form C-141 was filled out by ConocoPhillips staff and notice was given to OCD via electronic mail. Form C-141 stated that the well was shut down and the production tank was emptied. The spilled fluids remained in the berm and none of the condensate was recovered. On November 25, 2008, Envirotech Inc. of Farmington, New Mexico (Envirotech) obtained grab soil samples from just outside the affected area for analysis of organic vapors. Results of this analysis were below OCD recommended action levels. Envirotech also hand-augered 2 soil borings to groundwater at a depth of approximately 8 feet below ground surface (bgs) and submitted two groundwater samples to an analytical laboratory for benzene, toluene, ethylbenzene and xylenes (BTEX) analysis. Results of these analyses revealed BTEX in concentrations below OCD action levels for these constituents.

On December 4, 2008, Envirotech returned to the Site and obtained grab and composite soil samples from an excavation measuring approximately 30 feet by 18 feet by 5 feet deep (**Figure 2**). Heated headspace organic vapor results ranged from 6.5 parts per million (ppm) in a grab soil sample obtained from the bottom of the excavation to 1,400 ppm from a composite soil sample taken from the former location of the AST; the OCD action level for organic vapors is 100 ppm. Total petroleum hydrocarbons (TPH), BTEX, and chloride samples were obtained for soils analysis, and results were all below OCD action levels for BTEX. Results for TPH analysis obtained through Environmental Protection Agency (EPA) method 8015B for the composite soil sample taken at the site of the AST revealed results of 205 mg/kg; the OCD action level is 100 mg/kg. Results for TPH analysis obtained through EPA method 418.1 for the composite soil sample obtained at the location of the below ground tank revealed results of 521 mg/kg. The below ground tank was located within the berm and adjacent to the AST (**Figure 2**).

Envirotech noted seepage of groundwater into the excavation on December 4, 2008, and returned to the Site on December 5, 2008 to collect groundwater samples from the excavation for BTEX analysis. The OCD groundwater action levels for benzene, toluene, and total xylenes are 10 ug/l, 750 ug/l, and 620 ug/l, respectively. Benzene was found at a concentration of 327 ug/l, toluene was detected at 4,300 ug/l, and total xylenes were found at a concentration of 8,480 ug/L. During the week of December 8, 2008, a vacuum truck was utilized to pump the groundwater seepage from the surface of the excavated area. Once removed, further excavation took place and groundwater slowly seeped into the excavation; this process was repeated a total of 4 times. The first time water was pumped from the surface of the excavation, a hydrocarbon odor and free-phase, light non-aqueous phase liquid (LNAPL) were present. By the fourth and last event, neither the hydrocarbon odor nor free-phase LNAPL was present in the groundwater seepage. Each pumping event removed approximately 30-60 barrels of liquid from the Site.

In January 2009, Tetra Tech conducted a site visit to determine proposed groundwater monitor well locations. Groundwater monitor wells were installed at the Site on March 4, 2009 and March 5, 2009. Tetra Tech initiated quarterly groundwater monitoring events with a baseline in April 2009.

2.0 MONITORING SUMMARY AND SAMPLING METHODOLOGY AND RESULTS

2.1 Monitoring Summary

Prior to collection of groundwater samples from Monitor Wells MW-1, MW-2 and MW-3, depth to groundwater was measured in each well using a dual interface probe. Results are displayed in **Table 2**.

The casings for Monitor Wells MW-1, MW-2, and MW-3 were surveyed in March 2009 using an arbitrary reference-elevation of 100 feet. The data obtained from the Site survey and from the June 2010 sampling event was used to create a groundwater elevation map for the Site (**Figure 3**). Using these data, it was determined that the groundwater flow direction at the Site is to the southwest. A generalized geologic cross section for the Site is presented as **Figure 4**.

2.2 Groundwater Sampling Methodology

During the groundwater monitoring event, Site monitor wells were purged of at least 3 casing volumes of groundwater using a 1.5-inch diameter, polyethylene disposable bailer. While bailing each well, groundwater parameters were collected using a YSI 556 multi-parameter sonde and results were recorded on a Tetra Tech Water Sampling Field Form (**Appendix A**). Collected groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Southern Petroleum Laboratory (SPL) of Houston, Texas.

Each groundwater sample collected was analyzed for dissolved manganese by Environmental Protection Agency (EPA) Method 6010B; BTEX by EPA Method 8260B; and TDS by EPA Method 2540C. Results of all analyses are displayed in **Table 3**.

2.3 Groundwater Sampling Analytical Results

The New Mexico Water Quality Control Commission (NMWQCC) mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedences of NMWQCC groundwater quality standards in Site monitor wells are discussed below.

- **Total Dissolved Solids**

The NMWQCC domestic water supply groundwater quality standard for TDS is 1,000 mg/L; groundwater collected from Monitor Wells MW-1, MW-2 and MW-3 was found to contain TDS concentrations of 2,580 mg/L, 2,590 mg/L, and 2,650 mg/L, respectively.

- **Manganese**

The NMWQCC domestic water supply groundwater quality standard for manganese is 0.2 mg/L; groundwater collected from Monitor Wells MW-1 and MW-3 was found to contain a manganese concentration of 0.206 and 0.968 mg/L, respectively.

- **Sulfate**

The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater collected from Monitor Wells MW-1, MW-2, and MW-3 were found to contain sulfate in concentrations of 1,330; 1,290; and 1,760; respectively.

The corresponding laboratory analysis report for the June 2010 groundwater sampling event is included in **Appendix B**. A map showing TDS, manganese, and sulfate concentrations in Site wells during the June 2010 groundwater sampling event is included as **Figure 4**.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The next quarterly groundwater monitoring event at the Site is scheduled for September 2010. Concentrations of dissolved manganese, sulfate and TDS have been detected above NMWQCC groundwater quality standards in groundwater monitor wells at the Site. As a result, Tetra Tech recommends that these constituents continue to be monitored as part of the quarterly monitoring program at the Site. BTEX was not found above laboratory detection limits in any Site monitor well, and Tetra Tech will continue to monitor for BTEX parameters in order to move toward Site closure.

Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetrattech.com if you have any questions or require additional information.

FIGURES



FIGURE 1.

Site Location Map
ConocoPhillips
Company
Sategna No. 2E
Bloomfield, NM



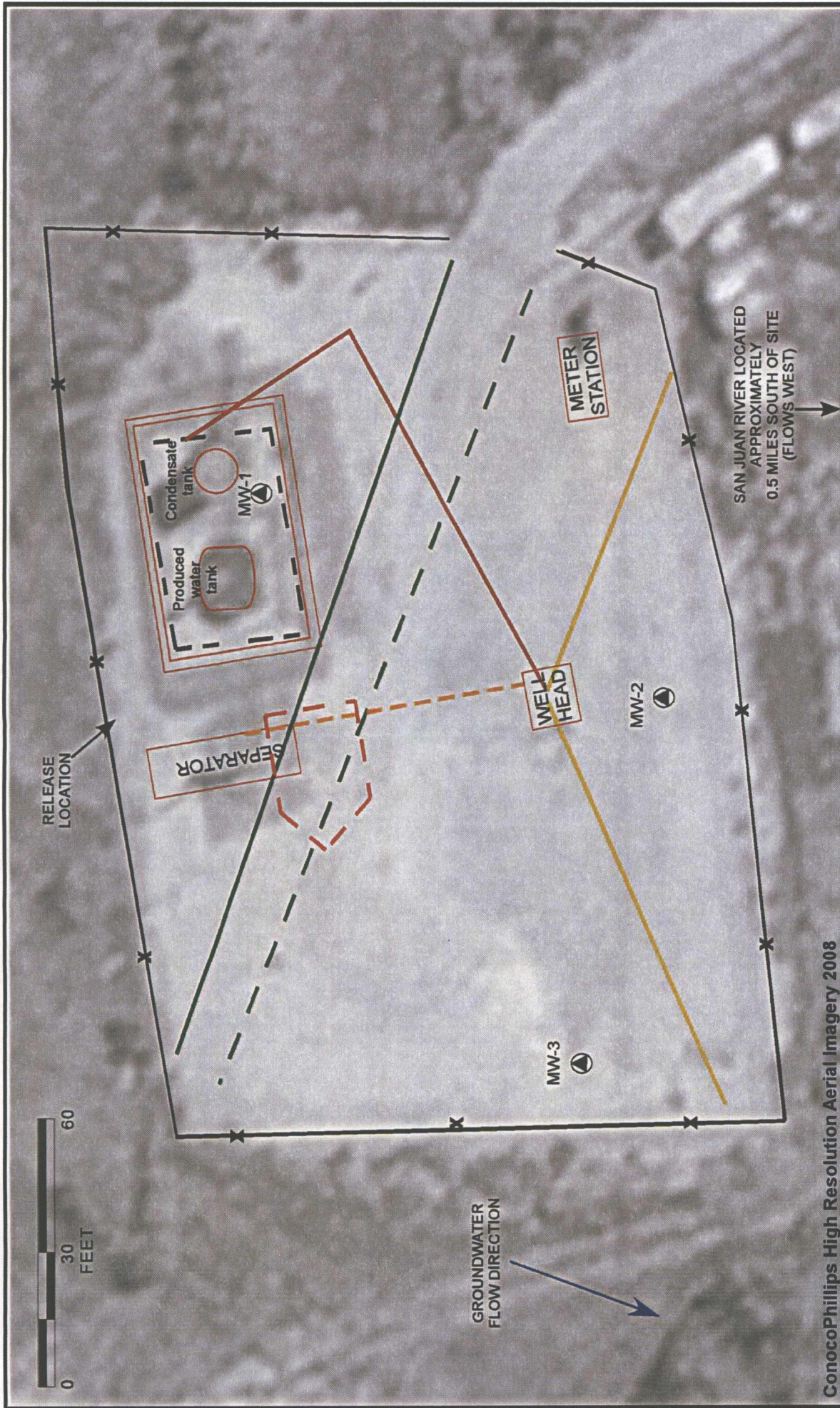
Directions from HWY 64 to
ConocoPhillips Company
Sategna No. 2E Site Loca-
tion



ConocoPhillips Company
Sategna No. 2E Site Location



TETRA TECH, INC.



ConocoPhillips High Resolution Aerial Imagery 2008

FIGURE 2:
 SITE LAYOUT MAP
 CONOCOPHILLIPS COMPANY
 SATEGNA No. 2E GAS
 PRODUCTION WELL
 Sec 21, T29N, R11W
 Bloomfield, New Mexico

LEGEND

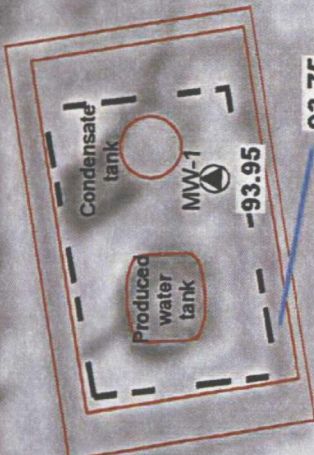
---	GENERAL AREA OF DECEMBER 2008 EXCAVATION
---	BERM AND ASSOCIATED EQUIPMENT
---x---	FENCE LINE
○	MONITOR WELL
—	ACTIVE SEWER LINE
---	ABANDONED SEWER LINE
---	SEPARATOR LINE
---	GAS LINE
---	ELECTRIC LINE
---	GENERAL AREA OF MAR/APR 2009 EXCAVATION

N

TETRA TECH, INC.



RELEASE LOCATION



SEPARATOR

GROUNDWATER
FLOW DIRECTION

MW-3

92.71

WELL
HEAD

93.0

93.25

93.5

93.75

MW-2

92.75

92.57

92.5

METER
STATION

SAN JUAN RIVER LOCATED
APPROXIMATELY
0.5 MILES SOUTH OF SITE
(FLOWS WEST)

Note: Groundwater elevations are relative to the wellhead,
set at an arbitrary 100 feet above mean sea level. Elevations are
dashed where inferred.

FIGURE 3:

GROUNDWATER ELEVATION MAP

June 2010

CONOCOPHILLIPS COMPANY

SATEGNA No. 2E

GAS PRODUCTION WELL

Sec 21, T29N, R11W

Bloomfield, New Mexico

LEGEND

— BERM AND ASSOCIATED EQUIPMENT

—*— FENCE LINE

⊙ MONITORING WELL



TETRA TECH, INC.



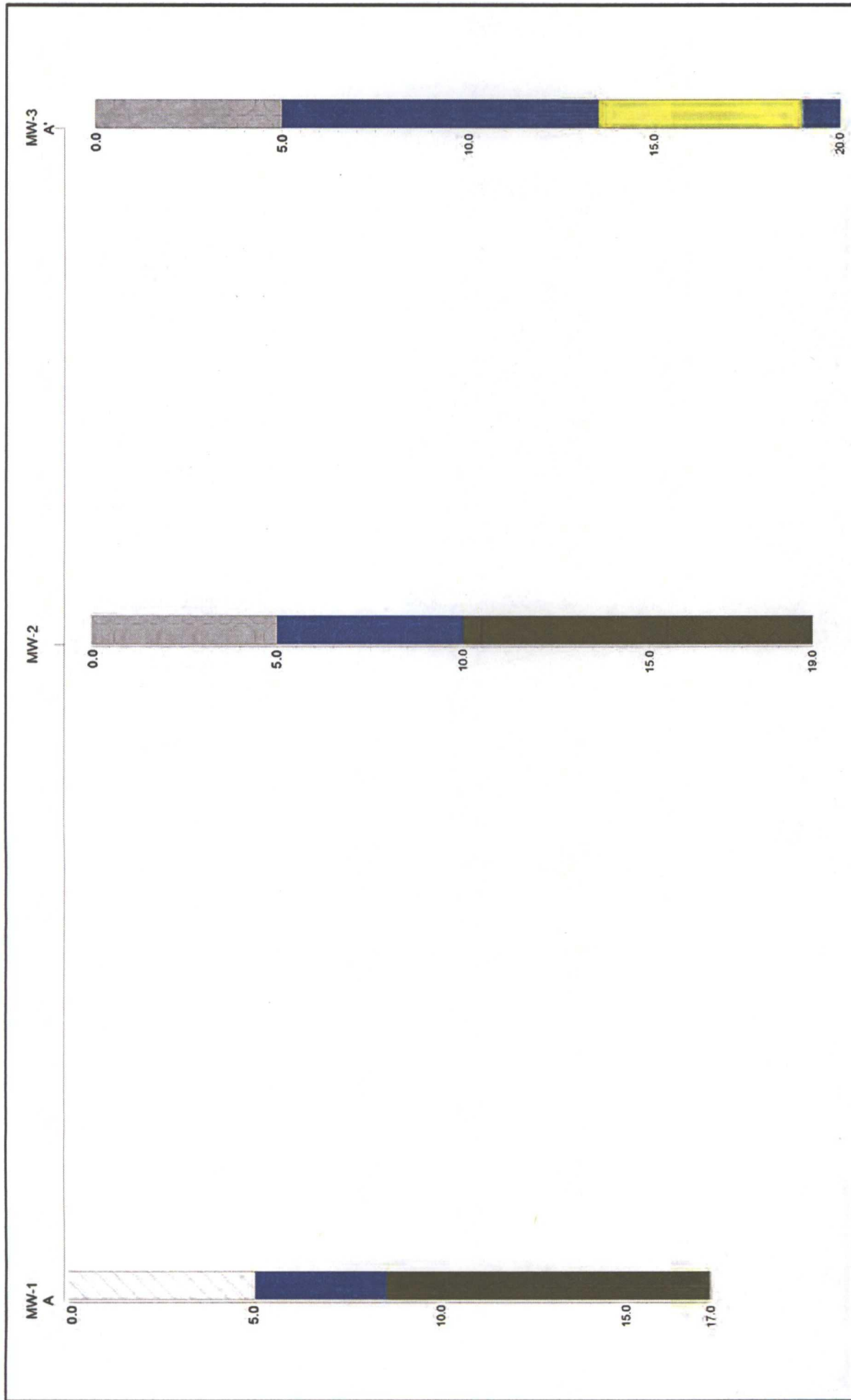
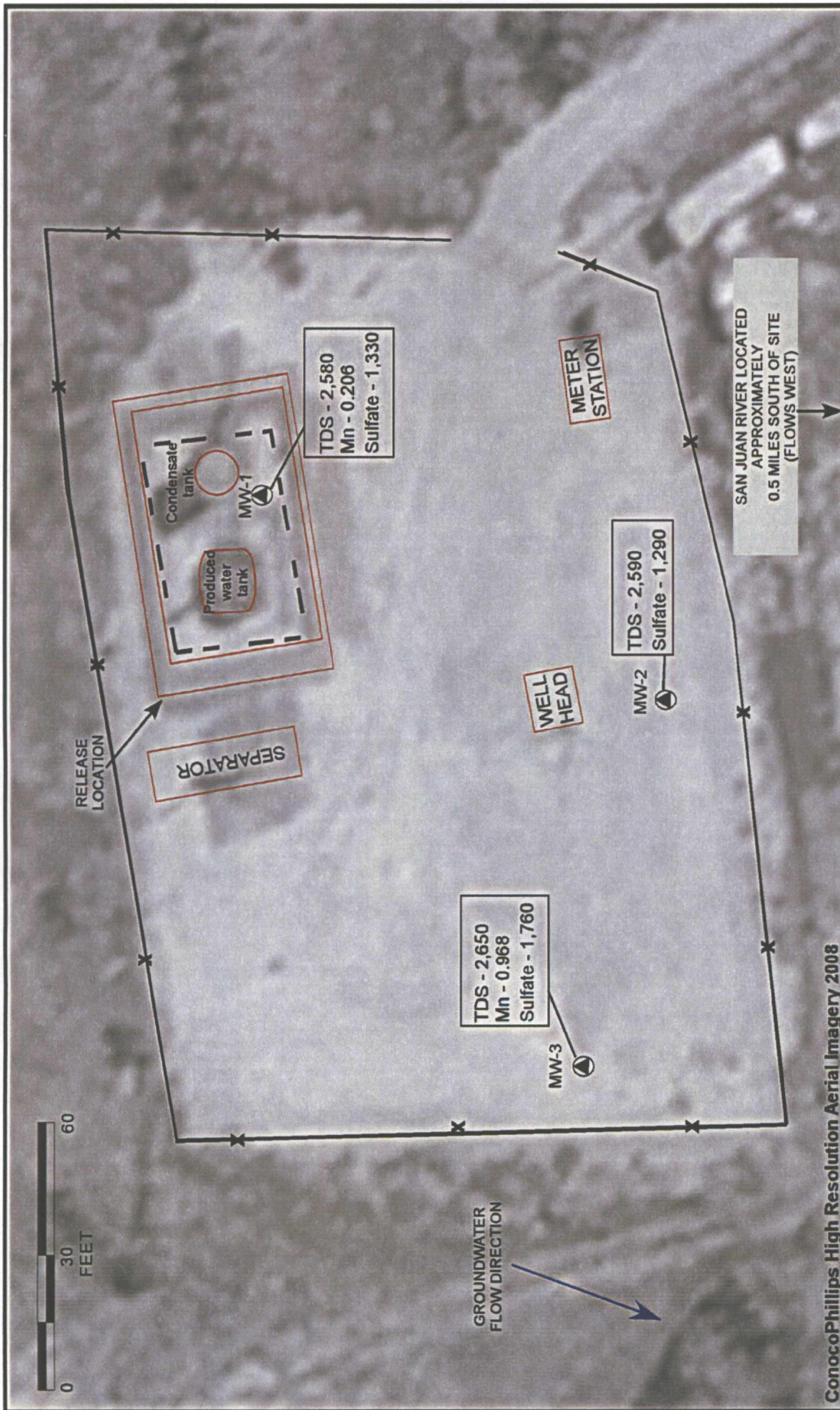


FIGURE 4:
GENERALIZED GEOLOGIC CROSS SECTION
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E GAS PRODUCTION WELL
Sec 21, T29N, R11W
Bloomfield, New Mexico



TETRA TECH, INC.



ConocoPhillips High Resolution Aerial Imagery 2008

FIGURE 5:
GROUNDWATER QUALITY MAP
 June 2010
 CONOCOPHILLIPS COMPANY
 SATEGNA No. 2E
 GAS PRODUCTION WELL
 Sec 21, T29N, R11W
 Bloomfield, New Mexico

LEGEND

- BERM AND ASSOCIATED EQUIPMENT
 - * FENCE LINE
 - ⊙ MONITOR WELL
- Quality Standards (mg/L):**
- | |
|---------------|
| TDS - 1,000 |
| Mn - 0.2 |
| Sulfate - 600 |
- Scale:** 0, 30, 60 FEET

Total Dissolved Solids, Manganese, and Sulfate Concentrations in Site Monitoring Wells.
 NMWQCC Groundwater Quality Standards Shown at Left (mg/L).



TETRA TECH, INC.

TABLES

Table 1. Site History Timeline

Date	Activity
November 24, 2008	Approximately eight (8) barrels of condensate were found to have spilled from an on-Site, aboveground storage tank (AST); corrosion was thought to be the cause of the release. Form C-141 was filled out by ConocoPhillips staff and notice was given to Brandon Powell via electronic mail. Form C-141 stated that the well was shut down and the production tank was emptied. The spilled fluids remained in the berm and none of the condensate was recovered.
November 25, 2008	Envirotech Inc. of Farmington, NM (Envirotech) obtained heated headsapce soil results from just outside of the affected area; results were 0.2 and 1.1 parts per million (ppm). Depth of soil samples was not noted. Envirotech hand augured two soil borings to groundwater at a depth of approximately 8 feet below ground surface (bgs) and submitted groundwater samples for analysis. Results were below OCD action levels for benzene, toluene, ethylbenzene, and total xylenes (BTEX) in groundwater. Envirotech notes that groundwater levels in the soil borings increased to approximately 5 feet bgs, and groundwater beneath the Site was thought to be under confined aquifer conditions (Kerr, 2009).
December 4, 2008	Envirotech returned to the Site and obtained grab and composite soil samples from an excavation measuring approximately* 30 feet by 18 feet by 5 feet deep (Figure 2). Heated headsapce results show values ranging from 6.5 ppm in a grab soil sample obtained from the bottom of the excavation to 1,400 ppm from a composite soil sample taken from the former location of the AST. Total petroleum hydrocarbons (TPH), BTEX, and chloride samples were obtained for soils analysis, and results were all below OCD action levels for BTEX; one soil sample obtained for chlorides showed results of 370 milligrams per kilogram (mg/kg). Results for TPH analysis obtained through Environmental Protection Agency (EPA) method 8015B for the composite soil sample taken at the site of the AST revealed results of 205 mg/kg; the OCD action level is 100 mg/kg. Results for TPH analysis obtained through EPA method 418.1 for the composite soil sample obtained at the location of the below ground tank revealed results of 521 mg/kg. The below ground tank was located within the berm and adjacent to the AST (Figure 2). Results of all other soil analyses at all other sampling locations were below OCD action levels (Appendix A).
December 5, 2008	Envirotech notes seepage of groundwater into the excavation on December 4, 2008, and returns to the Site on December 5, 2008 to collect groundwater samples from the excavation for BTEX analysis. (Kerr, 2009). The OCD groundwater action levels for benzene, toluene, and total xylenes are 10 ug/l, 750 ug/l, and 620 ug/l, respectively. Benzene was found at a concentration of 327 ug/l, toluene was detected at 4,300 ug/l, and total xylenes were found at a concentration of 8,480 ug/L (Appendix A).
Week of December 8, 2008	A vacuum truck was utilized to pump groundwater seepage from the surface of the excavated area. Once removed, further excavation took place and groundwater slowly seeped into the excavation; this process was repeated a total of four (4) times. The first time water was pumped from the surface of the excavation, a hydrocarbon odor and free-phase, light non-aqueous phase liquid (LNAPL) were present. By the fourth and last event, neither the hydrocarbon odor nor free-phase LNAPL was present in the groundwater seepage. Each pumping event removed approximately 30-60 barrels of liquid from the Site (Frost, 2009).
January 20, 2009 & January 30, 2009	Tetra Tech conducted a Site visit to determine proposed groundwater monitoring well locations.
March 4-5, 2009	Tetra Tech installed three groundwater monitor wells at the Site: MW-1, MW-2, and MW-3.
March 2009	Construction and trenching for relocation of well operational equipment and tanks uncovered additional hydrocarbon impacted soils between the well head and separator tank. Work was stopped.
April 2, 2009	Tetra Tech conducted the first quarterly groundwater monitoring event at the Site.

Table 1. Site History Timeline

Date	Activity
April 2, 2009	Envirotech created an exploratory trench between the proposed location of the separator tank and the well head and found an abandoned sewer line associated with hydrocarbon-impacted soils. The trenching was stopped and the excavated soils were stockpiled on site.
April 23 - 24, 2009	Tetra Tech provided oversight for removal of approximately 96 cubic yards of hydrocarbon-impacted soils located west of the tank berm and in the vicinity of the abandoned sewer line.
June 17, 2009	Tetra Tech conducted the second quarterly groundwater monitoring event at the Site.
September 28, 2009	Tetra Tech conducted the third quarterly groundwater monitoring event at the Site.
December 14, 2009	Tetra Tech conducted the fourth quarterly groundwater monitoring event at the Site.
March 31, 2010	Tetra Tech conducted the fifth quarterly groundwater monitoring event at the Site.
June 7, 2010	Tetra Tech conducted the sixth quarterly groundwater monitoring event at the Site.

Table 2 - Groundwater Elevation Data Summary

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	*Elevation (ft) (TOC)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
MW-1	20.30	2.2 - 17.2	99.36	4/2/2009	5.15	94.21
				6/17/2009	5.43	93.93
				9/28/2009	5.45	93.91
				12/14/2009	5.06	94.30
				3/31/2010	5.03	94.33
				6/7/2010	5.41	93.95
MW-2	20.90	3.33 - 18.33	98.78	4/2/2009	5.96	92.82
				6/17/2009	6.21	92.57
				9/28/2009	6.23	92.55
				12/14/2009	5.92	92.86
				3/31/2010	5.90	92.88
				6/7/2010	6.21	92.57
MW-3	20.28	3.0 - 18.0	98.66	4/2/2009	5.70	92.96
				6/17/2009	5.97	92.69
				9/28/2009	5.96	92.70
				12/14/2009	5.63	93.03
				3/31/2010	5.61	93.05
				6/7/2010	5.95	92.71

ft = Feet

TOC = Top of casing

bgs = below ground surface

* Elevation relative to wellhead, set at 100 feet.

Table 3. Groundwater Laboratory Analytical Results Summary

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Sulfate (mg/L)	Aluminum (mg/L)	Iron (mg/L)	Manganese (mg/L)	Total Dissolved Solids (mg/L)
MW-1	4/2/2009	< 5	< 5	< 5	< 5	1790	7.25*	7.2*	2.7*	NA
	6/17/2009	< 5	< 5	< 5	< 5	1420	6.87*	5.63*	2.37*	NA
	9/28/2009	< 1	< 1	< 1	< 1	1770	< 0.1	< 0.02	0.243	2590
	12/14/2009	< 1	< 1	< 1	< 1	NA	NA	NA	0.152	2470
	3/31/2010	< 1	< 1	< 1	< 1	1320	NA	NA	0.176	2470
MW-2	6/7/2010	< 1	< 1	< 1	< 1	1330	NA	NA	0.206	2580
	4/2/2009	< 5	< 5	< 5	< 5	1850	10.1*	10.4*	6.76*	NA
	6/17/2009	< 5	< 5	< 5	< 5	1610	5.24*	5.52*	2.6*	NA
	9/28/2009	< 1	< 1	< 1	< 1	1840	< 0.1	0.0217	0.168	2260
	12/14/2009	< 1	< 1	< 1	< 1	NA	NA	NA	0.158	2470
	3/31/2010	< 1	< 1	< 1	< 1	1530	NA	NA	0.136	2620
	6/7/2010	< 1	< 1	< 1	< 1	1290	NA	NA	0.157	2590
MW-3	4/2/2009	< 5	< 5	< 5	< 5	2110	0.848*	1.02*	1.9*	NA
	6/17/2009	< 5	< 5	< 5	< 5	1650	0.702*	1.49*	2.22*	NA
	9/28/2009	< 1	< 1	< 1	< 1	2230	< 0.1	< 0.02	2.68	3340
	12/14/2009	< 1	< 1	< 1	< 1	NA	NA	NA	2.4	3060
	3/31/2010	< 1	< 1	< 1	< 1	1660	NA	NA	1.71	3090
NMWQCC Standards	6/7/2010	< 1	< 1	< 1	< 1	1760	NA	NA	0.968	2650
		10 (µg/L)	750 (µg/L)	750 (µg/L)	620 (µg/L)	600 (mg/L)	5 (mg/L)	1 (mg/L)	0.2 (mg/L)	1000 (mg/L)

Explanation

ND = Not Detected

NMWQCC = New Mexico Water Quality Control Commission

mg/L = milligrams per liter (parts per million)

µg/L = micrograms per liter (parts per billion)

NA = Not Analyzed

< 0.7 = Below laboratory detection limit of 0.7 µg/L

Bold = concentrations that exceed the NMWQCC limits

* = Results reported for total metals analysis, results cannot be compared to NMWQCC Standards for dissolved metals

APPENDICES

APPENDIX A

Groundwater Sampling Field Forms



TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Sategna 2EPage 1 of 3

act No. _____

Site Location Bloomfield, NMSite/Well No. MW-1Coded/
Replicate No. Duplicate @ 1330Date 6/7/11Weather Sunny, hot 90°Time Sampling
Began 1310Time Sampling
Completed 1325

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 20.3 20.18 Water-Level Elevation _____Held _____ Depth to Water Below MP 5.41 Diameter of Casing 2"Wet _____ Water Column in Well 14.77 Gallons Pumped/Bailed Prior to Sampling 7.25Gallons per Foot 0.16Gallons in Well 2.36 Sampling Pump Intake Setting (feet below land surface) _____Purging Equipment Purge pump Bailer x3 = 7.09

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity ($\mu\text{S}/\text{cm}^3$)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1320	12.94	7.28	2.826	—	1.68	15.8	197.6	5.5
1322	12.96	7.27	2.827	—	1.45	13.7	190.5	6.0
1324	12.61	7.28	2.825	—	1.34	12.7	179.1	6.15

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX 3 40mL VOA's HClDissolved Mn 16 oz Plastic NoneSulfate, TDS 32 oz Plastic NoneRemarks H₂O is light brown, no sheen or odor observed.Sampling Personnel Christine Matthews & Cassie Braun

Well Casing Volumes

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



TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Sategna 2EPage 2 of 3

Jct No. _____

Site Location Bloomfield, NMSite/Well No. MW-2Coded/
Replicate No. _____Date 6/7/10Weather Sunny, hot 90°Time Sampling
Began 1245Time Sampling
Completed 1300

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 20.9 20.85 Water-Level Elevation _____Held _____ Depth to Water Below MP 6.21 Diameter of Casing 2"Wet _____ Water Column in Well 14.64 Gallons Pumped/Bailed
Prior to Sampling 7.25 gallonsGallons per Foot 0.16Gallons in Well 2.34 Sampling Pump Intake
(feet below land) _____Purging Equipment Purge pump (Bailer) X3 = 7.027

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
<u>1258</u>	<u>12.99</u>	<u>6.96</u>	<u>2,956</u>		<u>1.82</u>	<u>17.5</u>	<u>228.7</u>	<u>6</u>
<u>1259</u>	<u>12.96</u>	<u>7.03</u>	<u>2,955</u>		<u>1.57</u>	<u>14.8</u>	<u>239.3</u>	<u>6.5</u>
<u>1300</u>	<u>12.80</u>	<u>6.96</u>	<u>2,943</u>		<u>1.40</u>	<u>12.6</u>	<u>229.1</u>	<u>7.00</u>

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX 3 40mL VOA's HClDissolved Mn 16 oz Plastic NoneSulfate, TDS 32 oz Plastic NoneRemarks H₂O is light Murky brown, no odor or sludge observedSampling Personnel Christine Matthews & Cassie Brown

Well Casing Volumes

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



TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Sategna 2EPage 3 of 3

act No. _____

Site Location Bloomfield, NMSite/Well No. MW-3Coded/
Replicate No. _____Date 6/7/10Weather Sunny, hot 90°Time Sampling
Began 1245Time Sampling
Completed 1345

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 20.281 Water-Level Elevation _____Held _____ Depth to Water Below MP 5.95 Diameter of Casing 2"Wet _____ Water Column in Well 14.26 Gallons Pumped/Bailed
Prior to Sampling 5.5 (bailed dry @ 3.5)Gallons per Foot 0.16Gallons in Well 2.28 Sampling Pump Intake Setting
(feet below land surface) _____Purging Equipment Purge pump (Bailer) X3 = 6.84

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1340	13.6	7.51	3.333	—	2.40	22.6	-17.4	4.5
1342	12.66	7.41	3.333		1.72	16.3	-53.4	5.0
1344	12.30	7.38	3.336		1.48	14.0	-70.6	5.25

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX 3 40mL VOA's HCl _____Dissolved Mn 16 oz Plastic None _____Sulfate, TDS 32 oz Plastic None _____Remarks bailed dry @ ~ 3 gallons and a half gallons @ 1255
Slight weathered hydrocarbon odor, H₂O slight gray colorSampling Personnel Christine Matthews & Cassie Brown

Well Casing Volumes

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

3.50
1.75
5.25

APPENDIX B

Groundwater Laboratory Analysis Reports



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

Certificate of Analysis

June 24, 2010

Workorder: H10060241

Cassandra Brown
Tetra Tech, Inc.
6121 Indian School Road NE
Suite 200
Albuquerque, NM 87110

Project: COP - Sategna 2E
Project Number: Sategna 2E
Site: Bloomfield, New Mexico
PO Number: ENFOS
NELAC Cert. No.: T104704205-09-1

This Report Contains A Total Of 17 Pages

Excluding Any Attachments



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Workorder: H10060241

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Project: COP - Sategna 2E
Project Number: Sategna 2E
Site: Bloomfield, New Mexico
PO Number: ENFOS
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:

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.

Ion Chromatography, Method 300:

Your sample ID "MW-1" (SPL ID: H10060241001) was randomly selected for use in SPL's quality control program for Batch ID IC/1330. The Matrix Spike Duplicate (MSD) recovery was outside of the advisable quality control limits for Sulfate due to matrix interference. A Laboratory Control Sample (LCS) was analyzed as a quality control check for the analytical batch and all recoveries were within acceptable limits.

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).



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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, Senior Project Manager

Enclosures



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SAMPLE SUMMARY

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10060241001	MW-1	Water		6/7/2010 00:00	6/10/2010 09:30
H10060241002	MW-2	Water		6/7/2010 00:00	6/10/2010 09:30
H10060241003	MW-3	Water		6/7/2010 00:00	6/10/2010 09:30
H10060241004	Duplicate	Water		6/7/2010 00:00	6/10/2010 09:30



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ANALYTICAL RESULTS

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

Lab ID: H10060241001

Date/Time Received: 6/10/2010 09:30

Matrix: Water

Sample ID: MW-1

Date/Time Collected: 6/7/2010 00:00

WET CHEMISTRY

Analysis Desc: EPA 300.0

Analytical Batches:

Batch: 1330 EPA 300.0 on 06/11/2010 11:20 by CFS

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Sulfate	1330		50.0	4.35	100			1330

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1649 SM 2540 C on 06/12/2010 12:15 by CFS

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Residue, Filterable (TDS)	2580		20.0	7.88	2			1649

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1819 SW-846 3010A on 06/10/2010 15:00 by R_V

Analytical Batches:

Batch: 1456 SW-846 6010B on 06/18/2010 13:25 by EBG

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Manganese	0.206		0.00500	0.000300	1		1819	1456

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 2049 SW-846 8260B on 06/16/2010 20:52 by JMC

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	ug/l						Prep	Analysis
Benzene	ND		1.0	0.10	1			2049
Ethylbenzene	ND		1.0	0.15	1			2049
Toluene	ND		1.0	0.29	1			2049
m,p-Xylene	ND		1.0	0.18	1			2049
o-Xylene	ND		1.0	0.13	1			2049
Xylenes, Total	ND		1.0	0.13	1			2049
4-Bromofluorobenzene (S)	88.8 %		74-125		1			2049
1,2-Dichloroethane-d4 (S)	84.9 %		70-130		1			2049
Toluene-d8 (S)	100 %		82-118		1			2049



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ANALYTICAL RESULTS

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

Lab ID: H10060241002

Date/Time Received: 6/10/2010 09:30

Matrix: Water

Sample ID: MW-2

Date/Time Collected: 6/7/2010 00:00

WET CHEMISTRY

Analysis Desc: EPA 300.0

Analytical Batches:

Batch: 1330 EPA 300.0 on 06/11/2010 11:36 by CFS

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Sulfate	1290		50.0	4.35	100			1330

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1649 SM 2540 C on 06/12/2010 12:15 by CFS

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Residue, Filterable (TDS)	2590		20.0	7.88	2			1649

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1819 SW-846 3010A on 06/10/2010 15:00 by R_V

Analytical Batches:

Batch: 1456 SW-846 6010B on 06/18/2010 14:20 by EBG

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Manganese	0.157		0.00500	0.000300	1		1819	1456

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 2049 SW-846 8260B on 06/16/2010 21:20 by JMC

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	ug/l						Prep	Analysis
Benzene	1.7		1.0	0.10	1			2049
Ethylbenzene	ND		1.0	0.15	1			2049
Toluene	ND		1.0	0.29	1			2049
m,p-Xylene	ND		1.0	0.18	1			2049
o-Xylene	ND		1.0	0.13	1			2049
Xylenes, Total	ND		1.0	0.13	1			2049
4-Bromofluorobenzene (S)	88 %		74-125		1			2049
1,2-Dichloroethane-d4 (S)	86.6 %		70-130		1			2049
Toluene-d8 (S)	100 %		82-118		1			2049



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ANALYTICAL RESULTS

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

Lab ID: H10060241003

Date/Time Received: 6/10/2010 09:30

Matrix: Water

Sample ID: MW-3

Date/Time Collected: 6/7/2010 00:00

WET CHEMISTRY

Analysis Desc: EPA 300.0

Analytical Batches:

Batch: 1330 EPA 300.0 on 06/11/2010 11:52 by CFS

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Sulfate	1760		50.0	4.35	100			1330

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1649 SM 2540 C on 06/12/2010 12:15 by CFS

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Residue, Filterable (TDS)	2650		20.0	7.88	2			1649

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1819 SW-846 3010A on 06/10/2010 15:00 by R_V

Analytical Batches:

Batch: 1456 SW-846 6010B on 06/18/2010 14:26 by EBG

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l						Prep	Analysis
Manganese	0.968		0.00500	0.000300	1		1819	1456

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 2049 SW-846 8260B on 06/16/2010 21:48 by JMC

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information	
	ug/l						Prep	Analysis
Benzene	ND		1.0	0.10	1			2049
Ethylbenzene	ND		1.0	0.15	1			2049
Toluene	ND		1.0	0.29	1			2049
m,p-Xylene	ND		1.0	0.18	1			2049
o-Xylene	ND		1.0	0.13	1			2049
Xylenes, Total	ND		1.0	0.13	1			2049
4-Bromofluorobenzene (S)	87.4 %		74-125		1			2049
1,2-Dichloroethane-d4 (S)	84.5 %		70-130		1			2049
Toluene-d8 (S)	101 %		82-118		1			2049



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ANALYTICAL RESULTS

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

Lab ID: H10060241004

Date/Time Received: 6/10/2010 09:30

Matrix: Water

Sample ID: Duplicate

Date/Time Collected: 6/7/2010 00:00

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 2049 SW-846 8260B on 06/16/2010 22:16 by JMC

Parameters	Results					Batch Information	
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep Analysis
Benzene	ND		1.0	0.10	1		2049
Ethylbenzene	ND		1.0	0.15	1		2049
Toluene	ND		1.0	0.29	1		2049
m,p-Xylene	ND		1.0	0.18	1		2049
o-Xylene	ND		1.0	0.13	1		2049
Xylenes, Total	ND		1.0	0.13	1		2049
4-Bromofluorobenzene (S)	89.2 %		74-125		1		2049
1,2-Dichloroethane-d4 (S)	84.2 %		70-130		1		2049
Toluene-d8 (S)	102 %		82-118		1		2049



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QUALITY CONTROL DATA

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

QC Batch: DIGM/1819

Analysis Method: SW-846 6010B

QC Batch Method: SW-846 3010A

Preparation: 06/10/2010 15:00 by R_V

Associated Lab Samples:	H10060237001	H10060237002	H10060237003	H10060237004	H10060241001	H10060241002
	H10060241003	H10060243001	H10060243002	H10060243003	H10060243004	H10060245001
	H10060245002	H10060245003	H10060245004	H10060247001	H10060247002	H10060247003
	H10060247005					

METHOD BLANK: 50257

Analysis Date/Time Analyst: 06/18/2010 13:14 EBG

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

LABORATORY CONTROL SAMPLE: 50258

Analysis Date/Time Analyst: 06/18/2010 13:20 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Manganese	mg/l	0.10	0.1008	101	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50259

50260

Original: H10060241001

MS Analysis Date/Time Analyst: 06/18/2010 13:32 EBG

MSD Analysis Date/Time Analyst: 06/18/2010 13:38 EBG

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Manganese	mg/l	0.206	0.10	0.3011	0.3025	95.5	96.9	75-125	0.5	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.



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QUALITY CONTROL DATA

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

QC Batch: IC/1330

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:	H10060241001	H10060241002	H10060241003	H10060243001	H10060243002	H10060243003
	H10060243004	H10060247001	H10060247002	H10060247003	H10060247005	H10060262001
	H10060269001	H10060275001	H10060283001	H10060283002	H10060283003	H10060283004

METHOD BLANK: 50605

Analysis Date/Time Analyst: 06/11/2010 09:09 CFS

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Sulfate	mg/l	ND		0.500

LABORATORY CONTROL SAMPLE & LCSD: 50606 50607

LCS Analysis Date/Time Analyst: 06/11/2010 09:25 CFS

LCSD Analysis Date/Time 06/11/2010 21:00 CFS

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	10	9.469	10.14	94.7	101	85-115	6.8	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50610 50611 Original: H10060241001

MS Analysis Date/Time Analyst: 06/11/2010 16:58 CFS

MSD Analysis Date/Time Analyst: 06/11/2010 17:15 CFS

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	1330	1000	2352	2562	102	123 *	80-120	8.5	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.



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QUALITY CONTROL DATA

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

QC Batch: WETS/1649

Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples:	H10060196001	H10060241001	H10060241002	H10060241003	H10060245001	H10060245002
	H10060245003	H10060245004	H10060247001	H10060247002	H10060247003	H10060247005

METHOD BLANK: 50631

Analysis Date/Time Analyst: 06/12/2010 12:15 CFS

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Residue, Filterable (TDS)	mg/l	ND		10.0

LABORATORY CONTROL SAMPLE & LCSD: 50632 50633

LCS Analysis Date/Time Analyst: 06/12/2010 12:15 CFS

LCSD Analysis Date/Time 06/12/2010 12:15 CFS

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Residue, Filterable (TDS)	mg/l	200	201.0	199.0	100	99.5	95-107	1.0	10

SAMPLE DUPLICATE: 50635

Original: H10060247005

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						2
Residue, Filterable (TDS)	mg/l	3380	3380	0.1	10	2

SAMPLE DUPLICATE: 50636

Original: H10060241001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						2
Residue, Filterable (TDS)	mg/l	2580	2580	0.1	10	2

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.



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QUALITY CONTROL DATA

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

QC Batch: MSV/2048

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030

Preparation: 06/16/2010 00:00 by JMC

Associated Lab Samples: H10060233002 H10060233003 H10060233004 H10060237001 H10060237002 H10060237003
H10060237004 H10060237005 H10060237006 H10060241001 H10060241002 H10060241003
H10060241004 H10060243001 H10060243002 H10060243003 H10060243004 H10060243005
H10060243006

METHOD BLANK: 51465

Analysis Date/Time Analyst: 06/16/2010 15:16 JMC

Parameter	Units	Blank Result	Qualifiers	Reporting 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)	%	90.4		74-125
1,2-Dichloroethane-d4 (S)	%	89.2		70-130
Toluene-d8 (S)	%	100		82-118

LABORATORY CONTROL SAMPLE: 51466

Analysis Date/Time Analyst: 06/16/2010 14:48 JMC

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	16.3	81.4	74-123
Ethylbenzene	ug/l	20	17.9	89.6	72-127
Toluene	ug/l	20	20.5	102	74-126
m,p-Xylene	ug/l	40	37.3	93.3	71-129
o-Xylene	ug/l	20	19.3	96.6	74-130
Xylenes, Total	ug/l	60	56.63	94.4	71-130
4-Bromofluorobenzene (S)	%			103	74-125
1,2-Dichloroethane-d4 (S)	%			86.5	70-130
Toluene-d8 (S)	%			104	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51467

51468

Original: H10060237001

MS Analysis Date/Time Analyst: 06/16/2010 17:35 JMC

MSD Analysis Date/Time Analyst: 06/16/2010 18:03 JMC

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	ND	20	16.4	16.3	81.9	81.3	70-124	0.8	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.



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QUALITY CONTROL DATA

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51467

51468

Original: H10060237001

MS Analysis Date/Time Analyst: 06/16/2010 17:35 JMC

MSD Analysis Date/Time Analyst: 06/16/2010 18:03 JMC

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Ethylbenzene	ug/l	ND	20	18.1	18.8	90.4	94.0	35-175	3.9	20
Toluene	ug/l	ND	20	20.6	21.4	103	107	70-131	4.0	20
m,p-Xylene	ug/l	ND	40	37.6	38.2	93.9	95.5	35-175	1.7	20
o-Xylene	ug/l	ND	20	19.0	19.6	95.2	97.9	35-175	2.8	20
Xylenes, Total	ug/l	ND	60	56.6	57.78	94.3	96.3	35-175	2.1	20
4-Bromofluorobenzene (S)	%	87.9				100	101	74-125		30
1,2-Dichloroethane-d4 (S)	%	86.1				83.5	82.0	70-130		30
Toluene-d8 (S)	%	99.7				102	105	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%
TNTC	Too numerous to count



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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10060241 : COP - Sategna 2E

Project Number: Sategna 2E

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10060241001	MW-1	SW-846 3010A	DIGM/1819	SW-846 6010B	ICP/1456
H10060241002	MW-2	SW-846 3010A	DIGM/1819	SW-846 6010B	ICP/1456
H10060241003	MW-3	SW-846 3010A	DIGM/1819	SW-846 6010B	ICP/1456
H10060241001	MW-1	EPA 300.0	IC/1330		
H10060241002	MW-2	EPA 300.0	IC/1330		
H10060241003	MW-3	EPA 300.0	IC/1330		
H10060241001	MW-1	SM 2540 C	WETS/1649		
H10060241002	MW-2	SM 2540 C	WETS/1649		
H10060241003	MW-3	SM 2540 C	WETS/1649		
H10060241001	MW-1	SW-846 5030	MSV/2048	SW-846 8260B	MSV/2049
H10060241002	MW-2	SW-846 5030	MSV/2048	SW-846 8260B	MSV/2049
H10060241003	MW-3	SW-846 5030	MSV/2048	SW-846 8260B	MSV/2049
H10060241004	Duplicate	SW-846 5030	MSV/2048	SW-846 8260B	MSV/2049



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

Sample Receipt Checklist

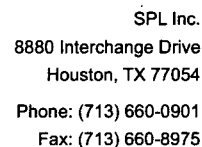
WorkOrder:	H10060241	Received By	LOG
Date and Time	06/10/2010 09:30	Carrier Name:	FEDEXS
Temperature:	1.0°C	Chilled By:	Water Ice

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? YES
13. Water - Preservation checked upon receipt(except VOA*)? Not Applicable

*VOA Preservation Checked After Sample Analysis

SPL Representative:
Client Name Contacted:
Client Instructions:

Contact Date & Time:



Report ID: H10060241_6125

Printed: 06/24/2010 19:55