3R-428

OCTOBER 2011 QUARTERLY GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS SATEGNA No. 2E
SAN JUAN COUNTY, NEW MEXICO

API# 30-045-24060

NMOCD# 3R-428

Prepared For:

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1.0 INTRODUCTION

This report presents the results of the October 3, 2011 quarterly groundwater monitoring event conducted by Conestoga-Rovers & Associates (CRA) at the ConocoPhillips Company (ConocoPhillips) Sategna No. 2E gas well site (Site) located on private land within Section 21, Township 29N, Range 11W of Bloomfield, San Juan County, New Mexico (**Figure 1**). A Site detail map is included as **Figure 2**.

1.1 BACKGROUND

A historical timeline for the privately-owned Site is presented in **Table 1**, and is discussed below.

On November 24, 2008, approximately 8 barrels of condensate were released from the on-Site, aboveground storage tank (AST). Notification of the release was given to the New Mexico Oil Conservation Division (NMOCD) by ConocoPhillips personnel using MNOCD Form C-141. 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 NMOCD recommended action levels. Envirotech also used a hand auger to complete 2 soil borings to approximately 8 feet below ground surface (bgs), where groundwater was encountered. Two groundwater samples were submitted by Envirotech to an analytical laboratory for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX). Analytical results revealed BTEX in concentrations below NMOCD 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**). Soil samples were collected from the excavation and analyzed for BTEX, total petroleum hydrocarbons (TPH), and chloride. Analytical results were below NMOCD action levels for BTEX. Two grab soil samples collected from below the above-grade and below-grade tanks exceeded the NMOCD action level for total TPH.

Groundwater seepage into the excavation was discovered on December 4, 2008. Subsequently, groundwater samples were collected from the excavation on December 5, 2008. The groundwater sample exceeded the New Mexico Water

Quality Control Commission (NMWQCC) for benzene, toluene, and xylenes. Groundwater was recovered from the bottom of the excavated area using a vacuum truck during the week of December 8, 2008. 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 recovered 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 were present in the groundwater seepage. Each pumping event recovered approximately 30-60 barrels of liquid from the Site.

In January 2009, Tetra Tech, Inc. (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.

Additional hydrocarbon soil impacts were discovered during relocation and reinstallation of well equipment in April 2009. Envirotech uncovered an abandoned sewer line in the same location as hydrocarbon impacted soils while digging an exploratory trench between the wellhead and the proposed separator tank location (**Figure 2**). Trench work was halted and the excavated soils were stockpiled on site. Tetra Tech returned to the site on April 23 and 24, 2009 to oversee excavation of the hydrocarbon impacted soils from the vicinity of the trench (**Figure 2**). Photoionization detector readings in the field indicated levels below the NMOCD action level; however, lab results were above the NMOCD action level for TPH in samples collected from all four walls of the excavation. The bottom sample results were below NMOCD action levels. The excavation was backfilled and equipment was reinstalled before analytical results were available. A report detailing this activity, titled Soil Excavation and Sampling Report, was submitted to the NMOCD in July 2009.

Tetra Tech continued quarterly groundwater monitoring from April 2, 2009 to March 2011. The March 2011 Tetra Tech quarterly groundwater monitoring report recommended the discontinuation of sampling and analysis of BTEX for all Site monitor wells. On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM. Quarterly groundwater monitoring was continued by CRA on June 24, 2011. This report details the October 3, 2011 quarterly groundwater monitoring event.

2.0 GROUNDWATER MONITORING METHODOLOGY AND ANALYTICAL RESULTS

2.1 GROUNDWATER 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 an oil/water 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 October 3, 2011 sampling event were used to create a groundwater potentiometric surface map for the Site (**Figure 3**). Using these data, it was determined that the groundwater flow direction at the Site continues to be 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 Well Sampling Field Information Form (**Appendix A**). Collected groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Pace Analytical Services of Lenexa, Kansas.

Groundwater samples were analyzed for dissolved manganese by Environmental Protection Agency (EPA) Method 6010, sulfate by EPA method 300, and Total Dissolved Solids (TDS) by Standard Method (SM) 2540C. Analytical results are displayed in **Table 3**.

The October 3, 2011 sampling event represents the second quarter in which BTEX analysis was discontinued.

2.3 GROUNDWATER MONITORING 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 samples collected from Monitor Wells MW-1, MW-2 and MW-3 were found to contain TDS concentrations of 2,560mg/L, 2,590 mg/L, and 2,810 mg/L, respectively.

- **Dissolved Manganese**
  - The NMWQCC domestic water supply groundwater quality standard for dissolved manganese is 0.2 mg/L; groundwater samples collected from Monitor Wells MW-1 and MW-3 were found to contain dissolved manganese concentrations of 0.335 and 1.450 mg/L, respectively.

- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater samples collected from Monitor Wells MW-1, MW-2, and MW-3 were found to contain sulfate in concentrations of 2,030 mg/L, 1,830 mg/L, and 1,770 mg/L, respectively.

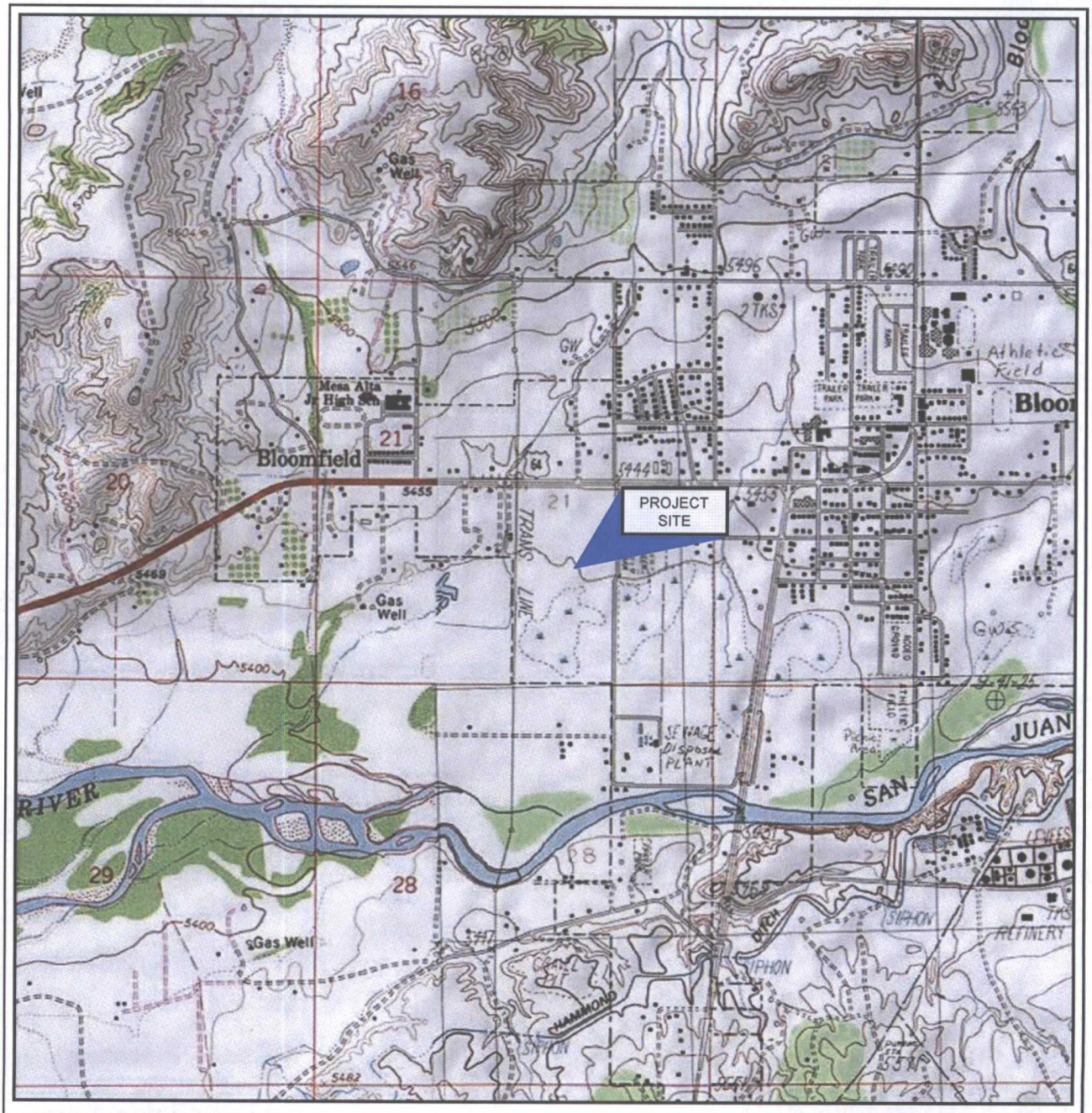
The corresponding laboratory analytical report for the October 3, 2011 groundwater sampling event is included in **Appendix B**.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The October 3, 2011 quarterly groundwater monitoring event represents the second quarter in which BTEX analysis has been discontinued. Monitor Wells MW-1, MW-2, and MW-3 were found to have concentrations exceeding the NMWQCC standard for sulfate and TDS. Groundwater samples collected from Monitoring Wells MW-1 and MW-3 were found to exceed the NMWQCC standard for dissolved manganese. TDS and sulfate concentrations appear to be stable with nine and ten quarters of data, respectively.

Monitoring will continue for dissolved manganese only and will be performed on an annual basis. When dissolved manganese concentrations approach the NMWQCC standard, quarterly sampling will resume so that eight quarters of compliance may be achieved. Once eight quarters of compliance have been achieved, remediation Site closure will be requested. The next sampling event is scheduled for September 2012.

FIGURES



SOURCE: USGS 7.5 MINUTE QUAD
"HORN CANYON AND BLOOMFIELD, NEW MEXICO"

N

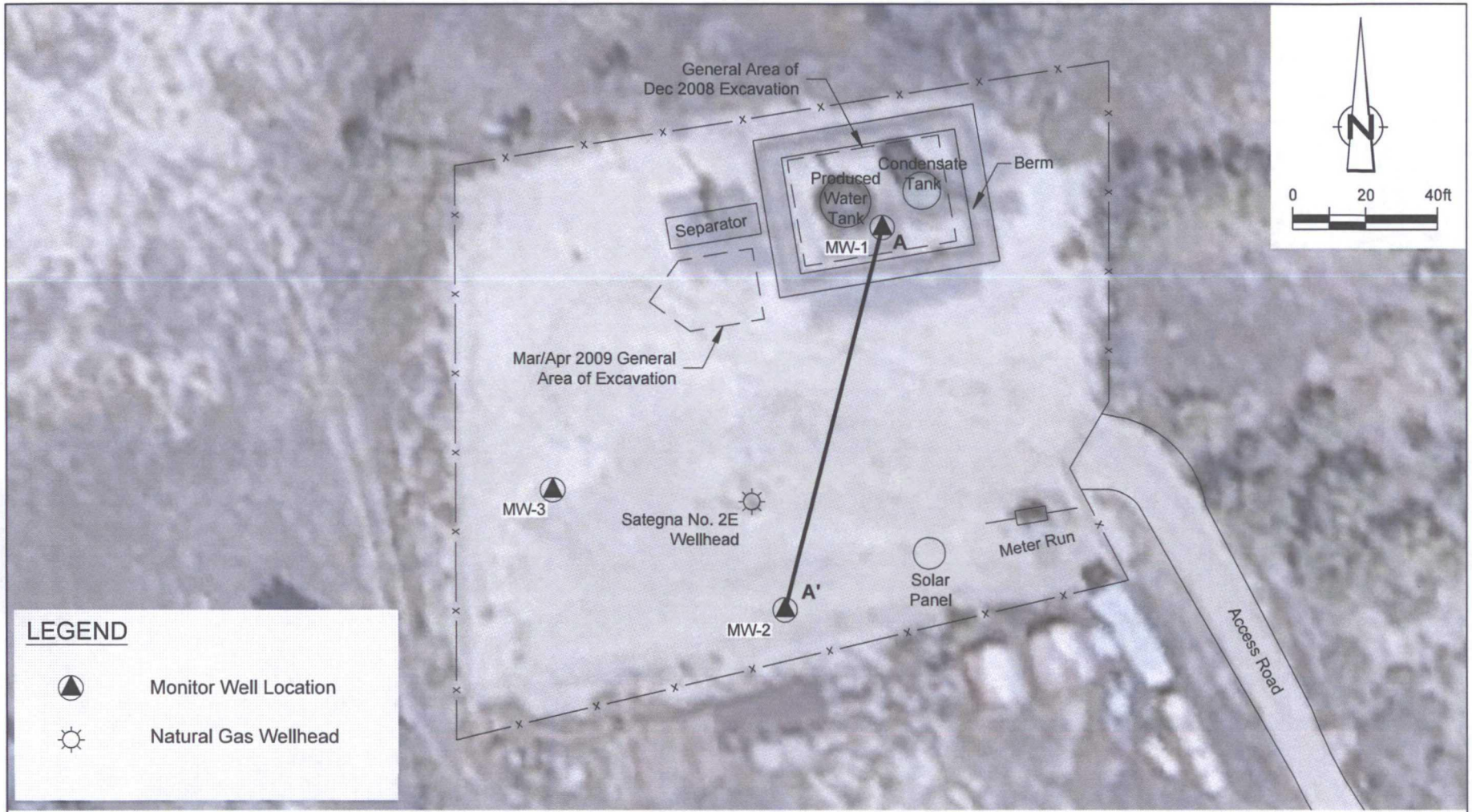
0 1000 2000ft

Figure 1

SITE VICINITY MAP
SATEGNA No. 2E NATURAL GAS WELL SITE
SECTION 21, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

CRA

074932-95(003)GN-DL005 JAN 10/2012

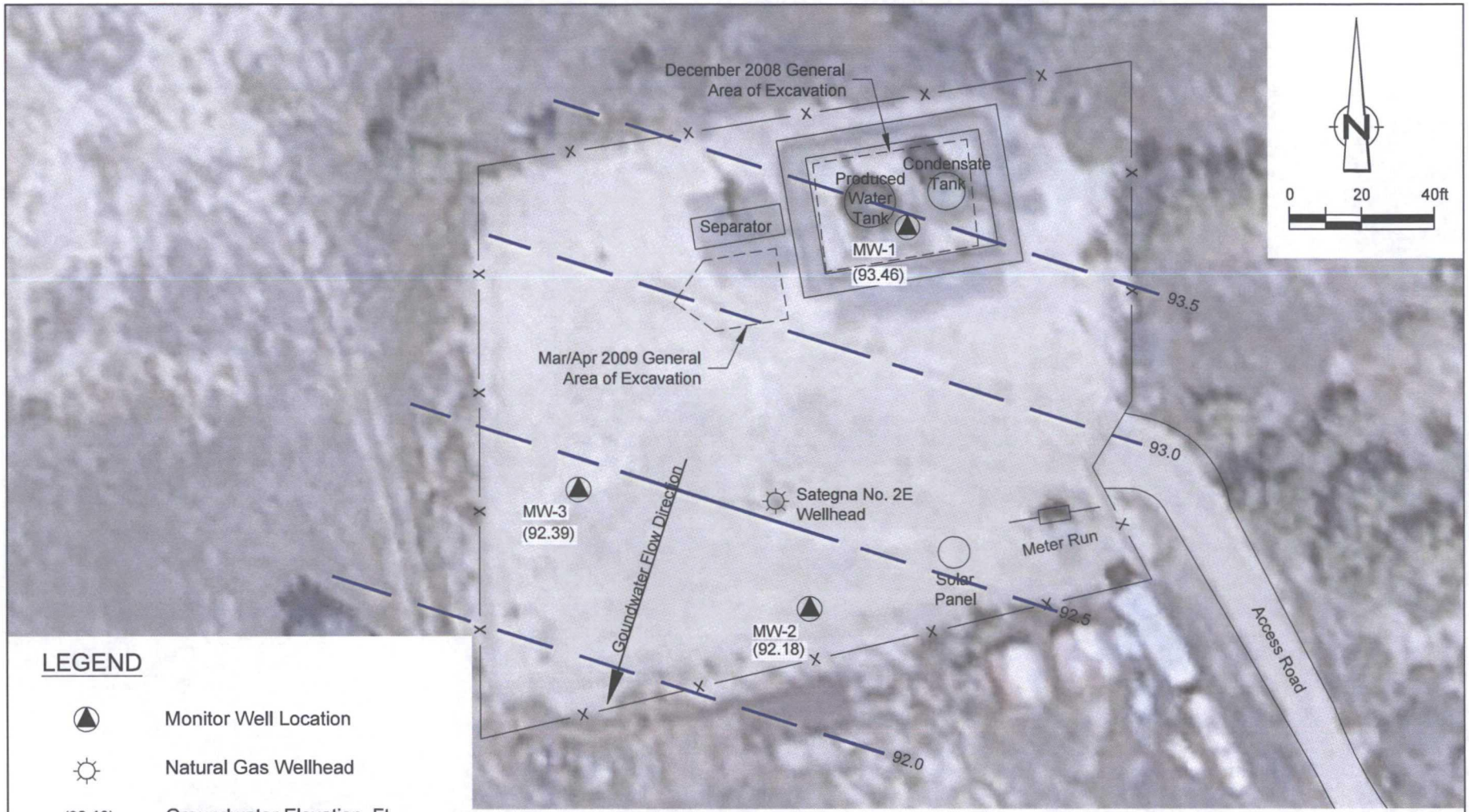


ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN
SATEGNA No. 2E NATURAL GAS WELL SITE
SECTION 21, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

074932-95(003)GN-DL001 JAN 11/2012



LEGEND

- Monitor Well Location
- Natural Gas Wellhead
- (92.18) Groundwater Elevation, Ft
- 92.0 Groundwater Elevation Contour, Ft
- Groundwater Flow Direction

Figure 3

OCTOBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
SATEGNA No. 2E NATURAL GAS WELL SITE
SECTION 21, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

074932-95(003)GN-DL002 JAN 10/2012

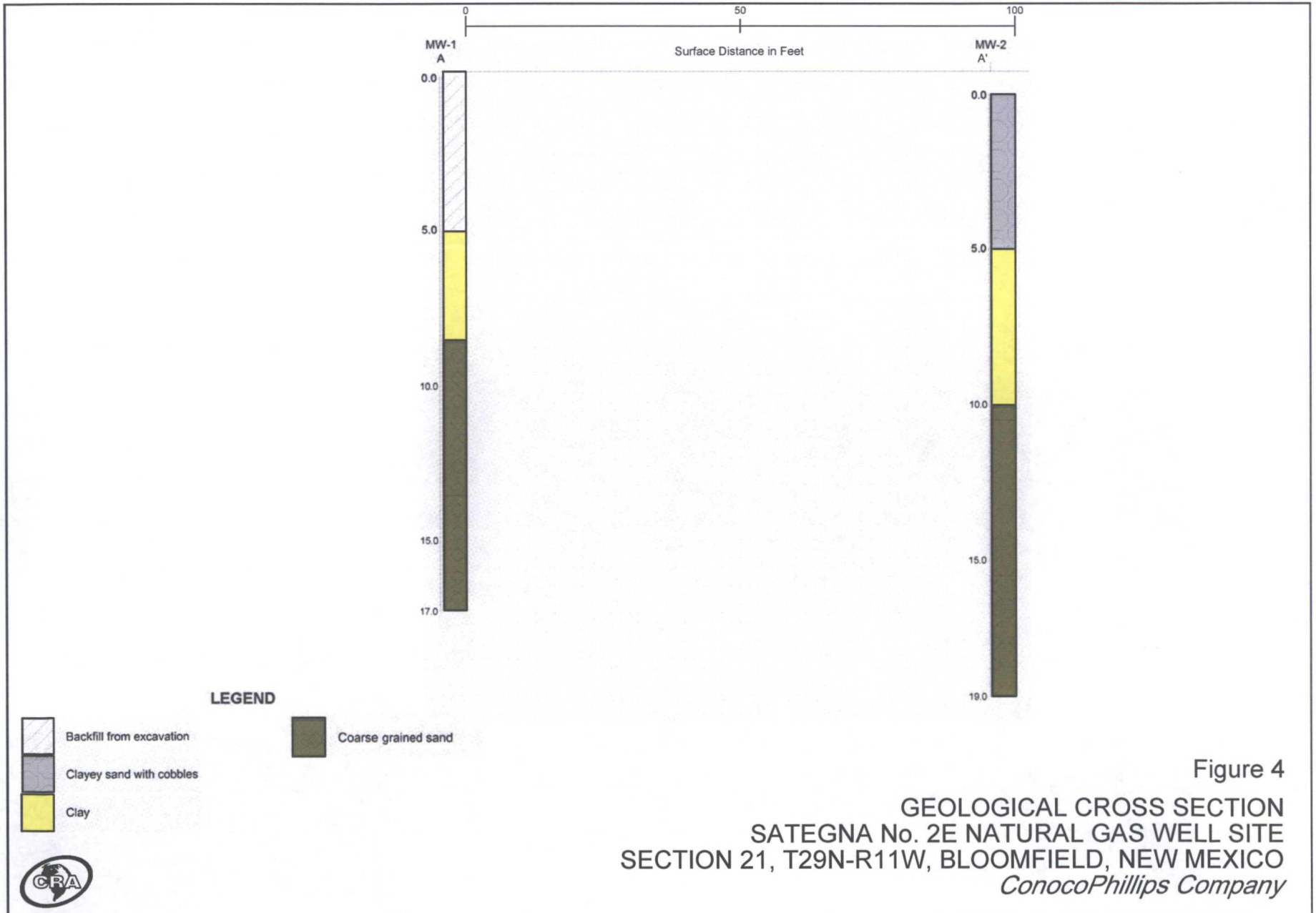


Figure 4

GEOLOGICAL CROSS SECTION
SATEGNA No. 2E NATURAL GAS WELL SITE
SECTION 21, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

074932-95(003)GN-DL003 JAN 10/2012

TABLES

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E
SAN JUAN COUNTY, NM

Date/Time Period	*Event/Action*	*Description/Comments*
November 24, 2008	Release Discovered	Approximately eight 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. A C-141 form was filled out by ConocoPhillips staff and notice was given to Brandon Powell of the New Mexico Oil Conservation Division (NMOCD) via electronic mail. The C-141 form stated that the well was shut down and the production tank was emptied.
November 25, 2008	Initial Site Assessment	Envirotech Inc. of Farmington, NM (Envirotech) collected soil samples and analyzed them using the heated headspace soil method; results were 0.2 and 1.1 parts per million (ppm) from outside the excavated area. Depth of soil samples was not noted. Envirotech hand augered 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 noted that groundwater levels in the soil borings increased to approximately 5 feet bgs, and groundwater beneath the Site was
December 4, 2008	Site Assessment	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 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. Results were 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.
December 5, 2008	Site Assessment	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.
Week of December 8, 2008	Removal of Groundwater Seepage	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 were present in the groundwater seepage. Each pumping event removed approximately 30-60 barrels of liquid from the Site.
January 20, 2009 & January 30, 2009	Site Assessment	Tetra Tech conducted a Site visit to determine proposed groundwater monitoring well locations.
March 4-5, 2009	Monitor Well Installation	Tetra Tech installed three groundwater monitor wells at the Site: MW-1, MW-2, and MW-3.
March 2009	Additional Contamination Discovered	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	Quarterly Groundwater Monitoring Initiated	Tetra Tech conducted the first quarterly groundwater monitoring event at the Site.
April 2, 2009	Site Assessment	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
April 23 - 24, 2009	Removal of Contaminated Soil	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. Excavation was backfilled.
June 17, 2009	Quarterly Groundwater Monitoring	Tetra Tech conducted the second quarterly groundwater monitoring event at the Site.
September 28, 2009	Quarterly Groundwater Monitoring	Tetra Tech conducted the third quarterly groundwater monitoring event at the Site.
December 14, 2009	Quarterly Groundwater Monitoring	Tetra Tech conducted the fourth quarterly groundwater monitoring event at the Site.
March 31, 2010	Quarterly Groundwater Monitoring	Tetra Tech conducted the fifth quarterly groundwater monitoring event at the Site.
June 7, 2010	Quarterly Groundwater Monitoring	Tetra Tech conducted the sixth quarterly groundwater monitoring event at the Site.
September 23, 2010	Quarterly Groundwater Monitoring	Tetra Tech conducted the seventh quarterly groundwater monitoring event at the Site.

Date/Time Period	*Event/Action*	*Description/Comments*
December 14, 2010	Quarterly Groundwater Monitoring	Tetra Tech conducted the eighth quarterly groundwater monitoring event at the Site.
March 14, 2011	Quarterly Groundwater Monitoring	Tetra Tech conducted the ninth quarterly groundwater monitoring event at the Site.
June 15, 2011	Transfer of Site Consulting Responsibilities	On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to Conestoga-Rovers & Associates (CRA) of Albuquerque, NM.
June 24, 2011	Quarterly Groundwater Monitoring	CRA conducted the tenth quarterly groundwater monitoring event at the Site.
October 3, 2011	Quarterly Groundwater Monitoring	CRA conducted the 11th quarterly groundwater monitoring event at the Site.

TABLE 2

MONITORING WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
APRIL 2009 - OCTOBER 2011
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E
SAN JUAN COUNTY, NM

Well ID	*Total Depth (ft below TOC)*	*Elevation**	*Screen Interval (bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level*
MW-1	20.3	99.36	2.2 - 17.2	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
				9/23/2010	5.25	94.11
				12/14/2010	5.07	94.29
				3/14/2011	5.09	94.27
				6/24/2011	5.56	93.80
				10/3/2011	5.90	93.46
MW-2	20.9	98.78	3.33 - 18.33	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
				9/23/2010	6.06	92.72
				12/14/2010	5.91	92.87
				3/14/2011	5.94	92.84
				6/24/2011	6.32	92.46
				10/3/2011	6.60	92.18
MW-3	20.28	98.66	3 - 18	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
				9/23/2010	5.77	92.89
				12/14/2010	5.61	93.05
				3/14/2011	5.63	93.03
				6/24/2011	6.06	92.60
				10/3/2011	6.27	92.39

Notes:

1. ft = feet
2. TOC = top of casing
3. bgs = below ground surface
4. * Elevation relative to wellhead, set at 100 feet.

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
APRIL 2009 - OCTOBER 2011
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E
SAN JUAN COUNTY, NM

Well ID	Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)	Sulfate (mg/L)	Total dissolved solids (TDS) (mg/L)
MW-1	MW-1	4/2/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	1790	--
	MW-1	6/17/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	1420	--
	MW-1	9/28/2009	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02	**0.243**	1770	2590
	MW-1	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	0.152	--	2470
	MW-1	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.176	1320	2470
	MW-1	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.206**	1330	2580
	MW-1	9/23/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.238**	1560	3210
	MW-1	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.232**	1600	2520
	MW-1	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.323**	1820	2770
	GW-74932-062411-CB-02	6/24/2011	--	--	--	--	--	**0.574**	1790	2450
	GW-074932-100311-CM-005	10/3/2011	--	--	--	--	--	**0.335**	2030	2560
MW-2	MW-2	4/2/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	1850	--
	MW-2	6/17/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	1610	--
	MW-2	9/28/2009	< 0.001	< 0.001	< 0.001	< 0.001	0.0217	0.168	1840	2260
	MW-2	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	0.158	--	2470
	MW-2	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.136	1530	2620
	MW-2	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.157	1290	2590
	MW-2	9/23/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0981	1510	2800
	MW-2	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.128	1610	3000
	MW-2	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	0.158	1850	2680
	GW-74932-062411-1B-01	6/24/2011	--	--	--	--	--	0.174	1860	2550
	GW-074932-100311-CM-006	10/3/2011	--	--	--	--	--	0.187	1830	2590
MW-3	MW-3	4/2/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	2110	--
	MW-3	6/17/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	1650	--
	MW-3	9/28/2009	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02	**2.68**	2230	3340
	MW-3	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	**2.4**	--	3060
	MW-3	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**1.71**	1660	3090
	MW-3	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.968**	1760	2650
	MW-3	9/23/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**1.68**	1910	3570
	MW-3	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**1.13**	1900	3000
	MW-3	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	**2.08**	2090	3200
	GW-74932-062411-CB-03	6/24/2011	--	--	--	--	--	**1.7**	2080	2860
	GW-074932-100311-CM-007	10/3/2011	--	--	--	--	--	**1.45**	1770	2810
NMWQCC Groundwater Quality Standards			**0.01**	**0.75**	**0.75**	**0.62**	**1.0**	**0.2**	**600**	**1000**

Notes:
MW = monitoring well
NMWQCC = New Mexico Water Quality Control Commission
Constituents in **BOLD** are in excess of NMWQCC groundwater quality standards
mg/L = milligrams per liter (parts per million)
-- = not analyzed
< 1.0 = Below laboratory detection limit of 1.0 mg/L

APPENDICES

APPENDIX A

OCTOBER 2011 QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

10-3-11

SITE/PROJECT NAME: Satega JOB# 074932

SAMPLE ID: GW-074932-100311-CM-005 WELL# ~~MW-3~~ MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
10·3·11	10·3·11	1540	~~2.27~~ 2.28	7.25

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45		A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER: ~~5.90~~ ~~6.27~~ (feet) WELL ELEVATION: 99.36 (feet)

WELL DEPTH: ~~20.14~~ ~~20.24~~ (feet) GROUNDWATER ELEVATION: 93.46 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
15.12 (°C)	7.46 (std)	1.673 (g/L)	2090 (µS/cm)	173.5 (mV)	6.75 (gal)
14.97 (°C)	7.34 (std)	1.669 (g/L)	2078 (µS/cm)	173.3 (mV)	6.75 (gal)
14.93 (°C)	7.30 (std)	1.668 (g/L)	2073 (µS/cm)	172.0 (mV)	7.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: light brown SHEEN Y (N)

WEATHER CONDITIONS: TEMPERATURE ~85° WINDY Y (N) PRECIPITATION Y (N) (IF Y TYPE)

SPECIFIC COMMENTS: Duplicate GW-074932-100311-CM-008 @ 1545

~~15.47' X 0.116 = 2.24 X 3 = 6.71~~

14.24' X 0.116 = 2.278 X 3 = 6.84

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

10/3/11 DATE | PRINT | SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Saltgrass 2E JOB# 074932

SAMPLE ID: GW-074932-100311-CM-000 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
10-3-11	10-3-11	1555	2.267	7.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER 6.60 (feet) WELL ELEVATION 98.78 (feet)

WELL DEPTH 20.77 (feet) GROUNDWATER ELEVATION 92.18 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
16.32 (°C)	7.37 (std)	1.677 (g/L)	2150 (µS/cm)	169.4 (mV)	6.0 (gal)
15.86 (°C)	7.20 (std)	1.677 (g/L)	2130 (µS/cm)	164.8 (mV)	6.5 (gal)
15.67 (°C)	7.17 (std)	1.673 (g/L)	2117 (µS/cm)	158.7 (mV)	7.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: lt. brown SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~85° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

14.17' X 0.16 = 2.267 X 3 = 6.80

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

10.3.11 DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Satagna 2E JOB# 074932

SAMPLE ID: GW-074932-100311-CM-007 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
10·3·11	10·3·11	1630	2.27 2.24	6.75

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X= PURGING DEVICE OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON	D - PVC		X= PURGING MATERIAL OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON	D - POLYPROPYLENE	G - COMBINATION	X= PURGE TUBING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE	TEFLON/POLYPROPYLENE	
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER 6.275 ~~9001~~ (feet) WELL ELEVATION 98.66 (feet)

WELL DEPTH 20.14 ~~20.14~~ ~~cm~~ (feet) GROUNDWATER ELEVATION 92.39 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
15.15 (°C)	7.12 (std)	1.922 (g/L)	2402 (µS/cm)	51.8 (mV)	5.0 (gal)
15.15 (°C)	7.15 (std)	1.881 (g/L)	2348 (µS/cm)	47.4 (mV)	6.0 (gal)
15.04 (°C)	7.17 (std)	1.885 (g/L)	2311 (µS/cm)	47.6 (mV)	6.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: ODOR: COLOR: SHEEN Y/N

WEATHER CONDITIONS: TEMPERATURE WINDY Y/N PRECIPITATION Y/N (IF Y TYPE)

SPECIFIC COMMENTS:

~~Duplicate GW-074932-100311CM-008 collected~~ CM 10-3-11

~~14.24 x 0.16 = 2.278 x 3 = 6.84~~

~~13.97 x 0.16 = 2.24 x 3 x ½ = 6.71~~

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

10·3·11 DATE | Jason Ross PRINT | SIGNATURE

APPENDIX B

OCTOBER 2011 QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORT

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 20, 2011

Cassie Brown
COP Conestoga-Rovers & Associa

RE: Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Dear Cassie Brown:
Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Anna Custer for
Dianna Meier
dianna.meier@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Angela Bown, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60107488001	**GW-074932-100311-CM-005**	Water	10/03/11 15:40	10/05/11 09:10
60107488002	**GW-074932-100311-CM-006**	Water	10/03/11 15:55	10/05/11 09:10
60107488003	**GW-074932-100311-CM-007**	Water	10/03/11 16:30	10/05/11 09:10

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SAMPLE ANALYTE COUNT

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60107488001	**GW-074932-100311-CM-005**	EPA 6010	JDH	1
		SM 2540C	KLB	1
		EPA 300.0	JML	1
60107488002	**GW-074932-100311-CM-006**	EPA 6010	JDH	1
		SM 2540C	KLB	1
		EPA 300.0	JPF	1
60107488003	**GW-074932-100311-CM-007**	EPA 6010	JDH	1
		SM 2540C	KLB	1
		EPA 300.0	JPF	1

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PROJECT NARRATIVE

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 20, 2011

General Information:
3 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 20, 2011

General Information:
3 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Method: EPA 300.0
Description: 300.0 IC Anions 28 Days
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 20, 2011

General Information:
3 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/17927

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60107464007,60107469001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 892328)
  - Sulfate

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Sample: GW-074932-100311-CM-005 **Lab ID: 60107488001** Collected: 10/03/11 15:40 Received: 10/05/11 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**335**	ug/L	5.0	0.90	1	10/07/11 10:00	10/11/11 11:11	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2560**	mg/L	5.0	5.0	1		10/06/11 11:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**2030**	mg/L	200	32.0	200		10/18/11 13:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Sample: GW-074932-100311-CM-006 **Lab ID: 60107488002** Collected: 10/03/11 15:55 Received: 10/05/11 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**187**	ug/L	5.0	0.90	1	10/07/11 10:00	10/11/11 11:21	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2590**	mg/L	5.0	5.0	1		10/06/11 11:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**1830**	mg/L	200	19.6	200		10/17/11 17:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Sample: GW-074932-100311-CM-007 **Lab ID: 60107488003** Collected: 10/03/11 16:30 Received: 10/05/11 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**1450**	ug/L	5.0	0.90	1	10/07/11 10:00	10/11/11 11:25	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2810**	mg/L	5.0	5.0	1		10/06/11 11:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**1770**	mg/L	200	19.6	200		10/17/11 18:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

QC Batch: MPRP/15599 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60107488001, 60107488002, 60107488003

METHOD BLANK: 887874 Matrix: Water
Associated Lab Samples: 60107488001, 60107488002, 60107488003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/11/11 11:05	

LABORATORY CONTROL SAMPLE: 887875

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	989	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887876 887877

Parameter	Units	60107488001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	335	1000	1000	1310	1310	97	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

QC Batch: WET/31367 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60107488001, 60107488002, 60107488003

METHOD BLANK: 886949 Matrix: Water
Associated Lab Samples: 60107488001, 60107488002, 60107488003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/06/11 11:43	

SAMPLE DUPLICATE: 886950

Parameter	Units	60107467001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1930	1910	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

QC Batch: WETA/17927 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60107488001, 60107488002, 60107488003

METHOD BLANK: 892326 Matrix: Water
Associated Lab Samples: 60107488001, 60107488002, 60107488003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	10/16/11 13:20	

METHOD BLANK: 893171 Matrix: Water
Associated Lab Samples: 60107488001, 60107488002, 60107488003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	10/17/11 14:35	

METHOD BLANK: 893562 Matrix: Water
Associated Lab Samples: 60107488001, 60107488002, 60107488003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	10/18/11 09:01	

LABORATORY CONTROL SAMPLE: 892327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.2	105	90-110	

LABORATORY CONTROL SAMPLE: 893172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.4	109	90-110	

LABORATORY CONTROL SAMPLE: 893563

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.7	94	90-110	

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QUALITY CONTROL DATA

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 892328 892329

Parameter	Units	60107469001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	849	250	250	1150	1140	121	116	61-119	1	10	M0

MATRIX SPIKE SAMPLE: 892330

Parameter	Units	60107464007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	39.9	25	63.3	93	61-119	

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QUALIFIERS

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SATEGNA NO 2 E
Pace Project No.: 60107488

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60107488001	**GW-074932-100311-CM-005**	EPA 3010	MPRP/15599	EPA 6010	ICP/13552
60107488002	**GW-074932-100311-CM-006**	EPA 3010	MPRP/15599	EPA 6010	ICP/13552
60107488003	**GW-074932-100311-CM-007**	EPA 3010	MPRP/15599	EPA 6010	ICP/13552
60107488001	**GW-074932-100311-CM-005**	SM 2540C	WET/31367		
60107488002	**GW-074932-100311-CM-006**	SM 2540C	WET/31367		
60107488003	**GW-074932-100311-CM-007**	SM 2540C	WET/31367		
60107488001	**GW-074932-100311-CM-005**	EPA 300.0	WETA/17927		
60107488002	**GW-074932-100311-CM-006**	EPA 300.0	WETA/17927		
60107488003	**GW-074932-100311-CM-007**	EPA 300.0	WETA/17927		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical™
www.pacelabs.com

Page: 1 of 1

Section A Required Client Information:

Company:	CRA
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone:	(505)884-0672
Fax:	(505)884-4932
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Kelly Blanchard, Angela Bown
Purchase Order No.:	
Project Name:	Sategna No. 2 E
Project Number:	074932

Section C Invoice Information:

Attention:	ENFOS
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Colleen Koporc
Pace Profile #:	5341, 4

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	6010 Dissolved Mn	8260 BTEX	TDS	300.0 Sulfate	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074932-100311-CM-005	WT	G			10.3.11	1540		5	X		X	X						X	X	X	X		1(BP3F) 1(BP3N) 3(DG9H) 001
2	GW-074932-100311-CM-006	WT	G			10.3.11	1555		5	X		X	X						X	X	X	X		002
3	GW-074932-100311-CM-007	WT	G			10.3.11	1630		5	X		X	X						X	X	X	X		003
4	GW-074932-100311-CM-008	WT	G			10.3.11	1545		3				X							X				3(DG9H) 004
5	TB-100311-001					10.4.11	1700		2				X							X				2(DG9H) 005
6																								
7																								
8																								
9																								
10																								
11																								
12																								

60107488

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Include MDLs on report, - J-flag	Jason Ploss	10.4.11	1700	[signature] / Pace	10/5/11	910	0.3	Y	Y	Y
Metals sample filtered in field							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason Ploss

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 10-4-11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Sample Condition Upon Receipt

Pace Analytical® www.pacelabs.com

Client Name: CRA NM Project # 60107458

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: 8168 0337 5920 Pace Shipping Label Used? ☒ Yes ☐ No

Custody Seal on Cooler/Box Present: ☒ Yes ☐ No Seals intact: ☒ Yes ☐ No

Optional
Proj. Due Date: 10/17
Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: ~~Wet~~ Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.3
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: JNS 10/5/11 1125

			Comments:
Chain of Custody present:	☒Yes	☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes	☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes	☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes	☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes	☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes	☒No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes	☑No ☐N/A	7.
Sufficient volume:	☑Yes	☐No ☐N/A	8.
Correct containers used:	☑Yes	☐No ☐N/A	9.
-Pace containers used:	☑Yes	☐No ☐N/A	
Containers intact:	☑Yes	☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No ☑N/A	11.
Filtered volume received for dissolved tests	☑Yes	☐No ☑N/A	12.
Sample labels match COC:	☑Yes	☐No ☐N/A	13.
-Includes date/time/ID/analyses Matrix: water			
All containers needing preservation have been checked.	☑Yes	☐No ☑N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No ☑N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No	Initial when completed JNS / Lot # of added preservative
Trip Blank present:	☒Yes	☐No ☐N/A	15.
Pace Trip Blank lot # (if purchased): covered			
Headspace in VOA vials (>6mm):	☐Yes	☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes	☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CLK DRM 10/5/11 Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010