3R - 426

2012 AGWMR

ŝ

02/19/2013



6121 Indian School Rd., NE Suite 200 Albuquerque, NM, USA 87110 Telephone: (505) 884-0672 Fax: (505) 884-4932 http://www.craworld.com

Reference No. 074925, 074927, 074928 074929, 074932, 074934 075038

February 19, 2013

Mr. Glenn von Gonten New Mexico Oil Conservation Division 1220 South Saint Francis Dr. Santa Fe, NM 87505

Dear Mr. von Gonten:

Re: Groundwater Monitoring Reports - 2012

Enclosed, please find a copy of the reports listed below compiled by Conestoga-Rovers and Associates, Inc.

3/2134 1. Farmington B Com No. 1E Annual Groundwater Monitoring Report - September 2012
3/2434 2. Faye Burdette No. 1 Annual Groundwater Monitoring Report - September 2012
3/2/269 3. Hampton No. 4M Annual Groundwater Monitoring Report - September 2012
3/2/34 1. Howell K No. 1 Annual Groundwater Monitoring Report - September 2012

ל אשאן 5. Johnston Federal No. 4 Metering Station Annual Groundwater Monitoring Report – September 2012

้ 3ในนะ 6. San Juan 27-5 No. 34A Annual Groundwater Monitoring Report - September 2012

3R428 7. Sategna No. 2E Quarterly Groundwater Monitoring Report - September 2012

If you have any questions or require additional information, please contact me at (505) 884-0672 or keblanchard@craworld.com.

Sincerely, CONESTOGA-ROVERS & ASSOCIATES

ally E. Blanchard

Kelly E. Blanchard Project Manager

JP/cjg/1 Encl.

cc: Brandon Powell, NMOCD Terry Lauck, ConocoPhillips (electronic only)

	بيسمبر مندر محيد الماريني 1 الم
0	
20	,, , , , , , , ,
s. Lines	
*****	م بینیو و ا ^{یر} ایر ایر ایر ایر ایر ایر

Equal Employment Opportunity Employer



SEPTEMBER 2012 ANNUAL GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS SAN JUAN 27-5 No. 34A RIO ARRIBA COUNTY, NEW MEXICO API# 30-039-23739 NMOCD# 3R-426

Prepared For:

CONOCOPHILLIPS COMPANY

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

JANUARY 2012 REF. NO. 074934 (3) This report is printed on recycled paper.

PECEVED OCD 2017 FE0 20 I A HE H9

TABLE OF CONTENTS

1.0	INTRODUCTION
2.0	GROUNDWATER MONITORING SUMMARY, SAMPLING METHODOLOGY AND ANALYTICAL RESULTS
3.0	2.3 GROUNDWATER ANALYTICAL RESULTS
4.0	REFERENCES

CONESTOGA-ROVERS & ASSOCIATES

<u>Page</u>

LIST OF FIGURES (Following Text)

FIGURE 1	SITE LOCATION MAP
FIGURE 2	SITE PLAN
FIGURE 3	GEOLOGICAL CROSS SECTION
FIGURE 4	SEPTEMBER 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP

LIST OF TABLES (Following Text)

TABLE 1	SITE HISTORY TIMELINE
TABLE 2	MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
TABLE 3	GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY

LIST OF APPENDICES

APPENDIX ASEPTEMBER 2012 ANNUAL GROUNDWATER SAMPLING FIELD
FORMSAPPENDIX BSEPTEMBER 2012 ANNUAL GROUNDWATER LABORATORY
ANALYTICAL REPORT

1.0 <u>INTRODUCTION</u>

This report details the results of annual groundwater monitoring completed by Conestoga-Rovers & Associates (CRA) on September 24, 2012 at the ConocoPhillips Company (ConocoPhillips), San Juan 27-5 No. 34A natural gas well site located on BLM land in Unit Letter E, Section 30, Township 27N, Range 05W, of Rio Arriba County, New Mexico (Site).

The location and general features of the Site are presented as **Figures 1** and **2**, respectively. A generalized geologic cross section is presented as **Figure 3**.

1.1 <u>BACKGROUND</u>

Hydrocarbon impacts were discovered beneath an aboveground storage tank (AST) during tank removal at the Site on January 30, 2009. Envirotech Inc. of Farmington, NM (Envirotech) was contacted for spill assessment services following the discovery. Envirotech collected a 5-point composite soil sample from beneath the AST, 4 grab soil samples from test holes advanced around the AST, and an additional 5-point composite soil sample collected from a small excavation approximately 17 feet deep (Envirotech, 2009). All soil samples collected were field analyzed for total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) method 418.1, and for organic vapors using a photoionization detector (PID). The 5-point composite soil samples were also sent for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021, and for TPH analysis by EPA Method 8015. Soil sample results from both 5-point composite samples and from one of the test holes were above recommended action levels, all other samples were below.

On March 3, 2009, Envirotech returned to the Site to continue sampling activities. A 49 feet by 49 feet by 20 feet deep area had been excavated prior to Envirotech's arrival on Site. Groundwater was encountered at 20 ft below ground surface (bgs). Envirotech sampled the groundwater for analysis of volatile organic compounds (VOCs) using EPA method 8260B (Envirotech, 2009). Laboratory results for benzene were found at a concentration above the New Mexico Water Quality Control Commission (NMWQCC) standard at 96 micrograms per liter (μ g/L) in the groundwater sample. Composite soil samples were collected from the bottom of the excavation and from each of the 4 walls, then field analyzed for organic vapors and TPH. All results were below recommended action levels for organic vapors. TPH concentrations were below recommended action levels in all samples excluding one taken from the south wall of the excavation. Subsequently, the excavation was continued in the south wall 4 additional feet.

1

Field TPH analysis on an additional sample was below recommended action levels and excavation activities stopped. Final excavation dimensions were reported at 53 feet by 49 feet by 20 feet deep. Personal communication on July 13, 2009 between Tetra Tech and Wade Hack, ConocoPhillips field manager, revealed that the area of the excavation was within the current berm location of the produced water and condensate tanks at the Site (Figure 2). A total of 1,900 cubic yards of impacted soil were removed from the Site and transported to an NMOCD permitted facility located in Farmington, New Mexico. Envirotech recommended the installation of groundwater monitor wells to determine "groundwater gradient and the extent of groundwater contamination" (Envirotech, 2009).

Between July 15, 2009 and July 16, 2009, EnviroDrill of Albuquerque, New Mexico installed 4 groundwater monitor wells at the Site under the supervision of Tetra Tech: MW-1, MW-2, MW-3, and MW-4. All wells were drilled using a CME-75 drill rig, hollow stem augers, and split-spoon sampling techniques; 15 feet of 0.010 polyvinylchloride (PVC) slotted screen was placed in each well.

Tetra Tech began quarterly groundwater quality monitoring of the Site on July 28, 2009. In March of 2011, after eight consecutive quarters of compliance with NMWQCC standards for BTEX, Tetra Tech recommended discontinuation of monitoring for BTEX. Monitoring of dissolved manganese was recommended to continue on an annual basis.

On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM. CRA began annual monitoring for dissolved manganese in September 2011.

Site history is outlined in Table 1.

2.0 GROUNDWATER MONITORING SUMMARY, SAMPLING METHODOLOGY AND ANALYTICAL RESULTS

2.1 <u>GROUNDWATER MONITORING SUMMARY</u>

On September 24, 2012 groundwater elevation measurements were obtained for Monitor Wells MW-1, MW-2, MW-3 and MW-4 using an oil/water interface probe. **Table 2** presents the monitor well specifications and groundwater elevation data. A groundwater potentiometric surface map is presented as **Figure 4**, and illustrates that groundwater at the Site flows north-northwest.

2.2 **GROUNDWATER SAMPLING METHODOLOGY**

Groundwater quality samples were collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 during the September 24, 2012 groundwater sampling event. Approximately three well volumes were purged from each monitor well prior to sampling. A 1.5-inch polyethylene, dedicated bailer was used in each well to purge and collect groundwater samples. The purged water was disposed of in the on-site produced water tank (**Figure 2**). Samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace Analytical Services, Inc. of Lenexa, KS. Groundwater samples were analyzed for the presence dissolved manganese by EPA Method 6010. Field sampling forms are included as **Appendix A**.

2.3 <u>GROUNDWATER ANALYTICAL RESULTS</u>

The New Mexico Water Quality Control Commission 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.

• Dissolved Manganese

 The NMQCC standard for dissolved manganese is 0.2 mg/L. Groundwater collected from Monitor Wells MW-1 and MW-3 contained dissolved manganese concentrations of 0.76 mg/L, and 1.2 mg/L, respectively.

074934 (3)

The corresponding laboratory analytical report for the September 2012 groundwater sampling event is included as **Appendix B**.

CÒNESTOGA-ROVERS & ASSOCIATES

3.0 CONCLUSIONS AND RECOMMENDATIONS

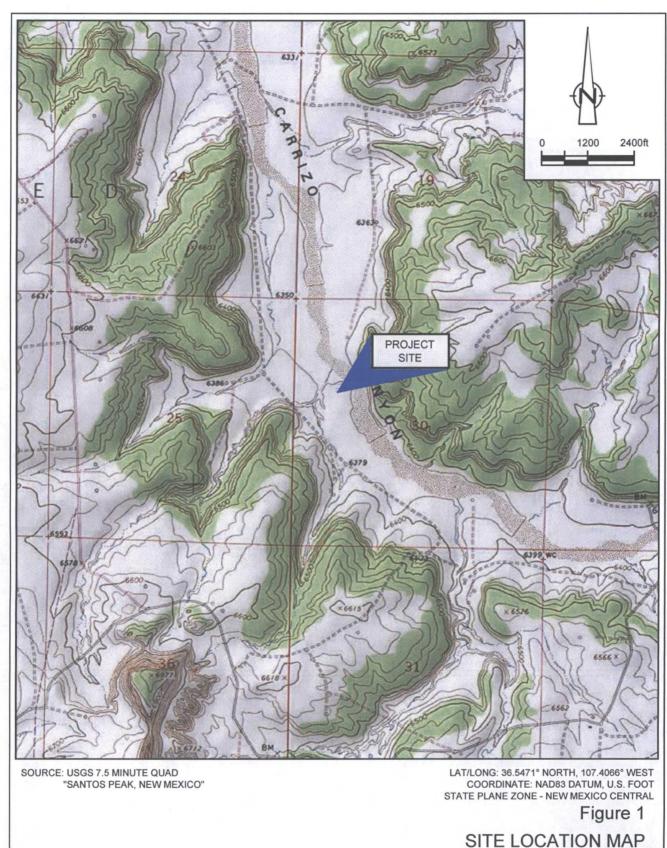
In March of 2011, after eight consecutive quarters of compliance with NMWQCC standards for BTEX, Tetra Tech recommended discontinuation of monitoring for BTEX. Monitoring of dissolved manganese continues to be conducted on an annual basis. Remediation Site closure will be requested when groundwater quality results indicate that all monitored groundwater quality parameters are consistently below NMQWCC groundwater quality standards, are stable, or are representative of background conditions at the Site.

4.0 <u>REFERENCES</u>

Envirotech Incorporated. March 20, 2009. Burlington Resources Spill Closure Report Located at San Juan 27-5 #34A, Section 30, Township 27N, Range 5W, Rio Arriba County, New Mexico. Prepared for ConocoPhillips Company. p2.

FIGURES

074934 (3)



SITE LOCATION MAP SAN JUAN 27-5 No. 34A SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO *ConocoPhillips Company*

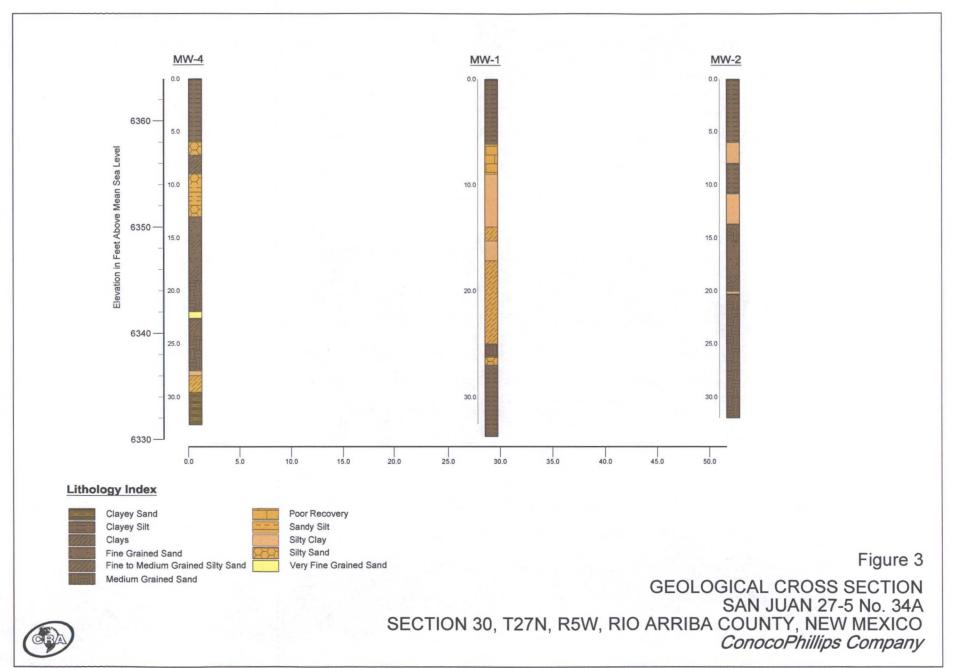


074934-95(003)GN-DL001 NOV 01/2012

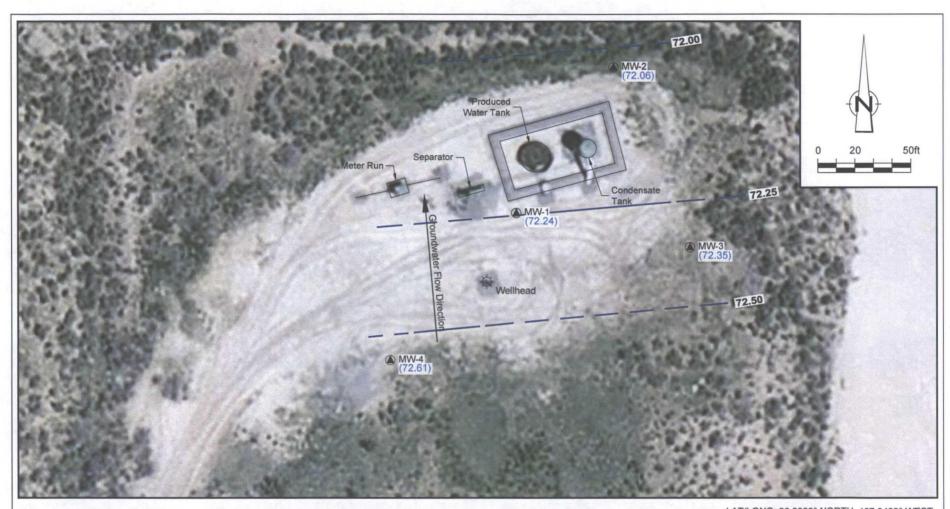


SITE MAP SAN JUAN 27-5 No. 34A SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO *ConocoPhillips Company*

074934-95(003)GN-DL001 NOV 01/2012



⁰⁷⁴⁹³⁴⁻⁹⁵⁽⁰⁰³⁾GN-DL001 NOV 01/2012



LEGEND

LAT/LONG: 36.8089° NORTH, 107.9463° WEST COORDINATE: NAD83 DATUM, U.S. FOOT STATE PLANE ZONE - NEW MEXICO WEST

Figure 4

Monitor Well Location
 Wellhead
 (72.61) Groundwater Elevation, Ft
 72.50— Groundwater Elevation Contour, Ft

Groundwater Flow Direction

SEPTEMBER 2012 GROUNDWATER POTENTIOMETRIC SURFACE MAP SAN JUAN 27-5 No. 34A SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO ConocoPhillips Company

074934-95(003)GN-DL001 NOV 01/2012

074934 (3)

SITE HISTORY TIMELINE CONOCOPHILLIPS COMPANY SAN JUAN 27-5 No. 34A RIO ARRIBA COUNTY, NM

Date/Time Period	Event/Action	Description/Comments
January 30, 2009	Site Assessment	Hydrocarbon impacts are visually confirmed during tank removal at the Site. Envirotech Inc. of Farmington, New Mexico (Envirotech) conducted spill assessment and initial soil sampling.
March 3, 2009	Soil Excavation	Envirotech oversees soil excavation at the Site. Final dimensions of excavated area are 53'x49'x20' deep. Groundwater is encountered at 20' bgs and sampled. Laboratory results for benzene were found at a concentration of 95.6 micrograms per liter (ug/L), above the NMWQCC standard.
March 20, 2009	Excavation Report	Envirotech excavation report states that a total of 1,900 cubic yards of soil was removed from the Site and transported to an OCD-permitted facility in Farmington, NM. Envirotech recommended the installation of groundwater monitor wells at the Site (Envirotech, 2009).
April 2, 2009	Site Assessment	Tetra Tech visits the Site visit to determine placement of proposed groundwater monitor wells.
July 15, 2009 & July 16, 2009	Monitor Well Installation	Four groundwater monitor wells are installed by EnviroDrill under the supervision of Tetra Tech (MW-1, MW-2, MW 3, MW-4).
July 28, 2009	Groundwater Monitoring	Baseline quarterly groundwater monitoring event was conducted at the Site by Tetra Tech.
September 29, 2009	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
December 15, 2009	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
April 8, 2010	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
June 8, 2010	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
September 21, 2010	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
December 15, 2010	Groundwater Monitoring	Seventh quarterly groundwater monitoring event conducted at the Site by Tetra Tech. Manganese concentrations exceed NMWQCC standards in monitor wells MW-1, MW-2, and MW-3.
March 15, 2011	Groundwater Monitoring	Eighth quarterly groundwater monitoring event conducted at the Site by Tetra Tech. Manganese concentrations exceed NMWQCC standards in monitor wells MW-1, MW-2, and MW-3. After eight consecutive quarters of compliance with BTEX standards, the monitoring schedule is changed to annual sampling for dissolved manganese only.
June 15, 2011	Tranfer of Site Consulting Responsibilities	Site consulting responsibilities are transferred from Tetra Tech to Conestoga-Rovers & Associates, Inc. of Albuquerque, NM (CRA).
September 28, 2011	Groundwater Monitoring	Annual monitoring event for dissolved manganese only completed by CRA.
September 24, 2012	Groundwater Monitoring	Annual monitoring event for dissolved manganese only completed by CRA.

Page 1 of 1

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS CONOCOPHILLIPS COMPANY SAN JUAN 27-5 No. 34A RIO ARRIBA COUNTY, NM

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	* TOC Elevation (ft)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
			7/28/2009	23.21	74.23	
		i		9/29/2009	23.88	73.56
			12/15/2009	24.15	73.29	
				4/8/2010	21.76	75.68
MW-1	33.13	18.73 - 33.73	97.44	6/8/2010	22.26	75.18
10100-1	55.15	10.75 - 55.75	77,111	9/21/2010	23.24	74.20
				12/15/2010	23.60	73.84
				3/15/2011	22.92	74.52
				9/28/2011	24.10	73.34
				9/24/2012	25.20	72.24
				7/28/2009	22.72	74.06
				9/29/2009	23.40	73.38
				12/15/2009	23.66	73.12
				4/8/2010	21.21	75.57
MW-2	34.29	15 - 30	96.78	6/8/2010	21.81	74.97
141 4 4 - 2	54.29	10-30	90.70	9/21/2010	22.78	74.00
				12/15/2010	23.13	73.65
				3/15/2011	· 22.44 ·	74.34
				9/28/2011	23.62	73.16
				9/24/2012	24.72	72.06
				7/28/2009	22.84	74.40
				9/29/2009	23.54	73.70
			12/15/2009	23.80	73.44	
		3.11 17.55 - 32.55		4/8/2010	21.22	76.02
MW-3	33.11		97.24	6/8/2010	21.90	75.34
	33.11		77.24	9/21/2010	22.90	74.34
				12/15/2010	23.27	73.97
				3/15/2011	22.55	74.69
				9/28/2011	23.73	73.51
		·		9/24/2012	24.89	72.35
				7/28/2009	22.62	74.61
				9/29/2009	23.31	73.92
				12/15/2009	23.57	73.66
	,		[4/8/2010	21.25	75.98
: MW-4	33.47	17.6 - 32.6	· 97.23	. 6/8/2010	21.75	
		AF 10 - UAIU		9/21/2010	22.67	74.56
				12/15/2010	23.03	74.20
				3/15/2011	22.35	74.88
				9/28/2011	23.50	73.73
				9/24/2012	24.62	72.61

Notes:

ft = Feet TOC = Top of casing bgs = below ground surface *Groundwater elevation is relative to an arbitrary 100 feet

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY SAN JUAN 27-5 No. 34A RIO ARRIBA COUNTY

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L).	Xylenes (total) (mg/L)	Manganese (dissolved) (mg/L)	Total Dissolved Solids (TDS) (mg/L)
	MW-1	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005		
	MW-1	9/29/2009	_(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.694	
	MW-1	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.576	
	MW-1	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.896	640
MW-1	MW-1	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.612	
10100-1	MW-1	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.784	
	MW-1	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.933	
	MW-1	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.732	
	GW-074934-092811-CM-001	9/28/2011	(orig)					0.789	
	GW-074934-092412-CM-MW-1	9/24/2012	(orig)					0.76	
	MW-2	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005		· ;
	MW-2	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	1.38	
	MW-2.	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	1.92	
	MW-2	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.43	700
	MW-2	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.12	
MW-2	MW-2.	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.25	· · ·
	MW-2	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.17	
	MW-2	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.01	
	GW-074934-092811-CM-003	9/28/2011	(orig)					0.592	
	GW-074934-092412-CM-MW-2	9/24/2012	(orig)					0.12	
	GW-074934-092412-CM-DUP	9/24/2012	(orig)	-				0.13	
	MW-3	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005		
	MW-3	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	1.7	
	MW-3	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.04	
		4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.51	525
MW-3		6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.51	
14144-3	MW-3	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.87	
	MW-3	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.69	
	MW-3	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	2.01	
	GW-074934-092811-JP-002	9/28/2011	(orig)					2.03	
	GW-074934-092412-CM-MW-3	9/24/2012	(orig)					1.2	

CRA 074934-Rpt2-Tbl3

.

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY CONOCOPHILLIPS COMPANY SAN JUAN 27-5 No. 34A RIO ARRIBA COUNTY

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Manganese (dissolved) (mg/L)	Total Dissolved Solids (TDS) (mg/L)
	MW-4	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005		
	MW-4	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.269	
	MW-4	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0579	
	MW-4	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.121	684
MW-4	MW-4	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0384	
14111 1	MW-4.	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0301	
	MW-4	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0088	
	MW-4	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.008	
	GW-074934-092811-CM-005	9/28/2011	(orig)					0.0461	
	GW-074934-092412-CM-MW-4	9/24/2012	(orig)				1	0.026	
	NMWQCC Groundwater Quality	Standards		0.01	0.75	0.75	0.62	0.2	1000

Notes:

NMWQCC = New Mexico Water Quality Control Commission

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

< 0.001 = Below laboratory detection limit of 0.001 mg/L

Bold = concentrations that exceed the NMWQCC limits

-- = not analyzed

APPENDIX A

SEPTEMBER 2012 ANNUAL GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM
TE/PROJECT NAME: SJ 27-534A JOB# 074034 SAMPLE ID: GW-074934-0924120M-MW-WELL# MW -
19.24.12 124.12 Well purging information 126 3.75 PURGE DATE (MM DD YY) SAMPLE DATE (AM DD YY)
PURGING AND SAMPLING EQUIPMENT
(CIRCLE ONE) (CIRCLE ONE)
PURGING DEVICE Y A - SUBMERSIBLE PUMP D - GAS LIFE PUMP G - BÅILER X= B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRAØ PURGING DEVICE OTHER (SPECIFY) SAMPLING DEVICE G - BÅADDER PUMP' F - DIPPER BOTTLE X = OTHER X=
SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL A - TELON D - PVC X= B - STAINLESS STEEL E + POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) SAMPLING MATERIAL C - POLYPROPYLENE X - OTHER
SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING A - TEFLON D - POLYPROPYLENE G - COMBINATION X= B - TYGON E = POLYETHYLENE TEFLON/POLYPROPYLENE PURGE TUBING OTHER (SPECIFY) SAMPLING TUBING C - ROPE F - SILICONE X - OTHER
FILTERING DEVICES 0.45 A - IN-LINE DISPOSABLE B - PRESSURE C-VACUUM 45 Par Marals MA
FIELD MEASUREMENTS
DEPTH TO WATER 25 20 (feet) WELL ELEVATION 47 44 (feet)
WELL DEPTH 33 05 (feet) GROUNDWATER ELEVATION 72 24 (feet)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
$ [3.13]^{(c)} [6.17]^{(std)} [0.5]^{(g/L)} [6.15]^{(us/cm)} [10,7]^{(mv)} [3.50]^{(gal)} [6.7]^{(std)} [10,7]^{(mv)} [3.50]^{(sal)} [6.7]^{(std)} [10,7]^{(std)} [10,7]^{$
13.20 (c) (0.22 (std) (),59 (g/L) (019 (us/cm)) 109.3 (mv) 3.75 (gal) 5.4
[^C O] (std) (g/L) (μS/cm). (mV) (gal)
(°C) (std) (g/L) (uS/cm) (mV) (gal)
SAMPLE APPEARANCE: WEATHER CONDITIONS: SPECIFIC COMMENTS: SPECIFIC COMMENTS:
1.26×3=3.768
I CERTIFY THAT SAMPLING PROCEDUIRS WERE IN AGCORDANCE WITH APPLICABLE CRA PROTOCOPS 92412 DATE PRINT WISTING MATCHERS SIGNATORE

×.,

(

1.10

	WELL SAMPLING FIELD INFORMATION FORM
L TE/PROJECT NAMI SAMPLE D	Address and the second se
PURGE DATE (MM DD YY)	9:24:12 WELL PURGING INFORMATION 530 2,0 SAMPLE DATE (MM DD YY) SAMPLE TIME (24 HOUR) WATER VOL IN CASING (GALLONS) ACTUAL VOL PURGED (GALLONS)
PURGING EQUIPMENT	PURGING AND SAMPLING EQUIPMENT DICATED (Y) N (CIRCLE ONE) (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X= B - PERISTALTIC PUMP E - PURGE PUMP H - WATERRA® PURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE X - OTHER X=
PURGING MATERIAL	A - TEFLON D - PVC X= B - STAINLESS STEEL E - POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL PURGE TUBING	C - POLYPROPYLENE X-OTHER X= C A - TEFLON D - POLYPROPYLENE G - COMBINATION X=
SAMPLING TUBING	B - TYGON E - POLYETHYLENE TEFLON/POLYPROPYLENE PURGE TUBING OTHER (SPECIFY) C - ROPE F - SILICONE X - OTHER X = A SAMPLING TUPING OTHER (SPECIFY)
FILTERING DEVICES 0.45	FIELD MEASUREMENTS 24 221 (rep) WELLELEVATION 1 96 781 (rep)
DEPTH TO WATER WELL DEPTH TEMPERATURE	24 26 (feet) WELL ELEVATION 10 78 (feet) 34 28 (feet) GROUNDWATER ELEVATION 72 66 (feet) 7PH TDS CONPUCTIVITY ORP VQLUME
[<u>[2.84]</u> ro [6185 (sid) <u>\$56</u> (g/L) 66 (uS/cm) <u>128,3 (mv)</u> 3.0 (gal) (std) (g/L) (uS/cm) (mv) (mv)
(C) (C)	(std) (g/L) (µS/cm) (mV) (gal) (std) (g/L) (µS/cm) (mV) (gal)
](°C) [(std)(g/L)(µS/cm)(mV)(gal)
SAMPLE APPEARANCE: WEATHER CONDITIONS: 7 SPECIFIC COMMENTS:	FIELD COMMENTS UN COLOR: UN FY TYPE)
1,530x 3 =	<u>4.589</u>
I U DI COLE C I CERFER THAT SAMPLING PR U CH 12 DATE	DEEDORIS WERE IN ACCORDANCE INITIA APPLICABLE CRA PROTOGOLA NY STIME MCHTEUS NEINT

	WELL SAMPLING FIELD INFORMATION FORM
TE/PROJECT NAM	
SAMPLE	ID: <u>GW-074934 092412-CM-MW-3WELL# MW-3</u>
PURGE DATE (MM DD Y)	9:24:2 Well Purging Information Sample date Sample time (MM DD YY) (24 HOUR) (24 HOUR) (Gallons)
PURGING EQUIPMENT	PURGING AND SAMPLING EQUIPMENT DEDICATED N SAMPLING EQUIPMENT
PURGING DEVICE	A - SUBMERSIBLE PUMP D - GAS LIFT PUMP G - BAILER X=
SAMPLING DEVICE	B- PERISTALTIC PUMP E - PURGE PUMP H - WATERRAD PURGING DEVICE OTHER (SPECIFY) C - BLADDER PUMP F - DIPPER BOTTLE, X - OTHER X - SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	A-TEFLON D-PVC X=
SÀMPLING MATERIÀL	B-STAINLESS STEEL E: POLYETHYLENE PURGING MATERIAL OTHER (SPECIFY) C. POLYPROPYLENE X-OTHER X-OTHER X-OTHER SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	A - TEFLON D - POLYPROPYLENE G - COMBINATION X=
SAMPLING TUBING	B TYGON E - POLYETHYLENE TEFLON/POLYPROPYLENE PURGE TUBING OTHER (SPECIFY) C - ROPE F - SILICONE X - OTHER X = A SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A-IN-LINE DISPOSABLE B-PRESSURE C-VACUUM, 45 to metals only
- 14	FIELD MEASUREMENTS
DEPTH TO WATE	72 30
TEMPERATURE	PH TDS CONDUCTIVITY ORP VOLUME
1/2 (1) $1/2$ (1) $1/2$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
12.55 [rg]	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
	(std) (g/L) (uS/cm) (mV) (gal)
(°C)	(std) (g/L) (µS/cm) (mV) (gal)
SAMPLE APPEARANCE: WEATHER CONDITIONS: SPECIFIC COMMENTS:	FIELD COMMENTS I'IQHE DUUN TO ODOR: M DNQ COLOR: COLOR: <thcolor:< th=""> COLOR: <thcolor:< th=""> <t< td=""></t<></thcolor:<></thcolor:<>
1.3136 X3=	3,94
I CERTIFY THAT SAMPLING 92417 DATE	PROCEEDURES WERE IN ACCORDANCE WIRH APPLICABLE CRA PROTOCOUR WIRT WE WATCHES NEINT

	WELL SAMPLIN	G FIELD IN	FORMATIO	ON FORM		
.TE/PROJECT NAM	IE: <u>55</u> 27-	5 34A	JOB	# 174934	ŀ	
SAMPLE	т. GW <u>-074934- 0</u> 9	2412- CM-1	W.L WELL	# <u>MW-4</u>		
L9124112 PURGE DATE (MAIDD YY)	9 124, 12 SAMPLE DATE (MM DD YD)	WELL PURGING IN 1422 SAMPLE TIN (24 HOUR)		1432 R VOL. IN CASING (GALLONS)		25 CL
PURGING EQUIPMENTD	E IN	RGING AND SAMPI	ING EQUIPMENT	SAMPLING EQUIP	1ent:Dedic	CATED Y N (CIRCLE ONE)
PURGING DEVICE	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRAØ	X=	GING DEVICE OTH	
SAMPLING DEVICE	C - BLADDER PUMP	F - DIPPER BOTTLE	X-OTHER	X=	PLING DEVICE OF	
PURGING MATERIAL		D-PVC		X=		
SAMPLING MATERIAL	B - STAINLESS STEEL C - POLYPROPYLENE	E - POLYETHYLENE X - OTHER		X⇒	GING MATERIAL (
PURGE TUBING		D + POLYPROPYLENE	G COMBINATION	SAM X=	PLING MATERIAL	OTHER (SPECIFY)
SAMPLING TUBING	B - TYGON C - ROPE	E - POLYETHYLENE F - SILICONE	TEFLON/POLYPRC X - OTHER		CE TUBING OTHE	R (SPECIFY)
	A				PLING TUBING OT	THER (SPECIFY)
FILTERING DEVICES 0.45	A - IN-LINE DISPOSAI	BLE B - PRESSURI	and the second s	TO JUN WY	ias ar	Y
DEPTH TO WATE			WELL ELEVATION	L9	7 23	(feet)
WELL DEPT			WATER ELEVATION	72		(feet) VOLUME
12,73 ra	7.03 (std)	644 (g/L)	CONDUCTIVITY	s/cm) [<u>/)2</u>	<u>9</u> (mV)	
(°C)	(std)	(g/L)	(µ	S/cm)	(mV)	(gal
[](C)	(std)	(g/L)		S/cm)	(mV)	(gal
(°C)	(std)	(g/L)		S/cm)	(mV)	(gal)
[(C)	(std)	(g/L)		S/cm)	(mV)	(gal)
SAMPLE APPEARANCE: WEATHER CONDITIONS:	CLAY ODOR TEMPERATURE 70°	<u>nore</u> wind()	COLOR: <u>Cl</u>	SHEEN Y	· · · · · · · · · · · · · · · · · · ·	·····
SPECIFIC COMMENTS:	hall total A.	. <u>0.16</u>	<u> </u>		iala	Rallad
	veri ranted an	Ind time	allars, all	s, a allons ;;	charge. Stall: U	panea M
1472×3=	4.30 Colle		of param	Les and	(IMDO	/1 10

1 sha

.

.

APPENDIX B

SEPTEMBER 2012 ANNUAL GROUNDWATER LABORATORY ANALYTICAL REPORT

074934 (3)



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

October 08, 2012

Christine Matthews CRA 6121 Indian School Rd NE Suite 200 Albuquerque, NM 87110

RE: Project: SAN JUAN 27-5 NO 34A 074934 Pace Project No.: 60129928

Dear Christine Matthews:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alle Slavagan

Alice Flanagan

alice.flanagan@pacelabs.com Project Manager

Enclosures

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



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 1 of 13

ace Analytical www.pacelabs.com

CERTIFICATIONS

Project: SAN JUAN 27-5 NO 34A Pace Project No.: 60129928

9608 Loiret Boulevard, Lenexa, KS 66219 A2LA Certification #: 2456.01 Arkansas Certification #: 12-019-0 Illinois Certification #: 002885 -Iowa Certification #: 118 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-12-3 Utah Certification #: KS000212012-2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 2 of 13

ace Analytical www.pacelabs.com

SAMPLE SUMMARY

Project:SAN JUAN 27-5 NO 34APace Project No.:60129928

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129928001	GW-074934-082412-CM-MW-1	Water	09/24/12 13:45	09/27/12 08:20
60129928002	GW-074934-082412-CM-MW-2	Water	09/24/12 14:35	09/27/12 08:20
60129928003	GW-074934-082412-CM-MW-3	Water	09/24/12 14:00	09/27/12 08:20
60129928004	GW-074934-082412-CM-MW-4	Water	09/24/12 14:25	09/27/12 08:20
60129928005	GW-074934-082412-CM-MW-DUP	Water	09/24/12 14:40	09/27/12 08:20

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 3 of 13

ace Analytical www.pacelabs.com

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

SAMPLE ANALYTE COUNT

Project:SAN JUAN 27-5 NO 34APace Project No.:60129928

. .

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60129928001	GW-074934-082412-CM-MW-1	EPA 6010	JGP	1
60129928002	GW-074934-082412-CM-MW-2	EPA 6010	JGP	1
60129928003	GW-074934-082412-CM-MW-3	EPA 6010	JGP	¹ 1
60129928004	GW-074934-082412-CM-MW-4	EPA 6010	JGP	1
60129928005	GW-074934-082412-CM-MW-DUP	EPA 6010	JGP	1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc...

Page 4 of 13

ce Analvtica

PROJECT NARRATIVE

Project: SAN JUAN 27-5 NO 34A

Pace Project No.: 60129928

Method: EPA 6010

Description:6010 MET ICP, DissolvedClient:COP Conestoga-Rovers & Associates, Inc. NMDate:October 08, 2012

General Information:

5 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.

QC Batch: MPRP/19736

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60129930002

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
 - MS (Lab ID: 1071191)
 - Manganese, Dissolved
 - MSD (Lab ID: 1071192)
 - Manganese, Dissolved

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 5 of 13

ce Anal

Project: SAN JUAN 27-5 NO 34A

Pace Project No.: 60129928

Sample: GW-074934-082412-CM- MW-1	Lab ID:	60129928001	Collecte	d: 09/24/12	2 13:45	Received: 09	/27/12 08:20	Matrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	_ Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	010 Prepa	ration Meth	od: EPA	3010			
Manganese, Dissolved	0.76 ו	ng/L	0.0050	0.00060	1	10/02/12 10:45	10/05/12 12:4	5 7439-96-5	

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 6 of 13



Project: SAN JUAN 27-5 NO 34A

Pace Project No.: 60129928

Sample: GW-074934-082412-CM- MW-2	Lab ID:	60129928002	Collected	d: 09/24/12	2 14:35	Received: 09/	27/12 08:20 N	latrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	I Method: EPA 6	010 Prepa	ation Meth	od: EPA	3010			
Manganese, Dissolved	0.12 r	ma/L	0.0050	0.00060	1	10/02/12 10:45	10/05/12 12:47	7 7439-96-5	

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 7 of 13

ace Analytical elabs.com

Project: SAN JUAN 27-5 NO 34A

Pace Project No.: 60129928

Sample: GW-074934-082412-CM- MW-3	Lab ID:	60129928003	Collecte	d: 09/24/12	14:00	Received: 09	/27/12 08:20 N	Aatrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical	Method: EPA 6	010 Prepa	ration Meth	od: EPA	3010			
Manganese, Dissolved	1.2 n	ng/L	0.0050	0.00060	1	10/02/12 10:45	10/05/12 12:49	9 7439-96-5	

Date: 10/08/2012 03:52 PM

.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 8 of 13

Pace Package 8 of 15



Project: SAN JUAN 27-5 NO 34A

Pace Project No.: 60129928

Sample: GW-074934-082412-CM- MW-4	Lab ID	: 60129928004	Collecte	d: 09/24/12	14:25	Received: 09/	27/12 08:20 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytica	al Method: EPA 6	010 Prepa	ration Meth	od: EPA	3010			
Manganese, Dissolved	0.026	mg/L	0.0050	0.00060	1	10/02/12 10:45	10/05/12 12:51	7439-96-5	

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 9 of 13

Pace Package 9 of 15

ace Analvtical www.pacelabs.com

ANALYTICAL RESULTS

Project: Pace Project No.:	SAN JUAN 27-5 60129928	5 NO 34A		. ;					:	
Sample: GW-0749 MW-DUP		Lab ID:	60129928005	Collected	1: 09/24/1	2 14:40	Received: 0	9/27/12 08:20	Matrix: Water	* .
Parame	ters	Results	Units	Report . Limit	MDL	DF	Prepared	Analvzed	CAS No.	Qual
6010 MET ICP, Diss	solved	Analytical	Method: EPA 6	010 Prepar	ation Meth	nod: EPA	3010			
Manganese, Dissolv	ved	0.13 n	ng/L	0.0050	0.00060	1	10/02/12 10:45	5 10/05/12 12 :	54 7439-96-5	

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.. Page 10 of 13

^race Analytical www.nacelahs.com

QUALITY CONTROL DATA

Project: SAN JU/ Pace Project No.: 6012992	AN 27-5 NO 34A 8			:							
QC Batch: MPRP/	19736	Analys	is Method:	E	PA 6010						
QC Batch Method: EPA 30)10	Analys	is Descript	ion: 6	010 MET Di	ssolved					
Associated Lab Samples:	60129928001, 60129928002	2, 60129928	003, 60129	9928004, 6	012992800	5					
METHOD BLANK: 1071189		N	latrix: Wat	er							
Associated Lab Samples:	60129928001, 60129928002	2, 60129928	003, 60129	928004, 6	012992800	5	• .				
		Blank	R	eporting							
Parameter	Units	Result	t	Limit	Analyz	ed	Qualifiers				
Manganese, Dissolved	mg/L		ND	0.0050	10/05/12	12:14					
LABORATORY CONTROL S	AMPLE: 1071190										
		Spike	LCS		LCS	% Rec					
Parameter	Units	Conc.	Resu	lt	% Rec	Limits	Qı	alifiers	_		
Manganese, Dissolved	mg/L	1		0.98	98	80	-120				
MATRIX SPIKE & MATRIX SI	PIKE DUPLICATE: 10711	91	<u>.</u>	1071192		·					
	•	MS	MSD								
. .	60129930002	Spike	Spike	_MS	MSD	MS	MSD	% Rec		Max	<u> </u>
Parameter	Units Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits		RPD	Qual
Manganese, Dissolved	mg/L 2190 ug/L	1	1	5.1	5.1	287	290	75-125	1	20	M1
			۰.								
					•						

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc...

Page 11 of 13

Pace Package 11 of 15



QUALIFIERS

Project: SAN JUAN 27-5 NO 34A Pace Project No.: 60129928

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1

Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 12 of 13



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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 SAN JUAN 27-5 NO 34A

 Pace Project No.:
 60129928

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129928001	GW-074934-082412-CM-MW-1	EPA 3010	MPRP/19736	EPA 6010	ICP/16257
60129928002	GW-074934-082412-CM-MW-2	EPA 3010	MPRP/19736	EPA 6010	ICP/16257
60129928003	GW-074934-082412-CM-MW-3	EPA 3010	MPRP/19736	EPA 6010	ICP/16257
60129928004	GW-074934-082412-CM-MW-4	EPA 3010	MPRP/19736	EPA 6010	ICP/16257
60129928005	GW-074934-082412-CM-MW-DUP	EPA 3010	MPRP/19736	EPA 6010	ICP/16257

Date: 10/08/2012 03:52 PM

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

Page 13 of 13

ace Analytical

1632-16-

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

 $\gamma_{1} \gamma_{2} \gamma_{3} \gamma_{3} \gamma_{3}$

÷

Company COP CRA NM Report To: Christine Mathews Attention: COP epayables	Sectio Require	n A d Client Information	Section Required		t Infor	mation:			- normal theory and there are a	in the set of i		tion (ice info		ion.													Page			of		
Albequarque, NM 67110 Annue Propos Control Description Description <thdescripion< th=""> <thdescription< th=""> D</thdescription<></thdescripion<>	Compar		Report To	Chr	ristine	Mathews	S	.21 7 1013			_	÷			epaya	ables			192							1						
	Address	6121 Indian School Rd NE, Ste 200	Copy To:	Kel	ly Bla	inchard; A	Angela B	own			Com	pany M	Name	:								REGI	ÚĽAT	ORY	AGE	NCY	1				a. P.	
		Albequerque, NM 87110		<u></u> .							Add	nss:				•						Γ ι	NPDE	S f	Ø GF	RÓÚI	ND WA	TER [DR	INKING	WATER	
Martin Column Service Mark Service	Email: Ti	cmathews@craworld.com	Purchase	Order	No.															2413	200 yr 1	Γ ι	JST	r	RC	RA		¢¢	тот	HER		<u>.</u>
Benerication to Durif All: Nummer Project Nummer Num	Phone:	(505)884-0672 [*** (505)884-4932	Project Na	ame:	San	Juan 27-	-5 No. 34	IA		*7.*	Pace	Frejec	† /	Alice	lana	igan			1.6.6.9		- 1	Site	Locat	tion	· · · · · ·	da es		V////	/////	1111		777
Better D Preserver View Har Codes (based wind in the state of the sta	Reques	ted Due Date/TAT: standard	Project Nu	umber:	749	34	<u></u>			<u></u>			# 5	5514.	18	<u></u>		<u></u>			 		STA	τ <u>ε:</u>	<u>.:</u>	NM	 	V////				
SAMPLE ID Mark Mark Mark Mark Mark Mark Mark Mark	<u> </u>		1								I						36		Re	ques	ted /	naty	Vertikelseret	source :	d (Y/	N) –	V	\/////	#			H
SAMPLE ID Max max Max <		Required Client Information MATRIX	CODE	to left)	(AMO	elfan i ste	COLL	ECTED			3		P	resei	vətiv	es	10-9-14 14-14-14 14-14-14	TN XX						1 14 19 - 14 14 - 14 - 14 14 - 14 - 14								
CGW-ST4934-092412-CM-MW-L 9.2442 1345 1		WATER WASTE WATER PRODUCT SOUSOUD OL SAMPLE ID AIR (A-2, 0-9 / -) OTHER	WT WW SL OL WP AR OT	(see valid	E TYPE (G=GRAB			COMPO	STTE RAB	TEMP AT COL	CONTAINERS	served	4			O3 Inol	en ander ander Ander ander and Ander ander and	lysis Test t	Dissolved Min	(1) And the second s	and the second secon		a a transformation a transformation and the part of the second second second second second second second second	য়াই কেন্দ্ৰ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ মহাজে নাম উল্লেখন নাম কেন্দ্ৰ হ'ব নামক হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হ বিশ্ববিদ্যালয় নামক হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হৈ বিশ্ববিদ্যালয় হ	and the first of the second	a de la constante de	ual Chlorine (Y/N)		201	199	rs	
2 CUL-074934-092412-CM-MW-2 R:24121435 1 1 02 02 3 CW-074934-092412-CM-MW-3 R:24121435 1 1 02 02 4 CW-074934-092412-CM-MW-3 R:24121435 1 1 02 02 4 CW-074934-092412-CM-MW-4 R:24121435 1 1 04 04 04 6 CW-074934-092412-CM-MW-4 R:24121435 1 1 04 04 04 04 6 CW-074934-092412-CM-MW-4 R:241214425 1 1 04 </td <td>ITEM</td> <td></td> <td>1.11</td> <td>MATR</td> <td>SAMPL</td> <td>CATE</td> <td>TIME</td> <td>DATE</td> <td></td> <td>_</td> <td></td> <td>Unpre</td> <td>H₂SO</td> <td>S Z Z Z Z Z Z Z Z</td> <td>NaOH</td> <td>Na₂S₂ Methe</td> <td>Other</td> <td>1 Ana</td> <td></td> <td></td> <td>er ferrer 1847 1847</td> <td></td> <td>barta ana an I North ann an Ann</td> <td>NV stravat Ngresites</td> <td></td> <td></td> <td>Resid</td> <td></td> <td></td> <td></td> <td></td> <td>D.</td>	ITEM		1.11 	MATR	SAMPL	CATE	TIME	DATE		_		Unpre	H ₂ SO	S Z Z Z Z Z Z Z Z	NaOH	Na ₂ S ₂ Methe	Other	1 Ana			er ferrer 1847 1847		barta ana an I North ann an Ann	NV stravat Ngresites			Resid					D.
33 GW-074934-092912-CM-MW-3 92412 1900 1 1 02 4 GW-074934-092912-CM-MW-4 52402 1925 1 1 04 5 GW-074934-092912-CM-MW-4 52402 1925 1 1 04 5 GW-074934-092912-CM-MW-4 52402 1925 1 1 04 6 92412 1940 1 1 04 04 04 7 8 92412 1940 1 1 04 04 04 7 8 92412 1940 1 1 04	<u>1</u>			ř.			• • • •							1	9.1.1.10	13 (1) 13 (1) 14		12						алы (Алы (Алы (. (** *	1/36	23N	11:5	l	1
CM CM<	Sec. 8. 62	<u>GW-074939-012412-CM-1</u>	<u>1W-Z</u>	<u>.</u>											3									1944 - 1 1944 - 1	1				<u></u>			÷. •
Bind State Sampler Name of Sampler Signature of Sampler Note by sping the form you are accepting Pacts NET 30 day payment terms and agreents to lide of any modes not pay wholes not pay whole not pay wholes not p	3	(-W-074934-092912-04-)	NW-3	<u>.</u>	a sarah	a A san ant di tra a																		1942		<u> </u>			(
Bind State Sampler Name of Sampler Signature of Sampler Note by sping the form you are accepting Pacts NET 30 day payment terms and agreents to lide of any modes not pay wholes not pay whole not pay wholes not p	1. Alexander	<u>GW-0+4934-092912-CM-</u>	MW-4							1 1 1									197 A.	4.2	Salar 1				li Sel terret 14 juniti		na sa			<u></u>		
The second se	1. S. A. A.	<u>IGW-074939-09240-(M-</u>	DUP	<u>.</u>				19-24-1Z	1440		ĽĿ.	$\left \right $	<u></u> [1						<u>.</u>					1998) 1998) 1998)	-		2 1 1 1 1 1 1 1	<u> </u>			0	<u>^</u>
B B		and the second	<u></u>	dine.		anner di			i ienerbaata		1. 1995) 1. 1		<u></u>	<u>- :</u>		49 23. 10 7 3		H	<u></u>									<u></u>				
Beller Name and Signature Print None by signing the form you are accepting Pace's NET 30 day payment terms and agreeting to late changes of 1,56 partment for ney protees not paid within 30 days. FALL-Q-020/rev 08, 12-02-2007		il An ann an Anna Anna Anna Anna Anna Anna							ļ				20	1.1		125		-		1. 1. 1. 1.		ann 277	- - 	and B Aright	97 Hanz 17 1972	ar san Ar Ara	24-∛ 294- 24-57 (25)	1 -7-17-18-0 -7-17-18-18-18-18-18-18-18-18-18-18-18-18-18-			ta an	2000
10 11 12 ADDITIONAL COMMENTS MB_CALE.N.N.N. RELINCUISHED BY / AFFILIATION DATE TMB_CALE.N.N.N. RELINCUISHED BY / AFFILIATION DATE MB_CALE.N.N.N. RELINCUISHED BY / AFFILIATION DATE Pace SAMPLER NAME AND SIGNATURE MotHAUUS PRINT Nenie of SAMPLER MotHAUUS DATE Signed SIGNATURE of SAMPLER MotHAUUS DATE Signed MBU SUBMER SIGNATURE of SAMPLER MotHAUUS MULTING ON SUBMER <td>Maria</td> <td>and the second second</td> <td>11. mar</td> <td><u></u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td><u>.</u></td> <td></td> <td></td> <td></td> <td>107 (A</td> <td>. . .</td> <td>1</td> <td></td> <td>1 <u>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u></td> <td></td> <td></td> <td></td> <td></td>	Maria	and the second	11. mar	<u></u>							<u> </u>		_					-		<u>.</u>				107 (A	. . .	1		1 <u>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>				
11 12 ADDITIONAL COMMENTS PELINGUISHED BY / AFFILIATION DATE MG, CA, B, K, Na INUMAL VALUUS / CAH Y12612 0130 INTE MG, CA, B, K, Na INUMAL VALUUS / CAH Y12612 0130 INTE MG, CA, B, K, Na INUMAL VALUUS / CAH Y12612 0130 INTE MG, CA, B, K, Na INUMAL VALUUS / CAH Y12612 0130 INTE MG, CA, B, K, Na INUMAL VALUUS / CAH Y12612 0130 INTE MG, CA, B, K, Na INUMAL VALUUS / CAH Y12612 0130 INTE MG, CA, B, K, Na INTE INTE Page INTE INTE INTE INTE PAGE INTE INTE INTE	9-1131 -	9 2 de la calita de la 2 de la calita de la	eleanond v/ n Ariger (* 1997)	i sure	14240 V.	Andrew Provention	يرون ويرون ورسر فرم مريا	i da da nana da da Seconda na da	ana ani ang sang Sang sang sang sang sang sang sang sang s		lin a		<u></u>	<u></u>		200		- -	4			<u></u>										<u></u>
IZ ADDITIONAL COMMENTS PELINGUISHED BY / AFFILIATION DATE TIME #CEPTED BY / AFFILIATION DATE TIME SAMPLE CONDITIONS Mg, CR, B, K, Na DULUCU, URA Y 2012, V130 III/II/I 0920, I.4 Y Y B0 DULUCU, URA Y 2012, V130 III/II/I 0920, I.4 Y Y B0 DULUCU, URA Y 2012, V130 III/II/I 0920, I.4 Y Y B0 DULUCU, URA Y 2012, V130 III/II/I 0920, I.4 Y Y B0 DULUCU, URA Y 2012, V130 III/III/I 0920, I.4 Y Y B0 DULUCU, URA Y 2012, V130 III/IIII/IIIIIIIIIIIIIIIIIIIIIIIIIIII	Sec. Sector	3 										<u> </u>		+				Ĩ		2 1 - 2 2 - 1 - 2				2013 12 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -	in a starter	3-5-5 1-1-1-1	1213 A.S.	e karan er			· · · · · · · · · · · · · · · · · · ·	<u></u> 7.7
ADDITIONAL COMMENTS RELINQUISHED BY / AFFILIATION DATE TIME ACCEPTED BY / AFFILIATION DATE TIME SAMPLE CONDITIONS ************************************		and the second	<u>e of the state</u>	<u> </u>		<u> </u>			1 50					-				<u>الا</u>	<u>. </u>	<u>نہ ان</u> د اد			3 _ 8 3 _ 8	200 C							· · · · ·	
Mg. Ca. B. K. Na. MULTUR IVALUCO/CRA 42612 Mathematical State P P Coe P SAMPLER NAME AND SIGNATURE Support PRINT Nemie of SAMPLER: Mathematical State SIGNATURE of SAMPLER: Mathematical State SIGNATURE of SAMPLER: Mathematical State SIGNATURE of SAMPLER: Mathematical State Signation Noise By stating this form you are accepting Pacie's NET 30 day payment terms and agreeting to bale charges of 1,5% per month for you base.	12 y	Manual and the second s Second second seco second second sec	V V		(en en el	EURO BY	AFEILIAT		DAT	land E	يەرىغى ئا بېد يېچې	TIME	2000 (a) - 34 (b)	in line Constant	i	ACCER					N Star		DAT			ina. Etter		<u>L'anne</u>				<u></u> .
Pack SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Archine, Mathews SIGNATURE of SAMPLER: Archine, Sampler, S	"Mg, C	د میرد در در میکندگورتر مکانههور <u>ه و در در در ۱۹۸۶ م</u> خ ا _{ستوری} مدیند و به میکندهای مکانو مک	- 6 67		\sim	1	And the second	in a section of		-			<u>े∷</u> ∧.	- 7,	5%	7	1	7	~	7-	alar di		8. K. S	aran is	9-5-5 J	(1,0,0)	i. Hilter					
B SAMPLER NAME AND SIGNATURE Package 14 Sampler Name of SAMPLER PRINT Name of SAMPLER Print Name of SAMPLER SIGNATURE of SAMPLER Print Name of SAMPLER Signature of SAMPLER Print Name of SAMPLER Print Note, By signing this form you are accepting Pactor's NET 30 day payment terms and agreeting to late charges of 1,5% permining for any involces not paid within 30 days.		ana an	<u>NV</u>	<u>nn</u>	<u>m</u>	U IV	uw	/L.KIT	914	2116	U	1.20	<u>.</u>	¥	110	4					<u></u>	7	[4]	14	012	0	<u> </u>	<u> </u> _/		χ_	<u>y</u>	
P SAMPLER NAME AND SIGNATURE Signature PRINT Nenie of SAMPLER PRINT Nenie of SAMPLER PRINT Nenie of SAMPLER SIGNATURE of SAMPLER Signature of SAMPLER Important Note, By signing this form you are accepting Pacto's NET 30 day payment terms and agreeting to late changes of 1,5% permittion for any invoices not paid within 30 days. F-ALL-Q-020 rev.08, 12-Oct-2007	പ്	anaan saa kaanaa ni baaniya jirana sabara sibanaa jirahayaa ii shar ee siba	<u>K</u>	لينتقفه	1	ر رو راک ^{ور} و در اک ^{ور} مرد و م		Tannon						derinate et	و بربید و	<u>.</u>			1	100 July 1						ڊ نيبي		<u></u>			4. <u>4</u>	<u>,</u>
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: ALISTINE AND HALUSS SIGNATURE of SAMPLER: ALISTINE AND HALUSS SIGNATURE of SAMPLER: ALISTINE OF SAMPLER AND HALUSS SIGNATURE of SAMPLER AND HALUSS The print of sampler of sampl		n de la companya en la companya de la companya de Antiga esta companya en la companya de la companya d	1997 - 1997 1997 - 1997 - 1997	retuzion	فور والارداني	Peter to constant		: مربقه محمد بر		ي د به مر		an a Com	ماليوم										\$	1997 - 1997 -				і. 1	• P.			
And Stand LER NAME AND Stand TORE Stand LER NAME AND Stand TORE PRINT Name of SAMPLER: Harthews SIGNATURE of SAMPLER: Harthews SIGNATURE of SAMPLER: Harthews SIGNATURE of SAMPLER: Harthews Multiple of SAMPLER: Harthews SIGNATURE of SAMPLER: Harthews Multiple of SAMPLER: Harthews SIGNATURE of SAMPLER: Harthews Multiple of SAMPLER: Harthews Signature of Samples Signature Signature of Samples F-ALL-Q-020 rev.08, 12-Oct-2007	D D																							No. A					1			
Timportant Note: By sligning this form you are accepting Pace's NET 30 day payment terms and agreeing to late changes of 1,5% per month for any invoices not paid within 30 days.	÷ Š		en en la compañía de la compañía Anna de la compañía de la compañía				SAMPL	ER NAME	ND SIGN	ATU	RE						1.5.4						S		1		8	- S		₿ <i>⊋</i>	ដ្ឋ	
Timportant Note: By sligning this form you are accepting Pace's NET 30 day payment terms and agreeing to late changes of 1,5% per month for any invoices not paid within 30 days.	ag					And and	2823731-193835 	PRINT Nen	e of SAM	PLER	1	Jac	~ +7	no	<u>(192-196</u>) 1	M	Lbi	111	S				ensen 200 2012 - 10	in an	ereter data Arrent	129522 1297 1297 1297 1297 1297 1297 1297 12	, L	Dev (NY)		82	as Int	
Timportant Note: By sligning this form you are accepting Pace's NET 30 day payment terms and agreeing to late changes of 1,5% per month for any invoices not paid within 30 days.	0 					. ?					\sim						(Nol		DAT	E Sig	ned	C	7.0	76	17	<u>تعمیم</u> ز	Tem	Recei		800	ampi t	
	4	· · · ·				. \$	l			1	ŲΥ	<u>un</u>	<u> </u>	<u>7 M</u>	M()	<u>u</u>	<u>n</u>	<u> </u>	(MM	IDDIY	<u>n:</u>	94	<u> </u>					<u>La Tari</u>	. <u> : .</u> č	3	ō	*****
	of 1	"Important Note, By signing this form you are accepting	Pace's NET	30 day	payme	nt terms and a	agreeing to l	late charges o	1,5% perm	ant's	or any l	rvoices	s not p	aid with	in 30 d	lays.											F-ALL	Q-020re	v.08, 1	2-0a-2	007	

www.pacelabs.com		nan har - an ana ana ana ana ang ang ang ang ang	in a cond	
Client Name: <u>CoP</u>	CRA	Project #:	40129928	، د <u>مانی ماند میشا</u> رد. ر
ourler: Fed Ex 🗗 UPS 🗆 USPS 🗆 Clie	ent 🗆 Commercial 🖾 Pace	D Other 🗆 🚬	Option	
acking #: 7990 5200 0642	Pace Shipping Label Use	d? Yes 🗆 No/C	Proj Du Proj Na	ie Date: /º///
ustody Seal on Cooler/Box Present: Yes	No D Seals intact: Yes			la debia dan altra (k. k. 1999), dan arapa arta
	ble Bags 🗆 🛛 🗧 Foam 🗖	None 🗆	Other $2 \frac{241}{2}$	Ale the contract of
hermometer Used: (T-19) / T-194	Type of Ice: (Wet) Blue		The second secon	providence of the providence of the second
ooler Temperature:		ne) Da	te and initials of pers ntents:	on examining
mperature should be above freezing to 6°C			and a state of the second s	
nain of Custody present:	ZYes DNo DN/A 1	е. 1971 година — станика даржи 2017 година —	ny transformation and the second s	an an stat an a de de de la de a la anala de la de Nota a la desta esta esta esta de la de
hain of Custody filled out	Yes INO IN/A 2			
nain of Custody relinquished:		(*************************************	en en en sou a sou a Reference a sou	t na anna a tha tha tha ta
ampler name & signature on COC:				
amples arrived within holding time:		<u></u>	· · · · · · · · · · · · · · · · · · ·	: ::::::::::::::::::::::::::::::::::::
hort Hold Time analyses (<72hr): PvG	h7/12 pres DN/A 6	· · · · · · · · · · · · · · · · · · ·		
ush Turn Around Time requested:	□Yes DNo □N/A 7		an an ann ann an an an an an an an an an	
ufficient volume:	Zyes DNo DN/A B		1	
orrect containers used:		**************************************	ana na katika ing tang tang tang tang tang tang tang ta	
-Pace containers used:	Dyes □No □N/A 9			
ontainers intact:).		Statementer of 11979+1- Auge
npreserved 5035A soils frozen w/in 48hrs?				1. V. V. W. Teananganan kan karanti
Itered volume received for dissolved tests?		2	and a second	
ample labels match COC:			**************************************	
Includes date/time/ID/analyses Matrix:	wT 1	3		94 (A)
Il containers needing preservation have been check	and a second state and a second state of the s	 Color and the second sec	<u>an an a</u>	
Il containers needing preservation are found to be in	A DECEMBER OF			19 - San 2019 19 - San 2019 19 - San 2019
ompliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, WI-DRO (wa	ater),	4. itial when	Lot # of added	
henolics rip Blank present:		ompleted	preservative	2
ace Trip Blank lot # (if purchased):		5	·····	
lace Trip Blank lot # (if purchased): leadspace in VOA vials (>6mm):	 □Yes □No (201/A	5. 	anna an taona an taona an taon an taon an taon an taon an taon	,
		R		
ar sere en cara e contra contra contra da contra contra contra da contra contra da contra contra contra contra	ากกลางกับ ก็ของของอุจองของต่องสูงสงตร์สตร์สูงสูงสีสตร์สตร์สาน		an daaraa ka ahaa ka ahaa ka ahaa ka ahaa ka ahaa ka ahaa ah	
roject sampled in USDA Regulated Area:		7. List State:		n - Ali Sara - Angela Angela - Angela - Angela - Angela - Angela Angela - Angela
lient Notification/ Resolution;	Copy COC to Client? Y	Field Data Reg		
Person Contacted;	Date/Time:	<u>/</u>	Temp Log: Record when unpacking co	start and finish times bler, if >20 min,
omments/ Resolution		والمروحين والمروحين والمروحين والمروحين والمروحين والمروحين والمروحين	recheck sample terr	
	i del composito de la composito Nome de la composito de la comp	and a second		Start:
AAA	<u> 21. j. j.</u>	Alanha -	End: 165 2	End
roject Manager Review;	,	ate:	Temp:	Temp: J
e out of hold, incorrect preservative, out of temp, in		Copy or mission will be	Sent to the NCDENR	Germeauon Onice
			F-KS-C-004-Re	v.0, 02February2011
			Pa	ce Package 15 of

namean adamente analas e el comprese que que el comprese el com

5

N.

1.15

. Ч. У.

 $\mathcal{F}_{\mathcal{F}}$

(j.)

ل بالمراجع والمحافظ المعاصان

经外销股份 计输行分词 的现在分词