



Adriane Gifford
Project Manager

Upstream EM
Environmental Management Company
1500 Louisiana Street
Room 38108
Houston, Texas 77002
Tel 832-854-5620
agifford@chevron.com

January 23, 2020

Mr. Kris Neidel
Environmental Protection Specialist, Northwest Area
Colorado Oil and Gas Conservation Commission
818 Taughenbaugh, Suite 103
Rifle, Colorado 81650

**Re: 2019 Annual Report
Collection Station 47 (Pit CS-47B)
Rangely Weber Sand Unit
Rio Blanco County, Colorado
COGCC Spill No. 10501**

Dear Mr. Neidel:

Chevron Environmental Management Company (CEMC) submits to the Colorado Oil and Gas Conservation Commission (COGCC) the enclosed *2019 Annual Report* for the Rangely Collection Station 47, Pit CS-47B in Rio Blanco County, Colorado. The report was prepared by Stantec Consulting Services Inc. (Stantec), on behalf of CEMC, to summarize four quarters of post-remediation groundwater monitoring events that were completed in March, June, September, and November 2019. Considering soil remediation activities were completed in 2018, benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations in groundwater are less than COGCC Table 910-1 Concentration Levels, and sulfate and chloride concentrations in groundwater are near respective Concentration Levels defined by background concentrations, CEMC respectfully requests closure of COGCC Spill No. 10501.

Should you have any questions regarding this submittal, please contact me at (832) 854-5620 or Brent Lucyk of Stantec at (517) 749-9405.

Respectfully,
Chevron Environmental Management Company
on behalf of Chevron U.S.A. Inc.

A handwritten signature in blue ink, appearing to read "Adriane Gifford".

Adriane Gifford
Project Manager

Enclosure

cc: Chris Patterson – Chevron
Brent Lucyk – Stantec

**2019 Annual Report – CS-47
(COGCC SPILL #10501)**

Rangely Weber Sand Unit
Collection Station 47
Pit CS-47B (COGCC Spill #10501)
Rio Blanco County, Colorado



Submitted to:

Kris Neidel
State of Colorado Oil and Gas
Conservation Commission
818 Taughenbaugh Blvd.
Suite 103
Rifle, CO 81650

Submitted by:

Stantec Consulting Services Inc.
2000 South Colorado Blvd.
Suite 2-300
Denver, CO 80222


On Behalf of:

Adriane Gifford
Chevron Environmental
Management Company
1500 Louisiana St.
Houston, TX 77002

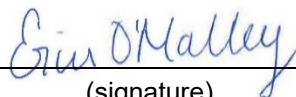
January 23, 2020

Sign-off Sheet

This document entitled 2019 Annual Report – CS-47(COGCC SPILL #10501) was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Chevron Environmental Management Company (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 
(signature)

Christopher Beall, PG
Associate Geologist

Reviewed by 
(signature)

Erin O'Malley
Environmental Engineer

Approved by 
(signature)

Brent Lucyk
Senior Geologist

Table of Contents

1.0	INTRODUCTION	1
2.0	GROUNDWATER MONITORING AND SAMPLING	1
2.1	GROUNDWATER ANALYSIS	1
2.2	GROUNDWATER ANALYTICAL RESULTS	2
3.0	CONCLUSIONS AND RECOMMENDATIONS	2
3.1	RECOMMENDATIONS	2

LIST OF TABLES

Table 1	Summary of Groundwater Well Construction Details
Table 2	Summary of Depth to Groundwater and Liquid Hydrocarbon Thickness
Table 3	Groundwater Sample Results

LIST OF FIGURES

Figure 1	Site Plan
Figure 2	Potentiometric Surface - Fourth Quarter 2019
Figure 3	2019 Groundwater Analytical Data

LIST OF APPENDICES

Appendix A	Site Background
Appendix B	2019 Groundwater Analytical Reports

January 23, 2020

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec), on behalf of Chevron Environmental Management Company (Chevron), is pleased to provide the Colorado Oil and Gas Conservation Commission (COGCC) with this *2019 Annual Report* for Rangely Collection Station 47, Pit CS-47B (COGCC Remediation Project No. 10501) in Rio Blanco County, Colorado (the Site; **Figure 1**).

Following the decommissioning of Pit CS-47, a secondary collection pit (Pit CS-47B) was identified and decommissioned. Following decommissioning activities, Chevron requested closure of Pit CS-47. The COGCC denied the request until four quarters of post-remediation groundwater monitoring was conducted and verify that groundwater concentrations were less than COGCC Table 910-1 concentration levels. The report herein provides documentation of the groundwater monitoring activities executed during 2019. For a detailed Site background, reference **Appendix A**.

The objective of 2019 activities was to collect groundwater samples to demonstrate compliance with COGCC Table 910-1 Concentration Levels (Concentration Levels).

2.0 GROUNDWATER MONITORING AND SAMPLING

A summary of groundwater well construction details are presented in **Table 1**. Current and historical groundwater elevation data are presented in **Table 2**. Comprehensive gauging events of all Site wells were conducted on March 6, June 14, September 5, and November 5, 2019. Stantec generated a groundwater elevation contour map from the November 2019 gauging data, which is shown on **Figure 2**. The groundwater flow direction in November 2019 was primarily to the west-southwest (towards the White River), which is generally consistent with historical groundwater flow directions.

Groundwater samples from all Site wells were collected following the removal of three well volumes using a disposable bailer. These sampling methods are consistent with COGCC's Model Sampling and Analysis Plan Rules 609 and 318.e (4).

2.1 GROUNDWATER ANALYSIS

Groundwater samples were collected in sample containers appropriate for the specified analyses, sealed, labeled, and placed into an ice-filled cooler for preservation. Groundwater samples were submitted to Eurofins TestAmerica Laboratory in Arvada, Colorado under chain-of-custody protocol for the following analyses:

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8260B; and
- Chloride and sulfate by EPA Method 9056A.

January 23, 2020

2.2 GROUNDWATER ANALYTICAL RESULTS

Current and historical groundwater sample analytical results are summarized in **Table 3**. The 2019 analytical reports are included in **Appendix B**. 2019 Groundwater analytical results were compared to the Concentration Levels and a summary of this comparison is provided below:

- BTEX concentrations in all monitoring wells were less than the Concentration Levels.
- Chloride concentrations at monitoring wells MW-03 and MW-06 (ranging from 580 milligrams per liter [mg/L] to 880 mg/L) exceeded the Concentration Level of 562.5 mg/L, which was based on 1.25 times the concentration of chloride at MW-02 (450 mg/L) on September 21, 2018.
- All sulfate concentrations were less than Concentration Levels except at MW-06. Sulfate concentrations at MW-06 (ranging from 2,000 mg/L to 2,300 mg/L) were at or exceeded the Concentration Level of 2,000 mg/L, which was based on 1.25 times the concentration of sulfate at MW-02 (1,600 mg/L) on September 21, 2018.

3.0 CONCLUSIONS AND RECOMMENDATIONS

All groundwater samples collected in 2019 were less than Concentration Levels for BTEX and only slight exceedances for chloride and sulfate were present. Both chloride and sulfate concentrations are near the Concentration Levels, as defined by background monitoring well MW-02.

3.1 RECOMMENDATIONS

Considering on-site soil and concentrations of BTEX in groundwater are less than Concentration Levels and sulfate and chloride in groundwater are near Concentration Levels defined by background concentrations, Chevron is requesting closure of COGCC Remediation Project No. 10501.

TABLES

Table 1
Summary of Groundwater Well Construction Details
Chevron Rangely CS47, Rangely, Colorado

Well Number	Date Installed	Depth Drilled (feet bgs)	Well Depth (feet below TOC)	TOC Elevation (feet AMSL)	Ground Elevation (feet AMSL)	Casing Stickup (feet)	Screen Interval (feet bgs)
MW-01 ¹	1/12/2017	20.0	19.8	5206.71	NM	2.3	3-18
MW-01R	11/6/2018	20.0	19.1	5205.52	5203.05	2.5	4.1-19.1
MW-02	1/12/2017	20.0	21.6	5206.43	NM	2.6	4-19
MW-03	1/12/2017	20.0	21.9	5204.41	5202.59	1.8	5-19.5
MW-04	5/16/2017	15.5	17.7	5206.11	5203.06	3.1	5-15
MW-05	5/16/2017	20.0	23.1	5205.70	5203.05	2.7	5-19.5
MW-06	11/6/2017	20.0	20.4	5206.40	5202.96	3.4	7-17
TW-01	9/10/2015	16.5	19.4	5205.79	NM	3.4	1-16

Notes:

1. MW-01 was abandoned on 9/17/18

bgs: Below ground surface

TOC: Top of Casing

AMSL: Above mean sea level

NM: Not measured

Table 2
Summary of Depth to Groundwater and Liquid Hydrocarbon Thickness
Chevron Rangely CS47, Rangely, Colorado

Well Number	TOC Elevation (feet AMSL)	Date Measured	Groundwater Elevation (feet AMSL)	Depth to Water (feet below TOC)	LNAPL Elevation (feet AMSL)	Depth to LNAPL (feet below TOC)	LNAPL Thickness (feet)
MW-01	5206.71	1/16/2017	5192.92	13.79	5192.97	13.74	0.05
		6/12/2017	5193.56	13.15	5193.57	13.14	0.01
		9/14/2017	5192.59	14.12	5192.61	14.10	0.02
		12/12/2017	5192.46	14.25	5192.48	14.23	0.02
		6/16/2018	5192.71	14.00	5192.76	13.95	0.05
		9/17/2018	5191.40	15.31	5191.59	15.12	0.19
MW-01R	5205.52	11/28/2018	5191.73	13.79	NA	NA	0.00
		3/6/2019	5192.44	13.08	NA	NA	0.00
		6/14/2019	5193.17	12.35	NA	NA	0.00
		9/5/2019	5192.29	13.23	NA	NA	0.00
		11/5/2019	5192.12	13.40	NA	NA	0.00
MW-02	5206.43	1/16/2017	5193.53	12.90	NA	NA	0.00
		6/12/2017	5193.99	12.44	NA	NA	0.00
		9/14/2017	5192.82	13.61	NA	NA	0.00
		12/12/2017	5192.97	13.46	NA	NA	0.00
		6/16/2018	5193.08	13.35	NA	NA	0.00
		9/21/2018	5191.90	14.53	NA	NA	0.00
		11/28/2018	5192.21	14.22	NA	NA	0.00
		3/6/2019	5192.75	13.68	NA	NA	0.00
		6/14/2019	5193.33	13.10	NA	NA	0.00
		9/5/2019	5192.42	14.01	NA	NA	0.00
		11/5/2019	5192.30	14.13	NA	NA	0.00
MW-03	5204.41	1/16/2017	5192.27	12.14	NA	NA	0.00
		6/12/2017	5192.98	11.43	NA	NA	0.00
		9/14/2017	5192.18	12.23	NA	NA	0.00
		12/12/2017	5191.98	12.43	NA	NA	0.00
		6/16/2018	5192.19	12.22	NA	NA	0.00
		9/21/2018	5191.05	13.36	NA	NA	0.00
		11/28/2018	5191.20	13.21	NA	NA	0.00
		3/6/2019	5191.70	12.71	NA	NA	0.00
		6/14/2019	5192.41	12.00	NA	NA	0.00
		9/5/2019	5191.67	12.74	NA	NA	0.00
		11/5/2019	5191.36	13.05	NA	NA	0.00
MW-04	5206.11	5/25/2017	5193.20	12.91	NA	NA	0.00
		6/12/2017	5193.20	12.91	NA	NA	0.00
		9/14/2017	5192.40	13.71	NA	NA	0.00
		12/12/2017	5192.32	13.79	NA	NA	0.00
		6/16/2018	5192.49	13.62	NA	NA	0.00
		9/21/2018	5191.26	14.85	NA	NA	0.00
		11/28/2018	5191.64	14.47	NA	NA	0.00
		3/6/2019	5192.13	13.98	NA	NA	0.00
		6/14/2019	5192.62	13.49	NA	NA	0.00
		9/5/2019	5192.01	14.10	NA	NA	0.00
		11/5/2019	5191.80	14.31	NA	NA	0.00

Table 2
Summary of Depth to Groundwater and Liquid Hydrocarbon Thickness
Chevron Rangely CS47, Rangely, Colorado

Well Number	TOC Elevation (feet AMSL)	Date Measured	Groundwater Elevation (feet AMSL)	Depth to Water (feet below TOC)	LNAPL Elevation (feet AMSL)	Depth to LNAPL (feet below TOC)	LNAPL Thickness (feet)
MW-05	5205.70	5/25/2017	5193.31	12.39	NA	NA	0.00
		6/12/2017	5193.31	12.39	NA	NA	0.00
		9/14/2017	5192.18	13.52	NA	NA	0.00
		12/12/2017	5192.26	13.44	NA	NA	0.00
		6/16/2018	5192.46	13.24	NA	NA	0.00
		9/21/2018	5191.36	14.34	NA	NA	0.00
		11/28/2018	5191.53	14.17	NA	NA	0.00
		3/6/2019	5192.06	13.64	NA	NA	0.00
		6/14/2019	5192.74	12.96	NA	NA	0.00
		9/5/2019	5190.92	14.78	NA	NA	0.00
		11/5/2019	5191.73	13.97	NA	NA	0.00
MW-06	5206.40	12/12/2017	5191.96	14.44	NA	NA	0.00
		6/16/2018	5192.22	14.18	NA	NA	0.00
		9/21/2018	5190.98	15.42	NA	NA	0.00
		11/28/2018	5191.15	15.25	NA	NA	0.00
		3/6/2019	5191.71	14.69	NA	NA	0.00
		6/14/2019	5192.49	13.91	NA	NA	0.00
		9/5/2019	5191.65	14.75	NA	NA	0.00
		11/5/2019	5191.31	15.09	NA	NA	0.00
TW-01	5205.79	1/16/2017	5192.77	13.02	NA	NA	0.00
		6/12/2017	5193.27	12.52	NA	NA	0.00
		9/14/2017	5192.11	13.68	NA	NA	0.00
		12/12/2017	5192.26	13.53	NA	NA	0.00
		6/16/2018	5192.42	13.37	NA	NA	0.00
		9/21/2018	5191.37	14.42	NA	NA	0.00
		11/28/2018	5191.62	14.17	NA	NA	0.00
		3/6/2019	5191.98	13.81	NA	NA	0.00
		6/14/2019	5192.76	13.03	NA	NA	0.00
		9/5/2019	5191.91	13.88	NA	NA	0.00
		11/5/2019	5191.73	14.06	NA	NA	0.00

Notes:

TOC: Top of Casing

AMSL: Above mean sea level

LNAPL: Light non-aqueous phase liquid

NA: Not applicable

Table 3
Groundwater Sample Results
Chevron Rangely CS47, Rangely, Colorado

Sample Location	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride ¹	Sulfate ¹
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
COGCC Concentration Levels		0.005	1.0	0.7	10	562.5	2,000
MW-01	1/16/2017	<0.0050	<0.0050	<0.0050	<0.015	1,200	1,100
	5/25/2017	<0.010	<0.010	<0.010	<0.030	1,100	1,800
	10/6/2017	<0.00084	<0.00064	<0.00058	<0.0015	990	920
	12/13/2017	<0.00042	<0.00032	<0.00029	<0.00074	900	1,400
	6/16/2018	<0.200	<0.200	<0.200	<0.400	870	910
MW-01R	11/28/2018	<0.0010	<0.0010	<0.0010	<0.0030	490	1,300
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	460	1,400
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	500	<5.0
	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	480	1,400
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	470	1,600
MW-02	1/16/2017	<0.0010	<0.0010	<0.0010	<0.0030	340	1,300
	5/25/2017	<0.0010	<0.0010	<0.0010	<0.0030	310	1,500
	10/6/2017	<0.00042	<0.00032	<0.00029	<0.00074	320	1,300
	12/13/2017	<0.00042	<0.00032	<0.00029	<0.00074	260	1,200
	6/16/2018	<0.0010	0.00019 J	<0.0010	<0.0020	260	1,100
	9/21/2018	<0.0010	<0.0010	<0.0010	0.00042 J	450	1,600
	11/28/2018	<0.0010	<0.0010	<0.0010	<0.0030	260	1,200
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	200	970
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	220	1,000 H
	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	280	1,200
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	200	1,000 H B
MW-03	1/16/2017	<0.0010	<0.0010	<0.0010	<0.0030	1,600	1,300
	5/25/2017	<0.0010	<0.0010	<0.0010	<0.0030	750	1,900
	10/6/2017	<0.00042	0.00046 J	<0.00029	<0.00074	720	1,800
	12/12/2017	<0.00042	0.00034 J	<0.00029	<0.00074	570	1,600
	6/16/2018	<0.0010	<0.0010	<0.0010	<0.0020	490	1,500
	9/21/2018	<0.0010	<0.0010	<0.0010	<0.0020	530	1,600
	11/28/2018	<0.0010	<0.0010	<0.0010	<0.0030	750	1,500
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	480	1,600
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	580	1,400 H
	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	470	1,400
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	520	1,400

Table 3
Groundwater Sample Results
Chevron Rangely CS47, Rangely, Colorado

Sample Location	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride ¹	Sulfate ¹
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
COGCC Concentration Levels		0.005	1.0	0.7	10	562.5	2,000
MW-04	5/25/2017	<0.0010	<0.0010	<0.0010	<0.0030	1,500	1,600
	10/6/2017	0.00056 J	<0.00032	<0.00029	<0.00074	1,100	1,700
	12/12/2017	0.00062 J	<0.00032	<0.00029	<0.00074	830	1,600
	6/16/2018	0.00050 J	0.00019J	<0.0010	<0.0020	530	1,500
	9/21/2018	0.00039 J	0.00022 J	<0.0010	<0.0020	550	1,600
	11/28/2018	0.00020 J	<0.0010	<0.0010	<0.0030	510	1,600
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	480	1,400
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	490	1,400 H
	9/5/2019	0.00022 J	<0.0010	<0.0010	<0.0030	470	1,300
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	490	1,400
MW-05	5/25/2017	<0.0010	<0.0010	<0.0010	<0.0030	680	2,000
	10/6/2017	<0.00042	<0.00032	<0.00029	<0.00074	600	1,800
	12/12/2017	<0.00042	<0.00032	<0.00029	<0.00074	550	1,700
	6/16/2018	<0.0010	<0.0010	<0.0010	<0.0020	490	1,500
	9/21/2018	<0.0010	<0.0010	<0.0010	<0.0020	730	1,600
	11/28/2018	<0.0010	<0.0010	<0.0010	<0.0030	540	1,500
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	410	1,400
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	450	1,500 H
	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	390	1,300
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	490	1,400
MW-06	12/13/2017	0.00098 J	0.00056 J	<0.00029	<0.00074	1,000	1,700
	6/16/2018	0.00020 J	0.00021J	<0.0010	<0.0020	870	1,900
	9/21/2018	0.00017 J	0.00024 J	<0.0010	0.00042 J	850	2,100
	11/28/2018	<0.0010	<0.0010	<0.0010	<0.0030	820	2,200
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	820	2,300
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	880	<5.0
	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	820	2,000
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	790	2,000

Table 3
Groundwater Sample Results
Chevron Rangely CS47, Rangely, Colorado

Sample Location	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride ¹	Sulfate ¹
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
COGCC Concentration Levels		0.005	1.0	0.7	10	562.5	2,000
TW-01	1/16/2017	<0.0010	<0.0010	<0.0010	<0.0030	360	1,300
	5/25/2017	<0.0010	<0.0010	<0.0010	<0.0030	320	1,300
	10/6/2017	<0.00042	<0.00032	<0.00029	<0.00074	320	1,200
	12/13/2017	0.00065 J	0.00044 J	<0.00029	<0.00074	330	1,200
	6/16/2018	<0.0010	<0.0010	<0.0010	<0.0020	320	1,300 B
	9/21/2018	<0.0010	<0.0010	<0.0010	<0.0020	320	1,200
	11/28/2018	<0.0010	<0.0010	<0.0010	<0.0030	340	1,300
	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	330	1,200
	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	350	1,200 H
	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	300	1,100
	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	330	1,100
DUP-1-030619 (MW-01R)	3/6/2019	<0.0010	<0.0010	<0.0010	<0.0030	NA	NA
DUP-1-061419 (MW-02)	6/14/2019	<0.0010	<0.0010	<0.0010	<0.0030	220	1,000 H
DUP-1-090519 (MW-02)	9/5/2019	<0.0010	<0.0010	<0.0010	<0.0030	280	1,200
DUP-1-110519 (MW-01R)	11/5/2019	<0.0010	<0.0010	<0.0010	<0.0020	470	1,600

Notes:

Concentrations in **BOLD** are above the Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 Concentration Levels .

mg/L: milligrams per liter

<: represent concentrations below the test method limit unless otherwise noted

¹: Criteria for chloride and sulfate are based on COGCC Concentration Levels of 1.25 x's background.

Concentrations for up-gradient well MW-2 (9/21/18) used as background concentrations.

J : Analyte is present at an estimated concentration between the MDL and Report Limit

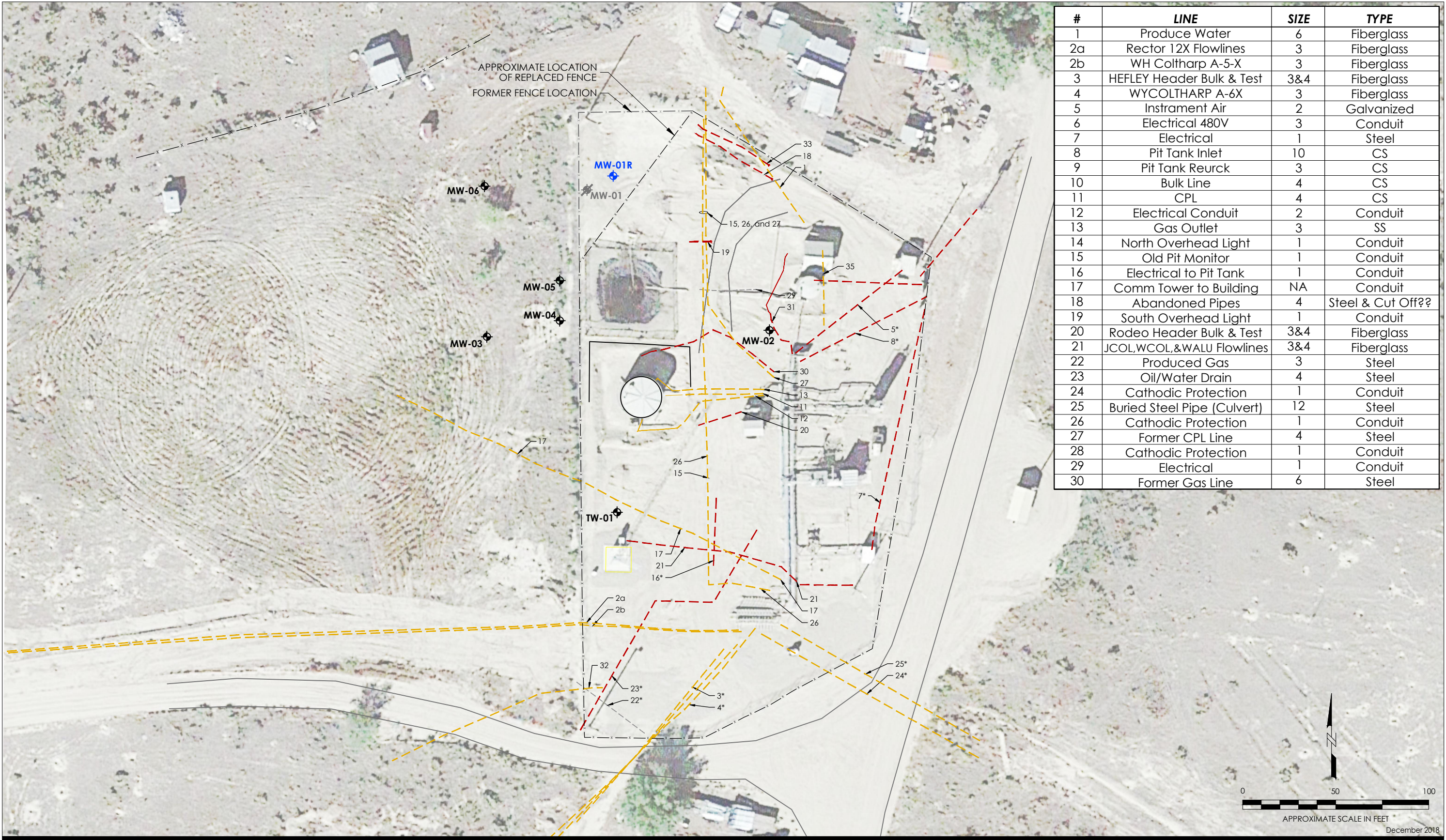
B: Compound was found in the blank and sample

H: Sample was prepped or analyzed beyond the specified holding time

NA: Not applicable

FIGURES

C:\USERS\CCLEE\DESKTOP\CHRISBEAL\RANGELY\DWG_182603866_CS47B DOC RPT_2019.DWG
1/22/2020 8:56 AM



#	LINE	SIZE	TYPE
1	Produce Water	6	Fiberglass
2a	Rector 12X Flowlines	3	Fiberglass
2b	WH Coltharp A-5-X	3	Fiberglass
3	HEFLEY Header Bulk & Test	3&4	Fiberglass
4	WYCOLTHARP A-6X	3	Fiberglass
5	Instrument Air	2	Galvanized
6	Electrical 480V	3	Conduit
7	Electrical	1	Steel
8	Pit Tank Inlet	10	CS
9	Pit Tank Reurck	3	CS
10	Bulk Line	4	CS
11	CPL	4	CS
12	Electrical Conduit	2	Conduit
13	Gas Outlet	3	SS
14	North Overhead Light	1	Conduit
15	Old Pit Monitor	1	Conduit
16	Electrical to Pit Tank	1	Conduit
17	Comm Tower to Building	NA	Conduit
18	Abandoned Pipes	4	Steel & Cut Off??
19	South Overhead Light	1	Conduit
20	Rodeo Header Bulk & Test	3&4	Fiberglass
21	JCOL,WCOL,&WALU Flowlines	3&4	Fiberglass
22	Produced Gas	3	Steel
23	Oil/Water Drain	4	Steel
24	Cathodic Protection	1	Conduit
25	Buried Steel Pipe (Culvert)	12	Steel
26	Cathodic Protection	1	Conduit
27	Former CPL Line	4	Steel
28	Cathodic Protection	1	Conduit
29	Electrical	1	Conduit
30	Former Gas Line	6	Steel



2000 South Colorado Blvd., Suite 2-300
Denver, CO 80222
www.stantec.com

Legend

- x — x — FENCE LINE
- - - - - CABLE, CATHODIC OR ELECTRICAL (BURIED OR ABOVE GROUND)
- - - - - GAS LINE (BURIED OR ABOVE GROUND)
- - - - - UNKNOWN STEEL PIPE (BURIED OR ABOVE GROUND)

- MW-01 ABANDONED MONITORING WELL
- MW-02 MONITORING WELL
- MW-01R MONITORING WELL (INSTALLED 2018)

Notes

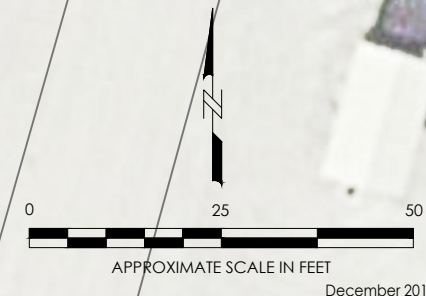
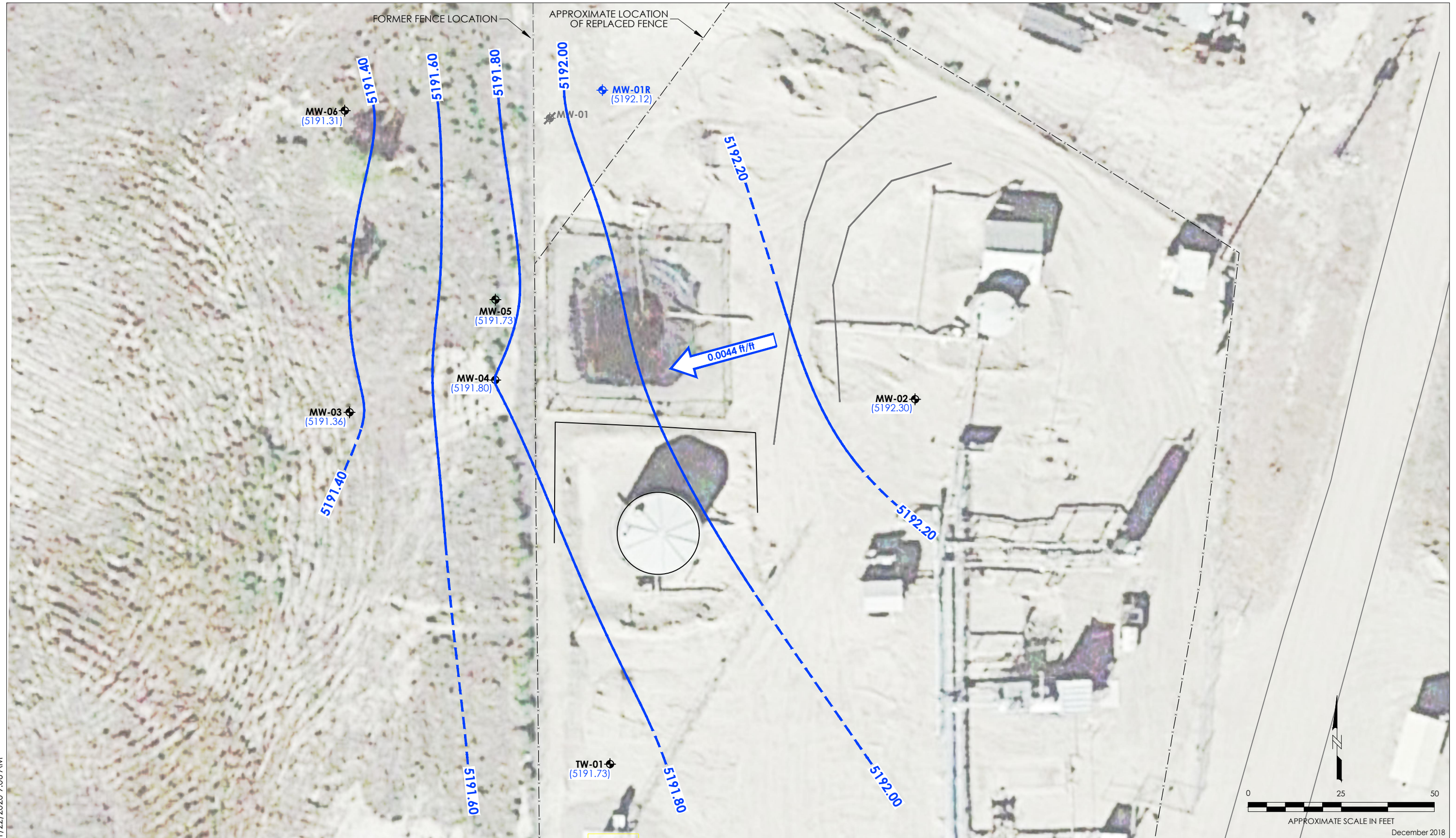
* UTILITIES FROM PREVIOUS CONSULTANT.
COULD NOT BE FIELD VERIFIED DURING MAY
2018 UTILITY LOCATE.

AERIAL IMAGERY DATED: OCTOBER 11, 2015.

Client/Project
Chevron EMC
Rangely CS-47B No. 10501

Figure No.
1
Title
SITE PLAN

C:\USERS\CCLEE\DESKTOP\CHRISBEAL\RANGELY\DWG_182603866_CS478 DOC RPT_2019.DWG
1/22/2020 9:06 AM



2000 South Colorado Blvd., Suite 2-300
Denver, CO 80222
www.stantec.com

Legend

- x — x — FENCE LINE
- MW-01 ABANDONED MONITORING WELL
- MW-02 MONITORING WELL
- MW-01R MONITORING WELL (INSTALLED 2018)

Groundwater Contours

- (5191.73) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- — — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL); DASHED WHERE INFERRED
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW. HYDRAULIC GRADIENT RANGES FROM 0.0044 FEET PER FOOT (ft/ft).

Notes

GROUNDWATER ELEVATION DATA WERE COLLECTED ON NOVEMBER 5, 2019.
AERIAL IMAGERY DATED: OCTOBER 11, 2015.

Client/Project

Chevron EMC
Rangely CS-478 No. 10501

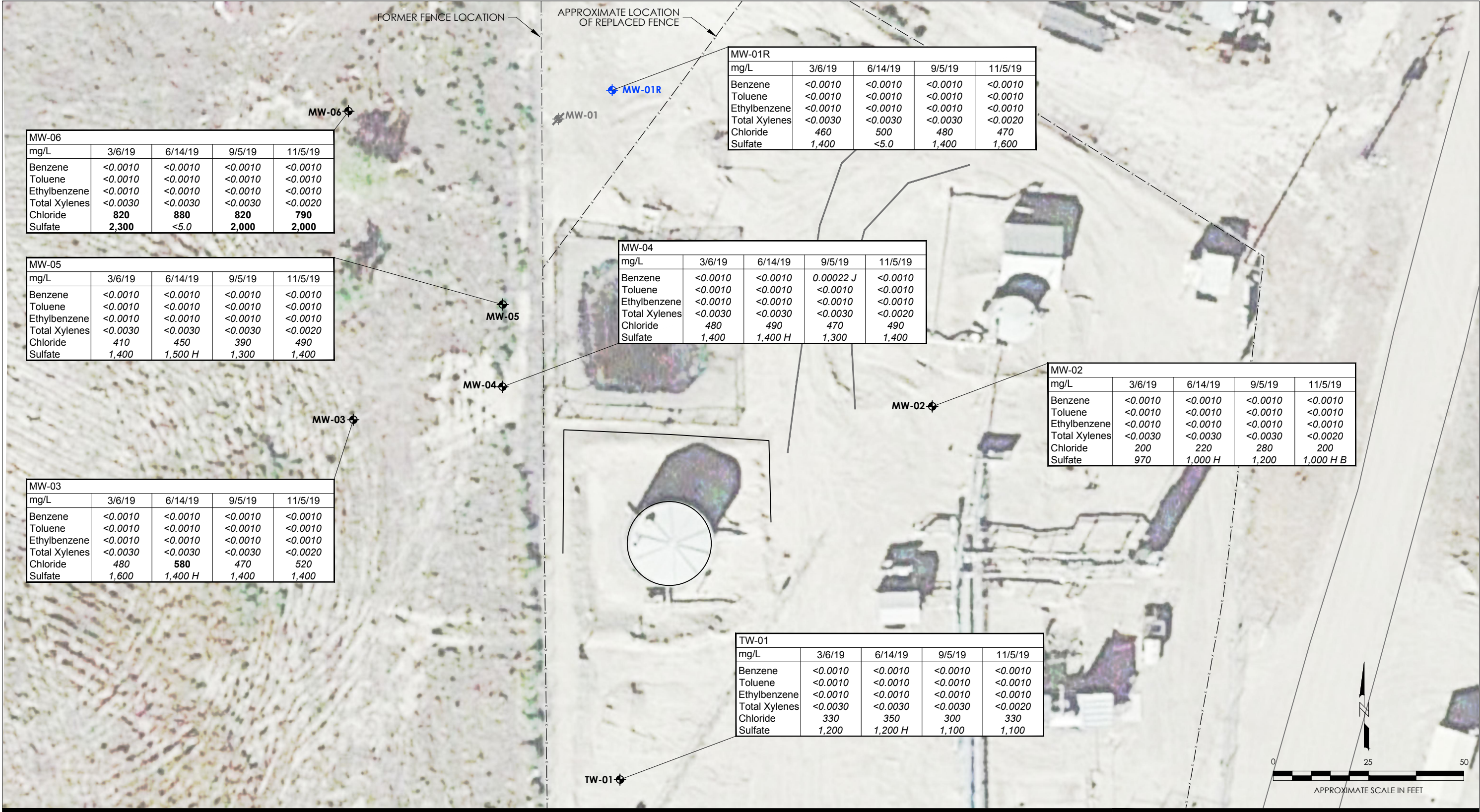
Figure No.

2

Title

POTENTIOMETRIC SURFACE -
FOURTH QUARTER 2019

C:\USERS\CCLEE\DESKTOP\CHRISREAL\RANGELY\DWG_182403866_CS47B DOC RPT_2019.DWG
1/22/2020 9:09 AM



2000 South Colorado Blvd., Suite 2-300
Denver, CO 80222
www.stantec.com

Legend

- x — x — FENCE LINE
- MW-01 ABANDONED MONITORING WELL
- MW-02 MONITORING WELL
- MW-01R MONITORING WELL (INSTALLED 2018)

Analyte

SAMPLE ID	
mg/L	SAMPLE DATE
Benzene	
Toluene	
Ethylbenzene	
Total Xylenes	
Chloride	
Sulfate	
mg/L	MILLIGRAMS PER LITER

- < = CONCENTRATIONS BELOW THE TEST METHOD DETECTION LIMIT (MDL) UNLESS OTHERWISE NOTED
- J = ANALYTE IS PRESENT AT AN ESTIMATED CONCENTRATION BETWEEN THE MDL AND REPORT LIMIT
- B = COMPOUND WAS FOUND IN THE BLANK AND SAMPLE
- H = SAMPLE WAS PREPPED OR ANALYZED BEYOND THE SPECIFIED HOLDING TIME
- BOLD** = CONCENTRATION ABOVE THE COLORADO OIL AND GAS CONSERVATION COMMISSION (COGCC) SERIES 900 CONCENTRATION LEVELS
- ITALICS* = CONCENTRATION BELOW THE COGCC SERIES 900 CONCENTRATION LEVELS

Note

AERIAL IMAGERY DATED:
OCTOBER 11, 2015.

Client/Project
Chevron EMC
Rangely CS-47B No. 10501

Figure No.
3

Title
2019 GROUNDWATER
ANALYTICAL DATA

APPENDICES

**Appendix A
Site Background**

SITE BACKGROUND

LOCATION

Rangely Collection Station 47 is located within an active oil and gas field that is bordered by the town of Rangely, Colorado to the south, the White River (the River) to the north and west, and Rangely's wastewater treatment ponds to the east. The River is approximately 600 feet to the north and the wastewater treatment ponds are approximately 650 feet to the east. Pit CS-47B was located on privately owned land leased by Chevron. It was within a relatively flat river valley at an elevation of approximately 5,200 feet above mean sea level (AMSL) with upland areas rising 400 to 500 feet above the valley to the north and south.

GEOLOGY AND HYDROGEOLOGY

The near surface geology of Pit CS-47B consisted primarily of sandy silts to approximately 11 to 13 feet below ground surface (ft bgs) and coarse to fine grain sands and gravels to 20 ft bgs.

Groundwater elevations fluctuate approximately 2 feet seasonally. In 2019, groundwater elevation ranged from 5,193.33 ft AMSL in well MW-02 during June 2019 to 5,190.92 ft AMSL in well MW-05 during September 2019 groundwater sampling events. Groundwater flow direction is toward the west-southwest.

SITE HISTORY

During decommissioning of Pit CS-47 in October 2016, soil impacts were noted below the liner based upon visual observation, odor, and photoionization detector (PID) measurements. From these observations, soil was excavated to approximately 10 ft bgs, which was just above the groundwater table. Confirmation soil samples collected from the north (CS47-NW), east (CS47-EW), and west (CS47-WW) sidewalls exhibited concentrations below Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 Concentration Levels. Confirmation soil samples collected from the south sidewall (CS47-SW) and excavation floor (CS47-ESB2) exhibited concentrations that exceeded the COGCC Table 910-1 Concentration Level for total petroleum hydrocarbons (TPH). Additionally, the concentration of benzo(a)anthracene and the laboratory reporting limit (LRL) for benzene exceeded the COGCC Table 910-1 Concentration Levels for both samples.

Subsequently, four hand auger borings (CS47-AH1 through CS47-AH4) were advanced south of Pit CS-47 in November 2016 to define the horizontal extent of TPH soil impacts. The soil samples collected from the borings defined the horizontal extent of TPH to below the COGCC Table 910-1 Concentration Level. In January 2017, approximately 1,085 cubic yards of impacted soil were excavated from the floor and south sidewall of Pit CS-47. A second confirmation sample collected from the south sidewall (also named CS47-SW) exhibited concentrations below COGCC Table 910-1 Concentration Levels for TPH and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Because the floor of the excavation was at the groundwater table, a groundwater sample (CS47-PW) was collected instead of a soil sample. Dissolved BTEX concentrations were below the COGCC Table 910-1 Concentration Levels in the groundwater sample; however, a sheen was observed on the groundwater surface. As a result,

groundwater was removed during excavation activities and disposed of at a Chevron treatment plant. All impacted soils were applied to Chevron's Rangely Landfarm (COGCC Facility ID 149001). With COGCC approval, the Pit CS-47 excavation was backfilled and graded to match the surrounding area.

With a sheen observed on the groundwater surface, the COGCC requested additional monitoring wells be installed to determine if petroleum hydrocarbon impacts were present in groundwater. In response to this request, monitoring wells MW-01 through MW-05 were installed downgradient and cross-gradient of former Pit CS-47. During installation, TPH concentrations in collected soil samples were below the COGCC Table 910-1 Concentration Level, with the exception of MW-01, where 2,651 milligrams per kilogram (mg/kg) TPH was observed at a depth of 8-13 ft bgs. Following installation, BTEX concentrations in groundwater samples from monitoring wells MW-01, MW-02, MW-03, MW-04, MW-05 and previously installed monitoring well TW-01 were below the COGCC Table 910-1 Concentration Levels.

On August 17, 2017, Stantec Consulting Services Inc. (Stantec) submitted the *Soil Characterization Report—Pit CS-47* to the COGCC detailing the investigation activities conducted on May 15, 2017, as well as conclusions and recommendations. The COGCC agreed that hydrocarbon impacts to soil at MW-01 were from a different source and likely attributed to a secondary collection pit (Pit CS-47B). The COGCC approved the closure request for Pit CS-47 (Remediation Project No. 9141) on December 18, 2017 and requested additional site characterization activities be conducted at Pit CS-47B under Remediation Project No. 10501 to further delineate hydrocarbon impacts to soil and groundwater.

On April 10, 2018, Stantec submitted the *Soil and Groundwater Characterization Report - Pit CS-47B NO. 10501* to the COGCC detailing the investigation activities conducted at Pit CS-47B between October 28 and November 8, 2017 and recommended remedial excavation as the preferred strategy to remediate soil and groundwater concentrations above COGCC Table 910-1 Concentration Levels. During September and October 2018, CS-47B was remediated by completion of a prescribed excavation; approximately 1,430 cubic yards of soil were transported and applied to Chevron's Rangely Landfarm (COGCC Facility ID 149001). Following removal of hydrocarbon-impacted soil, 10 tons of calcium nitrate were placed on the excavation floor and mixed into the gravel layer to enhance biodegradation of hydrocarbons. In November 2018, MW-01R was installed to replace MW-01.

Appendix B
2019 Groundwater Analytical Reports

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

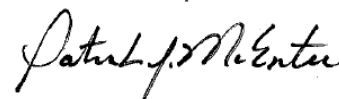
Laboratory Job ID: 280-125257-1

Client Project/Site: Chevron Rangely, CO CS-47

For:

Stantec Consulting Corp.
2000 South Colorado Blvd
Suite 2-300
Denver, Colorado 80222

Attn: Christopher Beall



Authorized for release by:

7/25/2019 5:42:27 AM

Patrick McEntee, Manager of Project Management
(303)736-0107

patrick.mcentee@testamericainc.com

Designee for

Jamie Ide, Project Manager I
(303)736-0126

jamie.ide@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	7
Sample Summary	8
Client Sample Results	9
Surrogate Summary	13
QC Sample Results	14
QC Association	19
Chronicle	21
Certification Summary	23
Chain of Custody	25
Receipt Checklists	28



Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Job ID: 280-125257-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Stantec Consulting Corp.

Project: Chevron Rangely, CO CS-47

Report Number: 280-125257-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 6/17/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9° C.

Receipt Exceptions

Limited volume was submitted for 8260B and 8015 GRO analysis for the following samples: MW-1R-061419 (280-125257-1), MW-2-061419 (280-125257-2), MW-3-061419 (280-125257-3), MW-4-061419 (280-125257-4), MW-5-061419 (280-125257-5), MW-6-061419 (280-125257-6), TW-1-061419 (280-125257-7) and DUP-1-061419 (280-125257-8). Only 3 x 40mL HCl preserved Voa Vials were submitted for each sample. It can be noted that sufficient volume is available for analysis; however, the laboratory will require more volume if reanalysis is requested.

The COC requests 8015 DRO; however, volume was not received. Per client instruction on 6/18/19, the samples were logged for BTEX and Anions analysis only.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-1R-061419 (280-125257-1), MW-2-061419 (280-125257-2), MW-3-061419 (280-125257-3), MW-4-061419 (280-125257-4), MW-5-061419 (280-125257-5), MW-6-061419 (280-125257-6), TW-1-061419 (280-125257-7), DUP-1-061419 (280-125257-8) and TRIP BLANK (280-125257-9) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/19/2019 and 06/20/2019.

The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-6-061419 (280-125257-6).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples MW-1R-061419 (280-125257-1), MW-2-061419 (280-125257-2), MW-3-061419 (280-125257-3), MW-4-061419 (280-125257-4), MW-5-061419 (280-125257-5), MW-6-061419 (280-125257-6), TW-1-061419 (280-125257-7) and DUP-1-061419 (280-125257-8) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 07/11/2019, 07/12/2019, 07/17/2019 and 07/18/2019.

The following samples were received within holding time for sulfate but due to analyst and operational oversight, the following samples

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Job ID: 280-125257-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

were analyzed outside of holding time: MW-2-061419 (280-125257-2), MW-3-061419 (280-125257-3), MW-4-061419 (280-125257-4), MW-5-061419 (280-125257-5), TW-1-061419 (280-125257-7) and DUP-1-061419 (280-125257-8).

Samples MW-1R-061419 (280-125257-1)[50X], MW-2-061419 (280-125257-2)[10X], MW-2-061419 (280-125257-2)[5X], MW-3-061419 (280-125257-3)[10X], MW-3-061419 (280-125257-3)[5X], MW-4-061419 (280-125257-4)[10X], MW-4-061419 (280-125257-4)[5X], MW-5-061419 (280-125257-5)[10X], MW-5-061419 (280-125257-5)[5X], MW-6-061419 (280-125257-6)[20X], TW-1-061419 (280-125257-7)[10X], TW-1-061419 (280-125257-7)[5X], DUP-1-061419 (280-125257-8)[10X] and DUP-1-061419 (280-125257-8)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Client Sample ID: MW-1R-061419

Lab Sample ID: 280-125257-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	500		150	51	mg/L	50		9056A	Total/NA

Client Sample ID: MW-2-061419

Lab Sample ID: 280-125257-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	220		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1000	H	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-3-061419

Lab Sample ID: 280-125257-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	580		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1400	H	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-4-061419

Lab Sample ID: 280-125257-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	490		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1400	H	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-5-061419

Lab Sample ID: 280-125257-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1500	H	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-6-061419

Lab Sample ID: 280-125257-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	880		60	20	mg/L	20		9056A	Total/NA

Client Sample ID: TW-1-061419

Lab Sample ID: 280-125257-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	350		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1200	H	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: DUP-1-061419

Lab Sample ID: 280-125257-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	220		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1000	H	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-125257-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
9056A	Anions, Ion Chromatography	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-125257-1	MW-1R-061419	Water	06/14/19 08:30	06/17/19 09:00	
280-125257-2	MW-2-061419	Water	06/14/19 09:10	06/17/19 09:00	
280-125257-3	MW-3-061419	Water	06/14/19 09:50	06/17/19 09:00	
280-125257-4	MW-4-061419	Water	06/14/19 10:30	06/17/19 09:00	
280-125257-5	MW-5-061419	Water	06/14/19 11:30	06/17/19 09:00	
280-125257-6	MW-6-061419	Water	06/14/19 12:30	06/17/19 09:00	
280-125257-7	TW-1-061419	Water	06/14/19 13:30	06/17/19 09:00	
280-125257-8	DUP-1-061419	Water	06/14/19 09:15	06/17/19 09:00	
280-125257-9	TRIP BLANK	Water	06/14/19 08:30	06/17/19 09:00	

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-1R-061419

Date Collected: 06/14/19 08:30

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/19/19 19:11	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/19/19 19:11	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/19/19 19:11	1
o-Xylene	ND		1.0	0.20	ug/L			06/19/19 19:11	1
Toluene	ND		1.0	0.17	ug/L			06/19/19 19:11	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/19/19 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130		06/19/19 19:11	1
4-Bromofluorobenzene (Surr)	103		70 - 130		06/19/19 19:11	1
Dibromofluoromethane (Surr)	106		70 - 130		06/19/19 19:11	1
Toluene-d8 (Surr)	103		70 - 130		06/19/19 19:11	1

Client Sample ID: MW-2-061419

Date Collected: 06/14/19 09:10

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 16:20	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 16:20	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 16:20	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 16:20	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 16:20	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 130		06/20/19 16:20	1
4-Bromofluorobenzene (Surr)	92		70 - 130		06/20/19 16:20	1
Dibromofluoromethane (Surr)	96		70 - 130		06/20/19 16:20	1
Toluene-d8 (Surr)	103		70 - 130		06/20/19 16:20	1

Client Sample ID: MW-3-061419

Date Collected: 06/14/19 09:50

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 16:03	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 16:03	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 16:03	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 16:03	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 16:03	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 16:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130		06/20/19 16:03	1
4-Bromofluorobenzene (Surr)	104		70 - 130		06/20/19 16:03	1
Dibromofluoromethane (Surr)	107		70 - 130		06/20/19 16:03	1
Toluene-d8 (Surr)	102		70 - 130		06/20/19 16:03	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-4-061419

Date Collected: 06/14/19 10:30

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 16:29	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 16:29	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 16:29	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 16:29	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 16:29	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130		06/20/19 16:29	1
4-Bromofluorobenzene (Surr)	107		70 - 130		06/20/19 16:29	1
Dibromofluoromethane (Surr)	113		70 - 130		06/20/19 16:29	1
Toluene-d8 (Surr)	99		70 - 130		06/20/19 16:29	1

Client Sample ID: MW-5-061419

Date Collected: 06/14/19 11:30

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 16:56	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 16:56	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 16:56	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 16:56	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 16:56	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		06/20/19 16:56	1
4-Bromofluorobenzene (Surr)	100		70 - 130		06/20/19 16:56	1
Dibromofluoromethane (Surr)	110		70 - 130		06/20/19 16:56	1
Toluene-d8 (Surr)	100		70 - 130		06/20/19 16:56	1

Client Sample ID: MW-6-061419

Date Collected: 06/14/19 12:30

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 17:22	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 17:22	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 17:22	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 17:22	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 17:22	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130		06/20/19 17:22	1
4-Bromofluorobenzene (Surr)	101		70 - 130		06/20/19 17:22	1
Dibromofluoromethane (Surr)	112		70 - 130		06/20/19 17:22	1
Toluene-d8 (Surr)	100		70 - 130		06/20/19 17:22	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: TW-1-061419

Date Collected: 06/14/19 13:30

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 17:48	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 17:48	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 17:48	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 17:48	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 17:48	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		06/20/19 17:48	1
4-Bromofluorobenzene (Surr)	105		70 - 130		06/20/19 17:48	1
Dibromofluoromethane (Surr)	111		70 - 130		06/20/19 17:48	1
Toluene-d8 (Surr)	101		70 - 130		06/20/19 17:48	1

Client Sample ID: DUP-1-061419

Date Collected: 06/14/19 09:15

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/20/19 18:14	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 18:14	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 18:14	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 18:14	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 18:14	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		06/20/19 18:14	1
4-Bromofluorobenzene (Surr)	100		70 - 130		06/20/19 18:14	1
Dibromofluoromethane (Surr)	110		70 - 130		06/20/19 18:14	1
Toluene-d8 (Surr)	99		70 - 130		06/20/19 18:14	1

Client Sample ID: TRIP BLANK

Date Collected: 06/14/19 08:30

Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/19/19 18:18	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/19/19 18:18	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/19/19 18:18	1
o-Xylene	ND		1.0	0.20	ug/L			06/19/19 18:18	1
Toluene	ND		1.0	0.17	ug/L			06/19/19 18:18	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/19/19 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		06/19/19 18:18	1
4-Bromofluorobenzene (Surr)	106		70 - 130		06/19/19 18:18	1
Dibromofluoromethane (Surr)	107		70 - 130		06/19/19 18:18	1
Toluene-d8 (Surr)	103		70 - 130		06/19/19 18:18	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

General Chemistry

Client Sample ID: MW-1R-061419
Date Collected: 06/14/19 08:30
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	500		150	51	mg/L			07/11/19 21:12	50
Sulfate	ND		5.0	1.0	mg/L			07/11/19 20:54	1

Client Sample ID: MW-2-061419
Date Collected: 06/14/19 09:10
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	220		15	5.1	mg/L			07/11/19 21:31	5
Sulfate	1000	H	50	10	mg/L			07/17/19 23:39	10

Client Sample ID: MW-3-061419
Date Collected: 06/14/19 09:50
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580		15	5.1	mg/L			07/11/19 21:50	5
Sulfate	1400	H	50	10	mg/L			07/18/19 00:54	10

Client Sample ID: MW-4-061419
Date Collected: 06/14/19 10:30
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490		15	5.1	mg/L			07/11/19 22:46	5
Sulfate	1400	H	50	10	mg/L			07/18/19 01:12	10

Client Sample ID: MW-5-061419
Date Collected: 06/14/19 11:30
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450		15	5.1	mg/L			07/11/19 23:05	5
Sulfate	1500	H	50	10	mg/L			07/18/19 01:31	10

Client Sample ID: MW-6-061419
Date Collected: 06/14/19 12:30
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	880		60	20	mg/L			07/11/19 23:42	20
Sulfate	ND		5.0	1.0	mg/L			07/11/19 23:23	1

Client Sample ID: TW-1-061419
Date Collected: 06/14/19 13:30
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	350		15	5.1	mg/L			07/12/19 00:01	5
Sulfate	1200	H	50	10	mg/L			07/18/19 01:50	10

Client Sample ID: DUP-1-061419
Date Collected: 06/14/19 09:15
Date Received: 06/17/19 09:00

Lab Sample ID: 280-125257-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	220		15	5.1	mg/L			07/12/19 00:19	5
Sulfate	1000	H	50	10	mg/L			07/18/19 02:08	10

Eurofins TestAmerica, Denver

Surrogate Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (70-130)	DBFM (70-130)	TOL (70-130)
280-125257-1	MW-1R-061419	111	103	106	103
280-125257-2	MW-2-061419	84	92	96	103
280-125257-3	MW-3-061419	111	104	107	102
280-125257-4	MW-4-061419	113	107	113	99
280-125257-5	MW-5-061419	108	100	110	100
280-125257-6	MW-6-061419	115	101	112	100
280-125257-7	TW-1-061419	112	105	111	101
280-125257-8	DUP-1-061419	107	100	110	99
280-125257-9	TRIP BLANK	112	106	107	103
LCS 490-602326/3	Lab Control Sample	96	106	102	103
LCS 490-602611/3	Lab Control Sample	82	95	97	104
LCS 490-602617/3	Lab Control Sample	95	102	106	101
LCSD 490-602326/4	Lab Control Sample Dup	95	105	104	105
LCSD 490-602611/4	Lab Control Sample Dup	81	96	100	103
LCSD 490-602617/4	Lab Control Sample Dup	94	104	104	102
MB 490-602326/7	Method Blank	111	107	107	102
MB 490-602611/7	Method Blank	79	95	97	105
MB 490-602617/7	Method Blank	108	104	108	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-602326/7

Matrix: Water

Analysis Batch: 602326

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			06/19/19 17:22	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/19/19 17:22	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/19/19 17:22	1
o-Xylene	ND		1.0	0.20	ug/L			06/19/19 17:22	1
Toluene	ND		1.0	0.17	ug/L			06/19/19 17:22	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/19/19 17:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130		06/19/19 17:22	1
4-Bromofluorobenzene (Surr)	107		70 - 130		06/19/19 17:22	1
Dibromofluoromethane (Surr)	107		70 - 130		06/19/19 17:22	1
Toluene-d8 (Surr)	102		70 - 130		06/19/19 17:22	1

Lab Sample ID: LCS 490-602326/3

Matrix: Water

Analysis Batch: 602326

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	52.9		ug/L		106	70 - 130
Ethylbenzene	50.0	54.1		ug/L		108	70 - 130
m,p-Xylene	100	102		ug/L		102	70 - 130
o-Xylene	50.0	51.8		ug/L		104	70 - 130
Toluene	50.0	54.2		ug/L		108	70 - 130
Xylenes, Total	150	154		ug/L		103	70 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	106		70 - 130
Dibromofluoromethane (Surr)	102		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 490-602326/4

Matrix: Water

Analysis Batch: 602326

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	53.6		ug/L		107	70 - 130	1	12
Ethylbenzene	50.0	54.7		ug/L		109	70 - 130	1	12
m,p-Xylene	100	103		ug/L		103	70 - 130	1	12
o-Xylene	50.0	52.3		ug/L		105	70 - 130	1	11
Toluene	50.0	55.0		ug/L		110	70 - 130	1	13
Xylenes, Total	150	155		ug/L		104	70 - 132	1	11

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-602326/4

Matrix: Water

Analysis Batch: 602326

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	105		70 - 130

Lab Sample ID: MB 490-602611/7

Matrix: Water

Analysis Batch: 602611

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Result	Qualifier								
Benzene	ND		1.0	0.20	ug/L			06/20/19 13:36	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 13:36	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 13:36	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 13:36	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 13:36	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 13:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier					
1,2-Dichloroethane-d4 (Surr)	79		70 - 130		06/20/19 13:36	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/20/19 13:36	1
Dibromofluoromethane (Surr)	97		70 - 130		06/20/19 13:36	1
Toluene-d8 (Surr)	105		70 - 130		06/20/19 13:36	1

Lab Sample ID: LCS 490-602611/3

Matrix: Water

Analysis Batch: 602611

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
Added	Result	Qualifier					Limits
Benzene	20.0	19.5		ug/L		98	70 - 130
Ethylbenzene	20.0	18.4		ug/L		92	70 - 130
m,p-Xylene	20.0	18.3		ug/L		91	70 - 130
o-Xylene	20.0	18.3		ug/L		91	70 - 130
Toluene	20.0	19.8		ug/L		99	70 - 130
Xylenes, Total	40.0	36.6		ug/L		92	70 - 132

Surrogate	LCS	LCS	Limits
%Recovery	Qualifier		
1,2-Dichloroethane-d4 (Surr)	82		70 - 130
4-Bromofluorobenzene (Surr)	95		70 - 130
Dibromofluoromethane (Surr)	97		70 - 130
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: LCSD 490-602611/4

Matrix: Water

Analysis Batch: 602611

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
Added	Result	Qualifier					Limits	RPD	Limit
Benzene	20.0	18.9		ug/L		95	70 - 130	3	12
Ethylbenzene	20.0	18.5		ug/L		92	70 - 130	1	12
m,p-Xylene	20.0	18.7		ug/L		94	70 - 130	3	12
o-Xylene	20.0	18.3		ug/L		91	70 - 130	0	11
Toluene	20.0	19.2		ug/L		96	70 - 130	3	13

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-602611/4

Matrix: Water

Analysis Batch: 602611

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	40.0	37.0		ug/L		93	70 - 132	1	11
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	81		70 - 130						
4-Bromofluorobenzene (Surr)	96		70 - 130						
Dibromofluoromethane (Surr)	100		70 - 130						
Toluene-d8 (Surr)	103		70 - 130						

Lab Sample ID: MB 490-602617/7

Matrix: Water

Analysis Batch: 602617

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		1.0	0.20	ug/L			06/20/19 13:25	1
Ethylbenzene	ND		1.0	0.19	ug/L			06/20/19 13:25	1
m,p-Xylene	ND		2.0	0.38	ug/L			06/20/19 13:25	1
o-Xylene	ND		1.0	0.20	ug/L			06/20/19 13:25	1
Toluene	ND		1.0	0.17	ug/L			06/20/19 13:25	1
Xylenes, Total	ND		3.0	0.58	ug/L			06/20/19 13:25	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
1,2-Dichloroethane-d4 (Surr)	108		70 - 130					06/20/19 13:25	1
4-Bromofluorobenzene (Surr)	104		70 - 130					06/20/19 13:25	1
Dibromofluoromethane (Surr)	108		70 - 130					06/20/19 13:25	1
Toluene-d8 (Surr)	100		70 - 130					06/20/19 13:25	1

Lab Sample ID: LCS 490-602617/3

Matrix: Water

Analysis Batch: 602617

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte									
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene			50.0	52.7		ug/L		105	70 - 130
Ethylbenzene			50.0	53.2		ug/L		106	70 - 130
m,p-Xylene			100	101		ug/L		101	70 - 130
o-Xylene			50.0	51.4		ug/L		103	70 - 130
Toluene			50.0	53.3		ug/L		107	70 - 130
Xylenes, Total			150	152		ug/L		102	70 - 132
		LCS	LCS						
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	95		70 - 130						
4-Bromofluorobenzene (Surr)	102		70 - 130						
Dibromofluoromethane (Surr)	106		70 - 130						
Toluene-d8 (Surr)	101		70 - 130						

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-602617/4

Matrix: Water

Analysis Batch: 602617

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	53.2		ug/L		106	70 - 130	1	12
Ethylbenzene	50.0	54.4		ug/L		109	70 - 130	2	12
m,p-Xylene	100	104		ug/L		104	70 - 130	2	12
o-Xylene	50.0	52.1		ug/L		104	70 - 130	1	11
Toluene	50.0	54.6		ug/L		109	70 - 130	2	13
Xylenes, Total	150	156		ug/L		104	70 - 132	2	11

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-464278/6

Matrix: Water

Analysis Batch: 464278

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			07/11/19 14:58	1
Sulfate	ND		5.0	1.0	mg/L			07/11/19 14:58	1

Lab Sample ID: LCS 280-464278/4

Matrix: Water

Analysis Batch: 464278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	106		mg/L		106	90 - 110
Sulfate	100	103		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-464278/5

Matrix: Water

Analysis Batch: 464278

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	106		mg/L		106	90 - 110	0	10
Sulfate	100	103		mg/L		103	90 - 110	0	10

Lab Sample ID: MRL 280-464278/3

Matrix: Water

Analysis Batch: 464278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.50	2.64	J	mg/L		106	50 - 150
Sulfate	2.50	2.59	J	mg/L		104	50 - 150

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-464813/6

Matrix: Water

Analysis Batch: 464813

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			07/17/19 19:17	1

Lab Sample ID: LCS 280-464813/4

Matrix: Water

Analysis Batch: 464813

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	103		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-464813/5

Matrix: Water

Analysis Batch: 464813

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	100	103		mg/L		103	90 - 110	0	10

Lab Sample ID: MRL 280-464813/3

Matrix: Water

Analysis Batch: 464813

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.50	2.27	J	mg/L		91	50 - 150

Lab Sample ID: 280-125257-2 MS

Matrix: Water

Analysis Batch: 464813

Client Sample ID: MW-2-061419

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1000	H	250	1280	4	mg/L		97	80 - 120

Lab Sample ID: 280-125257-2 MSD

Matrix: Water

Analysis Batch: 464813

Client Sample ID: MW-2-061419

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	1000	H	250	1260	4	mg/L		92	80 - 120	1	20

Lab Sample ID: 280-125257-2 DU

Matrix: Water

Analysis Batch: 464813

Client Sample ID: MW-2-061419

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Sulfate	1000	H	1020		mg/L		2	15

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

GC/MS VOA

Analysis Batch: 602326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-125257-1	MW-1R-061419	Total/NA	Water	8260B	
280-125257-9	TRIP BLANK	Total/NA	Water	8260B	
MB 490-602326/7	Method Blank	Total/NA	Water	8260B	
LCS 490-602326/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-602326/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 602611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-125257-2	MW-2-061419	Total/NA	Water	8260B	
MB 490-602611/7	Method Blank	Total/NA	Water	8260B	
LCS 490-602611/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-602611/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 602617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-125257-3	MW-3-061419	Total/NA	Water	8260B	
280-125257-4	MW-4-061419	Total/NA	Water	8260B	
280-125257-5	MW-5-061419	Total/NA	Water	8260B	
280-125257-6	MW-6-061419	Total/NA	Water	8260B	
280-125257-7	TW-1-061419	Total/NA	Water	8260B	
280-125257-8	DUP-1-061419	Total/NA	Water	8260B	
MB 490-602617/7	Method Blank	Total/NA	Water	8260B	
LCS 490-602617/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-602617/4	Lab Control Sample Dup	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 464278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-125257-1	MW-1R-061419	Total/NA	Water	9056A	
280-125257-1	MW-1R-061419	Total/NA	Water	9056A	
280-125257-2	MW-2-061419	Total/NA	Water	9056A	
280-125257-3	MW-3-061419	Total/NA	Water	9056A	
280-125257-4	MW-4-061419	Total/NA	Water	9056A	
280-125257-5	MW-5-061419	Total/NA	Water	9056A	
280-125257-6	MW-6-061419	Total/NA	Water	9056A	
280-125257-6	MW-6-061419	Total/NA	Water	9056A	
280-125257-7	TW-1-061419	Total/NA	Water	9056A	
280-125257-8	DUP-1-061419	Total/NA	Water	9056A	
MB 280-464278/6	Method Blank	Total/NA	Water	9056A	
LCS 280-464278/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-464278/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-464278/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 464813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-125257-2	MW-2-061419	Total/NA	Water	9056A	
280-125257-3	MW-3-061419	Total/NA	Water	9056A	
280-125257-4	MW-4-061419	Total/NA	Water	9056A	
280-125257-5	MW-5-061419	Total/NA	Water	9056A	
280-125257-7	TW-1-061419	Total/NA	Water	9056A	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

General Chemistry (Continued)

Analysis Batch: 464813 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-125257-8	DUP-1-061419	Total/NA	Water	9056A	
MB 280-464813/6	Method Blank	Total/NA	Water	9056A	
LCS 280-464813/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-464813/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-464813/3	Lab Control Sample	Total/NA	Water	9056A	
280-125257-2 MS	MW-2-061419	Total/NA	Water	9056A	
280-125257-2 MSD	MW-2-061419	Total/NA	Water	9056A	
280-125257-2 DU	MW-2-061419	Total/NA	Water	9056A	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Client Sample ID: MW-1R-061419

Lab Sample ID: 280-125257-1

Date Collected: 06/14/19 08:30

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602326	06/19/19 19:11	P1B	TAL NSH
Total/NA	Analysis	9056A		1	5 mL	5 mL	464278	07/11/19 20:54	JAP	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	464278	07/11/19 21:12	JAP	TAL DEN

Client Sample ID: MW-2-061419

Lab Sample ID: 280-125257-2

Date Collected: 06/14/19 09:10

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602611	06/20/19 16:20	P1B	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	464278	07/11/19 21:31	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	464813	07/17/19 23:39	TLP	TAL DEN

Client Sample ID: MW-3-061419

Lab Sample ID: 280-125257-3

Date Collected: 06/14/19 09:50

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602617	06/20/19 16:03	AK1	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	464278	07/11/19 21:50	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	464813	07/18/19 00:54	TLP	TAL DEN

Client Sample ID: MW-4-061419

Lab Sample ID: 280-125257-4

Date Collected: 06/14/19 10:30

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602617	06/20/19 16:29	AK1	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	464278	07/11/19 22:46	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	464813	07/18/19 01:12	TLP	TAL DEN

Client Sample ID: MW-5-061419

Lab Sample ID: 280-125257-5

Date Collected: 06/14/19 11:30

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602617	06/20/19 16:56	AK1	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	464278	07/11/19 23:05	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	464813	07/18/19 01:31	TLP	TAL DEN

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Client Sample ID: MW-6-061419

Lab Sample ID: 280-125257-6

Date Collected: 06/14/19 12:30

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602617	06/20/19 17:22	AK1	TAL NSH
Total/NA	Analysis	9056A		1	5 mL	5 mL	464278	07/11/19 23:23	JAP	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	464278	07/11/19 23:42	JAP	TAL DEN

Client Sample ID: TW-1-061419

Lab Sample ID: 280-125257-7

Date Collected: 06/14/19 13:30

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602617	06/20/19 17:48	AK1	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	464278	07/12/19 00:01	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	464813	07/18/19 01:50	TLP	TAL DEN

Client Sample ID: DUP-1-061419

Lab Sample ID: 280-125257-8

Date Collected: 06/14/19 09:15

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602617	06/20/19 18:14	AK1	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	464278	07/12/19 00:19	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	464813	07/18/19 02:08	TLP	TAL DEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-125257-9

Date Collected: 06/14/19 08:30

Matrix: Water

Date Received: 06/17/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	602326	06/19/19 18:18	P1B	TAL NSH

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP		2907.01	10-31-19
A2LA	DoD		2907.01	10-31-19
A2LA	ISO/IEC 17025		2907.01	10-31-19
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	01-08-20
Arizona	State Program	9	AZ0713	12-20-19
Arkansas DEQ	State Program	6	88-0687	06-01-20
California	State		2513	01-08-20
California	State Program	9	2513	01-08-20
Connecticut	State Program	1	PH-0686	09-30-20
Florida	NELAP	4	E87667	06-30-20
Georgia	State Program	4	N/A	01-08-20
Illinois	NELAP	5	200017	04-30-20
Iowa	State Program	7	370	12-01-20
Kansas	NELAP	7	E-10166	04-30-20
Louisiana	NELAP	6	02096	06-30-20
Maine	State Program	1	CO0002	03-03-21
Minnesota	NELAP	5	8-999-405	12-31-19
Nevada	State Program	9	CO0026	07-31-19
New Hampshire	NELAP	1	205310	04-28-20
New Jersey	NELAP	2	CO004	06-30-20
New York	NELAP	2	11964	04-01-20
North Carolina (WW/SW)	State Program	4	358	12-31-19
North Dakota	State Program	8	R-034	01-08-20
Oklahoma	State		2018-006	08-31-19
Oregon	NELAP	10	4025	01-08-20
Oregon	NELAP		4025-011	01-08-20
Pennsylvania	NELAP	3	68-00664	07-31-19
Pennsylvania	NELAP		013	07-31-19
South Carolina	State Program	4	72002001	01-08-20
Texas	NELAP	6	T104704183-18-15	09-30-19
Texas	NELAP		T104704183-18-15	09-30-19
US Fish & Wildlife	Federal			07-31-20
USDA	Federal			03-26-21
Utah	NELAP	8	CO00026	07-31-19
Virginia	NELAP	3	460232	06-14-20
Washington	State Program	10	C583	08-03-19
West Virginia DEP	State Program	3	354	11-30-19
Wisconsin	State Program	5	999615430	08-31-19 *
Wyoming (UST)	A2LA	8	2907.01	10-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-125257-1

Laboratory: Eurofins TestAmerica, Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	09-30-19
Arizona	State Program	9	AZ0473	05-05-20
Arkansas DEQ	State Program	6	88-0737	04-25-20
California	State Program	9	2938	06-30-20
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-20
Georgia	State Program	4	E87358(FL)/453.07(A2L A)	06-30-20
Illinois	NELAP	5	200010	12-09-19
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-19
Kentucky (UST)	State Program	4	19	06-30-20
Kentucky (WW)	State Program	4	90038	12-31-19
Louisiana	NELAP	6	30613	06-30-20
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-20
Massachusetts	State Program	1	M-TN032	06-30-20
Minnesota	NELAP	5	047-999-345	12-31-19
Mississippi	State Program	4	N/A	06-30-19 *
Nevada	State Program	9	TN00032	07-31-19 *
New Hampshire	NELAP	1	2963	10-09-19
New Jersey	NELAP	2	TN965	06-30-20
New York	NELAP	2	11342	03-31-20
North Carolina (WW/SW)	State Program	4	387	12-31-19
North Dakota	State Program	8	R-146	06-30-19 *
Oklahoma	State Program	6	9412	08-31-19 *
Oregon	NELAP	10	TN200001	04-26-20
Pennsylvania	NELAP	3	68-00585	07-31-19 *
Rhode Island	State Program	1	LAO00268	12-30-19
South Carolina	State Program	4	84009 (001)	02-28-19 *
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	04-10-20
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-20
Washington	State Program	10	C789	07-19-19 *
West Virginia DEP	State Program	3	219	02-28-20
Wisconsin	State Program	5	998020430	08-31-19 *
Wyoming (UST)	A2LA	8	453.07	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Chain of Custody Record

Client Information		Sampler: B. Collins		Lab PM: Turner, Shelby		Carrier Tracking No(s):		COC No:	
Client Contact: Chris Beall		Phone: 720 233-1409		E-Mail: shelby.turner@testamerica.com				Page: 1 of 1	
Company: Stantec Consulting Corp.								Job #:	
Address: 2000 South Colorado Blvd Suite 2-300									
City: Denver									
State, Zip: CO, 80222									
Phone: 970 214-1126									
Email: christopher.beall@stantec.com									
Project Name: Rangely, CO									
Site: 28016570									
SSOW#:									
Due Date Requested:									
TAT Requested (days):									
PO #: 182603884									
WO #:									
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=on-site, BT=Tissue, AA=As)	
MW-1R-061419		6/14/19		830		G		W	
MW-2-061419		910		950		G		W	
MW-3-061419		630		1130		G		W	
MW-4-061419		1230		1330		G		W	
MW-5-061419		915		830		G		W	
TW-1-061419		6/14/19		830		G		W	
DUP-1-061419		6/14/19		830		G		W	
Trip Blank									
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		6260B - BTEX		80150 - GRO		80150 - DRO	
300.0 - Chlorides/Sulfates		N		N		N		N	
Total Number of Containers		4							
Special Instructions/Note:									
Preservation Codes:									
A - HCL		M - Hexane		N - None		O - AsNaO2		P - Na2O4S	
B - NaOH		C - Zn Acetate		D - Nitric Acid		E - NaHSO4		F - MeOH	
G - Amchlor		H - Ascorbic Acid		I - Ice		J - DI Water		K - EDTA	
L - EDA		Other:							
T - TSP Decahydrate		U - Acetone		V - MCAA		W - pH 4-5		Z - other (specify)	
Analysis Requested									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client		Disposal By Lab		Archive For		Months	
Special Instructions/QC Requirements:									
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: Jay Merrill		Date/Time: 06/17/19 0900		Company: Stantec		Received by: Shelby Turner		Date/Time: 6/17/19 0900	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:							
Cooler Temperature(s) °C and Other Remarks: 4.9, 10.1, 12.9, 14.9, 16.9, 18.9, 20.9, 22.9, 24.9, 26.9, 28.9, 30.9, 32.9, 34.9, 36.9, 38.9, 40.9, 42.9, 44.9, 46.9, 48.9, 50.9, 52.9, 54.9, 56.9, 58.9, 60.9, 62.9, 64.9, 66.9, 68.9, 70.9, 72.9, 74.9, 76.9, 78.9, 80.9, 82.9, 84.9, 86.9, 88.9, 90.9, 92.9, 94.9, 96.9, 98.9, 100.9									

COOLER RECEIPT FORM



280-125257 Chain of Custody

Cooler Received/Opened On 6/19/2019@ 930

Time Samples Removed From Cooler _____ Time Samples Placed In Storage _____ (2 Hour Window)

1. Tracking # 5227 (last 4 digits, FedEx) Courier: FedEx
IR Gun ID_17610176 _____ pH Strip Lot _____ Chlorine Strip Lot _____

2. Temperature of rep. sample or temp blank when opened: 5.4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA
If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA
Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



Larger than this.

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial) EA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EA

I certify that I attached a label with the unique LIMS number to each container (initial) EA

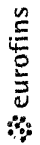
21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

Loc: 280

125257



Environment Testing
TestAmerica

Client Information (Sub Contract Lab)

Client Contact:	Lab Pmt:	Lab Pmt:
Shipping/Receiving	Ida, Jamie N	Ida, Jamie N
Company:	E-Mail:	E-Mail:
TestAmerica Laboratories, Inc	jamie.ida@testamerica.com	jamie.ida@testamerica.com
Address:	State of Origin:	State of Origin:
2960 Foster Creighton Drive,	Colorado	Colorado
City:	Accreditations Required (See note):	Accreditations Required (See note):
Nashville		
State, Zip:		
TN, 37204		
Phone:		
615-726-0177(Tel) 615-726-3404(Fax)		
Email:		
Project Name:		
Chevron Rangely, CO CS-47		
Site:		
SSOW#:		

Due Date Requested: 6/27/2019

TAT Requested (days):

PO #:

WFO #:

Project #:

SSOW#:

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix (W=water, S=solid, O=oil, BT=Butter, AA=AA)

Preservation Code:

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

8015D_GRO/5030C GRO, C6-C10

8260B/5030B BTEX

Analysis Requested

Preservation Codes:

A - HCL

B - NaOH

C - Zn Acetate

D - Nitric Acid

E - NaHSO4

F - MeOH

G - H2SO4

H - Ascorbic Acid

I - Ige

J - DI Water

K - EDTA

L - EDA

Other:

M - Hexane

N - None

O - AsNaO2

P - Na2O4S

Q - Na2SO3

R - Na2SO3

S - H2SO4

T - TSP Dodecahydrate

U - Acetone

V - MCAA

W - pH 4-5

Z - other (specify)

Special Instructions/Note:

Total Number of Containers

3

3

3

3

3

3

3

4

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Primary Deliverable Rank: 2

Empty Kit Relinquished by:

Date:

Relinquished by:

Date/Time:

Relinquished by:

Date/Time:

Relinquished by:

Date/Time:

Custody Seal No.:

Δ Yes Δ No

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 280-125257-1

Login Number: 125257

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Zimmerman, Steven M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	Limited volume - refer to job narrative.
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-120918-1

Client Project/Site: Chevron Rangely, CO CS-47

For:

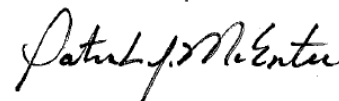
Stantec Consulting Corp.

2000 South Colorado Blvd

Suite 2-300

Denver, Colorado 80222

Attn: Christopher Beall



Authorized for release by:

3/14/2019 6:17:23 PM

Patrick McEntee, Manager of Project Management

(303)736-0107

patrick.mcentee@testamericainc.com

Designee for

Jamie Ide, Project Manager I

(303)736-0126

jamie.ide@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	5
Method Summary	6
Sample Summary	7
Client Sample Results	8
Surrogate Summary	12
QC Sample Results	13
QC Association	16
Chronicle	17
Certification Summary	19
Chain of Custody	21
Receipt Checklists	24

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Job ID: 280-120918-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: Stantec Consulting Corp.

Project: Chevron Rangely, CO CS-47

Report Number: 280-120918-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 3/7/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): MW-6-030619 (280-120918-6). Two of three VOAs do not list a Sample ID. They were identified based on Collection Time. an unpreserved 250mL plastic bottle only lists "MW-6" as the sample ID. This was logged per the COC.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-1R-030619 (280-120918-1), MW-2-030619 (280-120918-2), MW-3-030619 (280-120918-3), MW-4-030619 (280-120918-4), MW-5-030619 (280-120918-5), MW-6-030619 (280-120918-6), TW-1-030619 (280-120918-7), DUP-1-030619 (280-120918-8) and TRIP BLANK (280-120918-9) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/12/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples MW-1R-030619 (280-120918-1), MW-2-030619 (280-120918-2), MW-3-030619 (280-120918-3), MW-4-030619 (280-120918-4), MW-5-030619 (280-120918-5), MW-6-030619 (280-120918-6) and TW-1-030619 (280-120918-7) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/08/2019 and 03/09/2019.

Samples MW-1R-030619 (280-120918-1)[5X], MW-1R-030619 (280-120918-1)[50X], MW-2-030619 (280-120918-2)[20X], MW-3-030619 (280-120918-3)[20X], MW-4-030619 (280-120918-4)[20X], MW-5-030619 (280-120918-5)[20X], MW-6-030619 (280-120918-6)[50X] and TW-1-030619 (280-120918-7)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Client Sample ID: MW-1R-030619

Lab Sample ID: 280-120918-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1400		250	52	mg/L	50		9056A	Total/NA

Client Sample ID: MW-2-030619

Lab Sample ID: 280-120918-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	200		60	20	mg/L	20		9056A	Total/NA
Sulfate	970		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-3-030619

Lab Sample ID: 280-120918-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	480		60	20	mg/L	20		9056A	Total/NA
Sulfate	1600		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-4-030619

Lab Sample ID: 280-120918-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	480		60	20	mg/L	20		9056A	Total/NA
Sulfate	1400		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-5-030619

Lab Sample ID: 280-120918-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	410		60	20	mg/L	20		9056A	Total/NA
Sulfate	1400		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-6-030619

Lab Sample ID: 280-120918-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	820		150	51	mg/L	50		9056A	Total/NA
Sulfate	2300		250	52	mg/L	50		9056A	Total/NA

Client Sample ID: TW-1-030619

Lab Sample ID: 280-120918-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	330		60	20	mg/L	20		9056A	Total/NA
Sulfate	1200		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: DUP-1-030619

Lab Sample ID: 280-120918-8

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-120918-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.50	J	1.0	0.17	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

Method Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
9056A	Anions, Ion Chromatography	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-120918-1	MW-1R-030619	Water	03/06/19 08:00	03/07/19 09:20
280-120918-2	MW-2-030619	Water	03/06/19 08:40	03/07/19 09:20
280-120918-3	MW-3-030619	Water	03/06/19 09:20	03/07/19 09:20
280-120918-4	MW-4-030619	Water	03/06/19 10:00	03/07/19 09:20
280-120918-5	MW-5-030619	Water	03/06/19 10:30	03/07/19 09:20
280-120918-6	MW-6-030619	Water	03/06/19 11:30	03/07/19 09:20
280-120918-7	TW-1-030619	Water	03/06/19 07:20	03/07/19 09:20
280-120918-8	DUP-1-030619	Water	03/06/19 08:10	03/07/19 09:20
280-120918-9	TRIP BLANK	Water	03/06/19 07:20	03/07/19 09:20

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-1R-030619

Date Collected: 03/06/19 08:00

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 17:00	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 17:00	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 17:00	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 17:00	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 17:00	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		03/12/19 17:00	1
4-Bromofluorobenzene (Surr)	98		70 - 130		03/12/19 17:00	1
Dibromofluoromethane (Surr)	103		70 - 130		03/12/19 17:00	1
Toluene-d8 (Surr)	96		70 - 130		03/12/19 17:00	1

Client Sample ID: MW-2-030619

Date Collected: 03/06/19 08:40

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 17:26	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 17:26	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 17:26	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 17:26	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 17:26	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		03/12/19 17:26	1
4-Bromofluorobenzene (Surr)	97		70 - 130		03/12/19 17:26	1
Dibromofluoromethane (Surr)	102		70 - 130		03/12/19 17:26	1
Toluene-d8 (Surr)	98		70 - 130		03/12/19 17:26	1

Client Sample ID: MW-3-030619

Date Collected: 03/06/19 09:20

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 17:52	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 17:52	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 17:52	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 17:52	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 17:52	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		03/12/19 17:52	1
4-Bromofluorobenzene (Surr)	97		70 - 130		03/12/19 17:52	1
Dibromofluoromethane (Surr)	104		70 - 130		03/12/19 17:52	1
Toluene-d8 (Surr)	96		70 - 130		03/12/19 17:52	1

TestAmerica Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-4-030619

Date Collected: 03/06/19 10:00

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 18:19	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 18:19	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 18:19	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 18:19	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 18:19	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 18:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		03/12/19 18:19	1
4-Bromofluorobenzene (Surr)	98		70 - 130		03/12/19 18:19	1
Dibromofluoromethane (Surr)	103		70 - 130		03/12/19 18:19	1
Toluene-d8 (Surr)	97		70 - 130		03/12/19 18:19	1

Client Sample ID: MW-5-030619

Date Collected: 03/06/19 10:30

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 18:45	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 18:45	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 18:45	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 18:45	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 18:45	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		03/12/19 18:45	1
4-Bromofluorobenzene (Surr)	97		70 - 130		03/12/19 18:45	1
Dibromofluoromethane (Surr)	101		70 - 130		03/12/19 18:45	1
Toluene-d8 (Surr)	98		70 - 130		03/12/19 18:45	1

Client Sample ID: MW-6-030619

Date Collected: 03/06/19 11:30

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 19:11	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 19:11	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 19:11	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 19:11	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 19:11	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		03/12/19 19:11	1
4-Bromofluorobenzene (Surr)	100		70 - 130		03/12/19 19:11	1
Dibromofluoromethane (Surr)	104		70 - 130		03/12/19 19:11	1
Toluene-d8 (Surr)	97		70 - 130		03/12/19 19:11	1

TestAmerica Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: TW-1-030619

Date Collected: 03/06/19 07:20

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 19:37	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 19:37	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 19:37	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 19:37	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 19:37	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 19:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		03/12/19 19:37	1
4-Bromofluorobenzene (Surr)	98		70 - 130		03/12/19 19:37	1
Dibromofluoromethane (Surr)	107		70 - 130		03/12/19 19:37	1
Toluene-d8 (Surr)	96		70 - 130		03/12/19 19:37	1

Client Sample ID: DUP-1-030619

Date Collected: 03/06/19 08:10

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 20:03	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 20:03	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 20:03	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 20:03	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 20:03	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 20:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		03/12/19 20:03	1
4-Bromofluorobenzene (Surr)	97		70 - 130		03/12/19 20:03	1
Dibromofluoromethane (Surr)	102		70 - 130		03/12/19 20:03	1
Toluene-d8 (Surr)	97		70 - 130		03/12/19 20:03	1

Client Sample ID: TRIP BLANK

Date Collected: 03/06/19 07:20

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 20:30	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 20:30	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 20:30	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 20:30	1
Toluene	0.50	J	1.0	0.17	ug/L			03/12/19 20:30	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		03/12/19 20:30	1
4-Bromofluorobenzene (Surr)	97		70 - 130		03/12/19 20:30	1
Dibromofluoromethane (Surr)	105		70 - 130		03/12/19 20:30	1
Toluene-d8 (Surr)	96		70 - 130		03/12/19 20:30	1

TestAmerica Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

General Chemistry

Client Sample ID: MW-1R-030619

Date Collected: 03/06/19 08:00

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460		15	5.1	mg/L			03/08/19 23:38	5
Sulfate	1400		250	52	mg/L			03/08/19 23:56	50

Client Sample ID: MW-2-030619

Date Collected: 03/06/19 08:40

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		60	20	mg/L			03/09/19 00:34	20
Sulfate	970		100	21	mg/L			03/09/19 00:34	20

Client Sample ID: MW-3-030619

Date Collected: 03/06/19 09:20

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480		60	20	mg/L			03/09/19 01:49	20
Sulfate	1600		100	21	mg/L			03/09/19 01:49	20

Client Sample ID: MW-4-030619

Date Collected: 03/06/19 10:00

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480		60	20	mg/L			03/09/19 02:26	20
Sulfate	1400		100	21	mg/L			03/09/19 02:26	20

Client Sample ID: MW-5-030619

Date Collected: 03/06/19 10:30

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	410		60	20	mg/L			03/09/19 03:03	20
Sulfate	1400		100	21	mg/L			03/09/19 03:03	20

Client Sample ID: MW-6-030619

Date Collected: 03/06/19 11:30

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	820		150	51	mg/L			03/09/19 03:41	50
Sulfate	2300		250	52	mg/L			03/09/19 03:41	50

Client Sample ID: TW-1-030619

Date Collected: 03/06/19 07:20

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330		60	20	mg/L			03/09/19 04:18	20
Sulfate	1200		100	21	mg/L			03/09/19 04:18	20

TestAmerica Denver

Surrogate Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (70-130)	DBFM (70-130)	TOL (70-130)
280-120918-1	MW-1R-030619	98	98	103	96
280-120918-1 MS	MW-1R-030619	96	99	99	96
280-120918-1 MSD	MW-1R-030619	101	99	101	95
280-120918-2	MW-2-030619	93	97	102	98
280-120918-3	MW-3-030619	100	97	104	96
280-120918-4	MW-4-030619	98	98	103	97
280-120918-5	MW-5-030619	95	97	101	98
280-120918-6	MW-6-030619	98	100	104	97
280-120918-7	TW-1-030619	103	98	107	96
280-120918-8	DUP-1-030619	97	97	102	97
280-120918-9	TRIP BLANK	101	97	105	96
LCS 490-580258/3	Lab Control Sample	120	95	108	94
LCSD 490-580258/4	Lab Control Sample Dup	107	96	109	94
MB 490-580258/6	Method Blank	101	97	105	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-580258/6

Matrix: Water

Analysis Batch: 580258

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			03/12/19 13:53	1
Ethylbenzene	ND		1.0	0.19	ug/L			03/12/19 13:53	1
m,p-Xylene	ND		2.0	0.38	ug/L			03/12/19 13:53	1
o-Xylene	ND		1.0	0.20	ug/L			03/12/19 13:53	1
Toluene	ND		1.0	0.17	ug/L			03/12/19 13:53	1
Xylenes, Total	ND		3.0	0.58	ug/L			03/12/19 13:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		03/12/19 13:53	1
4-Bromofluorobenzene (Surr)	97		70 - 130		03/12/19 13:53	1
Dibromofluoromethane (Surr)	105		70 - 130		03/12/19 13:53	1
Toluene-d8 (Surr)	96		70 - 130		03/12/19 13:53	1

Lab Sample ID: LCS 490-580258/3

Matrix: Water

Analysis Batch: 580258

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.5		ug/L		99	70 - 130
Ethylbenzene	50.0	47.2		ug/L		94	70 - 130
m,p-Xylene	100	99.0		ug/L		99	70 - 130
o-Xylene	50.0	51.5		ug/L		103	70 - 130
Toluene	50.0	45.0		ug/L		90	70 - 130
Xylenes, Total	150	151		ug/L		100	70 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	120		70 - 130
4-Bromofluorobenzene (Surr)	95		70 - 130
Dibromofluoromethane (Surr)	108		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: LCSD 490-580258/4

Matrix: Water

Analysis Batch: 580258

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	50.1		ug/L		100	70 - 130	1	12
Ethylbenzene	50.0	47.6		ug/L		95	70 - 130	1	12
m,p-Xylene	100	99.1		ug/L		99	70 - 130	0	12
o-Xylene	50.0	51.6		ug/L		103	70 - 130	0	11
Toluene	50.0	45.6		ug/L		91	70 - 130	1	13
Xylenes, Total	150	151		ug/L		100	70 - 132	0	11

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130

TestAmerica Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-580258/4

Matrix: Water

Analysis Batch: 580258

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: 280-120918-1 MS

Matrix: Water

Analysis Batch: 580258

Client Sample ID: MW-1R-030619

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		50.0	55.2		ug/L		110	55 - 147
Ethylbenzene	ND		50.0	52.0		ug/L		104	65 - 139
m,p-Xylene	ND		100	108		ug/L		108	70 - 130
o-Xylene	ND		50.0	54.5		ug/L		109	70 - 131
Toluene	ND		50.0	50.5		ug/L		101	64 - 136
Xylenes, Total	ND		150	163		ug/L		108	69 - 132

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	99		70 - 130
Toluene-d8 (Surr)	96		70 - 130

Lab Sample ID: 280-120918-1 MSD

Matrix: Water

Analysis Batch: 580258

Client Sample ID: MW-1R-030619

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		50.0	55.7		ug/L		111	55 - 147	1	22
Ethylbenzene	ND		50.0	52.9		ug/L		106	65 - 139	2	18
m,p-Xylene	ND		100	110		ug/L		110	70 - 130	2	17
o-Xylene	ND		50.0	55.8		ug/L		112	70 - 131	2	17
Toluene	ND		50.0	51.1		ug/L		102	64 - 136	1	18
Xylenes, Total	ND		150	166		ug/L		111	69 - 132	2	17

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-450115/6

Matrix: Water

Analysis Batch: 450115

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			03/08/19 12:30	1
Sulfate	ND		5.0	1.0	mg/L			03/08/19 12:30	1

TestAmerica Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-450115/4

Matrix: Water

Analysis Batch: 450115

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.5		mg/L		100	90 - 110
Sulfate	100	99.6		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-450115/5

Matrix: Water

Analysis Batch: 450115

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.6		mg/L		100	90 - 110	0	10
Sulfate	100	99.5		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-450115/3

Matrix: Water

Analysis Batch: 450115

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.50	2.30	J	mg/L		92	50 - 150
Sulfate	2.50	2.20	J	mg/L		88	50 - 150

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

GC/MS VOA

Analysis Batch: 580258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-120918-1	MW-1R-030619	Total/NA	Water	8260B	
280-120918-2	MW-2-030619	Total/NA	Water	8260B	
280-120918-3	MW-3-030619	Total/NA	Water	8260B	
280-120918-4	MW-4-030619	Total/NA	Water	8260B	
280-120918-5	MW-5-030619	Total/NA	Water	8260B	
280-120918-6	MW-6-030619	Total/NA	Water	8260B	
280-120918-7	TW-1-030619	Total/NA	Water	8260B	
280-120918-8	DUP-1-030619	Total/NA	Water	8260B	
280-120918-9	TRIP BLANK	Total/NA	Water	8260B	
MB 490-580258/6	Method Blank	Total/NA	Water	8260B	
LCS 490-580258/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-580258/4	Lab Control Sample Dup	Total/NA	Water	8260B	
280-120918-1 MS	MW-1R-030619	Total/NA	Water	8260B	
280-120918-1 MSD	MW-1R-030619	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 450115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-120918-1	MW-1R-030619	Total/NA	Water	9056A	
280-120918-1	MW-1R-030619	Total/NA	Water	9056A	
280-120918-2	MW-2-030619	Total/NA	Water	9056A	
280-120918-3	MW-3-030619	Total/NA	Water	9056A	
280-120918-4	MW-4-030619	Total/NA	Water	9056A	
280-120918-5	MW-5-030619	Total/NA	Water	9056A	
280-120918-6	MW-6-030619	Total/NA	Water	9056A	
280-120918-7	TW-1-030619	Total/NA	Water	9056A	
MB 280-450115/6	Method Blank	Total/NA	Water	9056A	
LCS 280-450115/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-450115/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-450115/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Client Sample ID: MW-1R-030619

Date Collected: 03/06/19 08:00

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 17:00	JRV	TAL NSH
Total/NA	Analysis	9056A		5	5 mL	5 mL	450115	03/08/19 23:38	ARM	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	450115	03/08/19 23:56	ARM	TAL DEN

Client Sample ID: MW-2-030619

Date Collected: 03/06/19 08:40

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 17:26	JRV	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	450115	03/09/19 00:34	ARM	TAL DEN

Client Sample ID: MW-3-030619

Date Collected: 03/06/19 09:20

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 17:52	JRV	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	450115	03/09/19 01:49	ARM	TAL DEN

Client Sample ID: MW-4-030619

Date Collected: 03/06/19 10:00

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 18:19	JRV	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	450115	03/09/19 02:26	ARM	TAL DEN

Client Sample ID: MW-5-030619

Date Collected: 03/06/19 10:30

Date Received: 03/07/19 09:20

Lab Sample ID: 280-120918-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 18:45	JRV	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	450115	03/09/19 03:03	ARM	TAL DEN

TestAmerica Denver

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Client Sample ID: MW-6-030619

Lab Sample ID: 280-120918-6

Date Collected: 03/06/19 11:30

Matrix: Water

Date Received: 03/07/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 19:11	JRV	TAL NSH
Total/NA	Analysis	9056A		50	5 mL	5 mL	450115	03/09/19 03:41	ARM	TAL DEN

Client Sample ID: TW-1-030619

Lab Sample ID: 280-120918-7

Date Collected: 03/06/19 07:20

Matrix: Water

Date Received: 03/07/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 19:37	JRV	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	450115	03/09/19 04:18	ARM	TAL DEN

Client Sample ID: DUP-1-030619

Lab Sample ID: 280-120918-8

Date Collected: 03/06/19 08:10

Matrix: Water

Date Received: 03/07/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 20:03	JRV	TAL NSH

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-120918-9

Date Collected: 03/06/19 07:20

Matrix: Water

Date Received: 03/07/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	580258	03/12/19 20:30	JRV	TAL NSH

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Laboratory: TestAmerica Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	DoD / DOE		2907.01	10-31-19
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	01-08-20
Arizona	State Program	9	AZ0713	12-20-19
Arkansas DEQ	State Program	6	88-0687	06-01-19
California	State Program	9	2513	01-08-20
Connecticut	State Program	1	PH-0686	09-30-20
Florida	NELAP	4	E87667	06-30-19
Georgia	State Program	4	N/A	01-08-20
Illinois	NELAP	5	200017	04-30-19
Iowa	State Program	7	370	12-01-20
Kansas	NELAP	7	E-10166	04-30-19
Louisiana	NELAP	6	02096	06-30-19
Maine	State Program	1	CO0002	03-03-21
Minnesota	NELAP	5	8-999-405	12-31-19
Nevada	State Program	9	CO0026	07-31-19
New Hampshire	NELAP	1	205310	04-28-19
New Jersey	NELAP	2	CO004	06-30-19
New York	NELAP	2	11964	04-01-19
North Carolina (WW/SW)	State Program	4	358	12-31-19
North Dakota	State Program	8	R-034	01-08-20
Oklahoma	State Program	6	8614	08-31-19
Oregon	NELAP	10	4025	01-08-20
Pennsylvania	NELAP	3	68-00664	07-31-19
South Carolina	State Program	4	72002001	01-08-19 *
Texas	NELAP	6	T104704183-18-15	09-30-19
US Fish & Wildlife	Federal			07-31-19
USDA	Federal			03-26-21
Utah	NELAP	8	CO00026	07-31-19
Virginia	NELAP	3	460232	06-14-19
Washington	State Program	10	C583	08-03-19
West Virginia DEP	State Program	3	354	11-30-19
Wisconsin	State Program	5	999615430	08-31-19 *
Wyoming (UST)	A2LA	8	2907.01	10-31-19

Laboratory: TestAmerica Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	06-30-19
Arizona	State Program	9	AZ0473	05-05-19
Arkansas DEQ	State Program	6	88-0737	04-25-19
California	State Program	9	2938	06-30-19
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-19
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19
Illinois	NELAP	5	200010	12-09-18 *
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Denver

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

TestAmerica Job ID: 280-120918-1

Laboratory: TestAmerica Nashville (Continued)


All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Kentucky (UST)	State Program	4	19	06-30-19
Kentucky (WW)	State Program	4	90038	12-31-19
Louisiana	NELAP	6	30613	06-30-19
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-19
Massachusetts	State Program	1	M-TN032	06-30-19
Minnesota	NELAP	5	047-999-345	12-31-19
Mississippi	State Program	4	N/A	06-30-19
Nevada	State Program	9	TN00032	07-31-19
New Hampshire	NELAP	1	2963	10-09-19
New Jersey	NELAP	2	TN965	06-30-19
New York	NELAP	2	11342	03-31-19
North Carolina (WW/SW)	State Program	4	387	12-31-19
North Dakota	State Program	8	R-146	06-30-19
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-19
Oregon	NELAP	10	TN200001	04-26-19
Pennsylvania	NELAP	3	68-00585	07-31-19
Rhode Island	State Program	1	LAO00268	12-30-19
South Carolina	State Program	4	84009 (001)	02-28-19 *
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-19
Washington	State Program	10	C789	07-19-19
West Virginia DEP	State Program	3	219	02-28-19 *
Wisconsin	State Program	5	998020430	08-31-19
Wyoming (UST)	A2LA	8	453.07	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Denver

Client Information		Carrier Tracking No(s):		COC No:							
Sampler: B. Collins Phone: 720 333-1409 E-Mail: jamie.ide@testamericainc.com		Lab PM: Jamie Ide, 303-736-0126 E-Mail: jamie.ide@testamericainc.com		Page: 1 of 1 Job #:							
Analysis Requested Due Date Requested: _____ TAT Requested (days): _____ PO #: _____ WO #: _____ Project #: 28016570 SOW#: _____											
Address: 2000 South Colorado Blvd Suite 2-300 City: Denver State, Zip: CO, 80222 Phone: _____ Email: _____ Project Name: Rangely, CO Site: _____											
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - BTEX	8015D - GRO	8015D - DRO	300.0 - Chlorides/Sulfates	Special Instructions/Note:
MW-1R-030619	3/6/19	0800	G	W	N	N	X			X	
MW-2-030619		0840									
MW-3-030619		0920									
MW-4-030619		1000									
MW-5-030619		1030									
MW-6-030619		1130									
TW-1-030619		0720									
DUP-1-030619		0810					X				
Trip Blank	3/6/19	0720					X				



280-120918 Chain of Custody

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab	Archive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	

Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by:	Date:	Received by:	Date/Time:
3/7/19	3/7/19	3/7/19	190920
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Company: **Stantec Consulting Corp.**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip: **CO, 80222**
 Phone: _____
 Email: _____
 Project Name: **Rangely, CO**
 Site: _____

Company: **Stantec**
 Address: **2000 South Colorado Blvd Suite 2-300**
 City: **Denver**
 State, Zip:

COOLER RECEIPT FORM



Cooler Received/Opened On 3/9/2019 @ 9:15

Time Samples Removed From Cooler 13:20 Time Samples Placed In Storage 14:32 (2 Hour Window)

1. Tracking # 3809 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot _____ Chlorine Strip Lot _____

2. Temperature of rep. sample or temp blank when opened: 1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) 22

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) 22

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) 22

I certify that I attached a label with the unique LIMS number to each container (initial) 22

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

280-120918

TestAmerica
ESTABLISHED 1987

Client Information (Sub Contract Lab)		Sampler: Lab PM: Ide, Jamie N	
Client Contact: Shipping/Receiving		E-Mail: jamie.ide@testamericainc.com	
Company: TestAmerica Laboratories, Inc		State of Origin: Colorado	
Address: 2960 Foster Creighton Drive,		Page: Page 1 of 1	
City: Nashville		Job #: 280-120918-1	
State Zip: TN, 37204		Preservation Codes:	
Phone: 615-726-0177(Tel) 615-726-3404(Fax)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Email:		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Project Name: Chevron Rangely, CO GS-47		Analysis Requested	
Site:		Total Number of Containers	
Due Date Requested: 3/19/2019		8260B/5030B BTEX	
TAT Requested (days):		Field Filtered Sample (Yes or No)	
PO #:		Perform MS/MSD (Yes or No)	
WO #:		Matrix (Water, Seawater, Overstabilized, BT-Tissue, A-AU)	
Project #: 28016570		Sample Type (C=comp, G=grab)	
Site:		Preservation Code	
Sample Identification - Client ID (Lab ID)		Sample Date	
Sample Time		Sample Time	
MW-1R-030619 (280-120918-1)		3/6/19	
MW-2-030619 (280-120918-2)		3/6/19	
MW-3-030619 (280-120918-3)		3/6/19	
MW-4-030619 (280-120918-4)		3/6/19	
MW-5-030619 (280-120918-5)		3/6/19	
MW-6-030619 (280-120918-6)		3/6/19	
TW-1-030619 (280-120918-7)		3/6/19	
DUP-1-030619 (280-120918-8)		3/6/19	
TRIP BLANK (280-120918-9)		3/6/19	
Special Instructions/Note:		Special Instructions/Note:	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Possible Hazard Identification		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
Unconfirmed		Special Instructions/QC Requirements:	
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2	
Empty Kit Relinquished by:		Date:	
Relinquished by: Diana Castro		Date/Time: 3-8-19 19:55	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:	

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 280-120918-1

Login Number: 120918

List Number: 1

Creator: Gomez, Alyssa I

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

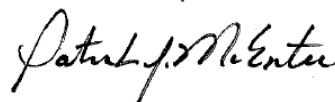
ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-128058-1
Client Project/Site: Rangely, CO - 3Q19 GW

For:
Stantec Consulting Corp.
2000 South Colorado Blvd
Suite 2-300
Denver, Colorado 80222

Attn: Christopher Beall



Authorized for release by:
9/27/2019 4:26:57 AM

Patrick McEntee, Manager of Project Management
(303)736-0107
patrick.mcentee@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	5
Method Summary	6
Sample Summary	7
Client Sample Results	8
Surrogate Summary	12
QC Sample Results	13
QC Association	16
Chronicle	17
Certification Summary	19
Chain of Custody	22
Receipt Checklists	26



Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Job ID: 280-128058-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Stantec Consulting Corp.

Project: Rangely, CO - 3Q19 GW

Report Number: 280-128058-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 9/6/2019 11:42 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-1R-090519 (280-128058-1), MW-2-090519 (280-128058-2), MW-3-090519 (280-128058-3), MW-4-090519 (280-128058-4), MW-5-090519 (280-128058-5), MW-6-090519 (280-128058-6), TW-1-090519 (280-128058-7), DUP-1-090519 (280-128058-8) and TRIP BLANK (280-128058-9) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/10/2019.

The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-2-090519 (280-128058-2) and MW-4-090519 (280-128058-4).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples MW-1R-090519 (280-128058-1), MW-2-090519 (280-128058-2), MW-3-090519 (280-128058-3), MW-4-090519 (280-128058-4), MW-5-090519 (280-128058-5), MW-6-090519 (280-128058-6), TW-1-090519 (280-128058-7) and DUP-1-090519 (280-128058-8) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 09/21/2019.

Samples MW-1R-090519 (280-128058-1)[20X], MW-2-090519 (280-128058-2)[20X], MW-3-090519 (280-128058-3)[20X], MW-4-090519 (280-128058-4)[20X], MW-5-090519 (280-128058-5)[20X], MW-6-090519 (280-128058-6)[20X], TW-1-090519 (280-128058-7)[20X] and DUP-1-090519 (280-128058-8)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Client Sample ID: MW-1R-090519

Lab Sample ID: 280-128058-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	480		60	20	mg/L	20		9056A	Total/NA
Sulfate	1400		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-2-090519

Lab Sample ID: 280-128058-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	280		60	20	mg/L	20		9056A	Total/NA
Sulfate	1200		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-3-090519

Lab Sample ID: 280-128058-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	470		60	20	mg/L	20		9056A	Total/NA
Sulfate	1400		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-4-090519

Lab Sample ID: 280-128058-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.22	J	1.0	0.20	ug/L	1		8260B	Total/NA
Chloride	470		60	20	mg/L	20		9056A	Total/NA
Sulfate	1300		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-5-090519

Lab Sample ID: 280-128058-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	390		60	20	mg/L	20		9056A	Total/NA
Sulfate	1300		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: MW-6-090519

Lab Sample ID: 280-128058-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	820		60	20	mg/L	20		9056A	Total/NA
Sulfate	2000		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: TW-1-090519

Lab Sample ID: 280-128058-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300		60	20	mg/L	20		9056A	Total/NA
Sulfate	1100		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: DUP-1-090519

Lab Sample ID: 280-128058-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	280		60	20	mg/L	20		9056A	Total/NA
Sulfate	1200		100	21	mg/L	20		9056A	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-128058-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
9056A	Anions, Ion Chromatography	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-128058-1	MW-1R-090519	Water	09/05/19 07:50	09/06/19 11:42	
280-128058-2	MW-2-090519	Water	09/05/19 08:40	09/06/19 11:42	
280-128058-3	MW-3-090519	Water	09/05/19 09:30	09/06/19 11:42	
280-128058-4	MW-4-090519	Water	09/05/19 10:40	09/06/19 11:42	
280-128058-5	MW-5-090519	Water	09/05/19 11:30	09/06/19 11:42	
280-128058-6	MW-6-090519	Water	09/05/19 12:20	09/06/19 11:42	
280-128058-7	TW-1-090519	Water	09/05/19 13:00	09/06/19 11:42	
280-128058-8	DUP-1-090519	Water	09/05/19 08:45	09/06/19 11:42	
280-128058-9	TRIP BLANK	Water	09/05/19 07:50	09/06/19 11:42	

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-1R-090519

Date Collected: 09/05/19 07:50

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 16:16	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 16:16	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 16:16	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 16:16	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 16:16	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 16:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		09/10/19 16:16	1
4-Bromofluorobenzene (Surr)	97		70 - 130		09/10/19 16:16	1
Dibromofluoromethane (Surr)	100		70 - 130		09/10/19 16:16	1
Toluene-d8 (Surr)	105		70 - 130		09/10/19 16:16	1

Client Sample ID: MW-2-090519

Date Collected: 09/05/19 08:40

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 16:43	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 16:43	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 16:43	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 16:43	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 16:43	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 16:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		09/10/19 16:43	1
4-Bromofluorobenzene (Surr)	89		70 - 130		09/10/19 16:43	1
Dibromofluoromethane (Surr)	101		70 - 130		09/10/19 16:43	1
Toluene-d8 (Surr)	107		70 - 130		09/10/19 16:43	1

Client Sample ID: MW-3-090519

Date Collected: 09/05/19 09:30

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 17:10	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 17:10	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 17:10	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 17:10	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 17:10	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		09/10/19 17:10	1
4-Bromofluorobenzene (Surr)	97		70 - 130		09/10/19 17:10	1
Dibromofluoromethane (Surr)	104		70 - 130		09/10/19 17:10	1
Toluene-d8 (Surr)	105		70 - 130		09/10/19 17:10	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-4-090519

Date Collected: 09/05/19 10:40

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.22	J	1.0	0.20	ug/L			09/10/19 17:37	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 17:37	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 17:37	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 17:37	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 17:37	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		09/10/19 17:37	1
4-Bromofluorobenzene (Surr)	97		70 - 130		09/10/19 17:37	1
Dibromofluoromethane (Surr)	100		70 - 130		09/10/19 17:37	1
Toluene-d8 (Surr)	104		70 - 130		09/10/19 17:37	1

Client Sample ID: MW-5-090519

Date Collected: 09/05/19 11:30

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 18:03	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 18:03	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 18:03	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 18:03	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 18:03	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		09/10/19 18:03	1
4-Bromofluorobenzene (Surr)	99		70 - 130		09/10/19 18:03	1
Dibromofluoromethane (Surr)	103		70 - 130		09/10/19 18:03	1
Toluene-d8 (Surr)	103		70 - 130		09/10/19 18:03	1

Client Sample ID: MW-6-090519

Date Collected: 09/05/19 12:20

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 18:30	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 18:30	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 18:30	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 18:30	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 18:30	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		09/10/19 18:30	1
4-Bromofluorobenzene (Surr)	92		70 - 130		09/10/19 18:30	1
Dibromofluoromethane (Surr)	100		70 - 130		09/10/19 18:30	1
Toluene-d8 (Surr)	106		70 - 130		09/10/19 18:30	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: TW-1-090519

Date Collected: 09/05/19 13:00

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 18:57	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 18:57	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 18:57	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 18:57	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 18:57	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		09/10/19 18:57	1
4-Bromofluorobenzene (Surr)	99		70 - 130		09/10/19 18:57	1
Dibromofluoromethane (Surr)	102		70 - 130		09/10/19 18:57	1
Toluene-d8 (Surr)	104		70 - 130		09/10/19 18:57	1

Client Sample ID: DUP-1-090519

Date Collected: 09/05/19 08:45

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 19:24	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 19:24	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 19:24	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 19:24	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 19:24	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		09/10/19 19:24	1
4-Bromofluorobenzene (Surr)	99		70 - 130		09/10/19 19:24	1
Dibromofluoromethane (Surr)	104		70 - 130		09/10/19 19:24	1
Toluene-d8 (Surr)	104		70 - 130		09/10/19 19:24	1

Client Sample ID: TRIP BLANK

Date Collected: 09/05/19 07:50

Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 15:49	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 15:49	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 15:49	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 15:49	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 15:49	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		09/10/19 15:49	1
4-Bromofluorobenzene (Surr)	95		70 - 130		09/10/19 15:49	1
Dibromofluoromethane (Surr)	100		70 - 130		09/10/19 15:49	1
Toluene-d8 (Surr)	104		70 - 130		09/10/19 15:49	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

General Chemistry

Client Sample ID: MW-1R-090519
Date Collected: 09/05/19 07:50
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480		60	20	mg/L			09/21/19 02:57	20
Sulfate	1400		100	21	mg/L			09/21/19 02:57	20

Client Sample ID: MW-2-090519
Date Collected: 09/05/19 08:40
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280		60	20	mg/L			09/21/19 04:06	20
Sulfate	1200		100	21	mg/L			09/21/19 04:06	20

Client Sample ID: MW-3-090519
Date Collected: 09/05/19 09:30
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470		60	20	mg/L			09/21/19 04:41	20
Sulfate	1400		100	21	mg/L			09/21/19 04:41	20

Client Sample ID: MW-4-090519
Date Collected: 09/05/19 10:40
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470		60	20	mg/L			09/21/19 05:16	20
Sulfate	1300		100	21	mg/L			09/21/19 05:16	20

Client Sample ID: MW-5-090519
Date Collected: 09/05/19 11:30
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	390		60	20	mg/L			09/21/19 05:51	20
Sulfate	1300		100	21	mg/L			09/21/19 05:51	20

Client Sample ID: MW-6-090519
Date Collected: 09/05/19 12:20
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	820		60	20	mg/L			09/21/19 06:26	20
Sulfate	2000		100	21	mg/L			09/21/19 06:26	20

Client Sample ID: TW-1-090519
Date Collected: 09/05/19 13:00
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300		60	20	mg/L			09/21/19 07:36	20
Sulfate	1100		100	21	mg/L			09/21/19 07:36	20

Client Sample ID: DUP-1-090519
Date Collected: 09/05/19 08:45
Date Received: 09/06/19 11:42

Lab Sample ID: 280-128058-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280		60	20	mg/L			09/21/19 08:10	20
Sulfate	1200		100	21	mg/L			09/21/19 08:10	20

Eurofins TestAmerica, Denver

Surrogate Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (70-130)	BFB (70-130)	DBFM (70-130)	TOL (70-130)
280-128058-1	MW-1R-090519	108	97	100	105
280-128058-1 MS	MW-1R-090519	103	100	101	103
280-128058-1 MSD	MW-1R-090519	102	99	104	104
280-128058-2	MW-2-090519	109	89	101	107
280-128058-3	MW-3-090519	112	97	104	105
280-128058-4	MW-4-090519	108	97	100	104
280-128058-5	MW-5-090519	106	99	103	103
280-128058-6	MW-6-090519	110	92	100	106
280-128058-7	TW-1-090519	110	99	102	104
280-128058-8	DUP-1-090519	109	99	104	104
280-128058-9	TRIP BLANK	108	95	100	104
LCS 490-610641/3	Lab Control Sample	106	90	104	106
LCSD 490-610641/4	Lab Control Sample Dup	105	101	103	104
MB 490-610641/6	Method Blank	110	101	101	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 490-610641/6

Matrix: Water

Analysis Batch: 610641

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.20	ug/L			09/10/19 13:07	1
Ethylbenzene	ND		1.0	0.19	ug/L			09/10/19 13:07	1
m,p-Xylene	ND		2.0	0.38	ug/L			09/10/19 13:07	1
o-Xylene	ND		1.0	0.20	ug/L			09/10/19 13:07	1
Toluene	ND		1.0	0.17	ug/L			09/10/19 13:07	1
Xylenes, Total	ND		3.0	0.58	ug/L			09/10/19 13:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		09/10/19 13:07	1
4-Bromofluorobenzene (Surr)	101		70 - 130		09/10/19 13:07	1
Dibromofluoromethane (Surr)	101		70 - 130		09/10/19 13:07	1
Toluene-d8 (Surr)	104		70 - 130		09/10/19 13:07	1

Lab Sample ID: LCS 490-610641/3

Matrix: Water

Analysis Batch: 610641

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.5		ug/L		97	70 - 130
Ethylbenzene	20.0	20.0		ug/L		100	70 - 130
m,p-Xylene	20.0	20.8		ug/L		104	70 - 130
o-Xylene	20.0	19.8		ug/L		99	70 - 130
Toluene	20.0	21.6		ug/L		108	70 - 130
Xylenes, Total	40.0	40.6		ug/L		102	70 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		70 - 130
4-Bromofluorobenzene (Surr)	90		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130
Toluene-d8 (Surr)	106		70 - 130

Lab Sample ID: LCSD 490-610641/4

Matrix: Water

Analysis Batch: 610641

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	20.0	20.3		ug/L		101	70 - 130	4	12
Ethylbenzene	20.0	20.3		ug/L		102	70 - 130	2	12
m,p-Xylene	20.0	20.9		ug/L		105	70 - 130	1	12
o-Xylene	20.0	19.6		ug/L		98	70 - 130	1	11
Toluene	20.0	21.6		ug/L		108	70 - 130	0	13
Xylenes, Total	40.0	40.5		ug/L		101	70 - 132	0	11

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 490-610641/4

Matrix: Water

Analysis Batch: 610641

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: 280-128058-1 MS

Matrix: Water

Analysis Batch: 610641

Client Sample ID: MW-1R-090519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		20.0	21.9		ug/L		109	55 - 147
Ethylbenzene	ND		20.0	21.1		ug/L		105	65 - 139
m,p-Xylene	ND		20.0	21.6		ug/L		108	70 - 130
o-Xylene	ND		20.0	22.3		ug/L		111	70 - 131
Toluene	ND		20.0	22.8		ug/L		114	64 - 136
Xylenes, Total	ND		40.0	43.9		ug/L		110	69 - 132

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: 280-128058-1 MSD

Matrix: Water

Analysis Batch: 610641

Client Sample ID: MW-1R-090519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		20.0	20.7		ug/L		103	55 - 147	6	22
Ethylbenzene	ND		20.0	20.1		ug/L		100	65 - 139	5	18
m,p-Xylene	ND		20.0	20.1		ug/L		101	70 - 130	7	17
o-Xylene	ND		20.0	21.3		ug/L		106	70 - 131	5	17
Toluene	ND		20.0	22.0		ug/L		110	64 - 136	4	18
Xylenes, Total	ND		40.0	41.4		ug/L		104	69 - 132	6	17

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130
Toluene-d8 (Surr)	104		70 - 130

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-471402/6

Matrix: Water

Analysis Batch: 471402

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			09/20/19 15:17	1
Sulfate	ND		5.0	1.0	mg/L			09/20/19 15:17	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-471402/4

Matrix: Water

Analysis Batch: 471402

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	103		mg/L		103	90 - 110
Sulfate	100	102		mg/L		102	90 - 110

Lab Sample ID: LCSD 280-471402/5

Matrix: Water

Analysis Batch: 471402

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	103		mg/L		103	90 - 110	0	10
Sulfate	100	102		mg/L		102	90 - 110	0	10

Lab Sample ID: MRL 280-471402/3

Matrix: Water

Analysis Batch: 471402

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.55		mg/L		91	50 - 150
Sulfate	5.00	4.24	J	mg/L		85	50 - 150

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

GC/MS VOA

Analysis Batch: 610641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-128058-1	MW-1R-090519	Total/NA	Water	8260B	
280-128058-2	MW-2-090519	Total/NA	Water	8260B	
280-128058-3	MW-3-090519	Total/NA	Water	8260B	
280-128058-4	MW-4-090519	Total/NA	Water	8260B	
280-128058-5	MW-5-090519	Total/NA	Water	8260B	
280-128058-6	MW-6-090519	Total/NA	Water	8260B	
280-128058-7	TW-1-090519	Total/NA	Water	8260B	
280-128058-8	DUP-1-090519	Total/NA	Water	8260B	
280-128058-9	TRIP BLANK	Total/NA	Water	8260B	
MB 490-610641/6	Method Blank	Total/NA	Water	8260B	
LCS 490-610641/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 490-610641/4	Lab Control Sample Dup	Total/NA	Water	8260B	
280-128058-1 MS	MW-1R-090519	Total/NA	Water	8260B	
280-128058-1 MSD	MW-1R-090519	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 471402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-128058-1	MW-1R-090519	Total/NA	Water	9056A	
280-128058-2	MW-2-090519	Total/NA	Water	9056A	
280-128058-3	MW-3-090519	Total/NA	Water	9056A	
280-128058-4	MW-4-090519	Total/NA	Water	9056A	
280-128058-5	MW-5-090519	Total/NA	Water	9056A	
280-128058-6	MW-6-090519	Total/NA	Water	9056A	
280-128058-7	TW-1-090519	Total/NA	Water	9056A	
280-128058-8	DUP-1-090519	Total/NA	Water	9056A	
MB 280-471402/6	Method Blank	Total/NA	Water	9056A	
LCS 280-471402/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-471402/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-471402/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Client Sample ID: MW-1R-090519

Lab Sample ID: 280-128058-1

Date Collected: 09/05/19 07:50

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 16:16	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 02:57	JAP	TAL DEN

Client Sample ID: MW-2-090519

Lab Sample ID: 280-128058-2

Date Collected: 09/05/19 08:40

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 16:43	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 04:06	JAP	TAL DEN

Client Sample ID: MW-3-090519

Lab Sample ID: 280-128058-3

Date Collected: 09/05/19 09:30

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 17:10	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 04:41	JAP	TAL DEN

Client Sample ID: MW-4-090519

Lab Sample ID: 280-128058-4

Date Collected: 09/05/19 10:40

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 17:37	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 05:16	JAP	TAL DEN

Client Sample ID: MW-5-090519

Lab Sample ID: 280-128058-5

Date Collected: 09/05/19 11:30

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 18:03	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 05:51	JAP	TAL DEN

Client Sample ID: MW-6-090519

Lab Sample ID: 280-128058-6

Date Collected: 09/05/19 12:20

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 18:30	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 06:26	JAP	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Client Sample ID: TW-1-090519

Lab Sample ID: 280-128058-7

Date Collected: 09/05/19 13:00

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 18:57	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 07:36	JAP	TAL DEN

Client Sample ID: DUP-1-090519

Lab Sample ID: 280-128058-8

Date Collected: 09/05/19 08:45

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 19:24	AK1	TAL NSH
Total/NA	Analysis	9056A		20	5 mL	5 mL	471402	09/21/19 08:10	JAP	TAL DEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-128058-9

Date Collected: 09/05/19 07:50

Matrix: Water

Date Received: 09/06/19 11:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	610641	09/10/19 15:49	AK1	TAL NSH

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL NSH = Eurofins TestAmerica, Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-19
A2LA	DoD	2907.01	10-31-19
A2LA	ISO/IEC 17025	2907.01	10-31-19
A2LA	ISO/IEC 17025	2907.01	10-31-19
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	01-08-20
Alaska (UST)	State Program	UST-30	01-08-20
Arizona	State	AZ0713	12-20-19
Arizona	State Program	AZ0713	12-20-19
Arkansas DEQ	State	19-047-0	06-01-20
Arkansas DEQ	State Program	88-0687	06-01-20
California	State	2513	01-08-20
California	State Program	2513	01-08-20
Connecticut	State	PH-0686	09-30-20
Connecticut	State Program	PH-0686	09-30-20
Florida	NELAP	E87667	06-30-20
Florida	NELAP	E87667-57	06-30-20
Georgia	State Program	N/A	01-08-20
Illinois	NELAP	200017	04-30-20
Illinois	NELAP	2000172019-1	04-30-20
Iowa	State	IA#370	12-01-20
Iowa	State Program	370	12-01-20
Kansas	NELAP	E-10166	04-30-20
Louisiana	NELAP	02096	06-30-20
Louisiana	NELAP	30785	06-30-20
Maine	State Program	CO0002	03-03-21
Minnesota	NELAP	8-999-405	12-31-19
Minnesota	NELAP	1545373	08-05-20
Minnesota	NELAP	1545373	12-31-19
Nevada	State	CO000262020-1	07-31-20
Nevada	State Program	CO0026	07-31-20
New Hampshire	NELAP	205310	04-28-20
New Jersey	NELAP	CO004	06-30-20
New Jersey	NELAP	190002	06-30-20
New York	NELAP	11964	04-01-20
New York	NELAP	59923	04-01-20
North Carolina (WW/SW)	State Program	358	12-31-19
North Dakota	State	R-034	01-08-20
North Dakota	State Program	R-034	01-08-20
Oklahoma	State Program	8614	08-31-20
Oregon	NELAP	4025	01-08-20
Oregon	NELAP	4025-011	01-08-20
Pennsylvania	NELAP	68-00664	07-31-20
Pennsylvania	NELAP	013	08-01-20
South Carolina	State Program	72002001	01-08-20
Texas	NELAP	T104704183-18-15	09-30-19
Texas	NELAP	T104704183-18-15	09-30-19
US Fish & Wildlife	Federal		07-31-20
USDA	Federal		03-26-21
Utah	NELAP	CO00026	07-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Laboratory: Eurofins TestAmerica, Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Utah	NELAP	CO000262019-11	07-31-20
Virginia	NELAP	460232	06-14-20
Virginia	NELAP	10490	06-14-20
Virginia	NELAP	10490	06-14-20
Washington	State	C583-19	08-05-20
Washington	State Program	C583	08-03-20
West Virginia DEP	State Program	354	11-30-19
Wisconsin	State	999615430	08-31-20
Wisconsin	State Program	999615430	08-31-20
Wyoming (UST)	A2LA	2907.01	10-31-19

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Rangely, CO - 3Q19 GW

Job ID: 280-128058-1

Laboratory: Eurofins TestAmerica, Nashville

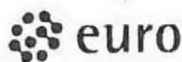
All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	0453.07	12-31-19
A2LA	ISO/IEC 17025	0453.07	12-31-19
Alaska (UST)	State Program	UST-087	06-30-20
Arizona	State Program	AZ0473	05-05-20
Arkansas DEQ	State Program	88-0737	04-25-20
California	State Program	2938	06-30-20
Connecticut	State Program	PH-0220	09-13-19
Florida	NELAP	E87358	06-30-20
Georgia	State Program	E87358(FL)/453.07(A2L A)	06-30-20
Illinois	NELAP	200010	12-09-19
Iowa	State Program	131	04-01-20
Kansas	NELAP	E-10229	10-31-19
Kentucky (UST)	State Program	19	06-30-20
Kentucky (WW)	State Program	90038	12-31-19
Louisiana	NELAP	30613	06-30-20
Maine	State Program	TN00032	11-03-19
Maryland	State Program	316	03-31-20
Massachusetts	State Program	M-TN032	06-30-20
Minnesota	NELAP	047-999-345	12-31-19
Mississippi	State Program	N/A	06-30-20
Nevada	State Program	TN00032	07-31-20
New Hampshire	NELAP	2963	10-09-19
New Jersey	NELAP	TN965	06-30-20
New York	NELAP	11342	09-13-19
North Carolina (WW/SW)	State Program	387	12-31-19
North Dakota	State Program	R-146	06-30-20
Oklahoma	State Program	9412	08-31-20
Oregon	NELAP	TN200001	04-26-20
Pennsylvania	NELAP	68-00585	07-31-20
Rhode Island	State Program	LAO00268	12-30-19
South Carolina	State Program	84009 (001)	02-28-20
Tennessee	State Program	2008	02-23-20
USDA	Federal	P330-13-00306	04-10-20
Virginia	NELAP	460152	06-14-20
Washington	State Program	C789	07-19-20
West Virginia DEP	State Program	219	02-28-20
Wisconsin	State Program	998020430	08-31-20
Wyoming (UST)	A2LA	453.07	12-31-19

Client Information Client Contact: Chris Beall Company: Startec Consulting Corp. Address: 2000 South Colorado Blvd Suite 2-300 City: Denver State, Zip: CO, 80222 Phone: _____ Email: _____ Project Name: Rangely, CO - 3Q19 GW Site: _____		Lab PM: McEntee, Patrick E-Mail: patrick.mcintee@testamericainc.com Carrier Tracking No(s): _____ Lab # _____ Job # _____		COC No: _____ Page: 1 of 1 Job # _____	
Due Date Requested: TAT Requested (days): _____ PO # 182603884 WO #: _____ Project #: 28016570 SSOW#: _____		Analysis Requested Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: _____ M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Sample Identification MW-1R-090519 MW-2-090519 MW-3-090519 MW-4-090519 MW-5-090519 MW-6-090519 TW-2-090519 DUP-1-090519 Trip Blank		Total Number of containers: _____ Special Instructions/Note: _____ 280-128058 Chain of Custody			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify) _____		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: _____			
Empty Kit Relinquished by: Relinquished by: Bp call Relinquished by: _____ Relinquished by: _____		Method of Shipment: Date/Time: 9/6/19 1142 Date/Time: _____ Date/Time: _____ Company: ETA-DEN Company: _____ Company: _____			
Custody Seal No.: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 2.6 to 8 IR#8 9/6/19			



280-128058 Waybill



399

4
10.30

C

esting

ORIGIN ID:WHHA (303) 736-0100
BOTTLE PREP
EUROFINS TESTAMERICA DENVER
4955 YARROW ST.

ARVADA, CO 80002
UNITED STATES US

SHIP DATE: 21AUG19
ACTWGT: 7.70 LB
CAD: 290884/CAFE3211

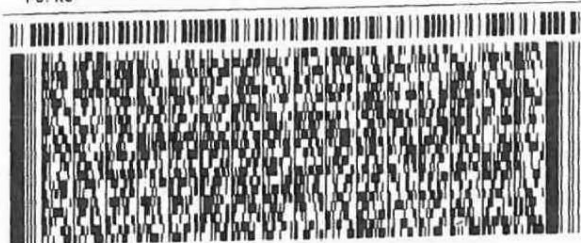
BILL SENDER

TO **CHRIS BEALL**
STANTEC CONSULTING CORP.
2000 SOUTH COLORADO BLVD
SUITE 2-300
DENVER CO 80222

(970) 214-1126
PO: NO

REF: S280-90795

DEPT: BOTTLE PREP



FedEx
Express



TAK
0201

4759 5581 6620

THU - 22 AUG 10:30A
PRIORITY OVERNIGHT

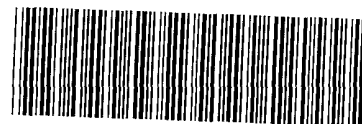
72 TADA

80222

CO-US DEN



COOLER RECEIPT FORM



280-128058 Chain of Custody

Cooler Received/Opened On 9/10/2019@ 940

Time Samples Removed From Cooler 1118 Time Samples Placed In Storage 1122 (2 Hour Window)

1. Tracking # 2621 (last 4 digits, FedEx) Courier: FedEx
IR Gun ID_31470368 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 3.6 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1-front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



Larger than this.

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # GH

I certify that I unloaded the cooler and answered questions 7-14 (initial) GH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) GH

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) GH

I certify that I attached a label with the unique LIMS number to each container (initial) GH

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#

Client Information (Sub Contract Lab)		Lab PM: Ida, Jamie N		COC No: 280-497525.1	
Client Contact: Shipping/Receiving		Phone: _____		Page: 1 of 1	
Company: TestAmerica Laboratories, Inc		E-Mail: jamie.lda@testamericainc.com		State of Origin: Colorado	
Address: 2960 Foster Creighton Drive,		Accreditations Required (See note):		Job #: 280-128058-1	
City: Nashville		Due Date Requested: 9/19/2019		Preservation Codes:	
State/Zip: TN, 37204		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - NaOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone: 615-726-0177(Tel) 615-726-3404(Fax)		PO #:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email:		WO #:			
Project Name: Rangely, CO - 3Q19 GW		Project #:			
Site:		SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	826B/503B BTEX	Analysis Requested	Total Number of containers	Special Instructions/Note:
MW-1R-090519 (280-128058-1)	9/5/19	07:50 Mountain		Water		X			3	
MW-2-090519 (280-128058-2)	9/5/19	08:40 Mountain		Water		X			3	
MW-3-090519 (280-128058-3)	9/5/19	09:30 Mountain		Water		X			3	
MW-4-090519 (280-128058-4)	9/5/19	10:40 Mountain		Water		X			3	Loc: 280 128058
MW-5-090519 (280-128058-5)	9/5/19	11:30 Mountain		Water		X			3	
MW-6-090519 (280-128058-6)	9/5/19	12:20 Mountain		Water		X			3	
TW-1-090519 (280-128058-7)	9/5/19	13:00 Mountain		Water		X			3	
DUP-1-090519 (280-128058-8)	9/5/19	08:45 Mountain		Water		X			3	
TRIP BLANK (280-128058-9)	9/5/19	07:50 Mountain		Water		X			2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: Ida, Jamie N		Date/Time: 9/19/19 16:44	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 3.6	

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 280-128058-1

Login Number: 128058

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Petunin, Peter

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

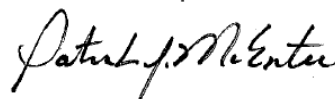
Laboratory Job ID: 280-130576-1

Client Project/Site: Chevron Rangely, CO CS-47

For:

Stantec Consulting Corp.
2000 South Colorado Blvd
Suite 2-300
Denver, Colorado 80222

Attn: Christopher Beall



Authorized for release by:
12/5/2019 8:14:40 AM

Patrick McEntee, Manager of Project Management
(303)736-0107
patrick.mcentee@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	7
Sample Summary	8
Client Sample Results	9
Surrogate Summary	14
QC Sample Results	15
QC Association	19
Chronicle	21
Certification Summary	23
Chain of Custody	24
Receipt Checklists	25



Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Job ID: 280-130576-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: Stantec Consulting Corp.

Project: Chevron Rangely, CO CS-47

Report Number: 280-130576-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/6/2019 11:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.9° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples MW-1R-110519 (280-130576-1), MW-2-110519 (280-130576-2), MW-3-110519 (280-130576-3), MW-4-110519 (280-130576-4), MW-5-110519 (280-130576-5), MW-6-110519 (280-130576-6), TW-1-110519 (280-130576-7), DUP-1-110519 (280-130576-8) and TB-1-110519 (280-130576-9) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/18/2019.

The following sample(s) in batch 477974 were collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: MW-1R-110519 (280-130576-1), MW-6-110519 (280-130576-6) and DUP-1-110519 (280-130576-8). The samples had the following pH:

130576-1 and -6 pH of 7
130576-8 pH of 4

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ANIONS (28 DAYS)

Samples MW-1R-110519 (280-130576-1), MW-2-110519 (280-130576-2), MW-3-110519 (280-130576-3), MW-4-110519 (280-130576-4), MW-5-110519 (280-130576-5), MW-6-110519 (280-130576-6), TW-1-110519 (280-130576-7) and DUP-1-110519 (280-130576-8) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 12/02/2019, 12/03/2019 and 12/04/2019.

Reanalysis of the following sample for sulfate was performed one day outside of the analytical holding time due to dilution : MW-2-110519 (280-130576-2). The client was notified and instructed the laboratory to report the initial in-hold over calibration results in addition to the re-analysis result.

Sulfate was detected in method blank MB 280-479414/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Job ID: 280-130576-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Samples MW-1R-110519 (280-130576-1)[10X], MW-2-110519 (280-130576-2)[10X], MW-2-110519 (280-130576-2)[5X], MW-3-110519 (280-130576-3)[10X], MW-3-110519 (280-130576-3)[5X], MW-4-110519 (280-130576-4)[10X], MW-5-110519 (280-130576-5)[10X], MW-6-110519 (280-130576-6)[10X], MW-6-110519 (280-130576-6)[5X], TW-1-110519 (280-130576-7)[10X], TW-1-110519 (280-130576-7)[5X] and DUP-1-110519 (280-130576-8)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Client Sample ID: MW-1R-110519

Lab Sample ID: 280-130576-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	470		30	10	mg/L	10		9056A	Total/NA
Sulfate	1600		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-2-110519

Lab Sample ID: 280-130576-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	200		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1000	E	25	5.2	mg/L	5		9056A	Total/NA
Sulfate	1000	H B	50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-3-110519

Lab Sample ID: 280-130576-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	520		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1400		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-4-110519

Lab Sample ID: 280-130576-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	490		30	10	mg/L	10		9056A	Total/NA
Sulfate	1400		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-5-110519

Lab Sample ID: 280-130576-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	490		30	10	mg/L	10		9056A	Total/NA
Sulfate	1400		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: MW-6-110519

Lab Sample ID: 280-130576-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	790		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	2000		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: TW-1-110519

Lab Sample ID: 280-130576-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	330		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	1100		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: DUP-1-110519

Lab Sample ID: 280-130576-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	470		30	10	mg/L	10		9056A	Total/NA
Sulfate	1600		50	10	mg/L	10		9056A	Total/NA

Client Sample ID: TB-1-110519

Lab Sample ID: 280-130576-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-130576-1	MW-1R-110519	Water	11/05/19 08:00	11/06/19 11:00	
280-130576-2	MW-2-110519	Water	11/05/19 08:45	11/06/19 11:00	
280-130576-3	MW-3-110519	Water	11/05/19 09:30	11/06/19 11:00	
280-130576-4	MW-4-110519	Water	11/05/19 10:20	11/06/19 11:00	
280-130576-5	MW-5-110519	Water	11/05/19 11:00	11/06/19 11:00	
280-130576-6	MW-6-110519	Water	11/05/19 11:50	11/06/19 11:00	
280-130576-7	TW-1-110519	Water	11/05/19 12:40	11/06/19 11:00	
280-130576-8	DUP-1-110519	Water	11/05/19 08:05	11/06/19 11:00	
280-130576-9	TB-1-110519	Water	11/05/19 08:00	11/06/19 11:00	

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-1R-110519

Date Collected: 11/05/19 08:00

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 13:47	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 13:47	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 13:47	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 13:47	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 13:47	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		11/18/19 13:47	1
Toluene-d8 (Surr)	91		80 - 125		11/18/19 13:47	1
4-Bromofluorobenzene (Surr)	96		78 - 120		11/18/19 13:47	1
Dibromofluoromethane (Surr)	93		77 - 120		11/18/19 13:47	1

Client Sample ID: MW-2-110519

Date Collected: 11/05/19 08:45

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 14:09	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 14:09	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 14:09	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 14:09	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 14:09	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		11/18/19 14:09	1
Toluene-d8 (Surr)	92		80 - 125		11/18/19 14:09	1
4-Bromofluorobenzene (Surr)	95		78 - 120		11/18/19 14:09	1
Dibromofluoromethane (Surr)	91		77 - 120		11/18/19 14:09	1

Client Sample ID: MW-3-110519

Date Collected: 11/05/19 09:30

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 14:31	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 14:31	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 14:31	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 14:31	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 14:31	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 14:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 127		11/18/19 14:31	1
Toluene-d8 (Surr)	92		80 - 125		11/18/19 14:31	1
4-Bromofluorobenzene (Surr)	94		78 - 120		11/18/19 14:31	1
Dibromofluoromethane (Surr)	93		77 - 120		11/18/19 14:31	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-4-110519

Date Collected: 11/05/19 10:20

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 14:53	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 14:53	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 14:53	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 14:53	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 14:53	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 14:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		11/18/19 14:53	1
Toluene-d8 (Surr)	90		80 - 125		11/18/19 14:53	1
4-Bromofluorobenzene (Surr)	96		78 - 120		11/18/19 14:53	1
Dibromofluoromethane (Surr)	91		77 - 120		11/18/19 14:53	1

Client Sample ID: MW-5-110519

Date Collected: 11/05/19 11:00

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 15:15	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 15:15	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 15:15	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 15:15	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 15:15	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		11/18/19 15:15	1
Toluene-d8 (Surr)	91		80 - 125		11/18/19 15:15	1
4-Bromofluorobenzene (Surr)	96		78 - 120		11/18/19 15:15	1
Dibromofluoromethane (Surr)	92		77 - 120		11/18/19 15:15	1

Client Sample ID: MW-6-110519

Date Collected: 11/05/19 11:50

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 15:37	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 15:37	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 15:37	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 15:37	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 15:37	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		11/18/19 15:37	1
Toluene-d8 (Surr)	92		80 - 125		11/18/19 15:37	1
4-Bromofluorobenzene (Surr)	96		78 - 120		11/18/19 15:37	1
Dibromofluoromethane (Surr)	91		77 - 120		11/18/19 15:37	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: TW-1-110519

Date Collected: 11/05/19 12:40

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 15:59	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 15:59	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 15:59	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 15:59	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 15:59	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 127		11/18/19 15:59	1
Toluene-d8 (Surr)	91		80 - 125		11/18/19 15:59	1
4-Bromofluorobenzene (Surr)	95		78 - 120		11/18/19 15:59	1
Dibromofluoromethane (Surr)	90		77 - 120		11/18/19 15:59	1

Client Sample ID: DUP-1-110519

Date Collected: 11/05/19 08:05

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 16:21	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 16:21	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 16:21	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 16:21	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 16:21	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 127		11/18/19 16:21	1
Toluene-d8 (Surr)	91		80 - 125		11/18/19 16:21	1
4-Bromofluorobenzene (Surr)	97		78 - 120		11/18/19 16:21	1
Dibromofluoromethane (Surr)	92		77 - 120		11/18/19 16:21	1

Client Sample ID: TB-1-110519

Date Collected: 11/05/19 08:00

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 12:41	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 12:41	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 12:41	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 12:41	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 12:41	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 12:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		11/18/19 12:41	1
Toluene-d8 (Surr)	90		80 - 125		11/18/19 12:41	1
4-Bromofluorobenzene (Surr)	97		78 - 120		11/18/19 12:41	1
Dibromofluoromethane (Surr)	92		77 - 120		11/18/19 12:41	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

General Chemistry

Client Sample ID: MW-1R-110519

Date Collected: 11/05/19 08:00

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470		30	10	mg/L			12/02/19 17:24	10
Sulfate	1600		50	10	mg/L			12/02/19 17:24	10

Client Sample ID: MW-2-110519

Date Collected: 11/05/19 08:45

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		15	5.1	mg/L			12/02/19 18:01	5
Sulfate	1000	E	25	5.2	mg/L			12/02/19 18:01	5
Sulfate	1000	H B	50	10	mg/L			12/04/19 06:30	10

Client Sample ID: MW-3-110519

Date Collected: 11/05/19 09:30

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520		15	5.1	mg/L			12/02/19 18:20	5
Sulfate	1400		50	10	mg/L			12/02/19 20:12	10

Client Sample ID: MW-4-110519

Date Collected: 11/05/19 10:20

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490		30	10	mg/L			12/02/19 21:46	10
Sulfate	1400		50	10	mg/L			12/02/19 21:46	10

Client Sample ID: MW-5-110519

Date Collected: 11/05/19 11:00

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490		30	10	mg/L			12/02/19 22:23	10
Sulfate	1400		50	10	mg/L			12/02/19 22:23	10

Client Sample ID: MW-6-110519

Date Collected: 11/05/19 11:50

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	790		15	5.1	mg/L			12/02/19 22:42	5
Sulfate	2000		50	10	mg/L			12/02/19 23:01	10

Client Sample ID: TW-1-110519

Date Collected: 11/05/19 12:40

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330		15	5.1	mg/L			12/03/19 01:49	5
Sulfate	1100		50	10	mg/L			12/03/19 03:41	10

Client Sample ID: DUP-1-110519

Date Collected: 11/05/19 08:05

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470		30	10	mg/L			12/03/19 05:15	10

Eurofins TestAmerica, Denver

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

General Chemistry (Continued)

Client Sample ID: DUP-1-110519

Date Collected: 11/05/19 08:05

Date Received: 11/06/19 11:00

Lab Sample ID: 280-130576-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1600		50	10	mg/L			12/03/19 05:15	10

Surrogate Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (70-127)	TOL (80-125)	BFB (78-120)	DBFM (77-120)
280-130576-1	MW-1R-110519	105	91	96	93
280-130576-2	MW-2-110519	103	92	95	91
280-130576-3	MW-3-110519	106	92	94	93
280-130576-4	MW-4-110519	102	90	96	91
280-130576-5	MW-5-110519	105	91	96	92
280-130576-6	MW-6-110519	103	92	96	91
280-130576-7	TW-1-110519	107	91	95	90
280-130576-8	DUP-1-110519	101	91	97	92
280-130576-9	TB-1-110519	105	90	97	92
LCS 280-477974/5	Lab Control Sample	104	91	96	99
LCSD 280-477974/6	Lab Control Sample Dup	103	93	96	99
MB 280-477974/7	Method Blank	103	92	96	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-477974/7

Matrix: Water

Analysis Batch: 477974

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			11/18/19 11:13	1
Ethylbenzene	ND		1.0	0.16	ug/L			11/18/19 11:13	1
Toluene	ND		1.0	0.17	ug/L			11/18/19 11:13	1
m-Xylene & p-Xylene	ND		2.0	0.15	ug/L			11/18/19 11:13	1
o-Xylene	ND		1.0	0.19	ug/L			11/18/19 11:13	1
Xylenes, Total	ND		2.0	0.19	ug/L			11/18/19 11:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		11/18/19 11:13	1
Toluene-d8 (Surr)	92		80 - 125		11/18/19 11:13	1
4-Bromofluorobenzene (Surr)	96		78 - 120		11/18/19 11:13	1
Dibromofluoromethane (Surr)	94		77 - 120		11/18/19 11:13	1

Lab Sample ID: LCS 280-477974/5

Matrix: Water

Analysis Batch: 477974

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	24.1		ug/L		96	65 - 135
Ethylbenzene	25.0	21.3		ug/L		85	65 - 135
Toluene	25.0	24.7		ug/L		99	65 - 135
m-Xylene & p-Xylene	25.0	21.9		ug/L		87	65 - 135
o-Xylene	25.0	21.6		ug/L		87	65 - 135
Xylenes, Total	50.0	43.5		ug/L		87	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 127
Toluene-d8 (Surr)	91		80 - 125
4-Bromofluorobenzene (Surr)	96		78 - 120
Dibromofluoromethane (Surr)	99		77 - 120

Lab Sample ID: LCSD 280-477974/6

Matrix: Water

Analysis Batch: 477974

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	26.0		ug/L		104	65 - 135	8	20
Ethylbenzene	25.0	23.8		ug/L		95	65 - 135	11	20
Toluene	25.0	26.4		ug/L		106	65 - 135	7	20
m-Xylene & p-Xylene	25.0	23.7		ug/L		95	65 - 135	8	20
o-Xylene	25.0	23.7		ug/L		95	65 - 135	9	20
Xylenes, Total	50.0	47.4		ug/L		95	65 - 135	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 127
Toluene-d8 (Surr)	93		80 - 125
4-Bromofluorobenzene (Surr)	96		78 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-477974/6

Matrix: Water

Analysis Batch: 477974

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	99		77 - 120

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-479296/6

Matrix: Water

Analysis Batch: 479296

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		3.0	1.0	mg/L			12/02/19 12:38	1
Sulfate	ND		5.0	1.0	mg/L			12/02/19 12:38	1

Lab Sample ID: LCS 280-479296/4

Matrix: Water

Analysis Batch: 479296

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Chloride	100	96.8		mg/L		97	90 - 110
Sulfate	100	103		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-479296/5

Matrix: Water

Analysis Batch: 479296

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD
	Added	Result	Qualifier				Limits	Limit
Chloride	100	96.4		mg/L		96	90 - 110	0 10
Sulfate	100	103		mg/L		103	90 - 110	0 10

Lab Sample ID: MRL 280-479296/3

Matrix: Water

Analysis Batch: 479296

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	MRL	MRL	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Chloride	5.00	4.65		mg/L		93	50 - 150
Sulfate	5.00	3.97	J	mg/L		79	50 - 150

Lab Sample ID: 280-130576-3 MS

Matrix: Water

Analysis Batch: 479296

Client Sample ID: MW-3-110519

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
Chloride	520		250	739		mg/L		88	80 - 120

Lab Sample ID: 280-130576-3 MS

Matrix: Water

Analysis Batch: 479296

Client Sample ID: MW-3-110519

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
Sulfate	1400		500	1860		mg/L		93	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-130576-3 MSD

Matrix: Water

Analysis Batch: 479296

Client Sample ID: MW-3-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	520		250	742		mg/L		90	80 - 120	1	20

Lab Sample ID: 280-130576-3 MSD

Matrix: Water

Analysis Batch: 479296

Client Sample ID: MW-3-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1400		500	1860		mg/L		93	80 - 120	0	20

Lab Sample ID: 280-130576-7 MS

Matrix: Water

Analysis Batch: 479296

Client Sample ID: TW-1-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	330		250	563		mg/L		94	80 - 120		

Lab Sample ID: 280-130576-7 MS

Matrix: Water

Analysis Batch: 479296

Client Sample ID: TW-1-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	1100		500	1600		mg/L		102	80 - 120		

Lab Sample ID: 280-130576-7 MSD

Matrix: Water

Analysis Batch: 479296

Client Sample ID: TW-1-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	330		250	563		mg/L		94	80 - 120	0	20

Lab Sample ID: 280-130576-7 MSD

Matrix: Water

Analysis Batch: 479296

Client Sample ID: TW-1-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1100		500	1590		mg/L		101	80 - 120	0	20

Lab Sample ID: 280-130576-3 DU

Matrix: Water

Analysis Batch: 479296

Client Sample ID: MW-3-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chloride	520			527		mg/L				2	15

Lab Sample ID: 280-130576-3 DU

Matrix: Water

Analysis Batch: 479296

Client Sample ID: MW-3-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfate	1400			1360		mg/L				2	15

Eurofins TestAmerica, Denver

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 280-130576-7 DU

Matrix: Water

Analysis Batch: 479296

Client Sample ID: TW-1-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	330		328		mg/L		0.1	15

Lab Sample ID: 280-130576-7 DU

Matrix: Water

Analysis Batch: 479296

Client Sample ID: TW-1-110519

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	1100		1080		mg/L		1	15

Lab Sample ID: MB 280-479414/6

Matrix: Water

Analysis Batch: 479414

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.76	J	5.0	1.0	mg/L			12/03/19 12:21	1

Lab Sample ID: LCS 280-479414/4

Matrix: Water

Analysis Batch: 479414

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	98.0		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-479414/5

Matrix: Water

Analysis Batch: 479414

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	97.3		mg/L		97	90 - 110	1	10

Lab Sample ID: MRL 280-479414/3

Matrix: Water

Analysis Batch: 479414

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.05	J	mg/L		81	50 - 150

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

GC/MS VOA

Analysis Batch: 477974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130576-1	MW-1R-110519	Total/NA	Water	8260B	
280-130576-2	MW-2-110519	Total/NA	Water	8260B	
280-130576-3	MW-3-110519	Total/NA	Water	8260B	
280-130576-4	MW-4-110519	Total/NA	Water	8260B	
280-130576-5	MW-5-110519	Total/NA	Water	8260B	
280-130576-6	MW-6-110519	Total/NA	Water	8260B	
280-130576-7	TW-1-110519	Total/NA	Water	8260B	
280-130576-8	DUP-1-110519	Total/NA	Water	8260B	
280-130576-9	TB-1-110519	Total/NA	Water	8260B	
MB 280-477974/7	Method Blank	Total/NA	Water	8260B	
LCS 280-477974/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-477974/6	Lab Control Sample Dup	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 479296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130576-1	MW-1R-110519	Total/NA	Water	9056A	
280-130576-2	MW-2-110519	Total/NA	Water	9056A	
280-130576-3	MW-3-110519	Total/NA	Water	9056A	
280-130576-3	MW-3-110519	Total/NA	Water	9056A	
280-130576-4	MW-4-110519	Total/NA	Water	9056A	
280-130576-5	MW-5-110519	Total/NA	Water	9056A	
280-130576-6	MW-6-110519	Total/NA	Water	9056A	
280-130576-6	MW-6-110519	Total/NA	Water	9056A	
280-130576-7	TW-1-110519	Total/NA	Water	9056A	
280-130576-7	TW-1-110519	Total/NA	Water	9056A	
280-130576-8	DUP-1-110519	Total/NA	Water	9056A	
MB 280-479296/6	Method Blank	Total/NA	Water	9056A	
LCS 280-479296/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-479296/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-479296/3	Lab Control Sample	Total/NA	Water	9056A	
280-130576-3 MS	MW-3-110519	Total/NA	Water	9056A	
280-130576-3 MS	MW-3-110519	Total/NA	Water	9056A	
280-130576-3 MSD	MW-3-110519	Total/NA	Water	9056A	
280-130576-3 MSD	MW-3-110519	Total/NA	Water	9056A	
280-130576-7 MS	TW-1-110519	Total/NA	Water	9056A	
280-130576-7 MS	TW-1-110519	Total/NA	Water	9056A	
280-130576-7 MSD	TW-1-110519	Total/NA	Water	9056A	
280-130576-7 MSD	TW-1-110519	Total/NA	Water	9056A	
280-130576-3 DU	MW-3-110519	Total/NA	Water	9056A	
280-130576-3 DU	MW-3-110519	Total/NA	Water	9056A	
280-130576-7 DU	TW-1-110519	Total/NA	Water	9056A	
280-130576-7 DU	TW-1-110519	Total/NA	Water	9056A	

Analysis Batch: 479414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-130576-2	MW-2-110519	Total/NA	Water	9056A	
MB 280-479414/6	Method Blank	Total/NA	Water	9056A	
LCS 280-479414/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-479414/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Eurofins TestAmerica, Denver

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

General Chemistry (Continued)

Analysis Batch: 479414 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 280-479414/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Client Sample ID: MW-1R-110519

Lab Sample ID: 280-130576-1

Date Collected: 11/05/19 08:00

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 13:47	TAW	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/02/19 17:24	JAP	TAL DEN

Client Sample ID: MW-2-110519

Lab Sample ID: 280-130576-2

Date Collected: 11/05/19 08:45

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 14:09	TAW	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479414	12/04/19 06:30	JAP	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	479296	12/02/19 18:01	JAP	TAL DEN

Client Sample ID: MW-3-110519

Lab Sample ID: 280-130576-3

Date Collected: 11/05/19 09:30

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 14:31	TAW	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	479296	12/02/19 18:20	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/02/19 20:12	JAP	TAL DEN

Client Sample ID: MW-4-110519

Lab Sample ID: 280-130576-4

Date Collected: 11/05/19 10:20

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 14:53	TAW	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/02/19 21:46	JAP	TAL DEN

Client Sample ID: MW-5-110519

Lab Sample ID: 280-130576-5

Date Collected: 11/05/19 11:00

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 15:15	TAW	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/02/19 22:23	JAP	TAL DEN

Client Sample ID: MW-6-110519

Lab Sample ID: 280-130576-6

Date Collected: 11/05/19 11:50

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 15:37	TAW	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	479296	12/02/19 22:42	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/02/19 23:01	JAP	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Client Sample ID: TW-1-110519

Lab Sample ID: 280-130576-7

Date Collected: 11/05/19 12:40

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 15:59	TAW	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	479296	12/03/19 01:49	JAP	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/03/19 03:41	JAP	TAL DEN

Client Sample ID: DUP-1-110519

Lab Sample ID: 280-130576-8

Date Collected: 11/05/19 08:05

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 16:21	TAW	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	479296	12/03/19 05:15	JAP	TAL DEN

Client Sample ID: TB-1-110519

Lab Sample ID: 280-130576-9

Date Collected: 11/05/19 08:00

Matrix: Water

Date Received: 11/06/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	477974	11/18/19 12:41	TAW	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Chevron Rangely, CO CS-47

Job ID: 280-130576-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	01-08-20
Arizona	State	AZ0713	12-20-19
Arkansas DEQ	State	19-047-0	06-01-20
California	State	2513	01-08-20
Connecticut	State	PH-0686	09-30-20
Florida	NELAP	E87667-57	06-30-20
Georgia	State	4025-011	01-08-20
Illinois	NELAP	2000172019-1	04-30-20
Iowa	State	IA#370	12-01-20
Kansas	NELAP	E-10166	04-30-20
Louisiana	NELAP	30785	06-30-20
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1545373	12-31-19
Nevada	State	CO000262020-1	07-31-20
New Hampshire	NELAP	205319	04-28-20
New Jersey	NELAP	190002	06-30-20
New York	NELAP	59923	04-01-20
North Carolina (WW/SW)	State	<cert No.>	12-31-19
North Dakota	State	R-034	01-08-20
Oregon	NELAP	4025-011	01-08-20
Pennsylvania	NELAP	013	08-01-20
South Carolina	State	72002001	01-08-20
Texas	NELAP	T104704183-19-17	09-30-20
US Fish & Wildlife	Federal		07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal		03-26-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	CO000262019-11	07-31-20
Virginia	NELAP	10490	06-14-20
Washington	State	C583-19	08-05-20
West Virginia DEP	State	354	11-30-20
Wisconsin	State	999615430	08-31-20
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Chain of Custody Record

Client Information Client Contact: Chris Beall Company: Stantec Consulting Corp. Address: 2000 South Colorado Blvd Suite 2-300 City: Denver State, Zip: CO, 80222 Phone: Email: Christopher.Beall@stantec.com Project Name: Rangely, CO - 3Q19 GW Site:		Sampler: B. Collins Lab PM: McEntee, Patrick Phone: 720 233-1409 E-Mail: patrick.mcintee@testamericainc.com		Carrier Tracking No(s): COC No: Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 28016570 SSOW#:		Analysis Requested			
Sample Identification		Sample Date 11/5/19	Sample Time 800	Sample Type G=grab	Matrix (W=water, S=solid, O=soil) Preservation Code:
MW-1R-110519					
MW-2-110519					
MW-3-110519					
MW-4-110519					
MW-5-110519					
MW-6-110519					
TW-1-110519					
DUP-1-110519					
BC Trip Blank TB-1-110519					
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/OC Requirements:			
Empty Kit Relinquished by:		Method of Shipment:			
Relinquished by:		Date/Time: 11/06/19 1100			
Relinquished by:		Date/Time:			
Relinquished by:		Date/Time:			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 0910012#8 511-06-15			

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 280-130576-1

Login Number: 130576

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Lubin, Julius C

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	