

Prepared For

**K.P. KAUFFMAN COMPANY, INC.
WORLD TRADE CENTER
1675 BROADWAY, SUITE 2800
DENVER, CO 80202-4825**

**PHASE II ENVIRONMENTAL SITE ASSESSMENT
GRANT TANK BATTERY
FACILITY NO. 446608 & REMEDIATION NO. 12158
4300 GODDING HOLLOW PARKWAY
FIRESTONE, WELD COUNTY, CO 80504**

**Date Issued: March 14, 2019
APEX Project Number 1-0025.030.00**

Prepared By

**APEX CONSULTING SERVICES, INC.
P.O. Box 369
LOUISVILLE, CO 80027-0369**

566 West Willow Court
Reply to: P.O. Box 369
Louisville, CO 80027-0369
Phone: 303-665-1400
Fax: 303-665-0620
email: apexcsi@comcast.net

March 14, 2019

Ms. Susana Lara-Mesa
K.P. Kauffman Company, Inc.
World Trade Center
1675 Broadway, Suite 2800
Denver, CO 80202-4825

**Re: Phase II Environmental Site Assessment, Grant Tank Battery, Facility No. 446608,
Remediation No. 12158 4300 Godding Hollow Parkway, Firestone, Weld County, CO 80504**

Ms. Lara-Mesa:

Apex Consulting Services, Inc. (APEX) is pleased to provide the results of our Phase II Environmental Site Assessment of the Grant Tank Battery (Facility No. 446608 and Remediation No. 12158) located at 4300 Godding Hollow Parkway in Firestone, CO 80504 (Property). The following report details the field activities, methods and findings of the assessment.

We appreciate the opportunity to provide environmental services for this project. If you have any questions concerning this report, or if we can assist you in any other matter, please call.

Sincerely,

APEX CONSULTING SERVICES, INC.



Michael D. Hattel, P.G., R.E.A.
Principal

TABLE OF CONTENTS

1.0	INTRODUCTION	2
2.0	FIELD ACTIVITIES	2
2.1	Utility Locates	2
2.2	Monitoring Well Installation and Soil Sampling	2
2.3	Groundwater Sampling.....	4
2.4	Surface Water Sampling.....	4
3.0	ANALYTICAL METHODS AND RESULTS	4
3.1	Analytical Methods	4
3.2	Analytical Results	5
4.0	CONCLUSIONS, DICSUSSIONS AND RECOMMENDATIONS	5
5.0	LIMITATIONS	7

APPENDIX

- Appendix A Figures and Boring Logs
- Appendix B Tables and Laboratory Analytical Reports

1.0 INTRODUCTION

Apex Consulting Services, Inc. (APEX) was retained by K.P. Kauffman Company, Inc. (KPK) to perform a Phase II Environmental Site Assessment (ESA) at the Property. The location of the Property is illustrated on a vicinity map (Figure 1) which is included in Appendix A. A site map (Figure 2) is also included in Appendix A.

On January 15, 2019, KPK submitted a Site Investigation and Remediation Work plan (Supplemental Form 27) to the Colorado Oil and Gas Conservation Commission (COGCC) for approval. On January 31, 2019, COGCC requested the installation of an array of temporary groundwater monitoring wells, collection of soil and groundwater samples for analysis, installation of a surface water gauging station marker, and a report that includes field logs and analytical tables.

2.0 FIELD ACTIVITIES

2.1 Utility Locates

Prior to initiating the field activities (soil borings), the State of Colorado law requires that, at least 48 hours prior to the initiation of any subsurface work (drilling, backhoe operation, etc.), a utility inspection be performed at the Property. This inspection consists of the marking of underground utility locations by authorized utility locating personnel. The utility inspection was performed prior to the probing activities.

2.2 Monitoring Well Installation and Soil Sampling

On February 25, 2019, APEX subcontracted with Drill Pro of Denver, Colorado to provide and operate probing equipment. Drill Pro, under the direction of APEX, advanced nine (9) borings (MW-1 through MW-5 and PB-1 through PB-4) at the Property utilizing a direct-push, truck-mounted Geoprobe rig (6620 DT). Continuous soil cores were collected from the ground surface to the terminal depths in the borings using a four-foot long, stainless-steel, macro core barrel lined with new, disposable acetate sleeves. Five (5) of the borings (MW-1 through MW-5) were completed as groundwater monitoring wells.

Borings MW-1 through MW-5 were advanced to terminal depths of 14 feet below ground surface (BGS). Borings PB-1 through PB-4 were advanced to terminal depths of 14 to 16 feet BGS. Groundwater was present in the borings at depths of seven (7) to 9 feet BGS. The location of the borings is illustrated on Figure 2 which is included in Appendix A.

Clay, silty to sandy clay, and sand were present in the borings. Soil samples were collected from each core collected from the borings. The soil samples collected from each boring were field screened for the presence of staining, unusual odors and volatile organic compounds (VOCs) vapors with a photo-ionization detector (PID) equipped with a 10.8 electro-volt lamp. Unusual odors, staining or VOCs were not present in the samples or cores collected from borings MW-1 or MW-5. Petroleum odors, grey to black staining and VOCs were present in the samples and cores collected from borings MW-2, MW-3, MW-4, PB-1, PB-3 and PB-4 at depths ranging from four (4) to 15 feet BGS. Soil samples were collected from cores collected from each soil boring from just above groundwater or from areas exhibiting the highest PID measurement. Soil cores were discarded into a 5-gallon, plastic bucket.

Following the completion of coring, borings MW-1 through MW-5 were completed as monitoring wells. Each monitoring well was constructed with 10 feet of 0.01-inch, factory slotted, two-inch inside diameter (I.D.), Schedule 40 polyvinyl chloride (PVC) well screen attached to the appropriate length of Schedule 40, solid, two-inch I.D., PVC casing. All joints were flush threaded and a threaded end cap was placed on the bottom of the well screen. Grade 10-20 sand was placed into the boring to bring the filter pack up to a level of approximately one (1) to two (2) feet above the well screen. Bentonite chips were placed on top of the filter pack and hydrated to form a protective seal from the filter pack to the surface. Protective steel covers (flush mount) were installed over the solid PVC casing and anchored with concrete. Each monitoring well was fitted with a lockable cap. Descriptions of encountered soils, soil sample depths, well screen intervals and VOC measurements are illustrated on the boring logs that are included in Appendix A (Figures 3A and 3B).

The top of the surface casing for each well and the surface water level of Godding Hollow were surveyed to a local datum (100 feet) utilizing a Bosch Self-Leveling Rotary Laser. The location of the datum is illustrated on Figure 4 which is included in Appendix A.

2.3 Groundwater and Surface Water Sampling

Groundwater samples were collected for laboratory analyses from the monitoring wells on February 28, 2019. Groundwater samples were also collected from a monitoring well previously completed at the Property (TH-11). The location of all the wells that were sampled is illustrated on Figure 4 in Appendix A.

Prior to groundwater sampling, groundwater elevations were measured and recorded in each of the monitoring wells located at the Property. Shallow groundwater was present in the wells at depths ranging from approximately 7.2 (MW-4) to 11.8 (MW-3) feet BGS. Groundwater flow direction was determined to be to the west-northwest (Figure 4 in Appendix A). Very slight petroleum odors and a slight sheen of product were present on the groundwater collected from monitoring wells MW-3, MW-4 and TH-11.

Monitoring wells MW-1 and MW-3 were prepared for sampling by purging three (3) well volumes with new polyethylene bailer. Monitoring wells MW-2, MW-3, MW-5 and TH-11 were prepared for sampling by purging the wells dry with a polyethylene bailer. Thereafter, the groundwater was sampled from the monitoring wells with the bailers. Groundwater purged from the monitoring wells was placed in the on-site produced water tank.

2.4 Surface Water Sampling

A surface water sample (grab sample) was collected from Godding Hollow on February 28, 2019. The sample was collected adjacent to the surface water gauging marker. The location of the marker and the sample location are illustrated on Figure 4 in Appendix A.

3.0 ANALYTICAL METHODS AND RESULTS

3.1 Analytical Methods

The soil and groundwater samples were handled with clean, new, nitrile gloves and placed in laboratory supplied sample containers and labeled. The samples were immediately placed in a cooler on ice. The samples were delivered under chain of custody to Summit Scientific laboratory in Golden, Colorado for analysis. Each soil and

groundwater sample was analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8260. Each soil sample was also analyzed for diesel range organics (DRO), gasoline range organics (GRO) and oil range organics (ORO) by EPA Method 8015. The groundwater samples were also analyzed for chloride and sulfate by EPA Method 300 and total dissolved solids (TDS) by EPA Method SM 540C. Finally, the surface water sample collected from Godding Hollow was analyzed for BTEX by EPA Method 8260 and Chloride by EPA Method 300.

3.2 Analytical Results

BTEX, GRO and DRO compounds were detected in the soil samples collected from borings MW-2, MW-3, MW-4, PB-2, PB-3 and PB-4. Also, ORO compounds were detected in soil samples collected from borings MW-3 and MW-4.

BTEX compounds were only detected in the groundwater sample collected from boring MW-4. Chloride, sulfate and TDS were detected in each of the groundwater samples submitted for analysis.

BTEX compounds were not detected in the surface water sample collected from Godding Hollow. However, chloride was detected in the sample collected from Godding Hollow.

A summary of the analytical results for the soil and groundwater samples are presented on Tables 1 and 2 which are included in Appendix B. The laboratory analytical reports are also included in Appendix B.

4.0 CONCLUSIONS, DISCUSSIONS AND RECOMMENDATIONS

On February 25, 2019, 9 borings were completed to terminal depths ranging from 14 to 16 feet BGS at the Property. Five of the borings were completed as monitoring wells (MW-1 through MW-5). The wells were completed to terminal depths of 14 BGS. Groundwater was present in the wells at depths ranging from 7.2 to 11.8 feet. The groundwater flow direction was calculated to be to the west-northwest. Groundwater samples were collected from each of the monitoring wells and a surface water sample was collected from Godding Hollow on February 28, 2018.

Petroleum odors, grey to black staining and VOCs were present in the samples and cores collected from borings MW-2, MW-3, MW-4, PB-1, PB-3 and PB-4 at depths ranging from four (4) to 15 feet BGS. Soil samples were collected from eight of the 9 borings and were retained for analysis.

BTEX, GRO and DRO compounds were detected in the soil samples collected from borings MW-2, MW-3, MW-4, PB-2, PB-3 and PB-4. Also, ORO compounds were detected in soil samples collected from borings MW-3 and MW-4. The GRO concentrations detected in the soil samples collected from borings MW-2, MW-3, MW-4, PB-2, PB-3 and PB-4 exceed the COGCC standard of 500 milligrams per kilogram (mg/kg). Also, the DRO and ORO concentrations detected in each of the soil samples collected from borings MW-3 and MW-4 exceed the COGCC standard of 500 mg/kg.

BTEX compounds were only detected in the groundwater sample collected from boring MW-4. Benzene was detected in the sample at a concentration of 210 micrograms per liter (ug/L). The COGCC standard for benzene in groundwater is 5 ug/L. Chloride, sulfate and TDS were detected in each of the groundwater samples submitted for analysis. The COGCC standard for the aforementioned is 1.25 times the background concentration. Based on measured groundwater elevations, monitoring well MW-1 is upgradient. Consequently, chloride, sulfate and TDS concentrations in the samples collected from monitoring well MW-1 are considered to be background concentrations. Chloride was detected above the COGCC standard in samples collected from monitoring wells MW-4 and MW-5. Sulfate was detected above the COGCC standard in the sample collected from monitoring well MW-3. Finally, TDS were detected above the COGCC standard in samples collected from monitoring wells MW-2, MW-3, MW-4 and MW-5.

BTEX compounds were not detected in the surface water sample collected from Godding Hollow. Also, chloride was detected below the COGCC standard in the sample collected from monitoring Godding Hollow.

Based on the analytical results for soil and groundwater sample collected during this ESA, petroleum contaminated soil and groundwater exceeding COGCC standards are present at the Property. Consequently, additional work is warranted.

5.0 LIMITATIONS

This report presents a summary of work completed by APEX. The completed work includes observations of subsurface soil and groundwater conditions encountered and the analytical results provided by an independent third party laboratory of samples collected during the course of the work. It cannot be assumed that the available data are representative of subsurface conditions in areas not sampled. APEX warrants that the environmental consulting services contained herein were accomplished in accordance with generally accepted practices in the environmental engineering, geology, and hydrogeology fields that exist at the time and location of work. No other warranties are implied or expressed.

APPENDIX A

FIGURES AND BORING LOGS

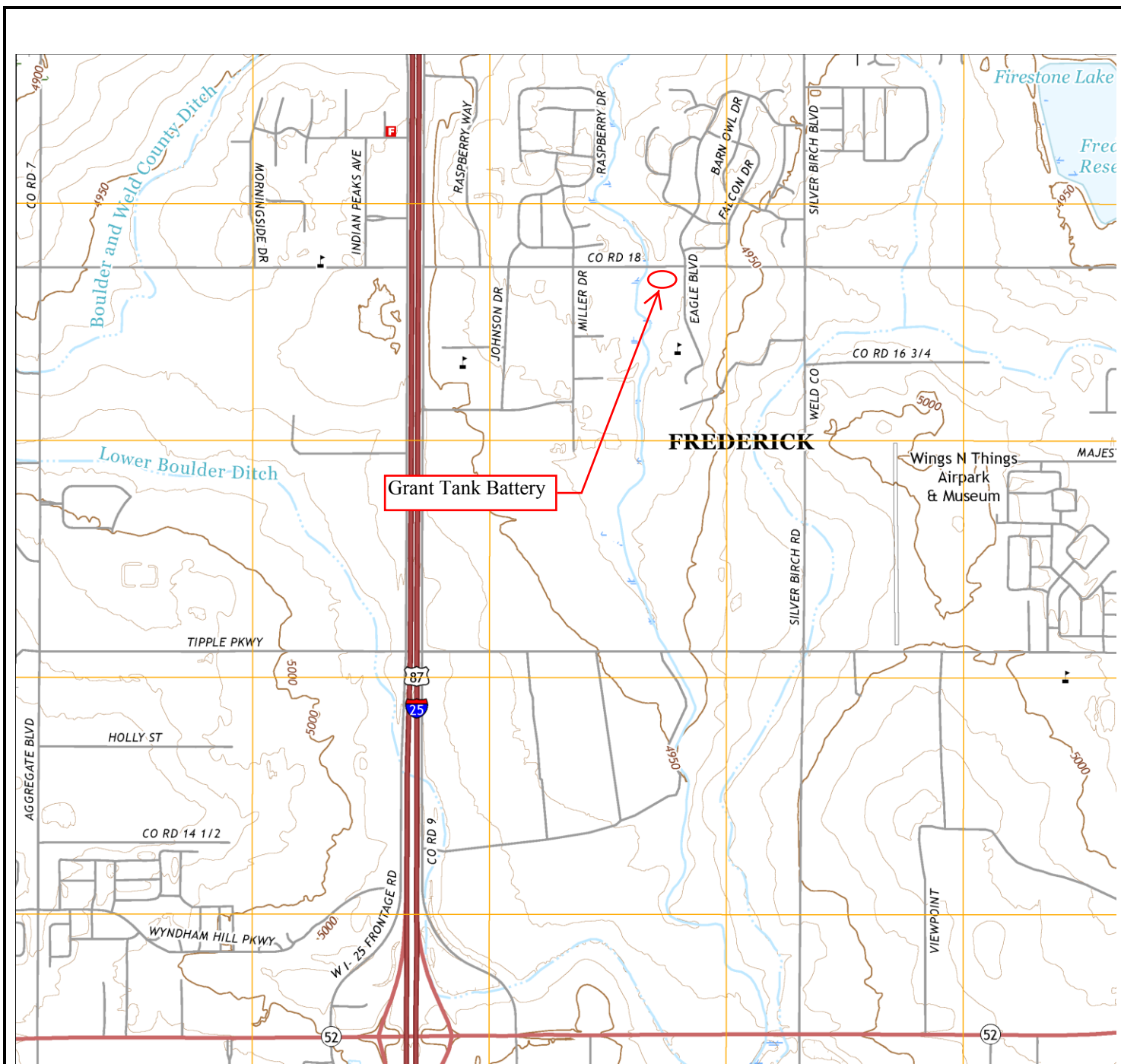


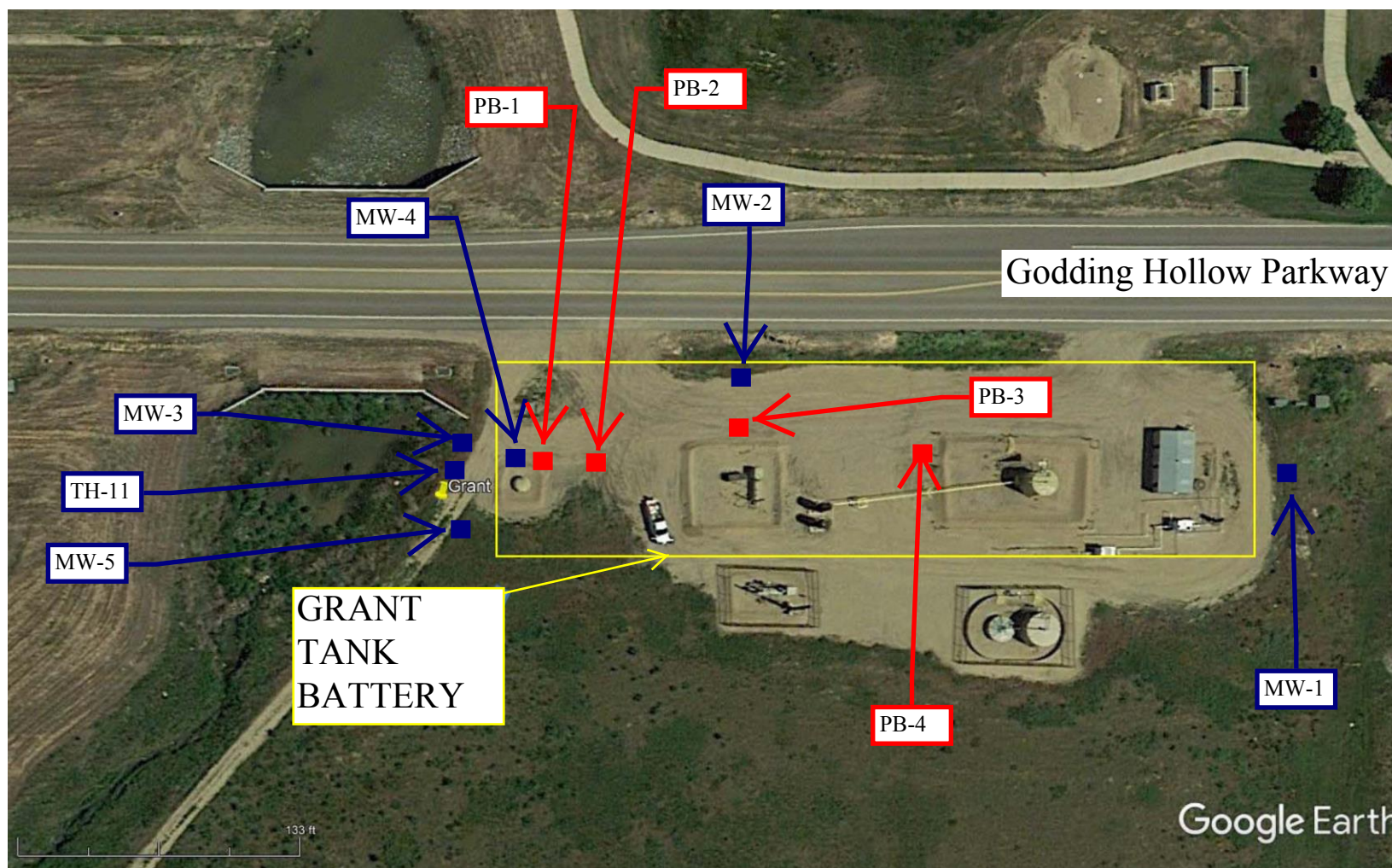
FIGURE 1: VICINITY MAP

GRANT TANK BATTERY
FACILITY NO. 446608
4300 GODDING HOLLOW PKWY
FIRESTONE, WELD COUNTY, CO



USGS 7.5 Minute
Frederick 2016
Created: 2019
Revised: None

**APEX
CONSULTING
SERVICES, INC.**



Monitoring Well
& Number



Probe Boring
& Number

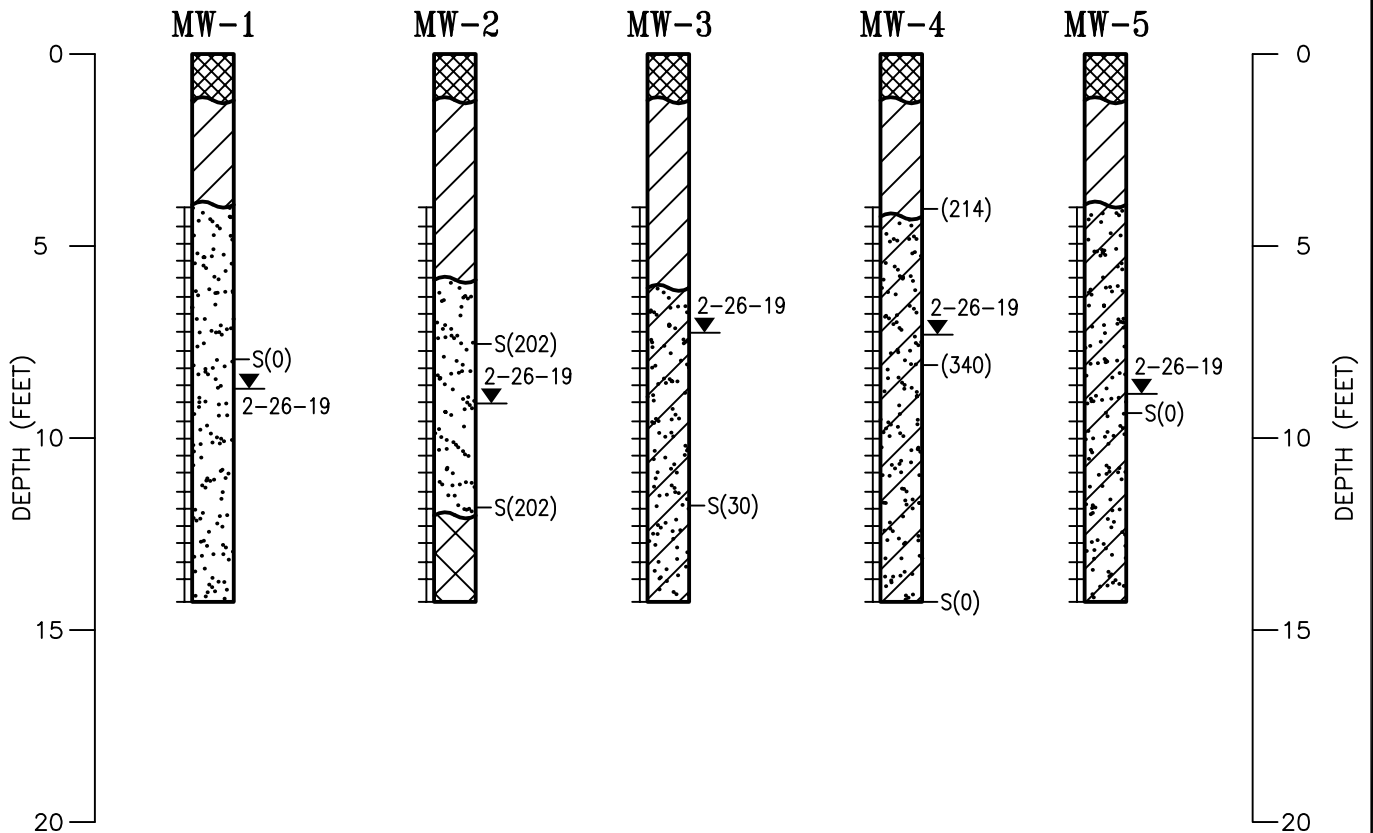
FIGURE 2: SITE MAP

GRANT TANK BATTERY
FACILITY NO. 446608
4300 GODDING HOLLOW PKWY
FIRESTONE, WELD COUNTY, CO



Google Earth
Created: 2019
Revised: None

APEX CONSULTING SERVICES, INC.



NOTES:

1. EXPLORATORY BORINGS WERE DRILLED ON FEBRUARY 25, 2019.
2. BORINGS WERE COMPLETED WITH A GEOPROBE 6620 DT.
3. RELATIVE ELEVATIONS OF BORINGS WERE SURVEYED. LOGS ARE DRAWN TO DEPTH.
4. LINES BETWEEN MATERIALS REPRESENT APPROXIMATE BOUNDARIES BETWEEN TYPES. TRANSITIONS MAY BE GRADUAL.
5. PID READINGS WERE MADE WITH A THERMOENVIRONMENTAL MODEL 580-B PHOTOIONIZATION DETECTOR WITH A 10.0 ELECTRON VOLT LAMP.
6. GROUNDWATER LEVELS WILL FLUCTUATE.

LEGEND:



TOP SOIL/ROADBASE



CLAY: SILTY, MEDIUM TO LOW PLASTICITY, BROWN (CL)



SILTY TO SANDY CLAY, OCCASIONAL BROWN TO GREY TO BLACK (CL)



SAND, SILTY, TAN (SM)



LOST CORE

S(202)

SAMPLE LOCATION AND PHOTOIONIZATION DETECTOR (PID) READING IN PARTS PER MILLION

2-26-19

WATER LEVEL AND DATE MEASURED



WELL SCREEN INTERVALS

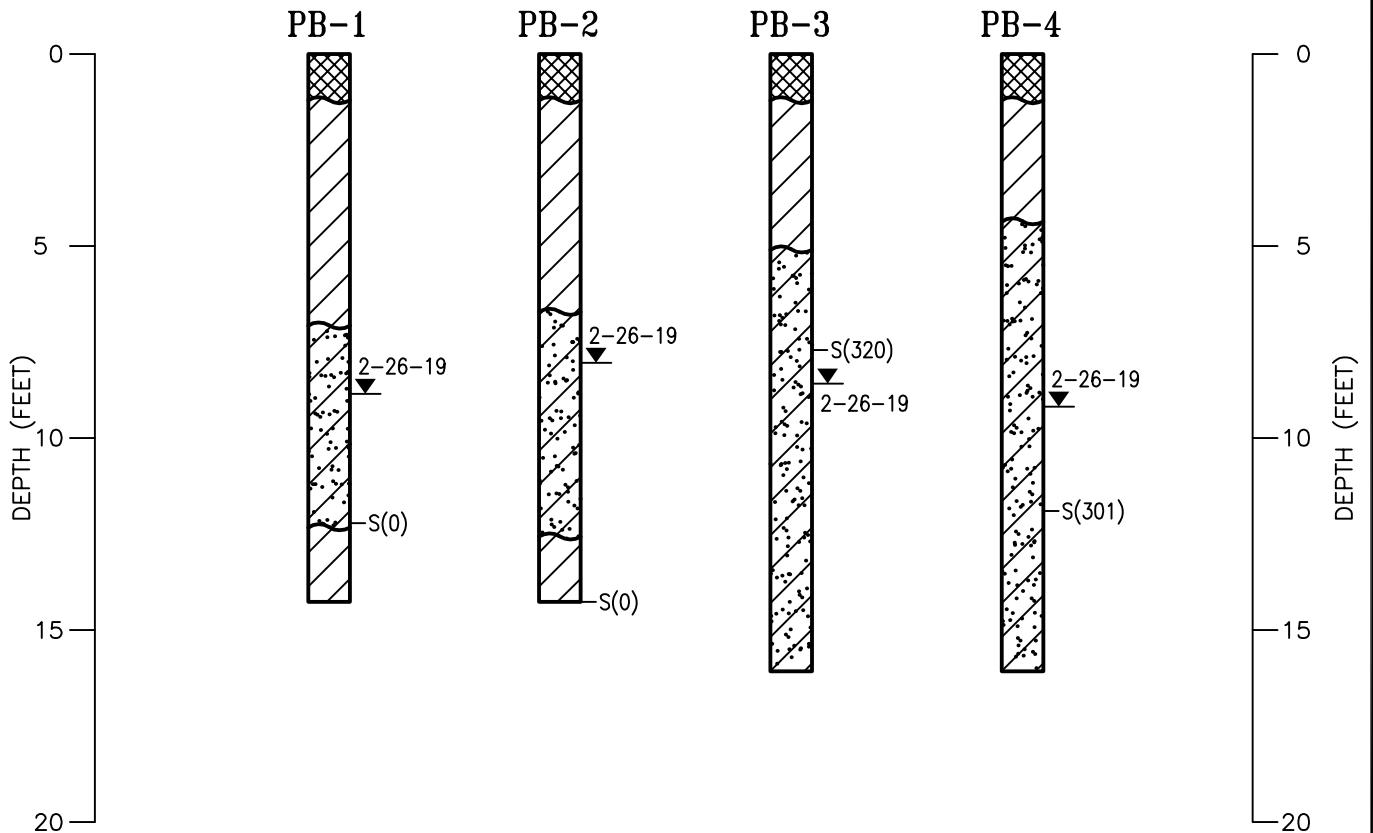
APEX JOB: 19-025.030.01

GRANT TANK BATTERY
FACILITY NO. 446608
4300 GODDING HOLLOW PKWY
FIRESTONE, WELD COUNTY, CO

APEX

FIGURE:

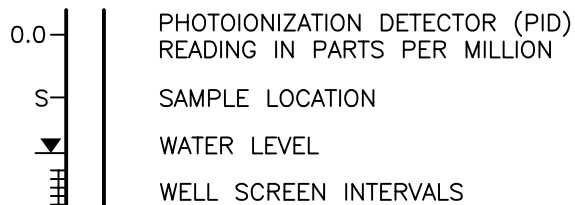
3A



NOTES:

1. EXPLORATORY BORINGS WERE DRILLED ON FEBRUARY 25, 2019.
2. BORINGS WERE COMPLETED WITH A GEOPROBE 6620 DT.
3. RELATIVE ELEVATIONS OF BORINGS WERE SURVEYED. LOGS ARE DRAWN TO DEPTH.
4. LINES BETWEEN MATERIALS REPRESENT APPROXIMATE BOUNDARIES BETWEEN TYPES. TRANSITIONS MAY BE GRADUAL.
5. PID READINGS WERE MADE WITH A THERMOENVIRONMENTAL MODEL 580-B PHOTOIONIZATION DETECTOR WITH A 10.0 ELECTRON VOLT LAMP.
6. GROUNDWATER LEVELS WILL FLUCTUATE.

LEGEND:



APEX JOB: 19-025.030.01

GRANT TANK BATTERY
FACILITY NO. 446608
4300 GODDING HOLLOW PKWY
FIRESTONE, WELD COUNTY, CO

APEX
FIGURE:
3B

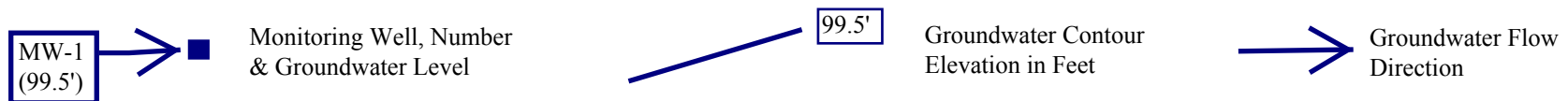
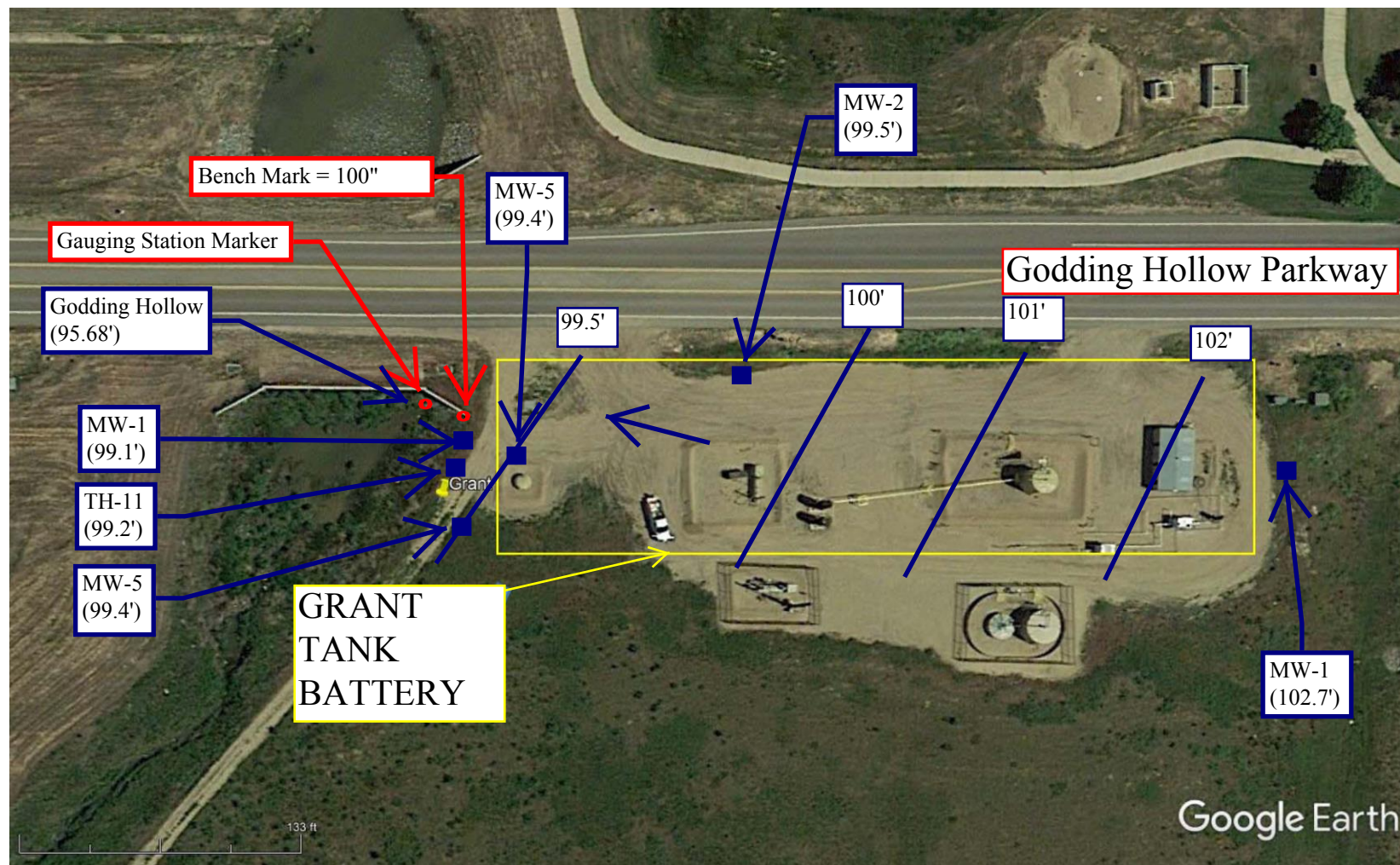


FIGURE 4: Groundwater MAP

GRANT TANK BATTERY
FACILITY NO. 446608
4300 GODDING HOLLOW PKWY
FIRESTONE, WELD COUNTY, CO



Google Earth
Created: 2019
Revised: None

APEX CONSULTING SERVICES, INC.

APPENDIX B

TABLES AND LABORATORY ANALYTICAL REPORTS

TABLE 1

**SUMMARY OF LABORATORY RESULTS
FOR A SOIL SAMPLES COLLECTED FROM
GRANT TANK BATTERY, WELD COUNTY, COLORADO**

Sample	Date	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	GRO	DRO	ORO
MW-1-8	2/25/19	<0.0020	<0.005	<0.005	<0.010	<0.50	<50	<50
MW-2-7.5	2/25/19	0.0036	0.018	0.012	0.061	1100	71	<50
MW-3-8	2/25/19	0.0130	<0.005	0.940	0.056	780	510	100
MW-4-8	2/25/19	1.2000	0.054	15.000	82.000	1500	500	80
MW-5-9	2/25/19	<0.0020	<0.005	<0.005	<0.010	<0.50	<50	<50
PB-2-8	2/25/19	0.8700	0.084	10.000	56.000	3600	230	<50
PB-3-8	2/25/19	1.4000	2.400	2.000	7.900	3600	61	<50
PB-4-12	2/25/19	<0.2000	1.800	6.000	6.300	1900	330	<50
Standard		0.2600	140.000	190.000	260.000	*500	*500	*500

Standard = Colorado Oil and Gas Conservation Commission (COGCC)

All concentrations reported in milligrams per kilogram (mg/kg)

Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8260

DRO = Diesel Range Organics by EPA Method 8015

GRO = Gasoline Range Organics by EPA Method 8015

ORO = Oil Range Organics by EPA Method 8015

TPH = DRO + GRO + ORO

BOLD = Concentration Exceeds Standard

TABLE 2

SUMMARY OF LABORATORY RESULTS

FOR A SURFACE AND GROUNDWATER SAMPLES COLLECTED FROM

GRANT TANK BATTERY, WELD COUNTY, COLORADO

Sample	Date	Benzene*	Toluene*	Ethyl-Benzene*	Total Xylenes*	Chloride**	Sulfate**	TDS**
MW-1	2/28/19	<1	<1	<1	<2	285	63	685
MW-2	2/28/19	<1	<1	<1	<2	185	145	888
MW-3	2/28/19	<1	<1	<1	<2	311	439	1810
MW-4	2/28/19	210	<1	140	350	7780	77	10400
MW-5	2/28/19	<1	<1	<1	<2	544	107	1040
MW-11	2/28/19	<1	<1	<1	<2	322	159	1800
GH	2/28/19	<1	<1	<1	<2	44	NA	NA
Standard		5	1000	700	1400	***356	***79	***856

Standard = Colorado Oil and Gas Conservation Commission (COGCC) and/or State of Colorado

* = Micrograms per liter (ug/L)

** = Milligrams per liter (mg/L)

*** = 1.25 x background

Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8260

Chloride by EPA Method 300

Sulfate by EPA Method 300

TDS by EPA Method SM 540C

NA = Not Analyzed

BOLD = Concentration Exceeds Standard

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 04, 2019

Susana Lara-Mesa

K.P. Kauffman

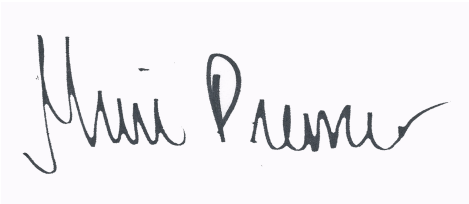
1675 Broadway

Denver, CO 80202

RE: Grant

Enclosed are the results of analyses for samples received by Summit Scientific on 02/26/19 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature is cursive and reads "Muri Premier".

Muri Premier For Ben Shrewsbury

Laboratory Manager



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-8	1902256-01	Soil	02/25/19 08:40	02/26/19 15:00
MW-2-7.5	1902256-02	Soil	02/25/19 09:15	02/26/19 15:00
MW-3-8	1902256-04	Soil	02/25/19 11:10	02/26/19 15:00
MW-4-8	1902256-07	Soil	02/25/19 10:35	02/26/19 15:00
MW-5-9	1902256-09	Soil	02/25/19 10:05	02/26/19 15:00
PB-2-8	1902256-11	Soil	02/25/19 12:30	02/26/19 15:00
PB-3-8	1902256-12	Soil	02/25/19 12:40	02/26/19 15:00
PB-4-12	1902256-13	Soil	02/25/19 13:00	02/26/19 15:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

1902256.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 2

Client: K.P. Kauffman Company, Inc.

Project Manager: Susana Lara-Mesa

Address: 1675 Broadway, Suite 2800

E-Mail: SLaraMesa@kpk.com

City/State/Zip: Denver, CO 80202-4628

Phone: 303-825-4822

Project Name: GRANT

Sampler Name: Mike Hattel (mhattel@msn.com)

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX/LOD	DR/LOD	HOLD						
1	MW-1-8	2/25/19	840	1						X				X	X						
2	MW-2-7.5		915	1						X				X	X						
3	MW-2-12		920	1						X						X					
4	MW-3-8		1110	1						X				X	X						
5	MW-3-14		1120	1						X						X					
6	MW-4-4		1030	1						X						X					
7	MW-4-8		1035	1						X				X	X						
8	MW-4-14		1040	1						X						X					
9	MW-5-9		1005	1						X				X	X						
10	MW-3-11.5		1115	1						X						X					

Relinquished by: <u>Mike Hattel</u>	Date/Time: <u>2/26/19 1500</u>	Received by: <u>[Signature]</u>	Date/Time: <u>2-26-19 1500</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input checked="" type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/>	Notes: <u>email copy of report to Mike Hattel</u> <u>TPH (C6-C35) most samples contaminated</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: <u>10.2</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Summit Scientific

S₂

1902256.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 2 of 2

Client: K.P. Kauffman Company, Inc.

Project Manager: Susana Lara-Mesa

Address: 1675 Broadway, Suite 2800

E-Mail: SLaraMesa@kpk.com

City/State/Zip: Denver, CO 80202-4628


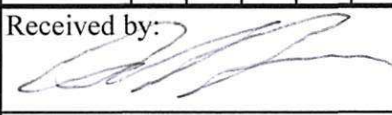
Phone: 303-825-4822

Project Name: CORANT

Sampler Name: Mike Hattel (mhattel@msn.com)

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX/LOD	DRO/PRO							
1	PB-2-8	2/25/19	1230	1						X				X	X						
2	PB-3-8	↓	1240	1						X				X	X						
3	PB-4-12	↓	1300	1						X				X	X						
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 2/26/19 1500	Received by: 	Date/Time: 2.26.19 1500	Turn Around Time (Check)	Same Day <input type="checkbox"/> 72 hours <input checked="" type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: 10.2 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes: email copy of report to Mike Hattel TPH (C6-C35) most contaminated
Relinquished by:	Date/Time:	Received by:	Date/Time:			
Relinquished by:	Date/Time:	Received by:	Date/Time:			

Sample Receipt Checklist

S2 Work Order 1902256

Client: KP Kauffman Client Project ID: Acant

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other P.U. Airbill #: _____

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	<u>10.2</u>
-----------	-------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

W
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

2.26.19 1830
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

MW-1-8
1902256-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1902334	02/27/19	02/28/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/25/19 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		94.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 08:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

MW-2-7.5
1902256-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.0036	0.0020	mg/kg	1	1902334	02/27/19	03/01/19	EPA 8260B	
Toluene	0.018	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.012	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.061	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1100	50	"	100	"	"	"	"	

Date Sampled: **02/25/19 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.7 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.7 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		168 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	71	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>		107 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

MW-3-8
1902256-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.013	0.0020	mg/kg	1	1902334	02/27/19	03/01/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.94	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.056	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	780	5.0	"	10	"	"	"	"	

Date Sampled: **02/25/19 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		376 %	23-173		"	"	"	"	S-02
Surrogate: Toluene-d8		68.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		2790 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	510	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	100	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		129 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

MW-4-8
1902256-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	1.2	0.20	mg/kg	100	1902334	02/27/19	03/01/19	EPA 8260B	
Toluene	0.054	0.0050	"	1	"	"	"	"	
Ethylbenzene	15	0.50	"	100	"	"	"	"	
Xylenes (total)	82	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5000	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		122 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		214 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	590	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	80	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		118 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

MW-5.9
1902256-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1902334	02/27/19	03/01/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/25/19 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		92.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		113 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

PB-2-8
1902256-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	0.87	0.20	mg/kg	100	1902334	02/27/19	03/01/19	EPA 8260B	
Toluene	0.084	0.0050	"	1	"	"	"	"	
Ethylbenzene	10	0.50	"	100	"	"	"	"	
Xylenes (total)	56	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3600	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		115 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.3 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		173 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	230	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		110 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

PB-3-8
1902256-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	1.4	0.20	mg/kg	100	1902334	02/27/19	03/02/19	EPA 8260B	
Toluene	2.4	0.50	"	"	"	"	"	"	
Ethylbenzene	2.0	0.50	"	"	"	"	"	"	
Xylenes (total)	7.9	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3600	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.7 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		288 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	61	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		115 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

PB-4-12
1902256-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.20	mg/kg	100	1902334	02/27/19	03/02/19	EPA 8260B	
Toluene	1.8	0.50	"	"	"	"	"	"	
Ethylbenzene	6.0	0.50	"	"	"	"	"	"	
Xylenes (total)	6.3	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1900	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		153 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	330	50	mg/kg	1	1902335	02/27/19	02/28/19	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		128 %	30-150		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1902334 - EPA 5030 Soil MS

Blank (1902334-BLK1)

Prepared: 02/27/19 Analyzed: 02/28/19

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0371		"	0.0400		92.7	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	21-167			

LCS (1902334-BS1)

Prepared: 02/27/19 Analyzed: 02/28/19

Benzene	0.0996	0.0020	mg/kg	0.100		99.6	70-130			
Toluene	0.0996	0.0050	"	0.100		99.6	70-130			
Ethylbenzene	0.0908	0.0050	"	0.100		90.8	70-130			
m,p-Xylene	0.174	0.010	"	0.200		87.1	70-130			
o-Xylene	0.0937	0.0050	"	0.100		93.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0324		"	0.0400		80.9	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.4	21-167			

Matrix Spike (1902334-MS1)

Source: 1902256-01

Prepared: 02/27/19 Analyzed: 02/28/19

Benzene	0.103	0.0020	mg/kg	0.100	ND	103	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130			
m,p-Xylene	0.182	0.010	"	0.200	ND	91.1	70-130			
o-Xylene	0.0977	0.0050	"	0.100	ND	97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0334		"	0.0400		83.6	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.6	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1902334 - EPA 5030 Soil MS

Matrix Spike Dup (1902334-MSD1)

Source: 1902256-01

Prepared: 02/27/19 Analyzed: 02/28/19

Benzene	0.0998	0.0020	mg/kg	0.100	ND	99.8	70-130	3.11	30	
Toluene	0.0989	0.0050	"	0.100	ND	98.9	70-130	3.75	30	
Ethylbenzene	0.0922	0.0050	"	0.100	ND	92.2	70-130	3.99	30	
m,p-Xylene	0.176	0.010	"	0.200	ND	88.1	70-130	3.36	30	
o-Xylene	0.0953	0.0050	"	0.100	ND	95.3	70-130	2.55	30	
Surrogate: 1,2-Dichloroethane-d4	0.0332		"	0.0400		83.1	23-173			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.4	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1902335 - EPA 3550A

Blank (1902335-BLK1)

Prepared: 02/27/19 Analyzed: 02/28/19

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (1902335-BS1)

Prepared: 02/27/19 Analyzed: 02/28/19

C10-C28 (DRO)	430	50	mg/kg	500	86.0	81.4-129
---------------	-----	----	-------	-----	------	----------

Matrix Spike (1902335-MS1)

Source: 1902256-01

Prepared: 02/27/19 Analyzed: 02/28/19

C10-C28 (DRO)	416	50	mg/kg	500	24.5	78.3	77.8-133
---------------	-----	----	-------	-----	------	------	----------

Matrix Spike Dup (1902335-MSD1)

Source: 1902256-01

Prepared: 02/27/19 Analyzed: 02/28/19

C10-C28 (DRO)	414	50	mg/kg	500	24.5	77.8	77.8-133	0.499	8.48
---------------	-----	----	-------	-----	------	------	----------	-------	------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/04/19 11:29

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 06, 2019

Susana Lara-Mesa

K.P. Kauffman

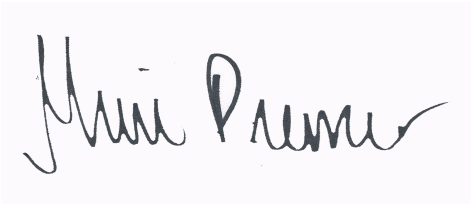
1675 Broadway

Denver, CO 80202

RE: Grant

Enclosed are the results of analyses for samples received by Summit Scientific on 02/28/19 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature is written in a cursive style and reads "Muri Premier".

Muri Premier For Ben Shrewsbury

Laboratory Manager



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]

Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	1902285-01	Water	02/28/19 00:00	02/28/19 15:00
MW-2	1902285-02	Water	02/28/19 00:00	02/28/19 15:00
MW-3	1902285-03	Water	02/28/19 00:00	02/28/19 15:00
MW-4	1902285-04	Water	02/28/19 00:00	02/28/19 15:00
MW-5	1902285-05	Water	02/28/19 00:00	02/28/19 15:00
GH	1902285-06	Water	02/28/19 00:00	02/28/19 15:00
TH-11	1902285-07	Water	02/28/19 00:00	02/28/19 15:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

1902285

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 1

Client: K.P. Kauffman Company, Inc.

Project Manager: Susana Lara-Mesa

Address: 1675 Broadway, Suite 2800

E-Mail: SLaraMesa@kpk.com

City/State/Zip: Denver, CO 80202-4628


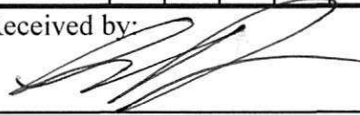
Phone: 303-825-4822

Project Name: GRANT

Sampler Name: Mike Hattel (mhattel@msn.com)

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Sulfate	Chloride	TDS					
1	MW-1	2/28/19		4				X	X					X	X	X	X				
2	MW-2			4				X	X					X	X	X	X				
3	MW-3			2				X	X					X	X	X	X				
4	MW-4			4				X	X					X	X	X	X				
5	MW-5			3				X	X					X	X	X	X				
6	GH			2				X	X					X		X					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes:
	2/28/19 1800		2.28.19 1900	Same Day	72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours		
				Sample Integrity:		
				Temperature Upon Receipt: <u>6.9</u>		
				Samples Intact: <u>Yes</u> No		

Sample Receipt Checklist

S2 Work Order 1902285

Client: KP Kaufman Client Project ID: Grant

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other FD Airbill #: _____

Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)

Temp (°C)	<u>6.9</u>
-----------	------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any): 				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

KP
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

2-28-19 1840
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

MW-1
1902285-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		131 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sulfate	285	30.0	mg/L	100	1903016	03/01/19	03/01/19	EPA 300.0	
Chloride	63.1	6.00	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	685	10.0	mg/L	1	1903006	03/01/19	03/01/19	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

MW-2
1902285-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		132 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	185	6.00	mg/L	100	1903016	03/01/19	03/01/19	EPA 300.0	
Sulfate	145	30.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	888	10.0	mg/L	1	1903006	03/01/19	03/01/19	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

MW-3
1902285-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Sulfate	311	150	mg/L	500	1903016	03/01/19	03/01/19	EPA 300.0	
Chloride	439	30.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1810	10.0	mg/L	1	1903006	03/01/19	03/01/19	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

MW-4
1902285-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	210	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	140	1.0	"	"	"	"	"	"	
Xylenes (total)	350	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		133 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	7780	60.0	mg/L	1000	1903016	03/01/19	03/01/19	EPA 300.0	
Sulfate	77.0	30.0	"	100	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	10400	10.0	mg/L	1	1903006	03/01/19	03/01/19	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

MW-5
1902285-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.5 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Sulfate	544	150	mg/L	500	1903016	03/01/19	03/01/19	EPA 300.0	
Chloride	107	30.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1040	10.0	mg/L	1	1903006	03/01/19	03/01/19	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

GH
1902285-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	43.5	30.0	mg/L	500	1903016	03/01/19	03/01/19	EPA 300.0	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

TH-11
1902285-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1903020	03/01/19	03/04/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	322	30.0	mg/L	500	1903016	03/01/19	03/01/19	EPA 300.0	
Sulfate	159	150	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **02/28/19 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1800	10.0	mg/L	1	1903006	03/01/19	03/01/19	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant
Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1903020 - EPA 5030 Water MS

Blank (1903020-BLK1)

Prepared: 03/01/19 Analyzed: 03/04/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.3		109	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	12.4		"	13.3		93.2	21-167			

LCS (1903020-BS1)

Prepared: 03/01/19 Analyzed: 03/04/19

Benzene	32.4	1.0	ug/l	33.3		97.4	70-130			
Toluene	34.2	1.0	"	33.3		103	70-130			
Ethylbenzene	40.5	1.0	"	33.3		122	70-130			
m,p-Xylene	71.4	2.0	"	66.7		107	70-130			
o-Xylene	38.8	1.0	"	33.3		116	70-130			
Surrogate: 1,2-Dichloroethane-d4	14.0		"	13.3		105	23-173			
Surrogate: Toluene-d8	14.4		"	13.3		108	20-170			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.4	21-167			

Matrix Spike (1903020-MS1)

Source: 1902285-01

Prepared: 03/01/19 Analyzed: 03/04/19

Benzene	31.3	1.0	ug/l	33.3	ND	93.9	70-130			
Toluene	31.4	1.0	"	33.3	ND	94.4	70-130			
Ethylbenzene	41.4	1.0	"	33.3	ND	124	70-130			
m,p-Xylene	70.9	2.0	"	66.7	ND	106	70-130			
o-Xylene	39.3	1.0	"	33.3	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.3		112	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.9	20-170			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.6	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1903020 - EPA 5030 Water MS

Matrix Spike Dup (1903020-MSD1)		Source: 1902285-01			Prepared: 03/01/19 Analyzed: 03/04/19					
Benzene	33.0	1.0	ug/l	33.3	ND	99.0	70-130	5.35	30	
Toluene	33.8	1.0	"	33.3	ND	101	70-130	7.14	30	
Ethylbenzene	39.6	1.0	"	33.3	ND	119	70-130	4.40	30	
m,p-Xylene	69.1	2.0	"	66.7	ND	104	70-130	2.61	30	
o-Xylene	38.6	1.0	"	33.3	ND	116	70-130	1.93	30	
Surrogate: 1,2-Dichloroethane-d4	16.8		"	13.3		126	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.4	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1903016 - General Preparation

Blank (1903016-BLK1)

Prepared & Analyzed: 03/01/19

Sulfate	ND	0.300	mg/L
Chloride	ND	0.0600	"

LCS (1903016-BS1)

Prepared & Analyzed: 03/01/19

Sulfate	16.1	0.300	mg/L	15.0	108	90-110
Chloride	3.27	0.0600	"	3.00	109	90-110

Duplicate (1903016-DUP1)

Source: 1902285-01

Prepared & Analyzed: 03/01/19

Sulfate	287	30.0	mg/L	285	0.805	20
Chloride	61.9	6.00	"	63.1	1.92	20

Matrix Spike (1903016-MS1)

Source: 1902285-01

Prepared & Analyzed: 03/01/19

Sulfate	2050	30.0	mg/L	1500	285	118	80-120
Chloride	396	6.00	"	300	63.1	111	80-120

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch 1903006 - General Preparation

Blank (1903006-BLK1)

Prepared & Analyzed: 03/01/19

Total Dissolved Solids ND 10.0 mg/L

Duplicate (1903006-DUP1)

Source: 1902285-01

Prepared & Analyzed: 03/01/19

Total Dissolved Solids 686 10.0 mg/L 685 0.190 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Grant

Project Number: [none]
Project Manager: Susana Lara-Mesa

Reported:
03/06/19 09:36

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference