

K.P. KAUFFMAN COMPANY, INC.

WORLD TRADE CENTER
1675 BROADWAY, 28TH FLOOR
DENVER, COLORADO 80202-4628
TELEPHONE (303) 825-4822
FACSIMILE (303) 825-4825
www.kpk.com



January 7, 2016

Mr. Chris Canfield
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

Re: Remediation Summary and No Further Action Status Request
Frederick #4 Flowline Release; Spill/Release Point ID: 440331
Weld County, Colorado

Dear Mr. Canfield:

K.P. Kauffman Inc. (KPK) is respectfully submitting a summary of the remediation work performed due to a release of hydrocarbon fluids from the Frederick #4 flowline that was initially reported on November 19, 2014, via Colorado Oil and Gas Conservation Commission (COGCC) FORM 19 (Document # 400735085) by Foundation Energy Management, LLC.

Attached is a full report detailing the field methods and findings of the remediation work performed. Due to the results of the ground water analyses and attainment of soil cleanup standards at the Frederick #4 flowline leak remediation area, KPK respectfully requests a No Further Action status for this project.

Please do not hesitate contacting me if you require any further information at (303) 825-4822 or at slaramesa@kpk.com

Respectfully,

A handwritten signature in dark ink, appearing to read 'Slaramesa', written in a cursive style.

Susana Lara-Mesa
VP of Engineering

K.P. Kauffman Company, Inc.

Flowline Leak Investigation and Remediation

- No Further Action Request -

Frederick #4 Flowline

County Road 13 & County Road 18
Weld County, Colorado

Date Submitted: November 25, 2015

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1.0 INTRODUCTION

K.P. Kauffman Company, Inc. (KPK) submitted notification to the Colorado Oil and Gas Conservation Commission (COGCC) of the transfer of ownership of spill/release point no. 440331 from Foundation Energy Management, LLC (Foundation) on September 15, 2015. Spill/release point no. 440331 is in reference to the flowline release at the Frederick #4 flowline (flowline) in Weld County, Colorado. The flowline is located in the vicinity of Weld County Road 13 and Weld County Road 18. The location of the flowline leak is illustrated on Figure 1 in Appendix A. Foundation initially reported the flowline release via COGCC Form 19 (Document #400735085) on November 19, 2014.

2.0 FIELD ACTIVITIES

2.1 Flowline Leak Investigation

KPK was previously notified by Foundation that the contaminated soil from the flowline release had been excavated, the damaged section of flowline responsible for the reported release had been repaired, and the excavation area backfilled. KPK began its own investigation of the flowline leak on October 29, 2015 and confirmed with visual observation that the area had been excavated and backfilled by Foundation. Photographs of the excavation area are included in Appendix B.

2.2 Soil Sampling

Referencing the approximate limits of the excavation work performed by Foundation, KPK collected five (5) soil samples at a depth of approximately three (3) feet below ground surface (BGS) on October 30, 2015, through the use of a hand auger. Groundwater was encountered at a depth of three (3) feet. Four (4) of the soil samples were collected from the corners of the estimated excavation area and one (1) soil sample was collected from the center of the estimated excavation area. The soil samples were field screened for Volatile Organic Compounds (VOCs) with a photoionization detector (PID). The PID did not detect any presence of VOCs in any of the soil samples. The collected soil samples were screened for odors, staining and/or discoloration. None of the samples exhibited any hydrocarbon odor, staining or discoloration. Soil sample locations are presented in Figure 3 which is included in Appendix A.

The collected soil samples were handled with clean, new, nitrile gloves and placed in laboratory supplied sample containers with proper labels. The samples were placed in a cooler with ice and

delivered to eAnalytics under chain-of-custody for laboratory analysis. The soil samples were analyzed for Total Petroleum Hydrocarbons (TPH) – Diesel (DRO) and Gasoline Range Organics (GRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX) constituents, Electrical Conductivity (EC), Specific Gravity (SG) and pH (eAnalytics Lab ID: 4118).

The laboratory results from eAnalytics indicate that TPH (GRO and DRO) and BTEX constituents were not present above the COGCC cleanup standards specified in Table 910-1. A summary table of the analytical results is included as Table 1 in Appendix C. The laboratory analytical reports and chain-of-custody forms are included in Appendix D.

2.3 Groundwater Sampling

On November 16, 2015, Tasman Geosciences, LLC (Tasman) collected groundwater samples from seven (7) existing monitoring wells that surround the flowline excavation area. Prior to KPK taking over ownership of the Frederick #4 wellsite, Foundation had already contracted Tasman to perform the groundwater sampling and analysis. The monitoring wells used for sample collection are owned by the Town of Frederick and were made available to Foundation for sample collection. Location of the monitoring wells are shown in Figure 4 located in Appendix A. Each groundwater sample was collected using a sterile water bailer.

The groundwater samples were handled with clean, new, nitrile gloves and placed in laboratory supplied sample containers with proper labels. The samples were placed in a laboratory supplied cooler with ice and delivered to Summit Scientific in Golden, Colorado under chain-of-custody for laboratory analysis. The groundwater samples were analyzed for BTEX.

The laboratory results from Summit Scientific indicate that BTEX was not present above the COGCC cleanup standards specified in Table 910-1. A summary table of the analytical results is included as Table 2 in Appendix C. The laboratory analytical reports and chain-of-custody forms are included in Appendix D.

3.0 CONCLUSIONS AND RECOMMENDATIONS

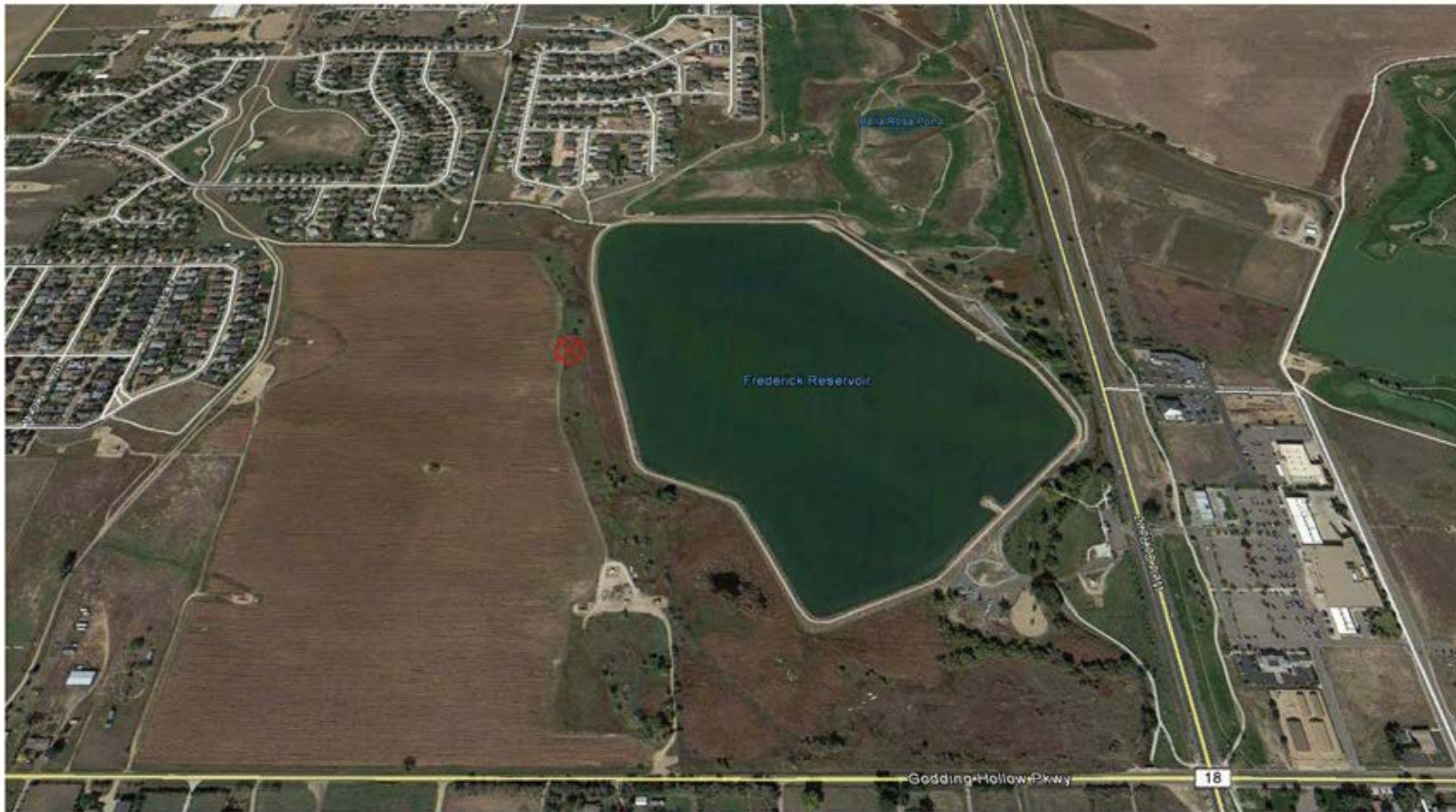
Following Foundation’s excavation, repair, and backfill of the Frederick #4 flowline release, KPK acquired the wellsite facility and performed their own investigation and sampling of the release area.

Five (5) soil samples were collected by KPK on October 30, 2015, and analyzed for BTEX and TPH – DRO and GRO. The soil samples were collected three (3) feet BGS through the use of a hand auger. Each sample collected was field screened for the presence of VOCs, odors, staining, and/or discoloration, which were not exhibited in any of the samples. The laboratory results indicated that TPH – DRO and GRO or BTEX constituents were not present above the COGCC cleanup standards specified in Table 910-1.

On November 16, 2015, seven (7) groundwater samples were collected by Tasman at monitoring wells surrounding the flowline release area and analyzed for BTEX. The laboratory results show that BTEX constituents were not present above the COGCC cleanup standards specified in Table 910-1.

Based on the analytical results, Foundation has completed the proper remediation work prior to KPK's ownership and further remediation work at the flowline release area is not warranted at this time.

Appendix A: Location Maps



Frederick #4 Flowline Release

K.P. Kauffman Company
Location Drawing
Lat: 40.122340° Long: -104.949770°
NWSE Sec 24 T2N R68W
Weld County, Colorado

⊗ Frederick #4 Flowline Release Location

Figure 1



Frederick #4 Flowline Release
K.P. Kauffman Company
Location Drawing
Lat: 40.122340° Long: -104.949770°
NWSE Sec 24 T2N R68W
Weld County, Colorado




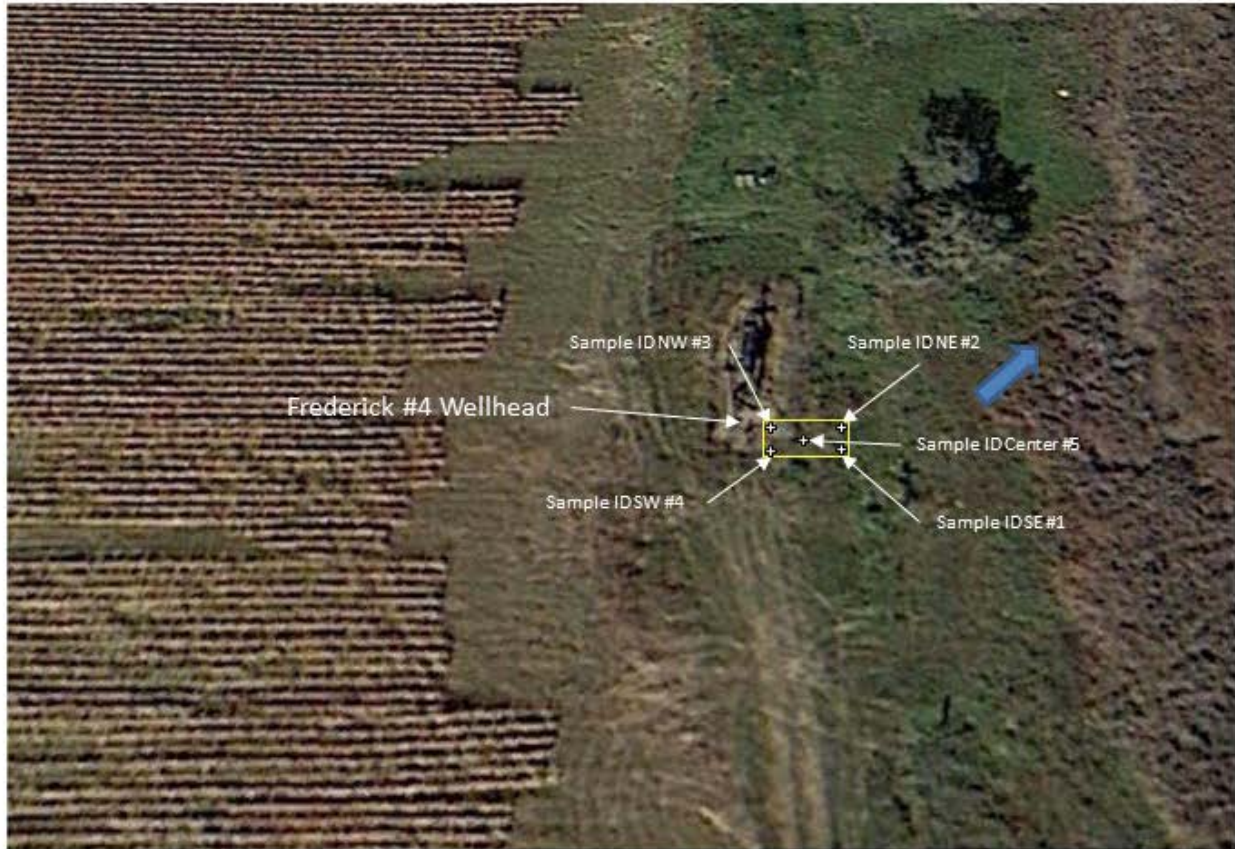
-  Frederick #4 Flowline Release Location
-  Estimated Limits of Excavation (20' x 10' x 3')
-  Direction of Groundwater Flow

Figure 2



Sample ID	Latitude	Longitude	Depth (ft.)
SE #1	40.12235	-104.94977	3.0
NE #2	40.12238	-104.94975	3.0
NW #3	40.12236	-104.94974	3.0
SW #4	40.12234	-104.94973	3.0
Center #5	40.12236	-104.94972	3.0



Frederick #4 Flowline Release
 K.P. Kauffman Company
 Location Drawing
 Lat: 40.122340° Long: -104.949770°
 NWSE Sec 24 T2N R68W
 Weld County, Colorado




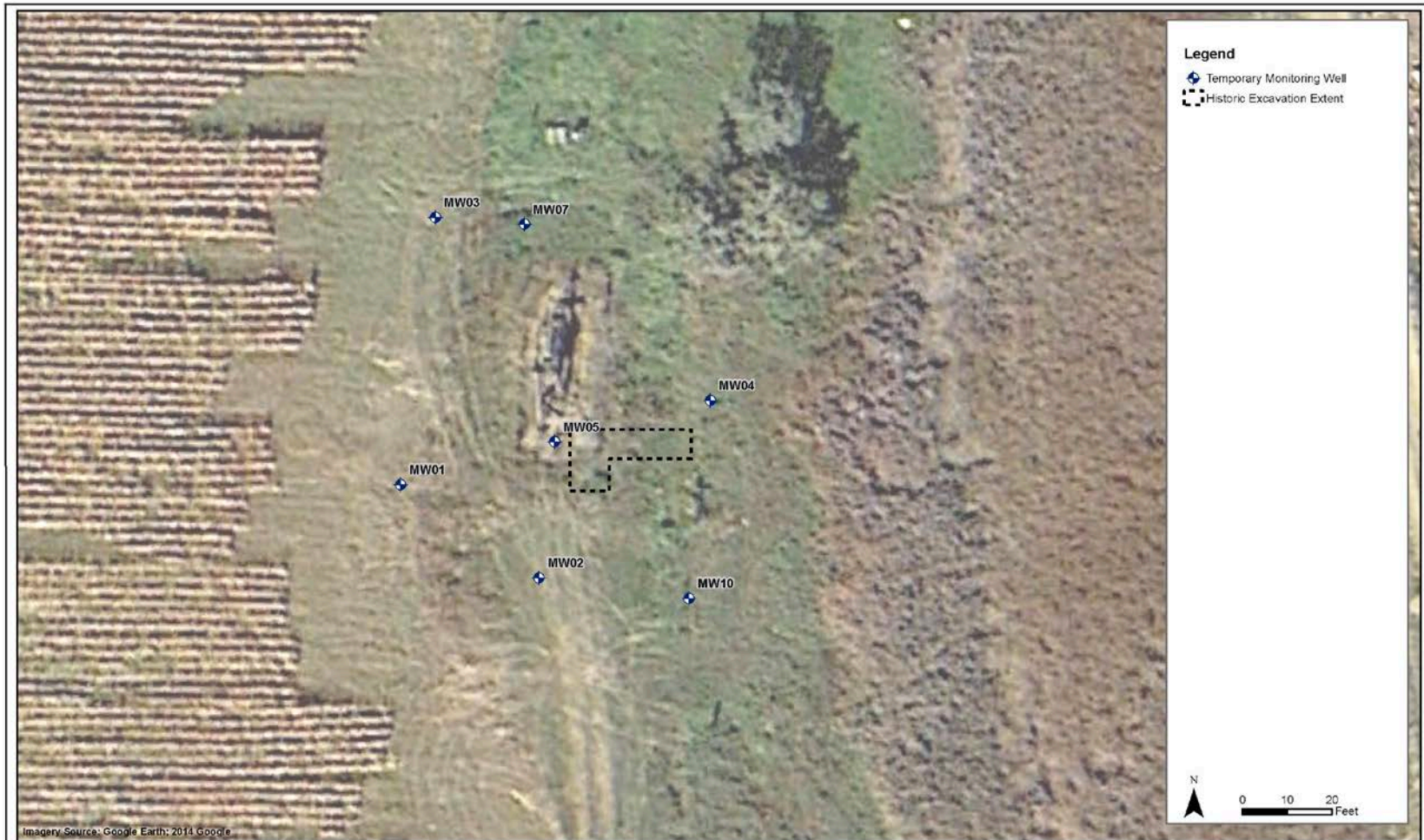
-  Soil Sample Location
-  Estimated Limits of Excavation (20' x 15' x 3')
-  Direction of Groundwater Flow

Figure 3



DATE: August 2015
 DESIGNED BY: C. Peace
 DRAWN BY: D. Arnold

TASMAN GEOSCIENCES
 Tasman Geosciences, LLC
 8898 Pecos Street - Unit C
 Denver, CO 80221

K.P. Kauffman Company Inc.
Frederick #4
 NWSE, Section 24, Township 2 North, Range 68 West
 Weld County, Colorado

Site Map with Monitoring Well Locations

Figure 2

Figure 4

Appendix B: Site Photographs



Photograph #1

Looking North with Frederick #4 Pumping Unit included in photograph. Area behind safety ribbon is the excavation area during Foundation's ownership.

Photograph #2

Looking West with Frederick #4 Pumping Unit and wellhead included in photograph. Area with scarce vegetation is the excavation area during Foundation's ownership.



Photograph #3

Looking Northwest with Frederick #4 Pumping Unit included in photograph. Area with scarce vegetation and behind safety ribbon is the excavation area during Foundation's ownership.



Appendix C: Comparison of Results with Table 910-1 Standards

Appendix D: Laboratory Analysis

Test Report



November 6, 2015

Client: K.P. Kauffman Company, Inc.
Project: Frederick #4
Lab ID: 4118
Date Samples Received: 10/30/2015
Number of Samples: 5
Sample Condition: Samples arrived intact and in appropriate sample containers
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Dieken".

Christopher Dieken
Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Todd Rhea".

Todd Rhea
Laboratory Manager

eAnalytics Laboratory


4130 Clydesdale Parkway Loveland CO 80538

Chain of Custody

eANALYTICS

LABORATORY

Chain of Custody Form

		4130 Clydesdale Parkway Loveland CO 80538 Phone: (970) 667-6975 Fax: (970) 669-0941 www.eAnalyticsLab.com																																																	
CLIENT INFORMATION <small>(*New Clients please fill out completely)</small>		ANALYSIS INFORMATION <small>(Select analysis by checking box on corresponding sample line)</small>																																																	
Company: K.P. Kauffman Company, Inc.		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Number of Containers</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix (S) Soil (W) Water (V) Vapor (O) Other</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX / TVPH (EPA 8260)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TEPH (EPA 8015)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Electrical Conductivity</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">pH</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">SAR</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Other Analysis</th> </tr> <tr> <td>1</td> <td>S</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>2</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Number of Containers	Matrix (S) Soil (W) Water (V) Vapor (O) Other	BTEX / TVPH (EPA 8260)	TEPH (EPA 8015)	Electrical Conductivity	pH	SAR	Other Analysis	1	S	X	X	X	X	X		2	S							3	S							4	S							5	S						
Number of Containers	Matrix (S) Soil (W) Water (V) Vapor (O) Other			BTEX / TVPH (EPA 8260)	TEPH (EPA 8015)	Electrical Conductivity	pH	SAR	Other Analysis																																										
1	S			X	X	X	X	X																																											
2	S																																																		
3	S																																																		
4	S																																																		
5	S																																																		
Project: FREDERICK #4																																																			
Project Manager: SUSANA LARA - MESA																																																			
Sampler: MAX KNOP																																																			
Phone/Email: 303-825-4822																																																			
Address: 1675 Broadway St #2800 Denver, CO 80202																																																			
Lab ID	Sample Name	Sampling Date/Time																																																	
1	SE #1	10/29/15 10:30	AM/PM																																																
2	NE #2	↓	AM/PM																																																
3	NW #3		AM/PM																																																
4	XJSW #4		AM/PM																																																
5	CENTER #5		AM/PM																																																
			AM/PM																																																
Comments:																																																			
Turnaround Time (Business Days) <small>TAT begins when sample is received by eANALYTICS</small> <input checked="" type="radio"/> Normal (5-10 Days) <input type="radio"/> 3 Day (25%) <small>Rush analysis requires an extra charge.</small> <input type="radio"/> 2 Day (50%) <small>If possible please inform eANALYTICS in advance for rush analysis.</small> <input type="radio"/> 1 Day (100%) <input type="radio"/> Same Day (300%)				Record of Custody Relinquished by: <i>[Signature]</i> Date: 10/29/15 Company: K.P.K. Time: 14:15 Received by: <i>[Signature]</i> Date: 10/30/15 Company: Executive course Time: 0900 Relinquished by: <i>[Signature]</i> Date: 10/30/15 Company: <i>[Signature]</i> Time: 1100 Received by: <i>[Signature]</i> Date: 10/30/15 Company: eANALYTICS Time: 1100																																															
Colorado OPS Project: Yes / No				For eANALYTICS Use																																															
Samples Received Intact: Yes / No				Received Within Temperature Range (2-6°C): Yes / No																																															
Sample Preservative: Ice / Acid / None / Other																																																			

WO # 4118

eANALYTICS: Environmental testing made Easy

Page ___ of ___

eAnalytics Laboratory

4130 Clydesdale Parkway Loveland CO 80538

eANALYTICS
LABORATORY

Client: K.P. Kauffman Company, Inc. Lab ID: 4118
 Project: Frederick #4
 Analysis: BTEX / TPH-GRO Method: EPA8260
 TPH-DRO EPA8015

Sample Name	Benzene mg/kg	Toluene mg/kg	Ethyl- benzene mg/kg	Total Xylenes mg/kg	TPH- GRO mg/kg	TPH- DRO mg/kg	Date Sampled	Date Analyzed	Lab ID
SE #1	<0.010	<0.010	<0.010	<0.010	<50	<50	10/29/15	10/30/15	4118 1
NE #2	<0.010	<0.010	<0.010	<0.010	<50	<50	10/29/15	10/30/15	4118 2
NW #3	<0.010	<0.010	<0.010	<0.010	<50	<50	10/29/15	10/30/15	4118 3
SW #4	<0.010	<0.010	<0.010	<0.010	<50	<50	10/29/15	10/30/15	4118 4
Center #5	<0.010	<0.010	<0.010	<0.010	<50	<50	10/29/15	10/30/15	4118 5

eANALYTICS
LABORATORY

Client: K.P. Kauffman Company, Inc. Lab ID: 4118

Project: Frederick #4

Analysis: pH Method: EPA9045D
EC USDA 60 (3)
SAR USDA 60 (20B)

Sample Name	pH su	EC mmhos/cm	SAR ratio	Date	Date	Lab ID
				Sampled	Analyzed	
SE #1	7.9	1.90	8.79	10/29/15	11/04/15	4118 1
NE #2	7.7	0.860	1.23	10/29/15	11/04/15	4118 2
NW #3	7.2	1.01	1.29	10/29/15	11/04/15	4118 3
SW #4	7.6	0.892	1.16	10/29/15	11/04/15	4118 4
Center #5	7.3	0.948	0.91	10/29/15	11/04/15	4118 5



Client: K.P. Kauffman Company, Inc. Lab ID: 4118
 Project: Frederick #4 Method: EPA8260

Sample Name	Dibromo-fluoromethane % Recovery	1,2 Dichloro-ethane-D4 % Recovery	Toluene-D8 % Recovery	4-Bromo-fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
SE #1	96	95	95	97	10/29/15	10/30/15	4118 1
NE #2	95	101	96	96	10/29/15	10/30/15	4118 2
NW #3	104	94	101	102	10/29/15	10/30/15	4118 3
SW #4	100	94	102	99	10/29/15	10/30/15	4118 4
Center #5	103	97	99	94	10/29/15	10/30/15	4118 5



Client: K.P. Kauffman Company, Inc. Lab ID: 4118
 Project: Frederick #4
 Analysis: BTEX / TPH-GRO Method: EPA8260
 TPH-DRO EPA8015

Sample Name	Benzene % Rec	Toluene % Rec	Ethyl- benzene % Rec	Total Xylenes % Rec	TPH- GRO % Rec	TPH- DRO % Rec	Date Analyzed	Lab ID
Laboratory Control Sample (70-130%)	96	89	90	104	103	99	10/30/15	LCS 4118 1
Method Blank	< 0.010 mg/kg	< 0.010 mg/kg	< 0.010 mg/kg	< 0.010 mg/kg	< 50 mg/kg	< 50 mg/kg	10/30/15	MB 4118 1

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 23, 2015

Carter Peace
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: Frederick #4

Enclosed are the results of analyses for samples received by Summit Scientific on 11/16/15 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	1511131-01	Water	11/16/15 00:00	11/16/15 17:15
MW02	1511131-02	Water	11/16/15 00:00	11/16/15 17:15
MW03	1511131-03	Water	11/16/15 00:00	11/16/15 17:15
MW04	1511131-04	Water	11/16/15 00:00	11/16/15 17:15
MW05	1511131-05	Water	11/16/15 00:00	11/16/15 17:15
MW07	1511131-06	Water	11/16/15 00:00	11/16/15 17:15
MW10	1511131-07	Water	11/16/15 00:00	11/16/15 17:15

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

Summit Scientific

1511131

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9110 • 303-374-5933 Fax

Page 1 of 1

Client: TASMAN / KPC (INVOICING)
Address: 1675 Broadway St. 2800
City/State/Zip: DENVER, CO 80127
Phone: 303 825 4822 Fax:
Sampler Name: GJP

Project Manager: C. PEACE / SUSANA LARA-MESA
E-Mail: slaramesa@kpc.com
Project Name: FREDECK #4
Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix			Analyze For:			Special Instructions	
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Container Serial #	Other (Specify)			
MW01	11/16/15					X								
MW02						X								
MW03						X								
MW04				X										
MW05						X								
MW07						X								
MW10	↓			X										

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
				Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
	11/16/15 1700	MJ	11/15 1715	Temperature Upon Receipt: <u>5.9C</u>	on ice
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Intact: (Yes) <input checked="" type="checkbox"/> (No) <input type="checkbox"/>	
	11/16/15 1800	GJP	11-16 1830		



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW01
1511131-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		95.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	45-146		"	"	"	"	

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW02
1511131-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		140 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW03
1511131-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		122 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	45-146		"	"	"	"	

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW04
1511131-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		110 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW05
1511131-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	45-146		"	"	"	"	

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Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW07
1511131-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		122 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.9 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %	45-146		"	"	"	"	

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Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

MW10
1511131-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1511164	11/18/15	11/18/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 11/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

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Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch 1511164 - EPA 5030 Water MS

Blank (1511164-BLK1)

Prepared & Analyzed: 11/18/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.8		"	13.2		120	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.3	45-149			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	45-146			

LCS (1511164-BS1)

Prepared & Analyzed: 11/18/15

Benzene	28.1	1.0	ug/l	33.3		84.3	51-132			
Toluene	30.4	1.0	"	33.3		91.1	51-138			
Ethylbenzene	34.8	1.0	"	33.1		105	58-146			
m,p-Xylene	68.0	2.0	"	66.5		102	57-144			
o-Xylene	34.3	1.0	"	32.8		105	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.9		"	13.2		121	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.6	45-149			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.5	45-146			

Matrix Spike (1511164-MS1)

Source: 1511131-01

Prepared & Analyzed: 11/18/15

Benzene	28.3	1.0	ug/l	33.3	ND	84.9	34-141			
Toluene	30.6	1.0	"	33.3	ND	91.7	27-151			
Ethylbenzene	34.4	1.0	"	33.1	ND	104	29-160			
m,p-Xylene	68.2	2.0	"	66.5	ND	103	20-166			
o-Xylene	34.4	1.0	"	32.8	ND	105	33-159			
Surrogate: 1,2-Dichloroethane-d4	16.7		"	13.2		126	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.1	45-149			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.8	45-146			

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Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

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

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

Batch 1511164 - EPA 5030 Water MS

Matrix Spike Dup (1511164-MSD1)	Source: 1511131-01			Prepared & Analyzed: 11/18/15						
Benzene	28.0	1.0	ug/l	33.3	ND	84.0	34-141	1.03	32	
Toluene	30.3	1.0	"	33.3	ND	91.0	27-151	0.755	25	
Ethylbenzene	34.3	1.0	"	33.1	ND	104	29-160	0.262	50	
m,p-Xylene	67.3	2.0	"	66.5	ND	101	20-166	1.33	36	
o-Xylene	33.9	1.0	"	32.8	ND	103	33-159	1.29	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>17.2</i>		<i>"</i>	<i>13.2</i>		<i>131</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.9</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.2</i>	<i>45-146</i>			

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frederick #4

Project Number: [none]
Project Manager: Carter Peace

Reported:
11/23/15 07:23

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