

# **FREMONT ENVIRONMENTAL INC.**

October 3, 2016

Mr. Phil Wright  
Homestead Oil Inc.  
16880 Wild Plum Circle  
Morrison, CO 80465

RECEIVED 12/08/2016  
REM 8307  
Document #: 2225572

Subject:     **Ground Water Data Submittal**  
              Stephens #1  
              API # 05-123-11552  
              SENW Sec 15, T4N, R66W  
              Weld County, Colorado  
              Fremont Project No. C014-027  
              Facility #243760, Remediation # 8307

Dear Mr. Wright:

Enclosed please find a copy of the above referenced Ground Water Data Submittal for the Stephens #1 site in Weld County, Colorado. The enclosed report describes monitoring and sampling efforts to assess ground water quality at the site. Please contact me at (303) 956-8714 if you require any additional information.

Quarterly sampling of monitoring wells MW-1 and MW-5 has indicated that the ground water impacts are less than the COGCC Table 910-1 limits in those wells; therefore, future sampling events will include the other monitoring wells which have been clean in the past. After four consecutive COGCC-compliant quarters, a No Further Action determination will be requested from the COGCC.

Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Paul V. Henahan, P.E.  
Senior Consultant

Enclosure

**1759 REDWING LANE, BROOMFIELD, CO 80020**  
**(303) 956-8714 (DIRECT)**

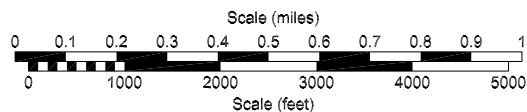
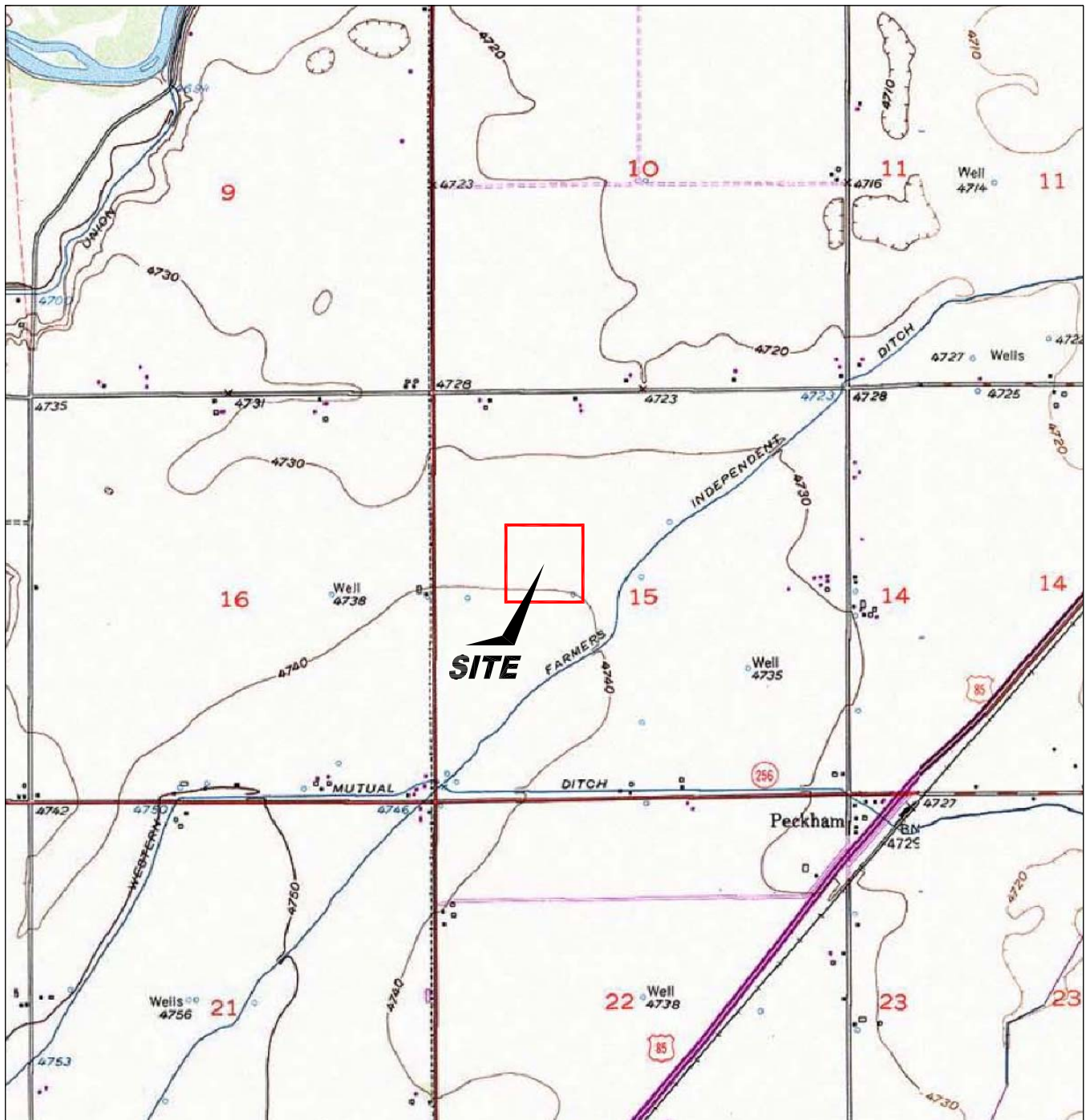
**TABLE 1**  
**SUMMARY OF GROUND WATER ELEVATION DATA AND CHEMISTRY DATA**  
**HOMESTEAD OIL INC.**  
**STEPHENS #1, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C014-027**

<b>SAMPLE LOCATION</b>	<b>DATE</b>	<b>BENZENE (µg/L)</b>	<b>TOLUENE (µg/L)</b>	<b>ETHYL BENZENE (µg/L)</b>	<b>TOTAL XYLENES (µg/L)</b>	<b>TOC ELEVATION (feet)</b>	<b>DEPTH TO GROUND WATER (ft)</b>	<b>GROUND WATER ELEVATION (ft)</b>	<b>FREE PRODUCT THICKNESS (ft)</b>
MW-1	08/20/14	2616	3751	4182	96434	99.22	17.94	81.28	NP
	01/29/15	1728	114	455	8314		20.03	79.19	NP
	04/07/15	30	2.2	<1.0	8800		21.01	78.21	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		18.22	81.00	NP
	10/08/15	75	90	260	4700		NM	NM	NP
	12/07/15	<1.0	<1.0	<1.0	<1.0		NM	NM	NP
	01/20/16	42	6.9	120	1500		20.07	79.15	NP
	04/11/16	40	9.2	81	1200		NM	NM	NP
	08/01/16	<1.0	<1.0	<1.0	1.1		18.28	80.94	NP
MW-2	08/20/14	<1.0	<1.0	<1.0	<1.0	99.43	18.11	81.32	NP
	01/29/15	<1.0	<1.0	<1.0	<1.0		20.27	79.16	NP
	04/07/15	<1.0	<1.0	<1.0	11		21.52	77.91	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		18.89	80.54	NP
	10/08/15	<1.0	<1.0	<1.0	<1.0		17.09	82.34	NP
	01/20/16	<1.0	<1.0	<1.0	<1.0		20.32	79.11	NP
MW-3	08/20/14	8.1	<1.0	<1.0	<1.0	99.81	18.39	81.42	NP
	01/29/15	<1.0	<1.0	<1.0	<1.0		20.56	79.25	NP
	04/07/15	<1.0	<1.0	<1.0	<1.0		21.82	77.99	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		19.16	80.65	NP
	10/08/15	<1.0	<1.0	<1.0	<1.0		17.34	82.47	NP
	01/20/16	<1.0	<1.0	<1.0	<1.0		20.60	79.21	NP
MW-4	08/20/14	<1.0	<1.0	<1.0	<1.0	99.89	18.63	81.26	NP
	01/29/15	<1.0	<1.0	<1.0	<1.0		20.72	79.17	NP
	04/07/15	<1.0	<1.0	<1.0	<1.0		21.95	77.94	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		18.99	80.90	NP
	10/08/15	<1.0	<1.0	<1.0	<1.0		17.53	82.36	NP
	01/20/16	<1.0	<1.0	<1.0	<1.0		20.75	79.14	NP
MW-5	08/20/14	1755	3134	454	10854	99.68	18.55	81.13	NP

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-5	01/29/15	<b>727</b>	<b>2206</b>	298	<b>2476</b>		20.64	79.04	NP
	04/07/15	<b>31</b>	<1.0	6.3	560		21.92	77.76	NP
	07/07/15	<1.0	<1.0	<1.0	4.4		19.29	80.39	NP
	08/18/15	3.2	<1.0	57	170		NM	NM	NP
	10/08/15	4.8	<1.0	69	24		17.46	82.22	NP
	01/20/16	4.9	5.4	160	14		20.67	79.01	NP
	04/11/16	<1.0	<1.0	<1.0	<1.0		NM	NM	NP
	08/01/16	<1.0	<1.0	<1.0	<1.0		18.93	80.75	NP
MW-6	08/20/14	<1.0	<1.0	<1.0	<1.0	99.51	18.3	81.21	NP
	01/29/15	<1.0	<1.0	<1.0	<1.0		20.43	79.08	NP
	04/07/15	<1.0	<1.0	<1.0	<1.0		21.69	77.82	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		19.07	80.44	NP
	10/08/15	<1.0	<1.0	<1.0	<1.0		17.26	82.25	NP
	01/20/16	<1.0	<1.0	<1.0	<1.0		20.48	79.03	NP
MW-7	08/20/14	<1.0	<1.0	<1.0	<1.0	100.00	19.00	81.00	NP
	01/29/15	1.1	<1.0	<1.0	3.1		21.07	78.93	NP
	04/07/15	<1.0	<1.0	<1.0	<1.0		21.37	78.63	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		19.73	80.27	NP
	10/08/15	<1.0	<1.0	<1.0	<1.0		17.91	82.09	NP
	01/20/16	<1.0	<1.0	<1.0	<1.0		21.12	78.88	NP
MW-8	08/20/14	<1.0	<1.0	<1.0	<1.0	99.29	18.33	80.96	NP
	01/29/15	1.0	<1.0	<1.0	<1.0		20.37	78.92	NP
	04/07/15	<1.0	<1.0	<1.0	<1.0		21.63	77.66	NP
	07/07/15	<1.0	<1.0	<1.0	<1.0		19.05	80.24	NP
	10/08/15	<1.0	<1.0	<1.0	<1.0		17.22	82.07	NP
	01/20/16	<1.0	<1.0	<1.0	<1.0		20.42	78.87	NP
Table 910-1 Limits		5	560	700	1,400				

Bold face values exceed the COGCC limits

NP - No Free Product



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
SITE LOCATION MAP

**Homestead Oil - Stephens 1**  
SW NW Section 15, T4N, R66W  
Weld County, Colorado

Project No.  
C014-027

Prepared by

Drawn by  
JMA

Date  
8/22/14

Reviewed by

Filename  
14027T





# LEGEND




	CONTAINMENT
	FORMER FACILITY

Figure 2  
SITE MAP

**Homestead Oil - Stephens 1**  
SW NW Section 15, T4N, R66W  
Weld County, Colorado

Project No. <b>C014-027</b>	Prepared by	Drawn by <b>JMA</b>	
Date <b>8/22/14</b>	Reviewed by	Filename <b>14027Q</b>	





# LEGEND

	MONITORING WELL
	CONTAINMENT
	FORMER FACILITY
	GROUND WATER ELEVATION (ft above arbitrary datum)
	HISTORICAL GROUND WATER FLOW DIRECTION
	NOT MEASURED

Figure 3  
**INFERRED GROUNDWATER CONTOUR**  
**AUGUST 1, 2016**

**Homestead Oil - Stephens 1**  
 SW NW Section 15, T4N, R66W  
 Weld County, Colorado

Project No. <b>C014-027</b>	Prepared by <b>JMA</b>	Drawn by <b>JMA</b>	
Date <b>8/18/16</b>	Reviewed by	Filename <b>14027Q</b>	



#### LEGEND



B	<1.0
T	<1.0
E	<1.0
X	<1.0

BENZENE (ug/L)  
TOLUENE (ug/L)  
ETHYLBENZENE (ug/L)  
TOTAL XYLENES (ug/L)

NM

NOT MEASURED

Figure 4  
**GROUND WATER CHEMISTRY MAP**  
**AUGUST 1, 2016**

**Homestead Oil - Stephens 1**  
SW NW Section 15, T4N, R66W  
Weld County, Colorado

Project No.  
**C014-027**

Prepared by

Drawn by  
**JMA**

Date  
**8/18/16**

Reviewed by

Filename  
**14027Q**



# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 11, 2016

Paul Henehan  
Fremont Environmental  
1759 Redwing Lane  
Broomfield, CO 80020  
RE: Homestead Oil Stephens 1

Enclosed are the results of analyses for samples received by Summit Scientific on 08/05/16 11:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury  
President





Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Homestead Oil Stephens 1  
Project Number: C014-027  
Project Manager: Paul Henehan

**Reported:**  
08/11/16 09:25

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	1608051-01	Water	08/01/16 00:00	08/05/16 11:00
MW5	1608051-02	Water	08/01/16 00:00	08/05/16 11:00

Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

*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.*





Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Homestead Oil Stephens 1

Project Number: C014-027  
Project Manager: Paul Henehan

Reported:  
08/11/16 09:25

### Sample Receipt Checklist

S2 Work Order: 1608051

Client: Fremont

Client Project ID: Home Stand - Stephen O.I

Shipped Via: Hand  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

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

Cooler ID					
Temp (°C)	<u>21.5</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		<u>No time.</u>
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Mindy Mach  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

8/9/16 16:05  
Date/Time



Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Homestead Oil Stephens 1  
Project Number: C014-027  
Project Manager: Paul Henehan

**Reported:**  
08/11/16 09:25

**MW1**  
**1608051-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/01/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608082	08/09/16	08/09/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.1</b>	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	45-146		"	"	"	"	

Summit Scientific

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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Homestead Oil Stephens 1  
Project Number: C014-027  
Project Manager: Paul Henehan

**Reported:**  
08/11/16 09:25

**MW5**  
**1608051-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/01/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608082	08/09/16	08/09/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/01/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %	45-146		"	"	"	"	

Summit Scientific

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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Homestead Oil Stephens 1  
Project Number: C014-027  
Project Manager: Paul Henehan

Reported:  
08/11/16 09:25

## 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 1608082 - EPA 5030 Water MS

##### Blank (1608082-BLK1)

Prepared & Analyzed: 08/08/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.3		102	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

##### LCS (1608082-BS1)

Prepared & Analyzed: 08/08/16

Benzene	31.2	1.0	ug/l	33.3		93.7	51-132			
Toluene	32.8	1.0	"	33.3		98.3	51-138			
Ethylbenzene	28.3	1.0	"	33.1		85.7	58-146			
m,p-Xylene	57.6	2.0	"	66.5		86.5	57-144			
o-Xylene	28.6	1.0	"	32.7		87.4	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.8		"	13.3		95.9	37-154			
Surrogate: Toluene-d8	15.9		"	13.3		119	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.7	45-146			

##### Matrix Spike (1608082-MS1)

Source: 1608037-02

Prepared & Analyzed: 08/08/16

Benzene	140	1.0	ug/l	33.3	127	38.2	34-141			
Toluene	37.1	1.0	"	33.3	ND	111	27-151			
Ethylbenzene	34.6	1.0	"	33.1	ND	105	29-160			
m,p-Xylene	71.0	2.0	"	66.5	ND	107	20-166			
o-Xylene	35.3	1.0	"	32.7	ND	108	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		104	37-154			
Surrogate: Toluene-d8	14.7		"	13.3		110	45-149			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	45-146			

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1759 Redwing Lane  
Broomfield CO, 80020

Project: Homestead Oil Stephens 1  
Project Number: C014-027  
Project Manager: Paul Henehan

**Reported:**  
08/11/16 09:25

**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 1608082 - EPA 5030 Water MS**

Matrix Spike Dup (1608082-MSD1)		Source: 1608037-02			Prepared & Analyzed: 08/08/16					
Benzene	144	1.0	ug/l	33.3	127	52.3	34-141	3.32	32	
Toluene	42.6	1.0	"	33.3	ND	128	27-151	14.0	25	
Ethylbenzene	42.1	1.0	"	33.1	ND	127	29-160	19.7	50	
m,p-Xylene	85.8	2.0	"	66.5	ND	129	20-166	18.9	36	
o-Xylene	42.7	1.0	"	32.7	ND	131	33-159	18.9	26	
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.3		109	37-154			
Surrogate: Toluene-d8	13.8		"	13.3		104	45-149			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.3	45-146			

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Broomfield CO, 80020

Project: Homestead Oil Stephens 1  
Project Number: C014-027  
Project Manager: Paul Henehan

**Reported:**  
08/11/16 09:25

### 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

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Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

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