

FREMONT ENVIRONMENTAL INC.

May 2, 2015

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

Subject: **Ground Water Monitoring and Remediation Report**
 Stephens #1
 API # 05-123-11552
 SENW Sec 15, T4N, R66W
 Weld County, Colorado
 Fremont Project No. C014-027
 Facility #243760, Remediation # 8307, Spill #2148350

Dear Mr. Wright:

Enclosed please find a copy of the above referenced Ground Water Monitoring and Remediation Report 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.

Fremont appreciates the opportunity to provide this service.

Sincerely,
FREMONT ENVIRONMENTAL INC.



Paul V. Henehan, P.E.
Senior Consultant

Enclosure

GROUND WATER MONITORING AND REMEDIATION REPORT

HOMESTEAD OIL INC.

STEPHENS #1 WATER VAULT RELEASE

WELD COUNTY, COLORADO

FREMONT PROJECT NO. C014-027

FACILITY #243760, REMEDIATION #8307, SPILL #2148350

Prepared by:

**Fremont Environmental Inc.
1759 Redwing Lane
Broomfield, CO 80020
(303) 956-8714**

May 2, 2015

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GROUND WATER MONITORING AND REMEDIATION REPORT

HOMESTEAD OIL INC.

STEPHENS #1 WATER VAULT RELEASE

WELD COUNTY, COLORADO

FREMONT PROJECT NO. C014-027

FACILITY #243760, REMEDIATION #8307, SPILL #2148350

1.0 INTRODUCTION

The purpose of this document is to present ground water quality data collected subsequent to remediation by limited excavation at the Stephens #1 water vault release site in Weld County, Colorado. Impacted soil and ground water were identified at this location due to a release from the facility's water vault. Limited soil removal was conducted on May 5, 2014 at this facility. Eight monitoring wells were advanced in August 2014 to delineate the magnitude and extent of subsurface impacts after excavation. In an effort to improve ground water quality, an air sparge/soil vapor extraction (AS/SVE) system was installed at the site and was activated in January 2015.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The Stephens #1 site is located approximately 1.5 miles north of Gilcrest, Colorado in Weld County as shown on Figure 1. The site is located in a rural and agricultural area 0.5 miles southeast of the intersection of County Road 31 and County Road 46. The location is further described as the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 15, Township 4N, Range 66W.

2.2 Site History

The site consists of the former water vault and aboveground storage tank (AST) for the Stephens #1 natural gas well. The well was drilled in 1984 to a depth of 7,850 feet. Soil

impacts were identified during the plugging and abandoning of this well and ancillary equipment.

An excavation to remediate the source impacts was undertaken on May 5, 2014 by Fremont Environmental Inc. (Fremont). Approximately 120 cubic yards of impacted soil were excavated and removed from the storage tank and water vault area. One ground water sample was collected from the excavation and analyzed for petroleum constituents. The laboratory analysis of the water sample indicated that the ground water exhibited a dissolved petroleum concentration of benzene of 4,112 ug/L, which is greater than the Colorado Oil and Gas Conservation Commission's (COGCC's) Table 910-1 limit of 5 ug/L. As a result, a site investigation to determine the extent of ground water impacts was required.

In August 2014, eight soil borings were advanced by Fremont at the site to determine the magnitude and extent of subsurface impacts resulting from the release. All eight of the borings were completed as monitoring wells (MW-1 through MW-8) as illustrated on the attached figures.

In an effort to improve the ground water quality in the impacted area, an air sparge/soil vapor extraction (AS/SVE) system was installed in November 2014 and energized in January 2015. This system consisted of nine 2-inch diameter AS wells that were installed near the former water vault and AST location. A soil vapor extraction (SVE) system was also installed to capture any fugitive vapors that might be produced by the AS system; four 2-inch diameter SVE wells were installed. Figure 5 illustrates the layout of the AS/SVE system. Additional detail regarding the remediation system can be found in the "Proposed Remediation Report" dated September 15, 2014.

3.0 GROUND WATER MONITORING ACTIVITIES

3.1 Ground Water Level Measurements

Ground water levels were measured in the eight monitoring wells on April 7, 2015 in accordance with the Sampling Plan included in Appendix A. The data are summarized in Table 1.

Water table contours inferred from the April 2015 data are illustrated on Figure 3. Based on these data, ground water is inferred to flow generally to the east. The water table gradient was calculated at approximately 0.002 feet per foot (ft/ft) for the April 2015 data.

3.2 Ground Water Sampling and Analysis

Ground water samples were collected from the eight monitoring wells on April 7, 2015 to monitor the magnitude and extent of ground water impacts at the site. The ground water samples were submitted to Summit Scientific Inc. in Golden, Colorado for analyses of benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8260C. The ground water chemistry data for the most recent sampling event is illustrated on Figure 4.

The laboratory data indicated that the BTEX constituents were below their respective laboratory detection limits for all of the ground water samples except for monitoring wells MW-1 and MW-5, which had benzene concentrations of 30 and 31 ug/L, respectively. In January 2015, these two wells had benzene concentrations of 1,728 and 727 ug/L, respectively. The April 2015 concentrations remain above the COGCC Table 910-1 limit of 5 ug/L for benzene.

The ground water analytical data are summarized in Table 1. A copy of the laboratory reports, quality control data, and chain-of-custody documentation are presented in Appendix B.

4.0 DISCUSSION

Due to a release from the water vault for the Stephens #1 well, a limited excavation was conducted in May 2014 to remove petroleum impacted soil. A total of 120 cubic yards of impacted soil were removed and transported to a landfill as non-hazardous waste. Subsequent to the excavation, eight monitoring wells have been advanced at the site to determine the extent of subsurface impacts in ground water. Further, an AS/SVE system has been installed to improve ground water quality at the site.

Ground water samples from all of the wells were collected and analyzed during April 2015. These data are illustrated on Figure 4 and indicate that six of the eight monitoring wells are below their respective COGCC concentrations for BTEX. However, monitoring wells MW-1 and MW-5 had benzene concentrations of 30 and 31 ug/L, respectively. These concentrations have decreased significantly since January 2015 when their benzene concentrations were 1,728 and 727 ug/L, respectively.

The AS/SVE remediation system has been operational since mid-January 2015 and appears to have had substantial beneficial impacts. It is anticipated that further improvements in ground water quality will be realized.

Homestead will continue to sample the monitoring wells on a quarterly basis to evaluate the ground water quality at this location. After four consecutive quarters of COGCC-compliant BTEX concentrations, Homestead will request closure of this site.

5.0 REMARKS

The discussion and conclusions contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at

in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

This report was prepared by **FREMONT ENVIRONMENTAL INC.**



Paul V. Henehan, P.E.

Senior Consultant

5/2/15
Date_____

TABLE

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

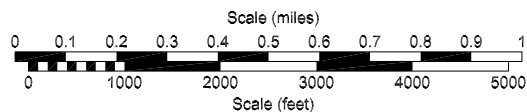
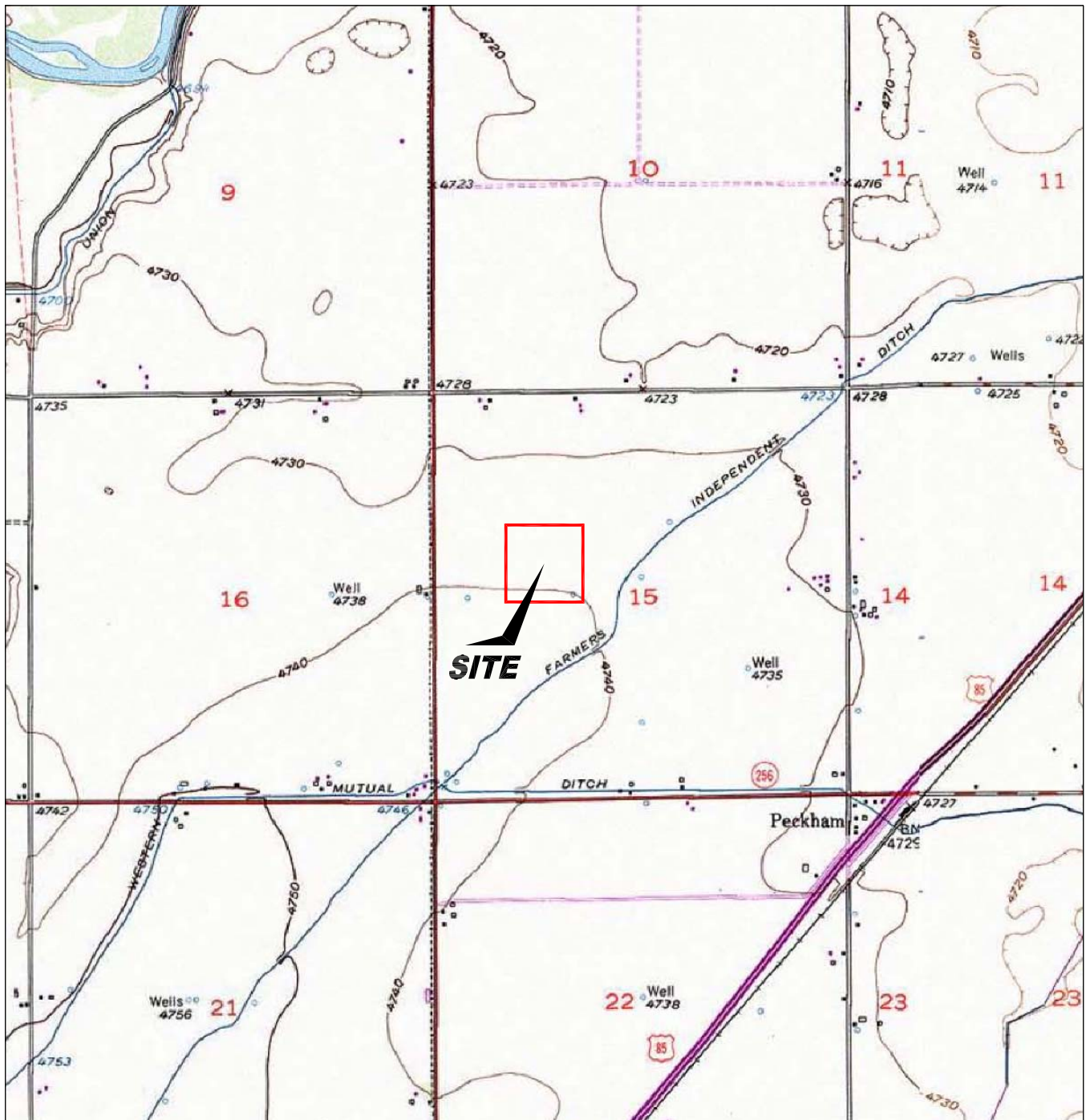
SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-1	08/20/14	2616	3751	4182	96434	99.22	17.94	81.28	NP
	01/29/15	1728	114	455	8314		20.03	79.19	NP
	04/07/15	30	2.2	<1.0	8800		21.01	78.21	NP
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
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
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
MW-5	08/20/14	1755	3134	454	10854	99.68	18.55	81.13	NP
	01/29/15	727	2206	298	2476		20.64	79.04	NP
	04/07/15	31	<1.0	6.3	560		21.92	77.76	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
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

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-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
Table 910-1 Limits		5	560	700	1,400				

Bold face values exceed the COGCC limits

NP - No Free Product

FIGURES



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



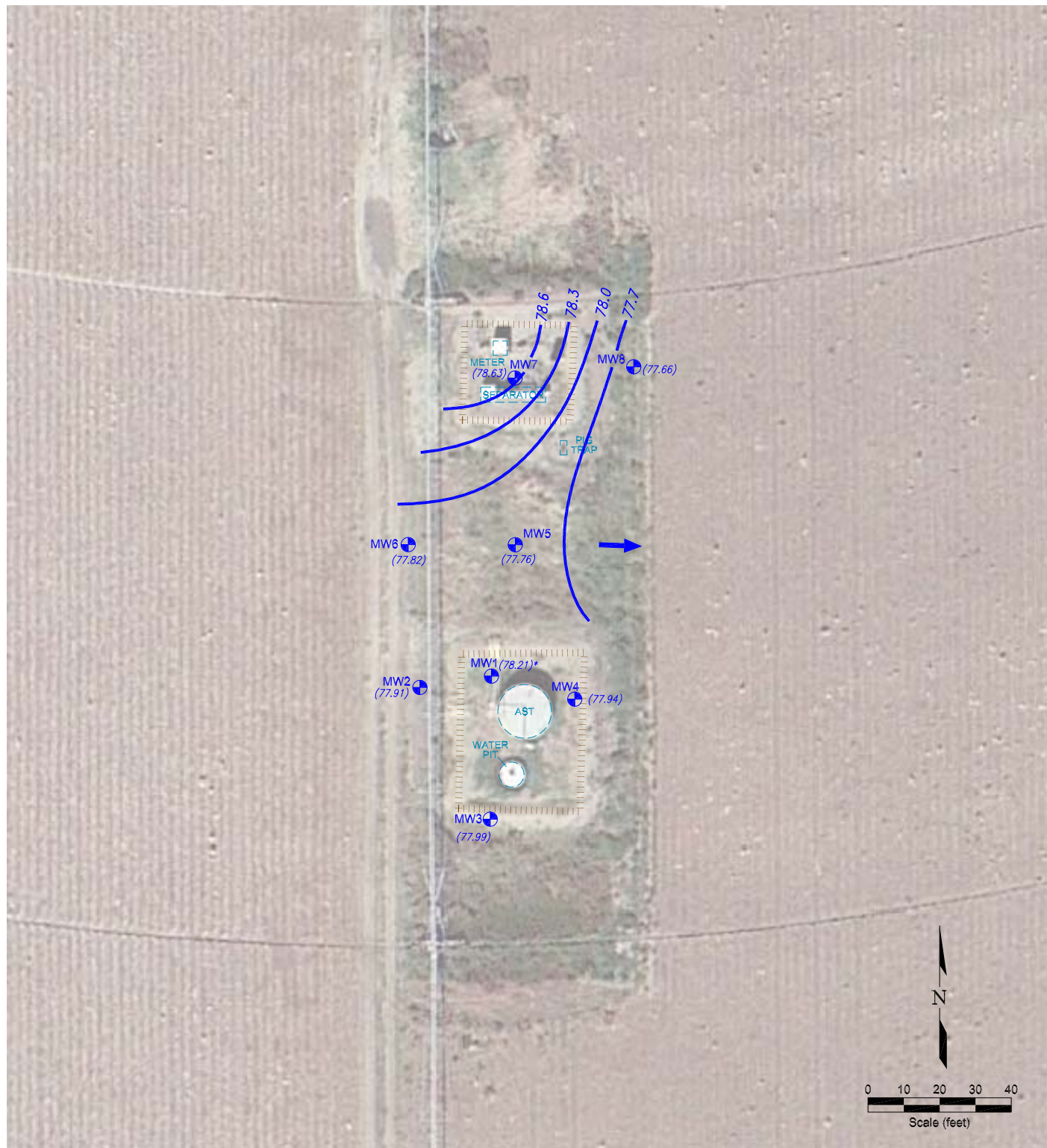
	CONTAINMENT
	FORMER FACILITY

Figure 2
SITE MAP

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

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





LEGEND





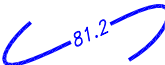

-  MONITORING WELL
-  CONTAINMENT
-  FORMER FACILITY
-  GROUND WATER ELEVATION (ft above arbitrary datum)
-  WATER TABLE CONTOUR
-  GROUND WATER FLOW DIRECTION
NOT USED FOR CONTOURING

Figure 3
INFERRED GROUNDWATER CONTOUR
APRIL 7, 2015

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

Project No.
C014-027

Prepared by

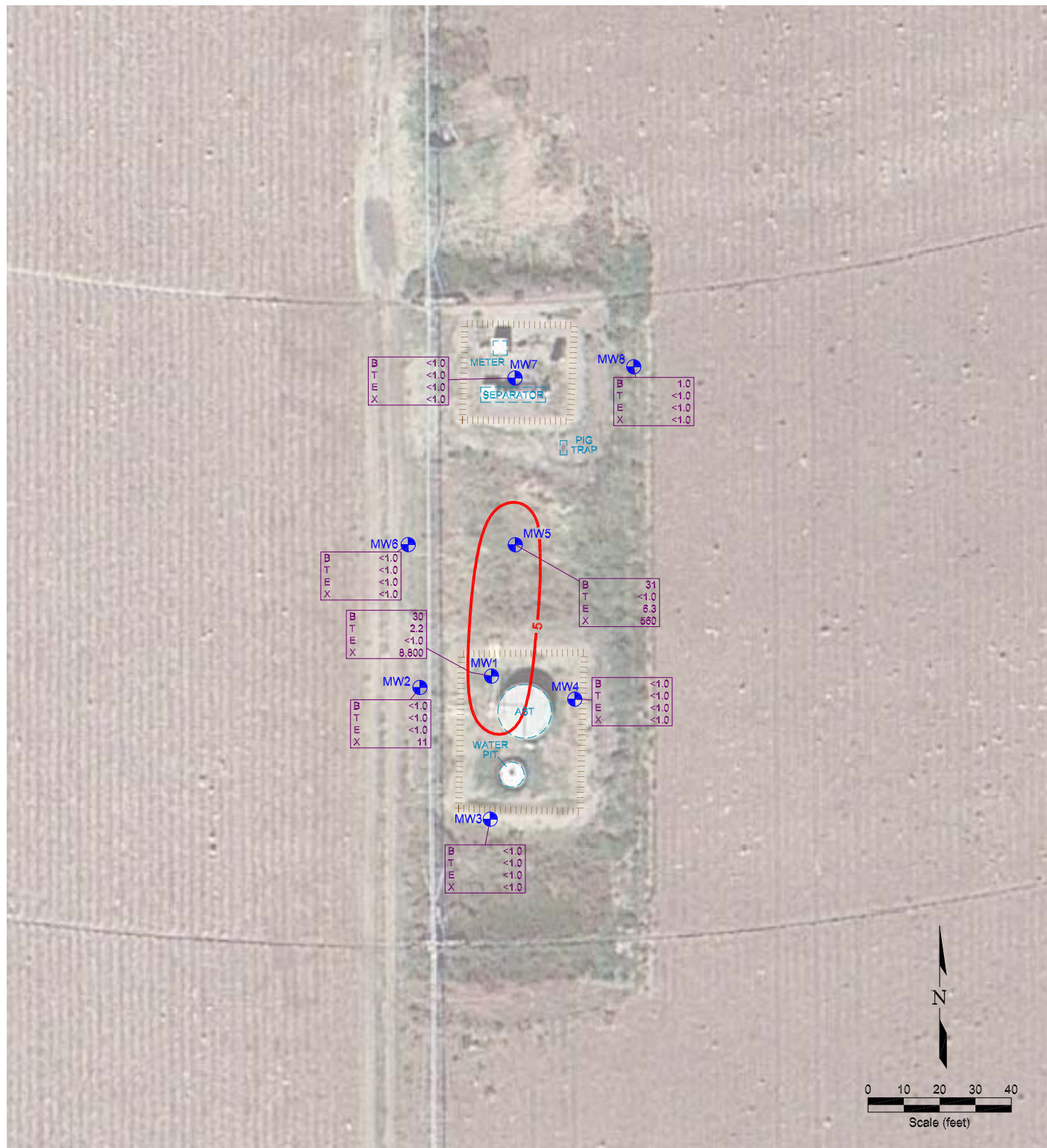
Drawn by
JMA

Date
4/18/15

Reviewed by

Filename
14027Q





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)

Figure 4
GROUND WATER CHEMISTRY MAP
APRIL 7, 2015

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

Project No.
C014-027

Prepared by

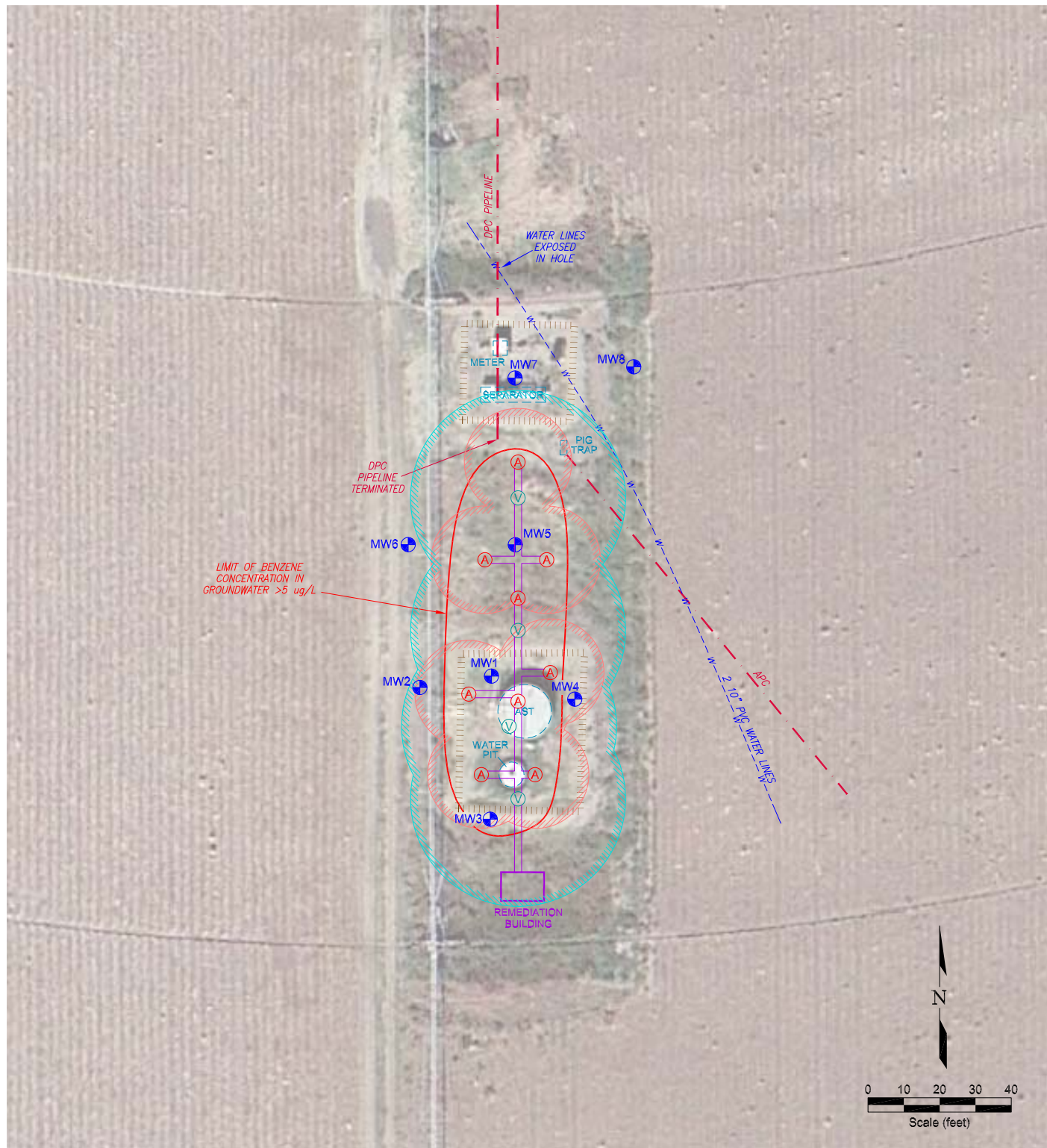
Drawn by
JMA

Date
4/17/15

Reviewed by

Filename
14027Q





LEGEND








-  MONITORING WELL
-  CONTAINMENT
-  FORMER FACILITY
-  PIPELINE
-  WATER LINE (buried)
-  AIR SPARGE WELL
Radius of influence
-  SOIL VAPOR EXTRACTION WELL
Radius of influence

Figure 5
AS/SVE REMEDIATION SYSTEM LAYOUT

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

Project No.
C014-027

Prepared by

Drawn by
JMA

Date
9/12/14

Reviewed by

Filename
14027Q



APPENDIX A

SAMPLING PLAN

SAMPLING METHODS AND PROCEDURES

Water Level Measurements

All ground water level measurements will be obtained using an electric measuring device, which indicates when a probe is in contact with ground water. Measurements will be obtained by lowering the device into the well until the water surface had been encountered, and by measuring the distance from the top of the inside riser pipe to the probe. All of the measurements will be recorded to the nearest 0.01 ft. To minimize cross-contamination, the water level indicator will be decontaminated with isopropyl alcohol and distilled water between each well.

Monitoring Well Sampling

All monitoring wells were sampled from the “cleanest” to the “most contaminated” according to the protocols listed below.

Field Protocol

- Step 1 Measure water level in each well.
- Step 2 Purge each monitoring well by evacuating a minimum of three well bore volumes using a disposable polyethylene bailer.
- Step 3 Collect water samples using a disposable polyethylene bailer.
- Step 4 Cool samples to approximately 4°C for transportation.
- Step 5 Store water samples and transport to a specific laboratory, following all documentation and chain-of-custody procedures.

Upon completion of ground water sampling, a chain-of-custody log will be completed. Chain-of-custody records include the following information: project, project number, shipped by, shipped to, suspected hazard, sampling point, location, field identification number, date collected, sample type, number of containers, analysis required, and sampler's signature.

The chain-of-custody records will be shipped with the samples to the laboratory. Upon arrival at the laboratory the samples will be checked in and signed by the appropriate laboratory personnel. Laboratory identification numbers will be noted on the chain-of-custody record. Upon completion of the laboratory analysis, the completed chain-of-custody record will be returned to the project manager.

Analytical Methods

The following list identifies the various chemical constituents and analytical methods which will be used for their quantification.

<u>Chemical Parameter</u>	<u>Method</u>
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	EPA Method – 8260B

APPENDIX B

LABORATORY DOCUMENTATION

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 15, 2015

Paul Henehan
Fremont Environmental
1630 South College Avenue
Ft. Collins, CO 80525
RE: Homestead Oil Stephens 1

Enclosed are the results of analyses for samples received by Summit Scientific on 04/07/15 15:00. 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
1630 South College Avenue
Ft. Collins CO, 80525

Project: Homestead Oil Stephens 1

Project Number: C014-027
Project Manager: Paul Henehan

Reported:
04/15/15 07:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	1504054-01	Water	04/07/15 00:00	04/07/15 15:00
MW2	1504054-02	Water	04/07/15 00:00	04/07/15 15:00
MW3	1504054-03	Water	04/07/15 00:00	04/07/15 15:00
MW4	1504054-04	Water	04/07/15 00:00	04/07/15 15:00
MW5	1504054-05	Water	04/07/15 00:00	04/07/15 15:00
MW6	1504054-06	Water	04/07/15 00:00	04/07/15 15:00
MW7	1504054-07	Water	04/07/15 00:00	04/07/15 15:00
MW8	1504054-08	Water	04/07/15 00:00	04/07/15 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.



Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

Project: Homestead Oil Stephens 1

Project Number: C014-027
Project Manager: Paul Henehan

Reported:
04/15/15 07:06

Summit Scientific

1504054

S₂

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: Homestead Oil / Fremont Enviro Project Manager: Paul Henehan
Address: 1630 Box 1289 E-Mail: Paul.H@Fremontenv.com
City/State/Zip: Wellington CO mark22.taylor@hotmail.com
Phone: 303.956.8714 Fax: Project Name: Homestead Oil Stephens 1
Sampler Name: Mark T Project Number: C014-027

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)					
1	MW 1	4/7/15		2			X		X								
2	2						X		X								
3	3						X		X								
4	4						X		X								
5	5						X		X								
6	6						X		X								
7	7						X		X								
8	8						X		X								
9																	
10																	
Relinquished by: <u>Mark T</u>		Date/Time: <u>4/7/15</u>		Received by: <u>Mark T</u>		Date/Time: <u>4/7/15 15:00</u>		Turn Around Time (Check)		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"/>		Notes:	
Relinquished by: <u>Mark T</u>		Date/Time: <u>4/7/15 16:40</u>		Received by: <u>Mark T</u>		Date/Time: <u>4-7-15 16:40</u>		Sample Integrity:		Temperature Upon Receipt: <u>19.2°C</u>		Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No					
Relinquished by:		Date/Time:		Received by:		Date/Time:											

www.s2scientific.com

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.



Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

Sample Receipt Checklist

S2 Work Order: 1504054

Client: Fremont

Client Project ID: Homestead Oil / Stephens 1

Shipped Via: PU

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

Airbill #: _____

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

Cooler ID					
Temp (°C)	<u>19.2</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 ⁽¹⁾ ?				
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.	<u>X</u>			
Were all samples received intact ⁽¹⁾ ?	<u>X</u>			
Was adequate sample volume provided ⁽¹⁾ ?	<u>X</u>			
If custody seals are present, are they intact ⁽¹⁾ ?	<u>X</u>			
Are short holding time analytes or samples with HTs due within 48 hours present?			<u>X</u>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<u>X</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<u>X</u>		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<u>X</u>	
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, etc.			<u>X</u>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<u>X</u>	
Record the pH in Comments.			<u>X</u>	
If dissolved metals are requested, were samples field filtered?			<u>X</u>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Brian Shamberger
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

4/9/15
Date/Time

[Signature]



Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW1
1504054-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	30	1.0	ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	2.2	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	8800	100	"	100	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		89.3 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		87.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		129 %	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.



Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW2
1504054-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	11	1.0	"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		90.2 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.5 %	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.



Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW3
1504054-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		89.3 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		95.9 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.3 %		45-146		"	"	"	"	

Summit Scientific

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Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW4
1504054-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		89.8 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		95.9 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %		45-146		"	"	"	"	

Summit Scientific

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Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW5
1504054-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	31	1.0	ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	6.3	1.0	"	"	"	"	"	"	
Xylenes (total)	560	1.0	"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93.3 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		94.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	45-146		"	"	"	"	

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Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW6
1504054-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.5 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		96.1 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.3 %		45-146		"	"	"	"	

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Fremont Environmental
1630 South College Avenue
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Project: Homestead Oil Stephens 1
Project Number: C014-027
Project Manager: Paul Henehan

Reported:
04/15/15 07:06

MW7
1504054-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.8 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.8 %	45-146		"	"	"	"	

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Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

MW8
1504054-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1504098	04/13/15	04/13/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **04/07/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		88.2 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		95.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.8 %	45-146		"	"	"	"	

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

Reported:
04/15/15 07:06

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch 1504098 - EPA 5030 Water MS

Blank (1504098-BLK1)

Prepared & Analyzed: 04/09/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.2		93.6	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.1	45-149			
Surrogate: 4-Bromofluorobenzene	14.6		"	13.3		110	45-146			

LCS (1504098-BS1)

Prepared & Analyzed: 04/09/15

Benzene	30.7	1.0	ug/l	33.3		92.0	51-132			
Toluene	28.3	1.0	"	33.3		84.9	51-138			
Ethylbenzene	30.9	1.0	"	33.1		93.5	58-146			
m,p-Xylene	62.7	2.0	"	66.5		94.2	57-144			
o-Xylene	30.3	1.0	"	32.8		92.3	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.2		98.0	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.1	45-149			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106	45-146			

Matrix Spike (1504098-MS1)

Source: 1504093-05

Prepared & Analyzed: 04/09/15

Benzene	88.6	1.0	ug/l	33.3	81.8	20.6	34-141			QM-07
Toluene	40.1	1.0	"	33.3	19.8	61.0	27-151			
Ethylbenzene	31.4	1.0	"	33.1	ND	95.0	29-160			
m,p-Xylene	64.8	2.0	"	66.5	6.14	88.2	20-166			
o-Xylene	31.6	1.0	"	32.8	1.66	91.2	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.2		99.3	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.5	45-149			
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		107	45-146			

Summit Scientific

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Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

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

Reported:
04/15/15 07:06

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 1504098 - EPA 5030 Water MS

Matrix Spike Dup (1504098-MSD1)	Source: 1504093-05			Prepared & Analyzed: 04/09/15						
Benzene	75.0	1.0	ug/l	33.3	81.8	NR	34-141	16.6	32	QM-07
Toluene	37.5	1.0	"	33.3	19.8	53.1	27-151	6.81	25	
Ethylbenzene	31.4	1.0	"	33.1	ND	95.1	29-160	0.127	50	
m,p-Xylene	63.7	2.0	"	66.5	6.14	86.5	20-166	1.70	36	
o-Xylene	31.2	1.0	"	32.8	1.66	90.2	33-159	1.05	26	
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.2		104	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.4	45-149			
Surrogate: 4-Bromofluorobenzene	14.5		"	13.3		109	45-146			

Summit Scientific

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

Reported:
04/15/15 07:06

Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.

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

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