



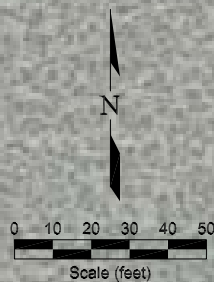
- WELL LOCATION
- SOIL BORING
- ABOVE GROUND STORAGE TANK

Figure 4b  
SITE MAP

**Sandridge Mutual 4-30H**  
API 05-057-06488 - SW SE Section 30, T7N, R80W  
Jackson County, CO

Project No. C016-048	Prepared by JMA	Drawn by JMA
Date 6/7/16	Reviewed by	Filename 16048QC





- WELL LOCATION
- SOIL BORING
- ABOVE GROUND STORAGE TANK
- SAMPLE DEPTH (feet below ground surface)
- PID READING (ppm)

5/5/16	
2	
B	<0.002
T	<0.005
E	<0.005
X	<0.010
G	<0.50
D	<50

DATE SAMPLED  
SAMPLE DEPTH (ft)  
BENZENE (mg/kg)  
TOLUENE (mg/kg)  
ETHYLBENZENE (mg/kg)  
TOTAL XYLENES (mg/kg)  
TPH-GRO (mg/kg)  
TPH-DRO (mg/kg)

### Figure 4c SOIL CHEMISTRY & SOIL SAMPLE PID READINGS

**Sandridge Mutual 4-30H**  
API 05-057-06488 - SW SE Section 30, T7N, R80W  
Jackson County, CO

Project No.  
**C016-048**

Prepared by

Drawn by  
**JMA**

Date  
**6/7/16**

Reviewed by

Filename  
**16048QC**





Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: COGCC-Former EE3 Locations

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/16/16 15:17

**Mutual C-4,5 Ft  
1605076-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>43000</b>	500	mg/kg	10	1605095	05/10/16	05/13/16	8015M	

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		378 %	30-150		"	"	"	"	S-02

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

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>13</b>	0.20	mg/kg	100	1605097	05/10/16	05/10/16	EPA 8260B	
<b>Toluene</b>	<b>89</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>61</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>290</b>	5.0	"	1000	"	"	05/11/16	"	
<b>Gasoline Range Hydrocarbons</b>	<b>16000</b>	500	"	"	"	"	05/10/16	"	

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		115 %	23-173		"	"	05/11/16	"	
<i>Surrogate: Toluene-d8</i>		103 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %	21-167		"	"	"	"	

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Acenaphthene</b>	<b>1.04</b>	0.500	mg/kg	100	1605115	05/12/16	05/12/16	EPA 8270D SIM	R-01
Acenaphthylene	ND	0.0500	"	10	"	"	05/13/16	"	R-01

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**1605076-04 (Soil)**

**Summit Scientific**

**Semivolatile Organic Compounds by EPA Method 8270D SIM**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Anthracene	ND	0.0500	mg/kg	10	1605115	05/12/16	05/13/16	EPA 8270D SIM	R-01
Benzo (a) anthracene	ND	0.500	"	100	"	"	05/12/16	"	R-01
<b>Benzo (b) fluoranthene</b>	<b>0.209</b>	0.0500	"	10	"	"	05/13/16	"	R-01
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	R-01
Benzo (g,h,i) perylene	ND	0.0500	"	"	"	"	"	"	R-01
Benzo (a) pyrene	ND	0.0500	"	"	"	"	"	"	R-01
<b>Chrysene</b>	<b>0.902</b>	0.0500	"	"	"	"	"	"	R-01
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	R-01
<b>Fluoranthene</b>	<b>0.141</b>	0.0500	"	"	"	"	"	"	R-01
<b>Fluorene</b>	<b>2.83</b>	0.500	"	100	"	"	05/12/16	"	R-01
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	10	"	"	05/13/16	"	R-01
<b>Naphthalene</b>	<b>11.1</b>	0.500	"	100	"	"	"	"	R-01
<b>Phenanthrene</b>	<b>5.68</b>	0.500	"	"	"	"	"	"	R-01
<b>Pyrene</b>	<b>0.839</b>	0.0500	"	10	"	"	"	"	R-01

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		32.4 %	35-150		"	"	"	"	S-04
Surrogate: Fluoranthene-d10		28.5 %	35-150		"	"	"	"	S-04

**Total Metals by EPA Method 6020 - Dry Weight Basis**

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Arsenic</b>	<b>3.12</b>	0.161	mg/kg dry	1	1605091	05/10/16	05/10/16	EPA 6020A	

**Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>4670</b>	16.1	mg/kg dry	1	1605094	05/10/16	05/11/16	EPA 6020/Mod. USDA60 6(2, 3A)	

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Project Number: [none]  
Project Manager: Paul Henehan

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**1605076-04 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis**

Magnesium	241	8.06 mg/kg dry	1	1605094	05/10/16	05/11/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium	1760	8.06	"	"	"	"	"

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.81		units	"	1605123	05/12/16	05/12/16	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.26	0.0100 mmhos/cm		1	1605102	05/11/16	05/11/16	SM 2510B	

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.33	0.100 pH Units		"	1605090	05/10/16	05/11/16	EPA 9045	

Date Sampled: **05/05/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	62.0		%	"	1605088	05/10/16	05/11/16	% calculation	

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