

FREMONT ENVIRONMENTAL INC.

December 30, 2015

Mr. Jacob Evans
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80634

Subject: **Ground Water Data and Site Closure Submittal**
Brown 34-24, Water Vault Release
API # 05-123-14829
Weld County, Colorado
Fremont Project No. C014-007
Facility #327541, Remediation #~~9127~~ #9020

Dear Mr. Evans:

Enclosed please find a copy of the above referenced Ground Water Data and Site Closure Submittal for the Brown 34-24 site in Weld County, Colorado. The enclosed data describes the ground water quality at the site during the recent quarterly sampling and monitoring event.

Since four quarters of COGCC-compliant ground water concentrations have been observed at this site, Noble should request a No Further Action (NFA) determination be provided by COGCC for this release. Upon receipt of the NFA, the monitoring wells will be abandoned as required by the State Engineer's Office.

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

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

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA AND CHEMISTRY DATA
NOBLE ENERGY INC.
BROWN 34-24 WATER VAULT, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C014-007

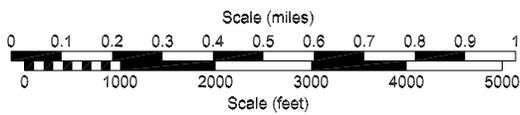
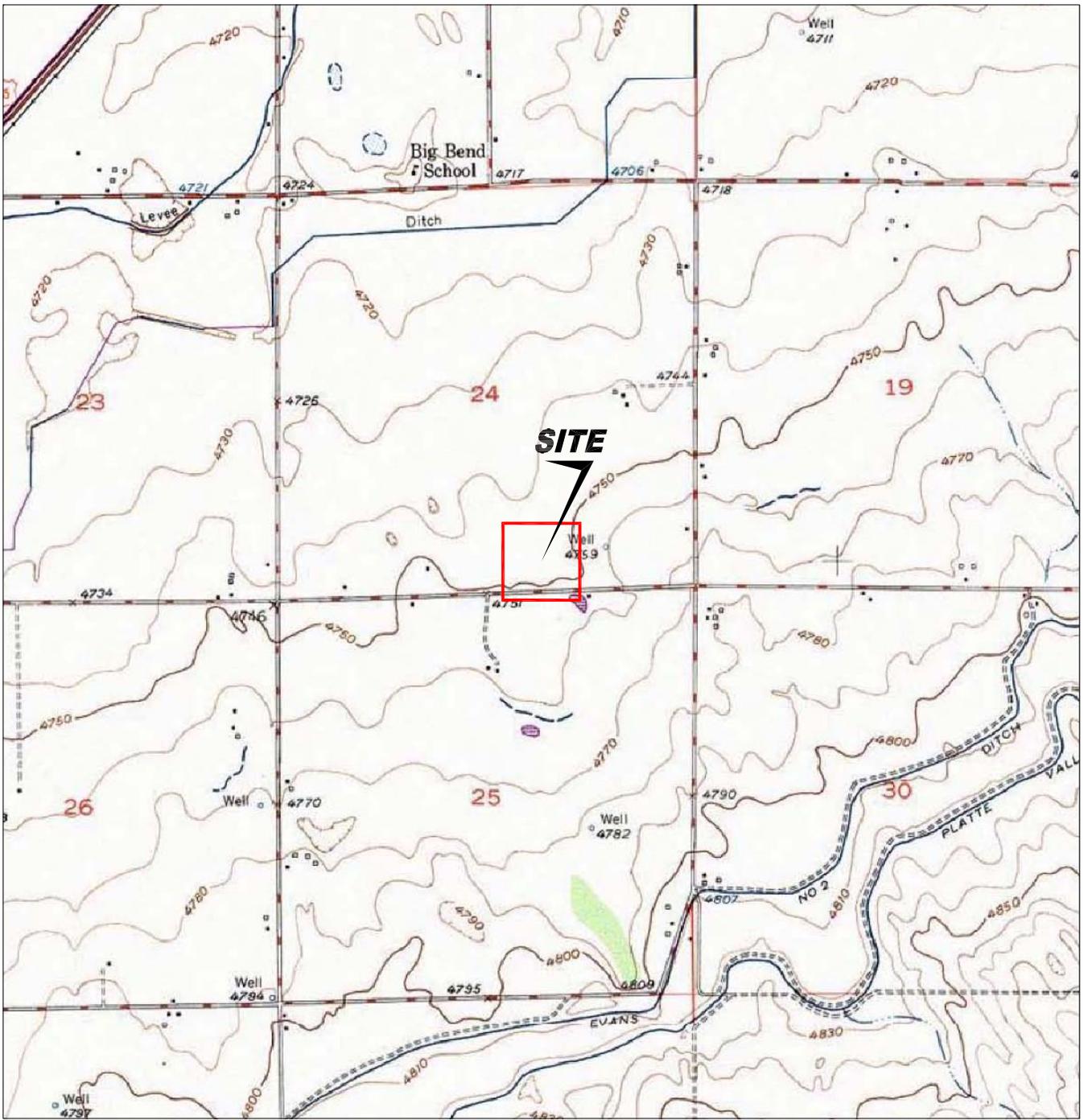
SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-1	03/11/15	<1.0	<1.0	<1.0	<1.0	99.37	3.28	96.09	NP
	06/10/15	<1.0	<1.0	<1.0	<1.0		1.89	97.48	NP
	09/21/15	<1.0	<1.0	<1.0	<1.0		2.09	97.28	NP
	12/04/15	<1.0	<1.0	<1.0	<1.0		2.30	97.07	NP
MW-2	03/11/15	<1.0	<1.0	<1.0	<1.0	98.82	2.51	96.31	NP
	06/10/15	<1.0	<1.0	<1.0	<1.0		1.15	97.67	NP
	09/21/15	<1.0	<1.0	<1.0	<1.0		1.30	97.52	NP
	12/04/15	<1.0	<1.0	<1.0	<1.0		1.53	97.29	NP
MW-3	03/11/15	<1.0	<1.0	<1.0	<1.0	99.47	3.07	96.40	NP
	06/10/15	<1.0	<1.0	<1.0	<1.0		1.76	97.71	NP
	09/21/15	<1.0	<1.0	<1.0	<1.0		1.95	97.52	NP
	12/04/15	<1.0	<1.0	<1.0	<1.0		2.12	97.35	NP
MW-4	03/11/15	<1.0	<1.0	<1.0	<1.0	100.00	3.25	96.75	NP
	06/10/15	<1.0	<1.0	<1.0	<1.0		1.84	98.16	NP
	09/21/15	<1.0	<1.0	<1.0	<1.0		2.06	97.94	NP
	12/04/15	<1.0	<1.0	<1.0	<1.0		2.22	97.78	NP
MW-5	03/11/15	<1.0	<1.0	<1.0	<1.0	99.85	3.37	96.48	NP
	06/10/15	<1.0	<1.0	<1.0	<1.0		1.89	97.96	NP
	09/21/15	<1.0	<1.0	<1.0	<1.0		2.16	97.69	NP
	12/04/15	<1.0	<1.0	<1.0	<1.0		2.31	97.54	NP
MW-6	03/11/15	<1.0	<1.0	<1.0	<1.0	99.69	3.35	96.34	NP
	06/10/15	<1.0	<1.0	<1.0	<1.0		2.02	97.67	NP
	09/21/15	<1.0	<1.0	<1.0	<1.0		2.22	97.47	NP
	12/04/15	<1.0	<1.0	<1.0	<1.0		2.39	97.30	NP
Table 910-1 Limits		5	560	700	1,400				

Bold face values exceed the COGCC limits

NP - No Free Product

NS - Not Sampled

NM - Not Measured



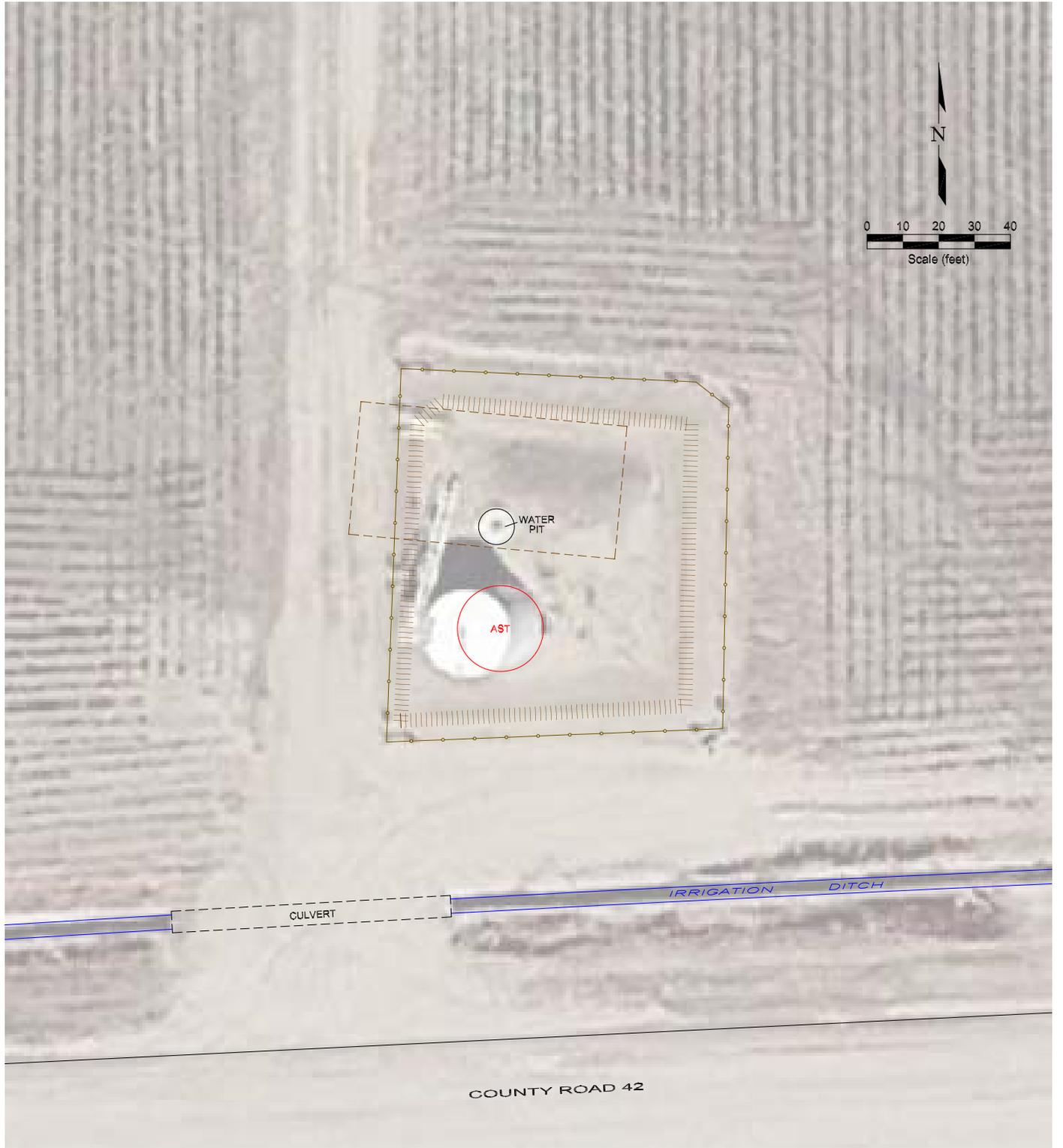
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

Noble Brown 34-24
SW SE Section 24, T4N, R66W
Weld County, Colorado

Project No. C014-007	Prepared by	Drawn by JMA
Date 2/26/14	Reviewed by	Filename 14007T





LEGEND

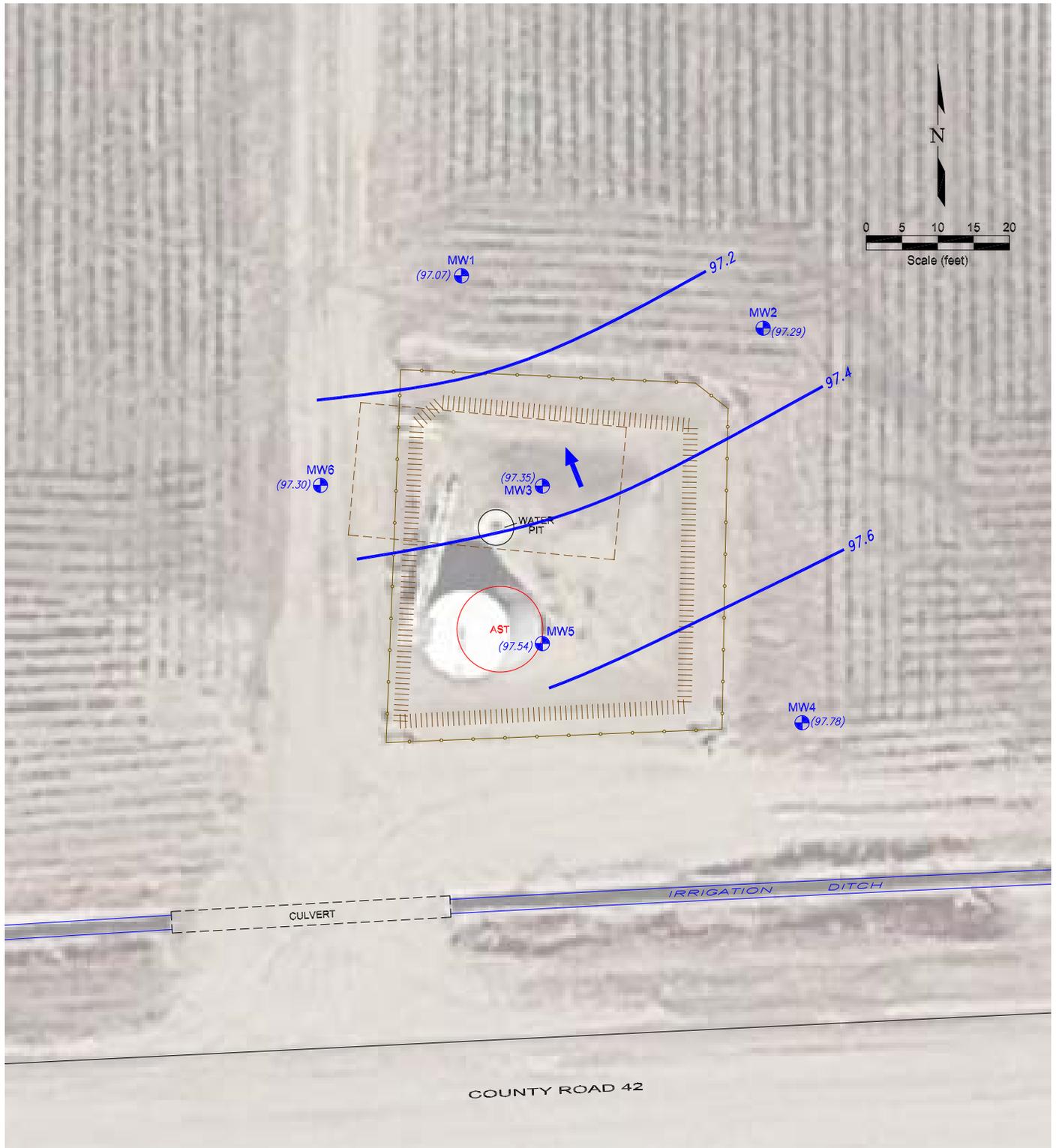
-  FENCE LINE
-  BERM
-  ABOVE GROUND STORAGE TANK

**Figure 2
SITE MAP**

Noble Brown 34-24
SW SE Section 24, T4N, R66W
Weld County, Colorado

Project No. C014-007	Prepared by	Drawn by JMA
Date 2/10/15	Reviewed by	Filename 14007R





LEGEND

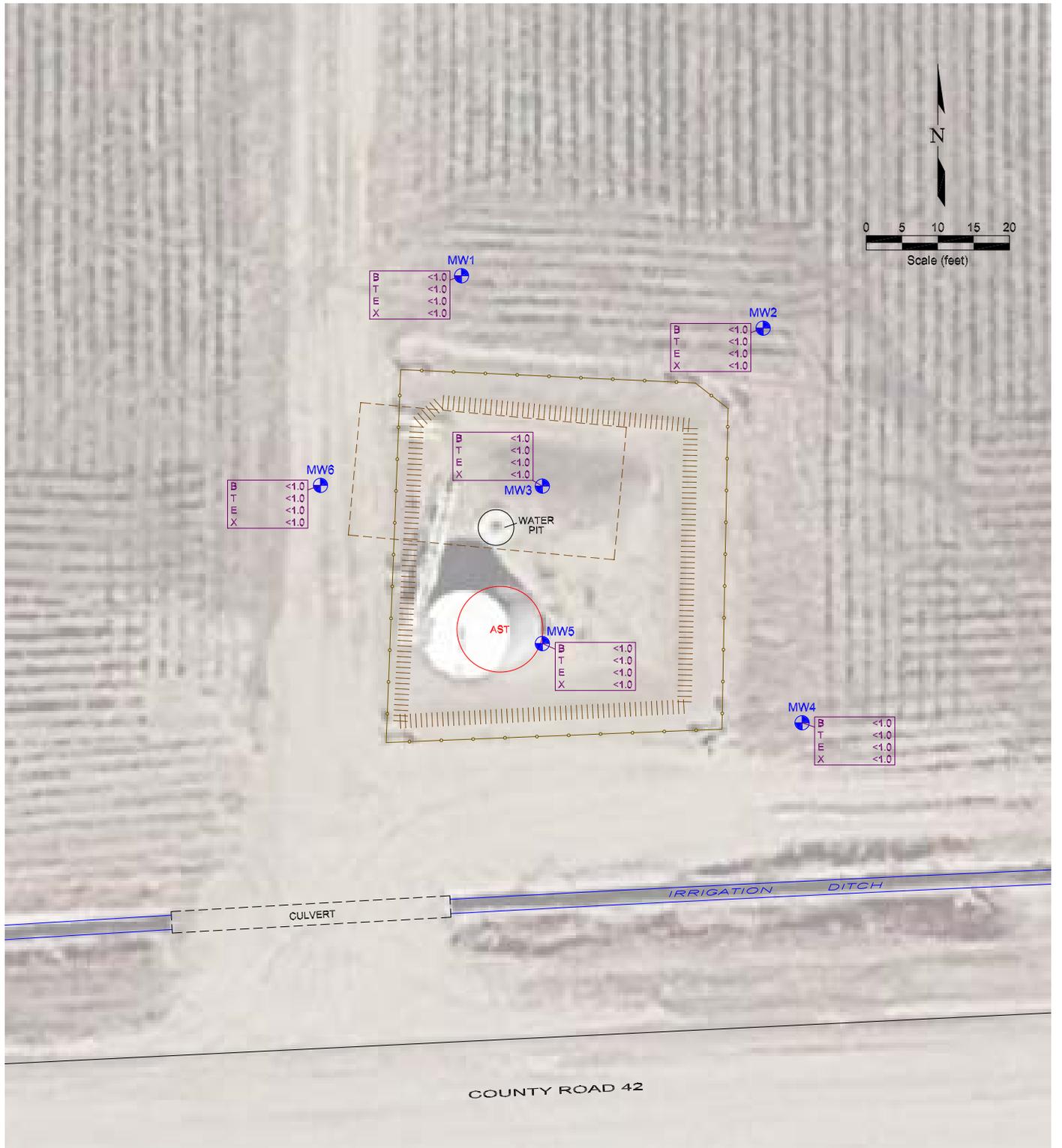
-  MONITORING WELL
-  FENCE LINE
BERM
-  ABOVE GROUND STORAGE TANK
-  (95.37) GROUND WATER ELEVATION (ft above arbitrary datum)
-  WATER TABLE CONTOUR
-  GROUND WATER FLOW DIRECTION

Figure 3
INFERRED GROUND WATER CONTOUR
DECEMBER 4, 2015

Noble Brown 34-24
 SW SE Section 24, T4N, R66W
 Weld County, Colorado

Project No. C014-007	Prepared by	Drawn by JMA
Date 12/30/15	Reviewed by	Filename 14007R





LEGEND

-  MONITORING WELL
-  FENCE LINE
-  BERM
-  ABOVE GROUND STORAGE TANK

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
DECEMBER 4, 2015

Noble Brown 34-24
 SW SE Section 24, T4N, R66W
 Weld County, Colorado

Project No. C014-007	Prepared by	Drawn by JMA
Date 12/30/15	Reviewed by	Filename 14007R



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 11, 2015

Paul Henehan
Fremont Environmental
1759 Redwing Lane
Broomfield, CO 80020
RE: Noble - Brown 34-24

Enclosed are the results of analyses for samples received by Summit Scientific on 12/04/15 07:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	1512028-01	Water	12/04/15 00:00	12/04/15 07:30
MW2	1512028-02	Water	12/04/15 00:00	12/04/15 07:30
MW3	1512028-03	Water	12/04/15 00:00	12/04/15 07:30
MW4	1512028-04	Water	12/04/15 00:00	12/04/15 07:30
MW5	1512028-05	Water	12/04/15 00:00	12/04/15 07:30
MW6	1512028-06	Water	12/04/15 00:00	12/04/15 07:30

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

Summit Scientific

1512028

741 Corporate Circle, Suite J • Golden, Colorado 80401
303-277-9310 • 303-374-5933

Page 1 of 1

Client: Fremont Project Manager: Paul H
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: 303.956.8714 Fax: _____ Project Name: Noble - Brown 34-24
Sampler Name: M Taylor Project Number: C014-007

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)				
1	MW	12/4/15		1			X		X							
2	2															
3	3															
4	4															
5	5															
6	6															
7																
8																
9																
10																
Relinquished by: <u>M Taylor</u>		Date/Time: <u>12/4/15 0730</u>	Received by: _____		Date/Time: _____	Turn Around Time (Check)		Notes:								
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	Same Day _____ 72 hours _____		Standard <input checked="" type="checkbox"/>								
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	24 hours _____ 48 hours _____										
Relinquished by: _____		Date/Time: _____	Received by: <u>[Signature]</u>		Date/Time: <u>12/4/15 7:30</u>	Sample Integrity: Temperature Upon Receipt: <u>41°C</u>		Ice								
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No										

www.s2scientific.com



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

MW1
1512028-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1512058	12/08/15	12/08/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		76.1 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.9 %	45-146		"	"	"	"	

Summit Scientific

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

MW2
1512028-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1512058	12/08/15	12/08/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		73.2 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91.0 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.8 %	45-146		"	"	"	"	

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Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

MW3
1512028-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1512058	12/08/15	12/08/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		78.2 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		93.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.1 %	45-146		"	"	"	"	

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

MW4
1512028-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1512058	12/08/15	12/08/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		79.6 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.3 %	45-146		"	"	"	"	

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Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

MW5
1512028-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1512058	12/08/15	12/08/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		77.2 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.2 %	45-146		"	"	"	"	

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1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

MW6
1512028-06 (Water)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1512058	12/08/15	12/08/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/04/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		75.5 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		93.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.8 %	45-146		"	"	"	"	

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1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch 1512058 - EPA 5030 Water MS

Blank (1512058-BLK1)

Prepared & Analyzed: 12/08/15

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.4		37-154			
Surrogate: Toluene-d8	12.6		"	13.3		94.4		45-149			
Surrogate: 4-Bromofluorobenzene	11.8		"	13.3		88.8		45-146			

LCS (1512058-BS1)

Prepared & Analyzed: 12/08/15

Benzene	31.3	1.0	ug/l	33.3		93.8		51-132			
Toluene	31.5	1.0	"	33.3		94.4		51-138			
Ethylbenzene	36.0	1.0	"	33.1		109		58-146			
m,p-Xylene	70.1	2.0	"	66.5		105		57-144			
o-Xylene	34.0	1.0	"	32.8		104		53-146			
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		80.6		37-154			
Surrogate: Toluene-d8	12.3		"	13.3		92.5		45-149			
Surrogate: 4-Bromofluorobenzene	12.1		"	13.3		90.9		45-146			

Matrix Spike (1512058-MS1)

Source: 1512028-01

Prepared & Analyzed: 12/08/15

Benzene	31.5	1.0	ug/l	33.3	ND	94.5		34-141			
Toluene	31.7	1.0	"	33.3	ND	95.0		27-151			
Ethylbenzene	37.4	1.0	"	33.1	ND	113		29-160			
m,p-Xylene	72.9	2.0	"	66.5	ND	110		20-166			
o-Xylene	35.5	1.0	"	32.8	ND	108		33-159			
Surrogate: 1,2-Dichloroethane-d4	10.3		"	13.3		77.3		37-154			
Surrogate: Toluene-d8	12.5		"	13.3		93.8		45-149			
Surrogate: 4-Bromofluorobenzene	12.1		"	13.3		90.6		45-146			

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Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

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

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

Batch 1512058 - EPA 5030 Water MS

Matrix Spike Dup (1512058-MSD1)	Source: 1512028-01			Prepared & Analyzed: 12/08/15						
Benzene	30.6	1.0	ug/l	33.3	ND	92.0	34-141	2.74	32	
Toluene	31.2	1.0	"	33.3	ND	93.5	27-151	1.69	25	
Ethylbenzene	38.0	1.0	"	33.1	ND	115	29-160	1.62	50	
m,p-Xylene	73.7	2.0	"	66.5	ND	111	20-166	1.12	36	
o-Xylene	35.5	1.0	"	32.8	ND	108	33-159	0.113	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>9.98</i>		<i>"</i>	<i>13.3</i>		<i>74.9</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.2</i>		<i>"</i>	<i>13.3</i>		<i>91.8</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.0</i>		<i>"</i>	<i>13.3</i>		<i>90.2</i>	<i>45-146</i>			

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1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Brown 34-24

Project Number: C014-007
Project Manager: Paul Henehan

Reported:
12/11/15 06:28

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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