FREMONT ENVIRONMENTAL INC.

November 8, 2016

Mr. Jacob Evans
Noble Energy Inc.
1625 Broadway
Denver, CO 80202

Subject: **Ground Water Data Submittal**
Libsack R G27-15
SWSE Sec 27, T4N, R65W
API # 05-123-13256
Weld County, Colorado
Fremont Project No. C013-009
Facility ID# 323601

Dear Mr. Jacobs:

Enclosed please find a copy of the above referenced Ground Water Data Submittal for the Libsack R G27-15 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

cc/enc:

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

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA AND CHEMISTRY DATA
NOBLE ENERGY INC.
LIBSACK R G27-15, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C013-009

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	06/14/13	<1.0	<1.0	<1.0	<1.0	99.89	2.93	96.96	NP
	06/24/13	NS	NS	NS	NS		2.66	97.23	NP
	07/09/13	NS	NS	NS	NS		2.53	97.36	NP
	07/19/13	NS	NS	NS	NS		Inundated	Inundated	Inundated
	10/18/13	<1	<1	<1	<1		1.66	98.23	NP
	01/13/14	<1	<1	<1	<1		2.25	97.64	NP
	04/02/14	<1	<1	<1	<1		2.74	97.15	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.52	97.37	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.86	98.03	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.87	98.02	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.11	97.78	NP
MW-2	06/14/13	<1.0	<1.0	<1.0	<1.0	100.00	3.01	96.99	NP
	06/24/13	NS	NS	NS	NS		2.75	97.25	NP
	07/09/13	NS	NS	NS	NS		2.62	97.38	NP
	07/19/13	NS	NS	NS	NS		1.95	98.05	NP
	10/18/13	<1	<1	<1	<1		1.75	98.25	NP
	01/13/14	<1	<1	<1	<1		2.36	97.64	NP
	04/02/14	<1	<1	<1	<1		2.82	97.18	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.61	97.39	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.97	98.03	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.97	98.03	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.20	97.80	NP
MW-3	06/14/13	<1.0	<1.0	<1.0	<1.0	99.92	3.05	96.87	NP
	06/24/13	NS	NS	NS	NS		2.78	97.14	NP
	07/09/13	NS	NS	NS	NS		2.65	97.27	NP
	07/19/13	NS	NS	NS	NS		2.02	97.90	NP
	10/18/13	1.3	<1	<1	<1		1.88	98.04	NP
	01/13/14	<1	<1	<1	<1		2.40	97.52	NP
	04/02/14	<1	<1	<1	<1		2.84	97.08	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.66	97.26	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		2.02	97.90	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		2.04	97.88	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.27	97.65	NP
MW-4	06/14/13	**4,523**	<1.0	<1.0	168	99.47	2.69	96.78	NP
	06/24/13	NS	NS	NS	NS		2.42	97.05	NP
	07/09/13	**868**	<1.0	<1.0	<1.0		2.28	97.19	NP
	07/19/13	NS	NS	NS	NS		1.61	97.86	NP
	10/18/13	<1	<1	<1	<1		1.46	98.01	NP
	01/13/14	<1	<1	<1	<1		2.07	97.40	NP
	04/02/14	**33.1**	<1	<1	<1		2.55	96.92	NP
	07/15/14	**6.4**	<1.0	<1.0	<1.0		2.31	97.16	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.68	97.79	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.71	97.76	NP
	04/20/15	1.6	<1.0	<1.0	<1.0		1.94	97.53	NP
MW-5	06/14/13	**494**	<1.0	1.8	15.7	99.29	2.68	96.61	NP
	06/24/13	NS	NS	NS	NS		2.39	96.90	NP
	07/09/13	**535**	<1.0	<1.0	<1.0		2.26	97.03	NP
	07/19/13	NS	NS	NS	NS		Inundated	Inundated	Inundated
	10/18/13	<1	<1	<1	<1		1.31	97.98	NP
	01/13/14	<1	<1	<1	<1		2.01	97.28	NP
	04/02/14	<1	<1	<1	<1		2.49	96.80	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.26	97.03	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.65	97.64	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.66	97.63	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.89	97.40	NP
MW-6	06/14/13	<1.0	<1.0	<1.0	<1.0	99.66	3.01	96.65	NP
	06/24/13	NS	NS	NS	NS		2.74	96.92	NP
	07/09/13	NS	NS	NS	NS		2.61	97.05	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-6	07/19/13	NS	NS	NS	NS		2.01	97.65	NP
	10/18/13	<1	<1	<1	<1		1.79	97.87	NP
	01/13/14	2.9	<1	<1	<1		1.33	98.33	NP
	04/02/14	**258**	<1	<1	<1		2.82	96.84	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.61	97.05	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.98	97.68	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.99	97.67	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.23	97.43	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		2.38	97.28	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		1.86	97.80	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		3.07	96.59	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		1.81	97.85	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		2.74	96.92	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.93	97.73	NP
MW-7	06/14/13	**1,063**	27.8	<1.0	104	99.38	2.72	96.66	NP
	06/24/13	NS	NS	NS	NS		2.43	96.95	NP
	07/09/13	**2,226**	100	58.9	164		2.3	97.08	NP
	07/19/13	NS	NS	NS	NS		1.76	97.62	NP
	10/18/13	**108**	<1	3.9	1.9		1.44	97.94	NP
	01/13/14	<1	<1	<1	<1		2.02	97.36	NP
	04/02/14	<1	<1	<1	<1		2.47	96.91	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.28	97.10	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.63	97.75	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.64	97.74	NP
	04/20/15	NF	NF	NF	NF		NF	NF	NF
	07/20/15	<1.0	<1.0	<1.0	<1.0		1.19	98.19	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		0.67	98.71	NP
	01/29/16	Damaged	Damaged	Damaged	Damaged		Damaged	Damaged	Damaged
	03/17/16	<1.0	<1.0	<1.0	<1.0		NM	NM	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		too shallow	too shallow	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		1.80	97.58	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		0.98	98.40	NP
MW-8	06/14/13	<1.0	<1.0	<1.0	<1.0	99.46	2.69	96.77	NP
	06/24/13	NS	NS	NS	NS		2.39	97.07	NP
	07/09/13	NS	NS	NS	NS		2.27	97.19	NP
	07/19/13	NS	NS	NS	NS		Inundated	Inundated	Inundated
	10/18/13	<1	<1	<1	<1		1.79	97.67	NP
	01/13/14	<1	<1	<1	<1		2.08	97.38	NP
	04/02/14	<1	<1	<1	<1		2.46	97.00	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.25	97.21	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.69	97.77	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.71	97.75	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.93	97.53	NP
MW-9	06/14/13	<1.0	<1.0	<1.0	<1.0	99.51	3.05	96.46	NP
	06/24/13	NS	NS	NS	NS	99.03	2.25	96.78	NP
	07/09/13	NS	NS	NS	NS		2.14	96.89	NP
	07/19/13	NS	NS	NS	NS		1.18	97.85	NP
	10/18/13	<1	<1	<1	<1		1.28	97.75	NP
	01/13/14	<1	<1	<1	<1		1.82	97.69	NP
	04/02/14	<1	<1	<1	<1		2.31	96.72	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.11	97.40	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.44	98.07	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.46	97.57	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.69	97.34	NP
MW-10	06/14/13	<1.0	<1.0	<1.0	<1.0	100.01	3.61	96.40	NP
	06/24/13	NS	NS	NS	NS	99.44	2.7	96.74	NP
	07/09/13	NS	NS	NS	NS		2.59	96.85	NP
	07/19/13	NS	NS	NS	NS		1.89	97.55	NP
	10/18/13	<1	<1	<1	<1		1.73	97.71	NP
	01/13/14	<1	<1	<1	<1		2.29	97.72	NP
	04/02/14	<1	<1	<1	<1		2.76	96.68	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.54	97.47	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.91	98.10	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.92	97.52	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-10	04/20/15	<1.0	<1.0	<1.0	<1.0		2.16	97.28	NP
MW-11	06/14/13	<1.0	<1.0	<1.0	<1.0	100.50	4.1	96.40	NP
	06/24/13	NS	NS	NS	NS	99.98	3.23	96.75	NP
	07/09/13	NS	NS	NS	NS		3.12	96.86	NP
	07/19/13	NS	NS	NS	NS		2.48	97.50	NP
	10/18/13	<1	<1	<1	<1		2.24	97.74	NP
	01/13/14	<1	<1	<1	<1		2.82	97.68	NP
	04/02/14	<1	<1	<1	<1		3.31	96.67	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		3.42	97.08	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		2.43	98.07	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		2.44	97.54	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.67	97.31	NP
MW-12	07/09/13	<1.0	<1.0	<1.0	<1.0	99.68	2.62	97.06	NP
	07/19/13	NS	NS	NS	NS		2.14	97.54	NP
	10/18/13	<1	<1	<1	<1		1.74	97.94	NP
	01/13/14	<1	<1	<1	<1		2.32	97.36	NP
	04/02/14	<1	<1	<1	<1		2.81	96.87	NP
	07/15/14	WD	WD	WD	WD		WD	WD	WD
	01/20/15	<1.0	<1.0	<1.0	<1.0		WD	WD	NP
	04/20/15	NF	NF	NF	NF		NF	NF	NF
MW-13	07/09/13	**71.1**		160	**2,606**	99.76	2.78	96.98	NP
	07/19/13	NS	NS	NS	NS		2.28	97.48	NP
	10/18/13	**131**	<1	9.4	200		1.93	97.83	NP
	01/13/14	**112**	<1	91.7	4.3		2.51	97.25	NP
	04/02/14	**75.5**	1.7	47.9	125		3.07	96.69	NP
	07/15/14	**71.2**	<1.0	31.4	168		2.84	96.92	NP
	10/07/14	**96.9**	<1.0	56.6	2.1		1.19	98.57	NP
	01/20/15	**100**	<1.0	129	13.5		1.20	98.56	NP
	04/20/15	**130**	<1.0	92	<1.0		1.44	98.32	NP
	07/20/15	**70**	<1.0	7.2	<1.0		2.58	97.18	NP
	10/28/15	**30**	<1.0	2.4	<1.0		2.06	97.70	NP
	01/29/16	**63**	<1.0	22	<1.0		3.28	96.48	NP
	04/28/16	**34**	<1.0	7.2	<1.0		2.02	97.74	NP
	07/26/16	**13**	<1.0	<1.0	<1.0		2.95	96.81	NP
	10/18/16	**18**	<1.0	1.5	<1.0		2.14	97.62	NP
MW-14	07/09/13	**9.2**		1.6	16.8	99.42	2.5	96.92	NP
	07/19/13	NS	NS	NS	NS		1.96	97.46	NP
	10/18/13	**10.6**	<1	<1	<1		1.63	97.79	NP
	01/13/14	1.2	<1	<1	<1		2.28	97.14	NP
	04/02/14	2	<1	<1	4		2.78	96.64	NP
	07/15/14	1.6	<1.0	<1.0	1.5		2.58	96.84	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.92	97.50	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.94	97.48	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.17	97.25	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		2.41	97.01	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		1.89	97.53	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		3.11	96.31	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		1.85	97.57	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		2.78	96.64	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.97	97.45	NP
MW-15	07/09/13	<1.0	<1.0	<1.0	<1.0	99.59	2.68	96.91	NP
	07/19/13	NS	NS	NS	NS		2.12	97.47	NP
	10/18/13	<1	<1	<1	<1		1.82	97.77	NP
	01/13/14	<1	<1	<1	<1		2.39	97.20	NP
	04/02/14	<1	<1	<1	<1		2.88	96.71	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.65	96.94	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		2.01	97.58	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		2.03	97.56	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.26	97.33	NP
MW-16	07/09/13	**177**		394	**5,089**	99.18	2.3	96.88	NP
	07/19/13	NS	NS	NS	NS		1.74	97.44	NP
	10/18/13	**166**	<1	104	405		1.41	97.77	NP
	01/13/14	**249**	<1	268	**1733**		2.02	97.16	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-16	04/02/14	**149**	3.1	127	852		2.49	96.69	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.29	96.89	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.61	97.57	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.62	97.56	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.85	97.33	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		2.06	97.12	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		1.53	97.65	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		2.75	96.43	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		1.50	97.68	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		2.43	96.75	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.63	97.55	NP
MW-17	07/09/13	**851**		390	**9,256**	99.45	2.5	96.95	NP
	07/19/13	NS	NS	NS	NS		2.02	97.43	NP
	10/18/13	**961**	<1	82.2	**8473**		1.43	98.02	NP
	01/13/14	**455**	<1	101	**4781**		2.19	97.26	NP
	04/02/14	**435**	4.4	69.1	**5184**		2.69	96.76	NP
	07/15/14	**1081**	<1.0	106	**5741**		2.46	96.99	NP
	10/07/14	**461**	<1.0	247	**2008**		1.85	97.60	NP
	01/20/15	**212**	2.3	181	**1844**		1.86	97.59	NP
	04/20/15	**26**	<1.0	4.4	140		2.19	97.26	NP
	07/20/15	**280**	<1.0	21	130		2.27	97.18	NP
	10/28/15	**77**	<1.0	29	54		1.75	97.70	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		2.97	96.48	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		1.70	97.75	NP
	07/26/16	**16**	<1.0	1.8	18		2.64	96.81	NP
	10/18/16	**71**	<1.0	2.9	17		1.83	97.62	NP
MW-18	07/09/13	<1.0	<1.0	<1.0	<1.0	98.28	1.54	96.74	NP
	07/19/13	NS	NS	NS	NS		1.02	97.26	NP
	10/18/13	<1	<1	<1	<1		0.66	97.62	NP
	01/13/14	<1	<1	<1	<1		1.15	97.13	NP
	04/02/14	<1	<1	<1	<1		1.68	96.60	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		1.49	96.79	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		0.81	97.47	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		0.83	97.45	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.06	97.22	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		1.29	96.99	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		0.76	97.52	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		1.98	96.30	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		too shallow	too shallow	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		1.81	96.47	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.00	97.28	NP
MW-19	07/09/13	<1.0	<1.0	<1.0	<1.0	98.47	1.71	96.76	NP
	07/19/13	NS	NS	NS	NS		1.1	97.37	NP
	10/18/13	<1	<1	<1	<1		1.78	96.69	NP
	01/13/14	<1	<1	<1	<1		1.33	97.14	NP
	04/02/14	<1	<1	<1	<1		1.84	96.63	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		1.65	96.82	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		0.99	97.48	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.01	97.46	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.24	97.23	NP
MW-20	07/19/13	<1.0	<1.0	<1.0	<1.0	99.40	1.33	98.07	NP
	10/18/13	<1	<1	<1	<1		1.51	97.89	NP
	01/13/14	<1	<1	<1	<1		2.11	97.29	NP
	04/02/14	<1	<1	<1	<1		2.57	96.83	NP
	07/15/14	**8.4**	<1.0	<1.0	<1.0		2.32	97.08	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.70	97.70	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.71	97.69	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.95	97.45	NP
MW-21	07/19/13	<1.0	<1.0	<1.0	<1.0	99.31	1.67	97.64	NP
	10/18/13	<1	<1	<1	<1		1.51	97.80	NP
	01/13/14	<1	<1	<1	<1		2.10	97.21	NP
	04/02/14	<1	<1	<1	<1		2.56	96.75	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.33	96.98	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.71	97.60	NP

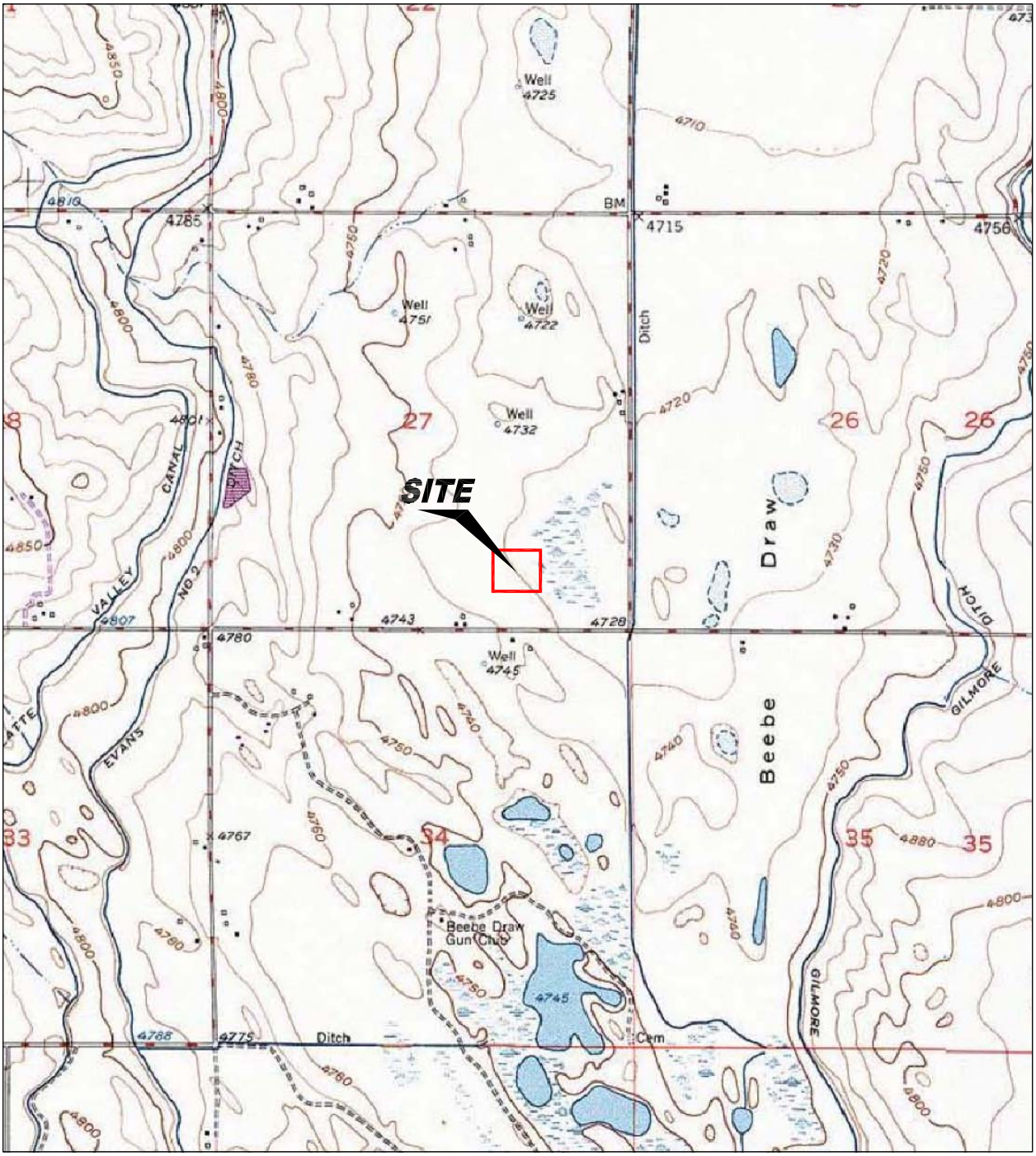
SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-21	01/20/15	<1.0	<1.0	<1.0	<1.0		1.73	97.58	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.96	97.35	NP
MW-22	07/19/13	<1.0	<1.0	<1.0	<1.0	99.12	2.01	97.11	NP
	10/18/13	<1	<1	<1	<1		1.73	97.39	NP
	01/13/14	<1	<1	<1	<1		2.01	97.11	NP
	04/02/14	<1	<1	<1	<1		2.49	96.63	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.30	96.82	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.85	97.27	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.86	97.26	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.09	97.03	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		1.10	98.02	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		0.59	98.53	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		1.79	97.33	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		too shallow	too shallow	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		1.80	97.32	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		0.99	98.13	NP
MW-23	07/19/13	<1.0	<1.0	<1.0	<1.0	98.77	1.41	97.36	NP
	10/18/13	<1	<1	<1	<1		0.98	97.79	NP
	01/13/14	<1	<1	<1	<1		1.52	97.25	NP
	04/02/14	<1	<1	<1	<1		2.01	96.76	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		1.82	96.95	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		1.16	97.61	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.18	97.59	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.42	97.35	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		1.62	97.15	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		1.10	97.67	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		2.32	96.45	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		1.06	97.71	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		1.99	96.78	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.19	97.58	NP
MW-24	07/19/13	2.4	<1.0	36.6	1,364	99.08	1.57	97.51	NP
	10/18/13	<1	<1	<1	<1		1.2	97.88	NP
	01/13/14	3.3	<1	23.7	64.4		1.74	97.34	NP
	04/02/14	1.9	<1	10.3	35.7		2.23	96.85	NP
	07/15/14	<1.0	<1.0	4.0	1.4		2.01	97.07	NP
	10/07/14	<1.0	<1.0	<1.0	1.5		1.40	97.68	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.39	97.69	NP
	04/20/15	<1.0	<1.0	<1.0	4.6		1.62	97.46	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		1.82	97.26	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		1.30	97.78	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		2.51	96.57	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		1.25	97.83	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		2.18	96.90	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.36	97.72	NP
MW-25	07/19/13	**803**	<1.0	473	**10,322**	99.36	1.96	97.40	NP
	10/18/13	**435**	<1	119	**1572**		1.49	97.87	NP
	01/13/14	**47.8**	<1	6.3	159		2.03	97.33	NP
	04/02/14	**44.1**	<1	24.3	200		2.58	96.78	NP
	07/15/14	**115**	<1.0	39.2	120		2.35	97.01	NP
	10/07/14	**57.1**	<1.0	9.3	12.1		1.69	97.67	NP
	01/20/15	**36.2**	<1.0	5.1	44.6		1.71	97.65	NP
	04/20/15	**16**	<1.0	1.2	5.0		1.94	97.42	NP
	07/20/15	**5.8**	<1.0	<1.0	<1.0		2.15	97.21	NP
	10/28/15	**13**	<1.0	<1.0	<1.0		1.63	97.73	NP
	01/29/16	Damaged	Damaged	Damaged	Damaged		Damaged	Damaged	Damaged
	03/17/16	**83**	<1.0	2.1	24		NM	NM	NP
	04/28/16	**7.3**	<1.0	<1.0	4.0		too shallow	too shallow	NP
	07/26/16	2.7	<1.0	<1.0	<1.0		1.80	97.56	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		0.98	98.38	NP
MW-26	07/19/13	**198**	<1.0	344	**2,547**	99.30	1.88	97.42	NP
	10/18/13	**109**	<1	83.9	894		1.49	97.81	NP
	01/13/14	<1	<1	<1	<1		2.01	97.29	NP
	04/02/14	<1	<1	<1	<1		2.54	96.76	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		2.29	97.01	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-26	10/07/14	2.7	<1.0	<1.0	1.2		1.64	97.66	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		1.65	97.65	NP
	04/20/15	**13**	<1.0	2.0	8.0		1.88	97.42	NP
	07/20/15	3.1	<1.0	<1.0	<1.0		2.11	97.19	NP
	10/28/15	**20**	<1.0	13	49		1.60	97.70	NP
	01/29/16	Damaged	Damaged	Damaged	Damaged		Damaged	Damaged	Damaged
	03/17/16	**23**	<1.0	2.2	59		NM	NM	NP
	04/28/16	**60**	<1.0	20	110		too shallow	too shallow	NP
	07/26/16	**40**	<1.0	6.3	17		1.79	97.51	NP
	10/18/16	2.8	<1.0	10	190		0.98	98.32	NP
MW-27	07/19/13	<1.0	<1.0	<1.0	<1.0	98.40	0.91	97.49	NP
	10/18/13	<1	<1	<1	<1		0.7	97.70	NP
	01/13/14	<1	<1	<1	<1		1.23	97.17	NP
	04/02/14	<1	<1	<1	<1		1.73	96.67	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		3.41	94.99	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		0.87	97.53	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		0.89	97.51	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.12	97.28	NP
MW-28	07/19/13	<1.0	<1.0	<1.0	<1.0	98.64	1.14	97.50	NP
	10/18/13	<1	<1	<1	<1		0.79	97.85	NP
	01/13/14	<1	<1	<1	<1		1.28	97.36	NP
	04/02/14	<1	<1	<1	<1		1.79	96.85	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		1.59	97.05	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		0.95	97.69	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		0.96	97.68	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		1.19	97.45	NP
	07/20/15	<1.0	<1.0	<1.0	<1.0		1.38	97.26	NP
	10/28/15	<1.0	<1.0	<1.0	<1.0		0.87	97.77	NP
	01/29/16	<1.0	<1.0	<1.0	<1.0		2.07	96.57	NP
	04/28/16	<1.0	<1.0	<1.0	<1.0		too shallow	too shallow	NP
	07/26/16	<1.0	<1.0	<1.0	<1.0		1.82	96.82	NP
	10/18/16	<1.0	<1.0	<1.0	<1.0		1.81	96.83	NP
MW-29	07/19/13	<1.0	<1.0	<1.0	<1.0	101.04	3.45	97.59	NP
	10/18/13	<1	<1	<1	<1		3.03	98.01	NP
	01/13/14	<1	<1	<1	<1		3.58	97.46	NP
	04/02/14	<1	<1	<1	<1		4.13	96.91	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		3.96	97.08	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		3.32	97.72	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		NF	NF	NP
	04/20/15	NF	NF	NF	NF		NF	NF	NF
MW-30	07/19/13	<1.0	<1.0	<1.0	<1.0	100.22	2.73	97.49	NP
	10/18/13	<1	<1	<1	<1		2.3	97.92	NP
	01/13/14	<1	<1	<1	<1		2.82	97.40	NP
	04/02/14	<1	<1	<1	<1		3.35	96.87	NP
	07/15/14	<1.0	<1.0	<1.0	<1.0		3.22	97.00	NP
	10/07/14	<1.0	<1.0	<1.0	<1.0		2.59	97.63	NP
	01/20/15	<1.0	<1.0	<1.0	<1.0		2.61	97.61	NP
	04/20/15	<1.0	<1.0	<1.0	<1.0		2.94	97.28	NP
Table 910-1 Limits		5	560	700	1,400				

Bold face values exceed the COGCC limits

NP - No Free Product

NS- Not Sampled



N

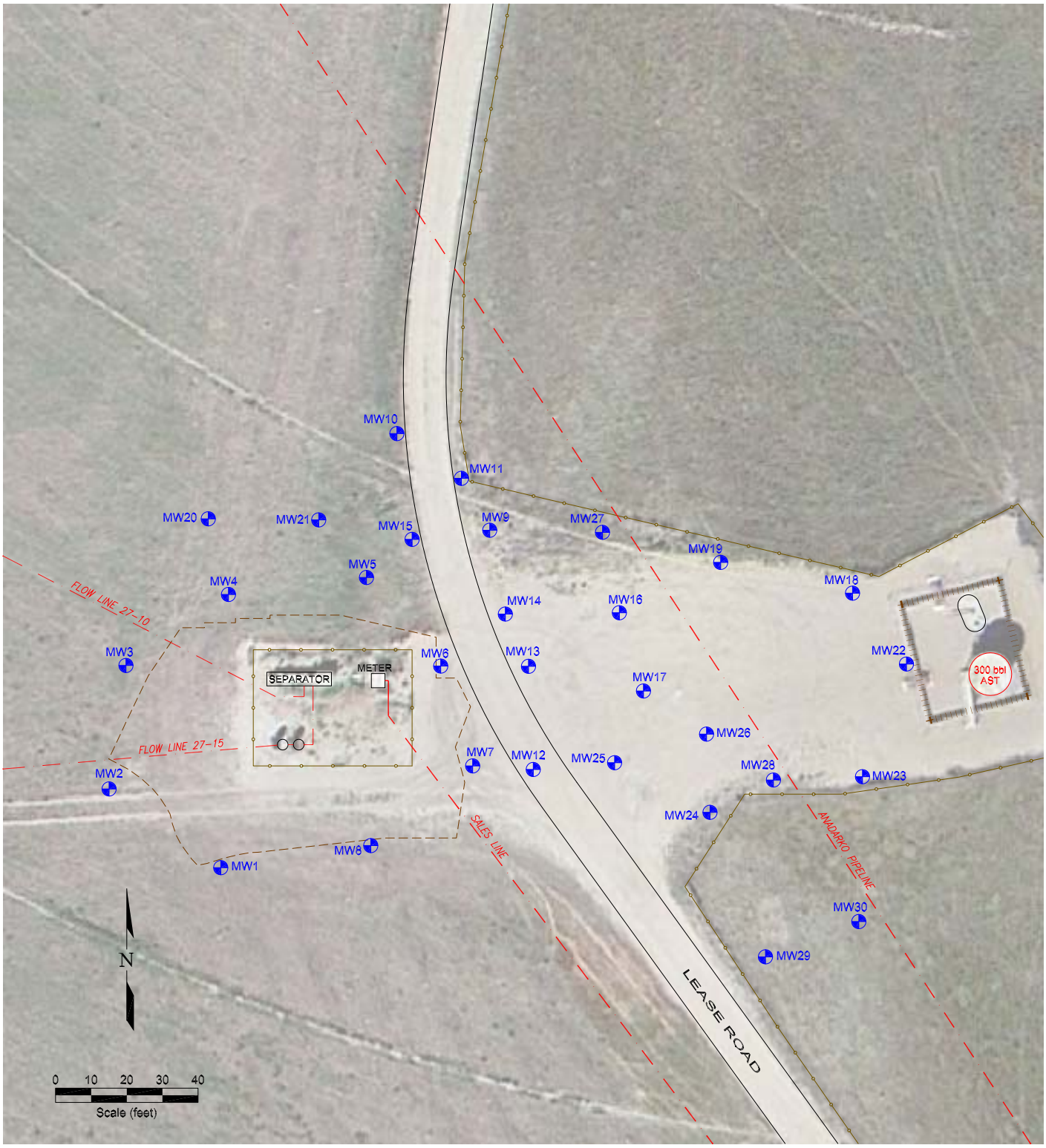
Scale (miles)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
0 1000 2000 3000 4000 5000
Scale (feet)

USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

Noble Lipsack R G27-15
SW SE Section 27, T4N, R65W
Weld County, Colorado

Project No.	Prepared by	Drawn by	
C013-009		JMA	FREMONT ENVIRONMENTAL
Date	Reviewed by	Filename	
5/21/13		13009T	



LEGEND

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

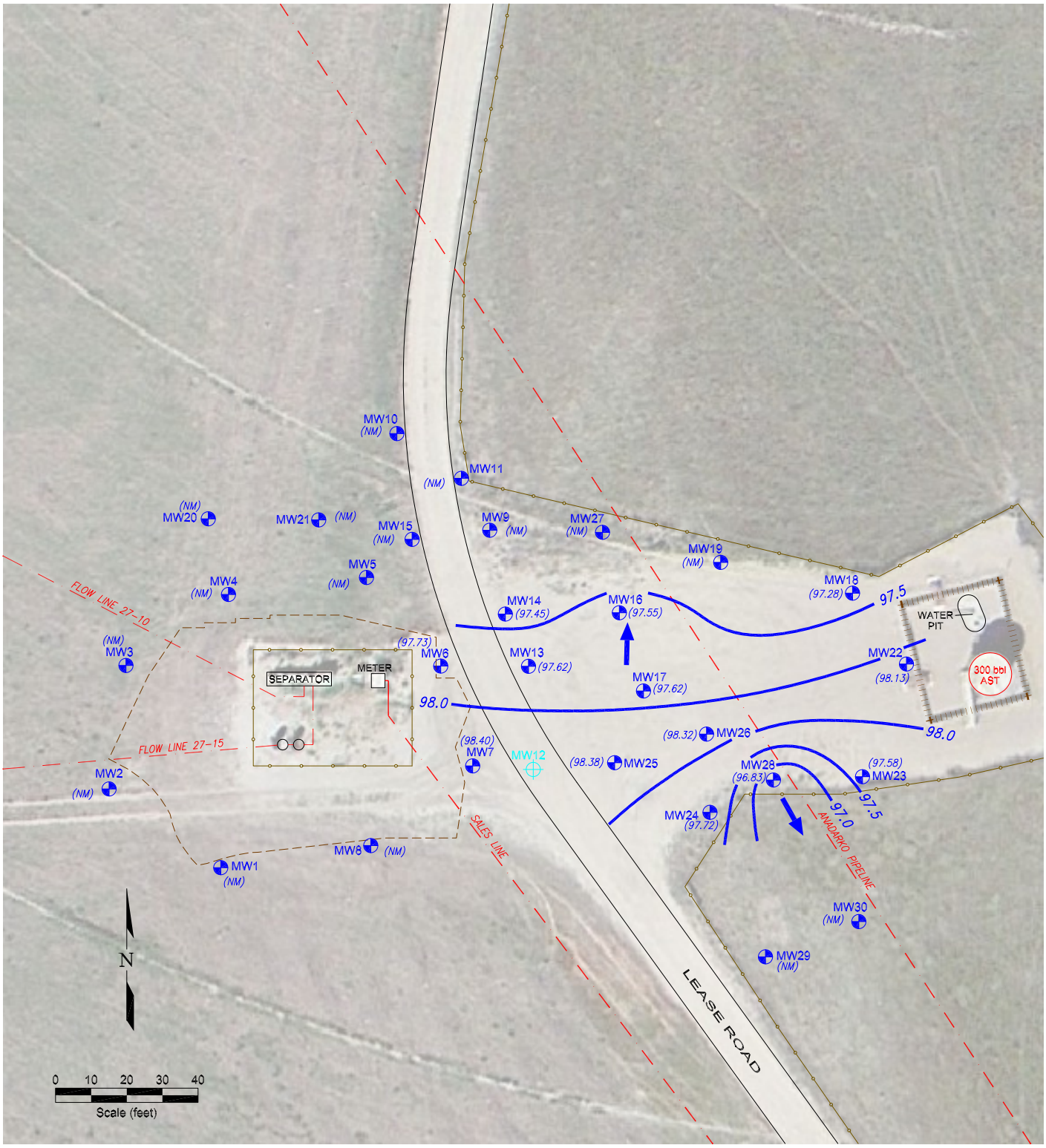
Figure 2

SITE MAP

Noble Libsack R G27-15
SW SE Section 27, T4N, R65W
Weld County, Colorado

Project No.	Prepared by	Drawn by
C013-009		JMA
Date	Reviewed by	Filename
7/24/13		13009R

FREMONT ENVIRONMENTAL



LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- FENCE LINE
- PIPELINE
- CONTAINMENT BERM
- ABOVE GROUND STORAGE TANK
- (98.05) GROUND WATER ELEVATION (ft above arbitrary datum)
- S TOO SHALLOW
- NM NOT MEASURED
- 97.6 WATER TABLE CONTOUR
- GROUND WATER FLOW DIRECTION

Figure 3

INFERRED GROUNDWATER CONTOUR

OCTOBER 18, 2016

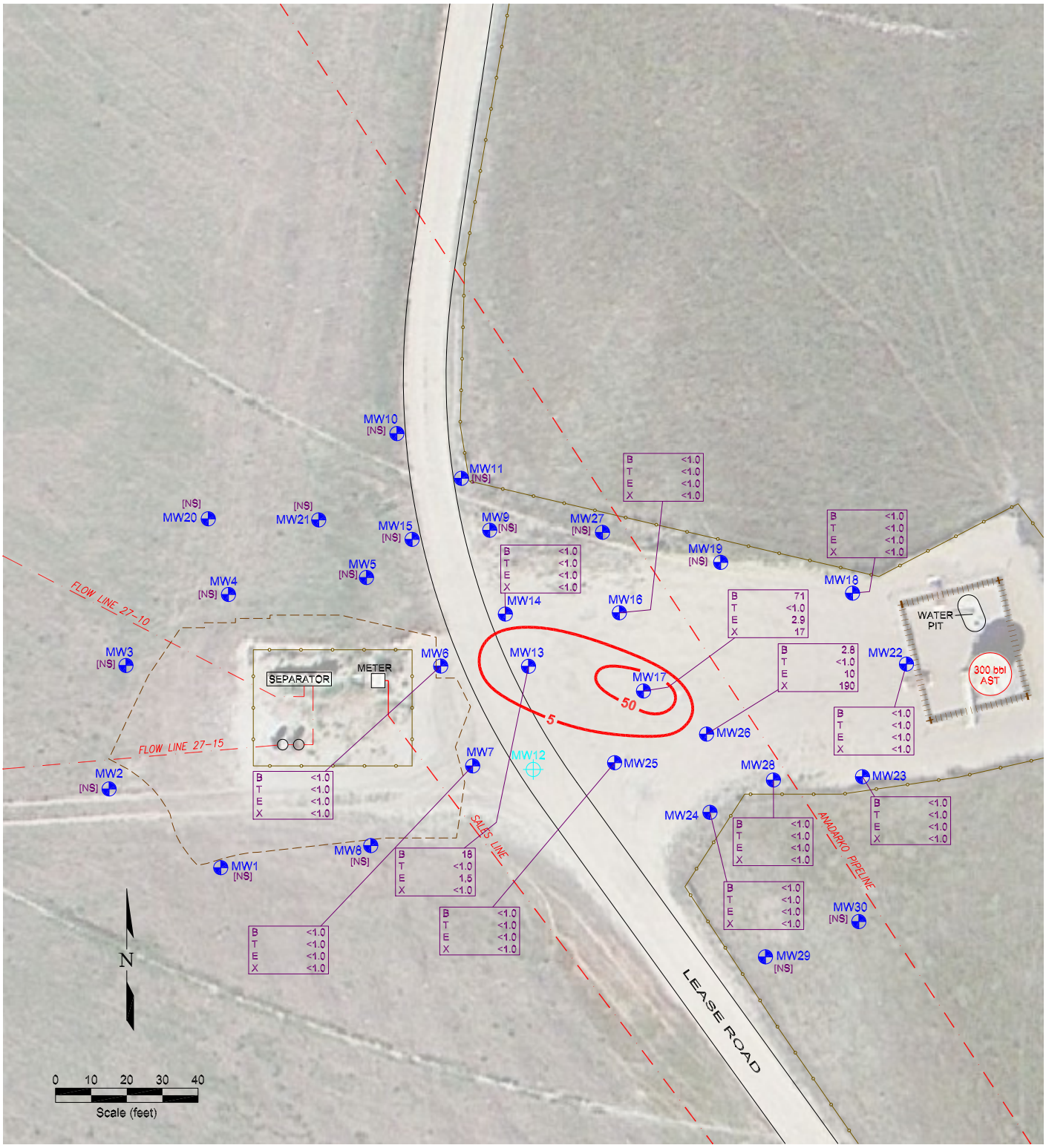
Noble Libsack R G27-15

SW SE Section 27, T4N, R65W

Weld County, Colorado

Project No.	Prepared by	Drawn by
C013-009		JMA
Date	Reviewed by	Filename
11/8/16		13009R

FREMONT ENVIRONMENTAL



LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- FENCE LINE
- PIPELINE
- CONTAINMENT 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)
- D NS [<0.5] — WELL DAMAGED, NOT SAMPLED, BENZENE CONCENTRATION (ug/L)
- 5 — BENZENE ISOCONCENTRATION (ug/L)

Figure 4

GROUND WATER CHEMISTRY MAP

OCTOBER 18, 2016

Noble Libsack R G27-15

SW SE Section 27, T4N, R65W

Weld County, Colorado

Project No.	Prepared by	Drawn by
C013-009		JMA
Date	Reviewed by	Filename
11/8/16		13009R

FREMONT ENVIRONMENTAL

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 26, 2016

Paul Henehan
Fremont Environmental
1759 Redwing Lane
Broomfield, CO 80020

RE: Noble - Libsack RG27-15

Enclosed are the results of analyses for samples received by Summit Scientific on 10/19/16 16:00. 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 - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW6	1610163-01	Water	10/18/16 00:00	10/19/16 16:00
MW7	1610163-02	Water	10/18/16 00:00	10/19/16 16:00
MW13	1610163-03	Water	10/18/16 00:00	10/19/16 16:00
MW14	1610163-04	Water	10/18/16 00:00	10/19/16 16:00
MW16	1610163-05	Water	10/18/16 00:00	10/19/16 16:00
MW17	1610163-06	Water	10/18/16 00:00	10/19/16 16:00
MW18	1610163-07	Water	10/18/16 00:00	10/19/16 16:00
MW22	1610163-08	Water	10/18/16 00:00	10/19/16 16:00
MW23	1610163-09	Water	10/18/16 00:00	10/19/16 16:00
MW24	1610163-10	Water	10/18/16 00:00	10/19/16 16:00
MW25	1610163-11	Water	10/18/16 00:00	10/19/16 16:00
MW26	1610163-12	Water	10/18/16 00:00	10/19/16 16:00
MW28	1610163-13	Water	10/18/16 00:00	10/19/16 16:00

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

Summit Scientific

1610163.1

741 Corporate Circle Suite 1 ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-277-9531 Fax

Page 1 of 1

Client: Fremont Environemntal Noble
Address: 1630 S College Ave
City/State/Zip: Fort Collins, CO 80525
Phone: (303) 956-8714 Fax:
Sampler Name: MT

Project Manager: Paul Henehan
E-Mail: paulh@fremontenv.com
Project Name: 0013-009 (Jacob)
Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative: HCl	Preservative: HNO_3	Preservative: None	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Soil	Matrix: Air - Canister Serial #	Matrix: Other (Specify)	Analyze For: DRO	Analyze For: BTEX	Analyze For: Table 910-1 Metals	Analyze For: pH / EC	Analyze For: SAR	Analyze For: PAH SIM	Analyze For: As Total	Special Instructions
MW 6	10/18/16		3			✓		✓					✓						
13																			
14																			
16																			
17																			
18																			
23																			
23																			

Relinquished by: Date/Time: 10/19/16 1600
Relinquished by: Date/Time: 10-19-16 17:35
Relinquished by: Date/Time:

Received by: Date/Time: 10-19-16 16:00
Received by: Date/Time:
Received in Lab by: Date/Time:

Turn Around Time (Check)
Same Day ☐ 72 Hours ☐
24 Hours ☐ Standard ✓
48 Hours ☐

Sample Integrity:
Temperature Upon Receipt: 20.5
Intact: (Yes) No

Notes:

www.s2scientific.com

S2

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

Summit Scientific

1610163.2

S2

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-277-9531 Fax

Page 2 of 2

Client: Fremont Environemntal (Noble)
Address: 1630 S College Ave
City/State/Zip: Fort Collins, CO 80525
Phone: (303) 956-8714 Fax:
Sampler Name: MT

Project Manager: Paul Henehan
E-Mail: paulh@fremontenv.com
Project Name: 0013-009 (Jacob)
Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative: HCl	Preservative: HNO_3	Preservative: None	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Soil	Matrix: Air - Canister Serial #	Matrix: Other (Specify)	Analyze For: DRO	Analyze For: BTEX	Analyze For: Table 910-1 Metals	Analyze For: pH / EC	Analyze For: SAR	Analyze For: PAH SIM	Analyze For: As Total	Special Instructions
25	10/18/16		3			✓		✓					✓						
26																			
28																			

Relinquished by:	Date/Time: 10/19/16 1600	Received by:	Date/Time: 10-19-16 16:00
Relinquished by:	Date/Time: 10-19-16 17:35	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:

Turn Around Time (Check)
Same Day ☐ 72 Hours ☐
24 Hours ☐ Standard ☑
48 Hours ☐

Sample Integrity:
Temperature Upon Receipt: 20.5
Intact: (Yes) No

Notes:

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order: 1610163

Client: Fremont - Noble Client Project ID: C013-009 (Jacob

Shipped Via: H.D. (UPS, FedEx, Hand Delivered, Pick-up, etc.) Airbill #: _____

Matrix (check all that apply): ____Air ____Soil/Solid ✕ Water ____Other: _____ (Describe)

Cooler ID					
Temp (°C)	20.5				

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.			✓	
Were all samples received intact [1]?	✓			
Was adequate sample volume provided [1]?	✓			
If custody seals are present, are they intact [1]?			✓	
Are short holding time analytes or samples with HTs due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely [1]?	✓			
Does the COC agree with the number and type of sample bottles received [1]?	✓			
Do the sample IDs on the bottle labels match the COC [1]?	✓			
Is the COC properly relinquished by the client w/ date and time recorded [1]?	✓			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**		✓		
Are samples preserved that require preservation **(excluding cooling)**[1]? 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[1]? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

[1] If NO, then contact the client before proceeding with analysis and note in case narrative.

Muri P. — **Custodian Printed Name**

10-19-16 — **Signature or Initials of Custodian**

17:40 — **Date/Time**

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW6
1610163-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*121 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*117 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW7
1610163-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*122 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW13
1610163-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**18**	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	**1.5**	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*120 %*		*37-154*	"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*		*45-149*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*120 %*		*45-146*	"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW14
1610163-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*118 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*109 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW16
1610163-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*118 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW17
1610163-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**71**	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	**2.9**	1.0	"	"	"	"	"	"	
Xylenes (total)	**17**	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*133 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*110 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*119 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW18
1610163-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*109 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*113 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW22
1610163-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*93.9 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW23
1610163-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*85.9 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*99.0 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.2 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW24
1610163-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*80.9 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW25
1610163-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*84.6 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*96.9 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.6 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW26
1610163-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**2.8**	1.0	ug/l	1	1610240	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	**10**	1.0	"	"	"	"	"	"	
Xylenes (total)	**190**	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*80.6 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*94.5 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.6 %*	*45-146*		"	"	"	"	

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

MW28
1610163-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1610240	10/22/16	10/22/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **10/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*119 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*45-146*		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1610240 - EPA 5030 Water MS										
Blank (1610240-BLK1)				Prepared & Analyzed: 10/22/16						
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	*19.4*		"	*13.3*		*145*	*37-154*			
Surrogate: Toluene-d8	*16.9*		"	*13.3*		*127*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*14.6*		"	*13.3*		*109*	*45-146*			
LCS (1610240-BS1)				Prepared & Analyzed: 10/22/16						
Benzene	21.0	1.0	ug/l	33.3		63.1	51-132			
Toluene	29.0	1.0	"	33.3		87.1	51-138			
Ethylbenzene	35.7	1.0	"	33.1		108	58-146			
m,p-Xylene	63.9	2.0	"	66.5		96.0	57-144			
o-Xylene	30.2	1.0	"	32.7		92.4	53-146			
Surrogate: 1,2-Dichloroethane-d4	*12.3*		"	*13.3*		*92.1*	*37-154*			
Surrogate: Toluene-d8	*13.5*		"	*13.3*		*101*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*14.1*		"	*13.3*		*106*	*45-146*			
Matrix Spike (1610240-MS1)		**Source: 1610163-01**		Prepared & Analyzed: 10/22/16						
Benzene	21.8	1.0	ug/l	33.3	ND	65.4	34-141			
Toluene	29.0	1.0	"	33.3	ND	87.1	27-151			
Ethylbenzene	35.4	1.0	"	33.1	ND	107	29-160			
m,p-Xylene	63.8	2.0	"	66.5	ND	95.9	20-166			
o-Xylene	33.6	1.0	"	32.7	ND	103	33-159			
Surrogate: 1,2-Dichloroethane-d4	*12.4*		"	*13.3*		*93.0*	*37-154*			
Surrogate: Toluene-d8	*13.5*		"	*13.3*		*101*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*14.2*		"	*13.3*		*106*	*45-146*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1610240 - EPA 5030 Water MS										
Matrix Spike Dup (1610240-MSD1)	**Source: 1610163-01**			Prepared & Analyzed: 10/22/16						
Benzene	21.3	1.0	ug/l	33.3	ND	63.8	34-141	2.41	32	
Toluene	28.9	1.0	"	33.3	ND	86.6	27-151	0.553	25	
Ethylbenzene	35.3	1.0	"	33.1	ND	107	29-160	0.226	50	
m,p-Xylene	64.0	2.0	"	66.5	ND	96.3	20-166	0.391	36	
o-Xylene	33.2	1.0	"	32.7	ND	102	33-159	1.05	26	
Surrogate: 1,2-Dichloroethane-d4	*13.0*		*"*	*13.3*		*97.5*	*37-154*			
Surrogate: Toluene-d8	*13.2*		*"*	*13.3*		*99.4*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*14.5*		*"*	*13.3*		*109*	*45-146*			

Fremont Environmental 1759 Redwing Lane Broomfield CO, 80020	Project: Noble - Libsack RG27-15 Project Number: 0013-009 Project Manager: Paul Henehan	**Reported:** 10/26/16 16:47

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