

FREMONT ENVIRONMENTAL INC.

September 24, 2020

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

Subject: **Supplemental Site Assessment Report**
Weezer G02-32 (Wellhead)
API # 05-123-25720
Weld County, Colorado
Fremont Project No. C019-078
Facility #336707, Remediation # 14376

Dear Mr. Evans:

Enclosed please find a copy of the above referenced Supplemental Site Assessment Report for the Weezer G02-32 wellhead site in Weld County, Colorado. The enclosed report describes monitoring and sampling efforts to assess groundwater 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

SUPPLEMENTAL SITE ASSESSMENT REPORT

NOBLE ENERGY INC.

WEEZER G02-32 (WELLHEAD)

WELD COUNTY, COLORADO

FREMONT PROJECT NO. C019-078

FACILITY #336707, REMEDIATION #14376

Prepared by:

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

September 24, 2020

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WELD COUNTY, COLORADO

FREMONT PROJECT NO. C019-078

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1.0 INTRODUCTION

The purpose of this document is to present surface water and groundwater quality data collected at the Weezer G02-32 wellhead site. Impacted soil and groundwater were identified at this location during plugging and abandonment of this well. Five monitoring wells were installed at this site on October 21, 2019 to delineate the magnitude and extent of subsurface impacts. An additional seven monitoring wells and 17 soil vapor points were installed on August 18, 2020 to further delineate the site.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The Weezer G02-32 wellhead site is located approximately four miles southeast of La Salle, Colorado in Weld County as shown on Figure 1. The site is in a rural and agricultural area 0.3 miles east of the intersection of Weld County Rd 43 and Weld County Rd 48. The location is further described as the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 3, Township 4N, Range 65W.

2.2 Site History

The site consists of the area adjacent to the former Weezer G02-32 wellhead. The Weezer G02-32 well was drilled in 2008 to a depth of 7,182 feet. Soil impacts were identified at the location while the Weezer G02-32 was being plugged and abandoned. A site

investigation was conducted in October 2019 to determine the extent of subsurface impacts and five monitoring wells were initially installed as a result.

On December 17, 2019, Apex Companies collected surface water samples from four submerged wellheads adjacent to the abandoned Weezer G02-32 well after bubbling was observed in the surface water adjacent to each well. Laboratory analysis confirmed the presence of dissolved gases in the surface water samples. These data are summarized on Table 2.

3.0 SITE INVESTIGATION ACTIVITIES

3.1 Soil Borings/Monitoring Wells

Additional site assessment work was conducted at the facility on August 18, 2020. Seven additional monitoring wells and 18 soil vapor points were advanced utilizing a Geoprobe rig. The borings were completed as flush-mounted 1-inch diameter monitoring wells or vapor points. The monitoring wells were used to delineate the extent of soil and ground water impacts at the site and the vapor points were used to determine if petroleum based gases were present in the vadose zone. The locations of the monitoring wells and vapor points are illustrated on the attached figures.

Generally, the subsurface consists of road base which is then underlain by sand that extends to a depth of approximately three feet. The sand is underlain by a saturated, slightly plastic clay which extends for two feet, transitioning to a fine sand at five feet continuing to a depth of at least 12 feet. The maximum depth of the borings was 12 feet. Ground water is present across the site at a depth of approximately three feet. Geologic cross sections illustrating the soil lithology are presented on Figures 3 and 4.

The 1-inch diameter monitoring wells were constructed with 10 feet sections of well screen that were placed at a total depth of approximately 12 feet and completed at the ground surface with flush-mounted vaults. Soil samples from each of the borings were evaluated in the field using a photoionization detector (PID). Since the depth to water is approximately three feet, the soil vapor borings were installed to a total depth of three feet and have one foot of well screen. Logs of the monitoring wells and vapor points are presented in Appendix A.

3.2 Groundwater Level Measurements

Groundwater levels were measured in the 12 monitoring wells on July 16 or August 18, 2020. The water level data are summarized in Table 2. Water table contours inferred from the data are illustrated on Figure 6.

Based on these data, groundwater is inferred to flow to the northeast. The water table gradient was calculated at approximately 0.0003 feet per foot (ft/ft).

3.3 Sampling and Analysis

3.3.1 Surface Water Results

Water samples were collected from surface water in puddles immediately adjacent to each of the five existing Weezer wellheads on August 28, 2020. Subsurface gases were bubbling in the surface water and sampling containers were placed directly in that gas stream. Isotopic gas analysis was performed by the Dolan Integration Group (DIG) in Westminster, Colorado to classify the methane isotopes. The surface water chemistry is illustrated on Figure 10 and summarized in Table 2. The methane stable isotope interpretive plots are presented in Appendix B.

3.3.2 Groundwater Results

Groundwater samples were collected from five monitoring wells on July 16, 2020 and the additional seven monitoring wells on August 18, 2020. The samples were collected using a low flow sampling technique. A Geotech peristaltic pump was used to purge and sample groundwater from each monitoring well. An In-Situ Aqua TROLL 600 was used to monitor the temperature, specific conductivity, pH, oxygen reduction potential (ORP), dissolved oxygen and turbidity of the groundwater. When these parameters stabilized, groundwater samples were collected and placed in an ice filled cooler.

The groundwater samples were submitted to Origins Laboratory, Inc. in Denver, Colorado for analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260D and dissolved gasses by method RSK 175. Additional isotopic gas analysis was performed by DIG to classify the methane isotopes. The methane stable isotope interpretive plots are presented in Appendix B. The groundwater chemistry is illustrated on Figure 7 and summarized in Table 2. A methane isoconcentration map is provided as Figure 8.

Dissolved concentrations of BTEX for the July and August 2020 sampling events were less than the respective COGCC Table 910-1 limits. However, detectable concentrations of methane were present in 8 of the 12 groundwater samples. The highest methane concentration (6,350 ug/L) was detected in MW-4.

3.3.2 Soil Results

Soil samples were collected from each of the borings and sent to Origins Laboratory, Inc. for the analyses of BTEX, naphthalene, total petroleum hydrocarbons-gasoline range organics (TPH-GRO) and TPH-diesel range organics (TPH-DRO).

Soil impacts were not observed in any of the 12 borings above the COGCC's Table 910-1 limits for BTEX, naphthalene, TPH-GRO and TPH-DRO. The soil chemistry is presented on Figure 5 and shown on Table 1. The laboratory's report is provided in Appendix C.

3.3.3 Soil Vapor Results

Vapor samples were collected from each of the vapor points and sent to Origins Laboratory, Inc. for the analyses of BTEX and TPH-GRO by EPA method TO-15 and dissolved gases (methane, ethane and propane) by method ASTM-D-1945.

Soil vapors were detected in each of the vapor points at varying concentrations with the highest concentrations being present in the center of the site and west of the Weezer wellheads and flow lines in vapor points VP-8, VP-10 and VP-11. The soil vapor chemistry is shown on Figure 9 and summarized on Table 3. The laboratory's report is provided in Appendix C.

4.0 DISCUSSION

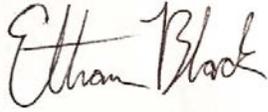
Groundwater samples were collected from the 12 monitoring wells; BTEX concentrations were below the COGCC Table 910-1 levels in all of the wells, however, dissolved thermogenic methane was present in 8 of the 12 wells. Noble will continue to sample the groundwater on a quarterly basis using low flow sampling techniques to monitor the groundwater quality at this location.

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.**



9/24/20

Date _____

Ethan D. Black
Geologist

Reviewed by:



9/24/20

Date _____

Paul V. Henehan, P.E.
Senior Consultant

TABLES

TABLE 1
SUMMARY OF SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
WEEZER G3-22 (WELLHEAD), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C019-078

SAMPLE LOCATION	DATE SAMPLED	TOC ELEVATION (feet)	BENZENE mg/kg	TOLUENE mg/kg	ETHYL BENZENE mg/kg	TOTAL XYLENES mg/kg	NAPHTH-ALENE mg/kg	TPH-GRO mg/kg	TPH-DRO mg/kg
MW-1 3 Ft	10/21/2019	3	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-2 3 Ft	10/21/2019	3	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-3 3 Ft	10/21/2019	3	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-4 3 Ft	10/21/2019	3	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-5 3 Ft	10/21/2019	3	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
SB-1 3 Ft	10/21/2019	3	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-6	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-7	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-8	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-9	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-10	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-11	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
MW-12	8/18/2020	2	<0.002	<0.005	<0.005	<0.01	<0.01	<50	<50
COGCC Table 910-1 Concentrations			0.17	85	100	175	23	500	500

The TPH-GRO and TPH-DRO concentrations are added together; if the sum of the two is >500 mg/kg, this exceeds the COGCC Table 910-1 limit

TABLE 2
SUMMARY OF WATER ELEVATION DATA AND CHEMISTRY DATA
NOBLE ENERGY INC.
WEEZER G02-32 (WELLHEAD), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C019-078

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	METHANE (µg/L)	ETHANE (µg/L)	PROPANE (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-1	10/21/19	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	100.00	2.98	97.02	NP
	03/17/20	<4.00	<4.00	<4.00	<4.00	2070	51.1	<20.0		3.27	96.73	NP
	07/16/20	<1.0	<1.0	<1.0	<1.0	648	<10.0	<20.0		3.88	96.12	NP
MW-2	10/21/19	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	100.06	3.03	97.03	NP
	03/17/20	<4.00	<4.00	<4.00	<4.00	287	<10.0	<20.0		3.32	96.74	NP
	07/16/20	<1.0	<1.0	<1.0	<1.0	575	<10.0	<20.0		3.93	96.13	NP
MW-3	10/21/19	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	99.80	2.83	96.97	NP
	03/17/20	<4.00	<4.00	<4.00	<4.00	141	<10.0	<20.0		3.07	96.73	NP
	07/16/20	<1.0	<1.0	<1.0	<1.0	944	<10.0	<20.0		3.68	96.12	NP
MW-4	10/21/19	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	99.94	2.97	96.97	NP
	03/17/20	<4.00	<4.00	<4.00	<4.00	8960	1690	24.2		3.21	96.73	NP
	07/16/20	<1.0	<1.0	<1.0	<1.0	6350	1320	<20.0		3.83	96.11	NP
MW-5	10/21/19	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	99.87	2.88	96.99	NP
	03/17/20	<4.00	<4.00	<4.00	<4.00	9710	4310	733		3.13	96.74	NP
	07/16/20	<1.0	<1.0	<1.0	<1.0	4680	724	43.0		3.78	96.09	NP
MW-6	08/21/20	<4.00	<4.00	<4.00	<4.00	<10.0	<13.0	<18.6	99.12	4.03	95.09	NP
MW-7	08/21/20	<4.00	<4.00	<4.00	<4.00	<10.0	<13.0	<18.6	99.39	4.21	95.18	NP
MW-8	08/21/20	<4.00	<4.00	<4.00	<4.00	135	<13.0	<18.6	99.71	4.41	95.30	NP
MW-9	08/21/20	<4.00	<4.00	<4.00	<4.00	2950	<13.0	<18.6	98.84	4.56	94.28	NP
MW-10	08/21/20	<4.00	<4.00	<4.00	<4.00	34.1	<13.0	<18.6	99.89	4.61	95.28	NP
MW-11	08/21/20	<4.00	<4.00	<4.00	<4.00	<10.0	<13.0	<18.6	99.18	4.11	95.07	NP
MW-12	08/21/20	<4.00	<4.00	<4.00	<4.00	<10.0	<13.0	<18.6	98.88	3.94	94.94	NP
Weezer G3-21 (surface)	12/17/19	<4.00	<4.00	<4.00	<4.00	14200	6070	2850	NAP	NAP	NAP	NAP
	08/28/20	NA	NA	NA	NA	447	169	67.5	NAP	NAP	NAP	NAP
Weezer G3-22 (surface) aka G2-32, G2-22	12/17/19	<4.00	<4.00	<4.00	<4.00	16400	6750	3180	NAP	NAP	NAP	NAP
	08/28/20	NA	NA	NA	NA	1340	416	154	NAP	NAP	NAP	NAP

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	METHANE (µg/L)	ETHANE (µg/L)	PROPANE (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
Weezer G3-24 (surface)	12/17/19	<4.00	<4.00	<4.00	<4.00	3320	1020	437	NAP	NAP	NAP	NAP
	08/28/20	NA	NA	NA	NA	2570	1050	439	NAP	NAP	NAP	NAP
Weezer G3-23 (surface) aka G3-33	12/17/19	<4.00	<4.00	<4.00	<4.00	12400	5500	2580	NAP	NAP	NAP	NAP
	08/28/20	NA	NA	NA	NA	5610	2340	100	NAP	NAP	NAP	NAP
Weezer G2-33 (surface)	08/28/20	NA	NA	NA	NA	3000	1170	472	NAP	NAP	NAP	NAP
Table 910-1 Limits		5	560	700	1,400							

Bold face values exceed the COGCC limits

NP - No Free Product

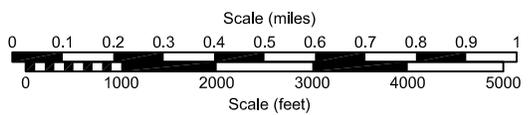
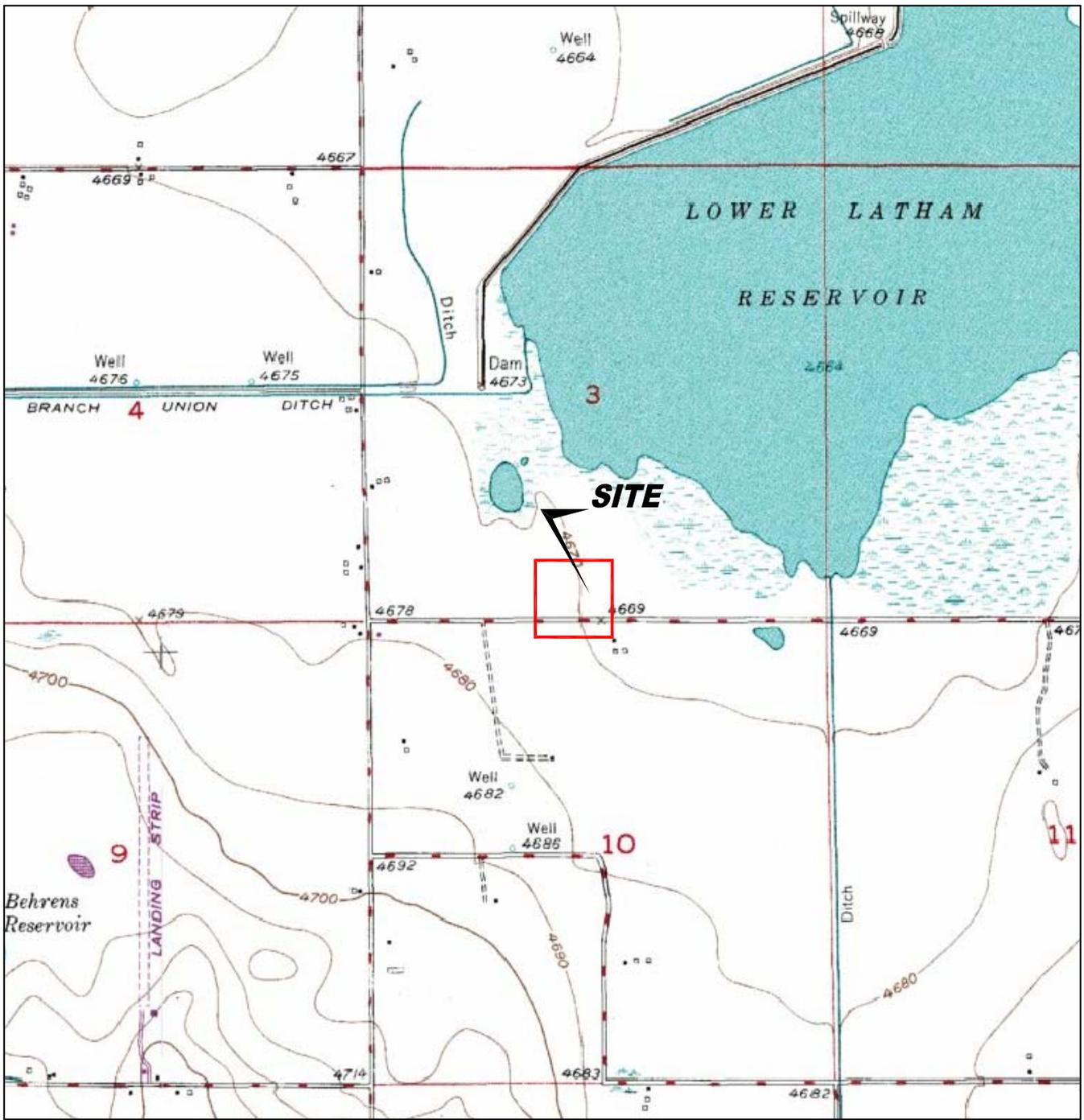
NA - Not Analyzed

NAP - Not Applicable

TABLE 3
SUMMARY OF SOIL VAPOR CHEMISTRY DATA
NOBLE ENERGY INC.
WEEZER G02-32 (WELLHEAD), WELD COUNTY, COLORADO
FREMONT PROJECT NO. C019-078

SAMPLE LOCATION	DATE SAMPLED	TOC ELEVATION (feet)	BENZENE ($\mu\text{g}/\text{m}^3$)	TOLUENE ($\mu\text{g}/\text{m}^3$)	ETHYL BENZENE ($\mu\text{g}/\text{m}^3$)	TOTAL XYLENES ($\mu\text{g}/\text{m}^3$)	TPH-GRO ($\mu\text{g}/\text{m}^3$)	METHANE (%)	ETHANE (%)	PROPANE (%)
VP-1	8/21/2020	99.36	<2.1	8.1	<2.9	4.8	<270	0.00039	<0.0012	<0.0012
VP-2	8/21/2020	99.39	2.3	8.4	<2.2	9.7	280	0.00028	<0.0010	<0.0010
VP-3	8/21/2020	99.72	3.9	13	4.4	21.1	32000	0.11	0.014	<0.0019
VP-4	8/21/2020	99.64	<1.9	2.8	5.4	6.5	1200	0.0023	<0.0010	<0.0010
VP-5	8/21/2020	99.51	<1.6	8.5	17	17.7	1200	0.0033	<0.0010	<0.0010
VP-6	8/21/2020	99.29	<21	<25	<29	<68	<2700	0.00041	<0.0010	<0.0010
VP-7	8/21/2020	99.81	<1.6	3.8	<2.2	2.7	<200	0.00025	<0.0010	<0.0010
VP-8	8/21/2020	99.95	<170	660	<220	<440	240000	0.35	0.042	0.011
VP-9	8/21/2020	100.06	2	<2.3	<2.6	<5.2	860	0.0013	<0.0010	<0.0010
VP-10	8/21/2020	99.86	<800	2400	<1100	<2200	980000	1.4	0.2	0.065
VP-11	8/21/2020	99.98	<2000	4500	<2700	5400	2000000	2.7	0.4	0.15
VP-12	8/21/2020	99.98	1.8	3.2	<2.2	<4.4	490	0.0003	<0.0010	<0.0010
VP-13	8/21/2020	99.76	2.5	9.2	<2.2	10.1	380	0.00024	<0.0010	<0.0010
VP-14	8/21/2020	99.78	23	83	7.7	30.3	490	0.0002	<0.0010	<0.0010
VP-15	8/21/2020	99.77	5.7	9.2	3.8	22	230	0.00023	<0.0010	<0.0010
VP-16	8/21/2020	100.01	<1.6	18	<2.2	7.7	<200	0.00019	<0.0010	<0.0010
VP-17	8/21/2020	100.02	1.7	36	61	34.9	320	0.00022	<0.0010	<0.0010
VP-18	8/21/2020	100.00	2.2	8.2	<2.2	4.6	<200	0.00021	<0.0010	<0.0010

FIGURES



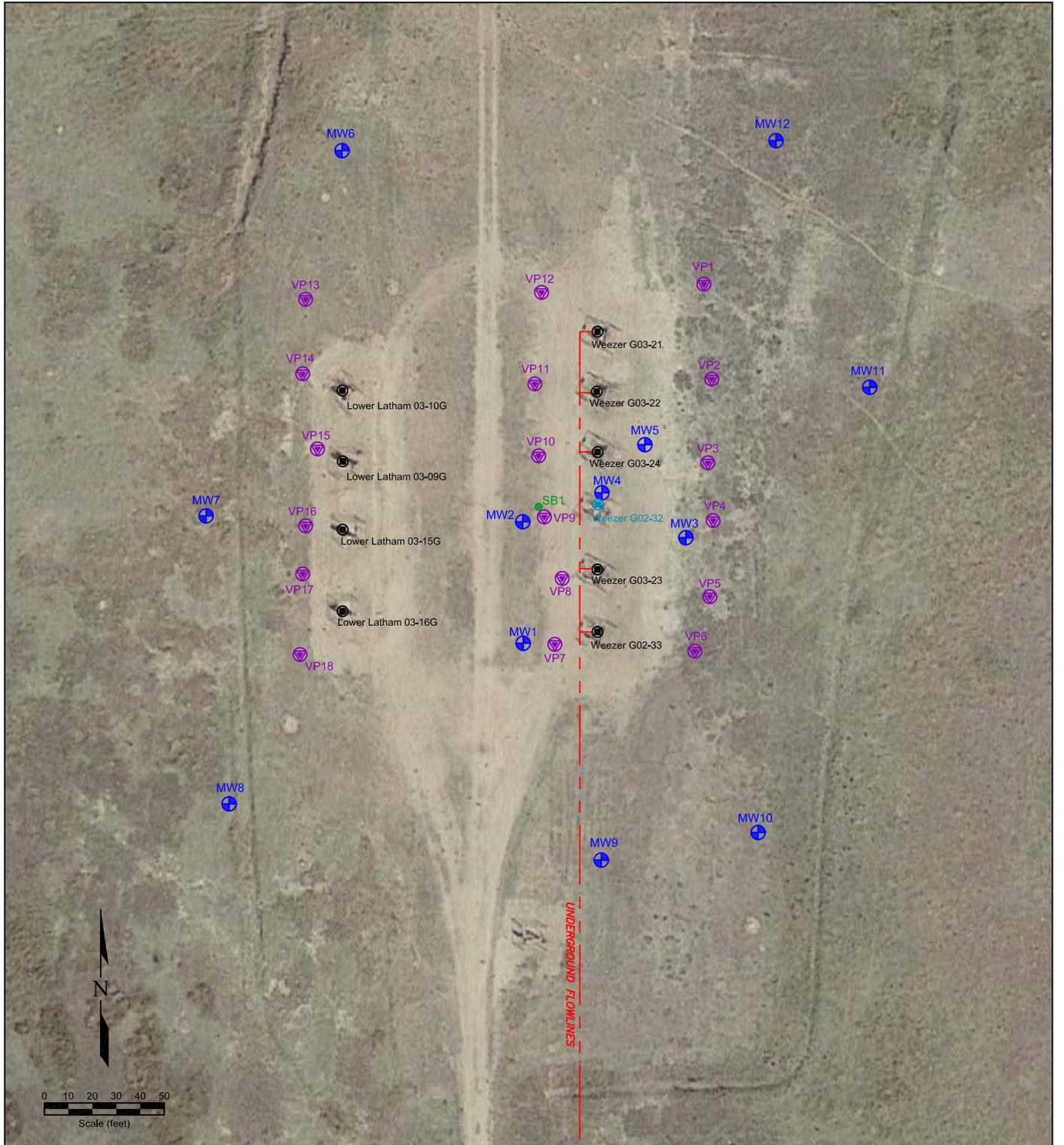
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE ENERGY, INC. ~ WEEZER G02-32
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
Date 9/28/20	Reviewed by PH	Filename 19078T





LEGEND

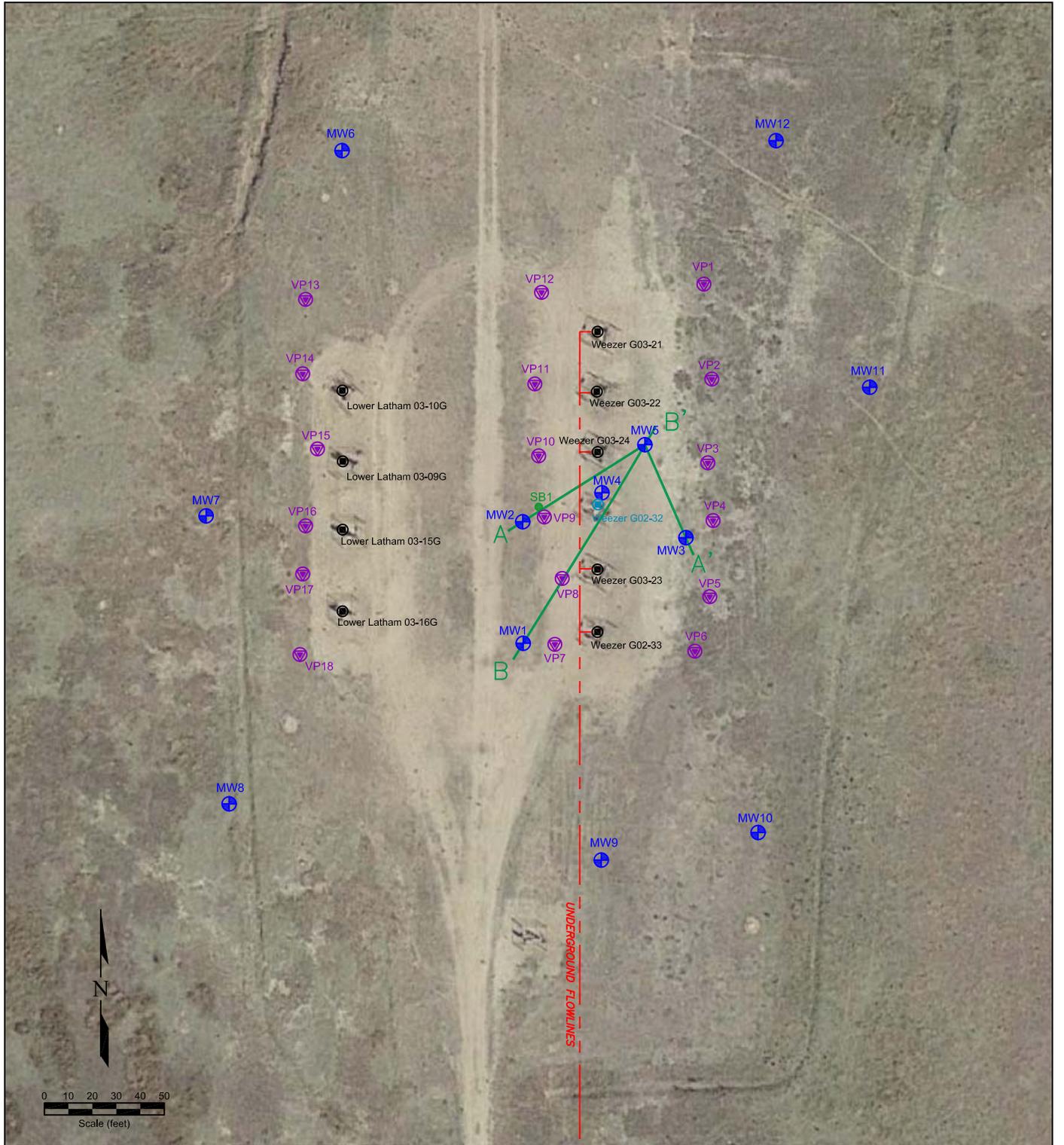
- SOIL BORING
- ⊙ WELL HEAD LOCATION
- ⊕ MONITORING WELL
- ⊖ VAPOR EXTRACTION WELL
- FORMER FORMER FACILITY
- UNDERGROUND FLOW LINE

**Figure 2
SITE MAP**

NOBLE ENERGY, INC. ~ WEEZER G02-32
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
Date 9/28/20	Reviewed by PH	Filename 19078Q





LEGEND

- SOIL BORING
- ⊙ WELL HEAD LOCATION
- ⊕ MONITORING WELL
- ⊖ VAPOR EXTRACTION WELL
- FORMER FORMER FACILITY
- UNDERGROUND FLOW LINE

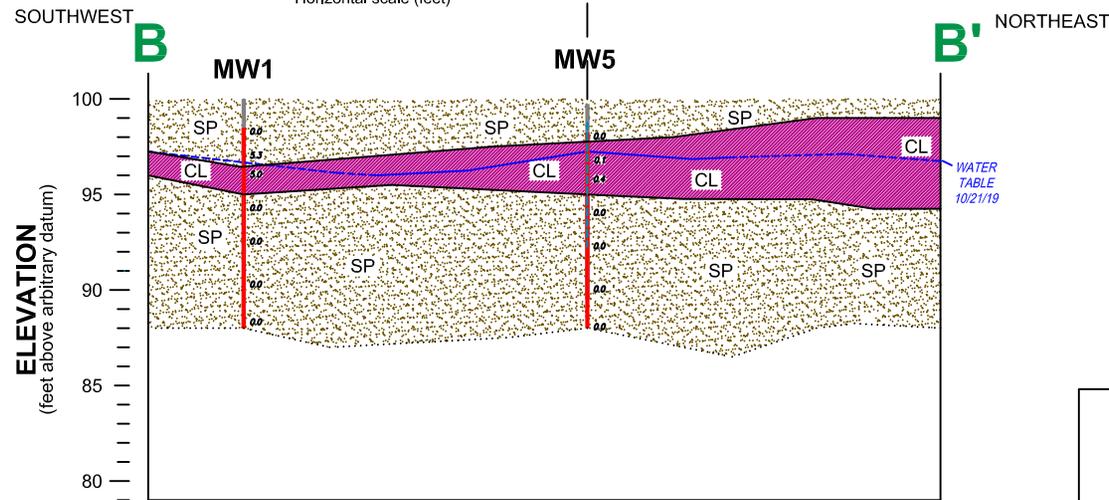
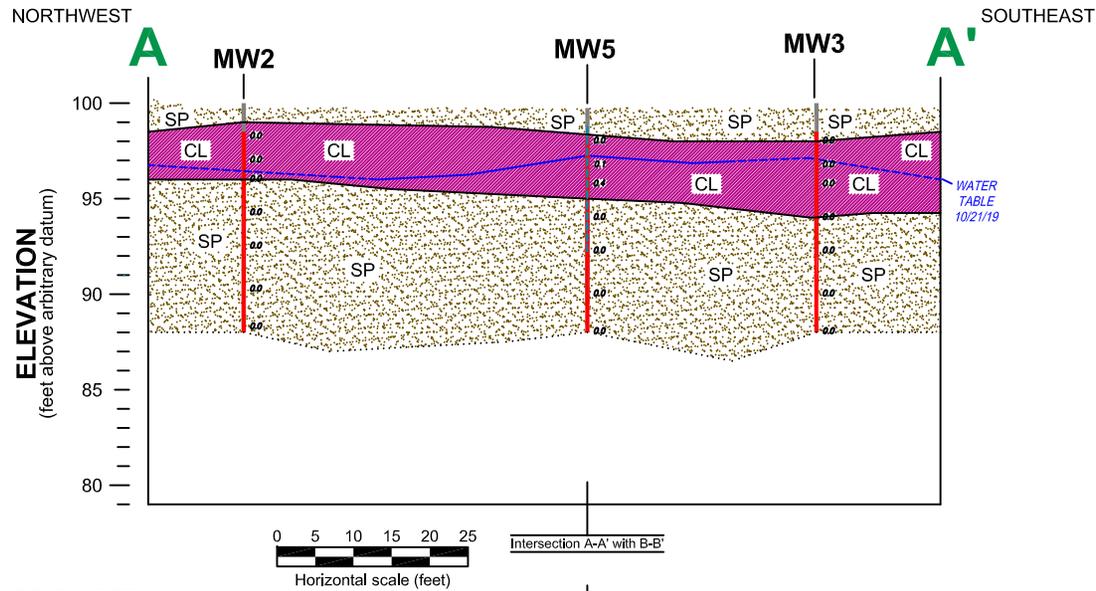
A—A' CUT LINE FOR CROSS SECTION

Figure 3
CROSS SECTION

NOBLE ENERGY, INC. ~ WEEZER G02-32
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
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LEGEND

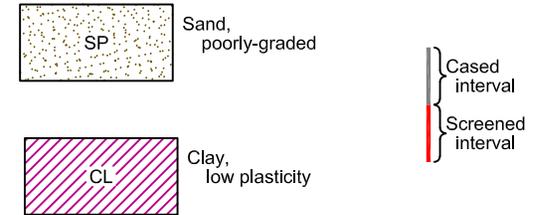
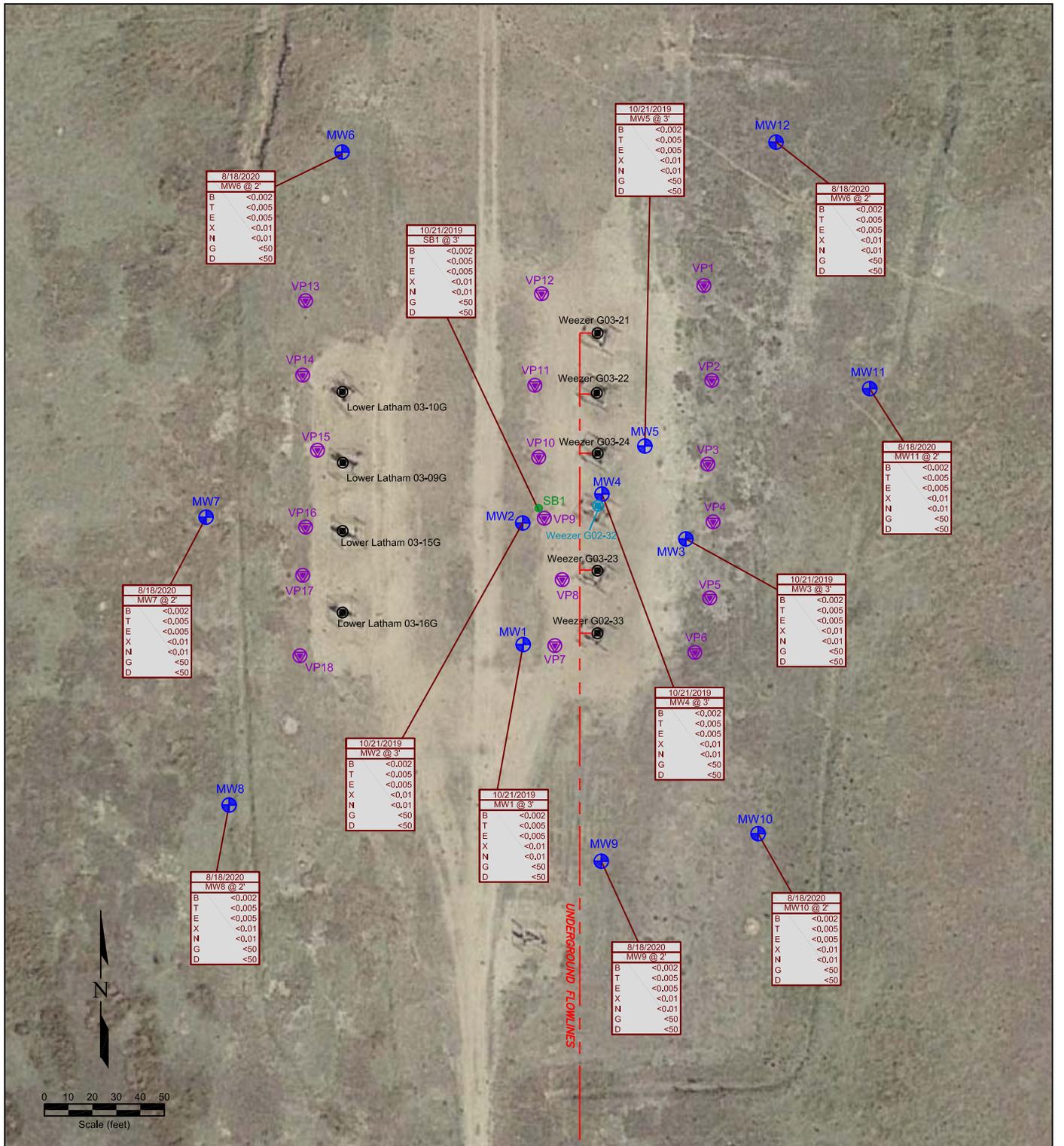


Figure 4
CROSS SECTIONS A-A' and B-B'

NOBLE ENERGY, INC. ~ WEEZER G3-22 (Wellhead)
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
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LEGEND

- SOIL BORING
- ⊕ WELL HEAD LOCATION
- FORMER FORMER FACILITY
- ⊕ MONITORING WELL
- ⊕ VAPOR EXTRACTION WELL
- UNDERGROUND FLOW LINE

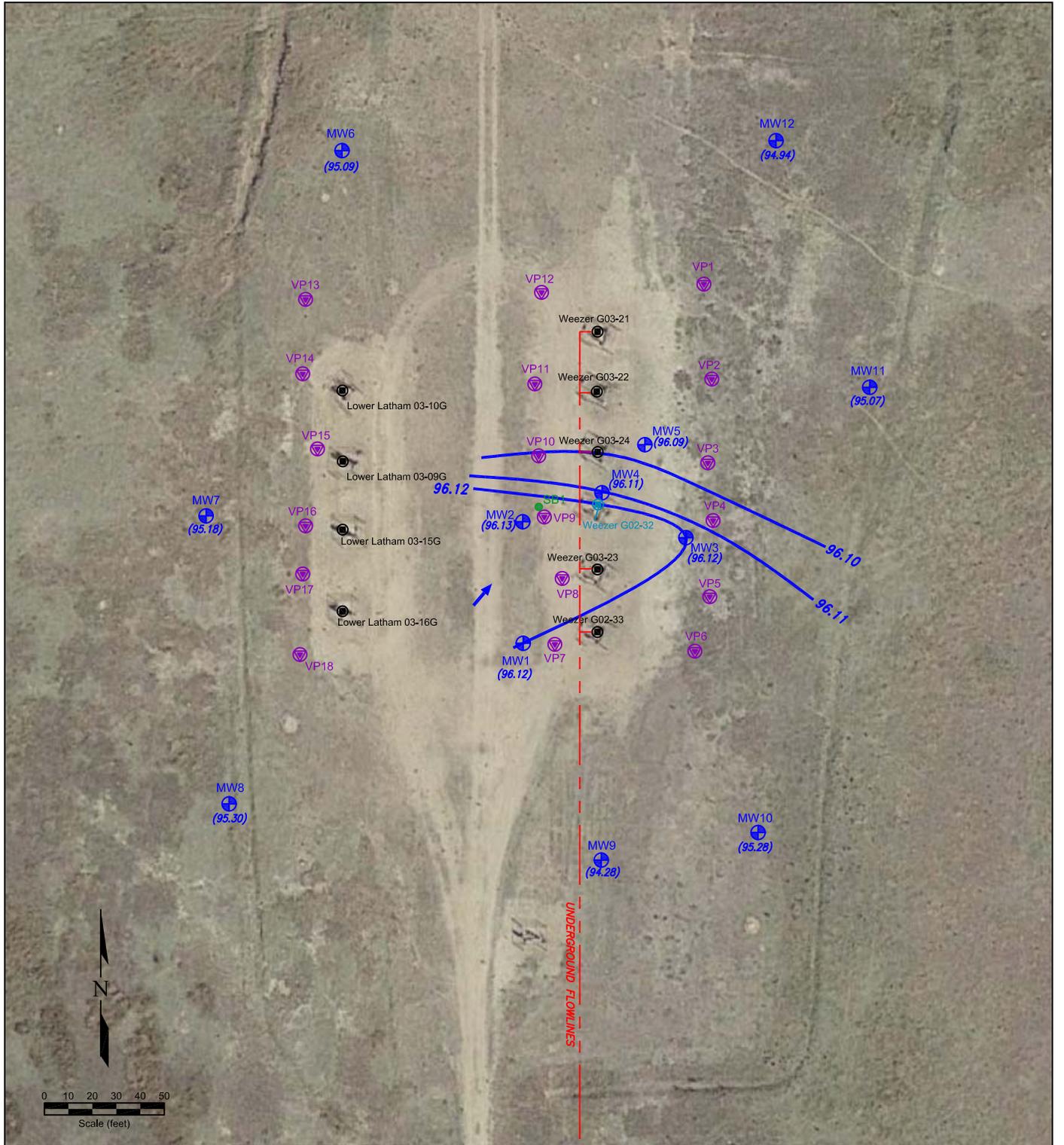
10/21/2019 MW1 @ 3'		DATE SAMPLED
B	<0.002	DEPTH (ft) and LOCATION
T	<0.005	BENZENE (mg/kg)
E	<0.005	TOLUENE (mg/kg)
X	<0.01	ETHYLBENZENE (mg/kg)
N	<0.01	TOTAL XYLENES (mg/kg)
G	<50	NAPHTHALENE (mg/kg)
D	<50	TPH-GRO (mg/kg)
		TPH-DRO (mg/kg)

Figure 5
SOIL CHEMISTRY MAP

NOBLE ENERGY, INC. ~ WEEZER G02-32
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

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LEGEND

- SOIL BORING
- ⊙ WELL HEAD LOCATION
- ⊕ MONITORING WELL
- ⊖ VAPOR EXTRACTION WELL
- FORMER FORMER FACILITY
- UNDERGROUND FLOW LINE

- (96.12) GROUND WATER ELEVATION (feet above mean sea level)
- ~ WATER TABLE CONTOUR (feet above mean sea level)
- INFERRED GROUND WATER FLOW DIRECTION

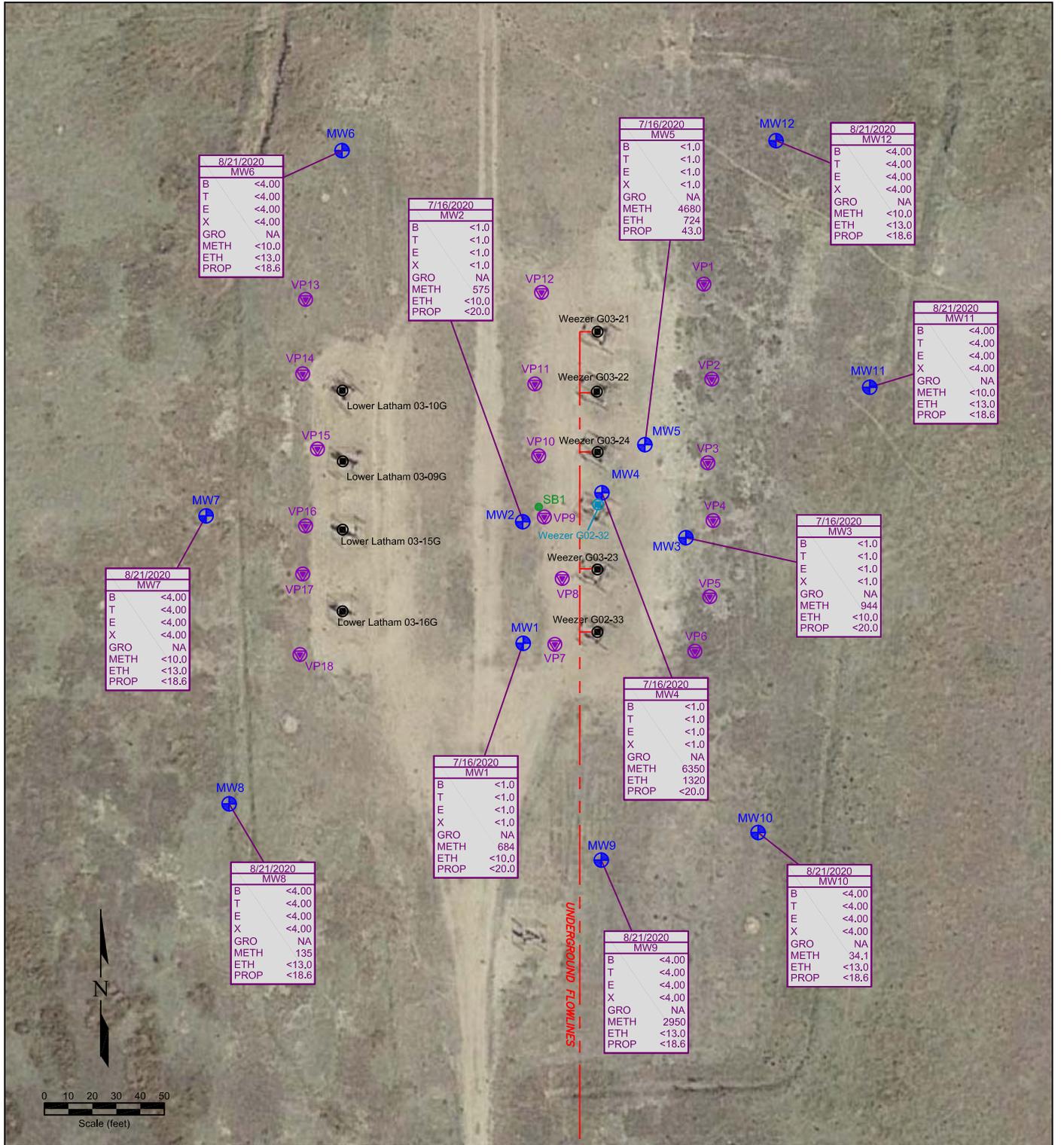
NOTE: MONITORING WELLS 6 THROUGH 12 WERE NOT USED FOR CONTOURING

Figure 6
INFERRED GROUNDWATER CONTOUR MAP
 July 16, 2020 and August 21, 2020

NOBLE ENERGY, INC. ~ WEEZER G02-32
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
Date 9/28/20	Reviewed by PH	Filename 19078Q





LEGEND

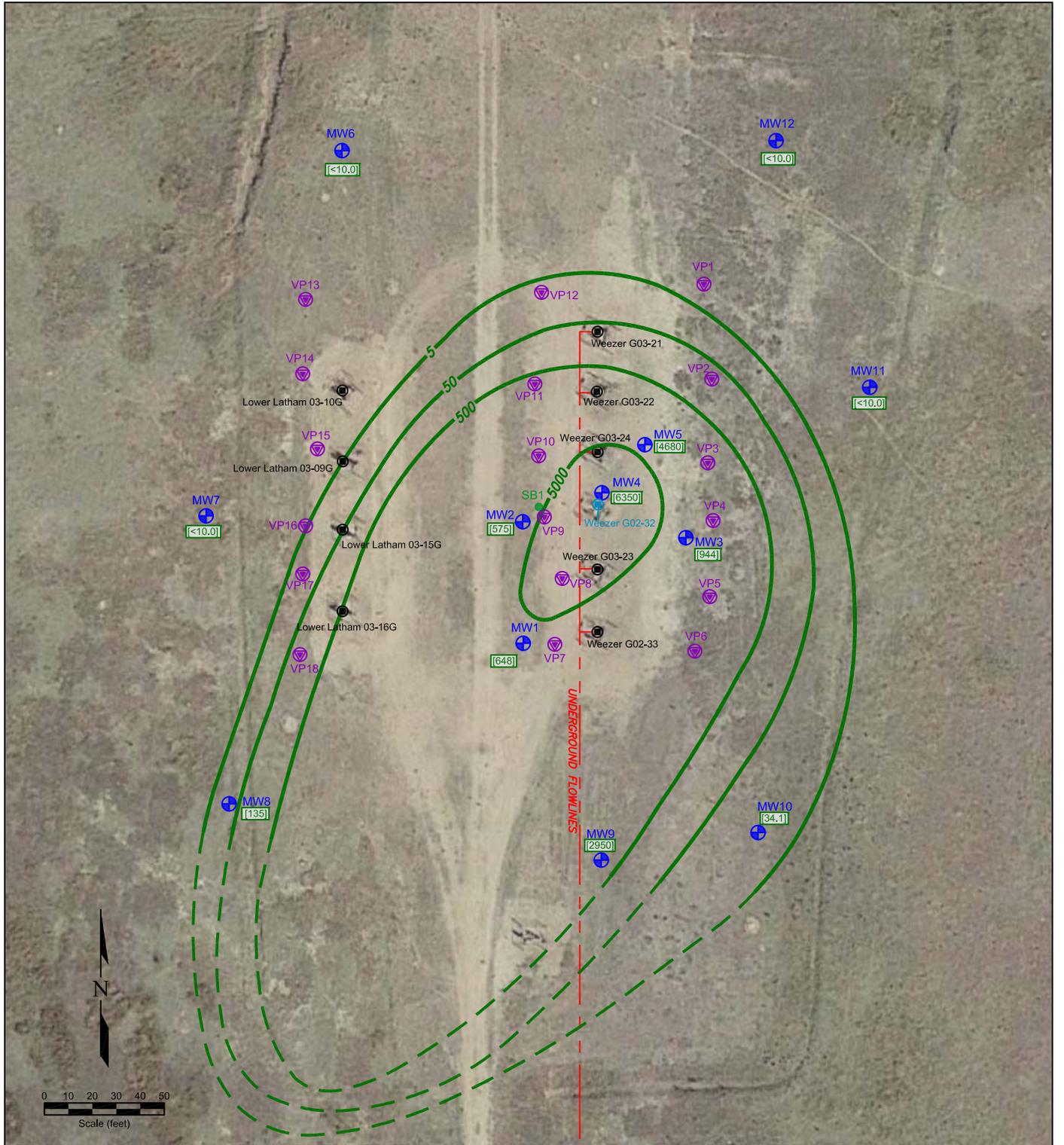
- SOIL BORING
- ⊕ WELL HEAD LOCATION
- FORMER FORMER FACILITY
- ⊕ MONITORING WELL
- ⊖ VAPOR EXTRACTION WELL
- - - UNDERGROUND FLOW LINE

DATE SAMPLED	SAMPLE ID	DATE SAMPLED	SAMPLE ID
7/16/2020	MW1	7/16/2020	MW1
B	<1.0	BENZENE (ug/L)	
T	<1.0	TOLUENE (ug/L)	
E	<1.0	ETHYLBENZENE (ug/L)	
X	<1.0	TOTAL XYLENES (ug/L)	
GRO	NA	TPH-GRO (ug/L)	
METH	684	METHANE (ug/L)	
ETH	<10.0	ETHANE (ug/L)	
PROP	<20.0	PROPANE (ug/L)	

Figure 7
GROUNDWATER CHEMISTRY MAP
July 16, 2020 and August 21, 2020
NOBLE ENERGY, INC. ~ WEEZER G02-32
SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
Weld County, Colorado

Project No. C019-078	Prepared by TA	Drawn by PH
Date 9/28/20	Reviewed by PH	Filename 19078Q





LEGEND

- SOIL BORING
- ⊙ WELL HEAD LOCATION
- ⊕ MONITORING WELL
- ⊖ VAPOR EXTRACTION WELL
- FORMER FORMER FACILITY
- UNDERGROUND FLOW LINE

[648] (ug/L)

⤷ 5000 ⤸ METHANE ISO-CONCENTRATION (dashed where inferred)

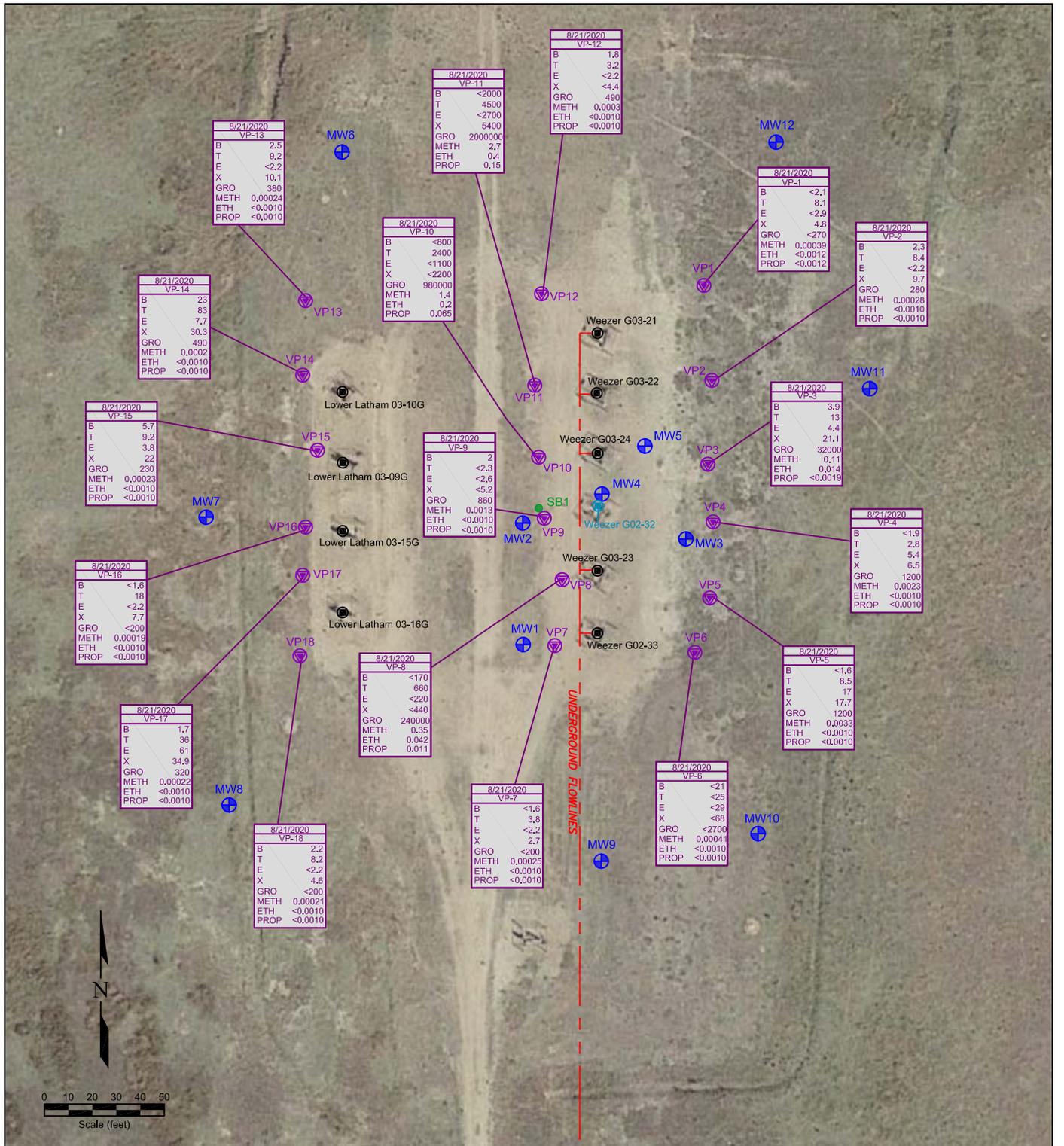
Figure 8

METHANE ISO-CONCENTRATION MAP
July 16, 2020 and August 21, 2020

NOBLE ENERGY, INC. ~ WEEZER G02-32
SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
Date 9/28/20	Reviewed by PH	Filename 19078Q





LEGEND

- SOIL BORING
- ⊕ WELL HEAD LOCATION
- FORMER FORMER FACILITY
- ⊕ MONITORING WELL
- ⊕ VAPOR EXTRACTION WELL
- UNDERGROUND FLOW LINE

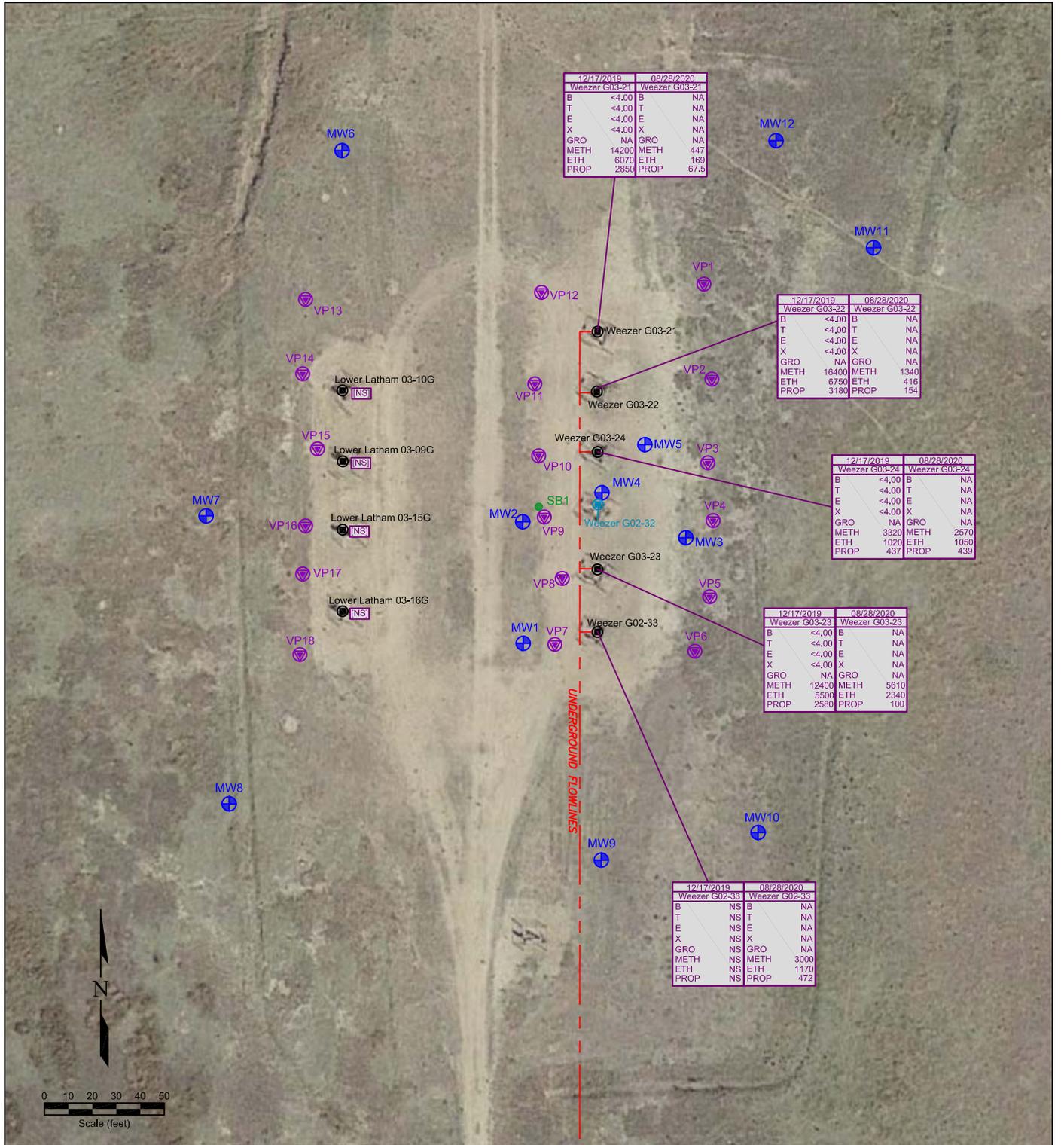
8/21/2020 VP-1	DATE SAMPLED SAMPLE ID
B	<2.1
T	8.1
E	<2.9
X	4.8
GRO	<270
METH	0.00039
ETH	<0.0012
PROP	<0.0012

Figure 9
SOIL VAPOR CHEMISTRY MAP
August 21, 2020

NOBLE ENERGY, INC. ~ WEEZER G02-32
SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
Weld County, Colorado

Project No. C019-078	Prepared by	Drawn by TA
Date 9/28/20	Reviewed by PH	Filename 19078Q





LEGEND

- SOIL BORING
- ⊕ WELL HEAD LOCATION
- ⊕ MONITORING WELL
- ⊕ VAPOR EXTRACTION WELL
- FORMER FORMER FACILITY
- UNDERGROUND FLOWLINE

7/16/2020 MW1		DATE SAMPLED SAMPLE ID		[NA] NOT ANALYZED		[NS] NOT SAMPLED	
B	<1.0	BENZENE (ug/L)					
T	<1.0	TOLUENE (ug/L)					
E	<1.0	ETHYLBENZENE (ug/L)					
X	<1.0	TOTAL XYLENES (ug/L)					
GRO	NA	TPH-GRO (ug/L)					
METH	684	METHANE (ug/L)					
ETH	<10.0	ETHANE (ug/L)					
PROP	<20.0	PROPANE (ug/L)					

Figure 10
SURFACE WATER CHEMISTRY MAP
 December 19, 2019 and August 28, 2020

NOBLE ENERGY, INC. ~ WEEZER G02-32
 SESW Section 3, T4N, R65W ~ 40.33602°, -104.65135°
 Weld County, Colorado

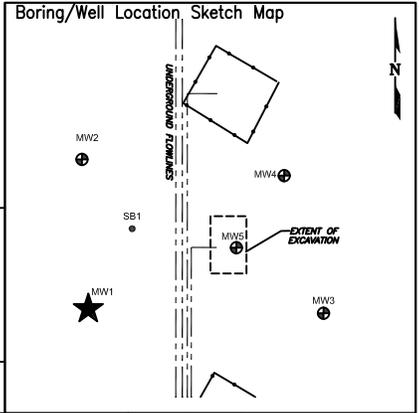
Project No. C019-078	Prepared by PH	Drawn by TA
Date 9/28/20	Reviewed by PH	Filename 19078Q



APPENDIX A

WELL LOGS

BORING/WELL CONSTRUCTION LOG



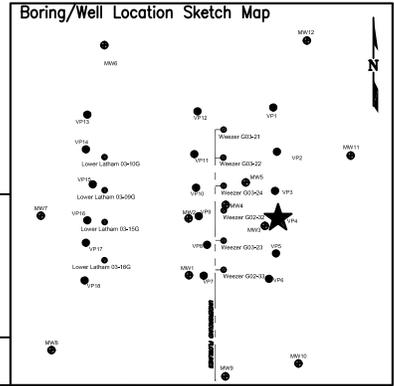
Page 1 of 1

Boring/Well No. MW-1		Total Depth 12'		Location Noble Energy Weezer G3-22 SE SW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G3-22				Drilling Contractor/Driller DrillPro			
Geologist/Office Ethan Black/Fremont Environmental, Inc.				Approved By			
Drilling Equipment/Method Hurricane			Size/Type of Bit 2.5" direct push		Sampling Method direct push		Start/Finish Date 10/21/19
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. PVC/1"		Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"			
Elevation of: (ft. above datum)		Ground Surface 100.00	Top of Well Casing .	Top of Screen .	Bottom of Screen .	Ground Water Surface/Date Measured 2.98 10/21/19	

DEPTH (feet)	WELL CONSTRUCTION	GRAPHIC LOG	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			VISUAL DESCRIPTION					
5			Sand, brown, fine, moist			70%		0.0 5.3
			Clay, grayish brown, slightly plastic, moist					
10			Sand, brown, fine to coarse with depth, saturated, wet @ 8'			80%		0.0 0.0
			TD 12'					
15								0.0
20						90%		0.0



BORING/WELL CONSTRUCTION LOG



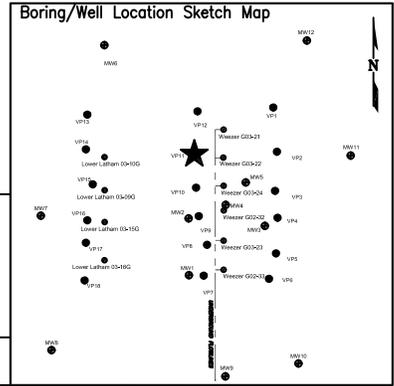
Page 1 of 1

Boring/Well No. VP-4		Total Depth 3'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Riser	SP	Sand: brown, fine to medium, slightly moist,			0.0	
	#10-20 Silica Sand	1" Screen	SC	Clay: brown plus maroon with gray fine to medium sand, gravel, plastic, moist			0.0	
				TD 3'			0.0	
10								
15								
20								



BORING/WELL CONSTRUCTION LOG



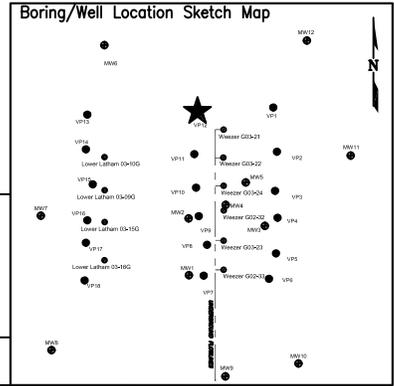
Page 1 of 1

Boring/Well No. VP-11		Total Depth 3'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Riser	SG	Sand and gravel, slightly moist			0.3	
	#10-20 Silica Sand	1" Screen	CH	Clay: greenish to gray with black inclusions, plastic, moist, organics TD 3'				
10								
15								
20								



BORING/WELL CONSTRUCTION LOG



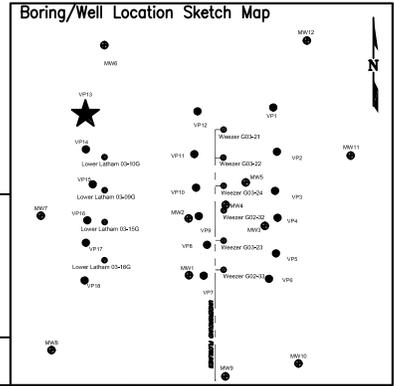
Page 1 of 1

Boring/Well No. VP12		Total Depth 3'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Riser	SP	Sand: brown, fine, moist			0.0	
	#10-20 Silica Sand	1" Screen	SC	Sandy Clay: greenish gray with black inclusions, plastic, moist			0.0	
				TD 3'			0.0	
10								
15								
20								



BORING/WELL CONSTRUCTION LOG



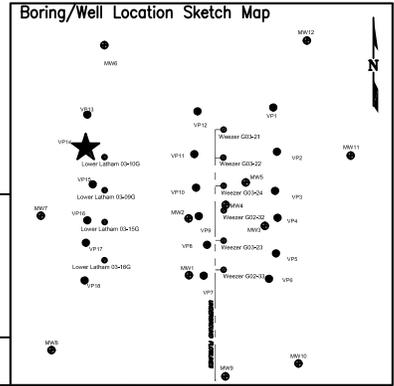
Page 1 of 1

Boring/Well No. VP13		Total Depth 3'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Riser	SP	Sand: brown, fine, moist			0.0	
	#10-20 Silica Sand	1" Screen	CH	Clay: tan plus beige, plastic, moist, slightly oxidized, organics TD 3'			0.0	
10							0.0	
15								
20								



BORING/WELL CONSTRUCTION LOG

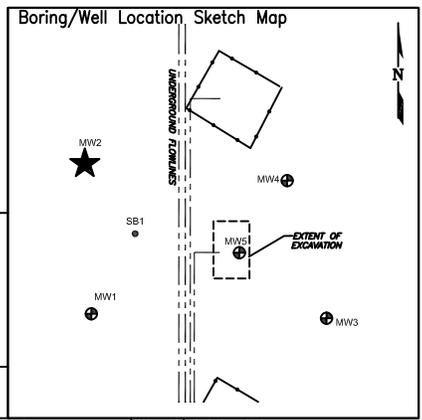


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Boring/Well No. VP14		Total Depth 3'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)		Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	1" Riser	SP	Sand: brown, fine, moist			0.0	
	#10-20 Silica Sand	1" Screen	CH	Clay: tan plus beige, plastic, moist, slightly oxidized, organics TD 3'			0.0	
10							0.0	
15								
20								

BORING/WELL CONSTRUCTION LOG

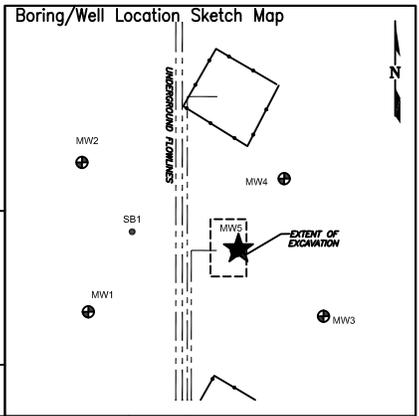


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Boring/Well No. MW-2	Total Depth 12'	Location Noble Energy Weezer G3-22 SE SW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G3-22		Drilling Contractor/Driller DrillPro			
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By			
Drilling Equipment/Method Hurricane		Size/Type of Bit 2.5" direct push	Sampling Method direct push	Start/Finish Date 10/21/19	
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"			
Elevation of: (ft. above datum)	Ground Surface 100.06	Top of Well Casing .	Top of Screen .	Bottom of Screen .	Ground Water Surface/Date Measured 3.03 10/21/19

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
	Bentonite	SP	Sand, brown, fine, moist				
	1" Blank	CL	Clay, grayish brown, slightly plastic, moist			0.0	
5	#10-20 Silica Sand 1" Screen	SP	Sand, brown, fine, moist to saturated		80%	0.0	
10			Coarse sand lens @ 9' - 3" thick		90%	0.0	
			TD 12'		90%	0.0	
15							
20							

BORING/WELL CONSTRUCTION LOG



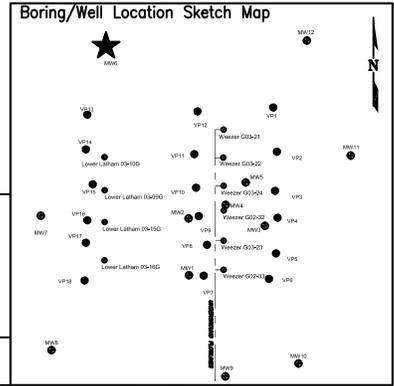
Page 1 of 1

Boring/Well No. MW-5		Total Depth 12'		Location Noble Energy Weezer G3-22 SE SW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G3-22				Drilling Contractor/Driller DrillPro			
Geologist/Office Ethan Black/Fremont Environmental, Inc.				Approved By			
Drilling Equipment/Method Hurricane			Size/Type of Bit 2.5" direct push		Sampling Method direct push		Start/Finish Date 10/21/19
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. PVC/1"		Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"			
Elevation of: (ft. above datum)		Ground Surface 99.87		Top of Well Casing .		Top of Screen .	
		Bottom of Screen .		Ground Water Surface/Date Measured 2.88		10/21/19	

DEPTH (feet)	WELL CONSTRUCTION	GRAPHIC LOG	LITHOLOGY	Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			VISUAL DESCRIPTION				
5			Sand, dark brown - black, fine, moist				0.0
			Clay, dark brown, stiff to slightly plastic, moist				75%
10			Sand, gray, fine, saturated to wet				0.4
			Oxidization				90%
15							0.0
							95%
20			TD 12'				0.0



BORING/WELL CONSTRUCTION LOG



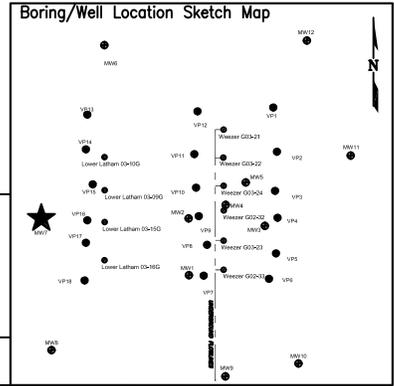
Page 1 of 1

Boring/Well No. MW-6		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
	Bentonite	1" Riser	SP				0.0
5	#10-20 Silica Sand	1" Screen	SW				0.0
10			SM				0.0
15							0.0
20							0.0
							0.0



BORING/WELL CONSTRUCTION LOG



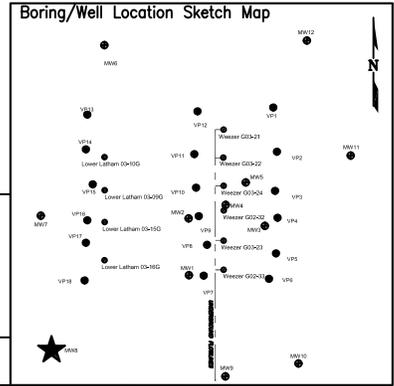
Page 1 of 1

Boring/Well No. MW-7		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
	Bentonite	1" Riser	SP				0.0
5	#10-20 Silica Sand	1" Screen	SC				0.9
			SM				0.0
10			SC				0.0
			SG				0.0
15							
20							
							0.0



BORING/WELL CONSTRUCTION LOG



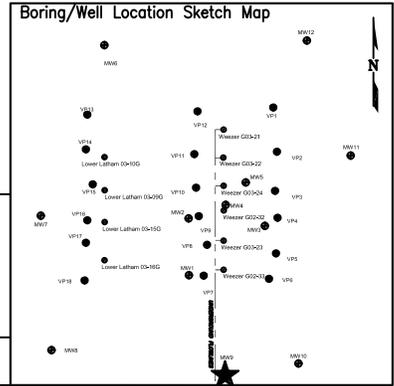
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Boring/Well No. MW-8		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32			Drilling Contractor/Driller DrillPro			
Geologist/Office Ethan Black/Fremont Environmental, Inc.			Approved By			
Drilling Equipment/Method Geoprobe			Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20	
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"			
Elevation of: (ft. above datum)		Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
5	Bentonite	CL	Loam 6"				0.0
	1" Riser		Clay: brown plus beige, non-plastic, sutgaizy, moist, silt inclusions, calcareous				0.0
	#10-20 Silica Sand	1" Screen	SP	Sand: brown plus tan, medium to fine, wet			0.0
10		CM	Silty clay: beige, non-plastic, saturated				0.0
15			TD 12'				0.0
20							



BORING/WELL CONSTRUCTION LOG



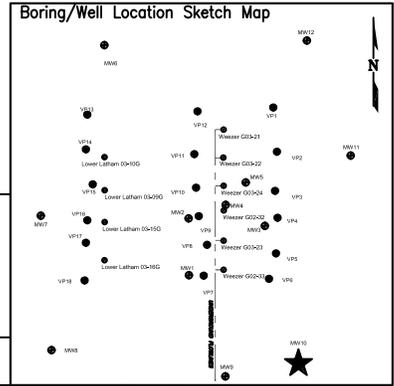
Page 1 of 1

Boring/Well No. MW-9		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32			Drilling Contractor/Driller DrillPro			
Geologist/Office Ethan Black/Fremont Environmental, Inc.			Approved By			
Drilling Equipment/Method Geoprobe			Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20	
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"			
Elevation of: (ft. above datum)		Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
			SP	Road base				
	Bentonite	1" Riser	SP	Sand: brown, fine, moist			0.0	
5	#10-20 Silica Sand	1" Screen	SC	Sandy Clay: brown, plastic, moist, calcareous			0.0	
10			SP	Sand: brown, medium to fine, wet -oxidized band @ 10'			0.0	
15							0.0	
20							0.0	
				TD 12'				



BORING/WELL CONSTRUCTION LOG



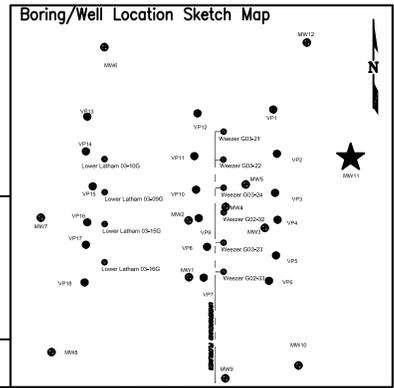
Page 1 of 1

Boring/Well No. MW-10		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32			Drilling Contractor/Driller DrillPro			
Geologist/Office Ethan Black/Fremont Environmental, Inc.			Approved By			
Drilling Equipment/Method Geoprobe			Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20	
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"			
Elevation of: (ft. above datum)		Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
5		SC	Loam 6" Sandy Clay: beige, fine sand, moist, saturated, oxidized 1" lens @ 3.0' - 3.5'				0.0
		SP	Sand: tan, fine sand, some silt, wet, heavily oxidized				0.0
10							0.0
15							0.0
20							0.0
			TD 12'				0.0



BORING/WELL CONSTRUCTION LOG



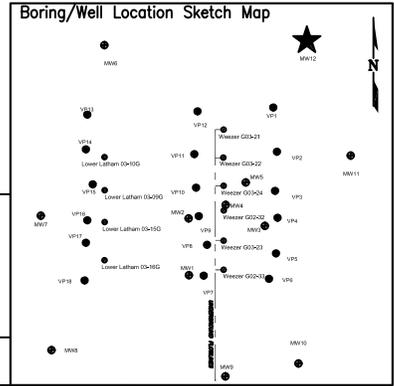
Page 1 of 1

Boring/Well No. MW-11		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION	LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
		GRAPHIC LOG	VISUAL DESCRIPTION				
	Bentonite	1" Riser	CL				0.0
5	#10-20 Silica Sand	1" Screen	SM				0.0
10			CL				0.0
15			SC				0.0
20			TD 12'				0.0



BORING/WELL CONSTRUCTION LOG



Page 1 of 1

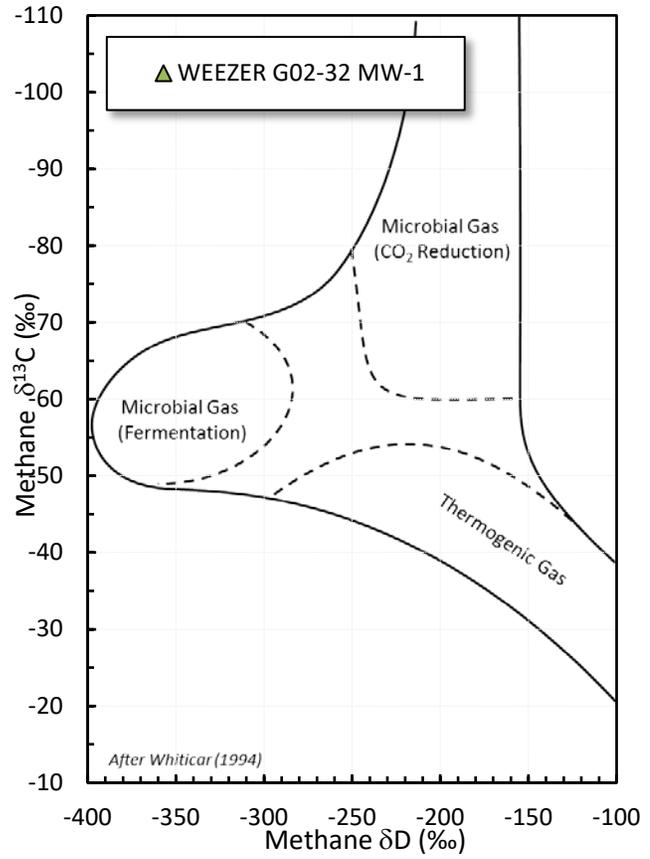
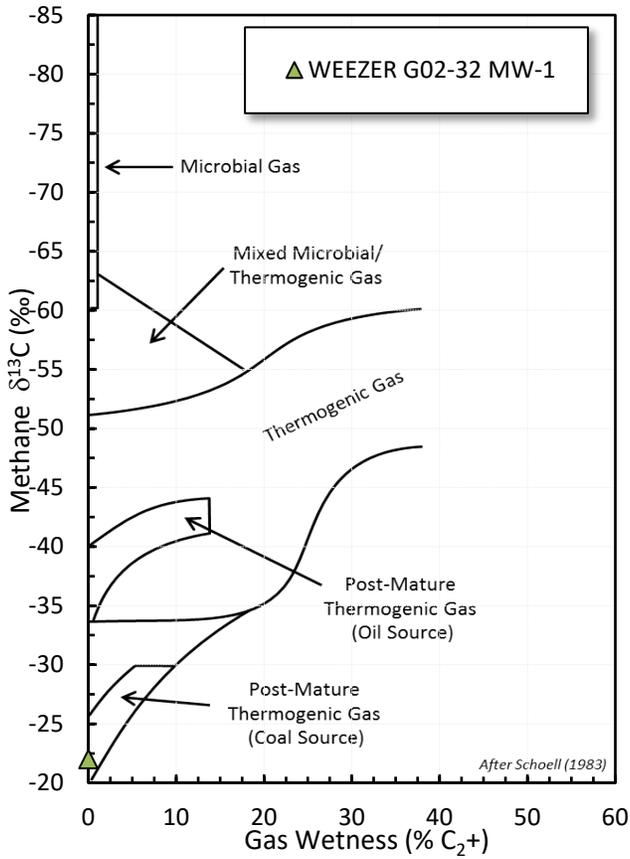
Boring/Well No. MW-12		Total Depth 12'	Location Noble Energy Weezer G02-32 SESW Sec 3, T4N, R65W Weld County, Colorado			
Project No./Name C019-078/Noble Weezer G02-32		Drilling Contractor/Driller DrillPro				
Geologist/Office Ethan Black/Fremont Environmental, Inc.		Approved By				
Drilling Equipment/Method Geoprobe		Size/Type of Bit 2.25" direct push	Sampling Method direct push	Start/Finish Date 8/18/20		
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Casing Mtrl./Dia. PVC/1"	Screen: Type Slotted Mtrl. PVC Length 10' Dia. 1" Slot Size 0.010"				
Elevation of: (ft. above datum)	Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
	Bentonite	1" Riser	CL	Loam 6" Clay: dark brown plus gray, low plasticity, moist 2" sand lens @ 3.5'			0.0	
5	#10-20 Silica Sand	1" Screen	SC	-Increasing plasticity Sandy Clay: gray, plastic, wet, oxidized 1/4" gray plus oxidized sand laminate to 12'			0.0	
10							0.0	
15							0.0	
20							0.0	
				TD 12'			0.0	

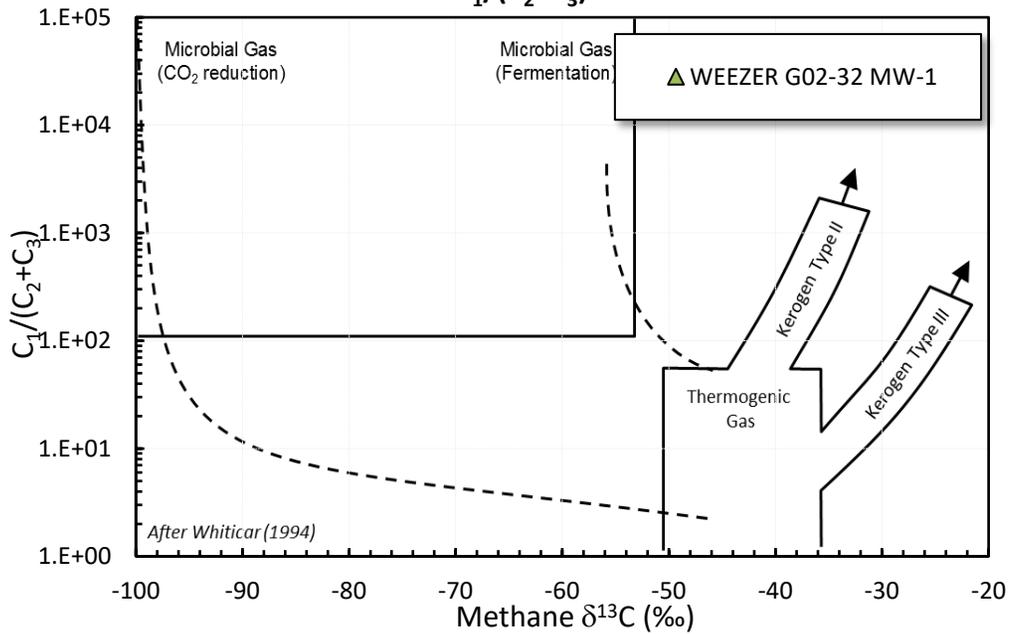
APPENDIX B

STABLE ISOTOPE INTERPRETIVE PLOTS

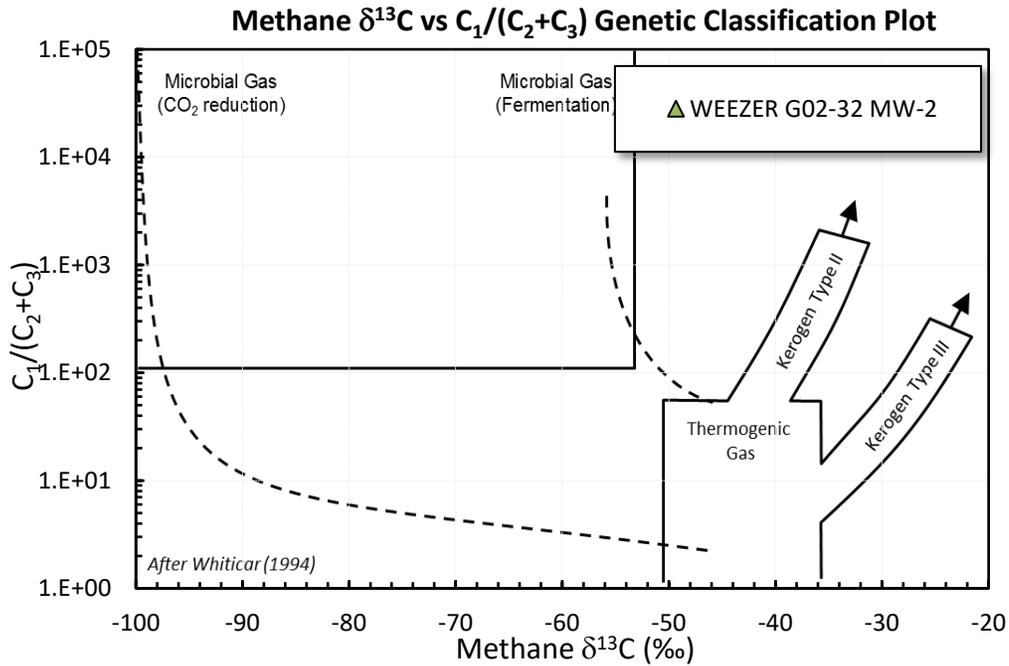
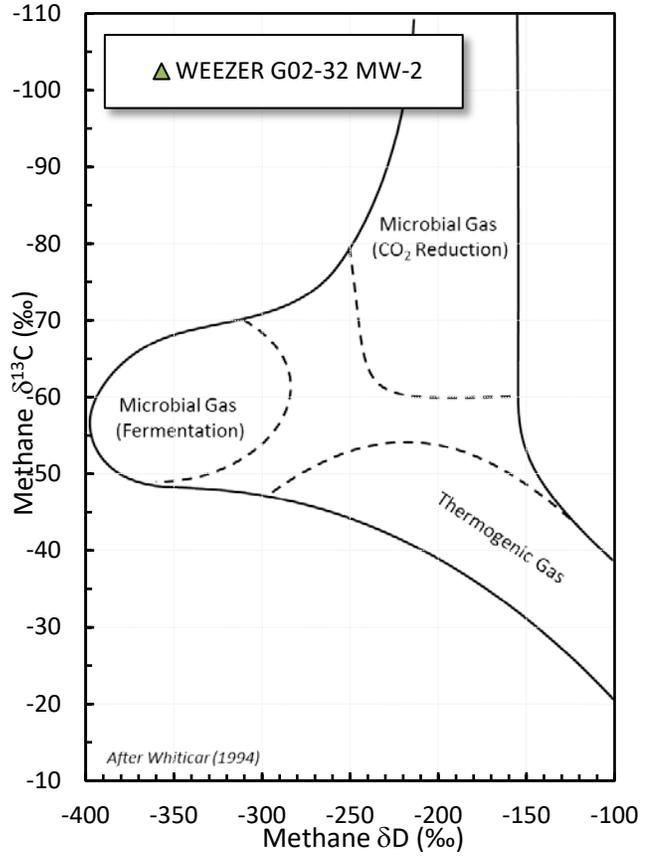
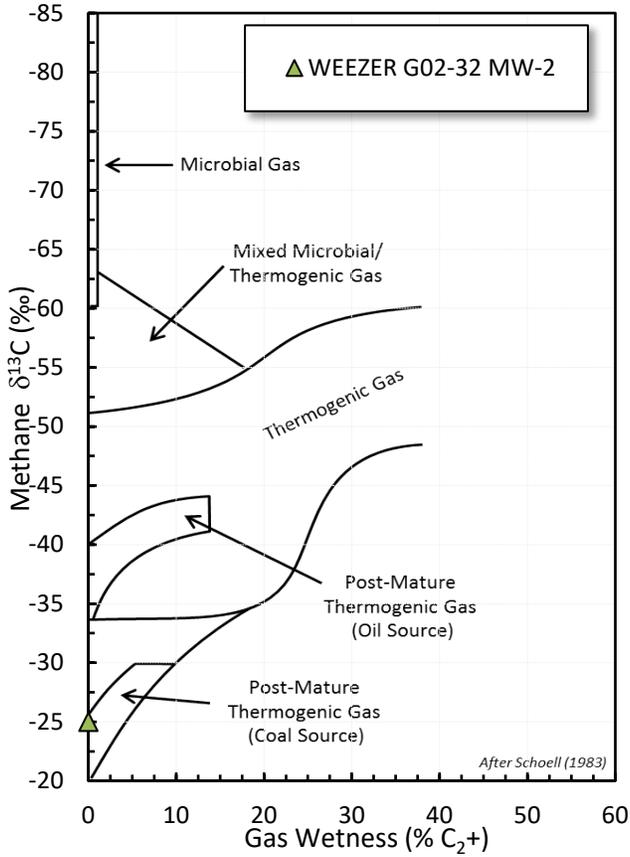
Stable Isotope Interpretive Plots



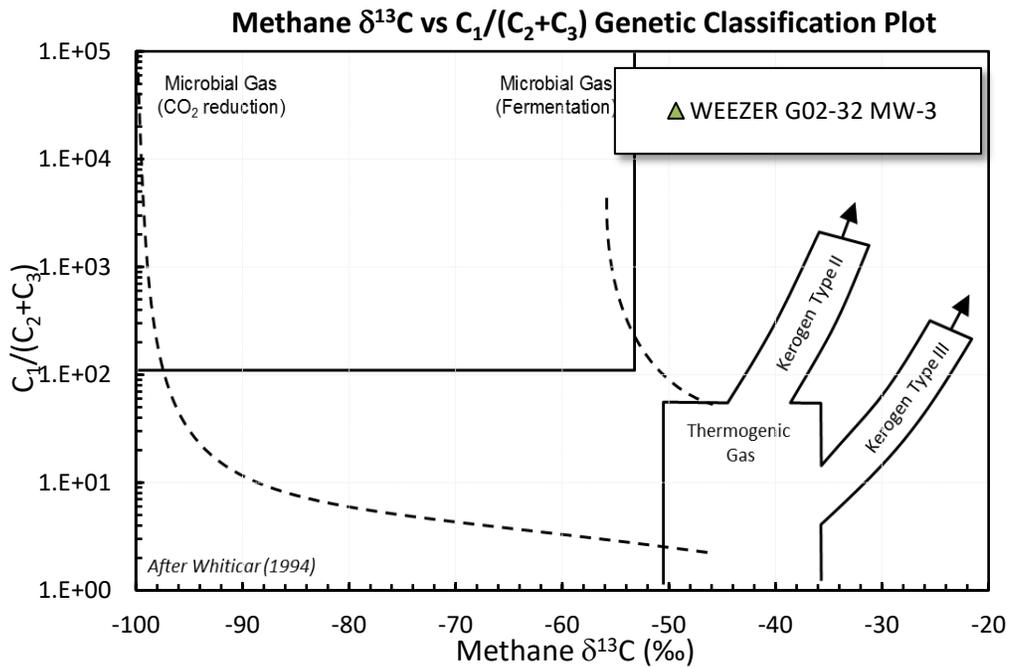
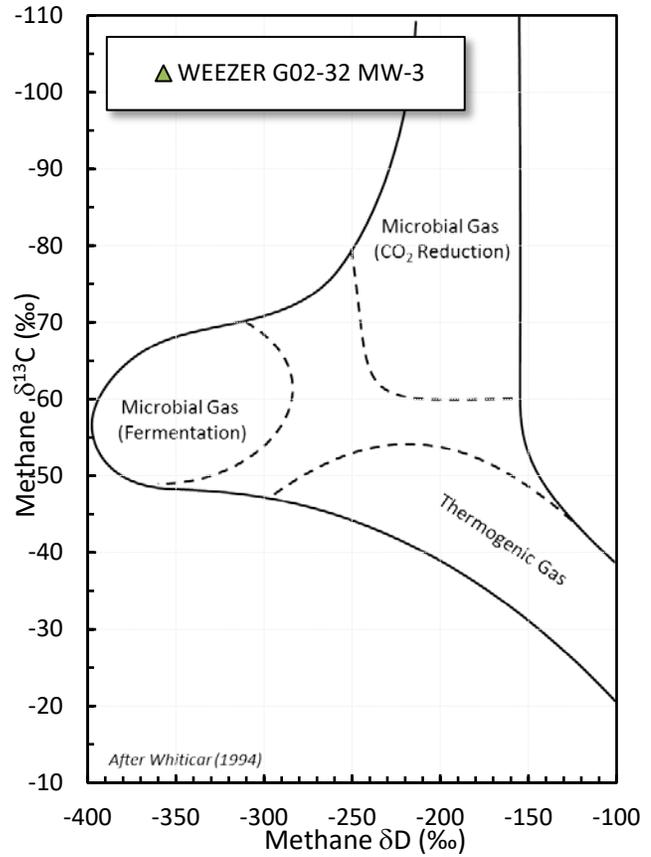
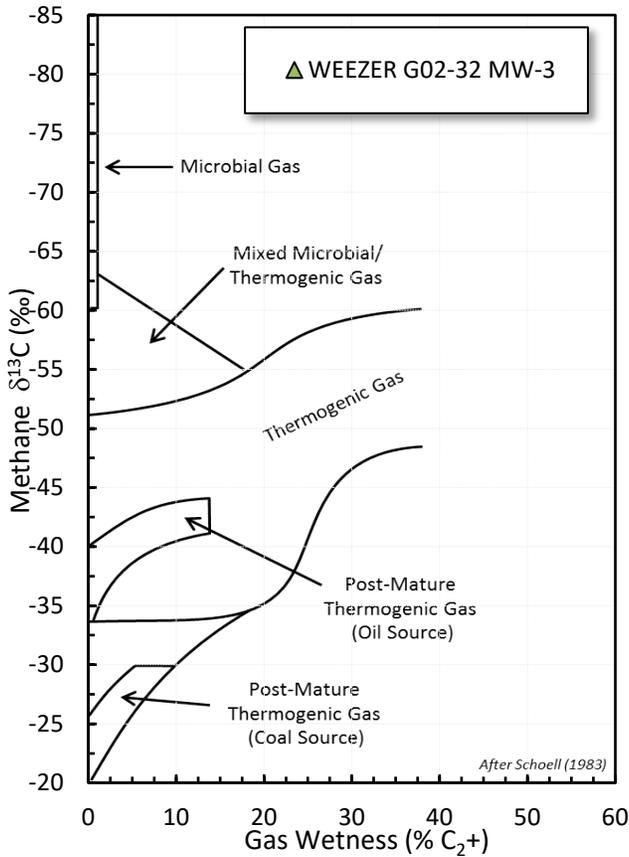
Methane $\delta^{13}\text{C}$ vs $\text{C}_1/(\text{C}_2+\text{C}_3)$ Genetic Classification Plot



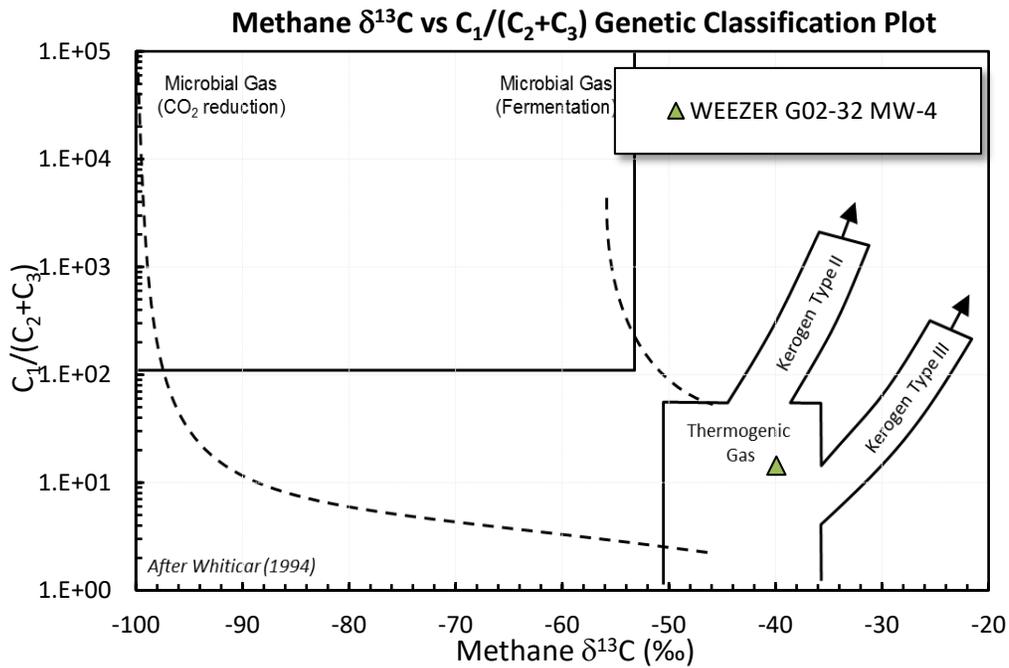
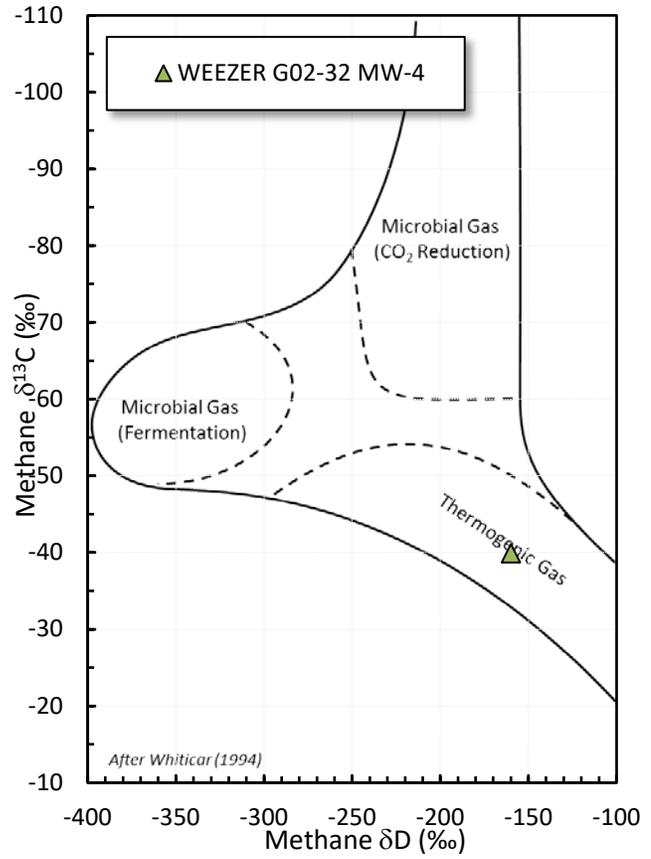
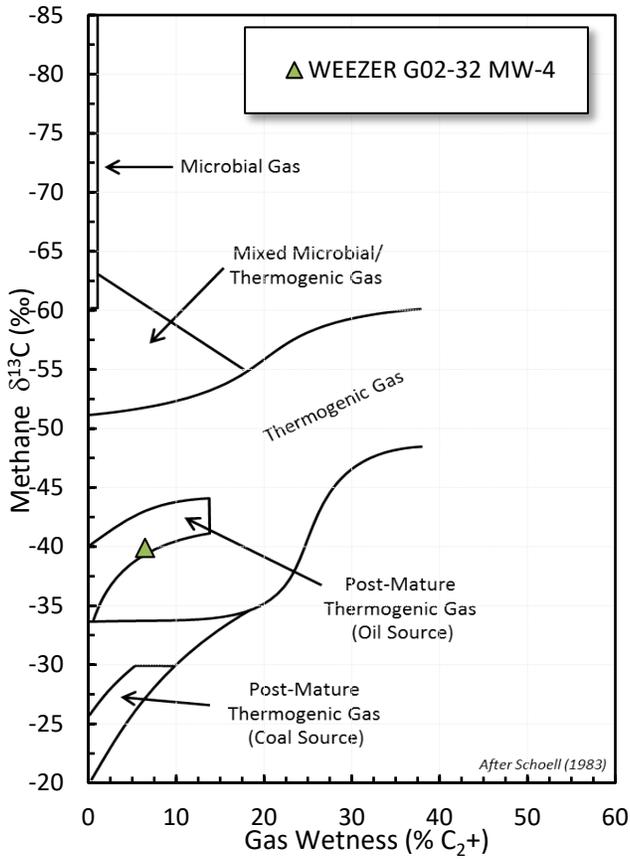
Stable Isotope Interpretive Plots



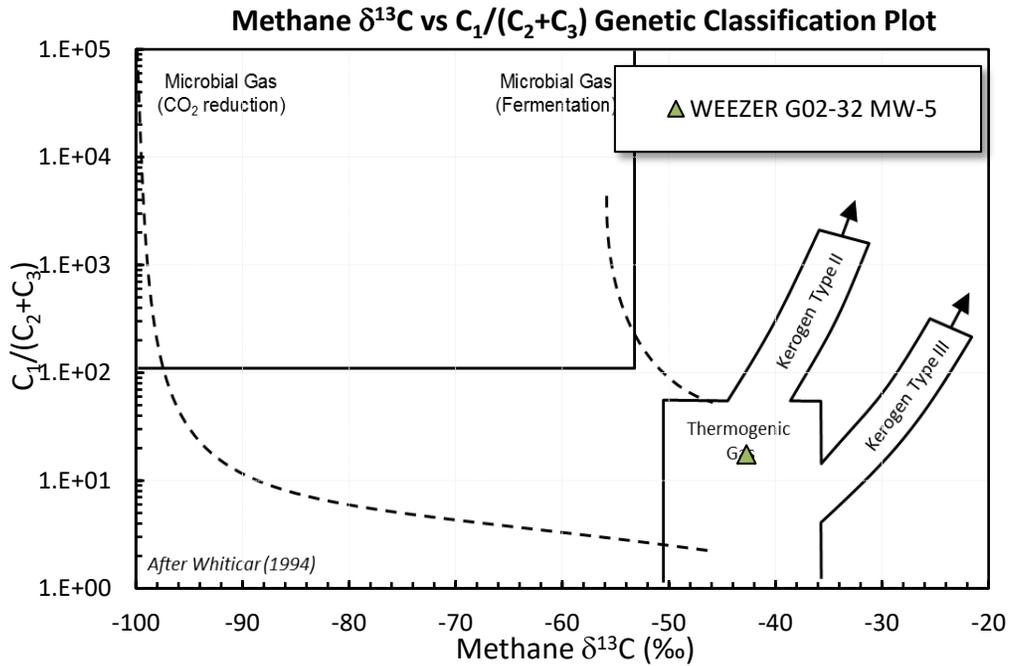
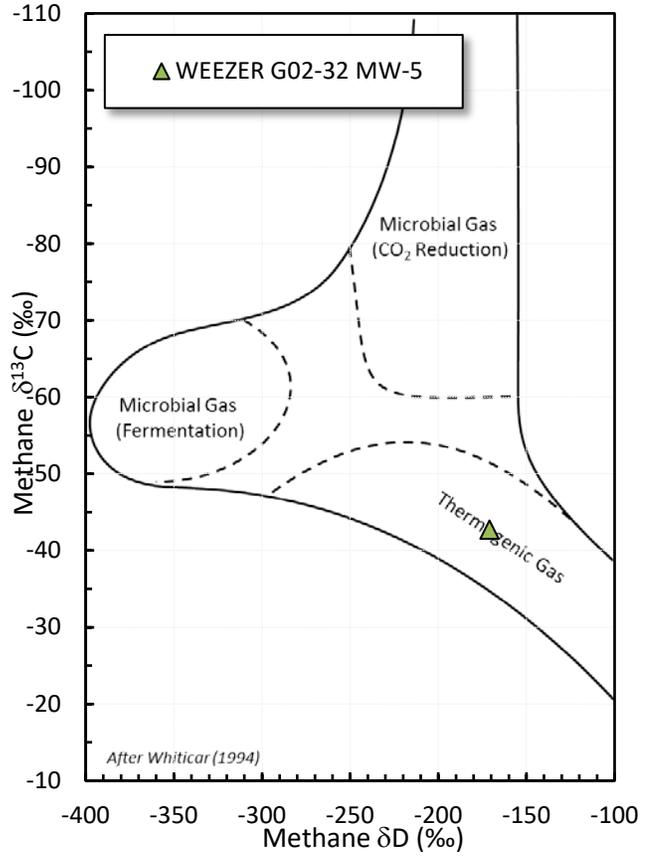
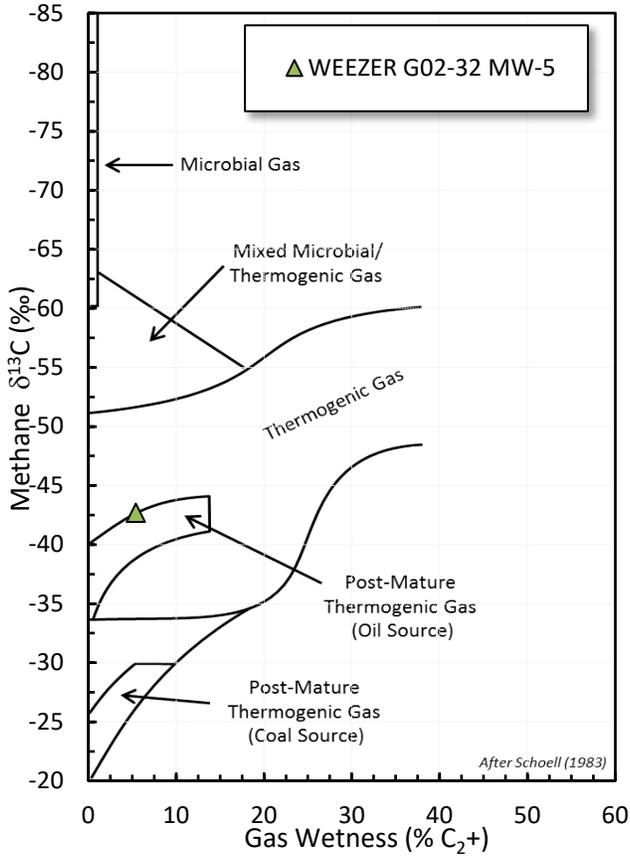
Stable Isotope Interpretive Plots

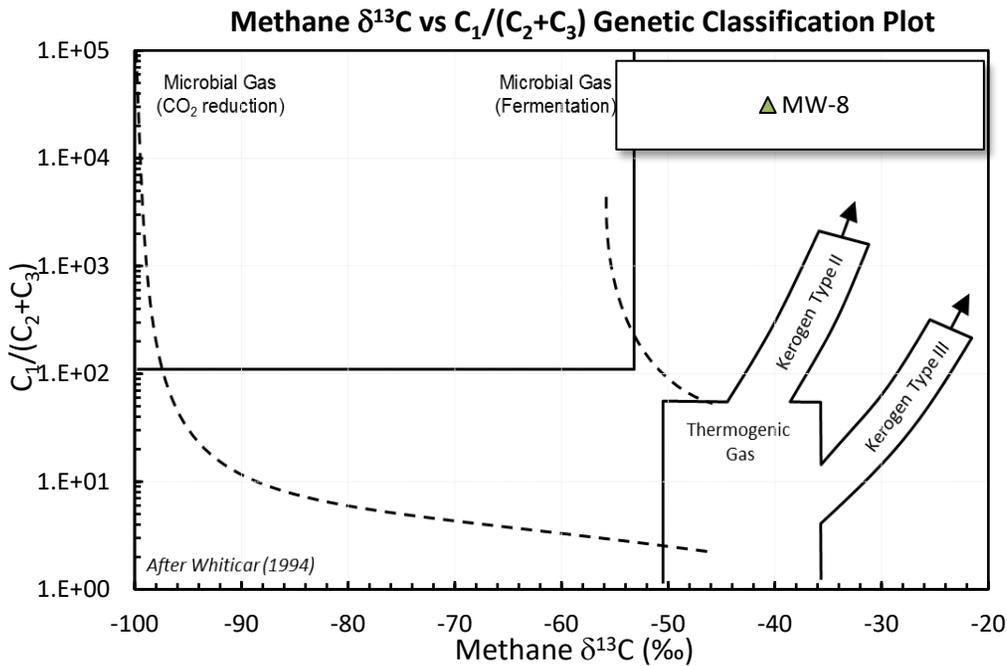
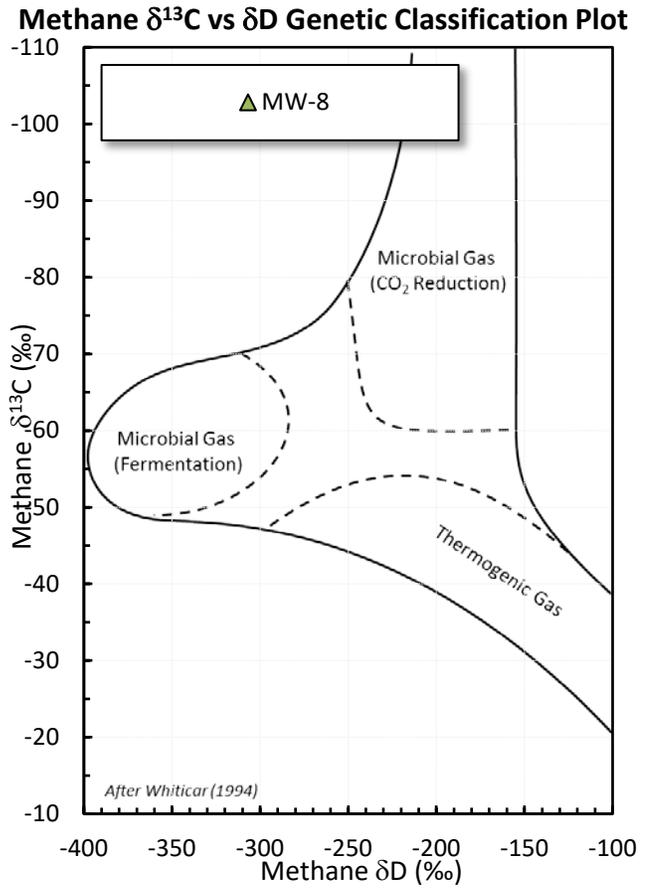
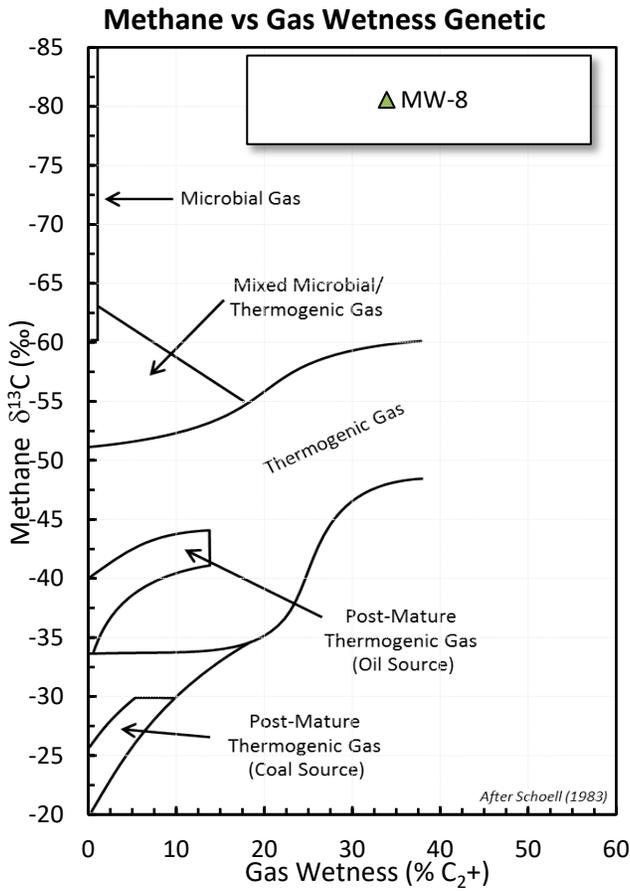


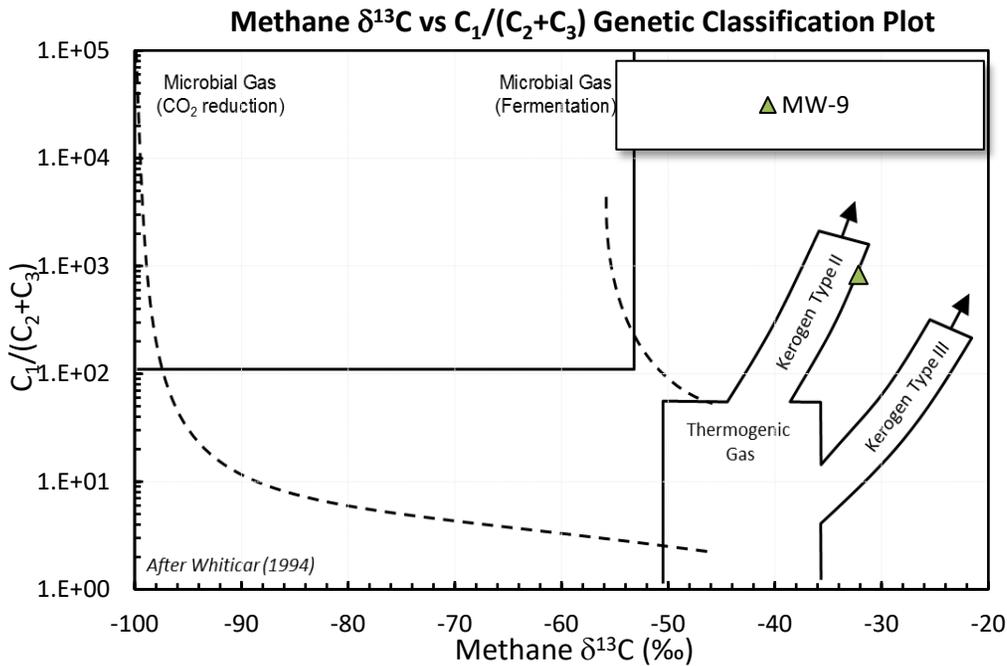
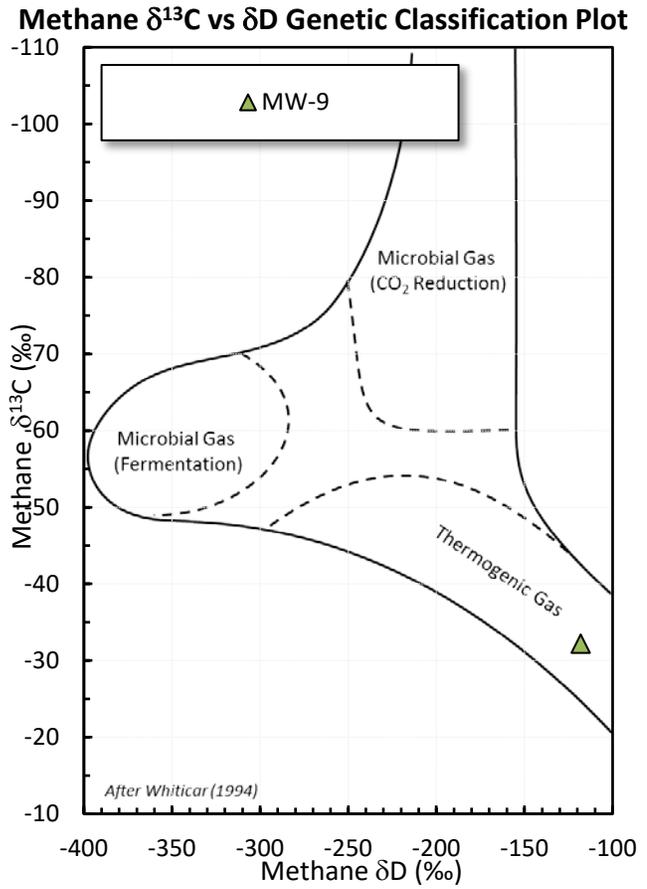
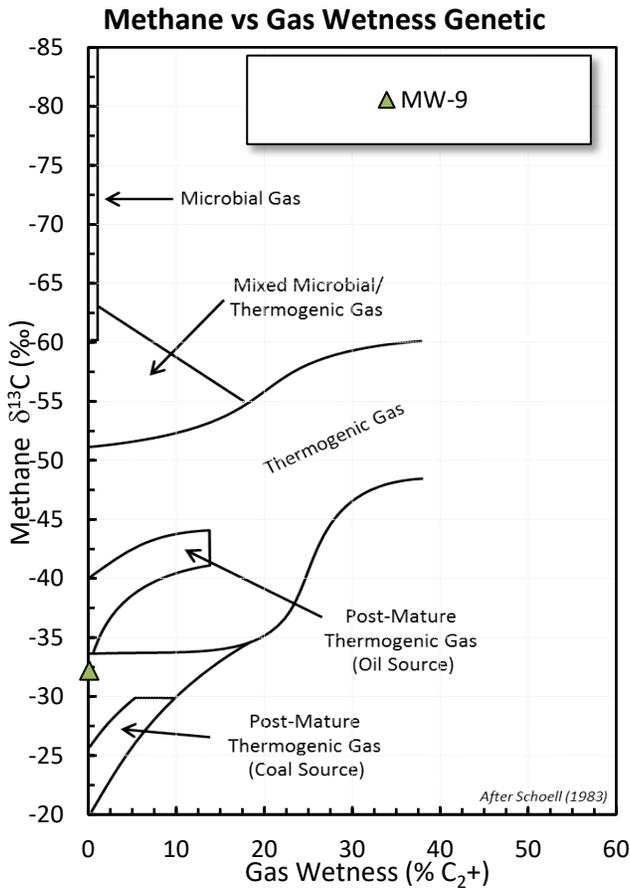
Stable Isotope Interpretive Plots

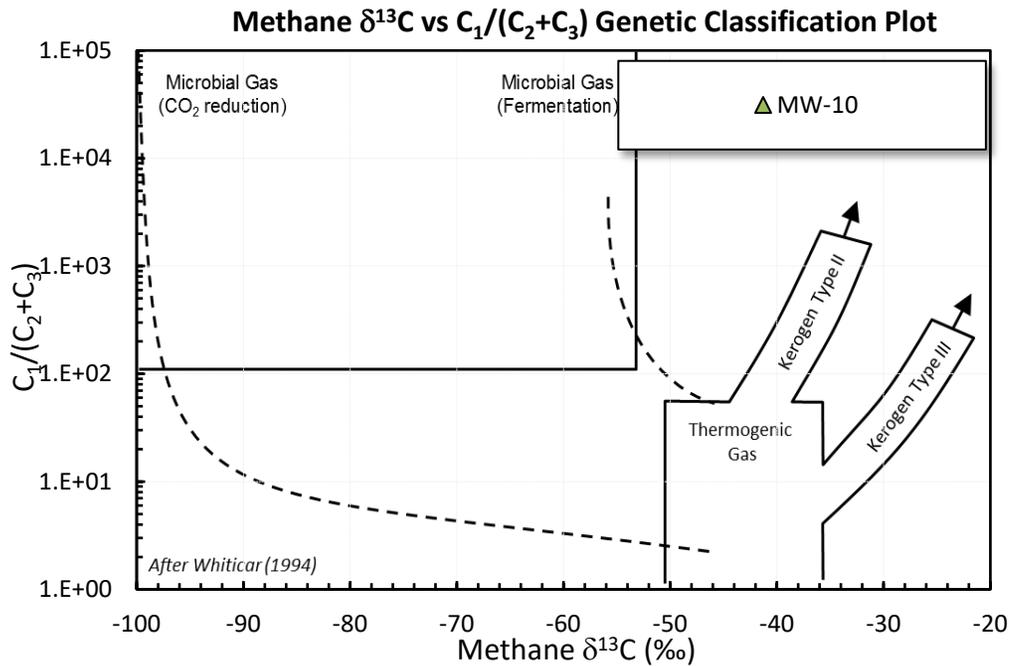
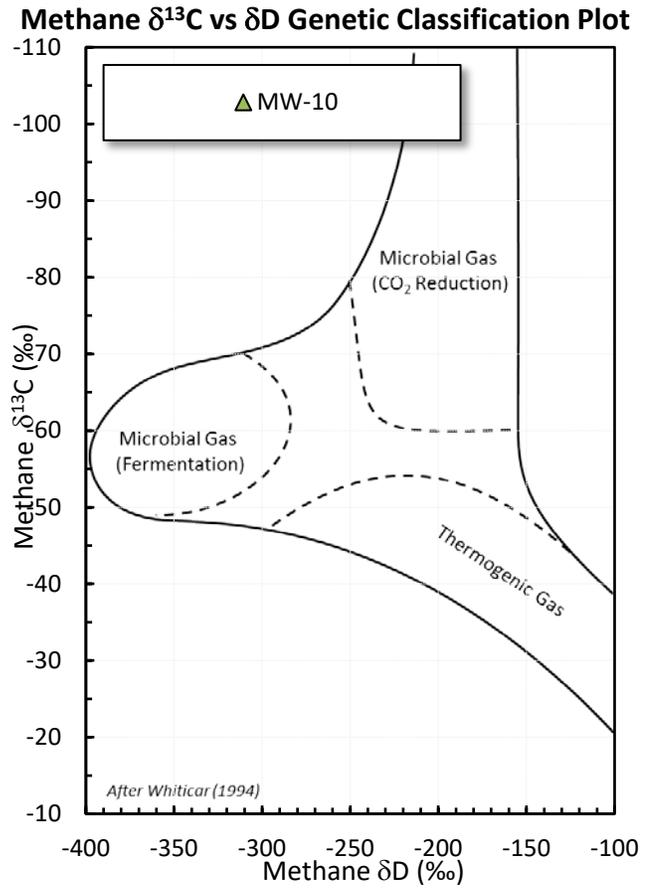
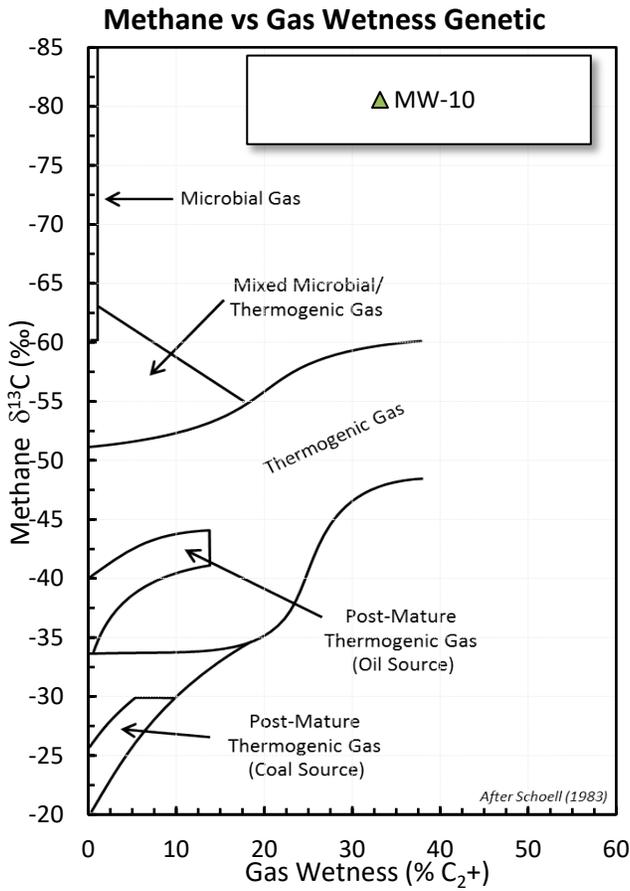


Stable Isotope Interpretive Plots

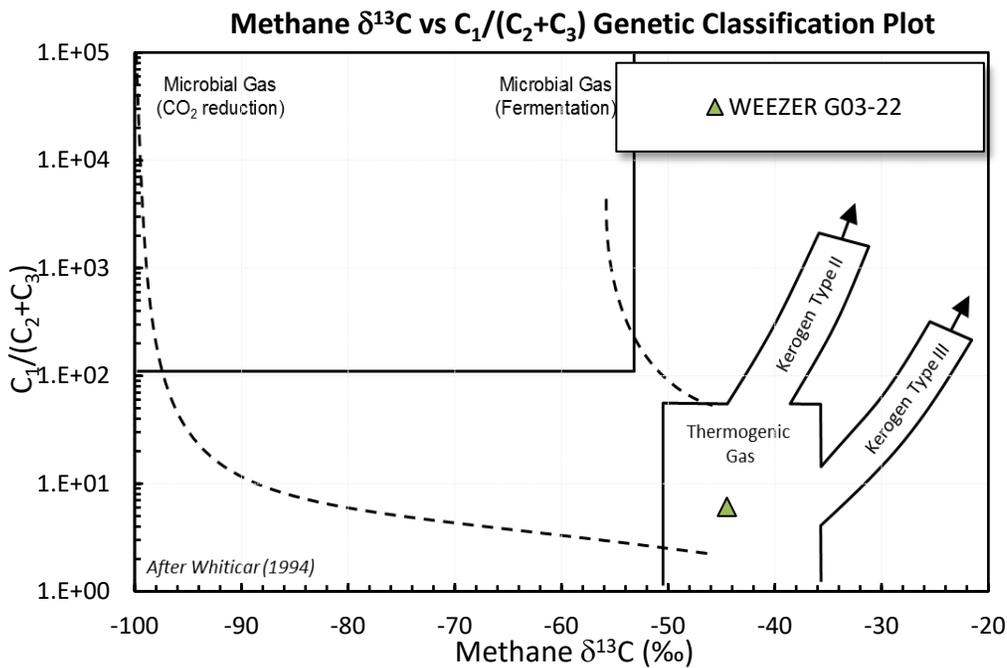
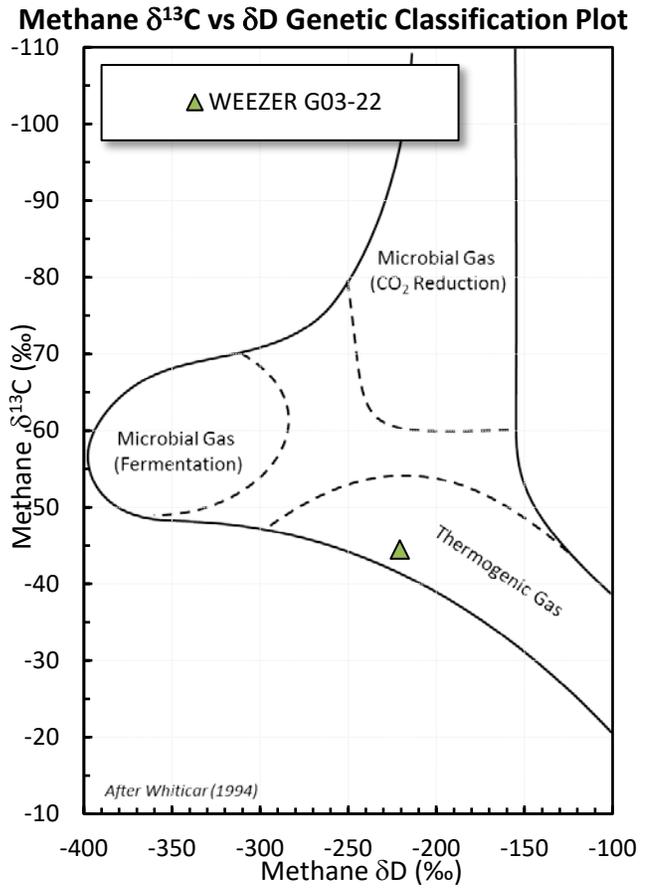
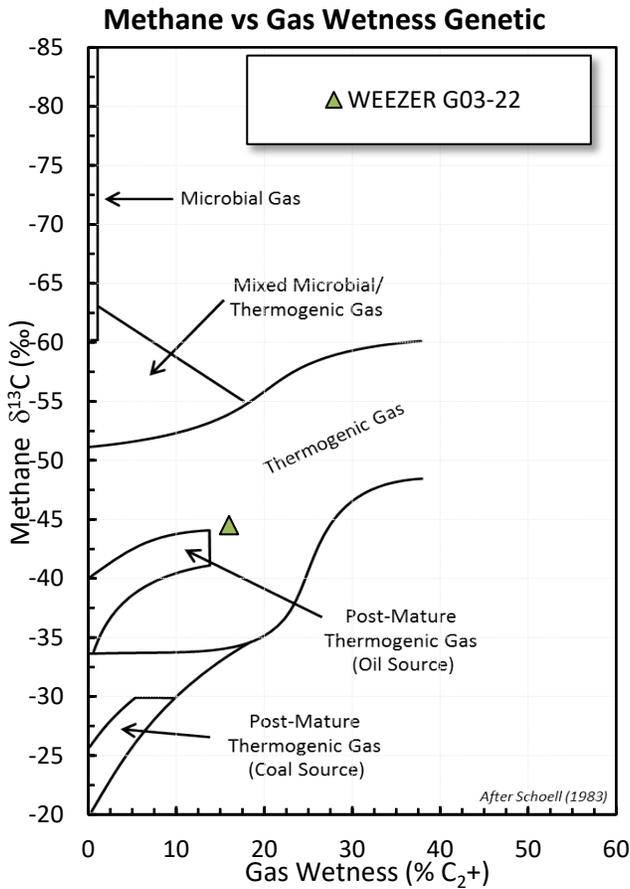




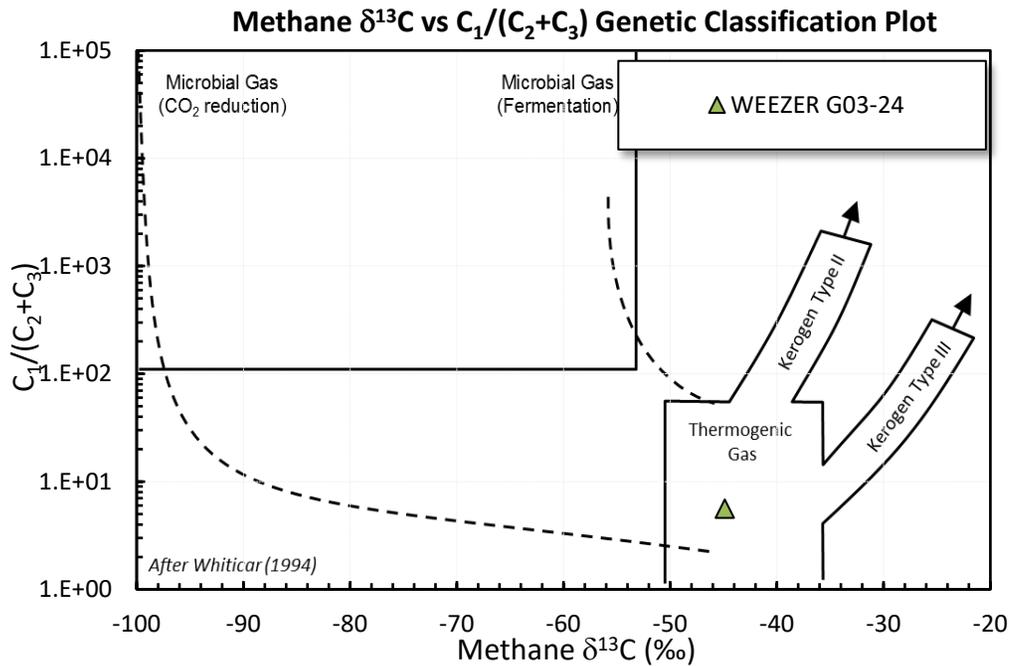
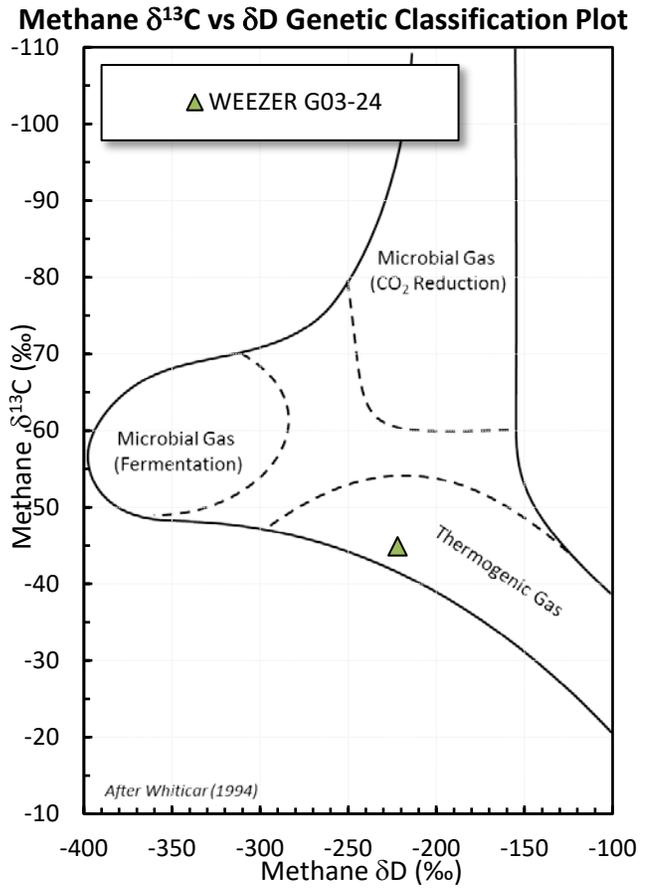
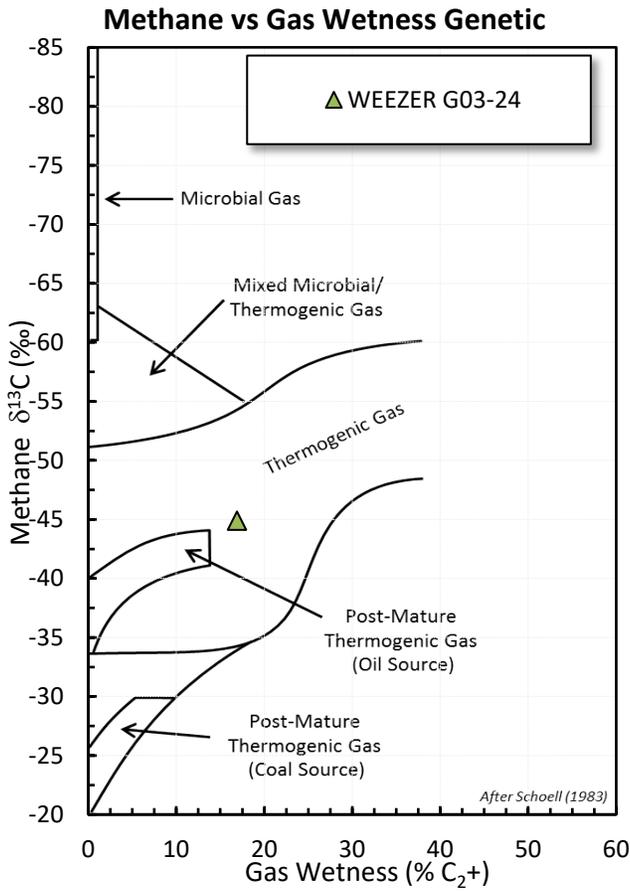




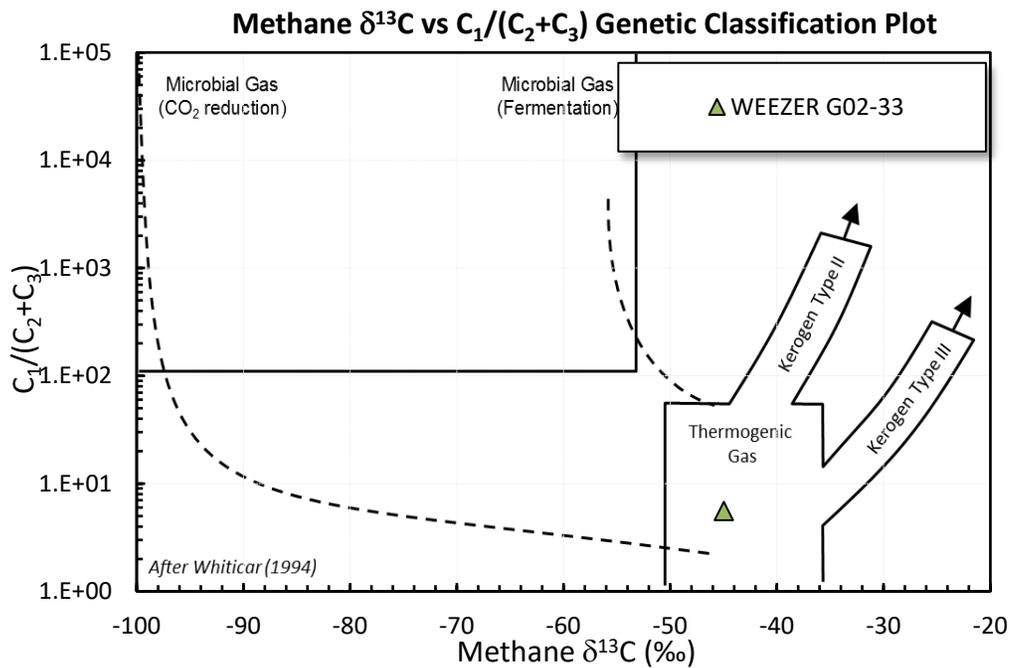
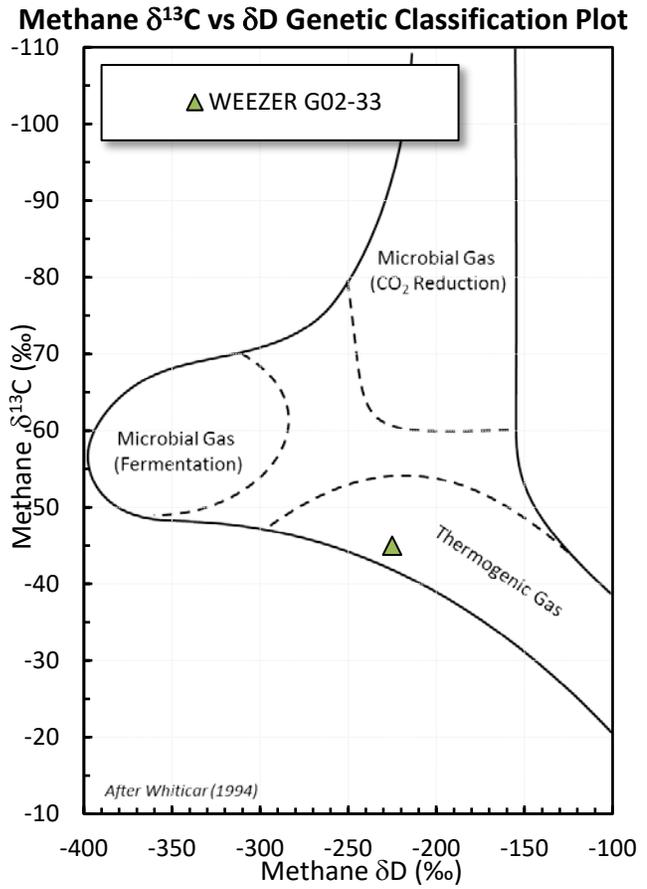
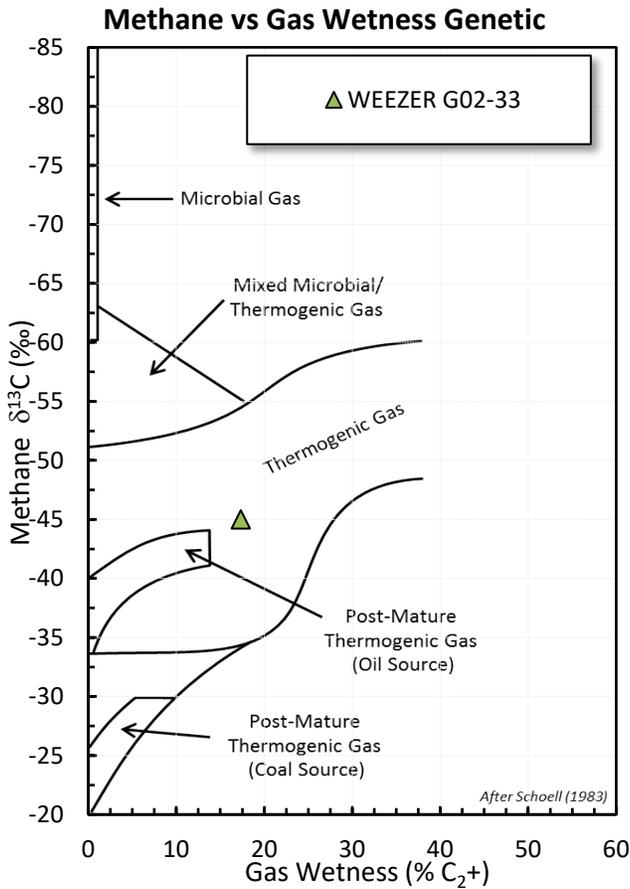
Stable Isotope Interpretive Plots



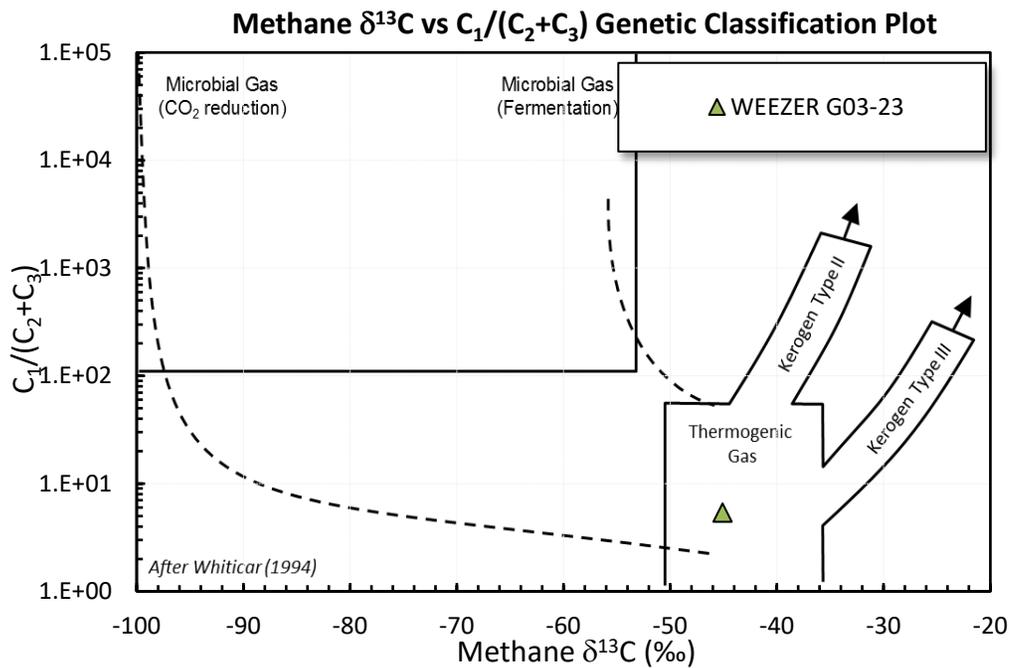
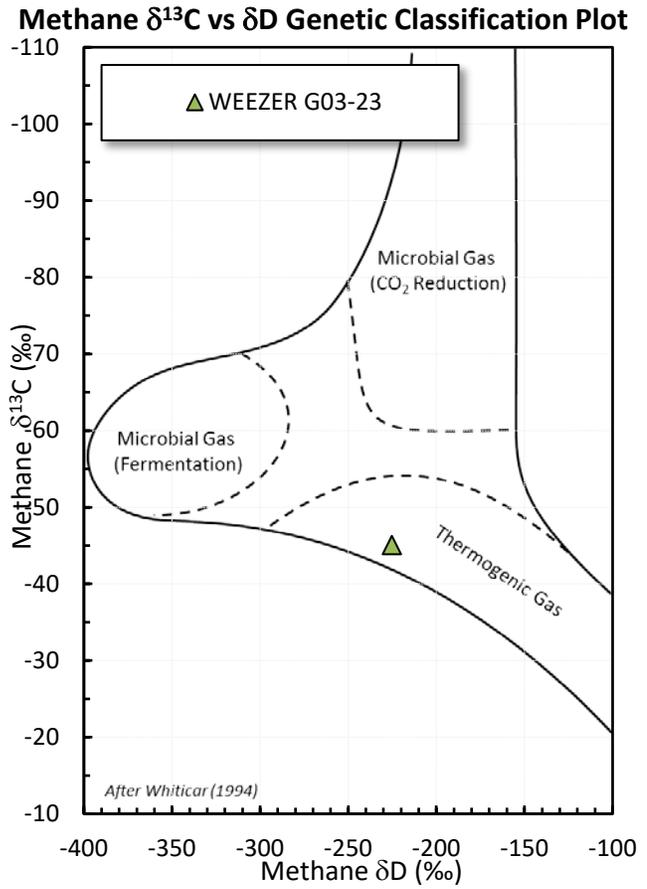
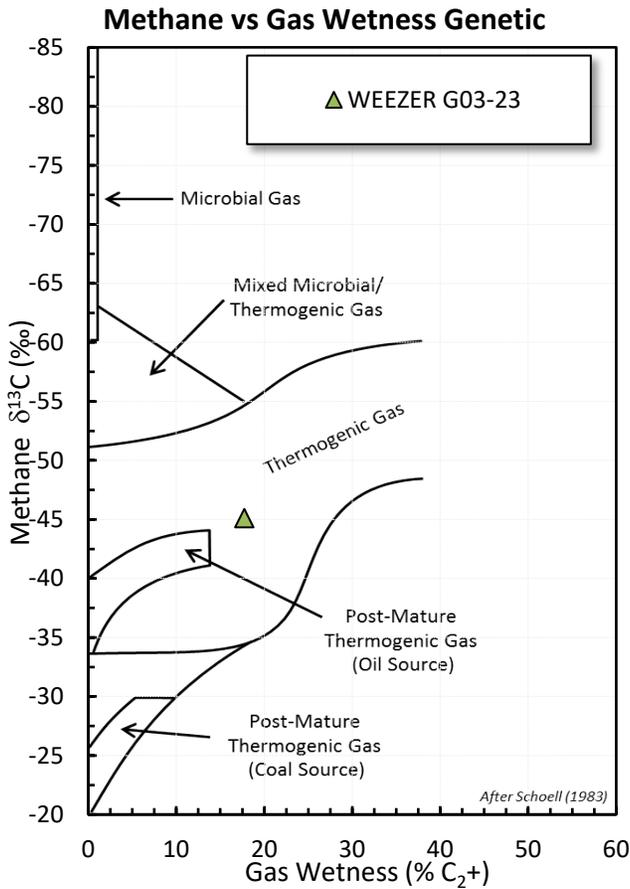
Stable Isotope Interpretive Plots

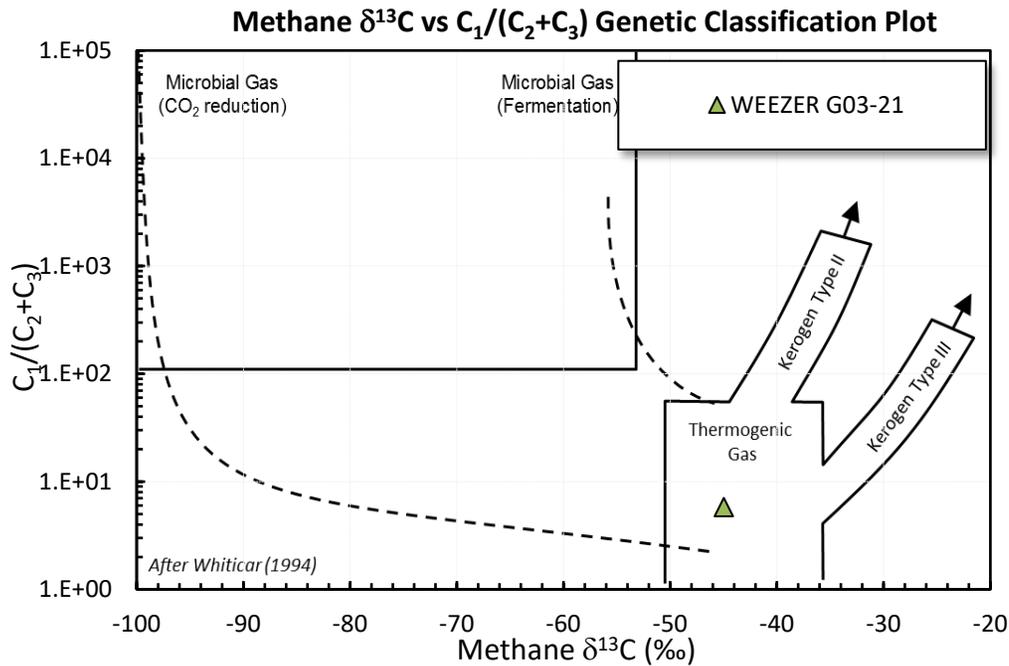
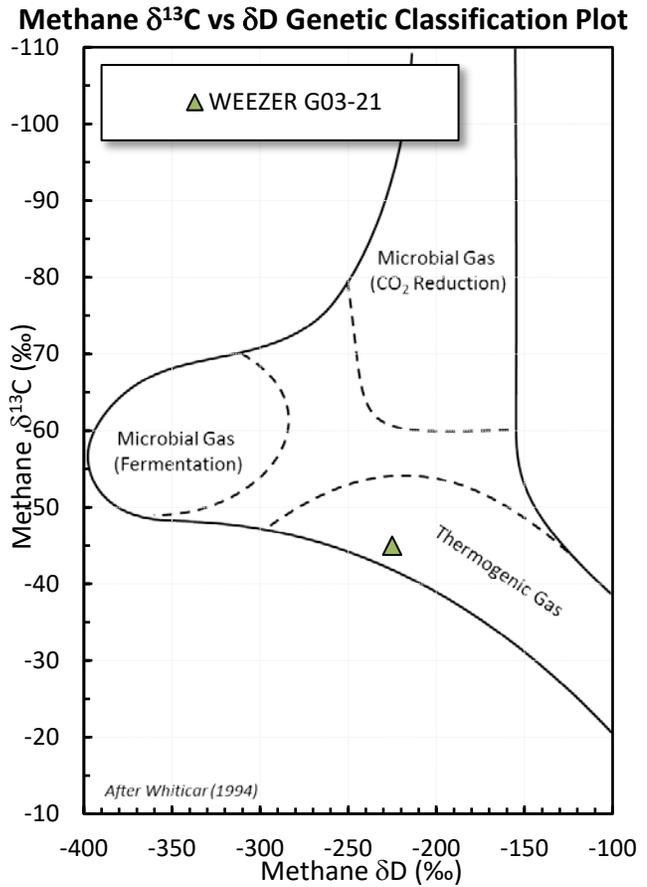
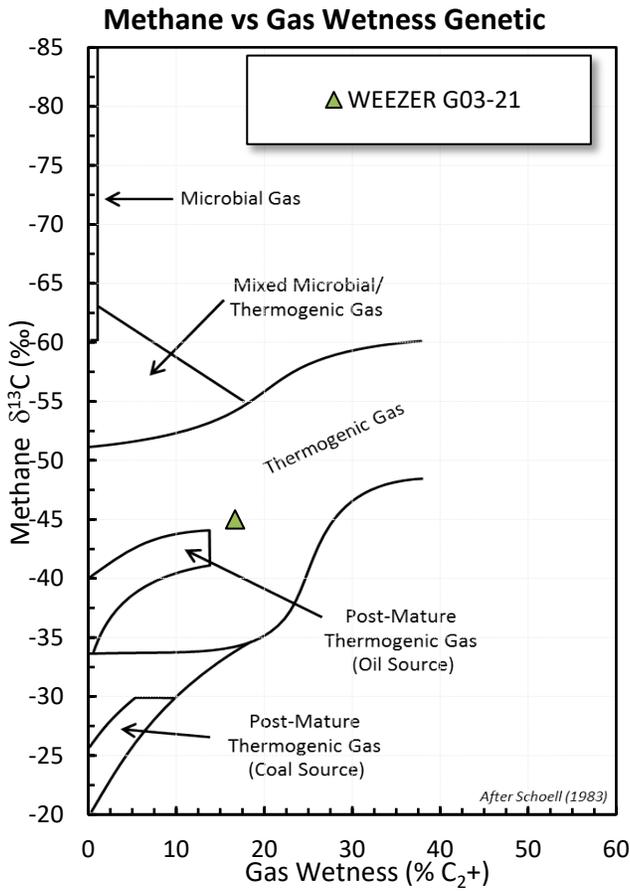


Stable Isotope Interpretive Plots



Stable Isotope Interpretive Plots





APPENDIX C

LABORATORY DOCUMENTATION

September 08, 2020

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

Project Name - Noble - Weezer G02-32

Project Number - C019-078

Attached are your analytical results for Noble - Weezer G02-32 received by Origins Laboratory, Inc. August 31, 2020. This project is associated with Origins project number Y008424-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Fremont Environmental
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Weezer G03-21	Y008424-01	Water	August 28, 2020 15:20	08/31/2020 10:00
Weezer G03-22	Y008424-02	Water	August 28, 2020 15:30	08/31/2020 10:00
Weezer G03-24	Y008424-03	Water	August 28, 2020 15:40	08/31/2020 10:00
Weezer G03-23	Y008424-04	Water	August 28, 2020 15:50	08/31/2020 10:00
Weezer G02-33	Y008424-05	Water	August 28, 2020 16:00	08/31/2020 10:00

Origins Laboratory, Inc.



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.

Jen Pellegrini For Noelle Doyle Mathis, President

Fremont Environmental
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y008424

Client: Fremont
 Client Project ID: WEEZER G02-32

Checklist Completed by: JG
 Date/time completed: 8/21/20

Shipped Via: HD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other:

Cooler Number/Temperature: 1, 5.9 °C 1 °C 1 °C (Describe) 1 °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: JM (Project Manager)

Date/Time Reviewed: 9-1-20

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

Weezer G03-21
8/28/2020 3:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	----------	-------

Pace Analytical
Y008424-01 (Water)

Dissolved Gasses by RSK 175

Ethane	169	13.0	ug/L	1	11111		08/28/2020	09/05/2020	
Methane	447	10.0	"	"	"		"	"	
n-Propane	67.5	18.6	"	"	"		"	"	

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

Weezer G03-22
8/28/2020 3:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Pace Analytical
Y008424-02 (Water)

Dissolved Gasses by RSK 175

Ethane	416	13.0	ug/L	1	11111		08/28/2020	09/05/2020	
Methane	1340	10.0	"	"	"		"	"	
n-Propane	154	18.6	"	"	"		"	"	

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

Weezer G03-24

8/28/2020 3:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	----------	-------

Pace Analytical

Y008424-03 (Water)

Dissolved Gasses by RSK 175

Ethane	1050	13.0	ug/L	1	11111		08/28/2020	09/05/2020	
Methane	2570	10.0	"	"	"		"	"	
n-Propane	439	18.6	"	"	"		"	"	

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

Weezer G03-23
8/28/2020 3:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	----------	-------

Pace Analytical
Y008424-04 (Water)

Dissolved Gasses by RSK 175

Ethane	2340	13.0	ug/L	1	11111		08/28/2020	09/05/2020	
Methane	5610	10.0	"	"	"		"	"	
n-Propane	1010	18.6	"	"	"		"	"	

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

Weezer G02-33
8/28/2020 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	---------	----------	----------	-------

Pace Analytical
Y008424-05 (Water)

Dissolved Gasses by RSK 175

Ethane	1170	13.0	ug/L	1	11111		08/28/2020	09/05/2020	
Methane	3000	10.0	"	"	"		"	"	
n-Propane	472	18.6	"	"	"		"	"	

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

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

Origins Laboratory, Inc.



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
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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.

September 01, 2020

Fremont Environmental

Paul Henehan

8305 6th St, PO Box 1289

Wellington CO 80549

Project Name - Noble - Weezer G02-32

Project Number - C019-078

Attached are your analytical results for Noble - Weezer G02-32 received by Origins Laboratory, Inc. August 21, 2020. This project is associated with Origins project number Y008316-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Fremont Environmental
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-6	Y008316-01	Water	August 21, 2020 0:00	08/21/2020 14:34
MW-7	Y008316-02	Water	August 21, 2020 0:00	08/21/2020 14:34
MW-8	Y008316-03	Water	August 21, 2020 0:00	08/21/2020 14:34
MW-9	Y008316-04	Water	August 21, 2020 0:00	08/21/2020 14:34
MW-10	Y008316-05	Water	August 21, 2020 0:00	08/21/2020 14:34
MW-11	Y008316-06	Water	August 21, 2020 0:00	08/21/2020 14:34
MW-12	Y008316-07	Water	August 21, 2020 0:00	08/21/2020 14:34
VP1	Y008316-08	Air	August 21, 2020 7:45	08/21/2020 14:34
VP2	Y008316-09	Air	August 21, 2020 8:05	08/21/2020 14:34
VP3	Y008316-10	Air	August 21, 2020 8:15	08/21/2020 14:34
VP4	Y008316-11	Air	August 21, 2020 8:25	08/21/2020 14:34
VP5	Y008316-12	Air	August 21, 2020 8:35	08/21/2020 14:34
VP6	Y008316-13	Air	August 21, 2020 8:45	08/21/2020 14:34
VP7	Y008316-14	Air	August 21, 2020 8:55	08/21/2020 14:34

Origins Laboratory, Inc.



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Fremont Environmental
8305 6th St, PO Box 1289
Wellington CO 80549

Paul Henehan
Project Number: C019-078
Project: Noble - Weezer G02-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP8	Y008316-15	Air	August 21, 2020 9:05	08/21/2020 14:34
VP9	Y008316-16	Air	August 21, 2020 9:15	08/21/2020 14:34
VP10	Y008316-17	Air	August 21, 2020 9:25	08/21/2020 14:34
VP11	Y008316-18	Air	August 21, 2020 9:35	08/21/2020 14:34
VP12	Y008316-19	Air	August 21, 2020 9:45	08/21/2020 14:34
VP13	Y008316-20	Air	August 21, 2020 9:55	08/21/2020 14:34
VP14	Y008316-21	Air	August 21, 2020 10:05	08/21/2020 14:34
VP15	Y008316-22	Air	August 21, 2020 10:15	08/21/2020 14:34
VP16	Y008316-23	Air	August 21, 2020 10:25	08/21/2020 14:34
VP17	Y008316-24	Air	August 21, 2020 10:35	08/21/2020 14:34
VP18	Y008316-25	Air	August 21, 2020 10:45	08/21/2020 14:34

Origins Laboratory, Inc.



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Fremont Environmental
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32



www.originslaboratory.com

Y008316

page 1 of 3

Client: Fremont
 Address: _____
 Project Manager: Paul Henehan
 Project Name: Noble - Weezer G02-32
 Project Number: C019-078
 Telephone Number: 603-477-6107
 Email Address: paulh@fremontenv.com, ethanh@fremontenv.com
 Samples Collected By: EP

Fax: 303.265.9645 | Phone: 303.433.1322

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other	Other	
MW-6	8/21/20		4	X				X				BTEX KSK-175	1
MW-7													2
MW-8													3
MW-9													4
MW-10													5
MW-11													6
MW-12													7
													8
													9
													10

Relinquished By: [Signature] Date: 8/21/20 Time: 1400
 Relinquished By: [Signature] Date: 8/21/20 Time: 1434
 Received By: [Signature] Date: 8/21/20 Time: 1400
 Received By: [Signature] Date: 08-21-20 Time: 1434
 Turnaround Time: Same Day 24 Hr 48 Hr 72 Hr Standard

Temp Received: 7.6°C Date Results Needed: _____

Origins Laboratory, Inc.

Jefe Pellegrini

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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y008316

Client: Fremont

Client Project ID: Weezer GS-22

Checklist Completed by: JG

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

Date/time completed: 8/21/20

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: Air

Cooler Number/Temperature: 1 / 2.6 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: 7003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: JM (Project Manager)

Date/Time Reviewed: 8-24-20

Origins Laboratory, Inc.

Jefe Pellegrini

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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-6

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008316-01 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	4.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	4.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	4.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	98.9 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	92.9 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	ND	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-7

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008316-02 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	96.1 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	93.8 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	ND	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-8

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y008316-03 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	97.6 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	94.0 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	135	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-9

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008316-04 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	98.2 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	90.7 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	2950	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-10

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y008316-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	114 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	96.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	92.4 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	34.1	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-11

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y008316-06 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	96.7 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	92.7 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	ND	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

MW-12

8/21/2020 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y008316-07 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B0H2402	ZZZ	08/24/2020	08/26/2020	Ua
Toluene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	ZZZ	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	ZZZ	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	95.9 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.0 %	70-130			"	"	"	"	

Dissolved Gasses by RSK 175

Ethane	ND	13.0	ug/L	1	11111		08/21/2020	08/26/2020	
Methane	ND	10.0	"	10	"		"	"	
n-Propane	ND	18.6	"	1	"		"	"	

Origins Laboratory, Inc.



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Fremont Environmental
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

VP1
 8/21/2020 7:45:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
 Y008316-08 (Air)

ASTM D-1945

Ethane	ND	0.0012	%	1.15	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00039	0.00012	"	"	"	LY	"	"	
Propane	ND	0.0012	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	2.1	UG/M3	1.33	dp28AUG		"	08/28/2020	ND
Ethyl Benzene	ND	2.9	"	"	"		"	"	ND
m,p-Xylene	4.8	2.9	"	"	"		"	"	
o-Xylene	ND	2.9	"	"	"		"	"	ND
Toluene	8.1	2.5	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	ND	270	"	"	"		"	"	ND

Origins Laboratory, Inc.



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Fremont Environmental
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

VP2

8/21/2020 8:05:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-09 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00028	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	2.3	1.6	UG/M3	1	isd28AUG2		08/21/2020	08/27/2020	
Ethyl Benzene	ND	2.2	"	"	"		"	"	ND
m,p-Xylene	7.3	2.2	"	"	"		"	"	
o-Xylene	2.4	2.2	"	"	"		"	"	
Toluene	8.4	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	280	200	"	"	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

VP3
 8/21/2020 8:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-10 (Air)

ASTM D-1945

Ethane	0.014	0.0019	%	1.9	jc1027aug20	LY	08/21/2020	08/27/2020	
Methane	0.11	0.00019	"	"	"	LY	"	"	
Propane	ND	0.0019	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	3.9	3.0	UG/M3	1.9	isd28AUG2		08/21/2020	08/27/2020	
Ethyl Benzene	4.4	4.1	"	"	"		"	"	
m,p-Xylene	15	4.1	"	"	"		"	"	
o-Xylene	6.1	4.1	"	"	"		"	"	
Toluene	13	3.6	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	32000	390	"	"	"		"	"	

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

VP4

8/21/2020 8:25:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-11 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.0023	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	1.9	UG/M3	1.2	dp28AUG		08/21/2020	08/28/2020	ND
Ethyl Benzene	5.6	2.6	"	"	"		"	"	
m,p-Xylene	5.4	2.6	"	"	"		"	"	
o-Xylene	3.7	2.6	"	"	"		"	"	
Toluene	2.8	2.3	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	1200	240	"	"	"		"	"	

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Fremont Environmental
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

VP5

8/21/2020 8:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-12 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.0033	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	1.6	UG/M3	1	dp28AUG		08/21/2020	08/27/2020	ND
Ethyl Benzene	17	2.2	"	"	"		"	"	
m,p-Xylene	13	2.2	"	"	"		"	"	
o-Xylene	4.7	2.2	"	"	"		"	"	
Toluene	8.5	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	1200	200	"	"	"		"	"	

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Paul Henehan
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 Project: Noble - Weezer G02-32

VP6

8/21/2020 8:45:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-13 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00041	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	21	UG/M3	13.3	dp28AUG		08/21/2020	08/28/2020	ND
Ethyl Benzene	ND	29	"	"	"		"	"	ND
m,p-Xylene	ND	29	"	"	"		"	"	ND
o-Xylene	ND	29	"	"	"		"	"	ND
Toluene	ND	25	"	"	"		"	"	ND
TPH ref. to Gasoline (MW=100)	ND	2700	"	"	"		"	"	ND

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Paul Henehan
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 Project: Noble - Weezer G02-32

VP7

8/21/2020 8:55:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-14 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00025	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	1.6	UG/M3	1	dp28AUG		08/21/2020	08/27/2020	ND
Ethyl Benzene	ND	2.2	"	"	"		"	"	ND
m,p-Xylene	2.7	2.2	"	"	"		"	"	
o-Xylene	ND	2.2	"	"	"		"	"	ND
Toluene	3.8	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	ND	200	"	"	"		"	"	ND

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 Project: Noble - Weezer G02-32

VP8

8/21/2020 9:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-15 (Air)

ASTM D-1945

Ethane	0.042	0.0014	%	1.36	jc1027aug20	LY	08/21/2020	08/27/2020	
Methane	0.35	0.00014	"	"	"	LY	"	"	
Propane	0.011	0.0014	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	170	UG/M3	104	sdp28AUG		08/21/2020	08/28/2020	ND
Ethyl Benzene	ND	220	"	"	"		"	"	ND
m,p-Xylene	ND	220	"	"	"		"	"	ND
o-Xylene	ND	220	"	"	"		"	"	ND
Toluene	660	200	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	240000	21000	"	"	"		"	"	

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 Project: Noble - Weezer G02-32

VP9

8/21/2020 9:15:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-16 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	c1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.0013	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	2.0	1.9	UG/M3	1.2	isd28AUG2		08/21/2020	08/27/2020	
Ethyl Benzene	ND	2.6	"	"	"		"	"	ND
m,p-Xylene	ND	2.6	"	"	"		"	"	ND
o-Xylene	ND	2.6	"	"	"		"	"	ND
Toluene	ND	2.3	"	"	"		"	"	ND
TPH ref. to Gasoline (MW=100)	860	240	"	"	"		"	"	

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VP10

8/21/2020 9:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-17 (Air)

ASTM D-1945

Ethane	0.20	0.0010	%	1	jc1027aug20	LY	08/21/2020	08/27/2020	
Methane	1.4	0.00010	"	"	"	LY	"	"	
Propane	0.065	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	800	UG/M3	500	sdp28AUG		08/21/2020	08/27/2020	ND
Ethyl Benzene	ND	1100	"	"	"		"	"	ND
m,p-Xylene	ND	1100	"	"	"		"	"	ND
o-Xylene	ND	1100	"	"	"		"	"	ND
Toluene	2400	940	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	980000	100000	"	"	"		"	"	

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VP11

8/21/2020 9:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-18 (Air)

ASTM D-1945

Ethane	0.40	0.0010	%	1	jc1027aug20	LY	08/21/2020	08/27/2020	
Methane	2.7	0.00010	"	"	"	LY	"	"	
Propane	0.15	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	2000	UG/M3	1250	sdp28AUG		08/21/2020	08/28/2020	ND
Ethyl Benzene	ND	2700	"	"	"		"	"	ND
m,p-Xylene	ND	2700	"	"	"		"	"	ND
o-Xylene	ND	2700	"	"	"		"	"	ND
Toluene	4500	2400	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	2000000	260000	"	"	"		"	"	

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VP12

8/21/2020 9:45:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-19 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00030	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	1.8	1.6	UG/M3	1	isd28AUG2		08/21/2020	08/28/2020	
Ethyl Benzene	ND	2.2	"	"	"		"	"	ND
m,p-Xylene	ND	2.2	"	"	"		"	"	ND
o-Xylene	ND	2.2	"	"	"		"	"	ND
Toluene	3.2	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	490	200	"	"	"		"	"	

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VP13

8/21/2020 9:55:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-20 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00024	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	2.5	1.6	UG/M3	1	isd28AUG2		08/21/2020	08/28/2020	
Ethyl Benzene	ND	2.2	"	"	"		"	"	ND
m,p-Xylene	7.5	2.2	"	"	"		"	"	
o-Xylene	2.6	2.2	"	"	"		"	"	
Toluene	9.2	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	380	200	"	"	"		"	"	

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VP14

8/21/2020 10:05:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-21 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00020	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	23	1.6	UG/M3	1	isdp28AUG2		08/21/2020	08/28/2020	
Ethyl Benzene	7.7	2.2	"	"	"		"	"	
m,p-Xylene	25	2.2	"	"	"		"	"	
o-Xylene	5.3	2.2	"	"	"		"	"	
Toluene	83	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	490	200	"	"	"		"	"	

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 Project: Noble - Weezer G02-32

VP15

8/21/2020 10:15:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-22 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	c1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00023	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	5.7	1.6	UG/M3	1	isd28AUG2		08/21/2020	08/28/2020	
Ethyl Benzene	3.8	2.2	"	"	"		"	"	
m,p-Xylene	17	2.2	"	"	"		"	"	
o-Xylene	5.0	2.2	"	"	"		"	"	
Toluene	9.2	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	230	200	"	"	"		"	"	

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VP16

8/21/2020 10:25:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-23 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00019	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	ND	1.6	UG/M3	1	128AUG		08/21/2020	08/28/2020	ND
Ethyl Benzene	ND	2.2	"	"	"		"	"	ND
m,p-Xylene	5.5	2.2	"	"	"		"	"	
o-Xylene	2.2	2.2	"	"	"		"	"	
Toluene	18	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	ND	200	"	"	"		"	"	ND

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VP17

8/21/2020 10:35:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-24 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00022	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	1.7	1.6	UG/M3	1	isdp28AUG2		08/21/2020	08/28/2020	
Ethyl Benzene	61	2.2	"	"	"		"	"	
m,p-Xylene	26	2.2	"	"	"		"	"	
o-Xylene	8.9	2.2	"	"	"		"	"	
Toluene	36	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	320	200	"	"	"		"	"	

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 Project: Noble - Weezer G02-32

VP18

8/21/2020 10:45:00AM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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EUROFINS AIR TOXICS, LLC
Y008316-25 (Air)

ASTM D-1945

Ethane	ND	0.0010	%	1	1027aug2	LY	08/21/2020	08/27/2020	
Methane	0.00021	0.00010	"	"	"	LY	"	"	
Propane	ND	0.0010	"	"	"	LY	"	"	

GBTEX by TO-15

Benzene	2.2	1.6	UG/M3	1	15dp28AUG2		08/21/2020	08/28/2020	
Ethyl Benzene	ND	2.2	"	"	"		"	"	ND
m,p-Xylene	4.6	2.2	"	"	"		"	"	
o-Xylene	ND	2.2	"	"	"		"	"	ND
Toluene	8.2	1.9	"	"	"		"	"	
TPH ref. to Gasoline (MW=100)	ND	200	"	"	"		"	"	ND

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Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0H2402 - EPA 5030B (Water)

Blank (B0H2402-BLK1)

Prepared: 08/24/2020 Analyzed: 08/25/2020

Benzene	ND	1.00	ug/L							Ua
Toluene	ND	1.00	"							Ua
Ethylbenzene	ND	1.00	"							Ua
Xylenes, total	ND	1.00	"							Ua
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5	109		70-130			
Surrogate: Toluene-d8	64		"	62.5	102		70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5	105		70-130			

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Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0H2402 - EPA 5030B (Water)

LCS (B0H2402-BS1)

Prepared: 08/24/2020 Analyzed: 08/25/2020

Benzene	40.7	1.00	ug/L	50.0		81.4	70-130			
Toluene	41.9	1.00	"	50.0		83.8	70-130			
Ethylbenzene	41.4	1.00	"	50.0		82.9	70-130			
m,p-Xylene	82.8	2.00	"	100		82.8	70-130			
o-Xylene	41.6	1.00	"	50.0		83.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		103	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0H2402 - EPA 5030B (Water)

Matrix Spike (B0H2402-MS1)	Source: Y008311-02			Prepared: 08/24/2020 Analyzed: 08/26/2020						
Benzene	109	1.00	ug/L	50.0	ND	219	70-130			QM-07
Toluene	59.4	1.00	"	50.0	ND	119	70-130			
Ethylbenzene	58.4	1.00	"	50.0	ND	117	70-130			
m,p-Xylene	116	2.00	"	100	ND	116	70-130			
o-Xylene	56.9	1.00	"	50.0	ND	114	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.8	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		103	70-130			

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Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0H2402 - EPA 5030B (Water)

Matrix Spike Dup (B0H2402-MSD1)	Source: Y008311-02			Prepared: 08/24/2020 Analyzed: 08/26/2020						
Benzene	78.6	1.00	ug/L	50.0	ND	157	70-130	32.7	20	QM-07, QR-03
Toluene	41.9	1.00	"	50.0	ND	83.7	70-130	34.5	20	QR-03
Ethylbenzene	41.8	1.00	"	50.0	ND	83.6	70-130	33.2	20	QR-03
m,p-Xylene	82.3	2.00	"	100	ND	82.3	70-130	33.8	20	QR-03
o-Xylene	41.4	1.00	"	50.0	ND	82.9	70-130	31.5	20	QR-03
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		98.9	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

Origins Laboratory, Inc.



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
 8305 6th St, PO Box 1289
 Wellington CO 80549

Paul Henehan
 Project Number: C019-078
 Project: Noble - Weezer G02-32

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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ASTM D-1945 - Quality Control
EUROFINS AIR TOXICS, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch gc1027aug20 - NONE

Lab Blank (2008566B-19A)

Prepared: Analyzed: 08/27/2020

Methane	ND	0.00010	%				-			U
Propane	ND	0.0010	"				-			U
Ethane	ND	0.0010	"				-			U

LCS (2008566B-20A)

Prepared: Analyzed: 08/27/2020

Ethane	104		%R			104	85-115			
Methane	107		"			107	85-115			
Propane	104		"			104	85-115			

LCSD (2008566B-20AA)

Prepared: Analyzed: 08/28/2020

Propane	104		%R			104	85-115			
Ethane	104		"			104	85-115			
Methane	107		"			107	85-115			

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Notes and Definitions

Ua Sample is Non-Detect.

U COMPOUND ANALYZED FOR BUT NOT DETECTED ABOVE THE DETECTION LIMIT

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

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

ND Not Detected

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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