



August 13, 2020

Mr. Chris Canfield
Department of Natural Resources
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203-2136

RE: 2020 Quarter 2 Report
Grant Hurt 14H
SEC.14 T2N R68W 6PM
LAT./LONG.: 40.13928/-104.96659
Weld County, Colorado

Dear Mr. Canfield:

This report summarizes activities conducted in the second quarter of 2020 to address petroleum hydrocarbon impacts at the Grant Hurt 14H Tank Battery (site). The site is located at latitude: 40.13928 and longitude - 104.96659 in Weld County, Colorado (Figure 1). A site map is included (Figure 2), and groundwater analytical results (Table 2).

BACKGROUND

In March 2018, a 1" hammer union was found leaking on a produced oil line under the insulation resulting in a release of 75 barrels. The hammer union was tightened, and equipment was removed. A hydrovac was used to remove all visual contamination. Further information can be found in document # 402092828.

On March 30, 2018, two 10-foot long, 4-inch diameter horizontal screens were installed into the excavated area that was approximately 15 feet long by 10 feet wide. The horizontal screens were installed and covered with pea gravel. Approximately 2,000 pounds of granular carbon was placed on top of the pea gravel. The excavated area was backfilled to ground surface.

On January 2, 2019, five soil borings (SB-1 through SB-5) were advanced and soil samples were collected at the site. Soil samples were analyzed for TPH and BTEX. All soil samples (SB-1 through SB-5) were below the COGCC limits.

Four temporary monitoring wells were installed in boreholes SB-1, SB-2, SB-3 and SB-4. A water sample was retrieved through the borehole from soil boring 5 (SB-5W) and analyzed for BTEX. The groundwater result collected from SB-5W was below COGCC Table 910-1 allowable limits.

On January 8, 2019, groundwater samples were retrieved from temporary wells 1 through 4 (SB-1W through SB-4W) and analyzed for BTEX. All samples were below Table 910-1 BTEX concentration levels. On March 1, 2019, the temporary wells were removed and abandoned. Please reference document # 402269237 for additional information.



MONITORING RESULTS

On June 17, 2020, five continuous soil sample borings were advanced at the site. Soil samples were collected at one to two-foot intervals and field screened using a photoionization detector (PID). Soil samples containing the highest PID reading and from the bottom of each boring were collected for laboratory analysis. Each soil sample was analyzed for BTEX (EPA Method 8260), TVPH/GRO (EPA Method 8015), and TEPH/DRO (EPA Method 8015).

During the assessment, groundwater was encountered. At each soil boring location, a 1-inch temporary monitoring well was installed. On June 23, 2020, groundwater samples were collected and analyzed for BTEX (8260).

The boring locations, soil data and groundwater data for each sample point are illustrated on the attached figures. Soil analytical results are summarized in Table 1. Depth to groundwater and elevations from top of casing (TOC) are shown in Table 2. Based on the data collected on June 23, 2020, the inferred groundwater flow direction is to the west. Groundwater analytical results are provided in Table 3.

All laboratory analytical results from the soil samples collected the five borings were within the COGCC Table 910-1 limits.

Laboratory results from the groundwater sample collected from TMW-2 indicated a benzene concentration that exceeded COGCC Table 910-1 regulatory limit. All other monitoring wells were within COGCC Table 910-1 limits for BTEX. The laboratory reports and boring logs are attached.

The dissolved benzene concentration for TMW-2 exceeded the COGCC Table 910-1 limit at 287 µg/L. Due to the location of TMW-2, additional assessment will be conducted to the west (down-gradient) and northwest of TMW-2 to further delineate the contaminated plume. Groundwater monitoring will continue until concentrations remain below COGCC Table 910-1 limits for four consecutive quarters.

Please contact me if you have any questions or require additional information.

Sincerely,

David Tewkesbury
Environmental Specialist
Crestone Peak Resources
10188 E. Interstate 25 Frontage Road
Firestone, CO 80504
t 303.774.3985
c 720.236.5525
e david.tewkesbury@crestonepr.com





Attachments:

Table 1 – Soil Analytical Results

Table 2 – Groundwater Elevation Data

Table 3 – Groundwater Analytical Results

Figure 1 – Location Map

Figure 2 – Site Map

Figure 3 – Soil Sampling Map (6/17/2020)

Figure 4 – Groundwater Monitoring Map (6/23/2020)

Soil Laboratory Analytical Report

Groundwater Laboratory Analytical Report

Boring Logs

**TABLE 1 - SOIL ANALYTICAL RESULTS
CRESTONE PEAK RESOURCES**

Grant-Hurt 14H

Sample ID	Date	Rational	Depth Range (ft)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	TPH-GRO (mg/Kg)	TPH-DRO (mg/Kg)	Total TPH (mg/Kg)
COGCC Table 910-1 Limit					0.17	85	100	175	500	500	500
BH1 (1')	6/17/20	Boring	1	363.5	<0.001	<0.005	<0.0025	<0.0065	0.277	390	390.277
BH1 (15')	6/17/20	Boring	15	0	<0.001	<0.005	<0.0025	<0.0065	<0.100	<4.00	<4.00
BH2 (5')	6/17/20	Boring	5	15.7	<0.001	<0.005	<0.0025	<0.0065	<0.100	<4.00	<4.00
BH2 (15')	6/17/20	Boring	15	0	<0.001	<0.005	<0.0025	<0.0065	<0.100	<4.00	<4.00
BH3 (2')	6/17/20	Boring	2	500.3	0.00147	<0.005	0.0130	0.137	74	6.83	80.83
BH3 (15')	6/17/20	Boring	15	0.7	<0.001	<0.005	<0.0025	<0.0065	<0.100	<4.00	<4.00
BH4 (3')	6/17/20	Boring	3	289.9	<0.001	<0.005	<0.0025	0.0285	6.76	30.4	37.16
BH4 (15')	6/17/20	Boring	15	0.3	<0.001	<0.005	<0.0025	<0.0065	<0.100	<4.00	<4.00
BH5 (1')	6/17/20	Boring	1	965.5	0.00168	<0.005	0.00498	0.0891	40.5	169	209.5
BH5 (15')	6/17/20	Boring	15	1.2	<0.001	<0.005	<0.0025	<0.0065	<0.100	<4.00	<4.00

NOTES:

mg/Kg - milligrams per kilogram

BOLD - indicates result exceeds the applicable standard

< - indicates result is less than the stated laboratory reporting limit

NM - Not Measured/Sampled

COGCC Table 910-1 - Colorado Oil and Gas Conservation Commission Table 910-1

Benzene, toluene, ethylbenzene, total xylenes and TPH-GRO analyzed by EPA Method 8260B.

TPH-DRO was analyzed by EPA Method 8015.

**TABLE 2 - GROUNDWATER ELEVATION
CRESTONE PEAK RESOURCES**

Grant-Hurt 14H

Well ID	Date	Top of Casing	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Temperature (°C)	Conductivity (µS/cm)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	pH (SU)
TMW-1	6/23/20	100.00	10.76	89.24	19.91	1,586	-102.30	10.74	7.37
TMW-2	6/23/20	100.01	11.05	88.96	19.95	1,126	-68.50	5.83	7.46
TMW-3	6/23/20	100.25	10.92	89.33	21.43	1,573	-102.60	2.12	7.41
TMW-4	6/23/20	98.82	9.85	88.97	19.19	753	-68.60	11.34	7.16
TMW-5	6/23/20	100.08	11.05	89.03	16.71	786	-134.80	11.09	7.48

NOTES:

DES - Destroyed
NM - Not Measured

**TABLE 3 - GROUNDWATER ANALYTICAL RESULTS
CRESTONE PEAK RESOURCES**

Grant-Hurt 14H

Sample ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Table 910-1 Limit		5	560	700	1,400
TMW-1	6/23/20	<2.0	<2.0	<2.0	<6.0
TMW-2	6/23/20	287	<20.0	<20.0	<60.0
TMW-3	6/23/20	2.59	<1.0	<1.0	<3.0
TMW-4	6/23/20	3.31	<1.0	<1.0	<3.0
TMW-5	6/23/20	<2.0	<2.0	<2.0	<6.0

NOTES:

µg/L - micrograms per liter

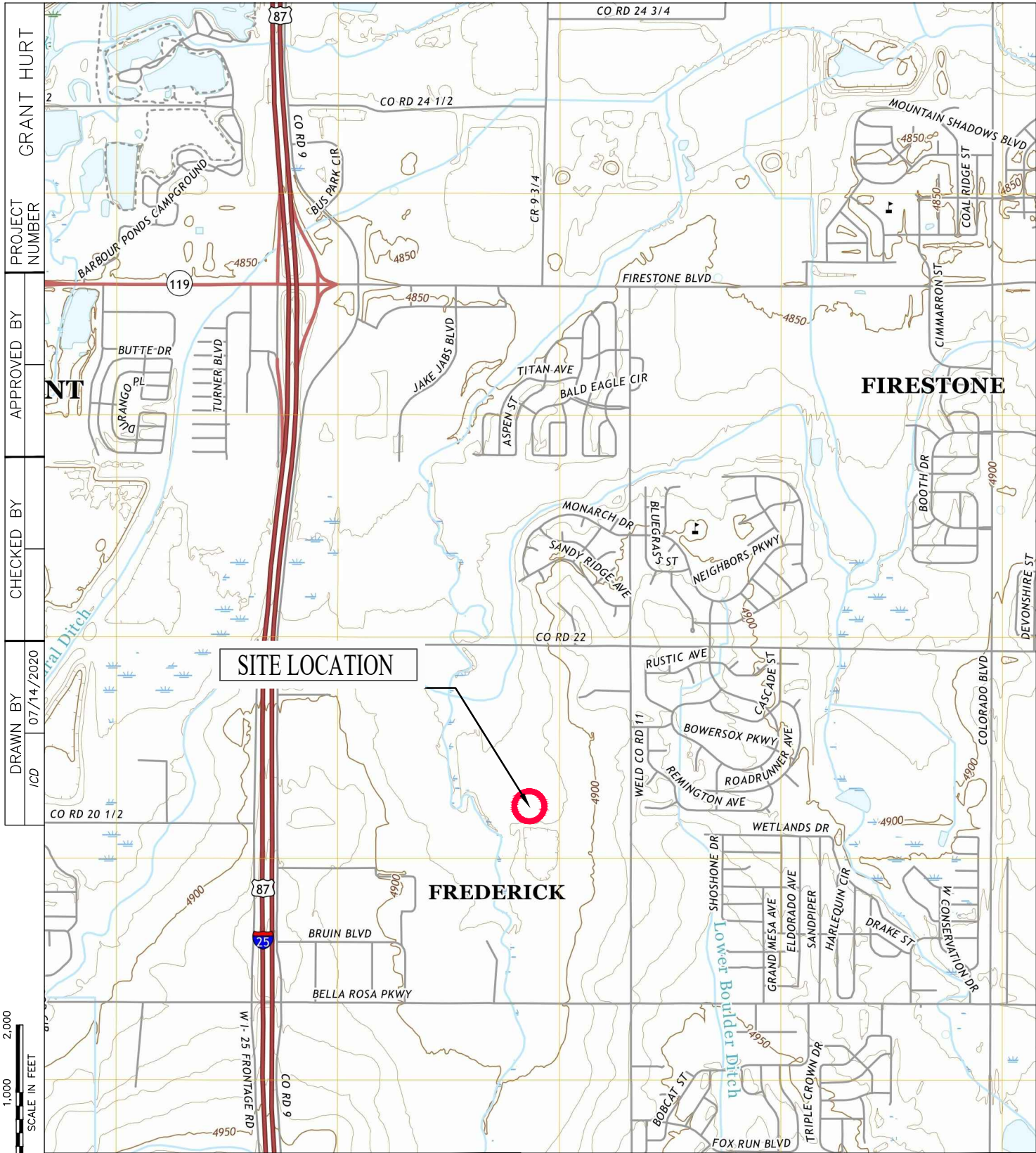
BOLD - indicates result exceeds the applicable standard

< - indicates result is less than the stated laboratory reporting limit

NS - Not Sampled

COGCC Table 910-1 - Colorado Oil and Gas Conservation Commission Table 910-1

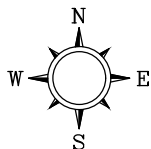
Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B



0 1,000 2,000
SCALE IN FEET

PROJECT NUMBER
GRANT HURT
APPROVED BY
CHECKED BY
DRAWN BY
ICD 07/14/2020

LATITUDE 40D 08M 23S NORTH
LONGITUDE 104D 57M 58S WEST
U.S. GEOLOGICAL SURVEY – 2019
7.5 MINUTE QUADRANGLE MAP
GOWANDA, COLORADO



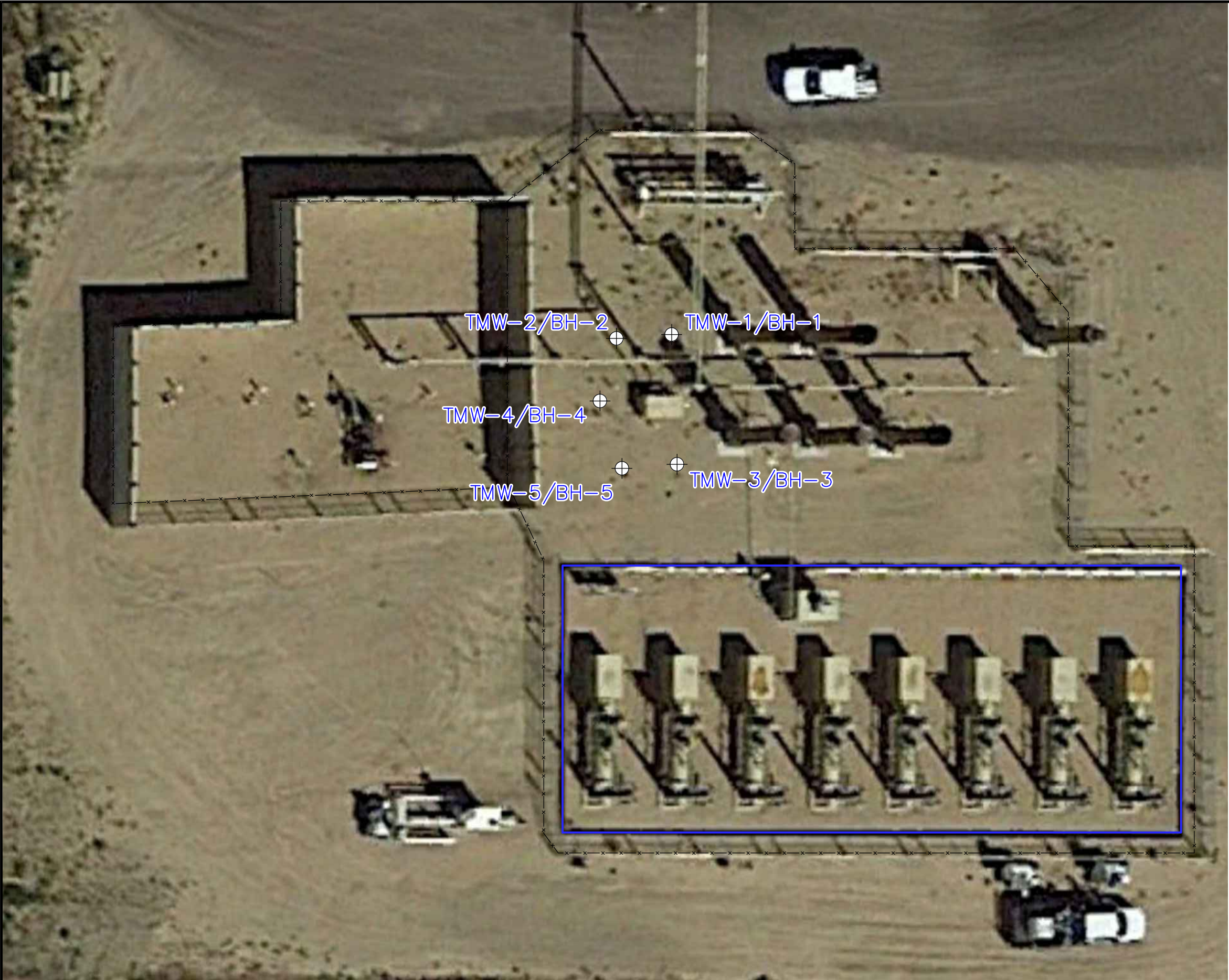
GRANT-HURT 14H

FIGURE 1

SITE LOCATION MAP

40.13928, -104.96659
FIRESTONE, COLORADO

FILENAME	DRAWN BY	CHECKED BY	APPROVED BY	PROJECT NUMBER
GRANT_HURT_2002.DWG	ICD 7/14/2020			GRANT HURT



LEGEND

TMW-1/BH-1

MONITORING WELL/BORING LOCATION

BERM

FENCE

- NOTES
1. LOCATIONS ARE APPROXIMATE

2. COORDINATE SYSTEM: WGS 1984
PROJECTION: TRANSVERSE MERCATOR



CRESTONE PEAK
RESOURCES

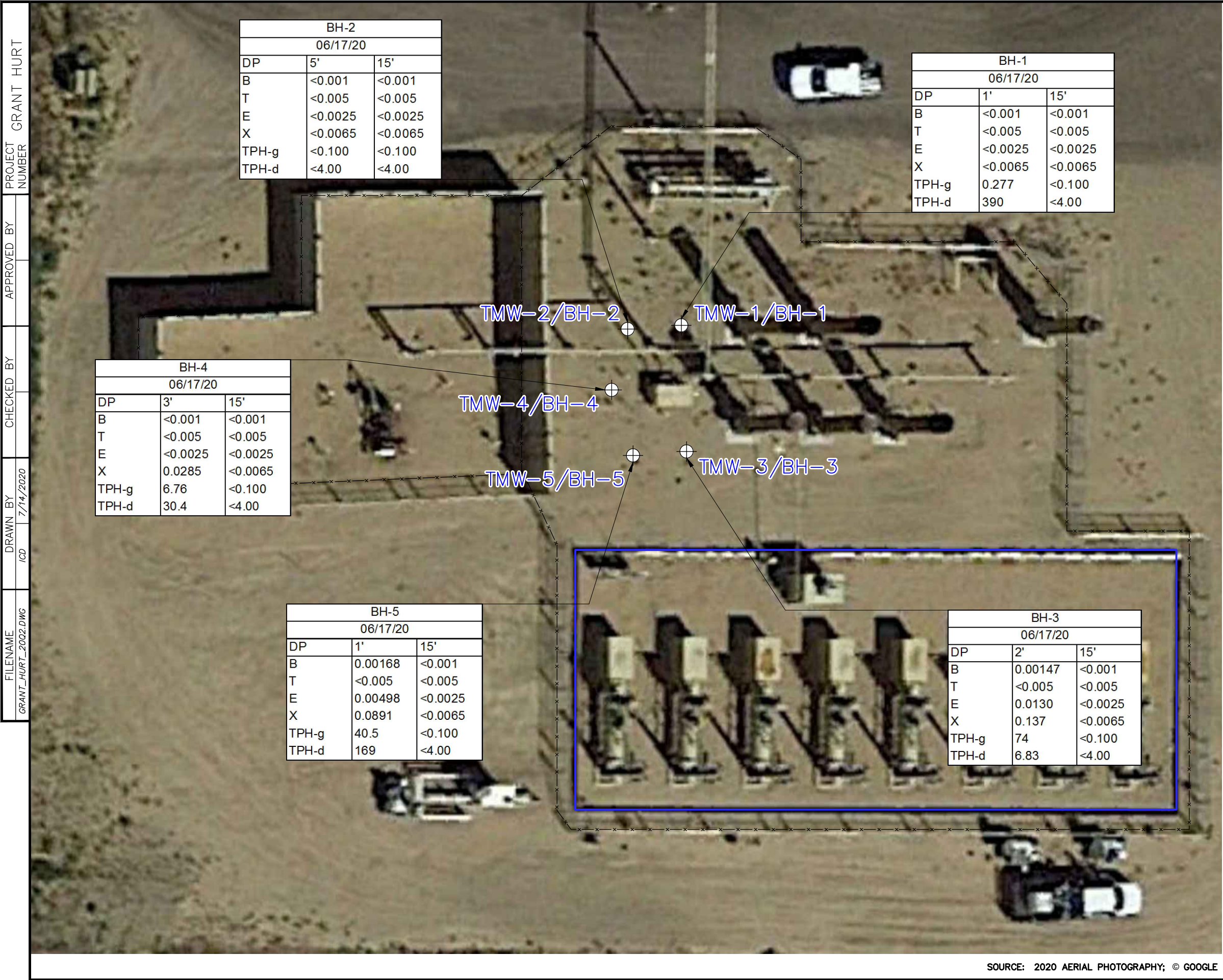
FIGURE 2

SITE MAP

GRANT-HURT 14H

40.13928, -104.96659

FIRESTONE, COLORADO



N
W
E
S

LEGEND

TMW-1/
BH-1

MONITORING WELL/BORING LOCATION

BERM

FENCE

B

T

E

X

TPH-g

TPH-d

mg/kg

<

DP

MONITORING WELL/BORING LOCATION

BERM

FENCE

BENZENE (mg/kg)

TOLUENE (mg/kg)

ETHYLBENZENE (mg/kg)

TOTAL XYLENES (mg/kg)

TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (mg/kg)

TOTAL PETROLEUM HYDROCARBONS AS DIESEL (mg/kg)

MILLIGRAMS PER KILOGRAM

NOT DETECTED ABOVE LIMIT NOTED

DEPTH (FEET)

NOTES

1. LOCATIONS ARE APPROXIMATE

2. COORDINATE SYSTEM: WGS 1984
PROJECTION: TRANSVERSE MERCATOR

01020

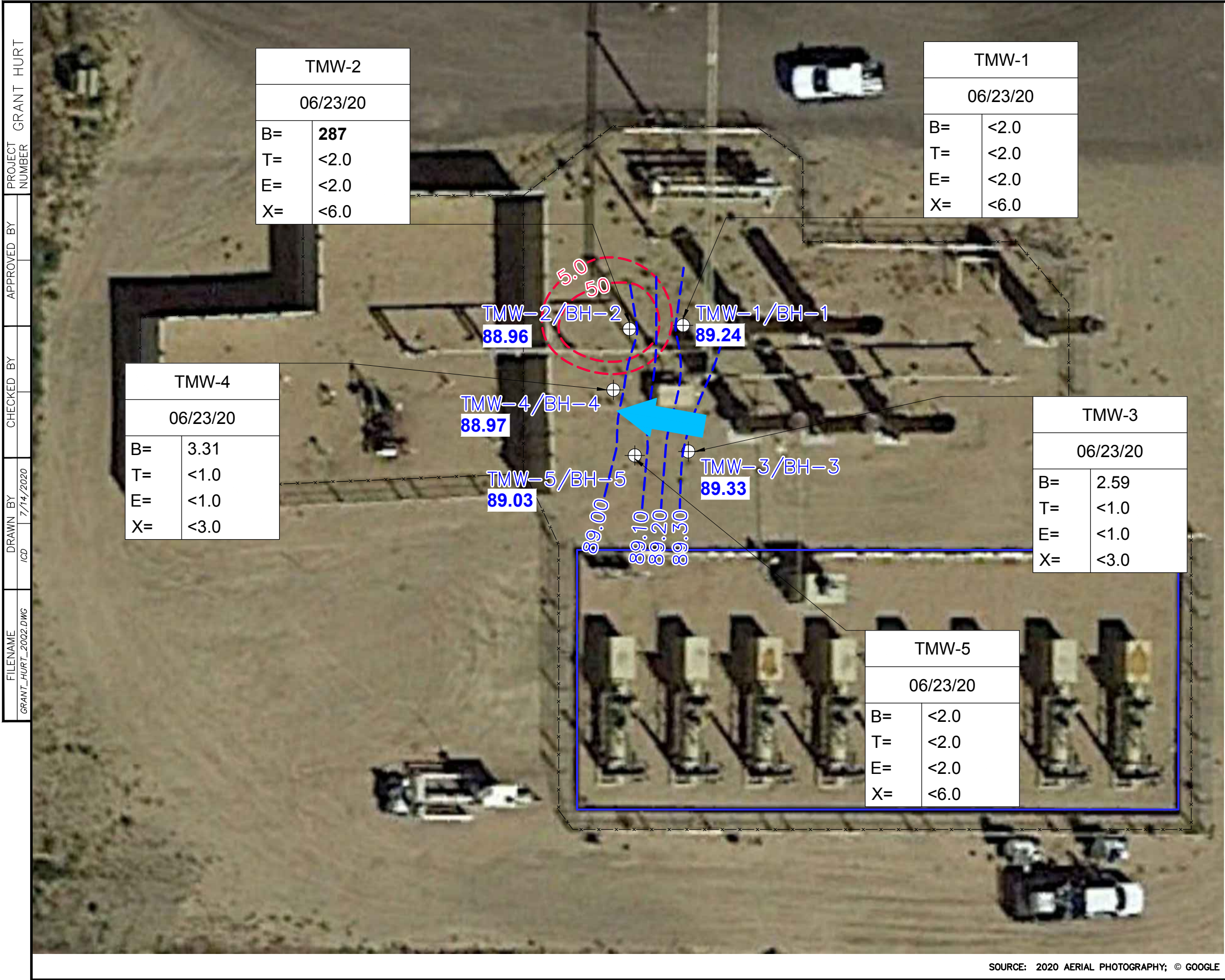
SCALE IN FEET

CRESTONE PEAK
RESOURCES

FIGURE 3

SOIL SAMPLE LOCATION MAP

GRANT-HURT 14H
40.13928, -104.96659
FIRESTONE, COLORADO



LEGEND

- TMW-1/BH-1 MONITORING WELL/BORING LOCATION
- BERM
- FENCE
- 89.24 GROUNDWATER ELEVATION (FEET)
- 89.00 GROUNDWATER ELEVATION CONTOUR LINE (FEET)
- CONTOUR INTERVAL=0.10 FEET
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- B BENZENE (µg/L)
- T TOLUENE (µg/L)
- E ETHYLBENZENE (µg/L)
- X TOTAL XYLENES (µg/L)
- µg/L MICROGRAMS PER LITER
- < NOT DETECTED ABOVE LIMIT NOTED
- 5.0 BENZENE ISOCONCENTRATION CONTOUR LINE (µg/L)
- BOLD VALUES INDICATE EXCEEDANCE OF APPLICABLE STANDARDS**

NOTES

- LOCATIONS ARE APPROXIMATE
- COORDINATE SYSTEM: WGS 1984
PROJECTION: TRANSVERSE MERCATOR

SCALE IN FEET

CRESTONE PEAK
RESOURCES

FIGURE 4

GROUNDWATER MONITORING MAP

06/23/2020

GRANT-HURT 14H
40.13928, -104.96659
FIRESTONE, COLORADO

July 01, 2020

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Crestone Peak Resources

Sample Delivery Group: L1231667
Samples Received: 06/20/2020
Project Number:
Description: Grant Hurt
Site: GRANT HURT
Report To: Lonnie Dent
10188 E. I-25 Frontage Road
Fireston, CO, CO 80504

Entire Report Reviewed By:

Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Cp: Cover Page	1
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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



BH1 L1231667-01 Solid

				Collected by Jesse Wilson	Collected date/time 06/17/20 10:15	Received date/time 06/20/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501230	1	06/22/20 11:42	06/30/20 05:07	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 21:09	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499370	2	06/26/20 09:02	06/30/20 11:26	JN	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

BH1 15' L1231667-02 Solid

				Collected by Jesse Wilson	Collected date/time 06/17/20 10:15	Received date/time 06/20/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501230	1	06/22/20 11:42	06/30/20 05:28	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 21:27	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 15:32	FM	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

BH2 L1231667-03 Solid

				Collected by Jesse Wilson	Collected date/time 06/17/20 10:50	Received date/time 06/20/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501230	1	06/22/20 11:42	06/30/20 06:41	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 21:46	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 15:44	FM	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

BH2 15' L1231667-04 Solid

				Collected by Jesse Wilson	Collected date/time 06/17/20 10:50	Received date/time 06/20/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501230	1	06/22/20 11:42	06/30/20 07:02	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 22:05	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 16:24	FM	Mt. Juliet, TN

BH3 L1231667-05 Solid

				Collected by Jesse Wilson	Collected date/time 06/17/20 12:25	Received date/time 06/20/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501230	25	06/22/20 11:42	06/30/20 11:30	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 22:24	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 15:57	FM	Mt. Juliet, TN

BH3 15' L1231667-06 Solid

				Collected by Jesse Wilson	Collected date/time 06/17/20 12:25	Received date/time 06/20/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501633	1	06/30/20 11:56	06/30/20 15:19	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 22:43	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 16:09	FM	Mt. Juliet, TN

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



BH4 L1231667-07 Solid

Collected by
Jesse Wilson

Collected date/time
06/17/20 11:55

Received date/time
06/20/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501525	1	06/22/20 11:42	06/30/20 14:56	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 23:02	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 16:22	FM	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

BH4 15' L1231667-08 Solid

Collected by
Jesse Wilson

Collected date/time
06/17/20 11:55

Received date/time
06/20/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501525	1	06/22/20 11:42	06/30/20 15:16	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 23:21	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 16:35	FM	Mt. Juliet, TN

BH5 L1231667-09 Solid

Collected by
Jesse Wilson

Collected date/time
06/17/20 12:15

Received date/time
06/20/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501525	25	06/22/20 11:42	06/30/20 15:37	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1498130	1	06/22/20 11:42	06/24/20 19:12	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 18:04	FM	Mt. Juliet, TN

BH5 15' L1231667-10 Solid

Collected by
Jesse Wilson

Collected date/time
06/17/20 12:15

Received date/time
06/20/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1501525	1	06/22/20 11:42	06/30/20 15:58	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1497767	1	06/22/20 11:42	06/23/20 23:39	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1499810	1	06/26/20 15:55	06/27/20 16:47	FM	Mt. Juliet, TN

ACCOUNT:

Crestone Peak Resources

PROJECT:

SDG:

L1231667

DATE/TIME:

07/01/20 08:47

PAGE:

4 of 25



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.277		0.100	1	06/30/2020 05:07	WG1501230
(S) a,a,a-Trifluorotoluene(FID)	88.6		77.0-120		06/30/2020 05:07	WG1501230

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 21:09	WG1497767
Toluene	ND		0.00500	1	06/23/2020 21:09	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 21:09	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 21:09	WG1497767
(S) Toluene-d8	108		75.0-131		06/23/2020 21:09	WG1497767
(S) 4-Bromofluorobenzene	93.1		67.0-138		06/23/2020 21:09	WG1497767
(S) 1,2-Dichloroethane-d4	93.0		70.0-130		06/23/2020 21:09	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	390		8.00	2	06/30/2020 11:26	WG1499370
(S) o-Terphenyl	113		18.0-148		06/30/2020 11:26	WG1499370

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/30/2020 05:28	WG1501230
(S) a,a,a-Trifluorotoluene(FID)	90.8		77.0-120		06/30/2020 05:28	WG1501230

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 21:27	WG1497767
Toluene	ND		0.00500	1	06/23/2020 21:27	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 21:27	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 21:27	WG1497767
(S) Toluene-d8	107		75.0-131		06/23/2020 21:27	WG1497767
(S) 4-Bromofluorobenzene	89.7		67.0-138		06/23/2020 21:27	WG1497767
(S) 1,2-Dichloroethane-d4	94.6		70.0-130		06/23/2020 21:27	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/27/2020 15:32	WG1499810
(S) o-Terphenyl	59.4		18.0-148		06/27/2020 15:32	WG1499810

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/30/2020 06:41	WG1501230
(S) a,a,a-Trifluorotoluene(FID)	88.4		77.0-120		06/30/2020 06:41	WG1501230

1
Cp2
Tc3
Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 21:46	WG1497767
Toluene	ND		0.00500	1	06/23/2020 21:46	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 21:46	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 21:46	WG1497767
(S) Toluene-d8	105		75.0-131		06/23/2020 21:46	WG1497767
(S) 4-Bromofluorobenzene	93.2		67.0-138		06/23/2020 21:46	WG1497767
(S) 1,2-Dichloroethane-d4	97.9		70.0-130		06/23/2020 21:46	WG1497767

4
Cn5
Sr6
Qc7
Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/27/2020 15:44	WG1499810
(S) o-Terphenyl	67.2		18.0-148		06/27/2020 15:44	WG1499810

8
Al9
Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/30/2020 07:02	WG1501230
(S) a,a,a-Trifluorotoluene(FID)	90.6		77.0-120		06/30/2020 07:02	WG1501230

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 22:05	WG1497767
Toluene	ND		0.00500	1	06/23/2020 22:05	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 22:05	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 22:05	WG1497767
(S) Toluene-d8	108		75.0-131		06/23/2020 22:05	WG1497767
(S) 4-Bromofluorobenzene	90.3		67.0-138		06/23/2020 22:05	WG1497767
(S) 1,2-Dichloroethane-d4	96.3		70.0-130		06/23/2020 22:05	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND	J6	4.00	1	06/27/2020 16:24	WG1499810
(S) o-Terphenyl	60.0		18.0-148		06/27/2020 16:24	WG1499810

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	74.0		2.50	25	06/30/2020 11:30	WG1501230
(S) a,a,a-Trifluorotoluene(FID)	92.2		77.0-120		06/30/2020 11:30	WG1501230

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00147		0.00100	1	06/23/2020 22:24	WG1497767
Toluene	ND		0.00500	1	06/23/2020 22:24	WG1497767
Ethylbenzene	0.0130		0.00250	1	06/23/2020 22:24	WG1497767
Total Xylenes	0.137		0.00650	1	06/23/2020 22:24	WG1497767
(S) Toluene-d8	108		75.0-131		06/23/2020 22:24	WG1497767
(S) 4-Bromofluorobenzene	93.5		67.0-138		06/23/2020 22:24	WG1497767
(S) 1,2-Dichloroethane-d4	96.3		70.0-130		06/23/2020 22:24	WG1497767

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.83		4.00	1	06/27/2020 15:57	WG1499810
(S) o-Terphenyl	46.4		18.0-148		06/27/2020 15:57	WG1499810

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/30/2020 15:19	WG1501633
(S) a,a,a-Trifluorotoluene(FID)	97.2		77.0-120		06/30/2020 15:19	WG1501633

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 22:43	WG1497767
Toluene	ND		0.00500	1	06/23/2020 22:43	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 22:43	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 22:43	WG1497767
(S) Toluene-d8	108		75.0-131		06/23/2020 22:43	WG1497767
(S) 4-Bromofluorobenzene	91.0		67.0-138		06/23/2020 22:43	WG1497767
(S) 1,2-Dichloroethane-d4	93.4		70.0-130		06/23/2020 22:43	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/27/2020 16:09	WG1499810
(S) o-Terphenyl	61.8		18.0-148		06/27/2020 16:09	WG1499810

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	6.76		0.100	1	06/30/2020 14:56	WG1501525
(S) a,a,a-Trifluorotoluene(FID)	84.5		77.0-120		06/30/2020 14:56	WG1501525

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 23:02	WG1497767
Toluene	ND		0.00500	1	06/23/2020 23:02	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 23:02	WG1497767
Total Xylenes	0.0285		0.00650	1	06/23/2020 23:02	WG1497767
(S) Toluene-d8	109		75.0-131		06/23/2020 23:02	WG1497767
(S) 4-Bromofluorobenzene	94.2		67.0-138		06/23/2020 23:02	WG1497767
(S) 1,2-Dichloroethane-d4	89.5		70.0-130		06/23/2020 23:02	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	30.4		4.00	1	06/27/2020 16:22	WG1499810
(S) o-Terphenyl	41.7		18.0-148		06/27/2020 16:22	WG1499810

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/30/2020 15:16	WG1501525
(S) a,a,a-Trifluorotoluene(FID)	105		77.0-120		06/30/2020 15:16	WG1501525

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 23:21	WG1497767
Toluene	ND		0.00500	1	06/23/2020 23:21	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 23:21	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 23:21	WG1497767
(S) Toluene-d8	108		75.0-131		06/23/2020 23:21	WG1497767
(S) 4-Bromofluorobenzene	89.0		67.0-138		06/23/2020 23:21	WG1497767
(S) 1,2-Dichloroethane-d4	89.0		70.0-130		06/23/2020 23:21	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/27/2020 16:35	WG1499810
(S) o-Terphenyl	75.9		18.0-148		06/27/2020 16:35	WG1499810

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	40.5		2.50	25	06/30/2020 15:37	WG1501525
(S) a,a,a-Trifluorotoluene(FID)	103		77.0-120		06/30/2020 15:37	WG1501525

1
Cp2
Tc3
Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00168		0.00100	1	06/24/2020 19:12	WG1498130
Toluene	ND		0.00500	1	06/24/2020 19:12	WG1498130
Ethylbenzene	0.00498		0.00250	1	06/24/2020 19:12	WG1498130
Total Xylenes	0.0891		0.00650	1	06/24/2020 19:12	WG1498130
(S) Toluene-d8	105		75.0-131		06/24/2020 19:12	WG1498130
(S) 4-Bromofluorobenzene	122		67.0-138		06/24/2020 19:12	WG1498130
(S) 1,2-Dichloroethane-d4	77.5		70.0-130		06/24/2020 19:12	WG1498130

4
Cn5
Sr6
Qc7
Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	169		4.00	1	06/27/2020 18:04	WG1499810
(S) o-Terphenyl	59.9		18.0-148		06/27/2020 18:04	WG1499810

8
Al9
Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/30/2020 15:58	WG1501525
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-120		06/30/2020 15:58	WG1501525

1 Cp

2 Tc

3 Ss

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/23/2020 23:39	WG1497767
Toluene	ND		0.00500	1	06/23/2020 23:39	WG1497767
Ethylbenzene	ND		0.00250	1	06/23/2020 23:39	WG1497767
Total Xylenes	ND		0.00650	1	06/23/2020 23:39	WG1497767
(S) Toluene-d8	106		75.0-131		06/23/2020 23:39	WG1497767
(S) 4-Bromofluorobenzene	89.1		67.0-138		06/23/2020 23:39	WG1497767
(S) 1,2-Dichloroethane-d4	91.3		70.0-130		06/23/2020 23:39	WG1497767

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/27/2020 16:47	WG1499810
(S) o-Terphenyl	68.7		18.0-148		06/27/2020 16:47	WG1499810

8 Al

9 Sc



Method Blank (MB)

(MB) R3544613-2 06/30/20 01:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.5			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3544613-1 06/30/20 00:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.69	103	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			110	77.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3544855-3 06/30/20 12:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3544855-1 06/30/20 11:48 • (LCSD) R3544855-2 06/30/20 12:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.59	5.66	120	103	72.0-127			15.2	20
(S) a,a,a-Trifluorotoluene(FID)				103	99.7	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3544785-2 06/30/20 13:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0415	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	97.9			77.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3544785-1 06/30/20 12:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.05	73.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			106	77.0-120	



Method Blank (MB)

(MB) R3542210-3 06/23/20 16:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	109			75.0-131
(S) 4-Bromofluorobenzene	90.6			67.0-138
(S) 1,2-Dichloroethane-d4	90.4			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3542210-1 06/23/20 14:46 • (LCSD) R3542210-2 06/23/20 15:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.105	0.107	84.0	85.6	70.0-123			1.89	20
Ethylbenzene	0.125	0.110	0.109	88.0	87.2	74.0-126			0.913	20
Toluene	0.125	0.119	0.122	95.2	97.6	75.0-121			2.49	20
Xylenes, Total	0.375	0.358	0.356	95.5	94.9	72.0-127			0.560	20
(S) Toluene-d8				104	103	75.0-131				
(S) 4-Bromofluorobenzene				94.8	93.7	67.0-138				
(S) 1,2-Dichloroethane-d4				92.9	94.9	70.0-130				

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3543104-3 06/24/20 09:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	105			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	80.9			70.0-130

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3543104-1 06/24/20 08:36 • (LCSD) R3543104-2 06/24/20 08:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.108	0.110	86.4	88.0	70.0-123			1.83	20
Ethylbenzene	0.125	0.135	0.139	108	111	74.0-126			2.92	20
Toluene	0.125	0.110	0.113	88.0	90.4	75.0-121			2.69	20
Xylenes, Total	0.375	0.412	0.424	110	113	72.0-127			2.87	20
(S) Toluene-d8				103	102	75.0-131				
(S) 4-Bromofluorobenzene				108	106	67.0-138				
(S) 1,2-Dichloroethane-d4				86.4	85.0	70.0-130				

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3543787-1 06/27/20 15:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	1.87	J	0.769	4.00
(S) o-Terphenyl	81.8			18.0-148

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3543787-2 06/27/20 16:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	35.6	71.2	50.0-150	
(S) o-Terphenyl			74.3	18.0-148	

L1231663-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1231663-01 06/27/20 21:42 • (MS) R3543787-3 06/27/20 21:55 • (MSD) R3543787-4 06/27/20 22:08

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	48.3	26.3	58.8	80.1	67.3	111	1	50.0-150		J3	30.7	20
(S) o-Terphenyl					75.5	81.3		18.0-148				



Method Blank (MB)

(MB) R3543788-1 06/27/20 14:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	75.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3543788-2 06/27/20 15:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	35.6	71.2	50.0-150	
(S) o-Terphenyl			68.5	18.0-148	

L1231667-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1231667-04 06/27/20 16:24 • (MS) R3543788-3 06/27/20 16:37 • (MSD) R3543788-4 06/27/20 16:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	48.5	ND	22.0	26.5	45.4	55.4	1	50.0-150	J6		18.6	20
(S) o-Terphenyl					43.2	51.4		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Crestone Peak Resources

10188 E. I-25 Frontage Road
Firestone, CO 80504

Billing Information:

Pres
Chk

Analysis / Container / Preservative

Chain of Custody

Page 1 of 1

Report to:
Lonnie DentEmail To:
ldent@remingtontech.netProject
Description: Grant HurtCity/State
Collected: ColoradoPhone: 970-278-1646
Fax: 970-278-1645

Client Project #

Lab Project #

Collected by (print):
Jesse WilsonSite/Facility ID #
Grant Hurt

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Immediately
Packed on Ice N Y☐ Same Day ☐ Five Day
☐ Next Day ☐ 5 Day (Rad Only)
☐ Two Day ☐ 10 Day (Rad Only)
☐ Three Day

Date Results Needed

Standard

No.
of
Cntrs

BTEX

GRO

DRO

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859L# L1231667
H213

Acctnum: CREPEAFCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks

Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX	GRO	DRO										
BH1	grab	soil	1	6/17/20	1015	2													-01
BH1 15'			15		1015	1													02
BH2			5		1050	1													03
BH2 15'			15		1050	1													04
BH3			2		1225	1													05
BH3 15'			15		1225	1													06
BH4			3		1155	1													07
BH4 15'			15		1155	1													08
BH5			1		1215	1													09
BH5 15'			15		1215	1													10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:
☐ UPS ☐ FedEx ☐ Courier

Tracking #

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N

COC Signed/Accurate: ☒ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N

Correct bottles used: ☒ Y ☐ N

Sufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero Headspace: ☐ Y ☐ N

Preservation Correct/Checked: ☐ Y ☐ N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes/No
HCL / MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 19.19 °C
Bottles Received: 10

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 6-20-20
Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition:
NCF / OK

Crestone Peak Resources

Sample Delivery Group: L1234365
Samples Received: 06/27/2020
Project Number:
Description: Grant Hurt 14H

Report To: Lonnie Dent
10188 E. I-25 Frontage Road
Fireston, CO, CO 80504

Entire Report Reviewed By:

Chris Ward

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
TMW-1 L1234365-01	5	
TMW-2 L1234365-02	6	⁴ Cn
TMW-3 L1234365-03	7	⁵ Sr
TMW-4 L1234365-04	8	
TMW-5 L1234365-05	9	⁶ Qc
Qc: Quality Control Summary	10	
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Gl: Glossary of Terms	11	⁸ Al
Al: Accreditations & Locations	12	
Sc: Sample Chain of Custody	13	⁹ Sc

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



TMW-1 L1234365-01 GW

				Collected by Carlos Rivera	Collected date/time 06/23/20 11:01	Received date/time 06/27/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1502051	2	07/01/20 00:27	07/01/20 00:27	JHH	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

TMW-2 L1234365-02 GW

				Collected by Carlos Rivera	Collected date/time 06/23/20 10:50	Received date/time 06/27/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1502051	20	07/01/20 00:47	07/01/20 00:47	JHH	Mt. Juliet, TN

⁴ Cn

⁵ Sr

TMW-3 L1234365-03 GW

				Collected by Carlos Rivera	Collected date/time 06/23/20 10:41	Received date/time 06/27/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1502051	1	07/01/20 01:08	07/01/20 01:08	JHH	Mt. Juliet, TN

⁶ Qc

⁷ Gl

TMW-4 L1234365-04 GW

				Collected by Carlos Rivera	Collected date/time 06/23/20 10:35	Received date/time 06/27/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1502051	1	07/01/20 01:28	07/01/20 01:28	JHH	Mt. Juliet, TN

⁸ Al

⁹ Sc

TMW-5 L1234365-05 GW

				Collected by Carlos Rivera	Collected date/time 06/23/20 10:28	Received date/time 06/27/20 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1502051	2	07/01/20 01:48	07/01/20 01:48	JHH	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	2	07/01/2020 00:27	WG1502051
Toluene	ND		0.00200	2	07/01/2020 00:27	WG1502051
Ethylbenzene	ND		0.00200	2	07/01/2020 00:27	WG1502051
o-Xylene	ND		0.00200	2	07/01/2020 00:27	WG1502051
m&p-Xylene	ND		0.00400	2	07/01/2020 00:27	WG1502051
Total Xylenes	ND		0.00600	2	07/01/2020 00:27	WG1502051
(S) Toluene-d8	113		80.0-120		07/01/2020 00:27	WG1502051
(S) 4-Bromofluorobenzene	114		77.0-126		07/01/2020 00:27	WG1502051
(S) 1,2-Dichloroethane-d4	108		70.0-130		07/01/2020 00:27	WG1502051

Sample Narrative:

L1234365-01 WG1502051: Lowest possible dilution due to sediment in sample vial.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.287		0.0200	20	07/01/2020 00:47	WG1502051
Toluene	ND		0.0200	20	07/01/2020 00:47	WG1502051
Ethylbenzene	ND		0.0200	20	07/01/2020 00:47	WG1502051
o-Xylene	ND		0.0200	20	07/01/2020 00:47	WG1502051
m&p-Xylene	ND		0.0400	20	07/01/2020 00:47	WG1502051
Total Xylenes	ND		0.0600	20	07/01/2020 00:47	WG1502051
(S) Toluene-d8	114		80.0-120		07/01/2020 00:47	WG1502051
(S) 4-Bromofluorobenzene	108		77.0-126		07/01/2020 00:47	WG1502051
(S) 1,2-Dichloroethane-d4	106		70.0-130		07/01/2020 00:47	WG1502051

Sample Narrative:

L1234365-02 WG1502051: Non-target compounds too high to run at a lower dilution.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00259		0.00100	1	07/01/2020 01:08	WG1502051
Toluene	ND		0.00100	1	07/01/2020 01:08	WG1502051
Ethylbenzene	ND		0.00100	1	07/01/2020 01:08	WG1502051
o-Xylene	ND		0.00100	1	07/01/2020 01:08	WG1502051
m&p-Xylene	ND		0.00200	1	07/01/2020 01:08	WG1502051
Total Xylenes	ND		0.00300	1	07/01/2020 01:08	WG1502051
(S) Toluene-d8	111		80.0-120		07/01/2020 01:08	WG1502051
(S) 4-Bromofluorobenzene	108		77.0-126		07/01/2020 01:08	WG1502051
(S) 1,2-Dichloroethane-d4	107		70.0-130		07/01/2020 01:08	WG1502051

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00331		0.00100	1	07/01/2020 01:28	WG1502051
Toluene	ND		0.00100	1	07/01/2020 01:28	WG1502051
Ethylbenzene	ND		0.00100	1	07/01/2020 01:28	WG1502051
o-Xylene	ND		0.00100	1	07/01/2020 01:28	WG1502051
m&p-Xylene	ND		0.00200	1	07/01/2020 01:28	WG1502051
Total Xylenes	ND		0.00300	1	07/01/2020 01:28	WG1502051
(S) Toluene-d8	114		80.0-120		07/01/2020 01:28	WG1502051
(S) 4-Bromofluorobenzene	109		77.0-126		07/01/2020 01:28	WG1502051
(S) 1,2-Dichloroethane-d4	106		70.0-130		07/01/2020 01:28	WG1502051

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	2	07/01/2020 01:48	WG1502051
Toluene	ND		0.00200	2	07/01/2020 01:48	WG1502051
Ethylbenzene	ND		0.00200	2	07/01/2020 01:48	WG1502051
o-Xylene	ND		0.00200	2	07/01/2020 01:48	WG1502051
m&p-Xylene	ND		0.00400	2	07/01/2020 01:48	WG1502051
Total Xylenes	ND		0.00600	2	07/01/2020 01:48	WG1502051
(S) Toluene-d8	112		80.0-120		07/01/2020 01:48	WG1502051
(S) 4-Bromofluorobenzene	108		77.0-126		07/01/2020 01:48	WG1502051
(S) 1,2-Dichloroethane-d4	106		70.0-130		07/01/2020 01:48	WG1502051

Sample Narrative:

L1234365-05 WG1502051: Lowest possible dilution due to sediment in sample vial.

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Method Blank (MB)

(MB) R3546913-2 06/30/20 19:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
o-Xylene	U		0.000174	0.00100
m&p-Xylenes	U		0.000430	0.00200
(S) Toluene-d8	114			80.0-120
(S) 4-Bromofluorobenzene	109			77.0-126
(S) 1,2-Dichloroethane-d4	108			70.0-130

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3546913-1 06/30/20 19:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00397	79.4	70.0-123	
Ethylbenzene	0.00500	0.00462	92.4	79.0-123	
Toluene	0.00500	0.00446	89.2	79.0-120	
Xylenes, Total	0.0150	0.0152	101	79.0-123	
o-Xylene	0.00500	0.00525	105	80.0-122	
m&p-Xylenes	0.0100	0.00991	99.1	80.0-122	
(S) Toluene-d8			114	80.0-120	
(S) 4-Bromofluorobenzene			112	77.0-126	
(S) 1,2-Dichloroethane-d4			107	70.0-130	



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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

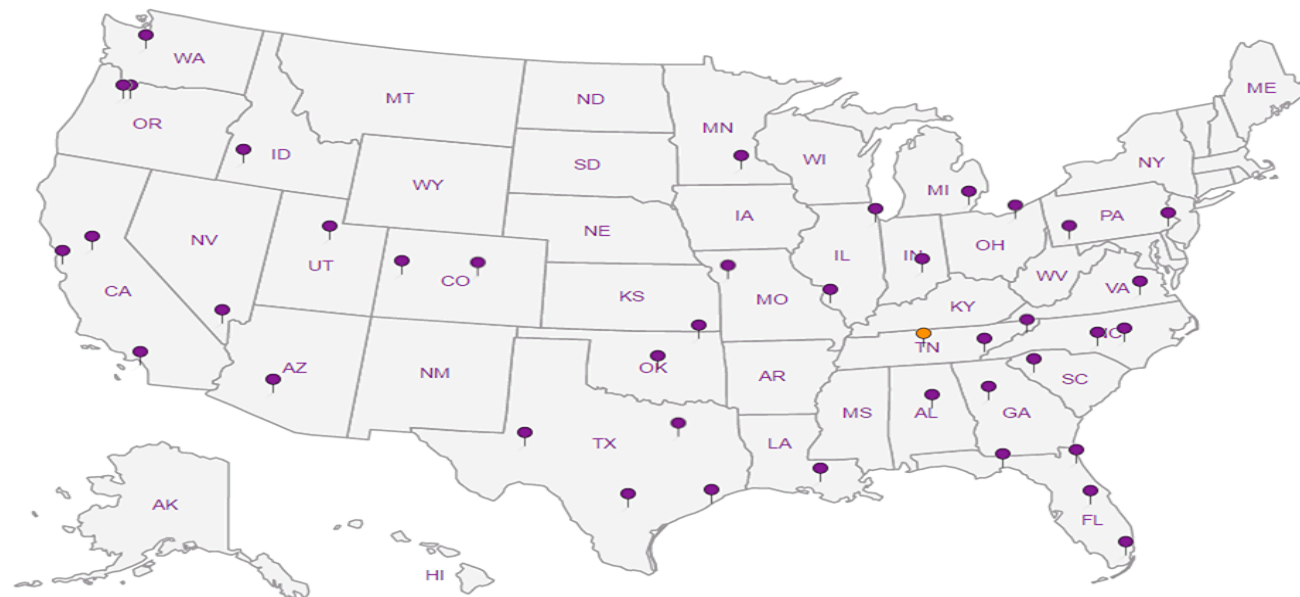
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

Alabama	40660	Nebraska	NE-05-15
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



[illegible]



Client: **Crestone Peak Resources**
Project: **Grant Hurt**
Address: **40.13928, -104.96659, Firestone, CO**

WELL LOG
Well No. **TMW-1**
Page: **1 of 1**

Drilling Start Date: 6/17/20	Boring Depth (ft): 15.5	Well Depth (ft): 15.0
Drilling End Date: 6/17/20	Boring Diameter (in): 2.25	Well Diameter (in): 1.0
Drilling Company: Remington Technologies	Sampling Method(s): DP, PO - Pothole	Screen Slot (in): 0.020
Drilling Method: Direct Push	DTW During Drilling (ft): N/A	Riser Material: Sch 40 PVC
Drilling Equipment: Geoprobe 7822DT	DTW After Drilling (ft): N/A	Screen Material: Sch 40 PVC Slotted
Driller: Carlos Rivera	Top of Casing Elev. (ft): 100	Seal Material(s): Bent. Chips
Logged By: Jesse Wilson	Location (Lat, Long): 40.1401656, -104.9663381	Filter Type: 10/20 Washed Silica Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0				PO			0.00	(0') Clayey SAND with gravel (SC); some fine gravel, moist, dark brown, odor	363.5	BH1	0
								(1') Poorly graded SAND with gravel (SP); some fine gravel, light brown	2.2		
								(2') Lean CLAY (CL); medium plasticity, moist, light brown	0.1		
								(3') SILT (ML); moist, dark gray	0.1		
								(4') SILT (ML); moist, light brown	0.0		
5				DP			0.00	(6') Well-graded SAND (SW); some fine grained sand	0.0		5
								(8') As Above: Watertable	4.0		
10								(12') Clayey SAND (SC); medium stiff	3.8		
15								(15.5') Boring terminated	0.0	BH1 (15')	15
20											20

NOTES:



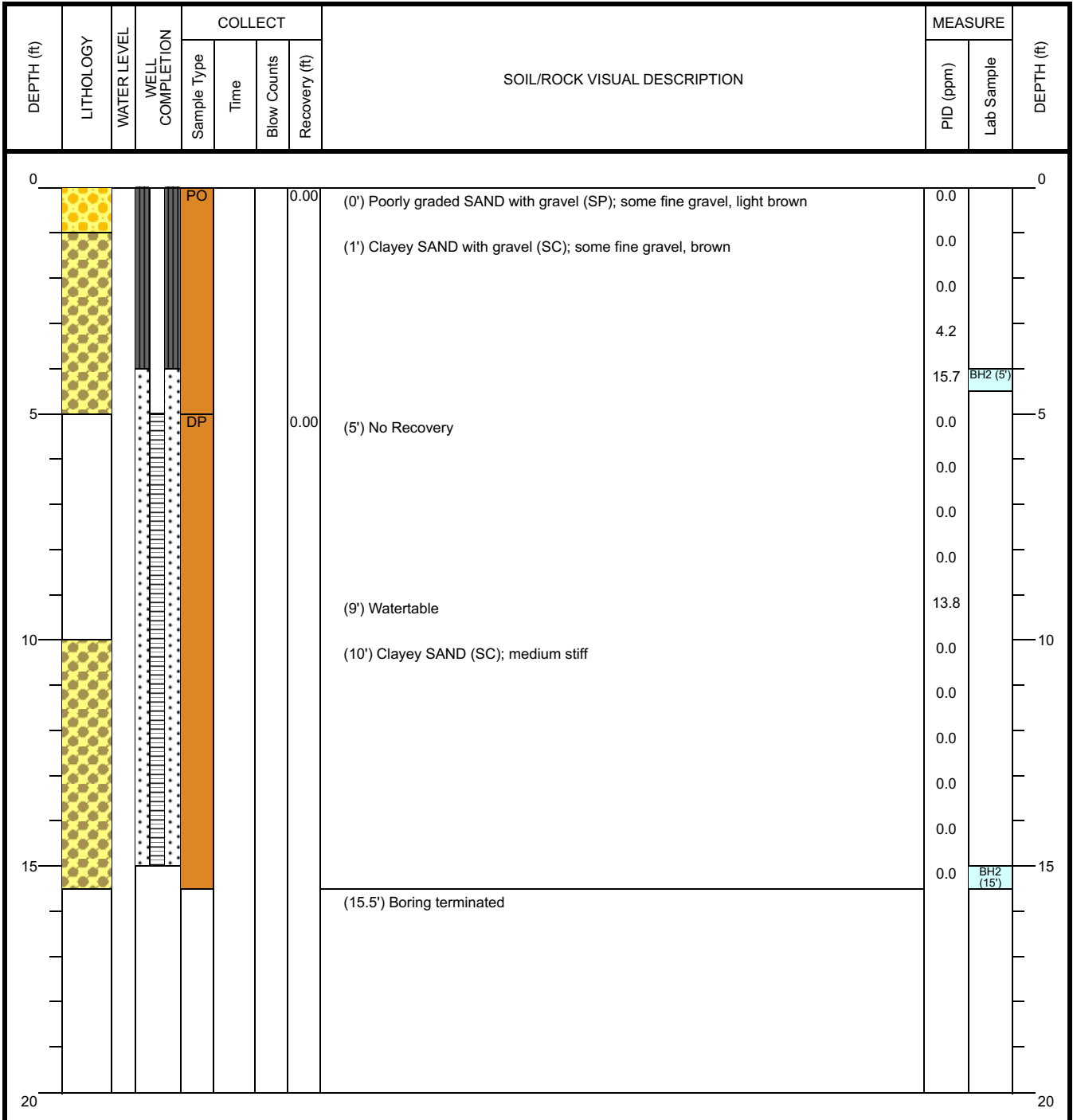
Client: **Crestone Peak Resources**
Project: **Grant Hurt**
Address: **40.13928, -104.96659, Firestone, CO**

WELL LOG
Well No. **TMW-2**
Page: **1 of 1**

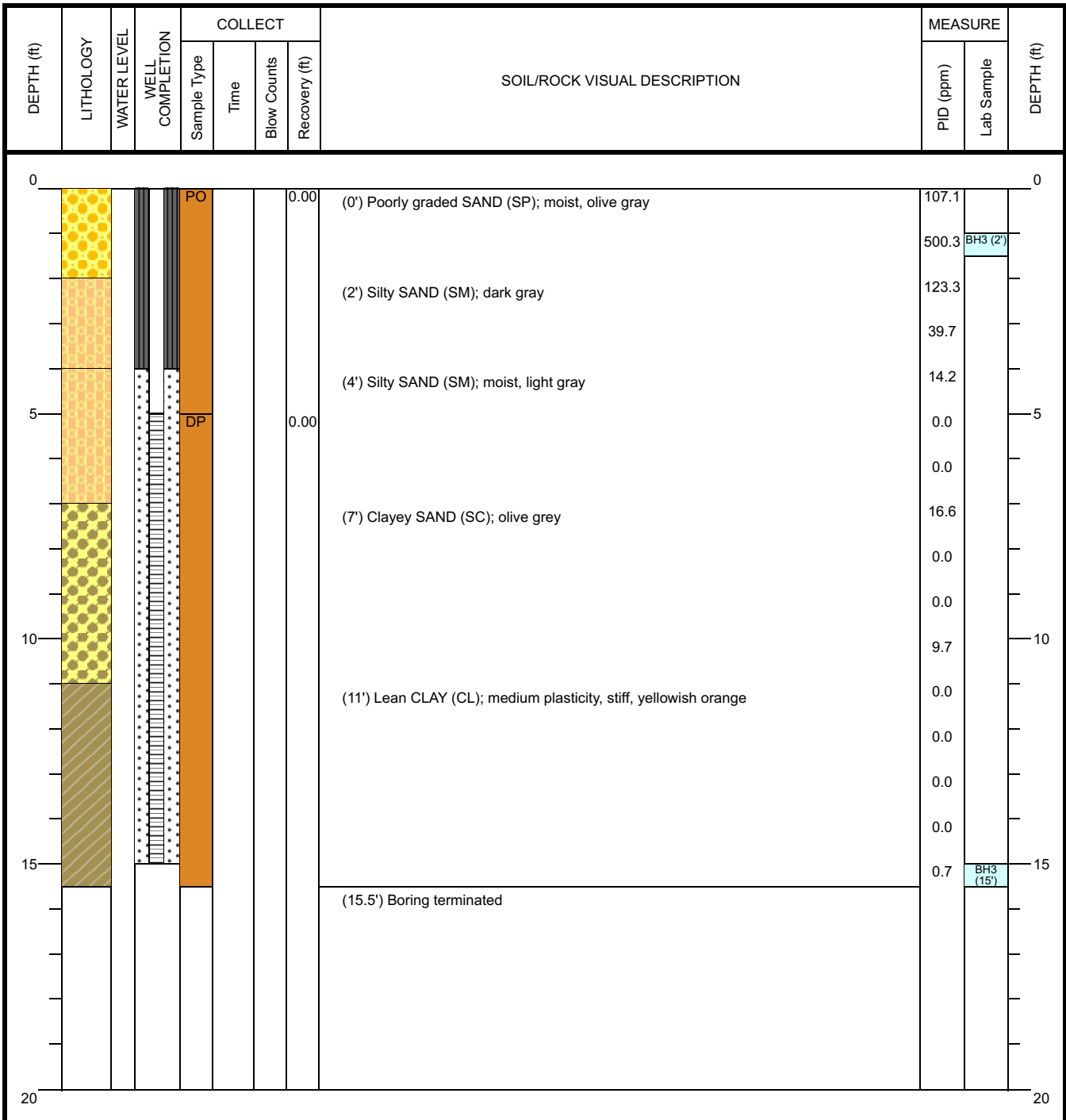
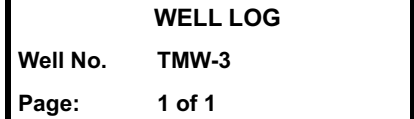
Drilling Start Date: **6/17/20**
Drilling End Date: **6/17/20**
Drilling Company: **Remington Technologies**
Drilling Method: **Direct Push**
Drilling Equipment: **Geoprobe 7822DT**
Driller: **Carlos Rivera**
Logged By: **Jesse Wilson**

Boring Depth (ft): **15.5**
Boring Diameter (in): **2.25**
Sampling Method(s): **DP, PO - Pothole**
DTW During Drilling (ft): **N/A**
DTW After Drilling (ft): **N/A**
Top of Casing Elev. (ft): **100.01**
Location (Lat, Long): **40.1401637, -104.9663772**

Well Depth (ft): **15.0**
Well Diameter (in): **1.0**
Screen Slot (in): **0.020**
Riser Material: **Sch 40 PVC**
Screen Material: **Sch 40 PVC Slotted**
Seal Material(s): **Bent. Chips**
Filter Type: **10/20 Washed Silica Sand**



NOTES:



generated using LogitEasy.com



Client: **Crestone Peak Resources**
Project: **Grant Hurt**
Address: **40.13928, -104.96659, Firestone, CO**

WELL LOG
Well No. **TMW-4**
Page: **1 of 1**

Drilling Start Date: 6/17/20	Boring Depth (ft): 15.5	Well Depth (ft): 15.0
Drilling End Date: 6/17/20	Boring Diameter (in): 2.25	Well Diameter (in): 1.0
Drilling Company: Remington Technologies	Sampling Method(s): DP, PO - Pothole	Screen Slot (in): 0.020
Drilling Method: Direct Push	DTW During Drilling (ft): N/A	Riser Material: Sch 40 PVC
Drilling Equipment: Geoprobe 7822DT	DTW After Drilling (ft): N/A	Screen Material: Sch 40 PVC Slotted
Driller: Carlos Rivera	Top of Casing Elev. (ft): 98.82	Seal Material(s): Bent. Chips
Logged By: Jesse Wilson	Location (Lat, Long): 40.1401296, -104.9663892	Filter Type: 10/20 Washed Silica Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0				PO			0.00	(0') Poorly graded GRAVEL (GP); yellowish orange	0.2		0
								(2') Poorly graded SAND (SP); dark brown, odor	289.9	BH4 (3')	
5				DP			0.00	(5') No Recovery	16.5		5
								(6') Clayey SAND (SC); dark gray	0.0		
10								(11') Lean CLAY (CL); medium plasticity, stiff, moist, yellowish orange	4.1		10
15								(15.5') Boring terminated	0.3	BH4 (15')	15
20											20

NOTES:



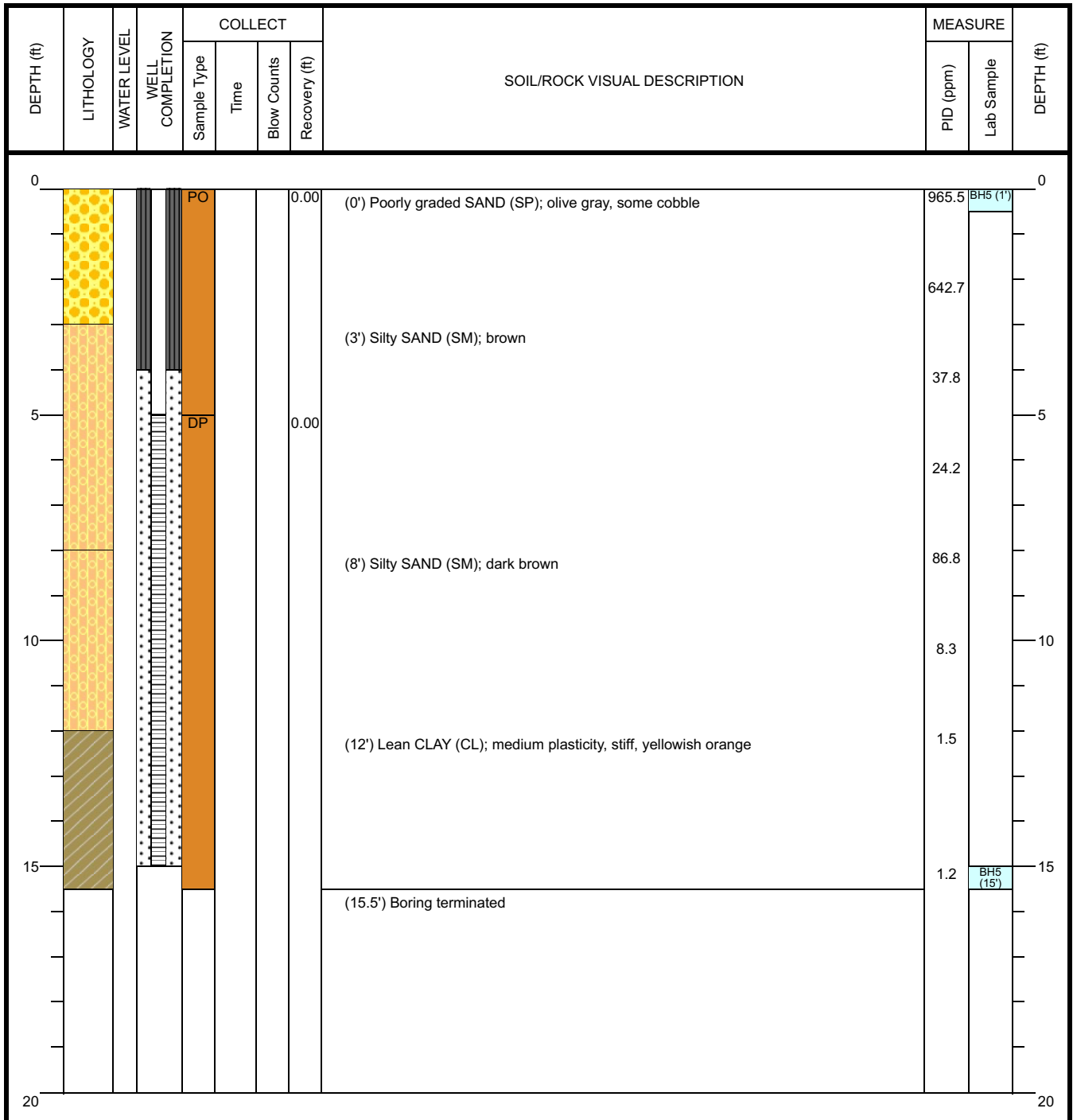
Client: Crestone Peak Resources
Project: Grant Hurt
Address: 40.13928, -104.96659, Firestone, CO

WELL LOG
Well No. TMW-5
Page: 1 of 1

Drilling Start Date: 6/17/20
Drilling End Date: 6/17/20
Drilling Company: Remington Technologies
Drilling Method: Direct Push
Drilling Equipment: Geoprobe 7822DT
Driller: Carlos Rivera
Logged By: Jesse Wilson

Boring Depth (ft): 15.5
Boring Diameter (in): 2.25
Sampling Method(s): DP, PO - Pothole
DTW During Drilling (ft): N/A
DTW After Drilling (ft): N/A
Top of Casing Elev. (ft): 100.08
Location (Lat, Long): 40.1400928, -104.9663739

Well Depth (ft): 15.0
Well Diameter (in): 1.0
Screen Slot (in): 0.020
Riser Material: Sch 40 PVC
Screen Material: Sch 40 PVC Slotted
Seal Material(s): Bent. Chips
Filter Type: 10/20 Washed Silica Sand



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