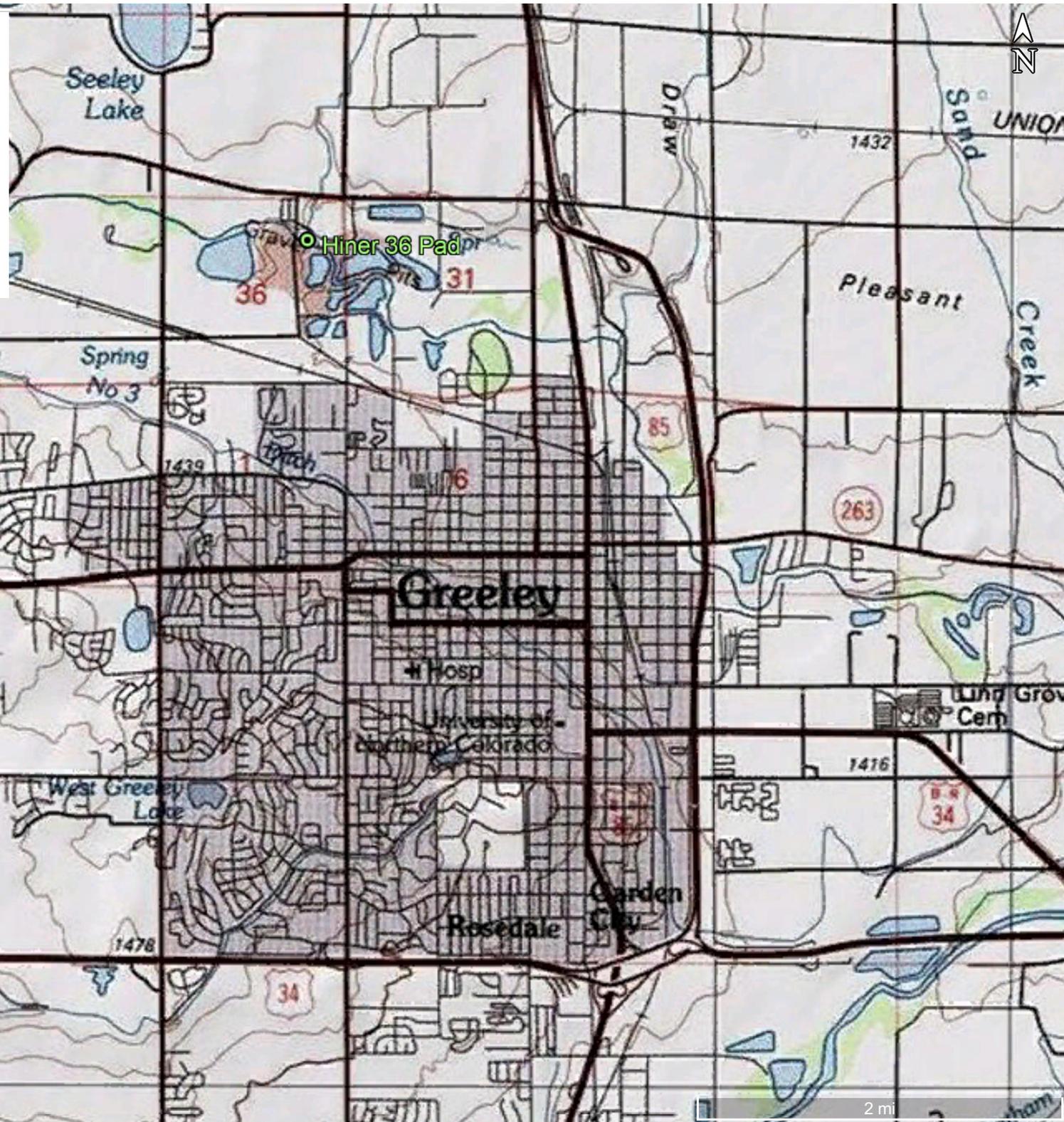
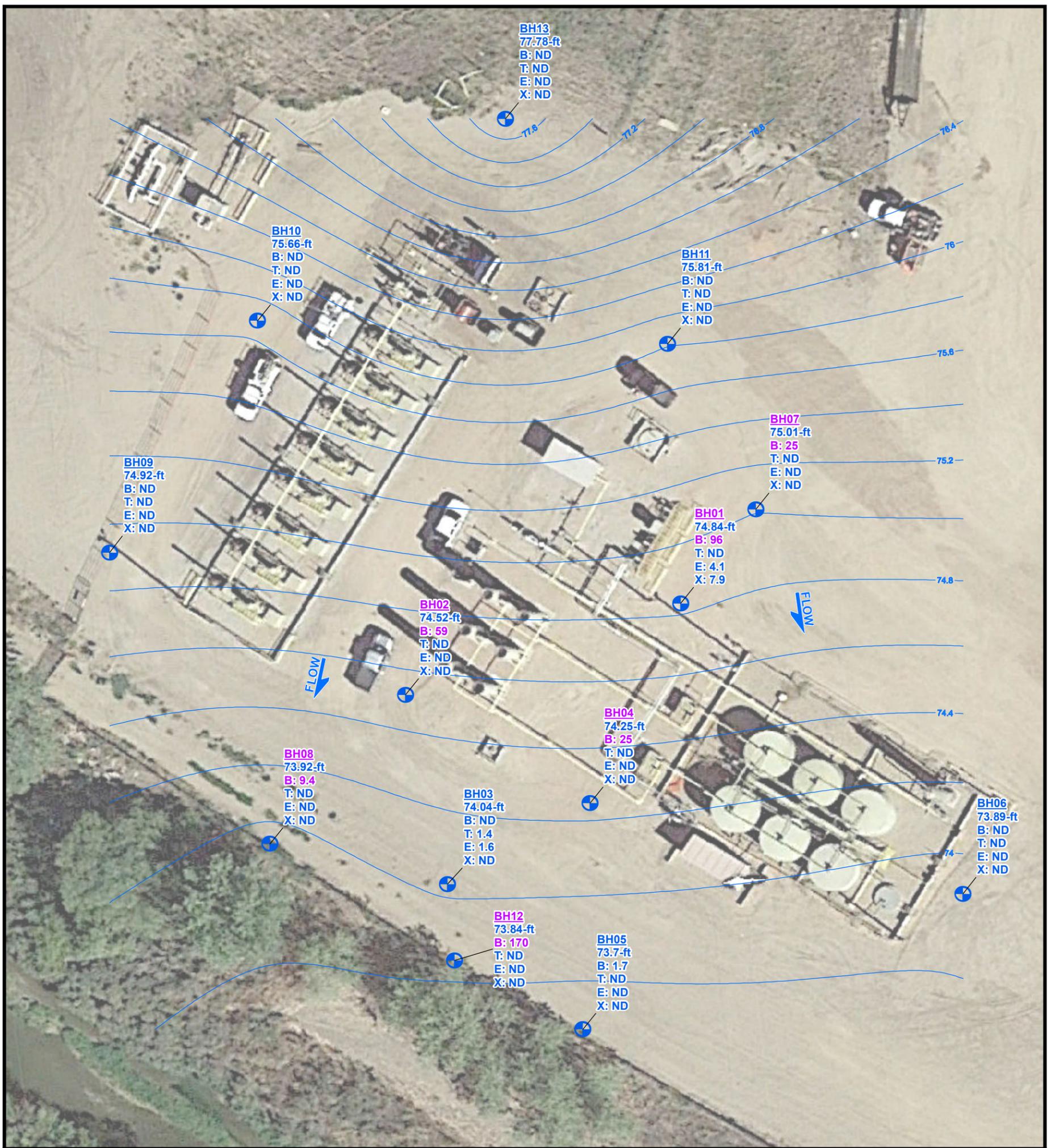


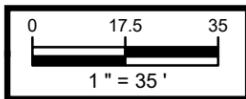


Topographic Location  
Map  
"Hiner Tank Battery"





**Extraction Oil & Gas**  
**Hiner 36 Tank Battery**  
**COGCC Location ID: 446538**  
**Temporary Monitoring Well Layout &**  
**GW Elevations for the**  
**5/12/2020 Sampling Event**



- BH01  
80.60-ft Temp. Monitoring Well Location & Relative GW Elevation
- Estimated Groundwater Contour
- Estimated Groundwater Flow Direction

\* Sample ID in Purple font indicates a regulatory exceedance.

\* Concentration Units in ug/L  
 \* ND - Non-Detect

Legal Description: NENE, Sec 36, T6N R66W  
 County: Weld  
 Land Use: Non-Cropland  
 Topography: Not Available  
 Run-Off Risk: Low  
 Soil Type: Aquolls and Aquents  
 Receiving Waters: Cache la Poudre River



Sample ID	Latitude NAD83	Longitude NAD83	Sample ID	Latitude NAD83	Longitude NAD83
BH01	40.449073	-104.719683	BH08	40.449073	-104.719683
BH02	40.448991	-104.720012	BH09	40.448991	-104.720012
BH03	40.448818	-104.719963	BH10	40.448818	-104.719963
BH04	40.448891	-104.719792	BH11	40.448891	-104.719792
BH05	40.448684	-104.719802	BH12	40.448684	-104.719802
BH06	40.448807	-104.719347	BH13	40.448807	-104.719347
BH07	40.449160	-104.719593			

Spatial data collected for this project was acquired using a GPS with submeter accuracy. Illustration discrepancies may be present in this diagram due to the inherent limitations of data accuracy for both project data and the underlying aerial imagery. To accurately reflect field conditions, illustrated data may have been manually corrected in order to fit with the aerial imagery reference points and other collected data points.



## Laboratory Results Summary Table - Soil Hiner 36

Location	Sample Date	Sample ID	Organics (mg/kg [ppm])				
			COGCC Allowable Concentration (Soil) -->	500	0.17	85	100
			TPH (total volatile and extractable petroleum hydrocarbons) (TPH-GRO + TPH-DRO) (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes - total (mg/kg)
Hiner 36 Pad	6/10/2019	BH01@4'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	6/10/2019	BH01@13.5-14'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	6/10/2019	BH02@4'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	6/10/2019	BH02@8-8.5'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	6/10/2019	BH03@4'	1.5	<0.0020	<0.0050	<0.0050	0.023
Hiner 36 Pad	6/10/2019	BH03@13.5-14'	23	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	6/10/2019	BH04@6-8'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	7/10/2019	BH05@13.5-14.0'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	7/10/2019	BH06@2'	<50	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	7/10/2019	BH07@7.5-8.0'	<50	0.0055	<0.0050	<0.0050	<0.010
Hiner 36 Pad	5/1/2020	BH12@15	67	<0.0020	<0.0050	<0.0050	<0.010
Hiner 36 Pad	5/1/2020	BH12@16	<50	<0.0020	<0.0050	<0.0050	<0.010



## Laboratory Results Summary Table - Groundwater Hiner 36

			Organic Compounds (µg/L)			
COGCC Allowable Concentration (Water)			5	1,000	700	10,000
Location	Sample Date	Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes - total
Hiner 36 Pad	6/10/19	BH01 GW	160	11	39	150
Hiner 36 Pad	6/10/19	BH02 GW	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	6/10/19	BH03 GW	1.9	<1.00	1.8	<2.00
Hiner 36 Pad	6/10/19	BH04 GW	280	<1.00	9.3	<2.00
Hiner 36 Pad	7/10/19	BH05 GW	38	<1.00	<1.00	<2.00
Hiner 36 Pad	7/10/19	BH06 GW	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	7/10/19	BH07 GW	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH01	29	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH02	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH03	7.6	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH04	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH05	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH06	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	BH07	7.9	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	SW01	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	SW02	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	8/8/19	SW03	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	11/5/19	BH01	20	<1.00	<1.00	<2.00
Hiner 36 Pad	11/5/19	BH02	<1.00	<1.00	<1.00	<2.00



## Laboratory Results Summary Table - Groundwater Hiner 36

			Organic Compounds (µg/L)			
COGCC Allowable Concentration (Water)			5	1,000	700	10,000
Location	Sample Date	Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes - total
Hiner 36 Pad	11/5/19	BH03	3	<1.00	<1.00	<2.00
Hiner 36 Pad	11/5/19	BH04	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	11/5/19	BH05	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	11/5/19	BH06	<1.00	<1.00	<1.00	<2.00
Hiner 36 Pad	11/5/19	BH07	2.2	<1.00	<1.00	<2.00
Hiner 36 Pad	2/21/20	BH01	21	<1.0	<1.0	<2.0
Hiner 36 Pad	2/21/20	BH02	540	130	9.4	63
Hiner 36 Pad	2/21/20	BH03	700	100	<1.0	<2.0
Hiner 36 Pad	2/21/20	BH04	35	1.6	<1.0	<2.0
Hiner 36 Pad	2/21/20	BH05	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	2/21/20	BH06	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	2/21/20	BH07	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH01	96	<1.0	4.1	7.9
Hiner 36 Pad	5/12/20	BH02	59	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH03	<1.0	1.4	1.6	<2.0
Hiner 36 Pad	5/12/20	BH04	25	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH05	1.7	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH06	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH07	25	<1.0	<1.0	<2.0



## Laboratory Results Summary Table - Groundwater Hiner 36

			Organic Compounds (µg/L)			
COGCC Allowable Concentration (Water)			5	1,000	700	10,000
Location	Sample Date	Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes - total
Hiner 36 Pad	5/12/20	BH08	9.4	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH09	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH10	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH11	<1.0	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH12	170	<1.0	<1.0	<2.0
Hiner 36 Pad	5/12/20	BH13	<1.0	<1.0	<1.0	<2.0

**Attachment A**

**Laboratory Analytical Report**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 06, 2020

Maggie Graham  
Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver, CO 80202

RE: Hiner 36

Work Order #2005005

Enclosed are the results of analyses for samples received by Summit Scientific on 05/01/20 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial 'M' and a long, sweeping underline.

Muri Premer For Paul Shrewsbury  
President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36  
Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH12@15	2005005-01	Soil	05/01/20 12:45	05/01/20 16:10
BH12@16	2005005-02	Soil	05/01/20 12:48	05/01/20 16:10

Summit Scientific

*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.*



**Sample Receipt Checklist**

S2 Work Order 2005005

Client: Apex/ XOG Client Project ID: Hiner 36

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other \_\_\_\_\_ Airbill #: \_\_\_\_\_

Matrix (check all that apply): \_\_\_\_\_ Air  Soil/Solid \_\_\_\_\_ Water \_\_\_\_\_ Other: \_\_\_\_\_  
(Describe)

Temp (°C)	17.1
-----------	------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			in ice
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation <b>(excluding cooling)</b> <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

AT  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

8-1-2020  
Date/Time



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

**BH12@15**  
**2005005-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/01/20 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	2005024	05/04/20	05/04/20	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>14</b>	<b>0.50</b>		"	"	"	"	"	"	

Date Sampled: **05/01/20 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		103 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		172 %		21-167		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/01/20 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>53</b>	<b>50</b>		mg/kg	1	2005039	05/05/20	05/05/20	EPA 8015M	

Date Sampled: **05/01/20 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		80.5 %		30-150		"	"	"	"	

Summit Scientific

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.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

**BH12@16**  
**2005005-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/01/20 12:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2005024	05/04/20	05/04/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/01/20 12:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/01/20 12:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2005039	05/05/20	05/05/20	EPA 8015M	

Date Sampled: **05/01/20 12:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		84.2 %	30-150		"	"	"	"	

Summit Scientific

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Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch 2005024 - EPA 5030 Soil MS

##### Blank (2005024-BLK1)

Prepared & Analyzed: 05/04/20

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.2		23-173			
Surrogate: Toluene-d8	0.0452		"	0.0400		113		20-170			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.8		21-167			

##### LCS (2005024-BS1)

Prepared & Analyzed: 05/04/20

Benzene	0.0969	0.0020	mg/kg	0.100		96.9		70-130			
Toluene	0.0710	0.0050	"	0.100		71.0		70-130			
Ethylbenzene	0.0876	0.0050	"	0.100		87.6		70-130			
m,p-Xylene	0.165	0.010	"	0.200		82.6		70-130			
o-Xylene	0.0854	0.0050	"	0.100		85.4		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0301		"	0.0400		75.2		23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101		20-170			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.6		21-167			

##### Matrix Spike (2005024-MS1)

Source: 2004407-01

Prepared & Analyzed: 05/04/20

Benzene	0.0741	0.0020	mg/kg	0.100	ND	74.1		70-130			
Toluene	0.0771	0.0050	"	0.100	ND	77.1		70-130			
Ethylbenzene	0.0931	0.0050	"	0.100	ND	93.1		70-130			
m,p-Xylene	0.178	0.010	"	0.200	ND	89.0		70-130			
o-Xylene	0.0901	0.0050	"	0.100	ND	90.1		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0312		"	0.0400		77.9		23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0		20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.0		21-167			

Summit Scientific

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.



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch 2005024 - EPA 5030 Soil MS**

**Matrix Spike Dup (2005024-MSD1)**

Source: 2004407-01

Prepared & Analyzed: 05/04/20

Benzene	0.0733	0.0020	mg/kg	0.100	ND	73.3	70-130	1.10	30	
Toluene	0.0706	0.0050	"	0.100	ND	70.6	70-130	8.69	30	
Ethylbenzene	0.0883	0.0050	"	0.100	ND	88.3	70-130	5.29	30	
m,p-Xylene	0.168	0.010	"	0.200	ND	83.9	70-130	5.88	30	
o-Xylene	0.0874	0.0050	"	0.100	ND	87.4	70-130	3.04	30	
Surrogate: 1,2-Dichloroethane-d4	0.0298		"	0.0400		74.6	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.5	21-167			

Summit Scientific

*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.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36

Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 2005039 - EPA 3550A**

**Blank (2005039-BLK1)**

Prepared & Analyzed: 05/05/20

C10-C28 (DRO) ND 50 mg/kg

**LCS (2005039-BS1)**

Prepared & Analyzed: 05/05/20

C10-C28 (DRO) 388 50 mg/kg 500 77.6 70-130

**Matrix Spike (2005039-MS1)**

Source: 2005005-01

Prepared & Analyzed: 05/05/20

C10-C28 (DRO) 487 50 mg/kg 500 52.8 86.9 70-130

**Matrix Spike Dup (2005039-MSD1)**

Source: 2005005-01

Prepared & Analyzed: 05/05/20

C10-C28 (DRO) 468 50 mg/kg 500 52.8 83.1 70-130 3.99 20

Summit Scientific

*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.*





Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36  
Project Number: [none]  
Project Manager: Maggie Graham

**Reported:**  
05/06/20 14:25

### Notes and Definitions

S-02      The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

DET      Analyte DETECTED

ND      Analyte NOT DETECTED at or above the reporting limit

NR      Not Reported

dry      Sample results reported on a dry weight basis

RPD      Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 18, 2020

Maggie Graham  
Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver, CO 80202

RE: Hiner 36

Work Order #2005116

Enclosed are the results of analyses for samples received by Summit Scientific on 05/12/20 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large, stylized 'M' and 'P'.

Muri Premer For Paul Shrewsbury  
President



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36  
Project Number: 744.2001.01-446538  
Project Manager: Maggie Graham

**Reported:**  
05/18/20 12:53

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2005116-01	Water	05/12/20 15:08	05/12/20 16:00
BH02	2005116-02	Water	05/12/20 14:50	05/12/20 16:00
BH03	2005116-03	Water	05/12/20 14:39	05/12/20 16:00
BH04	2005116-04	Water	05/12/20 14:10	05/12/20 16:00
BH05	2005116-05	Water	05/12/20 13:57	05/12/20 16:00
BH06	2005116-06	Water	05/12/20 13:05	05/12/20 16:00
BH07	2005116-07	Water	05/12/20 13:32	05/12/20 16:00
BH08	2005116-08	Water	05/12/20 13:29	05/12/20 16:00
BH09	2005116-09	Water	05/12/20 13:05	05/12/20 16:00
BH10	2005116-10	Water	05/12/20 12:30	05/12/20 16:00
BH11	2005116-11	Water	05/12/20 14:19	05/12/20 16:00
BH12	2005116-12	Water	05/12/20 13:50	05/12/20 16:00
BH13	2005116-13	Water	05/12/20 14:42	05/12/20 16:00

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Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36  
Project Number: 744.2001.01-446538  
Project Manager: Maggie Graham

**Reported:**  
05/18/20 12:53

**BH01**  
**2005116-01 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>96</b>	1.0	ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>4.1</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>7.9</b>	2.0	"	"	"	"	"	"	

Date Sampled: **05/12/20 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		123 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

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370 17th Street Suite 5300  
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Project Manager: Maggie Graham

**Reported:**  
05/18/20 12:53

**BH02**  
**2005116-02 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>59</b>	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		120 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		21-167		"	"	"	"	

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 370 17th Street Suite 5300  
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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH03**  
**2005116-03 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 14:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
<b>Toluene</b>	<b>1.4</b>	1.0		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.6</b>	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 14:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		107 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %		21-167		"	"	"	"	

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 370 17th Street Suite 5300  
 Denver CO, 80202

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH04**  
**2005116-04 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 14:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>25</b>	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 14:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

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 Denver CO, 80202

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH05**  
**2005116-05 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 13:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>1.7</b>	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 13:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		102 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH06**  
**2005116-06 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.5 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

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 Denver CO, 80202

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH07**  
**2005116-07 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>25</b>	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		107 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		21-167		"	"	"	"	

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH08**  
**2005116-08 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 13:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>9.4</b>	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 13:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		115 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		21-167		"	"	"	"	

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Project Manager: Maggie Graham

**Reported:**  
05/18/20 12:53

**BH09**  
**2005116-09 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		112 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

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 Denver CO, 80202

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH10**  
**2005116-10 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		112 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		21-167		"	"	"	"	

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH11**  
**2005116-11 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 14:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 14:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		106 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		21-167		"	"	"	"	

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**Reported:**  
 05/18/20 12:53

**BH12**  
**2005116-12 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>170</b>	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		21-167		"	"	"	"	

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 Project Manager: Maggie Graham

**Reported:**  
 05/18/20 12:53

**BH13**  
**2005116-13 (Water)**

**Summit Scientific**

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

Date Sampled: **05/12/20 14:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2005179	05/14/20	05/15/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/12/20 14:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		112 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

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**Reported:**  
05/18/20 12:53

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch 2005179 - EPA 5030 Water MS**

**Blank (2005179-BLK1)**

Prepared: 05/14/20 Analyzed: 05/15/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	16.1		"	13.3		121		23-173		
Surrogate: Toluene-d8	14.4		"	13.3		108		20-170		
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106		21-167		

**LCS (2005179-BS1)**

Prepared: 05/14/20 Analyzed: 05/15/20

Benzene	30.6	1.0	ug/l	33.3		92.0		51-132		
Toluene	29.3	1.0	"	33.3		88.0		51-138		
Ethylbenzene	34.7	1.0	"	33.3		104		58-146		
m,p-Xylene	66.2	2.0	"	66.7		99.3		57-144		
o-Xylene	32.6	1.0	"	33.3		97.8		53-146		
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		100		23-173		
Surrogate: Toluene-d8	12.8		"	13.3		95.6		20-170		
Surrogate: 4-Bromofluorobenzene	14.8		"	13.3		111		21-167		

**Matrix Spike (2005179-MS1)**

Source: 2005116-01

Prepared: 05/14/20 Analyzed: 05/15/20

Benzene	56.1	1.0	ug/l	33.3	96.2	NR		34-141		QM-07
Toluene	30.4	1.0	"	33.3	ND	91.3		27-151		
Ethylbenzene	37.4	1.0	"	33.3	4.12	99.9		29-160		
m,p-Xylene	71.4	2.0	"	66.7	7.91	95.3		20-166		
o-Xylene	33.7	1.0	"	33.3	ND	101		33-159		
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108		23-173		
Surrogate: Toluene-d8	13.5		"	13.3		101		20-170		
Surrogate: 4-Bromofluorobenzene	14.6		"	13.3		110		21-167		

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Project Manager: Maggie Graham

**Reported:**  
05/18/20 12:53

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

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

**Batch 2005179 - EPA 5030 Water MS**

<b>Matrix Spike Dup (2005179-MSD1)</b>	<b>Source: 2005116-01</b>			<b>Prepared: 05/14/20 Analyzed: 05/15/20</b>						
Benzene	52.1	1.0	ug/l	33.3	96.2	NR	34-141	7.39	30	QM-07
Toluene	32.4	1.0	"	33.3	ND	97.2	27-151	6.30	30	
Ethylbenzene	35.0	1.0	"	33.3	4.12	92.6	29-160	6.68	30	
m,p-Xylene	65.6	2.0	"	66.7	7.91	86.5	20-166	8.52	30	
o-Xylene	33.3	1.0	"	33.3	ND	100	33-159	1.02	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>20.9</i>		<i>"</i>	<i>13.3</i>		<i>157</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.8</i>		<i>"</i>	<i>13.3</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>15.8</i>		<i>"</i>	<i>13.3</i>		<i>119</i>	<i>21-167</i>			

Summit Scientific

*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.*



Extraction Oil&Gas  
370 17th Street Suite 5300  
Denver CO, 80202

Project: Hiner 36  
Project Number: 744.2001.01-446538  
Project Manager: Maggie Graham

**Reported:**  
05/18/20 12:53

### Notes and Definitions

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

**Attachment B**

**Boring Logs**



**SOIL BORING LOG**

← Boring Location Sketch

Project Number 744.1902.1  
446538

Boring Number BH-01

Sheet 1 of 1

Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO

Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro

Date 6/10/19 Water Level ~ 6' Start 1100 Finish 1120 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
5				6"	2' - Clayey sand and gravel, stained grey. moist from potholing etc odor	GC		1.5 490	5
10				N/A	4' same as above less clayey, etc odor	SP		6.5	10
15					6-10 poorly graded sands loose, saturated, stained slight odor	GP		1.4 1.1	15
20					10-13 poorly graded sand with gravels, loose, no staining, coarse sands	SP		50	20
25					13-15 poorly graded sand, stained, fine to medium sands loose				25
30									30
35									35

Total Depth(s) =  
151

Soil Sample(s): BH01 @ 4' 0920 Rationale client request  
BH01 @ 13.5-14' 1120

Additional Information:



## WELL CONSTRUCTION LOG

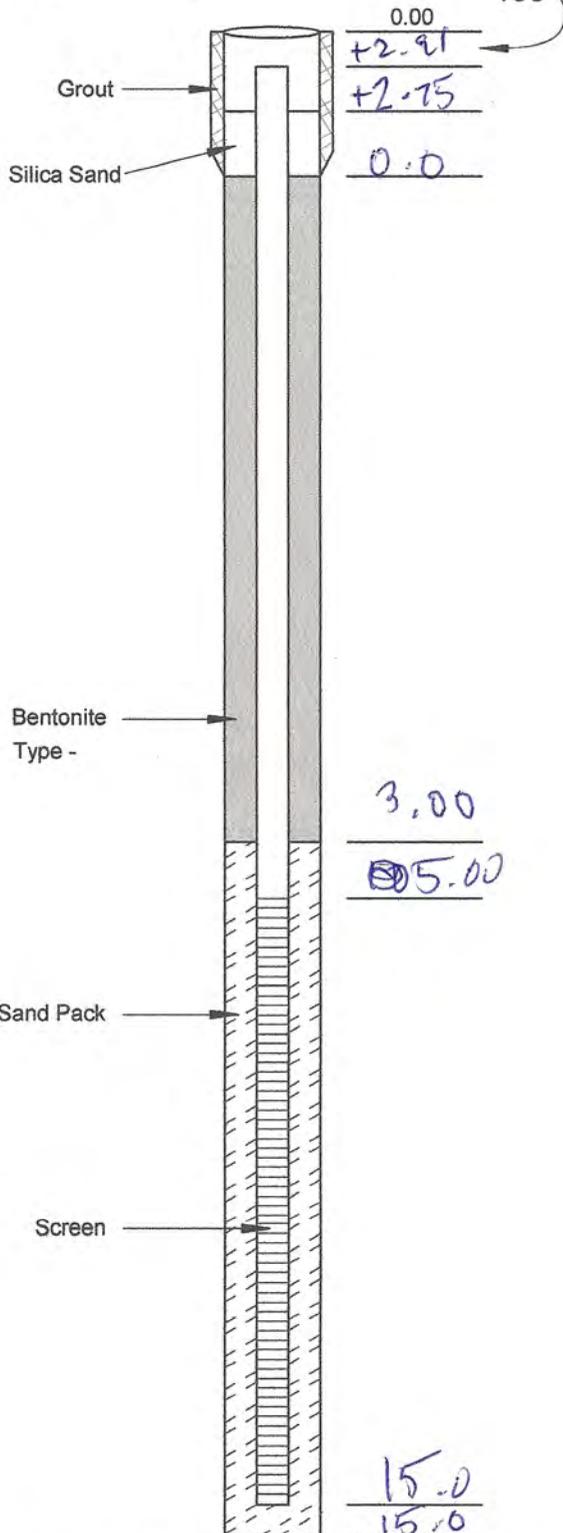
Project 744.1902.1  
Number 446538

Well Number ~~B15~~ B101

### Well Completion Detail

Street Box  
Diam. = N/A

Surveyed Dif.  
Btwn. GS and  
TOC



### Drilling Summary

Total Depth of Hole: 15  
 Hole Diameter: 2.25  
 Drilling Company: Drill Pro  
 Driller: Ron  
 Rig Type: Direct Push  
 Bits: Solid Core  
 Geologist: D. Puchrik

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	6/10/19	1130	6/10/19	1150
Well Completion:	6/10/19	1150	6/10/19	1200
Grouting:	6/10/19	1200	6/10/19	1210

### Depth to Water (Below TOC)

Depth: 11.19 Date: 6/10/19 Time: 1445

### Well Construction Materials

	Grout	Seals	Filter
Quantity:		<u>50</u>	<u>50</u>
Type:		<u>bent</u>	<u>10/20</u>
Size:	<u>10'</u>	Config.: <u>10 Slot</u>	
Area/Ft.:		Comp.: <u>PVC</u>	
Inside Diam.:	<u>1"</u>	Outside Diam.: <u>Sch 40</u>	

### Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = ~~15.0~~ 17.91



# SOIL BORING LOG

← Boring Location Sketch

Project Number 744.1902.1 446538	Boring Number BHO2	Sheet 1 of 1
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Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO

Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro

Date 6/10/19 Water Level ~ 5' Start 1130 Finish 1150 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-5					2' clayey sand and gravel, dark brown, moist from potholing	GP		0.5 520	
5-10					4' same as above, less clayey. Hc odor.			21.9 49.9	5
10-15					6-12 poorly graded sands and gravel stained from 8-10' with Hc odor			5.7 110 15	10
15-20					12-15 same as above less gravels, coarse sands. Stained from 13.5-14.5.				15
20-25									20
25-30									25
30-35									30
35-40									35

Total Depth(s) = <u>15</u>	Soil Sample(s): 0940 BHO2 @ 4' 1140 BHO2 @ 8-8.5'	Rationale client request	Additional Information:
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## WELL CONSTRUCTION LOG

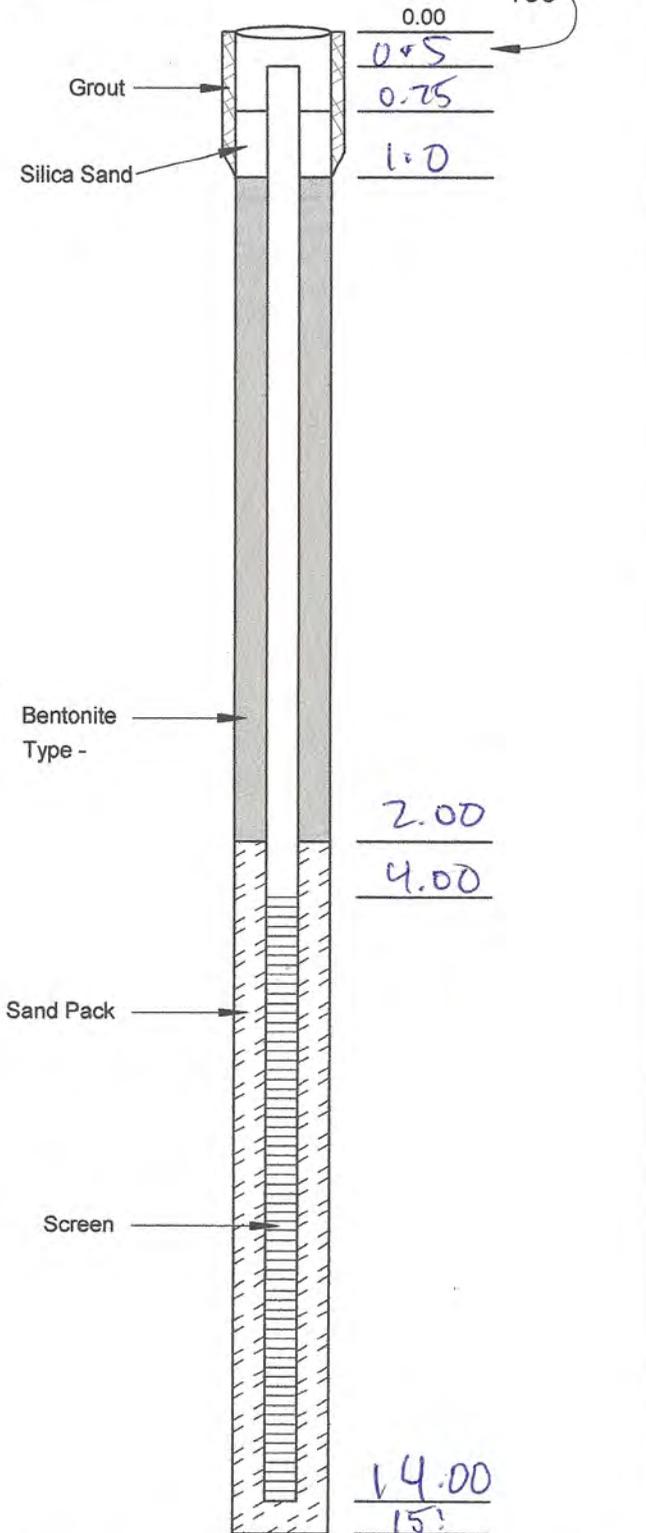
Project 744.1902.1  
Number 446538

Well Number BH02

### Well Completion Detail

Street Box  
Diam. = N/A

Surveyed Dif.  
Btwn. GS and  
TOC



### Drilling Summary

Total Depth of Hole: 15'  
 Hole Diameter: 2.25  
 Drilling Company: Drill Pro  
 Driller: Ro  
 Rig Type: Direct Push  
 Bits: Solid Core  
 Geologist: D. Puchrik

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	6/10/19	1100	6/10/19	1120
Well Completion:	6/16/19	1120	6/16/19	1130
Grouting:	6/10/19	1130	6/10/19	1140

### Depth to Water (Below TOC)

Depth: 7.95 Date: 6/16/19 Time: 1415

### Well Construction Materials

	Grout	Seals	Filter
Quantity:	<del>50 lbs</del>	50 lbs	10/20 silica
Type:		bentonite	50 lbs
	Screen		
Size:	10'	Config.: 10 Slot	
Area/Ft.:		Comp.: PVC	
Inside Diam.:	1"	Outside Diam.: Sch 40	

### Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 13.50



# SOIL BORING LOG

← Boring Location Sketch

Project Number 744.1902.1 446538  
 Boring Number BH03  
 Sheet 1 of 1

Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO  
 Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro  
 Date 6/10/19 Water Level 25 Start 1215 Finish 1230 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-5					2' Clayey sand and gravel grey, moist from potholing.			1.2 <	
5-6					4' Same as above, less clayey, HC odor			280 <	5
6-8.5					6-8.5 same as above staining 6-13.5'			37.3 <	
8.5-10								18.2 <	10
10-13.5								94.9 <	
13.5-15					8.5-15 poorly graded sands and gravels coarsening downward			367 <	
15-20								12.4 <	15
20-25									
25-30									
30-35									
35-40									

Total Depth(s) = 15'  
 Soil Sample(s): 1030 BH03 @ 4'  
1215 BH03 @ 13.5-14'  
 Rationale: client Request  
 Additional Information:





# SOIL BORING LOG

← Boring Location Sketch

Project Number 744.1902.1 446538	Boring Number BH04	Sheet 1 of 1
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Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO  
 Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro  
 Date 6/10/19 Water Level ~5 Start 1200 Finish 1215 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-5				Pathhole to bl	2' clayey sand and gravel, moist from potholing. NO HC odor	GC		0.5 <	
5-10					4' same as above, less clayey, no stain/odor.			3.8 <	5
10-15				N/A	6-15' poorly graded sands with gravel's, saturated stained from 6-12', loose, sands coarser with depth			10.4 <	
15-20								6.7 <	10
20-25								4.6 <	
25-30								1.1 <	15
30-35									
35-40									

Total Depth(s) = <u>151</u>	Soil Sample(s): <u>BH04 @ 6-8' 1215'</u>	Rationale: <u>client request</u>	Additional Information:
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## WELL CONSTRUCTION LOG

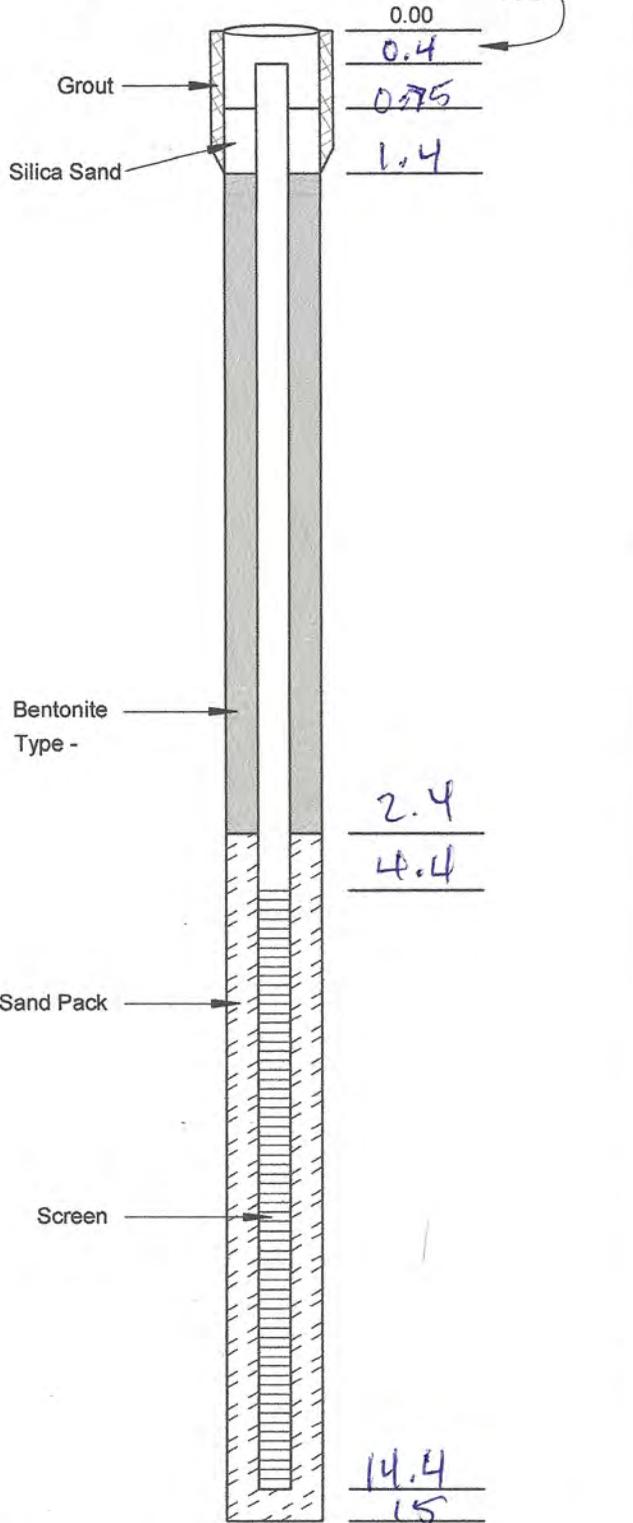
Project 744.1902.1  
Number 446538

Well Number B1404

### Well Completion Detail

Street Box  
Diam. = N/A

Surveyed Dif.  
Btwn. GS and  
TOC



### Drilling Summary

Total Depth of Hole: 15  
 Hole Diameter: 2.25  
 Drilling Company: Drill Pro  
 Driller: Ron  
 Rig Type: Direct Push  
 Bits: Solid Core  
 Geologist: D. Puchrik

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	6/10/19	1200	6/10/19	1245
Well Completion:	6/10/19	1215	6/10/19	1230
Grouting:	6/10/19	1230	6/10/19	1245

### Depth to Water (Below TOC)

Depth: 8.26 Date: 6/10/19 Time: 1430

### Well Construction Materials

	Grout	Seals	Filter
Quantity:		<u>50</u>	<u>50</u>
Type:		<u>best</u>	<u>10/20</u>
		Screen	
Size:	<u>10'</u>	Config.:	<u>10 Slot</u>
Area/Ft.:		Comp.:	<u>PVC</u>
Inside Diam.:	<u>4"</u>	Outside Diam.:	<u>Sch 40</u>

### Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 14.00



# SOIL BORING LOG

← Boring Location Sketch

Project Number 744.1902.1  
446538

Boring Number BH05

Sheet 1 of 1

Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO

Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro

Date 7/9/19 Water Level ~ 14' Start 1400 Finish 1415 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
5				N/A	Pothole to 6' 0-3.5' pebbles, cobbles No recovery with hand auger. 4'-6.5' brown silty sand with Fe/CaCO <sub>3</sub> , slightly moist, no stain/no odor 6.5'-11" dark brown clay with CaCO <sub>3</sub> , moist stiff, no stain/odor 11'-12' poorly graded gravels with sand. 12'-14' same as 14'-20' same as except saturated, limited staining at 14'	5m		N/A 0.8	5
10								2.1 0.3	10
15								2.4 1.1	15
20									20
25									25
30									30
35									35

Total Depth(s) = 20'

Soil Sample(s): BH05 @ 13.5-14.0 Rationale Staining High PID  
1315

Additional Information:



# WELL CONSTRUCTION LOG

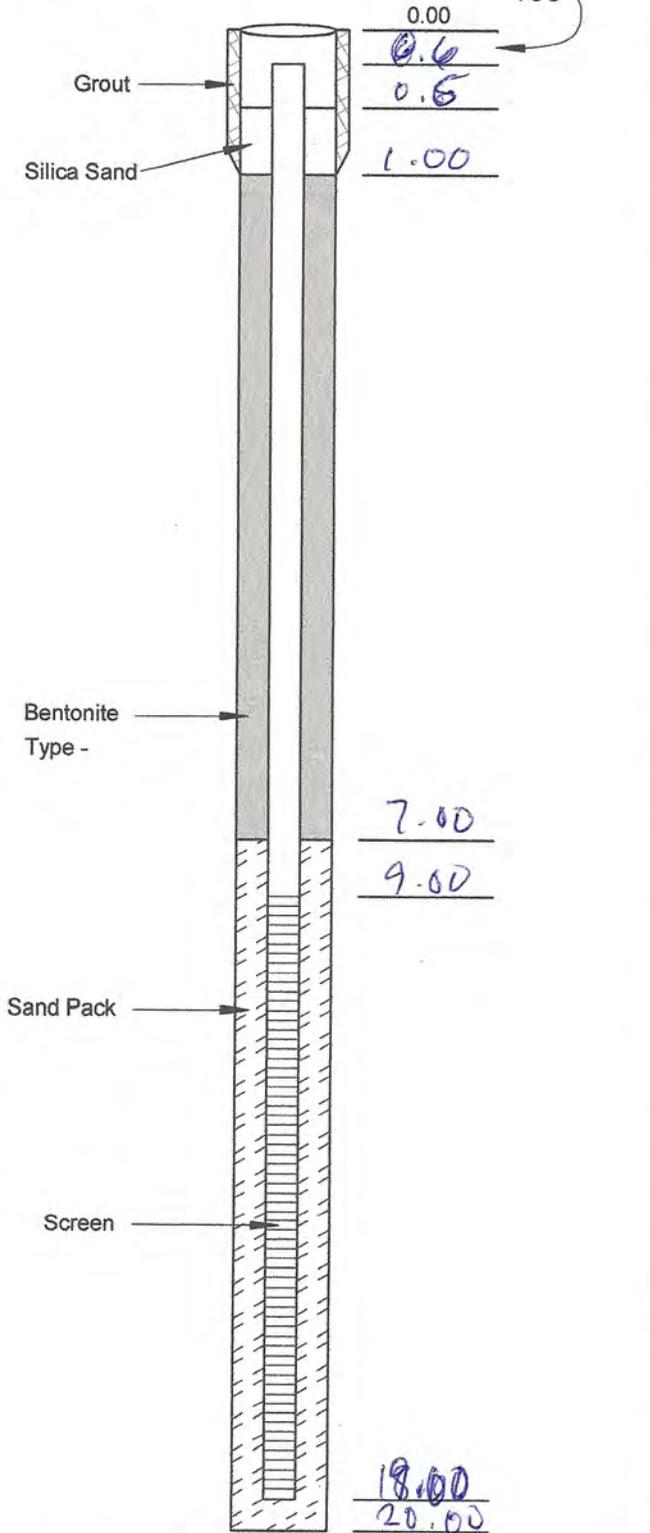
Project 744.1902.1  
Number 446538

Well Number B1105

## Well Completion Detail

Street Box  
Diam. = N/A

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

## Drilling Summary

Total Depth of Hole: 20.0  
Hole Diameter: 2-25  
Drilling Company: Drill Pro  
Driller: Terrance  
Rig Type: Direct Push  
Bits: Solid Core  
Geologist: D. Puchrik

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	7/6/19	1400	7/6/19	1415
Well Completion:	7/6/19	1400	7/6/19	1425
Grouting:	7/6/19	1445	7/6/19	1500

## Depth to Water (Below TOC)

Depth: 12.10 Date: 7/9/19 Time: 1445

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>50</u>	<u>260</u>	<u>150</u>
Type:	<u>Quickcrete</u>	<u>bent</u>	<u>10/20</u>

	Screen	
Size:	<u>10'</u>	Config.: <u>10 Slot</u>
Area/Ft.:	<u>.04</u>	Comp.: <u>PVC</u>
Inside Diam.:	<u>1"</u>	Outside Diam.: <u>Sch 40</u>

## Comments

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Total Depth from TOC = 18.60



**SOIL BORING LOG**

← Boring Location Sketch

Project Number 744.1902.1 446538  
 Boring Number BH06  
 Sheet 1 of 1

Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO  
 Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro  
 Date 7/9/19 Water Level ~8.5 Start 1335 Finish 1355 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-1					Pothole to 6'				
1-2		1238		N/A	2' brown silty sand, slightly moist, FE/CACO3 pockets, no stain, no odor	SM		3.1	2
2-4					4' cobbles. Punch through with geoprobe.	GC		2.1	4
4-5					4.5' Dark grey (moist from pitholing) clayey sand and gravel,	SP		2.2	5
5-6					6-7' same as above	GP		2.2	10
6-8					8-11 poorly graded sands no stain, no odor, loose, saturated				15
8-11					11-16 poorly graded gravels with sands - med to coarse no stain / no odor. Sands coarsens with depth.				20
11-16									25
16-20									30
20-25									35
25-30									
30-35									

Total Depth(s) = 16'

Soil Sample(s): BH06 @ 2'  
1238  
 Rationale: High PID

Additional Information:

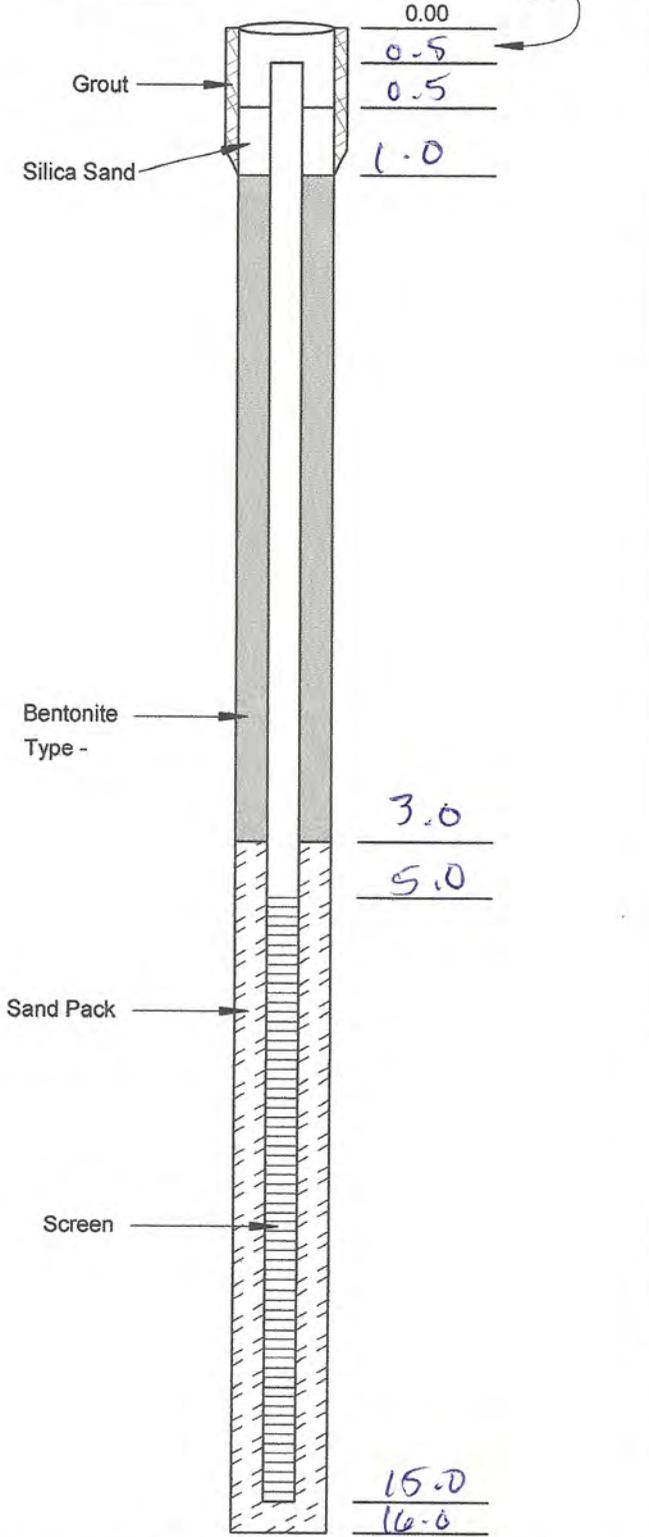


# WELL CONSTRUCTION LOG

## Well Completion Detail

Street Box  
Diam. = N/A

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

Project 744.1902.1  
Number 446538

Well  
Number BH06

## Drilling Summary

Total Depth of Hole: 16.0

Hole Diameter: 2.25

Drilling Company: Drill Pro

Driller: Terraviva

Rig Type: Direct Push

Bits: Solid Core

Geologist: D. Puchrik

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	7/9/19	1335	7/9/19	1355
Well Completion:	7/9/19	1345	7/9/19	1400
Grouting:	7/9/19	1430	7/9/19	1445

## Depth to Water (Below TOC)

Depth: 9.22 Date: 7/9/19 Time: 1440

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>50</u>	<u>60</u>	<u>75</u>
Type:	<u>Acid-cured bent</u>	<u>10/20</u>	<u>10/20</u>

	Screen	
Size:	<u>10'</u>	Config.: <u>10 Slot</u>
Area/Ft.:	<u>.04</u>	Comp.: <u>PVC</u>
Inside Diam.:	<u>1"</u>	Outside Diam.: <u>Sch 40</u>

## Comments

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Total Depth from TOC = 14.5



# SOIL BORING LOG

← Boring Location Sketch

Project Number 744.1902.1  
446538

Boring Number BH07

Sheet 1 of 1

Project Hiner 36 Pad Location N 16th Ave., N 23rd Ave Greeley, CO

Drilling Method & Equipment Direct Push Drilling Contractor Drill Pro

Date 7/19/19 Water Level 28.5 Start 1315 Finish 1330 Logger David Puchrik

Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0				N/A	Pothole to 6'				
5					2' - Clay with gravel and sand, brown to grey. No odor or stain. Gravels angular to 1", moist from potholing	GC SM		6.7C 5.1C	5
10		1325			4' silty sand, brown, slightly moist, trace gravels to 3/8", no stain or odor	SP		2.5C	10
15					6-7 same as above			2.1C	15
20					7-11 Dark/black stained poorly sorted sands - moist	GP		2.1C	20
25					At 8' no staining and saturated, loose.			2.3C	25
30					11-16' poorly graded gravel with sands - med to coarse, gravels to 3"				30
35					no stain				35

Total Depth(s) = 16'

Soil Sample(s): BH07 @ 2.5-8.0' 1325

Rationale: Staining

Additional Information:



# WELL CONSTRUCTION LOG

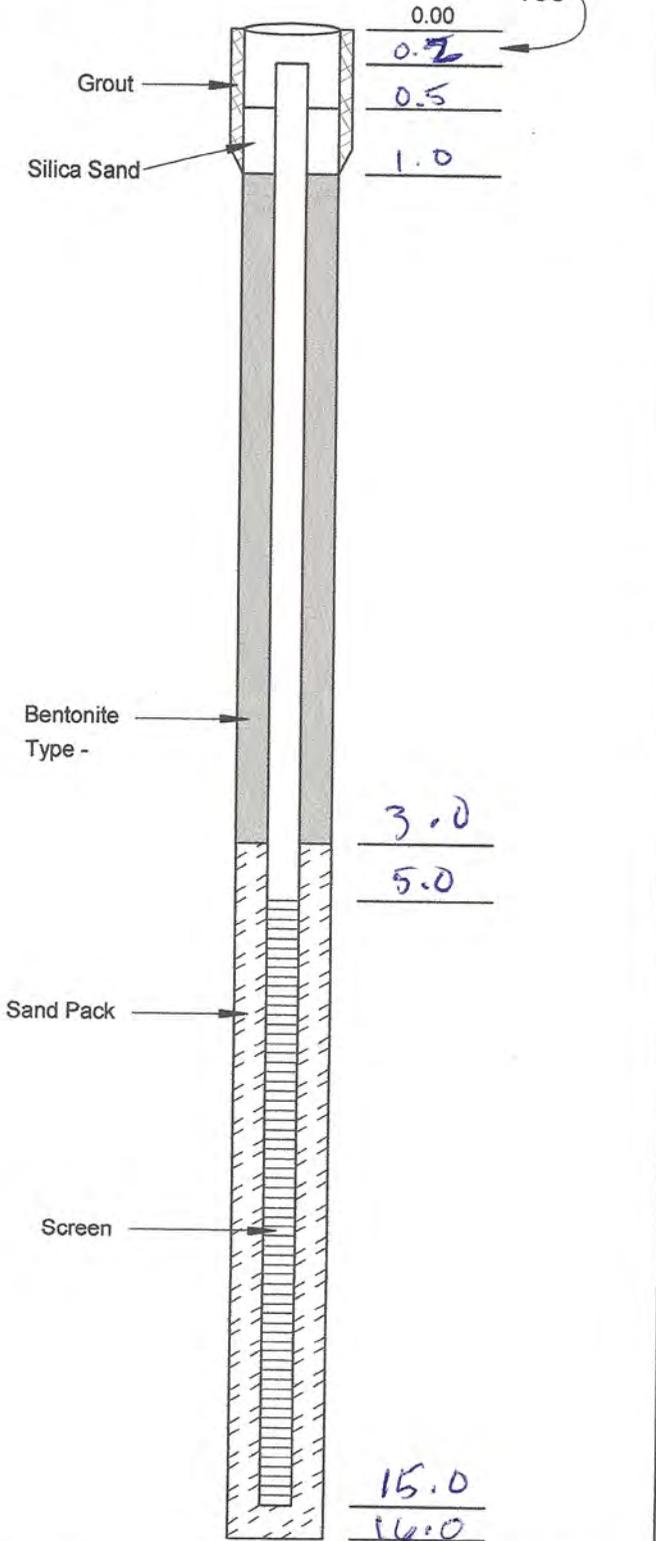
Project 744.1902.1  
Number 446538

Well Number B107

## Well Completion Detail

Street Box  
Diam. = N/A

Surveyed Dif.  
Btwn. GS and  
TOC



\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 14.20

## Drilling Summary

Total Depth of Hole: 16.0  
Hole Diameter: 2.25  
Drilling Company: Drill Pro  
Driller: Terrance  
Rig Type: Direct Push  
Bits: Solid Core  
Geologist: D. Puchrik

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	7/6/19	1315	7/6/19	1330
Well Completion:	7/6/19	1330	7/6/19	1345
Grouting:	7/6/19	1415	7/6/19	1430

## Depth to Water (Below TOC)

Depth: 7.60 Date: 7/9/19 Time: 1435

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>50</u>	<u>60</u>	<u>75</u>
Type:	<u>6.1000</u>	<u>best</u>	<u>10/20</u>
	Screen		
Size:	<u>10</u>	Config.: <u>10 Slot</u>	
Area/Ft.:	<u>.04</u>	Comp.: <u>PVC</u>	
Inside Diam.:	<u>1"</u>	Outside Diam.: <u>Sch 40</u>	

## Comments

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Boring Location Sketch

## SOIL BORING LOG

Project Number \_\_\_\_\_ Boring Number BH#8 Sheet 4 of 6



Project \_\_\_\_\_ Location Hiner 36

Drilling Method & Equipment Direct Push 6620DT Drilling Contractor DrillPro

Date 5/1/20 Water Level ~15 Start 1152 Finish 1218 Logger R. Finley

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-6					Hydrovac ptholing for utility clearance				
6-11					DK bwn silty sand (Road pad built up ~4ft) vfg-fg. Dense, moist low plastic. Blacky No odor/stain	Sm		8 - 1.1	
11-20					bwn poorly sorted sd vfg-mg @ 11, gravel 1" @ 14-15, loose, dry vfg-veg. Turns saturated @ ~15ft. gravel begins to fine down to pebble, then mg sd @ depth No odor or stain			12 - 0.7 14 - 0.9 16 - 0.3 18 - 0.3 20 - 0.5	

Total Depth(s) = <u>~20</u>	Soil Sample(s): <u>Ø</u>	Rationale <u>Low PID</u>	Additional Information:
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## WELL CONSTRUCTION LOG

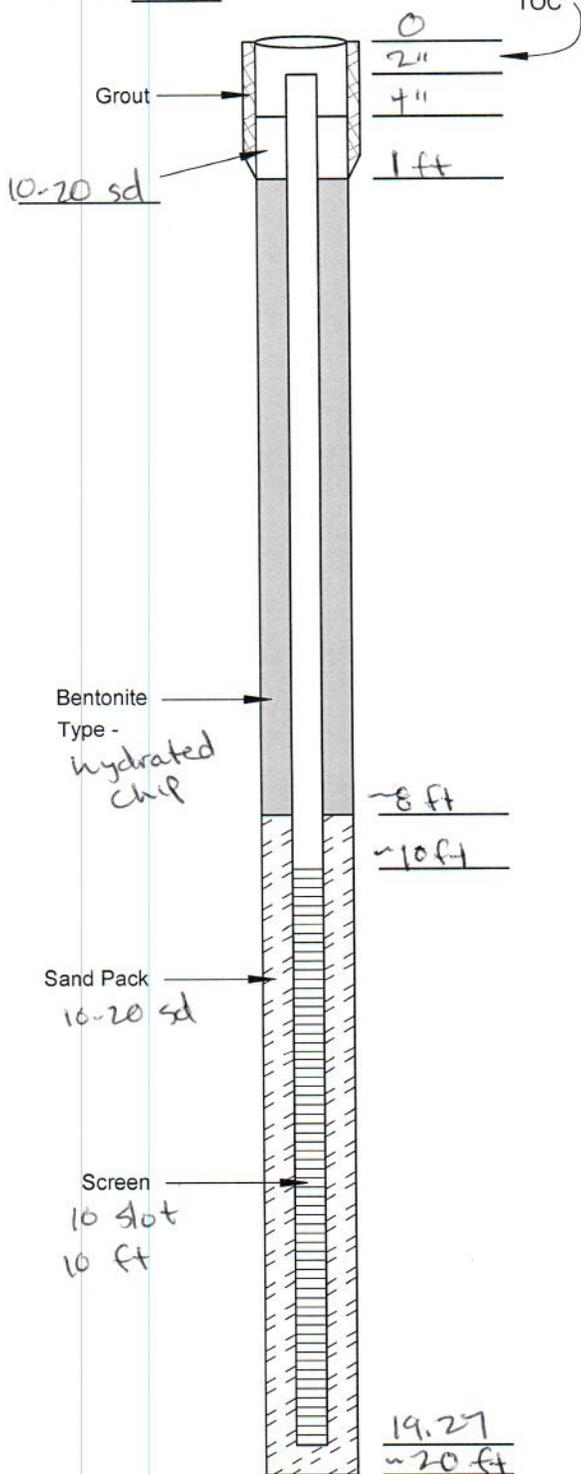
### Well Completion Detail

Project Number Hiner 36

Well Number BH#8

Street Box  
Diam. = 6"

Surveyed Dif.  
Btwn. GS and  
TOC



### Drilling Summary

Total Depth of Hole: ~20  
 Hole Diameter: 2 1/4  
 Drilling Company: DrillPro  
 Driller: Terrance Ardara  
 Rig Type: Colo20DT  
 Bits: Direct Push  
 Geologist: R. Finley

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	5/1/20	1152	5/1/20	1218
Well Completion:	↓	1218	↓	1223
Grouting:	↓	1223	↓	1230

### Depth to Water (Below TOC)

Depth: 13.85 Date: 5/12/20 Time: \_\_\_\_\_

### Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>1/4 bg</u>	<u>1 1/2 bg</u>	<u>1 1/2 bg</u>
Type:	<u>Quikrete</u>	<u>Bent</u>	<u>10-20</u>

	Screen	
Size:	<u>10 slot</u>	Config.: <u>Sch 40</u>
Area/Ft.:	<u>10 ft</u>	Comp.: <u>10-20</u>
Inside Diam.:	<u>1.029</u>	Outside Diam.: <u>1.315</u>

### Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 19.27



Boring Location Sketch

## SOIL BORING LOG

Project Number

Boring Number

Sheet

BH09

3 of 6

Project \_\_\_\_\_ Location Hiner 36Drilling Method & Equipment Direct Push 6620DT Drilling Contractor DrillProDate 5/1/20 Water Level -10 Start 1132 Finish 1149 Logger R. Finley

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
5					0-6 Hydrovac pit hole for utility clearance				
10					6-15 L. bwn poorly sorted sand w/ gravel up to 1" fg. veg. loose, dry no HC odor or stain gravel fines down to pebble 8-10 ft. saturated @ ~10 ft. * GW encountered.	Sp	N	0.9 - 8 1.2 - 10 0.4 - 12 0.4 - 14	

Total Depth(s) =

15

Soil Sample(s):

Ø

Rationale

Low PID

Additional Information:



## WELL CONSTRUCTION LOG

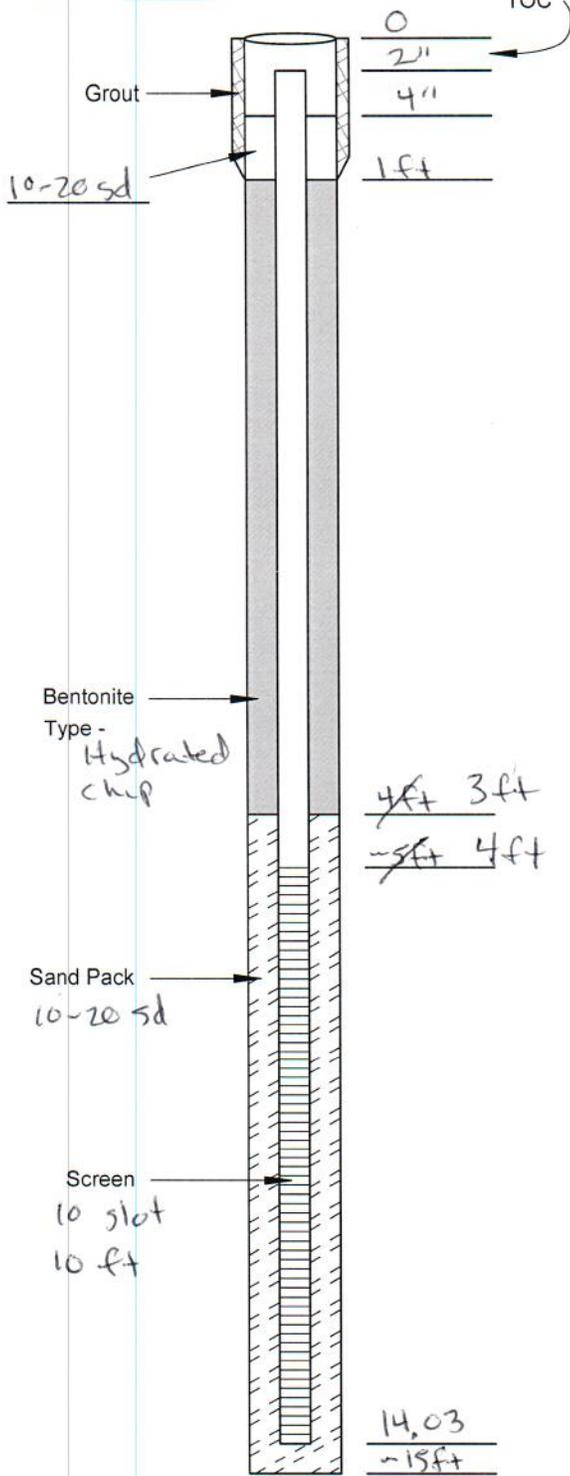
### Well Completion Detail

Project Number Hiner 36

Well Number BH09

Street Box Diam. = 6" Flushmant

Surveyed Dif. Btwn. GS and TOC



### Drilling Summary

Total Depth of Hole: 15  
 Hole Diameter: 2 1/4  
 Drilling Company: DrillPro  
 Driller: Terrance Apodaca  
 Rig Type: 6620 DT  
 Bits: Direct Push  
 Geologist: R. Finley

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	5/1/20	1132	5/1/20	1149
Well Completion:	↓	1149	↓	1154
Grouting:	↓	1154	↓	1201

### Depth to Water (Below TOC)

Depth: 8.81 Date: 5/12/20 Time: \_\_\_\_\_

### Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>1/4 bg</u>	<u>1/2 bg</u>	<u>1 1/2 bg</u>
Type:	<u>Quikrete</u>	<u>Bent</u>	<u>10-20</u>
	Screen		
Size:	<u>10 slot</u>	Config.: <u>Sch 40</u>	
Area/Ft.:	<u>10 ft</u>	Comp.: <u>PVC</u>	
Inside Diam.:	<u>1.029</u>	Outside Diam.: <u>1.315</u>	

### Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 14.03



Boring Location Sketch

**SOIL BORING LOG**

Project Number \_\_\_\_\_ Boring Number BH10 Sheet 1 of 6



Project \_\_\_\_\_ Location Hiner 36

Drilling Method & Equipment Direct Push GG20DT Drilling Contractor DrillPro

Date 5/1/20 Water Level 70 Start 1025 Finish 1040 Logger R. Finley

Depth Below Surface	Sample			Standard Penetration Test Results 6" / 6" / 6" / 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
0-6					Hydrovac + hand auger potholing for utility clearance				
6-15					L. brown poorly sorted sd with marble-size pebble moist from hydrovac to ~8ft. Dry from 8-10 becomes saturated @ 10ft * GW encountered some 1" diameter pebble. Gravel fines down to pebble size < 1/4". No odor, staining loose, no plastic.	SP N		0.7 @ 8 0.3 @ 10 0.2 @ 12 0.3 @ 14	

Total Depth(s) = 15 Soil Sample(s): Ø Rationale: Low PID Additional Information:

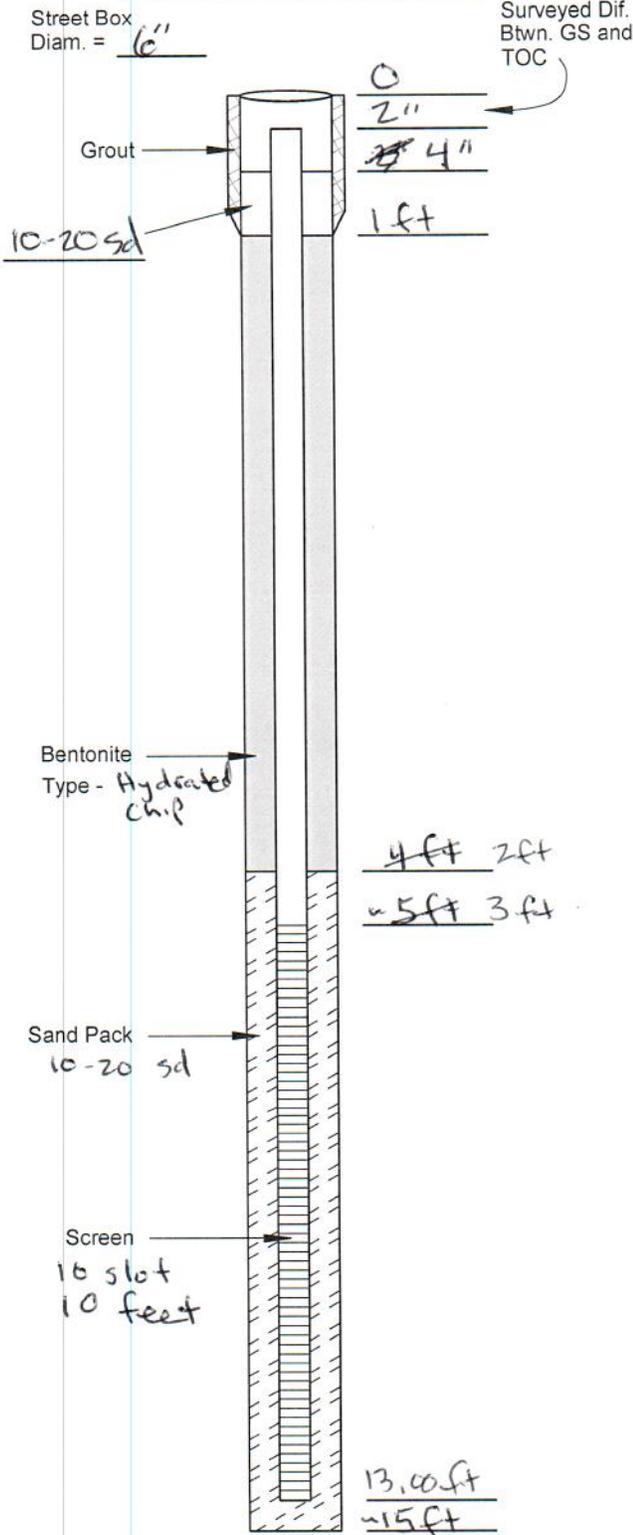


# WELL CONSTRUCTION LOG

Project Number Hiner 36

Well Number BH10

## Well Completion Detail



## Drilling Summary

Total Depth of Hole: ~15ft

Hole Diameter: 2 1/4

Drilling Company: DrillPro

Driller: Terrance Arodaca

Rig Type: G620 DT

Bits: Direct Push

Geologist: R. Finley

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>5/1/20</u>	<u>1025</u>	<u>5/1/20</u>	<u>1040</u>
Well Completion:	<u>↓</u>	<u>1040</u>	<u>↓</u>	<u>1048</u>
Grouting:	<u>↓</u>	<u>1048</u>	<u>↓</u>	<u>1100</u>

## Depth to Water (Below TOC)

Depth: 7.40 Date: 5/12/20 Time: \_\_\_\_\_

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>1/4</u>	<u>1/2</u>	<u>1bg</u>
Type:	<u>Quikrete</u>	<u>bent</u>	<u>10-20</u>
Screen			
Size:	<u>10 ft</u>	Config.:	<u>Sch 40</u>
Area/Ft.:	<u>10 slot</u>	Comp.:	<u>PVC</u>
Inside Diam.:	<u>1.029</u>	Outside Diam.:	<u>1.315</u>

## Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 13.00



Boring Location Sketch

## SOIL BORING LOG

Project Number

Boring Number

Sheet

BH11

2 of 6



Project

Location Hiner 36

Drilling Method &amp; Equipment

Direct Push 6620 DT

Drilling Contractor

DrillProDate 5/1/10Water Level ~10Start 1103Finish 1118

Logger

R. Finley

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
5					0-6ft Hydrovac pothole for utility clearance coarse gravelly Sp No odor/stn				5
10					6-7 med bwn Sp, coarse grain gravel up to 1" loose, dry, no plasticity 7-8 med bwn Sp, fg-mg Sp, no gravel, Black layers of organic odor damp v low plastic no HC odor or stain 8-15 med bwn gravelly Sp fg-vcg, gravel fines down to pebbles + smaller ~10 ft. coarsens back up to gravelly @ 14-15ft No HC odor or stain some patches of organic smelling stain @ 8-12ft	SP SP	N N		0.7 0.3 0.4 0.2 0.2
15									15

Total Depth(s) =

~15

Soil Sample(s):

∅

Rationale

low PID

Additional Information:

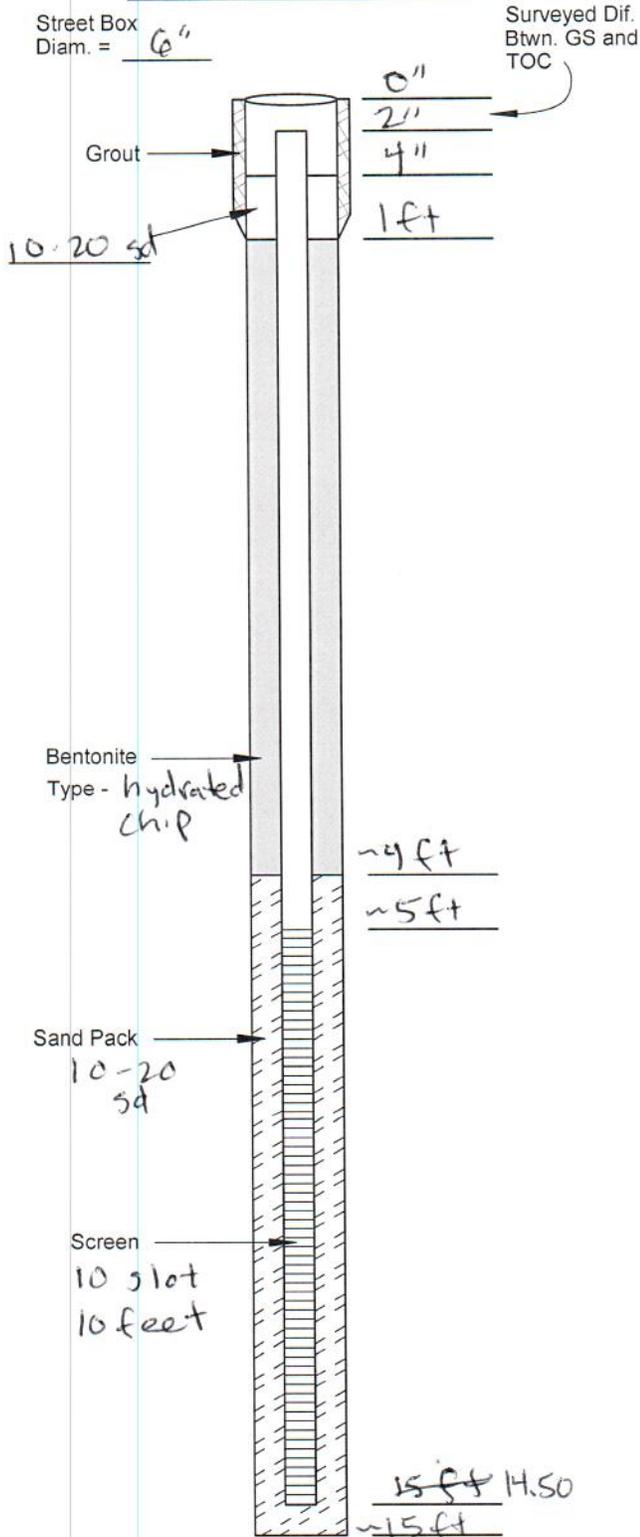


## WELL CONSTRUCTION LOG

### Well Completion Detail

Project Number Hiner 36

Well Number BH11



### Drilling Summary

Total Depth of Hole: ~15

Hole Diameter: 2 1/4

Drilling Company: DrillPro

Driller: Terrance Apodaca

Rig Type: G620DT

Bits: Direct Push

Geologist: R. Finley

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>5/1/20</u>	<u>1103</u>	<u>5/1/20</u>	<u>1118</u>
Well Completion:	<u>↓</u>	<u>1118</u>	<u>↓</u>	<u>1122</u>
Grouting:	<u>↓</u>	<u>1122</u>	<u>↓</u>	<u>1130</u>

### Depth to Water (Below TOC)

Depth: 8.00 Date: 5/12/20 Time: \_\_\_\_\_

### Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>1/4</u>	<u>1/2</u>	<u>1</u>
Type:	<u>Quikrete</u>	<u>Bent</u>	<u>10-20 sd</u>

Screen	
Size:	<u>10 slot</u> Config.: <u>Sch 40</u>
Area/Ft.:	<u>10 feet</u> Comp.: <u>PVC</u>
Inside Diam.:	<u>1.021</u> Outside Diam.: <u>1.315</u>

### Comments

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Total Depth from TOC = ~15 ft 14.50



Boring Location Sketch

**SOIL BORING LOG**

Project Number \_\_\_\_\_ Boring Number BH12 Sheet 5 of 6



Project \_\_\_\_\_ Location Hiner 36

Drilling Method & Equipment Direct Push 6020DT Drilling Contractor DrillPro

Date 5/1/20 Water Level ~15 Start 1232 Finish 1250 Logger R. Finley

Depth Below Surface	Sample			Standard Penetration Test Results 6" 6" 6" 6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
					0-6 hydrovac pothole for utility clearance				
					6-10 med bwn silty sand, some pebbles, road base (road built up ~4ft above grade) <del>low dense</del> low dense, dry, no plasticity, no odor/stain			0.3	8
					10-12 DK bwn silty, vfg-fg no pebbles/gravel med-high dense, low plastic, organic sticks + matter low moist			0.2	10
					12-14 L. bwn poorly sorted sand, sharp delineation @ 12 gravel 1" fg-veg. dry, loose no odor stain			12.7	12
					14- med bwn sp. * saturated @ 15 *			3.858	15 *
					15-15.5, black, stained soil. grades to med bwn to depth. gravelly @ 16 to 20ft			32.2	16 *

Total Depth(s) = ~20 Soil Sample(s): 2 \* BH12@15 Rationale: High PID Additional Information: \* BH12@16



## WELL CONSTRUCTION LOG

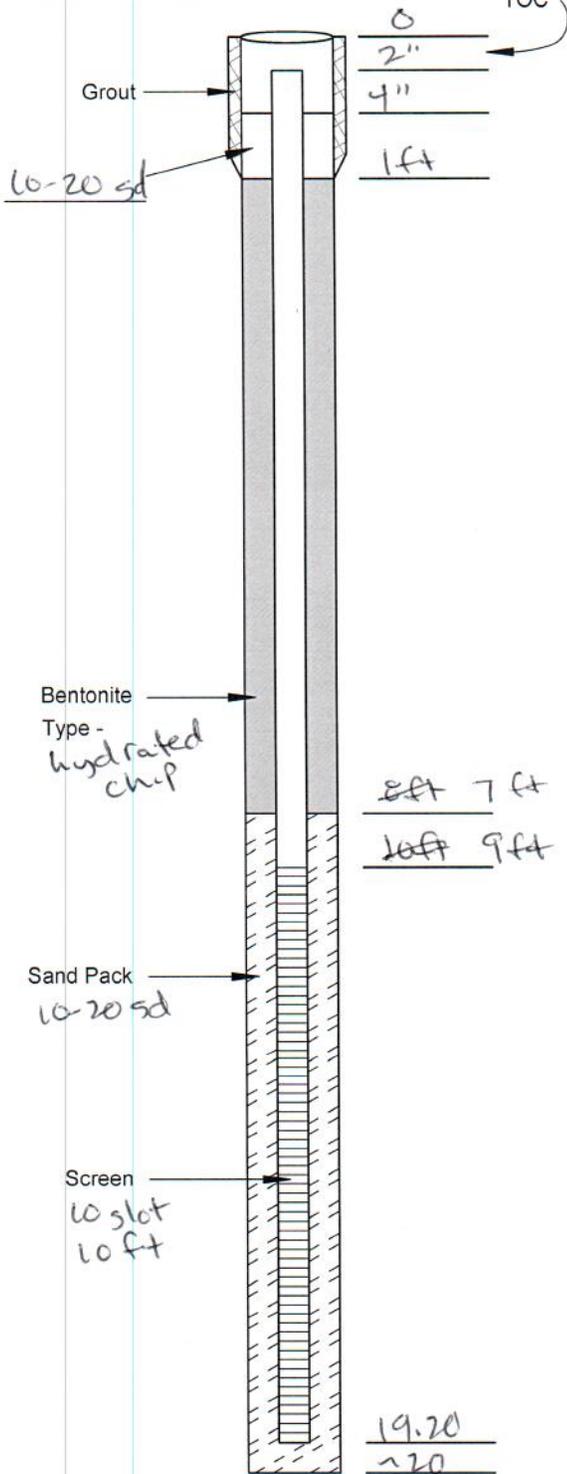
### Well Completion Detail

Project Number Hiner 36

Well Number BH12

Street Box  
Diam. = 6"

Surveyed Dif.  
Btwn. GS and  
TOC



### Drilling Summary

Total Depth of Hole: ~20  
 Hole Diameter: 2 1/4  
 Drilling Company: Dr. IIPio  
 Driller: Terrance Apodaca  
 Rig Type: 6620 DT  
 Bits: Direct Push  
 Geologist: R. Finley

### Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>5/1/20</u>	<u>1232</u>	<u>5/1/20</u>	<u>1250</u>
Well Completion:	<u>↓</u>	<u>1252</u>	<u>↓</u>	<u>1255</u>
Grouting:	<u>↓</u>	<u>1255</u>	<u>↓</u>	<u>1305</u>

### Depth to Water (Below TOC)

Depth: 13.10 Date: 5/12/20 Time: \_\_\_\_\_

### Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>1/4 bg</u>	<u>1 bg</u>	<u>1 1/2 bg</u>
Type:	<u>Quikrete</u>	<u>Bent</u>	<u>10-20 sd</u>
	Screen		
Size:	<u>10 slot</u>	Config.: <u>Sch 40</u>	
Area/Ft.:	<u>10-ft</u>	Comp.: <u>PVC</u>	
Inside Diam.:	<u>1.029</u>	Outside Diam.: <u>1.315</u>	

### Comments

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\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 19.20



Boring Location Sketch

SOIL BORING LOG

Project Number Boring Number Sheet  
BH13 6 of 6



Project \_\_\_\_\_ Location Hiner 36

Drilling Method & Equipment Direct Push (DPT) Drilling Contractor DrillPro

Date 5/1/20 Water Level -10 ft Start 1315 Finish 1335 Logger P. Finley

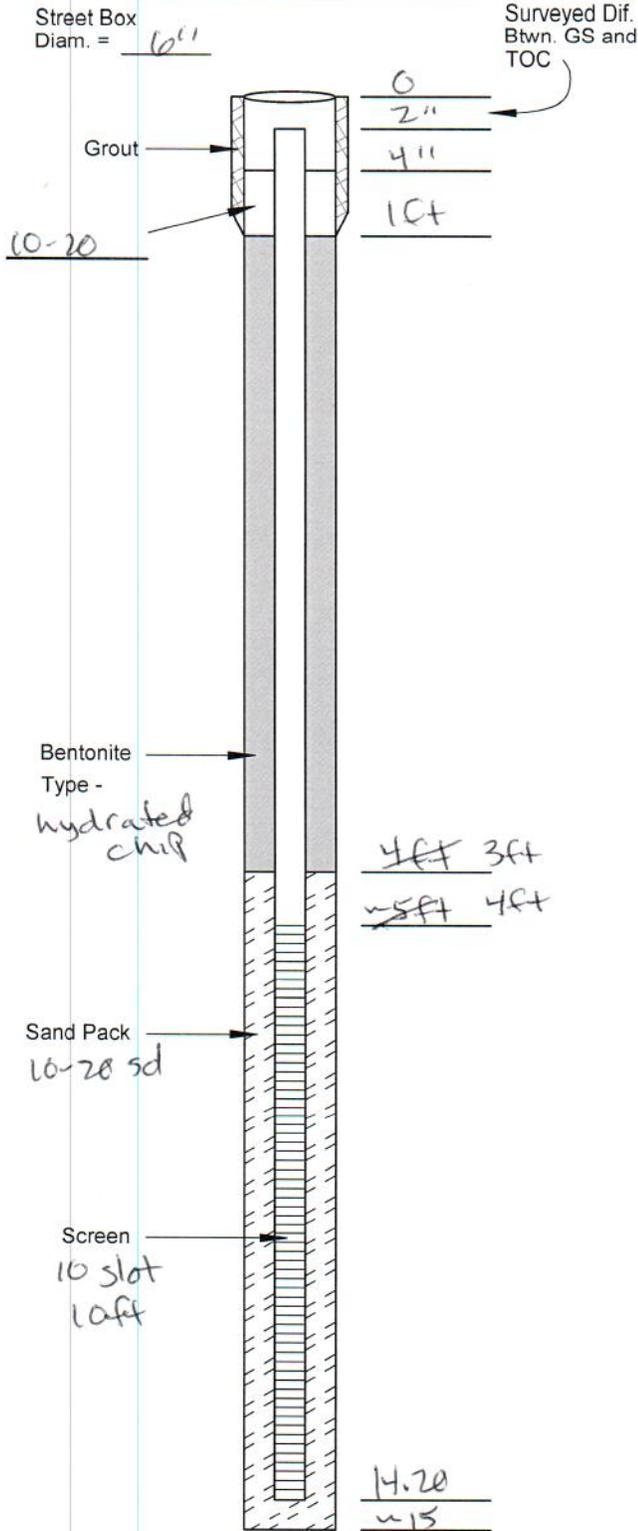
Depth Below Surface	Sample			Standard Penetration Test Results 6"/6"/6"/6"	Soil Description USCS Group Symbol, Name, Gradation or Plasticity, Particle Size Distribution, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy, Stain or Odor	Symbol of USCS Log	Staining	PID Readings (ppm)	PID Reading Depths (bgs)
	Interval	Depth/Time	Recovery						
					0-6 Hydrovac pothole for utility clearance				
					6-15 med brown poorly sorted sand. high gravel content w/ layers of fine sand. mg-vcg loose. saturated @ ~10ft. No odor/stn	SP	N	0.7 - 8 1.0 - 10 0.7 - 12 0.4 - 14	

Total Depth(s) = <b>15</b>	Soil Sample(s): <b>0</b>	Rationale <b>Low PID</b>	Additional Information:
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# WELL CONSTRUCTION LOG

## Well Completion Detail



\* Measuring Point is Below Ground Surface (bgs)

Total Depth from TOC = 14.20

Project Number Hiner 36

Well Number BH13

## Drilling Summary

Total Depth of Hole: ~15

Hole Diameter: 2 1/4

Drilling Company: Drill Pro

Driller: Terrance Apodaca

Rig Type: 6620 DT

Bits: Direct Push

Geologist: R. Finley

## Time Log

	Start		Finish	
	Date	Time	Date	Time
Drilling:	<u>5/12/20</u>	<u>1315</u>	<u>5/12/20</u>	<u>1335</u>
Well Completion:	<u>↓</u>	<u>1335</u>	<u>↓</u>	<u>1340</u>
Grouting:	<u>↓</u>	<u>1340</u>	<u>↓</u>	<u>1349</u>

## Depth to Water (Below TOC)

Depth: 6.70 Date: 5/12/20 Time:

## Well Construction Materials

	Grout	Seals	Filter
Quantity:	<u>1 1/2 bgs</u>	<u>1/2 bgs</u>	<u>1 bgs</u>
Type:	<u>Quikrete</u>	<u>bent</u>	<u>10-20</u>
Screen			
Size:	<u>10 slot</u>	Config.: <u>Sch 40</u>	
Area/Ft.:	<u>10-ft</u>	Comp.: <u>PVC</u>	
Inside Diam.:	<u>1.029</u>	Outside Diam.: <u>1.315</u>	

## Comments

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