

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 017 - 06895 County Doddridge District West Union
Quad Smithburg 7.5' Pad Name George Scott Pad Field/Pool Name ----
Farm name George S. Wyckoff Well Number Laser Unit 4H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4350953m Easting 522990m
Landing Point of Curve Northing 4351304.83m Easting 522754.88m
Bottom Hole Northing 4353986m Easting 521938m

Elevation (ft) 1283' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
Air - Foam & 4% KCL

Mud - Polymer

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Date permit issued 6/25/2019 Date drilling commenced 9/28/2019 Date drilling ceased 12/19/2019
Date completion activities began 2/25/2020 Date completion activities ceased 4/5/2020
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 128', 433' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 596', 1750' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 450' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

SDW

API 47-017 - 06895 Farm name George S. Wyckoff Well number Laser Unit 4H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	562'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2606'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17673'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7122'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	204 sx	15.6	1.18	244	0'	8 Hrs.
Surface	Class A	490 sx	15.6	1.19	402	0'	8 Hrs.
Coal							
Intermediate 1	Class A	877 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798 sx (Lead) 2607 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	2819	~500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17693' MD, 7103' TVD (BHL), 7104' (Deepest Point Drilled) Loggers TD (ft) 17693' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6706'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

- Conductor - 0
- Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
- Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface
- Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

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EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	3/6/2020	17567.2	17523.4	60	Marcellus
2	3/6/2020	17485.525	17319.15	60	Marcellus
3	3/7/2020	17283.475	17117.1	60	Marcellus
4	3/7/2020	17081.425	16915.05	60	Marcellus
5	3/7/2020	16879.375	16713	60	Marcellus
6	3/8/2020	16677.325	16510.95	60	Marcellus
7	3/8/2020	16475.275	16308.9	60	Marcellus
8	3/8/2020	16273.225	16106.85	60	Marcellus
9	3/8/2020	16071.175	15904.8	60	Marcellus
10	3/9/2020	15869.125	15702.75	60	Marcellus
11	3/9/2020	15667.075	15500.7	60	Marcellus
12	3/9/2020	15465.025	15298.65	60	Marcellus
13	3/9/2020	15262.975	15096.6	60	Marcellus
14	3/9/2020	15060.925	14894.55	60	Marcellus
15	3/10/2020	14858.875	14692.5	60	Marcellus
16	3/10/2020	14656.825	14490.45	60	Marcellus
17	3/10/2020	14454.775	14288.4	60	Marcellus
18	3/10/2020	14252.725	14086.35	60	Marcellus
19	3/11/2020	14050.675	13884.3	60	Marcellus
20	3/11/2020	13848.625	13682.25	60	Marcellus
21	3/11/2020	13646.575	13480.2	60	Marcellus
22	3/11/2020	13444.525	13278.15	60	Marcellus
23	3/11/2020	13242.475	13076.1	60	Marcellus
24	3/12/2020	13040.425	12874.05	60	Marcellus
25	3/12/2020	12838.375	12672	60	Marcellus
26	3/12/2020	12636.325	12469.95	60	Marcellus
27	3/12/2020	12434.275	12267.9	60	Marcellus
28	3/13/2020	12232.225	12065.85	60	Marcellus
29	3/13/2020	12030.175	11863.8	60	Marcellus
30	3/13/2020	11828.125	11661.75	60	Marcellus
31	3/13/2020	11626.075	11459.7	60	Marcellus
32	3/14/2020	11424.025	11257.65	60	Marcellus
33	3/14/2020	11221.975	11055.6	60	Marcellus
34	3/15/2020	11019.925	10853.55	60	Marcellus
35	3/15/2020	10817.875	10651.5	60	Marcellus
36	3/15/2020	10615.825	10449.45	60	Marcellus
37	3/15/2020	10413.775	10247.4	60	Marcellus
38	3/15/2020	10211.725	10045.35	60	Marcellus
39	3/16/2020	10009.675	9843.3	60	Marcellus
40	3/16/2020	9807.625	9641.25	60	Marcellus
41	3/17/2020	9605.575	9439.2	60	Marcellus
42	3/17/2020	9403.525	9237.15	60	Marcellus
43	3/17/2020	9201.475	9035.1	60	Marcellus
44	3/17/2020	8999.425	8833.05	60	Marcellus
45	3/17/2020	8797.375	8631	60	Marcellus
46	3/18/2020	8595.325	8428.95	60	Marcellus
47	3/18/2020	8393.275	8226.9	60	Marcellus
48	3/18/2020	8191.225	8024.85	60	Marcellus
49	3/18/2020	7989.175	7822.8	60	Marcellus
50	3/19/2020	7787.125	7620.75	60	Marcellus
51	3/19/2020	7585.075	7418.7	60	Marcellus
52	3/19/2020	7383.025	7216.65	60	Marcellus

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EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	3/6/2020	77.78	8177	6136	4399	162760	4625.405	N/A
2	3/6/2020	84.94	8482	5466	3936	401600	7320.571	N/A
3	3/6/2020	85.77	8442	5932	4470	405180	7287	N/A
4	3/7/2020	84.87	8302	5776	4087	404800	7246.738	N/A
5	3/7/2020	85.85	8512	5544	3749	408080	7265.333	N/A
6	3/7/2020	85.21	8591	5419	3627	407640	7341.5	N/A
7	3/7/2020	84.82	8504	5614	3661	398640	7141.238	N/A
8	3/8/2020	85.79	8486	5540	3927	404020	7306.333	N/A
9	3/8/2020	85.75	8450	5431	4222	398160	7253.381	N/A
10	3/8/2020	85.85	8299	5378	4034	399000	7129.595	N/A
11	3/9/2020	84.99	8454	5524	3816	399360	7131.476	N/A
12	3/9/2020	85.86	8440	5380	3912	400860	7144.929	N/A
13	3/9/2020	85.18	8523	5237	4190	408540	7206.524	N/A
14	3/9/2020	85	8502	5105	3872	400240	7155.5	N/A
15	3/9/2020	84.97	8410	5885	3824	403200	7125.905	N/A
16	3/10/2020	85.41	8367	6017	3747	401660	7091.333	N/A
17	3/10/2020	85.4	8338	6222	3948	403860	7170.167	N/A
18	3/10/2020	85.03	8559	5173	3732	402100	7223.905	N/A
19	3/10/2020	85.73	8216	5296	3519	411140	7135.381	N/A
20	3/10/2020	70.36	8184	7269	3987	405940	7078.905	N/A
21	3/11/2020	85.46	7928	5113	4059	406940	7070.857	N/A
22	3/11/2020	85.76	7973	5851	4167	401120	7160	N/A
23	3/11/2020	85.78	8084	5208	4575	403900	7102.833	N/A
24	3/11/2020	85.72	8172	5997	4162	412800	7095.238	N/A
25	3/11/2020	84.99	8426	5593	3849	404740	7034.452	N/A
26	3/12/2020	85.11	8244	5619	3577	401640	7020.095	N/A
27	3/12/2020	81.98	8287	6050	4273	410660	7169.071	N/A
28	3/12/2020	85.36	8078	5247	3619	404780	7048.452	N/A
29	3/13/2020	84	8156	5120	3169	405580	7025.333	N/A
30	3/13/2020	84.11	8255	5177	3984	405580	8653.619	N/A
31	3/13/2020	85.68	8207	4801	3903	403420	7117.571	N/A
32	3/13/2020	84.94	8007	5438	4330	401160	6999.667	N/A
33	3/14/2020	84.7	7846	5207	3755	404940	6996.571	N/A
34	3/14/2020	10.35	5708	5248	5890	0	2333.69	N/A
35	3/15/2020	3.8	5749	0	0	0	382.3571	N/A
36	3/16/2020	82.46	7547	6480	3390	406000	8947.786	N/A
37	3/17/2020	84.7	7567	5283	3609	407580	7003.214	N/A
38	3/17/2020	84.9	7863	5652	3799	404800	7021.238	N/A
39	3/17/2020	80.12	7466	5339	4031	405500	6931.548	N/A
40	3/17/2020	84.67	7769	5387	5079	404640	7131.738	N/A
41	3/18/2020	84.71	7686	5279	3680	403120	7147.429	N/A
42	3/18/2020	82.73	7783	5148	4617	406220	8776.595	N/A
43	3/18/2020	84.93	7256	5631	5080	404900	7033.381	N/A
44	3/18/2020	85.38	7159	4985	4558	405760	7023.405	N/A
45	3/19/2020	85.45	7072	6310	4770	407400	6987.714	N/A
46	3/19/2020	85.26	6840	5189	4022	403440	6990.262	N/A
47	3/19/2020	84.96	6692	4954	4366	404440	6891.5	N/A
48	3/19/2020	85.61	6948	6071	4736	407280	7060.024	N/A
49	3/19/2020	85.34	6797	5400	4240	406940	7053.548	N/A
50	3/20/2020	85.69	6839	5586	5112	404520	6912	N/A
51	3/20/2020	85.67	6541	4988	4976	406840	7013.833	N/A
52	3/20/2020	85.8	6352	5043	4734	402800	7014.595	N/A
	AVG=	80.6	8,079	5,425	3,892	15,525,680	281,774	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandstone	100	300	100	300
Siltstone	300	580	300	580
Limestone	580	600	580	600
Shaly Siltstone	600	720	600	720
Shaly Limestone	720	800	720	800
Siltstone w/ trace coal	800	870	800	870
Shale	870	980	870	980
Silty Sandstone	980	1,040	980	1,040
Limestone w/ trace coal	1,040	1,080	1,040	1,080
Shaly Sandstone	1,080	1,350	1,080	1,350
Sandstone w/ interbedded co	1,350	1,820	1,350	1,820
Shale	1,820	2,020	1,820	2,020
Limestone	2,020	2,120	2,020	2,120
Sandy Shale	2,120	2,127	2,120	2,131
Big Lime	2,127	2,768	2,106	2,773
Fifty Foot Sandstone	2,768	2,846	2,748	2,851
Gordon	2,846	3,138	2,826	3,147
Fifth Sandstone	3,138	3,344	3,122	3,358
Bayard	3,344	3,991	3,333	4,028
Speechley	3,991	4,274	4,003	4,325
Balltown	4,274	4,701	4,300	4,771
Bradford	4,701	5,181	4,746	5,268
Benson	5,181	5,467	5,243	5,567
Alexander	5,467	6,732	5,542	6,923
Sycamore	6,493	6,707	6,646	6,898
Middlesex	6,707	6,850	6,898	7,107
Burkett	6,850	6,881	7,107	7,163
Tully	6,881	6,945	7,163	7,318
Marcellus	6,945	NA	7,318	NA

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV
 Field: Doddridge
 Facility: George Scott Pad

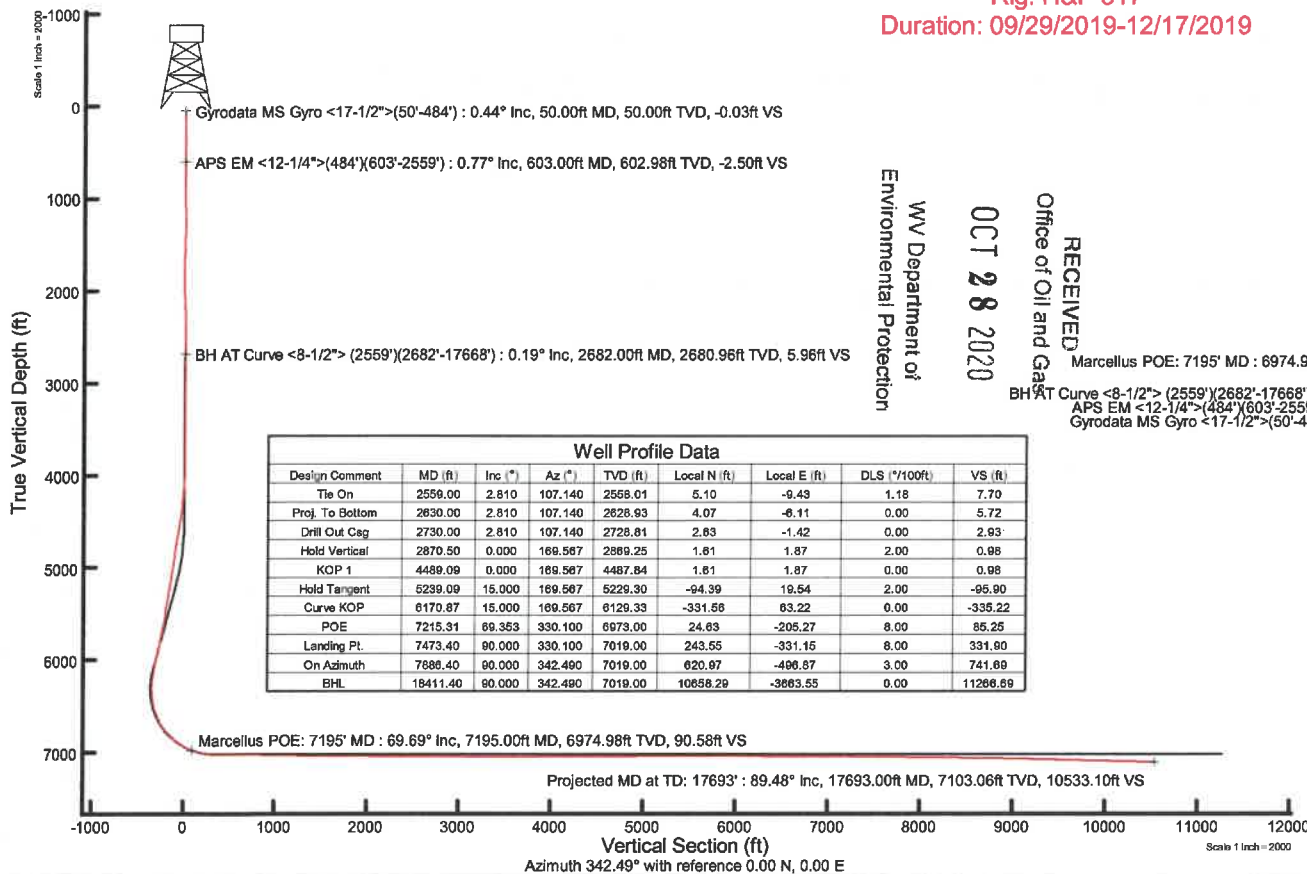
Slot: Slot #03
 Well: Laser Unit 4H
 Wellbore: Laser Unit 4H PWB



Plot reference wellpath in Laser Unit 4H PWP Rev-C.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level: 1303.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot #03): -1283 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: dclabst on 2019-12-16; Database: WA_MPL_Eastern_US_Defn

Location Information						
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
George Scott Pad	1715804.693	14274033.226	39°18'27.2500"N	80°44'0.5460"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #03	2.70	-9.60	1715795.100	14274035.930	39°18'27.2770"N	80°44'0.6700"W
H&P 317 (RKB) to Ground level (At Slot: Slot #03)			25.5ft			
Mean Sea Level to Ground level (At Slot: Slot #03)			-1283ft			
H&P 317 (RKB) to Mean Sea Level			1303.5ft			

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #03	Laser Unit 4H	Laser Unit 4H AWB	Laser Unit 4H AWP Proj: 17693'
Slot #03	Laser Unit 4H	Laser Unit 4H PWB	Laser Unit 4H PWP Rev-C.0

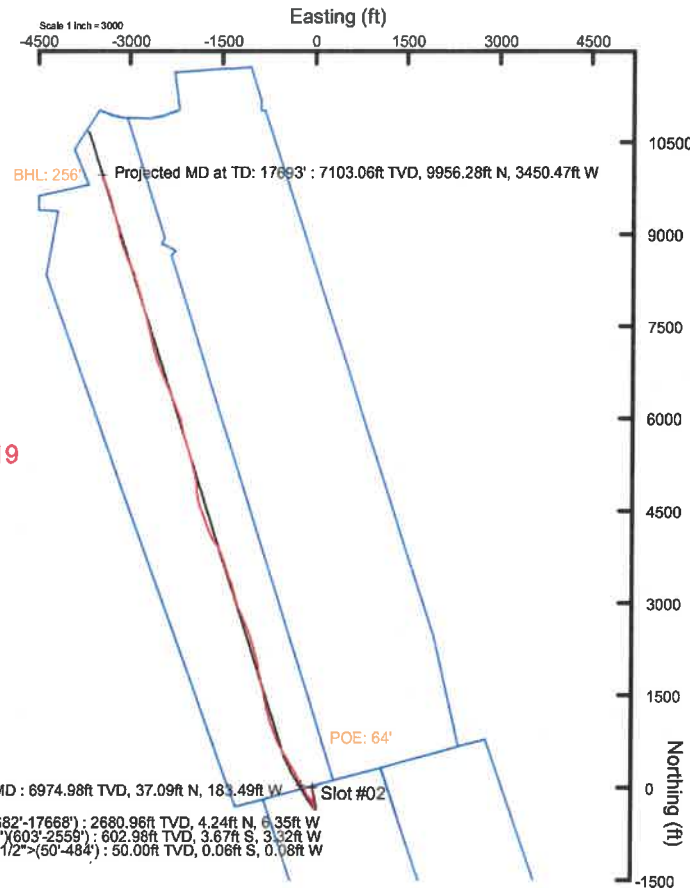


Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	2599.00	2.810	107.140	2568.01	5.10	-9.43	7.70
Proj. To Bottom	2630.00	2.810	107.140	2626.93	4.07	-6.11	5.72
Drill Out Csg	2730.00	2.810	107.140	2726.81	2.83	-1.42	2.93
Hold Vertical	2870.50	0.000	169.567	2869.25	1.81	1.87	0.98
KOP 1	4489.09	0.000	169.567	4487.84	1.81	1.87	0.98
Hold Tangent	5239.09	15.000	169.567	5229.30	-94.39	19.54	-95.90
Curve KOP	6170.87	15.000	169.567	6129.33	-331.58	83.22	-335.22
POE	7215.31	69.353	330.100	6973.00	24.63	-205.27	85.25
Landing Pt.	7473.40	90.000	330.100	7019.00	243.55	-331.15	331.60
On Azimuth	7688.40	90.000	342.490	7019.00	620.97	-496.87	741.69
BHL	18411.40	60.000	342.490	7019.00	10658.29	-3863.55	11266.69

API: 47-017-06895-0000
 BHI Job #: 110049929B
 Rig: H&P 317
 Duration: 09/29/2019-12/17/2019

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Marcellus POE: 7195' MD : 6974.98ft TVD, 37.09ft N, 183.49ft W
 BH AT Curve <8-1/2"> (2559')(2682'-17668') : 2680.96ft TVD, 4.24ft N, 6.35ft W
 APS EM <12-1/4">(484')(603'-2559') : 602.98ft TVD, 3.67ft S, 3.32ft W
 Gyrodata MS Gyro <17-1/2">(50'-484') : 50.00ft TVD, 0.06ft S, 0.08ft W



User specified (HDGM) Dip: 66.36° Field: 51931 nT
 Magnetic North is 7.76 degrees West of True North (at 12/10/2019)
 Grid North is 0.17 degrees East of True North
 To correct azimuth from True to Grid subtract 0.17 degrees
 To correct azimuth from Magnetic to Grid subtract 7.93 degrees

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/6/2020
Job End Date:	3/19/2020
State:	West Virginia
County:	Doddridge
API Number:	47-017-06895-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Laser 4H
Latitude:	39.30758000
Longitude:	-80.73353000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,101
Total Base Water Volume (gal):	16,251,346
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Produced Mixture	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.69959	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.16795	

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Legend LD-2990	MultiChem	Friction Reducer					
				Listed Below			
Legend LD-2555	MultiChem	Additive					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	13.11004	
			Hydrochloric acid	7647-01-0	30.00000	0.03820	
			Complex Amine Compound	Proprietary	60.00000	0.01589	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01411	
			Complex Amine Compound	Proprietary	60.00000	0.01232	
			Guar gum	9000-30-0	100.00000	0.00323	
			Glutaraldehyde	111-30-8	30.00000	0.00249	
			Ethoxylated alcohols	Proprietary	5.00000	0.00132	
			Polyethoxylated fatty amine salt	61791-26-2	30.00000	0.00123	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00103	
			Surfactant	Proprietary	5.00000	0.00103	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00042	
			Methanol	67-56-1	100.00000	0.00032	
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00026	
			Adipic acid	124-04-9	1.00000	0.00026	
			Ethoxylated alcohols	Proprietary	1.00000	0.00021	
			Organic chloride compound	Proprietary	1.00000	0.00021	

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			Ethylene oxide	75-21-8	0.01000	0.00000	
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* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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LATITUDE 39°20'00"

7,127'

10,546' TO BOTTOM HOLE

LATITUDE 39°22'30"

Antero Resources Corporation Well No. Laser Unit 4H

AS DRILLED DATA: WELL 4H TOP HOLE INFORMATION: N: 296,532ft E: 1,650,964ft LAT: 39°18'27.28" LON: 80°44'00.69" BOTTOM HOLE INFORMATION: N: 306,544ft E: 1,647,680ft LAT: 39°20'05.78" LON: 80°44'44.23" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT TAKEMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 4H TOP HOLE INFORMATION: N: 4,350,953m E: 522,990m BOTTOM HOLE INFORMATION: N: 4,353,986m E: 521,938m

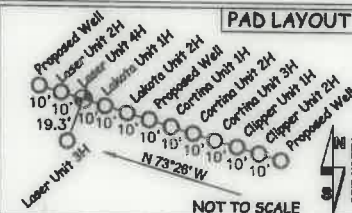


Table listing landowners and acreage for various sections (e.g., 08-2.1 Samuel Hammett, 05-04 Larry Williams, etc.).

LONGITUDE 80°42'30" TO BOTTOM HOLE

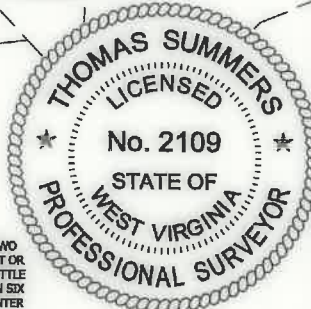
9,382'

LONGITUDE 80°42'30"

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415



JOB # 17-025WA DRAWING # LASER4HAD SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND: Surface Owner Boundary Lines +/-, Interior Surface Tracts +/-, Proposed Well Path, As Drilled Well Path. THOMAS SUMMERS P.S. 2109 DATE 06/18/20 OPERATOR'S WELL# LASER UNIT 4H

NOTE: 1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD. 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION. 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION. 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES. 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 017 06895 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,283' -AS-BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE SMITHBURG 7.5 DISTRICT WEST UNION COUNTY DODDRIDGE SURFACE OWNER GEORGE S. WYCKOFF ACREAGE 104.27 ACRES +/- LEASE ACREAGE 156 ACRES; 180 ACRES; 19.18 ACRES; OIL & GAS ROYALTY OWNER V.B. CHAPMAN ET UX; JOHNSON B. SMITH ET UX; S. A. SMITH ET AL; APPALACHIAN ROYALTIES, INC.; P.S. COWMAN ET UX; DIXIE J. CRAIG; PAMELA R. SCOTT; EDGAR DAVISSON ET UX; 12.13 ACRES; 105.93 ACRES; 68.75 ACRES; 32 ACRES; 220 ACRES; MICHAEL T. O'BRIEN ET UX; ED BROOME INC.; LORELEI PHILLIPS ET AL; MARIE K. COX ET AL 27 ACRES; 17.45 ACRES; 72 ACRES; 97 ACRES PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,103' TVD 17,693' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT

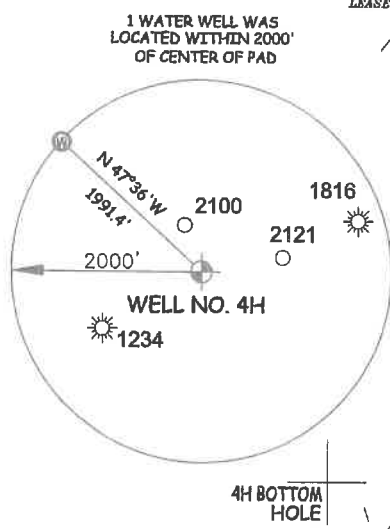
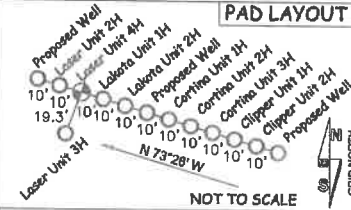
LATITUDE 39°20'00" 7,127'

GRID NORTH
WV NORTH ZONE

Antero Resources Corporation Well No. Laser Unit 4H

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Grant District - Doddridge County	
08-2.1	Samuel Hammett
West Union District - Doddridge County	
05-04	Larry Williams
05-06	Kinney Cemetery
05-07	Diana Knight
05-7.1	Worthy Underwood Jr.
05-7.2	
05-7.3	Lisa Nicholson
05-7.4	Roger Bacot
05-7.5	Diana Knight
05-7.6	Emanuel Sanchez
05-8.1	Charles Henderson
05-09	Lola Murphy
05-11	Larry Williams
05-12	Kelli Jett
05-13	Phillip Williams
05-14	Lola Murphy
05-15	Jerry Chlo
05-15.1	Red Oak Grove Church Trustees
05-16	Lorelei Phillips
05-17	Red Oak Grove Church Trustees
05-18	Steven Chippo
05-20	Steven Chippo
05-21	Steven Chippo
05-22	Diana Knight
08-03	Seth Every
08-04	Lorelei Phillips
08-4.1	Lorelei Phillips
08-05	Lorelei Phillips
08-5.1	Antero Resources Corporation
08-06	Antero Resources Corporation
08-09	Kleaver Family Trust
08-10	Diana Bonnell
08-11	Michael O'Brien
08-12	Antero Resources Corporation
08-13	Steven Chippo
08-14	Lisa Doro
08-20	Michael O'Brien
08-21	John Davis
08-22	Michael O'Brien
08-23	Sheila Hought
08-23.1	Brian Doro
08-35	Michael O'Brien
08-35.1	Michael O'Brien
08-36	Paul Smith
08-36.1	George Wyckoff
08-51	Robert Holland
08-52	John Smith
12-11	John Smith
12-12	John Smith
12-13.1	George Wyckoff

LONGITUDE 80°42'30" 14,591' TO BOTTOM HOLE

9,382'

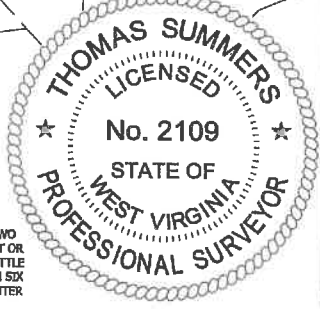
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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO
 WEST VIRGINIA 26415



JOB # 17-025WA
 DRAWING # LASER4HAD
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
 --- Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 ○ Proposed Well Path
 ⊗ As Drilled Well Path
 THOMAS SUMMERS P.S. 2109
 DATE 06/18/20
 OPERATOR'S WELL# LASER UNIT #4H

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