

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

API 47 - 017 - 06887 County Doddridge District West Union  
Quad Smithburg 7.5' Pad Name George Scott Pad Field/Pool Name -----  
Farm name George S. Wyckoff Well Number Clipper Unit 1H  
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 4350947m Easting 523010m  
Landing Point of Curve Northing 4350960.05m Easting 523506.95m  
Bottom Hole Northing 4347083m Easting 524840m

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  Gas  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 10/11/2019 Date drilling ceased 8/9/2019  
Date completion activities began 4/5/2020 Date completion activities ceased 11/3/2019  
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:  
SJW

API 47- 017 - 06887 Farm name George S. Wyckoff Well number Clipper Unit 1H

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"	558'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2589'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	21386'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7491'		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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	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	885 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798 sx (Lead) 3355sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	2819	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21415' MD, 6933' TVD (BHL), 6935' (Deepest Point Drilled)      Loggers TD (ft) 21415' MD  
 Deepest formation penetrated Marcellus      Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6835'

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

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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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
Marcellus	6947' (TOP)	TVD	7516' (TOP)	MD
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 9262 mcfpd Oil 42 bpd NGL --- bpd Water 162 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
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**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC  
 Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Nine Energy Services  
 Address 125 Museum Road City Washington State PA Zip 15301

Cementing Company C&J Energy Services  
 Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes  
 Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223  
 Signature [Signature] Title Permitting Agent Date 7/24/20

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

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## EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/10/2020	21277.8	21232.9	60	Marcellus
2	1/11/2020	21195.2	21029.7	60	Marcellus
3	1/11/2020	20994.2	20828.7	60	Marcellus
4	1/11/2020	20793.2	20627.7	60	Marcellus
5	1/12/2020	20592.2	20426.7	60	Marcellus
6	1/12/2020	20391.2	20225.7	60	Marcellus
7	1/12/2020	20190.2	20024.7	60	Marcellus
8	1/13/2020	19989.2	19823.7	60	Marcellus
9	1/13/2020	19788.2	19622.7	60	Marcellus
10	1/14/2020	19587.2	19421.7	60	Marcellus
11	1/14/2020	19386.2	19220.7	60	Marcellus
12	1/14/2020	19185.2	19019.7	60	Marcellus
13	1/15/2020	18984.2	18818.7	60	Marcellus
14	1/15/2020	18783.2	18617.7	60	Marcellus
15	1/15/2020	18582.2	18416.7	60	Marcellus
16	1/16/2020	18381.2	18215.7	60	Marcellus
17	1/16/2020	18180.2	18014.7	60	Marcellus
18	1/17/2020	17979.2	17813.7	60	Marcellus
19	1/17/2020	17778.2	17612.7	60	Marcellus
20	1/18/2020	17577.2	17411.7	60	Marcellus
21	1/18/2020	17376.2	17210.7	60	Marcellus
22	1/19/2020	17175.2	17009.7	60	Marcellus
23	1/19/2020	16974.2	16808.7	60	Marcellus
24	1/19/2020	16773.2	16607.7	60	Marcellus
25	1/20/2020	16572.2	16406.7	60	Marcellus
26	1/20/2020	16371.2	16205.7	60	Marcellus
27	1/21/2020	16170.2	16004.7	60	Marcellus
28	1/21/2020	15969.2	15803.7	60	Marcellus
29	1/22/2020	15768.2	15602.7	60	Marcellus
30	1/22/2020	15567.2	15401.7	60	Marcellus
31	1/23/2020	15366.2	15200.7	60	Marcellus
32	1/23/2020	15165.2	14999.7	60	Marcellus
33	1/23/2020	14964.2	14798.7	60	Marcellus
34	1/24/2020	14763.2	14597.7	60	Marcellus
35	1/24/2020	14562.2	14396.7	60	Marcellus
36	1/24/2020	14361.2	14195.7	60	Marcellus
37	1/24/2020	14160.2	13994.7	60	Marcellus
38	1/24/2020	13959.2	13793.7	60	Marcellus
39	1/25/2020	13758.2	13592.7	60	Marcellus
40	1/25/2020	13557.2	13391.7	60	Marcellus
41	1/25/2020	13356.2	13190.7	60	Marcellus
42	1/25/2020	13155.2	12989.7	60	Marcellus
43	1/26/2020	12954.2	12788.7	60	Marcellus
44	1/26/2020	12753.2	12587.7	60	Marcellus
45	1/26/2020	12552.2	12386.7	60	Marcellus
46	1/26/2020	12351.2	12185.7	60	Marcellus
47	1/26/2020	12150.2	11984.7	60	Marcellus
48	1/27/2020	11949.2	11783.7	60	Marcellus
49	1/27/2020	11748.2	11582.7	60	Marcellus
50	1/27/2020	11547.2	11381.7	60	Marcellus
51	1/27/2020	11346.2	11180.7	60	Marcellus
52	1/28/2020	11145.2	10979.7	60	Marcellus
53	1/29/2020	10944.2	10778.7	60	Marcellus
54	1/30/2020	10743.2	10577.7	60	Marcellus
55	1/30/2020	10542.2	10376.7	60	Marcellus
56	1/30/2020	10341.2	10175.7	60	Marcellus
57	1/30/2020	10140.2	9974.7	60	Marcellus
58	1/30/2020	9939.2	9773.7	60	Marcellus
59	1/30/2020	9738.2	9572.7	60	Marcellus
60	1/31/2020	9537.2	9371.7	60	Marcellus
61	1/31/2020	9336.2	9170.7	60	Marcellus
62	1/31/2020	9135.2	8969.7	60	Marcellus
63	1/31/2020	8934.2	8768.7	60	Marcellus
64	1/31/2020	8733.2	8567.7	60	Marcellus
65	1/31/2020	8532.2	8366.7	60	Marcellus
66	1/31/2020	8331.2	8165.7	60	Marcellus
67	1/31/2020	8130.2	7964.7	60	Marcellus
68	2/1/2020	7929.2	7763.7	60	Marcellus
69	2/1/2020	7728.2	7562.7	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 (bbbls)	Amount of Nitrogen/other (units)
1	1/10/2020	74.1	8518	6238	3978	169315	5051	N/A
2	1/11/2020	82.24	8676	5319	4629	406260	7597.7	N/A
3	1/11/2020	90.2	8470	5985	4770	403320	7533.3	N/A
4	1/11/2020	91.1	8605	5501	4770	403760	7420.8	N/A
5	1/12/2020	88.34	8287	5681	4789	409120	7595.6	N/A
6	1/12/2020	93.28	8645	5587	5003	403120	7411.5	N/A
7	1/12/2020	74.73	8649	5856	4019	414740	7699.5	N/A
8	1/13/2020	92.06	8681	8385	4704	403740	7366.7	N/A
9	1/13/2020	92.8	8802	5999	5098	404580	7411	N/A
10	1/14/2020	89.62	8757	5380	4781	407880	7265.4	N/A
11	1/14/2020	94.3	8709	5796	4814	402420	7599.7	N/A
12	1/14/2020	88.71	8671	5650	4752	403660	7327.4	N/A
13	1/15/2020	93.94	8726	5666	4553	410500	7284.1	N/A
14	1/15/2020	95.58	8609	5669	4585	410900	7431.6	N/A
15	1/15/2020	85.75	8381	5467	4192	407300	7300.6	N/A
16	1/16/2020	95.28	8674	5128	4342	412040	7463.6	N/A
17	1/16/2020	94.98	8578	5208	4366	410880	7399.9	N/A
18	1/17/2020	94.74	8565	5954	4023	409640	7382	N/A
19	1/17/2020	90.24	8436	5229	4599	406810	7427	N/A
20	1/18/2020	92.72	8372	5721	4444	405000	7298	N/A
21	1/18/2020	95.16	8561	4360	4582	406000	7405	N/A
22	1/19/2020	93.07	8280	5496	4425	411660	7428	N/A
23	1/19/2020	94.43	8543	5677	4501	403360	7226	N/A
24	1/19/2020	90.47	8708	5475	4358	404700	8356	N/A
25	1/20/2020	92.68	8509	5587	4513	405740	7160	N/A
26	1/20/2020	95.8	8442	3599	4692	424200	7793	N/A
27	1/21/2020	94.92	8542	5302	4462	407480	7270.5	N/A
28	1/21/2020	95.25	8542	5579	3979	416480	7394.9	N/A
29	1/22/2020	93.2	8374	5114	4509	406720	7276	N/A
30	1/22/2020	94.35	8611	5564	4514	398920	7141.7	N/A
31	1/23/2020	93.56	8324	5466	4602	414620	7277.7	N/A
32	1/23/2020	90.09	8563	5744	4316	405440	7209.6	N/A
33	1/23/2020	90.18	8578	5432	4033	404440	7089.6	N/A
34	1/24/2020	93.14	8519	5552	4068	408880	7132.4	N/A
35	1/24/2020	91.32	8448	5600	4545	409600	7234	N/A
36	1/24/2020	93.97	8476	5725	4176	414240	7262.5	N/A
37	1/24/2020	95.25	8588	5393	4379	406360	7086	N/A
38	1/24/2020	93.56	8573	5461	4476	409360	7034.3	N/A
39	1/25/2020	95.84	8547	6634	4285	409120	7085.5	N/A
40	1/25/2020	94.17	8502	5516	4408	409380	7183.7	N/A
41	1/25/2020	94.56	8465	5107	4416	410680	7091.8	N/A
42	1/25/2020	95.5	8490	5220	4033.33	408400	6963	N/A
43	1/26/2020	95.53	8435	5869	4153	408080	7059.4	N/A
44	1/26/2020	95.44	8370	5773	4431	410140	7022.1	N/A
45	1/26/2020	93.83	8415	5001	4361	399460	6967.7	N/A
46	1/26/2020	93.34	8355	5505	4841	400780	7078.3	N/A
47	1/26/2020	94.66	8284	6842	4653	406200	7058.3	N/A
48	1/27/2020	95.66	8478	5393	4239	399820	6838.8	N/A
49	1/27/2020	94.55	8299	5981	4437	401980	7108.8	N/A
50	1/27/2020	94.24	8153	5193	3992	402700	7014.8	N/A
51	1/27/2020	95.67	8267	5635	4411	407420	6970.8	N/A
52	1/28/2020	95.62	8439	5439	3055	400400	6855.5	N/A
53	1/29/2020	92.52	8433	5737	4028	404440	7036.5	N/A
54	1/30/2020	97	8596	5984	4195	408060	6973.3	N/A
55	1/30/2020	94.68	8297	5283	4213	412060	7079.4	N/A
56	1/30/2020	96.07	8392	5582	4644	409240	7006.9	N/A
57	1/30/2020	95	8220	5591	4505	406180	6905.3	N/A
58	1/30/2020	95.33	8159	5209	3864	408260	6926.7	N/A
59	1/30/2020	95.48	8579	5251	3901	398280	6846.1	N/A
60	1/31/2020	93.7	8469	5095	4478	406680	6795	N/A
61	1/31/2020	95.11	8366	5150	3880	406380	6897.2	N/A
62	1/31/2020	94.78	8346	5136	3776	402100	6852.8	N/A
63	1/31/2020	95.3	8314	5591	3754	404260	6832.6	N/A
64	1/31/2020	95.14	8302	5283	3750	407640	6875.3	N/A
65	1/31/2020	95.54	8081	4473	3566	404420	6851	N/A
66	1/31/2020	95.34	8514	5607	4036.85	400570	6761.7	N/A
67	1/31/2020	96.01	8410	5487	3857	401740	6771.1	N/A
68	2/1/2020	95.27	8465	5537	3620	398460	6727.1	N/A
69	2/1/2020	95.71	8264	5661	3556	403500	6761.2	N/A
	AVG=	91.7	8,549	5,581	4,479	16,492,365	299,405	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	2,123	2,120	2,129
Big Lime	2,123	2,760	2,104	2,766
Fifty Foot Sandstone	2,760	2,832	2,741	2,839
Gordon	2,832	3,117	2,814	3,126
Fifth Sandstone	3,117	3,319	3,101	3,333
Bayard	3,319	3,959	3,308	4,025
Speechley	3,959	4,257	4,000	4,351
Balltown	4,257	4,673	4,326	4,818
Bradford	4,673	5,160	4,793	5,355
Benson	5,160	5,458	5,330	5,674
Alexander	5,458	6,734	5,649	7,095
Sycamore	6,491	6,709	6,807	7,070
Middlesex	6,709	6,852	7,070	7,288
Burkett	6,852	6,881	7,288	7,346
Tully	6,881	6,947	7,346	7,516
Marcellus	6,947	NA	7,516	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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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/10/2020
Job End Date:	2/1/2020
State:	West Virginia
County:	Doddridge
API Number:	47-017-06887-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Clipper 1H
Latitude:	39.30753000
Longitude:	-80.73328000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,019
Total Base Water Volume (gal):	21,811,850
Total Base Non Water Volume:	0

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## 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	86.77173	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17496	



FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
Legend LD-2555	MultiChem	Additive					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
Legend LD-2990	MultiChem	Friction Reducer					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
LD-2950	MultiChem	Friction Reducer					
				Listed Below			

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Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				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	13.02041	
			Hydrochloric acid	7647-01-0	30.00000	0.03947	
			Complex Amine Compound	Proprietary	60.00000	0.01770	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01763	
			Complex Amine Compound	Proprietary	60.00000	0.01756	
			Guar gum	9000-30-0	100.00000	0.00354	
			Glutaraldehyde	111-30-8	30.00000	0.00244	
			Polyethoxylated fatty amine salt	61791-26-2	30.00000	0.00164	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00146	
			Surfactant	Proprietary	5.00000	0.00146	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00041	
			Methanol	67-56-1	100.00000	0.00032	
			Adipic acid	124-04-9	1.00000	0.00029	
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00029	
			Ethoxylated alcohols	Proprietary	1.00000	0.00029	
			Organic chloride compound	Proprietary	1.00000	0.00029	
			Ethoxylated alcohols	Proprietary	1.00000	0.00029	
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00029	
			Ammonium persulfate	7727-54-0	100.00000	0.00017	
			Ethanol	64-17-5	1.00000	0.00008	

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			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
			Oxylated phenolic resin	Proprietary	30.00000	0.00005	
			Acrylamide	79-06-1	0.10000	0.00003	
			Organic salt #1	Proprietary	0.10000	0.00003	
			Ethoxylated alcohols	Proprietary	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00000	
			Organic salt #3	Proprietary	0.01000	0.00000	
			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			Formaldehyde	50-00-0	0.01000	0.00000	
			Sodium glycollate	2836-32-0	0.01000	0.00000	
			Organic salt #2	Proprietary	0.01000	0.00000	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	

\* 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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# ANTERO RESOURCES CORPORATION

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

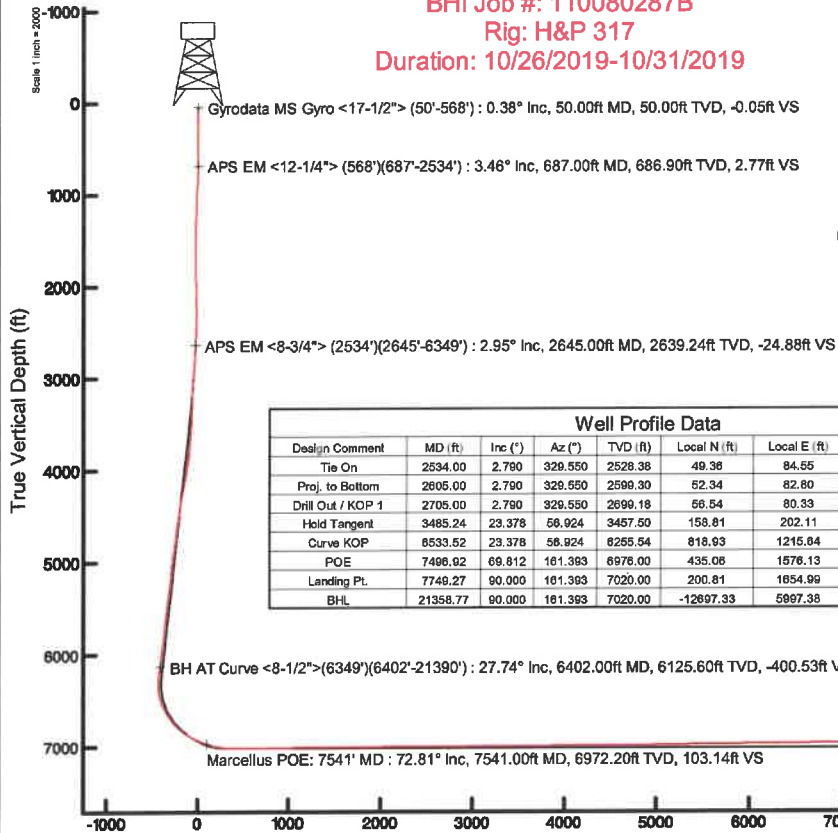
Slot: Slot #10  
 Well: Clipper Unit 1H  
 Wellbore: Clipper Unit 1H PWB

Plot reference wellpath is Clipper Unit 1H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level: 1308.5 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #10): -1283 feet	Created by: delaset on 2019-11-01
Coordinates are in feet referenced to Slot	Database: WA MPL EasternUS Defn

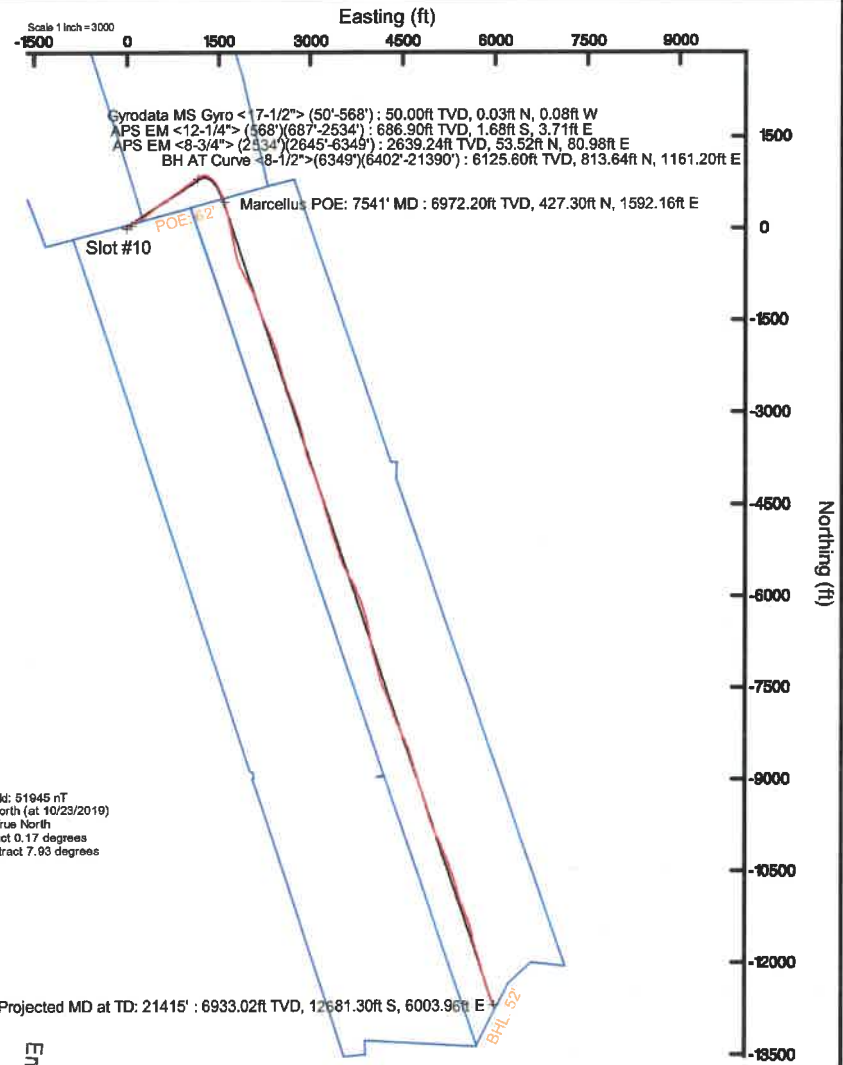
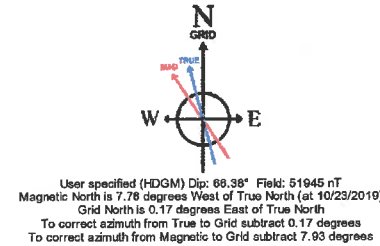
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
George Scott Pad	1715904.893	14274033.228	39°18'27.250"N	80°44'00.548"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #10	-16.12	57.82	1715902.490	14274017.110
H&P 317 (RKB) to Ground level (At Slot: Slot #10)	25.5ft			
Mean Sea Level to Ground level (At Slot: Slot #10)	-1283ft			
H&P 317 (RKB) to Mean Sea Level	1308.5ft			

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #10	Clipper Unit 1H	Clipper Unit 1H AWB	Clipper Unit 1H AWP Proj: 21415'
Slot #10	Clipper Unit 1H	Clipper Unit 1H PWB	Clipper Unit 1H PWP Rev-B.0

API: 47-017-06887-0000  
 BHI Job #: 110080287B  
 Rig: H&P 317  
 Duration: 10/26/2019-10/31/2019



Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	2534.00	2.790	329.550	2528.38	49.36	84.55	-19.80
Proj. to Bottom	2605.00	2.790	329.550	2599.30	52.34	82.80	-23.18
Drill Out / KOP 1	2705.00	2.790	329.550	2699.18	56.54	80.33	-27.95
Held Tangent	3485.24	23.378	58.924	3457.50	158.81	202.11	-86.01
Curve KOP	8533.52	23.378	58.924	8255.54	818.93	1215.84	-385.17
POE	7498.02	69.812	161.393	6978.00	435.08	1576.13	90.67
Landing Pt.	7749.27	90.000	161.393	7020.00	200.81	1654.99	337.84
BHL	21358.77	90.000	161.393	7020.00	-12697.33	5997.38	0.00



Projected MD at TD: 21415' : 90.31° Inc, 21415.00ft MD, 6933.02ft TVD, 13934.24ft VS

Marcellus POE: 7541' MD : 72.81° Inc, 7541.00ft MD, 6972.20ft TVD, 103.14ft VS

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Azimuth 161.39° with reference 0.00 N, 0.00 E

LATITUDE 39°20'00"

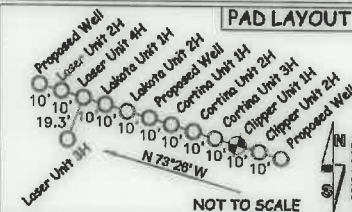
7,060'

LATITUDE 39°17'30" 1,097' TO BOTTOM HOLE

Antero Resources Corporation Well No. Clipper Unit 1H

AS DRILLED DATA: WELL 1H TOP HOLE INFORMATION: N: 296,512ft E: 1,651,033ft LAT: 39°18'27.09" LON: 80°43'59.81" BOTTOM HOLE INFORMATION: N: 283,733ft E: 1,656,824ft LAT: 39°16'21.57" LON: 80°42'43.94" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 4,350,947m E: 523,010m BOTTOM HOLE INFORMATION: N: 4,347,083m E: 524,840m



1 WATER WELL WAS LOCATED WITHIN 2000' OF CENTER OF PAD

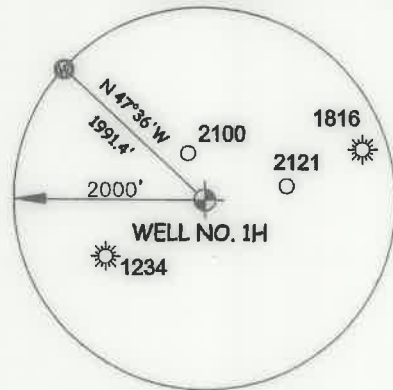


Table listing landowners and lease information for West Union District - Doddridge County, including names like Paul Smith, George Wyckoff, and various LLCs.

Table listing landowners and lease information for West Union District - Doddridge County, including names like David Moore, Ratrie Realty LLC, and Jimmie Nicholson.

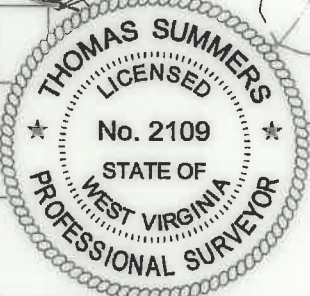
Table listing landowners and lease information for West Union District - Doddridge County, including names like Lucien Sammons, David Mitchell, and Ruby Ballenger.

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 # 18-035WA DRAWING # CLIPPER1HAD SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS.

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# CLIPPER UNIT #1H

- 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 06887 (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 70.58 ACRES +/- OIL & GAS ROYALTY OWNERS: Y.B. CHAPMAN ET UX; JOHNSON B. SMITH ET UX; FANNIE A. COULLEHAN; B.F. HEFLIN JR. ET UX; LEASE ACREAGE 158 AC +/-; 234.94 AC +/-; 82 AC +/-; E.C. JONES ET AL; LEWIS MAXWELL OIL & GAS LLC; MARY F. JONES; WYDNR; FOUR LEAF LAND COMPANY; HOWARD D. SPURLOCK II, ET UX; 300 AC +/-; 54.94 AC +/-; 194 AC +/-; 8.9 AC +/-; 6.24 AC +/-; 1.41 AC +/-; WVSRA; SPERRY HARWOODS; RONALD G. STUTLER; A. E. FITZWILLIAMS ET AL; HUGH SPENCER ET UX; 301.19 AC +/-; 29.83 AC +/-; 25.56 AC +/-; 138.5 AC +/-; 132 AC +/-

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 6,933' TVD 21,415' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

6,924' TO BOTTOM HOLE

LONGITUDE 80°42'30"

9,401'

LONGITUDE 80°42'30"

COUNTY NAME

PERMIT

LATITUDE 39°20'00"

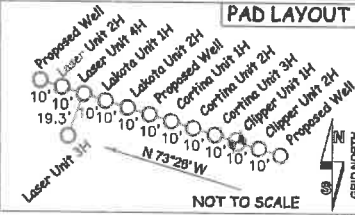
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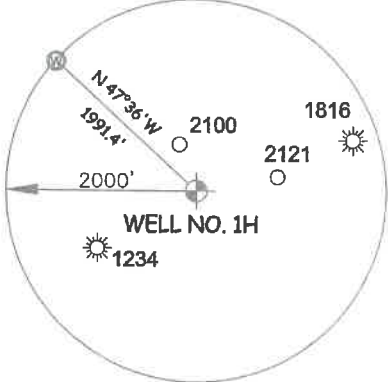


Table listing lease owners and well numbers in the West Union District - Doddridge County, including names like Paul Smith, George Wyckoff, and Spencer Enterp. LLC.

6,924' TO BOTTOM HOLE LONGITUDE 80°42'30" LONGITUDE 80°42'30"

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

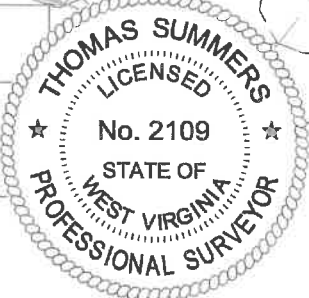


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LEGEND: Surface Owner Boundary Lines +/-, Interior Surface Tracts +/-, Proposed Well Path, As Drilled Well Path

THOMAS SUMMERS P.S. 2109 DATE 06/18/20 OPERATOR'S WELL# CLIPPER UNIT #1H

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