

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

API 47-017-06888 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 2H
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 4350946m Easting 523013m
Landing Point of Curve Northing 4351051.17m Easting 523801.46m
Bottom Hole Northing 4347306m Easting 525077m

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 10/13/2019 Date drilling ceased 10/26/2019
Date completion activities began 1/10/2020 Date completion activities ceased 4/2/2020
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:
JDW

API 47- 017 - 06888 Farm name George S. Wyckoff Well number Clipper Unit 2H

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"	2722'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	21089'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7704'		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	924 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798 sx (Lead) 3236 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) 21109' MD, 6944' TVD (BHL), 6946' (Deepest Point Drilled) Loggers TD (ft) 21109' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 7125'

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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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PRODUCING FORMATION(S)	DEPTHS		
<u>Marcellus</u>	<u>6958' (TOP)</u>	<u>TVD</u>	<u>7741' (TOP)</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

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 8635 mcfpd Oil 41 bpd NGL --- bpd Water 140 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

***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 RECEIVED
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Logging Company Nine Energy Services
Address 125 Museum Road City Washington State PA Zip 15301 OCT 28 2020

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

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 7/21/20

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

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/10/2020	20981.3	20936.3	60	Marcellus
2	1/11/2020	20898.903	20734.918	60	Marcellus
3	1/11/2020	20699.721	20535.736	60	Marcellus
4	1/11/2020	20500.539	20336.554	60	Marcellus
5	1/12/2020	20301.357	20137.372	60	Marcellus
6	1/12/2020	20102.175	19938.19	60	Marcellus
7	1/12/2020	19902.993	19739.008	60	Marcellus
8	1/13/2020	19703.811	19539.826	60	Marcellus
9	1/13/2020	19504.629	19340.644	60	Marcellus
10	1/13/2020	19305.447	19141.462	60	Marcellus
11	1/14/2020	19106.265	18942.28	60	Marcellus
12	1/14/2020	18907.083	18743.098	60	Marcellus
13	1/14/2020	18707.901	18543.916	60	Marcellus
14	1/15/2020	18508.719	18344.734	60	Marcellus
15	1/15/2020	18309.537	18145.552	60	Marcellus
16	1/16/2020	18110.355	17946.37	60	Marcellus
17	1/16/2020	17911.173	17747.188	60	Marcellus
18	1/16/2020	17711.991	17548.006	60	Marcellus
19	1/17/2020	17512.809	17348.824	60	Marcellus
20	1/17/2020	17313.627	17149.642	60	Marcellus
21	1/17/2020	17114.445	16950.46	60	Marcellus
22	1/17/2020	16915.263	16751.278	60	Marcellus
23	1/18/2020	16716.081	16552.096	60	Marcellus
24	1/18/2020	16516.899	16352.914	60	Marcellus
25	1/18/2020	16317.717	16153.732	60	Marcellus
26	1/18/2020	16118.535	15954.55	60	Marcellus
27	1/19/2020	15919.353	15755.368	60	Marcellus
28	1/19/2020	15720.171	15556.186	60	Marcellus
29	1/19/2020	15520.989	15357.004	60	Marcellus
30	1/19/2020	15321.807	15157.822	60	Marcellus
31	1/19/2020	15122.625	14958.64	60	Marcellus
32	1/20/2020	14923.443	14759.458	60	Marcellus
33	1/20/2020	14724.261	14560.276	60	Marcellus
34	1/20/2020	14525.079	14361.094	60	Marcellus
35	1/20/2020	14325.897	14161.912	60	Marcellus
36	1/20/2020	14126.715	13962.73	60	Marcellus
37	1/21/2020	13927.533	13763.548	60	Marcellus
38	1/21/2020	13728.351	13564.366	60	Marcellus
39	1/21/2020	13529.169	13365.184	60	Marcellus
40	1/21/2020	13329.987	13166.002	60	Marcellus
41	1/22/2020	13130.805	12966.82	60	Marcellus
42	1/22/2020	12931.623	12767.638	60	Marcellus
43	1/22/2020	12732.441	12568.456	60	Marcellus
44	1/22/2020	12533.259	12369.274	60	Marcellus
45	1/23/2020	12334.077	12170.092	60	Marcellus
46	1/23/2020	12134.895	11970.91	60	Marcellus
47	1/23/2020	11935.713	11771.728	60	Marcellus
48	1/23/2020	11736.531	11572.546	60	Marcellus
49	1/24/2020	11537.349	11373.364	60	Marcellus
50	1/24/2020	11338.167	11174.182	60	Marcellus
51	1/24/2020	11138.985	10975	60	Marcellus
52	1/24/2020	10939.803	10775.818	60	Marcellus
53	1/24/2020	10740.621	10576.636	60	Marcellus
54	1/25/2020	10541.439	10377.454	60	Marcellus
55	1/25/2020	10342.257	10178.272	60	Marcellus
56	1/25/2020	10143.075	9979.09	60	Marcellus
57	1/25/2020	9943.893	9779.908	60	Marcellus
58	1/25/2020	9744.711	9580.726	60	Marcellus
59	1/26/2020	9545.529	9381.544	60	Marcellus
60	1/26/2020	9346.347	9182.362	60	Marcellus
61	1/26/2020	9147.165	8983.18	60	Marcellus
62	1/26/2020	8947.983	8783.998	60	Marcellus
63	1/27/2020	8748.801	8584.816	60	Marcellus
64	1/27/2020	8549.619	8385.634	60	Marcellus
65	1/27/2020	8350.437	8186.452	60	Marcellus
66	1/27/2020	8151.255	7987.27	60	Marcellus
67	1/27/2020	7952.073	7788.088	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	1/10/2020	80.8	8524	6080	4468	173295	5026.071	N/A
2	1/11/2020	79.46	8707	6218	5010	406400	7470.238	N/A
3	1/11/2020	77.46	8756	5813	5031	396200	7184.667	N/A
4	1/11/2020	90.95	8612	5109	4786	402860	7360.167	N/A
5	1/12/2020	94.32	8621	5330	4943	407180	7438.762	N/A
6	1/12/2020	94.07	8618	5365	4674	400120	7685.381	N/A
7	1/12/2020	89.83	8673	5513	4368	408520	7417.976	N/A
8	1/13/2020	88.87	8653	5659	4840	405040	7325.024	N/A
9	1/13/2020	94.83	8709	6794	4947	400840	7298.167	N/A
10	1/13/2020	88.52	8654	5870	4401	407960	7309.833	N/A
11	1/14/2020	88.19	8761	5845	4761	414680	7224.738	N/A
12	1/14/2020	92.5	8608	5705	4963	403420	7355.524	N/A
13	1/14/2020	90.51	8522	6506	4732	412080	7417.786	N/A
14	1/15/2020	87.61	8338	5647	4702	409020	7335.905	N/A
15	1/15/2020	95.77	8680	5745	4855	407790	7277.119	N/A
16	1/16/2020	87.51	7996	5253	4670	413100	10239.93	N/A
17	1/16/2020	94.91	8641	5459	4922	410780	7248.881	N/A
18	1/16/2020	90.3	8397	5175	4803	410010	7286.167	N/A
19	1/17/2020	94.78	8667	5192	4437	407540	7172.524	N/A
20	1/17/2020	95.68	8312	4569	4569	408590	8700.214	N/A
21	1/17/2020	94.78	8515	5013	4433	408600	7352.833	N/A
22	1/17/2020	83.91	8805	4971	4066	402070	7302.857	N/A
23	1/18/2020	94.68	8443	5104	4590	409510	7277.476	N/A
24	1/18/2020	93.47	8497	5310	4890	409720	7293.762	N/A
25	1/18/2020	82.74	8681	5199	4574	406160	7341.881	N/A
26	1/18/2020	94.09	8446	5128	4650	405160	7150.714	N/A
27	1/19/2020	91.18	8484	5069	4294	410680	7932.095	N/A
28	1/19/2020	94.57	8332	5348	4429	408140	7384	N/A
29	1/19/2020	95.21	8362	5261	4830	404020	7334.548	N/A
30	1/19/2020	95.55	8374	5299	4503	411780	7186.881	N/A
31	1/19/2020	94.23	8608	5352	4563	401180	7124.024	N/A
32	1/20/2020	89.32	8698	5353	4894	405170	7127.929	N/A
33	1/20/2020	89.97	8625	6355	4759	411440	7437.762	N/A
34	1/20/2020	88.99	8611	5323	4270	408760	7196.286	N/A
35	1/20/2020	93.88	8472	5735	4719	408980	7173.238	N/A
36	1/20/2020	94.3	8196	5295	4509	402960	9600.667	N/A
37	1/21/2020	93.67	8419	5509	4420	413940	7209.762	N/A
38	1/21/2020	94.83	8438	4426	4517	403940	7086.929	N/A
39	1/21/2020	95.6	8392	5499	3733	416760	7303.095	N/A
40	1/21/2020	93.15	8521	5136	4396	407360	7099.69	N/A
41	1/22/2020	90.12	8539	5604	4458	413100	7180.762	N/A
42	1/22/2020	92.99	8521	5472	4150	410760	7175.619	N/A
43	1/22/2020	91.94	8498	5226	4289	404360	7072.643	N/A
44	1/22/2020	94.96	8585	5930	4497	399460	6914.119	N/A
45	1/23/2020	90.13	8354	5691	3563	398400	6880.286	N/A
46	1/23/2020	66.45	8257	5434	3780	412300	8991.905	N/A
47	1/23/2020	95.16	8397	5239	4357	407680	7078.5	N/A
48	1/23/2020	95.42	8425	5951	4626	403500	7108.048	N/A
49	1/24/2020	93.73	8426	5752	4771	405400	6906.071	N/A
50	1/24/2020	90.61	8237	5620	5213	411120	7090.762	N/A
51	1/24/2020	95.35	8205	5534	3841	408720	7104.976	N/A
52	1/24/2020	94.43	8366	5784	4206	408840	7016.762	N/A
53	1/24/2020	95.55	8514	6079	4229	407920	7010.595	N/A
54	1/25/2020	95.26	8494	5118	4000	411540	6916.262	N/A
55	1/25/2020	95.72	8178	5805	4012	410500	6855.238	N/A
56	1/25/2020	91.99	7934	5640	4856	409140	8904.595	N/A
57	1/25/2020	95.62	7777	5670	3791	407700	6830.714	N/A
58	1/25/2020	95.72	7949	5650	4018	406660	6857.786	N/A
59	1/26/2020	95.72	7928	5103	4010	411940	6836.024	N/A
60	1/26/2020	93.13	8000	5439	3999	412200	7114.881	N/A
61	1/26/2020	93.25	7955	5145	3892	403670	6902.786	N/A
62	1/26/2020	95.72	7912	5077	4399	405100	6698.714	N/A
63	1/27/2020	95.87	7890	5375	4231	401300	6796.405	N/A
64	1/27/2020	95.1	7955	5624	4044	402040	6786.762	N/A
65	1/27/2020	95.68	7683	5476	4094	398400	6805.381	N/A
66	1/27/2020	94.44	7722	5524	4843	399880	6922.619	N/A
67	1/27/2020	95.78	7636	5632	3825	404400	6843.952	N/A
	AVG=	91.1	8,534	5,467	4,619	16,474,855	303,872	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	2,180	2,120	2,180
Sandstone	2,180	2,128	2,180	2,222
Big Lime	2,128	2,760	2,197	2,910
Fifty Foot Sandstone	2,760	2,846	2,885	3,004
Gordon	2,846	3,124	2,979	3,317
Fifth Sandstone	3,124	3,333	3,292	3,551
Bayard	3,333	3,964	3,526	4,253
Speechley	3,964	4,269	4,228	4,592
Balltown	4,269	4,680	4,567	5,040
Bradford	4,680	5,175	5,015	5,596
Benson	5,175	5,469	5,571	5,922
Alexander	5,469	6,739	5,897	7,338
Sycamore	6,497	6,714	7,058	7,313
Middlesex	6,714	6,856	7,313	7,523
Burkett	6,856	6,885	7,523	7,574
Tully	6,885	6,958	7,574	7,741
Marcellus	6958	NA	7741	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:	1/27/2020
State:	West Virginia
County:	Doddridge
API Number:	47-017-06888-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Clipper 2H
Latitude:	39.30752000
Longitude:	-80.73325000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,027
Total Base Water Volume (gal):	21,565,107
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 Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.94956	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.18944	

WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Legend LD-2555	MultiChem	Additive					
				Listed Below			
Enviro Energy Solutions EES 2800	EnviroEnergy Solutions	Additive					
				Listed Below			
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
LD-2950	MultiChem	Friction Reducer					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			

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Legend LD-2990	MultiChem	Friction Reducer					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				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	12.82533	
			Hydrochloric acid	7647-01-0	30.00000	0.04429	
			Complex Amine Compound	Proprietary	60.00000	0.01827	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01682	
			Complex Amine Compound	Proprietary	60.00000	0.01536	
			Guar gum	9000-30-0	100.00000	0.00379	
			Glutaraldehyde	111-30-8	30.00000	0.00245	
			Polyethoxylated fatty amine salt	61791-26-2	30.00000	0.00179	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00152	
			Surfactant	Proprietary	5.00000	0.00152	
			Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.00091	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00041	
			Methanol	67-56-1	100.00000	0.00035	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00030	
			Organic chloride compound	Proprietary	1.00000	0.00030	
			Ethoxylated alcohols	Proprietary	1.00000	0.00030	

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			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	0.00026
			Ammonium persulfate	7727-54-0	100.00000	0.00022
			Alcohols, C11-14-iso, C- 13-rich, ethoxylated	78330-21-9	5.00000	0.00015
			Ethanol	64-17-5	1.00000	0.00008
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00008
			Modified thiourea polymer	Proprietary	30.00000	0.00008
			Oxylated phenolic resin	Proprietary	30.00000	0.00007
			Organic salt #1	Proprietary	0.10000	0.00003
			Acrylamide	79-06-1	0.10000	0.00003
			Hexadecene	629-73-2	5.00000	0.00001
			Propargyl alcohol	107-19-7	5.00000	0.00001
			Ethoxylated alcohols	Proprietary	5.00000	0.00001
			Phosphoric acid	7664-38-2	0.10000	0.00001
			Organic salt #2	Proprietary	0.01000	0.00000
			Nitrated acetate salt	Proprietary	0.01000	0.00000
			Sodium hydroxide	1310-73-2	0.01000	0.00000
			Sodium glycollate	2836-32-0	0.01000	0.00000
			Organic salt #3	Proprietary	0.01000	0.00000
			Formaldehyde	50-00-0	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 the 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)

RECEIVED
 Office of Oil and Gas
 U.S. Department of
 Environmental Protection
 01/28/2020

ANTERO RESOURCES CORPORATION

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

Slot: Slot #11
 Well: Clipper Unit 2H
 Wellbore: Clipper Unit 2H PWB

Plot reference wellpath is Clipper Unit 2H PWP Rev-A.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 #11) : -1283 feet	Created by: delaset on 2019-10-25
Coordinates are in feet referenced to Slot	Database: WA MPL EasternUS Defn

Location Information

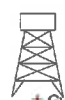
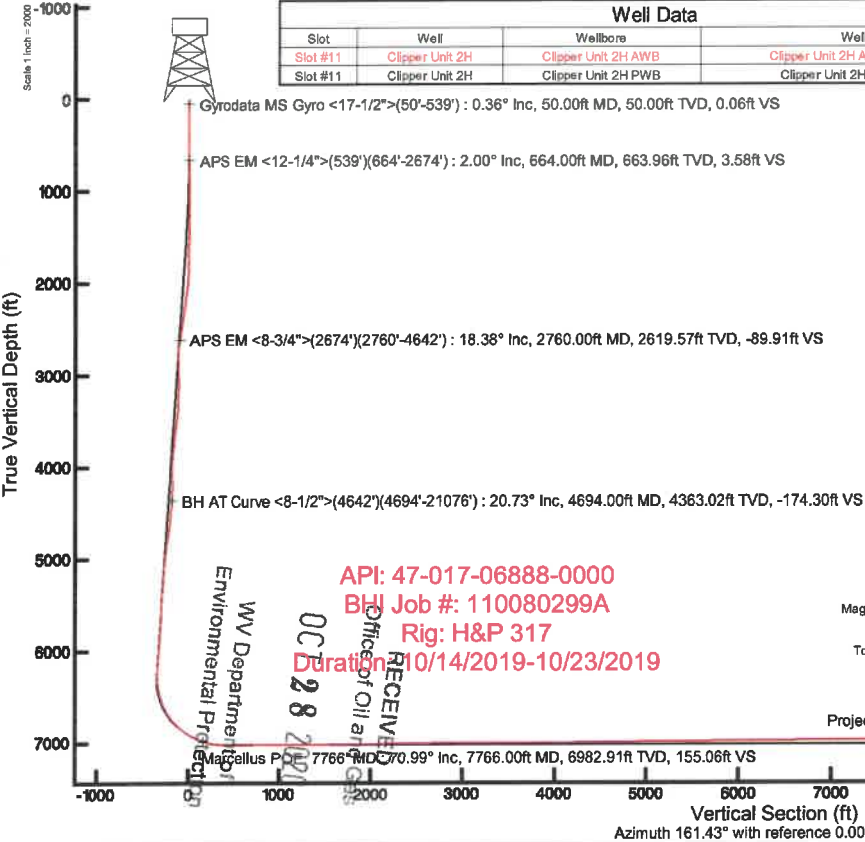
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
George Scott Pad	1715804.893	14274033.228	39°18'27.250"N	80°44'00.548"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #11	-18.82	87.42	1715872.000	14274014.410	39°18'27.082"N	80°43'59.691"W
H&P 317 (RKB) to Ground level (At Slot: Slot #11)			25.5ft			
Mean Sea Level to Ground level (At Slot: Slot #11)			-1283ft			
H&P 317 (RKB) to Mean Sea Level			1308.5ft			

Well Profile Data

Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)	VS (ft)
Tie On	25.50	0.000	83.368	25.50	0.00	0.00	0.00	0.00
KOP 1	638.50	0.000	83.368	638.50	0.00	0.00	0.00	0.00
Hold Tangent	1485.32	24.805	83.368	1438.73	78.98	157.60	3.00	-24.71
Curve KOP	8808.44	24.805	83.368	8289.91	1083.78	2161.20	0.00	-339.07
POE	7746.51	89.812	181.431	6978.00	697.80	2531.91	8.00	144.79
Landing Pt.	7998.87	90.000	181.431	7023.00	463.57	2610.82	8.00	391.95
BHL	21099.82	90.000	181.431	7023.00	-11955.14	6782.80	0.00	13492.70

Well Data

Slot	Well	Wellbore	Wellpath
Slot #11	Clipper Unit 2H	Clipper Unit 2H AWB	Clipper Unit 2H AWP Proj: 21109'
Slot #11	Clipper Unit 2H	Clipper Unit 2H PWB	Clipper Unit 2H PWP Rev-A.0



Gyrodatta MS Gyro <17-1/2">(50'-539') : 0.36° Inc, 50.00ft MD, 50.00ft TVD, 0.06ft VS

APS EM <12-1/4">(539')(664'-2674') : 2.00° Inc, 664.00ft MD, 663.96ft TVD, 3.58ft VS

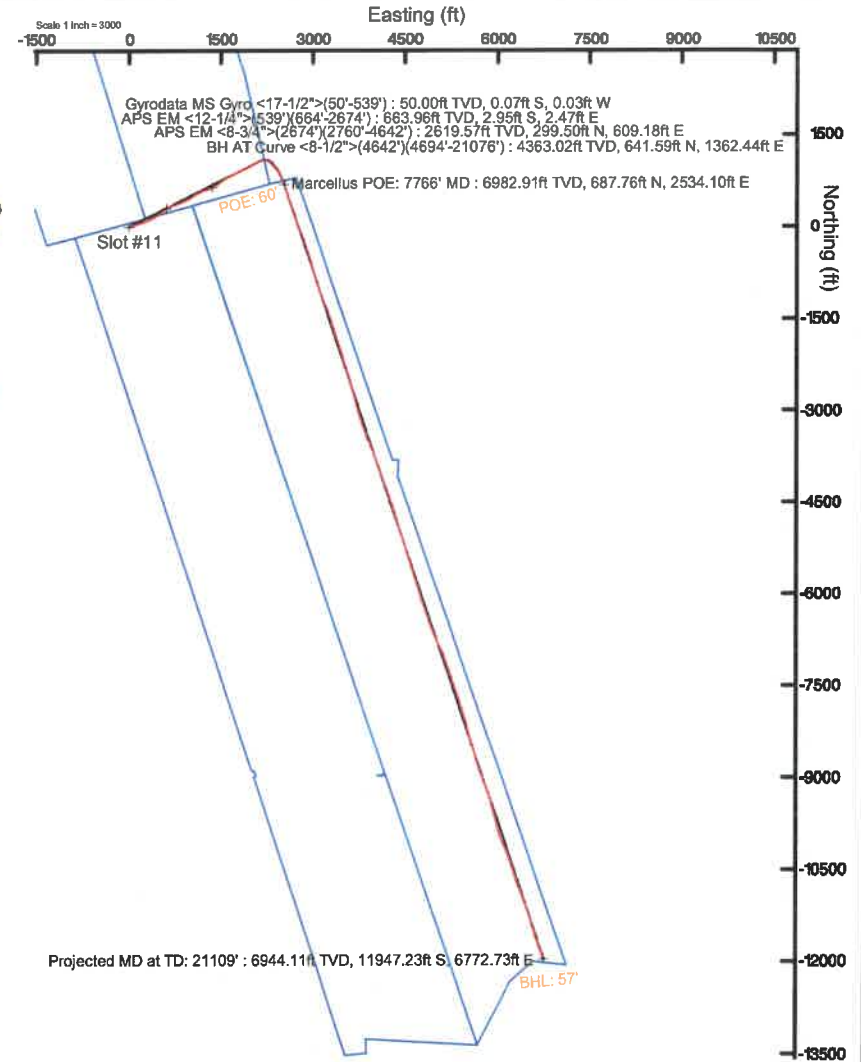
APS EM <8-3/4">(2674')(2760'-4642') : 18.38° Inc, 2760.00ft MD, 2619.57ft TVD, -89.91ft VS

BH AT Curve <8-1/2">(4642')(4694'-21076') : 20.73° Inc, 4694.00ft MD, 4363.02ft TVD, -174.30ft VS

Marcellus POE: 7766' MD: 70.99° Inc, 7766.00ft MD, 6982.91ft TVD, 155.06ft VS

API: 47-017-06888-0000
 BHJ Job #: 110080299A
 Rig: H&P 317
 Duration: 10/14/2019-10/23/2019

RECEIVED
 OCT 28 2019
 WV Department of Environmental Protection
 Office of Oil and Gas



Gyrodatta MS Gyro <17-1/2">(50'-539') : 50.00ft TVD, 0.07ft S, 0.03ft W
 APS EM <12-1/4">(539')(664'-2674') : 663.96ft TVD, 2.95ft S, 2.47ft E
 APS EM <8-3/4">(2674')(2760'-4642') : 2619.57ft TVD, 299.50ft N, 609.18ft E
 BH AT Curve <8-1/2">(4642')(4694'-21076') : 4363.02ft TVD, 641.59ft N, 1362.44ft E

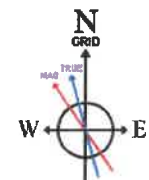
Marcellus POE: 7766' MD : 6982.91ft TVD, 687.76ft N, 2534.10ft E

POE: 60'

Slot #11

Projected MD at TD: 21109' : 6944.11ft TVD, 11947.23ft S, 6772.73ft E

BHL: 57'



User specified (HDGM) Dip: 66.38° Field: 51948 nT
 Magnetic North is 7.76 degrees West of True North (at 10/14/2019)
 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

Projected MD at TD: 21109' : 90.37° Inc, 21109.00ft MD, 6944.11ft TVD, 13482.07ft VS

LATITUDE 39°20'00"

7,050'

LATITUDE 39°17'30"

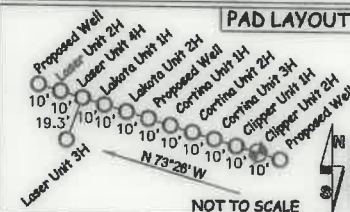
316'

TO BOTTOM HOLE

Antero Resources Corporation Well No. Clipper Unit 2H

AS DRILLED DATA: WELL 2H TOP HOLE INFORMATION: N: 296,509ft E: 1,651,042ft LAT: 39°18'27.06" LON: 80°43'59.69" BOTTOM HOLE INFORMATION: N: 284,451ft E: 1,657,614ft LAT: 39°16'28.77" LON: 80°42'34.02" 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 2H TOP HOLE INFORMATION: N: 4,350,946m E: 523,013m BOTTOM HOLE INFORMATION: N: 4,347,306m E: 525,077m



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

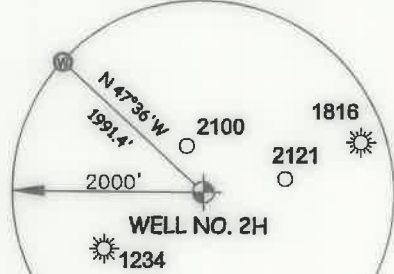


Table listing leaseholders for the West Union District - Doddridge County, including names like Paul Smith, George Wyckoff, Robert Holland, John Smith, Steven Plump, etc.

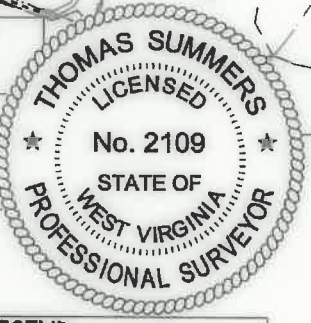
Table listing leaseholders for the West Union District - Doddridge County, including names like Spencer Enterp., LLC, Big "D" Enterp., LLC, Gerald Chedester, etc.

Table listing leaseholders for the West Union District - Doddridge County, including names like Lucien Sommons, David Mitchell, John Strickling, etc.

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 # CLIPPER2HAD, 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# CLIPPER UNIT #2H

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 06888 (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 OWNER V.B. CHAPMAN ET UX; JOHNSON B. SMITH ET UX; FANNIE A. COULAHAN; B. F. HEFLIN JR. ET UX; LEASE ACREAGE 156 AC +/-; 180 AC +/-; 234.94 AC +/-; 82 AC +/-; E.C. JONES ET AL; MONTA MCCONNELL ET AL; MARY E. JONES; THOMAS JOSEPH MCCONNELL; WVDNR; 300 AC +/-; 91 AC +/-; 184 AC +/-; 24.45 AC +/-; 0.9 AC +/-; WYSRA; RONALD G. STUTLER; JOHN A. STATLER ET UX; HUGH SPENCER ET UX; B. F. JONES ET UX; 301.19 AC +/-; 25.56 AC +/-; 48 AC +/-; 132 AC +/-; 141.73 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 6,944' TVD 21,109' 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

6,195' TO BOTTOM HOLE, 9,403', LONGITUDE 80°42'30", LONGITUDE 80°42'30"

LATITUDE 39°20'00"

7,050'

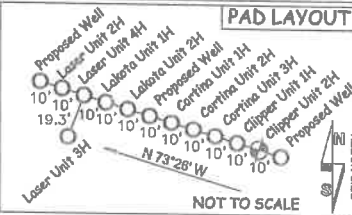
LATITUDE 39°17'30"

316' TO BOTTOM HOLE

Antero Resources Corporation Well No. Clipper Unit 2H

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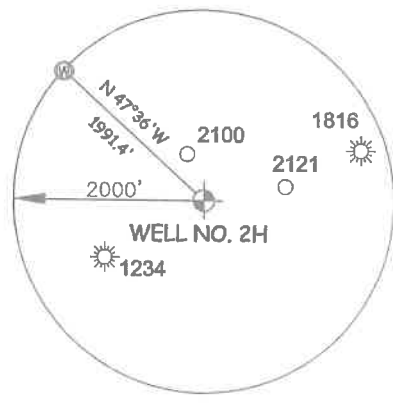


Table listing leaseholders for West Union District - Doddridge County, including names like Paul Smith, George Wyckoff, Robert Holland, John Smith, Steven Plamp, George Wyckoff, Chad Johnson, Betty Stephenson, Norma Jean Heflin, Leance Label, Spencer Enterp. LLC, Betty Stephenson, Leance Label, Leance Label, Spencer Enterp. LLC, Eric Britton, Joseph Bunting, Donald Dotson, Ryan Carver, Ryan Carver, Mark Phillips, Ryan Carver, Christopher Harris, Robert Long, Big "D" Enterp. LLC, Gerald Chedester, Spencer Enterp. LLC, Big "D" Enterp. LLC, Spencer Enterp. LLC.

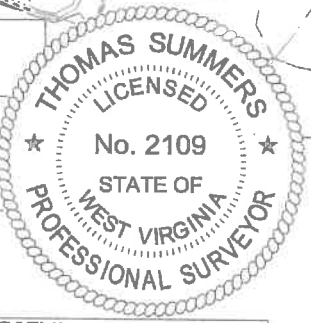
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Table listing leaseholders for West Union District - Doddridge County, including names like Lucien Sommons, Lucien Sommons, David Mitchell, Big "D" Enterp. LLC, John Strickling, Hall Drilling LLC, Frank Race, Ruby Ballenger, Ruby Ballenger, Marwest Liberty Midstream & Res. LLC, Lawrence Goskins, Marwest Liberty Midstream & Res. LLC, Ruby Ballenger, Ruby Ballenger, Helen Jones, New Milton District - Doddridge County, Ellwood Rill, Elwood Rill, Ralph Lucy, Donald Barnes, Ronald Law, Robert Bland.

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



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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 #2H

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