

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

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API 47 - 085 - 10357 County Ritchie District Clay
Quad Middlebourne 7.5' Pad Name Lettie Pad Field/Pool Name ----
Farm name Daniel M. Haymond IV et al Well Number Christopher 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 4357277m Easting 507734m
Landing Point of Curve Northing 4357567.93m Easting 508148.90m
Bottom Hole Northing 4360546m Easting 507084m

Elevation (ft) 970' 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

Date permit issued 10/24/2018 Date drilling commenced 7/5/2018 Date drilling ceased 1/7/2019
Date completion activities began 4/19/2019 Date completion activities ceased 7/1/2019
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 85, 156, 408 Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1158, 1760, 1840 Void(s) encountered (Y/N) depths No
Coal depth(s) ft 320, 348, 390, 500 Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

Reviewed

API 47-085 - 10357 Farm name Daniel M. Haymond IV et al Well number Christopher 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"	95'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	505'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2651'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17620'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6752'		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	120	0'	8 Hrs.
Surface	Class A	425 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	915 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	685 sx (Lead) 1640 sx (Tail)	14.0 (Lead), 15.2 (Tail)	1.47 (Lead), 1.83 (Tail)		-500' into intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 17639' MD, 6348' TVD (BHL), 6373' (Deepest Point Drilled) Loggers TD (ft) 17639' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6185'

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 _____

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

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE ATTACHED EXHIBIT 1					

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6321' (TOP)</u> TVD	<u>6805' (TOP)</u> 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 Oil NGL Water GAS MEASURED BY

8497 mcfpd 204 bpd --- bpd 943 bpd 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 ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

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Please insert additional pages as applicable.

Drilling Contractor Patterson UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company KLX Energy Services
Address 3040 Post Oak Boulevard City Houston State TX Zip 77056

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  Title Permitting Agent Date 10/21/2019

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

API 47-085-10357 Farm Name Daniel M. Haymond IV et al Well Number Christopher Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	4/19/2019	17512		60	Marcellus
2	4/19/2019	17397.39	17316.34	60	Marcellus
3	4/19/2019	17198.07	17117.02	60	Marcellus
4	4/20/2019	16998.75	16917.7	60	Marcellus
5	4/20/2019	16799.43	16718.38	60	Marcellus
6	4/21/2019	16600.11	16519.06	60	Marcellus
7	4/21/2019	16400.79	16319.74	60	Marcellus
8	4/21/2019	16201.47	16120.42	60	Marcellus
9	4/22/2019	16002.15	15921.1	60	Marcellus
10	4/22/2019	15802.83	15721.78	60	Marcellus
11	4/22/2019	15603.51	15522.46	60	Marcellus
12	4/23/2019	15404.19	15323.14	60	Marcellus
13	4/23/2019	15204.87	15123.82	60	Marcellus
14	4/24/2019	15005.55	14924.5	60	Marcellus
15	4/24/2019	14806.23	14725.18	60	Marcellus
16	4/24/2019	14606.91	14525.86	60	Marcellus
17	4/24/2019	14407.59	14326.54	60	Marcellus
18	4/25/2019	14208.27	14127.22	60	Marcellus
19	4/25/2019	14008.95	13927.9	60	Marcellus
20	4/25/2019	13809.63	13728.58	60	Marcellus
21	4/25/2019	13610.31	13529.26	60	Marcellus
22	4/26/2019	13410.99	13329.94	60	Marcellus
23	4/26/2019	13211.67	13130.62	60	Marcellus
24	4/26/2019	13012.35	12931.3	60	Marcellus
25	4/27/2019	12813.03	12731.98	60	Marcellus
26	4/27/2019	12613.71	12532.66	60	Marcellus
27	4/27/2019	12414.39	12333.34	60	Marcellus
28	4/27/2019	12215.07	12134.02	60	Marcellus
29	4/28/2019	12015.75	11934.7	60	Marcellus
30	4/29/2019	11816.43	11735.38	60	Marcellus
31	4/29/2019	11617.11	11536.06	60	Marcellus
32	4/29/2019	11417.79	11336.74	60	Marcellus
33	4/29/2019	11218.47	11137.42	60	Marcellus
34	4/30/2019	11019.15	10938.1	60	Marcellus
35	4/30/2019	10819.83	10738.78	60	Marcellus
36	4/30/2019	10620.51	10539.46	60	Marcellus
37	5/1/2019	10421.19	10340.14	60	Marcellus
38	5/1/2019	10221.87	10140.82	60	Marcellus
39	5/2/2019	10022.55	9941.5	60	Marcellus
40	5/3/2019	9823.23	9742.18	60	Marcellus
41	5/3/2019	9623.91	9542.86	60	Marcellus
42	5/3/2019	9424.59	9343.54	60	Marcellus
43	5/3/2019	9225.27	9144.22	60	Marcellus
44	5/4/2019	9025.95	8944.9	60	Marcellus
45	5/4/2019	8826.63	8745.58	60	Marcellus
46	5/4/2019	8627.31	8546.26	60	Marcellus
47	5/5/2019	8427.99	8346.94	60	Marcellus
48	5/5/2019	8228.67	8147.62	60	Marcellus
49	5/5/2019	8029.35	7948.3	60	Marcellus
50	5/5/2019	7830.03	7748.98	60	Marcellus
51	5/6/2019	7630.71	7549.66	60	Marcellus
52	5/6/2019	7431.39	7350.34	60	Marcellus
53	5/6/2019	7232.07	7151.02	60	Marcellus
54	5/6/2019	7032.75	6951.7	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	4/19/2019	72.76	7934		3889	250245	6373	N/A
2	4/19/2019	73.6	8079	5960	4847	400240	9126	N/A
3	4/19/2019	76.34	8240	5665	4213	400200	8967	N/A
4	4/20/2019	78.29	8379	5558	4148	400360	9022	N/A
5	4/20/2019	76.3	8164	5703	4228	400720	8909	N/A
6	4/21/2019	73.38	8489	5513	3977	400180	8779	N/A
7	4/21/2019	76.9	8326	5647	4230	398140	8833	N/A
8	4/21/2019	75.5	8328	5537	4805	400420	8774	N/A
9	4/22/2019	73.83	8174	5765	3945	399700	8714	N/A
10	4/22/2019	75.4	8215	5777	3913	399000	8672	N/A
11	4/22/2019	77.98	8199	5726	4136	402340	8777	N/A
12	4/23/2019	76.81	7983	5470	4097	413120	8925	N/A
13	4/23/2019	78.36	8054	5804	3933	414120	8931	N/A
14	4/24/2019	78.19	8239	5787	3985	412260	8878	N/A
15	4/24/2019	76.51	8071	5728	4025	412680	8940	N/A
16	4/24/2019	78.9	8285	5524	3797	413860	10191	N/A
17	4/24/2019	78.16	7990	5729	3974	421820	8893	N/A
18	4/25/2019	78.65	8162	5722	3847	414680	8843	N/A
19	4/25/2019	76.23	8001	5815	3942	416280	8905	N/A
20	4/25/2019	73.88	7772	5367	3970	414220	8781	N/A
21	4/25/2019	79.87	8270	5674	4075	414060	8782	N/A
22	4/26/2019	76.6	8106	5634	4072	413520	8866	N/A
23	4/26/2019	75.63	7803	5525	3897	412920	8848	N/A
24	4/26/2019	79.35	7925	5165	3977	411100	8813	N/A
25	4/27/2019	80.76	7927	5284	4146	415180	8818	N/A
26	4/27/2019	76.75	8049	5418	4061	411480	8721	N/A
27	4/27/2019	78.86	8011	5357	3748	411120	9056	N/A
28	4/27/2019	79.84	7949	5419	3969	409980	8609	N/A
29	4/28/2019	79.98	7973	5645	3960	410600	8682	N/A
30	4/29/2019	78.1	7746	5339	4009	405480	8596	N/A
31	4/29/2019	79.2	7866	5563	3803	405840	9101	N/A
32	4/29/2019	79.74	7815	5351	3897	411840	8854	N/A
33	4/29/2019	79.31	7727	5589	4014	413600	8665	N/A
34	4/30/2019	79.24	7764	5805	3991	414980	8843	N/A
35	4/30/2019	78.23	7424	5582	4022	416140	8870	N/A
36	4/30/2019	77.75	7432	5675	4618	417200	9033	N/A
37	5/1/2019	77.27	7458	5684	4663	417120	9420	N/A
38	5/1/2019	80.67	7815	5788	3865	417460	8775	N/A
39	5/2/2019	80.34	7721	5362	4242	400640	8459	N/A
40	5/3/2019	76.91	7558	5597	4303	404600	8494	N/A
41	5/3/2019	80.14	7871	5622	4446	402580	8535	N/A
42	5/3/2019	78.61	7932	5818	3959	410640	9165	N/A
43	5/3/2019	78.2	7478	5800	4035	402720	8298	N/A
44	5/4/2019	74.73	7234	5808	4042	402640	8516	N/A
45	5/4/2019	77.29	7355	5401	4274	403000	8596	N/A
46	5/4/2019	78.46	7546	5721	4094	404200	8562	N/A
47	5/5/2019	80.12	7596	5497	4388	403660	8577	N/A
48	5/5/2019	79.41	7380	5526	3790	402720	8774	N/A
49	5/5/2019	80.18	7476	5123	3969	402100	8590	N/A
50	5/5/2019	78.17	7236	5754	3769	402760	8359	N/A
51	5/6/2019	79.98	7129	5752	4086	403360	8505	
52	5/6/2019	79.5	7196	5635	4380	403360	8374	N/A
53	5/6/2019	80.78	7088	5945	3867	402180	9367	N/A
54	5/6/2019	81.35	7054	5421	3862	402920	8315	N/A
	AVG	77.5	7,940	5,607	4,089	18,241,025	395,648	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
Silty Sandstone	75	215	75	215
Silty Shale	215	255	215	255
shaly sand	255	395	255	395
Shale	395	455	395	455
Dolomitic Shale	455	735	455	735
Shaly Siltstone	735	855	735	855
Silty Sandstone	855	895	855	895
Shaly Sand	895	1,015	895	1,015
Sandstone	1,015	1,055	1,015	1,055
Silty, Shaly, Sandstone	1,055	1,095	1,055	1,095
Sandstone, Tr Shale, Tr Coal	1,095	1,495	1,095	1,495
Silty Sandstone	1,495	1,675	1,495	1,675
Shaly Siltstone	1,675	1,829	1,675	1,858
Big Lime	1,854	2,605	1,883	2,664
Fifty Foot Sandstone	2,605	2,699	2,664	2,762
Gordon	2,699	3,034	2,762	3,115
Fifth Sandstone	3,034	3,081	3,115	3,165
Bayard	3,081	3,790	3,165	3,911
Speechley	3,790	4,091	3,911	4,226
Balltown	4,091	4,502	4,226	4,655
Bradford	4,502	4,736	4,655	4,910
Benson	4,736	5,157	4,910	5,341
Alexander	5,157	6,184	5,341	6,473
Sycamore	6,050	6,159	6,302	6,448
Middlesex	6,159	6,259	6,448	6,625
Burkett	6,259	6,296	6,625	6,718
Tully	6,296	6,321	6,718	6,805
Marcellus	6,321	NA	6,805	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

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Job Start Date:	4/19/2019
Job End Date:	5/6/2019
State:	West Virginia
County:	Ritchie
API Number:	47-085-10357-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Christopher 1H
Latitude:	39.36483600
Longitude:	-80.91038900
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,369
Total Base Water Volume (gal):	20,700,102
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.53409	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.20600	

HYDROCHLORIC ACID	Halliburton	Solvent							
MC B-8614	Halliburton	Biocide			Listed Below				
SCALECHEK LP-70	Halliburton	Scale Inhibitor			Listed Below				
SP BREAKER	Halliburton	Breaker			Listed Below			RECEIVED Office of Oil and Gas	
EXCELERATE PS-2	Halliburton	Friction Reducer			Listed Below			OCT 23 2019 WV Department of Environmental Protection	
FIGHTR EC-3	Halliburton	Friction Reducer			Listed Below				
WG-36 GELLING AGENT	Halliburton	Gelling Agent			Listed Below				
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant			Listed Below				

FDP-S1296-17	Halliburton	Corrosion Inhibitor			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	11.22818			
			Hydrochloric acid	7647-01-0	15.00000	0.02439			
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01274			
	RECEIVED Office of Oil and Gas		Inorganic salt	Proprietary	30.00000	0.01274			
	OCT 23 2019		Acrylamide acrylate polymer	Proprietary	30.00000	0.01274			
			Ethylene glycol	107-21-1	60.00000	0.00783			
	WV Department of Environmental Protection		Guar gum	9000-30-0	100.00000	0.00587			
			Glutaraldehyde	111-30-8	30.00000	0.00272			
			Telmer	Proprietary	10.00000	0.00131			
			Acrylamide polymer	Proprietary	30.00000	0.00128			
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00045			
			Sodium persulfate	7775-27-1	100.00000	0.00029			
			Polyoxyalkylene	Proprietary	5.00000	0.00021			
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00021			
			Methanol	67-56-1	100.00000	0.00013			
			Sodium polyacrylate	9003-04-7	1.00000	0.00013			
			Ethanol	64-17-5	1.00000	0.00009			
			Modified Thiourea Polymer	Proprietary	30.00000	0.00004			
			Phosphoric acid	7664-38-2	0.10000	0.00001			
			Ethoxylated Alcohols	Proprietary	5.00000	0.00001			
			Propargly Alcohol	107-19-7	5.00000	0.00001			
			Acrylic acid	79-10-7	0.01000	0.00000			
			Sodium sulfate	7757-82-6	0.10000	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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LATITUDE 39°22'30"

10,006'

LATITUDE 39°25'00"

351'

LONGITUDE 80°55'00"

8,146'

LONGITUDE 80°52'30"

Antero Resources Corporation Well No. Christopher Unit 1H

AS DRILLED DATA: WELL 1H TOP HOLE INFORMATION: N: 318,121ft E: 1,601,249ft LAT: 39°21'53.42" LON: 80°54'37.41" BOTTOM HOLE INFORMATION: N: 328,885ft E: 1,599,294ft LAT: 39°23'39.48" LON: 80°55'04.47" 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: 4,357,277m E: 507,734m BOTTOM HOLE INFORMATION: N: 4,360,546m E: 507,084m

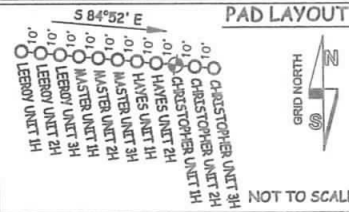
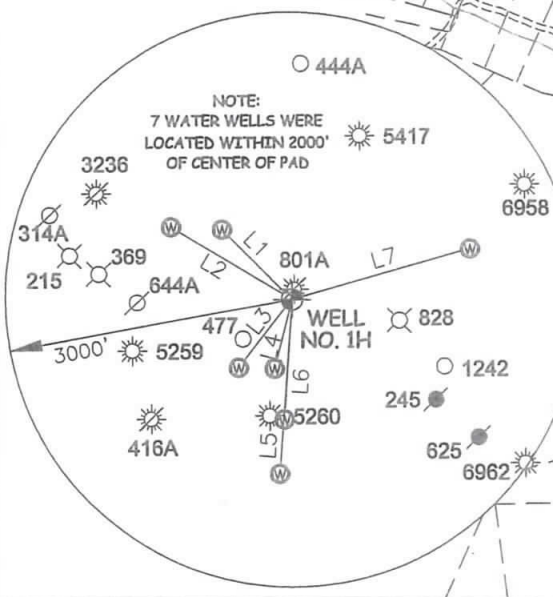


Table with columns: TM-Par, Surface Owner, Book/Pg, Acreage. Lists various land parcels and owners in Tyler and Ritchie Counties.

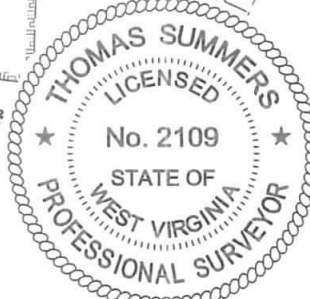
Table with columns: LINE, BEARING, DIST. Lists boundary lines L1 through L7 with bearings and distances.



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 # 17-017WA DRAWING # CHRISTOPHER1HAD 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. Includes signature of Thomas Summers and date 09/04/19. OPERATOR'S WELL# CHRISTOPHER UNIT #1H

- NOTES: 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 47 085 10357 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 970' - AS BUILT WATERSHED NORTH FORK HUGHES RIVER QUADRANGLE PENNSBORO 7.5' (TH) - MIDDLEBOURNE 7.5' (BH) DISTRICT CLAY COUNTY RITCHIE SURFACE OWNER DANIEL M. HAYMOND IV ET AL ACREAGE 111.48 ACRES +/- OIL & GAS ROYALTY OWNER IRENE NUTTER HAYMOND TRUST; PERKINS OIL & GAS CO.; DANIEL M. HAYMOND ET UX; ROSE ANN DOAK; LEASE ACREAGE 375 AC±; 94 AC±; 375 AC±; 15,963 AC±; PATRICIA A. HEINTZMAN; PATRICIA A. HEINTZMAN; PATRICIA L. McCULLOUGH; FRANK GRASS ET AL 60 AC±; 149.5 AC±; 50.54 AC±; 431.29 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 6,348' TVD 17,639' 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