

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

RECEIVED  
Office of Oil and Gas  
JUL 28 2017

API 47-095-02162 County Tyler District McElroy  
Quad Centerpoint 7.5' Pad Name Coastal 2 Pad Field/Pool Name \_\_\_\_\_  
Farm name Coastal Lumber Company Well Number Banner 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 4364399m Easting 523587m  
Landing Point of Curve Northing 4364262.917m Easting 523162.595m  
Bottom Hole Northing 4360884m Easting 524258m

Elevation (ft) 1188' 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 05/19/2014 Date drilling commenced 06/22/2015 Date drilling ceased 12/22/2015  
Date completion activities began 09/20/2016 Date completion activities ceased 01/16/2017  
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 60', 180', 220' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1723', 1893' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 1301', 1561', 1701' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

**APPROVED**

NAME: Sam A. Hester  
DATE: 8-16-17

Reviewed by: DH  
**09/15/2017**

OFFICE OF OIL AND GAS JUL 28

API 47-095 - 02162 Farm name Coastal Lumber Company Well number Banner 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"	40'	New	94#, K-55	N/A	Y
Surface	17-1/2"	13-3/8"	393'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2528'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17643'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7502'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details Please note this well was drilled to 19416' however casing was only ran to 17643'. Cement squeeze on 07/08/2015.

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	100 sx	10.6	1.18	118	0'	8 Hrs.
Surface	Class A	463 sx	15.6	1.18	546	0'	8 Hrs.
Coal							
Intermediate 1	Class A	930 sx	15.6	1.18	1097	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1152 sx (Lead) 1629 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.33 (Lead), 1.83 (Tail)	4513	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19416' MD, 7148' TVD (BHL) & 7156' TVD (Deepest Point Drilled) Loggers TD (ft) 19368' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6886'

\*\* This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Tabor Unit 2H API #47-095-02165). Please reference the wireline logs submitted with Form WR-35 for Tabor Unit 2H. A Cement Bond Log has been included with this submittal.

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



API 47- 095 - 02162 Farm name Coastal Lumber Company Well number Banner Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>7034' (TOP)</u>	<u>TVD</u>	<u>7512' (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 3550 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 13365 mcfpd Oil 55 bpd NGL --- bpd Water 1 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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


Please insert additional pages as applicable.


Drilling Contractor Precision Drilling Company, LP  
Address 2640 Reach Road City Williamsport State PA Zip 17701

Logging Company Allied Horizontal Well Services  
Address 381 Colonial Manor Rd. City North Huntington State PA Zip 15642

Cementing Company Nabors Completion & Production Services, Co.  
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company CalFrac  
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759  
Signature  Title Permitting Agent Date 07/27/2017

Submittal 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	9/20/2016	17381	17525	60	Marcellus
2	10/8/2016	17180	17349	60	Marcellus
3	10/8/2016	16980	17149	60	Marcellus
4	10/9/2016	16779	16948	60	Marcellus
5	10/9/2016	16578	16748	60	Marcellus
6	10/11/2016	16378	16547	60	Marcellus
7	10/11/2016	16177	16346	60	Marcellus
8	10/12/2016	15977	16146	60	Marcellus
9	10/13/2016	15776	15945	60	Marcellus
10	10/13/2016	15575	15745	60	Marcellus
11	10/14/2016	15375	15544	60	Marcellus
12	10/15/2016	15174	15343	60	Marcellus
13	10/15/2016	14974	15143	60	Marcellus
14	10/16/2016	14773	14942	60	Marcellus
15	10/16/2016	14572	14741	60	Marcellus
16	10/17/2016	14372	14541	60	Marcellus
17	10/18/2016	14171	14340	60	Marcellus
18	10/19/2016	13970	14140	60	Marcellus
19	10/19/2016	13770	13939	60	Marcellus
20	10/20/2016	13569	13738	60	Marcellus
21	10/20/2016	13369	13538	60	Marcellus
22	10/21/2016	13168	13337	60	Marcellus
23	10/22/2016	12967	13137	60	Marcellus
24	10/22/2016	12767	12936	60	Marcellus
25	10/23/2016	12566	12735	60	Marcellus
26	10/24/2016	12366	12535	60	Marcellus
27	10/24/2016	12165	12334	60	Marcellus
28	10/25/2016	11964	12134	60	Marcellus
29	10/25/2016	11764	11933	60	Marcellus
30	10/26/2016	11563	11732	60	Marcellus
31	10/27/2016	11363	11532	60	Marcellus
32	10/28/2016	11162	11331	60	Marcellus
33	10/28/2016	10961	11130	60	Marcellus
34	10/29/2016	10761	10930	60	Marcellus
35	10/29/2016	10560	10729	60	Marcellus
36	10/30/2016	10359	10529	60	Marcellus
37	10/30/2016	10159	10328	60	Marcellus
38	10/31/2016	9958	10127	60	Marcellus
39	10/31/2016	9758	9927	60	Marcellus
40	11/1/2016	9557	9726	60	Marcellus
41	11/1/2016	9356	9526	60	Marcellus
42	11/2/2016	9156	9325	60	Marcellus
43	11/3/2016	8955	9124	60	Marcellus
44	11/3/2016	8755	8924	60	Marcellus
45	11/3/2016	8554	8723	60	Marcellus
46	11/4/2016	8353	8523	60	Marcellus
47	11/4/2016	8153	8322	60	Marcellus
48	11/5/2016	7952	8121	60	Marcellus
49	11/6/2016	7752	7921	60	Marcellus
50	11/6/2016	7551	7720	60	Marcellus

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09/15/2017

API 47-095-02162 Farm Name Coastal Lumber Company Well Number Banner Unit 1H

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	10/6/2016	72.9	7796	7284	4758	406200	9422	N/A
2	10/8/2016	76.0	7648	5713	4750	405750	9048	N/A
3	10/8/2016	76.8	7673	5604	5046	406000	9082	N/A
4	10/9/2016	73.8	7900	5761	5348	404850	10598	N/A
5	10/9/2016	74.3	7745	5829	4903	406150	10202	N/A
6	10/11/2016	74.9	7871	5411	5364	405700	9120	N/A
7	10/11/2016	77.2	7847	5560	5540	406000	9057	N/A
8	10/12/2016	74.8	7523	5667	5415	406600	8993	N/A
9	10/13/2016	72.1	7387	5613	5640	406350	9001	N/A
10	10/13/2016	77.2	7530	5671	5355	408000	9080	N/A
11	10/14/2016	68.1	6948	5763	5113	406250	8982	N/A
12	10/15/2016	69.7	7093	5631	5303	406300	9132	N/A
13	10/15/2016	75.9	7709	5865	5050	408500	9049	N/A
14	10/16/2016	68.9	7400	5575	5520	381100	11433	N/A
15	10/16/2016	68.5	6992	5639	5250	404750	9040	N/A
16	10/17/2016	74.8	7635	5669	5204	406150	9819	N/A
17	10/18/2016	67.2	7071	5689	5463	406800	9060	N/A
18	10/19/2016	66.4	6862	5661	5327	405150	9003	N/A
19	10/19/2016	76.4	7429	5418	5505	406400	9018	N/A
20	10/20/2016	74.0	7279	5735	5311	406800	8991	N/A
21	10/20/2016	77.0	7599	5720	4731	400100	8774	N/A
22	10/21/2016	75.4	7492	5566	5569	406600	9001	N/A
23	10/22/2016	73.1	7355	5705	5204	405950	10681	N/A
24	10/22/2016	67.9	6847	5424	5453	406100	8925	N/A
25	10/23/2016	74.3	7627	5402	4550	405800	10527	N/A
26	10/24/2016	72.5	7084	5615	5320	406450	8911	N/A
27	10/24/2016	68.5	6889	5858	5272	406150	9008	N/A
28	10/25/2016	72.7	6996	5535	5486	406450	8931	N/A
29	10/25/2016	76.8	6763	5709	5348	405800	8959	N/A
30	10/26/2016	80.4	7406	5559	5287	408100	9009	N/A
31	10/27/2016	66.9	6634	5622	5521	406050	8887	N/A
32	10/28/2016	78.6	7444	6064	5237	406600	8900	N/A
33	10/28/2016	73.1	7238	5869	5687	405750	8931	N/A
34	10/29/2016	78.9	7381	5840	5436	406850	8860	N/A
35	10/29/2016	65.8	6724	5334	5775	405950	9007	N/A
36	10/30/2016	68.5	7405	5544	5375	346600	11693	N/A
37	10/30/2016	76.7	7602	5630	5983	406300	9373	N/A
38	10/31/2016	80.0	7138	5530	5377	407150	8783	N/A
39	10/31/2016	69.1	6758	6425	5397	405400	8848	N/A
40	11/1/2016	75.9	6434	5645	5444	405800	8930	N/A
41	11/1/2016	82.9	7185	5552	5333	407650	8883	N/A
42	11/2/2016	68.3	6642	5628	5328	405250	8562	N/A
43	11/3/2016	79.8	7316	5795	5556	406700	8813	N/A
44	11/3/2016	77.9	7095	5795	5153	410200	8788	N/A
45	11/3/2016	77.9	7085	5775	5598	407350	8748	N/A
46	11/4/2016	75.4	6952	5677	5143	406250	8756	N/A
47	11/4/2016	78.6	7267	5793	5465	407100	8803	N/A
48	11/5/2016	77.1	7304	5681	5579	405700	8729	N/A
49	11/6/2016	82.0	7009	5716	5594	408150	8824	N/A
50	11/6/2016	76.9	6899	6194	5520	405550	8812	N/A
AVG=		74.2	7,258	5,719	5,338	20,229,650	459,786	TOTAL

## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Fresh Water	60'	N/A	60'	N/A
Fresh Water	180'	N/A	180'	N/A
Fresh Water	220'	N/A	220'	N/A
Shale and Sandstone	0	401	0	401
Shale	401	741	401	741
Limestone	741	801	741	801
Shale	801	921	801	921
Limestone	921	941	921	941
Shale	941	981	941	981
Sandstone	981	1001	981	1001
Shale	1001	1121	1001	1121
Sandstone	1121	1141	1121	1141
Shale	1141	1301	1141	1301
Coal	1301	1321	1301	1321
Shale	1321	1341	1321	1341
Sandstone	1341	1381	1341	1381
Shale and Coal	1381	1441	1381	1441
Sandstone	1441	1501	1441	1501
Shale and Siltstone	1501	1561	1501	1561
Coal	1561	1581	1561	1581
Sandstone and Limestone	1581	1621	1581	1621
Shale	1621	1701	1621	1701
Sandstone and Coal	1701	1841	1701	1841
Shale	1841	2021	1841	2021
Sandstone	2021	2181	2021	2185
Big Lime	2181	2323	2185	2327
Big Injun	2323	2761	2327	2765
Gantz Sand	2761	2905	2765	2905
Fifty Foot Sandstone	2905	2988	2905	2992
Gordon	2988	3276	2992	3280
Fifth Sandstone	3276	3301	3280	3305
Bayard	3301	3708	3305	3717
Warren	3708	4076	3717	4102
Speechley	4076	4373	4102	4421
Baltown	4373	4865	4421	4967
Bradford	4865	5331	4967	5488
Benson	5331	5580	5488	5769
Alexander	5580	5781	5769	5990
Elk	5781	6283	5990	6550
Rhinestreet	6283	6652	6550	6963
Sycamore	6652	6814	6963	7153
Middlesex	6814	6945	7153	7330
Burkett	6945	6973	7330	7378
Tully	6973	7034	7378	7512
Marcellus	7034	NA	7512	NA

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/8/2016
Job End Date:	11/6/2016
State:	West Virginia
County:	Tyler
API Number:	47-095-02162-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Banner Unit 1H
Latitude:	39.42870600
Longitude:	-80.72611700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,152
Total Base Water Volume (gal):	19,560,709
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
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.83258	
DWP-111	CWS	Gel Slurry					
				Listed Below			



DWP-641	CWS	Friction Reducer					
				Listed Below			
DAP-103	CWS	Iron Control					
				Listed Below			
DWP-975	CWS	Breaker					
				Listed Below			
DAP-902	CWS	Scale Inhibitor					
				Listed Below			
Acetic Acid	CWS	Acid					
				Listed Below			
DAP-925	CWS	Acid Corrosion Inhibitor					
				Listed Below			
Sand (Proppant)	CWS	Propping Agent					
				Listed Below			
DWP-844	CWS	Microbiocide					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					

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				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	10.95975	
			Hydrochloric acid	7647-01-0	37.00000	0.05138	
			Polymer	26100-47-0	45.00000	0.03601	
			Paraffinic hydrocarbon solvent	64742-47-8	30.00000	0.02401	
			Calcite	471-34-1	1.00000	0.01953	
			Guar gum	9000-30-0	60.00000	0.01204	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.01204	
			Ammonium chloride	12125-02-9	11.00000	0.00880	
			2-Propenoic acid, homopolymer, sodium salt	9003-04-7	40.00000	0.00628	
			Polyethylene glycol mixture	25322-68-3	54.50000	0.00625	
			Illite	12173-60-3	1.00000	0.00458	
			Goethite	1310-14-1	0.10000	0.00449	
			Sorbitan monooleate	1338-43-8	4.00000	0.00320	
			Biotite	1302-27-8	0.10000	0.00263	
			Apatite	64476-38-6	0.10000	0.00263	
			Polyethylene glycol monooleate	9004-96-0	3.00000	0.00240	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	20.00000	0.00229	
			Ilmenite	98072-94-7	0.10000	0.00170	
			Sorbitol tetraoleate	61723-83-9	2.00000	0.00160	
			1,2-Propanediol	57-55-6	10.00000	0.00157	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00100	
			Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00080	

			Citric acid	77-92-9	60.00000	0.00048
			Sodium bromide	7647-15-6	4.00000	0.00046
			Alcohols, C12-14, ethoxylated	84133-50-6	0.50000	0.00040
			Dibromoacetonitrile	3252-43-5	3.00000	0.00034
			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00030
			Ammonium Persulfate	7727-54-0	100.00000	0.00021
			Acrylamide	79-06-1	0.10000	0.00008
			Vinylidene chloride-methyl acrylate copolymer	25038-72-6	30.00000	0.00005
			Methanol	67-56-1	60.00000	0.00003
			Alcohols, C14-15, ethoxylated	68951-67-7	30.00000	0.00002
			Fatty acids, tall-oil	61790-12-3	30.00000	0.00002
			Modified thiourea polymer	68527-49-1	30.00000	0.00002
			Hydrated magnesium silicate	14807-96-6	1.00000	0.00001
			Alkenes, C>10 a-	64743-02-8	5.00000	0.00001
			Sodium chloride	7647-14-5	1.00000	0.00001
			Propargyl Alcohol	107-19-7	10.00000	0.00001
			Formaldehyde	50-00-0	0.10000	0.00001
			Poly(tetrafluoroethylene)	9002-84-0	1.00000	0.00001

\* 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°27'30"

5,023'

LATITUDE 39°25'00"

LONGITUDE 80°42'30"

10,786'

LONGITUDE 80°42'30"

COUNTY NAME PERMIT

Antero Resources Corporation  
Well No. Banner Unit 1H  
47-095-02162 (AS DRILLED)

O.W.O. HARDMAN  
ET AL LEASE  
COASTAL LUMBER COMPANY  
D.B. 199 PG. 257  
T.M. 17 PAR. 03  
716 AC. ±

COASTAL LUMBER COMPANY  
D.B. 297 PG. 175  
T.M. 12 PAR. 39  
97.57 AC. ±

JERRY WALTERS  
D.B. 207 PG. 657  
T.M. 12 PAR. 33  
50 AC. ±

WV NORTH ZONE  
GRID NORTH

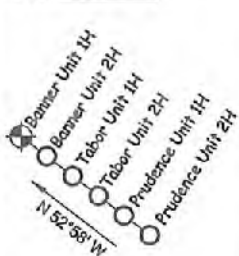
250A WELL NO. 1H  
47-095-02162

NOTE:  
NO WATER WELLS WERE  
LOCATED WITHIN 2000'  
OF CENTER OF PAD

WELL NO. 1H  
47-095-02162

- 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 ALLEGHENY SURVEYS, INC.
  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.

**PAD LAYOUT**



NOT TO SCALE

**AS DRILLED DATA:**  
**WELL 1H TOP HOLE INFORMATION:**  
 N: 340,623ft E: 1,653,662ft  
 LAT: 39°25'43.40" LON: 80°43'34.02"  
**BOTTOM HOLE INFORMATION:**  
 N: 329,051ft E: 1,655,670ft  
 LAT: 39°23'49.31" LON: 80°43'06.44"  
 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: 4,364,399m E: 523,587m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,360,884m E: 524,258m

JOB # 13-120WA  
 DRAWING # BANNERUNIT1ADR  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

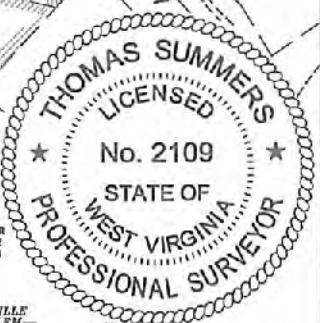
**LEGEND**  
 - - - Surface Owner Boundary Lines +/-  
 - - - Interior Surface Tracts +/-  
 ⊕ Found monument, as noted  
 ⊙ Proposed Well Path  
 ⊙ As Drilled Well Path

THOMAS SUMMERS P.S. 2109  
 DATE 07/12/2017  
 OPERATOR'S WELL # BANNER UNIT #1H



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

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS  
 API WELL # 47 - 095 - 02162  
 STATE COUNTY PERMIT  
 WELL TYPE: OIL GAS  LIQUID INJECTION WASTE DISPOSAL  
 (IF "GAS") PRODUCTION  STORAGE DEEP SHALLOW   
 LOCATION: ELEVATION AS DRILLED -1,188' WATERSHED MCELROY CREEK  
 QUADRANGLE CENTERPOINT 7.5' DISTRICT MCELROY COUNTY TYLER  
 SURFACE OWNER COASTAL LUMBER COMPANY ACREAGE 766 ACRES +/-  
 OIL & GAS ROYALTY OWNER O.W.O. HARDMAN ET AL; P. NICHOLS ET AL; A. RICHARDS ET AL;  
 RONALD NOHE ET AL; M. FOSTER LIVING TRUST; C. ANDERSON ET AL; R. SMITH; S.A. SMITH ET AL  
 LEASE ACREAGE 952.3 AC±; 14.43 AC±; 31.329 AC±; 50 AC±; 101.549 AC±; 36 AC±; 87.75 AC±; 443.68 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 7,163' TVD 19,078' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT CT CORPORATION SYSTEM/DAVINA STAMPER  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



09/15/2017  
 RECEIVED  
 Office of Oil and Gas  
 JUL 28 2017  
 WV Department of Environmental Protection







