

WR-35
Rev. 8/23/13

APPROVED

NAME: J. L. L...

DATE: 10/18/17

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

API 47-017-06724 County Doddridge District West Union
Quad West Union 7.5' Pad Name Cofor Pad Field/Pool Name -----
Farm name Coastal Forest Resources Company Well Number Grape 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 4350019m Easting 517238m
Landing Point of Curve Northing 4350186.213m Easting 517135.402m
Bottom Hole Northing 4352501m Easting 516188m

Elevation (ft) 1189' 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 05/29/2015 Date drilling commenced 10/17/2015 Date drilling ceased 01/13/2016
Date completion activities began 09/17/2016 Date completion activities ceased 02/25/2017
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 69' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1086' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 367', 1247', 1727' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

01/05/2018

API 47- 017 - 06724 Farm name Coastal Forest Resources Company Well number Grape 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"	53'	New	94#, K-55	N/A	Y
Surface	17-1/2"	13-3/8"	352'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2509'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	15556'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6914'		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	72 sx	15.6	1.18	85	0'	8 Hrs.
Surface	Class A	400 sx	15.6	1.19	476	0'	8 Hrs.
Coal							
Intermediate 1	Class A	927 sx	15.6	1.18	1094	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	984 sx (Load) 1344 sx (Tail)	13.5 (Load), 15.2 (Tail)	1.44 (Load), 1.84 (Tail)	3861	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 15556' MD, 8755' TVD (BHL) & 8856' TVD (Deepest Point Drilled) Loggers TD (ft) 15507' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6281'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Morton Unit 1H API #47-017-06559). Please reference the wireline logs submitted with Form WR-35 for Morton Unit 1H. 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 _____

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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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API 47- 017 - 06724 Farm name Coastal Forest Resources Company Well number Grape Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6793' (TOP)</u> TVD	<u>6930' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 14937 mcfpd Oil 199 bpd NGL --- bpd Water 605 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 ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

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 Allied Horizontal Wireline Services
Address 381 Colonial Manor Rd. City North Huntingdon State PA Zip 15642

Cementing Company Allied Oil & Gas Services, LLC
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company US Well Services
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 *Samantha Klaas* Title Permitting Agent Date 08/18/2017

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	9/17/2016	15293	15430	60	Marcellus
2	10/5/2016	15095	15262	60	Marcellus
3	10/5/2016	14897	15064	60	Marcellus
4	10/6/2016	14699	14866	60	Marcellus
5	10/6/2016	14501	14668	60	Marcellus
6	10/6/2016	14303	14470	60	Marcellus
7	10/7/2016	14105	14272	60	Marcellus
8	10/7/2016	13907	14074	60	Marcellus
9	10/8/2016	13709	13876	60	Marcellus
10	10/8/2016	13510	13678	60	Marcellus
11	10/8/2016	13312	13479	60	Marcellus
12	10/9/2016	13114	13281	60	Marcellus
13	10/9/2016	12916	13083	60	Marcellus
14	10/10/2016	12718	12885	60	Marcellus
15	10/10/2016	12520	12687	60	Marcellus
16	10/10/2016	12322	12489	60	Marcellus
17	10/11/2016	12124	12291	60	Marcellus
18	10/11/2016	11926	12093	60	Marcellus
19	10/12/2016	11728	11895	60	Marcellus
20	10/12/2016	11530	11697	60	Marcellus
21	10/12/2016	11332	11499	60	Marcellus
22	10/13/2016	11134	11301	60	Marcellus
23	10/13/2016	10936	11103	60	Marcellus
24	10/13/2016	10738	10905	60	Marcellus
25	10/13/2016	10540	10707	60	Marcellus
26	10/14/2016	10342	10509	60	Marcellus
27	10/14/2016	10143	10311	60	Marcellus
28	10/14/2016	9945	10112	60	Marcellus
29	10/15/2016	9747	9914	60	Marcellus
30	10/15/2016	9549	9716	60	Marcellus
31	10/16/2016	9351	9518	60	Marcellus
32	10/16/2016	9153	9320	60	Marcellus
33	10/16/2016	8955	9122	60	Marcellus
34	10/17/2016	8757	8924	60	Marcellus
35	10/17/2016	8559	8726	60	Marcellus
36	10/18/2016	8361	8528	60	Marcellus
37	10/18/2016	8163	8330	60	Marcellus
38	10/18/2016	7965	8132	60	Marcellus
39	10/19/2016	7767	7934	60	Marcellus
40	10/19/2016	7569	7736	60	Marcellus
41	10/19/2016	7371	7538	60	Marcellus
42	10/20/2016	7173	7340	60	Marcellus
43	10/20/2016	6974	7142	60	Marcellus

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API 47-017-06724 Farm Name Coastal Forest Resources Company Well Number Grape 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 (bbbls)	Amount of Nitrogen/ other (units)
1	10/4/2016	72.7	7587	0	4596	400000	8870	N/A
2	10/5/2016	76.0	7615	5547	4660	400800	8875	N/A
3	10/5/2016	75.9	7659	5500	3769	400400	8870	N/A
4	10/6/2016	74.4	7373	5304	4749	399600	8838	N/A
5	10/6/2016	76.0	7498	5343	4249	399700	8799	N/A
6	10/6/2016	73.9	7471	5171	4646	343100	8988	N/A
7	10/7/2016	75.9	7054	5250	4131	399350	8780	N/A
8	10/7/2016	75.3	7322	5425	4485	400600	8769	N/A
9	10/8/2016	75.4	7381	5082	4556	399800	8790	N/A
10	10/8/2016	75.6	7212	5257	4095	401200	8733	N/A
11	10/8/2016	75.6	7170	5161	4588	399300	8718	N/A
12	10/9/2016	76.3	7134	5440	4073	399800	8734	N/A
13	10/9/2016	76.2	7358	5969	3798	398600	8743	N/A
14	10/10/2016	79.5	7376	5236	4781	399400	8738	N/A
15	10/10/2016	75.0	7199	5651	4960	399700	8711	N/A
16	10/10/2016	74.2	7135	5308	4781	399400	8691	N/A
17	10/11/2016	76.0	7090	5307	4792	399600	8682	N/A
18	10/11/2016	77.0	6887	5264	4581	399100	8682	N/A
19	10/12/2016	74.8	7098	5316	3912	400330	8657	N/A
20	10/12/2016	75.3	7162	5325	5196	399700	8667	N/A
21	10/12/2016	74.9	6782	5096	4939	399200	8543	N/A
22	10/13/2016	76.2	6875	5502	4071	400245	8536	N/A
23	10/13/2016	76.8	6735	5518	3709	400600	8531	N/A
24	10/13/2016	75.5	6859	5161	4345	400400	8522	N/A
25	10/13/2016	78.3	7582	5428	4571	395171	10266	N/A
26	10/14/2016	75.5	6919	5107	4145	400100	8508	N/A
27	10/14/2016	75.4	6897	5261	4739	399605	8483	N/A
28	10/14/2016	76.8	6936	5175	4509	398800	8473	N/A
29	10/15/2016	73.8	6777	5203	3877	399800	8485	N/A
30	10/15/2016	73.0	6550	5000	3762	399220	8540	N/A
31	10/16/2016	75.8	6978	5679	3895	398010	8449	N/A
32	10/16/2016	74.3	7043	5085	5071	399800	8442	N/A
33	10/16/2016	74.0	7092	5136	4885	399295	8429	N/A
34	10/17/2016	75.3	6994	5349	3787	400300	8430	N/A
35	10/17/2016	74.6	7244	5214	4498	399935	8465	N/A
36	10/18/2016	74.5	6996	5397	4177	400025	8464	N/A
37	10/18/2016	74.5	6946	5472	3591	399600	8419	N/A
38	10/18/2016	73.4	6845	5417	4116	398690	8387	N/A
39	10/19/2016	76.2	6998	5579	4030	400900	8383	N/A
40	10/19/2016	74.2	6836	5382	4358	399935	8373	N/A
41	10/19/2016	74.2	6864	5611	5147	399650	8363	N/A
42	10/20/2016	75.0	6880	5425	4588	400470	8353	N/A
43	10/20/2016	75.2	6575	5504	3912	400525	8349	N/A
AVG=		75.3	7,093	5,222	4,375	17,129,756	371,528	TOTAL

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	69'	N/A	69'	N/A
Sandstone	0	107	0	107
Shale	est. 107	147	est. 107	147
Sandstone	est. 147	205	est. 147	205
Shale	est. 205	367	est. 205	367
Sandstone and Coal	est. 367	447	est. 367	447
Shale	est. 447	485	est. 447	485
Sandstone	est. 485	507	est. 485	507
Shale	est. 507	567	est. 507	567
Coal & Shale	est. 567	587	est. 567	587
Shale	est. 587	687	est. 587	687
Sandstone/siltstone	est. 687	827	est. 687	827
Shale	est. 827	1007	est. 827	1007
Sandstone	est. 1007	1025	est. 1007	1025
Shale	est. 1025	1107	est. 1025	1107
Sandstone	est. 1107	1147	est. 1107	1147
Shale	est. 1147	1247	est. 1147	1247
Shale and Trace Coal	est. 1247	1267	est. 1247	1267
Shale	est. 1267	1327	est. 1267	1327
Sandstone	est. 1327	1346	est. 1327	1346
Shale	est. 1346	1467	est. 1346	1467
Sandstone/siltstone	est. 1467	1567	est. 1467	1567
Siltstone/shale/tr coal	est. 1567	1666	est. 1567	1666
Sandstone	est. 1666	1727	est. 1666	1727
Shale/sandstone/tr coal	est. 1727	1846	est. 1727	1846
Shale	est. 1846	1988	est. 1846	1988
Siltstone/shale/sandstone	est. 1988	2125	est. 1988	2125
Shale/limestone	est. 2125	2221	est. 2125	2226
Big Lime	2221	2667	2226	2672
Gantz Sand	2667	2797	2672	2802
Fifty Foot Sandstone	2797	2867	2802	2872
Gordon	2867	3203	2872	3208
Fifth Sandstone	3203	4013	3208	4018
Speechley	4013	4275	4018	4280
Baltown	4275	4738	4280	4743
Bradford	4738	5174	4743	5179
Benson	5174	5443	5179	5448
Alexander	5443	5607	5448	5612
Elk	5607	6120	5612	6125
Rhinestreet	6120	6419	6125	6424
Sycamore	6419	6595	6424	6613
Middlesex	6595	6723	6613	6783
Burkett	6723	6752	6783	6833
Tully	6752	6793	6833	6930
Marcellus	6793	NA	6930	

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. 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:	10/3/2016
Job End Date:	10/20/2016
State:	West Virginia
County:	Doddridge
API Number:	47-017-06724-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Grape 1H
Latitude:	39.29930000
Longitude:	-80.80025800
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,856
Total Base Water Volume (gal):	16,125,554
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	Antero Resources	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.48054	
Sand	J.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	11.26788	
HCL Acid (12.6%-17.5%)	J.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.11977	
			Hydrogen Chloride	7647-01-0	17.50000	0.02785	
LGC-15	J.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.02871	
			Petroleum Distillates	64742-47-8	60.00000	0.02719	
			Suspending agent (solid)	14808-60-7	3.00000	0.00439	
			Surfactant	68439-51-0	3.00000	0.00172	
WFRA-405	J.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.01721	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01386	

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Bioclear 2000	J.S. Well Services, LLC	Anti-Bacterial Agent					
			2,2-dibromo-3-nitripropionamide	10222-01-2	20.00000	0.00415	
			Deionized Water	7732-18-5	28.00000	0.00237	
SI-1100s	J.S. Well Services, LLC	Scale Inhibitor					
			Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00150	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	3.00000	0.00051	
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	3.00000	0.00049	
			Phosphino carboxylic acid polymer	71050-62-9	3.00000	0.00049	
AP One	J.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00105	
AI-302	J.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Water	7732-18-5	95.00000	0.00026	
			2-Propyn-1-olcompound with methyloxirane	38172-91-7	15.00000	0.00004	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

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

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

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

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LATITUDE 39°20'00" 2,431'

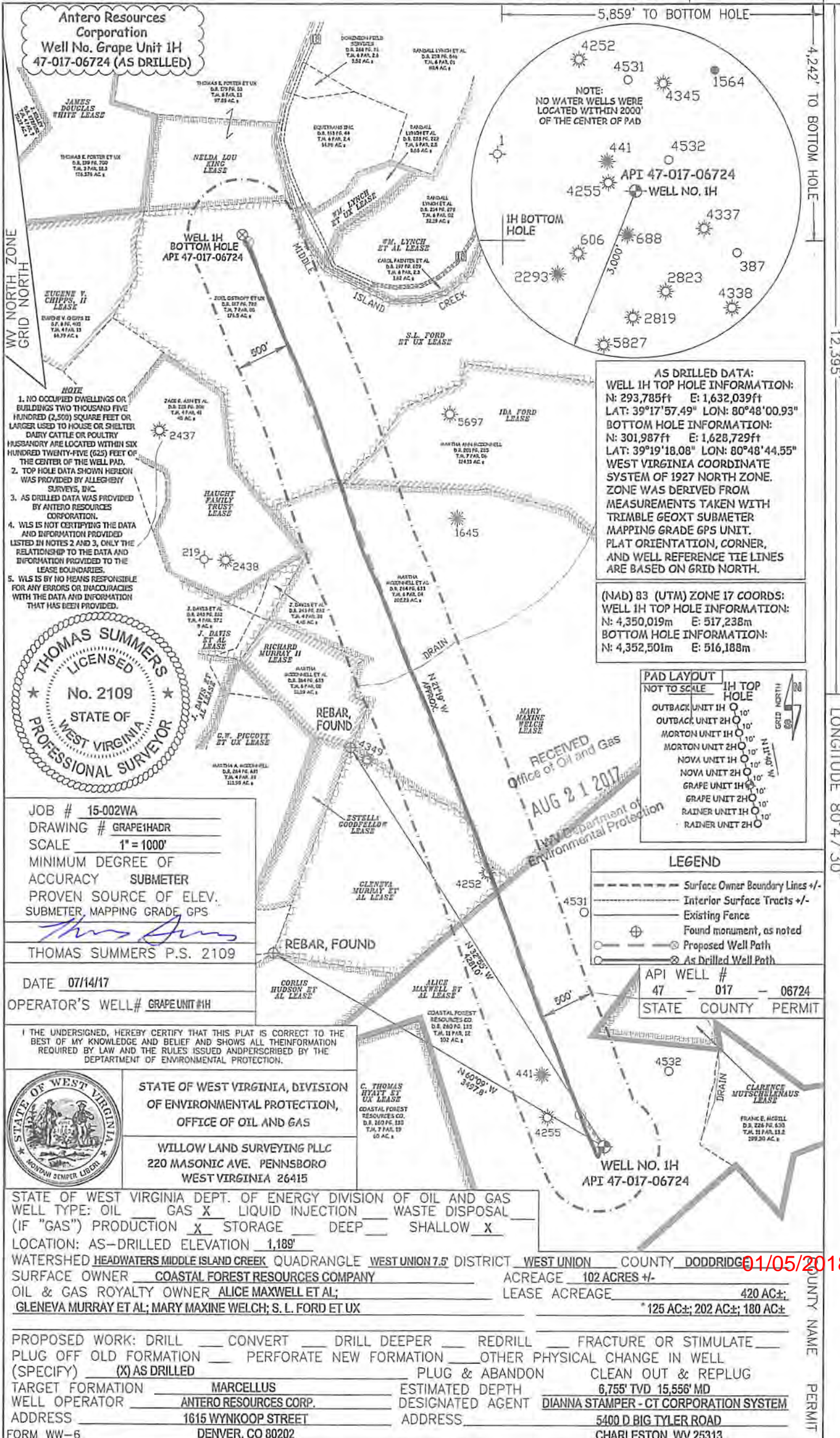
5,859' TO BOTTOM HOLE

4,242' TO BOTTOM HOLE

12,395'

LONGITUDE 80°47'30"

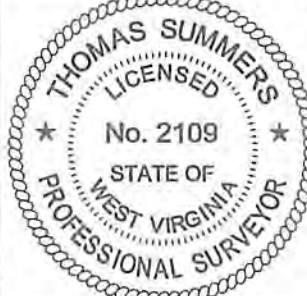
Antero Resources Corporation
Well No. Grape Unit 1H
47-017-06724 (AS DRILLED)



- 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.

AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
 N: 293,785ft E: 1,632,039ft
 LAT: 39°17'57.49" LON: 80°48'00.93"
BOTTOM HOLE INFORMATION:
 N: 301,987ft E: 1,628,729ft
 LAT: 39°19'18.08" LON: 80°48'44.55"
 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: 4,350,019m E: 517,238m
BOTTOM HOLE INFORMATION:
 N: 4,352,501m E: 516,188m



JOB # 15-002WA
 DRAWING # GRAPE1HADR
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER, MAPPING GRADE, GPS

THOMAS SUMMERS P.S. 2109

DATE 07/14/17
 OPERATOR'S WELL# GRAPEUNIT 1H

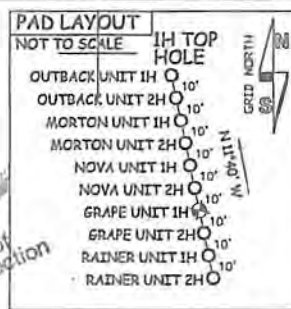
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
 WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: AS-DRILLED ELEVATION 1,189'
 WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5' DISTRICT WEST UNION COUNTY DODDRIDGE
 SURFACE OWNER COASTAL FOREST RESOURCES COMPANY ACREAGE 102 ACRES +/-
 OIL & GAS ROYALTY OWNER ALICE MAXWELL ET AL; GLENEVA MURRAY ET AL; MARY MAXINE WELCH; S. L. FORD ET UX LEASE ACREAGE 420 AC±; *125 AC±; 202 AC±; 180 AC±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,755' TVD 15,556' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



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

API WELL # 47 - 017 - 06724
 STATE COUNTY PERMIT

RECEIVED
 Office of Oil and Gas
 AUG 21 2017
 W.V. Department of Environmental Protection

01/05/2018

COUNTY NAME PERMIT

LATITUDE 39°20'00"

5,859' TO BOTTOM HOLE

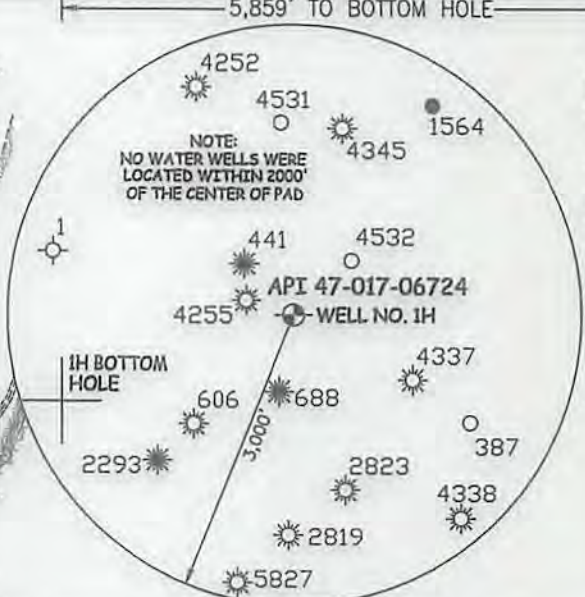
4,242' TO BOTTOM HOLE

12,395'

LONGITUDE 80°47'30"

Antero Resources Corporation
Well No. Grape Unit 1H
47-017-06724 (AS DRILLED)

WV NORTH ZONE
GRID NORTH



- 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.

AS DRILLED DATA:

WELL 1H TOP HOLE INFORMATION:
N: 293,785ft E: 1,632,039ft
LAT: 39°17'57.49" LON: 80°48'00.93"

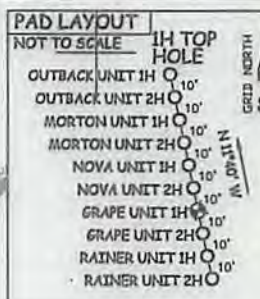
BOTTOM HOLE INFORMATION:
N: 301,987ft E: 1,628,729ft
LAT: 39°19'18.08" LON: 80°48'44.55"

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: 4,350,019m E: 517,238m

BOTTOM HOLE INFORMATION:
N: 4,352,501m E: 516,188m



LEGEND

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

JOB # 15-002WA
DRAWING # GRAPE1HADR
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

THOMAS SUMMERS P.S. 2109

DATE 07/14/17
OPERATOR'S WELL# GRAPEUNIT 1H

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED 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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
LOCATION: AS-DRILLED ELEVATION 1,189'
WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE WEST UNION 7.5 DISTRICT WEST UNION COUNTY DODDRIDGE
SURFACE OWNER COASTAL FOREST RESOURCES COMPANY ACREAGE 102 ACRES +/-
OIL & GAS ROYALTY OWNER ALICE MAXWELL ET AL; GLENEVA MURRAY ET AL; MARY MAXINE WELCH; S. L. FORD ET UX LEASE ACREAGE 420 AC±; 125 AC±; 202 AC±; 180 AC±

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED ___ PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,755' TVD 15,556' MD
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