

APPROVED

WR-35
Rev. 8/23/13

NAME: [Signature]

Page ___ of ___

DATE: 10/16/17

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 47-017-06726 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 Nova 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 4350025m Easting 517237m
Landing Point of Curve Northing 4350006.916m Easting 516762.956m
Bottom Hole Northing 4353701m Easting 515229m

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 09/30/2015 Date drilling ceased 12/15/2015
Date completion activities began 09/23/2016 Date completion activities ceased 03/16/2017
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 67' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 937' 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 - 06726 Farm name Coastal Forest Resources Company Well number Nova 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	106.5#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	360'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2485'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	20593'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7189'		4.7#, N-80		
Packer type and depth set		N/A					

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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	151 sx	15.6	1.18	178	0'	8 Hrs.
Surface	Class A	426 sx	15.6	1.18	503	0'	8 Hrs.
Coal							
Intermediate 1	Class A	930 sx	15.6	1.19	1107	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	998 sx (Lead) 2077 sx (Tail)	13.7 (Lead), 15.26 (Tail)	1.44 (Lead), 1.83 (Tail)	5238	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 20593' MD, 6742' TVD (BHL) & 6850' TVD (Deepest Point Drilled) Loggers TD (ft) 20543' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6696'

** 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 _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47-017 - 06726 Farm name Coastal Forest Resources Company Well number Nova Unit 1H

PERFORATION RECORD

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

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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								

Please insert additional pages as applicable.

API 47- 017 - 06726 Farm name Coastal Forest Resources Company Well number Nova Unit 1H

PRODUCING FORMATION(S)

DEPTHS

Marcellus 6786' (TOP) TVD 7187' (TOP) 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 19628 mcfpd Oil 212 bpd NGL --- bpd Water 784 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 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 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	9/23/2016	20336	20473	60	Marcellus
2	10/24/2016	20138	20305	60	Marcellus
3	10/25/2016	19939	20106	60	Marcellus
4	10/25/2016	19740	19908	60	Marcellus
5	10/26/2016	19542	19709	60	Marcellus
6	10/26/2016	19343	19511	60	Marcellus
7	10/27/2016	19145	19312	60	Marcellus
8	10/27/2016	18946	19114	60	Marcellus
9	10/27/2016	18748	18915	60	Marcellus
10	10/28/2016	18549	18717	60	Marcellus
11	10/28/2016	18351	18518	60	Marcellus
12	10/29/2016	18152	18320	60	Marcellus
13	10/29/2016	17954	18121	60	Marcellus
14	10/29/2016	17755	17923	60	Marcellus
15	10/30/2016	17557	17724	60	Marcellus
16	10/30/2016	17358	17525	60	Marcellus
17	10/31/2016	17159	17327	60	Marcellus
18	10/31/2016	16961	17128	60	Marcellus
19	10/31/2016	16762	16930	60	Marcellus
20	11/1/2016	16564	16731	60	Marcellus
21	11/1/2016	16365	16533	60	Marcellus
22	11/2/2016	16167	16334	60	Marcellus
23	11/2/2016	15968	16136	60	Marcellus
24	11/2/2016	15770	15937	60	Marcellus
25	11/3/2016	15571	15739	60	Marcellus
26	11/3/2016	15373	15540	60	Marcellus
27	11/4/2016	15174	15342	60	Marcellus
28	11/4/2016	14976	15143	60	Marcellus
29	11/5/2016	14777	14944	60	Marcellus
30	11/5/2016	14578	14746	60	Marcellus
31	11/6/2016	14380	14547	60	Marcellus
32	11/6/2016	14181	14349	60	Marcellus
33	11/6/2016	13983	14150	60	Marcellus
34	11/7/2016	13784	13952	60	Marcellus
35	11/8/2016	13586	13753	60	Marcellus
36	11/9/2016	13387	13555	60	Marcellus
37	11/9/2016	13189	13356	60	Marcellus
38	11/9/2016	12990	13158	60	Marcellus
39	11/10/2016	12792	12959	60	Marcellus
40	11/10/2016	12593	12760	60	Marcellus
41	11/10/2016	12394	12562	60	Marcellus
42	11/12/2016	12196	12363	60	Marcellus
43	11/12/2016	11997	12165	60	Marcellus
44	11/12/2016	11799	11966	60	Marcellus
45	11/13/2016	11600	11768	60	Marcellus
46	11/13/2016	11402	11569	60	Marcellus
47	11/14/2016	11203	11371	60	Marcellus
48	11/14/2016	11005	11172	60	Marcellus
49	11/14/2016	10806	10974	60	Marcellus
50	11/15/2016	10608	10775	60	Marcellus
51	11/15/2016	10409	10577	60	Marcellus
52	11/15/2016	10211	10378	60	Marcellus
53	11/16/2016	10012	10179	60	Marcellus
54	11/16/2016	9813	9981	60	Marcellus
55	11/17/2016	9615	9782	60	Marcellus
56	11/18/2016	9416	9584	60	Marcellus
57	11/18/2016	9218	9385	60	Marcellus
58	11/18/2016	9019	9187	60	Marcellus
59	11/19/2016	8821	8988	60	Marcellus
60	11/19/2016	8622	8790	60	Marcellus
61	11/19/2016	8424	8591	60	Marcellus
62	11/20/2016	8225	8393	60	Marcellus
63	11/20/2016	8027	8194	60	Marcellus
64	11/20/2016	7828	7996	60	Marcellus
65	11/20/2016	7630	7797	60	Marcellus
66	11/20/2016	7431	7598	60	Marcellus
67	11/21/2016	7232	7400	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	10/24/2016	73.1	7860	0	4331	400300	9047	N/A
2	10/24/2016	75.4	7746	5211	4345	399900	9174	N/A
3	10/25/2016	73.2	7741	5397	4742	399100	8956	N/A
4	10/25/2016	74.2	7885	5529	4710	400500	8952	N/A
5	10/26/2016	75.1	7962	5887	4592	399700	8956	N/A
6	10/26/2016	77.0	8110	5618	4978	399400	8873	N/A
7	10/27/2016	73.9	7778	5525	4764	399900	8864	N/A
8	10/27/2016	75.4	7901	5103	3848	399900	8905	N/A
9	10/27/2016	76.0	7938	6101	4538	399700	8854	N/A
10	10/28/2016	74.9	7993	5490	4442	400400	8764	N/A
11	10/28/2016	75.1	7800	5286	4814	399300	8817	N/A
12	10/29/2016	76.3	7803	5021	4635	400600	8873	N/A
13	10/29/2016	76.9	8051	5128	4724	400700	8843	N/A
14	10/29/2016	72.2	7675	5007	4992	401100	9977	N/A
15	10/30/2016	77.4	7753	5032	4281	400500	8746	N/A
16	10/30/2016	75.1	7385	5354	4492	400100	10161	N/A
17	10/31/2016	78.1	7873	5082	4878	402050	8731	N/A
18	10/31/2016	77.2	7776	5300	5128	399200	8657	N/A
19	10/31/2016	72.8	7296	5168	4381	400500	8673	N/A
20	11/1/2016	76.9	7796	5237	3988	401690	8641	N/A
21	11/1/2016	75.6	7295	5078	5193	399300	8645	N/A
22	11/2/2016	75.3	7350	5368	4023	399300	8641	N/A
23	11/2/2016	78.6	7715	5468	3967	399145	8622	N/A
24	11/2/2016	74.1	7258	5250	4013	399000	8636	N/A
25	11/3/2016	77.4	7371	5163	4438	399385	8611	N/A
26	11/3/2016	75.8	7169	5046	4896	400200	8589	N/A
27	11/4/2016	75.5	7463	5203	4742	400205	8590	N/A
28	11/4/2016	76.3	7340	5201	4113	400635	8575	N/A
29	11/5/2016	73.4	7182	5136	4568	401300	9846	N/A
30	11/5/2016	77.2	7494	5101	4188	400180	8917	N/A
31	11/6/2016	77.8	6978	5293	4556	399500	8548	N/A
32	11/6/2016	74.6	7177	5261	4428	400010	8541	N/A
33	11/6/2016	76.9	7255	5150	4252	399600	8533	N/A
34	11/7/2016	77.0	7301	5085	3937	399650	8523	N/A
35	11/8/2016	74.6	7207	5214	4217	400090	8513	N/A
36	11/9/2016	73.9	6910	5325	3608	400300	8512	N/A
37	11/9/2016	76.1	7129	5217	4978	399930	8499	N/A
38	11/9/2016	74.5	7014	5214	5032	400900	8489	N/A
39	11/10/2016	73.7	6843	5271	3941	400475	8479	N/A
40	11/10/2016	74.7	6898	5192	5018	401130	8475	N/A
41	11/10/2016	74.0	7007	5279	4821	400100	8510	N/A
42	11/12/2016	74.6	6885	5279	4897	401025	8462	N/A
43	11/12/2016	76.5	6587	5270	5079	399935	8454	N/A
44	11/12/2016	73.7	7173	5454	4767	398900	8497	N/A
45	11/13/2016	73.8	7145	5507	4113	399585	8433	N/A
46	11/13/2016	73.7	6762	4917	4864	400200	8476	N/A
47	11/14/2016	72.4	6788	5078	4610	400900	8453	N/A
48	11/14/2016	74.0	6693	5043	3862	399600	8403	N/A
49	11/14/2016	74.5	6852	5386	4989	400400	8452	N/A
50	11/15/2016	70.1	6731	5482	5032	400000	8388	N/A
51	11/15/2016	74.0	6356	4832	4256	399600	8408	N/A
52	11/15/2016	73.8	6623	5068	4753	401500	8421	N/A
53	11/16/2016	74.0	6529	5282	4749	400000	8400	N/A
54	11/16/2016	71.3	6515	5246	3701	400900	8402	N/A
55	11/17/2016	77.0	6734	5161	5400	384500	8878	N/A
56	11/18/2016	74.0	6479	5332	4935	399600	8376	N/A
57	11/18/2016	76.2	6577	5139	5068	399556	8342	N/A
58	11/18/2016	75.0	6544	5250	5926	399580	8324	N/A
59	11/19/2016	71.6	6610	5389	4413	398300	8352	N/A
60	11/19/2016	72.0	6366	5157	5951	399560	9358	N/A
61	11/19/2016	74.6	6628	5193	4932	398900	8295	N/A
62	11/20/2016	74.2	6841	5389	3712	399200	8306	N/A
63	11/20/2016	75.7	6239	5211	4817	399280	9132	N/A
64	11/20/2016	72.5	6228	5640	5808	401780	8270	N/A
65	11/20/2016	72.4	6507	5071	4109	399200	8267	N/A
66	11/20/2016	70.6	6421	5547	4882	399700	8258	N/A
67	11/21/2016	73.6	6350	5436	5282	400400	8249	N/A
AVG=		74.8	7,159	5,190	4,618	26,786,986	580,814	TOTAL

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LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	67'	N/A	67'	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	2235	est. 2125	2241
Big Lime	2235	2677	2241	2683
Gantz Sand	2677	2813	2683	2819
Fifty Foot Sandstone	2813	2883	2819	2889
Gordon	2883	3210	2889	3216
Fifth Sandstone	3210	4014	3216	4028
Speechley	4014	4285	4028	4315
Baltown	4285	4707	4315	4777
Bradford	4707	5170	4777	5286
Benson	5170	5456	5286	5599
Alexander	5456	5621	5599	5781
Elk	5621	6115	5781	6321
Rhinestreet	6115	6418	6321	6657
Sycamore	6418	6592	6657	6860
Middlesex	6592	6592	6860	7045
Burkett	6592	6747	7045	7098
Tully	6747	6786	7098	7187
Marcellus	6786	NA	7187	NA

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*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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/24/2016
Job End Date:	11/21/2016
State:	West Virginia
County:	Doddridge
API Number:	47-017-06726-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Nova 1H
Latitude:	39.29943300
Longitude:	-80.80009400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,850
Total Base Water Volume (gal):	25,764,476
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	88.71139	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	11.05900	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.12025	
			Hydrogen Chloride	7647-01-0	17.50000	0.02796	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.01850	
			Petroleum Distillates	64742-47-8	60.00000	0.01753	
			Suspending agent (solid)	14808-60-7	3.00000	0.00283	
			Surfactant	68439-51-0	3.00000	0.00111	
WFRA-405	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with propenamide	29003-06-9	30.00000	0.01728	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01391	

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Bioclear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent					
			2,2-dibromo-3-nitripropionamide	10222-01-2	20.00000	0.00416	
			Deionized Water	7732-18-5	28.00000	0.00237	
SI-1100s	U.S. Well Services, LLC	Scale Inhibitor					
			Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00152	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	3.00000	0.00052	
			Phosphino carboxylic acid polymer	71050-62-9	3.00000	0.00050	
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	3.00000	0.00050	
AP One	U.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00049	
AI-302	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Water	7732-18-5	95.00000	0.00010	
			2-Propyn-1-olcompound with methyloxirane	38172-91-7	15.00000	0.00002	
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Ethylene glycol	107-21-1	40.00000	0.00003	
			Butyl cellosolve	111-76-2	20.00000	0.00001	
			Cinnamaldehyde	104-55-2	20.00000	0.00001	
			Formic acid	64-18-6	20.00000	0.00001	
			Polyether	60828-78-6	10.00000	0.00001	
			Acetophenone,thiourea,formaldehyde polymer	68527-49-1	5.00000	0.00000	

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%

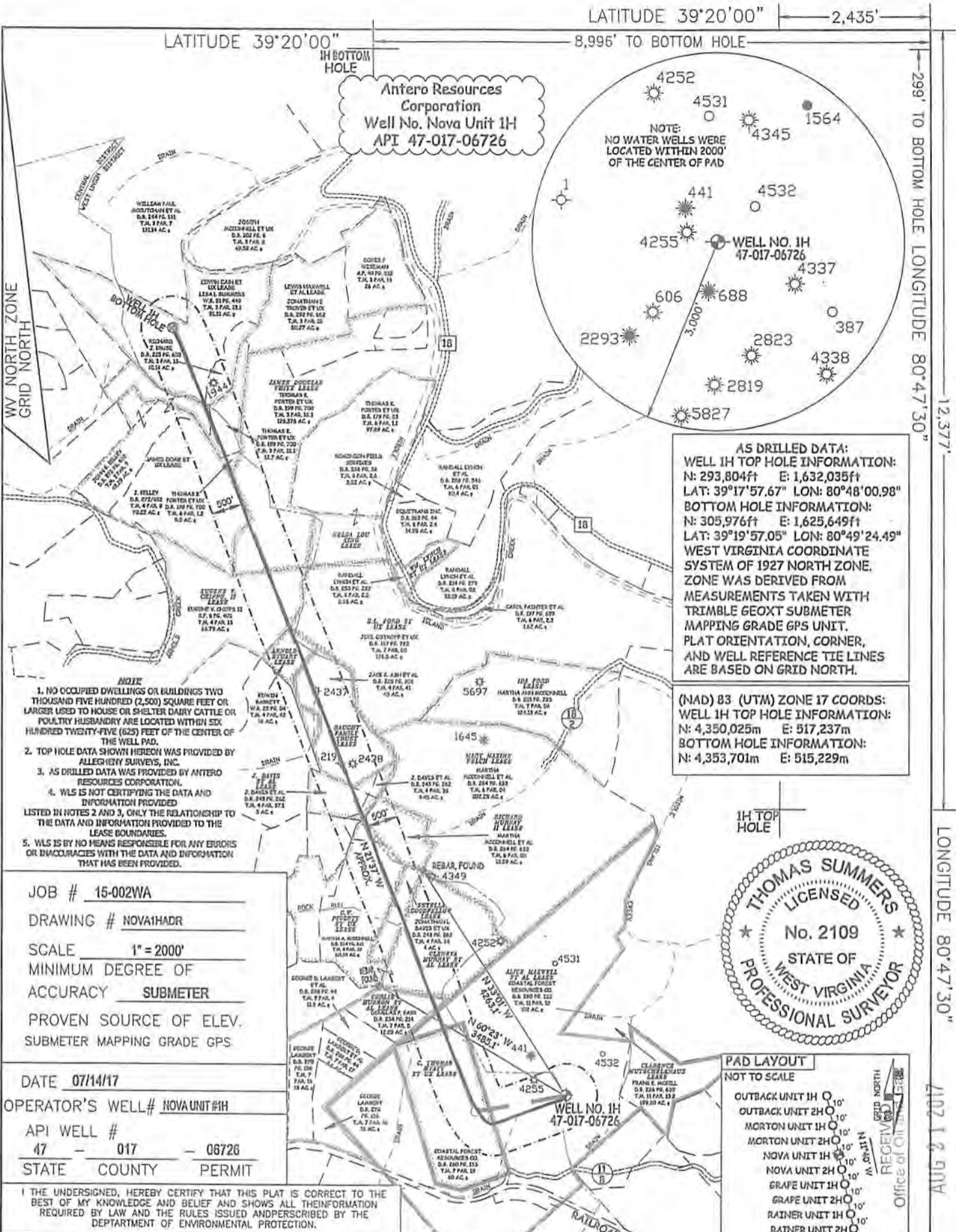
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

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

RECEIVED
Office of Oil and Gas

AUG 21 2017

WV Department of
Environmental Protection



Antero Resources Corporation
Well No. Nova Unit 1H
API 47-017-06726



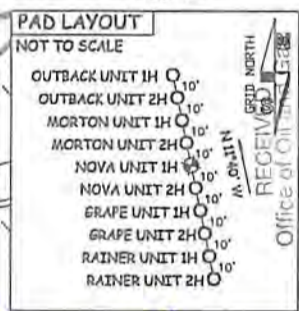
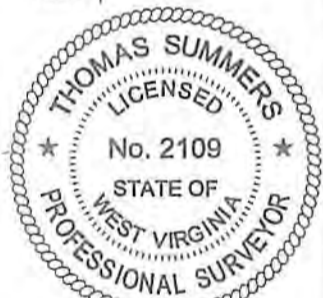
AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 293,804ft E: 1,632,035ft
LAT: 39°17'57.67" LON: 80°48'00.98"
BOTTOM HOLE INFORMATION:
N: 305,976ft E: 1,625,649ft
LAT: 39°19'57.05" LON: 80°49'24.49"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 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: 4,350,025m E: 517,237m
BOTTOM HOLE INFORMATION:
N: 4,353,701m E: 515,229m

- 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.

JOB # 15-002WA
DRAWING # NOVA1HADR
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

DATE 07/14/17
OPERATOR'S WELL# NOVA UNIT 1H
API WELL # 47 - 017 - 06726
STATE COUNTY PERMIT



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

Thomas Summers
THOMAS SUMMERS P.S. 2109

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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X 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; C. THOMAS HYATT ET UX; CORLIS HUDSON ET AL; LEASE ACREAGE 420 AC±; 60 AC±; 488.7 AC±;
GLENEVA MURRAY ET AL; ESTELLA GOODFELLOW; G.W. PIGGOTT ET UX; RICHARD MURRAY II; J. DAVIS ET AL; HAUGHT FAMILY TRUST; 125 AC±; 11.621 AC±; 124.5 AC±; 14.5 AC±; 12.6 AC±; 45 AC±;
ARNOLD STUART; S.L. FORD ET UX; EUGENE V. CHIPPS II; JAMES DOUGLAS WHITE; JAMES DOAK ET UX; LEWIS MAXWELL ET AL; EDWIN CAIN ET UX 11.6 AC±; 180 AC±; 120 AC±; 150 AC±; 120 AC±; 105 AC±; 97 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 6,741' TVD 20,593' 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

299' TO BOTTOM HOLE
 LONGITUDE 80°47'30"
 12.377'
 AUG 12 9 00
 COUNTY NAME PERMIT
 OFFICE OF OIL AND GAS
 WV DEPARTMENT OF ENVIRONMENTAL PROTECTION



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

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

JOB #	15-002WA
DRAWING #	NOVAHADR
SCALE	1" = 2000'
MINIMUM DEGREE OF ACCURACY	SUBMETER
PROVEN SOURCE OF ELEV.	SUBMETER MAPPING GRADE GPS
DATE	07/14/17
OPERATOR'S WELL #	NOVA UNIT 1H
API WELL #	47 - 017 - 06726
STATE	WEST VIRGINIA
COUNTY	JEFFERSON
PERMIT	06726

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 GAS X LIQUID INJECTION
 WASTE DISPOSAL
 (IF "GAS") PRODUCTION X STORAGE
 LOCATION: AS-DRILLED ELEVATION 1,189'
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 SURFACE OWNER COASTAL FOREST RESOURCES COMPANY
 OIL & GAS ROYALTY OWNER ALICE MAXWELL ET AL.; C. THOMAS HYATT ET AL.; CORLIS HUDSON ET AL.;
 LEASE ACREAGE 102 ACRES +/-
 ACREAGE 420 AC.; 60 AC.; 489.7 AC.;
 125 AC.; 11.021 AC.; 124.5 AC.; 14.5 AC.; 12.8 AC.; 45 AC.;
 11.6 AC.; 180 AC.; 120 AC.; 150 AC.; 105 AC.; 97 AC.;
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
 (SPECIFY) AS DRILLED
 TARGET FORMATION MARCELLUS
 WELL OPERATOR ANTERO RESOURCES CORP.
 DESIGNATED AGENT DIANNA STAMPER - CI CORPORATION SYSTEM
 ADDRESS 1615 WINKOOP STREET DENVER, CO 80202
 FORM WW-6

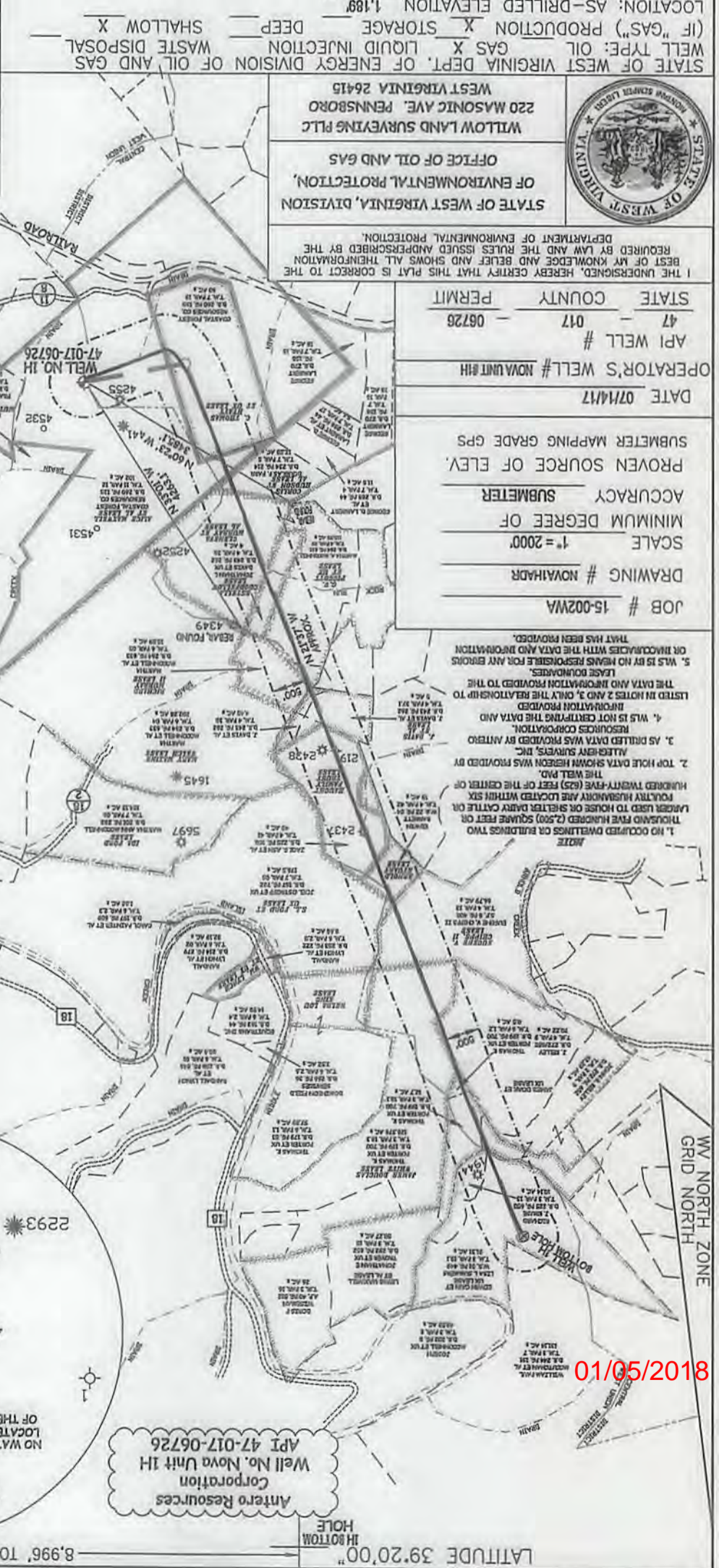
COUNTY NAME PERMIT
 THOMAS SUMMERS P.S. 2109
 LEGEND
 Surface Owner Boundary Lines +/-
 Interior Surface Tracts +/-
 Existing Fence
 Found monument, as noted
 Proposed Well Path
 As Drilled Well Path

THOMAS SUMMERS P.S. 2109
 THOMAS SUMMERS
 No. 2109
 WEST VIRGINIA
 PROFESSIONAL SURVEYOR
 LICENSED



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 N: 4,353,701m E: 515,229m

NOTE:
 NO WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD
 4252 4531 4345 4338 387 4337 606 688 2823 2819 5827 4255 4532 441 4345 1564



LATITUDE 39°20'00" LONGITUDE 80°47'30"
 2,435' 8,996' TO BOTTOM HOLE
 12,377' 299' TO BOTTOM HOLE
 01/05/2018