

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

API 47 - 085 - 10293 County Ritchie District Clay
 Quad Pennsboro 7.5' Pad Name Noland Pad Field/Pool Name -----
 Farm name Darrell A. Noland et al Well Number Western 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 4349947m Easting 501896m
 Landing Point of Curve Northing 4349526.91m Easting 501756.87m
 Bottom Hole Northing 4346554m Easting 502915m

Elevation (ft) 1143' 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

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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 08/31/2016 Date drilling commenced 10/20/2016 Date drilling ceased 3/28/2017
 Date completion activities began 08/24/2017 Date completion activities ceased 11/9/2017
 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 43', 124', 216' Open mine(s) (Y/N) depths No
 Salt water depth(s) ft 1112' Void(s) encountered (Y/N) depths No
 Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No
 Is coal being mined in area (Y/N) No

Reviewed by: _____

Reviewed

MDG 5-9-2018

WR-35
Rev. 8/23/13

API 47-085 - 10293 Farm name Darrell A. Noland et al Well number Western 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"	65'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	410'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2494'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18366'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6682'		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	102 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	479 sx	15.6	1.19	570	0'	8 Hrs.
Coal							
Intermediate 1	Class A	989 sx	15.6	1.18	1167	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	894 sx (Lead) 1767 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	4592	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18366' MD, 6438' TVD (BHL), 18366' (Deepest Point Drilled) Loggers TD (ft) 18366' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

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Kick off depth (ft) 6096' APR 25 2018

Check all wireline logs run caliper density neutron resistivity gamma ray induction 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

WR-35
Rev. 8/23/13

API 47- 085 - 10293 Farm name Darrell A. Noland et al Well number Western Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6365' (TOP) TVD	6709' (TOP) 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 11756 mcfpd Oil 169 bpd NGL --- bpd Water 54 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**

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

Cementing Company BJ Services
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Halliburton
Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Mallory Stanton Telephone 303-357-7182
Signature  Title Permitting Supervisor Date 04/24/2018

API 47-085-10293 Farm Name Darrell A. Noland et al Well Number Western Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/24/2017	18164	18265	60	Marcellus
2	8/24/2017	17964	18126	60	Marcellus
3	8/24/2017	17764	17926	60	Marcellus
4	8/25/2017	17563	17726	60	Marcellus
5	8/25/2017	17363	17525	60	Marcellus
6	8/26/2017	17163	17325	60	Marcellus
7	8/26/2017	16963	17125	60	Marcellus
8	8/27/2017	16763	16925	60	Marcellus
9	8/27/2017	16563	16725	60	Marcellus
10	8/28/2017	16362	16525	60	Marcellus
11	8/28/2017	16162	16324	60	Marcellus
12	8/29/2017	15962	16124	60	Marcellus
13	8/29/2017	15762	15924	60	Marcellus
14	8/30/2017	15562	15724	60	Marcellus
15	8/31/2017	15362	15524	60	Marcellus
16	8/31/2017	15161	15324	60	Marcellus
17	9/2/2017	14961	15123	60	Marcellus
18	9/2/2017	14761	14923	60	Marcellus
19	9/3/2017	14561	14723	60	Marcellus
20	9/4/2017	14361	14523	60	Marcellus
21	9/4/2017	14161	14323	60	Marcellus
22	9/4/2017	13960	14122	60	Marcellus
23	9/5/2017	13760	13922	60	Marcellus
24	9/5/2017	13560	13722	60	Marcellus
25	9/5/2017	13360	13522	60	Marcellus
26	9/6/2017	13160	13322	60	Marcellus
27	9/6/2017	12959	13122	60	Marcellus
28	9/7/2017	12759	12921	60	Marcellus
29	9/8/2017	12559	12721	60	Marcellus
30	9/8/2017	12359	12521	60	Marcellus
31	9/9/2017	12159	12321	60	Marcellus
32	9/20/2017	11959	12121	60	Marcellus
33	9/21/2017	11758	11921	60	Marcellus
34	9/22/2017	11558	11720	60	Marcellus
35	9/22/2017	11358	11520	60	Marcellus
36	9/22/2017	11158	11320	60	Marcellus
37	9/23/2017	10958	11120	60	Marcellus
38	9/23/2017	10758	10920	60	Marcellus
39	9/23/2017	10557	10719	60	Marcellus
40	9/24/2017	10357	10519	60	Marcellus
41	9/24/2017	10157	10319	60	Marcellus
42	9/24/2017	9957	10119	60	Marcellus
43	9/25/2017	9757	9919	60	Marcellus
44	9/25/2017	9556	9719	60	Marcellus
45	9/26/2017	9356	9518	60	Marcellus
46	9/26/2017	9156	9318	60	Marcellus
47	9/26/2017	8956	9118	60	Marcellus
58	9/27/2017	8756	8918	60	Marcellus
49	9/27/2017	8556	8718	60	Marcellus
50	9/27/2017	8355	8518	60	Marcellus
51	9/28/2017	8155	8317	60	Marcellus
52	9/28/2017	7955	8117	60	Marcellus
53	9/28/2017	7755	7917	60	Marcellus
54	9/29/2017	7555	7717	60	Marcellus
55	9/29/2017	7355	7517	60	Marcellus
56	9/29/2017	7154	7317	60	Marcellus
57	9/30/2017	6954	7116	60	Marcellus
58	9/30/2017	6754	6916	60	Marcellus

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API 47-085-10293 Farm Name Darrell A Noland et al Well Number Western 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	8/24/2017	57.6	7983	5634	2853	270040	12151.79	N/A
2	8/24/2017	72.1	7702	5873	2949	416300	8402.952	N/A
3	8/24/2017	72.1	7629	5333	3182	420660	10154.26	N/A
4	8/25/2017	73.5	7195	5454	2987	418360	8293.833	N/A
5	8/25/2017	76.2	7243	5289	3114	414680	8129.286	N/A
6	8/26/2017	74.2	7097	6117	2968	421690	8266.429	N/A
7	8/26/2017	70.3	7553	5964	2928	418530	8274.095	N/A
8	8/27/2017	69.8	7466	5401	2922	414730	9284.024	N/A
9	8/27/2017	73.3	7456	5880	3068	426180	8187.595	N/A
10	8/28/2017	69.2	7725	7459	3236	417880	8219.929	N/A
11	8/28/2017	72.9	7659	5553	3003	421960	8356.952	N/A
12	8/29/2017	68.8	7664	5629	2986	411830	8008.262	N/A
13	8/29/2017	74.6	8100	5638	2905	415870	8129.452	N/A
14	8/30/2017	74.7	7666	6077	2935	417120	8882.976	N/A
15	8/31/2017	77.9	7331	5227	3203	415970	8553.833	N/A
16	8/31/2017	79.4	7510	5731	3068	421890	8249.024	N/A
17	9/2/2017	77.6	7147	5703	3057	419870	8233.595	N/A
18	9/2/2017	78.3	7048	5545	3032	416970	8101.786	N/A
19	9/3/2017	72.2	7455	5764	3198	410930	8062.952	N/A
20	9/4/2017	74.5	7178	5644	2975	418110	8078.643	N/A
21	9/4/2017	77.6	7336	5569	3184	414890	8068.095	N/A
22	9/4/2017	78.6	7563	4968	3078	416570	8072.714	N/A
23	9/5/2017	77.9	7576	6071	2830	419640	7999.905	N/A
24	9/5/2017	77.7	7449	6213	3014	411890	8066.881	N/A
25	9/5/2017	78.3	6666	4415	2798	409450	7977.452	N/A
26	9/6/2017	77.5	7007	6222	2951	400360	7809.524	N/A
27	9/6/2017	78.7	7237	6474	3376	408350	8073.429	N/A
28	9/7/2017	78.7	7348	5663	3005	423840	8137.286	N/A
29	9/8/2017	77.3	7547	5872	2904	417010	7901.357	N/A
30	9/8/2017	78.7	7703	5917	2972	418930	9979.833	N/A
31	9/9/2017	79.7	7876	5537	6744	251650	7154.881	N/A
32	9/20/2017	70.3	7330	5274	3337	417860	10699.79	N/A
33	9/21/2017	69.4	6819	5281	3467	410350	7980.262	N/A
34	9/22/2017	66.5	6370	5299	3500	397960	8753.738	N/A
35	9/22/2017	70.9	6479	5427	3969	398260	8050.476	N/A
36	9/22/2017	72.3	6375	6043	3370	414390	8098.071	N/A
37	9/23/2017	71.5	6220	5505	3555	416050	8014.619	N/A
38	9/23/2017	72.8	6323	6575	3579	423090	8071.357	N/A
39	9/23/2017	67.5	6853	6824	4038	380500	8969.69	N/A
40	9/24/2017	66.8	6624	5865	3544	414210	7877.786	N/A
41	9/24/2017	63.2	6323	5358	3606	408012	7978.31	N/A
42	9/24/2017	69	6011	5753	3344	415530	8022.333	N/A
43	9/25/2017	68.7	6331	5859	3887	403830	7960.881	N/A
44	9/25/2017	74.4	6621	5366	4799	417690	8084.857	N/A
45	9/26/2017	76.6	6967	5323	3656	416410	7866.143	N/A
46	9/26/2017	73.5	6842	4915	3286	413920	7833.238	N/A
47	9/26/2017	77.9	7018	6428	3520	416720	7916.286	N/A
48	9/27/2017	79.7	6506	6657	3660	415010	7900.952	N/A
49	9/27/2017	73.7	6651	5776	2210	418970	10343.52	N/A
50	9/27/2017	78	6487	5277	3394	412520	7932.714	N/A
51	9/28/2017	78.6	6359	5098	3377	422220	7951.524	N/A
52	9/28/2017	72.6	6024	5387	3458	416650	7866.714	N/A
53	9/28/2017	79.6	6942	5918	3959	418970	7854.548	N/A
54	9/29/2017	76.2	6515	5964	3593	416570	7849.69	N/A
55	9/29/2017	76.6	6583	6068	3539	419470	7630.548	N/A
56	9/29/2017	78.7	5873	5978	3163	418950	7821.31	N/A
57	9/30/2017	79	5907	6984	3287	415910	7610.69	N/A
58	9/30/2017	78.3	6238	6542	3270	419320	7686.619	N/A
	AVG=	74.2	7,012	5,769	3,324	23,761,492	481,890	TOTAL

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API 47-085-10293 Farm Name Darrell A. Noland et al Well Number Western Unit 1H

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	43'	N/A	43'	N/A
Fresh Water	124'	N/A	124'	N/A
Fresh Water	216'	N/A	216'	N/A
Siltstone/Sandstone	0	137	0	137
Sandstone	est. 137	217	est. 137	217
Shale	est. 217	357	est. 217	357
Siltstone/ Shale	est. 357	397	est. 357	397
Trace Coal	est. 397	657	est. 397	657
Siltstone	est. 657	697	est. 657	697
Sandstone	est. 697	737	est. 697	737
Siltstone/ Shale	est. 737	757	est. 737	757
Sandstone	est. 757	777	est. 757	777
Shale/ Limestone	est. 777	817	est. 777	817
Siltstone	est. 817	877	est. 817	877
Shale	est. 877	957	est. 877	957
Shale	est. 957	997	est. 957	997
Shale/ limestone	est. 997	1,257	est. 997	1,257
Siltstone/ shale	est. 1257	1,357	est. 1257	1,357
Sandstone	est. 1357	1,577	est. 1357	1,577
Sandstone	est. 1577	1,998	est. 1577	2,004
Big Lime	1,998	2,568	2,004	2,577
Gantz	2,568	2,844	2,577	2,856
Fifty Foot Sandstone	2,844	2,941	2,856	2,954
Gordon	2,941	3,307	2,954	3,330
Fifth Sandstone	3,307	3,371	3,330	3,397
Bayard	3,371	3,940	3,397	3,999
Speechley	3,940	4,141	3,999	4,213
Baltown	4,141	4,559	4,213	4,658
Bradford	4,559	4,966	4,658	5,091
Benson	4,966	5,224	5,091	5,367
Alexander	5,224	5,517	5,367	5,677
Elk	5,517	5,793	5,677	5,967
Rhinestreet	5,793	6,129	5,967	6,328
Sycamore	6,129	6,223	6,328	6,444
Middlesex	6,223	6,325	6,444	6,608
Burkett	6,325	6,351	6,608	6,667
Tully	6,351	6,365	6,667	6,709
Marcellus	6,365	NA	6,709	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:	8/24/2017
Job End Date:	9/30/2017
State:	West Virginia
County:	Ritchie
API Number:	47-085-10293-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Western 1H
Latitude:	39.29881389
Longitude:	-80.97817500
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,422
Total Base Water Volume (gal):	21,026,033
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	87.87573	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.14441	

FR-76	Halliburton	Friction Reducer					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
MC S-2510T	Halliburton	Scale Inhibitor					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
SAND- PREMIUM WHITE-30/50, BULK	Halliburton	Proppant					
				Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent					

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				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				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	11.92567	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02053	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt	Proprietary	30.00000	0.02053	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02053	
			Guar gum	9000-30-0	100.00000	0.01933	
			Hydrochloric acid	7647-01-0	15.00000	0.01322	
			Ethylene Glycol	107-21-1	60.00000	0.00814	
			Glutaraldehyde	111-30-8	30.00000	0.00257	
			Neutralized Polyacrylic Emulsion	Proprietary	10.00000	0.00136	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00043	
			Sodium persulfate	7775-27-1	100.00000	0.00036	
			Methanol	67-56-1	60.00000	0.00015	
			Ethanol	64-17-5	1.00000	0.00009	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Ethoxylated alcohols	Proprietary	30.00000	0.00007	

			Fatty acids, tall oil	Proprietary	30.00000	0.00007	
			Olefins	Proprietary	5.00000	0.00003	
			Propargyl alcohol	107-19-7	10.00000	0.00002	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			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%

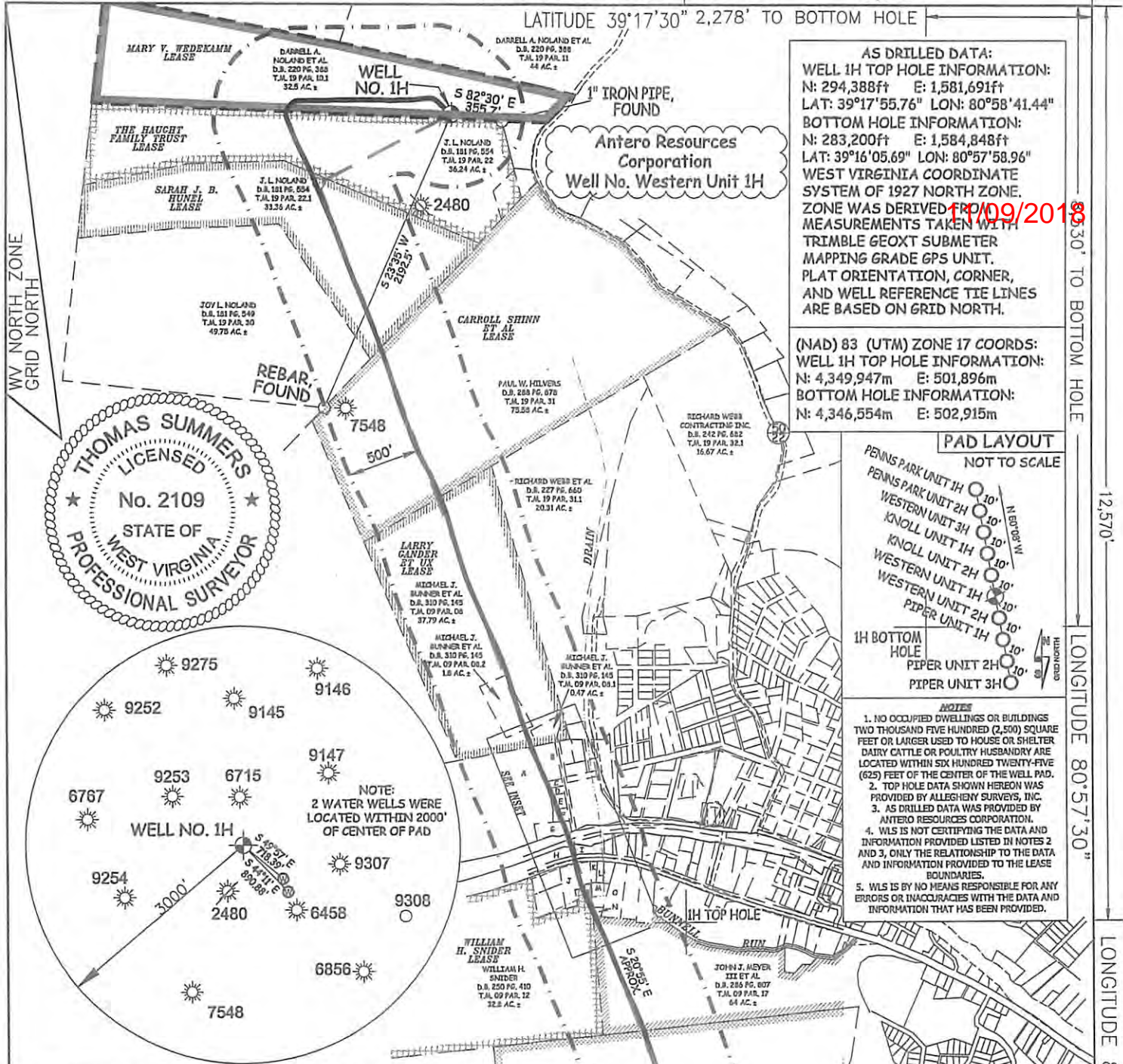
*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)

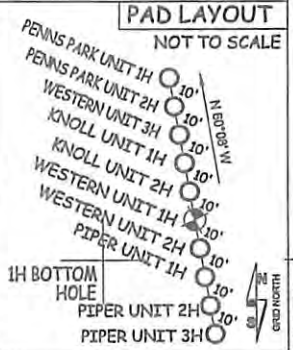
LATITUDE 39°20'00" 5,616'

LATITUDE 39°17'30" 2,278' TO BOTTOM HOLE

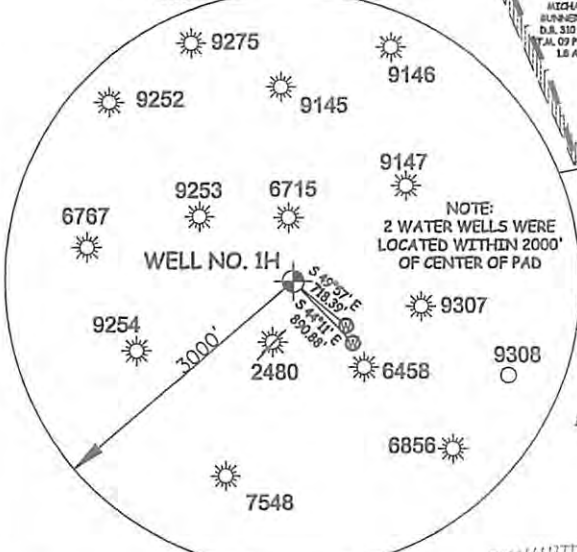
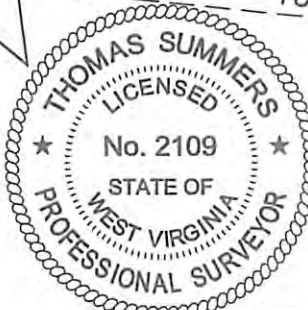


AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
 N: 294,388ft E: 1,581,691ft
 LAT: 39°17'55.76" LON: 80°58'41.44"
BOTTOM HOLE INFORMATION:
 N: 283,200ft E: 1,584,848ft
 LAT: 39°16'05.69" LON: 80°57'58.96"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.
 ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH 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: 4,349,947m E: 501,896m
BOTTOM HOLE INFORMATION:
 N: 4,346,554m E: 502,915m



- 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 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.



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

47 STATE 085 COUNTY 10293 PERMIT

JOB # 16-022WA
 DRAWING # WESTERN1HAD
 SCALE 1" = 1000'
 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 02/01/18
 OPERATOR'S WELL# WESTERN UNIT #1H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1,143' AS DRILLED WATERSHED NORTH FORK HUGHES RIVER
 QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
 SURFACE OWNER DARRELL A. NOLAND ET AL ACREAGE 32.5 ACRES +/-
 OIL & GAS ROYALTY OWNER SEE ATTACHED PAGES LEASE ACREAGE SEE ATTACHED PAGES

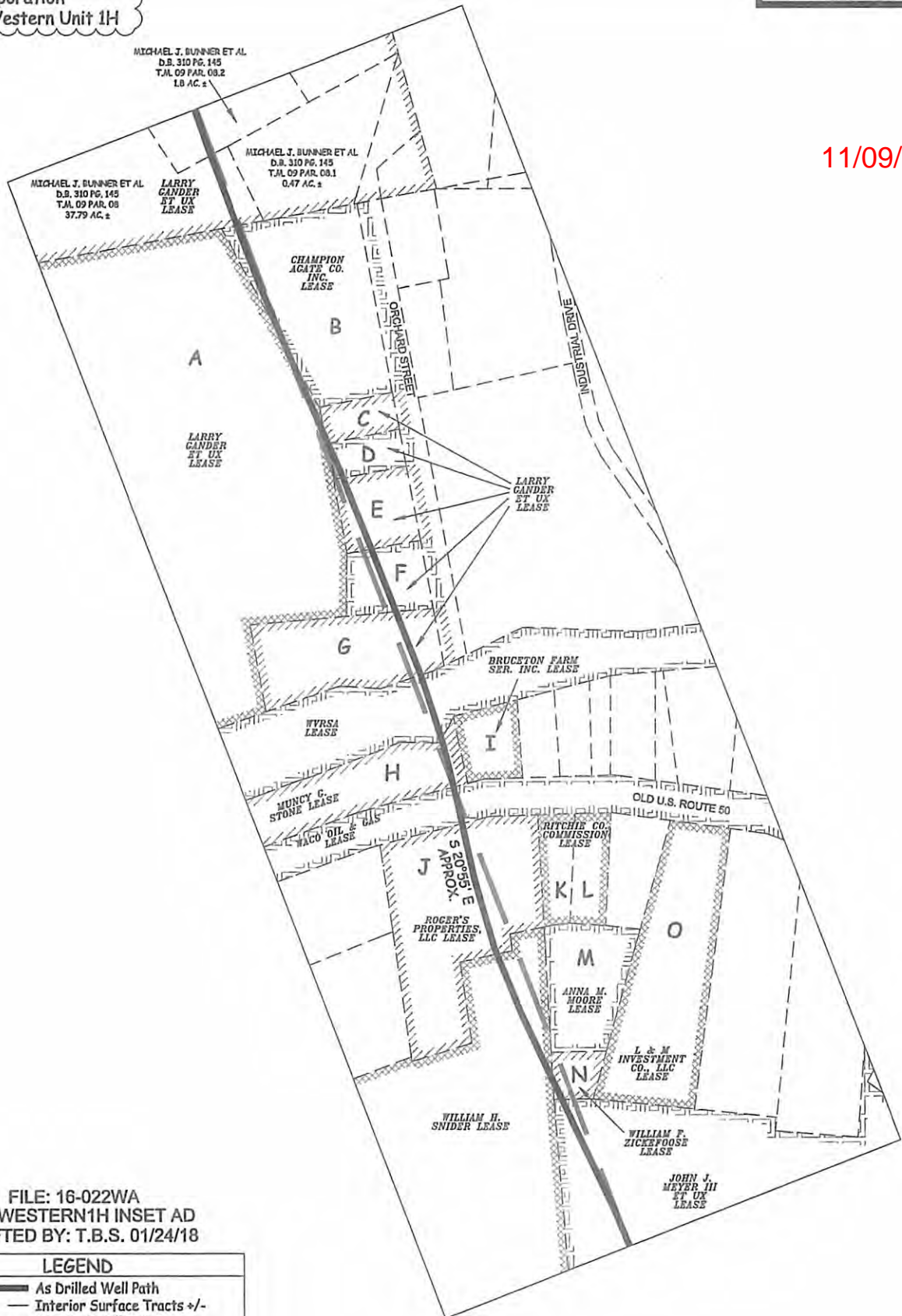
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
 PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL ___
 (SPECIFY) AS DRILLED ___ PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,438' TVD 18,366' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER -GT CORPORATION SYSTEM
 ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

LONGITUDE 80°57'30" PERMIT

Antero Resources Corporation
Well No. Western Unit 1H

11/09/2018

WV NORTH ZONE
GRID NORTH



FILE: 16-022WA
JOB: WESTERN1H INSET AD
DRAFTED BY: T.B.S. 01/24/18

LEGEND	
	As Drilled Well Path
	Interior Surface Tracts +/-
	Proposed Well Path

- A - HELEN J. MICHELS D.B. 208 PG. 589 T.M. 03 PAR. 01.1 16.018 AC.±
- B - CHAMPION AGATE CO. INC. D.B. 265 PG. 7 T.M. 03 PAR. 06 0.84 AC.±
- C - BRYAN C. DAVIS D.B. 319 PG. 212 T.M. 03 PAR. 04 LOT
- D - BRYAN C. DAVIS D.B. 319 PG. 212 T.M. 03 PAR. 05 LOT
- E - BRYAN DAVIS D.B. 311 PG. 928 T.M. 03 PAR. 07 LOT
- F - RICHARD G. SPURGEON D.B. 126 PG. 330 T.M. 03 PAR. 08 LOT
- G - MARY HAZELBAKER EST W.B. 37 PG. 338 T.M. 03 PAR. 01 0.582 AC.±
- H - MUNCY G. STONE T.M. 03 PAR. 19 LOT
- I - BRUCETON FARM SER. INC. D.B. 279 PG. 214 T.M. 04 PAR. 194 LOT
- J - ROGER'S PROPERTIES LLC D.B. 312 PG. 362 T.M. 03 PAR. 42 1.264 AC.±
- K - RITCHIE CO. COMMISSION D.B. 182 PG. 322 T.M. 04 PAR. 268 LOT
- L - RITCHIE CO. COMMISSION D.B. 181 PG. 691 T.M. 04 PAR. 269 LOT
- M - ANNA M. MOORE D.B. 279 PG. 1010 T.M. 04 PAR. 271 LOT
- N - WILLIAM F. ZICKEFOOSE D.B. 296 PG. 567 T.M. 04 PAR. 271.1 LOT
- O - L & M INVESTMENT CO. LLC. D.B. 318 PG. 605 T.M. 04 PAR. 272 LOT



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

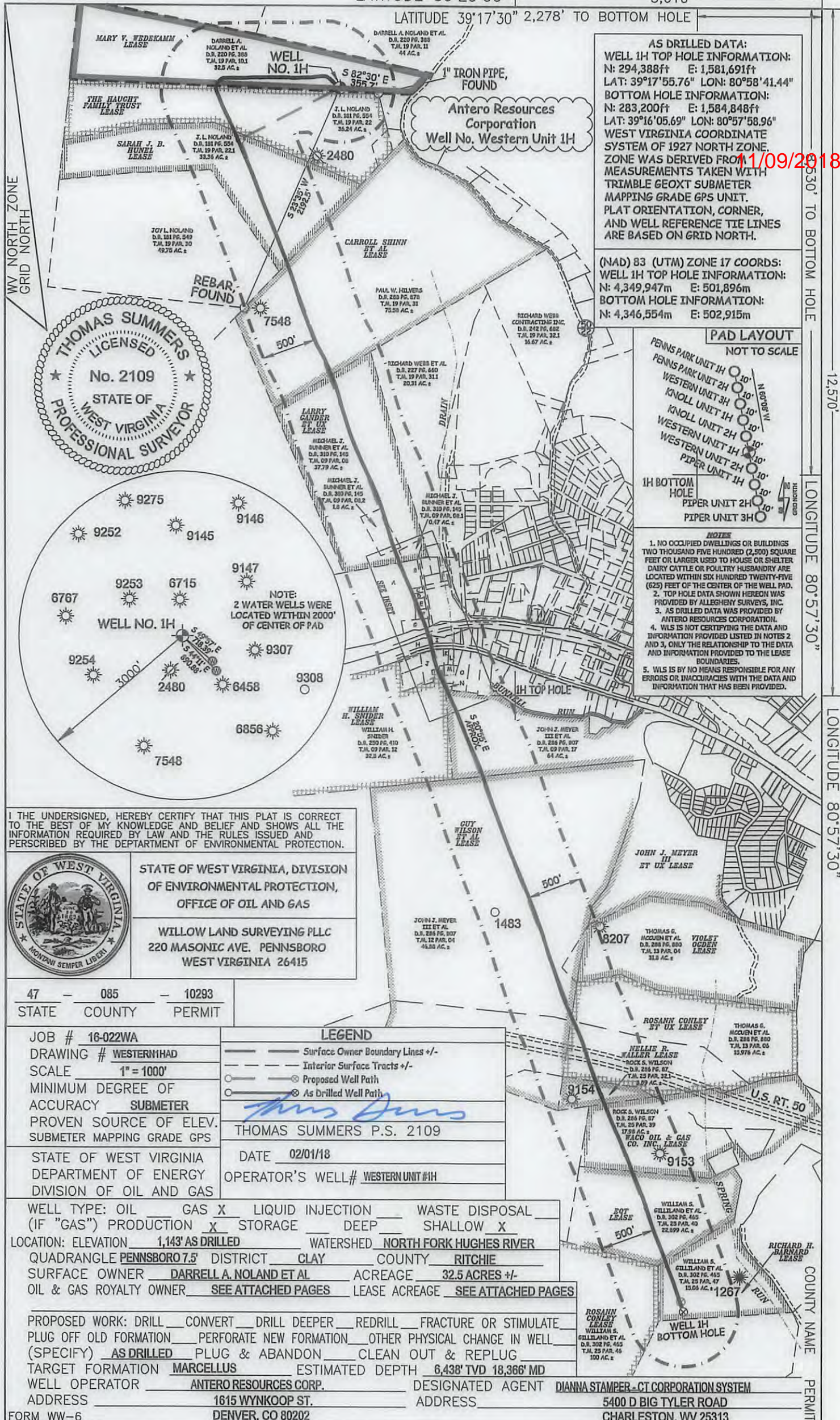
SCALE: 1-INCH = 200-FEET



LATITUDE 39°20'00"

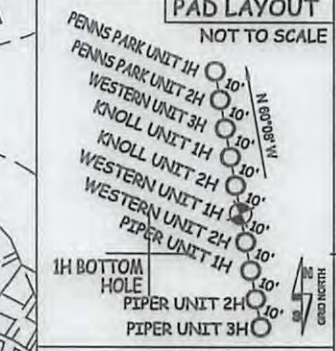
5,616'

LATITUDE 39°17'30" 2,278' TO BOTTOM HOLE

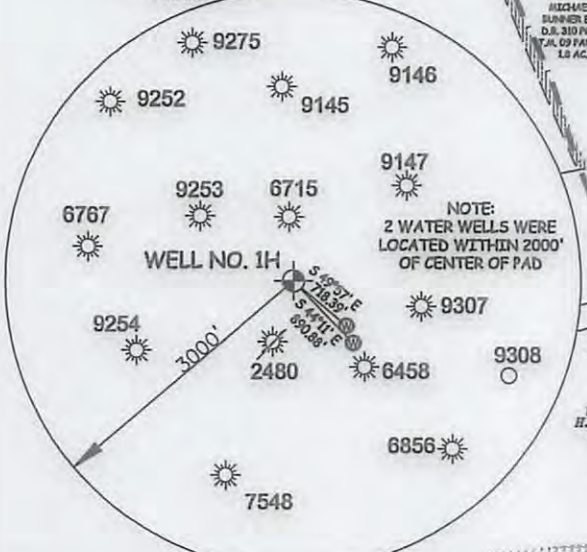
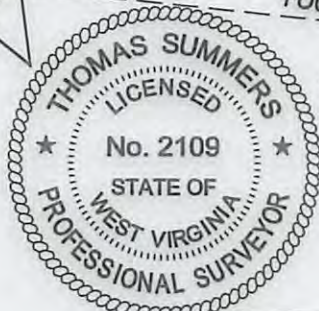


AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
 N: 294,388ft E: 1,581,691ft
 LAT: 39°17'55.76" LON: 80°58'41.44"
BOTTOM HOLE INFORMATION:
 N: 283,200ft E: 1,584,848ft
 LAT: 39°16'05.69" LON: 80°57'58.96"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM 11/09/2018 MEASUREMENTS 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: 4,349,947m E: 501,896m
BOTTOM HOLE INFORMATION:
 N: 4,346,554m E: 502,915m



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 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

47 - 085 - 10293
 STATE COUNTY PERMIT

JOB # 16-022WA
 DRAWING # WESTERN1HAD
 SCALE 1" = 1000'
 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 02/01/18
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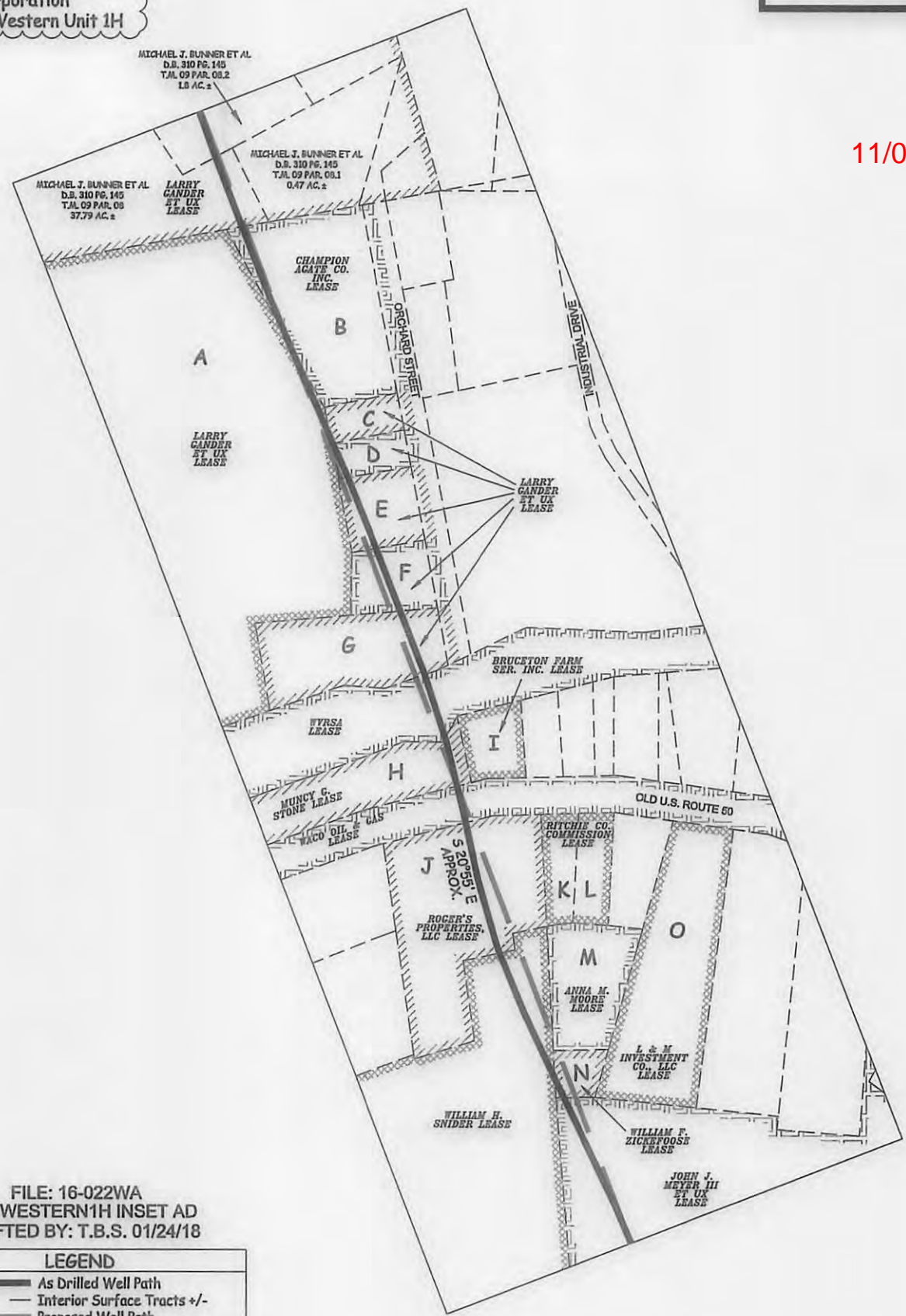
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
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 ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313

5330' TO BOTTOM HOLE
 12,570'
 LONGITUDE 80°57'30"
 LONGITUDE 80°57'30"
 COUNTY NAME
 PERMIT

11/09/2018

Antero Resources Corporation
Well No. Western Unit 1H

WV NORTH ZONE
GRID NORTH



FILE: 16-022WA
JOB: WESTERN1H INSET AD
DRAFTED BY: T.B.S. 01/24/18

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	As Drilled Well Path
	Interior Surface Tracts +/-
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