

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

API 47-085-10295 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 3H
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 4349951m Easting 501888m
Landing Point of Curve Northing 4349877m Easting 501996m
Bottom Hole Northing 4346672m Easting 503296m

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

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 08/31/2016 Date drilling commenced 10/20/2016 Date drilling ceased 3/19/2017
Date completion activities began 07/25/2017 Date completion activities ceased 11/05/2017
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

MAG 5-9-2018

06/01/2018

API 47-085 - 10295 Farm name Darrell A. Noland et al Well number Western Unit 3H

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"	366'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2489'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18266'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6532'		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	428 sx	15.6	1.19	509	0	8 Hrs.
Coal							
Intermediate 1	Class A	1000 sx	15.6	1.18	1180	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	795 sx (Lead) 1685 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	4258	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18265' MD, 6444' TVD (BHL), 18265' (Deepest Point Drilled) Loggers TD (ft) 18265' MD
 Deepest formation penetrated Marcellus Plug back to (ft) RECEIVED
 Plug back procedure N/A Office of Oil and Gas

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Kick off depth (ft) 5619'

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 47-085 - 10295 Farm name Darrell A. Noland et al Well number Western Unit 3H

PERFORATION RECORD

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

Please insert additional pages as applicable.

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STIMULATION INFORMATION PER STAGE

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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- 085 - 10295 Farm name Darrell A. Noland et al Well number Western Unit 3H

PRODUCING FORMATION(S)	DEPTHS			
		TVD		MD
Marcellus	6372' (TOP)		6644' (TOP)	

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 8644 mcfpd Oil 128.49 bpd NGL --- bpd Water 54 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	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
*PLEASE SEE ATTACHED EXHIBIT 3					

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Please insert additional pages as applicable.

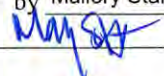
Drilling Contractor Patterson - UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

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

Cementing Company Allied Oil & Gas Services, LLC
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

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

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
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	1,997	est. 1577	2,004
Big Lime	1,997	2,583	2,004	2,590
Gantz	2,583	2,863	2,590	2,869
Fifty Foot Sandstone	2,863	2,955	2,869	2,962
Gordon	2,955	3,319	2,962	3,326
Fifth Sandstone	3,319	3,382	3,326	3,389
Bayard	3,382	3,935	3,389	3,942
Speechley	3,935	4,133	3,942	4,140
Baltown	4,133	4,547	4,140	4,554
Bradford	4,547	4,948	4,554	4,961
Benson	4,948	5,194	4,961	5,218
Alexander	5,194	5,518	5,218	5,560
Elk	5,518	5,797	5,560	5,845
Rhinestreet	5,797	6,135	5,845	6,207
Sycamore	6,135	6,227	6,207	6,326
Middlesex	6,227	6,328	6,326	6,508
Burkett	6,328	6,355	6,508	6,582
Tully	6,355	6,372	6,582	6,644
Marcellus	6,372	NA	6,644	NA

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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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	9/16/2017	59.5	8277	5249	3212	410630	10518.55	N/A
2	9/17/2017	68.7	7210	5947	3343	408930	10492.21	N/A
3	9/17/2017	69.7	7306	5662	3447	410110	8433.333	N/A
4	9/17/2017	68.7	7306	5952	3391	415100	8518.833	N/A
5	9/17/2017	70.9	7374	6405	3644	408140	8369.476	N/A
6	9/18/2017	67.6	7161	6811	3307	419440	8617.881	N/A
7	9/18/2017	71.1	7060	5153	3598	410220	8350.976	N/A
8	9/18/2017	73.6	7281	5586	3557	417370	8433.738	N/A
9	9/19/2017	70	7017	5670	3487	424710	10882.24	N/A
10	9/19/2017	70.1	7063	5419	3687	413220	8397.786	N/A
11	9/19/2017	69.7	7289	5460	3781	415240	9871.786	N/A
12	9/19/2017	68.2	7435	5983	3985	411660	12098.55	N/A
13	9/20/2017	69.2	7134	5570	3802	418440	8311.69	N/A
14	9/20/2017	73.1	7177	5785	3802	412740	8343.738	N/A
15	9/21/2017	67.6	6984	5490	3521	412790	8398.476	N/A
16	9/21/2017	70.8	6968	5478	4510	419050	10535.55	N/A
17	9/22/2017	70.8	6817	5728	3713	418590	8326.595	N/A
18	9/22/2017	70.4	6778	5670	3602	414780	8274.714	N/A
19	9/23/2017	66.4	6705	5605	3616	420120	8296.738	N/A
20	9/23/2017	64.6	7056	5805	3471	416280	9354.119	N/A
21	9/23/2017	65.9	6714	5272	3730	417920	8024	N/A
22	9/24/2017	65.3	6409	5613	3767	417120	8384.429	N/A
23	9/24/2017	64.8	6576	6199	3539	412600	8495.571	N/A
24	9/24/2017	63.9	6592	5491	3612	415120	8041.81	N/A
25	9/25/2017	66.6	6440	4997	3383	409080	8191.262	N/A
26	9/25/2017	64.4	6435	5415	3584	414620	8129.667	N/A
27	9/25/2017	76.7	7083	5848	3637	425680	8252.762	N/A
28	9/26/2017	74.8	7393	5848	3533	412780	8149.357	N/A
29	9/26/2017	73.1	7178	6081	3636	425580	8064.31	N/A
30	9/26/2017	76.4	7094	5989	3536	413520	7992.667	N/A
31	9/27/2017	74.9	6639	5103	3379	418220	8041.976	N/A
32	9/27/2017	71.8	6414	6645	3462	416860	8173.452	N/A
33	9/27/2017	78.4	6770	4970	3656	420160	7990.333	N/A
34	9/28/2017	77.9	6780	5534	4619	416760	8131.238	N/A
35	9/28/2017	72.9	6809	5421	3798	419140	7981.738	N/A
36	9/28/2017	74.2	6781	5352	3806	418260	9337.714	N/A
37	9/29/2017	77.1	6937	5388	3428	416000	7783.048	N/A
38	9/29/2017	75.9	6861	5188	3598	417520	7834.452	N/A
39	9/29/2017	78.1	6787	5466	4627	420660	7736.357	N/A
40	9/30/2017	75.7	6615	5223	3494	415560	7871.476	N/A
41	9/30/2017	74.9	6655	5107	4478	385185	9248.643	N/A
42	9/30/2017	74.7	6610	5223	3371	415180	8139.333	N/A
43	9/30/2017	76.5	6497	5273	3645	419900	7853.952	N/A
44	10/1/2017	78	6706	5837	3911	417120	7880.452	N/A
45	10/1/2017	69.1	7501	5427	4793	415640	9961.262	N/A
46	10/1/2017	76.3	7128	5593	3449	415740	7845.024	N/A
47	10/1/2017	78.8	6458	5496	3601	417780	7790	N/A
48	10/1/2017	78.2	6624	5842	3902	422840	7889.381	N/A
49	10/2/2017	76.9	6545	5885	3710	415100	7773.833	N/A
50	10/2/2017	75.4	6554	5520	3707	414400	7834.333	N/A
51	10/2/2017	73.7	6258	5331	3504	419660	7791.214	N/A
52	10/2/2017	75.7	6216	5546	3475	422060	7802.048	N/A
53	10/2/2017	77.1	6457	6141	3232	412880	7979.167	N/A
54	10/2/2017	76.8	6822	5445	3426	415000	9370.857	N/A
55	10/3/2017	68.9	6930	6771	3347	422160	9002.167	N/A
56	10/3/2017	77.5	6213	7119	3354	420300	7781	N/A
57	10/3/2017	73	6164	4252	3425	417620	7803.952	N/A
58	10/3/2017	78.1	6514	6605	3820	423925	7918.69	N/A
AVG=		72.2	6,854	5,653	3,663	24,133,210	493,100	TOTAL

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EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	9/16/2017	18001	18162	60	Marcellus
2	9/17/2017	17803	17964	60	Marcellus
3	9/17/2017	17604	17765	60	Marcellus
4	9/17/2017	17406	17567	60	Marcellus
5	9/17/2017	17207	17368	60	Marcellus
6	9/18/2017	17009	17170	60	Marcellus
7	9/18/2017	16810	16971	60	Marcellus
8	9/18/2017	16612	16773	60	Marcellus
9	9/19/2017	16414	16574	60	Marcellus
10	9/19/2017	16215	16376	60	Marcellus
11	9/19/2017	16017	16177	60	Marcellus
12	9/19/2017	15818	15979	60	Marcellus
13	9/20/2017	15620	15780	60	Marcellus
14	9/20/2017	15421	15582	60	Marcellus
15	9/21/2017	15223	15383	60	Marcellus
16	9/21/2017	15024	15185	60	Marcellus
17	9/22/2017	14826	14987	60	Marcellus
18	9/22/2017	14627	14788	60	Marcellus
19	9/23/2017	14429	14590	60	Marcellus
20	9/23/2017	14230	14391	60	Marcellus
21	9/23/2017	14032	14193	60	Marcellus
22	9/24/2017	13833	13994	60	Marcellus
23	9/24/2017	13635	13796	60	Marcellus
24	9/24/2017	13437	13597	60	Marcellus
25	9/25/2017	13238	13399	60	Marcellus
26	9/25/2017	13040	13200	60	Marcellus
27	9/25/2017	12841	13002	60	Marcellus
28	9/26/2017	12643	12803	60	Marcellus
29	9/26/2017	12444	12605	60	Marcellus
30	9/26/2017	12246	12407	60	Marcellus
31	9/27/2017	12047	12208	60	Marcellus
32	9/27/2017	11849	12010	60	Marcellus
33	9/27/2017	11650	11811	60	Marcellus
34	9/28/2017	11452	11613	60	Marcellus
35	9/28/2017	11253	11414	60	Marcellus
36	9/28/2017	11055	11216	60	Marcellus
37	9/29/2017	10856	11017	60	Marcellus
38	9/29/2017	10658	10819	60	Marcellus
39	9/29/2017	10460	10620	60	Marcellus
40	9/30/2017	10261	10422	60	Marcellus
41	9/30/2017	10063	10223	60	Marcellus
42	9/30/2017	9864	10025	60	Marcellus
43	9/30/2017	9666	9826	60	Marcellus
44	10/1/2017	9467	9628	60	Marcellus
45	10/1/2017	9269	9430	60	Marcellus
46	10/1/2017	9070	9231	60	Marcellus
47	10/1/2017	8872	9033	60	Marcellus
58	10/1/2017	8673	8834	60	Marcellus
49	10/2/2017	8475	8636	60	Marcellus
50	10/2/2017	8276	8437	60	Marcellus
51	10/2/2017	8078	8239	60	Marcellus
52	10/2/2017	7880	8040	60	Marcellus
53	10/2/2017	7681	7842	60	Marcellus
54	10/2/2017	7483	7643	60	Marcellus
55	10/3/2017	7284	7445	60	Marcellus
56	10/3/2017	7086	7246	60	Marcellus
57	10/3/2017	6887	7048	60	Marcellus
58	10/3/2017	6689	6849	60	Marcellus

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/16/2017
Job End Date:	10/3/2017
State:	West Virginia
County:	Ritchie
API Number:	47-085-10295-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Western 3H
Latitude:	39.29880000
Longitude:	-80.97814444
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,422
Total Base Water Volume (gal):	21,368,239
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	87.99742	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.11918	

HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
MC S-2510T	Halliburton	Scale Inhibitor					
				Listed Below			
HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			

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SAND- PREMIUM WHITE- 30/50,BULK	Halliburton	Proppant					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				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	11.82506	
			Guar gum	9000-30-0	100.00000	0.02337	
			Inorganic salt	Proprietary	30.00000	0.02048	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02048	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02048	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Hydrochloric acid	7647-01-0	15.00000	0.00943	
			Ethylene Glycol	107-21-1	60.00000	0.00826	
			Glutaraldehyde	111-30-8	30.00000	0.00257	
			Neutralized Polyacrylic Emulsion	Proprietary	10.00000	0.00138	
			Sodium persulfate	7775-27-1	100.00000	0.00047	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00043	
			Methanol	67-56-1	60.00000	0.00015	
			Ethanol	64-17-5	1.00000	0.00009	
			Fatty acids, tall oil	Proprietary	30.00000	0.00007	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Ethoxylated alcohols	Proprietary	30.00000	0.00007	

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			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)

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LATITUDE 39°20'00" 5,641'

LATITUDE 39°17'30" 1,026' TO BOTTOM HOLE

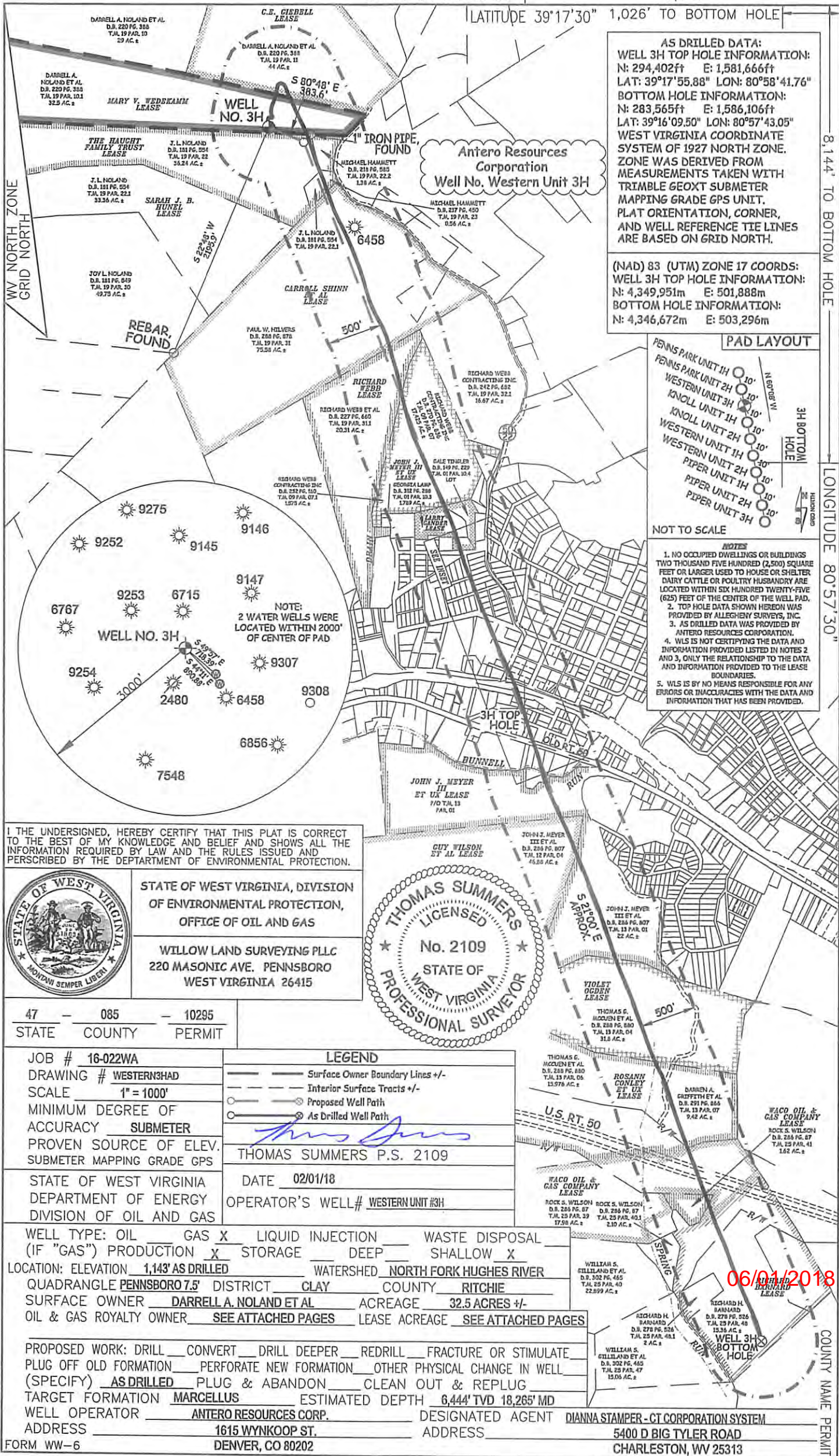
8,144' TO BOTTOM HOLE

12,558'

LONGITUDE 80°57'30"

LONGITUDE 80°57'30"

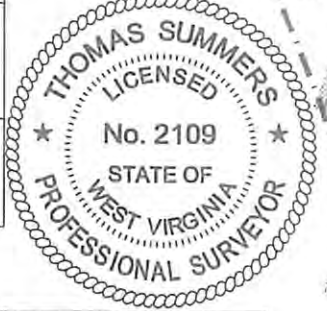
COUNTY NAME PERMIT



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 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 - 085 - 10295
STATE COUNTY PERMIT

JOB # 16-022WA
DRAWING # WESTERN3HAD
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 #3H

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 6,444' TVD 18,265' 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

06/01/2018

Antero Resources Corporation
Well No. Western Unit 3H

INSET

WV NORTH ZONE
GRID NORTH

Oil & Gas Royalty Owner	T.M.-Par.
A	Larry Gander 1-10.5
B	City of Pennsboro 1-34.1
C	Larry Gander 1-33
D	Paul D. Carman 1-42
E	Gale Tingler 1-34
F	Matthew H. Rial 1-43
G	Gail B. Cogar Et Ux 1-44
H	Jefferson Boylen Et Ux 1-53
I	Gail B. Cogar Et Ux 1-54
J	Deward Richards 1-52
K	Steven Hammond 1-62
L	Steven Hammond 1-63
M	Gail B. Cogar Et Ux 1-63.1
N	Gail B. Cogar Et Ux 1-64
O	WB Properties LLC 1-65
P	WB Properties LLC 1-59
Q	WB Properties LLC 1-60
R	No Lease Found 4-12
S	George Allen 4-13
T	Jay Bee Production Co. 4-51
U	David A. Poling 4-52
V	David A. Poling 4-54
W	Presbyterian Church of Pennsboro 4-53
X	John K. Schaffer Et Ux 4-110
Y	John K. Schaffer Et Ux 4-111
Z	John K. Schaffer Et Ux 4-115
AA	Margaret Michels 4-118
AB	Gary A. McDaniels 4-119
AC	Gary A. McDaniels 4-120
AD	Paul Dodd 4-123

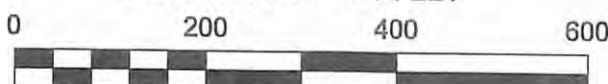
EXCLUDED MINERAL

Oil & Gas Royalty Owner	T.M.-Par.
AE	Charlene R. Sweeney 4-121
AF	Charlene R. Sweeney 4-124.1
AG	Charlene R. Sweeney 4-124
AH	Stephen S. Taylor 4-214.1
AI	Stephen S. Taylor 4-214
AJ	No Lease Found 4-215
AK	Pennsboro Vol. Fire Dept. 4-106
AL	Pennsboro Vol. Fire Dept. 4-216
AM	Pennsboro Vol. Fire Dept. 4-217
AN	Anne E. Robinson 4-220.1
AO	Popcorn Properties LLC 4-221
AP	Popcorn Properties LLC 4-222
AQ	Willow Land Surveying PLLC 4-220
AR	Ritchie Petroleum Corporation, Inc. 4-223
AS	Frederick Humphrey Et Ux 4-224
AT	Frederick Humphrey Et Ux 4-225
AU	Union Bank 4-226
AV	Union Bank 4-228
AW	Union Bank 4-227
AX	Union Bank 4-229
AY	Biff Spitz 4-287
AZ	Teresa Poling Et Al 4-288
BA	Harmony Lodge 4-289
BB	Ritchie Petroleum Corporation, Inc. 4-291
BC	Ritchie Petroleum Corporation, Inc. 4-292
BD	Marjorie C. Mahaney 4-300
BE	L & M Investment Co. 4-293
BF	Matthew J. Washington Et Ux 4-295
BG	Bobbie Riffle Et Al 4-296
BH	Consumer Gas Utility Co. 4-305
BI	Freda Mossor Et Al 4-294
BJ	Charlene R. Sweeney 4-295
BK	Charlene R. Sweeney 4-296
BL	Board of Education 4-305
BM	Board of Education 4-294



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

SCALE: 1-INCH = 200-FEET



06/01/2018

FILE: 16-022WA
JOB: WESTERN3H INSET AD
DRAFTED BY: T.B.S. 01/24/18

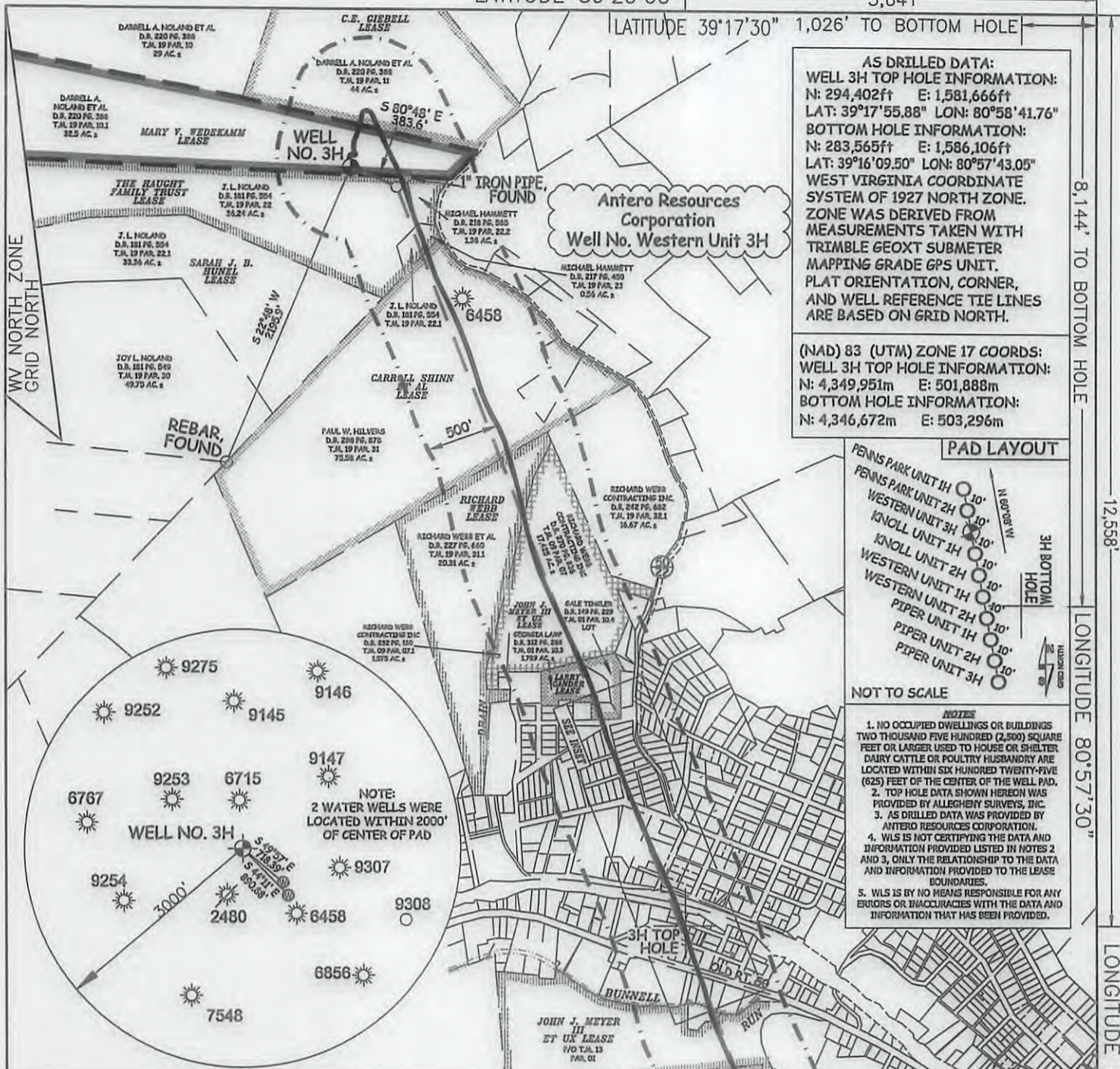
LEGEND	
	As Drilled Well Path
	Interior Surface Tracts +/-
	Proposed Well Path

LATITUDE 39°20'00"

5,641'

LATITUDE 39°17'30"

1,026' TO BOTTOM HOLE



AS DRILLED DATA:
WELL 3H TOP HOLE INFORMATION:
 N: 294,402ft E: 1,581,666ft
 LAT: 39°17'55.88" LON: 80°58'41.76"
BOTTOM HOLE INFORMATION:
 N: 283,565ft E: 1,586,106ft
 LAT: 39°16'09.50" LON: 80°57'43.05"
 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 3H TOP HOLE INFORMATION:
 N: 4,349,951m E: 501,888m
BOTTOM HOLE INFORMATION:
 N: 4,346,672m E: 503,296m

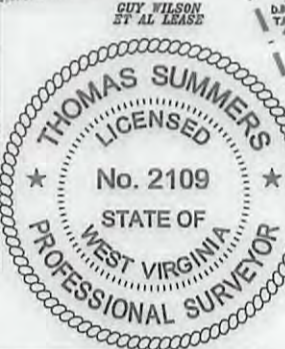


- NOTES**
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY 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.

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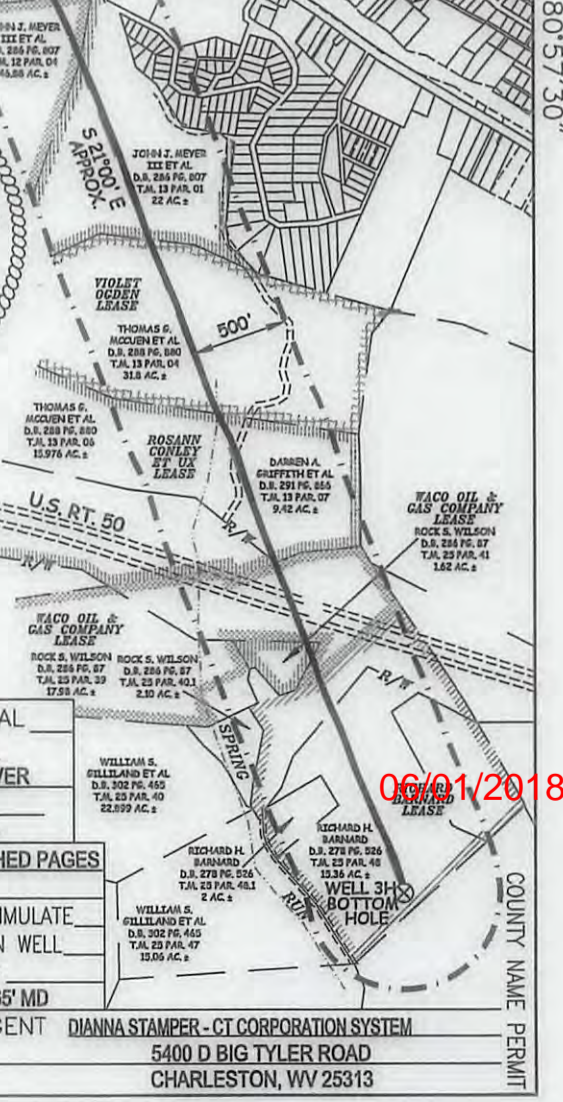
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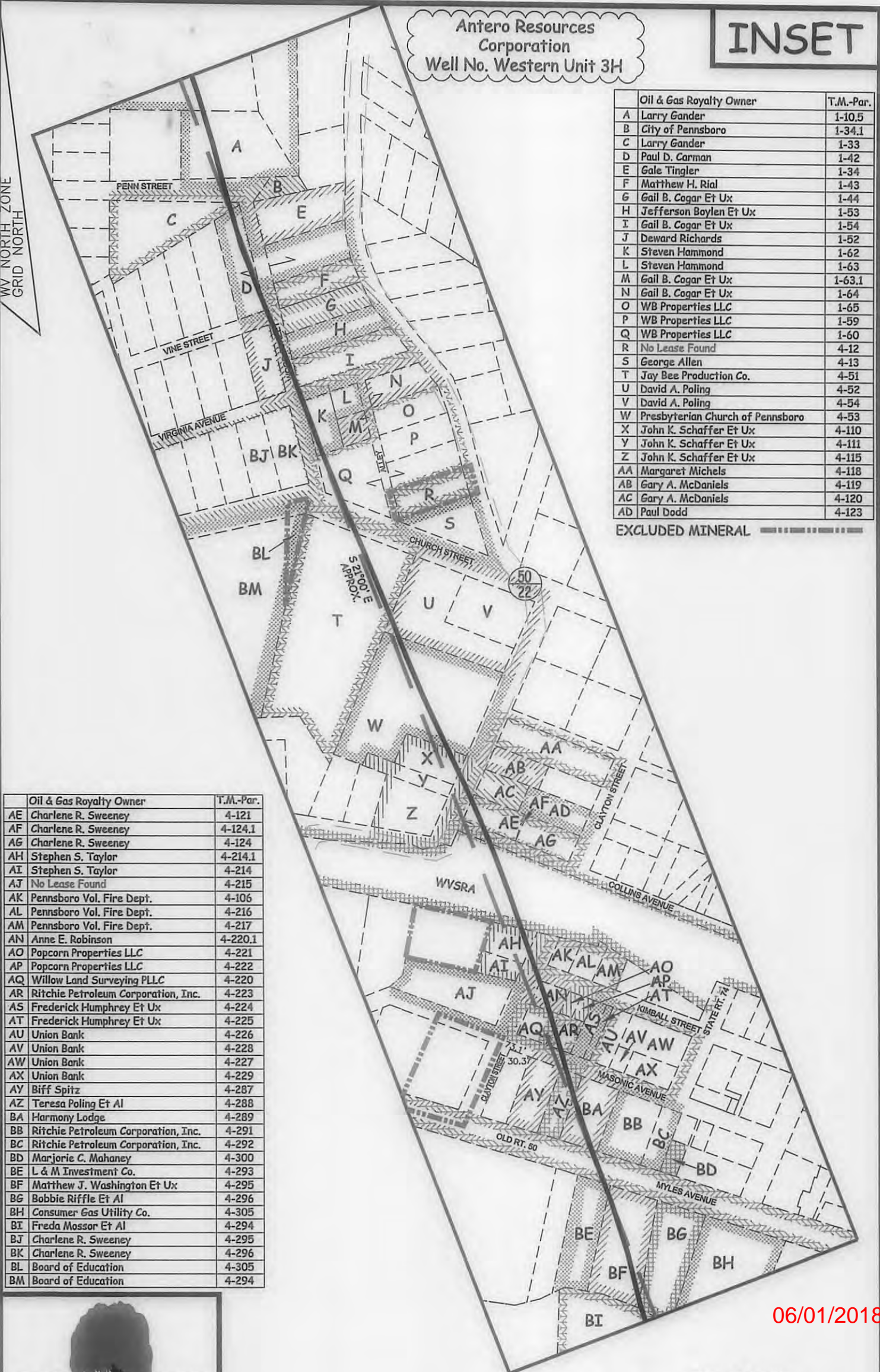
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