

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

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WV Department of
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API 47-095-02370 County Tyler District Centerville
Quad Shirley 7.5' Pad Name Edna Monroe Pad Field/Pool Name ---
Farm name Edna Monroe Well Number Bead 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 4363684m Easting 510918m
Landing Point of Curve Northing 4363514.07m Easting 510779.87m
Bottom Hole Northing 4359980m Easting 512062m

Elevation (ft) 1044' 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 07/22/2016 Date drilling commenced 09/13/2016 Date drilling ceased 02/12/2017
Date completion activities began 5/6/2017 Date completion activities ceased 2/19/2018
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 337' Open mine(s) (Y/N) depths No
Salt water depth(s) ft None Identified 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
[Signature]

Reviewed by:
DAH

WR-35
Rev. 8/23/13

API 47-095 - 02370 Farm name Edna Monroe Well number Bead 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"	105'	New	94#, H-40	N/A	Y
Surface	17- 1/2"	13- 3/8"	541'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2564'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	19413'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6709'		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	204 sx	15.6	1.18	241	0	8 Hrs.
Surface	Class A	632 sx	15.6	1.19	752	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	601 sx (Lead), 1773 sx (Tail)	13.4 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	4469	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19413' MD, 6563' TVD (BHL), 6566' TVD (Deepest point drilled) Loggers TD (ft) 19413' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6035'

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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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.

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**

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6466' (Top)</u> TVD	<u>6746' (Top)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 4100 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 7444 mcfpd Oil 1 bpd NGL -- bpd Water 24 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)
	<u>0</u>		<u>0</u>		
* PLEASE SEE ATTACHED EXHIBIT 3					

Please insert additional pages as applicable.

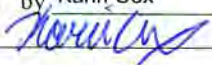
Drilling Contractor Patterson - UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Pro Oilfield Services LLC
Address 3141 Pulaski Rd City New Castle State PA Zip 16105

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 Cannonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Karin Cox Telephone 303-357-6820
Signature  Title Permitting Agent Date 6/19/2018

API 47-095-02370 Farm Name Edna Monroe Well Number Bead Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	5/6/2017	19143	19311	60	Marcellus
2	5/31/2017	18944	19112	60	Marcellus
3	1/7/2018	18744	18912	60	Marcellus
4	1/7/2018	18545	18713	60	Marcellus
5	1/7/2018	18346	18514	60	Marcellus
6	1/8/2018	18147	18315	60	Marcellus
7	1/8/2018	17947	18115	60	Marcellus
8	1/9/2018	17748	17916	60	Marcellus
9	1/9/2018	17549	17717	60	Marcellus
10	1/9/2018	17350	17518	60	Marcellus
11	1/10/2018	17150	17318	60	Marcellus
12	1/10/2018	16951	17119	60	Marcellus
13	1/11/2018	16752	16920	60	Marcellus
14	1/11/2018	16553	16721	60	Marcellus
15	1/12/2018	16354	16522	60	Marcellus
16	1/12/2018	16154	16322	60	Marcellus
17	1/12/2018	15955	16123	60	Marcellus
18	1/13/2018	15756	15924	60	Marcellus
19	1/13/2018	15557	15725	60	Marcellus
20	1/14/2018	15357	15525	60	Marcellus
21	1/15/2018	15158	15326	60	Marcellus
22	1/15/2018	14959	15127	60	Marcellus
23	1/15/2018	14760	14928	60	Marcellus
24	1/16/2018	14560	14729	60	Marcellus
25	1/16/2018	14361	14529	60	Marcellus
26	1/17/2018	14162	14330	60	Marcellus
27	1/18/2018	13963	14131	60	Marcellus
28	1/18/2018	13764	13932	60	Marcellus
29	1/19/2018	13564	13732	60	Marcellus
30	1/19/2018	13365	13533	60	Marcellus
31	1/19/2018	13166	13334	60	Marcellus
32	1/20/2018	12967	13135	60	Marcellus
33	1/20/2018	12767	12935	60	Marcellus
34	1/21/2018	12568	12736	60	Marcellus
35	1/21/2018	12369	12537	60	Marcellus
36	1/21/2018	12170	12338	60	Marcellus
37	1/22/2018	11970	12139	60	Marcellus
38	1/22/2018	11771	11939	60	Marcellus
39	1/22/2018	11572	11740	60	Marcellus
40	1/22/2018	11373	11541	60	Marcellus
41	1/22/2018	11174	11342	60	Marcellus
42	1/23/2018	10974	11142	60	Marcellus
43	1/23/2018	10775	10943	60	Marcellus
44	1/23/2018	10576	10744	60	Marcellus
45	1/23/2018	10377	10545	60	Marcellus
46	1/23/2018	10177	10345	60	Marcellus
47	1/24/2018	9978	10146	60	Marcellus
48	1/24/2018	9779	9947	60	Marcellus
49	1/24/2018	9580	9748	60	Marcellus
50	1/24/2018	9381	9549	60	Marcellus
51	1/25/2018	9181	9349	60	Marcellus
52	1/25/2018	8982	9150	60	Marcellus
53	1/25/2018	8783	8951	60	Marcellus
54	1/25/2018	8584	8752	60	Marcellus
55	1/25/2018	8384	8552	60	Marcellus
56	1/26/2018	8185	8353	60	Marcellus
57	1/26/2018	7986	8154	60	Marcellus
58	1/26/2018	7787	7955	60	Marcellus
59	1/26/2018	7587	7755	60	Marcellus
60	1/26/2018	7388	7556	60	Marcellus
61	1/26/2018	7189	7357	60	Marcellus
62	1/27/2018	6990	7158	60	Marcellus
63	1/27/2018	6791	6959	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	5/6/2017	73.7	7170	4632	3776	400,728	8296	N/A
2	5/31/2017	78.7	7384	5415	3755	396,770	9253	N/A
3	1/7/2018	68.7	8004	5045	4094	398,670	10146.3	N/A
4	1/7/2018	67.2	7917	4856	4180	405,840	8798	N/A
5	1/7/2018	71	7743	4836	3992	399,420	9396.4	N/A
6	1/8/2018	66.2	7614	5450	4695	404,380	10963.5	N/A
7	1/8/2018	67.1	7785	6195	3908	400,380	8514.7	N/A
8	1/9/2018	70.8	7890	5589	4053	404,460	8660	N/A
9	1/9/2018	72.1	7836	5689	3795	398,900	8765.7	N/A
10	1/9/2018	72.3	7826	5599	3921	407,300	8846.7	N/A
11	1/10/2018	75	7719	6129	3977	396,800	8699.5	N/A
12	1/10/2018	68.9	7602	5816	3878	416,700	9137.1	N/A
13	1/11/2018	76.1	7869	6303	4146	400,300	9801.2	N/A
14	1/11/2018	74.5	7628	5291	4144	409,710	8743	N/A
15	1/12/2018	75.5	7787	4584	4676	404,020	8635.3	N/A
16	1/12/2018	71.7	7532	5625	4367	396,860	8346.9	N/A
17	1/12/2018	70.8	7890	5642	4182	404,180	12795.6	N/A
18	1/13/2018	73.8	7658	5084	4122	401,160	10648.4	N/A
19	1/13/2018	68.1	7520	5036	4091	403,920	13030	N/A
20	1/14/2018	68.2	7864	5231	4326	408,990	11159.3	N/A
21	1/15/2018	73.3	7784	5237	4797	407,530	9209.7	N/A
22	1/15/2018	73.1	7695	4811	4847	412,690	8602.7	N/A
23	1/15/2018	68.1	7517	5168	3981	409,180	12416	N/A
24	1/16/2018	69.3	7299	5730	3783	409,450	8394.7	N/A
25	1/16/2018	68.3	7085	5546	3950	407,320	8307.1	N/A
26	1/17/2018	69.8	7847	5429	3828	427,140	10642	N/A
27	1/18/2018	66.3	6950	5541	3852	403,590	8468.3	N/A
28	1/18/2018	64	7345	5171	4119	403,460	9822.5	N/A
29	1/19/2018	65.2	7022	5336	3834	403,370	8347.9	N/A
30	1/19/2018	68.7	7117	5161	3902	397,200	8230.2	N/A
31	1/19/2018	70.3	7487	5258	3948	412,030	8393.4	N/A
32	1/20/2018	41.6	8196	4922	5808	112,580	10355.7	N/A
33	1/20/2018	57.6	7669	5831	3880	395,220	10227.7	N/A
34	1/21/2018	68.7	6857	5077	4075	409,900	8491	N/A
35	1/21/2018	66.9	7234	5140	4008	411,900	9618.5	N/A
36	1/21/2018	66.5	6876	5035	3749	399,780	8334.3	N/A
37	1/22/2018	72.4	7264	5397	3865	408,040	8413.6	N/A
38	1/22/2018	71.3	7261	5631	3848	412,470	8439.9	N/A
39	1/22/2018	68.2	4580	4580	4083	420,725	11137.7	N/A
40	1/22/2018	68.3	7051	5197	3739	404,615	8098.2	N/A
41	1/22/2018	72.5	6852	5001	3969	421,860	8617.2	N/A
42	1/23/2018	73	7006	5575	3843	407,950	8242.8	N/A
43	1/23/2018	70.6	6816	4773	3853	430,100	8425.2	N/A
44	1/23/2018	69.7	6827	5305	4697	373,650	9593.5	N/A
45	1/23/2018	72.4	6796	5235	3963	414,870	8270.6	N/A
46	1/23/2018	74.9	7384	5205	4000	415,810	8387.8	N/A
47	1/24/2018	67.7	7161	5463	4171	416,270	8381.3	N/A
48	1/24/2018	70.9	6541	5194	3768	396,200	7994.9	N/A
49	1/24/2018	71.5	6653	5191	3834	412,330	8232.4	N/A
50	1/24/2018	72.9	6749	4892	3822	406,730	8106.9	N/A
51	1/25/2018	73.4	6582	5100	3947	407,790	8046.3	N/A
52	1/25/2018	73.2	6550	5123	3825	415,370	8392.7	N/A
53	1/25/2018	68.5	6297	5163	3656	400,340	8145.8	N/A
54	1/25/2018	70.8	6388	5631	3737	408,540	7998.4	N/A
55	1/25/2018	73.3	6344	5104	3890	403,800	8134.9	N/A
56	1/26/2018	74.5	6389	4913	3783	413,610	8296.1	N/A
57	1/26/2018	69.7	6352	5029	3732	410,970	8090.2	N/A
58	1/26/2018	71	6302	5354	3845	415,470	8115.7	N/A
59	1/26/2018	72.2	6273	5353	3920	410,970	8160.8	N/A
60	1/26/2018	74.7	5974	5081	3766	409,850	8143.4	N/A
61	1/26/2018	72.1	6454	5510	3750	409,730	9261.8	N/A
62	1/27/2018	69.7	6618	4902	3637	404,950	8372.6	N/A
63	1/27/2018	70.2	6195	4892	2941	418,930	8361.1	N/A
AVG=		70.12222	7140.905	5273.5556	4005.127	25353768	568360.1	Total

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API 47-095-02370 Farm Name <u>Edna Monroe</u> Well Number <u>Bead Unit 1H</u>				
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	337'	N/A	337'	N/A
Sandy Siltstone	0	225	0	225
Sandstone	est. 225	325	est. 225	325
Shale/Siltstone	est. 325	605	est. 325	605
Silty Limestone	est. 605	805	est. 605	805
Sandy Siltstone	est. 805	1,025	est. 805	1,025
Silty Shale	est. 1025	1,065	est. 1025	1,065
Sandstone	est. 1065	1,445	est. 1065	1,445
Sandy Shale	est. 1445	1,545	est. 1445	1,545
Shale/Sandstone	est. 1545	1,705	est. 1545	1,705
Sandstone/Siltstone	est. 1705	1,745	est. 1705	1,745
Sandstone	est. 1745	1,810	est. 1745	1,810
Sandy Shale	est. 1810	1,880	est. 1810	1,882
Big Lime	1,880	2,016	1,882	2,019
Big Injun	2,016	2,556	2,019	2,559
Gantz Sand	2,556	2,660	2,559	2,663
Fifty Foot Sandstone	2,660	2,771	2,663	2,774
Gordon	2,771	3,108	2,774	3,112
Fifth Sandstone	3,108	3,156	3,112	3,161
Bayard	3,156	3,519	3,161	3,529
Warren	3,519	3,898	3,529	3,914
Speechley	3,898	4,204	3,914	4,225
Baltown	4,204	4,570	4,225	4,598
Bradford	4,570	4,993	4,598	5,029
Benson	4,993	5,227	5,029	5,268
Alexander	5,227	5,380	5,268	5,425
Elk	5,380	5,815	5,425	5,866
Rhinstreet	5,815	6,151	5,866	6,214
Sycamore	6,126	6,298	6,189	6,398
Middlesex	6,298	6,401	6,398	6,570
Burkett	6,401	6,431	6,570	6,638
Tully	6,431	6,466	6,638	6,746
Marcellus	6,466	NA	6,746	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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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/30/2017
Job End Date:	1/30/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02370-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Bead Unit 1H
Latitude:	39.42256389
Longitude:	-80.87333333
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,566
Total Base Water Volume (gal):	24,948,381
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	88.79135	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.32494	

SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
SCALECHEK LP-50	Halliburton	Scale Inhibitor					
				Listed Below			
HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
MC S-2510T	Halliburton	Scale Inhibitor					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			

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HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				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	10.83248	
			Hydrochloric acid	7647-01-0	15.00000	0.04059	
			Inorganic salt	Proprietary	30.00000	0.01964	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01964	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.01964	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Guar gum	9000-30-0	100.00000	0.01765	
			Ethylene Glycol	107-21-1	60.00000	0.00739	
			Glutaraldehyde	111-30-8	30.00000	0.00255	
	RECEIVED Office of Oil and Gas JUN 19 2018		Neutralized Polyacrylic Emulsion	Proprietary	10.00000	0.00123	
			Methanol	67-56-1	60.00000	0.00043	
	WV Department of Environmental Protection		Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00043	
			Sodium persulfate	7775-27-1	100.00000	0.00042	
			Phosphate of a Diamine, Sodium Salt	Proprietary	30.00000	0.00029	
	RECEIVED Office of Oil and Gas JUN 19 2018		Ethanol	64-17-5	1.00000	0.00009	
			Modified thiourea polymer	Proprietary	30.00000	0.00006	
	WV Department of Environmental Protection		Ethoxylated alcohols	Proprietary	30.00000	0.00006	
			Fatty acids, tall oil	Proprietary	30.00000	0.00006	

			Olefins	Proprietary	5.00000	0.00002	
			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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Office of Oil and Gas

JUN 19 2018

WV Department of
Environmental Protection

11/09/2018



Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

June 19, 2018

West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street
Charleston, WV 25304

To whom it may concern:

Please find enclosed the Well Operator's Report of Well Work, Form WR-35 (including As-Drilled Survey Plat, Directional Survey and FracFocus report) and corresponding logs for the following wells:

- Deulley Unit 1H (API# 47-095-02359) – Edna Monroe Pad
- Deulley Unit 2H (API# 47-095-02360) – Edna Monroe Pad
- Leaseburg Unit 2H (API# 47-095-02283) – Edna Monroe Pad
- Bead Unit 1H (API# 47-095-02370) – Edna Monroe Pad

If you have any questions please feel free to contact me at (303) 357-6820.

Sincerely,

A handwritten signature in blue ink that reads "Karin Cox". The signature is fluid and cursive.

Karin Cox
Permitting Agent
Antero Resources Corporation

Enclosures

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Office of Oil and Gas

JUN 19 2018

WV Department of
Environmental Protection

LATITUDE 39°27'30"

11,299'

7,567' TO BOTTOM HOLE

LATITUDE 39°25'00"

LONGITUDE 80°50'00"

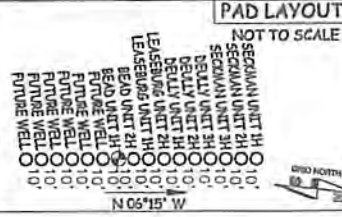
13,038'

LONGITUDE 80°50'00"

Antero Resources Corporation
Well No. Bead Unit 1H
47-095-02370 (AS DRILLED)

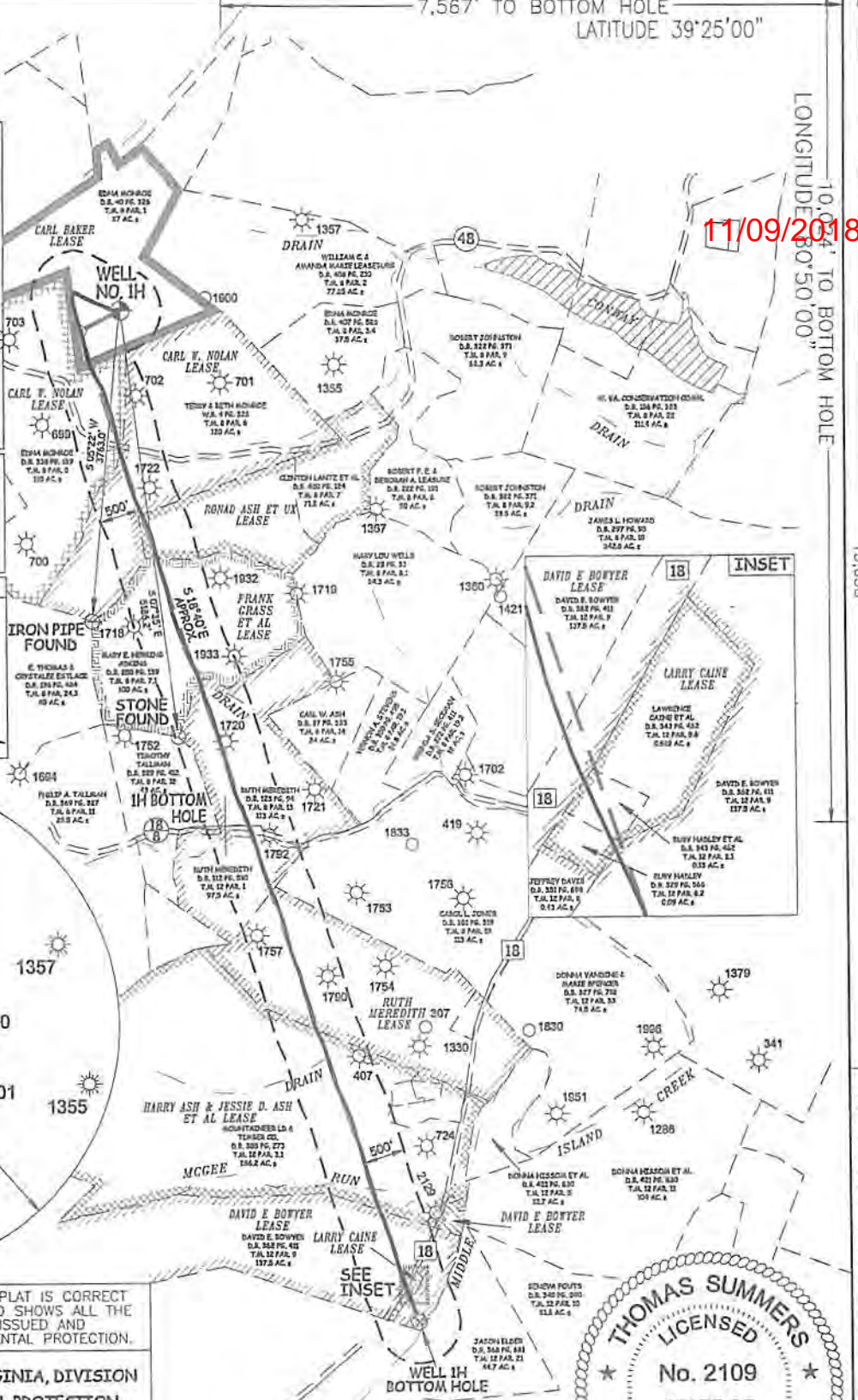
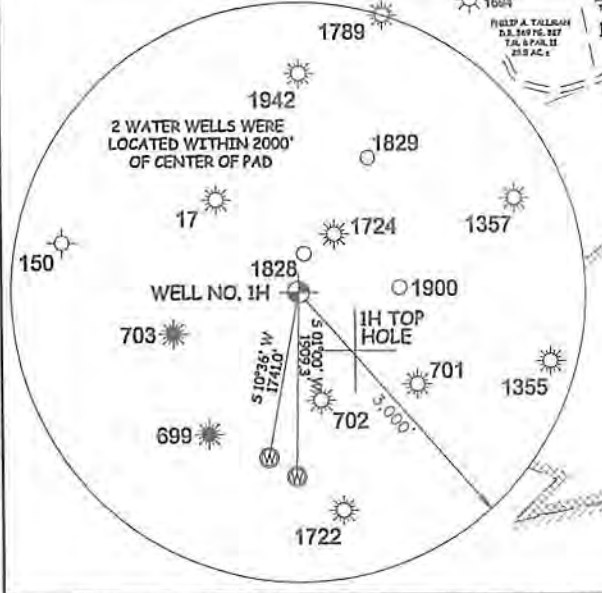
AS DRILLED NOTES:
WELL 1H TOP HOLE INFORMATION:
N: 338,972ft E: 1,612,048ft
LAT: 39°25'21.13" LON: 80°52'23.99"
BOTTOM HOLE INFORMATION:
N: 326,755ft E: 1,615,599ft
LAT: 39°23'20.93" LON: 80°51'36.39"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 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: 4,363,684m E: 510,918m
BOTTOM HOLE INFORMATION:
N: 4,359,980m E: 512,062m



WV NORTH ZONE GRID NORTH

11/09/2018



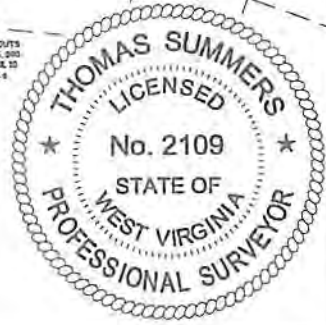
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

RECEIVED Office of Oil and Gas

JUN 19 2018



Form containing job details, legend, notes, and well specifications. Includes fields for Job # 15-013WA, Drawing # BEAD1HAD, Scale 1" = 2000', and well type information. The well is identified as a liquid injection well for waste disposal, located in the Marcellus formation with an estimated depth of 19,413' MD. The operator is Antero Resources Corp. and the designated agent is Dianna Stamper.

11/09/2018

WELL TYPE: OIL GAS X LIQUID INJECTION
 DIVISION OF OIL AND GAS
 DEPARTMENT OF ENERGY
 STATE OF WEST VIRGINIA
 THOMAS SUMMERS P.S. 2109
 DATE 12/13/17
 OPERATOR'S WELL # BEAD UNIT# 11

WELL NO. 1H
 1044' AS DRILLED
 QUADRANGLE SHIRLEY 7.5
 DISTRICT CENTERVILLE
 COUNTY TYLER
 STATE COUNTY PERMIT
 47 095 02370

WASTE DISPOSAL
 SHALLOW X
 DEEP
 PERMIT

WELL OPERATOR: ANTERO RESOURCES CORP.
 TARGET FORMATION: MARCELLUS
 (SPECIES): AS DRILLED
 PROPOSED WORK: DRILL CONVERT PERFORATE NEW FORMATION
 PLUG OFF OLD FORMATION
 OTHER PHYSICAL CHANGE IN WELL
 CLEAN OUT & REFLUG
 ESTIMATED DEPTH: 6,563' TVD 19,413' MD
 DESIGNATED AGENT: DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS: 1615 WYNKOOP ST. DENVER, CO 80202
 ADDRESS: 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

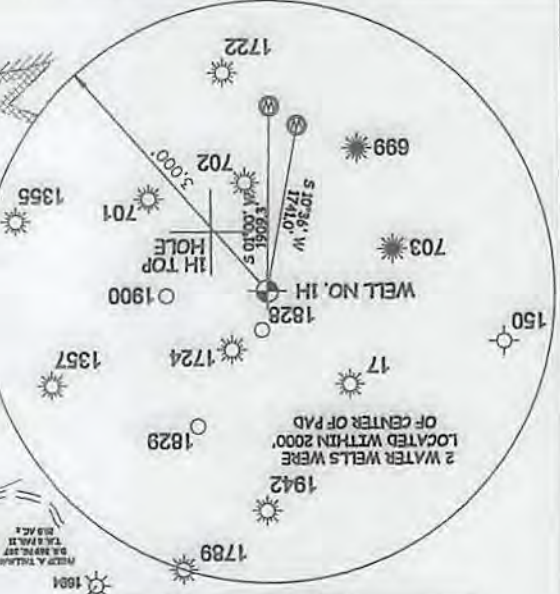
1. THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

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



LEGEND

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



LONGITUDE 80°50'00"
 LONGITUDE 80°50'00"
 LONGITUDE 80°50'00"
 LONGITUDE 80°50'00"
 LONGITUDE 80°50'00"

10,024' TO BOTTOM HOLE
 7,567' TO BOTTOM HOLE

AS DRILLED NOTES:
 WELL 1H TOP HOLE INFORMATION:
 LAT: 39°25'21.13" LONG: 80°52'23.99"
 N: 338.972ft E: 1,612.048ft
 BOTTOM HOLE INFORMATION:
 LAT: 39°23'20.93" LONG: 80°51'36.39"
 N: 326.755ft E: 1,615.599ft
 SYSTEM OF 1927 NORTH ZONE.
 WEST VIRGINIA COORDINATE
 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.

**WV NORTH ZONE
 GRID NORTH**

WELL 1H TOP HOLE COORDS:
 (NAD) 83 (UTM) ZONE 17 COORDS:
 N: 4,363,684m E: 510,918m
 BOTTOM HOLE INFORMATION:
 N: 4,359,980m E: 512,062m

PAD LAYOUT
 NOT TO SCALE
 IRON PIPE FOUND
 STONE FOUND
 APPROX. 8' TIE LINES
 5' TO 15' W

LATITUDE 39°27'30"
 11.299'
 ANTERO RESOURCES CORPORATION
 Well No. Bead Unit 1H
 47-095-02370 (AS DRILLED)

