WR-35
Rev. 8/23/13

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Office of Oil and Gas
JAN 22 2018
WV Department of
Environmental Protection

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

API 47 - 095 - 02286 County Tyler District Centerville
Quad Shirley 7.5' Pad Name Edna Monroe Pad Field/Pool Name ---
Farm name Edna Monroe Well Number Seckman 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 4363705m	Easting 510915m
Landing Point of Curve	Northing 4364009.423m	Easting 511475.516m
Bottom Hole	Northing 4366763m	Easting 510508m

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 08/07/2015 Date drilling commenced 09/13/2016 Date drilling ceased 12/26/2016
Date completion activities began 05/09/2017 Date completion activities ceased 09/19/2017
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 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

Reviewed by: JLB

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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"	560'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2576'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	16855'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6934'		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	653 sx	15.6	1.19	777	0	8 Hrs.
Coal							
Intermediate 1	Class A	1011 sx	15.6	1.18	1193	0	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	787 sx (Lead), 1281 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	3529	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16860' MD, 6507' TVD (BHL & Deepest point drilled) Loggers TD (ft) 16840' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5975'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Bead Unit 2H API# 47-095-02362). Please reference the wireline logs submitted with Form WR-35 for the Bead Unit 2H. 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

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API 47- 095 - 02286 Farm name Edna Monroe Well number Seckman 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.

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.

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PRODUCING FORMATION(S)	DEPTHS			
Marcellus	6490' (Top)	TVD	7047' (Top)	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	Oil	NGL	Water	GAS MEASURED BY
	11291 mcfpd	112 bpd	--- bpd	54 bpd	□ 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_2S, ETC)
	0		0		

*** 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 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 Cannonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759
Signature Title Permitting Agent Date 01/19/2018

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

API 47-095-02286 Farm Name Edna Monroe Well Number Seckman Unit 3H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	5/9/2017	16589	16756	48	Marcellus
2	6/30/2017	16391	16558	48	Marcellus
3	6/30/2017	16193	16360	48	Marcellus
4	6/30/2017	15995	16162	48	Marcellus
5	7/1/2017	15797	15964	48	Marcellus
6	7/1/2017	15600	15766	48	Marcellus
7	7/1/2017	15402	15569	48	Marcellus
8	7/2/2017	15204	15371	48	Marcellus
9	7/2/2017	15006	15173	48	Marcellus
10	7/3/2017	14808	14975	48	Marcellus
11	7/4/2017	14610	14777	48	Marcellus
12	7/4/2017	14412	14579	48	Marcellus
13	7/5/2017	14215	14381	48	Marcellus
14	7/5/2017	14017	14184	48	Marcellus
15	7/5/2017	13819	13986	48	Marcellus
16	7/6/2017	13621	13788	48	Marcellus
17	7/6/2017	13423	13590	48	Marcellus
18	7/6/2017	13225	13392	48	Marcellus
19	7/7/2017	13028	13194	48	Marcellus
20	7/7/2017	12830	12997	48	Marcellus
21	7/7/2017	12632	12799	48	Marcellus
22	7/8/2017	12434	12601	48	Marcellus
23	7/8/2017	12236	12403	48	Marcellus
24	7/8/2017	12038	12205	48	Marcellus
25	7/9/2017	11840	12007	48	Marcellus
26	7/9/2017	11643	11810	48	Marcellus
27	7/9/2017	11445	11612	48	Marcellus
28	7/10/2017	11247	11414	48	Marcellus
29	7/10/2017	11049	11216	48	Marcellus
30	7/10/2017	10851	11018	48	Marcellus
31	7/11/2017	10653	10820	48	Marcellus
32	7/11/2017	10456	10622	48	Marcellus
33	7/11/2017	10258	10425	48	Marcellus
34	7/12/2017	10060	10227	48	Marcellus
35	7/13/2017	9862	10029	48	Marcellus
36	7/13/2017	9664	9831	48	Marcellus
37	7/14/2017	9466	9633	48	Marcellus
38	7/14/2017	9269	9435	48	Marcellus
39	7/14/2017	9071	9238	48	Marcellus
40	7/15/2017	8873	9040	48	Marcellus
41	7/15/2017	8675	8842	48	Marcellus
42	7/15/2017	8477	8644	48	Marcellus
43	7/16/2017	8279	8446	48	Marcellus
44	7/16/2017	8081	8248	48	Marcellus
45	7/16/2017	7884	8050	48	Marcellus
46	7/17/2017	7686	7853	48	Marcellus
47	7/17/2017	7488	7655	48	Marcellus
48	7/17/2017	7290	7457	48	Marcellus
49	7/18/2017	7092	7259	48	Marcellus

API 47-095-02286 Farm Name Edna Monroe Well Number Seckman Unit 3H

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	6/28/2017	74.8	7349	5676	3207	168100	8644	N/A
2	6/30/2017	75.6	7501	5807	3664	168300	9379	N/A
3	6/30/2017	74.9	7320	5609	3576	147360	8636	N/A
4	6/30/2017	76.0	7139	5589	3591	168100	9065	N/A
5	7/1/2017	78.3	7376	5733	3300	147360	9015	N/A
6	7/1/2017	79.6	7158	5577	3628	146770	10425	N/A
7	7/1/2017	75.1	7351	5783	4547	167900	10661	N/A
8	7/2/2017	72.0	7602	5505	4753	147670	11421	N/A
9	7/2/2017	74.3	7348	5513	4150	168840	10054	N/A
10	7/3/2017	77.0	7273	5551	3631	147430	9656	N/A
11	7/4/2017	80.0	7040	5511	3422	167340	9189	N/A
12	7/4/2017	75.0	6929	5365	3672	147630	9058	N/A
13	7/5/2017	79.7	6849	5436	3942	167420	9059	N/A
14	7/5/2017	79.9	7018	5466	3683	163800	8925	N/A
15	7/5/2017	80.1	7004	5673	3678	144030	8876	N/A
16	7/6/2017	79.6	6906	5833	3774	146970	8821	N/A
17	7/6/2017	77.6	7177	5640	3602	165880	10565	N/A
18	7/6/2017	79.0	7371	5600	3834	147040	10427	N/A
19	7/7/2017	78.7	7236	5659	3980	166140	9394	N/A
20	7/7/2017	78.4	7197	5560	3790	147320	8914	N/A
21	7/7/2017	80.4	7012	5452	3658	168060	9030	N/A
22	7/8/2017	79.9	6935	5652	3983	147150	8963	N/A
23	7/8/2017	79.0	6883	5551	3715	167860	8994	N/A
24	7/8/2017	80.0	6937	5382	4028	146910	8842	N/A
25	7/9/2017	77.2	7132	5660	4191	145670	10735	N/A
26	7/9/2017	73.3	6663	5662	3601	166460	9367	N/A
27	7/9/2017	74.7	6813	5817	5885	147300	8945	N/A
28	7/10/2017	74.6	6851	5679	3386	146690	8698	N/A
29	7/10/2017	73.9	6708	5514	3791	168140	9075	N/A
30	7/10/2017	77.9	6760	5563	3852	147130	8672	N/A
31	7/11/2017	76.5	6728	5772	3634	147050	8967	N/A
32	7/11/2017	76.0	6558	5848	3850	168140	8723	N/A
33	7/11/2017	80.3	6751	5991	3759	144810	8839	N/A
34	7/12/2017	78.1	6837	5465	5920	145050	7718	N/A
35	7/13/2017	74.6	6659	5947	3633	168120	9360	N/A
36	7/13/2017	79.2	6857	5916	3554	146830	8772	N/A
37	7/14/2017	78.9	6578	5519	3709	169040	9013	N/A
38	7/14/2017	75.5	6869	5755	3813	146960	8715	N/A
39	7/14/2017	68.2	7289	5903	4928	77020	8064	N/A
40	7/15/2017	77.0	6421	5401	3616	175100	9363	N/A
41	7/15/2017	78.0	6258	6494	3865	168040	9125	N/A
42	7/15/2017	81.1	6383	6680	3982	146830	9207	N/A
43	7/16/2017	72.8	6157	5817	4120	167840	8949	N/A
44	7/16/2017	74.8	6333	6079	4083	168180	8560	N/A
45	7/16/2017	79.5	6403	5753	3987	167940	8751	N/A
46	7/17/2017	77.0	6379	6029	3806	167420	8963	N/A
47	7/17/2017	72.9	6396	6231	3817	147010	8611	N/A
48	7/17/2017	79.5	6450	5737	3823	168220	9660	N/A
49	7/18/2017	79.4	6531	5834	3705	167940	8762	N/A
	AVG=	77.1	6,891	5,718	3,900	7,650,310	449,627	TOTAL

API 47-095-02286 Farm Name Edna Monroe Well Number Seckman Unit 3H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	**TOP DEPTH (TVD) From Surface**	**BOTTOM DEPTH (TVD) From Surface**	**TOP DEPTH (MD) From Surface**	**BOTTOM DEPTH (MD) From Surface**
Fresh Water	337'	N/A	337'	N/A
Sandy Siltstone	est. 0	225	est. 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	1025	est. 805	1025
Silty Shale	est. 1025	1065	est. 1025	1065
Sandstone	est. 1065	1445	est. 1065	1445
Sandy Shale	est. 1445	1545	est. 1445	1545
Shale/Sandstone	est. 1545	1705	est. 1545	1705
Sandstone/Siltstone	est. 1705	1745	est. 1705	1745
Sandstone	est. 1745	1810	est. 1745	1810
Sandy Shale	est. 1810	1913	est. 1810	1944
Big Lime	1928	2011	1959	2047
Big Injun	2011	2532	2047	2595
Gantz Sand	2532	2631	2595	2698
Fifty Foot Sandstone	2631	2743	2698	2814
Gordon	2743	3067	2814	3158
Fifth Sandstone	3067	3175	3158	3276
Bayard	3175	3366	3276	3484
Warren	3366	3850	3484	4010
Speechley	3850	4166	4010	4353
Baltown	4166	4498	4353	4710
Bradford	4498	5022	4710	5278
Benson	5022	5204	5278	5476
Alexander	5204	5465	5476	5756
Elk	5465	5808	5756	6125
Rhinestreet	5808	6180	6125	6531
Sycamore	6155	6326	6506	6715
Middlesex	6326	6428	6715	6882
Burkett	6428	6459	6882	6954
Tully	6459	6490	6954	7047
Marcellus	6490	NA	7047	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.

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
Field: Tyler
Facility: Edna Monroe Pad

Slot: Slot #03
Well: Seckman Unit 3H
Wellbore: Seckman Unit 3H PWB

API: 47-095-02286-0000
BHI Job #: 8317342
Rig: Patterson 343
Duration: 12/22/2016-12/25/2016

Plot reference wellpath is Seckman Unit 3H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 343 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Patterson 343 (RKB)	North Reference: Grid north
Patterson 343 (RKB) to Mean Sea Level: 1069 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #03): -1044 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: delaset on 2017-01-05
	Database: WA_MPL_EasternUS_Defn

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Edna Monroe Pad			1676182.158	14315855.438	39°25'21.620"N	80°52'24.070"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #03	20.23	-2.38	1676179.780	14315875.660	39°25'21.820"N	80°52'24.100"W
Comment	Seckman Unit 3H					

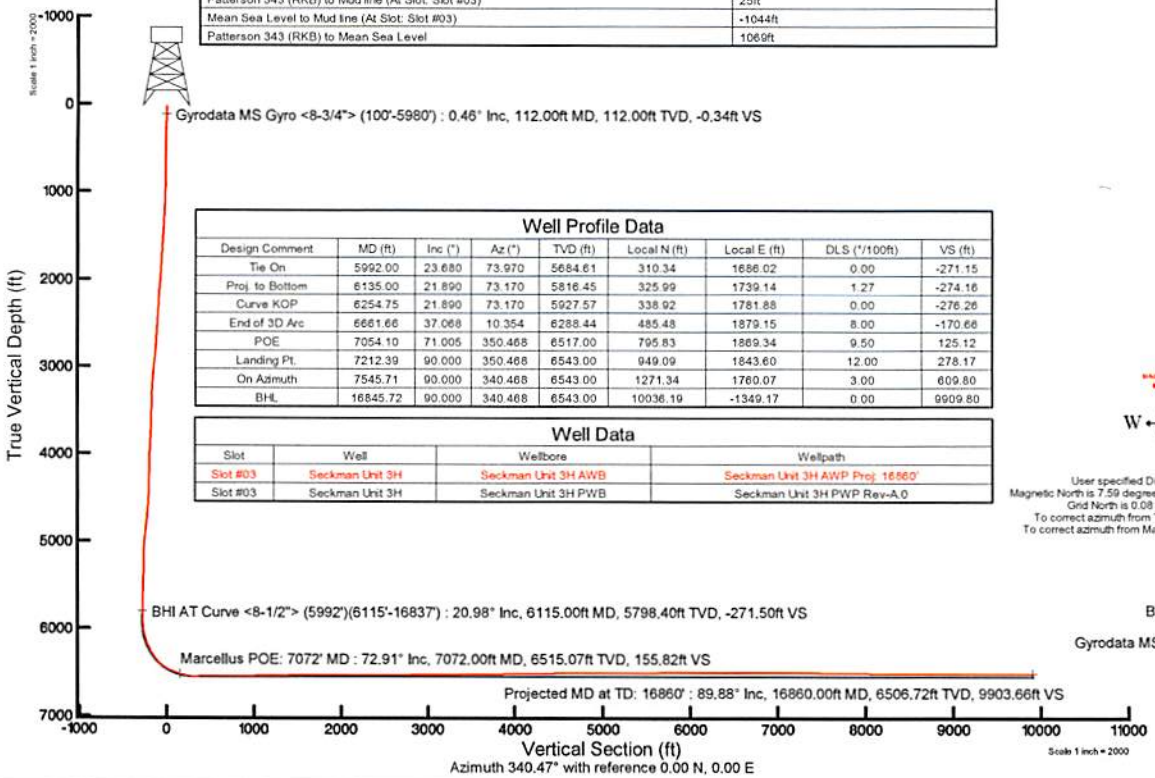
Patterson 343 (RKB) to Mud line (At Slot: Slot #03)	25ft
Mean Sea Level to Mud line (At Slot: Slot #03)	-1044ft
Patterson 343 (RKB) to Mean Sea Level	1069ft

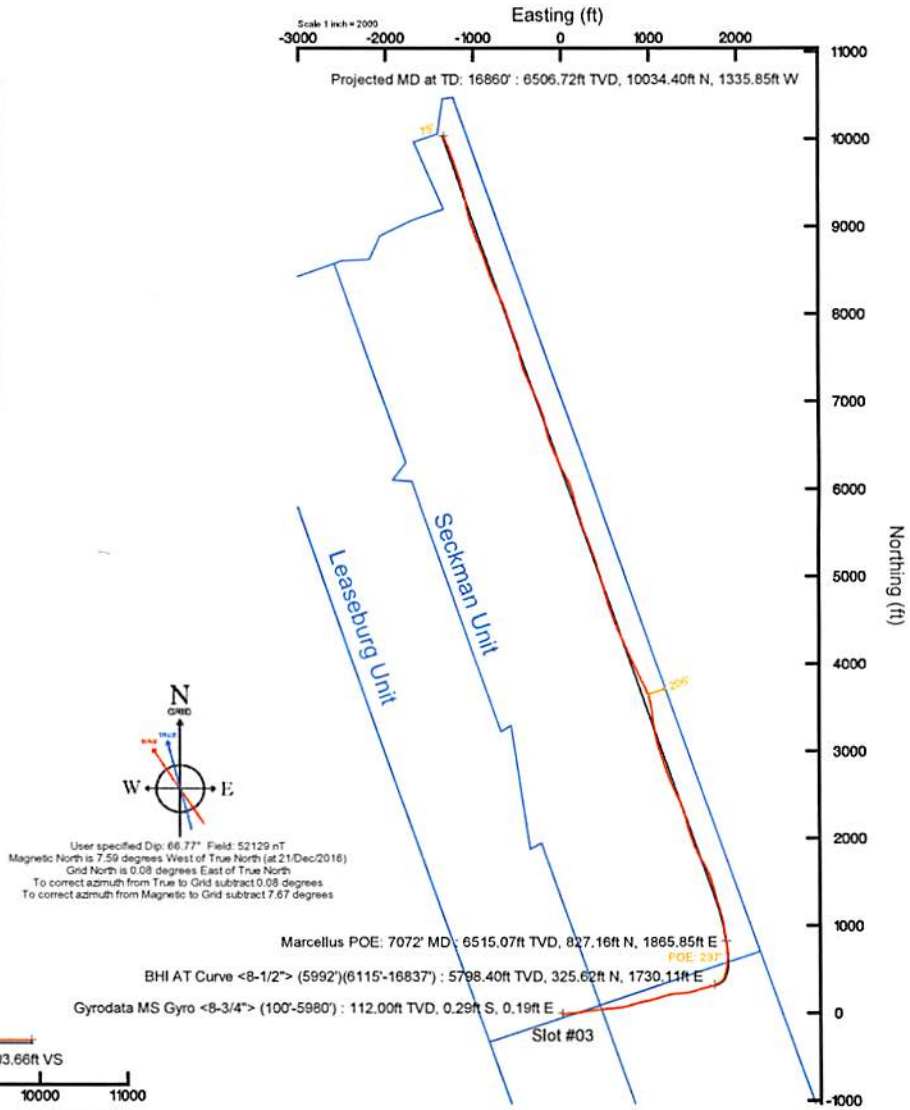
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5992.00	23.680	73.970	5684.61	310.34	1686.02	0.00	-271.15
Proj. to Bottom	6135.00	21.890	73.170	5816.45	325.99	1739.14	1.27	-274.16
Curve KOP	6254.75	21.890	73.170	5927.57	338.92	1781.88	0.00	-276.26
End of 3D Arc	6661.66	37.068	10.354	6288.44	485.48	1879.15	8.00	-170.66
POE	7054.10	71.005	350.468	6517.00	795.83	1869.34	9.50	125.12
Landing Pt.	7212.39	90.000	350.468	6543.00	949.09	1843.60	12.00	278.17
On Azimuth	7545.71	90.000	340.468	6543.00	1271.34	1760.07	3.00	609.80
BHL	16845.72	90.000	340.468	6543.00	10036.19	-1349.17	0.00	9909.80

Well Data

Slot	Well	Wellbore	Wellpath
Slot #03	Seckman Unit 3H	Seckman Unit 3H AWB	Seckman Unit 3H AWP Proj. 16860'
Slot #03	Seckman Unit 3H	Seckman Unit 3H PWB	Seckman Unit 3H PWP Rev-A.0





Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION			
Operator	**ANTERO RESOURCES CORPORATION**	Slot	**Slot #03**
Area	**Tyler County, WV**	Well	**Seckman Unit 3H**
Field	**Tyler**	Wellbore	**Seckman Unit 3H AWB**
Facility	**Edna Monroe Pad**		

REPORT SETUP INFORMATION			
Projection System	**NAD27 / UTM Zone 17 North, US feet**	Software System	**WellArchitect® 5.0**
North Reference	**Grid**	User	**Delaset**
Scale	**0.999601**	Report Generated	**05/Jan/2017 at 09:42**
Convergence at slot	**0.09° East**	Database/Source file	**WA_MPL_EasternUS_Defn/Seckman_Unit_3H_AWP_Proj__16860_.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	20.23	-2.38	**1676179.78**	**14315875.66**	39°25'21.820"N	80°52'24.100"W
Facility Reference Pt			1676182.16	14315855.44	**39°25'21.620"N**	**80°52'24.070"W**
Field Reference Pt			**0.00**	**0.00**	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Patterson 343 (RKB) to Facility Vertical Datum	**25.00ft**
Horizontal Reference Pt	**Slot**	Patterson 343 (RKB) to Mean Sea Level	**1069.00ft**
Vertical Reference Pt	**Patterson 343 (RKB)**	Patterson 343 (RKB) to Mud Line at Slot (Slot #03)	**25.00ft**
MD Reference Pt	**Patterson 343 (RKB)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**340.47°**

Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Tyler County, WV	Well	Seckman Unit 3H
Field	Tyler	Wellbore	Seckman Unit 3H AWB
Facility	Edna Monroe Pad		

WELLPATH DATA (192 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
7436.00	90.060	342.050	6540.43	511.90	1181.33	1799.18	1677978.24	14317056.52	39°25'33.470"N	80°52'01.151"W	2152.35	56.711	5.86	-0.03	-5.86	
7530.00	89.820	343.460	6540.53	605.82	1271.10	1771.32	1677950.39	14317146.25	39°25'34.358"N	80°52'01.505"W	2180.20	54.337	1.52	-0.26	1.50	
7625.00	90.120	345.800	6540.58	700.56	1362.70	1746.14	1677925.22	14317237.81	39°25'35.263"N	80°52'01.824"W	2214.94	52.031	2.48	0.32	2.46	
7719.00	90.620	345.190	6539.97	794.20	1453.70	1722.59	1677901.68	14317328.78	39°25'36.163"N	80°52'02.122"W	2254.01	49.839	0.84	0.53	-0.65	
7813.00	90.770	341.150	6538.83	888.07	1543.65	1695.39	1677874.49	14317418.69	39°25'37.053"N	80°52'02.467"W	2292.86	47.682	4.30	0.16	-4.30	
7907.00	93.110	335.190	6535.65	981.89	1630.81	1660.47	1677839.59	14317505.82	39°25'37.915"N	80°52'02.911"W	2327.39	45.516	6.81	2.49	-6.34	
8001.00	92.400	328.970	6531.12	1074.73	1713.73	1616.53	1677795.66	14317588.71	39°25'38.735"N	80°52'03.469"W	2355.86	43.328	6.65	-0.76	-6.62	
8096.00	90.490	330.850	6528.73	1168.08	1795.90	1568.92	1677748.07	14317670.84	39°25'39.547"N	80°52'04.074"W	2384.69	41.141	2.82	-2.01	1.98	
8190.00	90.060	337.150	6528.28	1261.44	1880.34	1527.74	1677706.90	14317755.25	39°25'40.383"N	80°52'04.597"W	2422.74	39.093	6.72	-0.46	6.70	
8284.00	90.280	339.160	6528.00	1355.35	1967.59	1492.76	1677671.94	14317842.46	39°25'41.245"N	80°52'05.042"W	2469.76	37.187	2.15	0.23	2.14	
8378.00	90.180	341.940	6527.62	1449.34	2056.21	1461.46	1677640.66	14317931.05	39°25'42.122"N	80°52'05.439"W	2522.67	35.403	2.96	-0.11	2.96	
8472.00	90.090	345.510	6527.40	1543.18	2146.43	1435.12	1677614.33	14318021.23	39°25'43.014"N	80°52'05.773"W	2582.00	33.767	3.80	-0.10	3.80	
8567.00	90.280	346.870	6527.09	1637.70	2238.68	1412.45	1677591.66	14318113.45	39°25'43.926"N	80°52'06.060"W	2647.02	32.249	1.45	0.20	1.43	
8661.00	90.120	342.870	6526.76	1731.41	2329.41	1387.92	1677567.14	14318204.13	39°25'44.823"N	80°52'06.371"W	2711.54	30.788	4.26	-0.17	-4.26	
8756.00	90.370	335.460	6526.36	1826.31	2418.13	1354.15	1677533.39	14318292.82	39°25'45.700"N	80°52'06.800"W	2771.48	29.249	7.80	0.26	-7.80	
8850.00	90.060	333.280	6526.00	1919.77	2502.88	1313.50	1677492.75	14318377.53	39°25'46.539"N	80°52'07.316"W	2826.60	27.690	2.34	-0.33	-2.32	
8944.00	90.090	335.780	6525.88	2013.26	2587.73	1273.07	1677452.34	14318462.36	39°25'47.378"N	80°52'07.830"W	2883.93	26.196	2.66	0.03	2.66	
9039.00	90.150	336.470	6525.68	2107.99	2674.60	1234.62	1677413.91	14318549.19	39°25'48.237"N	80°52'08.318"W	2945.81	24.779	0.73	0.06	0.73	
9133.00	90.090	340.810	6525.48	2201.92	2762.13	1200.40	1677379.69	14318636.68	39°25'49.102"N	80°52'08.753"W	3011.69	23.489	4.62	-0.06	4.62	
9227.00	90.650	343.040	6524.88	2295.88	2851.48	1171.23	1677350.54	14318726.00	39°25'49.986"N	80°52'09.123"W	3082.65	22.330	2.45	0.60	2.37	
9322.00	90.370	341.850	6524.03	2390.82	2942.05	1142.58	1677321.90	14318816.53	39°25'50.882"N	80°52'09.486"W	3156.13	21.224	1.29	-0.29	-1.25	
9416.00	90.400	342.270	6523.40	2484.78	3031.48	1113.63	1677292.96	14318905.92	39°25'51.766"N	80°52'09.853"W	3229.55	20.171	0.45	0.03	0.45	
9510.00	90.370	345.900	6522.77	2578.57	3121.86	1087.86	1677267.20	14318996.27	39°25'52.659"N	80°52'10.180"W	3305.97	19.212	3.86	-0.03	3.86	
9605.00	90.370	349.730	6522.15	2672.78	3214.70	1067.81	1677247.16	14319089.07	39°25'53.577"N	80°52'10.434"W	3387.40	18.375	4.03	0.00	4.03	
9699.00	90.520	351.360	6521.42	2765.32	3307.41	1052.37	1677231.73	14319181.75	39°25'54.494"N	80°52'10.629"W	3470.80	17.650	1.74	0.16	1.73	
9793.00	90.370	353.150	6520.69	2857.33	3400.55	1039.70	1677219.07	14319274.85	39°25'55.415"N	80°52'10.789"W	3555.94	17.001	1.91	-0.16	1.90	
9887.00	90.710	351.210	6519.81	2949.37	3493.67	1026.91	1677206.28	14319367.93	39°25'56.335"N	80°52'10.950"W	3641.46	16.380	2.10	0.36	-2.06	
9982.00	90.680	345.470	6518.65	3043.43	3586.66	1007.72	1677187.10	14319460.88	39°25'57.254"N	80°52'11.193"W	3725.54	15.693	6.04	-0.03	-6.04	
10076.00	90.890	337.930	6517.36	3137.33	3675.83	978.23	1677157.62	14319550.02	39°25'58.136"N	80°52'11.567"W	3803.77	14.902	8.02	0.22	-8.02	
10170.00	90.580	332.430	6516.16	3230.88	3761.11	938.79	1677118.20	14319635.26	39°25'58.980"N	80°52'12.068"W	3876.50	14.015	5.86	-0.33	-5.85	

Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Tyler County, WV	Well	Seckman Unit 3H
Field	Tyler	Wellbore	Seckman Unit 3H AWB
Facility	Edna Monroe Pad		

WELLPATH DATA (192 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
10265.00	90.680	335.910	6515.11	3325.29	3846.60	897.41	1677076.83	14319720.72	39°25'59.825"N	80°52'12.594"W	3949.90	13.132	3.66	0.11	3.66	
10359.00	90.800	335.320	6513.90	3418.94	3932.21	858.60	1677038.04	14319806.29	39°26'00.672"N	80°52'13.087"W	4024.86	12.317	0.64	0.13	-0.63	
10454.00	90.710	333.170	6512.65	3513.37	4017.76	817.33	1676996.78	14319891.81	39°26'01.518"N	80°52'13.611"W	4100.05	11.499	2.26	-0.09	-2.26	
10548.00	90.680	335.230	6511.51	3606.80	4102.38	776.42	1676955.89	14319976.39	39°26'02.355"N	80°52'14.131"W	4175.20	10.717	2.19	-0.03	2.19	
10642.00	90.800	335.090	6510.29	3700.38	4187.67	736.94	1676916.42	14320061.66	39°26'03.198"N	80°52'14.633"W	4252.02	9.981	0.20	0.13	-0.15	
10736.00	90.830	336.160	6508.96	3794.04	4273.29	698.15	1676877.65	14320147.23	39°26'04.045"N	80°52'15.126"W	4329.94	9.279	1.14	0.03	1.14	
10831.00	90.710	336.340	6507.68	3888.77	4360.23	659.89	1676839.41	14320234.15	39°26'04.905"N	80°52'15.612"W	4409.88	8.606	0.23	-0.13	0.19	
10925.00	90.710	336.470	6506.51	3982.53	4446.37	622.27	1676801.80	14320320.25	39°26'05.757"N	80°52'16.090"W	4489.70	7.967	0.14	0.00	0.14	
11019.00	90.650	338.010	6505.40	4076.37	4533.04	585.91	1676765.45	14320406.88	39°26'06.614"N	80°52'16.552"W	4570.75	7.365	1.64	-0.06	1.64	
11113.00	90.370	342.680	6504.56	4170.34	4621.53	554.30	1676733.86	14320495.34	39°26'07.489"N	80°52'16.953"W	4654.66	6.839	4.98	-0.30	4.97	
11208.00	90.580	344.820	6503.77	4265.17	4712.73	527.72	1676707.29	14320586.50	39°26'08.391"N	80°52'17.290"W	4742.18	6.389	2.26	0.22	2.25	
11302.00	91.050	343.240	6502.44	4358.98	4803.09	501.86	1676681.44	14320676.83	39°26'09.284"N	80°52'17.618"W	4829.24	5.965	1.75	0.50	-1.68	
11397.00	90.650	342.520	6501.03	4453.88	4893.87	473.90	1676653.49	14320767.57	39°26'10.182"N	80°52'17.973"W	4916.76	5.531	0.87	-0.42	-0.76	
11491.00	90.340	343.350	6500.22	4547.79	4983.73	446.31	1676625.91	14320857.39	39°26'11.070"N	80°52'18.322"W	5003.67	5.117	0.94	-0.33	0.88	
11585.00	90.370	343.630	6499.63	4641.66	5073.85	419.60	1676599.21	14320947.48	39°26'11.961"N	80°52'18.661"W	5091.17	4.728	0.30	0.03	0.30	
11680.00	91.200	342.250	6498.33	4736.56	5164.66	391.73	1676571.36	14321038.25	39°26'12.859"N	80°52'19.015"W	5179.49	4.338	1.70	0.87	-1.45	
11774.00	90.060	340.670	6497.30	4830.54	5253.77	361.85	1676541.48	14321127.33	39°26'13.740"N	80°52'19.394"W	5266.22	3.940	2.07	-1.21	-1.68	
11868.00	90.180	340.070	6497.10	4924.54	5342.31	330.27	1676509.92	14321215.83	39°26'14.616"N	80°52'19.795"W	5352.50	3.538	0.65	0.13	-0.64	
11962.00	90.000	338.740	6496.95	5018.52	5430.30	297.20	1676476.86	14321303.78	39°26'15.486"N	80°52'20.215"W	5438.42	3.133	1.43	-0.19	-1.41	
12056.00	90.000	340.240	6496.95	5112.50	5518.34	264.27	1676443.94	14321391.78	39°26'16.357"N	80°52'20.633"W	5524.66	2.742	1.60	0.00	1.60	
12151.00	89.850	341.090	6497.08	5207.50	5607.98	232.82	1676412.50	14321481.39	39°26'17.243"N	80°52'21.032"W	5612.81	2.377	0.91	-0.16	0.89	
12245.00	90.220	341.710	6497.02	5301.49	5697.07	202.83	1676382.53	14321570.44	39°26'18.124"N	80°52'21.413"W	5700.68	2.039	0.77	0.39	0.66	
12339.00	90.060	342.880	6496.79	5395.44	5786.61	174.25	1676353.96	14321659.95	39°26'19.009"N	80°52'21.776"W	5789.23	1.725	1.26	-0.17	1.24	
12434.00	90.740	345.220	6496.13	5490.24	5877.95	148.15	1676327.87	14321751.25	39°26'19.912"N	80°52'22.107"W	5879.81	1.444	2.56	0.72	2.46	
12529.00	90.550	344.140	6495.06	5584.98	5969.56	123.05	1676302.78	14321842.83	39°26'20.818"N	80°52'22.425"W	5970.83	1.181	1.15	-0.20	-1.14	
12622.00	90.950	338.010	6493.84	5677.92	6057.49	92.90	1676272.64	14321930.72	39°26'21.688"N	80°52'22.807"W	6058.20	0.879	6.60	0.43	-6.59	
12717.00	89.970	331.060	6493.08	5772.35	6143.20	52.08	1676231.84	14322016.40	39°26'22.535"N	80°52'23.326"W	6143.42	0.486	7.39	-1.03	-7.32	
12811.00	89.910	333.130	6493.17	5865.34	6226.26	8.09	1676187.87	14322099.43	39°26'23.357"N	80°52'23.885"W	6226.27	0.074	2.20	-0.06	2.20	
12905.00	89.850	336.340	6493.37	5958.86	6311.26	-32.02	1676147.77	14322184.39	39°26'24.198"N	80°52'24.395"W	6311.34	359.709	3.42	-0.06	3.41	
12999.00	89.940	335.990	6493.54	6052.59	6397.24	-70.01	1676109.80	14322270.34	39°26'25.048"N	80°52'24.878"W	6397.63	359.373	0.38	0.10	-0.37	

Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Tyler County, WV	Well	Seckman Unit 3H
Field	Tyler	Wellbore	Seckman Unit 3H AWB
Facility	Edna Monroe Pad		

WELLPATH DATA (192 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
13094.00	89.850	336.740	6493.72	6147.35	6484.27	-108.09	1676071.73	14322357.34	39°26'25.909"N	80°52'25.362"W	6485.18	359.045	0.80	-0.09	0.79	
13188.00	89.940	341.600	6493.89	6241.30	6572.10	-141.51	1676038.33	14322445.13	39°26'26.777"N	80°52'25.786"W	6573.63	358.767	5.17	0.10	5.17	
13282.00	89.970	347.360	6493.96	6335.03	6662.64	-166.65	1676013.20	14322535.63	39°26'27.672"N	80°52'26.105"W	6664.72	358.567	6.13	0.03	6.13	
13377.00	90.030	348.160	6493.96	6429.26	6755.48	-186.79	1675993.06	14322628.43	39°26'28.590"N	80°52'26.360"W	6758.06	358.416	0.84	0.06	0.84	
13471.00	91.200	343.970	6492.95	6522.78	6846.69	-209.42	1675970.44	14322719.60	39°26'29.492"N	80°52'26.647"W	6849.89	358.248	4.63	1.24	-4.46	
13564.00	89.910	338.330	6492.05	6615.73	6934.66	-239.46	1675940.42	14322807.54	39°26'30.362"N	80°52'27.028"W	6938.79	358.022	6.22	-1.39	-6.06	
13659.00	89.970	336.460	6492.15	6710.59	7022.35	-275.97	1675903.92	14322895.20	39°26'31.229"N	80°52'27.492"W	7027.77	357.750	1.97	0.06	-1.97	
13753.00	89.910	336.470	6492.25	6804.36	7108.53	-313.51	1675866.40	14322981.35	39°26'32.081"N	80°52'27.969"W	7115.44	357.475	0.06	-0.06	0.01	
13847.00	89.910	336.860	6492.40	6898.15	7194.85	-350.74	1675829.18	14323067.62	39°26'32.935"N	80°52'28.442"W	7203.39	357.209	0.41	0.00	0.41	
13942.00	89.850	335.780	6492.60	6992.90	7281.84	-388.89	1675791.04	14323154.59	39°26'33.795"N	80°52'28.927"W	7292.22	356.943	1.14	-0.06	-1.14	
14036.00	89.940	337.890	6492.77	7086.71	7368.26	-425.87	1675754.08	14323240.97	39°26'34.650"N	80°52'29.396"W	7380.56	356.692	2.25	0.10	2.24	
14130.00	89.850	346.530	6492.94	7180.58	7457.68	-454.56	1675725.40	14323330.35	39°26'35.534"N	80°52'29.760"W	7471.52	356.512	9.19	-0.10	9.19	
14225.00	90.280	351.170	6492.83	7274.54	7550.86	-472.93	1675707.04	14323423.50	39°26'36.455"N	80°52'29.993"W	7565.66	356.416	4.91	0.45	4.88	
14319.00	89.290	343.380	6493.19	7367.80	7642.48	-493.62	1675686.36	14323515.08	39°26'37.361"N	80°52'30.255"W	7658.41	356.304	8.35	-1.05	-8.29	
14413.00	89.380	338.660	6494.28	7461.76	7731.34	-524.18	1675655.81	14323603.90	39°26'38.240"N	80°52'30.643"W	7749.09	356.121	5.02	0.10	-5.02	
14507.00	89.260	338.910	6495.39	7555.71	7818.96	-558.19	1675621.81	14323691.49	39°26'39.106"N	80°52'31.075"W	7838.86	355.917	0.29	-0.13	0.27	
14601.00	89.420	343.320	6496.48	7649.68	7907.87	-588.61	1675591.41	14323780.37	39°26'39.985"N	80°52'31.461"W	7929.75	355.743	4.69	0.17	4.69	
14696.00	89.200	343.160	6497.62	7744.56	7998.83	-616.00	1675564.03	14323871.29	39°26'40.885"N	80°52'31.809"W	8022.52	355.596	0.29	-0.23	-0.17	
14790.00	89.510	337.430	6498.68	7838.52	8087.29	-647.68	1675532.36	14323959.71	39°26'41.759"N	80°52'32.211"W	8113.18	355.421	6.10	0.33	-6.10	
14883.00	89.320	334.490	6499.63	7931.21	8172.21	-685.56	1675494.50	14324044.59	39°26'42.599"N	80°52'32.692"W	8200.91	355.205	3.17	-0.20	-3.16	
14978.00	89.290	332.370	6500.78	8025.48	8257.16	-728.05	1675452.03	14324129.51	39°26'43.439"N	80°52'33.232"W	8289.20	354.961	2.23	-0.03	-2.23	
15072.00	89.660	335.210	6501.64	8118.83	8341.48	-769.56	1675410.53	14324213.80	39°26'44.273"N	80°52'33.760"W	8376.91	354.729	3.05	0.39	3.02	
15166.00	89.880	340.460	6502.02	8212.70	8428.51	-805.01	1675375.10	14324300.79	39°26'45.134"N	80°52'34.210"W	8466.86	354.544	5.59	0.23	5.59	
15260.00	89.880	343.560	6502.22	8306.65	8517.90	-834.03	1675346.08	14324390.15	39°26'46.018"N	80°52'34.579"W	8558.63	354.408	3.30	0.00	3.30	
15355.00	89.910	341.880	6502.39	8401.58	8608.61	-862.25	1675317.87	14324480.82	39°26'46.915"N	80°52'34.937"W	8651.68	354.280	1.77	0.03	-1.77	
15449.00	89.750	338.710	6502.67	8495.56	8697.09	-893.94	1675286.19	14324569.27	39°26'47.790"N	80°52'35.339"W	8742.91	354.131	3.38	-0.17	-3.37	
15543.00	89.850	337.840	6503.00	8589.49	8784.41	-928.74	1675251.42	14324656.56	39°26'48.653"N	80°52'35.781"W	8833.37	353.965	0.93	0.11	-0.93	
15637.00	89.720	338.540	6503.35	8683.42	8871.68	-963.66	1675216.51	14324743.79	39°26'49.516"N	80°52'36.225"W	8923.87	353.801	0.76	-0.14	0.74	
15731.00	89.780	340.080	6503.76	8777.39	8959.62	-996.87	1675183.31	14324831.69	39°26'50.386"N	80°52'36.647"W	9014.90	353.651	1.64	0.06	1.64	
15826.00	89.720	342.200	6504.18	8872.38	9049.51	-1027.58	1675152.61	14324921.55	39°26'51.275"N	80°52'37.037"W	9107.67	353.522	2.23	-0.06	2.23	

Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Tyler County, WV	Well	Seckman Unit 3H
Field	Tyler	Wellbore	Seckman Unit 3H AWB
Facility	Edna Monroe Pad		

WELLPATH DATA (192 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
15920.00	89.750	345.710	6504.61	8966.19	9139.83	-1053.55	1675126.65	14325011.83	39°26'52.168"N	80°52'37.366"W	9200.36	353.425	3.73	0.03	3.73	
16015.00	90.090	348.650	6504.75	9060.53	9232.46	-1074.63	1675105.58	14325104.42	39°26'53.083"N	80°52'37.633"W	9294.79	353.361	3.12	0.36	3.09	
16109.00	90.000	347.920	6504.67	9153.66	9324.50	-1093.72	1675086.50	14325196.42	39°26'53.993"N	80°52'37.875"W	9388.42	353.310	0.78	-0.10	-0.78	
16204.00	89.720	344.390	6504.90	9248.17	9416.72	-1116.45	1675063.78	14325288.61	39°26'54.905"N	80°52'38.163"W	9482.67	353.239	3.73	-0.29	-3.72	
16298.00	89.910	343.040	6505.21	9342.02	9506.95	-1142.80	1675037.43	14325378.80	39°26'55.797"N	80°52'38.498"W	9575.39	353.146	1.45	0.20	-1.44	
16392.00	89.820	342.300	6505.43	9435.95	9596.68	-1170.80	1675009.44	14325468.50	39°26'56.684"N	80°52'38.853"W	9667.84	353.044	0.79	-0.10	-0.79	
16487.00	89.820	340.860	6505.73	9530.93	9686.81	-1200.82	1674979.44	14325558.59	39°26'57.576"N	80°52'39.234"W	9760.96	352.933	1.52	0.00	-1.52	
16581.00	89.910	339.760	6505.95	9624.93	9775.31	-1232.49	1674947.78	14325647.06	39°26'58.451"N	80°52'39.636"W	9852.70	352.814	1.17	0.10	-1.17	
16675.00	89.780	339.220	6506.20	9718.91	9863.35	-1265.43	1674914.86	14325735.06	39°26'59.321"N	80°52'40.055"W	9944.20	352.689	0.59	-0.14	-0.57	
16770.00	89.850	337.620	6506.51	9813.85	9951.69	-1300.37	1674879.93	14325823.37	39°27'00.195"N	80°52'40.498"W	10036.29	352.555	1.69	0.07	-1.68	
16837.00	89.880	336.280	6506.67	9880.72	10013.34	-1326.60	1674853.71	14325884.99	39°27'00.805"N	80°52'40.832"W	10100.83	352.453	2.00	0.04	-2.00	
16860.00	89.880	336.280	6506.72	9903.66	10034.40	-1335.85	1674844.46	14325906.04	39°27'01.013"N	80°52'40.949"W	10122.93	352.417	0.00	0.00	0.00	Projected MD at TD: 16860'

HOLE & CASING SECTIONS - Ref Wellbore: Seckman Unit 3H AWB Ref Wellpath: Seckman Unit 3H AWP Proj: 16860'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.00	100.00	75.00	25.00	100.00	0.00	0.00	-0.22	0.14
17.5in Open Hole	100.00	550.00	450.00	100.00	549.99	-0.22	0.14	-1.94	2.38
13.375in Casing Surface	25.00	550.00	525.00	25.00	549.99	0.00	0.00	-1.94	2.38
12.25in Open Hole	550.00	2576.00	2026.00	549.99	2513.65	-1.94	2.38	54.75	453.85
9.625in Casing Intermediate	25.00	2576.00	2551.00	25.00	2513.65	0.00	0.00	54.75	453.85
8.75in Open Hole	2576.00	6135.00	3559.00	2513.65	5817.06	54.75	453.85	328.37	1736.75
8.5in Open Hole	6135.00	16860.00	10725.00	5817.06	6506.72	328.37	1736.75	10034.40	-1335.85
5.5in Casing Production	25.00	16860.00	16835.00	25.00	6506.72	0.00	0.00	10034.40	-1335.85

Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Tyler County, WV	Well	Seckman Unit 3H
Field	Tyler	Wellbore	Seckman Unit 3H AWB
Facility	Edna Monroe Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Seckman Unit 3H POE Rev-3	6517.00	795.83	1869.34	1678048.37	14316671.17	39°25'29.659"N	80°52'00.265"W	point
Seckman Unit 3H BHL Rev-2	6543.00	10036.19	-1349.17	1674831.15	14325907.83	39°27'01.031"N	80°52'41.119"W	point
Seckman Unit 3H LP Rev-2	6543.00	949.09	1843.60	1678022.64	14316824.37	39°25'31.174"N	80°52'00.590"W	point

WELLPATH COMPOSITION - Ref Wellbore: Seckman Unit 3H AWB Ref Wellpath: Seckman Unit 3H AWP Proj: 16860'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	5992.00	Gyrodata standard - Drop gyro or Multi-shot	03_Gyrodata MS Gyro <8-3/4"> (100'-5980')	Seckman Unit 3H AWB
5992.00	16837.00	BHI AutoTrak Curve (Short)	04_BHI AT Curve <8-1/2"> (5992')(6115'-16837')	Seckman Unit 3H AWB
16837.00	16860.00	Blind Drilling (std)	Projection to bit	Seckman Unit 3H AWB

Actual Wellpath Report

Seckman Unit 3H AWP Proj: 16860'

REFERENCE WELLPATH IDENTIFICATION			
Operator	**ANTERO RESOURCES CORPORATION**	Slot	**Slot #03**
Area	**Tyler County, WV**	Well	**Seckman Unit 3H**
Field	**Tyler**	Wellbore	**Seckman Unit 3H AWB**
Facility	**Edna Monroe Pad**		

COMMENTS

Wellpath general comments
API: 47-095-02286-0000
BHI Job #: 8317342
Rig: Patterson 343
Duration: 12/22/2016-12/25/2016
Gyrodata MS Gyro <8-3/4">(100'-5980')
BHI AT Curve <8-1/2"> (5992')(6115'-16837')
Middlesex: 6740' MD
Burket: 6907' MD
Tully: 6979' MD
Marcellus POE: 7072' MD
Projected MD at TD: 16860'

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/28/2017
Job End Date:	7/18/2017
State:	West Virginia
County:	Tyler
API Number:	47-095-02286-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Seckman Unit 3H
Latitude:	39.42272800
Longitude:	-80.87336100
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,538
Total Base Water Volume (gal):	19,475,170
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.59382	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.57513	

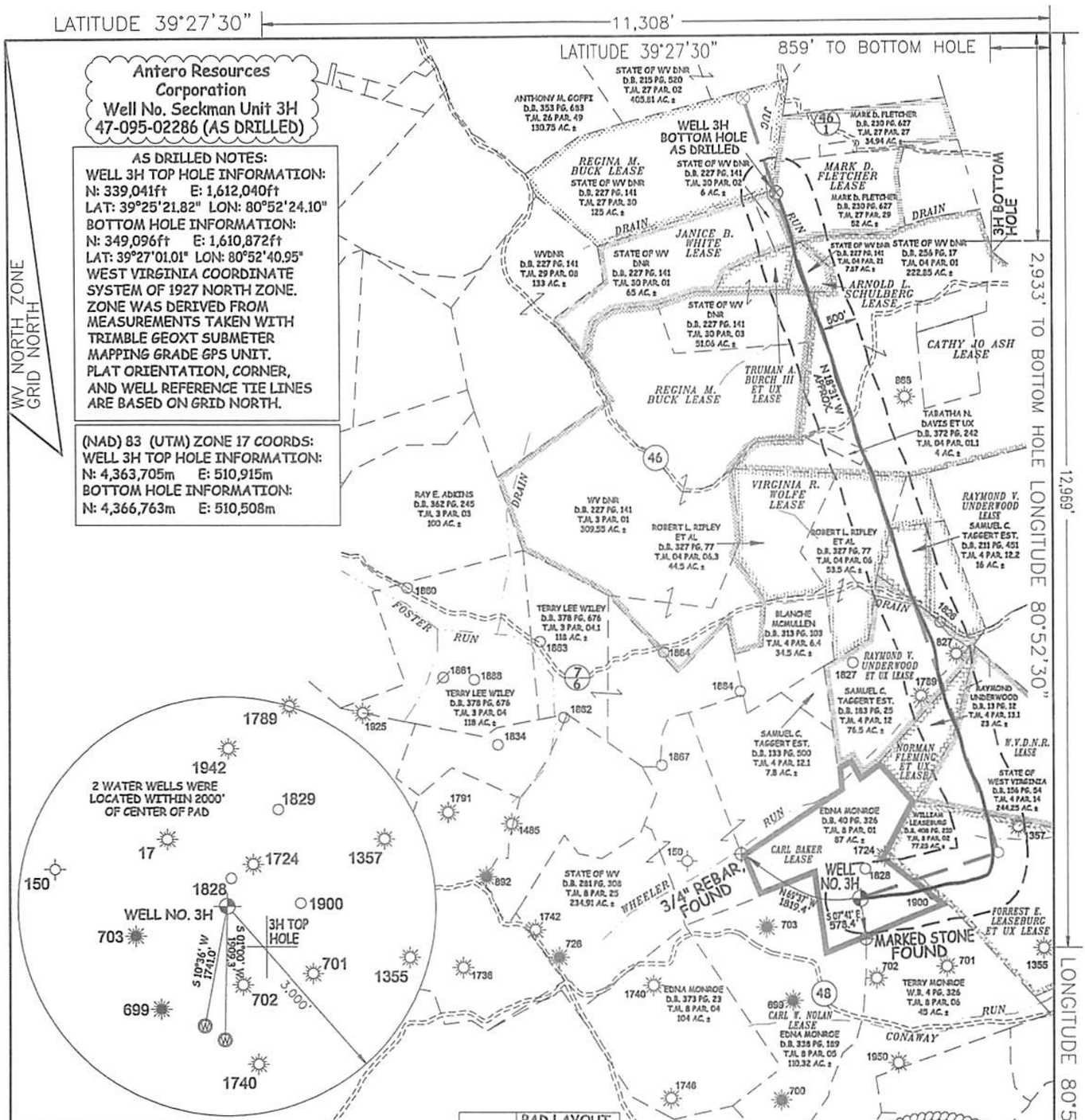
FR-76	Halliburton	Friction Reducer					
				Listed Below			
LP - 70	Halliburton	Scale Inhibitor					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK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

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	10.77914	
			Hydrochloric acid	7647-01-0	15.00000	0.07783	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02028	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt	Proprietary	30.00000	0.02028	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02028	
			Guar gum	9000-30-0	100.00000	0.01728	
			Ethylene Glycol	107-21-1	60.00000	0.00834	
			Glutaraldehyde	111-30-8	30.00000	0.00266	
			Neutralized Polyacrylic Emulsion	Proprietary	10.00000	0.00139	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00044	
			Sodium persulfate	7775-27-1	100.00000	0.00031	
			Methanol	67-56-1	60.00000	0.00014	
			Ethanol	64-17-5	1.00000	0.00009	
			Fatty acids, tall oil	Proprietary	30.00000	0.00006	
			Ethoxylated alcohols	Proprietary	30.00000	0.00006	
			Modified thiourea polymer	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)



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 DEPTARTMENT 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

JOB # 14-026WA
DRAWING # SECKMAN3HAD
SCALE 1" = 2000'
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 +/-
- Found monument, as noted
- Proposed Well Path
- As Drilled Well Path

THOMAS SUMMERS P.S. 2109
DATE 12/13/17
OPERATOR'S WELL# SECKMAN UNIT #3H

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.

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

47 – 095 – 02286
STATE COUNTY PERMIT

LOCATION: ELEVATION 1,044' - AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE SHIRLEY 7.5' - TOP HOLE MIDDLEBOURNE 7.5' - BOTTOM HOLE DISTRICT CENTERVILLE COUNTY TYLER
SURFACE OWNER EDNA MONROE ACREAGE 87 ACRES +/-
OIL & GAS ROYALTY OWNER CARL BAKER; FORREST E. LEASEBURG ET UX; W.V.D.N.R.; NORMAN FLEMING ET UX; RAYMOND V. UNDERWOOD ET UX; RAYMOND V. UNDERWOOD ET UX; VIRGINIA R. WOLFE; CATHY JO ASH; REGINA M. BUCK; ARNOLD L. SCHULBERG; TRUMAN A. BURCH III ET UX; JANICE B. WHITE; MARK D. FLETCHER LEASE ACREAGE 87 AC.±; 78 AC.±; 244.25 AC±; 23.69 AC±; 76.5 AC±; 16 AC±; 128 AC.±; 315.25 AC±; 455 AC.±; 7.87 AC±; 11.0625 AC±; 65 AC.±; 87.59 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 6,507' TVD 16,860' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313

FORM WW-6

COUNTY NAME PERMIT

LATITUDE 39°27'30" — 11,308' — LATITUDE 39°27'30" — 859' TO BOTTOM HOLE

Antero Resources Corporation
Well No. Seckman Unit 3H
47-095-02286 (AS DRILLED)

AS DRILLED NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 339,041ft E: 1,612,040ft
LAT: 39°25'21.82" LON: 80°52'24.10"
BOTTOM HOLE INFORMATION:
N: 349,096ft E: 1,610,872ft
LAT: 39°27'01.01" LON: 80°52'40.95"
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.

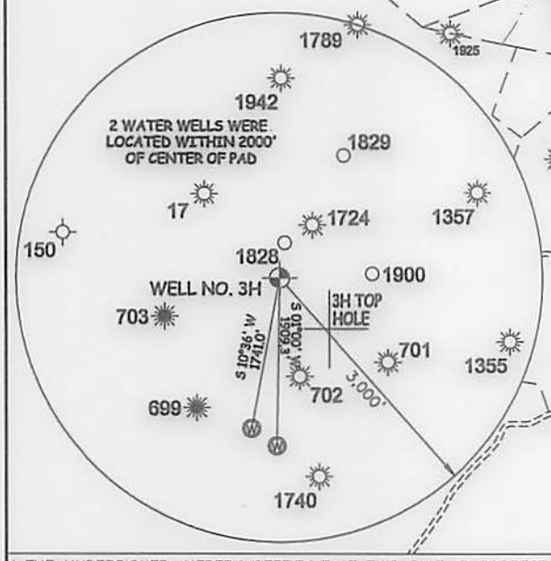
(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 3H TOP HOLE INFORMATION:
N: 4,363,705m E: 510,915m
BOTTOM HOLE INFORMATION:
N: 4,366,763m E: 510,508m

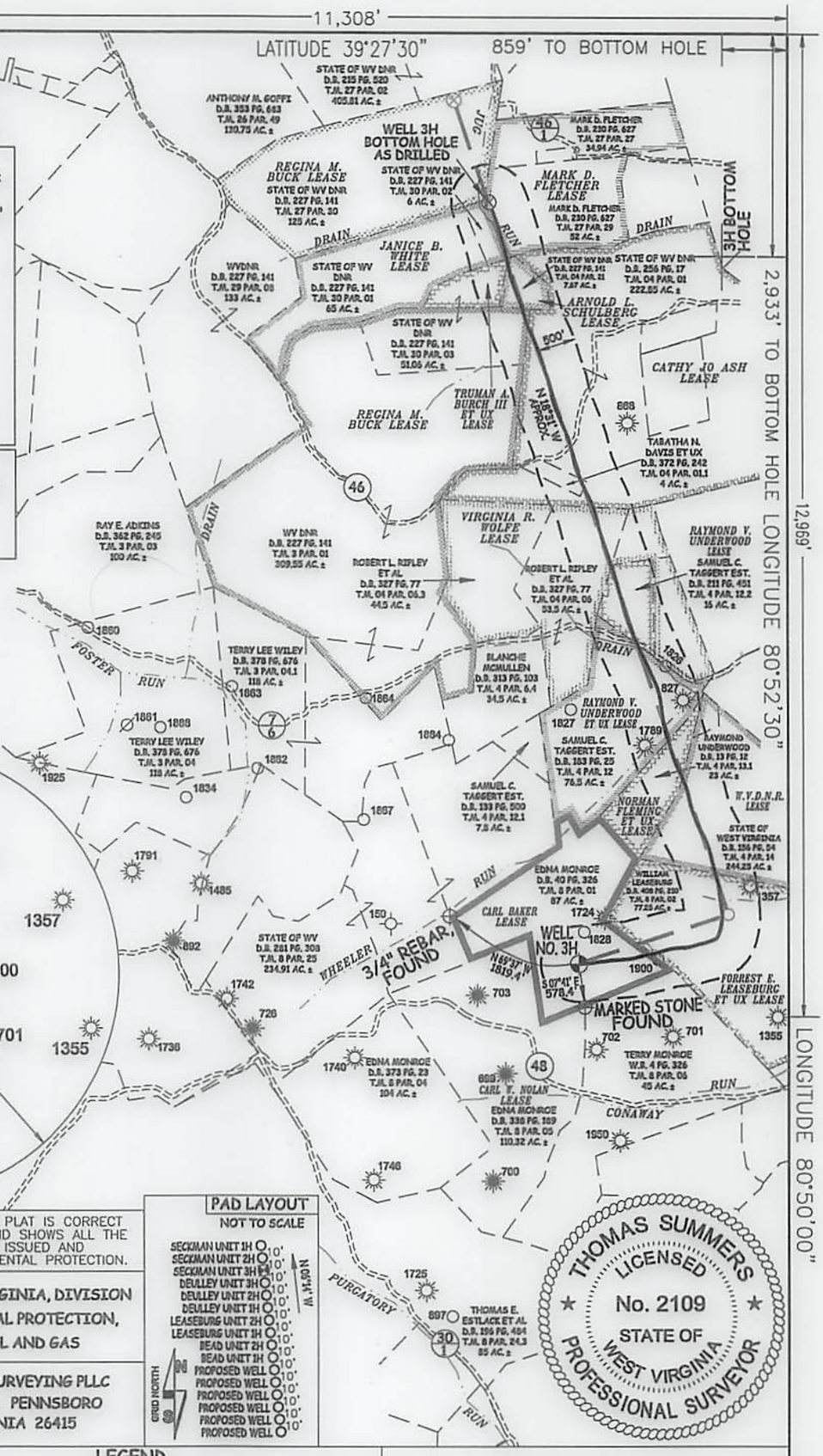
WV NORTH ZONE GRID NORTH

2,933' TO BOTTOM HOLE LONGITUDE 80°52'30"

12,969'

LONGITUDE 80°50'00"





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STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

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

PAD LAYOUT
NOT TO SCALE

SECKMAN UNIT 1H 10'
SECKMAN UNIT 2H 10'
SECKMAN UNIT 3H 10'
DEULLEY UNIT 3H 10'
DEULLEY UNIT 2H 10'
DEULLEY UNIT 1H 10'
LEASEBURG UNIT 2H 10'
LEASEBURG UNIT 1H 10'
BEAD UNIT 2H 10'
BEAD UNIT 1H 10'
PROPOSED WELL 10'
PROPOSED WELL 10'
PROPOSED WELL 10'
PROPOSED WELL 10'
PROPOSED WELL 10'
PROPOSED WELL

N 60°59' W
GRID NORTH

THOMAS SUMMERS
LICENSED
No. 2109
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

JOB # 14-026WA
DRAWING # SECKMAN3HAD
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

THOMAS SUMMERS P.S. 2109
DATE 12/13/17
OPERATOR'S WELL# SECKMAN UNIT #3H

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(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

47 – 095 – 02286
STATE COUNTY PERMIT

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COUNTY NAME PERMIT

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