WR-35
Rev. 8/23/13

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NAME: [illegible] Page ___ of ___
DATE 1/3/18

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

API 47 - 017 - 06701 County Doddridge District Central
Quad Oxford 7.5' Pad Name James Webb Pad Field/Pool Name -----
Farm name James E. Webb Well Number Mary Jane 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	4343269m	Easting	510945m
Landing Point of Curve	Northing	4343663.946m	Easting	511222.880m
Bottom Hole	Northing	4346533m	Easting	509866m

Elevation (ft) 991' 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 03/25/2015 Date drilling commenced 08/20/2015 Date drilling ceased 08/04/2016
Date completion activities began 04/11/2017 Date completion activities ceased 08/26/2017
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 62', 173' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1145' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1552', 1632' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

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API 47- 017 - 06701 Farm name James E. Webb Well number Mary Jane 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#, K-55	N/A	Y
Surface	17-1/2"	13-3/8"	511'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2592'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18179'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6977'		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	60 sx	15.6	1.18	71	0'	8 Hrs.
Surface	Class A	569 sx	15.6	1.18	671	0'	8 Hrs.
Coal							
Intermediate 1	Class A	996 sx	15.6	1.18	1175	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	771 sx (Lead) 1668 sx (Tail)	13.57 (Lead), 14.96 (Tail)	1.44 (Lead), 1.84 (Tail)	4179	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18179' MD, 6397' TVD (BHL) & 6541' TVD (Deepest Point Drilled) Loggers TD (ft) 18166' MD

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

Plug back procedure N/A

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Mahogany Unit 2H API #47-017-06702). Please reference the wireline logs submitted with Form WR-35 for Mahogany Unit 2H. A Cement Bond Log has been included with this submittal.

Kick off depth (ft) 6330'

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

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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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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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PRODUCING FORMATION(S)	DEPTHS			
Marcellus	6467' (TOP)	TVD	7038' (TOP)	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown ■ Open Flow OIL TEST ■ Flow □ Pump

SHUT-IN PRESSURE Surface 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW	Gas		Oil		NGL		Water		GAS MEASURED BY
	11308	mcfpd	76	bpd	---	bpd	19	bpd	□ Estimated ■ Orifice □ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT 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)

*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 C&J Energy Services
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company CalFrac Well Services
Address 717 17th Street City Denver State CO Zip 80202

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759
Signature Title Permitting Agent Date 11/29/2017

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

API 47-017-06701 Farm Name James E. Webb Well Number Mary Jane Unit 3H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	4/11/2017	17907	18076	60	Marcellus
2	4/11/2017	17707	17876	60	Marcellus
3	4/12/2017	17506	17675	60	Marcellus
4	4/12/2017	17306	17475	60	Marcellus
5	4/12/2017	17105	17274	60	Marcellus
6	4/13/2017	16905	17074	60	Marcellus
7	4/13/2017	16704	16873	60	Marcellus
8	4/13/2017	16504	16673	60	Marcellus
9	4/14/2017	16303	16473	60	Marcellus
10	4/14/2017	16103	16272	60	Marcellus
11	4/14/2017	15903	16072	60	Marcellus
12	4/14/2017	15702	15871	60	Marcellus
13	4/15/2017	15502	15671	60	Marcellus
14	4/15/2017	15301	15470	60	Marcellus
15	4/15/2017	15101	15270	60	Marcellus
16	4/15/2017	14900	15069	60	Marcellus
17	4/16/2017	14700	14869	60	Marcellus
18	4/16/2017	14500	14669	60	Marcellus
19	4/16/2017	14299	14468	60	Marcellus
20	4/16/2017	14099	14268	60	Marcellus
21	4/17/2017	13898	14067	60	Marcellus
22	4/17/2017	13698	13867	60	Marcellus
23	4/17/2017	13497	13666	60	Marcellus
24	4/17/2017	13297	13466	60	Marcellus
25	4/18/2017	13097	13266	60	Marcellus
26	4/18/2017	12896	13065	60	Marcellus
27	4/18/2017	12696	12865	60	Marcellus
28	4/18/2017	12495	12664	60	Marcellus
29	4/19/2017	12295	12464	60	Marcellus
30	4/19/2017	12094	12263	60	Marcellus
31	4/19/2017	11894	12063	60	Marcellus
32	4/19/2017	11693	11862	60	Marcellus
33	4/20/2017	11493	11662	60	Marcellus
34	4/20/2017	11293	11462	60	Marcellus
35	4/20/2017	11092	11261	60	Marcellus
36	4/20/2017	10892	11061	60	Marcellus
37	4/21/2017	10691	10860	60	Marcellus
38	4/21/2017	10491	10660	60	Marcellus
39	4/21/2017	10290	10459	60	Marcellus
40	4/21/2017	10090	10259	60	Marcellus
41	4/22/2017	9890	10059	60	Marcellus
42	4/22/2017	9689	9858	60	Marcellus
43	4/22/2017	9489	9658	60	Marcellus
44	4/22/2017	9288	9457	60	Marcellus
45	4/22/2017	9088	9257	60	Marcellus
46	4/23/2017	8887	9056	60	Marcellus
47	4/23/2017	8687	8856	60	Marcellus
48	4/23/2017	8486	8656	60	Marcellus
49	4/23/2017	8286	8455	60	Marcellus
50	4/24/2017	8086	8255	60	Marcellus
51	4/24/2017	7885	8054	60	Marcellus
52	4/24/2017	7685	7854	60	Marcellus
53	4/24/2017	7484	7653	60	Marcellus
54	4/24/2017	7284	7453	60	Marcellus
55	4/25/2017	7083	7252	60	Marcellus

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API 47-017-06701 Farm Name James E. Webb Well Number Mary Jane 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	4/11/2017	77.4	7999	5650	5053	408150	10502	N/A
2	4/11/2017	77.1	7894	6152	4823	408150	9481	N/A
3	4/12/2017	77.8	8105	6005	4627	408350	9280	N/A
4	4/12/2017	78.4	8073	6873	4615	408700	9182	N/A
5	4/12/2017	77.1	7959	6486	5243	406900	11058	N/A
6	4/13/2017	78.0	7821	6278	4640	374900	9127	N/A
7	4/13/2017	78.4	7869	6434	4430	408600	9197	N/A
8	4/13/2017	79.8	7905	5927	5042	408200	10745	N/A
9	4/14/2017	77.9	7946	6277	5344	403000	10319	N/A
10	4/14/2017	78.8	7676	6248	4099	409500	9311	N/A
11	4/14/2017	78.8	7965	6830	4110	408150	9160	N/A
12	4/14/2017	78.7	8060	6495	4689	413200	9305	N/A
13	4/15/2017	72.6	7684	6782	5842	407200	10309	N/A
14	4/15/2017	79.7	7725	6974	4988	407900	9194	N/A
15	4/15/2017	79.5	7784	6031	4709	408800	11064	N/A
16	4/15/2017	78.4	7665	6193	4227	407450	9075	N/A
17	4/16/2017	75.6	7637	6422	4155	408700	9046	N/A
18	4/16/2017	77.5	7770	5894	5020	409000	9178	N/A
19	4/16/2017	78.0	7859	6953	4589	408200	9089	N/A
20	4/16/2017	71.8	7939	7602	5949	407550	9134	N/A
21	4/17/2017	75.9	7856	6229	5701	407900	12254	N/A
22	4/17/2017	78.8	7952	6326	5716	407800	9311	N/A
23	4/17/2017	78.4	7922	6106	4898	409250	9263	N/A
24	4/17/2017	79.7	7834	6198	4401	409950	9015	N/A
25	4/18/2017	79.7	7836	6509	5613	407250	10777	N/A
26	4/18/2017	79.9	7515	5669	5040	408500	9081	N/A
27	4/18/2017	79.5	7353	6019	4215	408550	8982	N/A
28	4/18/2017	77.9	7812	6035	4030	407300	10641	N/A
29	4/19/2017	72.3	7260	6329	5275	406450	9680	N/A
30	4/19/2017	79.5	7673	5720	5589	408100	10992	N/A
31	4/19/2017	77.8	7971	6976	4704	408250	12285	N/A
32	4/19/2017	80.4	7604	6293	3910	407400	11490	N/A
33	4/20/2017	79.8	7628	6269	4371	408150	8870	N/A
34	4/20/2017	79.3	7736	6128	5018	408300	9457	N/A
35	4/20/2017	78.6	7526	6182	5866	408550	9940	N/A
36	4/20/2017	80.1	7388	6374	4227	406900	9256	N/A
37	4/21/2017	79.8	7584	6417	5206	381700	9940	N/A
38	4/21/2017	79.7	7203	5881	5258	407300	9041	N/A
39	4/21/2017	79.9	6917	5883	5633	406450	8974	N/A
40	4/21/2017	80.5	7415	6346	5830	406950	8977	N/A
41	4/22/2017	77.2	7328	5823	5226	406850	9193	N/A
42	4/22/2017	79.6	7179	5693	5449	407450	8887	N/A
43	4/22/2017	79.8	7108	5911	4875	406900	10467	N/A
44	4/22/2017	79.8	6968	5975	4533	408650	9026	N/A
45	4/22/2017	81.8	7210	6688	5604	408230	8859	N/A
46	4/23/2017	79.5	6850	6316	5580	407350	8983	N/A
47	4/23/2017	79.4	6840	5921	5542	408200	8929	N/A
48	4/23/2017	80.0	7294	5871	4701	406850	9886	N/A
49	4/23/2017	81.9	6872	5510	5329	406400	8718	N/A
50	4/24/2017	81.0	7067	5558	4749	406700	8611	N/A
51	4/24/2017	80.6	6687	5629	4742	407200	8948	N/A
52	4/24/2017	79.8	6786	6002	4813	407750	8879	N/A
53	4/24/2017	79.7	6689	6090	4948	407900	8913	N/A
54	4/24/2017	80.5	6680	5929	5289	406350	8716	N/A
55	4/25/2017	80.2	6490	6522	4398	406310	9337	N/A
AVG=		78.7	7,516	6,215	4,954	22,370,690	527,334	TOTAL

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API 47-017-06701 Farm Name James E. Webb Well Number Mary Jane 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	62'	N/A	62'	N/A
Fresh Water	173'	N/A	173'	N/A
Siltstone	est. 0	177	est. 0	177
Sandstone	est. 177	237	est. 177	237
Siltstone	est. 237	567	est. 237	567
Sandstone	est. 567	1552	est. 567	1552
Coal	est. 1552	1557	est. 1552	1557
Shale	est. 1557	1587	est. 1557	1587
Sandstone	est. 1587	1632	est. 1587	1632
Coal	est. 1632	1634	est. 1632	1634
Sandstone	est. 1634	2045	est. 1634	2046
Big Lime	2045	2131	2046	2132
Big Injun	2131	2440	2132	2441
Gantz Sand	2440	2686	2441	2687
Fifty Foot Sandstone	2686	2763	2687	2764
Gordon	2763	3080	2764	3081
Fifth Sandstone	3080	3105	3081	3107
Bayard	3105	3433	3107	3434
Warren	3433	3797	3434	3798
Speechley	3797	4541	3798	4542
Bradford	4541	4933	4542	4935
Benson	4933	5199	4935	5200
Alexander	5199	5354	5200	5356
Elk	5354	5804	5356	5806
Rhinestreet	5804	6127	5806	6137
Sycamore	6127	6293	6441	6680
Middlesex	6293	6411	6680	6887
Burkett	6411	6440	6887	6949
Tully	6440	6467	6949	7038
Marcellus	6467	NA	7038	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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ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV
Field: Doddridge
Facility: James Webb Pad

Slot: Slot #06
Well: Mary Jane Unit 3H
Wellbore: Mary Jane Unit 3H PWB

Plot reference wellpath is Mary Jane 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: 1016 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #06): -991 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: edsaryer on 2016-09-15
	Database: WA_MPL_EASTERNUS_Defn

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
James Webb Pad			1676270.820	14248823.840	39°14'18.837"N	80°52'24.137"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #06	4.14	8.93	1676279.750	14248827.980	39°14'18.878"N	80°52'24.023"W
Comment	Mary Jane Unit 3H					
Patterson 343 (RKB) to Mud line (At Slot: Slot #06)					25ft	
Mean Sea Level to Mud line (At Slot: Slot #06)					-991ft	
Patterson 343 (RKB) to Mean Sea Level					1016ft	

Well Data

Slot	Well	Wellbore	Wellpath
Slot #06	Mary Jane Unit 3H	Mary Jane Unit 3H AWB	Mary Jane Unit 3H AWP Proj. 18179'
Slot #06	Mary Jane Unit 3H	Mary Jane Unit 3H PWB	Mary Jane Unit 3H PWP Rev-A.0

API: 47-017-06701-0000
BHI Job #: 8070341
Rig: Patterson 343
Duration: 7/29/2016-8/3/2016

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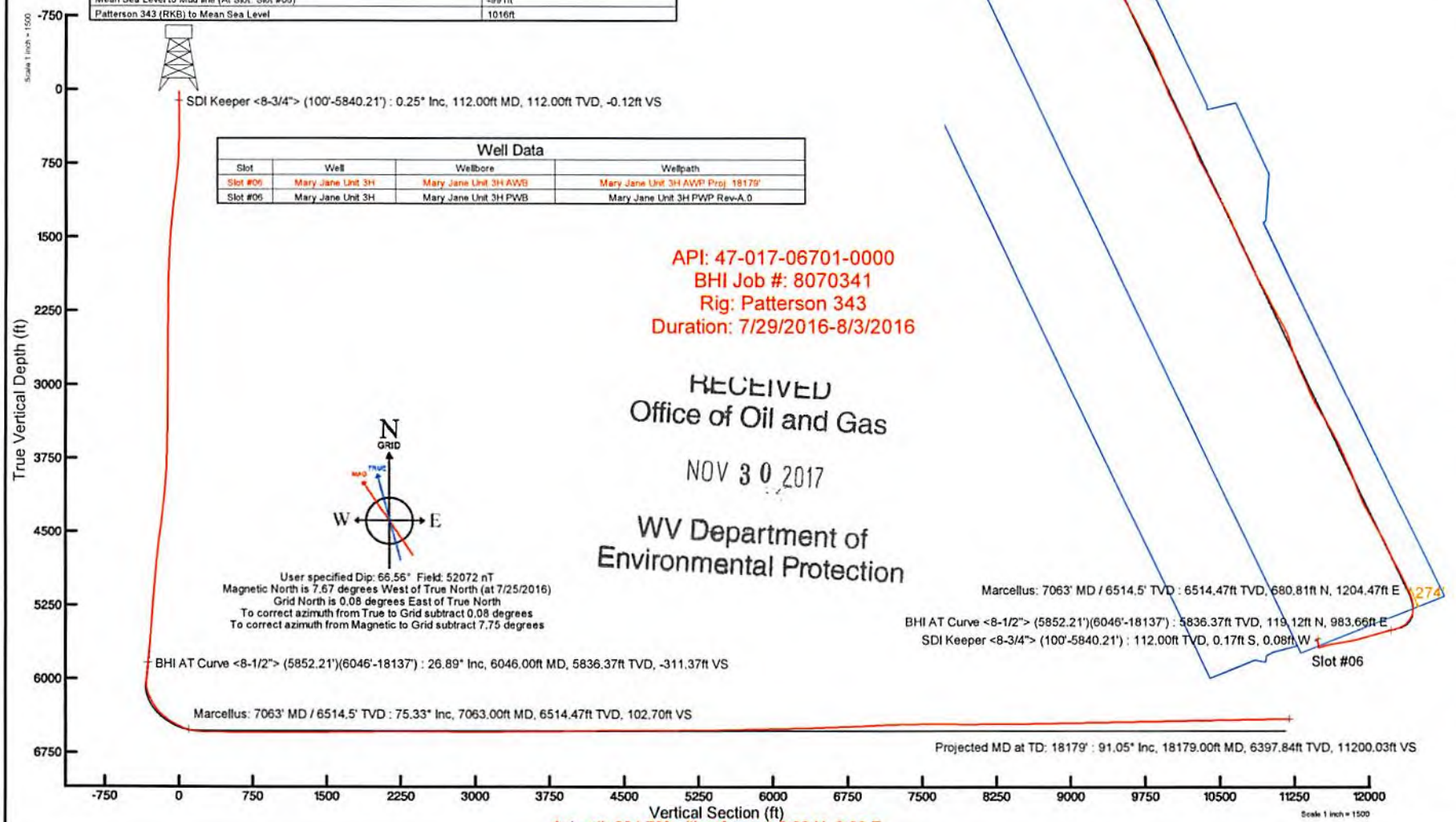

Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Edsaryar
Scale	0.999601	Report Generated	9/15/2016 at 11:32:34 AM
Convergence at slot	0.09° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Mary_Jane_Unit_3H_AWP_Proj__18179_.xml

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4.14	8.93	1676279.75	14248827.98	39°14'18.878"N	80°52'24.023"W
Facility Reference Pt			1676270.82	14248823.84	39°14'18.837"N	80°52'24.137"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	1016.00ft
Vertical Reference Pt	Patterson 343 (RKB)	Patterson 343 (RKB) to Mud Line at Slot (Slot #06)	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	334.78°

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Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 stations) † = interpolated/extrapolated station

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
0.00†	0.000	205.320	0.00	0.00	0.00	0.00	1676279.75	14248827.98	39°14'18.878"N	80°52'24.023"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	205.320	25.00	0.00	0.00	0.00	1676279.75	14248827.98	39°14'18.878"N	80°52'24.023"W	0.00	0.000	0.00	0.00	0.00	
112.00	0.250	205.320	112.00	-0.12	-0.17	-0.08	1676279.67	14248827.81	39°14'18.876"N	80°52'24.024"W	0.19	205.320	0.29	0.29	-177.79	SDI Keeper <8-3/4"> (100'-5840.21')
136.00	0.290	211.670	136.00	-0.19	-0.27	-0.14	1676279.61	14248827.71	39°14'18.875"N	80°52'24.025"W	0.30	206.592	0.21	0.17	26.46	
161.27	0.330	227.200	161.27	-0.24	-0.37	-0.22	1676279.53	14248827.61	39°14'18.874"N	80°52'24.026"W	0.44	210.710	0.37	0.16	61.46	
186.89	0.300	199.230	186.89	-0.31	-0.49	-0.30	1676279.45	14248827.49	39°14'18.873"N	80°52'24.027"W	0.57	211.470	0.61	-0.12	-109.17	
210.02	0.330	222.990	210.02	-0.38	-0.59	-0.36	1676279.39	14248827.39	39°14'18.872"N	80°52'24.028"W	0.70	211.508	0.57	0.13	102.72	
235.69	0.300	233.460	235.69	-0.42	-0.69	-0.47	1676279.28	14248827.29	39°14'18.871"N	80°52'24.029"W	0.83	214.252	0.25	-0.12	40.79	
260.98	0.300	220.170	260.98	-0.46	-0.78	-0.56	1676279.19	14248827.20	39°14'18.870"N	80°52'24.030"W	0.96	215.958	0.27	0.00	-52.55	
286.69	0.120	241.740	286.69	-0.49	-0.84	-0.63	1676279.12	14248827.14	39°14'18.869"N	80°52'24.031"W	1.05	216.865	0.75	-0.70	83.90	
311.94	0.160	242.380	311.94	-0.50	-0.87	-0.69	1676279.06	14248827.11	39°14'18.869"N	80°52'24.032"W	1.11	218.224	0.16	0.16	2.53	
336.63	0.140	197.790	336.63	-0.52	-0.92	-0.73	1676279.02	14248827.06	39°14'18.869"N	80°52'24.032"W	1.17	218.400	0.47	-0.08	-180.60	
361.28	0.130	260.590	361.28	-0.53	-0.95	-0.76	1676278.99	14248827.03	39°14'18.868"N	80°52'24.033"W	1.22	218.785	0.57	-0.04	254.77	
385.62	0.090	266.880	385.62	-0.52	-0.95	-0.81	1676278.94	14248827.03	39°14'18.868"N	80°52'24.033"W	1.25	220.279	0.17	-0.16	25.84	
436.17	0.290	214.010	436.17	-0.57	-1.06	-0.92	1676278.83	14248826.92	39°14'18.867"N	80°52'24.035"W	1.41	220.886	0.49	0.40	-104.59	
460.61	0.220	229.950	460.61	-0.61	-1.14	-0.99	1676278.76	14248826.84	39°14'18.866"N	80°52'24.036"W	1.51	220.885	0.41	-0.29	65.22	
485.37	0.140	218.700	485.37	-0.64	-1.20	-1.05	1676278.70	14248826.78	39°14'18.866"N	80°52'24.036"W	1.59	221.114	0.35	-0.32	-45.44	
509.88	0.650	198.590	509.88	-0.75	-1.35	-1.11	1676278.64	14248826.63	39°14'18.864"N	80°52'24.037"W	1.75	219.328	2.12	2.08	-82.05	
534.55	1.340	199.210	534.54	-1.06	-1.76	-1.25	1676278.50	14248826.22	39°14'18.860"N	80°52'24.039"W	2.16	215.373	2.80	2.80	2.51	
561.79	1.720	196.120	561.77	-1.59	-2.45	-1.47	1676278.28	14248825.53	39°14'18.854"N	80°52'24.042"W	2.86	210.887	1.43	1.40	-11.34	
586.39	2.090	192.980	586.36	-2.22	-3.24	-1.67	1676278.08	14248824.74	39°14'18.846"N	80°52'24.044"W	3.65	207.241	1.56	1.50	-12.76	
611.06	2.450	191.680	611.01	-3.00	-4.20	-1.88	1676277.87	14248823.78	39°14'18.836"N	80°52'24.047"W	4.60	204.097	1.47	1.46	-5.27	
635.60	2.550	192.380	635.53	-3.85	-5.25	-2.10	1676277.65	14248822.74	39°14'18.826"N	80°52'24.050"W	5.65	201.828	0.43	0.41	2.85	
660.26	2.820	190.870	660.16	-4.78	-6.38	-2.33	1676277.42	14248821.61	39°14'18.815"N	80°52'24.053"W	6.79	200.095	1.13	1.09	-6.12	
684.99	3.720	186.150	684.85	-5.95	-7.77	-2.53	1676277.22	14248820.21	39°14'18.801"N	80°52'24.055"W	8.17	198.056	3.80	3.64	-19.09	
709.58	3.750	184.650	709.39	-7.33	-9.37	-2.68	1676277.07	14248818.62	39°14'18.785"N	80°52'24.057"W	9.74	195.992	0.42	0.12	-6.10	
736.80	3.880	182.430	736.55	-8.92	-11.17	-2.80	1676276.96	14248816.81	39°14'18.767"N	80°52'24.059"W	11.52	194.046	0.72	0.48	-8.16	
761.54	4.580	175.920	761.22	-10.58	-13.00	-2.76	1676276.99	14248814.99	39°14'18.749"N	80°52'24.058"W	13.29	191.994	3.43	2.83	-26.31	
785.90	5.240	171.640	785.49	-12.55	-15.07	-2.53	1676277.22	14248812.92	39°14'18.729"N	80°52'24.055"W	15.28	189.532	3.10	2.71	-17.57	
810.06	5.680	169.640	809.54	-14.76	-17.33	-2.15	1676277.60	14248810.65	39°14'18.706"N	80°52'24.051"W	17.47	187.085	1.98	1.82	-8.28	

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Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
836.82	5.710	170.160	836.17	-17.33	-19.95	-1.69	1676278.06	14248808.04	39°14'18.681"N	80°52'24.045"W	20.02	184.839	0.22	0.11	1.94	
860.93	6.430	171.380	860.14	-19.78	-22.46	-1.28	1676278.47	14248805.52	39°14'18.656"N	80°52'24.040"W	22.50	183.265	3.03	2.99	5.06	
885.04	6.430	172.270	884.10	-22.36	-25.14	-0.90	1676278.85	14248802.85	39°14'18.629"N	80°52'24.035"W	25.15	182.045	0.41	0.00	3.69	
911.64	6.760	170.940	910.52	-25.28	-28.16	-0.45	1676279.30	14248799.83	39°14'18.599"N	80°52'24.029"W	28.16	180.917	1.37	1.24	-5.00	
935.89	7.030	171.240	934.60	-28.08	-31.04	0.00	1676279.75	14248796.96	39°14'18.571"N	80°52'24.024"W	31.04	180.000	1.12	1.11	1.24	
959.92	7.270	171.530	958.44	-30.94	-33.99	0.45	1676280.20	14248794.00	39°14'18.542"N	80°52'24.018"W	34.00	179.245	1.01	1.00	1.21	
986.66	7.430	170.810	984.96	-34.23	-37.37	0.97	1676280.72	14248790.62	39°14'18.508"N	80°52'24.011"W	37.39	178.508	0.69	0.60	-2.69	
1010.74	7.510	171.800	1008.84	-37.23	-40.47	1.45	1676281.20	14248787.53	39°14'18.478"N	80°52'24.005"W	40.49	177.953	0.63	0.33	4.11	
1034.81	7.610	171.320	1032.70	-40.26	-43.60	1.91	1676281.66	14248784.40	39°14'18.447"N	80°52'24.000"W	43.64	177.490	0.49	0.42	-1.99	
1061.99	7.700	171.140	1059.64	-43.73	-47.18	2.46	1676282.21	14248780.82	39°14'18.411"N	80°52'23.993"W	47.24	177.011	0.34	0.33	-0.66	
1085.50	7.760	170.340	1082.93	-46.77	-50.30	2.97	1676282.72	14248777.70	39°14'18.381"N	80°52'23.986"W	50.39	176.618	0.52	0.26	-3.40	
1110.10	7.830	170.350	1107.31	-49.98	-53.59	3.53	1676283.28	14248774.41	39°14'18.348"N	80°52'23.979"W	53.70	176.229	0.28	0.28	0.04	
1136.81	7.710	168.760	1133.77	-53.48	-57.14	4.19	1676283.93	14248770.86	39°14'18.313"N	80°52'23.971"W	57.29	175.810	0.92	-0.45	-5.95	
1160.79	7.630	170.390	1157.54	-56.57	-60.29	4.77	1676284.51	14248767.72	39°14'18.282"N	80°52'23.964"W	60.47	175.480	0.97	-0.33	6.80	
1184.93	7.330	169.400	1181.47	-59.60	-63.38	5.32	1676285.06	14248764.63	39°14'18.251"N	80°52'23.957"W	63.60	175.205	1.35	-1.24	-4.10	
1211.47	6.900	171.060	1207.81	-62.77	-66.62	5.88	1676285.62	14248761.39	39°14'18.219"N	80°52'23.950"W	66.88	174.960	1.80	-1.62	6.25	
1235.61	6.560	170.410	1231.78	-65.49	-69.41	6.33	1676286.08	14248758.60	39°14'18.192"N	80°52'23.944"W	69.70	174.789	1.44	-1.41	-2.69	
1259.66	6.280	170.920	1255.68	-68.08	-72.06	6.77	1676286.51	14248755.94	39°14'18.165"N	80°52'23.938"W	72.38	174.636	1.19	-1.16	2.12	
1286.27	6.000	171.560	1282.14	-70.81	-74.88	7.20	1676286.95	14248753.13	39°14'18.138"N	80°52'23.933"W	75.22	174.507	1.08	-1.05	2.41	
1310.48	5.770	170.210	1306.22	-73.19	-77.33	7.59	1676287.34	14248750.68	39°14'18.113"N	80°52'23.928"W	77.70	174.392	1.11	-0.95	-5.58	
1334.37	5.580	170.110	1329.99	-75.47	-79.66	8.00	1676287.74	14248748.36	39°14'18.090"N	80°52'23.923"W	80.06	174.267	0.80	-0.80	-0.42	
1361.14	5.510	169.470	1356.64	-77.97	-82.20	8.46	1676288.20	14248745.81	39°14'18.065"N	80°52'23.917"W	82.64	174.127	0.35	-0.26	-2.39	
1385.18	5.180	168.480	1380.57	-80.14	-84.40	8.88	1676288.63	14248743.61	39°14'18.043"N	80°52'23.912"W	84.87	173.992	1.43	-1.37	-4.12	
1411.78	4.920	167.990	1407.07	-82.42	-86.69	9.36	1676289.11	14248741.32	39°14'18.021"N	80°52'23.906"W	87.20	173.838	0.99	-0.98	-1.84	
1435.90	4.580	170.710	1431.11	-84.35	-88.65	9.73	1676289.48	14248739.36	39°14'18.001"N	80°52'23.901"W	89.19	173.736	1.69	-1.41	11.28	
1459.86	4.490	169.530	1454.99	-86.18	-90.52	10.06	1676289.80	14248737.50	39°14'17.983"N	80°52'23.897"W	91.08	173.661	0.54	-0.38	-4.92	
1486.56	4.450	171.140	1481.61	-88.18	-92.57	10.41	1676290.15	14248735.45	39°14'17.963"N	80°52'23.892"W	93.15	173.587	0.49	-0.15	6.03	
1510.65	4.150	169.800	1505.63	-89.92	-94.35	10.70	1676290.45	14248733.66	39°14'17.945"N	80°52'23.889"W	94.96	173.528	1.31	-1.25	-5.56	
1536.02	4.050	169.950	1530.94	-91.67	-96.14	11.02	1676290.77	14248731.88	39°14'17.927"N	80°52'23.885"W	96.77	173.459	0.40	-0.39	0.59	
1561.31	3.700	171.370	1556.17	-93.32	-97.82	11.30	1676291.05	14248730.19	39°14'17.911"N	80°52'23.881"W	98.48	173.410	1.43	-1.38	5.61	

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Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
1586.54	3.490	169.610	1581.35	-94.84	-99.39	11.56	1676291.31	14248728.63	39°14'17.895"N	80°52'23.878"W	100.06	173.365	0.94	-0.83	-6.98	
1611.23	3.280	172.960	1606.00	-96.24	-100.83	11.78	1676291.53	14248727.20	39°14'17.881"N	80°52'23.875"W	101.51	173.334	1.17	-0.85	13.57	
1635.93	3.040	172.110	1630.66	-97.53	-102.18	11.96	1676291.71	14248725.85	39°14'17.868"N	80°52'23.873"W	102.87	173.324	0.99	-0.97	-3.44	
1660.84	2.860	172.290	1655.54	-98.76	-103.45	12.13	1676291.88	14248724.58	39°14'17.855"N	80°52'23.871"W	104.15	173.310	0.72	-0.72	0.72	
1685.59	2.690	172.360	1680.26	-99.90	-104.63	12.29	1676292.04	14248723.39	39°14'17.843"N	80°52'23.869"W	105.35	173.299	0.69	-0.69	0.28	
1710.33	2.520	174.150	1704.97	-100.96	-105.75	12.43	1676292.17	14248722.27	39°14'17.832"N	80°52'23.867"W	106.48	173.298	0.76	-0.69	7.24	
1735.07	2.360	173.960	1729.69	-101.96	-106.80	12.54	1676292.28	14248721.23	39°14'17.822"N	80°52'23.866"W	107.53	173.305	0.65	-0.65	-0.77	
1759.79	2.130	171.450	1754.39	-102.88	-107.76	12.66	1676292.40	14248720.27	39°14'17.813"N	80°52'23.864"W	108.50	173.301	1.01	-0.93	-10.15	
1784.53	2.080	173.380	1779.11	-103.75	-108.66	12.78	1676292.52	14248719.37	39°14'17.804"N	80°52'23.863"W	109.41	173.293	0.35	-0.20	7.80	
1811.90	1.880	176.080	1806.47	-104.63	-109.60	12.87	1676292.61	14248718.42	39°14'17.794"N	80°52'23.862"W	110.35	173.305	0.81	-0.73	9.86	
1836.55	1.700	170.850	1831.10	-105.36	-110.36	12.95	1676292.70	14248717.66	39°14'17.787"N	80°52'23.860"W	111.12	173.307	0.99	-0.73	-21.22	
1861.44	1.630	174.070	1855.98	-106.05	-111.08	13.05	1676292.79	14248716.94	39°14'17.780"N	80°52'23.859"W	111.84	173.301	0.47	-0.28	12.94	
1886.10	1.560	175.020	1880.63	-106.70	-111.76	13.11	1676292.86	14248716.26	39°14'17.773"N	80°52'23.858"W	112.53	173.309	0.30	-0.28	3.85	
1910.91	1.360	178.610	1905.44	-107.28	-112.39	13.15	1676292.89	14248715.63	39°14'17.767"N	80°52'23.858"W	113.16	173.328	0.89	-0.81	14.47	
1935.56	1.280	184.140	1930.08	-107.79	-112.96	13.14	1676292.88	14248715.06	39°14'17.761"N	80°52'23.858"W	113.72	173.367	0.61	-0.32	22.43	
1960.38	1.180	184.960	1954.89	-108.25	-113.49	13.09	1676292.84	14248714.53	39°14'17.756"N	80°52'23.859"W	114.25	173.419	0.41	-0.40	3.30	
1985.03	0.970	187.620	1979.54	-108.65	-113.95	13.04	1676292.79	14248714.07	39°14'17.751"N	80°52'23.859"W	114.70	173.470	0.88	-0.85	10.79	
2009.84	0.860	186.590	2004.35	-108.98	-114.35	12.99	1676292.74	14248713.68	39°14'17.747"N	80°52'23.860"W	115.08	173.516	0.45	-0.44	-4.15	
2034.48	0.660	183.800	2028.98	-109.26	-114.67	12.96	1676292.71	14248713.36	39°14'17.744"N	80°52'23.860"W	115.40	173.550	0.83	-0.81	-11.32	
2061.74	0.520	187.620	2056.24	-109.51	-114.95	12.94	1676292.68	14248713.08	39°14'17.741"N	80°52'23.861"W	115.68	173.578	0.53	-0.51	14.01	
2086.62	0.380	185.540	2081.12	-109.67	-115.14	12.91	1676292.66	14248712.88	39°14'17.740"N	80°52'23.861"W	115.87	173.600	0.57	-0.56	-8.36	
2111.33	0.540	182.380	2105.83	-109.84	-115.34	12.90	1676292.65	14248712.68	39°14'17.738"N	80°52'23.861"W	116.06	173.618	0.66	0.65	-12.79	
2136.06	0.390	167.900	2130.56	-110.03	-115.54	12.91	1676292.66	14248712.49	39°14'17.736"N	80°52'23.861"W	116.26	173.622	0.77	-0.61	-58.55	
2160.78	0.470	171.610	2155.28	-110.21	-115.72	12.95	1676292.69	14248712.30	39°14'17.734"N	80°52'23.861"W	116.45	173.616	0.34	0.32	15.01	
2185.52	0.330	186.210	2180.02	-110.37	-115.89	12.95	1676292.70	14248712.13	39°14'17.732"N	80°52'23.861"W	116.62	173.622	0.70	-0.57	59.01	
2210.27	0.280	190.500	2204.77	-110.48	-116.02	12.94	1676292.68	14248712.00	39°14'17.731"N	80°52'23.861"W	116.74	173.638	0.22	-0.20	17.33	
2235.01	0.250	184.380	2229.51	-110.57	-116.14	12.92	1676292.67	14248711.89	39°14'17.730"N	80°52'23.861"W	116.85	173.652	0.17	-0.12	-24.74	
2259.73	0.190	220.150	2254.23	-110.64	-116.22	12.89	1676292.63	14248711.80	39°14'17.729"N	80°52'23.861"W	116.94	173.671	0.59	-0.24	144.70	
2284.46	0.180	213.330	2278.96	-110.67	-116.29	12.84	1676292.59	14248711.74	39°14'17.728"N	80°52'23.862"W	116.99	173.698	0.10	-0.04	-27.58	
2311.85	0.120	216.130	2306.35	-110.71	-116.35	12.80	1676292.55	14248711.68	39°14'17.728"N	80°52'23.862"W	117.05	173.721	0.22	-0.22	10.22	

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Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
2333.93	0.210	207.880	2328.43	-110.75	-116.40	12.77	1676292.51	14248711.63	39°14'17.727"N	80°52'23.863"W	117.10	173.740	0.42	0.41	-37.36	
2361.19	0.190	213.890	2355.69	-110.80	-116.48	12.72	1676292.47	14248711.54	39°14'17.726"N	80°52'23.863"W	117.17	173.768	0.11	-0.07	22.05	
2385.91	0.240	212.190	2380.41	-110.85	-116.56	12.67	1676292.41	14248711.47	39°14'17.726"N	80°52'23.864"W	117.25	173.796	0.20	0.20	-6.88	
2409.56	0.210	196.950	2404.06	-110.91	-116.64	12.63	1676292.38	14248711.38	39°14'17.725"N	80°52'23.865"W	117.33	173.820	0.28	-0.13	-64.44	
2436.85	0.050	82.740	2431.35	-110.95	-116.69	12.63	1676292.37	14248711.34	39°14'17.724"N	80°52'23.865"W	117.37	173.824	0.86	-0.59	-418.50	
2461.20	0.160	164.660	2455.70	-110.98	-116.72	12.65	1676292.39	14248711.31	39°14'17.724"N	80°52'23.864"W	117.40	173.816	0.66	0.45	336.43	
2485.25	0.130	191.560	2479.75	-111.04	-116.78	12.65	1676292.40	14248711.25	39°14'17.723"N	80°52'23.864"W	117.46	173.817	0.31	-0.12	111.85	
3011.81	0.110	290.200	3006.31	-111.16	-117.19	12.06	1676291.80	14248710.84	39°14'17.719"N	80°52'23.872"W	117.81	174.126	0.03	0.00	18.73	
3511.81	8.560	72.910	3504.47	-116.09	-106.07	47.24	1676326.97	14248721.95	39°14'17.829"N	80°52'23.425"W	116.11	155.992	1.73	1.69	28.54	
3711.81	11.580	70.420	3701.36	-120.17	-94.96	80.39	1676360.11	14248733.05	39°14'17.938"N	80°52'23.003"W	124.42	139.751	1.53	1.51	-1.25	
3804.51	13.860	71.250	3791.78	-122.33	-88.28	99.67	1676379.38	14248739.74	39°14'18.004"N	80°52'22.758"W	133.14	131.530	2.47	2.46	0.90	
4011.91	17.170	80.000	3991.63	-133.17	-74.97	153.37	1676433.05	14248753.04	39°14'18.135"N	80°52'22.075"W	170.71	116.051	1.95	1.60	4.22	
4511.71	27.500	80.480	4453.30	-183.90	-42.99	340.33	1676619.94	14248785.01	39°14'18.448"N	80°52'19.699"W	343.03	97.199	2.07	2.07	0.10	
5010.81	25.700	75.310	4899.62	-234.87	3.52	558.70	1676838.22	14248831.50	39°14'18.905"N	80°52'16.922"W	558.71	89.639	0.59	-0.36	-1.04	
5510.61	25.240	73.460	5350.85	-270.76	61.34	765.68	1677045.13	14248889.30	39°14'19.473"N	80°52'14.291"W	768.14	85.420	0.18	-0.09	-0.37	
5852.21	24.000	75.620	5661.39	-294.82	99.33	902.80	1677182.19	14248927.27	39°14'19.847"N	80°52'12.547"W	908.25	83.721	0.45	-0.36	0.63	
6046.00	26.890	76.810	5836.37	-311.37	119.12	983.66	1677263.02	14248947.06	39°14'20.041"N	80°52'11.519"W	990.85	83.095	1.51	1.49	0.61	BHI AT Curve <8-1/2"> (5852.21')(6046'-18137')
6093.00	29.310	75.630	5877.83	-315.75	124.40	1005.16	1677284.51	14248952.33	39°14'20.093"N	80°52'11.246"W	1012.83	82.945	5.28	5.15	-2.51	
6141.00	32.380	72.320	5919.04	-319.65	131.23	1028.79	1677308.13	14248959.15	39°14'20.160"N	80°52'10.945"W	1037.13	82.731	7.31	6.40	-6.90	
6187.00	35.460	70.280	5957.20	-322.54	139.47	1053.10	1677332.42	14248967.40	39°14'20.241"N	80°52'10.636"W	1062.29	82.456	7.14	6.70	-4.43	
6235.00	37.960	69.510	5995.68	-325.09	149.34	1080.04	1677359.35	14248977.26	39°14'20.339"N	80°52'10.294"W	1090.31	82.128	5.30	5.21	-1.60	
6282.00	40.560	68.550	6032.07	-327.29	159.99	1107.80	1677387.11	14248987.90	39°14'20.443"N	80°52'09.941"W	1119.30	81.782	5.68	5.53	-2.04	
6330.00	41.000	60.720	6068.44	-327.20	173.40	1136.08	1677415.38	14249001.32	39°14'20.576"N	80°52'09.581"W	1149.24	81.322	10.69	0.92	-16.31	
6375.00	41.810	51.190	6102.23	-322.63	190.04	1160.67	1677439.95	14249017.95	39°14'20.740"N	80°52'09.268"W	1176.12	80.701	14.11	1.80	-21.18	
6424.00	42.930	44.320	6138.45	-312.95	212.23	1185.07	1677464.34	14249040.13	39°14'20.959"N	80°52'08.958"W	1203.92	79.847	9.72	2.29	-14.02	
6471.00	43.840	39.690	6172.61	-300.45	236.21	1206.65	1677485.92	14249064.10	39°14'21.195"N	80°52'08.683"W	1229.56	78.924	7.04	1.94	-9.85	
6518.00	43.820	34.020	6206.53	-285.22	262.24	1226.16	1677505.42	14249090.11	39°14'21.452"N	80°52'08.435"W	1253.89	77.928	8.35	-0.04	-12.06	
6565.00	43.140	27.530	6240.65	-267.16	289.99	1242.70	1677521.95	14249117.85	39°14'21.726"N	80°52'08.224"W	1276.09	76.865	9.61	-1.45	-13.81	
6613.00	43.950	19.700	6275.47	-245.42	320.24	1255.91	1677535.16	14249148.10	39°14'22.025"N	80°52'08.056"W	1296.10	75.695	11.36	1.69	-16.31	
6660.00	46.040	12.880	6308.73	-220.54	352.11	1265.18	1677544.43	14249179.95	39°14'22.340"N	80°52'07.937"W	1313.27	74.448	11.18	4.45	-14.51	

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Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 stations) † = interpolated/extrapolated station

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
6705.00†	47.940	7.607	6339.43	-193.75	384.47	1271.01	1677550.25	14249212.30	39°14'22.660"N	80°52'07.862"W	1327.89	73.170	9.55	4.22	-11.72	Middlesex: 6705' MD / 6339.4' TVD
6707.00	48.030	7.380	6340.77	-192.50	385.95	1271.20	1677550.44	14249213.77	39°14'22.674"N	80°52'07.860"W	1328.50	73.111	9.55	4.50	-11.34	
6754.00	51.570	2.700	6371.11	-161.49	421.69	1274.32	1677553.56	14249249.50	39°14'23.028"N	80°52'07.820"W	1342.27	71.690	10.70	7.53	-9.96	
6802.00	55.020	356.300	6399.82	-126.55	460.13	1273.93	1677553.17	14249287.92	39°14'23.408"N	80°52'07.824"W	1354.48	70.141	12.88	7.19	-13.33	
6849.00	57.540	350.080	6425.92	-89.48	498.91	1269.27	1677548.51	14249326.69	39°14'23.791"N	80°52'07.882"W	1363.80	68.542	12.24	5.36	-13.23	
6896.00	59.620	344.940	6450.43	-50.38	538.04	1260.58	1677539.83	14249365.80	39°14'24.178"N	80°52'07.992"W	1370.60	66.886	10.33	4.43	-10.94	
6912.00†	60.768	343.096	6458.39	-36.67	551.38	1256.76	1677536.00	14249379.14	39°14'24.310"N	80°52'08.040"W	1372.39	66.311	12.30	7.17	-11.52	Burkett: 6912' MD / 6458.4' TVD
6943.00	63.060	339.640	6472.99	-9.51	577.29	1248.01	1677527.26	14249405.04	39°14'24.566"N	80°52'08.151"W	1375.06	65.176	12.30	7.39	-11.15	
6974.00†	66.575	337.969	6486.17	18.47	603.44	1237.87	1677517.12	14249431.18	39°14'24.825"N	80°52'08.280"W	1377.12	64.012	12.34	11.34	-5.39	Tully: 6974' MD / 6486.2' TVD
6991.00	68.510	337.090	6492.67	34.16	617.95	1231.86	1677511.12	14249445.69	39°14'24.968"N	80°52'08.356"W	1378.17	63.360	12.34	11.38	-5.17	
7032.00†	73.159	336.249	6506.12	72.85	653.50	1216.53	1677495.79	14249481.22	39°14'25.320"N	80°52'08.550"W	1380.94	61.756	11.50	11.34	-2.05	Hamilton: 7032' MD / 6506.1' TVD
7038.00	73.840	336.130	6507.83	78.61	658.77	1214.20	1677493.47	14249486.48	39°14'25.372"N	80°52'08.579"W	1381.40	61.518	11.50	11.34	-1.99	
7063.00†	75.329	336.221	6514.47	102.70	680.81	1204.47	1677483.74	14249508.52	39°14'25.590"N	80°52'08.703"W	1383.56	60.523	5.97	5.96	0.36	Marcellus: 7063' MD / 6514.5' TVD
7085.00	76.640	336.300	6519.80	124.04	700.35	1195.88	1677475.15	14249528.05	39°14'25.783"N	80°52'08.812"W	1385.86	59.645	5.97	5.96	0.36	
7132.00	81.540	336.740	6528.69	170.15	742.67	1177.50	1677456.77	14249570.35	39°14'26.202"N	80°52'09.044"W	1392.14	57.760	10.47	10.43	0.94	
7179.00	86.770	336.140	6533.48	216.87	785.51	1158.81	1677438.10	14249613.18	39°14'26.625"N	80°52'09.281"W	1399.95	55.868	11.20	11.13	-1.28	
7274.00	89.940	333.130	6536.21	311.81	871.30	1118.14	1677397.44	14249698.93	39°14'27.474"N	80°52'09.796"W	1417.53	52.073	4.60	3.34	-3.17	
7369.00	89.380	331.690	6536.77	406.72	955.49	1074.14	1677353.46	14249783.09	39°14'28.307"N	80°52'10.354"W	1437.62	48.346	1.63	-0.59	-1.52	
7463.00	89.410	332.270	6537.76	500.60	1038.47	1029.99	1677309.32	14249866.03	39°14'29.127"N	80°52'10.914"W	1462.63	44.765	0.62	0.03	0.62	
7558.00	88.490	334.790	6539.50	595.56	1123.48	987.65	1677267.01	14249951.01	39°14'29.968"N	80°52'11.450"W	1495.89	41.319	2.82	-0.97	2.65	
7652.00	89.720	336.740	6540.97	689.53	1209.18	949.08	1677228.45	14250036.68	39°14'30.816"N	80°52'11.939"W	1537.16	38.128	2.45	1.31	2.07	
7747.00	90.650	335.000	6540.67	784.50	1295.88	910.24	1677189.63	14250123.34	39°14'31.673"N	80°52'12.431"W	1583.62	35.085	2.08	0.98	-1.83	
7842.00	90.550	332.460	6539.67	879.47	1381.05	868.20	1677147.60	14250208.48	39°14'32.516"N	80°52'12.964"W	1631.28	32.156	2.68	-0.11	-2.67	
7936.00	90.090	328.470	6539.15	973.19	1462.82	821.87	1677101.29	14250290.22	39°14'33.324"N	80°52'13.551"W	1677.89	29.329	4.27	-0.49	-4.24	
8031.00	89.720	331.700	6539.30	1067.86	1545.15	774.50	1677053.94	14250372.51	39°14'34.139"N	80°52'14.152"W	1728.40	26.622	3.42	-0.39	3.40	
8125.00	90.220	333.550	6539.35	1161.78	1628.62	731.28	1677010.74	14250455.95	39°14'34.965"N	80°52'14.700"W	1785.27	24.181	2.04	0.53	1.97	
8220.00	90.340	331.830	6538.89	1256.72	1713.03	687.70	1676967.17	14250540.32	39°14'35.799"N	80°52'15.252"W	1845.91	21.873	1.81	0.13	-1.81	
8314.00	90.220	331.520	6538.43	1350.58	1795.77	643.10	1676922.59	14250623.03	39°14'36.618"N	80°52'15.817"W	1907.45	19.703	0.35	-0.13	-0.33	
8409.00	90.250	336.980	6538.04	1445.54	1881.31	601.84	1676881.35	14250708.53	39°14'37.464"N	80°52'16.340"W	1975.23	17.740	5.75	0.03	5.75	
8503.00	90.400	339.150	6537.51	1539.37	1968.50	566.73	1676846.25	14250795.69	39°14'38.326"N	80°52'16.785"W	2048.45	16.061	2.31	0.16	2.31	

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Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
8597.00	90.550	339.650	6536.73	1633.07	2056.48	533.66	1676813.19	14250883.64	39°14'39.196"N	80°52'17.204"W	2124.60	14.547	0.56	0.16	0.53	
8692.00	90.620	340.440	6535.76	1727.66	2145.77	501.24	1676780.79	14250972.89	39°14'40.079"N	80°52'17.614"W	2203.54	13.148	0.83	0.07	0.83	
8787.00	90.620	340.460	6534.73	1822.19	2235.29	469.45	1676749.01	14251062.38	39°14'40.964"N	80°52'18.016"W	2284.05	11.861	0.02	0.00	0.02	
8881.00	91.200	336.020	6533.23	1915.98	2322.56	434.62	1676714.19	14251149.61	39°14'41.827"N	80°52'18.458"W	2362.87	10.599	4.76	0.62	-4.72	
8976.00	89.880	335.320	6532.34	2010.96	2409.12	395.48	1676675.07	14251236.13	39°14'42.683"N	80°52'18.954"W	2441.36	9.322	1.57	-1.39	-0.74	
9071.00	90.150	338.460	6532.31	2105.89	2496.48	358.20	1676637.80	14251323.46	39°14'43.547"N	80°52'19.426"W	2522.05	8.165	3.32	0.28	3.31	
9165.00	91.080	335.940	6531.31	2199.79	2583.12	321.78	1676601.40	14251410.07	39°14'44.404"N	80°52'19.887"W	2603.09	7.101	2.86	0.99	-2.68	
9259.00	91.350	332.990	6529.31	2293.76	2667.91	281.27	1676560.91	14251494.83	39°14'45.243"N	80°52'20.401"W	2682.70	6.018	3.15	0.29	-3.14	
9354.00	90.120	331.490	6528.09	2388.65	2751.97	237.03	1676516.68	14251578.85	39°14'46.074"N	80°52'20.961"W	2762.16	4.923	2.04	-1.29	-1.58	
9448.00	89.450	331.590	6528.45	2482.50	2834.61	192.23	1676471.91	14251661.45	39°14'46.892"N	80°52'21.529"W	2841.12	3.880	0.72	-0.71	0.11	
9543.00	89.080	330.270	6529.66	2577.27	2917.63	146.08	1676425.77	14251744.44	39°14'47.713"N	80°52'22.114"W	2921.29	2.866	1.44	-0.39	-1.39	
9637.00	89.050	328.460	6531.20	2670.84	2998.50	98.19	1676377.90	14251825.28	39°14'48.513"N	80°52'22.722"W	3000.11	1.876	1.93	-0.03	-1.93	
9731.00	89.170	327.740	6532.66	2764.19	3078.29	48.52	1676328.25	14251905.04	39°14'49.302"N	80°52'23.352"W	3078.67	0.903	0.78	0.13	-0.77	
9826.00	89.230	330.800	6533.99	2858.73	3159.93	-0.01	1676279.74	14251986.65	39°14'50.110"N	80°52'23.967"W	3159.93	360.000	3.22	0.06	3.22	
9920.00	88.370	333.440	6535.95	2952.60	3243.00	-43.96	1676235.81	14252069.68	39°14'50.931"N	80°52'24.524"W	3243.29	359.223	2.95	-0.91	2.81	
10014.00	90.310	337.550	6537.04	3046.56	3328.50	-82.93	1676196.85	14252155.15	39°14'51.777"N	80°52'25.018"W	3329.53	358.573	4.83	2.06	4.37	
10109.00	91.390	337.440	6535.63	3141.44	3416.26	-119.29	1676160.51	14252242.87	39°14'52.645"N	80°52'25.479"W	3418.34	358.000	1.14	1.14	-0.12	
10203.00	91.140	335.570	6533.55	3235.37	3502.44	-156.75	1676123.06	14252329.02	39°14'53.497"N	80°52'25.953"W	3505.94	357.437	2.01	-0.27	-1.99	
10297.00	91.080	335.580	6531.73	3329.35	3588.01	-195.62	1676084.21	14252414.55	39°14'54.344"N	80°52'26.446"W	3593.34	356.879	0.06	-0.06	0.01	
10392.00	90.340	336.110	6530.55	3424.32	3674.68	-234.49	1676045.36	14252501.19	39°14'55.201"N	80°52'26.938"W	3682.16	356.349	0.96	-0.78	0.56	
10486.00	90.550	338.820	6529.82	3518.21	3761.50	-270.51	1676009.35	14252587.97	39°14'56.059"N	80°52'27.395"W	3771.21	355.887	2.89	0.22	2.88	
10581.00	90.990	342.270	6528.55	3612.70	3851.05	-302.14	1675977.73	14252677.49	39°14'56.945"N	80°52'27.795"W	3862.88	355.514	3.66	0.46	3.63	
10675.00	89.940	341.300	6527.78	3706.00	3940.33	-331.52	1675948.36	14252766.74	39°14'57.828"N	80°52'28.167"W	3954.26	355.191	1.52	-1.12	-1.03	
10769.00	89.780	341.980	6528.01	3799.32	4029.55	-361.13	1675918.76	14252855.91	39°14'58.710"N	80°52'28.542"W	4045.70	354.879	0.74	-0.17	0.72	
10864.00	90.920	341.120	6527.43	3893.65	4119.66	-391.19	1675888.71	14252945.99	39°14'59.601"N	80°52'28.922"W	4138.19	354.576	1.50	1.20	-0.91	
10958.00	90.830	335.700	6526.00	3987.42	4207.02	-425.77	1675854.15	14253033.32	39°15'00.465"N	80°52'29.360"W	4228.51	354.221	5.77	-0.10	-5.77	
11052.00	90.830	330.640	6524.64	4081.34	4290.87	-468.17	1675811.76	14253117.13	39°15'01.294"N	80°52'29.898"W	4316.33	353.773	5.38	0.00	-5.38	
11147.00	90.740	330.430	6523.33	4176.07	4373.57	-514.90	1675765.06	14253199.80	39°15'02.112"N	80°52'30.490"W	4403.78	353.285	0.24	-0.09	-0.22	
11241.00	90.890	331.720	6522.00	4269.87	4455.84	-560.36	1675719.62	14253282.03	39°15'02.926"N	80°52'31.067"W	4490.93	352.832	1.38	0.16	1.37	
11336.00	90.220	331.650	6521.08	4364.72	4539.47	-605.42	1675674.58	14253365.63	39°15'03.753"N	80°52'31.638"W	4579.66	352.403	0.71	-0.71	-0.07	

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Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
11430.00	90.090	334.070	6520.82	4458.66	4623.11	-648.29	1675631.72	14253449.24	39°15'04.580"N	80°52'32.182"W	4668.34	352.018	2.58	-0.14	2.57	
11525.00	89.690	333.370	6521.00	4553.64	4708.29	-690.35	1675589.67	14253534.38	39°15'05.423"N	80°52'32.715"W	4758.63	351.658	0.85	-0.42	-0.74	
11619.00	89.880	331.870	6521.36	4647.57	4791.76	-733.58	1675546.46	14253617.82	39°15'06.248"N	80°52'33.263"W	4847.58	351.296	1.61	0.20	-1.60	
11714.00	90.650	330.670	6520.92	4742.39	4875.06	-779.25	1675500.82	14253701.09	39°15'07.072"N	80°52'33.842"W	4936.94	350.918	1.50	0.81	-1.26	
11808.00	90.710	332.100	6519.80	4836.22	4957.57	-824.26	1675455.82	14253783.56	39°15'07.889"N	80°52'34.413"W	5025.62	350.560	1.52	0.06	1.52	
11903.00	90.620	334.060	6518.70	4931.17	5042.26	-867.27	1675412.83	14253868.23	39°15'08.726"N	80°52'34.958"W	5116.31	350.241	2.07	-0.09	2.06	
11997.00	90.650	335.240	6517.66	5025.16	5127.21	-907.51	1675372.61	14253953.13	39°15'09.566"N	80°52'35.468"W	5206.90	349.963	1.26	0.03	1.26	
12091.00	90.680	334.990	6516.57	5119.15	5212.47	-947.06	1675333.07	14254038.37	39°15'10.410"N	80°52'35.969"W	5297.81	349.702	0.27	0.03	-0.27	
12186.00	90.710	334.080	6515.41	5214.14	5298.24	-987.90	1675292.24	14254124.09	39°15'11.258"N	80°52'36.487"W	5389.55	349.438	0.96	0.03	-0.96	
12280.00	90.650	334.590	6514.30	5308.13	5382.96	-1028.61	1675251.55	14254208.78	39°15'12.096"N	80°52'37.003"W	5480.35	349.182	0.55	-0.06	0.54	
12374.00	90.550	336.730	6513.31	5402.11	5468.59	-1067.35	1675212.83	14254294.38	39°15'12.943"N	80°52'37.494"W	5571.78	348.956	2.28	-0.11	2.28	
12469.00	91.200	336.990	6511.86	5497.04	5555.94	-1104.68	1675175.51	14254381.69	39°15'13.807"N	80°52'37.967"W	5664.69	348.755	0.74	0.68	0.27	
12563.00	91.110	337.980	6509.97	5590.91	5642.75	-1140.67	1675139.54	14254468.47	39°15'14.665"N	80°52'38.423"W	5756.89	348.572	1.06	-0.10	1.05	
12657.00	91.170	336.200	6508.10	5684.81	5729.32	-1177.25	1675102.97	14254555.00	39°15'15.521"N	80°52'38.887"W	5849.02	348.389	1.89	0.06	-1.89	
12752.00	91.140	330.660	6506.18	5779.73	5814.24	-1219.72	1675060.52	14254639.89	39°15'16.361"N	80°52'39.425"W	5940.79	348.152	5.83	-0.03	-5.83	
12846.00	91.170	332.590	6504.29	5873.56	5896.92	-1264.38	1675015.88	14254722.54	39°15'17.179"N	80°52'39.991"W	6030.95	347.898	2.05	0.03	2.05	
12941.00	91.230	332.390	6502.30	5968.47	5981.16	-1308.25	1674972.02	14254806.75	39°15'18.012"N	80°52'40.548"W	6122.57	347.662	0.22	0.06	-0.21	
13035.00	91.480	332.060	6500.07	6062.35	6064.31	-1352.04	1674928.25	14254889.86	39°15'18.834"N	80°52'41.103"W	6213.20	347.431	0.44	0.27	-0.35	
13130.00	91.050	333.970	6497.98	6157.27	6148.94	-1395.14	1674885.17	14254974.46	39°15'19.671"N	80°52'41.649"W	6305.23	347.217	2.06	-0.45	2.01	
13224.00	91.110	337.010	6496.20	6251.24	6234.44	-1434.12	1674846.20	14255059.93	39°15'20.517"N	80°52'42.143"W	6397.26	347.046	3.23	0.06	3.23	
13319.00	91.480	332.960	6494.06	6346.19	6320.49	-1474.27	1674806.07	14255145.94	39°15'21.368"N	80°52'42.652"W	6490.15	346.870	4.28	0.39	-4.26	
13413.00	92.220	330.860	6491.02	6440.02	6403.37	-1518.51	1674761.85	14255228.79	39°15'22.188"N	80°52'43.213"W	6580.96	346.659	2.37	0.79	-2.23	
13507.00	92.370	331.520	6487.26	6533.76	6485.67	-1563.77	1674716.61	14255311.05	39°15'23.002"N	80°52'43.787"W	6671.53	346.444	0.72	0.16	0.70	
13602.00	91.970	335.770	6483.66	6628.65	6570.72	-1605.90	1674674.49	14255396.06	39°15'23.843"N	80°52'44.321"W	6764.11	346.266	4.49	-0.42	4.47	
13696.00	92.460	339.150	6480.02	6722.46	6657.46	-1641.90	1674638.50	14255482.77	39°15'24.701"N	80°52'44.778"W	6856.94	346.146	3.63	0.52	3.60	
13791.00	91.320	337.280	6476.89	6817.24	6745.62	-1677.14	1674603.28	14255570.90	39°15'25.573"N	80°52'45.224"W	6950.98	346.038	2.30	-1.20	-1.97	
13885.00	92.800	337.000	6473.51	6911.09	6832.18	-1713.63	1674566.80	14255657.42	39°15'26.429"N	80°52'45.686"W	7043.80	345.920	1.60	1.57	-0.30	
13980.00	93.600	332.610	6468.21	7005.92	6917.98	-1754.00	1674526.45	14255743.19	39°15'27.277"N	80°52'46.198"W	7136.88	345.773	4.69	0.84	-4.62	
14074.00	92.220	333.070	6463.44	7099.74	7001.51	-1796.85	1674483.62	14255826.69	39°15'28.103"N	80°52'46.741"W	7228.40	345.606	1.55	-1.47	0.49	
14169.00	91.690	334.820	6460.19	7194.67	7086.80	-1838.55	1674441.93	14255911.94	39°15'28.947"N	80°52'47.270"W	7321.41	345.456	1.92	-0.56	1.84	

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
14263.00	92.590	333.520	6456.68	7288.60	7171.35	-1879.48	1674401.02	14255996.46	39°15'29.783"N	80°52'47.789"W	7413.55	345.314	1.68	0.96	-1.38	
14358.00	91.110	332.270	6453.62	7383.50	7255.87	-1922.74	1674357.78	14256080.94	39°15'30.619"N	80°52'48.338"W	7506.30	345.158	2.04	-1.56	-1.32	
14453.00	90.310	334.910	6452.44	7478.46	7340.94	-1964.99	1674315.55	14256165.98	39°15'31.460"N	80°52'48.873"W	7599.38	345.015	2.90	-0.84	2.78	
14547.00	90.120	338.610	6452.09	7572.39	7427.29	-2002.07	1674278.48	14256252.30	39°15'32.314"N	80°52'49.343"W	7692.40	344.914	3.94	-0.20	3.94	
14642.00	90.030	339.460	6451.96	7667.12	7516.00	-2036.06	1674244.51	14256340.97	39°15'33.192"N	80°52'49.774"W	7786.90	344.843	0.90	-0.09	0.89	
14736.00	89.910	338.860	6452.01	7760.85	7603.85	-2069.50	1674211.08	14256428.79	39°15'34.060"N	80°52'50.198"W	7880.45	344.775	0.65	-0.13	-0.64	
14831.00	89.480	338.310	6452.52	7855.64	7692.29	-2104.19	1674176.41	14256517.19	39°15'34.935"N	80°52'50.637"W	7974.90	344.701	0.73	-0.45	-0.58	
14925.00	89.420	340.910	6453.42	7949.29	7780.39	-2136.93	1674143.67	14256605.26	39°15'35.806"N	80°52'51.052"W	8068.52	344.642	2.77	-0.06	2.77	
15020.00	90.890	339.300	6453.16	8043.87	7869.72	-2169.26	1674111.36	14256694.55	39°15'36.689"N	80°52'51.461"W	8163.22	344.589	2.29	1.55	-1.69	
15114.00	92.520	335.200	6450.36	8137.72	7956.34	-2205.58	1674075.05	14256781.14	39°15'37.546"N	80°52'51.922"W	8256.39	344.506	4.69	1.73	-4.36	
15208.00	89.570	330.140	6448.65	8231.60	8039.80	-2248.72	1674031.93	14256864.56	39°15'38.372"N	80°52'52.469"W	8348.36	344.374	6.23	-3.14	-5.38	
15303.00	89.570	331.310	6449.36	8326.36	8122.66	-2295.17	1673985.50	14256947.39	39°15'39.191"N	80°52'53.058"W	8440.70	344.222	1.23	0.00	1.23	
15397.00	89.630	332.640	6450.02	8420.24	8205.64	-2339.33	1673941.35	14257030.33	39°15'40.012"N	80°52'53.618"W	8532.58	344.088	1.42	0.06	1.41	
15491.00	91.200	335.880	6449.34	8514.22	8290.29	-2380.15	1673900.55	14257114.95	39°15'40.849"N	80°52'54.135"W	8625.20	343.981	3.83	1.67	3.45	
15586.00	91.110	334.010	6447.42	8609.20	8376.33	-2420.37	1673860.35	14257200.96	39°15'41.700"N	80°52'54.645"W	8719.01	343.883	1.97	-0.09	-1.97	
15680.00	91.110	331.480	6445.60	8703.11	8459.88	-2463.41	1673817.33	14257284.47	39°15'42.526"N	80°52'55.191"W	8811.23	343.765	2.69	0.00	-2.69	
15774.00	91.140	330.820	6443.76	8796.90	8542.19	-2508.75	1673772.00	14257366.75	39°15'43.340"N	80°52'55.766"W	8902.97	343.633	0.70	0.03	-0.70	
15868.00	90.950	332.350	6442.04	8890.74	8624.85	-2553.48	1673727.30	14257449.38	39°15'44.158"N	80°52'56.333"W	8994.90	343.508	1.64	-0.20	1.63	
15963.00	90.920	334.720	6440.49	8985.70	8709.88	-2595.80	1673684.99	14257534.37	39°15'44.999"N	80°52'56.870"W	9088.46	343.404	2.49	-0.03	2.49	
16057.00	91.350	334.290	6438.63	9079.68	8794.71	-2636.26	1673644.55	14257619.17	39°15'45.838"N	80°52'57.383"W	9181.33	343.314	0.65	0.46	-0.46	
16151.00	91.140	330.920	6436.59	9173.57	8878.13	-2679.49	1673601.33	14257702.56	39°15'46.663"N	80°52'57.931"W	9273.67	343.206	3.59	-0.22	-3.59	
16245.00	90.920	333.970	6434.90	9267.47	8961.45	-2722.96	1673557.88	14257785.84	39°15'47.487"N	80°52'58.483"W	9366.01	343.098	3.25	-0.23	3.24	
16339.00	91.050	336.080	6433.28	9361.45	9046.64	-2762.64	1673518.21	14257871.00	39°15'48.330"N	80°52'58.986"W	9459.07	343.018	2.25	0.14	2.24	
16434.00	91.080	336.960	6431.51	9456.39	9133.76	-2800.49	1673480.38	14257958.08	39°15'49.191"N	80°52'59.465"W	9553.44	342.954	0.93	0.03	0.93	
16528.00	91.110	337.420	6429.72	9550.29	9220.39	-2836.92	1673443.96	14258044.68	39°15'50.048"N	80°52'59.927"W	9646.96	342.898	0.49	0.03	0.49	
16623.00	91.110	337.550	6427.88	9645.16	9308.13	-2873.29	1673407.61	14258132.39	39°15'50.915"N	80°53'00.388"W	9741.52	342.845	0.14	0.00	0.14	
16718.00	91.020	336.420	6426.11	9740.08	9395.56	-2910.43	1673370.49	14258219.77	39°15'51.780"N	80°53'00.859"W	9836.01	342.789	1.19	-0.09	-1.19	
16812.00	91.110	336.350	6424.36	9834.02	9481.67	-2948.08	1673332.85	14258305.85	39°15'52.632"N	80°53'01.336"W	9929.41	342.728	0.12	0.10	-0.07	
16907.00	91.110	335.850	6422.52	9928.98	9568.51	-2986.56	1673294.39	14258392.65	39°15'53.490"N	80°53'01.824"W	10023.77	342.666	0.53	0.00	-0.53	
17002.00	91.170	334.770	6420.63	10023.96	9654.80	-3026.23	1673254.73	14258478.92	39°15'54.344"N	80°53'02.327"W	10117.97	342.597	1.14	0.06	-1.14	

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Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

WELLPATH DATA (253 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
17096.00	91.110	333.600	6418.76	10117.93	9739.41	-3067.16	1673213.82	14258563.48	39°15'55.180"N	80°53'02.846"W	10210.95	342.520	1.25	-0.06	-1.24	
17190.00	91.140	332.230	6416.92	10211.86	9823.08	-3109.95	1673171.05	14258647.12	39°15'56.008"N	80°53'03.389"W	10303.62	342.432	1.46	0.03	-1.46	
17285.00	91.110	331.740	6415.05	10306.73	9906.93	-3154.56	1673126.45	14258730.94	39°15'56.837"N	80°53'03.955"W	10397.04	342.337	0.52	-0.03	-0.52	
17380.00	91.200	331.570	6413.14	10401.57	9990.52	-3199.66	1673081.37	14258814.50	39°15'57.664"N	80°53'04.527"W	10490.39	342.241	0.20	0.09	-0.18	
17475.00	91.080	332.050	6411.25	10496.42	10074.24	-3244.53	1673036.52	14258898.18	39°15'58.492"N	80°53'05.096"W	10583.82	342.148	0.52	-0.13	0.51	
17569.00	90.980	333.400	6409.56	10590.34	10157.77	-3287.59	1672993.47	14258981.68	39°15'59.318"N	80°53'05.642"W	10676.54	342.066	1.44	-0.11	1.44	
17663.00	91.020	335.810	6407.92	10684.32	10242.67	-3327.90	1672953.19	14259066.55	39°16'00.158"N	80°53'06.153"W	10769.73	342.001	2.56	0.04	2.56	
17759.00	91.230	337.990	6406.03	10780.23	10330.95	-3365.55	1672915.55	14259154.79	39°16'01.031"N	80°53'06.630"W	10865.33	341.956	2.28	0.22	2.27	
17854.00	91.110	336.140	6404.09	10875.13	10418.42	-3402.56	1672878.55	14259242.22	39°16'01.896"N	80°53'07.099"W	10959.97	341.913	1.95	-0.13	-1.95	
17948.00	91.140	335.040	6402.25	10969.10	10504.00	-3441.40	1672839.73	14259327.77	39°16'02.742"N	80°53'07.592"W	11053.38	341.860	1.17	0.03	-1.17	
18042.00	91.110	334.500	6400.40	11063.09	10589.01	-3481.46	1672799.68	14259412.75	39°16'03.583"N	80°53'08.100"W	11146.65	341.800	0.58	-0.03	-0.57	
18137.00	91.050	333.320	6398.61	11158.06	10674.32	-3523.23	1672757.93	14259498.02	39°16'04.427"N	80°53'08.630"W	11240.74	341.734	1.24	-0.06	-1.24	
18179.00	91.050	333.320	6397.84	11200.03	10711.84	-3542.09	1672739.08	14259535.53	39°16'04.798"N	80°53'08.869"W	11282.28	341.702	0.00	0.00	0.00	Projected MD at TD: 18179'

HOLE & CASING SECTIONS - Ref Wellbore: Mary Jane Unit 3H AWB Ref Wellpath: Mary Jane Unit 3H AWP Proj: 18179'

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	65.00	40.00	25.00	65.00	0.00	0.00	-0.04	-0.02
13.375in Casing Surface	25.00	493.00	468.00	25.00	493.00	0.00	0.00	-1.22	-1.06
9.625in Casing Intermediate	25.00	2577.00	2552.00	25.00	2571.50	0.00	0.00	-116.96	12.60

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Actual Wellpath Report

Mary Jane Unit 3H AWP Proj: 18179'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Mary Jane Unit 3H
Field	Doddridge	Wellbore	Mary Jane Unit 3H AWB
Facility	James Webb Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Mary Jane Unit 3H POE Rev-2	6504.00	629.66	1217.06	1677496.33	14249457.39	39°14'25.084"N	80°52'08.544"W	point
Mary Jane Unit 3H BHL Rev-2	6525.00	10675.68	-3515.40	**1672765.76**	**14259499.38**	39°16'04.440"N	80°53'08.530"W	point
Mary Jane Unit 3H LP Rev-2	6525.00	756.35	1157.38	1677436.67	14249584.03	39°14'26.337"N	80°52'09.300"W	point

WELLPATH COMPOSITION - Ref Wellbore: Mary Jane Unit 3H AWB Ref Wellpath: Mary Jane Unit 3H AWP Proj: 18179'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	5852.21	SDI Keeper v1.04	01_SDI Std. Keeper Gyro (100' - 5840.21')	Mary Jane Unit 3H AWB
5852.21	18137.00	BHI AutoTrak Curve (Short)	02_BHI AT Curve <8-1/2">(5852.21')(6046'-18137')	Mary Jane Unit 3H AWB
18137.00	18179.00	Blind Drilling (std)	Projection to bit	Mary Jane Unit 3H AWB

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Hydraulic Fracturing Fluid Product Component Information Disclosure

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Job Start Date:	4/11/2017
Job End Date:	4/25/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06701-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Mary Jane 3H
Latitude:	39.23865800
Longitude:	-80.87317500
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,540
Total Base Water Volume (gal):	23,019,125
Total Base Non Water Volume:	0

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	89.32758	
DWP-111	CWS	Gel Slurry					
				Listed Below			

DAP-103	CWS	Iron Control					
				Listed Below			
DAP-925	CWS	Acid Corrosion Inhibitor					
				Listed Below			
Sand (Proppant)	CWS	Propping Agent					
				Listed Below			
SANIFRAC 8844	CWS	Biocide					
				Listed Below			
DWP-641	CWS	Friction Reducer					
				Listed Below			
DWP-975	CWS	Breaker					
				Listed Below			
Hydrochloric Acid	CWS	Clean Perforations					
				Listed Below			
DAP-902	CWS	Scale Inhibitor					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					

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				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	10.34828	
			Hydrochloric acid	7647-01-0	37.00000	0.05891	
			Guar gum	9000-30-0	60.00000	0.05608	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.05608	
			Polymer	26100-47-0	45.00000	0.04174	
			Paraffinic hydrocarbon solvent	64742-47-8	30.00000	0.02783	
			Calcite	471-34-1	1.00000	0.01581	
			Ammonium chloride	12125-02-9	11.00000	0.01020	
			Illite	12173-60-3	1.00000	0.00773	
			2-Propenoic acid, homopolymer, sodium salt	9003-04-7	40.00000	0.00607	
			Polyethylene glycol mixture	25322-68-3	54.50000	0.00599	
			Goethite	1310-14-1	0.10000	0.00512	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00467	
			Sorbitan monooleate	1338-43-8	4.00000	0.00371	
			Apatite	64476-38-6	0.10000	0.00361	
			Biotite	1302-27-8	0.10000	0.00361	
			Ilmenite	98072-94-7	0.10000	0.00286	
			Polyethylene glycol monooleate	9004-96-0	3.00000	0.00278	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2		0.00220	
			Sorbitol tetraoleate	61723-83-9	2.00000	0.00186	
			1,2-Propanediol	57-55-6	10.00000	0.00152	

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			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00140	
			Ammonium Persulfate	7727-54-0	100.00000	0.00111	
			Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00093	
			Citric acid	77-92-9	60.00000	0.00055	
			Alcohols, C12-14, ethoxylated	84133-50-6	0.50000	0.00046	
			Sodium bromide	7647-15-6	4.00000	0.00044	
			Dibromoacetonitrile	3252-43-5	3.00000	0.00033	
			Vinylidene chloride-methyl acrylate copolymer	25038-72-6	30.00000	0.00024	
			Acrylamide	79-06-1	0.10000	0.00009	
			Methanol	67-56-1	60.00000	0.00004	
			Hydrated magnesium silicate	14807-96-6	1.00000	0.00004	
			Poly(tetrafluoroethylene)	9002-84-0	1.00000	0.00003	
			Modified thiourea polymer	68527-49-1	30.00000	0.00002	
			Alcohols, C14-15, ethoxylated	68951-67-7	30.00000	0.00002	
			Fatty acids, tall-oil	61790-12-3	30.00000	0.00002	
			Alkenes, C>10 a-	64743-02-8	5.00000	0.00001	
			Formaldehyde	50-00-0	0.10000	0.00001	
			Propargyl Alcohol	107-19-7	10.00000	0.00001	
			Sodium chloride	7647-14-5	1.00000	0.00001	

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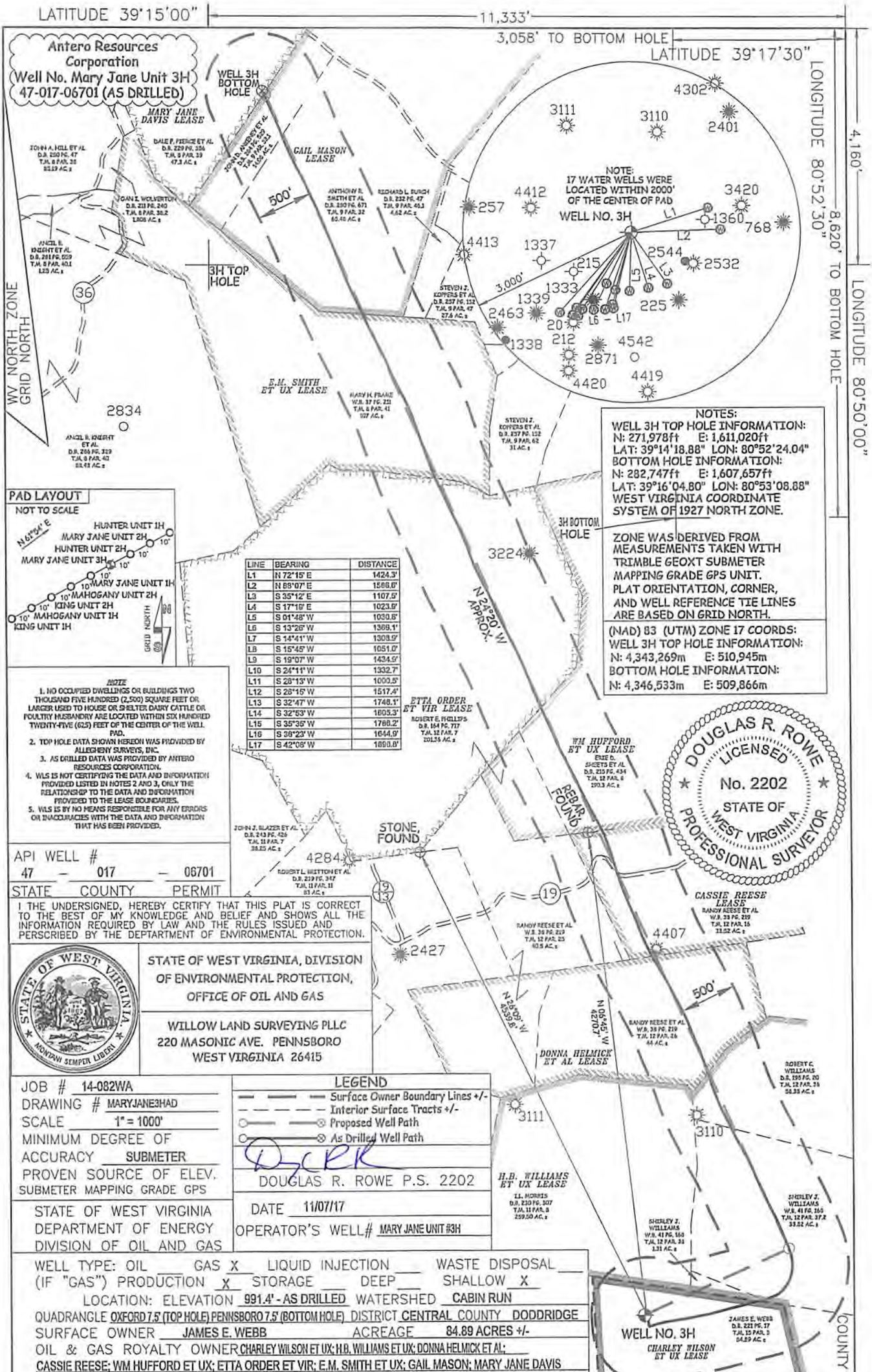
* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%
*** If you are calculating a percentage of total ingredients do not add the 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)



NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 271,978ft E: 1,611,020ft
LAT: 39°14'18.88" LON: 80°52'24.04"
BOTTOM HOLE INFORMATION:
N: 282,747ft E: 1,607,657ft
LAT: 39°16'04.80" LON: 80°53'08.88"
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: 4,343,269m E: 510,945m
BOTTOM HOLE INFORMATION:
N: 4,346,533m E: 509,866m

PAD LAYOUT
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HUNTER UNIT 1H
MARY JANE UNIT 2H
HUNTER UNIT 2H
MARY JANE UNIT 3H
MARY JANE UNIT 1H
MAHOGANY UNIT 2H
KING UNIT 2H
MAHOGANY UNIT 1H
KING UNIT 1H
N 61°34' E
GRID NORTH

LINE	BEARING	DISTANCE
L1	N 72°15' E	1424.3'
L2	N 89°07' E	1588.6'
L3	S 35°12' E	1107.5'
L4	S 17°19' E	1023.9'
L5	S 01°48' W	1030.8'
L6	S 13°26' W	1368.1'
L7	S 14°41' W	1309.9'
L8	S 15°45' W	1051.0'
L9	S 19°07' W	1434.9'
L10	S 24°11' W	1332.7'
L11	S 28°13' W	1000.5'
L12	S 28°15' W	1517.4'
L13	S 32°47' W	1748.1'
L14	S 32°53' W	1605.3'
L15	S 35°35' W	1788.2'
L16	S 36°23' W	1644.9'
L17	S 42°08' W	1893.8'

NOTE
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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.
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API WELL #
47 – 017 – 06701
STATE COUNTY PERMIT

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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

DOUGLAS R. ROWE LICENSED No. 2202 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

JOB # 14-082WA
DRAWING # MARYJANE3HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

DRR
DOUGLAS R. ROWE P.S. 2202

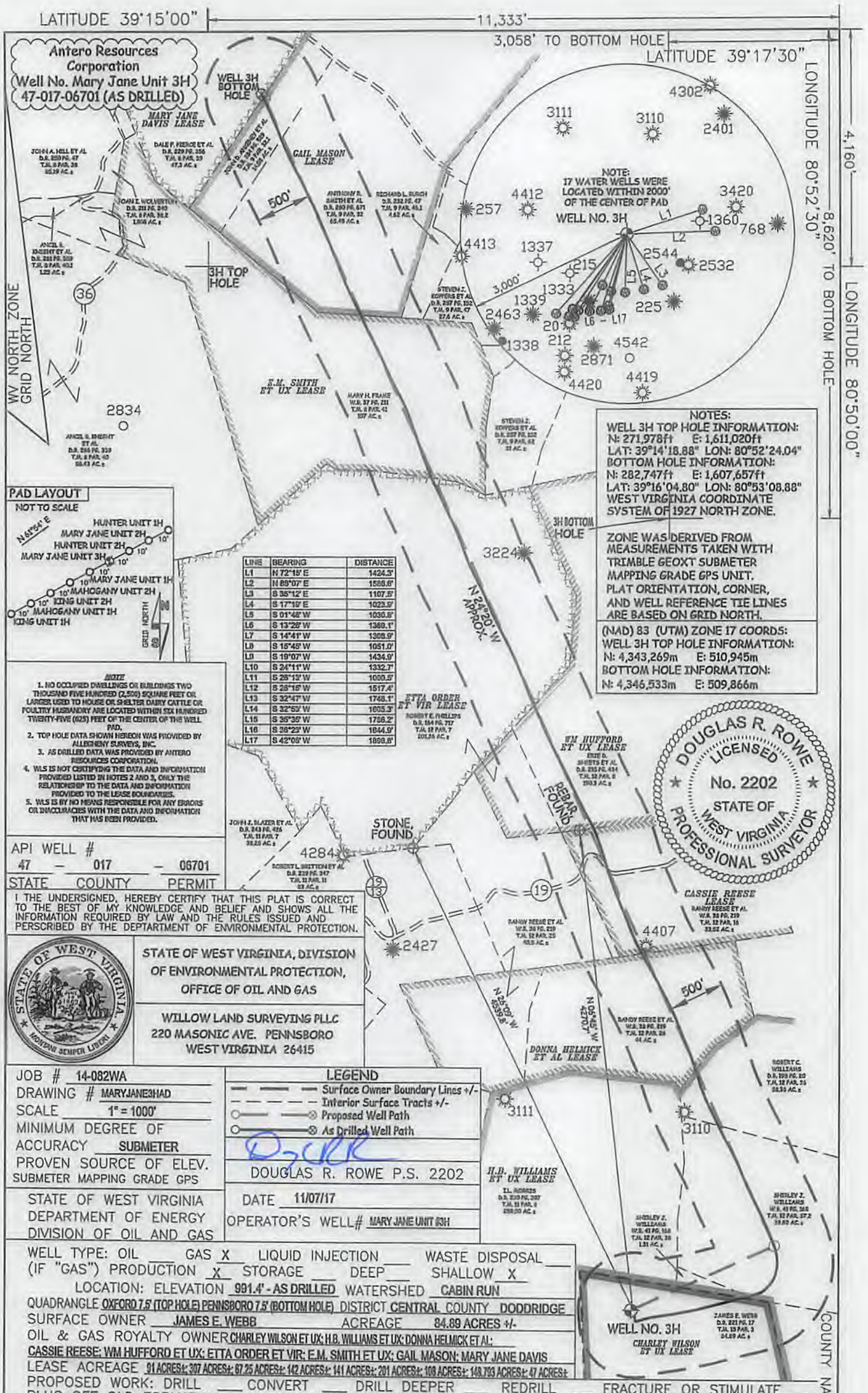
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

DATE 11/07/17
OPERATOR'S WELL# MARY JANE UNIT #3H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 991.4' - AS DRILLED WATERSHED CABIN RUN
QUADRANGLE OXFORD 7.5' (TOP HOLE) PENNSBORO 7.5' (BOTTOM HOLE) DISTRICT CENTRAL COUNTY DODDRIDGE
SURFACE OWNER JAMES E. WEBB ACREAGE 84.89 ACRES +/-
OIL & GAS ROYALTY OWNER CHARLEY WILSON ET UX; H.B. WILLIAMS ET UX; DONNA HELMICK ET AL;
CASSIE REESE; WM HUFFORD ET UX; ETTA ORDER ET VIR; E.M. SMITH ET UX; GAIL MASON; MARY JANE DAVIS
LEASE ACREAGE 91 ACRES±; 307 ACRES±; 67.25 ACRES±; 142 ACRES±; 141 ACRES±; 201 ACRES±; 108 ACRES±; 148.793 ACRES±; 47 ACRES±
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 6,398' TVD 18,179' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 5400 D BIG TYLER ROAD
CHARLESTON, WV 25313

FORM WW-6



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As Drilled Well Path

DOUGLAS R. ROWE P.S. 2202

DATE 11/07/17
OPERATOR'S WELL# MARY JANE UNIT 03H

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

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