

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

API 47 - 017 - 06620 County Doddridge District Central
Quad Oxford 7.5' Pad Name Robert Williams Pad Field/Pool Name ---
Farm name Williams, Robert Well Number James Unit 1H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop St. 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 4343158m Easting 511859m
Landing Point of Curve Northing 4343153.09m Easting 512212.32m
Bottom Hole Northing 4340712m Easting 513373m

Elevation (ft) 990' 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

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Date permit issued 11/14/2014 Date drilling commenced 11/19/2014 Date drilling ceased 2/25/2015
Date completion activities began 4/6/2015 Date completion activities ceased 6/27/2015
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 57' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1507' Void(s) encountered (Y/N) depths No
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

JK 8/21/15

10/23/2015

API 47-017 - 06620 Farm name Williams, Robert Well number James Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	30"	20"	40'	New	94# H-40	N/A	Y
Surface	17- 1/2"	13- 3/8"	379'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2563'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	15875'	New	23# P-110	N/A	Y
Tubing		2-3/8"	6818'		4.7# N-80	N/A	
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	150 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	455 sx	15.6	1.18	263	0'	8 Hrs.
Coal							
Intermediate 1	Class A	945 sx	15.6	1.18	803	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	890 sx (Lead) 1471 sx (Tail)	13.5 Lead 15.2 Tail	1.44 Lead 1.8 Tail	3164	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 15875' MD, 6475' TVD (BHL); 6542' TVD (Deepest point drilled) Loggers TD (ft) 15826'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6246'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Pike Unit 1H API #47-017-06289). Please reference the wireline logs submitted with Form WR-35 for the Pike Unit 1H. 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 _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 017 - 06620 Farm name Williams, Robert Well number James Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	6491' (TOP) TVD	6858' (TOP) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 4513 mcfpd Oil 2 bpd NGL --- bpd Water 4 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
*PLEASE SEE ATTACHED EXHIBIT 3					

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling Company, LP
Address 2640 Reach Rd. City Williamsport State PA Zip 17701

Logging Company Rush Wellsite Services
Address 600 Alpha Drive City Canonsburg State PA Zip 15317

Cementing Company Nabors Completion & Production Services, Co.
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company US Well Services
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature *[Signature]* Title Permit Representative Date 7/6/2015

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

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EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	6-Apr-15	15,616	15,783	60	Marcellus
2	13-Apr-15	15,418	15,585	60	Marcellus
3	14-Apr-15	15,220	15,387	60	Marcellus
4	14-Apr-15	15,021	15,189	60	Marcellus
5	14-Apr-15	14,823	14,990	60	Marcellus
6	15-Apr-15	14,625	14,792	60	Marcellus
7	15-Apr-15	14,427	14,594	60	Marcellus
8	15-Apr-15	14,229	14,396	60	Marcellus
9	16-Apr-15	14,031	14,198	60	Marcellus
10	16-Apr-15	13,833	14,000	60	Marcellus
11	16-Apr-15	13,634	13,802	60	Marcellus
12	16-Apr-15	13,436	13,603	60	Marcellus
13	19-Apr-15	13,238	13,405	60	Marcellus
14	19-Apr-15	13,040	13,207	60	Marcellus
15	19-Apr-15	12,842	13,009	60	Marcellus
16	19-Apr-15	12,644	12,811	60	Marcellus
17	20-Apr-15	12,445	12,613	60	Marcellus
18	20-Apr-15	12,247	12,414	60	Marcellus
19	20-Apr-15	12,049	12,216	60	Marcellus
20	21-Apr-15	11,851	12,018	60	Marcellus
21	21-Apr-15	11,653	11,820	60	Marcellus
22	21-Apr-15	11,455	11,622	60	Marcellus
23	21-Apr-15	11,257	11,424	60	Marcellus
24	22-Apr-15	11,058	11,226	60	Marcellus
25	22-Apr-15	10,860	11,027	60	Marcellus
26	22-Apr-15	10,662	10,829	60	Marcellus
27	22-Apr-15	10,464	10,631	60	Marcellus
28	23-Apr-15	10,266	10,433	60	Marcellus
29	23-Apr-15	10,068	10,235	60	Marcellus
30	23-Apr-15	9,870	10,037	60	Marcellus
31	24-Apr-15	9,671	9,839	60	Marcellus
32	24-Apr-15	9,473	9,640	60	Marcellus
33	24-Apr-15	9,275	9,442	60	Marcellus
34	24-Apr-15	9,077	9,244	60	Marcellus
35	25-Apr-15	8,879	9,046	60	Marcellus
36	25-Apr-15	8,681	8,848	60	Marcellus
37	25-Apr-15	8,482	8,650	60	Marcellus
38	25-Apr-15	8,284	8,451	60	Marcellus
39	26-Apr-15	8,086	8,253	60	Marcellus
40	26-Apr-15	7,888	8,055	60	Marcellus
41	26-Apr-15	7,690	7,857	60	Marcellus
42	26-Apr-15	7,492	7,659	60	Marcellus
43	26-Apr-15	7,294	7,461	60	Marcellus
44	27-Apr-15	7,095	7,263	60	Marcellus
45	27-Apr-15	6,897	7,064	60	Marcellus

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EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	13-Apr-15	57.5	7,789	5,687	5,842	33,289	7,269	N/A
2	14-Apr-15	55.8	6,790	6,012	5,411	36,081	6,879	N/A
3	14-Apr-15	62.0	6,941	5,414	5,550	168,660	7,072	N/A
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	14-Apr-15	63.8	7,159	5,955	4,184	67,055	6,188	N/A
6	15-Apr-15	60.6	7,755	5,876	5,447	134,510	6,535	N/A
7	15-Apr-15	58.7	7,213	5,511	4,696	165,530	6,988	N/A
8	15-Apr-15	64.4	6,993	5,746	4,789	171,819	7,284	N/A
9	16-Apr-15	66.1	7,376	5,867	4,299	241,850	6,701	N/A
10	16-Apr-15	64.8	7,336	5,543	5,257	240,070	6,664	N/A
11	16-Apr-15	64.3	7,562	6,047	4,406	238,645	6,557	N/A
12	17-Apr-15	62.8	7,326	5,571	5,404	180,190	5,723	N/A
13	19-Apr-15	38.1	8,141	5,980	4,996	2,280	7,270	N/A
14	19-Apr-15	63.0	6,935	5,625	4,860	233,670	6,409	N/A
15	19-Apr-15	63.7	7,152	5,661	4,824	141,850	7,087	N/A
16	19-Apr-15	62.5	7,581	5,587	4,667	80,960	6,360	N/A
17	20-Apr-15	64.8	7,253	5,690	6,201	226,060	6,312	N/A
18	20-Apr-15	65.8	7,131	5,592	5,271	240,130	6,440	N/A
19	20-Apr-15	63.5	7,261	5,621	4,885	195,250	6,812	N/A
20	21-Apr-15	60.9	6,935	5,804	4,932	172,500	6,763	N/A
21	21-Apr-15	64.3	7,079	5,593	5,010	203,920	6,902	N/A
22	21-Apr-15	62.4	7,446	5,311	4,746	97,870	6,470	N/A
23	21-Apr-15	63.4	6,839	5,482	5,289	241,870	6,362	N/A
24	22-Apr-15	59.9	6,719	6,037	5,919	242,070	6,386	N/A
25	22-Apr-15	62.4	6,870	5,794	5,894	219,950	6,873	N/A
26	22-Apr-15	63.3	6,824	5,665	5,232	232,980	6,305	N/A
27	22-Apr-15	62.7	6,753	5,572	4,714	241,330	6,297	N/A
28	23-Apr-15	62.6	6,807	5,641	5,407	213,300	6,788	N/A
29	23-Apr-15	61.7	6,702	5,915	5,354	242,975	6,260	N/A
30	23-Apr-15	62.6	6,791	5,497	5,372	241,910	6,240	N/A
31	24-Apr-15	60.7	6,546	5,935	4,874	243,500	6,229	N/A
32	24-Apr-15	61.6	6,626	6,045	5,121	243,950	6,210	N/A
33	24-Apr-15	63.8	6,872	7,071	4,493	243,250	6,232	N/A
34	24-Apr-15	64.3	6,623	6,743	4,212	244,850	6,173	N/A
35	25-Apr-15	62.3	6,621	6,807	4,888	239,300	6,172	N/A
36	25-Apr-15	62.9	6,547	6,500	4,974	241,520	6,155	N/A
37	25-Apr-15	63.8	6,506	5,299	5,181	240,080	6,452	N/A
38	25-Apr-15	64.2	6,423	5,671	5,307	240,475	6,105	N/A
39	26-Apr-15	63.4	6,449	5,547	5,264	241,894	6,086	N/A
40	26-Apr-15	62.8	6,602	6,648	4,399	229,760	6,639	N/A
41	26-Apr-15	61.3	6,607	6,173	4,864	204,790	6,252	N/A
42	26-Apr-15	63.6	6,507	6,151	5,118	240,180	6,019	N/A
43	26-Apr-15	64.1	6,349	5,891	4,773	239,765	6,019	N/A
44	27-Apr-15	63.1	6,177	5,739	5,212	241,990	6,019	N/A
45	27-Apr-15	61.6	6,149	6,221	4,896	241,885	6,019	N/A
AVG=		62.1	6,933	5,858	5,055	8,725,763	284,964	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	57'	N/A	57'	N/A
Shale/ Sandstone	0	427	0	427
Limestone/ Sandstone	est. 427	507	est. 427	507
Shale/ Siltstone	est. 507	587	est. 507	587
Sandstone/ Trace Coal	est. 587	607	est. 587	607
Sandstone/ Siltstone	est. 607	687	est. 607	687
Sandstone/ Limestone	est. 687	787	est. 687	787
Shale/ Sandstone	est. 787	947	est. 787	947
Siltstone/ Limestone	est. 947	1327	est. 947	1327
Shale/ Trace Coal	est. 1327	1387	est. 1327	1387
Shale/ Sandstone	est. 1387	1427	est. 1387	1427
Shale/ Coal	est. 1427	1487	est. 1427	1487
Sandstone	est. 1487	1527	est. 1487	1527
Sandstone/ Trace Coal	est. 1527	1667	est. 1527	1667
Sandstone/ Siltstone	est. 1667	1907	est. 1667	1907
Sandstone/ Trace Coal	est. 1907	1990	est. 1907	1992
Big Lime	1990	2083	1992	2085
Big Injun	2083	2401	2085	2403
Gantz Sand	2401	2599	2403	2601
Fifty Foot Sandstone	2599	2677	2601	2679
Gordon	2677	2993	2679	2995
Fifth Sandstone	2993	3056	2995	3058
Bayard	3056	3409	3058	3411
Warren	3409	3763	3411	3765
Speechley	3763	4073	3765	4075
Baltown	4073	4522	4075	4531
Bradford	4522	4916	4531	4952
Benson	4916	5172	4952	5237
Alexander	5172	5352	5237	5438
Elk	5352	5807	5438	5944
Rhinestreet	5807	6171	5944	6352
Sycamore	6152	6314	6333	6532
Middlesex	6314	6434	6532	6720
Burkett	6434	6461	6720	6776
Tully	6461	6491	6776	6858
Marcellus	6491	NA	6858	NA

*Please note Antero determines shallow 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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James Unit 1H
Doddridge County WV
Northings: 14248462.09
Easting: 1679277.19
As Drilled



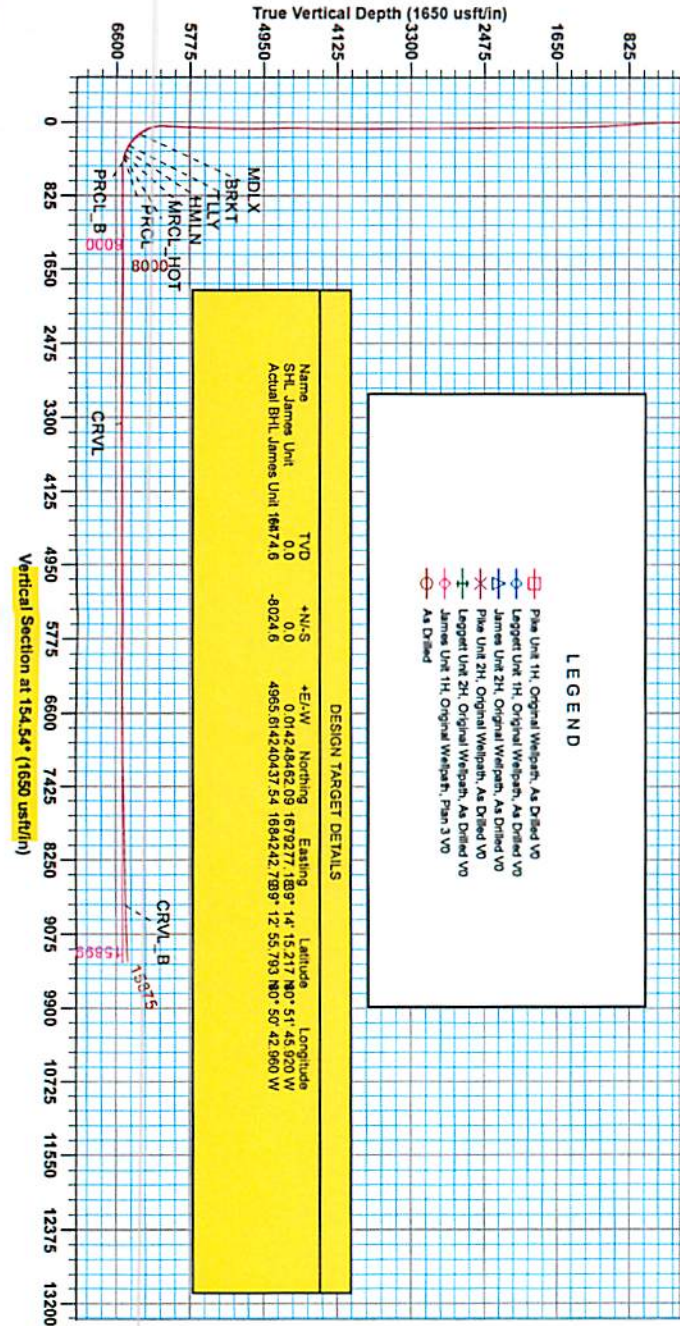
Precision 523, CL 90° + KB 1° @ 1009 Out
 GI: 980.0

WELL DETAILS James Unit 1H
 Ground Level: 990.0
 +N/S: 0.0 +E/W: 0.0
 Northing: 1679277.189° 14° 15' 21.7" N
 Easting: 1679248.10° 51° 45' 9.20" W

Gene Lightfoot
 14 09, February 25 2015
 Scientific Drilling
 11220 NW 10th Street
 Yukon OK 73099

PROJECT DETAILS Doddridge County WV
 Geodetic System: Universal Transverse Mercator (US Survey) Feet
 Datum: NAD 1983 (NAD83) (NAD83 CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

SITE DETAILS:
 Robert Williams Pad, Leggett/Pike Pad/James/McGee
 Site Centre Northing: 14248467.61
 Easting: 1679248.10
 Positional Uncertainty: 0.0
 Convergence: 0.09
 Local North: Grid

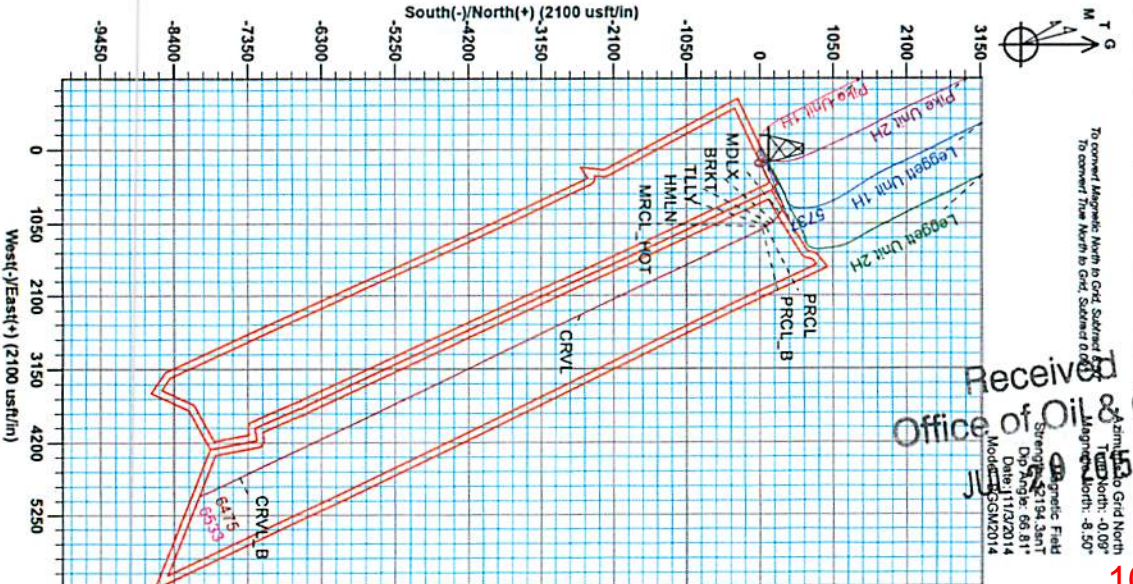


LEGEND

- Plan Unit 1H, Original Wellpath, As Drilled VO
- Leggett Unit 1H, Original Wellpath, As Drilled VO
- James Unit 2H, Original Wellpath, As Drilled VO
- Pike Unit 2H, Original Wellpath, As Drilled VO
- Leggett Unit 2H, Original Wellpath, As Drilled VO
- James Unit 1H, Original Wellpath, Plan 3 VO
- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL James Unit	0.0	0.0	0.0	14248462.09	1679277.189°	14° 15' 21.7" N	51° 45' 9.20" W
Actual BHL James Unit	16674.6	-8024.6		4985.614240437 54	1684242.799°	12° 55' 79.3" N	50° 42' 96.0" W



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 Magnetic Field
 Strength: 27.94 kA/m
 Dip Angle: 66.81°
 Date: 11/23/2014
 Model: GSM2014

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Doddridge County WV

Robert Williams Pad: Leggett/ Pike Pad/James/McGee

James Unit 1H

Original Wellpath

Design: As Drilled

EOW Completion Report

25 February, 2015



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Scientific Drilling

10/23/2015

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EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Project	Doddridge County WV, McClellan District		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Robert Williams Pad: Leggett/ Pike Pad/James/McGee				
Site Position:		Northing:	14,248,467.61 usft	Latitude:	39° 14' 15.272 N
From:	Map	Easting:	1,679,248.10 usft	Longitude:	80° 51' 46.289 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.09 °

Well	James Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,248,462.09 usft	Latitude:	39° 14' 15.217 N
	+E/-W	0.0 usft	Easting:	1,679,277.19 usft	Longitude:	80° 51' 45.920 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,009.0 usft	Ground Level:	990.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	11/3/2014	-8.42	66.81	52,194

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	154.54

Survey Program	Date 2/25/2015				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
106.0	3,956.0	Survey #6 Gyro to Tangent (Original Wellp	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
3,980.9	6,006.4	Survey #7 Final Gyro (Original Wellpath)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
6,037.0	15,875.0	Survey #8 SDI MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)			
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00			
106.0	0.07	69.54	106.0	0.0	0.1	0.0	0.07			
131.0	0.12	70.47	131.0	0.0	0.1	0.0	0.20			
156.0	0.13	53.42	156.0	0.1	0.1	0.0	0.15			
181.0	0.06	43.27	181.0	0.1	0.2	0.0	0.29			
206.0	0.07	238.28	206.0	0.1	0.2	0.0	0.52			
231.0	0.20	338.15	231.0	0.1	0.1	0.0	0.89			
256.0	0.16	74.83	256.0	0.2	0.2	0.0	1.08			
281.0	0.15	57.29	281.0	0.2	0.2	-0.1	0.19			
306.0	0.13	11.82	306.0	0.2	0.3	0.0	0.44			

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EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
331.0	0.16	43.06	43.06	331.0	0.3	0.3	-0.1	0.33	0.33
356.0	0.22	46.17	46.17	356.0	0.4	0.3	-0.2	0.24	0.24
381.0	0.20	82.77	82.77	381.0	0.4	0.4	-0.2	0.53	0.53
406.0	0.43	98.53	98.53	406.0	0.4	0.6	-0.1	0.97	0.97
431.0	0.59	106.35	106.35	431.0	0.3	0.8	0.0	0.70	0.70
456.0	2.25	115.28	115.28	456.0	0.1	1.3	0.5	6.68	6.68
481.0	3.20	116.18	116.18	481.0	-0.4	2.4	1.4	3.80	3.80
506.0	4.07	117.99	117.99	505.9	-1.2	3.8	2.7	3.51	3.51
531.0	4.69	118.61	118.61	530.8	-2.1	5.5	4.2	2.49	2.49
556.0	4.73	118.88	118.88	555.8	-3.0	7.3	5.9	0.18	0.18
581.0	4.79	118.71	118.71	580.7	-4.0	9.1	7.6	0.25	0.25
606.0	4.90	118.77	118.77	605.6	-5.1	11.0	9.3	0.44	0.44
631.0	4.89	119.20	119.20	630.5	-6.1	12.8	11.0	0.15	0.15
656.0	4.90	118.83	118.83	655.4	-7.1	14.7	12.8	0.13	0.13
681.0	4.95	118.90	118.90	680.3	-8.2	16.6	14.5	0.20	0.20
706.0	5.01	118.77	118.77	705.2	-9.2	18.5	16.3	0.24	0.24
731.0	4.93	119.17	119.17	730.1	-10.3	20.4	18.0	0.35	0.35
756.0	5.01	118.60	118.60	755.0	-11.3	22.3	19.8	0.38	0.38
781.0	5.05	118.66	118.66	779.9	-12.4	24.2	21.6	0.16	0.16
806.0	4.99	118.95	118.95	804.8	-13.4	26.1	23.3	0.26	0.26
831.0	5.09	118.86	118.86	829.7	-14.5	28.0	25.1	0.40	0.40
856.0	4.80	120.00	120.00	854.6	-15.5	29.9	26.9	1.22	1.22
881.0	4.36	121.34	121.34	879.6	-16.5	31.6	28.5	1.81	1.81
906.0	4.03	120.84	120.84	904.5	-17.5	33.2	30.1	1.33	1.33
931.0	3.84	120.98	120.98	929.4	-18.4	34.7	31.5	0.76	0.76
956.0	3.69	120.27	120.27	954.4	-19.2	36.1	32.9	0.63	0.63
981.0	3.56	120.87	120.87	979.3	-20.0	37.4	34.2	0.54	0.54
1,006.0	3.53	120.56	120.56	1,004.3	-20.8	38.8	35.4	0.14	0.14
1,031.0	3.35	120.90	120.90	1,029.2	-21.6	40.1	36.7	0.72	0.72
1,056.0	3.15	120.32	120.32	1,054.2	-22.3	41.3	37.9	0.81	0.81
1,081.0	2.98	121.59	121.59	1,079.2	-23.0	42.4	39.0	0.73	0.73
1,106.0	2.93	119.81	119.81	1,104.1	-23.6	43.5	40.1	0.42	0.42
1,131.0	2.76	119.98	119.98	1,129.1	-24.3	44.6	41.1	0.68	0.68
1,156.0	2.61	120.10	120.10	1,154.1	-24.8	45.6	42.0	0.60	0.60
1,181.0	2.39	121.19	121.19	1,179.0	-25.4	46.6	42.9	0.90	0.90
1,206.0	2.18	120.79	120.79	1,204.0	-25.9	47.4	43.8	0.84	0.84
1,231.0	2.11	121.12	121.12	1,229.0	-26.4	48.2	44.6	0.28	0.28
1,256.0	2.11	121.72	121.72	1,254.0	-26.9	49.0	45.3	0.09	0.09
1,281.0	1.97	121.40	121.40	1,279.0	-27.3	49.8	46.1	0.56	0.56
1,306.0	1.91	120.80	120.80	1,304.0	-27.8	50.5	46.8	0.25	0.25
1,331.0	1.78	121.25	121.25	1,328.9	-28.2	51.2	47.5	0.52	0.52
1,356.0	1.69	120.89	120.89	1,353.9	-28.6	51.8	48.1	0.36	0.36
1,381.0	1.52	121.59	121.59	1,378.9	-28.9	52.4	48.7	0.68	0.68
1,406.0	1.33	122.67	122.67	1,403.9	-29.3	53.0	49.2	0.77	0.77
1,431.0	1.23	121.15	121.15	1,428.9	-29.6	53.4	49.7	0.42	0.42

Received
Office of Oil & Gas
JUL 29 2015

17.06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

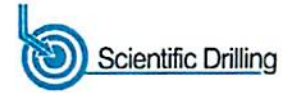
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,456.0	1.25	122.37	1,453.9	-29.9	53.9	50.1	0.13
1,481.0	1.14	122.92	1,478.9	-30.1	54.3	50.6	0.44
1,506.0	1.05	125.10	1,503.9	-30.4	54.7	51.0	0.40
1,531.0	0.96	129.35	1,528.9	-30.7	55.1	51.4	0.47
1,556.0	0.98	127.59	1,553.9	-30.9	55.4	51.7	0.14
1,581.0	0.85	127.69	1,578.9	-31.2	55.7	52.1	0.52
1,606.0	0.78	132.18	1,603.9	-31.4	56.0	52.4	0.38
1,631.0	0.74	135.96	1,628.9	-31.6	56.2	52.7	0.26
1,656.0	0.76	134.36	1,653.9	-31.9	56.5	53.0	0.12
1,681.0	0.64	140.82	1,678.9	-32.1	56.7	53.3	0.57
1,706.0	0.60	138.25	1,703.9	-32.3	56.8	53.6	0.19
1,731.0	0.64	139.75	1,728.9	-32.5	57.0	53.9	0.17
1,756.0	0.71	136.90	1,753.9	-32.7	57.2	54.1	0.31
1,781.0	0.60	146.76	1,778.9	-32.9	57.4	54.4	0.63
1,806.0	0.61	148.39	1,803.9	-33.2	57.5	54.7	0.08
1,831.0	0.58	157.41	1,828.9	-33.4	57.7	54.9	0.39
1,856.0	0.69	146.39	1,853.9	-33.6	57.8	55.2	0.66
1,881.0	0.59	156.13	1,878.9	-33.9	57.9	55.5	0.59
1,906.0	0.68	150.66	1,903.9	-34.1	58.0	55.8	0.43
1,931.0	0.65	153.65	1,928.9	-34.4	58.2	56.1	0.18
1,956.0	0.64	151.86	1,953.9	-34.6	58.3	56.3	0.09
1,981.0	0.70	152.64	1,978.9	-34.9	58.4	56.6	0.24
2,006.0	0.67	154.34	2,003.9	-35.2	58.6	56.9	0.14
2,031.0	0.70	157.59	2,028.9	-35.4	58.7	57.2	0.20
2,056.0	0.65	160.86	2,053.9	-35.7	58.8	57.5	0.25
2,081.0	0.69	159.71	2,078.9	-36.0	58.9	57.8	0.17
2,106.0	0.58	162.62	2,103.8	-36.2	59.0	58.1	0.46
2,131.0	0.72	157.25	2,128.8	-36.5	59.1	58.4	0.61
2,156.0	0.80	164.59	2,153.8	-36.8	59.2	58.7	0.50
2,181.0	0.70	168.00	2,178.8	-37.1	59.3	59.0	0.44
2,206.0	0.64	161.57	2,203.8	-37.4	59.4	59.3	0.38
2,231.0	0.70	164.74	2,228.8	-37.7	59.4	59.6	0.28
2,256.0	0.68	159.70	2,253.8	-38.0	59.5	59.9	0.26
2,281.0	0.71	165.81	2,278.8	-38.3	59.6	60.2	0.32
2,306.0	0.74	168.24	2,303.8	-38.6	59.7	60.5	0.17
2,331.0	0.66	168.41	2,328.8	-38.9	59.8	60.8	0.32
2,356.0	0.69	163.21	2,353.8	-39.2	59.8	61.1	0.27
2,381.0	0.86	165.62	2,378.8	-39.5	59.9	61.4	0.69
2,406.0	0.64	166.93	2,403.8	-39.8	60.0	61.7	0.88
2,431.0	0.58	186.77	2,428.8	-40.1	60.0	62.0	0.87
2,456.0	0.81	161.66	2,453.8	-40.4	60.1	62.3	1.51
2,481.0	0.79	158.19	2,478.8	-40.7	60.2	62.6	0.21
2,506.0	0.75	167.88	2,503.8	-41.0	60.3	62.9	0.54
2,531.0	0.57	170.96	2,528.8	-41.3	60.3	63.2	0.73

17-06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
2,556.0	0.54	179.18	2,553.8	-41.5	60.3	63.4	0.34		
2,581.0	0.41	159.77	2,578.8	-41.7	60.4	63.6	0.82		
2,606.0	0.55	174.83	2,603.8	-41.9	60.4	63.8	0.75		
2,631.0	0.35	153.38	2,628.8	-42.1	60.5	64.0	1.03		
2,656.0	0.53	173.38	2,653.8	-42.3	60.5	64.2	0.94		
2,681.0	0.47	180.11	2,678.8	-42.5	60.5	64.4	0.34		
2,706.0	0.42	175.01	2,703.8	-42.7	60.5	64.6	0.25		
2,731.0	0.42	181.80	2,728.8	-42.9	60.5	64.8	0.20		
2,756.0	0.45	185.20	2,753.8	-43.1	60.5	64.9	0.16		
2,781.0	0.34	181.21	2,778.8	-43.3	60.5	65.1	0.45		
2,806.0	0.46	186.24	2,803.8	-43.4	60.5	65.2	0.50		
2,831.0	0.38	192.41	2,828.8	-43.6	60.5	65.4	0.37		
2,856.0	0.37	189.55	2,853.8	-43.8	60.4	65.5	0.08		
2,881.0	0.37	192.71	2,878.8	-43.9	60.4	65.6	0.08		
2,906.0	0.34	198.64	2,903.8	-44.1	60.4	65.8	0.19		
2,931.0	0.45	196.87	2,928.8	-44.3	60.3	65.9	0.44		
2,956.0	0.39	190.35	2,953.8	-44.4	60.3	66.0	0.31		
2,981.0	0.47	197.76	2,978.8	-44.6	60.2	66.2	0.39		
3,006.0	0.38	194.90	3,003.8	-44.8	60.2	66.3	0.37		
3,031.0	0.42	199.72	3,028.8	-45.0	60.1	66.4	0.21		
3,056.0	0.38	204.56	3,053.8	-45.1	60.1	66.6	0.21		
3,081.0	0.40	197.53	3,078.8	-45.3	60.0	66.7	0.21		
3,106.0	0.43	199.38	3,103.8	-45.4	59.9	66.8	0.13		
3,131.0	0.35	190.67	3,128.8	-45.6	59.9	66.9	0.40		
3,156.0	0.34	193.43	3,153.8	-45.8	59.9	67.1	0.08		
3,181.0	0.44	193.57	3,178.8	-45.9	59.8	67.2	0.40		
3,206.0	0.32	192.71	3,203.8	-46.1	59.8	67.3	0.48		
3,231.0	0.30	200.29	3,228.8	-46.2	59.7	67.4	0.18		
3,256.0	0.30	203.85	3,253.8	-46.3	59.7	67.5	0.07		
3,281.0	0.31	206.77	3,278.8	-46.5	59.6	67.6	0.07		
3,306.0	0.32	202.50	3,303.8	-46.6	59.6	67.7	0.10		
3,331.0	0.46	207.13	3,328.8	-46.7	59.5	67.8	0.57		
3,356.0	0.39	202.41	3,353.8	-46.9	59.4	67.9	0.31		
3,381.0	0.35	200.78	3,378.8	-47.1	59.4	68.0	0.17		
3,406.0	0.35	206.92	3,403.8	-47.2	59.3	68.1	0.15		
3,431.0	0.43	196.15	3,428.8	-47.4	59.3	68.2	0.43		
3,456.0	0.35	197.36	3,453.8	-47.5	59.2	68.4	0.32		
3,481.0	0.48	217.56	3,478.8	-47.7	59.1	68.5	0.78		
3,506.0	0.37	224.55	3,503.8	-47.8	59.0	68.5	0.49		
3,531.0	0.37	209.40	3,528.8	-47.9	58.9	68.6	0.39		
3,556.0	0.44	215.65	3,553.8	-48.1	58.8	68.7	0.33		
3,581.0	0.31	198.33	3,578.8	-48.2	58.7	68.8	0.68		
3,606.0	0.33	206.12	3,603.8	-48.4	58.7	68.9	0.19		
3,631.0	0.26	239.31	3,628.8	-48.5	58.6	68.9	0.73		

17.06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
3,656.0	0.36	242.46	3,653.8	-48.5	58.5	68.9	0.41		
3,681.0	0.20	210.36	3,678.8	-48.6	58.4	69.0	0.87		
3,706.0	0.31	233.22	3,703.8	-48.7	58.3	69.0	0.59		
3,731.0	0.34	236.85	3,728.8	-48.8	58.2	69.0	0.15		
3,756.0	0.29	224.84	3,753.8	-48.8	58.1	69.1	0.33		
3,781.0	0.38	214.38	3,778.8	-49.0	58.0	69.1	0.43		
3,806.0	0.27	216.50	3,803.8	-49.1	57.9	69.2	0.44		
3,831.0	0.20	192.68	3,828.8	-49.2	57.9	69.3	0.47		
3,856.0	0.25	218.99	3,853.8	-49.2	57.8	69.3	0.45		
3,881.0	0.24	239.17	3,878.8	-49.3	57.7	69.3	0.35		
3,906.0	0.18	215.36	3,903.8	-49.4	57.7	69.4	0.42		
3,931.0	0.28	219.67	3,928.8	-49.4	57.6	69.4	0.41		
3,956.0	0.44	208.38	3,953.8	-49.6	57.5	69.5	0.70		
3,980.9	0.11	218.74	3,978.6	-49.7	57.5	69.6	1.34		
4,005.5	0.13	70.18	4,003.3	-49.7	57.5	69.6	0.94		
4,030.0	0.78	82.00	4,027.8	-49.7	57.7	69.6	2.67		
4,055.7	1.62	79.10	4,053.5	-49.6	58.2	69.8	3.27		
4,080.7	2.32	77.63	4,078.4	-49.4	59.0	70.0	2.81		
4,104.8	2.90	76.49	4,102.6	-49.1	60.1	70.2	2.41		
4,130.4	3.71	74.57	4,128.1	-48.8	61.5	70.5	3.19		
4,154.9	4.49	71.21	4,152.5	-48.3	63.2	70.7	3.34		
4,180.9	5.35	67.15	4,178.5	-47.5	65.3	70.9	3.56		
4,205.2	6.05	62.87	4,202.6	-46.4	67.5	70.9	3.37		
4,230.6	6.84	60.49	4,227.9	-45.1	70.0	70.8	3.28		
4,255.5	7.57	60.10	4,252.6	-43.5	72.7	70.6	2.94		
4,279.8	8.25	60.70	4,276.6	-41.9	75.6	70.3	2.83		
4,305.5	8.82	61.10	4,302.0	-40.0	78.9	70.1	2.23		
4,330.7	9.53	61.63	4,326.9	-38.1	82.5	69.8	2.83		
4,355.3	10.35	61.44	4,351.2	-36.1	86.2	69.6	3.33		
4,380.2	11.27	60.75	4,375.6	-33.8	90.3	69.3	3.74		
4,405.4	11.78	60.44	4,400.3	-31.3	94.7	69.0	2.04		
4,430.0	12.28	60.35	4,424.4	-28.8	99.1	68.6	2.03		
4,455.7	13.23	60.08	4,449.4	-26.0	104.1	68.2	3.71		
4,480.4	14.33	59.86	4,473.5	-23.0	109.2	67.7	4.45		
4,505.3	15.16	59.74	4,497.5	-19.9	114.6	67.2	3.34		
4,529.9	15.66	59.54	4,521.2	-16.6	120.3	66.6	2.04		
4,555.0	16.23	59.75	4,545.3	-13.1	126.2	66.1	2.28		
4,580.7	16.77	60.10	4,570.0	-9.4	132.5	65.5	2.14		
4,605.1	17.53	61.45	4,593.3	-5.9	138.8	65.0	3.52		
4,630.3	17.84	62.91	4,617.3	-2.3	145.6	64.7	2.15		
4,654.4	18.52	64.02	4,640.2	1.0	152.3	64.5	3.17		
4,680.5	18.72	65.14	4,664.9	4.6	159.8	64.6	1.57		
4,705.4	19.26	66.29	4,688.5	7.9	167.2	64.7	2.64		
4,729.4	19.72	66.62	4,711.1	11.1	174.6	65.0	1.97		

17-06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
4,755.5	20.25	67.06	67.06	4,735.7	14.6	182.8	65.3	2.11	
4,780.3	20.91	67.61	67.61	4,758.9	18.0	190.8	65.8	2.77	
4,805.9	21.85	67.75	67.75	4,782.7	21.6	199.4	66.3	3.68	
4,829.9	22.60	67.91	67.91	4,804.9	25.0	207.8	66.8	3.14	
4,855.3	23.69	67.89	67.89	4,828.3	28.7	217.1	67.4	4.29	
4,880.7	24.26	67.86	67.86	4,851.5	32.6	226.7	68.0	2.25	
4,905.6	24.86	67.71	67.71	4,874.2	36.5	236.3	68.6	2.42	
4,930.3	25.30	67.59	67.59	4,896.5	40.5	245.9	69.1	1.79	
4,955.7	25.66	67.20	67.20	4,919.4	44.7	256.0	69.7	1.57	
4,980.8	26.10	66.68	66.68	4,942.0	49.0	266.1	70.1	1.97	
5,006.0	26.34	66.37	66.37	4,964.6	53.4	276.3	70.5	1.10	
5,030.7	26.52	66.20	66.20	4,986.7	57.8	286.3	70.9	0.79	
5,055.3	26.84	65.95	65.95	5,008.7	62.3	296.5	71.2	1.38	
5,080.3	26.59	65.46	65.46	5,031.1	67.0	306.7	71.4	1.33	
5,105.4	25.86	64.67	64.67	5,053.6	71.6	316.8	71.5	3.23	
5,130.4	25.80	64.24	64.24	5,076.0	76.3	326.6	71.5	0.79	
5,155.0	25.88	63.81	63.81	5,098.2	81.0	336.2	71.4	0.83	
5,179.5	25.70	63.23	63.23	5,120.3	85.8	345.8	71.2	1.26	
5,205.7	25.65	62.72	62.72	5,143.9	90.9	355.9	70.9	0.86	
5,230.7	25.83	62.69	62.69	5,166.4	95.9	365.5	70.5	0.72	
5,255.0	26.27	62.81	62.81	5,188.2	100.8	375.0	70.2	1.82	
5,280.8	26.69	63.05	63.05	5,211.3	106.0	385.3	69.9	1.68	
5,305.2	26.75	63.11	63.11	5,233.1	111.0	395.0	69.6	0.27	
5,330.0	26.18	62.72	62.72	5,255.3	116.0	404.9	69.3	2.40	
5,355.7	26.21	62.61	62.61	5,278.4	121.3	415.0	68.9	0.22	
5,380.1	26.11	62.67	62.67	5,300.2	126.2	424.5	68.6	0.43	
5,405.9	26.55	62.63	62.63	5,323.4	131.5	434.7	68.2	1.70	
5,430.2	26.94	62.76	62.76	5,345.1	136.5	444.4	67.8	1.63	
5,455.2	27.01	62.91	62.91	5,367.4	141.6	454.5	67.5	0.39	
5,480.4	26.45	62.63	62.63	5,389.9	146.8	464.6	67.1	2.28	
5,505.6	26.14	62.51	62.51	5,412.5	152.0	474.5	66.8	1.25	
5,530.4	25.84	62.24	62.24	5,434.8	157.0	484.1	66.3	1.30	
5,555.4	25.93	62.44	62.44	5,457.3	162.1	493.8	65.9	0.50	
5,580.6	26.31	62.53	62.53	5,479.9	167.2	503.6	65.5	1.51	
5,605.2	26.30	62.85	62.85	5,501.9	172.2	513.3	65.2	0.58	
5,630.1	26.00	62.33	62.33	5,524.3	177.3	523.0	64.8	1.51	
5,655.3	25.32	61.38	61.38	5,547.0	182.4	532.7	64.3	3.15	
5,680.6	25.00	60.68	60.68	5,569.9	187.6	542.1	63.6	1.73	
5,704.4	25.03	60.16	60.16	5,591.5	192.6	550.8	62.9	0.93	
5,731.0	25.49	60.51	60.51	5,615.5	198.2	560.7	62.1	1.82	
5,755.1	25.94	60.42	60.42	5,637.3	203.4	569.8	61.3	1.87	
5,780.7	25.85	60.51	60.51	5,660.2	208.9	579.5	60.5	0.38	
5,804.9	25.56	60.06	60.06	5,682.0	214.1	588.6	59.8	1.44	
5,830.0	25.51	59.87	59.87	5,704.7	219.5	598.0	58.9	0.38	

17.06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,855.6	25.63	60.31	5,727.9	225.0	607.6	58.0	0.88
5,879.5	26.12	60.76	5,749.3	230.1	616.6	57.3	2.21
5,905.4	26.60	61.47	5,772.5	235.7	626.7	56.6	2.22
5,930.7	27.02	61.88	5,795.1	241.1	636.8	56.1	1.81
5,955.1	27.13	61.38	5,816.9	246.4	646.6	55.5	1.03
5,980.3	26.57	60.34	5,839.3	251.9	656.5	54.8	2.90
6,006.4	26.46	59.69	5,862.7	257.7	666.6	53.8	1.19
6,037.0	26.56	58.21	5,890.1	264.8	678.3	52.5	2.18
6,067.0	26.67	57.63	5,916.9	271.9	689.7	51.0	0.94
6,097.0	26.28	57.05	5,943.7	279.1	700.9	49.3	1.56
6,126.0	25.71	57.26	5,969.8	286.0	711.6	47.7	1.99
6,156.0	25.71	55.75	5,996.8	293.2	722.4	45.8	2.18
6,186.0	26.39	54.69	6,023.8	300.7	733.3	43.7	2.75
6,216.0	25.94	56.46	6,050.7	308.2	744.2	41.6	3.00
6,246.0	25.86	62.95	6,077.7	314.8	755.5	40.5	9.45
6,276.0	27.13	72.86	6,104.6	319.8	767.8	41.3	15.31
6,305.0	28.36	81.13	6,130.2	322.8	781.0	44.3	13.93
6,335.0	29.53	87.28	6,156.5	324.3	795.4	49.2	10.66
6,365.0	30.69	93.00	6,182.5	324.2	810.4	55.7	10.31
6,395.0	32.12	100.66	6,208.1	322.3	825.9	64.0	14.12
6,425.0	33.70	106.72	6,233.3	318.5	841.7	74.3	12.17
6,455.0	35.43	110.90	6,258.0	313.0	857.8	86.2	9.78
6,484.0	37.27	114.39	6,281.3	306.3	873.7	99.0	9.54
6,514.0	39.53	117.61	6,304.8	298.2	890.4	113.6	10.06
6,544.0	42.05	120.66	6,327.6	288.6	907.5	129.6	10.71
6,551.0	42.58	121.33	6,332.7	286.2	911.6	133.5	9.94
MDLX							
6,574.0	44.34	123.45	6,349.4	277.7	924.9	146.9	9.94
6,604.0	46.51	125.97	6,370.5	265.5	942.5	165.4	9.39
6,634.0	49.00	128.18	6,390.6	252.1	960.2	185.1	9.93
6,664.0	51.75	130.79	6,409.8	237.4	978.0	206.1	11.35
6,694.0	54.56	133.14	6,427.8	221.4	995.9	228.2	11.27
6,724.0	56.81	135.62	6,444.7	204.1	1,013.6	251.5	10.14
6,739.0	58.04	136.67	6,452.8	194.9	1,022.3	263.5	10.11
BRKT							
6,753.0	59.20	137.62	6,460.0	186.2	1,030.4	274.9	10.11
6,783.0	62.35	140.39	6,474.7	166.4	1,047.6	300.1	13.23
6,795.0	63.75	141.40	6,480.1	158.1	1,054.4	310.5	13.86
TLLY							
6,813.0	65.86	142.87	6,487.8	145.3	1,064.4	326.4	13.86
6,843.0	69.42	145.36	6,499.2	122.8	1,080.6	353.7	14.13
6,857.0	70.88	146.66	6,504.0	111.9	1,088.0	366.7	13.56
HMLN							
6,873.0	72.55	148.11	6,509.0	99.1	1,096.2	381.8	13.56

17.06626



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,877.0	73.06	148.40	6,510.2	95.8	1,098.2	385.6	14.54
MRCL_HOT							
6,885.0	74.09	148.96	6,512.4	89.3	1,102.2	393.2	14.54
PRCL							
6,903.0	76.41	150.22	6,517.0	74.2	1,111.0	410.5	14.54
6,932.0	80.56	151.70	6,522.8	49.4	1,124.7	438.9	15.16
6,943.0	82.24	151.98	6,524.4	39.8	1,129.9	449.8	15.47
PRCL_B							
6,969.0	86.21	152.62	6,527.1	16.9	1,141.9	475.6	15.47
7,005.0	90.13	151.89	6,528.2	-14.9	1,158.7	511.6	11.08
7,059.0	90.77	152.68	6,527.8	-62.7	1,183.8	565.5	1.88
7,148.0	90.03	155.52	6,527.2	-142.8	1,222.6	654.5	3.30
7,238.0	90.07	154.18	6,527.1	-224.2	1,260.9	744.5	1.49
7,327.0	89.97	155.23	6,527.1	-304.7	1,298.9	833.5	1.19
7,417.0	90.00	155.58	6,527.1	-386.5	1,336.4	923.5	0.39
7,507.0	90.27	155.08	6,526.9	-468.3	1,373.9	1,013.5	0.63
7,596.0	89.73	155.30	6,526.9	-549.1	1,411.3	1,102.5	0.66
7,686.0	89.53	154.44	6,527.4	-630.6	1,449.5	1,192.5	0.98
7,775.0	89.36	154.74	6,528.3	-711.0	1,487.7	1,281.5	0.39
7,865.0	90.23	154.44	6,528.6	-792.3	1,526.3	1,371.5	1.02
7,954.0	89.77	153.74	6,528.6	-872.3	1,565.2	1,460.4	0.94
8,044.0	89.80	154.97	6,529.0	-953.4	1,604.1	1,550.4	1.37
8,134.0	89.83	154.34	6,529.3	-1,034.8	1,642.7	1,640.4	0.70
8,223.0	89.83	153.71	6,529.5	-1,114.8	1,681.6	1,729.4	0.71
8,313.0	90.20	154.17	6,529.5	-1,195.6	1,721.2	1,819.4	0.66
8,402.0	89.29	155.09	6,529.9	-1,276.1	1,759.3	1,908.4	1.45
8,492.0	89.23	155.29	6,531.1	-1,357.7	1,797.1	1,998.4	0.23
8,581.0	89.56	153.80	6,532.0	-1,438.1	1,835.3	2,087.4	1.71
8,671.0	90.40	154.51	6,532.0	-1,519.1	1,874.6	2,177.4	1.22
8,760.0	89.23	153.81	6,532.3	-1,599.2	1,913.4	2,266.4	1.53
8,850.0	90.20	154.61	6,532.8	-1,680.2	1,952.5	2,356.4	1.40
8,939.0	90.33	154.62	6,532.4	-1,760.6	1,990.7	2,445.4	0.15
9,029.0	90.34	153.73	6,531.8	-1,841.6	2,029.9	2,535.4	0.99
9,118.0	89.73	154.70	6,531.8	-1,921.8	2,068.6	2,624.4	1.29
9,208.0	89.16	154.66	6,532.6	-2,003.1	2,107.1	2,714.4	0.63
9,297.0	89.13	155.16	6,534.0	-2,083.7	2,144.8	2,803.4	0.56
9,387.0	89.26	154.64	6,535.2	-2,165.2	2,183.0	2,893.4	0.60
9,476.0	88.43	154.16	6,537.0	-2,245.5	2,221.4	2,982.3	1.08
9,566.0	89.76	154.75	6,538.5	-2,326.6	2,260.2	3,072.3	1.62
9,656.0	89.83	153.95	6,538.8	-2,407.8	2,299.2	3,162.3	0.89
9,745.0	89.25	155.05	6,539.5	-2,488.1	2,337.5	3,251.3	1.40
9,839.0	88.59	154.29	6,541.3	-2,573.1	2,377.7	3,345.3	1.07
9,855.0	89.09	154.70	6,541.6	-2,587.5	2,384.6	3,361.3	4.03
CRVL							
9,933.0	91.50	156.71	6,541.2	-2,658.6	2,416.7	3,439.3	4.03

17-06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
10,027.0	91.24	155.19	6,538.9	-2,744.4	2,455.0	3,533.2	1.64	
10,120.0	90.54	154.72	6,537.5	-2,828.6	2,494.3	3,626.2	0.91	
10,215.0	90.50	153.30	6,536.6	-2,914.0	2,536.0	3,721.2	1.50	
10,308.0	89.63	155.24	6,536.5	-2,997.8	2,576.3	3,814.2	2.29	
10,402.0	89.53	154.21	6,537.2	-3,082.8	2,616.5	3,908.2	1.10	
10,496.0	89.50	153.77	6,538.0	-3,167.3	2,657.7	4,002.2	0.47	
10,590.0	90.37	153.34	6,538.1	-3,251.4	2,699.6	4,096.2	1.03	
10,684.0	89.43	154.22	6,538.3	-3,335.8	2,741.1	4,190.1	1.37	
10,778.0	90.47	155.54	6,538.4	-3,420.9	2,781.0	4,284.1	1.79	
10,872.0	90.67	155.56	6,537.4	-3,506.4	2,819.9	4,378.1	0.21	
10,961.0	90.13	155.06	6,536.8	-3,587.3	2,857.1	4,467.1	0.83	
11,051.0	90.07	155.03	6,536.6	-3,668.9	2,895.0	4,557.1	0.07	
11,140.0	90.33	154.68	6,536.3	-3,749.5	2,932.9	4,646.1	0.49	
11,230.0	90.07	154.37	6,536.0	-3,830.7	2,971.6	4,736.1	0.45	
11,320.0	89.36	153.96	6,536.5	-3,911.7	3,010.8	4,826.1	0.91	
11,409.0	88.46	153.64	6,538.2	-3,991.5	3,050.1	4,915.1	1.07	
11,499.0	90.17	154.83	6,539.2	-4,072.6	3,089.2	5,005.1	2.31	
11,588.0	89.97	154.19	6,539.1	-4,152.9	3,127.5	5,094.1	0.75	
11,677.0	89.93	154.22	6,539.2	-4,233.1	3,166.2	5,183.1	0.06	
11,767.0	90.13	153.29	6,539.2	-4,313.8	3,206.0	5,273.1	1.06	
11,856.0	89.83	155.07	6,539.2	-4,393.9	3,244.8	5,362.0	2.03	
11,946.0	90.44	154.77	6,539.0	-4,475.4	3,282.9	5,452.0	0.76	
12,035.0	90.80	154.72	6,538.0	-4,555.9	3,320.9	5,541.0	0.41	
12,125.0	90.03	154.82	6,537.4	-4,637.3	3,359.3	5,631.0	0.86	
12,214.0	90.44	154.44	6,537.0	-4,717.7	3,397.4	5,720.0	0.63	
12,304.0	90.37	153.28	6,536.4	-4,798.5	3,437.0	5,810.0	1.29	
12,393.0	90.47	154.46	6,535.7	-4,878.4	3,476.2	5,899.0	1.33	
12,483.0	90.64	156.04	6,534.8	-4,960.1	3,513.9	5,989.0	1.77	
12,572.0	90.90	155.40	6,533.6	-5,041.3	3,550.5	6,078.0	0.78	
12,662.0	90.97	156.16	6,532.2	-5,123.3	3,587.4	6,167.9	0.85	
12,751.0	89.53	153.68	6,531.8	-5,203.9	3,625.1	6,256.9	3.22	
12,841.0	90.40	153.94	6,531.8	-5,284.7	3,664.9	6,346.9	1.01	
12,931.0	90.30	152.97	6,531.3	-5,365.2	3,705.1	6,436.9	1.08	
13,020.0	90.37	155.49	6,530.8	-5,445.3	3,743.8	6,525.9	2.83	
13,109.0	90.54	154.50	6,530.1	-5,526.0	3,781.4	6,614.9	1.13	
13,199.0	90.94	153.97	6,528.9	-5,607.0	3,820.5	6,704.9	0.74	
13,288.0	90.94	153.22	6,527.4	-5,686.7	3,860.1	6,793.8	0.84	
13,378.0	90.84	155.04	6,526.0	-5,767.7	3,899.4	6,883.8	2.03	
13,467.0	91.44	154.97	6,524.3	-5,848.3	3,936.9	6,972.8	0.68	
13,557.0	89.83	154.51	6,523.3	-5,929.7	3,975.4	7,062.8	1.86	
13,646.0	90.57	155.61	6,523.0	-6,010.4	4,012.9	7,151.8	1.49	
13,736.0	90.67	155.14	6,522.0	-6,092.2	4,050.4	7,241.8	0.53	
13,825.0	91.04	155.09	6,520.7	-6,173.0	4,087.8	7,330.8	0.42	
13,915.0	91.28	154.83	6,518.8	-6,254.5	4,125.9	7,420.7	0.39	

17.06620



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
14,004.0	91.65	154.48	6,516.6	-6,334.9	4,164.0	7,509.7	0.57	
14,093.0	90.94	153.96	6,514.6	-6,415.0	4,202.7	7,598.7	0.99	
14,183.0	91.01	153.33	6,513.0	-6,495.7	4,242.6	7,688.7	0.70	
14,272.0	90.34	154.08	6,512.0	-6,575.4	4,282.1	7,777.6	1.13	
14,362.0	90.97	155.80	6,510.9	-6,657.0	4,320.2	7,867.6	2.04	
14,452.0	91.07	155.60	6,509.3	-6,739.0	4,357.2	7,957.6	0.25	
14,541.0	91.41	155.98	6,507.4	-6,820.1	4,393.7	8,046.6	0.57	
14,631.0	90.84	154.10	6,505.7	-6,901.7	4,431.7	8,136.5	2.18	
14,720.0	91.14	153.66	6,504.1	-6,981.6	4,470.8	8,225.5	0.60	
14,810.0	91.28	154.07	6,502.2	-7,062.4	4,510.5	8,315.5	0.48	
14,900.0	90.84	154.91	6,500.5	-7,143.6	4,549.2	8,405.5	1.05	
14,989.0	91.28	154.48	6,498.9	-7,224.0	4,587.3	8,494.5	0.69	
15,079.0	90.47	154.68	6,497.5	-7,305.3	4,625.9	8,584.4	0.93	
15,168.0	90.87	154.27	6,496.5	-7,385.6	4,664.2	8,673.4	0.64	
15,250.0	90.14	153.33	6,495.8	-7,459.2	4,700.4	8,755.4	1.45	
CRVL_B								
15,258.0	90.07	153.24	6,495.7	-7,466.3	4,704.0	8,763.4	1.45	
15,347.0	90.57	154.04	6,495.3	-7,546.1	4,743.6	8,852.4	1.06	
15,436.0	92.28	153.88	6,493.0	-7,626.0	4,782.6	8,941.4	1.93	
15,526.0	91.41	154.33	6,490.1	-7,706.9	4,821.9	9,031.3	1.09	
15,616.0	92.92	154.88	6,486.7	-7,788.2	4,860.5	9,121.3	1.79	
15,705.0	92.31	155.86	6,482.7	-7,869.0	4,897.5	9,210.2	1.30	
15,795.0	92.75	156.77	6,478.7	-7,951.3	4,933.6	9,300.0	1.12	
15,817.0	92.96	156.35	6,477.6	-7,971.5	4,942.4	9,322.0	2.13	
15,875.0	92.96	156.35	6,474.6	-8,024.6	4,965.6	9,379.9	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,551.0	6,332.7	286.2	911.6	MDLX	
6,739.0	6,452.8	194.9	1,022.3	BRKT	
6,795.0	6,480.1	158.1	1,054.4	TLLY	
6,857.0	6,504.0	111.9	1,088.0	HMLN	
6,877.0	6,510.2	95.8	1,098.2	MRCL_HOT	
6,885.0	6,512.4	89.3	1,102.2	PRCL	
6,943.0	6,524.4	39.8	1,129.9	PRCL_B	
9,855.0	6,541.6	-2,587.5	2,384.6	CRVL	
15,250.0	6,495.8	-7,459.2	4,700.4	CRVL_B	

Checked By: _____ Approved By: _____ Date: _____

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/13/2015
Job End Date:	4/27/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06620-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	James Unit 1H
Longitude:	-80.86258600
Latitude:	39.23764700
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,542
Total Base Water Volume (gal):	11,958,742
Total Base Non Water Volume:	482,028

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	Antero Resources	Base Fluid	Water	7732-18-5	100.00000	91.39951	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	7.99642	
GC-15	U.S. Well Services	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.11756	
			Petroleum Distillates	84742-47-8	60.00000	0.11134	
			Suspending agent (solid)	14808-60-7	3.00000	0.01798	
			Surfactant	8439-51-0	3.00000	0.00705	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-19-5	87.50000	0.17637	
			Hydrogen Chloride	7647-01-0	18.00000	0.04213	
WFAA-405	U.S. Well Services	Friction Reducer	Anionic Polyacrylamide	Proprietary	40.00000	0.03149	
			Water	7732-18-5	40.00000	0.03149	
			Sodium Chloride	7647-14-5	20.00000	0.01574	
			Petroleum Distillates	84742-47-8	20.00000	0.01267	
			Ethoxylated alcohol blend	Proprietary	5.00000	0.00394	

17.06620



SI-1100	U.S. Well Services	Scale Inhibitor							
			DI Water	7732-18-5		80.00000		0.01087	
			Ethylene Glycol	107-21-1		40.00000		0.00614	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8		10.00000		0.00183	
			2-Phosphonobutane 1,2,4 tricarboxylic salt	37971-36-1		10.00000		0.00175	
			hexamethylenediamine tetra (methylene phosphonic acid)	38820-59-6		10.00000		0.00170	
			Copolymer of Maleic and Acrylic acid	26677-99-6		10.00000		0.00160	
			bis (hexamethylene) triamine penta (methylene phosphonic acid) - phosphate acid	40623-75-4		10.00000		0.00156	
			Acrylic polymer	52255-49-9		5.00000		0.00068	
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent	2,2-dibromo-3-nitropropionamide	10222-01-2		20.00000		0.00455	
			Deionized Water	7732-18-5		28.00000		0.00260	
AP One	U.S. Well Services	Gel Breakers	Ammonium Persulfate	7727-54-0		100.00000		0.00265	
A1-301	U.S. Well Services	Acid Corrosion Inhibitors	Diethylene Glycol	111-46-6		30.00000		0.00014	
			Methanamine	100-97-0		20.00000		0.00011	
			Hydrogen Chloride	7647-01-0		10.00000		0.00005	
			Polyethylene polyamine	88603-67-8		10.00000		0.00004	
			Coco amine	51791-14-8		5.00000		0.00002	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
 ** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
 Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

LATITUDE 39°15'00"

8,333'

3,380' TO BOTTOM HOLE

LATITUDE 39°15'00"

LONGITUDE 80°50'00"

12,567' TO BOTTOM HOLE

LONGITUDE 80°50'00"

WV NORTH ZONE
GRID NORTH

LINE	BEARING	DISTANCE
L1	N 67°30' E	1788.9'
L2	N 87°20' E	1224.7'
L3	S 75°09' E	728.6'
L4	S 37°22' E	840.3'
L5	S 35°02' E	773.7'
L6	S 19°38' E	740.3'
L7	S 42°04' W	230.3'
L8	S 57°19' W	334.0'
L9	S 68°17' W	169.9'
L10	S 69°12' W	167.5'
L11	N 71°43' W	488.2'
L12	N 62°39' W	1848.7'

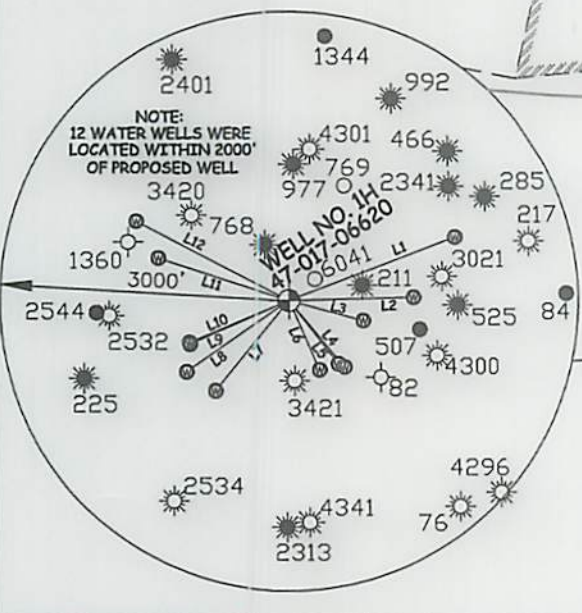
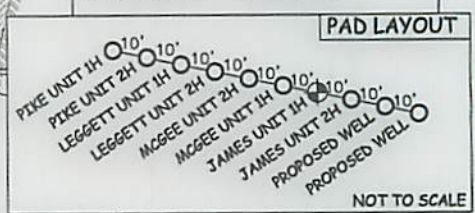
NOTE

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.

Antero Resources Corporation
Well No. James Unit 1H
47-017-06620 (AS DRILLED)

AS DRILLED DRILLED:
WELL 1H TOP HOLE INFORMATION:
N: 271,562ft E: 1,614,014ft
LAT: 39°14'15.22" LON: 80°51'45.91"
BOTTOM HOLE INFORMATION:
N: 263,453ft E: 1,618,847ft
LAT: 39°12'55.80" LON: 80°50'42.95"
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 1H TOP HOLE INFORMATION:
N: 4,343,158m E: 511,859m
BOTTOM HOLE INFORMATION:
N: 4,340,712m E: 513,373m



JOB # 14-074WA
DRAWING # JAMES1HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



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

LEGEND
— — — Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
X Existing Fence
⊕ Found monument, as noted
○ Proposed Well Path
⊗ As Drilled Well Path

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,000' ORIGINAL - 990' AS DRILLED WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE OXFORD 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE

SURFACE OWNER ROBERT WILLIAMS ACREAGE 37.67 ACRES +/-
OIL & GAS ROYALTY OWNER H.B. WILLIAMS ET UX; RALPH LEGGETT; ERNESTINE LEGGETT; SYLVESTER SMITH ET UX; WILMA DULANEY ET AL; RUBY MAXWELL ET AL; OKEY LEGGETT
LEASE ACREAGE 307 ACRES+; 48 ACRES+; 48 ACRES+; 210 ACRES+; 67 ACRES+; 50.5 ACRES+; 141 ACRES+;

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,474' TVD 15,875' MD

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

DATE 05/29/15
OPERATOR'S WELL# JAMES UNIT #1H
API WELL # 47 - 017 - 06620
STATE COUNTY PERMIT

10/23/2015

COUNTY NAME PERMIT