

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

API 47 - 017 - 06619 County Doddridge District Central
Quad Oxford 7.5' Pad Name Robert Williams Pad Field/Pool Name ---
Farm name Williams, Robert Well Number James Unit 2H
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 4343157m Easting 511862m
Landing Point of Curve Northing 4343219.12m Easting 512405.27m
Bottom Hole Northing 4340572m Easting 513662m

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

Date permit issued 11/14/2014 Date drilling commenced 11/19/2014 Date drilling ceased 3/11/2015
Date completion activities began 4/6/2015 Date completion activities ceased 7/3/2015
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

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Reviewed by:
JK
10/23/2015

API 47-017 - 06619 Farm name Williams, Robert Well number James Unit 2H

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"	401'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2484'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	16812'	New	23# P-110	N/A	Y
Tubing		2-3/8"	6958'		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	473 sx	15.6	1.18	279	0'	8 Hrs.
Coal							
Intermediate 1	Class A	915 sx	15.6	1.18	778	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	926 sx (Lead) 1699 sx (Tail)	13.5 Lead 15.2 Tail	1.44 Lead 1.81 Tail	3397	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16812' MD, 6432' TVD (BHL); 6543' TVD (Deepest point drilled) Loggers TD (ft) 16762'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6395'

** 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 temperature neutron resistivity gamma ray sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

Conductor- 0
 Surface- 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate- 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production- 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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API 47- 017 - 06619 Farm name Williams, Robert Well number James Unit 2H

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.

API 47- 017 - 06619 Farm name Williams, Robert Well number James Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	6501' (TOP) TVD	7014' (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 10694 mcfpd Oil 18 bpd NGL --- bpd Water 25 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 *Kara Quackenbush* Title Permit Representative Date 8/3/2015

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	16,553	16,720	60	Marcellus
2	28-Apr-15	16,355	16,522	60	Marcellus
3	28-Apr-15	16,157	16,324	60	Marcellus
4	28-Apr-15	15,959	16,126	60	Marcellus
5	28-Apr-15	15,761	15,928	60	Marcellus
6	29-Apr-15	15,563	15,730	60	Marcellus
7	29-Apr-15	15,365	15,532	60	Marcellus
8	29-Apr-15	15,168	15,335	60	Marcellus
9	30-Apr-15	14,970	15,137	60	Marcellus
10	30-Apr-15	14,772	14,939	60	Marcellus
11	30-Apr-15	14,574	14,741	60	Marcellus
12	30-Apr-15	14,376	14,543	60	Marcellus
13	1-May-15	14,178	14,345	60	Marcellus
14	1-May-15	13,980	14,147	60	Marcellus
15	1-May-15	13,782	13,949	60	Marcellus
16	1-May-15	13,584	13,751	60	Marcellus
17	2-May-15	13,386	13,553	60	Marcellus
18	2-May-15	13,188	13,355	60	Marcellus
19	2-May-15	12,990	13,157	60	Marcellus
20	3-May-15	12,792	12,959	60	Marcellus
21	3-May-15	12,595	12,761	60	Marcellus
22	3-May-15	12,397	12,564	60	Marcellus
23	3-May-15	12,199	12,366	60	Marcellus
24	4-May-15	12,001	12,168	60	Marcellus
25	4-May-15	11,803	11,970	60	Marcellus
26	4-May-15	11,605	11,772	60	Marcellus
27	4-May-15	11,407	11,574	60	Marcellus
28	4-May-15	11,209	11,376	60	Marcellus
29	5-May-15	11,011	11,178	60	Marcellus
30	5-May-15	10,813	10,980	60	Marcellus
31	5-May-15	10,615	10,782	60	Marcellus
32	5-May-15	10,417	10,584	60	Marcellus
33	6-May-15	10,219	10,386	60	Marcellus
34	6-May-15	10,021	10,188	60	Marcellus
35	6-May-15	9,824	9,990	60	Marcellus
36	6-May-15	9,626	9,793	60	Marcellus
37	6-May-15	9,428	9,595	60	Marcellus
38	7-May-15	9,230	9,397	60	Marcellus
39	7-May-15	9,032	9,199	60	Marcellus
40	7-May-15	8,834	9,001	60	Marcellus
41	7-May-15	8,636	8,803	60	Marcellus
42	7-May-15	8,438	8,605	60	Marcellus
43	8-May-15	8,240	8,407	60	Marcellus
44	8-May-15	8,042	8,209	60	Marcellus
45	8-May-15	7,844	8,011	60	Marcellus
46	8-May-15	7,646	7,813	60	Marcellus
47	8-May-15	7,448	7,615	60	Marcellus
48	8-May-15	7,250	7,417	60	Marcellus
49	9-May-15	7,053	7,219	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	27-Apr-15	54.3	7,256	N/A	4,032	160,550	7,287	N/A
2	28-Apr-15	53.2	7,095	6,873	3,498	57,480	7,430	N/A
3	28-Apr-15	59.4	7,875	6,472	4,326	137,500	7,415	N/A
4	28-Apr-15	59	7,138	5,817	4,266	240,100	6,529	N/A
5	28-Apr-15	59.6	7,325	6,185	4,383	240,990	6,868	N/A
6	29-Apr-15	60.7	7,325	6,085	3,806	202,235	7,074	N/A
7	29-Apr-15	61.3	7,121	5,790	3,776	201,500	7,026	N/A
8	29-Apr-15	63.6	7,195	5,741	5,161	202,960	6,228	N/A
9	30-Apr-15	64.2	7,542	5,888	4,258	191,360	7,043	N/A
10	30-Apr-15	60.6	7,374	5,834	3,617	135,160	7,042	N/A
11	30-Apr-15	57.3	7,331	5,982	4,998	79,590	6,609	N/A
12	30-Apr-15	56.4	7,537	5,854	4,556	50,660	6,362	N/A
13	1-May-15	53.9	6,820	6,353	4,486	135,460	6,774	N/A
14	1-May-15	60.9	7,074	5,964	4,644	214,430	6,432	N/A
15	1-May-15	59.8	7,085	5,855	4,855	168,220	6,225	N/A
16	1-May-15	62.3	7,077	5,994	4,742	162,850	6,888	N/A
17	1-May-15	63.8	7,080	6,045	5,201	228,750	6,319	N/A
18	2-May-15	61.6	6,939	5,931	5,438	234,430	6,285	N/A
19	2-May-15	62.5	7,002	6,135	4,707	238,400	6,534	N/A
20	3-May-15	63.6	6,901	6,087	4,975	230,710	6,126	N/A
21	3-May-15	60.3	6,933	6,041	4,043	186,220	6,765	N/A
22	3-May-15	63.1	7,073	5,919	4,742	194,520	5,715	N/A
23	3-May-15	62.5	6,975	6,369	4,731	213,100	5,917	N/A
24	4-May-15	62.2	6,970	5,664	4,982	241,490	6,295	N/A
25	4-May-15	61.0	6,961	5,811	4,249	232,340	6,451	N/A
26	4-May-15	61.9	6,858	5,879	4,810	196,470	6,060	N/A
27	4-May-15	59.2	6,729	5,642	4,979	208,350	6,289	N/A
28	5-May-15	62.3	6,851	5,629	4,669	170,900	6,284	N/A
29	5-May-15	60.5	6,523	5,801	5,028	135,400	6,710	N/A
30	5-May-15	60.2	6,513	6,316	5,010	189,000	6,729	N/A
31	5-May-15	63.7	6,617	5,558	5,289	239,610	6,199	N/A
32	5-May-15	62.0	6,716	5,829	4,971	116,520	6,673	N/A
33	6-May-15	62.9	6,732	5,890	4,116	240,560	6,102	N/A
34	6-May-15	64.3	6,692	5,872	5,014	232,900	6,161	N/A
35	6-May-15	64.2	6,696	5,890	3,991	240,420	5,997	N/A
36	6-May-15	65.0	6,928	6,233	4,501	208,480	6,616	N/A
37	6-May-15	65.0	6,581	5,771	4,588	221,550	6,254	N/A
38	7-May-15	63.3	6,884	6,157	3,955	223,080	6,639	N/A
39	7-May-15	60.9	6,449	5,600	5,257	95,020	6,096	N/A
40	7-May-15	66.1	6,573	6,613	4,367	218,700	6,529	N/A
41	7-May-15	64.0	6,760	6,350	4,581	151,050	5,982	N/A
42	7-May-15	62.4	6,814	6,125	3,777	181,040	6,522	N/A
43	8-May-15	61.5	6,284	5,956	4,313	164,980	5,958	N/A
44	8-May-15	68.6	6,738	6,276	3,955	183,120	6,539	N/A
45	8-May-15	65.8	6,717	5,797	4,756	165,570	6,034	N/A
46	8-May-15	64.8	6,627	5,704	3,741	240,030	5,956	N/A
47	8-May-15	61.5	6,411	5,794	4,259	152,620	6,484	N/A
48	8-May-15	64.2	6,464	5,411	4,835	153,360	5,972	N/A
49	9-May-15	61.7	6,454	6,441	3,698	208,340	6,215	N/A
AVG=		61.7	6,911	5,984	4,509	9,118,075	316,639	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	1992	est. 1907	1994
Big Lime	1992	2085	1994	2087
Big Injun	2085	2398	2087	2400
Gantz Sand	2398	2593	2400	2595
Fifty Foot Sandstone	2593	2671	2595	2673
Gordon	2671	3003	2673	3007
Fifth Sandstone	3003	3034	3007	3038
Bayard	3034	3405	3038	3420
Warren	3405	3768	3420	3808
Speechley	3768	4067	3808	4139
Baltown	4067	4525	4139	4654
Bradford	4525	4926	4654	5104
Benson	4926	5180	5104	5388
Alexander	5180	5357	5388	5585
Elk	5357	5807	5585	6084
Rhinestreet	5807	6186	6084	6508
Sycamore	6167	6331	6489	6697
Middlesex	6331	6448	6697	6887
Burkett	6448	6475	6887	6944
Tully	6475	6501	6944	7014
Marcellus	6501	NA	7014	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 2H
Doddridge County WV
 Northing: 14248460.26
 Easting: 1679287.21
 As Drilled



Precision 523. GL 990' + KB 19' @ 1009.0ust
 Gr: 990.0

WELL DETAILS James Unit 2H						
Ground Level: 990.0						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	14248460.26	1679287.21	39° 14' 15.199 N	80° 51' 45.792 W	

Genie Lightfoot
 10:49, March 11 2015

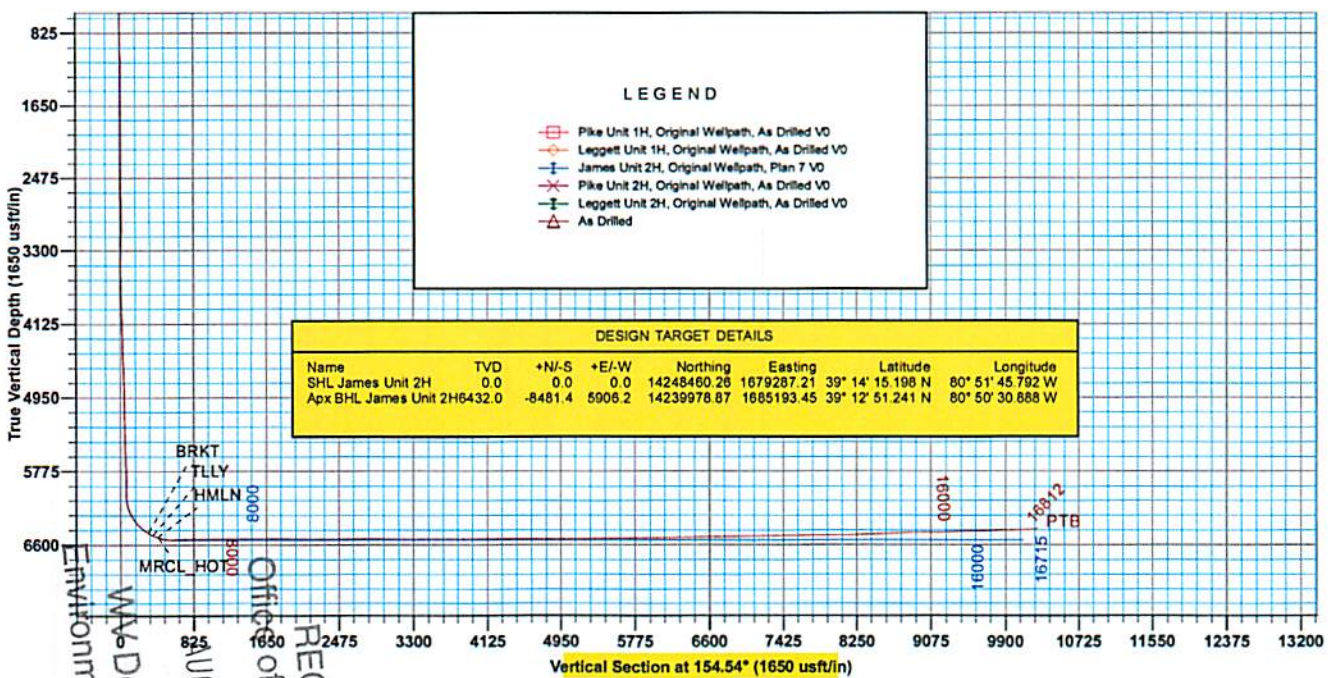
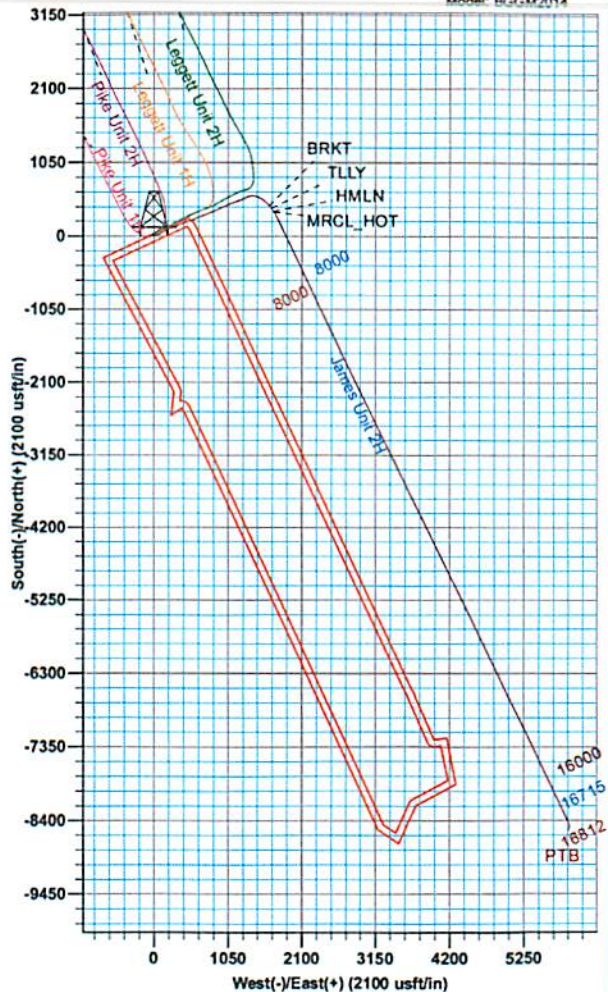
Scientific Drilling
 11220 N.W. 10th Street
 Yukon, OK 73099

PROJECT DETAILSDoddridge County WV
 Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 (NADCON 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: 1679246.10
 Positional Uncertainty: 0.0
 Convergence: 0.09
 Local North: Grid



To convert Magnetic North to Grid, Subtract 8.50°
 To convert True North to Grid, Subtract 0.09°
 Azimuths to Grid North
 True North: -0.09°
 Magnetic North: -8.50°
 Magnetic Field
 Strength: 52194.3snT
 Dip Angle: 66.81°
 Date: 11/3/2014
 Model: BGGM2014



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Antero

Doddridge County WV

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

James Unit 2H

Original Wellpath

Design: As Drilled

EOW Completion Report

11 March, 2015

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Scientific Drilling

10/23/2015

Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	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 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,248,460.26 usft	Latitude:	39° 14' 15.199 N
	+E/-W	0.0 usft	Easting:	1,679,287.21 usft	Longitude:	80° 51' 45.792 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,009.0 usft	Ground Level:	990.0usft

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 3/11/2015				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
106.0	6,006.0	Survey #5 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
6,036.0	16,812.0	Survey #2 SDI MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

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	0.43	315.80	106.0	0.3	-0.3	-0.4	0.41
131.0	0.39	336.82	131.0	0.4	-0.4	-0.6	0.62
156.0	0.27	303.34	156.0	0.5	-0.5	-0.7	0.89
181.0	0.26	320.77	181.0	0.6	-0.5	-0.8	0.32
206.0	0.27	305.13	206.0	0.7	-0.6	-0.9	0.29
231.0	0.20	302.64	231.0	0.8	-0.7	-1.0	0.28
256.0	0.33	328.25	256.0	0.8	-0.8	-1.1	0.69
281.0	0.21	317.90	281.0	0.9	-0.9	-1.2	0.52
306.0	0.15	335.58	306.0	1.0	-0.9	-1.3	0.32
331.0	0.14	357.94	331.0	1.1	-0.9	-1.3	0.23

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17-06619

EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	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)	
356.0	0.08	50.86	50.86	356.0	1.1	-0.9	-1.4	0.45	0.17
381.0	0.07	83.20	83.20	381.0	1.1	-0.9	-1.4	0.20	0.50
406.0	0.12	84.33	84.33	406.0	1.1	-0.8	-1.4	0.67	0.27
431.0	0.24	97.00	97.00	431.0	1.1	-0.8	-1.3	3.68	1.88
456.0	0.39	82.95	82.95	456.0	1.1	-0.6	-1.3	1.88	3.74
481.0	0.36	92.14	92.14	481.0	1.1	-0.5	-1.2	3.17	0.96
506.0	1.27	81.25	81.25	506.0	1.2	-0.1	-1.1	0.44	1.24
531.0	1.73	77.67	77.67	531.0	1.3	0.5	-0.9	1.24	0.37
556.0	2.66	75.26	75.26	556.0	1.5	1.5	-0.7	2.01	0.42
581.0	3.44	72.63	72.63	580.9	1.9	2.7	-0.5	0.45	0.25
606.0	3.68	72.72	72.72	605.9	2.3	4.2	-0.3	0.13	0.20
631.0	3.79	72.48	72.48	630.8	2.8	5.8	-0.1	0.16	0.20
656.0	4.07	74.44	74.44	655.8	3.3	7.4	0.2	0.40	1.69
681.0	4.15	73.80	73.80	680.7	3.8	9.1	0.5	0.81	0.67
706.0	4.56	69.96	69.96	705.6	4.4	11.0	0.7	0.28	0.88
731.0	4.60	68.74	68.74	730.6	5.1	12.8	0.9	1.21	0.46
756.0	4.71	68.51	68.51	755.5	5.8	14.7	1.0	0.62	0.94
781.0	4.74	69.16	69.16	780.4	6.6	16.6	1.2	0.76	0.92
806.0	4.76	68.85	68.85	805.3	7.3	18.6	1.4	0.81	0.67
831.0	4.80	69.21	69.21	830.2	8.1	20.5	1.5	0.28	0.88
856.0	4.76	69.20	69.20	855.1	8.8	22.5	1.7	1.21	0.46
881.0	4.81	69.17	69.17	880.0	9.6	24.4	1.9	0.62	0.94
906.0	4.72	68.64	68.64	905.0	10.3	26.3	2.0	0.76	0.92
931.0	4.31	67.37	67.37	929.9	11.0	28.2	2.1	0.81	0.67
956.0	4.11	67.68	67.68	954.8	11.7	29.9	2.2	0.28	0.88
981.0	3.97	68.98	68.98	979.7	12.4	31.5	2.3	1.21	0.46
1,006.0	3.90	68.99	68.99	1,004.7	13.0	33.1	2.5	0.62	0.94
1,031.0	3.68	68.98	68.98	1,029.6	13.6	34.6	2.6	0.76	0.92
1,056.0	3.38	69.68	69.68	1,054.6	14.1	36.1	2.7	0.81	0.67
1,081.0	3.27	69.14	69.14	1,079.5	14.7	37.4	2.9	0.28	0.88
1,106.0	3.13	70.28	70.28	1,104.5	15.1	38.7	3.0	1.21	0.46
1,131.0	2.91	71.89	71.89	1,129.5	15.6	40.0	3.1	0.62	0.94
1,156.0	2.75	69.77	69.77	1,154.4	16.0	41.2	3.3	0.76	0.92
1,181.0	2.52	70.26	70.26	1,179.4	16.4	42.2	3.4	0.81	0.67
1,206.0	2.33	71.91	71.91	1,204.4	16.7	43.2	3.5	0.28	0.88
1,231.0	2.20	71.49	71.49	1,229.4	17.0	44.2	3.6	1.21	0.46
1,256.0	2.05	74.79	74.79	1,254.4	17.3	45.1	3.8	0.62	0.94
1,281.0	1.84	73.71	73.71	1,279.3	17.5	45.9	3.9	0.76	0.92
1,306.0	1.67	73.37	73.37	1,304.3	17.7	46.6	4.0	0.81	0.67
1,331.0	1.56	75.33	75.33	1,329.3	17.9	47.1	4.1	0.28	0.88
1,356.0	1.40	75.96	75.96	1,354.3	18.1	47.9	4.3	1.21	0.46
1,381.0	1.24	74.02	74.02	1,379.3	18.2	48.5	4.4	0.62	0.94
1,406.0	1.24	74.86	74.86	1,404.3	18.4	49.0	4.5	0.76	0.92
1,431.0	1.03	74.20	74.20	1,429.3	18.5	49.5	4.6	0.81	0.67

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EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	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	0.95	79.33	1,454.3	18.6	49.9	4.6	0.48
1,481.0	0.85	76.33	1,479.3	18.7	50.3	4.7	0.44
1,506.0	0.66	72.24	1,504.3	18.8	50.6	4.8	0.79
1,531.0	0.52	72.27	1,529.3	18.9	50.8	4.8	0.56
1,556.0	0.50	73.96	1,554.3	18.9	51.1	4.9	0.10
1,581.0	0.56	79.19	1,579.3	19.0	51.3	4.9	0.31
1,606.0	0.43	69.27	1,604.3	19.0	51.5	4.9	0.62
1,631.0	0.48	74.78	1,629.3	19.1	51.7	5.0	0.27
1,656.0	0.49	75.47	1,654.3	19.1	51.9	5.0	0.05
1,681.0	0.49	75.13	1,679.3	19.2	52.1	5.1	0.01
1,706.0	0.48	82.64	1,704.3	19.2	52.3	5.1	0.26
1,731.0	0.44	83.03	1,729.3	19.3	52.5	5.2	0.16
1,756.0	0.39	77.35	1,754.3	19.3	52.7	5.2	0.26
1,781.0	0.41	79.27	1,779.3	19.3	52.8	5.3	0.10
1,806.0	0.42	76.74	1,804.3	19.4	53.0	5.3	0.08
1,831.0	0.41	76.73	1,829.3	19.4	53.2	5.3	0.04
1,856.0	0.29	78.87	1,854.3	19.4	53.3	5.4	0.48
1,881.0	0.40	80.90	1,879.3	19.5	53.5	5.4	0.44
1,906.0	0.38	81.25	1,904.3	19.5	53.7	5.5	0.08
1,931.0	0.37	89.90	1,929.3	19.5	53.8	5.5	0.23
1,956.0	0.32	94.79	1,954.3	19.5	54.0	5.6	0.23
1,981.0	0.36	92.44	1,979.3	19.5	54.1	5.7	0.17
2,006.0	0.13	86.82	2,004.3	19.5	54.2	5.7	0.92
2,031.0	0.15	114.73	2,029.3	19.5	54.3	5.7	0.28
2,056.0	0.18	125.39	2,054.3	19.4	54.3	5.8	0.17
2,081.0	0.07	80.12	2,079.3	19.4	54.4	5.8	0.56
2,106.0	0.05	110.25	2,104.3	19.4	54.4	5.9	0.15
2,131.0	0.23	126.25	2,129.3	19.4	54.5	5.9	0.73
2,156.0	0.11	124.02	2,154.3	19.3	54.5	6.0	0.48
2,181.0	0.08	106.37	2,179.3	19.3	54.6	6.0	0.17
2,206.0	0.11	151.60	2,204.3	19.3	54.6	6.0	0.31
2,231.0	0.09	134.90	2,229.3	19.3	54.6	6.1	0.14
2,256.0	0.03	85.63	2,254.3	19.3	54.6	6.1	0.30
2,281.0	0.08	122.18	2,279.3	19.2	54.7	6.1	0.23
2,306.0	0.12	356.39	2,304.3	19.3	54.7	6.1	0.72
2,331.0	0.10	171.28	2,329.3	19.3	54.7	6.1	0.88
2,356.0	0.11	129.41	2,354.3	19.2	54.7	6.2	0.30
2,381.0	0.22	161.28	2,379.3	19.2	54.7	6.2	0.56
2,406.0	0.36	129.50	2,404.3	19.1	54.8	6.3	0.83
2,431.0	0.17	176.12	2,429.3	19.0	54.9	6.4	1.09
2,456.0	0.17	162.19	2,454.3	18.9	54.9	6.5	0.16
2,481.0	0.19	135.61	2,479.3	18.9	54.9	6.6	0.34
2,506.0	0.14	138.49	2,504.3	18.8	55.0	6.7	0.20
2,531.0	0.15	171.50	2,529.3	18.7	55.0	6.7	0.33
2,556.0	0.16	186.24	2,554.3	18.7	55.0	6.8	0.16

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Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	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)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,581.0	0.14	198.17	2,579.3	18.6	55.0	6.8	0.15	
2,606.0	0.25	116.08	2,604.3	18.6	55.0	6.9	1.08	
2,631.0	0.75	118.76	2,629.3	18.5	55.2	7.1	2.00	
2,656.0	1.42	114.24	2,654.3	18.3	55.6	7.4	2.70	
2,681.0	2.29	113.35	2,679.2	17.9	56.4	8.1	3.48	
2,706.0	3.63	109.39	2,704.2	17.5	57.6	9.0	5.42	
2,731.0	4.80	104.76	2,729.1	16.9	59.4	10.2	4.87	
2,756.0	5.64	101.25	2,754.0	16.4	61.6	11.6	3.59	
2,781.0	6.23	95.30	2,778.9	16.1	64.1	13.1	3.41	
2,806.0	6.47	84.71	2,803.8	16.1	66.9	14.2	4.78	
2,831.0	6.87	74.40	2,828.6	16.6	69.7	15.0	5.04	
2,856.0	7.21	67.86	2,853.4	17.6	72.6	15.3	3.48	
2,881.0	7.45	63.21	2,878.2	18.9	75.5	15.4	2.56	
2,906.0	7.74	59.21	2,903.0	20.5	78.4	15.2	2.41	
2,931.0	7.88	57.43	2,927.7	22.3	81.3	14.8	1.12	
2,956.0	7.97	57.04	2,952.5	24.2	84.2	14.4	0.42	
2,981.0	8.29	56.31	2,977.3	26.1	87.1	13.9	1.34	
3,006.0	8.75	55.99	3,002.0	28.2	90.2	13.4	1.85	
3,031.0	9.35	55.88	3,026.7	30.4	93.5	12.8	2.40	
3,056.0	9.92	55.92	3,051.3	32.7	96.9	12.1	2.28	
3,081.0	10.56	55.73	3,075.9	35.2	100.6	11.5	2.56	
3,106.0	11.18	55.29	3,100.5	37.9	104.5	10.7	2.50	
3,131.0	11.51	54.92	3,125.0	40.7	108.5	9.9	1.35	
3,156.0	12.00	54.34	3,149.5	43.6	112.7	9.0	2.02	
3,181.0	12.51	54.56	3,173.9	46.7	117.0	8.1	2.05	
3,206.0	13.17	55.75	3,198.3	49.9	121.6	7.2	2.84	
3,231.0	13.49	56.52	3,222.6	53.1	126.4	6.4	1.46	
3,256.0	14.09	57.38	3,246.9	56.4	131.4	5.6	2.54	
3,281.0	14.57	57.92	3,271.1	59.7	136.6	4.8	1.99	
3,306.0	15.05	58.62	3,295.3	63.0	142.0	4.1	2.05	
3,331.0	15.58	59.02	3,319.4	66.4	147.7	3.5	2.16	
3,356.0	16.25	59.69	3,343.4	69.9	153.6	2.9	2.78	
3,381.0	16.80	60.49	3,367.4	73.5	159.7	2.3	2.38	
3,406.0	17.11	61.46	3,391.3	77.0	166.1	1.9	1.68	
3,431.0	17.41	63.49	3,415.2	80.5	172.7	1.6	2.69	
3,456.0	17.91	64.65	3,439.0	83.8	179.5	1.5	2.45	
3,481.0	18.22	65.54	3,462.8	87.0	186.5	1.6	1.66	
3,506.0	18.63	66.14	3,486.5	90.3	193.7	1.8	1.81	
3,531.0	19.16	66.43	3,510.1	93.5	201.2	2.0	2.15	
3,556.0	19.31	66.61	3,533.7	96.8	208.7	2.3	0.65	
3,581.0	19.79	66.77	3,557.3	100.1	216.4	2.6	1.93	
3,606.0	20.19	66.78	3,580.8	103.5	224.2	3.0	1.60	
3,631.0	20.66	67.31	3,604.2	106.9	232.3	3.3	2.02	
3,656.0	21.06	67.52	3,627.6	110.3	240.5	3.8	1.63	

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EOW Completion Report



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Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 2H	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)	
3,681.0	21.46	67.67	67.67	3,650.9	113.8	248.9	4.3	1.61	
3,706.0	22.07	68.14	68.14	3,674.1	117.2	257.5	4.8	2.54	
3,731.0	22.52	68.57	68.57	3,697.2	120.7	266.3	5.5	1.91	
3,756.0	22.60	68.44	68.44	3,720.3	124.3	275.2	6.1	0.38	
3,781.0	22.78	68.45	68.45	3,743.4	127.8	284.2	6.8	0.72	
3,806.0	22.98	68.49	68.49	3,766.4	131.4	293.2	7.4	0.80	
3,831.0	23.09	68.44	68.44	3,789.4	135.0	302.3	8.1	0.45	
3,856.0	23.27	68.55	68.55	3,812.4	138.6	311.5	8.8	0.74	
3,881.0	23.70	68.69	68.69	3,835.3	142.2	320.8	9.5	1.73	
3,906.0	24.11	68.73	68.73	3,858.2	145.9	330.2	10.2	1.64	
3,931.0	24.65	68.70	68.70	3,880.9	149.6	339.8	11.0	2.16	
3,956.0	25.23	68.67	68.67	3,903.6	153.5	349.6	11.7	2.32	
3,981.0	25.88	68.57	68.57	3,926.2	157.4	359.7	12.5	2.61	
4,006.0	26.76	68.68	68.68	3,948.6	161.4	370.0	13.3	3.53	
4,031.0	27.11	68.77	68.77	3,970.9	165.5	380.5	14.1	1.41	
4,056.0	27.25	68.73	68.73	3,993.1	169.7	391.2	15.0	0.56	
4,081.0	27.42	68.71	68.71	4,015.3	173.8	401.9	15.8	0.68	
4,106.0	27.55	68.75	68.75	4,037.5	178.0	412.6	16.6	0.53	
4,131.0	27.59	69.00	69.00	4,059.7	182.2	423.4	17.5	0.49	
4,156.0	27.47	68.94	68.94	4,081.8	186.3	434.2	18.4	0.49	
4,181.0	27.73	68.92	68.92	4,104.0	190.5	445.0	19.3	1.04	
4,206.0	27.93	68.99	68.99	4,126.1	194.7	455.9	20.2	0.81	
4,231.0	28.02	68.85	68.85	4,148.2	198.9	466.9	21.1	0.45	
4,256.0	28.27	68.91	68.91	4,170.2	203.2	477.9	22.0	1.01	
4,281.0	28.24	68.43	68.43	4,192.2	207.5	488.9	22.8	0.92	
4,306.0	27.91	67.75	67.75	4,214.3	211.9	499.8	23.6	1.84	
4,331.0	27.91	67.07	67.07	4,236.4	216.4	510.6	24.2	1.27	
4,356.0	27.55	66.51	66.51	4,258.5	220.9	521.3	24.6	1.78	
4,381.0	27.38	66.33	66.33	4,280.7	225.5	531.9	25.0	0.76	
4,406.0	27.16	66.21	66.21	4,302.9	230.2	542.3	25.3	0.91	
4,431.0	26.86	66.18	66.18	4,325.2	234.7	552.7	25.7	1.20	
4,456.0	26.97	66.12	66.12	4,347.5	239.3	563.1	26.0	0.45	
4,481.0	26.61	66.07	66.07	4,369.8	243.9	573.4	26.3	1.44	
4,506.0	26.39	66.05	66.05	4,392.2	248.4	583.6	26.6	0.88	
4,531.0	25.97	66.14	66.14	4,414.6	252.9	593.7	26.9	1.69	
4,556.0	25.98	66.12	66.12	4,437.1	257.3	603.7	27.2	0.05	
4,581.0	26.16	66.28	66.28	4,459.5	261.7	613.7	27.5	0.77	
4,606.0	26.30	66.96	66.96	4,482.0	266.1	623.9	27.9	1.33	
4,631.0	26.37	67.34	67.34	4,504.4	270.4	634.1	28.4	0.73	
4,656.0	26.66	67.67	67.67	4,526.7	274.7	644.4	29.0	1.30	
4,681.0	26.89	68.18	68.18	4,549.1	278.9	654.8	29.7	1.30	
4,706.0	27.23	68.42	68.42	4,571.3	283.1	665.4	30.4	1.43	
4,731.0	27.24	68.63	68.63	4,593.5	287.3	676.1	31.2	0.39	
4,756.0	27.66	68.65	68.65	4,615.7	291.5	686.8	32.0	1.68	

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Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

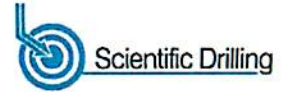
Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
4,781.0	27.65	68.62	68.62	4,637.9	295.8	697.6	32.8	0.07	
4,806.0	27.71	68.50	68.50	4,660.0	300.0	708.4	33.7	0.33	
4,831.0	27.85	68.56	68.56	4,682.1	304.3	719.2	34.5	0.57	
4,856.0	27.37	68.40	68.40	4,704.3	308.5	730.0	35.3	1.94	
4,881.0	27.28	68.32	68.32	4,726.5	312.7	740.7	36.0	0.39	
4,906.0	26.70	67.99	67.99	4,748.8	317.0	751.2	36.8	2.40	
4,931.0	26.44	67.69	67.69	4,771.1	321.2	761.6	37.4	1.17	
4,956.0	26.30	67.41	67.41	4,793.5	325.4	771.8	38.0	0.75	
4,981.0	26.21	67.22	67.22	4,816.0	329.7	782.0	38.5	0.49	
5,006.0	26.32	67.06	67.06	4,838.4	334.0	792.2	39.0	0.52	
5,031.0	26.66	67.09	67.09	4,860.7	338.3	802.5	39.5	1.36	
5,056.0	26.73	67.18	67.18	4,883.1	342.7	812.9	40.0	0.32	
5,081.0	26.87	67.08	67.08	4,905.4	347.1	823.2	40.5	0.59	
5,106.0	26.93	67.11	67.11	4,927.7	351.5	833.7	41.0	0.25	
5,131.0	27.28	67.18	67.18	4,949.9	355.9	844.2	41.5	1.41	
5,156.0	27.40	67.31	67.31	4,972.2	360.3	854.8	42.1	0.54	
5,181.0	27.35	66.98	66.98	4,994.4	364.8	865.3	42.6	0.64	
5,206.0	27.28	66.39	66.39	5,016.6	369.4	875.9	43.0	1.12	
5,231.0	26.81	65.85	65.85	5,038.8	374.0	886.3	43.4	2.12	
5,256.0	26.18	65.11	65.11	5,061.2	378.6	896.4	43.5	2.84	
5,281.0	25.71	64.44	64.44	5,083.7	383.2	906.3	43.6	2.22	
5,306.0	25.93	64.44	64.44	5,106.2	387.9	916.1	43.6	0.88	
5,331.0	25.74	64.35	64.35	5,128.7	392.6	926.0	43.5	0.78	
5,356.0	25.96	64.47	64.47	5,151.2	397.4	935.8	43.5	0.90	
5,381.0	26.12	64.53	64.53	5,173.7	402.1	945.7	43.5	0.65	
5,406.0	26.29	64.71	64.71	5,196.1	406.8	955.7	43.5	0.75	
5,431.0	26.13	65.09	65.09	5,218.5	411.5	965.7	43.6	0.93	
5,456.0	26.14	65.26	65.26	5,241.0	416.1	975.7	43.7	0.30	
5,481.0	26.13	65.50	65.50	5,263.4	420.7	985.7	43.9	0.42	
5,506.0	26.23	66.03	66.03	5,285.8	425.2	995.7	44.1	1.02	
5,531.0	26.37	66.40	66.40	5,308.2	429.7	1,005.9	44.4	0.86	
5,556.0	26.51	66.69	66.69	5,330.6	434.1	1,016.1	44.8	0.76	
5,581.0	26.58	67.17	67.17	5,353.0	438.5	1,026.4	45.3	0.90	
5,606.0	26.46	67.66	67.66	5,375.4	442.8	1,036.7	45.8	1.00	
5,631.0	26.54	68.09	68.09	5,397.7	447.0	1,047.0	46.5	0.83	
5,656.0	26.24	68.49	68.49	5,420.1	451.1	1,057.3	47.2	1.39	
5,681.0	25.80	68.60	68.60	5,442.6	455.1	1,067.5	48.0	1.77	
5,706.0	25.68	68.63	68.63	5,465.1	459.1	1,077.6	48.8	0.48	
5,731.0	25.46	68.68	68.68	5,487.7	463.0	1,087.7	49.5	0.88	
5,756.0	25.34	68.80	68.80	5,510.3	466.9	1,097.7	50.3	0.52	
5,781.0	25.05	68.86	68.86	5,532.9	470.7	1,107.6	51.1	1.16	
5,806.0	25.11	69.41	69.41	5,555.5	474.5	1,117.5	52.0	0.96	
5,831.0	24.87	69.72	69.72	5,578.2	478.2	1,127.4	52.9	1.09	
5,856.0	24.78	70.27	70.27	5,600.9	481.8	1,137.3	53.9	0.99	

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EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

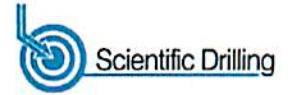
Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,881.0	25.01	70.25	5,623.5	485.3	1,147.2	54.9	0.92	
5,906.0	24.85	69.93	5,646.2	488.9	1,157.1	56.0	0.84	
5,931.0	24.61	70.08	5,668.9	492.5	1,166.9	57.0	0.99	
5,956.0	25.08	70.34	5,691.6	496.1	1,176.8	58.0	1.93	
5,981.0	25.03	70.70	5,714.3	499.6	1,186.8	59.1	0.64	
6,006.0	25.13	71.05	5,736.9	503.1	1,196.8	60.3	0.72	
6,036.0	25.11	68.32	5,764.1	507.5	1,208.7	61.4	3.86	
6,066.0	25.65	67.82	5,791.2	512.3	1,220.7	62.2	1.94	
6,096.0	26.11	67.22	5,818.2	517.3	1,232.8	62.9	1.76	
6,126.0	25.84	67.18	5,845.1	522.4	1,244.9	63.5	0.90	
6,156.0	25.94	66.30	5,872.1	527.6	1,256.9	64.0	1.32	
6,186.0	25.71	66.27	5,899.1	532.8	1,268.9	64.4	0.77	
6,216.0	25.87	66.04	5,926.1	538.1	1,280.8	64.8	0.63	
6,246.0	25.34	65.73	5,953.2	543.4	1,292.6	65.1	1.82	
6,276.0	24.92	65.41	5,980.3	548.7	1,304.2	65.3	1.47	
6,305.0	24.68	64.93	6,006.7	553.8	1,315.3	65.4	1.08	
6,335.0	24.53	63.18	6,034.0	559.2	1,326.5	65.3	2.48	
6,365.0	24.56	65.00	6,061.2	564.7	1,337.7	65.2	2.52	
6,395.0	26.04	72.51	6,088.4	569.3	1,349.7	66.2	11.77	
6,425.0	28.82	79.99	6,115.0	572.5	1,363.1	69.0	14.74	
6,455.0	31.12	84.06	6,141.0	574.6	1,377.9	73.5	10.23	
6,484.0	32.37	87.03	6,165.7	575.8	1,393.1	79.0	6.90	
6,514.0	33.00	94.49	6,190.9	575.5	1,409.3	86.2	13.58	
6,544.0	33.94	101.00	6,215.9	573.3	1,425.6	95.2	12.37	
6,574.0	35.39	104.32	6,240.6	569.6	1,442.3	105.8	7.93	
6,604.0	37.43	107.24	6,264.8	564.7	1,459.4	117.5	8.92	
6,634.0	39.31	111.20	6,288.3	558.6	1,477.0	130.6	10.31	
6,664.0	40.32	115.31	6,311.3	551.0	1,494.6	145.0	9.39	
6,694.0	42.13	119.84	6,333.9	541.8	1,512.1	160.8	11.63	
6,724.0	44.68	123.80	6,355.7	530.9	1,529.6	178.2	12.43	
6,753.0	46.73	127.15	6,376.0	518.9	1,546.5	196.3	10.88	
6,783.0	49.67	129.55	6,396.0	505.0	1,564.1	216.4	11.47	
6,813.0	52.02	132.09	6,414.9	489.8	1,581.6	237.7	10.22	
6,843.0	54.25	134.27	6,432.9	473.4	1,599.1	260.0	9.44	
6,873.0	56.85	137.73	6,449.9	455.6	1,616.3	283.5	12.87	
6,903.0	59.64	138.29	6,465.7	436.6	1,633.4	307.9	9.43	
6,906.0	59.89	138.39	6,467.2	434.7	1,635.1	310.4	8.90	
BRKT								
6,932.0	62.08	139.25	6,479.8	417.6	1,650.1	332.3	8.90	
6,962.0	64.28	141.08	6,493.3	397.0	1,667.2	358.2	9.13	
6,963.0	64.36	141.19	6,493.7	396.3	1,667.8	359.1	13.02	
TLLY								
6,992.0	66.84	144.32	6,505.7	375.3	1,683.8	385.0	13.02	
7,019.0	69.99	146.35	6,515.7	354.6	1,698.0	409.8	13.60	
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EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,022.0	70.34	146.57	6,516.7	352.3	1,699.6	412.5	13.60
7,033.0	71.92	146.86	6,520.2	343.6	1,705.3	422.9	14.54
MRCL_HOT							
7,052.0	74.64	147.34	6,525.7	328.3	1,715.2	440.9	14.54
7,082.0	78.42	149.60	6,532.7	303.4	1,730.4	469.9	14.57
7,112.0	81.30	151.83	6,538.0	277.7	1,744.9	499.4	12.07
7,135.0	84.15	153.03	6,540.9	257.5	1,755.4	522.2	13.43
7,166.0	89.16	154.24	6,542.7	229.7	1,769.2	553.1	16.62
7,195.0	91.98	154.77	6,542.4	203.6	1,781.6	582.1	9.89
7,243.0	92.69	154.36	6,540.4	160.3	1,802.2	630.0	1.71
7,333.0	91.08	155.39	6,537.5	78.8	1,840.4	720.0	2.12
7,422.0	90.44	155.52	6,536.3	-2.1	1,877.4	809.0	0.73
7,512.0	90.20	154.55	6,535.8	-83.7	1,915.4	899.0	1.11
7,601.0	90.13	154.66	6,535.5	-164.1	1,953.6	988.0	0.15
7,691.0	90.04	154.17	6,535.4	-245.3	1,992.4	1,078.0	0.55
7,781.0	90.70	154.67	6,534.8	-326.5	2,031.3	1,168.0	0.92
7,870.0	89.70	154.65	6,534.5	-406.9	2,069.4	1,257.0	1.12
7,960.0	90.13	154.01	6,534.7	-488.0	2,108.4	1,347.0	0.86
8,049.0	90.07	155.79	6,534.5	-568.6	2,146.1	1,436.0	2.00
8,139.0	90.40	155.79	6,534.1	-650.7	2,183.0	1,525.9	0.37
8,229.0	90.84	154.53	6,533.2	-732.4	2,220.8	1,615.9	1.48
8,318.0	89.70	155.70	6,532.7	-813.1	2,258.3	1,704.9	1.84
8,408.0	90.67	154.57	6,532.4	-894.7	2,296.1	1,794.9	1.65
8,497.0	88.96	153.76	6,532.7	-974.8	2,334.9	1,883.9	2.13
8,587.0	89.16	154.00	6,534.2	-1,055.6	2,374.5	1,973.9	0.35
8,676.0	89.46	153.78	6,535.3	-1,135.6	2,413.7	2,062.9	0.42
8,766.0	89.46	153.32	6,536.1	-1,216.1	2,453.8	2,152.8	0.51
8,855.0	89.76	153.10	6,536.7	-1,295.6	2,493.9	2,241.8	0.42
8,945.0	90.03	155.93	6,536.9	-1,376.8	2,532.6	2,331.8	3.16
9,034.0	90.30	155.77	6,536.6	-1,458.0	2,569.0	2,420.8	0.35
9,124.0	90.47	155.63	6,536.0	-1,540.0	2,606.0	2,510.8	0.24
9,213.0	90.81	154.60	6,535.0	-1,620.8	2,643.5	2,599.8	1.22
9,303.0	90.50	154.52	6,534.0	-1,702.0	2,682.1	2,689.8	0.36
9,392.0	90.67	155.41	6,533.1	-1,782.7	2,719.8	2,778.7	1.02
9,482.0	90.17	153.24	6,532.4	-1,863.8	2,758.8	2,868.7	2.47
9,572.0	88.82	152.98	6,533.2	-1,944.0	2,799.5	2,958.7	1.53
9,661.0	88.56	154.86	6,535.3	-2,024.0	2,838.6	3,047.7	2.13
9,751.0	89.63	155.21	6,536.7	-2,105.5	2,876.6	3,137.7	1.25
9,840.0	90.13	154.49	6,536.9	-2,186.1	2,914.4	3,226.7	0.98
9,930.0	90.47	153.65	6,536.4	-2,267.0	2,953.8	3,316.6	1.01
10,019.0	90.67	153.24	6,535.5	-2,346.6	2,993.6	3,406.6	0.51
10,109.0	89.60	154.88	6,535.3	-2,427.6	3,032.9	3,495.6	2.18
10,198.0	89.87	154.68	6,535.7	-2,508.1	3,070.8	3,584.6	0.38
10,288.0	89.87	155.32	6,535.9	-2,589.7	3,108.9	3,674.6	0.71

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Site:	Robert Williams Pad: Leggett/ Pike Pad/James/M	MD Reference:	Precision 523: GL 990' + KB 19' @ 1009.0usft
Well:	James Unit 2H	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)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
10,382.0	89.73	155.79	6,536.3	-2,675.2	3,147.8	3,768.6	0.52	
10,476.0	89.73	155.62	6,536.7	-2,760.9	3,186.5	3,862.6	0.18	
10,570.0	90.47	155.35	6,536.5	-2,846.4	3,225.5	3,956.6	0.84	
10,664.0	90.34	154.93	6,535.9	-2,931.7	3,265.0	4,050.6	0.47	
10,758.0	90.37	153.10	6,535.3	-3,016.2	3,306.2	4,144.5	1.95	
10,851.0	89.70	153.25	6,535.2	-3,099.2	3,348.1	4,237.5	0.74	
10,945.0	89.40	154.76	6,536.0	-3,183.7	3,389.3	4,331.5	1.64	
11,039.0	90.00	154.26	6,536.5	-3,268.5	3,429.8	4,425.5	0.83	
11,133.0	90.24	154.35	6,536.3	-3,353.2	3,470.5	4,519.5	0.27	
11,227.0	90.71	154.15	6,535.5	-3,437.9	3,511.4	4,613.5	0.54	
11,321.0	89.16	155.55	6,535.6	-3,523.0	3,551.3	4,707.5	2.22	
11,415.0	88.39	154.77	6,537.6	-3,608.3	3,590.8	4,801.5	1.17	
11,504.0	90.64	155.22	6,538.4	-3,688.9	3,628.4	4,890.5	2.58	
11,593.0	90.67	154.20	6,537.3	-3,769.4	3,666.4	4,979.4	1.15	
11,683.0	90.77	153.10	6,536.2	-3,850.0	3,706.4	5,069.4	1.23	
11,772.0	90.60	154.69	6,535.1	-3,929.9	3,745.5	5,158.4	1.80	
11,862.0	90.84	153.55	6,534.0	-4,010.9	3,784.8	5,248.4	1.29	
11,951.0	90.47	154.76	6,533.0	-4,091.0	3,823.6	5,337.4	1.42	
12,041.0	90.44	154.47	6,532.3	-4,172.3	3,862.2	5,427.4	0.32	
12,130.0	91.21	155.00	6,531.0	-4,252.8	3,900.2	5,516.4	1.05	
12,220.0	91.31	154.23	6,529.0	-4,334.1	3,938.7	5,606.4	0.86	
12,309.0	90.54	155.76	6,527.6	-4,414.7	3,976.4	5,695.3	1.92	
12,399.0	90.81	155.20	6,526.5	-4,496.6	4,013.7	5,785.3	0.69	
12,488.0	90.50	155.12	6,525.5	-4,577.3	4,051.1	5,874.3	0.36	
12,578.0	90.81	155.84	6,524.5	-4,659.2	4,088.4	5,964.3	0.87	
12,667.0	90.97	154.23	6,523.1	-4,739.9	4,126.0	6,053.3	1.82	
12,757.0	91.04	153.68	6,521.5	-4,820.7	4,165.5	6,143.3	0.62	
12,847.0	90.97	153.61	6,519.9	-4,901.4	4,205.5	6,233.2	0.11	
12,936.0	90.84	154.07	6,518.5	-4,981.3	4,244.7	6,322.2	0.54	
13,026.0	90.57	153.99	6,517.4	-5,062.2	4,284.1	6,412.2	0.31	
13,115.0	91.41	155.08	6,515.9	-5,142.5	4,322.4	6,501.2	1.55	
13,204.0	91.58	155.72	6,513.6	-5,223.4	4,359.4	6,590.1	0.74	
13,294.0	91.04	154.05	6,511.5	-5,304.9	4,397.6	6,680.1	1.95	
13,383.0	90.94	153.28	6,510.0	-5,384.6	4,437.1	6,769.1	0.87	
13,472.0	90.30	153.66	6,509.0	-5,464.2	4,476.8	6,858.1	0.84	
13,562.0	90.50	154.88	6,508.4	-5,545.3	4,515.9	6,948.1	1.37	
13,652.0	90.67	154.87	6,507.5	-5,626.8	4,554.1	7,038.1	0.19	
13,741.0	90.74	154.52	6,506.4	-5,707.2	4,592.1	7,127.0	0.40	
13,831.0	90.57	154.36	6,505.3	-5,788.4	4,631.0	7,217.0	0.26	
13,920.0	91.78	154.28	6,503.5	-5,868.6	4,669.5	7,306.0	1.36	
14,009.0	90.87	154.37	6,501.5	-5,948.8	4,708.1	7,395.0	1.03	
14,099.0	90.70	155.93	6,500.2	-6,030.5	4,745.9	7,485.0	1.74	
14,188.0	90.60	154.72	6,499.2	-6,111.3	4,783.0	7,574.0	1.36	
14,278.0	91.75	154.96	6,497.4	-6,192.8	4,821.3	7,663.0	1.31	

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EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well James Unit 2H
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 2H	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)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
14,367.0	90.81	155.12	155.12	6,495.4	-6,273.4	4,858.8	7,752.9	1.07
14,457.0	90.54	154.42	154.42	6,494.3	-6,354.8	4,897.2	7,842.9	0.83
14,546.0	90.57	154.17	154.17	6,493.5	-6,435.0	4,935.8	7,931.9	0.28
14,636.0	89.56	154.65	154.65	6,493.4	-6,516.2	4,974.7	8,021.9	1.24
14,726.0	90.64	154.22	154.22	6,493.2	-6,597.4	5,013.5	8,111.9	1.29
14,815.0	91.85	154.37	154.37	6,491.3	-6,677.6	5,052.1	8,200.9	1.37
14,905.0	92.01	155.03	155.03	6,488.2	-6,758.9	5,090.5	8,290.8	0.75
14,994.0	91.98	154.74	154.74	6,485.1	-6,839.4	5,128.3	8,379.8	0.33
15,084.0	92.55	155.49	155.49	6,481.6	-6,921.0	5,166.1	8,469.7	1.05
15,174.0	92.28	153.72	153.72	6,477.8	-7,002.2	5,204.7	8,559.6	1.99
15,264.0	91.68	153.27	153.27	6,474.7	-7,082.7	5,244.8	8,649.5	0.83
15,353.0	92.96	153.50	153.50	6,471.1	-7,162.2	5,284.7	8,738.4	1.46
15,443.0	92.38	154.27	154.27	6,466.9	-7,242.9	5,324.2	8,828.3	1.07
15,532.0	91.48	154.62	154.62	6,463.9	-7,323.2	5,362.6	8,917.3	1.08
15,622.0	90.84	154.85	154.85	6,462.1	-7,404.6	5,401.0	9,007.3	0.76
15,711.0	90.20	154.83	154.83	6,461.3	-7,485.1	5,438.9	9,096.3	0.72
15,801.0	90.10	154.75	154.75	6,461.0	-7,566.5	5,477.2	9,186.3	0.14
15,890.0	93.29	155.38	155.38	6,458.4	-7,647.2	5,514.7	9,275.2	3.65
15,980.0	93.19	154.32	154.32	6,453.3	-7,728.5	5,552.9	9,365.1	1.18
16,070.0	91.34	154.65	154.65	6,449.7	-7,809.7	5,591.6	9,455.0	2.09
16,159.0	90.44	154.39	154.39	6,448.4	-7,890.0	5,629.9	9,544.0	1.05
16,249.0	91.34	154.46	154.46	6,447.0	-7,971.2	5,668.7	9,634.0	1.00
16,338.0	92.18	154.41	154.41	6,444.2	-8,051.4	5,707.1	9,722.9	0.95
16,428.0	91.08	153.90	153.90	6,441.7	-8,132.4	5,746.3	9,812.9	1.35
16,517.0	90.94	155.75	155.75	6,440.1	-8,212.9	5,784.2	9,901.9	2.08
16,607.0	91.28	155.88	155.88	6,438.4	-8,295.0	5,821.1	9,991.8	0.40
16,696.0	91.81	155.02	155.02	6,436.0	-8,376.0	5,858.0	10,080.8	1.13
16,753.0	91.97	155.56	155.56	6,434.1	-8,427.7	5,881.8	10,137.7	0.99
16,812.0	91.97	155.56	155.56	6,432.0	-8,481.4	5,906.2	10,196.7	0.00
PTB								

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,906.0	6,467.2	434.7	1,635.1	BRKT
6,963.0	6,493.7	396.3	1,667.8	TLLY
7,019.0	6,515.7	354.6	1,698.0	HMLN
7,033.0	6,520.2	343.6	1,705.3	MRCL_HOT
16,812.0	6,432.0	-8,481.4	5,906.2	PTB

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/27/2015
Job End Date:	5/9/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06619-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	James Unit 2H
Longitude:	-80.86255300
Latitude:	39.23763900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,543
Total Base Water Volume (gal):	14,002,018
Total Base Non Water Volume:	514,315



17-06619

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	92.19058	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	7.19835	
GC-15	U.S. Well Services	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.12727	
			Petroleum Distillates	64742-47-8	60.00000	0.12054	
			Suspending agent (solid)	14808-60-7	3.00000	0.01947	
			Surfactant	68439-51-0	3.00000	0.00764	
HCl Acid (12.6%-18.6%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.50000	0.16460	
			Hydrogen Chloride	7647-01-0	18.00000	0.03932	
WFRA-405	U.S. Well Services	Friction Reducer					
			Water	7732-18-5	40.00000	0.03259	
			Anionic Polyacrylamide	Proprietary	40.00000	0.03259	
			Sodium Chloride	7647-14-5	20.00000	0.01630	
			Petroleum Distillates	64742-47-8	20.00000	0.01312	
			Ethoxylated alcohol blend	Proprietary	5.00000	0.00407	

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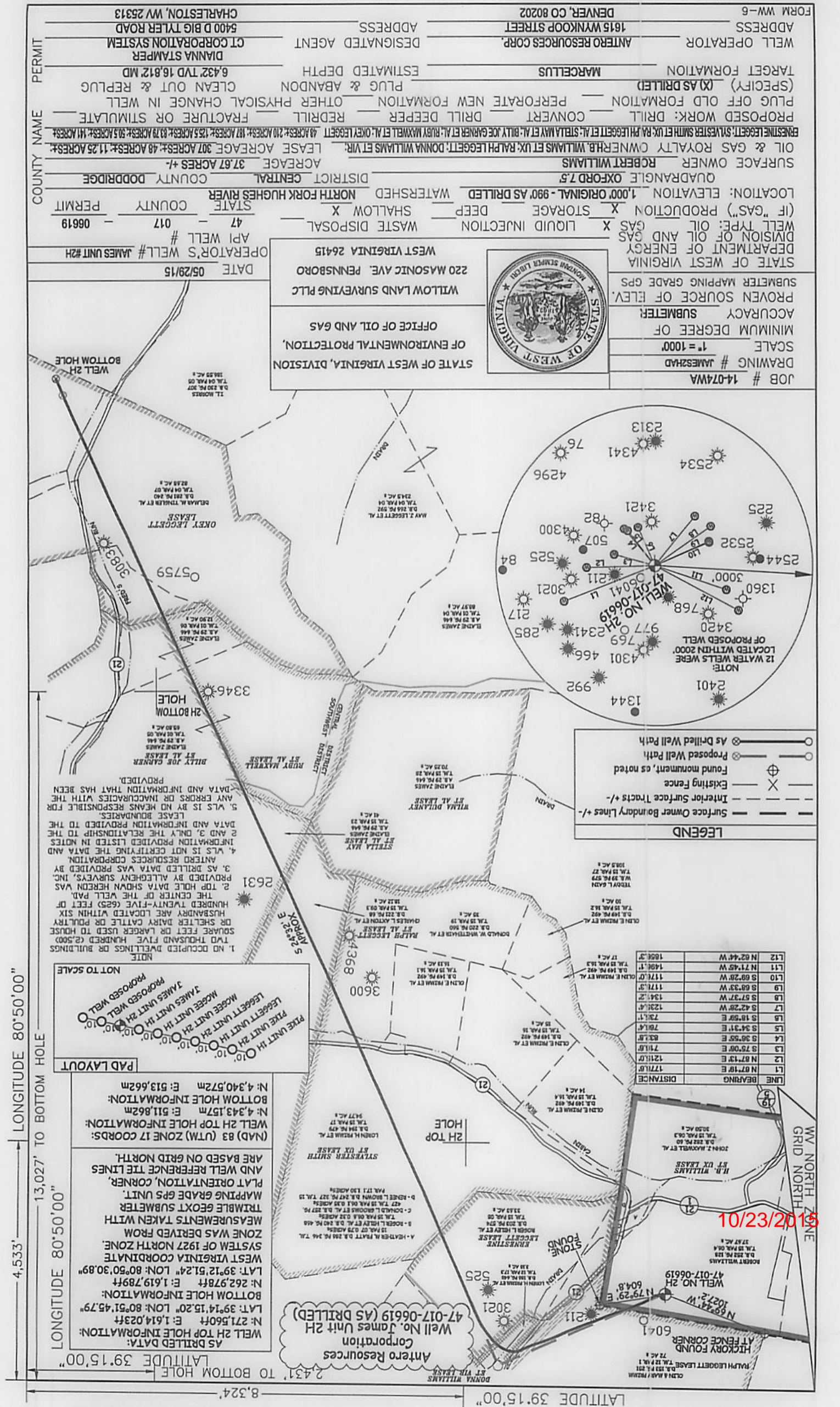
SI-1100	U.S. Well Services	Scale Inhibitor				
			DI Water	7732-18-5	80.00000	0.01012
			Ethylene Glycol	107-21-1	40.00000	0.00572
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	10.00000	0.00171
			2-Phosphonobutane 1,2,4 tricarboxylic salt	37971-36-1	10.00000	0.00163
			hexamethylenediamine tetra (methylene phosphonic acid)	38820-59-6	10.00000	0.00158
			Copolymer of Maleic and Acrylic acid	26677-99-6	10.00000	0.00149
			bis (hexamethylene) tramine penta (methylene phosphonic acid) - phosphate acid	40623-75-4	10.00000	0.00146
			Acrylic polymer	52255-49-9	5.00000	0.00063
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent				
			2,2-dibromo-3-nitripropionamide	10222-01-2	20.00000	0.00424
			Deionized Water	7732-18-5	28.00000	0.00242
AP One	U.S. Well Services	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00223
AI-301	U.S. Well Services	Acid Corrosion Inhibitors				
			Diethylene Glycol	111-46-6	30.00000	0.00013
			Methenamine	100-97-0	20.00000	0.00010
			Hydrogen Chloride	7647-01-0	10.00000	0.00004
			Polyethylene polyamine	68603-67-8	10.00000	0.00004
			Coco amine	61791-14-8	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)

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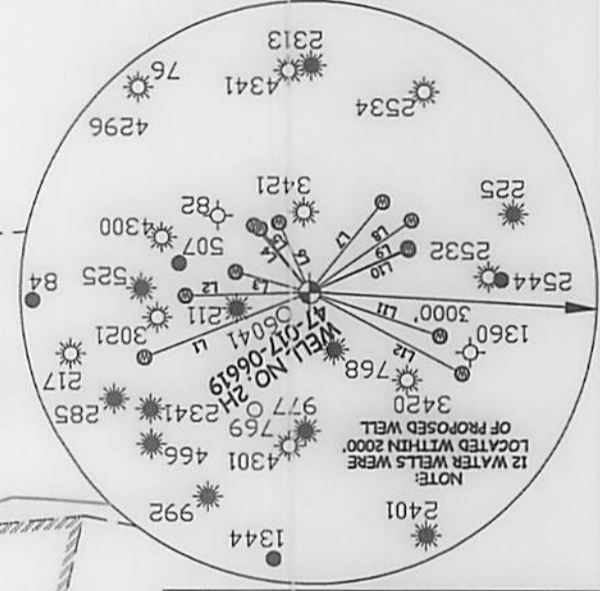
JOB # 14-074WA
DRAWING # JAMESHAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL
(IF "GAS") PRODUCTION X STORAGE X LIQUID INJECTION X WASTE DISPOSAL
LOCATION: ELEVATION 1,000' ORIGINAL - 990' AS DRILLED
QUADRANGLE OXFORD 7.5
DISTRICT CENTRAL
COUNTY DODDRIDGE
SURFACE OWNER ROBERT WILLIAMS
LEASE ACRES +/- 37.67 ACRES +/-
OPERATOR'S WELL # JAMES UNIT 2H
API WELL #
STATE COUNTY PERMIT
47 - 017 - 06619



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 +/-
- Existing Fence
- Found monument, as noted
- Proposed Well Path
- As Drilled Well Path



LINE	BEARING	DISTANCE
L1	N 87.18° E	1771.0'
L2	N 87.13° E	1211.0'
L3	S 75.08° E	711.0'
L4	S 36.50° E	831.0'
L5	S 34.31° E	761.0'
L6	S 18.59° E	731.0'
L7	S 42.28° W	1231.0'
L8	S 67.37° W	1341.0'
L9	S 68.33° W	1171.0'
L10	S 69.28° W	1171.0'
L11	N 71.45° W	1491.1'
L12	N 62.44° W	1851.3'

WELL OPERATOR ANTERO RESOURCES CORP. 1615 WYNKOOP STREET DENVER, CO 80202
DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM 5400 D BIG TYLER ROAD CHARLESTON, WV 25313
TARGET FORMATION MARCELLUS
(SPECIFY) (X) AS DRILLED
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PERMIT COUNTY NAME PERMIT

DATE 05/29/15
OPERATOR'S WELL # JAMES UNIT 2H
API WELL #

1. NO OCCUPIED DWELLINGS OR BUILDINGS
2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
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.

AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION: N: 271.560ft E: 1.614,023ft LAT: 39°14'15.20" LON: 80°51'45.79"
 BOTTOM HOLE INFORMATION: N: 262.978ft E: 1.619,789ft LAT: 39°12'51.24" LON: 80°50'30.89"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TIMBLE GEODT SUBMETER PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION: N: 4,343,157m E: 511,862m
 BOTTOM HOLE INFORMATION: N: 4,340,572m E: 513,662m

13,027' TO BOTTOM HOLE
4,533' TO BOTTOM HOLE
8,324' TO BOTTOM HOLE
2,431' TO BOTTOM HOLE
LONGITUDE 80°50'00"
LONGITUDE 80°50'00"
LONGITUDE 80°50'00"
LONGITUDE 80°50'00"

5/23/2015