

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

API 47 - 017 - 06474 County Doddridge District Central
Quad Pennsboro 7.5' Pad Name Alvadore Field/Pool Name ---
Farm name McCloy, Alvadore, Jr., et ux Well Number Leason Run 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 4347126m Easting 510128m
Landing Point of Curve Northing 4346744.72m Easting 510057.51m
Bottom Hole Northing 4344935m Easting 510920m

Elevation (ft) 1057' 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 5/1/2014 Date drilling commenced 6/15/2014 Date drilling ceased 11/13/2014
Date completion activities began 12/7/2014 Date completion activities ceased 2/26/2015
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 332' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 1546', 1571' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) No

No Received
Office of Oil & Gas
NOV 27 2015

Reviewed by:
JK 8/21/15
10/23/2015

API 47-017 - 06474 Farm name McCloy, Alvadore, Jr., et ux Well number Leason Run 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	28"	20"	40'	New	106.5# K-55	N/A	Y
Surface	17- 1/2"	13- 3/8"	444'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2506'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	14264'	New	20# P-110	N/A	Y
Tubing		2-3/8"	6724'		5.95# 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	195 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	590 sx	15.6	1.18	308	0'	8 Hrs.
Coal							
Intermediate 1	Class A	921 sx	15.6	1.18	785	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	850 sx (Lead) 1250 sx (Tail)	14.5 Lead 15.2 Tail	1.30 Lead 1.86 Tail	2808	-500' into intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 14264' MD, 6589' TVD Loggers TD (ft) 14214'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5797'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Hudkins Unit 1H API #47-017-06415). Please reference the wireline logs submitted with Form WR-35 for Hudkins 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 _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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API 47- 017 - 06474 Farm name McCloy, Alvadore, Jr., et ux Well number Leason Run Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE 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 EXHIBIT 2								
								Received Office of Oil & Gas

Please insert additional pages as applicable.

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API 47- 017 - 06474 Farm name McCloy, Alvadore, Jr., et ux Well number Leason Run Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
<u>Marcellus</u>	<u>6425' (TOP)</u>	<u>TVD</u>	<u>6812' (TOP)</u> 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 2592 mcfpd Oil 4 bpd NGL --- bpd Water 3 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	<u>0</u>		<u>0</u>		

***PLEASE SEE EXHIBIT 3**

Please insert additional pages as applicable.

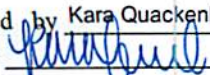
Drilling Contractor Precision Drilling Company, LP
Address 2640 Reach Rd. City Williamsport State PA Zip 17701

Logging Company STRC
Address 1560 Good Hope Pike City Clarksburg State WV Zip 26301

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

Stimulating Company Baker Hughes
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature  Title Permitting Agent Date 7/17/2015

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API 47-017-06474 Farm Name McCloy, Alvadore, Jr., et ux Well Number Leason Run Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	7-Dec-14	14,005	14,173	60	Marcellus
2	19-Jan-15	13,807	13,974	60	Marcellus
3	20-Jan-15	13,608	13,776	60	Marcellus
4	21-Jan-15	13,409	13,577	60	Marcellus
5	22-Jan-15	13,211	13,378	60	Marcellus
6	22-Jan-15	13,012	13,179	60	Marcellus
7	22-Jan-15	12,813	12,981	60	Marcellus
8	23-Jan-15	12,614	12,782	60	Marcellus
9	23-Jan-15	12,416	12,583	60	Marcellus
10	24-Jan-15	12,217	12,385	60	Marcellus
11	24-Jan-15	12,018	12,186	60	Marcellus
12	25-Jan-15	11,820	11,987	60	Marcellus
13	25-Jan-15	11,621	11,789	60	Marcellus
14	26-Jan-15	11,422	11,590	60	Marcellus
15	26-Jan-15	11,223	11,391	60	Marcellus
16	27-Jan-15	11,025	11,192	60	Marcellus
17	27-Jan-15	10,826	10,994	60	Marcellus
18	27-Jan-15	10,627	10,795	60	Marcellus
19	28-Jan-15	10,429	10,596	60	Marcellus
20	28-Jan-15	10,230	10,398	60	Marcellus
21	29-Jan-15	10,031	10,199	60	Marcellus
22	29-Jan-15	9,833	10,000	60	Marcellus
23	30-Jan-15	9,634	9,801	60	Marcellus
24	30-Jan-15	9,435	9,603	60	Marcellus
25	30-Jan-15	9,236	9,404	60	Marcellus
26	31-Jan-15	9,038	9,205	60	Marcellus
27	31-Jan-15	8,839	9,007	60	Marcellus
28	1-Feb-15	8,640	8,808	60	Marcellus
29	1-Feb-15	8,442	8,609	60	Marcellus
30	2-Feb-15	8,243	8,410	60	Marcellus
31	2-Feb-15	8,044	8,212	60	Marcellus
32	3-Feb-15	7,845	8,013	60	Marcellus
33	4-Feb-15	7,647	7,814	60	Marcellus
34	4-Feb-15	7,448	7,616	60	Marcellus
35	4-Feb-15	7,249	7,417	60	Marcellus
36	5-Feb-15	7,051	7,218	60	Marcellus
37	5-Feb-15	6,852	7,020	60	Marcellus

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API 47-017-06474 Farm Name McCloy, Alvadore, Jr., et ux Well Number Leason Run Unit 1H

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	19-Jan-15	64.0	6,364	N/A	3,692	227,719	6,462	N/A
2	19-Jan-15	63.0	6,394	6,069	5,045	246,613	6,617	N/A
3	20-Jan-15	64.0	6,522	5,669	5,323	245,060	6,792	N/A
4	21-Jan-15	63.0	6,361	5,292	4,966	240,634	6,667	N/A
5	22-Jan-15	64.0	6,524	5,510	5,301	249,263	6,609	N/A
6	22-Jan-15	63.0	6,358	5,211	5,177	245,886	6,479	N/A
7	23-Jan-15	64.0	6,744	5,602	4,400	247,265	6,507	N/A
8	23-Jan-15	65.0	6,658	5,391	5,271	243,697	6,442	N/A
9	23-Jan-15	67.0	6,902	5,867	5,016	246,540	6,459	N/A
10	24-Jan-15	67.0	6,773	5,664	5,308	246,489	6,450	N/A
11	25-Jan-15	64.0	6,413	5,674	5,300	244,770	6,386	N/A
12	25-Jan-15	64.0	6,457	5,482	5,301	243,516	6,352	N/A
13	25-Jan-15	64.0	6,427	5,758	4,804	247,395	6,313	N/A
14	25-Jan-15	64.0	6,429	5,652	4,864	244,352	6,344	N/A
15	27-Jan-15	64.0	6,429	5,464	5,029	243,316	6,309	N/A
16	27-Jan-15	61.0	6,542	5,610	6,208	208,325	6,178	N/A
17	27-Jan-15	67.6	6,709	5,453	5,831	248,690	6,346	N/A
18	28-Jan-15	65.0	6,143	5,419	5,378	176,718	6,623	N/A
19	28-Jan-15	65.0	6,143	5,622	5,019	247,393	6,784	N/A
20	29-Jan-15	68.0	6,960	5,597	5,621	246,939	6,266	N/A
21	29-Jan-15	68.0	6,808	5,619	5,184	232,221	5,979	N/A
22	31-Jan-15	68.0	6,808	5,629	5,198	245,688	6,332	N/A
23	30-Jan-15	69.0	6,284	5,614	4,207	245,805	6,234	N/A
24	31-Jan-15	67.0	6,497	5,725	5,222	247,160	6,271	N/A
25	31-Jan-15	68.0	6,801	5,835	4,628	241,362	6,095	N/A
26	1-Feb-15	67.9	6,684	5,501	4,603	247,838	6,281	N/A
27	1-Feb-15	68.1	6,425	5,618	5,161	243,817	6,156	N/A
28	2-Feb-15	63.4	5,985	5,686	4,495	247,670	6,191	N/A
29	2-Feb-15	63.0	6,299	5,414	4,731	200,879	6,499	N/A
30	2-Feb-15	67.1	6,075	5,402	5,367	244,200	6,100	N/A
31	3-Feb-15	68.1	6,273	4,941	5,142	247,009	6,093	N/A
32	3-Feb-15	63.8	6,195	5,395	5,107	247,221	6,041	N/A
33	4-Feb-15	64.0	5,857	5,021	5,016	245,837	6,411	N/A
34	4-Feb-15	68.0	5,780	5,119	5,072	245,663	5,937	N/A
35	5-Feb-15	68.0	5,780	5,326	5,032	245,212	5,936	N/A
36	5-Feb-15	66.0	6,108	5,396	4,982	243,928	5,902	N/A
37	5-Feb-15	65.0	5,758	5,048	3,712	236,813	5,787	N/A
	AVG=	65.5	6,396	5,508	5,019	8,898,903	233,630	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	332'	N/A	332'	N/A
Shale/ Sandstone	0	207	0	207
Shale/ Trace Coal	est. 207	247	est. 207	247
Sandstone	est. 247	467	est. 247	467
Shale/ Limestone	est. 467	567	est. 467	567
Sandstone	est. 567	627	est. 567	627
Shale/ Trace Limestone	est. 627	787	est. 627	787
Siltstone	est. 787	812	est. 787	812
Shale/ Limestone	est. 812	967	est. 812	967
Sandstone	est. 967	1,047	est. 967	1,047
Shale/ Limestone	est. 1047	1,147	est. 1047	1,147
Shale/ Trace Coal	est. 1147	1,187	est. 1147	1,187
Sandstone/ Trace Coal	est. 1187	1247	est. 1187	1247
Shale/ Trace Limestone	est. 1247	1327	est. 1247	1327
Sandstone/ Shale	est. 1327	1427	est. 1327	1427
Sanstone/ Coal	est. 1427	1567	est. 1427	1567
Shale/ Trace Coal	est. 1567	1727	est. 1567	1727
Siltstone/ Trace Coal	est. 1727	1921	est. 1727	1927
Big Lime	1921	2044	1927	2050
Big Injun	2044	2422	2050	2429
Gantz Sand	2422	2595	2429	2602
Fifty Foot Sandstone	2595	2684	2602	2690
Gordon	2684	2977	2690	2983
Fifth Sandstone	2977	3109	2983	3116
Bayard	3109	3427	3116	3433
Warren	3427	3810	3433	3816
Speechley	3810	4084	3816	4090
Baltown	4084	4505	4090	4512
Bradford	4505	4920	4512	4926
Benson	4920	5181	4926	5188
Alexander	5181	5339	5188	5346
Elk	5339	5818	5346	5826
Rhinestreet	5818	6096	5826	6197
Sycamore	6096	6253	6197	6452
Middlesex	6253	6363	6452	6654
Burkett	6363	6397	6654	6730
Tully	6397	6425	6730	6812
Marcellus	6425	NA	6812	NA

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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JUL 27 2015

10/23/2015

17-06474



Leason Run Unit 1H
Doddridge County WV
Northing: 14261480.45
Eastings: 1673599.15
As Drilled



Genis Lightfoot
 16:00, November 25 2014
 Scientific Drilling
 11220 N.W. 10th St.
 Yukon, OK 73099

WELL DETAILS Leason Run Unit 1H
 Ground Level: 1055.0
 Northing: 14261480.45
 Easting: 1673599.15
 Longitude: 82° 57' 837 W

SITE DETAILS: Hudkins/Leason/Pad
 Site Center: Hudkins 2H
 Site Centre Northing: 14261468.18
 Easting: 1673583.36
 Positional Uncertainty: 2.0
 Convergence: 0.07
 Local North: Grid

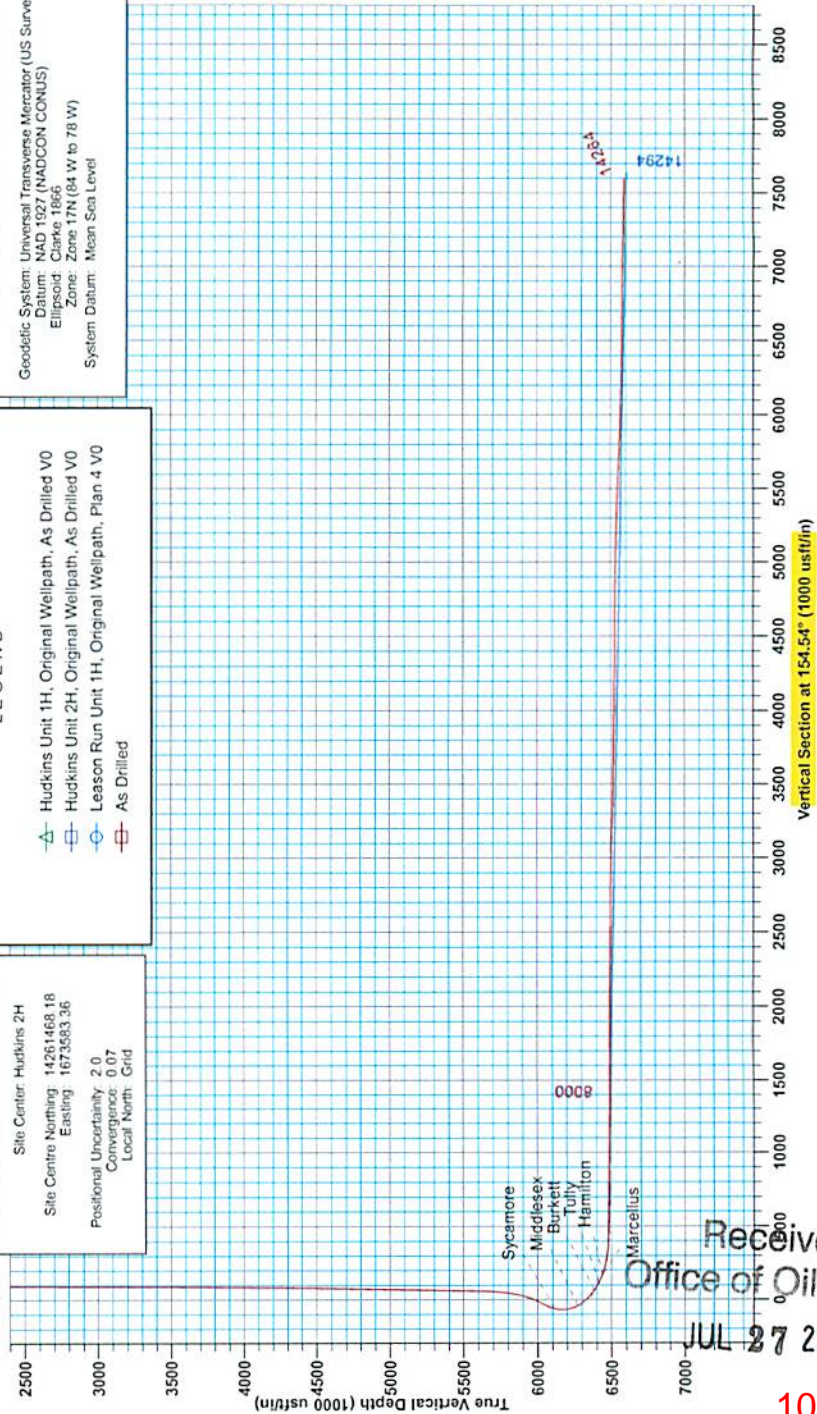
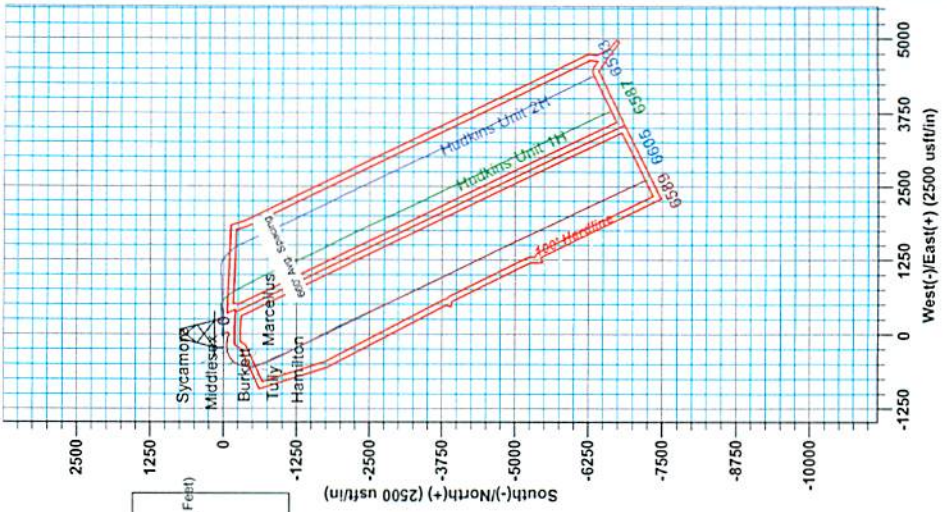
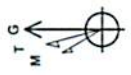
LEGEND

- ▲ Hudkins Unit 1H, Original Wellpath, As Drilled V0
- Hudkins Unit 2H, Original Wellpath, As Drilled V0
- Leason Run Unit 1H, Original Wellpath, Plan 4 V0
- As Drilled

PROJECT DETAILS: Doddridge 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

Azimuths to Grid North
 True North: -0.07°
 Magnetic North: -8.48°
 Magnetic Field
 Strength: 52233.25nT
 Dip Angle: 66.65°
 Date: 9/9/2014
 Model: BCGM2014

To convert Magnetic North to Grid, Subtract 8.48°
 To convert True North to Grid, Subtract 0.07°



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Antero Resources

Doddridge County WV
Hudkins/Leason/Pad
Leason Run Unit 1H
Original Wellpath

Design: As Drilled

EOW Completion Report

25 November, 2014



10/23/2015

17-06474



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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	Hudkins/Leason/Pad				
Site Position:	Northing:	14,261,468.18 usft	Latitude:	39° 16' 23.897 N	
From: Map	Easting:	1,673,583.36 usft	Longitude:	80° 52' 58.098 W	
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.07 °

Well	Leason Run Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,261,480.45 usft	Latitude:	39° 16' 24.018 N
	+E/-W	0.0 usft	Easting:	1,673,599.15 usft	Longitude:	80° 52' 57.897 W
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,074.0 usft	Ground Level:	1,055.0 usft	

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	9/9/2014	-8.41	66.85	52,233

Design	As Drilled			
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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	11/25/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
106.0	5,483.0	Survey #6 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,538.0	14,264.0	Survey #7 SDI MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	

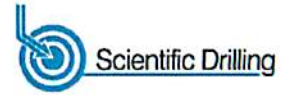
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
106.0	0.18	349.65	106.0	0.2	0.0	-0.2	0.17
131.0	0.17	317.36	131.0	0.2	-0.1	-0.2	0.39
156.0	0.14	284.89	156.0	0.3	-0.1	-0.3	0.37
181.0	0.12	296.26	181.0	0.3	-0.2	-0.3	0.13
206.0	0.09	323.11	206.0	0.3	-0.2	-0.4	0.23
231.0	0.11	272.56	231.0	0.3	-0.2	-0.4	0.35
256.0	0.28	261.52	256.0	0.3	-0.3	-0.5	0.69
281.0	0.30	261.59	281.0	0.3	-0.5	-0.5	0.08
306.0	0.19	280.63	306.0	0.3	-0.6	-0.5	0.08
331.0	0.22	289.60	331.0	0.3	-0.6	-0.5	0.18

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JUL 27 2015

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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)		
356.0	0.19	274.41	356.0	0.3	-0.7	-0.6	0.25		
381.0	0.37	279.21	381.0	0.4	-0.8	-0.7	0.73		
406.0	0.40	268.33	406.0	0.4	-1.0	-0.8	0.32		
431.0	0.36	269.37	431.0	0.4	-1.2	-0.8	0.16		
456.0	0.10	275.13	456.0	0.4	-1.3	-0.9	1.04		
481.0	0.04	266.20	481.0	0.4	-1.3	-0.9	0.24		
506.0	0.68	136.21	506.0	0.3	-1.2	-0.8	2.83		
531.0	1.56	138.03	531.0	-0.1	-0.9	-0.3	3.52		
556.0	2.42	143.09	556.0	-0.8	-0.3	0.6	3.51		
581.0	3.53	143.15	580.9	-1.8	0.4	1.8	4.44		
606.0	3.92	144.20	605.9	-3.1	1.4	3.4	1.58		
631.0	4.08	145.96	630.8	-4.6	2.4	5.1	0.81		
656.0	4.23	148.59	655.8	-6.1	3.4	6.9	0.97		
681.0	5.23	156.39	680.7	-7.9	4.3	9.0	4.75		
706.0	5.54	157.18	705.6	-10.1	5.2	11.3	1.27		
731.0	5.63	157.24	730.4	-12.3	6.2	13.8	0.36		
756.0	5.73	157.06	755.3	-14.6	7.1	16.2	0.41		
781.0	5.77	157.18	780.2	-16.9	8.1	18.7	0.17		
806.0	5.84	157.15	805.1	-19.2	9.1	21.3	0.28		
831.0	5.78	157.22	829.9	-21.6	10.1	23.8	0.24		
856.0	6.00	157.24	854.8	-23.9	11.1	26.4	0.88		
881.0	5.99	157.15	879.7	-26.3	12.1	29.0	0.05		
906.0	6.12	156.81	904.5	-28.8	13.1	31.6	0.54		
931.0	6.13	157.15	929.4	-31.2	14.2	34.3	0.15		
956.0	7.37	152.04	954.2	-33.9	15.4	37.2	5.51		
981.0	8.26	149.32	979.0	-36.8	17.1	40.6	3.85		
1,006.0	9.44	148.31	1,003.7	-40.1	19.1	44.4	4.76		
1,031.0	10.65	146.01	1,028.3	-43.8	21.5	48.7	5.10		
1,056.0	11.13	146.57	1,052.9	-47.7	24.1	53.4	1.97		
1,081.0	10.84	151.22	1,077.4	-51.8	26.5	58.2	3.73		
1,106.0	9.93	158.30	1,102.0	-55.8	28.5	62.6	6.26		
1,131.0	9.24	165.21	1,126.6	-59.8	29.8	66.8	5.36		
1,156.0	8.72	171.57	1,151.3	-63.6	30.6	70.6	4.48		
1,181.0	8.56	173.16	1,176.0	-67.3	31.1	74.1	1.15		
1,206.0	7.27	178.89	1,200.8	-70.7	31.3	77.3	6.04		
1,231.0	6.17	184.88	1,225.6	-73.7	31.2	79.9	5.21		
1,256.0	5.55	189.88	1,250.5	-76.2	30.9	82.1	3.21		
1,281.0	5.03	193.96	1,275.4	-78.4	30.4	83.9	2.57		
1,306.0	3.92	201.10	1,300.3	-80.3	29.9	85.3	4.96		
1,331.0	3.51	206.17	1,325.3	-81.8	29.2	86.4	2.10		
1,356.0	3.38	205.80	1,350.2	-83.1	28.6	87.3	0.53		
1,381.0	3.19	208.64	1,375.2	-84.4	27.9	88.2	1.00		
1,406.0	2.60	227.28	1,400.2	-85.4	27.2	88.8	4.41		
1,431.0	2.29	233.19	1,425.1	-86.1	26.3	89.1	3.91		

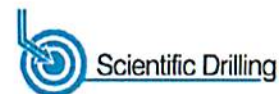
Registered Professional Engineer

 Office of Oil & Gas

17.06474



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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	2.30	242.59	1,450.1	-86.6	25.5	89.2	1.50		
1,481.0	2.24	240.56	1,475.1	-87.1	24.6	89.2	0.40		
1,506.0	2.23	242.55	1,500.1	-87.6	23.8	89.3	0.31		
1,531.0	2.23	240.94	1,525.1	-88.0	22.9	89.3	0.25		
1,556.0	2.09	238.31	1,550.0	-88.5	22.1	89.4	0.69		
1,581.0	2.12	243.94	1,575.0	-88.9	21.3	89.5	0.84		
1,606.0	2.21	243.83	1,600.0	-89.4	20.4	89.5	0.36		
1,631.0	2.15	242.04	1,625.0	-89.8	19.6	89.5	0.36		
1,656.0	2.16	240.54	1,650.0	-90.2	18.8	89.5	0.23		
1,681.0	2.04	236.85	1,675.0	-90.7	18.0	89.6	0.72		
1,706.0	2.03	243.03	1,699.9	-91.2	17.2	89.7	0.88		
1,731.0	2.05	241.46	1,724.9	-91.6	16.4	89.7	0.24		
1,756.0	2.01	239.22	1,749.9	-92.0	15.7	89.8	0.36		
1,781.0	1.88	237.45	1,774.9	-92.5	14.9	89.9	0.57		
1,806.0	1.87	238.52	1,799.9	-92.9	14.3	90.0	0.15		
1,831.0	1.78	231.76	1,824.9	-93.3	13.6	90.1	0.93		
1,856.0	1.77	230.99	1,849.9	-93.8	13.0	90.3	0.10		
1,881.0	1.64	230.56	1,874.8	-94.3	12.4	90.5	0.52		
1,906.0	1.63	236.43	1,899.8	-94.7	11.8	90.6	0.67		
1,931.0	1.63	232.84	1,924.8	-95.1	11.3	90.7	0.41		
1,956.0	1.65	235.63	1,949.8	-95.6	10.7	90.9	0.33		
1,981.0	1.73	236.28	1,974.8	-96.0	10.1	91.0	0.33		
2,006.0	1.62	237.61	1,999.8	-96.4	9.5	91.1	0.47		
2,031.0	1.60	237.72	2,024.8	-96.7	8.9	91.2	0.08		
2,056.0	1.60	236.18	2,049.8	-97.1	8.3	91.2	0.17		
2,081.0	1.58	236.97	2,074.8	-97.5	7.7	91.3	0.12		
2,106.0	1.73	242.47	2,099.7	-97.9	7.1	91.4	0.87		
2,131.0	1.50	237.21	2,124.7	-98.2	6.5	91.5	1.09		
2,156.0	1.54	235.09	2,149.7	-98.6	5.9	91.6	0.28		
2,181.0	1.46	239.87	2,174.7	-98.9	5.4	91.6	0.59		
2,206.0	1.43	241.39	2,199.7	-99.2	4.8	91.7	0.19		
2,231.0	1.40	235.88	2,224.7	-99.6	4.3	91.7	0.56		
2,256.0	1.36	238.01	2,249.7	-99.9	3.8	91.8	0.26		
2,281.0	1.18	238.20	2,274.7	-100.2	3.3	91.9	0.72		
2,306.0	1.24	233.52	2,299.7	-100.5	2.9	92.0	0.46		
2,331.0	1.16	235.60	2,324.7	-100.8	2.5	92.1	0.36		
2,356.0	1.22	239.22	2,349.7	-101.1	2.0	92.1	0.38		
2,381.0	1.32	236.16	2,374.7	-101.4	1.6	92.2	0.48		
2,406.0	1.28	232.60	2,399.7	-101.7	1.1	92.3	0.36		
2,431.0	1.19	237.19	2,424.7	-102.0	0.7	92.4	0.53		
2,456.0	1.31	238.00	2,449.7	-102.3	0.2	92.4	0.49		
2,481.0	1.18	230.94	2,474.6	-102.6	-0.3	92.5	0.80		
2,506.0	0.96	235.32	2,499.6	-102.9	-0.6	92.6	0.94		
2,531.0	1.00	242.07	2,524.6	-103.1	-1.0	92.7	0.57		
2,556.0	0.89	247.68	2,549.6	-103.3	-1.4	92.7	0.57		

Received
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JUL 27 2015

17-06474



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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)	
2,581.0	0.84	247.22	2,574.6	-103.4	-1.7	92.7	0.20	
2,606.0	0.72	246.99	2,599.6	-103.6	-2.0	92.6	0.48	
2,631.0	0.77	257.14	2,624.6	-103.7	-2.3	92.6	0.56	
2,656.0	0.68	251.42	2,649.6	-103.7	-2.6	92.5	0.46	
2,681.0	0.70	253.43	2,674.6	-103.8	-2.9	92.5	0.13	
2,706.0	0.70	254.95	2,699.6	-103.9	-3.2	92.4	0.07	
2,731.0	0.52	259.18	2,724.6	-104.0	-3.5	92.4	0.74	
2,756.0	0.70	266.60	2,749.6	-104.0	-3.7	92.3	0.78	
2,781.0	0.59	268.65	2,774.6	-104.0	-4.0	92.2	0.45	
2,806.0	0.53	269.47	2,799.6	-104.0	-4.3	92.1	0.24	
2,831.0	0.61	271.79	2,824.6	-104.0	-4.5	92.0	0.33	
2,856.0	0.58	271.67	2,849.6	-104.0	-4.8	91.9	0.12	
2,881.0	0.64	270.43	2,874.6	-104.0	-5.0	91.7	0.25	
2,906.0	0.60	270.73	2,899.6	-104.0	-5.3	91.6	0.16	
2,931.0	0.67	272.13	2,924.6	-104.0	-5.6	91.5	0.29	
2,956.0	0.66	273.39	2,949.6	-104.0	-5.9	91.4	0.07	
2,981.0	0.63	277.58	2,974.6	-104.0	-6.2	91.2	0.22	
3,006.0	0.56	277.46	2,999.6	-103.9	-6.4	91.1	0.28	
3,031.0	0.56	271.21	3,024.6	-103.9	-6.7	91.0	0.24	
3,056.0	0.43	277.24	3,049.6	-103.9	-6.9	90.9	0.56	
3,081.0	0.49	280.17	3,074.6	-103.9	-7.1	90.7	0.26	
3,106.0	0.44	279.74	3,099.6	-103.8	-7.3	90.6	0.20	
3,131.0	0.46	278.29	3,124.6	-103.8	-7.5	90.5	0.09	
3,156.0	0.44	278.97	3,149.6	-103.8	-7.7	90.4	0.08	
3,181.0	0.41	286.50	3,174.6	-103.7	-7.8	90.3	0.25	
3,206.0	0.48	288.94	3,199.6	-103.7	-8.0	90.2	0.29	
3,231.0	0.41	292.57	3,224.6	-103.6	-8.2	90.0	0.30	
3,256.0	0.37	293.86	3,249.6	-103.5	-8.4	89.9	0.16	
3,281.0	0.37	298.01	3,274.6	-103.5	-8.5	89.8	0.11	
3,306.0	0.30	306.94	3,299.6	-103.4	-8.6	89.6	0.35	
3,331.0	0.37	306.74	3,324.6	-103.3	-8.7	89.5	0.28	
3,356.0	0.36	309.80	3,349.6	-103.2	-8.9	89.4	0.09	
3,381.0	0.47	298.76	3,374.6	-103.1	-9.0	89.2	0.54	
3,406.0	0.35	306.75	3,399.6	-103.0	-9.2	89.1	0.53	
3,431.0	0.39	305.67	3,424.6	-102.9	-9.3	88.9	0.16	
3,456.0	0.56	295.90	3,449.6	-102.8	-9.5	88.7	0.75	
3,481.0	0.33	315.81	3,474.6	-102.7	-9.6	88.6	1.10	
3,506.0	0.34	316.20	3,499.6	-102.6	-9.7	88.4	0.04	
3,531.0	0.54	298.39	3,524.6	-102.5	-9.9	88.3	0.96	
3,556.0	0.54	291.23	3,549.6	-102.4	-10.1	88.1	0.27	
3,581.0	0.39	299.99	3,574.6	-102.3	-10.3	87.9	0.66	
3,606.0	0.41	303.12	3,599.6	-102.2	-10.4	87.9	0.12	
3,631.0	0.44	298.22	3,624.6	-102.1	-10.6	87.5	0.19	
3,656.0	0.48	294.12	3,649.6	-102.0	-10.8	87.5	0.21	

Received
Office of Oil & Gas
JUL 27 2015

17.06474



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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)	
3,681.0	0.41	305.16	3,674.6	-101.9	-11.0	87.3	0.44	
3,706.0	0.45	299.64	3,699.6	-101.8	-11.1	87.2	0.23	
3,731.0	0.35	307.18	3,724.6	-101.7	-11.3	87.0	0.45	
3,756.0	0.37	316.38	3,749.6	-101.6	-11.4	86.9	0.24	
3,781.0	0.56	298.68	3,774.6	-101.5	-11.5	86.7	0.94	
3,806.0	0.51	296.61	3,799.6	-101.4	-11.7	86.5	0.21	
3,831.0	0.36	309.94	3,824.6	-101.3	-11.9	86.4	0.72	
3,856.0	0.48	308.65	3,849.6	-101.2	-12.0	86.2	0.48	
3,881.0	0.46	306.17	3,874.6	-101.1	-12.2	86.0	0.11	
3,906.0	0.40	314.44	3,899.6	-101.0	-12.4	85.8	0.34	
3,931.0	0.47	304.47	3,924.6	-100.8	-12.5	85.7	0.41	
3,956.0	0.52	311.57	3,949.6	-100.7	-12.7	85.5	0.32	
3,981.0	0.47	304.43	3,974.6	-100.6	-12.8	85.3	0.32	
4,006.0	0.51	323.61	3,999.6	-100.4	-13.0	85.1	0.67	
4,031.0	0.41	324.36	4,024.6	-100.3	-13.1	84.9	0.40	
4,056.0	0.53	325.76	4,049.6	-100.1	-13.2	84.7	0.48	
4,081.0	0.54	320.98	4,074.6	-99.9	-13.4	84.5	0.18	
4,106.0	0.46	313.85	4,099.6	-99.7	-13.5	84.2	0.40	
4,131.0	0.42	318.05	4,124.6	-99.6	-13.6	84.1	0.21	
4,156.0	0.48	316.08	4,149.6	-99.5	-13.8	83.9	0.25	
4,181.0	0.45	315.53	4,174.6	-99.3	-13.9	83.7	0.12	
4,206.0	0.49	316.94	4,199.6	-99.2	-14.1	83.5	0.17	
4,231.0	0.55	312.42	4,224.6	-99.0	-14.2	83.3	0.29	
4,256.0	0.54	319.93	4,249.6	-98.8	-14.4	83.1	0.29	
4,281.0	0.50	317.14	4,274.6	-98.7	-14.5	82.8	0.19	
4,306.0	0.57	317.73	4,299.6	-98.5	-14.7	82.6	0.28	
4,331.0	0.77	313.84	4,324.6	-98.3	-14.9	82.3	0.82	
4,356.0	0.71	311.82	4,349.6	-98.1	-15.1	82.0	0.26	
4,381.0	0.70	310.23	4,374.6	-97.9	-15.4	81.8	0.09	
4,406.0	0.78	307.81	4,399.6	-97.7	-15.6	81.5	0.34	
4,431.0	0.81	307.01	4,424.6	-97.5	-15.9	81.2	0.13	
4,456.0	0.80	312.08	4,449.6	-97.2	-16.2	80.8	0.29	
4,481.0	0.83	306.49	4,474.5	-97.0	-16.4	80.5	0.34	
4,506.0	0.80	304.02	4,499.5	-96.8	-16.7	80.2	0.18	
4,531.0	0.93	307.03	4,524.5	-96.6	-17.0	79.9	0.55	
4,556.0	0.87	307.19	4,549.5	-96.3	-17.3	79.5	0.24	
4,581.0	0.92	306.98	4,574.5	-96.1	-17.7	79.2	0.20	
4,606.0	0.89	307.91	4,599.5	-95.9	-18.0	78.8	0.13	
4,631.0	1.04	308.07	4,624.5	-95.6	-18.3	78.5	0.60	
4,656.0	1.09	308.32	4,649.5	-95.3	-18.7	78.0	0.20	
4,681.0	1.02	307.36	4,674.5	-95.0	-19.0	77.6	0.29	
4,706.0	0.99	309.70	4,699.5	-94.8	-19.4	77.2	0.20	
4,731.0	1.13	310.91	4,724.5	-94.5	-19.7	76.8	0.57	
4,756.0	1.11	310.68	4,749.5	-94.1	-20.1	76.4	0.08	

Received
Office of Oil & Gas

17-06474



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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)
4,781.0	1.06	313.32	4,774.5	-93.8	-20.5	75.9	0.28
4,806.0	1.18	313.14	4,799.5	-93.5	-20.8	75.5	0.48
4,831.0	1.23	310.71	4,824.5	-93.1	-21.2	75.0	0.29
4,856.0	1.28	309.27	4,849.5	-92.8	-21.6	74.5	0.24
4,881.0	1.24	310.75	4,874.5	-92.4	-22.0	74.0	0.21
4,906.0	1.22	311.35	4,899.5	-92.1	-22.4	73.5	0.10
4,931.0	1.22	313.44	4,924.5	-91.7	-22.8	73.0	0.18
4,956.0	1.05	314.26	4,949.5	-91.4	-23.2	72.5	0.68
4,981.0	1.16	315.57	4,974.5	-91.0	-23.5	72.1	0.45
5,006.0	1.17	315.89	4,999.5	-90.7	-23.9	71.6	0.05
5,031.0	1.29	317.30	5,024.4	-90.3	-24.3	71.1	0.49
5,056.0	1.26	319.62	5,049.4	-89.9	-24.6	70.6	0.24
5,081.0	1.28	313.28	5,074.4	-89.5	-25.0	70.0	0.57
5,106.0	1.22	315.88	5,099.4	-89.1	-25.4	69.5	0.33
5,131.0	1.16	320.53	5,124.4	-88.7	-25.7	69.0	0.45
5,156.0	1.19	318.97	5,149.4	-88.3	-26.1	68.5	0.18
5,181.0	1.23	319.77	5,174.4	-87.9	-26.4	68.0	0.17
5,206.0	1.27	325.18	5,199.4	-87.5	-26.8	67.5	0.50
5,231.0	1.30	321.67	5,224.4	-87.0	-27.1	66.9	0.34
5,256.0	1.28	320.47	5,249.4	-86.6	-27.4	66.4	0.13
5,281.0	1.29	321.24	5,274.4	-86.2	-27.8	65.8	0.08
5,306.0	1.28	323.06	5,299.4	-85.7	-28.1	65.3	0.17
5,331.0	1.22	320.37	5,324.4	-85.3	-28.5	64.8	0.34
5,356.0	1.24	324.25	5,349.4	-84.9	-28.8	64.2	0.34
5,381.0	1.39	327.36	5,374.4	-84.4	-29.1	63.7	0.66
5,406.0	1.22	323.31	5,399.4	-83.9	-29.4	63.1	0.77
5,431.0	1.31	322.38	5,424.4	-83.5	-29.8	62.6	0.37
5,456.0	1.19	320.68	5,449.3	-83.0	-30.1	62.0	0.50
5,481.0	1.37	323.34	5,474.3	-82.6	-30.5	61.5	0.76
5,483.0	1.38	323.52	5,476.3	-82.6	-30.5	61.4	0.54
5,538.0	1.28	316.19	5,531.3	-81.6	-31.3	60.2	0.36
5,627.0	1.02	309.41	5,620.3	-80.4	-32.6	58.6	0.33
5,658.0	1.72	296.88	5,651.3	-80.0	-33.2	57.9	2.44
5,688.0	3.23	294.11	5,681.3	-79.4	-34.4	56.9	5.05
5,717.0	4.97	292.48	5,710.2	-78.6	-36.3	55.4	6.01
5,748.0	6.82	291.51	5,741.0	-77.4	-39.3	53.0	5.98
5,766.0	7.37	287.86	5,758.9	-76.7	-41.4	51.5	3.95
5,797.0	9.64	285.64	5,789.5	-75.4	-45.8	48.4	7.40
5,827.0	13.30	286.33	5,818.9	-73.7	-51.5	44.4	12.21
5,855.0	17.32	284.62	5,845.9	-71.8	-58.6	39.6	14.45
5,886.0	21.50	282.67	5,875.2	-69.4	-68.6	33.1	13.64
5,916.0	25.85	280.15	5,902.6	-67.0	-80.4	25.9	14.88
5,945.0	30.08	278.00	5,928.3	-64.9	-93.9	18.2	14.99
5,976.0	34.56	276.50	5,954.4	-62.8	-110.3	9.3	14.68

17-06474



EOW Completion Report



Company: Antero Resources	Local Co-ordinate Reference: Well Leason Run Unit 1H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site: Hudkins/Leason/Pad	MD Reference: Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well: Leason Run 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)	
6,006.0	38.79	276.09	5,978.5	-60.8	-128.1	-0.1	14.12	
6,035.0	43.36	274.80	6,000.4	-59.0	-147.1	-9.9	16.03	
6,066.0	47.56	271.82	6,022.1	-57.8	-169.1	-20.5	15.18	
6,096.0	51.59	270.51	6,041.5	-57.3	-191.9	-30.8	13.84	
6,124.0	52.83	270.07	6,058.7	-57.2	-214.1	-40.4	4.60	
6,155.0	53.02	265.45	6,077.4	-58.2	-238.8	-50.1	11.91	
6,185.0	52.56	258.50	6,095.6	-61.5	-262.4	-57.3	18.51	
6,214.0	52.89	253.46	6,113.1	-67.1	-284.8	-61.8	13.87	
6,216.0	52.89	253.29	6,114.3	-67.6	-286.3	-62.1	6.91	
Sycamore								
6,245.0	52.99	250.78	6,131.8	-74.7	-308.3	-65.1	6.91	
6,275.0	53.00	249.69	6,149.9	-82.8	-330.9	-67.5	2.90	
6,304.0	52.57	246.00	6,167.4	-91.5	-352.3	-68.8	10.24	
6,335.0	51.63	240.75	6,186.5	-102.5	-374.1	-68.3	13.70	
6,365.0	50.94	235.60	6,205.2	-114.8	-394.0	-65.7	13.59	
6,393.0	50.79	232.06	6,222.9	-127.6	-411.5	-61.7	9.82	
6,424.0	50.58	228.11	6,242.6	-143.0	-429.9	-55.7	9.88	
6,454.0	51.30	222.94	6,261.5	-159.3	-446.5	-48.1	13.59	
6,471.0	52.37	219.58	6,272.0	-169.3	-455.3	-42.8	16.78	
Middlesex								
6,483.0	53.18	217.26	6,279.2	-176.8	-461.3	-38.6	16.78	
6,514.0	54.50	212.92	6,297.5	-197.3	-475.6	-26.3	12.08	
6,544.0	55.46	210.29	6,314.7	-218.2	-488.5	-13.0	7.86	
6,572.0	56.57	208.58	6,330.4	-238.4	-499.9	0.4	6.43	
6,603.0	58.81	205.27	6,347.0	-261.8	-511.8	16.4	11.56	
6,633.0	59.54	201.36	6,362.3	-285.5	-522.0	33.4	11.45	
6,662.0	60.74	197.05	6,376.8	-309.2	-530.2	51.2	13.54	
6,673.0	61.33	194.98	6,382.1	-318.5	-532.9	58.5	17.33	
Burkett								
6,693.0	62.48	191.27	6,391.5	-335.6	-536.9	72.2	17.33	
6,723.0	64.85	185.86	6,404.9	-362.2	-540.9	94.5	17.99	
6,749.0	67.11	183.81	6,415.4	-385.9	-542.9	115.0	11.28	
Tully								
6,751.0	67.28	183.65	6,416.2	-387.7	-543.0	116.6	11.28	
6,782.0	68.94	181.89	6,427.8	-416.4	-544.4	142.0	7.51	
6,810.0	70.19	179.81	6,437.6	-442.7	-544.8	165.5	8.28	
Hamilton								
6,812.0	70.28	179.66	6,438.2	-444.5	-544.8	167.2	8.28	
6,831.0	71.99	176.96	6,444.4	-462.5	-544.2	183.6	16.19	
Marcellus								
6,841.0	72.91	175.56	6,447.4	-472.0	-543.6	192.5	16.19	
6,872.0	75.94	170.88	6,455.7	-501.7	-540.1	220.8	17.52	
6,902.0	78.29	168.42	6,462.4	-530.4	-534.8	249.0	11.19	
6,931.0	80.09	166.83	6,467.8	-558.3	-528.7	276.5	8.22	
6,962.0	81.93	164.55	6,472.7	-587.9	-521.1	306.8	9.38	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run 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)
7,030.0	86.70	156.81	6,479.4	-651.7	-498.8	374.0	13.32
7,057.0	87.11	157.37	6,480.9	-676.5	-488.3	400.9	2.57
7,147.0	89.36	161.36	6,483.7	-760.7	-456.6	490.6	5.09
7,237.0	88.69	157.14	6,485.2	-844.8	-424.7	580.2	4.75
7,326.0	88.89	156.07	6,487.1	-926.5	-389.4	669.1	1.22
7,416.0	89.90	155.66	6,488.0	-1,008.6	-352.6	759.1	1.21
7,506.0	89.40	153.60	6,488.6	-1,089.9	-314.0	849.1	2.36
7,596.0	88.75	153.07	6,490.0	-1,170.3	-273.6	939.1	0.93
7,685.0	90.87	152.42	6,490.3	-1,249.5	-232.9	1,028.0	2.49
7,775.0	89.53	153.78	6,490.0	-1,329.7	-192.1	1,118.0	2.12
7,864.0	89.70	154.01	6,490.6	-1,409.6	-153.0	1,207.0	0.32
7,954.0	89.30	154.52	6,491.4	-1,490.7	-113.9	1,297.0	0.72
8,043.0	89.20	153.16	6,492.6	-1,570.6	-74.7	1,386.0	1.53
8,133.0	90.30	153.99	6,492.9	-1,651.2	-34.6	1,475.9	1.53
8,222.0	88.66	151.37	6,493.8	-1,730.2	6.2	1,564.9	3.47
8,312.0	89.20	151.79	6,495.4	-1,809.4	49.0	1,654.7	0.76
8,402.0	91.38	153.50	6,495.0	-1,889.3	90.4	1,744.7	3.08
8,491.0	91.31	156.05	6,492.9	-1,969.8	128.3	1,833.7	2.87
8,581.0	90.07	155.72	6,491.8	-2,051.9	165.1	1,923.6	1.43
8,670.0	89.56	155.95	6,492.1	-2,133.1	201.5	2,012.6	0.63
8,765.0	88.66	154.57	6,493.6	-2,219.4	241.3	2,107.6	1.73
8,860.0	89.80	156.37	6,494.8	-2,305.8	280.7	2,202.5	2.24
8,955.0	88.86	154.64	6,496.0	-2,392.2	320.1	2,297.5	2.07
9,049.0	89.53	155.57	6,497.3	-2,477.5	359.6	2,391.5	1.22
9,144.0	90.07	154.24	6,497.6	-2,563.5	399.9	2,486.5	1.51
9,239.0	89.90	156.12	6,497.6	-2,649.8	439.8	2,581.5	1.99
9,334.0	89.13	155.31	6,498.4	-2,736.3	478.9	2,676.5	1.18
9,429.0	89.13	154.50	6,499.9	-2,822.4	519.2	2,771.5	0.85
9,523.0	88.76	155.71	6,501.6	-2,907.6	558.7	2,865.4	1.35
9,618.0	88.89	155.47	6,503.6	-2,994.1	598.0	2,960.4	0.29
9,708.0	89.33	154.83	6,505.0	-3,075.8	635.8	3,050.4	0.86
9,797.0	87.89	154.14	6,507.1	-3,156.1	674.1	3,139.3	1.79
9,887.0	87.75	155.46	6,510.5	-3,237.4	712.4	3,229.3	1.47
9,977.0	87.76	155.72	6,514.1	-3,319.3	749.6	3,319.2	0.29
10,066.0	89.93	155.09	6,515.9	-3,400.2	786.6	3,408.2	2.54
10,156.0	89.60	154.82	6,516.2	-3,481.8	824.7	3,498.2	0.47
10,245.0	89.20	153.59	6,517.2	-3,561.9	863.4	3,587.1	1.45
10,335.0	89.33	154.09	6,518.3	-3,642.7	903.1	3,677.1	0.57
10,424.0	89.80	154.70	6,519.0	-3,722.9	941.6	3,766.1	0.87
10,514.0	88.76	153.67	6,520.1	-3,803.9	980.8	3,856.1	1.63
10,603.0	89.10	154.43	6,521.8	-3,883.9	1,019.7	3,945.1	0.94
10,693.0	89.43	154.82	6,522.9	-3,965.2	1,058.3	4,035.1	0.57
10,783.0	89.97	154.31	6,523.4	-4,046.5	1,096.9	4,125.1	0.83
10,872.0	88.62	152.11	6,524.5	-4,126.0	1,137.0	4,215.1	2.90

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Leason Run Unit 1H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

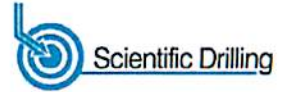
Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
10,962.0	88.53	154.21	6,526.7	-4,206.2	1,177.6	4,304.0	2.33	
11,051.0	89.87	154.90	6,528.0	-4,286.6	1,215.9	4,393.0	1.69	
11,141.0	90.64	153.73	6,527.6	-4,367.7	1,254.9	4,483.0	1.56	
11,230.0	90.40	154.75	6,526.8	-4,447.8	1,293.6	4,572.0	1.18	
11,320.0	89.40	155.04	6,526.9	-4,529.3	1,331.7	4,662.0	1.16	
11,409.0	88.96	154.10	6,528.2	-4,609.7	1,370.0	4,751.0	1.17	
11,499.0	89.13	155.11	6,529.7	-4,691.0	1,408.6	4,840.9	1.14	
11,588.0	89.73	156.08	6,530.6	-4,772.0	1,445.3	4,929.9	1.28	
11,678.0	89.16	153.93	6,531.5	-4,853.6	1,483.3	5,019.9	2.47	
11,768.0	87.76	154.10	6,533.9	-4,934.5	1,522.8	5,109.9	1.57	
11,858.0	88.03	154.56	6,537.2	-5,015.5	1,561.7	5,199.8	0.59	
11,947.0	88.06	154.43	6,540.2	-5,095.8	1,600.0	5,288.8	0.15	
12,037.0	88.32	153.91	6,543.1	-5,176.8	1,639.2	5,378.7	0.65	
12,127.0	87.95	155.17	6,546.0	-5,258.0	1,677.9	5,468.7	1.46	
12,216.0	87.82	154.69	6,549.3	-5,338.6	1,715.6	5,557.6	0.56	
12,306.0	87.28	156.00	6,553.1	-5,420.3	1,753.1	5,647.5	1.57	
12,395.0	87.19	156.07	6,557.4	-5,501.5	1,789.2	5,736.4	0.13	
12,485.0	88.35	154.98	6,560.9	-5,583.4	1,826.4	5,826.3	1.77	
12,575.0	88.33	154.34	6,563.5	-5,664.7	1,864.9	5,916.2	0.71	
12,664.0	88.42	153.45	6,566.1	-5,744.6	1,904.1	6,005.2	1.00	
12,754.0	88.76	153.18	6,568.3	-5,824.9	1,944.5	6,095.2	0.48	
12,843.0	88.93	153.91	6,570.1	-5,904.6	1,984.1	6,184.1	0.84	
12,933.0	89.23	152.35	6,571.5	-5,984.9	2,024.8	6,274.1	1.76	
13,022.0	89.16	154.47	6,572.8	-6,064.5	2,064.6	6,363.1	2.38	
13,112.0	88.93	153.57	6,574.3	-6,145.3	2,104.1	6,453.0	1.03	
13,201.0	89.34	156.31	6,575.6	-6,225.9	2,141.7	6,542.0	3.11	
13,291.0	89.60	156.15	6,576.4	-6,308.3	2,178.0	6,632.0	0.34	
13,380.0	89.66	156.01	6,577.0	-6,389.7	2,214.1	6,720.9	0.17	
13,470.0	89.60	155.22	6,577.6	-6,471.6	2,251.3	6,810.9	0.88	
13,560.0	89.90	154.04	6,578.0	-6,553.0	2,289.8	6,900.9	1.35	
13,649.0	88.92	154.65	6,578.9	-6,633.2	2,328.4	6,989.9	1.30	
13,739.0	88.49	155.63	6,580.9	-6,714.8	2,366.2	7,079.9	1.19	
13,828.0	88.69	155.04	6,583.1	-6,795.7	2,403.3	7,168.8	0.70	
13,918.0	89.03	153.91	6,584.9	-6,876.9	2,442.1	7,258.8	1.31	
14,007.0	88.93	153.80	6,586.5	-6,956.7	2,481.3	7,347.8	0.17	
14,097.0	89.19	153.42	6,588.0	-7,037.4	2,521.3	7,437.8	0.51	
14,187.0	89.83	153.03	6,588.8	-7,117.7	2,561.8	7,527.8	0.83	
14,205.0	90.03	153.38	6,588.8	-7,133.8	2,569.9	7,545.7	2.24	
14,264.0	90.03	153.38	6,588.7	-7,186.5	2,596.4	7,604.7	0.00	

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EOW Completion Report



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Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Site:	Hudkins/Leason/Pad	MD Reference:	Precision 523: GL 1055' + KB 19' @ 1074.0usft
Well:	Leason Run Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,216.0	6,114.3	-67.6	-286.3	Sycamore
6,471.0	6,272.0	-169.3	-455.3	Middlesex
6,673.0	6,382.1	-318.5	-532.9	Burkett
6,749.0	6,415.4	-385.9	-542.9	Tully
6,810.0	6,437.6	-442.7	-544.8	Hamilton
6,831.0	6,444.4	-462.5	-544.2	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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JUL 27 2015

COMPASS 5000.1 Build 70

10/23/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/19/2015
Job End Date:	2/5/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06474-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Leason Run Unit 1H
Longitude:	-80.88258300
Latitude:	39.27342500
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,589
Total Base Water Volume (gal):	10,297,140
Total Base Non Water Volume:	0



17-06474

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	Operator	Carrier					
			Water	7732-18-5	100.00000	90.18180	
Sand, White, 40/70	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		5.04815	
Sand, White, 20/40	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		3.47427	
Sand, White, 100 mesh	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.78914	
HCl, 10.1 - 15%	Baker Hughes	Acidizing					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.21213	SmartCare Product
GW-3LDE	Baker Hughes	Gelling Agent					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.08913	SmartCare Product
FRW-285	Baker Hughes	Friction Reducer					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.05830	SmartCare Product
Scaletrol 720	Baker Hughes	Scale Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01503	SmartCare Product

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Enzyme G-NE	Baker Hughes	Breaker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01316	SmartCare Product
Calcium Chloride	Baker Hughes	Salts					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01157	
Alpha 1427	Baker Hughes	Biocide					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00893	SmartCare Product
Ferrotrol 300L	Baker Hughes	Iron Control					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00147	SmartCare Product
CI-39	Baker Hughes	Corrosion Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00042	
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.							
Ingredients in Additive (s) (MSDS and non- MSDS)	Baker Hughes	See Trade Name(s) List					
			Crystalline Silica (Quartz)	14808-60-7	100.00000	9.30162	
			Water	7732-18-5	95.00000	0.22954	
			Mineral Oil	8042-47-5	70.00000	0.06232	
			Guar Gum	9000-30-0	60.00000	0.05342	
			Hydrochloric Acid	7647-01-0	15.00000	0.03179	
			Petroleum Distillates	64742-47-8	30.00000	0.02671	
			Paraffinic Petroleum Distillate	64742-55-8	30.00000	0.02671	
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.01747	
			Poly (acrylamide-co-acrylic acid) partial sodium salt	62649-23-4	30.00000	0.01747	
			Calcium Chloride	10043-52-4	100.00000	0.01231	
			Ethylene Glycol	107-21-1	45.00000	0.00676	
			Crystalline Silica: Quartz	14808-60-7	5.00000	0.00445	
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.00445	
			1-butoxy-2-propanol	5131-66-8	5.00000	0.00445	
			Sodium Chloride	7647-14-5	5.00000	0.00364	
			2-Propenoic, Polymer with Sodium Phosphinate, Sodium Salt	71050-62-9	20.00000	0.00300	
			Glutaraldehyde	111-30-8	30.00000	0.00268	
			Ammonium Chloride	12125-02-9	3.00000	0.00175	
			Oleamide DEA	93-83-4	2.00000	0.00116	
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00116	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00089	
			Citric Acid	77-92-9	60.00000	0.00088	
			Potassium Chloride	7447-40-7	5.00000	0.00073	
			Hemicellulase Enzyme Concentrate	9025-56-3	5.00000	0.00066	
			Quaternary Ammonium Compound	68424-85-1	5.00000	0.00047	
			Ethanol	64-17-5	5.00000	0.00045	

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		Sorbitan Monooleate	1338-43-8	0.50000	0.00029
		Polyoxyethylene Sorbitan Monooleate	9005-65-6	0.50000	0.00029
		Oxyalkylated Fatty Acid	61791-002	40.00000	0.00017
		Aldehyde	104-55-2	30.00000	0.00012
		Tar Bases, Quinoline Derivs., Benzyl Chloride-Quaternized	72480-70-7	30.00000	0.00012
		Formic Acid	64-18-6	30.00000	0.00012
		2-butoxy-1-propanol	15821-83-7	0.10000	0.00009
		Sulfurized polyolefin	68037-13-8	5.00000	0.00002
		Isopropanol	67-63-0	5.00000	0.00002
		Potassium Iodide	7681-11-0	2.00000	0.00001
		Polyaklylene	7756-94-7	1.00000	0.00000
		Potassium Acetate	127-08-2	0.50000	0.00000

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* 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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LATITUDE 39°17'30" 2,194'

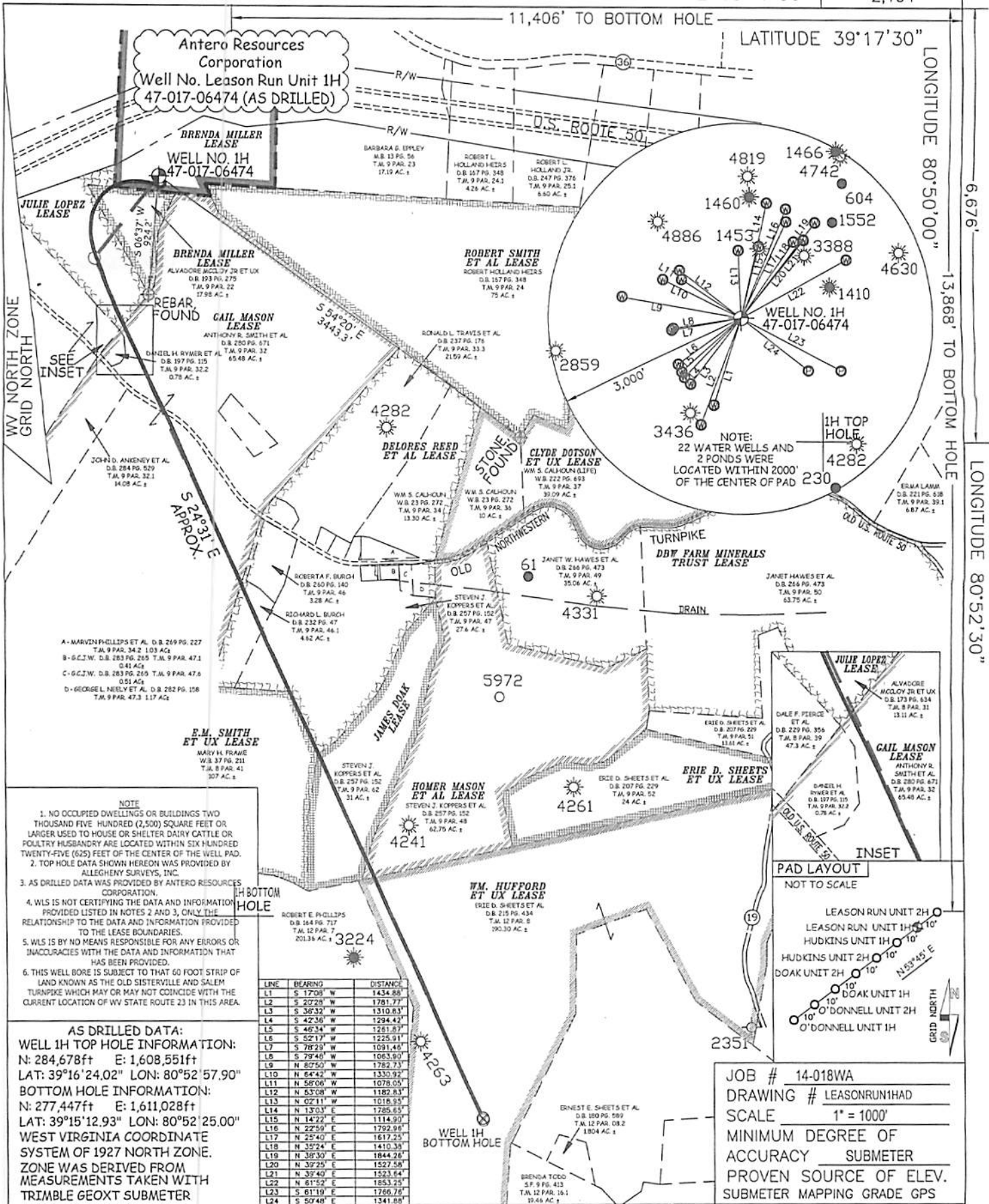
LATITUDE 39°17'30"

LONGITUDE 80°50'00"

6,676'

13,868' TO BOTTOM HOLE

LONGITUDE 80°52'30"



Antero Resources Corporation
Well No. Leason Run Unit 1H
47-017-06474 (AS DRILLED)

BRENDA MILLER LEASE
WELL NO. 1H
47-017-06474

BRENDA MILLER LEASE
ALVADORE MCCLOY JR ET UX
D.B. 193 PG. 275
T.M. 9 PAR. 22
17.98 AC. ±

GAIL MASON LEASE
ANTHONY R. SMITH ET AL
D.B. 280 PG. 671
T.M. 9 PAR. 32
65.48 AC. ±

ROBERT SMITH ET AL LEASE
ROBERT HOLLAND HEERS
D.B. 157 PG. 348
T.M. 9 PAR. 24
75 AC. ±

DELORES REED ET AL LEASE
WM S. CALHOUN
D.B. 237 PG. 176
T.M. 9 PAR. 33.3
21.59 AC. ±

CLYDE DOTSON ET UX LEASE
WM S. CALHOUN (LIFE)
D.B. 222 PG. 693
T.M. 9 PAR. 37
32.09 AC. ±

ROBERTA F. BURCH
D.B. 240 PG. 140
T.M. 9 PAR. 46
328 AC. ±

ERIE D. SHEETS ET AL
D.B. 207 PG. 229
T.M. 9 PAR. 52
24 AC. ±

HOMER MASON ET AL LEASE
STEVEN J. KOPPERS ET AL
D.B. 257 PG. 152
T.M. 9 PAR. 48
62.75 AC. ±

WM. HUFFORD ET UX LEASE
ERIE D. SHEETS ET AL
D.B. 215 PG. 434
T.M. 12 PAR. 5
190.30 AC. ±

DALE F. PIERCE ET AL
D.B. 229 PG. 355
T.M. 8 PAR. 39
47.3 AC. ±

ERIE D. SHEETS ET AL
D.B. 197 PG. 175
T.M. 9 PAR. 32
65.48 AC. ±

DALE F. PIERCE ET AL
D.B. 229 PG. 355
T.M. 8 PAR. 39
47.3 AC. ±

DALE F. PIERCE ET AL
D.B. 229 PG. 355
T.M. 8 PAR. 39
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DALE F. PIERCE ET AL
D.B. 229 PG. 355
T.M. 8 PAR. 39
47.3 AC. ±

- 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.
 6. THIS WELL BORE IS SUBJECT TO THAT 60 FOOT STRIP OF LAND KNOWN AS THE OLD SISTERTVILLE AND SALEM TURNPIKE WHICH MAY OR MAY NOT COINCIDE WITH THE CURRENT LOCATION OF WV STATE ROUTE 23 IN THIS AREA.

AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
N: 284,678ft E: 1,608,551ft
LAT: 39°16'24.02" LON: 80°52'57.90"
BOTTOM HOLE INFORMATION:
N: 277,447ft E: 1,611,028ft
LAT: 39°15'12.93" LON: 80°52'25.00"
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: 4,347,126m E: 510,128m
BOTTOM HOLE INFORMATION:
N: 4,344,935m E: 510,920m

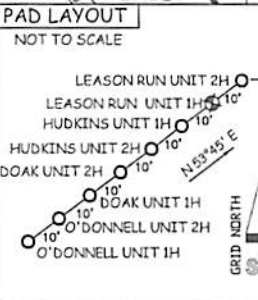
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1,083' ORIGINAL - 1,057' AS-DRILLED WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PENNSBORO 7.5' (TOP HOLE) WEST UNION 7.5' (BOTTOM HOLE) DISTRICT CENTRAL COUNTY DODDRIDGE

WELL OPERATOR ANTERO RESOURCES CORP.
ADDRESS 1615 WYNKOOP STREET
DENVER, CO 80202

LINE	BEARING	DISTANCE
L1	S 17°05' W	143.80
L2	S 22°25' W	1781.77
L3	S 36°32' W	1310.63
L4	S 42°36' W	1294.42
L5	S 46°34' W	1261.87
L6	S 52°17' W	1225.91
L7	S 76°29' W	1091.48
L8	S 79°46' W	1063.90
L9	N 82°50' W	1782.73
L10	N 64°42' W	1330.92
L11	N 56°06' W	1078.05
L12	N 53°08' W	1182.83
L13	N 02°11' W	1016.55
L14	N 13°03' E	1725.53
L15	N 14°22' E	1114.90
L16	N 22°59' E	1792.96
L17	N 25°40' E	1617.25
L18	N 35°24' E	1410.38
L19	N 38°30' E	1844.76
L20	N 39°25' E	1527.58
L21	N 32°40' E	1523.64
L22	N 61°52' E	1853.25
L23	S 61°19' E	1766.76
L24	S 50°48' E	1341.88



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
P.O. BOX 17
PENNSBORO, WV 26415



JOB # 14-018WA
DRAWING # LEASORUN1HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

DATE 07/09/15
OPERATOR'S WELL# LEASON RUN UNIT #1H
API WELL # 47 - 017 - 06474
STATE COUNTY PERMIT

Received
JUL 27 2015
DIANNA STAMPER
CT CORPORATION SYSTEM
5400 D BIG TYLER ROAD
CHARLESTON, WV 25313