

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

API 47 - 017 - 06486 County Doddridge District Grant  
Quad Smithburg 7.5' Pad Name Pearl Jean Pad Field/Pool Name \_\_\_\_\_  
Farm name Pennington, Dean R. et al Well Number Manser Unit 2H  
Operator (as registered with the OOG) Antero Resources Corporation  
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4,348,478m Easting 528,202m  
Landing Point of Curve Northing 4,348,630.85m Easting 528,290.32m  
Bottom Hole Northing 4,350,571m Easting 527,613m

Elevation (ft) 1,141' 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 06/10/2014 Date drilling commenced 07/04/2014 Date drilling ceased 11/09/2014  
Date completion activities began 12/03/2014 Date completion activities ceased 02/10/2015  
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 108', 238' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1,253' Void(s) encountered (Y/N) depths None  
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths None  
Is coal being mined in area (Y/N) No

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API 47-017 - 06486 Farm name Pennington, Dean R. et al Well number Manser 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	24"	20"	40'	New	94#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	370'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,577'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	14,080'	New	20#; P-110	N/A	Yes
Tubing		2 3/8"	7,162'		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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	150 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	428 sx	15.6	1.18	257	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1,010 sx	15.6	1.18	807	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	930 sx (Lead); 1,165 sx (Tail)	13.5 (Lead); 15.2 (Tail)	1.44 (Lead); 1.8 (Tail)	2,750	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14,080' MD; 6,972' TVD (BHL); 6,998' TVD (Deepest Point Drilled) Loggers TD (ft) 14,034'

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

Plug back procedure N/A

Kick off depth (ft) 6,192'

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

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

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

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API 47- 017 - 06486 Farm name Pennington, Dean R. et al Well number Manser Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
<b>* PLEASE SEE ATTACHED EXHIBIT 1</b>					

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)
<b>* PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6,906' (top)</u> TVD	<u>7,104' (top)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3,550 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs

OPEN FLOW Gas 7,678 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ 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 <sub>2</sub> S, ETC)
	0		0		

**\* PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Patterson - UTI Drilling Company, LLC  
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

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

Cementing Company Allied Oil & Gas Services, LLC  
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Halliburton  
Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Megan Darling Telephone 303-357-7230  
Signature Megan C. Darling Title Permitting Agent Date 07/31/2015

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	3-Dec-14	13,819	13,989	60	Marcellus
2	9-Jan-15	13,617	13,787	60	Marcellus
3	10-Jan-15	13,414	13,585	60	Marcellus
4	11-Jan-15	13,212	13,383	60	Marcellus
5	11-Jan-15	13,010	13,181	60	Marcellus
6	12-Jan-15	12,808	12,978	60	Marcellus
7	12-Jan-15	12,606	12,776	60	Marcellus
8	13-Jan-15	12,404	12,574	60	Marcellus
9	13-Jan-15	12,201	12,372	60	Marcellus
10	14-Jan-15	11,999	12,170	60	Marcellus
11	14-Jan-15	11,797	11,967	60	Marcellus
12	15-Jan-15	11,595	11,765	60	Marcellus
13	15-Jan-15	11,393	11,563	60	Marcellus
14	15-Jan-15	11,190	11,361	60	Marcellus
15	16-Jan-15	10,988	11,159	60	Marcellus
16	16-Jan-15	10,786	10,957	60	Marcellus
17	17-Jan-15	10,584	10,754	60	Marcellus
18	17-Jan-15	10,382	10,552	60	Marcellus
19	17-Jan-15	10,180	10,350	60	Marcellus
20	18-Jan-15	9,977	10,148	60	Marcellus
21	18-Jan-15	9,775	9,946	60	Marcellus
22	19-Jan-15	9,573	9,743	60	Marcellus
23	19-Jan-15	9,371	9,541	60	Marcellus
24	19-Jan-15	9,169	9,339	60	Marcellus
25	20-Jan-15	8,966	9,137	60	Marcellus
26	20-Jan-15	8,764	8,935	60	Marcellus
27	21-Jan-15	8,562	8,733	60	Marcellus
28	21-Jan-15	8,360	8,530	60	Marcellus
29	22-Jan-15	8,158	8,328	60	Marcellus
30	22-Jan-15	7,956	8,126	60	Marcellus
31	22-Jan-15	7,753	7,924	60	Marcellus
32	23-Jan-15	7,551	7,722	60	Marcellus
33	23-Jan-15	7,349	7,519	60	Marcellus
34	23-Jan-15	7,147	7,317	60	Marcellus

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**API 47-017-06486 Farm Name Pennington, Dean R. et al Well Number Manser Unit 2H**

**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	8-Jan-15	63.4	7,101	5,706	4,928	201,803	7,363	N/A
2	9-Jan-15	62.9	6,801	5,676	5,168	250,562	6,899	N/A
3	10-Jan-15	64.5	6,785	5,633	5,259	252,160	6,592	N/A
4	11-Jan-15	62.3	6,689	5,598	5,187	247,867	6,713	N/A
5	11-Jan-15	65.8	6,815	5,658	5,294	251,313	6,629	N/A
6	12-Jan-15	65.1	6,648	5,607	5,318	249,182	6,493	N/A
7	12-Jan-15	65.6	6,768	5,606	5,061	248,215	6,655	N/A
8	13-Jan-15	64.8	6,790	5,715	5,200	249,842	6,585	N/A
9	13-Jan-15	67.1	6,780	5,415	5,178	249,697	6,636	N/A
10	14-Jan-15	62.9	6,397	5,474	5,092	247,538	6,522	N/A
11	14-Jan-15	68.3	6,624	5,736	5,018	247,995	6,742	N/A
12	15-Jan-15	67.2	6,585	5,510	5,054	247,520	6,586	N/A
13	15-Jan-15	65.2	6,872	5,368	5,063	250,555	6,568	N/A
14	15-Jan-15	68.2	6,707	5,338	5,106	247,771	6,628	N/A
15	16-Jan-15	62.7	6,692	5,414	5,058	241,763	6,436	N/A
16	16-Jan-15	64.4	6,529	5,504	5,284	251,054	6,429	N/A
17	17-Jan-15	66.5	6,557	5,569	5,121	250,994	6,494	N/A
18	17-Jan-15	64.1	6,353	5,488	5,446	251,144	6,356	N/A
19	17-Jan-15	67.8	6,660	5,578	5,319	250,486	6,358	N/A
20	18-Jan-15	63.5	6,417	5,731	5,026	250,160	6,264	N/A
21	18-Jan-15	67.4	6,226	5,624	5,095	246,747	6,282	N/A
22	19-Jan-15	64.1	6,099	5,019	5,104	250,161	6,298	N/A
23	19-Jan-15	64.2	6,198	5,607	5,213	251,037	6,253	N/A
24	19-Jan-15	66.9	6,485	5,956	5,200	251,551	6,278	N/A
25	20-Jan-15	64.8	6,326	5,712	5,234	248,450	6,278	N/A
26	20-Jan-15	67.8	6,641	5,661	5,313	246,572	6,176	N/A
27	21-Jan-15	61.4	6,559	5,767	5,419	243,239	6,701	N/A
28	21-Jan-15	68.7	6,181	5,305	5,338	250,061	6,176	N/A
29	22-Jan-15	68.7	6,190	5,572	5,201	248,004	6,121	N/A
30	22-Jan-15	65.2	6,177	5,369	5,280	248,780	6,138	N/A
31	22-Jan-15	69.4	6,380	5,720	5,301	249,826	6,097	N/A
32	23-Jan-15	65.0	6,469	5,663	5,288	249,619	6,182	N/A
33	23-Jan-15	64.9	6,374	5,543	5,398	247,334	6,065	N/A
34	23-Jan-15	68.7	6,732	6,351	4,991	223,948	6,544	N/A
AVG=		65.6	6,547	5,594	5,193	8,392,950	219,535	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	108'	N/A	108'	N/A
Fresh Water	238'	N/A	238'	N/A
Shale	0	168	0	168
Shale/ Trace Coal	est. 168	188	est. 168	188
Shale	est. 188	228	est. 188	228
Sandstone/ Siltstone	est. 228	288	est. 228	288
Shale/ Coal	est. 288	368	est. 288	368
Limestone/ Shale	est. 368	408	est. 368	408
Siltstone/ Shale	est. 408	568	est. 408	568
Shale/ Coal	est. 568	588	est. 568	588
Siltstone/ Limestone	est. 588	628	est. 588	628
Shale/ Limestone	est. 628	788	est. 628	788
Shale/ Siltstone	est. 788	988	est. 788	988
Shale/ Sandstone	est. 988	1,228	est. 988	1,228
Sandstone	est. 1228	1,408	est. 1228	1,408
Sandstone/ Coal	est. 1408	1,448	est. 1408	1,448
Sandstone	est. 1448	1,688	est. 1448	1,688
Siltstone	est. 1688	1,890	est. 1688	1,892
Big Lime	1,890	2,001	1,892	2,003
Big Injun	2,001	2,398	2,003	2,400
Gantz Sand	2,398	2,514	2,400	2,515
Fifty Foot Sandstone	2,514	2,583	2,515	2,584
Gordon	2,583	2,913	2,584	2,914
Fifth Sandstone	2,913	2,930	2,914	2,931
Bayard	2,930	3,331	2,931	3,332
Warren	3,331	3,650	3,332	3,651
Speechley	3,650	3,961	3,651	3,963
Baltown	3,961	4,430	3,963	4,431
Bradford	4,430	4,936	4,431	4,937
Benson	4,936	5,205	4,937	5,207
Alexander	5,205	5,416	5,207	5,418
Elk	5,416	5,971	5,418	5,973
Rhinestreet	5,971	6,391	5,973	6,400
Sycamore	6,391	6,627	6,400	6,685
Middlesex	6,627	6,770	6,685	6,873
Burkett	6,770	6,796	6,873	6,912
Tully	6,796	6,906	6,912	7,104
Marcellus	6,906	NA	7,104	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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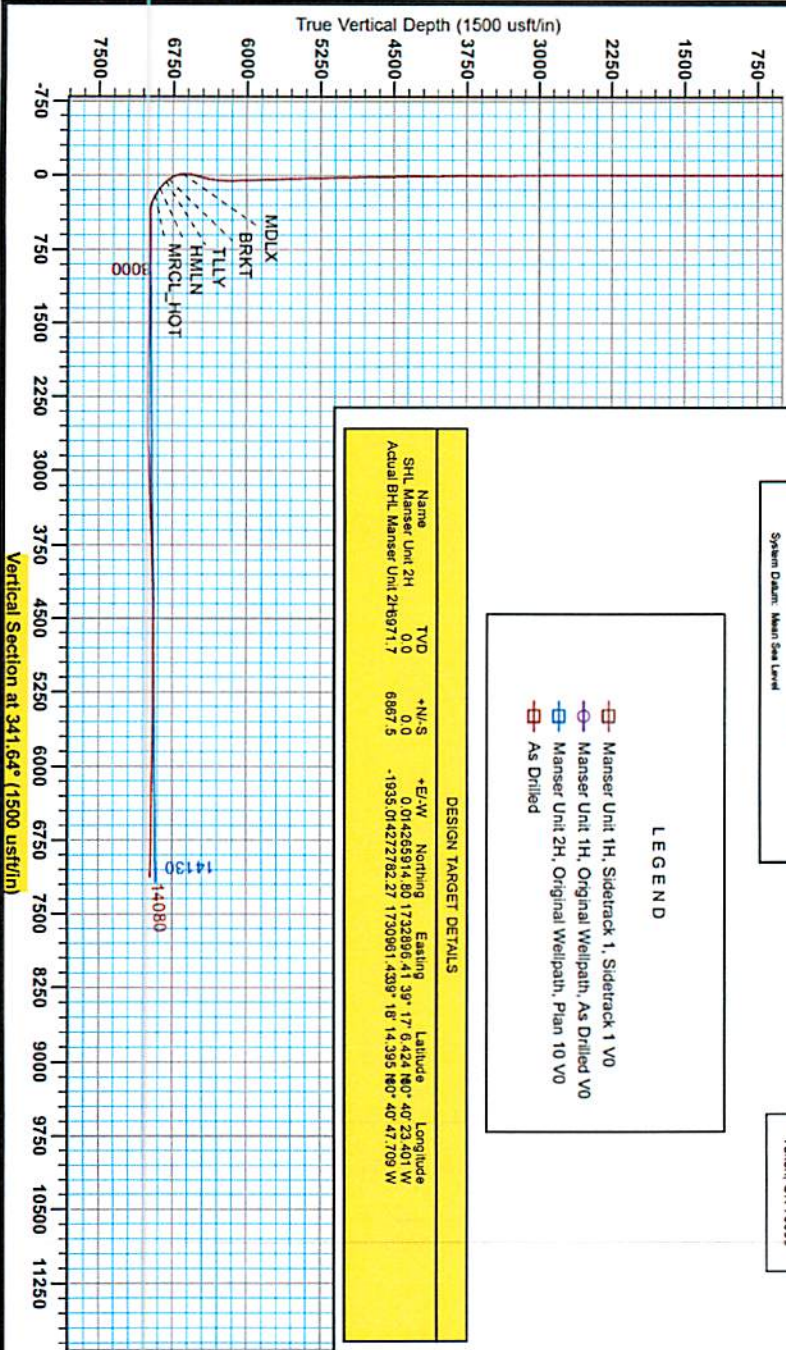
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17-06486



Antero Resources  
 Manser Unit 2H  
 Doddridge County WV  
 Northing: 14265914.80  
 Easting: 1732896.41  
 As Drilled



WELL DETAILS: Manser Unit 2H

N/S	+E/W	Northing	Ground Level	1141.0
0.0	0.0	14265914.80	Easting	341.64
		1732896.41	Longitude	87.4023401 W
			Site	

REFERENCE INFORMATION  
 Coordinates (NED) Reference: Well Name Unit 2H, G04787  
 Well ID: 14265914.80, 1732896.41, 1141.0  
 Wellhead Datum: National Geodetic Survey (NAD83)  
 Wellhead Datum Reference: NAD 83, 1141.0, 1732896.41, 1141.0  
 Coordinate System: NAD 83 (NAD83 CONUS)  
 Zone: Zone 17N (84 W to 78 W)  
 System Datum: Mean Sea Level

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

LEGEND

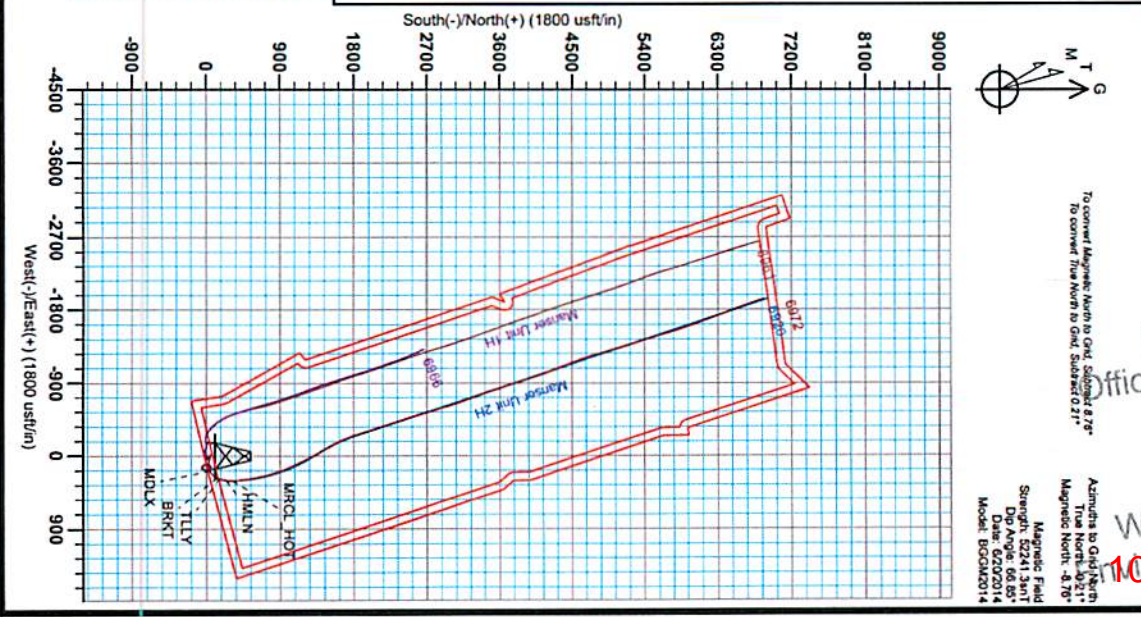
- Manser Unit 1H, Sidetrack 1, Sidetrack 1 VO
- Manser Unit 1H, Original Wellpath, As Drilled VO
- Manser Unit 2H, Original Wellpath, Plan 10 VO
- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL Manser Unit 2H	0.0	0.0	0.0	14265914.80	1732896.41	39° 17' 6.624" N	87° 40' 23.401" W
Actual BHL Manser Unit 2H	16971.7	6867.5	-1935.0	14272762.27	1730961.4339	38° 16' 14.395" N	88° 40' 47.709" W



Genie Lighted  
 5-15, November 18, 2014  
 Scientific Drilling, Inc.  
 11220 NW 100th Street  
 Tulsa, OK 74309



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17-06486



## Antero Resources

Doddridge County WV  
Zimka/Manser Pad  
Manser Unit 2H  
Original Wellpath

Design: As Drilled

## EOW Completion Report

18 November, 2014



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17-06486



EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Manser Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b>	Zimka/Manser Pad	<b>MD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b>	Manser Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

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

<b>Site</b>	Zimka/Manser Pad				
<b>Site Position:</b>		<b>Northing:</b>	14,265,927.56 usft	<b>Latitude:</b>	39° 17' 6.551 N
<b>From:</b>	Map	<b>Easting:</b>	1,732,882.20 usft	<b>Longitude:</b>	80° 40' 23.581 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.21 °

<b>Well</b>	Manser Unit 2H, Marcellus					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,265,914.80 usft	<b>Latitude:</b>	39° 17' 6.424 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,732,896.41 usft	<b>Longitude:</b>	80° 40' 23.401 W
<b>Position Uncertainty</b>		2.0 usft	<b>Wellhead Elevation:</b>	1,165.0 usft	<b>Ground Level:</b>	1,141.0 usft

<b>Wellbore</b>	Original Wellpath				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2014	6/20/2014	-8.55	66.85	52,241

<b>Design</b>	As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>		<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
		0.0	0.0	0.0	341.64

<b>Survey Program</b>	<b>Date</b>	11/18/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
36.0	5,657.0	Survey #6 Def Gyro KOP (Original Wellpa	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,751.0	14,080.0	Survey #7 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

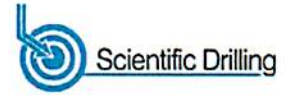
<b>Survey</b>									
<b>MD (usft)</b>	<b>Inc (°)</b>	<b>Azi (azimuth) (°)</b>	<b>TVD (usft)</b>	<b>N/S (usft)</b>	<b>E/W (usft)</b>	<b>V. Sec (usft)</b>	<b>DLeg (°/100usft)</b>		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00		
36.0	0.13	49.00	36.0	0.0	0.0	0.0	0.36		
61.0	0.27	49.00	61.0	0.1	0.1	0.0	0.56		
86.0	0.40	49.00	86.0	0.2	0.2	0.1	0.52		
111.0	0.53	49.00	111.0	0.3	0.4	0.2	0.52		
136.0	0.46	57.89	136.0	0.4	0.5	0.3	0.47		
161.0	0.45	72.27	161.0	0.5	0.7	0.3	0.46		
186.0	0.37	52.36	186.0	0.6	0.9	0.3	0.65		
211.0	0.11	94.94	211.0	0.7	1.0	0.3	1.19		
236.0	0.22	205.36	236.0	0.6	1.0	0.3	1.11		
261.0	0.23	220.65	261.0	0.5	0.9	0.2	0.24		

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Manser Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b>	Zimka/Manser Pad	<b>MD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b>	Manser Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
286.0	0.28	211.27	286.0	0.4	0.8	0.1	0.26		
311.0	0.27	220.14	311.0	0.3	0.8	0.1	0.17		
336.0	0.21	221.99	336.0	0.3	0.7	0.0	0.24		
361.0	0.26	223.99	361.0	0.2	0.6	0.0	0.20		
386.0	0.21	222.99	386.0	0.1	0.6	-0.1	0.20		
411.0	0.22	213.23	411.0	0.0	0.5	-0.1	0.15		
436.0	0.18	226.46	436.0	0.0	0.5	-0.2	0.24		
461.0	0.18	241.13	461.0	-0.1	0.4	-0.2	0.18		
486.0	0.24	226.05	486.0	-0.1	0.3	-0.2	0.32		
511.0	0.14	222.13	511.0	-0.2	0.3	-0.3	0.40		
536.0	0.17	218.12	536.0	-0.2	0.2	-0.3	0.13		
561.0	0.17	210.32	561.0	-0.3	0.2	-0.3	0.09		
586.0	0.15	243.32	586.0	-0.4	0.1	-0.4	0.37		
611.0	0.28	198.03	611.0	-0.4	0.1	-0.4	0.82		
636.0	0.27	214.62	636.0	-0.5	0.0	-0.5	0.32		
661.0	0.22	192.83	661.0	-0.6	0.0	-0.6	0.42		
686.0	0.37	235.87	686.0	-0.7	-0.1	-0.7	1.03		
711.0	0.34	229.16	711.0	-0.8	-0.2	-0.7	0.20		
736.0	0.26	225.76	736.0	-0.9	-0.3	-0.8	0.33		
761.0	0.27	240.01	761.0	-1.0	-0.4	-0.8	0.27		
786.0	0.34	252.37	786.0	-1.0	-0.5	-0.8	0.38		
811.0	0.19	247.08	811.0	-1.1	-0.6	-0.8	0.61		
836.0	0.27	270.43	836.0	-1.1	-0.7	-0.8	0.49		
861.0	0.32	277.62	861.0	-1.1	-0.9	-0.7	0.25		
886.0	0.24	257.20	886.0	-1.1	-1.0	-0.7	0.51		
911.0	0.39	257.72	911.0	-1.1	-1.1	-0.7	0.60		
936.0	0.31	250.01	936.0	-1.1	-1.3	-0.7	0.37		
961.0	0.26	255.62	961.0	-1.2	-1.4	-0.7	0.23		
986.0	0.28	254.99	986.0	-1.2	-1.5	-0.7	0.08		
1,011.0	0.30	257.88	1,011.0	-1.2	-1.6	-0.7	0.10		
1,036.0	0.31	273.03	1,036.0	-1.2	-1.8	-0.6	0.32		
1,061.0	0.38	250.72	1,061.0	-1.3	-1.9	-0.6	0.60		
1,086.0	0.35	292.22	1,086.0	-1.3	-2.0	-0.6	1.04		
1,111.0	0.31	285.93	1,111.0	-1.2	-2.2	-0.5	0.22		
1,136.0	0.30	258.42	1,136.0	-1.2	-2.3	-0.4	0.58		
1,161.0	0.32	267.56	1,161.0	-1.2	-2.4	-0.4	0.21		
1,186.0	0.24	262.56	1,186.0	-1.2	-2.6	-0.4	0.33		
1,211.0	0.22	275.31	1,211.0	-1.2	-2.7	-0.3	0.22		
1,236.0	0.42	285.89	1,236.0	-1.2	-2.8	-0.3	0.83		
1,261.0	0.58	241.44	1,261.0	-1.2	-3.0	-0.3	1.62		
1,286.0	0.48	241.86	1,286.0	-1.4	-3.2	-0.3	0.40		
1,311.0	0.54	254.32	1,311.0	-1.4	-3.4	-0.3	0.50		
1,336.0	0.32	266.34	1,336.0	-1.5	-3.6	-0.3	0.95		
1,361.0	0.15	314.37	1,361.0	-1.5	-3.7	-0.2	0.99		

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Manser Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b>	Zimka/Manser Pad	<b>MD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b>	Manser Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

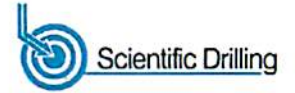
Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,386.0	0.59	57.98		1,386.0	-1.4	-3.6	-0.2	2.57	
1,411.0	2.00	66.37		1,411.0	-1.1	-3.1	-0.1	5.68	
1,436.0	2.90	73.24		1,436.0	-0.8	-2.1	-0.1	3.78	
1,461.0	3.58	75.57		1,460.9	-0.4	-0.7	-0.1	2.77	
1,486.0	3.75	74.41		1,485.9	0.0	0.8	-0.2	0.74	
1,511.0	4.42	79.71		1,510.8	0.4	2.6	-0.4	3.07	
1,536.0	4.52	78.86		1,535.7	0.8	4.5	-0.7	0.48	
1,561.0	4.60	78.16		1,560.6	1.2	6.4	-0.9	0.39	
1,586.0	4.65	77.96		1,585.6	1.6	8.4	-1.1	0.21	
1,611.0	5.04	75.43		1,610.5	2.1	10.4	-1.3	1.78	
1,636.0	5.22	76.25		1,635.4	2.6	12.6	-1.5	0.78	
1,661.0	5.24	75.78		1,660.3	3.2	14.8	-1.7	0.19	
1,686.0	5.35	75.98		1,685.2	3.7	17.1	-1.8	0.45	
1,711.0	5.37	76.74		1,710.0	4.3	19.3	-2.0	0.30	
1,736.0	5.47	75.89		1,734.9	4.8	21.6	-2.2	0.51	
1,761.0	5.26	76.06		1,759.8	5.4	23.9	-2.4	0.84	
1,786.0	4.01	73.80		1,784.7	5.9	25.8	-2.5	5.05	
1,811.0	2.98	73.95		1,809.7	6.4	27.3	-2.6	4.12	
1,836.0	2.89	72.97		1,834.7	6.7	28.5	-2.6	0.41	
1,861.0	2.58	71.26		1,859.6	7.1	29.7	-2.6	1.28	
1,886.0	2.30	73.27		1,884.6	7.4	30.7	-2.6	1.17	
1,911.0	2.12	70.61		1,909.6	7.7	31.6	-2.6	0.83	
1,936.0	2.04	72.82		1,934.6	8.0	32.5	-2.6	0.45	
1,961.0	1.97	76.69		1,959.6	8.2	33.3	-2.7	0.61	
1,986.0	1.59	76.27		1,984.6	8.4	34.1	-2.7	1.52	
2,011.0	1.46	64.64		2,009.5	8.6	34.7	-2.7	1.34	
2,036.0	1.35	70.53		2,034.5	8.9	35.2	-2.7	0.73	
2,061.0	1.12	67.76		2,059.5	9.1	35.7	-2.7	0.95	
2,086.0	1.11	68.62		2,084.5	9.2	36.2	-2.6	0.08	
2,111.0	0.84	65.98		2,109.5	9.4	36.6	-2.6	1.09	
2,136.0	0.75	71.87		2,134.5	9.5	36.9	-2.6	0.49	
2,161.0	0.51	58.92		2,159.5	9.6	37.2	-2.6	1.11	
2,186.0	0.54	51.63		2,184.5	9.8	37.4	-2.5	0.29	
2,211.0	0.60	52.51		2,209.5	9.9	37.6	-2.4	0.24	
2,236.0	0.47	39.11		2,234.5	10.1	37.7	-2.3	0.72	
2,261.0	0.46	41.49		2,259.5	10.2	37.9	-2.2	0.09	
2,286.0	0.43	54.61		2,284.5	10.4	38.0	-2.1	0.42	
2,311.0	0.36	33.75		2,309.5	10.5	38.1	-2.1	0.63	
2,336.0	0.35	53.55		2,334.5	10.6	38.2	-2.0	0.49	
2,361.0	0.18	55.41		2,359.5	10.7	38.3	-2.0	0.68	
2,386.0	0.30	19.53		2,384.5	10.7	38.4	-1.9	0.75	
2,411.0	0.18	12.36		2,409.5	10.8	38.4	-1.8	0.49	
2,436.0	0.22	342.39		2,434.5	10.9	38.4	-1.7	0.44	
2,461.0	0.07	3.56		2,459.5	11.0	38.4	-1.7	0.63	
2,486.0	0.27	4.35		2,484.5	11.1	38.4	-1.6	0.80	

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Manser Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b>	Zimka/Manser Pad	<b>MD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b>	Manser Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,511.0	0.48	344.71	2,509.5	11.2	38.4	-1.4	0.97	
2,536.0	0.30	339.58	2,534.5	11.4	38.3	-1.3	0.73	
2,561.0	0.14	109.53	2,559.5	11.4	38.3	-1.2	1.62	
2,586.0	0.18	302.94	2,584.5	11.4	38.3	-1.2	1.27	
2,611.0	0.28	308.96	2,609.5	11.5	38.2	-1.1	0.41	
2,636.0	0.24	307.88	2,634.5	11.6	38.1	-1.0	0.16	
2,661.0	0.37	297.49	2,659.5	11.6	38.0	-0.9	0.56	
2,686.0	0.46	320.88	2,684.5	11.8	37.9	-0.8	0.76	
2,711.0	0.46	323.51	2,709.5	11.9	37.8	-0.6	0.08	
2,736.0	0.39	318.03	2,734.5	12.1	37.7	-0.4	0.32	
2,761.0	0.41	314.42	2,759.5	12.2	37.5	-0.3	0.13	
2,786.0	0.29	314.76	2,784.5	12.3	37.4	-0.1	0.48	
2,811.0	0.37	301.00	2,809.5	12.4	37.3	0.0	0.45	
2,836.0	0.42	294.72	2,834.5	12.5	37.2	0.1	0.26	
2,861.0	0.47	299.31	2,859.5	12.5	37.0	0.3	0.25	
2,886.0	0.53	311.02	2,884.5	12.7	36.8	0.4	0.47	
2,911.0	0.48	299.72	2,909.5	12.8	36.6	0.6	0.44	
2,936.0	0.52	306.27	2,934.5	12.9	36.4	0.8	0.28	
2,961.0	0.53	303.45	2,959.5	13.1	36.3	1.0	0.11	
2,986.0	0.49	296.65	2,984.5	13.2	36.1	1.1	0.29	
3,011.0	0.46	289.73	3,009.5	13.2	35.9	1.3	0.26	
3,036.0	0.48	287.50	3,034.5	13.3	35.7	1.4	0.11	
3,061.0	0.53	295.29	3,059.5	13.4	35.5	1.5	0.34	
3,086.0	0.56	295.79	3,084.5	13.5	35.3	1.7	0.12	
3,111.0	0.53	296.56	3,109.5	13.6	35.1	1.9	0.12	
3,136.0	0.56	296.58	3,134.5	13.7	34.8	2.0	0.12	
3,161.0	0.65	297.86	3,159.5	13.8	34.6	2.2	0.36	
3,186.0	0.60	298.11	3,184.5	14.0	34.4	2.4	0.20	
3,211.0	0.53	285.89	3,209.5	14.0	34.1	2.6	0.56	
3,236.0	0.54	286.22	3,234.5	14.1	33.9	2.7	0.04	
3,261.0	0.56	291.81	3,259.5	14.2	33.7	2.9	0.23	
3,286.0	0.61	296.42	3,284.5	14.3	33.5	3.0	0.27	
3,311.0	0.66	287.34	3,309.5	14.4	33.2	3.2	0.45	
3,336.0	0.66	292.55	3,334.5	14.5	32.9	3.4	0.24	
3,361.0	0.63	285.31	3,359.5	14.6	32.7	3.6	0.35	
3,386.0	0.59	303.27	3,384.5	14.7	32.4	3.7	0.78	
3,411.0	0.54	280.18	3,409.5	14.8	32.2	3.9	0.93	
3,436.0	0.70	309.56	3,434.5	14.9	32.0	4.1	1.40	
3,461.0	0.57	287.08	3,459.5	15.0	31.7	4.3	1.11	
3,486.0	0.62	300.17	3,484.5	15.1	31.5	4.5	0.58	
3,511.0	0.58	276.79	3,509.5	15.2	31.2	4.6	0.99	
3,536.0	0.61	295.38	3,534.5	15.3	31.0	4.8	0.78	
3,561.0	0.62	294.66	3,559.5	15.4	30.8	4.9	0.05	
3,586.0	0.63	293.61	3,584.5	15.5	30.5	5.1	0.06	

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Manser Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b>	Zimka/Manser Pad	<b>MD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b>	Manser Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

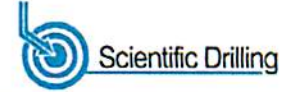
Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
3,611.0	0.69	293.99	3,609.5	15.6	30.2	5.3	0.24		
3,636.0	0.67	288.56	3,634.5	15.7	30.0	5.5	0.27		
3,661.0	0.71	295.68	3,659.5	15.9	29.7	5.7	0.38		
3,686.0	0.62	295.45	3,684.5	16.0	29.4	5.9	0.36		
3,711.0	0.65	302.62	3,709.5	16.1	29.2	6.1	0.34		
3,736.0	0.64	305.53	3,734.5	16.3	29.0	6.3	0.14		
3,761.0	0.59	303.74	3,759.5	16.4	28.7	6.5	0.21		
3,786.0	0.61	297.94	3,784.5	16.6	28.5	6.7	0.26		
3,811.0	0.63	286.25	3,809.5	16.7	28.3	6.9	0.51		
3,836.0	0.68	288.19	3,834.5	16.7	28.0	7.1	0.22		
3,861.0	0.67	291.11	3,859.5	16.8	27.7	7.3	0.14		
3,886.0	0.62	288.91	3,884.4	16.9	27.4	7.4	0.22		
3,911.0	0.69	293.76	3,909.4	17.0	27.2	7.6	0.36		
3,936.0	0.67	294.72	3,934.4	17.2	26.9	7.8	0.09		
3,961.0	0.71	300.98	3,959.4	17.3	26.6	8.0	0.34		
3,986.0	0.67	301.70	3,984.4	17.5	26.4	8.3	0.16		
4,011.0	0.69	301.53	4,009.4	17.6	26.1	8.5	0.08		
4,036.0	0.75	306.51	4,034.4	17.8	25.9	8.7	0.35		
4,061.0	0.78	300.75	4,059.4	18.0	25.6	9.0	0.33		
4,086.0	0.80	306.29	4,084.4	18.2	25.3	9.3	0.32		
4,111.0	0.69	299.18	4,109.4	18.3	25.0	9.5	0.57		
4,136.0	0.81	301.88	4,134.4	18.5	24.8	9.8	0.50		
4,161.0	0.76	297.58	4,159.4	18.7	24.5	10.0	0.31		
4,186.0	0.77	298.60	4,184.4	18.8	24.2	10.3	0.07		
4,211.0	0.80	306.31	4,209.4	19.0	23.9	10.5	0.44		
4,236.0	0.87	299.87	4,234.4	19.2	23.6	10.8	0.47		
4,261.0	0.87	300.53	4,259.4	19.4	23.2	11.1	0.04		
4,286.0	0.91	304.91	4,284.4	19.6	22.9	11.4	0.32		
4,311.0	0.97	303.79	4,309.4	19.9	22.6	11.7	0.25		
4,336.0	0.96	302.50	4,334.4	20.1	22.2	12.1	0.10		
4,361.0	0.93	304.34	4,359.4	20.3	21.9	12.4	0.17		
4,386.0	1.08	310.71	4,384.4	20.6	21.5	12.8	0.75		
4,411.0	1.04	307.68	4,409.4	20.9	21.2	13.1	0.28		
4,436.0	0.99	309.89	4,434.4	21.2	20.8	13.5	0.25		
4,461.0	0.92	312.18	4,459.4	21.4	20.5	13.9	0.32		
4,486.0	1.03	308.31	4,484.4	21.7	20.2	14.2	0.51		
4,511.0	0.96	311.04	4,509.4	22.0	19.9	14.6	0.34		
4,536.0	1.02	312.48	4,534.4	22.3	19.5	15.0	0.26		
4,561.0	1.06	304.51	4,559.4	22.5	19.2	15.4	0.60		
4,586.0	1.01	307.15	4,584.4	22.8	18.8	15.7	0.28		
4,611.0	1.09	309.06	4,609.4	23.1	18.5	16.1	0.35		
4,636.0	1.13	311.97	4,634.4	23.4	18.1	16.5	0.28		
4,661.0	1.16	314.31	4,659.4	23.7	17.7	17.0	0.22		
4,686.0	1.19	312.49	4,684.3	24.1	17.4	17.4	0.19		

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EOW Completion Report



<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Manser Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b> Zimka/Manser Pad	<b>MD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b> Manser Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
4,711.0	1.16	315.31	315.31	4,709.3	24.5	17.0	17.9	0.26	
4,736.0	1.16	310.30	310.30	4,734.3	24.8	16.6	18.3	0.41	
4,761.0	1.22	309.33	309.33	4,759.3	25.1	16.2	18.7	0.25	
4,786.0	1.15	308.24	308.24	4,784.3	25.5	15.8	19.2	0.29	
4,811.0	1.24	312.49	312.49	4,809.3	25.8	15.4	19.6	0.51	
4,836.0	1.24	313.72	313.72	4,834.3	26.2	15.0	20.1	0.11	
4,861.0	1.34	318.68	318.68	4,859.3	26.6	14.6	20.6	0.60	
4,886.0	1.34	317.46	317.46	4,884.3	27.0	14.2	21.1	0.11	
4,911.0	1.43	317.83	317.83	4,909.3	27.5	13.8	21.7	0.36	
4,936.0	1.38	317.34	317.34	4,934.3	27.9	13.4	22.3	0.21	
4,961.0	1.38	317.73	317.73	4,959.3	28.3	13.0	22.8	0.04	
4,986.0	1.41	321.14	321.14	4,984.3	28.8	12.6	23.4	0.35	
5,011.0	1.48	317.03	317.03	5,009.3	29.3	12.2	24.0	0.50	
5,036.0	1.45	312.07	312.07	5,034.3	29.7	11.7	24.5	0.52	
5,061.0	1.34	315.96	315.96	5,059.3	30.2	11.3	25.1	0.58	
5,086.0	1.45	314.00	314.00	5,084.2	30.6	10.9	25.6	0.48	
5,111.0	1.33	313.99	313.99	5,109.2	31.0	10.4	26.1	0.48	
5,136.0	1.43	313.52	313.52	5,134.2	31.4	10.0	26.7	0.40	
5,161.0	1.47	316.87	316.87	5,159.2	31.9	9.6	27.2	0.37	
5,186.0	1.48	314.51	314.51	5,184.2	32.3	9.1	27.8	0.25	
5,211.0	1.49	314.76	314.76	5,209.2	32.8	8.7	28.4	0.05	
5,236.0	1.49	313.84	313.84	5,234.2	33.2	8.2	29.0	0.10	
5,261.0	1.58	311.73	311.73	5,259.2	33.7	7.7	29.6	0.43	
5,286.0	1.63	308.88	308.88	5,284.2	34.1	7.2	30.2	0.38	
5,311.0	1.69	314.38	314.38	5,309.2	34.6	6.6	30.8	0.68	
5,336.0	1.67	313.77	313.77	5,334.2	35.1	6.1	31.4	0.11	
5,361.0	1.63	316.43	316.43	5,359.1	35.6	5.6	32.1	0.35	
5,386.0	1.63	314.95	314.95	5,384.1	36.2	5.1	32.7	0.17	
5,411.0	1.64	317.42	317.42	5,409.1	36.7	4.6	33.4	0.28	
5,436.0	1.83	314.80	314.80	5,434.1	37.2	4.1	34.0	0.82	
5,461.0	1.81	320.07	320.07	5,459.1	37.8	3.5	34.8	0.67	
5,486.0	1.82	312.28	312.28	5,484.1	38.4	3.0	35.5	0.99	
5,511.0	1.88	317.18	317.18	5,509.1	38.9	2.4	36.2	0.68	
5,536.0	1.87	320.63	320.63	5,534.1	39.6	1.9	37.0	0.45	
5,561.0	1.85	312.83	312.83	5,559.0	40.1	1.3	37.7	1.02	
5,586.0	2.05	315.26	315.26	5,584.0	40.7	0.7	38.4	0.87	
5,611.0	2.11	319.82	319.82	5,609.0	41.4	0.1	39.3	0.70	
5,636.0	2.05	319.49	319.49	5,634.0	42.1	-0.5	40.1	0.24	
5,639.9	2.07	320.76	320.76	5,637.9	42.2	-0.6	40.2	1.28	
5,657.0	2.25	322.32	322.32	5,655.0	42.7	-1.0	40.8	1.11	
5,751.0	1.95	313.06	313.06	5,748.9	45.3	-3.3	44.0	0.48	
5,845.0	1.56	310.54	310.54	5,842.9	47.2	-5.4	46.5	0.42	
5,939.0	1.97	317.65	317.65	5,936.8	49.2	-7.5	49.7	0.49	
6,034.0	1.99	299.55	299.55	6,031.8	51.2	-10.0	51.8	0.66	

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EOW Completion Report



<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Manser Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b> Zimka/Manser Pad	<b>MD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b> Manser Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
6,128.0	2.16	290.14		6,125.7	52.6	-13.1	54.1	0.40
6,161.0	1.86	296.85		6,158.7	53.1	-14.2	54.9	1.15
6,192.0	0.56	63.57		6,189.7	53.4	-14.5	55.2	7.23
6,223.0	4.07	99.70		6,220.7	53.3	-13.2	54.7	11.72
6,255.0	7.97	101.41		6,252.5	52.6	-10.0	53.1	12.20
6,286.0	10.96	99.79		6,283.1	51.7	-4.9	50.6	9.68
6,317.0	13.24	100.76		6,313.4	50.6	1.5	47.5	7.38
6,349.0	15.08	102.35		6,344.4	49.0	9.1	43.6	5.88
6,380.0	17.53	103.80		6,374.1	47.0	17.6	39.1	8.01
6,411.0	20.53	103.44		6,403.4	44.6	27.4	33.7	9.68
6,443.0	24.21	101.74		6,433.0	42.0	39.3	27.5	11.68
6,474.0	27.45	101.93		6,460.9	39.2	52.5	20.7	10.46
6,505.0	30.80	100.86		6,488.0	36.2	67.3	13.2	10.94
6,537.0	34.50	98.30		6,514.9	33.4	84.3	5.1	12.34
6,568.0	36.38	92.54		6,540.2	31.7	102.2	-2.1	12.36
6,600.0	37.65	86.85		6,565.8	31.8	121.5	-8.0	11.41
6,631.0	38.95	79.86		6,590.1	34.1	140.5	-11.9	14.58
6,662.0	38.52	73.25		6,614.3	38.6	159.4	-13.6	13.41
6,694.0	38.45	67.26		6,639.4	45.3	178.1	-13.1	11.65
6,709.0	38.32	63.64		6,651.1	49.2	186.5	-12.1	15.00
<b>MDLX</b>								
6,725.0	38.31	59.77		6,663.7	53.9	195.3	-10.4	15.00
6,756.0	38.37	52.88		6,688.0	64.5	211.3	-5.3	13.78
6,787.0	38.51	46.44		6,712.3	77.0	225.9	1.9	12.92
6,819.0	40.09	39.37		6,737.1	91.8	239.7	11.6	14.83
6,850.0	42.73	34.40		6,760.3	108.2	252.0	23.3	13.60
6,882.0	45.12	29.94		6,783.4	127.0	263.8	37.5	12.21
6,897.0	46.13	27.37		6,793.9	136.4	268.9	44.8	13.97
<b>BRKT</b>								
6,913.0	47.27	24.73		6,804.8	146.9	274.0	53.1	13.97
6,936.0	48.69	20.78		6,820.2	162.6	280.6	66.0	14.16
<b>TLLY</b>								
6,944.0	49.21	19.45		6,825.5	168.3	282.7	70.7	14.16
6,976.0	51.33	15.46		6,845.9	191.8	290.1	90.6	11.65
7,007.0	53.63	11.14		6,864.8	215.7	295.7	111.6	13.31
7,038.0	55.68	7.09		6,882.8	240.6	299.7	134.0	12.55
<b>HMLN</b>								
7,039.0	55.75	6.96		6,883.3	241.5	299.8	134.7	12.55
7,070.0	57.62	6.19		6,900.4	267.2	302.8	158.2	6.38
7,101.0	59.12	1.73		6,916.6	293.5	304.6	182.6	13.17
7,128.0	61.77	358.79		6,929.9	317.0	304.7	204.9	13.64
<b>MRCL_HOT</b>								
7,132.0	62.17	358.37		6,931.8	320.5	304.6	208.3	13.64
7,164.0	65.35	357.29		6,946.0	349.2	303.5	235.8	10.39
7,195.0	69.68	355.47		6,957.8	377.8	301.7	263.5	14.98

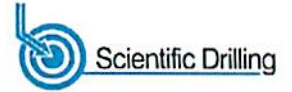
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17-06486



EOW Completion Report



<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Manser Unit 2H
<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b> Zimka/Manser Pad	<b>MD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b> Manser Unit 2H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,226.0	75.00	354.73	6,967.2	407.2	299.2	292.2	17.31
7,258.0	80.92	355.04	6,973.9	438.4	296.4	322.7	18.52
7,274.0	84.13	354.53	6,976.0	454.2	294.9	338.1	20.31
7,323.0	90.94	350.64	6,978.1	502.7	288.6	386.2	16.00
7,418.0	90.40	348.19	6,977.0	596.0	271.2	480.3	2.64
7,512.0	89.46	346.20	6,977.1	687.7	250.3	573.8	2.34
7,606.0	89.60	345.53	6,977.9	778.8	227.4	667.6	0.73
7,701.0	88.82	341.30	6,979.2	869.9	200.3	762.5	4.53
7,795.0	90.71	338.33	6,979.5	958.1	167.8	856.4	3.74
7,889.0	88.66	335.38	6,980.1	1,044.5	130.9	950.1	3.82
7,983.0	90.44	335.64	6,980.8	1,130.0	91.9	1,043.5	1.91
8,078.0	90.50	334.42	6,980.0	1,216.1	51.8	1,137.9	1.29
8,172.0	88.22	330.32	6,981.1	1,299.4	8.3	1,230.6	4.99
8,266.0	88.32	330.39	6,983.9	1,381.0	-38.2	1,322.8	0.13
8,360.0	91.04	330.40	6,984.4	1,462.8	-84.7	1,415.0	2.89
8,454.0	90.07	330.69	6,983.5	1,544.6	-130.9	1,507.2	1.08
8,549.0	86.87	332.57	6,986.1	1,628.2	-176.0	1,600.7	3.91
8,642.0	89.03	337.60	6,989.4	1,712.4	-215.1	1,693.0	5.88
8,736.0	88.56	341.80	6,991.4	1,800.5	-247.7	1,786.9	4.49
8,831.0	88.35	341.00	6,993.9	1,890.5	-278.0	1,881.9	0.87
8,925.0	90.17	342.37	6,995.1	1,979.8	-307.6	1,975.9	2.42
9,019.0	89.60	343.99	6,995.3	2,069.7	-334.8	2,069.8	1.83
9,113.0	88.99	342.26	6,996.5	2,159.7	-362.0	2,163.8	1.95
9,207.0	89.16	341.63	6,998.0	2,249.0	-391.2	2,257.8	0.69
9,301.0	91.91	342.36	6,997.1	2,338.4	-420.2	2,351.8	3.03
9,396.0	89.60	341.20	6,995.9	2,428.6	-449.9	2,446.7	2.72
9,490.0	89.36	340.95	6,996.7	2,517.6	-480.4	2,540.7	0.37
9,584.0	92.83	345.94	6,994.9	2,607.6	-507.2	2,634.6	6.46
9,678.0	92.49	344.16	6,990.6	2,698.3	-531.4	2,728.4	1.93
9,772.0	91.95	342.38	6,986.9	2,788.3	-558.4	2,822.2	1.98
9,866.0	90.07	341.69	6,985.3	2,877.7	-587.4	2,916.2	2.13
9,960.0	92.28	343.43	6,983.3	2,967.3	-615.6	3,010.2	2.99
10,051.0	92.25	342.78	6,979.8	3,054.3	-642.0	3,101.1	0.71
10,142.0	91.21	340.56	6,977.0	3,140.7	-670.6	3,192.0	2.69
10,234.0	90.71	338.38	6,975.5	3,226.8	-702.9	3,283.9	2.43
10,325.0	92.49	340.28	6,972.9	3,311.9	-735.0	3,374.8	2.86
10,416.0	91.85	339.18	6,969.5	3,397.2	-766.5	3,465.7	1.40
10,508.0	90.87	342.45	6,967.3	3,484.1	-796.7	3,557.7	3.71
10,598.0	92.38	342.38	6,964.7	3,569.8	-823.9	3,647.6	1.68
10,689.0	91.68	340.29	6,961.5	3,656.0	-853.0	3,738.5	2.42
10,780.0	92.08	342.52	6,958.5	3,742.2	-882.0	3,829.5	2.49
10,871.0	92.69	343.20	6,954.7	3,829.1	-908.8	3,920.4	1.00
10,961.0	90.10	341.24	6,952.6	3,914.7	-936.2	4,010.3	3.60
11,053.0	89.90	341.09	6,952.6	4,001.8	-965.9	4,102.3	0.27

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EOW Completion Report



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<b>Project:</b> Doddridge County WV	<b>TVD Reference:</b> Patterson 325: GL 1141' + KB 24' @ 1165.0usft
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<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
11,147.0	92.35	341.51	6,950.7	4,090.8	-996.1	4,196.3	2.64
11,240.0	90.77	341.20	6,948.2	4,178.9	-1,025.8	4,289.3	1.73
11,335.0	90.20	338.18	6,947.4	4,268.0	-1,058.8	4,384.2	3.23
11,429.0	90.94	338.62	6,946.4	4,355.4	-1,093.4	4,478.1	0.92
11,523.0	90.84	339.54	6,945.0	4,443.2	-1,126.9	4,571.9	0.98
11,617.0	90.40	340.54	6,944.0	4,531.5	-1,159.0	4,665.9	1.16
11,711.0	89.66	340.79	6,943.9	4,620.2	-1,190.1	4,759.9	0.83
11,805.0	88.89	341.03	6,945.1	4,709.0	-1,220.9	4,853.9	0.86
11,899.0	91.35	346.11	6,944.9	4,799.1	-1,247.5	4,947.8	6.00
11,993.0	90.24	344.17	6,943.6	4,890.0	-1,271.6	5,041.6	2.38
12,087.0	88.96	342.48	6,944.3	4,980.0	-1,298.5	5,135.5	2.26
12,181.0	89.97	343.15	6,945.1	5,069.8	-1,326.3	5,229.5	1.29
12,275.0	90.67	343.38	6,944.6	5,159.8	-1,353.4	5,323.5	0.78
12,370.0	87.95	341.83	6,945.7	5,250.5	-1,381.8	5,418.4	3.30
12,464.0	89.80	343.61	6,947.6	5,340.2	-1,409.7	5,512.4	2.73
12,558.0	89.60	343.61	6,948.1	5,430.4	-1,436.2	5,606.3	0.21
12,652.0	88.96	341.70	6,949.3	5,520.1	-1,464.2	5,700.3	2.14
12,746.0	89.29	342.81	6,950.7	5,609.6	-1,492.9	5,794.3	1.23
12,840.0	89.66	344.75	6,951.6	5,699.9	-1,519.1	5,888.2	2.10
12,934.0	89.26	342.25	6,952.5	5,790.0	-1,545.8	5,982.2	2.69
13,028.0	87.85	340.08	6,954.8	5,878.9	-1,576.1	6,076.1	2.75
13,123.0	87.92	340.63	6,958.3	5,968.3	-1,608.1	6,171.0	0.58
13,217.0	89.46	340.39	6,960.5	6,056.9	-1,639.4	6,265.0	1.66
13,311.0	90.10	340.54	6,960.8	6,145.5	-1,670.9	6,359.0	0.70
13,406.0	89.77	340.32	6,960.9	6,235.0	-1,702.7	6,453.9	0.42
13,501.0	89.19	338.84	6,961.8	6,324.0	-1,735.8	6,548.9	1.67
13,595.0	89.16	339.06	6,963.2	6,411.8	-1,769.6	6,642.8	0.24
13,689.0	89.80	339.24	6,964.0	6,499.6	-1,803.0	6,736.7	0.71
13,783.0	89.50	338.45	6,964.6	6,587.3	-1,837.0	6,830.6	0.90
13,877.0	89.40	341.82	6,965.5	6,675.6	-1,868.9	6,924.5	3.59
13,971.0	88.02	339.84	6,967.6	6,764.4	-1,899.7	7,018.5	2.57
14,029.0	87.82	341.59	6,969.7	6,819.1	-1,918.9	7,076.4	3.03
14,080.0	87.82	341.59	6,971.7	6,867.5	-1,935.0	7,127.4	0.00

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Manser Unit 2H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Site:</b>	Zimka/Manser Pad	<b>MD Reference:</b>	Patterson 325: GL 1141' + KB 24' @ 1165.0usft
<b>Well:</b>	Manser Unit 2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Well/path	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,709.0	6,651.1	49.2	186.5	MDLX
6,897.0	6,793.9	136.4	268.9	BRKT
6,936.0	6,820.2	162.6	280.6	TLLY
7,038.0	6,882.8	240.6	299.7	HMLN
7,128.0	6,929.9	317.0	304.7	MRCL_HOT

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/8/2015
Job End Date:	1/23/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06486-08-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Manser Unit 2H
Longitude:	-80.67299400
Latitude:	39.28519700
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,998
Total Base Water Volume (gal):	9,725,499
Total Base Non Water Volume:	0

## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Operator	Base Fluid	Fresh Water	7732-18-5	100.00000	90.33741	Density = 8.330
SAND - PREMIUM - 40/70, BULK, SK (100064018)	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	5.20989	
SAND - PREMIUM - 20/40, BULK, SK (101272933)	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	3.39388	
SAND - PREMIUM - 100 MESH, 100 LB, SK (100002158)	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	0.73174	
HYDROCHLORIC ACID 10-30%	Halliburton	Solvent	Hydrochloric acid	7647-01-0	30.00000	0.06138	
MG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00000	0.03722	
FR-66	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01822	

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P-65	Halliburton	Scale Inhibitor	Ammonium chloride	12125-02-9	10.00000	0.00142	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00000	0.00132	
CA-1	Halliburton	Solvent	Paraffinic solvent	Confidential	100.00000	0.00985	
BE-9W	Halliburton	Biocide	Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00079	
HA-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor	Methanol	67-56-1	60.00000	0.00010	
			Propargyl alcohol	107-19-7	10.00000	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.							
		Other Ingredient(s)	Water	7732-18-5		0.25760	
		Other Ingredient(s)	Polyacrylamide copolymer	Confidential		0.01822	
		Other Ingredient(s)	Organic phosphonate	Confidential		0.00854	
		Other Ingredient(s)	Propylene glycol	57-55-6		0.00476	
		Other Ingredient(s)	Alcohols, C12-16, ethoxylated	68551-12-2		0.00304	
		Other Ingredient(s)	Ammonium chloride	12125-02-9		0.00304	
		Other Ingredient(s)	Sodium chloride	7647-14-5		0.00304	
		Other Ingredient(s)	Fatty acid tall oil amide	Confidential		0.00304	
		Other Ingredient(s)	Bentonite, benzyl(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4		0.00186	
		Other Ingredient(s)	Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00061	
		Other Ingredient(s)	Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00061	
		Other Ingredient(s)	Silica gel	112926-00-8		0.00037	
		Other Ingredient(s)	Surfactant mixture	Confidential		0.00037	

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 Houston, TX 77032  
 281-871-6226  
 Denise Tuck, Halliburton  
 3950 N. Sam Houston Pkwy  
 Houston, TX 77032

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17-06486

	Other Ingredient(s)	Surfactant mixture	Confidential			0.00037	
	Other Ingredient(s)	Formaldehyde	50-00-0			0.00014	
	Other Ingredient(s)	Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1			0.00005	
	Other Ingredient(s)	Fatty acids, tall oil	Confidential			0.00005	
	Other Ingredient(s)	Alcohols, C14-C15, ethoxylated	68951-67-7			0.00005	
	Other Ingredient(s)	Crystalline Silica, Quartz	14808-60-7			0.00004	
	Other Ingredient(s)	Diethyls	Confidential			0.00001	
	Other Ingredient(s)	Diethyls	Confidential			0.00001	
	Other Ingredient(s)	Diethyls	Confidential			0.00000	
	Other Ingredient(s)	Diethyls	Confidential			0.00000	
	Other Ingredient(s)	Sodium sulfate	7757-82-6			0.00000	

\* 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" | 1,840'

3,750' TO BOTTOM HOLE  
LATITUDE 39°20'00"

LONGITUDE 80°40'00"  
10,685' TO BOTTOM HOLE  
LONGITUDE 80°40'00"

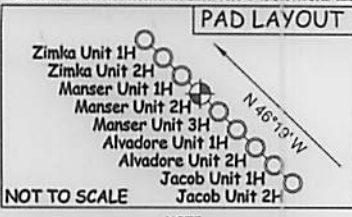
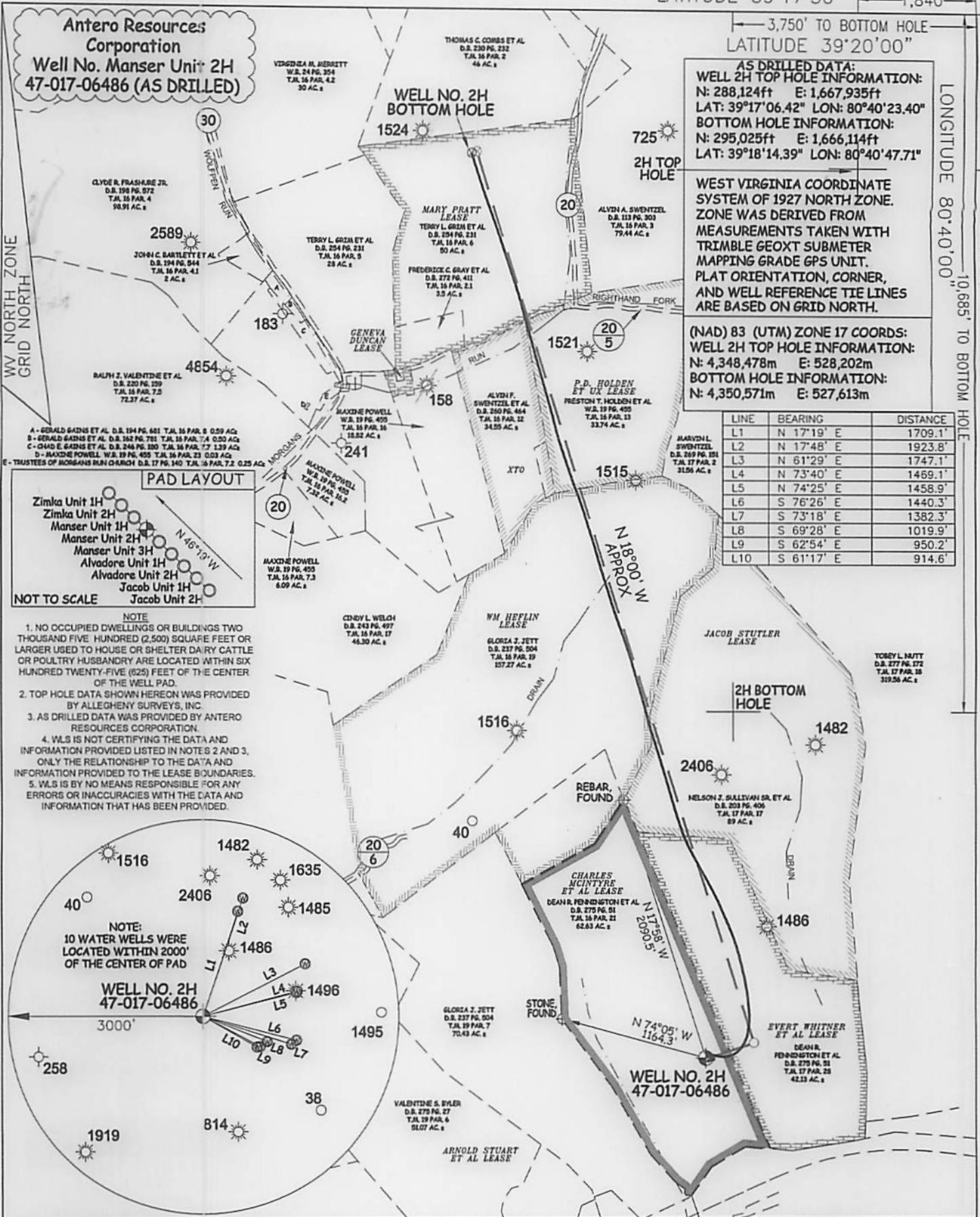
**Antero Resources Corporation**  
**Well No. Manser Unit 2H**  
**47-017-06486 (AS DRILLED)**

**AS DRILLED DATA:**  
**WELL 2H TOP HOLE INFORMATION:**  
N: 288,124ft E: 1,667,935ft  
LAT: 39°17'06.42" LON: 80°40'23.40"  
**BOTTOM HOLE INFORMATION:**  
N: 295,025ft E: 1,666,114ft  
LAT: 39°18'14.39" LON: 80°40'47.71"

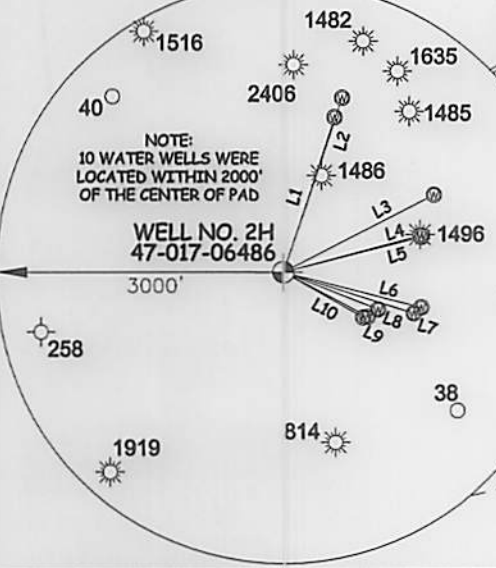
**WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.**  
ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

**(NAD) 83 (UTM) ZONE 17 COORDS:**  
**WELL 2H TOP HOLE INFORMATION:**  
N: 4,348,478m E: 528,202m  
**BOTTOM HOLE INFORMATION:**  
N: 4,350,571m E: 527,613m

LINE	BEARING	DISTANCE
L1	N 17°19' E	1709.1'
L2	N 17°48' E	1923.8'
L3	N 61°29' E	1747.1'
L4	N 73°40' E	1469.1'
L5	N 74°25' E	1458.9'
L6	S 76°26' E	1440.3'
L7	S 73°18' E	1382.3'
L8	S 69°28' E	1019.9'
L9	S 62°54' E	950.2'
L10	S 61°17' E	914.6'



- 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.



JOB # 13-092WA  
DRAWING # MANSER2HAD  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY SUBMETER  
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



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

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

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

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

LOCATION: ELEVATION 1,198' ORIGINAL - 1,141' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK  
QUADRANGLE SMITHBURG 7.5' DISTRICT GRANT COUNTY DODD

SURFACE OWNER DEAN R. PENNINGTON ET AL ACREAGE 62.63 ACRES +/-  
OIL & GAS ROYALTY OWNER CHARLES MCINTYRE ET AL; EVERT WHITNER ET AL; JACOB STUTLER; WM. HEFLIN; P.D. HOLDEN ET UX; XTO; MARY PRATT LEASE ACREAGE 70 ACRES +/-; 42 ACRES +/-; 91.5 ACRES +/-; 120.6 ACRES +/-; 35 ACRES +/-; 35 ACRES +/-; 54 ACRES +/-

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED PLUG & ABANDON  CLEAN OUT & REPLUG   
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,972' TVD 14,080' MD

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

DATE 06/12/15  
OPERATOR'S WELL # MANSER UNIT #2H  
API WELL # 47 - 017 - 06486  
STATE COUNTY PERMIT 10/30/2015