

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

API 47-085-09999 County Ritchie District Union  
Quad Pullman 7.5' Pad Name Ness Pad Field/Pool Name ---  
Farm name Ness, Ashley E., Jr. Well Number Deberry Unit 1H  
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 4338471m Easting 508546m  
Landing Point of Curve Northing 4338303.28m Easting 508527.65m  
Bottom Hole Northing 4335663.56m Easting 509695.00m

Elevation (ft) 1075' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine  
Mud Type(s) and Additive(s)  
Air- Foam & 4% KCL  
Mud- Polymer

Date permit issued 11/16/2012 Date drilling commenced 4/15/2013 Date drilling ceased 2/23/2014  
Date completion activities began 4/19/2014 Date completion activities ceased 7/14/2014  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 62' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1620', 1838' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 456' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

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Reviewed by:  
AK 5/26/15  
W.S. 6/12/2015

API 47-085 - 09999 Farm name Ness, Ashley E., Jr. Well number Deberry Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	40'	New	94# H-40	N/A	Y
Surface	17- 1/2"	13- 3/8"	546'	New	68# J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2615'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	16283'	New	23# P-110	N/A	Y
Tubing		2-3/8"	6603'		4.7# N-80	N/A	
Packer type and depth set		N/A					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	203 sx	15.1	1.18	38	0'	8 Hrs.
Surface	Class A	664 sx	15.6	1.18	379	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1011 sx	15.6	1.18	819	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	935 sx (Lead) 1507 sx (Tail)	14.5 Lead 15.2 Tail	1.44 Lead 1.80 Tail	3246	-500 into intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 16287' MD, 6533' TVD (BHL), 6542' TVD (Deepest Point Drilled) Loggers TD (ft) 16230' MD

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

Plug back procedure N/A

Kick off depth (ft) 5722'

\*\* This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Rufus Unit 1H API# 47-085-10046). Please reference the wireline logs submitted with Form WR-35 for the Rufus Unit 1H). A Cement Bond Log was included with this submittal.

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

Well cored  Yes  No  Conventional  Sidewall Were cuttings collected  Yes  No

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

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

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS APR 27 2015

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

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





API 47-085-09999 Farm Name Ness, Ashley E., Jr. Well Number Deberry Unit 1H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	20-May-14	16,066	10,192	60	Marcellus
2	20-May-14	15,917	16,043	60	Marcellus
3	21-May-14	15,768	15,894	60	Marcellus
4	21-May-14	15,619	15,745	60	Marcellus
5	21-May-14	15,470	15,596	60	Marcellus
6	21-May-14	15,322	15,448	60	Marcellus
7	21-May-14	15,173	15,299	60	Marcellus
8	21-May-14	15,024	15,150	60	Marcellus
9	22-May-14	14,875	15,001	60	Marcellus
10	22-May-14	14,726	14,852	60	Marcellus
11	23-May-14	14,578	14,704	60	Marcellus
12	23-May-14	14,429	14,555	60	Marcellus
13	23-May-14	14,280	14,406	60	Marcellus
14	23-May-14	14,131	14,257	60	Marcellus
15	23-May-14	13,982	14,082	60	Marcellus
16	24-May-14	13,834	13,960	60	Marcellus
17	24-May-14	13,685	13,811	60	Marcellus
18	24-May-14	13,536	13,662	60	Marcellus
19	24-May-14	13,387	13,513	60	Marcellus
20	25-May-14	13,239	13,365	60	Marcellus
21	25-May-14	13,090	13,216	60	Marcellus
22	25-May-14	12,941	13,067	60	Marcellus
23	17-Jun-14	12,792	12,918	60	Marcellus
24	17-Jun-14	12,643	12,769	60	Marcellus
25	17-Jun-14	12,495	12,621	60	Marcellus
26	18-Jun-14	12,346	12,472	60	Marcellus
27	18-Jun-14	12,197	12,323	60	Marcellus
28	22-Jun-14	12,048	12,174	60	Marcellus
29	22-Jun-14	11,899	12,025	60	Marcellus
30	22-Jun-14	11,751	11,877	60	Marcellus
31	22-Jun-14	11,602	11,728	60	Marcellus
32	23-Jun-14	11,453	11,579	60	Marcellus
33	23-Jun-14	11,304	11,430	60	Marcellus
34	23-Jun-14	11,156	11,281	60	Marcellus
35	24-Jun-14	11,007	11,133	60	Marcellus
36	24-Jun-14	10,858	10,984	60	Marcellus
37	24-Jun-14	10,709	10,835	60	Marcellus
38	24-Jun-14	10,560	10,686	60	Marcellus
39	25-Jun-14	10,412	10,538	60	Marcellus
40	25-Jun-14	10,263	10,389	60	Marcellus
41	26-Jun-14	10,114	10,240	60	Marcellus
42	26-Jun-14	9,965	10,091	60	Marcellus
43	26-Jun-14	9,816	9,942	60	Marcellus
44	26-Jun-14	9,668	9,794	60	Marcellus
45	26-Jun-14	9,519	9,645	60	Marcellus
46	27-Jun-14	9,370	9,496	60	Marcellus
47	27-Jun-14	9,221	9,347	60	Marcellus
48	27-Jun-14	9,072	9,198	60	Marcellus
49	29-Jun-14	8,924	9,050	60	Marcellus
50	30-Jun-14	8,775	8,901	60	Marcellus
51	30-Jun-14	8,626	8,752	60	Marcellus
52	30-Jun-14	8,477	8,603	60	Marcellus
53	30-Jun-14	8,329	8,455	60	Marcellus
54	30-Jun-14	8,180	8,306	60	Marcellus
55	1-Jul-14	8,031	8,157	60	Marcellus
56	1-Jul-14	7,882	8,008	60	Marcellus
57	1-Jul-14	7,733	7,859	60	Marcellus
58	1-Jul-14	7,585	7,711	60	Marcellus
59	1-Jul-14	7,436	7,562	60	Marcellus
60	2-Jul-14	7,287	7,413	60	Marcellus
61	2-Jul-14	7,138	7,261	60	Marcellus
62	2-Jul-14	6,989	7,115	60	Marcellus
63	2-Jul-14	6,841	6,967	60	Marcellus
64	3-Jul-14	6,692	6,818	60	Marcellus

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**EXHIBIT 2**

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	20-May-14	24.0	8,917	N/A	8,120	2,133	5,895	N/A
2	20-May-14	66.0	8,079	6,246	5,123	110,165	5,928	N/A
3	21-May-14	74.0	7,875	5,140	2,567	215,565	5,906	N/A
4	21-May-14	46.0	7,945	6,080	4,950	6,400	6,171	N/A
5	21-May-14	73.0	8,234	5,808	5,322	191,513	5,863	N/A
6	21-May-14	76.0	7,826	5,947	3,348	216,420	6,101	N/A
7	21-May-14	78.0	7,854	6,196	4,320	215,929	5,947	N/A
8	21-May-14	75.0	7,832	5,965	5,466	218,903	5,966	N/A
9	22-May-14	77.0	7,735	5,629	4,510	207,255	5,976	N/A
10	22-May-14	77.0	7,780	5,922	5,525	216,225	5,917	N/A
11	23-May-14	76.0	7,996	6,327	3,935	218,891	6,599	N/A
12	23-May-14	77.0	7,332	5,784	4,025	218,180	5,986	N/A
13	23-May-14	69.0	7,920	5,928	5,400	174,851	6,480	N/A
14	23-May-14	73.0	7,644	5,536	5,961	212,359	5,866	N/A
15	23-May-14	73.0	7,775	5,862	4,353	215,770	5,805	N/A
16	24-May-14	75.0	7,774	5,610	5,218	214,756	5,777	N/A
17	24-May-14	78.0	7,457	6,180	5,883	199,182	5,580	N/A
18	24-May-14	77.0	7,542	5,622	5,903	213,066	5,789	N/A
19	24-May-14	75.0	7,832	5,476	4,615	218,689	5,780	N/A
20	25-May-14	76.0	7,563	5,379	5,372	214,446	5,689	N/A
21	25-May-14	69.0	7,045	5,384	5,785	185,580	6,553	N/A
22	25-May-14	78.0	7,679	5,859	5,758	130,099	5,858	N/A
23	17-Jun-14	66.0	8,404	6,783	5,462	43,063	5,942	N/A
24	17-Jun-14	78.1	7,460	6,085	3,719	136,857	1,217	N/A
25	17-Jun-14	81.0	7,780	5,407	4,383	218,170	5,803	N/A
26	18-Jun-14	76.0	7,543	5,643	4,881	171,627	6,195	N/A
27	18-Jun-14	77.1	7,690	5,631	2,954	196,795	3,379	N/A
28	22-Jun-14	71.0	8,169	7,234	4,250	67,290	6,101	N/A
29	22-Jun-14	80.0	8,259	6,244	4,887	89,850	5,728	N/A
30	22-Jun-14	75.0	7,364	5,698	4,924	184,707	5,859	N/A
31	22-Jun-14	45.0	7,345	5,865	7,177	9,117	5,199	N/A
32	23-Jun-14	75.6	7,316	5,632	4,866	214,119	5,613	N/A
33	23-Jun-14	77.2	7,170	5,283	5,302	216,955	5,922	N/A
34	23-Jun-14	77.0	7,346	5,514	5,643	221,943	5,811	N/A
35	24-Jun-14	77.3	7,277	5,763	5,566	220,000	5,570	N/A
36	24-Jun-14	68.5	7,154	5,325	4,511	145,170	6,059	N/A
37	24-Jun-14	73.5	7,539	5,769	4,601	218,835	5,826	N/A
38	24-Jun-14	73.5	7,018	5,622	5,571	221,360	5,806	N/A
39	25-Jun-14	68.5	7,154	5,759	5,238	95,764	5,500	N/A
40	25-Jun-14	68.5	7,154	5,584	3,288	218,787	5,500	N/A
41	26-Jun-14	76.8	6,906	5,409	2,919	219,898	5,614	N/A
42	26-Jun-14	75.3	7,055	5,509	3,811	216,956	5,476	N/A
43	26-Jun-14	83.8	7,124	5,490	3,658	218,690	5,523	N/A
44	26-Jun-14	78.7	6,872	5,634	4,680	218,639	5,499	N/A
45	26-Jun-14	79.3	7,236	5,713	4,870	191,500	5,919	N/A
46	27-Jun-14	79.5	7,076	5,924	4,555	212,821	5,443	N/A
47	27-Jun-14	76.6	6,915	5,368	3,472	213,109	5,480	N/A
48	27-Jun-14	66.8	7,339	5,967	3,762	217,586	5,160	N/A
49	29-Jun-14	74.9	7,633	N/A	4,924	121,926	5,854	N/A
50	30-Jun-14	37.2	8,564	6,375	5,460	2,153	4,865	N/A
51	30-Jun-14	72.0	6,916	6,112	3,910	210,257	5,218	N/A
52	30-Jun-14	73.0	6,729	5,840	2,816	219,859	5,432	N/A
53	30-Jun-14	81.3	7,000	5,557	4,710	212,870	5,343	N/A
54	30-Jun-14	75.0	7,002	5,938	4,040	147,316	5,646	N/A
55	1-Jul-14	77.9	6,780	5,535	3,307	211,722	5,343	N/A
56	1-Jul-14	77.3	6,782	5,261	5,137	203,806	5,066	N/A
57	1-Jul-14	74.7	6,855	5,505	3,130	220,337	5,601	N/A
58	1-Jul-14	73.9	7,014	6,093	4,930	154,324	5,506	N/A
59	1-Jul-14	75.2	7,162	5,863	3,900	219,466	5,450	N/A
60	2-Jul-14	76.8	6,864	5,719	3,322	213,828	5,470	N/A
61	2-Jul-14	76.0	6,694	5,359	3,095	220,936	5,565	N/A
62	2-Jul-14	74.2	6,937	5,616	4,805	219,085	5,441	N/A
63	2-Jul-14	73.4	6,605	5,928	5,160	211,210	5,704	N/A
64	3-Jul-14	82.8	6,526	5,860	3,260	213,930	5,616	N/A
<b>AVG=</b>		<b>73</b>	<b>7,428</b>	<b>5,779</b>	<b>4,630</b>	<b>11,619,010</b>	<b>359,696</b>	<b>TOTAL</b>

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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	62	--	--	--
Siltstone	0	456	0	456
Coal	est. 456	486	est. 456	486
Sand	est. 486	516	est. 486	516
Shale	est. 516	1266	est. 516	1266
Sandstone	est. 1266	1296	est. 1266	1296
Shale	est. 1296	1356	est. 1296	1356
Sandstone	est. 1356	1386	est. 1356	1386
Shale	est. 1386	1506	est. 1386	1506
Sandstone	est. 1506	1906	est. 1506	1906
Limestone	est. 1906	2004	est. 1906	2010
Big Lime	est. 2004	2063	est. 2004	2063
Big Injun	est. 2063	2336	est. 2063	2336
Gantz Sand	est. 2336	2518	est. 2336	2518
Fifty Foot Sandstone	2518	2709	2518	2709
Gordon	2709	2973	2709	2973
Fifth Sandstone	2973	3076	2973	3076
Bayard	3076	3437	3076	3437
Warren	3437	3814	3437	3814
Speechley	3814	4024	3814	4024
Baltown	4024	4520	4024	4520
Bradford	4520	4915	4520	4915
Benson	4915	5150	4915	5150
Alexander	5150	5362	5150	5362
Elk	5362	5753	5362	5754
Rhinestreet	5753	6120	5754	6150
Sycamore	6120	6282	6150	6350
Middlesex	6282	6388	6350	6518
Burkett	6388	6420	6518	6586
Tully	6420	6440	6586	6648
Marcellus	6440	NA	6648	16263

\*Please note Antero determines formation tops based on mud and wireline logs that are only run on one well on a multi-well pad (Please reference Rufus Unit 1H API# 47-085-10046). The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/20/2014
Job End Date:	7/3/2014
State:	West Virginia
County:	Ritchie
API Number:	47-085-09999-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Deberry Unit 1H
Longitude:	-80.90119700
Latitude:	39.19536900
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,542
Total Base Water Volume (gal):	16,180,920
Total Base Non Water Volume:	0



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## 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	91.25940	
Sand, White, 40/70	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		4.85852	
Sand, White, 20/40	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		2.85462	
Sand, White, 100 mesh	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.50523	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.23126	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.10083	SmartCare Product
FRW-18	Baker Hughes	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.06231	SmartCare Product
Scaletrol 720	Baker Hughes	Scale Inhibitor	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01681	SmartCare Product



Alpha 1427	Baker Hughes	Biocide	MSDS and Non-MSDS Ingredients Listed Below	N/A				0.01382	SmartCare Product
Enzyme G-NE	Baker Hughes	Breaker	MSDS and Non-MSDS Ingredients Listed Below	N/A				0.01376	SmartCare Product
Ferrotrol 300L	Baker Hughes	Iron Control	MSDS and Non-MSDS Ingredients Listed Below	N/A				0.00158	SmartCare Product
Cl-14	Baker Hughes	Corrosion Inhibitor	MSDS and Non-MSDS Ingredients Listed Below	N/A				0.00037	SmartCare Product
Ingredients shown above are subject to 29 CFR 1910.1200(l) 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	8.21104	
			Water	7732-18-5			95.00000	0.25183	
			Mineral Oil	8042-47-5			70.00000	0.07052	
			Guar Gum	9000-30-0			60.00000	0.06044	
			Hydrochloric Acid	7647-01-0			15.00000	0.03466	
			Paraffinic Petroleum Distillate	64742-55-8			30.00000	0.03022	
			Poly (acrylamide-co-acrylic acid) partial sodium salt	62649-23-4			30.00000	0.01868	
			Hydrotreated Light Distillate	64742-47-8			30.00000	0.01868	
			Ethylene Glycol	107-21-1			45.00000	0.00756	
			1-butoxy-2-propanol	5131-66-8			5.00000	0.00504	
			isotridecanol, ethoxylated	9043-30-5			5.00000	0.00504	
			Crystalline Silica: Quartz	14808-60-7			5.00000	0.00504	
			Glutaraldehyde	111-30-8			30.00000	0.00414	
			2-Propenoic, Polymer with Sodium Phosphinate, Sodium Salt	71050-62-9			20.00000	0.00336	
			Sodium Chloride	7647-14-5			5.00000	0.00328	
			Ammonium Chloride	12125-02-9			3.00000	0.00187	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5			10.00000	0.00138	
			Oleamide DEA	93-83-4			2.00000	0.00125	
			Alcohols, C12-16, ethoxylated	68551-12-2			2.00000	0.00125	
			Citric Acid	77-92-9			60.00000	0.00095	
			Calcium Chloride	10043-52-4			5.00000	0.00084	
			Quaternary Ammonium Compound	88424-85-1			5.00000	0.00069	
			Ethanol	64-17-5			5.00000	0.00069	
			Hemicellulase Enzyme Concentrate	9025-56-3			5.00000	0.00069	
			Methanol	67-56-1			100.00000	0.00037	
			Polyoxyethylene Sorbitan Monooleate	9005-65-6			0.50000	0.00031	
			Sorbitan Monooleate	1338-43-8			0.50000	0.00031	
			Potassium Chloride	7447-40-7			1.00000	0.00017	

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WV Dept. of Environmental Protection

				88951-67-7		30.00000	0.00011
				15821-83-7		0.10000	0.00010
				61790-12-3		10.00000	0.00004
				88527-49-1		7.00000	0.00003
				107-19-7		5.00000	0.00002
				84743-02-8		5.00000	0.00002
				50-00-0		1.00000	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)

Received

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06/12/2015

LATITUDE 39°12'30"

7,425'

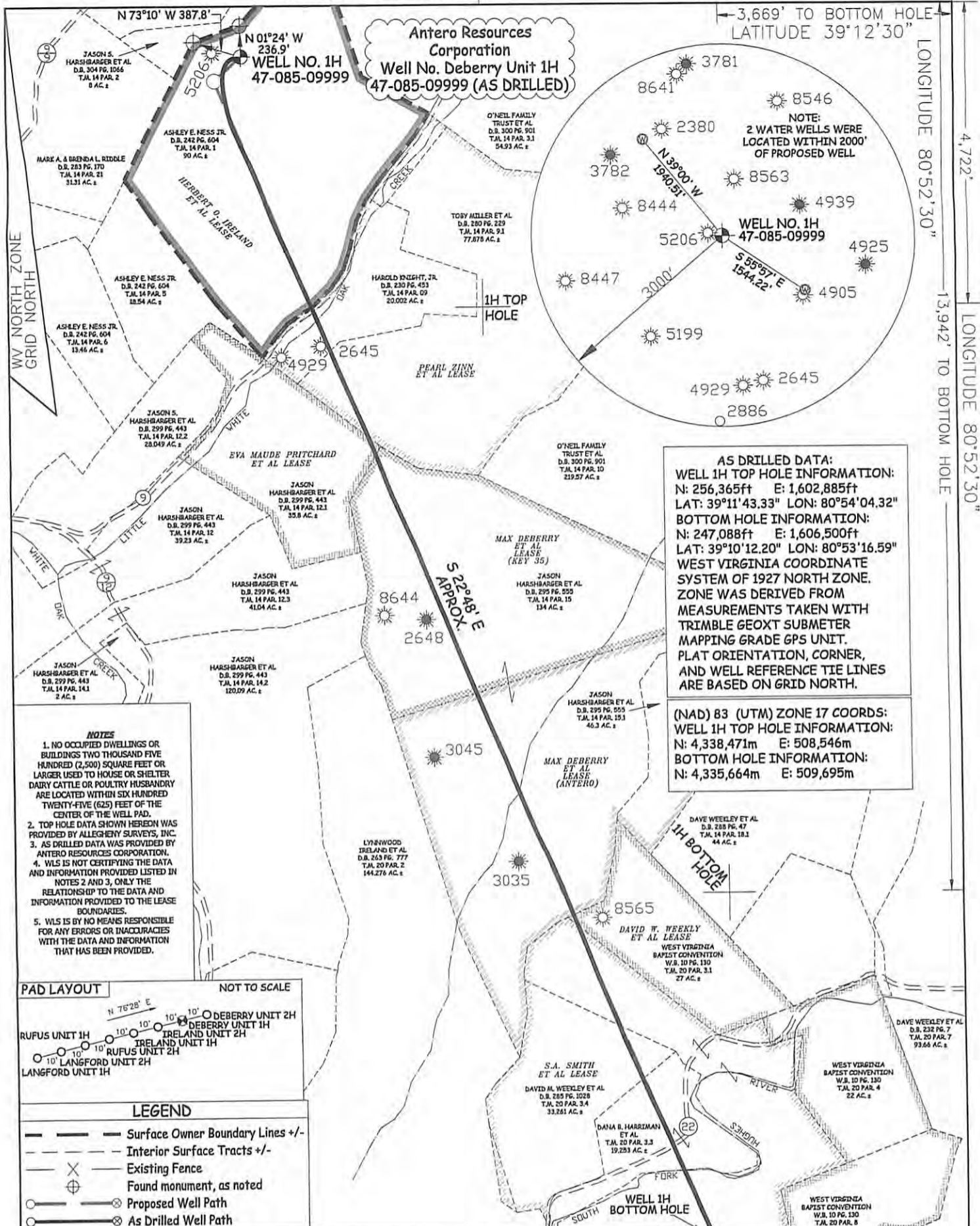
3,669' TO BOTTOM HOLE  
LATITUDE 39°12'30"

LONGITUDE 80°52'30"

4,722'

LONGITUDE 80°52'30"

13,942' TO BOTTOM HOLE

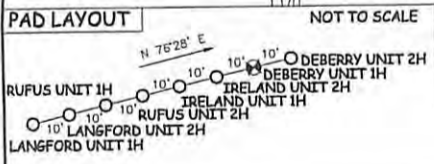


**Antero Resources Corporation**  
**Well No. Deberry Unit 1H**  
**47-085-09999 (AS DRILLED)**

**AS DRILLED DATA:**  
**WELL 1H TOP HOLE INFORMATION:**  
 N: 256,365ft E: 1,602,885ft  
 LAT: 39°11'43.33" LON: 80°54'04.32"  
**BOTTOM HOLE INFORMATION:**  
 N: 247,088ft E: 1,606,500ft  
 LAT: 39°10'12.20" LON: 80°53'16.59"  
**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: 4,338,471m E: 508,546m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,335,664m E: 509,695m

- NOTES**
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.



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

JOB # 12-058WA  
 DRAWING # DEBERRY1HAD  
 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

DATE 03/30/15  
 OPERATOR'S WELL# DEBERRY UNIT #1H  
 API WELL #

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: ORIGINAL GROUND ELEV. 1,080' AS DRILLED ELEV. 1,076' WATERSHED SOUTH FORK HUGHES RIVER  
 QUADRANGLE PULLMAN 7.5' DISTRICT UNION COUNTY RITCHIE  
 SURFACE OWNER ASHLEY E. NESS JR. ACREAGE 90 ACRES +/-  
 OIL & GAS ROYALTY OWNER HERBERT O. IRELAND ET AL; PEARL ZINN ET AL; EVA MAUDE PRITCHARD ET AL; LEASE ACREAGE 90 ACRES±; 100 ACRES±; 35 ACRES±; MAX DEBERRY ET AL (KEY 35); MAX DEBERRY ET AL (ANTERO); DAVID W. WEEKLY ET AL; S.A. SMITH ET AL 80 ACRES±; 100 ACRES±; 71 ACRES±; 145 ACRES±  
 PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY)  AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,533' TVD 16,287' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT CT CORPORATION SYSTEM  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 DENVER, CO 80202 CHARLESTON, WV 25313

06/12/2015

COUNTY NAME PERMIT