

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

Page 1 of 1
RECEIVED
Office of Oil and Gas
MAY 18 2015
WV Department of
Environmental Protection

API 47 - 017 - 06225 County Doddridge District West Union
Quad West Union 7.5' Pad Name Bee Lewis Pad Field/Pool Name ---
Farm name Bee, Lewis P. Well Number Vonda 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 4345086m Easting 515279m
Landing Point of Curve Northing 4345433.88m Easting 514707.11m
Bottom Hole Northing 4347750m Easting 513608m

Elevation (ft) 1003' 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 5/23/2013 Date drilling commenced 12/26/2013 Date drilling ceased 2/12/2014
Date completion activities began 3/7/2014 Date completion activities ceased 6/10/2014
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 56', 136' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 466', 996' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 101', 590' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:
A.L. S/26/15
W.S. 06/05/2015

WR-35
Rev. 8/23/13

MAY 18 2015

API 47-017 - 06225

Farm name Bee, Lewis P.

Well number Vonda Unit 2H

WV Department of
Environmental Protection

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	WT/ft	Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	28"	20"	59'	New	94# J-55	N/A	Y
Surface	17-1/2"	13-3/8"	359'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2618'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	17017'	New	23# P-110	N/A	Y
Tubing		2-3/8"	6984'		4.7# N-80	N/A	
Packer type and depth set		N/A					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	150 sx	11.58	1.18	57	0'	8 Hrs.
Surface	Class A	355 sx	15.6	1.80	249	0'	8 Hrs.
Coal							
Intermediate 1	Class A	964 sx	15.6	1.18	820	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1017 sx (Lead) 1574 sx (Tail)	14.5 Lead 15.2 Tail	1.3 Lead 1.86 Tail	3413	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17,017' MD, 6591' TVD (BHL); 6661' TVD (Deepest point drilled)

Loggers TD (ft) 16,968' MD

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6147

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Squirrel Unit 1H API# 47-017-06258). Please reference the wireline logs submitted with Form WR-35 for the Squirrel Unit 1H. A Cement Bond Log has been included with this submittal.

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

Conductor - 0

Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface

Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface

Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

06/05/2015

API 47- 017 - 06225 Farm name Bee, Lewis P. Well number Vonda Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6536' (TOP)</u> TVD	<u>7009' (TOP)</u> MD
_____	_____	_____
_____	_____	_____

RECEIVED
Office of Oil and Gas
MAY 18 2015

WV Department of
Environmental Protection

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 15,588 mcfpd Oil 50 bpd NGL --- bpd Water 205 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>		
			SEE ATTACHED EXHIBIT 3		

Please insert additional pages as applicable.

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

Logging Company Rush Wellsite Service
Address 600 Alpha Dr. City Canonsburg State PA Zip 15317

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

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

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature *Kara Quackenbush* Title Permit Representative Date 1/28/2015

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

06/05/2015

API 47-017-06225 Farm Name Bee, Lewis P. Well Number Vonda Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	7-Mar-14	16,758	16,926	60	Marcellus
2	16-Mar-14	16,560	16,727	60	Marcellus
3	17-Mar-14	16,362	16,529	60	Marcellus
4	18-Mar-14	16,164	16,331	60	Marcellus
5	18-Mar-14	15,966	16,133	60	Marcellus
6	19-Mar-14	15,768	15,935	60	Marcellus
7	19-Mar-14	15,569	15,737	60	Marcellus
8	19-Mar-14	15,371	15,538	60	Marcellus
9	19-Mar-14	15,173	15,340	60	Marcellus
10	20-Mar-14	14,975	15,142	60	Marcellus
11	20-Mar-14	14,777	14,944	60	Marcellus
12	20-Mar-14	14,579	14,746	60	Marcellus
13	20-Mar-14	14,380	14,548	60	Marcellus
14	21-Mar-14	14,182	14,349	60	Marcellus
15	21-Mar-14	13,984	14,151	60	Marcellus
16	21-Mar-14	13,786	13,953	60	Marcellus
17	21-Mar-14	13,588	13,755	60	Marcellus
18	21-Mar-14	13,390	13,557	60	Marcellus
19	22-Mar-14	13,191	13,359	60	Marcellus
20	22-Mar-14	12,993	13,160	60	Marcellus
21	22-Mar-14	12,795	12,962	60	Marcellus
22	22-Mar-14	12,597	12,764	60	Marcellus
23	23-Mar-14	12,399	12,566	60	Marcellus
24	23-Mar-14	12,201	12,368	60	Marcellus
25	23-Mar-14	12,002	12,170	60	Marcellus
26	23-Mar-14	11,804	11,971	60	Marcellus
27	23-Mar-14	11,606	11,773	60	Marcellus
28	24-Mar-14	11,408	11,575	60	Marcellus
29	24-Mar-14	11,210	11,377	60	Marcellus
30	24-Mar-14	11,012	11,179	60	Marcellus
31	24-Mar-14	10,814	10,981	60	Marcellus
32	25-Mar-14	10,615	10,782	60	Marcellus
33	25-Mar-14	10,417	10,584	60	Marcellus
34	25-Mar-14	10,219	10,386	60	Marcellus
35	25-Mar-14	10,021	10,188	60	Marcellus
36	25-Mar-14	9,823	9,990	60	Marcellus
37	26-Mar-14	9,625	9,792	60	Marcellus
38	26-Mar-14	9,426	9,594	60	Marcellus
39	26-Mar-14	9,228	9,395	60	Marcellus
40	26-Mar-14	9,030	9,197	60	Marcellus
41	26-Mar-14	8,832	8,999	60	Marcellus
42	27-Mar-14	8,634	8,801	60	Marcellus
43	27-Mar-14	8,436	8,603	60	Marcellus
44	27-Mar-14	8,237	8,405	60	Marcellus
45	27-Mar-14	8,039	8,206	60	Marcellus
46	28-Mar-14	7,841	8,008	60	Marcellus
47	28-Mar-14	7,643	7,810	60	Marcellus
48	29-Mar-14	7,445	7,612	60	Marcellus
49	29-Mar-14	7,247	7,414	60	Marcellus
50	29-Mar-14	7,048	7,216	60	Marcellus

RECEIVED
Office of Oil and Gas

MAY 18 2015

WV Department of
Environmental Protection

06/05/2015

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	7-Mar-14	72.9	8,102	6,050	4,957	217,400	6,416	N/A
2	16-Mar-14	61.1	7,384	6,379	5,235	107,700	6,528	N/A
3	17-Mar-14	72.5	7,579	6,341	4,973	215,900	6,505	N/A
4	18-Mar-14	74.5	7,933	5,757	5,477	231,300	6,155	N/A
5	18-Mar-14	74.6	8,090	5,867	5,273	221,500	6,249	N/A
6	19-Mar-14	74.2	7,606	5,572	5,384	220,400	6,021	N/A
7	19-Mar-14	74.1	7,791	6,052	5,135	224,800	6,054	N/A
8	19-Mar-14	78.8	7,806	5,544	5,354	187,200	6,286	N/A
9	19-Mar-14	71.5	8,382	6,064	5,087	181,900	6,414	N/A
10	20-Mar-14	68.9	7,775	5,830	5,053	146,500	6,494	N/A
11	20-Mar-14	70.9	7,273	5,510	5,529	171,400	6,494	N/A
12	20-Mar-14	73.0	7,629	5,753	4,932	223,900	6,101	N/A
13	20-Mar-14	75.1	7,956	5,452	4,841	226,300	6,043	N/A
14	21-Mar-14	76.2	7,574	5,260	4,940	225,800	5,986	N/A
15	21-Mar-14	75.5	7,275	5,387	5,241	224,500	5,961	N/A
16	21-Mar-14	76.4	7,452	5,625	5,186	225,300	6,007	N/A
17	21-Mar-14	77.0	7,504	5,410	4,444	226,300	6,018	N/A
18	21-Mar-14	76.9	7,612	5,589	5,082	221,600	5,945	N/A
19	22-Mar-14	76.0	7,360	5,294	4,809	230,400	5,940	N/A
20	22-Mar-14	78.1	7,619	5,241	4,865	227,500	5,934	N/A
21	22-Mar-14	75.8	7,993	5,493	4,775	227,900	5,965	N/A
22	22-Mar-14	76.4	7,588	5,849	5,950	226,300	5,878	N/A
23	23-Mar-14	78.9	7,738	6,218	4,763	225,400	5,865	N/A
24	23-Mar-14	80.6	7,682	5,832	4,931	223,800	5,848	N/A
25	23-Mar-14	80.5	7,296	5,125	5,186	225,700	5,903	N/A
26	23-Mar-14	76.2	7,637	5,301	4,516	227,000	5,807	N/A
27	23-Mar-14	78.7	7,407	4,863	4,800	225,300	5,888	N/A
28	24-Mar-14	79.2	6,790	5,120	5,167	224,300	5,817	N/A
29	24-Mar-14	80.7	7,182	5,691	4,989	226,100	5,823	N/A
30	24-Mar-14	77.6	7,429	5,477	4,916	224,100	5,740	N/A
31	24-Mar-14	78.2	6,934	5,127	4,983	226,600	5,783	N/A
32	25-Mar-14	74.7	7,786	5,666	4,595	175,200	6,165	N/A
33	25-Mar-14	78.6	7,333	5,666	5,384	226,100	5,791	N/A
34	25-Mar-14	78.2	7,181	5,407	4,917	225,600	5,762	N/A
35	25-Mar-14	75.9	6,722	4,858	5,038	226,300	5,723	N/A
36	25-Mar-14	77.6	6,622	4,925	4,736	227,800	5,751	N/A
37	26-Mar-14	80.1	6,610	4,643	5,267	224,200	5,773	N/A
38	26-Mar-14	78.0	7,226	5,740	5,396	225,100	5,672	N/A
39	26-Mar-14	72.1	7,833	6,504	4,998	197,100	6,050	N/A
40	26-Mar-14	75.6	7,820	5,572	4,764	164,100	5,706	N/A
41	26-Mar-14	69.3	7,950	5,906	5,696	161,300	5,565	N/A
42	26-Mar-14	64.1	7,329	6,775	4,452	13,300	5,724	N/A
43	26-Mar-14	73.1	7,691	6,306	5,349	145,300	5,561	N/A
44	26-Mar-14	76.2	7,437	6,438	5,122	163,600	5,818	N/A
45	26-Mar-14	71.6	7,889	6,414	8,914	103,500	6,494	N/A
46	28-Mar-14	67.6	7,858	5,508	5,701	185,900	5,917	N/A
47	28-Mar-14	77.8	7,492	6,151	5,219	220,900	5,526	N/A
48	29-Mar-14	72.0	7,542	6,112	4,929	187,500	5,784	N/A
49	29-Mar-14	74.1	7,362	5,920	4,917	110,300	5,456	N/A
50	29-Mar-14	72.1	7,033	5,645	4,532	131,700	5,449	N/A
AVG=		75	7,522	5,685	5,134	9,954,900	297,555	TOTAL

RECEIVED
Office of Oil and Gas

MAY 18 2015

WV Department of
Environmental Protection

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	56'	N/A	56'	N/A
Fresh Water	136'	N/A	136'	N/A
Shale	0	101	0	101
Coal	est. 101	141	est. 101	141
Shale	est. 141	301	est. 141	301
Sandstone	est. 301	341	est. 301	341
Shale/Sandstone/Siltstone	est. 341	590	est. 341	590
Coal	est. 590	611	est. 590	611
Shale/Siltstone	est. 611	1486	est. 611	1486
Siltstone w/Coal	est. 1486	1541	est. 1486	1541
Siltstone/Sandstone	est. 1541	1882	est. 1541	1882
Big Lime	1882	1987	1882	1987
Big Injun	1987	2462	1987	2462
Gantz Sand	2462	2567	2462	2567
Fifty Foot Sandstone	2567	2656	2567	2656
Gordon	2656	2958	2656	2958
Fifth Sandstone	2958	2991	2958	2991
Bayard	2991	3348	2991	3348
Warren	3348	3687	3348	3690
Speechley	3687	4009	3690	4024
Baltown	4009	4463	4024	4527
Bradford	4463	4896	4527	5015
Benson	4896	5180	5015	5336
Alexander	5180	5350	5336	5530
Elk	5350	5747	5530	5980
Rhinestreet	5747	6165	5980	6453
Sycamore	6165	6341	6453	6666
Middlesex	6341	6470	6666	6858
Burkett	6470	6498	6858	6914
Tully	6498	6536	6914	7009
Marcellus	6536	NA	7009	NA

*Please note Antero determines shallow formation tops based on mud and/or wireline logs that are only run on one well on a multi-well pad (Please reference Wireline Logs submitted for the Squirrel Unit 1H API# 47-017-06258). The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

RECEIVED
Office of Oil and Gas

MAY 18 2015

WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/16/2014
Job End Date:	3/29/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06225-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Vonda 2H
Longitude:	-80.82308330
Latitude:	39.25488610
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,661
Total Base Water Volume (gal):	12,497,310
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Abstract Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	ANTERO RESOURCES	Water	Water	7732-18-5	100.00000	90.93946	
Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	5.20916	
			Aluminum Oxide	1344-28-1	1.10000	0.05736	
			Iron Oxide	1309-37-1	0.10000	0.00521	
			Titanium Oxide	13463-67-7	0.10000	0.00521	
Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	2.85025	
			Aluminum Oxide	1344-28-1	1.10000	0.03138	
			Iron Oxide	1309-37-1	0.10000	0.00285	
			Titanium Oxide	13463-67-7	0.10000	0.00285	
Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	0.61764	
			Aluminum Oxide	1344-28-1	1.10000	0.00680	

RECEIVED
Office of Oil and Gas

MAY 18 2015
WV Department of Environmental Protection

				Titanium Oxide	13463-67-7	0.10000	0.00062	
				Iron Oxide	1309-37-1	0.10000	0.00062	
HCl Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid						
WFR-3B	Nabors Completion and Production Services	Friction Reducer		Hydrogen Chloride	7647-01-0	18.00000	0.03920	
				Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8	30.00000	0.02048	
				Ethoxylated alcohols	68002-97-1	15.00000	0.01024	
				Ethoxylated oleylamine	26635-93-8	5.00000	0.00341	
LSG-100L	Nabors Completion and Production Services	Gelling Agents						
Super GREEN SOLV-M	Nabors Completion and Production Services	Paraffin & Scale Additives		Petroleum Distillates	64742-47-8	70.00000	0.02946	
				Aliphatic Hydrocarbons	Proprietary	95.00000	0.00815	
				Dodecane	Proprietary	14.00000	0.00120	
				tetradecane	Proprietary	11.00000	0.00094	
				Tridecane	Proprietary	9.00000	0.00077	
				Undecane	Proprietary	8.00000	0.00069	
KR-153SL	Nabors Completion and Production Services	Biocides						
				Polyethylene-Glycol	25322-68-3	50.00000	0.00658	
				2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00263	
OB-2 LT	Nabors Completion and Production Services	Gel Breakers						
				Ammonium Persulfate	7727-54-0	85.00000	0.00595	
				Crystalline Silica (in the form of quartz)	14808-60-7	10.00000	0.00070	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors						
				Glycol Ethers	111-46-6	40.00000	0.00016	
				Propargyl Alcohol	107-19-7	40.00000	0.00016	
				Isopropyl Alcohol	67-63-0	40.00000	0.00016	
				Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00005	
				Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00004	
EB-4L	Nabors Completion and Production Services	Gel Breakers						
				Ethylene Glycol	107-21-1	40.00000	0.00018	

MAY 18 2015
WV Department of Environmental Protection

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 Ingredients	Nabors Completion and Production Services	Other Ingredients					
		Water	7732-18-5		87.50000		0.19054
		Water	7732-18-5		40.00000		0.02730
		Anionic Polyacrylamide	910644-97-2		40.00000		0.02730
		guar gum	9000-30-0		50.00000		0.02104
		Water	7732-18-5		80.00000		0.01054
		Water	7732-18-5		60.00000		0.01026
		Propylene glycol	57-55-6		15.00000		0.01024
		Proprietary	Proprietary		50.00000		0.00855
		Proprietary	Proprietary		15.00000		0.00257
		Proprietary	Proprietary		15.00000		0.00257
		Proprietary	Proprietary		15.00000		0.00257
		Proprietary	Proprietary		2.00000		0.00137
		Alkali Chloride salt	Proprietary		15.00000		0.00105
		Surfactant	68439-51-0		2.00000		0.00084
		Crystalline Silica (in the form of quartz)	14808-60-7		2.00000		0.00084
		Proprietary	Proprietary		100.00000		0.00045
		Sugar	57-50-1		100.00000		0.00045
		Water	7732-18-5		100.00000		0.00023
		Water	7732-18-5		48.00000		0.00020
		2-Butoxyethanol	111-76-2		13.00000		0.00005
		Proprietary	Proprietary		1.00000		0.00001
		Proprietary	Proprietary		1.00000		0.00001
		Proprietary	Proprietary		1.00000		0.00001
		Proprietary	Proprietary		1.00000		0.00001
		Dioxane	123-91-1		1.00000		0.00000
		Organophylic Clay	68953-58-2		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)

LATITUDE 39°17'30"

8,897'

2,567' TO BOTTOM HOLE

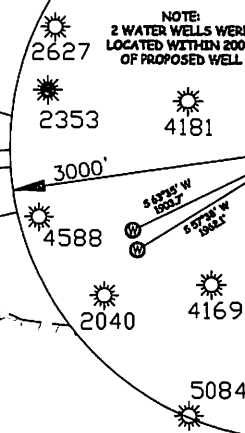
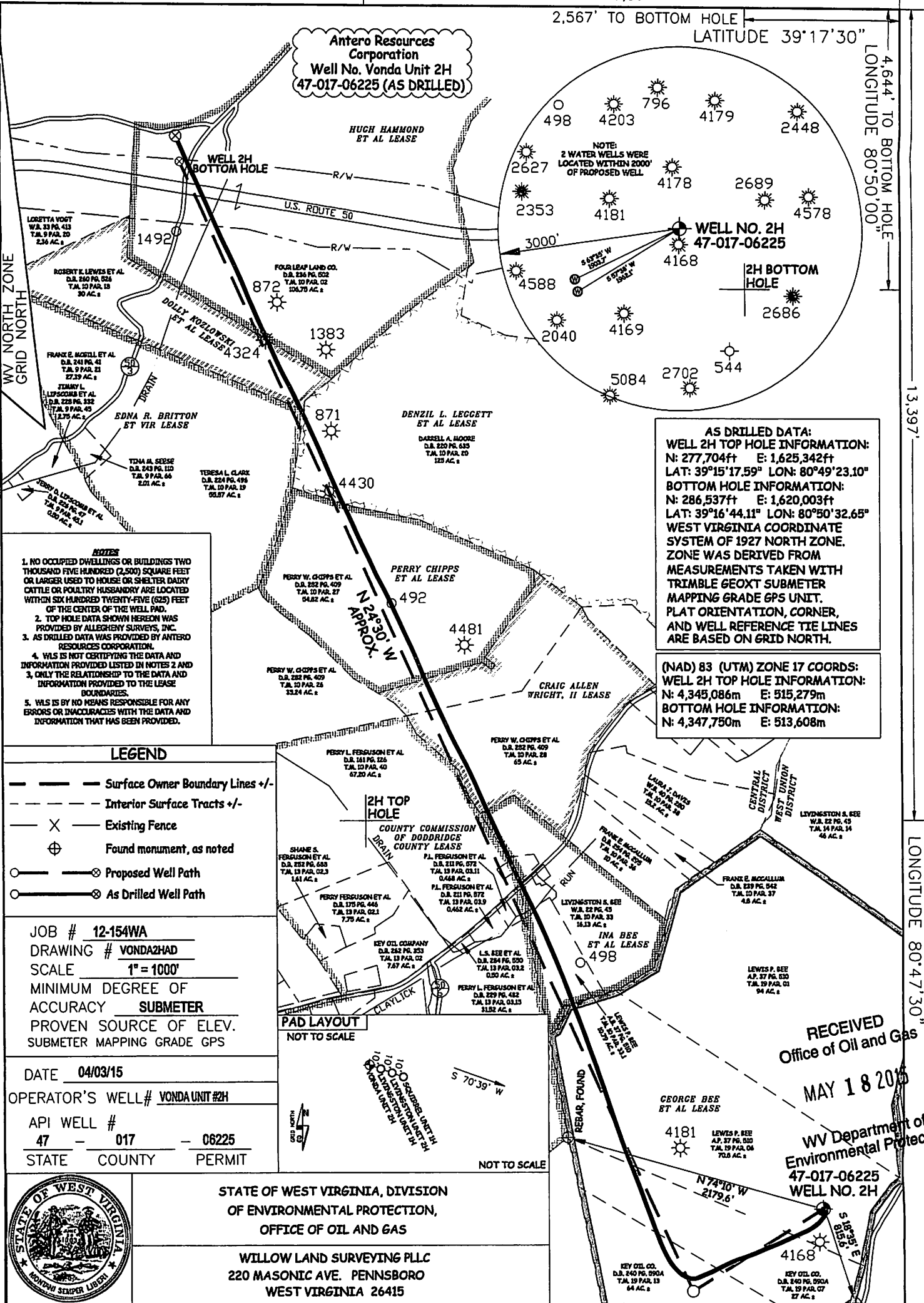
LATITUDE 39°17'30"

LONGITUDE 80°50'00"

4,644' TO BOTTOM HOLE

LONGITUDE 80°47'30"

Antero Resources Corporation
Well No. Vonda Unit 2H
47-017-06225 (AS DRILLED)



AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
N: 277,704ft E: 1,625,342ft
LAT: 39°15'17.59" LON: 80°49'23.10"
BOTTOM HOLE INFORMATION:
N: 286,537ft E: 1,620,003ft
LAT: 39°16'44.11" LON: 80°50'32.65"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.
ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE G60XT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

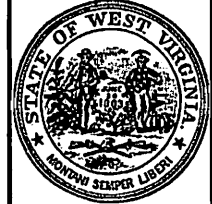
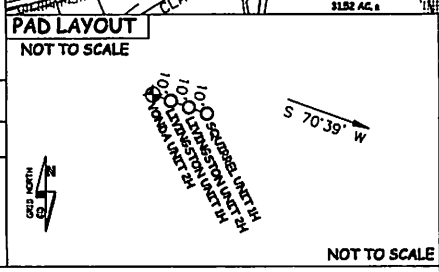
(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,345,086m E: 515,279m
BOTTOM HOLE INFORMATION:
N: 4,347,750m E: 513,608m

- 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 ALLEIGHBY 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 +/-
 - X Existing Fence
 - ⊕ Found monument, as noted
 - Proposed Well Path
 - ⊙ As Drilled Well Path

JOB # 12-154WA
DRAWING # VONDA2HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

DATE 04/03/15
OPERATOR'S WELL# VONDA UNIT #2H
API WELL # 47 - 017 - 06225
STATE COUNTY PERMIT



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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1,011' ORIGINAL - 1,003' AS-DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE WEST UNION 7.5' DISTRICT WEST UNION COUNTY DODD
SURFACE OWNER LEWIS P. BEE ACREAGE 70.8 ACRES +/-
OIL & GAS ROYALTY OWNER GEORGE BEE ET AL; IVA BEE ET AL; COUNTY COMMISSION OF DODDRIDGE COUNTY; LEASE ACREAGE 356.5 AC±; 30 AC±; 237 AC±;
CRAIG ALLEN WRIGHT, II; PERRY CHIPPS ET AL; DENZIL L. LEGGETT ET AL; EDNA R. BRITTON ET VIR; DOLLY KOZLOWSKI ET AL; HUGH HAMMOND ET AL
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 6,591' TVD 17,017 MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313

RECEIVED
Office of Oil and Gas
MAY 18 2015
WV Department of Environmental Protection
47-017-06225
WELL NO. 2H