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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

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

API 47-017-06373 County Doddridge District Grant  
Quad Smithburg 7.5' Pad Name Misery Pad Field/Pool Name \_\_\_\_\_  
Farm name Spencer, Denzil C. et al Well Number Anne 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 4,356,838m Easting 521,636m  
Landing Point of Curve Northing 4,356,553.29m Easting 521,405.91m  
Bottom Hole Northing 4,354,392m Easting 522,281m

Elevation (ft) 1,001' 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 11/20/2013 Date drilling commenced 05/08/2014 Date drilling ceased 08/26/2014  
Date completion activities began 10/27/2014 Date completion activities ceased 02/27/2015  
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 475' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1,477'; 1,675' 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

Reviewed by: \_\_\_\_\_

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API 47-017 - 06373 Farm name Spencer, Denzil C. et al Well number Anne Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	40'	New	94#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	565'	New	54.5#; J-55	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,531'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	15,042'	New	23#; P-110	N/A	Yes
Tubing		2 3/8"	7,043'		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	95 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	671 sx	15.6	1.18	392	0'	8 Hrs.
Coal							
Intermediate 1	Class A	924 sx	15.6	1.18	793	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	899 sx (Lead); 1,343 sx (Tail)	13.5 (Lead); 15.2 (Tail)	1.44 (Lead); 1.8 (Tail)	2,981	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 15,042' MD; 6,820' TVD (BHL); 6,846' TVD (Deepest Point Drilled)      Loggers TD (ft) 14,994'  
 Deepest formation penetrated Marcellus      Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6,270'

\*\*This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Anne Unit 2H, API #47-017-06374). Please reference the wireline logs submitted with Form WR-35 for the Anne Unit 2H. 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 \_\_\_\_\_





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API 47-017-06373 Farm Name Spencer, Denzil C. et al Well Number Anne Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	27-Oct-14	14,800	14,967	60	Marcellus
2	14-Dec-14	14,603	14,769	60	Marcellus
3	14-Dec-14	14,405	14,572	60	Marcellus
4	15-Dec-14	14,208	14,374	60	Marcellus
5	15-Dec-14	14,010	14,177	60	Marcellus
6	15-Dec-14	13,813	13,979	60	Marcellus
7	15-Dec-14	13,615	13,782	60	Marcellus
8	16-Dec-14	13,417	13,584	60	Marcellus
9	16-Dec-14	13,220	13,387	60	Marcellus
10	17-Dec-14	13,022	13,189	60	Marcellus
11	17-Dec-14	12,825	12,991	60	Marcellus
12	17-Dec-14	12,627	12,794	60	Marcellus
13	18-Dec-14	12,430	12,596	60	Marcellus
14	18-Dec-14	12,232	12,399	60	Marcellus
15	18-Dec-14	12,035	12,201	60	Marcellus
16	18-Dec-14	11,837	12,004	60	Marcellus
17	19-Dec-14	11,639	11,806	60	Marcellus
18	19-Dec-14	11,442	11,609	60	Marcellus
19	19-Dec-14	11,244	11,411	60	Marcellus
20	19-Dec-14	11,047	11,213	60	Marcellus
21	20-Dec-14	10,849	11,016	60	Marcellus
22	20-Dec-14	10,652	10,818	60	Marcellus
23	20-Dec-14	10,454	10,621	60	Marcellus
24	21-Dec-14	10,257	10,423	60	Marcellus
25	21-Dec-14	10,059	10,226	60	Marcellus
26	21-Dec-14	9,862	10,028	60	Marcellus
27	21-Dec-14	9,664	9,831	60	Marcellus
28	23-Dec-14	9,466	9,633	60	Marcellus
29	23-Dec-14	9,269	9,436	60	Marcellus
30	23-Dec-14	9,071	9,238	60	Marcellus
31	26-Dec-14	8,874	9,040	60	Marcellus
32	26-Dec-14	8,676	8,843	60	Marcellus
33	26-Dec-14	8,479	8,645	60	Marcellus
34	27-Dec-14	8,281	8,448	60	Marcellus
35	27-Dec-14	8,084	8,250	60	Marcellus
36	27-Dec-14	7,886	8,053	60	Marcellus
37	27-Dec-14	7,688	7,855	60	Marcellus
38	27-Dec-14	7,491	7,658	60	Marcellus
39	28-Dec-14	7,293	7,460	60	Marcellus
40	28-Dec-14	7,096	7,262	60	Marcellus

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API 47-017-06373 Farm Name Spencer, Denzil C. et al Well Number Anne Unit 1H

**EXHIBIT 2**

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	14-Dec-14	65.8	7,181	6,025	4,965	202,900	7,069	N/A
2	14-Dec-14	61.7	7,244	5,866	5,131	201,300	6,052	N/A
3	14-Dec-14	59.3	7,383	6,153	4,583	161,000	6,209	N/A
4	15-Dec-14	57.2	7,410	5,887	4,554	83,200	6,616	N/A
5	15-Dec-14	63.8	7,237	5,647	5,189	242,600	6,513	N/A
6	15-Dec-14	63.7	7,210	6,210	4,901	245,500	6,503	N/A
7	15-Dec-14	64.1	6,964	5,657	5,309	244,600	6,438	N/A
8	16-Dec-14	63.3	6,836	5,610	5,117	244,700	6,485	N/A
9	16-Dec-14	64.1	6,927	5,924	5,110	243,600	6,456	N/A
10	17-Dec-14	61.8	6,801	5,888	5,310	244,200	6,414	N/A
11	17-Dec-14	63.0	6,980	5,823	5,234	244,500	6,439	N/A
12	17-Dec-14	61.0	7,668	5,698	5,817	116,400	6,328	N/A
13	18-Dec-14	61.9	7,254	5,695	5,515	210,300	6,933	N/A
14	18-Dec-14	63.3	7,162	5,601	5,461	221,500	6,295	N/A
15	18-Dec-14	64.4	6,921	5,614	5,141	247,300	6,307	N/A
16	18-Dec-14	64.2	6,931	5,483	4,767	242,500	6,322	N/A
17	19-Dec-14	63.9	6,970	5,482	4,978	244,000	6,219	N/A
18	19-Dec-14	64.3	6,667	5,525	5,418	246,700	6,341	N/A
19	19-Dec-14	64.3	6,518	5,446	5,170	242,500	6,206	N/A
20	19-Dec-14	63.8	6,638	5,222	5,160	243,800	6,234	N/A
21	20-Dec-14	63.2	6,770	5,354	5,383	243,900	6,255	N/A
22	20-Dec-14	64.1	6,699	5,338	5,030	249,200	6,290	N/A
23	20-Dec-14	63.6	7,164	5,303	5,109	218,500	6,732	N/A
24	21-Dec-14	64.3	6,823	5,640	5,120	245,000	6,185	N/A
25	21-Dec-14	64.3	6,863	5,731	4,903	246,200	6,178	N/A
26	21-Dec-14	63.5	6,579	5,554	5,131	243,300	5,723	N/A
27	21-Dec-14	60.0	6,054	5,471	5,208	143,500	6,547	N/A
28	23-Dec-14	64.0	6,231	5,618	5,242	244,000	6,086	N/A
29	23-Dec-14	63.1	6,428	5,750	5,083	238,000	6,094	N/A
30	23-Dec-14	62.6	6,356	5,425	5,374	241,700	6,230	N/A
31	26-Dec-14	62.7	6,374	5,872	5,330	243,900	5,770	N/A
32	26-Dec-14	63.1	6,775	5,780	5,055	245,500	6,069	N/A
33	26-Dec-14	63.1	6,342	5,413	5,048	243,500	6,004	N/A
34	27-Dec-14	63.1	6,358	5,838	5,152	241,400	5,980	N/A
35	27-Dec-14	64.3	6,281	5,567	5,192	237,100	5,955	N/A
36	27-Dec-14	64.2	6,066	5,386	5,139	247,700	5,952	N/A
37	27-Dec-14	63.2	6,278	5,717	5,136	246,000	5,943	N/A
38	27-Dec-14	63.4	6,333	5,623	5,365	243,800	5,945	N/A
39	28-Dec-14	64.0	6,461	5,529	5,134	235,900	5,820	N/A
40	28-Dec-14	64.6	6,141	6,246	3,717	242,500	5,825	N/A
AVG=		<b>63.2</b>	<b>6,757</b>	<b>5,665</b>	<b>5,117</b>	<b>9,113,700</b>	<b>249,962</b>	TOTAL

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API 47-017-06373 Farm Name Spencer, Denzil C. et al Well Number Anne Unit 1H

**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	475'	N/A	475'	N/A
Shale/ Siltstone	0	177	0	177
Shale/ Trace Coal	est. 177	207	est. 177	207
Shale/ Siltstone	est. 207	257	est. 207	257
Shale/ Trace Coal	est. 257	277	est. 257	277
Shale/ Sandstone	est. 277	657	est. 277	657
Limestone/ Siltstone	est. 657	967	est. 657	967
Sandstone	est. 967	987	est. 967	987
Shale/ Limestone/ Siltstone	est. 987	1,117	est. 987	1,117
Siltstone/ Sandstone	est. 1117	1,177	est. 1117	1,177
Shale/ Siltstone	est. 1177	1,237	est. 1177	1,237
Sandstone	est. 1237	1,257	est. 1237	1,257
Shale/ Siltstone	est. 1257	1,397	est. 1257	1,397
Sandstone/ Siltstone	est. 1397	1,542	est. 1397	1,542
Sandstone/ Coal	est. 1542	1,602	est. 1542	1,602
Siltstone/ Shale	est. 1602	1,984	est. 1602	1,984
Big Lime	1,984	2,099	1,984	2,099
Big Injun	2,099	2,517	2,099	2,517
Gantz Sand	2,517	2,696	2,517	2,696
Fifty Foot Sandstone	2,696	2,746	2,696	2,746
Gordon	2,746	3,095	2,746	3,095
Fifth Sandstone	3,095	3,145	3,095	3,145
Bayard	3,145	3,455	3,145	3,455
Warren	3,455	3,873	3,455	3,873
Speechley	3,873	4,128	3,873	4,128
Baltown	4,128	4,608	4,128	4,619
Bradford	4,608	5,093	4,619	5,131
Benson	5,093	5,355	5,131	5,408
Alexander	5,355	5,555	5,408	5,616
Elk	5,555	6,075	5,616	6,155
Rhinestreet	6,075	6,337	6,155	6,450
Sycamore	6,337	6,513	6,450	6,692
Middlesex	6,513	6,647	6,692	6,892
Burkett	6,647	6,675	6,892	6,939
Tully	6,675	6,729	6,939	7,058
Marcellus	6,729	NA	7,058	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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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/14/2014
Job End Date:	12/28/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06373-00-00
Operator Name:	Anfero Resources Corporation
Well Name and Number:	Anne Unit 1H
Longitude:	-80.74885800
Latitude:	39.36072500
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,846
Total Base Water Volume (gal):	10,498,404
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	ANTERO RESOURCES	Water	Water	7732-18-5	100.00000	90.20166	
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	5.19951	
			Aluminum Oxide	1344-28-1	1.10000	0.05725	
			Iron Oxide	1309-37-1	0.10000	0.00521	
			Titanium Oxide	13463-67-7	0.10000	0.00521	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	3.43365	
			Aluminum Oxide	1344-28-1	1.10000	0.03781	
			Iron Oxide	1309-37-1	0.10000	0.00344	
			Titanium Oxide	13463-67-7	0.10000	0.00344	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	0.74626	
			Aluminum Oxide	1344-28-1	1.10000	0.00822	



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			Iron Oxide	1309-37-1	0.10000	0.00075
HCl Acid (12.5-18.0%) 22 Baume	Nabors Completion and Production Services	Bulk Acid	Titanium Oxide	13463-67-7	0.10000	0.00075
			Water	7732-18-5	87.50000	0.18551
WFR-6W	Nabors Completion and Production Services	Friction Reducer	Hydrochloric Acid	7647-01-0	18.00000	0.03816
			Anionic Water-Soluble Polymer Emulsion	Proprietary	100.00000	0.07186
LSG-100L	Nabors Completion and Production Services	Gelling Agents	Petroleum Distillates	84742-47-8	70.00000	0.06393
Super TSC-LT	Nabors Completion and Production Services	Paraffin & Scale Additives				
			100% Non-Hazardous Mixture	Proprietary	100.00000	0.01295
AQUICAR DB 20	Nabors Completion and Production Services	Biocides				
			Polyethylene glycol	25322-68-3	54.50000	0.00835
			2,2-Dibromo-3-nitropropionamide (DBNPA)	10222-01-2	20.00000	0.00307
			Sodium bromide	7647-15-6	4.00000	0.00061
			Dibromoacetonitrile	3252-43-5	3.00000	0.00046
Super GREEN SOLV-M	Nabors Completion and Production Services	Paraffin & Scale Additives				
			Aliphatic Hydrocarbons	Proprietary	95.00000	0.00314
			Dodecane	Proprietary	14.00000	0.00046
			Tetradecane	Proprietary	11.00000	0.00036
			Tridecane	Proprietary	9.00000	0.00030
			Undecane	Proprietary	8.00000	0.00027
OB-2 LT	Nabors Completion and Production Services	Gel Breakers				
			Ammonium Persulfate	7727-54-0	85.00000	0.00109
			Crystalline Silica (in the form of quartz)	14808-60-7	10.00000	0.00013
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors				
			Propargyl Alcohol	107-19-7	40.00000	0.00016
			Isopropyl Alcohol	67-63-0	40.00000	0.00016
			Glycol Ethers	111-46-6	40.00000	0.00016
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00004
Calcium Chloride (CaCl2)	Nabors Completion and Production Services	Cement Accelerators				

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EB-4L	Nabors Completion and Production Services	Gel Breakers	Calcium Chloride	10043-52-4	100.00000	0.00046
			Ethylene Glycol	107-21-1	40.00000	0.00017
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				
			Copolymer	Proprietary	100.00000	0.07186
			guar gum	9000-30-0	50.00000	0.04566
			Water	732-18-5	40.00000	0.02874
			Isoparaffinic Solvent	64742-47-8	26.00000	0.01868
			Water	7732-18-5	60.00000	0.00777
			Proprietary	Proprietary	50.00000	0.00648
			Water	7732-18-5	32.00000	0.00490
			Ethoxylated alcohols	Proprietary	4.00000	0.00287
			Ethylene Glycol	107-21-1	4.00000	0.00287
			Surfactant Blend	Proprietary	3.00000	0.00216
			Proprietary	Proprietary	15.00000	0.00194
			Proprietary	Proprietary	15.00000	0.00194
			Proprietary	Proprietary	15.00000	0.00194
			Surfactant	68439-51-0	2.00000	0.00183
			Crystalline Silica (in the form of quartz)	14808-60-7	2.00000	0.00183
			Sugar	57-50-1	100.00000	0.00042
			Proprietary	Proprietary	100.00000	0.00042
			Water	7732-18-5	100.00000	0.00021
			Water	7732-18-5	48.00000	0.00019
			Alkali Chloride salt	Proprietary	15.00000	0.00019
			Monobromo-3-nitropropionamide	1113-55-9	1.00000	0.00015
			2,2-Dibromomalonamide	73003-80-2	1.00000	0.00015
			2-Propenamide as residual	79-06-1	0.10000	0.00007
			2-Butoxyethanol	111-76-2	13.00000	0.00005
			Proprietary	Proprietary	10.00000	0.00004
			Sodium Chloride	7647-14-5	5.00000	0.00002
			Potassium Chloride	7447-40-7	5.00000	0.00002
			Water	7732-18-5	1.00000	0.00001
			Proprietary	Proprietary	1.00000	0.00000
			Proprietary	Proprietary	1.00000	0.00000
			Proprietary	Proprietary	0.99000	0.00000
			Proprietary	Proprietary	1.00000	0.00000
			Proprietary	Proprietary	1.00000	0.00000
			Proprietary	Proprietary	1.00000	0.00000
			Organophilic Clay	68953-58-2	0.02000	

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\* Total Water Volume sources may include fresh water, produced water, and/or recycled water  
\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.  
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

LATITUDE 39°22'30"

11,506'

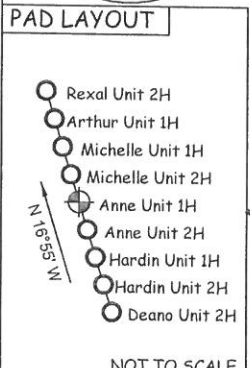
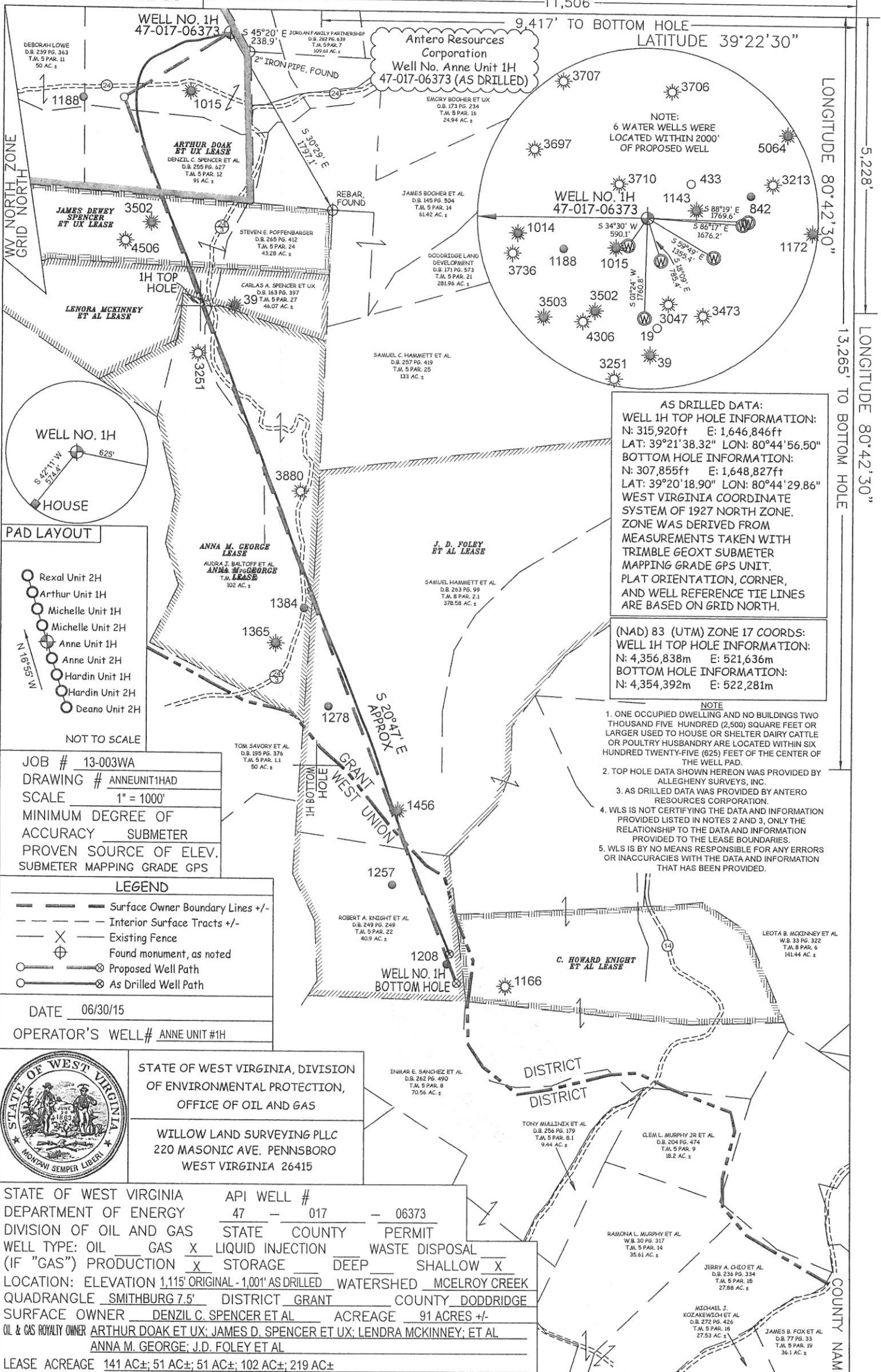
9,417' TO BOTTOM HOLE  
LATITUDE 39°22'30"

LONGITUDE 80°42'30"

5,228'

LONGITUDE 80°42'30"

13,265' TO BOTTOM HOLE



JOB # 13-003WA  
 DRAWING # ANNEUNIT1HAD  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY SUBMETER  
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

**LEGEND**

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

DATE 06/30/15  
 OPERATOR'S WELL # ANNE UNIT #1H



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 DEPARTMENT OF ENERGY  
 DIVISION OF OIL AND GAS

API WELL # 47 - 017 - 06373

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

LOCATION: ELEVATION 1,115' ORIGINAL - 1,001' AS DRILLED WATERSHED MCELROY CREEK  
 QUADRANGLE SMITHBURG 7.5' DISTRICT GRANT COUNTY DODDRIDGE

SURFACE OWNER DENZIL C. SPENCER ET AL ACREAGE 91 ACRES +/-  
 OIL & GAS ROYALTY OWNER ARTHUR DOAK ET UX; JAMES D. SPENCER ET UX; LENDRA MCKINNEY; ET AL  
 ANNA M. GEORGE; J.D. FOLEY ET AL

LEASE ACREAGE 141 AC±; 51 AC±; 51 AC±; 102 AC±; 219 AC±

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 6,820' TVD 15,042' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT CT CORPORATION SYSTEM-DIANNA STAMPER  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 DENVER, CO 80202 CHARLESTON, WV 25313

**AS DRILLED DATA:**  
 WELL 1H TOP HOLE INFORMATION:  
 N: 315,920ft E: 1,646,846ft  
 LAT: 39°21'38.32" LON: 80°44'56.50"  
 BOTTOM HOLE INFORMATION:  
 N: 307,855ft E: 1,648,827ft  
 LAT: 39°20'18.90" LON: 80°44'29.86"  
 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: 4,356,838m E: 521,636m  
 BOTTOM HOLE INFORMATION:  
 N: 4,354,392m E: 522,281m

- NOTE**
- ONE OCCUPIED DWELLING AND NO 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.
  - TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
  - AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
  - 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.
  - WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.