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WR-35  
Rev. 8/23/13

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

Page \_\_\_ of \_\_\_

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

API 47-017-06415 County Doddridge District Central  
Quad Pennsboro 7.5' Pad Name Alvadore Field/Pool Name ---  
Farm name McCloy, Alvadore, Jr., et ux Well Number Hudkins Unit 1H  
Operator (as registered with the OOG) Antero Resources Corporation  
Address 1615 Wynkoop St. City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4347124m Easting 510126m  
Landing Point of Curve Northing 4346184.07m Easting 510769.05m  
Bottom Hole Northing 4345112m Easting 511280m

Elevation (ft) 1057' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine

Production hole  Air  Mud  Fresh Water  Brine

Mud Type(s) and Additive(s)

Air- Foam & 4% KCL

Mud- Polymer

Date permit issued 1/24/2014 Date drilling commenced 6/15/2014 Date drilling ceased 11/1/2014  
Date completion activities began 12/8/2014 Date completion activities ceased 3/5/2015  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 332' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1546', 1571' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:

\_\_\_\_\_

AUG 03 2015

## WV GEOLOGICAL SURVEY MORGANTOWN, WV

WR-35  
Rev. 8/23/13

Page \_\_\_ of \_\_\_

API 47-017 - 06415 Farm name McCloy, Alvadore, Jr., et ux Well number Hudkins 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	30"	20"	40'	New	106.5# K-55	N/A	Y
Surface	17- 1/2"	13- 3/8"	443'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2499'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	13795'	New	20# P-110	N/A	Y
Tubing		2-3/8"	6659'		4.70# 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	195 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	432 sx	15.6	1.18	308	0'	8 Hrs.
Coal							
Intermediate 1	Class A	918 sx	15.6	1.18	783	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	988 sx (Lead) 1225 sx (Tail)	14.5 Lead 15.2 Tail	1.30 Lead 1.86 Tail	2705	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 13795' MD, 6587' TVD      Loggers TD (ft) 13745'  
 Deepest formation penetrated Marcellus      Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6106'

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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AUG 03 2015

WR-35  
Rev. 8/23/13

Page \_\_\_\_ of \_\_\_\_

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

API 47- 017 - 06415 Farm name McCloy, Alvadore, Jr., et ux Well number Hudkins Unit 1H

PERFORATION RECORD

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

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE EXHIBIT 2								

Please insert additional pages as applicable.

RECEIVED

AUG 03 2015

WR-35  
Rev. 8/23/13

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

Page \_\_\_ of \_\_\_

API 47- 017 - 06415 Farm name McCloy, Alvadore, Jr., et ux Well number Hudkins Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6444' (TOP)</u> TVD	<u>6752' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 9048 mcfpd Oil 23 bpd NGL --- bpd Water 0 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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

\*PLEASE SEE EXHIBIT 3

Please insert additional pages as applicable.

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

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

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

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

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233  
Signature [Signature] Title Permitting Agent Date 7/21/2015

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8-Dec-14	13,539	13,706	60	Marcellus
2	19-Jan-15	13,340	13,508	60	Marcellus
3	19-Jan-15	13,142	13,309	60	Marcellus
4	20-Jan-15	12,943	13,111	60	Marcellus
5	21-Jan-15	12,745	12,912	60	Marcellus
6	22-Jan-15	12,546	12,714	60	Marcellus
7	22-Jan-15	12,348	12,515	60	Marcellus
8	23-Jan-15	12,149	12,317	60	Marcellus
9	23-Jan-15	11,951	12,118	60	Marcellus
10	23-Jan-15	11,753	11,920	60	Marcellus
11	24-Jan-15	11,554	11,721	60	Marcellus
12	25-Jan-15	11,356	11,523	60	Marcellus
13	25-Jan-15	11,157	11,325	60	Marcellus
14	25-Jan-15	10,959	11,126	60	Marcellus
15	26-Jan-15	10,760	10,928	60	Marcellus
16	26-Jan-15	10,562	10,729	60	Marcellus
17	27-Jan-15	10,363	10,531	60	Marcellus
18	27-Jan-15	10,165	10,332	60	Marcellus
19	28-Jan-15	9,966	10,134	60	Marcellus
20	28-Jan-15	9,768	9,935	60	Marcellus
21	29-Jan-15	9,570	9,737	60	Marcellus
22	29-Jan-15	9,371	9,538	60	Marcellus
23	29-Jan-15	9,173	9,340	60	Marcellus
24	30-Jan-15	8,974	9,142	60	Marcellus
25	30-Jan-15	8,776	8,943	60	Marcellus
26	31-Jan-15	8,577	8,745	60	Marcellus
27	31-Jan-15	8,379	8,546	60	Marcellus
28	1-Feb-15	8,180	8,348	60	Marcellus
29	1-Feb-15	7,982	8,149	60	Marcellus
30	2-Feb-15	7,783	7,951	60	Marcellus
31	2-Feb-15	7,585	7,752	60	Marcellus
32	3-Feb-15	7,386	7,554	60	Marcellus
33	3-Feb-15	7,188	7,355	60	Marcellus
34	4-Feb-15	6,990	7,157	60	Marcellus
35	4-Feb-15	6,791	6,958	60	Marcellus

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AUG 03 2015

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

**EXHIBIT 2**

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	19-Jan-15	64.1	6,576	0	4,115	236,355	6,746	N/A
2	19-Jan-15	63.0	6,451	6,106	3,924	249,058	6,893	N/A
3	20-Jan-15	60.0	6,490	5,612	4,925	202,642	6,930	N/A
4	21-Jan-15	62.0	6,311	5,283	5,150	247,599	6,508	N/A
5	22-Jan-15	64.0	6,441	5,517	3,660	246,806	6,457	N/A
6	22-Jan-15	63.0	6,444	5,630	5,279	247,609	6,498	N/A
7	23-Jan-15	64.0	6,339	5,602	4,591	247,595	6,378	N/A
8	23-Jan-15	63.0	6,455	5,715	4,980	246,898	6,458	N/A
9	23-Jan-15	64.0	6,608	5,574	5,126	244,681	6,348	N/A
10	24-Jan-15	63.0	6,521	5,767	5,265	248,141	6,392	N/A
11	24-Jan-15	63.0	6,521	5,767	5,265	248,141	6,392	N/A
12	25-Jan-15	64.0	6,449	5,657	5,097	243,703	6,327	N/A
13	25-Jan-15	64.0	6,324	5,500	4,864	246,334	6,335	N/A
14	26-Jan-15	63.0	6,458	5,586	5,342	248,371	6,288	N/A
15	27-Jan-15	63.0	6,458	5,629	5,415	248,626	6,286	N/A
16	27-Jan-15	69.0	6,837	6,221	4,950	246,623	6,327	N/A
17	27-Jan-15	64.0	6,620	5,603	5,433	248,002	6,255	N/A
18	27-Jan-15	64.0	6,620	5,752	5,454	246,959	6,404	N/A
19	28-Jan-15	65.2	6,325	5,631	5,441	247,219	6,251	N/A
20	29-Jan-15	62.6	6,216	5,620	5,271	218,680	5,994	N/A
21	29-Jan-15	69.0	6,489	5,442	5,318	241,365	6,126	N/A
22	31-Jan-15	68.0	6,808	5,588	6,017	249,047	6,228	N/A
23	30-Jan-15	66.0	6,365	5,730	4,169	246,528	6,267	N/A
24	30-Jan-15	67.0	6,497	5,621	5,528	245,055	6,159	N/A
25	31-Jan-15	67.0	6,497	5,933	5,074	225,222	6,105	N/A
26	31-Jan-15	66.0	6,531	5,820	4,894	245,744	6,180	N/A
27	1-Feb-15	66.0	6,531	5,981	5,462	246,922	6,315	N/A
28	1-Feb-15	67.0	6,299	6,103	4,975	245,767	6,114	N/A
29	2-Feb-15	67.0	6,299	5,422	5,378	242,919	6,163	N/A
30	2-Feb-15	67.0	6,282	5,902	5,482	246,381	6,066	N/A
31	3-Feb-15	63.0	6,123	5,765	5,367	197,665	6,626	N/A
32	3-Feb-15	63.0	6,123	5,522	4,572	229,979	5,882	N/A
33	4-Feb-15	63.0	6,123	5,767	5,309	239,528	5,878	N/A
34	4-Feb-15	64.0	6,046	5,403	4,476	246,007	5,937	N/A
35	4-Feb-15	64.0	6,046	6,509	4,940	246,487	5,919	N/A
	AVG=	<b>64.5</b>	<b>6,415</b>	<b>5,551</b>	<b>5,043</b>	<b>8,454,658</b>	<b>220,432</b>	TOTAL

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MORGANTOWN, WV

## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Fresh Water	332'	N/A	332'	N/A
Shale/ Sandstone	0	207	0	207
Shale/ Trace Coal	207	247	207	247
Sandstone	247	467	247	467
Shale/ Limestone	467	567	467	567
Sandstone	567	627	567	627
Shale/ Trace Limestone	627	787	627	787
Siltstone	787	812	787	812
Shale/ Limestone	812	967	812	967
Sandstone	967	1047	967	1047
Shale/ Limestone	1047	1147	1047	1147
Shale/ Trace Coal	1147	1187	1147	1187
Sandstone/ Trace Coal	1187	1247	1187	1247
Shale/ Trace Limestone	1247	1327	1247	1327
Sandstone/ Shale	1327	1427	1327	1427
Sandstone/ Coal	1427	1567	1427	1567
Shale/ Trace Coal	1567	1727	1567	1727
Siltstone/ Trace Coal	1727	1911	1727	1912
Big Lime	1911	2035	1912	2036
Big Injun	2035	2416	2036	2418
Gantz Sand	2416	2581	2418	2582
Fifty Foot Sandstone	2581	2673	2582	2674
Gordon	2673	2957	2674	2959
Fifth Sandstone	2957	3109	2959	3110
Bayard	3109	3417	3110	3418
Warren	3417	3792	3418	3794
Speechley	3792	4061	3794	4062
Baltown	4061	4495	4062	4496
Bradford	4495	4903	4496	4905
Benson	4903	5179	4905	5195
Alexander	5179	5336	5195	5364
Elk	5336	5815	5364	5885
Rhinestreet	5815	6106	5885	6204
Sycamore	6106	6265	6204	6395
Middlesex	6265	3379	6395	6573
Burkett	3379	6413	6573	6647
Tully	6413	6444	6647	6752
Marcellus	6444	NA	6752	NA

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

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MORGANTOWN, WV



**Frac Focus**  
Chemical Disclosure Registry




Job Start Date:	1/19/2015
Job End Date:	2/4/2015
State:	West Virginia
County:	Doddridge
API Number:	47-017-06415-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Hudkins Unit 1H
Longitude:	-80.88260800
Latitude:	39.27340600
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,587
Total Base Water Volume (gal):	9,733,290
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	Operator	Carrier	Water	7732-18-5	100.00000	90.09710	
Sand, White, 40/70	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		5.15592	
Sand, White, 20/40	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		3.37040	
Sand, White, 100 mesh	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.86926	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.21401	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.08553	SmartCare Product
FRW-18	Baker Hughes	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.05844	SmartCare Product
Calcium Chloride	Baker Hughes	Salts	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01789	



Scaletrol 720	Baker Hughes	Scale Inhibitor	MSDS and Non-MSDS Ingredients Listed Below	N/A			0.01519	SmartCare Product
Enzyme G-NE	Baker Hughes	Breaker	MSDS and Non-MSDS Ingredients Listed Below	N/A			0.01231	SmartCare Product
Alpha 1427	Baker Hughes	Biocide	MSDS and Non-MSDS Ingredients Listed Below	N/A			0.00842	SmartCare Product
Ferrolol 300L	Baker Hughes	Iron Control	MSDS and Non-MSDS Ingredients Listed Below	N/A			0.00148	SmartCare Product
CI-39	Baker Hughes	Corrosion Inhibitor	MSDS and Non-MSDS Ingredients Listed Below	N/A			0.00044	
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.								
Ingredients in Additive (s) (MSDS and non- MSDS)	Baker Hughes	See Trade Name(s) List						
			Crystalline Silica (Quartz)	14808-60-7		100.00000	9.38585	
			Water	7732-18-5		95.00000	0.23017	
			Mineral Oil	8042-47-5		70.00000	0.05981	
			Guar Gum	9000-30-0		60.00000	0.05127	
			Hydrochloric Acid	7647-01-0		15.00000	0.03207	
			Paraffinic Petroleum Distillate	64742-55-8		30.00000	0.02563	
			Petroleum Distillates	64742-47-8		30.00000	0.02563	
			Calcium Chloride	10043-52-4		100.00000	0.01863	
			Poly (acrylamide-co-acrylic acid) partial sodium salt	62649-23-4		30.00000	0.01752	
			Hydrotreated Light Distillate	64742-47-8		30.00000	0.01752	
			Ethylene Glycol	107-21-1		45.00000	0.00683	
			1-butoxy-2-propanol	5131-66-8		5.00000	0.00427	
			Crystalline Silica: Quartz	14808-60-7		5.00000	0.00427	
			Isotridecanol, ethoxylated	9043-30-5		5.00000	0.00427	
			Sodium Chloride	7647-14-5		5.00000	0.00396	
			2-Propenoic, Polymer with Sodium Phosphinate, Sodium Salt	71050-62-9		20.00000	0.00304	
			Glutaraldehyde	111-30-8		30.00000	0.00252	
			Ammonium Chloride	12125-02-9		3.00000	0.00175	
			Oleamide DEA	93-83-4		2.00000	0.00117	
			Alcohols, C12-16, ethoxylated	68551-12-2		2.00000	0.00117	
			Potassium Chloride	7447-40-7		5.00000	0.00105	
			Citric Acid	77-92-9		60.00000	0.00089	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5		10.00000	0.00084	
			Hemicellulase Enzyme Concentrate	9025-56-3		5.00000	0.00061	
			Quaternary Ammonium Compound	68424-85-1		5.00000	0.00044	
			Ethanol	64-17-5		5.00000	0.00042	


  
 AUG 08 2015
   
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 MORGANTOWN, WV



LATITUDE 39°17'30"

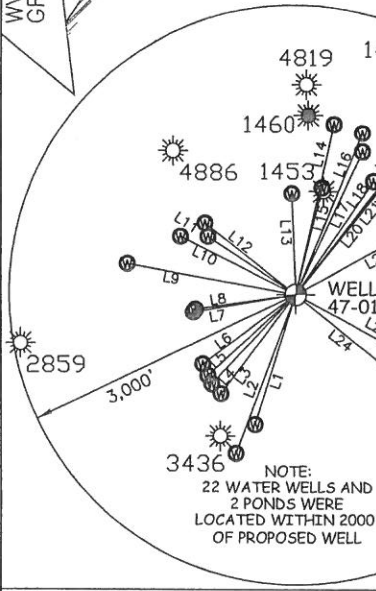
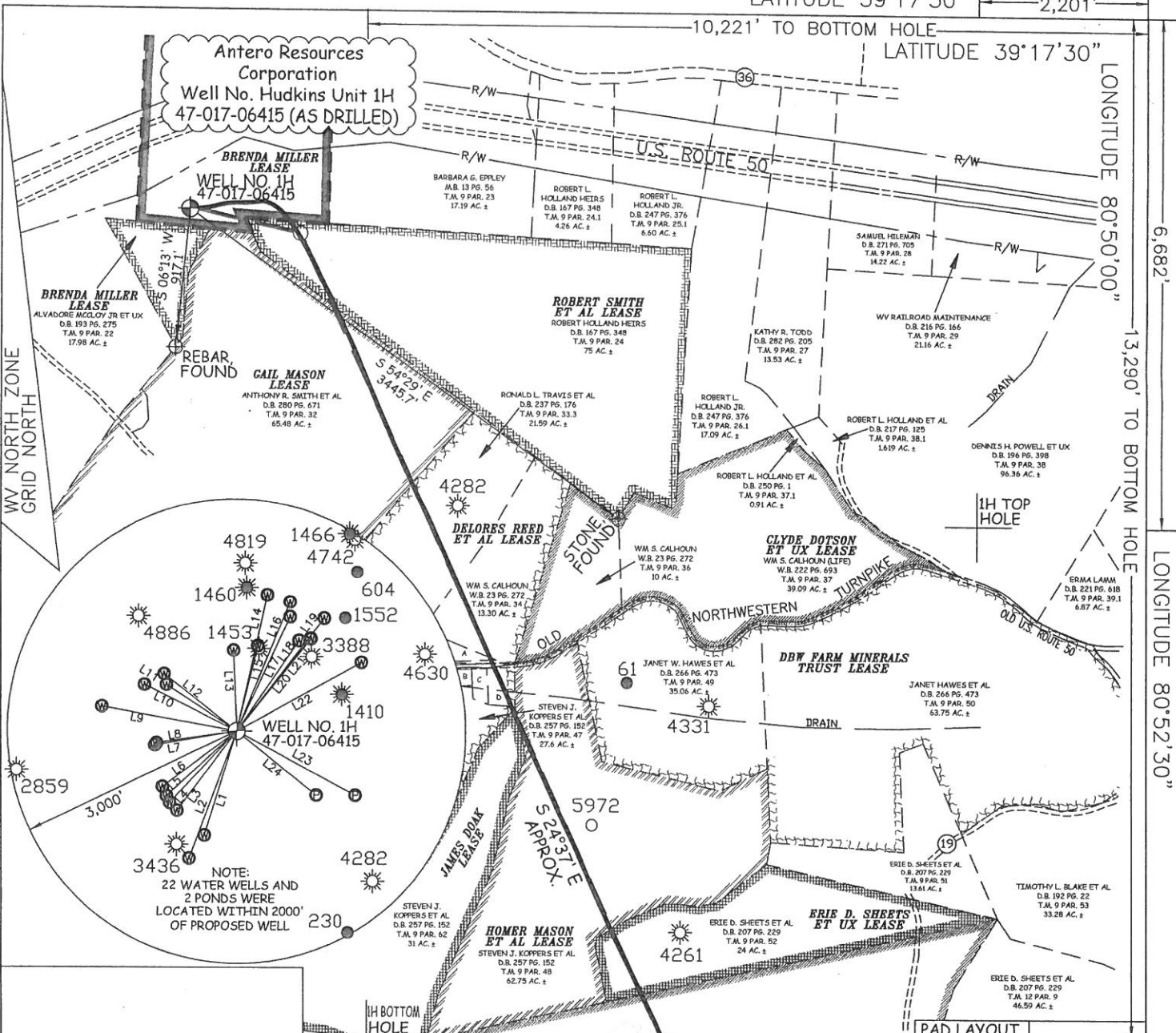
2,201'

LATITUDE 39°17'30"

LONGITUDE 80°50'00"

6,682'

LONGITUDE 80°52'30"



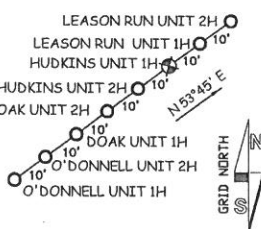
NOTE:  
22 WATER WELLS AND  
2 PONDS WERE  
LOCATED WITHIN 2000'  
OF PROPOSED WELL

- A - MARVIN PHILLIPS ET AL. D.B. 269 PG. 227 T.M. 9 PAR. 34.2 1.03 AC.
- B - G.C.J.W. D.B. 283 PG. 265 T.M. 9 PAR. 47.1 0.41 AC.
- C - G.C.J.W. D.B. 283 PG. 265 T.M. 9 PAR. 47.6 0.51 AC.
- D - GEORGE L. NEELY ET AL. D.B. 282 PG. 158 T.M. 9 PAR. 47.3 1.17 AC.

LINE	BEARING	DISTANCE
L1	S 17°52' W	1415.04'
L2	S 21°05' W	1763.00'
L3	S 37°35' W	1298.22'
L4	S 43°42' W	1284.40'
L5	S 47°44' W	1253.61'
L6	S 53°31' W	1220.25'
L7	S 79°51' W	1098.01'
L8	S 81°12' W	1071.07'
L9	N 80°07' W	1797.94'
L10	N 63°58' W	1351.70'
L11	N 57°20' W	1100.65'
L12	N 52°31' W	1206.59'
L13	N 02°46' W	1043.78'
L14	N 12°31' E	1808.91'
L15	N 13°31' E	1135.82'
L16	N 22°21' E	1811.08'
L17	N 24°57' E	1634.43'
L18	N 34°27' E	1423.87'
L19	N 37°46' E	1856.43'
L20	N 38°31' E	1539.40'
L21	N 38°46' E	1535.36'
L22	N 61°02' E	1854.94'
L23	S 62°08' E	1749.53'
L24	N 51°44' W	1320.37'

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

PAD LAYOUT  
NOT TO SCALE



AS DRILLED DATA:  
WELL 1H TOP HOLE INFORMATION:  
N: 284,672ft E: 1,608,543ft  
LAT: 39°16' 23.96" LON: 80°52' 57.99"  
BOTTOM HOLE INFORMATION:  
N: 278,007ft E: 1,612,221ft  
LAT: 39°15' 18.65" LON: 80°52' 09.94"  
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.  
ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT.  
PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:  
WELL 1H TOP HOLE INFORMATION:  
N: 4,347,124m E: 510,126m  
BOTTOM HOLE INFORMATION:  
N: 4,345,112m E: 511,280m



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

JOB # 13-089WA  
DRAWING # HUDKINS1HAD  
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 07/09/15  
OPERATOR'S WELL # HUDKINS UNIT #H

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS  
WELL TYPE: OIL GAS  LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION  STORAGE DEEP SHALLOW   
LOCATION: ELEVATION 1,083' ORIGINAL - 1,057' AS-DRILLED WATERSHED NORTH FORK HUGHES RIVER  
QUADRANGLE PENNSBORO 7.5' (TOP HOLE) WEST UNION 7.5' (BOTTOM HOLE) DISTRICT CENTRAL COUNTY DODDRIDGE  
SURFACE OWNER ALVADORE MCCLOY JR ET UX ACREAGE 17.98 ACRES +/-  
OIL & GAS ROYALTY OWNER BRENDA MILLER; ROBERT SMITH ET AL; GAIL MASON; DELORES REED ET AL; LEASE ACREAGE 37.625 ACRES+; 75 ACRES+; 148.793 ACRES+; 75.6 ACRES+;  
JAMES DOAK; HOMER MASON ET AL; ERIE D. SHEETS ET UX; ERIE D. SHEETS; CASSIE REESE 31 ACRES+; 62 ACRES+; 24 ACRES+; 141 ACRES+; 142 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 6,587' TVD 13,795' MD  
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER CT CORPORATION SYSTEM  
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313  
FORM WW-6 DENVER, CO 80202

COUNTY NAME PERMIT