

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

API 47 - 095 - 02169 County Tyler District Ellsworth
Quad Shirley 7.5' Pad Name Weigle East Pad Field/Pool Name ----
Farm name Edwin C. Weigle Well Number Scardina 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 4,368,521m Easting 512,680m
Landing Point of Curve Northing 4,368,447.35m Easting 512,682.87m
Bottom Hole Northing 4,365,187m Easting 513,845m

Elevation (ft) 817' 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 4/24/2014 Date drilling commenced 12/1/2014 Date drilling ceased 4/2/2015
Date completion activities began 7/3/2015 Date completion activities ceased 4/4/2016
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 194', 366' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft 842', 1027', 1199' Void(s) encountered (Y/N) depths _____
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) No

APPROVED

NAME: [Signature]
DATE: 9/8/16

Reviewed by: _____
10/28/2016

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API 47-095 02169

Farm name Edwin C. Weigle

Well number Scardina 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"	60'	New	94#; J-55	N/A	Yes
Surface	17 1/2"	13 3/8"	503'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2527'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	17,660'	New	23#; C-90	N/A	Yes
Tubing							
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	213 sx	15.6	1.18	58 Cu. Ft.	0'	8 Hrs.
Surface	Class A	593 sx	15.6	1.18	349 Cu. Ft.	0'	8 Hrs.
Coal							
Intermediate 1	Class A	979 sx	15.6	1.18	791 Cu. Ft.	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	846 sx (Lead); 1775 sx (Tail)	13.5 (Lead); 15.2 (Tail)	1.44 (Lead); 1.80 (Tail)	3582 Cu. Ft.	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17,660' MD, 6403' TVD (BHL), 6410' TVD (Deepest Point Drilled) Loggers TD (ft) 17,611'

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

Plug back procedure N/A

Kick off depth (ft) 5855'

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 N/A

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS N/A

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

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API 47- 095 - 02169 Farm name Edwin C. Weigle Well number Scardina Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6284' (Top)</u> TVD	<u>6434' (Top)</u> MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 4100 psi Bottom Hole --- psi DURATION OF TEST --- hrs
 OPEN FLOW Gas 319 mcfpd Oil --- bpd NGL --- bpd Water 162 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 ₂ S, ETC)
	<u>0</u>		<u>0</u>		
* PLEASE SEE ATTACHED EXHIBIT 3					

Please insert additional pages as applicable.


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

Logging Company Rush Wellsite Services
 Address 600 Alpha Drive City Canonsburg State PA Zip 15317

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

Stimulating Company US Well Services
 Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Natalie Komp Telephone 303-357-6820
 Signature  Title Permitting Agent Date 6/17/2016

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Submission of Hydraulic Fracturing Chemical Disclosure Information* Attach copy of FRACFOCUS Registry*

10/28/2016

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	3-Jul-15	17,404	17,572	60	Marcellus
2	1-Jan-16	17,257	17,382	60	Marcellus
3	1-Jan-16	17,109	17,234	60	Marcellus
4	1-Jan-16	16,961	17,086	60	Marcellus
5	2-Jan-16	16,813	16,939	60	Marcellus
6	2-Jan-16	16,666	16,791	60	Marcellus
7	2-Jan-16	16,518	16,643	60	Marcellus
8	2-Jan-16	16,370	16,495	60	Marcellus
9	3-Jan-16	16,223	16,348	60	Marcellus
10	3-Jan-16	16,075	16,200	60	Marcellus
11	3-Jan-16	15,927	16,052	60	Marcellus
12	3-Jan-16	15,779	15,905	60	Marcellus
13	4-Jan-16	15,632	15,757	60	Marcellus
14	4-Jan-16	15,484	15,609	60	Marcellus
15	4-Jan-16	15,336	15,461	60	Marcellus
16	4-Jan-16	15,189	15,314	60	Marcellus
17	5-Jan-16	15,041	15,166	60	Marcellus
18	5-Jan-16	14,893	15,018	60	Marcellus
19	5-Jan-16	14,745	14,871	60	Marcellus
20	5-Jan-16	14,598	14,723	60	Marcellus
21	6-Jan-16	14,450	14,575	60	Marcellus
22	6-Jan-16	14,302	14,427	60	Marcellus
23	6-Jan-16	14,155	14,280	60	Marcellus
24	6-Jan-16	14,007	14,132	60	Marcellus
25	6-Jan-16	13,859	13,984	60	Marcellus
26	7-Jan-16	13,711	13,836	60	Marcellus
27	7-Jan-16	13,564	13,689	60	Marcellus
28	7-Jan-16	13,416	13,541	60	Marcellus
29	7-Jan-16	13,268	13,393	60	Marcellus
30	7-Jan-16	13,120	13,246	60	Marcellus
31	8-Jan-16	12,973	13,098	60	Marcellus
32	8-Jan-16	12,825	12,950	60	Marcellus
33	8-Jan-16	12,677	12,802	60	Marcellus
34	8-Jan-16	12,530	12,655	60	Marcellus
35	8-Jan-16	12,382	12,507	60	Marcellus
36	9-Jan-16	12,234	12,359	60	Marcellus
37	9-Jan-16	12,086	12,212	60	Marcellus
38	9-Jan-16	11,939	12,064	60	Marcellus
39	10-Jan-16	11,791	11,916	60	Marcellus
40	10-Jan-16	11,643	11,768	60	Marcellus
41	10-Jan-16	11,496	11,621	60	Marcellus
42	10-Jan-16	11,348	11,473	60	Marcellus
43	10-Jan-16	11,200	11,325	60	Marcellus
44	11-Jan-16	11,052	11,178	60	Marcellus
45	11-Jan-16	10,905	11,030	60	Marcellus
46	11-Jan-16	10,757	10,882	60	Marcellus
47	11-Jan-16	10,609	10,734	60	Marcellus
48	12-Jan-16	10,462	10,587	60	Marcellus
49	12-Jan-16	10,314	10,439	60	Marcellus
50	12-Jan-16	10,166	10,291	60	Marcellus
51	12-Jan-16	10,018	10,143	60	Marcellus
52	12-Jan-16	9,871	9,996	60	Marcellus
53	13-Jan-16	9,723	9,848	60	Marcellus
54	13-Jan-16	9,575	9,700	60	Marcellus
55	13-Jan-16	9,427	9,553	60	Marcellus
56	13-Jan-16	9,280	9,405	60	Marcellus
57	13-Jan-16	9,132	9,257	60	Marcellus
58	14-Jan-16	8,984	9,109	60	Marcellus
59	14-Jan-16	8,837	8,962	60	Marcellus
60	14-Jan-16	8,689	8,814	60	Marcellus
61	14-Jan-16	8,541	8,666	60	Marcellus
62	14-Jan-16	8,393	8,519	60	Marcellus
63	15-Jan-16	8,246	8,371	60	Marcellus
64	15-Jan-16	8,098	8,223	60	Marcellus
65	15-Jan-16	7,950	8,075	60	Marcellus
66	15-Jan-16	7,803	7,928	60	Marcellus
67	15-Jan-16	7,655	7,780	60	Marcellus
68	15-Jan-16	7,507	7,632	60	Marcellus
69	16-Jan-16	7,359	7,485	60	Marcellus
70	16-Jan-16	7,212	7,337	60	Marcellus
71	16-Jan-16	7,064	7,189	60	Marcellus
72	16-Jan-16	6,916	7,041	60	Marcellus
73	16-Jan-16	6,769	6,894	60	Marcellus
74	16-Jan-16	6,621	6,746	60	Marcellus
75	17-Jan-16	6,473	6,598	60	Marcellus

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EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	1-Jan-16	65.0	7,932	N/A	4,449	203,500	6,404	N/A
2	1-Jan-16	67.9	7,378	6,044	4,953	273,800	6,059	N/A
3	1-Jan-16	71.0	7,620	5,911	4,982	209,810	6,400	N/A
4	1-Jan-16	71.0	7,384	5,578	5,032	224,560	5,938	N/A
5	2-Jan-16	68.1	7,231	5,708	5,189	225,400	5,913	N/A
6	2-Jan-16	68.0	7,081	5,372	5,071	225,700	5,934	N/A
7	2-Jan-16	69.0	7,166	5,572	5,341	224,170	5,886	N/A
8	2-Jan-16	68.0	7,274	5,522	5,331	224,330	5,952	N/A
9	3-Jan-16	66.7	7,285	5,629	5,311	225,000	5,881	N/A
10	3-Jan-16	70.4	7,253	5,393	4,975	225,100	5,900	N/A
11	3-Jan-16	70.0	7,413	5,622	5,386	218,570	5,873	N/A
12	3-Jan-16	68.0	7,571	5,500	5,504	183,490	6,358	N/A
13	4-Jan-16	65.8	7,752	5,919	5,189	225,300	5,951	N/A
14	4-Jan-16	70.3	7,257	5,461	4,982	225,300	5,844	N/A
15	4-Jan-16	68.5	7,386	5,423	4,711	220,060	5,906	N/A
16	4-Jan-16	70.0	7,284	5,422	5,507	219,140	5,791	N/A
17	5-Jan-16	69.6	7,967	5,389	5,250	221,500	5,857	N/A
18	5-Jan-16	71.1	7,457	5,668	5,525	224,800	5,816	N/A
19	5-Jan-16	70.7	7,313	5,370	5,276	227,500	5,790	N/A
20	5-Jan-16	69.4	7,306	5,633	5,257	222,060	5,708	N/A
21	6-Jan-16	69.4	7,158	5,540	4,960	224,760	5,767	N/A
22	6-Jan-16	70.3	7,165	5,322	4,771	224,900	5,776	N/A
23	6-Jan-16	69.8	7,180	5,254	4,678	216,000	5,646	N/A
24	6-Jan-16	68.2	6,996	5,279	4,882	223,120	5,742	N/A
25	6-Jan-16	68.1	6,841	5,279	4,849	223,780	5,718	N/A
26	7-Jan-16	68.0	6,735	5,311	4,771	223,100	5,759	N/A
27	7-Jan-16	69.1	6,995	5,225	4,746	224,400	5,723	N/A
28	7-Jan-16	68.2	7,069	5,651	5,085	223,700	5,738	N/A
29	7-Jan-16	68.1	7,090	5,865	5,014	223,480	5,687	N/A
30	7-Jan-16	68.0	6,983	5,329	4,900	224,180	5,694	N/A
31	8-Jan-16	69.9	6,883	5,511	4,681	225,000	5,722	N/A
32	8-Jan-16	68.2	6,865	5,540	5,046	224,800	5,708	N/A
33	8-Jan-16	68.5	6,908	5,472	4,975	224,400	5,683	N/A
34	8-Jan-16	68.5	7,092	5,711	5,000	214,960	5,505	N/A
35	8-Jan-16	68.4	6,944	5,364	5,304	217,000	5,629	N/A
36	9-Jan-16	68.9	6,763	5,347	5,336	224,400	5,615	N/A
37	9-Jan-16	69.1	6,772	5,579	5,279	220,220	5,637	N/A
38	9-Jan-16	68.8	7,042	5,865	4,824	225,160	5,602	N/A
39	10-Jan-16	70.0	7,059	5,629	4,778	224,300	5,584	N/A
40	10-Jan-16	69.3	6,859	5,336	5,536	224,900	5,603	N/A
41	10-Jan-16	69.6	6,883	5,754	5,350	224,800	5,578	N/A
42	10-Jan-16	68.8	7,007	5,880	4,992	196,450	6,038	N/A
43	10-Jan-16	67.5	6,809	5,361	5,164	223,620	5,549	N/A
44	11-Jan-16	69.8	6,749	5,604	4,927	223,910	5,550	N/A
45	11-Jan-16	69.8	6,728	5,744	5,148	224,485	5,533	N/A
46	11-Jan-16	69.1	6,663	5,302	5,182	224,355	5,491	N/A
47	11-Jan-16	69.4	6,849	5,447	4,699	193,840	5,432	N/A
48	12-Jan-16	71.2	6,949	5,507	5,236	218,200	6,029	N/A
49	12-Jan-16	68.5	6,775	5,436	4,281	224,390	5,501	N/A
50	12-Jan-16	68.7	6,971	5,502	4,685	207,745	6,064	N/A
51	12-Jan-16	69.3	6,742	5,368	5,121	210,200	5,472	N/A
52	12-Jan-16	70.1	6,780	5,236	4,917	215,640	5,564	N/A
53	13-Jan-16	72.1	6,674	5,379	4,614	219,110	5,462	N/A
54	13-Jan-16	75.3	6,647	5,347	4,531	223,755	5,456	N/A
55	13-Jan-16	75.0	6,588	5,478	4,413	208,100	5,778	N/A
56	13-Jan-16	77.0	6,641	5,361	4,928	225,380	5,444	N/A
57	13-Jan-16	77.2	6,838	5,493	5,068	222,200	5,396	N/A
58	14-Jan-16	77.9	6,798	5,368	4,853	223,605	5,406	N/A
59	14-Jan-16	77.3	6,692	5,237	5,015	223,995	5,403	N/A
60	14-Jan-16	75.7	6,610	5,378	4,871	223,710	5,409	N/A
61	14-Jan-16	77.2	6,735	5,343	4,932	222,200	5,347	N/A
62	14-Jan-16	77.7	6,702	5,407	5,078	224,860	5,364	N/A
63	15-Jan-16	78.2	6,739	5,382	5,225	224,980	5,360	N/A
64	15-Jan-16	75.9	6,658	5,389	4,917	223,775	5,386	N/A
65	15-Jan-16	78.2	6,788	5,518	4,614	224,875	5,343	N/A
66	15-Jan-16	77.1	6,950	5,483	4,982	180,995	5,754	N/A
67	15-Jan-16	77.6	6,817	5,407	4,903	216,180	5,225	N/A
68	15-Jan-16	77.4	6,634	5,322	5,082	223,140	5,293	N/A
69	16-Jan-16	78.6	6,675	5,372	5,139	208,140	5,130	N/A
70	16-Jan-16	77.3	6,651	5,765	4,489	213,465	5,218	N/A
71	16-Jan-16	77.1	6,501	5,381	4,896	224,985	5,286	N/A
72	16-Jan-16	76.8	6,647	5,473	4,587	175,440	5,285	N/A
73	16-Jan-16	78.6	6,609	5,522	5,053	225,400	5,270	N/A
74	16-Jan-16	78.7	6,726	5,715	5,007	223,980	5,255	N/A
75	17-Jan-16	78.1	6,727	5,636	4,470	222,700	5,224	N/A
AVG=		71.5	6,974	5,498	4,987	16,448,255	423,994	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	9	N/A	9	N/A
Fresh Water	366	N/A	366	N/A
Siltstone	0	227	0	227
Siltstone and Coal	est 227	275	est 227	275
Siltstone	est 275	411	est 275	411
Sandstone	est 411	542	est 411	542
Shale w/ Trace Coal	est 542	567	est 542	567
Shale w/ Trace Coal	est 567	767	est 567	767
Siltstone	est 767	807	est 767	807
Shale w/ Trace Coal	est 807	947	est 807	947
Siltstone	est 947	1,139	est 947	1,139
Sandstone	est 1139	1,201	est 1139	1,201
Siltstone	est 1201	1,237	est 1201	1,237
Sandstone	est 1237	1,317	est 1237	1,317
Siltstone	est 1317	1,710	est 1317	1,712
Big Lime	1,710	1,815	1,712	1,817
Big Injun	1,815	2,312	1,817	2,314
Gantz Sand	2,312	2,443	2,314	2,445
Fifty Foot Sandstone	2,443	2,530	2,445	2,532
Gordon	2,530	2,884	2,532	2,886
Fifth Sandstone	2,884	2,937	2,886	2,939
Bayard	2,937	3,284	2,939	3,286
Warren	3,284	3,682	3,286	3,684
Speechley	3,682	4,394	3,684	4,396
Bradford	4,394	4,809	4,396	4,811
Benson	4,809	5,046	4,811	5,048
Alexander	5,046	5,217	5,048	5,219
Elk	5,217	5,609	5,219	5,611
Rhinestreet	5,609	5,946	5,611	5,952
Sycamore	5,946	6,119	5,952	6,148
Middlesex	6,119	6,215	6,148	6,286
Burkett	6,215	6,241	6,286	6,331
Tully	6,241	6,284	6,331	6,434
Marcellus	6,284	NA	6,434	NA

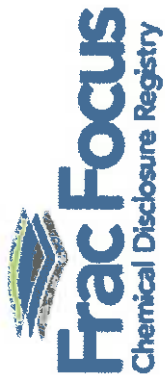
*Please note Antero determines shallow formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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10/28/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	1/1/2016
Job End Date	1/17/2016
State	West Virginia
County	Tyler
API Number	47-095-02169-00-00
Operator Name	Antero Resources Corporation
Well Name and Number	Scardina 1F
Longitude	-80.85258920
Latitude	39.46617350
Datum	NAD83
Federal/Tribal Well	NC
True Vertical Depth	6,411
Total Base Water Volume (gal)	18,830,174
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	Base Fluid	Water	7732-18-5	100.00000	90.19236	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	9.44649	
LGC-15	U.S. Well Services	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.07055	
			Petroleum Distillates	64742-47-8	50.00000	0.06881	
			Suspending agent (solid)	14808-60-7	3.00000	0.01079	
			Surfactant	35439-51-0	3.00000	0.00423	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.50000	0.06672	
			Hydrogen Chloride	7647-01-0	18.00000	0.02071	
WFR-405	U.S. Well Services	Friction Reducer	Water	7732-18-5	60.00000	0.03773	
			2-Propenoic acid, polymer with 2-propenamide	29003-06-9	30.00000	0.01886	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01519	
			Ethoxylated alcohol blend	68002-97-1	4.00000	0.00252	

SI-1100	U.S. Well Services	Scale Inhibitor						
			Water	7732-18-5		80.00000	0.00994	
			Ethylene Glycol	107-21-1		25.00000	0.00351	
			Copolymer of Maleic and Acrylic acid	62255-49-9		10.00000	0.00147	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8		7.50000	0.00126	
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1		5.00000	0.00081	
			Phosphino carboxylic acid polymer	71050-62-9		5.00000	0.00081	
			Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5		2.00000	0.00032	
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent						
			2,2-dibromo-3-nitropropanamide	10222-01-2		20.00000	0.00431	
			Deionized Water	7732-18-5		28.00000	0.00246	
AP One	U.S. Well Services	Gel Breakers						
			Ammonium Persulfate	7727-54-0		100.00000	0.00172	
AI-302	U.S. Well Services	Acid Corrosion Inhibitors						
			Water	7732-18-5		95.00000	0.00038	
			2-Propyn-1-ol compound with methylloxirane	38172-91-7		15.00000	0.00006	
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.								

* 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)

Produced
 Oil & Gas
 JUN 21 2016

LATITUDE 39°30'00"

5,485'

1,681' TO BOTTOM HOLE

LATITUDE 39°27'30"

Antero Resources Corporation
Well No. Scardina Unit 1H
47-095-02169 (AS DRILLED)

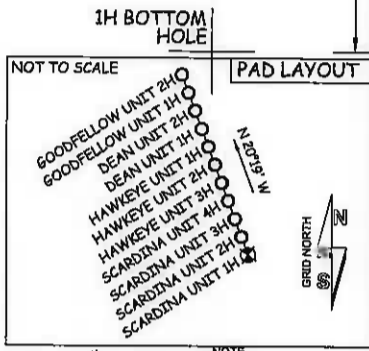
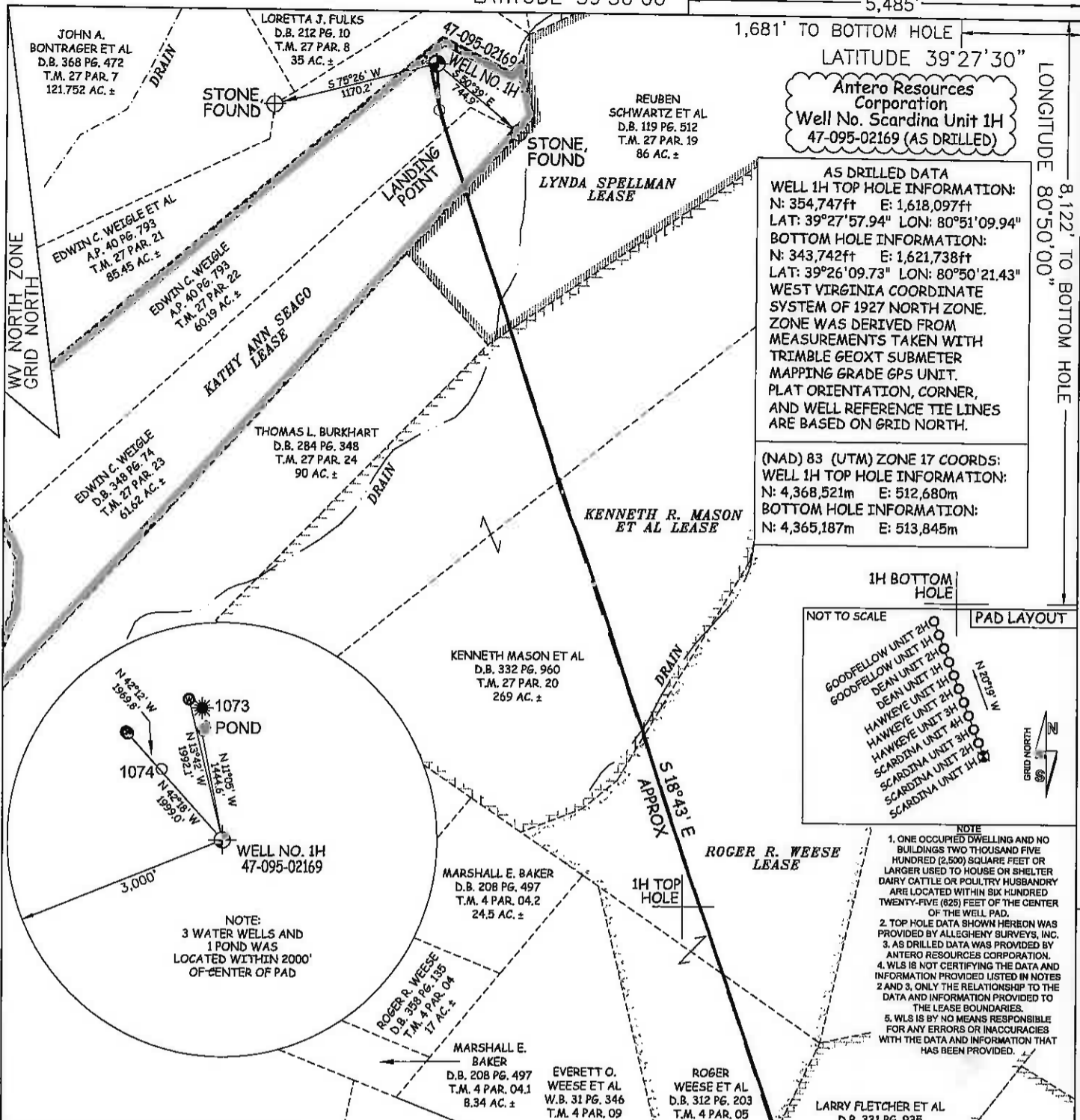
AS DRILLED DATA
WELL 1H TOP HOLE INFORMATION:
N: 354,747ft E: 1,618,097ft
LAT: 39°27'57.94" LON: 80°51'09.94"
BOTTOM HOLE INFORMATION:
N: 343,742ft E: 1,621,738ft
LAT: 39°26'09.73" LON: 80°50'21.43"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 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: 4,368,521m E: 512,680m
BOTTOM HOLE INFORMATION:
N: 4,365,187m E: 513,845m

LONGITUDE 80°50'00"

12,349'

LONGITUDE 80°50'00"



- NOTE
- 1. 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.
 - 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.

47 - 095 - 02169
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

JOB # 13-039WA
DRAWING # SCARDINA1HAD
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

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

DATE 08/05/15
OPERATOR'S WELL # SCARDINA UNIT #1H

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW
LOCATION: ELEVATION ORIGINAL 811' - AS DRILLED 817' WATERSHED OUTLET MIDDLE ISLAND CREEK
QUADRANGLE SHIRLEY 7.5' DISTRICT ELLSWORTH COUNTY TYLER
SURFACE OWNER EDWIN C. WEIGLE ACREAGE 60.19 ACRES +/-
OIL & GAS ROYALTY OWNER KATHY ANN SEAGO; LYNDA SPELLMAN LEASE ACREAGE 129.2 AC.±; 86 AC.±;
KENNETH R. MASON ET AL; ROGER R. WEESE; TERRY L. FLETCHER ET UX; KENNETH R. MASON ET AL 269 AC.±; 182.74 AC.±; 73 AC.±; 88.25 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 6,403' TVD 17,660' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

10/23/2016

COUNTY NAME PERMIT

LATITUDE 39°30'00"

3,485'

1,681' TO BOTTOM HOLE

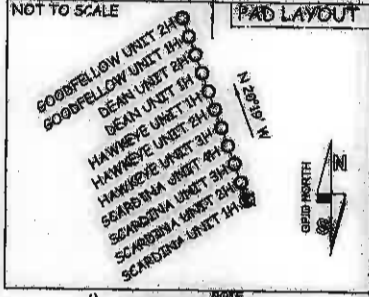
LATITUDE 39°27'30"

Antero Resources Corporation
Well No. Scardina Unit 1H
47-095-02169 (AS DRILLED)

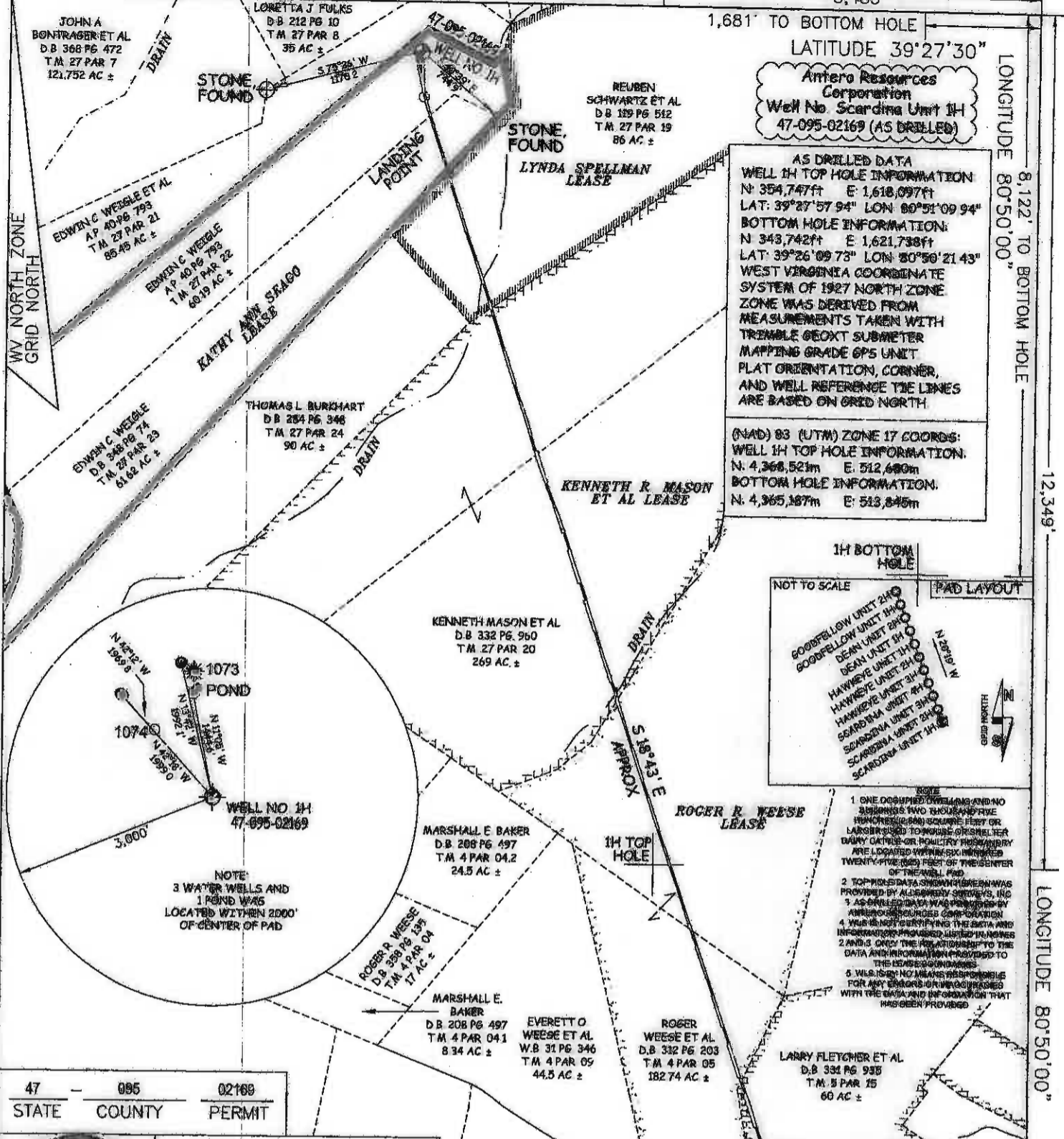
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(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 1H TOP HOLE INFORMATION:
N: 4,366,521m E: 512,680m
BOTTOM HOLE INFORMATION:
N: 4,365,187m E: 513,845m

1H BOTTOM HOLE



- 1. ONE OCCUPIED DWELLING AND NO BUSINESS TWO THOUSAND FIVE HUNDRED (2,000) SQUARE FEET OR LARGER... TO BE REMOVED...
2. TOP HOLE DATA SHOWN HEREIN WAS PROVIDED BY ALBERTSON SURVEYS, INC.
3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
4. YOU MUST VERIFY THE DATA AND INFORMATION PROVIDED LISTED IN THESE 2 AND 3 ONLY THE INFORMATION TO THE DATA AND INFORMATION PROVIDED TO THE LEASEE/OWNER.
5. WLS IS IN NO MANNER RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.



47 - 095 - 02169
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

JOB # 13-0300A
DRAWING # SCARDINA-1H-AD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
--- Surface Owner Boundary Lines +/-
--- Interior Surface Tracts +/-
--- Existing Fence
--- Found monument, as noted
--- Proposed Well Path
--- As Drilled Well Path
DATE 08/08/15
OPERATOR'S WELL# SCARDINA UNIT 1H

WELL TYPE OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
LOCATION ELEVATION ORIGINAL 811' - AS DRILLED 817' WATERSHED OUTLET MIDDLE ISLAND CREEK
QUADRANGLE SHAWLEY 7E DISTRICT ELLSWORTH COUNTY TYLER
SURFACE OWNER EDWIN C WESBLE ACREAGE 60.19 ACRES +/-
OIL & GAS ROYALTY OWNER KATHY ANN SRAGO, LYNDY SPELLMAN, KENNETH R MASON ET AL, ROGER R WEESE, TERRY L FLETCHER ET UX, KENNETH R MASON ET AL LEASE ACREAGE 129.2 AC +/- 86 AC +/- 269 AC +/- 182.74 AC +/- 73 AC +/- 86.75 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
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,408' TWD 17,889' MD
WELL OPERATOR ANTERO RESOURCES CORP DESIGNATED AGENT DIANNA STAMPER - GT CORPORATION SYSTEM
ADDRESS 1645 WYMANCOOP STREET ADDRESS 5900 D BIG TYLER ROAD
DENVER, CO 80202 CHARLESTON, WV 25313

LONGITUDE 80°50'00" LONGITUDE 80°50'00" LONGITUDE 80°50'00" LONGITUDE 80°50'00"