

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

API 47-095-02174 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 4H
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 4,368,530m Easting 512,677m
Landing Point of Curve Northing 4,368,707.95m Easting 513,205.33m
Bottom Hole Northing 4,365,862m Easting 514,247m

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 4/25/2014 Date drilling commenced 12/29/2014 Date drilling ceased 5/6/2015
Date completion activities began 7/8/2015 Date completion activities ceased 4/23/2016
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

RECEIVED
Office of Oil and Gas
JUL 12 2015

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 No
Salt water depth(s) ft 842', 1027', 1987' Void(s) encountered (Y/N) depths None
Coal depth(s) ft None Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

Reviewed by:
APPROVED
NAME: [Signature] 10/28/2016
DATE: 10/11

API 47-095 - 02174

Farm name Edwin C. Weigle

Well number Scardina Unit 4H

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#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	542'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2547'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	16,709'	New	23#; P-110	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	642 sx	15.6	1.18	376 Cu. Ft.	0'	8 Hrs.
Coal							
Intermediate 1	Class A	988 sx	15.6	1.18	798 Cu. Ft.	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	889 sx (Lead); 1601 sx (Tail)	13.5 (Lead); 15.2 (Tail)	1.44 (Lead); 1.81 (Tail)	3359 Cu. Ft.	-500' into intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 16,709' MD, 6393' TVD (BHL), 6408' TVD (Deepest Point Drilled) Loggers TD (ft) 16,660'

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

Plug back procedure N/A

Kick off depth (ft) 6241'

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

RECEIVED
Office of Oil and Gas

JUL 12 2016

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS N/A - WOC

WV Department of
Environmental Protection

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

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

API 47- 095 - 02174

Farm name Edwin C. Weigle

Well number Scardina Unit 4H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

*** PLEASE SEE ATTACHED 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 (bbbls)	Amount of Nitrogen/other (units)

*** PLEASE SEE ATTACHED EXHIBIT 2**

RECEIVED
Office of Oil and Gas
JUL 12 2016
WV Department of
Environmental Protection

Please insert additional pages as applicable.

API 47- 095 - 02174 Farm name Edwin C. Weigle Well number Scardina Unit 4H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6316' (Top)</u> TVD	<u>6902' (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 6513 mcfpd Oil 159 bpd NGL _____ bpd Water 388 bpd
GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP DEPTH IN FT NAME TVD</u>	<u>BOTTOM DEPTH IN FT TVD</u>	<u>TOP DEPTH IN FT MD</u>	<u>BOTTOM DEPTH IN FT MD</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<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

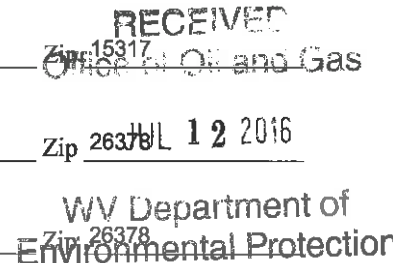
Cementing Company Nabors Completion & Production Services Co. (bought Superior)
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

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 7/8/2016

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	7/8/2015	16440	16607	60	Marcellus
2	2/27/2016	16292	16417	60	Marcellus
3	2/28/2016	16143	16269	60	Marcellus
4	2/28/2016	15995	16120	60	Marcellus
5	2/28/2016	15846	15972	60	Marcellus
6	2/28/2016	15698	15824	60	Marcellus
7	2/29/2016	15550	15675	60	Marcellus
8	2/29/2016	15401	15527	60	Marcellus
9	2/29/2016	15253	15378	60	Marcellus
10	2/29/2016	15104	15230	60	Marcellus
11	2/29/2016	14956	15082	60	Marcellus
12	3/1/2016	14807	14933	60	Marcellus
13	3/1/2016	14659	14785	60	Marcellus
14	3/1/2016	14511	14636	60	Marcellus
15	3/1/2016	14362	14488	60	Marcellus
16	3/2/2016	14214	14339	60	Marcellus
17	3/2/2016	14065	14191	60	Marcellus
18	3/2/2016	13917	14043	60	Marcellus
19	3/2/2016	13768	13894	60	Marcellus
20	3/3/2016	13620	13746	60	Marcellus
21	3/3/2016	13472	13597	60	Marcellus
22	3/3/2016	13323	13449	60	Marcellus
23	3/3/2016	13175	13300	60	Marcellus
24	3/3/2016	13026	13152	60	Marcellus
25	3/4/2016	12878	13004	60	Marcellus
26	3/4/2016	12729	12855	60	Marcellus
27	3/4/2016	12581	12707	60	Marcellus
28	3/4/2016	12433	12558	60	Marcellus
29	3/5/2016	12284	12410	60	Marcellus
30	3/5/2016	12136	12261	60	Marcellus
31	3/6/2016	11987	12113	60	Marcellus
32	3/6/2016	11839	11965	60	Marcellus
33	3/6/2016	11690	11816	60	Marcellus
34	3/6/2016	11542	11668	60	Marcellus
35	3/6/2016	11394	11519	60	Marcellus
36	3/6/2016	11245	11371	60	Marcellus
37	3/7/2016	11097	11222	60	Marcellus
38	3/7/2016	10948	11074	60	Marcellus
39	3/7/2016	10800	10926	60	Marcellus
40	3/7/2016	10651	10777	60	Marcellus
41	3/7/2016	10503	10629	60	Marcellus
42	3/7/2016	10355	10480	60	Marcellus
43	3/8/2016	10206	10332	60	Marcellus
44	3/9/2016	10058	10183	60	Marcellus
45	3/9/2016	9909	10035	60	Marcellus
46	3/9/2016	9761	9887	60	Marcellus
47	3/9/2016	9612	9738	60	Marcellus
48	3/9/2016	9464	9590	60	Marcellus
49	3/10/2016	9316	9441	60	Marcellus
50	3/10/2016	9167	9293	60	Marcellus
51	3/10/2016	9019	9144	60	Marcellus
52	3/10/2016	8870	8996	60	Marcellus
53	3/10/2016	8722	8848	60	Marcellus
54	3/10/2016	8573	8699	60	Marcellus
55	3/11/2016	8425	8551	60	Marcellus
56	3/11/2016	8277	8402	60	Marcellus
57	3/11/2016	8128	8254	60	Marcellus
58	3/11/2016	7980	8105	60	Marcellus
59	3/11/2016	7831	7957	60	Marcellus
60	3/11/2016	7683	7809	60	Marcellus
61	3/12/2016	7534	7660	60	Marcellus
62	3/12/2016	7386	7512	60	Marcellus
63	3/12/2016	7238	7363	60	Marcellus
64	3/12/2016	7089	7215	60	Marcellus
65	3/12/2016	6941	7066	60	Marcellus

RECEIVED
Office of Oil and Gas
JUL 12 2016
WV Department of
Environmental Protection

10/28/2016

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	2/27/2016	69.1	7609	N/A	4859	171025	6812	N/A
2	2/27/2016	74.8	7763	5904	4545	224300	5998	N/A
3	2/28/2016	72.1	7546	5958	4774	195160	5504	N/A
4	2/28/2016	74.3	7527	5701	4814	224695	5871	N/A
5	2/28/2016	74.5	7598	5699	4978	225345	5855	N/A
6	2/28/2016	73.4	7325	5640	5168	224900	5865	N/A
7	2/29/2016	73.6	7538	5661	4478	198800	5964	N/A
8	2/29/2016	73.5	7605	5622	4663	215715	5707	N/A
9	2/29/2016	73.9	7654	5548	5072	215120	5762	N/A
10	2/29/2016	75.9	7760	5729	4696	217700	5797	N/A
11	2/29/2016	71.7	7521	5400	5189	199000	5713	N/A
12	3/1/2016	73.2	7382	5486	4897	226665	5789	N/A
13	3/1/2016	74.5	7487	5482	4728	225015	5768	N/A
14	3/1/2016	74.8	7458	5487	5042	225100	5777	N/A
15	3/1/2016	73.4	7500	5318	5243	226600	5753	N/A
16	3/2/2016	73.2	7210	5275	5168	225300	5774	N/A
17	3/2/2016	74.3	7211	5461	4592	224840	5742	N/A
18	3/2/2016	71.8	7264	5361	5023	165830	6272	N/A
19	3/2/2016	73.1	7291	5461	4996	225400	5744	N/A
20	3/3/2016	73.1	7280	5540	5704	224700	5736	N/A
21	3/3/2016	74.7	7346	5309	4803	225170	5694	N/A
22	3/3/2016	75.2	7268	5432	4783	224670	5670	N/A
23	3/3/2016	71.3	7333	5409	5221	222300	6493	N/A
24	3/3/2016	74.4	7238	5214	5053	223600	5672	N/A
25	3/4/2016	74.7	7236	5554	5479	223500	5680	N/A
26	3/4/2016	75.3	7112	5563	4825	224760	5702	N/A
27	3/4/2016	76.2	7216	5801	4789	223780	5711	N/A
28	3/4/2016	74.2	7067	5319	4181	223300	5656	N/A
29	3/5/2016	74.2	7163	5627	4406	224100	5669	N/A
30	3/5/2016	75	7277	5504	4191	223100	5567	N/A
31	3/6/2016	72.5	7205	5296	4756	209500	6075	N/A
32	3/6/2016	72.2	6985	5300	4810	219100	5738	N/A
33	3/6/2016	74.8	7029	5432	4882	225035	5586	N/A
34	3/6/2016	74	6973	5518	4735	224930	5571	N/A
35	3/6/2016	73.6	7211	5529	4967	210400	5856	N/A
36	3/6/2016	72.6	7037	5558	5175	223700	5792	N/A
37	3/7/2016	72.8	6859	5307	5325	224000	5580	N/A
38	3/7/2016	74.5	7054	5332	4592	225400	5645	N/A
39	3/7/2016	73.7	7097	5447	4950	220000	6354	N/A
40	3/7/2016	74	7011	5504	5432	224900	5535	N/A
41	3/7/2016	71.2	6911	5522	5411	224100	5541	N/A
42	3/7/2016	69.5	7090	5382	5880	121300	5499	N/A
43	3/8/2016	70.1	7179	5640	5504	223700	5634	N/A
44	3/9/2016	72.7	6768	5296	5182	224800	5522	N/A
45	3/9/2016	73.8	6732	5522	5082	224200	5501	N/A
46	3/9/2016	73.8	6784	5436	5407	216500	5556	N/A
47	3/9/2016	71.9	6800	5529	5243	185200	6154	N/A
48	3/9/2016	71.9	6633	5339	5429	224600	5443	N/A
49	3/10/2016	72.2	6927	5533	5107	224500	6214	N/A
50	3/10/2016	73.7	6958	5450	4939	224060	6232	N/A
51	3/10/2016	73.1	6731	5372	5322	225000	5393	N/A
52	3/10/2016	73.4	6661	5490	5497	224200	5424	N/A
53	3/10/2016	71	6838	5339	5296	224600	6158	N/A
54	3/10/2016	74.2	6747	5393	5350	224200	5389	N/A
55	3/11/2016	74.6	6778	5797	5336	223600	5386	N/A
56	3/11/2016	73.5	6594	5246	5747	223760	5389	N/A
57	3/11/2016	73.6	6452	5343	5275	225400	5370	N/A
58	3/11/2016	73.2	6834	5668	5275	224920	5434	N/A
59	3/11/2016	73.8	6621	5819	5422	224800	5482	N/A
60	3/11/2016	73.1	6527	5386	4696	224600	5331	N/A
61	3/12/2016	70.7	6799	5536	5050	209500	6072	N/A
62	3/12/2016	73.4	6563	5493	5339	225700	5307	N/A
63	3/12/2016	73.6	6454	5468	5293	224300	5318	N/A
64	3/12/2016	73.2	6698	5540	5422	226700	6046	N/A
65	3/12/2016	70.9	6342	5679	4256	224480	5350	N/A
AVG=		73.3	7,087	5,499	5,042	14,175,175	372,594	TOTAL

RECEIVED
Office of Oil and Gas
JUL 12 2016
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	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	1,721	est 1317	1,723
Big Lime	1,721	1,824	1,723	1,826
Big Injun	1,824	2,337	1,826	2,339
Gantz Sand	2,337	2,457	2,339	2,459
Fifty Foot Sandstone	2,457	2,553	2,459	2,555
Gordon	2,553	2,903	2,555	2,908
Fifth Sandstone	2,903	2,962	2,908	2,968
Bayard	2,962	3,315	2,968	3,335
Warren	3,315	3,697	3,335	3,764
Speechley	3,697	4,441	3,764	4,617
Bradford	4,441	4,832	4,617	5,077
Benson	4,832	5,087	5,077	5,367
Alexander	5,087	5,245	5,367	5,550
Elk	5,245	5,624	5,550	5,988
Rhinestreet	5,624	5,967	5,988	6,379
Sycamore	5,967	6,146	6,379	6,604
Middlesex	6,146	6,241	6,604	6,748
Burkett	6,241	6,272	6,748	6,801
Tully	6,272	6,316	6,801	6,902
Marcellus	6,316	NA	6,902	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/27/2016
Job End Date:	3/12/2016
State:	West Virginia
County:	Tyler
API Number:	47-095-02174-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Scardina 4H
Latitude:	39.46625130
Longitude:	-80.85262810
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,408
Total Base Water Volume (gal):	16,461,600
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	Base Fluid	Water	7732-18-5	100.00000	90.19065	
Sand	U.S. Well Services, LLC	Proppant					
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Crystalline Silica, quartz	14808-60-7	100.00000	9.31219	
LGC-15	U.S. Well Services	Gelling Agents	Water	7732-18-5	87.50000	0.17241	
			Hydrogen Chloride	7647-01-0	18.00000	0.04118	
			Guar Gum	9000-30-0	50.00000	0.08257	
			Petroleum Distillates	64742-47-8	60.00000	0.07820	
			Suspending agent (solid)	14808-60-7	3.00000	0.01263	
			Surfactant	68439-51-0	3.00000	0.00495	
WFRA-405	U.S. Well Services	Friction Reducer	Water	7732-18-5	60.00000	0.03972	
			2-Propenoic acid, polymer with 2-propenamide	29003-06-9	30.00000	0.01988	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01599	

SI-1100	U.S. Well Services	Scale Inhibitor	Ethoxylated alcohol blend	68002-97-1	4.00000	0.00265
			Water	7732-18-5	80.00000	0.01009
			Ethylene Glycol	107-21-1	25.00000	0.00356
			Copolymer of Maleic and Acrylic acid	62255-49-9	10.00000	0.00149
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	7.50000	0.00128
			Phosphino carboxylic acid polymer	71050-62-9	5.00000	0.00082
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	5.00000	0.00082
			Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5	2.00000	0.00033
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent	2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00412
			Deionized Water	7732-18-5	28.00000	0.00235
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	0.00037
			2-Propyn-1-olcompound with methoxyirane	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)

LATITUDE 39°30'00"

5,496'

359' TO BOTTOM HOLE

LATITUDE 39°27'30"

LONGITUDE 80°50'00"

5,907' TO BOTTOM HOLE

12,321'

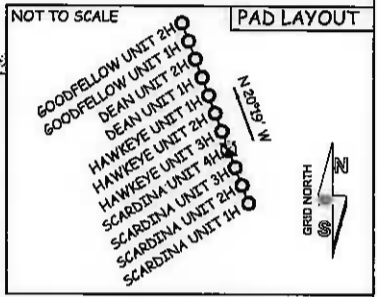
LONGITUDE 80°50'00"

370H W/100H H4

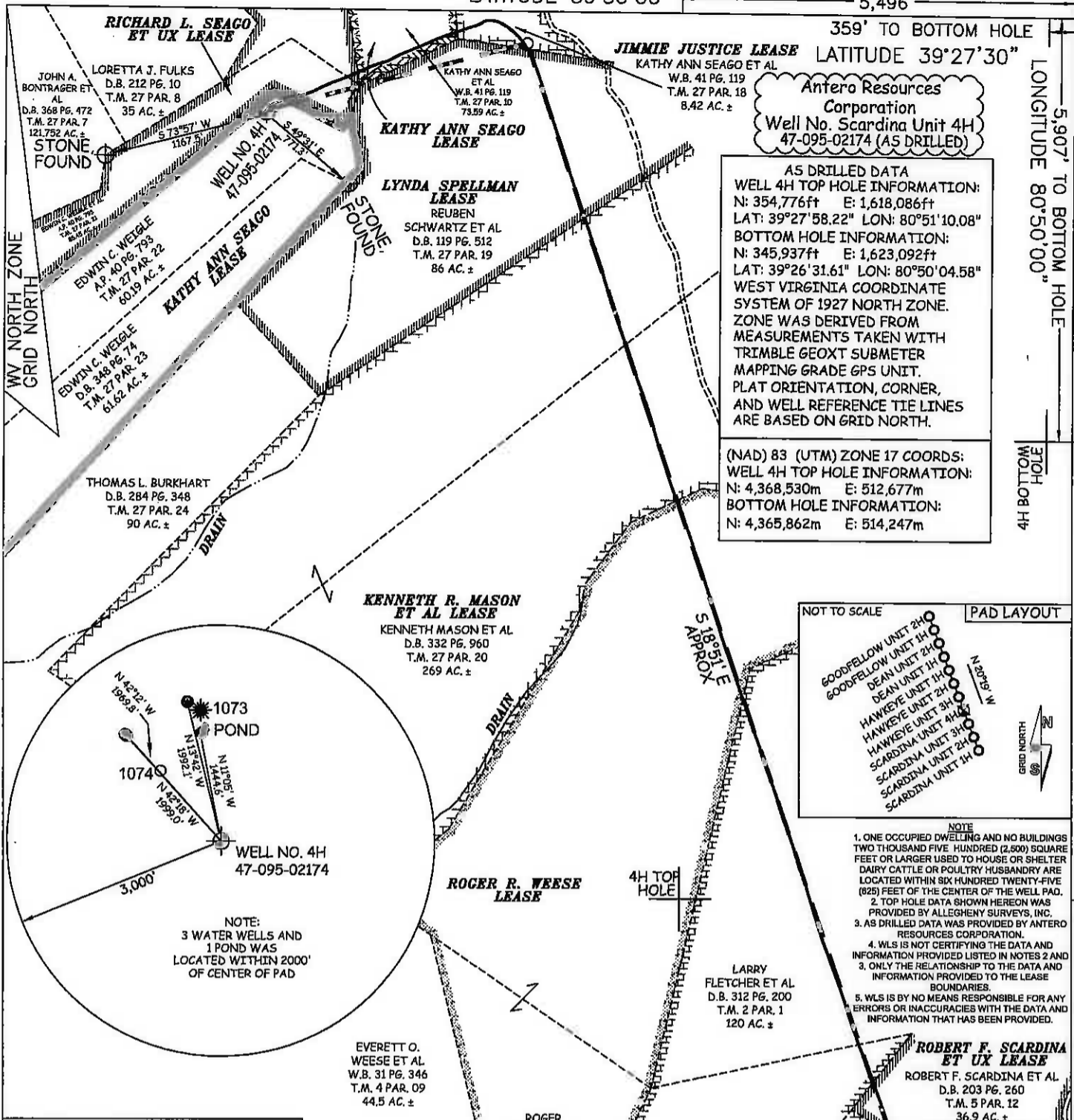
Antero Resources Corporation
Well No. Scardina Unit 4H
47-095-02174 (AS DRILLED)

AS DRILLED DATA
WELL 4H TOP HOLE INFORMATION:
N: 354,776ft E: 1,618,086ft
LAT: 39°27'58.22" LON: 80°51'10.08"
BOTTOM HOLE INFORMATION:
N: 345,937ft E: 1,623,092ft
LAT: 39°26'31.61" LON: 80°50'04.58"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH 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 4H TOP HOLE INFORMATION:
N: 4,368,530m E: 512,677m
BOTTOM HOLE INFORMATION:
N: 4,365,862m E: 514,247m



- 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 - 02174
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 # SCARDINA4HAD
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 +/-
X Existing Fence
⊕ Found monument, as noted
○ Proposed Well Path
○ As Drilled Well Path

DATE 08/05/15
OPERATOR'S WELL# SCARDINA UNIT #4H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
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, RICHARD L. SEAGO ET UX; KATHY ANN SEAGO, LYNDA SPELLMAN, JIMMIE JUSTICE, KENNETH R. MASON ET AL; ROGER R. WEESE; LARRY E. FLETCHER ET AL; ROBERT F. SCARDINA ET UX; EARL J. FLETCHER ET UX; KENNETH R. MASON ET AL
LEASE ACREAGE 129.2 AC ±; 85.45 AC ±; 73.59 AC ±; 86 AC ±; 8.42 AC ±; 269 AC ±; 182.74 AC ±; 197 AC ±; 36.90625 AC ±; 36 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 6,393' TVD, 16,709' 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

10/28/2016

LATITUDE 39°30'00"

5,496'

359' TO BOTTOM HOLE

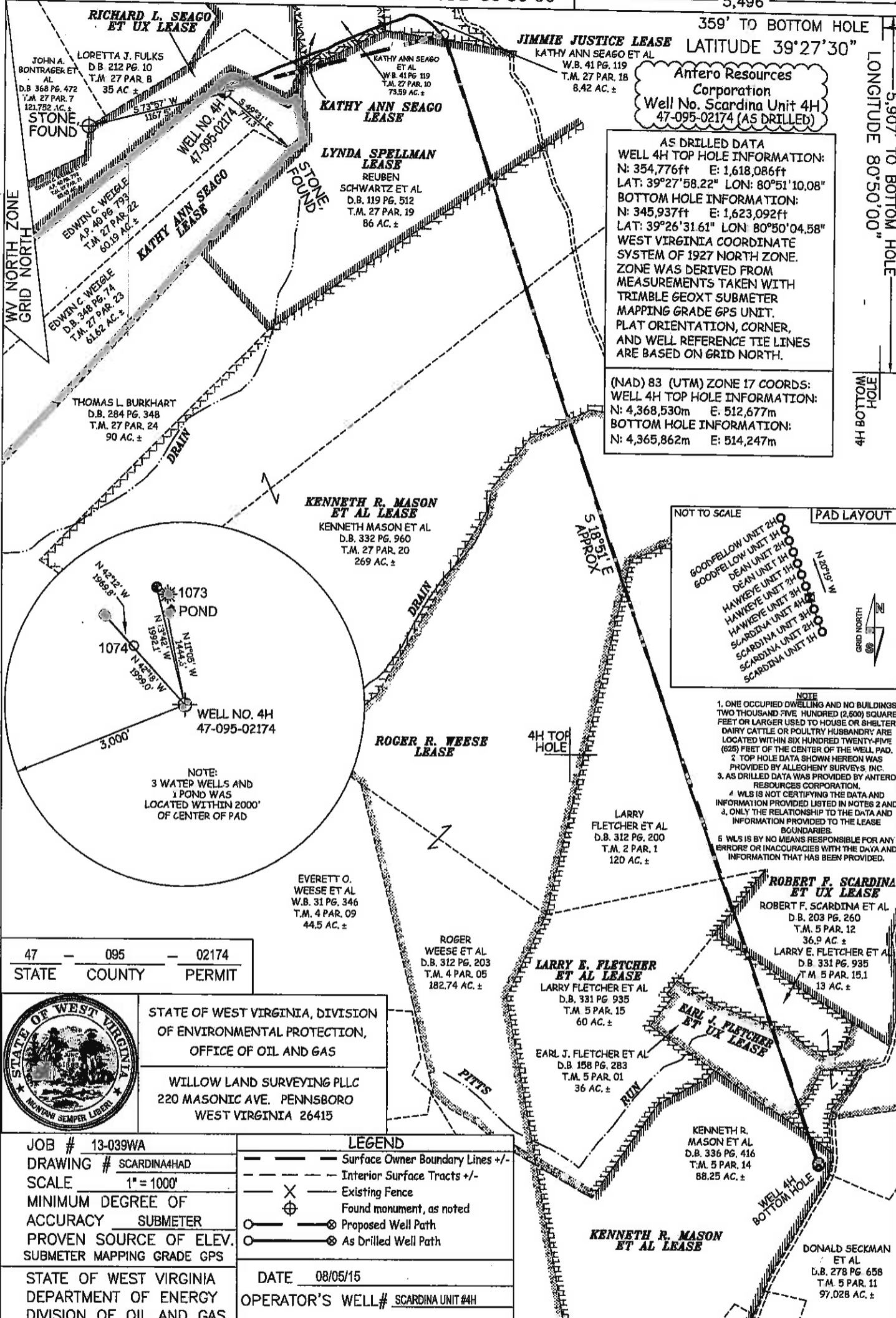
LATITUDE 39°27'30"

LONGITUDE 80°50'00"

5,907' TO BOTTOM HOLE

12,321'

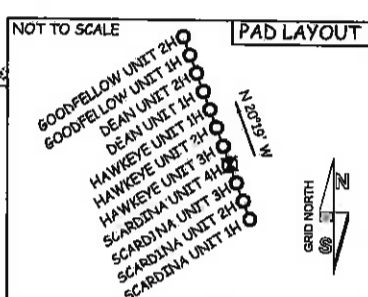
LONGITUDE 80°50'00"



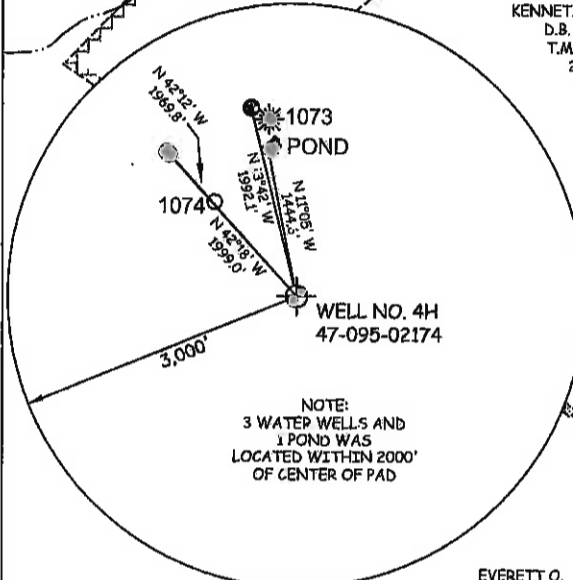
Antero Resources Corporation
 Well No. Scardina Unit 4H
 47-095-02174 (AS DRILLED)

AS DRILLED DATA
 WELL 4H TOP HOLE INFORMATION:
 N: 354,776ft E: 1,618,086ft
 LAT: 39°27'58.22" N LON: 80°51'10.08" W
 BOTTOM HOLE INFORMATION:
 N: 345,937ft E: 1,623,092ft
 LAT: 39°26'31.61" N LON: 80°50'04.58" W
 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 4H TOP HOLE INFORMATION:
 N: 4,368,530m E: 512,677m
 BOTTOM HOLE INFORMATION:
 N: 4,365,862m E: 514,247m



- 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.



47 - 095 - 02174
 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 # SCARDINA4HAD
 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 +/-
-X-	Existing Fence
⊕	Found monument, as noted
○	Proposed Well Path
⊙	As Drilled Well Path

DATE 08/05/15
 OPERATOR'S WELL# SCARDINA UNIT #4H

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

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, RICHARD L. SEAGO ET UX; KATHY ANN SEAGO, LYNDY SPELLMAN, JIMMIE JUSTICE, KENNETH R. MASON ET AL; ROGER R. WEESE, LARRY E. FLETCHER ET AL; ROBERT F. SCARDINA ET UX; EARL J. FLETCHER ET UX; KENNETH R. MASON ET AL

LEASE ACREAGE 129.2 AC ±; 85.45 AC ±; 73.59 AC ±; 86 AC ±; 8.42 AC ±; 289 AC ±; 182.74 AC ±; 197 AC ±; 36,9025 AC ±; 36 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 6,393' TVD 16,709' 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

UNTY NAME

10/28/2018