



Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

March 27, 2020

West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street
Charleston, WV 25304

To Whom It May Concern:

Please find enclosed the Well Operator's Report of Well Work, Form WR-35 (including As-Drilled Survey Plat, Directional Survey and FracFocus report), Discharge Monitoring Report Form WR-34 and corresponding logs for the following wells off of the **Meredith Pad**:

- Horst Unit 2H-3H
- Sarahlene Unit 1H-2H
- Sterling Unit 1H-3H

If you have any questions, please feel free to contact me at (303)-357-7223.

Sincerely,

A handwritten signature in black ink, appearing to read "MGriffith", written over a light blue horizontal line.

Megan Griffith
Permitting Agent
Antero Resources Corporation

Enclosures

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

API 47 - 095 - 02529 County Tyler District Centerville
Quad West Union 7.5' Pad Name Meredith Pad Field/Pool Name ----
Farm name Roy A. Meredith Well Number Sterling 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 4355464m Easting 511178m
Landing Point of Curve Northing 4355441.32m Easting 510730.26m
Bottom Hole Northing 4358344m Easting 509803m

Elevation (ft) 1111' 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 9/21/2018 Date drilling commenced 10/7/2018 Date drilling ceased 2/17/2019
Date completion activities began 9/4/2019 Date completion activities ceased 10/11/2019
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 463', 683' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1521', 2109' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 63', 1239' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

API 47-095 - 02529 Farm name Roy A. Meredith Well number Sterling Unit 2H

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"	97'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	817'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2625'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17127'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6850'		4.7#, N-80		
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	204 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	670 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	895 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	685 sx (Lead) 1550 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.40 (Lead), 1.26 (Tail)		~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17147' MD, 6541' TVD (BHL), 6550' (Deepest Point Drilled) Loggers TD (ft) 17147' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5600'

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 N/A

API 47- 095 - 02529 Farm name Roy A. Meredith Well number Sterling Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6936' (TOP)</u> TVD	<u>6488' (TOP)</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 11096 mcfpd Oil 115 bpd NGL --- bpd Water 221 bpd GAS MEASURED BY Estimated Orifice Pilot

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

***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company KLX Energy Services
Address 3040 Post Oak Boulevard City Houston State TX Zip 77056

Cementing Company C&J Energy Services
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 Megan Griffith Telephone 303-357-7223
Signature  Title Permitting Agent Date 3.27.20

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	8/7/2019	68.08099	7357.594	5868	4308	172150	4840	N/A
2	8/8/2019	71.83342	7664.21	6071	4121	410900	7274	N/A
3	8/9/2019	73.95659	7604.047	5091	3920	410450	7294	N/A
4	8/9/2019	75.86424	7675.144	6226	4201	410150	7198	N/A
5	8/10/2019	76.33904	7811.064	5939	3990	410250	7221	N/A
6	8/10/2019	75.53307	7683.911	6369	3466	410550	7188	N/A
7	8/11/2019	74.67036	7640.559	5405	3356	410600	7355	N/A
8	8/11/2019	78.69636	8052.584	6309	3370	411500	7188	N/A
9	8/11/2019	74.76477	8191.523	6104	3540	410350	7188	N/A
10	8/12/2019	76.78136	8076.107	5243	3592	410500	7147	N/A
11	8/13/2019	74.31904	7605.659	6547	4583	410300	9630	N/A
12	8/14/2019	70.43591	7433.622	6586	3334	409700	7109.7	N/A
13	8/14/2019	78.8583	7831.715	6250	3255	410800	7084	N/A
14	8/14/2019	82.76233	8220.297	6140	3297	411350	7153.5	N/A
15	8/15/2019	77.38292	8441.396	6729	3399	410400	7100.5	N/A
16	8/15/2019	80.43451	8118.754	6707	3307	410250	7019.8	N/A
17	8/15/2019	77.73517	7444.958	4644	3652	410950	7138.9	N/A
18	8/16/2019	78.55004	7323.158	4437	3799	410700	7104	N/A
19	8/16/2019	69.34393	8174.178	5934	5820	352170	11577.4	N/A
20	8/17/2019	75.64351	8172.976	6200	3370	410500	6897.7	N/A
21	8/18/2019	77.65811	7700.174	5727	3401	411000	7001.1	N/A
22	8/18/2019	76.56907	7696.409	6372	3247	410500	6971.8	N/A
23	8/18/2019	74.9793	7693.015	6356	3464	411100	6960.2	N/A
24	8/19/2019	78.45665	7642.397	6132	3458	410900	6891.4	N/A
25	8/19/2019	82.97345	7833.175	5813	3531	410900	7002.5	N/A
26	8/20/2019	71.08427	7993.263	6138	3841	411100	7813	N/A
27	8/20/2019	77.06718	7494.115	6705	3426	410900	6976	N/A
28	8/21/2019	82.24534	7668.971	6571	3463	410850	6948	N/A
29	8/21/2019	80.66129	7822.637	7069	3457	410350	7009	N/A
30	8/21/2019	84.19246	7839.719	6631	3569	411500	6935	N/A
31	8/22/2019	82.17072	7584.103	6177	3444	410800	6952	N/A
32	8/23/2019	85.55567	7925.487	6496	3689	410600	7013	N/A
33	8/23/2019	83.08691	7302.64	5423	3734	410700	6874	N/A
34	8/24/2019	80.16546	7220.688	6927	4427	411200	7626	N/A
35	8/24/2019	86.46293	7809.34	6600	3287	411100	7028	N/A
36	8/25/2019	88.20538	7485.655	5478	3457	411200	7000	N/A
37	8/25/2019	81.17204	7490.94	6337	3451	411300	7092	N/A
38	8/25/2019	72.7771	7023.106	5482	3200	411000	6929	N/A
39	8/26/2019	76.83711	7568.074	6673	4460	410850	8279	N/A
40	8/27/2019	86.57608	7502.953	6521	4121	410700	6949	N/A
41	8/27/2019	84.43537	7490.628	6038	4508	411050	6757	N/A
42	8/27/2019	85.77453	7685.345	6533	3645	411200	6880	N/A
43	8/28/2019	80.25509	7786.398	6767	5156	410900	6998	N/A
44	8/28/2019	83.11277	7051.171	6934	3842	410150	6877	N/A
45	8/28/2019	82.53178	7917.636	7281	3289	411200	6840	N/A
46	8/29/2019	77.91315	7692.491	6889	3646	410800	6855	N/A
47	8/30/2019	85.30587	7077.706	5517	3903	401200	6875	N/A
48	8/30/2019	85.20242	7189.291	6272	3661	410500	6832	N/A
49	8/31/2019	84.82386	7071.924	6352	3872	410550	6737	N/A
50	8/31/2019	83.92363	6936.827	6624	3665	410300	6794	N/A
51	9/1/2019	84.92667	6682.297	5186	3511	411600	6865	N/A
	AVG	78.6	7,706	6,177	3,739	18,187,570	324,311	TOTAL

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Silty Sandstone	85	145	85	145
Sandstone	145	185	145	185
Silty sandstone tr coal	185	540	185	540
Shaly siltstone tr coal	540	655	540	655
Shaly siltstone	655	705	655	705
Silty Sandstone	705	985	705	985
Silty sandstone	985	1,035	985	1,035
Silty Sandstone	1,035	1,105	1,035	1,105
Siltstone	1,105	1,285	1,105	1,285
Siltstone tr coal	1,285	1,405	1,285	1,405
Sandstone tr coal	1,405	1,635	1,405	1,635
Shaly siltstone tr coal	1,635	1,725	1,635	1,725
Silty sandstone tr coal	1,725	1,975	1,725	2,006
Big Lime	1,990	2,833	1,981	2,890
Fifty Foot Sandstone	2,833	2,953	2,865	3,016
Gordon	2,953	3,103	2,991	3,172
Fifth Sandstone	3,103	3,297	3,147	3,374
Bayard	3,297	3,817	3,349	3,914
Speechley	3,817	4,071	3,889	4,178
Balltown	4,071	4,620	4,153	4,750
Bradford	4,620	5,010	4,725	5,154
Benson	5,010	5,269	5,129	5,424
Alexander	5,269	6,336	5,399	6,576
Sycamore	6,189	6,311	6,392	6,551
Middlesex	6,311	6,424	6,551	6,749
Burkett	6,424	6,456	6,749	6,827
Tully	6,456	6,488	6,827	6,936
Marcellus	6,488	NA	6,936	NA

*Please note Antero determines 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.

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: Antero Resources Corporation
API No: 47-095-02529 County: Tyler
District: Centerville Well No: Sterling Unit 2H
Farm Name: Roy A. Meredith et al
Discharge Date/s From:(MMDDYY) 10/21/19 To: (MMDDYY) 11/20/19
Discharge Times. From: 0:00 To: 24:00
Total Volume to be Disposed from this facility (gallons): 719,859

Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: _____ (Include a topographical map of the Area.)
(2) UIC: 1,522 Permit No. 3416729731
(3) Offsite Disposal: _____ Site Location: _____
(4) Reuse: 718,337 Alternate Permit Number: _____
(5) Centralized Facility: _____ Permit No. _____
(6) Other method: _____ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: n/a Cl- mg/l n/a DO mg/l

1. Do you have permission to use expedited treatment from the Director or his representative?
(Y/N) n/a If yes, who? _____ and place a four (4) on line 7.
If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) n/a If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) n/a If yes, go to line 4
If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) n/a If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) n/a If yes, go to line 6
If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) n/a If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. n/a is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: n/a No Pit on Site

Name of Principal Exec. Officer: Gretchen Kohler

Title of Officer: Senior Environmental and Regulatory Manager

Date Completed: 3/16/20

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Signature of a Principal Exec. Officer or Authorized agent.

Category 1
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl	5,000	_____	5,000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

*** Al is only reported if the pH is above 9.0

Category 2
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fc	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

** Include a description of your aeration technique.

Aeration Code: _____

*** Al is only reported if the pH is above 9.0

Category 3
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____ Date: _____
 ** Include a description of your aeration technique. Aeration Code: _____
 *** Al is only reported if the pH is above 9.0.

Category 4
Sampling Results
API No: _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Activated Carbon (0.175)		_____	N/A	N/A	lb/B1
Date Site Reclaimed	N/A	N/A			10 days from dis.
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____ Date: _____

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/7/2019
Job End Date:	9/1/2019
State:	West Virginia
County:	Tyler
API Number:	47-095-02529-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Sterling Unit 2H
Latitude:	39.34845800
Longitude:	-80.87044200
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,550
Total Base Water Volume (gal):	15,941,624
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	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	86.28360	
SaniFrac 8844	CWS	Biocide					
				Listed Below			

					Listed Below				
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.									
					Crystalline silica (Quartz)	14808-60-7	100.00000	13.38931	
					Illite	12173-60-3	1.00000	0.13389	
					Hydrochloric acid	7647-01-0	37.00000	0.06672	
					Polymer	26100-47-0	45.00000	0.02017	
					Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01344	
					Goethite	1310-14-1	0.10000	0.01339	
					Ilmenite	98072-94-7	0.10000	0.01339	
					Biotite	1302-27-8	0.10000	0.01339	
					Apatite	64476-38-6	0.10000	0.01339	
					Guar gum	9000-30-0	60.00000	0.00965	
					Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.00965	
					Polyethylene glycol mixture	25322-68-3	54.50000	0.00556	
					Ammonium chloride	12125-02-9	11.00000	0.00493	
					2,2-Dibromo-3-Nitripropionamide	10222-01-2	20.00000	0.00204	
					Sorbitan monooleate	1338-43-8	4.00000	0.00179	
					Polyethylene glycol monooleate	9004-96-0	3.00000	0.00134	
					Sorbitol tetraoleate	61723-83-9	2.00000	0.00090	
					Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00080	
					Citric acid	77-92-9	60.00000	0.00060	
					Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00045	
					Sodium bromide	7647-15-6	4.00000	0.00041	
					Dibromoacetonitrile	3252-43-5	3.00000	0.00031	
					Ammonium Persulfate	7727-54-0	100.00000	0.00025	

					37251-67-5	1.50000	0.00024	
				Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether				
				Alkyloxypolyethyleneoxy ethanol	84133-50-6	0.50000	0.00022	
				Vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00005	
				Ethylene Glycol	107-21-1	40.00000	0.00004	
				Acrylamide	79-06-1	0.10000	0.00004	
				Diethylene glycol, monomethyl ether	34590-94-8	20.00000	0.00002	
				Cinnamaldehyde	104-55-2	10.00000	0.00001	
				Ethoxylated Alcohols	68131-39-5	10.00000	0.00001	
				Isopropyl alcohol	67-63-0	5.00000	0.00001	
				Formic acid	64-18-6	10.00000	0.00001	
				Tar bases, quinolone derivs, benzyl chloride- quatenized	72480-70-7	10.00000	0.00001	
				Organic Acid Salts	9003-04-7			Proprietary Additive Concentration
				Glycol	57-55-6			Proprietary Additive Concentration

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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"

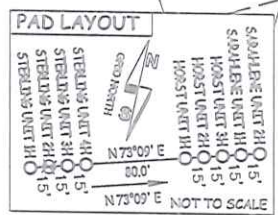
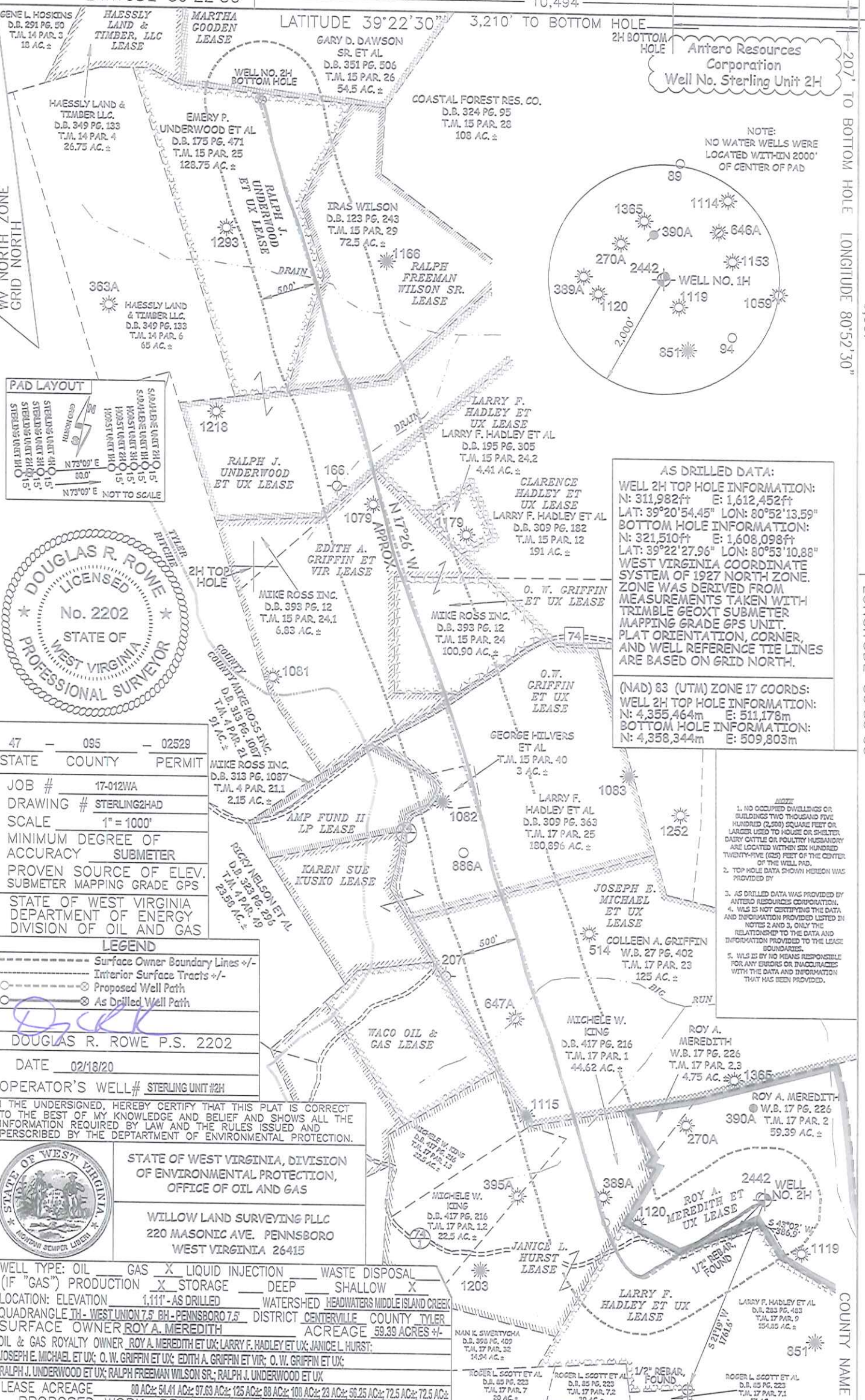
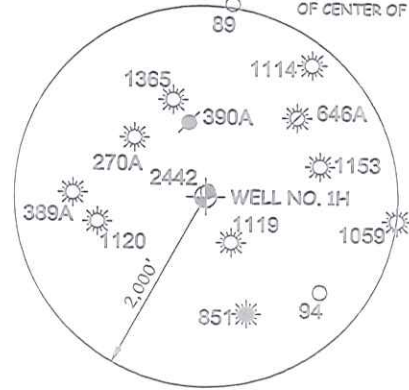
10,494'

LATITUDE 39°22'30"

3,210' TO BOTTOM HOLE

Antero Resources Corporation
Well No. Sterling Unit 2H

NOTE:
NO WATER WELLS WERE
LOCATED WITHIN 2000'
OF CENTER OF PAD



AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
N: 311,982ft E: 1,612,452ft
LAT: 39°20'54.45" LON: 80°52'13.59"
BOTTOM HOLE INFORMATION:
N: 321,510ft E: 1,608,098ft
LAT: 39°22'27.96" LON: 80°53'10.86"
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 2H TOP HOLE INFORMATION:
N: 4,355,464m E: 511,178m
BOTTOM HOLE INFORMATION:
N: 4,358,344m E: 509,803m

- 1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,000) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY INVENTORY 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
- 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
- 4. WAS 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. WAS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

47 - 095 - 02529
STATE COUNTY PERMIT
JOB # 17-012WA
DRAWING # STERLING2HAD
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
DOUGLAS R. ROWE P.S. 2202
DATE 02/18/20
OPERATOR'S WELL# STERLING UNIT #2H

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1,111' - AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE TH- WEST UNION 7.5 BH- PENNSBORO 7.5 DISTRICT CENTERVILLE COUNTY TYLER
SURFACE OWNER ROY A. MEREDITH ACREAGE 59.39 ACRES +/-
OIL & GAS ROYALTY OWNER ROY A. MEREDITH ET UX; LARRY F. HADLEY ET UX; JANICE L. HURST; JOSEPH E. MICHAEL ET UX; O. W. GRIFFIN ET UX; EDITH A. GRIFFIN ET VIR; O. W. GRIFFIN ET UX; RALPH J. UNDERWOOD ET UX; RALPH FREEMAN WILSON SR.; RALPH J. UNDERWOOD ET UX
LEASE ACREAGE 00 AC.; 51.41 AC.; 97.63 AC.; 125 AC.; 88 AC.; 100 AC.; 23 AC.; 50.25 AC.; 72.5 AC.; 72.5 AC.;
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,550' TVD 17,147' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313
FORM WW-6 DENVER, CO 80202

207' TO BOTTOM HOLE
9,667'
LONGITUDE 80°52'30"
LONGITUDE 80°50'00"
COUNTY NAME
PERMIT