

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: 47-017-06874 County: Doddridge
District: West Union Well No: Callahan Unit 2H
Farm Name: Mary E. Deets and/or Paul A. Smith
Discharge Date/s From:(MMDDYY) 01/17/20 To: (MMDDYY) 02/16/20
Discharge Times. From: 0:00 To: 24:00
Total Volume to be Disposed from this facility (gallons): 1,332,243

Disposal Option(s) Utilized (write volumes in gallons):
(1) Land Application: 0 (Include a topographical map of the Area.)
(2) UIC: 0 Permit No. _____
(3) Offsite Disposal: 0 Site Location: _____
(4) Reuse: 1,332,243 Alternate Permit Number: _____
(5) Centralized Facility: 0 Permit No. _____
(6) Other method: 0 (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: Sr. Environmental & Regulatory Manager
Date Completed: 05/05/2020

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.

Gretchen Kohler Digitally signed by Gretchen Kohler
Date: 2020.05.05 16:48:23 -06'00'
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
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 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: _____

API 47-017-06874 Farm Nam Mary E. Deets and/or Paul A. Smith Well Number Callahan Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	11/11/2019	17281.7	17237.3	60	Marcellus
2	11/12/2019	17199.462	17033.272	60	Marcellus
3	11/12/2019	16997.634	16831.444	60	Marcellus
4	11/13/2019	16795.806	16629.616	60	Marcellus
5	11/14/2019	16593.978	16427.788	60	Marcellus
6	11/14/2019	16392.15	16225.96	60	Marcellus
7	11/15/2019	16190.322	16024.132	60	Marcellus
8	11/15/2019	15988.494	15822.304	60	Marcellus
9	11/15/2019	15786.666	15620.476	60	Marcellus
10	11/16/2019	15584.838	15418.648	60	Marcellus
11	11/16/2019	15383.01	15216.82	60	Marcellus
12	11/17/2019	15181.182	15014.992	60	Marcellus
13	11/18/2019	14979.354	14813.164	60	Marcellus
14	11/18/2019	14777.526	14611.336	60	Marcellus
15	11/19/2019	14575.698	14409.508	60	Marcellus
16	11/19/2019	14373.87	14207.68	60	Marcellus
17	11/20/2019	14172.042	14005.852	60	Marcellus
18	11/20/2019	13970.214	13804.024	60	Marcellus
19	11/21/2019	13768.386	13602.196	60	Marcellus
20	11/21/2019	13566.558	13400.368	60	Marcellus
21	11/22/2019	13364.73	13198.54	60	Marcellus
22	11/22/2019	13162.902	12996.712	60	Marcellus
23	11/23/2019	12961.074	12794.884	60	Marcellus
24	11/23/2019	12759.246	12593.056	60	Marcellus
25	11/24/2019	12557.418	12391.228	60	Marcellus
26	11/24/2019	12355.59	12189.4	60	Marcellus
27	11/24/2019	12153.762	11987.572	60	Marcellus
28	11/25/2019	11951.934	11785.744	60	Marcellus
29	11/25/2019	11750.106	11583.916	60	Marcellus
30	11/25/2019	11548.278	11382.088	60	Marcellus
31	11/26/2019	11346.45	11180.26	60	Marcellus
32	11/26/2019	11144.622	10978.432	60	Marcellus
33	11/26/2019	10942.794	10776.604	60	Marcellus
34	11/27/2019	10740.966	10574.776	60	Marcellus
35	11/27/2019	10539.138	10372.948	60	Marcellus
36	11/27/2019	10337.31	10171.12	60	Marcellus
37	11/28/2019	10135.482	9969.292	60	Marcellus
38	11/28/2019	9933.654	9767.464	60	Marcellus
39	11/28/2019	9731.826	9565.636	60	Marcellus
40	11/29/2019	9529.998	9363.808	60	Marcellus
41	11/29/2019	9328.17	9161.98	60	Marcellus
42	11/29/2019	9126.342	8960.152	60	Marcellus
43	11/30/2019	8924.514	8758.324	60	Marcellus
44	11/30/2019	8722.686	8556.496	60	Marcellus
45	11/30/2019	8520.858	8354.668	60	Marcellus
46	12/1/2019	8319.03	8152.84	60	Marcellus
47	12/1/2019	8117.202	7951.012	60	Marcellus

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	11/11/2019	82.14	8293	8342	4361	160100	4955.452	N/A
2	11/12/2019	82.12	8372	6208	3714	405180	7218.81	N/A
3	11/12/2019	84.46	8463	5848	4072	400820	7329.952	N/A
4	11/13/2019	81.76	8183	5618	3437	404340	7336.357	N/A
5	11/14/2019	84.61	7885	5324	4895	406060	10474.57	N/A
6	11/14/2019	94.2	8640	5393	4797	405880	7299.19	N/A
7	11/15/2019	93.08	8344	4654	4795	409140	7384.81	N/A
8	11/15/2019	93.16	8610	5658	4236	404260	7406.571	N/A
9	11/15/2019	91.34	8216	4685	5205	413975	7379.69	N/A
10	11/16/2019	93.69	8616	5176	4433	402760	7370.214	N/A
11	11/16/2019	92.9	8598	5885	4063	401860	7265.619	N/A
12	11/17/2019	93.05	8724	5851	4663	402520	7431.286	N/A
13	11/18/2019	95	8622	5655	4219	399220	7137.643	N/A
14	11/18/2019	91.68	8569	6092	4356	406340	7182.429	N/A
15	11/19/2019	94.72	8376	5451	4630	407270	7252.19	N/A
16	11/19/2019	91.99	8432	5275	4763	402520	7151.143	N/A
17	11/20/2019	93.43	8355	7589	5232	397620	7202.238	N/A
18	11/20/2019	89.24	8496	5069	4499	399980	7153.476	N/A
19	11/21/2019	93.54	8441	5317	4282	402400	7177.738	N/A
20	11/21/2019	91.78	8809	5286	4240	399980	7215.452	N/A
21	11/22/2019	96.44	8886	5356	4006	401240	7224.595	N/A
22	11/22/2019	95.66	8676	5534	4603	400400	7198.952	N/A
23	11/23/2019	93.6	8484	5908	5074	398860	7178.881	N/A
24	11/23/2019	94.12	8258	5811	3728	401860	7105.595	N/A
25	11/24/2019	95.06	8564	8024	3874	404220	7108.024	N/A
26	11/24/2019	93.79	8350	6044	4091	402820	7137.119	N/A
27	11/24/2019	95.65	8289	8097	4184	398500	7046.357	N/A
28	11/25/2019	93.86	8556	8485	4195	400160	7030.524	N/A
29	11/25/2019	95.59	8292	5739	4048	399680	7112.929	N/A
30	11/25/2019	95.41	8734	5490	4138	410490	7172.881	N/A
31	11/26/2019	95.49	8535	5670	4349	398560	7018.571	N/A
32	11/26/2019	95.31	8199	5411	4215	400580	7067.31	N/A
33	11/26/2019	95.19	8523	5487	4535	397560	6974.976	N/A
34	11/27/2019	91.72	8370	5395	4188	400240	6987.667	N/A
35	11/27/2019	91.94	8304	5639	4024	400880	7052.167	N/A
36	11/27/2019	94.22	8816	5562	4193	398860	6933.69	N/A
37	11/28/2019	94.49	8543	5523	4037	398120	7008.714	N/A
38	11/28/2019	85.22	7711	5342	3583	398600	7019.905	N/A
39	11/28/2019	84.96	7858	5385	3724	397880	6969.929	N/A
40	11/29/2019	84.86	7848	5488	3645	405950	7060.381	N/A
41	11/29/2019	85.08	8141	5678	3894	407210	7064.119	N/A
42	11/29/2019	85.04	8112	5768	3720	406805	6956.405	N/A
43	11/30/2019	85.17	7769	6279	3894	410445	6955	N/A
44	11/30/2019	84.8	7484	5944	3624	407020	6990.548	N/A
45	11/30/2019	84.9	7474	5531	4155	408400	6974.548	N/A
46	12/1/2019	85	7563	5292	3481	409020	6970.571	N/A
47	12/1/2019	84.86	7379	5723	3256	409295	6958.095	N/A
	AVG	91.1	8,372	5,851	4,238	17,479,165	315,700	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
Shaly Sandstone	75	135	75	135
Sandy Shale	135	195	135	195
Shaly Sandstone	195	275	195	275
Sandstone	275	315	275	315
Shaly Sandstone	315	455	315	455
Sandstone	455	535	455	535
Carbonaceous shale	535	655	535	655
Sandstone	655	875	655	875
Shaly sandstone tr coal	875	1,055	875	1,055
Shaly Siltstone	1,055	1,255	1,055	1,255
Sandstone	1,255	1,455	1,255	1,455
Sandy siltstone	1,455	1,535	1,455	1,535
Sandstone	1,535	2,212	1,535	N/A
Big Lime	2,237	2,880	2,331	3,057
Fifty Foot Sandstone	2,880	2,947	3,032	3,131
Gordon	2,947	3,235	3,106	3,449
Fifth Sandstone	3,235	3,572	3,424	3,814
Bayard	3,572	4,025	3,789	4,318
Speechley	4,025	4,415	4,293	4,756
Balltown	4,415	4,933	4,731	5,318
Bradford	4,933	5,377	5,293	5,805
Benson	5,377	5,559	5,780	6,006
Alexander	5,559	6,875	5,981	7,500
Sycamore	6,624	6,845	7,196	7,470
Middlesex	6,845	6,995	7,475	7,683
Burkett	6,995	7,022	7,688	7,730
Tully	7,022	7,097	7,735	7,899
Marcellus	7,097	NA	7,899	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/11/2019
Job End Date:	12/1/2019
State:	West Virginia
County:	Doddridge
API Number:	47-017-06874-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Callahan 2H
Latitude:	39.31449700
Longitude:	-80.72540600
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,171
Total Base Water Volume (gal):	14,137,338
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
Fresh Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	55.65510	Density = 8.34
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	30.54306	Density = 8.50

Ingredients	Listed Above	Listed Above	Listed Above						
				Water		7732-18-5	100.00000	0.17782	
CalFrac CalBreak 5501	Calfrac Well Services Corp.	Oxidizer				Listed Below			
Legend LD-2555	MultiChem	Additive				Listed Below			
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent				Listed Below			
FORSA SCW4037W SCALE INHIBITOR	Baker Hughes	Scale Inhibitor				Listed Below			
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent				Listed Below			
MC B-8614	Halliburton	Biocide				Listed Below			
						Listed Below			

Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant							
					Listed Below				
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker							
					Listed Below				
LD-2950	MultiChem	Friction Reducer							
					Listed Below				
Legend LD-2990	MultiChem	Friction Reducer							
					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	13.58427		
			Hydrochloric acid		7647-01-0	30.00000	0.04199		
			Complex Amine Compound		Proprietary	60.00000	0.02441		
			Hydrotreated light petroleum distillate		64742-47-8	30.00000	0.01463		
			Complex Amine Compound		Proprietary	60.00000	0.00485		
			Alkanolamine phosphate		Trade Secret	30.00000	0.00443		
			Methanol		67-56-1	100.00000	0.00329		
			Guar gum		9000-30-0	100.00000	0.00324		
			Glutaraldehyde		111-30-8	30.00000	0.00257		
			Ethylene glycol		107-21-1	5.00000	0.00074		
			Polyethoxylated fatty amine salt		61791-26-2	30.00000	0.00058		

				Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00043	
				Ethoxylated alcohols	Proprietary	1.00000	0.00041	
				Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00041	
				Adipic acid	124-04-9	1.00000	0.00041	
				Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00040	
				Surfactant	Proprietary	5.00000	0.00040	
				Ethanol	64-17-5	1.00000	0.00009	
				Organic chloridie compound	Proprietary	1.00000	0.00008	
				Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00008	
				Ethoxylated alcohols	Proprietary	1.00000	0.00008	
				Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00008	
				Modified thiourea polymer	Proprietary	30.00000	0.00008	
				Ammonium persulfate	7727-54-0	100.00000	0.00005	
				Peroxydisulfuric acid ((HO)S(O)2)2O2), ammonium salt (1:2)	7727-54-0	100.00000	0.00003	
				Oxylated phenolic resin	Proprietary	30.00000	0.00002	
				Hexadecene	629-73-2	5.00000	0.00001	
				Ethoxylated alcohols	Proprietary	5.00000	0.00001	
				Propargyl alcohol	107-19-7	5.00000	0.00001	
				Phosphoric acid	7664-38-2	0.10000	0.00001	
				Acrylamide	79-06-1	0.10000	0.00001	
				Organic salt #1	Proprietary	0.10000	0.00001	
				2-Propenoic acid, methyl ester, polymer with 1,1-dichloroethene	25038-72-6	20.00000	0.00001	

		Organic salt #2	Proprietary	0.01000	0.00000
		Organic salt #3	Proprietary	0.01000	0.00000
		Formaldehyde	50-00-0	0.01000	0.00000
		Sodium glycollate	2836-32-0	0.01000	0.00000
		Nitrated acetate salt	Proprietary	0.01000	0.00000
		Sodium hydroxide	1310-73-2	0.01000	0.00000
		C.I. pigment Orange 5	3468-63-1	1.00000	0.00000

* 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°20'00"

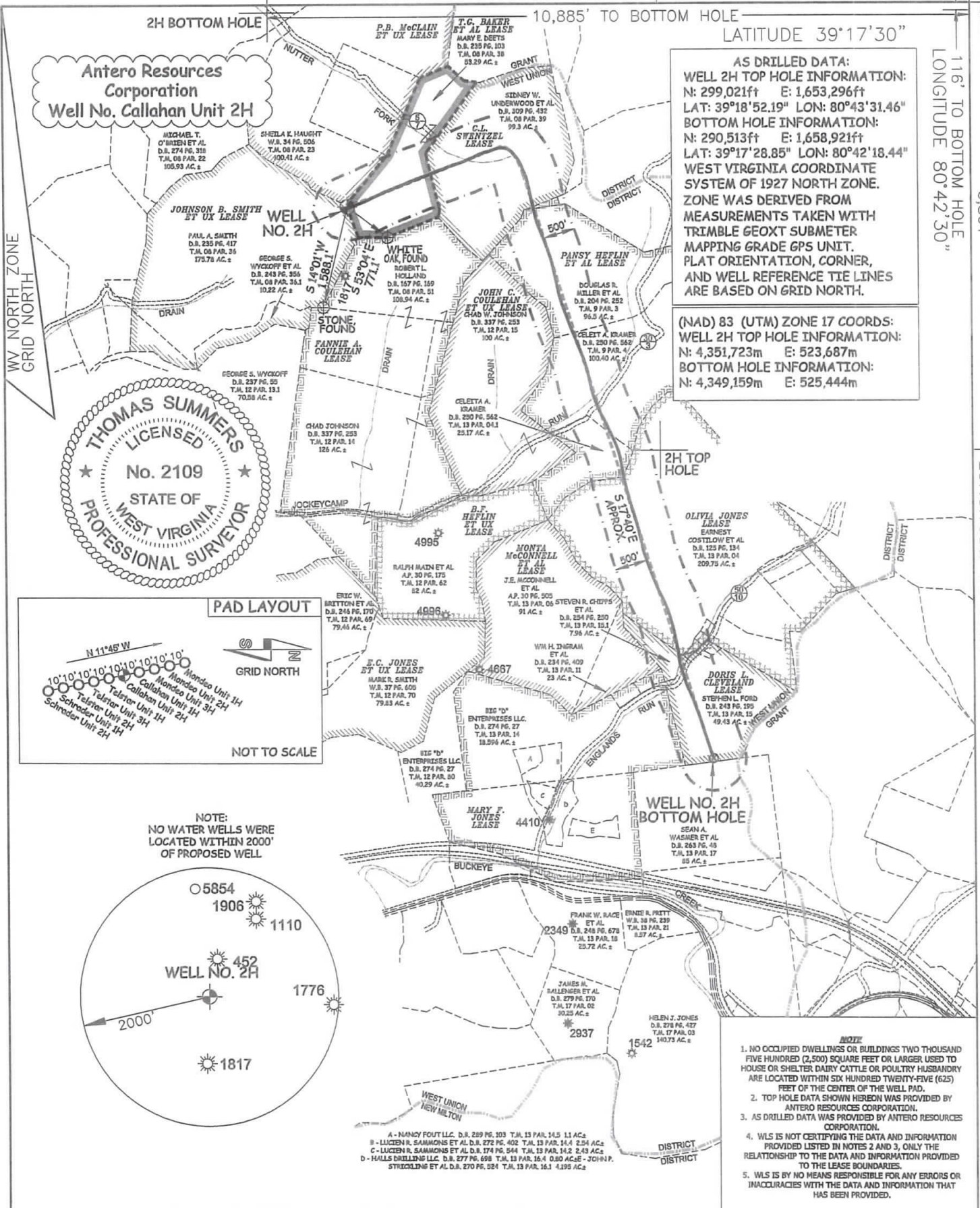
4,830'

LATITUDE 39°17'30"

116' TO BOTTOM HOLE
LONGITUDE 80°42'30"

6,861'

LONGITUDE 80°42'30"

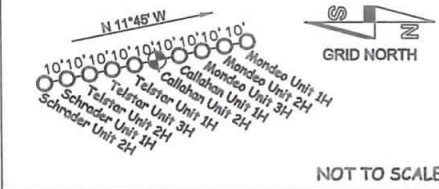


AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
 N: 299,021ft E: 1,653,296ft
 LAT: 39°18'52.19" LON: 80°43'31.46"
BOTTOM HOLE INFORMATION:
 N: 290,513ft E: 1,658,921ft
 LAT: 39°17'28.85" LON: 80°42'18.44"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.
 ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH 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: 4,351,723m E: 523,687m
BOTTOM HOLE INFORMATION:
 N: 4,349,159m E: 525,444m



PAD LAYOUT



NOTE:
 NO WATER WELLS WERE LOCATED WITHIN 2000' OF PROPOSED WELL

- NOTE**
1. 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.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 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.

JOB # 13-028WA	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.	LEGEND ----- Surface Owner Boundary Lines +/- ----- Interior Surface Tracts +/- ○ Proposed Well Path ⊗ As Drilled Well Path <i>Thomas Summers</i> THOMAS SUMMERS P.S. 2109
DRAWING # CALLAHAN2HAD	STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS	DATE 04/16/20
SCALE 1" = 2000'	WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415	OPERATOR'S WELL# CALLAHAN UNIT #2H
MINIMUM DEGREE OF ACCURACY SUBMETER		API WELL # 47 - 017 - 06874
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS		STATE COUNTY PERMIT
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS		DATE 04/16/20
WELL TYPE: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/>		OPERATOR'S WELL# CALLAHAN UNIT #2H
(IF "GAS") PRODUCTION <input checked="" type="checkbox"/> STORAGE <input type="checkbox"/> DEEP <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>		API WELL # 47 - 017 - 06874
LOCATION: ELEVATION 1,376' -AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK		STATE COUNTY PERMIT
QUADRANGLE SMITHBURG 7.5' DISTRICT WEST UNION COUNTY DODDRIDGE		
SURFACE OWNER MARY E. DEETS AND/OR PAUL A. SMITH ACREAGE 53.29 ACRES +/- AND/OR 175.78 ACRES±		
OIL & GAS ROYALTY OWNER JOHNSON B. SMITH ET UX; T.G. BAKER ET AL; G.L. SWENTZEL ET UX; PANSY HEFLIN ET AL; OLIVIA JONES; DORIS L. CLEVELAND LEASE ACREAGE 180 ACRES±; 53.46 ACRES±; 103 ACRES±; 222.5 ACRES±; 260 ACRES±; 58 ACRES±		
PROPOSED WORK: DRILL <input type="checkbox"/> CONVERT <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input type="checkbox"/>		
PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED		
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,110' TVD 17,409' MD		
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPLER - CT CORPORATION SYSTEM		
ADDRESS 1615 WYNKOOP STREET DENVER, CO 80202 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313		

COUNTY NAME PERMIT