

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

API 47-017-06879 County Doddridge District West Union
Quad Smithburg 7.5' Pad Name Deets Pad Field/Pool Name ----
Farm name Mary E. Deets and/or Paul A. Smith Well Number Schrader 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 4351708m Easting 523690m
Landing Point of Curve Northing 4352203.97m Easting 524353.57m
Bottom Hole Northing 4354359m Easting 523691m

Elevation (ft) 1376' 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 12/21/2018 Date drilling commenced 7/12/2019 Date drilling ceased 7/24/2019
Date completion activities began 12/3/2019 Date completion activities ceased 12/30/2019
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 196', 221' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1381', 1843', 1966' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 583', 891' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:
Juliana
6/5/row

API 47-017 - 06879 Farm name Mary E. Deets and/or Paul A. Smith Well number Schrader 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"	106'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	351'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2698'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16325'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7878'		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	425 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	939 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	730 sx (Lead) 2305 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.40 (Lead), 1.26 (Tail)		-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16345' MD, 7192' TVD (BHL), 7193' (Deepest Point Drilled) Loggers TD (ft) 16345' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6800'

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- 017 - 06879 Farm name Mary E. Deets and/or Paul A. Smith Well number Schrader Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>7091' (TOP)</u> TVD	<u>7905' (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 12707 mcfpd Oil 64 bpd NGL --- bpd Water 1203 bpd GAS MEASURED BY Estimated Orifice Pilot

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

*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 _____

API 47-017-06879 Farm Nam Mary E. Deets and/or Paul A. Smith Well Number Schrader Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/5/2019	16218.1	16174	60	Marcellus
2	12/6/2019	16136.407	15971.442	60	Marcellus
3	12/6/2019	15936.049	15771.084	60	Marcellus
4	12/7/2019	15735.691	15570.726	60	Marcellus
5	12/7/2019	15535.333	15370.368	60	Marcellus
6	12/8/2019	15334.975	15170.01	60	Marcellus
7	12/8/2019	15134.617	14969.652	60	Marcellus
8	12/9/2019	14934.259	14769.294	60	Marcellus
9	12/9/2019	14733.901	14568.936	60	Marcellus
10	12/10/2019	14533.543	14368.578	60	Marcellus
11	12/10/2019	14333.185	14168.22	60	Marcellus
12	12/11/2019	14132.827	13967.862	60	Marcellus
13	12/11/2019	13932.469	13767.504	60	Marcellus
14	12/12/2019	13732.111	13567.146	60	Marcellus
15	12/12/2019	13531.753	13366.788	60	Marcellus
16	12/14/2019	13331.395	13166.43	60	Marcellus
17	12/14/2019	13131.037	12966.072	60	Marcellus
18	12/14/2019	12930.679	12765.714	60	Marcellus
19	12/14/2019	12730.321	12565.356	60	Marcellus
20	12/15/2019	12529.963	12364.998	60	Marcellus
21	12/15/2019	12329.605	12164.64	60	Marcellus
22	12/15/2019	12129.247	11964.282	60	Marcellus
23	12/15/2019	11928.889	11763.924	60	Marcellus
24	12/15/2019	11728.531	11563.566	60	Marcellus
25	12/16/2019	11528.173	11363.208	60	Marcellus
26	12/16/2019	11327.815	11162.85	60	Marcellus
27	12/16/2019	11127.457	10962.492	60	Marcellus
28	12/16/2019	10927.099	10762.134	60	Marcellus
29	12/17/2019	10726.741	10561.776	60	Marcellus
30	12/17/2019	10526.383	10361.418	60	Marcellus
31	12/17/2019	10326.025	10161.06	60	Marcellus
32	12/17/2019	10125.667	9960.702	60	Marcellus
33	12/18/2019	9925.309	9760.344	60	Marcellus
34	12/18/2019	9724.951	9559.986	60	Marcellus
35	12/18/2019	9524.593	9359.628	60	Marcellus
36	12/18/2019	9324.235	9159.27	60	Marcellus
37	12/18/2019	9123.877	8958.912	60	Marcellus
38	12/19/2019	8923.519	8758.554	60	Marcellus
39	12/19/2019	8723.161	8558.196	60	Marcellus
40	12/19/2019	8522.803	8357.838	60	Marcellus
41	12/19/2019	8322.445	8157.48	60	Marcellus
42	12/20/2019	8122.087	7957.122	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	12/5/2019	83.5	8478	5755	4363	168465	4672.5	N/A
2	12/6/2019	81.7	8552	5860	3994	398040	7494.452	N/A
3	12/6/2019	84.61	8504	6383	3676	408325	7340.405	N/A
4	12/7/2019	84.6	8472	5825	3902	408645	7304.571	N/A
5	12/7/2019	85.3	8654	5843	3657	407540	7237.429	N/A
6	12/8/2019	85.5	8562	5771	3872	407980	7290.643	N/A
7	12/8/2019	85.7	8640	5273	3366	411760	7206.5	N/A
8	12/9/2019	85	8399	5859	3710	411800	7298.548	N/A
9	12/9/2019	85.4	8487	5074	3694	408100	7153.524	N/A
10	12/10/2019	85.3	8656	5708	3752	407000	7206.619	N/A
11	12/10/2019	85.52	8539	6387	3816	409480	7087.714	N/A
12	12/11/2019	85.42	8577	5486	3800	405400	7218.69	N/A
13	12/11/2019	85.04	8533	5579	3835	407580	7102.452	N/A
14	12/12/2019	85.04	8480	5828	3630	408560	7193.714	N/A
15	12/12/2019	84.58	8656	5550	3724	411520	7252.19	N/A
16	12/14/2019	84.9	8505	5840	3679	408540	7151.286	N/A
17	12/14/2019	85.42	8475	5657	3636	411560	7161.095	N/A
18	12/14/2019	85.3	8193	6881	3775	409980	7129.381	N/A
19	12/14/2019	85.79	8540	5529	3718	410940	7118.095	N/A
20	12/15/2019	85.85	8549	5622	3562	404800	7097.405	N/A
21	12/15/2019	85.65	8476	5663	3695	412880	7224.762	N/A
22	12/15/2019	85.54	8348	5346	3711	411700	7205.214	N/A
23	12/15/2019	85.5	8223	5415	3534	409220	7091.381	N/A
24	12/15/2019	85.25	8299	5312	3667	410580	7036.762	N/A
25	12/16/2019	85.71	8352	5121	5083	408300	7125.833	N/A
26	12/16/2019	85.1	7709	5201	3694	405540	7913.81	N/A
27	12/16/2019	84.25	7966	5520	3687	407860	6987	N/A
28	12/16/2019	85.42	8076	5556	3539	410200	7083.595	N/A
29	12/17/2019	85.42	8310	5836	3544	408860	7034.31	N/A
30	12/17/2019	85.29	8158	5630	3570	412100	7019.286	N/A
31	12/17/2019	85.35	8212	5505	4729	405580	7041.381	N/A
32	12/17/2019	85.9	8031	5320	4069	403420	7101.738	N/A
33	12/18/2019	85.6	7925	5470	3932	403980	7035.976	N/A
34	12/18/2019	85.37	8200	5259	3789	401220	7095.595	N/A
35	12/18/2019	85.64	7957	5395	3909	404040	6982.619	N/A
36	12/18/2019	85.9	7754	5429	3740	407140	6891.643	N/A
37	12/18/2019	85.8	7627	5029	3748	408820	6928.167	N/A
38	12/19/2019	85.5	7553	5056	3443	408160	7092.833	N/A
39	12/19/2019	85.12	7541	5244	3235	407940	7621.167	N/A
40	12/19/2019	85.51	7630	5622	3766	410920	6995.5	N/A
41	12/19/2019	85.9	7544	5325	3850	410680	6910.119	N/A
42	12/20/2019	84.8	7237	5992	3746	413480	6927.333	N/A
	AVG	85.2	8,252	5,584	3,783	16,495,155	291,136	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	2,211	1,535	N/A
Big Lime	2,236	2,874	2,351	3,065
Fifty Foot Sandstone	2,874	2,943	3,040	3,135
Gordon	2,943	3,217	3,110	3,436
Fifth Sandstone	3,217	3,570	3,411	3,825
Bayard	3,570	4,002	3,800	4,300
Speechley	4,002	4,371	4,275	4,702
Balltown	4,371	4,855	4,677	5,219
Bradford	4,855	5,371	5,194	5,778
Benson	5,371	5,548	5,753	5,972
Alexander	5,548	6,872	5,947	7,452
Sycamore	6,615	6,842	7,151	7,422
Middlesex	6,842	6,988	7,427	7,653
Burkett	6,988	7,015	7,658	7,706
Tully	7,015	7,091	7,711	7,905
Marcellus	7,091	NA	7,905	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.

ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV
 Facility: Doddridge
 Slot: Slot #10
 Well: Schrader Unit 2H
 Wellbore: Schrader Unit 2H PWB

Plot reference wellpath is Schrader Unit 2H PWB Rev-A.0
 True vertical depths are referenced to H&P 317 (RKB)
 Measured depths are referenced to H&P 317 (RKB)
 H&P 317 (RKB) to Mean Sea Level: 1401.5 feet
 Mean Sea Level to Ground level (At Slot: Slot #10): -1376 feet
 Coordinates are in feet referenced to Slot

Grid System: NAD27 / UTM Zone 17 North, US feet
 North Reference: Grid north
 Scale: True distance
 Depths are in feet
 Created by: delstam on 2019-08-12
 Database: WA_MPL_EasternUS_Dein

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Deets Pad	1716082.640	14276581.990	80°43'31.480"W
Slot	Local E (ft)	Grid East (US ft)	Longitude
Slot #10	10.95	1716093.590	80°43'31.322"W
H&P 317 (RKB) to Ground level (At Slot: Slot #10)		14276513.180	25.5ft
Mean Sea Level to Ground level (At Slot: Slot #10)			-1376ft
H&P 317 (RKB) to Mean Sea Level			1401.5ft

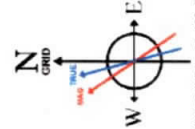
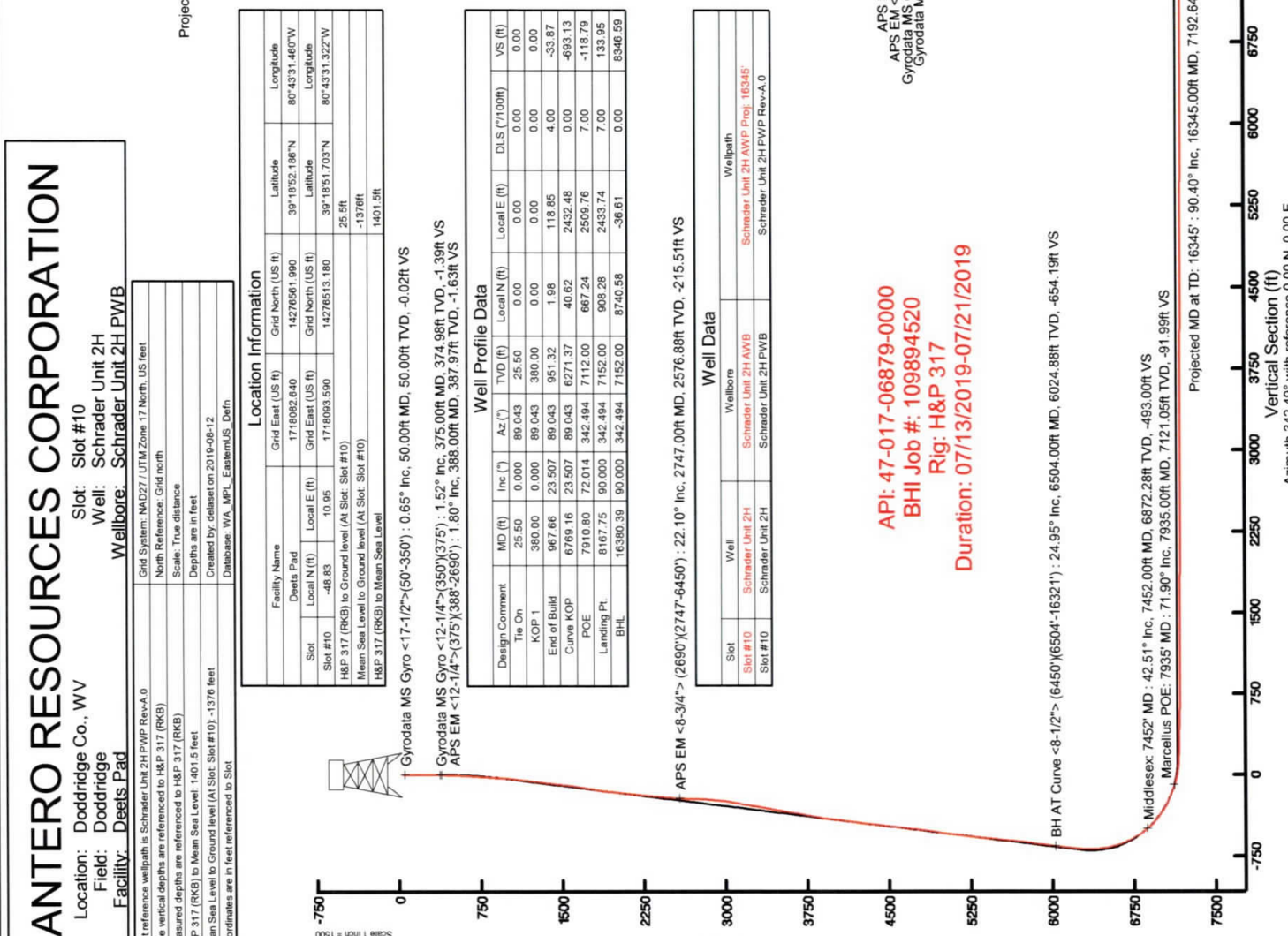
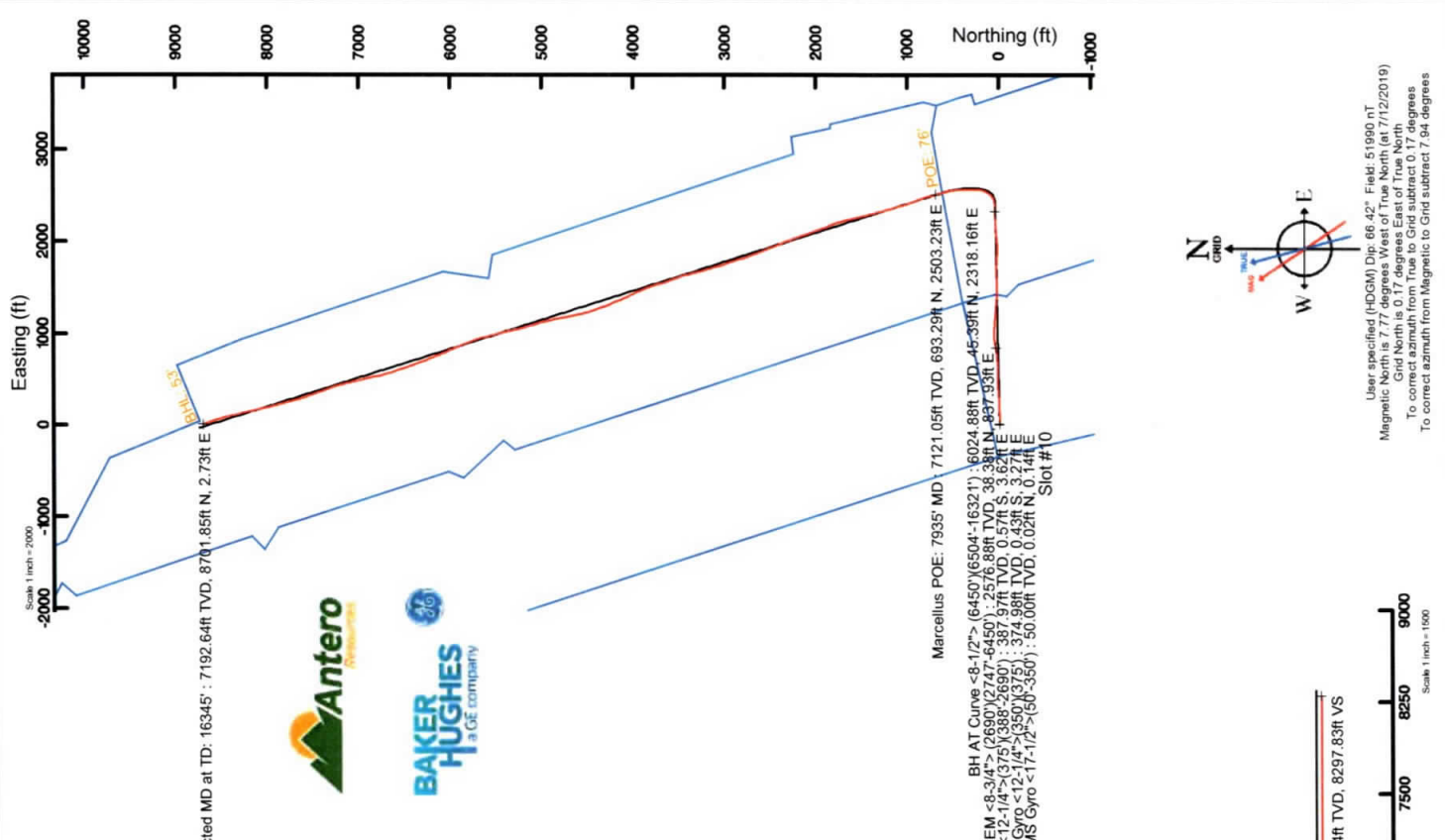
Gyrodata MS Gyro <17-1/2>-(50'-350') : 0.65° Inc, 50.00ft MD, 50.00ft TVD, -0.02ft VS
 Gyrodata MS Gyro <12-1/4>-(350')(375') : 1.52° Inc, 375.00ft MD, 374.98ft TVD, -1.39ft VS
 APS EM <12-1/4>-(375')(388'-2690') : 1.80° Inc, 388.00ft MD, 387.97ft TVD, -1.63ft VS

Well Profile Data						
Design Comment	MD (ft)	Inc. (")	Az. (°)	TVD (ft)	Local N (ft)	VS (ft)
The Oh	25.50	0.000	89.043	25.50	0.00	0.00
KOP 1	390.00	0.000	89.043	390.00	0.00	0.00
End of Build	967.66	23.507	89.043	951.32	118.85	-33.87
Curve KOP	6769.16	23.507	89.043	6271.37	40.62	2432.48
Curve POE	7910.80	72.014	342.494	7112.00	667.24	-118.79
Landing Pl.	8167.75	90.000	342.494	7152.00	908.28	2433.74
BHL	16380.39	90.000	342.494	7152.00	8740.58	-36.61
						8546.59

Well Data		
Well	Wellbore	Wellpath
Slot #10	Schrader Unit 2H	Schrader Unit 2H AWP Proj: 16345
Slot #10	Schrader Unit 2H	Schrader Unit 2H PWB Rev-A.0

APS EM <8-3/4>-(2690')(2747'-6450') : 22.10° Inc, 2747.00ft MD, 2576.88ft TVD, -215.51ft VS
 BH AT Curve <8-1/2>-(6450')(6504'-16321') : 24.95° Inc, 6504.00ft MD, 6024.88ft TVD, -654.19ft VS
 Middlesex: 7452' MD : 42.51° Inc, 7452.00ft MD, 6872.28ft TVD, -493.00ft VS
 Marcellus POE: 7935' MD : 71.90° Inc, 7935.00ft MD, 7121.05ft TVD, -91.99ft VS
 Projected MD at TD: 16345' : 90.40° Inc, 16345.00ft MD, 7192.64ft TVD, 8297.83ft VS

API: 47-017-06879-0000
 BHI Job #: 109894520
 Rig: H&P 317
 Duration: 07/13/2019-07/21/2019



User specified (HDGM) Dip: 66.42° Field: 51980 AT
 Magnetic North is 0.17 degrees West of True North
 Grid North is 0.17 degrees East of True North
 To correct azimuth from True to Grid subtract 0.17 degrees
 To correct azimuth from Magnetic to Grid subtract 7.94 degrees

Scale 1 inch = 1500

Scale 1 inch = 2000

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/5/2019
Job End Date:	12/19/2019
State:	West Virginia
County:	Doddridge
API Number:	47-017-06879-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Schrader 2H
Latitude:	39.31436100
Longitude:	-80.72536700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,193
Total Base Water Volume (gal):	12,934,400
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	55.75699	Density = 8.34
Produced Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	30.59897	Density = 8.50

Ingredients	Listed Above	Listed Above							
			Water		7732-18-5	100.00000	0.16833		
LD-2950	MultiChem	Friction Reducer							
MC B-8614	Halliburton	Biocide			Listed Below				
					Listed Below				
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker							
					Listed Below				
WG-36 GELLING AGENT	Halliburton	Gelling Agent							
					Listed Below				
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor							
					Listed Below				
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent							
					Listed Below				
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant							
					Listed Below				

FORSA SCW4037W SCALE INHIBITOR	Baker Hughes	Scale Inhibitor							
					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	13.44567			
			Hydrochloric acid	7647-01-0	30.00000	0.04200			
			Complex Amine Compound	Proprietary	60.00000	0.02013			
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01007			
			Alkanolamine phosphate	Trade Secret	30.00000	0.00443			
			Methanol	67-56-1	100.00000	0.00328			
			Glutaraldehyde	111-30-8	30.00000	0.00245			
			Guar gum	9000-30-0	100.00000	0.00155			
			Ethylene glycol	107-21-1	5.00000	0.00074			
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00041			
			Ethoxylated alcohols	Proprietary	1.00000	0.00034			
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00034			
			Adipic acid	124-04-9	1.00000	0.00034			
			Ethanol	64-17-5	1.00000	0.00008			
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007			
			Modified thiourea polymer	Proprietary	30.00000	0.00007			
			Ammonium persulfate	7727-54-0	100.00000	0.00004			
			Oxylated phenolic resin	Proprietary	30.00000	0.00001			
			Ethoxylated alcohols	Proprietary	5.00000	0.00001			

			Propargyl alcohol	107-19-7	5.00000	0.00001
			Hexadecene	629-73-2	5.00000	0.00001
			Phosphoric acid	7664-38-2	0.10000	0.00001
			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)

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: 47-017-06879 County: Doddridge
District: West Union Well No: Schrader 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 16:47:06 -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/Bl
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: _____

LATITUDE 39°20'00"

4,819'

4,788' TO BOTTOM HOLE

LATITUDE 39°22'30"

LONGITUDE 80°42'30"

13,385' TO BOTTOM HOLE

LONGITUDE 80°42'30"

Antero Resources Corporation Well No. Schrader Unit 2H

AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
 N: 298,972ft E: 1,653,306ft
 LAT: 39°18'51.70" LON: 80°43'31.32"
BOTTOM HOLE INFORMATION:
 N: 307,672ft E: 1,653,454ft
 LAT: 39°20'17.71" LON: 80°43'30.95"
WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE.
ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIANGLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

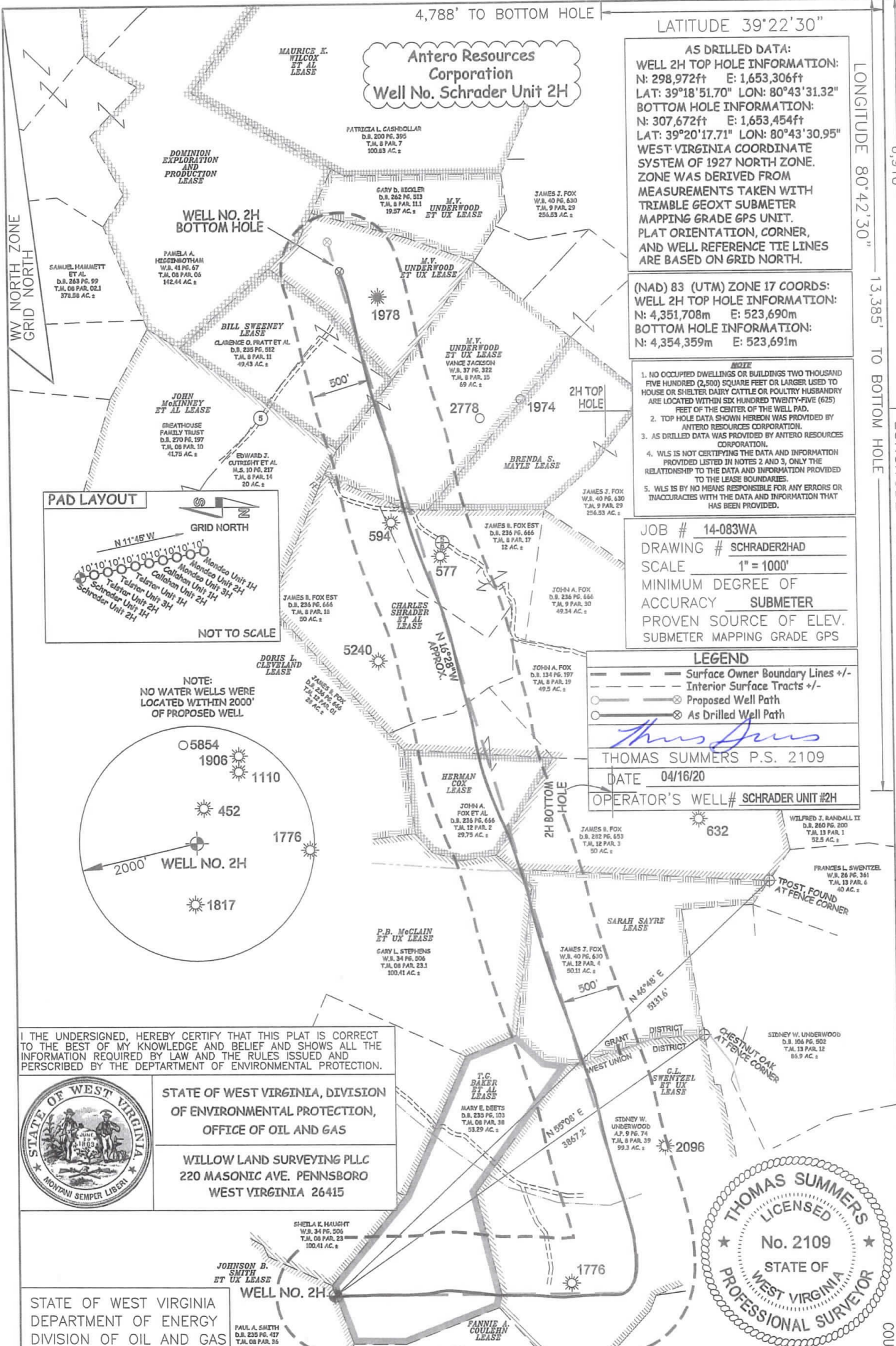
(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
 N: 4,351,708m E: 523,690m
BOTTOM HOLE INFORMATION:
 N: 4,354,359m E: 523,691m

- 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 # 14-083WA
DRAWING # SCHRADER2HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
 - - - Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 ○ Proposed Well Path
 ⊗ As Drilled Well Path

Thomas Summers
THOMAS SUMMERS P.S. 2109
DATE 04/16/20
OPERATOR'S WELL# SCHRADER UNIT #2H

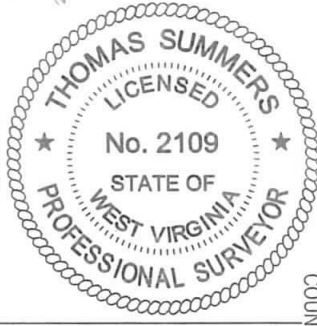


I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

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



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1,376' - AS BUILT _____ WATERSHED HEADWATERS MIDDLE ISLAND CREEK QUADRANGLE SMITHBURG 7.5' DISTRICT WEST UNION COUNTY DODDRIDGE
 SURFACE OWNER MARYE 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; SARAH SAYRE; LEASE ACREAGE 180 AC.±; 54 AC.±; 1033 AC.±; 50 AC.±;
P.B. McCLAIN ET UX; HERMAN COX; CHARLES SHRADER ET AL; M.V. UNDERWOOD ET UX; BILL L. SWEENEY; 150 AC.±; 15 AC.±; 230 AC.±; 50 AC.±; 44.45 AC.±;
M.V. UNDERWOOD ET UX 50 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 PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,192' TGD 16,345' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM API WELL # _____
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD ADDRESS 47 - 017 - 06879
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313 STATE COUNTY PERMIT