



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

June 3, 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 **Dawson Pad**:

- Dierkes Unit 1H-2H
- Kirk Hadley Unit 1H
- Treasury Unit 1H-2H
- Weese Unit 1H-2H

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 "Megan Griffith", with a long horizontal flourish extending to the right.

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 - 02552 County Tyler District Meade
Quad Middlebourne 7.5' Pad Name Kirk Hadley Pad Field/Pool Name ----
Farm name Kirk L. Hadley Well Number Weese Unit 1H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4368199.100m Easting 505839.453m
Landing Point of Curve Northing 4368408.70m Easting 505725.46m
Bottom Hole Northing 4372506.943m Easting 504323.170m

Elevation (ft) 912' 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 1/30/2019 Date drilling commenced 7/13/2019 Date drilling ceased 10/18/2019
Date completion activities began 2/13/2020 Date completion activities ceased 3/5/2020
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 142', 242', 349' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1225', 1691', 2032' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 527', 681' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

API 47-095 - 02552 Farm name Kirk L. Hadley Well number Weese Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	476'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2597'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	21297'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6369'		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	400 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	880 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	450 sx (Lead) 3345 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)		~500' Into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21360' MD, 6163' TVD (BHL), 6164' (Deepest Point Drilled) Loggers TD (ft) 21360' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5500'

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 - 02552 Farm name Kirk L. Hadley Well number Weese Unit 1H

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 (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

API 47- 095 - 02552 Farm name Kirk L. Hadley Well number Weese Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6136' (TOP) TVD	6399' (TOP) 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 5724 mcfpd Oil 216 bpd NGL --- bpd Water 535 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI Drilling
Address 1660 Wynkoop Street, Suite 1100 City Denver State CO Zip 80202

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

Cementing Company Halliburton Energy Services
Address 1125 17th Street City Denver State CO Zip 80202

Stimulating Company Baker Hughes
Address 837 Phillippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffin Telephone 303-357-7223
Signature  Title Permitting Agent Date 6/3/20

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

API 47-095-02552 Farm Name Kirk L. Hadley Well Number Weese Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/18/2020	21166.4	21121.7	60	Marcellus
2	1/19/2020	21084.1984	20918.6904	60	Marcellus
3	1/19/2020	20883.18881	20717.6808	60	Marcellus
4	1/19/2020	20682.17922	20516.6712	60	Marcellus
5	1/20/2020	20481.16963	20315.6616	60	Marcellus
6	1/20/2020	20280.16005	20114.6521	60	Marcellus
7	1/21/2020	20079.15046	19913.6425	60	Marcellus
8	1/21/2020	19878.14087	19712.6329	60	Marcellus
9	1/21/2020	19677.13128	19511.6233	60	Marcellus
10	1/22/2020	19476.12169	19310.6137	60	Marcellus
11	1/22/2020	19275.1121	19109.6041	60	Marcellus
12	1/22/2020	19074.10251	18908.5945	60	Marcellus
13	1/23/2020	18873.09292	18707.5849	60	Marcellus
14	1/23/2020	18672.08333	18506.5753	60	Marcellus
15	1/23/2020	18471.07374	18305.5658	60	Marcellus
16	1/24/2020	18270.06416	18104.5562	60	Marcellus
17	1/24/2020	18069.05457	17903.5466	60	Marcellus
18	1/24/2020	17868.04498	17702.537	60	Marcellus
19	1/24/2020	17667.03539	17501.5274	60	Marcellus
20	1/25/2020	17466.0258	17300.5178	60	Marcellus
21	1/25/2020	17265.01621	17099.5082	60	Marcellus
22	1/25/2020	17064.00662	16898.4986	60	Marcellus
23	1/25/2020	16862.99703	16697.489	60	Marcellus
24	1/26/2020	16661.98744	16496.4795	60	Marcellus
25	1/26/2020	16460.97785	16295.4699	60	Marcellus
26	1/26/2020	16259.96826	16094.4603	60	Marcellus
27	1/27/2020	16058.95868	15893.4507	60	Marcellus
28	1/27/2020	15857.94909	15692.4411	60	Marcellus
29	1/27/2020	15656.9395	15491.4315	60	Marcellus
30	1/28/2020	15455.92991	15290.4219	60	Marcellus
31	1/28/2020	15254.92032	15089.4123	60	Marcellus
32	1/28/2020	15053.91073	14888.4027	60	Marcellus
33	1/28/2020	14852.90114	14687.3932	60	Marcellus
34	1/29/2020	14651.89155	14486.3836	60	Marcellus
35	1/29/2020	14450.88196	14285.374	60	Marcellus
36	1/29/2020	14249.87237	14084.3644	60	Marcellus
37	1/30/2020	14048.86279	13883.3548	60	Marcellus
38	1/30/2020	13847.8532	13682.3452	60	Marcellus
39	1/30/2020	13646.84361	13481.3356	60	Marcellus
40	1/31/2020	13445.83402	13280.326	60	Marcellus
41	1/31/2020	13244.82443	13079.3164	60	Marcellus
42	1/31/2020	13043.81484	12878.3068	60	Marcellus
43	1/31/2020	12842.80525	12677.2973	60	Marcellus
44	2/1/2020	12641.79566	12476.2877	60	Marcellus
45	2/1/2020	12440.78607	12275.2781	60	Marcellus
46	2/1/2020	12239.77648	12074.2685	60	Marcellus
47	2/1/2020	12038.76689	11873.2589	60	Marcellus
48	2/2/2020	11837.75731	11672.2493	60	Marcellus
49	2/2/2020	11636.74772	11471.2397	60	Marcellus
50	2/2/2020	11435.73813	11270.2301	60	Marcellus
51	2/2/2020	11234.72854	11069.2205	60	Marcellus
52	2/2/2020	11033.71895	10868.211	60	Marcellus
53	2/3/2020	10832.70936	10667.2014	60	Marcellus
54	2/3/2020	10631.69977	10466.1918	60	Marcellus
55	2/3/2020	10430.69018	10265.1822	60	Marcellus
56	2/4/2020	10229.68059	10064.1726	60	Marcellus
57	2/4/2020	10028.671	9863.16301	60	Marcellus
58	2/4/2020	9827.661416	9662.15342	60	Marcellus
59	2/4/2020	9626.651826	9461.14384	60	Marcellus
60	2/5/2020	9425.642237	9260.13425	60	Marcellus
61	2/6/2020	9224.632648	9059.12466	60	Marcellus
62	2/6/2020	9023.623059	8858.11507	60	Marcellus
63	2/6/2020	8822.61347	8657.10548	60	Marcellus
64	2/6/2020	8621.603881	8456.09589	60	Marcellus
65	2/7/2020	8420.594292	8255.0863	60	Marcellus
66	2/7/2020	8219.584703	8054.07671	60	Marcellus
67	2/7/2020	8018.575114	7853.06712	60	Marcellus
68	2/7/2020	7817.565525	7652.05753	60	Marcellus
69	2/8/2020	7616.555936	7451.04795	60	Marcellus
70	2/8/2020	7415.546347	7250.03836	60	Marcellus
71	2/8/2020	7214.536758	7049.02877	60	Marcellus
72	2/8/2020	7013.527169	6848.01918	60	Marcellus
73	2/9/2020	6812.51758	6647.00959	60	Marcellus
74	2/9/2020	6611.507991	6446	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	2/10/2020	67.27	9105	7176	3694	162180	4679.19	N/A
2	2/11/2020	77.97	8848	5826	3563	400800	7582.071	N/A
3	2/11/2020	83.93	8900	5766	3681	402180	7623.81	N/A
4	2/11/2020	80.93	8975	5812	3841	402780	7354.095	N/A
5	2/11/2020	83.6	8940	5427	3981	402640	7422.643	N/A
6	2/12/2020	85.92	9246	5820	3810	403740	7854.762	N/A
7	2/12/2020	81.82	9485	5740	3297	402500	7131.452	N/A
8	2/12/2020	83.61	8998	5630	3567	402380	7544.643	N/A
9	2/12/2020	83.42	8797	4966	3850	399840	7244.024	N/A
10	2/13/2020	77.73	9536	5385	3603	403880	7369.19	N/A
11	2/13/2020	69.1	8719	5993	3996	402700	11067.62	N/A
12	2/13/2020	82.17	8962	6083	3678	405480	7334.905	N/A
13	2/13/2020	78.25	8940	6211	3245	402900	7230.071	N/A
14	2/14/2020	83.67	8826	5120	3443	405300	7215.571	N/A
15	2/14/2020	82.2	8898	6261	3655	401280	7150.976	N/A
16	2/14/2020	79.68	8868	6166	3907	402520	7091.833	N/A
17	2/14/2020	85.21	8672	5827	3765	403020	7371.452	N/A
18	2/15/2020	85.59	8632	5843	4067	399060	7035.024	N/A
19	2/16/2020	85.23	8705	6303	4287	398180	7138.357	N/A
20	2/16/2020	85.44	8675	6220	3862	399860	7038.905	N/A
21	2/16/2020	85.18	8472	5254	3492	400960	7017.833	N/A
22	2/16/2020	84	8429	5686	3360	396620	7054.095	N/A
23	2/17/2020	84.92	8497	6756	3531	402400	7145.048	N/A
24	2/17/2020	85.64	8472	6595	3536	400560	7148.119	N/A
25	2/17/2020	85.13	8534	5663	3517	404820	7082.786	N/A
26	2/17/2020	85.33	8616	5756	4044	401420	6993.69	N/A
27	2/18/2020	85.31	8682	6287	3351	403140	7255.214	N/A
28	2/18/2020	85.14	8819	5991	3428	395240	7071.048	N/A
29	2/18/2020	84.46	8790	6061	3702	397100	7001.952	N/A
30	2/18/2020	83.48	8651	6825	3240	399640	7030.452	N/A
31	2/19/2020	82.74	8646	6961	3544	400320	7066.286	N/A
32	2/19/2020	83.13	8923	6942	3400	403400	7110.024	N/A
33	2/19/2020	84.31	8999	6289	3360	402920	7039.19	N/A
34	2/19/2020	82.62	9058	6441	3240	398800	6990.643	N/A
35	2/20/2020	85.39	8915	6691	3267	406520	7129.095	N/A
36	2/20/2020	84.05	9088	6613	3177	404320	7067.738	N/A
37	2/20/2020	84.34	9084	6090	3378	406220	7050.119	N/A
38	2/20/2020	85.64	8998	6690	3275	404560	7105.667	N/A
39	2/21/2020	85.56	9003	7176	3310	404100	7107.714	N/A
40	2/22/2020	84.1	9084	6210	3404	407100	6893.952	N/A
41	2/23/2020	85.81	8946	6799	3515	406380	7004.857	N/A
42	2/24/2020	85.53	8822	7057	3389	406700	7015.333	N/A
43	2/25/2020	85.57	9108	6639	3208	396940	6940.833	N/A
44	2/26/2020	85.72	9068	6477	3485	401960	7031.119	N/A
45	2/27/2020	85.4	8848	6532	3388	399780	6982.786	N/A
46	2/28/2020	85.84	9000	6406	3273	404660	6988.095	N/A
47	2/29/2020	85.63	9014	6220	3160	397680	6847.81	N/A
48	3/1/2020	85.43	9004	5884	3149	403740	7001.476	N/A
49	3/2/2020	85.76	8840	6545	3311	399460	6969.071	N/A
50	3/3/2020	85.6	8688	6564	3311	404880	6991	N/A
51	3/4/2020	85.86	8455	6395	3294	401800	6869.286	N/A
52	3/5/2020	85.53	9056	6798	3206	398940	6703.881	N/A
53	3/6/2020	85.3	8969	6398	3155	400620	6911.929	N/A
54	3/7/2020	85.94	8686	6655	3298	401080	6872.905	N/A
55	3/8/2020	85.73	8129	5935	3278	395700	6994.143	N/A
56	3/9/2020	84.93	8346	5966	3233	394415	6930.619	N/A
57	3/10/2020	85.98	7906	6222	3281	403500	6946.024	N/A
58	3/11/2020	85.96	7808	5981	3219	402640	6795.357	N/A
59	3/12/2020	85.03	8440	5793	3375	400440	6795.976	N/A
60	3/13/2020	78.79	8911	6117	4505	189830	6772.833	N/A
61	3/14/2020	85.38	7465	5342	3237	401260	6751.476	N/A
62	3/15/2020	83.06	7011	5524	3471	399380	6953.548	N/A
63	3/16/2020	85.01	7190	6013	3338	410200	6819.524	N/A
64	3/17/2020	85.81	7428	5606	3522	400400	6810.357	N/A
65	3/18/2020	85.8	7372	5630	4002	408100	6845.381	N/A
66	3/19/2020	80.01	6954	5704	3386	404380	6848.619	N/A
67	3/20/2020	83.12	7195	5894	3341	406180	6938.69	N/A
68	3/21/2020	85.59	7383	6171	3158	406360	6766.857	N/A
69	3/22/2020	85.7	7297	6010	3529	403460	6806.357	N/A
70	3/23/2020	84.4	7002	6709	3510	399780	6676.214	N/A
71	3/24/2020	85.47	7215	6691	3576	397780	6745.31	N/A
72	3/25/2020	85.83	7081	6217	3350	403400	6780.762	N/A
73	3/26/2020	85.68	7098	6747	3559	405880	6902.238	N/A
74	3/27/2020	83.98	6705	5775	3696	394000	6886.548	N/A
	AVG.	82.8	8,856	6,099	3,588	15,436,280	281,947	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
Siltstone	75	175	75	175
Silty Sandstone	175	295	175	295
Siltstone	295	455	295	455
Shaly Siltstone	455	555	455	555
Siltstone	555	715	555	715
Sandstone	715	755	715	755
Siltstone	755	985	755	985
Silty Sandstone	985	1,095	985	1,095
Sandstone	1,095	1,255	1,095	1,255
Silty Sandstone	1,255	1,485	1,255	1,485
Sandy Siltstone	1,485	1,555	1,485	1,555
Sandstone	1,555	1,625	1,555	1,625
Siltstone	1,625	1,705	1,625	1,736
Big Lime	1,730	2,641	1,711	2,648
Fifty Foot Sandstone	2,641	2,784	2,623	2,791
Gordon	2,784	2,940	2,766	2,947
Fifth Sandstone	2,940	3,232	2,922	3,242
Bayard	3,232	3,730	3,217	3,748
Speechley	3,730	4,187	3,723	4,213
Balltown	4,187	4,466	4,188	4,497
Bradford	4,466	4,759	4,472	4,796
Benson	4,759	5,035	4,771	5,077
Alexander	5,035	6,042	5,052	6,168
Sycamore	5,916	6,017	6,001	6,143
Middlesex	6,017	6,101	6,143	6,306
Burkett	6,101	6,124	6,306	6,363
Tully	6,124	6,136	6,363	6,399
Marcellus	6,136	NA	6,399	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: 47-095-02552 County: Tyler
District: Meade Well No: Weese Unit 1H
Farm Name: Kirk L. Hadley
Discharge Date/s From:(MMDDYY) 04/13/20 To: (MMDDYY) 05/13/20
Discharge Times. From: 0:00 To: 24:00
Total Volume to be Disposed from this facility (gallons): 765,688

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

- (1) Land Application: 0 (Include a topographical map of the Area.)
(2) UIC: 43,505 Permit No. 3400923821; 3416729543; 3412123995; 3410523619
(3) Offsite Disposal: 205 Site Location: Mud Masters
(4) Reuse: 721,978 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: 05/28/2020

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: 2020.05.28 17:18:26 -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: _____

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/18/2020
Job End Date:	2/9/2020
State:	West Virginia
County:	Tyler
API Number:	47-095-02552-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Weese 1H
Latitude:	39.46326940
Longitude:	-80.93228800
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,196
Total Base Water Volume (gal):	23,073,930
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
Produced Mixture	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.83900	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.16474	

Legend LD-2990	MultiChem	Friction Reducer									
							Listed Below				
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant									
							Listed Below				
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker									
							Listed Below				
MC B-8614	Halliburton	Biocide									
							Listed Below				
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent									
							Listed Below				
WG-36 GELLING AGENT	Halliburton	Gelling Agent									
							Listed Below				
LD-2950	MultiChem	Friction Reducer									
							Listed Below				
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor									
							Listed Below				

Legend LD-2555	MultiChem	Additive			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	12.97088			
			Hydrochloric acid	7647-01-0	30.00000	0.04054			
			Complex Amine Compound	Proprietary	60.00000	0.01268			
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01067			
			Complex Amine Compound	Proprietary	60.00000	0.00865			
			Guar gum	9000-30-0	100.00000	0.00712			
			Glutaraldehyde	111-30-8	30.00000	0.00248			
			Polyethoxylated fatty amine salt	61791-26-2	30.00000	0.00110			
			Surfactant	Proprietary	5.00000	0.00072			
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00072			
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00041			
			Methanol	67-56-1	100.00000	0.00032			
			Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-, branched	69011-36-5	1.00000	0.00021			
			Ethoxylated alcohols	Proprietary	1.00000	0.00021			
			Adipic acid	124-04-9	1.00000	0.00021			
			Ammonium persulfate	7727-54-0	100.00000	0.00015			
			Organic chloridie compound	Proprietary	1.00000	0.00014			
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00014			
			Ethoxylated alcohols	Proprietary	1.00000	0.00014			
			Ethanol	64-17-5	1.00000	0.00008			

				61790-12-3	30.00000	0.00007	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	Proprietary	30.00000	0.00007	
			Modified thiourea polymer	Proprietary	30.00000	0.00004	
			Oxylated phenolic resin	79-06-1	0.10000	0.00001	
			Acrylamide	Proprietary	0.10000	0.00001	
			Organic salt #1	629-73-2	5.00000	0.00001	
			Hexadecene	107-19-7	5.00000	0.00001	
			Propargyl alcohol	Proprietary	5.00000	0.00001	
			Ethoxylated alcohols	7664-38-2	0.10000	0.00001	
			Phosphoric acid	3468-63-1	1.00000	0.00000	
			C.I. pigment Orange 5	Proprietary	0.01000	0.00000	
			Nitrated acetate salt	Proprietary	0.01000	0.00000	
			Organic salt #2	1310-73-2	0.01000	0.00000	
			Sodium hydroxide	50-00-0	0.01000	0.00000	
			Formaldehyde	2836-32-0	0.01000	0.00000	
			Sodium glycollate	Proprietary	0.01000	0.00000	
			Organic salt #3				

* 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)

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Kirk Hadley Pad

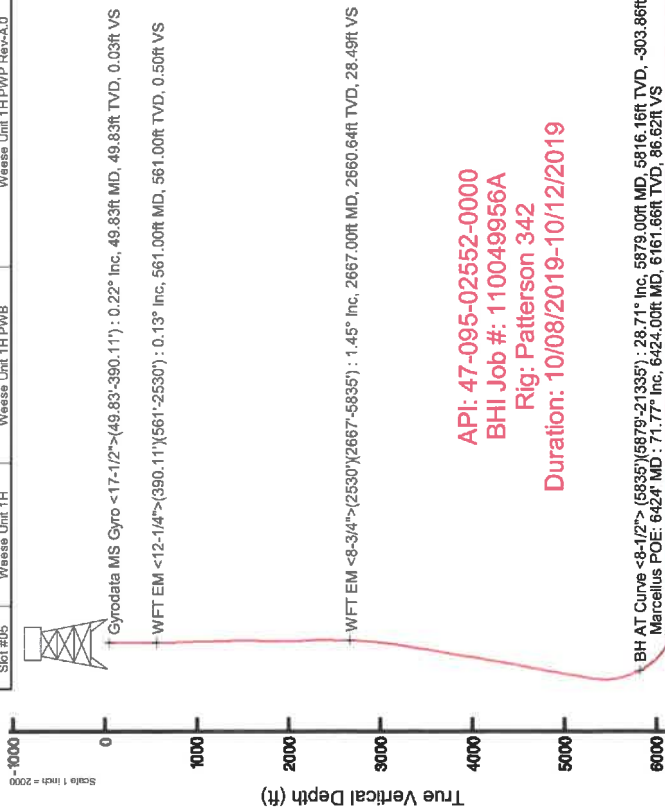
Slot: Slot #05
 Well: Weese Unit 1H
 Wellbore: Weese Unit 1H PWB

Plot reference wellpath is Weese Unit 1H PWB Rev-A.0
 True vertical depths are referenced to Patterson 342 (RKB)
 Measured depths are referenced to Patterson 342 (RKB)
 Scale: True distance
 Patterson 342 (RKB) to Mean Sea Level: 637 feet
 Mean Sea Level to Ground level (At Slot: Slot #05) -912 feet
 Coordinates are in feet referenced to Slot

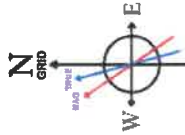
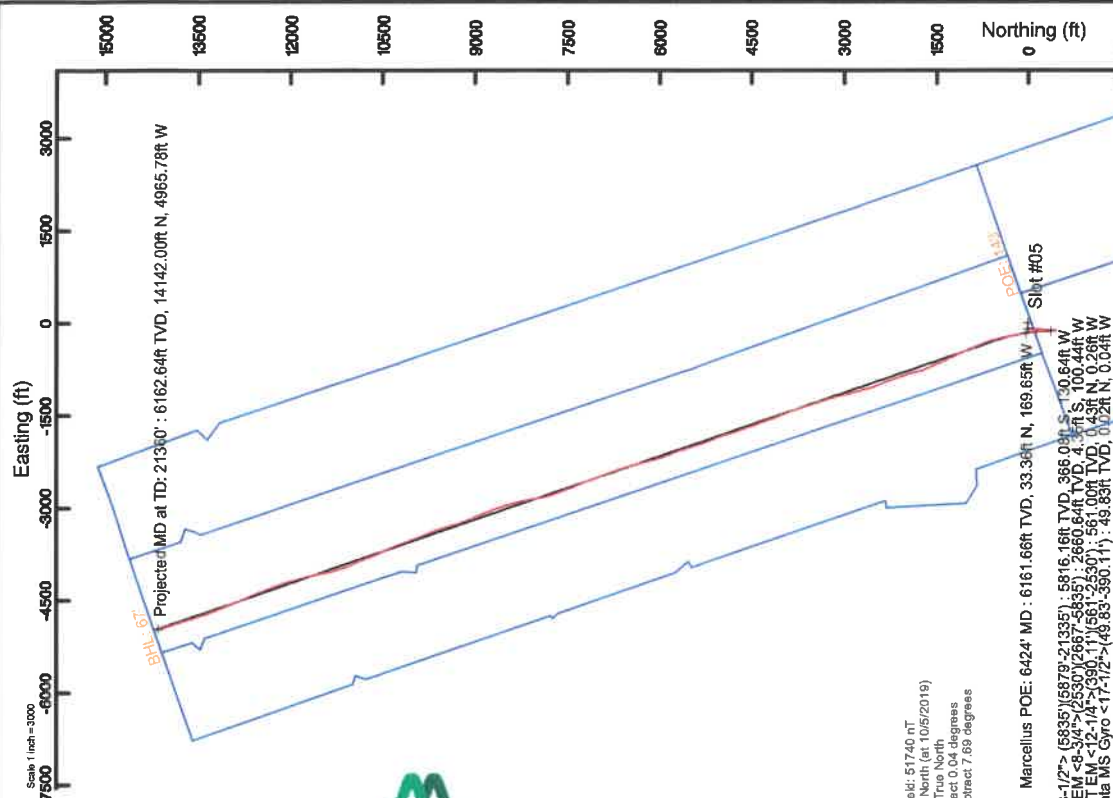
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Kirk Hadley Pad	1658520.650	14330579.820	90°55'56.326"W
Slot	Local E (ft)	Grid North (US ft)	Longitude
Slot #05	39.40	1658527.431	90°55'58.239"W
Patterson 342 (RKB) to Ground level (At Slot: Slot #05)	25ft		
Mean Sea Level to Ground level (At Slot: Slot #05)	-912ft		
Patterson 342 (RKB) to Mean Sea Level	637ft		

Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local E (ft)	Local N (ft)
Tie On	5835.00	25.810	356.910	5777.05	-388.20	-128.65
Proj. To Bottom	5903.00	30.080	1.730	5637.11	-354.37	-128.83
End of 3D Arc	6150.52	48.904	358.241	6027.32	-197.85	-134.11
POE	6410.89	71.503	349.000	6166.00	-24.35	-164.53
Landing PL	6842.11	90.000	349.000	6193.00	247.40	-207.88
On Azimuth	6908.63	90.000	341.064	502.74	-276.15	3.00
BHL	21351.83	90.000	341.064	6193.00	-4983.64	0.00
						15010.16

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #05	Weese Unit 1H	Weese Unit 1H AWB	Weese Unit 1H AWP Proj: 213607
Slot #05	Weese Unit 1H	Weese Unit 1H PWB	Weese Unit 1H PWB Rev-A.0



API: 47-095-02552-0000
BHI Job #: 110049956A
Rig: Patterson 342
Duration: 10/08/2019-10/12/2019

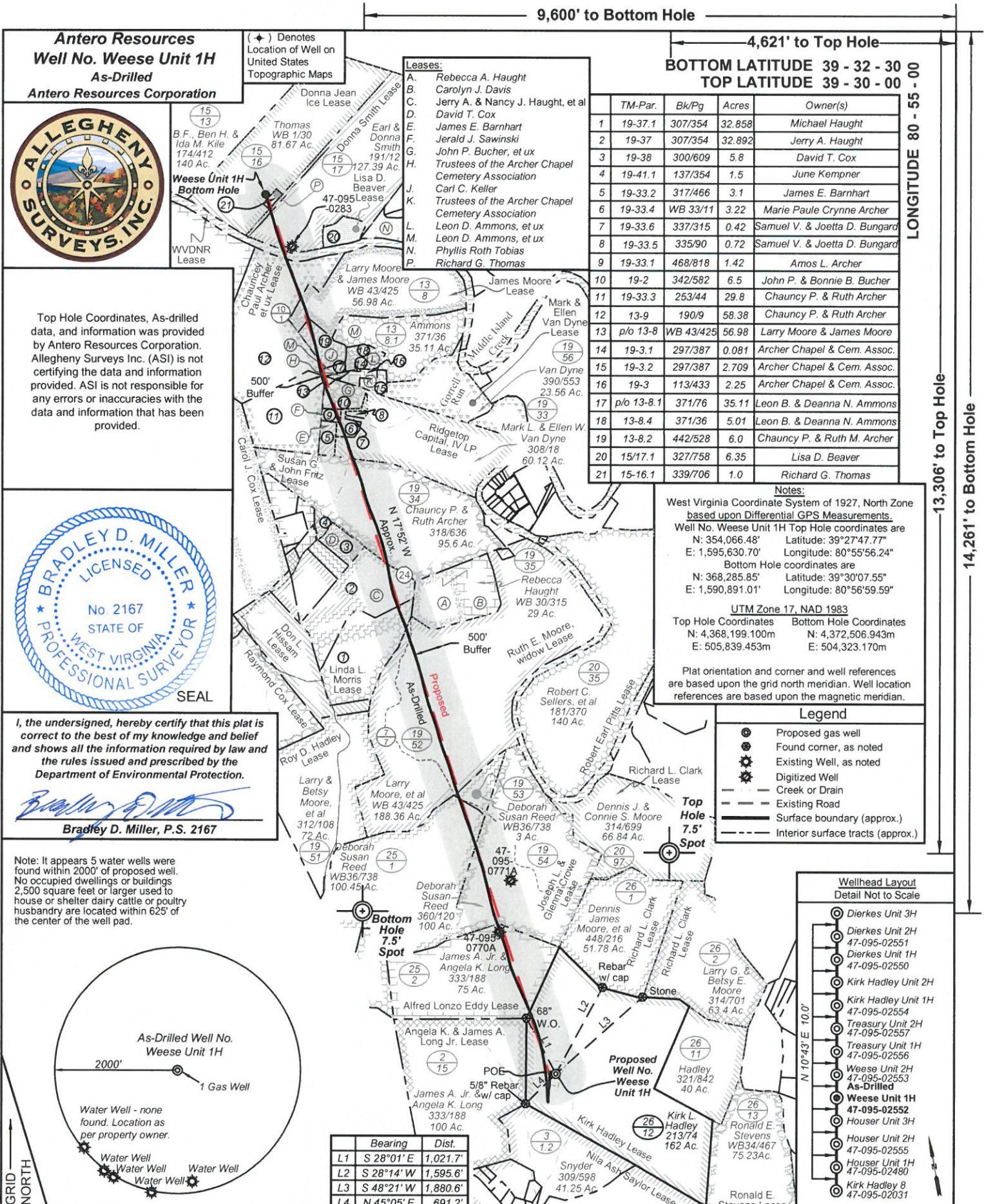


User specified (HDGM) Dip: 66.50° Field: 51740 nT
 Magnetic North is 7.85 degrees West of True North (at 10/5/2019)
 Grid North is 0.04 degrees East of True North
 To convert from Grid to True: Add 0.04 degrees
 To convert from Magnetic to Grid: Subtract 7.89 degrees


Projected MD at TD: 213607 : 90.43° Inc. 21360.00ft MD, 6162.64ft TVD, 14988.12ft VS

Scale 1 inch = 2000

Vertical Section (ft)
 Azimuth 34-1.06° with reference 0.00 N, 0.00 E



Antero Resources
Well No. Weese Unit 1H
As-Drilled
Antero Resources Corporation



Donna Jean Ice Lease
Thomas WB 1/30 81.67 Ac.
Earl & Donna Smith 191/12 127.39 Ac.
Lisa D. Beaver 47-095-0283
Chauncey Paul Archer, et ux Lease
Linda L. Morris Lease
Roy D. Hadley Lease
Larry & Betsy Moore, et al 312/108 72 Ac.
Deborah Susan Reed WB36/738 100.45 Ac.
James A. Jr. & Angela K. Long 333/188 75 Ac.
Alfred Lonzo Eddy Lease
Angela K. & James A. Long Jr. Lease
James A. Jr. & Angela K. Long 333/188 100 Ac.
James A. Jr. & Angela K. Long 333/188 100 Ac.
James A. Jr. & Angela K. Long 333/188 100 Ac.

Top Hole Coordinates, As-drilled data, and information was provided by Antero Resources Corporation. Allegheny Surveys Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

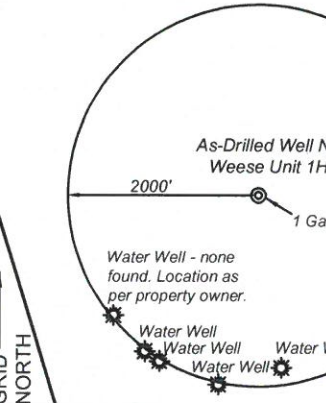


BRADLEY D. MILLER
LICENSED
No. 2167
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR
SEAL

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 prescribed by the Department of Environmental Protection.

Bradley D. Miller
Bradley D. Miller, P.S. 2167

Note: It appears 5 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.



	Bearing	Dist.
L1	S 28°01' E	1,021.7'
L2	S 28°14' W	1,595.6'
L3	S 48°21' W	1,880.6'
L4	N 45°05' E	691.2'

9,600' to Bottom Hole

4,621' to Top Hole

BOTTOM LATITUDE 39 - 32 - 30
TOP LATITUDE 39 - 30 - 00

TM-Par.	Bk/Pg	Acres	Owner(s)	
1	19-37.1	307/354	32.858	Michael Haught
2	19-37	307/354	32.892	Jerry A. Haught
3	19-38	300/609	5.8	David T. Cox
4	19-41.1	137/354	1.5	June Kempner
5	19-33.2	317/466	3.1	James E. Barnhart
6	19-33.4	WB 33/11	3.22	Marie Paule Crynne Archer
7	19-33.6	337/315	0.42	Samuel V. & Joetta D. Bungard
8	19-33.5	335/90	0.72	Samuel V. & Joetta D. Bungard
9	19-33.1	468/818	1.42	Amos L. Archer
10	19-2	342/582	6.5	John P. & Bonnie B. Bucher
11	19-33.3	253/44	29.8	Chauncy P. & Ruth Archer
12	13-9	190/9	58.38	Chauncy P. & Ruth Archer
13	p/o 13-8	WB 43/425	56.98	Larry Moore & James Moore
14	19-3.1	297/387	0.081	Archer Chapel & Cem. Assoc.
15	19-3.2	297/387	2.709	Archer Chapel & Cem. Assoc.
16	19-3	113/433	2.25	Archer Chapel & Cem. Assoc.
17	p/o 13-8.1	371/76	35.11	Leon B. & Deanna N. Ammons
18	13-8.4	371/36	5.01	Leon B. & Deanna N. Ammons
19	13-8.2	442/528	6.0	Chauncy P. & Ruth M. Archer
20	15/17.1	327/758	6.35	Lisa D. Beaver
21	15-16.1	339/706	1.0	Richard G. Thomas

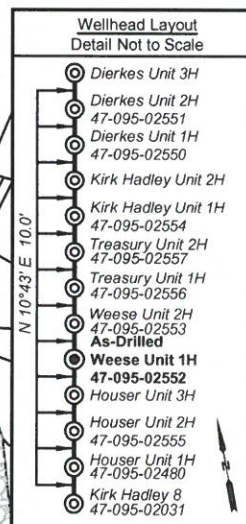
Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Weese Unit 1H Top Hole coordinates are
N: 354,066.48' Latitude: 39°27'47.77"
E: 1,595,630.70' Longitude: 80°55'56.24"
Bottom Hole coordinates are
N: 368,285.85' Latitude: 39°30'07.55"
E: 1,590,891.01' Longitude: 80°56'59.59"

UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,368,199.100m N: 4,372,506.943m
E: 505,839.453m E: 504,323.170m

Plat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.

Legend

- Proposed gas well
- Found corner, as noted
- Existing Well, as noted
- Digitized Well
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)



FILE NO: 217-54-E-16
DRAWING NO: Weese 1H-A Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: April 23 20 20
OPERATOR'S WELL NO. Weese Unit 1H
API WELL NO
47 - 095 - 02552
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: As-Built 912' WATERSHED: Outlet Middle Island Creek QUADRANGLE: Middlebourne
DISTRICT: Meade & Ellsworth
SURFACE OWNER: Kirk L. Hadley
ROYALTY OWNER: Kirk Hadley; Alfred Lonzo Eddy; Joseph L. & Glenna Crowe; Donna Smith; JERRY A. & NANCY J. HAUGHT AND MICHAEL P. & DEBORAH G. HAUGHT; CARL C. KELLER; JAMES MOORE; WV DIVISION OF NATURAL RESOURCES; JOHN P. BUCHER, ET UX; CHAUNCEY PAUL ARCHER, ET UX; LINDA L. MORRIS; RICHARD G. THOMAS; SUSAN G. FRITZ & JOHN FRITZ; RIDGETOP CAPITAL IV LP.; JERALD J. SAWINSKI; ROY D. HADLEY; RUTH E. MOORE, WIDOW; DONNA JEAN ICE;

LEASE NO: _____ ACREAGE: 1.42; 21; 202; 75; 100;

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 21,360' MD 6,163' TVD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313