

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

RECEIVED
Office of Oil and Gas

MAR 03 2023

WV Department of
Environmental Protection

API 47 - 095 - 02742 County Tyler District Ellsworth
Quad Porter Falls 7.5' Pad Name Margery Field/Pool Name -----
Farm name Kayla Leek Well Number Glamdring 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 4374235m Easting 514710m
Landing Point of Curve Northing 4374054.93m Easting 515455.20m
Bottom Hole Northing 4370376m Easting 516741m

Elevation (ft) 1040' 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 7/29/2021 Date drilling commenced 8/18/2021 Date drilling ceased 10/20/2021
Date completion activities began 12/9/2021 Date completion activities ceased 2/21/2022
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 102' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1998' Void(s) encountered (Y/N) depths No
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

06/02/2023

API 47-095 - 02742 Farm name Kayla Leek Well number Glamdring 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	28"	20"	125.5'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	389'	New	54.5#, K-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2689'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	21249'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6996'		4.7#, P-110		
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	390 sx	15.6	1.18	460	0'	8 Hrs.
Surface	Class A	431 sx	15.6	1.20	517	0'	8 Hrs.
Coal							
Intermediate 1	Class A	891 sx	15.6	1.19	1060	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class G	3525 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	4442	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 21249' MD, 6664' TVD (BHL), 6694' (Deepest Point Drilled) Loggers TD (ft) 21249' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6129'

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 _____

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____
 WV Department of Environmental Protection

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

06/02/2023

API 47- 095 - 02742 Farm name Kayla Leek Well number Glamdring Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6628' (TOP)	TVD	7293' (TOP) MD
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1511 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 16292 mcfpd Oil 502 bpd NGL --- bpd Water 732 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 H & P Drilling
Address 912 N Eagle Valley Rd City Howard State PA Zip 16841

Logging Company Nine Energy Services
Address 6500 West Fwy City Fort Worth State TX Zip 76116

Cementing Company Schlumberger US Land
Address 1080 US-33 City Weston State WV Zip 26452

Stimulating Company Halliburton
Address 3000 W. Sam Houston Pkwy City Houston State TX Zip 76114

Please insert additional pages as applicable.

Completed by Carly Marvel Telephone 303-357-7373
Signature Carly Marvel Title Permitting Agent Date 2/28/2023

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

06/02/2023

API 47-095-02742 Farm Name Kayla Leek Well Number Glamdring Unit 1H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/09/2021	21137	0	60	Marcellus
2	12/10/2021	21051.14286	20873.9	60	Marcellus
3	12/10/2021	20800.14286	20622.9	60	Marcellus
4	12/11/2021	20549.14286	20371.9	60	Marcellus
5	12/11/2021	20298.14286	20120.9	60	Marcellus
6	12/12/2021	20047.14286	19869.9	60	Marcellus
7	12/12/2021	19796.14286	19618.9	60	Marcellus
8	12/13/2021	19545.14286	19367.9	60	Marcellus
9	12/13/2021	19294.14286	19116.9	60	Marcellus
10	12/14/2021	19043.14286	18865.9	60	Marcellus
11	12/14/2021	18792.14286	18614.9	60	Marcellus
12	12/15/2021	18541.14286	18363.9	60	Marcellus
13	12/15/2021	18290.14286	18112.9	60	Marcellus
14	12/16/2021	18039.14286	17861.9	60	Marcellus
15	12/16/2021	17788.14286	17610.9	60	Marcellus
16	12/17/2021	17537.14286	17359.9	60	Marcellus
17	12/17/2021	17286.14286	17108.9	60	Marcellus
18	12/18/2021	17035.14286	16857.9	60	Marcellus
19	12/18/2021	16784.14286	16606.9	60	Marcellus
20	12/19/2021	16533.14286	16355.9	60	Marcellus
21	12/19/2021	16282.14286	16104.9	60	Marcellus
22	12/20/2021	16031.14286	15853.9	60	Marcellus
23	12/20/2021	15780.14286	15602.9	60	Marcellus
24	12/21/2021	15529.14286	15351.9	60	Marcellus
25	12/21/2021	15278.14286	15100.9	60	Marcellus
26	12/22/2021	15027.14286	14849.9	60	Marcellus
27	12/22/2021	14776.14286	14598.9	60	Marcellus
28	12/23/2021	14525.14286	14347.9	60	Marcellus
29	12/23/2021	14274.14286	14096.9	60	Marcellus
30	12/24/2021	14023.14286	13845.9	60	Marcellus
31	12/25/2021	13772.14286	13594.9	60	Marcellus
32	12/25/2021	13521.14286	13343.9	60	Marcellus
33	12/26/2021	13270.14286	13092.9	60	Marcellus
34	12/27/2021	13019.14286	12841.9	60	Marcellus
35	12/27/2021	12768.14286	12590.9	60	Marcellus
36	12/28/2021	12517.14286	12339.9	60	Marcellus
37	12/28/2021	12266.14286	12088.9	60	Marcellus
38	12/28/2021	12015.14286	11837.9	60	Marcellus
39	12/28/2021	11764.14286	11586.9	60	Marcellus
40	12/28/2021	11513.14286	11335.9	60	Marcellus
41	12/29/2021	11262.14286	11084.9	60	Marcellus
42	12/29/2021	11011.14286	10833.9	60	Marcellus
43	12/29/2021	10760.14286	10582.9	60	Marcellus
44	12/29/2021	10509.14286	10331.9	60	Marcellus
45	12/30/2021	10258.14286	10080.9	60	Marcellus
46	12/30/2021	10007.14286	9829.9	60	Marcellus
47	12/30/2021	9756.142857	9578.9	60	Marcellus
48	12/30/2021	9505.142857	9327.9	60	Marcellus
49	12/31/2021	9254.142857	9076.9	60	Marcellus
50	12/31/2021	9003.142857	8825.9	60	Marcellus
51	12/31/2021	8752.142857	8574.9	60	Marcellus
52	12/31/2021	8501.142857	8323.9	60	Marcellus
53	12/31/2021	8250.142857	8072.9	60	Marcellus
54	01/01/2022	7999.142857	7821.9	60	Marcellus
55	01/01/2022	7748.142857	7570.9	60	Marcellus
56	01/01/2022	7497.142857	7319.9	60	Marcellus

06/02/2023

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	12/09/2021	77.9	9274	9062	2547	170980	241663	N/A
2	12/10/2021	93.4	10315	6040	3740	504790	388840	N/A
3	12/10/2021	90.1	9787	6138	3837	498610	384921	N/A
4	12/11/2021	88.5	9649	5931	3833	507220	431563	N/A
5	12/11/2021	86.0	9871	5942	4078	502810	381380	N/A
6	12/12/2021	86.3	9991	6083	4335	502240	389654	N/A
7	12/12/2021	92.4	10118	5921	4265	501910	365914	N/A
8	12/13/2021	86.3	9968	8227	3577	516390	370845	N/A
9	12/13/2021	89.0	9840	5897	4210	501470	365413	N/A
10	12/14/2021	89.2	10048	10185	3591	509100	370582	N/A
11	12/14/2021	92.0	9999	10012	3809	500000	367905	N/A
12	12/15/2021	96.0	9738	10092	3617	502000	362468	N/A
13	12/15/2021	88.6	9767	9513	4037	500430	385849	N/A
14	12/16/2021	91.6	10066	10383	4004	508710	366349	N/A
15	12/16/2021	85.4	9670	9569	4150	496640	363172	N/A
16	12/17/2021	91.3	10031	9967	4140	517680	369276	N/A
17	12/17/2021	91.6	10017	7840	3909	496800	371766	N/A
18	12/18/2021	92.7	9992	10246	3775	508240	359053	N/A
19	12/18/2021	94.4	9938	9353	3773	513390	365793	N/A
20	12/19/2021	97.1	10009	9653	3784	504070	360454	N/A
21	12/19/2021	93.6	9834	9626	4195	504130	359645	N/A
22	12/20/2021	96.3	9882	9926	4146	503380	365123	N/A
23	12/20/2021	92.1	9356	8785	4283	506700	449123	N/A
24	12/21/2021	94.8	9962	9736	3775	512340	362692	N/A
25	12/21/2021	93.9	9849	9078	4017	505680	360803	N/A
26	12/22/2021	96.1	9945	5960	4061	502010	365309	N/A
27	12/22/2021	96.1	9789	8497	3745	493070	356697	N/A
28	12/23/2021	93.7	9728	6157	3467	517810	366335	N/A
29	12/23/2021	96.2	9970	8618	3943	504360	359682	N/A
30	12/24/2021	93.0	9794	9136	3571	507880	360252	N/A
31	12/25/2021	95.6	9563	8701	3543	497740	357084	N/A
32	12/25/2021	95.5	9092	6514	3602.49	504740	351714	N/A
33	12/26/2021	95.3	9067	8621	4208	513690	355966	N/A
34	12/27/2021	92.6	9045	6639	3879	521540	362975	N/A
35	12/27/2021	95.5	9045	9000	3690	502720	355114	N/A
36	12/28/2021	96.2	8992	5550	3852.84	514690	373659	N/A
37	12/28/2021	94.0	9008	5403	3529	502078	359549	N/A
38	12/28/2021	92.0	8556	8103	3387	508300	369873	N/A
39	12/28/2021	95.4	8939	8457	3659.23	504960	358412	N/A
40	12/28/2021	95.0	8747	6003	4011	519750	363452	N/A
41	12/29/2021	95.2	8882	6038	3984	498980	352572	N/A
42	12/29/2021	97.9	9002	8056	3764.39	498740	349494	N/A
43	12/29/2021	97.4	8970	9297	3660	501850	359607	N/A
44	12/29/2021	95.1	8760	5934	3805.52	517740	369891	N/A
45	12/30/2021	97.5	8792	5936	3702.96	509800	358215	N/A
46	12/30/2021	97.8	8905	7548	3889	517030	359146	N/A
47	12/30/2021	98.5	8753	8687	3546	514580	357603	N/A
48	12/30/2021	97.7	8295	6551	3803.1	507110	362968	N/A
49	12/31/2021	97.1	8438	6018	3691	508830	346535	N/A
50	12/31/2021	98.1	8378	7231	3554	502530	352828	N/A
51	12/31/2021	99.1	8289	8166	3560	518210	356660	N/A
52	12/31/2021	98.9	8157	7942	3600	501380	345440	N/A
53	12/31/2021	95.5	7934	6016	3989	502150	392421	N/A
54	01/01/2022	98.4	7953	6223	4141	501720	353707	N/A
55	01/01/2022	99.5	7952	6147	3895	498420	337069	N/A
56	01/01/2022	99.6	7870	7851	3980	498000	326588	N/A
	AVERAGE	94	9,314	7,825	3,824	28,008,118	20,357,063	TOTAL

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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	74	134	74	134
Shaley Siltstone	134	194	134	194
Shaley Sandstone	194	344	194	344
Shaley Siltstone	344	734	344	734
Sandy Siltstone	734	854	734	854
Shaley Siltstone, Tr Limestone	854	1,334	854	1,334
Shaley Sandstone	1,334	1,454	1,334	1,454
Sandstone, Tr Shale	1,454	1,634	1,454	1,634
Silty Shale	1,634	1,784	1,634	1,784
Shaley Siltstone	1,784	1,844	1,784	1,844
Sandy Shale	1,844	1,874	1,844	1,874
Shale, Tr Limestone	1,874	1,904	1,874	1,904
Shaley Limestone	1,904	1,919	1,904	1,978
Big Lime	1,945	2,735	1,978	2,851
Fifty Foot Sandstone	2,735	2,847	2,825	2,973
Gordon	2,847	3,100	2,947	3,245
Fifth Sandstone	3,100	3,217	3,219	3,369
Bayard	3,217	3,969	3,343	4,168
Speechley	3,969	4,225	4,142	4,438
Balltown	4,225	4,551	4,412	4,781
Bradford	4,551	4,953	4,755	5,204
Benson	4,953	5,262	5,178	5,535
Alexander	5,262	6,452	5,509	6,844
Sycamore	6,321	6,426	6,678	6,818
Middlesex	6,426	6,528	6,818	6,993
Burkett	6,528	6,555	6,993	7,049
Tully	6,555	6,628	7,049	7,293
Marcellus	6,628	NA	7,293	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.

LATITUDE 39°32'30"

10,543'

LATITUDE 39°32'30"

3,908' TO BOTTOM HOLE

Antero Resources Corporation Well No. Glamdring Unit 1H

AS DRILLED DATA:

WELL 1H TOP HOLE INFORMATION:

N: 373,386ft E: 1,625,071ft
LAT: 39°31'03.17" LON: 80°49'44.54"

BOTTOM HOLE INFORMATION:

N: 360,611ft E: 1,631,523ft
LAT: 39°28'57.86" LON: 80°48'19.84"

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 1H TOP HOLE INFORMATION:

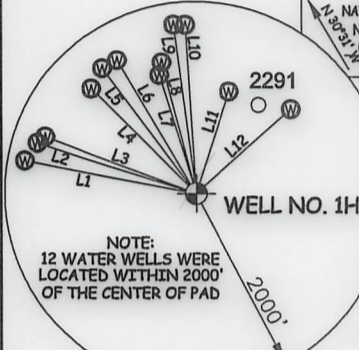
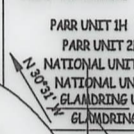
N: 4,374,235m E: 514,710m

BOTTOM HOLE INFORMATION:

N: 4,370,376m E: 516,741m

PAD LAYOUT

NOT TO SCALE



WELL NO. 1H

NOTE:
12 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD

22-16.3	Charles Stevens
22-17	Dorothy Stevens Revocable Trust
22-18	Clara Baker
22-18.1	Dorothy Stevens Revocable Trust
22-21	Paul Baker
22-22	Paul Baker
22-23	Anthony Parr
22-23.1	Raymond Parr
22-23.2	Anthony Parr
22-24	Ruth Weekley Est.
22-25	Paul Baker
22-26	John Sole
22-27	Carol Knapp Revocable Trust
22-28	WSD Properties LLC
22-29	WSD Properties LLC
22-30	WSD Properties LLC
22-31	Richard Grodsky Et Al
22-32	Richard Grodsky Et Al
22-33	Wilma Weekley
22-34	Raymond Parr Et Al
22-38	Bruce Parr
22-40	Ronald Webb

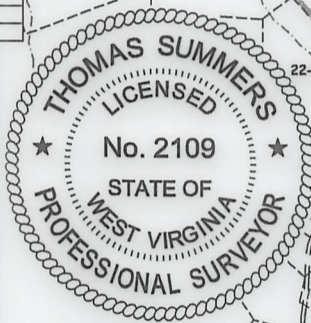
LINE	BEARING	DIST.	LINE	BEARING	DIST.
L1	N 79°23' W	1820.64'	L7	N 17°11' W	1289.39'
L2	N 72°38' W	1737.73'	L8	N 14°44' W	1409.38'
L3	N 69°39' W	1680.54'	L9	N 07°35' W	1774.82'
L4	N 45°05' W	1540.95'	L10	N 03°37' W	1761.12'
L5	N 36°53' W	1627.55'	L11	N 17°55' E	1113.36'
L6	N 30°40' W	1612.05'	L12	N 48°24' E	1322.09'

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.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO
WEST VIRGINIA 26415



JOB # 21-008WA
DRAWING # GLAMDING1HAD
SCALE 1" = 2000'
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

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

DATE 04/07/22
OPERATOR'S WELL# GLAMDING UNIT #1H

WELL 1H POINT OF ENTRY INFORMATION:
WV STATE PLANE NAD '27 (NORTH ZONE):
N: 373,874ft E: 1,627,109ft
GEOGRAPHIC (NAD) 27:
LAT: 39°31'08.30" LON: 80°49'18.63"
(NAD) 83 (UTM) ZONE 17 COORDS:
N: 4,374,394m E: 515,329m

- NOTES
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.

Ellsworth District - Tyler County	
11-51	Bear Knob Holdings LLC
16-5	David Leek
16-5.1	Richard Ferrell
16-6	Kayla Leek
16-7	John Thomas
16-7.1	Lianne Wilson
16-8	Jean Neel Et Al
16-9	Bear Knob Holdings LLC
16-10	Jean Neel Et Al
16-11	Jean Neel Et Al
16-15	Harvey Miller Et Al
16-16	Harvey Miller Et Al
16-16.1	Barbara Kittle
16-17	Alfred Steele
16-18	Alfred Steele
16-19	Jean Neel Et Al
16-20	Jean Neel Et Al
16-21	Kayla Leek
16-24	James Eastham
16-25	Nancy Fowler
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22-9	Steven Wright
22-10	Leslie Henderson
22-13	Debra Blake
22-14	Leslie Weekley
22-15	Lonnie Wade Et Al
22-16	Darlene Stephens
22-16.1	Joann McSwegin
22-16.2	Sarah Bassett

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ API WELL # 47 - 095 - 02742
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
LOCATION: ELEVATION AS BUILT - 1,040' WATERSHED OUTLET MIDDLE ISLAND CREEK

QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER
SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/-

OIL & GAS ROYALTY OWNER RIDGETOP CAPITAL LP; RIDGETOP CAPITAL LP; RIDGETOP CAPITAL LP; DOUGLAS SCOTT FUNK, SR.; ANTERO RESOURCES CORP.; JOHN E. VALENTOUR ET UX; LEASE ACREAGE 69.06 AC.±; 43.5 AC.±;
BRC APPALACHIAN MINERALS I LLC; S.A. SMITH & C.B. MORRIS HEIRS TRUST; BRC APPALACHIAN MINERALS I LLC; 55.13 AC.±; 304.5 AC.±;
BOUNTY MINERALS LLC; BETTY MOREHEAD ET VIR; DAVID E. BOWYER; LAURA MAY; BRENDA CUIC; KAREN J. WOLF 92.25 AC.±; 68.88 AC.±; 75 AC.±; 48.37 AC.±; 114 AC.±; 28.28 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 6,664' TVD 21,249' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

COUNTY NAME PERMIT

LATITUDE 39°32'30"

10,543'

LATITUDE 39°32'30"

3,908' TO BOTTOM HOLE

6,288' TO BOTTOM HOLE

8,785'

LONGITUDE 80°47'30"

LONGITUDE 80°47'30"

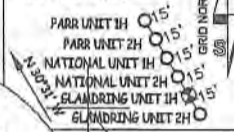
Antero Resources Corporation Well No. Glamdring Unit 1H

AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
 N: 373,386ft E: 1,625,071ft
 LAT: 39°31'03.17" LON: 80°49'44.54"
BOTTOM HOLE INFORMATION:
 N: 360,611ft E: 1,631,523ft
 LAT: 39°28'57.86" LON: 80°48'19.84"
 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 1H TOP HOLE INFORMATION:
 N: 4,374,235m E: 514,710m
BOTTOM HOLE INFORMATION:
 N: 4,370,376m E: 516,741m

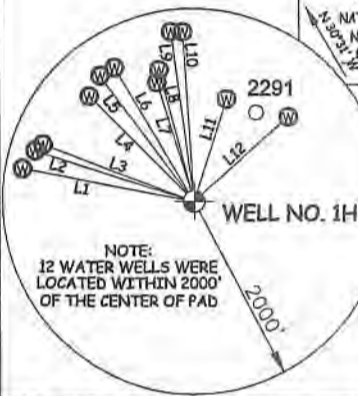
PAD LAYOUT

NOT TO SCALE



1H TOP HOLE

22-16.3	Charles Stevens
22-17	Dorothy Stevens Revocable Trust
22-18	Clara Baker
22-18.1	Dorothy Stevens Revocable Trust
22-21	Paul Baker
22-22	Paul Baker
22-23	Anthony Parr
22-23.1	Raymond Parr
22-23.2	Anthony Parr
22-24	Ruth Weakley Est.
22-25	Paul Baker
22-26	John Sole
22-27	Carol Knapp Revocable Trust
22-28	WSD Properties LLC
22-29	WSD Properties LLC
22-30	WSD Properties LLC
22-31	Richard Erodajty Et Al
22-32	Richard Erodajty Et Al
22-33	Wilma Weakley
22-34	Raymond Parr Et Al
22-38	Bruce Parr
22-40	Ronald Webb



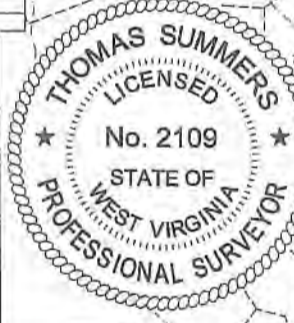
NOTE:
12 WATER WELLS WERE LOCATED WITHIN 2000' OF THE CENTER OF PAD

LINE	BEARING	DIST.	LINE	BEARING	DIST.
L1	N 79°23' W	1820.64'	L7	N 17°11' W	1289.39'
L2	N 72°38' W	1737.73'	L8	N 14°44' W	1409.38'
L3	N 69°39' W	1680.54'	L9	N 07°35' W	1774.82'
L4	N 45°05' W	1540.95'	L10	N 03°37' W	1761.12'
L5	N 36°53' W	1627.55'	L11	N 17°55' E	1113.36'
L6	N 30°40' W	1612.05'	L12	N 48°24' E	1322.09'

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



JOB # 21-008WA
 DRAWING # GLAMDING1HAD
 SCALE 1" = 2000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
 - - - Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 O Proposed Well Path
 O As Drilled Well Path
 THOMAS SUMMERS P.S. 2109
 DATE 04/07/22
 OPERATOR'S WELL# GLAMDING UNIT #1H

WELL 1H POINT OF ENTRY INFORMATION:
 WV STATE PLANE NAD '27 (NORTH ZONE):
 N: 373,874ft E: 1,627,109ft
 GEOGRAPHIC (NAD) 27:
 LAT: 39°31'08.30" LON: 80°49'18.63"
 (NAD) 83 (UTM) ZONE 17 COORDS:
 N: 4,374,394m E: 515,329m

- NOTES**
- 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.
 - TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 - WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 - WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ API WELL # 47 - 095 - 02742
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
 LOCATION: ELEVATION AS BUILT - 1,040' WATERSHED OUTLET MIDDLE ISLAND CREEK
 QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER
 SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/-
 OIL & GAS ROYALTY OWNER RIDGETOP CAPITAL LP; RIDGETOP CAPITAL IV LP; LEASE ACREAGE 69.06 AC.±; 43.5 AC.±;
 RIDGETOP CAPITAL IV LP; DOUGLAS SCOTT FUNK, SR.; ANTERO RESOURCES CORP.; JOHN E. VALENTOUR ET UX; 16.5 AC.±; 10 AC.±; 40 AC.±; 80 AC.±;
 BRC APPALACHIAN MINERALS I LLC; S.A. SMITH & C.B. MORRIS HEIRS TRUST; BRC APPALACHIAN MINERALS I LLC; 55.13 AC.±; 304.5 AC.±; 06/02/2023
 BOUNTY MINERALS LLC; BETTY MOREHEAD ET VIR; DAVID E. BOWYER; LAURA MAY; BRENDA CUIC; KAREN J. WOLF 92.25 AC.±; 68.88 AC.±; 75 AC.±; 48.37 AC.±; 114 AC.±; 28.28 AC.±;
 PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
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 ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

Ellsworth District - Tyler County

11-51	Bear Knob Holdings LLC
16-5	David Leek
16-5.1	Richard Ferrell
16-6	Kayla Leek
16-7	John Thomas
16-7.1	Lianne Wilson
16-8	Jean Neel Et Al
16-9	Bear Knob Holdings LLC
16-10	Jean Neel Et Al
16-11	Jean Neel Et Al
16-15	Harvey Miller Et Al
16-16	Harvey Miller Et Al
16-16.1	Barbara Kittle
16-17	Alfred Steele
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22-15	Lannie Wade Et Al
22-16	Darlene Stephens
22-16.1	Joann McSwegin
22-16.2	Sarah Bassett

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/9/2021
Job End Date:	1/1/2022
State:	West Virginia
County:	Tyler
API Number:	47-095-02742-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	GLAMDRING UNIT 1H
Latitude:	39.51755000
Longitude:	-80.82904000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,694
Total Base Water Volume (gal):	20,995,160
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 Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	86.31600	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.05522	

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MC B-8614A	MultiChem	Biocide					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
FLUID Enviro-Syn HCR-7000-WL	Fluid Energy Group	Acid Replacement					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			

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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	13.54683
			Complex Amine Compound	Proprietary	60.00000	0.03348
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01674
			Proprietary	Proprietary	20.00000	0.01109
			Proprietary	Proprietary	10.00000	0.00554
			Guar gum	9000-30-0	100.00000	0.00403
			Hydrochloric acid	7647-01-0	30.00000	0.00389
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00279
			Surfactant	Proprietary	5.00000	0.00279
			Glutaraldehyde	111-30-8	30.00000	0.00263
			Ethoxylated alcohols	Proprietary	5.00000	0.00056
			Alkoxyated polyhydric alcohol	Proprietary	1.00000	0.00056
			Organic chloride compound	Proprietary	1.00000	0.00056
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00044
			Ammonium persulfate	7727-54-0	100.00000	0.00015
			Ethanol	64-17-5	1.00000	0.00009
			Oxylated phenolic resin	Proprietary	30.00000	0.00005
			Methanol	67-56-1	100.00000	0.00002
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00001
			Modified thiourea polymer	Proprietary	30.00000	0.00001
			Sodium glycolate	2836-32-0	0.01000	0.00001
			Nitrated acetate salt	Proprietary	0.01000	0.00001
			Organic salt #2	Proprietary	0.01000	0.00001
			Acrylamide	79-06-1	0.01000	0.00001

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			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	
			Propargyl alcohol	107-19-7	5.00000	0.00000	
			Hexadecene	629-73-2	5.00000	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)

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