

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

API 47 - 095 - 02706 County Tyler District Ellsworth
Quad Porter Falls 7.5' Pad Name Margery Pad Field/Pool Name -----
Farm name Kayla Leek Well Number Specter 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 4374198m Easting 514653m
Landing Point of Curve Northing 4374505.19m Easting 515030.76m
Bottom Hole Northing 4377734m Easting 513954m

Elevation (ft) 1042' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Air - Foam & 4% KCL
Mud - Polymer

Date permit issued 9/23/2020 Date drilling commenced 11/10/2020 Date drilling ceased 12/15/2020
Date completion activities began 2/3/2021 Date completion activities ceased 3/12/2021
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 None identified Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

API 47-095 - 02706 Farm name Kayla Leek Well number Specter 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"	372'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2602'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18827'	New	20#, P-110	N/A	Y
Tubing		2-3/8"	7085'		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	285 sx	15.6	1.18	60	0'	8 Hrs.
Surface	Class A	431 sx	15.6	1.20	92	0'	8 Hrs.
Coal							
Intermediate 1	Class A	994 sx	15.6	1.19	199	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	792 sx (Lead) 2877 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.4 (Lead), 1.26 (Tail)	648	-500' into Intermediate Casing RECEIVED	8 Hrs.
Tubing						Office of Oil and Gas	

Drillers TD (ft) 18848' MD, 6560' TVD (BHL), 6628' (Deepest Point Drilled) Loggers TD (ft) 18848' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A **MAR 28 2023**
 Plug back procedure N/A

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Kick off depth (ft) 6030'

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 - 02706 Farm name Kayla Leek Well number Specter Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE ATTACHED EXHIBIT 1					

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STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

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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 - 02706 Farm name Kayla Leek Well number Specter Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6577' (TOP)</u>	<u>TVD</u>	<u>7157' (TOP)</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

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 1992 mcfpd Oil 89 bpd NGL --- bpd Water 61 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**

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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 Oilfield Services
Address 300 Schlumberger Dr City Sugarland State TX Zip 77478

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 3/27/2023

API 47-095-02706 Farm Name Kayla Leek Well Number Specter Unit 2H

Exhibit 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/3/2021	18730	18688	36	Marcellus
2	2/4/2021	18649.43275	18483.5965	36	Marcellus
3	2/5/2021	18448.02924	18282.193	36	Marcellus
4	2/5/2021	18246.62573	18080.7895	36	Marcellus
5	2/6/2021	18045.22222	17879.386	36	Marcellus
6	2/6/2021	17843.81871	17677.9825	36	Marcellus
7	2/7/2021	17642.4152	17476.5789	36	Marcellus
8	2/7/2021	17441.0117	17275.1754	36	Marcellus
9	2/8/2021	17239.60819	17073.7719	36	Marcellus
10	2/8/2021	17038.20468	16872.3684	36	Marcellus
11	2/9/2021	16836.80117	16670.9649	36	Marcellus
12	2/9/2021	16635.39766	16469.5614	36	Marcellus
13	2/10/2021	16433.99415	16268.1579	36	Marcellus
14	2/10/2021	16232.59064	16066.7544	36	Marcellus
15	2/11/2021	16031.18713	15865.3509	36	Marcellus
16	2/11/2021	15829.78363	15663.9474	36	Marcellus
17	2/12/2021	15628.38012	15462.5439	36	Marcellus
18	2/12/2021	15426.97661	15261.1404	36	Marcellus
19	2/13/2021	15225.5731	15059.7368	36	Marcellus
20	2/14/2021	15024.16959	14858.3333	36	Marcellus
21	2/14/2021	14822.76608	14656.9298	36	Marcellus
22	2/15/2021	14621.36257	14455.5263	36	Marcellus
23	2/15/2021	14419.95906	14254.1228	36	Marcellus
24	2/16/2021	14218.55556	14052.7193	36	Marcellus
25	2/16/2021	14017.15205	13851.3158	36	Marcellus
26	2/17/2021	13815.74854	13649.9123	36	Marcellus
27	2/17/2021	13614.34503	13448.5088	36	Marcellus
28	2/17/2021	13412.94152	13247.1053	36	Marcellus
29	2/18/2021	13211.53801	13045.7018	36	Marcellus
30	2/18/2021	13010.1345	12844.2982	36	Marcellus
31	2/18/2021	12808.73099	12642.8947	36	Marcellus
32	2/18/2021	12607.32749	12441.4912	36	Marcellus
33	2/19/2021	12405.92398	12240.0877	36	Marcellus
34	2/19/2021	12204.52047	12038.6842	36	Marcellus
35	2/19/2021	12003.11696	11837.2807	36	Marcellus
36	2/20/2021	11801.71345	11635.8772	36	Marcellus
37	2/20/2021	11600.30994	11434.4737	36	Marcellus
38	2/20/2021	11398.90643	11233.0702	36	Marcellus
39	2/20/2021	11197.50292	11031.6667	36	Marcellus
40	2/21/2021	10996.09942	10830.2632	36	Marcellus
41	2/21/2021	10794.69591	10628.8596	36	Marcellus
42	2/21/2021	10593.2924	10427.4561	36	Marcellus
43	2/22/2021	10391.88889	10226.0526	36	Marcellus
44	2/22/2021	10190.48538	10024.6491	36	Marcellus
45	2/22/2021	9989.081871	9823.24561	36	Marcellus
46	2/22/2021	9787.678363	9621.84211	36	Marcellus
47	2/22/2021	9586.274854	9420.4386	36	Marcellus
48	2/23/2021	9384.871345	9219.03509	36	Marcellus
49	2/23/2021	9183.467836	9017.63158	36	Marcellus
50	2/23/2021	8982.064327	8816.22807	36	Marcellus
51	2/24/2021	8780.660819	8614.82456	36	Marcellus
52	2/24/2021	8579.25731	8413.42105	36	Marcellus
53	2/24/2021	8377.853801	8212.01754	36	Marcellus
54	2/24/2021	8176.450292	8010.61404	36	Marcellus
55	2/25/2021	7975.046784	7809.21053	36	Marcellus
56	2/25/2021	7773.643275	7607.80702	36	Marcellus
57	2/25/2021	7572.239766	7406.40351	36	Marcellus
58	2/25/2021	7370.836257	7205	36	Marcellus

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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	2/3/2021	53.82	8650	9048	2885	166930	254543	N/A
2	2/4/2021	76	8365	6842	3236	405700	310701	N/A
3	2/5/2021	74.26	8453	5836	3874.9	406659	308281	N/A
4	2/5/2021	79.03	8406	5930	4192	405915	313544	N/A
5	2/6/2021	75.71	8044	5811	3949.29	405898	308144	N/A
6	2/6/2021	78.9	8322	6205	3957	406320	309686	N/A
7	2/7/2021	79.31	8137	5883	4353	412080	307147	N/A
8	2/7/2021	79.39	8338	5826	4132	409850	304342	N/A
9	2/8/2021	73.79	8063	5694	4714	409300	381512	N/A
10	2/8/2021	79.57	8164	5846	4155	413600	305854	N/A
11	2/9/2021	78.75	8084	5921	4198	413670	305146	N/A
12	2/9/2021	76.76	7916	8574	4086.68	405979	301483	N/A
13	2/10/2021	75.3	7899	7943	4561	412330	303796	N/A
14	2/10/2021	74.52	7920	5482	4436.24	405927	300382	N/A
15	2/11/2021	82.57	8198	5560	4025	410740	297660	N/A
16	2/11/2021	81.07	8258	5482	4496	406534	306009	N/A
17	2/12/2021	77.74	8277	5549	4121	409790	300347	N/A
18	2/12/2021	73.91	7903	5564	4366.62	406051	299200	N/A
19	2/13/2021	77.71	7991	5441	4188	409910	297401	N/A
20	2/14/2021	70.83	8187	5354	4818	279613	440203	N/A
21	2/14/2021	75.07	8209	5182	4061.17	406040	299006	N/A
22	2/15/2021	81.78	8020	5110	4219	412830	305351	N/A
23	2/15/2021	79.7	8159	5406	4679	405979	327424	N/A
24	2/16/2021	81.14	7924	5057	4712	414220	300415	N/A
25	2/16/2021	82.1	7957	6080	4705	405510	300545	N/A
26	2/17/2021	84.32	8119	8275	3829	405477	313522	N/A
27	2/17/2021	68.86	8030	5826	4604.37	405958	439638	N/A
28	2/17/2021	81.86	8069	5195	4512	405856	297509	N/A
29	2/18/2021	82.68	7709	7809	3646.12	405810	297537	N/A
30	2/18/2021	84.73	7983	7584	4592.9	406109	298436	N/A
31	2/18/2021	81.37	7926	5326	3963.52	405974	299144	N/A
32	2/18/2021	84.1	7805	8216	4583	405921	294741	N/A
33	2/19/2021	83.91	7974	8400	4487	408913	297377	N/A
34	2/19/2021	83.83	7859	4978	4596.89	405905	298583	N/A
35	2/19/2021	83.97	7670	7348	3753	406070	296007	N/A
36	2/20/2021	84.14	7638	6910	3725	410430	295666	N/A
37	2/20/2021	81.4	7409	4987	4041.71	406115	323014	N/A
38	2/20/2021	82.92	7555	3758	3960	406590	341029	N/A
39	2/20/2021	84.33	7762	8192	3948	417614	295976	N/A
40	2/21/2021	81.8	7642	5509	4286.08	406126	353177	N/A
41	2/21/2021	83.45	7536	3981	4839.99	406334	296119	N/A
42	2/21/2021	84.82	7241	7891	4408	405971	293110	N/A
43	2/22/2021	84.36	7459	8224	4228	416272	291419	N/A
44	2/22/2021	83.98	7403	8183	4240.11	407690	294223	N/A
45	2/22/2021	80.92	7046	3922	4428.22	408260	288709	N/A
46	2/22/2021	82.39	7028	5287	4295	406980	285701	N/A
47	2/22/2021	84.38	7127	5883	4118	411890	293675	N/A
48	2/23/2021	85.1	7206	5788	4469	408340	307057	N/A
49	2/23/2021	80.63	6889	5888	4380	410030	294711	N/A
50	2/23/2021	84.27	7084	6229	4026	407210	286279	N/A
51	2/24/2021	84.38	6861	6474	4003	410572	293719	N/A
52	2/24/2021	82.9	6763	6314	4367	413990	302338	N/A
53	2/24/2021	84.12	6876	5574	4204	412020	293999	N/A
54	2/24/2021	83.99	6870	6276	4160	410030	295665	N/A
55	2/25/2021	84.15	7053	5135	4280	406590	290203	N/A
56	2/25/2021	85.03	6948	5627	4389	406630	293930	N/A
57	2/25/2021	84	6776	6193	4324	407880	287399	N/A
58	2/25/2021	84.21	6933	5935	3631	407440	282412	N/A
	AVG=	80	7,726	6,168	4,214	23,320,372	17,800,146	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	1,897	1,904	1,900
Big Lime	1,923	2,581	1,926	2,585
Fifty Foot Sandstone	2,581	2,756	2,585	2,760
Gordon	2,756	3,043	2,760	3,048
Fifth Sandstone	3,043	3,107	3,048	3,113
Bayard	3,107	3,908	3,113	3,974
Speechley	3,908	4,251	3,974	4,360
Balltown	4,251	4,609	4,360	4,758
Bradford	4,609	5,034	4,758	5,227
Benson	5,034	5,257	5,227	5,475
Alexander	5,257	6,421	5,475	6,796
Sycamore	6,287	6,395	6,624	6,770
Middlesex	6,395	6,494	6,770	6,937
Burkett	6,494	6,519	6,937	6,989
Tully	6,519	6,577	6,989	7,157
Marcellus	6,577	NA	7,157	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.

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LATITUDE 39°32'30"

10,730'

LATITUDE 39°35'00"

1,251' TO BOTTOM HOLE

Antero Resources Corporation Well No. Specter Unit 2H

Table with 3 columns: Well ID, Owner Name, and Acres. Lists owners from A to Z including Charles Ray Jobs, Reop, LLC, Heritage Resources-Marcellus Minerals, LLC, etc.

NOTES: WELL 2H TOP HOLE INFORMATION: N: 373,269ft E: 1,624,882ft LAT: 39°31'01.99" LON: 80°49'46.93" BOTTOM HOLE INFORMATION: N: 384,911ft E: 1,622,780ft LAT: 39°32'56.74" LON: 80°50'15.96" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT TAPMETER 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: 4,374,198m E: 514,653m BOTTOM HOLE INFORMATION: N: 4,377,734m E: 513,954m

WV NORTH ZONE GRID NORTH

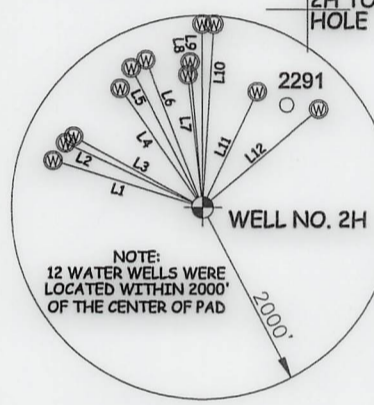
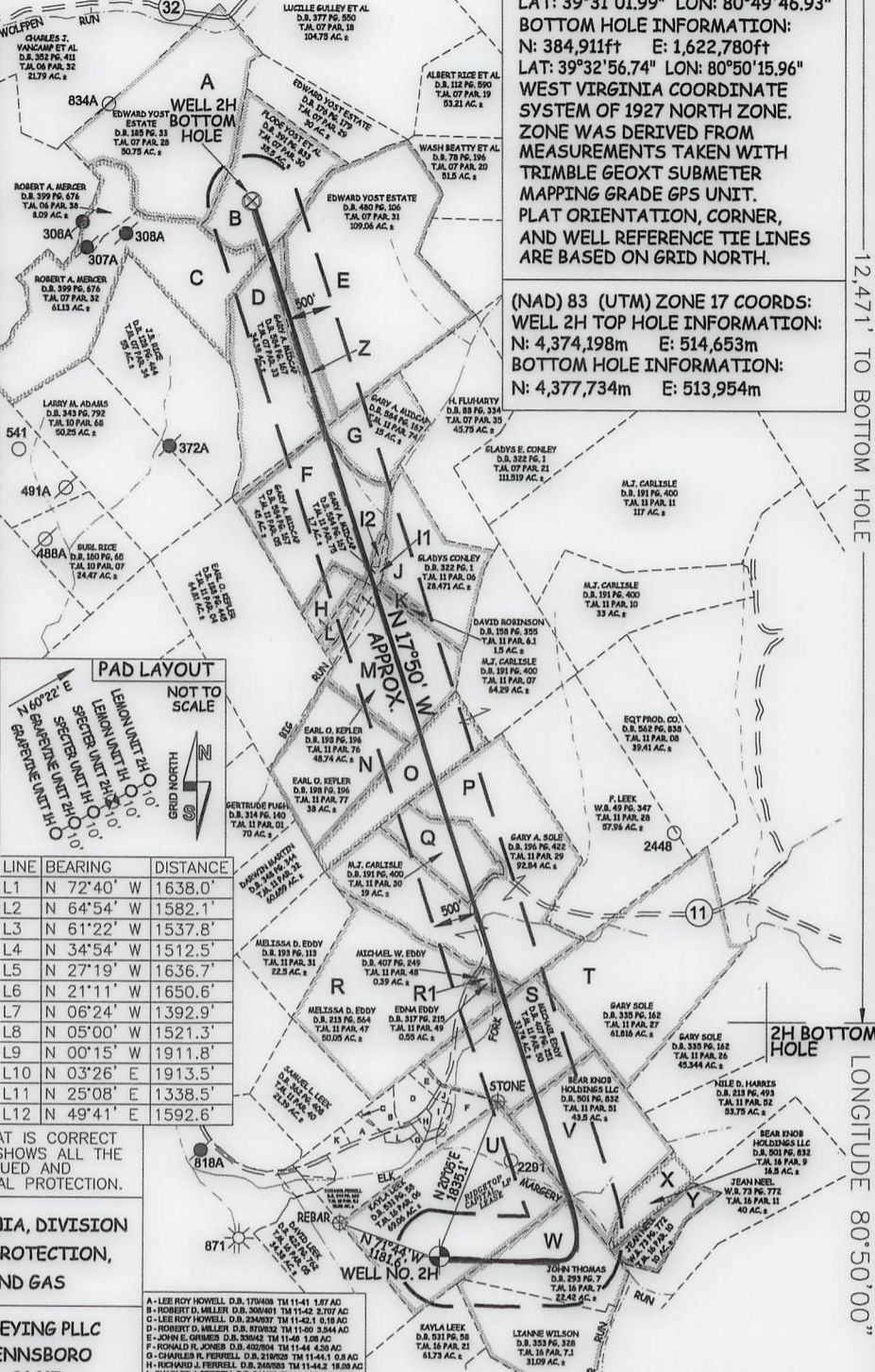


Table with 3 columns: LINE, BEARING, DISTANCE. Lists well paths L1 through L12 with bearings and distances.

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.

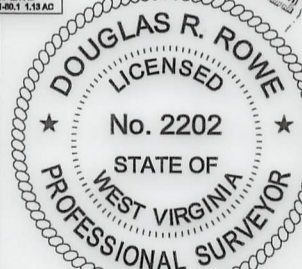


STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS. WILLOW LAND SURVEYING PLLC 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

A-LEE ROY HOWELL D.B. 170408 TM 11-41 1.87 AC B-ROBERT O. MILLER D.B. 300401 TM 11-42 2.707 AC C-LEE ROY HOWELL D.B. 234007 TM 11-42 1.819 AC D-ROBERT O. MILLER D.B. 870852 TM 11-40 3.544 AC E-JOHN E. GRUBBS D.B. 330412 TM 11-40 1.08 AC F-RONALD R. JONES D.B. 402804 TM 11-44 4.20 AC G-CHARLES J. FERRELL D.B. 218028 TM 11-44 1.02 AC H-ROBERT J. FERRELL D.B. 240008 TM 11-44 18.09 AC I-CHARLES J. FERRELL D.B. 341028 TM 11-44 3.198 AC J-ROBERT J. JONES D.B. 402804 TM 11-45 0.88 AC K-SARAH E. PITTMAN D.B. 214009 TM 11-43 2.4 AC L-RICHARD J. FERRELL D.B. 421078 TM 11-40 1.13 AC

JOB # 20-007WA DRAWING # SPECTER2HAD 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 +/-, Proposed Well Path, As Drilled Well Path. DOUGLAS R. ROWE P.S. 2202 DATE 06/09/21 OPERATOR'S WELL# SPECTER UNIT #2H



- 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.

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02706 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,042' AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/- LEASE ACREAGE 69.06 ACRES +/-; 58.56 ACRES +/-; 43.5 ACRES +/-; 33.74 ACRES +/-; 50.05 ACRES +/-; 92.5 ACRES +/-; 19 ACRES +/-; RIDGETOP CAPITAL IV LP; MICHAEL W. EDDY; MELISSA DAWN PILANT; GARY A. SOLE; J. MAURICE CARLISLE JR.; RALPH D. THACKER; CHARLES RAY JOBS; BOUNTY MINERALS, LLC; FISHER OIL COMPANY; RYAN GREENLEE ET UX; JUSTUS A. EAKIN; FISHER OIL COMPANY; REOP, LLC 25 ACRES +/-; 48.74 ACRES +/-; 1.09 ACRES +/-; 45.67 ACRES +/-; 15 ACRES +/-; 12 ACRES +/-; 38 ACRES +/-; 17 ACRES +/- 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 6,560' TVD 18,848' 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

LONGITUDE 80°47'30"

LONGITUDE 80°50'00"

COUNTY NAME PERMIT

LATITUDE 39°32'30"

10,730'

LATITUDE 39°35'00"

1,251' TO BOTTOM HOLE

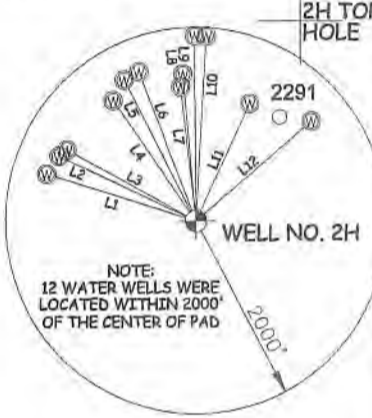
Antero Resources Corporation Well No. Specter Unit 2H

Table with 3 columns: Well No., Owner Name, and Acres. Lists owners from A to Z including Charles Ray Jobs, Reop, LLC, Fisher Oil Company, etc.

WV NORTH ZONE GRID NORTH

NOTES: WELL 2H TOP HOLE INFORMATION: N: 373,269ft E: 1,624,882ft LAT: 39°31'01.99" LON: 80°49'46.93" BOTTOM HOLE INFORMATION: N: 384,911ft E: 1,622,780ft LAT: 39°32'56.74" LON: 80°50'15.96" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE...

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,374,198m E: 514,653m BOTTOM HOLE INFORMATION: N: 4,377,734m E: 513,954m



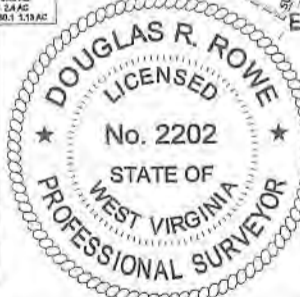
PAD LAYOUT NOT TO SCALE. Table with 3 columns: LINE, BEARING, DISTANCE. Lists lines L1 through L12 with bearings and distances.

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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

A-LEEBOY HOWELL D.B. 179809 TM 11-41 1.67 AC B-ROBERT O. WELLS D.B. 208901 TM 11-41 2.97 AC C-LEEBOY HOWELL D.B. 204907 TM 11-41 0.16 AC D-ROBERT O. WELLS D.B. 179809 TM 11-41 0.2044 AC E-STEPHEN L. GRUBER D.B. 39642 TM 11-41 1.88 AC F-ROBERT O. WELLS D.B. 402804 TM 11-41 4.20 AC G-CHARLES R. FERRELL D.B. 213808 TM 11-41 0.14 AC H-RICHARD J. FERRELL D.B. 246909 TM 11-41 0.29 AC I-CHARLES J. FERRELL D.B. 246909 TM 11-41 1.20 AC J-ROBERT O. WELLS D.B. 402804 TM 11-41 0.48 AC K-BARBARA E. PITTMAN D.B. 214909 TM 11-41 0.24 AC L-RICHARD J. FERRELL D.B. 421808 TM 11-41 0.13 AC



WV Department of Environmental Protection RECEIVED MAR 28 2023. 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 # 20-007WA DRAWING # SPECTER2HAD 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. DOUGLAS R. ROWE P.S. 2202

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

DATE 06/09/21 OPERATOR'S WELL# SPECTER UNIT #2H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02706 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,042' AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER SURFACE OWNER KAYLA LEEK ACREAGE 69.06 ACRES +/- LEASE ACREAGE 69.06 AC +/- 58.56 AC +/- OIL & GAS ROYALTY OWNER RIDGETOP CAPITAL LP; BRC APPALACHIAN MINERALS I LLC RIDGETOP CAPITAL IV LP; MICHAEL W. EDDY; MELISSA DAWN PILANT; GARY A. SOLE; J. MAURICE CARLISLE JR.; 43.5 AC +/- 33.74 AC +/- 50.05 AC +/- 92.5 AC +/- 19 AC +/- RALPH D. THACKER; CHARLES RAY JOBS; BOUNTY MINERALS, LLC; FISHER OIL COMPANY; 25 AC +/- 48.74 AC +/- 1.09 AC +/- 45.67 AC +/- RYAN GREENLEE ET UX; JUSTUS A. EAKIN; FISHER OIL COMPANY; REOP, LLC 15 AC +/- 12 AC +/- 38 AC +/- 17 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 6,560' TVD 18,848' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD DENVER, CO 80202 CHARLESTON, WV 25313

12,471' TO BOTTOM HOLE LONGITUDE 80°47'30" LONGITUDE 80°50'00" COUNTY NAME PERMIT

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/2/2021
Job End Date:	2/25/2021
State:	West Virginia
County:	Tyler
API Number:	47-095-02706-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Specter 2H
Latitude:	39.51722000
Longitude:	-80.82970000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,628
Total Base Water Volume (gal):	18,634,731
Total Base Non Water Volume:	0



RECEIVED
Office of Oil and Gas
MAR 28 2023
WV Department of
Environmental Protection

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 Mixture	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	87.00556	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.17127	

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			
Excelerate LX-15	Halliburton	Friction Reducer					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				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	12.79610	
			Hydrochloric acid	7647-01-0	30.00000	0.03911	
			Complex Amine Compound	Proprietary	60.00000	0.03245	

			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01622	
			Guar gum	9000-30-0	100.00000	0.00507	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00270	
			Surfactant	Proprietary	5.00000	0.00270	
			Glutaraldehyde	111-30-8	30.00000	0.00254	
			Ethoxylated alcohols	Proprietary	5.00000	0.00055	
			Alkoxylated polyhydric alcohol	Proprietary	1.00000	0.00054	
			Organic chloride compound	Proprietary	1.00000	0.00054	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00042	
			Methanol	67-56-1	100.00000	0.00033	
			Ammonium persulfate	7727-54-0	100.00000	0.00013	
			Ethanol	64-17-5	1.00000	0.00008	
			Modified thiourea polymer	Proprietary	30.00000	0.00007	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00007	
			Oxylated phenolic resin	Proprietary	30.00000	0.00004	
			Hexadecene	629-73-2	5.00000	0.00001	
			Propargyl alcohol	107-19-7	5.00000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Formaldehyde	50-00-0	0.01000	0.00001	
			Organic salt #2	Proprietary	0.01000	0.00001	
			Nitrated acetate salt	Proprietary	0.01000	0.00001	
			Acrylamide	79-06-1	0.01000	0.00001	
			Sodium glycolate	2836-32-0	0.01000	0.00001	
			Organic salt #1	Proprietary	0.01000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	

			C.I. pigment Orange 5	3468-63-1	1.00000	0.00000	
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* 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)