

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

API 47 - 095 - 02800 County Tyler District Ellsworth
Quad Porter Falls 7.5' Pad Name Furbee Field/Pool Name -----
Farm name Antero Midstream LLC Well Number Crystal 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 4375456m Easting 518717m
Landing Point of Curve Northing 4375612.48m Easting 518964.26m
Bottom Hole Northing 4378624m Easting 517937m

Elevation (ft) 1223' 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

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Date permit issued 7/26/2022 Date drilling commenced 9/30/2022 Date drilling ceased 11/27/2022
Date completion activities began 2/19/2023 Date completion activities ceased 4/4/2023
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 880' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 959' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 431' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

APPROVED

09/22/2023

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[Handwritten date]

API 47-095 - 02800 Farm name Antero Midstream LLC Well number Crystal 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	28"	20"	125.5'	New	78.67#, X-60	N/A	Y
Surface	17-1/2"	13-3/8"	994'	New	54.5#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3370'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" /8-1/2"	5-1/2"	17932'	New	20#, P-110	N/A	Y
Tubing		2-3/8"	7056'		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	198 sx	15.6	1.18	233	0'	8 Hrs.
Surface	Class A	768 sx	15.6	1.20	921	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1152 sx	15.6	1.20	1382	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	2682 sx (Tail)	13.5 (Lead), 15.2(Tail)	1.26 (Tail)	3379	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17932' MD, 6899' TVD (BHL), 6923' TVD (Deepest Point Drilled) Loggers TD (ft) 17932' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6266'

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 JUN 23 2023

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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DM

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/19/2023	17806.6	17763.6	60	Marcellus
2	2/19/2023	17724.74744	17559.4846	60	Marcellus
3	2/19/2023	17524.03205	17358.7692	60	Marcellus
4	2/19/2023	17323.31667	17158.0538	60	Marcellus
5	2/20/2023	17122.60128	16957.3385	60	Marcellus
6	2/20/2023	16921.8859	16756.6231	60	Marcellus
7	2/20/2023	16721.17051	16555.9077	60	Marcellus
8	2/20/2023	16520.45513	16355.1923	60	Marcellus
9	2/20/2023	16319.73974	16154.4769	60	Marcellus
10	2/21/2023	16119.02436	15953.7615	60	Marcellus
11	2/21/2023	15918.30897	15753.0462	60	Marcellus
12	2/21/2023	15717.59359	15552.3308	60	Marcellus
13	2/21/2023	15516.87821	15351.6154	60	Marcellus
14	2/21/2023	15316.16282	15150.9	60	Marcellus
15	2/21/2023	15115.44744	14950.1846	60	Marcellus
16	2/22/2023	14914.73205	14749.4692	60	Marcellus
17	2/22/2023	14714.01667	14548.7538	60	Marcellus
18	2/22/2023	14513.30128	14348.0385	60	Marcellus
19	2/22/2023	14312.5859	14147.3231	60	Marcellus
20	2/22/2023	14111.87051	13946.6077	60	Marcellus
21	2/23/2023	13911.15513	13745.8923	60	Marcellus
22	2/23/2023	13710.43974	13545.1769	60	Marcellus
23	2/23/2023	13509.72436	13344.4615	60	Marcellus
24	2/23/2023	13309.00897	13143.7462	60	Marcellus
25	2/23/2023	13108.29359	12943.0308	60	Marcellus
26	2/23/2023	12907.57821	12742.3154	60	Marcellus
27	2/24/2023	12706.86282	12541.6	60	Marcellus
28	2/24/2023	12506.14744	12340.8846	60	Marcellus
29	2/24/2023	12305.43205	12140.1692	60	Marcellus
30	2/24/2023	12104.71667	11939.4538	60	Marcellus
31	2/24/2023	11904.00128	11738.7385	60	Marcellus
32	2/24/2023	11703.2859	11538.0231	60	Marcellus
33	2/25/2023	11502.57051	11337.3077	60	Marcellus
34	2/25/2023	11301.85513	11136.5923	60	Marcellus
35	2/25/2023	11101.13974	10935.8769	60	Marcellus
36	2/25/2023	10900.42436	10735.1615	60	Marcellus
37	2/25/2023	10699.70897	10534.4462	60	Marcellus
38	2/25/2023	10498.99359	10333.7308	60	Marcellus
39	2/26/2023	10298.27821	10133.0154	60	Marcellus
40	2/26/2023	10097.56282	9932.3	60	Marcellus
41	2/26/2023	9896.847436	9731.58462	60	Marcellus
42	2/26/2023	9696.132051	9530.86923	60	Marcellus
43	2/26/2023	9495.416667	9330.15385	60	Marcellus
44	2/26/2023	9294.701282	9129.43846	60	Marcellus
45	2/27/2023	9093.985897	8928.72308	60	Marcellus
46	2/27/2023	8893.270513	8728.00769	60	Marcellus
47	2/27/2023	8692.555128	8527.29231	60	Marcellus
48	2/27/2023	8491.839744	8326.57692	60	Marcellus
49	2/27/2023	8291.124359	8125.86154	60	Marcellus
50	2/27/2023	8090.408974	7925.14615	60	Marcellus
51	2/28/2023	7889.69359	7724.43077	60	Marcellus
52	2/28/2023	7688.978205	7523.71538	60	Marcellus
53	2/28/2023	7488.262821	7323	60	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	2/19/2023	68.7	7698	8338	3804	168360	202564	N/A
2	2/19/2023	85.74	8343	6487	4478	412540	314001	N/A
3	2/19/2023	90.6	8345	5434	4331	409790	291650	N/A
4	2/19/2023	87.58	8588	4645	4389	399860	298967	N/A
5	2/20/2023	89.08	8583	4617	3961	412280	303672	N/A
6	2/20/2023	87.94	8565	5747	3986	414890	312760	N/A
7	2/20/2023	89.05	8731	5246	4084	414790	286454	N/A
8	2/20/2023	91.55	8770	5434	4007	418190	292148	N/A
9	2/20/2023	89.9	8479	5159	4117	411940	294621	N/A
10	2/21/2023	76.7	8632	4039	3523	407810	294563	N/A
11	2/21/2023	80.32	8608	5753	3740	416490	285456	N/A
12	2/21/2023	93.32	8531	5063	3900	413650	295316	N/A
13	2/21/2023	94.25	8571	5571	4179	398160	287877	N/A
14	2/21/2023	95.19	8502	3970	4069	404510	295557	N/A
15	2/21/2023	94.82569	8603.845	5198.06	4005.764	397840	287696	N/A
16	2/22/2023	93.81	8634	5353	4382	405390	298580	N/A
17	2/22/2023	95.79	8578	5474	3970	408190	298202	N/A
18	2/22/2023	96.97453	8642.449	5427.16	3848.285	398330	292232	N/A
19	2/22/2023	97.33	8549	5928	4057	398330	297352	N/A
20	2/22/2023	91.79	8129	5024	4160	416580	297286	N/A
21	2/23/2023	95.88	8422	3583	4091	410790	293382	N/A
22	2/23/2023	95.17	8326	3587	4207	406840	309938	N/A
23	2/23/2023	97.39	8515	5474	3933	400370	296523	N/A
24	2/23/2023	97.45	8480	5629	3973	396800	287960	N/A
25	2/23/2023	97.64	8444	5374	3972	414080	288201	N/A
26	2/23/2023	96.85	8188	5305	3785	410080	295418	N/A
27	2/24/2023	98.23	8343	5016	4332	410720	298126	N/A
28	2/24/2023	96.75	8241	3880	4032	413710	297967	N/A
29	2/24/2023	95.88	8253	5571	3970	407120	290577	N/A
30	2/24/2023	95.97	8320	5090	3970	410790	288433	N/A
31	2/24/2023	96.78	8551	5295	3927	411140	290203	N/A
32	2/24/2023	95.74	8496	5008	4127	414000	294642	N/A
33	2/25/2023	95.55	8290	4919	4296	409080	295401	N/A
34	2/25/2023	98.29	8519	5992	4083	411660	293549	N/A
35	2/25/2023	98.19	8202	5788	3959	414980	291565	N/A
36	2/25/2023	98.32	8104	5383	4141	403270	292655	N/A
37	2/25/2023	98.3	8133	3927	4100	414620	297024	N/A
38	2/25/2023	98.14	8311	4290	3984	412780	294899	N/A
39	2/26/2023	96.98	8277	5962	3911	414850	291004	N/A
40	2/26/2023	98.08	8273	6515	3867	410890	300294	N/A
41	2/26/2023	98.52	8329	5837	4054	404110	292583	N/A
42	2/26/2023	99.07	8351	6019	4060	417510	292043	N/A
43	2/26/2023	98.68	8026	6014	4136	414540	294471	N/A
44	2/26/2023	98.75	8059	6202	4184	409740	292707	N/A
45	2/27/2023	98.64	8309	6850	3971	394190	293113	N/A
46	2/27/2023	99.17	8030	4768	4207	411710	294350	N/A
47	2/27/2023	98.74	7839	6223	4149	386120	280653	N/A
48	2/27/2023	99.4	7784	5821	4002	405480	296761	N/A
49	2/27/2023	98.29	7506	5620	3511	409020	297256	N/A
50	2/27/2023	96.49643	7468.401	5730.48	3459.255	408500	286538	N/A
51	2/28/2023	97.85	7460	5451	3875	406720	314950	N/A
52	2/28/2023	99.17	7554	5474	3897	410950	287402	N/A
53	2/28/2023	98.52	7426	6144	3708	410570	285906	N/A
AVERAGE		94.6	8,281	5,390	4,016	21,415,650	15,523,448	0

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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
Shaly Siltstone, tr LS	90	274	90	274
Sandy Siltstone, Coal	274	334	274	334
Silty Sandstone	334	424	334	424
Shaly Siltstone, occ LS	424	634	424	634
Sandy Siltstone, occ LS	634	964	634	964
Shaly Siltstone, occ SS	964	1,024	964	1,024
Shaly Siltstone	1,024	1,434	1,024	1,434
Sandy Siltstone, occ Shale	1,434	1,524	1,434	1,524
Silty Sandstone, tr coal	1,524	1,614	1,524	1,614
Silty Sandstone, coal, tr shale	1,614	1,734	1,614	1,734
Silty Sandstone, occ shale	1,734	1,884	1,734	1,884
Shaly Sandstone, coal, occ slst	1,884	2,124	1,884	2,124
Silty Sandstone, coal, occ Shale	2,124	2,077	2,124	2,077
Big Lime	2,103	2,779	2,077	2,779
Fifty Foot Sandstone	2,779	3,001	2,753	3,001
Gordon	3,001	3,212	2,975	3,212
Fifth Sandstone	3,212	3,474	3,186	3,474
Bayard	3,474	3,909	3,448	3,914
Speechley	3,909	4,145	3,888	4,154
Balltown	4,145	4,552	4,128	4,595
Bradford	4,552	5,100	4,569	5,187
Benson	5,100	5,552	5,161	5,669
Alexander	5,552	6,691	5,643	6,904
Sycamore	6,546	6,665	6,732	6,878
Middlesex	6,665	6,763	6,878	7,028
Burkett	6,763	6,797	7,028	7,092
Tully	6,797	6,863	7,092	7,275
Marcellus	6,863	NA	7,275	NA

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LATITUDE 39°32'30"

9136'

LATITUDE 39°35'00"

11,670'

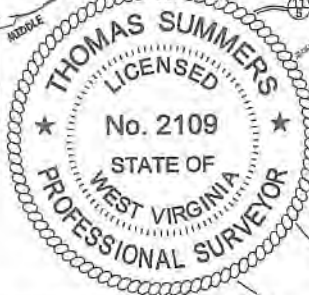
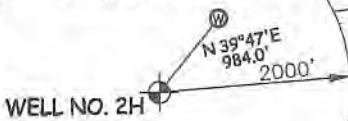
Antero Resources Corporation Well No. Crystal Unit 2H

AS DRILLED DATA: WELL 2H TOP HOLE INFORMATION: N: 377,173ft E: 1,638,286ft LAT: 39°31'42.51" LON: 80°46'56.61" BOTTOM HOLE INFORMATION: N: 387,611ft E: 1,635,898ft LAT: 39°33'25.32" LON: 80°47'29.00" WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 4,375,456m E: 518,717m BOTTOM HOLE INFORMATION: N: 4,378,624m E: 517,937m

(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,354,427ft E: 1,701,777ft POINT OF ENTRY INFORMATION: N: 14,354,788ft E: 1,702,697ft BOTTOM HOLE INFORMATION: N: 14,364,820ft E: 1,699,216ft

NOTE: 1 WATER WELL WAS LOCATED WITHIN 2000' OF THE CENTER OF PAD



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.



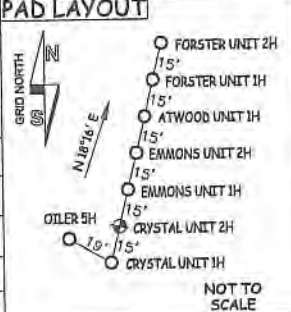
STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

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

Table with 2 columns: MINERAL OWNERSHIP and Ellsworth District - Tyler County. Lists various landowners and their acreage, including names like William M. Clark et al, Clair P. Dawson, Robert E. Clark et al, etc.

JOB # 20-014WA DRAWING # CRYSTAL2HAD 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. Includes signature of Thomas Summers P.S. 2109 and DATE 05/11/23.



NOTE: 1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER BARRY 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.

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS OPERATOR'S WELL# CRYSTAL UNIT #2H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 095 - 02800 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT LOCATION: ELEVATION 1,223' -AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER SURFACE OWNER ANTERO MIDSTREAM LLC ACREAGE 50 ACRES +/- LEASE ACREAGE 50 AC +/- 53.78 AC +/- 09/22/2023 OIL & GAS ROYALTY OWNER ELAINE L. OILER; ELSIE M. SNIVELY; ROSALIE B. HENRY; DEANNA R. COCHRAN; DANNY RAY BOOHER ET UX; DANNY M. MOORE 60 AC +/- 67 AC +/- 51.5 AC +/- 1.67 AC +/- BRC APPALACHIAN MINERALS I LLC; KAREN SUE CLARK; KAREN SUE CLARK; CLAIR P. DAWSON 96.38 AC +/- 7.21 AC +/- 48.75 AC +/- 120.5 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 6,899' TVD 17,932' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD DENVER, CO 80202 BRIDGEPORT, WV 26330

4,806' LONGITUDE 80°45'00" 9,579' LONGITUDE 80°45'00"

COUNTY NAME PERMIT

LATITUDE 39°32'30"

9136'

LATITUDE 39°35'00"

11,670'

Antero Resources Corporation Well No. Crystal Unit 2H

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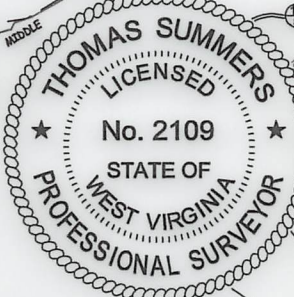
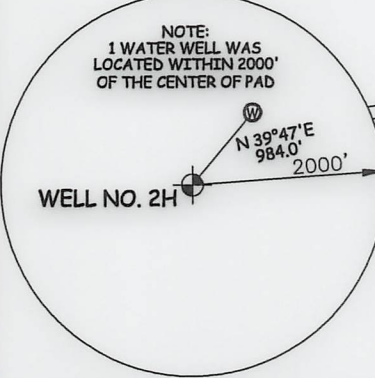
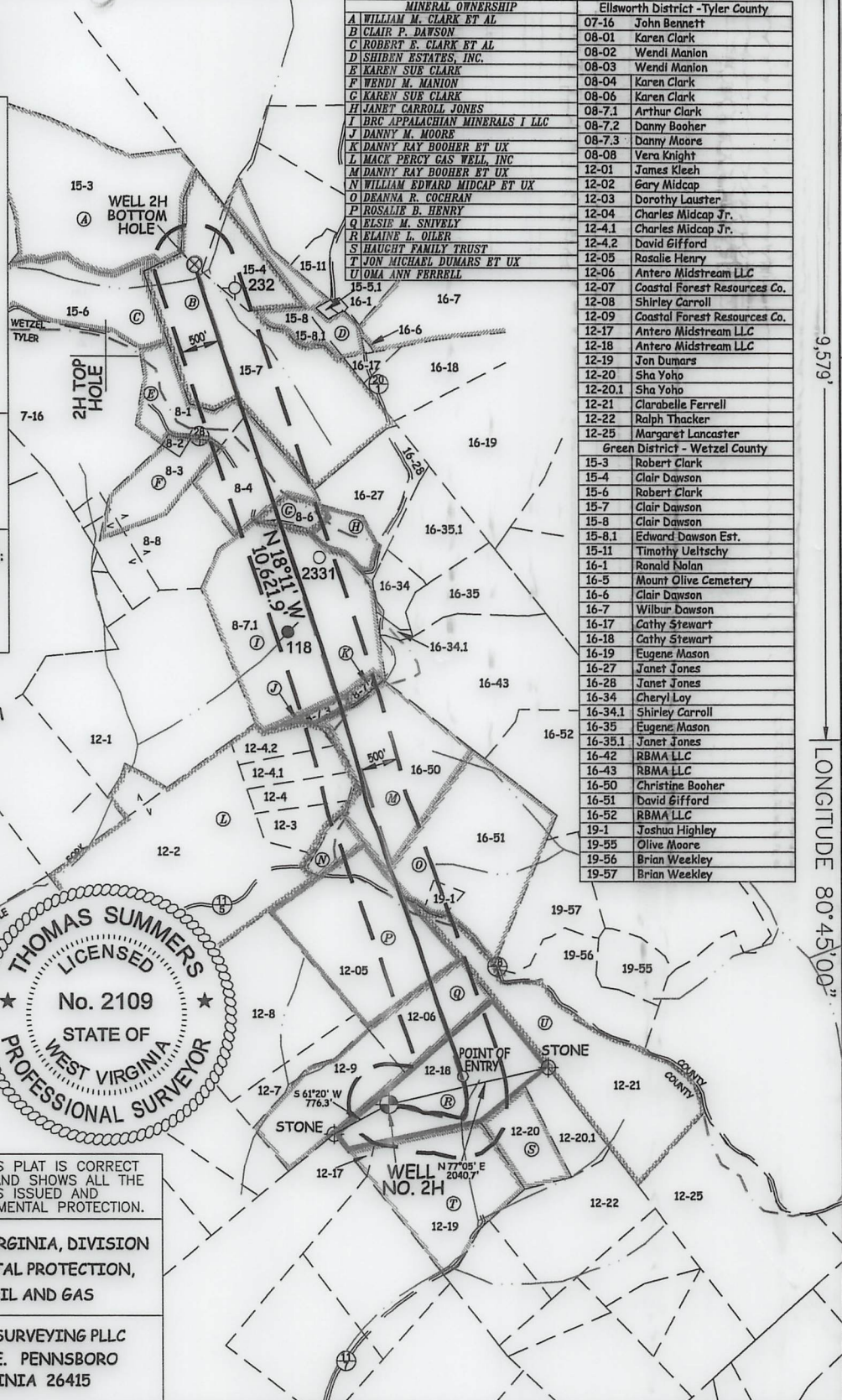
(NAD) 27 (UTM) ZONE 17 COORDS: WELL 2H TOP HOLE INFORMATION: N: 14,354,427ft E: 1,701,777ft ...

MINERAL OWNERSHIP table listing owners like WILLIAM M. CLARK ET AL, CLAIR P. DAWSON, ROBERT E. CLARK ET AL, etc., with well numbers and dates.

WV NORTH ZONE GRID NORTH

4,806' LONGITUDE 80°45'00"

9,579' LONGITUDE 80°45'00"



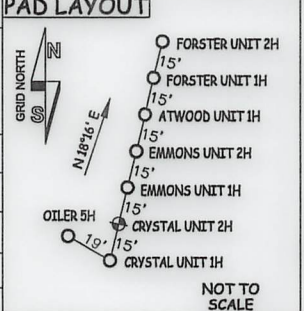
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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 # 20-014WA DRAWING # CRYSTAL2HAD SCALE 1" = 2000' MINIMUM DEGREE OF ACCURACY SUBMETER

LEGEND: Surface Owner Boundary Lines +/-, Interior Surface Tracts +/-, Proposed Well Path, As Drilled Well Path. THOMAS SUMMERS P.S. 2109



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.

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

DATE 05/11/23 OPERATOR'S WELL# CRYSTAL UNIT #2H

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02800 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT

LOCATION: ELEVATION 1,223' -AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK QUADRANGLE PORTER FALLS 7.5' DISTRICT ELLSWORTH COUNTY TYLER

SURFACE OWNER ANTERO MIDSTREAM LLC ACREAGE 50 ACRES +/- OIL & GAS ROYALTY OWNER ELAINE L. OILER; ELSIE M. SNIVELY; LEASE ACREAGE 50 AC +/-; 53.75 AC +/-

ROSALE B. HENRY; DEANNA R. COCHRAN; DANNY RAY BOOHER ET UX; DANNY M. MOORE 60 AC +/-; 67 AC +/-; 51.5 AC +/-; 1.67 AC +/- BRC APPALACHIAN MINERALS I LLC; KAREN SUE CLARK; KAREN SUE CLARK; CLAIR P. DAWSON 96.38 AC +/-; 7.21 AC +/-; 48.75 AC +/-; 120.5 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 6,899' TVD 17,932' MD WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT KEVIN ELLIS ADDRESS 1615 WYNKOOP ST. ADDRESS 535 WHITE OAKS BLVD BRIDGEPORT, WV 26330

COUNTY NAME

PERMIT

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/19/2023
Job End Date:	2/28/2023
State:	West Virginia
County:	Tyler
API Number:	47-095-02800-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Beech Run Crystal Unit 2H
Latitude:	39.52848000
Longitude:	-80.78239000
Datum:	WGS84
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,923
Total Base Water Volume (gal):	16,225,966
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	86.39055	Density = 8.50
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.13770	

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HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
HAI-501	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
MC B-8614A	MultiChem	Biocide					
				Listed Below			
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
				Listed Below			
Chemstream StimSTREAM FR 2800	Chemstream, Inc.	Friction Reducer					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	13.41432	
			Hydrochloric acid	7647-01-0	30.00000	0.03880	

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			Distillates, (petroleum), hydrotreated light	64742-47-8	25.00000	0.01268	
			Guar gum	9000-30-0	100.00000	0.00630	
			Alcohols, C11-14-iso, C-13-rich, ethoxylated	78330-21-9	5.00000	0.00254	
			Glutaraldehyde	111-30-8	30.00000	0.00251	
			Alkyl (C12-16) dimethylbenzyl ammonium chloride	68424-85-1	5.00000	0.00042	
			Methanol	67-56-1	100.00000	0.00024	
			Ammonium persulfate	7727-54-0	100.00000	0.00019	
			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	0.00006	
			Ethoxylated alcohols	Proprietary	5.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00001	
			Propargyl alcohol	107-19-7	5.00000	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)

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