



Antero Resources  
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May 15, 2020

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
601 57<sup>th</sup> 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**:

- Gabitalalek Unit 1H-2H
- Kilska Unit 1H-2H
- Rodzina Unit 1H-3H

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 "MGriffith", written over a white background.

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- \_\_\_\_\_ - \_\_\_\_\_ County \_\_\_\_\_ District \_\_\_\_\_  
Quad \_\_\_\_\_ Pad Name \_\_\_\_\_ Field/Pool Name \_\_\_\_\_  
Farm name \_\_\_\_\_ Well Number \_\_\_\_\_  
Operator (as registered with the OOG) \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing \_\_\_\_\_ Easting \_\_\_\_\_

Elevation (ft) \_\_\_\_\_ 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)  
\_\_\_\_\_  
\_\_\_\_\_

Date permit issued \_\_\_\_\_ Date drilling commenced \_\_\_\_\_ Date drilling ceased \_\_\_\_\_  
Date completion activities began \_\_\_\_\_ Date completion activities ceased \_\_\_\_\_  
Verbal plugging (Y/N) \_\_\_\_\_ Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft \_\_\_\_\_ Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft \_\_\_\_\_ Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft \_\_\_\_\_ Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) \_\_\_\_\_

Reviewed by:  
\_\_\_\_\_

API 47- \_\_\_\_\_ - \_\_\_\_\_ Farm name \_\_\_\_\_ Well number \_\_\_\_\_

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							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_  
\_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) \_\_\_\_\_ Loggers TD (ft) \_\_\_\_\_  
 Deepest formation penetrated \_\_\_\_\_ Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_  
 \_\_\_\_\_

Kick off depth (ft) \_\_\_\_\_

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 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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 \_\_\_\_\_  
 \_\_\_\_\_



API 47- \_\_\_\_\_ - \_\_\_\_\_ Farm name \_\_\_\_\_ Well number \_\_\_\_\_

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>
_____	_____ TVD _____ MD
_____	_____
_____	_____
_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST \_\_\_\_\_ hrs  
 OPEN FLOW Gas \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ 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 <sub>2</sub> S, ETC)
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**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

Drilling Contractor \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Logging Company \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Cementing Company \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Stimulating Company \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please insert additional pages as applicable.

Completed by \_\_\_\_\_ Telephone \_\_\_\_\_  
 Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

API 47-095-02585 Farm Name Gary D. Dawson et ux Well Number Rodzina Unit 1H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	10/16/2019	16787.38542	16626.3125	60	Marcellus
2	10/16/2019	16591.69792	16430.625	60	Marcellus
3	10/16/2019	16396.01042	16234.9375	60	Marcellus
4	10/17/2019	16200.32292	16039.25	60	Marcellus
5	10/17/2019	16004.63542	15843.5625	60	Marcellus
6	10/18/2019	15808.94792	15647.875	60	Marcellus
7	10/18/2019	15613.26042	15452.1875	60	Marcellus
8	10/18/2019	15417.57292	15256.5	60	Marcellus
9	10/18/2019	15221.88542	15060.8125	60	Marcellus
10	10/19/2019	15026.19792	14865.125	60	Marcellus
11	10/19/2019	14830.51042	14669.4375	60	Marcellus
12	10/19/2019	14634.82292	14473.75	60	Marcellus
13	10/19/2019	14439.13542	14278.0625	60	Marcellus
14	10/20/2019	14243.44792	14082.375	60	Marcellus
15	10/20/2019	14047.76042	13886.6875	60	Marcellus
16	10/20/2019	13852.07292	13691	60	Marcellus
17	10/21/2019	13656.38542	13495.3125	60	Marcellus
18	10/21/2019	13460.69792	13299.625	60	Marcellus
19	10/21/2019	13265.01042	13103.9375	60	Marcellus
20	10/21/2019	13069.32292	12908.25	60	Marcellus
21	10/22/2019	12873.63542	12712.5625	60	Marcellus
22	10/22/2019	12677.94792	12516.875	60	Marcellus
23	10/22/2019	12482.26042	12321.1875	60	Marcellus
24	10/22/2019	12286.57292	12125.5	60	Marcellus
25	10/23/2019	12090.88542	11929.8125	60	Marcellus
26	10/23/2019	11895.19792	11734.125	60	Marcellus
27	10/23/2019	11699.51042	11538.4375	60	Marcellus
28	10/24/2019	11503.82292	11342.75	60	Marcellus
29	10/24/2019	11308.13542	11147.0625	60	Marcellus
30	10/24/2019	11112.44792	10951.375	60	Marcellus
31	10/24/2019	10916.76042	10755.6875	60	Marcellus
32	10/25/2019	10721.07292	10560	60	Marcellus
33	10/25/2019	10525.38542	10364.3125	60	Marcellus
34	10/25/2019	10329.69792	10168.625	60	Marcellus
35	10/25/2019	10134.01042	9972.9375	60	Marcellus
36	10/26/2019	9938.322917	9777.25	60	Marcellus
37	10/26/2019	9742.635417	9581.5625	60	Marcellus
38	10/26/2019	9546.947917	9385.875	60	Marcellus
39	10/27/2019	9351.260417	9190.1875	60	Marcellus
40	10/28/2019	9155.572917	8994.5	60	Marcellus
41	10/28/2019	8959.885417	8798.8125	60	Marcellus
42	10/28/2019	8764.197917	8603.125	60	Marcellus
43	10/29/2019	8568.510417	8407.4375	60	Marcellus
44	10/29/2019	8372.822917	8211.75	60	Marcellus
45	10/29/2019	8177.135417	8016.0625	60	Marcellus
46	10/30/2019	7981.447917	7820.375	60	Marcellus
47	10/30/2019	7785.760417	7624.6875	60	Marcellus
48	10/30/2019	7590.072917	7429	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	10/16/2019	72.12832	7762.275	6533	3742	400900	8915.566	N/A
2	10/16/2019	75.28849	7500.075	5775	4282	401500	8714.326	N/A
3	10/16/2019	79.07598	7878.314	6026	4527	400760	8598.06	N/A
4	10/17/2019	79.7152	8192.272	5728	4301	398400	8636.08	N/A
5	10/17/2019	76.5004	8043.202	5937	4006	400060	8595.473	N/A
6	10/18/2019	79.66325	7964.679	6018	4182	399980	8501.493	N/A
7	10/18/2019	79.46232	8153.658	6110	3612	399480	8604.78	N/A
8	10/18/2019	78.06503	8237.71	5970	4124	399980	8589.97	N/A
9	10/18/2019	78.0567	8180.399	5548	4113	399660	8540.835	N/A
10	10/19/2019	73.25551	8189.49	5948	4036	402000	8551.455	N/A
11	10/19/2019	84.34273	8183.442	5935	3918	399660	8600.62	N/A
12	10/19/2019	87.2	7869	5841	4079	400100	8948.56	N/A
13	10/19/2019	83.24488	8147.915	5708	4412	400040	8394.495	N/A
14	10/20/2019	85.44102	8315.771	5804	4272	400220	8534.545	N/A
15	10/20/2019	85.84077	8275.949	5857	3906	400160	8532.665	N/A
16	10/20/2019	81.22113	7915.957	5670	3745	400140	8360.935	N/A
17	10/21/2019	84.00143	7678.54	5129	4351	400560	8453.435	N/A
18	10/21/2019	85.12104	8129.68	4745	3888	400140	8450.825	N/A
19	10/21/2019	84.74664	7983.523	5969	3732	400380	8492.125	N/A
20	10/21/2019	86.5	7920	6020	4216	400060	8237.215	N/A
21	10/22/2019	88.9	7975	5664	4014	399740	8455.095	N/A
22	10/22/2019	83.16085	7596.151	4863	4068	400340	9186.685	N/A
23	10/22/2019	85.31244	7912.053	5996	3850	399440	8425.285	N/A
24	10/22/2019	84.88943	7764.208	5923	4293	400540	8467.905	N/A
25	10/23/2019	83.9325	7918.05	5771	3537	400040	9462.525	N/A
26	10/23/2019	84.81157	7598.155	5790	3583	399660	8354.965	N/A
27	10/23/2019	85.47943	7462.59	4493	4127	399240	8448.695	N/A
28	10/24/2019	84.53453	7564.347	5865	3978	400080	8319.685	N/A
29	10/24/2019	79.23989	7187.207	5961	3739	400040	8446.375	N/A
30	10/24/2019	85.96401	7838.183	5932	3715	400000	8564.695	N/A
31	10/24/2019	86.19173	7900.995	6058	4198	402580	8440.635	N/A
32	10/25/2019	85.04603	7902.245	6084	4419	398580	8310.215	N/A
33	10/25/2019	82.3021	7532.382	5417	3898	401100	8598.925	N/A
34	10/25/2019	85.05094	7410.781	5807	3928	399100	8288.265	N/A
35	10/25/2019	87.56403	7861.308	5520	3572	403380	8302.175	N/A
36	10/26/2019	87.28023	7785.397	5893	3447	407420	8354.105	N/A
37	10/26/2019	82.28319	7530.9	5562	3532	402440	8379.585	N/A
38	10/26/2019	82.20361	8077.856	5845	3845	401380	8366.115	N/A
39	10/27/2019	59.8594	8039.833	5502	4047	398200	13665.36	N/A
40	10/28/2019	83.22322	7443.38	5624	3821	395620	8320.375	N/A
41	10/28/2019	83.62735	7164.4	5521	3929	401480	8219.68	N/A
42	10/28/2019	74.45408	7765.552	5803	4034	412815	10907.6	N/A
43	10/29/2019	82.19932	7060.186	5199	3768	403580	8329.94	N/A
44	10/29/2019	82.64163	6888.132	5685	3808	399220	8274.01	N/A
45	10/29/2019	85.4815	7121.308	5405	4101	399340	8221.36	N/A
46	10/30/2019	83.54855	6878.509	5816	3814	407960	9307.7	N/A
47	10/30/2019	81.74048	6988.795	5516	3619	406600	8387.56	N/A
48	10/30/2019	81.72117	6822.966	6204	3709	396220	8193.18	N/A
	AVG=	82.2	7,853	5,741	3,975	16,414,580	354,631	TOTAL

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Discharge Monitoring Report  
Oil and Gas General Permit

Company Name: \_\_\_\_\_

API No: \_\_\_\_\_ County: \_\_\_\_\_

District: \_\_\_\_\_ Well No: \_\_\_\_\_

Farm Name: \_\_\_\_\_

Discharge Date/s From:(MMDDYY) \_\_\_\_\_ To: (MMDDYY) \_\_\_\_\_

Discharge Times. From: \_\_\_\_\_ To: \_\_\_\_\_

Total Volume to be Disposed from this facility (gallons): \_\_\_\_\_

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

(1) Land Application: \_\_\_\_\_ (Include a topographical map of the Area.)

(2) UIC: \_\_\_\_\_ Permit No. \_\_\_\_\_

(3) Offsite Disposal: \_\_\_\_\_ Site Location: \_\_\_\_\_

(4) Reuse: \_\_\_\_\_ Alternate Permit Number: \_\_\_\_\_

(5) Centralized Facility: \_\_\_\_\_ Permit No. \_\_\_\_\_

(6) Other method: \_\_\_\_\_ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: \_\_\_\_\_ Cl- mg/l \_\_\_\_\_ DO mg/l

1. Do you have permission to use expedited treatment from the Director or his representative?  
(Y/N) \_\_\_\_\_ 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) \_\_\_\_\_ If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) \_\_\_\_\_ If yes, go to line 4  
If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) \_\_\_\_\_ If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) \_\_\_\_\_ 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) \_\_\_\_\_ If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. \_\_\_\_\_ is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name of Principal Exec. Officer: \_\_\_\_\_

Title of Officer: \_\_\_\_\_

Date Completed: \_\_\_\_\_

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.

\_\_\_\_\_  
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: \_\_\_\_\_



# ANTERO RESOURCES CORPORATION

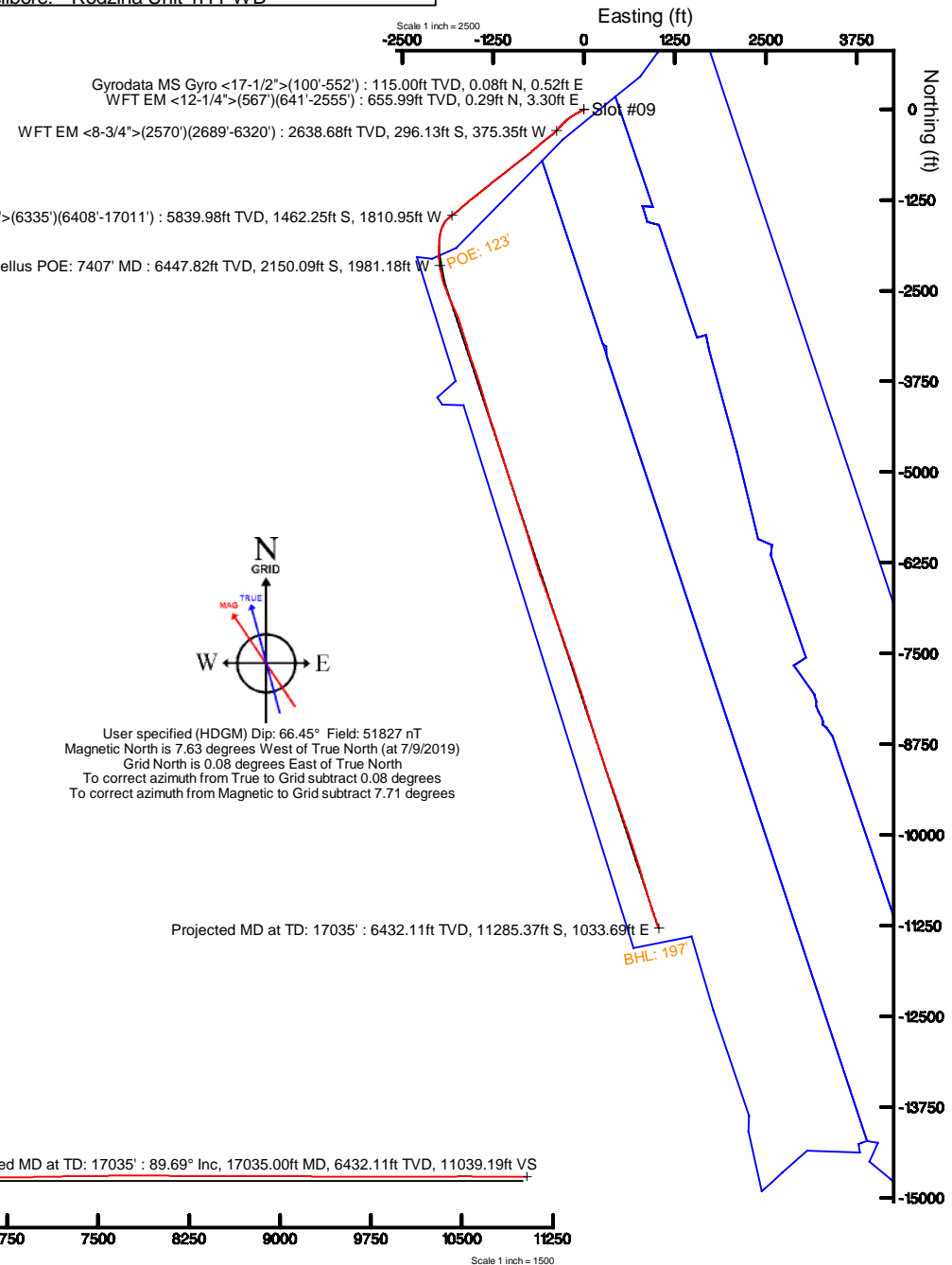
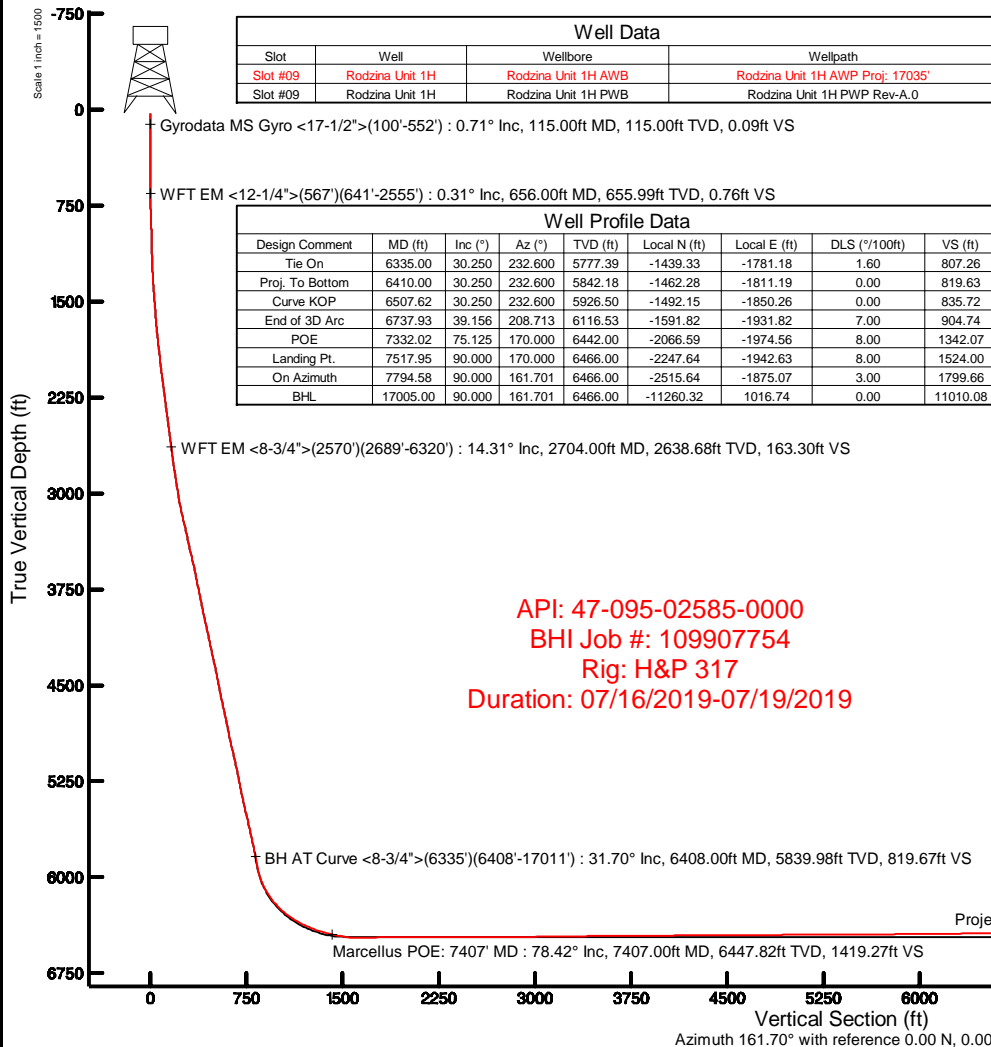
Location: Tyler County, WV  
 Field: Tyler  
 Facility: Dawson Pad

Slot: Slot #09  
 Well: Rodzina Unit 1H  
 Wellbore: Rodzina Unit 1H PWB



Plot reference wellpath is Rodzina Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 1039 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #09): -1009 feet	Created by: delaset on 2019-08-07
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Dawson Pad	1676049.728	14300592.517	39°22'50.710"N	80°52'26.030"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #09	-194.99	209.15	1676258.790	14300397.610
H&P 519 (RKB) to Ground level (At Slot: Slot #09)			30ft	
Mean Sea Level to Ground level (At Slot: Slot #09)			-1009ft	
H&P 519 (RKB) to Mean Sea Level			1039ft	



## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/16/2019
Job End Date:	10/30/2019
State:	West Virginia
County:	Tyler
API Number:	47-095-02585-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Rodzina 1H
Latitude:	39.38021700
Longitude:	-80.87315800
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,445
Total Base Water Volume (gal):	18,126,288
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
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.44554	
DAP-103	CWS	Iron Control					
				Listed Below			

Hydrochloric Acid	CWS	Clean Perforations					
				Listed Below			
Sand (Proppant)	CWS	Propping Agent					
				Listed Below			
SaniFrac 8844	CWS	Biocide					
				Listed Below			
CalGel 4000	CWS	Gel Slurry					
				Listed Below			
Calbreak 5501	CWS	Breaker					
				Listed Below			
DynaRate 6522	CWS	Friction Reducer					
				Listed Below			
CI-9100G	CWS	Corrosion Inhibitor					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					
				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	11.25126	
			Illite	12173-60-3	1.00000	0.11250	

			Hydrochloric acid	7647-01-0	37.00000	0.07082	
			Copolymer of 2-propenamide	69418-26-4	30.00000	0.01507	
			Guar gum	9000-30-0	60.00000	0.01494	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.01494	
			Apatite	64476-38-6	0.10000	0.01125	
			Ilmenite	98072-94-7	0.10000	0.01125	
			Biotite	1302-27-8	0.10000	0.01125	
			Goethite	1310-14-1	0.10000	0.01125	
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01004	
			Polyethylene glycol mixture	25322-68-3	54.50000	0.00827	
			Ammonium chloride	12125-02-9	8.00000	0.00402	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	20.00000	0.00304	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00125	
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00100	
			Sodium bromide	7647-15-6	4.00000	0.00061	
			Dibromoacetonitrile	3252-43-5	3.00000	0.00046	
			Ammonium Persulfate	7727-54-0	100.00000	0.00046	
			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00037	
			Citric acid	77-92-9	60.00000	0.00023	
			Vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00009	
			Ethylene Glycol	107-21-1	40.00000	0.00004	
			Diethylene glycol, monomethyl ether	34590-94-8	20.00000	0.00002	
			Isopropyl alcohol	67-63-0	5.00000	0.00001	

			Tar bases, quinolone derivs, benzyl chloride- quatenized	72480-70-7	10.00000	0.00001	
			Ethoxylated Alcohols	68131-39-5	10.00000	0.00001	
			Cinnamaldehyde	104-55-2	10.00000	0.00001	
			Formic acid	64-18-6	10.00000	0.00001	

\* 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)

LATITUDE 39°25'00"

11,257'

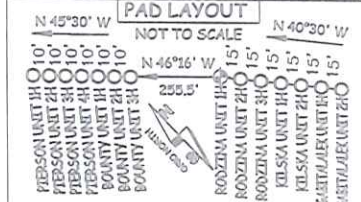
10,243' TO BOTTOM HOLE

LATITUDE 39°22'30"

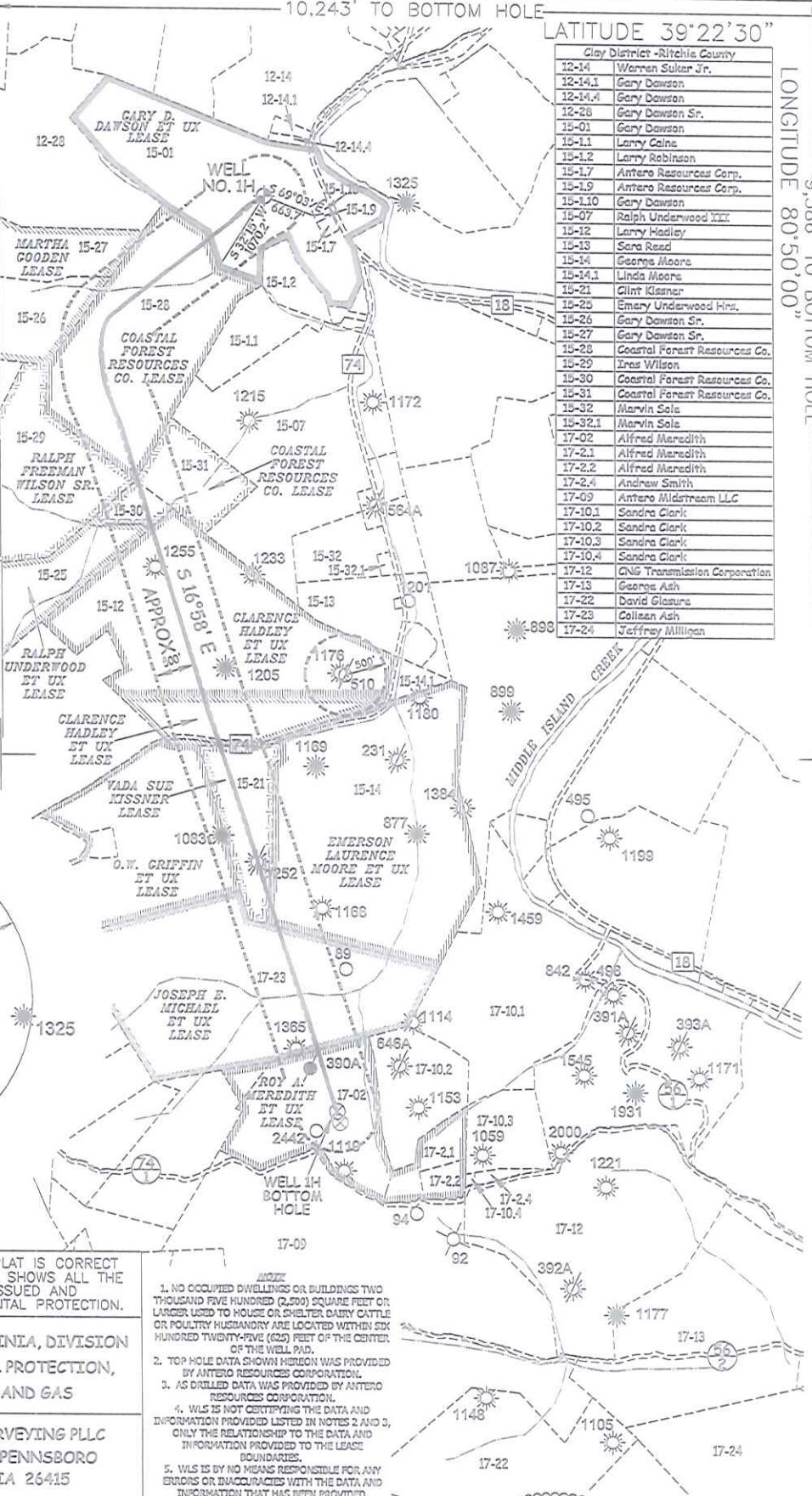
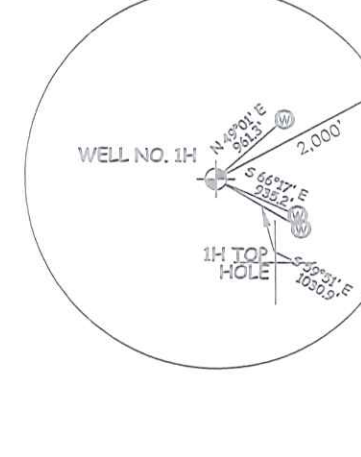
Antero Resources Corporation  
Well No. Rodzina Unit 1H

NOTES:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 323,560ft E: 1,611,861ft  
 LAT: 39°22'48.78" LON: 80°52'23.37"  
 BOTTOM HOLE INFORMATION:  
 N: 312,259ft E: 1,612,706ft  
 LAT: 39°20'57.23" LON: 80°52'10.41"  
 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: 4,358,988m E: 510,939m  
 BOTTOM HOLE INFORMATION:  
 N: 4,355,549m E: 511,254m



1H BOTTOM HOLE  
 3 WATER WELLS WERE LOCATED WITHIN 2000' OF CENTER OF PAD



Clay District - Ritchie County	
12-14	Warren Sulter Jr.
12-14.1	Gary Dawson
12-14.4	Gary Dawson
12-28	Gary Dawson Sr.
15-01	Gary Dawson
15-1.1	Larry Caine
15-1.2	Larry Robinson
15-1.7	Antero Resources Corp.
15-1.9	Antero Resources Corp.
15-1.10	Gary Dawson
15-07	Ralph Underwood III
15-12	Larry Hadley
15-13	Sara Resud
15-14	George Moore
15-14.1	Linda Moore
15-21	Clint Kissner
15-25	Emory Underwood Hrs.
15-26	Gary Dawson Sr.
15-27	Gary Dawson Sr.
15-28	Coastal Forest Resources Co.
15-29	Iras Wilson
15-30	Coastal Forest Resources Co.
15-31	Coastal Forest Resources Co.
15-32	Marvin Sole
15-32.1	Mervin Sole
17-02	Alfred Meredith
17-2.1	Alfred Meredith
17-2.2	Alfred Meredith
17-2.4	Andrew Smith
17-09	Antero Midstream LLC
17-10.1	Sandra Clark
17-10.2	Sandra Clark
17-10.3	Sandra Clark
17-10.4	Sandra Clark
17-12	CNG Transmission Corporation
17-13	George Ash
17-22	David Glasura
17-23	Colleen Ash
17-24	Jeffrey Milligan

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

- 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.
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JOB # 18-030WA  
 DRAWING # RODZINA1HAD  
 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  
 OPERATOR'S WELL# RODZINA UNIT #1H  
 DATE 05/01/20  
 THOMAS SUMMERS P.S. 2109



WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 095 02585  
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
 LOCATION: ELEVATION 1,009' - AS BUILT STATE COUNTY PERMIT  
 QUADRANGLE SHIRLEY 7.5' (TH) WEST UNION 7.5' (BH) DISTRICT CENTERVILLE COUNTY TYLER  
 SURFACE OWNER GARY D. DAWSON ET UX ACREAGE 104.27 ACRES +/-  
 OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; COASTAL FOREST RESOURCES CO.; RALPH FREEMAN WILSON SR.; LEASE ACREAGE 104.27 AC.; 108 AC.; 72.5 AC.;  
 COASTAL FOREST RESOURCES CO.; RALPH UNDERWOOD ET UX; CLARENCE HADLEY ET UX; CLARENCE HADLEY ET UX; CLARENCE HADLEY ET UX; VADA SUE KISSNER; 32 AC.; 128.75 AC.; 176 AC.; 31.2 AC.; 32 AC.;  
 EMERSON LAURENCE MOORE ET UX; JOSEPH E. MICHAEL ET UX; ROY A. MEREDITH ET UX 168 AC.; 125 AC.; 80 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 6,432' TVD 17,035' 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

COUNTY NAME PERMIT



LATITUDE 39°25'00"

11,257'

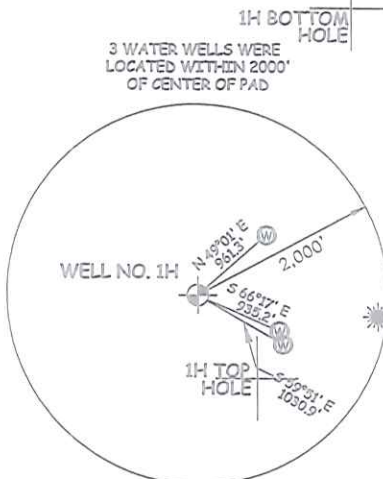
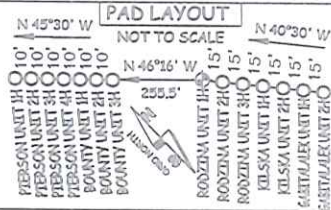
10,243' TO BOTTOM HOLE

LATITUDE 39°22'30"

Antero Resources Corporation  
Well No. Rodzina Unit 1H

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17-22	David Glasura
17-23	Colleen Ash
17-24	Jeffrey Milligan

LONGITUDE 80°50'00"

9,386' TO BOTTOM HOLE

13,276'

LONGITUDE 80°50'00"

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

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JOB # 18-030WA  
DRAWING # RODZINA1HAD  
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 P.S. 2109  
DATE 05/01/20  
OPERATOR'S WELL# RODZINA UNIT 1H



WELL TYPE: OIL \_\_\_\_\_ GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_ 47 - 095 - 02585  
(IF "GAS") PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW   
LOCATION: ELEVATION 1,009' - AS BUILT \_\_\_\_\_ WATERSHED HEADWATERS MIDDLE ISLAND CREEK  
QUADRANGLE SHIRLEY 7.5' (TH) WEST UNION 7.5' (BH) \_\_\_\_\_ DISTRICT CENTERVILLE COUNTY TYLER  
SURFACE OWNER GARY D. DAWSON ET UX \_\_\_\_\_ ACREAGE 104.27 ACRES +/-  
OIL & GAS ROYALTY OWNER GARY D. DAWSON ET UX; COASTAL FOREST RESOURCES CO.; RALPH FREEMAN WILSON SR.; COASTAL FOREST RESOURCES CO.; RALPH UNDERWOOD ET UX; CLARENCE HADLEY ET UX; CLARENCE HADLEY ET UX; VADA SUE KISSNER; \_\_\_\_\_ LEASE ACREAGE 104.27 AC.; 108 AC.; 72.5 AC.; 32 AC.; 128.75 AC.; 176 AC.; 31.2 AC.; 32 AC.; EMERSON LAURENCE MOORE ET UX; JOSEPH E. MICHAEL ET UX; ROY A. MEREDITH ET UX \_\_\_\_\_ 168 AC.; 125 AC.; 80 AC.;  
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PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL \_\_\_\_\_  
(SPECIFY) AS DRILLED \_\_\_\_\_  
TARGET FORMATION MARCELLUS \_\_\_\_\_ PLUG & ABANDON \_\_\_\_\_ CLEAN OUT & REPLUG \_\_\_\_\_  
WELL OPERATOR ANTERO RESOURCES CORP. \_\_\_\_\_ ESTIMATED DEPTH 6,432' TVD 17,035' MD  
ADDRESS 1615 WYNKOOP ST. \_\_\_\_\_ ADDRESS DIANNA STAMPER - CT CORPORATION SYSTEM  
FORM WW-6 DENVER, CO 80202 \_\_\_\_\_ CHARLESTON, WV 25313

COUNTY NAME PERMIT