



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

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 light blue horizontal line.

Megan Griffith  
Permitting Agent  
Antero Resources Corporation

Enclosures

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

API 47-095-02581 County Tyler District Centerville  
Quad Shirley 7.5' Pad Name Dawson Pad Field/Pool Name -----  
Farm name Gary D. Dawson et ux Well Number Gabitalalek 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 4358967m Easting 510957m  
Landing Point of Curve Northing 4359161.95m Easting 511305.56m  
Bottom Hole Northing 4355732m Easting 512475m

Elevation (ft) 1009' 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 3/12/2019 Date drilling commenced 4/4/2019 Date drilling ceased 9/3/2019  
Date completion activities began 10/16/2019 Date completion activities ceased 1/17/2020  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 115', 455' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 551', 1830' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 275', 975' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by:

\_\_\_\_\_

API 47- 095 - 02581 Farm name Gary D. Dawson et ux Well number Gabitalalek 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"	110'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	584'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2651'	New	36#, H-40	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19126'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6898'		4.7#, N-80		
Packer type and depth set		N/A					

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

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	204 sx	15.6	1.18	244	0'	8 Hrs.
Surface	Class A	490 sx	15.6	1.19	402	0'	8 Hrs.
Coal							
Intermediate 1	Class A	910 sx	15.6	1.18	1047	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	730 sx (Lead) 2722 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	2819	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19146' MD, 6474' TVD (BHL), 6475' (Deepest Point Drilled) Loggers TD (ft) 19146' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6350'

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 - 02581 Farm name Gary D. Dawson et ux Well number Gabitalalek Unit 2H

PERFORATION RECORD

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

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

API 47-095-02581 Farm name Gary D. Dawson et ux Well number Gabitalalek Unit 2H

PRODUCING FORMATION(S)	DEPTHS		
<u>Marcellus</u>	<u>6457' (TOP)</u>	<u>TVD</u>	<u>6999' (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 12874 mcfpd Oil 204 bpd NGL --- bpd Water 772 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 <sub>2</sub> 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 Frontier Drilling LLC  
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Nine Energy Services  
Address 125 Museum Road City Washington State PA Zip 15301

Cementing Company C&J Energy Services  
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

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

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223  
Signature  Title Permitting Agent Date 5/15/20

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/13/2019	19027	18982	60	Marcellus
2	12/13/2019	18942.30791	18775.8475	60	Marcellus
3	12/13/2019	18740.15537	18573.6949	60	Marcellus
4	12/13/2019	18538.00282	18371.5424	60	Marcellus
5	12/14/2019	18335.85028	18169.3898	60	Marcellus
6	12/14/2019	18133.69774	17967.2373	60	Marcellus
7	12/14/2019	17931.5452	17765.0847	60	Marcellus
8	12/14/2019	17729.39266	17562.9322	60	Marcellus
9	12/15/2019	17527.24011	17360.7797	60	Marcellus
10	12/15/2019	17325.08757	17158.6271	60	Marcellus
11	12/15/2019	17122.93503	16956.4746	60	Marcellus
12	12/16/2019	16920.78249	16754.322	60	Marcellus
13	12/16/2019	16718.62994	16552.1695	60	Marcellus
14	12/16/2019	16516.4774	16350.0169	60	Marcellus
15	12/16/2019	16314.32486	16147.8644	60	Marcellus
16	12/17/2019	16112.17232	15945.7119	60	Marcellus
17	12/17/2019	15910.01977	15743.5593	60	Marcellus
18	12/17/2019	15707.86723	15541.4068	60	Marcellus
19	12/17/2019	15505.71469	15339.2542	60	Marcellus
20	12/18/2019	15303.56215	15137.1017	60	Marcellus
21	12/18/2019	15101.4096	14934.9492	60	Marcellus
22	12/18/2019	14899.25706	14732.7966	60	Marcellus
23	12/18/2019	14697.10452	14530.6441	60	Marcellus
24	12/19/2019	14494.95198	14328.4915	60	Marcellus
25	12/19/2019	14292.79944	14126.339	60	Marcellus
26	12/19/2019	14090.64689	13924.1864	60	Marcellus
27	12/20/2019	13888.49435	13722.0339	60	Marcellus
28	12/20/2019	13686.34181	13519.8814	60	Marcellus
29	12/20/2019	13484.18927	13317.7288	60	Marcellus
30	12/20/2019	13282.03672	13115.5763	60	Marcellus
31	12/21/2019	13079.88418	12913.4237	60	Marcellus
32	12/21/2019	12877.73164	12711.2712	60	Marcellus
33	12/21/2019	12675.5791	12509.1186	60	Marcellus
34	12/21/2019	12473.42655	12306.9661	60	Marcellus
35	12/22/2019	12271.27401	12104.8136	60	Marcellus
36	12/22/2019	12069.12147	11902.661	60	Marcellus
37	12/22/2019	11866.96893	11700.5085	60	Marcellus
38	12/22/2019	11664.81638	11498.3559	60	Marcellus
39	12/23/2019	11462.66384	11296.2034	60	Marcellus
40	12/23/2019	11260.5113	11094.0508	60	Marcellus
41	12/23/2019	11058.35876	10891.8983	60	Marcellus
42	12/23/2019	10856.20621	10689.7458	60	Marcellus
43	12/24/2019	10654.05367	10487.5932	60	Marcellus
44	12/24/2019	10451.90113	10285.4407	60	Marcellus
45	12/24/2019	10249.74859	10083.2881	60	Marcellus
46	12/24/2019	10047.59605	9881.13559	60	Marcellus
47	12/25/2019	9845.443503	9678.98305	60	Marcellus
48	12/25/2019	9643.29096	9476.83051	60	Marcellus
49	12/25/2019	9441.138418	9274.67797	60	Marcellus
50	12/25/2019	9238.985876	9072.52542	60	Marcellus
51	12/25/2019	9036.833333	8870.37288	60	Marcellus
52	12/26/2019	8834.680791	8668.22034	60	Marcellus
53	12/26/2019	8632.528249	8466.0678	60	Marcellus
54	12/26/2019	8430.375706	8263.91525	60	Marcellus
55	12/26/2019	8228.223164	8061.76271	60	Marcellus
56	12/27/2019	8026.070621	7859.61017	60	Marcellus
57	12/27/2019	7823.918079	7657.45763	60	Marcellus
58	12/27/2019	7621.765537	7455.30508	60	Marcellus
59	12/27/2019	7419.612994	7253.15254	60	Marcellus
60	12/27/2019	7217.460452	7051	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 (bbbls)	Amount of Nitrogen/ other (units)
1	12/13/2019	65.30958	8022.942	7875	3297	160620	5118.476	N/A
2	12/13/2019	73.65203	8238.093	6101	3480	404780	7222.546	N/A
3	12/13/2019	80.00666	8480.859	4156	3246	407200	7279.3	N/A
4	12/13/2019	84.93252	8474.542	5315	3509	402960	7275.1	N/A
5	12/14/2019	75.2837	8007.579	5384	3730	413720	7335.77	N/A
6	12/14/2019	73.55105	8085.653	5379	3962	405180	7227.21	N/A
7	12/14/2019	71.62295	8603.009	6130	3428	408020	7091.96	N/A
8	12/14/2019	74.56957	8539.394	6300	3632	411080	7114.55	N/A
9	12/15/2019	72.20057	8264.277	6286	4130	405860	7251.06	N/A
10	12/15/2019	70.0272	8386.809	6111	3581	408180	7166.34	N/A
11	12/15/2019	63.8602	8195.548	6107	4756	414060	10260.83	N/A
12	12/16/2019	72.82239	8422.704	6061	4763	411660	7078.46	N/A
13	12/16/2019	74.40169	8097.449	5798	4379	409980	7124.91	N/A
14	12/16/2019	72.64327	8126.728	5300	3651	412080	7172.54	N/A
15	12/16/2019	73.46139	8546.266	5766	3988	402680	7129.29	N/A
16	12/17/2019	74.57744	8461.88	5602	3875	400660	6971.33	N/A
17	12/17/2019	76.60663	8240.024	5841	3682	404040	7077.47	N/A
18	12/17/2019	77.25766	8510.19	6017	3823	411640	7228.48	N/A
19	12/17/2019	75.92596	8499.288	5994	3743	410540	6993.61	N/A
20	12/18/2019	75.42084	8493.902	6069	3726	397880	6856.65	N/A
21	12/18/2019	78.04052	8377.051	6011	4040	402340	7078.05	N/A
22	12/18/2019	78.65064	8364.649	6270	3607	405840	6902.42	N/A
23	12/18/2019	83.004	8419.29	6091	3491	403320	6987.39	N/A
24	12/19/2019	84.74502	8393.666	4950	4408	397600	6996.84	N/A
25	12/19/2019	77.37995	8024.222	5701	3888	404540	7016	N/A
26	12/19/2019	65.75354	8466.567	5645	3371	403160	8538.75	N/A
27	12/20/2019	74.31928	8061.293	5734	3393	403880	8239.48	N/A
28	12/20/2019	75.41197	8555.324	5677	3812	402380	7020.36	N/A
29	12/20/2019	81.52055	8239.766	6118	3485	405000	7017.17	N/A
30	12/20/2019	82.66789	8395.783	5721	3786	413540	7115.93	N/A
31	12/21/2019	80.91136	8505.15	5324	3938	409940	7002.04	N/A
32	12/21/2019	82.8013	8365.996	5531	3488	407020	6958.56	N/A
33	12/21/2019	75.73082	8612.065	5958	3655	405140	6969.02	N/A
34	12/21/2019	76.61369	8668.25	5472	3684	409920	7056.68	N/A
35	12/22/2019	76.57602	8770.159	5452	4110	409560	7415.18	N/A
36	12/22/2019	83.16883	8389.74	5568	4395	404740	6926.73	N/A
37	12/22/2019	82.5077	8381.188	5656	3732	403100	6805.53	N/A
38	12/22/2019	84.18029	8104.053	5589	3494	404760	6869.01	N/A
39	12/23/2019	81.92584	8325.663	5702	3965	406120	6925.32	N/A
40	12/23/2019	84.18436	7972.176	5592	3873	406280	6871.59	N/A
41	12/23/2019	81.96141	8470.146	5701	3644	401000	6796.62	N/A
42	12/23/2019	85.62733	8657.981	6072	3604	406480	6865.56	N/A
43	12/24/2019	78.28911	8621.883	5895	3884	405080	7015.65	N/A
44	12/24/2019	79.83305	8528.95	6267	3829	401200	6826.44	N/A
45	12/24/2019	68.59123	8189.06	6343	3999	408580	8735.03	N/A
46	12/24/2019	82.67614	7748.175	6185	3749	406500	6939.21	N/A
47	12/25/2019	84.83057	7693.384	6053	3700	399540	6826.23	N/A
48	12/25/2019	83.53675	7467.622	5738	3543	402160	6732.1	N/A
49	12/25/2019	83.01714	7647.364	6107	3408	406800	6784.93	N/A
50	12/25/2019	86.98325	7783.192	5812	3508	406800	6773.06	N/A
51	12/25/2019	81.79152	8307.798	5908	4437	406600	6899.38	N/A
52	12/26/2019	83.19917	8117.828	6032	3626	409000	6855.07	N/A
53	12/26/2019	84.6632	7530.744	5998	3390	408360	6669.69	N/A
54	12/26/2019	85.55939	7615.977	5509	3367	405760	6623.87	N/A
55	12/26/2019	83.25592	7862.709	5672	3408	403160	7129.77	N/A
56	12/27/2019	84.66988	8221.392	5538	3537	412680	6879.43	N/A
57	12/27/2019	82.64437	8032.87	5618	3914	411460	6719.47	N/A
58	12/27/2019	83.27106	7321.59	5496	3463	409360	6629.67	N/A
59	12/27/2019	83.12224	7238.037	5700	3473	401160	6644.2	N/A
60	12/27/2019	85.83462	7452.126	5649	3407	408240	6931.69	N/A
	AVG=	<b>76.8</b>	<b>8,355</b>	<b>5,782</b>	<b>3,796</b>	<b>16,412,000</b>	<b>293,485</b>	TOTAL

**EXHIBIT 3**

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Sandstone	0	300	0	300
Silty sandstone	300	440	300	440
Sandy siltstone	440	600	440	600
Sandstone	600	700	600	700
Sandy Marlstone	700	880	700	880
Calcareous Sandstone	880	1,070	880	1,070
Silty Marlstone	1,070	1,280	1,070	1,280
Sandstone w/ interbedded coal	1,280	1,440	1,280	1,440
Sandstone w/ trace coal	1,440	1,590	1,440	1,590
Calcareous shale	1,590	1,650	1,590	1,650
Coal / shale	1,650	1,670	1,650	1,670
Calcareous shale	1,670	1,840	1,670	1,840
Calcareous Sandstone	1,840	1,914	1,840	N/A
Big Lime	1,914	2,656	1,961	2,744
Fifty Foot Sandstone	2,656	2,742	2,744	2,833
Gordon	2,742	2,974	2,833	3,078
Fifth Sandstone	2,974	3,132	3,078	3,246
Bayard	3,132	3,969	3,246	4,127
Speechley	3,969	4,293	4,127	4,468
Balltown	4,293	4,511	4,468	4,697
Bradford	4,511	4,786	4,697	4,989
Benson	4,786	5,174	4,989	5,397
Alexander	5,174	6,297	5,397	6,622
Sycamore	6,113	6,267	6,421	6,592
Middlesex	6,267	6,392	6,622	6,811
Burkett	6,392	6,426	6,841	6,897
Tully	6,426	6,457	6,927	6,999
Marcellus	6,457	NA	6,999	NA

\*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.



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

Company Name: Antero Resources Corporation  
API No: 47-095-02581 County: Tyler  
District: Centerville Well No: Gabitalalek Unit 2H  
Farm Name: Gary D. Dawson et ux  
Discharge Date/s From:(MMDDYY) 02/03/20 To: (MMDDYY) 03/04/20  
Discharge Times. From: 0:00 To: 24:00  
Total Volume to be Disposed from this facility (gallons): 1,325,486

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

- (1) Land Application: 0 (Include a topographical map of the Area.)  
(2) UIC: 0 Permit No. \_\_\_\_\_  
(3) Offsite Disposal: 0 Site Location: \_\_\_\_\_  
(4) Reuse: 1,325,486 Alternate Permit Number: \_\_\_\_\_  
(5) Centralized Facility: 0 Permit No. \_\_\_\_\_  
(6) Other method: 0 (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: N/A Cl- mg/l N/A DO mg/l

1. Do you have permission to use expedited treatment from the Director or his representative?  
(Y/N) N/A If yes, who? \_\_\_\_\_ and place a four (4) on line 7.  
If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) N/A If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) N/A If yes, go to line 4  
If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) N/A If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) N/A If yes, go to line 6  
If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) N/A If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. N/A is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: \_\_\_\_\_  
N/A No pit on-site.

Name of Principal Exec. Officer: Gretchen Kohler

Title of Officer: Sr. Environmental & Regulatory Manager

Date Completed: 05/08/2020

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Gretchen Kohler

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/BI
Date Site Reclaimed	N/A	N/A		_____	10 days from dis.
Disposal Area		_____	Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_

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

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/13/2019
Job End Date:	12/27/2019
State:	West Virginia
County:	Tyler
API Number:	47-095-02581-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Gabitalalek 2H
Latitude:	39.38003300
Longitude:	-80.87294700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,478
Total Base Water Volume (gal):	18,864,431
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	86.38539	
DynaRate 6522	CWS	Friction Reducer					
				Listed Below			

CalGel 4000	CWS	Gel Slurry											
					Listed Below								
Calbreak 5501	CWS	Breaker											
					Listed Below								
CI-9100G	CWS	Corrosion Inhibitor											
					Listed Below								
Hydrochloric Acid	CWS	Clean Perforations											
					Listed Below								
Sand (Proppant)	CWS	Propping Agent											
					Listed Below								
SaniFrac 8123	CWS	Microbiocide											
					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		13.24280					
			Illite	12173-60-3		1.00000		0.13242					
			Hydrochloric acid	7647-01-0		37.00000		0.11380					
			Copolymer of 2-propenamide	69418-26-4		30.00000		0.02090					

				Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01394	
				Biotite	1302-27-8	0.10000	0.01324	
				Goethite	1310-14-1	0.10000	0.01324	
				Apatite	64476-38-6	0.10000	0.01324	
				Ilmenite	98072-94-7	0.10000	0.01324	
				Guar gum	9000-30-0	60.00000	0.01302	
				Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.01302	
				Ammonium chloride	12125-02-9	8.00000	0.00557	
				Glutaraldehyde	111-30-8	14.00000	0.00165	
				Oleic Acid Diethanolamide	93-83-4	2.00000	0.00139	
				Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00109	
				Ammonium Persulfate	7727-54-0	100.00000	0.00041	
				Alkyl dimethyl benzyl ammonium chloride	68424-85-1	3.00000	0.00035	
				Ethanol	64-17-5	3.00000	0.00035	
				Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00035	
				Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00033	
				Vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00008	
				Ethylene Glycol	107-21-1	40.00000	0.00006	
				Diethylene glycol, monomethyl ether	34590-94-8	20.00000	0.00003	
				Ethoxylated Alcohols	68131-39-5	10.00000	0.00002	
				Tar bases, quinolone derivs, benzyl chloride- quaternized	72480-70-7	10.00000	0.00002	
				Cinnamaldehyde	104-55-2	10.00000	0.00002	

			Formic acid	64-18-6	10.00000	0.00002
			Isopropyl alcohol	67-63-0	5.00000	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)

# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Facility: Dawson Pad

Slot: Slot #15  
 Well: Gabitalelek Unit 2H  
 Wellbore: Gabitalelek Unit 2H PWB

Grid System: NAD27 UTM Zone 17 North, US feet  
 North Reference: Grid north  
 Scale: True distance  
 Depths are in feet  
 Created by: delabst on 2019-09-05  
 Database: WA\_MPL\_EasternUS\_Datn

## Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Dawson Pad	1878048.228	14300592.517	38°22'50.710"N	80°52'26.030"W
Slot	Local N (ft)	Local E (ft)	Latitude	Longitude
Slot #15	-261.67	268.92	38°22'48.120"N	80°52'22.610"W
H&P 519 (RKB) to Ground level (A Slot: Slot #15)			38ft	
H&P 519 (RKB) to Mean Sea Level (A Slot: Slot #15)			-1008ft	
H&P 519 (RKB) to Mean Sea Level			1039ft	

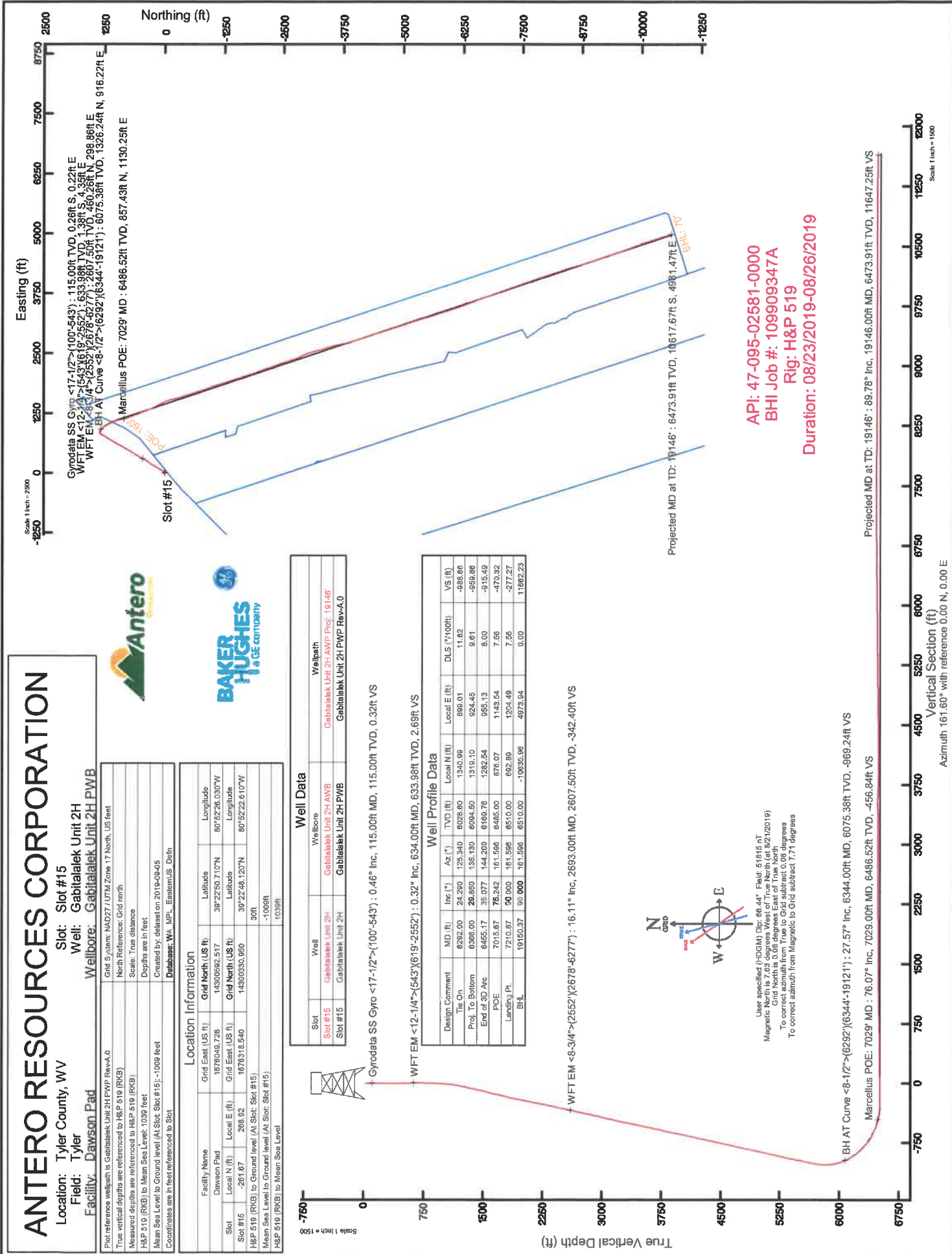
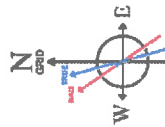
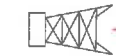
## Well Data

Slot	Well	Wellbore	Wellpath
Slot #15	Gabitalelek Unit 2H	Gabitalelek Unit 2H	Gabitalelek Unit 2H AMP Proj: 19146
Slot #15	Gabitalelek Unit 2H	Gabitalelek Unit 2H PWB	Gabitalelek Unit 2H PWP Rev-A-0

Gyrodata SS Gyro <17-1/2">(100-543) : 0.46° Inc, 115.00ft MD, 115.00ft TVD, 0.32ft VS

WFT EM <12-1/4">(643)(619-2552) : 0.32° Inc, 634.00ft MD, 633.98ft TVD, 2.69ft VS

WFT EM <8-3/4">(2552)(2678-6277) : 16.11° Inc, 2693.00ft MD, 2607.50ft TVD, -342.40ft VS



API: 47-095-02581-0000  
 BHI Job #: 109909347A  
 Rig: H&P 519  
 Duration: 08/23/2019-08/26/2019

Projected MD at TD: 19146' : 6473.91ft TVD, 10617.67ft S, 4581.47ft E





LATITUDE 39°25'00"

11,198'

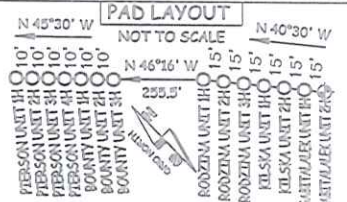
6,236' TO BOTTOM HOLE

LATITUDE 39°22'30"

Antero Resources Corporation Well No. Gabitalalek Unit 2H

NOTES: WELL 2H TOP HOLE INFORMATION: N: 323,491ft E: 1,611,920ft LAT: 39°22'48.12" LON: 80°52'22.61" BOTTOM HOLE INFORMATION: N: 312,793ft E: 1,616,723ft LAT: 39°21'03.11" LON: 80°51'19.39" 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: 4,358,967m E: 510,957m BOTTOM HOLE INFORMATION: N: 4,355,732m E: 512,475m



3 WATER WELLS WERE LOCATED WITHIN 2000' OF CENTER OF PAD

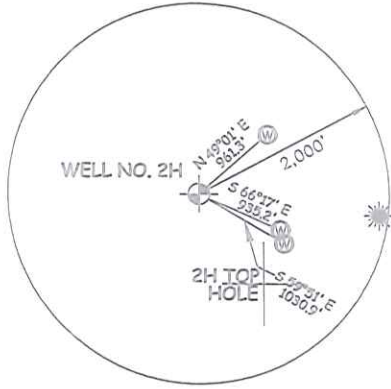


Table listing landowners and lease information for the area, including names like Warren Suter Jr., Gary Dawson, and Antero Resources Corp.

LONGITUDE 80°50'00"

8,792' TO BOTTOM HOLE

13,343'

LONGITUDE 80°50'00"

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 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

- 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.

JOB # 18-032WA
DRAWING # GABITALALEK2HAD
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
THOMAS SUMMERS P.S. 2109
DATE 05/01/20
OPERATOR'S WELL# GABITALALEK UNIT #2H



WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02581
(If "GAS") PRODUCTION X STORAGE DEEP SHALLOW X STATE COUNTY PERMIT
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; CARL W. ASH; GARY D. DAWSON; CARL W. ASH; ROBERT C. DEAN; WVDNR; PATTY L. BUTERBRAUGH; RANDALL DALE ASH ET UX; CONRAD E. COSTILO; MARGARET E. OLEYA; THELMA FERGUSON ET AL; NANCY B. WESTFALL ET UX; RALPH J. WESTFALL ET UX; AMANDA GREGG ET AL; VIOLET GREGG ET AL; VIOLET GREGG ET AL; NATHAN JOSEPH
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 6,474' TVD 19,146' 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