

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

API 47-095-02415 County Tyler District Centerville
Quad Middlebourne 7.5 Shirley 7.5 Pad Name Dawson Pad Field/Pool Name -----
Farm name Gary D. Dawson et ux Well Number Pierson Unit 3H
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 4359049m Easting 510873m
Landing Point of Curve Northing 4359006.19m Easting 510477.80m
Bottom Hole Northing 4361581m Easting 509558m

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

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Date permit issued 5/8/2017 Date drilling commenced 6/30/2017 Date drilling ceased 12/26/2017
Date completion activities began 3/20/2018 Date completion activities ceased 9/5/2018
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 N/A Open mine(s) (Y/N) depths No
Salt water depth(s) ft N/A 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

Reviewed by:

JES
9/5/2019

API 47- 095 - 02415 Farm name Gary D. Dawson et ux Well number Pierson Unit 3H

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"	80'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	582'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2576'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16149'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6876'		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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	204 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	480 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	860 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	730 sx (Lead) 1410 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.45 (Lead), 1.94 (Tail)		~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16169' MD, 6451' TVD (BHL), 6484' (Deepest Point Drilled) Loggers TD (ft) 16169' MD

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

Plug back procedure N/A

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Kick off depth (ft) 5773'

Check all wireline logs run caliper density deviated/directional induction temperature sonic
 neutron resistivity gamma ray

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 - 02415 Farm name Gary D. Dawson et ux Well number Pierson Unit 3H

PERFORATION RECORD

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

Please insert additional pages as applicable.

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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 - 02415 Farm name Gary D. Dawson et ux Well number Pierson Unit 3H

PRODUCING FORMATION(S)	DEPTHS		
	6465' (TOP)	TVD	6940' (TOP) MD
Marcellus			

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 13995 mcfpd Oil 106 bpd NGL --- bpd Water 475 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	
	NAME TVD	TVD	MD	MD	
*PLEASE SEE ATTACHED EXHIBIT 3					

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Please insert additional pages as applicable.

Drilling Contractor Patterson - UTI Drilling Company LLC
Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Allied Horizontal Wireline Services
Address 381 Colonial Manor Road City North Huntington State PA Zip 15642

Cementing Company BJ Services
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Baker Hughes
Address 837 Philippi 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 10/4/2018

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

API 47-095-02415 Farm Name Gary D. Dawson Well Number Pierson Unit 3H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	4/21/2018	15996		60	Marcellus
2	4/21/2018	15795	15964	60	Marcellus
3	4/21/2018	15594	15764	60	Marcellus
4	4/22/2018	15393	15563	60	Marcellus
5	4/22/2018	15193	15362	60	Marcellus
6	4/23/2018	14992	15161	60	Marcellus
7	4/23/2018	14791	14960	60	Marcellus
8	4/24/2018	14590	14760	60	Marcellus
9	4/24/2018	14389	14559	60	Marcellus
10	4/25/2018	14189	14358	60	Marcellus
11	4/25/2018	13988	14157	60	Marcellus
12	4/26/2018	13787	13956	60	Marcellus
13	4/26/2018	13586	13756	60	Marcellus
14	4/27/2018	13386	13555	60	Marcellus
15	4/27/2018	13185	13354	60	Marcellus
16	4/28/2018	12984	13153	60	Marcellus
17	4/28/2018	12783	12952	60	Marcellus
18	4/28/2018	12582	12752	60	Marcellus
19	4/29/2018	12382	12551	60	Marcellus
20	4/29/2018	12181	12350	60	Marcellus
21	4/30/2018	11980	12149	60	Marcellus
22	4/30/2018	11779	11949	60	Marcellus
23	4/30/2018	11578	11748	60	Marcellus
24	5/1/2018	11378	11547	60	Marcellus
25	5/1/2018	11177	11346	60	Marcellus
26	5/2/2018	10976	11145	60	Marcellus
27	5/3/2018	10775	10945	60	Marcellus
28	5/3/2018	10574	10744	60	Marcellus
29	5/3/2018	10374	10543	60	Marcellus
30	5/4/2018	10173	10342	60	Marcellus
31	5/4/2018	9972	10141	60	Marcellus
32	5/5/2018	9771	9941	60	Marcellus
33	5/5/2018	9571	9740	60	Marcellus
34	5/6/2018	9370	9539	60	Marcellus
35	5/6/2018	9169	9338	60	Marcellus
36	5/6/2018	8968	9137	60	Marcellus
37	5/6/2018	8767	8937	60	Marcellus
38	5/7/2018	8567	8736	60	Marcellus
39	5/7/2018	8366	8535	60	Marcellus
40	5/7/2018	8165	8334	60	Marcellus
41	5/7/2018	7964	8134	60	Marcellus
42	5/8/2018	7763	7933	60	Marcellus
43	5/8/2018	7563	7732	60	Marcellus
44	5/8/2018	7362	7531	60	Marcellus
45	5/9/2018	7161	7330	60	Marcellus
46	5/9/2018	6960	7130	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	4/21/2018	65.9	6888	6597	3663	17148	3607	N/A
2	4/21/2018	70.8	7072	5205	4113	16390	9829	N/A
3	4/21/2018	74.1	7439	5414	3829	16682	8241	N/A
4	4/22/2018	71.1	6977	5263	3976	16216	8398	N/A
5	4/22/2018	74.4	7087	5348	4009	16444	8208	N/A
6	4/23/2018	72.9	7288	6290	3926	17504	8206	N/A
7	4/23/2018	77	7416	6277	4136	17829	8292	N/A
8	4/24/2018	72.8	6992	5747	4233	16972	8291	N/A
9	4/24/2018	77.4	7453	6134	3765	17352	8128	N/A
10	4/25/2018	77.2	7670	5828	3890	17388	7990	N/A
11	4/25/2018	80.3	7403	6037	3816	17256	8279	N/A
12	4/26/2018	79.4	7365	5854	4159	17378	8433	N/A
13	4/26/2018	79.1	7396	6066	4022	17484	7943	N/A
14	4/27/2018	78.6	7072	5842	4071	16985	8004	N/A
15	4/27/2018	80.7	7286	6000	3978	17264	7962	N/A
16	4/28/2018	80.4	7246	6157	4085	17488	7848	N/A
17	4/28/2018	80	7057	6240	4020	17317	8248	N/A
18	4/28/2018	80	7433	5824	3875	17132	7875	N/A
19	4/29/2018	79	7127	5828	3965	16920	7915	N/A
20	4/29/2018	81	7459	6685	3978	18122	7912	N/A
21	4/30/2018	80.8	7652	6167	4011	17830	7994	N/A
22	4/30/2018	80.9	7298	6030	4022	17350	7986	N/A
23	4/30/2018	80.9	7298	6030	4022	17350	7986	N/A
24	5/1/2018	78.5	6871	5906	4154	16931	8017	N/A
25	5/1/2018	81.2	7422	6729	4011	18162	8149	N/A
26	5/2/2018	81.1	6757	5852	3977	16586	7949	N/A
27	5/3/2018	79	6673	6236	4228	17137	7937	N/A
28	5/3/2018	78.9	6784	5309	4092	16185	7979	N/A
29	5/3/2018	80.8	7002	5886	3771	16659	7899	N/A
30	5/4/2018	79.2	6660	6606	3915	17181	8100	N/A
31	5/4/2018	80.6	7044	6376	4011	17431	7895	N/A
32	5/5/2018	79.9	6705	6300	4117	17122	7998	N/A
33	5/5/2018	80.7	7078	6094	3993	17165	7821	N/A
34	5/6/2018	80.9	7118	5939	3948	17005	7831	N/A
35	5/6/2018	79.3	6963	6056	4314	17333	8108	N/A
36	5/6/2018	79	7086	5520	4191	16797	8015	N/A
37	5/6/2018	80.5	6994	6216	4007	17217	7813	N/A
38	5/7/2018	80.7	6705	5742	4007	16454	7721	N/A
39	5/7/2018	78.9	6394	5473	4228	16095	7871	N/A
40	5/7/2018	77.2	6405	5602	4117	16124	7883	N/A
41	5/7/2018	81	6606	6034	3687	16327	7823	N/A
42	5/8/2018	79.4	6461	5621	4152	16234	7981	N/A
43	5/8/2018	79.4	6445	5238	4077	15760	7897	N/A
44	5/8/2018	78.9	6420	5404	3906	15730	7778	N/A
45	5/9/2018	80.5	6396	6329	3855	16580	7779	N/A
46	5/9/2018	80.4	6588	5699	3981	16268	7609	N/A
	AVG=	78.5	7,021	5,935	4,007	780,284	365,428	TOTAL

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LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	227'	N/A	227'	N/A
Sandstone	0	N/A	0	N/A
Silty Sandstone	300	N/A	300	N/A
Sandy Siltstone	440	N/A	440	N/A
Sandstone	600	N/A	600	N/A
Sandy Marlstone	700	N/A	700	N/A
Calcareous Sandstone	880	N/A	880	N/A
Silty Marlstone	1,070	N/A	1,070	N/A
Sandstone w/interbedded coal	1,280	N/A	1,280	N/A
Sandstone w/trace coal	1,440	N/A	1,440	N/A
Calcareous Shale	1,590	N/A	1,590	N/A
Coal/Shale	1,650	N/A	1,650	N/A
Calcareous Shale	1,670	N/A	1,670	N/A
Calcareous Sandstone	1,840	N/A	1,840	N/A
Big Lime	1,906	N/A	1,918	N/A
Big Injun	2,049	N/A	2,067	N/A
Gantz Sand	2,554	N/A	2,590	N/A
Fifty Foot Sandstone	2,669	N/A	2,708	N/A
Gordon	2,787	N/A	2,829	N/A
Fifth Sandstone	2,967	N/A	3,017	N/A
Bayard	3,183	N/A	3,241	N/A
Warren	3,471	N/A	3,540	N/A
Speechley	3,837	N/A	3,919	N/A
Balltown	4,348	N/A	4,449	N/A
Bradford	4,528	N/A	4,635	N/A
Benson	4,774	N/A	4,890	N/A
Alexander	5,179	N/A	5,310	N/A
Rhinestreet	5,766	N/A	5,921	N/A
Sycamore	6,124	N/A	6,295	N/A
Middlesex	6,289	N/A	6,501	N/A
Burkett	6,401	N/A	6,714	N/A
Tully	6,435	N/A	6,829	N/A
Marcellus	6,465	N/A	6,940	N/A

*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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ANTERO RESOURCES CORPORATION

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

Slot: Slot #03
 Well: Pierson Unit 3H
 Wellbore: Pierson Unit 3H PWB

Easting (ft)



Plot reference wellpath is Pierson Unit 3H PWB Rev-A.0

True vertical depths are referenced to Patterson 342 (RKB)

Measured depths are referenced to Patterson 342 (RKB)

Patterson 342 (RKB) to Mean Sea Level: 1035 feet

Mean Sea Level to Ground level (At Slot: Slot #03): -1010 feet

Depths are in feet

Coordinates are in feet referenced to Slot

Grid System: WGS84 / UTM Zone 17 North, US feet

North Reference: Grid north

Scale: True distance

Created by: mcreeds on 2018-05-08

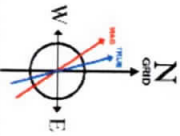
Database: VVA_MPL_EASTERNUS_Data

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Dawson Pad	1676049.728	14300592.517	39.2250, 77.10°N	80.5226, 030°W
Slot #03	7.08	1676042.650	39.2250, 78.07°N	80.5226, 120°W
Comment	Pierson Unit 3H			
Patterson 342 (RKB) to Ground level (At Slot: Slot #03)				
Mean Sea Level to Ground level (At Slot: Slot #03)				
Patterson 342 (RKB) to Mean Sea Level				

Projected MD @ TD: 16169MD/6451.10TVD : 6451.10ft TVD, 8309.29ft N, 4317.57ft W

User specified Dip: 66.62° Field: 51992 nT
 Magnetic North is 7.62 degrees West of True North (at 12/19/2017)
 Grid North is 0.08 degrees East of True North
 To correct azimuth from True to Grid subtract 0.08 degrees
 To correct azimuth from Magnetic to Grid subtract 7.70 degrees



API: 47-095-02415-0000
BH Job #: 8923760
Rig: Patterson 342
Duration: 12/20/17 - 12/23/17

Directional ONE MWD <-8-3/4">(2522)(2656-5962) : 13.19° Inc, 2656.00ft MD, 2618.05ft TVD, -141.73ft VS

Gyrodatta MS Gyro <-17-1/2">(100-548) : 0.62° Inc, 100.00ft MD, 100.00ft TVD, -0.08ft VS

Gyrodatta MS Gyro <-12-1/4">(548)(625-866) : 0.11° Inc, 625.00ft MD, 624.99ft TVD, -0.84ft VS

Directional ONE MWD <-12-1/4">(866)(927-2522) : 1.60° Inc, 927.00ft MD, 926.98ft TVD, -1.55ft VS

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5962.00	14.200	222.830	5805.49	-828.03	-873.80	4.95	-482.32
Proj. To Bottom	6040.00	14.400	240.000	5881.11	-839.90	-888.71	5.42	-488.42
End of 3D Arc	6779.70	74.368	341.420	6424.94	-493.55	-1118.11	10.50	-84.77
Hold	6919.78	74.368	341.420	6462.68	-365.68	-1161.09	0.00	50.09
POE	6936.02	74.817	340.154	6467.00	-350.89	-1166.25	8.00	65.75
Landing Pt.	7125.81	90.000	340.155	6492.00	-174.45	-1229.93	8.00	253.33
BHL	16164.46	90.000	340.155	6492.00	8327.40	-4298.40	0.00	9291.98

POE Marcellus @ 6940MD : 6465.72ft TVD, 356.18ft S, 1178.32ft W

BH AT Curve <-8-1/2">(5962)(6018-16146) : 5859.93ft TVD, 836.74ft S, 883.61ft W

Gyrodatta MS Gyro <-17-1/2">(100-548) : 100.00ft TVD, 0.21ft S, 0.35ft W

Gyrodatta MS Gyro <-12-1/4">(548)(625-866) : 624.99ft TVD, 1.61ft S, 1.97ft W

Directional ONE MWD <-12-1/4">(866)(927-2522) : 926.98ft TVD, 2.94ft S, 3.59ft W

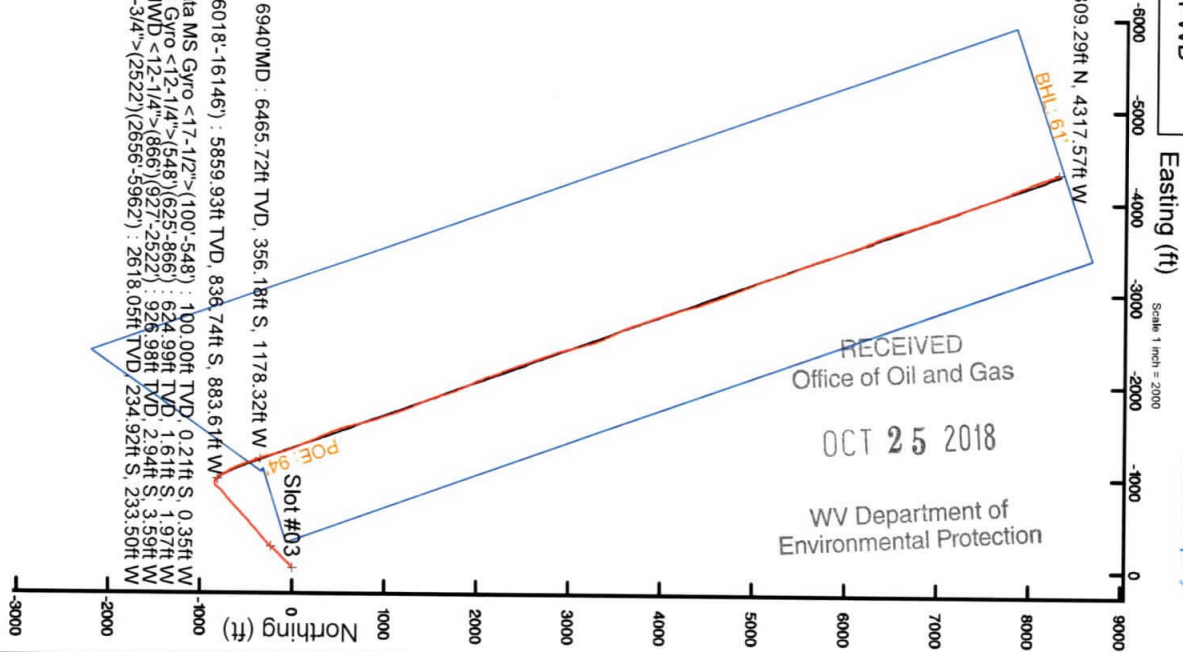
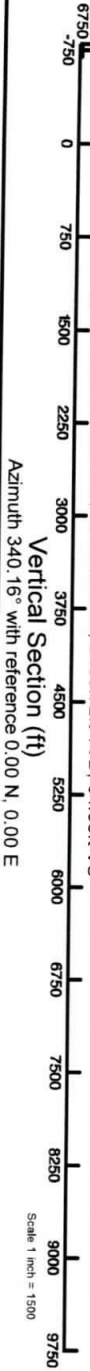
Directional ONE MWD <-8-3/4">(2522)(2656-5962) : 2618.05ft TVD, 234.92ft S, 233.50ft W

Well Data

Slot	Well	Wellbore	Wellpath
Slot #03	Pierson Unit 3H	Pierson Unit 3H AWP	Pierson Unit 3H AWP Proj: 16169
Slot #03	Pierson Unit 3H	Pierson Unit 3H PWB	Pierson Unit 3H PWB Rev-A.0

BH AT Curve <-8-1/2">(5962)(6018-16146) : 13.03° Inc, 6018.00ft MD, 5859.93ft TVD, -487.18ft VS

Projected MD @ TD: 16169MD/6451.10TVD : 90.43° Inc, 16169.00ft MD, 6451.10ft TVD, 9281.45ft W



Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/21/2018
Job End Date:	5/9/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02415-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Pierson Unit 3H
Latitude:	39.38077200
Longitude:	-80.87392200
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,452
Total Base Water Volume (gal):	15,869,244
Total Base Non Water Volume:	0

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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	70.00000	87.47505	
Calbreak 5501	CWS	Breaker					
				Listed Below			

Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.

				Listed Below			
				Crystalline silica (Quartz)	14808-60-7	100.00000	12.21412
				Illite	12173-60-3	1.00000	0.12214
				Hydrochloric acid	7647-01-0	37.00000	0.05808
				Polymer	26100-47-0	45.00000	0.02506
				Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.01670
				Biotite	1302-27-8	0.10000	0.01221
				Goethite	1310-14-1	0.10000	0.01221
				Apatite	64476-38-6	0.10000	0.01221
				Ilmenite	98072-94-7	0.10000	0.01221
				Ammonium chloride	12125-02-9	11.00000	0.00613
				2-Propenoic acid, homopolymer, sodium salt	9003-04-7	40.00000	0.00610
				Polyethylene glycol mixture	25322-68-3	54.50000	0.00608
				Guar gum	9000-30-0	60.00000	0.00449
				Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.00449
				Sorbitan monooleate	1338-43-8	4.00000	0.00223
				2,2-Dibromo-3-Nitriopropionamide	10222-01-2	20.00000	0.00223
				Polyethylene glycol monooleate	9004-96-0	3.00000	0.00167
				1,2-Propanediol	57-55-6	10.00000	0.00153
				Ammonium Persulfate	64742-47-8	100.00000	0.00117
				Sorbitol tetraoleate	61723-83-9	2.00000	0.00111
				Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00056
				Citric acid	77-92-9	60.00000	0.00053
				Sodium bromide	7647-15-6	4.00000	0.00045

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			68953-58-2	5.00000	0.00037	
Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite						
			3252-43-5	3.00000	0.00033	
Dibromoacetonitrile						
			84133-50-6	0.50000	0.00028	
Alkyloxypolyethyleneoxy ethanol						
			37251-67-5	1.50000	0.00011	
Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether						
			79-06-1	0.10000	0.00006	
Acrylamide						
			107-21-1	40.00000	0.00003	
Ethylene glycol						
			34590-94-8	20.00000	0.00002	
Diethylene glycol (mono) methyl ether						
			104-55-2	10.00000	0.00001	
Cinnamaldehyde						
			Proprietary	10.00000	0.00001	Proprietary CAS
Ethoxylated alcohols						
			67-63-0	5.00000	0.00001	
Isopropanol						
			64-18-6	10.00000	0.00001	
Formic Acid						
			111-46-6	1.00000	0.00001	
Diethylene glycol						

* 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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LATITUDE 39°25'00"

11,473'

4,001' TO BOTTOM HOLE

LATITUDE 39°25'00"

LONGITUDE 80°52'30"

13,074'

LONGITUDE 80°50'00"

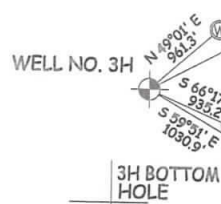
Antero Resources Corporation
Well No. Pierson Unit 3H

CARL W. ASH LEASE
JOSEPH McGRAY
D.B. 352 PG. 440
T.M. 12 PAR. 31
240.81 AC. ±

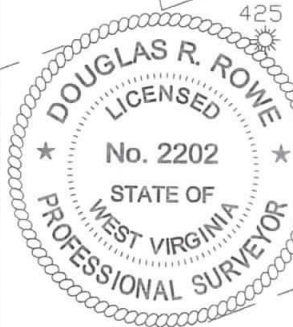
WELL 3H
BOTTOM HOLE

JOSEPH McGRAY
D.B. 352 PG. 440
T.M. 11 PAR. 11.1
61.79 AC. ±

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



WV NORTH ZONE
GRID NORTH



MOUNTAINEER LD & TIMBER CO.
D.B. 355 PG. 273
T.M. 11 PAR. 11
65 AC. ±

WILMA J. HOWARD
ET AL LEASE

MOUNTAINEER LD & TIMBER CO.
D.B. 355 PG. 273
T.M. 12 PAR. 26
210.37 AC. ±

NOTES:
WELL 3H TOP HOLE INFORMATION:
N: 323,764ft E: 1,611,648ft
LAT: 39°22'50.78" LON: 80°52'26.12"
BOTTOM HOLE INFORMATION:
N: 332,144ft E: 1,607,470ft
LAT: 39°24'12.96" LON: 80°53'20.97"
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 3H TOP HOLE INFORMATION:
N: 4,359,049m E: 510,873m
BOTTOM HOLE INFORMATION:
N: 4,361,581m E: 509,558m

- 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.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 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 # 16-043WA
DRAWING # PIERSON3HAD
SCALE 1" = 1000'
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

DATE 08/29/2018

OPERATOR'S WELL # PIERSON UNIT #3H

API WELL # 47 - 095 - 02415

STATE COUNTY PERMIT

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 REGULATIONS 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

STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 1,009' - AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE SHIRLEY 7.5' (TH) MIDDLEBOURNE 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.; LEASE ACREAGE 104.27 AC.±; 108 AC.±;
MARTHA E. GOODEN; KARLA R. SPENCER; WILMA J. HOWARD ET AL; CARL W. ASH 184.95 AC.±; 85.2 AC.±; 239 AC.±; 362.8 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
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,451' TVD 16,169' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

PERMIT

COUNTY NAME

PERMIT