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

API 47 - 085 - 10080 County Ritchie District Clay
Quad Pullman 7.5' Pad Name Edwin Field/Pool Name ----
Farm name Quimby, Franklin P. Well Number Moats Unit 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop St. 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 4342357m Easting 508388m
Landing Point of Curve Northing 4342167.26m Easting 508099.16m
Bottom Hole Northing 4340459m Easting 508900m

Elevation (ft) 1191' 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 12/30/2013 Date drilling commenced 12/10/2014 Date drilling ceased 8/26/2015
Date completion activities began 10/17/2015 Date completion activities ceased 2/26/2016
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 49' Open mine(s) (Y/N) depths No
Salt water depth(s) ft None Identified Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1287' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

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API 47- 085 - 10080 Farm name Quimby, Franklin P. Well number Moats 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	30"	20"	40'	New	94# H-40	N/A	Y
Surface	17- 1/2"	13- 3/8"	377'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2566'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	13338'	New	20# P-110	N/A	Y
Tubing		2-3/8"	6859'		4.7# N-80	N/A	
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	200 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	463 sx	15.6	1.18	262	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1003 sx	15.6	1.18	804	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	891 sx (Lead) 1064 sx (Tail)	13.5 Lead 15.2 Tail	1.30 Lead 1.85 Tail	2582	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 13338' MD, 6657' TVD (BHL), 6662' (Deepest Point Drilled) Loggers TD (ft) 13287'

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

Plug back procedure N/A

Kick off depth (ft) 6205'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Hornet Unit 1H API #47-085-10062). Please reference the wireline logs submitted with Form WR-35 for Hornet Unit 1H. A Cement Bond Log has been included with this submittal.

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 aboce 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

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API 47- 085 - 10080 Farm name Quimby, Franklin P. Well number Moats Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

*PLEASE SEE ATTACHED EXHIBIT 1

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)

*PLEASE SEE ATTACHED EXHIBIT 2

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS			
Marcellus	6543' (top)	TVD	6894' (top)	MD

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown ■ Open Flow OIL TEST ■ Flow □ Pump

SHUT-IN PRESSURE Surface 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW	Gas	Oil	NGL	Water	GAS MEASURED BY
	3141 mcfpd	36 bpd	--- bpd	204 bpd	□ 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_2S, ETC)
	0		0		

***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling Company, LP
Address 2640 Reach Rd. City Williamsport State PA Zip 17701

Logging Company Rush Wellsite Services
Address 60 Alpha Dr. City Canonsburg State PA Zip 15317

Cementing Company Allied Oil & Gas Services, LLC
Address 1036 East Main St. City Bridgeport State WV Zip 26330

Stimulating Company US Well Services
Address 533 Industrial Park Dr. City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature KQ Title Permit Representative Date 5/19/2016

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

API 47-085-10080 **Farm Name** Quimby, Franklin P. **Well Number** Moats Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	17-Oct-15	13,080	13,247	60	Marcellus
2	7-Jan-16	12,881	13,049	60	Marcellus
3	7-Jan-16	12,683	12,850	60	Marcellus
4	7-Jan-16	12,485	12,652	60	Marcellus
5	8-Jan-16	12,287	12,454	60	Marcellus
6	8-Jan-16	12,088	12,256	60	Marcellus
7	8-Jan-16	11,890	12,057	60	Marcellus
8	8-Jan-16	11,692	11,859	60	Marcellus
9	9-Jan-16	11,493	11,661	60	Marcellus
10	9-Jan-16	11,295	11,462	60	Marcellus
11	9-Jan-16	11,097	11,264	60	Marcellus
12	9-Jan-16	10,899	11,066	60	Marcellus
13	10-Jan-16	10,700	10,867	60	Marcellus
14	11-Jan-16	10,502	10,669	60	Marcellus
15	12-Jan-16	10,304	10,471	60	Marcellus
16	12-Jan-16	10,105	10,273	60	Marcellus
17	12-Jan-16	9,907	10,074	60	Marcellus
18	13-Jan-16	9,709	9,876	60	Marcellus
19	13-Jan-16	9,510	9,678	60	Marcellus
20	13-Jan-16	9,312	9,479	60	Marcellus
21	13-Jan-16	9,114	9,281	60	Marcellus
22	14-Jan-16	8,916	9,083	60	Marcellus
23	14-Jan-16	8,717	8,885	60	Marcellus
24	14-Jan-16	8,519	8,686	60	Marcellus
25	14-Jan-16	8,321	8,488	60	Marcellus
26	15-Jan-16	8,122	8,290	60	Marcellus
27	15-Jan-16	7,924	8,091	60	Marcellus
28	15-Jan-16	7,726	7,893	60	Marcellus
29	16-Jan-16	7,528	7,695	60	Marcellus
30	16-Jan-16	7,329	7,496	60	Marcellus
31	16-Jan-16	7,131	7,298	60	Marcellus
32	16-Jan-16	6,933	7,100	60	Marcellus

API 47-085-10080 **Farm Name** Quimby, Franklin P. **Well Number** Moats Unit 2H

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	6-Jan-16	70.6	6,852	5,428	3,609	248,440	6,834	N/A
2	7-Jan-16	71.7	6,573	5,184	4,801	247,750	6,638	N/A
3	7-Jan-16	69.2	6,431	5,230	4,769	247,920	6,508	N/A
4	7-Jan-16	70.4	6,785	5,195	4,645	247,650	6,487	N/A
5	8-Jan-16	69.7	7,391	5,255	4,090	121,190	6,740	N/A
6	8-Jan-16	71.8	6,354	5,151	3,743	242,650	6,619	N/A
7	8-Jan-16	71.5	6,444	5,662	4,412	244,220	6,596	N/A
8	8-Jan-16	71.3	6,572	5,268	4,343	246,970	6,377	N/A
9	9-Jan-16	71.6	6,678	5,780	4,854	209,570	6,339	N/A
10	9-Jan-16	71.4	6,407	5,257	3,568	241,940	6,439	N/A
11	9-Jan-16	72.5	6,618	5,620	3,874	246,515	6,506	N/A
12	9-Jan-16	69.1	6,616	5,530	4,555	248,700	6,327	N/A
13	10-Jan-16	68.3	7,033	5,718	3,584	131,840	6,721	N/A
14	11-Jan-16	69.3	6,702	5,578	4,937	210,150	7,176	N/A
15	12-Jan-16	70.5	6,450	5,861	4,760	248,850	6,417	N/A
16	12-Jan-16	70.7	6,399	5,640	3,767	240,760	6,253	N/A
17	12-Jan-16	71.2	6,487	5,787	3,670	249,000	6,422	N/A
18	13-Jan-16	69.7	6,452	5,252	4,692	249,650	7,344	N/A
19	13-Jan-16	70.6	6,091	5,622	4,852	248,700	6,261	N/A
20	13-Jan-16	70.7	6,327	5,231	4,757	251,850	6,338	N/A
21	13-Jan-16	72.1	6,527	5,345	4,863	248,480	6,236	N/A
22	14-Jan-16	72.2	6,344	5,195	4,775	248,300	6,172	N/A
23	14-Jan-16	71.5	6,588	5,561	4,065	249,640	6,201	N/A
24	14-Jan-16	72.4	6,053	5,014	4,728	249,230	6,150	N/A
25	14-Jan-16	71.6	6,075	5,096	4,515	247,990	6,130	N/A
26	15-Jan-16	72.3	6,359	4,748	4,427	250,400	7,000	N/A
27	15-Jan-16	72.6	6,076	5,044	4,636	251,300	6,116	N/A
28	15-Jan-16	72.2	6,107	5,188	5,089	246,700	6,088	N/A
29	16-Jan-16	72.3	5,864	5,211	5,085	249,000	6,073	N/A
30	16-Jan-16	72.0	6,039	5,158	4,748	244,750	6,138	N/A
31	16-Jan-16	72.0	6,034	5,088	4,908	245,510	6,091	N/A
32	16-Jan-16	70.9	5,919	5,493	4,145	249,820	6,123	N/A
	AVG=	**71.1**	**6,426**	**5,356**	**4,446**	**7,605,435**	**6,433**	TOTAL

API 47-085-10080 Farm Name Quimby, Franklin P. Well Number Moats Unit 2H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	**TOP DEPTH (TVD) From Surface**	**BOTTOM DEPTH (TVD) From Surface**	**TOP DEPTH (MD) From Surface**	**BOTTOM DEPTH (MD) From Surface**
Fresh Water	49'	N/A	49'	N/A
Sandy Shale	0	187	0	187
Sandstone	est. 187	447	est. 187	447
Shale/Siltstone	est. 447	647	est. 447	647
Shaley Limestone	est. 647	727	est. 647	727
Shale/Siltstone	est. 727	1127	est. 727	1127
Shaley Limestone	est. 1127	1287	est. 1127	1287
Coal	est. 1287	1307	est. 1287	1307
Shaley Limestone (trace coal)	est. 1307	1627	est. 1307	1627
Shale/Siltstone	est. 1627	1787	est. 1627	1787
Sandstone/Siltstone	est. 1787	1827	est. 1787	1827
Sandstone/Siltstone with trace coal	est. 1827	2007	est. 1827	2007
Silty Sandstone	est. 2007	2160	est. 2007	2162
Big Lime	2160	2258	2162	2260
Big Injun	2258	2658	2260	2660
Gantz Sand	2658	2857	2660	2859
Fifty Foot Sandstone	2857	2914	2859	2916
Gordon	2914	3062	2916	3064
Fifth Sandstone	3062	3203	3064	3205
Bayard	3203	3630	3205	3632
Warren	3630	4035	3632	4037
Speechley	4035	4277	4037	4281
Baltown	4277	4716	4281	4738
Bradford	4716	5092	4738	5149
Benson	5092	5355	5149	5435
Alexander	5355	5565	5435	5662
Elk	5565	5932	5662	6063
Rhinestreet	5932	6226	6063	6394
Sycamore	6226	6383	6394	6587
Middlesex	6383	6490	6587	6767
Burkett	6490	6510	6767	6833
Tully	6510	6543	6833	6894
Marcellus	6543	NA	6894	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/6/2016
Job End Date:	1/16/2016
State:	West Virginia
County:	Ritchie
API Number:	47-085-10080-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Moats 2H
Longitude:	-80.90281700
Latitude:	39.23046900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,662
Total Base Water Volume (gal):	8,961,666
Total Base Non Water Volume:	0

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

Hydraulic Fracturing Fluid Composition:

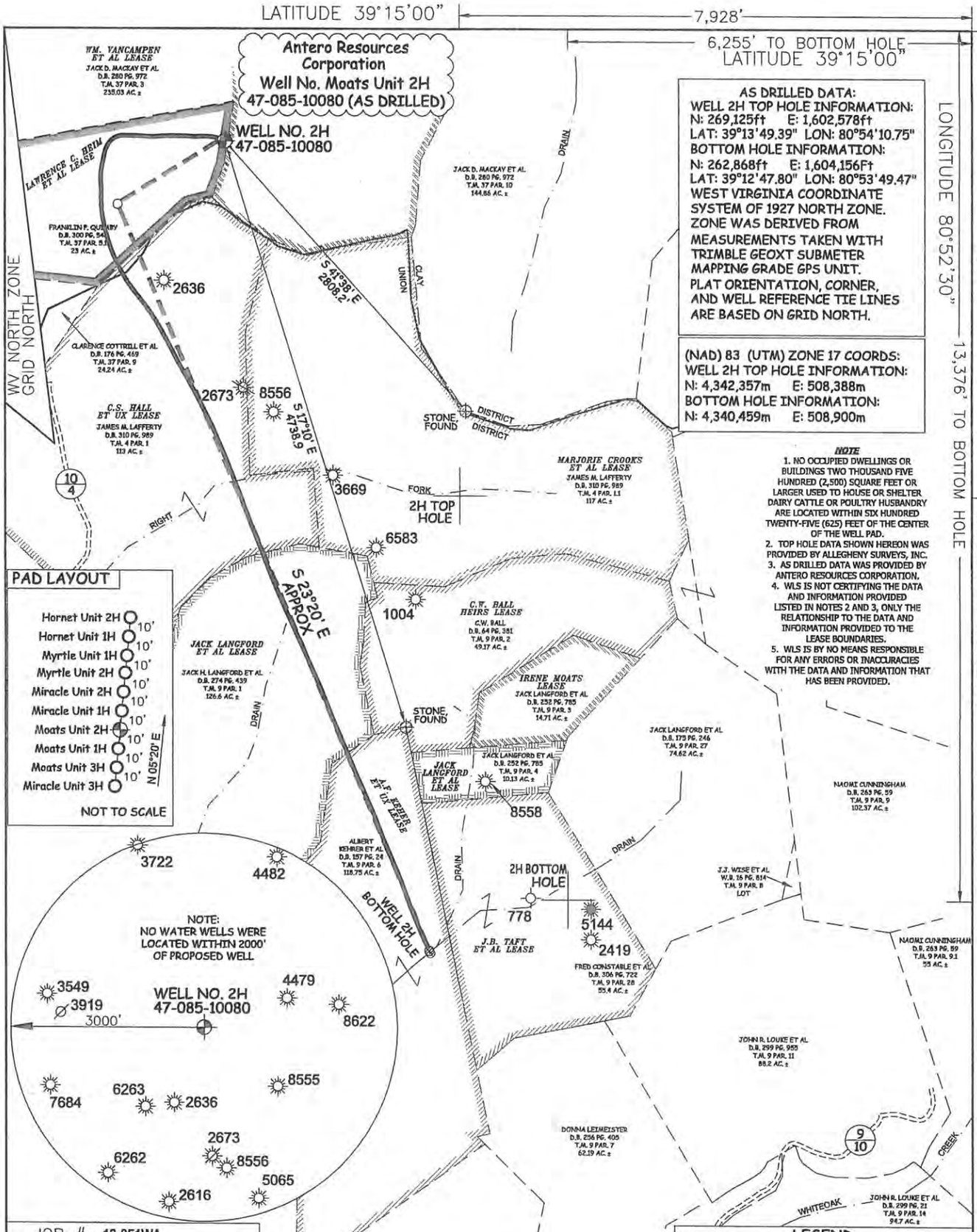
Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Antero Resources	Base Fluid					
			Water	7732-18-5	100.00000	90.41464	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	9.20043	
LGC-15	U.S. Well Services	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.08147	
			Petroleum Distillates	64742-47-8	60.00000	0.07715	
			Suspending agent (solid)	14808-60-7	3.00000	0.01246	
			Surfactant	68439-51-0	3.00000	0.00489	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.50000	0.08599	
			Hydrogen Chloride	7647-01-0	18.00000	0.02054	
WFRA-405	U.S. Well Services	Friction Reducer					
			Water	7732-18-5	60.00000	0.03792	
			2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.01896	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01526	
			Ethoxylated alcohol blend	68002-97-1	4.00000	0.00253	

SI-1100	U.S. Well Services	Scale Inhibitor					
			Water	7732-18-5	80.00000	0.01016	
			Ethylene Glycol	107-21-1	25.00000	0.00359	
			Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00150	
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	7.50000	0.00129	
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	5.00000	0.00083	
			Phosphino carboxylic acid polymer	71050-62-9	5.00000	0.00083	
			Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5	2.00000	0.00033	
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent					
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00420	
			Deionized Water	7732-18-5	28.00000	0.00240	
AP One	U.S. Well Services	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00221	
AI-302	U.S. Well Services	Acid Corrosion Inhibitors					
			Water	7732-18-5	95.00000	0.00037	
			2-Propyn-1-olcompound with methyloxirane	38172-91-7	15.00000	0.00006	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

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)



JOB # 13-051WA
DRAWING # MOATS2HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

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

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

DATE 2/24/2016
OPERATOR'S WELL# MOATS UNIT #2H

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

API WELL # 47 – 085 – 10080
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 1,216' ORIGINAL - 1,191' AS DRILLED WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PULLMAN 7.5' DISTRICT CLAY (TH) UNION (BH) COUNTY RITCHIE
SURFACE OWNER FRANKLIN P. QUIMBY ACREAGE 23 ACRES +/-
OIL & GAS ROYALTY OWNER LAWRENCE C. HEIM ET AL; C.S. HALL ET UX; JACK LANGFORD ET AL; A.F. KEHRER ET UX LEASE ACREAGE 53 AC±; 113 AC±; 448.5 AC±; 118.75 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 6,377' TVD 13,338' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 5400 D BIG TYLER ROAD
CHARLESTON, WV 25313

COUNTY NAME PERMIT

FORM WW-6