

RECEIVED

JUN 23 2015

WR-35
Rev. 8/23/13

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Page ___ of ___

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

API 47 - 033 - 05643 County Harrison District Union
Quad Big Isaac 7.5' Pad Name Myer Pad Field/Pool Name ---
Farm name Myer, Everett M., Jr. Well Number Slussar Unit 1H
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 4337890.066m Easting 542167.146m
Landing Point of Curve Northing 4337963.77m Easting 541845.69m
Bottom Hole Northing 4340337.636m Easting 541100.336m

Elevation (ft) 1358' 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 9/11/2012 Date drilling commenced 7/14/2013 Date drilling ceased 12/6/2013
Date completion activities began 2/11/2014 Date completion activities ceased 4/25/2014
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 46' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1379' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 947' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

RECEIVED

JUN 23 2015

WR-35
Rev. 8/23/13

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Page ___ of ___

API 47-033 - 05643 Farm name Myer, Everett M., Jr. Well number Slussar Unit 1H

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"	40'	New	106.50# J-55	N/A	Yes
Surface	17- 1/2"	13- 3/8"	396'	New	68# J-55	N/A	Yes
Coal							
Intermediate 1	12-1/4"	9-5/8"	2650'	New	36# J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	15996'	New	23# P-110	N/A	Yes
Tubing		2-3/8"	7648'		4.7# N-80	N/A	N/A
Packer type and depth set		N/A					

Comment Details Sidetrack at 9254'

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	335 sx	15.4	1.18	38	0'	8 Hrs.
Surface	Class A	459 sx	15.6	1.18	275	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1050 sx	15.6	1.18	830	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1136 sx (Lead) 1133 sx (Tail)	14.5 Lead 15.2 Tail	1.30 Lead 1.86 Tail	3172	~500 into intermediate casing	8 Hrs.
Tubing							

Drillers TD (ft) 15996' MD, 7323' TVD (BHL), 7347' (Deepest Point Drilled) Loggers TD (ft) 15996' MD

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

Plug back procedure N/A

Kick off depth (ft) 7013'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Thaddeus Unit 2H API# 47-033-05622). Please reference the wireline logs submitted with Form WR-35 for the Thaddeus Unit 2H). 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 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

JUN 23 2015

WR-35
Rev. 8/23/13

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Page ___ of ___

API 47- 033 - 05643 Farm name Myer, Everett M., Jr. Well number Slussar Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7253' (TOP)	TVD	7579' (TOP) MD
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 14002 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 ₂ S, ETC)
-------------------------	--------------------------------	------------------------------	--------------------------	-----------------------------	--

*** PLEASE SEE EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC
Address 562 Spring Run Rd. City Pennsboro State WV Zip 26415

Logging Company Rush Wellsite Services
Address 600 Alpha Drive City Canonsburg State PA Zip 15317

Cementing Company Nabors Completion & Production Services, Co.
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

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

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature *[Signature]* Title Permit Representative Date 6/15/2015

RECEIVED
JUN 23 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

API 47-033-05643 Farm Name Myer, Everett M., Jr. Well Number Slussar Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	11-Feb-14	15,716	15,907	60	Marcellus
2	25-Mar-14	15,490	15,680	60	Marcellus
3	25-Mar-14	15,263	15,454	60	Marcellus
4	25-Mar-14	15,036	15,227	60	Marcellus
5	26-Mar-14	14,810	15,001	60	Marcellus
6	26-Mar-14	14,583	14,774	60	Marcellus
7	26-Mar-14	14,357	14,547	60	Marcellus
8	26-Mar-14	14,130	14,321	60	Marcellus
9	27-Mar-14	13,903	14,094	60	Marcellus
10	27-Mar-14	13,677	13,868	60	Marcellus
11	27-Mar-14	13,450	13,641	60	Marcellus
12	27-Mar-14	13,224	13,414	60	Marcellus
13	28-Mar-14	12,997	13,188	60	Marcellus
14	28-Mar-14	12,770	12,961	60	Marcellus
15	28-Mar-14	12,544	12,735	60	Marcellus
16	28-Mar-14	12,317	12,508	60	Marcellus
17	29-Mar-14	12,091	12,281	60	Marcellus
18	29-Mar-14	11,864	12,055	60	Marcellus
19	29-Mar-14	11,637	11,828	60	Marcellus
20	30-Mar-14	11,411	11,602	60	Marcellus
21	30-Mar-14	11,184	11,375	60	Marcellus
22	30-Mar-14	10,958	11,148	60	Marcellus
23	30-Mar-14	10,731	10,922	60	Marcellus
24	31-Mar-14	10,504	10,695	60	Marcellus
25	31-Mar-14	10,278	10,469	60	Marcellus
26	31-Mar-14	10,051	10,242	60	Marcellus
27	31-Mar-14	9,825	10,015	60	Marcellus
28	1-Apr-14	9,598	9,789	60	Marcellus
29	1-Apr-14	9,371	9,562	60	Marcellus
30	1-Apr-14	9,145	9,336	60	Marcellus
31	1-Apr-14	8,918	9,109	60	Marcellus
32	1-Apr-14	8,692	8,882	60	Marcellus
33	1-Apr-14	8,465	8,656	60	Marcellus
34	2-Apr-14	8,238	8,429	60	Marcellus
35	2-Apr-14	8,012	8,203	60	Marcellus

RECEIVED

JUN 23 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

API 47-033-05643 Farm Name Myer, Everett M., Jr. Well Number Slussar Unit 1H

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-Mar-14	66.8	7,689	n/a	7,718	197,570	7,367	N/A
2	25-Mar-14	65.3	7,864	n/a	4,370	143,120	7,622	N/A
3	25-Mar-14	70.5	7,545	6,744	4,424	245,970	7,224	N/A
4	25-Mar-14	67.0	7,562	6,801	4,791	149,000	7,076	N/A
5	26-Mar-14	62.5	7,594	6,794	6,311	194,560	7,384	N/A
6	26-Mar-14	49.5	8,038	8,311	6,330	28,000	7,118	N/A
7	26-Mar-14	61.0	7,693	6,590	5,598	88,047	7,156	N/A
8	26-Mar-14	69.0	7399	6231	5130	218620	7,244	N/A
9	27-Mar-14	71.6	7,501	6,238	4,923	273,460	7,245	N/A
10	27-Mar-14	72.8	7,525	6,470	5,783	277,390	7,316	N/A
11	27-Mar-14	73.0	7,496	6,106	4,583	282,240	7,145	N/A
12	28-Mar-14	76.0	7,648	6,396	5,185	275,320	6,737	N/A
13	28-Mar-14	73.1	7,600	6,767	5,127	272,920	7,194	N/A
14	28-Mar-14	78.0	7,453	6,284	5,145	274,070	7,298	N/A
15	28-Mar-14	73.0	7,465	5,787	4,685	265,940	6,915	N/A
16	29-Mar-14	73.0	7,465	5,787	4,685	277,500	7,070	N/A
17	29-Mar-14	72.3	7,331	6,590	4,928	269,300	6,794	N/A
18	29-Mar-14	79.0	7,394	6,159	4,653	277,980	7,038	N/A
19	29-Mar-14	77.0	7,522	6,285	4,871	286,660	6,899	N/A
20	30-Mar-14	76.5	7,525	5,840	5,165	282,640	6,986	N/A
21	30-Mar-14	78.2	7,311	6,141	5,450	280,525	7,012	N/A
22	30-Mar-14	78.0	7,231	5,970	5,159	292,020	6,833	N/A
23	30-Mar-14	78.0	7,230	6,429	5,354	286,400	6,854	N/A
24	31-Mar-14	78.0	6,934	5,741	5,567	285,800	6,855	N/A
25	31-Mar-14	74.9	7,017	6,168	5,095	294,400	6,862	N/A
26	31-Mar-14	78.7	6,972	5,736	5,089	284,120	6,817	N/A
27	31-Mar-14	77.3	6,934	5,964	5,232	283,200	6,817	N/A
28	1-Apr-14	78.4	7,224	6,309	5,332	281,780	6,795	N/A
29	1-Apr-14	78.1	6,933	6,447	5,221	292,240	6,775	N/A
30	1-Apr-14	75.3	6,950	6,071	4,685	284,560	6,784	N/A
31	1-Apr-14	75.3	6,950	5,842	4,685	281,660	6,747	N/A
32	1-Apr-14	78.1	6,961	5,664	4,776	281,580	6,753	N/A
33	2-Apr-14	78.0	7,191	6,382	5,280	269,090	6,702	N/A
34	2-Apr-14	78.4	6,962	6,001	5,303	276,640	6,671	N/A
35	2-Apr-14	78.3	6,908	5,436	5,644	261,620	7,320	N/A
	AVG=	73.4	7,343	6,257	5,208	8,815,942	245,425	TOTAL

RECEIVED

JUN 23 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

API 47-033-05643 Farm Name Myer, Everett M., Jr. Well Number Slussar Unit 1H

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	46'	N/A	46'	N/A
Shale	0	77	0	77
Siltstone	est. 77	277	est. 77	277
Sandy siltstone	est. 277	587	est. 277	587
Silty Sandstone	est. 587	617	est. 587	617
Siltstone	est. 617	707	est. 617	707
Sandstone	est. 707	737	est. 707	737
Siltstone	est. 737	827	est. 737	827
Sandstone	est. 827	947	est. 827	947
Coal	est. 947	977	est. 947	977
Sandstone	est. 977	1097	est. 977	1097
Siltstone	est. 1097	1127	est. 1097	1127
Sandy siltstone	est. 1127	1427	est. 1127	1427
Sandy Limestone	est. 1427	1697	est. 1427	1697
Silty Limestone	est. 1697	1947	est. 1697	1947
Big Lime	1947	2060	1947	2060
Big Injun	2060	2312	2060	2312
Gantz Sand	2312	2424	2312	2424
Fifty Foot Sandstone	2424	2515	2424	2515
Gordon	2515	2836	2515	2836
Fifth Sandstone	2836	2870	2836	2870
Bayard	2870	3247	2870	3247
Warren	3247	3525	3247	3525
Speechley	3525	3768	3525	3768
Baltown	3768	4282	3768	4282
Bradford	4282	4841	4282	4844
Benson	4841	5024	4844	5030
Alexander	5024	5187	5030	5196
Elk	5187	5840	5196	5878
Rhinestreet	5840	6625	5878	6749
Sycamore	6625	6894	6749	7042
Middlesex	6894	7058	7042	7250
Burkett	7058	7086	7250	7294
Tully	7086	7253	7294	7579
Marcellus	7253	NA	7579	NA

*Please note Antero determines shallow 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.

RECEIVED
JUN 23 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Hydraulic Fracturing Fluid Product Component Information Disclosure



Frac Focus
Chemical Disclosure Registry



Job Start Date:	3/13/2014
Job End Date:	4/2/2014
State:	West Virginia
County:	Harrison
API Number:	47-033-05643-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Slussar Unit 1H
Longitude:	-80.51191390
Latitude:	39.18914720
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,333
Total Base Water Volume (gal):	10,322,046
Total Base Non Water Volume:	438,730

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical 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	90.45810	
Sand	J.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	9.26370	
HCL Acid (12.6%-18.0%)	J.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.50000	0.08331	
LGC-15	J.S. Well Services, LLC	Gelling Agents	Hydrogen Chloride	7641-01-1	18.00000	0.01990	
			Guar Gum	9000-30-0	50.00000	0.03655	
			Petroleum Distillates	64742-47-8	60.00000	0.03462	
			Suspending agent (solid)	14808-60-7	3.00000	0.00559	
			Surfactant	68439-51-0	3.00000	0.00219	
WFRA-405	J.S. Well Services, LLC	Friction Reducer	Water	7732-18-5	40.00000	0.02457	
			Anionic Polyacrylamide	Proprietary		0.02457	
			Petroleum Distillates	64742-47-8	22.00000	0.01978	
			Ethoxylated alcohol blend	Proprietary	5.00000	0.00307	

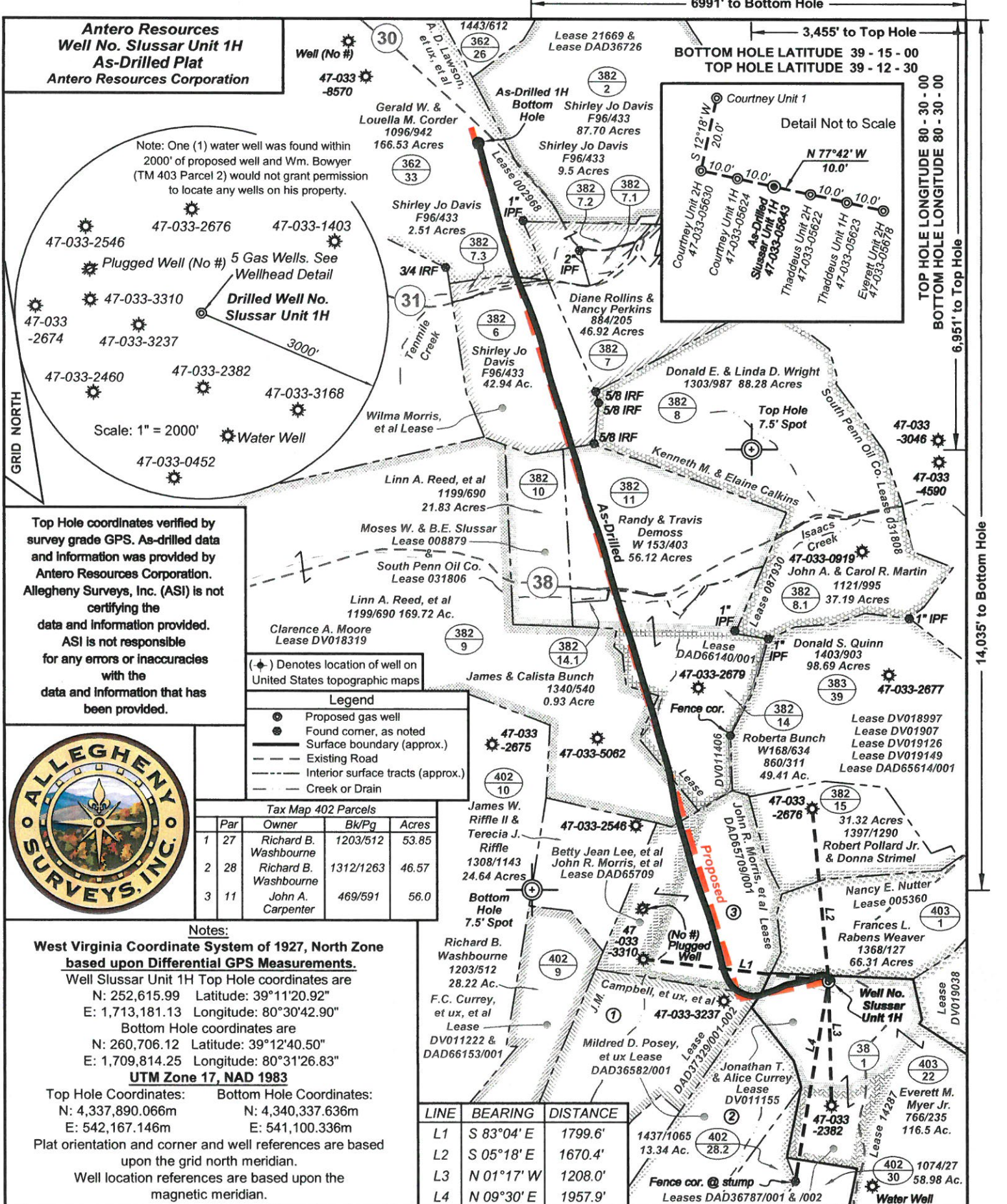
SI-1000	U.S. Well Services, LLC	Scale Inhibitor	Crystalline Salt	12125-02-9	5.00000	0.00307
			Anionic Copolymer	Proprietary		0.00445
			Ethylene Glycol	107-21-1	20.00000	0.00402
			Water	7732-18-5	30.00000	0.00335
K-BAC 1020	U.S. Well Services, LLC	Anti-Bacterial Agent				
			2,2-dibromo-3-nitriopropionamide	10222-01-2	20.00000	0.00467
AP One	U.S. Well Services, LLC	Gel Breakers	Deionized Water	7732-18-5	28.00000	0.00266
AI-300	U.S. Well Services, LLC	Acid Corrosion Inhibitor	Ammonium Persulfate	7727-54-0	100.00000	0.00132
			Ethylene Glycol	107-21-1	31.00000	0.00022
			N,N-Dimethylformamide	68-12-2	15.00000	0.00007
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	13.00000	0.00006
			Cinnamaldehyde	104-55-2	5.00000	0.00006
			2-Butoxyethanol	111-76-2	7.00000	0.00005
			Poly(oxy-1,2-ethanediyl), alpha-(4-noliphenyl)-omega-hydroxy, branched	7732-18-5	20.00000	0.00002
			1-Decanol	68412-54-4	5.00000	0.00002
			Isopropyl Alcohol	67-63-0	3.00000	0.00001
			1-Octanol	78-40-0	3.00000	0.00001

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)

RECEIVED
 JUN 23 2015
 WV GEOLOGICAL SURVEY
 MORGANTOWN, WV



Antero Resources
Well No. Slussar Unit 1H
As-Drilled Plat
Antero Resources Corporation

Note: One (1) water well was found within 2000' of proposed well and Wm. Bowyer (TM 403 Parcel 2) would not grant permission to locate any wells on his property.

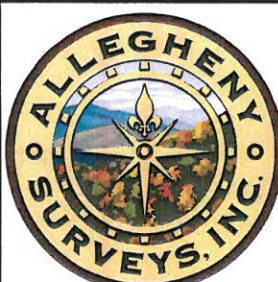
47-033-2546
 47-033-2676
 47-033-1403
 47-033-3310
 47-033-2674
 47-033-3237
 47-033-2460
 47-033-2382
 47-033-3168
 47-033-0452

Plugged Well (No #) 5 Gas Wells. See Wellhead Detail

Drilled Well No. Slussar Unit 1H

Scale: 1" = 2000'

Top Hole coordinates verified by survey grade GPS. As-drilled data and information was provided by Antero Resources Corporation. Allegheny Surveys, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.



Tax Map 402 Parcels

Par	Owner	Bk/Pg	Acres
1	Richard B. Washbourne	1203/512	53.85
2	Richard B. Washbourne	1312/1263	46.57
3	John A. Carpenter	469/591	56.0

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well Slussar Unit 1H Top Hole coordinates are
 N: 252,615.99 Latitude: 39°11'20.92"
 E: 1,713,181.13 Longitude: 80°30'42.90"
 Bottom Hole coordinates are
 N: 260,706.12 Latitude: 39°12'40.50"
 E: 1,709,814.25 Longitude: 80°31'26.83"
UTM Zone 17, NAD 1983
 Top Hole Coordinates: Bottom Hole Coordinates:
 N: 4,337,890.066m N: 4,340,337.636m
 E: 542,167.146m E: 541,100.336m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

LINE	BEARING	DISTANCE
L1	S 83°04' E	1799.6'
L2	S 05°18' E	1670.4'
L3	N 01°17' W	1208.0'
L4	N 09°30' E	1957.9'

DRAWING NO: **107-12 Slussar Drilled 1H**
 SCALE: **1" = 1200'**
 MINIMUM DEGREE OF ACCURACY: **Submeter**
 PROVEN SOURCE OF ELEVATION: **WVDOT, Bridgeport, WV**

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

DATE: **April 23 20 15**
 API WELL NO: **Slussar Unit 1H**
 API WELL NO.
47 - 033 - 05643
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: **Original 1,366'** **Existing 1,358'** WATERSHED: **Middle West Fork River** QUADRANGLE: **Big Isaac**
 DISTRICT: **Union** COUNTY: **Harrison 15**
 SURFACE OWNER: **Everett M. Myer Jr.** ACREAGE: **116.5** 107; 150
 ROYALTY OWNER: **Jonathan T. & Alice Currey; J.M. Campbell, et ux, et al; John R. Morris, et al** LEASE NO: **DV011155; DAD37329/001-002** ACREAGE: **30.75; 70; 56; 184**
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER DRILL RPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) **As-Drilled** TVD **7,323'**
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: **Marcellus Shale** DEPTH: **MD 15,996'**

WELL OPERATOR: **Antero Resources Corporation** DESIGNATED AGENT: **Dianna Stamper - CT Corporation System**
 ADDRESS: **1615 Wynkoop Street** ADDRESS: **5400 D Big Tyler Road**
Denver, CO 80202 **Charleston, WV 25313**