

JUN 01 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 47-017-06265 County Doddridge District New Milton
Quad New Milton Pad Name Swisher Pad Field/Pool Name _____
Farm name Swisher, Leoan Well Number Josie 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 4,340,186.862m Easting 528,823.442m
Landing Point of Curve Northing 4,340,028.27m Easting 528,850.33m
Bottom Hole Northing 4,337,853.893m Easting 529,511.200m

Elevation (ft) 980' 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 06/05/2013 Date drilling commenced 08/14/2013 Date drilling ceased 10/22/2013
Date completion activities began 2/22/2014 Date completion activities ceased 5/1/2014
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 71', 89' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1,246' Void(s) encountered (Y/N) depths None
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

Reviewed by:

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API 47-017 - 06265 Farm name Swisher, Leoan Well number Josie 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"	76'	New	94#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	361'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,649'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	14,686'	New	20#; P-110	N/A	Yes
Tubing		2 3/8"	7,052'		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	94 sx	15.6	1.18	73	0'	8 Hrs.
Surface	Class A	410 sx	15.6	1.18	251	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1,034 sx	15.6	1.18	830	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	966 sx (Lead) 1,214 sx (Tail)	13.5 (Lead) 15.2 (Tail)	1.44 (Lead) 1.8 (Tail)	2,872	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14,686' MD, 7,005' TVD (BHL); 7,011' TVD (Deepest Point Drilled) Loggers TD (ft) 14,650'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,641'

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 _____

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API 47-017-06265 Farm Name Swisher, Leoan. Well Number Josie Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	22-Feb-14	14,413	14,600	60	Marcellus
2	2-Mar-14	14,215	14,382	60	Marcellus
3	2-Mar-14	14,017	14,184	60	Marcellus
4	3-Mar-14	13,819	13,986	60	Marcellus
5	3-Mar-14	13,621	13,788	60	Marcellus
6	3-Mar-14	13,424	13,591	60	Marcellus
7	4-Mar-14	13,226	13,393	60	Marcellus
8	5-Mar-14	13,028	13,195	60	Marcellus
9	5-Mar-14	12,830	12,997	60	Marcellus
10	5-Mar-14	12,632	12,799	60	Marcellus
11	5-Mar-14	12,434	12,601	60	Marcellus
12	6-Mar-14	12,236	12,403	60	Marcellus
13	6-Mar-14	12,038	12,205	60	Marcellus
14	6-Mar-14	11,840	12,007	60	Marcellus
15	6-Mar-14	11,642	11,809	60	Marcellus
16	7-Mar-14	11,444	11,611	60	Marcellus
17	7-Mar-14	11,246	11,413	60	Marcellus
18	7-Mar-14	11,048	11,215	60	Marcellus
19	8-Mar-14	10,850	11,017	60	Marcellus
20	8-Mar-14	10,652	10,819	60	Marcellus
21	8-Mar-14	10,454	10,621	60	Marcellus
22	8-Mar-14	10,257	10,423	60	Marcellus
23	8-Mar-14	10,059	10,226	60	Marcellus
24	9-Mar-14	9,861	10,028	60	Marcellus
25	9-Mar-14	9,663	9,830	60	Marcellus
26	9-Mar-14	9,465	9,632	60	Marcellus
27	11-Mar-14	9,267	9,434	60	Marcellus
28	11-Mar-14	9,069	9,236	60	Marcellus
29	11-Mar-14	8,871	9,038	60	Marcellus
30	11-Mar-14	8,673	8,840	60	Marcellus
31	11-Mar-14	8,475	8,642	60	Marcellus
32	12-Mar-14	8,277	8,444	60	Marcellus
33	12-Mar-14	8,079	8,246	60	Marcellus
34	12-Mar-14	7,881	8,048	60	Marcellus
35	12-Mar-14	7,683	7,850	60	Marcellus
36	13-Mar-14	7,485	7,652	60	Marcellus
37	13-Mar-14	7,287	7,454	60	Marcellus
38	13-Mar-14	7,089	7,256	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	2-Mar-14	67.3	7,793	6,183	4,729	225,370	6,052	N/A
2	2-Mar-14	69.6	7,835	6,230	4,882	225,270	6,053	N/A
3	2-Mar-14	70.4	7,563	6,033	5,232	225,160	6,067	N/A
4	3-Mar-14	64.0	8,531	6,078	5,962	214,110	5,931	N/A
5	3-Mar-14	68.4	7,907	5,884	5,642	225,310	5,994	N/A
6	4-Mar-14	62.9	8,112	5,933	5,276	146,270	6,406	N/A
7	4-Mar-14	69.1	7,867	6,211	5,285	225,095	5,951	N/A
8	5-Mar-14	68.9	8,086	6,126	5,170	216,590	5,593	N/A
9	5-Mar-14	69.7	8,006	6,440	5,632	225,265	6,137	N/A
10	5-Mar-14	70.4	8,028	6,333	5,662	225,280	5,972	N/A
11	6-Mar-14	68.1	7,747	6,253	4,803	225,525	6,428	N/A
12	6-Mar-14	71.6	7,768	6,335	5,584	225,460	5,881	N/A
13	6-Mar-14	69.9	7,980	6,011	6,356	225,555	5,876	N/A
14	6-Mar-14	69.9	7,885	6,095	6,050	225,385	5,962	N/A
15	7-Mar-14	70.2	7,849	6,181	6,098	225,375	5,846	N/A
16	7-Mar-14	74.5	7,911	6,098	6,267	225,630	5,832	N/A
17	7-Mar-14	68.8	7,699	6,061	6,214	224,564	5,822	N/A
18	7-Mar-14	70.2	7,819	6,426	4,690	225,260	5,805	N/A
19	8-Mar-14	62.6	7,666	6,304	5,668	225,275	5,793	N/A
20	8-Mar-14	75.6	7,791	6,082	6,009	225,530	6,023	N/A
21	8-Mar-14	76.1	7,846	6,215	5,136	225,400	1,669	N/A
22	8-Mar-14	72.4	7,557	6,177	4,975	225,340	5,756	N/A
23	9-Mar-14	72.9	7,672	6,527	4,699	225,330	5,789	N/A
24	9-Mar-14	75.2	7,526	6,532	4,874	225,330	5,727	N/A
25	9-Mar-14	73.2	7,667	6,048	4,872	196,810	5,458	N/A
26	11-Mar-14	25.4	8,772	7,557	5,259	0	3,677	N/A
27	11-Mar-14	78.1	7,243	6,339	5,319	224,705	6,041	N/A
28	11-Mar-14	70.9	7,357	5,864	4,726	225,625	5,865	N/A
29	11-Mar-14	71.4	7,734	6,127	4,622	162,510	6,101	N/A
30	11-Mar-14	75.6	7,792	6,486	5,140	225,245	5,711	N/A
31	12-Mar-14	79.2	7,191	6,022	5,312	224,220	5,640	N/A
32	12-Mar-14	72.2	7,518	5,411	4,824	225,380	5,632	N/A
33	12-Mar-14	74.5	7,396	5,833	4,791	225,060	5,553	N/A
34	12-Mar-14	78.8	7,110	5,703	4,566	225,030	5,523	N/A
35	12-Mar-14	78.5	7,191	5,959	4,811	225,305	5,588	N/A
36	13-Mar-14	78.9	7,306	5,754	5,137	225,360	5,571	N/A
37	13-Mar-14	77.2	7,169	5,673	4,794	225,380	5,555	N/A
38	13-Mar-14	77.1	7,516	5,953	4,385	226,215	5,593	N/A
	AVG=	70.8	7,721	6,144	5,249	8,145,524	215,873	TOTAL

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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	71'	N/A	71'	N/A
Fresh Water	89'	N/A	89'	N/A
Sandstone	Est. 11	337	Est. 11	337
Siltstone/COAL	Est. 337	381	Est. 337	381
Siltstone	Est. 381	483	Est. 381	483
Sandstone	Est. 483	571	Est. 483	571
Siltstone	Est. 571	956	Est. 571	956
Sandstone	Est. 956	973	Est. 956	973
Siltstone	Est. 973	1,005	Est. 973	1,005
Sandstone	Est. 1005	1,017	Est. 1005	1,017
Sandstone/Shale	Est. 1017	1,077	Est. 1017	1,077
Sandstone	Est. 1077	1,302	Est. 1077	1,302
Siltstone	Est. 1302	1,337	Est. 1302	1,337
Sanstone	Est. 1337	1,365	Est. 1337	1,365
Siltstone	Est. 1365	1,412	Est. 1365	1,412
Sandstone	Est. 1412	1,467	Est. 1412	1,467
Siltstone/ COAL	Est. 1467	1,497	Est. 1467	1,497
Sanstone	Est. 1497	1,637	Est. 1497	1,637
Siltstone/ Shale	Est. 1637	1,775	Est. 1637	1,775
Sandstone	Est. 1775	1,807	Est. 1775	1,807
Siltstone	Est. 1807	2,010	Est. 1807	2,010
Big Lime	2,010	2,093	2,010	2,093
Big Injun	2,093	2,307	2,093	2,307
Gantz Sand	2,307	2,471	2,307	2,471
Fifty Foot Sandstone	2,471	2,677	2,471	2,677
Gordon	2,677	3,038	2,677	3,038
Fifth Sandstone	3,038	3,102	3,038	3,102
Bayard	3,102	3,379	3,102	3,379
Warren	3,379	3,671	3,379	3,671
Speechley	3,671	3,875	3,671	3,875
Baltown	3,875	4,509	3,875	4,509
Bradford	4,509	4,963	4,509	4,963
Benson	4,963	5,211	4,963	5,211
Alexander	5,211	5,438	5,211	5,438
Elk	5,438	5,982	5,438	5,982
Rhinestreet	5,982	6,513	5,982	6,519
Sycamore	6,513	6,668	6,519	6,677
Middlesex	6,668	9,805	6,677	6,833
Burkett	9,805	6,836	6,833	6,874
Tully	6,836	6,930	6,874	7,040
Marcellus	6,930	NA	7,040	NA

*Please note Antero determines shallow formation tops based on mud and/or wireline 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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Hydraulic Fracturing Fluid Product Component Information Disclosure



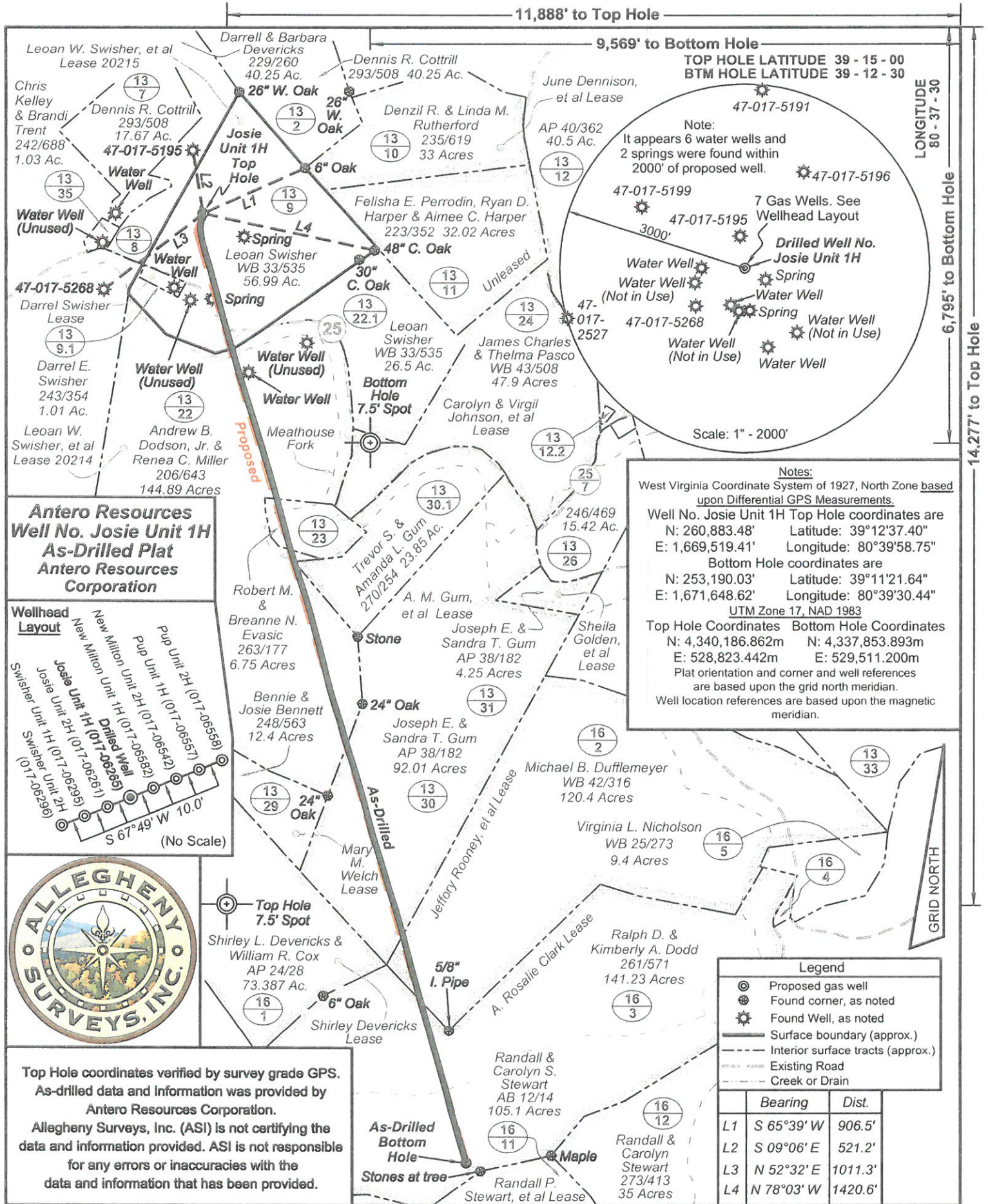
Frac Focus
Chemical Disclosure Registry



Job Start Date:	3/2/2014
Job End Date:	3/13/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06265-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Josie Unit 1H
Longitude:	-80.66630830
Latitude:	39.21039170
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,009
Total Base Water Volume (gal):	0
Total Base Non Water Volume:	0

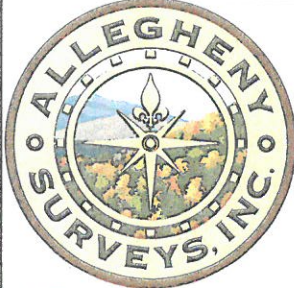
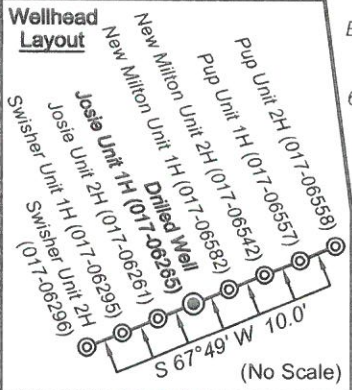
Hydraulic Fracturing Fluid Composition:

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
Freshwater	Antero Resources	Water	Water	7732-18-5	100.00000	90.70898	
40/70 White	US Silica	Proppant	Sand	14808-60-7	100.00000	4.91440	
20/40 White	US Silica	Proppant	Sand	14808-60-7	100.00000	2.92370	
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00000	1.26770	
Beta M-4.0	PIP	Guar Gel	Petroleum Distillate	64742-47-8	55.00000	0.04677	
			Guar Gum	9000-30-0	50.00000	0.04252	
			Clay	1302-78-9	5.00000	0.00426	
			Surfactant	154518-36-2	1.00000	0.00085	
Plexslick 953	Chemplex	Friction Reducer	Water	7732-18-5	35.00000	0.02152	
			Polyacrylamide-co-acrylic acid	9003-06-9	32.00000	0.01967	
			Hydrotreated Petroleum Distillate	64742-47-8	30.00000	0.01844	
			Alcohol Ethoxylate Surfactants	Proprietary	8.00000	0.00492	



Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Josie Unit 1H Top Hole coordinates are
 N: 260,883.48' Latitude: 39°12'37.40"
 E: 1,669,519.41' Longitude: 80°39'58.75"
 Bottom Hole coordinates are
 N: 253,190.03' Latitude: 39°11'21.64"
 E: 1,671,648.62' Longitude: 80°39'30.44"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,340,186.862m N: 4,337,853.893m
 E: 528,823.442m E: 529,511.200m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

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



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.

Legend

- ⊙ Proposed gas well
- ⊗ Found corner, as noted
- ☼ Found Well, as noted
- Surface boundary (approx.)
- - - Interior surface tracts (approx.)
- Existing Road
- Creek or Drain

	Bearing	Dist.
L1	S 65°39' W	906.5'
L2	S 09°06' E	521.2'
L3	N 52°32' E	1011.3'
L4	N 78°03' W	1420.6'

FILE NO: 72-30-NM-13
 DRAWING NO: As-Drilled Josie Unit 1H
 SCALE: 1" = 1000'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

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

DATE: April 14 2015
 OPERATOR'S WELL NO. Josie Unit 1H
 API WELL NO
 47 - 017 - 06265
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Existing 980' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: New Milton
 DISTRICT: New Milton COUNTY: Doddridge 120
 SURFACE OWNER: Leowan Swisher A. M. Gum, et al; A. Rosalie Clark 20215 ACREAGE: 56.99 178.14
 OIL & GAS ROYALTY OWNER: Jeffery Rooney, et al; Leowan W. Swisher, et al LEASE #: 20214 ACREAGE: 56.99; 116; 141.46
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 7,005' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: 14,686' MD

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