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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 47-017-06210 County Doddridge District Greenbrier
Quad Salem & Big Isaac Pad Name Plaughter North Pad Field/Pool Name -----
Farm name Plaughter, Carolyn N. Well Number Gainer 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 4,346,903.134m Easting 533,737.337m
Landing Point of Curve Northing 4,346,563.12m Easting 533,604.97m
Bottom Hole Northing 4,344,556.474m Easting 535,111.673m

Elevation (ft) 1364' 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 05/17/2013 Date drilling commenced 9/5/2013 Date drilling ceased 12/29/2013
Date completion activities began 3/17/2014 Date completion activities ceased 5/30/2014
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 144' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1887', 1907', 2308' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 2315' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

WR-35
Rev. 8/23/13

API 47-017 - 06210 Farm name Plaugher, Carolyn N. Well number Gainer 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	94#/H-40	N/A	Y
Surface	17-1/2"	13-3/8"	337'	New	48#/J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2553'	New	36#, 40#/J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16,253'	New	23#/P-110	N/A	N/A
Tubing		2-3/8"	7632'		4.7#/N-80	N/A	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	196 sx	15.6	1.18	38 Cu. Ft.	0'	8 hrs
Surface	Class A	565 sx	15.6	1.18	234 Cu. Ft.	0'	8 hrs
Coal							
Intermediate 1	Class A	941 sx	15.6	1.18	800 Cu. Ft.	0'	8 hrs
Intermediate 2							
Intermediate 3							
Production	Class H	1231 sx (Lead), 1323 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.80 (Tail)	3253 Cu. Ft.	~500' into Intermediate Casing	8 hrs
Tubing							

Drillers TD (ft) 16,253' MD, 7539' TVD (BHL), 7547' TVD (Deepest Point Drilled) Loggers TD (ft) 16,206' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 7305'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Irons Unit 1H API# 47-017-06245). Please reference the wireline logs submitted with Form WR-35 for the Irons 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

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

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MORGANTOWN, WV

API 47-017-06210 Farm Name Plaugher, Carolyn N. Well Number Gainer Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	17-Mar-14	15992'	16162'	60	Marcellus
2	8-Apr-14	15791'	15961'	60	Marcellus
3	8-Apr-14	15590'	15760'	60	Marcellus
4	8-Apr-14	15389'	15559'	60	Marcellus
5	8-Apr-14	15188'	15358'	60	Marcellus
6	9-Apr-14	14987'	15157'	60	Marcellus
7	9-Apr-14	14786'	14956'	60	Marcellus
8	9-Apr-14	14585'	14755'	60	Marcellus
9	10-Apr-14	14384'	14554'	60	Marcellus
10	10-Apr-14	14183'	14353'	60	Marcellus
11	11-Apr-14	13982'	14152'	60	Marcellus
12	11-Apr-14	13781'	13951'	60	Marcellus
13	11-Apr-14	13580'	13750'	60	Marcellus
14	11-Apr-14	13379'	13549'	60	Marcellus
15	11-Apr-14	13178'	13348'	60	Marcellus
16	12-Apr-14	12977'	13147'	60	Marcellus
17	12-Apr-14	12776'	12946'	60	Marcellus
18	12-Apr-14	12575'	12745'	60	Marcellus
19	12-Apr-14	12374'	12544'	60	Marcellus
20	13-Apr-14	12173'	12343'	60	Marcellus
21	13-Apr-14	11972'	12142'	60	Marcellus
22	13-Apr-14	11771'	11941'	60	Marcellus
23	13-Apr-14	11570'	11740'	60	Marcellus
24	14-Apr-14	11369'	11539'	60	Marcellus
25	14-Apr-14	11168'	11338'	60	Marcellus
26	14-Apr-14	10967'	11137'	60	Marcellus
27	14-Apr-14	10766'	10936'	60	Marcellus
28	14-Apr-14	10565'	10735'	60	Marcellus
29	15-Apr-14	10364'	10533'	60	Marcellus
30	15-Apr-14	10163'	10332'	60	Marcellus
31	15-Apr-14	9962'	10131'	60	Marcellus
32	15-Apr-14	9761'	9930'	60	Marcellus
33	15-Apr-14	9560'	9729'	60	Marcellus
34	16-Apr-14	9359'	9528'	60	Marcellus
35	16-Apr-14	9158'	9327'	60	Marcellus
36	16-Apr-14	8957'	9126'	60	Marcellus
37	16-Apr-14	8756'	8925'	60	Marcellus
38	16-Apr-14	8555'	8724'	60	Marcellus
39	17-Apr-14	8354'	8533'	60	Marcellus
40	17-Apr-14	8153'	8322'	60	Marcellus
41	17-Apr-14	7820'	7923'	60	Marcellus

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API 47-017-06210 Farm Name Plaugher, Carolyn N. Well Number Gainer 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 (bbls)	Amount of Nitrogen/ other (units)
1	7-Apr-14	57.0	8,495	6,218	5,722	108,638	6,794	N/A
2	8-Apr-14	72.0	8,283	6,328	5,009	235,480	6,267	N/A
3	8-Apr-14	74.0	8,334	6,139	4,728	235,180	6,455	N/A
4	8-Apr-14	75.0	7,748	5,961	5,678	232,675	6,190	N/A
5	8-Apr-14	73.0	8,188	6,059	5,333	234,720	6,190	N/A
6	9-Apr-14	74.0	8,246	5,803	5,067	235,060	6,173	N/A
7	9-Apr-14	75.0	8,272	6,085	4,725	201,400	6,682	N/A
8	9-Apr-14	74.0	8,171	5,950	5,212	215,010	5,987	N/A
9	10-Apr-14	72.0	8,177	5,845	4,820	233,220	6,188	N/A
10	10-Apr-14	73.0	8,145	6,154	5,435	232,360	6,301	N/A
11	11-Apr-14	74.0	8,125	6,194	5,569	233,600	6,169	N/A
12	11-Apr-14	76.0	8,278	6,180	5,206	234,562	5,738	N/A
13	11-Apr-14	74.0	8,293	6,250	4,805	233,980	6,589	N/A
14	11-Apr-14	75.0	8,168	6,131	5,329	233,900	6,059	N/A
15	11-Apr-14	74.0	8,113	5,838	5,158	233,980	6,060	N/A
16	12-Apr-14	75.0	8,144	6,263	4,880	235,110	6,129	N/A
17	12-Apr-14	72.0	8,130	5,945	5,187	160,740	5,960	N/A
18	12-Apr-14	77.0	8,066	5,828	4,965	244,680	6,019	N/A
19	12-Apr-14	74.1	7,777	5,824	4,851	233,500	6,022	N/A
20	13-Apr-14	74.2	7,767	5,757	4,911	235,150	6,012	N/A
21	13-Apr-14	74.0	7,942	5,935	4,968	234,000	5,987	N/A
22	13-Apr-14	75.0	8,094	6,035	5,017	233,940	5,947	N/A
23	13-Apr-14	75.0	7,744	5,987	5,160	235,540	5,981	N/A
24	14-Apr-14	75.0	7,629	6,164	5,346	235,240	5,969	N/A
25	14-Apr-14	78.6	7,713	5,802	5,163	234,065	5,847	N/A
26	14-Apr-14	79.5	7,610	6,339	4,980	235,410	5,915	N/A
27	14-Apr-14	75.9	7,451	5,919	5,437	228,850	6,487	N/A
28	14-Apr-14	77.5	7,699	5,799	4,826	235,640	5,923	N/A
29	15-Apr-14	78.0	7,632	5,896	5,011	236,100	5,958	N/A
30	15-Apr-14	79.3	7,507	4,878	5,417	233,220	5,850	N/A
31	15-Apr-14	79.4	7,719	5,651	5,074	237,880	5,838	N/A
32	15-Apr-14	67.0	7,509	5,814	4,767	179,300	6,305	N/A
33	15-Apr-14	77.0	7,853	6,200	4,978	234,600	5,823	N/A
34	16-Apr-14	77.0	7,651	5,799	5,202	235,660	5,862	N/A
35	16-Apr-14	77.3	7,705	5,795	5,053	232,520	5,810	N/A
36	16-Apr-14	80.1	7,457	5,780	4,846	232,400	5,771	N/A
37	16-Apr-14	78.6	7,518	6,040	5,043	232,540	5,792	N/A
38	16-Apr-14	77.0	7,296	5,814	5,231	235,400	5,787	N/A
39	17-Apr-14	77.0	7,514	5,730	5,088	238,100	5,797	N/A
40	17-Apr-14	79.2	7,612	6,006	5,069	242,620	6,046	N/A
41	17-Apr-14	79.3	7,085	6,055	4,607	237,170	5,745	N/A
AVG=		75.1	7,875	5,956	5,094	9,323,140	248,424	TOTAL

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API 47-017-06210 Farm Name <u>Plaughter, Carolyn N.</u> Well Number <u>Gainer Unit 1H</u>				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Freshwater	144	NA	NA	NA
Shale	0	65	0	65
Shale w/ Trace Coal	est 65	95	est 65	95
Sand/Siltstone/Shale	est 95	215	est 95	215
Sand/Siltstone w/ Trace Coal	est 215	695	est 215	695
Shale	est 695	725	est 695	725
Sand/Siltstone/Shale	est 725	845	est 725	845
Sand/Siltstone w/ Trace Coal	est 845	875	est 845	875
Sand/Siltstone/Shale	est 875	1,445	est 875	1,445
Sand/Silt/Limestone w/Trace Coal	est 1445	1,475	est 1445	1,475
Sand/Silt/Limestone	est 1475	1,655	est 1475	1,655
Sand/Siltstone w/ Trace Coal	est 1655	1,745	est 1655	1,745
Shale/Siltstone	est 1745	1,775	est 1745	1,775
Sandstone	est 1775	1,925	est 1775	1,925
Sand/Siltstone/Shale	est 1925	2,315	est 1925	2,315
Coal	est 2315	2,345	est 2315	2,345
Sand/Siltstone/Shale	est 2345	2,414	est 2345	2,414
Big Lime	2,414	2,532	2,414	2,532
Big Injun	2,532	2,880	2,532	2,880
Gantz Sand	2,880	2,985	2,880	2,985
Fifty Foot Sandstone	2,985	3,180	2,985	3,180
Gordon	3,180	3,447	3,180	3,447
Fifth Sandstone	3,447	3,522	3,447	3,522
Bayard	3,522	3,784	3,522	3,784
Warren	3,784	4,032	3,784	4,032
Speechley	4,032	4,364	4,032	4,364
Baltown	4,364	4,884	4,364	4,884
Bradford	4,884	5,391	4,884	5,392
Benson	5,391	5,669	5,392	5,678
Alexander	5,669	5,862	5,678	5,885
Elk	5,862	6,430	5,885	6,539
Rhinestreet	6,430	6,908	6,539	7,081
Sycamore	6,908	7,150	7,081	7,354
Middlesex	7,150	7,297	7,354	7,536
Burkett	7,297	7,324	7,536	7,573
Tully	7,324	7,445	7,573	7,775
Marcellus	7,445	NA	7,775	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

Job Start Date:	4/7/2014
Job End Date:	4/17/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06210-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Gainer Unit 1H
Longitude:	-80.60888900
Latitude:	39.27081900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,547
Total Base Water Volume (gal):	10,433,808
Total Base Non Water Volume:	463,804

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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	Antero Resources	Base Fluid					
Sand	U.S. Well Services, LLC	Proppant					
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Crystalline Silica, quartz	14808-60-7	100.00000	9.64927	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Water	7732-18-5	87.50000	0.09149	
			Hydrogen Chloride	7647-01-0	18.00000	0.02185	
			Guar Gum	9000-30-0	50.00000	0.03598	
			Petroleum Distillates	64742-47-8	60.00000	0.03407	
			Suspending agent (solid)	14808-60-7	3.00000	0.00550	
			Surfactant	68439-51-0	3.00000	0.00216	
WFR-405	U.S. Well Services, LLC	Friction Reducer					
			Water	7732-18-5	40.00000	0.02527	
			Anionic Polyacrylamide	Proprietary		0.02527	
			Petroleum Distillates	64742-47-8	22.00000	0.02034	
			Crystalline Salt	12125-02-9	5.00000	0.00316	

SI-1000	U.S. Well Services, LLC	Scale Inhibitor	Ethoxylated alcohol blend	Proprietary	5.00000	0.00316
			Anionic Copolymer	Proprietary		0.00423
			Ethylene Glycol	107-21-1	20.00000	0.00382
			Water	7732-18-5	30.00000	0.00319
K-BAC 1020	U.S. Well Services, LLC	Anti-Bacterial Agent				
			2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00464
			Deionized Water	7732-18-5	28.00000	0.00265
AP One	U.S. Well Services, LLC	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00144
AI-300	U.S. Well Services, LLC	Acid Corrosion Inhibitors				
			Ethylene Glycol	107-21-1	31.00000	0.00024
			N,N-Dimethylformamide	68-12-2	15.00000	0.00007
			Cinnamaldehyde	104-55-2	5.00000	0.00006
			2-Butoxyethanol	111-76-2	7.00000	0.00006
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	13.00000	0.00006
			Ethoxylated Nonylphenol	68412-54-4	5.00000	0.00002
			Water	7732-18-5	20.00000	0.00002
			Isopropyl Alcohol	67-63-0	3.00000	0.00001
			Triethyl Phosphate	78-40-0	3.00000	0.00001

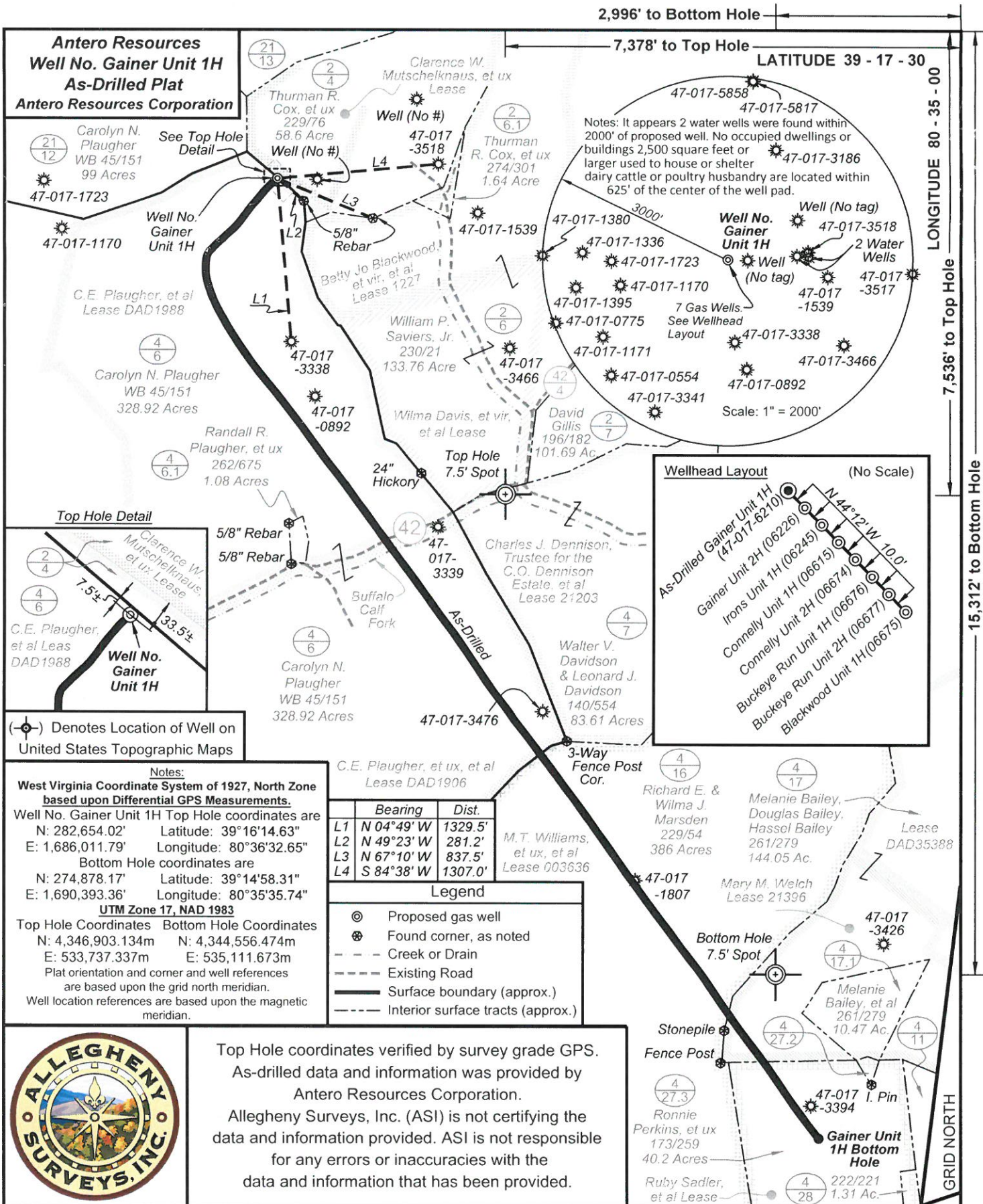
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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)

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

Carolyn N. Plaughter
 WB 45/151
 99 Acres
 47-017-1723

Well No. Gainer Unit 1H
 47-017-1170

C.E. Plaughter, et al
 Lease DAD1988

Carolyn N. Plaughter
 WB 45/151
 328.92 Acres

Randall R. Plaughter, et ux
 262/675
 1.08 Acres

Top Hole Detail



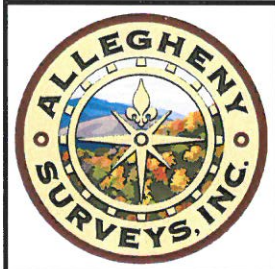
(⊙) Denotes Location of Well on United States Topographic Maps

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Gainer Unit 1H Top Hole coordinates are
 N: 282,654.02" Latitude: 39°16'14.63"
 E: 1,686,011.79" Longitude: 80°36'32.65"
 Bottom Hole coordinates are
 N: 274,878.17" Latitude: 39°14'58.31"
 E: 1,690,393.36" Longitude: 80°35'35.74"
UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,346,903.134m N: 4,344,556.474m
 E: 533,737.337m E: 535,111.673m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

	Bearing	Dist.
L1	N 04°49' W	1329.5'
L2	N 49°23' W	281.2'
L3	N 67°10' W	837.5'
L4	S 84°38' W	1307.0'

Legend

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



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.

FILE NO: 42-30-G-13
 DRAWING NO: 42-13 As-Drilled Gainer 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: 2015
 OPERATOR'S WELL NO. Gainer Unit 1H
 API WELL NO
 47 - 017 - 06210
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: 1364' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: Salem & Big Isaac
 DISTRICT: Greenbrier COUNTY: Doddridge
 SURFACE OWNER: Carolyn N. Plaughter Ruby Sadler, et al ACREAGE: 328.92 51; 90
 ROYALTY OWNER: C.E. Plaughter, et al; C.E. Plaughter, et ux, et al M.T. Williams, et ux, et al 003636; 21396 LEASE NO: DAD1988; DAD1906 ACREAGE: 165; 165; 376.78
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: 7,539' TVD 16,253' 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