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

MAY 18 2015
WV Department of
Environmental Protection

API 47 - 017 - 06223 County Doddridge District West Union
Quad West Union 7.5' Pad Name Bee Lewis Pad Field/Pool Name ---
Farm name Bee, Lewis P. Well Number Livingston Unit 1H
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 4345085m Easting 515282m
Landing Point of Curve Northing 4345581.92m Easting 514866.51m
Bottom Hole Northing 4347836m Easting 513813m

Elevation (ft) 1003' 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 5/28/2013 Date drilling commenced 11/21/2013 Date drilling ceased 12/26/2013
Date completion activities began 3/6/2014 Date completion activities ceased 6/17/2014
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 56', 136' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 466', 996' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 101', 590' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:
A.L. 5/26/15
06/05/2015
W.S. W.S. Ellison

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WR-35
Rev. 8/23/13

API 47-017 - 06223

Farm name Bee, Lewis P.

WV Department of Environmental Protection
Well number Squirrel 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"	59'	New	94# H-40	N/A	Y
Surface	17- 1/2"	13- 3/8"	359'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2622'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	16681'	New	23# P-110	N/A	Y
Tubing		2-3/8"	6743'		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	120 sx	16.0	1.09	57	0'	8 Hrs.
Surface	Class A	422 sx	15.6	1.18	249	0'	8 Hrs.
Coal							
Intermediate 1	Class A	968 sx	15.6	1.18	821	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	970 sx (Lead) 1132 sx (Tail)	14.25 Lead 15.2 Tail	1.3 Lead 1.86 Tail	3335	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16681' MD, 6592' TVD (BHL); 6674' TVD (Deepest point drilled)

Loggers TD (ft) 16630'

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6251'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Squirrel Unit 1H API#47-017-06258). Please reference the wireline logs submitted with Form WR-35 for Squirrel 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 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 _____

06/05/2015

API 47- 017 - 06223 Farm name Bee, Lewis P. Well number Livingston Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
	6534' (TOP) TVD	6831' (TOP) MD
Marcellus		

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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 15892 mcfpd Oil 67 bpd NGL --- bpd Water 664 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 NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	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 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 Nabors Completion & Production Services, Co.
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature *Kara Quackenbush* Title Permit Representative Date 1/27/2015

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

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	6-Mar-14	16,422	16,590	60	Marcellus
2	30-Mar-14	16,223	16,391	60	Marcellus
3	30-Mar-14	16,024	16,192	60	Marcellus
4	30-Mar-14	15,825	15,993	60	Marcellus
5	31-Mar-14	15,626	15,794	60	Marcellus
6	31-Mar-14	15,427	15,595	60	Marcellus
7	31-Mar-14	15,228	15,396	60	Marcellus
8	1-Apr-14	15,029	15,197	60	Marcellus
9	1-Apr-14	14,830	14,998	60	Marcellus
10	1-Apr-14	14,631	14,799	60	Marcellus
11	2-Apr-14	14,432	14,600	60	Marcellus
12	2-Apr-14	14,233	14,401	60	Marcellus
13	2-Apr-14	14,034	14,202	60	Marcellus
14	3-Apr-14	13,835	14,003	60	Marcellus
15	3-Apr-14	13,636	13,804	60	Marcellus
16	3-Apr-14	13,437	13,605	60	Marcellus
17	3-Apr-14	13,238	13,406	60	Marcellus
18	3-Apr-14	13,039	13,207	60	Marcellus
19	4-Apr-14	12,840	13,008	60	Marcellus
20	4-Apr-14	12,641	12,809	60	Marcellus
21	4-Apr-14	12,442	12,610	60	Marcellus
22	4-Apr-14	12,243	12,411	60	Marcellus
23	5-Apr-14	12,044	12,212	60	Marcellus
24	5-Apr-14	11,845	12,013	60	Marcellus
25	5-Apr-14	11,646	11,814	60	Marcellus
26	5-Apr-14	11,447	11,615	60	Marcellus
27	6-Apr-14	11,248	11,416	60	Marcellus
28	6-Apr-14	11,049	11,217	60	Marcellus
29	6-Apr-14	10,850	11,018	60	Marcellus
30	6-Apr-14	10,651	10,819	60	Marcellus
31	7-Apr-14	10,452	10,620	60	Marcellus
32	7-Apr-14	10,253	10,421	60	Marcellus
33	7-Apr-14	10,054	10,222	60	Marcellus
34	7-Apr-14	9,855	10,023	60	Marcellus
35	8-Apr-14	9,656	9,824	60	Marcellus
36	8-Apr-14	9,457	9,625	60	Marcellus
37	8-Apr-14	9,258	9,426	60	Marcellus
38	8-Apr-14	9,059	9,227	60	Marcellus
39	8-Apr-14	8,860	9,028	60	Marcellus
40	9-Apr-14	8,661	8,829	60	Marcellus
41	10-Apr-14	8,462	8,630	60	Marcellus
42	10-Apr-14	8,263	8,431	60	Marcellus
43	10-Apr-14	8,064	8,232	60	Marcellus
44	10-Apr-14	7,865	8,033	60	Marcellus
45	10-Apr-14	7,666	7,834	60	Marcellus
46	10-Apr-14	7,467	7,635	60	Marcellus
47	11-Apr-14	7,268	7,436	60	Marcellus
48	11-Apr-14	7,069	7,237	60	Marcellus
49	11-Apr-14	6,870	7,038	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	30-Mar-14	78.8	7,884	5,810	5,403	220,200	6,203	N/A
2	30-Mar-14	73.8	7,611	6,565	4,906	229,200	6,218	N/A
3	30-Mar-14	76.6	7,808	5,875	5,544	230,500	6,173	N/A
4	31-Mar-14	72.1	7,617	5,961	4,898	230,200	6,168	N/A
5	31-Mar-14	73.7	7,977	5,549	4,873	227,700	6,142	N/A
6	31-Mar-14	73.3	7,569	5,588	5,313	229,600	6,036	N/A
7	1-Apr-14	74.4	7,666	5,457	4,364	221,400	5,948	N/A
8	1-Apr-14	70.3	7,516	5,961	4,723	229,000	6,046	N/A
9	1-Apr-14	70.4	7,587	5,695	4,862	227,600	6,028	N/A
10	1-Apr-14	80.0	7,495	5,186	5,172	227,800	6,111	N/A
11	2-Apr-14	71.8	7,864	5,801	3,393	227,700	5,011	N/A
12	2-Apr-14	70.8	7,677	5,247	4,882	231,400	6,075	N/A
13	2-Apr-14	75.1	8,033	5,779	5,109	230,800	6,041	N/A
14	3-Apr-14	74.3	7,639	5,487	4,730	226,600	5,994	N/A
15	3-Apr-14	75.7	7,387	5,425	4,545	230,100	5,997	N/A
16	3-Apr-14	71.7	7,663	5,274	4,406	229,400	5,978	N/A
17	3-Apr-14	80.4	7,185	4,775	4,932	225,200	5,943	N/A
18	4-Apr-14	76.2	7,126	5,500	4,898	184,100	6,465	N/A
19	4-Apr-14	79.9	7,110	5,454	4,746	199,300	6,431	N/A
20	4-Apr-14	77.6	7,441	4,819	4,799	226,500	5,856	N/A
21	4-Apr-14	78.6	7,189	5,127	4,288	228,300	5,885	N/A
22	4-Apr-14	80.5	7,241	5,332	5,112	228,100	5,913	N/A
23	5-Apr-14	77.3	7,221	5,325	4,803	227,100	5,754	N/A
24	5-Apr-14	73.1	7,446	5,290	5,280	160,500	6,369	N/A
25	5-Apr-14	75.2	7,755	5,307	5,076	215,600	6,386	N/A
26	6-Apr-14	76.4	7,788	5,786	4,456	229,200	5,888	N/A
27	6-Apr-14	75.8	7,672	5,450	5,335	228,800	5,814	N/A
28	6-Apr-14	78.3	7,494	5,545	5,203	227,000	5,789	N/A
29	6-Apr-14	68.5	7,917	5,325	5,225	184,100	6,147	N/A
30	6-Apr-14	75.3	7,797	5,779	4,653	221,400	6,244	N/A
31	7-Apr-14	76.1	7,560	5,281	5,144	228,800	5,798	N/A
32	7-Apr-14	71.2	7,729	5,549	4,656	98,500	5,972	N/A
33	7-Apr-14	67.4	7,863	6,167	5,317	143,900	6,315	N/A
34	8-Apr-14	64.1	7,999	5,947	4,807	100,800	5,826	N/A
35	8-Apr-14	73.7	7,725	5,900	5,254	203,400	5,688	N/A
36	8-Apr-14	65.9	7,734	5,251	5,402	122,100	5,763	N/A
37	8-Apr-14	73.3	7,590	5,439	4,346	229,900	5,817	N/A
38	8-Apr-14	73.0	7,578	5,384	5,240	198,300	5,672	N/A
39	9-Apr-14	75.4	7,430	5,370	5,586	221,100	5,791	N/A
40	9-Apr-14	77.1	6,727	5,835	5,622	221,600	5,712	N/A
41	10-Apr-14	80.5	6,635	5,310	5,288	229,500	5,454	N/A
42	10-Apr-14	81.4	6,725	5,808	5,361	231,100	5,749	N/A
43	10-Apr-14	80.5	7,004	5,962	5,462	225,700	5,645	N/A
44	10-Apr-14	79.0	7,016	5,508	4,918	229,700	5,572	N/A
45	10-Apr-14	77.9	7,118	6,401	4,946	230,500	5,606	N/A
46	11-Apr-14	77.8	7,055	6,483	4,996	229,800	5,690	N/A
47	11-Apr-14	78.5	7,294	6,079	4,633	162,400	5,551	N/A
48	11-Apr-14	77.9	7,216	5,955	5,521	167,400	6,036	N/A
49	11-Apr-14	80.7	6,614	6,248	4,302	200,300	5,160	N/A
AVG=		75	7,469	5,619	4,954	10,309,200	289,870	TOTAL

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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	56'	N/A	56'	N/A
Fresh Water	136'	N/A	136'	N/A
Shale	0	101	0	101
Coal	est. 101	141	est. 101	141
Shale	est. 141	301	est. 141	301
Sandstone	est. 301	341	est. 301	341
Shale/Sandstone/Siltstone	est. 341	590	est. 341	590
Coal	est. 590	611	est. 590	611
Shale/Siltstone	est. 611	1486	est. 611	1486
Siltstone w/Coal	est. 1486	1541	est. 1486	1541
Siltstone/Sandstone	est. 1541	1879	est. 1541	1882
Big Lime	1879	1989	1882	1992
Big Injun	1989	2449	1992	2452
Gantz Sand	2449	2560	2452	2563
Fifty Foot Sandstone	2560	2638	2563	2641
Gordon	2638	2944	2641	2947
Fifth Sandstone	2944	2970	2947	2973
Bayard	2970	3348	2973	3351
Warren	3348	3682	3351	3685
Speechley	3682	4004	3685	4007
Baltown	4004	4461	4007	4464
Bradford	4461	4889	4464	4893
Benson	4889	5169	4893	5177
Alexander	5169	5341	5177	5356
Elk	5341	5745	5356	5783
Rhinestreet	5745	6234	5783	6234
Sycamore	6156	6334	6234	6446
Middlesex	6334	6464	6446	6653
Burkett	6464	6495	6653	6721
Tully	6495	6534	6721	6831
Marcellus	6534	NA	6831	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 (Please reference Wireline Logs submitted for the Squirrel Unit 1H API# 47-017-06258). 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:	3/30/2014
Job End Date:	4/11/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06223-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Livingston Unit 1H
Longitude:	-80.82305000
Latitude:	39.25487780
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,674
Total Base Water Volume (gal):	12,174,540
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
Water	ANTERO RESOURCES	Water	Water	7732-18-5	100.00000	92.24405	
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	4.45740	
			Aluminum Oxide	1344-28-1	1.10000	0.04908	
			Titanium Oxide	13463-67-7	0.10000	0.00446	
			Iron Oxide	1309-37-1	0.10000	0.00446	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	2.46880	
			Aluminum Oxide	1344-28-1	1.10000	0.02718	
			Iron Oxide	1309-37-1	0.10000	0.00247	
			Titanium Oxide	13463-67-7	0.10000	0.00247	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	0.49890	
			Aluminum Oxide	1344-28-1	1.10000	0.00549	

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				Iron Oxide	1309-37-1	0.10000	0.00050	
HCl Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid		Titanium Oxide	13463-67-7	0.10000	0.00050	
WFR-3B	Nabors Completion and Production Services	Friction Reducer		Hydrogen Chloride	7647-01-0	18.00000	0.03294	
LSG-100L	Nabors Completion and Production Services	Gelling Agents		Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8	30.00000	0.01839	
				Ethoxylated alcohols	68002-97-1	15.00000	0.00919	
				Ethoxylated oleylamine	26635-93-8	5.00000	0.00306	
Super GREEN SOLV-M	Nabors Completion and Production Services	Paraffin & Scale Additives		Petroleum Distillates	64742-47-8	70.00000	0.02858	
				Aliphatic Hydrocarbons	Proprietary	95.00000	0.00571	
				Dodecane	Proprietary	14.00000	0.00084	
				tetradecane	Proprietary	11.00000	0.00066	
				Tridecane	Proprietary	9.00000	0.00054	
				Undecane	Proprietary	8.00000	0.00048	
KR-153SL	Nabors Completion and Production Services	Biocides		Polyethylene-Glycol	25322-68-3	50.00000	0.00549	
				2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00220	
OB-2 LT	Nabors Completion and Production Services	Gel Breakers		Ammonium Persulfate	7727-54-0	85.00000	0.00537	
				Crystalline Silica (in the form of quartz)	14808-60-7	10.00000	0.00063	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors		Isopropyl Alcohol	67-63-0	40.00000	0.00014	
				Propargyl Alcohol	107-19-7	40.00000	0.00014	
				Glycol Ethers	111-46-6	40.00000	0.00014	
				Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00005	
				Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00004	
EBMFL	Nabors Completion and Production Services	Gel Breakers		Ethylene Glycol	107-21-1	40.00000	0.00014	

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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.

Other Ingredients	Nabors Completion and Production Services	Other Ingredients				
		Water	7732-18-5	87.50000	0.16011	
		Water	7732-18-5	40.00000	0.02451	
		Anionic Polyacrylamide	910644-97-2	40.00000	0.02451	
		guar gum	9000-30-0	50.00000	0.02041	
		Propylene glycol	57-55-6	15.00000	0.00919	
		Water	7732-18-5	80.00000	0.00878	
		Water	7732-18-5	60.00000	0.00859	
		Proprietary	Proprietary	50.00000	0.00716	
		Proprietary	Proprietary	15.00000	0.00215	
		Proprietary	Proprietary	15.00000	0.00215	
		Proprietary	Proprietary	15.00000	0.00215	
		Proprietary	Proprietary	2.00000	0.00123	
		Alkali Chloride salt	Proprietary	15.00000	0.00095	
		Crystalline Silica (in the form of quartz)	14808-60-7	2.00000	0.00082	
		Surfactant	68439-51-0	2.00000	0.00082	
		Sugar	57-50-1	100.00000	0.00036	
		Proprietary	Proprietary	100.00000	0.00036	
		Water	7732-18-5	100.00000	0.00018	
		Water	7732-18-5	48.00000	0.00017	
		2-Butoxyethanol	111-76-2	13.00000	0.00005	
		Proprietary	Proprietary	1.00000	0.00000	
		Proprietary	Proprietary	1.00000	0.00000	
		Proprietary	Proprietary	1.00000	0.00000	
		Proprietary	Proprietary	1.00000	0.00000	
		Dioxane	123-91-1	1.00000	0.00000	
		Organophylic Clay	68953-58-2	1.00000	0.00000	

* 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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LATITUDE 39°17'30"

8,887'

1,892' TO BOTTOM HOLE
LATITUDE 39°17'30"

LONGITUDE 80°50'00"

13,400'

LONGITUDE 80°47'30"

RECEIVED
Office of Oil and Gas
MAY 18 2015
Environmental Protection

Antero Resources Corporation
Well No. Livingston Unit 1H
47-017-06223 (AS-DRILLED)

WELL 1H BOTTOM HOLE
47-017-06223

WELL NO. 1H
47-017-06223

1H BOTTOM HOLE

NOTE:
2 WATER WELLS WERE
LOCATED WITHIN 2000'
OF PROPOSED WELL

AS DRILLED DATA
WELL 1H TOP HOLE INFORMATION:
N: 277,700ft E: 1,625,351ft
LAT: 39°15'17.56" LON: 80°49'22.98"
BOTTOM HOLE INFORMATION:
N: 286,806ft E: 1,620,682ft
LAT: 39°16'46.87" LON: 80°50'24.06"
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 1H TOP HOLE INFORMATION:
N: 4,345,085m E: 515,282m
BOTTOM HOLE INFORMATION:
N: 4,347,836m E: 513,813m

GRID NORTH
ZONE 17 NORTH

- NOTES**
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 # 12-155WA
DRAWING # LIVINGSTON1HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

- LEGEND**
- Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 - x-x-x-x Existing Fence
 - ⊕ Found monument, as noted
 - ⊙ Proposed Well Path
 - ⊙ As Drilled Well Path

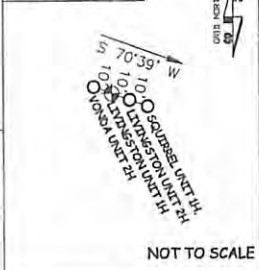
DATE 03/30/15
OPERATOR'S WELL # LIVINGSTON UNIT #1H
API WELL # 47-017-06223
STATE COUNTY PERMIT



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

WILLOW LAND SURVEYING PLLC
P.O. BOX 17
PENNSBORO, WV 26415

PAD LAYOUT



STATE OF WEST VIRGINIA DEPT. OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1,011' ORIGINAL - 1,003' AS DRILLED WATERSHED MIDDLE ISLAND CREEK
QUADRANGLE WEST UNION 7.5' DISTRICT WEST UNION COUNTY DODD

SURFACE OWNER LEWIS P. BEE ACREAGE 70.8 ACRES +/-
OIL & GAS ROYALTY OWNER GEORGE BEE ET AL; INA BEE ET AL; LIVINGSTON S. BEE; CRAIG ALLEN WRIGHT, II; PERRY CHIPPS ET AL; DENZIL L. LEGGETT ET AL; HUGH HAMMOND ET AL LEASE ACREAGE 356.5 AC±; 30 AC±; 9.159 AC±; 30.09±; 54.82 AC±; 140 AC±; 146 AC±
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,592' TVD 16,681' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
DENVER, CO 80202 ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 CHARLESTON, WV 25313

06/05/2015

COUNTY NAME PERMIT