

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



API 47 - 085 - 10213 County Ritchie District Clay
Quad Pennsboro 7.5' Pad Name Charlene Pad Field/Pool Name ----
Farm name Linda C. Dewberry Trust Well Number Bow Unit 3H
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 4350041m Easting 503137m
Landing Point of Curve Northing 4350598.171m Easting 503612.005m
Bottom Hole Northing 4353898m Easting 502269m

Elevation (ft) 1118' 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 5/27/2015 Date drilling commenced 7/7/2015 Date drilling ceased 10/24/2015
Date completion activities began 5/10/2016 Date completion activities ceased 7/10/2016
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 77', 260' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 997', 3233' Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) N

APPROVED

NAME: Michael Hoff

DATE: 12-21-2016

Reviewed by: _____

API 47-085 - 10213

Farm name Linda C. Dewberry Trust

Well number Bow Unit 3H

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#/K-55	N/A	Y
Surface	17-1/2"	13-3/8"	361'	New	48#/H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2525'	New	36#/J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19,034'	New	23#/P-110	N/A	Y
Tubing		2-3/8"	6853'		4.7#/N-80		
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	193 sx	15.6	1.18	38 Cu. Ft.	0'	8 Hrs.
Surface	Class A	431 sx	15.6	1.18	251 Cu. Ft.	0'	8 Hrs.
Coal							
Intermediate 1	Class A	988 sx	15.6	1.18	791 Cu. Ft.	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1028 sx (Lead), 1851 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.24 (Lead), 1.81 (Tail)	3897 Cu. Ft.	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19,419' MD, 6394' TVD (BHL), 6428' TVD (Deepest Point Drilled) Loggers TD (ft) 19,371' MD

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

Plug back procedure N/A

Kick off depth (ft) 6477

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Hendershot Unit 1H API# 47-085-10060). Please reference the wireline logs submitted with Form WR-35 for the Hendershot 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

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	10-May-15	18777	13961	60	Marcellus
2	1-Jun-16	18577	13763	60	Marcellus
3	2-Jun-16	18378	13566	60	Marcellus
4	2-Jun-16	18179	13369	60	Marcellus
5	2-Jun-16	17979	13171	60	Marcellus
6	3-Jun-16	17780	12974	60	Marcellus
7	3-Jun-16	17580	12776	60	Marcellus
8	3-Jun-16	17381	12579	60	Marcellus
9	4-Jun-16	17181	12382	60	Marcellus
10	4-Jun-16	16982	12184	60	Marcellus
11	4-Jun-16	16783	11987	60	Marcellus
12	4-Jun-16	16583	11790	60	Marcellus
13	5-Jun-16	16384	11592	60	Marcellus
14	6-Jun-16	16184	11395	60	Marcellus
15	6-Jun-16	15985	11197	60	Marcellus
16	6-Jun-16	15785	11000	60	Marcellus
17	6-Jun-16	15586	10803	60	Marcellus
18	7-Jun-16	15387	10605	60	Marcellus
19	7-Jun-16	15187	10408	60	Marcellus
20	8-Jun-16	14988	10211	60	Marcellus
21	8-Jun-16	14788	10013	60	Marcellus
22	8-Jun-16	14589	9816	60	Marcellus
23	8-Jun-16	14389	9618	60	Marcellus
24	9-Jun-16	14190	9421	60	Marcellus
25	9-Jun-16	13991	9224	60	Marcellus
26	9-Jun-16	13791	9026	60	Marcellus
27	10-Jun-16	13592	8829	60	Marcellus
28	10-Jun-16	13392	8632	60	Marcellus
29	10-Jun-16	13193	8434	60	Marcellus
30	10-Jun-16	12993	8237	60	Marcellus
31	12-Jun-16	12794	8040	60	Marcellus
32	12-Jun-16	12595	7842	60	Marcellus
33	12-Jun-16	12395	7645	60	Marcellus
34	12-Jun-16	12196	16233	60	Marcellus
35	13-Jun-16	11996	16034	60	Marcellus
36	13-Jun-16	11797	15834	60	Marcellus
37	13-Jun-16	11597	15635	60	Marcellus
38	13-Jun-16	11398	15435	60	Marcellus
39	14-Jun-16	11199	15236	60	Marcellus
40	14-Jun-16	10999	15036	60	Marcellus
41	14-Jun-16	10800	14837	60	Marcellus
42	14-Jun-16	10600	14637	60	Marcellus
43	15-Jun-16	10401	14438	60	Marcellus
44	15-Jun-16	10201	14238	60	Marcellus
45	16-Jun-16	10002	14039	60	Marcellus
46	16-Jun-16	9803	13839	60	Marcellus
47	16-Jun-16	9603	13640	60	Marcellus
48	17-Jun-16	9404	13440	60	Marcellus
49	17-Jun-16	9204	13241	60	Marcellus
50	17-Jun-16	9005	13041	60	Marcellus
51	17-Jun-16	8805	12842	60	Marcellus
52	18-Jun-16	8606	12642	60	Marcellus
53	18-Jun-16	8407	12443	60	Marcellus
54	18-Jun-16	8207	12243	60	Marcellus
55	18-Jun-16	8008	12044	60	Marcellus
56	18-Jun-16	7808	11844	60	Marcellus
57	19-Jun-16	7609	11645	60	Marcellus
58	19-Jun-16	7409	11445	60	Marcellus
59	19-Jun-16	7210	11246	60	Marcellus
60	19-Jun-16	7011	11046	60	Marcellus

EMRIC JOURNAL CORPORATION

MY ACCOUNT OF

SEP 19 2016

OFFICE OF THE CLERK

STATE OF MISSISSIPPI

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	10-May-15	47	8429	6198	5160	88750	8448	N/A
2	1-Jun-16	66	7723	6121	4417	352235	8580	N/A
3	2-Jun-16	62	7569	5876	3545	351970	8509	N/A
4	2-Jun-16	62	7507	5786	3786	352040	8409	N/A
5	2-Jun-16	67.2	7795	5317	3949	353875	9706	N/A
6	3-Jun-16	65.6	7813	5643	5095	352300	8446	N/A
7	3-Jun-16	66	7334	5404	4016	352130	8596	N/A
8	3-Jun-16	66.7	7641	5380	5169	351400	8561	N/A
9	4-Jun-16	67.6	7446	5275	3712	352070	8376	N/A
10	4-Jun-16	66	7469	5701	3917	352060	8373	N/A
11	4-Jun-16	66.7	7454	5390	3999	351650	8395	N/A
12	4-Jun-16	68.7	7496	5411	3737	351700	8118	N/A
13	5-Jun-16	68.1	7516	5407	4596	352125	8361	N/A
14	6-Jun-16	68.7	7456	5440	4532	351775	8325	N/A
15	6-Jun-16	66	7469	5705	3850	351880	8305	N/A
16	6-Jun-16	59.7	7826	5740	4789	256880	7538	N/A
17	6-Jun-16	68.7	7551	5752	4641	352400	8308	N/A
18	7-Jun-16	68	7547	5576	5315	351920	8275	N/A
19	7-Jun-16	66.5	7294	5329	5232	308590	10651	N/A
20	8-Jun-16	67.3	7275	5427	4408	352850	8288	N/A
21	8-Jun-16	69	7439	5264	4785	352130	8355	N/A
22	8-Jun-16	67.8	7125	5170	5384	351990	8260	N/A
23	8-Jun-16	70.7	7194	5256	5196	352905	10391	N/A
24	9-Jun-16	69	6881	4970	5174	352100	8233	N/A
25	9-Jun-16	68	7065	5825	3990	351810	8228	N/A
26	9-Jun-16	68.5	7093	5410	4868	351630	8220	N/A
27	10-Jun-16	68.7	6840	5032	4933	353850	8243	N/A
28	10-Jun-16	69	6864	5265	4001	351930	8197	N/A
29	10-Jun-16	69	6884	5132	4371	299890	8184	N/A
30	10-Jun-16	68.8	7213	5090	5169	353060	10551	N/A
31	12-Jun-16	69	6847	5129	4318	352350	8199	N/A
32	12-Jun-16	69	6858	6229	4321	351920	8166	N/A
33	12-Jun-16	71	6793	5714	4809	352341	8163	N/A
34	12-Jun-16	68.7	7062	5514	4359	353340	9179	N/A
35	13-Jun-16	71.5	6879	5758	4136	351610	8143	N/A
36	13-Jun-16	72.2	6888	5529	4242	334800	7906	N/A
37	13-Jun-16	72.3	6818	5613	4043	351690	8129	N/A
38	13-Jun-16	70.2	7125	6541	3332	354780	8184	N/A
39	14-Jun-16	69.2	7000	5479	3255	354300	8190	N/A
40	14-Jun-16	69.1	7346	5559	4599	301090	8830	N/A
41	14-Jun-16	67.3	6811	5542	3299	351600	8066	N/A
42	14-Jun-16	66.4	7015	5911	4870	352470	9910	N/A
43	15-Jun-16	66.5	7106	5528	3589	352960	8143	N/A
44	15-Jun-16	65.2	6789	5463	4637	183770	9395	N/A
45	16-Jun-16	74.5	7162	5871	3388	350910	9756	N/A
46	16-Jun-16	72.8	7151	5780	4559	328850	8786	N/A
47	16-Jun-16	66.2	6906	6010	4389	295910	9591	N/A
48	17-Jun-16	67.2	6791	5316	3539	352640	8599	N/A
49	17-Jun-16	76.6	7233	5419	4823	351960	9165	N/A
50	17-Jun-16	74.5	6903	5363	3739	351830	8025	N/A
51	17-Jun-16	67.7	6621	5834	3392	353830	8055	N/A
52	18-Jun-16	67.6	6593	7352	3550	353430	8043	N/A
53	18-Jun-16	73	6819	6705	4229	351780	7993	N/A
54	18-Jun-16	74	6633	6273	3563	352220	8005	N/A
55	18-Jun-16	73	6708	6011	5053	351650	7981	N/A
56	18-Jun-16	68	6410	6777	3356	352150	7975	N/A
57	19-Jun-16	67.5	6548	6954	4319	345790	7919	N/A
58	19-Jun-16	73.7	6485	6075	4362	351670	7949	N/A
59	19-Jun-16	72.4	8414	6335	4353	204000	7939	N/A
60	19-Jun-16	72.5	6281	555	4132	357420	9097	N/A
	AVG=	68.4	7,153	5,607	4,305	20,216,956	510,911	TOTAL

Environmental Report
 N/A
 SEP 19 2016
 OROON
 10/1/16

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	70	N/A	70	N/A
Fresh Water	260	N/A	260	N/A
Siltstone/Sandstone	0	107	0	107
Shale	107	267	107	267
Siltstone	267	307	267	307
Shale	307	347	307	347
Trace Coal	347	487	347	487
Sandstone	487	687	487	687
Siltstone	687	737	687	737
Siltstone/Sandstone	737	757	737	757
Sandstone	757	927	757	927
Shale/Siltstone	927	1,027	927	1,027
Shale	1,027	1,067	1,027	1,067
Sandstone	1,067	1,227	1,067	1,227
Shale/Trace Coal	1,227	1,267	1,227	1,267
Sandstone	1,267	1,467	1,267	1,467
Sandstone	1,467	1,727	1,467	1,727
Shale/Siltstone	1,727	1,767	1,727	1,767
Sandstone	1,767	1,989	1,767	2,015
Big Lime	1,989	2,868	2,015	2,936
Fifty Foot Sandstone	2,868	2,966	2,936	3,043
Gordon	2,966	3,336	3,043	3,447
Fifth Sandstone	3,336	3,414	3,447	3,533
Bayard	3,414	3,950	3,533	4,122
Speechley	3,950	4,179	4,122	4,371
Baltown	4,179	4,593	4,371	4,817
Bradford	4,593	4,997	4,817	5,274
Benson	4,997	5,206	5,274	5,507
Alexander	5,206	6,142	5,507	6,549
Sycamore	6,142	6,234	6,549	6,668
Middlesex	6,234	6,234	6,668	6,848
Burkett	6,234	6,368	6,848	6,916
Tully	6,368	6,385	6,916	6,991
Marcellus	6,385	NA	6,991	NA

ENVIRONMENTAL
 DIVISION
 SEP 1 2 2018
 OFFICE OF OIL AND GAS
 REGULATORY

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/11/2016
Job End Date:	6/19/2016
State:	West Virginia
County:	Ritchie
API Number:	47-085-10213-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Bow Unit 3H
Latitude:	39.29974090
Longitude:	-80.96361430
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,427
Total Base Water Volume (gal):	22,511,636
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	Base Fluid	Water	7732-18-5	100.00000	89.91988	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	9.68318	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.50000	0.12744	
GC-15	U.S. Well Services	Gelling Agents	Hydrogen Chloride	7647-01-0	18.00000	0.03044	
			Guar Gum	9000-30-0	50.00000	0.06433	
			Petroleum Distillates	64742-47-8	60.00000	0.06092	
			Suspending agent (solid)	14808-60-7	3.00000	0.00984	
			Surfactant	68439-51-0	3.00000	0.00386	
WFRA-405	U.S. Well Services	Fricition Reducer	Water	7732-18-5	60.00000	0.03899	
			2-Propenoic acid, polymer with 2-propenamide	29003-06-9	30.00000	0.01950	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01569	

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SI-1100s	U.S. Well Services	Ethoxylated alcohol blend	68002-97-1	4.00000	0.00260
		Scale Inhibitor			
		Water	7732-18-5	80.00000	0.01006
		Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00146
		Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	7.50000	0.00127
		Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	5.00000	0.00082
		Phosphino carboxylic acid polymer	71050-62-9	5.00000	0.00082
		Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5	2.00000	0.00033
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent			
			10222-01-2	20.00000	0.00410
		2,2-dibromo-3-nitropropionamide			
		Deionized Water	7732-18-5	28.00000	0.00234
AP One	U.S. Well Services	Gel Breakers			
			7727-54-0	100.00000	0.00178
AI-302	U.S. Well Services	Acid Corrosion Inhibitors			
			7732-18-5	95.00000	0.00028
		Water			
		2-Propyn-1-ol compound with methylloxirane	38172-91-7	15.00000	0.00004

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
Office of Oil and Gas
SEP 12 2016
WV Department of Environmental Protection

LATITUDE 39°20'00" 1,542'

LATITUDE 39°22'30"

4,388' TO BOTTOM HOLE

LONGITUDE 80°57'30"

14,779' TO BOTTOM HOLE

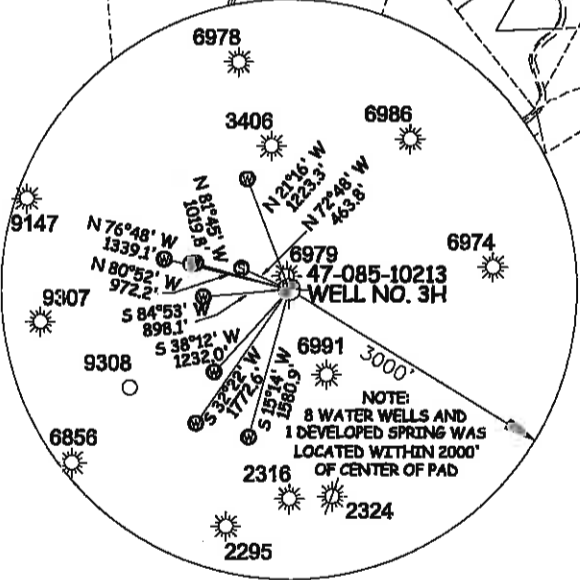
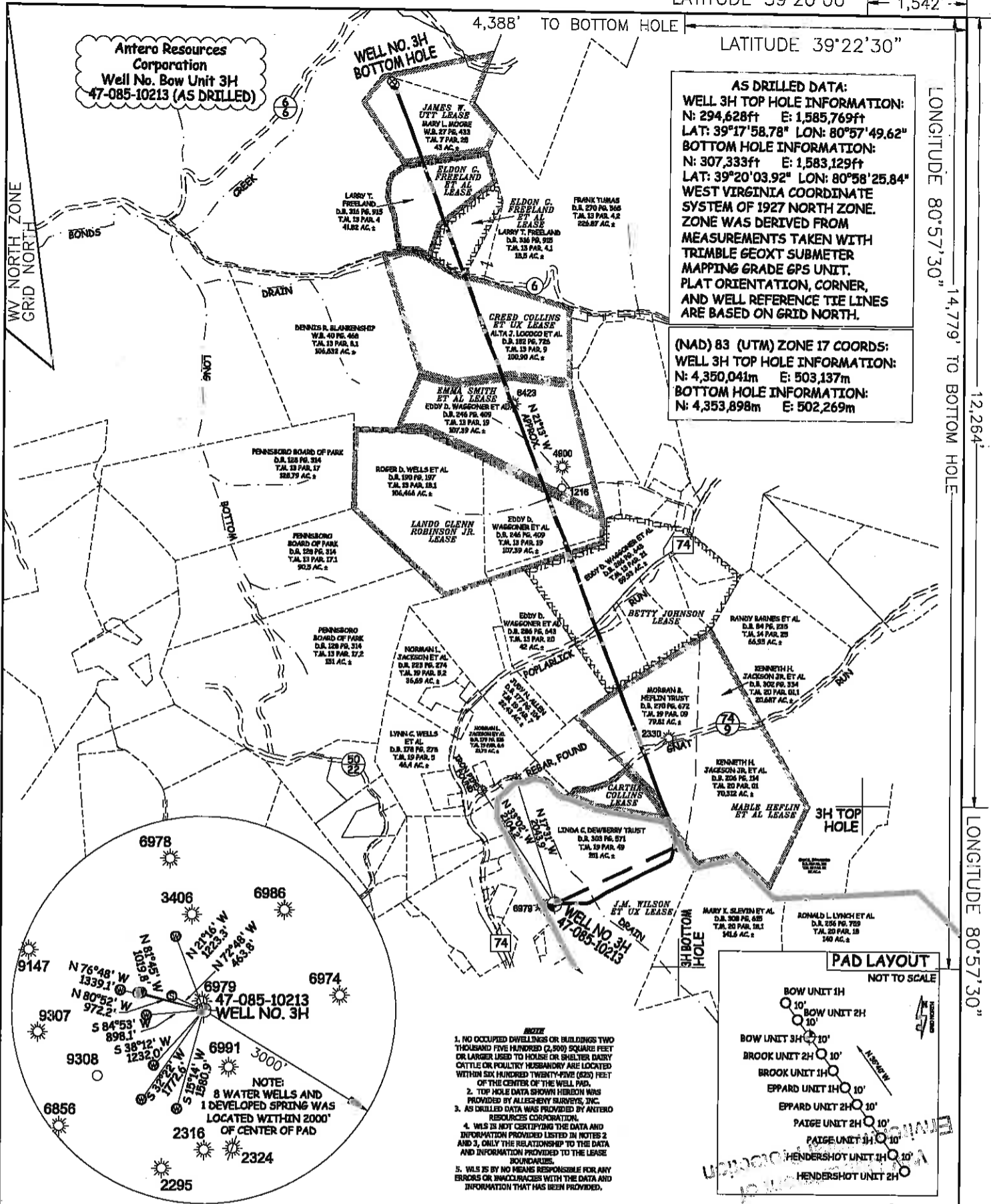
12,264'

LONGITUDE 80°57'30"

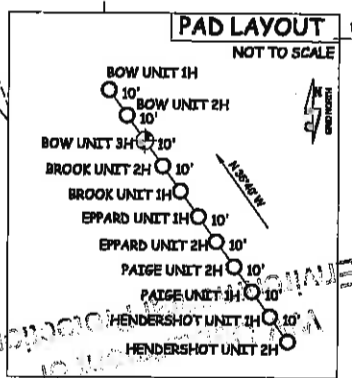
Antero Resources Corporation
Well No. Bow Unit 3H
47-085-10213 (AS DRILLED)

AS DRILLED DATA:
WELL 3H TOP HOLE INFORMATION:
N: 294,628ft E: 1,585,769ft
LAT: 39°17'58.78" LON: 80°57'49.62"
BOTTOM HOLE INFORMATION:
N: 307,333ft E: 1,583,129ft
LAT: 39°20'03.92" LON: 80°58'25.84"
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 3H TOP HOLE INFORMATION:
N: 4,350,041m E: 503,137m
BOTTOM HOLE INFORMATION:
N: 4,353,898m E: 502,269m



- NOTE: 1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER BARNY 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.

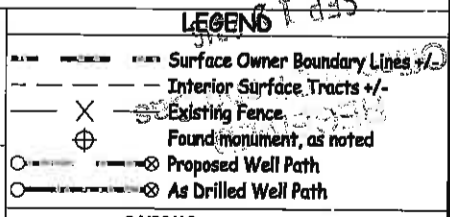


JOB # 14-004WA
DRAWING # BOW3HAD
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



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

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



STATE OF WEST VIRGINIA DEPARTMENT 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: ORIGINAL GROUND ELEVATION 1,124' AS DRILLED ELEVATION 1,118'
WATERSHED NORTH FORK HUGHES RIVER QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
SURFACE OWNER LINDA C. DEWBERRY TRUST ACREAGE 151 ACRES +/-
OIL & GAS ROYALTY OWNER J.M. WILSON ET UX; MABLE HEFLIN ET AL; BETTY JOHNSON; LEASE ACREAGE 700 ACRES; 164 ACRES; 130 ACRES; LINDA C. DEWBERRY TRUST; EMMA SMITH ET AL; CREED COLLINS ET UX; ELDON G. FREELAND ET AL; ELDON G. FREELAND ET AL; JAMES W. UTT 130 ACRES; 78 ACRES; 104 ACRES; 19 ACRES; 38 ACRES; 56.5 ACRES
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 6,394' TVD 19,419' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
FORM WW-6 DENVER, CO 80202 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

LATITUDE 39°20'00" ← 1,542'

LATITUDE 39°22'30"

LONGITUDE 80°57'30" ← 14,779' TO BOTTOM HOLE

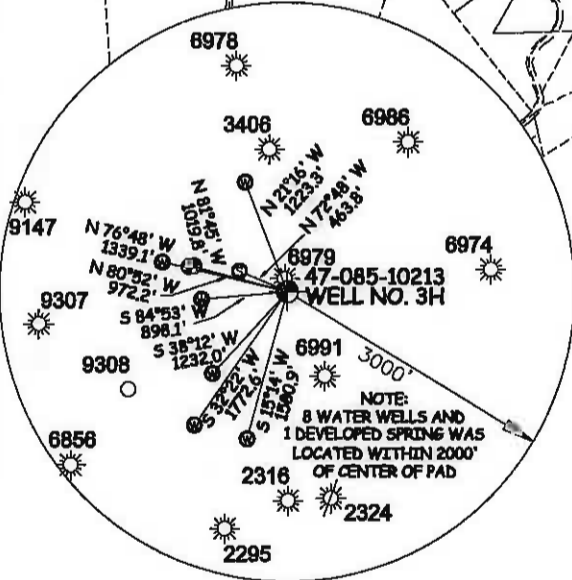
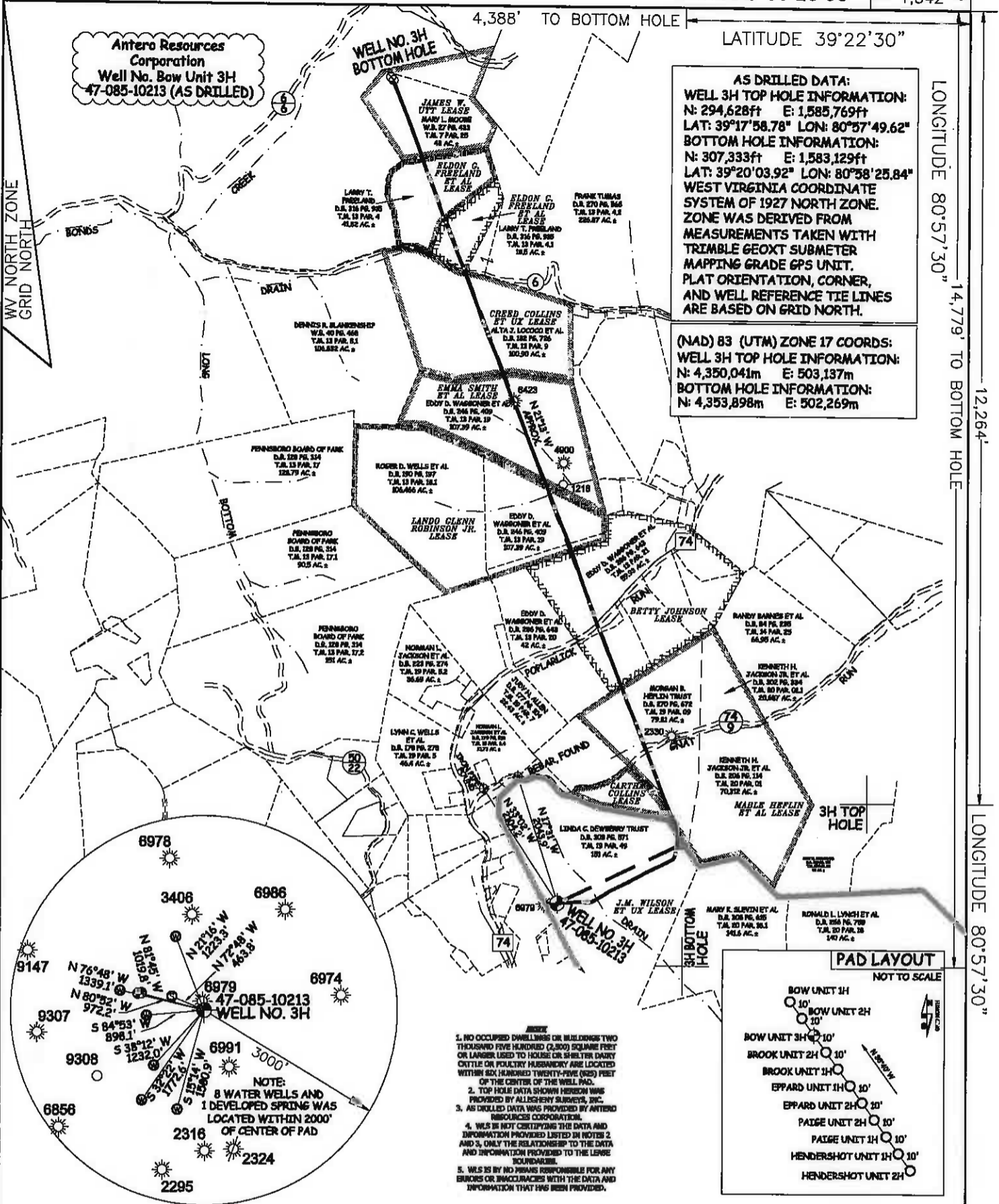
12,264'

LONGITUDE 80°57'30"

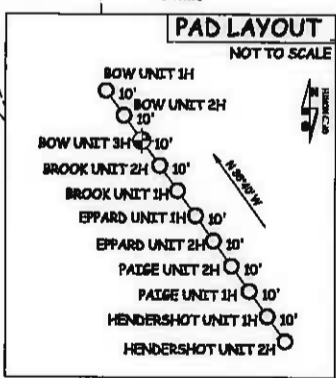
Antero Resources Corporation
Well No. Bow Unit 3H
47-085-10213 (AS DRILLED)

AS DRILLED DATA:
WELL 3H TOP HOLE INFORMATION:
N: 294,628ft E: 1,585,769ft
LAT: 39°17'58.78" LON: 80°57'49.62"
BOTTOM HOLE INFORMATION:
N: 307,333ft E: 1,583,129ft
LAT: 39°20'03.92" LON: 80°58'25.84"
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 3H TOP HOLE INFORMATION:
N: 4,350,041m E: 503,137m
BOTTOM HOLE INFORMATION:
N: 4,353,898m E: 502,269m



1. NO OCCUPIED DRILLHUSES OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,000) 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 ALLSCHENY SURVEYING, INC.
3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
4. WELLS 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 LESSEE BOUNDARIES.
5. WELLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.



JOB # 14-004WA
DRAWING # BOW3HAD
SCALE 1" = 2000'
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

LEGEND

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

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ORIGINAL GROUND ELEVATION 1,124' AS DRILLED ELEVATION 1,118'
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OIL & GAS ROYALTY OWNER J.M. WILSON ET UX; MABLE HEFLIN ET AL; BETTY JOHNSON; LEASE ACREAGE 700 ACRES +/- 164 ACRES +/- 130 ACRES +/-
LINDO GLENN ROBINSON JR.; EMMA SMITH ET AL; CREED COLLINS ET UX; ELDON G. FREELAND ET AL; ELDON G. FREELAND ET AL; JAMES W. UTT 130 ACRES +/- 78 ACRES +/- 104 ACRES +/- 19 ACRES +/- 38 ACRES +/- 59.5 ACRES +/-
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