

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

RECEIVED
Office of Oil and Gas
OCT 12 2017
WV Department of
Environmental Protection

API 47 - 095 - 02275 County Tyler District Centerville
Quad Shirley 7.5' Pad Name Dale Pad Field/Pool Name ---
Farm name Raymond Underwood Well Number Rymer 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 4364737m Easting 511839m
Landing Point of Curve Northing 4364939.157m Easting 512234.397m
Bottom Hole Northing 4367181m Easting 511418m

Elevation (ft) 1017' 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 07/22/2015 Date drilling commenced 03/01/2016 Date drilling ceased 07/02/2016
Date completion activities began 01/13/2017 Date completion activities ceased 06/23/2017
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 55' Open mine(s) (Y/N) depths No
Salt water depth(s) ft NONE IDENTIFIED Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1166', 1331' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

APPROVED

NAME: [Signature]
DATE: 10-25-17

Reviewed by: _____

02/16/2018

API 47-095 - 02275 Farm name Raymond Underwood Well number Rymer Unit 3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/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"	458'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2420'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	14900'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6844'		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	185 sx	15.6	1.18	218	0	8 Hrs.
Surface	Class A	567 sx	15.6	1.2	680	0	8 Hrs.
Coal							
Intermediate 1	Class A	912 sx	15.6	1.18	1076	0	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1029 sx (Lead) 1324 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.2 (Lead), 1.84 (Tail)	3671	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14900' MD, 6481' TVD (BHL) & 6536' TVD (Deepest Point Drilled) Loggers TD (ft) 14888' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6077

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 N/A

** There were no wireline logs run on this pad. Please reference the wireline logs submitted with Rymer Unit 4HD (API#47-095-02273). A Cement Bond Log has been included with this submittal.

API 47-095-02275 Farm Name Raymond Underwood Well Number Rymer Unit 3H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/13/2017	14628	14799	60	Marcellus
2	4/14/2017	14425	14596	60	Marcellus
3	4/14/2017	14223	14393	60	Marcellus
4	4/14/2017	14020	14191	60	Marcellus
5	4/15/2017	13817	13988	60	Marcellus
6	4/15/2017	13615	13786	60	Marcellus
7	4/16/2017	13412	13583	60	Marcellus
8	4/16/2017	13210	13381	60	Marcellus
9	4/17/2017	13007	13178	60	Marcellus
10	4/17/2017	12805	12976	60	Marcellus
11	4/17/2017	12602	12773	60	Marcellus
12	4/19/2017	12400	12570	60	Marcellus
13	4/20/2017	12197	12368	60	Marcellus
14	4/20/2017	11995	12165	60	Marcellus
15	4/21/2017	11792	11963	60	Marcellus
16	4/21/2017	11589	11760	60	Marcellus
17	4/21/2017	11387	11558	60	Marcellus
18	4/22/2017	11184	11355	60	Marcellus
19	4/22/2017	10982	11153	60	Marcellus
20	4/23/2017	10779	10950	60	Marcellus
21	4/23/2017	10577	10747	60	Marcellus
22	4/23/2017	10374	10545	60	Marcellus
23	4/24/2017	10172	10342	60	Marcellus
24	4/24/2017	9969	10140	60	Marcellus
25	4/25/2017	9766	9937	60	Marcellus
26	4/25/2017	9564	9735	60	Marcellus
27	4/27/2017	9361	9532	60	Marcellus
28	4/27/2017	9159	9330	60	Marcellus
29	4/28/2017	8956	9127	60	Marcellus
30	4/28/2017	8754	8924	60	Marcellus
31	4/29/2017	8551	8722	60	Marcellus
32	4/29/2017	8349	8519	60	Marcellus
33	4/30/2017	8146	8317	60	Marcellus
34	4/30/2017	7943	8114	60	Marcellus
35	5/1/2017	7741	7912	60	Marcellus
36	5/1/2017	7538	7709	60	Marcellus
37	5/2/2017	7336	7507	60	Marcellus
38	5/2/2017	7133	7304	60	Marcellus
39	5/2/2017	6931	7101	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 (bbbls)	Amount of Nitrogen/ other (units)
1	4/13/2017	75.8	7259	6555	4443	359420	8041	N/A
2	4/14/2017	78.0	7231	5507	3731	350990	7997	N/A
3	4/14/2017	75.8	7013	5574	3923	357500	8177	N/A
4	4/14/2017	75.6	6992	6052	3775	352530	8624	N/A
5	4/15/2017	78.5	6860	5080	3674	352480	7778	N/A
6	4/15/2017	77.5	6755	6277	3724	366370	7902	N/A
7	4/16/2017	78.8	6905	6018	3747	352320	7680	N/A
8	4/16/2017	77.3	6974	4987	4133	362700	7665	N/A
9	4/17/2017	57.1	7683	4880	4840	203880	7822	N/A
10	4/17/2017	78.0	6973	5627	3383	375800	7912	N/A
11	4/17/2017	79.6	6666	6497	3623	376200	7727	N/A
12	4/19/2017	78.0	6801	5501	3636	354560	7598	N/A
13	4/20/2017	76.4	6894	5044	3592	368820	7851	N/A
14	4/20/2017	79.2	6604	5331	3601	358870	7541	N/A
15	4/21/2017	76.2	6627	5096	3562	380520	8134	N/A
16	4/21/2017	78.6	6550	5376	3654	368280	7755	N/A
17	4/21/2017	76.5	6675	5013	3373	359020	7653	N/A
18	4/22/2017	78.5	6631	5035	3711	374520	7979	N/A
19	4/22/2017	78.6	6562	5625	3550	374320	7913	N/A
20	4/23/2017	78.5	6479	5574	3635	355520	7443	N/A
21	4/23/2017	79.0	6484	5473	3538	360440	7608	N/A
22	4/23/2017	78.0	6587	5703	3833	359940	7726	N/A
23	4/24/2017	78.2	6921	5451	3666	356750	8778	N/A
24	4/24/2017	78.0	6391	5299	3831	354090	7615	N/A
25	4/25/2017	78.4	6524	5445	3763	375140	7876	N/A
26	4/25/2017	76.8	6626	5737	3764	357900	7992	N/A
27	4/27/2017	79.3	6412	5746	4267	355620	7550	N/A
28	4/27/2017	77.7	6641	5935	3718	355140	7417	N/A
29	4/28/2017	77.3	6302	5670	3722	363220	7907	N/A
30	4/28/2017	78.3	6301	6495	3285	356700	7407	N/A
31	4/29/2017	76.5	6546	5731	3799	356070	8430	N/A
32	4/29/2017	78.7	7172	5350	4349	358290	9611	N/A
33	4/30/2017	79.0	6582	5141	3556	354820	8496	N/A
34	4/30/2017	78.8	6477	5564	3773	354290	7445	N/A
35	5/1/2017	76.6	6651	6403	3692	358170	7488	N/A
36	5/1/2017	64.1	7815	6005	5912	288400	8628	N/A
37	5/2/2017	76.0	6613	6285	3528	375360	7675	N/A
38	5/2/2017	76.0	6448	5979	3536	369240	7503	N/A
39	5/2/2017	76.7	6077	5495	3538	354000	7388	N/A
	AVG=	76.8	6,736	5,630	3,805	13,868,200	307,730	TOTAL

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	55'	N/A	55'	N/A
Shale	est. -19	341	est. -19	341
Sandstone	est. 341	521	est. 341	521
Siltstone	est. 521	701	est. 521	701
Limestone	est. 701	751	est. 701	751
Shale	est. 751	1166	est. 751	1166
Trace Coal	est. 1166	1171	est. 1166	1171
Shale	est. 1171	1331	est. 1171	1331
Trace Coal	est. 1331	1336	est. 1331	1336
Sandstone	est. 1336	1631	est. 1336	1631
Shale	est. 1631	1935	est. 1631	1949
Big Lime	1935	2040	1949	2057
Big Injun	2040	2525	2057	2551
Gantz Sand	2525	2650	2551	2677
Fifty Foot Sandstone	2650	2744	2677	2773
Gordon	2744	3098	2773	3136
Fifth Sandstone	3098	3154	3136	3194
Bayard	3154	3504	3194	3553
Warren	3504	3896	3553	3954
Speechley	3896	4622	3954	4696
Bradford	4622	5025	4696	5112
Benson	5025	5268	5112	5375
Alexander	5268	5449	5375	5577
Elk	5449	5829	5577	6003
Rhinestreet	5829	6156	6003	6378
Sycamore	6156	6331	6378	6598
Middlesex	6331	6429	6598	6741
Burkett	6429	6461	6741	6801
Tully	6461	6496	6801	6892
Marcellus	6496	NA	6892	NA

*Please note Antero determines 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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/13/2017
Job End Date:	5/3/2017
State:	West Virginia
County:	Tyler
API Number:	47-095-02275-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Rymer 3H
Latitude:	39.43209200
Longitude:	-80.86243900
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,536
Total Base Water Volume (gal):	13,338,268
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.62371	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.25834	

FR-76	Halliburton	Friction Reducer					
				Listed Below			
LP-70	Halliburton	Scale Inhibitor					
				Listed Below			
SAND-COMMON WHITE-100 MESH	Halliburton	Proppant					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
SAND- PREMIUM WHITE 30/50	Halliburton	Proppant					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			

HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	11.07483	
			Hydrochloric acid	7647-01-0	15.00000	0.03055	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.01954	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt	Proprietary	30.00000	0.01954	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01954	
			Guar gum	9000-30-0	100.00000	0.00964	
			Ethylene Glycol	107-21-1	60.00000	0.00841	
			Glutaraldehyde	111-30-8	30.00000	0.00260	
			Neutralized Polyacrylic Emulsion	Proprietary	10.00000	0.00140	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00043	
			Sodium persulfate	7775-27-1	100.00000	0.00020	
			Methanol	67-56-1	60.00000	0.00010	
			Ethanol	64-17-5	1.00000	0.00009	
			Fatty acids, tall oil	Proprietary	30.00000	0.00005	
			Ethoxylated alcohols	Proprietary	30.00000	0.00005	

			Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1	30.00000	0.00005	
			Olefins	Proprietary	5.00000	0.00002	
			Propargyl alcohol	107-19-7	10.00000	0.00002	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Sodium sulfate	7757-82-6	0.10000	0.00000	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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(l) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

LATITUDE 39°27'30"

8,269'

9,637' TO BOTTOM HOLE

LATITUDE 39°27'30"

LONGITUDE 80°50'00"

9,588'

LONGITUDE 80°50'00"

Antero Resources Corporation
Well No. Rymer Unit 3H
47-095-02275

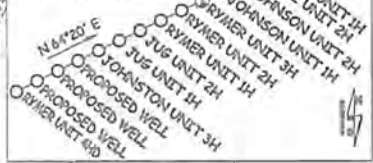
3H BOTTOM HOLE

AS DRILLED DATA:
WELL 3H TOP HOLE INFORMATION:
N: 342,376ft E: 1,615,129ft
LAT: 39°25'55.24" LON: 80°51'45.39"
BOTTOM HOLE INFORMATION:
N: 350,420ft E: 1,613,881ft
LAT: 39°27'14.55" LON: 80°52'02.86"
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.

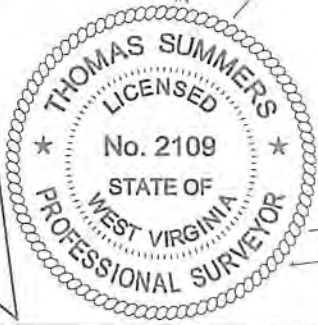
(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 3H TOP HOLE INFORMATION:
N: 4,364,737m E: 511,839m
BOTTOM HOLE INFORMATION:
N: 4,367,181m E: 511,418m

PAD LAYOUT

NOT TO SCALE



WV NORTH ZONE
GRID NORTH



- NOTE
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER 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 HEREIN WAS PROVIDED BY ALLEGENT 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 UP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR DISCREPANCIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

NOTE:
4 WATER WELLS AND
1 SPRING WERE
LOCATED WITHIN 2000'
OF CENTER OF PAD



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



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

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

ROBERT L. RIPLEY ET AL
D.B. 327 PG. 77
T.M. 04 PAR. 05.2
18.75 AC. ±

WILLIE R. LESTER
D.B. 326 PG. 402
T.M. 04 PAR. 07
97.75 AC. ±

REGINA H. BERTOZZI ET AL
D.B. 334 PG. 420
T.M. 04 PAR. 08.3
41.86 AC. ±

SHAWN P. BAKER ET AL
D.B. 348 PG. 371
T.M. 4 PAR. 10.1
36.97 AC. ±

CHARLES MAROS ET AL
D.B. 271 PG. 115
T.M. 4 PAR. 10.4
90.56 AC. ±

JOB # 13-104WA
DRAWING # RYMER3HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND
- - - Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
○ Proposed Well Path
⊗ As Drilled Well Path

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
DIVISION OF OIL AND GAS

DATE 09/28/17
OPERATOR'S WELL# RYMER UNIT #3H

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL 47 - 095 - 02275
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW STATE COUNTY PERMIT
 LOCATION: ELEVATION 1,017' AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK DISTRICT CENTERVILLE COUNTY TYLER
 QUADRANGLE SHIRLEY 7.5' COUNTY NAME
 SURFACE OWNER RAYMOND UNDERWOOD ACREAGE 96 ACRES +/-
 OIL & GAS ROYALTY OWNER RAYMOND V. UNDERWOOD ET UX; FLORENCE E. DURANT ET AL; LEASE ACREAGE 96 AC. ±; 127.53 AC. ±;
 REGINA H. BERTOZZI ET AL; ROBERT L. BROWN ET UX; SCOTT C. BLAIR; ELIZABETH ANN GARNER; JOSEPH SAYRE 42 AC. ±; 97.75 AC. ±; 104.47 AC. ±; 90.805 AC. ±; 100 AC. ±
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
 (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,481' TVD 14,900' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313

02/16/2018

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL DEEP SHALLOW STATE COUNTY PERMIT 095 - 47 - 02275

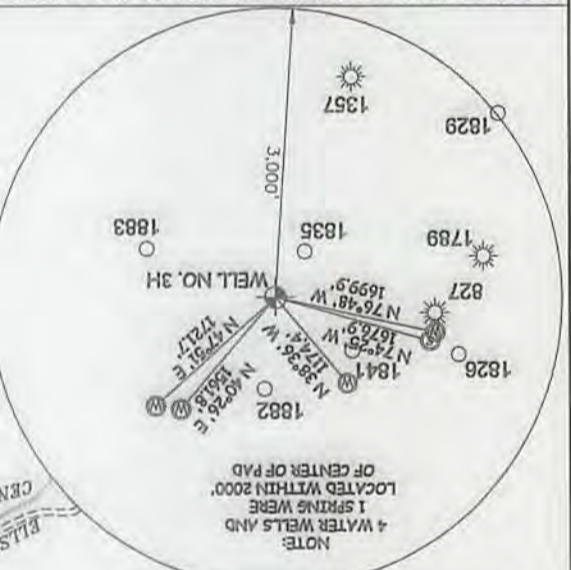
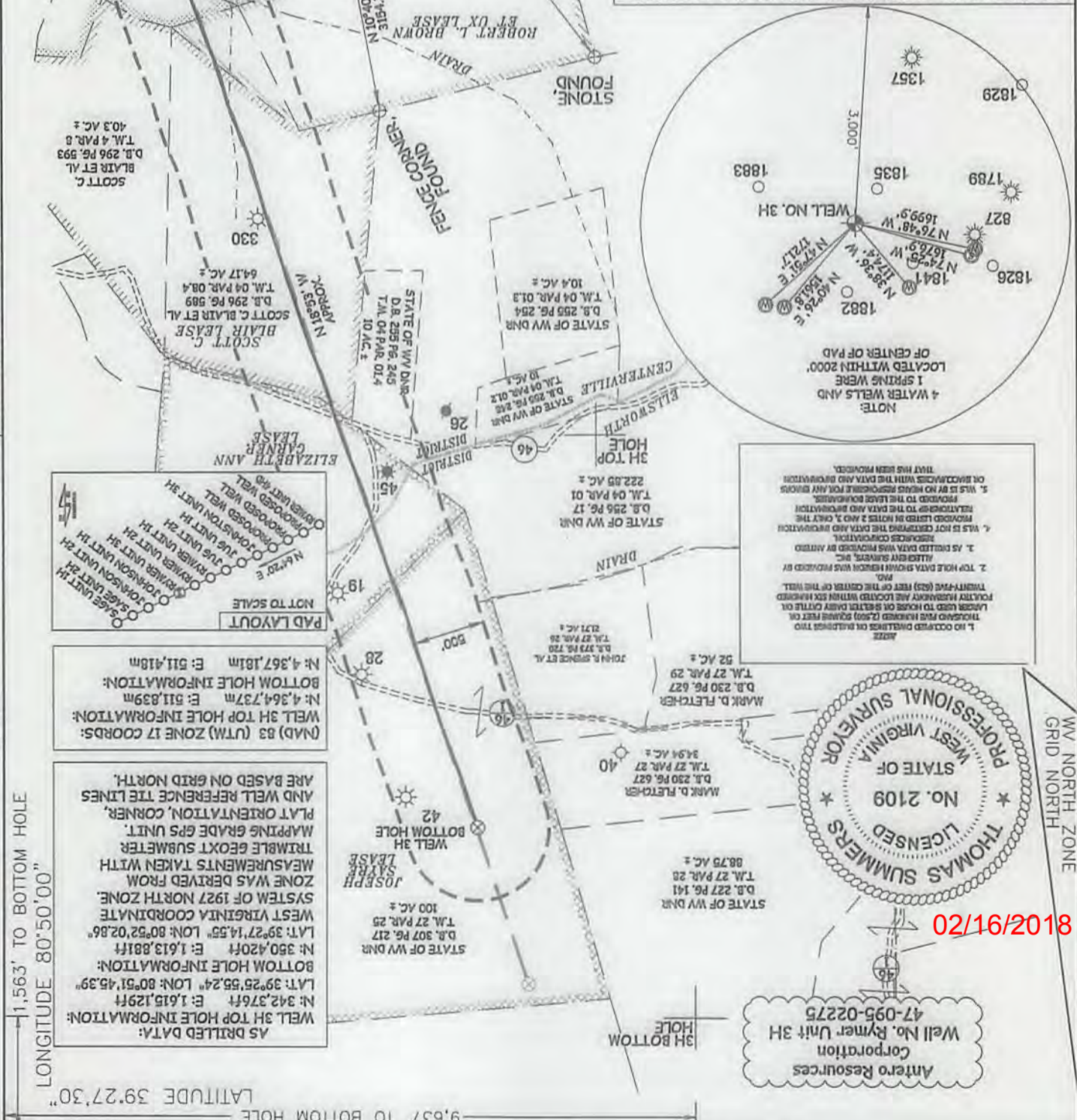
LOCATION: ELEVATION 1,017 AS BUILT WATERSHED HEADWATERS MIDDLE ISLAND CREEK DISTRICT CENTERVILLE COUNTY TYLER ACREAGE 96 ACRES +/- SURFACE OWNER RAYMOND UNDERWOOD OIL & GAS ROYALTY OWNER RAYMOND V. UNDERWOOD ET UX; FLORENCE E. DURANT ET AL; LEASE ACREAGE 96 AC.; 127.53 AC.; REGINA H. BERTOZZI ET AL; ROBERT L. BROWN ET UX; SCOTT C. BLAIR; ELIZABETH ANN GARNER; JOSEPH SAYRE PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON ESTIMATED DEPTH 6,481 TVD 14,900 MD DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM ADDRESS 1615 WYNKOOP STREET DENVER, CO 80202

STATE OF WEST VIRGINIA	DEPARTMENT OF ENERGY	OPERATOR'S WELL # RYMER UNIT 3H
DATE 09/28/17	PROVEN SOURCE OF ELEV. THOMAS SUMMERS P.S. 2109	
ACCURACY SUBMETER	MINIMUM DEGREE OF SCALE 1" = 1000'	
DRAWING # RYMERHAD 13-104WA	LEGEND	

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

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

THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERFORMED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FEET HORIZON (2500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POLYMER MANURE AND LOCATED WITHIN SIX HUNDRED FEET (600) FEET OF THE CENTER OF THE WELL.

2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALBERTA ENERGY SERVICES, INC.

3. AS DRILLED DATA WAS PROVIDED BY MERRILL ENERGY COMPANY.

4. THIS IS NOT CHANGING THE DATA AND INFORMATION PROVIDED IN NOTES 2 AND 3, ONLY THE NECESSARY TO THE LEASE AND DEVIATION RELATIONSHIP TO THE LEASE BOUNDARIES.

5. THIS IS NOT TO BE CONSIDERED A BASIS FOR ANY OTHER OR UNRELATED PURPOSES WITH THE DATA AND DEVIATION THAT HAS BEEN PROVIDED.

AS DRILLED DATA:
 WELL 3H TOP HOLE INFORMATION:
 N: 342.376ft E: 1,615.129ft
 LAT: 39°25'55.24" LON: 80°51'45.39"
 BOTTOM HOLE INFORMATION:
 N: 350.420ft E: 1,613.881ft
 LAT: 39°27'14.55" LON: 80°52'02.86"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. 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: 4,364.737m E: 511.839m
 BOTTOM HOLE INFORMATION:
 N: 4,367.181m E: 511.418m

PAD LAYOUT
 NOT TO SCALE

ANTERO RESOURCES CORPORATION
 Well No. Rymer Unit 3H
 47-095-02275

PROFESSIONAL SURVEYOR
 STATE OF WEST VIRGINIA
 LICENSED
 THOMAS SUMMERS
 No. 2109

02/16/2018

LONGITUDE 80°50'00" LONGITUDE 80°50'00" LONGITUDE 39°27'30" LONGITUDE 39°27'30"