



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL
Horizontal 6A / Horizontal 6A Well - 1

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for ROLLINS UNIT 1H
47-017-06654-00-00

Change point of entry, horizontal leg length, TMD, and TVD.

ANTERO RESOURCES CORPORATION

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.



James A. Martin
Chief

Operator's Well Number: ROLLINS UNIT 1H
Farm Name: WILLIAMS, LARRY ET AL
U.S. WELL NUMBER: 47-017-06654-00-00
Horizontal 6A / Horizontal 6A Well - 1
Date Issued: 8/4/2017

Promoting a healthy environment.

08/04/2017



July 21, 2017

West Virginia Department of Environmental Protection
Office of Oil and Gas
Attn: Mr. Wade Stansberry
601 57th Street
Charleston, WV 25304

Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

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JUL 24 2017

WV Department of
Environmental Protection

Mr. Stansberry:

Antero Resources Corporation (Antero) would like to submit the following permit modification for one approved well on the Revival Pad. We are requesting to change the point of entry which will change the horizontal leg length, Total Measured Depth and Total Vertical Depth of the Rollins Unit 1H (API# 47-017-06654).

Attached you will find the following documents:

- REVISED Form WW-6B, which shows the revised Horizontal Leg Length, Measured Depth and Production Casing/Cement Program
- REVISED Form WW-6A1, which shows the new lease we will be drilling into
- REVISED Mylar Plats, which shows the new wellbore path

If you have any questions please feel free to contact me at (303) 357-6759.

Thank you in advance for your consideration.

Sincerely,

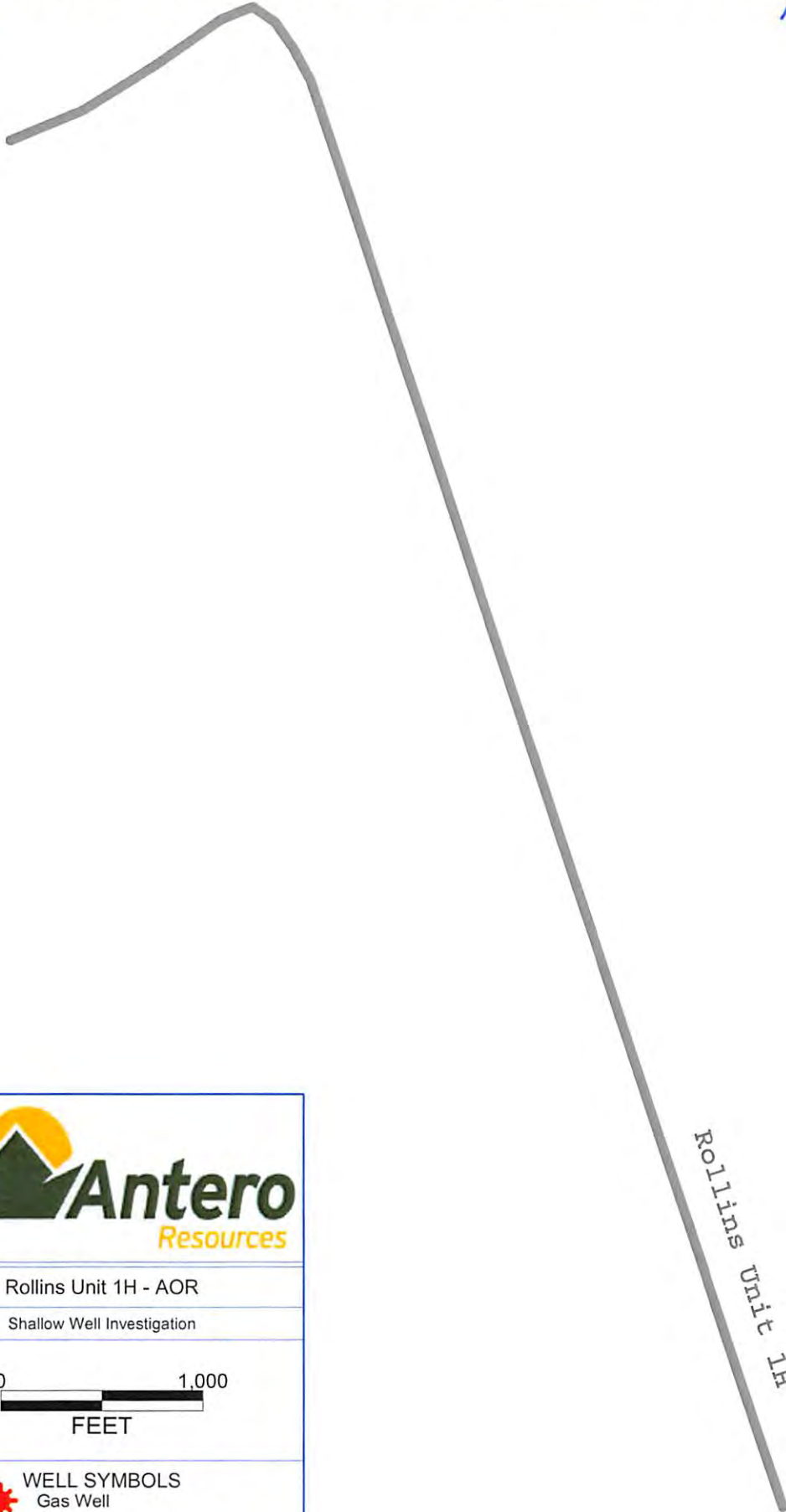
A handwritten signature in blue ink, appearing to read "Samantha Klaas", is written over a faint, larger version of the same signature.

Samantha Klaas
Permitting Agent
Antero Resources Corporation

Enclosures

08/04/2017

17-06654 MOD



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Rollins Unit 1H - AOR

Shallow Well Investigation



WELL SYMBOLS
Gas Well

REMARKS
NO WELLS OF INTEREST WITHIN AOR

July 21, 2017

08/04/2017

WW-6B
(04/15)

API NO. 47-017 - _____
 OPERATOR WELL NO. Rollins Unit 1H
 Well Pad Name: Existing Revival Pad

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: Antero Resources Corpora

<u>494488557</u>	<u>017-Doddrid</u>	<u>Grant</u>	<u>Smithburg 7.5'</u>
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Operator ID County District Quadrangle

2) Operator's Well Number: Rollins Unit 1H Well Pad Name: Existing Revival Pad

3) Farm Name/Surface Owner: Larry Williams et al Public Road Access: CR 30

4) Elevation, current ground: 1376' Elevation, proposed post-construction: 1376'

5) Well Type (a) Gas Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale: 7400' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2950#

8) Proposed Total Vertical Depth: 7400'

9) Formation at Total Vertical Depth: Marcellus

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10) Proposed Total Measured Depth: 15268' MD

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11) Proposed Horizontal Leg Length: 7582'

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12) Approximate Fresh Water Strata Depths: 450'

13) Method to Determine Fresh Water Depths: Gains-Koch Unit 1H (API# 47-017-06218) on same pad.

14) Approximate Saltwater Depths: 1079', 1808'

15) Approximate Coal Seam Depths: 328', 863'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No

(a) If Yes, provide Mine Info: Name: _____
 Depth: _____
 Seam: _____
 Owner: _____

WW-6B
(04/15)

API NO. 47-017 -

OPERATOR WELL NO. Rollins Unit 1H

Well Pad Name: Existing Revival Pad

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	H-40	94#	40'	40'	CTS, 38 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	515' *See #19	515' *See #19	CTS, 715 Cu. Ft.
Coal	9-5/8"	New	J-55	36#	2500'	2500'	CTS, 1018 Cu. Ft.
Intermediate							
Production	5-1/2"	New	P-110	23#	15268'	15268'	CTS, 3791 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#		7100'	
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	24"	0.438"	1530	50	Class A	~1.18
Fresh Water	13-3/8"	17-1/2"	0.38"	2730	1000	Class A	~1.18
Coal	9-5/8"	12-1/4"	0.352"	3520	1500	Class A	~1.18
Intermediate							
Production	5-1/2"	8-3/4" & 8-1/2"	0.415"	12,630	2500	Lead-H/POZ & Tail - H	H/POZ~1.44 & H~1.8
Tubing	2-3/8"	4.778"	0.19"	11,200			
Liners							

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PACKERS

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Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

WW-6B
(10/14)

API NO. 47- 017 - _____

OPERATOR WELL NO. Rollins Unit 1H

Well Pad Name: Existing Revival Pad

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill, perforate, fracture a new horizontal shallow well and complete Marcellus Shale

*Antero will be air drilling the fresh water string which makes it difficult to determine when freshwater is encountered, therefore we have built in a buffer for the casing setting depth which helps to ensure that all fresh water zones are covered.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Antero plans to pump Slickwater into the Marcellus Shale formation in order to ready the well for production. The fluid will be comprised of approximately 99 percent water and sand, with less than 1 percent special-purpose additives as shown in the attached "List of Anticipated Additives Used for Fracturing or Stimulating Well."

Anticipated Max Pressure - 9300 lbs
Anticipated Max Rate - 80 bpm

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 15.45 Existing Acres

22) Area to be disturbed for well pad only, less access road (acres): 4.95 Existing Acres

23) Describe centralizer placement for each casing string:

Conductor: no centralizers

Surface Casing: one centralizer 10' above the float shoe, one on the insert float collar and one every 4th joint spaced up the hole to surface.

Intermediate Casing: one centralizer above float joint, one centralizer 5' above float collar and one every 4th collar to surface.

Production Casing: one centralizer at shoe joint and one every 3 joints to top of cement in intermediate casing.

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24) Describe all cement additives associated with each cement type:

Conductor: no additives, Class A cement.

Surface: Class A cement with 2-3% calcium chloride and 1/4 lb of flake

Intermediate: Class A cement with 1/4 lb of flake, 5 gallons of clay treat

Production: Lead cement- 50/50 Class H/Poz + 1.5% salt + 1% C-45 + 0.5% C-16a + 0.2% C-12 + 0.45% C-20 + 0.05% C-51

Production: Tail cement- Class H + 45 PPS Calcium Carbonate + 1.0% FL-160 + 0.2% ACGB-47 + 0.05% ACSA-51 + 0.2% ACR-20

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25) Proposed borehole conditioning procedures:

Conductor: blowhole clean with air, run casing, 10 bbls fresh water.

Surface: blowhole clean with air, trip to conductor shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate pipe capacity + 40 bbls fresh water followed by 25 bbls bentonite mud, 10 bbls fresh water spacer.

Intermediate: blowhole clean with air, trip to surface casing shoe, trip to bottom, blowhole clean with air, trip out, run casing, circulate 40 bbls brine water followed by 10 bbls fresh water and 25 bbls bentonite mud, pump 10 bbls fresh water.

Production: circulate with 14 lb/gal NaCl mud, trip to middle of lateral, circulate, pump high viscosity sweep, trip to base of curve, pump high viscosity sweep, trip to top of curve, trip to bottom, circulate, pump high viscosity sweep, trip out, run casing, circulate 10 bbls fresh water, pump 48 bbls barite pill, pump 10 bbls fresh water followed by 48 bbls mud flush and 10 bbls water.

*Note: Attach additional sheets as needed.

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

JUL 24 2017

WV Department of
Environmental Protection

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
<u>Larry G. Williams Lease</u>			
Larry G. Williams	ABA oil and Gas, LLC	1/8	0202/0662
ABA Oil and Gas, LLC	R&K Oil and Gas, Inc.	Assignment	0210/0040
R&K Oil and Gas, Inc.	Bluestone Energy Partners	Assignment	0234/0080
Bluestone Energy Partners	Antero Resources Bluestone LLC, a wholly owned subsidiary of Antero Resources Appalachian Corporation	Affidavit Regarding Merger	DB 0288/0001
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Mt. Salem Revival Grounds Inc. Lease</u>			
Mt. Salem Revival Grounds Inc.	Key Oil Company	1/8	0193/0292
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0260/0603
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>DEPI Lease (TM 3-13-5)</u>			
Dominion Exploration & Production, Inc., Dominion Appalachian Development, LLC, and	Dominion Appalachian Development, LLC, and Antero Resources Appalachian Corporation	1/8 *Partial Assignment of Oil and Gas Leases	0230/0569 0231/0145
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Mariette Lemley et al Lease</u>			
Mariette Lemley, et al	S & K Land Company	1/8	0114/0075
S & K Land Company	Mert Development, Inc.	Assignment	0115/0110
Mert Development, Inc.	Continental Reserves 1980-E	Assignment	0123/0022
Continental Reserves 1980-E	Appalachian Energy Development Corporation	Assignment	0150/0251
Appalachian Energy Development Corporation	Appalachian Energy Reserves, Inc.	Affidavit of Identity	Recital in MB 0019/0210
Appalachian Energy Reserves, Inc.	Jay Shearer	Assignment	0179/0146
Jay Shearer	Clowser Production Company	Assignment	0285/0420
Clowser Production Company	Antero Resources Appalachian Corporation	Assignment	0285/0417
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Lydia Mae Rollins Lease</u>			
Lydia Mae Rollins	Key Oil Company	1/8	0196/0675
Key Oil Company	Antero Resources Appalachian Corporation	Assignment	0256/0285
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>DEPI Lease (TM 3-13-20.1)</u>			
Dominion Exploration & Production, Inc. Dominion Appalachian Development, LLC	Dominion Appalachian Development, LLC Antero Resources Appalachian Corporation	1/8 Assignment	0230/0407 0231/0145
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

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- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, lessor, etc.	Grantee, lessee, etc.	Royalty	Book/Page
Clarence Mutschelknaus Lease			
Clarence Mutschelknaus, et ux	Clarence W. Mutschelknaus	1/8	0239/0368
Clarence W. Mutschelknaus	Bluestone Energy Partners	Assignment	0247/0074
Bluestone Energy Partners	Antero Resources Bluestone LLC, a wholly owned subsidiary of Antero Resources Appalachian Corporation	Affidavit Regarding Merger	DB 0288/0001
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
DEPI Lease (TM 3-13-31)			
Dominion Exploration & Production, Inc.	Dominion Appalachian Development, LLC	1/8	0230/0362
Dominion Appalachian Development, LLC	Antero Resources Appalachian Corporation	Assignment	0231/0145
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
DEPI Lease(TM 3-13-p/o 25 & 3-16-p/o 3)			
Dominion Exploration & Production, Inc.	Dominion Appalachian Development, LLC	1/8	0230/0434
Dominion Appalachian Development, LLC	Antero Resources Appalachian Corporation	Assignment	0231/0145
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

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WV Department of Environmental Protection

WW-6A1
(5/13)

Operator's Well No. Rollins Unit 1H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
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- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<u>Dominion Transmission Inc. Lease</u>	Dominion Transmission, Inc.	Antero Resources Corporation	1/8+	0412/0236

*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

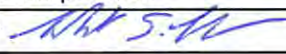
- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Antero Resources Corporation
By: Robert S. Tucker 
Its: Vice President of Geology

FORM WW-6A1
EXHIBIT 1

FILED

JUN 10 2013

Natalie E. Tennant
Secretary of State
1900 Kanawha Blvd E
Bldg 1, Suite 157-K
Charleston, WV 25305



Penney Barker, Manager
Corporations Division
Tel: (304)558-8000
Fax: (304)558-8381
Website: www.wvssos.com
E-mail: business@wvssos.com

APPLICATION FOR
AMENDED CERTIFICATE
OF AUTHORITY

Office Hours: Monday - Friday
8:30 a.m. - 5:00 p.m. ET

FILE ONE ORIGINAL
(Two if you want a filed
stamped copy returned to you)
FEE: \$25.00

**** In accordance with the provisions of the West Virginia Code, the undersigned corporation hereby ****
applies for an Amended Certificate of Authority and submits the following statement:

1. Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation

2. Date Certificate of Authority was issued in West Virginia: 6/26/2008

3. Corporate name has been changed to: Antero Resources Corporation
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)

4. Name the corporation elects to use in WV: Antero Resources Corporation
(due to home state name not being available)

5. Other amendments: (attach additional pages if necessary)

6. Name and phone number of contact person. (This is optional, however, if there is a problem with the filing, listing a contact person and phone number may avoid having to return or reject the document.)

Alvyn A. Schopp (303) 367-7310
Contact Name Phone Number

7. Signature information (See below *Important Legal Notice Regarding Signature*):

Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person

Signature: [Signature] Date: June 10, 2013

***Important Legal Notice Regarding Signature:** Per West Virginia Code §31D-1-129. Penalty for signing false document. Any person who signs a document he or she knows is false in any material respect and knows that the document is to be delivered to the secretary of state for filing is guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than one thousand dollars or confined in the county or regional jail not more than one year, or both.

LATITUDE 39°20'00"

6,663'

2,853' TO BOTTOM HOLE

LATITUDE 39°20'00"

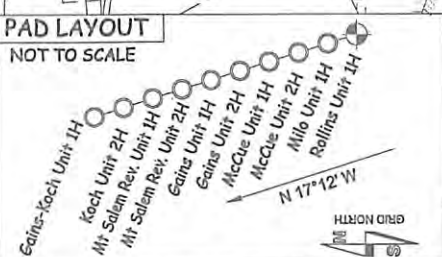
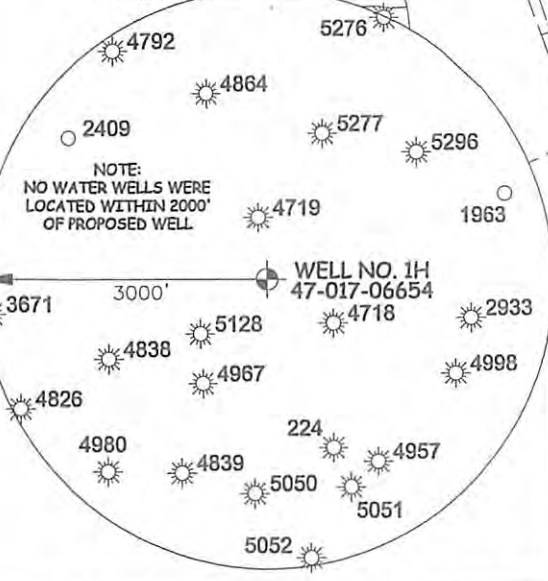
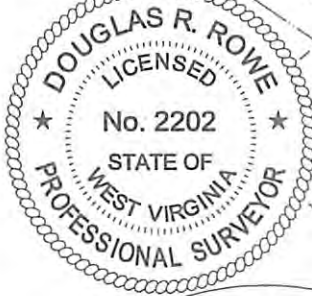
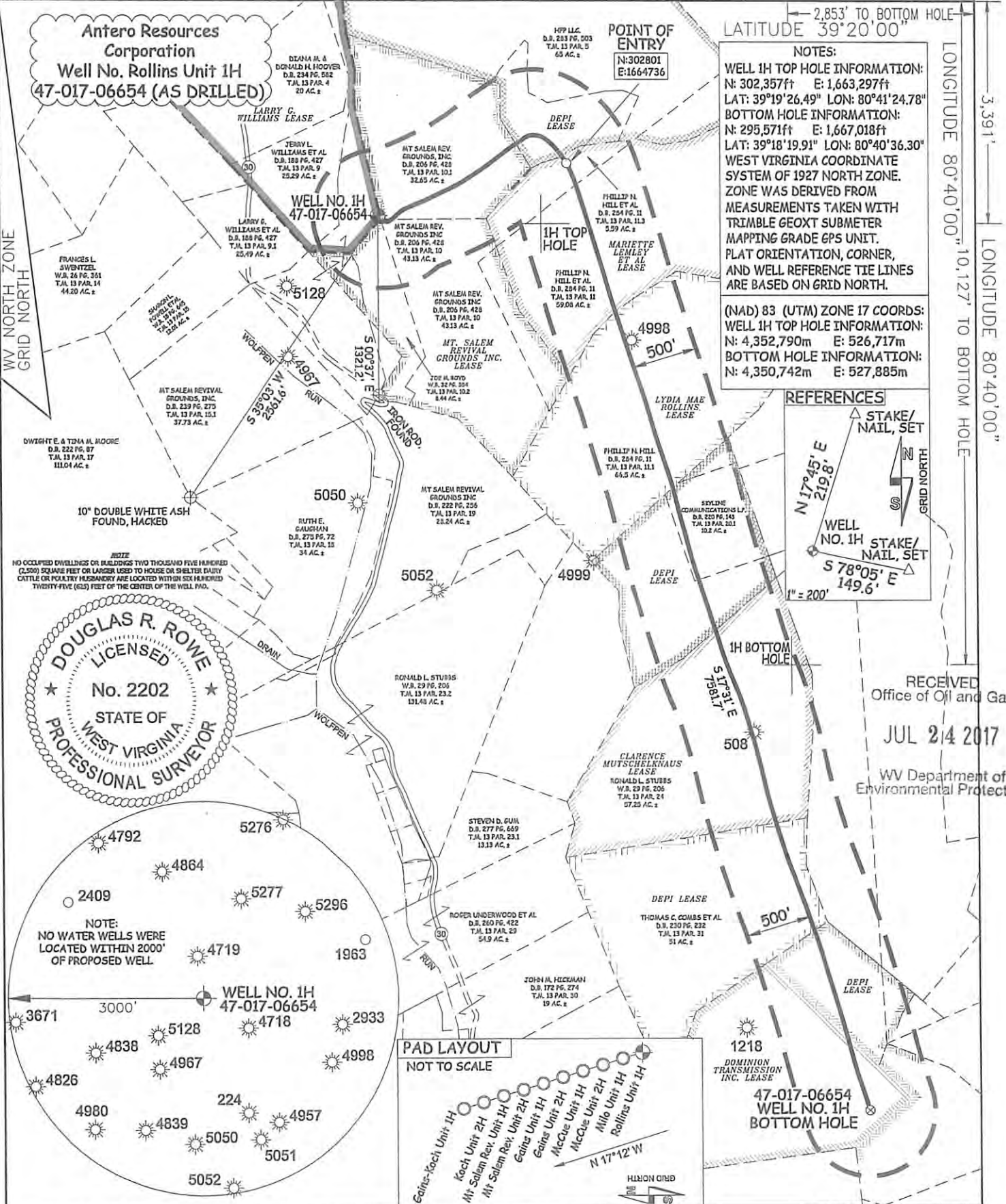
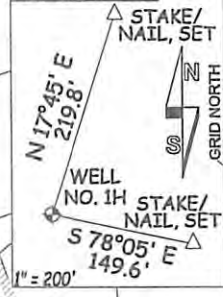
LONGITUDE 80°40'00" 10.127' TO BOTTOM HOLE
LONGITUDE 80°40'00"

Antero Resources Corporation
Well No. Rollins Unit 1H
47-017-06654 (AS DRILLED)

NOTES:
WELL 1H TOP HOLE INFORMATION:
N: 302,357ft E: 1,663,297ft
LAT: 39°19'26.49" LON: 80°41'24.78"
BOTTOM HOLE INFORMATION:
N: 295,571ft E: 1,667,018ft
LAT: 39°18'19.91" LON: 80°40'36.30"
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: 4,352,790m E: 526,717m
BOTTOM HOLE INFORMATION:
N: 4,350,742m E: 527,885m

REFERENCES



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Office of Oil and Gas
JUL 24 2017
WV Department of Environmental Protection

JOB # 14-062WA
DRAWING # ROLLINSUNIT1HAD
SCALE 1" = 1000'

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.

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 LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 1,376' AS-BUILT WATERSHED HEADWATERS OF MIDDLE ISLAND CREEK

QUADRANGLE SMITHBURG 7.5 DISTRICT GRANT COUNTY DODD

SURFACE OWNER LARRY WILLIAMS ET AL ACREAGE 25.49 ACRES +/-

OIL & GAS ROYALTY OWNER LARRY G. WILLIAMS; MT. SALEM REVIVAL GROUNDS INC.; DEPI; MARIETTE LEMLEY ET AL; LEASE ACREAGE 35.11 ACRES +/-; 83 ACRES +/-; 137 ACRES +/-; 66.87 ACRES +/-

LYDIA MAE ROLLINS; DEPI; CLARENCE MUTSCHELKNAUS; DEPI; DEPI; DOMINION TRANSMISSION INC. 66 AC +/-; 36 AC +/-; 57 AC +/-; 51 AC +/-; 33.5 AC +/-; 46 AC +/-

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) POE MOD PLUG & ABANDON CLEAN OUT & REPLUG

TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,210' TVD 15,268' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

LEGEND
Surface Owner Boundary Lines +/-
Interior Surface Tracts +/-
Existing Fence
Found monument, as noted

DOUGLAS R. ROWE P.S. 2202

DATE 06/29/2017

OPERATOR'S WELL # ROLLINS UNIT #1H

API WELL # 47-017-06654

STATE COUNTY PERMIT

DATE 06/04/2017

DIANNA STAMPER

CT CORPORATION SYSTEM

5400 D BIG TYLER ROAD

CHARLESTON, WV 25313

COUNTY NAME PERMIT

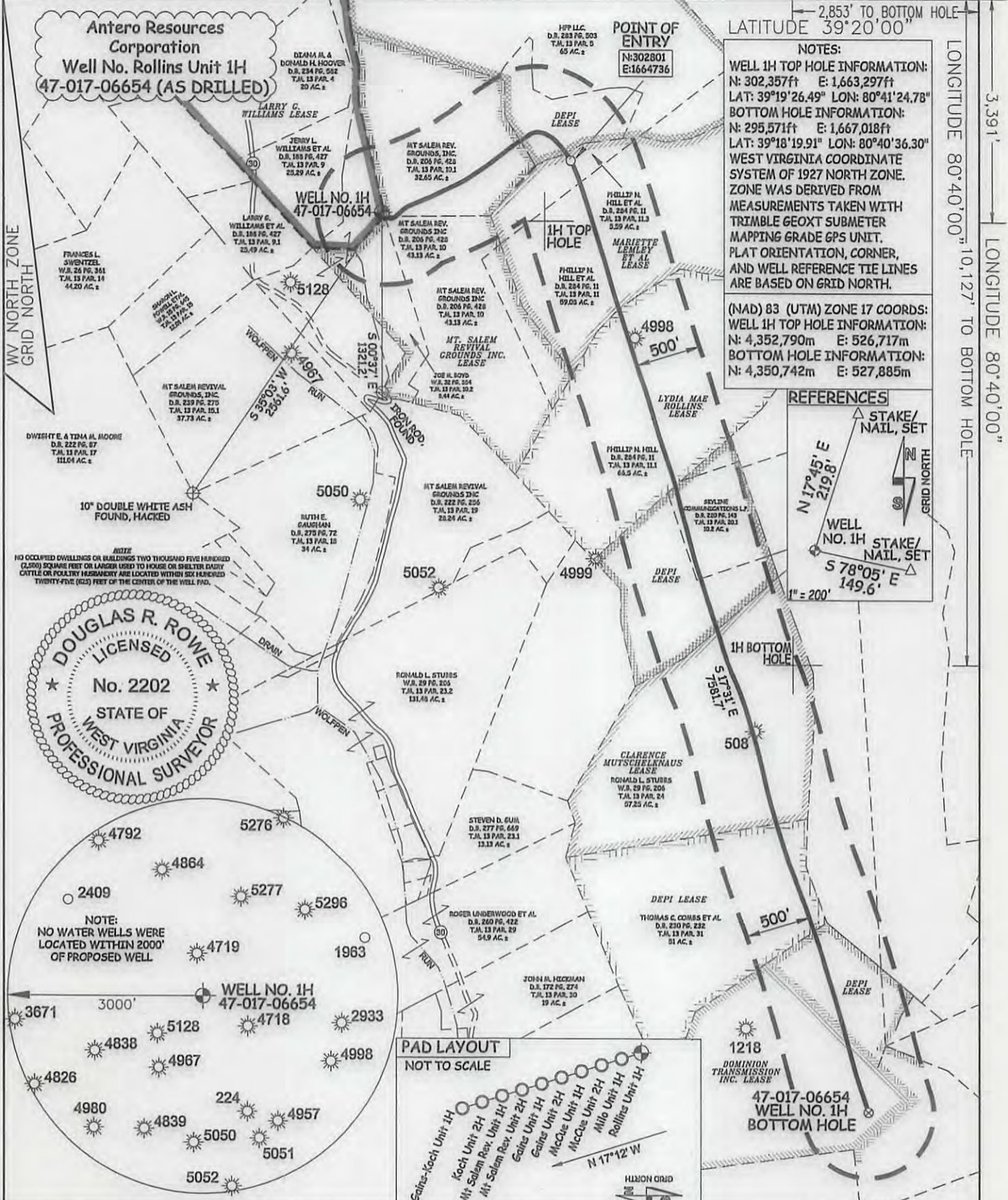
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6,663'

LATITUDE 39°20'00" 2,853' TO BOTTOM HOLE

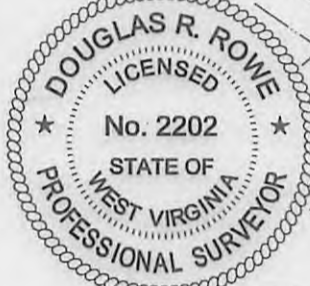
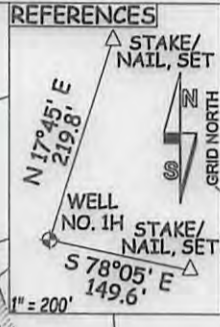
LONGITUDE 80°40'00" 10,127' TO BOTTOM HOLE

LONGITUDE 80°40'00"

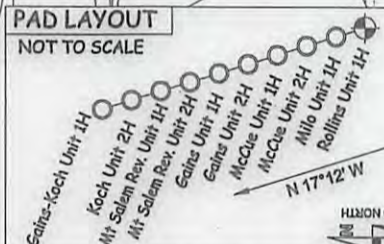


NOTES:
WELL 1H TOP HOLE INFORMATION:
 N: 302,357ft E: 1,663,297ft
 LAT: 39°19'26.49" LON: 80°41'24.78"
BOTTOM HOLE INFORMATION:
 N: 295,571ft E: 1,667,018ft
 LAT: 39°18'19.91" LON: 80°40'36.30"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE 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: 4,352,790m E: 526,717m
BOTTOM HOLE INFORMATION:
 N: 4,350,742m E: 527,885m



NOTE:
 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.



JOB # 14-062WA
 DRAWING # ROLLINSUNIT1HAD
 SCALE 1" = 1000'

MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE. GPS

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: ELEVATION 1,376' AS-BUILT WATERSHED HEADWATERS OF MIDDLE ISLAND CREEK

QUADRANGLE SMITHBURG 7.5 DISTRICT GRANT COUNTY DODDRIDGE

SURFACE OWNER LARRY WILLIAMS ET AL ACREAGE 25.49 ACRES +/-
 OIL & GAS ROYALTY OWNER LARRY G. WILLIAMS; MT. SALEM REVIVAL GROUNDS INC.; DEPI; MARIETTE LEMLEY ET AL; LEASE ACREAGE 35.11 ACRES +/-; 03 ACRES +/-; 137 ACRES +/-; 66.07 ACRES +/-
 LYDIA MAE ROLLINS; DEPI; CLARENCE MUTSCHELKNAUS; DEPI; DEPI; DOMINION TRANSMISSION INC. 66 AC +/-; 36 AC +/-; 57 AC +/-; 51 AC +/-; 33.5 AC +/-; 46 AC +/-

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL
 (SPECIFY) POE MOD PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,210' TVD 15,268' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313

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

LEGEND
 Surface Owner Boundary Lines +/-
 Interior Surface Tracts +/-
 Existing Fence
 Found monument, as noted

DOUGLAS R. ROWE P.S. 2202

DATE 06/29/2017

OPERATOR'S WELL# ROLLINS UNIT #1H
 API WELL # 47 - 017 - 06654

STATE COUNTY PERMIT

08/04/2017