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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, June 25, 2018  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for JAMESON UNIT 1H  
47-095-02469-00-00

**Lateral Extension**

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

A handwritten signature in blue ink, appearing to read 'James A. Martin', is positioned to the right of the typed name and title.

Operator's Well Number: JAMESON UNIT 1H  
Farm Name: ROGER R. WEESE  
U.S. WELL NUMBER: 47-095-02469-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 6/25/2018

Promoting a healthy environment.

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

1) Well Operator: Antero Resources Corpora 494507062 095 - Tyler Meade Middlebourne 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Jameson Unit 1H Well Pad Name: Neat Pad

3) Farm Name/Surface Owner: Roger R. Weese Public Road Access: CR 7

4) Elevation, current ground: 1005' Elevation, proposed post-construction: \_\_\_\_\_

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: 6600' TVD, Anticipated Thickness- 55 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 6600' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 21250' MD

11) Proposed Horizontal Leg Length: 11682'

12) Approximate Fresh Water Strata Depths: 100', 121', 166'

13) Method to Determine Fresh Water Depths: Offset well records. Depths have been adjusted according to surface elevations.

14) Approximate Saltwater Depths: None Identified

15) Approximate Coal Seam Depths: 1441'

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: \_\_\_\_\_

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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#	80'	80'	CTS, 218 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	300'	300'	CTS, 271 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#	21250'	21250'	4983 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	20"	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							

**PACKERS**

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

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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 fresh water 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): 26.74 acres

22) Area to be disturbed for well pad only, less access road (acres): 8.95 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.

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.

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\*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)

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>Roger Weese Lease</u>			
Roger Weese	Antero Resources Appalachian Corporation	1/8+	0435/0766
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>James E. Smith Lease</u>			
James E. Smith	Antero Resources Appalachian Corporation	1/8+	0420/0406
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<u>Steven P. Carse Lease</u>			
Steven P. Carse	Antero Resources Corporation	1/8+	0449/0036
<u>Mt. Pleasant or Long Church and Cemetery Lease</u>			
Mt. Pleasant or Long Church and Cemetery	Antero Resources Corporation	1/8+	0541/0564
<u>David L. Stevens et ux Lease</u>			
David L. Stevens et ux	Sancho Oil and Gas Corporation	1/8	0349/0757
Sancho Oil and Gas Corporation	Chesapeake Appalachia, LLC	Assignment	0370/0154
Chesapeake Appalachia, LLC	SWN Production Company LLC	Assignment	0465/0463
SWN Production Company	Antero Exchange Properties	Partial Assignment	0544/0242
Antero Exchange Properties	Antero Resources Corporation	Merger	0009/0404
<u>Vellnalee Gumm Lease</u>			
Vellnalee Gumm	Antero Resources Corporation	1/8+	0492/0138
<u>James M. Utt Lease</u>			
James M. Utt	Antero Resources Corporation	1/8+	0457/0156
<u>Steven L. Tice Lease</u>			
Steven L. Tice	Antero Resources Corporation	1/8+	0555/0309
<u>David Lee Stevens et al Lease</u>			
David Lee Stevens et al	Sancho Oil and Gas Corporation	1/8	0353/0010
Sancho Oil and Gas Corporation	Chesapeake Appalachia, LLC	Assignment	0370/154
Chesapeake Appalachia, LLC	Antero Resources Corporation	Assignment	0598/0615
<u>Amy B. Paris Lease</u>			
Amy B. Paris	Antero Resources Corporation	1/8+	0529/0590
<u>Charlotte M. Adams Lease</u>			
Charlotte M. Adams	Blue Shale, LLC	1/8+	0402/0254
Blue Shale, LLC	Antero Resources Corporation	Assignment	0436/0274

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\*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)  
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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
<u>Golden Eagle Resources Lease</u> Golden Eagle Resources	Antero Resources Corporation	1/8	0597/0790

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\*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.

WW-6A1  
(5/13)

Operator's Well No. Jameson 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
Barbara J. Anderson Lease	Barbara J. Anderson	Antero Resources Corporation	1/8+	0429/0594

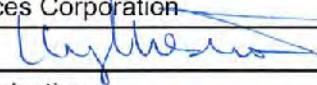
\*Partial Assignments to Antero Resources Corporation include 100% rights to extract, produce and market the oil and gas from the Marcellus and any other formations completed with this well.

**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

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, 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: Kevin Kilstrom   
 Its: Senior VP - Production

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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.wvsof.com](http://www.wvsof.com)  
E-mail: [business@wvsof.com](mailto:business@wvsof.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:

- Name under which the corporation was authorized to transact business in WV: Antero Resources Appalachian Corporation
- Date Certificate of Authority was issued in West Virginia: 6/25/2008
- Corporate name has been changed to: Antero Resources Corporation  
(Attach one Certified Copy of Name Change as filed in home State of incorporation.)
- Name the corporation elects to use in WV: Antero Resources Corporation  
(due to home state name not being available)
- Other amendments: \_\_\_\_\_  
(attach additional pages if necessary)

- 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) 357-7310  
Contact Name Phone Number

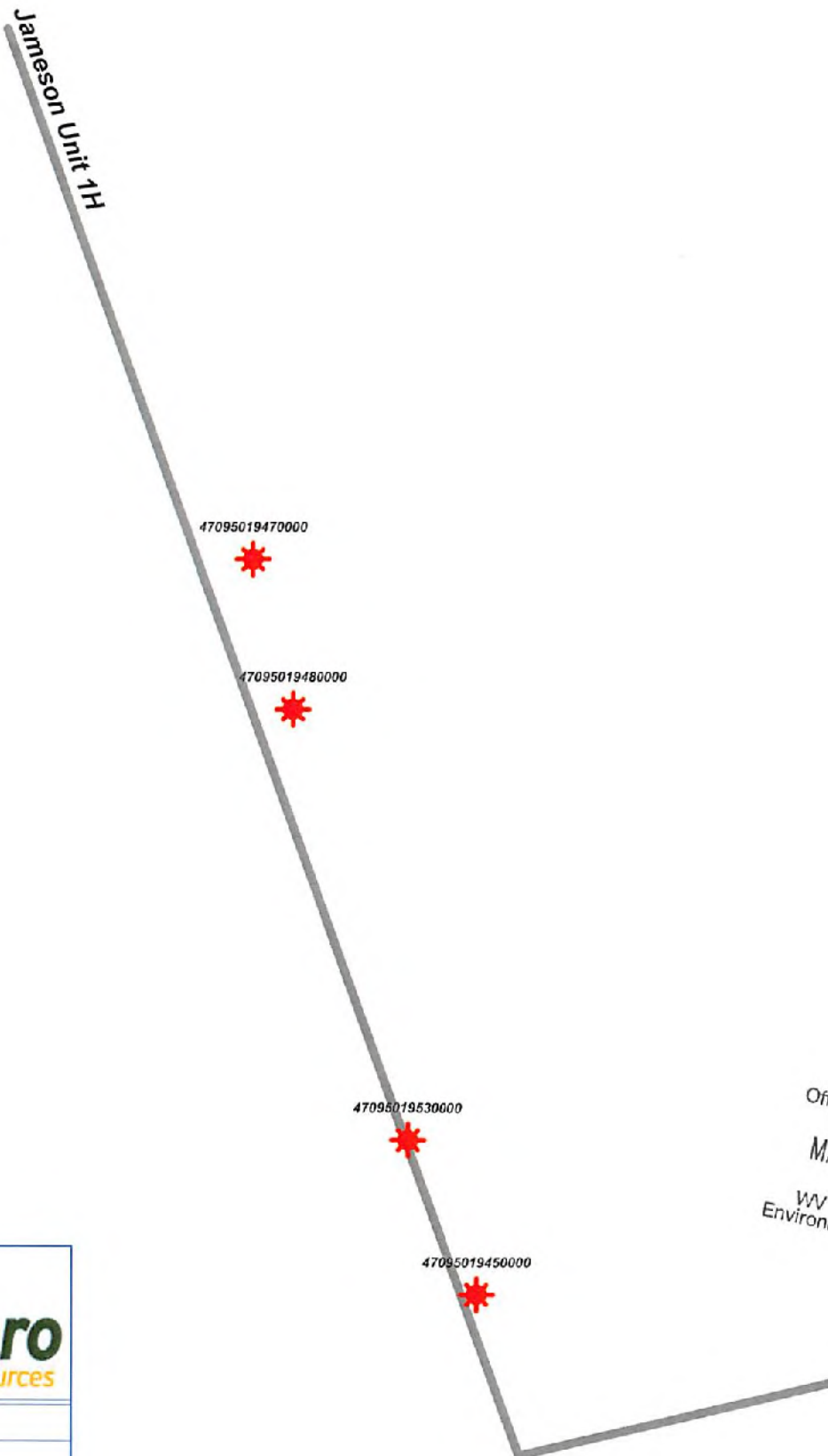
- Signature information (See below \*Important Legal Notice Regarding Signature\*):

Print Name of Signer: Alvyn A. Schopp Title/Capacity: Authorized Person  
Signature: [Handwritten Signature] Date: June 10, 2013

**\*Important Legal Notice Regarding Signature:** Per West Virginia Code §31B-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.

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Jameson Unit 1H - AOR



WELL SYMBOLS  
Gas Well

June 28, 2017

Permit Modification API# 47-095-02469

UWI (API Num)	Well Name	Well Number	Operator	Historical Operator	TD
47095019450000	STEVENS D	1	SANCHO OIL & GAS	SANCHO OIL & GAS	5361
47095019530000	OWEN DAILEY HEIRS	1	SANCHO OIL & GAS	SANCHO OIL & GAS	5410
47095019480000	STEVENS J F	3	SANCHO OIL & GAS	SANCHO OIL & GAS	5361
47095019470000	STEVENS J F	2	SANCHO OIL & GAS	SANCHO OIL & GAS	5444
ELEV_GR	TD (SSTVD)	Approx Distance to well (ft)	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Producible Formation(s) not perf'd
950	-4411	114	1832-5097	Keener, Riley, Benson, Alexander, Elk	Fifth, Riley
1016	-4394	18	3342-5190	Warren, Benson, Alexander	Weir, Fifth, Riley, Elk
1069	-4292	299	4900-5183	Benson, Brallier	Weir, Fifth, Warren, Riley, Elk
1249	-4195	393	5108-5330	Benson, Elk	Weir, Fifth, Warren, Alexander

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LATITUDE 39°27'30"

5,974'

510' TO BOTTOM HOLE  
LATITUDE 39°27'30"

LONGITUDE 80°57'30"

2,996' TO BOTTOM HOLE

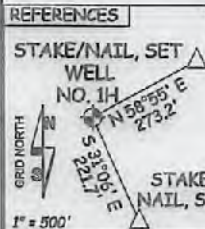
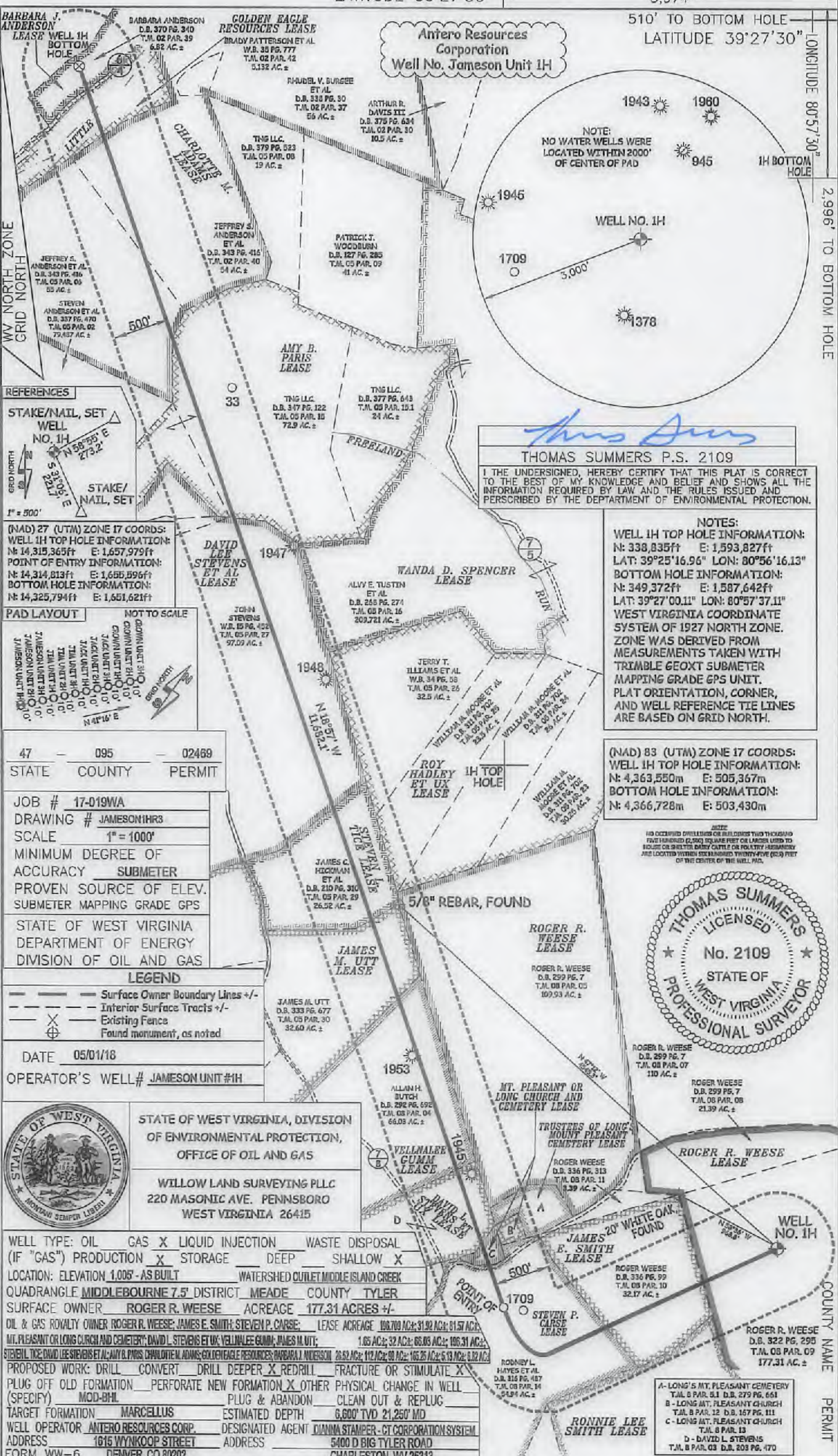
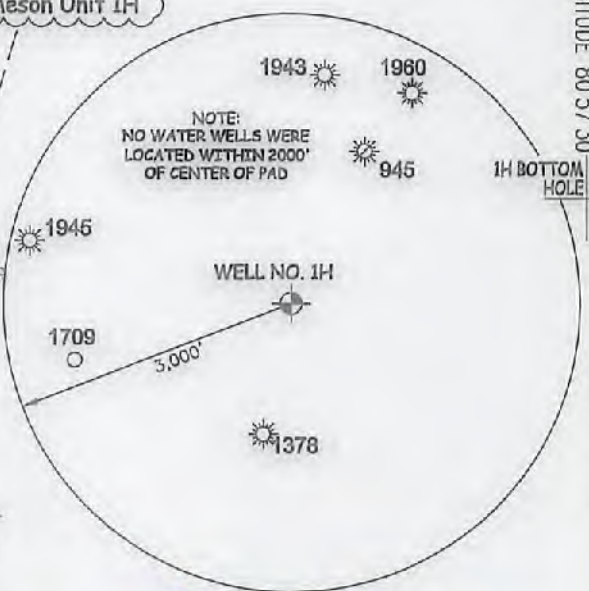
13,461'

LONGITUDE 80°55'00"

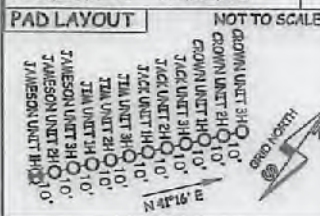
COUNTY NAME

PERMIT

Antero Resources Corporation  
Well No. Jameson Unit 1H



REFERENCES  
STAKE/NAIL, SET WELL NO. 1H  
1" = 500'



(NAD) 27 (UTM) ZONE 17 COORDS:  
WELL 1H TOP HOLE INFORMATION:  
N: 14,315,365ft E: 1,657,979ft  
POINT OF ENTRY INFORMATION:  
N: 14,314,813ft E: 1,655,596ft  
BOTTOM HOLE INFORMATION:  
N: 14,325,794ft E: 1,651,621ft

STATE 47 COUNTY 095 PERMIT 02469  
JOB # 17-019WA  
DRAWING # JAMESON1HR3  
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

LEGEND  
--- Surface Owner Boundary Lines +/-  
--- Interior Surface Tracts +/-  
--- Existing Fences  
--- Found monument, as noted  
DATE 05/01/18  
OPERATOR'S WELL# JAMESON UNIT #1H



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WILLOW LAND SURVEYING PLLC  
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

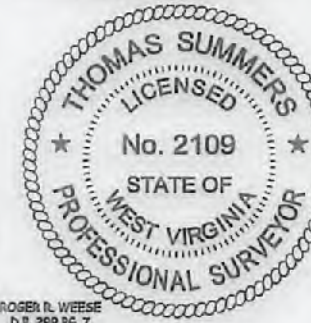
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION 1,005' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
QUADRANGLE MIDDLEBOURNE 7.5' DISTRICT MEADE COUNTY TYLER  
SURFACE OWNER ROGER R. WEESE ACREAGE 177.31 ACRES +/-  
OIL & GAS ROYALTY OWNER ROGER R. WEESE; JAMES E. SMITH; STEVEN P. CARSE; LEASE ACREAGE 100.700 AC.; 31.92 AC.; 31.57 AC.;  
MT. PLEASANT OR LONG CHURCH AND CEMETERY; DAVID L. STEVENS ET UX; VELLNALEE GUNN; JAMES M. UTT; 1.65 AC.; 32 AC.; 68.03 AC.; 106.31 AC.;  
STEBEL; TICE; DAVID L. STEVENS ET UX; AMY B. PARIS; CHARLOTTE M. ADAMS; GOLDEN EAGLE RESOURCES; BARBARA J. ANDERSON; 26.52 AC.; 112 AC.; 90 AC.; 106.25 AC.; 5.13 AC.; 6.82 AC.;  
PROPOSED WORK: DRILL CONVERT DRILL DEEPER X REDRILL FRACTURE OR STIMULATE X  
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL  
(SPECIFY) MOD-BHL PLUG & ABANDON CLEAN OUT & REPLUG  
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,600' TVD 21,250' MD  
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM  
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 26313

THOMAS SUMMERS P.S. 2109  
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.

NOTES:  
WELL 1H TOP HOLE INFORMATION:  
N: 338,835ft E: 1,593,827ft  
LAT: 39°25'16.96" LON: 80°56'16.13"  
BOTTOM HOLE INFORMATION:  
N: 349,372ft E: 1,587,642ft  
LAT: 39°27'00.11" LON: 80°57'37.11"  
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: 4,363,550m E: 505,367m  
BOTTOM HOLE INFORMATION:  
N: 4,366,728m E: 503,430m

NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FEET RADIUS (6250) SQUARE FEET OR LARGER LOTS TO HOUSE OR SHELTER BARNY CATTLE OR POULTRY INSURANCE AND LOCATED WITHIN SEVENTY-FIVE (75) FEET OF THE CENTER OF THE WELL PAD.



ROGER R. WEESE LEASE  
D.B. 299 PG. 7  
T.M. 08 PAR. 07  
110 AC. ±  
ROGER WEESE  
D.B. 299 PG. 7  
T.M. 08 PAR. 08  
21.39 AC. ±  
ROGER WEESE  
D.B. 336 PG. 313  
T.M. 08 PAR. 11  
3.39 AC. ±  
ROGER WEESE  
D.B. 336 PG. 99  
T.M. 08 PAR. 10  
32.17 AC. ±  
ROGER R. WEESE  
D.B. 322 PG. 295  
T.M. 08 PAR. 09  
177.31 AC. ±  
A - LONG'S MT. PLEASANT CEMETERY  
T.M. 8 PAR. 51 D.B. 279 PG. 661  
B - LONG MT. PLEASANT CHURCH  
T.M. 8 PAR. 12 D.B. 167 PG. 111  
C - LONG MT. PLEASANT CHURCH  
T.M. 8 PAR. 13  
D - DAVID L. STEVENS  
T.M. 8 PAR. 03 D.B. 203 PG. 470

LATITUDE 39°27'30"

5,974'

510' TO BOTTOM HOLE

LATITUDE 39°27'30"

LONGITUDE 80°57'30"

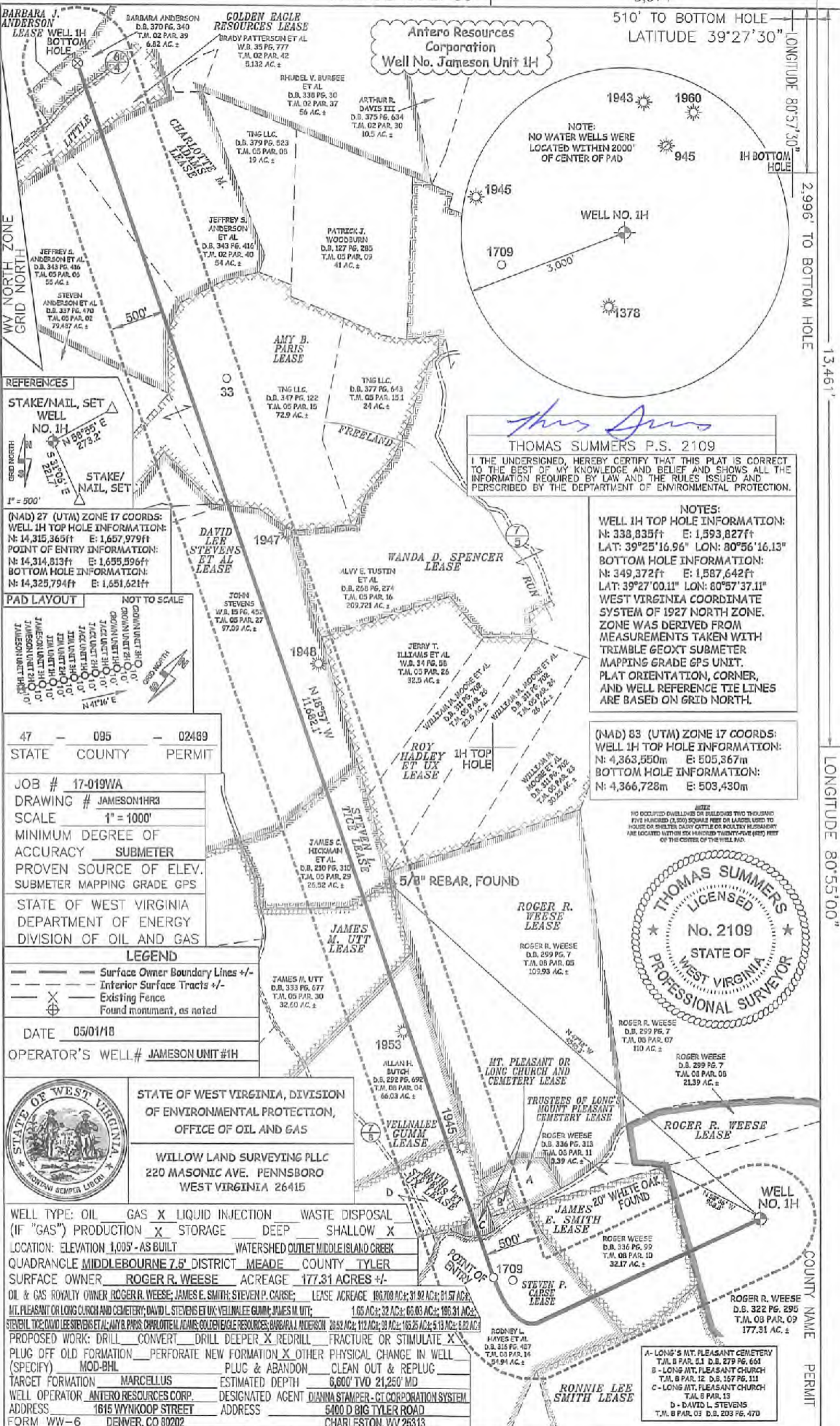
2,996' TO BOTTOM HOLE

13,461'

LONGITUDE 80°55'00"

COUNTY NAME

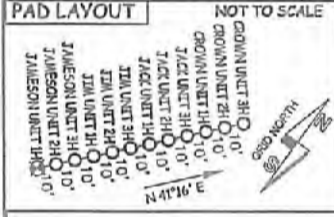
PERMIT



REFERENCES

STAKE/NAIL, SET WELL NO. 1H  
 N 88°55' E 273.2'  
 5' STAKE  
 1" = 500'

(NAD) 27 (UTM) ZONE 17 COORDS:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 14,315,365ft E: 1,657,979ft  
 POINT OF ENTRY INFORMATION:  
 N: 14,314,813ft E: 1,655,596ft  
 BOTTOM HOLE INFORMATION:  
 N: 14,325,794ft E: 1,651,621ft



47 - 095 - 02489  
 STATE COUNTY PERMIT

JOB # 17-019WA  
 DRAWING # JAMESON1HR3  
 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

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

DATE 05/01/18  
 OPERATOR'S WELL # JAMESON UNIT #1H



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
 WILLOW LAND SURVEYING PLLC  
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

WELL TYPE: OIL GAS  LIQUID INJECTION WASTE DISPOSAL  
 (IF "GAS") PRODUCTION  STORAGE DEEP SHALLOW   
 LOCATION: ELEVATION 1,005' - AS BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
 QUADRANGLE MIDDLEBOURNE 7.5' DISTRICT MEADE COUNTY TYLER  
 SURFACE OWNER ROGER R. WEESE ACREAGE 177.31 ACRES +/-  
 OIL & GAS ROYALTY OWNER ROGER R. WEESE; JAMES E. SMITH; STEVEN P. CARSE; LEASE ACREAGE 186.700 AC +/-; 31.92 AC +/-; 81.57 AC +/-  
 MT. PLEASANT OR LONG CHURCH AND CEMETERY; DAVID L. STEVENS ET UX; VELLNALEE GUM; JAMES M. UTT; 1.05 AC +/-; 32 AC +/-; 66.03 AC +/-; 196.31 AC +/-  
 STEVEN L. DAVID LEE STEVENS ET AL; AMY B. PARIS; CHARLOTTE M. ADAMS; GOLDEN EAGLE RESOURCES; BARBARA J. ANDERSON 20.52 AC +/-; 112 AC +/-; 182.25 AC +/-; 5.13 AC +/-; 0.82 AC +/-  
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER  REDRILL FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) MOD-BHL PLUG & ABANDON CLEAN OUT & REPLUG  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,600' TVD 21,250' MD  
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - GT CORPORATION SYSTEM  
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD  
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 26313

*Thomas Summers*  
 THOMAS SUMMERS P.S. 2109

I, 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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

NOTES:  
 WELL 1H TOP HOLE INFORMATION:  
 N: 338,835ft E: 1,593,827ft  
 LAT: 39°25'16.96" LON: 80°56'16.13"  
 BOTTOM HOLE INFORMATION:  
 N: 349,372ft E: 1,587,642ft  
 LAT: 39°27'00.11" LON: 80°57'37.11"  
 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: 4,363,550m E: 505,367m  
 BOTTOM HOLE INFORMATION:  
 N: 4,366,728m E: 503,430m

NO OCCUPIED OVERLIES OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR BUILT BY CHAIN CUTTLE OR POLARITY REVERSEMENT ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.



ROGER R. WEESE LEASE  
 ROGER R. WEESE  
 D.B. 259 PG. 7  
 T.M. 08 PAR. 05  
 109.93 AC +/-

ROGER R. WEESE  
 D.B. 259 PG. 7  
 T.M. 08 PAR. 07  
 110 AC +/-

ROGER WEESE  
 D.B. 259 PG. 7  
 T.M. 08 PAR. 05  
 21.39 AC +/-

ROGER WEESE  
 D.B. 336 PG. 313  
 T.M. 08 PAR. 11  
 3.39 AC +/-

ROGER WEESE  
 D.B. 336 PG. 99  
 T.M. 08 PAR. 10  
 32.17 AC +/-

ROGER R. WEESE  
 D.B. 322 PG. 295  
 T.M. 08 PAR. 09  
 177.31 AC +/-

A - LONG'S MT. PLEASANT CEMETERY  
 T.M. 8 PAR. 5 J D.B. 279 PG. 661  
 B - LONG MT. PLEASANT CHURCH  
 T.M. 8 PAR. 12 D.B. 157 PG. 111  
 C - LONG MT. PLEASANT CHURCH  
 T.M. 8 PAR. 13  
 D - DAVID L. STEVENS  
 T.M. 8 PAR. 03 D.B. 203 PG. 470