



---

west virginia department of environmental protection

---

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)

Tuesday, January 22, 2019  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION  
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for STERLING UNIT 1H  
47-095-02520-00-00

**Lateral Length**

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: STERLING UNIT 1H  
Farm Name: ROY A. MEREDITH  
U.S. WELL NUMBER: 47-095-02520-00-00  
Horizontal 6A New Drill  
Date Modification Issued: January 22, 2019

Promoting a healthy environment.

WW-6B  
(04/15)

API NO. 47-095 - 02520  
OPERATOR WELL NO. Sterling Unit 1H  
Well Pad Name: Meredith Pad

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

1) Well Operator: Antero Resources Corporation 494507062 095-Tyler Centerville West Union 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Sterling Unit 1H Well Pad Name: Meredith Pad

3) Farm Name/Surface Owner: Roy A. Meredith, et al Public Road Access: Haymond Road

4) Elevation, current ground: 1117' Elevation, proposed post-construction: ~1114'

5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
Other \_\_\_\_\_

(b) If Gas Shallow  Deep \_\_\_\_\_  
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus Shale: 7000' TVD, Anticipated Thickness- 75 feet, Associated Pressure- 2800#

8) Proposed Total Vertical Depth: 7000' TVD

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20500' MD

11) Proposed Horizontal Leg Length: 10644'

12) Approximate Fresh Water Strata Depths: 463', 604', 683'

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

14) Approximate Saltwater Depths: 1521', 1567', 2109'

15) Approximate Coal Seam Depths: 63', 1239'

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: \_\_\_\_\_

RECEIVED  
Office of Oil and Gas  
SEP 25 2018  
WV Department of  
Environmental Protection

WW-6B  
(04/15)

API NO. 47- 095 - 02520  
OPERATOR WELL NO. Sterling Unit 1H  
Well Pad Name: Meredith Pad

18) **CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size (in)</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft. (lb/ft)</b>	<b>FOOTAGE: For Drilling (ft)</b>	<b>INTERVALS: Left in Well (ft)</b>	<b>CEMENT: Fill-up (Cu. Ft.)/CTS</b>
Conductor	20"	New	H-40	94#	93	93	CTS, 89 Cu. Ft.
Fresh Water	13-3/8"	New	J-55	54.5#	740 *see#19	740 *see#19	CTS, 1028 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#	20500	20500	CTS, 5229 Cu. Ft.
Tubing	2-3/8"	New	N-80	4.7#			
Liners							

<b>TYPE</b>	<b>Size (in)</b>	<b>Wellbore Diameter (in)</b>	<b>Wall Thickness (in)</b>	<b>Burst Pressure (psi)</b>	<b>Anticipated Max. Internal Pressure (psi)</b>	<b>Cement Type</b>	<b>Cement Yield (cu. ft./k)</b>
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			RECEIVED Office of Oil and Gas SEP 25 2018 WV Department of Environmental Protection
Sizes:	N/A			
Depths Set:	N/A			

WW-6B  
(10/14)

API NO. 47- 095 - 02520

OPERATOR WELL NO. Sterling Unit 1H

Well Pad Name: Meredith 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 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): 31.17 acres

22) Area to be disturbed for well pad only, less access road (acres): 7.09 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.

RECEIVED  
Office of Oil and Gas

SEP 25 2018

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

WV Department of  
Environmental Protection

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.

WW-6A1

Operator's Well Number Sterling Unit 1H

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
<b><u>Roy A. Meredith, et ux Lease</u></b>			
Roy A. Meredith, et ux	J & J Enterprises	1/8	0257/0527
J & J Enterprises	Eastern American Energy Corp.	Assignment	0282/0296
Eastern American Energy Corporation	Energy Corporation of America	Certificate of Merger	0009/0093
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0398/0416
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Larry F. Hadley, et ux Lease</u></b>			
Larry F. Hadley, et ux	Antero Resources Corporation	1/8+	0558/0265
<b><u>Janice L. Hurst Lease</u></b>			
Janice L. Hurst	Manna Oil & Gas Company	1/8+	0260/0493
Manna Oil & Gas Company	SEFCO Enterprises, Inc.	Assignment	0267/0448
SEFCO Enterprises, Inc.	J & J Enterprises, Inc.	Assignment	0282/0296
J & J Enterprises, Inc.	Eastern American Energy Corporation	Assignment	0282/0296
Eastern American Energy Corporation	Energy Corporation of America	Merger	0009/0093
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0398/0416
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Waco Oil and Gas Lease</u></b>			
Waco Oil and Gas	Antero Resources Corporation	1/8	0540/0704
<b><u>Karen Sue Kusko Lease</u></b>			
Karen Sue Kusko	Antero Resources Corporation	1/8+	0547/0315
<b><u>Joseph E. Michael, et ux Lease</u></b>			
Joseph E. Michael, et ux	Antero Resources Corporation	1/8	0557/0292
<b><u>O.W. Griffin, et ux Lease</u></b>			
O.W. Griffin, et ux	J&J Enterprises, Inc.	1/8	0247/0057
J&J Enterprises, Inc.	Eastern American Energy Corporation	Assignment	0282/0296
Eastern American Energy Corporation	Energy Corporation of America	Certificate of Merger	0006/0450
Energy Corporation of America	Antero Resources Appalachian Corporation	Assignment	0398/0416
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1

RECEIVED  
Office of Oil and Gas  
SEP 25 2018  
WV Department of  
Environmental Protection

\*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.

\*\*CONTINUED ON NEXT PAGE\*\*



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
<b><u>Karen Sue Kusko Lease</u></b>			
Karen Sue Kusko	Antero Resources Corporation	1/8+	0547/0315
<b><u>AMP Fund II LP Lease</u></b>			
AMP Fund II LP	EQT Production Company	1/8	0566/0771
EQT Production Company	Antero Resources Corporation	Assignment	0596/0764
<b><u>Edith A. Griffin et vir Lease</u></b>			
Edith A. Griffin, et vir	J & J Enterprises, Inc.	1/8	0247/0055
J & J Enterprises, Inc.	Kepeco INC	Assignment	0254/0134
Kepeco INC	Eastern Kentucky Production Company	Merger	Exhibit 2
Eastern Kentucky Production Company	Kepeco Resources INC	Assignment	0261/0392
Kepeco Resources INC	Union Drilling Company	Merger	0004/0322
Union Drilling Company	Equitable Resources Exploration INC	Assignment	0274/0070
Equitable Resources Exploration INC	Equitable Resources Energy Company	Assignment	0280/0186
Equitable Resources Energy Company	Enervest East Limited Partnership	Assignment	0313/0145
Enervest East Limited Partnership	Houston Exploration Company	Assignment	0342/0160
Houston Exploration Company	Seneca Upshur Petroleum LLC	Assignment	0344/0158
Seneca Upshur Petroleum LLC	Antero Resources Appalachian Corporation	Assignment	0406/0134
Antero Resources Appalachian Corporation	Antero Resources Corporation	Name Change	Exhibit 1
<b><u>Ralph J. Underwood, et ux Lease</u></b>			
Ralph J. Underwood, et ux	Chesterfield Energy Corporation	1/8	0267/0125
Chesterfield Energy Corporation	Dominion Appalachian Development INC	Purchased	Exhibit 3
Dominion Appalachian Development INC	Dominion Appalachian Development LLC	Name Change	Exhibit 4
Dominion Appalachian Development LLC	Consol Gas Appalachian Development LLC	Incorporation	0009/0131
Consol Gas Appalachian Development LLC	Consol Gas Reserves INC	Incorporation	0009/0144
Consol Gas Reserves INC	Consol Gas Company	Incorporation	0009/0156
Consol Gas Company	CNX Gas Company LLC	Incorporation	0009/0206
CNX Gas Company LLC	Antero Resources Corporation	Assignment	0543/0448

RECEIVED  
Office of Oil and Gas  
  
SEP 25 2018  
  
WV Department of  
Environmental Protection

WW-6A1  
(5/13)

Operator's Well No. Sterling Unit 1H

**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:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
<b>Ralph J Underwood, et ux Lease</b>				
	Ralph J Underwood, et ux	Chesterfield Energy Corporation	1/8	0257/0125
	Chesterfield Energy Corporation	Dominion Appalachian Development INC	Purchased	Exhibit 3
	Dominion Appalachian Development INC	Dominion Appalachian Development LLC	Name Change	Exhibit 4
	Dominion Appalachian Development LLC	Consol Gas Appalachian Development LLC	Incorporation	0009/0131
	Consol Gas Appalachian Development LLC	Consol Gas Reserves INC	Incorporation	0009/0144
	& Consol Gas Appalachian Development Properties LLC			
	Consol Gas Reserves INC	Consol Gas Company	Incorporation	0009/0156
	Consol Gas Company	CNX Gas Company LLC	Incorporation	0009/0206
	CNX Gas Company LLC	Antero Resources Corporation	Assignment	0543/0448

\*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

RECEIVED  
Office of Oil and Gas  
**SEP 25 2018**  
WV Department of  
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: Kevin Kilstrom  
Its: Senior Vice President - Production



FILED

JUN 10 2013

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



Fenney Barker, Manager  
Corporations Division  
Tel: (304)558-8000  
Fax: (304)558-8381  
Website: www.wvscs.com  
E-mail: business@wvscs.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  
stamp; 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 submit 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: 6/28/2008
- 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.)

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

RECEIVED  
Office of Oil and Gas  
SEP 25 2013  
WV Department of  
Environmental Protection

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

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

\*Important Legal Notice Regarding Signatures: For West Virginia Code §31D-1-12b. 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.



FORM WW-6A1  
EXHIBIT 2

# Commonwealth of Kentucky

OFFICE OF  
SECRETARY OF STATE

DREXELL R. DAVIS  
*Secretary*



FRANKFORT,  
KENTUCKY

## CERTIFICATE OF AMENDMENT TO ARTICLES OF INCORPORATION

I, DREXELL R. DAVIS, Secretary of State of the Commonwealth of Kentucky, do hereby certify that Amended Articles of Incorporation of

**KEPCO, INC.**

CHANGING NAME TO **EASTERN KENTUCKY PRODUCTION COMPANY**

amended pursuant to Kentucky Revised Statutes, 271A, ~~(201)~~ duly signed and verified or acknowledged according to law, have been filed in my office by said corporation, and that all taxes, fees and charges payable upon the filing of said Articles of Amendment have been paid.

RECEIVED  
Office of Oil and Gas

SEP 25 2018

WV Department of  
Environmental Protection

Given under my hand and seal of Office as Secretary of State,  
at Frankfort, Kentucky, this 15TH  
day of AUGUST, 1985.



SECRETARY OF STATE

*Drexell R. Davis*  
SECRETARY OF STATE

ASSISTANT SECRETARY OF STATE

FORM WW-6A1  
EXHIBIT 3

**Lease Assignments and Interest of Chesterfield Energy Corporation**

n. [NOTE: By unrecorded document Chesterfield Energy Corporation merged with and into Dominion Appalachian Development, Inc.]

RECEIVED  
Office of Oil and Gas  
SEP 25 2018  
WV Department of  
Environmental Protection



AC

# State of West Virginia



## Certificate

I, Betty Ireland, Secretary of State of the State of West Virginia, hereby certify that

**DOMINION APPALACHIAN DEVELOPMENT, INC.**  
(a Virginia corporation)

filed an application for Conversion in my office as required by the provisions of the West Virginia Code and was found to conform to law.

Therefore, I issue this

### CERTIFICATE OF CONVERSION

converting the corporation to

**DOMINION APPALACHIAN DEVELOPMENT, LLC**  
(a Virginia Limited Liability Company)

RECEIVED  
Office of Oil and Gas

SEP 25 2018

WV Department of  
Environmental Protection



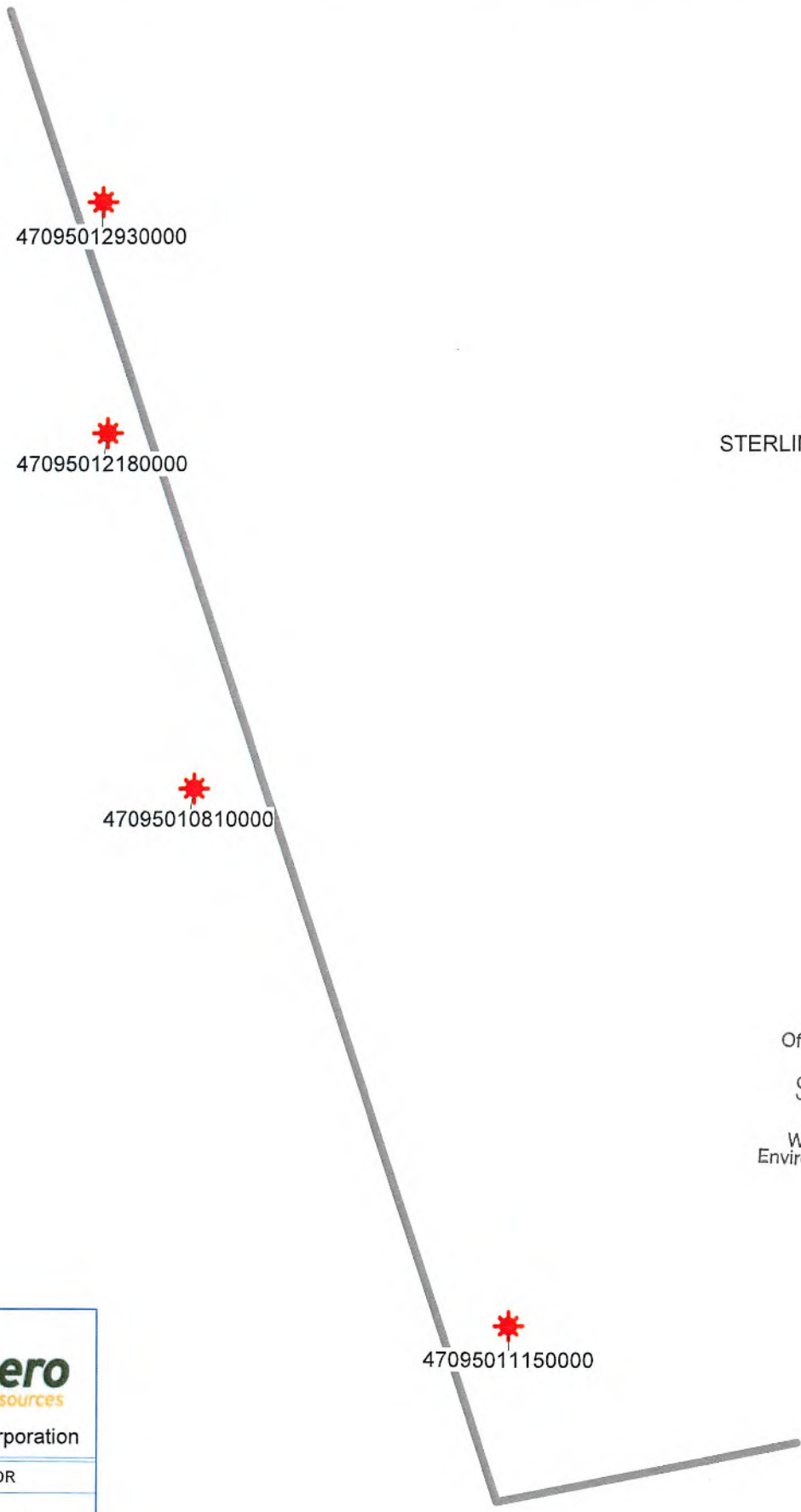
Given under my hand and the  
Great Seal of the State of  
West Virginia on

February 23, 2006

*Betty Ireland*

Secretary of State





STERLING UNIT 1H

RECEIVED  
Office of Oil and Gas  
SEP 25 2018  
WV Department of  
Environmental Protection



Antero Resources Corporation

Sterling Unit 1H - AOR



WELL SYMBOLS  
Gas Well



Sterling Unit 1H - Permit Modification (API# 47-095-02520)

UWI (API Num)	Well Name	Well Number	Operator	Hist Oper	TD	Perforated Interval (shallowest, deepest)	Perforated Formation(s)	Productible Formation(s) not perf'd
470955017930000	UNDERWOOD RALPH	1	ENERGY CORP OF AMER	EASTERN AMERICAN ENE	5,110	4460-4875	Riley, Benson	Big Injun, Speechey, Balltown, Bradford
470955012180000	UNDERWOOD RALPH	3	CONSOL GAS COMPANY	CHESTERFIELD EN CORP	5,158	4552-4951	Riley, Benson	Big Injun, Speechey, Balltown, Bradford
470955010810000	GRIFFIN EDITH H	JK-989	ENERGY CORP OF AMER	J & J ENTERPRISES	5,995	4694-5101	Riley, Benson	Big Injun, Speechey, Balltown, Bradford
4709501150000	HESS GARNET I ET AL	JK-1240	ALLIANCE PETR CORP	J & J ENTERPRISES	5,978	5264-5884	Alexander, Rhinestreet Sh	Big Injun, Speechey, Balltown, Bradford

RECEIVED  
 Office of Oil and Gas  
 SEP 25 2018  
 WV Department of  
 Environmental Protection



LATITUDE 39°22'30"

10,508'

4,169' TO BOTTOM HOLE  
LATITUDE 39°22'30"

Antero Resources Corporation  
Well No. Sterling Unit 1H  
47-095-02520

NOTE:  
NO OCCUPIED DWELLINGS OR BUILDINGS  
TWO THOUSAND FIVE HUNDRED (2,500)  
SQUARE FEET OR LARGER USED TO HOUSING  
OR SHELTER DAIRY CATTLE OR POLICRY  
HUSBANDRY ARE LOCATED WITHIN SIX  
HUNDRED TWENTY-FIVE (625) FEET OF THE  
CENTER OF THE WELL PAD.

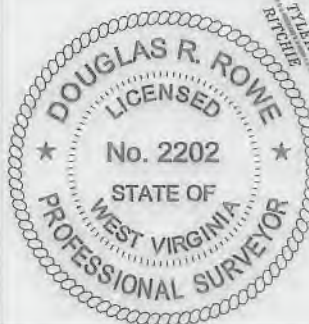
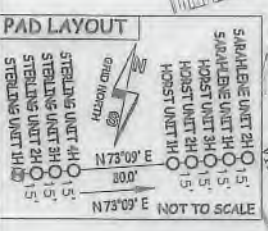
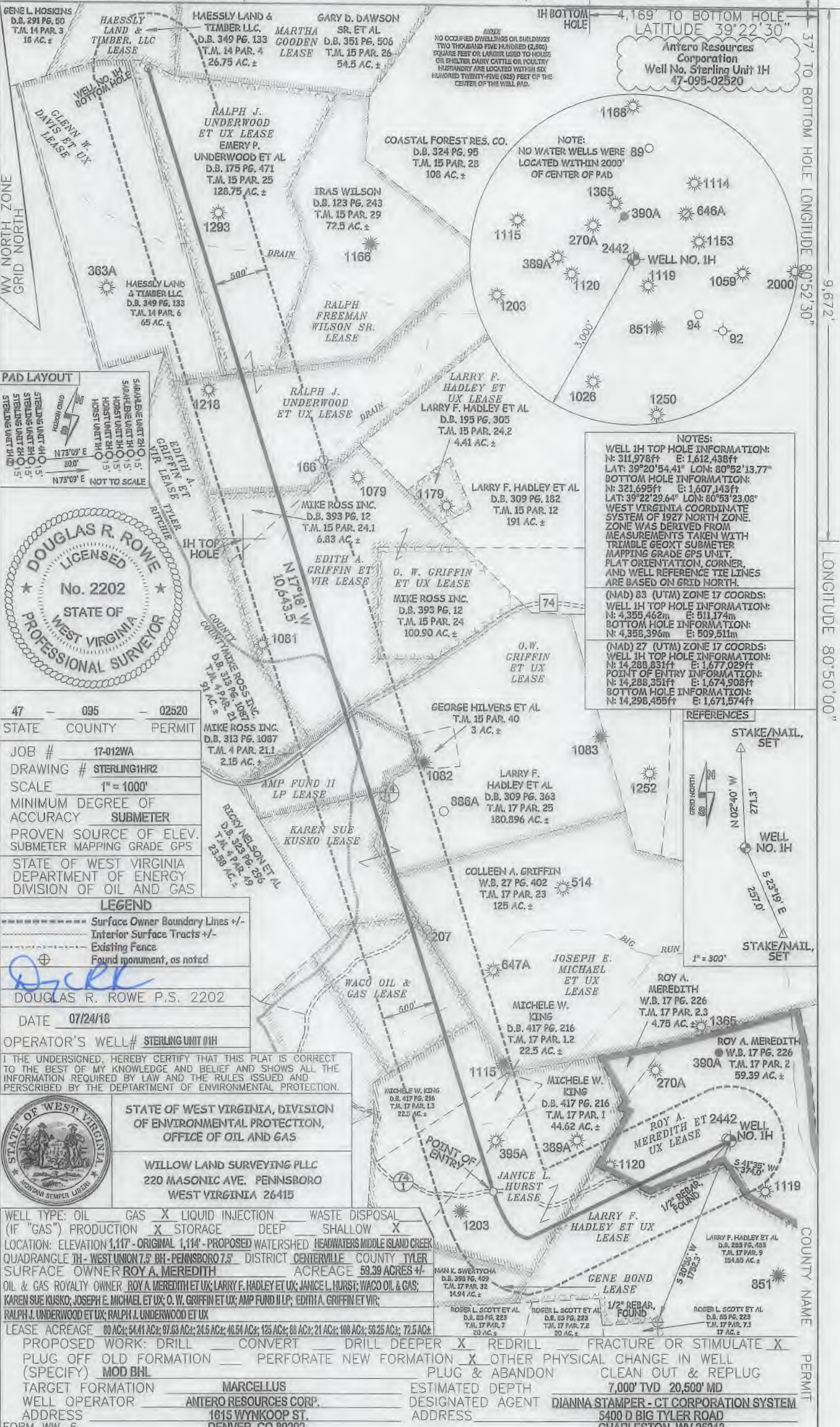
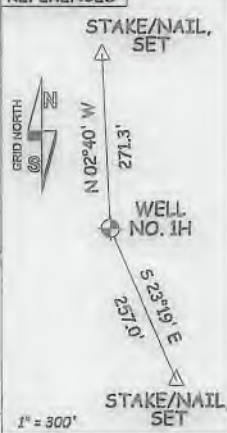
NOTE:  
NO WATER WELLS WERE 89'  
LOCATED WITHIN 2000'  
OF CENTER OF PAD

NOTES:  
WELL 1H TOP HOLE INFORMATION:  
N: 311,978ft E: 1,612,438ft  
LAT: 39°20'54.41" LON: 80°52'13.77"  
BOTTOM HOLE INFORMATION:  
N: 321,695ft E: 1,607,143ft  
LAT: 39°22'29.64" LON: 80°53'23.08"  
WEST VIRGINIA COORDINATE  
SYSTEM OF 1927 NORTH ZONE.  
ZONE WAS DERIVED FROM  
MEASUREMENTS TAKEN WITH  
TRIANGLE GEOXT SUBMETER  
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: 4,355,462m E: 511,174m  
BOTTOM HOLE INFORMATION:  
N: 4,358,396m E: 509,511m

(NAD) 27 (UTM) ZONE 17 COORDS:  
WELL 1H TOP HOLE INFORMATION:  
N: 14,268,831ft E: 1,677,029ft  
POINT OF ENTRY INFORMATION:  
N: 14,288,351ft E: 1,674,908ft  
BOTTOM HOLE INFORMATION:  
N: 14,298,455ft E: 1,671,574ft

REFERENCES



47 - 095 - 02520  
STATE COUNTY PERMIT

JOB # 17-012WA  
DRAWING # STERLING1HR2  
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 Fence  
⊕ Found monument, as noted

DOUGLAS R. ROWE P.S. 2202  
DATE 07/24/18  
OPERATOR'S WELL# STERLING UNIT 1H

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

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X  
LOCATION: ELEVATION 1,117' - ORIGINAL 1,114' - PROPOSED WATERSHED HEADWATERS MIDDLE ISLAND CREEK  
QUADRANGLE 1H - WEST UNION 7.5 BH - PENNSBORO 7.5 DISTRICT CENTERVILLE COUNTY TYLER  
SURFACE OWNER ROY A. MEREDITH ACREAGE 59.39 ACRES +/-  
OIL & GAS ROYALTY OWNER ROY A. MEREDITH ET UX; LARRY F. HADLEY ET UX; JANICE L. HURST; WACO OIL & GAS;  
KAREN SUE KUSKO; JOSEPH E. MICHAEL ET UX; O. W. GRIFFIN ET UX; AMP FUND II LP; EDITH A. GRIFFIN ET UX;  
RALPH J. UNDERWOOD ET UX; RALPH J. UNDERWOOD ET UX

LEASE ACREAGE 80 AC; 54.41 AC; 97.63 AC; 24.5 AC; 46.54 AC; 125 AC; 80 AC; 21 AC; 108 AC; 56.25 AC; 72.5 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 7,000' TVD 20,500' MD  
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM  
ADDRESS 1615 WYNKOOP ST. ADDRESS 5400 D BIG TYLER ROAD  
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

9,672'

LONGITUDE 80°50'00"

COUNTY NAME

PERMIT



