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west virginia department of environmental protection

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

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## PERMIT MODIFICATION APPROVAL

September 10, 2013

ANTERO RESOURCES APPALACHIAN CORPORATION  
1625 17TH STREET, SUITE 300  
DENVER, CO 80202

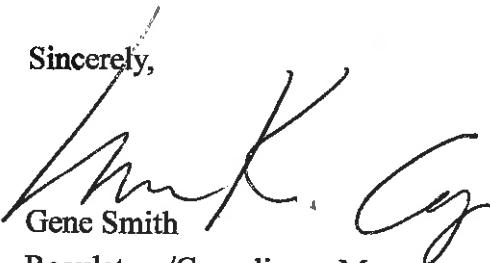
Re: Permit Modification Approval for API Number 3305710 , Well #: CLARK UNIT 1H  
**extended lateral**

Oil and Gas Operator:

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.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

*for*   
Gene Smith  
Regulatory/Compliance Manager  
Office of Oil and Gas

Promoting a healthy environment.

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09/13/2013



Antero Resources  
1625 17th Street  
Denver, Colorado 80202  
Office 303.357.7310  
Fax 303.357.7315

September 4, 2013

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
Attn: Ms. Laura Cooper  
601 57<sup>th</sup> Street  
Charleston, WV 25304

Ms. Laura Cooper:

Antero Resources Corporation (Antero) would like to submit the following permit modification for an approved well on the Corder East Pad. We are requesting to extend the horizontal lateral length which will change the bottom hole location of the Clark Unit 1H (API# 47-033-05710).

*Issued 1/29/13*

Attached you will find the following documents:

- REVISED Mylar Plat, which shows the new bottom hole location
- Please note that the Measured Depth and Casing Program will be the same as originally permitted and no new leases will be drilled into from what was originally permitted.

If you have any questions please feel free to contact me at (303) 357-7323.

Thank you in advance for your consideration.

Sincerely,

Ashlie Mihalcin  
Permit Representative  
Antero Resources Corporation

Enclosures

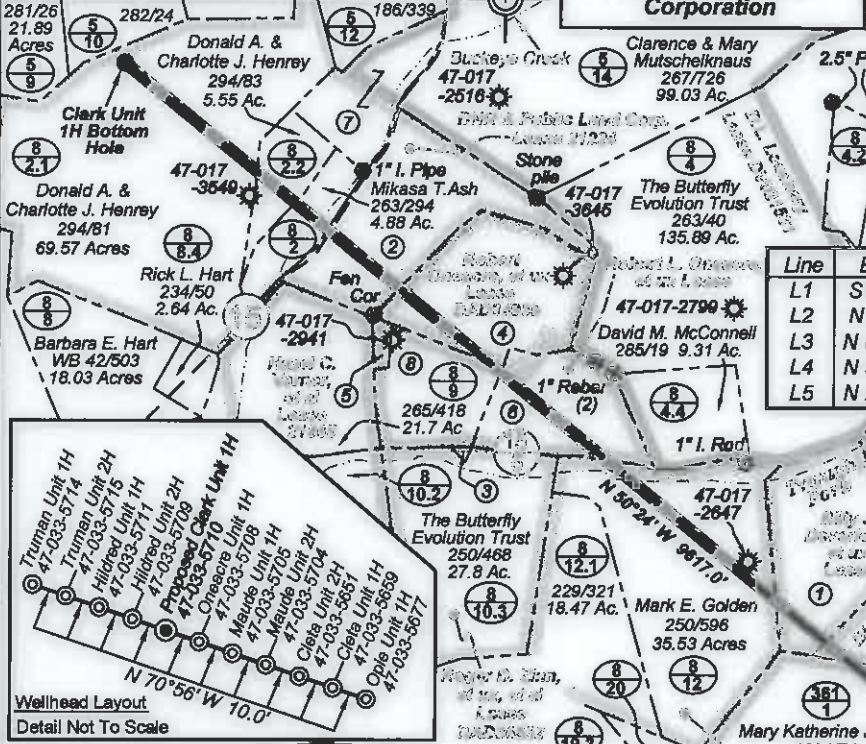
RECEIVED  
Office of Oil & Gas  
SEP 05 2013  
WV Department of  
Environmental Protection

09/13/2013

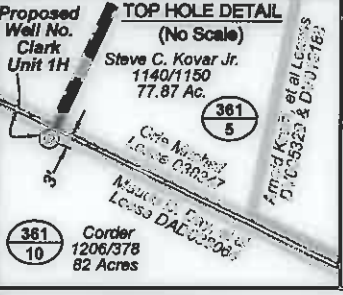
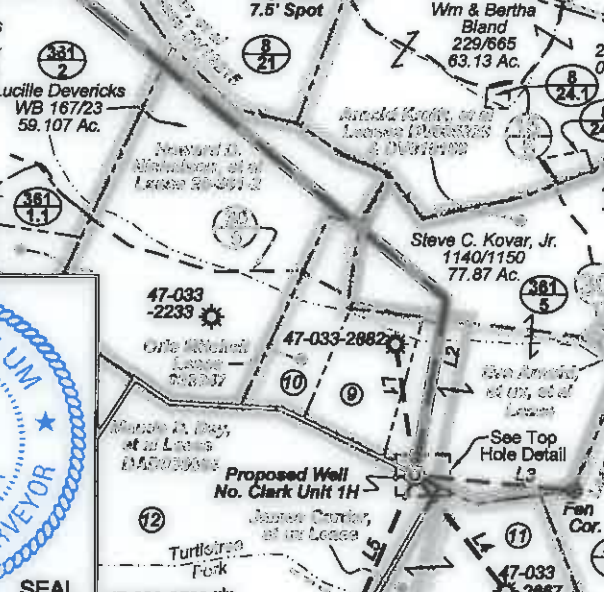
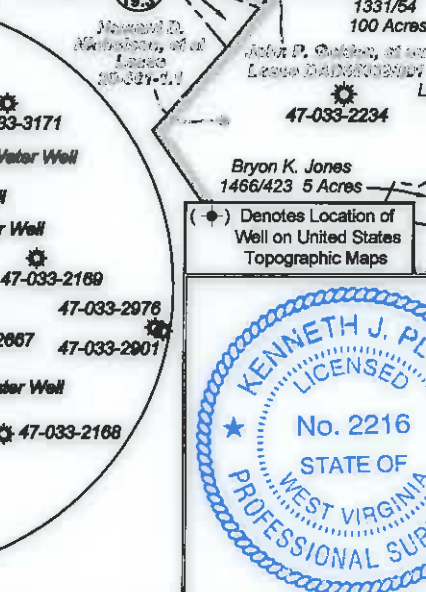
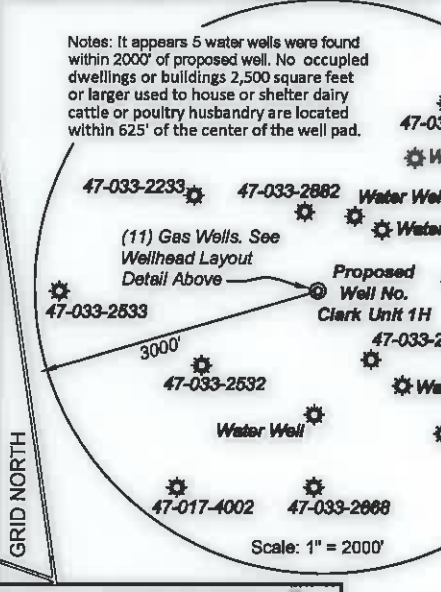
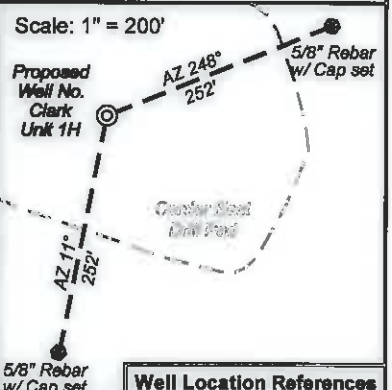
Tax Map 8 Parcels			
Par	Owner	DB/Pg	Acres
1	13 Lucille Devericks	WB42/159	23.0
2	3 Billy J. Devericks Clarence & Mary Mutschelknaus	267/726	22.86
3	10.5 Butterfly Evolution Trust	250/468	0.41
4	10 Butterfly Evolution Trust	250/468	18.05
5	10.4 Butterfly Evolution Trust	250/468	0.76
6	10.1 Barbara Ann Templeton	206/575	12.67
7	3.1 Darrell R. Richards	281/289	9.35
8	10.6 Butterfly Evolution Trust	250/468	10.66

Tax Map 361 Parcels			
Par	Owner	DB/Pg	Acres
9	4 Lucille Devericks	WB167/23	9.84
10	3 Lucille Devericks	WB167/23	9.70
11	11 Roger M. Corder	1206/364	110.0
12	10 Gerald & Louella Corder	1206/378	82.0

**Notes:**  
**West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.**  
 Well No. Clark Unit 1H Top Hole coordinates are  
 N: 264,849.31 Latitude: 39°13'20.50"  
 E: 1,701,478.86 Longitude: 80°33'13.34"  
 Bottom Hole coordinates are  
 N: 272,090.86 Latitude: 39°14'31.22"  
 E: 1,694,260.84 Longitude: 80°34'46.16"  
**UTM Zone 17, NAD 1983**  
 Top Hole Coordinates: N: 4,341,557.512m E: 538,539.873m  
 Bottom Hole Coordinates: N: 4,343,726.976m E: 536,304.082m  
 Plat orientation and corner and well references are based upon the grid north meridian.  
 Well location references are based upon the magnetic meridian.



Line	Bearing	Distance
L1	S 08°29' E	829.7'
L2	N 09°48' E	1127.9'
L3	N 84°37' W	998.9'
L4	N 38°07' W	925.9'
L5	N 22°49' E	1296.6'



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 prescribed by the Department of Environmental Protection.

*Kenneth J. Plum*  
 Kenneth J. Plum, P.S. 2216



FILE NO: 231-30-G-12  
 DRAWING NO: 231-12 Clark 1H Well  
 SCALE: 1" = 1200'  
 MINIMUM DEGREE OF ACCURACY: Submeter  
 PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS

DATE: September 4 20 13  
 OPERATOR'S WELL NO. Clark Unit 1H  
 API WELL NO: MOD  
 47 - 033 - 5710  
 STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
 (IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
 LOCATION: ELEVATION: 1405' WATERSHED: Turtletree Fork of Tenmile Creek QUADRANGLE: Big Isaac  
 DISTRICT: Union  
 SURFACE OWNER: Gerald & Louella Corder  
 ROYALTY OWNER: Maude D. Day, et al; Orié Mitchell; Arnold Krafft, et al; John P. Golden, et ux  
 PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Modification - BHL  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: MD 18,700'

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System  
 ADDRESS: 1625 17th Street ADDRESS: 5400 D Big Tyler Road  
 Denver, CO 80202 Charleston, WV 25313