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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

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

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

EQT PRODUCTION COMPANY  
120 PROFESSIONAL PLACE  
BUILDING II  
BRIDGEPORT, WV 26330

Re: Permit Modification Approval for 515643  
47-103-03015-00-00

Adding Additional Lease

EQT PRODUCTION COMPANY

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: 515643  
Farm Name: HENTHORN, DENCIL, ET AL  
U.S. WELL NUMBER: 47-103-03015-00-00  
Horizontal 6A / Horizontal 6A Well - 1  
Date Issued: 12/29/2016

Promoting a healthy environment.

01/06/2017



June 8, 2016

Mr. Gene Smith  
West Virginia Department of Environmental Protection  
Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304

Re: Modification of 47-103-03015

Dear Mr. Smith,

Please accept the attached updates for the above referenced permit. Upon inspection of our as-drilled plat, we noted the curve geometry crossed into 1 additional lease, #993304. Enclosed is an updated WW-6A1, WW-6B, mylar plat and rec plan reflecting corrections to update the permit file to be consistent with the as-drilled well bore.

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark', is written over the word 'Sincerely,'.

Vicki Roark  
Permitting Supervisor-WV

Enc.

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

1) Well Operator: EQT Production Company 306686 Wetzel Grant Big Run  
Operator ID County District Quadrangle

2) Operator's Well Number: 515643 Well Pad Name: BIG367

3) Farm Name/Surface Owner: Dencil Henthorn et al Public Road Access: Rt 74

4) Elevation, current ground: 1442.9' Elevation, proposed post-construction: 1442.9

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):  
Middlesex, 7335', 44', 2620

8) Proposed Total Vertical Depth: 7335

9) Formation at Total Vertical Depth: Middlesex

10) Proposed Total Measured Depth: 15506

11) Proposed Horizontal Leg Length: 7342

12) Approximate Fresh Water Strata Depths: 436,481,708

13) Method to Determine Fresh Water Depths: From offset wells

14) Approximate Saltwater Depths: 1968,2133,2171

15) Approximate Coal Seam Depths: 516,730,834,885,1022,1193,1683

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

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**

| <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    | 26               | New                | A-500        | 78.6                          | 40                                | 40                                                               | 57.82 ft <sup>3</sup> / CTS          |
| Fresh Water  | 13 3/8           | New                | J-55         | 54.5                          | 961                               | 961                                                              | 675.6 ft <sup>3</sup> / CTS          |
| Coal         |                  |                    |              |                               |                                   |                                                                  |                                      |
| Intermediate | 9 5/8            | New                | A-500        | 40                            | 2905                              | 2905                                                             | 1208.2 ft <sup>3</sup> / CTS         |
| Production   | 5 1/2            | New                | P-110        | 20                            | 15504                             | 15504                                                            | 500' above top producing zone        |
| Tubing       | 2 3/8            |                    | J-55         | 4.7                           |                                   | May not be run, if run set 40' above top perf or 80° inclination |                                      |
| 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    | 26               | 28                            | .312                       | 884                         | 707                                             | Class A            | 1.18                            |
| Fresh Water  | 13 3/8           | 17 1/2                        | .38                        | 2700                        | 2160                                            | Class A            | 1.20                            |
| Coal         |                  |                               |                            |                             |                                                 |                    |                                 |
| Intermediate | 9 5/8            | 12 3/8                        | .395                       | 3950                        | 3160                                            | Class A            | 1.18/1.20                       |
| Production   | 5 1/2            | 8 1/2                         | .361                       | 12640                       | 10112                                           | Class H            | 1.25/2.06                       |
| Tubing       | 2 3/8            | NA                            | .19                        | 7700                        |                                                 |                    |                                 |
| Liners       |                  |                               |                            |                             |                                                 |                    |                                 |

**PACKERS**

|             |  |  |  |                       |
|-------------|--|--|--|-----------------------|
| Kind:       |  |  |  |                       |
| Sizes:      |  |  |  | RECEIVED              |
| Depths Set: |  |  |  | Office of Oil and Gas |
|             |  |  |  | JUN 10 2016           |

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

Drill and complete a new horizontal well in the Middlesex Formation. Drill the vertical to an approximate depth of 5652'. Kick off and drill curve. Drill the lateral in the Middlesex. Cement casing.

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

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): no additional disturbance

22) Area to be disturbed for well pad only, less access road (acres): no additional disturbance

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One centralizer at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One centralizer at the shoe and one spaced every 500'.
- Production: One solid body centralizer spaced every other joint from production casing shoe to KOP

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

Conductor: Class A no additives  
Surface (Class A Cement): 0-3% Calcium Chloride. Used to speed the setting of cement slurries  
Intermediate (Class A Cement): 0-3% Calcium Chloride. Used to speed the setting of cement slurries.  
Production:  
Lead (Class H Cement): 0.2% CD-20 (dispersant makes cement easier to mix). .15% SuperFL-300 (fluid loss/lengthens thickening time) .15% SEC-10 (fluid loss) 50:50 POZ (extender)  
Tail (Class H Cement): 0.2% Super CR-1 (Retarder). Lengthens thickening time. .3% Super FL-200 (fluid loss) .2% SEC-10 (Fluid loss). .2% SuperFL-350 (fluid loss) Reduces amount of water lost to formation. 60 % Calcuim Carbonate. Acid solubility.

25) Proposed borehole conditioning procedures:

Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.  
Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.  
Production: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume. Perform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean.  
Check volume of cuttings coming across the shakers every 15 minutes.

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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:

| Lease Name or Number | Grantor, Lessor, etc. | Grantee, Lessee, etc. | Royalty | Book/Page |
|----------------------|-----------------------|-----------------------|---------|-----------|
| See attachment       |                       |                       |         |           |

**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, 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: EQT Production Company  
 By: Victoria J. Roark  
 Its: Permitting Supervisor

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 Page 1 of 2

47-103-03015

WW-6A1 attachment

Operator's Well No.

515643

| Lease No.        | Grantor, Lessor, etc.                                                                   | Grantee, Lessee, etc.                 | Royalty    | Book/Page             |
|------------------|-----------------------------------------------------------------------------------------|---------------------------------------|------------|-----------------------|
| <b>988543</b>    | <b><u>Shiben Estates Inc.(current royalty owner)</u></b>                                |                                       | ***        |                       |
|                  | Shiben Estates Inc.                                                                     | Consolidated Gas Supply Corp.         |            | OGB54A/503            |
|                  | Consolidated Gas Supply Corp.                                                           | Consolidated Gas Transmission Corp.   |            | LB66A/69              |
|                  | Consolidated Gas Transmission Corp.                                                     | CNG Transmission Corp.                |            | CB13/151              |
|                  | CNG Transmission Corp.                                                                  | Dominion Transmission Inc.            |            | MiscBk 96/307         |
|                  | Dominion Transmission Inc.                                                              | Antero Resources Appalachian Corp.    |            | OGB95A/937            |
|                  | Antero Resources Appalachian Corp.                                                      | EQT Production Company                |            | OGB127A/195           |
| <b>993304.01</b> | <b><u>Della McCoy (current royalty owner)</u></b>                                       |                                       | min pd 1/8 |                       |
|                  | Della McCoy (0.66667%)                                                                  | EQT Production Company                |            | DB 140A/684           |
| <b>993304.02</b> | <b><u>Chesapeake Appalachia, L.L.C. (current royalty owner)</u></b>                     |                                       | min pd 1/8 |                       |
|                  | Chesapeake Appalachia, L.L.C. (0.33333%)                                                | SWN Production Company, LLC           |            | DB 157A/634           |
|                  | SWN Production Company, LLC (Development Agreement)                                     | Statoil USA Onshore Properties Inc.   |            | DB 158/132            |
|                  | SWN Production Company, LLC/Statoil USA Onshore Properties Inc. (Development Agreement) | EQT Production Company                |            | DB 167A/310           |
| <b>988542</b>    | <b><u>CNX Gas Company (current royalty owner)</u></b>                                   |                                       | min pd 1/8 |                       |
|                  | F. W. Bartlett                                                                          | The Carter Oil Co.                    |            | DB65A/233             |
|                  | The Carter Oil Co.                                                                      | Hope Construction & Refining Co.      |            | DB132A/142            |
|                  | Hope Construction & Refining Co.                                                        | Hope Natural Gas Co.                  |            | LB37A/19              |
|                  | Hope Natural Gas Co.                                                                    | Consolidated Gas Supply Corp.         |            | DB233A/387            |
|                  | Consolidated Gas Supply Corp.                                                           | Consolidated Gas Transmission Corp.   |            | DB311/184             |
|                  | Consolidated Gas Transmission Corp.                                                     | CNG Development Co.                   |            | DB314/54              |
|                  | CNG Development Co.                                                                     | CNG Producing Co.                     |            | BK1096/125 (Delaware) |
|                  | CNG Producing Co.                                                                       | Dominion Transmission Inc.            |            | MiscBk 96/307         |
|                  | Dominion Transmission Inc.                                                              | Dominion Appalachian Development, LLC |            | OGB96A/19             |
|                  | Dominion Appalachian Development, LLC                                                   | Antero Resources Appalachian Corp.    |            | OGB96A/108            |
|                  | Antero Resources Appalachian Corp.                                                      | EQT Production Company                |            | LDB96A/19             |
| <b>1000075</b>   | <b><u>Kenneth D. and Sandra L. Dallison(current royalty owner)</u></b>                  |                                       | ***        |                       |
|                  | Kenneth D. and Sandra L. Dallison                                                       | Drilling Appalachian Corp.            |            | OGB91A/857            |
|                  | Drilling Appalachian Corp.                                                              | EQT Production Company                |            | LB148A/453            |
| <b>104231</b>    | <b><u>EQT Production Company et al (current royalty owner)</u></b>                      |                                       | ***        |                       |
|                  | J. L. Newman                                                                            | The Philadelphia Co. of WV            |            | LB47A/282             |
|                  | The Philadelphia Co. of WV                                                              | Pittsburgh & WV Gas Co.               |            | OGB22A/352            |
|                  | Pittsburgh & WV Gas Co.                                                                 | Equitable Gas Company                 |            | DB187/321             |
|                  | Equitable Gas Company                                                                   | Equitrans, Inc.                       |            | LB71A/287             |
|                  | Equitrans, LLC                                                                          | EQT Production Company                |            | AB192/19 Doddridge    |

\*\*\* We will pay one-eighth of the total amount paid to or received by or allowed to the owner of the working interest at the wellhead for the oil or gas so extracted, produced, or marketed before deducting the amount to be paid to or set aside for the owner of the oil or gas in place, on all such oil or gas to be extracted, produced, or marketed from the well.

01/06/2017



May 24, 2016

Mr. James Martin  
West Virginia Department of Environmental Protection  
Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304

Re: BIG367, 515643, 47-10303015

Dear Mr. Martin,

EQT Production Company is submitting an application for a new well work permit for the above well number. Upon information and belief, Operator's lease and/ or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including under any public roads that the well lateral crosses.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark'.

Vicki Roark  
Permitting Supervisor-WV

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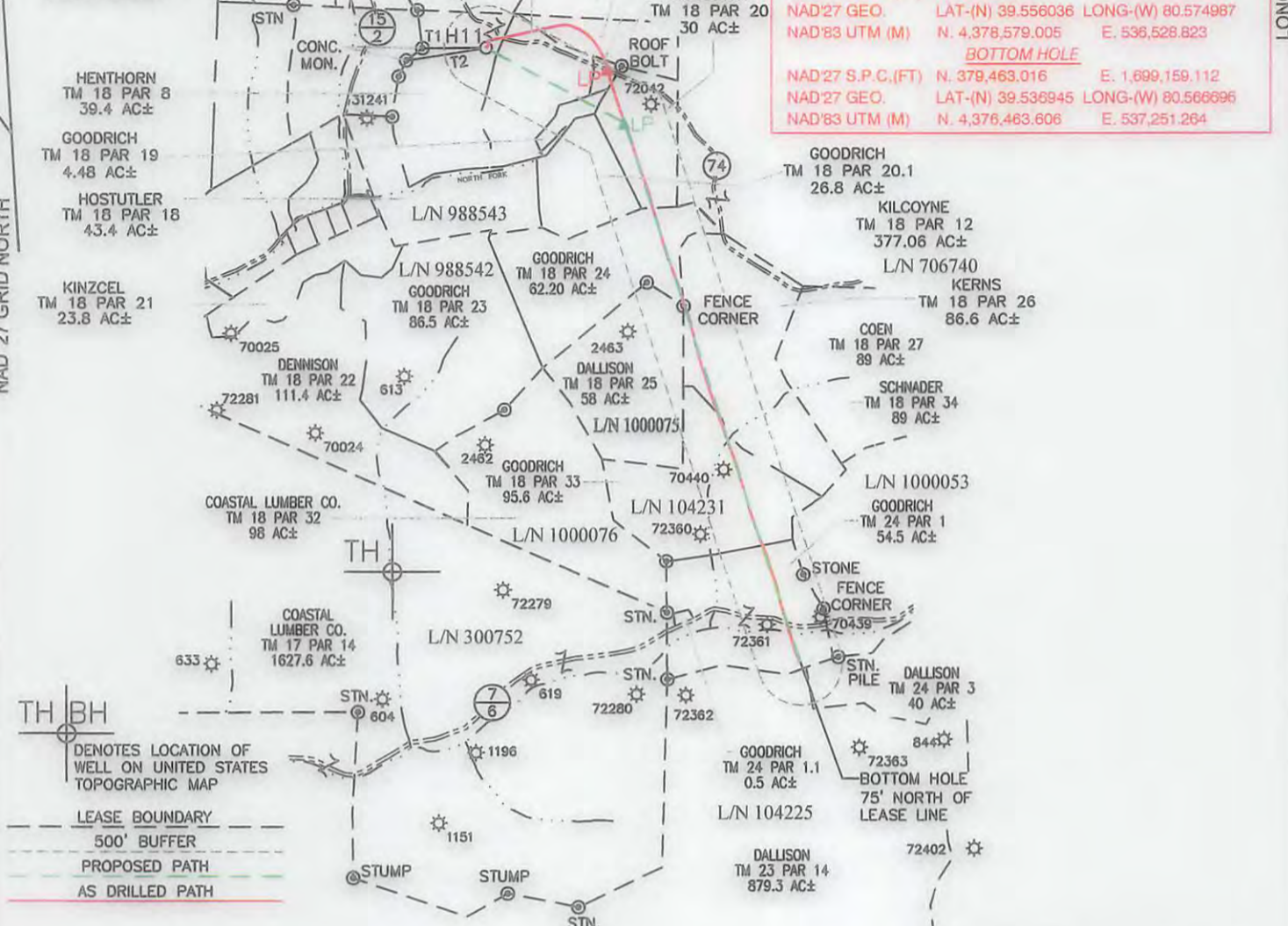


EQT WELL NO. 515643

NOTES:

- PLAT ORIENTATION, CORNERS, AND WELL REFERENCES ARE BASED UPON THE GRID NORTH MERIDIAN FOR THE WV STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD 27. WELL LOCATION REFERENCE TIES ARE BASED UPON THE MAGNETIC MERIDIAN.
- THERE ARE NO (0) WATER WELL(S) LOCATED WITHIN 250' OF WELL H1.
- THERE ARE NO (0) STRUCTURE(S) LOCATED WITHIN 825' OF WELL H1.

⊙ = MONUMENT FOUND IRON REBAR UNLESS NOTED OTHERWISE.



**AS DRILLED COORDINATES FOR WELL NO. WV 515643**  
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

|                   |                   |                    |
|-------------------|-------------------|--------------------|
| NAD'27 S.P.C.(FT) | N. 386,682.016    | E. 1,695,476.916   |
| NAD'27 GEO.       | LAT-(N) 39.556725 | LONG-(W) 80.579873 |
| NAD'83 UTM (M)    | N. 4,378,644.207  | E. 536,092.810     |

**LANDING POINT**

|                   |                   |                    |
|-------------------|-------------------|--------------------|
| NAD'27 S.P.C.(FT) | N. 386,444.142    | E. 1,696,904.074   |
| NAD'27 GEO.       | LAT-(N) 39.556036 | LONG-(W) 80.574987 |
| NAD'83 UTM (M)    | N. 4,378,579.005  | E. 536,528.823     |

**BOTTOM HOLE**

|                   |                   |                    |
|-------------------|-------------------|--------------------|
| NAD'27 S.P.C.(FT) | N. 379,463.016    | E. 1,699,159.112   |
| NAD'27 GEO.       | LAT-(N) 39.536945 | LONG-(W) 80.566696 |
| NAD'83 UTM (M)    | N. 4,376,463.606  | E. 537,251.264     |

NAD'27 GRID NORTH

LONGITUDE 80°32'30"

9,694' TOP HOLE

TH BH  
 DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAP

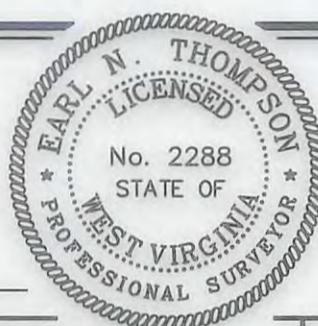
--- LEASE BOUNDARY  
 - - - 500' BUFFER  
 - - - PROPOSED PATH  
 - - - AS DRILLED PATH

| LINE | BEARING     | DIST.   |
|------|-------------|---------|
| T1   | N89°48'00"E | 754.29' |
| T2   | N81°06'33"E | 956.29' |

**SPECIAL NOTES**  
 -LEASE AND SURFACE INFO SHOWN HEREON WAS TAKEN FROM PERMIT PLAT DATED JUNE 23, 2014 FOR API# 47-103-03015H.  
 -AS DRILLED INFORMATION PROVIDED BY EQT.

| LEASE NO. | ROYALTY OWNER                                        | ACRES |
|-----------|------------------------------------------------------|-------|
| 988542    | CNX GAS CO. LLC                                      | 280±  |
| 1000075   | COASTAL FOREST RESOURCES DBA COASTAL TIMBERLANDS CO. | 98±   |
| 104231    | JOYCE M. MARTIN et al                                | 300±  |
| 993304    | DELLA M. MccoY et al                                 | 40±   |

**Professional Energy Consultants**  
 A DIVISION OF SMITH LAND SURVEYING, INC.  
  
 SURVEYORS  
 ENGINEERS  
 ENVIRONMENTAL  
 PROJECT MGMT.  
 (304) 462-5634 WWW.SLSURVEYS.COM



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 REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 2288 *Earl N. Thompson*

STATES TOPOGRAPHIC MAPS.  
 DATE JUNE 23, 20 14  
 REVISED JULY 16, 2015, MAY 16, 2016 & JUNE 06, 2016

OPERATORS WELL NO. WV 515643  
 API WELL NO. 47 - 103 - 03015H  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8471BIG 367 WELLS-R2  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY OPUS (SURVEY GRADE GPS) SCALE 1" = 2000'

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

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS" PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION:  
 PAD ELEVATION 1,442.9' WATERSHED NORTH FORK OF FISHING CREEK  
 DISTRICT GRANT COUNTY WETZEL QUADRANGLE BIG RUN 7.5'

SURFACE OWNER DENCIL HENTHORN ET AL ACREAGE 39.4±  
 ROYALTY OWNER SHIBEN ESTATE, INC. ACREAGE 29.40±

PROPOSED WORK:  
 DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG  OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ TARGET FORMATION MIDDLESEX  
 ESTIMATED DEPTH 7,291'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

COUNTY NAME

PERMIT

01/06/2017

47-10303015

FORM WW-9

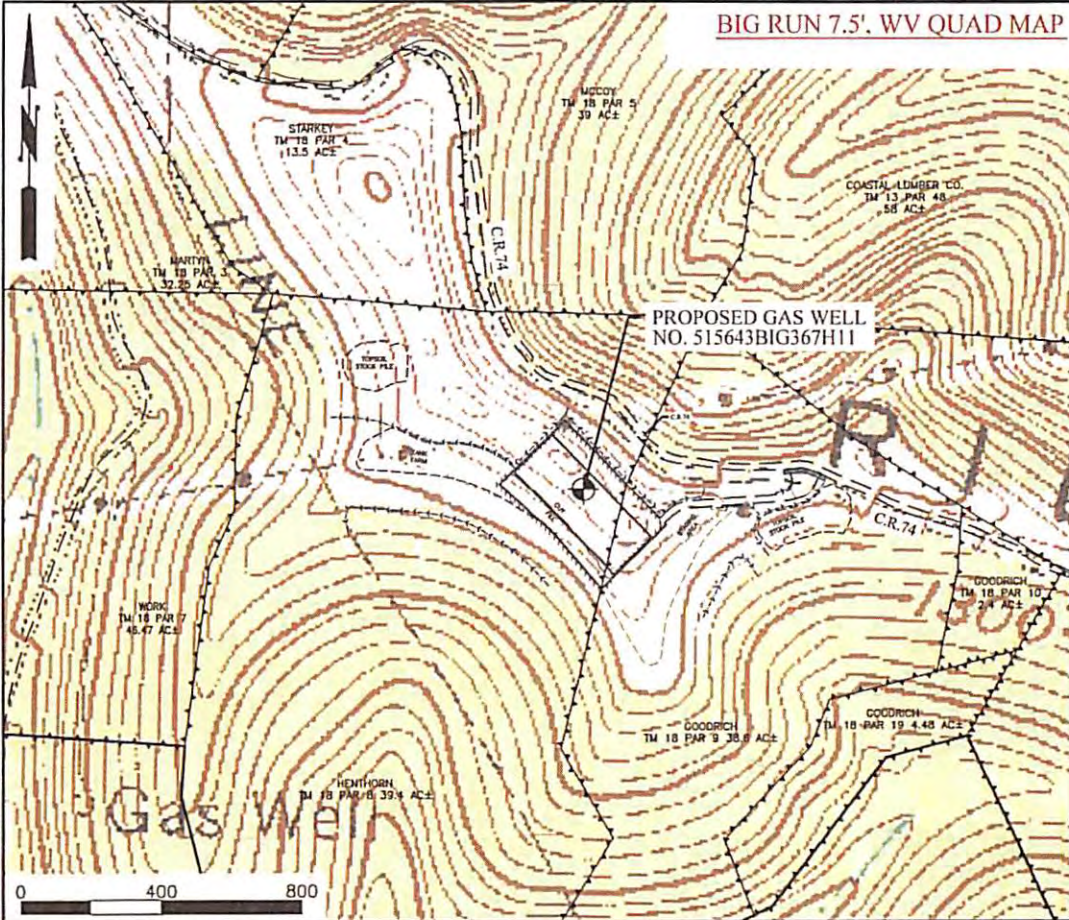
BIG RUN 7.5' WV QUAD MAP

USER: pescoriza

LAYOUT: H11-REC PLAN

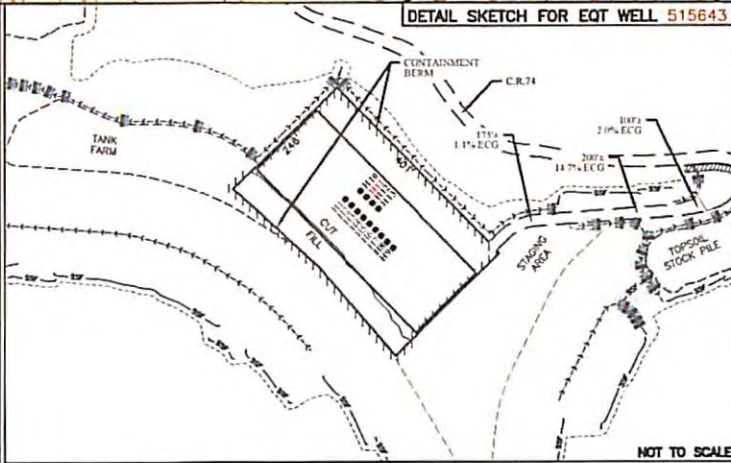
PLOT DATE/TIME: 6/6/2014 - 2:39pm

CAD FILE: R:\030-2259 EQT BIG367 Well Pad and Access Rd\Drawing\g-well hole-rec plan.dwg



**GENERAL NOTE**

1. This drawing is a schematic representation of the proposed well site and access road. Proposed structures such as well site pad, drilling pit, roadway, culverts, erosion and sediment control barriers, etc., are shown in approximate pre-planning configurations.
2. Trees and slash will be cleared as necessary before any proposed road, drill pad or pipeline construction begins. Any residue materials available from clearing will be windrowed below the anticipated fill outcrop(s) to intercept and retain sediment from the disturbed areas. Silt fence will be additionally installed as shown on the Reclamation Plan. All marketable timber above 6" will be cut and stacked in areas adjacent to operations for eventual removal.
3. All roads shown on reclamation plan are identified as either existing or new construction. Unless otherwise noted all access roads whether existing or new shall be maintained in accordance with WV D.E.P. Office of Oil and Gas Erosion and Sediment Control BMP Field Manual as revised 2/98. Entrances upon county/state roads shall be maintained in accordance with WV D.O.T. regulations, however, separate permits may be further required by the WV D.O.T. Existing roads will be upgraded with additional stone as necessary. Newly constructed access roads will be stabilized with stone as necessary for ingress and egress to the drill site.
4. All culvert pipes installed will be a minimum of 12" in diameter with length determined by field conditions. All installed and existing culvert pipes will be accompanied by an entrance sump, new culverts installed at an angle to ensure proper flow and protected from erosion and sedimentation using large rocks, rip-rap or other sediment control devices including the placement of hay bales at the sump inlet and outlet. All ditches will be maintained as required during the construction, drilling, completion and reclamation phases of this operation as required by the WV D.E.P. Office of Oil and Gas Erosion and Sediment Control BMP Field Manual. Stormwater from the ditches and culvert pipes will be directed to stable natural vegetative areas. During reclamation all water bars necessary for erosion and sedimentation control will be installed.
5. All cut and fill slopes will be immediately stabilized, seeded and mulched after construction.
6. All existing utilities within the construction area will be identified, marked and if necessary relocated by the contractor or company.
7. Earthwork contractors are responsible for notification to the operator and inspector prior to any deviation from this plan.



NOTE:  
EG= EXISTING GRADE  
ECG= ESTIMATED CONSTRUCTION GRADE

**LEGEND**

|                       |                       |
|-----------------------|-----------------------|
| DRILL SITE=           | PROPERTY LINE=        |
| ROCK CHECK DAM=       | LIMIT OF DISTURBANCE= |
| BUILDING=             | PLANNED FENCE=        |
| COMPACTED FILL WALLS= | ROAD=                 |
| PIT CUT WALLS=        | OPEN DITCH=           |
| SUPER SILT FENCE=     | CULVERT=              |

|                        |                                                |                                                        |                        |
|------------------------|------------------------------------------------|--------------------------------------------------------|------------------------|
| <b>THRASHER</b><br>EQT | WELL RECLAMATION PLAN<br>FOR<br>EQT BIG367 H11 | SCALE: AS SHOWN<br>DRAWN: JEP<br>CHECKED:<br>APPROVED: | SHEET No.<br><b>11</b> |
|                        | PROJECT# 030-2259                              |                                                        |                        |

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01/06/2017