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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

October 21, 2015

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-4902405, issued to XTO ENERGY, INC., is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin  
Chief

Operator's Well No: HUGHES 10H  
Farm Name: ROCKWELL, FAYE C.

**API Well Number: 47-4902405**

**Permit Type: Horizontal 6A Well**

Date Issued: 10/21/2015

**Promoting a healthy environment.**

**10/23/2015**

## PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

### CONDITIONS

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1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.
9. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

4704902405

WW-6B  
(04/15)

API NO. 47- \_\_\_\_\_ - \_\_\_\_\_  
OPERATOR WELL NO. Hughes 10H  
Well Pad Name: Hughes Pad

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

1) Well Operator: XTO Energy Inc. 494487940 Marion Manning Shinnston  
Operator ID County District Quadrangle

2) Operator's Well Number: Hughes 10H Well Pad Name: Hughes Pad

3) Farm Name/Surface Owner: Faye Rockwell Public Road Access: Harrison County Rt. 3 (Robinson Wyatt Run)

4) Elevation, current ground: 1,320' Elevation, proposed post-construction: 1,286'

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):  
Target Formation: Marcellus, Depth 7,490', Anticipated Thickness: 150', Associated pressure: 4,650 psi

8) Proposed Total Vertical Depth: 7,490'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14,120'

11) Proposed Horizontal Leg Length: 6,163'

12) Approximate Fresh Water Strata Depths: 88', 283', 373', 545'

13) Method to Determine Fresh Water Depths: Offsetting Reports

14) Approximate Saltwater Depths: 1,300'

15) Approximate Coal Seam Depths: 192', 354', 545'

16) Approximate Depth to Possible Void (coal mine, karst, other): 545'

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: Robinson Run 95  
Depth: 545'  
Seam: Pittsburgh  
Owner: Consolidation Coal Company

WRH  
9-1-15

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(04/15)

API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Hughes 10H  
Well Pad Name: Hughes 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	24	New	PE&B	95	40	40	59
Fresh Water	13.375	New	H40	48	600	600	542
Coal							
Intermediate	9.625	New	J55	36	3,125	3,125	1,272
Production	5.5	New	J55	20	14,120	14,120	Lead 2,439'/Tail 5,930'
Tubing							
Liners							

WRN  
8-28-15

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	24	28	0.375	940	40	Standard	1.19
Fresh Water	13.375	17.5	0.33	1730	490	Standard	1.19
Coal							
Intermediate	9.625	12.25	0.352	3520	2200	Standard	1.19
Production	5.5	8.5	0.361	12640	5720	50-50 POZ / Class H Tail	1.13 / 1.18
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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WW-6B  
(10/14)

API NO. 47- \_\_\_\_\_ - \_\_\_\_\_

OPERATOR WELL NO. Hughes 10H

Well Pad Name: Hughes Pad

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

Drill a new horizontal Marcellus well, utilizing synthetic mud and a closed loop system for both drilling and completion. Install new casing with centralizers.

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

1. Acid Stage - Typically 1500 gallons of 7.5% hydrochloric acid to clear the perforation path in the wellbore. 1500 gals 15% HCl acid. 2. Sand / Proppant Stages - Several stages of pumping water combined with sand at a targeted 80 bpm rate. The maximum pressure and rate used is 10,000 psig and 120 bpm. The sand size may vary from 100 mesh to 30/50 mesh size. 12,500 bbls slick water with 220,000 lbs 40/70, 270,000 lbs 100 mesh sands and 2,200 gals FR 133, 1,500 gals Bioplex 301 and 1,500 gals Bioplex 301 and 1,190 gals antiscala 30. 3. Flush Stage - Slickwater water stage to fill the wellbore to flush the sand from the wellbore. Depending on the water quality, a biocide, friction reducer, iron control, and scale inhibitor may be injected during the completion as well.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 35.835 +/-

22) Area to be disturbed for well pad only, less access road (acres): 6 +/-

23) Describe centralizer placement for each casing string:

Conductor: None  
Fresh Water: Every 3rd joint from shoe to surface  
Mine: Every 3rd joint from shoe to surface (if applicable)  
Intermediate: Every 3rd joint from shoe to surface  
Production: Every 3rd joint from shoe to 1,000' above the kick-off point

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

Conductor: None  
Fresh Water: Calcium Chloride and super flake  
Mine: Calcium Chloride and super flake (if applicable)  
Intermediate: Calcium Chloride and super flake  
Production: Calcium Chloride, Bentonite, super flake, Air-Out, CR-1, FL-300, SEC10

25) Proposed borehole conditioning procedures:

Conductor: Hole is auger drilled: No conditioning required.  
Fresh Water: Condition hole with air at TD until visibly clean, run casing, circulate and clear 1.5x pipe volume with fresh water before cementing.  
Mine: Condition hole with air at TD until visibly clean, run casing, circulate and clear 1.5x pipe volume with water before cementing (if applicable).  
Intermediate: Condition hole with air at TD until visibly clean, run casing, circulate and clear 1.5x pipe volume with water before cementing.  
Production: Circulate hole with synthetic based drilling fluid at TD (1 bottoms up for each 2,000' of lateral drilled). TOOH and circulate minimum of 1 bottoms up and until returns are minimal at the base of the curve. Run casing, circulate and ensure good returns before cementing.

\*Note: Attach additional sheets as needed.

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## Hughes A 10H – Mine Void Encounter Plan

Per communications with the WV Geology and Economic Survey there is a possible mine void in the Pittsburgh Coal seam under the Hughes Pad in Marion County, WV. In preparation for drilling through a mine void, we will nipple up an annular preventer to be able to handle any flow should the void actually be encountered. We expect it to come in around 545' TVD from GL. We plan to set 13 3/8" casing as a surface/coal protective string ~50' below the base of this void.

A cement basket will be run as close as possible to the top of the void.

A cement balance job will be performed to cement the shoe and the annulus below the mine if circulation cannot be established. A grout cement job will be performed on the annulus to cement above the mine.

Once cemented in place, we will continue on with our normal casing design, which would be to set 9 5/8" intermediate casing at ~3,125'.

Morgan O'Brien  
Drilling Engineer  
XTO Appalachia  
Cell: 724-272-8097  
Morgan\_OBrien@xtoenergy.com

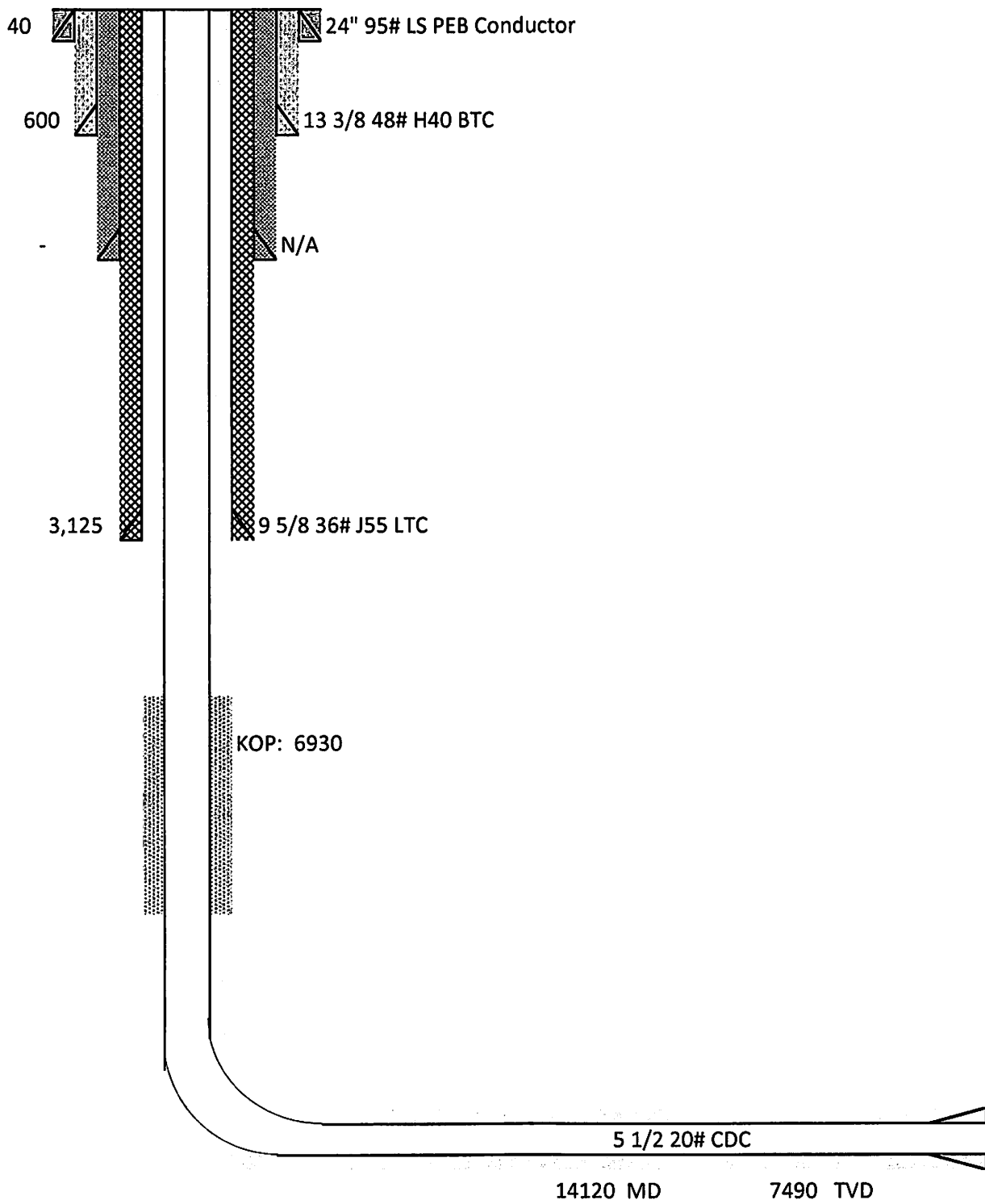
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HUGHES A 10H  
Marion County, West Virginia



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WW-9  
(2/15)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. Hughes 10H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name XTO Energy Inc. OP Code 494487940

Watershed (HUC 10) Bingamon Creek Quadrangle Shinnston 7.5'

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number 4707302523, 4705500319, 4708505151, 4708509721, 3416729577, 3412124037, 3405320968 )
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? If so, describe: Depending on brand, system would entail 2 centrifuges & another cutting drying method: grinder, drying shakers or vert-g mud.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air/water to 7100', then switch to synthetic

-If oil based, what type? Synthetic, petroleum, etc. Synthetic

Additives to be used in drilling medium? See additional page

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) NA

-Landfill or offsite name/permit number? Meadowbrook Landfill - #SWF 1032

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]

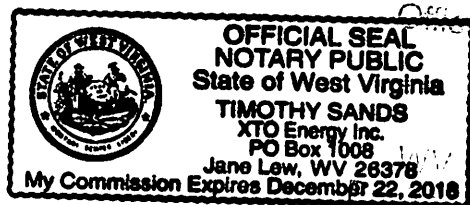
Company Official (Typed Name) Gary Beall

Company Official Title Production Superintendent

Subscribed and sworn before me this 27<sup>th</sup> day of August, 2015

[Signature] Notary Public

My commission expires 12/22/18



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XTO Energy Inc.

Proposed Revegetation Treatment: Acres Disturbed 35.835 +/- Prevegetation pH \_\_\_\_\_

Lime 2-4 Tons/acre or to correct to pH \_\_\_\_\_

Fertilizer type 10-20-20 or Equivalent

Fertilizer amount 500 lbs/acre

Mulch 2-3 Tons/acre

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Seed Mixtures

**Temporary**

**Permanent**

Seed Type lbs/acre

Seed Type lbs/acre

Per plans

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Per plans			

Attach:

Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Bill Handus

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Title: Environmental Inspector Date: 8-28-15

Field Reviewed?  Yes  No

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XTO Energy Inc.  
Well Site Safety Plan

Hughes 10H Well  
Hughes Pad

39.453972  
-80.370627

810 Hawks Nest Rd.  
Mannington, WV 26582

*WPH  
8-28-15*

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## **Site Safety Plan Table of Contents**

### **For H6A Well Work Permits and Deep Well Work Permits**

*Please prepare a Site Safety Plan to accompany each applicable H6A and/or Deep well work permit, adhering to the following organizational and informational structure. Plans submitted must contain an index of the content entirety including page-number references.*

#### **1. Contacts, Schedules, and Meetings**

- A. Emergency point of contact for the well operator covering all phases of activities and including 24 hour contact information (35-8 5.7.b.4)
- B. List of telephone numbers for (35-8 5.6.4):
  - 1) Operator
  - 2) Contractors
  - 3) DEP office and oil/gas inspector
  - 4) Local emergency response units
  - 5) Local ER personnel
  - 6) All schools and public facilities within a one mile radius of proposed well site (35-8 5.7.b.5)
- C. Method of notification of public of H<sub>2</sub>S gas presence and how access will be controlled. (applicable horizontal wells include all residents and emergency response personnel who may be affected by an event. Such events may include the presence of H<sub>2</sub>S, blow-outs, and flaring) (35-8 5.7.f.1)
- D. Pre-spud meeting held prior to drilling operations, including (35-8 5.7.h):
  - 1) Attendance log, including personnel to be employed and involved in drilling operations
  - 2) Notification of County oil and gas inspector or other designated Office of Oil and Gas representative
- E. Describe schedule for conducting regular well site safety meetings. Log attendance at all meetings and also initiate check in check out during drilling, completion, and workover phases. (35-8 5.7.h)

#### **2. Maps and Diagrams**

- A. Plan view map of location, access road, pit(s), flare lines, nearby dwellings, note the north direction and the prevailing wind direction (35-8 5.7.b.1)
- B. Topographic map of well location, including
  - 1) 1 mile radius of well location
  - 2) UTM NAD 83 coordinates of well site entrance (35-8 5.7.b.2)
  - 3) UTM NAD 83 coordinates of the point the access road intersects the public route (35-8 5.7.b.2)
  - 4) Identify public route number and/or route name (35-8 5.7.b.2)
- C. Evacuation plan for the removal of personnel from the drilling location and residents in the surrounding area who have the potential to be affected by an emergency. (35-8 5.7.b.3)

#### **3. Well Work**

- A. Detailed written descriptions of well work and procedure to be used during the drilling, completion, and production phases, including schematic plan views of each (35-8 5.7.a)
- B. Statement detailing how a copy of the plan will be provided to the local emergency planning committee or county emergency services office within at least 7 days from land disturbance or well work. (35-8 5.7.a)

#### 4. Chemical Inventory & MSDS

- A. Material Safety Data Sheets for all chemicals anticipated to be used in all aspects of the operation (can be provided on CD or USB drive) (35-8 5.7.a)
- B. Statement that all MSDS are to be readily available at the well site and their location indicated in the site safety plan including contact information for person(s) responsible maintaining them on site. (35-8 5.7.g)
- C. Inventory of all materials on site for mixing of mud including numbers and type of mixing units - mixed mud amount and weight, amount of weighting material and volume of mixing fluid. (35-8 5.7.d.1 & 5.7.d.2)

#### 5. BOP and Well Control

- A. BOP equipment and casing heads with types, sizes and ratings to be utilized and available during the drilling for both intermediate and lateral drilling phases (35-8 5.7.c.1 & 5.7.c.8)
- B. Procedure and schedule for testing the BOP stack for intermediate drilling phase the BOP tested upon initial set up and the annular tested to 70% of capacity and the ram preventers tested to 80%. Same testing % for bottom and horizontal phase except testing to be done upon initial installation, weekly and after each bit trip (35-8 5.7.c.2)
- C. BOP equipment and assembly installation schedule (35-8 5.7.c.3)
- D. List and names of all personnel with well control training (35-8 5.7.c.4)
- E. Description of system of maintaining detailed records of and for immediate notification to OOG inspector for all significant drilling issues, including but not limited to (35-8 5.7.c.5):
  - 1) Lost circulation
  - 2) Hydrogen sulfide gas
  - 3) Fluid entry
  - 4) Abnormal pressures
- F. Notification of the oil and gas inspector or designated representative as soon as possible of any unusual drilling events, hydrogen sulfide gas\* or large kicks that occur during drilling operations).  
\*(Mandatory immediate notification is required of any encounter of hydrogen sulfide gas - 22-6A wells >10ppm H<sub>2</sub>S Gasses!) (35-8 5.7.c.5)
- G. Schematic and detailed written description of the wellhead assembly to be placed on the well upon completion (35-8 5.7.c.6)
- H. Method and type of kill procedures as recognized by the IADC – Wild Well Control Kill Sheet. (35-8 5.7.d.3)

#### 6. Hydrogen Sulfide (H<sub>2</sub>S)

- A. Detection, monitoring and warning equipment including location of the monitoring detection equipment on the site (35-8 5.7.e.1)
- B. Statement of H<sub>2</sub>S personnel training provided (35-8 5.7.e.2)
- C. Method to notify the OOG of H<sub>2</sub>S presence (35-8 5.7.e.4)
- D. Establish and maintain Protection Zones. Describe detailed written general procedures proposed in drilling phases. (application horizontal wells must include the completion, work-over, and production phases) (35-8 5.7.f.2)
- E. List of personal protective equipment (PPE) and the amount of each piece of PPE that will be maintained and available on site. (35-8 5.7.e.3)

#### 7. Flaring

- A. Proposed written description and plan including schematic of installation for duration of flaring activities. (35-8 5.7.f.1)



## 8. Collision Avoidance Safeguards, Practices and Standards Plans

*Protocol and established safeguards designed to prevent underground collisions during any drilling on multi-well pads (35-8 5.7). Collision avoidance plans are measures in keeping wellbores separated and in preventing HSE risk. Such plans describe the survey accuracy and the survey maintenance by systematic management efforts throughout the drilling of the proposed wellbore. These plans submitted shall be well specific to the proposed wellbore and shall address all items within the components section as outlined below. The scope of these plans shall provide survey designs throughout the proposed wellbore including the QC / QA activities and the counter-actions necessary; minimum separation factors (SF), standards and thresholds apply as specified in the components section. These plans shall include proposed counter-actions necessary if a collision occurs or if surveys observe an imminent risk for a collision; all wellbore collisions shall be treated as high-risk events. Approved plans are conditions and terms of the well permit and any modifications are subject to approval by the Office of Oil and Gas (OOG).*

### A. Established definitions:

- 1) Proposed Wellbore – Involves sections of the vertical top-hole, the KOP, the lateral landing, and the lateral drilling to the total measured depth TMD.
- 2) Nudge – Technique generally used in the vertical top-hole section. The well path is nudged from vertical to pass areas of possible magnetic interferences and to reduce the risk of collision by maintaining separation with other wellbores.
- 3) KOP – Kick off Point. Diverting a well path from one trajectory to another.
- 4) MWD – Measurement While Drilling.
- 5) LWD – Logging While Drilling.
- 6) SF – Separation Factor or Clearance Factor:  
$$SF^* = CC \div [ UR_{ref} + UR_{off} ]$$

CC - well separation distance (center to center of wellbores)  
UR<sub>ref</sub> - radius ellipse of uncertainty on reference well  
UR<sub>off</sub> - radius ellipse of uncertainty on offset well

Note: ellipses are half-axes or radii.

\*Calculation options may be considered
- 7) TMD – Total Measured Depth.
- 8) Gyro – High accuracy well bore survey instrument unaffected by magnetic interference.
- 9) QC / QA – Quality Control and Quality Assurance.
- 10) HSE – Health Safety and the Environment.

### B. Established descriptions of risk:

- |                    |         |                          |
|--------------------|---------|--------------------------|
| 1) SF ≤ 1.0        | Level 1 | Extreme collision risk   |
| 2) SF = 1.0 to 1.5 | Level 2 | High collision risk      |
| 3) SF = 1.5 to 2.0 | Level 3 | Moderate collision risk  |
| 4) SF > 2.0        | Level 4 | Low to no collision risk |

### C. Plan components:

- 1) Describe the scope of work and the type of survey techniques by use of gyros, MWD, LWD, or others and include the following:
  - a) The survey intervals or frequencies proposed as adjustments to address each level of risk covering the vertical top-hole section of the proposed wellbore.

- b) Provide TOOL ALIGNMENT and MULESHOE procedures\*\* when drilling in critical areas covering the vertical top-hole section of the proposed wellbore. These procedures are visual verification for alignment and orientation QC/QA purposes. Provide the responsible personnel (minimum two representatives) and their titles of those involved for QC/QA purposes during the drilling activities.
    - \*\*Provide other orientations or survey methods and procedures if utilized.
  - c) Description of any nudge activity proposed in the vertical top-hole section.
  - d) The survey tools to be utilized from the KOP to the lateral landing and the lateral section to the TMD.
  - e) Description of any software utilized for the directional and anti-collision planning proposed.
- 2) The following shall be addressed in the plan for the proposed wellbore:
- a) Vertical top-hole section beginning at the surface and to the lateral landing -
    - i) Minimum SF standards (thresholds) required -  
SF  $\geq$  1.5 shall be obtained early as practical and maintained.  
(Indicate the frequency of survey intervals proposed)
    - ii) Minimum SF standards (thresholds) required -  
SF  $\geq$  2.0\*\*\* applies when in proximity to any fractured or any producing well that exists on the well pad.  
(Indicate the frequency of survey intervals proposed)  
\*\*\*Risk management and technological mitigations, i.e. downhole plugs, are critical and should be considered along with other safety measures necessary.  
The OOG may require additional safety measures of a specific well application for permitting as deemed necessary.
  - b) Lateral section beginning at the lateral landing and to the TMD -
    - i) Provide a general protocol to declination, grid correction, and magnetic interference correction during the drilling of the proposed lateral. Also provide the responsible personnel (minimum two representatives) and their titles of those involved for QC/QA purposes during the drilling activities.
    - ii) For any existing horizontal or vertical wells found adjacent to this lateral section, provide the protocols for separation safeguards and the spacing planned during the drilling of this section. A reconnaissance review is required for each proposed lateral; OOG may establish a minimum footage for review as deemed necessary.
- 3) Provide a well pad surface diagram depicting the wellhead arrangement (API labeled) of all existing wells adjacent to the proposed wellbore. Indicate the surface footage separation between wellheads and each wellbore status.
- 4) Describe the gyro surveying or other type surveying conducted within each existing wellbore located on the pad.
- 5) Provide descriptive actions if a collision should occur or if surveys should observe imminent risk for a collision.
- 6) Provide method to notify the OOG Oil and Gas Inspector immediately of any underground collision or if the SF Level 1 is determined within the extreme collision risk zone (ellipses of uncertainty overlap).
- 7) Provide other supportive resources or proposed safety measures as needed.

## 9. Deep Well Additional Requirements

- A. List of anticipated freshwater, saltwater, oil and gas, hydrogen sulfide, thief zones, high pressure and volume zones and their expected depths.

Revised (3/15)

- B. Detailed casing and cementing program that employs a minimum of three strings of casing which are sufficient weight and quality for the anticipated conditions.
- C. Flaring activities: Size, construction and length of flare line-anchor method and choke assembly description, Flare lighting system and back up igniters, Notify local fire department (if possible) prior to igniting flares, Minimum clearing distance beyond end of flare.
- D. List of names, addresses, and telephone numbers of all residents, businesses, churches, schools and emergency facilities within 1 mile radius that may be affected by specific events during the drilling process. Such events may include presence of hydrogen sulfide, and flaring, etc.

## **10. Deep Vertical Well Requirements per Policy Statement (Deep Well Drilling Procedures and Site Safety Plan Requirements)**

The following selections are needed from the above contents:

- 1. A - E (E. drilling phase only)
- 2. A - C
- 3. A (drilling phase only)
- 4. B - C
- 5. A - H
- 6. A - E
- 9. A - D.



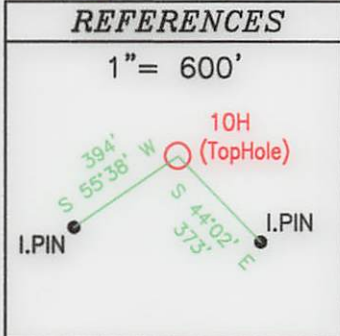
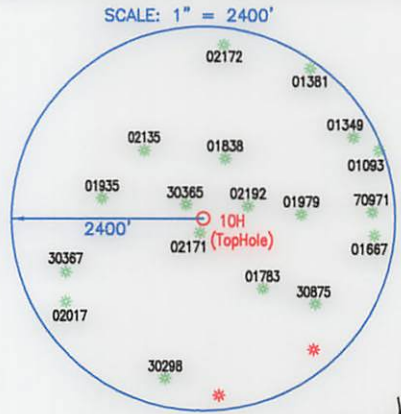
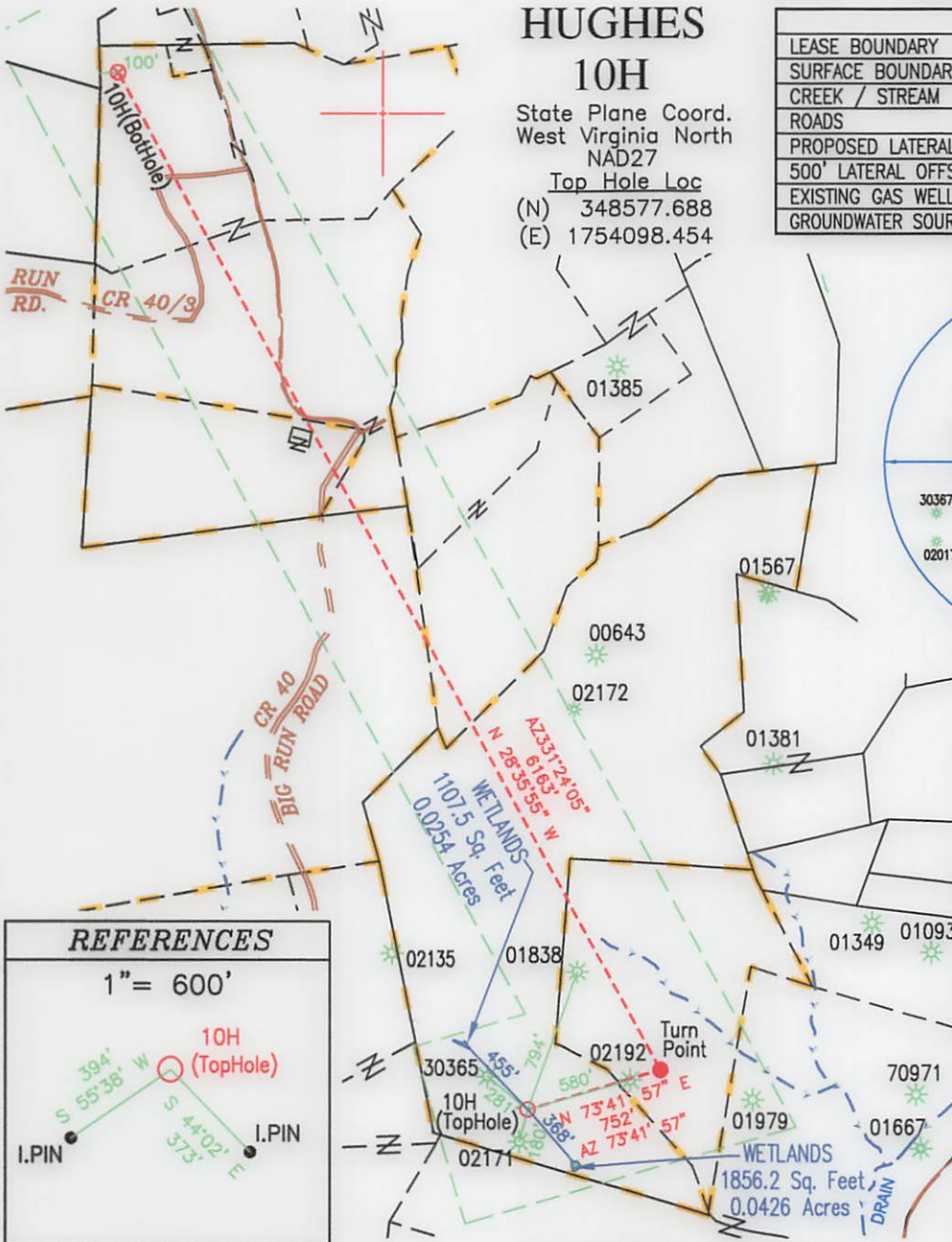
(Scale: 1" = 2000') Latitude: 39°27'30"

Longitude: 80°20'00" (Scale: 1" = 2000')

# HUGHES 10H

State Plane Coord.  
West Virginia North  
NAD27  
Top Hole Loc  
(N) 348577.688  
(E) 1754098.454

LEGEND	
LEASE BOUNDARY	—
SURFACE BOUNDARY	- - - -
CREEK / STREAM	— — — —
ROADS	— — — —
PROPOSED LATERAL	- - - -
500' LATERAL OFFSET	— — — —
EXISTING GAS WELL	*
GROUNDWATER SOURCE / WATER SUPPLY	W



- NOTES ON SURVEY:**
- NO DWELLINGS WITHIN 625' WERE FOUND.
  - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' WERE FOUND.
  - TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '83.
  - WELL ELEVATION ESTABLISHED BY DIRECT GPS NAVD88.
  - BOUNDARIES SHOWN ARE TAKEN FROM TAX MAPS, DEEDS, AND FIELD SURVEY. THIS DRAWING IS NOT REPRESENTATIVE OF A FULL BOUNDARY SURVEY.
  - SURFACE OWNER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF MARION COUNTY, WV IN AUGUST OF 2015. LEASE OWNERS AND BOUNDARIES PROVIDED BY XTO ENERGY, INC.
  - WELLS SHOWN ARE TAKEN FROM RECORDS OF WDEP.

TRI-COUNTY ENGINEERING, LLC

319 PAINTERSVILLE RD. HUNKER, PA 15639 TCE@TRICOUNTYENG.COM (724) 635-0210

PAGE 1 of 2

FILE # XTO-OG57  
 DRAWING # OG57-11-10H  
 SCALE: 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY: 1:2500  
 PROVEN SOURCE OF ELEVATION: DIRECT GPS

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 REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: Cynthia A. Born  
 R.P.E.: \_\_\_\_\_ L.L.S.: 2135



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

**WDEP**  
**OFFICE OF OIL & GAS**  
 601 57TH STREET  
 CHARLESTOWN, WV 25304



DATE: 8/27/2015 PLACE SEAL HERE  
 OPERATOR'S WELL #: HUGHES 10H  
 API WELL #: 47 49 02405 **H6A**  
 STATE COUNTY PERMIT

Well Type:  Oil  Waste Disposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow

WATERSHED: BINGAMON CREEK WATERSHED ELEVATION: 1286' (PROPOSED GRADE)  
 COUNTY/DISTRICT: MARION / MANNINGTON QUADRANGLE (THL) SHINNSTON 7.5'  
 SURFACE OWNER FAYE C. ROCKWELL ACREAGE 107.50  
 OIL & GAS ROYALTY OWNER: BEVERLY & DAN M. KELLY et al. ACREAGE 410/23/2015

DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  PLUG & ABANDON   
 CLEAN OUT & REPLUG  OTHER CHANGE  (SPECIFY): \_\_\_\_\_

TARGET FORMATION MARCELLUS ESTIMATED DEPTH: 7,490'/14,120'

WELL OPERATOR XTO ENERGY INC. DESIGNATED AGENT GARY BEALL  
 Address 810 HOUSTON STREET Address P.O. BOX 1008  
 City FORT WORTH State TX Zip Code 76102 City JANE LEW State WV Zip Code 26378



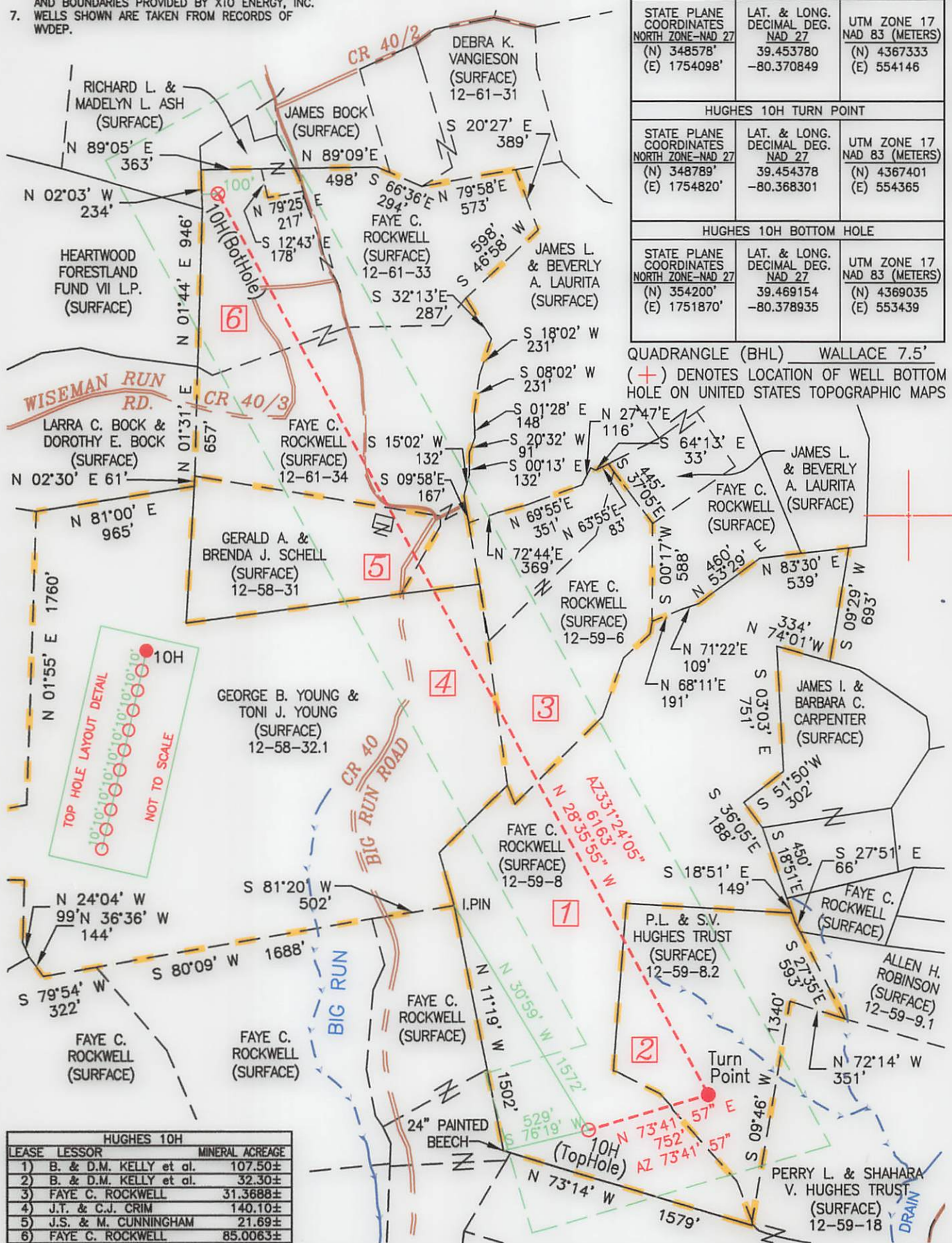
**NOTES ON SURVEY:**

1. NO DWELLINGS WITHIN 625' WERE FOUND.
2. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' WERE FOUND.
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4. WELL ELEVATION ESTABLISHED BY DIRECT GPS NAVD88.
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7. WELLS SHOWN ARE TAKEN FROM RECORDS OF WVDEP.

**HUGHES 10H**  
 State Plane Coord.  
 West Virginia North  
 NAD27  
 Top Hole Loc  
 (N) 348577.688  
 (E) 1754098.454

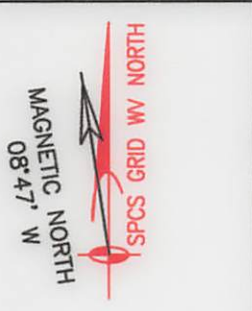
LEGEND	
LEASE BOUNDARY	— — — — —
SURFACE BOUNDARY	— — — — —
CREEK / STREAM	— — — — —
ROADS	— — — — —
PROPOSED LATERAL	— — — — —
500' LATERAL OFFSET	— — — — —
EXISTING GAS WELL	⊛
GROUNDWATER SOURCE / WATER SUPPLY	⊙

HUGHES 10H TOP HOLE		
STATE PLANE COORDINATES NORTH ZONE-NAD 27	LAT. & LONG. DECIMAL DEG. NAD 27	UTM ZONE 17 NAD 83 (METERS)
(N) 348578' (E) 1754098'	39.453780 -80.370849	(N) 4367333 (E) 554146
HUGHES 10H TURN POINT		
STATE PLANE COORDINATES NORTH ZONE-NAD 27	LAT. & LONG. DECIMAL DEG. NAD 27	UTM ZONE 17 NAD 83 (METERS)
(N) 348789' (E) 1754820'	39.454378 -80.368301	(N) 4367401 (E) 554365
HUGHES 10H BOTTOM HOLE		
STATE PLANE COORDINATES NORTH ZONE-NAD 27	LAT. & LONG. DECIMAL DEG. NAD 27	UTM ZONE 17 NAD 83 (METERS)
(N) 354200' (E) 1751870'	39.469154 -80.378935	(N) 4369035 (E) 553439



QUADRANGLE (BHL) WALLACE 7.5'  
 (+) DENOTES LOCATION OF WELL BOTTOM HOLE ON UNITED STATES TOPOGRAPHIC MAPS

HUGHES 10H		
LEASE LESSOR	MINERAL ACREAGE	
1) B. & D.M. KELLY et al.	107.50±	
2) B. & D.M. KELLY et al.	32.30±	
3) FAYE C. ROCKWELL	31.3688±	
4) J.T. & C.J. CRIM	140.10±	
5) J.S. & M. CUNNINGHAM	21.69±	
6) FAYE C. ROCKWELL	85.0063±	



**XTO ENERGY**  
 810 HOUSTON STREET  
 FORT WORTH, TX 76102



Voice: (724) 635-0210

**TRI-COUNTY ENGINEERING, LLC**  
 An ENERCON Company  
 319 Paintersville Road  
 Hunker, PA 15639  
 www.tricountyeng.com

10/23/2015  
 Fax: (724) 635-0676



Excellence-Every project. Every day.

SUPPLEMENTAL SURFACE & LESSOR EXHIBIT	
HUGHES 10H	
DRAWN BY: NJP	MANNINGTON DISTRICT, MARION COUNTY, WEST VIRGINIA
DATE: 8/27/2015	SHEET: FILE NO.
SCALE: 1"=800'	2 OF 2 OG57-11



4704902405

WW-6A1  
(5/13)

Operator's Well No. Hughes 10H

**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
1	Dan & Beverly Kelly et al	XTO Energy Inc.	1/8	1110/108
2	Dan & Beverly Kelly et al	XTO Energy Inc.	1/8	1110/108
3	Faye C. Rockwell	LBJ Energy Associates, LLC	1/8	1023/284
4	J.T. & Cordelia J. Crim	The Fairmont & Grafton Gas Co.	1/8	170/466
5	Jeanette & Miles Cunningham	XTO Energy Inc.	1/8	1119/753

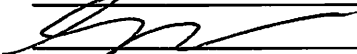
see attached

**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: XTO Energy Inc.  
 By:   
 Its: Production Superintendent

## HUGHES 10H

TMP	Deed Book	Page	Lessor	Lessee
1	1110	108	Beverly Kelly and Dan M. Kelly, married	XTO Energy Inc.
	1110	114	Maurice Heldreth and Judith Heldreth, married	XTO Energy Inc.
	1112	393	Shirley Paul and Jim Paul, married	XTO Energy Inc.
	1112	399	Marilyn Weese and Marvin Weese, married	XTO Energy Inc.
	1116	366	Johnathan Charles Miller, single and dealing in his sole and separate property	XTO Energy Inc.
	1118	125	Randy Lee Miller and Lynne E. Miller, married	XTO Energy Inc.
	1116	342	Debbie Kay Doney and Jerry E. Doney, married	XTO Energy Inc.
	1116	369	David Eugene Miller, single and dealing in his sole and separate property	XTO Energy Inc.
	1116	375	Gary Donald Miller, single and dealing in his sole and separate property	XTO Energy Inc.
	1116	372	Duane Dale Miller, single and dealing in his sole and separate property	XTO Energy Inc.
	1023	284	Faye C. Rockwell, widow	LBJ Energy Associates, LLC LBJ Energy to Linn Energy at 30-953, to XTO Energy at 33-200.

2	1110	108	Beverly Kelly and Dan M. Kelly, married	XTO Energy Inc.
	1110	114	Maurice Heldreth and Judith Heldreth, married	XTO Energy Inc.
	1112	393	Shirley Paul and Jim Paul, married	XTO Energy Inc.
	1112	399	Marilyn Weese and Marvin Weese, married	XTO Energy Inc.
	1116	366	Johnathan Charles Miller, single and dealing in his sole and separate property	XTO Energy Inc.
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	1116	372	Duane Dale Miller, single and dealing in his sole and separate property	XTO Energy Inc.

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	1006	833	Perry L. Hughes, a married person	Exploration Partners, LLC Exploration Partners assigns all depths from the surface to the TOP of the uppermost member of the Onondaga Group to Linn Energy at 32-151, and Linn assigns the same to XTO Energy at 33-200.
--	------	-----	-----------------------------------	---

3	1023	284	Faye C. Rockwell (widow)	LBJ Energy Associates, LLC LBJ Energy to Linn Energy at 30-953, to XTO Energy at 33-200.
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4	170	466	J. T. Crim and Cordelia J. Crim, his wife	The Fairmont and Grafton Gas Co. to Pittsburgh and West Virginia Gas Company (Merger) at DB 1 PG 258; Pittsburgh and West Virginia Gas Company to Equitable Gas Company at DB 510 PG 487 and DB 511 PG 529; Equitable Gas Co. to Equitrans, Inc. at AB 12 PG 279; Equitrans Inc. to Equitrans LP (Merger); Equitrans LP to Equitable Production-Eastern States, Inc. at AB 23 PG 899; Equitable Production - Eastern States, Inc. to Equitable Production Company (Merger); Equitable Production Company assigns the Crim #1 well (E-610) API 47-049-1449 and a 40 acre diameter around said well to the depth of 4132'to Exploration Partners, LLC; Equitable Production Company to EQT Production Company Merger) at 61-558. Memorandum of Agreement between EQT Production Company and XTO Energy Inc. at BK/PG 1177/111.
---	-----	-----	---	--

5	1119	753	Jeanette S. Cunningham and Miles Cunningham, married	XTO Energy Inc.
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6	1023	284	Faye C. Rockwell (widow)	LBJ Energy Associates, LLC LBJ Energy to Linn Energy at 30-953, to XTO Energy at 33-200.
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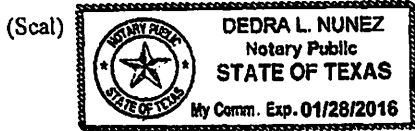
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ACKNOWLEDGEMENT

STATE OF TEXAS  
COUNTY OF TARRANT

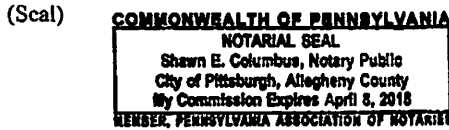
Before me, Dedra L. Nunez, a Notary Public, on this day appeared Edwin S. Ryan, Jr., known to me to be the Senior Vice President - Land of XTO Energy Inc., subscribed to the foregoing instrument, and acknowledged to me that he/she executed the instrument for the purposes and consideration therein expressed as his/her act and deed. Given under my hand and seal of office this 19th day of August, 2015. My Commission expires: 1/28/16



Dedra L. Nunez  
Notary Public

COMMONWEALTH OF PENNSYLVANIA §  
COUNTY OF ALLEGHENY §

Before me, Shawn E. Columbus, a Notary Public, on this day appeared Steven Prelipp, known to me to be the Senior Vice President - Business Development & Land of EOT Production Company subscribed to the foregoing instrument, and acknowledged to me that he/she executed the instrument for the purposes and consideration therein expressed as his/her act and deed. Given under my hand and seal of office this 12th day of August, 2015. My Commission expires: April 8, 2018



Shawn E. Columbus  
Notary Public

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OCT 21 2015

201500010094  
Filed for Record  
MARION COUNTY, WV  
JANICE COSCO, COUNTY CLERK  
08-21-2015 At 03:49 PM.  
AGREE DEED 11.00  
STATE TAX .00  
COUNTY TAX .00  
Book 1177 Page 111 - 112

Prepared by and when recorded, please return to:

Bryson Kuba, LP  
714 Venture Drive # 187  
Morgantown, West Virginia 26508

## West Virginia Secretary of State — Online Data Services

### Business and Licensing

Online Data Services Help

### Business Organization Detail

*NOTICE: The West Virginia Secretary of State's Office makes every reasonable effort to ensure the accuracy of information. However, we make no representation or warranty as to the correctness or completeness of the information. If information is missing from this page, it is not in the The West Virginia Secretary of State's database.*

### EQT PRODUCTION COMPANY

Organization Information							
Org Type	Effective Date	Filing Date	Charter	Class	Sec Type	Termination Date	Termination Reason
C   Corporation	4/19/2001	4/19/2001	Foreign	Profit			

Organization Information			
<b>Business Purpose</b>	2111 - Mining, Quarrying, Oil & Gas Extraction - Oil and Gas Extraction - Crude Oil and Natural Gas Extraction		<b>Capital Stock</b>
<b>Charter County</b>		<b>Control Number</b>	39823
<b>Charter State</b>	PA	<b>Excess Acres</b>	
<b>At Will Term</b>		<b>Member Managed</b>	
<b>At Will Term Years</b>		<b>Par Value</b>	
<b>Authorized Shares</b>			

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WV Department of  
 Environmental Protection  
 10/23/2015

**Addresses**

Type	Address
<b>Local Office Address</b>	CT CORPORATION 5400 D BIG TYLER ROAD CHARLESTON, WV, 25313
<b>Mailing Address</b>	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA, 15222 USA
<b>Notice of Process Address</b>	CT CORPORATION SYSTEM 5400 D BIG TYLER ROAD CHARLESTON, WV, 25313
<b>Principal Office Address</b>	625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA, 15222 USA
<b>USPS Revised Address</b>	PO BOX 2347 CHARLESTON, WV, 25328 USA
Type	Address

**Officers**

Type	Name/Address
<b>Director</b>	PHILIP P. CONTI 625 LIBERTY AVENUE SUITE 1700 PITTSBURGH, PA, 15222
<b>President</b>	STEVEN T. SCHLOTTERBECK 625 LIBERTY AVENUE, SUITE 1700 PITTSBURGH, PA, 15222
Type	Name/Address

**DBA**

4704902405

DBA Name	Description	Effective Date	Termination Date
CARNEGIE PRODUCTION COMPANY	TRADENAME	4/9/2009	
EASTERN STATES OIL & GAS INC.	TRADENAME	4/9/2009	
EQUITABLE PRODUCTION COMPANY	TRADENAME	4/9/2009	
EQUITABLE RESOURCES ENERGY COMPANY	TRADENAME	4/9/2009	

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DBA Name	Description	Effective Date	Termination Date
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Name Changes	
Date	Old Name
4/3/2009	EQUITABLE PRODUCTION COMPANY
Date	Old Name

Mergers				
Merger Date	Merged	Merged State	Survived	Survived State
4/19/2001	EQUITABLE PRODUCTION COMPANY	WV	EQUITABLE PRODUCTION COMPANY	PA
6/28/2001	EQUITABLE PRODUCTION - EASTERN STATES, INC.	DE	EQUITABLE PRODUCTION COMPANY	PA
11/8/2011	APPALACHIAN NATURAL GAS TRUST	PA	EQT PRODUCTION COMPANY	PA
Merger Date	Merged	Merged State	Survived	Survived State

Subsidiaries	
Name	Address
	EASTERN SEVEN PARTNERS LLP 1209 ORANGE ST WILMINGTON, DE, 19801 USA
	EQT INVESTMENTS LLC 1209 ORANGE ST WILMINGTON, DE, 19801 USA
	EQUITABLE FIELD SERVICES LLC 1209 ORANGE ST WILMINGTON, DE, 19801 USA
Name	Address

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Date	Amendment
------	-----------

10/23/2015

<b>11/8/2011</b>	MERGER: MERGING APPALACHIAN NATURAL GAS TRUST, A QUALIFIED PA BUSINESS TRUST WITH AND INTO EQT PRODUCTION COMPANY , A QUALIFIED PA CORPORATION, THE SURVIVOR
<b>4/3/2009</b>	NAME CHANGE: FROM EQUITABLE PRODUCTION COMPANY
<b>6/28/2001</b>	MERGER: MERGING EQUITABLE PRODUCTION - EASTERN STATES, INC., A QUALIFIED DE CORPORATION WITH AND INTO EQUITABLE PRODUCTION COMPANY, A QUALIFIED PA CORPORATION, THE SURVIVOR
<b>4/19/2001</b>	MERGER: MERGING EQUITABLE PRODUCTION COMPANY, A QUALIFIED WV CORPORATION WITH AND INTO EQUITABLE PRODUCTION COMPANY, A QUALIFIED PA CORPORATION, THE SURVIVOR
<b>Date</b>	<b>Amendment</b>

<b>Annual Reports</b>	
<b>Date</b>	<b>Filed For</b>
<b>6/27/2014</b>	2015
<b>6/27/2013</b>	2014
<b>6/28/2012</b>	2013
<b>6/30/2011</b>	2012
<b>6/24/2010</b>	2011
<b>7/13/2009</b>	2010
<b>8/5/2008</b>	2009
<b>11/13/2007</b>	2008
<b>9/7/2006</b>	2007
<b>9/20/2005</b>	2006
<b>9/23/2004</b>	2005
<b>4/1/2004</b>	2004
<b>5/21/2003</b>	2003
<b>Date</b>	<b>Filed For</b>

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Environmental Protection

10/23/2015

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For more information, please contact the Secretary of State's Office at 304-558-8000.

Monday, February 2, 2015 — 1:01 PM

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Environmental Protection



XTO Energy Inc.  
810 Houston Street  
Fort Worth, TX 76102-6298  
(817) 870-2800  
(817) 885-1938 Fax

4704902405

August 12, 2015

Office of Oil & Gas  
WVDEP  
601 57<sup>th</sup> Street  
Charleston, WV 25304

RE: Rights to Drill Under Road - Hughes

To Whom It May Concern,

Based on extended research by XTO Energy's Land Department, and their brokers and title attorneys, we have all necessary mineral rights under Marion County Route 40/3 and Route 40, in the location of our planned well bore's for the Hughes 10H.

Sincerely,

Kaitlyn Lee  
Landman  
XTO Energy Inc.  
810 Houston Street  
Fort Worth, TX. 76102  
Office: (817) 885 – 2748  
Fax: (817) 885 – 1806  
Kaitlyn\_Lee@xtoenergy.com

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An **ExxonMobil** Subsidiary

10/23/2015

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WV Department of  
Environmental Protection

WW-6AC  
(1/12)

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE CERTIFICATION**

Date of Notice Certification: 8/11/15

API No. 47- \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. Hughes 10H  
Well Pad Name: Hughes Pad

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>554146</u>
County:	<u>Marion</u>		Northing:	<u>4367333</u>
District:	<u>Mannington</u>	Public Road Access:	<u>Harrison County Rt. 3 (Robinson Wyatt Run)</u>	
Quadrangle:	<u>Shinnston 7.5'</u>	Generally used farm name:	<u>Faye Rockwell</u>	
Watershed:	<u>Bingamon Creek</u>			

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:	
*PLEASE CHECK ALL THAT APPLY	
<input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	<b>OOG OFFICE USE ONLY</b> <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
<input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED	
<input type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	
<input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION	
<input checked="" type="checkbox"/> 5. PUBLIC NOTICE	
<input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION	

**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

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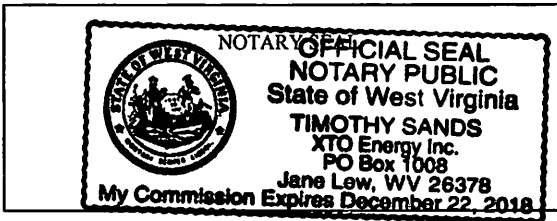
WW-6AC  
(1/12)

**Certification of Notice is hereby given:**

THEREFORE, I Gary Beall, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: XTO Energy Inc.  
By: [Signature]  
Its: Production Superintendent  
Telephone: 304-884-6000

Address: PO Box 1008  
Jane Lew, WV 26378  
Facsimile: 304-884-6809  
Email: \_\_\_\_\_



Subscribed and sworn before me this 31 day of Aug 2015.  
[Signature] Notary Public  
My Commission Expires 12/22/15

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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WW-6A  
(9-13)

API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Hughes 10H  
Well Pad Name: Hughes Pad

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF APPLICATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 8/31/15 **Date Permit Application Filed:** 9/1/15

**Notice of:**

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

4704902405

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice  WSSP Notice  E&S Plan Notice  Well Plat Notice is hereby provided to:

SURFACE OWNER(s)  
 Name: Faye Rockwell ✓  
 Address: 316 East Run Rd.  
Farmington, WV 26571  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
 Name: Consolidation Coal Company ✓  
 Address: 1000 Consol Energy Drive  
Canonsburg, PA 15317

COAL OPERATOR  
 Name: Murray American Energy ✓  
 Address: 1 Bridge St.  
Monongah, WV 26554

SURFACE OWNER(s) (Road and/or Other Disturbance)  
 Name: David Webb ✓  
 Address: 931 Joetown Rd.  
Mannington, WV 26582  
 Name: Fara May Webb ✓  
 Address: 1084 Joetown Rd.  
Mannington, WV 26582

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
 Name: Faye Rockwell ✓  
 Address: 316 East Run Rd.  
Farmington, WV 26571

SURFACE OWNER(s) (Impoundments or Pits)  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

\*Please attach additional forms if necessary

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	<b>Hughes</b>	
<b>Landowners</b>	Faye Rockwell, 316 East Run Rd., Farmington, WV 26571	
	David Webb, 931 Joetown Rd., Mannington, WV 26582	
	Fara May Webb, 1084 Joetown Rd, Mannington, WV 26852	
	Gerald Lucas Heirs, 1457 Wyatt Rd., Mannington, WV 26582	
	Janet Nutter, 324 Elmhurst St., Morgantown, WV 26505	✓
	John & Rita Heldreth, 12 Humanity St., Fairmont, WV 26554	✓
	Kathleen Crim Stone, 5117 New Carlisle Pike, Springfield, OH 45504	✓
	Perry Hughes, 70 Twin Creek Trl., Buffalo, MO 65622	✓
<b>Coal Owners/Operators</b>	Faye Rockwell, 316 East Run Rd., Farmington, WV 26571	
	Consolidation Coal Company, 1000 Consol Energy Drive, Canonsburg, PA 15317	3 ✓
	Murray American Energy, attn: Troy Freels, 1 Bridge St, Monongah, WV 26554	3
<b>Water Owners</b>	Faye Rockwell, 316 East Run Rd., Farmington, WV 26571	✓
<b>Within 625'</b>	NA	

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WW-6A  
(8-13)

API NO. 47- \_\_\_\_\_ - \_\_\_\_\_  
OPERATOR WELL NO. Rockwell 8H  
Well Pad Name: Rockwell Pad

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a circular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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API NO. 47- \_\_\_\_\_ - \_\_\_\_\_  
OPERATOR WELL NO. Rockwell 8H  
Well Pad Name: Rockwell Pad

examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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API NO. 47- \_\_\_\_\_ - \_\_\_\_\_  
OPERATOR WELL NO. Rockwell 8H  
Well Pad Name: Rockwell Pad

**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Hughes 10H  
Well Pad Name: Hughes Pad

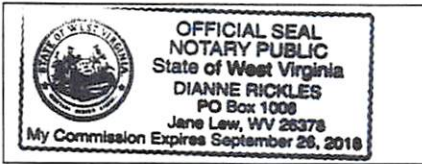
**Notice is hereby given by:**

Well Operator: XTO Energy, Inc. Address: PO Box 1008  
Telephone: 304-884-6000 Jane Lew, WV 26378  
Email: \_\_\_\_\_ Facsimile: 304-884-6809

Signed: [Signature] By: Tim Sanders Date: 10/19/15

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 19 day of Oct, 2015.



Dianne Rickles Notary Public

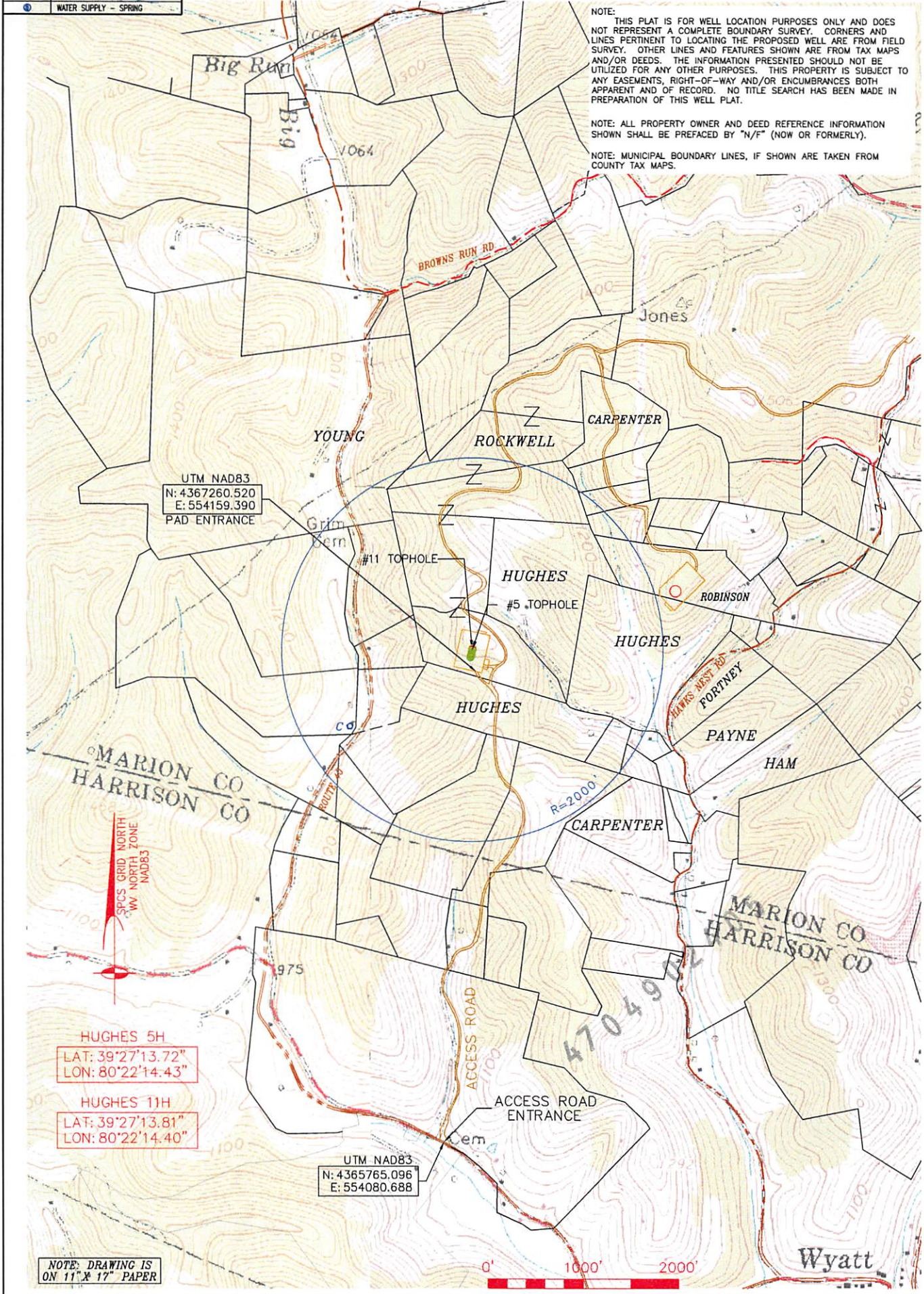
My Commission Expires Sept. 26, 2018

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Office of Oil and Gas  
OCT 21 2015  
WV Department of  
Environmental Protection

REC  
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OCT  
WV Dept  
Environm.



LEGEND	
	WATER SUPPLY - WATER WELL
	WATER SUPPLY - SPRING



REVISED	COMMENTS

**TRI - COUNTY ENGINEERING, LLC**  
 319 PAINTERSVILLE ROAD  
 HUNKER, PA 15639  
 VOICE: 724 / 635-0210 FAX: 724 / 635-0676



<b>HUGHES UNIT 10/23/2015</b>	
<b>WATER OVERALL</b>	
<b>XTO ENERGY INC.</b>	
DRAWN BY: BMK	DATE: 8/12/15
MANNINGTON TOWNSHIP MARION COUNTY, WEST VIRGINIA	
SCALE: 1" = 1000'	SHEET: 1
FILE NO. XTO0657-11	

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 Department of  
 Environmental Protection



XTO ENERGY INC.

XTOOG57-09

HUGHES WATER OFFSET

(2000' OFFSET)

8/17/2015

POINT	SOURCE	LAST NAME	MAILING ADDRESS	CITY	STATE	ZIP	BEARING	DISTANCE	PARCEL ID WITHIN 3000'
C	HOUSE POSSIBLE	FAYE C ROCKWELL	316 EAST RUN RD	FARMINGTON	WV	26571	S 56°50'53" W	1544	12-58734

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10/23/2015

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 WV Department of Environmental Protection  
 10/23/2015



**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF ENTRY FOR PLAT SURVEY**

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** July 27, 2015      **Date of Planned Entry:** \_\_\_\_\_

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE     
 REGISTERED MAIL     
 METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

SURFACE OWNER(s)

Name: Faye C. Rockwell

Address: 316 East Run Rd.  
Farmington, WV 26571

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: \*See Attached

Address: \_\_\_\_\_

MINERAL OWNER(s)

Name: Faye C. Rockwell

Address: 316 East Run Rd.  
Farmington, WV 26571

\*please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.453864, -80.370659</u>
County: <u>Marion</u>	Public Road Access: <u>Hawks Nest Rd</u>
District: <u>Mannington</u>	Watershed: <u>Coal Lick Run</u>
Quadrangle: <u>Shinnston 7.5</u>	Generally used farm name: <u>Hughes Unit 10H</u>

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: <u>XTO Energy Inc.</u>	Address: <u>P.O. Box 1008</u>
Telephone: <u>304-884-6000</u>	<u>Jane Lew, WV 26378</u>
Email: _____	Facsimile: <u>304-884-6008</u>

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF ENTRY FOR PLAT SURVEY**

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** August 7, 2015      **Date of Planned Entry:** \_\_\_\_\_

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE     
  REGISTERED MAIL     
  METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> SURFACE OWNER(s)<br>Name: <u>Faye C. Rockwell</u><br>Address: <u>316 East Run Rd</u><br><u>Farmington, WV 26571</u><br>Name: _____<br>Address: _____<br>Name: _____<br>Address: _____ | <input type="checkbox"/> COAL OWNER OR LESSEE<br>Name: <u>N/A Access Route Only</u><br>Address: _____<br><br><input type="checkbox"/> MINERAL OWNER(s)<br>Name: <u>N/A Access Route Only</u><br>Address: _____<br>_____<br>*please attach additional forms if necessary |
|---|---|

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**Coal Owners:**

Consol Mining Company  
1000 Consol Energy Dr.  
Canonsburg, PA 15314

Murray American Energy  
1 Bridge St.  
Monongah, WV 26554

Faye C. Rockwell  
316 East Run Rd.  
Farmington, WV 26571

3 ✓

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<b>Landowners</b>	Faye Rockwell, 316 East Run Rd., Farmington, WV 26571 ✓
	David Webb, 931 Joetown Rd., Mannington, WV 26582 ✓
	Fara May Webb, 1084 Joetown Rd, Mannington, WV 26852 ✓
	Gerald Lucas Heirs, 1457 Wyatt Rd., Mannington, WV 26582 ✓
	Janet Nutter, 324 Elmhurst St., Morgantown, WV 26505 ✓
	John & Rita Heldreth, 12 Humanity St., Fairmont, WV 26554 ✓
	Kathleen Crim Stone, 5117 New Carlisle Pike, Springfield, OH 45504 ✓
	Perry Hughes, 70 Twin Creek Trl., Buffalo, MO 65622 ✓

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10/23/2015



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

July 21, 2015

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the Hughes Well Pad, Marion County  
Hughes 10H

Dear Mr. Martin,

This well site will be accessed from Permit #04-2014-1246 issued to XTO Energy, Inc. for access to the State Road for a well site located off of Harrison County Route 3 SLS.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton, P.E.  
Regional Maintenance Engineer  
Central Office O&G Coordinator

Cc: Tim Sands  
XTO Energy, Inc.  
CH, OM, D-4  
File

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10/23/2015

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	XTO	Carrier/Base Fluid	Water	7732-18-5	100.00%	88.35%	
Sand (Proppant)	Universal	Proppant	Silica Substrate		100.00%	11.20%	
Hydrochloric Acid (10%)	PPG Industries	Acidizing	Hydrochloric Acid	7647-01-0	10.00%	0.00%	
			Other - (non-hazardous)		85.00%	0.00%	
Hydrochloric Acid (7.5%)	PPG Industries	Acidizing	Hydrochloric Acid	7647-01-0	7.50%	0.03%	
			Other - (non-hazardous)		92.50%	0.34%	
Acid Inhibitor, Unihib G	GeoSafe	Acid Inhibitor	Proprietary Blend Surfactants		35.00%	0.00%	
			Short Chained Glycol Ether	112-34-5	50.00%	0.00%	
			Ethoxylated alcohol		35.00%	0.00%	
Biocide, EC6116A	Nalco	Biocide	Dibromoacetonitrile	3252-43-5	5.00%	0.00%	
			2,2-Dibromo-3-nitropropionamide	10222-01-2	30.00%	0.00%	
			Polyethylene Glycol	25322-68-3	60.00%	0.01%	
			Other - (non-hazardous)		5.00%	0.00%	
Clay Stabilizer, Cla-Chek G	Shrieve	Clay Stabilizer	Water	7732-18-5	15.00%	0.00%	
			Other - (non-hazardous)		85.00%	0.00%	
Friction Reducer, Unislick ST-50	CESI Chemical	Friction Reducer	Petroleum distillates, hydrotreated light	64742-47-8	30.00%	0.02%	
			Other - (non-hazardous)		70.00%	0.04%	
Scale Inhibitor, ScaleHib A	Nalco	Scale Inhibitor	Ethylene Glycol	107-21-1	30.00%	0.00%	
			Other - (non-hazardous)		70.00%	0.01%	
Gel Breaker, LEB-10X	Universal	Gel Breaker	Ethylene Glycol	107-21-1	40.00%	0.00%	
			Other - (non-hazardous)		60.00%	0.00%	
Unigel 5F	Universal	Gel	Guar Gum	9000-30-0	99.00%	0.00%	
			Other - (non-hazardous)		1.00%	0.00%	
Slurry Gel, WGA-7 SLR	Universal	Gel	Guar Gum	9000-30-0	50.00%	0.00%	
			Petroleum Distillate	64742-47-8	55.00%	0.00%	
			Clay		5.00%	0.00%	
			Surfactant		5.00%	0.00%	
			Buffer		5.00%	0.00%	

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 Department of Environmental Protection

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# SEDIMENT CONTROL PLAN FOR THE HUGHES WELL PAD & ACCESS EAGLE & MANNINGTON DISTRICT HARRISON & MARION COUNTIES, WEST VIRGINIA

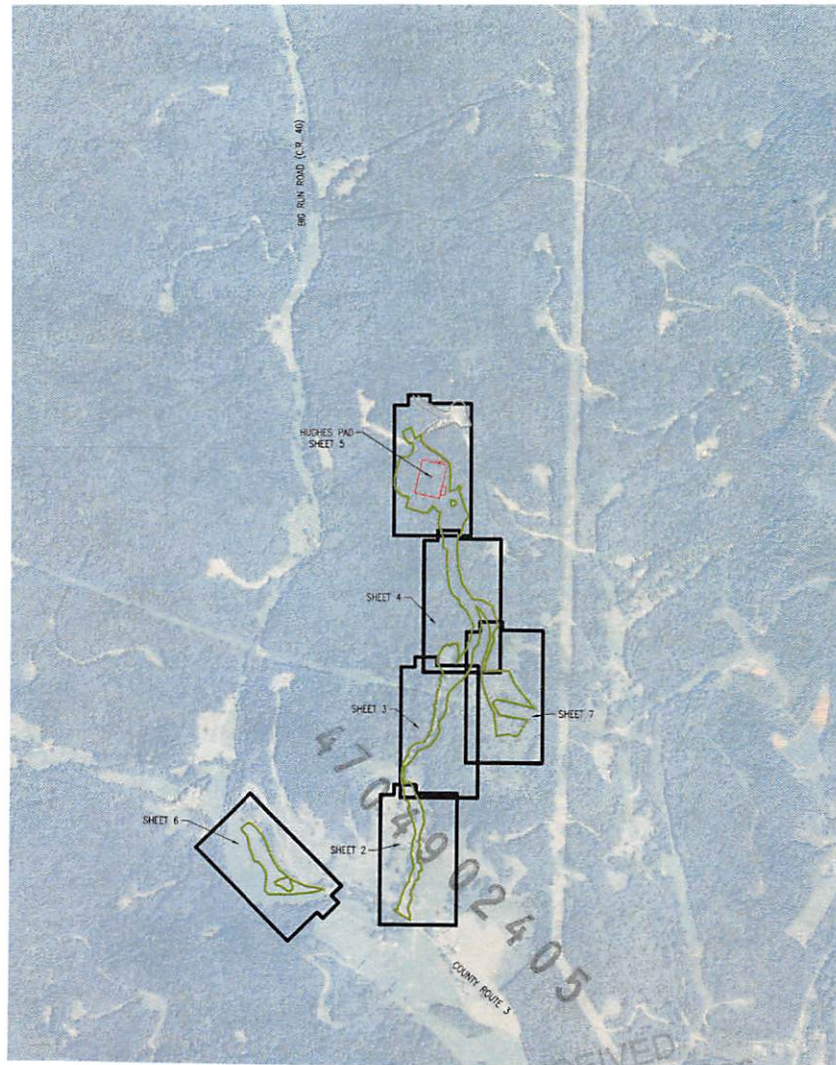
APPROVED  
WVDEP OOG

2/25/2015

API# 4902361



DISTURBED ACERAGE		
PROPERTY OWNER	TAX I.D.	DISTURBED AREA
FARA MAY WEBB	09-146-05	1.092 AC.
DAVID W WEBB	09-146-05.2	6.700 AC.
GERALD L LUCAS	12-59-9.2	0.100 AC.
CRIM FAMILY LIVING TRUST	12-59-55	1.600 AC.
JOHN G & RITA L HELDRETH	12-59-10	0.003 AC.
JANET NUTTER & BARBARA WAGNER	12-59-10.5	4.600 AC.
JOHN G & RITA L HELDRETH	12-59-10	6.700 AC.
CRIM FAMILY LIVING TRUST	12-59-55	0.040 AC.
FAYE C ROCKWELL	12-59-09	1.600 AC.
PERRY L HUGHES - ROAD	12-59-16	2.900 AC.
PERRY L HUGHES - PAD	12-59-16	1.300 AC.
FAYE C ROCKWELL - ROAD	12-59-08	4.500 AC.
FAYE C ROCKWELL - PAD	12-59-08	4.700 AC.



REVISIONS			
NO.	DESCRIPTION	DATE	BY

NOTICE REGARDING UNDERGROUND UTILITIES: NO WARRANTY IS MADE THAT THIS PLAN SHOWS ALL EXISTING UNDERGROUND UTILITIES OR THAT THE LOCATIONS OF EXISTING UTILITIES SHOWN HEREON ARE THE CORRECT LOCATIONS. THE DEPICTION OF UTILITIES HEREIN DOES NOT RELIEVE THE CONTRACTOR(S) WHO WILL BE PERFORMING EXCAVATIONS FROM COMPLYING WITH WEST VIRGINIA LAW REGARDING EXCAVATIONS, SAID REQUIREMENTS CAN BE SATISFIED, IN PART, BY CONTACTING THE MUVW AT 1-800-245-4848.

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Electronic version of these plans may be viewed

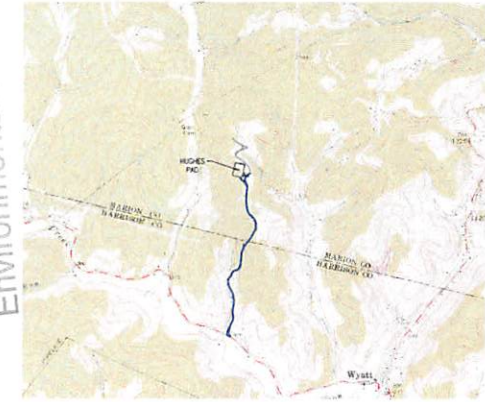


# SEDIMENT CONTROL PLAN FOR THE HUGHES WELL PAD & ACCESS ROAD EAGLE & MANNINGTON DISTRICTS HARRISON & MARION COUNTIES, WEST VIRGINIA

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**SITE LOCATION MAP** MAP REF: SHENNSTON & WALLACE, WV  
SCALE 1" = 2000' U.S.G.S. 7.5 MINUTE QUAD

WRH  
8-28-15

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2/25/2015

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FAYE C ROCKWELL - PAD	12-59-08	4.700 AC.



0' 1000' 2000' 3000'  
SCALE 1" = 1000'

DRAWING INDEX		
PLAN	TITLE	SHEET NUMBER
<b>SEDIMENT CONTROL PLAN</b>		
*SEDIMENT CONTROL PLAN*	E&S CONTROL PLAN - COVER	SHEET 1
	ACCESS ROAD TO HUGHES WELL PAD	SHEET 2
	ACCESS ROAD TO HUGHES WELL PAD	SHEET 3
	ACCESS ROAD & FILL AREA 2	SHEET 4
	HUGHES WELL PAD, ACCESS ROAD, & STOCKPILE AREAS	SHEET 5
	FILL AREA 1	SHEET 6
	FILL AREAS 3, 4, & 5	SHEET 7
	ACCESS ROAD PROFILES	SHEET 8
	STOCKPILE CROSS SECTIONS	SHEET 9
	ACCESS ROAD CROSS SECTIONS	SHEET 10
	ACCESS ROAD CROSS SECTIONS	SHEET 11
<b>*DETAILS &amp; NARRATIVE*</b>		
	DETAILS	SHEET 12
	DETAILS	SHEET 13
	DETAILS	SHEET 14
	NARRATIVE	SHEET 15
	NARRATIVE	SHEET 16
<b>*CONTAINMENT SET*</b>		
	PAD LAYOUT (DRILL PHASE)	SHEET 17
	PAD LAYOUT (FRAC PHASE)	SHEET 18
	DETAILS	SHEET 19

2/2/05

4/4

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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**XTO ENERGY**  
810 HOUSTON STREET  
FORT WORTH, TX 76102

TRI-COUNTY ENGINEERING, LLC  
319 Piquetteville Road  
Hunker, PA 15639  
www.TriCountyEng.com

Voice: (724) 830-0210 Fax: (724) 835-0878

SEDIMENT CONTROL PLAN - COVER

HUGHES WELL PAD & ACCESS ROADS

Drawn by: AJG Date: 1/29/15  
Scale: AS NOTED Sheet: 1 of 1  
Title: EAGLE DISTRICT, HARRISON COUNTY, MANNINGTON DISTRICT, MARION COUNTY, WEST VIRGINIA  
File No.: XTO-0037-11







Mining Layers

Layer	Permit Id	Name
unregistered.mt		ROBINSON RUN NO 95

Attribute	Value
WVGES_CONVM	Digital Polygon from 2008, 2010
MIDS_URL	http://www.wvgs.wvnet.edu/www/
MAP_YEAR	2010
ST_AREA_SH	12553401.282
ZSORT	2095
COMPANY_MA	CONSOL ENERGY

1 features selected. Get Details for 5000940A

Add Points

Lat deg	Lat min	Lat sec	Lon deg	Lon min	Lon sec	Label
38.453886	0	0	-80.370039	0	0	new point
0	0	0	0	0	0	new point

Enter lon/lat in the table above. Decimals can be used in any field.

New Zoom Delete

new point

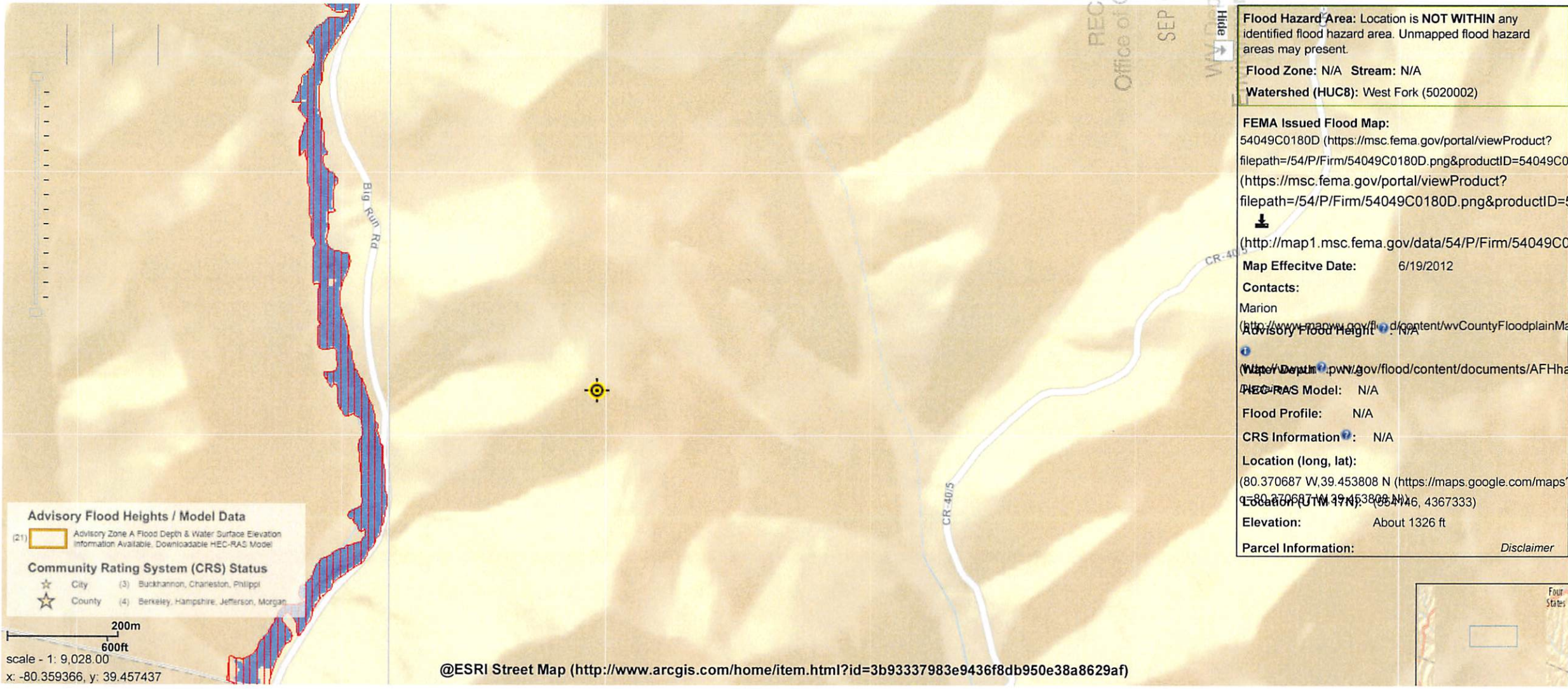
500 m

2000 ft

10/23/2015

Overlay basemap: none





**Advisory Flood Heights / Model Data**

(21) [Hatched Box] Advisory Zone A Flood Depth & Water Surface Elevation Information Available. Downloadable HEC-RAS Model

**Community Rating System (CRS) Status**

- ☆ City (3) Buckhannon, Charleston, Philippi
- ☆ County (4) Berkeley, Hampshire, Jefferson, Morgan

200m  
600ft  
scale - 1: 9,028.00  
x: -80.359366, y: 39.457437

@ESRI Street Map (<http://www.arcgis.com/home/item.html?id=3b93337983e9436f8db950e38a8629af>)

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 WV Department of Environmental Protection

**Flood Hazard Area:** Location is **NOT WITHIN** any identified flood hazard area. Unmapped flood hazard areas may present.

**Flood Zone:** N/A **Stream:** N/A

**Watershed (HUC8):** West Fork (5020002)

**FEMA Issued Flood Map:**  
 54049C0180D (<https://msc.fema.gov/portal/viewProduct?filepath=/54/P/Firm/54049C0180D.png&productID=54049C0180D>)  
 (https://msc.fema.gov/portal/viewProduct?filepath=/54/P/Firm/54049C0180D.png&productID=54049C0180D)  
 (http://map1.msc.fema.gov/data/54/P/Firm/54049C0180D.png&productID=54049C0180D)

**Map Effective Date:** 6/19/2012

**Contacts:**  
 Marion  
 (http://www.marionwv.gov/flood/content/wvCountyFloodplainMa)

**Advisory Flood Height:** N/A  
 (http://www.marionwv.gov/flood/content/documents/AFHha)

**HEC-RAS Model:** N/A  
**Flood Profile:** N/A  
**CRS Information:** N/A

**Location (long, lat):**  
 (80.370687 W, 39.453808 N (<https://maps.google.com/maps?location=80.370687,-39.453808>))  
 (UTM: 17N, 46, 4367333)

**Elevation:** About 1326 ft

**Parcel Information:** Disclaimer

