



west virginia department of environmental protection

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

September 27, 2013

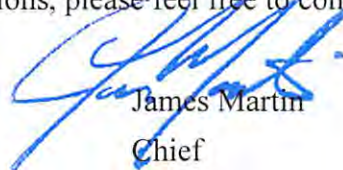
WELL WORK PERMIT
Horizontal 6A Well

This permit, API Well Number: 47-3305790, 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: ANDERSON UNIT A 7H
Farm Name: CONSOLIDATION COAL COMPA
API Well Number: 47-3305790
Permit Type: Horizontal 6A Well
Date Issued: 09/27/2013

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

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACOE). Through this permit, you are hereby being advised to consult with USACOE 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 fifty (50) 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 fill material shall be within plus or minus 2% of the optimum moisture content as determined by the standard proctor density test, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. Each lift must meet 95 % compaction of the optimum density based on results from the standard proctor density test of the actual soils used in specific engineered fill sites. 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.

09/27/2013

33-05790

WW - 6B
(3/13)

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

33 4 606

1) Well Operator: XTO Energy, Inc. 494487940 Harrison Eagle Shinnston 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Anderson Unit A 7H Well Pad Name: Anderson Unit A

3 Elevation, current ground: 1,087' Elevation, proposed post-construction: 1,084'

4) Well Type: (a) Gas Oil Underground Storage
Other _____
(b) If Gas: Shallow Deep
Horizontal

5) Existing Pad? Yes or No: No

SPW
7/31/2013

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Target Formation: Marcellus, Depth 7,055', Anticipated Thickness: 150', Associated pressure: 4,650 psi

7) Proposed Total Vertical Depth: 7,190'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 13,500'

10) Approximate Fresh Water Strata Depths: 70'

11) Method to Determine Fresh Water Depth: Offsetting Reports

12) Approximate Saltwater Depths: 623'

13) Approximate Coal Seam Depths: 149', 245'

14) Approximate Depth to Possible Void (coal mine, karst, other): Possible Williams Coal Mine - 149'

15) Does proposed well location contain coal seams directly overlying or adjacent to an active mine? If so, indicate name and depth of mine: No

16) Describe proposed well work: Drill a new horizontal Marcellus well, utilizing synthetic mud and a closed loop system for both drilling and completion. Install new casing with centralizers.

17) Describe fracturing/stimulating methods in detail:
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 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 antiscalant 30. 3. Flush Stage - Slickwater water stage to fill the wellbore to flush the sand from the wellbore. Depending on the water quality, a trioxide, friction reducer, iron control, and scale inhibitor may be injected during the completion as well.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 6.78+/-

19) Area to be disturbed for well pad only, less access road (acres): 5.26+/-

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33-05790

WW - 6B
(3/13)

20)

CASING AND TUBING PROGRAM

| TYPE | Size | New or Used | Grade | Weight per ft. | FOOTAGE: For Drilling | INTERVALS: Left in Well | CEMENT: Fill -up (Cu. Ft.) |
|--------------|---------|-------------------|---------|-------------------|--------------------------|----------------------------|-------------------------------|
| Conductor | 24" | New | Class B | 94# | 40' | 40' | 40 cuft - C.T.S. |
| Fresh Water | 13 3/8" | New | MS-50 | 48# | 300' | 300' | 270 cuft - C.T.S. |
| Coal | | | | | | | |
| Intermediate | 9 5/8" | New | J-55 | 36# | 2625' | 2625' | Lead 980'/Tail 210' - C.T.S. |
| Production | 5 1/2" | New | CYP-110 | 17# | 13500' | 13500' | 2960 cuft |
| Tubing | | | | | | | |
| Liners | | | | | | | |

SDW 7/31/2015

| TYPE | Size | Wellbore Diameter | Wall Thickness | Burst Pressure | Cement Type | Cement Yield |
|--------------|---------|----------------------|-------------------|-------------------|----------------|---------------------|
| Conductor | 24" | 28" | 0.375" | n/a | Concrete | 1.19 |
| Fresh Water | 13 3/8" | 17.5" | 0.33" | 2,160 | Type 1 | 1.19 |
| Coal | | | | | | |
| Intermediate | 9 5/8" | 12.25" | 0.352" | 3,520 | Type 1 | Lead 1.26/Tail 1.19 |
| Production | 5 1/2" | 8.75" 8.5"/7.875" | 0.304" | 10,640 | Type 1 | 1.32 |
| Tubing | | | | | | |
| Liners | | | | | | |

PACKERS

| | | | | |
|-------------|--|--|--|--|
| Kind: | | | | |
| Sizes: | | | | |
| Depths Set: | | | | |

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WW - 6B
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21) Describe centralizer placement for each casing string. _____

Conductor: none

Fresh Water: 1"-6" above float shoe, 1 at float collar, & 1 at every 4th joint to surface

Intermediate: 1"-6" above float shoe, 1 at float collar, & 1 at every 4th joint to surface

Production: 1 at every 4th joint from the kickoff point to 1000' above the kickoff point

22) Describe all cement additives associated with each cement type. _____

Conductor - Concrete - no additives

Fresh Water - Tail - Type 1 - 2% Calcium Chloride, Super Flake

Intermediate - Lead - Type 1 - 2% Calcium Chloride, Super Flake

Tail - Type 1 - 2% Calcium Chloride, Super Flake

Production - Tail 50/50 POZ - Type 1 - Sodium Chloride, Bentonite, Super Flake, Air-Out, R-1, AG-350

23) Proposed borehole conditioning procedures. _____

See attached sheet

*Note: Attach additional sheets as needed.

33-05790

Anderson Unit A 7H Detailed Casing and Cementing Program

| Type | Hole Size | Casing Design/Program | | | | | | | | Cementing Program | | | |
|-----------------------|----------------------|-----------------------|--------|----------------------|---------|--------------|----------------|-----------------------|---|--------------------------|-------------------|---|----------------------------|
| | | Size | Length | Top/Bottom of String | Grade | Weight (ppf) | Wall Thickness | Burst Pressure Rating | Centralizer Placement | Type | Yield (cu. ft/sk) | Additives (trade names are Superior Well Services) | Estimated Volume (cu. ft.) |
| Conductor | 28" | 24" | 40' | 0' / 40' | Class B | 94 | 0.375 | n/a | none | concrete | 1.19 | none | 40 |
| Coal | 22" | 18" | TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| Surface / Fresh Water | 17.5" | 13-3/8" | 300' | 0' / 300' | MS-50 | 48 | 0.33" | 2160 | 1-6" above float shoe 1-at float collar 1-every 4th jt to surface | Tail-Type 1 | 1.19 | Calcium chloride, Super Flake | 280 |
| Intermediate | 12.25" | 9-5/8" | 2625 | 0' / 2625' | J-55 | 36 | 0.352" | 3520 | 1-6" above float shoe 1-at float collar 1-every 4th jt to surface | Lead-Type 1 | 1.26 | Calcium Chloride, Super Flake | 980 |
| | | | | | | | | | | Tail-Type 1 | 1.19 | Calcium chloride, Super Flake | 210 |
| Production | 8.75" 8.5"/7.875" | 5-1/2" | 13,500 | 0' / 13500' | CYP-110 | 17 | 0.304 | 10640 | Every 4th joint from 1000" above KOP to KOP | Tail-50/50 POZ:Type 1 | 1.32 | Sodium chloride, bentonite, Super Flake, Air-Out, R-1, AG-350 | 3110 |
| Tubing | | | | | | | | | | | | | |
| Liners | | | | | | | | | | | | | |

Anderson Unit A 7H Proposed Directional Data

| Hole Section | Hole Size | Drilling Fluid | Condition Procedures | | | |
|--------------|---------------------|-----------------------------|---|--|--|---|
| | | | Drilling | At TD | Running Casing | Prior to Cementing |
| Conductor | 28 | Air/Water | Hole will be circulated with high pressure air | Hole will be blown clean with air prior to pulling out of hole to run casing | Hole will be filled with fluid and circulated to surface if conditions require | Casing will be filled with fluid and returns taken at surface prior to pumping cement |
| Coal | 22" | Air/Water | Hole will be circulated with high pressure air | Hole will be blown clean with air prior to pulling out of hole to run casing | Hole will be filled with fluid and circulated to surface if conditions require | Casing will be filled with fluid and returns taken at surface prior to pumping cement |
| Fresh Water | 17.5 | Air/Water | Hole will be circulated with high pressure air | Hole will be blown clean with air prior to pulling out of hole to run casing | Hole will be filled with fluid and circulated to surface if conditions require | Casing will be filled with fluid and returns taken at surface prior to pumping cement |
| Intermediate | 12.25 | Air/Water | Hole will be circulated with high pressure air | Hole will be blown clean with air prior to pulling out of hole to run casing | Hole will be filled with fluid and circulated to surface if conditions require | Casing will be filled with fluid and returns taken at surface prior to pumping cement |
| Production | 8.75 8.5"/7.875" | Air / Non-aqueous based mud | cuttings out of the hole, MW will be approximately 11.5ppg-14.0ppg for stability and overbalance. As required, the hole will be circulated at high pump | The hole will be circulated at maximum possible pump rate and the drill string will be rotated at the maximum rpm. | Hole will be circulated as necessary while running casing. | Hole will be circulated at least one bottoms up prior to pumping cement. |
| Tubing | | | | | | |
| Liners | | | | | | |

Anderson Unit A 7H Proposed Directional Data

| | Measured Depth | Inclination Angle | Azimuth Direction | |
|---|----------------|-------------------|-------------------|-------------|
| Proposed Angle/Direction of Well | | 90 | 311 | Lateral |
| Angle and Direction of Non-vertical wellbore until target | | 10 | 263 | Curve/Throw |
| Approx. Depth at which well deviates from vertical | 1000 | 5 | 270 | Nudge |

Other directional data

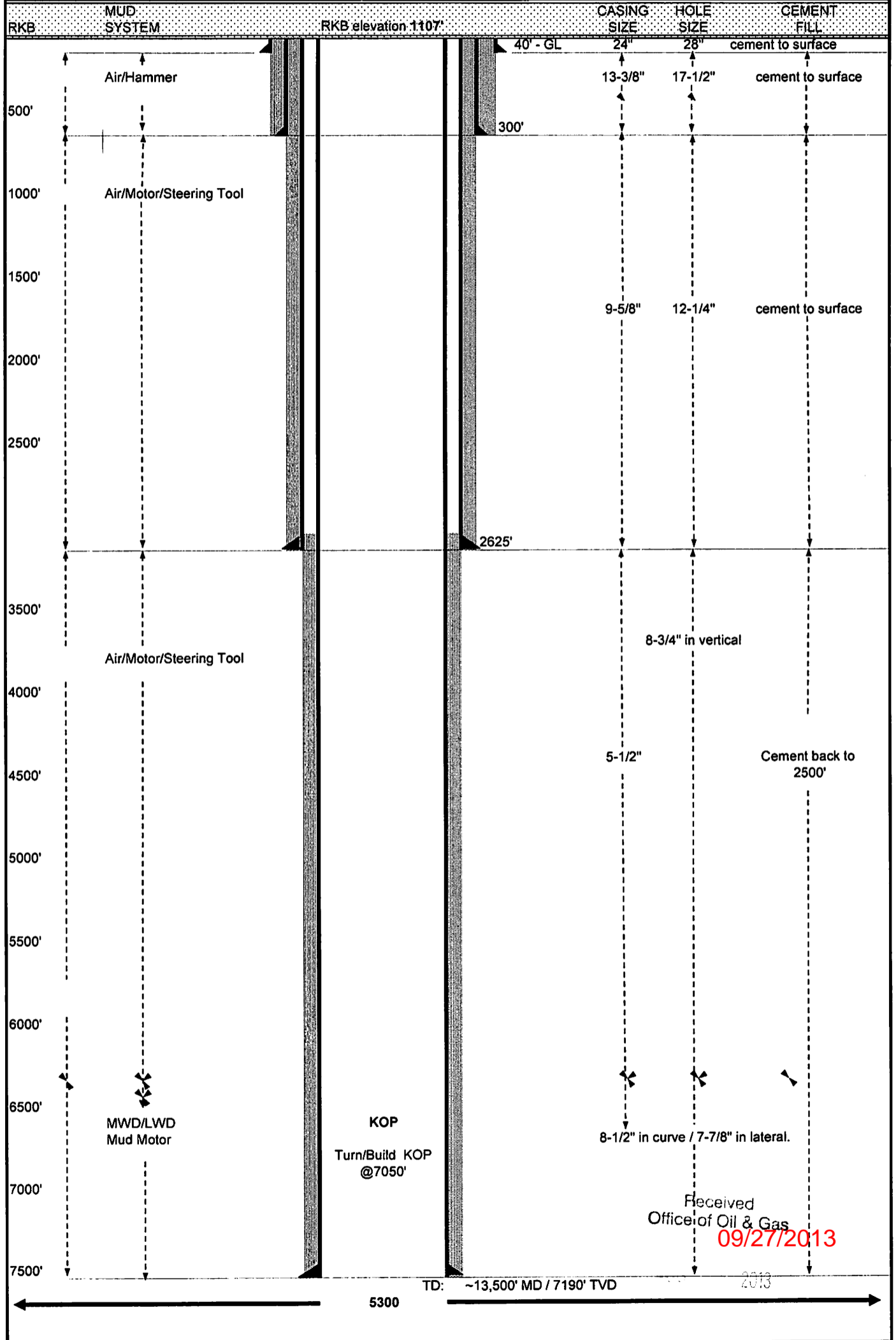
KOP 3000
 LP 8000
 TD 13500

approx. TD 14500 (rounded up)

Houston
Office of Oil & Gas

2013

Anderson Unit A 7H
 Marion County, West Virginia
 New Drill Horizontal Well



33-05790

WW-9
(5/13)

Page _____ of _____
API Number 47 - _____ - _____
Operator's Well No. Anderson Unit A 7H

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'

Elevation 1,087' County Harrison District Eagle

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

Will a pit be used for drill cuttings? Yes No

If so, please describe anticipated pit waste: NA

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, 3405320968, 3405924067, 3412124037, 3416729577, 4705500319, 4708509721)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

*SDW
7/31/2013*

Will closed loop system be used? Yes

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Cond/Surf/intrm on air/water, prod. on air 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, S&S Landfill - #SWF 4902

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

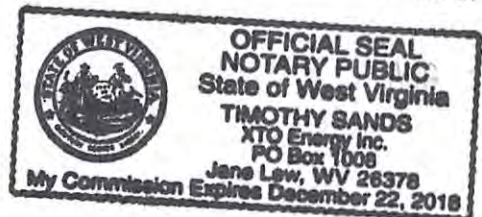
Company Official Title Production Superintendent

Subscribed and sworn before me this 24th day of June, 2013

[Signature] Notary Public

My commission expires 12/22/18

Received **09/27/2013**
Office of Oil & Gas



2013

33-05790

Form WW-9

Operator's Well No. Anderson Unit A 7H

XTO Energy, Inc.

Proposed Revegetation Treatment: Acres Disturbed 6.78+/- Prevegetation pH _____

Lime ⁶ _____ Tons/acre or to correct to pH _____

Fertilizer (10-20-20 or equivalent) 1000 lbs/acre (500 lbs minimum)

Mulch ³ _____ Tons/acre

Seed Mixtures

| Seed Type | Area I | lbs/acre | Seed Type | Area II | lbs/acre |
|-----------|--------|----------|-------------------|---------|----------|
| Timothy | | 50 | Steep Slope | | |
| | | | Birdsfoot Trefoil | | 10 |
| | | | Tall Fescue | | 50 |

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: S. P. O'Connell

Comments: Pre-seed mulch as soon as reasonably possible. Upgrade R/S where necessary, per WU DEP E+S manual.

Title: Oil + Gas Inspector Date: 7/31/2013

Field Reviewed? Yes No

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09/27/2013



Water Management Plan: Primary Water Sources



WMP-01489

API/ID Number: 047-033-05790

Operator:

XTO Energy

Anderson Unit A 7H

Important:

For each proposed primary water source (including source intakes for purchased water sources) identified in your water management plan, and summarized herein, DEP has made an evaluation concerning water availability over the specified date range. DEP's assessment is based on the following considerations:

- Statistical analysis of historical USGS stream gauge data (transferred to un-gauged locations as necessary);
- Identification of sensitive aquatic life (endangered species, mussels, etc.);
- Quantification of known existing demands on the water supply (Large Quantity Users);
- Minimum flows required by the Army Corps of Engineers; and
- Designated stream uses.

Based on these factors, DEP has provided, for each intake location (and origination point for purchased water), a reference gauge location and discharge flow reading which must be surpassed prior to withdrawals. Additionally, DEP has established a minimum passby flow at the withdrawal location which must also be surpassed prior to withdrawals. These thresholds are considered terms of the permit and are enforceable as such.

DEP is aware that some intake points will be used for multiple wells and well sites. In these cases, the thresholds set by the Water Management Plan are to be interpreted as total withdrawal limits for each location over the specified date range regardless of how many wells are supported by that intake.

For all purchased water intakes, determinations of water availability are made at the original source intake location. It is the responsibility of the Oil and Gas Operator, not the seller, to cease withdrawal of water from the seller when flows are less than the minimum gauge reading at the stream gauge referenced by the Water Management Plan in order to protect stream uses.

Note that the determinations made herein are based on the best available data, but it is impossible to predict water availability in the future. While the DEP has carefully established these minimum withdrawal thresholds, it remains the operator's responsibility to protect aquatic life at all times. Approval to withdrawal is contingent upon permission from the land owner. It is the responsibility of the operator to secure and maintain permission prior to any withdrawals.

The operator is reminded that 24-48 hours prior to withdrawing (or purchasing) water, DEP must be notified by email at DEP.water.use@wv.gov.

APPROVED SEP 26 2013

09/27/2013

Source Summary

WMP-01489

API Number:

047-033-05790

Operator:

XTO Energy

Anderson Unit A 7H

Stream/River

● Source **West Fork River (Location A)** Harrison Owner: **Chad McDougal**

| Start Date | End Date | Total Volume (gal) | Max. daily purchase (gal) | Intake Latitude: | Intake Longitude: |
|------------|-----------|--------------------|---------------------------|------------------|-------------------|
| 10/1/2013 | 10/1/2014 | 6,048,000 | | 39.430885 | -80.274975 |

Regulated Stream? Stonewall Jackson Dam Ref. Gauge ID: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Max. Pump rate (gpm): **1,500** Min. Gauge Reading (cfs): **153.58** Min. Passby (cfs) **146.25**

DEP Comments:

● Source **West Fork River (Location B)** Marion Owner: **Nick & Merelyn Deemus**

| Start Date | End Date | Total Volume (gal) | Max. daily purchase (gal) | Intake Latitude: | Intake Longitude: |
|------------|-----------|--------------------|---------------------------|------------------|-------------------|
| 10/1/2013 | 10/1/2014 | 6,048,000 | | 39.451231 | -80.269158 |

Regulated Stream? Stonewall Jackson Dam Ref. Gauge ID: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Max. Pump rate (gpm): **1,792** Min. Gauge Reading (cfs): **153.58** Min. Passby (cfs) **146.25**

DEP Comments:

09/27/2013

Source Detail

WMP-01489

API/ID Number: 047-033-05790

Operator: XTO Energy

Anderson Unit A 7H

Source ID: 26181 Source Name: West Fork River (Location A)
Chad McDougal

Source Latitude: 39.430885
Source Longitude: -80.274975

HUC-8 Code: 5020002

Drainage Area (sq. mi.): 766.29 County: Harrison

Anticipated withdrawal start date: 10/1/2013

Anticipated withdrawal end date: 10/1/2014

- Endangered Species? Mussel Stream?
- Trout Stream? Tier 3?
- Regulated Stream? Stonewall Jackson Dam
- Proximate PSD?
- Gauged Stream?

Total Volume from Source (gal): 6,048,000

Max. Pump rate (gpm): 1,500

Max. Simultaneous Trucks:

Max. Truck pump rate (gpm)

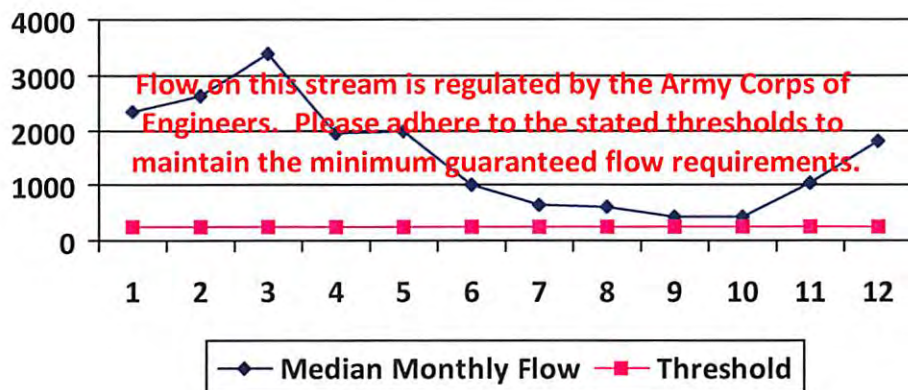
Reference Gaug: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Drainage Area (sq. mi.): 759.00

Gauge Threshold (cfs): 234

| Month | <u>Median monthly flow</u> (cfs) | <u>Threshold</u> (+ pump) | <u>Estimated Available</u> <u>water</u> (cfs) |
|-------|-------------------------------------|------------------------------|--|
| 1 | 2,348.15 | - | - |
| 2 | 2,643.77 | - | - |
| 3 | 3,405.30 | - | - |
| 4 | 1,947.53 | - | - |
| 5 | 1,999.05 | - | - |
| 6 | 1,001.66 | - | - |
| 7 | 648.98 | - | - |
| 8 | 619.67 | - | - |
| 9 | 431.17 | - | - |
| 10 | 422.73 | - | - |
| 11 | 1,060.79 | - | - |
| 12 | 1,811.10 | - | - |

Water Availability Profile



Water Availability Assessment of Location

| | |
|-------------------------------|------|
| Base Threshold (cfs): | - |
| Upstream Demand (cfs): | 0.00 |
| Downstream Demand (cfs): | 3.99 |
| Pump rate (cfs): | 3.34 |
| Headwater Safety (cfs): | 0.00 |
| Ungauged Stream Safety (cfs): | 0.00 |
| <hr/> | |
| Min. Gauge Reading (cfs): | - |
| Passby at Location (cfs): | - |

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

09/27/2013

Source Detail

WMP- 01489

API/ID Number: 047-033-05790

Operator:

XTO Energy

Anderson Unit A 7H

Source ID: 26182 Source Name: West Fork River (Location B)
 Nick & Merelyn Deemus

Source Latitude: 39.451231
 Source Longitude: -80.269158

HUC-8 Code: 5020002

Drainage Area (sq. mi.): 815.05 County: Marion

Anticipated withdrawal start date: 10/1/2013

Anticipated withdrawal end date: 10/1/2014

- Endangered Species? Mussel Stream?
- Trout Stream? Tier 3?
- Regulated Stream? Stonewall Jackson Dam
- Proximate PSD?
- Gauged Stream?

Total Volume from Source (gal): 6,048,000

Max. Pump rate (gpm): 1,792

Max. Simultaneous Trucks: 8

Max. Truck pump rate (gpm): 224

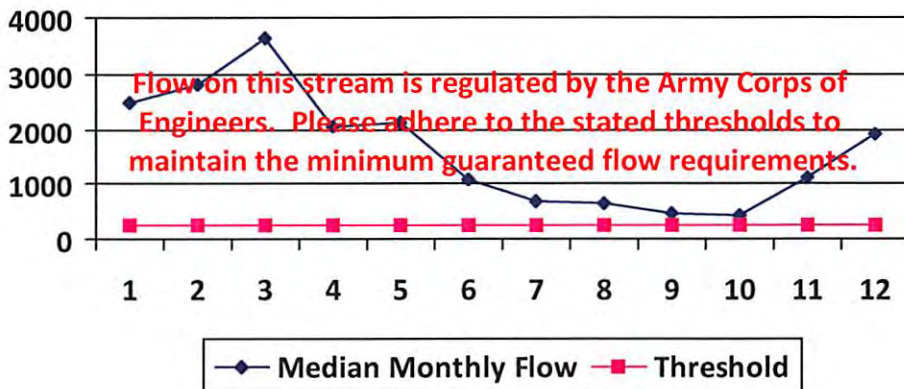
Reference Gaug: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

Drainage Area (sq. mi.): 759.00

Gauge Threshold (cfs): 234

| Month | Median monthly flow (cfs) | Threshold (+ pump) | Estimated Available water (cfs) |
|-------|---------------------------|--------------------|---------------------------------|
| 1 | 2,497.56 | - | - |
| 2 | 2,812.00 | - | - |
| 3 | 3,621.98 | - | - |
| 4 | 2,071.45 | - | - |
| 5 | 2,126.25 | - | - |
| 6 | 1,065.40 | - | - |
| 7 | 690.28 | - | - |
| 8 | 659.10 | - | - |
| 9 | 458.60 | - | - |
| 10 | 449.63 | - | - |
| 11 | 1,128.29 | - | - |
| 12 | 1,926.34 | - | - |

Water Availability Profile



Water Availability Assessment of Location

| | |
|-------------------------------|------|
| Base Threshold (cfs): | - |
| Upstream Demand (cfs): | 3.34 |
| Downstream Demand (cfs): | 0.00 |
| Pump rate (cfs): | 3.99 |
| Headwater Safety (cfs): | 0.00 |
| Ungauged Stream Safety (cfs): | 0.00 |
| Min. Gauge Reading (cfs): | - |
| Passby at Location (cfs): | - |

"Threshold", as depicted in the chart above is meant only to indicate the calculated base threshold at the proposed withdrawal location. This value does not include the proposed pump rate or existing demand on the stream. Refer to the monthly breakdown above for a more complete estimation of water availability by month.

09/27/2013



Water Management Plan: Secondary Water Sources



WMP-01489

API/ID Number: 047-033-05790

Operator:

XTO Energy

Anderson Unit A 7H

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Multi-site impoundment

| | | | | | | |
|---------------------------|----------|--------------|------------------------|---------------------------------|--------------------|-----------|
| Source ID: | 26184 | Source Name | McClelland Impoundment | | Source start date: | 10/1/2013 |
| | | | | | Source end date: | 10/1/2014 |
| Source Lat: | 39.44971 | Source Long: | -80.324501 | County | Marion | |
| Max. Daily Purchase (gal) | | | | Total Volume from Source (gal): | 6,048,000 | |

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

Reference: WMP-120

WMP- 01489

API/ID Number 047-033-05790

Operator:

XTO Energy

Anderson Unit A 7H

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
 - For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.
-

Other

Source ID: 26183 Source Name Williams Mine AMD Pond Source start date: 10/1/2013
Source end date: 10/1/2014

Source Lat: 39.445309 Source Long: -80.354981 County Marion

Max. Daily Purchase (gal) Total Volume from Source (gal): 6,048,000

DEP Comments:

Recycled Frac Water

Source ID: 26185 Source Name Various Source start date: 10/1/2013
Source end date: 10/1/2014

Source Lat: Source Long: County

Max. Daily Purchase (gal) Total Volume from Source (gal): 6,048,000

DEP Comments:

Anderson Unit A 7H Water



HUPP Surveying & Mapping

P.O. BOX 647 GRANTSVILLE, WV 26147
PH (304)354-7035 E-MAIL hupp@frontiernet.net

1" = 1000'
Shinnston Quad

XTO Energy Inc.
810 Houston Street
Fort Worth, TX 76102

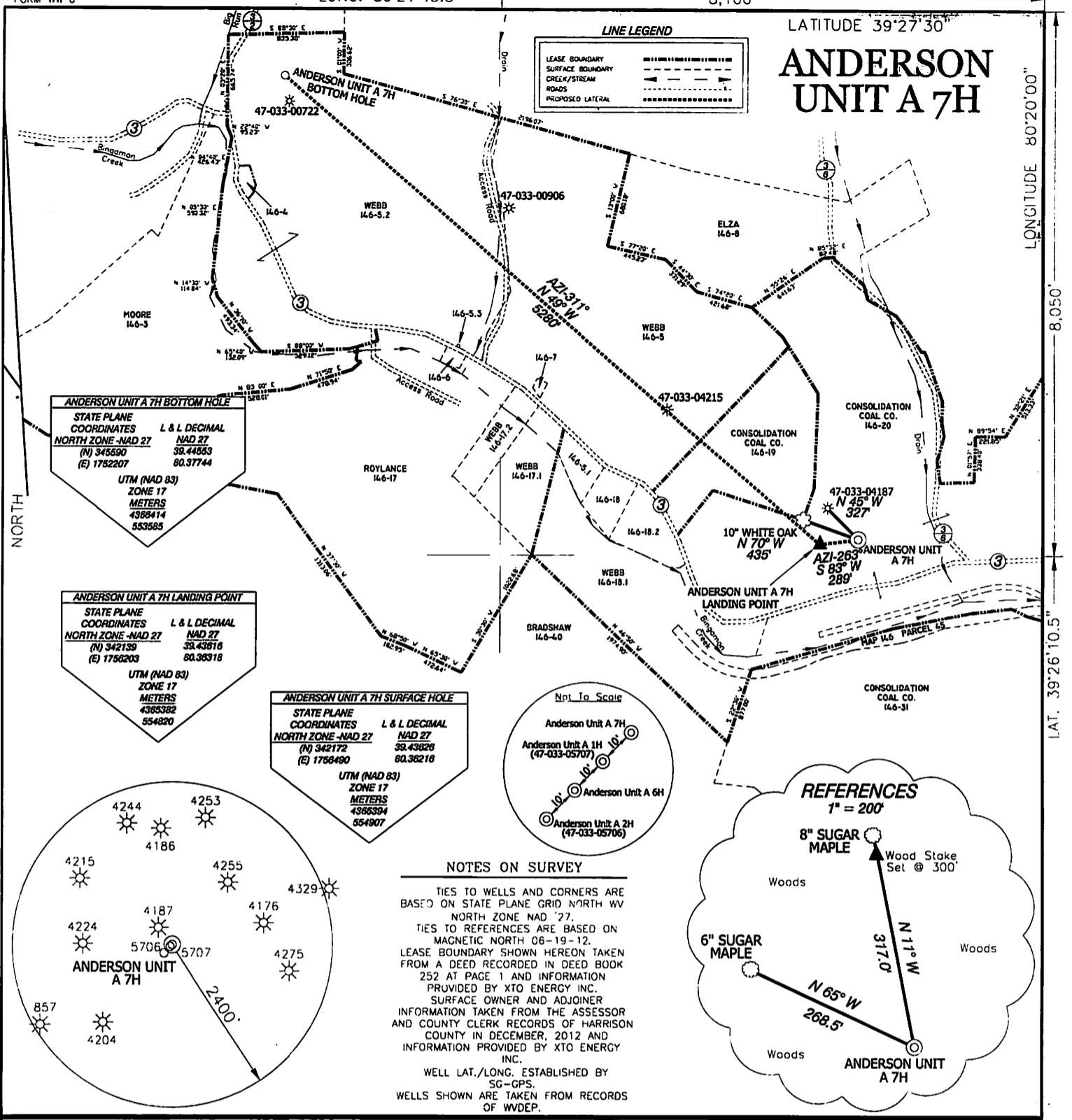
Received 09/27/2013
Office of Oil & Gas

AUG - 5 2013

ANDERSON UNIT A 7H

LINE LEGEND

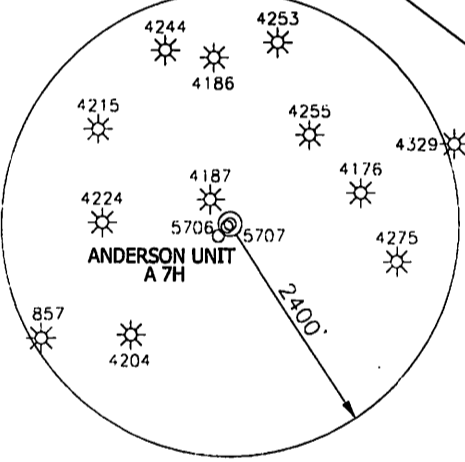
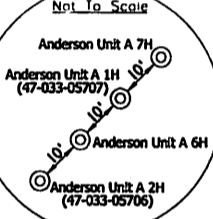
| | |
|------------------|---------|
| LEASE BOUNDARY | --- |
| SURFACE BOUNDARY | ---- |
| CREEK/STREAM | ~~~~~ |
| ROADS | —+—+—+— |
| PROPOSED LATERAL | |



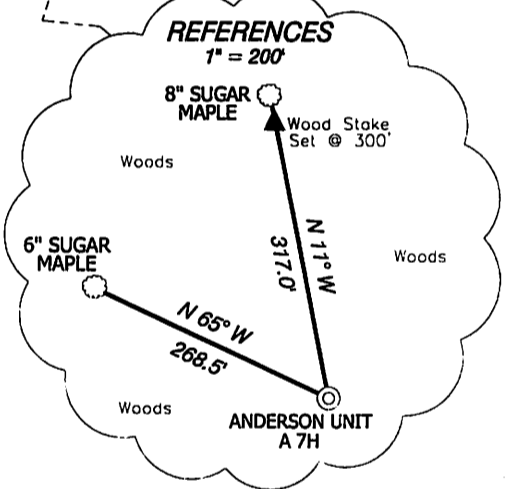
ANDERSON UNIT A 7H BOTTOM HOLE
 STATE PLANE COORDINATES L & L DECIMAL
 NORTH ZONE -NAD 27 NAD 27
 (N) 345690 39.44583
 (E) 1782207 80.37744
 UTM (NAD 83) ZONE 17 METERS
 4368414 583985

ANDERSON UNIT A 7H LANDING POINT
 STATE PLANE COORDINATES L & L DECIMAL
 NORTH ZONE -NAD 27 NAD 27
 (N) 342139 39.43816
 (E) 1786203 80.36318
 UTM (NAD 83) ZONE 17 METERS
 4368382 554820

ANDERSON UNIT A 7H SURFACE HOLE
 STATE PLANE COORDINATES L & L DECIMAL
 NORTH ZONE -NAD 27 NAD 27
 (N) 342172 39.43828
 (E) 1786490 80.36218
 UTM (NAD 83) ZONE 17 METERS
 4368394 554907



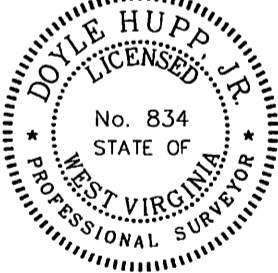
NOTES ON SURVEY
 TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '27.
 TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 06-19-12.
 LEASE BOUNDARY SHOWN HEREON TAKEN FROM A DEED RECORDED IN DEED BOOK 252 AT PAGE 1 AND INFORMATION PROVIDED BY XTO ENERGY INC.
 SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF HARRISON COUNTY IN DECEMBER, 2012 AND INFORMATION PROVIDED BY XTO ENERGY INC.
 WELL LAT./LONG. ESTABLISHED BY SG-GPS.
 WELLS SHOWN ARE TAKEN FROM RECORDS OF WVDEP.



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 834

DOYLE HUPP JR.
 HUPP Surveying & Mapping
 P.O. Box 647 Grantsville, WV 26147
 (304) 354-7035 EMAIL: hupp@frontiernet.net



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JUNE 28, 20 13
 OPERATORS WELL NO. ANDERSON UNIT A 7H
 API WELL NO. 47-033-05790
 STATE COUNTY PERMIT H6A

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W1810 (BK47-57)
 PROVEN SOURCE OF ELEVATION SG-GPS SCALE 1" = 1000'

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

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

LOCATION :
 ELEVATION 1,087' WATERSHED BINGAMON CREEK
 DISTRICT EAGLE COUNTY HARRISON QUADRANGLE SHINNSTON 7.5'

SURFACE OWNER CONSOLIDATION COAL COMPANY ACREAGE 143.79±
 ROYALTY OWNER JOHN ANDERSON, et al LEASE ACREAGE 330.52± **09/27/2013**

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

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH TVD- 7,200' MD- 14,500'

WELL OPERATOR XTO ENERGY INC. DESIGNATED AGENT GARY BEALL
 ADDRESS 810 HOUSTON STREET FORT WORTH, TX 76102 ADDRESS P.O. BOX 1008 JANE LEW, WV 26378

COUNTY NAME
 PERMIT