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

PERMIT MODIFICATION APPROVAL

June 14, 2013

XTO ENERGY, INC.
810 HOUSTON STREET
FORT WORTH , TX 76102

Re: Permit Modification Approval for API Number 3305727 , Well #: BOGGESS UNIT A 4H
MODIFIED INTERMEDIATE CASING

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

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

Sincerely,

Gene Smith
Regulatory/Compliance Manager
Office of Oil and Gas

06/14/2013

XTO ENERGY

WV DEP
Office of Oil & Gas
Attn: Gene Smith
601 57th Street
Charleston, WV 25304

June 7, 2013

RE: 47-033-05727 (Issued) Casing Plan Modification

Dear Mr. Smith:

Enclosed is a revised WW-6B for our Boggess Unit A 4H well, API 47-033-05727. The only item changed is the intermediate casing from 3600' to 2700'. Thanks for your attention to this matter.

Sincerely,

Tim Sands
Regulatory Compliance Technician
XTO Energy, Inc.
PO Box 1008
Jane Lew, WV 26378
Tim_Sands@xtoenergy.com
304-884-6036

033-05727

WW - 6B
(3/13)

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

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

2) Operator's Well Number: Boggess Unit A 4H Well Pad Name: Boggess Unit A Pad

3 Elevation, current ground: 1183' Elevation, proposed post-construction: 1183'

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

Modification
SDW
6/6/13

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Target Formation: Marcellus, Depth 7,089', Anticipated Thickness: 150', Associated pressure: 4,650 psi

7) Proposed Total Vertical Depth: 7,100'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 12,900'

10) Approximate Fresh Water Strata Depths: 114', 125'

11) Method to Determine Fresh Water Depth: Offsetting Reports

12) Approximate Saltwater Depths: 1012'

13) Approximate Coal Seam Depths: Pittsburgh Coal was strip mined at this location

14) Approximate Depth to Possible Void (coal mine, karst, other): None anticipated - Pittsburgh Coal was strip mined

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 to30/50 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 antiscale 30 3 Flush Stage - Slickwater water stage to fill the wellbore to flush the sand from the wellbore Depending on the [illegible], biocide, friction reducer, iron control, and scale inhibitor may be injected during the completion as well

Received
JUN 10 2013

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 +/-

Office of Oil and Gas
WV Dept. of Environmental Protection

06/14/2013

033-05727

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	20"	New	H-40	94#	40'	40'	40 cuft - C.T.S.
Fresh Water	13 3/8"	New	MS-50	48#	400'	400'	400 cuft - C.T.S.
Coal							
Intermediate	9 5/8"	New	J-55	36#	2700'	2700'	Lead 800'/Tail 800' - C.T.S.
Production	5 1/2"	New	CYP-110	17#	12900'	12900'	2500 cuft
Tubing							
Liners							

Modification SDW 6/6/13

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	20"	24"	0.438"	960	Type 1	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:				

west virginia department of environmental protection

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Earl Ray Tomblin, Governor
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May 03, 2013

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-3305727, 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: BOGGESS UNIT A 4H
Farm Name: XTO ENERGY INC.
API Well Number: 47-3305727
Permit Type: Horizontal 6A Well
Date Issued: 05/03/2013

Promoting a healthy environment.

06/14/2013

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. 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.

2. 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% (unless soil test results show a greater range of moisture content is appropriate and 95% compaction can still be achieved) 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.

3. 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.

4. 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.

5. 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.

WW - 6B
(1/12)

33-05727

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 3rd joint from top of cement to landing point

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

Conductor - Type 1 - 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.

RECEIVED
JAN 22 2013

06/14/2013

WW-9
Rev. 1/12

API No. 47 - 33 - 05727
Operator's Well No. Boggess Unit A 4H

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

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name XTO Energy, Inc. OP Code 494487940

Watershed Reeses Run - A tributary of Little Tenmile Creek Quadrangle Wallace

Elevation 1183' County Harrison District Eagle

Description of anticipated Pit Waste: None- closed loop system - drilling fluids, formation cuttings, fluid & flowback to be stored in tanks & boxes until disposal.

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

Will a synthetic liner be used in the pit? No Pit - Closed Loop System. If so, what mil.? None

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
■ Underground Injection (UIC Permit Number See additional page)
_____ Reuse (at API Number _____)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain _____)

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? See additional page
Will closed loop system be used ? Yes
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, None - Closed Loop System
-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 _____

Company Official (Typed Name) Gary Beall

Company Official Title Production Superintendent

Subscribed and sworn before me this 17th day of December, 2012

_____ Notary Public

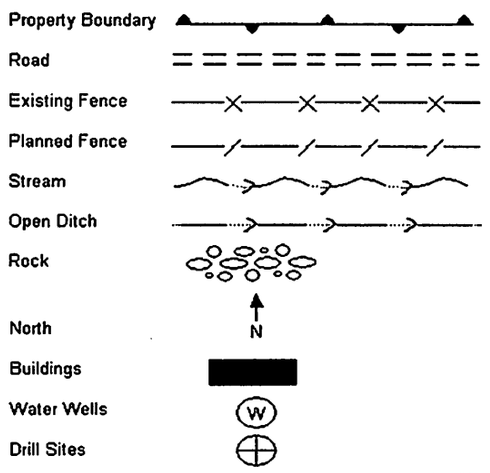
My commission expires 12/22/18

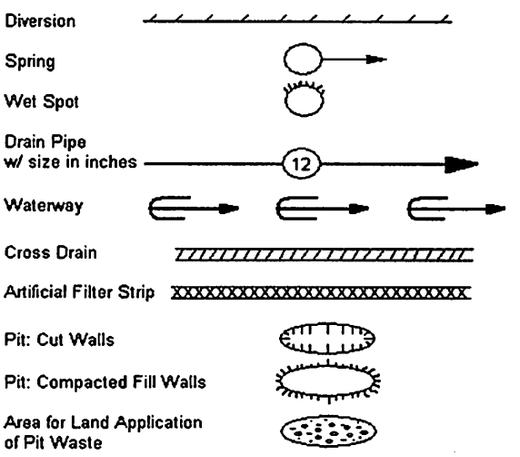
OFFICIAL SEAL
NOTARY PUBLIC
State of West Virginia
TIMOTHY SANDS
XTO Energy Inc.
PO Box 1008
Jane Lew, WV 26378
My Commission Expires December 22, 2018

JAN 22 2013 06/14/2013

WW-9
Rev. 1/12

API No. 47 - 33 - 05727
Operator's Well No. Boggess Unit A 4H





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

Lime 2-6 Tons/acre or to correct to pH _____

Fertilizer (10-20-20 or equivalent) 678 - 1000 lbs/acre (500 lbs minimum)

Mulch 3 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Timothy	50	Tall Fescue	40
		Birdsfoot Trefoil	10

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

Comments: _____

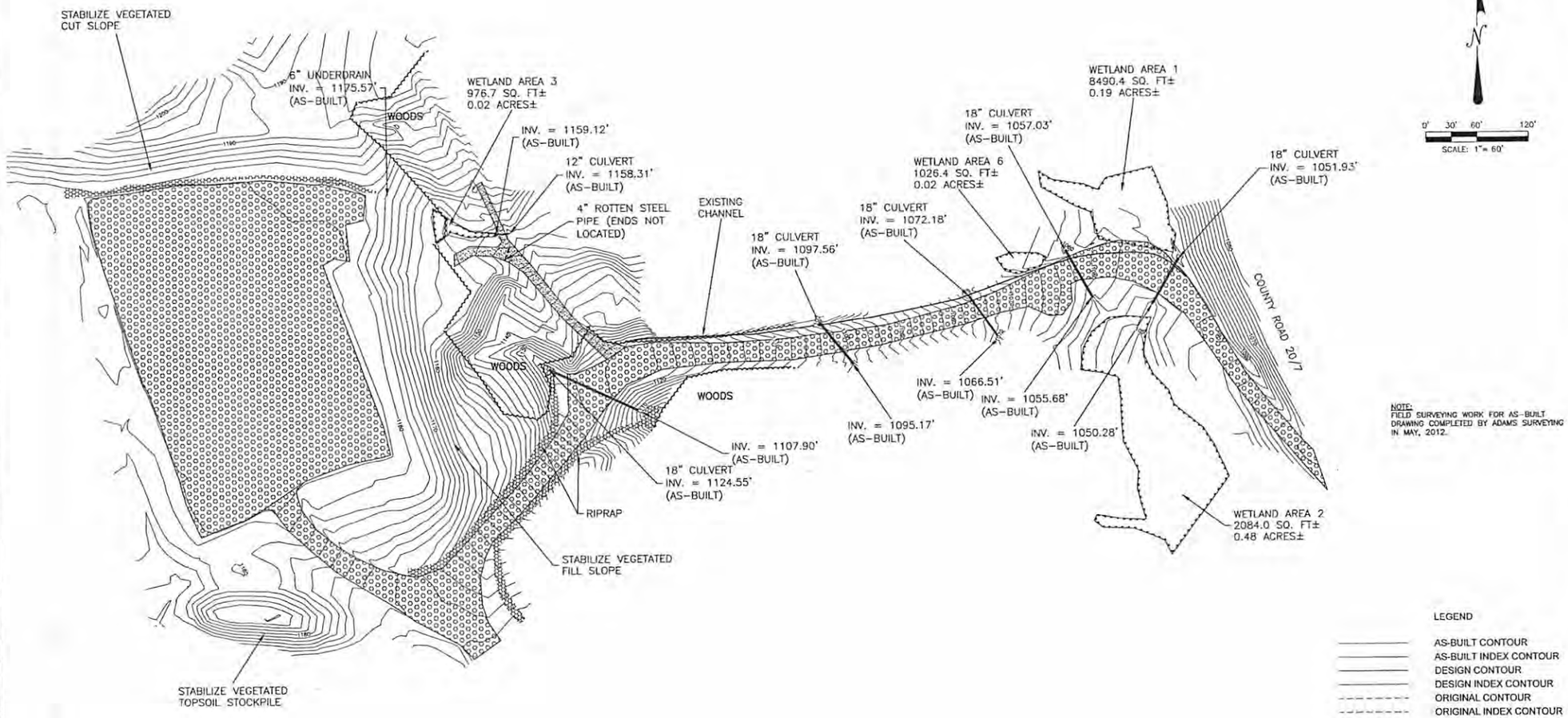
Title: Oil & Gas Inspector Date: 14/JAN13

Field Reviewed? (✓) Yes ( ) No

06/14/2013

JAN 22 2013

33-05727



NOTE:
FIELD SURVEYING WORK FOR AS-BUILT DRAWING COMPLETED BY ADAMS SURVEYING IN MAY, 2012.

LEGEND

- AS-BUILT CONTOUR
- AS-BUILT INDEX CONTOUR
- DESIGN CONTOUR
- DESIGN INDEX CONTOUR
- ORIGINAL CONTOUR
- ORIGINAL INDEX CONTOUR
- EDGE WETLAND
- EDGE WOODS
- GRAVELED ROAD AND PAD
- RIPRAP DITCH
- EXISTING ACCESS ROAD

811 Know what's below Call before you dig

CALL BEFORE YOU DIG
IN WEST VIRGINIA
1-800-245-4848

THE GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED IN THE SITE NO MORE TEN DAYS AND NO LESS THAN 48 HOURS IN ADVANCE OF EXCAVATION (WV CHAPTER 24C-1-5, UNDERGROUND FACILITY DAMAGE PREVENTION ACT).

WV STATE LAW REQUIRES
2 WORKING DAYS NOTICE

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ANY CHANGES IN DESIGN PLANS UNLESS WRITTEN CONSENT IS GIVEN BY THE ENGINEER. THE CONTRACTOR AND/OR THE OWNER WILL BE HELD RESPONSIBLE FOR ANY FIELD MODIFICATIONS MADE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER AND NECESSARY APPROVALS BY PERMITTING AGENCIES.

THE LOCATION OF EXISTING UTILITIES WERE TAKEN FROM RECORDS AND MARKING PROVIDED BY OTHERS AND OBSERVED EVIDENCE. THE LOCATIONS SHOWN MAY BE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS, SIZES AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGE TO ALL EXISTING UTILITIES.

CHARLES F. HAMMOND III — 11390 — STATE OF WEST VIRGINIA — REGISTERED PROFESSIONAL ENGINEER
8-8-2013

TAJ 14 Jan 13

REVISION BY:___ DATE:___ DESCRIPTION:___
REVISION BY:___ DATE:___ DESCRIPTION:___
REVISION BY:___ DATE:___ DESCRIPTION:___
REVISION BY:___ DATE:___ DESCRIPTION:___
REVISION BY:___ DATE:___ DESCRIPTION:___
REVISION BY:___ DATE:___ DESCRIPTION:___

DESIGNED BY: JMH
REVIEWED BY: MMV
DRAWN BY: JMH
DATE: AUGUST 2012
PROJ. NO.: 1637.53
DRAWING NO.: D-25568

SCALE: 1"=60'

Morris Knowles & Associates, Inc.
Consulting Engineers and Land Surveyors
343 Athens Drive
Daniels, WV 25832
Telephone: (724) 466-4922
Fax: (724) 466-8940

BOGGESS UNIT A 1H, 2H, 3H, 4H & 5H
prepared for
XTO ENERGY, INC.
attached
EAGLE DISTRICT, HARRISON COUNTY, WEST VIRGINIA
WELL SITE AS-BUILT CONDITIONS

DRAWING NO. D-25568

SHEET NO. 1 OF 2

Water Management Plan:
Primary Water Sources

WMP- 01046 API/ID Number: 047-033-05727 Operator: XTO Energy

Boggess Unit A 4H

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 mutiple wells and well sites. In these cases, the thresholds set by the Water Management Plan are to be interepreted 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 MAR 2 1 2013

06/14/2013

Source Summary

WMP-01046 | API Number: 047-033-05727 | Operator: XTO Energy

Boggess Unit A 4H

Stream/River

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

Start Date	End Date	Total Volume (gal)	Max. daily purchase (gal)	Intake Latitude:	Intake Longitude:
6/1/2013	6/1/2014	100,000		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): 151.91** **Min. Passby (cfs) 146.25**

DEP Comments:

APPROVED MAR 2 1 2013

06/14/2013

Source Detail

WMP-01046 | API/ID Number: 047-033-05727 | Operator: XTO Energy

Boggess Unit A 4H

Source ID: 13287 | 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: 6/1/2013

Anticipated withdrawal end date: 6/1/2014

Total Volume from Source (gal): 100,000

Max. Pump rate (gpm): 1,792

Max. Simultaneous Trucks: 8

Max. Truck pump rate (gpm) 224

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

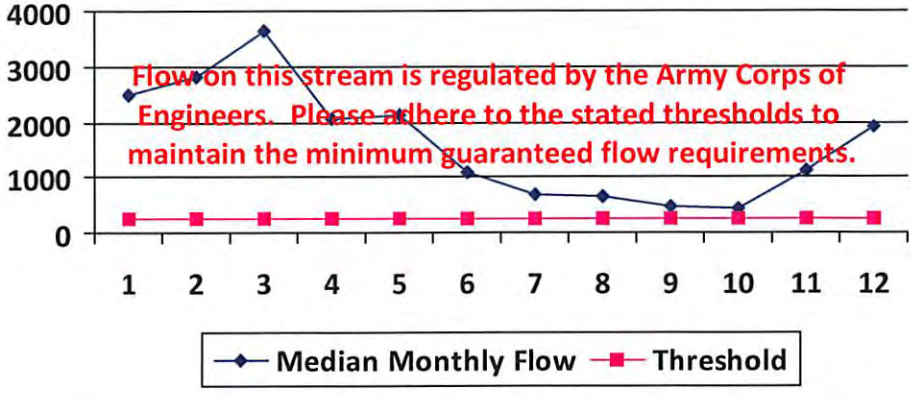
Reference Gaug: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

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):	1.67
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.

APPROVED MAR 2 1 2013

06/14/2013

Water Management Plan:
Secondary Water Sources

WMP-01046 | API/ID Number 047-033-05727 | Operator: XTO Energy

Boggess Unit A 4H

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: 13289 Source Name Harbert East Impoundment

Source start date: 6/1/2013

Source end date: 6/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 5,100,000

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-248

APPROVED MAR 2 4 2013

06/14/2013

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.

Source ID: 13290 Source Name McClelland Impoundment

Source start date: 6/1/2013
Source end date: 6/1/2014
Max. Daily Purchase (gal)
Total Volume from Source (gal): 800,000

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

Source ID: 13291 Source Name Martin Impoundment

Source start date: 6/1/2013
Source end date: 6/1/2014
Max. Daily Purchase (gal)
Total Volume from Source (gal): 100,000

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-805

APPROVED MAR 2 1 2013

06/14/2013

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: 13288 Source Name Jones Pond

Source start date: 6/1/2013
Source end date: 6/1/2014
Max. Daily Purchase (gal)
Total Volume from Source (gal): 100,000

DEP Comments:

Recycled Frac Water

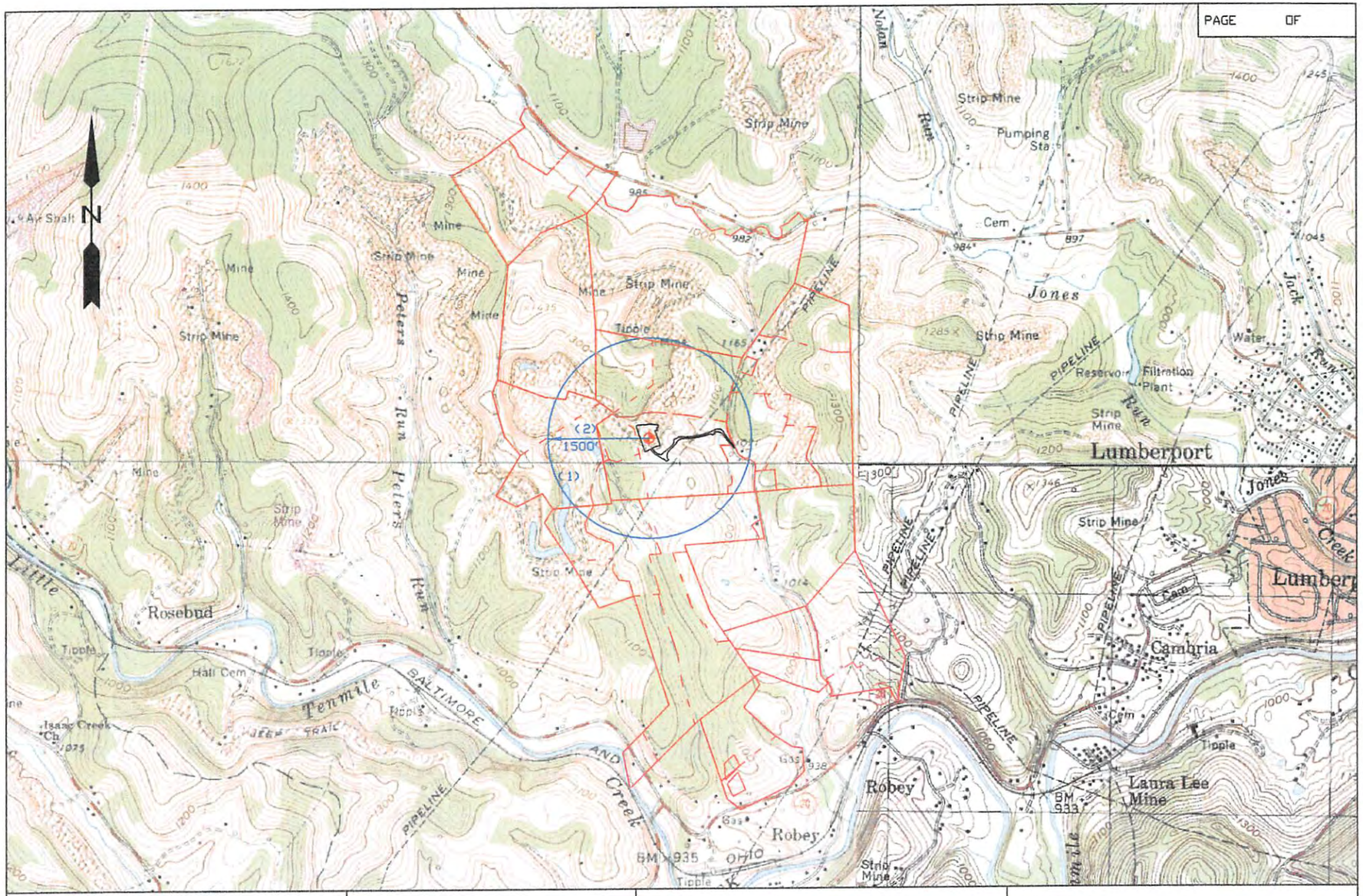
Source ID: 13292 Source Name Various

Source start date: 6/1/2013
Source end date: 6/1/2014
Max. Daily Purchase (gal)
Total Volume from Source (gal): 100,000

DEP Comments:

RECEIVED MAR 2 1 2013

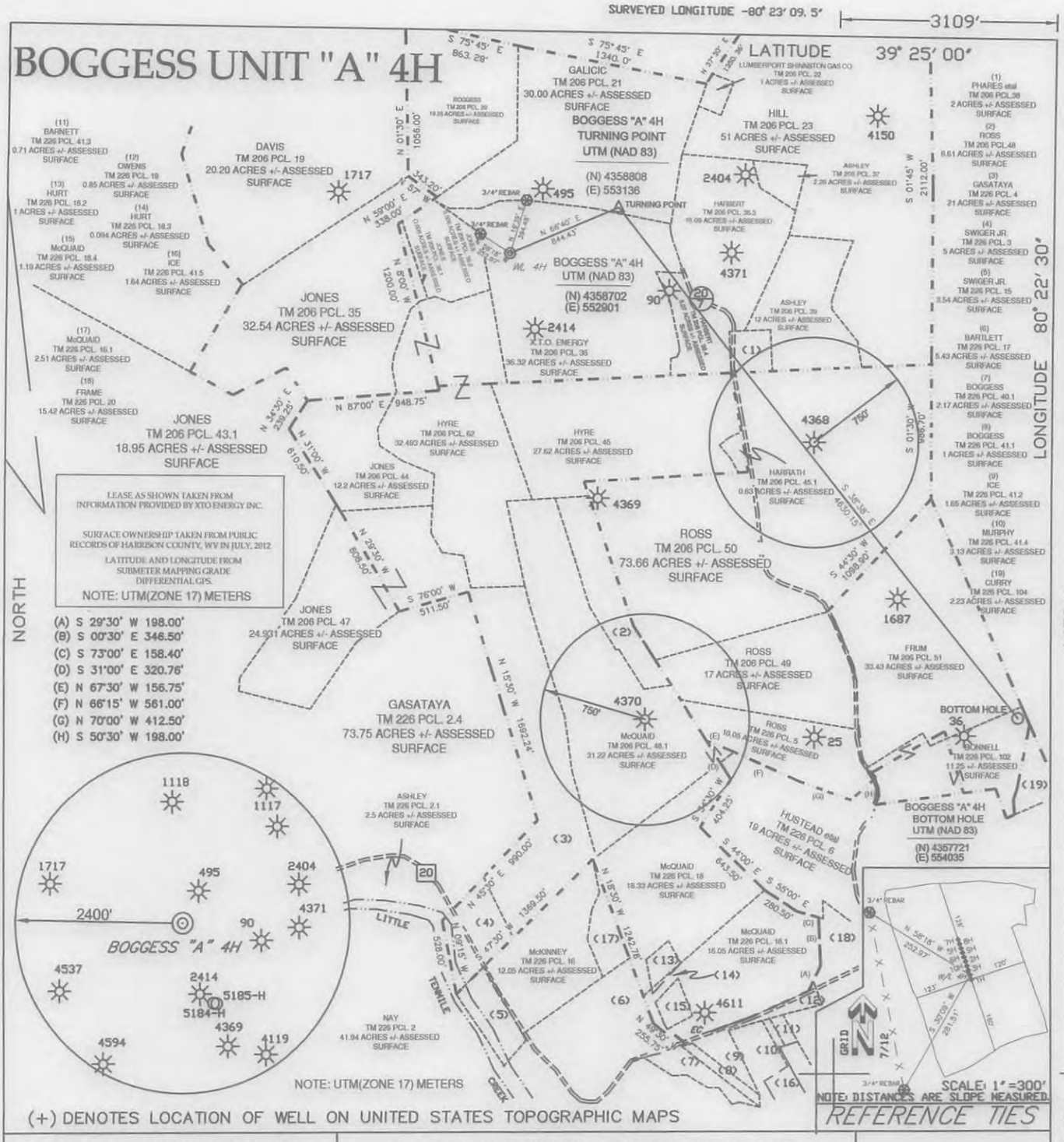
06/14/2013



COMPANY:	QUADRANGLE:	COUNTY:	DISTRICT:
WELL NO.: BOGGESS "A"	WALLACE	HARRISON	EAGLE
WATERSHED: REESES RUN A TRIBUTARY OF TENMILE CREEK	DATE: 9/7/12	DRAWN BY: REA	ADAMS LAND SURVEYING, PLLC P.O. BOX 584 TROY, WV 26443 304-462-7971

06/14/2013

33-05727



FILE NO. BOGGESS WELLS REV
DRAWING NO. 4H REV.DWG
SCALE 1"=1000'
MINIMUM DEGREE OF ACCURACY 1:200
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER GRADE)

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.
(SIGNED) Richard E. Adams
P.S. 986

RICHARD E. ADAMS LICENSED No. 986 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

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

ADAMS LAND SURVEYING, PLLC
P.O. BOX 584
TROY, WV 26443
(304)462-7971

DATE JANUARY 25, 20 13
OPERATOR'S WELL NO. 4H
API WELL NO.
47 _ 033 _ 05727 H6A
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW ___
LOCATION: ELEVATION 1183' WATERSHED REESES RUN A TRIBUTARY OF LITTLE TENMILE CREEK
DISTRICT EAGLE COUNTY HARRISON
QUADRANGLE WALLACE
SURFACE OWNER XTO ENERGY INC. ACREAGE 36.32 +/-
OIL & GAS ROYALTY OWNER BOGGESS etal LEASE ACREAGE 223.06 +/-
LEASE NO. ___
PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) ___
PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION MARCELLUS ESTIMATED DEPTH TVD: 7250, TMD: 14,500
WELL OPERATOR XTO ENERGY INC. DESIGNATED AGENT GARY BEALL
ADDRESS 810 HOUSTON STREET ADDRESS P.O. BOX 1008 JANE LEW, WV 26385
FORT WORTH, TEXAS 76102

06/14/2013

FORM WW-6
COUNTY NAME PERMIT