



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 3305728 , Well #: BOGCESS UNIT A 2H
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



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

June 7, 2013

RE: 47-033-05728 (Issued) Casing Plan Modification

Dear Mr. Smith:

Enclosed is a revised WW-6B for our Boggess Unit A 2H well, API 47-033-05728. The only item changed is the intermediate casing from 3600' to 2700'. Thanks for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tim Sands'.

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

Received

JUN 10 2013

Office of Oil and Gas
WV Dept. of Environmental Protection

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: Bogges Unit A 2H Well Pad Name: Bogges 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

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: 12,300'

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 90 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 1,100 gals surfactant 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 corrosion inhibitor, scale inhibitor, and a biocide as well

Received

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 +/-

6.78 +/-
JUN 10 2013

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#	12300'	12300'	2400 cuft
Tubing							
Liners							

*Mod. P. 6/13
S.D.W.
6/16/13*

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:				

Received

JUN 10 2013



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

May 03, 2013

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-3305728, 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 2H
Farm Name: XTO ENERGY INC.

API Well Number: 47-3305728

Permit Type: Horizontal 6A Well

Date Issued: 05/03/2013

Promoting a healthy environment.

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)

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. _____

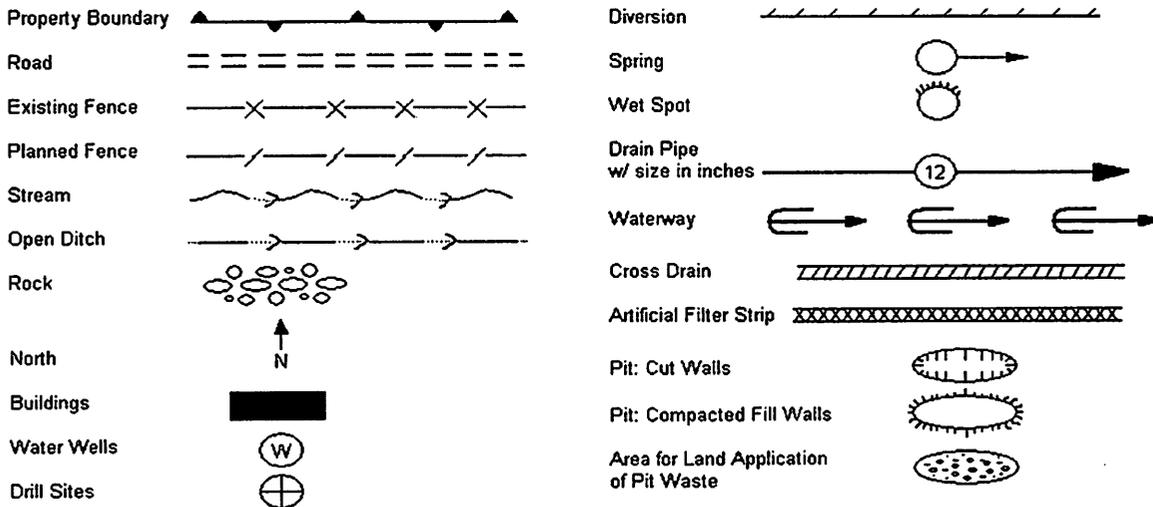
See attached sheet

*Note: Attach additional sheets as needed.

Oilfield Services
JAN 22 2013

WW-9
Rev. 1/12

API No. 47 - 33 - 05728
Operator's Well No. Bogges Unit A 2H



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

Seed Type	Area I	lbs/acre	Seed Type	Area II	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: [Signature]

Comments: _____

Title: Oil & Gas Inspector Date: _____

Field Reviewed? Yes No

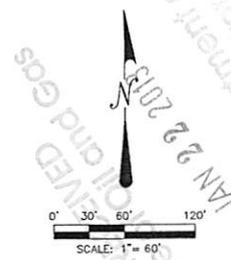
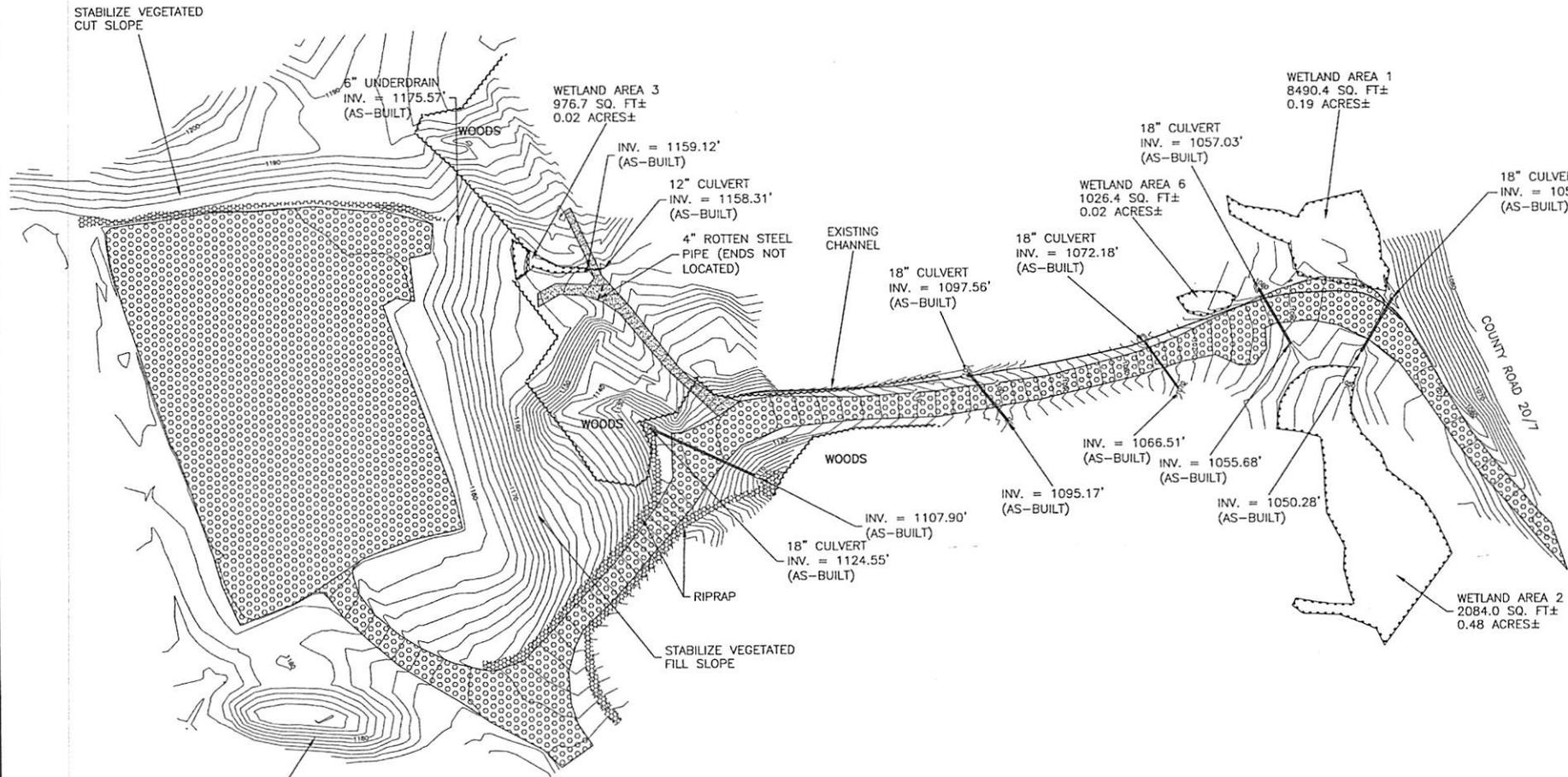
JAN 22 2013

33-05728

Disposal Facilities	
Name	API
Hattie L Flower (SWIW #4) 1	3416728462
David R. Hill Inc.	3405924067
ROJ Disposal Well, Gallia County, OH	3405320968
Warren Disposal Well	3412124037
Travis Well	3412123995
Everett Mason W-1590 SWIS (Ritchie Hunter)	4708509721
Helen Hall F 1-19 Disposal Well	3416729577
M.E. Elder	4708505151
Camp Creek Disposal	4705500319
AOP (BW4 Well, Eureka, WV)	4707302523

JAN 22 2013

33-05728



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

REVISION BY:	DATE:	DESCRIPTION:

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

SCALE:
 1"=60'

MMA
Morris Knowles & Associates, Inc.
 Consulting Engineers and Land Surveyors
 1000 17th Street, Suite 100
 Denver, CO 80202
 Phone: (303) 733-1810

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

DRAWING NO.
D-25568
 SHEET NO.
1 OF 2



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

MORRIS KNOWLES & ASSOCIATES, INC. EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR MANIPULATED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT PERMISSION AND CONSENT OF MORRIS KNOWLES & ASSOCIATES, INC.

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
 8-8-2012

JAD 14 JAN 13



Water Management Plan: Primary Water Sources



WMP- 01047

API/ID Number: 047-033-05728

Operator:

XTO Energy

Bogges Unit A 2H

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 21 2013

Source Summary

WMP-01047

API Number:

047-033-05728

Operator:

XTO Energy

Bogges Unit A 2H

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 21 2013

Source Detail

WMP- 01047

API/ID Number: 047-033-05728

Operator: XTO Energy

Boggess Unit A 2H

Source ID: 13293 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

Endangered Species? Mussel Stream?

Total Volume from Source (gal): 100,000

Trout Stream?

Tier 3?

Max. Pump rate (gpm): 1,792

Regulated Stream?

Stonewall Jackson Dam

Max. Simultaneous Trucks: 8

Proximate PSD?

Max. Truck pump rate (gpm): 224

Gauged Stream?

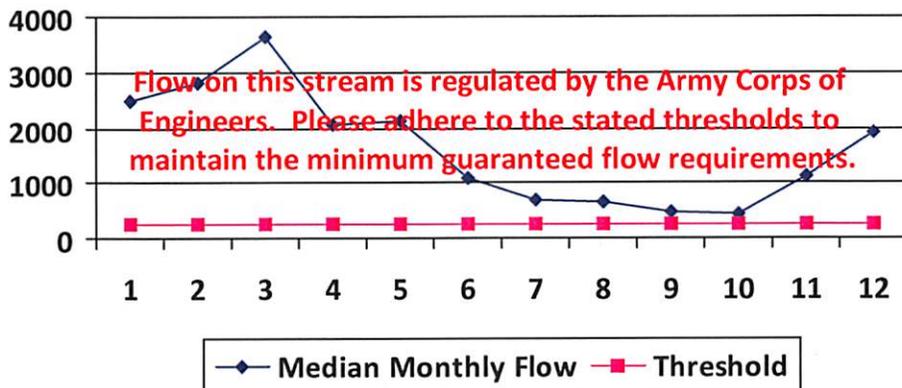
Reference Gaug: 3061000 WEST FORK RIVER AT ENTERPRISE, WV

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.



Water Management Plan: Secondary Water Sources



WMP-01047

API/ID Number: 047-033-05728

Operator:

XTO Energy

Bogges Unit A 2H

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:	13295	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):	4,500,000
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 21 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:	13296	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:	13297	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 21 2013

WMP- 01047

API/ID Number

047-033-05728

Operator:

XTO Energy

Bogges Unit A 2H

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:	13294	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

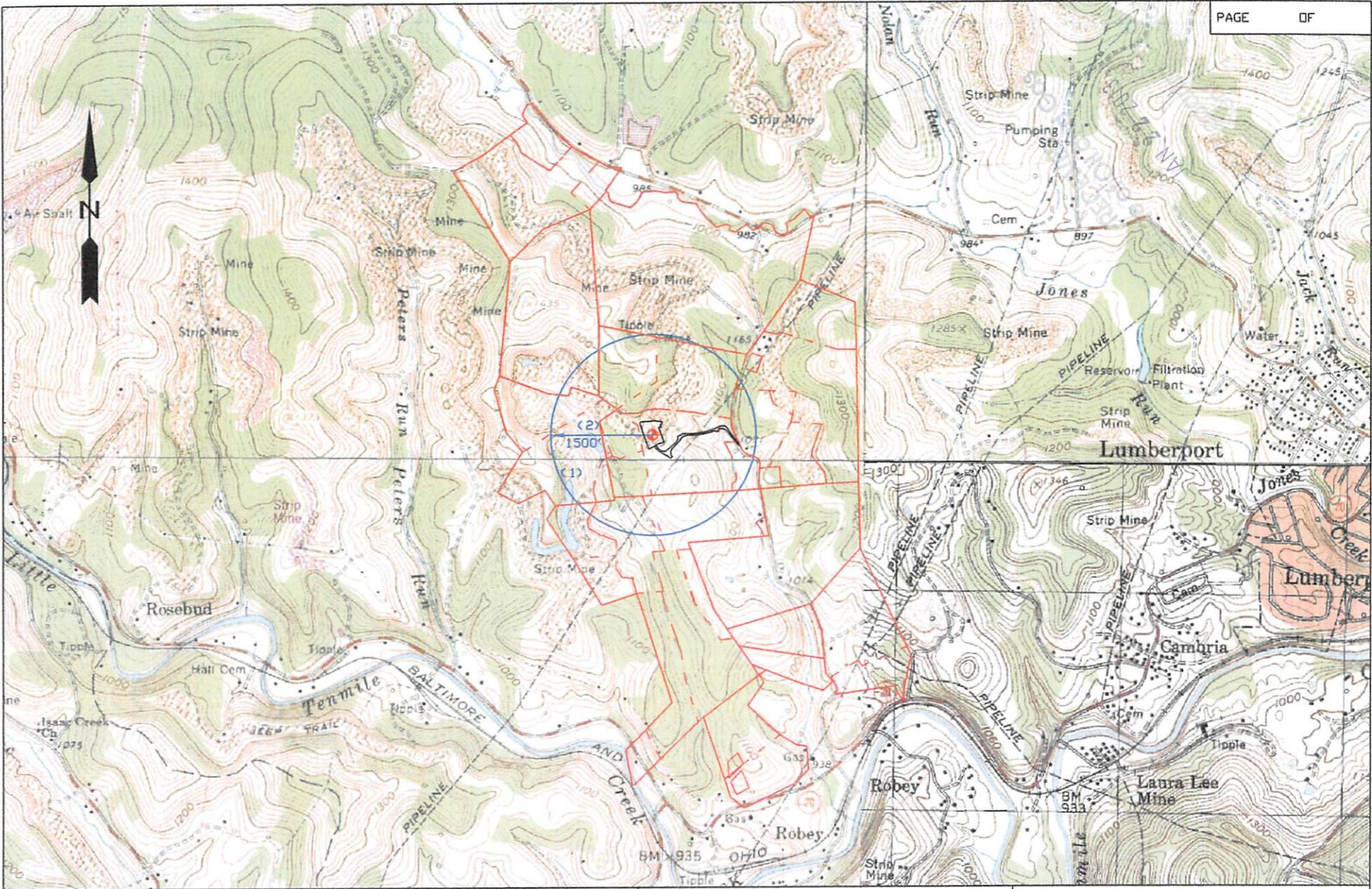
DEP Comments:

Recycled Frac Water

Source ID:	13298	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:

APPROVED MAR 21 2013



COMPANY: WELL NO. : BOGGESS "A"	QUADRANGLE: WALLACE	COUNTY: HARRISON	DISTRICT: 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

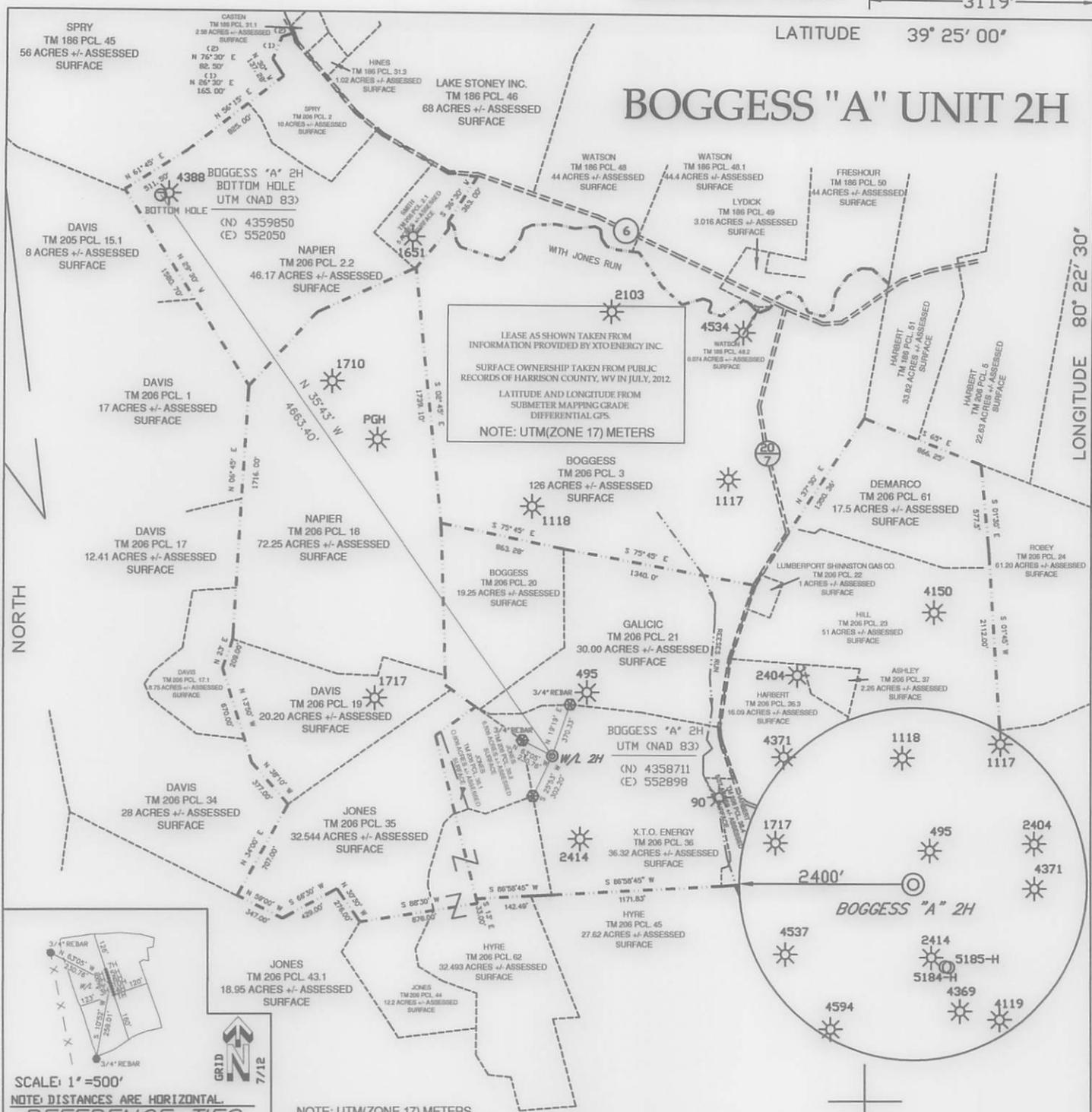
33-05728

SURVEYED LONGITUDE -80° 23' 09.7"

3119'

LATITUDE 39° 25' 00"

BOGGESS "A" UNIT 2H



LONGITUDE 80° 22' 30"

14753'

SURVEYED LATITUDE 39° 22' 34.1"

SCALE: 1"=500'
 NOTE: DISTANCES ARE HORIZONTAL.
REFERENCE TIES

GRID 7/12

NOTE: UTM(ZONE 17) METERS

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

FILE NO. BOGGESS WELLS REV
 DRAWING NO. 2H 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



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, 2013
 OPERATOR'S WELL NO. 2H
 API WELL NO. 47-033-05728

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1183' WATERSHED RESES RUN A TRIBUTARY OF LITTLE TENMILE CREEK
 DISTRICT EAGLE COUNTY HARRISON

COUNTY NAME

SURFACE OWNER XTO ENERGY INC. ACREAGE 36.32 +/-
 OIL & GAS ROYALTY OWNER BOGGES et al LEASE ACREAGE 203.99 +/-

PERMIT

LEASE NO. _____
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE 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: 12,500
 WELL OPERATOR XTO ENERGY DESIGNATED AGENT GARY BEALL
 ADDRESS 810 HOUSTON STREET ADDRESS P.O. BOX 1008 JANE LEW, WV 26378
FORT WORTH, TEXAS 76102

FORM WW-6