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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Monday, August 06, 2018  
WELL WORK PERMIT  
Vertical / Plugging

XTO ENERGY, INC.  
810 HOUSTON STREET

FORT WORTH, TX 76102

Re: Permit approval for LYNCH 2-E-404  
47-091-00997-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

A handwritten signature in blue ink, appearing to read 'James A. Martin', is positioned above the printed name and title.

James A. Martin  
Chief

Operator's Well Number: LYNCH 2-E-404  
Farm Name: LYNCH, ARTHUR  
U.S. WELL NUMBER: 47-091-00997-00-00  
Vertical Plugging  
Date Issued: 8/6/2018

## PERMIT CONDITIONS

West Virginia Code §22-6-11 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.

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### CONDITIONS

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1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.
4. This well is under a consent order and must be plugged under the terms of that agreement.

91-00997A

WW-4B  
Rev. 2/01

1) Date 7/12/18, 20\_\_  
2) Operator's  
Well No. Lynch 2 E-404  
3) API Well No. 47-091 - 00997

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

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil \_\_\_ / Gas X / Liquid injection \_\_\_ / Waste disposal \_\_\_ /  
(If "Gas, Production X or Underground storage \_\_\_) Deep \_\_\_ / Shallow X
- 5) Location: Elevation 1472' Watershed 0502000107 Lower Tygart Valley River  
District Fetterman County Taylor Quadrangle Grafton
- 6) Well Operator XTO Energy Inc. 7) Designated Agent Gary Beall  
Address PO Box 1008 Address PO Box 1008  
Jane Lew, WV 26378 Jane Lew, WV 26378
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor  
Name Kenneth Greynolds Name \_\_\_\_\_  
Address 613 Broad Run Road Address \_\_\_\_\_  
Jane Lew, WV 26378

10) Work Order: The work order for the manner of plugging this well is as follows:  
**See attached**

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Environmental Protection

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector *Kenneth Greynolds* Date 7-12-18

*NEED TO BE SURE THERE IS CEMENT ACROSS ELUVIADAN* 08/10/2018

<u>API</u>	<u>Farm Name</u>	<u>Well Number</u>
47-091-00997	LYNCH, ARTHUR	LYNCH 2-E-404

**Plugging Procedure**

4.5 Casing at 2,561'

6% Gel from 2,560' to surface. 42 bbl = 924 lbs of gel.

Perfs - 2,523' - 2,519'

Cement - 2,560' - 2,440' = 120' x 0.0163 = 2 bbl = 10 sks.

6% Gel - 2,440' - 2,420'

Perfs - 2,370' - 2,362'

Cement - 2,420' - 2,282 = 138' x 0.0163 = 2.5 bbl = 12 sks.

6% gel - 2,282' - 2,205'

Perfs - 2,155' - 1,965'

Cement - 2,205' - 1,800' = 405' = 7 bbl = 34 sks.

Tag cement top, if ok pull tubing out and RIH to CBL

Cement top behind 4.5 estimated at 800' - 600'

Cut 4.5 casing at 800', circulate 6% gel to surface.

Cement - 800' - 600' - Coal seam at 675' - 681'.

Cement - 800' - 600' = 200' x 0.0415 = 8.3 bbl - 40 sks.

6% gel - 600' - 250'.

Cement - 250' - surface = 11 bbl - 53 sks.

Install well monument.

Cement 2,560' - 2,440'

Cement 2,420' - 2,282'

Cement 2,205' - 1,800'

Cement 800' - 600'

Cement 250' - Surface

Note - If cement top behind the 4.5 casing would be lower than the elevation point at 1,472' or 7" casing shoe at 1,192', we will set cement plugs across them as needed.

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91-00997P

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WR-35

07-Aug-96

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas

API # 47- 91-00997

Well Operator's Report of Well Work

Farm name: LYNCH, AURTHUR Operator Well No.: LYNCH #2-E-404

LOCATION: Elevation: 1,457.00 Quadrangle: GRAFTON

District: FETTERMAN County: TAYLOR  
Latitude: 3775 Feet South of 39 Deg. 22 Min. 30 Sec.  
Longitude 9400 Feet West of 80 Deg. 0 Min. 0 Sec.

Company: Exploration Partners Prod  
P.O. Box 1245  
Bridgeport, WV 26330-1245

Agent: Louis A. Ferrari

Inspector: PHILLIP TRACY  
Permit Issued: 08/07/96  
Well Work Commenced: 11/16/96  
Well Work Completed: 11/20/96  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary x Cable \_\_\_\_\_ Rig  
Total Depth (feet) 2636' DTD  
Fresh water depths (ft) \_\_\_\_\_  
235'  
Salt water depths (ft) N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
7"	1192'	1192'	185 sks
4 1/2"	2561'	2561'	175 sks

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): 675-681

OPEN FLOW DATA

Producing formations 5th, 4th, 50', SANDS Pay zone depth (ft) 2519-2155  
Gas: Initial open flow SHOW MCF/d Oil: Initial open flow N/A Bbl/  
Final open flow 335 MCF/d Final open flow N/A Bbl/  
Time of open flow between initial and final tests N/A Hour  
Static rock pressure 180 psig (surface pressure) after 24 Hour

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial Open flow \_\_\_\_\_ Bbl/  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/  
Time of open flow between initial and final tests \_\_\_\_\_ Hour  
Static rock pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hour

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATE INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: EXPLORATION PARTNERS PRODUCING CO.

By: Louis A. Ferrari Louis A. Ferrari  
Date: February 11, 1997

TAYLOR  
0997

08/10/2018

FORM IV-35  
(REVERSE)

DETAILS OF PERFORATED INTERVALS, FRACTURING, OR STIMULATING PHYSICAL CHANGE, ETC.

STAGE I (2519-2523) 16 holes, 500 gal.; 15% HCL, 150 sks Sand, 240 BBL 75Q Foam  
 STAGE II (2362-2370) 24 holes, 500 gal. 15% HCL, 350 sks Sand, 350 BBL H2O  
 STAGE III (1965-2155) 17 holes, 500 gal. 15% HCL, 200 sks Sand, 320 BBL 75Q Foam

WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal and gas
SAND & SHALE	0	675	DAMP @ 235'
COAL	675	681	
SAND & SHALE	681	1340	
L. LIME	1340	1351	
SHALE	1351	1380	
B. LIME	1380	1457	
SAND & SHALE	1457	1462	
B. INJUN	1462	1585	
SAND & SHALE	1585	2115	
30'	2115	2153	
SAND & SHALE	2153	2316	
4TH SAND	2316	2416	
SAND & SHALE	2416	2483	
5TH SAND	2483	2498	
SAND & SHALE	2498	2636	DTD

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WW-4A  
Revised 6-07

1) Date: 7/12/18  
2) Operator's Well Number  
Lynch 2 E-404

3) API Well No.: 47 - 091 - 00997

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL**

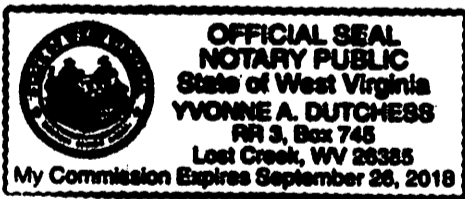
<b>4) Surface Owner(s) to be served:</b>	<b>5) (a) Coal Operator</b>
(a) Name <u>Linda Lou Bolyard Lynch</u>	Name <u>N/A</u>
Address <u>c/o Joseph &amp; Dena Willaims</u>	Address _____
<u>156 Barcus Rd.</u>	
(b) Name <u>Grafton, WV 26354</u>	(b) Coal Owner(s) with Declaration
Address _____	Name _____
	Address <u>N/A</u>
(c) Name _____	Name _____
Address _____	Address _____
<b>6) Inspector</b> <u>Kenneth Greynolds</u>	(c) Coal Lessee with Declaration
Address <u>613 Broad Run Road</u>	Name _____
<u>Jane Lew, WV 26378</u>	Address _____
Telephone <u>304-206-6613</u>	

**TO THE PERSONS NAMED ABOVE:** You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.



Well Operator XTO Energy Inc.  
 By: [Signature]  
 Its: Regulatory Coordinator  
 Address PO Box 1008  
Jane Lew, WV 26378  
 Telephone 304-884-6000

Subscribed and sworn before me this 12<sup>th</sup> day of July 2018  
Yvonne A. Dutches Notary Public  
 My Commission Expires September 26, 2018

**Oil and Gas Privacy Notice**

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

08/10/2018

WW-9  
(5/16)

API Number 47 - 091 - 00997  
Operator's Well No. Lynch 2 E-404

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) 0502000107 Lower Tygart Valley River Quadrangle Grafton

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

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: Fluids from plugging operations will be put into tanks.

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number 4707302523, 4708505151, 4708509721 )
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Meadowbrook Landfill SWF#1032, RES Water Recycling -WMGR123SW005 (PA))

Will closed loop system be used? If so, describe: NA

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. NA - Plugging

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

Additives to be used in drilling medium? NA

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Any solid waste from plugging will be taken to landfill.

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

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

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

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, 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 Tim Sands

Company Official (Typed Name) Tim Sands

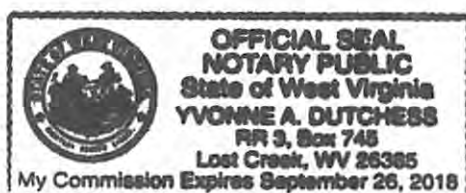
Company Official Title Regulatory Coordinator

Subscribed and sworn before me this 12<sup>th</sup> day of July, 2018

Yvonne A. Dutches Notary Public

My commission expires September 26, 2018

08/10/2018



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Form WW-9

Operator's Well No. Lynch 2 E-404

Proposed Revegetation Treatment: Acres Disturbed 2.87 +/- Prevegetation pH \_\_\_\_\_

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

Fertilizer type 10-20-10

Fertilizer amount 1000 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Kentucky Bluegrass	30	Kentucky Bluegrass	30
Redtop	5	Redtop	5
Birdsfoot Trefoil	15	Birdsfoot Trefoil	15

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: RECLAIM, SEED AND MULCH ASAP

Title: OIL & GAS INSPECTION Date: 7-12-18

Field Reviewed? ( ) Yes (  ) No

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WW-9- GPP  
Rev. 5/16

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 091 - 00997  
Operator's Well No. Lynch 2 E-404

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

Operator Name: XTO Energy Inc.

Watershed (HUC 10): 0502000107 Lower Tygart Valley River Quad: Grafton

Farm Name: Lynch, Arthur

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

Fluids will not be discharged.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

NA

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

NA

4. Summarize all activities at your facility that are already regulated for groundwater protection.

NA

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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WW-9- GPP  
Rev. 5/16

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 091 - 00997  
Operator's Well No. Lynch 2 E-404

NA

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

NA

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

NA

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

NA

Signature: *Ti Sans*

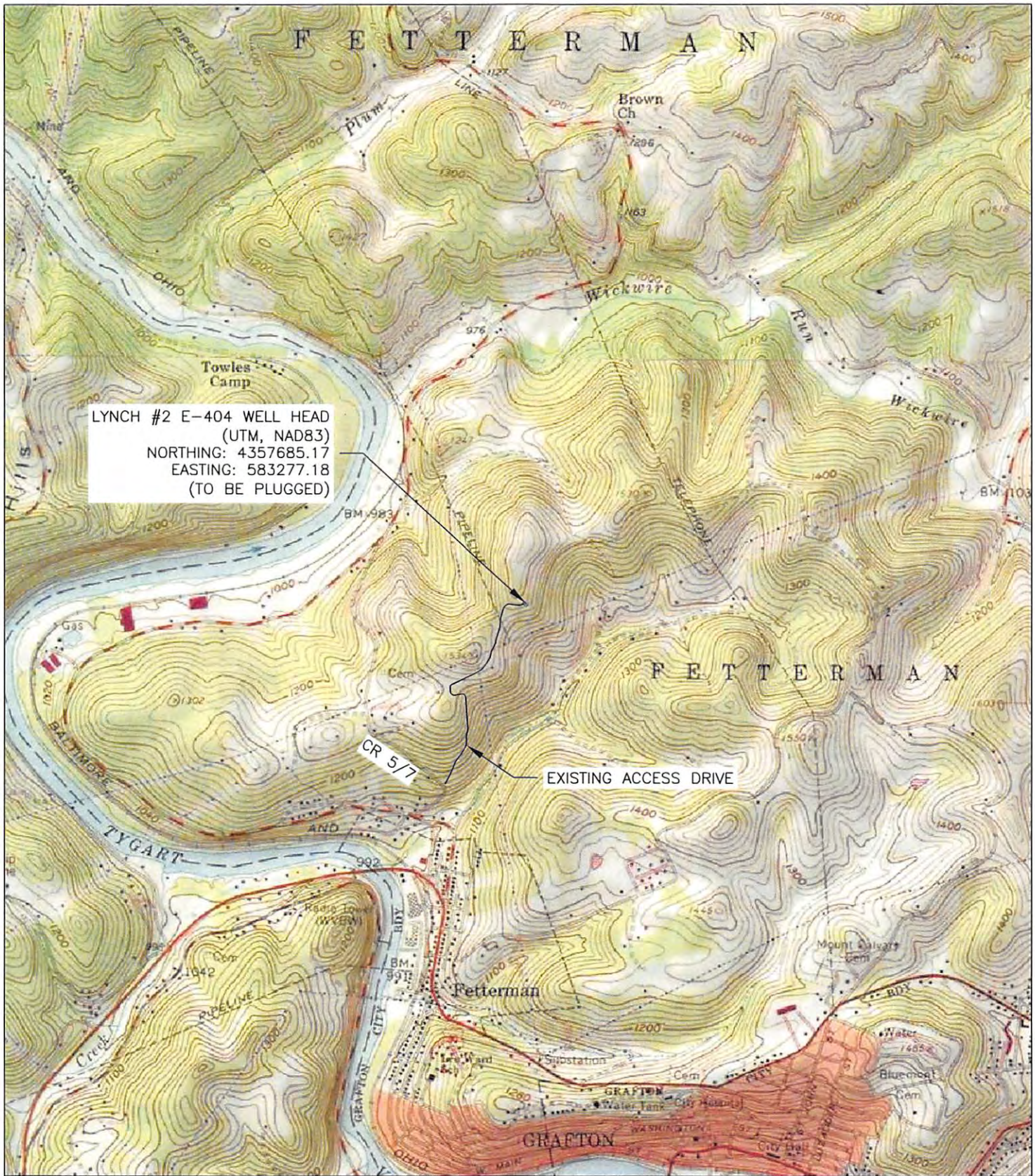
Date: 6/28/18

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<b>SCALES</b> HORIZ: 1"=2000' VERT: CONTOUR INT: 20'	DESN BY: SDG DRWN BY: SDG RVWD BY: MMV FLD BK: BK PG: DATE: 06/12/18	REV. BY: _____ DATE: _____ DESC.: _____ REV. BY: _____ DATE: _____ DESC.: _____ REV. BY: _____ DATE: _____ DESC.: _____ REV. BY: _____ DATE: _____ DESC.: _____ REV. BY: _____ DATE: _____ DESC.: _____
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SHEET NUMBER:  
1 OF 1

USGS MAP - GRAFTON QUADRANGLE  
**LYNCH #2 E-404**  
 FOR: XTO ENERGY, INC.  
 CR 5/7, TAYLOR COUNTY, WEST VIRGINIA

**MORRIS KNOWLES & ASSOCIATES, INC.**  
 A HAMMONTREE COMPANY  
 ENGINEERS, PLANNERS, SURVEYORS  
 443 ATHENA DRIVE DELMONT, PA 15626  
 PHN: (724) 468-4622 FAX: (724) 468-8910  
 www.morri-k.com

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WW-7  
8-30-06



West Virginia Department of Environmental Protection  
Office of Oil and Gas

**WELL LOCATION FORM: GPS**

API: 47-091-00997 WELL NO.: Lynch 2-E-404

FARM NAME: Lynch, Arthur

RESPONSIBLE PARTY NAME: XTO Energy, Inc.

COUNTY: Taylor DISTRICT: Fetterman

QUADRANGLE: Grafton

SURFACE OWNER: Lynch, Linda Lou Bolyard

ROYALTY OWNER: See attached

UTM GPS NORTHING: 4357685.17

UTM GPS EASTING: 583277.18 GPS ELEVATION: 448.67/1472'

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS  : Post Processed Differential

Real-Time Differential

Mapping Grade GPS  : Post Processed Differential

Real-Time Differential

4. **Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data 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 Office of Oil and Gas.

*Tim Sand* *Regulatory Coordinator* *6/28/18*  
Signature Title Date

08/10/2018

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