



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

August 07, 2015

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3302149, 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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.

James Martin

Chief

Operator's Well No: 1-S-9

Farm Name: LEGGETT, EDWARD & PATSY

API Well Number: 47-3302149

Permit Type: Plugging

Date Issued: 08/07/2015

Promoting a healthy environment.

08/07/2015

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.

CONDITIONS

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.

WW-4B
Rev. 2/01

1) Date 7/13, 20 15
2) Operator's Well No. 1-S-9
3) API Well No. 47-033 - 02149

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 / Liquid injection / Waste disposal
(If "Gas, Production or Underground storage) Deep / Shallow
- 5) Location: Elevation 1363' Watershed Little Elk Creek
District Eagle County Harrison Quadrangle Wallace
- 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 Name Sam Ward
Address PO Box 2327
Buckhannon, WV 26201
- 9) Plugging Contractor Name _____
Address _____

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

Pull rods and 1 1/2" tubing out, RIH with tools and check TD at 4820' POOH with tools and run tubing down to 4820', then circulate 6% gel back to surface, then pump cement from 4820' up to 4550', perfs at 4754 - 4685', pull tubing up to 4450' and reverse circulate up tubing, then wait for cement to set up and RIH down tubing to tag cement at 4550', if OK pull tubing up to 4270' and pump cement up to 4070', pull tubing up to 3125' and pump cement up to 2750', perfs at 3067 - 2866', pull tubing out of well and RIH with W/L to run CBL, find top estimated at 2150', cut casing and circulate 6% gel to surface, then pump cement from 2150' up to 2000', pull casing up to 1635' and pump cement up to 1275', bottom of 8 5/8" at 1569' and elev. at 1363', pull casing out and RIH in 8 5/8" to CBL, find cement top, shoot casing apart and break circulation, pull the 8 5/8" out, run tubing back 50' below cut and cement to surface. Install well monument.

See attached

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

Work order approved by inspector [Signature]

Date 7/16/15
Received
Office of Oil & Gas
JUL 20 2015
08/07/2015

47-033-02149

Plugging Procedure

Cement	4820 - 4550'	= 270'	in 4.5"	
Cement	4270 - 4070'	= 200'	in 4.5"	
Cement	3125 - 2750'	= 375'	in 4.5"	
Cement	2150 - 2000'	= 150'	in 7 7/8"	Open Hole
Cement	1635 - 1275"	= 285'	in 8 5/8"	
Cement	500 - 400'	= 100'	in 11"	Open Hole
Cement	200 - Surface	= 200'	in 11"	Open Hole

08/07/2015
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IV-35
(Rev 8-)

RECEIVED
NOV 5 - '85

DIVISION OF OIL & GAS
DEPT. OF ENERGY

State of West Virginia

Department of Mines
Oil and Gas Division

Date 10-31-85
Operator's
Well No. Leggett # 1
Farm Edward E. Leggett
API No. 47-033-2149 **FRAC**

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas x / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production ___ / Underground Storage ___ / Deep ___ / Shallow x /)

LOCATION: Elevation: 1411' Watershed Little Elk Creek
District: Eagle County Harrison Quadrangle Wallace 74

COMPANY Sheldon and Sheldon, Inc.
ADDRESS 901 W. Main St. Suite 201 Bridgeport, WV
DESIGNATED AGENT David J. Sheldon
ADDRESS 118 Westwood Ave. Bridgeport, WV 26330
SURFACE OWNER Edward E. Leggett and Patsy Leggett
ADDRESS Rt. 1 Box 301 Wallace, WV 26448
MINERAL RIGHTS OWNER Same as Above
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK Steve
Casey ADDRESS Rt. 2 Box 232-D Jane Lew
PERMIT ISSUED 7/31/85
DRILLING COMMENCED 1-29-80
DRILLING COMPLETED 2-05-80
IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON _____

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	15'	15'	
9 5/8			
8 5/8	1569'	1569'	250 sks
7			
5 1/2			
4 1/2	4826'	4826'	620sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION _____ Depth _____ feet
Depth of completed well _____ feet Rotary ___ / Cable Tools _____
Water strata depth: Fresh _____ feet; Salt _____ feet
Coal seam depths: _____ Is coal being mined in the area? _____

OPEN FLOW DATA

Producing formation _____ Pay zone depth _____ feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ Mcf/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure _____ psig (surface measurement) after _____ hours shut in
(If applicable due to multiple completion--)
Second producing formation 30', 50' & 5th Sand Pay zone depth _____ feet
Gas: Initial open flow 90 Mcf/d Oil: Initial open flow 200 Bbl/d
Final open flow _____ Mcf/d Oil: Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure 230 psig (surface measurement) after 72 hours shut in

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Office of Oil & Gas
JUL 20 2015

HARR 2149-FRAC

Leggett S-9

FORM IV-35
(REVERSE)

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

Recompleted 8-1-85

Perforated 2866 to 3067 - 19hole

Fraced using 616 bbls. H2O, 26,000 # 20-40 Sand & 85,000scf. N2

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
INFORMATION SAME AS ORIGINAL PERMIT					

(Attach separate sheets as necessary)

Sheldon and Sheldon, Inc.
Well Operator

By: *[Signature]* Received 07/2015
Office of Oil & Gas

Date: 10-31-85 JUL 20 2015

Note: Regulation 2.02(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including ... encountered in the drilling of a well."



RECEIVED
MAY - 8 1980

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division
WELL RECORD

OIL & GAS DIVISION
DEPT. OF MINES

Quadrangle Wallace 7 1/2
Permit No. 47-033-2149

Rotary X Oil _____
Cable _____ Gas X _____
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Company Doran & Associates, Inc.
Address 728 Washington Road, Pgh., PA 15228
Farm E. Leggett Acres 39.7
Location (waters) Little Elk Creek
Well No. #1 K-L-126 Elev. 1411
District Eagle County Harrison
The surface of tract is owned in fee by Edward E. & Patsy Belle Leggett
Address Box 301, Rt. 1, Wallace, WV 26448
Mineral rights are owned by same as above
Address _____
Drilling Commenced 1-29-80
Drilling Completed 2-05-80
Initial open flow 84 m cu. ft. --- bbls.
Final production 498 m cu. ft. per day show of OIL bbls.
Well open 72 hrs. before test 1475# RP.
Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. <u>150' 11 3/4</u>	<u>15'</u>	<u>15'</u>	
<u>9 5/8</u>			
<u>8 5/8</u>	<u>1569'</u>	<u>1569'</u>	<u>250</u> sks.
<u>7</u>			
<u>5 1/2</u>			
<u>4 1/2</u>	<u>4826'</u>	<u>4826'</u>	<u>620</u> Sks.
<u>3</u>			
<u>2</u>			
Liners Used			

Attach copy of cementing record.

DATE:	INTERVAL PERFORATED:	FROM	TO	AMT FLUID	AMT. SAND
<u>3-21-80</u>		<u>4193</u>	<u>4213</u>	<u>472</u> bbls	<u>60,000#</u>
<u>3-21-80</u>		<u>4685</u>	<u>4754</u>	<u>410</u> bbls.	<u>60,000#</u>

Coal was encountered at 402', 562', 956 Feet _____ Inches
Fresh water _____ Feet _____ Salt Water 1500' Feet _____
Producing Sand Balltown, Bradford Depth 4150', 4644'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Substructure			0	15		
Sandy Shale			15	30		
Sand			30	60		
Sandy Shale			60	120		
Sand			120	145		
Sandy Shale			145	235		
Sand			235	250		
Shale - Red Rock			250	265		
Sandy Shale			265	402		
Coal			402	405		
Sandy Shale			405	562		
Coal			562	565		
Sandy Shale			565	800		
Sand			800	825		
Sandy Shale			825	956		
Coal			956	960		
Sandy Shale			960	1500		
Sand			1500	1560		
Sandy Shale			1560	1630		
Red Rock - Shale			1630	1710		
Sandy Shale			1710	1905		
Sand			1905	2030		
Sandy Shale			2030	2175		

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JUL 20 2015

* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Lime			2175	2215		
Shale			2215	2240		
Lime			2240	2300		
Sand			2300	2395	Oil Odor @ 2300'	
Sandy Shale			2395	3030		
Sand			3030	3125		
Sandy Shale			3125	5360		
Sand			5360	5368		
Sandy Shale			5368	5564		
Driller's T.D.				5564		
Balltown			4150	4216		
Bradford			4644	4760		
Logger's T.D.				5511		

08/07/2015

Date May 5, 1980 19
 APPROVED Donald R. Laughlin Owner
 By Vice President, Operations
 (Title)

WW-4A
Revised 6-07

1) Date: 7/13/15
2) Operator's Well Number
1-S-9 _____

3) API Well No.: 47 - 033 - 02149

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

4) Surface Owner(s) to be served:
(a) Name Consolidation Coal Company
Address 1000 Consol Energy Dr.
Canonsburg, PA 15317
(b) Name Carrie Lee De La Cruz
Address 7402 Jones Run Rd
Lumberport, WV 26386
(c) Name _____
Address _____
6) Inspector Sam Ward
Address PO Box 2327
Buckhannon, WV 26201
Telephone 304-389-7583

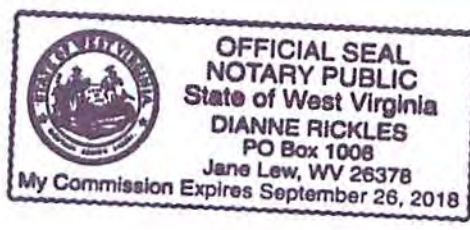
5) (a) Coal Operator
Name Murray American Energy
Address 46226 National Road
St. Clairsville, OH 43950
(b) Coal Owner(s) with Declaration
Name Consolidation Coal Company
Address 1000 Consol Energy Dr.
Canonsburg, PA 15317
Name Charleston National Bank (BB&T)
Address 3800 Maccorkle Ave SE
Charleston, WV 25304
(c) Coal Lessee with Declaration
Name _____
Address _____

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 Compliance Technician
Address PO Box 1008
Jane Lew, WV 26378
Telephone 304-884-6000

Received
Office of Oil & Gas
JUL 20 2015

Subscribed and sworn before me this 13th day of July 2015
Dianne Rickles Notary Public
My Commission Expires Sept. 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 depprivacyofficer@wv.gov.

08/07/2015

3302149P

CK-7735 018
100.00

WW-9
(2/15)

API Number 47 - 033 - 02149
Operator's Well No. 1-S-9

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) Little Elk Creek Quadrangle Wallace

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 a synthetic liner be used in the pit? Yes No If so, what ml.? Yes - 20 mil.

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- 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

SDW
7/15/2015

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 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 Tim Sands

Company Official (Typed Name) Tim Sands

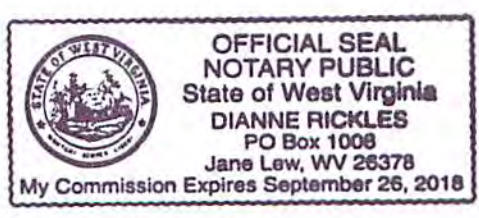
Company Official Title Regulatory Compliance Technician

Subscribed and sworn before me this 13th day of July, 20 15

Dianne Rickles Notary Public

My commission expires Sept. 26, 2018

08/07/2015



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JUL 20 2015

Form WW-9

Operator's Well No. 1-S-9

XTO Energy Inc.

Proposed Revegetation Treatment: Acres Disturbed 0.3 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH _____

Fertilizer type Commercial Fertilizer 10-20-20

Fertilizer amount 1000 lbs/acre

Mulch 3 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
<u>Annual Ryegrass</u>	<u>40</u>	<u>Kentucky Bluegrass</u>	<u>20</u>
		<u>Redtop</u>	<u>3</u>
		<u>Birdsfoot Trefoil</u>	<u>10</u>

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

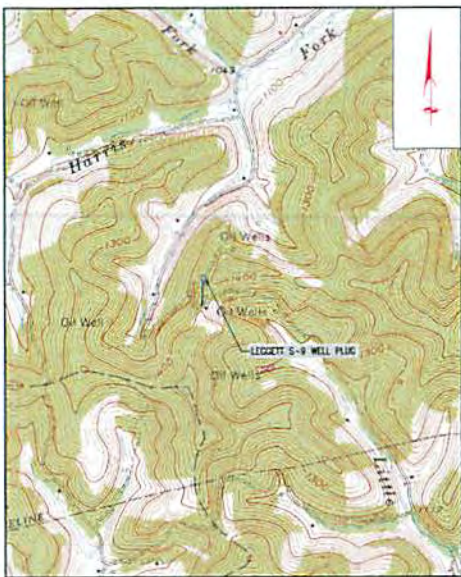
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Title: OOG Inspector Date: 7/15/2015

Field Reviewed? () Yes (X) No

08/07/2015

3302149P



SITE LOCATION MAP
SCALE: 1"=100'
MAP REF: WALLACE, WV
U.S.G.S. 7.5 MINUTE QUAD



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REVISIONS

NO.	DESCRIPTION	DATE	BY
1			

UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY. THERE MAY BE OTHER UNDERGROUND UTILITIES THAT ARE NOT SHOWN. BEFORE ANY EXCAVATION OR CONSTRUCTION OPERATIONS BEGIN, THE CONTRACTOR MUST CONTACT WEST VIRGINIA AND THE OWNERS OF THE UTILITIES TO VERIFY THEIR LOCATION.

LEGEND

PROPERTY LINE	---
NEIGHBORING PROPERTY	---
TEMPORARY WORKFACE	---
ROAD	---
EXISTING ACCESS ROAD	---
NEW ACCESS ROAD	---
CONSTRUCTION BARRIERS	---
GRID AREA	---

NOTES:

- ELEVATIONS ARE APPROXIMATED FROM WEST VIRGINIA CO. TECHNICAL CENTER CONTOURS AND NOT FIELD MEASURED.
- PROPERTY LINES SHOWN ON PLANS ARE REFERENCED FROM COUNTY MAPPING AND NOT FIELD SURVEYED.
- 2.5 ACRES IS TEMPORARY IMPACT TO NEIGHBORS.
- NO TEMPORARY IMPACTS TO STREAMS.

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL POLICY AND CULTURE
DIVISION OF ENERGY

17015

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL POLICY AND CULTURE
DIVISION OF ENERGY

6/23/2015

PREPARED FOR:

XTO ENERGY
810 HOUSTON STREET
FORT WORTH, TX 76102

GRAPHIC SCALE: 1" = 30'

TRI-COUNTY ENGINEERING, LLC
An EMMERSON Company
378 Plummer Road
Hudson, PA 15882
www.tri-countyeng.com
Fax: (724) 635-0675

SEDIMENT CONTROL PLAN

LEGGETT S-9 WELL PLUG

DATE: 6/11/2015

AS NOTED

SCALE: 1" = 30'

1 OF 3

0661-02

SDoc
7/15/2015

33021491P

PROJECT DESCRIPTION

TRI-COUNTY ENGINEERING, LLC (TCE) ON BEHALF OF XTO ENERGY INC. PREPARED THIS SEDIMENT CONTROL PLAN FOR THE LEGGETT S-9 WELL PLUG PROJECT. THE PROJECT IS LOCATED APPROXIMATELY 8.5 MILES NORTHWEST OF GARDNER IN THE EAGLE DISTRICT OF HARRISON COUNTY, WEST VIRGINIA. THE PROPOSED LEGGETT S-9 WELL PLUG PROJECT INVOLVES THE PLUGGING AND ABANDONMENT OF THE LEGGETT S-9 SHALLOW GAS WELL. THE WELLHEAD (TANK AND PRODUCTION EQUIPMENT) WILL BE REMOVED. ONLY EXISTING PILES ARE PLACED WITHIN THE BOREHOLE. THE WELL AND AREA WILL BE RESTORED AND STABILIZED TO BE CONSISTENT WITH THE EAGLE DISTRICT OF THE APPLICABLE SUBDIVISION LINES. THE SITE WILL BE STABILIZED AS REQUIRED WITH A NEW APPROVED BY WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE PROJECT (LENGTH OF AN ACCESS ROAD APPROXIMATELY 12 FEET WIDE AND 247 FEET LONG, AND A WORKSPACE APPROXIMATELY 7113 SQUARE FEET AREA). THE TOTAL AREA FOR THE PROJECT MAY BE UP TO 10,000 SQ. FT. (1.1 ACRES).

CONTRIBUTOR, EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES

- 1. THE CONTRACTOR SHALL USE WEST VIRGINIA EROSION AND SEDIMENT CONTROL PRACTICES WHICH:
- 1.1 BEST MANAGEMENT PRACTICES WILL BE USED TO PREVENT EROSION TO HELP MINIMIZE SEDIMENTATION TO ANY STREAMS AND/OR WETLANDS AND TO KEEP MULCH, DIRT, AND DEBRIS OFF OF THE PUBLIC ROAD THAT COULD BE DEPOSITED FROM THE EQUIPMENT USED FOR CONSTRUCTION OF THE PROJECT.
- 1.2 EROSION AND SEDIMENTATION CONTROL MEASURES TO BE USED FOR THIS PROJECT ARE: (EMPHASIS) FETER SOCKS, STABILIZED CONSTRUCTION ENTRANCES, AND OTHER BEST PRACTICES FOR STREAM AND WETLAND PROTECTION (WHERE APPLICABLE).
- 1.3 PROJECT LIMITS CHANGE FOR NEEDS OF CONSTRUCTION AND ADDITIONAL MAINTENANCE AND/OR WETLANDS ARE TO BE CROSSED OR ABANDONED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACQUIRE THE NECESSARY PERMITS PRIOR TO INSTALLED THESE FEATURES.
- 1.4 OTHER NECESSARY ARE NEEDS OR OTHER PERMITS ARE DETERMINED, OBTAIN THE NECESSARY PERMITS PRIOR TO INSTALLED WORK FOR THE NEW ROUTE (WHERE) RECORD MAPS/PLANS ON THE ON-SITE, SAY DRAWINGS TO INCLUDE THE LOCATION OF THE ACCESS ROADS AND THE CONTROL MEASURES (SUCH AS) STABILIZED CONSTRUCTION ENTRANCES TO BE USED.

VEGETATION PRACTICES - TEMPORARY AND PERMANENT

PERMANENT VEGETATION STABILIZATION: DISTURBED AREAS WILL RECEIVE TOPSOIL AND PERMANENT VEGETATION STABILIZATION, DEFINED AS A UNIFORM 100% PERMANENT VEGETATION COVER, 7% SOIL TO A DEPTH OF 2" (MINIMUM 4") OBJECTS, 2' OR GREATER. THESE AREAS WILL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH THE FEDERAL VEGETATION OF THIS PLAN.

TEMPORARY VEGETATION PRACTICES (EMPHASIS STABILIZATION): SLOPE AREAS, SOIL, STOCKPILES OR EMBARCATIONS THAT WILL BE LEFT DUE TO UNFORESEEN CIRCUMSTANCES DURING OPERATIONS OR THAT WILL REMAIN IN PLACE FOR MORE THAN TWO WEEKS SHALL RECEIVE TEMPORARY SEEDING. THESE AREAS WILL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE SEEDING TABLE OF THIS PLAN.

THE PLAN AND SPECIFICATIONS FOR INSTALLED TOPSOIL SHALL BE IN KEEPING WITH THE STREAMS AND SHALL DESCRIBE THE REQUIREMENTS FOR APPLYING THE PRACTICES TO ACHIEVE TO INSTALLED PURPOSES AT A MINIMUM INCLUDE THE FOLLOWING ITEMS:

- 1. TOPSOIL SOURCE
- 2. ESTIMATED LOCATION AND METHOD OF STABILIZATION PRIOR TO USE
- 3. TOPSOIL SOURCE BORING PROCEDURES
- 4. SITE PREPARATION PLANS AND METHOD OF APPLICATION, DISTRIBUTION AND COMPLETION

NOTE: PREPARATION - BEFORE SPREADING TOPSOIL, REMOVE ALL NECESSARY SEDIMENT CONTROL PRACTICES (SUCH AS OVERFLOW AND SEDIMENT TRAPPIERS) ARE IN PLACE AND FUNCTIONING PROPERLY. THESE PRACTICES MUST BE MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.

GRADING: MAINTAIN GRASSES ON THE AREA TO BE TOPSOILED ACCORDING TO THE APPROVED PLAN AND DO NOT ALTER THEM BY GRADING TOPSOIL.

LANDING OF SURFACE: WHERE THE PH OF THE EXISTING SURFACE IS 6.0 OR LESS, OR THE SOIL IS COMPOSED OF HEAVY CLAYS, APPROPRIATE AGRICULTURAL LIMESTONE IS AMOUNTS RECOMMENDED BY SOIL TESTS OR SPECIFIED FOR THE SEEDING MIXTURE TO BE USED. INCORPORATE LIME TO A DEPTH OF AT LEAST 4 INCHES BY DIGGING.

REGULATIONS: IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, LOOSEN THE SUBGRADE BY DIGGING OR SCARPING TO A DEPTH OF AT LEAST 4 INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL. IF NO AMENDMENTS HAVE BEEN INCORPORATED, LOOSEN THE SOIL TO A DEPTH OF AT LEAST 4 INCHES BEFORE SPREADING THE TOPSOIL.

TOPSOILING TOPSOIL: UNIFORMLY DISTRIBUTED TOPSOIL TO A MINIMUM SUBGRADED DEPTH OF 4 INCHES ON 2% SLOPES, AND 6 INCHES ON FLATTER SLOPES. TOPSOIL SHALL BE SPREAD UNTIL IT IS FACTOR BY SATURATED OR WHEN THE SURFACE IS FROZEN OR SATURATED. IMMEDIATELY IN THE SURFACE THAT RESULTS FROM TOPSOILING OR OTHER OPERATIONS SHALL BE COVERED TO PREVENT THE FORMATION OF DEPRESSIONS OR POOLS OF WATER. LOOSEN THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT AVOID EXCESSIVE COMPACTION AS IT REDUCES WATER AND AIRFLOW. (SEE) SOIL COMPACTION AND SEEDING AND SOILWORK. LIGHT PACKING WITH A ROLLER IS RECOMMENDED WHERE HIGH-MANITENANCE TURF IS TO BE ESTABLISHED. IN AREAS THAT ARE NOT GOING TO BE Mowed, THE SURFACE CAN BE LEFT UNMOWN. MAINTENANCE: AFTER TOPSOIL APPLICATION, FOLLOW PROCEDURES FOR SEEDING PREPARATION. TAKE CARE TO AVOID EXCESSIVE MOUND OF TOPSOIL INTO THE GULLIES. PERMANENTLY STABILIZED THE SITE FOLLOWING APPROPRIATE PRACTICES STANDBY AS QUICKLY AS PRACTICABLE. PROBABLY IN ADVANTAGE THE SITE (UNIFORM) STABILIZATION IS AVOIDED. MAY NECESSARY PERMITS TO AVOID: AREAS OF HIGH VEGETATION COVER. ESTABLISH A VEGETATION

COVER IN THE AREA THAT WILL ACCURATELY REFLECT FIELD. SEEDING PREPARATION: TO CONTROL EROSION ON BARE SOIL SURFACES, PLANTS MUST BE ABLE TO GERMINATE AND GROW. SEEDING PREPARATION IS ESSENTIAL. IF THE AREA HAS BEEN RECENTLY LOCATED OR DISTURBED, NO FURTHER PREPARATION IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED OR HARDENED, THE SOIL SURFACE MUST BE LOOSEN BY DIGGING, FLOPPING, HARROWING, OR OTHER ACCEPTABLE MEANS (SEE SURFACE PREPARATION SECTION). SEEDING: SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER OR SMALL PLOTTER SEEDER OR HYDROSEEDER. SMALL GRAIN SHALL BE PLANTED NO MORE THAN 1/2 INCH DEEP. SMALL SEEDS, SUCH AS MINOR RICE, SHALL BE PLANTED NO MORE THAN A QUARTER INCH DEEP. OTHER GRAINS AND LEGUMES SHALL BE PLANTED NO MORE THAN A HALF INCH DEEP. MULCHING: TEMPORARY SEEDING (CONDUCTED IN FALL FOR WINTER COVER AND SUMMER HOT AND DRY SUMMER MONTHS) SHALL BE MULCHED WITH STRAW OR HAY ACCORDING TO THE STANDARDS FOR MULCHING. HYDROSEEDING: FRESH MULCH MAY NOT PROVIDE ADEQUATE TEMPERATURE AND MOISTURE CONTROL.

BEST MANAGEMENT PRACTICES

- 1. GENERAL PERMITS AND APPROVALS PRIOR TO CONSTRUCTION
- 2. CONSTRUCTION LIMITS NEED TO BE ENFORCED BEYOND THE LIMITS OF DISTURBANCE AREA SHOWN ON THE PLAN. A PRE-CONSTRUCTION ENVIRONMENTAL SURVEY (EMPHASIS) WILL NEED TO BE CONDUCTED. CONTACT THE ENVIRONMENTAL PROTECT TO OBTAIN A REVIEW ON THE NEW AREA PRIOR TO CONSTRUCTION.
- 3. AS THE STABILIZED CONSTRUCTION ENTRANCES AT THE ACCESS ROAD, STABILIZED CONSTRUCTION ENTRANCES MAY BE NEEDED AT THE ACCESS ROAD DURING ITS USE AT THE TIME OF THIS PROJECT'S CONSTRUCTION.
- 4. WASH ALL CLEANING, LAWS AND SENSITIVE AREAS SUCH AS STREAMS, WETLANDS, ETC.
- 5. INSTALL CHANGE CONSTRUCTION FENCES NEAR STREAMS, WETLANDS AND STRUCTURES WITHIN THE LIMITS OF DISTURBANCE TO PROVIDE A PHYSICAL BARRIER TO STOP DISTURBANCE BY CONSTRUCTION ACTIVITIES.
- 6. AVOID CHANNELS TO ACCESS ROAD AS NEEDED, BUT NO CHANNELS OR DITCHES TO EXISTING CHANNELS (FEATURES ARE TO BE MAINTAINED).
- 7. ON A SLOPE SLOPE, CLEAN THE ROADS THROUGHOUT BY REMOVING EXCESSIVE SEDIMENT BY OVERFLOW OR FINELINE. STREET BARRIERS TO A WATERCOURSE OR STREAM (DRAIN SYSTEM) IS NOT ALLOWED.
- 8. AS THE EXISTING FETER SOCKS WHERE SHOWN, PARALLEL TO THE SLOPE AND ON THE DOWN-SLOPE SIDE OF THE LIMITS OF DISTURBANCE TO PREVENT SEDIMENTATION FROM LEAVING THE PROJECT AREA.
- 9. CLEAN AND GRUB ALONG THE POND. PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE. WITHOUT SIGNIFICANT INTERFERENCE WITH CONSTRUCTION ACTIVITIES.
- 10. USE MULCH MAT BRUSHES TO COVER BATTERSIDES AND WEI AREAS AS NEEDED.
- 11. RE-ESTABLISH THE DRAINAGE TO THE PRE-CONSTRUCTION CONDITION.
- 12. RE-INSTALL DISTURBED SOILS WITHIN 7 DAYS BY PLACING TEMPORARY SEEDING IF NOT FINAL GRADED AND PERMANENT SEEDING WITH A NURSE CROP + FINAL GRADES.
- 13. MULCH AND FERTILIZER AS SPECIFIED IN THIS PLAN.

PLACE MULCH (EROSION CONTROL PRODUCTS (EMPHASIS) WITH MULCH MATS ON 5% OR GREATER SLOPES OR ON STEEP SLOPES WHERE SEEDING MAY BE DEFICENT BY HANDY. PROTECT SLOPES GREATER THAN 5% IS NEED TO HAVE AN EROSION CONTROL MAT OR BURETT PLATE OVER THE SEEDING AREA. MULCH AND FERTILIZER ON THE STEEP SLOPES (ALONG WITH AN AND ALL STREAMS) IMMEDIATELY (WITHIN 7 DAYS) AFTER THE MULCH IS REMOVED.

MAINTAIN ALL BEST MANAGEMENT PRACTICES (EMPHASIS) AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.

ALL BMP'S SHALL BE MAINTAINED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STEADY EVENT GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. ANY REQUIRED REPAIRS OR MAINTENANCE TASKS BE MADE IMMEDIATELY. THIS INCLUDES THE REMOVAL OF SEDIMENT THAT IT DOES NOT EXCEED THE HEIGHT OF THE CONTROL FETER SOCK (1' OR 2' PER WELL OR AS STORM EVENTS REQUIRE).

TEMPORARY BMP'S SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. STABILIZED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOILS RESULTING FROM REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY STABILIZED. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE TERMINATED, AND THAT OTHER A PERMANENT AND TYPICAL COVER OF THE TOTAL VEGETATED AREA WITH A DENSITY OF 10% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY MOUND COVER SUCH AS PLANTING OF BOUNDARIES (WHERE APPLICABLE).

NO NEW PERMANENT CUT OR FILL SLOPES ARE TO REMAIN ON-SITE. GRADING SHOULD BE DONE SUCH THAT POST-CONSTRUCTION CONTAINS SHOULD CLOSELY MATCH APPROXIMATE ORIGINAL CONDITIONS. AFTER CONSTRUCTION IS COMPLETE, ALL AREAS IN THE JOB THAT WERE VEGETATED IN THE EXISTING CONDITION ARE TO BE VEGETATED WITH CONSTRUCTION.

MOVING THE PROJECT

THE SEDIMENT CONTROL PLAN MUST BE TO REMAIN ON-SITE AT ALL TIMES DURING CONSTRUCTION. THE SET SHALL BE MOVED WHENEVER THERE IS SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE OF ANY BMP.

CLEARING AND GRUBBING ACTIVITIES, UNLESS THEY ADD COMPLETION MAINTENANCE REMOVAL OF TREES AND EQUIPMENT AND CONTRACTORS OF NATURE SHALL ANY AREAS THAT REQUIRE PRESERVATION OF CRITICAL OR SENSITIVE AREAS. ANOTHER REQUIRE BATTERY SHALL BE DELIVERED ON BOTH THE PLANS AND THE SITE.

ALL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED USE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE SEDIMENTATION AND EROSION IS BEING CONTROLLED ON-SITE AND IS NOT IMPROVING ON ADJACENT PROPERTIES (EMPHASIS) OTHER THAN STATED IN THE PLAN MAY NEED TO BE MAINTAINED.

SPILLS OF OILS/GRADES OF POLLUTANTS ARE TO BE REPORTED WITHIN 24 HOURS TO THE APPROPRIATE AGENCIES.

BEST MANAGEMENT PRACTICES

- 1. ALL POLLUTANTS INCLUDING WASTE MATERIALS SHOULD BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE WATER. WASTE SHOULD NOT BE THROWN AND SHOULD BE STORED AS APPROPRIATE BY THE LANDOWNER.
- 2. CODES, CONTAINMENT AND PROTECTION FROM HAZARDOUS SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS AND NON-HEAVY WASTES PRESENT ON THE SITE.
- 3. MAINTENANCE AND REPAIR OF READY EQUIPMENT AND VEHICLES INCLUDING: (EMPHASIS) HYDRAULIC SYSTEM (BRAKE, LIGHTS, STEERING AND DE-GRADING) (STANDARD OPERATING PLAN) (TRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN ESCAPES OR SPILLS) OF POLLUTANTS TO THE GROUND OR INTO THE SURFACE WATER RUNOFF MUST BE CONDUCTED. LEAKS, SPILL PREVENTION MEASURES, SUCH AS DIRT PANS, CONTAINMENT, UNMOUNTED SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY ESCAPE OR SPILL. INCIDENT PLACE PLASTIC BARRIER THE EQUIPMENT WHEN EMPLOYED (REPAIRS ARE) TO BE PERFORMED ON-SITE. IF BARRIERS PLACE TRENCH OVER THE VEHICLE.

GENERAL NOISE REGULATIONS

THE GENERAL CONTRACTOR SHALL NOTIFY ALL CITY COMPANIES INVOLVED IN THE SITE NO MORE THAN TEN DAYS AND NO LESS THAN THREE DAYS IN ADVANCE OF EXCAVATION (INCLUDING SUNDAYS AND FEDERAL OR STATE HOLIDAYS). CONTACT WEST VIRGINIA AT 780-240-4444. PLASTIC SHALL BE MAINTAINED ON ALL ADDRESSING SHEETS AND DRAIN AT ALL TIMES IN ACCORDANCE WITH ALL CITY REQUIREMENTS.

DISTURBED AREAS CREATED (DUE TO) WELL PLUG REMOVAL SHALL BE RECLAIMED, MULCHED AND SEEDING TO REEVALUATE EROSION AND SEDIMENTATION. ALL NUMBERS AND IDENTIFICATION NUMBERS SHALL BE DISPLAYED AT THE WELL IN ACCORDANCE WITH STATE REQUIREMENTS.

LANDOWNERS SHALL BE GIVEN ADEQUATE NOTICE THAT CERTAIN SPECIFIED ACTIVITIES WILL BE OCCURRING ON THEIR PROPERTY.

PERMANENT STABILIZATION

ITEM	QUANTITY	UNIT	ESTIMATED QUANTITY	REMARKS
1. FURROW (SEE TABLE)	20	LINEAR FEET	20	1.5" DEPTH, 1' SPACING, AND 12" BARRIERS, RESPECTIVELY
2. FERTILIZER (SEE TABLE)	100	LB	100	COMMERCIAL FERTILIZER 10-10-10
3. MULCH (SEE TABLE)	100	CU YD	100	1" TONNAGE
4. MULCH (SEE TABLE)	100	CU YD	100	1" TONNAGE
5. MULCH (SEE TABLE)	100	CU YD	100	1" TONNAGE
6. MULCH (SEE TABLE)	100	CU YD	100	1" TONNAGE
7. MULCH (SEE TABLE)	100	CU YD	100	1" TONNAGE
8. MULCH (SEE TABLE)	100	CU YD	100	1" TONNAGE
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PLANS

NO.	DESCRIPTION	DATE	BY
1			

PREPARED FOR:



XTO ENERGY
810 HOUSTON STREET
FORT WORTH, TX 76102

TRI-COUNTY ENGINEERING, LLC
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318 Plummerville Road
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www.tri-county.com

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SEDIMENT CONTROL PLAN NARRATIVE

LEGGETT S-9 WELL PLUG

DATE: 8/22/2015

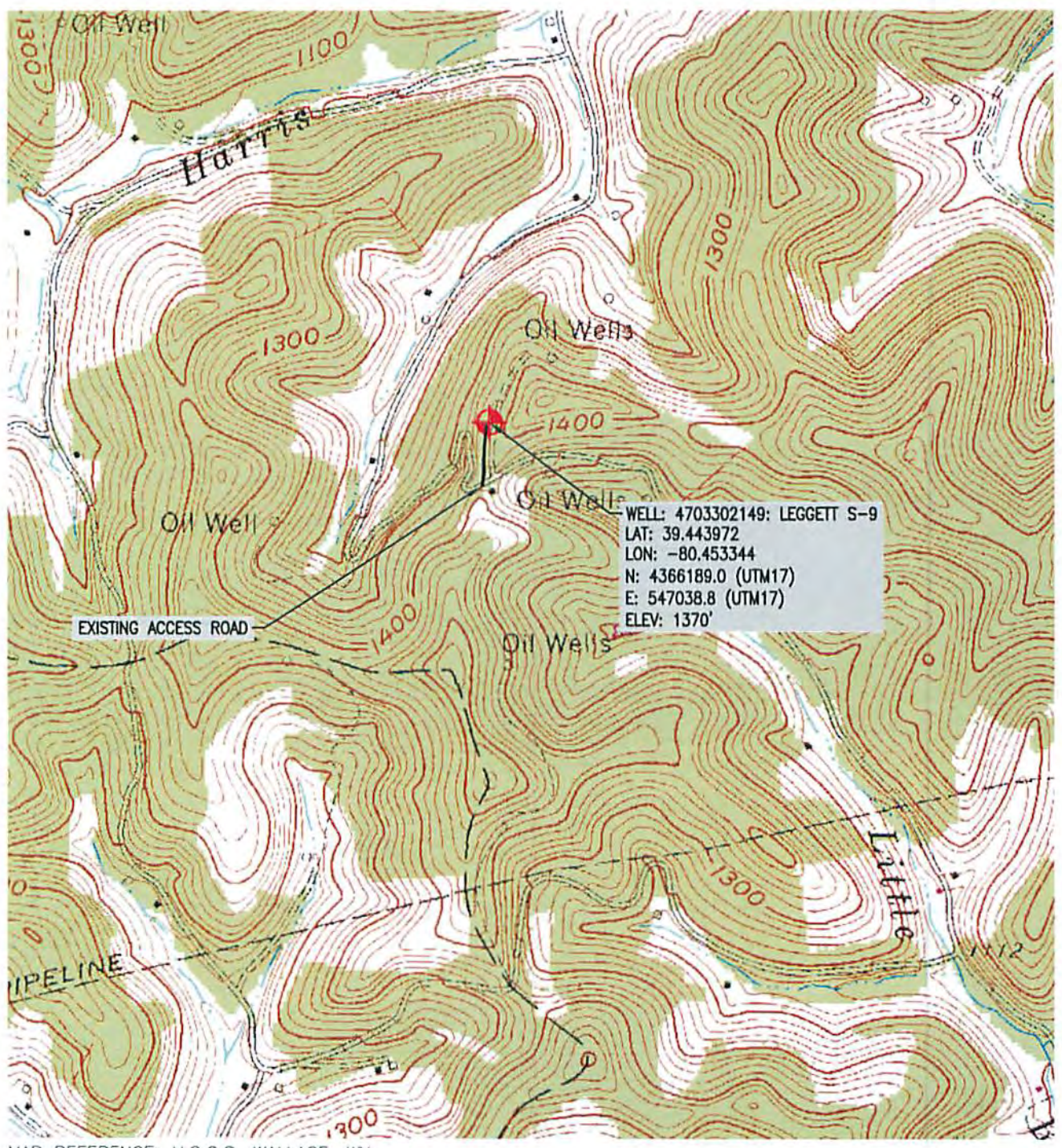
PROJECT: EAGLE DISTRICT, HARRISON COUNTY, WV

PAGE: 2 OF 3

NO. 0061-02

Received
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7/15/2015



MAP REFERENCE: U.S.G.S. WALLACE, WV



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LOCATION MAP	
LEGGETT S-9 WELL PLUG	
DRAWN BY: ZJC	EAGLE DISTRICT, HARRISON COUNTY, WEST VIRGINIA
DATE: 6/16/2015	SHEET: FILE NO.
SCALE: AS NOTED	OC61-02

Office of Oil & Gas
 JUL 20 2015
 08/07/2015

