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 penalities 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.

3302149P

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.

3302149 P

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 X / Liquid injection ____/ Waste disposal ____/
(If "Gas, Production X or Underground storage ____) Deep ____/ Shallow X

5) Location: Elevation 1363' Watershed Little Elk Creek
District Eagle County Harrison Quadrangle Wallace

6) Well Operator XTO Energy Inc
Address PO Box 1008
Jane Lew, WV 26378

7) Designated Agent Gary Beall
Address PO Box 1008
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 Sam OWard Date 7/16/15

Received
Office of Oil & Gas
JUL 20 2015

3302149 P

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

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JUL 20 2015

3302149P

IV-35
(Rev 8-81)

RECEIVED
NOV 5 - 1985
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 7½

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 20 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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JUL 20 2015

HARR 2149-FRAC

(Continue on reverse side)

3302149P

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]

Date: 10-31-85

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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 [illegible] encountered in the drilling of a well."

3302149P

OG-10
Rev. - 9-71

RECEIVED
MAY - 8 1980
OIL & GAS DIVISION
DEPT. OF MINES

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Rotary x Oil ____
Cable ____ Gas x
Recycling ____ Comb. ____
Water Flood ____ Storage ____
Disposal ____ ____ (Kind)

Quadrangle Wallace 7 1/2

Permit No. 47-033-2149

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.			
13 10" 11 3/4	15'	15'	
9 5/8			
8 5/8	1569'	1569'	250 sks.
7			
5 1/2			
4 1/2	4826'	4826'	620 Sks.
3			
2			
Liners Used			

Attach copy of cementing record.

STIMULATION RECORD:

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

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	S.W. @ 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

(over)

* Indicates Electric Log tops in the remarks section.

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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		

Date May 5, 1980 19

APPROVED Donald R. Laughlin Owner

Donald R. Laughlin

By Vice President-Operations

(Title)

3302149P

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 0F 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.

OFFICIAL SEAL
NOTARY PUBLIC
State of West Virginia
DIANNE RICKLES
PO Box 1008
Jane Lew, WV 26378
My Commission Expires September 26, 2018

Well Operator: XTO Energy Inc.
By: Tim Sark
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 depprivacyoffier@wv.gov.

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)

SDW 7/15/2015

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 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.

Received
Office of Oil & Gas
JUL 20 2015

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

OFFICIAL SEAL
NOTARY PUBLIC
State of West Virginia
DIANNE RICKLES
PO Box 1008
Jane Lew, WV 26378
My Commission Expires September 26, 2018

3302149P

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
Annual Ryegrass	40	Kentucky Bluegrass	20
		Redtop	3
		Birdsfoot Trefoil	10

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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JUL 20 2015

Title: OOG Inspector Date: 7/15/2015

Field Reviewed? (_____) Yes (__X__) No

3302149P

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Office of Oil & Gas
JUL 20 2015

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 MISS UTILITY OF WEST VIRGINIA AND THE OWNERS OF THE UTILITIES TO VERIFY THEIR LOCATION.

LEGEND

EXISTING CONTOUR 10'
PROPERTY LINE
TEMPORARY WORKSPACE
STREAM
SILT SOCK (CTS)
LIMITS OF DISTURBANCE (LOD)
ACCESS ROAD - EXISTING
ACCESS ROAD - PROPOSED
CONSTRUCTION BARRIER FENCE
STUDY AREA

NOTES:
1. ELEVATIONS ARE APPROXIMATED FROM WEST VIRGINIA GIS TECHNICAL CENTER CONTOURS, AND NOT FIELD VERIFIED.
2. PROPERTY LINES SHOWN ON PLANS ARE REFERENCED FROM COUNTY MAPPING AND NOT FIELD SURVEYED.
3. 2,368.4 SF TEMPORARY IMPACTS TO WETLANDS.
4. NO TEMPORARY IMPACTS TO STREAMS.

W NORTH ZONE
SPCS GRID NORTH

DONALD R. REDDEN
REGISTERED
17818
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
6/23/2015

PREPARED FOR:
XTO ENERGY
810 HOUSTON STREET
FORT WORTH, TX 76102
0' 50' 100' 150'
GRAPHIC SCALE 1" = 50'

TRI-COUNTY ENGINEERING, LLC
An ENERCON Company
319 Pantersville Road
Fairmont, PA 15639
www.tricountyeng.com
Voice: (724) 635-0210 Fax: (724) 635-0670

Excellence-Every project. Every day

SEDIMENT CONTROL PLAN

LEGGETT S-9 WELL PLUG

DRAWN BY: VC
DATE: 6/22/2015
SCALE: AS NOTED
EAGLE DISTRICT, HARRISON COUNTY, WV
SHEET: 1 OF 3
FILE NO: OG61-02

SDW
7/15/2015

3302149P

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 8.9 MILES NORTHWEST OF SHINNSTON 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, CASING, AND PRODUCTION EQUIPMENT WILL BE REMOVED. ONCE CEMENT PLUGS ARE PLACED WITHIN THE BOREHOLE, THE WELL PAD AREA WILL BE RECLAIMED AND GRADED TO BE CONSISTENT WITH THE GENERAL CONTOUR OF THE IMMEDIATE SURROUNDING LAND. THE SITE WILL BE SEEDED, AS REQUIRED, WITH A MIX APPROVED BY WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE PROJECT CONSISTS OF AN ACCESS ROAD APPROXIMATELY 12 FEET WIDE AND 347 FEET LONG, AND A WORKSPACE APPROXIMATELY 7,110 SQUARE FEET (0.2 ACRES). THE STUDY AREA FOR THE PROJECT WAS 65,775 SQUARE FEET (1.5 ACRES).

STANDARD EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES:

THE CONTRACTOR SHALL USE WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL.

BEST MANAGEMENT PRACTICES WILL BE USED DURING CONSTRUCTION TO HELP MINIMIZE SEDIMENTATION TO ANY STREAMS AND/OR WETLANDS AND TO KEEP MUD, DIRT, AND DEBRIS OFF THE PUBLIC ROADS THAT COULD BE DEPOSITED FROM THE EQUIPMENT USED FOR CONSTRUCTION OF THE PROJECT.

EROSION AND SEDIMENTATION CONTROL MEASURES TO BE USED FOR THIS PROJECT ARE COMPOST FILTER SOCKS, STABILIZED CONSTRUCTION ENTRANCE, AND TIMBER MAT BRIDGES FOR STREAM AND WETLAND CROSSINGS (WHEN APPLICABLE).

IF PROJECT LIMITS CHANGE FOR NEEDS OF CONSTRUCTION, AND ADDITIONAL WATERBODIES AND/OR WETLANDS ARE TO BE CROSSED OR IMPACTED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACQUIRE THE NECESSARY PERMITS PRIOR TO IMPACTING THESE FEATURES.

IF OTHER ACCESSES ARE NEEDED OR BETTER ROUTES ARE DETERMINED, OBTAIN THE NECESSARY PERMITS PRIOR TO INITIATING WORK FOR THE NEW ROUTES. PROVIDE RECORD MARKUPS ON THE ON-SITE SCP DRAWINGS TO INCLUDE THE LOCATION OF THE ACCESS ROADS AND THE CONTROL MEASURES, SUCH AS STABILIZED CONSTRUCTION ENTRANCES, TO BE USED.

VEGETATIVE PRACTICES – TEMPORARY AND PERMANENT

PERMANENT VEGETATIVE STABILIZATION:
DISTURBED AREAS WILL RECEIVE TOPSOIL AND PERMANENT VEGETATIVE STABILIZATION, DEFINED AS A UNIFORM 70% PERENNIAL VEGETATIVE COVER. TILL SOIL TO A DEPTH OF 2". REMOVE ALL OBJECTS 2" OR LARGER. THESE AREAS WILL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH THE SEEDING SPECIFICATIONS OF THIS PLAN.

TEMPORARY VEGETATIVE PRACTICES (INTERIM STABILIZATION):
SLOPE AREAS, SOIL STOCKPILES, OR EMBANKMENTS THAT WILL SIT IDLE 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 TABLES OF THIS PLAN.

THE PLANS AND SPECIFICATIONS FOR INSTALLING TOPSOIL SHALL BE IN KEEPING WITH THIS STANDARD AND SHALL DESCRIBE THE REQUIREMENTS FOR APPLYING THE PRACTICE TO ACHIEVE ITS INTENDED PURPOSE. AT A MINIMUM INCLUDE THE FOLLOWING ITEMS:

1. TOPSOIL SOURCE.
2. STOCKPILE LOCATION AND METHOD OF STABILIZATION PRIOR TO USE.
3. TOPSOIL/SUBSOIL BONDING PROCEDURES.
4. SITE PREPARATION PLANS AND METHODS OF APPLICATION, DISTRIBUTION AND COMPACTION.

SITE PREPARATION– BEFORE SPREADING TOPSOIL, ASSURE THAT ALL NECESSARY SEDIMENT CONTROL PRACTICES, SUCH AS DIVERSIONS AND SEDIMENT BARRIERS ARE IN PLACE AND FUNCTIONING PROPERLY. THESE PRACTICES MUST BE MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.

GRADING– MAINTAIN GRADES ON THE AREAS TO BE TOPSOILED ACCORDING TO THE APPROVED PLAN AND DO NOT ALTER THEM BY ADDING TOPSOIL.

LIMING OF SUBSOIL– WHERE THE PH OF THE EXISTING SUBSOIL IS 6.0 OR LESS, OR THE SOIL IS COMPOSED OF HEAVY CLAYS, INCORPORATE AGRICULTURAL LIMESTONE IN AMOUNTS RECOMMENDED BY SOIL TESTS OR SPECIFIED FOR THE SEEDING MIXTURE TO BE USED. INCORPORATE LIME TO A DEPTH OF AT LEAST 2 INCHES BY DISKING.

ROUGHENING– IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, LOOSEN THE SUBGRADE BY DISKING OR SCARIFYING 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 6 INCHES BEFORE SPREADING THE TOPSOIL.

SPREADING TOPSOIL– UNIFORMLY DISTRIBUTE TOPSOIL TO A MINIMUM COMPACTED DEPTH OF 2 INCHES ON 3:1 SLOPES AND 4 INCHES ON FLATTER SLOPES. TOPSOIL SHALL NOT BE SPREAD WHILE IT IS FROZEN OR SATURATED OR WHEN THE SUBSOIL IS FROZEN OR SATURATED. IRREGULARITIES IN THE SURFACE THAT RESULT FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED TO PREVENT THE FORMATION OF DEPRESSIONS OR PONDING OF WATER. COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT AVOID EXCESSIVE COMPACTION, AS IT INCREASES RUNOFF AND INHIBITS SEED GERMINATION AND SEEDLING GROWTH. LIGHT PACKING WITH A ROLLER IS RECOMMENDED WHERE HIGH-MAINTENANCE TURF IS TO BE ESTABLISHED. IN AREAS THAT ARE NOT GOING TO BE MOWED, THE SURFACE CAN BE LEFT ROUGH.
MAINTENANCE– AFTER TOPSOIL APPLICATION, FOLLOW PROCEDURES FOR SEEDBED PREPARATION. TAKE CARE TO AVOID EXCESSIVE MIXING OF TOPSOIL INTO THE SUBSOIL. PERMANENTLY STABILIZE THE SITE FOLLOWING APPROPRIATE PRACTICE STANDARDS AS QUICKLY AS PRACTICABLE. PERIODICALLY INSPECT THE SITE UNTIL PERMANENT STABILIZATION IS ACHIEVED. MAKE NECESSARY REPAIRS TO ERODED AREAS OR AREAS OF LIGHT VEGETATIVE COVER. ESTABLISH A VEGETATIVE COVER IN THE AREAS THAT WILL ADEQUATELY PREVENT RILLING.

SEEDBED PREPARATION– TO CONTROL EROSION ON BARE SOIL SURFACES, PLANTS MUST BE ABLE TO GERMINATE AND GROW. SEEDBED PREPARATION IS ESSENTIAL. IF THE AREA HAS BEEN RECENTLY LOOSENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED OR HARDENED, THE SOIL SURFACE MUST BE LOOSENED BY DISKING, RAKING, HARROWING, OR OTHER ACCEPTABLE MEANS (SEE SURFACE ROUGHENING SECTION).

SEEDING– SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. SMALL GRAINS SHALL BE PLANTED NO MORE THAN 1.5 INCHES DEEP. SMALL SEEDS, SUCH AS ANNUAL RYE, SHALL BE PLANTED NO MORE THAN A QUARTER INCH DEEP. OTHER GRASSES AND LEGUMES SHALL BE PLANTED NO MORE THAN A HALF INCH DEEP.
MULCHING– TEMPORARY SEEDING, CONDUCTED IN FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS, SHALL BE MULCHED WITH STRAW OR HAY ACCORDING TO THE STANDARD FOR MULCHING. HYDROMULCHES (FIBER MULCH) MAY NOT PROVIDE ADEQUATE TEMPERATURE AND MOISTURE CONTROL.

BASIC SEDIMENT CONTROL PLAN ELEMENTS:

OBTAIN ALL PERMITS AND APPROVALS PRIOR TO CONSTRUCTION.

IF CONSTRUCTION LIMITS NEED TO BE EXPANDED BEYOND THE LIMITS OF DISTURBANCE AREA SHOWN ON THE PLANS, A PRE-CONSTRUCTION ENVIRONMENTAL EVALUATION WILL NEED TO BE CONDUCTED. CONTACT THE ENVIRONMENTAL BIOLOGIST TO CONDUCT A REVIEW ON THE NEW AREAS PRIOR TO CONSTRUCTION.

INSTALL THE STABILIZED CONSTRUCTION ENTRANCES AT THE ACCESS ROAD. STABILIZED CONSTRUCTION ENTRANCES MAY BE NEEDED AT THE ACCESS ROAD PENDING ITS USE AT THE TIME OF THIS PROJECT'S CONSTRUCTION.

MARK ALL CLEARING LIMITS AND SENSITIVE AREAS SUCH AS STREAMS, WETLANDS, ETC.

INSTALL ORANGE CONSTRUCTION FENCE NEAR STREAMS, WETLANDS AND STRUCTURES WITHIN THE LIMITS OF DISTURBANCE TO PROVIDE A PHYSICAL BARRIER TO DETER DISTURBANCE BY CONSTRUCTION ACTIVITIES.

ADD GRAVEL TO ACCESS ROAD AS NEEDED, BUT NO GRADING OR IMPACTS TO EXISTING DRAINAGE FEATURES ARE TO BE MODIFIED.

ON A DAILY BASIS, CLEAN THE ROADS THOROUGHLY BY REMOVING TRACKED SEDIMENT BY SHOVELING OR SWEEPING. STREET WASHING TO A WATERCOURSE OR STORM DRAIN SYSTEM IS NOT ALLOWED.

INSTALL COMPOST FILTER SOCK WHERE SHOWN, PARALLEL TO THE SLOPE AND ON THE DOWN-GRADIENT SIDE OF THE LIMITS OF DISTURBANCE TO PREVENT SEDIMENTATION FROM LEAVING THE PROJECT AREA.

CLEAR AND GRUB ALONG THE ROW. PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE WITHOUT SIGNIFICANT INTERFERENCE WITH CONSTRUCTION ACTIVITIES.

USE TIMBER MAT BRIDGES TO CROSS WATERBODIES AND WET AREAS, AS NEEDED.

RE-ESTABLISH THE GRADE TO THE PRE-CONSTRUCTION CONDITIONS.

RE-STABILIZE DISTURBED SOILS WITHIN 7 DAYS BY PLACING TEMPORARY SEEDING IF NOT FINAL GRADED, AND PERMANENT SEEDING WITH A NURSE CROP IF FINAL GRADED.

MULCH AND FERTILIZE AS STATED IN THIS PLAN.

PLACE ROLLED EROSION CONTROL PRODUCTS (RECP), MATS AND BLANKETS ON TOP OF SEEDED AREAS ON STEEP SLOPES WHERE SEEDING MAY BE DISPLACED BY RUNOFF. TYPICALLY, SLOPES GREATER THAN 3H:1V NEED TO HAVE AN EROSION CONTROL MAT OR BLANKET PLACE OVER THE SEEDED AREAS. SEED AND PLACE RECP ON THE STEEP SLOPES ADJACENT TO ANY AND ALL STREAMS IMMEDIATELY (WITHIN 7 DAYS) AFTER THE WELL PLUG IS REMOVED.

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

ALL BMPS SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. ANY REQUIRED REPAIRS OR MAINTENANCE SHOULD BE MADE IMMEDIATELY. THIS INCLUDES THE REMOVAL OF SEDIMENT THAT IS OVER HALF THE HEIGHT OF THE COMPOST FILTER SOCK (1 DAY PER WEEK OR AS STORM EVENTS REQUIRES).

TEMPORARY BMPS SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMPS OR VEGETATION SHALL BE PERMANENTLY STABILIZED. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER OF THE TOTAL VEGETATED AREA WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT OR BUILDINGS (WHEN APPLICABLE).

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

MANAGING THE PROJECT:

THIS SEDIMENT CONTROL PLAN (SCP) IS TO REMAIN ON-SITE AT ALL TIMES DURING CONSTRUCTION. THE SCP SHALL BE MODIFIED WHENEVER THERE IS SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE OF ANY BMP.

CLEARING AND GRUBBING ACTIVITIES SHOULD TAKE INTO CONSIDERATION MINIMIZING REMOVAL OF TREES AND DISTURBANCE AND COMPACTION OF NATIVE SOILS. ANY AREAS THAT REQUIRE PRESERVATION OF CRITICAL OR SENSITIVE AREAS AND/OR REQUIRE BUFFERS SHALL BE DELINEATED ON BOTH THE PLANS AND THE SITE.

ALL BMPS SHALL BE INSPECTED, 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 IMPOSING ON ADJACENT PROPERTIES. BMPS, OTHER THAN STATED IN THIS PLAN, MAY NEED TO BE IMPLEMENTED.

SPILLS OR DISCHARGE OF POLLUTANTS ARE TO BE REPORTED WITHIN 24-HOURS TO THE APPROPRIATE AGENCIES.

WASTE MATERIALS AND DISPOSAL:

ALL POLLUTANTS, INCLUDING WASTE MATERIALS, SHOULD BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE WATER. WOODY DEBRIS MAY BE CHOPPED AND SPREAD ON-SITE AS APPROVED BY THE LANDOWNER.

COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS AND NON-INERT WASTES PRESENT ON THE SITE.

MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, SOLVENT AND DE-GREASING CLEANING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO THE SURFACE WATER RUNOFF MUST BE CONDUCTED USING SPILL PREVENTION MEASURES, SUCH AS DRIP PANS. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY DISCHARGE OR SPILL INCIDENT. PLACE PLASTIC BENEATH THE EQUIPMENT WHEN EMERGENCY REPAIRS ARE TO BE PERFORMED ON-SITE. IF RAINING, PLACE PLASTIC OVER THE VEHICLE.

GENERAL NOTES REGARDING RECLAMATION:

THE GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED IN THE SITE NO MORE THAN TEN DAYS AND NO LESS THAN THREE DAYS IN ADVANCE OF EXCAVATION EXCLUDING SATURDAY, SUNDAY, AND FEDERAL OR STATE HOLIDAYS. CONTACT MISS UTILITY OF WEST VIRGINIA AT 1-800-245-4848.

TRAFFIC SHALL BE MAINTAINED ON ALL ADJOINING STREETS AND DRIVES AT ALL TIMES IN ACCORDANCE WITH WV DOT'S REQUIREMENTS.

DISTURBED AREAS CREATED DUE TO WELL PLUG REMOVAL SHALL BE RECLAIMED, MULCHED AND SEEDED, TO REDUCE EROSION AND SEDIMENTATION.

API NUMBERS: API 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	
SPECIES	KENTUCKY BLUEGRASS / REDTOP / BIRDSFOOT TREFOIL
% PURE LIVE SEED	99%
APPLICATION RATE	20 LBS/ACRE, 3 LBS/ACRE, AND 10 LBS/ACRE, RESPECTIVELY
FERTILIZER TYPE	COMMERCIAL FERTILIZER 10-20-20
FERTILIZER APPL. RATE	COMMERCIAL – 1000 LBS/ACRE
LIMING RATE	3 TONS/ACRE
MULCH TYPE	HAY & STRAW
MULCHING RATE	3 TONS/ACRE
ANCHOR MATERIAL	RECYCLED CELLULOSE FIBER/WOOD FIBER MIXTURE
ANCHORING METHOD	HYDRAULIC SEEDING EQUIPMENT
RATE OF ANCHOR MATERIAL APPLICATION	310 LBS/1000 SQ. YD
SEEDING SEASON DATES	YEAR ROUND

TEMPORARY STABILIZATION	
SPECIES	ANNUAL RYEGRASS
% PURE LIVE SEED	95%
APPLICATION RATE	40 LBS/ACRE
FERTILIZER TYPE	COMMERCIAL FERTILIZER 10-10-10
FERTILIZER APPL. RATE	COMMERCIAL – 1060 LBS/ACRE
LIMING RATE	3 TONS/ACRE
MULCH TYPE	HAY & STRAW
MULCHING RATE	3 TONS/ACRE

Received
Office of Oil & Gas
JUL 20 2015

ESTIMATED QUANTITIES

EROSION & SEDIMENT CONTROL	UNITS	ESTIM. QUANTITY	BID QUANTITY	UNIT PRICE	TOTAL COST
STONE CONSTRUCTION ENTRANCE	SF	396			
12" COMPOST FILTER SOCK	LF	142			
PERMANENT SEEDING	SY	1244			
ORANGE CONSTRUCTION FENCE	LF	184			

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	-	-	-

DONALD R. HIXSON JR. REGISTERED 17818 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
6/23/2015

PREPARED FOR:
XTO ENERGY
810 HOUSTON STREET
FORT WORTH, TX 76102

TRI-COUNTY ENGINEERING, LLC
An ENERCON Company
319 Plantersville Road
Hunker, PA 15639
www.tricountyeng.com
Voice: (724) 635-0210
Fax: (724) 635-0670
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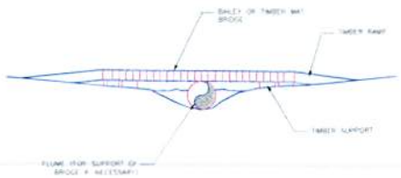
SEDIMENT CONTROL PLAN NARRATIVE

LEGGETT S-9 WELL PLUG

DRAWN BY: VC
DATE: 6/22/2015
SCALE: AS NOTED
EAGLE DISTRICT, HARRISON COUNTY, WV
SHEET: 2 OF 3
FILE NO.: 0081-02

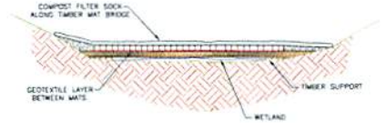
33021449P

BAILEY OR TIMBER MAT BRIDGE FOR STREAM CROSSING



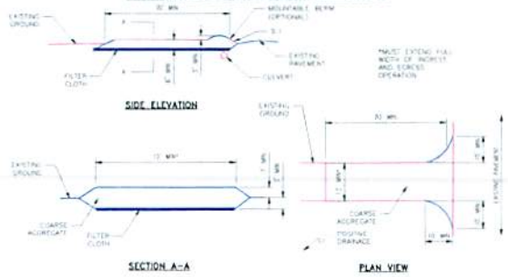
NOTE:
1. REMOVE DIRT FROM BRIDGE DECK AND PLACE IN SPOIL CONTAINMENT AREA.
2. ALLOWS FOR MINIMAL WETLAND IMPACT DURING CONSTRUCTION AND QUICK RESTORATION TO PRE-CONSTRUCTION CONDITIONS.
3. USE WETLAND MATS FROM PALMERTON GROUP, MARLEY INC., OR APPROVED EQUIVALENT.

BAILEY OR TIMBER MAT BRIDGE FOR WETLAND CROSSING



NOTE
1. REMOVE DIRT FROM BRIDGE DECK AND PLACE IN SPOIL CONTAINMENT AREA.
2. BRIDGES SHOULD BE SECURELY ANCHORED AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL ANCHORS. ANCHORS SHALL BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM AND POSSIBLY CAUSING AN OBSTRUCTION TO THE FLOW.
3. ALLOWS FOR MINIMAL WETLAND IMPACT DURING CONSTRUCTION AND QUICK RESTORATION TO PRE-CONSTRUCTION CONDITIONS.
4. USE WETLAND MATS FROM PALMERTON GROUP, MARLEY INC., OR APPROVED EQUIVALENT.

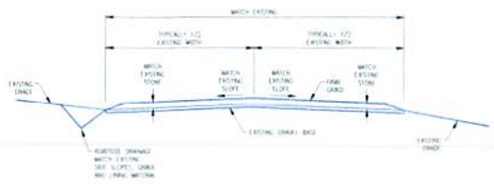
STABILIZED CONSTRUCTION ENTRANCE



INSTALLATION
1. USE 2-4 INCH STONE FOR LOW VOLUME ENTRANCES. LARGER STONE (4-8 INCH) FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.
2. LENGTH IS AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30-FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS SHOULD BE NOT LESS THAN 6 INCHES.
4. THE WIDTH SHALL BE A MINIMUM OF 10 FEET, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF A CULVERT IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE USED.
7. IF NECESSARY, ENTRY MAY WATER RUNNING DOWN ACCESS ROAD TO A DITCH WITH A COMPOST FILTER SOCK SEDIMENT BARRIER LOCATED ON EITHER SIDE OF THE STABILIZED CONSTRUCTION ENTRANCE.

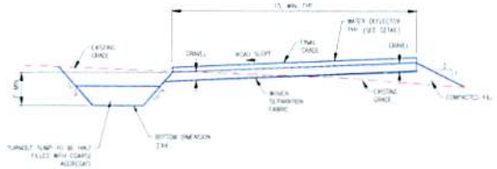
MAINTENANCE
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
2. WHEELS ON ALL VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO APPROVED SEDIMENT TRAPPING DEVICE. IF THE STREET IS WASHED, PRECAUTION MUST BE TAKEN TO PREVENT RUNOFF WATER FROM RUNNING INTO MANHOLES OR STORM SEWERS.
3. INSPECTION AND NECESSARY MAINTENANCE SHOULD BE PROVIDED DAILY BUT AT A MINIMUM EVERY SEVEN DAYS, AND AFTER EVERY RAIN OF 0.5 INCH OR GREATER.

GRAVEL ROAD RESTORATION



NOTES:
1. PRIOR TO STONE PLACEMENT, REGRADE EXISTING ROADWAY INTO "CROWNED" OR "SLOPE TO DITCH" CONFIGURATION TO MATCH EXISTING CONDITIONS. REMOVE, REDLL AND COMPACT SOFT SPOTS PRIOR TO STONE PLACEMENT. ALL CUT/FILL SLOPES SHALL BE NO GREATER THAN 2H:1V.
2. PLACE SAME SIZE STONE AS PRE-CONSTRUCTION CONDITIONS OR AS AGREED UPON WITH THE OWNER OF THE ROAD.

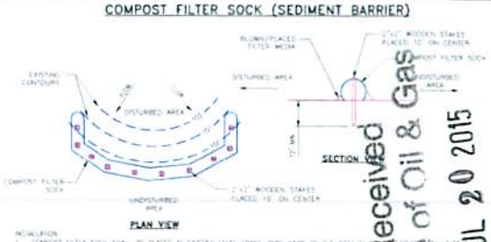
ACCESS ROAD/LOW VOLUME DRIVEWAY



INSTALLATION
1. ROADWAY SURFACE MAY BE SLOPED TO EITHER SIDE AS TOPOGRAPHY AND CONDITIONS WARRANT.
2. INSTALL WATER DEFLECTOR AS PER DETAIL ON THIS PLAN FOR POSITIVE DRAINAGE TO TURNOUT SUMP.
3. CONSTRUCT SUMPS TO HAVE A BOTTOM DIMENSION OF 3'x4', WITH A 2' FOOT DEPTH.
4. PLACE COARSE AGGREGATE IN SUMP OR VEGETATE.

MAINTENANCE
1. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE HEIGHT OF THE SUMP.
2. INSPECT AT A MINIMUM ONCE EVERY SEVEN CALENDER DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.

COMPOST FILTER SOCK (SEDIMENT BARRIER)



INSTALLATION
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED UPHILL (SOCK UP-SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT).
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

MAINTENANCE
1. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK OR AS RECOMMENDED BY SPREADING ON UPLAND AREAS IN THE ROW OR IN A SPECIAL CONTAINMENT AREA.
2. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED AT THE END OF EACH DAY OR AS RECOMMENDED BY MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
3. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS. PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

MATERIALS
1. IN LIEU OF 30" REINFORCED SILT FENCE, USE A MINIMUM 18 INCH DIAMETER COMPOST FILTER SOCK.
2. AT THE END OF ROW EMERGENCE, USE AN 18-INCH DIAMETER COMPOST FILTER SOCK (SEDIMENT BARRIER).
3. IN LIEU OF SUPER SILT FENCE, USE A MINIMUM 24-INCH DIAMETER COMPOST FILTER SOCK.
4. COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS CAN BE EQUAL OR GREATER THAN STATED BELOW:

MATERIAL TYPE	5 mil HDPE	5 mil HDPE
MATERIAL CHARACTERISTICS	PHOTODEGRADABLE	PHOTODEGRADABLE
SOCK DIAMETERS	18"	24"
MESH OPENINGS	¼"	¼"
TENSILE STRENGTH		29 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	% at 1000 HR	270 AT 1000 HR
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	5 MONTHS

5. COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	50%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5-8.0
MOISTURE CONTENT	35%-55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM

Received
Office of Oil & Gas
JUL 20 2015

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	-	-	-

6/23/2015

PREPARED FOR:
XTO ENERGY
810 HOUSTON STREET
FORT WORTH, TX 76102

TRI-COUNTY ENGINEERING, LLC
An ENERCON Company
219 Pantanella Road
Hurricane, PA 25526
Voice: (724) 635-0210 Fax: (724) 635-0679

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SEDIMENT CONTROL PLAN DETAILS

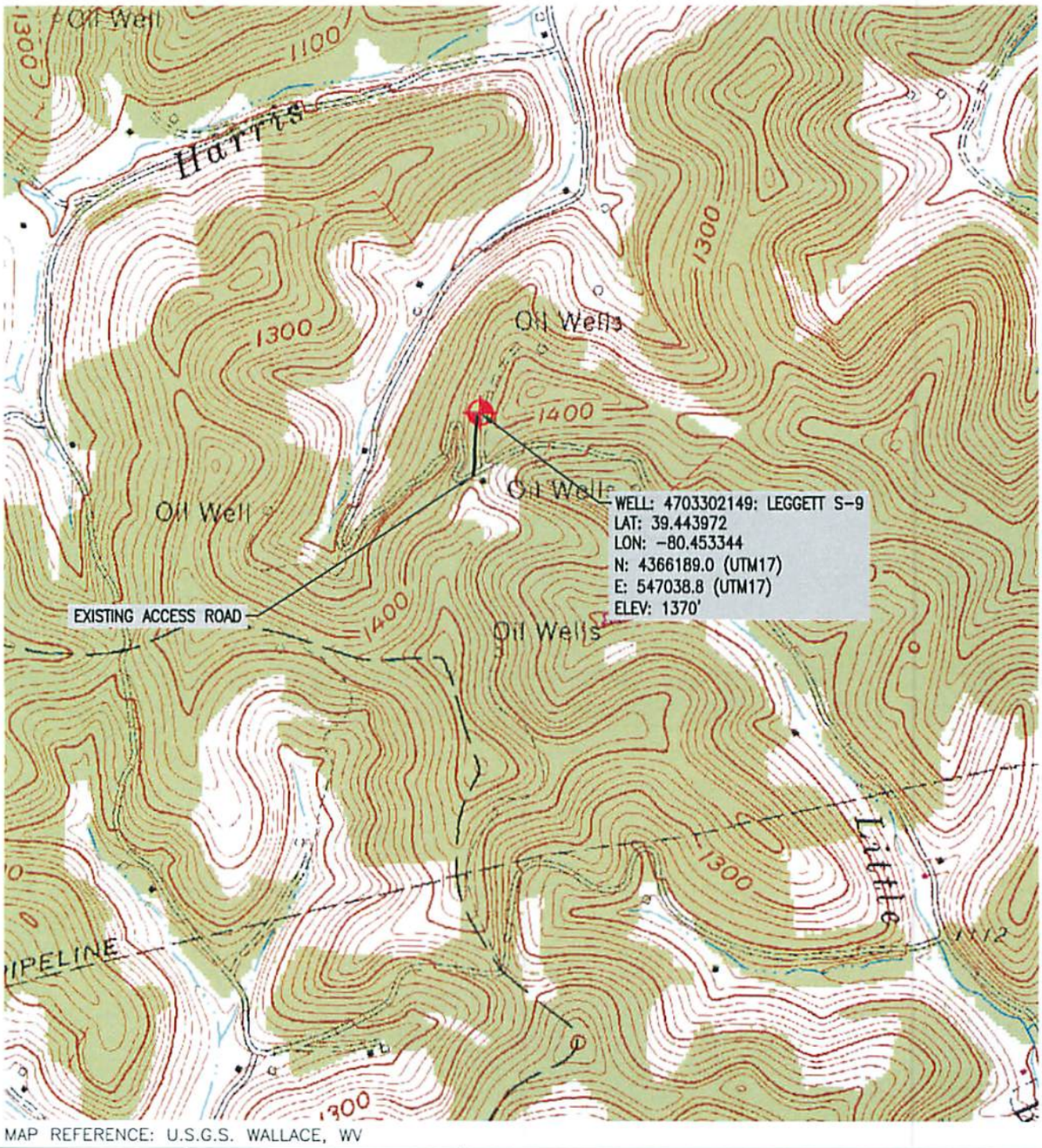
LEGGETT S-9 WELL PLUG

EAGLE DISTRICT, HARRISON COUNTY, WV

DRAWN BY: VG
DATE: 6/22/2015
SCALE: AS NOTED
SHEET: 3 OF 3
FILE NO: DG61-02

3302149P

SDW
7/15/2015



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

WV NORTH ZONE
SPCS GRID NORTH

XTO ENERGY
810 HOUSTON STREET
FORT WORTH, TX 76102

0' 1000'
SCALE 1" = 1000'

TRI-COUNTY ENGINEERING, LLC
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Hunker, PA 15639
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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:
SCALE: AS NOTED	FILE NO. OG61-02

Received
Office of Oil & Gas
JUL 20 2015

3302149P

WW-7
8-30-06

West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-033-02149 WELL NO.: S-9

FARM NAME: Leggett

RESPONSIBLE PARTY NAME: XTO Energy, Inc.

COUNTY: Harrison DISTRICT: Eagle

QUADRANGLE: Wallace

SURFACE OWNER: Consolidation Coal Co.

ROYALTY OWNER: See attached list

UTM GPS NORTHING: 4366189.0

UTM GPS EASTING: 547038.8 GPS ELEVATION: 416 meters (1364.')

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 X: Post Processed Differential X

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.

Signature | Project Manager (Title) | July 8, 2015 (Date)

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Office of Oil & Gas
JUL 20 2015