



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

June 02, 2014

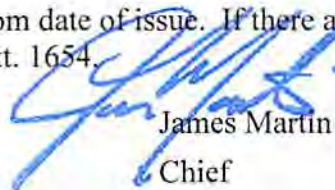
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-3302316, 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: Z
Farm Name: HAGGARTY, JESSE
API Well Number: 47-3302316
Permit Type: Plugging
Date Issued: 06/02/2014

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.
4. This well is under a consent order and must be plugged within two years of the date of issuance of this permit.

3302316P

WW-4B
Rev. 2/01

1) Date 4/11, 20 14
2) Operator's
Well No. Haggarty, Jesse Z
3) API Well No. 47-033 - 02316

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 1067' Watershed Tenmile Creek
District Sardis County Harrison Quadrangle Wolf Summit 7.5'

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 2" tubing out of well and RIH in the 7" casing and check TD of well estimated to be at 2400', POOH and run the 2" tubing back to TD and circulate 6% gel back to surface, then pump a cement
plug from 2400' up to 2200', pull tubing up to 2040' and wait on cement to set and RIH with small tools and tag top of cement, then pump a cement plug from 2040' up to 1850', pull tubing up to 1550' and pump
cement up to 1350', bottom of 7" at 1450', pull tubing up to 800' and pump cement up to 700', pull tubing up to 275' and pump cement to surface. Install well monument.

- Cement - 2400' - 2200' = 200' in 6 1/4" hole
- Cement - 2040' - 1850' = 190' in 6 1/4" hole
- Cement - 1550' - 1350' = 200' in 7" casing
- Cement - 800' - 700' = 100' in 7" casing
- Cement - 275' - Surface = 275' in 7" Casing

Received

APR 22 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

IF 7" is not CTS, it must be pulled or ripped/shot & cemented according to standards.

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

Work order approved by inspector S. P. D. Ward III Date 4/15/2014

06/06/2014

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___
(If "Gas", Production X / Underground storage ___ / Deep ___ / Shallow X /)
Elevation: 1080 Watershed: Wolf Penn Run
District: Sardis County: Harrison Quadrangle: Clarksburg NW 1/4

OPERATOR Eagle Gas Company DESIGNATED AGENT Lorna Hill
Address 211 Main Street Address 211 Main Street
Lumberport, W. Va. 26386 Lumberport, W. Va. 26386

WORK: Drill ___ / Convert ___ / Drill deeper ___ / Redrill ___ / Fracture or stimulate ___
Plug off old formation ___ / Perforate new formation ___
Other physical change in well (specify) _____

JAN 28 1980

ISSUED ON _____, 19____ OIL & GAS INSPECTOR FOR OHIO WORK DIVISION
Name DEPT. OF MINES
Address _____

LOGICAL TARGET FORMATION: Fifth Sand Depth + 2400 feet
Depth of completed well, + 2400 feet Rotary ___ / Cable Tools X
Water strata depth: Fresh, n/a feet; salt, 752 feet.
Coal seam depths: Below Coal Is coal being mined in the area? Yes
Work was commenced n/a, 19 11, and completed n/a, 19 11

LOGGING AND TUBING PROGRAM

LOGGING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling		
Injector								Kinds
Sh water	10"					+ 250	+ 250	Sizes
Intermediate								Depths set
Production	7"					+ 1450'	+ 1450'	Perforations:
Logging	2"					+ 2400'	+ 2400'	Top Bottom
Tests								

Received
APR 22 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

FLOW DATA
Producing formation Fifth Sand Pay zone depth + 2400' feet
Gas: Initial open flow, n/a Mcf/d Oil: Initial open flow, _____ Bbl/d
Final open flow, n/a Mcf/d Final open flow, _____ Bbl/d
Time of open flow between initial and final tests, _____ hours
Static rock pressure, n/a psig (surface measurement) after _____ hours shut in

06/06/2014

[If applicable due to multiple completion--]
Second 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

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

033-2316

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Pittsburgh Coal			10'	16'	
Little Dunkard			357	377	
Big Dunkard			504	550	Show Gas 525
First Salt			752	930	
Big Lime			1353	1430	
Big Injun			1430	1508	Gas 1478 1488
Fifty Foot			1860	1925	
Thirty Foot			1966	2074	Gas 1969
Gordon Stray			2088	2110	
Fourth			2213	2244	
Fifth			2368	2400	Gas 2369-2400
Total Depth				2400	

Received

APR 22 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

(Attach separate sheets to complete as necessary)

Eagle Gas Company
Well Operator

By [Signature]
Its Chief Executive Officer 06/06/2014

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 coal, encountered in the drilling of a well."

3302316P

WW-4A
Revised 6-07

1) Date: 5/27/14
2) Operator's Well Number
Haggarty, Jesse Z

3) API Well No.: 47 - 033 - 02316

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:	5) (a) Coal Operator
(a) Name <u>Valerie K Cochran</u>	Name <u>Roscco Limited Liability Company</u>
Address <u>5059 Sardis</u>	Address <u>PO Box 397</u>
<u>Clarksburg, WV 26301</u>	<u>Glenville, WV 26351</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>Roscco Limited Liability Company</u>
	Address <u>PO Box 397</u>
	<u>Glenville, WV 26351</u>
(c) Name _____	Name _____
Address _____	Address _____
6) Inspector <u>Sam Ward</u>	(c) Coal Lessee with Declaration
Address <u>PO Box 2327</u>	Name <u>None</u>
<u>Buckhannon, WV 26201</u>	Address _____
Telephone <u>304-389-7583</u>	

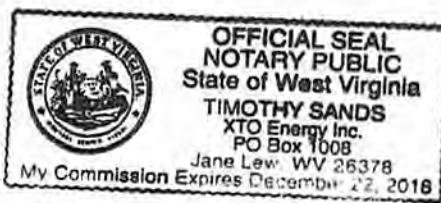
TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (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.

RECEIVED
Office of Oil and Gas



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

MAY 27 2014
WV Department of Environmental Protection

Subscribed and sworn before me this 27th day of May 2014
[Signature] Notary Public

My Commission Expires 12/22/18

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.

06/06/2014

3302316P

U.S. Postal ServiceTM
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Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 26378	

Sent to Valerie Cochran
 Street, Apt. No.,
 or PO Box No. 5059 Sardis Rd
 City, State, ZIP+4 Clarksburg, WV 26301

PS Form 3800, August 2005 See Reverse for Instructions

RECEIVED
Office of Oil and Gas

MAY 27 2014

WV Department of
Environmental Protection

06/06/2014

3302316A

7012 1010 0002 5911 6543

CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	263.18

Roscco Limited Liability Company
PO Box 397
Glennville, WV 26351

Postmark Here: APR 14 2014

Handwritten: Muggerty Jesse 2 Plugging Application

PS Form 3800, June 2009

7012 1010 0002 5911 6536

CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Brandon Nay & Brian Nay
635 Nay Hill Rd.
Lumberport, WV 26386

Postmark Here: APR 14 2014

Handwritten: Muggerty Jesse 2 Plugging Application

PS Form 3800, June 2009

Received

APR 23 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

06/06/2014

3302316P

WW-9
Rev. 5/08

Page _____ of _____
API Number 47 - 033 - 02316
Operator's Well No. Haggarty, Jesse Z

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

CK # 0007497007
100⁰⁰

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

Operator Name XTO Energy Inc. OP Code 494487940

Watershed Tenmile Creek Quadrangle Wolf Summit 7.5'

Elevation 1067' County Harrison District Sardis

Description of anticipated Pit Waste: Fluids from plugging operations.

Will a synthetic liner be used in the pit? Yes 20 mil.

SDW
4/15/2014

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))

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- Plugging

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 [Signature]

Company Official (Typed Name) Gary Beall

Company Official Title Production Superintendent

Received

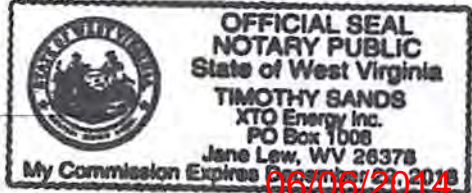
APR 22 2014

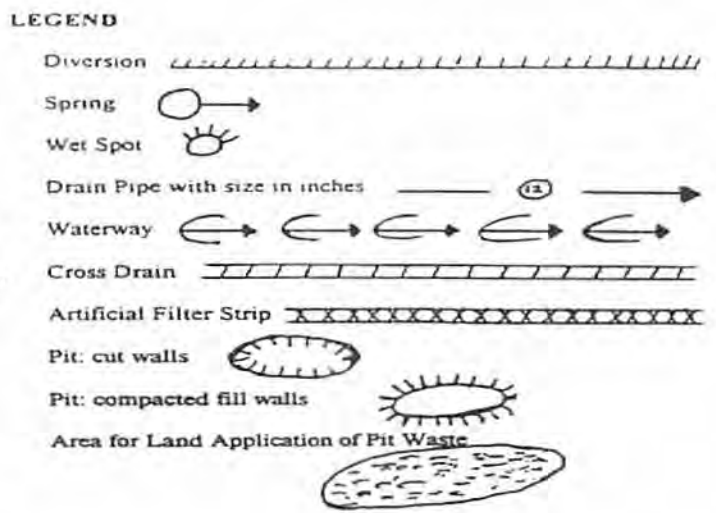
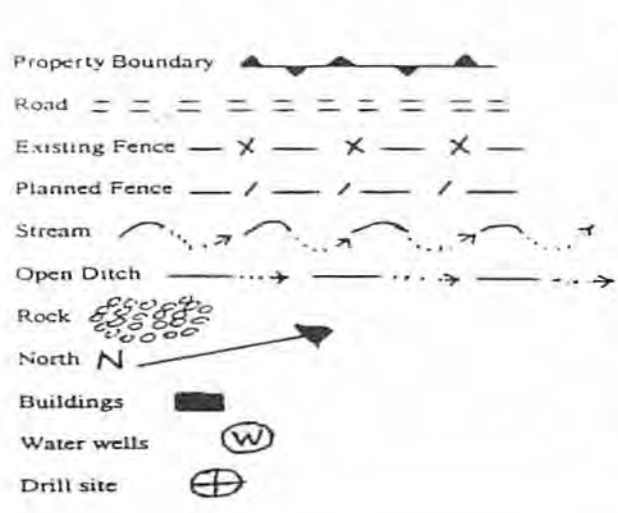
Subscribed and sworn before me this 11th day of April, 2014 Office of Oil and Gas
WV Dept. of Environmental Protection

[Signature]

Notary Public

My commission expires 12/22/18





Proposed Revegetation Treatment: Acres Disturbed .51 +/- Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH _____

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

Mulch 3 Tons/acre

Seed Mixtures

Seed Type	Area I	lbs/acre	Seed Type	Area II	lbs/acre
Kentucky Bluegrass		<u>20</u>			
Redtop		<u>3</u>			
Birdsfoot Trefoil		<u>10</u>			

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

Photocopied section of involved 7.5' topographic sheet.

Received

APR 22 2014

Plan Approved by: [Signature]

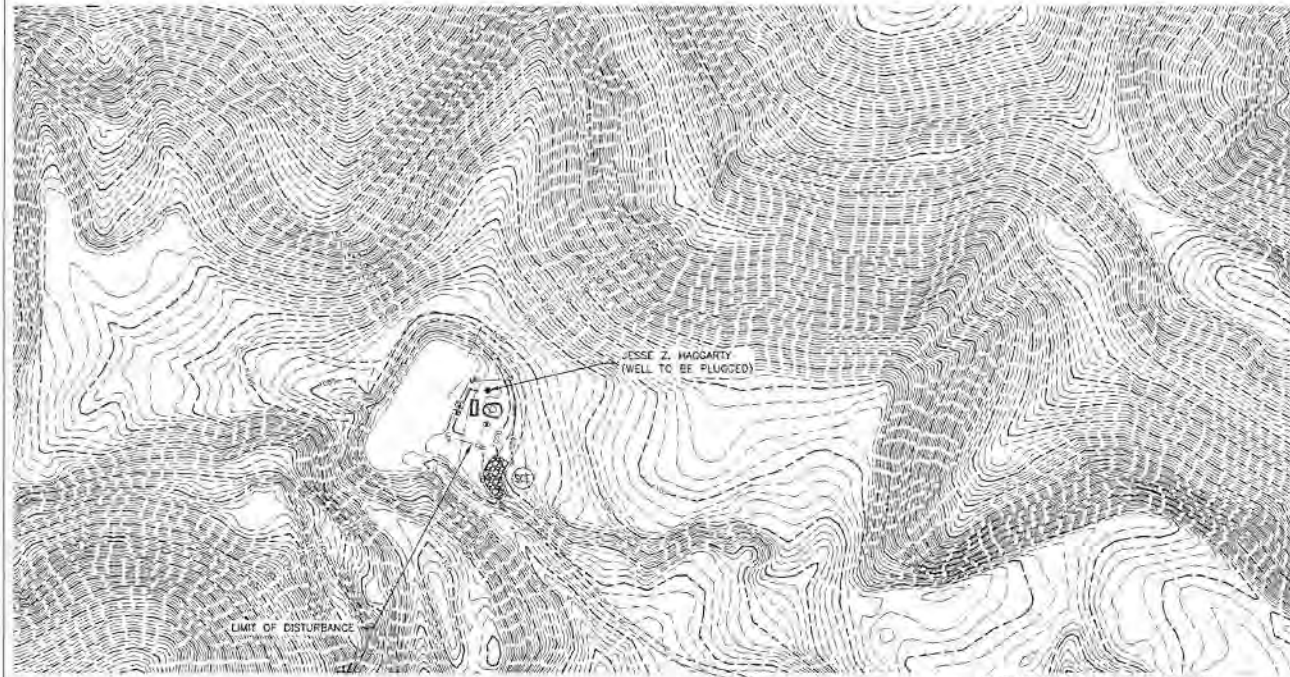
Comments: _____

Office of Oil and Gas
WV Dept. of Environmental Protection

Title: _____ Date: 4/15/2014

Field Reviewed? () Yes (X) No

330 23161



CONTRACTOR TO MAKE REPAIRS, STABILIZE, AND MAINTAIN ACCESS ROAD WITH GRAVEL AS DIRECTED BY CONSTRUCTION SUPERVISOR DURING PLUGGING OPERATION

EXISTING BRINE

Office of Oil and Gas
WV Dept. of Environmental Protection

Received

APR 22 2014



ZONING:

NO ZONING

WETLANDS:

NO WETLANDS ON SITE

FLOOD ZONE:

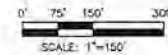
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NUMBER 64033C0110D, EFFECTIVE DATE OCTOBER 2, 2012, THE SUBJECT PROPERTIES LIES WITHIN ZONE X WHICH IS DEFINED ON SAID MAP AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN".

NOTES:

1. EROSION CONTROL BLANKETS OR FLEXTERRA TO BE INSTALLED ON ALL CUT AND FILL SLOPES OF 3:1 OR STEEPER.
2. WHEREVER SEED AND MULCH IS APPLIED BY HYDROSEEDING METHODS, THE SEED AND MULCH SHOULD BE APPLIED IN SEPARATE APPLICATIONS WITH THE SEED BEING APPLIED FIRST AND THE MULCH SPRAYED ON TOP OF THE SEED. THIS IS TO ENSURE THAT THE SEED MAKES CONTACT WITH THE UNDERLYING SOIL. SOIL PREPARATION SHOULD BE COMPLETED PRIOR TO ADDING SEED TO THE HYDROSEEDING EQUIPMENT. RUNNING SEED THROUGH THE PUMPING SYSTEM CAN RESULT IN EXCESSIVE ABRASION OF THE SEED AND REDUCE THE PERCENTAGE OF PURE LIVE SEED IN THE APPLICATION. THEREFORE, ALL SITE PREPARATION SHOULD BE COMPLETED PRIOR TO THE ARRIVAL OF THE HYDROSEEDER.

LEGEND

- (IP) INLET PROTECTION
- (SE) STONE CONSTRUCTION ENTRANCE
- (RF) ROCK FILTER
- (RO) ROCK CHANNEL OUTLET PROTECTION
- (PC) PERMANENT CHANNEL
- (TC) TEMPORARY CHANNEL
- (12") 12" COMPOST FILTER SOCK
- (18") 18" COMPOST FILTER SOCK
- (24") 24" COMPOST FILTER SOCK
- (32") 32" COMPOST FILTER SOCK
- (PS) COMPOST FILTER SOCK PYRAMID
(3) 18" OR (2) 24" W/ (1) 18"



EROSION & SEDIMENT CONTROL PLAN - OVERALL VIEW
JESSE Z. HAGGARTY
 XTO ENERGY, INC.
 SANDS KATY LOCK RICH
 HARRISON COUNTY, WEST VIRGINIA

DESIGNED BY:	DATE:	REV. BY:	DATE:	REV. BY:	DATE:	REV. BY:	DATE:	REV. BY:	DATE:
JZH	01/14/14								
DRWN BY:	JZH	REV. BY:	JZH	REV. BY:	JZH	REV. BY:	JZH	REV. BY:	JZH
CHKD BY:		REV. BY:		REV. BY:		REV. BY:		REV. BY:	
DATE:	01/14/14	DATE:		DATE:		DATE:		DATE:	

MORRIS KNOWLES & ASSOCIATES, INC.
 A HAMMORRE COMPANY
 ENGINEERS, PLANNERS, SURVEYORS
 445 AVONIA GORE, DENVER, CO 80202
 PHN: (721) 488-8822 FAX: (721) 488-8940
 www.morrisknowles.com

33023168

CONSTRUCTION SEQUENCE, JESSE Z HAGGARTY:

STAGE 1: INSTALL ROCK CONSTRUCTION ENTRANCE AT EXISTING DRIVE.
 A. EXCAVATE FOR, AND FORM ENTRANCE.
 B. IMMEDIATELY STABILIZE ENTRANCE WITH ROCK.

STAGE 2: INSTALL 18" COMPOST FILTER SOCK.

STAGE 3: INSTALL DRILL PIT (AS NEEDED)

STAGE 4: STABILIZE, REPAIR, AND MAINTAIN ACCESS DRIVE WITH GRAVEL AS NEEDED.

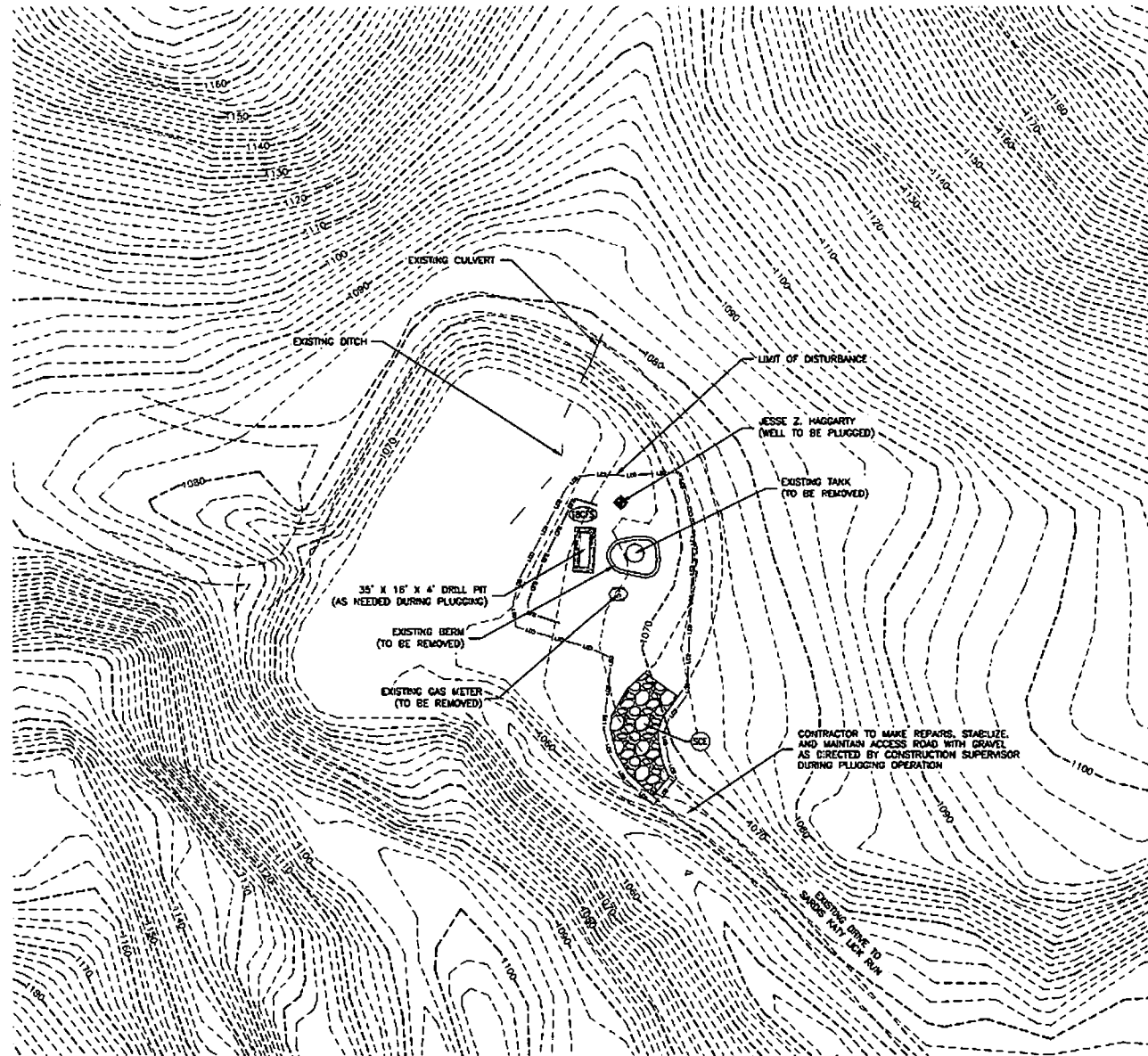
STAGE 5: DRILL PIT TO BE RECLAIMED WHEN DONE.

STAGE 6: SEED AND MULCH
 A. SEED/MULCH EXISTING ACCESS DRIVE AREA WITH SPECIFIED SEEDING MIXTURE. ALL E & S CONTROL FACILITIES SHALL BE MAINTAINED AND KEPT FUNCTIONAL UNTIL SITE STABILIZATION IS COMPLETE.

Received

APR 22 2014

Office of Oil and Gas
WV Dept. of Environmental Protection



ZONING:
NO ZONING

WETLANDS:
NO WETLANDS ON SITE

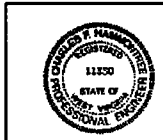
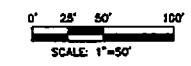
FLOOD ZONE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NUMBER 54033C013D, EFFECTIVE DATE: OCTOBER 2, 2012 THE SUBJECT PROPERTIES LES WITHIN ZONE X WHICH IS DEFINED ON SAID MAP AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN".

- NOTES:**
1. EROSION CONTROL BLANKETS OR FLEKTERRA TO BE INSTALLED ON ALL CUT AND FILL SLOPES OF 3:1 OR STEEPER.
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LEGEND

(P)	INLET PROTECTION
(SE)	STONE CONSTRUCTION ENTRANCE
(R)	ROCK FILTER
(RO)	ROCK CHANNEL OUTLET PROTECTION
(PC)	PERMANENT CHANNEL
(TC)	TEMPORARY CHANNEL
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(18S)	18" COMPOST FILTER SOCK
(24S)	24" COMPOST FILTER SOCK
(32S)	32" COMPOST FILTER SOCK
(PS)	COMPOST FILTER SOCK PYRAMID (3) 18" OR (2) 24" W/ (1) 18"



MORRIS WAINWALE & ASSOCIATES, INC.
 A WAINWALE COMPANY
 ENGINEERS, PLANNERS, SURVEYORS
 443 ARDEN DRIVE EDUORO, PA 15024
 PHX (714) 488-4422 FAX (714) 488-8940
 WWW.MORRISWAINWALE.COM

DESIGN BY:	JZH	DATE:		DESC:	
DRAWN BY:	JZH	DATE:		DESC:	
REVIEW BY:	JZH	DATE:		DESC:	
FLD BY:		DATE:		DESC:	
CHK BY:		DATE:		DESC:	
DATE:	02/20/14				

EROSION & SEDIMENT CONTROL PLAN - ENLARGED VIEW
 JESSE Z HAGGARTY
 XTO ENERGY, INC.
 SANDS KATY LOCK RUN
 HARRISON COUNTY, WEST VIRGINIA

ES-3

2932023

EROSION AND SEDIMENTATION CONTROL PLAN NOTES:

- ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO CHANNELS OF CONVEYANCE AS APPROPRIATE FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE CONTROLS.
- EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.
- AFTER SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED.
- STORMWATER INLETS WHICH DO NOT DISCHARGE TO SEDIMENT TRAPS OR BASINS, MUST BE PROTECTED UNTIL THE TRIBUTARY AREAS ARE STABILIZED.
- SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.
- STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
- ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 30 DAYS MUST BE STABILIZED IMMEDIATELY. DURING HIGH-OPERATING PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MAY BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDING SPECIFICATIONS. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATIONS.
- STOCKPILES MUST BE STABILIZED IMMEDIATELY.
- HAY OR STRAW MULCH MUST BE APPLIED AT RATES OF AT LEAST 3.0 TONS PER ACRE.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH RUNOFF EVENT AND ON A REGULAR BASIS. ALL PREVENTATIVE AND REPAIR MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND REDISTING.
- THE CONTRACTOR SHALL RECYCLE MATERIALS WHENEVER APPROPRIATE AND WHEN IN ACCORDANCE WITH LOCAL, STATE, & WYDEP REQUIREMENTS. ALL MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF PROPERLY ON A C&D LANDFILL. IF CLEAN FILL MATERIAL IS REMOVED FROM THE SITE, IT SHALL BE TAKEN TO AN APPROVED C&D LANDFILL OR IF THE CONTRACTORS RESPONSIBILITY TO OBTAIN AN APPROVED E&S PLAN IF OVER 5000 SQUARE FEET OF AREA IS DISTURBED.

EROSION AND SEDIMENT CONTROL FACILITIES MAINTENANCE SCHEDULE:

- ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED UNTIL A UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ESTABLISHED.

STONE CONSTRUCTION ENTRANCE:

- THE STONE CONSTRUCTION ENTRANCES ARE TO BE INSPECTED AT THE END OF EACH WORKING DAY AND REPAIRED IMMEDIATELY.
- THE THICKNESS OF THE ROCK CONSTRUCTION ENTRANCE SHALL BE CONSTANTLY MAINTAINED AT 8".
- A STONE STOCKPILE IS TO BE READILY AVAILABLE ON THE SITE AT ALL TIMES FOR IMMEDIATE REPAIR.

COMPOST FILTER SOCK:

- COMPOST FILTER SOCK MUST BE INSTALLED AT LEVEL GRADE, BOTH ENDS OF EACH COMPOST FILTER SOCK SECTION MUST EXTEND AT LEAST 10 FEET UPSLOPE AT 45 DEGREES TO THE MAIN COMPOST FILTER SOCK ALIGNMENT.
- THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTER SOCK IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
- WHERE THE SOCK REQUIRES REPAIR, IT WILL BE ROUTINELY REPAIRED.
- THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED AT THE BASE OF THE SOCK WHEN IT REACHES 1/2 OF THE EXPOSED HEIGHT OF THE SOCK OR AS DIRECTED BY THE ENGINEER.
- THE COMPOST FROM THE FILTER SOCK WILL BE DISPERSED ON THE SITE WHEN SITE REACHES 70% VEGETATIVE COVER.

VEGETATION:

- THE CONTRACTOR SHALL RESPECT VEGETATED AREAS WEEKLY AND AFTER EACH STORM (RUNOFF) EVENT.
- THE CONTRACTOR SHALL INSPECT THE SITE FOR HILLS OR GULLIES ON CUT OR FILL SLOPES. THE CONTRACTOR SHALL FILL HILLS AND GULLIES, REGRADE DISTURBED AREAS TO PROVIDE A UNIFORM SLOPE, THEN RESEED/MULCH AND REPAIR/REPLACE MATS TO ORIGINAL SPECIFICATIONS.
- THE REPAIRS SHALL BE MADE WITHIN 2 DAYS OF DISCOVERING PROBLEM.

DRILL PITS:

- THE PIT SHALL BE CONSTRUCTED AND MAINTAINED SO AS TO PREVENT SEEPAGE, LEAKAGE, AND OVERFLOWS.
- PITS SHOULD BE CONSTRUCTED BELOW SURFACE GROUND LEVEL. WHEN POSSIBLE, ANY ABOVEGROUND PIT WALLS, AS IS THE CASE WITH PITS CONSTRUCTED IN THE LOWER SLOPE AREAS OF THE WELLSITE, SHALL BE COMPACTED, WITH A SIDE SLOPE BEING MAINTAINED THAT WILL PRESERVE THE STRUCTURAL INTEGRITY. THE FILL MATERIAL SHOULD CONTAIN THE PROPER AMOUNT OF MOISTURE TO ENSURE THAT COMPACTION WILL BE ACHIEVED.
- ALL PITS SHALL BE DESIGNED, CONSTRUCTED, LOCATED, MAINTAINED, AND USED IN ACCORDANCE WITH TITLE 38.02A.21 AND IN SUCH A MANNER AS TO MINIMIZE ADVERSE ENVIRONMENTAL IMPACTS AND TO ASSURE SAFETY TO THE PUBLIC.

SITE STABILIZATION INSTALLATION AND MAINTENANCE (TEMPORARY AND PERMANENT):

- TILL SOIL TO DEPTH OF 2". REMOVE ALL OBJECTS 2" OR LARGER.
- BLENDED COMMERCIAL FERTILIZER INTO THE SOIL TO A DEPTH OF 2". FERTILIZER MAY BE BLENDED DURING TILLING.
- SOW REQUIRED SEED MIXTURE UNIFORMLY ON THE PREPARED AREA BY HYDRAULIC SEEDING EQUIPMENT, HAND SEEDING, OR ANY OTHER APPROPRIATE METHOD.
- AFTER SEEDING ROLL TOPSOILED AREAS THAT ARE TO BE MOWED. USE A ROLLER WEIGHING NOT MORE THAN 65 LBS./FT. WIDTH.
- FOR PERMANENT SITE STABILIZATION APPLY SLOW RELEASE NITROGEN FERTILIZER TO THE SURFACE OF SEEDED AREAS.
- PLACE MULCH IMMEDIATELY AFTER SEEDING OR WITHIN 48 HOURS AFTER SEEDING IS COMPLETED. PLACE HAY & STRAW UNIFORMLY IN A CONTINUOUS BLANKET AT THE MINIMUM RATE SPECIFIED ABOVE. AN ACCEPTABLE MECHANICAL SLOWER MAY BE USED TO APPLY MULCH. MACHINES WHICH CUT MULCH INTO SHORT PIECES WILL NOT BE PERMITTED.
- MAINTENANCE - SATISFACTORILY MAINTAIN GRASS AREAS WITHIN GRADING LIMITS, UNTIL THE ENTIRE PROJECT HAS BEEN COMPLETED. WORK AS INDICATED AND WHEN DIRECTED. CONTROL PROHIBITED AND NOXIOUS WEED GROWTH BY HERBICIDE SPRAYING OR CUTTING. AFTER THE SEEDING AND SOIL SUPPLEMENT WORK ON A SLOPE HAS BEEN SATISFACTORILY COMPLETED, IF A SLOPE FAILURE OCCURS, ONE WHICH REQUIRES RESEEDING, EXCAVATION, OR ESTABLISHMENT OF A NEW SLOPE, REAPPLY SOIL SUPPLEMENTS, THEN RESEED, AS SPECIFIED FOR THE ORIGINAL TREATMENT.
- A SITE WILL BE CONSIDERED TO BE PERMANENTLY STABILIZED WHEN ALL PERMANENT CONTROL MEASURES AND FACILITIES HAVE BEEN COMPLETED AND ARE OPERATIONAL, TEMPORARY CONTROL MEASURES AND FACILITIES REMOVED, AND UNIFORM 70% PERENNIAL VEGETATION COVER IS ESTABLISHED TO THE POINT WHERE THE SURFACE SOIL IS CAPABLE OF RESISTING EROSION DURING RAINFALL EVENTS. THE STANDARD FOR THIS VEGETATIVE COVER WILL BE A UNIFORM COVERAGE OR DENSITY OF 70% ACROSS THE DISTURBED AREA.
- THE CONTRACTOR SHALL MAINTAIN THE SITE PER THE PROVISIONS OF THIS PLAN UNTIL PERMANENT STABILIZATION IS ESTABLISHED.

PERMANENT STABILIZATION

SPECIES: KENTUCKY BLUEGRASS/ REDTOP/ BIRDSFOOT TREFLO
99R
% PURE LIVE SEED: 99R
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 ANCHORING: 3 TONS/ACRE
MATERIAL APPLICATION: 310 LBS./1000 SQ. YD.
SEEDING SEASON DATES: YEAR AROUND

TEMPORARY STABILIZATION:

SPECIES: ANNUAL RYEGRASS
99R
% PURE LIVE SEED: 99R
APPLICATION RATE: 40 LBS./ACRE
FERTILIZER TYPE: COMMERCIAL FERTILIZER 10-10-10
FERTILIZER APPL. RATE: 1000 LBS./ACRE
LIMING RATE: 3 TONS/ACRE
MULCH TYPE: HAY & STRAW
MULCHING RATE: 3 TONS/ACRE

PERMANENT- STEEP SLOPE:

SPECIES: KENTUCKY BLUEGRASS/ REDTOP/ BIRDSFOOT TREFLO
99R
% PURE LIVE SEED: 99R
APPLICATION RATE: 20 LBS./ACRE, 3 LBS./ACRE, 6 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
ANCHORING MATERIAL: RECYCLED CELLULOSE FIBER/WOOD FIBER MIXTURE
ANCHORING METHOD: HYDRAULIC SEEDING EQUIPMENT
RATE OF ANCHORING: 3 TONS/ACRE
MATERIAL APPL.: 310 LBS./1000 SQ. YD.
SEEDING DATES: YEAR AROUND

GENERAL NOTES:

- 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. (WV CHAPTER 24C-1-3, UNDERGROUND FACILITY DAMAGE PROTECTION ACT).
- TRAFFIC SHALL BE MAINTAINED ON ALL ADJOINING STREETS AND DRIVES AT ALL TIMES. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH WVDOT'S REQUIREMENTS.
- CONTRACTOR SHALL VERIFY THE LOCATION AND INVERT ELEVATION OF ALL EXISTING UTILITIES WITH PROPOSED CONNECTIONS PRIOR TO CONSTRUCTION AND GRADING OF THE SITE.

GRADING NOTES:

- THE CONTRACTOR SHALL REMOVE ALL EXISTING ASPHALT PAVEMENT AND CONCRETE SLABS FROM THE SITE.
- THE CONTRACTOR SHALL PROOF ROLL THE SITE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AND REMOVE ANY SOFT SPOTS PRIOR TO THE IMPORTING OF ANY FILL MATERIAL.
- THE CONTRACTOR SHALL REPLACE ALL CURB SECTIONS, SIDEWALKS, AND PAVEMENT, WHICH HAS BEEN CUT AND DISTURBED WITHIN THE RIGHT-OF-WAY WITH WEST VIRGINIA DEPARTMENT OF TRANSPORTATION'S STANDARD MATERIALS.
- THE CONTRACTOR SHALL ADJUST TO GRADE ALL WATER AND GAS VALVES.
- THE CONTRACTOR SHALL COMPACT ALL FILL MATERIALS TO NOT LESS THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557 TO PROVIDE STABILITY AND PREVENT SETTLEMENT.
- THE CONTRACTOR SHALL USE WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL.

EROSION CONTROL BLANKETING:

- EROSION CONTROL BLANKETING TO BE INSTALLED ON ALL SLOPES OF 3:1 GRADING OR STEEPER IN ACCORDANCE WITH EROSION CONTROL BLANKETING DETAIL PROVIDED.
- PROPERLY PREPARE SOIL BEFORE INSTALLING BLANKETS.
- ANCHOR BLANKETS IN A TRENCH AT THE TOP OF SLOPE USING A ROW OF STAPLES/STAKES.
- BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL.
- SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES ACROSS THE WIDTH OF THE BLANKET
- ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE.
- OVERLAP PARALLEL BLANKETS.
- IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

HYDRAULICALLY APPLIED BLANKETS:

- HYDRAULICALLY APPLIED BLANKETS SHOULD NOT BE USED IN AREAS OF CONCENTRATED FLOW (E.G. CHANNELS).
- A BONDED FIBER MATRIX (BFM) CAN BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. BFMS MAKE USE OF A CROSS-LINKED HYDROCOLLOID TACKIFIER TO BOND THERMALLY PROCESSED WOOD FIBERS. APPLICATION RATES VARY ACCORDING TO SITE CONDITIONS. FOR SLOPES UP TO 3:1 THE BFM SHOULD BE APPLIED AT A RATE OF 3,000 LB./ACRE. STEEPER SLOPES MAY NEED AS MUCH AS 4,000 LB./ACRE. IN ANY CASE, MANUFACTURER'S RECOMMENDATIONS SHOULD BE FOLLOWED. BFMS SHOULD ONLY BE USED WHEN NO RAIN IS FORECAST FOR AT LEAST 48 HOURS FOLLOWING THE APPLICATION. THIS IS TO ALLOW THE TACKIFIER SUFFICIENT TIME TO CURE PROPERLY. ONCE PROPERLY APPLIED, A BFM IS TYPICALLY 90% EFFECTIVE IN PREVENTING ACCELERATED EROSION. BONDED FIBER MATRIX SHOULD NOT BE APPLIED BETWEEN SEPTEMBER 30 AND APRIL 1. ONCE FIBER MATRICES THAT HAVE BEEN SHOWN TO BE EFFECTIVE IN PREVENTING EROSION ON DISTURBED SURFACES MAY BE USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS IF SUFFICIENT SUPPORTING DOCUMENTATION IS PROVIDED.
- A FLEXIBLE GROWTH MEDIUM (FGM) HAS THE ADDED COMPONENT OF 1/2 INCH LONG, CRIMPED ORGANIC OR MANMADE FIBERS WHICH ADD A MECHANICAL BOND TO THE CHEMICAL BOND PROVIDED BY BFMS. THIS INCREASES THE BLANKET'S RESISTANCE TO BOTH RAINDROFF IMPACT AND EROSION DUE TO RUNOFF. UNLIKE BFMS, A FLEXIBLE GROWTH MEDIUM TYPICALLY DOES NOT REQUIRE A CURING TIME TO BE EFFECTIVE. PROPERLY APPLIED, AN FGM MAY BE AS MUCH AS 90% EFFECTIVE.
- A POLYMER STABILIZED FIBER MATRIX (PSFM) CAN ALSO BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. PSFMS MAKE USE OF A LINEAR SOIL STABILIZING TACKIFIER THAT WORKS DIRECTLY ON SOIL TO MAINTAIN SOIL STRUCTURE, MAINTAIN PORE SPACE CAPACITY AND FLOCCULATE DISLODGED SEDIMENT THAT WILL SIGNIFICANTLY REDUCE RUNOFF TURBIDITY. PROPERLY APPLIED, A PSFM MAY BE AS MUCH AS 90% EFFECTIVE. PSFMS CAN BE USED IN RE-VEGETATION APPLICATIONS AND FOR SITE BIONTHERIZATION AND/OR COMMERCIAL SEEDING - FALL PLANTING FOR SPRING GERMINATION - APPLICATIONS. APPLICATION RATES VARY ACCORDING TO SITE CONDITIONS AND THE FOLLOWING APPLICATION RATES ARE SUGGESTED. IN ANY CASE, MANUFACTURER'S RECOMMENDATIONS SHOULD BE FOLLOWED. THE FOLLOWING ARE TYPICAL APPLICATION RATES:

TYPICAL POLYMER STABILIZED FIBER MATRIX APPLICATION RATES

SLOPE	MAXIMUM RAINFALL OF < 20"						
	3:1	2:1	4:1	3:1	2:1	1.5:1	1:1
SOIL STABILIZER (qgts/acre)	4	5	6	7	8	9	10
FIBER (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

MAXIMUM RAINFALL OF > 20" AND FOR SITE BIONTHERIZATION

SLOPE	2:1	4:1	3:1
SOIL STABILIZER (qgts/acre)	8	8	10
FIBER (lb/acre)	2,000	2,500	3,000

- UNLIKE ROLLED BLANKETS, THERE IS NO NEED TO SMOOTH THE SLOPE PRIOR TO APPLICATION OF HYDRAULICALLY APPLIED BLANKETS. IN FACT SOME ROUGHNESS OF THE SURFACE, EITHER NATURAL OR MECHANICALLY BOUNDED, IS PREFERABLE. HOWEVER, LARGE ROCKS, THOSE 2-8 INCHES, AND EXISTING HILLS OR MOUND SHOULD BE REMOVED PRIOR TO APPLICATION. TRACKING OR GROOVING OF SLOPES SHOULD BE CONSIDERED TO SLOW WATER FLOWS DURING A STORM EVENT. SLOPE INTERRUPTION DEVICES SUCH AS STEEL STEP GRADING OR BENCHING SHOULD BE APPLIED PRIOR TO THE APPLICATION. MOWING AND APPLICATION RATES SHOULD FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- HYDRAULICALLY APPLIED BLANKETS ARE TYPICALLY APPLIED IN TWO STAGES. UNLESS SPECIFICALLY RECOMMENDED TO BE APPLIED IN ONE APPLICATION BY THE MANUFACTURER, THE SEED MIXTURE AND SOIL AMENDMENTS SHOULD BE APPLIED FIRST. IF THE SEED IS APPLIED AT THE SAME TIME AS THE HYDRAULICALLY APPLIED BLANKET, THE BONDED FIBERS MAY KEEP THE SEED FROM MAKING SUFFICIENT CONTACT WITH THE SOIL TO GERMINATE. AFTER THE SEED MIXTURE IS APPLIED, THE BFM, FGM, OR PSFM SHOULD BE SPRAYED OVER THE AREA AT THE REQUIRED APPLICATION RATE.

Received
APR 22 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

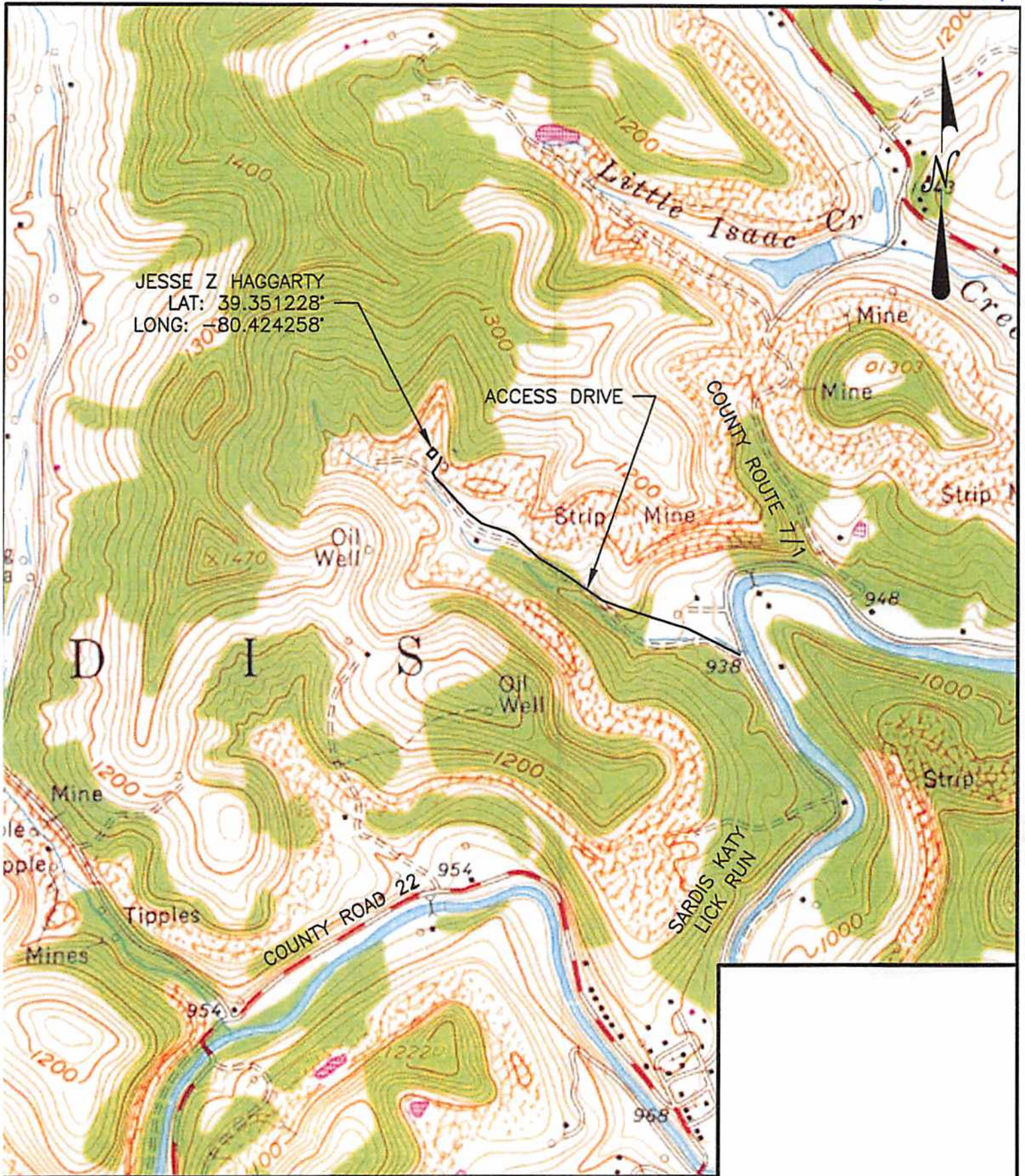


MORRIS KNUDSEN & ASSOCIATES, INC.
A HARRISBURG COMPANY
ENGINEERS, PLANNERS, SURVEYORS
445 AVENUE ONE, SUITE 100, HARRISBURG, PA 17101
PH: (717) 669-8822 FAX: (717) 669-8940
www.mknusa.com

DESIGN BY:	DATE:	REVISION BY:	DATE:	REVISION BY:	DATE:	REVISION BY:	DATE:
JESSE Z. HAGGARTY	JULY						
PAUL EN:							
DK PG:							
DATE:	04/10/14						

EROSION & SEDIMENT CONTROL NOTES
JESSE Z. HAGGARTY
470 DERRY, NC
SHARON KATY LUCY RUM
HARRISON COUNTY, WEST VIRGINIA

ES-4



JESSE Z HAGGARTY
 LAT: 39.351228°
 LONG: -80.424258°

ACCESS DRIVE

SCALE: 1:1000	DESIGNED BY: JMH	REVISION BY: _____	DATE: _____	DESCRIPTION: _____
	REVIEWED BY: MMV	REVISION BY: _____	DATE: _____	DESCRIPTION: _____
	DRAWN BY: JMH	REVISION BY: _____	DATE: _____	DESCRIPTION: _____
	DATE: 4/23/14	REVISION BY: _____	DATE: _____	DESCRIPTION: _____
	PROJ. NO.:	REVISION BY: _____	DATE: _____	DESCRIPTION: _____
	DRAWING NO.:	REVISION BY: _____	DATE: _____	DESCRIPTION: _____

DRAWING NO.

SHEET NO.
1

JESSE Z HAGGARTY
 prepared for
XTO ENERGY, INC.
 situated
SARDIS KATY LICK RUN, HARRISON COUNTY, WEST VIRGINIA
USGS MAP - WOLF SUMMIT QUADRANGLE

MKA Morris Knowles
 & Associates, Inc.
 Consulting Engineers and Surveyors
 443 Atlanta Drive
 Dubois, PA 15828
 Telephone: (724) 485-4822
 Fax: (724) 485-8940

06/06/2014

3302316P

WW-7
8-30-06



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

API: 47-033-02316 WELL NO.: 300043 (Jesse Haggarty Z)

FARM NAME: Jesse Haggarty

RESPONSIBLE PARTY NAME: XTO Energy, Inc.

COUNTY: Harrison 43, DISTRICT: Sardis 1

QUADRANGLE: Wolf Summit 7.5* 692

SURFACE OWNER: Valerie K. Cochran

ROYALTY OWNER: Gretchen L. Anthony, et al.

UTM GPS NORTHING: 4355924

UTM GPS EASTING: 549604 GPS ELEVATION: 325 m (1067 ft)

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- Accuracy to Datum – 3.05 meters
- Data Collection Method:
Survey grade GPS : Post Processed Differential
Real-Time Differential
Mapping Grade GPS : Post Processed Differential
Real-Time Differential

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APR 22 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

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.

Stacy Ohm
Signature
1/23/14
Date

PS # 2180
Title

06/06/2014

3302316f



WVDEP
Office of Oil & Gas
Attn: Inspector Sam Ward
601 57th Street, SE
Charleston, WV 25304-2345

Re: Application to Plug and Abandon
Haggarty, Jesse Z
Sardis District
Harrison County, WV

Mr. Ward:

In accordance with Article 22-6-23 of the West Virginia State Code regarding oil and gas operations, please find the attached application for the plugging and abandonment of the subject well. Notices of our intention to plug this wellbore have been sent to the surface owner, coal owners with declarations recorded, and coal operators associated with this well. Copies of the certified mail receipts are attached for your records. If you have any questions or need additional information, please feel free to contact me at 304-884-6000.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gary Beall', written over a horizontal line.

Gary Beall
PO Box 1008
Jane Lew, WV 26378

GB/tps

Received

APR 22 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

06/06/2014



WVDEP
Office of Oil & Gas
601 57th Street, SE
Charleston, WV 25304-2345

Re: Application to Plug and Abandon
Haggarty, Jesse Z
Sardis District
Harrison County, WV

To Whom It May Concern:

In accordance with Article 22-6-23 of the West Virginia State Code regarding oil and gas operations, please find the attached application for the plugging and abandonment of the subject well. Notices of our intention to plug this wellbore have been sent to the surface owner, coal owners with declarations recorded, and coal operators associated with this well. Copies of the certified mail receipts are attached for your records. If you have any questions or need additional information, please feel free to contact me at 304-884-6000.

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Gary Beall
PO Box 1008
Jane Lew, WV 26378

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Office of Oil and Gas
WV Dept. of Environmental Protection

06/06/2014