west virginia department of environmental protection

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

Earl Ray Tomblin , Governor
Randy C. Huffman , Cabinet Secretary
www.dep.wv.gov

Friday, September 02, 2016
WELL WORK PERMIT
Vertical / Plugging - 3

HG ENERGY, LLC
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for 9
47-043-01590-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin
Chief

Operator's Well Number: 9
Farm Name: SWEETLAND LAND & MIN.
U.S. WELL NUMBER: 47-043-01590-00-00
Vertical / Plugging - 3
Date Issued: 9/2/2016

4301590P

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 under the terms of that agreement.

4301590P

WW-4B
Rev. 2/01

1) Date June 7, 2016
2) Operator's Well No. Sweetland L&M 9
3) API Well No. 47- 043 - 1590

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 805' Watershed Joe's Creek
District Duval County Lincoln Quadrangle Garrett's Bend 7.5'

6) Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101

7) Designated Agent Diane White
Address 5260 Dupont Road
Parkersburg, WV 26101

8) Oil and Gas Inspector to be notified
Name Jeffery L. Smith
Address 5369 Big Tyler Road
Cross Lanes, WV 25313

9) Plugging Contractor
Name To Be Determined Upon Approval of Permit
Address

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

** See Attached Sheet **

Received
Office of Oil & Gas
JUL 14 2016

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

Work order approved by inspector Jeffrey Smith Date 7-7-16

4301590P

WW-4B - Conti
Rev. 2/01

1) Date: June 7, 2016
2) Operator's Well Number
Sweetland L&M 9
3) API Well No: 47 - 043 - 1590
State County Permit

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 Underground Storage ____) Deep ____ Shallow x

5) LOCATION: Elevation: 805' Watershed: Joe's Creek
District: Duval County: Lincoln Quadrangle Garrett's Bend 7.5'

6) WELL OPERATOR: HG Energy, LLC 494497948
Address 5260 Dupont Road
Parkersburg, WV 26101

7) DESIGNATED AGENT Diane White
Address 5260 Dupont Road
Parkersburg, WV 26101

8) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Jeffery L. Smith
Address 5369 Big Tyler Road
Cross Lanes, WV 25313

9) PLUGGING CONTRACTOR
Name To Be Determined Upon Approval of Permit
Address

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

TD- 2,349' PBTD = 2324' SPOT GEL FROM 2324'.

Manners of plugging:

JS

Plug #1 - 2200' - 2100'
Located above highest perforation
Check for free-point at top of Big Lime, (1600'), if pipe is free, part and pull. If pipe isn't free, perforate for placement of plug # 2
Plug # 2 - 1650' - 1550'
Located at top of Big Lime, 4 1/2" casing stub
Plug #3 - 850' - 750'
Located at elevation. If pipe wasn't free at 1600', part and pull at elevation (805')
If pipe isn't free at elevation, perforate for placement of plug #3, find first available free-point above elevation to part and pull. Set additional plug at 4 1/2" casing stub
Plug #4 - 275' - 0'
Located at 8 5/8" casing shoe, Fresh water, Surface

Recover all possible casing. If casing can not be recovered, perforate for plug placement.

Monument -
6" minimum diameter metal pipe
30" above surface
10' in well below surface
Sealed with cement
API identification (1/2") height numbering

6% Gel between all plugs

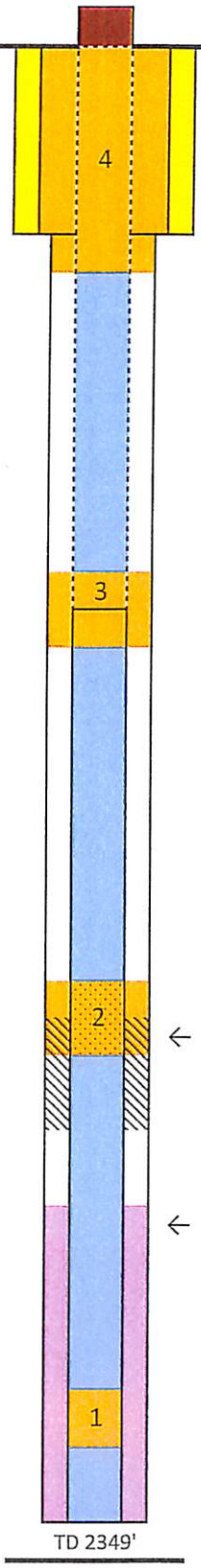
Received
Office of Oil & Gas
JUL 14 2016

4301590P

Well: Sweetland L&M #9
API: 47-43-1590
Elevation: 805'

Monument to extend 30" above surface. 10' into well. 6" min metal pipe, sealed with cement. API i.D.

Casing Information		
Size	Depth	Weight
8 5/8"	218'	20#/ft.
4 1/2"	2348'	10.5#/ft.



130 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2	1600' or 805'

Hole Size 6.75"

Cement Plugs		
N0.	Bottom	Top
1	2200	2100
2	1650	1550
3	850	750
4	275	0

JS

Big Lime 1600' - 1770'

90 Sks Cement T.O.C. 1836'

Highest Perforation 2291'

Bottom Hole Cement Level Calculations

# Sacks Used	Cement Depth
90	1835.693

Hole Size	Casing Size	Depth
6.75	4.5	2349

diameter delta	Conv. Factor	bbls / ft.
25.3125	1029.4	0.02459

cubic ft. per vertical ft. depth
0.138058122

Sacks per vertical ft. depth
0.175333816

Yield options

50/50 posmix 6% gel = 1.64
Neat w/ salt flakes = 1.19
50/50 w/ 2% gel = 1.27

Received
Office of Oil & Gas
JUL 14 2016

4301590P

PENNZOIL COMPANY
Well Completion Report

Lease: SWEETLAND LAND & MINERAL CO. Well No. 9 New Well X Old Well ___

District: Duval County: Lincoln State: West Virginia

Pool Name: Griffithsville Northeast Pool No. 57 Elevation 804.89' KB:~~GL~~

Producing Formation: Berea Depth: From ___ to ___

Date Drilled In: December 10, 1974 Pays: Oil: From ___ to ___
From ___ to ___

Original Total Depth: 2349' Gas: From ___ to ___
From ___ to ___

Plug Back Depth: 2324'

Production	Initial	Present	After Fracture
Oil			
Gas			

Surface Csg. set @ 8-5/8" 218' KB:~~GL~~ Gr. H-40 New:Used Wt. 20# Collars ST&C

Cement Reg. Neat Amount 130 Sacks Plug Down @ 7:30 AM:~~PM~~ Date 12/7/74

Production Csg. set @ 4-1/2" 2348' KB:~~GL~~ Gr. E.R.W. H-40 New:Used Wt. 10.50# Collars ST&C

Cement 50/50 Posmix Amount 90 Sacks Plug Down @ 2:00 ~~AM~~:PM Date 12/11/74

Logged by: Basin Surveys Date: December 11, 1974

Logs Used: Gamma Ray-Comp. Density-Caliper

Perforated by: McCullough Date: December 23, 1974

Perforations: 2291'-2296' - 4 holes/ft. - 20 holes

Treatment Data

	Fluid	Sand	Acid	Solvent	Gel	Breaking Agent	Fluid Loss	F.R. Agent	N.E. Agent
Type	Lease Crude	20/40	15% HCl						Morflo
Amount	530	18,500	500						4

Breakdown Pressure: 1500 Treating Pressure: Max. 3200 Min. 2400 Avg. 2840

Avg. Inj. Rate 21.0 BPM ISIP 1700 @ ___ AM:PM 5 min. SIP 1500

10 min. SIP 1400 15 min. SIP 1300 Other 1-1/2 hr. SIP 800#

EQUIPMENT USED

Service Company: Halliburton HHP 1555

By: George P. SanFilippo Date Fractured: 12/23/74

Received
Office of Oil & G
JUL 14 2016

4301590P

Form No. 989 3M-1/65 M'G. 7132

PENNZOIL COMPANY

NEW WELL REPORT

Lease No. 46162-01 Acres

Working District Southern Area

Sweetland Land & Mineral Company Farm

Well No. 9 N. S. 80 E. W. 73-74 Map 124W

Duval District or Township

Lincoln County

St. Albans Quad.

Location Made October 30, 1974

Drilling Commenced December 6, 1974

Drilling Equipment Used ☐ Spudder ☒ Rotary

Drilling Completed December 11, 1974

Drilling Equipment Furnished by FWA Drilling Company

Total Depth 2349 Sand Berea

Elevation: Floor 804.89

Drilling Contractor FWA Drilling Company

Elevation: Ground 796.89

Work Order No. 70-24683

FORMATION RECORD

KIND	TOP	BOTTOM	STEEL LINE MEAS.	TEST	KIND	TOP	BOTTOM	STEEL LINE MEAS.	TEST
Substructure	0	8							
Surface Rock	8	60							
Shale & Rock	60	220							
Shale	220	1045							
Salt Sand	1045	1570							
Little Lime	1570	1596							
Pencil Cave	1596	1600							
Big Lime	1600	1770							
McCrady Shale	1770	1794							
Pocono Injun	1794	1856							
Shale	1856	1928							
Weir Sand	1928	2002							
Shale	2002	2260							
Coffee Shale	2260	2281							
Berea	2281	2303							
Shale	2303	2349							
Total Depth		2349							

Logged by Basin Surveys 12-11-74 to 2346

Gamma Ray Density

(OVER)

Received
Office of Oil & Gas
JUL 14 2016

4301590P

WW-4A
Revised 6-07

1) Date: June 7, 2016
2) Operator's Well Number
Sweetland L&M 9

3) API Well No.: 47 - 043 - 01590

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: Janet Ingram
Address: 8 Wildcat Road
Sod, WV 25564

(b) Name
Address

(c) Name
Address

6) Inspector: Jeffery L. Smith
Address: 5369 Big Tyler Road
Cross Lanes, WV 25313
Telephone: 681-313-6743

5) (a) Coal Operator
Name: NA
Address

(b) Coal Owner(s) with Declaration
Name: NA
Address

Name: NA
Address

(c) Coal Lessee with Declaration
Name: NA
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
MARK J SCHALL
H G Energy L L C
PO Box 5519, Vienna, WV 26105
My Commission Expires November 2, 2021

Well Operator: HG Energy, LLC
By: Diane White — Diane White
Its: Agent
Address: 5260 Dupont Road
Parkersburg, WV 26101
Telephone: 304-420-1119

Subscribed and sworn before me this 7th day of June
(MARK J SCHALL) Notary Public
My Commission Expires NOVEMBER 2, 2021

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.

RECEIVED
Office of Oil and Gas
AUG 31 2016
WV Department of
Environmental Protection

4301590 P

WW-9
(5/16)

API Number 47 - 043 - 01590
Operator's Well No. Sweetland L&M 9

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy, LLC OP Code 494497948

Watershed (HUC 10) Joe's Creek Quadrangle Garrett's Bend 7.5'

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: _____

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

Proposed Disposal Method For Treated Pit Wastes: ANY WELL EFFLUENT WILL BE CONTAINED IN TANKS BEFORE HAULING OFF-SITE. 9 MM

_____ Land Application (if selected provide a completed form WW-9-GPP)
_____ Underground Injection (UIC Permit Number _____)
_____ Reuse (at API Number _____)
■ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain Any fluids will be hauled for off site disposal at an authorized site to be determined at the time the well is plugged.

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

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

Additives to be used in drilling medium? NA

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. NA

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

-Landfill or offsite name/permit number? _____

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

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

RECEIVED
Office of Oil and Gas
AUG 31 2016
WV Department of
Environmental Protection

Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 7th day of June, 20 16

(MARK J. SCHALL Notary Public

My commission expires NOVEMBER 2, 2021

OFFICIAL SEAL
NOTARY PUBLIC, STATE OF WEST VIRGINIA
MARK J SCHALL
H G Energy L L C
PO Box 5519, Vienna, WV 26105
My Commission Expires November 2, 2021

Form WW-9

Operator's Well No. Sweetland L&M 9

Proposed Revegetation Treatment: Acres Disturbed 1.0 acres Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10/20/20

Fertilizer amount 500 lbs/acre

Mulch Straw 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

** Sediment Control Will Be In Place At All Times **

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Jeffrey Smith

Comments: All sediment control to be removed After Reclamation

Title: Oil & Gas Inspector Date: 06/07/2016

Field Reviewed? (✓) Yes ( ) No

Received
Office of Oil & Gas
JUL 14 2016

WW-9- GPP
Rev. 5/16

Page _____ of _____
API Number 47 - 043 - 01590
Operator's Well No. Sweetland L&M 9

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

Operator Name: HG Energy, LLC

Watershed (HUC 10): Joe's Creek Quad: Garrett's Bend 7.5'

Farm Name: Sweetland L&M

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

NA

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

NA

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

NA

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

NA

Received
Office of Oil & Gas
JUL 14 2016

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

NA

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

NA

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

NA

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

NA

Signature: Diane White

Date: 06/07/2016

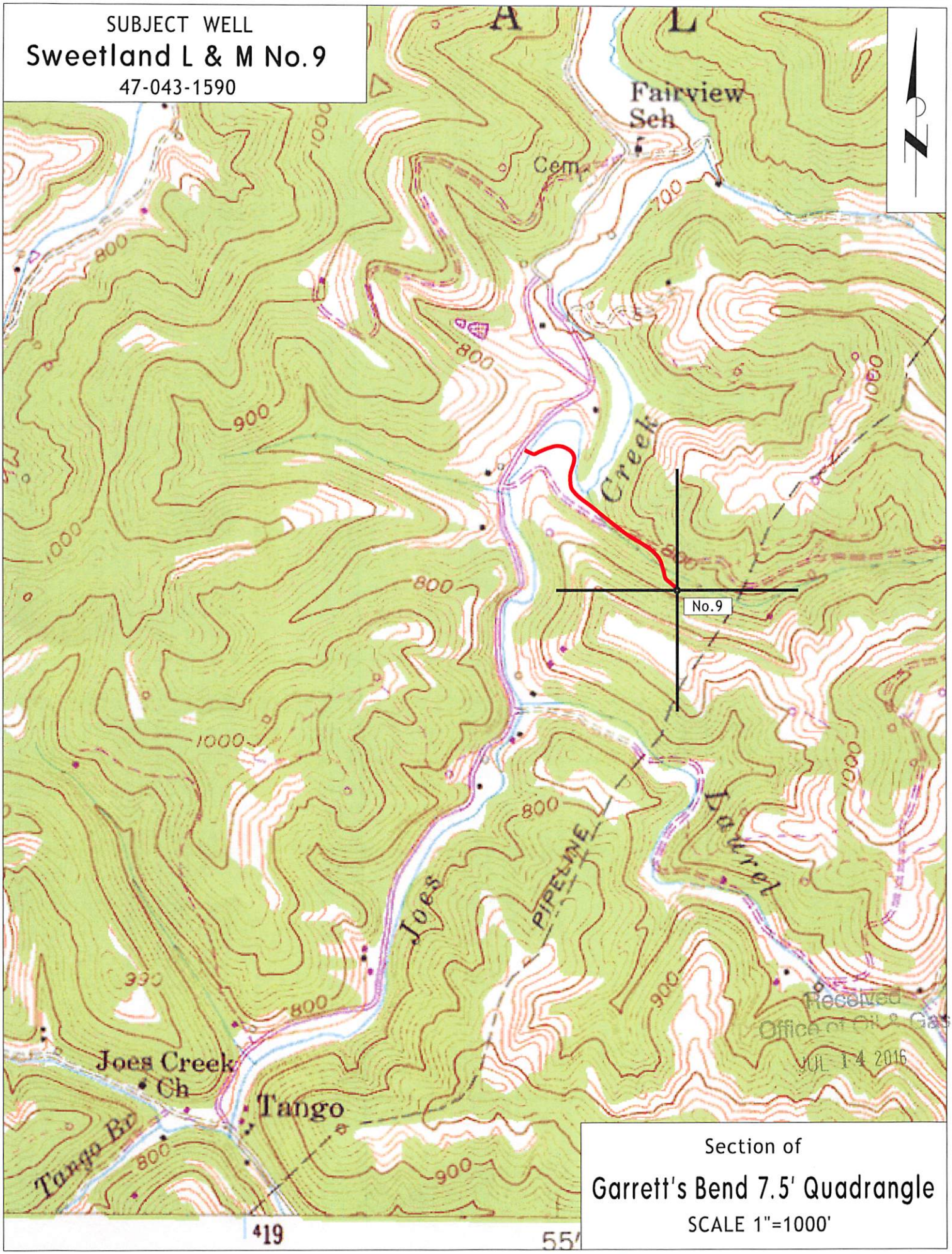
Received
Office of Oil & Gas
JUL 14 2016

4301590P

SUBJECT WELL

Sweetland L & M No.9

47-043-1590



Received
Office of Oil & Gas
JUL 14 2016

Section of

Garrett's Bend 7.5' Quadrangle

SCALE 1"=1000'

4301590P

WW-7
5-02

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

API: 47- 043 - 1590 **WELL NO:** No.9

FARM NAME: Sweetland Land & Mineral

RESPONSIBLE PARTY NAME: HG Energy, LLC

COUNTY: Lincoln **DISTRICT:** Duval - 2

QUADRANGLE: Garrett's Bend 7.5' - 358

SURFACE OWNER: Janet Ingram

ROYALTY OWNER: HG Energy LLC et al.

UTM GPS NORTHING: 4,235,556

UTM GPS EASTING: 420,111 **GPS ELEVATION:** 242 m. - ~~805 ft~~ 794

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit on the above well. The Office of Oil & 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	___

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.

Diane White — Diane White — Designated Agent
Signature — Title

September 4, 2014
Date

Received
Office of Oil & Gas
JUL 14 2016