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

April 20, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-4301546, issued to HG ENERGY, LLC, 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: ROXIE PAULEY 3
Farm Name: MOSTELLER, TERRY ,. ET AL
API Well Number: 47-4301546
Permit Type: Plugging
Date Issued: 04/20/2016

Promoting a healthy environment.

4301546P

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.

4301546P

WW-4B
Rev. 2/01

1) Date February 12, 2016
2) Operator's
Well No. Roxie Pauley 3
3) API Well No. 47- 043 - 1546

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

5) Location: Elevation 860' Watershed Lick Branch
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 Jeremy James
Address PO Box 36
Clendenin, WV 25045

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 **

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

Work order approved by inspector _____ Date 2-24-16

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WW-4B - Conti
Rev. 2/01

1) Date: February 12, 2016
2) Operator's Well Number
Roxie Pauley 3
3) API Well No: 47 - 043 - 1546
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 x Gas x Liquid Injection _____ Waste Disposal _____
(If "Gas", Production _____ Underground Storage _____) Deep _____ Shallow x

5) LOCATION: Elevation: 860' Watershed: Lick Branch
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 Jeremy James
Address P. O. Box 36
Clendenin, WV 25045

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- 2,430'

Manners of plugging:
Plug #1 - 2300' - 2200'
Located above the highest perforation
Check for free-point at top of Big Lime (1682'), If pipe is free, part and pull. If pipe is not free, preforate for placement of plug #2.
Plug # 2 - Approx. 1725' - 1625'
Located at top of Big Lime - 4 1/2" casing stub
Plug #3 - 900' - 800'
Located at elevation, if pipe was not free at 1682', part and pull at elevation (860')
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 - 300' - 0'
Located at 8 5/8" casing stub, fresh water to surface

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

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

6% Gel between all plugs

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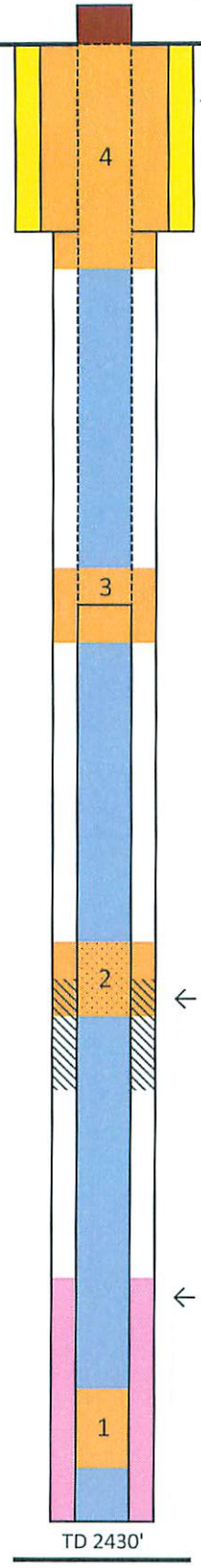
Well: Roxie Pauley #3
API: 47-43-1546
Elevation: 860'

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"	240'	20#/ft.
4 1/2"	2430'	10.5#/ft.



← 175 sacks cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2	1682' or 860'

Hole Size 6.75" →

Cement Plugs		
NO.	Bottom	Top
1	2300	2200
2	1725	1625
3	900	800
4	300	0

← Big Lime - 1682' - 1841'

Bottom Hole Cement Level Calculations

# Sacks Used	Cement Depth
50	2123.079

Hole Size	Casing Size	Depth
6.75	4.5	2430

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
0.162908584

← 50 Sks Cement T.O.C. 2123'

Yield options

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

Highest Perforation 2362'

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Form No. 989 IN 3/66 N.D. 1917

Fritz Gesch

PENNZOIL COMPANY

NEW WELL REPORT

LEASE No. 79591 155 ACRES WORKING DISTRICT Southern Area

Map No. 124-W

Roxie Pauley FARM WELL No. 3 N. S. 78 E. W. 72

Duval DISTRICT OR TOWNSHIP Lincoln COUNTY St. Albans QUAD.

LOCATION MADE June 19, 1974 DRILLING COMMENCED July 3, 1974

DRILLING EQUIPMENT USED ☐ SPUDDER ☒ ROTARY ☐ DRILLING COMPLETED July 7, 1974

DRILLING EQUIPMENT FURNISHED BY F. W. A. Drilling Co. TOTAL DEPTH 2430' SAND Berea

ELEVATION: FLOOR 868.34 DRILLING CONTRACTOR F. W. A. Drilling Co.

ELEVATION: GROUND 860.34 WORK ORDER No. 70-24585-1

FORMATION RECORD

KIND	TOP	BOTTOM	STEEL LINE MEAS.	TEST	KIND	TOP	BOTTOM	STEEL LINE MEAS.	TEST
Substructure	0	8							
Rock	8	250							
Shale	250	1250							
Salt Sand	1250	1576							
Shale	1576	1594							
Sand	1594	1640							
Little Lime	1640	1677							
Pencil Cave	1677	1682							
Big Lime	1682	1841							
McCrady Shale	1841	1880							
Pocono Injun	1880	1931							
Shale	1931	2005							
Weir Sand	2005	2069							
Shale	2069	2332							
Coffee Shale	2332	2353							
Berea	2353	2376							
Shale	2376	2430							
Total Depth		2430							

Logged by Basin July 26, 1974 to 2392'
Preforated 20 Shots 2362-2367

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(OVER)

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NEW WELL REPORT — CONTINUED

INITIAL TORPEDO RECORD

Date of Shot	
Name of Torpedo Co.	
No. of Quarts	
Length of Shell	
Diameter of Shell	
Length of Anchor	
Top of Shot	
Bottom of Shot	
Feet of Fluid in Hole When Shot	
Results:	

CASING AND TUBING RECORD

SIZE	PUT IN WELL TRANSFER NO.	PUT IN WELL FEET	PUT IN WELL INCH	PULLED OUT TRANSFER NO.	PULLED OUT FEET	PULLED OUT INCH
8 5/8		240	60			
4 1/2		2433	37			

INITIAL PRODUCTION FIRST 24 HOURS

Open Flow ____ /10ths Water in ____ Inch
____ /10ths Merc. in ____ Inch
Volume ____ Cu. Ft.
Rock Pressure ____ lbs. ____ hrs.
Oil ____ bbls., First 24 hrs.

PACKER RECORD

KIND	SIZE	DEPTH SET	DATE SET
Pormoco St. Sh.	8 5/8	247.01 KB	7-3-74
Baker Guide Sh.	4 1/2	2428.00 KB	7-7-74

ACIDIZATION OR FRACTURING RECORD

DATE WELL ACIDIZED ____
DATE WELL FRACTURED 7-26-74
NAME OF COMPANY Dowell
(List below materials used in Acidizing or Fracturing, i.e., Sand, Crude Oil, Gasoline, Water, Kerosene, Mothballs, Acid, etc., giving gallons, barrels and pounds.)

528 Bbls. Crude Oil
20,000 Lbs. 20/40 Sand
500 Gal. 19% HCL Acid
55 Gal. Pora Thin Solvent
4 W-9

BREAKDOWN PRESSURE 1000#
PUMPING PRESSURE Max. 3350# Min. 2000#
AVERAGE PUMPING RATE/MINUTE 21 Bbls.
PUMPING TIME ____
RESULT AFTER TREATMENT { GAS ____ CU. FT. / OIL ____ BBLS.
ROCK PRESSURE AFTER TREATMENT ____ LBS.

CASING CEMENTED

8 5/8 SIZE 247.01 FT. KB 7-3-74 DATE
BAGS USED 175 SKs Neat Cement 3% CC.

4 1/2 SIZE 2428 KB FT. 7-7-74 DATE
500 Gal. Mud Flush
BAGS USED 50 SKs 50/50 Poz-Mix 2% CC.

SIZE ____ FT. ____ DATE
BAGS USED ____

SIZE ____ FT. ____ DATE
BAGS USED ____

TOP DEPTH OF CEMENT SHOWN BY TEMPERATURE LOG ____

REMARKS: Logged by Basin 7-26-74 to 2392 ft.
Preforated 20 Holes 2362-2367

APPROVED B.J. Valentine
SUPERINTENDENT

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MG - 6

75% DeArman - 25% Pzl.

REPORT OF FRACTURE TREATMENT

New Well X Old Well ____ Elevation 860.34' G.L.

Farm: Roxie Pauley Well Number: 3 Pool: #57 - Griff. N.E.

District: Duval County: Lincoln State: West Virginia

Producing Formation: Berea Depth: From 2352' to 2366'

Date Completed: 7-26-74 Pays: Oil From 2352' to 2366'
From ____ to ____

Original Total Depth: ____

Gas From ____ to ____
From ____ to ____

Present Total Depth: 2392'

Production	Initial	Present	After Fracture
Oil			
Gas			
Rock Pressure			

Casing set @ ____ Gr. ____ Wt. ____ Cemented ____ Co. ____

Tubing size ____ Depth ____ Packer ____ Anchor ____

Frac String ____ Type Completion ____

Logged by: Basin Surveys Date 7-26-74 Cost ____

Logs Used: Gamma Ray - Collar logs

Interpretations:

Perforated by: Basin Surveys Date 7-26-74 Cost ____

Perforations: 2362'-2367' - 20 holes - 4 holes/ft.

Treatment Data

Paraffin Solvent

Date Fractured 7-26-74

	Fluid	Sand	Acid	~~Plugging~~ Agent	Gel	Fluid Loss	Foamer	Non-Emulsifi.
Type	Lease (75°) Crude	20/40	19% HCl	Treatolite				W-9
Amount	528	20,000	500	Parid 55				4

ISIP - 1650#
5 min. - 1350# Breakdown Pressure: 1000 Treating Pressure: Max. 3350 Min. 2000
10 min. - 1300#
15 min. - 1200# Sand Concentration: 1/4 to 1-1/4 Injection Rate ____ BPM

11:40 A.M.

EQUIPMENT USED

Service Company Dowell Cost ____ Hydraulic Horsepower ____

Engineering Dept. By: George P. SanFilippo Date: 7-26-74

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WW-4A
Revised 6-07

1) Date: February 12, 2016
2) Operator's Well Number
Roxie Pauley 3

3) API Well No.: 47 - 043 - 1546

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: Terry Mosteller
Address: 1817 Garrett's Bend Road
Sod, WV 25564
(b) Name: Sarah R. Broyles
Address: 1909 Garrett's Bend Road
Sod, WV 25564
(c) Name: Clarence E. Mitchell
Address: 4434 Midway Road
Yawkey, WV 25573
6) Inspector: Jeremy James
Address: P. O. Box 36
Clendenin, WV 25045
Telephone: 304-951-2596

5) (a) Coal Operator
Name: NA
Address:
(b) Coal Owner(s) with Declaration
Name: NA
Address:
Name:
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 12th day of February, 2016
Notary Public
My Commission Expires NOVEMBER 2, 2021

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Environmental Protection

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.

4301546P

WW-9
(2/15)

API Number 47 - 043 - 1546
Operator's Well No. Roxie Pauley 3

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) Lick Branch 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: Fluids encountered while plugging subject well

Will a synthetic liner be used in the pit? Yes ☑ No ☐ If so, what ml.? 30 mil

Proposed Disposal Method For Treated Pit Wastes:

- ■ Land Application
- ☐ Underground Injection (UIC Permit Number _____)
- ☐ Reuse (at API Number _____)
- ☐ Off Site Disposal (Supply form WW-9 for disposal location)
- ☐ Other (Explain _____

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. NA

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 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 Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 12th day of February, 2016, 20 16

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

4301546P

Form WW-9

Operator's Well No. Roxie Pauley 3

HG Energy, LLC

Proposed Revegetation Treatment: Acres Disturbed 1.3 acres Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20 or equivalent

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

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.

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

Plan Approved by: _____

Comments: _____

Title: inspector OOG Date: 2-24-16

Field Reviewed? (_____) Yes (_____) No

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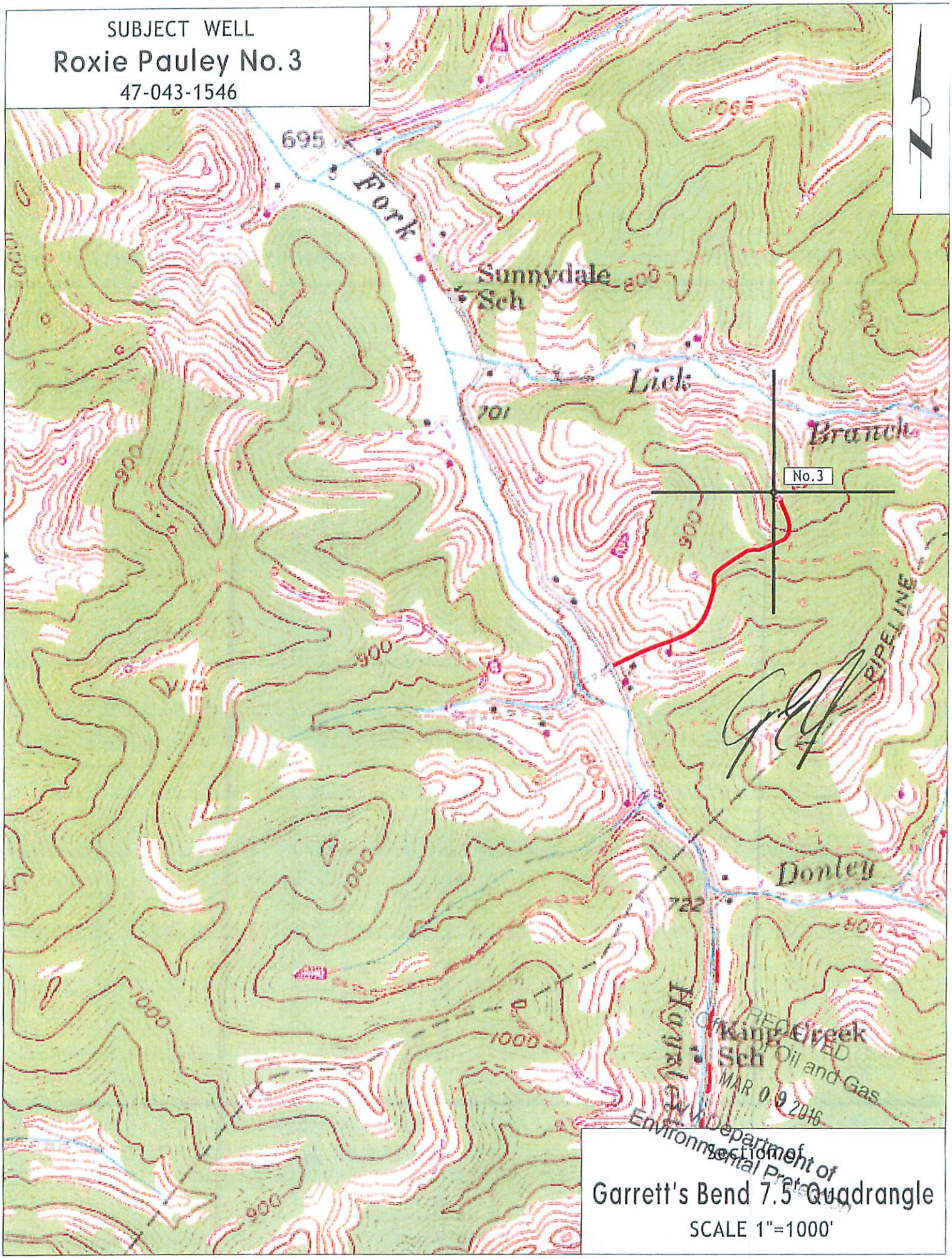
SUBJECT WELL

Roxie Pauley No. 3

47-043-1546



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Garrett's Bend 7.5' Quadrangle

SCALE 1"=1000'

4301546P

WW-7
5-02

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

API: 47- 043 - 1546 **WELL NO:** 3

FARM NAME: Roxie Pauley No.3

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Lincoln **DISTRICT:** Duval

QUADRANGLE: Garrett's Bend 7.5'

SURFACE OWNER: Terry Mosteller

ROYALTY OWNER: H.G. Energy, LLC et al.

UTM GPS NORTHING: 4,238,129 (NAD 83)

UTM GPS EASTING: 422,380 (NAD 83) **GPS ELEVATION:** 259 m. (850')

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.

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Diane White — Diane C. White — Designated Agent
Signature — Title

November 24, 2015
Date