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: 47-9501605, 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: S. McMILLEN J-4
Farm Name: GLOVER, KENNETH
API Well Number: 47-9501605
Permit Type: Plugging
Date Issued: 08/07/2015

9501605P

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.

4709501605P

WW-4B
Rev. 2/01

1) Date _____, 20____
2) Operator's
Well No. Samuel McMillan J-4
3) API Well No. 47- 095 - 1605

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

5) Location: Elevation 830' Watershed Indian Creek
District McElroy County Tyler Quadrangle Centerpoint 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 Michael Goff
Address P. O. Box 134
Pullman, WV 26421

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"

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Environmental Protection

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

Work order approved by inspector Michael Goff Date 7/14/15

9501605P

WW-4B+A1:AB54
Rev. 2/01

1) Date: June 23, 2015
2) Operator's Well Number
Samuel McMillan J-4
3) API Well No: 47 - 095 - 16505 1605
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 ____ Liquid Injection ____ Waste Disposal ____
(If "Gas", Production ____ Underground Storage ____) Deep ____ Shallow x

5) LOCATION: Elevation: 830' Watershed: Indian Creek
District: McElroy County: Tyler Quadrangle Centerpoint 7.5'

6) WELL OPERATOR: HG Energy, LLC 4.94E+08
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 Michael Goff
Address PO Box 134
Pullman, WV 26421

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- 2,923'

Manners of plugging:
Plug #1 2800' - 2700'
Located above highest preforation
Free point, part and pull 4 1/2" casing at approx. 1650'
Plug #2 - 1700' - 1600'
Located at 4 1/2" casing stub
Plug #3 -900' - 600'
Located at elevation and through the Pittsburgh Coal
Plug #4 - 300' - 0'
Located at 8 5/8" casing shoe, below Fresh Water to Surface

MAC
7/14/15

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

Monument:
6" minimum diameter metal pipe
30" above surface

6% gel between plugs

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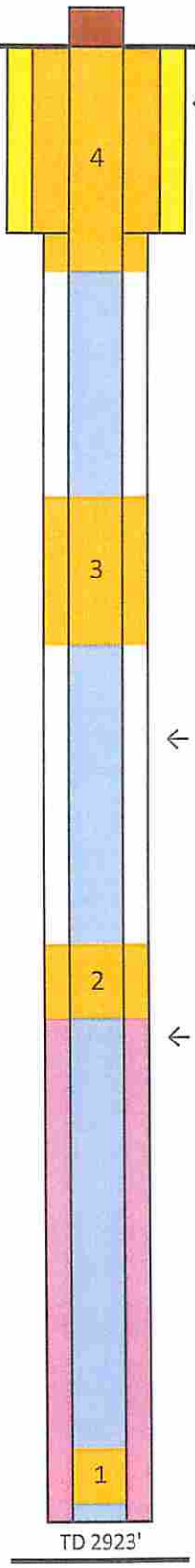
9501605P

Well: S. McMillen J-4

Elevation: 830'

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"	220	20#/ft.
4 1/2"	2900	10.5#/ft.



← cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2	1650

Pittsburgh Coal 651'

Cement Plugs		
NO.	Bottom	Top
1	2800	2700
2	1700	1600
3	900	600
4	300	0

← 7 7/8" Hole Size

Bottom Hole Cement Level Calculations

# Sacks Used	Cement Depth
300	1783.925

Hole Size	Casing Size	Depth
7.875	4.5	2900

diameter delta	Conv. Factor	bbls / ft.
41.765625	1029.4	0.040573

cubic ft. per vertical ft. depth
0.227795902

Sacks per vertical ft. depth
0.268799164

MDG 1/14/15

← 300 Sks Cement T.O.C. 1785'

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Highest Perforation 2824'

Yield options

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

9501605P

WR-35

22-Mar-94
API # 47- 95-01605 S

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: GLOVER, KENNETH ETAL. Operator Well No.: S,McMILLEN J-4

LOCATION: Elevation: 830.00 Quadrangle: CENTER POINT

District: MCELROY County: TYLER
Latitude: 3050 Feet South of 39 Deg. 27Min. 30 Sec.
Longitude 4350 Feet West of 80 Deg. 40 Min. Sec.

Company: PENNZOIL PRODUCTS COMPANY
P. O. BOX 5519
VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: MIKE UNDERWOOD
Permit Issued: 03/22/94
Well work Commenced: 06/17/94
Well work Completed: 09/12/94
Verbal Plugging
Permission granted on: _____
Rotary X Cable _____ Rig
Total Depth (feet) 2923
Fresh water depths (ft) N/A

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N
Coal Depths (ft): N/A

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			To surface
8-5/8	220'	220'	50 sks.
4-1/2	2899.80	2899.80	300 sks.

OPEN FLOW DATA * Water Injection Well

Producing formation Gordon Pay zone depth (ft) 2808-2852
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 pressure) after _____ Hours

Second producing formation _____ Pay zone depth (ft) _____
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 pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: PENNZOIL PRODUCTS COMPANY
By: [signature]
Date: 1/4/95

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Environmental Pro

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DRILLING TIME AND SAMPLES:	One foot drilling time from surface to total depth. Ten foot samples from 2000' to total depth.		
LOGGING:	To be determined at time of drilling.		
PIPE TALLY:	Drill string will be strapped out on last trip at or before coring point or total depth is reached. If a correction of more than five feet (5') is necessary, then drill string is to be strapped going back in hole.		
FORMATION TOPS:	Pittsburgh Coal	651' K.B.	
	Big Lime	2023' K.B.	
	Big Injun	2105' K.B.	
	Pocono Shale	2247' K.B.	
	Gordon	2835' K.B.	
	Total Depth	2936' K.B.	
	CALL DRILLING SUPT. AFTER SURFACE CASING IS SET		
SUPERVISION:	A morning report will be called into the Parkersburg office by 8:00 a.m. each morning.		
Rick Green	Area Supt.	782-2216	782-4248
Dale Workman	Foreman	889-3334	889-2278
Phil Ondrusek	Operations Supt.	422-6565	464-5373
Paul King, Jr.	Petr. Eng. Advisor	422-6565	485-4654
Jack Sutherland	Drilling Supt.	422-6565	(614) 989-5138
Roger Heldman	Sr. Petr. Eng.	422-6565	(614) 678-8210
Bill Greenlees	Sr. Petr. Eng.	422-6565	(614) 749-3542
Greg Morrison	Geologist	422-6565	(614) 373-0339
Bill Toomey	Geologist	422-6565	(614) 423-7054

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TREATMENT

Perforated with 24 holes 2824'-2836'. Treated with 300 gallons 15% HCL acid, 275 barrels gelled water and 7000# of 20/40 sand.

WELL LOG

Sand & Shale	0'-1098'
Sand	1098'-1138'
Sand & Shale	1138'-1720'
Sand	1720'-1740'
Shale	1740'-1931'
Sand	1931'-1944'
Shale	1944'-1960'
Sand & Shale	1960'-2058'
Sand	2058'-2086'
Shale	2086'-2097'
Big Injun	2097'-2216'
Shale	2216'-2575'
Sand	2575'-2588'
Shale	2588'-2599'
Sand	2599'-2604'
Shale	2604'-2792'
Stray	2792'-2808'
Gordon	2808'-2852'
T.D.	2923'

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JUL 2 7 93
WV Department of
Environmental Protection

CK#3079 100.00 9501605P

WW-4A
Revised 6-07

1) Date: June 23, 2015
2) Operator's Well Number
Samuel McMillan J-4

3) API Well No.: 47 - 095 - 1605

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 Gordon Swartz ✓
Address 10240 Indian Creek Road
Jacksonburg, WV 26377

(b) Name
Address

(c) Name
Address

6) Inspector Michael Goff
Address P. O. Box 134
Pullman, WV 26421
Telephone 304-549-9823

MAC 7/14/15

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.

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

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
S. DIANNE DULANEY
5260 Dupont Road
Parkersburg, West Virginia 26101
My Commission Expires Oct. 4, 2016

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Office of Oil and Gas
JUL 27 2015
WV Department of
Environmental Protection

Subscribed and sworn before me this 23rd day of June, 2015
S Dianne Dulaney Notary Public
My Commission Expires Oct 4 2016

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.

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CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Postage	$ 1.64
Certified Fee	3.45
Return Receipt Fee (Endorsement Required)	2.70
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 7.89

Postmark Here
JUN 24 2015
JACKSONBURG, WV
5MJ-4

7014 3490 0001 9122 0296

Sent To Gordon Swartz
Street & Apt. No., or PO Box No. 10240 Indian Creek Rd
City, State, ZIP+4 Jacksonburg WV 26377

PS Form 3800, July 2014 — See Reverse for Instructions

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095 01605P

WW-9
Rev. 5/08

Page _____ of _____
API Number 47 - 095 - 1605
Operator's Well No. Samuel McMillan J-4

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

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

Operator Name HG Energy, LLC OP Code 494497948

Watershed Indian Creek Quadrangle Centerpoint 7.5'

Elevation 830' County Tyler District McElroy

Description of anticipated Pit Waste: Fluids encountered while plugging subject well

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

MAC
7/14/15

Proposed Disposal Method For Treated Pit Wastes:

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

Proposed Work For Which Pit Will Be Used:

_____ Drilling
_____ Workover
_____ Other (Explain _____
_____ Swabbing
X 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.

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Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 23 day of June, 20 15

S Dianne Dulaney Notary Public

My commission expires Oct 4, 2016

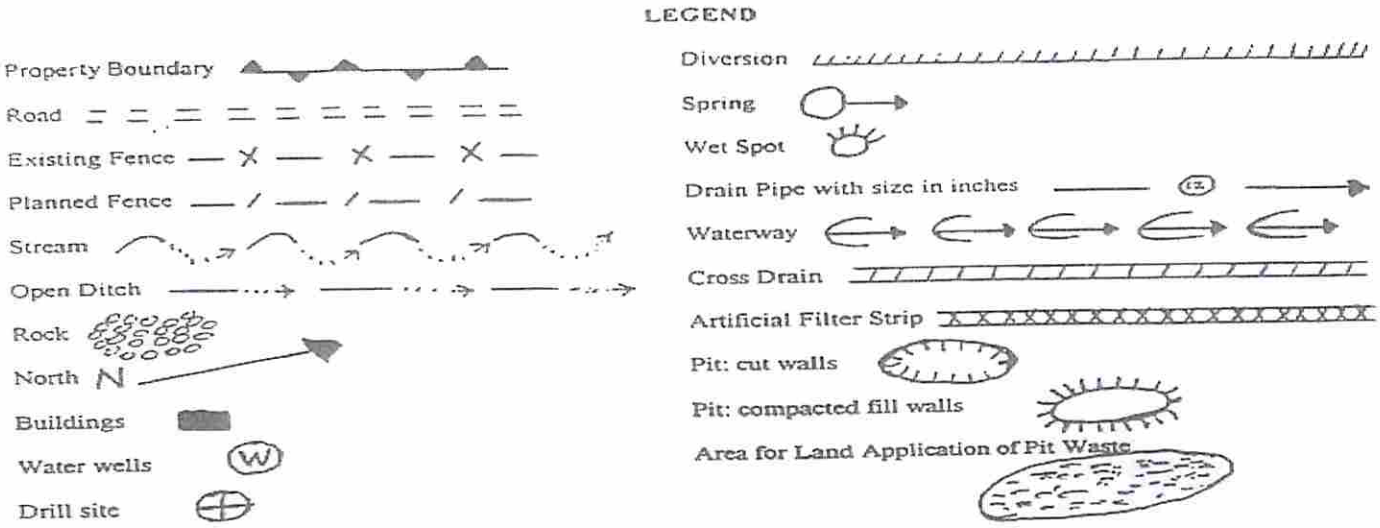
OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
S. DIANNE DULANEY
5260 Dupont Road
Parkersburg, West Virginia 26101
My Commission Expires Oct. 4, 2016

9501605P

Form WW-9

Operator's Well No. Samuel McMillan J-4

LEGEND



Proposed Revegetation Treatment: Acres Disturbed 0.4 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

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

Mulch Straw 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

Sediment control should be in place at all times

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

Photocopied section of involved 7.5' topographic sheet.

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Plan Approved by: Michael Daff

Comments: Pireseed & Mulch disturbed areas.

Title: Oil & Gas Inspector Date: 7/14/15

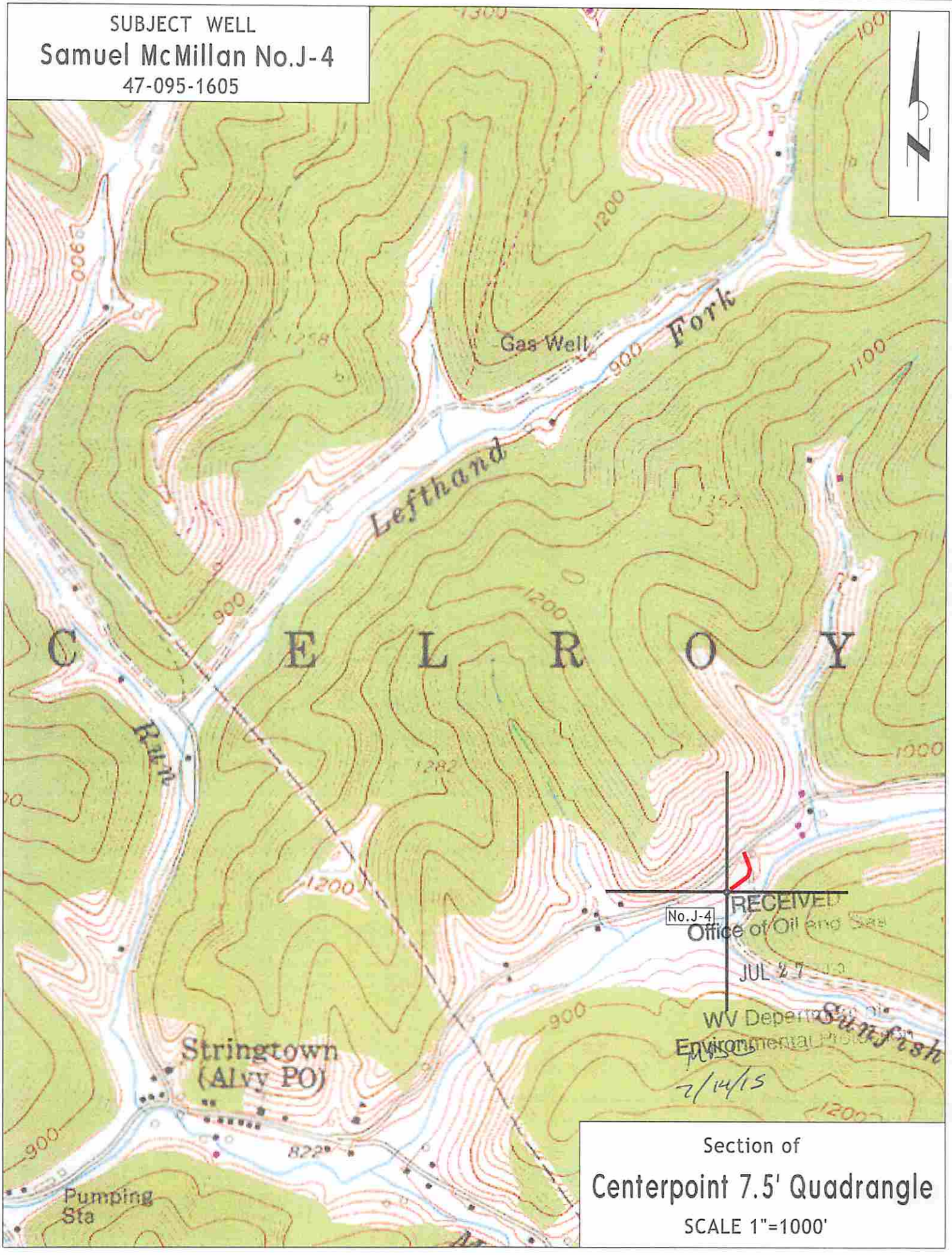
Field Reviewed? (_____) Yes (✓) No

9501605P

SUBJECT WELL

Samuel McMillan No.J-4

47-095-1605



Section of

Centerpoint 7.5' Quadrangle

SCALE 1"=1000'

9501605P
MAC
7/14/15

WW-7
5-02

West Virginia Department of Environmental Protection
Office of Oil & Gas

WELL LOCATION FORM: GPS

API: 47- 095 - 1605 WELL NO: J-4

FARM NAME: Samuel McMillan No. J-4

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Tyler DISTRICT: McElroy

QUADRANGLE: Centerpoint 7.5'

SURFACE OWNER: Gordon Swartz

ROYALTY OWNER: American Energy Partners, LLC et al.

UTM GPS NORTHING: 4,366,787 (NAD 83)

UTM GPS EASTING: 527,368 (NAD 83) GPS ELEVATION: 253 m. (830')

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	___

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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 C. White Designated Agent

Signature Title

June 3, 2015

Date

47095016 05 P

ck # 3079
$100.00

HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

June 23, 2015

Jeff McLaughlin
WVDEP
Division of Oil & Gas
601 57th Street
Charleston, West Virginia 25304

RE: Samuel McMillan No. J-4 (47-095-01605)
McElroy District, Tyler County
West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-4(A), WW-4(B), WW-9, and WW-7, topo map, well record, copy of certified mailing receipt and a check in the amount of $100.00 to cover the permit fee to plug and abandon the above-captioned well.

Very truly yours,

Diane White

Diane C. White

Enclosures

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Environmental Protection

cc:
Gordon Swartz – Certified
Michael Goff - Inspector

I
NOW

Operator: HG ENERGY, LLC

API: 9501605

WELL No: S. McMILLEN J-4

Reviewed by: JWM Date: 8/7/15

15 Day End of Comment: 08/03/15

CHECKLIST FOR FILING A PERMIT

Plugging Ck# 3079

- [x] WW-4B
- [x] Inspector signature on WW-4B
- [x] Completion / Well Records of Previous Work
- [x] WW-4A (Notarized)
- [x] Certified Mail Receipts, Waivers, or Affidavits of Personal Service
- [ ] Surface Owner Waiver
- [ ] Coal Owner / Lessee /Operator Waiver
- [x] WW-9 (Page 1) (Notarized)
- [x] Inspector Signature on WW-9 (Optional)
- [x] Topographic Map of location of well
- [x] WW-7

OR

- [ ] Mylar Plat (Surface owner on plat matches WW-4A)
- [x] Bond
- [x] Company is Registered with the SOS
- [x] Worker's Compensation / Unemployment Insurance account is OK
- [x] $100.00 check (~~$0.00 if no pit~~)