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 27, 2016

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-6100879, 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: M. E. BROOKOVER 7
Farm Name: HAUGHT, BILLY C.
API Well Number: 47-6100879
Permit Type: Plugging
Date Issued: 06/27/2016

Promoting a healthy environment.

6100879P

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.

6100879 P

WW-4B
Rev. 2/01

1) Date June 1, 2016
2) Operator's
Well No. M E Brockover 7
3) API Well No. 47- 061 - 0879

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 1313' Watershed Miracle Run
District Clay County Monongalia Quadrangle Grant Town 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 Gayne Knitowski
Address P O Box 108
Gormania, WV 26720

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
JUN 16 2016

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

Work order approved by inspector Gayne J Knitowski Date 6/8/2016

G100879P

WW-4B - Conti
Rev. 2/01

1) Date: June 1, 2016
2) Operator's Well Number
M E Brookover 7
3) API Well No: 47 - 061 - 0879
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: 1313' Watershed: Miracle Run
District: Clay County: Monongalia Quadrangle Grant Town 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 Gayne Knitowski
Address P. O. Box 108
Gormania, WV 26720

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- 3,315'

Manners of plugging:

Plug #1 - 3000' - 2900'
Plug # 2 - Approx 2200' - 2100'
Located above the Big Injun
Plug #3 - 1350' - 1250'
Located at elevation
Free point, part and pull all possible 4 1/2" casing at approx 1000'
Plug #4 - 1050' - ~~850'~~ 780 (COVER COAL @ 828') GMM
Located at 4 1/2" casing stub, coal seam, 8 5/8" casing shoe
Plug #5 - ~~100' - 0'~~ 350' - 250' (COVER COAL @ 308')
~~Surface~~
PLUG #6 100' - 0'
SURFACE

GMM

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

Received
Office of Oil & Gas
JUN 16 2016

6% Gel between all plugs

Reclaim site ASAP

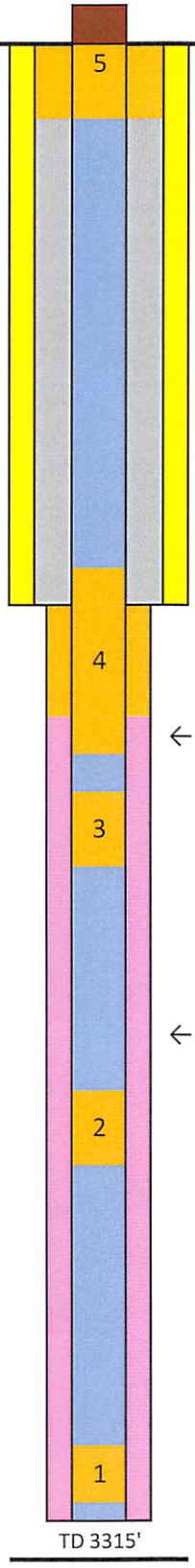
6100879P

Well: M.E. Brookover #7

Elevation: 1313'

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"	888'	23#/ft.
4 1/2"	3299'	9.5#/ft.



← cement to surface

Freepoint Cut and Pull Casing	
Size	Approx. Depth
4 1/2	1000'

Hole Size 11" →

Cement Plugs		
NO.	Bottom	Top
1	3000	2900
2	2200	2100
3	1350	1250
4	1050	~~850~~ 780'
5	350	250
6	100	0

COAL @ 828' & 308'

← 6.75 " Hole Size

← 400 Sks Cement T.O.C. 1035'

Bottom Hole Cement Level Calculations

# Sacks Used	Cement Depth
400	1033.637

Hole Size	Casing Size	Depth
6.75	4.5	3315

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
JUN 16 2016

6100879P

WR-35

01-Sep-88

API # 47- 61-00879

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: HAUGHT, BILLY Operator Well No.: BROOKOVER 7

LOCATION: Elevation: 1313.00 Quadrangle: GRANT TOWN

District: CLAY County: MONONGALIA
Latitude: 4700 Feet South of 39 Deg. 37Min. 30 Sec.
Longitude 10125 Feet West of 80 Deg. 12 Min. 30 Sec.

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

Agent: JAMES A. CREWS

Inspector: DONALD ELLIS
Permit Issued: 09/01/88
Well work Commenced: 11-7-88
Well work Completed: 11-15-88
Verbal Plugging
Permission granted on:
Rotary X Cable ____ Rig
Total Depth (feet) 3315'
Fresh water depths (ft) N/A
Salt water depths (ft) N/A
Is coal being mined in area (Y/N)? N
Coal Depths (ft): 308, 828

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
13-3/8	18'	18'	
8-5/8	888'	888'	To surface
4-1/2	3299	3299	400 Sks.

OPEN FLOW DATA

Producing formation Fifth Sand* Pay zone depth (ft) 3238
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
*Well to be completed at a later date.
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

Received
Office of Oil & Gas
JAN 26 2016

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: Curtis A. Lucas Curtis A. Lucas
Date: January 10, 1989

6100879P

Sand & Shale	0-196
Sand	196-204
Sand & Shale	204-308
Coal	308-312
Shale	312-412
Sand	412-442
Sand & Shale	442-828
Pittsburgh Coal	828-836
Shale	836-858
Sand	858-897
Shale	897-933
Sand	933-964
Sand & Shale	964-1361
Sand	1361-1385
Shale	1385-1503
Sand	1503-1533
Sand & Shale	1533-1560
Sand	1560-1604
Shale	1604-1653
Sand	1653-1670
Shale	1670-1729
Salt Sand	1729-1800
Sand & Shale	1800-2029
Little Lime	2029-2041
Blue Monday	2041-2062
Pencil Cave	2062-2068
Big Lime	2068-2130
Loyalhanna	2130-2210
Big Injun	2210-2324
Pocono Shale	2324-2401
Sand	2401-2416
Shale	2416-2588
Sand	2588-2606
Shale	2606-2632
Sand	2632-2645
Sand & Shale	2645-2717
Sand	2717-2741
Shale	2741-2767
Sand & Shale	2767-3166
Shale	3166-3219
Siltstone	3219-3222
Shale	3222-3238
Fifth Sand	3238-3252
Shale	3252-3259
Sand	3259-3263
Shale	3263-3315
Total Depth	3315

61 00879P

WW-4A
Revised 6-07

1) Date: June 1, 2016
2) Operator's Well Number
M E Brookover 7

3) API Well No.: 47 - 061 - 0879

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: Billy & Betty Haught
Address: 3243 Miracle Run Road
Fairview, WV 26570

(b) Name:
Address:

(c) Name:
Address:

6) Inspector: Gayne Knitowski
Address: P. O. Box 108
Gormania, WV 26720
Telephone: 304-546-8171

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

Received
Office of Oil & Gas
JUN 16 2016

Subscribed and sworn before me this 1st day of June, 2016

Notary Public

My Commission Expires 11-2-2021

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.

6100879P

WW-9
(5/16)

API Number 47 - 061 - 0879
Operator's Well No. M E Brookover 7

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) Miracle Run Quadrangle Grant Town 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 ☑ ANY WELL EFFLUENT MUST BE CONTAINED IN TANKS. gmm

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:

_____ 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. 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)

-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 & Gas
JUN 16 2016

Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 1st day of June, 2016, 20 16

Notary Public

My commission expires Nov. 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

6100879P

Form WW-9

Operator's Well No. M E Brookover 7

Proposed Revegetation Treatment: Acres Disturbed 0.8 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: [signature]

Comments:

Reclaim SITE ASAP

Received
Office of Oil & Gas
JUN 16 2016

Title: Inspector

Date: 06/01/2016

Field Reviewed? (X) Yes ( ) No

6100879P

WW-9- GPP
Rev. 5/16

Page _____ of _____
API Number 47 - 061 - 0879
Operator's Well No. M E Brookover 7

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

Operator Name: HG Energy, LLC

Watershed (HUC 10): Miracle Run Quad: Grant Town 7.5'

Farm Name: M E Brookover

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
JUN 16 2016

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

6100879P

WW-9- GPP
Rev. 5/16

Page _____ of _____
API Number 47 - 061 - 0879
Operator's Well No. M E Brookover 7

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

Received
Office of Oil & Gas
JUN 16 2016

Signature: Diane White

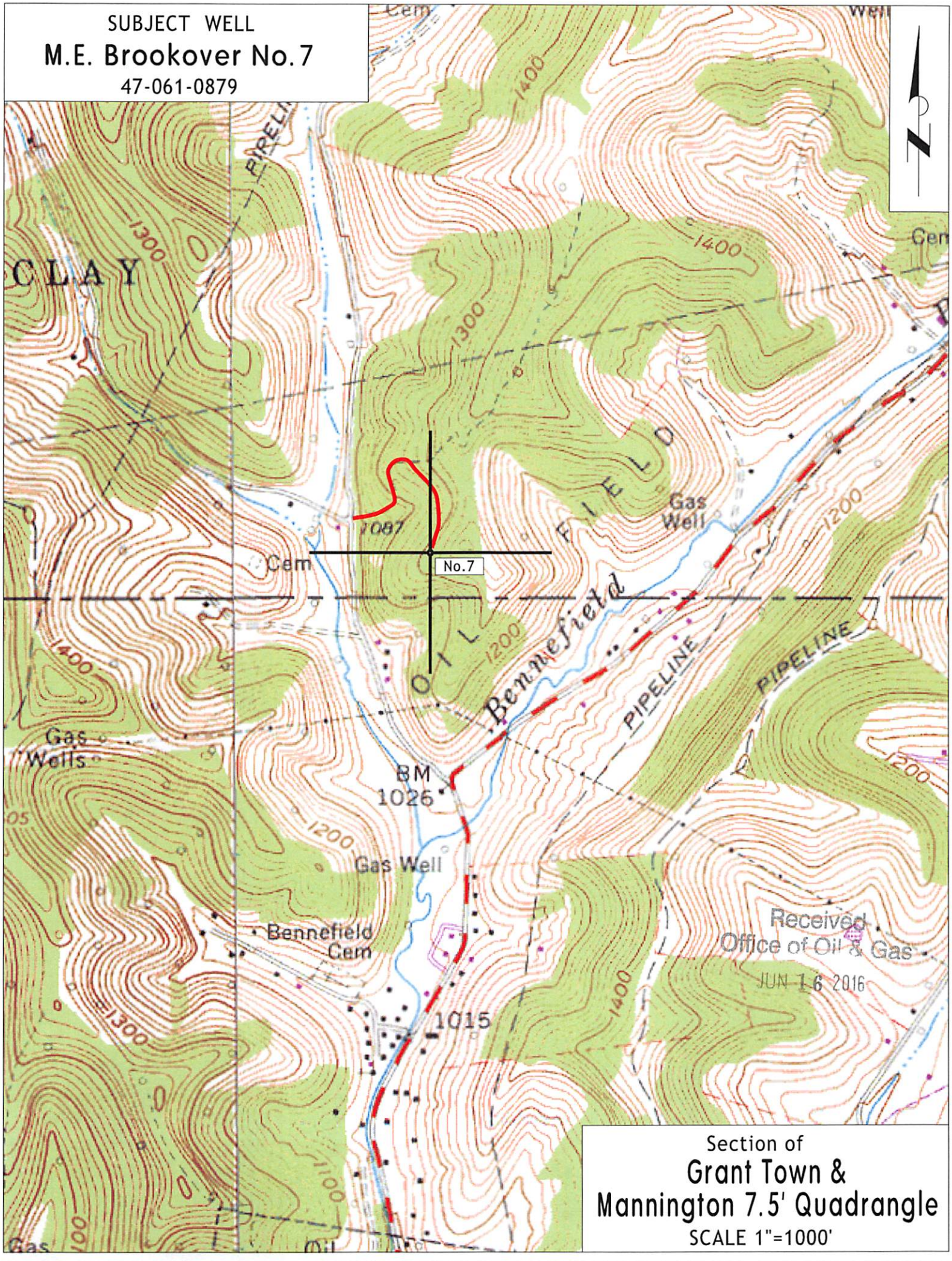
Date: 06/01/2016

6100879P

SUBJECT WELL

M.E. Brookover No.7

47-061-0879



Section of

Grant Town & Mannington 7.5' Quadrangle

SCALE 1"=1000'

6100879P

WW-7
5-02

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

API: 47- 061 - 0879 **WELL NO:** 7

FARM NAME: M.E. Brookover No.7

RESPONSIBLE PARTY NAME: H.G. Energy, LLC

COUNTY: Monongalia **DISTRICT:** Clay

QUADRANGLE: Grant Town 7.5'

SURFACE OWNER: Billy & Betty Haught

ROYALTY OWNER: Ascent Resources

UTM GPS NORTHING: 4,384,989 (NAD 83)

UTM GPS EASTING: 564,901 (NAD 83) **GPS ELEVATION:** 400 m. (1312')

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	___

Received
Office of Oil & Gas
JUN 16 2016

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

May 26, 2016

Date