



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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Monday, January 14, 2019
WELL WORK PLUGGING PERMIT
Vertical Plugging

ROSS AND WHARTON GAS COMPANY, INC.
RT. 5, BOX 29

BUCKHANNON, WV 262010000

Re: Permit approval for 1-105
47-041-01544-00-00

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.

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. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, 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: 1-105
Farm Name: BUSH, E. G.
U.S. WELL NUMBER: 47-041-01544-00-00
Vertical Plugging
Date Issued: 1/14/2019

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.

1) Date October 22, 2018 **01/18/2019**
2) Operator's
Well No. E.G. Bush #1
3) API Well No. 47-041-1544

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 ___ or Underground storage ___) Deep ___ / Shallow X

5) Location: Elevation 1170' Watershed West Fork
District Court House County Lewis Quadrangle Peterson

6) Well Operator Ross & Wharton Gas Co. Inc. 7) Designated Agent Mike Ross
Address 354 Morton Ave. Address P.O. Box 219
Buckhannon, WV 26201 Coalton, WV 26257

8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Barry Stollings Name N/A
Address 28 Conifer Dr. Address _____
Bridgeport, WV 26330

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

- Free point and recover casing's & tubular's
- 6% Gel between plug's
- Set cement plug 1950' to TD (2144') Plug 100' above top perf
- Set 100' cement plug across casing cut
- Set cement plug 1400' to 1500'
- Set cement plug 1100' to 1200' elevation
- Set cement plug 500' to 600'(salt bearing strata)

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Set cement plug 200' to surface, 7" casing plug, groundwater protection plug, and surface plug. Tag plug's as necessary. Set monument with API number

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

Work order approved by inspector Barry Stollings Date 10-31-18

GPA #6052
Lease #25258
OS #34460

Form OG-10



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
WELL RECORD

Rotary
Spudder
Cable Tools
Storage

Burns N. E. 2² 1
Quadrangle Craw N. W. 1
Permit No. Lew 1544

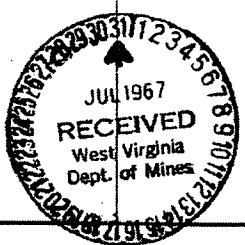
Oil or Gas Well Gas
(KIND)

Company A. M. van Flick
Address 211 Water Street, Weston, W. Va.
Farm E. Bush Acres 98.25
Location (waters) Nest Fork
Well No. #2 Ser #1 Elev. 1170 VA
District Court House County Lewis
The surface of tract is owned in fee by Guy & Velva Bush.
Rte #3 Box 349A Address Weston, W. Va.
same as above, and Hallie Harris/Agent
Mines rights are owned by
Box 362 Address Weston, W. Va.
Drilling commenced June 1, 1967
Drilling completed July 16, 1967
Date Shot From To
With
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume 77,000 Cu. Ft. Natural Cu. Ft.
Rock Pressure N. T. lbs. hrs.
Oil bbls. 1st 24 hrs.
WELL ACIDIZED (DETAILS)
WELL FRACTURED (DETAILS) Frac-d by Dowell
RESULT AFTER TREATMENT (Initial open Flow or bbls.) 5,180,000 Cu. Ft.
ROCK PRESSURE AFTER TREATMENT 675 HOURS 12 hrs.
Fresh Water Feet Salt Water Feet
Producing Sand Big Injun Depth

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16	17	left	
13			Size of
10 3/4	181	left	
8 1/4			Depth set
7"	2014	75	
5 3/16			Perf. top 2086
4 1/2			Perf. bottom 2086
3			Perf. top
2			Perf. bottom
Liners Used			

Attach copy of cementing record.
CASING CEMENTED 4 1/2" SIZE 2144 No. P. 7/19/67 Date
Amount of cement used (bags) 30 sacks POZ Cement
Name of Service Co. Lawson O. & G. Well Service
COAL WAS ENCOUNTERED AT None FEET INCHES
FEET INCHES FEET INCHES
FEET INCHES FEET INCHES
See Reverse for detail

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top Soil			0	5			
Yellow Clay			5	30			
Red Rock			30	75			
Slate			75	95			
Sand			95	115	Water	at 100	1/2 Bailer per hr.
Slate			115	120			
Sand			120	135			
Slate			135	145			
Red Rock			145	155			
Slate			155	175			
Sand			175	180			
Slate			180	250			
Red Rock			250	260			
Slate			260	290			
Lime			290	339			
Red Rock			339	343			
Lime			343	360			
Red Lime			360	410			
Slate			410	461			
Red Rock			461	503			
Sand			503	518			
Red Rock			518	550			
Slate			550	527			
Red Rock			627	657			
Slate			657	840			
Lime			840	980			
Sand			980	1005			

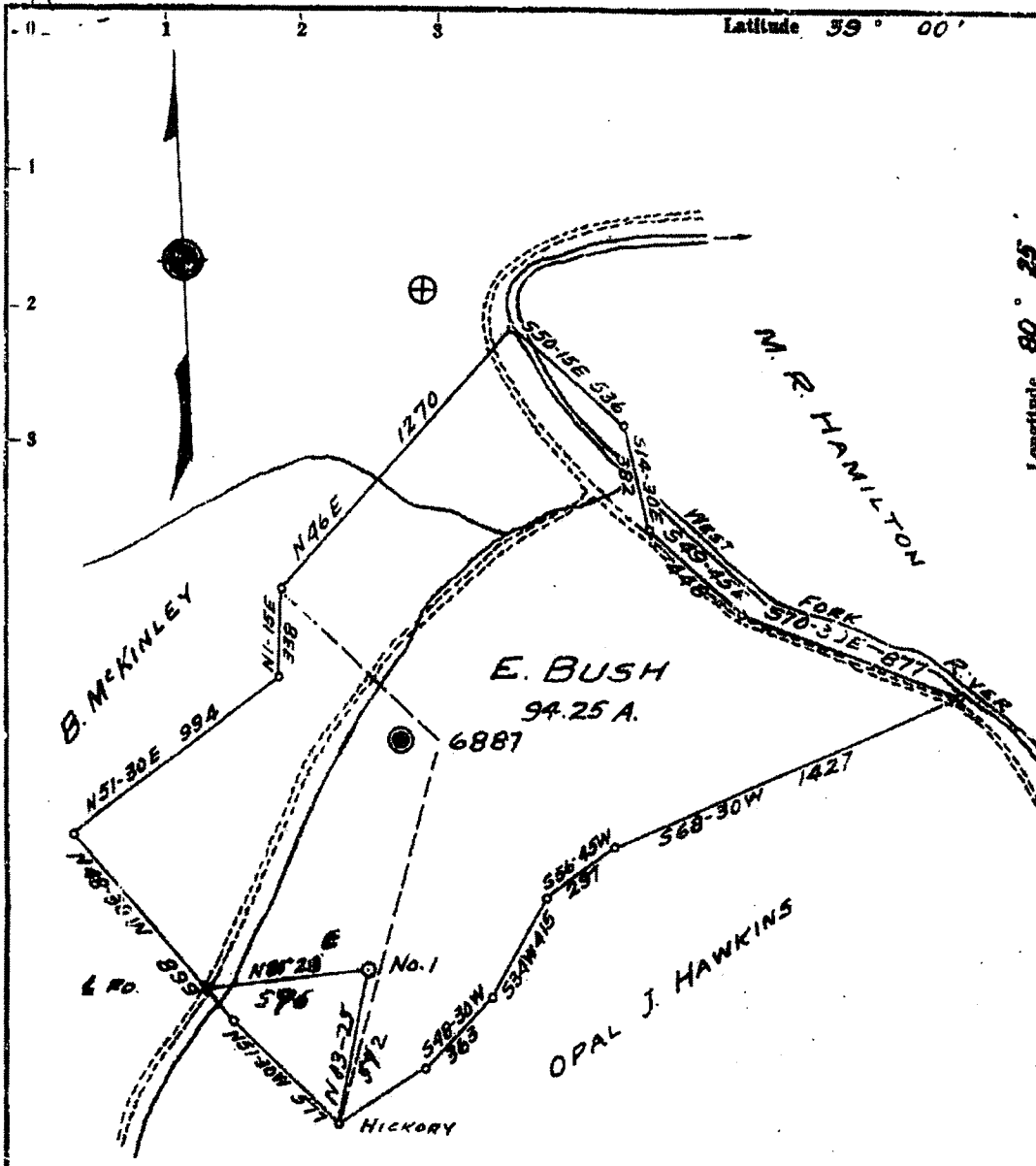


RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of Environmental Protection

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Slate			1005	1120			
Sand			1120	1135			
Slate			1135	1265			
Sand			1265	1311			
Slate			1311	1460			
Lime / Red Rock			1460	1500			
Sand			1500	1592			
Slate			1592	1630			
Sand			1630	1660			
Red Rock			1660	1770			
Red Lime & Shells			1770	1882			
Lime			1882	1900			Little Lime
			1900	1926			Pencil Cave
Lime			1926	1998			Big Lime
Sand			1998	2028			Keener
Slate & Lime			2028	2048			
Sand			2048	2101	Gas show	2086	
Sand & Shale			2101	2121	Gas show	2090-2101	Big Injun
Sand & Shells			2121	2322			
Sand			2322	2349	Gas show	2324	Gantz
Sand & Shale			2349	2419			
Sand			2419	2444			Fifty Foot
Sand			2444	2585			Gordon Stray
			-	-	Broken		and Gordon
Slate			2585	2601			
			T. D.	2601			
Plugged back to 2144. Pulled 1935' of 7": Left 75'							
Logs by Allegheny Nuclear Survey: D/C G/M Temp Perf							
7/19/67	Ran and cemented 2144' of 4 1/2", J-55, 9.5# weight, Casing: Used Larkin Guide Shoe, Float Collar-Ball Insert, 3 Centralizers, set at 2136' 2039' 1910'. Bump Plug at 2136' - 500#.						
	Materials used: 30 sacks POZ Cement 6 sacks of Gel						
7/21/67	Frac-d by Dowell. Waterfrac 1100 barrels. Used the following: 6,000 gallons of Acid 50,000# of 20/40 Sand 12 gallons A-110 25 gallons F-18 400# J-111						
	Avg. Liq. Inj. Rate		28.5		Adj. Inj. Rate (Sol)		30.1
	Average Pressure		2400		Maximum Pressure		2600
			Shut In Pressure (In)				1700
Perforated:	2086	5 way Jet.					

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Date July 28, 1967
APPROVED A. M. van Flick, Owner
By _____ (Title)
A. M. van FLICK



- Fracture.....
- Redrill.....
- New Location...
- Drill Deeper.....
- Abandonment.....

Source of Elevation MARY LAWSON No. 1 (38306)

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia.

Minimum accuracy, one part in 200

Company	<u>A.M. VAN FLICK</u>
Address	<u>211 WATER ST., WESTON, W.VA.</u>
Farm	<u>E. BUSH</u>
Tract	Acres <u>98.25</u> Lease No. <u>25258</u>
Well (Farm) No.	<u>2</u> Serial No. <u>16.1</u>
Elevation (Spirit Level)	<u>1170 VA</u>
Quadrangle	<u>BURNSVILLE 2³ CRAWFORD NW 1/4</u>
County	<u>LEWIS</u> District <u>COURTHOUSE</u>
Engineer	<u>James B. T. [Signature]</u>
Engineer's Registration No.	<u>2886</u>
File No.	<u>AST. 6052</u> Drawing No.
Date	<u>Aug. 8, 1967</u> Scale <u>1" = 300'</u>

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP
FILE NO. LEW-1544

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing.

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of Environmental Protection

47-041-01544P

01/18/2019

WW-4A
Revised 6-07

1) Date: October 22, 1988
2) Operator's Well Number
E.G. Bush #1
3) API Well No.: 47 - 041 - 1544

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>U S A - Bureau of Land Management</u>	Name <u>N/A</u>
Address <u>Jim Wood</u>	Address _____
<u>1755 South Mitchell Street</u>	_____
(b) Name <u>Cadillac, Michigan 49601</u>	(b) Coal Owner(s) with Declaration
Address _____	Name <u>N/A</u>
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Barry Stollings</u>	(c) Coal Lessee with Declaration
Address <u>28 Conifer Dr.</u>	Name <u>N/A</u>
<u>Bridgeport, WV 26330</u>	Address _____
Telephone _____	_____

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.

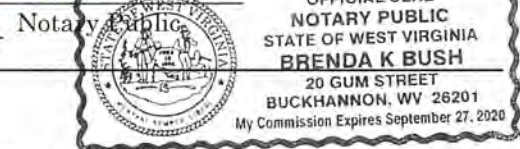
Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental 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 Ross & Wharton Gas Company Inc.
 By: Mike Ross
 Its: President
 Address 354 Morton Ave.
Buckhannon, WV 26201
 Telephone 304-472-4289

RECEIVED
 Office of Oil and Gas
 NOV 7 2018
 WV Department of
 Environmental Protection

Subscribed and sworn before me this 22nd day of October 2018

Brenda K Bush
My Commission Expires September 27, 2020



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.

WW-9
(5/16)

API Number 47 - 041 - 1544
Operator's Well No. _____

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

Operator Name Ross & Wharton Gas Co. Inc. OP Code 306580

Watershed (HUC 10) West Fork Quadrangle Peterson

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:

- 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 _____)

Will closed loop system be used? If so, describe: _____

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. _____

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

Additives to be used in drilling medium? _____

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

-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.

Company Official Signature Mike Ross
Company Official (Typed Name) Mike Ross
Company Official Title President

RECEIVED
Office of Oil and Gas
NOV 7 2018

WV Department of
Environmental Protection

Subscribed and sworn before me this 22nd day of October, 20 18

Brenda K Bush

My commission expires September 27, 2020



Operator's Well No. _____

Proposed Revegetation Treatment: Acres Disturbed 1 Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Fescue	30	Fescue	30
Contractor's Mix		Contractor's Mix	

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: _____

Comments: _____

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Title: Barry Shultz Date: 10-31-18

Field Reviewed? Yes No

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

Operator Name: Ross & Wharton Gas Co. Inc.

Watershed (HUC 10): West Fork Quad: Peterson

Farm Name: _____

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

N/A

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

N/A

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

West Fork

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

N/A

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

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

N/A

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

No material will be used

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.

N/A

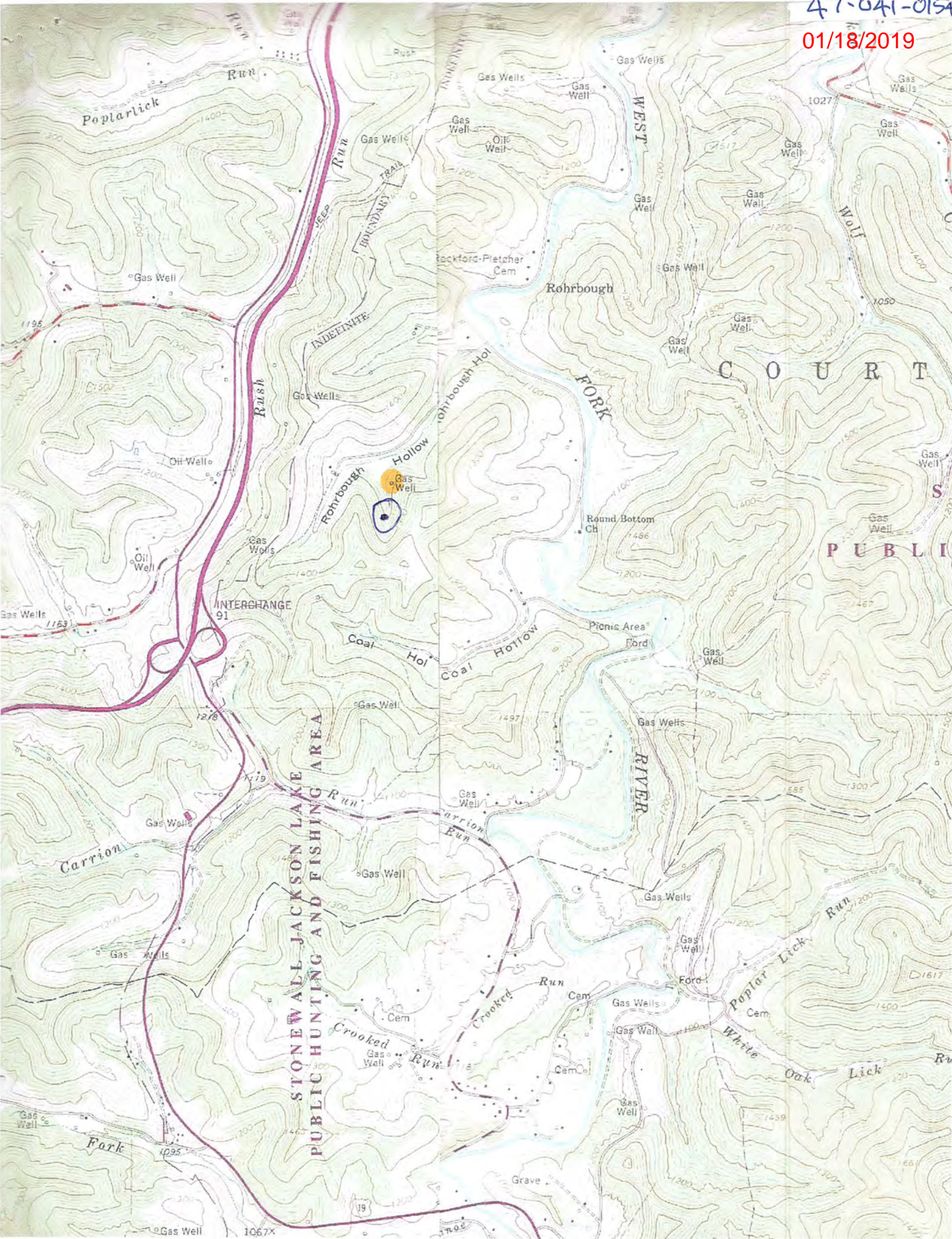
8. Provide provisions and frequency for inspections of all GPP elements and equipment.

N/A

RECEIVED
Office of Oil and Gas
NOV 7 2018
WV Department of
Environmental Protection

Signature: Mike Ross

Date: 10-22-18



STONEWALL JACKSON LAKE
PUBLIC HUNTING AND FISHING AREA

WEST
FORK
COURT
PUBLI

RIVER

Crooked Run

Poplar Lick Run

White Oak Lick Run

INTERCHANGE 91

Rohrbough

Round Bottom Ch

Picnic Area

Ford

Cem

Gas Wells

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

Gas Well

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-041-1544 WELL NO.: 1

FARM NAME: E.G. Bush

RESPONSIBLE PARTY NAME: Mike Ross

COUNTY: Lewis DISTRICT: Court House

QUADRANGLE: Peterson

SURFACE OWNER: USA - Bureau of Land Management

ROYALTY OWNER: Mike Ross

UTM GPS NORTHING: 4313518.2

UTM GPS EASTING: 543061.0 GPS ELEVATION: 1170'

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:

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 : Post Processed Differential
Real-Time Differential

RECEIVED
Office of Oil and Gas

NOV 7 2018

WV Department 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.

Mike Ross
Signature

President
Title

10/22/2018
Date