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**west virginia** department of environmental protection

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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](http://www.dep.wv.gov)

December 08, 2014

**WELL WORK PLUGGING PERMIT**

**Plugging**

This permit, API Well Number: 47-1502622, issued to RANGE RESOURCES - PINE MOUNTAIN, INC., 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 penalties 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: PMOG 23A  
Farm Name: BARRINGER, PAUL B.II  
**API Well Number: 47-1502622**  
**Permit Type: Plugging**  
Date Issued: 12/08/2014

**Promoting a healthy environment.**

12/12/14

## 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

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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 15, 2014  
2) Operator's  
Well No. PMOG 23A  
3) API Well No. 47-015 - 02622

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 1241' Watershed Groves Creek  
District Buffalo County Clay Quadrangle Swandale 7.5'

6) Well Operator Range Resource - Pine Mountain Inc. 7) Designated Agent Geary Legg  
Address P.O. Box 2136 Address 158 Big Sandy Road  
Abingdon, VA 24212 Newton, WV 25266

8) Oil and Gas Inspector to be notified Name Ed Gainer  
Address P.O. Box 821  
Spencer, WV 25276  
9) Plugging Contractor Name To be determined upon permit approval  
Address \_\_\_\_\_

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

Casing: TD - 2255'  
11 3/4" 30  
8 5/8" 487 135 sks CTS  
4 1/2" 2044 140 sks, est TOC @ 1000'  
2 3/8" 1881

GEL FROM TD OF 2255-1800'  
2050' } PLUGS.  
Plug No. 1 1950-1800'  
Free point, cut & pull 4 1/2" est 1500'  
Plug No. 2 1550-1450  
Plug No. 3 1300-1200  
Plug No. 4 540-440  
Plug No. 5 100-0

6% gel between cement plugs

SET MONUMENT

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

Work order approved by inspector  Date 10/23/14



WR-35

API # 47-015-02622 P

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

Well Operator's Report of Well Work

Farm name: **Barringer, Paul B. II Trust**

Operator Well No.: **PMOG 23A**

LOCATION: Elevation: **1246.37**

Quadrangle: **Swandale 7.5'**

District : **Buffalo**

County : **Clay**

Latitude : **1800 Feet South of 38 Deg. 30 Min. 0 Sec.**

Longitude: **100 Feet West of 80 Deg. 55 Min. 0 Sec.**

Company: **PINE MOUNTAIN OIL AND GAS**  
**448 NE Main St., P. O. Box 5100**  
**Lebanon, VA 24266-0000**

Agent: **THOMAS H. YOUNG, JR.**

Inspector: **RICHARD CAMPBELL**

Permit Issued: **02/07/2001**

Well Work Commenced: **05/29/2001**

Well Work Completed: **10/03/2001**

Verbal Plugging

Permission Granted on:

Rotary **X** Cable Rig

Total Depth (feet): **2255 kb**

Fresh Water Depths (feet): **25, 51 kb**

Salt Water Depths (feet): **1225 kb**

Is coal being mined in area? (Y/N) **N**

Coal Depths (feet): **NA**

Casing & Tubing	Used in Drilling	Left In Well	Cement Fill Up Cu.Ft.
11-3/4	30		
8-5/8	487	487	135 sk
4-1/2		2044	140 sk

OPEN FLOW DATA

Production Formation	<b>Blue Monday</b>	Pay zone depth (ft)	<b>1890-1906 kb</b>
Gas: Initial open flow	<b>33 MCF/d</b>	Oil: Initial open flow	Bbl/d
Final open flow	<b>100 MCF/d</b>	Final open flow	Bbl/d
Time of open flow between initial and final tests			<b>4 Hours</b>
Static Rock Pressure	<b>240 psig (surface pressure) after</b>		<b>72 Hours</b>

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 WELBORE.

For: **PINE MOUNTAIN OIL AND GAS, INC.**

By: Tom London

Date: 6/26/2002

12/12/14

WR-35

API # 47- 015-02622 P

Completion

1<sup>st</sup> Stage: Perf 1890-1906 kb 17h  
Frac Blue Monday w/413 bbl 70Q foam, BD @ 1163 psi w/500 gal 15% HCl  
Avg Rate - 18 bpm (dh), Avg Press - 1575 psi, Max Press - 1880 psi, Avg N2 - 5980 scfm  
Total N2 - 311,180 scf, Total 80/100 sand - 11,300#, Total 20/40 sand - 35,700#  
ISIP - 1345 psi

Well Log

Formation	Top (ft)*	Bottom (ft)*
Shale and Sand	0	1163
Salt Sand	1163	1347
Shale and Sand	1347	1434
Upper Maxon	1434	1447
Shale and Sand	1447	1598
Middle Maxon	1598	1652
Shale and Sand	1652	1734
Lower Maxon	1734	1770
Shale	1770	1814
Little Lime	1814	1854
Shale	1854	1868
Blue Monday	1868	1913
Big Lime	1913	2120
Shale	2120	2255
TD	2255	

\* Depths 10 ft KB

12/12/14





WR-35

047-015-02622F

P

Completion Data

	Stage 1	Stage 2
Date	1/12/2006	2/16/2006
Frac Formation(s)	Big Lime	Big Lime

Interval	2016-2021		1960-2018	
# of Perf	11		12	
BD Press	0	psi	2789	psi
Avg Treating Press	1925	psi	2595	psi
Max Treating Press	2705	psi	4114	psi
Avg Rate (dh)	19.6	bpm	14	bpm
ISIP	2280	psi		psi
5 min SIP	1877	psi		psi
Total Acid	100/15%HCl	gal	36/15%HCl	gal
Total N2	273800	scf	76500	scf
Total H2O	159	bbl	77	bbl
Total Sand	450	sx	44	sx

Screened Out

Geologic Data

Formation	Top (ft)*	Bottom (ft)*
Shale and Sand	0	1163
Salt Sand	1163	1347
Shale and Sand	1347	1434
Upper Maxon	1434	1447
Shale and Sand	1447	1598
Middle Maxon	1598	1652
Shale and Sand	1652	1734
Lower Maxon	1734	1770
Shale	1770	1814
Little Lime	1814	1854
Shale	1854	1868
Blue Monday	1868	1913
Big Lime	1913	2120
Shale	2120	2255
TD	2255	

\* Depths 10 ft KB

12/12/14





7013 0600 0002 1047 3004

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 ABINGDON, VA 24210

Sent To: Allegheny Rural NMTC Forestlands, LLC  
 3001 Emerson Avenue  
 Parkersburg, WV 26104

PS Form 38  
 WV 2014

The following information was included in the certified mailing to Allegheny Rural NMTC Forestlands:

- Well Nos.      ERC&L 8129
- ERC&L 7977
- ERC&L 8130
- ERC&L 7976
- PMOG 32
- PMOG 23A
- CBM 7
- CBM 2

Received  
 Office of Oil & Gas  
 OCT 31 2014

- Notice of Application to Plug and Abandon a Well (WW-4A)
- Application for a Permit to Plug and Abandon (WW-4B)
- Construction and Reclamation Plan and Site Registration Application Form General Permit for Oil and Gas Pit Waste Discharge (WW-9)
- Legend (WW-9)
- Surface Owner Waiver
- WVDEP Office of Oil and Gas Well Location Form: GPS (WW-7)
- Location Map

1502622P

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402 62 130  
 OCT 29 2014  
 HARRISBURG, PA 17104

Sent to  
 Street, Apt. or PO Box  
 City, State, ZIP+4<sup>®</sup>

CNX Land Resources  
 1000 Consol Energy Drive  
 Cannonsburg, PA 15317

PA Form 3849  
 WV 2014

The following information was included in the certified mailing to CNX Land Resources:

Well Nos.      ERC&L 8129  
                   ERC&L 7977  
                   ERC&L 8130  
                   ERC&L 7976  
                   PMOG 32  
                   PMOG 23A  
                   CBM 7  
                   CBM 2

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- Construction and Reclamation Plan and Site Registration Application Form General Permit for Oil and Gas Pit Waste Discharge (WW-9)
- Legend (WW-9)
- Coal Operators Owners and Lessee Waiver (WW-4B)
- WVDEP Office of Oil and Gas Well Location Form: GPS (WW-7)
- Location Map
- Well Record/Well Report

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WW-9  
Rev. 5/08

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 015 - 02622  
Operator's Well No. PMOG 23A

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 Range Resources - Pine Mountain, Inc. OP Code 307499

Watershed Groves Creek Quadrangle Swandale 7.5'

Elevation 1241' County Clay District Buffalo

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

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

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 \_\_\_\_\_)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain \_\_\_\_\_)
- Swabbing
- 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.

Company Official Signature *Ian Landon*

Company Official (Typed Name) Ian Landon

Company Official Title Agent

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Office of Oil & Gas  
OCT 31 2014

Subscribed and sworn before me this 28<sup>th</sup> day of OCTOBER, 2014

*Kimberley Allison Eller* Notary Public  
REG # 7040059

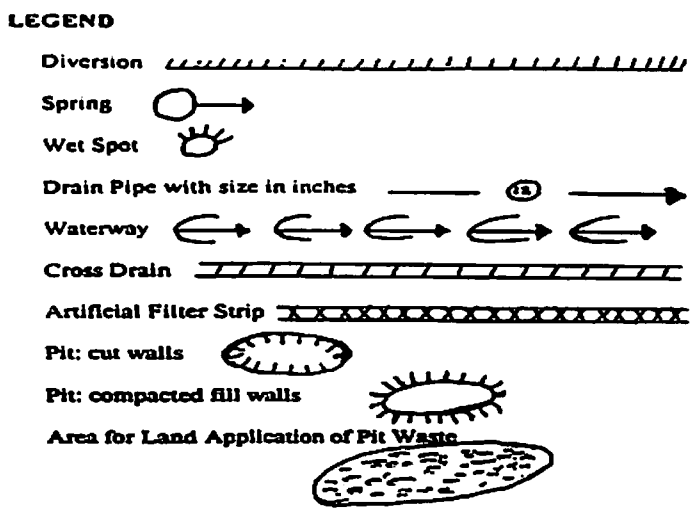
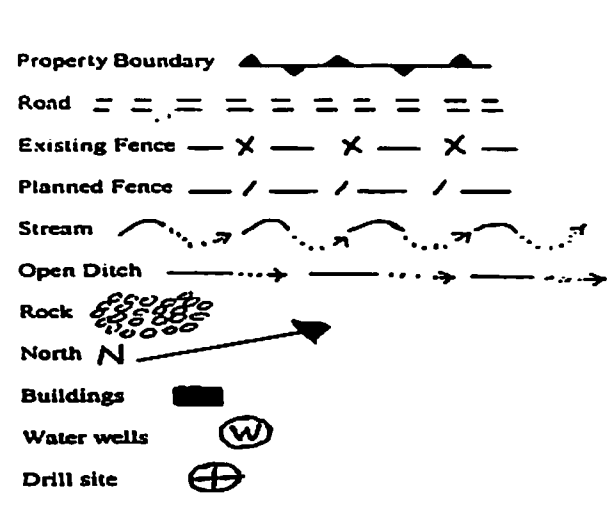
My commission expires 31 MAY 2018





Form WW-9

Operator's Well No. PMOG 23A



Proposed Revegetation Treatment: Acres Disturbed .5 Acre Prevegetation pH \_\_\_\_\_

Lime 2 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

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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OCT 31 2014

Plan Approved by:

Comments: \_\_\_\_\_

Title: Inspector Date: 10/2/14

Field Reviewed?  Yes  No

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Topo Quad: Swandale 7.5'

Scale: 1" = 2000'

County: Clay

Date: June 26, 2014

District: Buffalo

Project No: 170-04-B-14

API # 47-015-02622 (PMOG 23A)

Topo



SURVEYING AND MAPPING SERVICES PERFORMED BY:  
**ALLEGHENY SURVEYS, INC.**  
 1-800-482-8606  
 237 Birch River Road  
 Birch River, WV 26610  
 PH: (304) 649-8606  
 FAX: (304) 649-8608

PREPARED FOR:  
**Range Resources - Pine Mountain, Inc.**  
 406 West Main Street  
 Abingdon, VA 24210

12/12/14



1502622P

WW-7  
8-30-06



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

API: 47-015-02622 WELL NO.: PMOG 23A  
FARM NAME: Paul B. Barringer II  
RESPONSIBLE PARTY NAME: Range Resources - Pine Mountain, Inc.  
COUNTY: Clay DISTRICT: Buffalo  
QUADRANGLE: Swandale 7.5' 629  
SURFACE OWNER: Allegheny Rural NMTC Forestlands, LLC  
ROYALTY OWNER: Pine Mountain Oil and Gas  
UTM GPS NORTHING: 4260795  
UTM GPS EASTING: 507245 GPS ELEVATION: 378 m (1241 ft)

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:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) - meters.
- Accuracy to Datum - 3.05 meters
- Data Collection Method:  
Survey grade GPS  : Post Processed Differential   
Real-Time Differential   
Mapping Grade GPS  : Post Processed Differential   
Real-Time Differential

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.

Step Olson  
Signature

PS# 2100  
Title

7/16/14  
Date

Received  
Office of Oil & Gas  
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