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

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 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: PMOG 23A
Farm Name: BARRINGER, PAUL B.II
API Well Number: 47-1502622
Permit Type: Plugging
Date Issued: 12/08/2014

1502622P

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.

1502622P

WW-4B
Rev. 2/01

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 Swandale7.5'

6) Well Operator Range Resource - Pine Mountain Inc.
Address P.O. Box 2136
Abingdon, VA 24212

7) Designated Agent Geary Legg
Address 158 Big Sandy Road
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

6% gel between cement plugs

GEL FROM TD OF 2255-1800' PULL 2 3/8" TUBING

Plug No. 1 ~~1950~~ 2050-1800 } PERFS.
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

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 **Blue Monday** Pay zone depth (ft) **1890-1906** kb
Gas: Initial open flow **33** MCF/d Oil: Initial open flow Bbl/d
Final open flow **100** MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests **4** Hours
Static Rock Pressure **240** psig (surface pressure) after **72** 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 GEOLOGIAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELBORE.

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

By: Ian Landon

Date: 6/25/2002

WR-35

API # 47- 015-02622 P

Completion

1st 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

WR-35
Rev (5-01)

DATE: October 30, 2006
API # 047 - 015 - 02622F

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm Name: Paul B. Barringer II, et al Operator Well No. PMOG 23A

LOCATION: Elevation: 1243 Quadrangle: Swandale

District: Buffalo County: Clay

Latitude: 1675 Feet South of 38 Deg. 30 Min. 00 Sec.

Longitude: 100 Feet West of 80 Deg. 55 Min. 00 Sec.

Company: Range Resources - Pine Mountain Inc
Address: P.O. Box 2136
Abingdon, Virginia 24212
Agent: Geary Legg
Inspector: Terry Urban
Date Permit Issued: 8/31/2005
Date Well Work Commenced: 1/12/2006
Date Well Work Completed: 3/08/2006
Verbal Plugging:
Date Permission granted on:
Rotary X Cable ___ Rig ___
Total Depth (feet): 2255
Fresh Water Depth (ft.): 25, 51

Salt Water Depth (ft.): 1225

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

Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
11 ¾	30		
8 ⅝	487	487	CTS
4 ½	2044	2044	140 sx
2 ⅜		1881	

OPEN FLOW DATA

Producing Formation: Big Lime Pay zone depth 1960-2021 (ft)
Gas: Initial open flow: ___ MCF/d Oil: Initial open flow: ___ Bbl/d
Final open flow: Trace MCF/d Final open flow: ___ Bbl/d
Time of open flow between initial and final tests ___ Hours
Static Rock Pressure 150 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 THE 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.

Signed: Range Resources - Pine Mountain Inc.
By: Laura M Nunn
Date: 4-11-13

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

1502622P

WW-4A
Revised 6-07

Received
Office of Oil & Gas
NOV 07 2014

CK. 600379
$10000

1) Date: October 13, 2014
2) Operator's Well Number
PMOG 23A
3) API Well No.: 47 - 015 - 02622

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: Allegheny Rural NMTC Forestlands, LLC ✓
Address: 3001 Emerson Avenue
Parkersburg, WV 26104
(b) Name:
Address:
(c) Name:
Address:

6) Inspector: Ed Gainer
Address: PO Box 821
Spencer, WV 25276
Telephone:

5) (a) Coal Operator
Name:
Address:

(b) Coal Owner(s) with Declaration
Name: CNX Land Resources ✓
Address: 1000 Consol Energy Drive
Cannonsburg, PA 15317
Name:
Address:

(c) Coal Lessee with Declaration
Name:
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.

KIMBERLEY ALLISON ELLER
NOTARY PUBLIC
REG. #7040059
MY COMMISSION EXPIRES
31 MAY 2018
COMMONWEALTH OF VIRGINIA

Well Operator: Range Resources - Pine Mountain, Inc.
By: Ian Landon
Its: Agent
Address: P.O. Box 2136
Abingdon, VA 24212
Telephone: (276) 628-9001

Subscribed and sworn before me this 28th day of OCTOBER 2014
Kimberley Allison Eller Notary Public
My Commission Expires 31 MAY 2018 REG # 7040059

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.

1502622P

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

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

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)
-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

1502622P

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 MIL.

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
- [ ] Swabbing
- [ ] Workover
- [x] Plugging
- [ ] Other (Explain _____)

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

Received
Office of Oil & Gas
OCT 31 2014

Subscribed and sworn before me this 28th day of OCTOBER, 2014

Kimberley Allison Eller Notory Public
REG # 7040059

My commission expires 31 MAY 2018

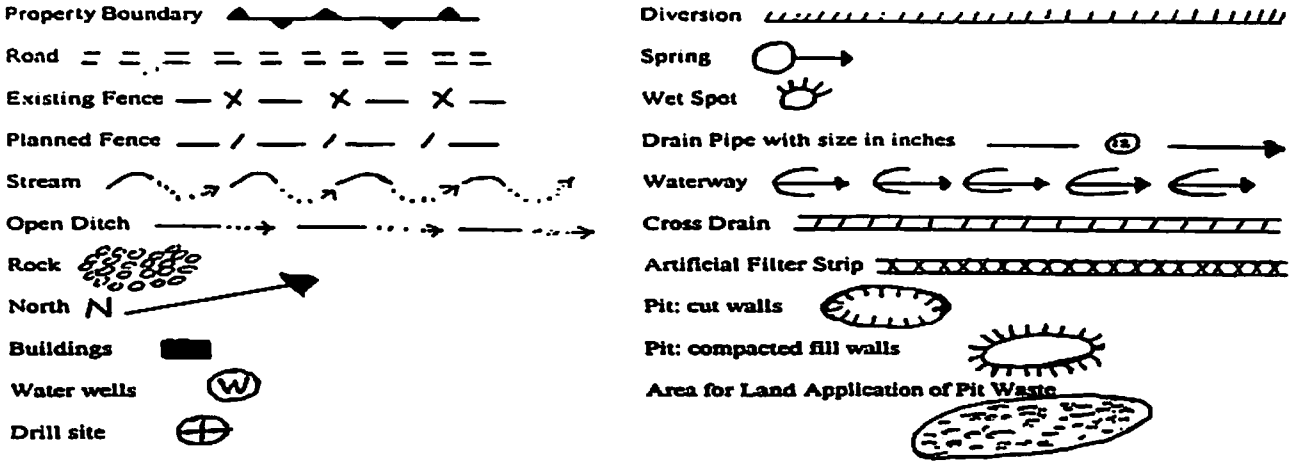
KIMBERLEY ALLISON ELLER
NOTARY PUBLIC
REG. #7040059
MY COMMISSION EXPIRES
31 MAY 2018
COMMONWEALTH OF VIRGINIA

1502622P

Form WW-9

Operator's Well No. PMOG 23A

LEGEND



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.

Received
Office of Oil & Gas
OCT 31 2014

Plan Approved by: _____

Comments: _____

Title: Inspector Date: 10/2/14

Field Reviewed? (_____) Yes (X) No

1502622P

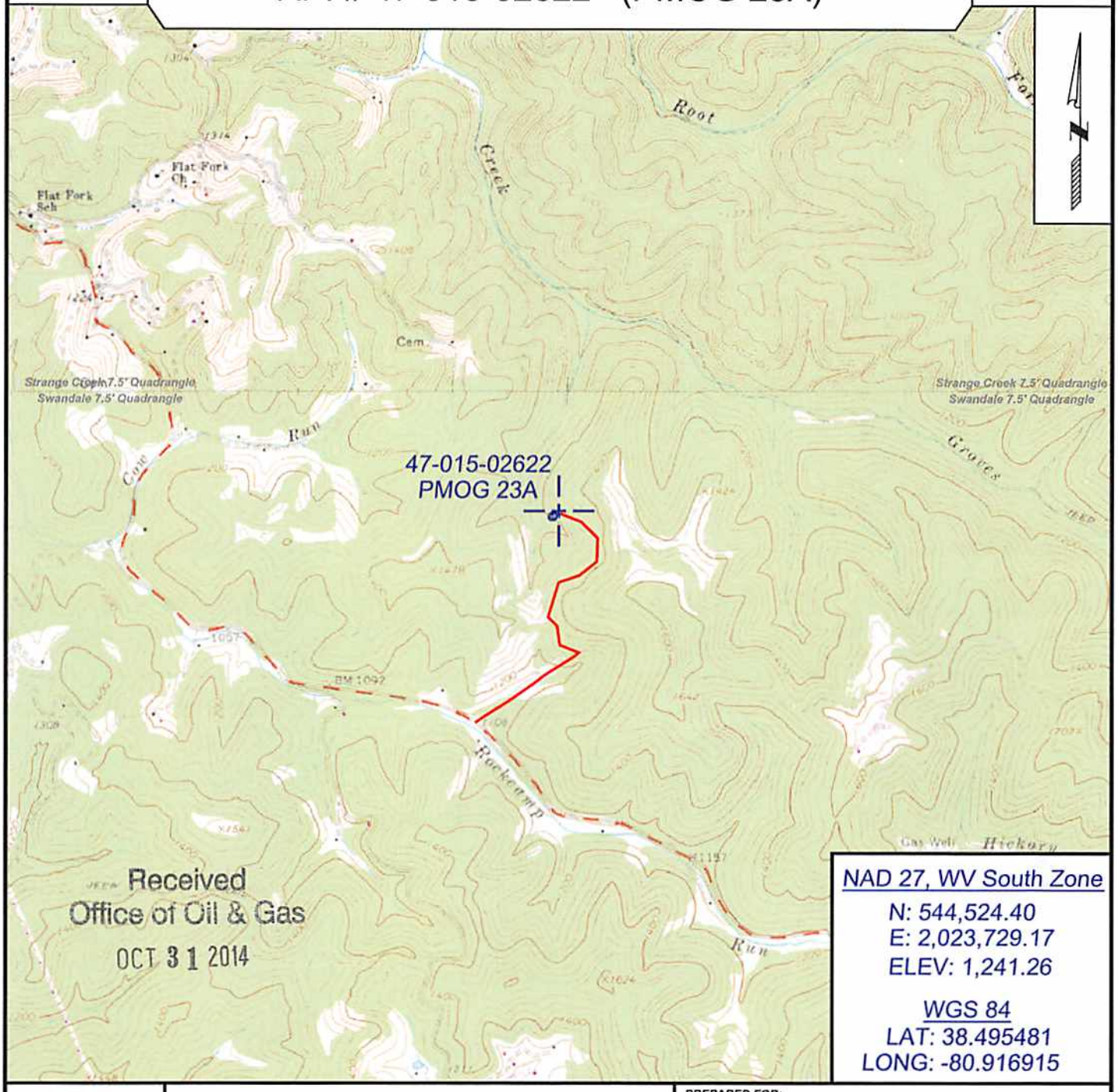
Topo Quad: Swandale 7.5' Scale: 1 " = 2000'

County: Clay Date: June 26, 2014

District: Buffalo Project No: 170-04-B-14

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

Topo



Received
Office of Oil & Gas
OCT 31 2014

NAD 27, WV South Zone
N: 544,524.40
E: 2,023,729.17
ELEV: 1,241.26

WGS 84
LAT: 38.495481
LONG: -80.916915

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

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 1

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:

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 ____

4. **Letter size copy of the topography map showing the well location.**

Received
Office of Oil & Gas
OCT 31 2014

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.

Signature | PS # 2180 Title | 7/16/14 Date