



Commonwealth of Virginia  
Department of Mines, Minerals, and Energy  
Division of Gas and Oil  
P.O. Drawer 159, Lebanon, VA 24266  
Telephone: (276) 415-9700

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<b>Tracking Number:</b>	<u>3023</u>
<b>Company:</b>	<u>Range Resources-Pine Mountain</u>
<b>File Number:</b>	<u>RU-0672</u>
<b>Operations Name:</b>	<u>V-530289</u>
<b>Operation Type:</b>	<u>Gas</u>
<b>Drilling Report Type:</b>	<u>Original</u>

## DRILLING REPORT (DGO-GO-14)

### 1. Drilling Data

Date drilling commenced:	<u>9/14/2009</u>	Drilling Contractor:	<u>Noah Horn #834</u>
Date drilling completed:	<u>9/22/2009</u>	Rig Type:	<u>R Rotary</u> <input type="checkbox"/> <u>F Cable</u>
Driller's Total Depth (feet):	<u>5485.00</u>		
Log Total Depth (feet):	<u>5490.00</u>	Formation At Total Depth	<u>Weir</u>

### 2. Final Location Plat (as required by 4 VAC25-150-360.C.)

Permitted State Plane X:	<u>10417912.1800</u>	Final Plat State Plane X:	<u>10417914.6400</u>
Permitted State Plane Y:	<u>3547552.1000</u>	Final Plat State Plane Y:	<u>3547547.8200</u>

Plat Previously Submitted Or...

List of Attached Items:

Description	FileName
V-530289 Final Plat	V-530289 FINAL PLAT.pdf

### 3. Geological Data

*Fresh Water At:*

Depth (in feet)	Rate	Unit of Measure
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*Salt Water At:*

Depth (in feet)	Rate	Unit of Measure
1903	damp	

*Coal Seams:*

List of Attached Items:

Description	FileName
V-530289 Coal Seams	V-530289_Coal.xls

*Gas and Oil Shows:*

List of Attached Items:

Description	FileName
V-530289 Gas Shows	Shows.xls

### 4. Electric Logs (As required by 4VAC25-150-280.A)

List all logs run: Hi Res GR/Dens/Temp/Audio/PE/Caliper Data Pack

Did logs disclose vertical locations of a coal seam?  R

### 5. Survey Results (As required by 4VAC25-150-280.B.2)

List of Attached Items:

Description	FileName
V-530289 Survey	Survey.xls

### 6. Casing and Tubing Program

List of Attached Items:

Description	FileName
V-530289 Casing	Casing.xls

### 7. Remarks

Use this space to note any conditions or occurrences, such as lost circulation, fishing jobs, junk left in hole, sidetracks, squeeze jobs, etc., not shown above. Include data and depth of condition/occurrence.

### 8. Drillers Log

Compiled By: Range Resources - Pine Mtn.

List of Attached Items:

Description	FileName
V-530289 Driller's Log	530289_Log.xls

### 9. Comments

### 10. Signature

Permittee: Range Resources-Pine Mountain

Date: 6/30/2011

Signed By: Jonathan R. Horne

Title: Engineering Tech

### INTERNAL USE ONLY

Submit Date: 6/30/2011

Status: A

Date: 3/1/2012

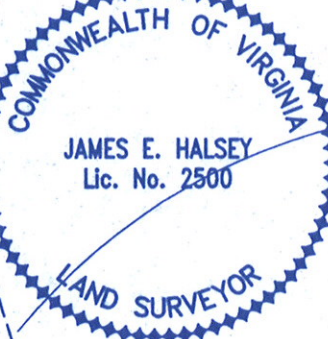
Final PDF Date: 3/5/2012

6,870'

Latitude 37° 02' 30"

Well Coordinates: (Geographic N27)  
37.009255' -82.148490'

--- Mineral Line  
- - - - - Surface Line



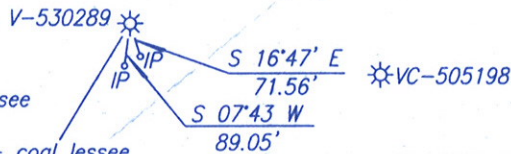
Lease No. 906889 / T-489  
Jasper Skeen  
337.55 Acres  
ACIN LLC - coal  
Alpha Land & Reserves LLC - coal lessee  
WBRD LLC - coal  
Dickenson-Russell Coal Company LLC - coal lessee  
Range Resources-Pine Mountain, Inc. - oil & gas  
Gas 26.85 Ac. 23.83%

Lease No. 906889 / T-485  
M. B. Rasnake  
250.53 Acres  
ACIN LLC - coal  
Alpha Land & Reserves LLC - coal lessee  
WBRD LLC - coal  
Dickenson-Russell Coal Company LLC - coal lessee  
Range Resources-Pine Mountain, Inc. - oil & gas  
Gas 2.21 Ac. 1.96%

Heartwood Forestland Fund IV, L.P. - surface

Heartwood Forestland Fund IV, L.P. - surface

Lease No. 906889 / T-482  
Stephen Rasnake  
1,498.7 Acres  
ACIN LLC - coal  
Alpha Land & Reserves LLC - coal lessee  
WBRD LLC - coal  
Dickenson-Russell Coal Company LLC - coal lessee  
Range Resources-Pine Mountain, Inc. - oil & gas  
Gas 81.29 Ac. 72.14%



Lease No. 906889 / T-456  
Bryant Breeding  
350.21 Acres  
ACIN LLC - coal  
Alpha Land & Reserves LLC - coal lessee  
WBRD LLC - coal  
Dickenson-Russell Coal Company LLC - coal lessee  
Range Resources-Pine Mountain, Inc. - oil & gas  
Gas 2.34 Ac. 2.07%

The boundary lines shown hereon are based on deeds, plats and maps of record and do not depict a current boundary survey.

The undersigned hereby certifies that the final location is within ten (10') feet of the location shown on the well plat dated 7-20-2010.

Well elevation determined by GPS survey from HARN Monument P-424

**FINAL PLAT**

Area of Unit = 112.69 Ac.

Well Coordinates: (VA St. Plane S. Zone, NAD 83)  
N 3,547,547.82 E 10,417,914.64

Well Coordinates: (VA St. Plane S. Zone, NAD 27 Calculated from NAD 83)  
N 266,672.91 E 934,928.39

Well Coordinates: (Clinchfield Coal Co.)  
S 33,020.97 E 68,526.73

WELL LOCATION PLAT

COMPANY Range Resources-Pine Mountain, Inc. WELL NAME AND NUMBER V-530289  
TRACT NO. LS. No. 906889/T-482 ELEVATION 2,374.30' QUADRANGLE Duty  
COUNTY Russell DISTRICT Castlewood SCALE 1" = 400' DATE 9-30-2010

This Plat is a new plat \_\_\_; an updated plat \_\_\_; or a final location plat \_\_\_ x

+ Denotes the location of a well on United States topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

James E. Halsey  
Licensed Professional Engineer or Licensed Land Surveyor

Coal Seams		V-530237				
				<b>MINING IN AREA</b>		
<b>NAME</b>	<b>TOP</b>	<b>BOTTOM</b>	<b>THICKNESS</b>	<b>YES</b>	<b>NO</b>	<b>MINED OUT</b>
COAL	281	283	2		NO	NO
COAL	556	558	2		NO	NO
COAL	701	703	2		NO	NO
COAL	1042	1044	2		NO	NO

## Gas and Oil Shows

FORMATION	DEPTH	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED
	2625		NS		
Ravenclyff	3645				267 mcf
Maxton	4266				231 mcf
Big Lime	5169				119 mcf
Weir Shale	5485				119 mcf

Survey Results

Depth of Survey	Direction/Distance/Degree From True Vertical
211'	$1/2^{\circ}$
403'	$1/4^{\circ}$
620'	$1/2^{\circ}$
808'	$1/4^{\circ}$
995'	$1/4^{\circ}$
1212'	$1/4^{\circ}$
1401'	$1/2^{\circ}$
1620'	$1/4^{\circ}$
1807'	$1/2^{\circ}$
1994'	$1/2^{\circ}$
2208'	$1/2^{\circ}$
2426'	$3/4^{\circ}$
2625'	$3/4^{\circ}$





Driller's Log	V-530237						
Geologic Age	Formation	General Lithology	Color	Depth Top	Depth Bottom	Thickness	Remarks
PENNSYLVANIAN		OVERBURDEN		0	2	2	
PENNSYLVANIAN		SANDSTONE		2	70	68	
PENNSYLVANIAN		SANDY SHALE		70	281	211	
PENNSYLVANIAN		COAL		281	283	2	
PENNSYLVANIAN		SANDSTONE		283	383	100	
PENNSYLVANIAN		SANDY SHALE		383	479	96	
PENNSYLVANIAN		SANDSTONE		479	525	46	
PENNSYLVANIAN		SANDY SHALE		525	556	31	
PENNSYLVANIAN		COAL		556	558	2	
PENNSYLVANIAN		SANDY SHALE		558	701	143	
PENNSYLVANIAN		COAL		701	703	2	
PENNSYLVANIAN		SANDY SHALE		703	1042	339	
PENNSYLVANIAN		COAL		1042	1044	2	
PENNSYLVANIAN		SANDY SHALE		1044	1900	856	
PENNSYLVANIAN		SANDSTONE		1900	2027	127	
PENNSYLVANIAN		SANDY SHALE		2027	2114	87	
PENNSYLVANIAN		SANDSTONE		2114	2145	31	
PENNSYLVANIAN		SANDY SHALE		2145	2303	158	
PENNSYLVANIAN	LEE	SANDSTONE		2303	2318	15	
PENNSYLVANIAN	RED ROCK	SHALE		2318	2345	27	
PENNSYLVANIAN		SANDSTONE		2345	2370	25	
PENNSYLVANIAN		SANDY SHALE		2370	2396	26	
PENNSYLVANIAN		SANDSTONE		2396	2426	30	
PENNSYLVANIAN		SANDY SHALE		2426	2481	55	
PENNSYLVANIAN		SANDSTONE		2481	2570	89	
PENNSYLVANIAN		SHALE		2570	2670	100	
PENNSYLVANIAN		SANDY SHALE		2670	3022	352	
MISSISSIPPIAN	RAVENCLIFF	SANDSTONE		3025	3240	215	
MISSISSIPPIAN		SHALE	RED	3240	3364	124	
MISSISSIPPIAN		SANDSTONE		3364	3427	63	
MISSISSIPPIAN		SANDY SHALE		3427	3458	31	
MISSISSIPPIAN		SANDSTONE		3458	3500	42	
MISSISSIPPIAN		SANDY SHALE		3500	3583	83	
MISSISSIPPIAN		SANDSTONE		3583	3614	31	
MISSISSIPPIAN		SANDY SHALE		3614	3630	16	
MISSISSIPPIAN	MAXTON	SANDSTONE		3630	4240	610	
MISSISSIPPIAN	LITTLE LIME	LIMESTONE		4240	4578	338	
MISSISSIPPIAN	BIG LIME	LIMESTONE		4578	5145	567	
MISSISSIPPIAN	WEIR	SANDSTONE		5145	5350	205	
MISSISSIPPIAN		SHALE		5350			
					5485 TD		