



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

Tracking Number:	3114
Company:	Range Resources-Pine Mountain
File Number:	RU-0675
Operations Name:	V-530297
Operation Type:	Gas
Drilling Report Type:	Original

DRILLING REPORT (DGO-GO-14)

1. Drilling Data

Date drilling commenced:	<u>11/10/2010</u>	Drilling Contractor:	<u>Phoenix #3</u>
Date drilling completed:	<u>11/17/2010</u>	Rig Type:	<u>R Rotary</u> <u>F Cable</u>
Driller's Total Depth (feet):	<u>5558.00</u>		
Log Total Depth (feet):	<u>5570.00</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>10419468.3600</u>	Final Plat State Plane X:	<u>10419463.3600</u>
Permitted State Plane Y:	<u>3549770.6300</u>	Final Plat State Plane Y:	<u>3549772.9700</u>

Plat Previously Submitted Or... F

List of Attached Items:

Description	FileName
V-530297 final plat	V-530297 FINAL PLAT.pdf

3. Geological Data

Fresh Water At:

Depth (in feet)	Rate	Unit of Measure
48	damp	

Salt Water At:

Depth (in feet)	Rate	Unit of Measure
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Coal Seams:

List of Attached Items:

Description	FileName
V-530297 coals	V-530297 Coal.xls

Gas and Oil Shows:

List of Attached Items:

Description	FileName
V-530297 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?

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

List of Attached Items:

Description	FileName
V-530297 survey	Survey.xls

6. Casing and Tubing Program

List of Attached Items:

Description	FileName
V-530297 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

List of Attached Items:

Description	FileName
V-530297 log	V-530297 Log.xls

9. Comments

drillers log revised. [3/2/2012, jhorne]

Rejected. The driller's log appears to be incomplete. The lowest depth on the log is 5230' by the driller's depth on page 1 is 5558'. Additionally, please indicate who compiled the drillers log in the 'compiled by:' field on page 3. [3/1/2012, cbl]

10. Signature

Permitee: Range Resources-Pine Mountain Date: 3/2/2012

Signed By: Jonathan Horne Title: Engineering Tech

INTERNAL USE ONLY

Submit Date: 3/2/2012

Status: A

Date: 3/5/2012

Final PDF Date: 3/6/2012

Well Coordinates: (Geographic N27)
37.015526° -82.143484°

Latitude 37° 02' 30"

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

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

Longitude 82° 07' 30"

9,530'

V-530007 *

N42°45'W
3950'

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 59.78 Ac. 53.05%

N 05°50' E
382.05'

Lease No. 906889 / T-488
Skeen Sutherland
65.48 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 25.60 Ac. 22.72%

1250'R

② Heartwood Forestland Fund IV, L.P. - surface

① V-530297 *

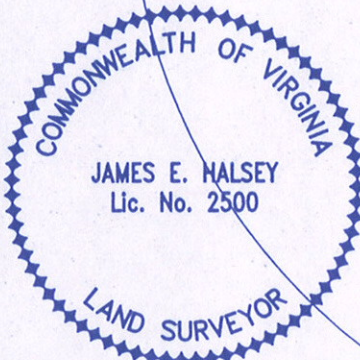
Heartwood Forestland Fund IV, L.P. - surface

S 15°05' W
294.77'

Heartwood Forestland Fund IV, L.P. - surface

CBM
VC-4369 *

③ + 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 27.31 Ac. 24.23%



The undersigned hereby certifies that the final location is within ten (10') feet of the location shown on the well plat dated 8-11-2010.

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 3,549,772.97 E 10,419,463.36

Well Coordinates: (VA St. Plane S. Zone, NAD 27 Calculated from NAD 83)
N 268,897.93 E 936,477.08

Well Coordinates: (Cinchfield Coal Co.)
S 30,737.62 E 69,986.77

WELL LOCATION PLAT

COMPANY Range Resources-Pine Mountain, Inc. WELL NAME AND NUMBER V-530297
TRACT NO. Ls. No. 906889/T-489 ELEVATION 2,475.75' QUADRANGLE Duty
COUNTY Russell DISTRICT Castlewood SCALE 1" = 400' DATE 11-11-2010

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-530297

				MINING IN AREA		
NAME	TOP	BOTTOM	THICKNESS	YES	NO	MINED OUT
COAL	484	488	4		NO	NO

Gas and Oil Shows

FORMATION	DEPTH	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED
Ravenclyff	3788		NS		
Maxton	4358		NS		
Weir	5558		odor		
Weir	5559		TSTM		

Survey Results

Depth of Survey	Direction/Distance/Degree From True Vertical
218'	$1/4^{\circ}$
428'	$1/4^{\circ}$
628'	$1/4^{\circ}$
848'	$1/4^{\circ}$
1028'	$1/4^{\circ}$
1238'	$1/4^{\circ}$
1448'	$1/4^{\circ}$
1658'	$1/4^{\circ}$
1868'	$1/2^{\circ}$
2078'	$1/2^{\circ}$
2288'	$1/2^{\circ}$
2484'	$1/2^{\circ}$
2708'	$1/2^{\circ}$

Casing Program

	Casing	Casing	Hole	Cement Used	Cemented To Surface	Date
Casing Type	Size	Interval	Size	In Cubic Ft.	Yes/No	Cemented
Conductor	13 ³ / ₈ "	0-48'	15"			
Water Protection	9 ⁵ / ₈ "	0-344'	12 ¹ / ₄ "	180 ft ³	Yes	11/11/10
Coal Protection	7"	0-2788'	8 ⁷ / ₈ "	656 ft ³	Yes	11/15/10
Production Casing	4 ¹ / ₂ "	0-5508'	6 ¹ / ₄ "	396 ft ³	No	08/29/09
Other Casing And Tubing Left In Well	2 ³ / ₈ "	0-5453'				
Liners						

Packers Or Bridge Plugs Kind/Size/Set	Cement Baskets (ft)
	126'
	294'
	4954' 5205'

Driller's Log		V-530297					
		General		Depth	Depth		
Geologic Age	Formation	Lithology	Color	Top	Bottom	Thickness	Remarks
		FILL		0	15	15	
PENNSYLVANIAN		SANDY SHALE		15	148	133	
PENNSYLVANIAN		SHALE		148	210	62	
PENNSYLVANIAN		SANDY SHALE		210	484	274	
PENNSYLVANIAN		COAL		484	488	4	
PENNSYLVANIAN		SANDY SHALE		488	2052	1564	
PENNSYLVANIAN		SANDSTONE		2052	2543	491	
PENNSYLVANIAN	REDROCK	SHALE		2543	2595	52	
PENNSYLVANIAN		SANDY SHALE		2595	2631	36	
PENNSYLVANIAN		SHALE		2631	2659	28	
PENNSYLVANIAN		SANDY SHALE		2659	3054	395	
MISSISSIPPIAN	RAVENCLIFF	SANDSTONE		3054	3600	546	
MISSISSIPPIAN	MAXTON	SANDSTONE		3600	4151	551	
MISSISSIPPIAN		LIMESTONE		4151	4178	27	
MISSISSIPPIAN		SHALE		4178	4330	152	
MISSISSIPPIAN	LITTLE LIME	LIMESTONE		4330	4516	186	
MISSISSIPPIAN	BIG LIME	LIMESTONE		4516	5210	694	
MISSISSIPPIAN	BIG INJUN	SANDSTONE		5210	5230	20	
MISSISSIPPIAN	WEIR	SILTSTONE		5230	5455	225	
MISSISSIPPIAN	WEIR SHALE	SHALE		5455	5558	103 TD	