



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: 3123
Company: Range Resources-Pine Mountain
File Number: DI-2464
Operations Name: V-530274
Operation Type: Gas
Drilling Report Type: Original

DRILLING REPORT (DGO-GO-14)

1. Drilling Data

Date drilling commenced: 12/29/2010 Drilling Contractor: Phoenix #3
Date drilling completed: 1/10/2011 Rig Type: Rotary Cable
Driller's Total Depth (feet): 5410.00
Log Total Depth (feet): 5412.00 Formation At Total Depth: Olentangy

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

Permitted State Plane X: 10309625.1400 Final Plat State Plane X: 10309621.8900
Permitted State Plane Y: 3619719.6600 Final Plat State Plane Y: 3619714.6600

Plat Previously Submitted Or...

List of Attached Items:

Description	FileName
V-530274 final plat	V-530274 FINAL PLAT.pdf

3. Geological Data

Fresh Water At:

Depth (in feet)	Rate	Unit of Measure
50	damp	
878	1.5	INCH

Salt Water At:

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

List of Attached Items:

Description	FileName
V-530274 coals	530274_Coal.xls

Gas and Oil Shows:

List of Attached Items:

Description	FileName
V-530274 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-530275 survey	V-530274 gyro survey.xls

6. Casing and Tubing Program

List of Attached Items:

Description	FileName
V-530274 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 Inc.

List of Attached Items:

Description	FileName
V-530274 log	530274_Log.xls

9. Comments

10. Signature

Permittee: Range Resources-Pine Mountain Date: 11/10/2011

Signed By: Jonathan Horne Title: Engineering Tech

INTERNAL USE ONLY

Submit Date: 11/10/2011

Status: A

Date: 11/21/2011

Final PDF Date: 1/24/2012

TOTAL UNIT AREA
= 112.69 ACRES

--- DENOTES MINERAL LINE
- - - DENOTES SURFACE LINE
- · - · DENOTES SURFACE & MINERAL LINES

NOTE !!
SEE WELL PLAT SUPPLEMENT
SHEET 2 FOR TRACT INFORMATION.

LATITUDE 37°12'30"

LONGITUDE 82°30'00"
4776'

KENNETH DOUGLAS & JAN ISAACS
STANLEY - SURFACE

DODSON C. & CREASIE G.
FLEMING - SURFACE

FINAL PLAT

The undersigned hereby certifies that
the final location is within ten (10)
feet of the location shown on the
well plat dated OCTOBER 15, 2010.

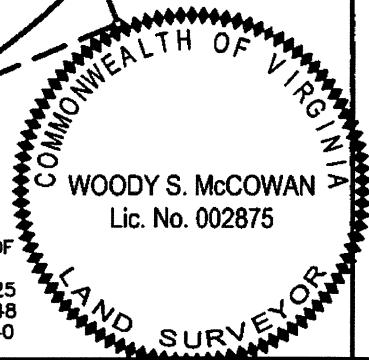
IPS
IPS
N39°42'33"E
272.28'
V-530274

AS-DRILLED
CCC COORDINATES
OF WELL V-530274
N 34683.45
W 42617.62

AS-DRILLED
STATE PLANE
NAD 27 COORDINATES
OF WELL V-530274
N 338837.20
E 826638.84
LAT 37.195209
LON -82.529561
NAD 83 COORDINATES
N 3619714.66
E 10309621.89

NOTE !!!
WELL COORDINATES ARE BASED ON STATE PLANE NAD 83 COORDINATE SYSTEM.
ELEVATIONS ARE BASED ON NGS CONTROL ST. PAUL 2.
PROPERTY INFORMATION PROVIDED BY RANGE RESOURCES. THE BOUNDARY LINES
SHOWN HEREON ARE BASED ON DEEDS, PLATS AND MAPS OF RECORD AND DO NOT
DEPICT A CURRENT BOUNDARY SURVEY.
THE WELL WILL BE DRILLED WITHIN 10' (TEN FEET) OF THE PERMITTED COORDINATES.

COORDINATES OF
BENCH MARK
N 3504914.8125
E 10370404.8448
ELEV. = 1753.40



WELL LOCATION PLAT

COMPANY Range Resources WELL NAME AND NUMBER V-530274
TRACT No. LEASE NO. 906889 ELEVATION 2049.20 QUADRANGLE JENKINS EAST
COUNTY DICKENSON DISTRICT CLINTWOOD SCALE: 1" = 400' DATE JANUARY 4, 2011
THIS PLAT IS A NEW PLAT ; AN UPDATED PLAT ; OR A FINAL LOCATION PLAT
PROPOSED TOTAL DEPTH OF WELL =

+ 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.

Woody S. McCowan 1-4-11
LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR

(AFFIX SEAL)

10885AS-D.DWG



①

Lease No. 906889
J. W. SWINDALL
345.53 ACRES
M & M DEVELOPMENT & RENTAL, INC. - surface
DICKENSON-RUSSELL COAL COMPANY, LLC/ALPHA LAND & RESERVES, LLC/ACIN, LLC/WBRD, LLC - Coal
RANGE RESOURCES-PINE MOUNTAIN, INC. - Oil, Gas
GAS 88.16 AC. - 78.23%

②

Lease No. 906382.00
70 ACRES
M & M DEVELOPMENT & RENTAL, INC. - Surface, Oil, Gas
WM. T. VANOVER
492.43 ACRES
DICKENSON-RUSSELL COAL COMPANY, LLC/ALPHA LAND & RESERVES, LLC/ACIN, LLC/WBRD, LLC - Coal
GAS 4.88 AC. - 4.33%

③

Lease No. 906382.00
6 ACRES
M & M DEVELOPMENT & RENTAL, INC. - Surface, Oil, Gas
WM. T. VANOVER
492.43 ACRES
DICKENSON-RUSSELL COAL COMPANY, LLC/ALPHA LAND & RESERVES, LLC/ACIN, LLC/WBRD, LLC - Coal
GAS 3.29 AC. - 2.92%

④

Lease No. 906382.00
181 ACRES
M & M DEVELOPMENT & RENTAL, INC. - Surface, Oil, Gas
WM. T. VANOVER
492.43 ACRES
DICKENSON-RUSSELL COAL COMPANY, LLC/ALPHA LAND & RESERVES, LLC/ACIN, LLC/WBRD, LLC - Coal
GAS 16.36 AC. - 14.52%



THOMPSON & LITTON

312 Clintwood Main Street
Suite 201
P.O. Box 1869
Clintwood, Virginia 24228

RANGE RESOURCES
WELL No. V-530274
WELL PLAT SUPPLEMENT
SHEET 2

PROJECT No.:
10985 AS-D

SCALE: 1" = 400'

DATE: JANUARY 4, 2011

Coal Seams		V-530277				
				MINING IN AREA		
NAME	TOP	BOTTOM	THICKNESS	YES	NO	MINED OUT
COAL	417	418	1	NO	NO	
COAL	475	476	1	NO	NO	
COAL	606	608	2	NO	NO	

Gas and Oil Shows

FORMATION	DEPTH	THICKNESS	IPF (MCFD/BOPD)	PRESSURE	HOURS TESTED
Ravenclyff	2198		NS		
Maxton	2298		NS		
Little Lime	2408		NS		
Big Lime	2708		NS		
Weir	2828		NS		
Weir	3038		NS		
Weir	3218		NS		
Berea	3428		NS		
Huron	3638		NS		
Huron	3848		NS		
Huron	4058		NS		
Maxton	4268		NS		
Maxton	4478		odor		
Big Lime	5020		odor		

MD	INC	AZ	VS
100.00	1.76	19.50	2.00
200.00	2.96	335.90	5.80
300.00	3.70	330.10	11.00
400.00	5.08	330.80	17.60
500.00	5.81	332.50	26.00
600.00	5.91	334.00	35.10
700.00	4.87	332.80	43.50
800.00	5.34	335.50	51.50
900.00	5.19	353.00	60.20
1000.00	4.80	349.60	68.90
1100.00	4.30	347.30	76.60
1200.00	3.47	348.20	83.20
1300.00	3.38	345.10	89.10
1400.00	7.47	337.70	97.90
1500.00	9.09	334.70	111.10
1600.00	7.54	335.00	124.20
1700.00	7.03	337.80	135.80
1800.00	7.37	335.00	147.30
1900.00	7.46	335.00	159.00
2000.00	8.01	338.20	171.30
2100.00	9.82	336.80	185.60
2200.00	10.15	335.90	201.50
2300.00	9.32	333.50	216.80
2400.00	8.56	332.00	230.60
2500.00	7.84	332.20	243.20
2600.00	7.17	331.10	254.70
2700.00	7.39	331.80	265.80
2800.00	8.25	331.70	277.80
2900.00	9.86	333.80	291.80
3000.00	11.26	334.10	308.30
3100.00	12.34	334.10	326.70
3200.00	11.57	337.60	345.60
3300.00	12.02	339.20	364.60
3400.00	12.93	338.60	384.70
3500.00	13.43	338.30	405.90
3600.00	13.01	337.10	427.10
3700.00	12.83	338.60	447.80
3800.00	14.90	334.50	469.80
3900.00	15.73	333.20	493.50
4000.00	14.93	329.00	516.60
4100.00	13.45	317.00	536.20
4200.00	11.33	302.40	549.90
4300.00	10.84	294.50	559.10
4400.00	10.91	279.50	564.60
4500.00	12.23	268.70	565.90
4600.00	12.95	262.90	564.30

4700.00	13.95	259.50	560.70
4800.00	13.20	268.70	558.20
4900.00	11.78	280.00	559.80
5000.00	9.30	282.00	563.20
5100.00	7.39	280.00	566.00
5200.00	10.12	300.80	571.60
5300.00	10.33	307.90	581.60
5400.00	10.30	311.80	593.10
5405.00	10.49	309.40	593.70

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 "	0-345'	12 ¹ / ₄ "	168 ft ³	Yes	12/30/10
Coal Protection	7"	0-1696'	8 ⁷ / ₈ "	567 ft ³	Yes	01/04/11
Production Casing	4 ¹ / ₂ "	0-5304'	6 ¹ / ₄ "	336 ft ³	No	01/11/11
Other Casing And Tubing Left In Well	2 ³ / ₈ "	0-5118'				
Liners						

Packers Or Bridge Plugs Kind/Size/Set	Cement Baskets (ft)
	168'
	294' 546'
	3747'

Driller's Log	V-530274						
		General		Depth	Depth		
Geologic Age	Formation	Lithology	Color	Top	Bottom	Thickness	Remarks

		SPOIL		0	10	10	
PENNSYLVANIAN		SANDY SHALE		10	417	407	
PENNSYLVANIAN		COAL		417	418	1	
PENNSYLVANIAN		SANDY SHALE		418	475	57	
PENNSYLVANIAN		COAL		475	476	1	
PENNSYLVANIAN		SANDY SHALE		476	606	130	
PENNSYLVANIAN		COAL		606	608	2	
PENNSYLVANIAN		SANDY SHALE		608	968	360	
PENNSYLVANIAN	LEE	SANDSTONE		968	1352	384	
PENNSYLVANIAN		SHALE		1352	1571	219	
PENNSYLVANIAN	RED ROCK	SHALE		1571	1670	99	
MISSISSIPPIAN	RAVENCLIFF	SANDSTONE		1670	1840	170	
MISSISSIPPIAN	MAXTON	SANDSTONE		1840	2060	220	
MISSISSIPPIAN		SHALE		2060	2140	80	
MISSISSIPPIAN	BIG LIME	LIMESTONE		2140	2630	490	
MISSISSIPPIAN	WEIR	SILTSTONE		2630	2812	182	
MISSISSIPPIAN	WEIR SHALE	SHALE		2812	3025	213	
MISSISSIPPIAN	SUNBURY	SHALE		3025	3092	67	
MISSISSIPPIAN	BEREA	SANDSTONE		3092	3160	68	
DEVONIAN	CLEVELAND	SHALE		3160	3348	188	
DEVONIAN	UPPER HURON	SHALE		3348	3428	80	
DEVONIAN	MIDDLE HURON	SHALE		3428	3659	231	
DEVONIAN	LOWER HURON	SHALE		3659	3843	184	
FAULT							
MISSISSIPPIAN	WEIR	SILTSTONE		3843	3970	127	
MISSISSIPPIAN	WEIR SHALE	SHALE		3970	4140	170	
MISSISSIPPIAN	SUNBURY	SHALE		4140	4231	91	
MISSISSIPPIAN	BEREA	SANDSTONE		4231	4351	120	
DEVONIAN	CLEVELAND	SHALE		4351	4539	188	
DEVONIAN	UPPER HURON	SHALE		4539	4653	114	
DEVONIAN	MIDDLE HURON	SHALE		4653	4870	217	
DEVONIAN	LOWER HURON	SHALE		4870	5127	257	
DEVONIAN	OLENTANGY	SHALE		5127			

TD: 5405