Operator: Penn-Ohio Gas Co. Farm: Clinchfield Coal Co. Well No.: 1 (272)

Location: Russell County 10,600' N of 37°00'

6,000' E of 82°10'

Elevation: 2075'

Total Depth: 6160'

Remarks: Geologic log by Marshall S. Miller, samples borrowed from West Virginia Geological Survey. Cuttings are generally poor, consisting of 20 to 100 foot intervals. Well has been logged by J. H. C. Martens, and published in A. A. P. G. Bulletin, Vol. 27, No. 11, November, 1943. Part of the drillers log is published and interpreted by J. Martens and included below.

Depth	Thickness	Description
0- 26	26'	G <b>r</b> avel
26- 36	10'	Slate
36- 55	19'	Lime, hard, sandy (probably siltstone)
55- <b>6</b> 0	5'	Coal
60- 65	51	Shale, sandy
65- 67	2'	Coal
67- 74	7'	Shale
74- 80	6'	Coal and slate
80- 85	5'	Coal
85- 92	7'	Slate
92-125	33'	Sandstone, hard
125-153	28'	Sandstone
153-156	3'	Lime (probably siltstone)
156-190	34'	Lime, sandy (probably siltstone)

190-220	30'	Shale, sandy
220-222	21	Coal
222-278	56'	Sandstone
234-278	44'	Sandstone, white, medium grained, occasionally coarse grained, subangular, moderately sorted, with scattered loose argillaceous material, dark rock fragments, and carbonaceous material, possibly quartzose sand with con- tamination from above, but difficult to determine because of poor sample
278-279	1'	Coal, drillers log, Martens
279-324	45'	Sandstone, light gray, fine to medium grained, subround to subangular, poorly sorted, with considerable amount of dark, argillaceous material, muscovite, chlorite, siderite and traces of feldspar
324-406	82'	Shale, dark gray, silty, finely micaceous, with a fine grained, micaceous sand in upper 20'
406-452	46'	Sandstone, gray, fine grained, silty, micaceous, with abundant argillaceous material and dark rock fragments, minor stringers of shale and siltstone
452-454	2'	Coal, drillers log, Martens
454-482	2 8'	Sandstone, as in 406-452
482-510	28'	Sandstone, white to light gray, fine grained to very fine grained, subangular, moderately sorted, with scattered muscovite, coaly material and dark rock fragments
510-557	47'	Shale, dark gray to gray, locally silty with minor amounts of white, coarse grained, subangular quartz sand
557-558	1'	Coal, drillers log, Martens

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558-606	48'	Shale, as in 510-557, with continued presence of quartz sand
606-613	7'	Shale, black, carbonaceous, silty
613-619	6'	Coal, drillers log, Martens
619-625	6'	Shale, gray, silty, finely micaceous with minor amount of light gray, fine grained, micaceous, sandstone
625-666	41'	Sandstone, light gray to gray, fine grained, silty, micaceous with minor amounts of gray, silty shale
666-668	21	Coal, drillers log, Martens
668-730	621	Shale, dark gray, silty
730-751	21'	Sandstone, gray, fine to very fine grained, silty, micaceous, with abundant argillaceous material
751-753	2'	Coal, hard, bony
753-770	17'	Siltstone, gray, locally shaly
770-780	10'	Sandstone, gray, very fine to fine grained, with minor amount of dark gray shale
780-782	2'	Coal, drillers log, Martens
782-847	65'	Sandstone, according to Martens, gray, very fine grained, with minor amounts of shale and siltstone (A large sample interval with only a small amount of cuttings)
847 <b>-</b> 865	18'	Shale, dark gray
865-881	16'	Sandstone, gray to light gray, fine to very fine grained, subangular to subround, poorly sorted, interstitially silty, with considerable amount of argillaceous material, muscovite and traces of feldspar
881-883	21	Coal mh

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883 - 885	2'	Shale, dark gray to black
885-911	26'	No samples
911-916	5'	Shale, black, carbonaceous, with plant fossil fragments
916-935	19'	Interbedded; sandstone and shale; sandstone, light gray, fine grained, silty; shale, dark gray
935 <b>-</b> 1026	91'	Sandstone, light gray, fine to medium grained, subangular, poorly sorted, with abundant muscovite, biotite, reddish iron-minerals, limonite stains and clay and silt matrix material. Coal 949-951 WC
1026-1070	44'	Siltstone, dark gray, locally shaly and carbonaceous
1070-1109	39'	Sandstone, light brown, medium grained, argillaceous, micaceous, silty with traces of feldspar, minor amount of gray siltstone
1109-1133	24'	Sandstone, light gray to white, moderately quartzose, fine to medium grained, sub- angular, poorly sorted, small amount of matrix material, scattered muscovite, iron minerals, and dark rock fragments, about 80% quartz
1133-1135	21	Coal, drillers log, Martens
1135-1172	37'	No samples
1172-1269	97'	Interbedded; shale and sandstone; shale, gray, dark gray, silty; sandstone, gray, fine grained, silty, argillaceous (only 1 sample)
1269-1280	11'	Shale, dark gray, silty
1280-1370	90'	Sandstone, white, quartzose, fine to medium grained, and locally conglomeratic, subangular to subround, poorly sorted, little or no matrix material, rare dark rock fragments
1370-1376	6'	Sandstone, as in 1280-1370, but slightly silty and micaceous

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1376-1407	31'	Sandstone, white, (but locally iron stained), quartzose, medium grained to granular, poorly sorted, little to no matrix material, rare dark rock fragments
1407-1411	4'	Interbedded; shale and sandstone; shale, dark gray, finely micaceous; sandstone, light gray, with abundant clay and silt matrix material, micaceous, with abundant coaly material, dark rock fragments, and reddish iron minerals
1411-1435	24'	Sandstone, light brown, fine to medium grained, subangular, poorly sorted, interstitially silty, micaceous, with abundant argillaceous material
1435-1440	5'	Sandstone, white, quartzose, medium grained to granular, poorly sorted, no matrix material, rare dark rock fragments
1440-1460	20'	No samples
1460-1463	3'	Sandstone, white, quartzose, fine grained, subrounded, well sorted
1463-1468	5'	No samples
1468-1473	5'	Shale, dark gray, silty
1473-1476	3'	Shale, dark gray, silty with equal amounts of gray, coarse grained sand
1476-1478	2'	Coal, silty with plant fossils
1478-1498	20'	Sandstone, light gray, medium to coarse grained, subangular, poorly sorted, with abundant muscovite, and dark, argillaceous material
1498-1530	32'	Shale, dark gray, silty, finely micaceous
1530-1564	34'	Sandstone, gray, very fine to fine grained, subangular, poorly sorted, micaceous, with abundant reddish iron minerals, dark rock fragments, traces of feldspar and clay and silt matrix material

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1564-1565	1'	Coal, drillers log, Martens
1565-1593	28'	Sandstone, light gray, fine grained, sub- round, moderately sorted, micaceous, and silty with abundant iron minerals and dark rock fragments
1593-1597	4'	Sandstone, light gray to white, fine grained with large muscovite flakes, iron minerals and dark rock fragments
1597-1704	107'	Sandstone, white, moderately quartzose, medium grained to conglomeratic, sub- angular, poorly sorted, with scattered mus- covite, chlorite, and dark rock fragments, clay matrix, and about 80% quartz
1704-1718	14'	Shale, dark gray, silty
1718-1743	25'	Sandstone, light gray, fine grained, subangular to subround, moderately sorted, interstitially silty with abundant clay and silt matrix material, and dark rock fragments
1743-1785	42'	Shale, dark gray, silty
1785-1788	3'	Coal, pure, good conchoidal fracture, driller PZ notes coal 1785-1788
1788-1800	12'	Shale, black, carbonaceous
1800-1804	4 <sup>1</sup>	Coal, pure, high luster, also noted by driller $ ho$ 3
1804-1820	16'	Shale, black, carbonaceous
1820-1834	14'	Shale, dark gray, finely micaceous
1834-1864	30'	Interbedded; sandstone and shale; sandstone, light gray, fine to medium grained, subround to subangular, moderately sorted, with scattered coal fragments, dark rock fragments, muscovite, traces of feldspar, abundant clay matrix material; shale, dark gray, silty

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Sandstone, light gray to white, fine to coarse grained, subangular, poorly sorted, with calcareous clay matrix material, scattered muscovite, coaly material and dark rock fragments

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Red and green calcareous shales

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