

Operator: Clinchfield Coal Company
 Farm: Virginia Iron, Coal and Coke Company
 Well No. : 215

Location: Dickenson County
 3550' S of 37°00'
 10,300' E of 82°25'

Elevation: 2244'

Total Depth: 5481'

Remarks: Well has been sufficiently logged by K. Robinson, VDMR. Except for the additions and descriptions below, the geologic log by Robinson is referred to for all correlations. The summary below was prepared by Marshall S. Miller, to determine: the presence of Lee quartzose sands; identify all coal horizons; distinguish the Pocahontas Formation.

<u>Depth</u>	<u>Thickness</u>	<u>Description</u>
208-209	1'	Coal, silty, impure
1195-1200	5'	Sandstone, white, quartzose, medium to coarse grained, moderately to poorly sorted, subangular to round, with rare muscovite, chlorite, and few dark rock fragments, small amount of clay matrix material, about 90% quartz, 5% matrix, 5% rock fragments, less than 1% accessory minerals
1200-1213	13'	Sandstone, white, quartzose, medium grained, subrounded, moderately well sorted, no visible matrix material, some dark rock fragments, 95 to 100% quartz, 0 to 5% rock fragments
1213-1252	39'	Sandstone, white, quartzose, fine to medium grained, occasionally coarse grained, subangular to subround, moderately to poorly sorted, little or no matrix material, few dark rock fragments, quartzite, about 95% quartz
1252-1266	14'	Sandstone, white, quartzose, coarse grained to granular and conglomeratic, subangular to subround, little or no matrix material, 95% quartz
1266-1274	8'	Sandstone, white, quartzose, fine to medium grained, subrounded, moderately sorted, no matrix material, basal 3' is conglomeratic

2004-2010	6'	Sandstone, white, quartzose, medium grained to granular and conglomeratic, subangular, poorly sorted, no matrix material, 95% quartz
2010-2015	5'	Sandstone, white, quartzose, medium grained to granular, subangular to subround, poorly sorted, little matrix material, rare muscovite, scattered dark rounded rock fragments
2015-2019	4'	Sandstone, as in 2010-2015, conglomeratic
2019-2055	36'	Sandstone, white, quartzose, fine to medium grained, occasionally coarse grained, subangular to subround, moderately sorted, rare dark rock fragments, little or no matrix material, generally 95% quartz
2055-2073	18'	Sandstone, white, quartzose, medium to granular grained, subangular, poorly sorted, rare dark rock fragments, little or no matrix material, 95% quartz
2073-2081	8'	Sandstone as in 2055-2073, conglomeratic
2081-2099	18'	Sandstone as in 2055-2073, no conglomerate quartz pebbles
		- unconformity -
2099-2100	1'	Coal, silty, shaly, impure
2100-2123	23'	Shale, dark gray, carbonaceous, finely micaceous with scattered plant fossils
2123-2207	84'	Sandstone, light gray to grayish brown, fine to medium grained, subangular to subround, poorly sorted to moderately sorted, with abundant clay-silt matrix, generally micaceous (muscovite and chlorite, rare phlogopite) abundant micaceous-carbonaceous partings, about 65% quartz, with traces of feldspar, 20% matrix
2207-2221	14'	Coal, pure to impure, dull to high vitreous luster
2221-2226	5'	Sandstone, as in 2123-2207

- 2226-2237 11' Coal, pure, good vitreous luster, conchoidal and blocky fracture, abundant plant fossil and rootlets
- 2237-2295 58' Shale, dark gray, gray, silty, hard, and brittle, finely micaceous, locally carbonaceous. A few thin interbeds of gray, fine grained, micaceous, carbonaceous sandstones
- 2295-2344 49' Sandstone, light gray, very fine grained, subround to subangular, very silty with rare mica and with finely dispersed carbonaceous material
- 2344-2446 102' Sandstone, light tan to white, generally medium grained, but occasionally fine grained and coarse grained, subangular to round, generally poorly sorted, very rare micas, and carbonaceous material, and locally iron stained throughout, appears to be quartzose, over 90% quartz, with 5 to 10% matrix material with no traces of feldspar. (X-ray of three separate horizons of this interval indicated a quartzose sand with no feldspar. Clay matrix material (kaolinite and illite) was present.) Intervals 2348-2350, 2368-2371, and 2383-2386 were compared with a sample (2973-2081) from the basal Lee quartzose member.
- 2446-2449 53' Shale, gray, hard, brittle, locally carbonaceous and sandstone stringers, gray, fine grained, micaceous, silty and carbonaceous
- 2449 Red siltstone... Bluestone Formation

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Remarks: Location and elevation of well with reference to: coal geology along McClure River; measured section No. 180; and core No. 34 as published in the Dickenson County Report; indicate that well spudded in about 80' above the Upper Banner coal. Correlations by Marshall Miller, 1970-74, VDMR.

<u>Formation</u>	<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>
Pennsylvanian System			
Post Lee Formation "in at surface"		1195	1195'
		Upper Banner coal 96-100	
		Upper Banner "bench" 110-113	
		Lower Banner coal "bench" 208-209	
		Lower Banner coal 261-264	
		Kennedy coal horizon at 465'	
		Jawbone coal 875-877	
		Tiller coal 902-905	
Lee Formation	1195	2099	904'
		War Creek coal horizon at 1650'	
		quartzose sand 1195-1274	79'
		quartzose sand 2004-2099	95'
		total quartzose sand	174'
Pocahontas Formation	2099	2496	397'
		Pocahontas #4 coal 2207-2221	
		Pocahontas #3 coal 2226-2237	
Mississippian System			
Bluestone Formation	2496	2971	475'
Pride Shale	2717	2971	254'
Princeton Interval	2971	3130	159'
Little Stone Gap Member	3130	3200	70'
Stony Gap Sand?	3662	3779	117'
Greenbrier Formation	4332	4852	520'
Maccrady	4852		