

Operator: Clinchfield Coal Co.
 Farm: Isaac Cochran
 Well No.: 205
 Index No.: 12
 Location: Dickenson County
 5000' N of 37°10'
 550' W of 82°20'
 Elevation: 1356.3'

Remarks: Elevation and location of well site with reference to: coal correlations along McClure River Basin NE of Caney Creek; and measured sections 107, 112, and 80; indicate that well spudded in about 300' below the Splash Dam coal, about 200' below the upper Banner coal and about 20' above the Kennedy coal.

| <u>Formation</u> | <u>Top</u> | <u>Bottom</u> | <u>Thickness</u> |
|------------------------------------|------------|---|------------------|
| Pennsylvanian System | | | |
| Post Lee Formation "in at surface" | | 627 | 627' |
| | | Kennedy coal 30-31 *Noted by driller | |
| | | Aily coal 150-151 | |
| | | Raven coal 218-221 | |
| | | Jawbone coal horizon at 380' (See Englund also) | |
| Lee Formation | 627 | 1540 | 913' |
| | | quartzose sand 627-695 | 68' |
| | | quartzose sand 754-764 | 10' |
| | | quartzose sand 940-1030 | 90' |
| | | War Creek coal horizon at 1140' | |
| | | quartzose sand 1383-1412 | 29' |
| | | quartzose sand 1470-1540 | 70' |
| | | total quartzose sand | 267' |
| Pocahontas Formation | "absent" | | |
| Mississippain System | | | |
| Bluestone Formation | 1540 | 2075 | 535' |
| Pride Shale | 1820 | 2075 | 255' |
| Princeton Interval | 2075 | 2255 | 180' |

Correlations by Marshall Miller, 1970-74, VDMR.

| | | | |
|-----------------------|------|------|------|
| Little Stone Gap Mem. | 2255 | 2282 | 27' |
| Maxon Sands | 2405 | 2428 | 23' |
| | 2602 | 2655 | 53' |
| | 2678 | 2688 | 10' |
| | 2808 | 2825 | 17' |
| Greenbrier Formation | 2875 | 3495 | 620' |
| MacCrary | 3495 | | |

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Elevation: 1356.3'

Total Depth: 5367'

Geologic log supplement by Marshall S. Miller, Jan., 1972. Previous geologic log by J. M. Wilson, Nov., 1962. Except for the description below, the geologic log of Wilson's is referred to for formational boundaries.

| <u>Depth</u> | <u>Thickness</u> | <u>Description</u> |
|--------------|------------------|---|
| 30- 31 | 1' | Coal, noted by driller but not visible in cuttings, probably due to large sample interval (20-50). All other coal seams noted by driller in this well were confirmed in the cuttings. |
| 31-150 | 119' | Sandstone, light gray, fine to medium grained, subangular to subround, moderately to poorly sorted, with consistent amount of muscovite, dark rounded rock fragments, clay-silt matrix material (kaolinite verified by X-ray) and small amount of feldspar, (plagioclase, possibly 5%, verified by X-ray), scattered carbonaceous material present, about 80% quartz, 5% feldspar, 5% rock and accessory mineral fragments, 10% matrix material |
| 627-677 | 50' | Sandstone, white, quartzose, fine to medium grained, occasionally coarse grained, subround to subangular, moderately sorted, scattered dark rock fragments, little to no matrix material, 90% quartz, 5% matrix, 5% rock fragments |
| 677-695 | 18' | Sandstone, white, quartzose, coarse grained to granular and conglomeratic, poorly sorted with small amount of calcareous matrix material, secondary quartz overgrowths are visible, over 95% quartz (pure quartz sand verified by X-ray) |

| | | |
|-----------|-----|--|
| 754-764 | 10' | Sandstone, white, quartzose, fine to coarse grained to granular and conglomeratic, sub-angular to round, poorly sorted, little or no matrix material, over 95% quartz, pure quartz sand verified by X-ray |
| 940-1030 | 90' | Sandstone, white, quartzose, medium grained to granular, rounded to subangular, poorly sorted, scattered dark rock fragments, small amount of matrix material, rare muscovite, over 90% quartz (quartz sand verified by X-ray), basal 20' is conglomeratic |
| 1383-1412 | 29' | Sandstone, white, quartzose, fine grained to granular, subround to subangular, poorly sorted, with rare rock fragments and matrix material |
| 1412-1422 | 10' | Siltstone, as described by Wilson, also coal present in cuttings, driller notes coal 1420-1421 |
| 1422-1440 | 18' | Shale, dark gray, silty, finely micaceous |
| 1440-1470 | 30' | Coal, mostly, although doubtful if 30' of coal is present; coal has high vitreous luster, blocky fracture, generally pure |
| 1470-1502 | 40' | Sandstone, white, quartzose, medium to coarse grained, subround, moderately sorted, small amount of matrix material, rare dark rock fragments, over 95% quartz |
| 1502-1540 | 38' | Sandstone, as in 1470-1502, and conglomeratic |
| 1540-1621 | 81' | Shale, gray to brownish gray to brown, calcareous, generally silty |
| 1621 | | Shale, red, green and gray, calcareous |