

Operator: Pipe Line Const. and Drilling Co.

Farm: F. H. Curtis

Well No.: 2-A

Index No.: 18

Buchanan County

1650' N of 37° 20'

8150' W of 82° 00'

Elevation: 2009.8'

Total Depth: 6453'

Remarks: Elevation and location of well site with reference to: measured section O. 627; Mill Creek core 1/4 mile S.; Elkins Creek core 1 mile E., and coal geology along Slate Creek; indicate that well located about 15' below the Eagle coal, about 55' above the Blair coal, 120' above the Dorchester coal, 430' above the Splash Dam coal, and 720' above the Kennedy 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" | | 1345 | 1345' |
| Eagle coal at -15' | | | |
| Blair coal 20-24' | | | |
| Hagy coal 330-331' | | | |
| Splash Dam coal 449-451' | | | |
| Upper Banner coal 499-500' | | | |
| Kennedy coal at 740' | | | |
| Raven coal at 1016' | | | |
| Upper Seaboard coal 1192-1193' | | | |
| Upper Horsepen coal 1500-1501' | | | |
| War Creek coal at 1634' | | | |
| Lower Horsepen coal 1775-1776' | | | |
| Lee Formation | 1345 | 2033 | 688' |
| Middle Member (1345-1375) | | | |
| quartzose sand 1345-1375 | | | 30' |
| Lower Member (1903-2033) | | | |
| quartzose sand 1903-2033 | | | 130' |
| Pocahontas Formation | 2033 | 2274 | 241' |
| Pocahontas #4 coal absent | | | |
| Pocahontas #3 coal absent | | | |
| Pocahontas coals 2125-2130, 2073-2075, 2050-2053 | | | |

Mississippian System

| | | | |
|-------------------------|------|-----------------------------------|------|
| Bluestone Formation | 2274 | 2594 | 320' |
| Pride Shale | 2403 | 2594 | 131' |
| Princeton Interval | 2594 | 2880 | 286' |
| Little Stone Gap Member | 2880 | 2905 | 25' |
| Stony Gap Sandstone | 3230 | 3292 | 62' |
| Greenbrier Formation | 3540 | ³⁹⁹ 4007 | 467' |
| MacCrady | 4007 | <u>2009</u> 1998 | |

Operator: Pipe Line Construction and Drilling Co.

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Well No.: 2-A

VDMR No.: W-5

Index No.: 18

Elevation: 2009.8'

Remarks: Well has been logged sufficiently by Bowen (VPI) and Voigtsberger (USGS). Their descriptions were reviewed and the cuttings observed by microscope by Marshall S. Miller. Particular study was done on the Pennsylvanian section to determine: the presence of Lee quartzose sands; the Pocahontas Formation; and all coal horizons.

*No significant Lee quartzose sands were observed until a depth of 1903'. The upper and middle quartzose members of the Lee Formation are not present in this well.

| <u>Depth</u> | <u>Thickness</u> | <u>Description</u> |
|--------------|------------------|--|
| 20-24 | 4' | Coal, noted by driller, but interval not available in cuttings; probably the Blair coal. |
| 330-331 | 1' | Coal, pure to impure, vitreous luster, conchoidal and blocky fracture; the Haggy coal |
| 449-451 | 2' | Coal, dull, silty, bony and impure; depth and thickness from drillers log; the Splash Dam coal |
| 499-500 | 1' | Coal, shaly, impure; possibly the Upper Banner coal |
| 909-910 | 1' | Coal, shaly, impure |
| 1192-1193 | 1' | Coal, pure to impure, blocky fracture |
| 1237-1345 | 108' | Shale, as described by R. J. Voigtsberger |
| 1345-1367 | 22' | Sandstone, light gray to white, fine to very fine grained, subround, moderately to well sorted, scattered muscovite, dark rock fragments, coaly silt laminations, clay-silica matrix, about 90% quartz. Interbedded with a gray, silty shale |

- | | | |
|-----------|----|---|
| 1367-1375 | 8' | Sandstone, white, fine grained, subround, well sorted, scattered dark rock fragments, and micas, 90% quartz, 5% matrix, 5% rock fragments |
| 1375-1382 | 7' | Sandstone, gray to light gray, fine to medium grained, subangular to subround, poorly sorted, with abundant muscovite, biotite, dark carbonaceous material, abundant clay-silt matrix, about 65% quartz |
| 1382-1388 | 6' | Shale, as described by R. S. Voigtsberger |
| 1500-1501 | 1' | Coal, pure, high vitreous luster, blocky and conchoidal fracture |
| 1775-1776 | 1' | Coal, dull, shaly, impure (depth and thickness from drillers log) |

| | | |
|------------|-----|--|
| *1903-1942 | 39' | Sandstone, white, quartzose, fine to medium grained, occasionally coarse grained, subangular to subround, poorly to moderately sorted. Interval 1903-1919 is contaminated with gray siltstone from above. |
| *1942-1955 | 13' | Sandstone, white, quartzose, medium to coarse grained to granule and conglomeratic, subangular to subround, poorly sorted |
| *1955-1957 | 2' | Sandstone, white, quartzose, fine to coarse grained, subangular to subround, moderately to poorly sorted |
| *1957-1977 | 20' | Sandstone, white, quartzose, medium to coarse grained to granule, subangular to subround, poorly sorted, conglomeratic (1957-1972) |
| 1977-1981 | 4' | No sample |
| *1981-1985 | 4' | Sandstone, white, quartzose, medium grained, subrounded, well sorted |
| 1992-2008 | 16' | Sandstone, white, quartzose, fine to coarse grained to granule, subangular, poorly sorted |
| *2008-2013 | 5' | Sandstone, white, quartzose, fine to medium grained, subround to subangular, moderately sorted |
| *2013-2018 | 5' | Sandstone, white, quartzose, medium to coarse grained to granule, and conglomeratic, subangular, poorly sorted |
| *2018-2033 | 15' | Sandstonw, white, quartzose, fine grained, subround to subangular, well sorted |
| 2033-2047 | 14' | Sandstone, light gray, very fine to medium grained, subangular, poorly sorted, considerable muscovite present, abundant clay-silt matrix, dark gray carbonaceous and argillaceous material, also lesser amounts of chlorite, biotite, phlogopite, feldspar, and coal |
| 2047-2050 | 3' | Shale, gray, silty, locally carbonaceous |

- 2050-2053 3' Coal, a very good show, dull to vitreous luster, generally pure, but some is bony, silty, with occasional fossil rootlets, irregular fracture. Depth and thickness from drillers log, although coal makes up greater part of sample from 2055-2065
- 2053-2089 36' Sandstone, like previous sand interval (2033-2047) but more "speckled" with finely dispersed carbonaceous material, continues fine grained, poorly sorted, micaceous and nonquartzose. Possibly another coal present (2073-2075); abundant coal in this interval and continued several feet below this interval
- 2089-2136 47' Shale, gray, dark gray, locally carbonaceous, with occasional siderite nodules. A coal is present in this interval, and noted by driller at (2125-2130)
- 2136-2157 21' Sandstone, white to light gray, very fine to fine grained, subangular to subround, moderately sorted, interstitially silty, with finely dispersed carbonaceous material, coaly laminations, fine grained muscovite, and traces of feldspar. Appears to be high in quartz percentage.
- 2157-2274 117' Sandstone, white, fine grained, but with less coaly material and clay and silt matrix material, appears quartzose, subround, well sorted, with traces of feldspar, dark pebbly argillaceous material occurs locally with sand, calcareously cemented for the most part
- 2274 Red and green calcareous shales