

VDMR Well Number: W-2335

Operator: A & R Oil Company  
Farm: Martin  
Well Number: 1-A  
Elevation: ± 230 feet  
Total Depth: 620 feet (Sample TD)  
County: Chesterfield  
Logged by: G.P. Wilkes 8/2/79

Geologic Log

<u>Depth (Feet)</u>	<u>Description</u>
0-10	Sand - very fine to very course grained, subround, poorly sorted, mixed with red clay, unconsolidated.
10-20	Clay - yellow, minor quartz sand (fine grained, subround).
20-30	Sandstone - yellow, fine to very course grained, subround.
40-50	Sandstone - grey, very fine grained, moderate sorting, trace muscovite.
50-60	Sandstone - grey and clear, very fine to very course grained, subround to round.
60-70	Sandstone - grey, fine to very course grained, subangular, muscovite common.
70-80	Sandstone - clear, fine to very course grained, subround.
80-90	Sandstone - grey, fine to course grained, subround.
90-110	Sandstone - clear and white, course and very course grained, subround, trace muscovite.
110-120	Sandstone - clear and white, fine to very course grained.
120-140	Sandstone - grey, white and clear, course and very course grained, subround, traces of chlorite and muscovite.
140-150	Sandstone - white and clear, medium grained, subround, moderate sorting.
150-160	Shale - grey, muscovite common, with sand (white, very course grained, subround).
160-170	Shale - grey, muscovite common.

- 170-180 Sandstone - clear and white, course and very course grained, subround.
- 180-190 Shale - grey, muscovite common, trace biotite.
- 190-210 Sandstone - white, light grey and clear, fine to very course grained, subround, trace of muscovite.
- 210-230 Sandstone - white and clear, medium to very course grained, subround to round, with shale (light grey, muscovite common).
- 230-240 Sandstone - white and clear, medium and very course grained, subround.
- 240-250 Shale - grey, muscovite common.
- 250-260 Siltstone - medium grey, abundant muscovite, with sandstone stringers (white and green, subround, medium to very course grained).
- 260-270 Shale - medium to dark grey, muscovite common, some siltstone.
- 270-280 Sandstone - white, course grained, subround, trace of muscovite, well sorted.
- 280-290 Sandstone - clear and white, medium and fine grained, subangular and subround, well sorted.
- 290-300 Sandstone - white and light grey, medium to very course grained, subround to round.
- 300-310 Sandstone - light grey, fine to course grained, subangular.
- 310-320 Sandstone - clear and white, medium and course grained, subround.
- 320-330 Shale - dark grey, trace of muscovite .
- 330-360 Shale - dark grey, trace of muscovite, with siltstone stringers (light and medium gray).
- 360-370 Shale and Sandstone interbedded - Shale (medium grey, muscovite common); Sandstone (course grained, white, subangular to angular, well sorted).
- 370-400 Shale and Sandstone interbedded - Shale (medium grey, muscovite common); Sandstone (white, course to medium grained, subangular, moderate sorting).
- 400-410 Shale and Sandstone interbedded - Shale (medium grey, muscovite common); Sandstone (white, medium to fine grained, subangular).
- 410-440 Sandstone - white and clear, medium to very course grained, subangular, thin shale stringers intermittant from 420 to 440 feet.

- 440-450 Shale - grey, trace of muscovite, with sandstone stringers (white and clear, coarse grained, subangular).
- 450-460 Shale and Siltstone interbedded - grey, muscovite common, with sandstone stringers (white and clear, medium grained, subangular, well sorted).
- 460-470 Sandstone and Shale interbedded - Sandstone (white and clear, medium to very coarse grained, subangular); Shale (medium grey, trace of muscovite).
- 470-480 Shale - light grey, trace of muscovite, trace of siltstone and coal.
- 480-540 Sandstone and Shale interbedded - Sandstone (white and clear, medium to coarse grained, subangular); Shale (light and dark grey, trace of muscovite); with trace of coal at 490-500 and 510-520.
- 540-570 Sandstone and Shale interbedded - Sandstone (clear and white, medium to very coarse grained, subangular, minor iron staining on grains); Shale (grey, minor amount of muscovite).
- 570-620 Sandstone and Shale interbedded - Sandstone (white and clear, medium to very coarse grained, subangular, abundant iron staining or grains); Shale (gray). (Sample TD 620 feet)