

I.D. NUMBERS

OPERATOR: Shell Oil Co. et.al.  
FARM: R.H. Whetzel  
WELL NUMBER: 1  
LOCATION: Rockingham Co., Bergton 7.5' quad  
LAT.: 25,000' S. of 38° 50'  
LONG.: 11,000' W. of 78° 55'  
ELEVATION: 1,465'  
TOTAL DEPTH: 14,176'  
DRILLING COMMENCED: 8 July 1965  
WELL COMPLETED: 4 Nov. 1965  
RESULT: Dry Hole

V.D.M.R. 1432  
OIL & GAS  
INSPECTOR RO-16  
API 45-165-20007-00-03

LOGGED BY Bartlett & Associates  
(THB)

GEOLOGIC LOG

<u>INTERVAL</u>	<u>DESCRIPTION</u>
3220-30	Siltstone, m. dk. gy., calcareous, thin bedded, bk. carbonaceous fossil fragments, rare fossil impression fragments; minor pyrite; rare thin white calcite veins.
3230-40	Siltstone, as above to shale, bk to v. dk. gy, thin bedded, carbonaceous, silty v. slightly calcareous; minor pyrite and rare white calcite veins.
3240-50	Shale as above w/ minor siltstone.
3250-60	Shale as above; Sandstone, white to lt. gray, medium to med. fine to fine grained; angular to subangular w/ concoidal fracture, minor ams. subrounded w/ frosted surfaces: most of sample disaggregated - the few rock fragments present are dense quartzite, slightly calcareous; about 60% of sample is shale, 40% sandstone or sand grains.
3260-70	Shale, as above, pyrite common, about 75% of sample; Sandstone, lt. gray to white, med. grained, fairly well-sorted, clean, w/ calcite cement, fairly tight, subangular, clear to slightly frosted grains; most of sandstone disaggregated.
3270-80	Shale and sandstone, as above, about 50-50%. shale probably cavings.
3280-90	As above.
3290-3300	As above.
3300-3310	As above, some slickensides on shale fragments.
3310-20	Shale, 60%; Sandstone, 40%, fn. grained, otherwise lithologies as above.
3320-3330	As above, shale has slickensides.
3330-40	As above, about 50-50% sandstone/shale; shale slickensided.

- 3340-50 Sandstone, white to clear, fine to v. fine grained, angular to subangular, clean, some frosting of grains but most are glassy, interlocking crystals w/ v. slight intercrystalline calcite, a few medium-sized grains; w/ about 20% shale.
- 3350-60 As above, about 30% shale.
- 3360-70 As above, w/ noteable amts. of iron-oxide orange-brown staining on many grains.
- 3370-80 As above, including iron oxide stain plus small bits of iron from drilling tools . Very minor calcite in the quartzite.
- 3380-90 Sandstone, white-off white-lt. brown, fine grained, angular to subangular, clean, mostly disaggregated, but the occasional small rock fragments appear tight; minor iron staining; about 20% shale/silty shale.
- 3390-3400 As above.
- 3400-10 As above, average sand grain size slightly smaller; amount of calcite between crystals greater; minor silt present in the sandstone.
- 3410-20 As above.
- 3420-30 As above, w/ significant iron oxide staining and bits of drilling tools: fragments of shales have common slickensides.
- 3430-40 Sandstone, as above 60%; Shale, bk, slightly silty, v. slight calcareous, 40%.
- 3440-50 Limestone, m. gray brown, fine to medium-fine crystalline, very sandy, fairly dense; Shale/silty shale/siltstone, dk. gray to black, calcareous; sand grains, cloudy to lt. gray to clear, subangular to angular, fine grained, usually broken; limestone w/ sand about 60% of sample (Could be limy sandstone?).
- 3450-60 Limestone and shale/siltstone, as above.
- 3460-70 Limestone, dk. gray, fine crystalline, dense, sandy w/ minor traces of dark bluish-gray dense chert; minor white crystalline calcite; sandstone, white to clear, glassy, fine-grained, interlocking crystals, as above.
- 3470-80 Limestone as above w/ chert, bluish-white porcellaneous;w/ fossil (?) fragments; and sand grains, clear to off-white to lt. brownish gray, fn. grained, angular to subangular.
- 3480-90 Limestone, m. dk. gray, fn. to fn.-med. crystalline, dense w/ chert white to bluish gray.
- 3490-3500 Limestone, m. gray to m. dk. gray, fine to v. fine crystalline, argillaceous w/ chert, as above.

3220-3255' Millboro Shale  
3255-3440' Oriskany sandstone - apparently very low porosity,  
carbonate cement & qtz. xls. overgrowth  
3440-3460' Stratigraphic transition: Oriskany Ss. to Helderberg Group  
3460-3500' Helderberg Group - New Scotland Mbr. (?)