

OWNER: Ferrum Junior College, Well #3
DRILLER: Sydnor Pump and Well Co., Inc.
COUNTY: Franklin (Ferrum)

VDMR #1461
WWCR #67
TOTAL DEPTH: 190'

GEOLOGIC LOG

- 0-12 Residual Gneiss -- yellow-brown clay with quartz, feldspar, minor hornblende and biotite.
- 12-40 Gneiss -- medium-dark-blue-gray, grain size: 0.1 to 2.0 mm, banded, fractured and stained with yellow and orange hydrous iron oxides; hornblende, quartz, alkali feldspar, minor garnet, pyrite and biotite.
- 40-60 Gneiss -- light-gray to dark-gray, banded, massive to lineated and porous; albite, hornblende, quartz minor calcite and epidote; minor fractures with orange-brown iron oxide stain.
- 60-70 Albite-Hornblende Gneiss -- light-greenish-gray, grain size 0.25 to 2.0 mm., albite, hornblende quartz calcite, pyrrhotite and sphene; minor slickensides with chlorite and vein calcite; trace weathered gneiss (from above ?).
- 70-80 As above -- fractured and slightly iron stained; minor pale-green to white saccharoidal gneiss: average grain size: 0.1 mm., friable; albite, quartz calcite disseminated light-blue-green hornblende and knots of dark-green hornblende, abundant sphene and apatite.
- 80-90 Albite-Hornblende Gneiss -- light greenish gray, grain size: 0.25 to 2.0 mm., good lineation; albite, quartz, hornblende, calcite, apatite, pyrrhotite minor sphene and garnet; fractures and slickensides with biotite chlorite vein quartz and calcite, saccharoidal albite; trace weathered material (from above ?).
- 90-100 As above -- no saccharoidal albite.
- 100-110 As above -- minor pyrite veins and less vein quartz and calcite.
- 110-120 As above -- darker, more biotite.
- 120-130 As above -- poorer lineation, larger average grain size, minor iron stain.
- 130-140 Albite-Hornblende Gneiss -- light to medium gray massive to slightly lineated, grain size: 0.1 to 3.0 mm., banded; albite, hornblende, calcite, quartz, apatite chlorite and pyrrhotite; trace sphene; occasional laminae or biotite or hornblende, minor augen (to 6 mm.) of albite; trace weathered gneiss (from above ?).

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- 140-150 Albite-Hornblende Gneiss — light to medium gray massive to slightly lineated, grain size: 0.1 to 3.0 mm., banded; albite, hornblende, calcite, quartz, apatite chlorite and pyrrhotite; trace sphene; occasional laminae or biotite or hornblende, minor augen (to 6 mm.) of albite; vein quartz and augen of blue quartz; trace weathered gneiss (from above ?).
- 150-160 As above.
- 160-170 As above.
- 170-180 As above — no vein quartz, augen are more porphyroblastic and larger (to 10 mm).
- 180-190 As above.

GEOLOGIC SUMMARY

These samples are of amphibole rich material within the Lynchburg Formation (Precambrian). They show evidence of intense fracturing and faulting. The saccharoidal material found from 70 to 90 feet is probably due to shearing and recrystalization.

Virginia Division of Mineral Resources
Hollis N. Walker, Geologist
January 26, 1966