GEOLOGIC MAP OF THE MANHATTAN DISTRICT, RUSTIC QUADRANGLE, COLORADO

LITHOLOGIC UNITS

TERTIARY

Tr RHYOLITE
Buff to dark gray aphanitic rock with white phenocrysts of quartz and feldspar. Dikes 5-20 feet wide. Silica content 68.2-77.3 percent based on refractive indices of glass beads.

Td RHYODACITE
Dark gray aphanitic rock with white phenocrysts of quartz and feldspar. Dikes 5-20 feet wide. Silica content 66.4-67.7 based on refractive indices of glass beads.

Th HORNBLENDE RHYODACITE
Dark gray aphanitic rock; green-black phenocrysts of hornblende with minor quartz and feldspar. Dikes 5-20 feet wide. Silica content 62.2-62.9 percent based on refractive indices of glass beads.

PRECAMBRIAN

SHEAR ZONE TECTONITES
Pink, green, and greenish-brown cataclasite, submylonite, and mylonite with abundant quartz and epidote. Commonly brecciated and rehealed.

Pp PEGMATITE
Buff to pink, coarse-grained rock composed primarily of potash feldspar, quartz, and plagioclase (An_8-An_{12}). Late phase of Log Cabin granite.

Pg LOG CABIN GRANITE
Buff to pink granite, quartz monzonite, and minor trondhjemite. Fine- to coarse-grained, generally equigranular with minor porphyritic phases containing large (2-3 cm.) potash feldspar phenocrysts. Primarily potash feldspar, quartz, and plagioclase (An_2-An_{12}).

Age Relations Uncertain

Pa AMPHIBOLITE
Dark green to black, medium- to coarse-grained, equigranular rock composed primarily of hornblende and plagioclase (An_{36}-An_{51}) with locally abundant quartz and/or epidote.

Phg HORNBLENDE GNEISS
Dark green to black, fine- to coarse-grained rock with pronounced foliation defined by layers of hornblende alternating with layers of quartz and plagioclase (An_{36}-An_{52}). Epidote may be locally abundant.

Pbg BIOTITE GNEISS
Buff to dark brown, fine- to medium-grained rock with prominent foliation imparted by biotite rich layers alternating with layers of quartz, potash feldspar, and plagioclase (An_{26}-An_{33}).

MAP SYMBOLS

CONTACT
Solid where approximate, dashed where inferred.

70 Inclined / Vertical
STRIKE AND DIP OF FOLIATION

20 STRIKE AND PLUNGE OF LINEATION (FOLD AXES)

50 Inclined / Vertical
STRIKE AND DIP OF JOINTS

75 FAULT, SHOWING DIP

INFERRED FAULT

SMALL PROSPECT PIT

ADIT

VERTICAL SHAFT

GEOCHEMICAL SOIL STUDY AREA

S-2 LOCATION OF SAMPLES REFERRED TO IN TEXT

Topography by
U.S. Geological Survey, 1962

Geology by
D.R. Samuelson, 1970-71

SCALE 1:24,000
0 1000 2000 3000 4000 FEET

CONTOUR INTERVAL 40 FEET

11° True North / Magnetic North

Approximate Mean Declination, 196

QE655
S25