DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

BEDROCK GEOLOGY
HYDE PARK QUADRANGLE
VERMONT
QQ

EXPLANATION

Extensive areas of surficial deposits, bedrock not exposed

Ml

Lamprophyre dikes
Fine-grained dark dikes which intrude nearly vertical post-metamorphic joints; composed of plagioclase, hornblende, magnetite, and augite. Located by red "x" on map.

Serpentinite, talc-carbonate rock, and steatite
Typical bodies have a core of serpentinite and border zones of talc-carbonate rock and steatite; small bodies may be completely altered to talc-carbonate rock.

Om

Moretown formation
Quartz-sericite-chlorite-albite-epidote granulite with close-spaced micaceous partings, micaceous quartzite, and sericite slate.

Ou Ous

Umbrella Hill formation
Quartz- and slate-pebble conglomerate, Ou, with thin interbeds of sericite slate and thicker interbeds of friable calcareous slate, Ous; contains abundant porphyroblasts of chloritoid.

Osga

Stowe formation
Upper and lower units, Os; chlorite zone; predominantly fine-grained, thinly foliated, sericite-quartz-chlorite-albite schist containing numerous thin lenticles of quartz. Greenstone, graphitic phyllite, calcareous greenstone, and calcareous phyllite are minor lithologic types. Garnet and kyanite zones; coarse-grained quartz-muscovite-chlorite schist which contains porphyroblasts of chloritoid, garnet, and kyanite, and abundant quartz segregations. Interbeds of coarse-grained amphibolite occur. Middle unit, Osga; consists of greenstone and amphibolite with few interbeds of schist.

Co

Ottauquechee formation
Black graphitic quartz-sericite phyllite and schist and massive dark-gray quartzite in southern two-thirds of quadrangle; graphitic phyllite, pebbly quartzite, and pebbly quartz-sericite schist in northern part. Quartzite with micaceous partings and sericite-quartz-chlorite phyllite are minor rock types.

Cchb Cch Cchq Cchq

Camels Hump group
Predominantly graphitic schist and quartzite with interbeds of nongraphitic schist and dark-gray massive quartzite in central and southern part of quadrangle; predominantly quartz-sericite-chlorite schist and gneiss with porphyroblastic albite, both graphitic and nongraphitic, in western and northern part of quadrangle. Includes, where differentiated, silver-green quartz-sericite-chlorite-magnetite-albite schist, Cchq; albite greenstone and tremolitic greenstone, Cchg; and Belvidere Mountain amphibolite, Cchb.

garnet kyanite

Metamorphic zones
Metamorphic zones shown by isograds, hachured on high intensity side. Solid where believed accurate; dashed where sketched. Most of the quadrangle is in the chlorite zone.

Contact
Dashed where gradational or inferred in part; dotted where inferred or concealed.

Anticline
Showing trace of axial plane and direction of plunge of axis. Dashed where inferred or location uncertain; dotted where concealed.

Syncline
Showing trace of axial plane and direction of plunge of axis. Dashed where inferred or location uncertain, dotted where concealed.

PLANAR FEATURES

75 90 75
Inclined Vertical Overturned
Strike and dip of bedding
Bedding definitely shown in outcrop by a bed of quartzite or limestone; schistosity commonly parallel to it.

75 90 75
Inclined Vertical Overturned
Strike and dip of schistosity generally parallel to bedding
Includes compositional layering in schist and compositional layering and schistosity in greenstone and amphibolite.

75 90
Inclined Vertical
Strike and dip of schistosity
Relation to bedding is not shown in the outcrop.

75 90
Inclined Vertical
Strike and dip of schistosity
Transects bedding or compositional layering in the outcrop.

75 90
Inclined Vertical
Strike and dip of slip cleavage
Spaced surfaces of parting or incipient parting formed subparallel to the limbs and generally parallel to the axial planes of folds in a preexisting schistosity.

Dextral Sinistral
Trend of bedding
May be combined with other symbols to indicate plan of bedding or bedding schistosity.

75 90
Inclined Vertical
Strike and dip of axial plane of fold

75 90 65
80 65 80
Coexisting planar features
Intersection is at the point of observation.

LINEAR FEATURES

30 90
Inclined Vertical Horizontal
Bearing and plunge of fold or crinkle axis
May be combined with any class of above planar symbols.

75 90
Inclined Vertical
Bearing and plunge of quartz rods or of lineation formed by the intersection of quartz lenticles or laminae with transverse schistosity surface
Folded if another axis is shown. May be combined with any class of above symbols.

Operating Abandoned
Mine or quarry
T *Talc*
L *Limestone quarry and lime kiln*
C *Copper*

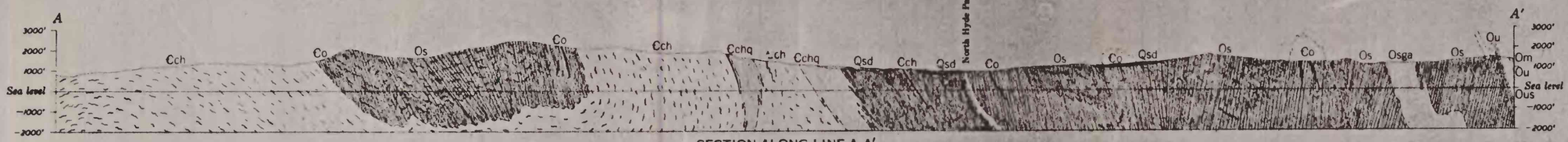
Abandoned
Prospect
P *Lead-zinc*
K *Kyanite-ilmenite*

Base map by Topographic Division
U.S. Geological Survey 1930

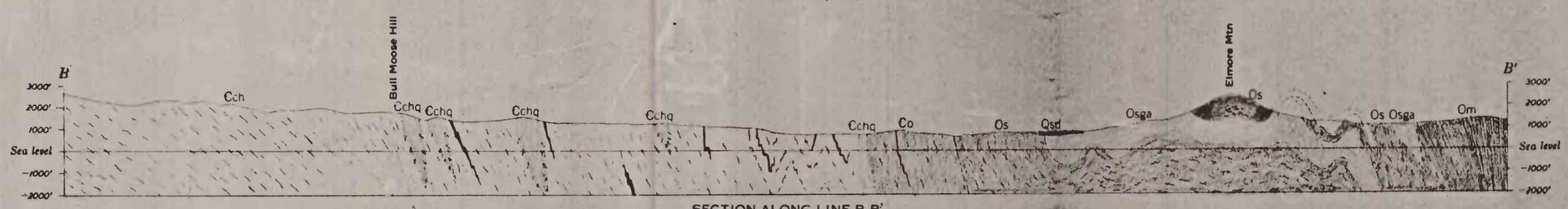
Scale 1:62500
1 0 1 2 3 Miles
Contour interval 20 feet
Datum is mean sea level

APPROXIMATE MEAN DECLINATION, 1957

Geology mapped in 1951-1954



SECTION ALONG LINE A-A'



SECTION ALONG LINE B-B'

GEOLOGIC MAP
OF THE
HYDE PARK QUADRANGLE, VERMONT
BEDROCK GEOLOGY

By
Arden L. Albee

1957

MISSISSIPPIAN(?) QUATERNARY
ORDOVICIAN
CAMBRIAN