CANADA DEPARTMENT OF MINES AND RESOURCES MINES AND GEOLOGY BRANCH BUREAU OF GEOLOGY AND TOPOGRAPHY F.C.C.LYNCH, CHIEF ISSUED 1938 LEGEND RECENT AND PLEISTOCENE Glacial drift, stratified lake beds (sand and clay)

XX Small rock outcrops: X BASIC INTRUSIVES a-Olivine diabase dykes b-Quartx-bearing greenstone dykes BATHOLITHIC INTRUSIVES
Potash-rich granite, pegmatite KEWEENAWAN (?) NICKEL-BEARING IRRUPTIVE Granophyric "acid edge" differentiate Noritic basic edge differentiate WHITEWATER SERIES CHELMSFORD SANDSTONE ONWATIN SLATE

Dark carbonaceous and graphitic slate ONAPING TUFF
Coarse to fine pyroclastics of intermediate to acid
composition, locally conglomeratic; lava flows;
also includes dykes of several kinds and large
fragments and layers of quartzite KILLARNEAN Stratiform mixture of pink and grey gneisses and minor bodies of 4. The pink gneisses are closely related to 46 above; the other gneisses are probably, and in some cases certainly, metamorphosed Huronion and pre-Huronian formations BATHOLITHIC INTRUSIVES (possibly same age as 4b) Potash-rich granite, pegmatite BASIC INTRUSIVES (Nipissing diabase, etc.) Chiefly diabase (a) but including a miscellaneous group (b-g) mostly late Precambrian, the age relationships of which are not well known. a - Sills, dykes and flows of quartz diabase
b - Gabbro with orthorhombic pyroxene
c - Red-weathering greenstone
d - Pale, aplitic? intrusive
e - Homblende gabbro
f - Diorite and associated rock types
g - Brown-weathering dykes within nickel basin COBALT SERIES BANDED CHERTY QUARTZITE Fine grained thin-bedded chert-like quartxite, grey or varicoloured LORRAIN QUARTZITE White, felds pathic to pure quartxite, with some lenses of quartx-pebble conglomerate Lake GOWGANDA FORMATION
A variable assemblage of boulder conglomerate,
greywacke,laminated (varved) greywacke, and impure
quartxite, of frigid-climate or glacial origin BRUCE SERIES SERPENT QUARTZITE White, feldspathic quartzite; occasional argillitic members

Approximate magnetic declination,7° West

ND

ESPANOLA FORMATION
Thin-bedded recrystallized calcareous silt, with
some beds of magnesian limestone (marble)

Siliceous magnesian limestone (marble), with thin alternating beds of recrystallixed calcareous silt formerly called Bruce limestone)

BRUCE CONGLOMERATE
Boulder conglomerate, with some layers of greywacke

MISSISSAGI QUARTZITE White feldspathic quartz, often with argillitic partings; occasional argillite members

RAMSAY LAKE CONGLOMERATE Bouldery to pebbly conglomerate grading into greywacke and quartxite ALGOMAN AND (OR) LAURENTIAN

BATHOLITHIC INTRUSIVES
Potash-poor granite and gneiss, pegmatite SUDBURY SERIES

McKIM FORMATION

Dark grey slate and white quartxite with intergradations;
some thin beds of conglomerate KEEWATIN Unusually wide and intricate parts of the transition zone between Keewatin and Sudbury series, which consists of repeated alternations of volcanic and sedimentary materials and represents diminution and final replacement of Keewatin vulcanism by Sudburian sedimentation

COPPER CLIFF FORMATION Massive, pink-weathering rhyolite and related rocks (Copper Cliff arkose of earlier maps)

Schistified complex of volcanics, local inter-calations of clastic sediments, iron formation

Symbols

Geological boundary (defined)... Geological boundary (approximate)... Strike obtained from aerial photographs.... Strike and dip measured on ground .... Schistosity.... Fault (defined, approximate)

> Geology by W.H.Collins and assistants, 1916, 1917,1928,1930,1931-1934; E.S. Moore, 1929, and by B.C.Freeman, 1931.

Joins Map 220 A, "Panache Sheet" MAP 292 A COPPER CLIFF SHEET Legend Road and buildings SUDBURY DISTRICT Road not well travelled.... Road along township boundary..... ONTARIO ==== Post office.... NOT TO BE TAKEN FROM LIBRARY Trail or portage .... NE PAS SORTIR DE LA BIBLIOTHÈQUE Scale, 63,360 or I Inch to I Mile Power transmission line..... Power transmission line along road Form lines, approximate interval 50 feet = 1000 Miles Power transmission line along railway........................ Height in feet...... Kilometres

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Scale, I Inch to 200 Miles