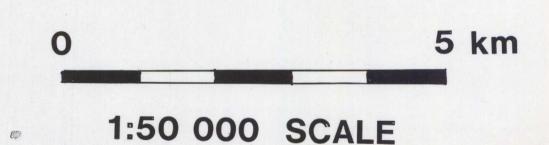
N.T.S. 105 O 4, 5, 6, 11





Alteration haloe; contact metamorphic stallized argillite, shale, siltstone,

CAMBRIAN TO ORDOVICIAN

LOWER CAMBRIAN TO UPPER ORDOVICIAN

Basic volcanic lappilli tuff, breccias,

volcaniclastics, brown to green; thick-

unfossiliferous; this map-unit overlies

or is interstratified with the upper

lema unit; this map-unit appears to be

mainly laterally equivalent to the Ea

flows, sills, dykes, all of which are

brown to green and generally massive;

ness estimated >200 m; generally

which contains abundant volcanic

1m0c and mu0c map units.

1050-11 it is interstratified with

zone around Kg Intrusions; consists of well indurated slightly recryschist, phyllite, crystalline carbonate and skarn; volcanic strata also produce skarns.

Compiled by M.P. Cecile, 1984

Geology by M.P. Cecile, 1984 and the published maps of S.L. Blusson (1974) and J.O. Wheeler (1954). Northwestern 1050-11 mapped by Craig Hart as part of a BSc Thesis project.

LEGEND FOR MAP SYMBOLS

Geological boundary (defined, approximate, assumed, speculative) Bedding (horizontal, inclined, vertical, overturned) Cleavage (inclined, vertical) Reverse fault (defined, approximate, assumed; teeth on hanging wall) Anticline, syncline (arrow in direction of plunge) Anticline, syncline (overturned) Minor folds (showing fold plunge and dip of axial plane) Granitic dyke (Cretaceous) Vein deposits; Qtz-quartz, Hmt-hematite, Ba-barite, Cpy- chalcopyrite, Cu- extensive bornite stain Fossil locality; F-collection taken, f- no collection taken, g- graptolites, t- trace fossils, p- vascular Microfossil collection - carbonate collected at this locality

primarily for identification of

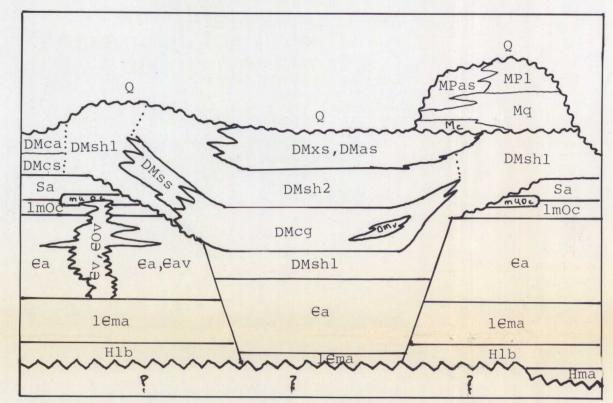
Barite nodules in shale or argillite

Monoclinal bend, anticlinal

Outcrop in valley bottom or extensively covered area

Map-areas in this report were mapped by ground traverses from fly camps. Fly camps were positioned by helicopter and the geology is supplemented by minor helicopter mapping. Field assistance was provided by Craig Hart of MacMaster Univ. Helicopter support was provided by Northern Mountain Helicopters (piloted mainly by Chris Buehler). Expediting support was provided by Ross River Services in Ross River, Y.T.

SCHEMATIC STRATIGRAPHIC CROSS-SECTION



REFERENCES

Abbott, J.G., 1983, Geology of the MacMillan Fold belt, 105 O S.E. and parts of 105 P S.W.; D.I.A.N.D. Open File Report Cecile, M.P., 1981, Geology of northeast Niddery Lake (105 0 - 9,10

15, 16; G.S.C. Open File 765. , 1984, Geology of northwest Niddery Lake (105 0 - 12, 13, 14; G.S.C. Open File 1006.

Gordey, S.P., Abbott, J.G. and Orchard, M.J., 1982, Devono-Mississippian (Earn Group) and younger strata in east-central Yukon; G.S.C. Paper 82-1B, pp. 93-100.

Hofmann, H.J., and Cecile, M.P., 1981, Occurrence of Oldhamia and other trace fossils in Lower & Cambrian (?) argillites, Niddery Lake (105 O) map area, Selwyn Mts., Y.T.; G.S.C. Paper 81-A, pp. 281-290.

Smit, H., 1984, Petrology, chemistry, age, and isotope study of the high potassium Emerald Lake Pluton, Eastern Yukon; Unpublished BSc Thesis, Univ of British Columbia, 42p.

QUATERNARY Qra

Rock avalanche, unconsolidated deposits comprised of varying size blocks of local rock types.

CRETACEOUS Kep

Emerald Lake Pluton - alkaline to calcalkaline syenite to granite; Rb-Sr age 83 ma; K-Ar age 92 ma; initial 87Sr/86Sr high (0.7153-0.7166) (refer to Smit, 1984 for details).

MISSISSIPPIAN AND PENNSYLVANIAN

Argillite, grey; shale, black; thickness estimated at 10 to 100 m; unfossiliferous.

DEVONIAN AND MISSISSIPPIAN

DMas

UPPER DEVONIAN AND LOWER MISSISSIPPIAN Argillite, buff to brown weathering; sandstone fine grained, brown to buff weathering; minor platy limestone; probably equivalent to the DMxs unit; estimated to be <200 m thick; unfossiliferous.

thickness estimated as >200 m; un-

Interstratified succession of lithic sandstone, quartzite, argillite; buff, grey and white weathering; minor units of black shale and thin to medium thick beds of chert pebble conglomerate;

fossiliferous.

Chert, black to dark grey; shale . black; and argillite buff weathering; each rock type forms thick to very thick units; locally minor brown weathering dolostone nodules are present in the chert; thickness

Shale, siliceous, black; chert, black; both weather bluish white; thickness estimate at 200 m; unfossiliferous.

>200 m; unfossiliferous.

Eav

CAMBRIAN LOWER TO UPPER? CAMBRIAN

Interstratified succession of ϵa and ϵv in which volcanic strata are abundant and in some localities exceed 50% of the succession.

thickness measured at 80-130 m in the 1050-15 map-area; graptolitic in the 1050-15 map-area, however none were found in map-areas covered by this report. CAMBRIAN

LOWER TO UPPER? CAMBRIAN

Argillite, buff, green, pale green, thin bedded; interstratified with the argillite are distinct, very thick successions of black shale, siliceous argillite and chert, green and brown calcareous volcaniclastic sandstone, lapilli tuff, volcanic breccia, basic flows, sills and dykes; minor quartzite and buff platy limestone; contains mappable units of volcanic strata (Ev); and in the western 105-0-5 map-area a mappable unit consisting of 40-80% platy to slabby grey limestone beds in argillite and shale ; thickness estimated at 400 m in northeastern 1050-14 map-area, in map areas covered by this report it is 'tectonically thickened; has the trace fossil Planolites, and 1/4 cm wide criss-crossing, bedding plane parallel, grazing traces; a single Archaeocyathid was collected from a volcanic unit in

LOWER CAMBRIAN

Argillite, maroon and pale green, thin bedded; minor grey-white quartzite and quartz pebble conglomerate; minor buff argillaceous limestone; measured thickness in (1050-15) is 50-120 m; contains abundant trace fossils including Oldhamia?, Oldhamia radiata, Planolites, Gordia? (see Hofmann and Cecile, 1981)

the 105-0-14 map-area.

HADRYNIAN

Hlb

Limestone, grey, thick bedded; quartzite and calcareous quartzite, grey and buff weathering; minor intraclast conglomerate and argillite; thickness estimated at 100 m; unfossiliferous.

Argillite, maroon and green, thin bedded; minor grey quartzite and buff calcareous quartzite; estimated as 7200 m thick; unfossiliferous.

QUATERNARY

MISSISSIPPIAN AND PENNSYLVANIAN

CRETACEOUS

Kgr

MPl

MISSISSIPPIAN

DMxs

DMsh2

DMshl

SILURIAN

ORDOVICIAN

Area covered by unconsolidated

Quaternary strata in which even

Limestone, grey, massive, medium

crystalline; estimated to be 100 m

to Mississippian to Pennsylvanian

carbonate of Gordey et al. (1982).

speculative contacts cannot be drawn.

Quartz monzonite and granite; b - with

thick; contains scattered single canal crinoid ossicles; probably equivalent

Quartzite, massive, grey white; slabby: to blocky partings; minor dark grey argillite; estimated to be 200 m thick; unfossiliferous; probably

equivalent to Mississippian quartzite

Chert, grey; limestone and arenaceous limestone; chent calcareous; estimated at 0 to 50 m thick; unfossil-

Sandstone, buff weathering; argillite,

buff weathering; shale black to brown-

grained and extensively ripple cross-

ish grey; sandstone generally fine

laminated; minor orange weathering

at 0 to 200 m; unfossiliferous.

platy limestone; thickness estimated

Thale, black; siliceous shale, black

black to dark grey with bluish white weathering; argillite, green to buff, buff weathering; each rock type occurs

in thick to very thick units; thickness

estimated at >100 and <400 m; unfossil-

Chert pebble conglomerate, dull brownish grey at a distance; minor beds and

units of lithic sandstone, black shale,

shale; conglomerate generally moderate

to poorly sorted, medium to thick bed-

and bluish white weathering siliceous

generally intact, but can be impacted or suspended in a sandstone matrix:

conglomerate clasts are mainly chert but locally as much as 5% of the clasts are argillite, shale, and/or quartzite;

chert clasts are black, grey, white and green; clast colours are variable

changes in near-by outcrops of the 1m0c

contain abundant vascular plant material. DMv Volcanic rocks, green, brown weathering:

which is a likely source for much of the chert clasts; thickness estimated

includes, lapilli tuff, breccia, amyg-

Shale, black; siliceous shale, black,

to dark grey, bluish-white weathering;

bluish-white weathering; chert, black

black shale (DMshla) and/or a unit of

locally can divided into a unit of

siliceous shale and chert (DMshlb);

with the black shale are minor units

of argillite, thin to medium beds of

and laminae of siltstone; with the

rate, and units of argillite; in

siliceous share and chert are minor

thick beds of chert pebble conglome-

map-area 105-0 6 this unit includes a

which can be mapped locally (DMshl');

estimated thickness 100 to 400+ m;

Argillite, rusty dark green, buff

weathering; minor black shale and

distinctive bright orange weathering

measured at 20-30 m in the 105-0-15

Chert, black, thin to medium bedded; shale siliceous, black bluish-white weathering; thickness measured at 15-25 m in the 105-0 15 map-area; abundantly graptolitic, especially Diplograptids; this unit could not be distinguished from the 1m0c and Sa units over most of the 1050-11 and parts of 1050-4 map-areas.

Chert, white, green, dark grey, and

thick bedded in the upper part with

some beds extensively bioturbated;

minor shale and argillite; buff to

the lower part of the succession;

brown limestone nodules and/or beds in

black, resistant; thin to medium bedded and argillaceous in the lower part;

chert; locally includes a very

thick dolostone bed; thickness

map-area; graptolites are often

found in associated shale beds.

unfossiliferous.

LOWER TO UPPER SILURIAN

MIDDLE AND UPPER ORDOVICIAN

LOWER AND MIDDLE ORDOVICIAN

thin succession of dark grey limestone

lithic sandstone and paraconglomerate,

daloidal flows and pillowed flows; thickness 0 to <200 m; unfossiliferous.

and this variation follows colour

at 0 to >1000 m; shale units often

ded; conglomerate framework is

with bluish white weathering; chert

of Gordey et al. (1982).

iferous.

UPPER DEVONIAN AND LOWER MISSISSIPPIAN

DEVONIAN AND MISSISSIPPIAN

biotite; bh-with biotite and hornblende.

TECTONO-STRATIGRAPHIC MAP-UNITS

Except in the northeastern corner of the 105-0-14 map all map-units from the Ema up to and including Devonian units are thickened structurally. Most have been structurally 'piled' to in excess of 3X their original thicknesses. The only exception is the Ema unit which, although generally in excess of 3X its original thickness, has over limited areas a thickness equal to or less than its original stratigraphic thickness. Structural repetition is achieved by stacking of folds, isoclinal folds, and thrust fault repetitions. Individual stratigraphic units are detached from one another so that the resultant tectonic units are essentially composed of the same stratigraphic unit, although fault slices anticlinal, fold noses and synclinal fold keels of other units are often included in the map unit. Tectono-stratigraphic units are identified by the prefix 't' in front of the stratigraphic letter symbol.

> OPEN FILE DOSSIER PUBLIC 1118 GEOLOGICAL SURVEY COMMISSION GÉOLOGIQUE OTTAWA

This map has been produced from a scanned version of the original map Reproduction par numérisation d'une carte sur papier