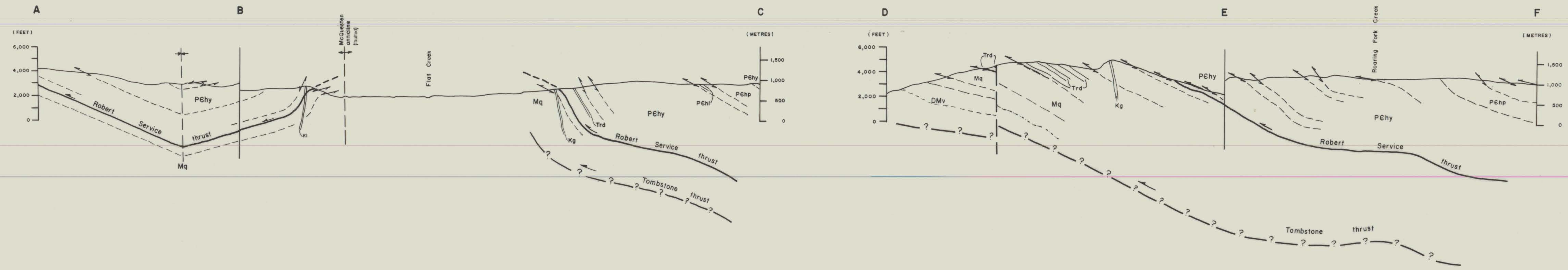

Canada

canada yukon economic development agreement

EDITION 2

Yukon Government

1:50,000

MOUNT HALDANE
YUKON TERRITORY

Scale 1:50,000 Échelle

CONVERSION SCALE FOR ELEVATIONS

LEGEND

<table>
<tr><td>Refer to this map as:</td><td>105 M/13 EDITION 2 MCE SERIES A 722</td></tr>
</table>

Lithology

Quaternary

Q Undifferentiated gravels, sands and clays.

Cretaceous

Kg Buff to grey dykes, sills and small plugs of aplite and granite; locally quartz, feldspar and/or biotite phyric; minor arsenopyrite.[1]

Kl Fine- to coarse-grained, light grey, biotite lamprophyre dykes, locally feldspathic.

Triassic

Trd Dominantly foliation-concordant bodies of fine- to medium-grained greenstone (green amphibole-chlorite-plagioclase meta-diorite or meta-gabbro)[2]

Mississippian

KENO HILL QUARTZITE

Mq Foliated, flaggy, massive to thick-bedded, light to dark grey quartzite with graphitic phyllitic partings; locally quartzite is granular. Minor calcareous quartzite.[3]

Mqp Foliated thin-bedded dark grey graphitic phyllite and quartzite, and light to medium grey thick-bedded quartzite. Minor calcareous quartzite.

Devono-Mississippian

EARN GROUP

DMu Undifferentiated phyllite psammite.

DMv Foliated quartz-sericite-chlorite phyllite (metavolanic), locally quartz augen, and minor carbonaceous phyllite.[4]

DMp Carbonaceous phyllite

Precambrian-Lower Cambrian

HYLAND GROUP

PЄh Undifferentiated foliated and lineated phyllite and psammite, minor calc-phyllite and carbonate.

PЄhp Dominantly psammite with minor phyllite

PЄhy Dominantly phyllite with minor psammite

Areas of carbonate outcrop including marble and dolomitic marble.

Age Constraints

[1] K-Ar date from quartz-biotite porphyritic granite sill (Kg) one mile south west of the peak of Mount Haldane: 82 +/- 5 Ma (GSC 65-49 reported in Wanless et al., 1967). Fortune Creek 600m northeast of the peak of Mount Haldane: 89 +/- 2.6 Ma (GSC 80-74 reported in Stevens et al., 1981).

[2] U-Pb zircon and baddeleyite date from diorite sill in the Tombstone Mountains: 232 +1.5/-1.2 Ma (Mortensen and Thompson, 1990).

[3] Age assignment based on mid-Mississippian (Visean) conodonts recovered from Keno Hill quartzite in Ogilvie Mountains (determination by M.J. Orchard, reported in Mortensen and Thompson, 1990).

[4] Preliminary U-Pb zircon dates from this unit are Devono-Mississippian (J. Mortensen, personal communication, 1993). This unit is correlated with felsic metavolcanic rocks of the MARG deposit (NTS 106 D/1, Turner and Abbott, 1990).

Mineral Occurrences[5]

Occurrence name	Commodities/Deposit type
01 United Keno Hill	Ag, Pb, Zn-vein(s)
26 Gerlitzki	Ag, Pb, Zn-vein
27 Titan	Ag, Pb-vein
28 Shanghai	Ag, Pb, Zn-vein
29 Wayne	Ag, Pb, Zn, Au, W-vein/skarn
30 Argent	
31a Strebchuck	An, Ag, Pb, W-vein
31b Journbira	Pb, Ag,Sn, W-vein
32 Mount Haldane	Ag, Pb, Zn-vein
33 Laysier	Ag, Pb-vein
54 Chance	Sb-vein
56 Sundown	Ag, Pb-vein
58 Halfway	
60 Newry	
67 Corkery	
68 Weasel	
72 Beley	Zn-vein
21 Peso (106 D)	Ag, Pb, Zn-vein

[5] For 105 M except where indicated

106D/14	106D/3 Green (1971)	106D/2 Green (1971)
105M/13 This study	105M/14 Murphy and Roots (1992)	105M/15 Green (1971)
105M/12	105M/11	105M/10

Symbols

Geological contact (defined, approximate, assumed)

Fault, displacement unknown (defined, approximate, projected to surface)

Thrust fault (defined, approximate, projected to surface)

Fold Axial surface trace (syncline, anticline, overturned anticline, overturned syncline; arrow on trace indicates direction of plunge)

Limit of outcrop

Bedding (tops known, tops unknown, overturned)

Prominent foliation, lineation (not necessarily included in plane of foliation)

Mineral Occurence (Yukon MINFILE reference number) 28

Line of cross-section A B

Apparent dip of measured orientation of foliation in cross-section

Form lines of foliation in cross-section

Notes

This map is based on 1991 and 1992 mapping and compilation of previous Geological Survey of Canada mapping, namely by Poole (1964, 1965), Green (1971) and McTaggart (1960).

Mount Haldane map area is underlain primarily by highly deformed rocks of three map units: the Upper Proterozoic to Lower Cambrian Hyland Group, the Devono-Mississippian Earn Group and Mississippian Keno Hill quartzite. The Robert Service thrust, which crosses the map area from east to west, places Hyland Group strata over Keno Hill quartzite. The westerly plunging, faulted McQuesten anticline folds the Robert Service thrust. In Haldane Creek a fault may exist that offsets this thrust. The Tombstone thrust which occurs in map areas to the east and north is not exposed in Mount Haldane map area and is assumed to be at depth.

All bedrock map units in the map area (except Cretaceous intrusive rocks) are intensely foliated and lineated. These fabrics are believed to have formed during displacement on the Tombstone thrust. Foliation and lineation are deformed by open folds with east-west trends (e.g. McQuesten anticline). All folds and fabrics are cut by north to northeast trending faults. Vein-fault mineralization is similar to that in Keno Hill map area (105 M/14) where it is believed to have occurred during north- to northeast-trending faulting (Boyle, 1965 and references therein).

Buried intrusions may be present at a number of locations as some phyllites contain andalusite (a mineral characteristic of contact metamorphism of argillaceous rocks) and limestone outcrops are locally marmorized and/or silicified.

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GEOLOGICAL MAP OF MOUNT HALDANE (105M/13) CENTRAL YUKON

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