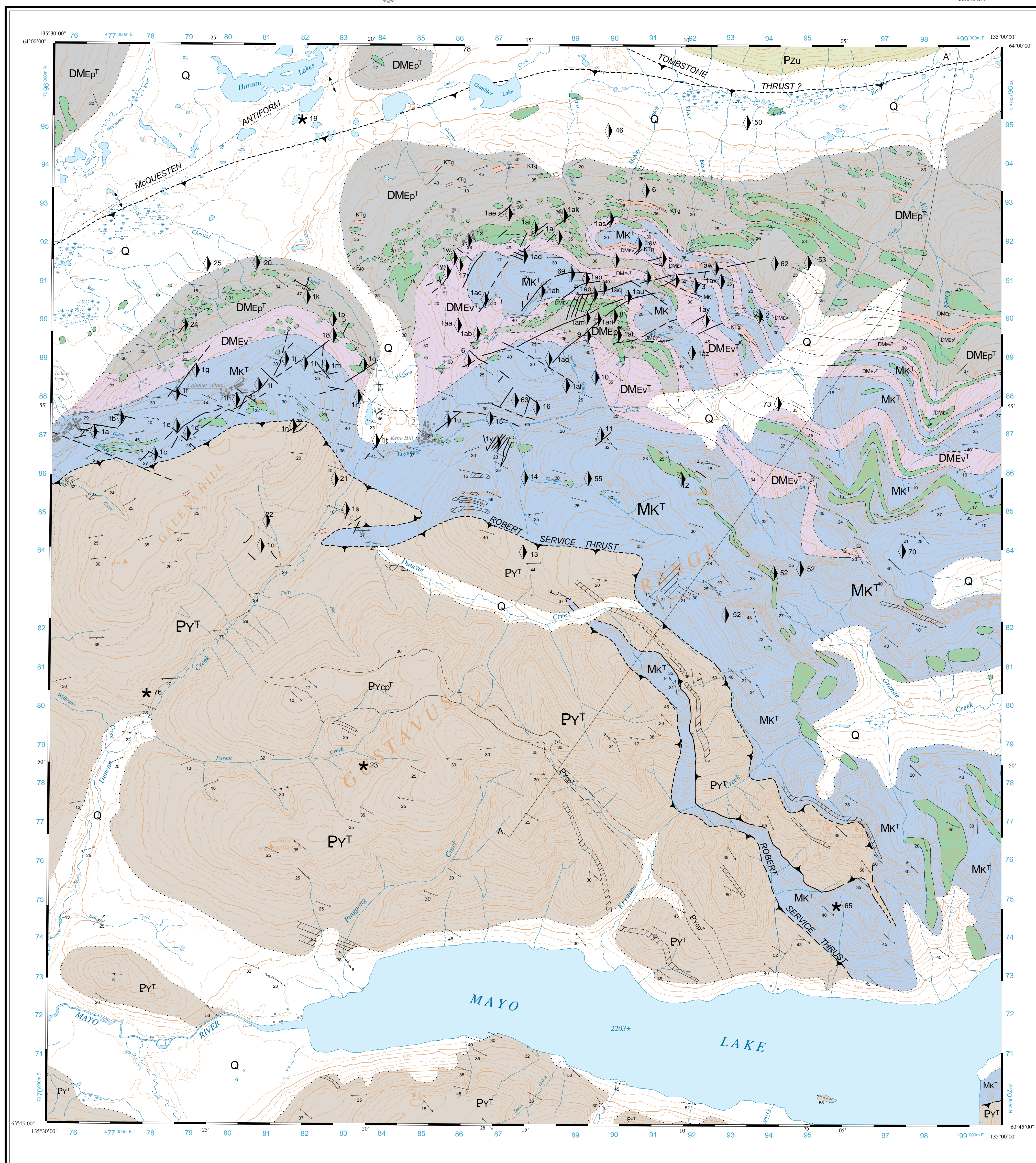


Canada

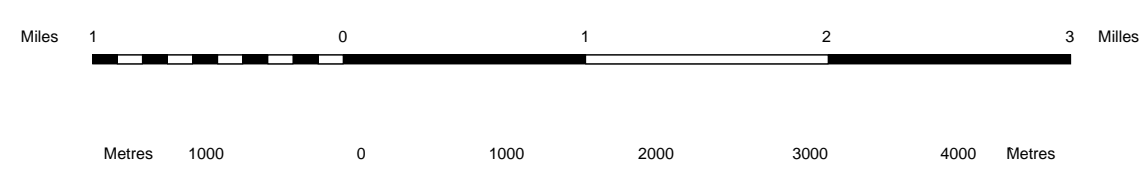
GEOLOGICAL SURVEY OF CANADA  
GÉOLOGIQUE DU CANADA

Geological Survey of Canada  
Géologique du Canada

Yukon  
Government



**KENO HILL  
YUKON TERRITORY  
SCALE 1:50 000**



CONTOUR INTERVAL 100 FEET  
Elevations in Feet above Mean Sea Level  
North American Datum 1985  
Transverse Mercator Projection

ONE THOUSAND METRE  
Universal Transverse Mercator Grid  
ZONE 8

Topographic base produced by  
SURVEYING AND MAPPING BRANCH,  
DEPARTMENT OF ENERGY, MINES  
AND RESOURCES  
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Information on this map is based on data  
provided by the Geological Survey of Canada  
and the Yukon Government.

**QUATERNARY**

**Q** Undifferentiated unconsolidated gravels, sands and clays

**EARLY LATE CRETACEOUS**

**TOMBSTONE INTRUSIONS**

**KTg** Dykes and sills of fine-grained, locally porphyritic, locally clay- and carbonate-altered apite and granite

**UPPER PROTEROZOIC**

**HYLAND GROUP<sup>2</sup>**

**PyT** Yusezyu Formation<sup>3</sup>: medium brown, foliated and lineated muscovite-chlorite phyllite, quartzofeldspathic and micaceous psammite and rare calcareous rock and marble (diagonal ruling).  
**Pycp<sup>2</sup>**: carbonaceous phyllite member

**ROBERT SERVICE THRUST**

**TRIASSIC**

**Td<sup>1</sup>** Foliation-concordant podiform to lenticular bodies of fine- to medium-grained green amphibole-chlorite-plagioclase meta-diorite or meta-gabbro<sup>4</sup>

**MISSISSIPPIAN**

**KENO HILL QUARTZITE<sup>5</sup>**

**MkT** Finely to coarsely foliated and lineated, light to dark grey, locally mottled vitreous quartzite, subordinate dark grey carbonaceous phyllite, and calcareous quartzite. Rare unit of green grey phyllite with mm-scale quartz augen of possible felsic metavolcanic origin and thin limestone shown with diagonal ruling.

**DEVONO-MISSISSIPPIAN**

**EARN GROUP**

**DMEv<sup>1</sup>** Foliated greenish white to green-grey, quartz-sericite-chlorite phyllite, locally with mm-scale quartz augen; inferred to be of felsic metavolcanic origin. Subordinate carbonaceous phyllite.

**DMEp<sup>1</sup>** Grey carbonaceous phyllite, siliceous carbonaceous meta-siltstone, rare calcareous greywacke.

**TOMBSTONE THRUST**

**PALEOZOIC ?**

**PZu** Grey phyllite overlying Keno Hill quartzite in Davidson Range.

**AGE CONSTRAINTS**

- <sup>1</sup> K-Ar and U-Pb age determinations from similar nearby rocks are early Late Cretaceous suggesting that these rocks belong to the Tombstone Intrusions (Leach et al., 1964; Wanless et al., 1967; Stevens et al., 1981; Sinclair et al., 1980; U-Pb age determination by J. K. Mortensen and M.L. Bever, University of British Columbia).
- <sup>2</sup> Hyland Group and Yusezyu Formation are defined by Gorday and Anderson (1993) based on work in Nahanni map area (105 I).
- <sup>3</sup> Yusezyu Formation is intruded by pre-kinematic intermediate to mafic bodies of unknown age that are too small to portray at the scale of mapping.
- <sup>4</sup> U-Pb zircon and baddeleyite determination on similar diorite sills in Tombstone Mountains of 232 ± 5.4 ± 2 Ma (Montensen and Thompson, 1990).
- <sup>5</sup> Mississippian age is based on Viséen-Namurian concordances obtained from Keno Hill quartzite in Tombstone Mountains (Montensen and Thompson, 1990; Orchard, 1991).
- <sup>6</sup> This unit may be an infold of DMEv<sup>1</sup> from which Devonian and Mississippian U-Pb ages have been obtained. This unit is in similar structural position to unit hosting MARO VMS deposit in southern Klondike Creek map area (YUKON MINFILE 106 D009).
- <sup>7</sup> Relatively impure Devonian and Mississippian U-Pb age determinations have been obtained from this unit in northeastern Mayo map area by M.L. Bever and J.K. Mortensen, University of British Columbia. This unit may correlate with the unit hosting the MARO VMS deposit; see also note 6.
- <sup>8</sup> This unit is intruded by pre-kinematic mafic sills equivalent to unit<sup>4</sup> and is therefore pre-mid-Triassic. If the unit stratigraphically overlies the Keno Hill quartzite, then it is constrained to be Carboniferous-early Triassic in age.

**SYMBOLS**

- Geological contact (defined, approximate, assumed and/or covered).....
- Fault or vein-fault, displacement unknown (defined, approximate, assumed and/or covered).....
- Thrust fault, teeth on hanging wall (defined, approximate, assumed and/or covered).....
- Limit of outcrop.....
- Bedding (known upright, overturned, unknown).....
- Foliation- (one tick indicates earliest phase of deformation, two or more indicates subsequent phase(s) of deformation) and mineral or clast-elongation lineation.....
- Line of cross-section.....
- Apparent dip of measured bedding, foliation (in cross-section).....
- Foliation form lines in cross-section.....
- Summer roads.....

**RECOMMENDED CITATION**

MURPHY, D.C. and ROOTS, C.F., 1996. Geological map of Keno Hill area, Central Yukon (105 M/14). Exploration and Geological Services Division, Indian and Northern Affairs Canada, Map 1996-1, scale-1:50 000.

This map accompanies MURPHY, D.C. 1997. Geology of the McQuesten River region, northern McQuesten and Mayo map areas, Yukon (115 P/14, 15, 16 and 105 M/13, 14). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 6.

Digital cartography and drafting by Will van Randen, Yukon Geology Program

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geology Program.

Copies of this map, the accompanying report and YUKON MINFILE may be purchased from Geoscience Information and Sales, Exploration and Geological Services Division, Indian and Northern Affairs Canada, Room 102-300 Main St. Whitehorse, Yukon Y1A 2B5 Ph. 867-867-3264 Fax 867-867-3267.

Store the map in a dark area to prevent the colours from fading.

Map released August, 1997, subsequent revision dates are:

106 D/4	106 D/3	106 D/2
105 M/13	<b>105 M/14 THIS MAP</b>	105 M/15
105 M/12	105 M/11	105 M/10

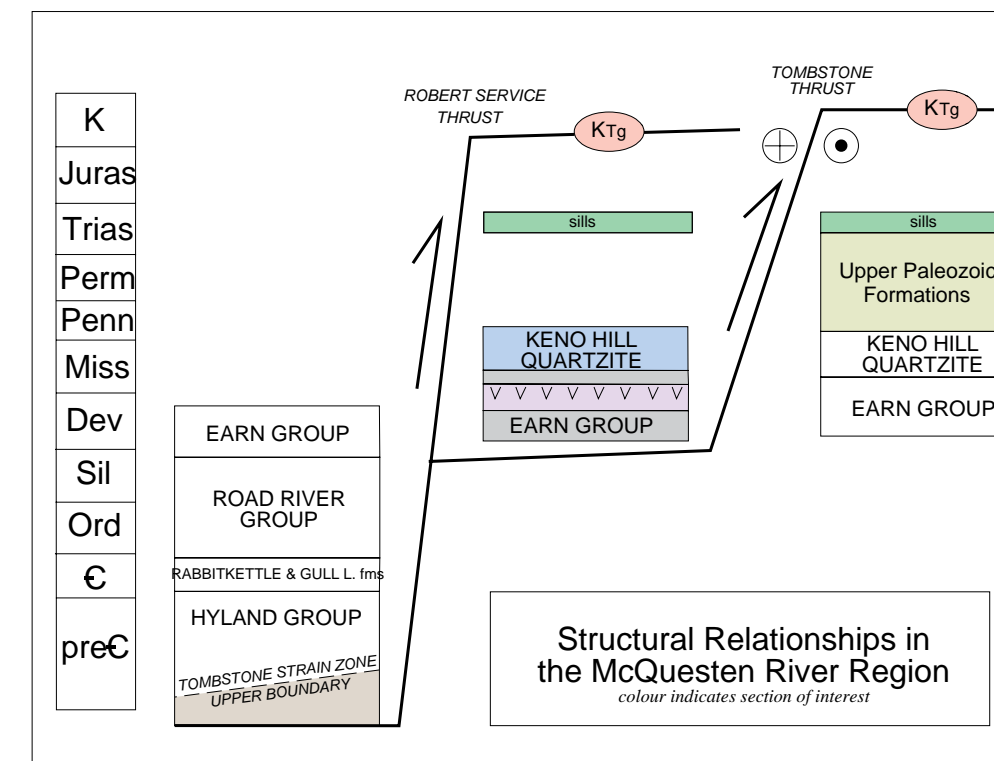
**MINFILE OCCURRENCES**

**YUKON MINFILE**

Yukon Minfile	veins:	
105 M/001a.	Elsa	Ag-Pb
105 M/001b.	Dixie	Ag-Pb
105 M/001c.	Coral and Wigwam	Ag-Pb
105 M/001d.	Arctic and Mastiff	Ag-Pb
105 M/001e.	Ruby	Ag-Pb
105 M/001f.	No Cash	Ag-Pb
105 M/001g.	Betty	Ag-Pb
105 M/001h.	Hector	Ag-Pb
105 M/001i.	Calumet	Ag-Pb
105 M/001j.	Dragon	Ag-Pb
105 M/001k.	Formo	Ag-Pb
105 M/001l.	Galkeno-McLeod	Ag-Pb
105 M/001m.	Galkeno-Sime/Sugiyama	Ag-Pb
105 M/001n.	Eagle	Ag-Pb
105 M/001o.	Fisher Creek	Ag-Pb
105 M/001p.	Bluebird	Ag-Pb
105 M/001q.	Tin Can	Ag-Pb
105 M/001r.	Rico	Ag-Pb
105 M/001s.	Duncan Creek	Ag-Pb
105 M/001t.	Moath	Ag-Pb
105 M/001u.	Onak	Ag-Pb
105 M/001v.	Klondyke-Keno	Ag-Pb
105 M/001w.	Sadie-Friendship	Ag-Pb
105 M/001x.	Ladue	Ag-Pb
105 M/001y.	Belekeno	Ag-Pb
105 M/001aa.	Kjo	Ag-Pb
105 M/001ab.	Crosses No. 1	Ag-Pb
105 M/001ac.	Black Cap and Shepherd	Ag-Pb
105 M/001ad.	Lucky Queen	Ag-Pb
105 M/001ae.	Lake	Ag-Pb
105 M/001af.	Vanguard	Ag-Pb
105 M/001ag.	Apex	Ag-Pb
105 M/001ah.	Shamrock	Ag-Pb
105 M/001ai.	Highlander	Ag-Pb
105 M/001aj.	Cub and Bunny	Ag-Pb
105 M/001ak.	Stone	Ag-Pb
105 M/001am.	No. 6	Ag-Pb
105 M/001an.	Porcupine-Kinman	Ag-Pb
105 M/001ao.	No. 9	Ag-Pb
105 M/001ap.	No. 1	Ag-Pb
105 M/001aq.	Main fault and Nabob	Ag-Pb
105 M/001ar.	Lake View	Ag-Pb
105 M/001as.	Nabob No. 2	Ag-Pb
105 M/001at.	Helen Fraction	Ag-Pb
105 M/001au.	Gold Hill No. 2	Ag-Pb
105 M/001av.	Fox	Ag-Pb
105 M/001aw.	Alice	Ag-Pb
105 M/001ax.	Caribou	Ag-Pb
105 M/001ay.	Divide	Ag-Pb
105 M/001az.	Devon	Ag-Pb
105 M/002.	Faith	Ag-Pb
105 M/003.	Duncan	Ag-Pb
105 M/004.	Gold Queen	Ag-Pb
105 M/005.	Silver Basin	Ag-Pb
105 M/006.	Nabob	Ag-Pb
105 M/007.	Monument	Ag-Pb
105 M/008.	Comstock	Ag-Pb
105 M/009.	Apex	Ag-Pb
105 M/010.	Vanguard	Ag-Pb
105 M/011.	Homestake	Ag-Pb
105 M/012.	Christine	Ag-Pb
105 M/013.	Mo	Ag-Pb
105 M/014.	Mayburn	Ag-Pb
105 M/015.	Hogan	Ag-Pb
105 M/016.	Runer	Ag-Pb
105 M/017.	Wernecke	Ag-Pb
105 M/018.	Formo (different from 1k)	Ag-Pb
105 M/020.	Paddy	Ag-Pb
105 M/021.	Eagle	Ag-Pb
105 M/022.	Fisher	Ag-Pb
105 M/024.	Cream and Jean	Ag-Pb
105 M/025.	Nord	Ag-Pb
105 M/046.	Moon	Ag-Pb
105 M/050.	Nero	Ag-Pb
105 M/052.	Mt. Hinton	Ag-Pb
105 M/053.	Avenue	Ag-Pb
105 M/055.	Yono	Ag-Pb
105 M/061.	Christal	Ag-Pb
105 M/062.	Seagworth	Ag-Pb
105 M/063.	Ironclad	Ag-Pb
105 M/069.	Gambler	Ag-Pb
105 M/070.	Havrenak	Ag-Pb
105 M/073.	Berna	Ag-Pb

work targets:

105 M/019.	★	Nomad	unknown
105 M/023.	★	Parent	unknown
105 M/065.	★	Nadar	unknown
105 M/076.	★	Goldrock	unknown
105 M/078.	★	Feed	unknown



Indian and Northern Affairs Canada  
Exploration and Geological Services Division  
Yukon Region

**Geoscience Map 1996-5  
Geological map of Keno Hill area  
Yukon (NTS 105 M/14)**

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