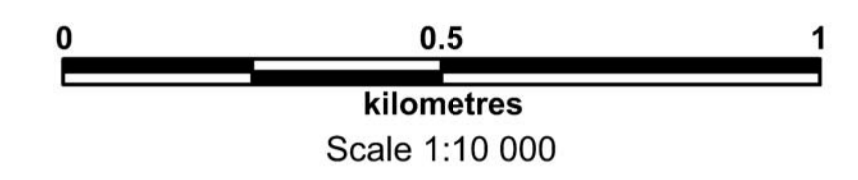


# Geology of the Turnagain Ultramafic Intrusion, Northern British Columbia

parts of NTS 1041/07 and 10

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## LEGEND

- QUESNEL TERRANE**  
**EARLY JURASSIC**  
 eJE Eaglehead Pluton: biotite-hornblende quartz monzonite, granodiorite and quartz diorite
- YUKON-TANANA TERRANE**  
**EARLY JURASSIC**  
 eJdi dark grey-green to pale grey, medium- to coarse-grained, hornblende diorite, quartz diorite, granodiorite and tonalite; minor feldspathic hornblende to melanocratic diorite
- TURNAGAIN ALASKAN-TYPE ULTRAMAFIC INTRUSION**  
 hbt black to dark greenish grey, coarse-grained hornblende; locally biotite-bearing and pegmatitic  
 mhcpxt dark greenish grey, medium- to coarse-grained, magnetite-hornblende clinopyroxene, locally pegmatitic and biotite-rich  
 hcpxt dark greenish grey, medium- to coarse-grained, hornblende clinopyroxene, locally pegmatitic  
 cpxt dark grey-green, medium-grained to pegmatitic clinopyroxene  
 cpopt brownish grey to grey-green, medium-grained to pegmatitic olivine clinopyroxene  
 we dark greenish grey, variably serpentinized, medium- to coarse-grained wehrlite, locally contains minor dunite, commonly cut by clinopyroxene dykes  
 du dark grey to greenish grey, variably serpentinized, medium-grained wehrlite, locally contains minor chromite, wehrlite and olivine clinopyroxene, commonly cut by wehrlite and clinopyroxene dykes
- CARBONIFEROUS (age range uncertain)**  
**Lower Mississippian to Pennsylvanian(?)**  
 Ms dark grey to grey-green, graphitic phyllite and slate with minor thin interbedded carbonate and volcanic wacke; unfossiliferous; pyritic  
 Mv dark grey-green, buff, lufaceous phyllite, wacke and minor carbonate and rare phyllite, locally intruded by basaltic sills  
 Msv undifferentiated, interbedded metasedimentary and metavolcaniclastic rocks similar to units Ms and Mv
- ANCESTRAL NORTH AMERICA-CASSIAR TERRANE**  
**ORDOVICIAN TO DEVONO-MISSISSIPPIAN OR YOUNGER**  
 OMRu? Road River Formation: shaly and black, sylvitic shale; and undivided; calcareous black shale, slate, phyllite and minor limestone, siltstone and pebble conglomerate (inset map only)
- CAMBRIAN TO LOWER ORDOVICIAN**  
 COK Kechika Formation: argillaceous limestone and calcareous shale
- LOWER CAMBRIAN**  
**ATAN GROUP**  
 Cam Doya Formation: micaceous siltstone, quartzite and mica schist
- MAP SYMBOLS**  
 Geological contact, defined or approximate  
 Geological contact, inferred  
 Geological contact, inferred from geophysical data  
 Steeply dipping fault, defined or approximate  
 Steeply dipping fault, inferred  
 Reverse fault, defined or approximate (teeth on upper plate)  
 Reverse fault, inferred from geophysical data (teeth on upper plate)  
 Chromite locality  
 Historical sulphide showing  
 Outcrop examined  
 Outcrop too small to show at map scale  
 Drillhole collar  
**Structure**  
 Bedding, tops unknown, inclined  
 Cumulate layering, tops unknown, inclined, vertical  
 Chromite layering, tops unknown, inclined, vertical  
 Minor fold of chromite layers showing axial-plane dip  
 Dyke (typically wehrlite or clinopyroxene), inclined, vertical  
 Early cleavage or schistosity (S1), inclined, vertical  
 Crenulation cleavage (S2), inclined  
 Foliation induced by shearing, inclined, vertical  
 Crenulation lineation showing plunge  
 Minor fold of S1 foliation (F2) showing axial-plane dip  
 Minor fold of S1 foliation (F2) showing plunge  
**Topography**  
 Lake  
 Flooded land (swamp)  
 Stream or river  
 Contour (100m)  
 Spot height (m)  
 Road (dirt)  
 Gravel bar

**Data Sources**  
 Geological mapping of the Turnagain property was done by J. E. Scheel, C. Balys, B. K. Northcote, J. W. Kyba, D. Hean, G. P. Ross and A. C. Hitchins (Hard Creek Nickel Corporation). Other sources of data are: Clark, T. (1975). Geology of an ultramafic complex on the Turnagain River, northwestern British Columbia, unpublished PhD thesis, Queen's University, Kingston, Ontario, 433 pages.  
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**Base Map Information**  
 Base map produced from digital TRIM (Terrain Resource Inventory Management) 1:20,000-scale topographic database, British Columbia Ministry of Natural Resource Operations.  
 North American Datum 1983 (NAD83), Universal Transverse Mercator Projection (Zone 9). Elevation in metres above mean sea level. Contour interval 100m.

**Magnetic Information**  
 Approximate mean magnetic declination February 2012 for centre of map area: 21 degrees 9 minutes east; decreasing annually 19.9 minutes per year

