

L E G E N D

L A B E R G E M A P A R E A

(N T S 1 0 5 E)

W H I T E H O R S E T R O U G H

T E S L I N S U T U R E Z O N E

P E L L Y C A S S I A R P L A T F O R M & N A S I N A S H E L F

S O U T H W E S T P A R T

N O R T H E A S T P A R T

- TERTIARY EOCENE MOUNT NANSEN GROUP**
- Tmwa** Dark grey to black weathering, dark greenish grey, aphanitic intermediate to acid, massive buff and tuff breccia
 - Tmwb** Brown, purplish black and green vesicular basalt and andesite and flow breccia; equivalent to Little Ridge volcanics; the line mapped within the unit in the Miner's Range is a prominent flow boundary but rocks on either side are similar
 - Tmfp** Feldspar porphyry dyke and flow rocks of intermediate composition; includes Tmva and Tmwb undifferentiated
 - Tfp** Massive, pinkish medium to fine-grained feldspar porphyry to monzonitic aplite
- UPPER JURASSIC AND/OR LOWER CRETACEOUS TANTALUS FORMATION**
- 1KT** Resistant, light rusty weathering, thick-bedded to massive chert pebble conglomerate with minor interbedded whitish sandstone, brown shale and minor coal
- UPPER TRIASSIC AND LOWER JURASSIC LABERGE GROUP**
- uRJS1** Recessive weathering, thin-bedded dark brown argillite, siltstone and sandstone; includes minor conglomerate undifferentiated
 - uRJSg** Resistant weathering, well indurated, massive to very thick-bedded conglomerate and pebbly sandstone with minor interbedded sandstone and shale; cobbles and pebbles of altered green basalt and hornblende granodiorite are close packed in a poorly sorted greywacke matrix. Limestone clasts (uRc) are prominent but volumetrically unimportant
- UPPER TRIASSIC AND LOWER JURASSIC LEWES RIVER GROUP**
- uRc** Massive, white weathering, light grey limestone with abundant stromatopora and other fossils; occurs mainly as lenticular reefoid bodies
- KLOTASSIN GRANODIORITE SUITE**
- kgdm** Dark grey weathering, coarse-grained equigranular biotite hornblende granodiorite to quartz diorite; commonly shows proclastic foliation by alignment of mafic minerals

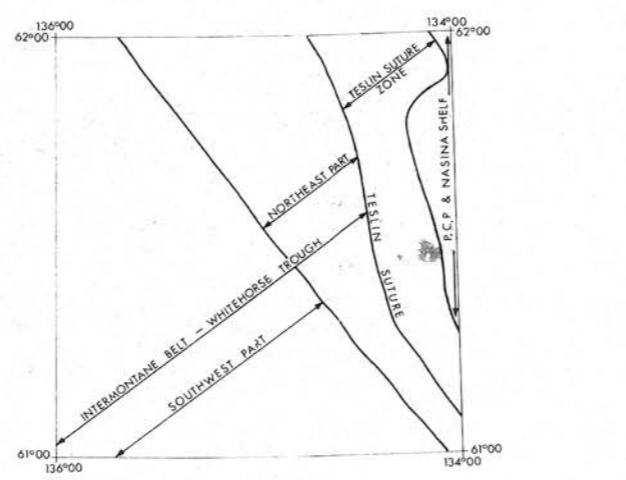
- TERTIARY**
- fTvB** Brown weathering basalt, andesite and breccia; locally vesicular and columnar jointed; individual flows not distinguishable
- TERTIARY MIOCENE? CARMACKS GROUP**
- wTcVb** Brown weathering massive basalt and basalt breccia with minor intercalated conglomerate and sandstone; includes gabbro and wTc undifferentiated
 - Tc** Grey weathering, massive hornblende andesite porphyry; a subvolcanic phase of the Carmacks basalts wTc
- UPPER JURASSIC AND/OR LOWER CRETACEOUS AND/OR UPPER CRETACEOUS - TERTIARY TANTALUS FM. AND/OR CARMACKS GP.**
- 1KT or eTcg** Resistant, thick-bedded to massive, chert and quartz pebble conglomerate with interbedded sandstone shale and coal. Although lithologically like 1KT a sample of these rocks from Walsh Creek recently yielded Late Cretaceous or Tertiary palynomorphs and all or some of these rocks may be equivalent to the lower part of the Carmacks Group rather than to the Tantalus Formation
- UPPER TRIASSIC AND LOWER JURASSIC??**
- uRJS** Green, moderately resistant, chlorite quartz schist and minor biotite chlorite quartz schist; these rocks are presumed to be highly sheared proclastic equivalents of the adjacent volcanic derived greywacke uRJSw
 - uRJSw** Resistant, massive dark green basalt and/or basalt derived greywacke and agglomerate

CRETACEOUS (90-10 my)

- Kgm** Moderately resistant, light grey weathering, biotite quartz monzonite; medium to coarse grained equigranular; generally lacks fabric; boundaries with fns are arbitrary; lacks small discrete xenoliths, but includes screens of metamorphic rocks with indistinct boundaries

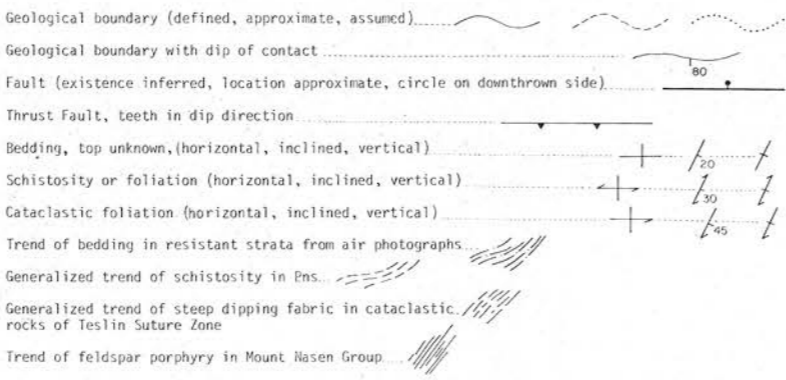
- ??TRIASSIC AND/OR JURASSIC??**
- NISUTLIN ALLOCHTHONOUS ASSEMBLAGE**
- BPk1** Light buff weathering, pale green muscovite quartz biotite monzonite, muscovite quartz schist and muscovite quartzite; includes sheared quartz feldspar granule grit and chlorite schist; may include CPw undifferentiated
- CARBONIFEROUS AND/OR PERMIAN ANVIL ALLOCHTHONOUS ASSEMBLAGE**
- CPav** Resistant, dark grey weathering, dark green fine-grained amphibolite and less metamorphosed "greenstone" and altered basalt; includes altered gabbro, undifferentiated; a penetrative flaser fabric is developed throughout. Where overprinted by this symbol \Rightarrow the amphibolite has prominent K-feldspar augen; where this symbol \Rightarrow is shown, the amphibolite grades to amphibolitic granodiorite gneiss, locally with abundant feldspar augen
 - CPaub** Resistant dun brown weathering serpentinitized dunite, peridotite and pyroxenite

- SILURIAN AND LOWER DEVONIAN**
- SDd** Resistant, light grey, buff and light orange weathering, medium-bedded dolomitized laminated mudstone to sucrose dolomite and dolomitized calcarenite with minor silty and sandy dolomite; vugs, birdseye and fenestral cavities are common as are bioturbation burrows, mottling and mudcracks
 - SDdq** Resistant medium grey to buff weathering, medium to thick bedded dolomite, sandy dolomite and dolomitic sandstone; gradational to SDd and Sq
 - Sq** White and light grey weathering, medium to thick bedded, light buff, medium-grained, mature orthoquartzite, commonly with dolomitic cement, minor interbedded sandy dolomite; laterally gradational to OSDqc and SDdq
- ORDOVICIAN SILURIAN AND LOWER DEVONIAN NASINA FACIES**
- OSDqc** Recessive, dark grey to black limy or dolomitic thin-bedded to platy graphitic siltstone and fine-grained impure quartzite with interbedded graphitic silty shale; gradational to, and facies equivalent of Sq and SDdq; includes graphitic metaquartzite and muscovite graphitic quartz schist, its metamorphosed equivalents
- LOWER CAMBRIAN**
- 16c2** White weathering, resistant marble, recrystallized lime mud and bioclastic limestone
- PROTEROZOIC AND LOWER CAMBRIAN**
- E16s** Buff weathering muscovite biotite schist; garnet mica quartz schist and micaceous quartzite, minor amphibolite; includes minor marble undifferentiated; gradational with Pn
 - Pn** Buff weathering, resistant muscovite biotite granodiorite gneiss and augen gneiss
 - Pns** Buff weathering muscovite biotite granodiorite gneiss with abundant interfoliated muscovite biotite quartz schist; gradational to E16s



MINERAL OCCURRENCES

1. **PACKERS** Limy layers apparently within the Carmacks Group contain pyrite, magnetite and minor chalcocopyrite.
2. **CASSIAR BAR** Minor chalcocopyrite is disseminated in basalt of the Carmacks Group near a small subvolcanic plug related to the Carmacks.
3. **WALSH** Shaly coal occurs in several thin seams within immature sandstones that are lithologically like than Tantalus, but which have given Tertiary or Upper Cretaceous palynomorphs and which are therefore more probably Carmacks Group equivalents.
4. **SEMENDF** Bornite occurs in a short fractured zone in an area where chalcocopyrite is weakly disseminated through carbonate and shale possibly equivalent to the Lewes River Group.
5. **ILLUSTION** Several asbestos showings are known here within serpentinitized peridotite of the Anvil Allochthonous Assemblage.
6. **TAKHINI** Skarn within acid tuffs of the Mount Nansen Group contains magnetite with minor bornite and chalcocopyrite.
7. **TUV** Pyrite, chalcocopyrite, magnetite and molybdenite are disseminated in brecciated feldspar porphyry possibly related to the Mount Nansen Group.
8. **SYLVIA** A showing like the near by Loon. Galena, sphalerite and chalcocopyrite are disseminated in a shear zone within weakly metamorphosed sheared rocks that may be Lewes River - Laberge Group equivalents.
9. **LOON** Disseminated pyrite and chalcocopyrite in shear zones that cut sheared and weakly metamorphosed equivalents of the Lewes River and Laberge Groups.



Geology compiled 1978 by D. Tempelman-Kluit from field work in 1977 and reinterpreted from Bosstock and Lees (1938); preliminary map, field work continuing

O.F. 578