

CORRELATION OF MAP UNITS

Qt	Quaternary
Qbl	Quaternary and Tertiary
QThm	Quaternary and Tertiary
QThb	Quaternary and Tertiary
QTe	Quaternary and Tertiary
Jk	Jurassic
Jf	Jurassic and Triassic
Jfp	Jurassic and Triassic
Jfs	Triassic
Jfr	Triassic
Pb	Permian
Pm	Permian
P	Permian
Ds	Devonian
Cs	Cambrian

DESCRIPTION OF MAP UNITS

Qt SCREE - May include solifluction deposits, weathered bedrock, and other surficial deposits.

Qbl BEARDMORE LOW MORAINIC SYSTEM - Supraglacial debris up to 20 cm thick overlying both active and stagnant ice adjacent to the active ice. The debris is characterized by angular to subrounded clasts of Beacon sediments and angular clasts of Ferrar Dolerite.

QTe GLACIAL DEPOSITS, UNDIVIDED - Includes undivided Qbl, QThm and QThb, and deposits derived from "local ice" expansion (the platform south of Meyer Desert). On elevated flat surfaces may include weathered bedrock.

QThm BEARDMORE MIDDLE MORAINIC SYSTEM - Supraglacial debris deposited by an ice cover more extensive than that which deposited Qbl. The entire deposit is ice-centred below 0.5 to 1.5 m depths. The debris is characterized by clasts of coarsely weathered and disintegrated Beacon sediments and of slightly rounded fine-grained Ferrar Dolerite and disintegrated coarse-grained Ferrar Dolerite. The weathered pebbles and boulders form a lag concentrate on the surface and overlie silt to sand size particles that are intermixed with fresher clasts of similar lithologies. Series of continuous boulder ridges (most notable in Meyer Desert) outline the recessional positions of former ice terminus.

QThb BEARDMORE HIGH MORAINIC SYSTEM - Supraglacial debris deposited by an ice cover more extensive than that which deposited QThm. The entire deposit is ice-centred below 1 to 2 m depths. The debris is characterized by clasts of rounded to coarsely weathered Beacon sediments and coarse-grained Ferrar Dolerite and a few clasts of Beacon sediments and coarse-grained Ferrar Dolerite. Below 5-10 cm clasts of Beacon sediments and coarse-grained Ferrar Dolerite increase in abundance and all lithologies exhibit weathering characteristics similar to Qbl. The upper limit of the deposit can often be differentiated, as on Otway Massif, by faint ridges and/or erratics.

QThm BEARDMORE HIGH AND/OR MIDDLE MORAINIC SYSTEM, UNDIVIDED

QTe SIRIUS FORMATION - Grayish-green semi-lithified till and stratified lenses. The stratified lenses contain sorted and unsorted layers of clasts ranging from gravel to silt size. The sediments occur as 1-2 m thick (Mt. Black and Otway Massif) deposits of till or as a basal till overlain by interbedded till and stratified lenses with a maximum measured thickness of 85 m (Meyer Desert). Striated and faceted clasts up to boulder size occur in the basal till and all local bedrock lithologies are represented. Where the contact is exposed the basal till overlies unweathered surfaces and slopes of Ferrar Dolerite or Fremouw Formation.

Jk KIRKPATRICK BASALT - Tholeiitic flows and ponded lavas from 2 to at least 200 m thick. Includes sparse, thin acidic tuff beds and lacustrine deposits with conchostromata. Many of the thicker flows have zones of medium-grained diabase. Amygdules of quartz, chalcedony, calcite and zeolites, principally heulandite and stilbite, in basal and upper contact zones of lavas. Locally upper surfaces have weathering profiles, and at Johnston Heights one is a paleosol. A few lavas enclose tree stumps and wood fragments. K/Ar ages from Mt. Burnstead of 161±3 m.y., Mt. Cecil of 171±7 m.y., and Mt. Spohn of 172±8 m.y. Thickness 500+ m.

Jf FERRAR DOLERITE - Tholeiitic diabase sills intruded into the Beacon Supergroup and possibly along the Kakeri erosion surface separating the Taylor Group and underlying rocks; rare dikes: one extensive intrusive mass in the Supporters Range. Ferrar dolerite sills as thick as 150 m; thicker sills observed. Large rafts of sedimentary strata "floating" in diabase may have an apparent structural dip as at Graphite Peak. Flat areas of diabase may include weathered bedrock.

Jfp PREBBLE FORMATION - Light-brown, greenish-brown or reddish-brown massive poorly sorted lahar debris, pyroclastic breccia, tuff and minor tuffaceous sandstone, all containing acidic volcanic debris and zeolite. Sparse tuff beds with accessory lapilli. Lahar debris locally contains boulders as much as 60 cm across of diabase, basalt, tuff, sandstone, siltstone, shale and coal. Diabase boulder in lahar debris has K/Ar age of 179±10 m.y. Thickness up to 460 m.

Jfs FALLA FORMATION - Very light gray quartzose sandstone. Exposed only as a raft of sedimentary strata in diabase on north side of Falkenberg Glacier and as an isolated outcrop at the base of Mt. Petlock. Thickness 30+ m.

Jfr FREMOUW FORMATION - Upper part: Mainly light greenish-gray laumontized volcanic sandstone with some carbonaceous shale. (Stenoclimacites?), roots and logs common. A little coal, *Dicroidium*. About 400 m thick. Middle part: Greenish-gray mudstone with thin beds of light gray volcanic sandstone. A few stems and roots. About 250 m thick. Lower part: Cyclic light reddish-brown quartzose sandstone and greenish-gray mudstone. *Lystrosaurus*-zone fauna present at Graphite Peak. About 80 m thick.

Pb BUCKLEY FORMATION - Cyclic light-colored crossbedded sandstone, carbonaceous shale and high-rank, high-shale coal. Log, stems and glossopteris leaves common. Sandstone beds normally have erosion surfaces at base and shale fragments in lower part. Sandstone is subarkose to arkose in formation but volcanic fragments become abundant between 100 and 300 m above base. Volcanic sandstone, which commonly is laumontized, dominates upper part. No complete sections exposed in this quadrangle. Thickness a minimum of 300 m and probably 600+ m.

Pm FAIRCHILD FORMATION - Exposed only northwest of Beardmore Glacier. Upper part: interbedded quartz sandstone and micaceous siltstone with carbonaceous siltstone near top. Thickness about 90 m. Lower part: White quartz sandstone with well-developed crossbedding, interbedded with minor carbonaceous shale. Thickness about 170 m.

P MACKELLAR FORMATION - Exposed only northwest of Beardmore Glacier. Fine to medium-bedded mudstone and siltstone with interbedded minor white sandstone and carbonaceous siltstone. Rippled marks and flow casts present. Thickness 125 m.

P PERMIAN STRATA, UNDIVIDED - Shown only on the cross section. May include the Pagoda, Mackellar, Fairchild, and Buckley Formations, and Ferrar Dolerite sills. The Pagoda Formation, a unit of siltstone, sandstone and shale which underlies the Mackellar Formation, is not exposed in this quadrangle.

Ds ALEXANDRA FORMATION - Exposed only northwest of Beardmore Glacier. White, medium- to coarse-grained micaceous quartzose sandstone, quartzite, minor pebbly beds, interbedded micaceous siltstone. Soft sediment folding associated with this diamictite. Top of formation at Mt. Bowers has glacial(?) striae. Thickness about 90 m.

Cs SHACKLETON LIMESTONE - Dense, light gray, very fine grained limestone, limestone breccia, dark gray well-bedded limestone, and calcareous siltstone in small isolated outcrops south of Mt. Bowers. Light gray limestone contains archeocyathids. Thickness 300+ m.

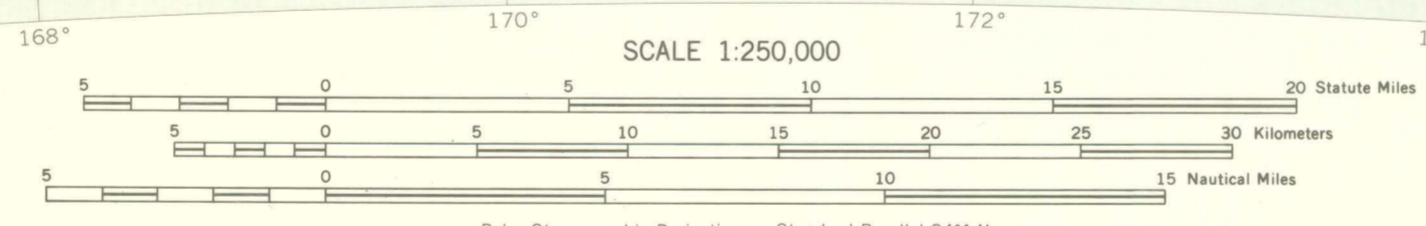
Contact - Dashed where approximately located

U Fault - Dotted where concealed, U, upthrown side; D, downthrown side

20 Strike and dip of beds

-500 Structure contour - Approximately located. Drawn on base of Beacon Supergroup. Datum is mean sea level. Contour interval 500 meters

→ Base of measured stratigraphic section



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