

CORRELATION OF MAP UNITS

JK	JURASSIC AND TRIASSIC
Jf	
OCg	ORDOVICIAN AND CAMBRIAN (?) OR PROTEROZOIC (?)
CEws	

DESCRIPTION OF MAP UNITS

- JK** Kirkpatrick Basal—Tholeiitic lava flows with thin sedimentary and pyroclastic interbeds occurring very sparsely.
- Jf** Ferrar Dolerite and Section Peak Formation undifferentiated—Ferrar Dolerite—Sills of tholeiitic diabase separated and underlain by thin slivers of sandstone. Typically has columnar jointing. Age is Jurassic.
- Section Peak Formation—Medium to coarse-grained, trough-cross-bedded sandstone, that is feldspathic and contains volcanic detritus including altered shards. The sandstone overlies an irregular erosion surface on granite at Mt. Bower and Roberts Butte, where it is approximately 18 m thick and capped by diabase. At Johannessen Nunatak, sandstone crops out at the northern and both above and below a diabase sill approximately 80 m thick. A Late Triassic age is suggested by microfossils.
- OCg** Granite Harbour Intrusives—Strongly peraluminous syeno- and monzogranites, both equigranular and porphyritic (K-feldspar phenocrysts). Tourmaline and garnet are accessory phases in some plutons. Muscovite is common, though most or all is probably secondary. The granites generally are texturally homogenous in pluton interiors, but have complex intrusive and migmatized margins.
- Pegmatite and aplite dikes are common throughout the quadrangle, intruding both Wilson metasediments and Granite Harbour plutons. The pegmatites are both zoned and unzoned. Graphic texture occurs in some. Cavities with euhedral crystals are common. Tourmaline, mainly schorl, is ubiquitous; rubellite and verdite occur in a brecciated pegmatite at Mt. Joern. Beryl and Fe-cordierite occur in pegmatites of Frontier Mountain. Garnet is common.
- CEws** Wilson metasediments—Equivalent to Rennick Group of Gair (1967). Fine-grained, psammitic and pelitic schists with minor layers and lenses up to several cm thick of calcisclastic granite and impure marble. At Mt. Weinhaupt layered quartz-biotite schists contain plagioclase, muscovite, fibrolite, altered cordierite(?) porphyroblasts, and rare andalusite; quartz segregations contain garnet and vesuvianite.
- \* Indicates localities where pegmatites and aplites intrude Wilson metasediments.

EXPLANATION OF MAP SYMBOLS

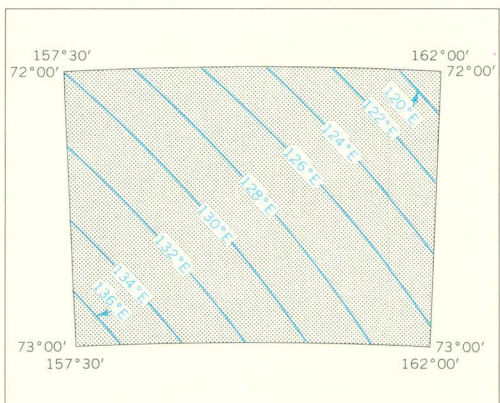
- Contact
- Fault deduced from change in height of cover rocks
- ~~~~~ Gradational igneous contact
- Strike and dip of bedding

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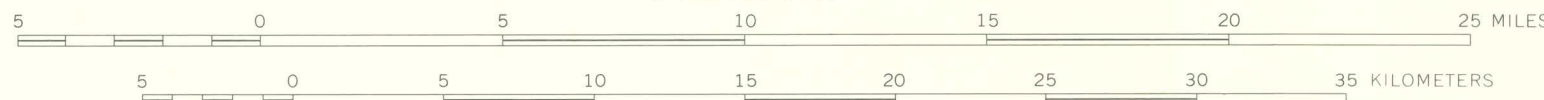
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COMPILATION DIAGRAM



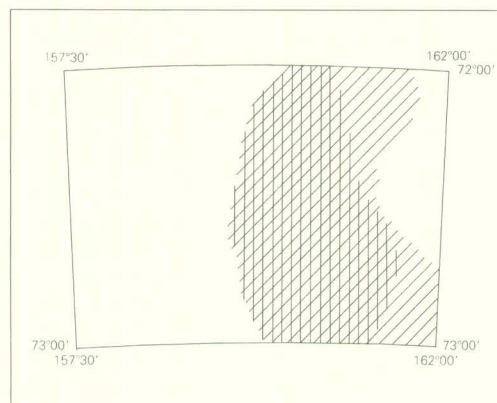
Photogrammetric compilation  
Isogonic lines compiled from U.S.N.D.D.  
Chart 1706 S, 1965

SCALE 1:250 000



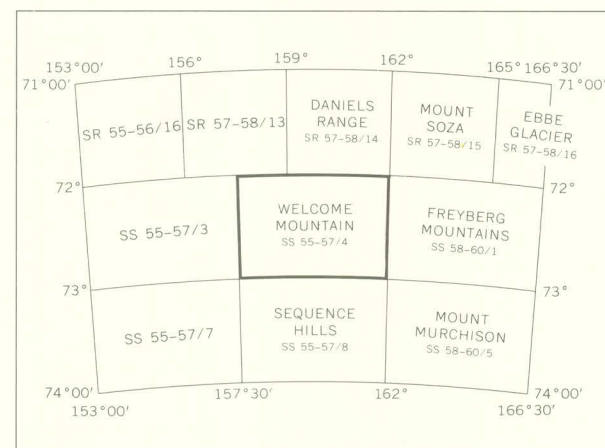
CONTOUR INTERVAL 200 METERS—NATIONAL GEODETIC VERTICAL DATUM OF 1929

GEOLOGIC MAP COMPILED



Mapped by U.S. Antarctic Research Program  
Mapped by Bundesanstalt für Geowissenschaften und Rohstoffe

INDEX TO ADJOINING SHEETS



Sheet numbering system based on International Map of the World

RECONNAISSANCE GEOLOGIC MAP OF THE WELCOME MOUNTAIN QUADRANGLE,  
TRANSANTARCTIC MOUNTAINS, ANTARCTICA

Compiled by  
Edmund Stump  
From contributions by  
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Edward S. Grew<sup>3</sup>, John R. Holloway<sup>1</sup>, Michael Sandiford<sup>4</sup>,  
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