Geology of the Scott-Reedy Glaciers Area
Southern Transantarctic Mountains, Antarctica

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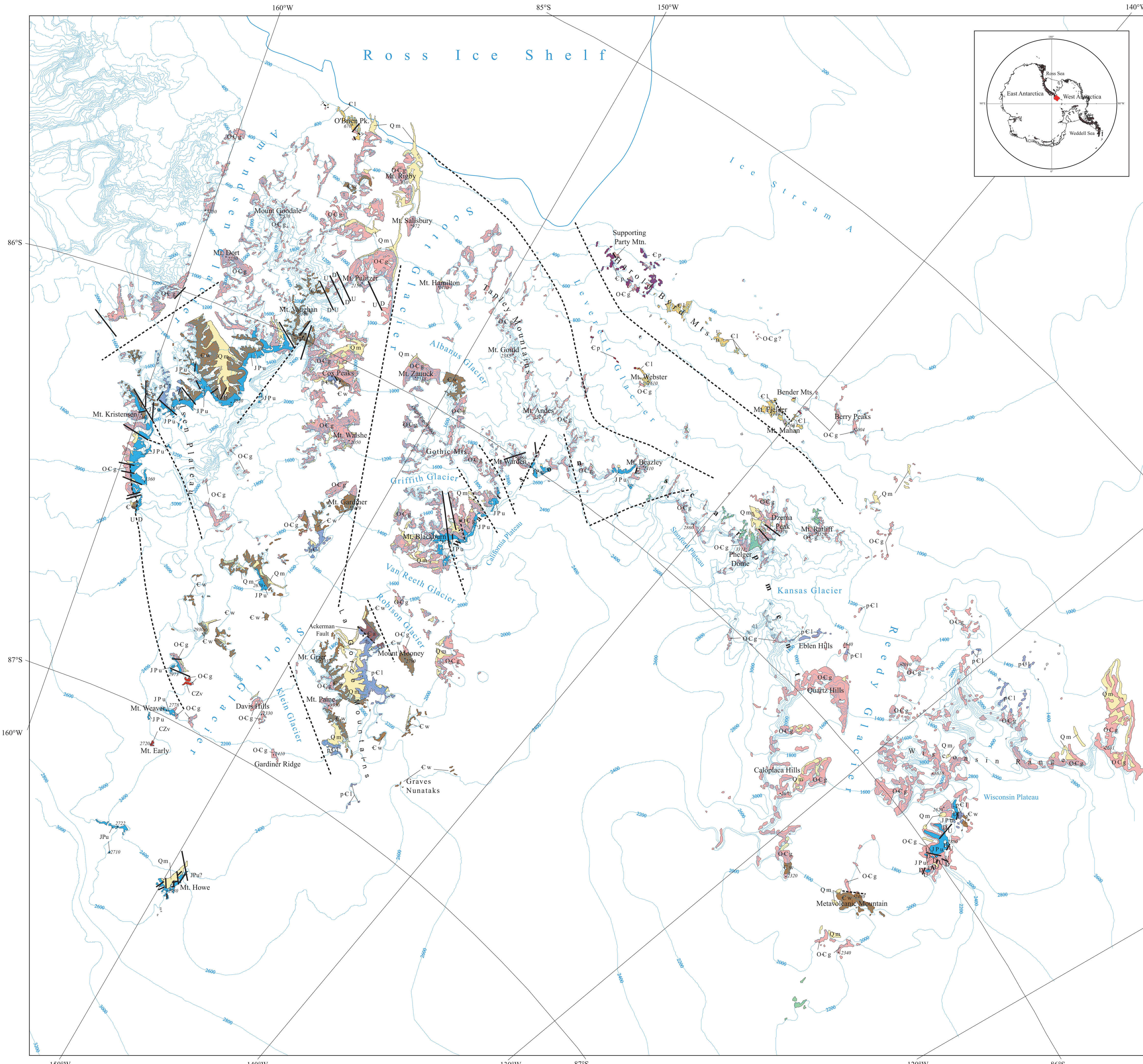

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Explanatory Notes

Corresponding area USGS Antarctic Reconnaissance Series topographic maps (1:250,000, Polar Stereographic projection, standard parallel 80°14'S) include:

1989, Mount Goodale #SV 1-10/6.	1985, Mount Blackburn #SV 1-10/11.
1964, Wisconsin Range #SV 1-10/8.	1964, Caloplaca Hills #SV 1-10/12.
1967, Nilsen Plateau #SV 1-10/10.	1968, D'Angelo Bluff #SV 1-10/15.

Digital topographic map template created using the Antarctic Digital Database (ADD) Version 1.0, 1993, prepared by the British Antarctic Survey, Scott Polar Research Institute, World Conservation Centre, and the Scientific Committee on Antarctic Research. ADD Version 1.0 specifications: Polar Stereographic Projection, Standard Latitude 71°S, Central Meridian 0°, Spheroid WGS84.

This map compilation is reconaissance-scale and is, therefore, meant to show spatial relationships between rock types and major structures rather than detailed structural or subsurface information. The accuracy of the compiled data is highly variable due to the number of data sources, variety of data collection methods, and errors inherent in combining data from different projections and datums.

Special thanks to Ed Stump and Scott Borg for their initial reviews of this map. This work funded by NSF-OPP 9615832 and 9319379.

Explanation

Cenozoic — Quaternary

Qm — **Glacial Tills and Moraines**

Cenozoic — Tertiary

CZv — **Basaltic Volcanic Rocks**
Part of the McMurdo Volcanic Group of LeMasurier and Thomson (1990). At Mt. Early olivine basalts in a moberg or small volcano. At Sheridan Bluff are alkaline basalt and olivine tholeite sills and flows. Total thickness is approximately 500 m (Stump et al., 1980).

Mesozoic / Paleozoic — Permian-Jurassic

JPu — **Beacon Supergroup and Ferrar Group Undifferentiated**
Basal tillites overlain by more than 800 m of glacial, fluvial, and lacustrine shale and siltstone with some calcareous horizons and coal beds. *Glossopteris* present. Dolerite sills and flows intrude and overlay the sedimentary sequence (Katz and Waterhouse, 1970; Katz, 1982).

Kukri Erosion Surface
(local variation 2200-3700 m a.s.l..)

Paleozoic — Ordovician

O€g — **Granite Harbor Intrusive Complex**
(locally called the Wisconsin Range Batholith and the Queen Maud Batholith) Continental batholith which spans the length of the Transantarctic Mountains. Rock types include granite, quartz monzonite, tonalite, diorite, hornblende gabbro. Monzogranite and grannodiorite are the most common rock types (Borg, 1983).

Paleozoic — Cambrian

€a — **Ackerman Formation**
Shale and wacke or arenitic sandstone interbedded with silicivolcanic porphyry tuffs and flows. Several pebble conglomerate horizons. Sedimentary structures include laminations, ripple-drift structures, rip-up clasts, soft sediment deformation structures, and < 5 cm high tabular cross bedding. Total thickness is at least 2000 m (Stump, 1983; Wareham et al., 2000; Encarnacion and Grunow, 1996).

€w — **Wyatt Formation**
Massive aphanitic porphyry with volcanic and possibly hypabyssal phases (Stump, 1995; Encarnacion and Grunow, 1996).

€l — **Leverett Formation**
More than 2500 m of crossbedded sandstone that grades upwards into shale and limestone. The sedimentary sequence is overlain by and interbedded with silicic volcanic rocks. Metamorphosed in some areas (Stump, 1983; Wareham et al., 2001). *Ajacicyanthus aequitriens* and *Pararaia?* present (Rowell et al., 1996).

€p — **Party Formation**
Pelitic and calcareous schist, gneiss, quartzite, and marble (Stump, 1995; Heintz, 1980; Vogel et al., 2000).

Precambrian — Proterozoic

p€l — **La Gorce Formation**
Greater than 2000 m of interbedded graywacke and shale and metamorphic equivalents. Bedding is centimeter-scale. Sandstones show graded bedding, cross bedding and sole marks (Stump, 1982, 1995; Stump et al., 1986).

Unidentified metamorphic rocks
Amphibolite, gneiss, schist, quartzite, phyllite (Stump, 1995; Borg and DePaolo, 1994; Heintz, 1980).

Unidentified non-granitic intrusive rocks
(See Heintz, 1980)

No Data

Map Symbols

Normal fault showing fault plane dip direction
Fault inferred
U / D — Fault showing relative movement

Geologic Contact
2150 — Elevation (m)
2200 — Contour lines
Contour interval = 200 m

Scale:
0 km — 10 km — 20 km — 30 km