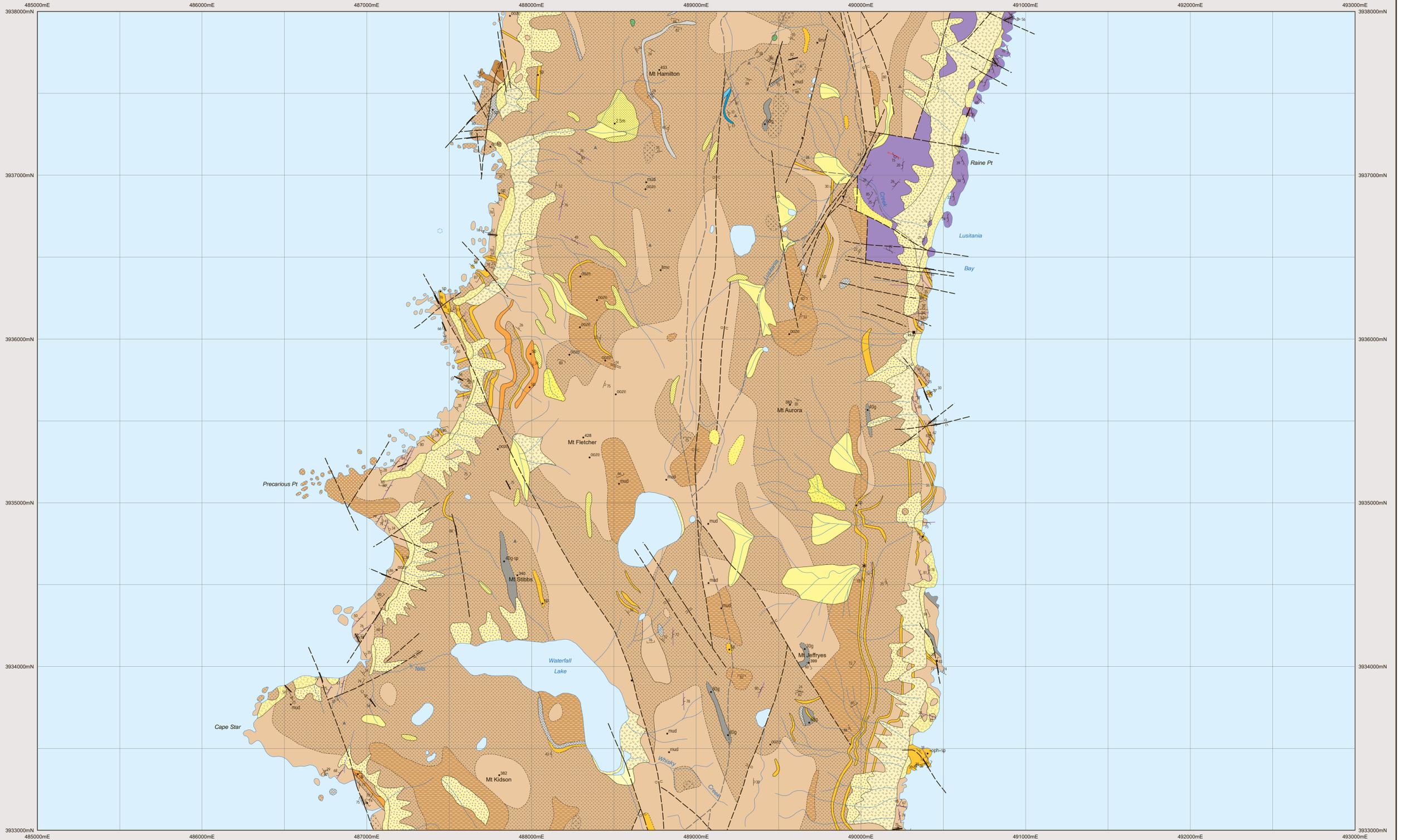


GEOLOGY OF MACQUARIE ISLAND - SHEET 6



Geology by B.D. Goscombe, BSc (Hons), PhD and J.L. Everett, BSc (Hons), December 1994 - May 1995; September 1995 - January 1996. Project initiated and supervised by A.V. Brown, BSc (Hons), PhD, Director, Mineral Resources Tasmania, with funds provided by the Australian Antarctic Foundation, and logistical support provided by the Australian Antarctic Division.

Bathymetry from several sources. The Spot multispectral satellite mosaic produced by the Australian Centre for Remote Sensing (ACRES) 1994. Division of National Mapping Macquarie Island 1:50,000 topographic map (1971) warped to conform with the satellite mosaic along coastline and lakes. Incomplete aerial photography flown in 1976 (mainly in the north of the island). GPS positions and field observations.

Map produced by the Data Management Group, Mineral Resources Tasmania, using GIS software. Original map produced March 1998. Absolute position with respect to horizontal datum and topographic features is approximate.

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- ALLUVIAL, LACUSTRINE AND SWAMP DEPOSITS**
- Alluvium, including deposits at the margin of lakes.
 - Colluvium of wash slopes.
 - Slopes, swamps and "featherbed" (includes significant areas of peat without bedrock outcrops).
- SLOPE DEPOSITS**
- Scree slopes.
 - Alluvial fans, with slopes of less than 22 degrees.
 - Deposits of large (0-20m) boulders along coasts, typically in bays on west coast.
- BEACH AND AEOLIAN DEPOSITS**
- Pebbly to cobbly beach deposits.
 - Aeolian silt and sand deposits, often with gravel lag; approximate thickness of deposit in metres indicated where known.
 - Scattered pebble-beach cobbles and pebbles (shown as overprint on underlying units).
- GLACIOGENE DEPOSITS**
- Isolated, striated, faceted and polished cobbles and boulders.

- SEDIMENTARY ROCKS**
- Mudstone and siltstone, usually laminated and red.
 - Conglomerate, usually clay-silt supported, consisting of sub-rounded to sub-angular cobbles to boulder-sized clasts of basalt and dolerite, in a mudstone to sandstone matrix. Sedimentary rock matrix between pillows in bays or blocks in bays indicated.
 - Coarse - pale grey to green siliceous ooze.
 - Thin - green to pale pink limestone.
 - Mud - red to grey mudstone.
- VOLCANICLASTIC ROCKS**
- Hyaloclastic breccia consisting of angular to sub-rounded blocks of usually aphyric basalt in a glass matrix. Plagioclase-phyric basalt blocks indicated (pp). % proportion of glass indicated (Pg).
 - Volcaniclastic breccia, matrix-supported, with blocks of usually aphyric basalt, plagioclase-phyric basalt blocks indicated (pp).
 - Matrix-supported breccia, clay-silt supported, with blocks of usually aphyric basalt, plagioclase-phyric basalt blocks indicated (pp).
 - Breccia containing isolated pillows or lenticular zones of pillows indicated (pp).
- LAVAS**
- Pillow basalt, aphyric to very sparsely phytic (<5% plagioclase phenocrysts), usually amygdaloidal.
 - Pillow basalt, sparsely to moderately phytic (5-30% plagioclase phenocrysts), usually amygdaloidal.
 - Pillow basalt, densely to very densely phytic (>30% plagioclase phenocrysts), usually amygdaloidal.

- INTRUSIVE ROCKS**
- Sheeted dolerite dykes, with screens of massive, coarse-grained gabbro above, minor (<5%) or abundant (5-30%) % proportion of gabbro screens (30gs) and individual gabbro screens indicated.
 - Gabbro screens within sheeted dolerite dykes, orientation known, trace.
 - Disaggregated pillows indicated by overprint.
 - Tabular basalt flows, medium to fine-grained, usually aphyric, rarely sparsely plagioclase-phyric (pp) or densely plagioclase-phyric (pp). Rarely with zones of pillows (pp).
 - Tabular basalt flows, medium to coarse-grained with mesocrystally visible plagioclase laths, usually aphyric; rarely sparsely plagioclase-phyric (pp). Rarely with zones of pillows (pp). Autozonation indicated (Bz).
 - Hornblende-phyric massive tabular basalt flows, medium-grained, rarely sparsely plagioclase-phyric (pp). Rarely with mesocrystally visible plagioclase laths (pp).
 - Small plugs of picrite.

- Geological boundary - position approximate.
- Geological boundary - inferred.
- Fault - position approximate.
- Dolerite dykes, trace or trend.
- Gabbro screen.
- Track.
- Topographic high point.

- Bedding in sedimentary rock - right way up.
- Bedding defined by orientation of massive tabular lava units.
- Bedding defined by lithological layering of distinct rock units.
- "Bedding" defined by planes of pronounced flattening of pillows.
- Strike and dip of pillow-canyon or pillow-slot, filled by conglomerate and/or block breccia.
- Strike and dip of dyke or vein.
- Cleavage, fracture-cleavage or fractures - dipping.
- Strong penetrative cleavage with possible grain-refinement.
- Strike and dip of outcrop scale fault.
- Trend and plunge of slickenside, within indicated fault plane.
- Sense of movement on fault or disjunct shear zone - dextral, sinistral, (note: for scars on the pillow, the most recent, but not necessarily the most important, sense of movement is indicated).

