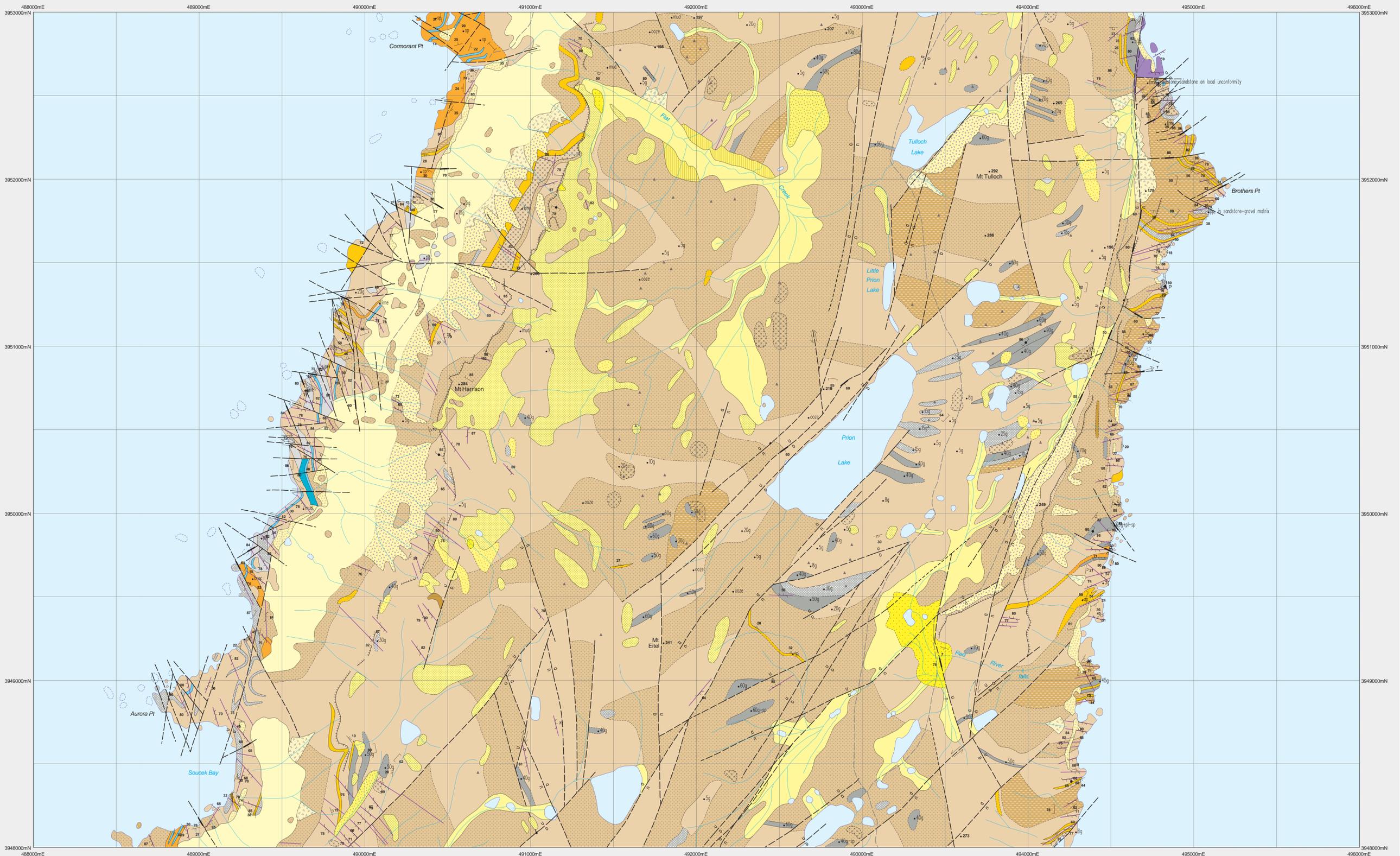


GEOLOGY OF MACQUARIE ISLAND - SHEET 3



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Base map drawn from several sources: The 1:50 000 topographic mosaic produced by the Australian Centre for Remote Sensing (ACRES) 1994. Division of National Mapping Macquarie Island 1:50 000 topographic map (1971) resampled to conform with the satellite mosaic along coastline and lakes. Incomplete aerial photographs 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**
- Older alluvium of terraces.
 - Colluvium of wash slopes.
 - Bogs, swamps and "featherbed" (includes significant areas of peat without bedrock outcrops - on the north-west coast these peat deposits cover palaeo-beach deposits on an elevated wave-cut platform 6-8m above sea level).
 - Palaeo-lake deposits of laminated mud, silt and organic material, extent inferred, usually concealed beneath younger alluvium (not shown). Exposed palaeo-lake deposits indicated (large dots).
- SLOPE DEPOSITS**
- Scree slopes.
 - Alluvial fans, with slopes of less than 22 degrees.
- 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.
 - Palaeo-beach deposits of rounded and smoothed cobbles and pebbles, less commonly with coarse sand; mostly on the plateau, but also below peat cover along the northern west coast (not indicated).

- SEDIMENTARY ROCKS**
- Mudstone and siltstone, usually laminated and red (grey in 490 000E 3952 000N).
 - Sandstone and pebbly sandstone with muddy to silty matrix; usually grey, greenish-grey or red.
 - Sedimentary rock matrix between pillows in lavas or blocks in breccia indicated.
 - ooze - pale grey to green siliceous ooze.
 - limb - red to grey mudstone.
 - 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 blocks indicated (sp); % proportion of glass indicated (20g).
 - Volcaniclastic breccia, matrix-supported, with blocks of usually aphyric basalt; plagioclase-phyric basalt blocks indicated (sp).
 - Volcaniclastic breccia, clast-supported, with blocks of usually aphyric basalt; plagioclase-phyric basalt blocks indicated (sp).
 - Breccia containing isolated pillows or lenticular zones of pillows indicated (pill).
- 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 diorite dykes, with screens of massive, coarse-grained gabbro absent, minor (<5%) or abundant (5-30%), % proportion of gabbro screens (20g) and individual gabbro screens indicated.
 - Disaggregated pillows indicated by overprint.
 - Tabular basalt flows, medium- to fine-grained, usually aphyric; rarely sparsely plagioclase-phyric (sp) or densely plagioclase-phyric (sp). Rarely with zones of pillows (pill).
 - Tabular basalt flows, medium- to coarse-grained with mesoscopically visible plagioclase laths, usually aphyric; rarely sparsely plagioclase-phyric (sp). Rarely with zones of pillows (pill). Amphibolite indicated (bre).
 - Hornblende-phyric massive tabular basalt flows, medium-grained. Rarely sparsely plagioclase-phyric (sp). Rarely with mesoscopically visible plagioclase laths (sp).

- Geological boundary - position approximate.
- Geological boundary - position inferred.
- Fault - position approximate.
- Fault - inferred.
- Diorite dykes, trace or trend.
- Base of escarpment.
- Approximate top of escarpment.
- Tracks.
- 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 plane of pronounced flattening of pillows.
- Trend and plunge of flow of lava, indicated by long axis of pillows (P) or ropey lava (R).
- Strike and dip of palaeo-canyon or palaeo-alc, filled by conglomerate and/or block breccia.
- Strike and dip of dyke or vein.
- Cleavage, fracture-cleavage or fractures - dipping; vertical.
- Strong penetrative cleavage with possible grain-reorientation.
- Strike and dip of outcrop scale fault.
- Trend and plunge of slickenside, within indicated fault plane.
- Sense of movement on fault or ductile shear zone - dextral; sinistral; (note: for scraps on the plateau, the most recent, but not necessarily the most important, sense of movement is indicated).

