MAP 10. GEOLOGY OF THE ELLIOTT BAY — MT OSMUND AREA

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1 0.5 0 1 2 km

SCALE 1 : 25 000

CONTOUR INTERVAL 10 METRES

QUATERNARY

- **Qa** — *Alluvium and swamp deposits.*
- **Qt** — *Talus, scree and other slope deposits. (Qtc = conglomerate–derived, Qtq = quartz vein–derived).*
- **Qbs** — *Active beach and dune sands.*
- **Qbc** — *Raised beach deposits of boulders and cobbles.*
- **Qd** — *Vegetated dunes and associated wind-blown sands.*
- **Qf** — *Ferricrete deposits.*
- **Qms / Qmsg** — *Sands and gravels associated with older marine platforms — probably includes marine, alluvial and slope deposits. Silicified gravel deposits, generally occuring as loose blocks (Qmsg).*

? LATE TERTIARY

- **TQgs** — *Gravel and sand deposits associated with surface approx. 50 m a.s.l. Includes vein quartz lag and probable younger alluvial deposits.*
- **Tgs / Tq / Tgl** — *Unconsolidated roundstone gravel of quartzite and vein quartz clasts (Tgl). Patches of silicified gravel indicated (Tgs). Basal lag deposit of mainly subangular vein quartz clasts (Tq).*

? CRETACEOUS — ? DEVONIAN

- **L** — *Lamprophyre dyke.*

SILICICLASTIC SEQUENCE IN MT OSMUND AREA — CORRELATE OF DENISON GROUP

? EARLY ORDOVICIAN — ? LATE CAMBRIAN

- **€Ocs** — *Mainly interbedded granule-pebble conglomerate and siliceous sandstone (€Ocs).*
- **€Ots** — *Mainly thin-bedded micaceous siltstone and fine sandstone (€Ots).*
- **€Ots** — *Major unit of thin-bedded micaceous siltstone and fine sandstone.*
- **€Ocs / €Ots** — *Mainly interbedded granule-pebble conglomerate and sandstone, with some intercalated units of siltstone shown (€Ots).*
- **€Ots / €Ocs** — *Major unit of interbedded micaceous siltstone and fine sandstone, with some intercalations of conglomerate-sandstone shown (€Ocs).*
- **€Ous** — *Mainly thin-bedded micaceous sandstone.*
- **€Ou** — *Mainly black pyritic shale and siltstone (€Ouh). Horizons of micaceous siltstone indicated (€Ots).*
- **€Ouh / €Ots** — *Local unit of quartz-feldspar-phyric lava or intrusive indicated (€Ouy).*
- **€Ouy** — *Mainly volcaniclastic conglomerate and sandstone, with some associated siliciclastic sandstone in places. Forms base of sequence in most areas.*
- **€Ouv** — *Locally developed sequence of well-bedded volcaniclastic sandstone and siltstone with common graded bedding.*

'Waterloo Creek Group'

Unconformity.

FELSIC TO INTERMEDIATE VOLCANICS AND RELATED SEQUENCES — CORRELATES OF MT READ VOLCANICS

UPPER COPPER CREEK — MAINWARING RIVER AREA

Relationships to other sequences uncertain.

- **€vu / €vm / €vat / €vaa** — *Dominantly sedimentary and volcaniclastic rocks of felsic (quartz-feldspar-phyric) to intermediate (feldspar-phyric) composition; mostly sand to silt grade (€vat). Some chlorite-epidote altered rocks, including sandstone, siltstone and possible mafic lava indicated (€am). Unit of plagioclase — pyroxene–phyric intermediate lava indicated (€aa).*
- **€vsh / €vf** — *Mainly black to grey shale and siltstone with minor sandstone. Unit of felsic to intermediate volcaniclastic rock shown (€af)*

WART HILL — SASSY CREEK — STONY CREEK AREA

CAMBRIAN

- **€vvsh / €vvm** — *Mainly felsic (quartz-feldspar-phyric) volcaniclastic rocks on coast. Well bedded in part. Includes sandstone, siltstone, tuff, possible minor lava. Mostly altered and strongly cleaved. Some units of fine-grained siltstone-vitric tuff (€vsh) and massive quartz-phyric volcanic rock (€vm) shown.*
- **€vsh / €c** — *Dominantly black to grey laminated shale and siltstone, with minor felsic volcaniclastic units. May be equivalent to €ash. Interbedded conglomerate and sandstone with minor siltstone and shale. Conglomerate varies from dominantly siliciclastic (€cs) to dominantly volcaniclastic (€cv) and from granule to cobble grade.*
- **€vp / €vpf / €vl / €vsh / €vs / €vv / €vvt / €vs** — *Dominantly felsic (quartz-feldspar-phyric) epiclastic and volcaniclastic rocks (€vv) well bedded to massive. Includes minor felsic lava and lava breccia. Volcaniclastic conglomerate (€cvl). Quartz-feldspar-biotite-phyric lava and/or intrusive. Felsic lava, quartz-feldspar-phyric, commonly spherulitic and/or flow banded. May be intrusive in part. Black to grey shale and siltstone. Siliceous-micaceous sandstone, generally thin-bedded. Volcaniclastic sandstone. Vitric tuff, generally laminated to thinly bedded. Siliciclastic conglomerate, sandstone and breccia.*

HUDSON RIVER — ELLIOTT BAY AREA

Relationships to other sequences uncertain.

- **€vs / €vl / €vf / €vv / €vvo / €vpbl / €vl / €vs / €vr** — *Dominantly felsic lava (quartz-feldspar-phyric) with minor intercalated clastic rocks. May be intrusive in part. Felsic volcaniclastic rocks, well bedded to poorly bedded, fine to coarse-grained (€vv). Volcaniclastic sandstone with minor siltstone. Intermediate lava or intrusive. Dominantly felsic (quartz-feldspar-phyric) epiclastic and volcaniclastic rocks, well bedded to massive. Includes sandstone, siltstone, minor conglomerate probable pyroclastic rocks and minor felsic lavas. Dominantly well bedded volcaniclastic sandstone with minor siltstone. Felsic volcaniclastic rocks containing significant detrital biotite. Quartz-feldspar-biotite-phyric lava and/or intrusive. Felsic lava, quartz-feldspar-phyric, commonly spherulitic. Intermediate lava or intrusive.*
- **€vsr** — *Bedded volcaniclastic sandstone, siltstone and minor siliceous sandstone abutting Precambrian rocks east of major porphyry body — probable correlate of Stichi Range Bads.*

MAFIC VOLCANIC — SEDIMENTARY SEQUENCE IN VERIDIAN POINT — MAINWARING RIVER AREA

Relationships to other sequences uncertain.

- **€mu / €mv** — *Dominantly interbedded volcaniclastic sandstone, siltstone, dolomitic sandstone, mafic volcanic breccia and minor mafic lava. Dominantly mafic lava and breccia, chlorite-epidote altered, with minor sedimentary rocks. Doleritic rocks.*

CAMBRIAN INTRUSIVE ROCKS

- **€g / €gs / €gm / €gmm / €gf** — *Dominantly medium to coarse-grained biotite granite-adamellite. Includes K—feldspar-phyric granite, microgranite, and minor quartz-feldspar-biotite porphyry. Area of intense sericite-quartz alteration indicated (€gs). Microgranite and porphyritic microgranite. Intensely sericite-quartz altered microgranite (€gmm). May include minor thermally altered country rocks. Medium to coarse-grained K—feldspar-phyric granite.*
- **€vfbp / €vfbl / €vm** — *Quartz-feldspar-biotite porphyry, coarse grained. Fine to medium-grained quartz-feldspar-biotite-phyric lava and/or intrusive. Intermediate intrusive and/or lava.*

DYKES

- **M** — *Mafic — usually chlorite-altered.*
- **f** — *Felsic-rhyolitic, commonly flow-banded.*
- **G** — *Granite-related-aplite, microgranite, quartz-feldspar porphyry.*

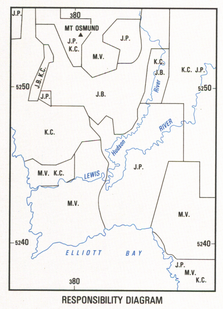
PRECAMBRIAN

- **PE** — *Undifferentiated quartzite, phyllite, schist. Some major compositional boundaries indicated.*

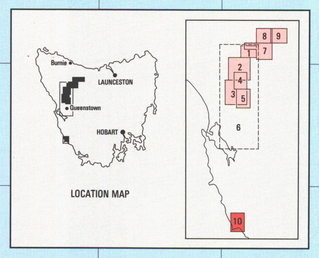
Geological boundary — accurate or approximate.
Geological boundary — inferred or concealed.
Trace of form surface or strike line.
Fault — accurate or approximate, dip indicated where known.
Fault — inferred or concealed.
Fault — photo interpreted.
Axial surface trace of major anticline, syncline, plunge indicated.
Minor fold with plunge, unspecified generation; antiform, synform, unspecified.
F1 minor fold with plunge; antiform, synform, unspecified.
F2 minor fold with plunge; antiform, synform, unspecified.
Strike and dip of bedding — facing known, unknown, overturned, vertical facing known, vertical facing unknown.
Strike and dip of flow-banding, vertical.
Strike and dip of mafic schlieren associated with granitic rocks.
Strike and dip of S1 or dominant foliation, vertical; S2, vertical; S3, vertical.
Strike and dip of parallel bedding and cleavage, vertical.
Strike and dip of earlier or dominant cleavage in Precambrian rocks, vertical; S2, vertical; parallel cleavage and bedding.
Plunge and azimuth of extension lineation-mineral, pebble, unspecified.
Strike and dip of jointing, vertical.
Strike and dip of shear bands or kink bands, vertical.
Strike and dip (where known) of dyke; orientation uncertain in some areas.
V19-5 — *Diamond drill hole — collar and surface projection.*
Voyager 9 — *Prospect with name.*
Trend of small aeolian dunes developed on gravel deposits.
Former shoreline cliff or marine platform.
Exploration grid line

ALTERATION — MINERALISATION

- *Quartz-muscovite ± garnet ± epidote (± biotite ± pyrite ± tourmaline) alteration associated with granite.*
- *Quartz-sericite ± microcline ± epidote ± chlorite (± biotite ± garnet ± muscovite) alteration associated with granite.*
- chl pyr — *Other alteration types affecting volcanic rocks chl = chlorite ser = sericite pyr = pyrite qtz = quartz ep = epidote.*
- *Gossanous vein — mineral assemblages include limonite, hematite, chlorite, sericite, quartz, tourmaline, chalcopyrite, pyrite, arsenopyrite.*
- *Quartz vein.*
- *Massive sulphide outcrop.*



RESPONSIBILITY DIAGRAM



LOCATION MAP

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