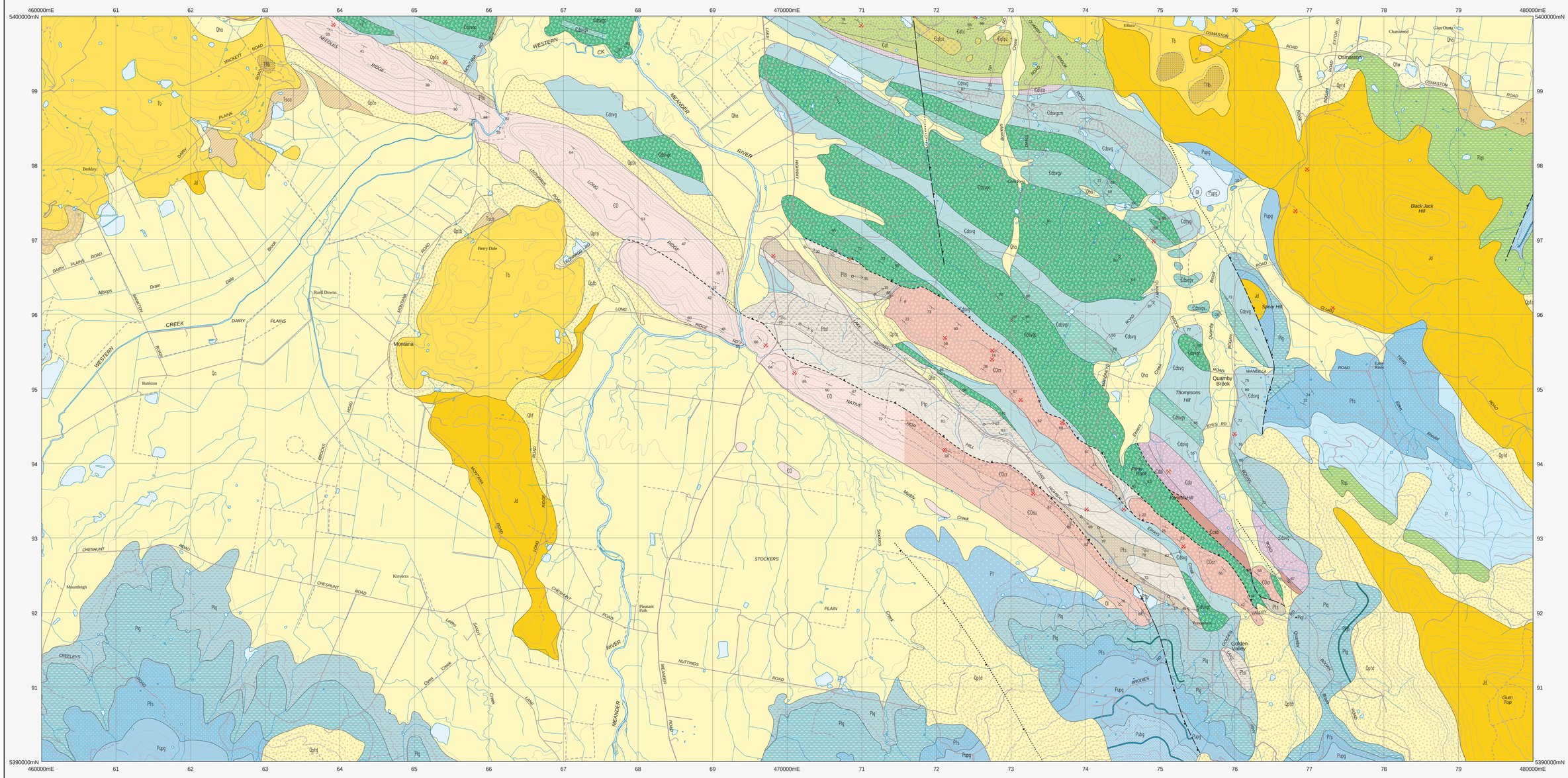
Department of State Growth
MINERAL RESOURCES TASMANIA

DIGITAL GEOLOGICAL ATLAS 1:25 000 SCALE SERIES
MONTANA, SHEET 4639

MONTANA

Scale: 1:25 000

0 500 1000 1500 2000 2500m



CENOZOIC

QUATERNARY

HOLOCENE

- **Qhw** — *Windblown and locally derived sand (Qhw).*
- **Qha** — *Stream alluvium, swamp and marsh deposits (Qha).*
- **Qa** — *Alluvial gravel, sand and clay (Qa).*

PLEISTOCENE

- **Qhf** — *Ferricrete lag deposit (Qhf).*
- **Qptb** — *Basalt talus (Qptb).*
- **Qptd** — *Talus consisting dominantly of dolerite boulders (Qptd).*
- **Qpto** — *Quartz sandstone and conglomerate talus derived from Owen Group correlates (Qpto).*

PALEOGENE – NEOGENE

- **Tflb** — *Laterite derived from Paleogene – Neogene basalt (Tflb).*
- **Ts** — *Undifferentiated Paleogene – Neogene sediments; dominantly non–marine sequence of quartz sand, silt, clay and regolith (Ts).*
- **Tsa** — *Poorly consolidated clay, silt and clayey labile sands with rare gravel and lignite; some iron oxide–cemented layers and concretion (Tsa).*
- **Tb** — *Basalt (Tb).*
- **Tsco** — *Inter–and sub–basalt gravels of predominantly quartzite pebbles (Tsco).*

MESOZOIC

TRIASSIC

- **Rqs** — *Cross bedded quartz sandstone, feldspathic sandstone and shale (Rqs).*

PERMIAN

- **Pubb** — *1 to 2m thick resistant unit of siliceous granule to pebble conglomerate (Blackwood Conglomerate) (Pubb).*
- **Pubg** — *Unfossiliferous pebbly siltstone, siltstone and sandstone (Bogan Gap Group) (Pubg).*
- **Pubr** — *3 to 5m thick resistant unit of unfossiliferous pebbly sandstone and conglomerate (Palmer Sandstone) (Pubp).*
- **Pupg** — *Sandstone, mudstone and pebbly mudstone with marine fossils (Poatina Group) (Pupg).*
- **Pupd** — *7 to 12m thick resistant unit of brown–grey medium grained fossiliferous pebbly sandstone (Dabool Sandstone) (Pupd).*

LAYCEL PADMEENER SUPERGROUP

LOWER PADMEENER SUPERGROUP

PALEOZOIC

PERMIAN

- **Pfs** — *Dominantly well–sorted quartz sandstone, normally cross–bedded or laminated and commonly with interbedded and laminated carbonaceous shale, lesser conglomerate and rare coal (Liffey Sandstone) (Pfs).*
- **Pig** — *Predominantly fossiliferous and erratic rich mudstone, shale, limestone and sandstone (Golden Valley Group) (Pig).*
- **Pilgs** — *8m thick resistant unit of fossiliferous, pebbly micaceous sandstone (Billop Sandstone) (Pilgp).*
- **Piq** — *Unfossiliferous dark grey pyritic mudstone (Quamby Mudstone) (Piq), with local occurrence of Tasmanite Oil Shale at 476,710mE 5,391,740mN (Piqt)*
- **Pt** — *Tillite and erratic rich mudstone (Stockers Tillite) (Pt).*

ORDOVICIAN

- **Ol** — *Limestone (correlate of Gordon Limestone) (Ol).*

FURONGIAN

- **€Osu** — *Pink quartzarenite with minor conglomerate, cross–bedded in place (€Osu).*
- **€Ocr** — *Pale pink, quartzite–derived, closed– to open–framework, massive pebble–cobble conglomerate with minor pink quartzarenite beds (Correlate of Roland Conglomerate) (€Ocr).*

CAMBRIAN SERIES 3

- **€dtc** — *Felsic to intermediate volcaniclastic, volcanic and sedimentary rocks. Late Middle Cambrian fossils in places. Tyndall Group and correlates (€dt). Mainly volcaniclastic conglomerate and sandstone with minor mudstone. Sparse quartzite clasts and clasts of granite in places (€dtc).*
- **€dfpz** — *Quartz–feldspar +/– pyroxene +/– hornblende phyric porphyry. Intrusive to locally extrusive (€dfpz).*
- **€dtca** — *Andesitic volcaniclastic conglomerate and sandstone. Typically crystal–rich with plagioclase–quartz–pyroxene +/– biotite crystals. Abundant andesite lava and minor quartzite clasts (€dtca).*
- **€do** — *Andesitic lava and associated volcaniclastic rocks, typically plagioclase–pyroxene phyric (€do).*
- **€dsvg** — *Marine volcano–sedimentary and sedimentary sequences of sandstone, siltstone, mudstone conglomerate and breccia with some felsic to andesitic volcanic rocks. (Gog Range Greywacke) (€dsvg).*
- **€dsvgcm** — *Polymict conglomerate with volcanic and metamorphic clasts (€dsvgcm).*
- **€dsvgc** — *Dominantly siliceous conglomerate and sandstone, typically rich in quartzite clasts (€dsvgc).*
- **€dsvgv** — *Quartz–feldspar phyric pumiceous volcaniclastic sandstone and siltstone (€dsvgv).*

LOWER PADMEENER SUPERGROUP

GORDON GROUP

OWEN GROUP

WERAWINA SUPERGROUP

TYNDALL GROUP

MOUNT READ VOLCANICS

Gog Range Greywacke

CORRELATE OF WESTERN VOLCANO–SEDIMENTARY SEQUENCES

MESO–PROTEROZOIC

- **Pts** — *Massive, platy and banded quartzite (Pts).*
- **Ptp** — *Quartz–muscovite schist and phyllite (Ptp).*
- **Ptsl** — *Schistose quartzite, quartzite and schist (Ptsl).*

TYENNAN REGION METASEDIMENTS

INTRUSIVE ROCKS

MESOZOIC

JURASSIC

- **Jd** — *Dolerite and related rocks (Jd).*

PALEOZOIC

CAMBRIAN

CAMBRIAN SERIES 3

- **€dfpz** — *Quartz–feldspar +/– pyroxene +/– hornblende phyric porphyry. Intrusive to locally extrusive (€dfpz).*
- **€dol** — *Clinopyroxene–olivine phyric cumulate rock (€dol).*

TERRENEUVIAN – CAMBRIAN SERIES 2

- **€cwb** — *Pillowed to massive fine– to medium–grained augite bearing tholeiitic basalt (probale correlate of Mutton Metabasalt) (€cwb).*

MOUNT READ VOLCANICS

- *Geological boundary – position accurate or approximate.*
- *Geological boundary – inferred.*
- *Fault (unspecified) – position accurate or approximate.*
- *Fault (unspecified) – inferred.*
- *Fault (unspecified) – concealed.*
- *Normal fault (downthrown side indicated) – position accurate or approximate.*
- *Normal fault (downthrown side indicated) – concealed.*
- *Thrust fault (teeth on upper plate) – inferred.*
- (white line) *Limit of mapping of sub–unit within undifferentiated rock unit.*

- *Strike and dip of bedding, right way up.*
- *Strike and dip of cleavage of unspecified type and relative age.*
- *Strike and dip of bedding, overturned.*
- *Strike and dip of compositional layering.*
- *Strike and vertical cleavage of unspecified type and relative age.*
- *Trend and plunge of lineation of unspecified type.*
- *Notable small outcrop with rock unit indicated*
- *Mineral deposit location – hardrock*
- *Construction material/industrial mineral/gemstone location*

Data derived from Mineral Resources Tasmania DEPOSITS data base. Data point position has not been verified in every case.

Compiled by M.J. Vicary B.Sc (Hons), 2004 as part of the Western Tasmanian Regional Minerals Program from the following sources (see Responsibility Diagram):

A BARTON, C.M., BRAVO, A.P., GULLINE, A.B., LONGMAN, M.J., MARSHALL, B., MATHEWS, W.L., MOORE, W.R., NAVQI, I.H. and PIKE, G.P., 1969. Geological atlas 1 mile series. Sheet 46 (8214N) Quamby. Tasmania Department of Mines.

B HERRMANN, W., 1991 Annual report to 3/8/92 EL 16/90 – Deloraine. Unpublished report Outokumpu Exploration Australia Proprietary Limited. TCR 91–3277.

C CLARKE, M.J., 1968. A reappraisal of a Lower Permian type section, Golden Valley, Tasmania. Rec. Geol. Surv, Tasm 7.

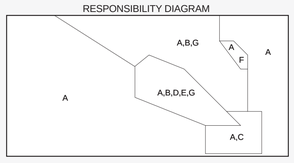
D WOODWARD, N.B., GRAY, D.R. and ELLIOTT, C.G. 1993. Repeated Palaeozoic thrusting and allochthoneity of Precambrian basement, northern Tasmania. Aust. J. Earth Sciences, 40, p297–312.

E WELLS, A.T. 1957. Geology of the Deloraine–Quamby Valley area, Tasmania Rec. Qn. Vict. Mus. N.S.8.

F MOORE, W.R. 1971. Geological investigation of the Quamby Brook No. 11 dam site. Tech Rep. Department of Mines Tasmania, 14, 70–75.

G Vicary, M.J. 2007. Updated as part of the TasExplore Project.

RESPONSIBILITY DIAGRAM



REFERENCE THIS MAP AS:

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Website: www.mrt.tas.gov.au

GDA94 – MGA Zone 55. Contour Interval: 20 metres.

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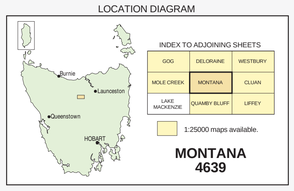
LOCATION DIAGRAM



INDEX TO ADJOINING SHEETS

GOG	DELORAINE	WESTBURY
MOLE CREEK	MONTANA	CLUAN
LAKE MACKENZIE	QUAMBY BLUFF	LIFFEY

1:25000 maps available.

MONTANA
4639

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