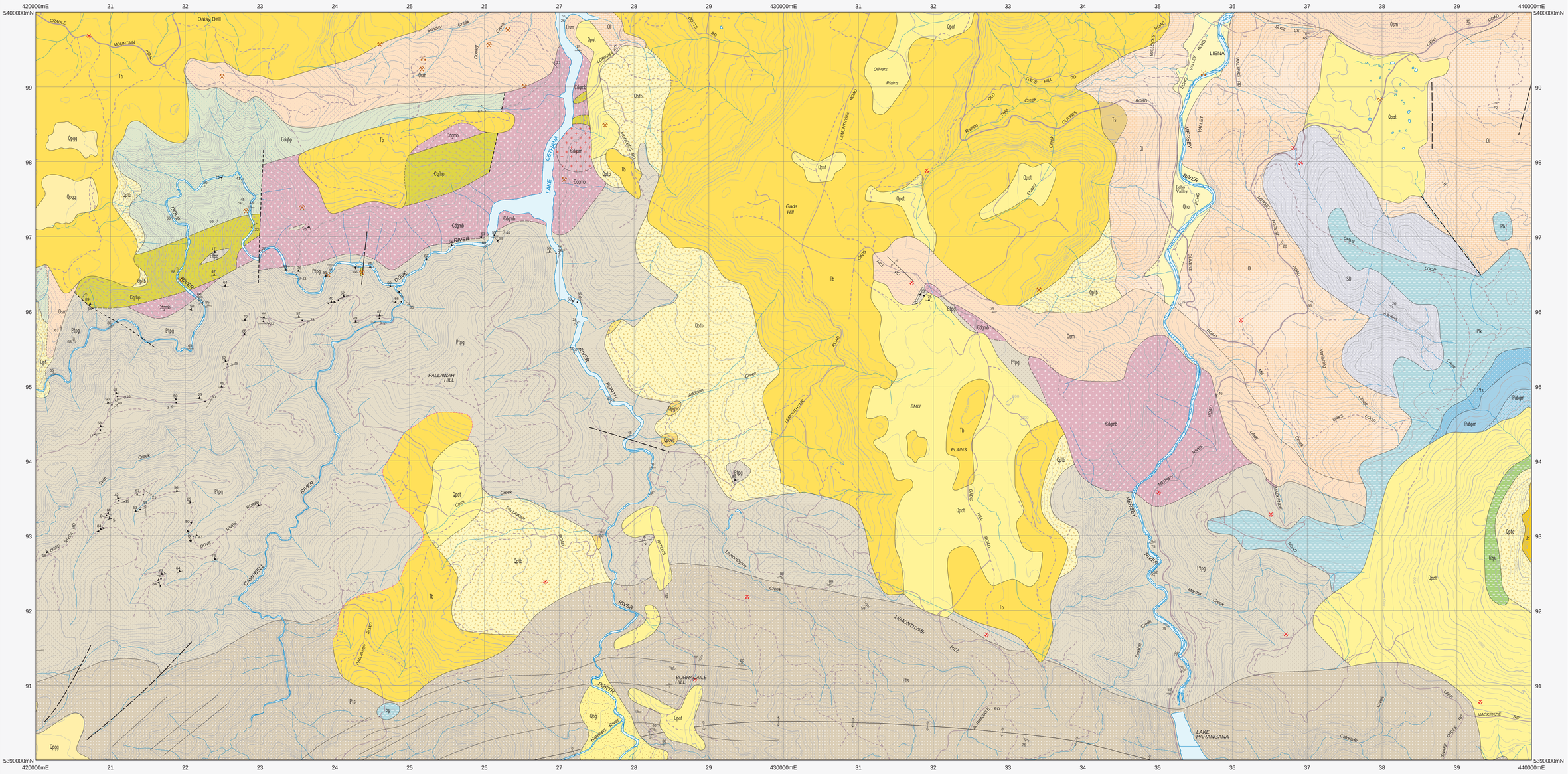
Department of Infrastructure Energy and Resources
MINERAL RESOURCES TASMANIA

DIGITAL GEOLOGICAL ATLAS 1:25 000 SCALE SERIES
LIENA, SHEET 4239

LIENA

Scale: 1:25 000

0 500 1000 1500 2000 2500m



CENOZOIC

QUATERNARY

HOLOCENE

- **Qha** — *Stream alluvium, swamp and marsh deposits (Qha).*

PLEISTOCENE

- **Qpt**
  - **Qptb** — *Basalt talus (Qptb).*
  - **Qpt** — *Undifferentiated talus deposits (Qpt).*
  - **Qptd** — *Talus consisting dominantly of dolerite boulders (Qptd).*
- **Qpat**
  - **Qpgl** — *Till, Talus and alluvial gravels (Qpat). Fluvioglacial and lacustrine deposits (Qpgl).*
  - **Qpgvc** — *Varved clay deposits (Qpgvc).*
  - **Qpgg** — *Glacial and glacigene deposits (Qpgg).*

PALEOGENE – NEOGENE

- **Tb** — *Basalt (Tb).*
- **Ts** — *Undifferentiated Tertiary sediments; dominantly non–marine sequence of quartz sand, silt, clay and regolith (Ts).*

MESOZOIC

TRIASSIC

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

PERMIAN

- **Pubgm** — *Unfossiliferous pebbly siltstone, siltstone and sandstone (correlate of Bogan Gap Group but including the Garcia Sandstone) (Pubgm).*
- **Pupgm** — *Sandstone, mudstone and pebbly mudstone with marine fossils (correlate of Poatina Group but excluding the Garcia Sandstone) (Pupgm).*
- **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).*
- **Pik** — *Interbedded conglomerate, pebbly sandstone and siltstone, and richly fossiliferous limestone (Kansas Creek beds) (Pik).*

UPPER PARMEENER SUPERGROUP

LOWER PARMEENER SUPERGROUP

PALEOZOIC

SILURIAN – ORDOVICIAN DEVONIAN

- **SD** — *Quartz sandstone, laminated siltstone and shale (SD).*

ELDON GROUP

- **Ol** — *Dark grey limestone, dolomite, calcareous mudstone and minor quartz sandstone. In part fossiliferous (correlate of Gordon Group) (Ol).*
- **Olug** — *Nodular micritic limestone and bioturbated pyritic mudstone. Sparsely fossiliferous (Ugbrook Formation) (Olug).*

GORDON GROUP

- **Osm** — *Pale grey to pink, commonly cross–bedded quartz sandstone, coarse and pebbly towards base with tubicular trace fossils in upper sequences (correlate of Molina Sandstone) (Osm).*

OWEN GROUP

PALEO–OZOIC — CAMBRIAN — CAMBRIAN SERIES 3 – FURONGIAN

- **Ꞓdqbp** — *Interbedded pale grey vitric (+/– crystal) epiclastic siltstone and sandstone with dark grey cherty siltstone. Some mass flow deposits (Back Peak Beds) (Ꞓdqbp).*

MOUNT READ VOLCANICS

MESO–PROTEROZOIC

- **Pts** — *Dominantly quartzite (Pts).*
- **Ptpg** — *Fine–coarse–grained, often thinly banded, pelitic, garnetiferous, quartz–mica schist, commonly containing phengite, almandine, albite and chlorite. Relatively high metamorphic grade (Ptpg).*

TASMAN FOLDBELT METASEDIMENTS

INTRUSIVE ROCKS

MESO–OZOIC — JURASSIC

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

PALEOZOIC — CAMBRIAN — CAMBRIAN SERIES 3 – FURONGIAN

- **Ꞓqfbp** — *Quartz–feldspar +/– biotite +/– hornblende porphyry (Ꞓqfbp).*
- **Ꞓdgmb** — *Fine–grained idiomorphic equi–granular biotite +/– hornblende–bearing monzo–granite (Ꞓdgmb).*
- **Ꞓdgm** — *Medium–grained hypidiomorphic equi–granular muscovite–bearing syeno–granite, strongly silica and sericite altered (Ꞓdgsm).*

MOUNT READ VOLCANICS

- *Geological boundary – position accurate or approximate.*
- *Geological boundary – inferred.*
- *Geological boundary – inferred from airborne radiometric data.*
- *Unconformable boundary – position accurate or approximate.*
- *Intrusive boundary – position accurate or approximate.*
- *Lineament visible on aerial photographs.*
- *Fault – position accurate or approximate.*
- *Fault – inferred.*
- *Axial surface trace of major antiform.*
- *(white line) Limit of mapping of sub–unit within undifferentiated rock unit.*

- *Strike and dip of bedding, facing unknown; vertical.*
- *Strike and dip of compositional layering; vertical.*
- *Strike and dip of cleavage of unspecified type and relative age.*
- *Strike and dip of metamorphic foliation other than cleavage.*
- *Strike and dip of metamorphic foliation other than cleavage, relative local age S1; S2.*
- *Trend and plunge of mineral elongation lineation.*
- *Horizontal lineation L2 formed by intersection of cleavages or foliations of relative local ages S1 and S2.*
- *Trend and plunge of crenulation lineation.*
- *Trend and plunge of minor fold hinge line, unspecified relative age.*
- *Trend and plunge of minor fold hinge line, unspecified relative age, vergence sinistral.*
- *Trend and plunge of minor fold hinge line, relative local age F1.*
- *Mineral deposit location – hardrock*
- *Mineral deposit location – alluvial/tailings*
- *Construction material/industrial mineral/gemstone location*

Data derived from Mineral Resources Tasmania DEPOSITS database. 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 JENNINGS, I.B. and BURNS, K.L. 1958. Geological Atlas 1 Mile Series. Zone 7 Sheet 45, Middlesex. Tasmania Department of Mines.

B HERRMANN, W. 1989. Notes on Reconnaissance Stream Sediment Sampling in the Mona–Lorinna Area, NW Tasmania. RGC Exploration Pty Ltd. Appendix F in TCR 89-3038.

C AUSTIN, G., SERIM, S. and WALSHAM, B.T. 1973. Exploration for Porphyry Copper, the Dove Granite area, Tasmania. Preliminary Report Cundill Meyers and Associates Pty Ltd, Freeport of Australia Incorporated. TCR 73-0977.

D BURRETT, C., BANKS, M., CLOTA, G. and SEYMOUR, D. 1989. Lithostraigraphy of the Ordovician Gordon Group, Mole Creek Tasmania. Rec. Queen Victoria Museum, No. 96.

E Air photograph and WTRMP geophysical data interpretation by M Vicary.

F PEMBERTON, J. and VICARY, M.J. 1988. Mt Read Volcanics Project Map 8. Tasmania Department of Mines.

G BARTON, C.M., BURNS, K.L., GEE, R.D., GROVES, D.I., GULLINE, A.B., JENNINGS, D.J., LONGMAN, M.J., MARSHALL, B., MATHEWS, W.L., MOORE, W.R., NAQVI, I.H., THREADER, V.M., and URQUHART, G. 1966. Geological Atlas 1 Mile Series. 8014N I & IV Zone 7 Sheet 44, Mackintosh. Tasmania Department of Mines.

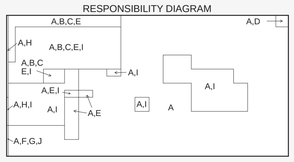
H K.D. Corbett, 2004 as part of the Western Tasmanian Regional Minerals Program.

Updated by:

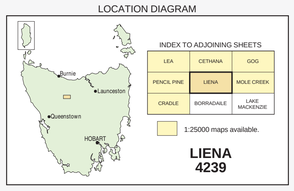
I D.C. Green, 2007 as part of the TasExplore Project.

J M.J. Vicary using additional data from Mackintosh explanatory report (Collins et al 1981).

RESPONSIBILITY DIAGRAM



LOCATION DIAGRAM



REFERENCE THIS MAP AS:

VICARY, M.J. (compiler) 2004. Digital Geological Atlas 1:25 000 Scale Series. Sheet 4239. Liena. Mineral Resources Tasmania.

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

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