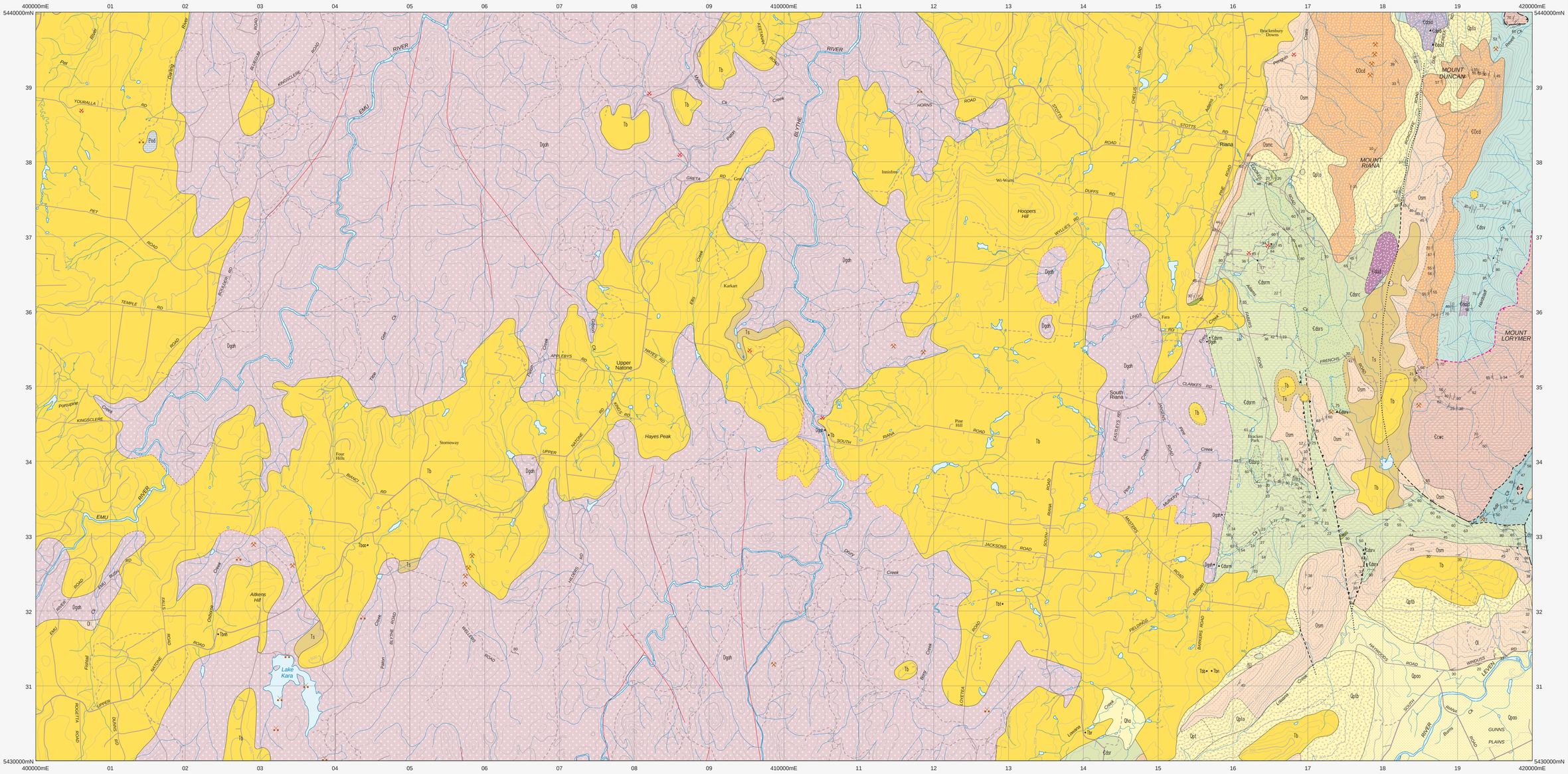
Department of Infrastructure Energy and Resources
MINERAL RESOURCES TASMANIA

DIGITAL GEOLOGICAL ATLAS 1:25 000 SCALE SERIES
RIANA, SHEET 4043

RIANA

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).*
  - **Qpto** — *Quartz sandstone and conglomerate talus derived from Owen Group correlates (Qpto).*
- **Qpao** — *Older alluvium (Qpao).*

PALEOGENE – NEOGENE

- **Tb** — *Basalt (Tb), including local occurrences of alkali olivine basalt (Tbao), basanite (Tbb), olivine nepheline (Tbn), nepheline hawaiite (Tbnh), transitional olivine basalt (Tbr) and olivine tholeiite (Tbt).*
- **Ts** — *Terrestrial sand, gravel and minor lacustrine deposits (Ts).*

PALEOZOIC

ORDOVICIAN

- **Ol** — *Massive or thickly bedded, grey, fine–grained limestone, with marine fossils in places (Ol).* — GORDON GROUP, WURAWINA SUPERGROUP
- **Osm** — *Dominantly very fine– to medium–grained, purple, pink or white quartzarenite, locally cross–bedded or bioturbated, and minor granule–pebble conglomerate (Osm).* — GORDON GROUP, WURAWINA SUPERGROUP
- **Osmc** — *Granule to pebble conglomerate, with quartzite and chert clasts (Osmc). (Osmc + Osm = correlate of Moina Sandstone).* — GORDON GROUP, WURAWINA SUPERGROUP
- **€Ocd** — *Conglomerate with chert and quartzite clasts (Duncan Conglomerate) (€Ocd).* — OWEN GROUP, WURAWINA SUPERGROUP

Angular unconformity.

CAMBRIAN

FURONGIAN

- **€dsr**
  - **€dsrl** — *Undifferentiated mainly sedimentary sequence (near Riana) of shale, siltstone, lithicwacke, sandstone and conglomerate, with minor volcaniclastic units and rare felsic lava (€dsr). Felsic lava (€dsrl).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
  - **€dsrp** — *Polymict conglomerate, with basalt and chert clasts (€dsrp).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
  - **€dsrm** — *Thin bedded shale and siltstone, with minor fine–grained micaceous sandstone (€dsrm).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
  - **€dsrc** — *Pebble–granule conglomerate and pebbly sandstone, with andesitic clasts and detritus (€dsrc).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
  - **€dsrsc** — *Chert–pebble conglomerate and minor coarse–grained lithic sandstone (€dsrsc).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
  - **€dsrs** — *Massive, sparsely pebbly lithicwacke sandstone (€dsrs).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
  - **€dsrc** — *Pebble–cobble, volcaniclastic conglomerate (€dsrc).* — RIANA SEQUENCE (IN PART CONSTITUTES OF TYNALL GROUP), MOUNT READ VOLCANICS
- **€dsv**
  - **€dsvgs** — *Polymict pebble–granule conglomerate to lithicwacke sandstone, with clasts including chert, black shale, limestone, basalt and/or felsic volcanics; possible correlate of "Sprent Conglomerate" (€dsvgs).* — WESTERN VOLCANO–SEDIMENTARY SEQUENCE, MOUNT READ VOLCANICS
  - *Undifferentiated marine volcano–sedimentary sequence, with minor interbedded volcanic units (€dsv).* — WESTERN VOLCANO–SEDIMENTARY SEQUENCE, MOUNT READ VOLCANICS

TERRENEUVIAN – CAMBRIAN SERIES 2

Faulted contacts of €ccwc attributed to major thrusting.

- **€ccwc** — *Pale to dark grey, faintly bedded to massive or brecciated chert (Barrington Chert) (€ccwc).* — CLEVELAND – WESTERN VOLCANO–SEDIMENTARY ASSOCIATION

Faulted contacts of €ccwc attributed to major thrusting.

NEOPROTEROZOIC(?)

- **Pod** — *Metamorphosed impure dolomite–rich sequences of mudstone, siltstone and sandstone (Pod).* — BURNIE FORMATION

INTRUSIVE ROCKS

PALEOZOIC

CAMBRIAN DEVONIAN

- **Dgdh** — *Dominantly medium– to coarse–grained, equigranular, biotite +/– hornblende–bearing alkali feldspar granite/syenogranite/monzogranite, with minor porphyritic and finer–grained variants (Housetop Granite; I–type) (Dgdh).* — MOUNT READ VOLCANICS

CAMBRIAN Series 3

- **€ddid** — *Massive plagioclase – hornblende phyric, andesitic and dacitic intrusives (Lobster Creek Intrusives) (€ddaid).* — MOUNT READ VOLCANICS
- **€dad** — *Coarse–grained plagioclase–pyroxene cumulate dolerite ('Riana Dolerite') (€dad).* — MOUNT READ VOLCANICS

Geological boundary – position accurate or approximate.
Geological boundary – inferred.
Geological boundary – inferred from airborne magnetic and/or radiometric data.
Geological boundary – inferred from airborne radiometric data.
Intrusive boundary – position accurate or approximate.
Fault – position accurate or approximate.
Fault – inferred.
Fault – concealed.
Normal fault (downthrown side indicated) – inferred.
Thrust fault (teeth on upper plate) – position accurate or approximate.
Thrust fault (teeth on upper plate) – inferred.
Thrust fault (teeth on upper plate) – inferred from radiometric data.
Metamorphic boundary – position approximate.
Lineament visible in airborne magnetic data.
(white line) Limit of mapping of sub–unit within undifferentiated rock unit.

Strike and dip of bedding, right way up; overturned.
Strike and dip of cleavage of unspecified type and relative age; vertical.
Trend and plunge of minor fold hinge line, unspecified relative age.
Strike and dip of ductile shear–band.
Strike and dip of dyke.
Notable small outcrop with rock unit indicated
Notable small float or lag occurrence, with rock unit indicated.
Field station for adjacent readings on the map.
Fossil location.
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.

REFERENCE THIS MAP AS:

CALVER, C.R., EVERARD, J.L. and SEYMOUR, D.B. (compilers) 2008. Digital Geological Atlas 1:25 000 Scale Series. Sheet 4043. Riana. Mineral Resources Tasmania.

Base data from the LIST, Copyright State of Tasmania.

Map produced by the Geoscience Information Branch of Mineral Resources Tasmania using G.I.S. software.

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

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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 GEE, R.D; GULLINE, A.B. and BRAVO, A.P. 1967. Geological Atlas 1 Mile Series. Sheet 28 (8015N), Burnie. Tasmania Department of Mines.

B BAILLIE, P.W; WILLIAMS, P.R; SEYMOUR, D.B; LENNOX, P.G. and GREEN, G.R. 1986. Geological Atlas 1:50 000 Series. Sheet 36 (8015N), St Valentines. Tasmania Department of Mines.

C BURNS, K.L. 1963. Geological Atlas 1 Mile Series. Zone 7 Sheet 29 (N8115 I and IV), Devonport. Tasmania Department of Mines.

With additional information from:–

1 Herrmann, W. (1993) and Crawford, A.J. (1993). Appendix B and C in FitzGerald, F.G. 1993. EL9/1992 Dial Annual Report June 1992 – June 1993. Unpublished Report, Pasminco Exploration. TCR 93–3447.

2 Sproule, R.A. 1994. Stratigraphy and Geochemistry of the Dial Range Trough, NW Tasmania. B.Sc.(Hons). thesis. University of Tasmania.

D JENNINGS, I.B; BURNS, K.L; MAYNE, S.J. and ROBINSON, R.G. 1959. Geological Atlas 1 Mile Series. Zone 7 Sheet 37, Sheffield. Tasmania Department of Mines.

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

Updated by:

F M. Vicary 2004.

G C.R. Calver, 2007. 1:25 000 scale geological mapping.

H J.L. Everard, 2007. 1:25 000 scale geological mapping.

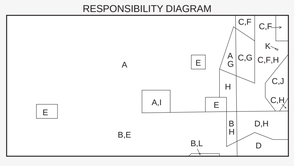
I J.L. Everard, 2007. Limited traverses.

J D.B. Seymour, 2007. 1:25 000 scale geological mapping.

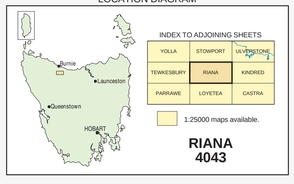
K Sumpton, J.F.H. & Turley, S.D. 1984. EL 24/1973, follow–up of aeromagnetic survey of the Dial Range Trough. Unpublished Report, Geopeko Ltd. TCR 84–2149.

L Corbett, K.D. 2003. Bedrock geological map of the Que River – Sheffield area. North West Tasmania. Mineral Resources Tasmania.

RESPONSIBILITY DIAGRAM



LOCATION DIAGRAM



Plotfile for this map generated from digital data as at: 02-FEB-2012

WARNING: INKS ARE LIGHT SENSITIVE