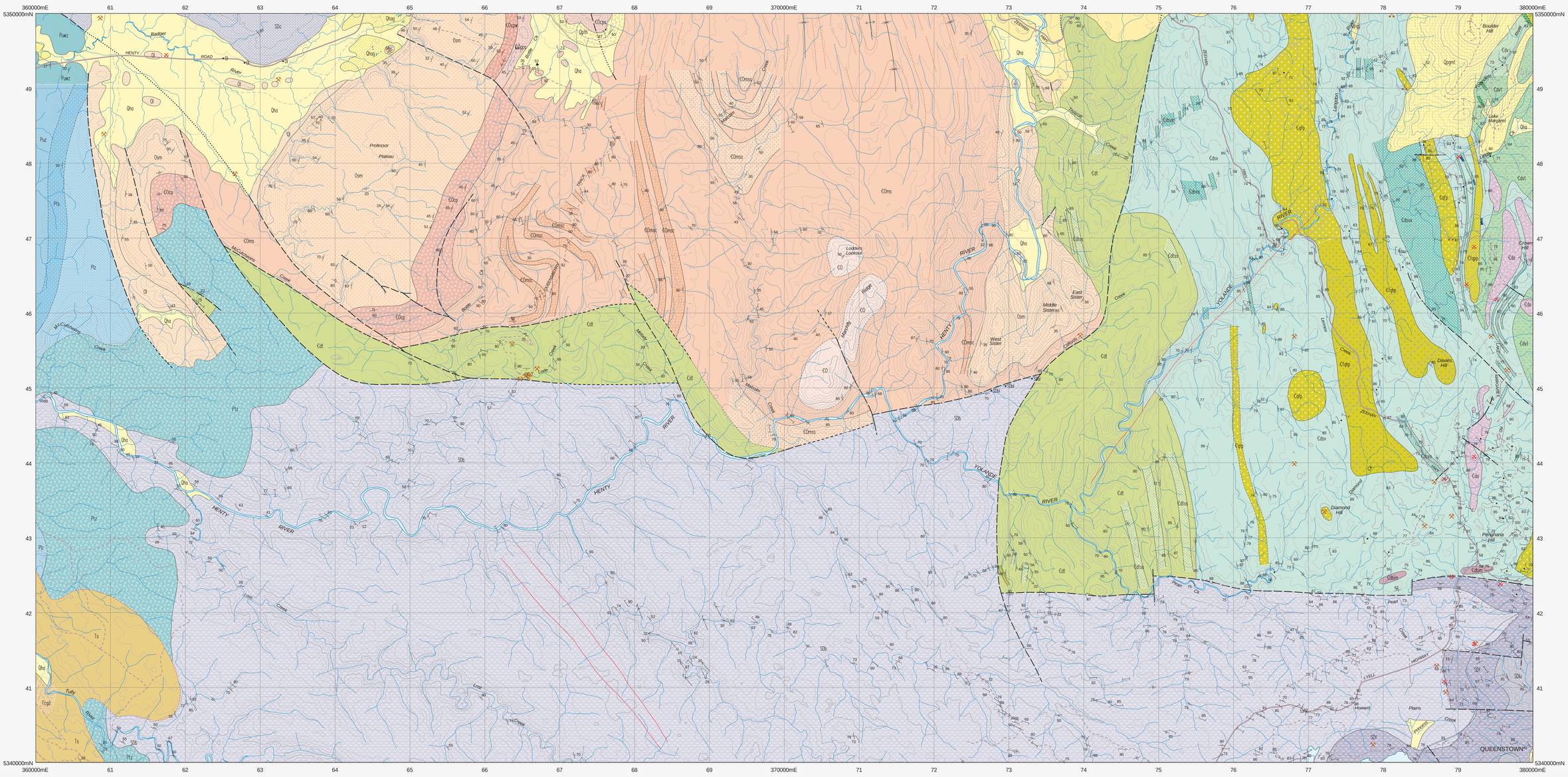
Department of Infrastructure Energy and Resources
MINERAL RESOURCES TASMANIA

DIGITAL GEOLOGICAL ATLAS 1:25 000 SCALE SERIES
PROFESSOR, SHEET 3634

PROFESSOR

Scale: 1:25 000

0 500 1000 1500 2000 2500m



CENOZOIC

QUATERNARY

HOLOCENE

- **Qha** — *Stream alluvium, swamp and marsh deposits (Qha).*
- **Qhe** — *Eluvium (Qhe).*
- **Qhag** — *Alluvial gravel deposits (Qhag).*
- **Qpth** — *Talus of unspecified type (Qpth).*

PLEISTOCENE

- **Qpgmt** — *Mainly till deposits – unweathered or slightly weathered (Deposits of Margaret Glaciation – 13000–100000 years before present) (Qpgmt).*
- **Qpgg** — *Pleistocene glacial deposits (Qpgg).*

PALEOGENE – NEOGENE

- **Ts** — *Dominantly non–marine sequence of gravel, sand, silt, clay and regolith (Ts).* — MACQUARIE HARBOUR BEDS
  - **Tcgd** — *Poorly indurated siliceous pebble to cobble conglomerate horizons containing more than 5% dolerite clasts (Tcgd).*

PALEOZOIC

PERMIAN

- **Puz** — *Siltstone, sandy siltstone and sandstone with dropstones, occasional fossil horizons (Upper Glacio–Marine Sequence) (Puz).* — PARMEENER SUPERGROUP
  - **Puwz** — *Poorly sorted, fossiliferous pebbly conglomeratic sandstone (Puwz).*
- **Pfs** — *Carbonaceous sandstone (correlate of Liffey Group – Lower Freshwater Sequence) (Pfs).*
- **Plz** — *Black pyritic mudstone overlain by fossiliferous mudstone, dropstones present (Plz).*
- **Ptz** — *Tillite and associated glacigene rocks (correlate of Wynyard Tillite) (Ptz).*

DEVONIAN

- **SDb** — *Grey or greenish grey interbedded laminated mudstone, siltstone and minor fine–grained quartz sandstone (Bell Shale and correlates) (SDb). Local occurance of limestone indicated (SDb).* — ELDON GROUP
- **SDf** — *Fine–grained quartz sandstone with minor siltstone and mudstone (correlate of Florence Sandstone) (SDf).*

SILURIAN

- **SDlu** / **SDc** — *Mainly coarse– to fine–grained sandstone (commonly decomposed to a friable sand) with an upper sequence of siltstone and fine–grained sandstone in some areas (Crotty Formation and correlates) (SDc).* — WURAWINA SUPERGROUP

PALEOZOIC

ORDOVICIAN

- **Ol** — *Limestone with some interbedded siltstone in places. Commonly decomposed to black clay "pug" (Gordon Limestone) (Ol).* — GORDON GROUP

CAMBRIAN

FURONGIAN

- **Osm** — *Grey to pink, commonly cross–bedded quartz sandstone, coarse and pebbly towards base and with tubicular trace fossils in upper part (correlate of Moina Sandstone and Pioneer Beds) (Osm).* — OWEN GROUP (WURAWINA SUPERGROUP)
- **€O** — OWEN GROUP
  - **€Ocpw** — *White massive siliciclastic cobble conglomerate with clast composition – quartzite 84%, vein quartz 13%, chert <4% (€Ocpw).*
  - **€Ocp** — *Pink interbedded quartzose sandstone, pebbly sandstone and commonly sandy siliciclastic pebble–cobble conglomerate with clasts – quartzite 66%, chert 24%, vein quartz 7%, quartz sandstone 3% (€Ocp).*
  - **€Ocps** — *Pink interbedded quartzose sandstone, pebbly sandstone and commonly sandy siliciclastic pebble–cobble conglomerate with clasts – quartzite 66%, chert 24%, vein quartz 7%, quartz sandstone 3% (€Ocps).*
  - **€Oms** — *Marine sandstone–siltstone–conglomerate sequence, siliciclastic to polymict, marine fossils in places. Includes correlates of Upper Dundas Group and Rosebery Group (€Oms).*
  - **€Omsc** — *Dominantly conglomerate and sandstone (€Omsc).*
  - **€Omss** — *Dominantly sandstone (€Omss).*

CAMBRIAN SERIES 3

- **€dt** — *Mainly volcaniclastic to polymict sandstone, breccia, siltstone, mudstone and conglomerate, typically quartz–feldspar–phyric. Marine fossils in places, (correlate of Tyndall Group) (€dt).* — TYNDALL GROUP
  - **€dtss** — *Mainly well bedded quartz–feldspar crystal rich volcaniclastic sandstone with minor siltstone, and volcaniclastic conglomerate, graded bedding common (€dtss)*
  - **€dtcb** — *Limestone (€dtcb).*
- **€dsv** — *Interbedded volcaniclastic sandstone, breccia, siltstone, mudstone and conglomerate, with minor andesitic to basaltic volcanics and intrusive–extrusive porphyry bodies. Includes sequences in Howards Road area (White Spur Formation), Henty Fault Wedge and Langdon River – Yolande River area (€dsv).* — WESTERN VOLCANO SEDIMENTARY GROUP (MOUNT READ VOLCANICS)
  - **€dsvx** — *Mainly volcaniclastic sandstone and breccia and tuffaceous units, typically crystal–rich, with minor siltstone and mudstone (€dsvx).*
  - **€dsvs** — *Interbedded siltstone–sandstone–mudstone units (€dsvs).*
  - **€da** — *Andesitic to basaltic intrusives and volcanic rocks, feldspar–pyroxene +/– hornblende phyric (€da).*
  - **€dbim** — *Brown weathering lava, breccia, and related intrusives of basaltic to andesitic composition (feldspar–pyroxene–phyric), including "Lynch Creek Basalts" (€dbim).*
- **€dv** — *Dominantly feldspar–phyric volcanic and volcaniclastic rocks, with some andesitic to basaltic volcanics (€dv).* — CENTRAL VOLCANICS COMPLEX
  - **€dvt** — *Mainly felsic volcaniclastic and pyroclastic rocks, dominantly feldspar–phyric, including pumice bearing units, minor shale and sandstone (€dvt).*
  - **€dvs** — *Shale–siltstone–sandstone units (€dvs).*

INTRUSIVE ROCKS

PALEOZOIC

DEVONIAN

- **Dl** — *Lamprophyre (Dl).*

CAMBRIAN

CAMBRIAN SERIES 3 (MT READ VOLCANICS)

- **€qfp** — *Quartz–feldspar porphyry – dominantly intrusive (€qfp).*
- **€fqpp** — *Feldspar–quartz–pyroxene porphyry (€fqpp).*
- **€fqhp** — *Feldspar–quartz–hornblende porphyry (€fqhp).*
- **€da** — *Andesitic to basaltic intrusives and volcanic rocks, feldspar–pyroxene +/– hornblende phyric (€da).*
- **€dbim** — *Brown weathering lava, breccia and related intrusives of basaltic to andesitic composition (feldspar–pyroxene–phyric), including "Lynch Creek Basalts" (€dbim).*

Geological boundary – position accurate or approximate.
Geological boundary – inferred.
Geological boundary – inferred from airborne magnetic data.
Moraine ridge crest.
Fault – unspecified type, position accurate or approximate.
Fault – unspecified type, inferred.
Fault – unspecified type, concealed.
Axial trace of major antiform.
Axial trace of major synform.
Lithological trend line, including bedding trace interpreted from aerial photographs.
Lineament visible in airborne magnetic data.
(White line) *Limit of mapping of sub–unit within undifferentiated rock units.*

Strike and dip of bedding, facing known – right way up; overturned.
Strike and dip of bedding, facing unknown – dipping; vertical.
Strike and dip of igneous banding or platy alignment; vertical.
Strike and dip of penetrative cleavage; vertical.
Strike and dip of cleavage, type and relative age unspecified – dipping; vertical.
Trend and plunge of hingeline of minor fold; with dip and dip direction of axial surface indicated.
Trend and plunge of minor fold hingeline, relative local age F2, with vertical axial surface.
Generalised palaeocurrent direction, showing sense of movement.
Field station for adjacent readings on map.
Notable small outcrop with rock unit indicated
Macrofossil location.
Mineral deposit location – hardrock
Mineral deposit location – alluvial/tailings
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 BAILLIE et al, 1977. Strahan, Geological Atlas, 1:50 000 series sheet 7913N. Department of Mines Tasmania.

B CORBETT et al, 1989. 1:25 000 Geological Series, Queenstown. Tasmania Department of Mines.

C BROWN et al, 1994. Zeehan, Geological Atlas 1:50 000 series sheet 7914S. Department of Mines Tasmania.

D CORBETT, K.D., 1986. Mount Read Volcanics Project Map 3. Geology of the Henty River – Mt Read area. Tasmania Department of Mines.

E Halley, S., Vicary, M., and Boyd, D. 1995 Exploration Licences N: 10287, 55/89 & 12/92 (Queenstown, Mt Darwin & Queenstown South). West Sedgwick and Garfield/Clark Valley. Annual Report April 1994 – March 1995. TCR 95–3721.

F Tear, S., 2002. Annual Report for EL 6/2001 (Professor Creek) for the period 22 June 2001 to 22 June 2002. Noranda Pacific Pty Ltd. TCR 02–4757.

G Additional information based on airphoto and WTRMP geophysical data interpretation.

REFERENCE THIS MAP AS:

VICARY, M.J. (compiler) 2004. Digital Geological Atlas 1:25 000 Scale Series. Sheet 3634 Professor. Mineral Resources Tasmania.

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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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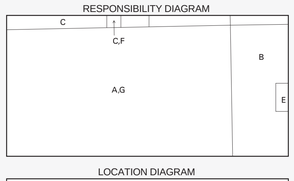
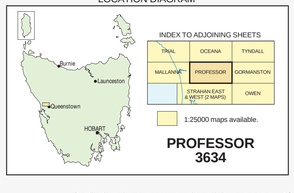
RESPONSIBILITY DIAGRAM



LOCATION DIAGRAM



Plotfile for this map generated from digital data as at: 18-JUL-2013

WARNING: INKS ARE LIGHT SENSITIVE