Department of State Growth
MINERAL RESOURCES TASMANIA

DIGITAL GEOLOGICAL ATLAS 1:25 000 SCALE SERIES
KINDRED, SHEET 4243

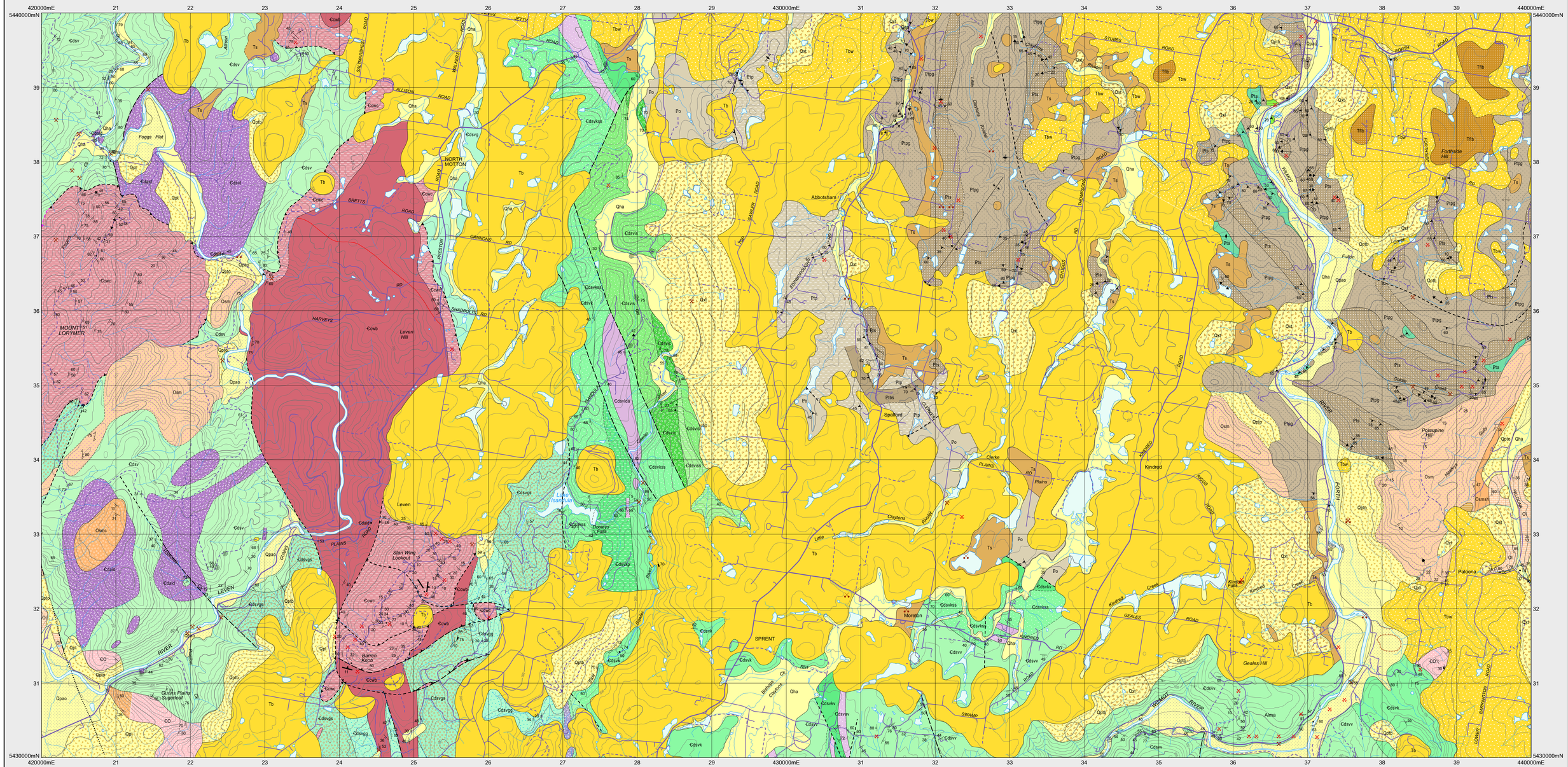
KINDRED

Scale 1:25 000

0 500 1000 1500 2000 2500m

INDUSTRY TOURISM RESOURCES

Tasmanian Government



CENOZOIC

QUATERNARY

HOLOCENE

- **Qha** — *Stream alluvium, swamp and marsh deposits (Qha).*
- **Qaf** — *Alluvial fans (Qaf).*
- **Qxl** — *Landslide deposits predominantly derived from weathered Tertiary rocks (Qxl).*

PLEISTOCENE

- **Qpt** — *Talus, till and scree of probable Pleistocene age (Qpt). Basalt talus (Qptb).*
  - **Qptb**
  - **Qpld** — *Talus consisting dominantly of dolerite boulders (Qptd).*
  - **Qpto** — *Quartz sandstone and conglomerate talus derived from Owen and Gordon Group correlates (Qpto).*
- **Qpao** — *Older alluvium (Qpao).*

PALEOGENE - NEOGENE

- **Tsqm** — *Silicastone developed on Paleogene - Neogene or older rocks (Tsqm).*
- **Tflb** — *Laterite derived from Paleogene - Neogene basalt (Tflb).*
- **Tb** — *Basalt (Tb).*
  - **Tbw** — *Predominantly deeply-weathered basalt (Tbw).*
  - **Ts** — *Terrestrial sand, gravel and minor lacustrine deposits (Ts).*

DEVONIAN

MIDDLE (?) DEVONIAN

- **Dc** — *Terrestrial cavern filling (Eugenana Beds) (Dc).*

Angular unconformity.

PALEOZOIC

ORDOVICIAN

FURONGIAN

- **Ol** — *Limestone (correlate of Gordon Limestone) (Ol).*
- **Osmsh** — *Calcareous siltstone and sandstone. Transitional unit from Moina Sandstone to Limestone (Osmsh).*
- **Osm** — *Grey poorly sorted fine-grained sandstone, commonly bioturbated (correlate of Moina Sandstone) (Osm).*
- **Osmc** — *Granule to pebble conglomerate, purple, pink or white, with up to 15% chert clasts (Osmc).*
- **CO** — *Pebble-cobble siliceous conglomerate and coarse-grained sandstone with abundant quartzite and chert clasts (CO).*

Angular unconformity.

CAMBRIAN

CAMBRIAN SERIES 3

- **Ccsv** — *Undifferentiated marine volcano-sedimentary sequence with minor interbedded volcanic units (Ccsv). Marine volcano-sedimentary and sedimentary sequences of sandstone, siltstone, mudstone, conglomerate and breccia with some felsic to andesitic volcanic rocks (Gog Range Greywacke) (Ccsvg).*
  - **Ccsvgg** — *Dominantly non-volcanic sandstone and siltstone, typically siliceous-micaceous, massive to thinly bedded (Ccsvgg).*
  - **Ccsvgs** — *Coarse-grained polymict conglomerate, sandstone and lithicwacke with clasts of basalt, chert, siltstone and limestone (Sprent Formation) (Ccsvgs).*

GOG RANGE GREYWACKE

WESTERN VOLCANO-SEDIMENTARY SEQUENCE

MOUNT READ VOLCANICS

PALEOZOIC

CAMBRIAN

CAMBRIAN SERIES 3

- **Ccsv** — *Undifferentiated marine volcano-sedimentary sequence with minor interbedded volcanic units (Ccsv). Predominantly fine-grained ashy volcaniclastic siltstone, with minor black to grey siltstone (Ccsvv).*
  - **Ccsvvp** — *Interbedded feldspar-phyric volcaniclastic sandstone and pumiceous mass-flow deposits, commonly with peritic dacite clasts (Ccsvvp).*
  - **Ccsvld** — *Massive feldspar-phyric dacite lava, commonly spherulitic, amygdaloidal and/or peritic (Ccsvld).*
  - **Ccsvvs** — *Predominantly micaceous greywacke and siltstone (Ccsvvs).*
  - **Ccsvk** — *Interbedded ashy volcaniclastic siltstone, greywacke and siltstone, pumiceous volcaniclastic sediments and dacite-andesite lavas and intrusives (Ccsvk).*
  - **Ccsvav** — *Predominantly feldspar ± pyroxene phyric andesitic-dacitic volcaniclastic sandstone. Commonly pumiceous (Ccsvav).*
  - **Ccsvlda** — *Massive feldspar ± pyroxene-phyric dacite to andesite lavas and intrusives (Ccsvlda).*
  - **Ccsvkv** — *Predominantly fine-grained ashy volcaniclastic siltstone, with minor black-grey siltstone (Ccsvkv).*
  - **Ccsvkss** — *Predominantly micaceous greywacke and siltstone (Ccsvkss).*
  - **Ccsvkp** — *Quartz-feldspar-phyric pumiceous volcaniclastic sandstone (Ccsvkp).*
  - **Ccsvis** — *Micaceous greywacke and minor siltstone with hematitic staining. Contains Middle Cambrian fossils (Ccsvis).*
  - **Ccsviss** — *Predominantly micaceous siltstone, laminated in places (Ccsviss).*
  - **Ccsvirr** — *Purple mudstone-quartzite-chert clast-rich matrix-supported pebble mudstone with feldspathic matrix (Isandula Conglomerate) (Ccsvir).*

ALMA FORMATION

GROOVE CREEK FORMATION

ISANDULA FORMATION

WESTERN VOLCANO-SEDIMENTARY SEQUENCE

MOUNT READ VOLCANICS

Faulted contacts of Ccwb, Ccwc attributed to major thrusting.

TERRENJUKANA(?) - CAMBRIAN SERIES 2

- **Ccwb** — *Pillowed to massive fine- to medium-grained augite-bearing tholeiitic basalt with intercalated volcaniclastic sandstone and conglomerate, mudstone and chert-bearing breccia (Motton Metabasalt) (Ccwb).*
- **Ccwc** — *Pale to dark grey or black, distinctly bedded and plane-laminated to massive or brecciated chert with minor red and grey siliceous hematitic mudstone and siltstone (Barrington Chert) (Ccwc).*

CLEVELAND-ARTHUR LAKE ASSOCIATION

BURNIE FORMATION

Faulted contacts of Ccwb, Ccwc attributed to major thrusting.

NEO-PROTERO-OZOIC(?)

- **Po** — *Quartzwacke turbidite sequence of sandstone, siltstone and well-bedded black slaty mudstone (Po).*

MESOPROTEROZOIC(?)

- **Ptbs** — *Dominantly schistose conglomerate (Spalford Conglomerate and correlates) (Ptbs).*
- **Pts** — *Dominantly quartzite (Pts).*
- **Ptp** — *Quartz-chlorite-muscovite schist (Ptp).*
- **Ptpg** — *Quartz-muscovite-garnet schist (Ptpg).*

ULVERSTONE-FORTH METAMORPHICS

INTRUSIVE ROCKS

PALEOZOIC

CAMBRIAN

CAMBRIAN SERIES 3

- **Cdaid** — *Massive plagioclase-hornblende-phyric dioritic, andesitic and dacitic intrusives (Lobster Creek Intrusives) (Cdaid).*
- **Cdsvlda** — *Massive feldspar ± pyroxene-phyric dacite to andesite lavas and intrusives (Cdsvlda).*

TERRENJUKANA(?)

- **Cs** — *Serpentinite (Cs).*

MESO-PROTER-OZOIC

- **Pta** — *Amphibolite (Pta).*

MOUNT READ VOLCANICS

ALLOCH-THONOUS SEQUENCE

ULVERSTONE-FORTH METAMORPHICS

CONTACTS

- *Geological contact.*
- *Geological contact - inferred.*
- *Unconformable lithological contact.*
- *Limit of mapping of sub-unit within undifferentiated rock unit.*

FAULTS

- *Fault.*
- *Fault - inferred.*
- *Fault - concealed.*
- *Thrust fault (teeth on upper plate).*
- *Thrust fault (teeth on upper plate) - inferred.*
- *Thrust fault (teeth on upper plate) - inferred from radiometric data.*

LINEARS

- *Axial surface trace of major synform.*
- *Axial surface trace of major early antiform.*
- *Axial surface trace of major later antiform.*
- *Scarp.*
- *Lineament - visible on aerial photographs.*
- *Lineament - visible in magnetic data.*

- *Strike and dip of bedding, right way up; facing unknown.*
- *Strike of vertical bedding, facing unknown.*
- *Strike and dip of compositional layering.*
- *Strike and dip of cleavage, type and relative age unspecified - dipping.*
- *Strike and dip of crenulation cleavage.*
- *Strike and dip of cleavage, relative local age S1 - dipping; vertical.*
- *Strike and dip of cleavage, relative local age S3.*
- *Strike and dip of metamorphic foliation other than cleavage - dipping; vertical.*
- *Strike and dip of metamorphic foliation other than cleavage, relative local age S1 - dipping; vertical.*
- *Strike and dip of metamorphic foliation other than cleavage, parallel to compositional layering; relative local age S2.*
- *Strike and dip of outcrop-scale fault; thrust.*
- *Strike and dip of dominant joint set - dipping; vertical.*
- *Trend and plunge of minor fold hinge line, unspecidied relative age, with did and dip direction of axial surface.*
- *Trend and plunge of minor fold hinge line, relative local age F1; with dip and dip direction of axial surface.*
- *Trend and plunge of minor fold hinge line, relative local age F2; horizontal.*
- *Trend and plunge of minor fold hinge line, relative local age F3, with dip and dip direction of axial surface.*
- *Field station for adjacent readings on the 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.*

SOURCE DIAGRAM

- Highly detailed (eg. more detailed than 1:25 000 scale mapping).
- Detailed systematic (eg.1:25 000 map or equivalent detail).
- Regional systematic (eg.1:50 000, 1:63 360 map or equivalent detail).
- Regional mapping less detailed than 1:63 360 map or equivalent (all other scales).
- Reconnaissance mapping with sparse ground traverses.
- Remote sensing and/or geophysical interpretation with limited or no ground information.

Compiled by M.J. Vicary, B.Sc.(Hons), 2005 as part of the Western Tasmanian Regional Minerals Program from the following sources (see source diagram):

A VICARY, M.J. 2006. Re-interpretation of geological relationships in the Castra - Kindred area. Tasmanian Geological Survey Record 2006/01. Mineral Resources Tasmania.

B BURNS, K.D. 1957. Geology of the Nook-Gunns Plains area. B.Sc. (Hons.) thesis. University of Tasmania. TCR 57-185

C PORTER, T.M. 1974. E.L. 19/72 Dial Range, North West Tasmania, Progress Report CRA Exploration Pty Ltd. TCR 74-0992

D 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 Range 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.

E 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.

F WILSON, P.A. 1982. Annual Report EL 24/1973 Dial Range. 1980 Field Season. Unpublished Report, Geopeko Limited. TCR 82-1875.

G VIVIAN, R.M. 1994. Final Report on Exploration Activities within EL 33/1983, Paloona Northern Tasmania. Unpublished Report, Australia Operations Proprietary Limited; Austamax Resources Limited. TCR 94-2297.

H VICARY, M.J. 2005. Additional map compilation and review of existing maps in western Tasmania. Tasmanian Geological Survey Record 2005/05. Mineral Resources Tasmania.

Updated by:

I C.R. Calver 2005. Field checking and revision of geology as part of the Northwest Landslide Hazard Project.

J C.R. Calver 2007. 1:25 000 geological mapping as part of the TasExplore Project.

K J.L. Everard 2007. 1:25 000 geological mapping as part of the TasExplore Project.

L D.C. Green 2007. 1:25 000 geological mapping as part of the TasExplore Project.

M D.B. Seymour 2007. 1:25 000 geological mapping as part of the TasExplore Project.

N M.J. Vicary 2007. 1:25 000 geological mapping as part of the TasExplore Project.

REFERENCE THIS MAP AS:

VICARY, M.J., CALVER, C.R., EVERARD, J.L., GREEN, D.C. and SEYMOUR, D.B. (compilers) 2008. Digital Geological Atlas 1:25 000 Scale Series. Sheet 4243 Kindred. Mineral Resources Tasmania.

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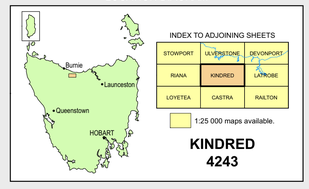
Map produced by Spatial Information Services, Mineral Resources Tasmania.

Website: www.mrt.tas.gov.au

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

LOCATION DIAGRAM



Map generated: 06-JUN-2024

WARNING: INKS ARE LIGHT SENSITIVE.