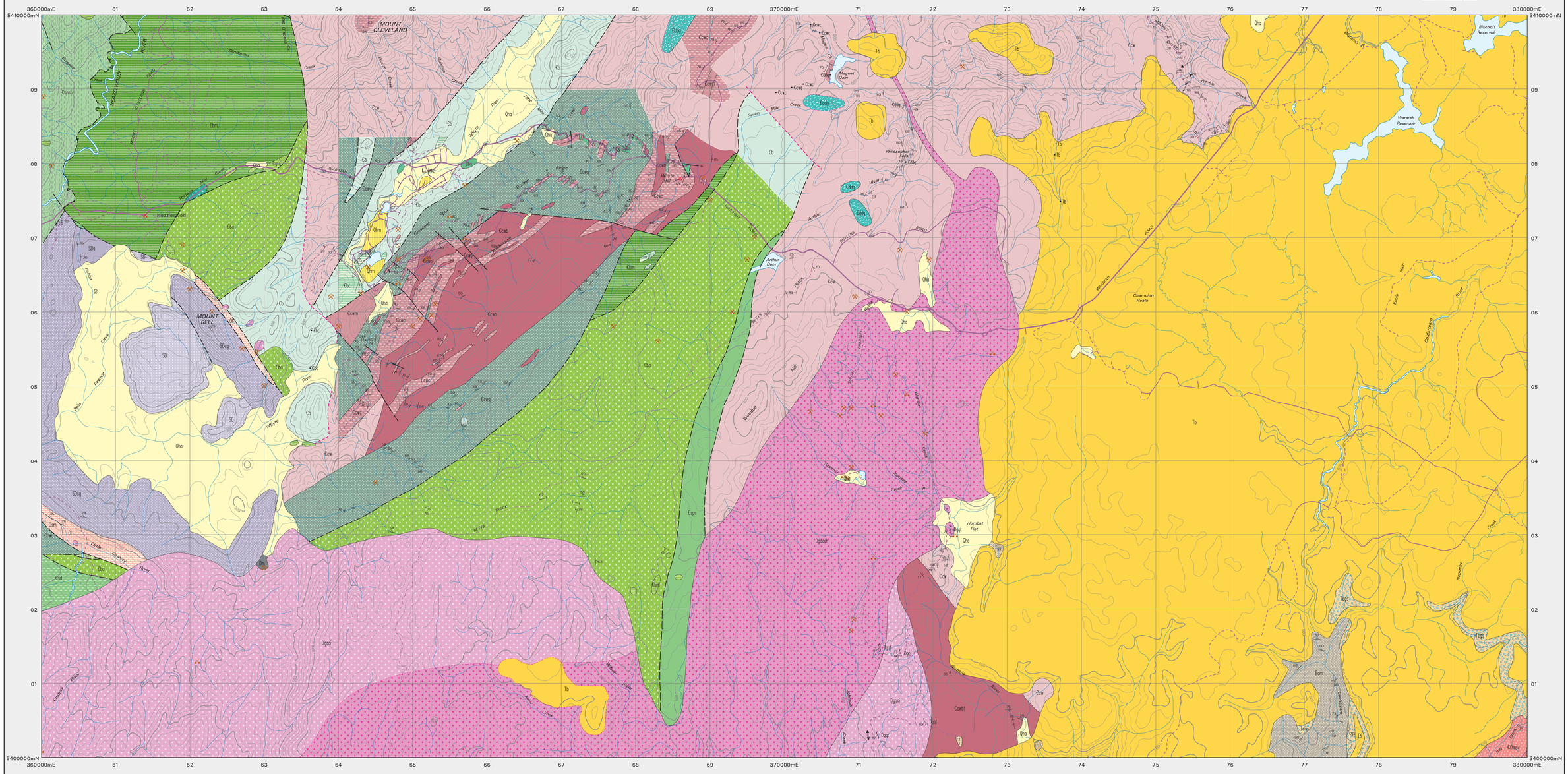
MINERAL RESOURCES TASMANIA
DIGITAL GEOLOGICAL ATLAS 1:25 000 SERIES
LUINA, SHEET 3640

LUINA

Scale: 1:25 000

0 500 1000 1500 2000 2500m

MINERAL RESOURCES TASMANIA
Tasmania
DEPARTMENT of INFRASTRUCTURE ENERGY and RESOURCES



CAINOZOIC

QUATERNARY

Qhm — *Mine tailings and man-disturbed ground (Qhm).*

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

Erosional surface.

TERTIARY

Tb — *Basalt (Tb); transitional olivine basalt (Tbr).*

Tsc, Tsgs — *Sand, silt and conglomerate, interlayered with basalt (Tssc).*
Siliceous conglomerate, grit, occasional fossiliferous sandstone and clay (Tsgs).

Tss — *Interbedded sand and clay (Tss).*

Angular unconformity.

PALAEOZOIC

SILURIAN

SDa — *Siltstone, mudstone and calcareous siltstone (correlate of Amber Formation, including Austral Creek Siltstone and Keel Quartzite) (SDa)*

SDcg — *Quartz sandstone with minor mudstone and granule conglomerate (correlate of Crotty Formation) (SDcg).*

ELDON GROUP; WURAWINA SUPERGROUP

ORDOVICIAN

Oi — *Limestone and impure limestone (correlate of Gordon Group) (Oi).*

Osm — *Poorly sorted quartz sandstone and minor mudstone (probable correlate of Moina Sandstone) (Osm).*

CORRELATE OF OWEN GROUP; WURAWINA SUPERGROUP

LATE CAMBRIAN

€Omsc — *Marine conglomerate with some sandstone and mudstone (€Omsc).*

Faulted contacts attributed to major thrusting.

EARLY CAMBRIAN(?)

€cw

€cwq — *Micaceous quartzose lithicwacke with interbedded siltstone and mudstone (including Crescent Spur Sandstone) (€cwq).*

€cwc — *Interbedded grey, brown and maroon chert, shale and argillite (€cwc).*

€cwm — *Volcaniclastic lithicwacke with interbedded siltstone, mudstone and minor mafic tuff (€cwm).*

€cwb, €cwbf — *Tholeiitic basalt with locally developed pillows and minor intercalated tuff (€cwb). Dominantly planar flow basalt indicated (€cwbf). (includes Deep Creek Volcanics).*
(€cw – undifferentiated lithicwacke, basalt, chert and sedimentary rocks, locally hornfelsed).

INCLUDES MALL FORMATION; CLEVELAND-WARATAH ASSOCIATION; ALLOCHTHONOUS SEQUENCES

Faulted contacts attributed to major thrusting.

€b

€bo — *Porphyritic (pseudomorphed clinoenstatite, orthopyroxene, chromite) boninitic lava (basalt and high magnesium andesite), commonly with interbedded breccia and pillow flows (€bo).*

€bm — *Massive and pillowed aphyric basalt flows (low–titanium tholeiite), commonly brecciated. Individual flows graded from coarse–grained bases to pillowed tops (€bm).*

€bc — *Minor intercalated chert and sedimentary rocks (€bc).*
(€b: undifferentiated mafic and ultramafic rocks).

ALLOCHTHONOUS SEQUENCES

Faulted contacts of €w attributed to major thrusting.

PROTEROZOIC

NEOPROTEROZOIC

Pom — *Thinly bedded calcareous siltstone and conglomerate, with minor quartzwacke and mudstone (correlate of upper Oonah Formation) (Pom).*

INTRUSIVE ROCKS

PALAEOZOIC

DEVONIAN

Dg

Dgaci — *Very coarse–grained equigranular biotite granite, with very abundant intrusions of fine–to coarse–grained porphyritic (quartz, K–feldspar, plagioclase) biotite granite. (More felsic phase of Meredith Granite) (Dgaci).*

Dgadeh — *Fine–to medium–grained equigranular to sparsely porphyritic (quartz, K–feldspar and plagioclase), biotite and minor hornblende–bearing adamellite (Wombat Flat phase of Meredith Granite) (Dgadeh).*
(Dg – undifferentiated granitic rocks).

EARLY(?) CAMBRIAN

€dg — *Dolerite and microgabbro (€ddg).*

€b

€bop — *Coarse–grained pyroxenite associated with boninitic lavas (€bop).*

€bs — *Massive ultramafic cumulate (€bs).*

€gfc — *Fine to coarse–grained gabbro (€gfc).*

€sps

€spsh — *Serpentinized interlayered orthopyroxenite, dunite and pyroxene–bearing dunite (€sps). Dominantly harzburgite, plagioclase harzburgite and subordinate dunite, orthopyroxenite and plagioclase lherzolite (€spsh).*

€spsl — *Dominantly plagioclase dunite–harzburgite–lherzolite, troctolite and minor anorthosite (€spsl).*
(€sps, €spsh, €spsl – layered pyroxenite–dunite association, LPD).

€vs — *Serpentinized interlayered dunite, harzburgite and minor orthopyroxenite. (Layered dunite–harzburgite succession, LDH) (€sd).*

€sm — *Massive serpentinite (€sm).*

€spw — *Serpentinitic melange (€spw).*

€tt — *Tonalite (€tt).*

ALLOCHTHONOUS SEQUENCES

ALTERATION

PALAEOZOIC

DEVONIAN

Dm — *Magnetic skarn (Dm).*

Geological boundary – position approximate.
Geological boundary – inferred from airborne magnetic data.
Geological boundary – inferred from airborne radiometric data.
Fault – position accurate or approximate.
Fault – inferred from airborne radiometric data.
Thrust fault (teeth on upper plate) – position accurate or approximate.
(white line) Limit of mapping of sub–unit within undifferentiated rock unit.

Strike and dip of bedding, facing known – right way up; overturned.
Strike and dip of bedding, facing unknown – dipping; vertical.
Strike and dip of cleavage – dipping; vertical.
Trend and plunge of hingeline of minor fold; with vertical axial surface.
Strike and dip of primary igneous flow banding.
Trend and plunge of hingeline of minor fold, relative local age F2, with vertical axial surface.
Trend of apparent lineation of K–feldspar phenocrysts on horizontal surface of granitic rock.
Strike and dip of small dyke, sill or vein (quartz vein where rock type not specified).
Mineral deposit location – hardrock
Mineral deposit location – alluvial
Data derived from Mineral Resources Tasmania DEPOSITS data base. Data point position has not been verified in every case.
Construction materials location – Data derived from Mineral Resources Tasmania DEPOSITS data base. Data point position has not been verified in every case.

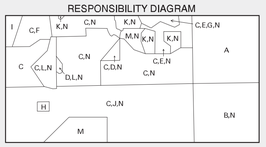
Compiled by J.L. Everard, 2003 from the following sources (see responsibility diagram):

A Baillie et al (1986). Geological Atlas 1:50,000 series sheet 8015S (36). St Valentines. Tasmania Department of Mines.
B Barton et al (1966). Geological Atlas 1:63,360 series sheet 44 (8015S). Mackintosh. Tasmania Department of Mines.
C Brown, A.V. 1986. Geology of the Dundas–Mt Lindsay–Mt Youngback region. Geological Survey Bulletin 62. Tasmania Department of Mines.
D Collins, P.L.F. 1983. Geology and mineralization at the Cleveland Mine Western Tasmania. PhD thesis. University of Tasmania.
E Cornstaff P.L. Information supplied to A.V. Brown.
F Greenaune, P. 1980. The volcanics of the Heazlewood River Complex. B.Sc. Hons. thesis, University of Tasmania.
G Halley, S.W. 1991. E112/90 and E115/90 Waratah annual report. RGC Exploration P/L (TCR 91-32/84).
H Halley, S.W. 1993. E112/90 and E115/90 Waratah annual report. RGC Exploration P/L (TCR 93-33/63).
I Peck, D.C. 1990. The platinum–group element geochemistry and petrogenesis of the Heazlewood River Mafic-ultramafic Complex Tasmania. PhD thesis University of Melbourne.
J Turner, N.J. et al 1991. Geological Atlas 1:50 000 series. Sheet 7914N (43) Corinna. Tasmanian Department of Mines.
K Everard, J.L. New mapping.
L Everard, J.L. Geophysical interpretation and limited ground traverses.
M Everard, J.L. Geophysical interpretation.
N Updated by M. Vicary, 2004 as part of the Western Tasmanian Regional Minerals Program.

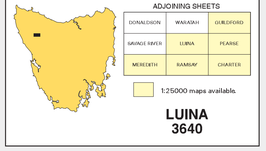
Digital base information from Information and Land Services Division, Department of Primary Industries, Water and Environment.

Map produced by the Data Management Branch of Mineral Resources Tasmania using G.I.S. software. AGD66 - AMG Zone 55. Contour Interval: 20 metres.

RESPONSIBILITY DIAGRAM



LOCATION DIAGRAM



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Data correct & plotfile generated: 27-APR-2005

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