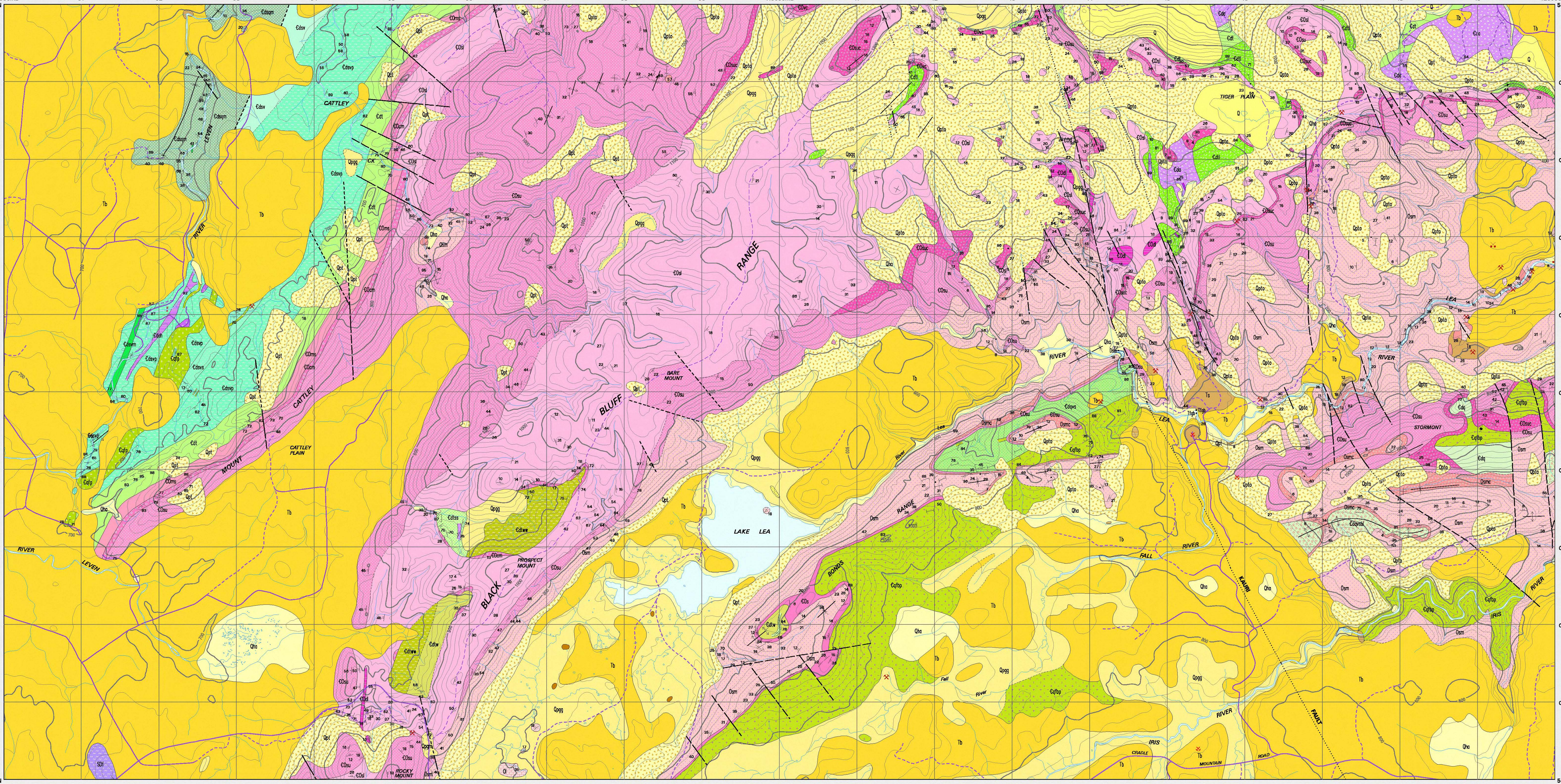
MINERAL RESOURCES TASMANIA
DIGITAL GEOLOGICAL ATLAS 1:25 000 SERIES
LEA, SHEET 4040

LEA

Scale: 1:25 000

0 500 1000 1500 2000 2500m

MINERAL RESOURCES TASMANIA
Tasmania
DEPARTMENT of INFRASTRUCTURE ENERGY and RESOURCES



CAINOZOIC

QUATERNARY (Q)

HOLOCENE
- **Qha** — Alluvium, swamp and marsh deposits (Qha).
- **Qpt** — Talus (Qpt).
- **Qpto** — Quartzite and conglomerate talus (Qpto).

PLEISTOCENE
- **Qpsw** — Older aeolian dune sand (Qpsw).
- **Qpgm** — Mostly morainal deposits (Qpgm).
- **Qpgg** — Glacial deposits (Qpgg).

TERTIARY
- **Tfgb** — Grey-billy and silcrete (Tfgb).
- **Tb**, **Tbhb** — Basalt (Tb). Hyaloclastic basaltic breccia (Tbhb).
- **Tf** — Ferricrete (Tf).
- **Ts** — Dominantly non-marine sequences of gravel, sand, silt, clay and regolith (Ts).

PALAEOZOIC

SILURIAN-DEVONIAN
- **SDf** — Shallow marine sandstone (SDf).

ORDOVICIAN (WURAWINA SUPERGROUP: GORDON GROUP, OWEN GROUP)
- **Ol** — Limestone with siltstone in some areas (Ol).
- **Osmsh** — Calcareous siltstone and sandstone. Transitional unit from Moina Sandstone to Gordon Limestone (Osmsh).
- **Osm** — Pale grey to pink commonly cross-bedded quartz sandstone, coarse and pebbly toward base and with tubicular trace fossils in horizons of upper sequences (correlate of Moina Sandstone) (Osm).
- **Osmc** — Pink to grey pebble-conglomerate and coarse sandstone, rarely bioturbated (Osmc).

LATE CAMBRIAN (OWEN GROUP, WURAWINA SUPERGROUP)
- **€Os**
  - **€Osu** — Mostly pink coarse sandstone and granule-pebble conglomerate. Chert clasts common. Cross-bedding common (€Osu).
  - **€Ob** — Basalt typically hematite-altered, fine-grained, purple weathering. Massive to brecciated, generally well cleaved, vesicular, rare pillow structures (€Ob).
  - **€Osuc** — Pink pebble conglomerate. Transgressive erosional base in some areas (€Osuc).
  - **€Osl** — Thin bedded pink to grey sandstone with minor siltstone, calcareous sandstone and pebble conglomerate. Some bioturbated horizons (€Osl).
  - **€Odl** — Sill-like bodies of sub-ophitic dolerite (€Odl).
- **€Ocm** — Pebble-cobble to cobble-boulder conglomerate thick bedded to massive, with minor sandstone lenses. Pink to pale grey. Correlate of Middle Owen Conglomerate (€Ocm).
- **€Oms** — Interbedded micaceous sandstone, siltstone and siliciclastic pebble conglomerate, mostly grey in colour. Correlate of Newton Creek Sandstone (€Oms).
- **€Ovc** — Volcaniclastic conglomerate, breccia and sandstone. Correlate of Jukes Conglomerate (€Ovc).

MIDDLE CAMBRIAN (TYNDALL GROUP CORRELATES, MOUNT READ VOLCANICS)
- **€dt** — Mostly volcaniclastic pebble-cobble conglomerate and sandstone, usually quartz-feldspar-phyric, with lesser felsic to intermediate volcanic rocks (€dt).
- **€da** — Andesitic lava and breccia, typically feldspar +/− hornblende-phyric (€da).
- **€dtl** — Felsic lava, typically quartz-feldspar-phyric, commonly flow-banded and autobrecciated (€dtl).
- **€dtss** — Volcaniclastic sandstone, typically quartz-feldspar +/− biotite-phyric, with minor felsic lava in places (€dtss).
- **€dtw** — Felsic volcanic and volcaniclastic rocks of the Black Bluff Range windows, typically including welded and flow-like rocks (€dtw).
  - **€dtss** — Volcaniclastic sandstone, conglomerate and breccia (€dtss).
  - **€dtww** — Welded ash flow tuff and associated flow rocks, typically quartz-feldspar-phyric, with interbedded volcaniclastic rocks (€dtww).

MIDDLE CAMBRIAN (MOUNT READ VOLCANICS)

CORRELATES OF MOUNT CHARTER GROUP
- **€dsv** — Mixed sequences of volcano-sedimentary and volcanic rocks (€dsv).
  - **€dsvp** — Upper sequence of pumice-bearing volcaniclastic sandstone and breccia (Correlate of Southwell Subgroup) (€dsvp).
  - **€dsvm** — Graded volcaniclastic mass-flow breccia units (€dsvm).
  - **€dah** — Feldspar-hornblende-phyric andesite (€dah).
  - **€dsvs** — Bedded sandstone-siltstone units (€dsvs).
  - **€dsqm** — Micaceous quartzwacke-siltstone sequence (Correlate of Animal Creek Greywacke) (€dsqm).
  - **€dsvvt** — Dominantly fine grained vitriclastic siltstone with some mass flow deposits, shale and greywacke (€dsvvt).

CORRELATES OF EASTERN QUARTZ-PHYRIC SEQUENCE
- **€dq** — Mainly quartz-phyric volcaniclastic rocks with intercalated quartz-feldspar +/− biotite porphyries (€dq).
  - **€dqvs** — Mainly volcaniclastic sandstone and vitric mudstone (€dqvs).
  - **€dqvsbl** — Quartz-feldspar-biotite-phyric lithic-rich volcaniclastic sandstone (€dqvsbl).
  - **€dqlf** — Felsic feldspar-phyric lava, commonly spherulitic (€dqlf).

INTRUSIVE ROCKS

- **qv** — Quartz vein.

PALAEOZOIC — CAMBRIAN (MOUNT READ VOLCANICS)
- **€dbc** — Basaltic dykes, chlorite-carbonate-altered (€dbc).
- **€qfp** — Quartz-feldspar porphyry, dominantly intrusive (€qfp).
- **€qfbp** — Quartz-feldspar-biotite +/− hornblende porphyry (Bonds Range Porphyry) (€qfbp).
- **€ddt** — Ophitic textured mafic-intermediate rock of uncertain affinity, feldspar-pyroxene-chlorite-quartz-bearing (€ddt).

Symbols

- Strike and dip of bedding — right way up; overturned; facing unknown.
- Strike of vertical bedding — facing unknown.
- Horizontal bedding
- Trend and plunge of hinge line of unspecified relative age — minor antiform; minor synform.
- Strike and dip of cleavage of unspecified type and relative age; vertical.
- Strike and dip of dominant joint set; vertical.
- Strike and dip of igneous banding or platy alignment; vertical.
- 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.

- Geological boundary — position approximate
- Geological boundary — position inferred
- Fault — position approximate
- Fault — position inferred
- Fault — position concealed
- Axial surface trace of major fold, antiform
- Axial surface trace of major fold, synform
- Notable small outcrop

Compiled by J. Pemberton and J. McKibben, 1996 from the following sources (see Responsibility Diagram):

A Pemberton, J. and Vicary, M.J, 1988. Mount Read Volcanics Project Map 8. Department of Mines, Tasmania.

B Pemberton, J. and Vicary, M.J., 1989. Mount Read Volcanics Project Map 9. Department of Mines, Tasmania.

C Vicary, M.J. and Pemberton, J., 1988. Mount Read Volcanics Project Map 7. Department of Mines, Tasmania.

D Barton, C.M. et al, 1966. Geological atlas 1 mile series - Mackintosh. Department of Mines, Tasmania.

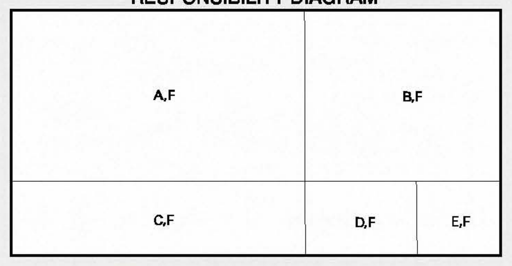
E Jennings, I.B. and Burns, K.L. 1958. Geological atlas 1 mile series. Zone 7 Sheet 45 Middlesex. Tasmania Department of Mines.

F Modified and updated by K.D. Corbett, 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

ADJOINING SHEETS

GUILDFORD	LOONGANA	WILMOT
PEARSE	LEA	CETHANA
CHARTER	PENCIL PINE	LIENA

1:25000 maps available.

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Data correct & plotfile generated: 22-MAR-2005

WARNING: INKS ARE LIGHT SENSITIVE