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Additional map compilation and review of existing maps in western Tasmania

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CONTENTS

Introduction

This report documents the final phase of a project within the Western Tasmanian Regional Minerals Program (WTRMP) to update the geology of the Mount Read Volcanics belt using the new WTRMP geophysical data and additional geological data from other available sources. It supplements work commenced by Dr Keith Corbett on the reappraisal of the stratigraphic subdivisions of the Mount Read Volcanics and Owen Group and correlates in western and northwestern Tasmania.

Figure 1 shows the distribution of the 1:25 000 scale geological map sheets reviewed and/or compiled as part of the WTRMP. These maps essentially cover all the areas of the Cambrian Mt Read Volcanics and/or Cambrian to Ordovician Owen Group in western and northern Tasmania and in the Adamsfield area. Map sheets revised by Corbett have been documented in the following reports and maps (Corbett, 2002*a*,*b*,*c*; Corbett, 2003*a*,*b*; Corbett, 2004; Corbett and McClenaghan, 2003).

Thirty-two new maps were compiled and an additional 23 existing maps were revised by this author. Significant geological revisions to these map sheets are documented below.

In addition, a number of significant changes have been made to the final map sheets, including those reviewed by Corbett. These include:

1. Standardisation of rock code mnemonics.
2. Standardisation of legend and responsibility format.
3. Reappraisal of rock unit colours.

It is hoped that these changes will greatly assist the user and aid in interpretation and readability.

Modifications to the MRT 1:250 000 and 1:500 000 scale geological maps have been made to accommodate the revisions to the 1:25 000 scale series.

All grid coordinates are referenced to AGD66 – AMG Zone 55.

Acknowledgments

The author wishes to acknowledge the enormous contributions that Dr Keith Corbett and Mr Chris Meech made to this part of the WTRMP Project. Mrs Amanda Mayne and Ms Joanne Bowerman are sincerely thanked for their superb cartographic efforts. Dr David Seymour, Dr Marcus McClengahan, Mr Steve Forsyth, Mr John Everard, Dr Clive Calver and Dr David Green provided valuable professional and technical advice. The support of Dr Geoff Green, Dr Tony Brown and Mr Ken Bird has been greatly appreciated.

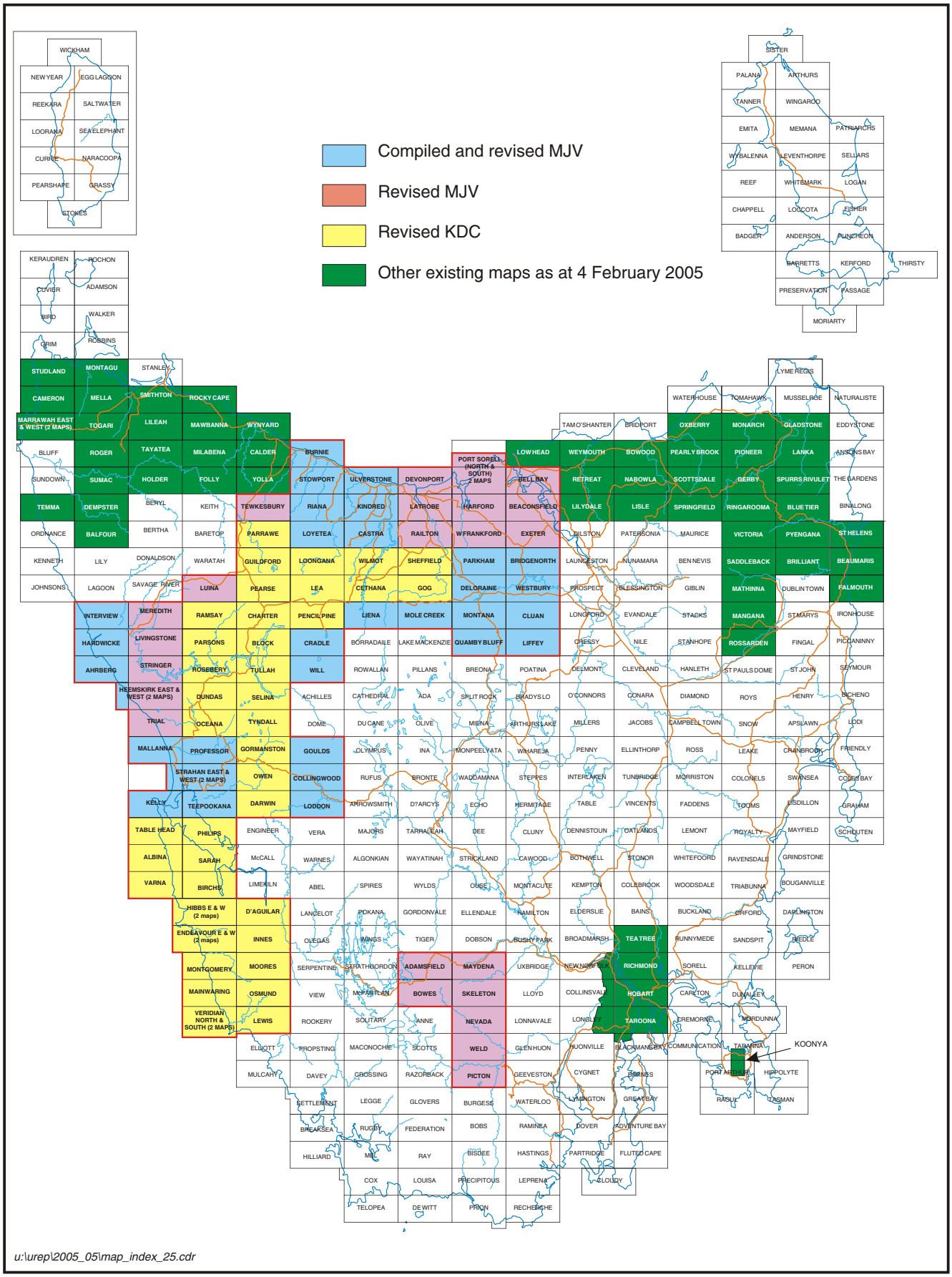

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Figure 1

1:25 000 scale geological maps updated as part of the Western Tasmanian Regional Minerals Program.

New map compilations

Ahberg

1. The compilation was largely based on original mapping by Brown *et al*. (1994), Turner *et al*. (1991) and Gee *et al*. (1969).
2. Modification to the Proterozoic geology at the southern end of the Arthur Lineament was based on the interpretation of WTRMP aeromagnetic data.

Bridgenorth

1. The compilation was largely based on Gulline *et al*. (1973).
2. Several air photo and magnetic lineaments have been added to the map. These are typically post-Jurassic in age, but they could represent reactivated older basement structures.
3. The Owen Group stratigraphy has been revised following Laurie (1996).

Burnie

1. The compilation was largely based on Gee *et al*. (1967) and Burns (1963).
2. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).
3. The location of pillow basalt within the Burnie Formation at Sulphur Creek was taken from Burns (1964).

Castra

1. The compilation was largely based on Burns (1963) and Jennings *et al*. (1959).
2. The Cambrian geology has been updated from the original sources with additional information form Vicary (1995), Vivian (1984), Corbett (2003*b*), Poltock (2002) and additional air photo and WTRMP geophysics interpretation.
3. The dominant Cambrian sequence in the Castra area has been correlated with the Western Volcano-sedimentary Sequence (Corbett, 2003*b*).
4. Tyndall Group correlates crop out in the Preston–West Gawler River area. They are also inferred to occur in the Groove Creek area (Corbett, 2003*b*). The distribution of Tyndall Group rocks on the map in the Groove Creek area is based on the interpretation of WTRMP geophysical data and differs from that proposed by Corbett. The contact between the Tyndall Group and the Barrington Chert in the Perry Creek area is highly speculative.
5. The Owen Group stratigraphy is essentially based on original source material and additional mapping is recommended.
6. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).
7. Subsequent to the compilation of the map, 25 days were spent examining the Cambrian sequence in the Kindred–Castra area. Significant revisions to both the Kindred and Castra sheets have been made. A revised map sheet (Vicary, 2005*a*) was produced in May, 2005. Explanatory notes are in preparation.

Cluan

1. The compilation was largely based on Barton *et al*. (1969) with additional information from Matthews (1983).
2. Additional changes to the eastern edge of the map sheet will be required once the recent remapping of the Longford map sheet (Forsyth, in prep.) has been compiled.

Collingwood

1. The compilation was largely based on Calver *et al*. (1987) and Gulline *et al*. (1963).
2. Some modification to the Quaternary geology in the Alma River–Cardigan Flats–Cheyne Range areas has been made and is largely based on air photo interpretation.
3. The Proterozoic and Lower Palaeozoic geology is unmodified from original source material.

Cradle

1. The compilation was largely based on Barton *et al*. (1966) and Jennings and Burns (1958).
2. The Permian stratigraphy was recompiled from Gee and Burns (1968).
3. The distribution of Cambrian Mt Read Volcanics in the Sumer Spur area was taken from Vicary and Pemberton (1988).
4. Revisions to the Pleistocene deposits in the Cradle Mountain–Waterfall Valley area were based on air photo interpretation with additional information from Derbyshire (1968).
5. Minor revision was made to the Proterozoic geology in the Hounslow Heath area, based on additional information presented in Collins *et al*. (1981).

Deloraine

1. The compilation was largely based on Gulline *et al*. (1973) and Barton *et al*. (1969).
2. The Cambrian geology has been updated with additional information from Herrmann (1991). Additional field checking is recommended.
3. Magnetic lineaments in the Farrells Road–Porters Bridge Road area were based on the interpretation of WTRMP aeromagnetic data.

Goulds

1. The compilation was largely based on Calver *et al*. (1987), Gulline *et al*. (1963), and Jennings *et al*. (1961).
2. The Permian geology in the Camp Hill–Goulds Sugarloaf area was taken directly from an original 1:25 000 scale compilation by S. Forsyth.
3. The Permian–Triassic geology in the Mt Manfred–Mt Cuvier area was updated with

unpublished data (S. Forsyth) and air photo interpretation by M. Vicary.

4. The Proterozoic and Lower Palaeozoic geology is unmodified from original source material.

Hardwicke

1. The compilation was largely based on Gee *et al*. (1969) and Turner *et al*. (1991).
2. Modification to the Proterozoic geology at the southern end of the Arthur Lineament was based largely on the interpretation of WTRMP aeromagnetic data.

Heemskirk East

1. The compilation was essentially unmodified from Brown *et al*. (1994).

Interview

1. The compilation was largely based on Gee *et al*. (1969) and Turner *et al*. (1991).
2. Some modification to Quaternary dune systems in coastal areas has been made following air photo interpretation.

Kelly

1. The compilation was largely based on Baillie *et al*. (1977) and McClenaghan and Findlay (1989).
2. The Proterozoic geology in the Cape Sorell area was taken directly from original field mapping compilation sheets by S. F. Cox and P. W. Baillie. Only a small fraction of structural information has been added to the final map. Extra data can be obtained from the MRT structure database.
3. The Proterozoic rocks at Cape Sorell have been designated as Tyennan Metasediments rather than correlates of the Rocky Cape Group as previously shown on the adjacent Table Head map. This correlation, based mainly on structural and metamorphic similarities with the Tyennan Metasediments, follows that of Cox (1989) and Seymour and Calver (1995). It is noted that there are marked sedimentological similarities between the Proterozoic rocks at Cape Sorell and the Rocky Cape Group. Models favouring southeast-directed thrusting (D. B Seymour, pers. comm.; Leaman *et al*. 1994; Murphy *et al*., 2004) of the Cape Sorell Block suggest that a correlation with the Rocky Cape Group may be more appropriate.
4. Minor modification to the Quaternary geology in the Ocean Beach area was based on air photo and WTRMP radiometric data interpretation.

Kindred

1. The compilation was largely based on Burns (1963) and Jennings *et al*. (1959).
2. The Cambrian geology is slightly modified from the original sources with additional data presented in Wilson (1982), Herrmann (1993), Crawford (1993) and Sproule (1994). The correlation of the sequence into the Radfords Creek Group (Tyndall Group) or Cateena Group (Western Volcano-sedimentary Sequence) follows that recommended and discussed by Laurie *et al*. (1995) and Corbett and McClenaghan (2003).
3. Descriptions given in Herrmann (1993), Crawford (1993) and Sproule (1994) suggest that some areas previously mapped as Cateena Group (Western Volcano-sedimentary Sequence) may also include lithologies which are similar to the overlying Radfords Creek or Tyndall Group. The distinction between the Western Volcano-sedimentary Sequence and Tyndall Group cannot be resolved from the available data. Remapping these units is strongly recommended.
4. A small area of highly magnetic rocks at 430 000 mE, 5 430 000 mN is tentatively assigned as Tyndall Group.
5. The Owen Group stratigraphy is essentially based on original source material and additional mapping is recommended.
6. Subsequent to the compilation of the map, 25 days was spent examining the Cambrian sequence in the Kindred–Castra area. Significant revisions to both the Kindred and Castra sheets have been made. A revised map sheet (Vicary, 2005*b*) was produced in May 2005. Explanatory notes are in preparation.

Liena

1. The compilation was largely based on Jennings and Burns (1958).
2. Revision to the boundary of the Dove Granite was based on mapping by Herrmann (1989), Austin, Serim and Walsham (1973), and air photo interpretation. Additional field checking is highly recommended.
3. Revision to the Tertiary basalt boundary in the Pallawah Road area was based on WTRMP radiometric interpretation.

Liffey

1. The compilation was largely based on Barton *et al*. (1969) with additional information from Matthews (1983).
2. Additional changes to the eastern edge of the map sheet will be required once the recent remapping of the Cressy map sheet (Forsyth, in press) has been compiled.

Loddon

1. The compilation was largely based on the integration of data from several sources: Calver *et al*. (1987), Gulline *et al*. (1963), Spry (1957), Spry and Zimmerman (1959) and Duncan (1974).
2. Other data were taken from Hall *et al*. (1969) and Peterson (1966), with additional air photo interpretation by M. Vicary.
3. The Jane Dolomite has been designated as Neoproterozoic following Calver (in prep.).
4. Areas of Owen Group correlates in the Loddon Plains–Jane River Track area are largely based on air photo interpretation by M. Vicary after reconnaissance mapping by Hall *et al*. (1969). Field checking is recommended.

Loyetea

1. The compilation was largely based on original mapping by Baillie *et al*. (1986) and Jennings *et al*. (1959).
2. The Cambrian geology of the Native Track Tier area is taken from Vicary (1994). This mapping was largely reconnaissance in nature and included some compilation of previous work by exploration companies (see Vicary, 1994 for references). Two distinct formations are indicated. These are correlated by Corbett (2003*b*) with the Tyndall Group and the Western Volcano-sedimentary Sequence. Additional mapping is recommended.
3. The Owen Group stratigraphy is based on that recommended by Corbett (2003*b*). Additional mapping in the Loyetea Peak–Buttons Rivulet area is recommended, as the previous mapping could not be reconciled with air photo interpretation.
4. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).
5. Modification to previous mapping in the Kara–Mount Everett area has been based on data from McKeown (1994) with additional air photo and WTRMP geophysics interpretation.

Mallanna

1. The compilation was largely based on Baillie *et al*. (1977) and Brown *et al*. (1994).
2. Minor modifications to Quaternary dune systems in the Ocean Beach–Henty Dunes area were based on air photo interpretation.
3. Minor modification to the boundary between the Tertiary and Permian units was made after reviewing the WTRMP geophysics and air photo interpretation.
4. The geological mismatch in Permian stratigraphy across the Strahan and Zeehan 1:50 000 scale map sheets could not be resolved.

Mole Creek

1. The compilation was largely based on Jennings and Burns (1958) and Barton *et al*. (1969).
2. Additional subdivision of Gordon Group and structural data based on Burrett *et al*. (1989) has been added.
3. The faulted contact between Eldon Group and Gordon Group rocks at 430 000 mE and 5 396 300 mN was not shown on the compilation by Burrett *et al*. (1989) and may be incorrect.
4. Additional subdivision of the Gordon Group in the Mole Creek–Caveside area is required.
5. Several occurrences of Jurassic dolerite in the Mole Creek area require field checking, as they may in fact represent Tertiary dolerite boulder beds (S. Forsyth; K. Corbett, pers. comm.).

Montana

1. The compilation was largely based on Barton *et al*. (1969).
2. The Cambrian geology in the Kentish Hill area has been updated with additional information from Herrmann (1991). Additional field checking is recommended.
3. The Permian geology in the Golden Valley area has been updated with additional information from Clarke (1968).
4. A tholeiitic basalt of unassigned affinity occurs in the Golden Valley area. A preliminary review of geochemical data (Herrmann, 1991) suggests that it may be a possible correlate of the Cleveland–Waratah association.

Parkham

1. The compilation was largely based on Gulline *et al*. (1973).
2. Several air photo and magnetic lineaments have been added to the map. These are typically post-Jurassic in age, but they could represent reactivated older basement structures.
3. Minor revision to Permian, Jurassic and Quaternary geology was necessary along the eastern edge of the map to accommodate new mapping in the Launceston area (Calver and Forsyth, in press). This requires additional field checking.

Professor

1. The compilation was largely based on original mapping by Baillie *et al*. (1977), Corbett *et al*. (1989), Brown *et al*. (1994) and Corbett (1986).
2. The Cambrian rock types in the Truscott Creek–lower Pearl Creek area and in the Lode Creek (Queensberry mine) area have been correlated with the Tyndall Group following Corbett (2002*a*).
3. The eastern boundary of the Tyndall Group rocks in the Yolande River area is poorly defined and has been based on WTRMP aeromagnetic data interpretation. Additional field mapping is recommended.
4. The distribution of Tyndall Group rocks in the Lode Creek–McCutcheons Creek area differs from that presented by Baillie *et al*. (1977) and Corbett (2002*a*). This has been based on interpretation of WTRMP geophysical data and air photo interpretation. Additional field mapping is strongly recommended.
5. The Owen Group stratigraphy essentially follows that recommended by Corbett (2002*a*).
6. The distribution of andesite near the Lake Margaret Road–Lyell Highway intersection (the "Horse-paddock Andesite") has been updated from Halley *et al*. (1995).
7. A magnetic linear follows the Yolande River for approximately five kilometres upstream from the Pearl Creek junction. Its origin is uncertain, but it may represent a fault.

Quamby Bluff

1. The compilation was largely based on Barton *et al*. (1969).

2. Additional subdivision within the Upper Parmeener Supergroup along the Lake Highway was supplied by S. Forsyth.

Riana

1. The compilation was largely based on original mapping by Gee *et al*. (1967), Burns (1963), Baillie *et al*. (1986) and Jennings *et al*. (1959).
2. The Tertiary basalt and Housetop Granite boundaries are largely taken from original sources, however a review of the WTRMP geophysics suggests that while the contacts are relatively accurate, locally they may vary between 100 to 500 m from the mapped boundary. Additional field checking is recommended.
3. Cambrian rock types (the Radfords Creek Group) to the south of Mt Riana are correlated with the Tyndall Group (Corbett, 2003*b* and Laurie *et al*. 1995).
4. The 'Riana Dolerite', previously considered to be Ordovician in age, has been correlated with the Cambrian Lobster Creek Intrusives (Herrmann, 1993; Crawford, 1993; Sproule, 1994).
5. The Cambrian rock types in the Hardstaff Creek area (the 'Cateena Group') are tentatively correlated with the Western Volcano-sedimentary Sequence of the Mount Read Volcanics, but descriptions given in Herrmann (1993), Crawford (1993) and Sproule (1994) suggest that some areas previously mapped as Cateena Group (Western Volcano-sedimentary Sequence) may also include lithologies which are similar to the overlying Radfords Creek or Tyndall Group. The distinction between the Western Volcano-sedimentary Sequence and Tyndall Group cannot be resolved from the available data. Remapping this sequence is strongly recommended.
6. The nature of the contact between the Western Volcano-sedimentary Sequence and the Barrington Chert (the 'Hardstaff Unconformity' of Burns, 1964) should be re-examined. It is quite possible that the contact is in fact a flat-lying thrust.
7. The Owen Group stratigraphy is largely based on the original source material and remapping is recommended.
8. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).

Strahan East and Strahan West (Bellinger)

1. The compilation was largely based on original mapping by Baillie *et al*. (1977) with additional data from Corbett *et al*. (1989) and Corbett *et al*. (1993).
2. Quaternary dune systems in coastal areas have been modified following air photo interpretation.
3. A new area of Quaternary alluvium along the Manuka River near Strahan has been added, based on interpretation of WTRMP radiometric data.
4. The distribution of andesitic rock types in the Purdy Creek area has been interpreted from WTRMP aeromagnetic data.
5. Volcanic rocks in the Botanical Creek area and the above-mentioned andesites have been correlated with the Tyndall Group following Corbett (2002*a*).
6. The Owen Group stratigraphy follows that of Corbett (2002*a*).
7. Modifications to fault boundaries near 376 000 mE, 5 334 000 mN have been based on air photo interpretation.
8. A previously unmapped area of andesite has been added at approximately 379 500 mE, 5 334 500 mN (Stockwell, 1998).

Stowport

1. The compilation was largely based on original mapping by Gee *et al*. (1967) and Burns (1963).
2. Some modification to the boundaries of Tertiary basalt, Burnie Formation and the Housetop Granite have been made following interpretation of WTRMP geophysical data.
3. The age of the ironstone deposits at Cuprona and Tasmania Iron Mines (Penguin) is poorly known and additional study is recommended.
4. Cambrian rock types in the Natone–Cuprona area are tentatively correlated with the Dundas Group. Additional field checking is recommended.
5. Radiometric data suggest additional areas of Burnie Formation crop out beneath Tertiary basalt in the Pet River–Darling River area. These have not been shown on this compilation and field checking is recommended.
6. The Owen Group correlates in the Dial Range and Natone areas require remapping.
7. The Cambrian rock types in the Dial Creek area have been tentatively correlated with the Western Volcano-sedimentary Sequence of the Mt Read Volcanics. Descriptions given by Herrmann (1993), Crawford (1993) and Sproule (1994) also indicate that some areas previously mapped as Cateena Group (Western Volcano-sedimentary Sequence) may also include lithologies that are similar to the overlying Radfords Creek or Tyndall Group. The distinction between the Western Volcano-sedimentary Sequence and Tyndall Group cannot be resolved from the available data. Remapping this sequence is strongly recommended.

Teepookana

1. The compilation was largely based on original mapping by Baillie *et al*. (1977) with additional data from Corbett *et al*. (1993) and McClenaghan and Findlay (1989).
2. The distribution of andesitic rock types in the Pine Cove Creek and Blackwood Creek area has been interpreted from WTRMP aeromagnetic data.
3. Volcanic rocks in the Kingfisher Creek–Gravelly Creek area and the above-mentioned andesites have been correlated with the Tyndall Group following Corbett (2002*a*).
4. The Owen Group stratigraphy follows that of Corbett (2002*a*).

5. Minor modifications to the distribution of Tertiary and Quaternary units within the Macquarie Harbour Graben, across the Strahan and Macquarie Harbour 1:50 000 scale map sheet boundaries, have been based on air photo interpretation.
6. A minimum polygon of Tertiary ferricrete has been added at 360 900 mE, 5 329 080 mN. This was recorded on the original Strahan map compilation sheets.
7. A radiometric anomaly centred on a flat-topped hill at approximately 373 000 mE, 5 324 000 mN is possibly due to a capping of Tertiary sediments. This has not been added to the final map and requires field checking.
8. The boundaries to the 'Garfield Andesite', at approximately 380 000 mE, 5 324 300 mN, have been modified (Halley *et al.*, 1995).
9. A large unit of Rinadeena Shale (Ola) has been added in the Open Creek area on the basis of WTRMP radiometric data.
10. The approximate extent of the King River mine tailings is shown by a radiometric trend line.

Ulverstone

1. The compilation was largely based on original mapping by Burns (1963).
2. The Cambrian rock types in the Dial Creek–Lobster Creek area (the 'Cateena Group') are tentatively correlated with the Western Volcano-sedimentary Sequence of the Mount Read Volcanics, but descriptions given in Herrmann (1993), Crawford (1993), Wilson (1992) and Sproule (1994) suggest that some areas previously mapped as Cateena Group (Western Volcano-sedimentary Sequence) may also include lithologies that are similar to the overlying Radfords Creek or Tyndall Group. The distinction between the Western Volcano-sedimentary Sequence and Tyndall Group cannot be resolved from the available data. Remapping this sequence and correlates in the Mannings Jetty Road and Cateena Point areas is strongly recommended.
3. The nature of the contact between the Western Volcano-sedimentary Sequence and the Barrington Chert (the 'Hardstaff Unconformity' of Burns, 1964) in the Library Creek–Sullocks Hill area should be re-examined. It is quite possible that the contact is in fact a flat-lying thrust.
4. The Owen Group stratigraphy is largely based on the original source material and remapping is recommended. The Gnomen Mudstone should be re-examined as descriptions in Herrmann (1993), Crawford (1993) and Sproule (1994) suggest that it may in fact be part of the Western Volcano-sedimentary Sequence.
5. The correlation of rocks along the coastal section between Penguin and West Ulverstone essentially follows that described in Berry and Gray (2001). A small area of potential Togari Group rocks to the east of Goat Island, within the Westbank Fault Zone, has been shown on the map as Cleveland–Waratah Association (D. Seymour and C. Calver, pers. comm.). Additional field checking is required.
6. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).
7. Some additional modifications to the Ulverstone map were made in May 2005 due to revision of the adjacent Kindred map (Vicary, 2005*b*).

Westbury

1. The compilation was largely based on Gulline *et al*. (1973) and Barton *et al*. (1969) with additional information from Matthews (1983).
2. Several air photo and magnetic lineaments have been added to the map. These are typically post-Jurassic in age, but they could represent reactivated older basement structures.

Will

1. The compilation was largely based on Barton *et al*. (1966), Jennings and Burns (1958) and Jennings *et al*. (1961).
2. The Permian stratigraphy in the Mt Inglis–Lake Will area was recompiled from Gee and Burns (1968).
3. The Granite Tor Granite boundaries were updated using additional information from McClenaghan (2003) and Speijers (1979), with additional interpretation of WTRMP radiometric data by M. Vicary. The distribution of granite in the Inglis Creek–Bluff River area requires field checking.
4. Revisions to the Pleistocene deposits in the Lake Will–Lake Windermere area were based on air photo interpretation, with additional information from Derbyshire (1968).
5. The Permian stratigraphy in the Pine Forest Moor area is poorly known and has not been previously mapped. The units depicted on the map are based on extrapolation from the adjacent Du Cane map sheet (Jennings *et al*., 1961).

Other revised map sheets

Adamsfield

1. The original digital compilation is largely unmodified.
2. The Owen (Denison) Group stratigraphy has been revised following that recommended by Laurie (1996).
3. The Ragged Basin Complex has been recoded to reflect its regional correlation with the Cleveland–Waratah Association.
4. Minor revision to boundaries of Owen Group rocks on the Ragged Range (across the Pedder–Huntley map sheets boundary) was based on air photo interpretation.
5. Some units within the Weld River Group have been recoloured to enhance presentation.

Beaconsfield

1. The original digital compilation is largely unmodified.
2. The Owen Group stratigraphy has been revised following that recommended by Laurie (1996).
3. Cambrian rock types of the Blyths Creek Formation and a unit of chert (Cdslc) are tentatively included within the undifferentiated Cambrian Sedimentary Sequence. The Blyths Creek Formation contains interbedded shale, greywacke, siliceous to polymict conglomerate, limestone and basaltic andesite. Fossils from the Blyths Creek Formation straddle the Tyndall Group–Southwell Subgroup boundary and definitive stratigraphic correlation is uncertain (Laurie *et al*., 1995). The chert, which is associated with the Andersons Creek Ultramafic Complex, may alternatively be a correlate of the Cleveland–Waratah Association. Additional field checking is recommended.

Bell Bay

1. The original digital compilation is largely unmodified.
2. The Owen Group stratigraphy has been revised following that recommended by Laurie (1996).
3. Minor modifications were made to the Tertiary legend and colours.

Bowes

1. The original digital compilation is largely unmodified.
2. The Owen (Denison) Group stratigraphy has been revised following that recommended by Laurie (1996).
3. The Ragged Basin Complex has been recoded to reflect its regional correlation with the Cleveland–Waratah Association.
4. Minor revision to boundaries of Owen Group rocks on the Ragged Range (across the Pedder–Huntley map sheets boundary) was based on air photo interpretation.
5. Some units within the Weld River Group have been recoloured to enhance presentation.

Devonport

1. The original digital compilation is largely unmodified.
2. Incorrect labelling of Permian rock types in the Don area has been corrected.

Exeter

1. The original digital compilation is largely unmodified.
2. Cambrian rock types of the Blyths Creek Formation in the Mt Careless area are tentatively included within the undifferentiated Cambrian Sedimentary Sequence. Additional field checking is recommended.
3. The Owen Group stratigraphy has been revised following that recommended by Laurie (1996).
4. Minor modification was made to cross section B–B'.

Harford

1. The original digital compilation is largely unmodified.
2. The Port Sorell Formation has been designated as Neoproterozoic following Calver and Reed (2001).
3. Cambrian rock types at the eastern margin of the Badger Head Group are tentatively correlated with the Dundas Group. This includes a unit of chert (Cdslc) which is associated with the Andersons Creek Ultramafic Complex. This may in fact be a correlate of the Cleveland–Waratah Association. Additional field checking is recommended.
4. Minor modification was made to cross section B–B'.

Heemskirk East

1. The original digital compilation is largely unmodified.
2. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).
3. The Cambrian rocks in the McLean Creek–Nike Creek area have been correlated with the Tyndall Group following the revision to the adjacent Dundas map by K. D. Corbett.

Latrobe

1. The original digital compilation is largely unmodified.
2. The Owen Group stratigraphy has been revised following that recommended by Laurie (1996).
3. The Bott Conglomerate has been correlated with the Western Volcano-sedimentary Sequence of the Mt Read Volcanics following Corbett (2003*b*).

4. Several previously mis-coded Permian polygons in the Tugrah area have been corrected.

Livingstone

1. The original digital compilation is largely unmodified.
2. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).

Luina

1. The original digital compilation is largely unmodified.
2. The Owen Group stratigraphy has been based on Laurie (1996) and Corbett (2002*a*).
3. Minor modification to codes and colours of units within the Cleveland–Waratah Association.
4. Skarn mineralisation at the margin of the Meredith Granite has been designated Devonian rather than Ordovician.

Maydena

1. The original digital compilation is largely unmodified.
2. The Ragged Basin Complex has been recoded to reflect its regional correlation with the Cleveland–Waratah Association.
3. The Owen (Denison) Group stratigraphy has been revised following that recommended by Laurie (1996).
4. Minor revision of colours to Gordon Group rocks.

Meredith

1. The original digital compilation is largely unmodified.
2. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).

Nevada

1. The original digital compilation is largely unmodified.
2. Minor legend adjustment to Weld River Group.

Picton

1. The original digital compilation is largely unmodified.
2. Minor revision of colours to Gordon Group rocks.

Port Sorell South and North

1. The original digital compilation is largely unmodified.
2. The Port Sorell Formation has been designated as Neoproterozoic following Calver and Reed (2001).
3. Cambrian rock types at the eastern margin of the Badger Head Group are tentatively included within the undifferentiated Cambrian Sedimentary Sequence. This includes a unit of chert (Cdslc) which is associated with the Andersons Creek Ultramafic Complex. This may in fact be a correlate of the Cleveland–Waratah Association. Additional field checking is recommended.

Railton

1. The original digital compilation is largely unmodified.
2. The Owen Group stratigraphy has been revised following that recommended by Laurie (1996).
3. The Bott Conglomerate and associated sediments have been correlated with the Western Volcano-sedimentary Sequence of the Mt Read Volcanics following Corbett (2003*b*).

Skeleton

1. The original digital compilation is largely unmodified.
2. The Ragged Basin Complex has been recoded to reflect its regional correlation with the Cleveland–Waratah Association.
3. Minor legend adjustment to the Weld River Group.

Stringer

1. The original digital compilation is largely unmodified.
2. Point Tertiary basalt locations are from the MRT geochemistry database (J. Everard, pers. comm.).
3. The Owen Group stratigraphy has been revised following that recommended by Corbett (2002*a*).

Tewkesbury

1. The original digital compilation is largely unmodified.
2. Skarn mineralisation at the margin of the Housetop Granite has been designated Devonian rather than Ordovician.

Trial

1. The original digital compilation is largely unmodified.
2. Cambrian rocks in the Little Henty River–Avebury area have been designated Cleveland–Waratah Association (A. V. Brown, pers. comm.).
3. The Owen Group stratigraphy has been revised following that recommended by Corbett (2002*a*).
4. Fossiliferous siltstone and quartzwacke at 358 200 mE, 5 355 750 mN have been correlated with the Newton Creek Formation of the Owen Group.
5. Extra thrust faults at the base of the Oonah Formation have been added in the Trial Harbour–Avebury area (A. V. Brown, pers. comm.).

Weld

1. The original digital compilation is largely unmodified.
2. The Ragged Basin Complex has been recoded to reflect its regional correlation with the Cleveland–Waratah Association.

West Frankford

1. The original digital compilation is largely unmodified.
2. The Port Sorell Formation has been designated as Neoproterozoic following Calver and Reed (2001).

Extra modifications to maps revised by Corbett

Only the map sheets that were modified subsequent to the review by Corbett are listed. No additional revisions were made to the following maps: Birchs, Block, Cethana, Endeavour, Guildford, Hibbs, Lea, Loongana, Montgomery, Ramsay, Selina, Sheffield, Tullah and Tyndall.

Albina

1. Proterozoic quartzite in the Gorge Creek–Neilson River area has been designated as Tyennan Metasediments rather than correlates of the Rocky Cape Group as shown on the original digital compilation. This correlation, based mainly on structural and metamorphic similarities with the Tyennan Metasediments, follows that of Cox (1989) and Seymour and Calver (1995). It is noted that there are marked sedimentological similarities between the Proterozoic quartzite and the Rocky Cape Group. Models favouring southeast-directed thrusting (D. B. Seymour, pers. comm.; Leaman *et al*. 1994; Murphy *et al*., 2004) of the Cape Sorell Block suggest that a correlation with the Rocky Cape Group may be more appropriate.

Charter

1. The distinction of the Hellyer basalt was updated.

D'Aguilar

1. A minor correction to the Tertiary geology in the Pocacker River area was made.
2. Structure in the Ghost Creek area that was omitted from the original digital compilation was compiled.
3. Modification to the geology in the King Billy Range–Angel Cliff area was based on air photo interpretation.

Darwin

1. The boundaries to the 'Garfield Andesite' at approximately 380 000 mE, 5 324 300 mN have been modified (Halley *et al*., 1995).
2. The structure of Proterozoic rocks in the Mt Mary–Engineer Range area has been recompiled.
3. Colours of Proterozoic rocks have been modified to enhance readability.

Dundas

1. The location of the Mt Black Fault was updated from unpublished information (Allen, 1991).
2. Ironstone deposits in the Razorback area have been designated Tertiary (A. V. Brown, pers. comm.).
3. Proterozoic rocks (Ldvl) in the Cuni area have been tentatively assigned to the Crimson Creek Formation following Corbett (2002*a*). Additional petrological and lithogeochemical studies are needed to support such a correlation.
4. Several fossil locations have been added.
5. A small area of Eldon Group (Florence Sandstone) located about 1.5 km northwest of Williamsford has been reinstated (A. V. Brown, pers. comm.). This was considered to be a glacial erratic by Corbett (2002*b*).

Gog

1. Additional subdivision of Gordon Group and structural data based on Burrett *et al*. (1989) has been added.

Gormanston

1. Quaternary dolerite and quartzite glacial erratics were updated.

Innes

1. The Proterozoic geology in the Sprent River–Charles Range area has been modified following interpretation of WTRMP geology and air photos. Field checking is recommended.
2. Modification to the geology in the Gordon River area was based on air photo interpretation.

Lewis

1. The Proterozoic geology in the Lawson Range–North Broken Hills area has been modified following interpretation of WTRMP geology and air photos. Field checking is recommended.
2. Minor modification to the Ordovician geology in the Giblin River area was based on air photo interpretation. Field checking is recommended.

Luina

1. Minor correction to the geology of the Cleveland–Waratah Association in the Godkin Ridge–Crescent Spur area has been made.

Mainwaring

1. The Cambrian rocks in the Wart Hill area have been correlated with the Eastern Sequence rather than the Western Volcano-sedimentary sequence (Corbett, 2002*c*). This revision follows discussion with A. V. Brown, G. R. Green, and K. D. Corbett. Additional mapping is recommended.

Moores

1. The Proterozoic geology in the Charles Range–Moores Lookout area has been modified following interpretation of WTRMP geology and air photos. Field checking is recommended.
2. Additional modification to the Ordovician–Quaternary geology in the Gordon River area was based on air photo interpretation.

Oceana

1. Additional trend lines and fold hinges added to the Owen Group correlates to the east of the Professor Range.
2. Fossil locations have been added.

Osmund

1. The Proterozoic geology in the North Broken Hills–Mt Eleanor area has been modified following

interpretation of WTRMP geology and air photos. Field checking is recommended.

Owen

1. The structure of Proterozoic rocks in the Raglan Range area has been recompiled.
2. Colours of Proterozoic rocks in the Raglan Range area have been modified to enhance readability.

Parrawe

1. A small area of Tertiary silcrete has been shown at Shooters Hill (J. Everard pers. comm.). This is in contrast to previous interpretation by Poltock (2002) who considered this unit to be Permian tillite.

Parsons

1. A point Tertiary basalt location in the Lynch Hill area is from the MRT geochemistry database (J. Everard, pers. comm.).

Pearse

1. The geology of the Mt Pearse area has been updated following air photo interpretation.

Pencil Pine

1. Minor revision has been made to the Proterozoic geology in the Hounslow Heath area, based on additional information presented in Collins *et al*. (1981).

Philips

1. The Proterozoic quartzite in the Liberty Point area has been designated as Tyennan Metasediments rather than correlates of the Rocky Cape Group as shown on the previous version of the Philips map. This correlation, based mainly on structural and metamorphic similarities with the Tyennan Metasediments, follows that of Cox (1989) and Seymour and Calver (1995). It is noted that there are marked sedimentological similarities between the Proterozoic rocks at Cape Sorell and the Rocky Cape Group. Models favouring southeast-directed thrusting (D. B Seymour, pers. comm.; Leaman *et al*. 1994; Murphy *et al*., 2004) of the Cape Sorell Block suggest that a correlation with the Rocky Cape Group may be more appropriate.
2. Cambrian geology to the south of Mount Sorell has been modified with reference to Mathison (1985) and Corbett (2004).
3. Minor modification to the Ordovician–Quaternary geology on the western slopes of Mount Sorell was based on air photo interpretation.

Rosebery

1. The location of the Mt Black Fault was updated from unpublished information (Allen, 1991).
2. A new point Tertiary basalt location is from the MRT geochemistry database (J. Everard, pers. comm.).

Sarah

1. Proterozoic quartzite has been designated as Tyennan Metasediments rather than correlates of the Rocky Cape Group as shown on the original digital compilation. This correlation, based mainly on structural and metamorphic similarities with the Tyennan Metasediments, follows that of Cox (1989) and Seymour and Calver (1995). It is noted that there are marked sedimentological similarities between the Proterozoic quartzite and the Rocky Cape Group. Models favouring southeast-directed thrusting (D. B Seymour, pers. comm.; Leaman *et al*. 1994; Murphy *et al*., 2004) of the Cape Sorell Block suggest that a correlation with the Rocky Cape Group may be more appropriate.
2. The colour to unit Ldsm was changed to be consistent with the colour scheme used in the 1:250 000 scale digital atlas.

Table Head

1. The Proterozoic rocks in the Table Head area have been designated as Tyennan Metasediments rather than correlates of the Rocky Cape Group as shown on the previous version of the Table Head map. This correlation, based mainly on structural and metamorphic similarities with the Tyennan Metasediments, follows that of Cox (1989) and Seymour and Calver (1995). It is noted that there are marked sedimentological similarities between the Proterozoic rocks at Cape Sorell and the Rocky Cape Group. Models favouring southeast-directed thrusting (D. B Seymour, pers. comm.; Leaman *et al*., 1994; Murphy *et al*., 2004) of the Cape Sorell Block suggest that a correlation with the Rocky Cape Group may be more appropriate.

Varna

1. The colour to unit Ldsm was changed to be consistent with the colour scheme used in the 1:250 000 scale digital atlas.

Veridian

1. The Cambrian geology in the Copper Creek–Stoney Creek area has been correlated with the Eastern Sequence rather than the Western Volcano-sedimentary sequence (Corbett, 2002*c*). This revision follows discussion with A. V. Brown, G. R. Green and K. D. Corbett. Additional mapping is recommended.

Wilmot

1. Minor recoding of Pleistocene slope deposits to correct errors.
2. The Cambrian rock types in the Wilmot–Nietta area have been correlated with the Tyndall Group, in contrast to the interpretation presented in Corbett and McClenaghan (2003). This was based on recent mapping on the adjacent Castra map (Vicary, 2005*a;* in prep.).
3. Additional mapping in the Wilmot area by Poltock (2002) has been added.

Conclusion

The Mount Read Volcanics Compilation project of the Western Tasmania Regional Minerals Program reviewed the geology of the highly prospective Mount Read Volcanics (MRV) and associated rock types in western Tasmania. A total of 92 map sheets were reviewed and updated with additional information from the WTRMP geophysical data and other information from a variety of sources. A significant result is the development of a revised stratigraphy for the MRV in western and northern Tasmania (Corbett, 2002*b*). The project represents the first major revision since production of digital maps commenced in 1994.

The bulk of the MRV has been mapped in recent years and the geology is well known. However there remain several areas where the Cambrian geology is poorly known and correlations with the regional stratigraphy remain tentative. These areas include:

- Dial Range;
- Deloraine;
- Beaconsfield;
- Hatfield River;
- Bird River.

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