Geology Datasets

MINERAL RESOURCES TASMANIA

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# INTRODUCTION

Mineral Resources Tasmania is custodian of a number of geoscientific datasets. This guide is for the basic geological datasets – geology, geological observation, alteration and structure. If you require information about these datasets in addition to this guide or wish to report any inconsistencies or errors please email [info@mrt.tas.gov.au](mailto:info@mrt.tas.gov.au).

The datum for all horizontal coordinates is the Geodetic Datum of Australia 1994 (GDA94). All heights are on the Australian Height Datum (Tasmania, AHD TAS83).

Data is available to download in several formats:

Shapefile (.shp)

MapInfo (.tab)

ESRI geodatabase (.gdb)

Geopackage (.gpkg)

**Note:** There are some limitations in the shapefile and MapInfo .tab. file formats. Length of field names are limited to 10 characters. Where the field names have been shortened to fit within this limitation the shortened name has been shown in *italics* in the tables below. Likewise, the number of characters for text fields is limited to 254 characters and will also be indicated in *italics*. Data in records containing more than 254 characters in text fields will be truncated at 254 characters.

# GEOLOGY DATASETS

MRT maintains geological data at three scales1:25 000, 1:250 000 and 1:500 000 scales. The 1:25 000 scale dataset is our most detailed geology with boundaries accurate to within 12.5m. This data has been compiled from several sources including printed maps and reports, new field mapping along with interpretation of aerial photography and geophysical data. The 1:250 000 scale dataset has been compiled from the 1:50 000 and 1:63 360 Geological Atlas Series of maps and the 1:25 000 Digital Geological Atlas where available. As new 1:25 000 data become available the 1:250 000 data is subsequently updated. The rock units have been grouped and the boundaries have been generalised to suit 1:250 000 scale. The 1:500 000 scale data is derived from the 1:250 000 scale data. The rock units have been grouped and the boundaries have been generalised to suit 1:500 000 scale.

The 1:25 000 dataset consists of two point layers (outcrop25k and structure25k), three line layers (contacts25k, faults25k and linears25k) and two polygon layers (geology\_units25k and alteration25k).

The 1:250 000 dataset consists of one point layer (structure250k) three line layers (contacts250k, faults250k and linears250k).

The 1:500 000 dataset consists of two line layers (contacts500k and faults500k) and one polygon layer (geology\_units500k)

These datasets are described below.

## CONTACTS (contacts25k, contacts250k and contacts500k)

The contacts dataset is available at all three scales and consists of lines attributed with data and metadata regarding geological contacts between units. The attributes available are described in the table below.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| linecode | Text | Alphanumeric code used to categorise and symbolise the line. |
| feature | Text | Broad categorisation of the feature e.g. geological contact or water boundary. |
| feature\_desc  *feat\_desc* | Text | Description of the feature e.g. water boundary – coastline. |
| exposure | Text | Feature is exposed or concealed. |
| obs\_method | Text | Method used to map the feature. |
| source | Text | Source of the data. |
| capt\_scale | Integer | Designated scale data was captured. |
| capt\_date | Date | Date feature was captured.  NB: Data was migrated from a previous data model on 28/08/2020 |
| mod\_date | Date | Date feature was last updated. |
| sdeobjectid  *sdeobjid* | Integer  Integer | Primary key for the contact record in the MRT database |

## FAULTS (faults25k, faults250k and faults500k)

The faults dataset is available at all three scales and consists of lines attributed with data and metadata regarding mapped faults. The attributes available are described in the table below.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| linecode | Text | Alphanumeric code used to categorise and symbolise the line. |
| feature | Text | Broad categorisation of the feature e.g. fault or shear |
| feature\_desc  *feat\_desc* | Text | Description of the fault e.g. strike slip fault. |
| mvt\_sense | Text | Sense of movement e.g. dextral |
| exposure | Text | Feature is exposed or concealed. |
| obs\_method | Text | Method used to map the feature. |
| source | Text | Source of the data. |
| capt\_scale | Integer | Designated scale data was captured. |
| capt\_date | Date | Date feature was captured.  NB: Data was migrated from a previous data model on 28/08/2020 |
| mod\_date | Date | Date feature was last updated. |
| sdeobjectid  *sdeobjid* | Integer | Primary key for the fault record in the MRT database |

## LINEARS (linears25k, linears250k)

The linears dataset is available at 1:25,000 and 1:250,000 scales. It consists of lines attributed with data and metadata regarding mapped linear geological features. The attributes available are described in the table below.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| linecode | Text | Alphanumeric code used to categorise and symbolise the line. |
| feature | Text | Broad categorisation of the feature e.g. lineament or form line |
| feature\_desc  *feat\_desc* | Text | Description of the feature e.g. dune crest. |
| obs\_method | Text | Method used to map the feature. |
| source | Text | Source of the data. |
| capt\_scale | Integer | Designated scale data was captured. |
| capt\_date | Date | Date feature was captured.  NB: Data was migrated from a previous data model on 28/08/2020 |
| mod\_date | Date | Date feature was last updated. |
| sdeobjectid  *sdeobjid* | Integer | Primary key for the linear record in the MRT database |

## GEOLOGY UNITS (geology\_units25k, geology\_units250k and geology\_units500k)

The geology units dataset is available at all three scales and consists of polygons attributed with data and metadata regarding geological units. The attributes available are described in the table below.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| map\_symb | Text | Letter symbol for the rock unit which appears on the published map. |
| map\_symb\_250k  *symb\_250k* | Text | Parent 250k symbol for the rock unit.  **Only available in 1:25k dataset**. |
| map\_symb\_500k  *symb\_500k* | Text | Parent 500k symbol for the rock unit.  **Only available in 1:250k dataset**. |
| rcode | Integer | Numeric code used for rock unit. |
| rcode\_250k | Integer | Parent 250k numeric code used for rock unit.  **Only available in 1:25k dataset**. |
| rcode\_500k | Integer | Parent 500k numeric code used for rock unit.  **Only available in 1:250k dataset**. |
| description  *desc* | Text | Description of the rock unit. |
| strat\_name | Text | Name of stratigraphic unit. |
| supergroup | Text | Supergroup or major stratigraphic subdivision. |
| grp | Text | Group name or equivalent. |
| subgroup | Text | Subgroup name or equivalent. |
| formation | Text | Formation name or equivalent. |
| member | Text | Member or equivalent. |
| ga\_strat\_no  *ga\_stratno* | Text | A link to the corresponding entry in the Australian Stratigraphic Units Database. |
| region | Text | Tectono-stratigraphic region |
| max\_faunizone  *max\_age\_f* | Text | Additional palaeontological information relating to the maximum age of the unit. |
| min\_faunizone  *min\_age\_f* | Text | Additional palaeontological information relating to the minimum age of the unit. |
| max\_age\_ma | Number (13,4) | Maximum age of the stratigraphic unit in Ma (million years) |
| min\_age\_ma | Number (13,4) | Minimum age of the stratigraphic unit in Ma (million years) |
| max\_age | Text | A system generated representation of the corresponding Eon/Era/Period/Epoch/Age based on the value defined in the max\_age\_ma field. |
| min\_age | Text | A system generated representation of the corresponding Eon/Era/Period/Epoch/Age based on the value defined in the min\_age\_ma field. |
| age\_method | Text | Method used to determine the max\_age\_ma and min\_age\_ma fields. |
| capt\_date | Date | Date feature was captured.  NB: Data was migrated from a previous data model on 28/08/2020 |
| mod\_date | Date | Date feature was last updated. |
| colour | Text | Alphanumeric code used for applying a colour symbol to the polygon. |
| pattern | Text | Alphanumeric code used for applying a pattern symbol to the polygon. |
| sdeobjectid  *sdeobjid* | Integer | Primary key for the geology unit record in the MRT database |

# 

## OUTCROPS (outcrops25k)

Outcrop data is available at 1:25 000 scale only. This is a series of points where outcropping surface geology or transported specimens have been mapped.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| feature | Text | Observation type e.g. outcrop or float. |
| field\_no | Text | The field locality number used by the geologist. |
| map\_symb | Text | Letter symbol for the rock unit which appears on the published map. |
| map\_symb\_250k  *symb\_250k* | Text | Parent 250k symbol for the rock unit. |
| rcode | Integer | Numeric code used for rock unit |
| rcode\_250k | Integer | Parent 250k numeric code used for rock unit. |
| description  *desc* | Text | Description of the rock unit. |
| strat\_name | Text | Name of stratigraphic unit. |
| supergroup | Text | Supergroup or major stratigraphic subdivision. |
| grp | Text | Group name or equivalent. |
| subgroup | Text | Subgroup name or equivalent. |
| formation | Text | Formation name or equivalent. |
| member | Text | Member or equivalent. |
| ga\_strat\_no  *ga\_stratno* | Text | A link to the corresponding entry in the Australian Stratigraphic Units Database. |
| region | Text | Tectono-stratigraphic region |
| max\_faunizone  *max\_age\_f* | Text | Additional palaeontological information relating to the maximum age of the unit. |
| min\_faunizone  *min\_age\_f* | Text | Additional palaeontological information relating to the minimum age of the unit. |
| max\_age\_ma | Number (13,4) | Maximum age of the stratigraphic unit in Ma (million years) |
| min\_age\_ma | Number (13,4) | Minimum age of the stratigraphic unit in Ma (million years) |
| max\_age | Text | A system generated representation of the corresponding Eon/Era/Period/Epoch/Age based on the value defined in the max\_age\_ma field. |
| min\_age | Text | A system generated representation of the corresponding Eon/Era/Period/Epoch/Age based on the value defined in the min\_age\_ma field. |
| age\_method | Text | Method used to determine the max\_age\_ma and min\_age\_ma fields. |
| positional\_accuracy  *pos\_acc* | Text | Horizontal accuracy in metres. Blank or Null values indicate postional accuracy is unknown. |
| output\_scale  *oscale* | Integer | Output scale that outcrop symbol will be displayed. |
| outcrop\_id | Integer | Primary key for the outcrop record in the MRT database |

## ALTERATION (alteration25k)

Alteration data is available at 1:25 000 scale only. A layer has been created to show various types of alteration / metamorphism across the state.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| description  *desc* | Text | Description of the type of alteration / metamorphism. |
| sdeobjectid  *sdeobjid* | Integer | Primary key for the alteration record in the MRT database |

## STRUCTURE (structure25k and structure250k)

Structure data is available at 1:25 000 and 1:250 000 scales. The data has been captured from old map compilation data or from locations recorded in the field using GPS. Each structure reading is one record in the dataset however, there may be multiple structural readings taken at one location.

The 1:25 000 structure dataset has a ‘secondary’ structure symbol to allow fold hinge line structure readings to be paired with an accompanying axial surface reading. The ‘secondary’ fields will only be populated for folds, for all other structure symbols these fields will be NULL.

|  |  |  |
| --- | --- | --- |
| **FIELD NAME** | **FIELD TYPE** | **DESCRIPTION** |
| name | Text | Letter symbol used for structure type. |
| description  *desc* | Text | Description of the structure type. |
| rock\_symbol  *rock\_symb* | Text | Letter symbol used to record the rock or mineral type of veins or dykes.  **Only available in 1:25k dataset**. |
| field\_no | Text | The field locality number used by the geologist. |
| symbol | Text | Rotation angle of structure symbol - used for screen display or hardcopy output. |
| dip | Integer | The dip or plunge of the feature. Planar features with unspecified or unknown dip, and linear features with unspecified or unknown plunge are encoded as -1. |
| dip\_direction  *dd* | Integer | The direction (bearing) of dip or plunge of the feature. |
| output\_scale  *oscale* | Text | Output scale that primary structural symbol will be displayed. |
| secondary\_symbol  *sec\_symb* | Text | Rotation angle of structure symbol - used for screen display or hardcopy output.  **Only available in 1:25k dataset**. |
| secondary\_dip  *sec\_dip* | Integer | The dip or plunge of the feature. Planar features with unspecified or unknown dip, and linear features with unspecified or unknown plunge are coded as -1.  **Only available in 1:25k dataset**. |
| secondary\_dip\_direction  *sec\_dd* | Integer | The direction (bearing) of dip or plunge of the feature. **Only available in 1:25k dataset**. |
| secondary\_output\_scale  *sec\_oscale* | Text | Output scale that secondary structural symbol will be displayed.  **Only available in 1:25k dataset**. |
| comments | Text  *Text* | Comments about the measurement. |
| reliability  *reliab* | Integer | A code for the reliability of the measurement, so that if multiple readings of the same type are made at a single location a priority may be assigned to the readings. The range is from 1 (most reliable) to 5 (least reliable). Blank or Null values indicate reliability is unknown. |
| map\_scale | Integer | Number to filter 1:25 000 scale structure from 1:250 000 scale structure. |
| structure\_id  *struct\_id* | Integer | Primary key for the structure record in the MRT database. |

# METADATA

## 1:25 000 Digital Geology, Outcrops and Structure

[https://data.thelist.tas.gov.au/datagn//srv/eng/main.home?uuid=3d4804a2-392c-40f2-819f-d2351e996554](https://data.thelist.tas.gov.au/datagn/srv/eng/main.home?uuid=3d4804a2-392c-40f2-819f-d2351e996554)

## 1:25 000 Alteration

<https://data.thelist.tas.gov.au/datagn//srv/eng/main.home?uuid=eb03bf25-103b-46b0-a4f6-67a3d0a64c84>

## 1:250 000 Digital Geology and Structure

<https://data.thelist.tas.gov.au/datagn//srv/eng/main.home?uuid=aa01ba0b-3523-48cd-8e05-fa24f02e381f>

## 1:500 000 Digital Geology

<https://data.thelist.tas.gov.au/datagn//srv/eng/main.home?uuid=1d4998f4-1417-4d33-80d2-9cb828af77bc>