

MINERAL EXPLORATION REPORTING TEMPLATES

User Manual

09/12/2011

Department of Mines and Petroleum, Western Australia

Table of Contents

WHAT THE MRT SOFTWARE DOES.....	6
BEFORE YOU START.....	6
SUGGESTED FILE STRUCTURE	7
RAW DATA FORMAT	8
SO, HOW DO I START?.....	10
PROJECT DETAILS	11
PROJECT HOLDERS	13
MAP SELECTION	13
REPORT DETAILS.....	15
DRILLHOLE LOCATION DETAILS.....	16
EDIT DRILLING CODES	18
COLUMN SELECTOR	19
DOWNHOLE SURVEY PAGE	24
EDIT SURVEYING COMPANIES.....	25
DOWNHOLE GEOCHEMISTRY PAGE.....	26
EDIT SAMPLING CODES.....	27
EDIT SAMPLE PREP	28
EDIT ANALYSIS CODES.....	28
DOWNHOLE GEOLOGICAL EVENT PAGE	29
SURFACE ANALYSIS PAGE.....	31
FILE VERIFICATION LIST	34
FILE EXPORT	35
USING THE TOOLBAR	36
USING THE TREE MENU	37

Table of Figures

Figure 1. Suggested file structure	7
Figure 2. Welcome page	10
Figure 3. Project Details page without any example data	11
Figure 4. Project Details page with example data	12
Figure 5. Project Holders page.....	13
Figure 6. Map Selection page.....	13
Figure 7. Report Details selection window	14
Figure 8. Report Details page.....	15
Figure 9. Hole Location page.....	16
Figure 10. Edit Drilling Codes window	18
Figure 11. Column Selector: browse to raw data	19
Figure 12. Column Selector	20
Figure 13. Assay Details Column Selector	22
Figure 14. Downhole Survey page	24
Figure 15. Edit Surveying Companies window	25
Figure 16. Downhole Analysis/Geochemistry page (top)	26
Figure 17. Downhole Analysis/Geochemistry page (bottom — cont...)	27
Figure 18. Edit Sampling Codes window	27
Figure 19. Edit Sample Prep window	28
Figure 20. Edit Analysis Codes window.....	28
Figure 21. Downhole Geological Event page	29
Figure 22. Surface Analysis page (top).....	31
Figure 23. Surface Analysis page (bottom — cont.).....	32
Figure 24 . File Verification Listing page	34
Figure 25. Example of the tree menu	37

Definitions

File verification list: a list of ALL the digital files you are submitting as your report (including the text of the report, appendices, figures and plans, and data files).

Geodetic datum: a mathematical surface on which a mapping or coordinate system is based (for a more detailed explanation [Click Here](#))

Guidelines: the requirements for the submission of digital exploration data (the title of these guidelines varies from state to state).

Metadata: the series of headers that precede the data in the file that is required for statutory reporting.

Metadata files: the final file created in the format required by the relevant authority.

MRT software: the software for creating Mineral Reporting Templates.

Raw data: your original field data.

Tree menu: the hierarchy of files arranged in a tree and displayed in the left-hand panel of the software window.

Toolbar: the bar across the top of the software window that contains buttons you can press to execute commands such as 'Add Data Files', 'Export Files', etc.

Installing the MRT software

- There is a link to the MRT software at the following locations: [Click Here](#)
- If your computer is not running dotNetFx40, you will need to install this free software before you install the MRT Software. If it is not already installed on your computer, you will be prompted on how to install it when you attempt to install the MRT Software.
- When the installation starts, you must tick the box to accept the licensing agreement. The software will install in your program files on your C drive.
- On installation, an icon depicting a crossed pick and shovel is generated on your desktop. You will be able to click this icon to open the program.

Using the MRT software

WHAT THE MRT SOFTWARE DOES

Once you have created your raw data files, you can use the MRT software to format them to regulatory requirements. You can then export the files to be submitted with your technical report.

BEFORE YOU START

Organize your data into Microsoft Excel spreadsheets. Use the raw data templates, which can be downloaded by clicking [Raw Data Templates](#).

Set up files on your computer where you will save your data.

Below is an example of a file structure. This structure will be used throughout the User Manual, but you may set up alternative directories to suit your requirements.

You are recommended to keep your raw data files and your final files in separate folders. Your raw data files should not be submitted with your written report, and are not included on the file verification list.

SUGGESTED FILE STRUCTURE

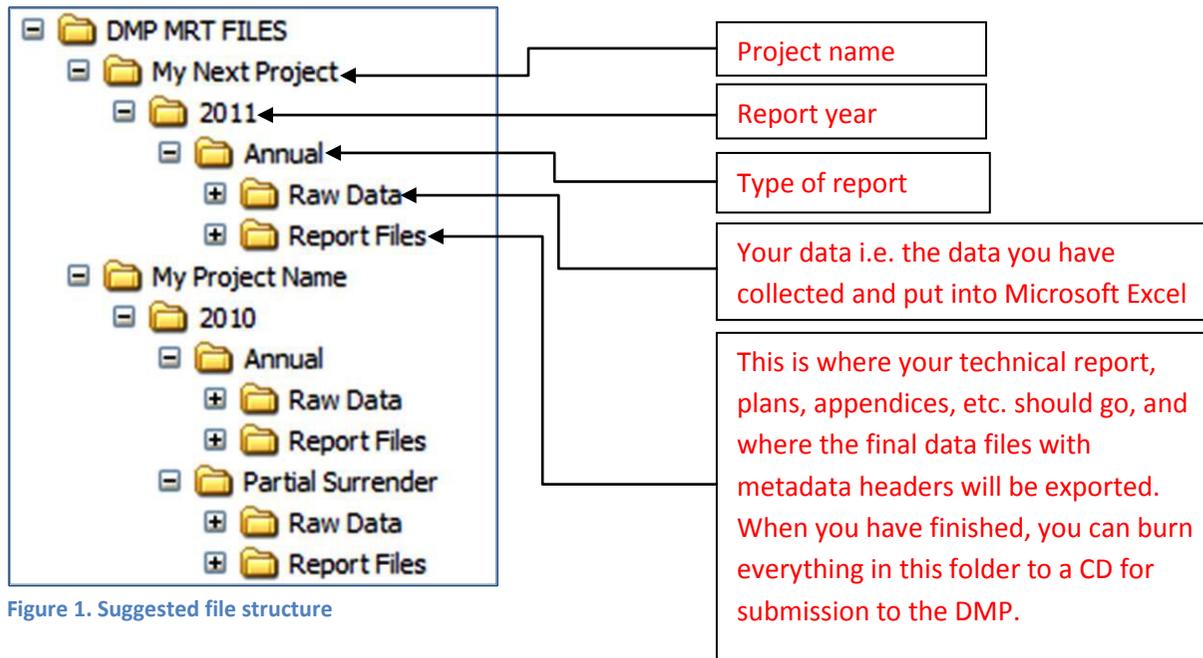


Figure 1. Suggested file structure

RAW DATA FORMAT

Browse to [Raw Data Templates](#) for examples. To comply with reporting requirements, you must submit all data collected. They can be appended to the right of the suggested column headers in the example data provided. To use the MRT software, there are some required fields, which are specified below.

- Put your **Drillhole Locations** (collars) on template **SL4**.

Required fields: Hole ID, Total Depth, Drill Code/Hole Type, Elevation (RL), and an Easting and a Northing in a national grid.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Hole_id	Easting	Northing	Elevation	Pre_Collar_Depth	Total_depth	Drill_code	Dip	Azimuth_mag	Comments			
2													
3													
4													
5													
6													

- Put your **Downhole Assays** on template **DG4**.

Required fields: Hole ID, Sample ID, Depth From, and Depth To.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Hole_id	Sample_id	From	To	Drill_code	Assay_Company	Assay_Code	Laboratory	Job Number	ELEMENTS (eg Au)		
2												
3												
4												
5												
6												

- Put your **Downhole Survey** data on template **DS4**.

Required fields: Hole ID, Surveyed Depth, Dip, and Azimuth (magnetic or true north).

	A	B	C	D	E	F	G	H	I
1	Hole_id	Surveyed Depth	Dip	Azimuth_MGA	Surv_Instrument	Drill_code			
2									
3									
4									
5									
6									

- Put your **Downhole Lithology** (geology) on template **DL4**.

Required fields: Hole ID and Depth From.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Hole_id	From	To	Rock1	Rock2								
2													
3													
4													
5													
6													

- Put any other **Downhole Events** (structure, veining, weathering, etc.) on template **DL4**.

Required fields: Hole ID and Depth From. Event files require only one depth measurement (Depth From), whereas interval files require both From Depth and To Depth.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Hole_id	From	To	Rock1	Rock2								
2													
3													
4													
5													
6													

- Put your **Surface Geochemistry** on template **SG4**.

Required fields: Sample ID, Sample Type, and an Easting and a Northing in a national grid.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Sample_id	Easting	Northing	Elevation	Grid	Sample_code	Assay_Company	Assay_Code	Job_Number	Element (eg Au)		
2												
3												
4												
5												
6												

Once these files are complete, save them in the Raw Data folder (based on the SUGGESTED FILE STRUCTURE on page 7).

SO, HOW DO I START?



To start the software, click the MRT.exe icon created on your desktop during the installation; the welcome page will then open.

You can access this welcome page at any time by clicking on the Help menu on the tool bar and choosing Getting Started.

First, you need to create a Project to store the details about the project that you want to report on. To do this, press the **New Project** button at the top left of the screen.

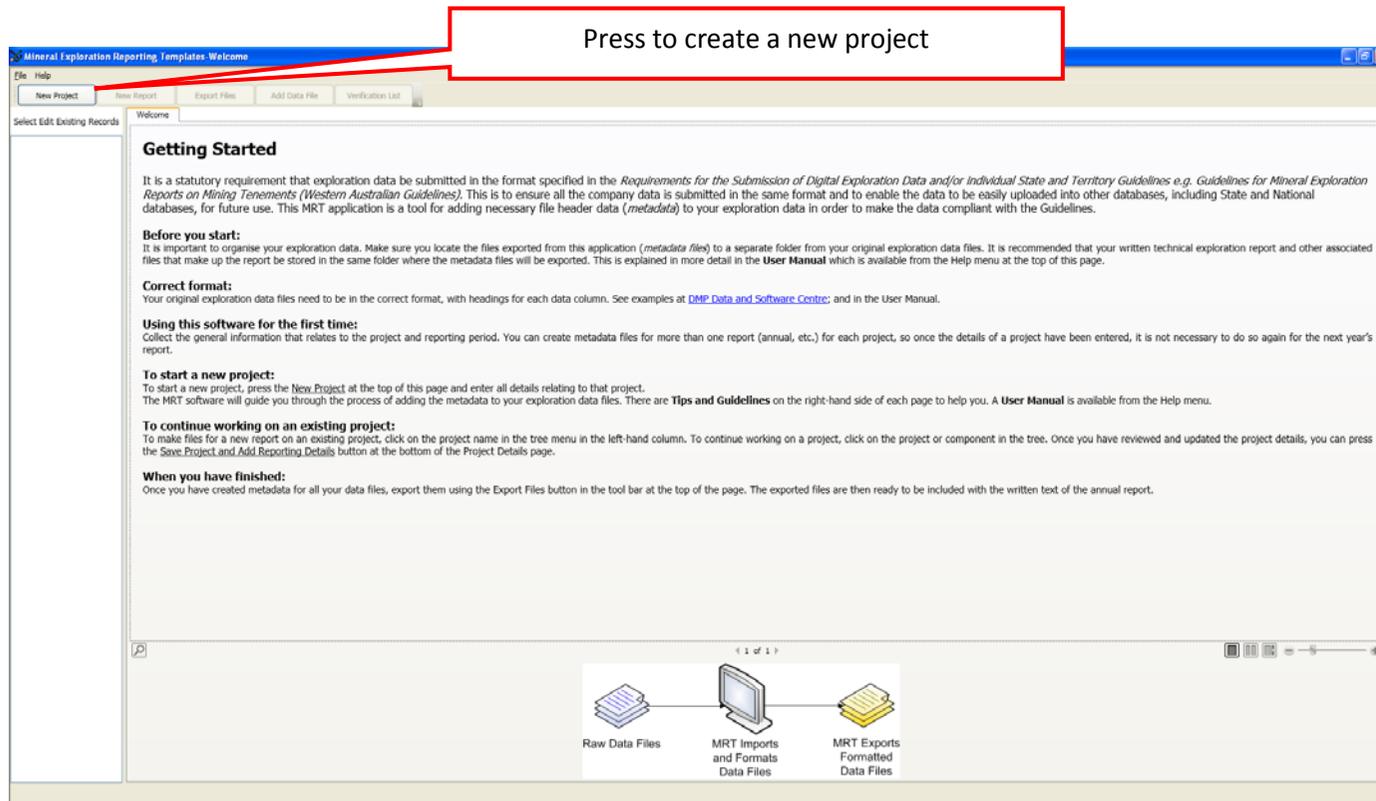


Figure 2. Welcome page

PROJECT DETAILS

The Project Details page is where you will enter all the information for your project. The project details can be saved and re-used from year to year. ALL the red boxes are compulsory and must be completed for the project to be saved.

Mineral Exploration Reporting Templates-Project Details

File Help

New Project New Report Export Files Add Data File Verification List

Select Edit Existing Records

New Project

Please enter the details of the Project then add Reports and then Data Files.

Project Name: New Project **1**

Project Code: MPN **2**

Tenement: E15/1234 **3**

Combined Rep. No:

Tenement Holders: **4**

Operator: **5**

Coordinate System: Please Select **6**

Datum: Please Select **7**

Projection: Please Select **8**

Projection Zone: Please Select **9**

Vertical Datum: Please Select **10**

State: WA **11**

Project Maps: Map Sheet Map Scale Map Sheet Name **12**

Add/Edit Holders

Add/Edit Maps

Save Project Cancel Changes Save and Add New Report

Figure 3. Project Details page without any example data

1. Type the name of your project in the **Project Name** field.

2. Enter a **Project Code**.

This is an abbreviation of your project name, and will be used in the metadata file name to differentiate your file from others. It must be 2 — 5 characters in length.

Project Code: MPN

3. Enter your **Tenement** number.

Tenement : E15/1234

OR

Tick the box on the right of the **Combined Rep. No** and enter your Combined Reporting Number.

Combined Rep. No C123/1999

4. Add **Tenement Holders** by pressing the **Add/Edit Holders** button.

As there are often multiple holders, you must add them in individually (Figure 5).

5. Add **Tenement Operator**.

This is the company that has carried out, and reported on, the work. If there is more than one operator, with each submitting a separate report, create separate projects.

6. Choose a **Coordinate System**.

All coordinates submitted must be in a national grid (either Projected or Geographic).

Projected coordinate systems are formatted to allow measurements of the Earth in conventional units - such as metres, feet, etc., as if it were flat.

A Geographic coordinate system (latitude and longitude) measures a curved surface. It uses unconventional length measurements (i.e. degrees, seconds), but can be used over a much larger area.

For more details on coordinate systems [Click Here](#)

13. Note that the project name appears in the side-panel tree menu. See USING THE TREE MENU on page 37 for more details.

1. Project Name: My Project Name

2. Project Code: MPN

3. Tenement: [Empty]

4. Combined Rep. No.: C123/1999

5. Tenement Holders: Holder 1, Holder 2

6. Operator: Holder 1

7. Coordinate System: Projected

8. Datum: GDA94

9. Projection: Map Grid of Australia (MGA)

10. Projection Zone: 51

11. Vertical Datum: Nominal

11. State: WA

Map Sheet	Map Scale	Map Sheet Name
SH 51-9	250k	KALGOORLIE
3136	100k	KALGOORLIE

12. [Callout pointing to the Project Maps table]

Buttons: Save Project, Cancel Changes, Save and Add New Report

Figure 4. Project Details page with example data

7. Choose a Datum.

If you are working in a local grid, you must transform the coordinates to a national grid before submitting them.

If you are using more than one datum in a project, transform them all to match the datum selected here. If you cannot transform the coordinates to one datum, you will need to create separate projects for each datum.

8. Projection.

If a projected coordinate system is chosen, then the software will automatically choose the Projection based on the datum you have chosen. If it is not the projection you expected, check your datum.

[Click Here](#) to see more on coordinate systems.

9. Pick a Projection Zone.

Combined projects may cover more than one zone. This software only allows for one zone to be chosen. If your project crosses two zones, and you have collected data in two zones, transform the coordinates into a geographic grid. If this is not possible, you may need to create two projects - one for each zone.

10. Choose a Vertical Datum.

Many coordinates are based on a Nominal RL that is relative to the Australian Height Datum (AHD). If you are choosing an RL at random, choose Nominal from the drop-down list. If you are recording an RL from a GPS or survey unit, it is most likely AHD.

11. Choose a State from the drop-down list.

Once a State has been chosen, only the Project Maps for that state will be displayed.

12. Add Project Maps by pressing the Add/Edit Maps button.

Maps must be added down to the 100 000 map scale. See Figure 6 for more details.

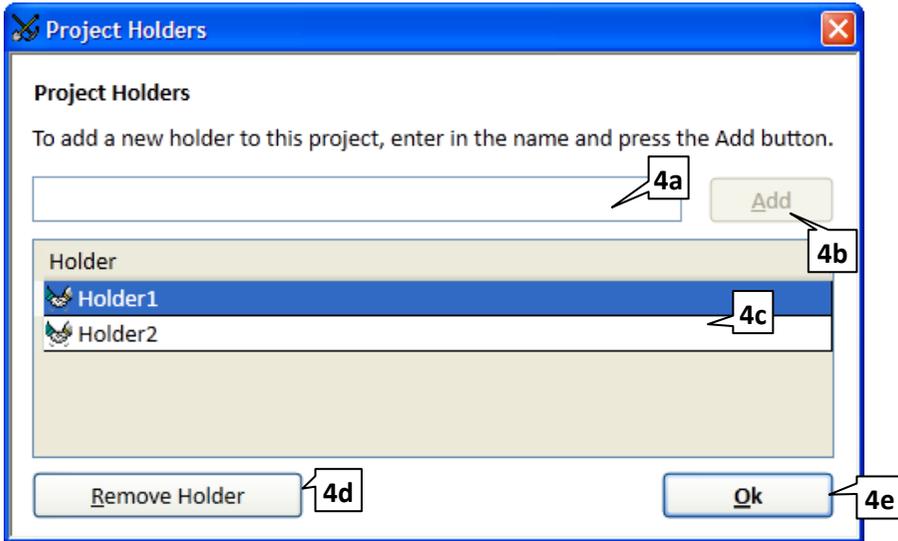


Figure 5. Project Holders page

PROJECT HOLDERS

4a. Enter the Holder Name in full.

4b. Press **Add** to add the holder to the project.

4c. The company name will populate here.

Repeat the above 3 steps for all holders.

4d. If you would like to remove a holder, click on the holder name and press the **Remove Holder** button.

4e. When you have finished entering all the holders, press **Ok**.

MAP SELECTION

12a. Scroll to the name of the 1:250 000 map sheet containing your project area. Expand the 250K map sheet to display the 100 000 map sheets by double clicking on the map name or pressing on the **+** beside the map name.
To select more than one 100 000 map sheet, hold down Ctrl while clicking on the map sheet name.

12b. If you need to see all 1:100 000 map sheets, you can press the **Expand All 100K** button. Similarly, if you no longer want all the 100 000 map sheets displayed, press the **Collapse All 100K** to hide them.

12c. Once you have highlighted the map sheet(s) that correspond with your project area, press the **>>** button to move the maps to the Selected State Maps window or click and drag the map name from the Available State Maps to Selected State Maps.

12d. All selected maps will appear here.

12e. To remove selected maps, highlight them in the Selected State Maps window and click on the **Remove Selected** button or press the **<<** button.

12f. If you would rather search by map code, you can change this in the Map Display Options.

12g. Press **Ok** when finished.

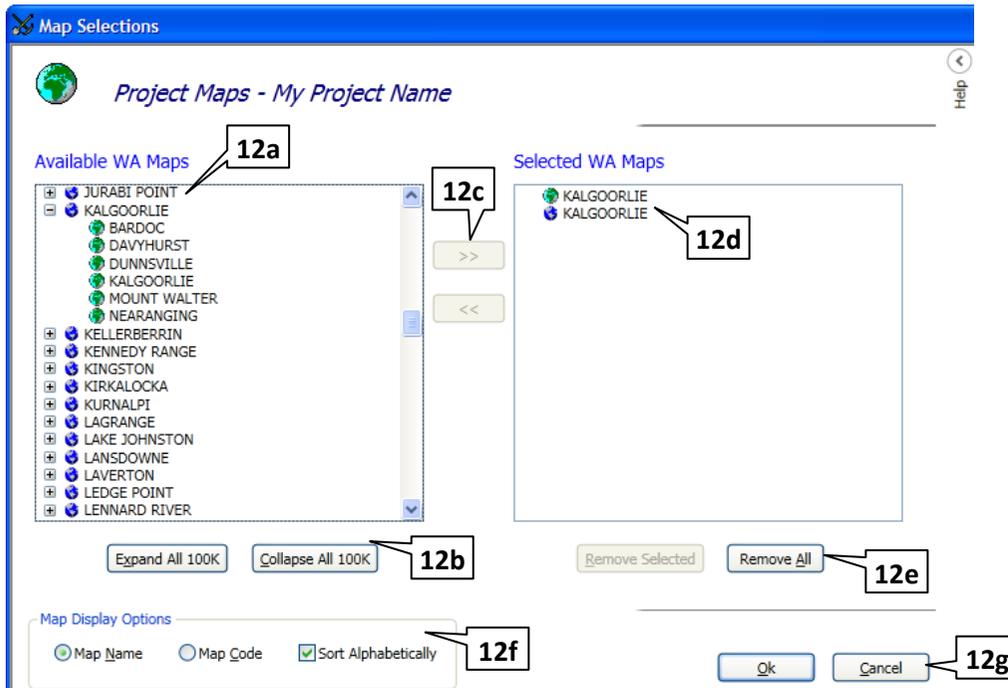


Figure 6. Map Selection page

Once all the data is entered, choose one of the following three buttons to continue:

Save Project

If you press **Save Project**, it will save the details on this page. The project details will now be stored in the MRT software's database and will not have to be re-entered every time you want to create metadata files for this project. This button will not navigate you to the next page.

Cancel Changes

If you press **Cancel Changes** and you had not previously saved any project details, the page will disappear and you will need to press the **New Project** button to start again.

If you press **Cancel Changes** and you had saved other details on this page previously, the data will revert to the last save point.

Save and Add Report Details

To continue to make your metadata files, press **Save and Add Report Details**.
If this is your first report, this will take you to a new report details page.

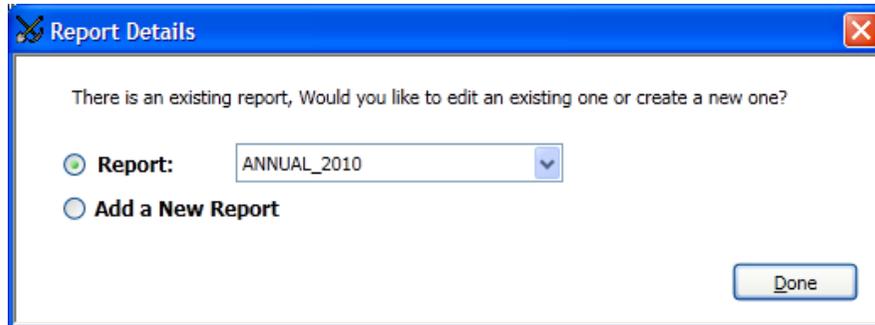


Figure 7. Report Details selection window

If you have already created a report for this project, then this window will open.

To continue to work on a report you have already started, choose the report name from the drop-down list.

To start a new reporting period, tick the radio button next to **Add a New Report**.

Press **Done** when finished.

REPORT DETAILS

The Report Details page is where you will enter the information for the reporting period. It is often referred to as the Report in the software, but shouldn't be confused with the actual written technical report that will be submitted with the metadata files created by this software.

This is also the page that you will return to when you want to *create* and *export* files.

13. Note that the report title, along with a file verification list, appears in the side-panel tree menu.

See USING THE TREE MENU on page 37 for more details.

1. Choose the **Report Type** from the drop-down list for which you are creating the metadata files.
If your report type does not appear on the list, choose **Other**, and the Other data entry box (1b) will become active.

2. The **Report Title** will be created automatically.
This title is only used in the software. Do not confuse it with the title of your written report or metadata files.

3. Enter the **Start Date** and **End Date** for the reporting period.

4. Press the **Save Report** button to save the details just entered on this page.

Once the Report Details are saved, navigation buttons will become active.

5. Press the **Add/Edit Drillhole Location File** button if you have drilling files to report. All drilling data must have a location (collar) file submitted along with it, even if the drilling wasn't completed in the same year in which the analysis was carried out and the location file was submitted with a previous report.
Only *one* drillhole location file can be created per report.

6. Press the **Add/Edit Surface Analysis File** button if you have surface analysis data to report. Surface analysis data includes any geochemistry, geophysical, and geological data taken on the surface. It must have one location per reading.
More than one surface analysis file can be created per report.

7. To update the file verification list, press the **Edit File Verification List** button. A file verification list is a list of files that you have submitted with your report. It will include all the files completed by the MRT software, and includes the written and technical reports that are required to be submitted.

8. These buttons are all related to drilling, and will become active once a drillhole location file has been created. You will also be able to access these buttons from the Hole Location page.

Figure 8. Report Details page

DRILL HOLE LOCATION DETAILS

The Hole Location details page is where you will enter the information about the drilling collars/locations for holes drilled in the reporting period. As all associated downhole directional surveys, downhole geological events (including geological logs), and downhole geochemistry must have location details submitted in the same report, these details *must* be completed before any associated data can be entered into the system.

You will continue to return to this page until all the associated files have been entered.

10. Note that the file name appears in the side-panel tree menu. See USING THE TREE MENU on page 37 for more details.

Figure 9. Hole Location page

1. The MRT software will automatically create a **File Name** for your metadata file based on the recommendations in the guidelines. You can press the **Edit** button to change the name, but only do so if necessary.

2. Choose a **Hole Collar Survey Instrument** from the drop-down list. If the survey instrument/technique you used to locate the hole collar position is not on the list, choose *Other: Define?* and the **Other (instrument)** box (2b) will become active.

3. Enter a **Surveying Company** (if applicable). If your company completed surveying work, enter your company name or leave blank.

4. Enter **Comments** pertaining to the raw data file you are about to enter. Any information provided about the file is helpful, but is not mandatory.

5. Enter **Drilling Code Data** by pressing the **Edit Drill Codes** button. Drill codes are the abbreviations you use in your raw data to identify the drilling type. Drill Code is a required field in your raw data therefore a drill code column must appear in your data to clarify which drilling type was completed for which entry. See Figure 10 for more details.

6. Import your raw data file by pressing the **Import Data File** button. This is where you will attach your raw data to the metadata being created. Your raw data should already be saved in Excel format with column headers before you press the Import Data File button. Return to the section on RAW DATA FORMAT (on page 8) for more details. See Figure 12 for more explanations on how to use the Column Selector.

7. Press **Save** to save the details just entered on this page, or press **Cancel** to clear.

8. After entering the hole location data, choose one file and create metadata for it. A detailed description of each button is on the next page.

New Downhole Survey

8a. Choose the **New Downhole Survey** button to create a downhole directional survey metadata file.

A downhole survey file should not be confused with other downhole surveys completed on the drilling (i.e. geophysical surveys). It requires a survey depth, an azimuth (either true or magnetic north), and a dip (declination) reading. A downhole survey file is not required if no downhole directional surveys are completed. However, the starting dip and azimuth of the drillhole must still be recorded in the hole location (collar) file.

New Geological Event

8b. Choose the **New Geological Event** button to create a geological event or interval metadata file (including geological logs).

All downhole data, with the exception of any downhole directional surveys and geochemical analyses, should be reported on a geological event metadata file. Although only Hole ID and Depth From are required to create a geological event metadata file, according to the Guidelines, all collected data must be submitted. Create as many geological event files as needed by returning to the Hole Location page after you have finished one, and pressing the New Geological Event button again.

New Downhole Geochemistry

8c. Choose the **New Downhole Geochemistry** button to create a metadata file with analytical assays.

In downhole geochemistry files, all assays require a unit of measure. Assays with different units of measure must be split in to two separate columns. Additional details may be entered per element; for example, Assay Method, Lower and Upper Detection Limits, and Laboratory.

It is a requirement that all QA/QC data completed with the data analysis must also be submitted in a separate metadata file.

Back to Report Details

9. Once you have finished entering all the data associated with the drilling, press the **Back to Report Details** button to enter a surface analysis file, to update the file verification list, and/or to export your files.

EDIT DRILLING CODES

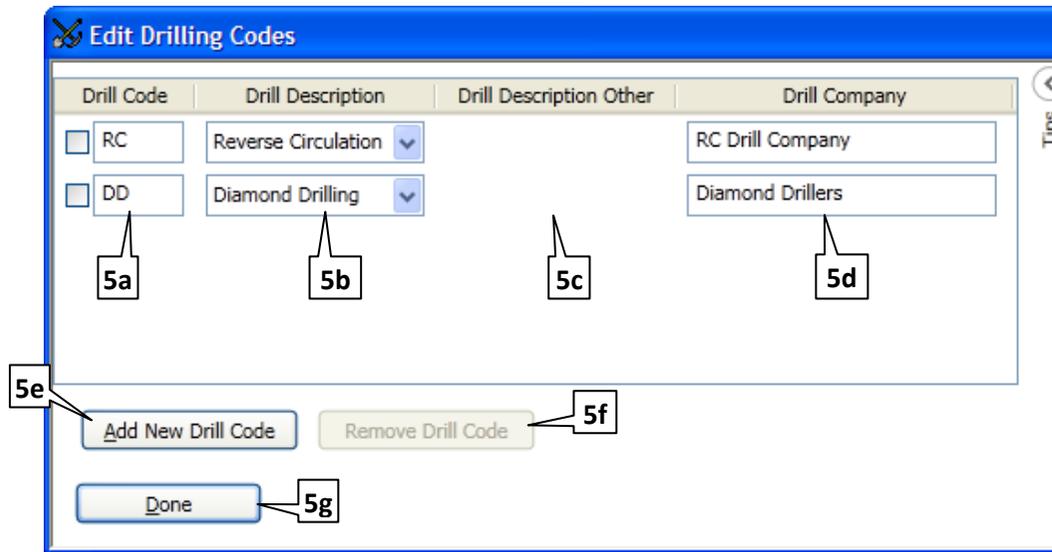


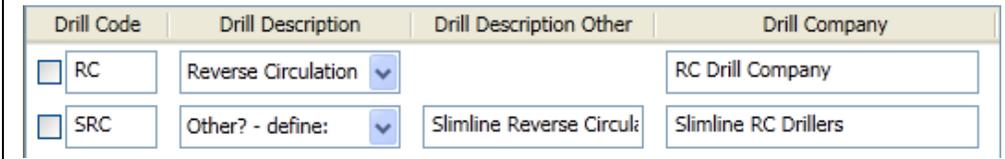
Figure 10. Edit Drilling Codes window

5a. Enter a **Drill Code**.

A drill code is used in your raw data to define the drilling type. As every company may have different codes and there are various drilling techniques, it is very important to describe them here to explain the data.

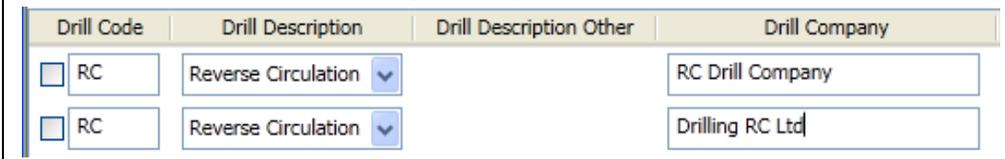
5b. Choose a **Drill Description**.

If there is nothing that describes the drill code/ drilling type, then choose *Other? – define:* in the drop-down menu and a box will become active in the Drill Description Other column (5c) where you can enter in a description.



5d. Enter the full name of the **Drill Company**.

If you have more than one drilling company per drill code, enter the drill code twice.



5e. Press **Add New Drill Code** if you would like to add more drilling codes.

5f. Remove Drill Code.

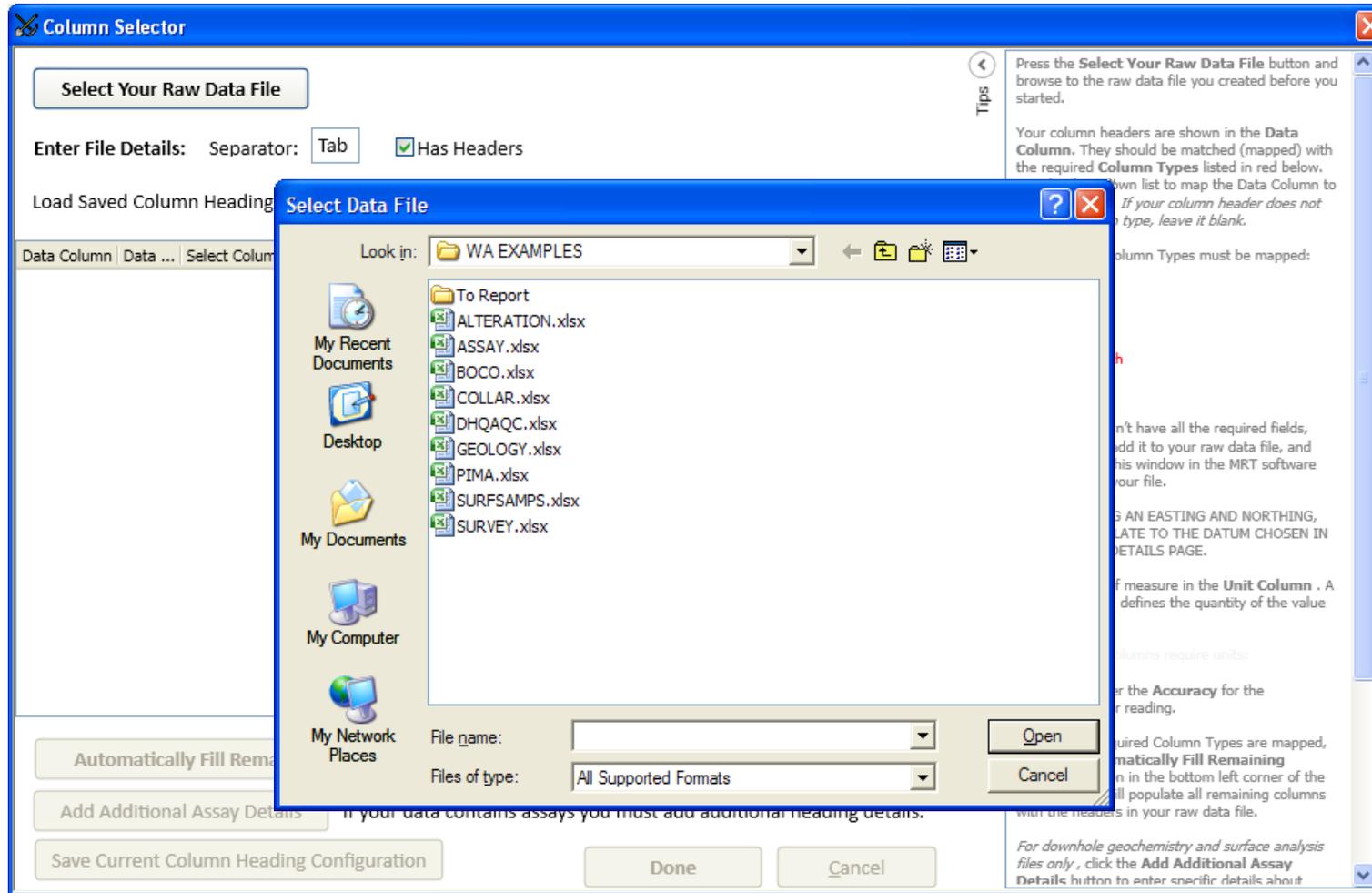
To make the **Remove Drill Code** button active, you must tick the box next to the drill code you would like to remove. Once ticked, press the Remove Drill Code button for that code to be deleted.

5g. Press **Done** when finished.

If the Done button is not active, one of the required fields has not yet been completed.

COLUMN SELECTOR

The Column Selector takes your raw data file, matches (maps) the column headers from that file with a recognized column header, and attaches it to the metadata files. This will be completed on all of your raw data files to convert them into metadata files. Each page has an Import Data File button that will take you through this process.



To start, press the **Select Your Raw Data File** button, and browse to the raw data folder created in the suggested file structure where you have saved your raw data.

Which details do I import into which page?

Hole Location page

Import details of the collar locations for drillholes. For location details you must provide a national grid, hole ID(s), drilling details, and hole depth.

Downhole Survey page

Import details of a downhole directional survey. You must provide a survey depth, hole ID(s), declination/dip, and azimuth.

Downhole Geological Event page

Import readings taken downhole. Only a hole ID, and a survey depth or from depth/to depth, are required, along with the readings.

Downhole Geochemical page

Import all analyses completed downhole. A hole ID, sample ID, and from depth/to depth are required.

Surface Analysis page

Import any details for analyses completed on the surface. You must provide sample ID(s), location details given in a national grid, and a sample type.

Figure 11. Column Selector: browse to raw data

Column Selector

Select Your Raw Data File: V:\GS91_MinExData\SEIG_Processes\MRT\WA Examples\COLLAR.xlsx **1**

Enter File Details: Separator: Tab Has Headers Select Worksheet: BNJV_WASL3_COLL20 **2**

Load Saved Column Heading Configuration: **3** **4** **5** **7** Apply Configuration **13**

Data Column	Data ...	Select Column Type	Select Column Unit	Accuracy	Other Type Info	Other Units Info
Hole	PKRC001,PKRC002,BSDD	<input type="text"/>	<input type="text"/>	0 8	<input type="text"/>	<input type="text"/>
Tenement	E77/9999,E77/9999,E7	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
Prospect	Pickaspot,Pickaspot,	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
H-Type	RC,RC,DD,DD,RC,	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
LocalE	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
LocalN	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
MGAE	688396,688404,690264	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
MGAN	6597819,6597819,6592	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
EOH	114,144,96,126,140,	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
RL	425,426,358,351,463,	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>
Local_Az	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>

6 The following Column Types must be mapped:
 Drill Code
 Elevation
 Hole_id
 Latitude
 Longitude
 Total Hole Depth
 Easting_MGA
 Northing_MGA

10 Automatically Fill Remaining Columns

11 Add Additional Assay Details If your data contains assays you must add additional heading details.

12 Save Current Column Heading Configuration

14 Done Cancel

Tips

Press the **Select Your Raw Data File** button and browse to the raw data file you created before you started.

Your column headers are shown in the **Data Column**. They should be matched (mapped) with the required **Column Types** listed in red below. Use the drop-down list to map the Data Column to a Column Type. If your column header does not match a column type, leave it blank.

If your file doesn't have all the required fields, press **Cancel**, add it to your raw data file, and then return to this window in the MRT software and browse to your file.

WHEN MAPPING AN EASTING AND NORTHING, THEY MUST RELATE TO THE DATUM CHOSEN IN THE PROJECT DETAILS PAGE.

Choose a unit of measure in the **Unit Column**. A unit of measure defines the quantity of the value reported.

The following Columns require units:

If relevant, enter the **Accuracy** for the measurement or reading.

Once all the required Column Types are mapped, press the **Automatically Fill Remaining Columns** button in the bottom left corner of the window. This will populate all remaining columns with the headers in your raw data file.

For downhole geochemistry and surface analysis files only, click the **Add Additional Assay Details** button to enter specific details about

Figure 12. Column Selector

See the following pages for explanations of this window.

1. When you press the **Select Your Raw Data File** button, it will open a browser that you can use to navigate to your raw data files. The address listed beside the button is the location the browser will open.

2. The Column Selector has built-in options to make it easier to import your data. Changing the settings in the **Enter File Details** section will allow you to load many different file types. If your raw data doesn't have column headings, untick the box beside *Has Headers*; however, it is recommended that you have your own headers in the raw data file to make the process easier. Also, if your data is in Microsoft Excel format and the file has more than one worksheet, you can pick the relevant sheet using the Select Worksheet drop-down list.

If you have followed the instructions in this User Manual to create your raw data files, leave the File Details as they appeared when you open the Column Selector.

3. The **Data Column** will populate automatically using the headers provided in your raw data. The values shown in this screen shot are from a random example, and they will be different from your own file.

4. The column labelled **Data...** will show examples of your data listed under each of the data columns.

5. Use the drop-down list to **Select Column Type** that best matches your column header. This allows you to map your column headers.

6. Certain values are listed in red in the **Tips** panel on the right. These values are required for this software. As you map them with your column headers, they will be removed from this list. You will not be able to continue until all of these fields are mapped. However, you will notice that some fields will disappear once a different value is mapped. For example, Easting_AMG will disappear from the required values list if Easting_MGA is mapped. You can still map more than one of these options if your data contains both details.

*If your raw data is missing one of the required fields, you will need to press **Cancel** and update your raw data with the required information.*

7. You will need to choose a **Unit** of measure for each column of your data. Mapped fields automatically select the most likely unit of measure when they are picked from the list. Check these values to make sure they are correct for your data.

8. Enter **Accuracy** levels for any fields that require it. For example, if your Eastings and Northings are in whole numbers you may put 1. Or, if you know that your GPS device works to 7 m, you can put 7.

9. If there is no obvious match for your column header in the Column Type area, you can choose *Other? – define:* from the drop-down list. This will create a box in the **Other Type Info** column that will initially populate your raw data column header. You can alter these headers if required. The same applies for the Units of measure field.

10. Once you have mapped all of the required fields, you can press the **Automatically Fill Remaining Columns** button. This will populate all empty columns with *Other? – define:* and the value 'NA' (not applicable) will be pushed through to the last column.

When the metadata file is created, it will have the column headers in either the Select Column Type column or in the Other Type Info column.

11. Downhole geochemistry and surface analysis files require more information in the metadata. This includes data such as upper and lower detection limits, assay company, and assay methods. To enter these details, press the **Add Additional Assay Details** button on the Column Selector page.

A window, similar to that seen below, will open, and details for individual assays need to be recorded. If some of the details are common to all assays, they do not need to be recorded here.

Please enter further details for all assays

Data Column	Data ...	Assay Code	Lower Det. Limit	Upper Det. Limit	Preferred Assay	Assay Company
Sample No	R00001,R00002,R00003				<input type="checkbox"/>	
Samp_Type	4RC,4RC,4RC,4RC,4RC,				<input type="checkbox"/>	
From	46,50,54,58,62,66,56				<input type="checkbox"/>	
To	50,54,58,62,66,70,60				<input type="checkbox"/>	
Int	4,4,4,4,4,4,4,4,4,				<input type="checkbox"/>	
Au_FA500_ppb	1,1,2,5,2,10,152,164	FA500	1		<input checked="" type="checkbox"/>	TESTEM
Au1_FA500_ppb	,,,,,142,136,255,,,	FA500	1		<input type="checkbox"/>	TESTEM
As_ICP100_ppm	5,-5,-5,5,10,15,52,6	ICP100	5		<input type="checkbox"/>	TESTEM
Ag_ICP100_ppm	-0.1,-0.1,-0.1,0.1,0	ICP100	0.1		<input type="checkbox"/>	TESTEM
Zn_ICP100_ppm	50,66,46,25,841,458,	ICP100	2		<input type="checkbox"/>	TESTEM
Comments	,,,,damp sample,,,,				<input type="checkbox"/>	
Lab	TESTEM,TESTEM,TESTEM				<input type="checkbox"/>	
Date Assays	12/06/2009 12:00:00				<input type="checkbox"/>	
Batch_No	C5171_9736,C5171_973				<input type="checkbox"/>	

Tips

This window is for entering details specific to each individual assay. These details only need to be filled in for columns with assay analyses. (e.g. elements, compounds...) All other columns should remain blank.

Assay Code - Enter the code for the digest and analysis completed for each individual assay.

Lower Det. Limit - Enter the lower detection limit specific to each individual assay.

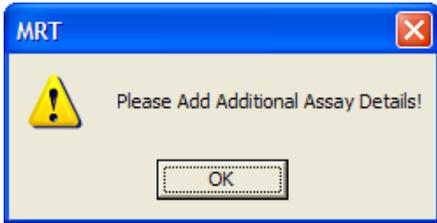
Upper Det. Limit - Enter the upper detection limit specific to each individual assay.

Preferred Assay - If an assay analysis was completed more than once, tick the box to indicate which one is the preferred method.

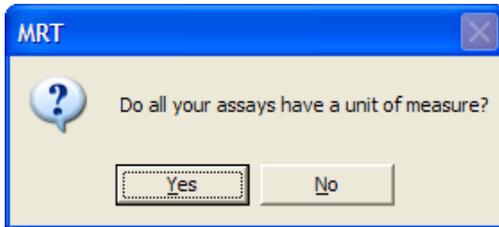
Assay Company - Enter the Assay Company Code if different analyses were completed at different laboratories. If all work was completed at the same lab, this column can remain blank. If the same analysis was completed at different labs, a column should be added in your data.

Ok Cancel

Figure 13. Assay Details Column Selector



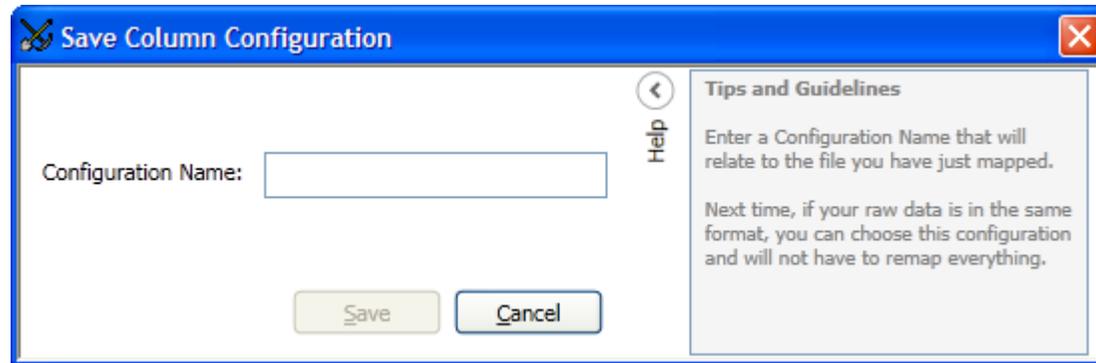
This warning will appear if you have not entered any details in the Add Additional Assay Details on the Column Selector page. When you press Ok, the Assay Details Column Selector will open automatically (Figure 13).



This warning will appear when you press **Done** to remind you to give all assays a unit of measure. It is very important that units of measure are recorded for all assays. If you do not map your assays, then the unit of measure will be assumed to be 'NA' (not applicable), which is not acceptable.

Assays with different units of measure must be in separate columns.

12. Once you have finished entering all the data in the Column Selector, you can save your work by pressing the **Save Current Column Heading Configuration** button. You will need to ensure that your data is in the same format the next time you use the Column Selector.



Each file you import can have a different Configuration Name. You will need to save it as something indicative of that particular raw data file.

For example, use the configuration Name 'COLLAR' for hole location files.

13. When you use the Column Selector again, you can access this previously entered data by selecting the Configuration Name from the **Load Saved Column Heading Configuration** drop-down list and pressing **Apply Configuration**. This will save you having to fill in the same details from year to year.



14. Press **Done** when finished.

DOWNHOLE SURVEY PAGE

The Downhole Survey page is where you will enter the information about downhole directional surveys completed on the drillholes reported in the Hole Location page. A downhole survey file need not be submitted if no downhole directional surveys were completed and a starting, or assumed, dip and azimuth for the drillholes are reported in the hole location (collar) file.

Navigate to the Downhole Survey page by pressing the **New Downhole Survey** button on the Hole Location page, after you have finished entering the hole location details.

7. Note that the file name appears in the side-panel tree menu. See USING THE TREE MENU on page 37 for more details.

Figure 14. Downhole Survey page

1. The MRT software will automatically create a **File Name** for your metadata file based on the recommendations in the guidelines. You can press the **Edit** button to change the name, but only do so if necessary.

2. Enter **Comments** pertaining to the raw data file you are about to enter. Any information provided about the file is helpful but is not mandatory.

3. Enter the names of the **Surveying Companies** by pressing the **Edit Surveying Companies** button. If surveys were completed in-house, you can put your company name in the Downhole Directional Survey Company column. See Figure 15 for more details.

4. Import your raw data file by pressing the **Import Data File** button. This is where you will attach your raw data to the metadata being created. Your raw data must already be saved in Excel format with column headers before you press the Import Data File button. Return to section on RAW DATA FORMAT (on page 8) for more details. See Figure 12 for explanation on how to use the Column Selector.

5. Press **Save** to save the details just entered on this page or else press **Cancel** to clear.

6. Press the **Back to Hole Location** button when finished or to add more files.

EDIT SURVEYING COMPANIES

3a

3b

3c

3d

3e

Figure 15. Edit Surveying Companies window

3a. Enter the name of the **Company** that conducted the directional survey here.

3b. Enter the **Directional Survey Instrument** that the company used.

3c. Press the **Add Surveying Company** button if you would like to add more than one surveying company.

3d. Remove Surveying Company.

You must tick the box next to the surveying company you would like to remove for the **Remove Surveying Company** button to become active. Press the button and that company will be deleted.

3e. Press **Done** when finished.

If the Done button is not active, one of the required fields has not yet been completed.

DOWNHOLE GEOCHEMISTRY PAGE

The Downhole Analysis/Geochemistry page is where you will enter the information about downhole geochemical analysis completed on the drillholes reported in the Hole Location page.

To complete this page, you will require details of the assays and analyses completed. These can be found on the report you received from the assay laboratory.

11. Note that the file name appears in the side-panel tree menu.
See USING THE TREE MENU on page 37 for more details.

1. Edit button for File Name

2. Comments field

3. Multiple job numbers in data checkbox

4. Edit Sample Codes button

5. Edit Sample Prep button

6. Edit Analysis Codes button

Figure 16. Downhole Analysis/Geochemistry page (top)

1. The MRT software will automatically create a **File Name** for your metadata file based on the recommendations in the guidelines. You can press the **Edit** button to change the name, but only do so if necessary.

2. Enter **Comments** pertaining to the raw data file you are about to enter. Any information provided about the file is helpful but is not mandatory.

3. Enter a **Lab Job Number**. This is the number that the assay job/batch was given by the laboratory. If there is more than one job number submitted per assay file, tick the box labelled **Multiple job numbers in data**. You will need to add a column in your data to show which entry belongs to which lab number.

4. Enter **Sample Codes** by pressing the **Edit Sample Codes** button. These are the field sampling procedure details (Figure 18).

5. Enter **Sample Preparation** details by pressing the **Edit Sample Prep** button. These are the preparation details completed by the lab before the analysis (Figure 19).

6. Enter **Analysis Codes** by pressing the **Edit Analysis Codes** button. These are the details pertaining to the laboratory analysis methods and digests (Figure 20).

Continues on the following page...

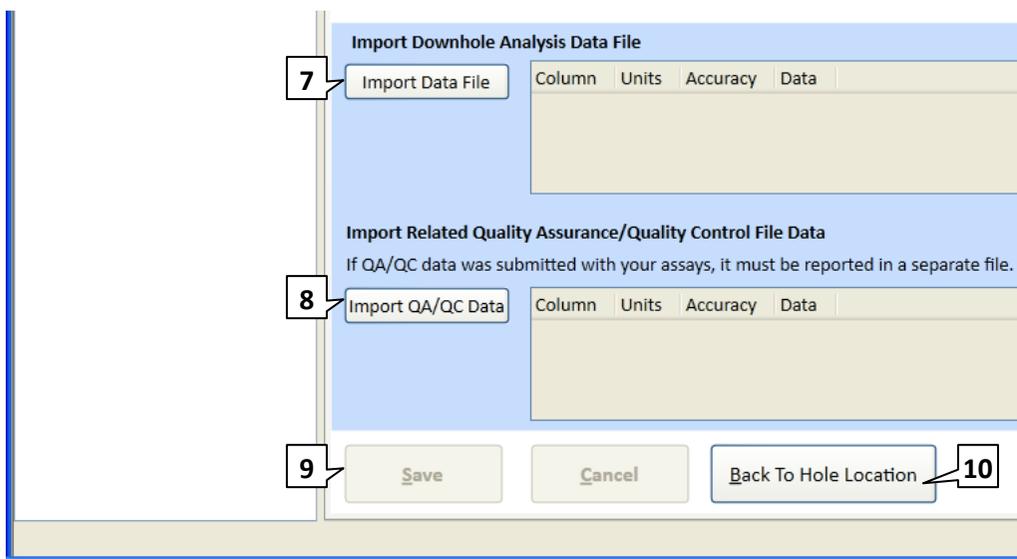


Figure 17. Downhole Analysis/Geochemistry page (bottom — cont...)

7. Import your raw data file by pressing the **Import Data File** button.
This is where you will attach your raw data to the metadata being created. Your raw data must already be saved in Excel format with column headers before you press the Import Data File button. Return to the section on RAW DATA FORMAT (on page 8) for more details. See Figure 12 for more explanations on how to use the Column Selector.

8. Import your Quality Assurance/Quality Control (QA/QC) raw data file by pressing the **Import QA/QC Data** button.
Version 4 of the Guidelines now states that if QA/QC data were submitted with your assays, they must be reported on a separate metadata file. This file is imported here through the same Column Selector as the other files (Figure 12).

9. Press **Save** to remember the details just entered on this page or else press **Cancel** to clear.

10. Press the **Back to Hole Location** button when finished to add more files to the collars entered.

EDIT SAMPLING CODES

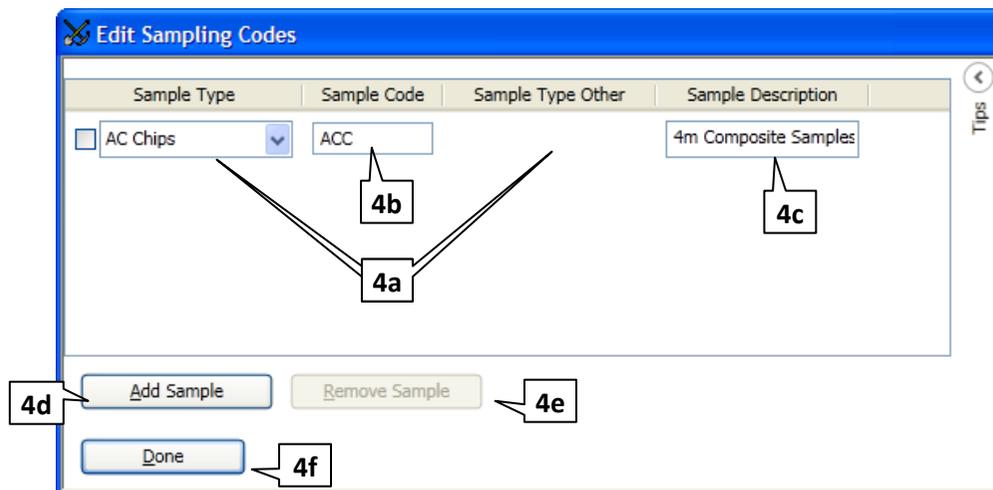


Figure 18. Edit Sampling Codes window

4a. Choose a **Sample Type** from the drop-down list.
If your sample type is not an option, choose *Other? – Define:* and the **Sample Type Other** column will become active.

4b. Enter a **Sample Code** that is used in your data or best represents the sample type.

4c. Enter a **Sample Description**.
This box describes field and pre-laboratory dispatch sampling procedures.

4d. Press **Add Sample** if you would like to add more sample types.

4e. Remove Sample
You must tick the box next to the Sample Type you would like to remove for the **Remove Sample** button to become active. Press the button and that sample will be deleted.

4f. Press **Done** when finished.
If the Done button is not active, one of the required fields has not yet been completed.

EDIT SAMPLE PREP

Figure 19. Edit Sample Prep window

5a. Enter a **Prep Code**.
These are the codes given by the laboratory. If there is no code, leave this blank.

5b. Enter the Sample Preparation **Description**.
This is a description of any sample preparation carried out on the sample after dispatch and before it is analysed.

5c. Press the **Add Sample** button if you would like to add more Prep Code types.

5d. Remove Sample.
You must tick the box next to the Prep Code you would like to remove for the **Remove Sample** button to become active. Press the button and that code will be deleted.

5e. Press **Done** when finished.
If the Done button is not active, one of the required fields has not yet been completed.

EDIT ANALYSIS CODES

Figure 20. Edit Analysis Codes window

6a. Choose an **Analysis/Assay Type**. Most analyses are completed in a commercial laboratory that often have their own assay codes. These codes need to be reported by choosing **LAB Laboratory-Specific analysis method* from the drop-down list and the Analysis/Assay Code box will become active, allowing you to write in the code.

6b. Analysis/Assay Code. This box will become active if **LAB* is chosen in the Analysis/Assay Type drop-down list. It will also become active if you choose *Other? – define*: because your method was not completed in a commercial laboratory and therefore is not in the drop-down list.

6c. Enter an **Analysis/Assay Description**. These are the details of the digest and analysis represented by the Analysis/Assay Code.

6d. Only enter a **Laboratory Code** if one is used in your data. Otherwise leave blank.

6e. Enter the **Laboratory Name** in full.

6f. Press the **Add Analysis** button if you would like to add more analysis/assay types.

6g. Remove Analysis. You must tick the box next to the Analysis/Assay Type you would like to remove for the **Remove Analysis** button to become active. Press the button and that analysis will be deleted.

6h. Press **Done** when finished.

DOWNHOLE GEOLOGICAL EVENT PAGE

The Downhole Geological Events page is where you will enter the information about downhole analysis or readings completed on the drillholes, as reported in the Hole Location page. This includes, but is not limited to, geological logs.

10. Note that the file name appears in the side-panel tree menu. See USING THE TREE MENU on page 37 for more details.

Figure 21. Downhole Geological Event page

You must go back to the Hole Location page to create/add a new Downhole Geological Events file, otherwise you will overwrite the file just completed.

1. The MRT software will automatically create a **Downhole GE File Name** for your metadata file based on the recommendations in the guidelines. You can press the **Edit** button to change the name, but only do so if necessary.

2. Choose an **Event Type** from the list. See Table 1 for descriptions and examples of Event Types. If your files do not match any of the event types on the list, choose *Other? – define:* and the Other box will become active (2b). Keep your description to one or two words.

3. Enter a **DH Geophysical Survey Company** and **DH Geophysical Survey Instrument** if it is relevant to that particular Event Type.

4. Enter a **Logging Code Filename**. This is the file that contains all the codes used in any geological event file. Only one filename will be reported on the metadata, so make sure all codes are listed in one file.

5. If **water data is included in the geology** data (logs), tick this box. Water data may include watertable levels and amount of water encountered in drillholes.

6. Enter **Comments** pertaining to the raw data file you are about to enter. Any information provided about the file is helpful but is not mandatory.

7. Import your raw data file by pressing the **Import Data File** button. This is where you will attach your raw data to the metadata being created. Your raw data must already be saved in Excel format with column headers before you press the Import Data File button. Return to the section on RAW DATA FORMAT (on page 8) for more details. See Figure 12 for explanation on how to use the Column Selector.

8. Press **Save** to retain the details just entered on this page or else press **Cancel** to clear.

9. Press the **Back to Hole Location** button when finished or to add more files.

Table 1. Description of Event Types

EVENT	DESCRIPTION	EXAMPLES
Geology	All geological observations; especially rock types but may include alteration, mineralogical, weathering, regolith, and veining observations.	Geological logs
Alteration	Chemical or hydrothermal alteration observations downhole (may be included in geology).	Alteration
Drilling Details	Details that refer directly to drilling.	Drilling company; Rig number; Hole diameter
Event	General event that happens at one point down the hole.	Base of weathering; Base of oxidation
Geotechnical	Files that contain geotechnical data.	RQD; Fractures per meter; Shearing; Hardness
Geophysics	Files that contain geophysical data.	Radiometrics; Induced polarization; Downhole electromagnetic surveys
Hyperspectral	Readings taken downhole with a hyperspectral instrument.	PIMA; HyLogger; The Spectral Geologist/Assistant files
Mineralogy	Mineralogical and elemental observations downhole (may be included in geology).	Sulfide content; Mineralogy; Gold count
Magnetic Susceptibility	Readings from a magnetic susceptibility instrument.	Mag susc
Core Recovery	Amount of core recovered during the drilling process.	Recovery
Regolith	Details of the regolith profile (may be included in geology).	Regolith
Specific Gravity	Specific gravity readings.	Specific gravity
Structure	All observations of individual structures.	Alpha, Beta, Gamma readings; Faults; Shears; Lineations; Foliations...
Veining	Orientation, size, width, and mineralogy of veins (may be included in geology).	Veining
Water	Any details that relate to water encountered downhole or during drilling (may be included in geology).	Watertable; Water amount
Weathering	Chemical or physical weathering observations downhole (may be included in geology).	Weathering

SURFACE ANALYSIS PAGE

The Surface Analysis page is where you will enter all details of geochemical analysis, geological observations, geophysical surveys, or any other data collected at points on the Earth's surface. Each point requires a location and sample/point ID. More than one surface analysis file can be submitted per report.

14. Note that the file name appears in the side-panel tree menu. See USING THE TREE MENU on page 37 for more details.

Figure 22. Surface Analysis page (top)

1. The MRT software will automatically create a **File Name** for your metadata file based on the recommendations in the guidelines. You can press the **Edit** button to change the name, but only do so if necessary.

2. Choose an **Event Type** from the dropdown list. See Table 2 for descriptions and examples. If there is nothing that matches your location method, choose *Other? – define:* and write the method in the **Other** box (2b)

3. Choose a **Sample Location Method** from the drop-down list. If there is nothing that matches your location method, choose *Other? –define:* If a survey company was used to locate the sample position, enter the name of this company in **Survey Company**.

4. Enter a **Surface Geophysical Survey Company** and **Surface Geophysical Survey Instrument** if applicable to the Event Type you are entering.

5. Enter **Comments** pertaining to the raw data file you are about to enter. Any information provided about the file is helpful but is not mandatory.

6. Enter a **Lab Job Number**. This is the number that the assay job/batch was given by the laboratory. If there is more than one job number submitted per assay file, tick the box labelled *Multiple job numbers in data*. A column will need to be included in your data to show which entry belongs to which lab job number.

7. Enter **Sample Codes** by pressing the **Edit Sample Codes** button. These are the field sampling procedure details (Figure 18).

8. Enter **Sample Preparation** details by pressing the **Edit Sample Prep** button. These are the sample preparation details completed by the assay laboratory before the analysis (Figure 19).

9. Enter **Analysis Codes** by pressing the **Edit Analysis Codes** button. These are the details pertaining to the laboratory analysis methods and digests (Figure 20).

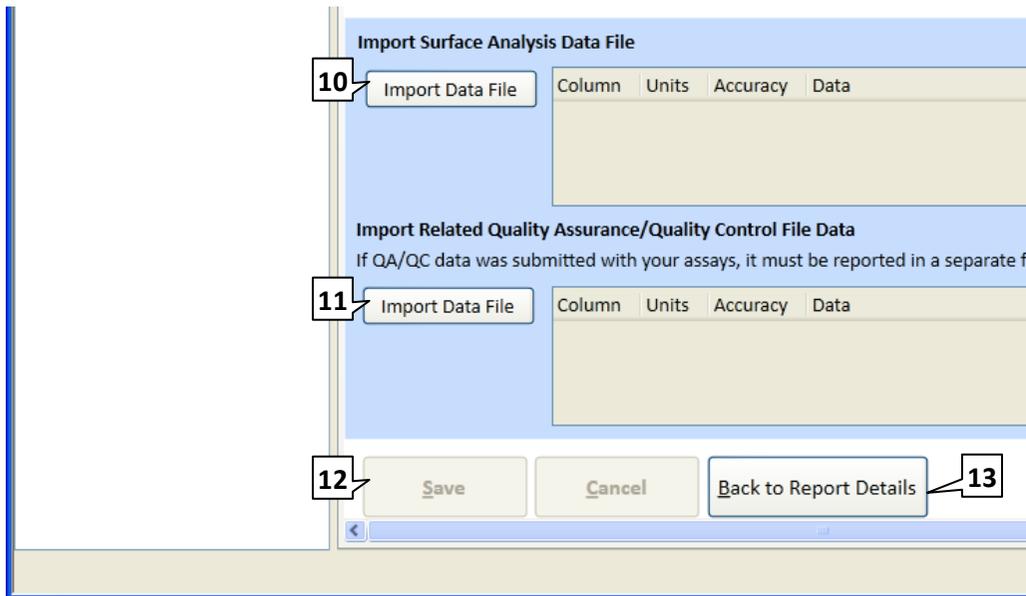


Figure 23. Surface Analysis page (bottom — cont.)

10. Import your raw data file by pressing the **Import Data File** button.

This is where you will attach your raw data to the metadata being created. Your raw data must already be saved in Excel format with column headers before you press the Import Data file button. Return to the section on RAW DATA FORMAT (on page 8) for more details. See Figure 12 for explanation on how to use the Column Selector.

11. Import your Quality Assurance and Quality Control raw data file by pressing the **Import QA/QC Data** button.

Version 4 of the Guidelines now states that if Quality Assurance and Quality Control data were submitted with your assays, it must be reported on a separate metadata file. It is imported here through the same Column Selector as the other files (see Figure 12).

12. Press **Save** to retain the details just entered on this page or else press **Cancel** to clear.

13. Press the **Back to Report Details** button when finished, to add another surface analysis file, update the file verification list, or export your files.

You must go back to the Report Details page to create/add a new Surface Analysis File, otherwise you will overwrite the file just completed.

Companies are encouraged to submit all surface sample geochemistry data in one file. However, it is understood that there can be many different techniques and assay methods, and it may be easier and clearer to put them in different files. The Event Type drop-down list allows this to occur.

Table 2. Surface Sample Event Type

EVENT	DESCRIPTION	EXAMPLES
All Surface Geochemistry	All Surface Geochemistry includes any sample collected on the surface, or just below the surface that has been submitted for geochemical testing. <i>Make sure you have a sample type in your data.</i>	Includes soil, stream, rock, auger, vegetation, and mine dumps and all their examples
Soil	Any surface sample collected.	LAG; Channel; Float; Loam; Pisolites; BLEG
Stream Sediment	Sample collected in a stream or waterway that indicate the sample has been transported.	Stream sediment
Rock	A sample collected from an outcrop or appears in situ.	Outcrop; Subcrop; Gossans; Rock chips
Auger/ Shallow Drilling	A method where a sample is taken below the surface; however, only one sample is collected per location.	Auger; Interface drilling; Vacuum
Surface Mapping	Points taken on the surface where a geological observation was made and recorded.	Mapping; Petrology
Surface Geophysical	Geophysical readings taken on the surface.	Radiometrics; Induced polarization; Downhole electromagnetic surveys
Surface Hyperspectral	Readings taken on the surface or samples collected on the surface with a hyperspectral instrument (this may include a sample taken from a drillhole although there can be only one reading per location).	PIMA; HyLogger; The Spectral Geologist/Assistant files
Vegetation	Samples taken from vegetation and submitted for geochemical testing.	Tree litter; Foliage; Bark
Mine Dumps/ Tailings	Samples taken from mine dump or processes.	Mine dumps; Tailings

FILE VERIFICATION LISTING

A File Verification List is simply a list of files that you have submitted. When your report is received, the file verification list is checked against the files received to verify that all files on the list have been submitted. If there are more or less files on the list than were received, you will be contacted for an explanation.

Make sure that your written report and other associated reports, images, data, and files are all in one folder.

This is the last step *before* you export your files.

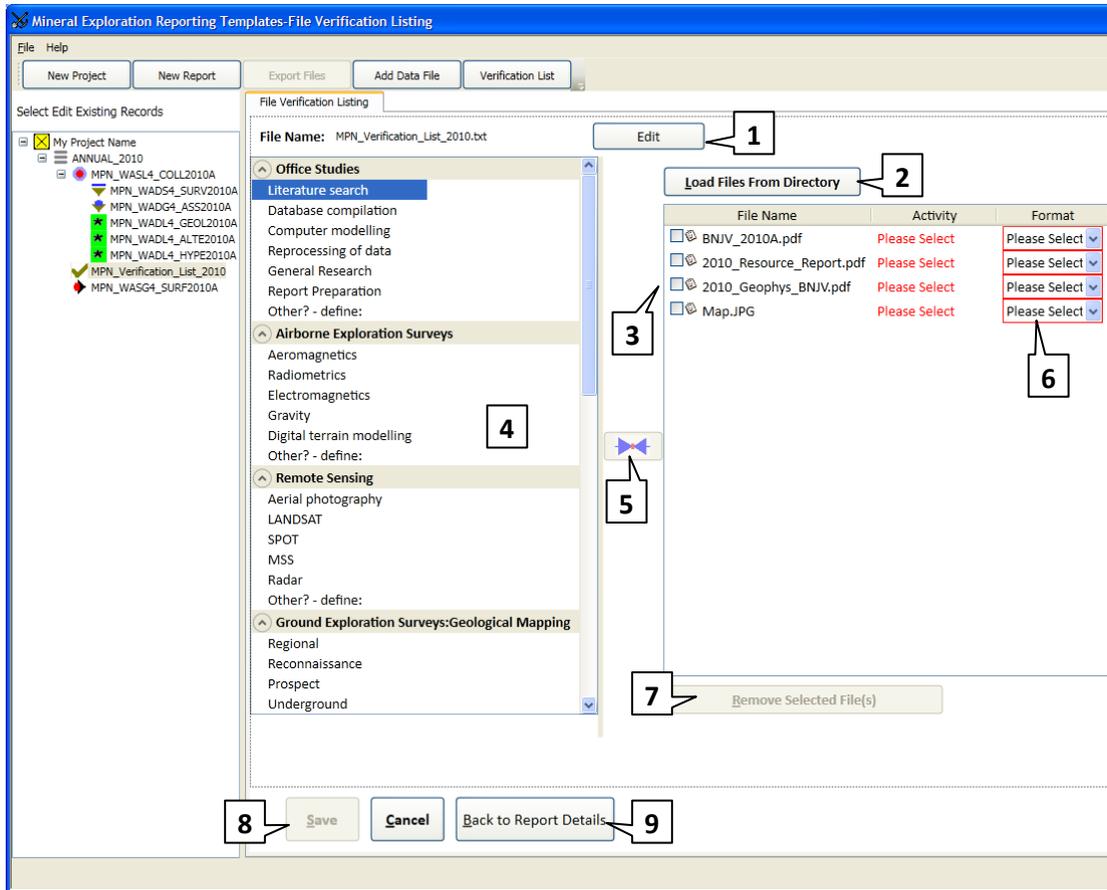


Figure 24 . File Verification Listing page

1. The MRT software will automatically create a **File Name** for your File Verification List. You can press the Edit button to change the name, but only do so if necessary.
2. Press the **Load Files From Directory** button to browse to your files (report text, appendices, plans but NOT your metadata files). It is generally recommended to have all files in the same folder, but if you need to get files from different folders, browse to one folder, select and add those files. Then press the Load Files From Directory button again and repeat for a different folder location.
3. In the right window, highlight one of the files you just loaded.
4. In the left window, highlight the most appropriate Activity for that file.
5. Press the **blue arrows** located between the two windows and the activity highlighted on the left should populate in the Activity column beside the selected File Name.
6. Choose a file **Format** from the drop-down list beside your File Name.
7. To remove a file you must tick the box next to the File Name you would like to remove in order for the **Remove Selected File(s)** button to become active. Press the button to delete.
8. Press **Save** to save your changes, or press **Cancel** to clear them.
9. Press the **Back to Report Details** button to export your files.

FILE EXPORT

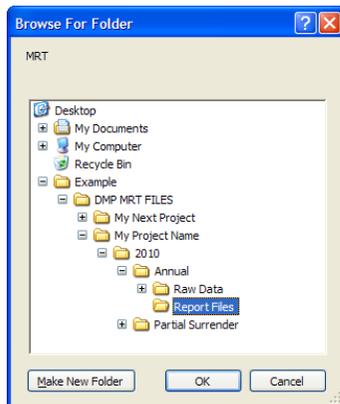
When you have completed putting in all your data into the MRT software and a File Verification List, you can then export the metadata files to the report folder you set up previously.

To export your files, navigate to the Report Details page.

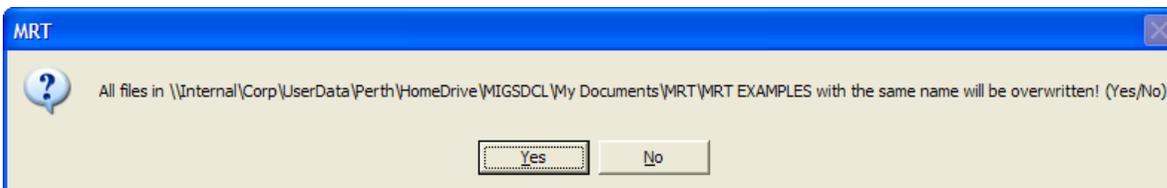


Once in the Report Details page, the Export Files button in the tool bar will be active.

Press the **Export Files** button.

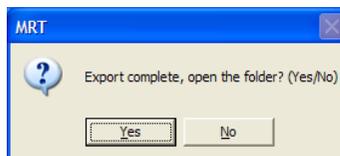


Browse to the folder where you would like to export your metadata files (if you have set up your folder structure as suggested at the start of the User Manual, browse to the Report Files folder you created earlier).



This warning message will appear every time you export your files, whether there are files of the same name or not.

Press **Yes** if you are happy to continue. Press **No** to stop the export - you can then move the files of the same name or choose another location to export to.



This message will appear when the files are exported.

Pressing **Yes** will open the file where your metadata files have been saved. If you saved them with all the other files required for submission, you can then copy the entire folder to a CD and submit.

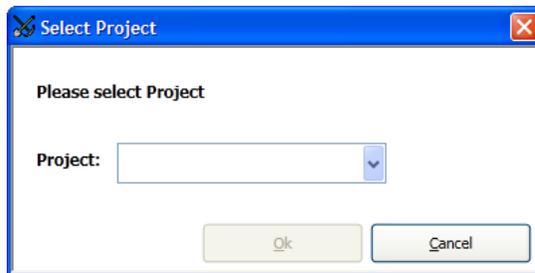
USING THE TOOLBAR

Along the top of the MRT software window is a toolbar that is always visible. Using this toolbar helps to create new files at any time when using the software.



1. **New Project.** This button will start a new project. Whenever it is pressed, it will create a new project and take you to the New Project page to start entering details. Go to the section PROJECT DETAILS on page 11 for more details.

2. **New Report.** This button will create a new Report Details page. As a report must relate to a project, the window below will open when you press the button:



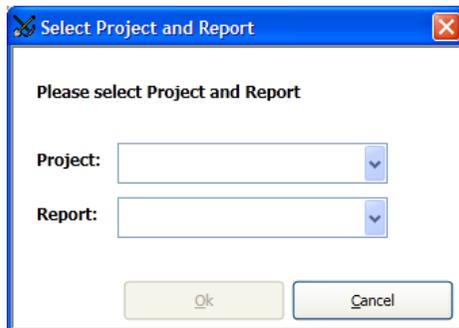
Choose the project you want to attach the report details to, and press Ok.

If you have not yet created the relevant project, press Cancel, and choose the New Project button instead.

Go to the REPORT DETAILS section on page 15 for more details.

3. **Export Files.** Press this button when you want to export files. You must be on the Report Details page to export your files. See FILE EXPORT section on page 35 for more details.

4. **Add Data File.** A data file is any of the files associated with the Report Details (i.e. Hole Location file). Data files require a project and reporting details before they can be created.



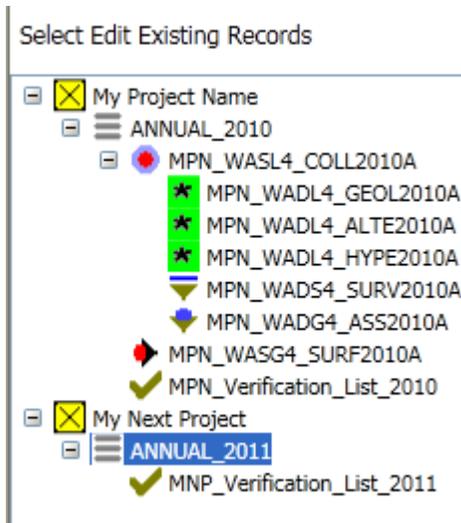
Choose a Project and Report from the drop-down lists and press Ok. It will take you to that Report Details page.

You can then choose which data file to add using the buttons on the screen. See Figure 8 on page 15 for details.

If you have yet to create either a project or a report for the data files, press Cancel and create those first.

5. **Verification List.** This button updates your file verification list. It is best to create this list *after* all data files have been created for the report, but *before* you export your data. You will need to select a Project and Report as you did for data files but instead of navigating to the report page, the file verification list will open. Go to the FILE VERIFICATION LISTING section on page 34 for more details on file verification lists.

USING THE TREE MENU



As you create a page, the MRT software will create a new icon in the window on the left-hand side of the screen. This is known as a tree menu. You can use the tree menu to navigate to pages you have already created by clicking on the icon and file name. See Table 3 for descriptions of the symbols used in the tree menu.

Tree menus use a hierarchy where the required pages are aligned to the left and other pages hang off them. To hide all associated files, press the minus sign () beside the icon. To expand again, press the plus sign () next to the icon.

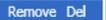
You can also delete a page in the tree menu. Highlight the title by left clicking on it; it should then have a box around it (see ANNUAL_2011 in the figure on the left). The title that is highlighted will be the one deleted. Then right-click on the file and choose Remove Del (). All associated files will also be deleted. If you do not want delete that particular page/files, just update the page by clicking on it in the tree menu, open and make changes to the page, and then click the Save button.

Figure 25. Example of the tree menu

Table 3. Description of Symbols in Tree Menu

Symbol	Page type	File name shown	Level in the tree
	Project Details	Project Name	1
	Report Details	Report Title	2
	Hole Location Data File	File Name	3
	Downhole Survey Data File	File Name	4
	Downhole Geochemistry Data File	File Name	4
	Downhole Geological Event Data File	File Name	4
	Surface Analysis Data File	File Name	3
	File Verification List	File Name	3