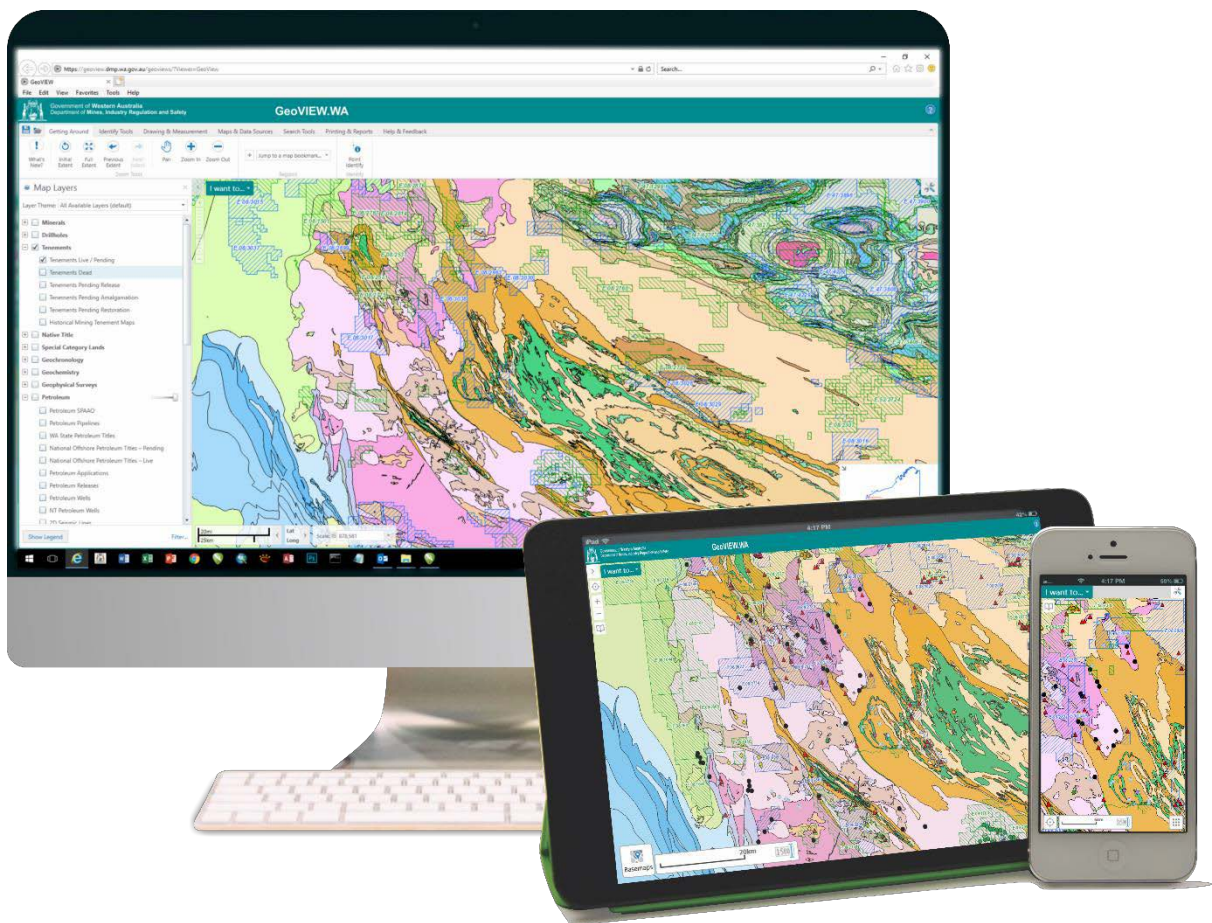


GeoVIEW.WA

User Guide



Version 2.1 — March 2020

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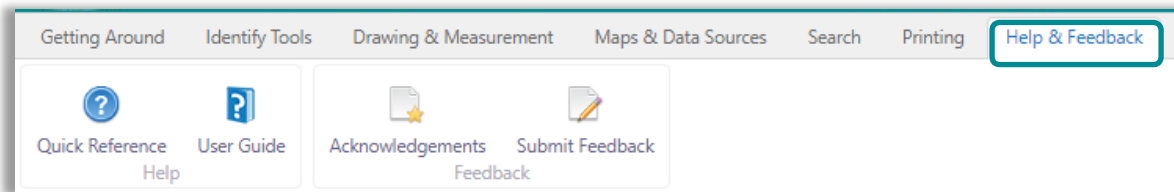
Welcome

Welcome to GeoVIEW.WA, an interactive (GIS-based) mapping system. GeoVIEW.WA will run on all web browsers and can also run on tablets and mobile devices. You can construct and print your own geological map (your chosen area and scale) and incorporate other mineral and petroleum exploration datasets including mines and mineral deposits, petroleum wells, active leases, and much more.

Using this Guide

This User Guide explains how to navigate and use the application. You can open the User Guide in the application by doing any of the following:

- To open the User Guide: On the **Help & Feedback** tab of the toolbar, click the **User Guide** button.



User Guide button

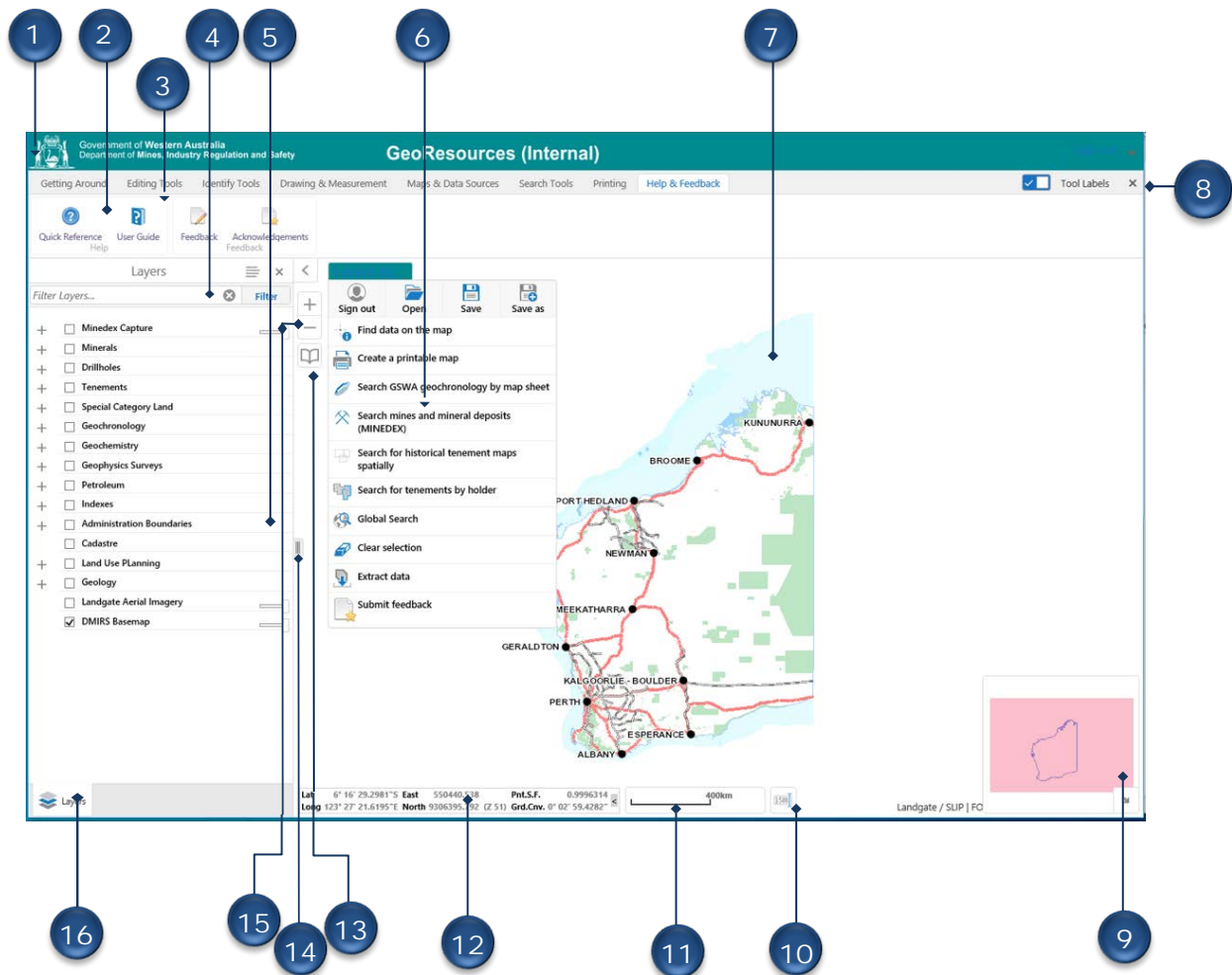
- GeoVIEW.WA also has a **Quick Reference Guide** which provides a summary of major functions available. To open the Toolbar Quick Reference guide, on the **Help & Feedback** tab of the toolbar, click the **Quick Reference** button.



Quick Reference button




The Main Screen

When you open GeoVIEW.WA, you see a screen similar to the one below. Depending on whether you open it on a desktop computer, tablet or mobile device, the initial view may vary slightly however it will have all the same features and functionality as described in this user guide. In the example below, all the navigation elements like the toolbar, the information panel, the **I want to...** menu and the **Overview Map** are visible so that they can be described.



Navigation features in the main screen of the Viewer

Number	Screen Element
1	Viewer title bar: Displays the title of the application.
2	Toolbar: The toolbar contains numerous tools that are grouped into tabs by function.
3	Toolbar tabs: The toolbar consists of tabs that categorize the tools into high-level groups: Getting Around, Identify tools, Drawing & Measurement, Maps & Data Sources, Search Tools, Printing & Reports and Help & Feedback.
4	Layer Theme: Select from a list of predefined Layer Themes (i.e. Geology) or All Available Layers (default).

Number	Screen Element
5	Information panel: This panel lists different kinds of information when you interact with the map. For example, it displays Map Layers where you can select different layers to hide or show on the map or it displays a details of map features in the Results List when you perform a search or use the Identify tool.
6	I want to...: A menu of shortcuts to frequently-used tools. This menu tries to anticipate what you will want to do most often.
7	Map: The map window where you interact with the map by zooming, panning, annotating, or right-clicking to get more information.
8	Toolbar Icon: Shows or hides the toolbar when clicked.
9	Overview Map: Displays a thumbnail of the whole map with the current view shown as a small square on the map. The Overview map is an orientation tool to identify which part of the overall map you are currently zoomed in to. To hide the Overview map, click the arrow in the top left corner.
10	Scale: The current scale of the map.
11	Scale bar: Graphical representation of current map scale in Kilometre units.
12	Mouse Position: The position (co-ordinates) of the computer cursor on the current map. To hide the mouse position, click the small arrow on the right.
13	Bookmarks: Zoom to a predefined map extent or create a custom map extent for quick navigation.
14	Increase / Decrease Panel: Drag the symbol  to move the panel width. A similar symbol 'button' can be used on the table rows that appear at the bottom of the screen to move the bottom panel up and down.
15	Zoom In/Out: Use these buttons to zoom in or out of the map in step increments.
16	<p>Information Panel Toolbar: Contains icons that you can use to control the information listed in the Information Panel. Clicking different icons changes the information to Map Layers, Results and any other options configured for the map. The Information Panel opens when you run a search. To open it manually, click the arrow to the left of the I want to... menu.</p> <p> To display Information panel</p> <p> To hide Information panel</p>

Get Started

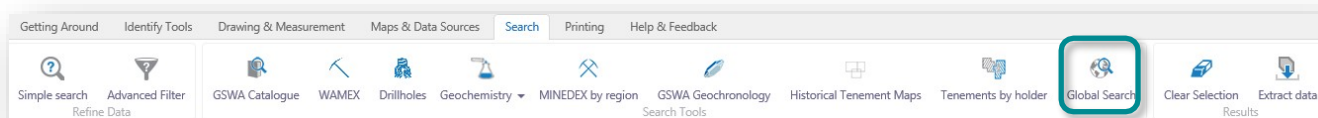
This web-based map is very different from a paper-based map. For one thing, it allows you to move around the map and zoom in and out, but this is just the beginning. Web-based maps contain many different types of information and this information is added layer by layer starting with the first layer, usually referred to as a base map. This way of building a map — in layers — makes it possible to interact with the map in useful ways — most importantly — to search for, and analyse the information stored on all those layers. This makes web-based maps extremely powerful tools for researching and understanding the world around us.

Get Around

The map has many different navigation features that make it easy to move around, for example, you can click the map and scroll your mouse wheel to zoom in or out. If you have a touch screen, you can touch the screen and drag the map to move it around, double-tap to zoom in, or pinch to zoom out.

Finding Information

One of the greatest benefits of web-based maps is the ability to search for information. There are several ways to search in the map, but one of the easiest is to use the Global Search tool on the Search tab.



Global Search tool

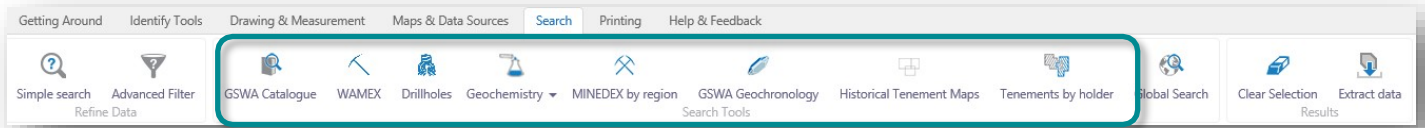
When you type in a word, the application tries to find all the most relevant results from a list of predefined layers and display the results in the Results List. For example, if you type in the word "Titanium", the Results List will include any occurrences of "Titanium" in the following layers:

- Mineral Exploration Reports (WAMEX)
- Mines and Mineral Deposits (MINEDEX)
- GSWA Catalog Regional Results (GSWA Catalog)

ANUMBER	TITLE
6077	Balla Balla Project, Non-statutory Report: An Interpretation of Gravity Survey, October 1975, MC47/342 & 404.
6155	Don Well Project, Annual Report: Summary Report, December 1975, MC47/732, 735-743, 744-754, 3257 & 3258 & 3470-3473.
8967	Bremer Range Project, Annual Report for the period ending 31/12/1979, TR70/6634 & 6635; MC63/2919, 2921, 2923, 2925, 2927, 2929, 2931, 2933, 2935, 2937, 2939-2950, 3265-3268.
9138	Windimurra Project, Non-statutory Report: Report on TR70/6889H, July 1980.
12206	Linda Sue Project, Non-statutory Report: A Preliminary Report on the Geology of the Linda Sue Vanadium Prospect, MC70/19758-19795, 20386-20391; E70/5
13164	Windimurra Complex Project, (1st) Annual Report for the period 18/12/1982 to 17/12/1983, E58/2, 4, 5 & 6.

Example of results from the Global Search tool

In addition to the standard search, there are custom searches, usually created for those searches that people need to run often, for example, WAMEX, Drillholes, Geochronology, or Tenements by holder. These ad hoc searches are found on the toolbar but are also in the **I want to...** menu.



Custom searches in the Search Tools area of the Tasks tab

Change What You See

Different Views


Because web-maps are built in layers, it is easy to control what you see in the map. For example, you could change the map layer from a 500K Geology to Landgate Aerial imagery. The Geology map shows you a traditional Geology map but the Landgate Aerial Imagery map shows a Landgate Aerial Image of the same area taken from an aeroplane.

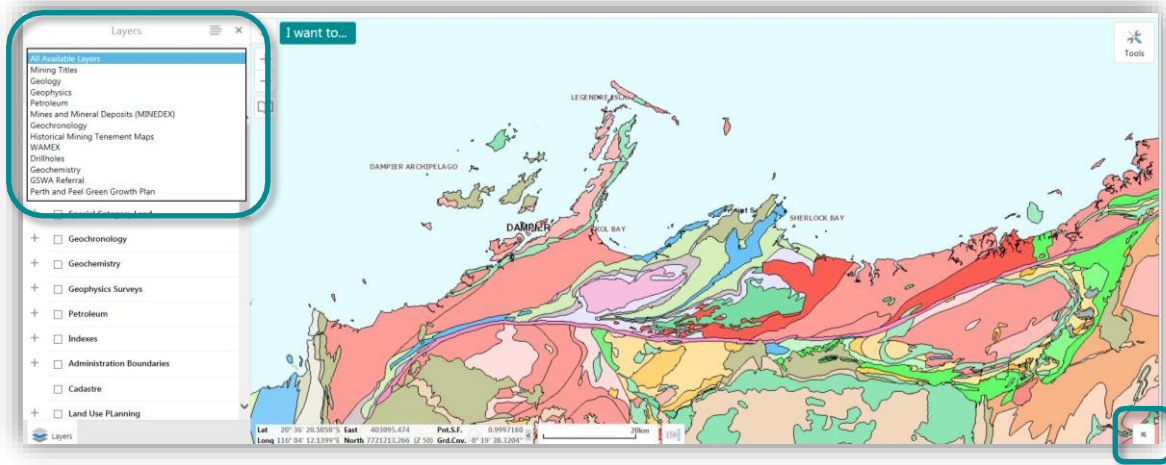


Change Map Layer

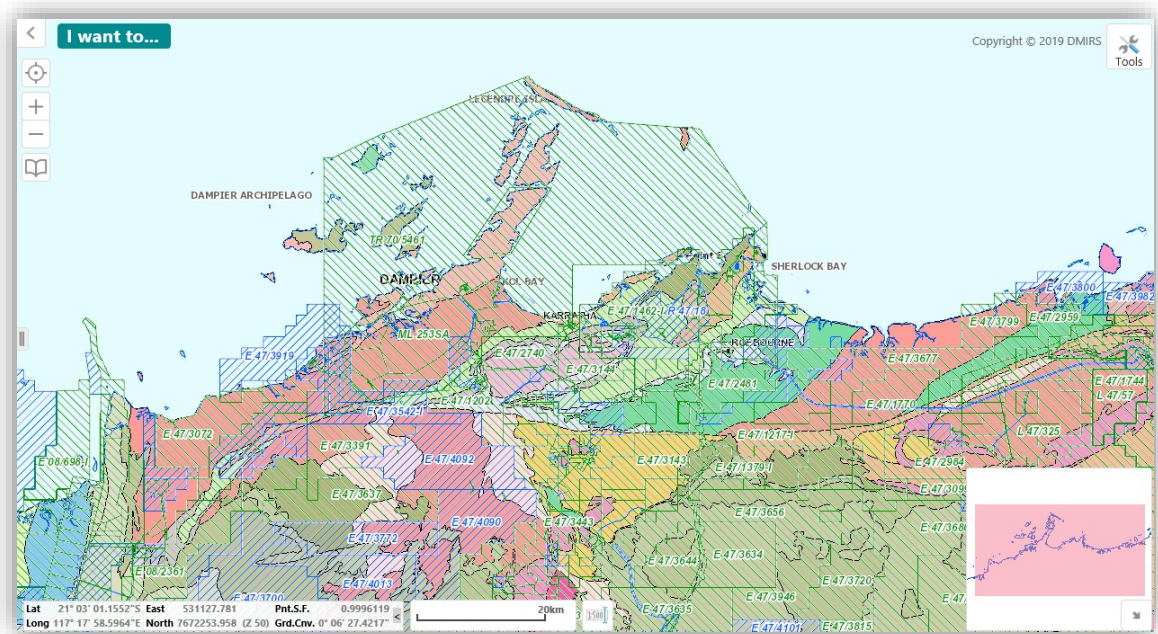
You can also change what you see by switching different layers on or off, or in some maps, by choosing a Layer Theme, which contains only specific layers, for example, only Live Tenements, Towns and Geology.

Orientation

When you are zooming in and out, and moving around on a web-based map, it is easy to lose track of where you are. If this happens, you can click the small arrow  in the bottom right corner of the map to open the Overview map, which shows the current view as a pink square on the map.



Show a Layer Theme of Mining Titles




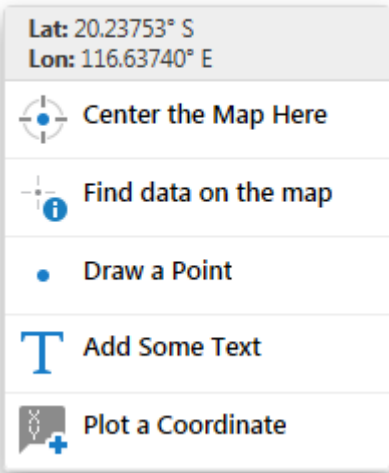


Overview Map displayed

Navigate Around the Map

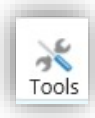
Interactive maps provide many choices for displaying information, searching for more details, and moving around the map. Most navigation uses the mouse but at times you also use a combination of key presses in combination with scrolling using the mouse wheel or dragging across the map.

On the desktop map, you can use the following controls:

To... ▼	Do this... ▼
Pan or move the map.	Click on the map and drag in any direction.
Pan left or right.	Press the Left - or Right - arrow keys.
Pan up or down.	Press the Up - or Down - arrow keys.
Pan in or out.	Press the Plus + key to zoom in . Press the Minus - key to zoom out .
Zoom in or out. 	Scroll the mouse wheel away from you to zoom in; towards you to zoom out. or Use the Step Zoom: <ul style="list-style-type: none"> Click the Plus + or Minus – then draw a rectangle to zoom in or out on the area of interest.
Zoom in to a specific region on the map.	Press SHIFT and drag a rectangle around the area you want to zoom in to.
Zoom out to a specific region on the map.	Press Control + SHIFT and drag a rectangle around the area you want to zoom out to.
Open/Close the Toolbar. 	Double-click the title bar, or click the Show/Hide the Toolbar button.
Open the context menu.  	Right-click on the map. This menu changes depending on the map and how the application is configured.

About the Toolbar

The toolbar contains many of the tools that you use to move around, zoom in and out, as well as find and manipulate the information that is stored in the map. You can open the Toolbar at any time by clicking the Toolbar button in the top right corner of the map.



Toolbar button

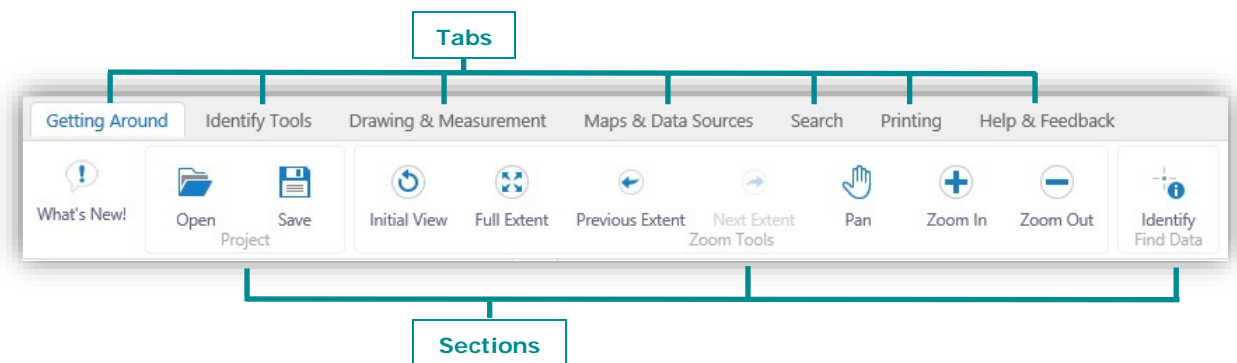
Another way to open or close the toolbar: Simply double-click the **title bar** of GeoVIEW.WA.



Title bar

To make it easier to find a particular tool, the tools are grouped on the toolbar at two levels, 'Tabs' and 'Sections':

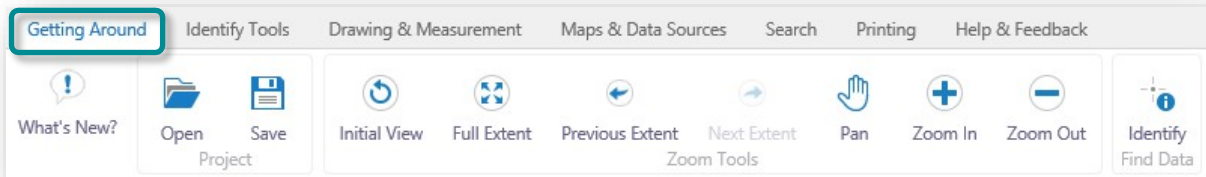
1. Tabs group the tools into high-level functions, for example, **Getting Around**, **Identify Tools**, **Maps & Data Sources** and **Search**.
2. Sections within the Tabs group the tools by function, for example, on the Getting Around tab, there are **Project**, **Zoom Tools** and **Find Data** sections.



Toolbar showing Tabs & Sections

Getting Around Tab












The Getting Around tab of the toolbar contains tools to facilitate navigation. Most of the tools are activated when clicked.



Getting Around tab of the toolbar

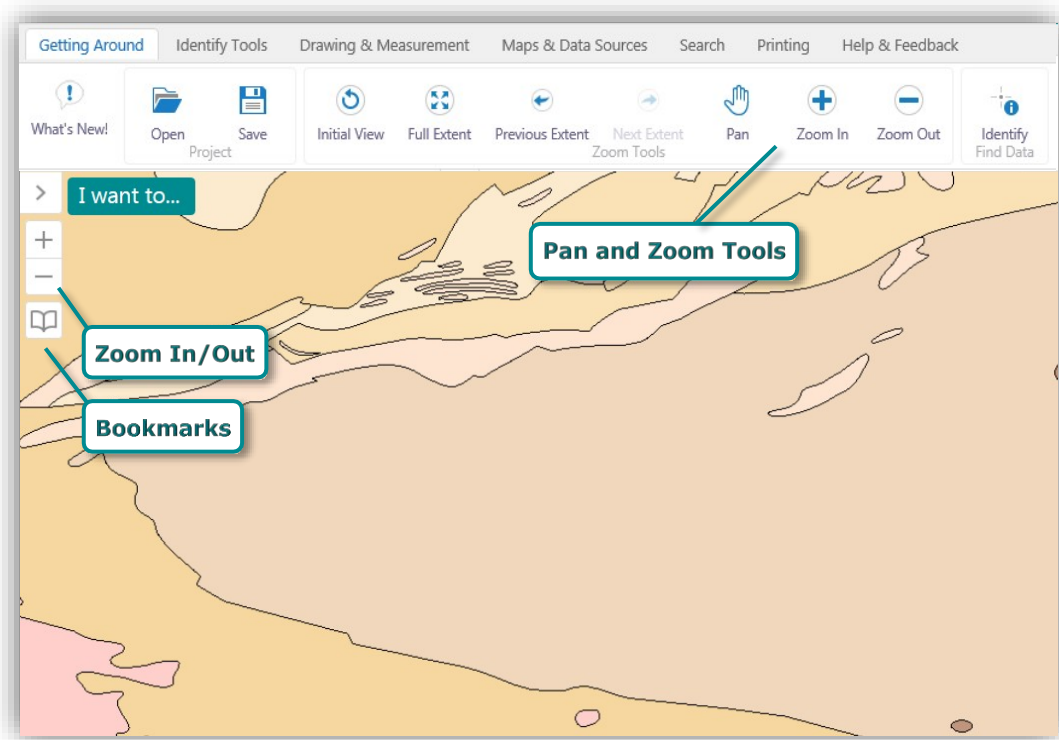
The tools in this tab are grouped into these sections:

- **Project:** Open and Save Projects
- **Zoom Tools:** Tools for jumping to specific extents, panning and zooming.
- **Find Data:** Find information at a particular point clicked on the map.

Use this tool... ▼	To... ▼
 What's New?	Lists the new features and layers added.
 Open	Open a Project File that has previously been saved.
 Save	Save your current configuration to a Project File.
 Initial View	Return to the extent (scale) that the map was at when it opened.
 Full Extent	Show the full extent of the current map.
 Previous Extent	Jump to the previous extent.
 Next Extent	Jump to the next extent.
 Pan	Pan (move) the map in any direction. To pan the map, click on it and drag in any direction. Use the Pan tool to return to panning when you have used other tools.
 Zoom In	Zoom in when you click on the map.
 Zoom Out	Zoom out when you click on the map.
 Identify	Identify information at the point on the map that is clicked.

Use the Pan, Zoom and Bookmark Tools

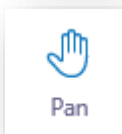
The ability to pan and zoom in and out of the map is a key feature of web maps, so it is not surprising that there are many different ways to do this on the map.



Pan, Zoom and Bookmark tools make it possible to move quickly to specific areas of a map

Pan Tool

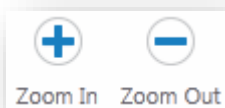
You can use the Pan tool to drag the map in any direction, click and hold the middle mouse button (mouse scroll wheel), or use the arrow keys on the keyboard to move in increments up, down, or sideways.



Zoom Tools

How to use the Zoom In/Out:

- Click the **Plus +** or **Minus -** to zoom in or out on the map.

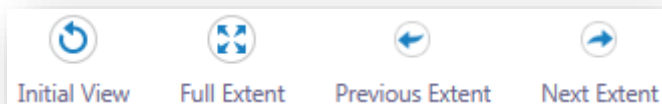


Zoom In and Out

When you click the Zoom In or Out tools, then draw a rectangle on the map face, it zooms to the relevant scale increment and centres the map on the drawn rectangle. Scrolling with a wheel mouse also enables you to zoom in (roll wheel forward) and zoom out (roll wheel backwards)

Initial, Full, Previous and Next Extent Tools

These tools take you to the **Initial** extent that the map was set when you opened it. **Full** extent zooms out to maximum envelope of all datasets. **Previous** extent takes you back to last extent and **Next** extent takes you forward to the next extent in the sequence.



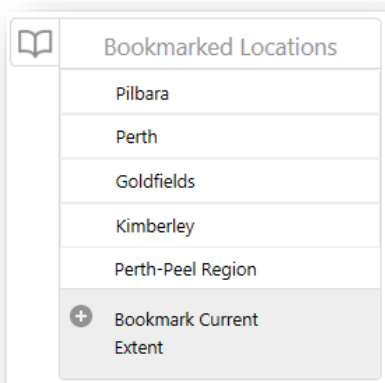
Map Scale Box and Scale Bar

Another method of zooming uses the Map Scale box. The **Map Scale** box shows the current map scale. The **Scale Bar** shows the estimated scale of the map at any given extent.



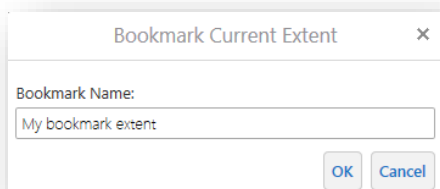
Jump to a Map Bookmark

Another way to move quickly to a given extent and place on the map is to mark it as a bookmark. To do this, you zoom to the point and extent that you want and then click the + beside the **Jump to a map bookmark** tool.



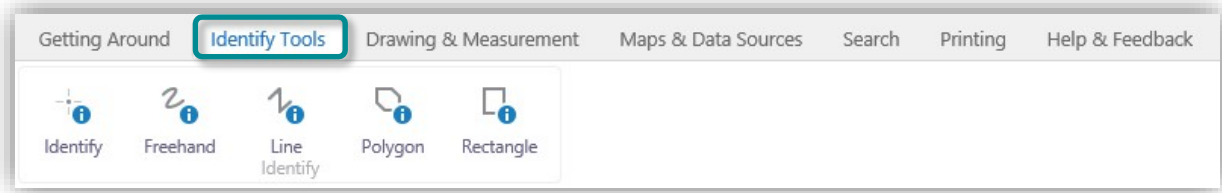
Use bookmarks to jump to a place and an extent

Once you have given the bookmark a descriptive name and clicked **OK**, you can then jump to that feature and extent on the map with one click.














Identify Tools Tab

The Identify Tools tab of the toolbar contains tools to help you find feature information.



Identify Tools tab of the toolbar

Identify: Use several Identify tools to find data by layer, including buffered data.

Use this tool... ▼	To... ▼
 Identify	Identify data at a particular point anywhere on the map. All the features beneath the point you click are listed in the Results List.
 Freehand	Identify features by drawing a line in any direction on the map. All the features that intersect with the line you draw are listed in the Results List.
 Line	Identify features by dragging a line in any direction on the map. All the features that intersect with the line you draw are listed in the Results List.
 Polygon	Identify features by drawing a segmented shape over an area on the map. All the features beneath the shape you draw are listed in the Results List.
 Rectangle	Identify features by drawing a rectangle over an area on the map. All the features beneath the shape you draw are listed in the Results List.
 Enable buffering	Add a measured area around each area you identify.
 Enable Add Results	Turn on to Add items to the existing Results
 Enable Subtract Results	Turn on to Remove items from the Results
 Enable Snapping	Enables you to precisely draw shapes on the map by snapping to the nearest point, vertex or edge of an existing shape.
 Select Snapping Layers	Select layers to snap to.
 Identifiable Layers	Define the layers to include or exclude in the identify process.

Use the Identify Tools

The Identify Tools are really another way to search for information in the layers of the map. Instead of typing a word and clicking search, you define an area on the map by drawing a shape. The application then finds all the information about the layers and features in that area and lists them in the Results List.

On the Getting Around tab of the toolbar, there is one identify tool. On the Identify tab of the toolbar, the Identify tool is also available, along with several more tools for identifying the area you want to search. You can exclude layers from the Identify process and also add an additional buffered area around the area you define.

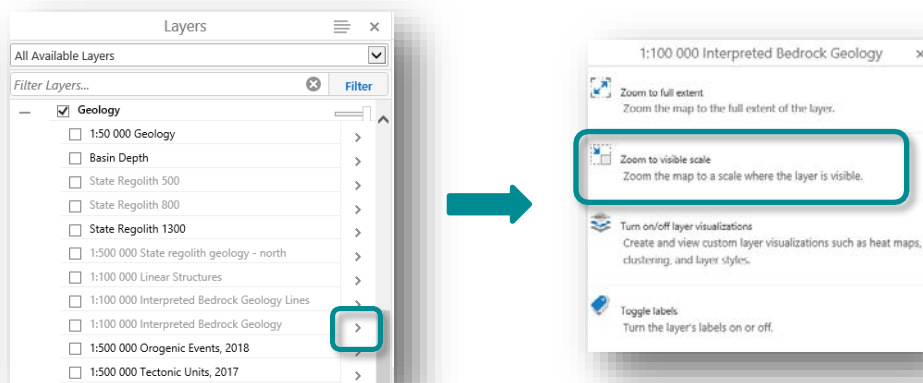
When you use an Identify Tool, it searches multiple layers at the same time. However:

- If a layer is off (not visible), that layer's information will not be included in the Identify process.
- If the layer is not visible at the current scale (text is grey), that layer's information will not be included in the Identify process.

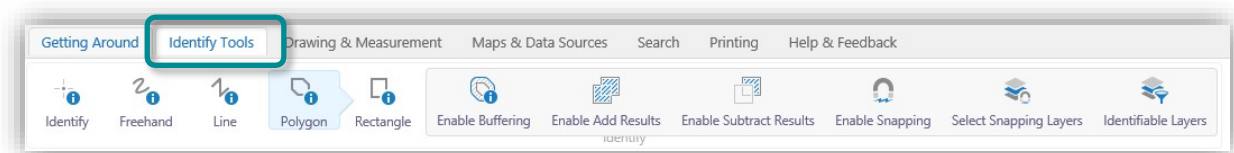
The results of the identify process are displayed in the Results List in the same way that Search Results are displayed. As the application finds features, it begins displaying the results in the Results List immediately. The results are grouped by layer.

To identify features by drawing on the map:

1. If any of the layers you want to include in the search are in grey text, click on that arrow next to the layer name and then click **Zoom To Visible Scale**.

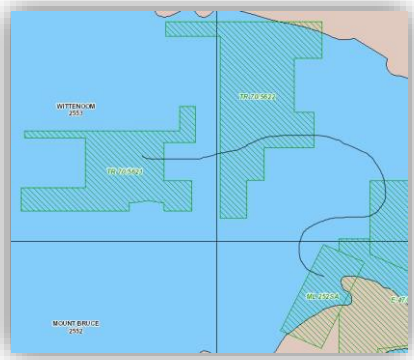


2. Click the **Identify Tools** tab of the toolbar to find the identify tools.



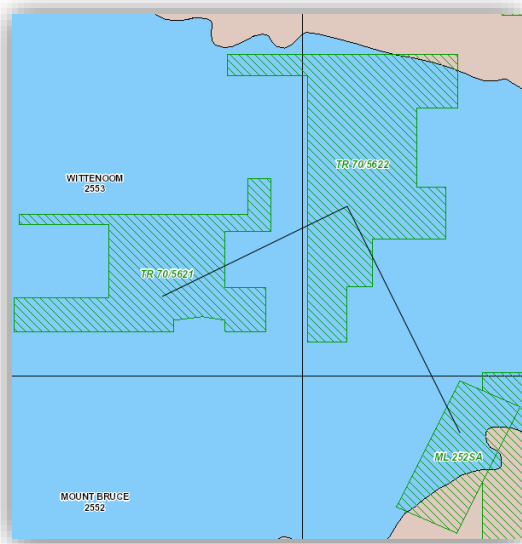
Identify tools on the Identify Tools tab of the toolbar

3. To define an area to identify, do any of the following:
 - Click **Identify**, and then click any point on the map. Any features found at that point on the map are included in the identify process.
 - **Click Freehand Identify**, and then draw in any direction on the map over any features that you want to include in the identify process. When you release the button, the identify process begins, and all the features that intersect the line are included in the identify process.



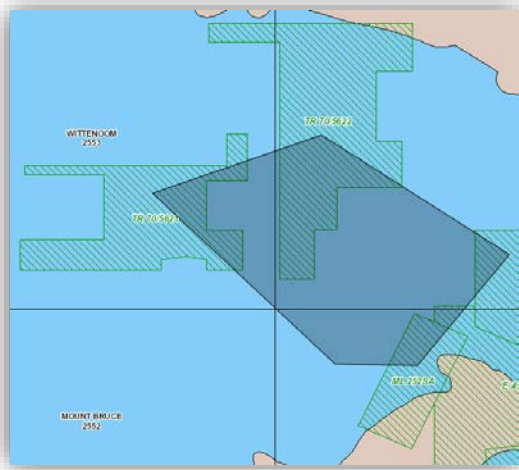
Draw a freehand line to identify features

- Click **Line Identify**, then single click on the map and drag across the map to draw a line. To continue the line but change direction, click the map and then drag in the new direction. To end the line, double-click. All the features that intersect with the line are included in the identify process.



Draw a line to identify features under it.

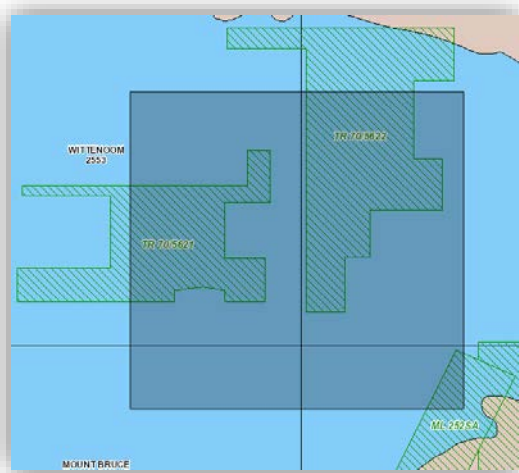
- Click **Polygon Identify**, and then drag across the map to start a polygon. To change direction, click and drag in a new direction. A black shading appears under your cursor to indicate that the polygon is filling in the space of the area. Continue to click until the shading has covered the area you want to include in the identify process. Double-click to end the polygon. You do not have to complete the shape. As long as the shading covers the area, you can double-click and the line will be completed automatically. All the features beneath the shaded area are included in the identify process.



Draw a polygon to identify features under the shaded area

- Click **Rectangle Identify**, and then click on one corner of the area you want to define.

Drag a square away from the corner you clicked. A black shaded square appears under the cursor. When your area is enclosed in the square, lift your finger from the mouse. All the features covered by the rectangle are included in the identify process.



Draw a rectangle to identify features under the shaded area

When features are listed in the Results List, they are grouped by layer:

TENEMENT ID	TYPE	SURVEY STATUS	TENEMENT STATUS	HOLDER COUNT	HOLDER 1
... E 4701449	EXPLORATION LICENCE	UNSURVEYED	LIVE	1	FMG PILBARA PTY LTD
... E 4703741	EXPLORATION LICENCE	UNSURVEYED	LIVE	1	FMG PILBARA PTY LTD
... M 4701531	MINING LEASE	UNSURVEYED	PENDING	1	FMG PILBARA PTY LTD
... E 4703768	EXPLORATION LICENCE	UNSURVEYED	PENDING	1	FMG PILBARA PTY LTD

Identify results listed by layer

Include/exclude layers from the Identify process

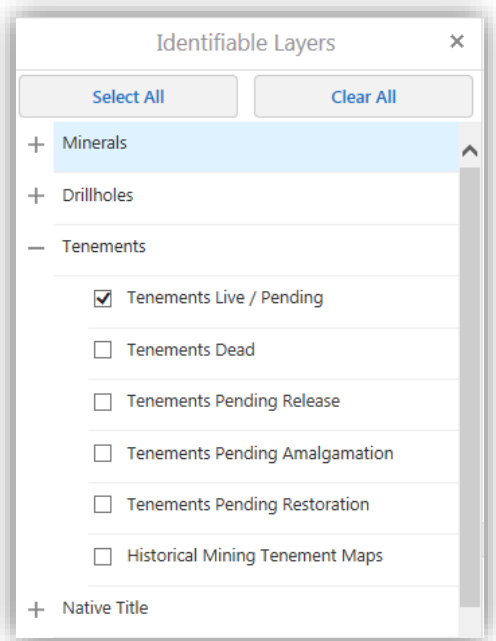
To include/exclude layers from the Identify process:

1. In the Identify Tools tab of the toolbar, click one of the Identify types to display the **IdentifiableLayers** button.



Identifiable Layers Button

2. To exclude a single layer, click the checkbox in front of the layer so that it is no longer selected.



Unticked Layers will be excluded from the identify process

3. To exclude all layers, click **Clear All**, and then select the layers you want to include.

Add a buffer around an identify area

You can add a buffer — a measured area — around any identify area that you draw. You specify the distance from the edge of your area to add as a buffer before you draw on the map.

To add a buffer around an identify drawing:

1. In the Identify Tools tab of the toolbar after selecting an identify type, click the **Enable buffering** button.

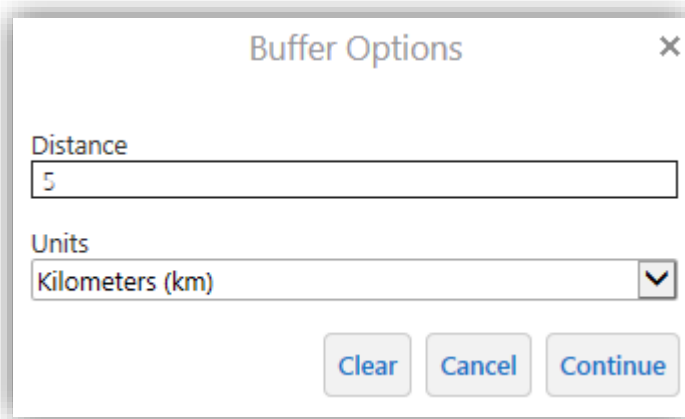


Buffered Identify selected

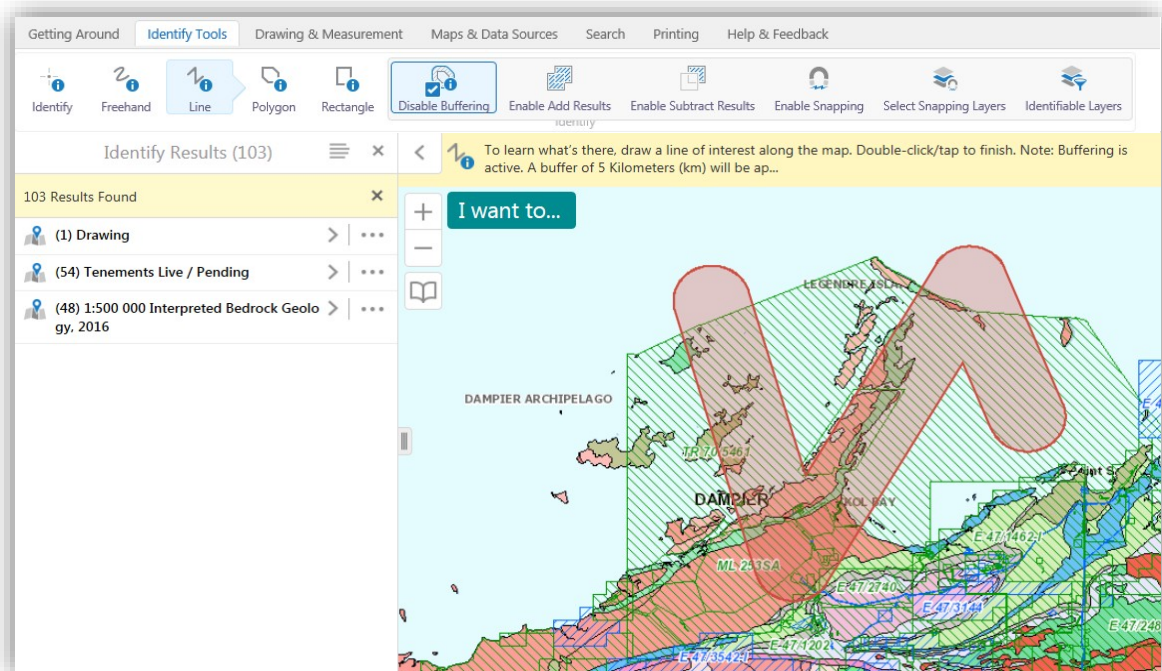
2. Select any of the **Identify** tools and draw over the area you want to identify. The Buffer Options dialog box opens.

3. Do any of the following:

- **Distance:** Type in the distance from the edge of your drawing to the edge of the buffer.
- **Unit drop-down list:** Specify the distance measurement in Feet, Yards, Meters, Kilometres, Miles or Nautical miles.



Entering options for a buffered identify



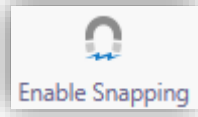
Results of a buffered identify ('V' shape)

Snapping in the Identify process

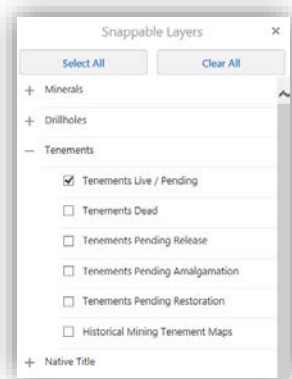
When enabled, snapping allows you to precisely draw shapes on the map by snapping to the nearest point, vertex or edge of an existing shape within a configurable radius around the mouse pointer. Layers affected by snapping can also be selected.

Enable Snapping:

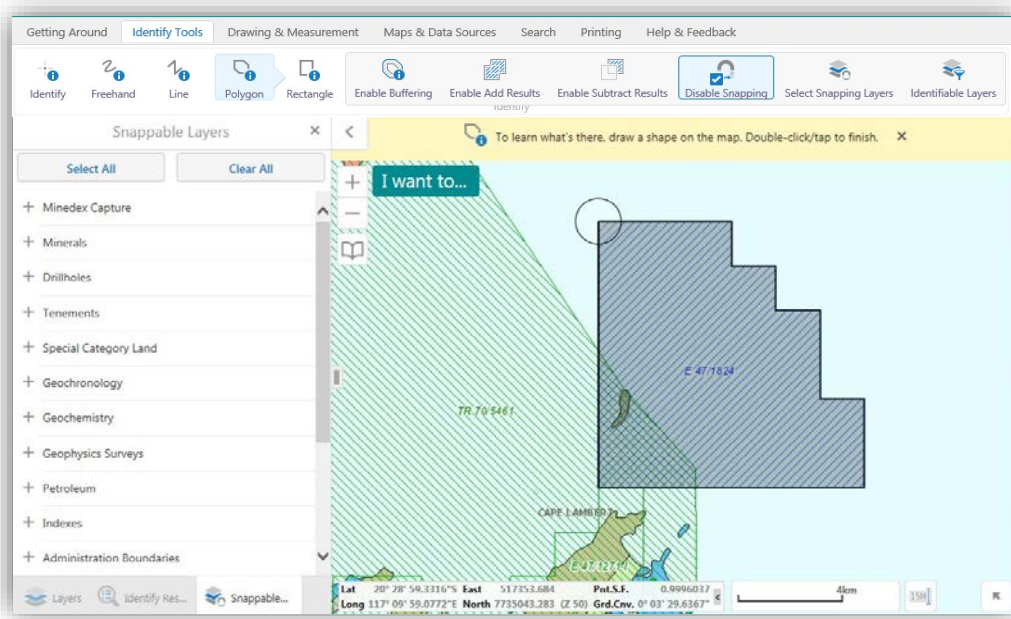
1. Enable or disable snapping by either clicking the **Enable Snapping** toggle button, or pressing the keyboard shortcut **F**.



2. Click on Select Snapping Layers to choose which layers will participate in the snapping function.



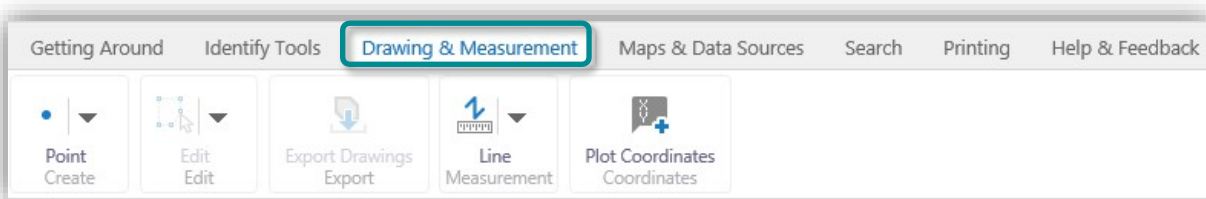
3. Start drawing with the selected identify tool with snapping enabled. The snapping feature snaps to the nearest point, vertex or edge to the mouse pointer in that order. For example, if snapping is enabled and a point feature, a vertex, and an edge are similarly near the mouse pointer, the application will snap to the point feature. Similarly, if there is only a vertex and an edge near the mouse pointer, the application will snap to the vertex.



Snapping enabled on Polygon Identify Tool

Drawing & Measurement Tab

The Drawing & Measurement tab of the toolbar contains tools for drawing and annotating the map as well as measuring area and distances.











Drawing & Measurement tab of the toolbar



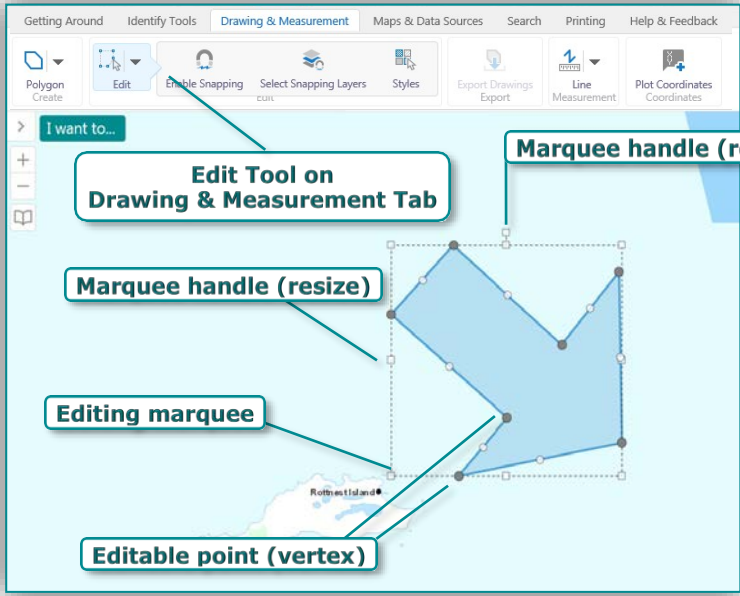





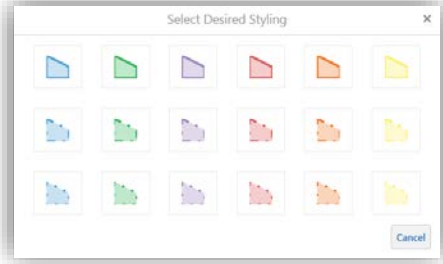
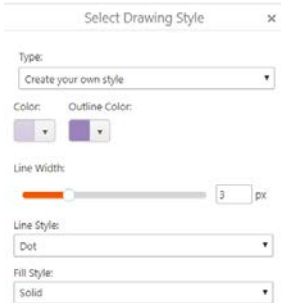
The tools in this tab are grouped into these sections:

- **Create/Edit:** Drawing and annotation tools to create shapes and text. Editing tools to erase, clear and edit drawings.
- **Export Drawings:** Export all drawings from map to shapefiles.
- **Coordinate Tools:** Enter and plot coordinates in a variety of coordinate systems.
- **Measure Tools:** Measure distances or areas that you draw on the map.

Drawing Tools

Provide tools for creating, formatting, and editing annotations to the map, including shapes and text. Some tools in this section are active only when an annotation on the map exists and is selected.

Use this tool... ▼	To... ▼
 Point	Draw a point on the map.
 Text	Add text to the map. Click on the map and type the text.
 Line	Draw a straight line or click to change the line and draw in a new direction.
 Freehand	Draw freely on the map in any direction to create a line.
 Freehand Shape	Draw freely on the map in any direction to create a shape.
 Ellipse	Draw an ellipse on the map.
 Circle	Draw a circle on the map. Drag into the centre or outwards to change the size of the circle.
 Rectangle	Draw a rectangle on the map. Click and drag across the map.

Use this tool... ▼	To... ▼
 Polygon	Draw a polygon on the map, clicking to change direction. Double-click to stop drawing.
 Edit	Edit the points of a drawing on the map. When you click on the drawing you want to edit, the points activate and you can then drag any of the points in any direction to change the shape of your drawing. You can also rotate the drawing by clicking and dragging the square above the marquee in the middle of the graphic.
	
 Erase	Remove drawings from the map one at a time by clicking on each one.
 Clear	Clear all the drawings on the map at the same time.
 Enable Snapping	Enables you to precisely draw shapes on the map by snapping to the nearest point, vertex or edge of an existing shape.
 Select Snapping Layers	Select layers to snap to.
 Styles	Choose from the grid or customize (button bottom right corner of panel) to select desired styling. Then click on map to add the shape. <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="459 1715 903 1977">  <p>Grid Options</p> </div> <div data-bbox="1023 1688 1305 1989">  <p>Customize Options</p> </div> </div>

Edit a Drawing

You can edit drawings on the map in several ways:

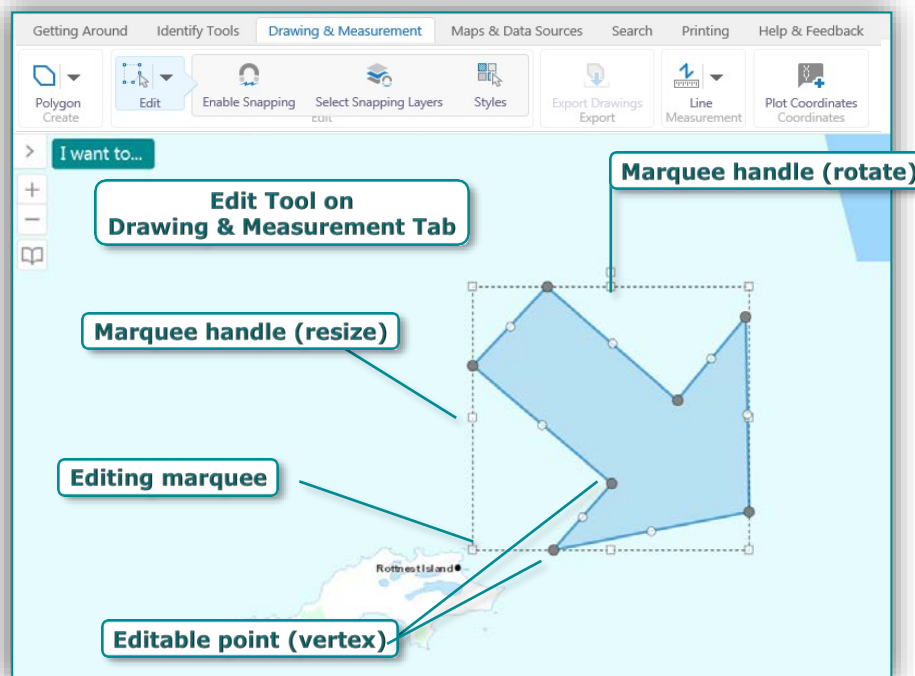
- Rotate the whole drawing or drag it to a new position on the map.
- Resize or reshape the whole drawing.
- Drag individual point (vertices) of the drawing to a new position.
- Erase one or all the drawings on the map.

You need to click on the drawing to save any changes you make.

To edit a drawing:

1. On the **Drawing & Measurement Tools** tab of the toolbar, click the **Edit** tool, and then click the drawing you want to edit.

A marquee surrounds the drawing with small squares showing all the points (vertices) that you can edit.

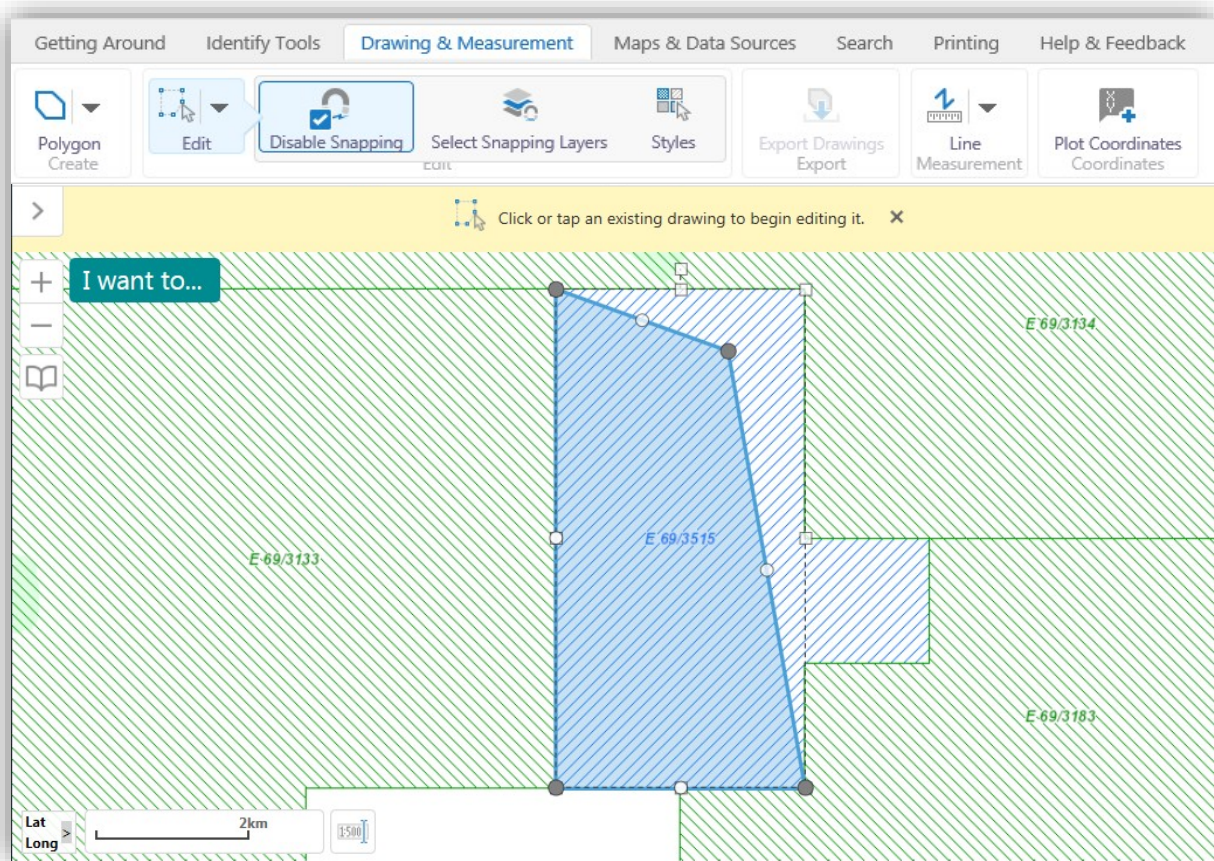


Edit drawing components

2. To change the shape of the drawing, drag any of the points to a new position.

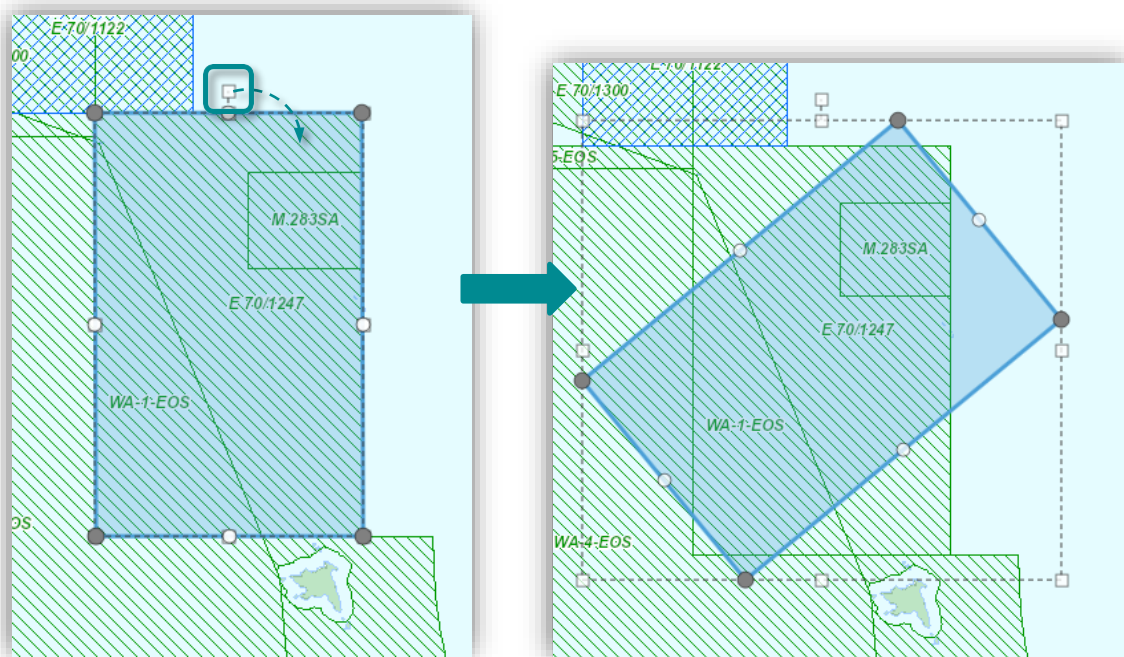
As you drag and hold the left mouse button, a dotted line will provide a preview of any adjustments until the button is released. When the left mouse button is released the reshaping of the drawing will complete.

While the drawing is in edit mode, you can also use the keyboard arrows to move, press **R** to rotate, **S** to scale, **V** to select vertex (highlighted in blue). Combine with the **ALT** key for finer control and adjustment. Combine with the **Shift** key to reverse the action.



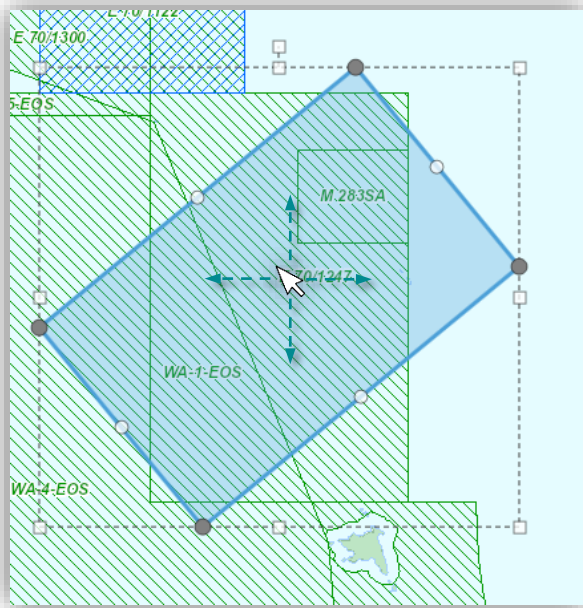
Change the shape by dragging individual points

- To rotate the whole drawing, click the white handle above the marquee and drag it left or right to start rotation. Pressing the **R** key will also rotate in step increments. Hold **Shift** to reverse direction and **ALT** for finer control.





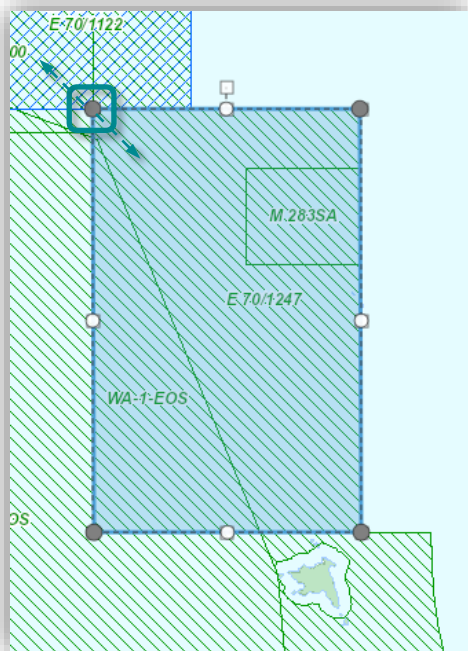
Rotating the drawing

- To move the whole drawing without changing its shape, place your cursor inside the drawing and drag it to the new position.



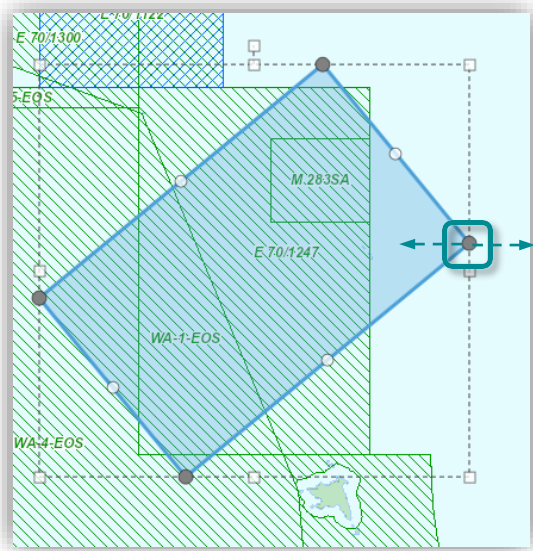
Moving drawing by clicking and dragging in any direction

- To resize or reshape the drawing, click the corner handle of the marquee and drag in any direction. Ensure mouse pointer displays as a double arrow  otherwise a hand icon  may appear which would result in a vertex move. Alternatively, press the **S** key to scale the shape incrementally. Hold **Shift** to reverse and **ALT** for finer control.





Resizing or reshaping the drawing

- To constrain the drawing to resize along a single axis, click the handle on one side of the marquee (double arrows will appear) and then drag the marquee outwards or inwards on that axis.



Resize along one axis

7. To save your changes, click anywhere on the map.
8. To remove a drawing, click the **Erase** tool  on the **Edit Drawing** drop down list and then click on any part of a drawing.
9. To remove all drawings on a map, click **Clear**  on the **Edit Drawing** drop down list

Export Drawings

On the Drawing & Measurement tab of the Toolbar, the Export Tools section contains a tool that allows you to extract the markup layer and creates an Export.zip file containing all of the drawings. This feature is enabled only after markup/Drawings has been added to the map in the viewer. Please **note** that currently, any User text labels added under the Drawing & Measurement tab will not be exported in this version of GeoView.

To export drawings:

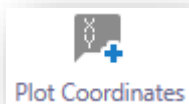
1. On the Drawing and Measurement Toolbar in the Export Tools section, click the Export Drawing tool
2. Accept the confirmation dialog box
3. Once accepted, the Export.zip file is saved to the user's device in the default download folder

Work with Coordinates

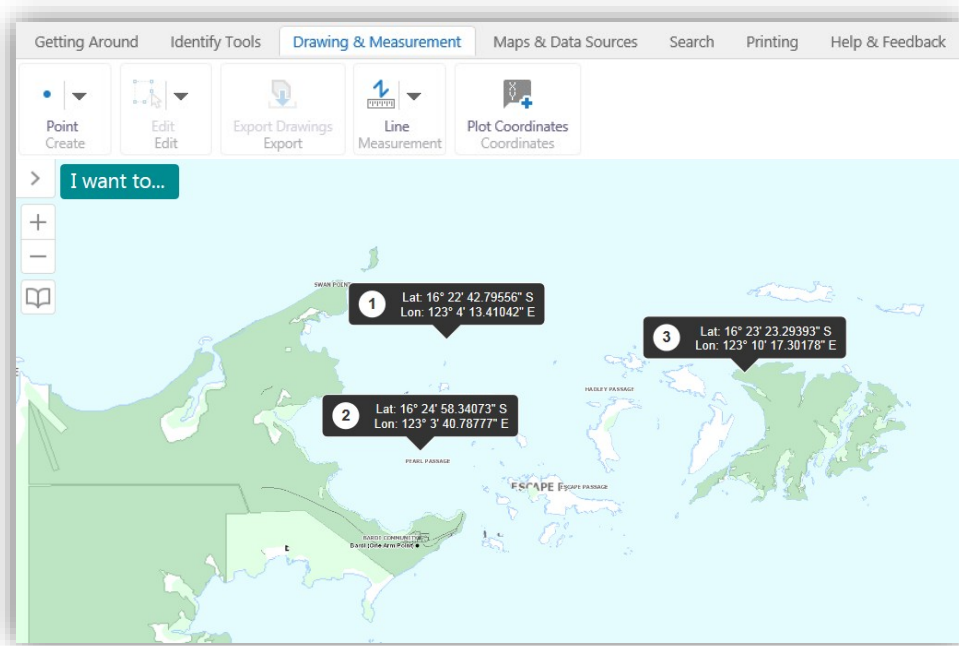
On the Drawing & Measurement tab of the Toolbar, the Coordinate Tools section contains a tool that allows you to plot coordinates using different coordinate systems. You can select the coordinate system you want to use from the drop-down list, and enter coordinates manually to find them on the map. You can simultaneously add coordinates to the map, or pan to that location on the map. You can plot a series of coordinates on the map and they appear as callouts, which can then be printed. If you then change the coordinate system, all the callouts on the map change to display the coordinates in the notation of the new coordinate system.

To plot coordinates on the map:



1. On the Drawing and Measurement Toolbar in the Coordinates Tools section, click the **Plot Coordinates** tool.

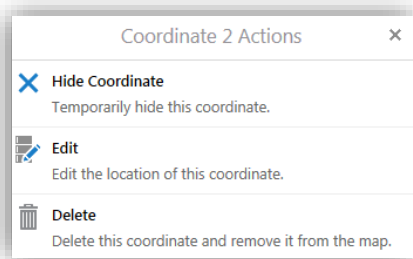


2. Click anywhere on the map to insert a callout of the coordinates at that point.



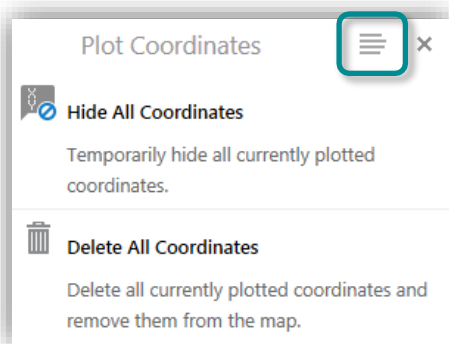
Coordinates plotted on the map

- To delete a callout, click the **Erase** button . Alternatively, click the three ellipses button  beside the list of coordinates in the Plot Coordinates information panel and choose **Delete**.



Coordinate Actions

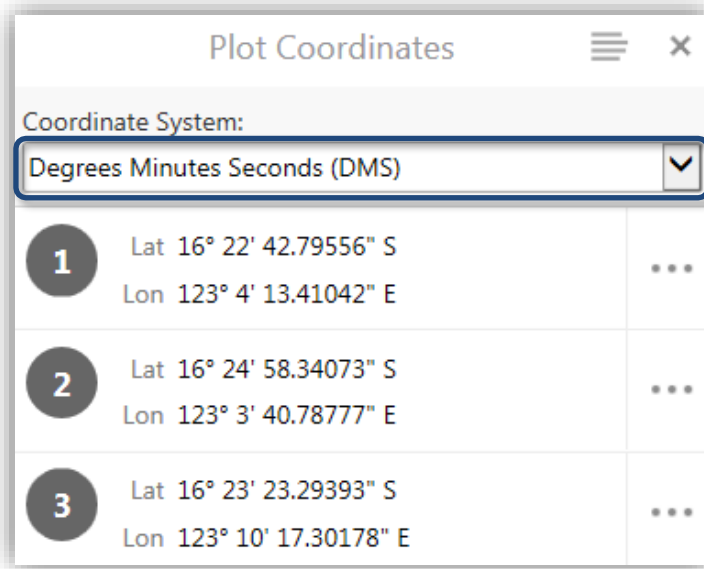
- Clicking the Panel Actions Menu provides options to temporarily hide all currently plotted coordinates or delete all coordinates from the map (similar to the Clear button).



Display Panel Actions Menu for Plotting Coordinates

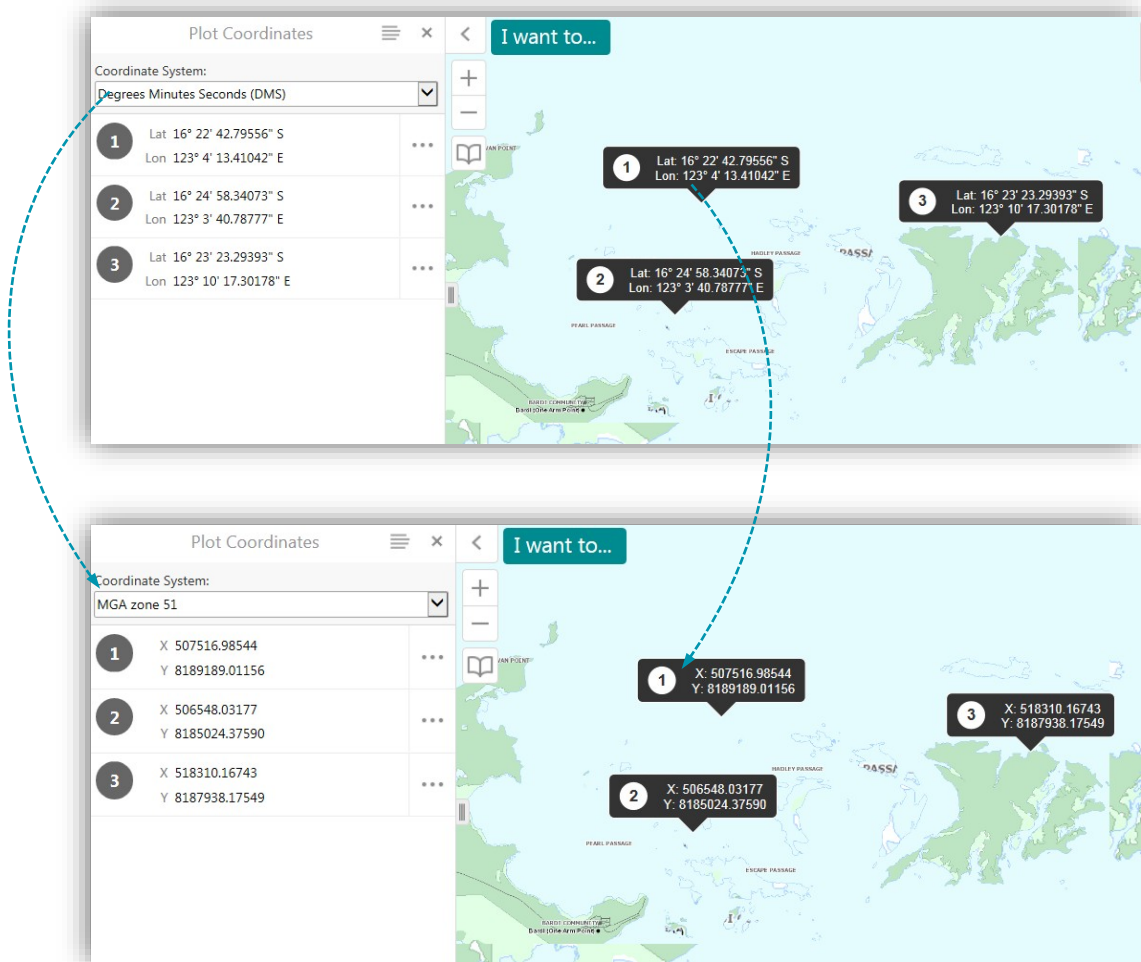
To change the coordinate system of plotted coordinates:

1. On the Information Panel, click the **Coordinate System** drop-down arrow.



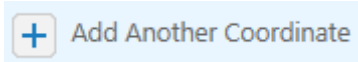
Select a new coordinate system from the list.

The callouts plotted on the map change to the notation of the new system.



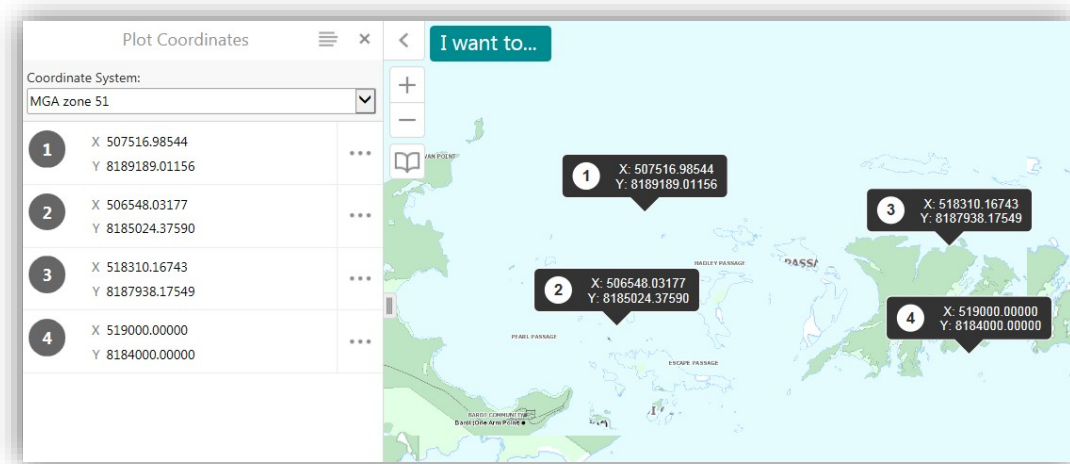
To enter coordinates manually:

1. In the Information Panel, click **Add Another Coordinate**
2. Manually enter the coordinates in the dialog box and click **Add**.



4

X	<input type="text" value="519000"/>
Y	<input type="text" value="8184000"/>












Results of manually adding coordinates

Measure Distance and Area on the Map

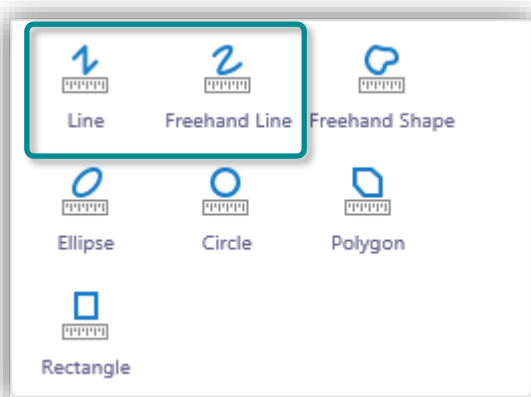
The measurement tools add measurements in increments as you draw on the map so that you have the distance for each segment as well as the overall distance or area. You can change the unit of measurement used for the Total Distance, Last Segment, Perimeter, and Area.

Measure Tools

Use this tool... ▼	To... ▼
	Measure a straight Line , click on the map to change the line and draw in a new direction. The measurement tool adds line measurements in increments.
	Measure distances drawn freely on the map.
	Measure the area and perimeter of a shape freely drawn on the map.
	Measure the area and perimeter of an Ellipse on the map.
	Measure the area and circumference of a Circle drawn on the map.
	Measure the sides, perimeter and area of a Polygon on the map.
	Measure the sides, perimeter and area of a Rectangle on the map.
<input type="text" value="Meters (m)"/> ▼ <input type="text" value="Meter² (m²)"/> ▼	Change the unit of measurement on a drawing to other options like Yards, Meters, Nautical Miles etc.
 Enable Snapping	Enables you to precisely measure on the map by snapping to the nearest point, vertex or edge of an existing shape.
 Select Snapping Layers	Select layers to snap to.

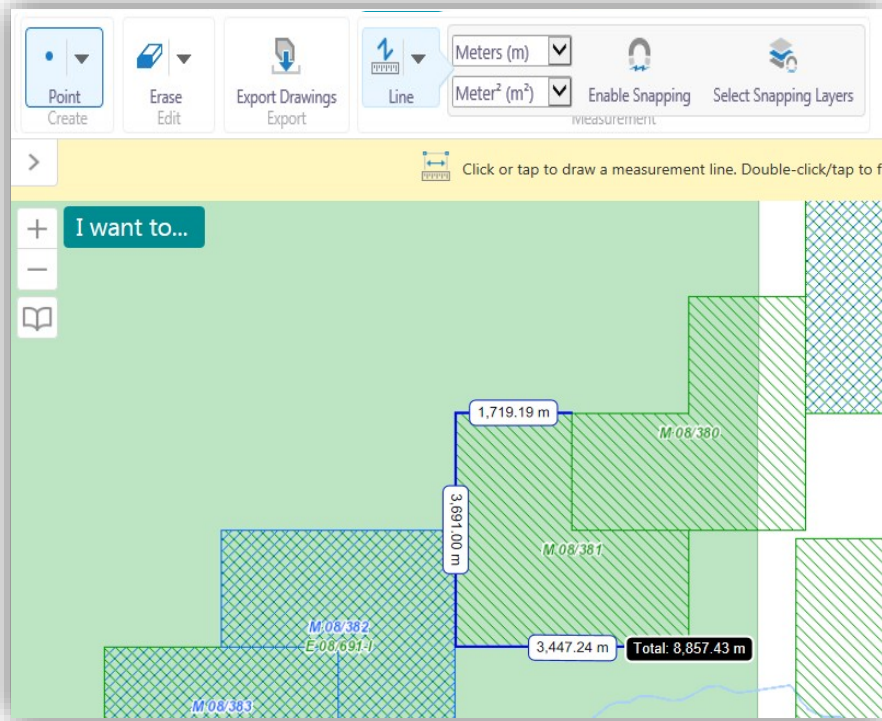
To measure distance on the map:

1. On the Drawing & Measurement Tools tab of the toolbar in the Measure section, click the **Line** or **Freehand Line** tool, and then click on the map at the start of the distance you want to measure.





2. Drag a line and click each time you want to change direction or to create a measured segment. Double click to finish.

Whenever you click, the distance of the previous segment appears on the blue line in a white box and the total distance covered in the black Total Distance box.

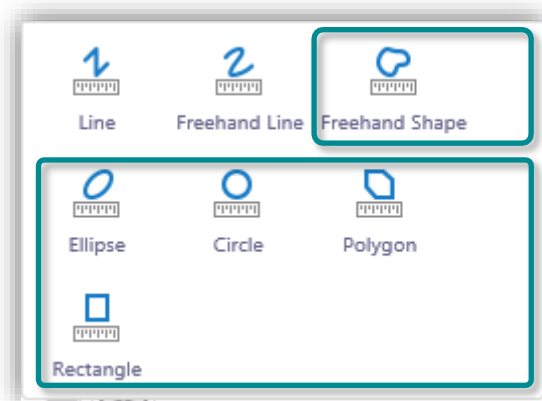


Measurement showing segment and total distances

3. To remove a measurement, click the **Erase** tool  on the Edit Drawing drop down list and then click on the measurement to be removed.
4. To remove all measurements and drawings on the map, click **Clear**  on the **Edit Drawing** drop down list.

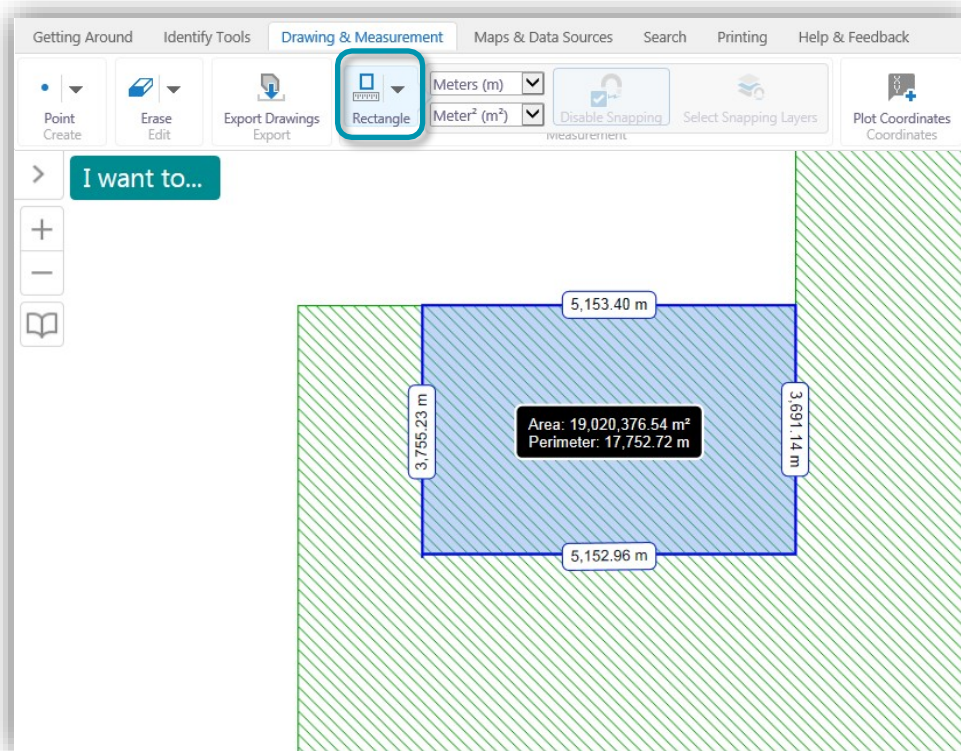
To measure area on the map:

1. On the Drawing & Measurement Tools tab of the toolbar in the Measure section, click the **Area** tool, and then click on the map at the edge of the area you want to measure.





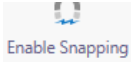
2. Drag a line and click each time you want to change direction or create a measured segment of the perimeter. Double click to close the area measurement shape.

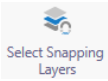
Each time you click, the length of the previous segment appears on the blue line in a white box and the total area and perimeter are displayed in the black Totals box in the centre of the area shape.

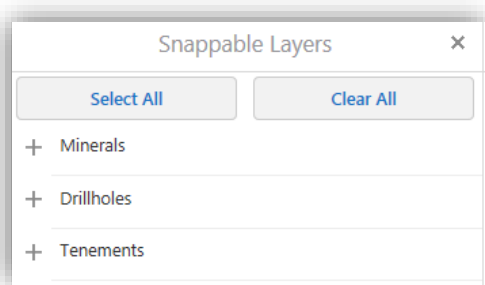


Measurement showing segment lengths, perimeter total and area total

- To remove a measurement, click the **Erase** tool  on the Edit Drawing drop down list and then click on the measurement to be removed.
- To remove all measurements and drawings on the map, click **Clear**  on the **Edit Drawing** drop down list.

To enable snapping select the enable snapping tool  and select layers to snap to by clicking on the

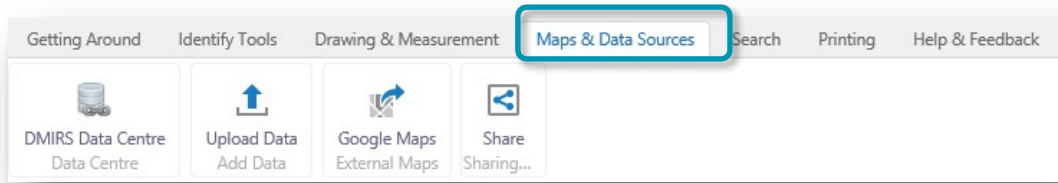
Select Snapping Layers . Use the Snappable Layers dialog box in the information panel to select or clear layers.



Snappable Layers Selection in Information Panel

Maps & Data Sources Tab





The Maps & Data Sources tab of the toolbar contains tools to control what data is displayed in the map.



Maps and Data Sources tab of the toolbar

The tools in this tab are grouped into these sections:

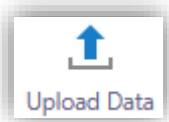
- **Data Centre:** Link to the Departments [Data and Software Centre](#) for downloading statewide and regional spatial datasets relating to geology, mining and petroleum titles and other geoscience datasets.
- **Add Data:** Add different types of data to the map.
- **External Maps:** Open current location in Google Maps.
- **Sharing:** Share current map with others.

Use this tool... ▼	To... ▼
 DMIRS Data Centre	Link to the Department of Mines, Industry Regulation and Safety – Data and Software Centre .
 Upload Data	Add different types of data to the map. Supported files types are as follows: Supported file types include <i>.csv, .xlsx, .kml, .shp, .gpx, or a .zip containing an ESRI FileGDB or shapefiles</i>
 Google Maps	Open current location in Google Maps.
 Share	Share current map extent and layers turned on with others.

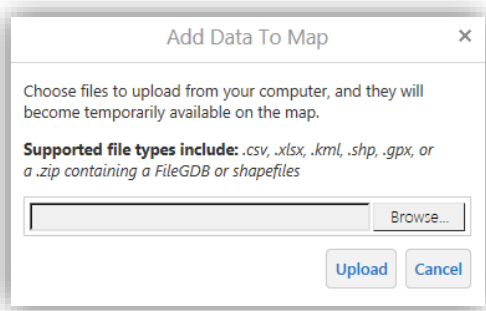
Upload Data

To add a shapefile or any of the other supported file types to a map:

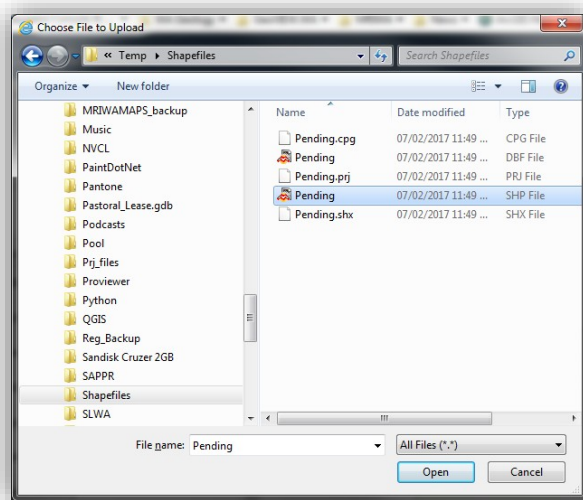
1. On the toolbar, click **Upload Data**.



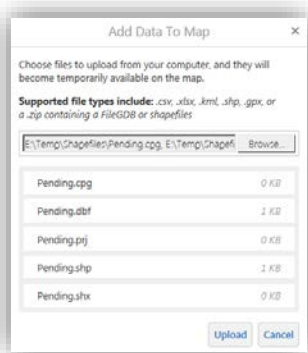
The Add Data to Map dialog prompts you to browse to the location of any of the supported file types *.csv, .xlsx, .kml, .shp, .gpx, or a .zip containing an ESRI FileGDB or shapefiles*).



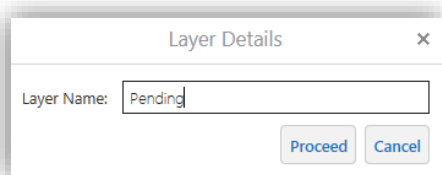
2. Click **Browse** and navigate to the location of the supported file type. In the following example a Shapefile will be used.
3. In the **Open** dialog box, navigate to the shape files, select all the files for that shapefile, and then click **Open**.



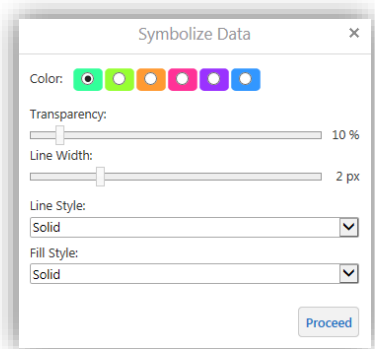
4. The following dialog shows the selected file types. Click **Upload** to add to map.



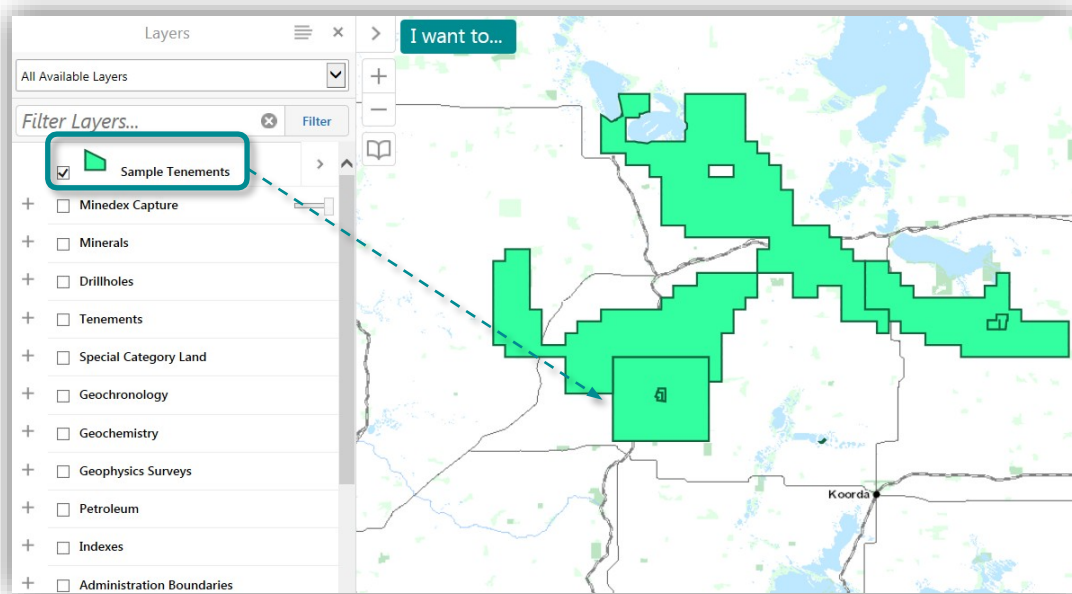
5. A layer name can now be applied, select **Proceed** to continue.



6. Symbology can be customised in the **Symbolize Data** dialog box. Make desired changes and select **Proceed** to continue.



- The Shapefile should appear on top in the Layer List and zoom/pans to location on the map.



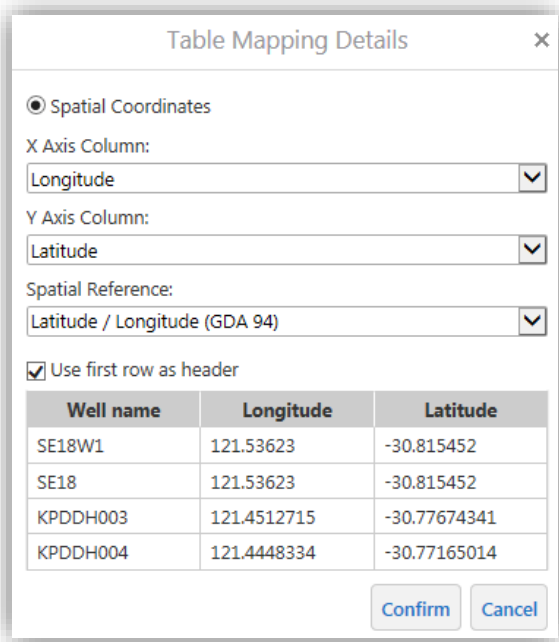
Shapefile added to the map

Add a CSV File

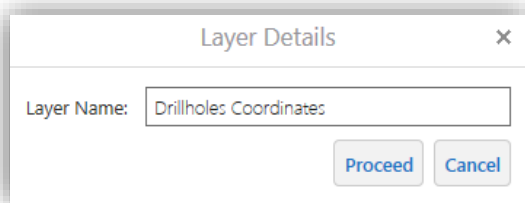
To add a CSV File to the map:

- Follow steps 1-4 as per Uploading a Shapefile but instead, substitute with location of CSV file.
- Select the appropriate X and Y columns and Spatial Reference in the **Table Mapping Details** dialog box.

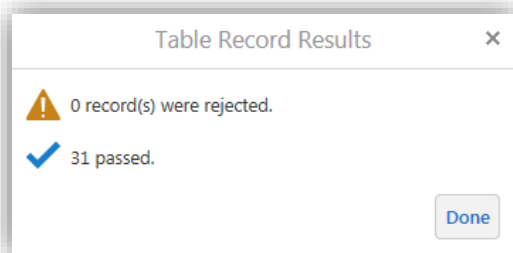
Note: Projected MGA coordinate systems are available for selection in the Spatial Reference drop-down list, select **Confirm** to proceed.



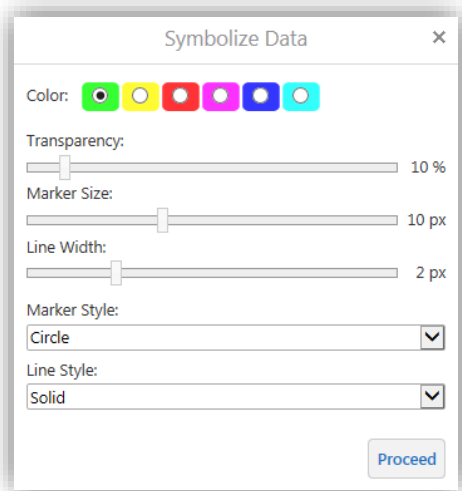
3. A layer name can now be applied in the **Layer Details** dialog box, select **Proceed** to continue.



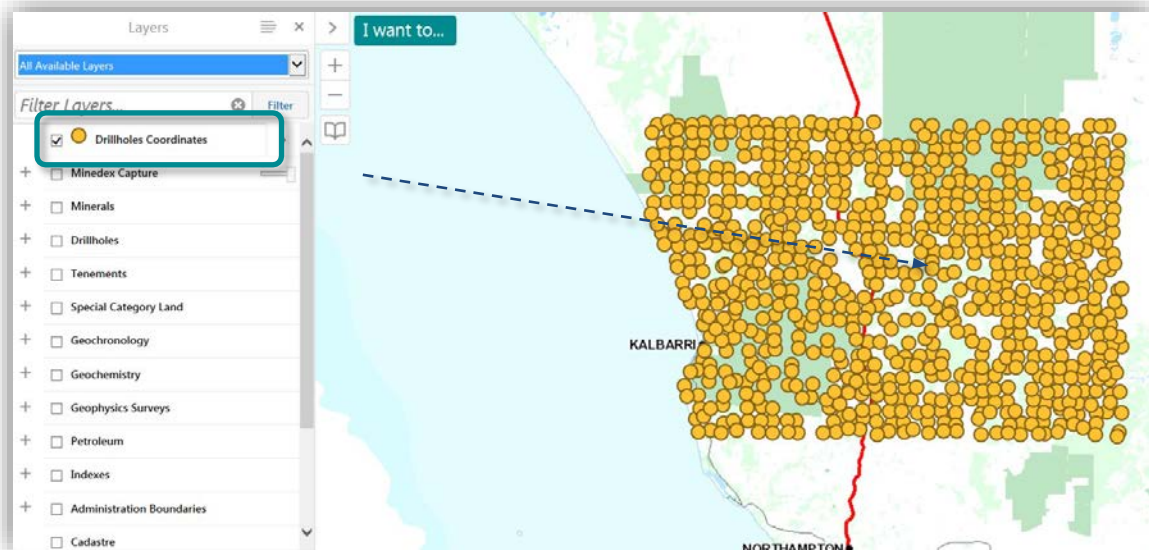
4. A **Table Record Results** dialog box will be presented to display how many records passed and if any were rejected. Select **Done** to proceed.



- Symbology can be customised in the **Symbolize Data** dialog box. Make desired changes and select **Proceed** to finalise CSV data upload.



- The CSV file should appear on top in the Layer List and zoom/pans to location on the map.



CSV file added to the map


Share

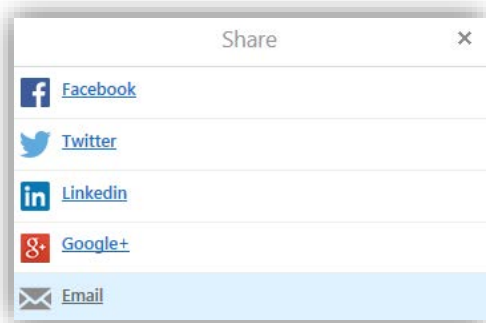
The easiest way to share a map with others is to send the URL of the map you are working with so that they can open the same map in their browser. When you send a URL, the other person can also interact with the map and see all the layers and features that you can see. When you share a map, the following data is visible:

- The current map extent.
- The current visible layers.

To share a map by sending a URL by email:



1. Click the  on the Maps & Data Sources toolbar in the Sharing section.
2. Select **Email** from the Share list dialog box.

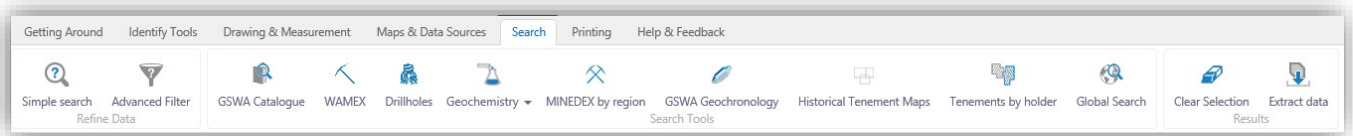


3. A new email will be composed with a URL embedded into the default email client application ready for sending to a recipient
















Search Tab

The Search tab of the toolbar contains tools for querying, extracting and searching map data.



Search Tools tab of the toolbar

Use this tool... ▼	To... ▼
 Simple search	Open the Simple Query Builder in the Information Panel. The Simple Query builder makes it possible to specify a search by layer, field, and values. It is also possible to add multiple conditions to a search.
 Advanced Filter	The Advanced Filter Builder opens in the information panel. The Advanced Filter tool allows the user to <i>exclude</i> data that they are not interested in on a particular layer.
 GSWA Catalogue	Opens a wizard in the information panel so that you can search GSWA's catalogue of publications.
 WAMEX	Opens a specialised form to search the WAMEX database. Searches can be filtered by attributes or spatially.
 Drillholes	Opens a specialised form to search the Drillholes database. Searches can be filtered by attributes or spatially.
 Geochemistry ▼	Opens a specialised form to search the GSWA Geochemistry database or on Company Geochemistry. The searches can be filtered by attributes or spatially.
 GSWA Geochronology	Opens a specialised search tool to find Geochronology sites by map sheets at 1: 100 000, 1: 250 000 or 1: 1 000 000 scales
 MINEDEX by region	Opens a specialised search tool to find Mines, Deposits and Prospects by Local Government Authorities (LGA), State Development Regions, Tenements, Mining Inspectorates or Mineral Fields.
 Historical Tenement Maps	Opens a specialised search tool to spatially find a Historical Tenement map.
 Tenements by holder	Opens a specialised search tool to find Live and Pending Tenements by holder.
 Global Search	Opens the Global Search tool by specifying a keyword.
 Clear Selection	Clears the selection of any queries or searches currently active.

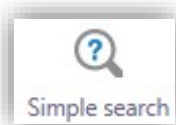
Use this tool... ▼	To... ▼
 Extract data	Opens a wizard in the information panel so that you can first select the layers, then the area, and then the format into which to output the data.

Use the Simple Search

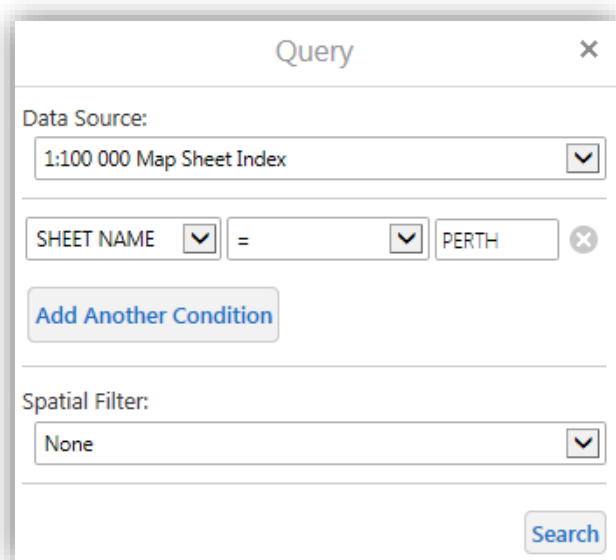
The Simple Search tool makes it possible for you to build complex queries without knowing how to write SQL statements. First you select the layer you want to query, and then you select the records or fields that you wish to query as well as the operator and the value. You can also add multiple conditions to the query. When you run the query, the results display in the Results List like all other searches.


To build a query using the Simple Search tool:

1. On the **Search Tools** tab of the toolbar in the Refine Data section, click **Simple Search**.

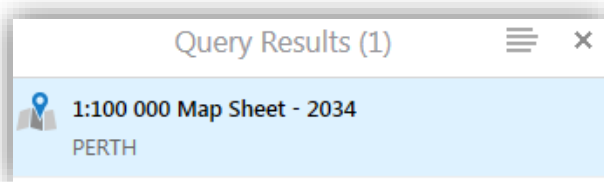


The Simple Search opens in the information panel.



2. From the **Data Source** drop-down list, select the layer that you want to query. For this example select 1:100 000 Map Sheet Index.
3. From the Field drop-down list, select the field that you want to be in the first part of your query statement, for example, **SHEET NAME**.
4. From the Operator drop-down list, select the operator, for example, **Equals**.
5. In the Value field, type in the value you want to query, for example **"PERTH"**. As you type, a list of possible options for this value displays.
6. If you want to make the statement more specific, click **Add Another Condition** and define another set of parameters.
7. To remove a condition, click the **Delete** icon  next to the criteria to remove from the search.

- Click **Search**.
The results of the query display in the Results List panel.

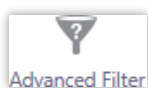


Use the Advanced Filter builder

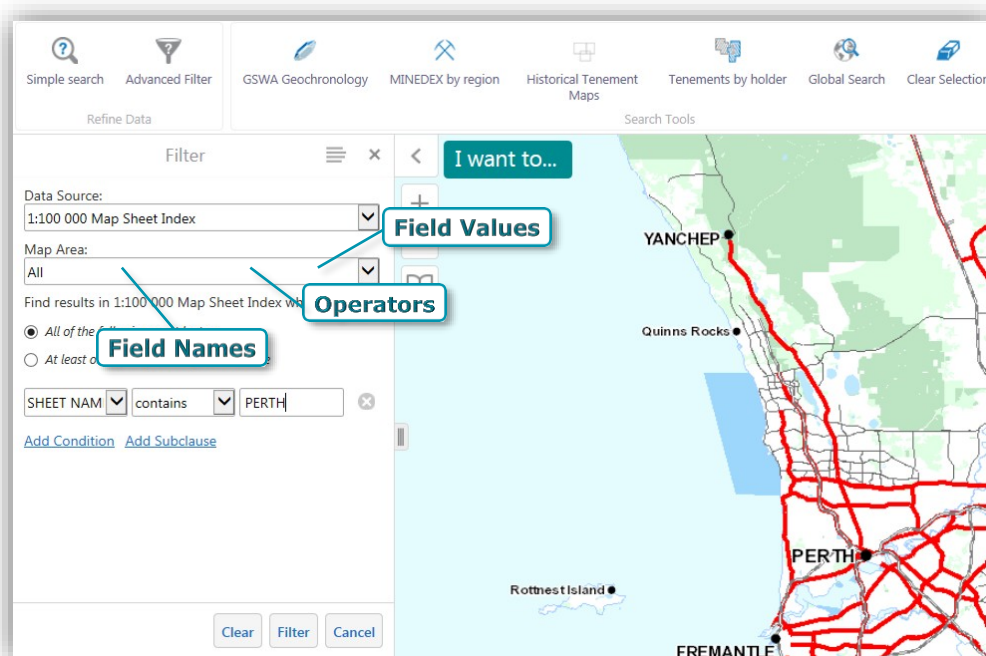
Some maps contain multiple layers and complex data. Sometimes you need to reduce the amount of data in order to focus on what is most important. You can use the Advanced Filter tool to exclude data that you are not interested in on a particular layer.

To build a filter using the Advanced Filter Builder:

- In this example the 1:100 000 map sheet index of the entire state will be filtered to display only the Perth map sheet. Make sure this layer is made visible under the Indexes group of the Layer List.
- On the Search Tools tab of the Toolbar in the Refine Data section, click Advanced Filter.



The Advanced Filter Builder opens in the information panel.

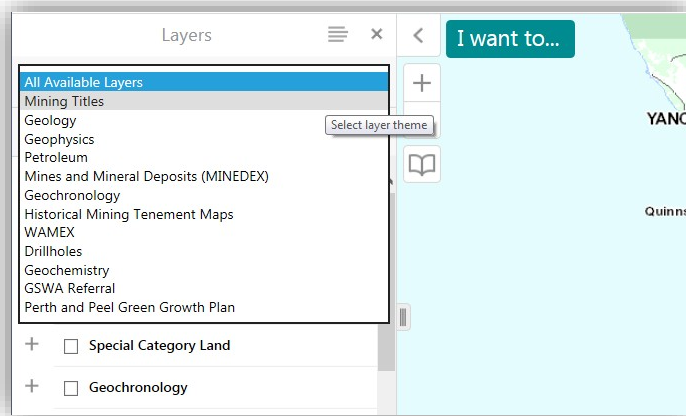


- From the **Data Source** drop-down list, select the **1:100 000 Map Sheet Index**.
- From the **Field Name** drop-down list, select **SHEET NAME** from the list of fields.
- From the **Operators** drop-down list, select "=" (equals).

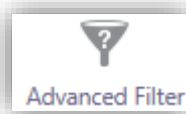
- In the **Field Value** box, start by typing “Per”. The list of values will auto-filter, select **PERTH** when it appears in the list.
- Click **Filter** to display your filter results on the map. You may need to zoom/pan to the Perth area to view the filter. **Hint:** Use the Bookmarks tool to zoom to the Perth map extent.
- If you want to clear the box and start a new filter, click **Clear**.

To build a filter using the Advanced Filter Builder and Spatial Filter:


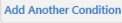
- Select **Mining Titles** from the Layer Themes drop-down list

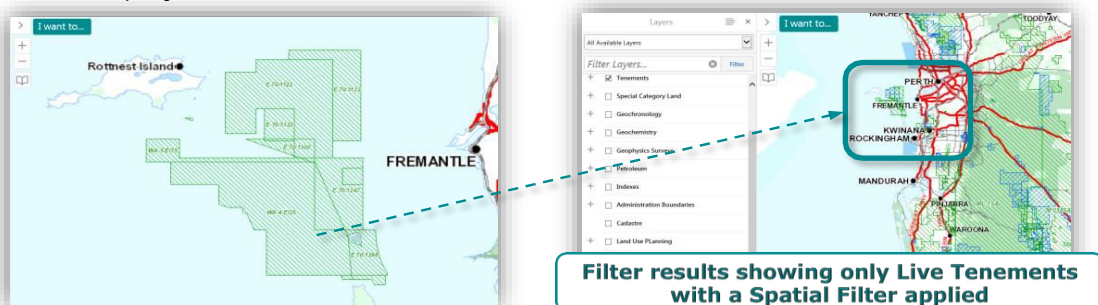


- On the **Search Tools** tab of the Toolbar in the Refine Data section, click **Advanced Filter**.



The Advanced Filter Builder opens in the information panel.

- From the **Data Source** drop-down list, select **Tenements Live/Pending** layer to filter. **Hint:** Press the **T** key to jump down the list quickly to layer names beginning with T.
- From the **Field Name** drop-down list, select **TENEMENT STATUS** to include in the filter. **Hint:** If the information panel is not wide enough, you can resize by dragging the  button to increase/decrease panel size.
- From the **Operators** drop-down list, select “=”.
- In the **Field Value** box, select **Live** or start typing **L** to show the auto-filter value list. If you wish to further refine the query, select the **Add Another Condition**  button.
- Zoom or Pan the map area to a scale you would like to restrict the display of Tenements Live/Pending. For this example you can use the Perth Bookmark.



- From the Spatial Filter drop-down list select **Current Extent**. Select **Filter** to display the filter results or **Clear** to start a new filter.

GSWA Catalogue

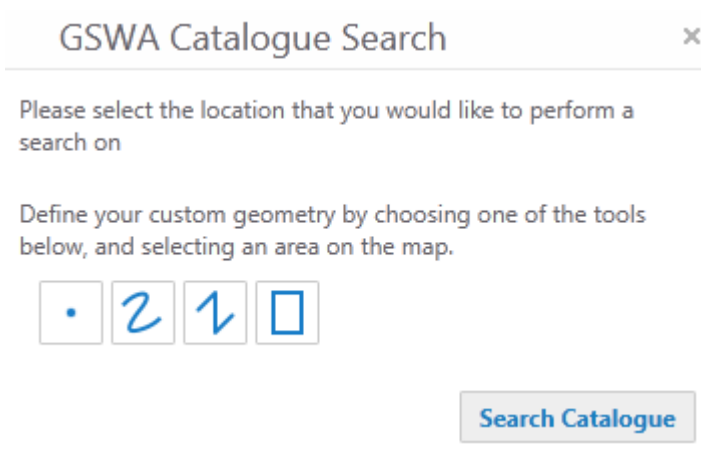
The GSWA Catalogue search tool allows you to find GSWA publications associated with a geographic region in WA. Draw a rectangle over the area of interest and a list of products over lapping that area will be returned. Search results will provide a hyperlink to the GeoDocs Database allowing you to view, print or download the publication.

To search GSWA Catalogue:

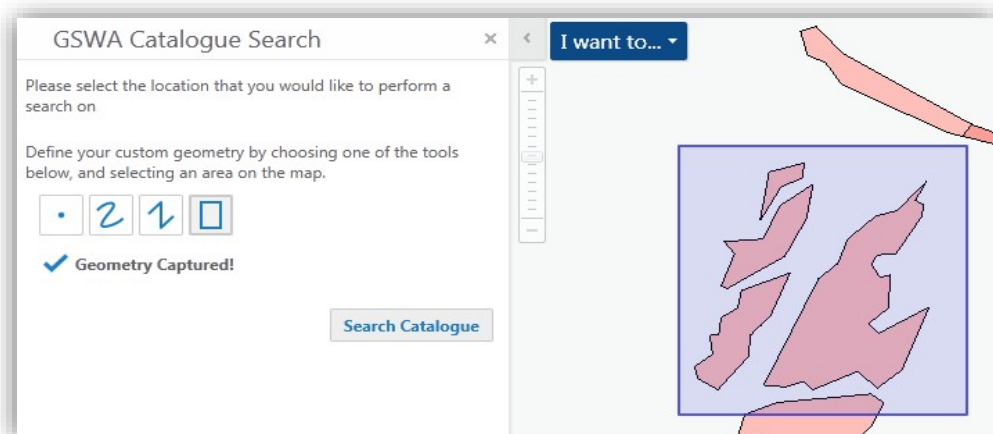
- On the **Search tab** of the toolbar, click **GSWA Catalogue**.



The GSWA Catalogue Search wizard opens in the information panel.

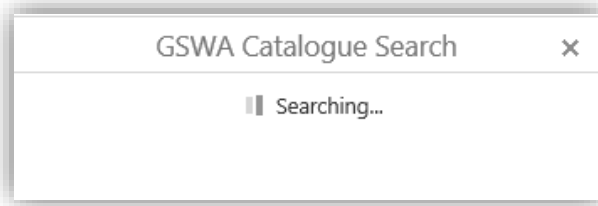


- Select the geometry tool you wish to search with. When you have completed the shape, a **Geometry Captured!** message appears.



Shape completed during the search process

- Click **Search Catalogue** to start the search. The GSWA Catalogue Search Results dialog box should display whilst the query is in progress.



- When the query finishes results will be displayed under the Regional or State tabs. The results can then be exported to a CSV file or MS Excel spreadsheet, copied to the clip board or zoomed to the spatial extent of the selected Product Title.

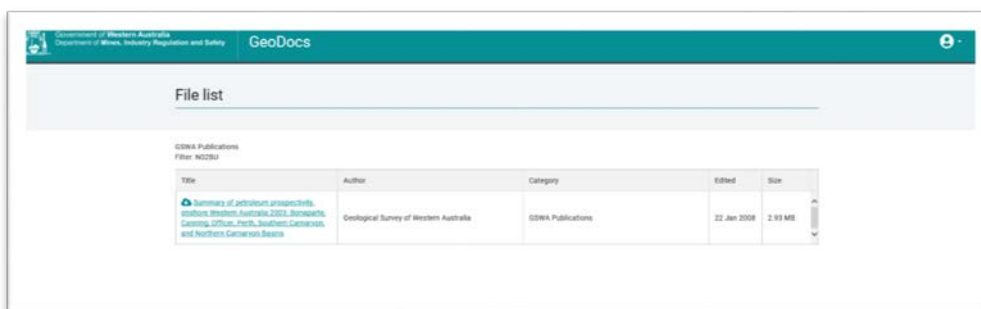
Identify Results (156)

Year Published	Product Title	Authors	Publication Type
2000	Operations and processing methodology used in GSWA regional gravity surveys 1998-1999	Howard, S. H. D., Shevchenko, S.	Record-series publication
2003	Summary of petroleum prospectivity, onshore Western Australia 2003: Bonaparte, Canning, Officer, Pe...	Geological Survey of Western Australia	Non-series book
1996	Merlinleigh Sub-basin: first vertical derivative of total magnetic intensity (colour image)	Iasky, R. P.	Magnetic map
1997	The effectiveness of potential-field data in the structural interpretation of a sedimentary basin	Iasky, RP, Shevchenko, S, Mory, AJ	Article
2007	Mineral occurrences and exploration potential of the Gascoyne area	Hassan, LY	Record-series publication
2011	Programme & Abstracts: The XVII International Congress on the Carboniferous and Permian	Hakansson, E, Trotter, JA	Record-series publication

- Scroll the GSWA Catalogue Search Results to the far right and click on the **Publication Link** to display the document, map or report.

Identify Results (156)

Year Published	Product Title	Authors	Publication Type	Series Number	Publication Link
2000	Operations and processing methodology used in GSWA regional gravity surveys 1998-1999	Howard, S. H. D., Shevchenko, S.	Record-series publication	2000/6	Publication Link
2003	Summary of petroleum prospectivity, onshore Western Australia 2003: Bonaparte, Canning, Officer, Pe...	Geological Survey of Western Australia	Non-series book		Publication Link
1996	Merlinleigh Sub-basin: first vertical derivative of total magnetic intensity (colour image)	Iasky, R. P.	Magnetic map		Publication Link
1997	The effectiveness of potential-field data in the structural interpretation of a sedimentary basin	Iasky, RP, Shevchenko, S, Mory, AJ	Article		Publication Link
2007	Mineral occurrences and exploration potential of the Gascoyne area	Hassan, LY	Record-series publication	2007/17	Publication Link
2011	Programme & Abstracts: The XVII International Congress on the Carboniferous and Permian	Hakansson, E, Trotter, JA	Record-series publication	2011/20	Publication Link



An example of a publication provided by the 'Publication link' field

WAMEX Search

The WAMEX search tool is a specialised tool which enables you to search both spatially and textually for open-file (public) mineral exploration reports over Western Australia.

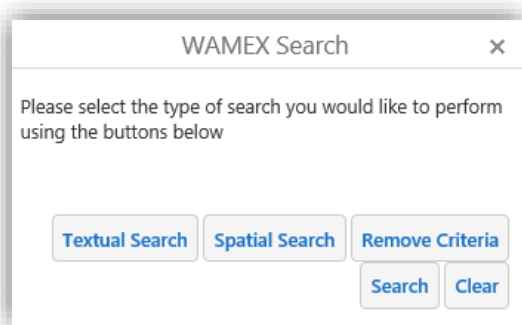
To search for mineral exploration reports:

1. On the **Search tab** of the toolbar, click **WAMEX** search.



The search for WAMEX reports dialog box will display.

2. From the WAMEX Search dialog box you can now choose if you would like to perform a **Textual Search** or a **Spatial Search**.

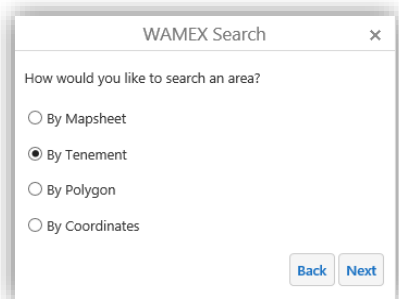


If you wish to search for Mineral Exploration reports using a known Project, Operator, A-Number, Tenement, Report Type, Commodity, or Date Range etc., select **Textual Search**.

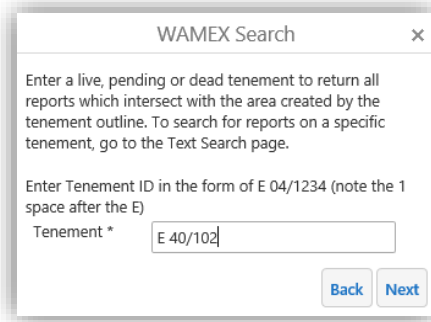
If you wish to search for Mineral Exploration reports using a known location, mapsheet, coordinates, or intersecting a tenement, select **Spatial Search**.

It is also possible to use a combination of both textual and spatial searches if you wish to refine your initial search.

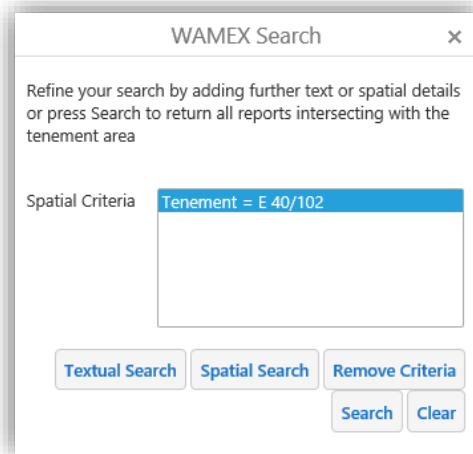
Performing a spatial search '**By Tenement**' will intersect the selected 'Live and Pending Tenements' and 'Dead Tenement' with WAMEX reports. Select search 'By Tenement' in the spatial search section of the WAMEX Search dialog box.




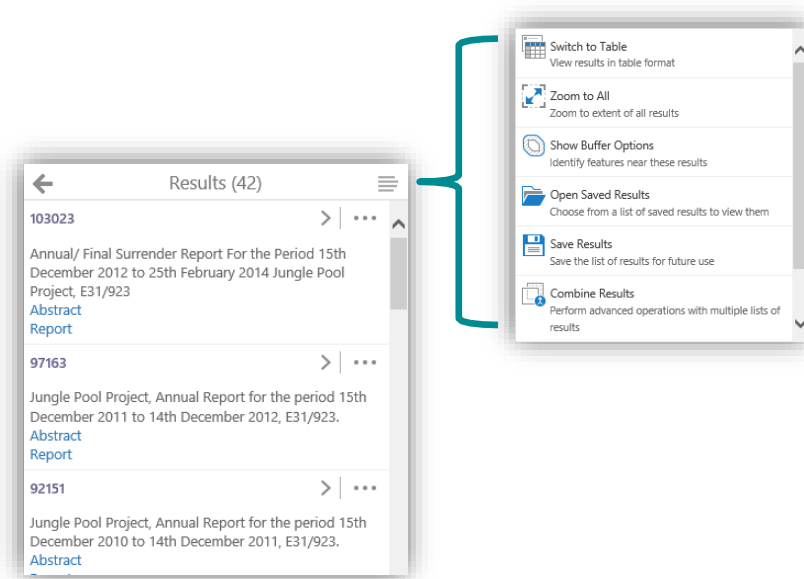
3. Enter the formatted Tenement ID into the text box and select **Next**.



Next select the **'Search'** button from the main WAMEX Search dialog box.



4. When the Result window appears, it is possible to view the report abstract or the contents of the report by selecting the **'Abstract'** or **'Report'** button displayed in the Results window. When selecting the 4 horizontal lines  in the top right of the Results window, it is also possible to **'Switch to Table'** view, 'Zoom to all' results, or save the search results. Once you have switched the results to table view, it is also possible to save the results as a MS Excel spreadsheet or csv file.



Drillholes Search

The Drillholes search tool is a specialised tool which enables you to search both spatially and textually for the mineral exploration Drillholes sourced from open-file (public) mineral exploration reports over Western Australia.

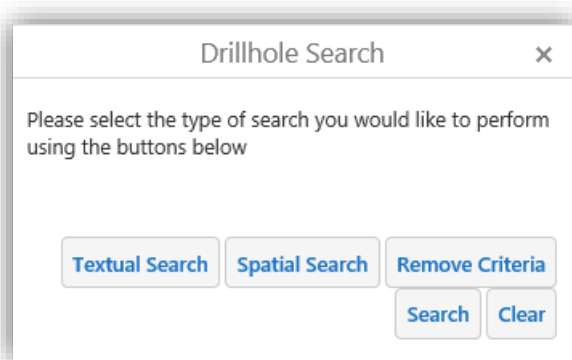
To search for Drillholes:

1. On the **Search tab** of the toolbar, click **Drillholes** search.

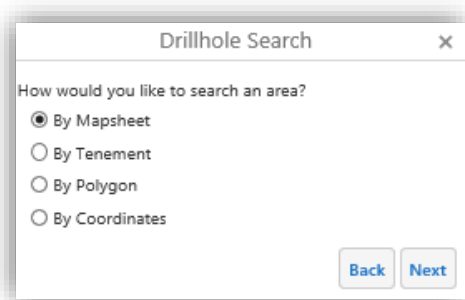


The search for Drillholes dialog box will display.

2. From the Drillhole Search dialog box you can now choose if you would like to perform a Textual Search or a Spatial Search.



3. If you wish to search for Drillhole data using a known location, mapsheet, coordinates, or intersecting a tenement, select Spatial Search.



Spatial Search options for the Drillhole Search Tool

4. If you wish to search for Drillhole data using a known Project, Operator, A-Number, Hole ID, Depth, Drilltype, Commodity, or Date Range etc., select Textual Search.

Textual Search options for the Drillhole Search Tool

- To perform a textual search for drillhole data enter the relevant criteria for the search. In the example below we have entered the A-number report '74294'. If this is the only text search criteria we are using, select **ok**.

The screenshot shows a 'Drillhole Search' window with the following fields and options:

- Project:** Empty text box.
- Search Instruction:** 'Press 'Enter' or click in box below to search' above an empty text box.
- Operators:** Empty text box.
- Search Instruction:** 'Press 'Enter' or click in box below to search' above an empty text box.
- Hole ID:** Empty text box.
- A-Number:** Text box containing '74294' (highlighted in yellow).
- Drill Types:** A dropdown menu with '- Select -' selected, and options 'Aircore', 'Auger', and 'Costean' visible.
- Depth (m):** A dropdown menu with '- Select -' selected and an empty text box.
- Report Date (year only):** Two text boxes labeled 'Year From:' and 'Year To:'.
- Date Released to Open File:** Two text boxes labeled 'From:' and 'To:'.
- Target Commodity:** Radio buttons for 'Any' (selected) and 'All'. A dropdown menu with '- Select -' selected and options 'AGGREGATE', 'ALLUVIAL DIAMOND', and 'ALUMINIUM' visible.
- Buttons:** 'Back', 'Reset', and 'OK' at the bottom right.

Example Textual Search for Drillhole Data using A-Number 74294

6. The next form displays a summary of our Search Criteria. To confirm the search criteria and perform the search, select the **'Search'** button.

The screenshot shows the 'Drillhole Search' window with the following content:

- Instruction:** 'Please select the type of search you would like to perform using the buttons below'.
- Section Header:** 'Textual Criteria'.
- Criteria List:** A list box containing 'ANumber = 74294' (highlighted in blue).
- Buttons:** 'Textual Search', 'Spatial Search', 'Remove Criteria', 'Search', and 'Clear' at the bottom.

7. The results of the search are displayed in **'Table view'** as shown below

A-Number	Project Name	Hole ID	Tenement Operator	Latitude	Longitude	Max Depth	Hole Type	DBID	Target Commodity	Start Date
74294	Yeelirrie South	EYS0001	ENCOUNTER RESOURCES LTD	-27.3913	114.0838	16	AC	247348	GOLD; URANIUM; VANADIUM	01/10/2005
74294	Yeelirrie South	EYS0002	ENCOUNTER RESOURCES LTD	-27.4021	114.1542	15	AC	247349	GOLD; URANIUM; VANADIUM	01/10/2005
74294	Yeelirrie South	EYS0003	ENCOUNTER RESOURCES LTD	-27.4021	114.1583	15	AC	247350	GOLD; URANIUM; VANADIUM	01/10/2005
74294	Yeelirrie South	EYS0004	ENCOUNTER RESOURCES LTD	-27.4021	114.1623	6	AC	247351	GOLD; URANIUM; VANADIUM	01/10/2005
74294	Yeelirrie South	EYS0005	ENCOUNTER RESOURCES LTD	-27.4021	114.1664	3	AC	247352	GOLD; URANIUM; VANADIUM	01/10/2005
74294	Yeelirrie South	EYS0006	ENCOUNTER RESOURCES LTD	-27.4021	114.1704	8.5	AC	247353	GOLD; URANIUM; VANADIUM	01/10/2005

- By selecting the 4 horizontal lines (identified above in top right corner) you can save the results to a MS Excel spreadsheet or csv file.
- Or by selecting the **'Download Data'** button in the Search form you can download the related A-Number folders, up to a maximum 5 selections for any one download.

Drillhole Search

Please select the type of search you would like to perform using the buttons below

Textual Criteria

ANumber = 74294

Textual Search
Spatial Search
Remove Criteria

Search
Clear
Download Data

This will download the data files related to the A-Number in a compressed zipfile format.

Drillhole Search

Select up to 5 A-Numbers to download the corresponding data

ANumbers

74294

Download Selected
Back

➔

Drillholes Search

Please click the link below to download your files

[Download](#)

Back

Geochemistry Search

The geochemistry search tool is a specialised tool that has been predefined to perform a search of Company and GSWA geochemistry sites that fall within a spatial area. The tool can also filter results according to attributes.

To search for GSWA Geochemistry Sites:

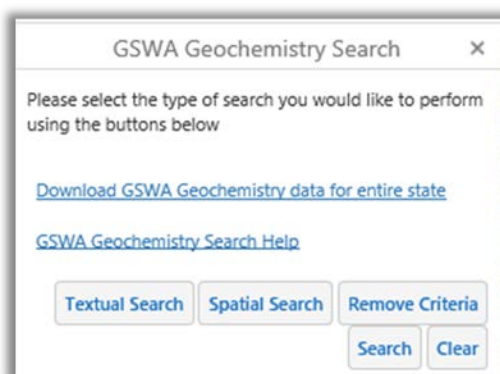
The GSWA Geochemistry search enables you to search geochemical data from samples collected during Geological Survey of Western Australia (GSWA) mapping and mineralisation programs.

1. On the **Search tab** of the toolbar, click **Geochemistry**. The Company Search and the GSWA Search options will display.

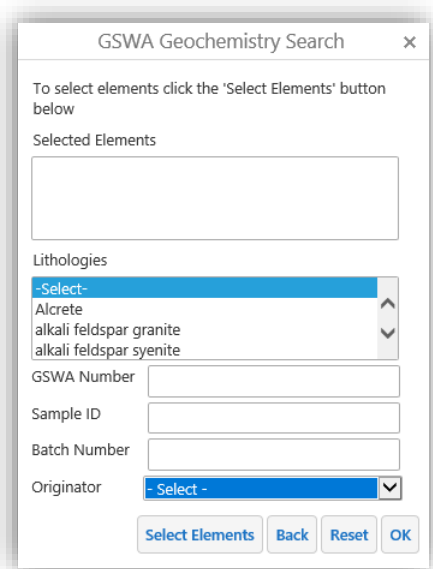


The Search Geochemistry dialog box will display a dropdown menu

2. Select the GSWA Search button.
3. From the GSWA Geochemistry Search dialog box you can either select **Spatial Search**, **Text Search** or download the **GSWA Geochemistry data for the entire state**.

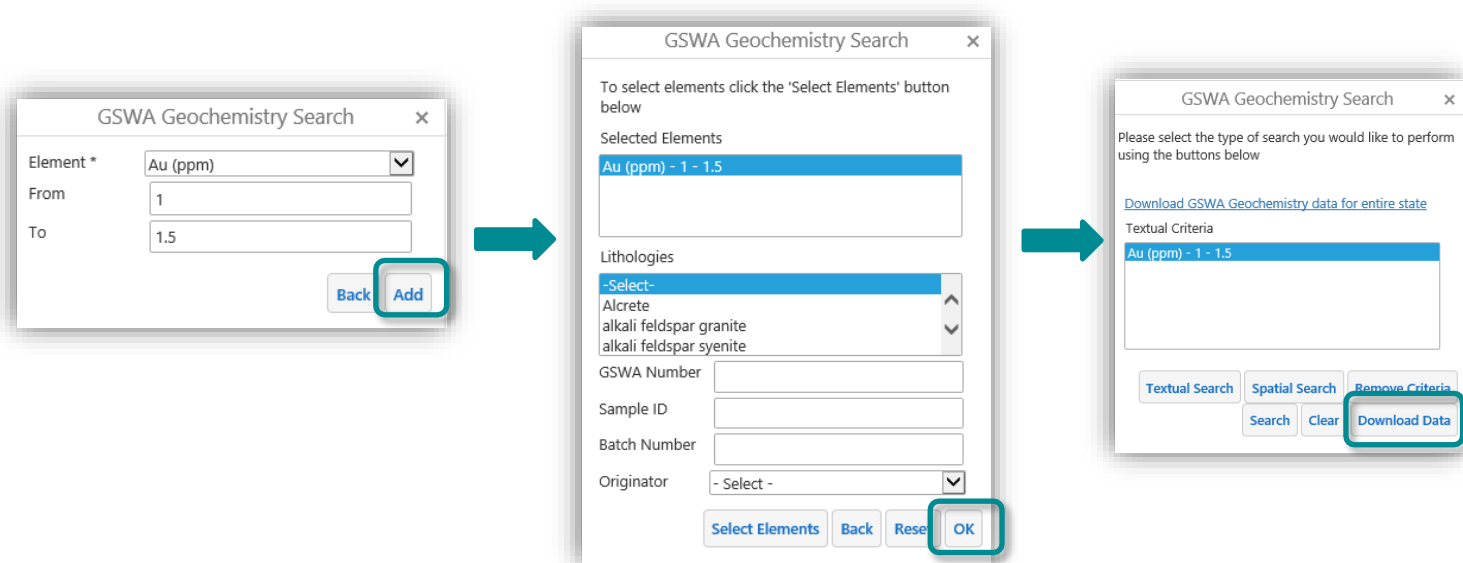


4. If you select **Textual search** you can select from any combination of the following options
 - i. Select particular elements by selecting the '**Select Elements**' button.
 - ii. Search for specific '**Lithologies**' by selecting lithologies. **Hint:** to select multiple Lithologies hold down the '**Cntrl**' key whilst selecting.
 - iii. Search for a specific '**GSWA Number**'.
 - iv. Search for a specific '**Sample ID**'.
 - v. Search for a specific '**Batch Number**'.
 - vi. Search for the '**Originator**' who collected the sample.

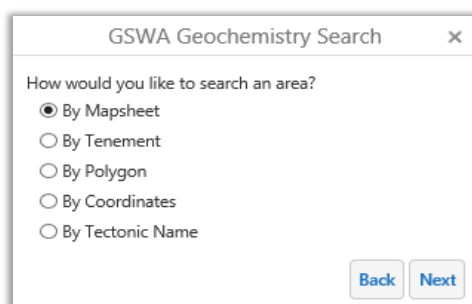


Textual search options as described above

- To perform an Element search, select the 'Select Elements' button then select the specific element and if required the 'From' and 'To' values, then select 'Add'. This will return you to the screen to confirm your search criteria, select the 'OK' button, select 'Download Data' to download the Geochemistry data files.



- If you wish to search for GSWA Geochemistry data using a known location, mapsheet, coordinates, tectonic name, or intersecting a tenement select Spatial Search.



Spatial Search options for the GSWA Geochemistry Search Tool

- To search for GSWA Geochemistry that resides in a tenement, select the "By Tenement" option and select the Next Button. In the resulting dialogue box type the Tenement ID into the text box and select the Next button.

Spatial Search "By Tenement" option for the GSWA Geochemistry Search Tool

- When the result window appears, you can choose to download the entire state or just the Tenement search area as defined. The map frame will centre on the tenement searched for.

Spatial Search "By Tenement" result for the GSWA Geochemistry Search Tool

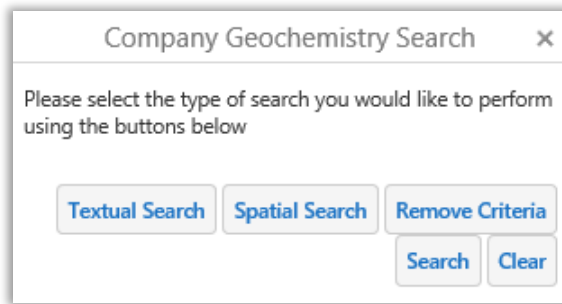
To search for Company Geochemistry Sites:

- On the **Search tab** of the toolbar, click **Geochemistry**. The Search Geochemistry dialog box will display.



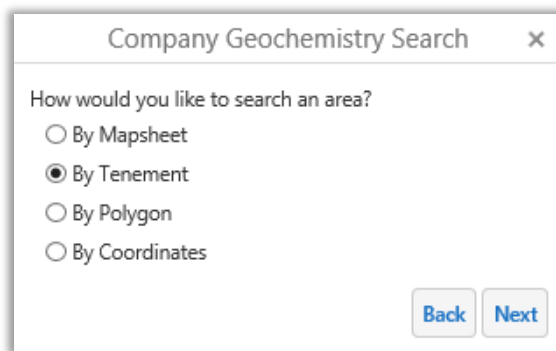
The Search Geochemistry dialog box will display a dropdown menu

- Select the Company Search button.
- From the Geochemistry Search dialog box you can now enter the relevant Spatial or Textual Search criteria.



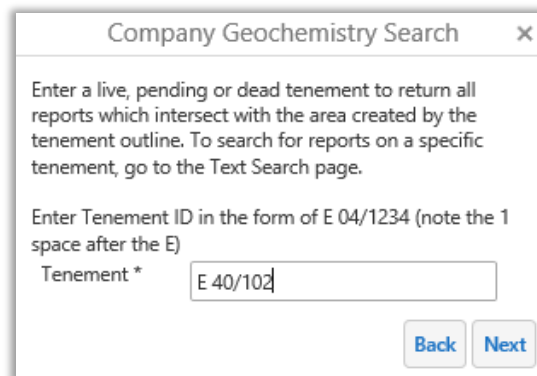
Spatial Search options for the Company Geochemistry Search Tool

- For example, to perform a spatial search which will intersect the selected 'Live and Pending Tenements' with Geochemistry. Select search 'By Tenement' in the spatial search section of the Geochemistry Search dialog box.




Spatial Search options for the Company Geochemistry Search Tool

- Type the formatted Tenement ID into the Tenement text box and select the Next button.



Spatial Search "By Tenement" option for the Company Geochemistry Search Tool

- Next select the 'Search' button from the main Geochemistry Search dialog box.
- The results of the Spatial Search will appear in a table at the bottom of the GeoVIEW.WA screen. By selecting the 4 horizontal lines  you can save the Company Geochemistry results to a MS Excel spreadsheet or csv file.

Or by selecting the 'Download Data' button in the Search form you can download the related A- Number folders.

GSWA Geochronology

The Search Geochronology tool is a specialised search tool that has been predefined to perform a search of Geochronology sites that fall within a map sheet region.

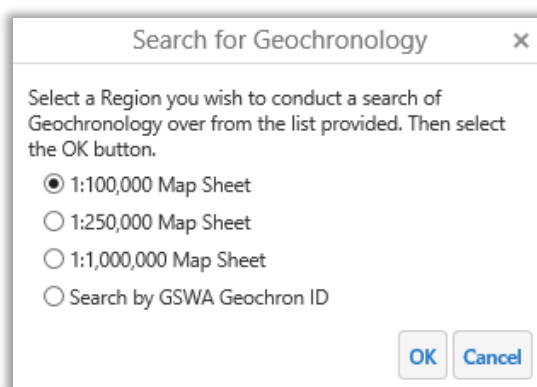
To search for Geochronology Sites:

1. On the **Search tab** of the toolbar in the Search Tools section, click **GSWA Geochronology**.

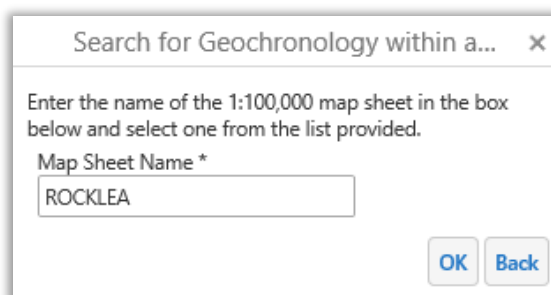


The Search for Geochronology dialog box will display

2. From the Search for Geochronology dialog box, select the Map Sheet region you wish to search on, for example **1:100,000 Map Sheet** and click the **OK**.



3. Enter the Map sheet name, for example **"ROCKLEA"**. As you type, a list of possible options for this value displays.



4. Click **OK**.
The results of the Geochronology search display in the Results List.

MINEDEX by region

The MINEDEX by region tool is a specialised search tool that has been predefined to perform a search of the Mines and Mineral Deposits (MINEDEX) layer by Local Government Authorities, State Development Regions, Tenements, Mining Inspectorates or Mineral Fields.

To search for MINEDEX by region:

1. On the **Search Tools** tab of the toolbar in the Search Tools section, click **MINEDEX by region**.



The Search Mines, Deposits and Prospects dialog box will display.

2. From the Search for Mines, Deposits and Prospects dialog box, select a region you wish to search from the drop down list, for example **"Local Government Authorities"**. Select **Next** to choose an LGA.

A dialog box titled "MINEDEX Search by Region" with a close button (X) in the top right corner. The text inside reads: "Select a Region you wish to conduct a search of Mines Deposits and Prospect over. Then select the OK button." Below this text are four radio button options: "Local Government Authorities" (selected), "State Development Regions", "Tenements", and "Mineral Fields". At the bottom right are two buttons: "Next" and "Cancel".

3. Select a LGA. As you type, a list of possible options for this value displays or select directly from the list. Select **OK** to perform search.

A dialog box titled "Searching for Mines, Deposits and Prospects within a L..." with a close button (X) in the top right corner. The text inside reads: "Select a Local Government Authority from the drop down box provided." Below this text is a text input field labeled "Local Government Authority *" containing the text "ALBANY, CITY OF" and a dropdown arrow. At the bottom right are two buttons: "OK" and "Back".

4. A list of results will be displayed in the Results List of the Information Panel.

A screenshot of the MINEDEX Results (150) interface. The top part shows a map of the Albany region with various colored overlays and yellow circular markers indicating search results. Below the map is a table with columns: SITE CODE, SITE TITLE, SHORT NAME, SITE COMMUNITY, SITE TYPE DESCRIPTION, SITE SUBTYPE DESCRIPTION, and SITE STAGE. The table contains several rows of data, including sites like "Mindjup Reject Dump", "Cheyne 2", "Bourboulon / Hamilton (75)", "Deacons Rd Lot 377 Youngs Siding / Mostert", "Albany BP 2", and "Benderee Road Lot 27 Culbert / AD Contractors".

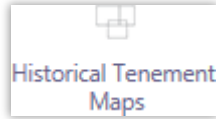
SITE CODE	SITE TITLE	SHORT NAME	SITE COMMUNITY	SITE TYPE DESCRIPTION	SITE SUBTYPE DESCRIPTION	SITE STAGE
50237206	Mindjup Reject Dump	Mindjup Dump	Sisd	Infrastructure	Dump (waste)	Operating
50230802	Cheyne 2	Cheyne 2	Lit	Mine	Shallow workings	Care and Maintenance
50230907	Bourboulon / Hamilton (75)	Bourboulon/Hamilton	Lit	Mine	Openpit	Shut
50232502	Deacons Rd Lot 377 Youngs Siding / Mostert	Deacons Rd Lot 377/Mostert	Oil, Sid	Mine	Openpit	Proposed
50231539	Albany Borrow Pit 2	Albany BP 2	Oil	Mine	Borrow Pit	Shut
50230810	Benderee Road Lot 27 Culbert / AD Contractors	Benderee Rd Lot 27/AD Contractors	Lit	Mine	Openpit	Shut

Historical Mining Tenement Map

The Historical Mining Tenement Map search allows you to find Historical Mining Tenement Maps within a custom area or geographic region.

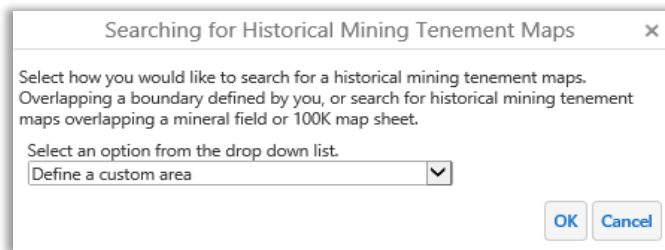
To Search for a Historical Mining Tenement Map:

1. On the **Search Tools** tab of the toolbar in the Search Tools section, click **Historical Tenement Maps**.

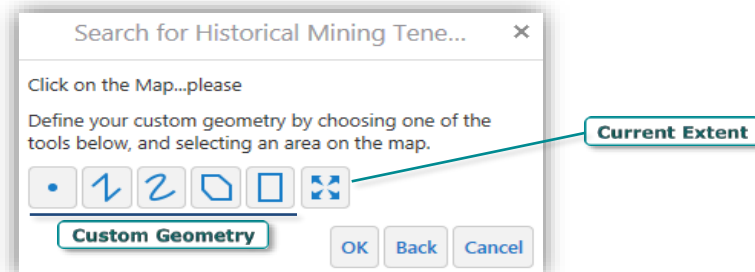


The Historical Mining Tenement Map Wizard opens on the screen.

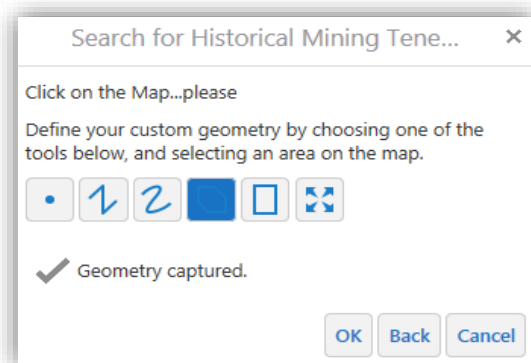
2. Select the type of search method. For example "**Define a custom area**". Select **OK** to proceed.



3. Select "**Current Extent**" or "**Custom Geometry**". Current Extent is the map area currently on your screen. Custom Geometry means you can choose a point, line, or polygon to search for Historical Mining Tenement Maps. Select **OK** to proceed.



4. If you choose to define a Custom Geometry. Select "**Custom Geometry**" and draw on the map in order to define the area you want to search. You should get a "**Geometry Captured!**" message, then select "**OK**".



The results will be displayed in the Results List of the Information Panel.

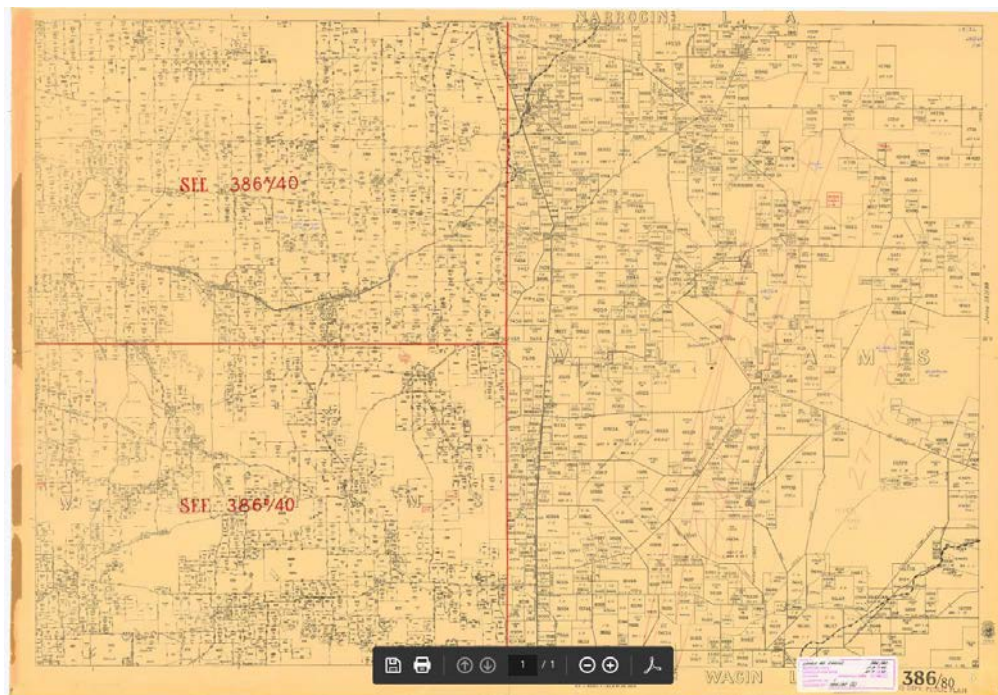
MAP CODE	MAP NAME	SCALE	EDITION	1:1 MILLION REFERENCE	START EDITION DATE	END EDITION DATE	PUBLIC PLAN	LINKED DOCUMENT
1	BUNBURY	1:633,600	7		06/05/1970	08/12/1973	YES	https://geodocsdev.dmir.wa.gov.au/Web/documentlist/5/PublicPlan
1	BUNBURY	1:633,600	4		03/12/1967	07/04/1967	YES	https://geodocsdev.dmir.wa.gov.au/Web/documentlist/5/PublicPlan
386/80	386/80	1:63,360	1	SI50	09/05/1946	04/03/1972	Yes	https://geodocsdev.dmir.wa.gov.au/Web/documentlist/5/PublicPlan
24311	MOULYINNING	1:50,000	2	SI50	04/02/1988	14/11/2013	YES	https://geodocsdev.dmir.wa.gov.au/Web/documentlist/5/PublicPlan
1	BUNBURY	1:633,600	1		14/11/2013	07/07/1964	YES	https://geodocsdev.dmir.wa.gov.au/Web/documentlist/5/PublicPlan
1	BUNBURY	1:633,600	2		07/07/1964	10/04/1965	YES	https://geodocsdev.dmir.wa.gov.au/Web/documentlist/5/PublicPlan

Selected results dialog box for Historical Mining Tenement Map

- Click on the “Linked Document” in the Selected Results to be taken to GeoDocs File List.

Title	Author	Category	Edited	Size
386_80_v1.pdf		Historical Mining Tenement Maps	15 Nov 2013	3.22 MB

- Click on the document link to download / view a PDF of the map chosen.



Historical mining tenement map available for viewing or download

Tenements by holder

The Search Tenements tool is a specialised search tool that has been predefined to perform a search of Live and Pending Tenements by Tenement Holder.

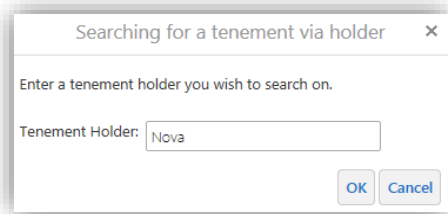
To search for Tenements by holder:



1. On the **Search Tools tab** of the toolbar in the Search Tools section, click **Tenements by holder**.

The Searching for a tenement via holder dialog box will display

2. From the Searching for a tenement via holder dialog box, type in the holder name you wish to search on, for example **"Nova"**.



3. Click **OK**. The results of the Tenement search will display in the Results List.

A screenshot of a table titled "Tenements Live / Pending". The table has columns for TENEMENT ID, TYPE, SURVEY STATUS, TENEMENT STATUS, HOLDER COUNT, HOLDER 1, HOLDER 2, HOLDER 3, and HOLDER 4. The data is as follows:

TENEMENT ID	TYPE	SURVEY STATUS	TENEMENT STATUS	HOLDER COUNT	HOLDER 1	HOLDER 2	HOLDER 3	HOLDER 4
L 3900013	MISCELLANEOUS LICENCE	UNSURVEYED	LIVE	1	ANOVA METALS AUSTRALIA PTY LTD			
M 3701164	MINING LEASE	UNSURVEYED	LIVE	1	ANOVA METALS AUSTRALIA PTY LTD			
L 3900014	MISCELLANEOUS LICENCE	UNSURVEYED	LIVE	1	ANOVA METALS AUSTRALIA PTY LTD			
L 3900012	MISCELLANEOUS LICENCE	UNSURVEYED	LIVE	1	ANOVA METALS AUSTRALIA PTY LTD			
E 7002733	EXPLORATION LICENCE	UNSURVEYED	LIVE	1	NOVARANGE PTY LTD			
P 6301803	PROSPECTING LICENCE	UNSURVEYED	LIVE	2	FREE CI PTY LTD	INDEPENDENCE NOVA PTY LTD		

Selected results dialog box for Tenement holder search

Global Search

The Global Search box allows you to search for features from the following map layers.

- Mines, Deposits and Prospects (MINEDEX)
- Mineral Exploration Reports (WAMEX)

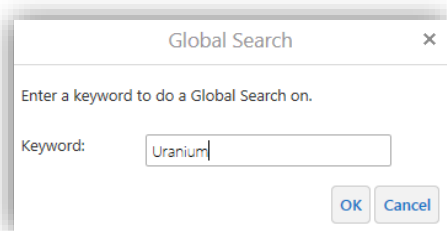
To perform a Global Search:

1. On the Search Tools tab click on the **Global Search** button.



Global Search

2. Enter a keyword to search, for example **"Uranium"**.



3. Click **OK**. The results of the Global search will display in the Results List.

Panel Actions Menu. Click to Open/Close.

ANUMBER	TITLE
23	Durack Range Project, Annual Report, June 1970, TR70/5013H.
25	Durack Range Project, Annual Report for the year ending 31/12/1969, TR70/5001H.
28	Durack Range Project, Annual Report, June 1970, TR70/4651H.
30	Mt Constantine Project, Annual Report, July 1970, TR70/5151H. (Geology & Geochemistry).
47	Lionel Non Statutory Report
48	Lionel Project, Non-statutory Report/Geological Report, September 1970, TR70/4757H.

A sample of features from the Results List

When you are searching a map with more than one layer, the results of the search are grouped by layer in the Results List, for example, Mineral Exploration Report (WAMEX) information will be following Mines and Mineral Deposits (MINEDEX) information.

SITE CODE	SITE TITLE	SHORT NAME	SITE COMMODITY
50000955	Millipede	Millipede	U
50000957	Centipede Resource Evaluation Pit and Trial Heap Leach	Centipede	U
50000959	Hindler Well West	Hindler Well West	U, V
50000960	Jailor Bore	Jailor Bore	U
50000963	Kintyre Group	Kintyre	U
50000967	Lake Maitland Test Pit 1	Lake Maitland 1	U, V

Hint: Click on the Panel Actions Menu button  to switch Results view to List view.

Clear Selection

The clear Selection button will unselect or clear all currently selected features. This tool will only function if there are features selected.

To clear selection features:

On the **Search Tools tab** of the toolbar in the Search Tools section, click **Clear Selection**.

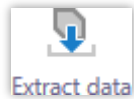


Extract Data

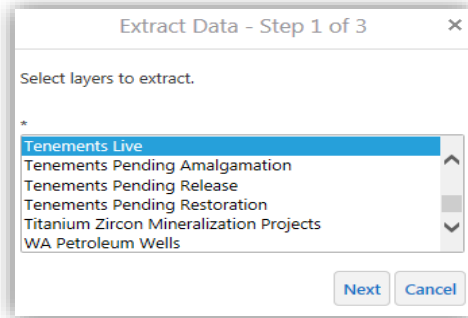
The Extract Data tool makes it possible for you to extract layer data from a particular area on the map. First you select the layers you want to include, and then define an area of the map from which to extract the data. During the extract process, you can also define the format of the data you want to use. The data is then extracted from the map and zipped into a file.

To extract map layer data:

1. On the **Search Tools** tab of the toolbar, click **Extract Data**.

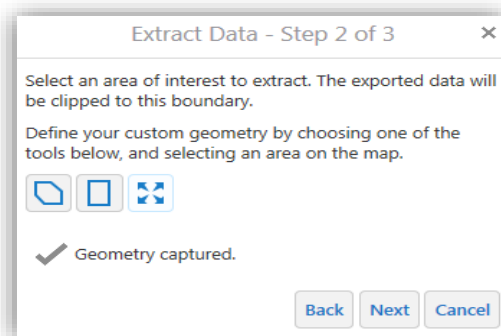


The Extract Data wizard opens in the information panel.



Layers listed for you to select

2. From the list in the box, select the layer/s you want to include. Use **Shift+click** or **Ctrl+click** to select more than one layer.
3. Click **Next**. In this step of the wizard, you select the current map area to extract the data from, or define a custom area.



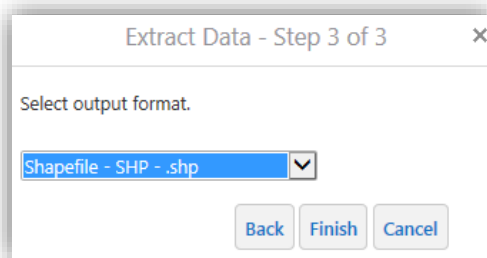
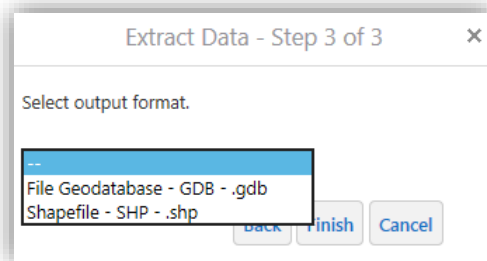
Options to select the map area

4. Click either the polygon or the rectangle icon and then do the following:
 - If you selected the polygon, drag across the map to start a polygon. To change direction, click and then drag in a new direction. Shading appears to indicate that the polygon is filling in the space of the area. Double-click to end the polygon. You do not have to complete the shape, as long as the shading covers the area, you can double-click and the application completes the shape for you.
 - If you selected the rectangle, click the map where you want one corner of the area to begin, and then drag a rectangle to cover the area. Lift your finger off the mouse button to complete the rectangle.
 - When you have completed the shape, a **Geometry Captured!** message appears.



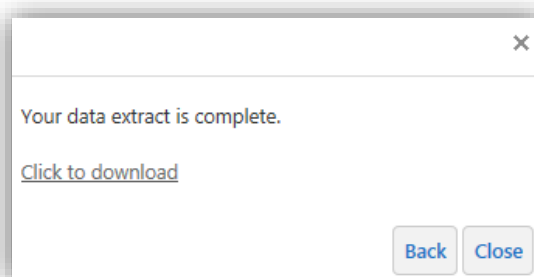
User defined geometry for data extract

- Click **Next**. The application presents Step 3 of the wizard, where you can select the format for your data. The current options are ESRI File Geodatabase (*.GDB) or ESRI Shapefile (*.SHP).



Select the format for the extracted data

- Select the format and then click Finish. Once the data has been extracted, a confirmation message presents a link for you to download the data.

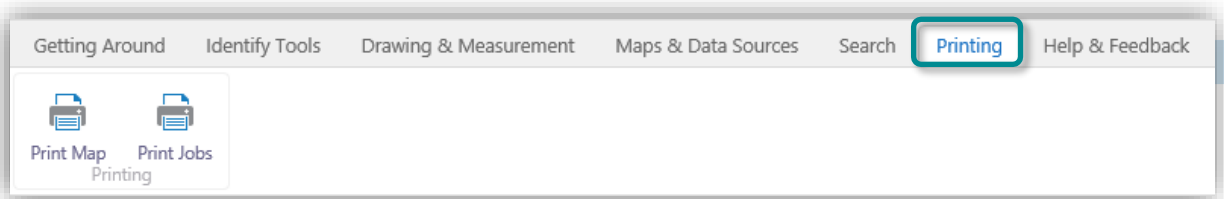


Link to download the extracted data



- When you click on the **Click to download** link, a zip file is downloaded to your computer. You may see different dialogs depending on your Windows download settings and your browser settings.

Printing Tab

The Printing tab of the toolbar contains a tool for printing.



Printing Tool tab of the toolbar

Use this tool...▼	To...▼
 Print	Open the Create a Printable Map dialog box where you can select the Layout, Output Format, Resolution, and Scale to print the map.
 Print Jobs	Lists the Jobs in the cue for printing.

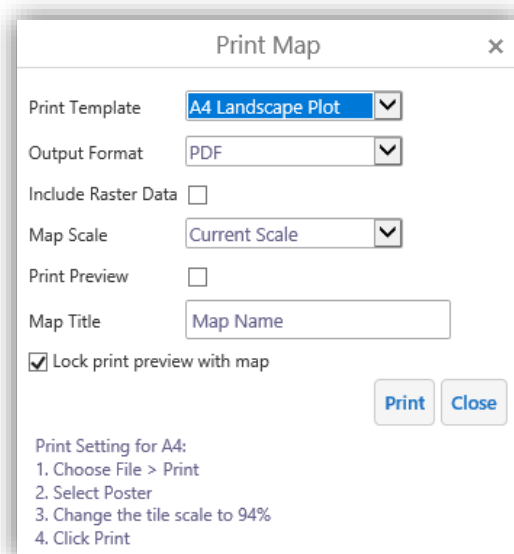
Print a Map

When you print a map, you have several options that make it possible to set up precisely how your map should be printed, including the layout, format, resolution, and scale.

To print a map:

1. Do one of the following:
 - On the **Printing** tab of the toolbar, click **Print Map**.
 - In the “**I want to...**” menu, click **Create a Printable Map**.

The Create a Printable Map dialog opens.

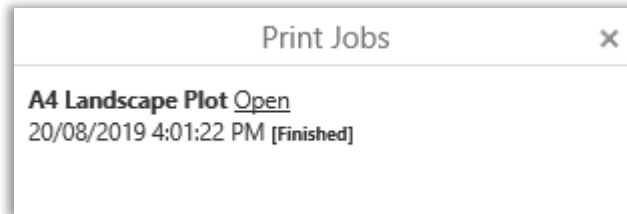


Options for printing the map in the Create a Printable Map dialog box

2. Select from the following options:

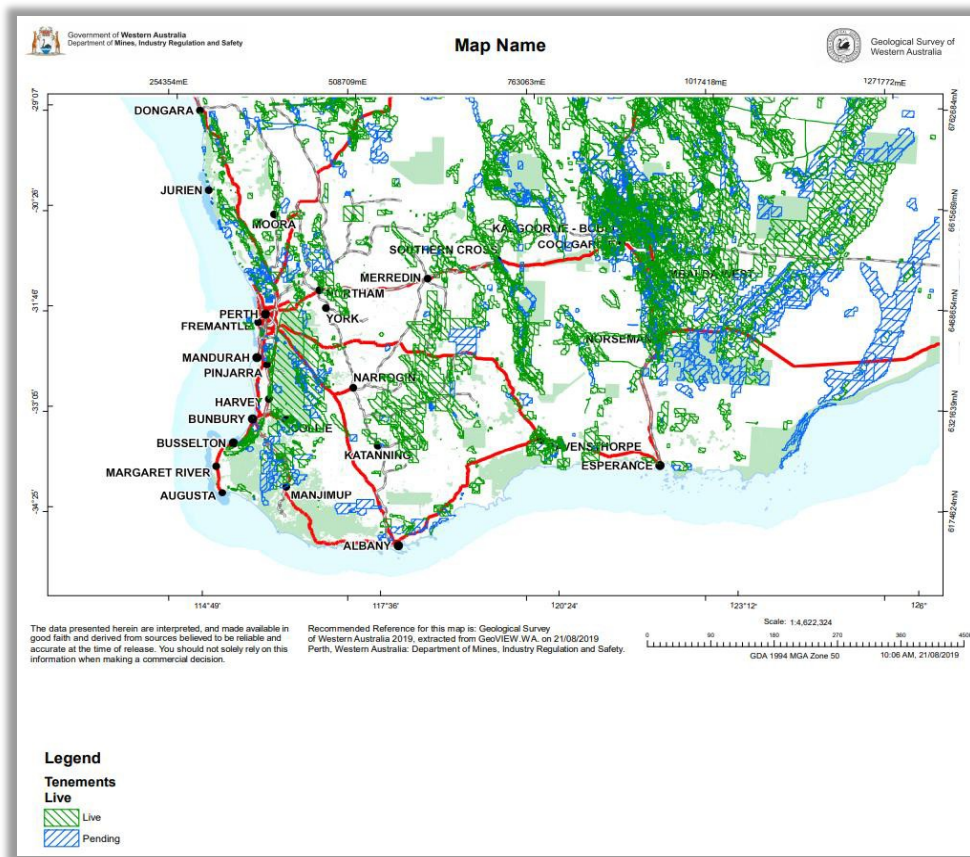
- **Select Layout:** Options include **A0-A4 Landscape**.
- **Output Format:** Options include the **Pdf, Jpeg** or **Png** formats.
- **Include Raster Data:** Tick the option "allow to print the Basemap".
- **Map Scale:** Options include different set scales or the **Current Scale**.
- **Print Preview:** Gives a perspective of the Area of Interest that will be on the Print
- **Map Title:** Enter a title for your map.
- **Lock print preview:** Turn on to lock the Print Preview to the Area of Interest. Panning will not change the printed Area of Interest. Turn off to pan on the map and adjust the Print Area of Interest.

3. Click Print. When your print file is ready, a confirmation message displays.



Print Request confirmation message

4. Click Open to view your print file. Depending on your choice of file format, the file opens in your PDF Reader or in your Browser window.



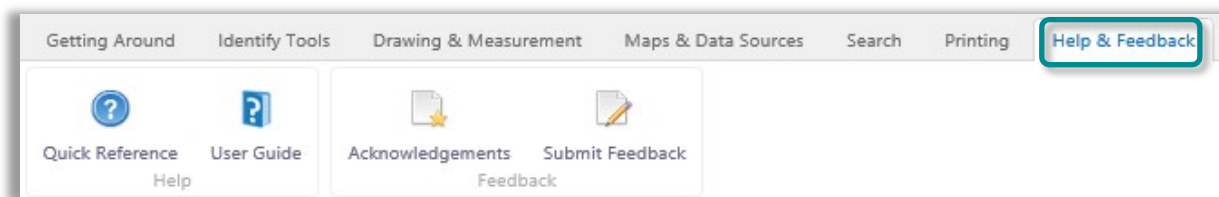
PDF print file open in Adobe Reader

5. Now do one of the following:

- In Adobe Reader, click the **Print** icon, and then click **OK**; or
- In your browser, click **File | Print**, and then click **OK**; or
- Press **Ctrl + P**; or
- In a browser with no File menu, right-click the title bar, select **Print** from the title bar, and then click the **Print** button.

Help & Feedback Tab





The Help & Feedback tab of the toolbar contains tools to provide a link to the Quick Reference document, a link to this User Guide document and to submit a feedback email for any queries, problems and suggestions relating to GeoView.



Help & Feedback tab of the toolbar

The tools in this tab are grouped into these sections:

- **Help:** Quick Reference Tools and User Guide
- **Feedback:** Submit Feedback and Acknowledgements document

Use this tool...	To...
 Quick Reference	Open the quick reference document. A printer friendly document with diagrams of each tool and a brief description of its function.
 User Guide	Open the User Guide document for more detailed descriptions and functionality of the tool tabs and tools. Also provides step by step guides on how to perform common tasks.
 Feedback	Submit an email in relation to any queries, data and software issues or any suggestions to the GeoView support staff.
 Acknowledgements	Open the Acknowledgment document to view the layers supplied by other agencies.

HyLogger Drillholes & Geophysical Surveys Data

HyLogger Drillholes

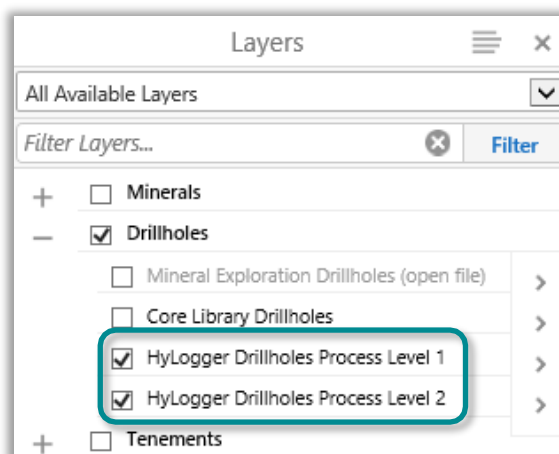
The HyLogger Drillholes layer displays the locations of company holes drilled in Western Australia, scanned by the HyLogger machine, and released by the company for public viewing. Currently being captured, the dataset will continue to grow as new core becomes publicly available and core data are subsequently scanned using the HyLogger spectral scanner.

The HyLogger spectral scanner is a rapid spectroscopic logging and imaging system that uses continuous visible and infrared spectroscopy and digital imaging to examine cores, samples and cuttings without destroying them in the process. For further information on the HyLogger spectral scanner, please see the following web link: <http://www.dmp.wa.gov.au/Geological-Survey/HyLogger-spectral-scanner-1396.aspx>

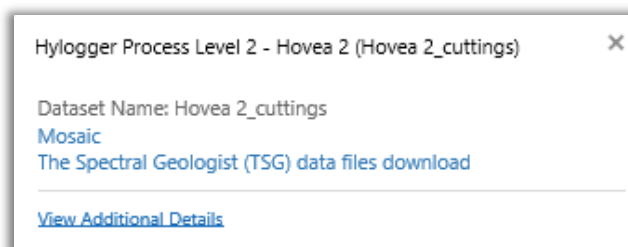
The Geological Survey of Western Australia's (GSWA) HyLogger was installed in July 2009 at the Perth Core Library in Carlisle. It is one of seven machines in Australia that together make up the AuScope National Virtual Core Library (NVCL) consortium (<http://www.auscope.org.au/nvcl/>). The consortium is a Federal and State collaborative project which aims to provide drillcore mineralogical and image data in a standard format.

Accessing HyLogger Data:

- Query the HyLogger Drillholes layer from the Map Layers list. Turn on the two HyLogger layers by adding a tick in the boxes as shown.



- Select a Drillhole in HyLogger Level 2 (purple coloured dots). When the Tool Tip Popup appears for a HyLogger Drillholes Process Level 2 record it will show three available hypertext links.

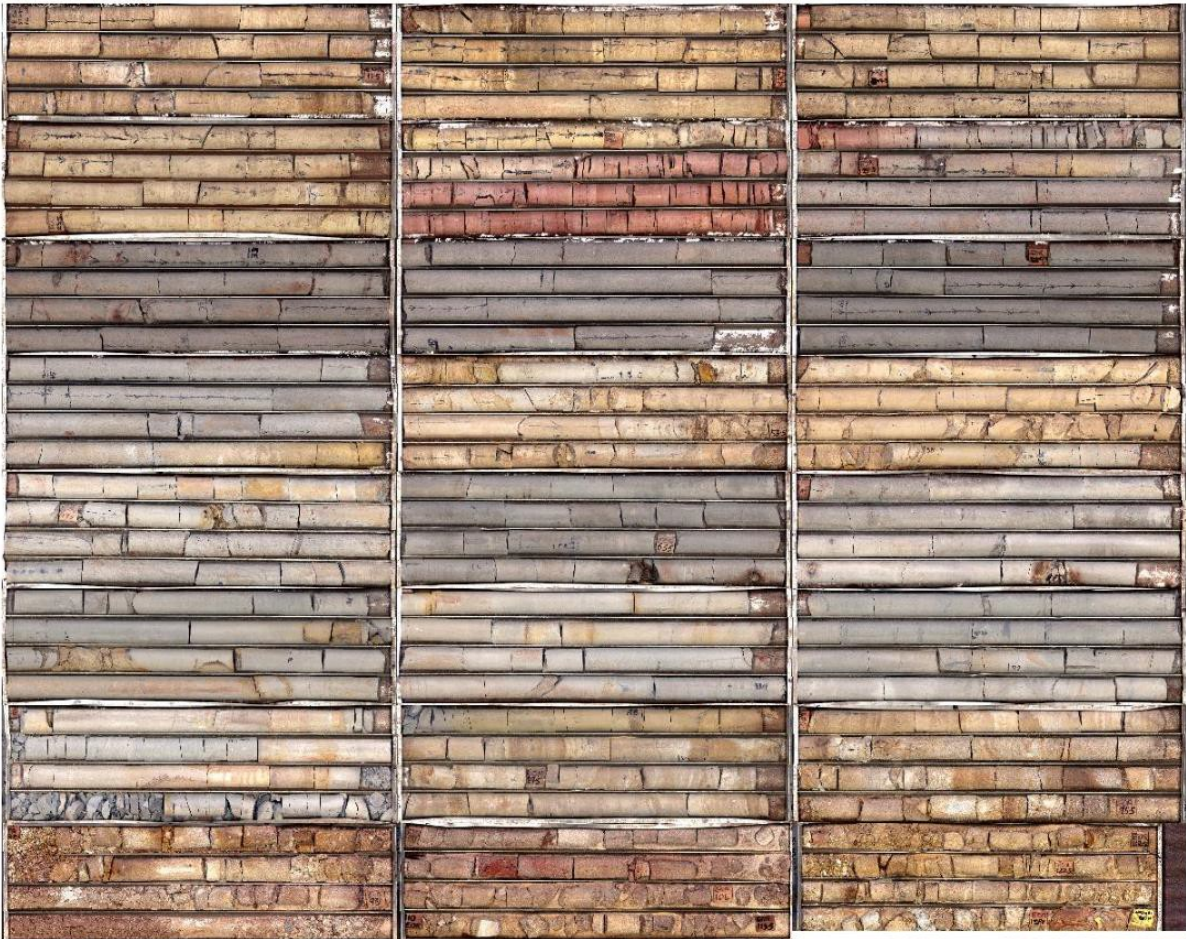


Information window of selected HyLogger Drillhole Process Level 2

Mosaic Hyperlink

This image service will return a mosaic image stored within the database of the selected drillhole containing the trays of core for that drillhole.

[GeoVIEW.WA - User Guide](#)



Mosaic Image of all trays for a HyLogger Drillhole Process Level 2

Single Tray Image

This image service will return the actual tray images stored within the database from a Mosaic Tray Thumbnail image. Select one of the trays in the Mosaic Image to open a high resolution image of that tray. The tray image carousel can be advanced forward or backward by clicking on the white arrows to the left (backward) or right (forward) of the tray image.



Tray image for a section of a HyLogger Drillhole Process Level 2

The Spectral Geologist (TSG) data files download [Hyperlink](#)

This data download service, when initiated, will prepare TSG files from the database and make them available for download. The user must provide a valid email address and will be presented with the option to include Linescan data (imagery) or whether Observations and Measurements (XML data) are provided in the download. By **not** selecting Linescan data this will significantly reduce the size of the download but will not make available the highest resolution images.

TSG data files download screen for a HyLogger Drillhole Process Level 2

To view the TSG data files provided by the NVCL Download Service specialist process and analysis software is required. Various software packages are available for purchase or download from The Spectral Geologist website: <http://www.thespectralgeologist.com/>

A free “**TSG Viewer**” version is also available for users who do not want to carry out any processing but wish to view and a plot with already processed spectral data. This is available for download and registration at the following website: <https://www.hhgeoscience.com.au/get-tsg-software>

View Additional Details

This option will display more details for this drillhole in the Information / Results panel on the left of the screen.

Summary Reports

Certain HyLogger Drillhole Process Level 2 have Summary Reports (i.e. RHDD034, Golden Grove Project) available for viewing in PDF. Select a Drillhole from the Table list, or click View Additional Details if available. If that drillhole has a report, click on the **Summary Report** link under the **Links** section. A new tab should pop-up and display the report.

Drillhole metadata		HyLogging metadata	
Location description:	Canning Basin	Scanning start date:	31 March 2016
250K map sheet:	Diner (SE 51-7)	Scanning end date:	1 April 2016
100K map sheet:	WILLAMAH 3762	Medium scanned:	Core
Latitude (°S, GDA84):	-17.821293	Scanned from (m):	0
Longitude (°E, GDA84):	124.214708	Scanned to (m):	218.0
Drill collar elevation (mRL):	101	Total interval scanned (m):	218.0
Drill collar inclination (°):	-40		
Drill collar azimuth (TN):	0		
Total hole length (m):	218.0		
Drilled by:	AREVA Resources Australia		
Drilling start date:	21 April 2014	VNIR-SWR Level 1 ¹ :	Yes
Drilling end date:	26 April 2014	VNIR-SWR Level 2 ¹¹ :	Yes
Commodity targeted:	Uranium	TIR Level 1:	Yes
		TIR Level 2:	Yes
		Independent validation ¹² :	NA
		Validation data identifier ¹² :	NA

1 As assigned by the company drilling the hole
2 Unique identifier assigned by GSWA
3 GSWA WAMLEX mineral exploration report number
4 RI ... reduced level; elevation above mean sea level unless otherwise stated
5 A negative value denotes inclination down from horizontal
6 Drillhole azimuth is measured clockwise from 0 to 360° relative to True North
7 Options: Core, percussion, slope
8 Several intervals may be listed
9 Level 1 data processing involves QA/QC, masking, depth logging and imagery creation
10 Level 2 data processing involves user-constrained mineralogical interpretation and scalar creation
11 Options: NA - none available; XRD - X-ray diffractometry; SEM - scanning electron microscopy; specified other
12 Unique identifier assigned by GSWA

Example of a HyLogger Drillhole Process Level 2 Summary Report

For further information regarding HyLogger Drillholes please see the following links:

- Metadata
(http://geodownloads.dmp.wa.gov.au/Downloads/Metadata_Statements/XML/Hylogger_Drill_Holes.xml)
- Data Dictionary
(http://geodownloads.dmp.wa.gov.au/Downloads/Metadata_Statements/XML/Hylogger_Drillholes_DataDictionary.pdf)
- Department of Mines and Petroleum – HyLogger Spectral Scanner
(<http://www.dmp.wa.gov.au/Geological-Survey/HyLogger-spectral-scanner-1396.aspx>)
- Email (HyLogger@dmirs.wa.gov.au)

Geophysical Surveys

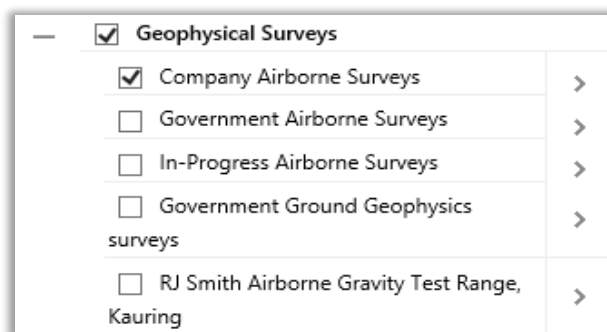
It is possible to download Geophysics outline data from "Open Files" in the Geophysical Surveys layer group.

How to download Open File - Geophysical Surveys Data:

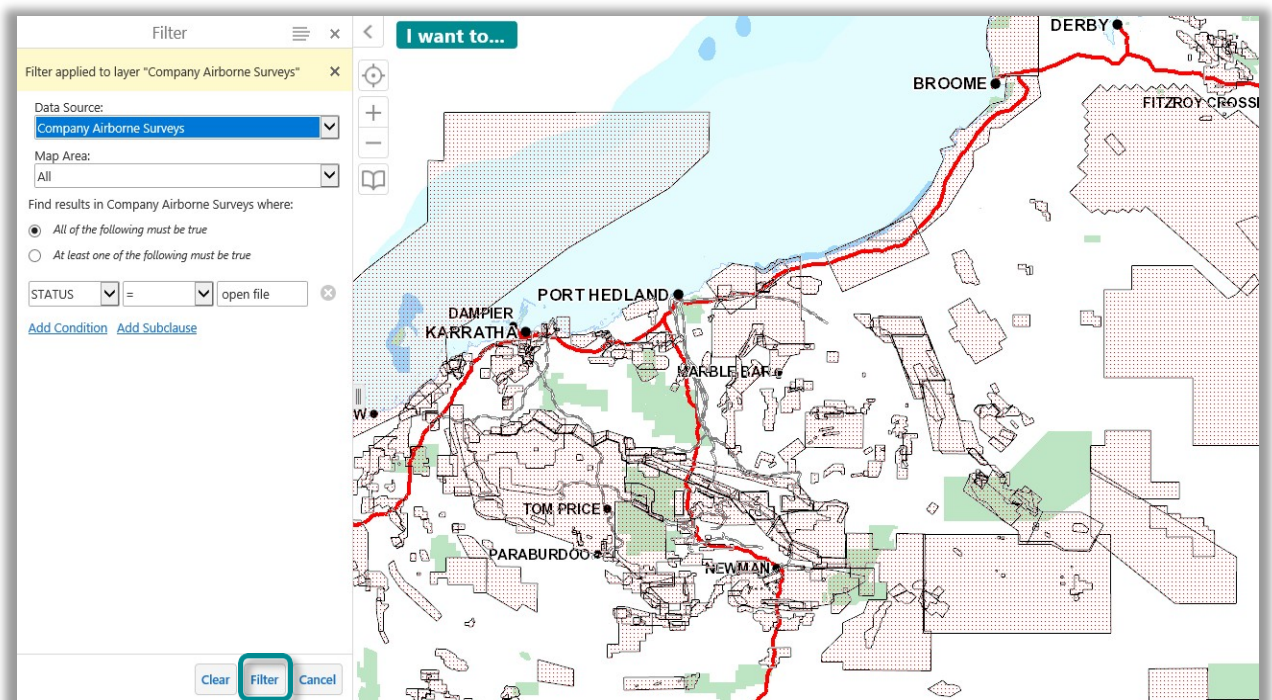
Select your area of interest from any of the Survey Layers under the Geophysical Surveys group. This can be done by using any of the **Identify Tools**, **Simple search** or **Advanced Filter**.


Hint: Use the **Advanced Filter** tool to easily view and download open file surveys.

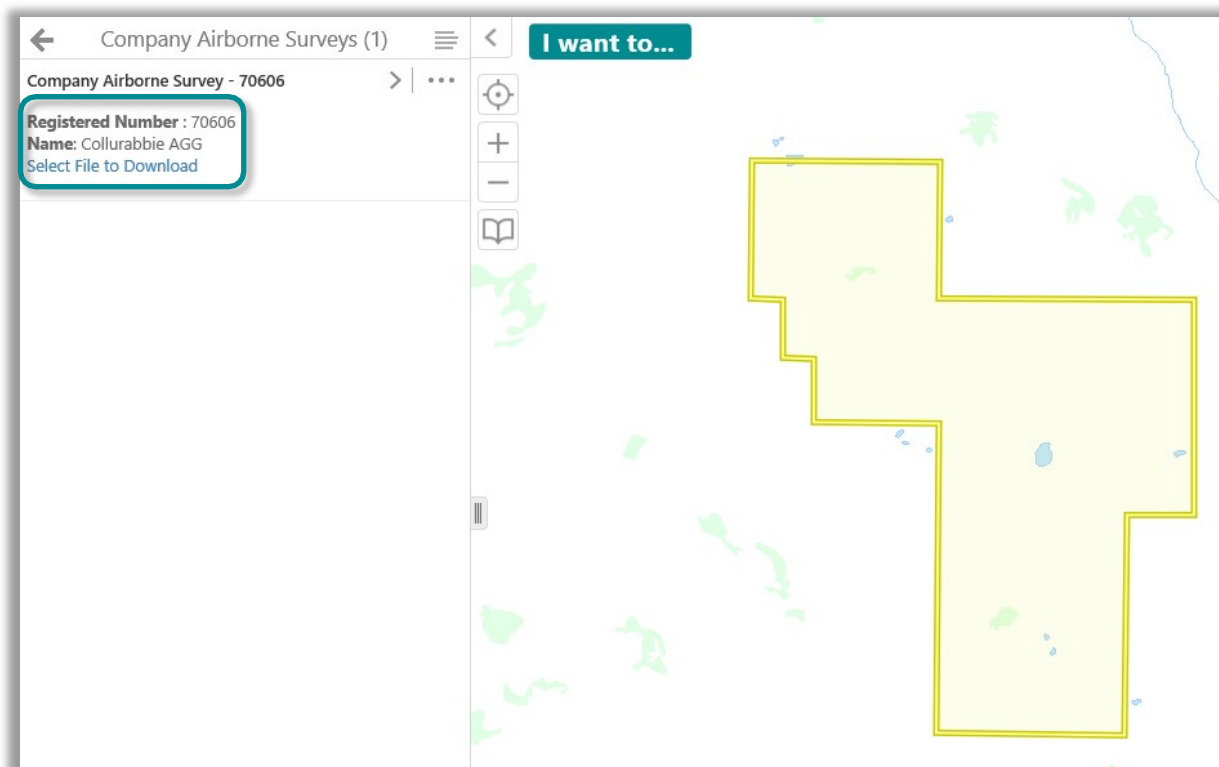
1. For this example, an open file Company Airborne Surveys will be selected with the **Advanced Filter**. Make sure the **Company Airborne Surveys** layer in the **Geophysical Surveys** group is visible or select **Geophysics** from the layer themes.



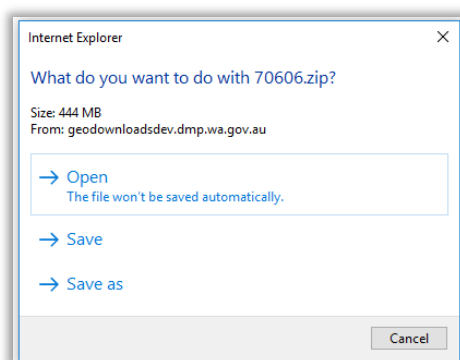
2. From the Search Tools in the Refine Data section, select **Advanced Filter**. Select **Company Airborne Surveys** from Data Source, select **STATUS** from Field Name, "=" from Operator and **open file** from the Attribute list. Click the **Filter** button to filter the layer and the map display should now only show Open file Company Airborne Surveys.



- Use the Identify Tool set to select a Company Airborne Survey. From the Results table, select the **Panels Actions Menu**  and select **Switch to List**. Results will display in the Information Panel. Click on the **Select file to Download** link.



- By selecting **Select file to Download**, a download link will appear in the Information panel. Select this **Download** link and a dialog box will display to download a zip file containing Geophysical data files for that survey area. The name of the zip file will relate to the REGISTERED NUMBER of the survey. Select **Save** or **Save as** to commence the data file download.



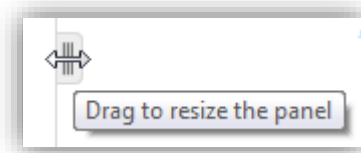
- Navigate to where the downloaded data file is located, unzip the contents and open the data files in an application that will support various data file types such as *.ecw, *.ers & *.tab.

NOTE: GeoMap.WA is a free application capable of viewing some of these data types. This software can be downloaded at the Data Download Centre under the Resources heading at the bottom of the page (<https://dasc.dmp.wa.gov.au/dasc/>).

The Information Panel

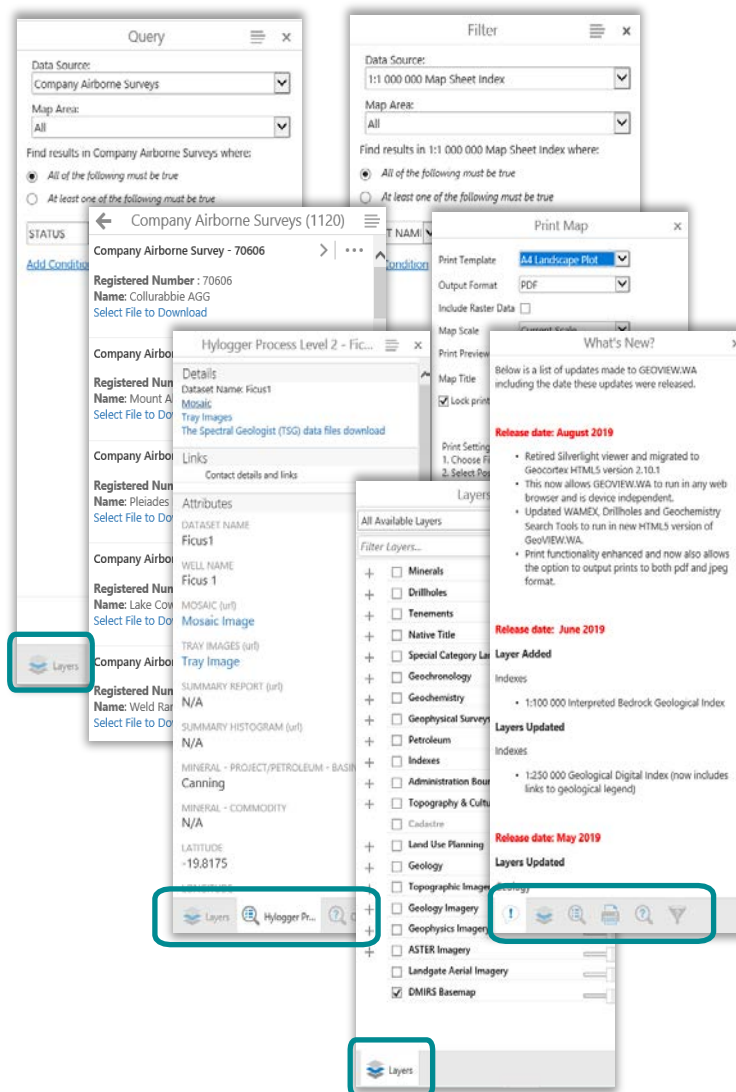
The information panel is a multi-use panel that displays many kinds of data. At times, for example when using the Extract Layer tools, it turns into a wizard that steps you through multiple pages. When you do a search or use the Identify tools, the results of the search or selection display in the information panel and it is then referred to as the Results List. When you activate map layers, the panel is referred to as the Map Layers list or the Layer List.

To resize the information panel, hover over the divider until your cursor changes to a double arrow and then drag left or right.



Cursor changes to a double arrow

Each tool that uses the information panel has an icon. As you work with a map and use different tools, their icons remain in the toolbar at the bottom of the pane so that you can quickly return to that tool by clicking its icon.











Information panels with multiple kinds of data displayed

The Results Table

One of the main functions of the information panel is to display search results, or selected features when you use an Identify tool. When you use these tools, any results are listed in the results table and the title bar changes to **Identify Results**. This includes a count of the number of selected records, in the middle of the Table Results panel. In this mode, the panel is referred as the Results Table.

When you click to open the **Panel Actions Menu**  from a **Results Table**, the following tools will be made available:

Use this tool...	To...
 Switch to List View results in list format	View results in list format.
 Zoom to All Zoom to extent of all results	Zooms the map frame such that all selected records are in the map frame.
 Show Buffer Options Identify features near these results	Identify features near these results.
 Export to CSV Export results to CSV	Export attribute only results to CSV (Comma Separated Values) file.
 Export to XLSX Export results to XLSX	Export attribute only results to Excel XLSX file.
 Open Saved Results Choose from a list of saved results to view them	Choose from a list of previously saved selected results to view them.
 Save Results Save the list of results for future use	Save the list of results for future use.
 Combine Results Perform advanced operations with multiple lists of results	Perform advanced operations with multiple lists of results.

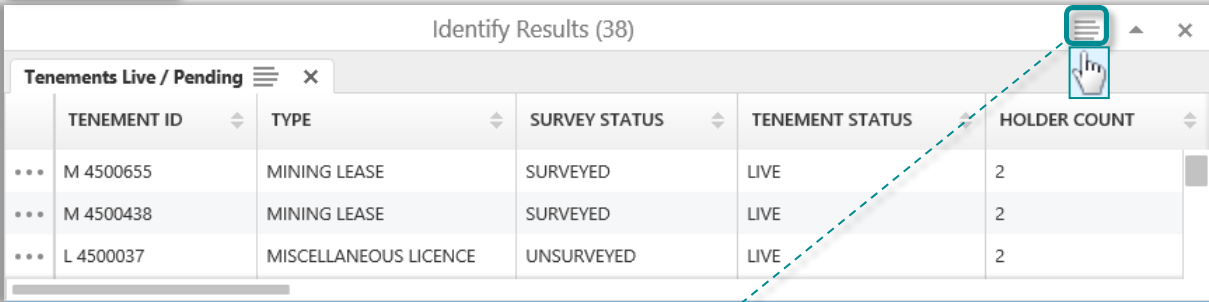
Using the Results Table:

Once you have a set of search results in the Results Table, there are many tools that you can use to work with these results. You can change the way the results are displayed and show them as a list, identify features near the selected records, or save the results for future use and combine results.

The table of search results is just the beginning. Each item in the Results Table can be used to zoom to the individual feature and bring up a result list view of the feature just by clicking the table record.

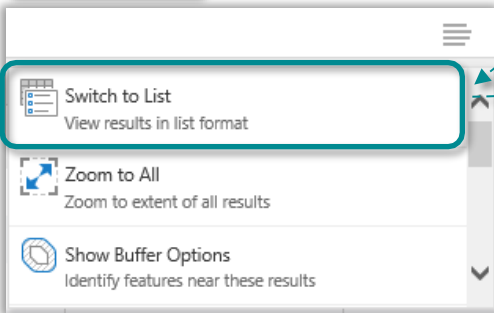
You can display the items of the Results Table in two Views; Panel Actions let you make these changes:

Table View



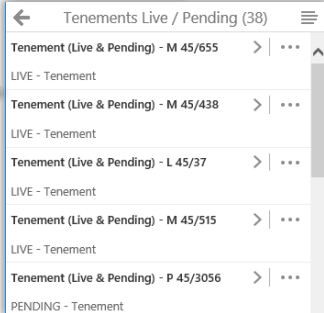
TENEMENT ID	TYPE	SURVEY STATUS	TENEMENT STATUS	HOLDER COUNT
M 4500655	MINING LEASE	SURVEYED	LIVE	2
M 4500438	MINING LEASE	SURVEYED	LIVE	2
L 4500037	MISCELLANEOUS LICENCE	UNSURVEYED	LIVE	2

Panel Actions




- Switch to List
View results in list format
- Zoom to All
Zoom to extent of all results
- Show Buffer Options
Identify features near these results

List View

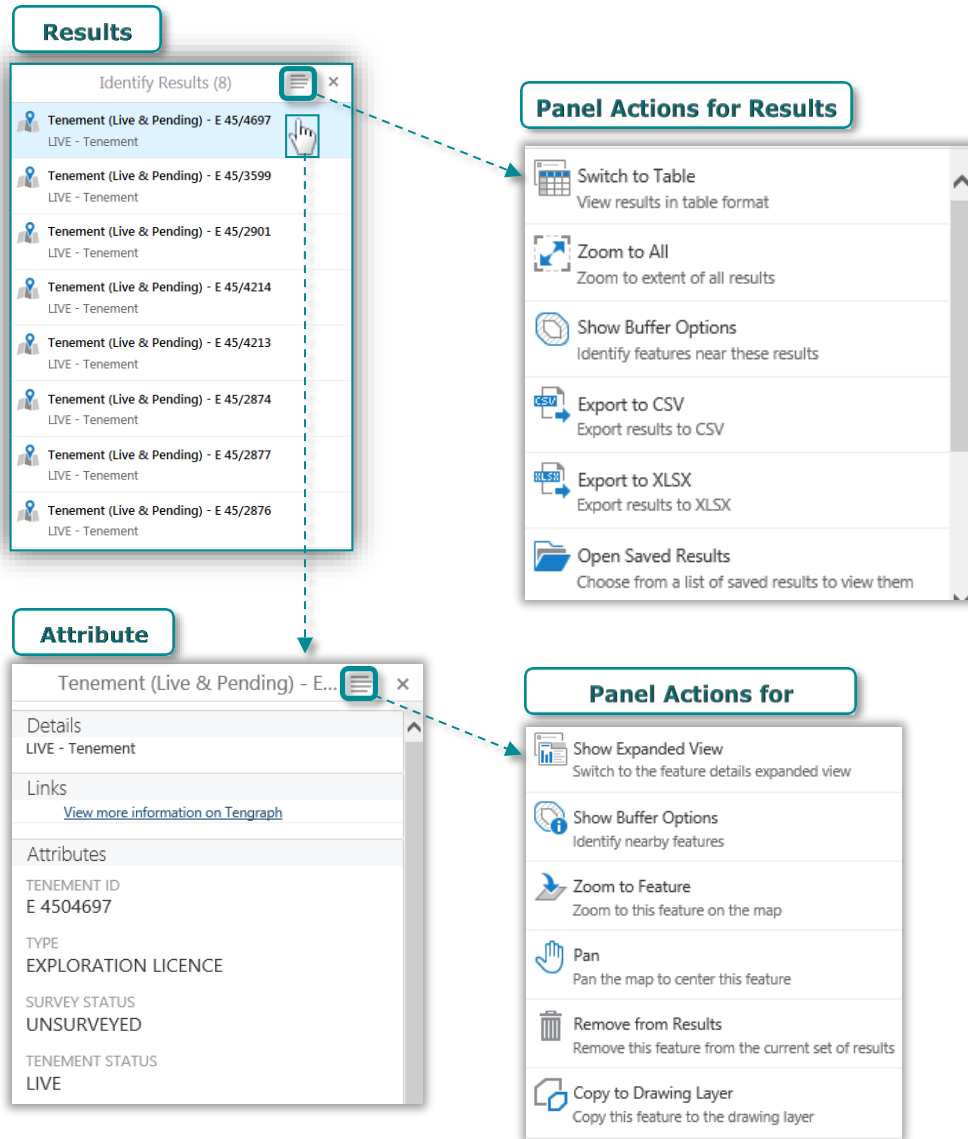








- Tenement (Live & Pending) - M 45/655
- LIVE - Tenement
- Tenement (Live & Pending) - M 45/438
- LIVE - Tenement
- Tenement (Live & Pending) - L 45/37
- LIVE - Tenement
- Tenement (Live & Pending) - M 45/515
- LIVE - Tenement
- Tenement (Live & Pending) - P 45/3056
- PENDING - Tenement

Toggle between Table View and List View in the Results List with Panel Actions

When you click to open the **Panel Actions Menu**  from an **Attribute List** on the left panel, the following tools will be made available.

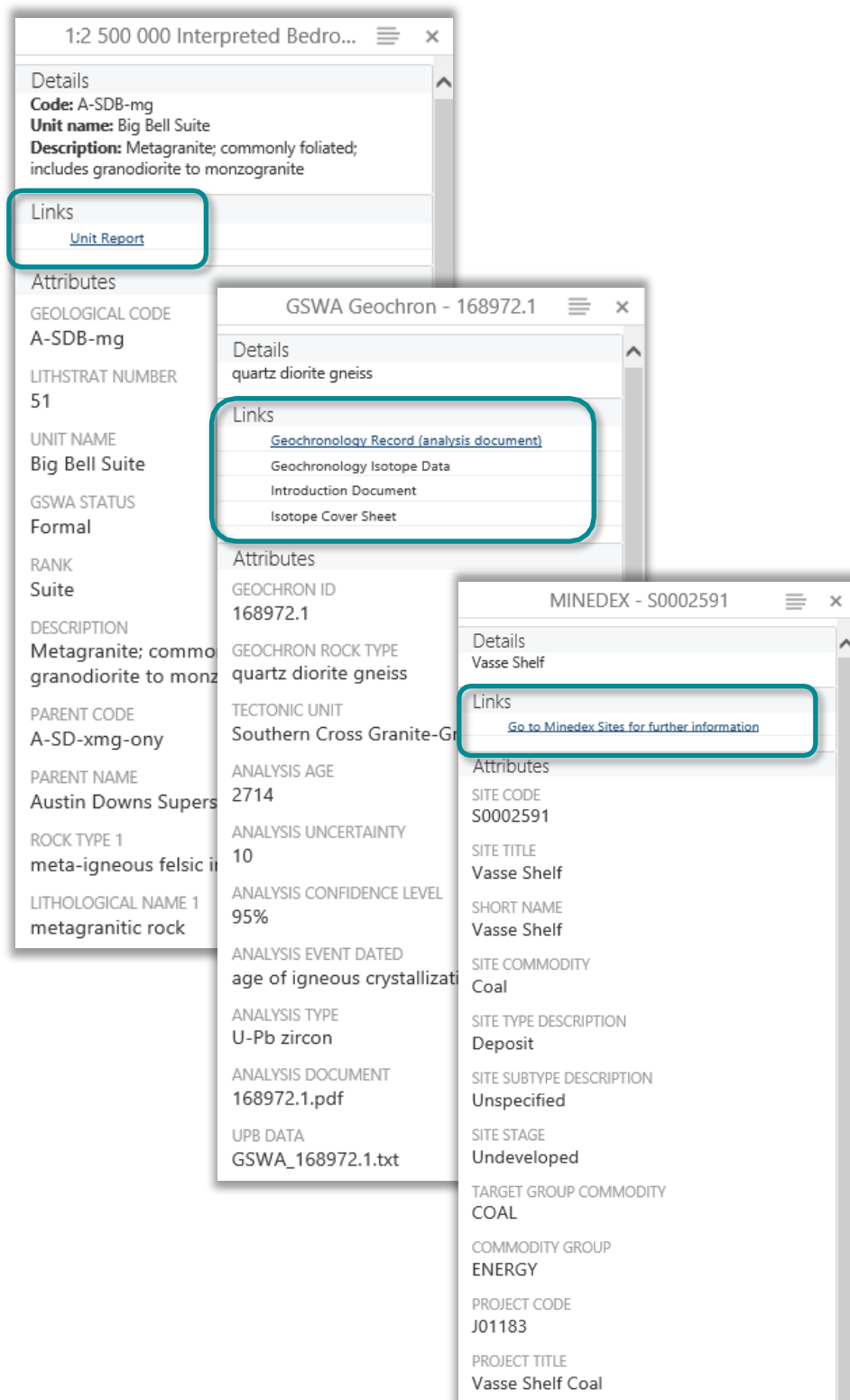
Note: an attribute list is displayed when you click on an item in the Results List (see diagram below).



Use this tool...	To...
 Show Expanded View Switch to the feature details expanded view	Switch to the feature details expanded view.
 Show Buffer Options Identify nearby features	Identify nearby features.
 Zoom to Feature Zoom to this feature on the map	Zoom to this feature on the map.
 Pan Pan the map to center this feature	Pan the map to centre this feature.
 Remove from Results Remove this feature from the current set of results	Remove this feature from the current set of results.
 Copy to Drawing Layer Copy this feature to the drawing layer	Add the shape of this result to the drawing layer.

Using Hyperlinks:

Click on any hyperlinked text in the Links section of the attribute list to provide additional information and access to items such as reports, documents, images and other online systems. **Note:** not all map layers provide links to downloads or access to other systems. These links will only be available where applicable.




Attribute lists showing various hyperlinks available


Map Layers/Layer List

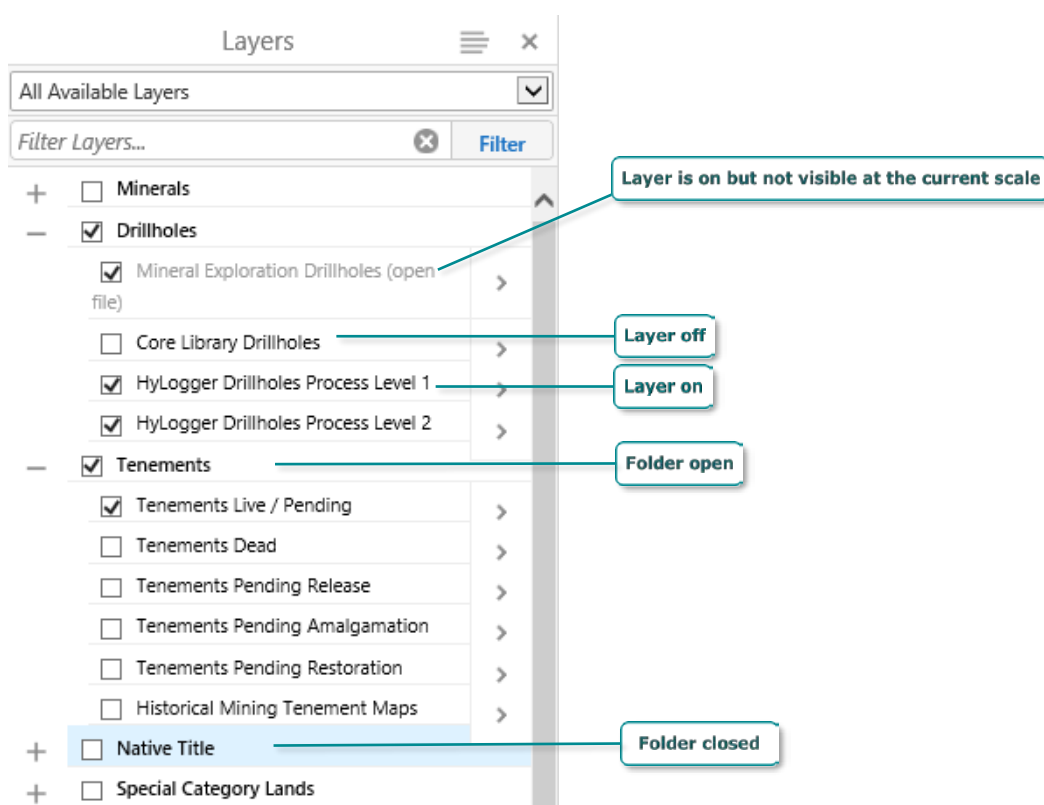
Another important list that appears in the information panel is Map Layers, which is sometimes referred to as the Layer List.

Map Layers open when you click the arrow  beside the **I Want To... menu**.

Because maps often have many layers, the layers in Map Layers are organised into groups that you can collapse and expand. When you first open the Map Layer, some groups may be open while others are closed. Similarly, some layers may be visible on the map while others are not. Beside each layer or layer group, there

is a checkbox that is used to turn a layer on or off . Beside layer group, there is a Plus icon  or

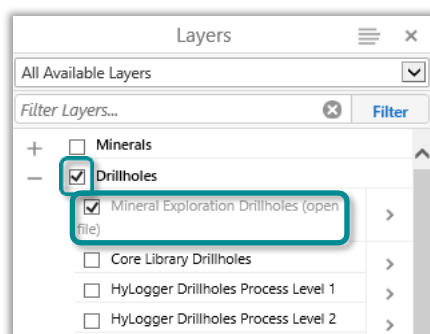
Minus icon  that you use to expand or collapse the layers inside the group. Expanding and collapsing groups does not change which layers are visible on the map; it simply helps you stay organized.




Layers listed in folders

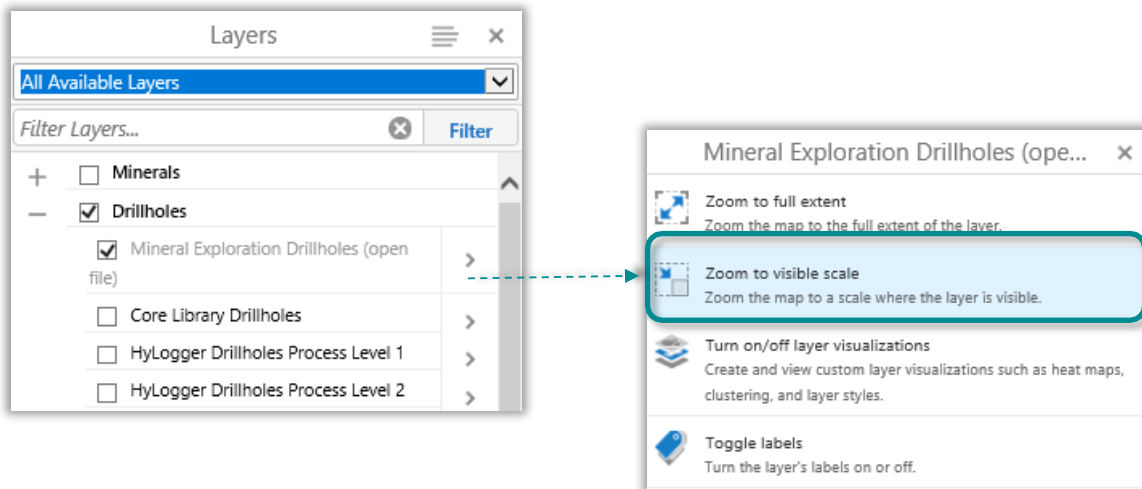
Using the Layer Actions Menu:

1. To turn a layer on or off, click the checkbox in front of that layer. Layers with text that is pale grey are not visible at the current scale.



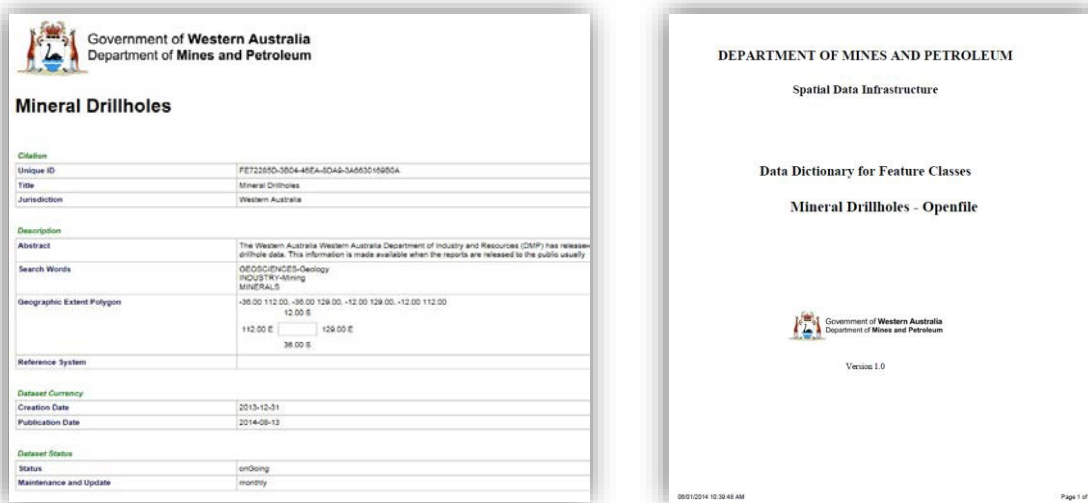
Legend displayed in Map Layers

- To zoom directly to where a layer is visible, click the **Layer Action** button  in the list, and then click **Zoom to visible Scale**.



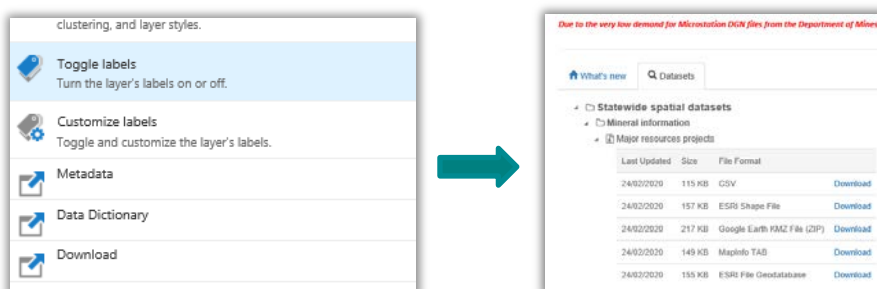
Click **Zoom to visible Scale** in the Layer Actions menu

- To view more information about the layer select **Metadata** from the Layer Actions Menu. When selected, another Tab in the Web browser will be created to display Metadata information.
- To view a Data Dictionary of the Layer, select **Data Dictionary** from the Layer Actions Menu. When selected, another Tab in the Web browser will be created to display a PDF document of the Data Dictionary.



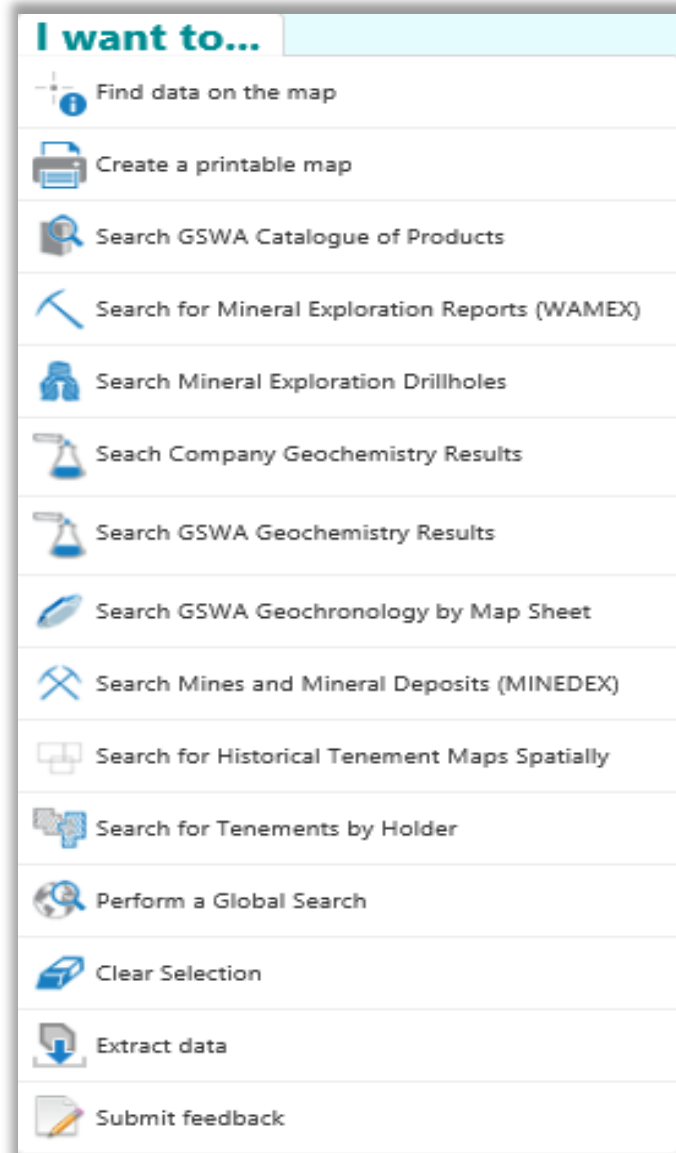
An example of Metadata, and Data Dictionary

- To download Data for ArcMap, MapInfo or other formats of the layer select **Download** from the Layer Actions Menu. When selected, another Tab in the Web browser will be opened to display the Data Download Centre page. Use the mouse right click, save as to save.



The “I want to...” Menu

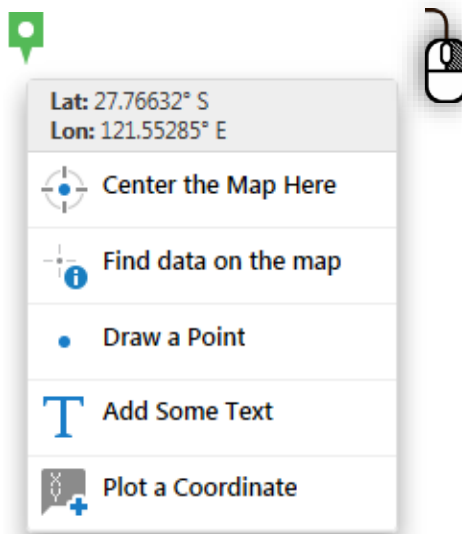
When the map first opens, this menu is a button on the map **I want to...**. When you click the button, the **I want to...** menu displays a list of tools that are used often. Essentially, this menu is a shortcut to the tasks that you are likely to want to do more often than others.



I Want to... menu – open

The Context Menu

The context menu opens when you right-click on the map. The options you see in the context menu may change depending on the map you are using or where on the screen you click.



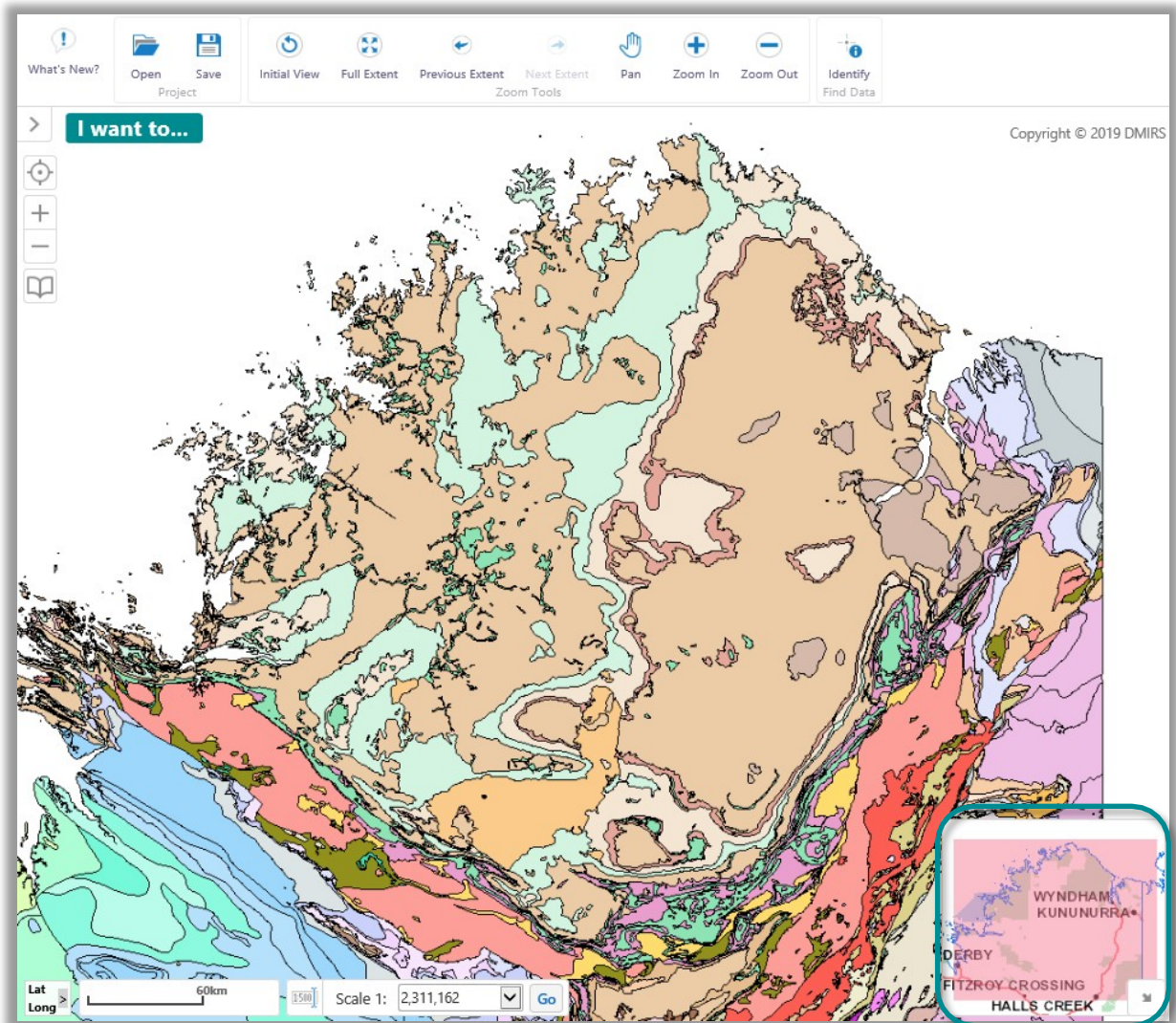
Context menu options

The default options in the context menu include:

- **Center the Map Here:** Centres the current view of the map at the point that you right-clicked.
- **Find data on the map:** Lists all the features at the point on the map that you clicked.
- **Draw a Point:** Draws a point where you clicked.
- **Add Some Text:** Opens a text box at the place you right-clicked so that you can type in the text you want to add.
- **Plot a Coordinate:** Create a coordinate label at the place you right-clicked.


The Overview Map

The Overview map is a small view of the full map showing the current view as a blue square. Seeing the current view in relation to the whole map helps you orient yourself on the overall map.




Overview map open in the bottom right corner of the map

To open the Overview map:

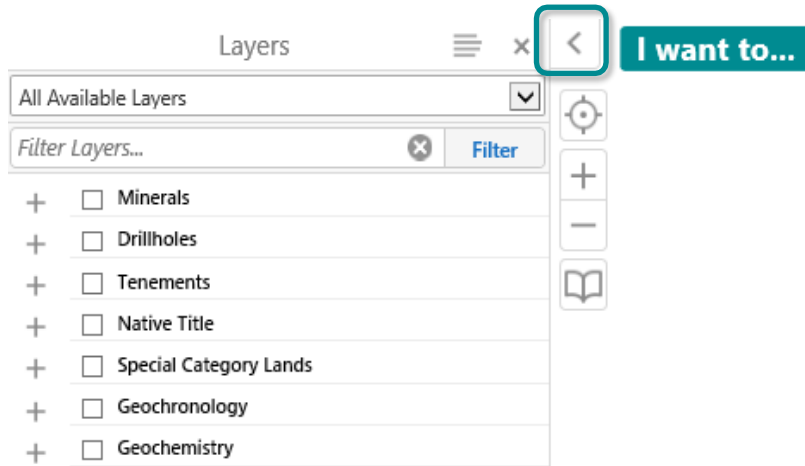
Click the arrow icon  in the bottom right corner of the map.

To close the Overview map:

Click the arrow icon  in the bottom right corner of the Overview map.

Open and Close the Information Panel

The information panel displays many different sets of information depending on what you have selected on the map. It displays the results of searches or the list of layers on the map and it is often a gateway to finding more information about the features on the map.




An example of an Open Information Panel

To open the information panel:

Click the arrow to the left of the **I want to...** menu



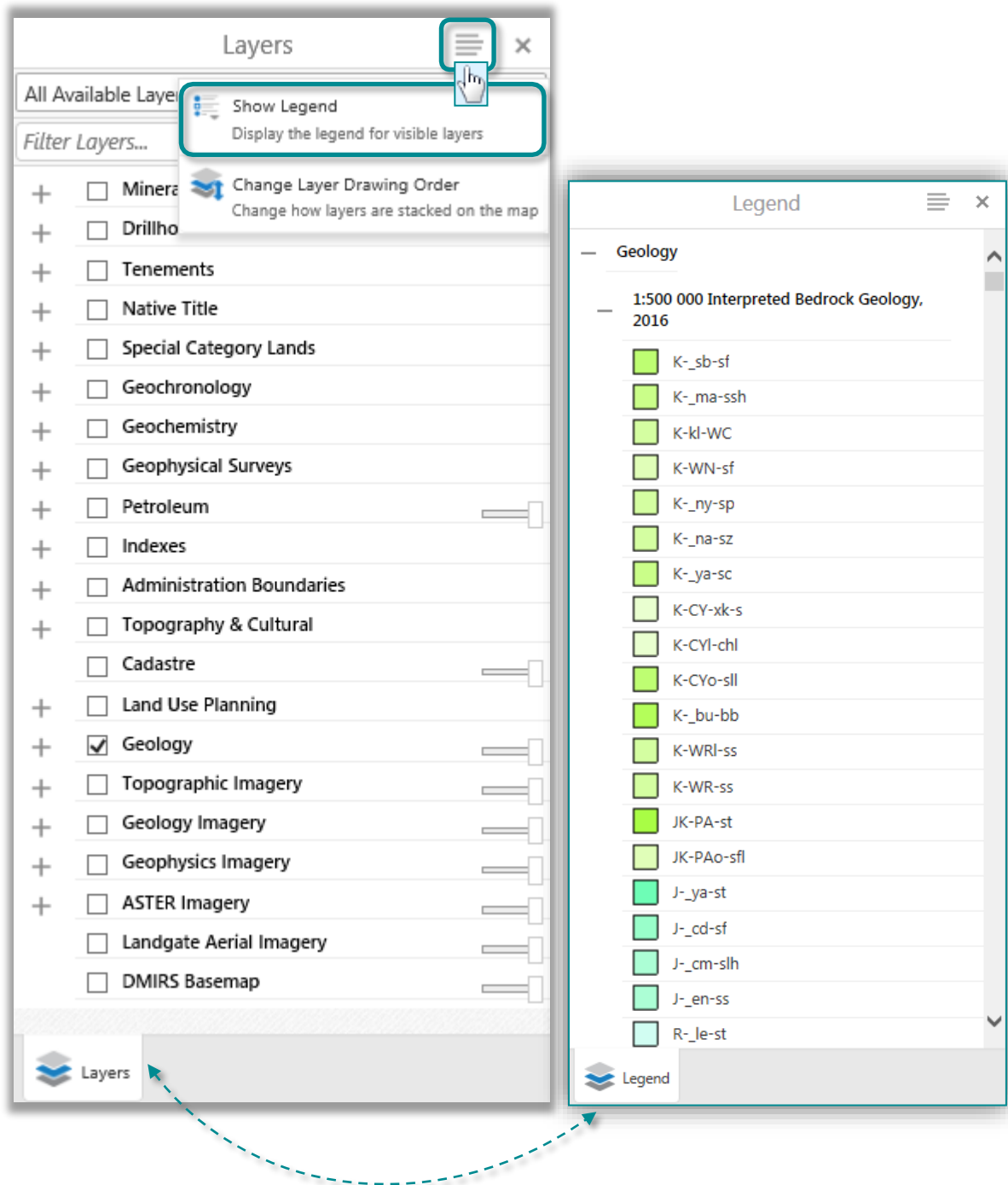
To close or hide the information panel:

Click the arrow  to the left of the **I want to...** menu.

When you hide the information panel, the data displayed is not deleted so you can refer to it again when you open the panel. When you exit the application completely, the data is cleared from the information panel.

View the Map Legend

When the Map Layers are open in the Information panel, you can quickly toggle between the map legend and the Map Layers by clicking the Layer Action panel.



Map Layers & Legend displayed in the Map Layers panel

Appendix

About GIS and Computerized Maps

What is GIS?

A Geographic Information System (GIS) integrates hardware, software, and data to capture, manage, analyse, and display geographic information. Many organisations use GIS to examine data, answer questions, solve problems and most importantly, make informed decisions in thousands of different situations. For example, government organisations such as DMIRS (Department of Mines, Industry Regulations and Safety) use GIS to track a host of different data from Geological boundaries, Mineral Exploration data to Mining and Petroleum Tenement information and situate this information on maps. One very large benefit of computerised maps is that they can quickly combine information from different sources or layers and display them on the same map.

Example

Let's imagine a Prospector would like to locate their Tenement and would like to view all Abandoned Mines, Mines, Deposits and Prospects and some Geology over the area. They could create a map with the following layers:

- Tenements Live.
- Abandoned Mines Inventory.
- Mines, Deposits and Prospects.
- 1:500 000 Geology.
- Topography (Towns & Roads).

With this information, it would be possible to quickly locate the Tenement, if there are any Abandoned Mines and the location of all existing Mines, Deposits and Prospects. These layers can also be supplemented with the 1:500 000 Interpreted Bedrock Geology of the state and some Topography.

Information in Computerised Maps

The key to understanding how computerised maps work, is to understand how the information in the map is structured.

Layers, Features and Attributes

Information in web-based maps is separated into layers. Each layer can have a different set of information. For example, if you were wanting to keep track of Geological data, you could have one layer that showed Bedrock Geology, and another layer for Linear Structures, and yet another for Tectonic Units.

Each layer of the map has features on it, for example the Linear Structures on the Linear Structures layer and Tectonics on the Tectonics layer. Each single feature (Tectonics) has information about it in the form of **attributes**, for example, what is the name of the Tectonic Unit, its Lithology, age range, etc. So, although any one unit may be only a polygon on the map, that polygon contains information about all the attributes of that Tectonic Unit. If you think about all the Geology on any map, plus the Geology types, Structures, Bedrock and all their attributes, that is a lot of information.

How is all this information stored in a map? Actually, the information is stored in a database but because this is a computerised map, it can access information from multiple databases if it needs to.

Let's return to the single Tectonic unit and its attributes. If we had to track all the information about a unit, we would enter it in a spreadsheet or database as a single **record**. Each category of information, for example "TECTONIC NAME", is called a **Field**.

Single Record in a Database

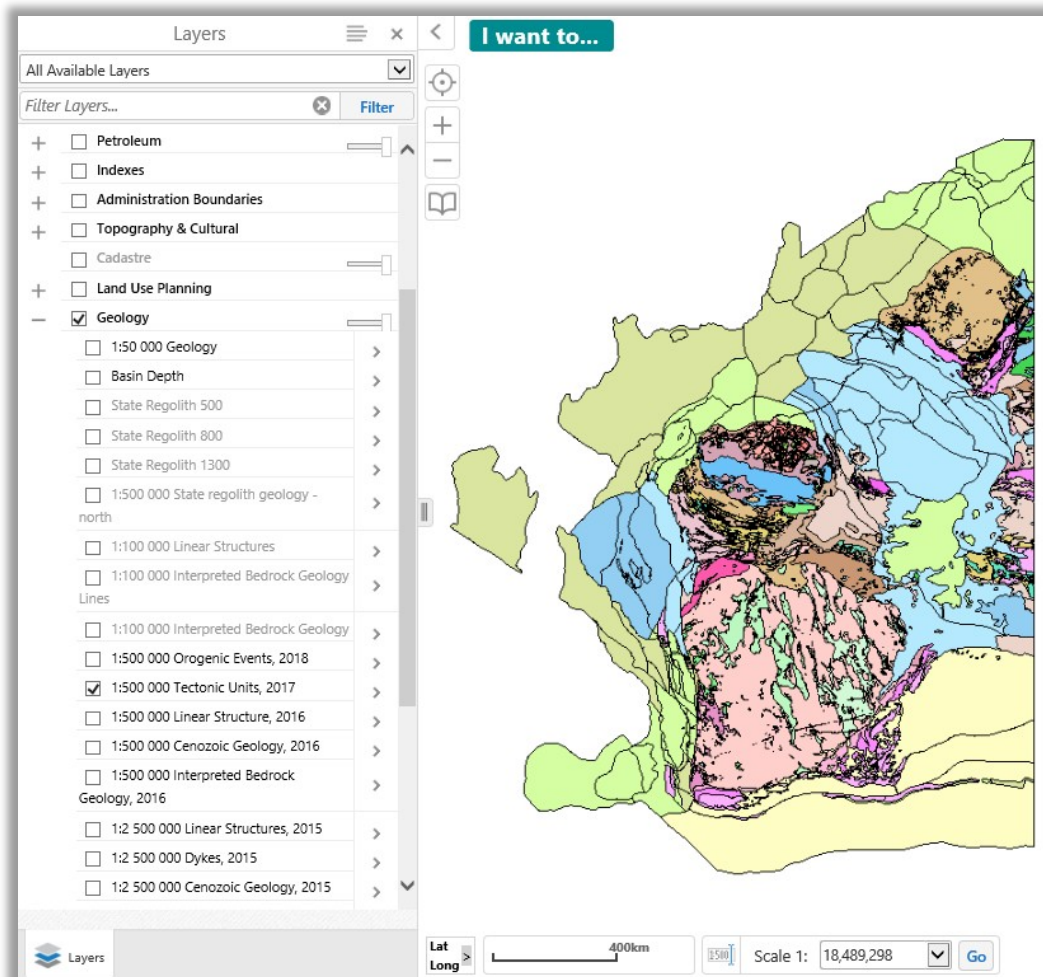
TECTONIC CODE	TECTONIC NAME	LITHOLOGY	PARENT NAME
IP-xs-b-PNC	Cadda Terrace	Sedimentary and volcanic rocks	Perth Basin

The attributes for a number of Tectonic Units would look like this in the database:

Multiple Records in a Database

TECTONIC CODE	TECTONIC NAME	LITHOLOGY	PARENT NAME
IP-xs-b-PNC	Cadda Terrace	Sedimentary and volcanic rocks	Perth Basin
P_M-xs-b-MO	Moora Group	Sedimentary and volcanic rocks	Pinjarra Orogen
APN-xm-g-YSW	South West Terrane	Igneous and metamorphic rocks	Yilgarn Craton
IP-xs-b-PEE	Beermullah Trough	Sedimentary and volcanic rocks	Perth Basin
IP-xs-b-PND	Dandaragan Trough	Sedimentary and volcanic rocks	Perth Basin

The entire Tectonic units for the state, would look something like this:



WA Tectonic Units

This ability to add spatial data and information (attributes) is the foundation of GIS. A GIS tells us not just where something is but also *what* it is. Computers make GIS possible as a computer can link maps to a database of information. By using a computer, we can have hundreds of fields (different attributes) for millions of records.

About Web-Based Maps

Paper maps tell you a few things about something on the map but web-based maps are far more powerful, as they allow you to interact with them.

Some of the ways you can interact with a web-based map include:

- Pan and zoom to areas of interest.
- Search for specific features on a map.
- Display additional information about the features shown on a map.
- Measure the length and area of features.
- Make annotations on a map.
- Print and create reports on features and information contained within the map.
- Share your map with others.

As different as this is from a paper-based map, it is just the beginning. Because a web-based map is a computerised map, it is possible to perform complex tasks using the information inside them. Previously, these complex tasks were only possible for people trained to use geographic information systems (GIS) but the arrival of web-based maps like Google and Bing maps has brought this information into the mainstream. So now, instead of using a paper-based map that only tells you a few things about each feature on a map, a GIS can tell you hundreds.

About Layers

Web maps separate information into layers. This means that you can show or hide information on the map by activating or deactivating layers. It also means that you can have multiple layers of information on a single web map.

A map layer is really a category of information like Operating Mines, Linear Structures or Bedrock Geology. Any information can be represented on a layer but to make it easier to read, the information is represented in simplified abstract ways. For example an Operating Mine would be represented as a point, a Linear Structure as a line and Bedrock Geology as polygons. Like any computerized image, the features on a layer can be represented in two ways - Vector or Raster.

Vector Layers

In vector layers, features are usually represented as points, lines, and polygons.



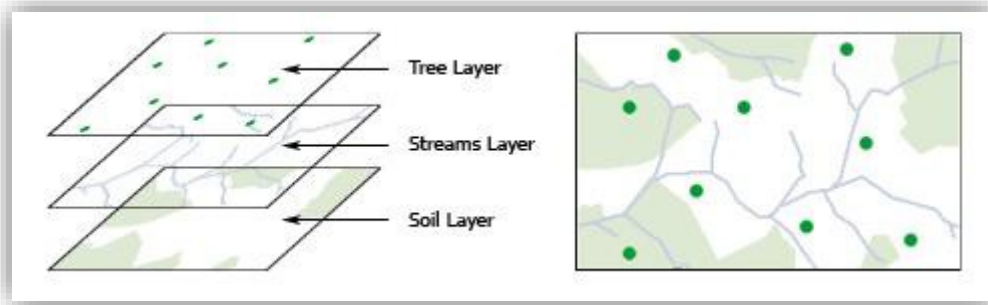
Points: Points are used to show where a feature is when its physical shape is not important (for example, Operating Mines).



Lines: Lines are used to represent features that are continuous (for example, the Linear Structures in a Structural layer).



Polygon: A polygon is a solid, multi-sided shape. Polygons are used to represent features that occupy an area. Everything inside the boundary of the polygon is one record and has the attributes of that record (for example, Bedrock Geology in the 1:500 000 Geology layer).



Vector layers using points, lines and polygons

Some other layer terms are: coverages, themes, or shapefiles, which are simply names for a type of layer.

Raster layers

Raster layers are images made up of pixels in a grid. Web maps that are images, often have a raster layer, as this is how digital photos are stored. Raster images do not have attributes attached to their features although a pixel can contain a single value like the colour of a roof tile, or the measure of hurricane force at a particular location.



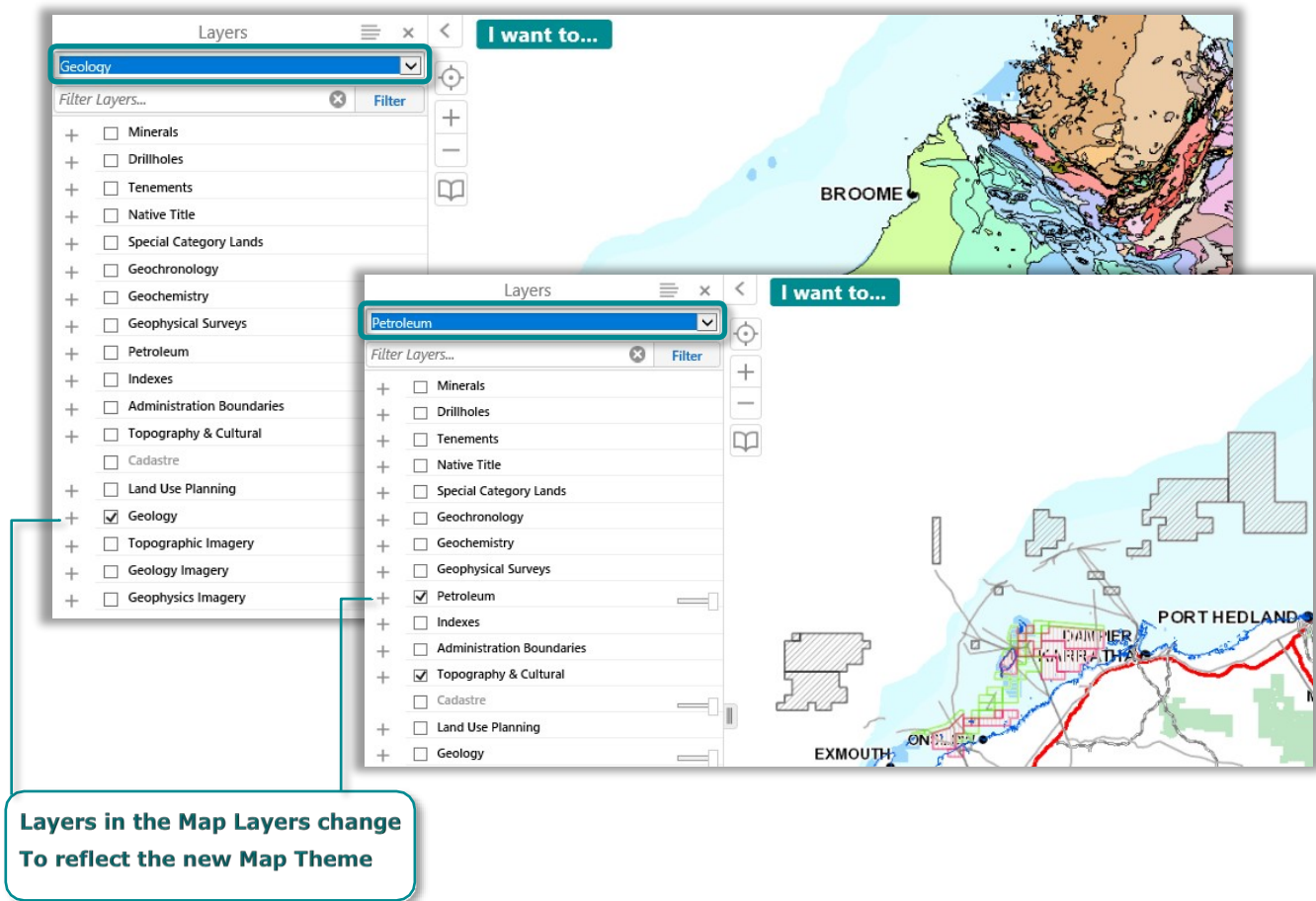
Raster layer made up of pixels

Some base maps look like vector layers but are actually tiled raster images. Tiled images are used because they display faster and deliver a good combination of layers for providing context and orientation. If your base map has raster layers, you cannot turn the layers off and on.

About Map Themes

In some maps, layers that contain similar information are grouped into a specific theme of related data. For example, all the layers that involve Petroleum including Petroleum Titles, Pipelines and Applications could be grouped into a map theme called Petroleum Information. You could also have a Map Theme that shows mostly layers about Geology and Geoscience. As each map theme may contain a complex set of layers, it saves you the effort of selecting the layers manually, making it possible to quickly switch between very different sets of data.

When you select a map theme, the layers in the Map Layers panel also change. You can still turn layers in a Map Theme on or off as you normally would.



Map Themes make it possible to quickly flip between different predefined layer sets

About Map Scales

The Map Scale box and Scale Bar are for reference only, and may not be completely accurate. Without information about the size of your monitor or device, it is impossible to accurately provide a ratio scale. Any scale error is more pronounced if you have a large monitor or a projector with a very low resolution, or if you have a small monitor at a very high resolution. A 17" monitor running at a resolution of 800x600 or 1024x768 represents the scale more accurately.

Some maps have limits on the scales at which you can view the data, and some layers and map labels may only appear at certain scales. If the layer you need is unavailable at your current map scale (greyed out), zoom in until the layer becomes available.

How Scale Works

When you zoom in, the scale of the map gets larger. A large-scale map covers a smaller land area than a small scale map. A map that is zoomed in to a small town is large scale, whereas a map of Western Australia is small scale.

The reason is that scale is a ratio. In other words, 1:10 means that one unit on the map represents ten units in the real world. In this case - 1:10 - the map is one-tenth the size of the real world. Because it is a ratio, it doesn't matter if the units are centimetres, metres, or any other units.

If you have a 1:100 000 map, the map is 1/100 000 the size of the actual place and 1/100 000 is a much smaller fraction (or ratio, or scale) than 1/10. A larger scale equals greater detail.