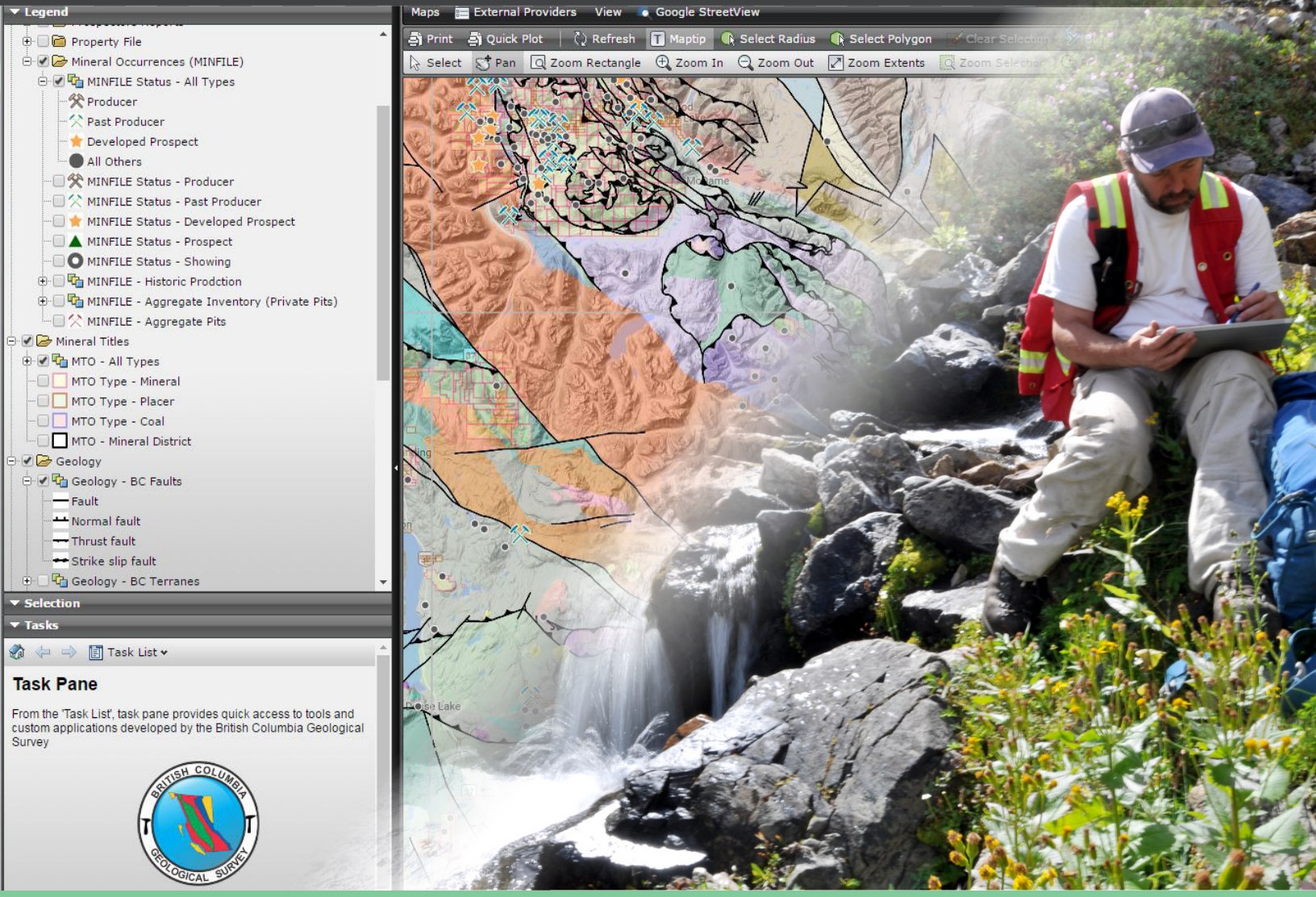


MapPlace 2 (beta) Workshop

Yao Cui, Gabe Fortin, Sarah Meredith-Jones, Steven Zhao, and Larry Jones

MapPlace
digital geoscience for British Columbia

British Columbia
Ministry of Energy and Mines

British Columbia Geological Survey Information Circular 2017-3

MapPlace 2 Workshop (beta)

Yao Cui
Gabe Fortin
Sarah Meredith-Jones
Steven Zhao
Larry Jones

Ministry of Energy and Mines,
British Columbia Geological Survey
Information Circular 2017-3

Ministry of Energy and Mines
Mines and Mineral Resources Division
British Columbia Geological Survey

Recommended citation: Cui, Y., Fortin, G., Meredith-Jones, S., Zhao, S., and Jones, L., 2017. MapPlace 2 (beta) workshop. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey Information Circular 2017-3, 89p.

This publication is available, free of charge, from the British Columbia Geological website:
http:www.em.gov.bc.ca/mining/geoscience/publicationscatalogue/informationcirculars/pages/IC2017-3.aspx

We thank Melanie Mitchell, Adrian Hickin, and Stephen Rowins for their help organizing the MapPlace 2 workshop, Deanna Miller, Jessica Norris, Holly Arnold, and Travis Ferbey for their support improving the MapPlace 2 web service and workshop materials, and an anonymous reviewer.

Preface

MapPlace 2 (beta) Workshop

In the modern world of digital data sharing and online web delivery of geospatial and geological information, the need for a reliable, high-performance web service is paramount to the success of any geoscience organization. MapPlace 2 is such a web service.

Developed entirely in-house by the British Columbia Geological Survey (BCGS), MapPlace 2 serves the diverse needs of the mineral exploration industry, resource planners, public safety agencies, communities, First Nations, government, research organizations, and the general public. It builds on the success of the original MapPlace, which was created in 1995 and has a proven record of helping decision makers reduce the costs of accessing and analyzing geoscience data in British Columbia.

The revamped MapPlace 2 is easier to use and has much improved functionality and performance. It can be used on either a Mac or a PC, does not require plug-ins, and works in most web browsers. MapPlace 2 differs from many other web services because it allows visualizing and querying province-wide geoscience data at exceptional speed and provides advanced applications to search, analyze, report, and download these data.

MapPlace 2 embraces the most appropriate open-source software for rendering maps, integrating databases, and developing web applications. The real power of MapPlace 2 derives from databases that 'talk' to each other. This enables users to conduct queries and generate personalized results by connecting many data sources that are continuously updated.

This handbook introduces readers to the new MapPlace 2 interface and provides a review of how the basic tools function and what datasets are available. A series of scenario-based exercises teach readers how to get the most out of MapPlace 2 by doing drills and actions designed to reinforce the basic MapPlace 2 functions and some of its more advanced features.

MapPlace 2 results from the efforts of a dedicated team of Survey geoscientists. These efforts continue as BCGS continues to improve the service. Proud to release this beta version of MapPlace 2 to the general public, we gratefully acknowledge the support of our friends in the mineral exploration industry who challenged us to overcome past limitations and develop a web service to carry us into the future.

Stephen M.Rowins
Chief Geologist and Executive Director
British Columbia Geological Survey

Table of Contents

Introduction 1

Part 1. MapPlace 2 interface 3

Part 2. MapPlace 2 data 8
- 2.1 Topographic base maps and imagery from third-party providers 8
- 2.2 Base Maps 9
- 2.3 Places 10
- 2.4 Administrative Boundaries 10
- 2.5 Mineral Inventory 10
- 2.6 Mineral Titles 14
- 2.7 Geology: Bedrock geology 15
- 2.8 Surficial Geology 16
- 2.9 Geochemical Data 18
- 2.10 Rock Property 19
- 2.11 BC Age 20
- 2.12 Mineral Resource Assessment 21
- 2.13 Geophysical Surveys 21
- 2.14 Publication Catalogue 22

Part 3. MapPlace 2 tools 23
- 3.1 Pan 23
- 3.2 Zoom 23
- 3.3 Select 24
- 3.4 Measure 26
- 3.5 Refresh 26
- 3.6 Maptips 26
- 3.7 Buffer 27
- 3.8 Redline 28
- 3.9 Quick Plot 30
- 3.10 Database search tools 31
- 3.11 General Search 32
- 3.12 ARIS Search 33
- 3.13 MINFILE Search 34
- 3.14 MTO Title Search 36
- 3.15 Mineral Potential Search 38
- 3.16 Bedrock Geology Search 38
- 3.17 Publications Search 39
- 3.18 Summary report tools 40
- 3.19 Reports derived from MINFILE 40
- 3.20 Reports derived from ARIS 41
- 3.21 Reports derived from COALFILE 42
- 3.22 Reports derived from MTO 42
- 3.23 Reports derived from Bedrock Geology 43
- 3.24 Reports derived from RGS 43
- 3.25 Reports derived from Rock Property 44
- 3.26 Reports derived from Mineral Resource Assessment 44
- 3.27 Reports derived from Geochron age data 45

Part 4: Exercises 46
- Exercise 1: Interface and datasets 46
- Exercise2: Selection, reports and downloads 55
- Exercise 3: Tenure research 69
- Exercise 4: Map creation 77

MapPlace 2 Workshop (beta)

Yao Cui[1a], Gabe Fortin[1], Sarah Meredith-Jones[1], Steven Zhao[1], and Larry Jones[1]

[1]British Columbia Geological Survey, Ministry of Energy and Mines, Victoria, B.C., V8W 9N3
[a]corresponding author: yao.cui@gov.bc.ca

Recommended citation: Cui, Y., Fortin, G., Meredith-Jones, S., Zhao, S., and Jones, L. 2017. MapPlace 2 (beta) workshop. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey Information Circular 2017-3, 89p.

Introduction

What is MapPlace 2?

Since its inception in 1895, the British Columbia Geological Survey has created, delivered, and archived geoscience data to help industry, research agencies, and the general public make decisions related to the Earth sciences.

Continuing this tradition MapPlace 2 is a web service that can be used to efficiently mine multiple provincial geoscience databases.

How does MapPlace 2 differ from the original MapPlace?

The original MapPlace has served the province well for over 20 years. Building on its predecessor, MapPlace 2

- can be used on either a Mac or a PC, requires no plug-ins, and works in most web browsers
- has a simpler, more intuitive interface that is easy to use
- accesses third-party base maps and imagery from sources such as Google, Bing Maps and OpenStreetMap
- displays province-level data at exceptional speeds

How does MapPlace 2 differ from other web map services in Canada?

MapPlace 2 goes beyond simply displaying information. In MapPlace 2

- databases are continuously updated
- databases talk to each other, enabling users to conduct queries and generate custom results by connecting to current data from many sources

Who is MapPlace 2 for?

MapPlace 2 is designed for anyone who wants to reduce the costs of accessing and analyzing geoscience data in British Columbia, including the mineral industry, resource planners, public safety agencies, communities, First Nations groups, government, research organizations, and the general public.

What databases does MapPlace 2 beta access?

Using this beta version of MapPlace 2, users can browse, extract, analyze, and visualize information from

- base maps, including imagery from Google, OpenStreetMap, and Bing Maps

- the provincial bedrock geology digital compilation map
- the provincial ice-flow indicator compilation map
- the British Columbia Geological Survey publication catalogue
- RGS (Regional Geochemical Survey), geochemical surveys with multi-element analyses from samples of rock, till, stream sediment, and water
- MINFILE, a mineral inventory documenting more than 14,600 metallic, industrial mineral, and coal occurrences in British Columbia
- COALFILE, a collection of close to 1,000 coal assessment reports
- ARIS (Assessment Report Indexing System), a collection of over 34,000 assessment reports
- Property File, a collection of over 68,000 government, university, and industry documents
- geophysical data, including multisensor airborne surveys of targeted areas
- Mineral Titles Online (MTO), the public record of mineral, placer mineral, and coal tenures in the province

What can MapPlace 2 beta do?

The basic query and display features of MapPlace 2 are fully functional in this beta release. MapPlace 2 communicates with databases enabling users to

- conduct simple searches (e.g., publications about a given area or rock unit), or more complex custom queries (e.g., copper anomalies in tenures acquired by a particular company in a given time frame)
- download query results as Excel files or on Google Earth
- display results on base maps and imagery of choice
- create thematic maps that define, for example, geochemical anomaly trends or clusters
- personalize maps by adding points, lines, polygons, and labels
- print and save maps as PDF files with essential cartographic features such as a title, legend, scale bar, north arrow, and coordinates

What's next for MapPlace 2?

As with any digital system, MapPlace 2 continues to evolve. Future versions will see improvements to advanced functions and add new tools, and provide access to more databases. We welcome, and actively solicit, comments from the public on how to make MapPlace 2 better

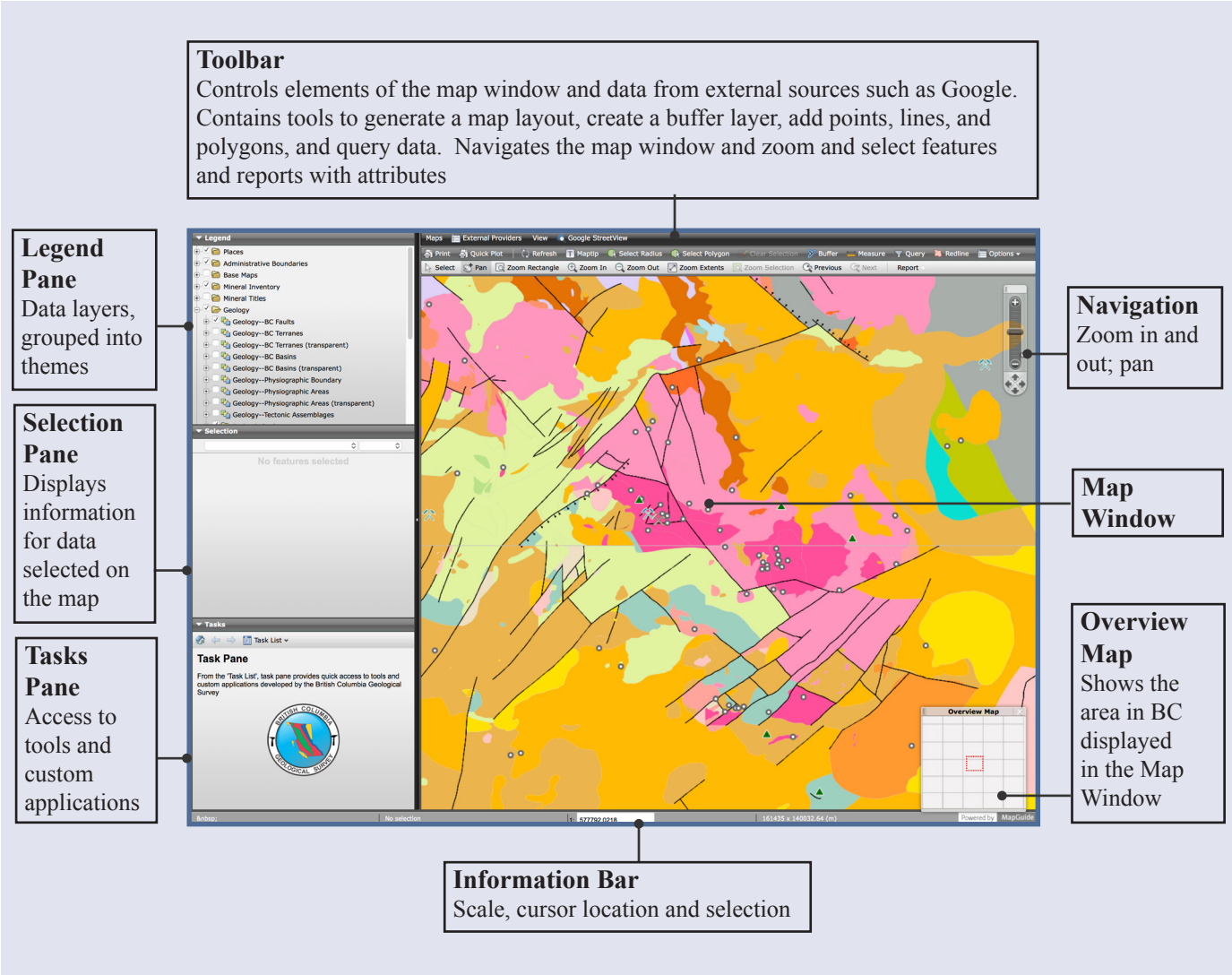
What will you learn in this workshop?

Through demonstrations and scenario-based exercises, you will learn how MapPlace 2 can make your search for geoscience information less time consuming and less costly. With drills designed for you to practice basic MapPlace 2 functions and explore some of its more advanced features, you will learn

- how to use the interface
- how the basic tools function
- what datasets are available and how they are structured
- how to conduct simple searches, downloading data and creating custom maps
- how to use advanced tools to filter large datasets and make custom spatial and non-spatial queries
- how to personalize maps by adding points, lines, polygons, and labels

Part 1. MapPlace 2 interface

The MapPlace Map Window is bounded by several components. At the top is the Toolbar, at the bottom is an Information Bar, and on the left are three panes: Legend, Selection, and Tasks. Within the Map Window on the right are the Navigation control and Overview Map.



Toolbar

The first ribbon on the toolbar controls elements of the map window and displays data from external providers.

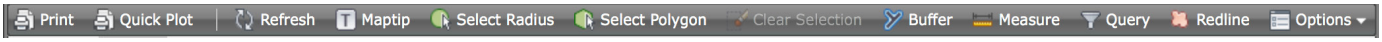
Maps Click to display a drop down of available themed maps (currently only default theme).

External Providers Click to display a drop down menu of available base maps from external providers like Google or Open Street Map.

View Toggle display of the Overview Map, Legend Pane, Selection Pane and Tasks Pane.

Google StreetView Display Street View, Photo Sphere, and 'See inside' in Tasks Pane when one of the Google maps is turned on and StreetView is available. The magnifying glass can be dragged and moved to desired locations.

The second ribbon on the toolbar contains tools to select features by radius or a polygon, create buffers, add text, points, lines, and polygons, and generate custom maps for print-out or to be saved as PDF.



Print Create a quick print of what is currently displayed in the map window with optional title, legend and north arrow.

Quick Plot Similar to Print , but with more options for customizing your map layout.

Refresh Refreshes the data in the map window.

Maptip Click to enable and disable Maptip, which will show attribute data when you hover the mouse pointer over features in the map window.

Select Radius Click and drag to select features within a radius.

Select Polygon Select features within a polygon; click to start and click again to create as many nodes as you need, when you are done double click to complete the polygon and the data within will be selected.

Clear Selection If features are selected, click to deselect.

Buffer Create a new, customizable layer (referred to as a buffer) to select features in the Tasks Pane.

Measure Click to measure distance and and size of an area.

Toolbar cont...

Query Opens the Query Features within the Tasks Pane.

Redline With the Redline tool, add text, points, lines, and polygons.

Options Click to display the drop down menu and choose the units displayed when measuring a feature.

The third ribbon of the toolbar contains tools to help you navigate the map window, zoom in and out, and select data. It also contains a dropdown menu to display custom reports for the data selected.

Select Click to select a feature or click and drag to select multiple features within a rectangle.

Pan Click and drag to pan the map.

Zoom Rectangle Click or click and drag on the map to zoom in.

Zoom In Zoom in on the map by a preset increment.

Zoom Out Zoom out on the map by a preset increment.

Zoom Extents Click to zoom in to the full map extent; this will show all of BC in the map window.

Zoom Selection If you have selected features in the map window you can zoom into your selection.

Previous Click to go to the previous view.

Next If you have clicked 'previous view' this will take you back to the next view.

Report Custom reports are available for features you selected. Select the desired features, then click the report dropdown button and choose your report. Some reports contain links to more details from BCGS databases, download as Excel, and display on Google Earth (KML).

Information Bar

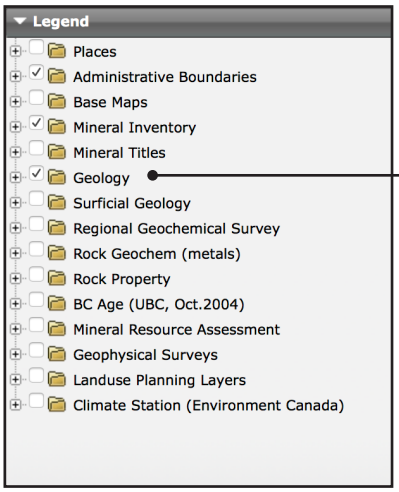
Displays cursor position, number of selected features and layers, scale, and the dimensions of the area displayed in the Map Window. Units specified in Options within the Toolbar.

Panes: Legend, Selection, and Tasks

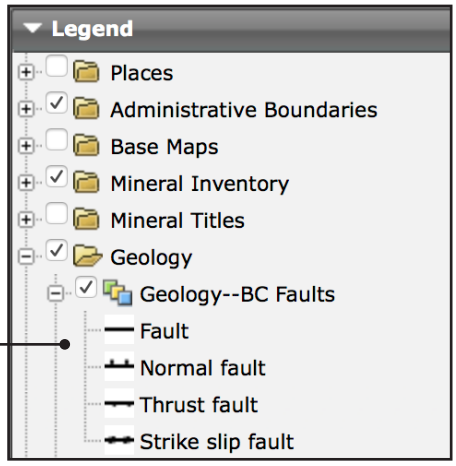
Legend Pane

In the Legend Pane are data layers that can be displayed and analyzed. To display the Legend Pane, click the drop down arrow. Alternatively, in the top ribbon of the Toolbar, click on View and choose Show Legend.

Data layers are grouped into themes. Clicking the ⊞ will expand the group to display the layers or sub-groups within. Clicking in the box ☐ will display a check mark ☑ and turn on the group and/or the layer. **Tip**: if the data are not displaying make sure the group is checked.

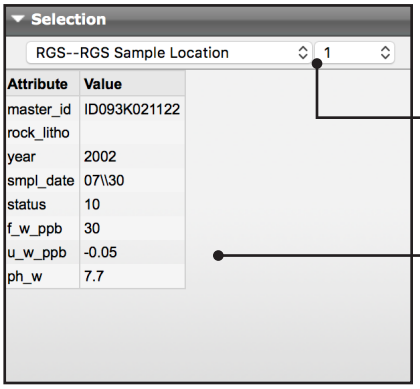


Example: Geology group contains all Bedrock Geology layers. Expand the group to see these layers and/or sub-groups. Clicking the plus may also display a legend corresponding to the layer. You can see this when expanding the layer containing faults.



Selection Pane

When layers are turned on and features selected, the Selection Pane will show attribute data. In this example, the RGS Sample Location layer is turned on and sample point '1' is selected. The sample ID, lithology, collection date and assay values are displayed, giving a brief view of the metadata without running a full report.



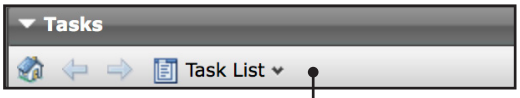
Dropdown box containing layers with selected features

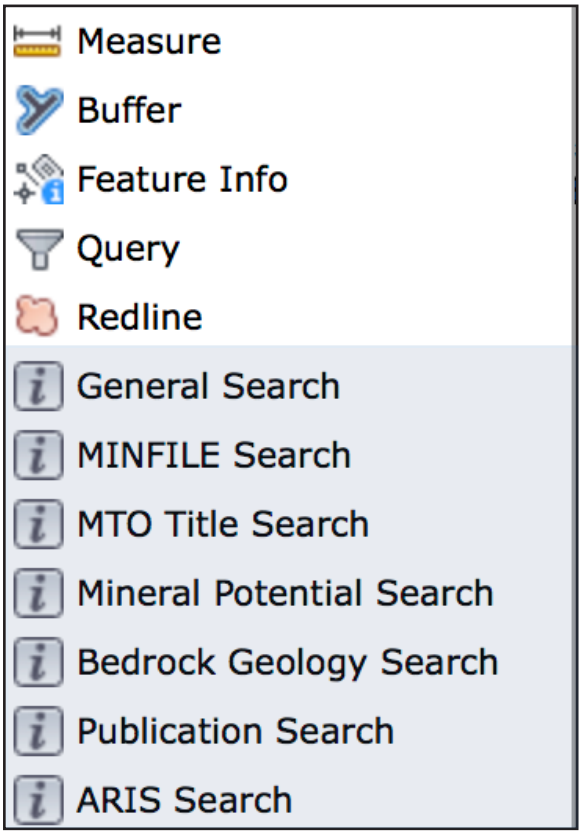
Attribute Data. Attribute label is taken directly from database column name

Tasks Pane

The Tasks Pane contains tools to search and analyze data available in the Legend Pane. Some of these tools are also available in the Toolbar and the Map Window menu.

No matter which tool is opened, the top navigation bar remains visible so that, at any time, you can choose a different Task from the dropdown Task List or go backwards or forwards in your Task history. Clicking the Home icon to return to the main Task Pane window.





Custom applications to search geoscience databases.

Choose one of these to display the interface of the search application.

Part 2. MapPlace 2 data

Topographic base maps and geoscience data on MapPlace 2 are organized by folders, and themed as map layers with styles and symbols shown in the Legend Pane. For each of the data products, map themes are listed and accompanied by a screen shot of the map layers in the Legend Pane showing the styles or symbols. A more detailed description for the data product is provided in the information side bar.

2.1. Topographic base maps and imagery from third-party providers

MapPlace 2 gives access to base maps and imagery from third-party providers including Google (Google Streets, Google Hybrid, Google Physical), Microsoft (Bing Maps Street, Bing Maps Satellite), and OpenStreetMap (TransportMap, CycleMap). These are available from 'External Providers' on the top Toolbar. A list of available features on each of the layers is provided in Table 1 for comparison. The base maps and imagery differ in resolutions, topographic features, and hillshades. For example, OpenStreetMap (CycleMap) provides extensive coverage of trails and resource roads that are unavailable in other base maps. Toggle between the options and select those that suit your needs.

Table 1. List of features from third party providers

External provider	Layer name	Features
Google	Google Streets	road network with topographic features
	Google Hybrid	road network on satellite imagery and aerial photography
	Google Physical	road network on hillshades and contours
Microsoft	Bing Maps Streets	road network with topographic features
	Bing Maps Satellite	road network on satellite imagery and aerial photography
OpenStreetMap	OpenStreetMap	road network with more detailed topographic features
	TransportMap	road network with topographic features
	CycleMap	road network, routes for cycling, and trails on top of hillshades and contours

When one of the Google maps is chosen for display, the Google StreetView (on top Toolbar) can be used to view StreetView, Photo Sphere, and 'See inside': drag the magnifying glass with a flashlight to the location, and display the view in the Tasks pane.

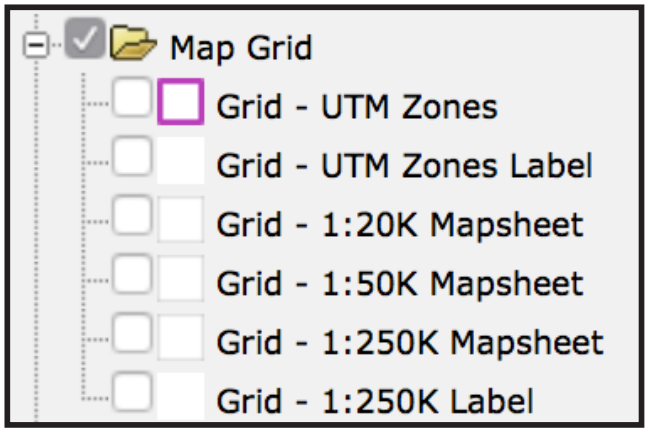
Third-party base maps and imagery from 'External Providers' are recommended for typical use and for better performance than the detailed topographic maps summarized below. Due to licensing restrictions, the base maps and imagery from 'External Providers' cannot be printed using Quick Plot and 'Print'; attempting to do so will generate a blank page. However, the Base Maps summarized following can be printed. See Section 3.9 for more details on making custom maps.

2.2 Base Maps

This folder contains base maps from the MapPlace 2 web server. By default, a topographic base map similar to OpenStreetMap is shown when the 'Base Maps' folder is turned on. It includes features such as road network, railway, trails, hydrography, and land use (e.g., residential, commercial, agricultural, schools, forested, parks). A legend for these features is unavailable. However they have common topographic themes and styles that are similar to those in OpenStreetMap. The labels and Maptip for most features also provide explanation. Due to the large volume of data, certain maps or details (e.g., contours) are only visible when zoomed to a certain level (e.g., at a scale greater than 1:100,000). The following map layers are also available.

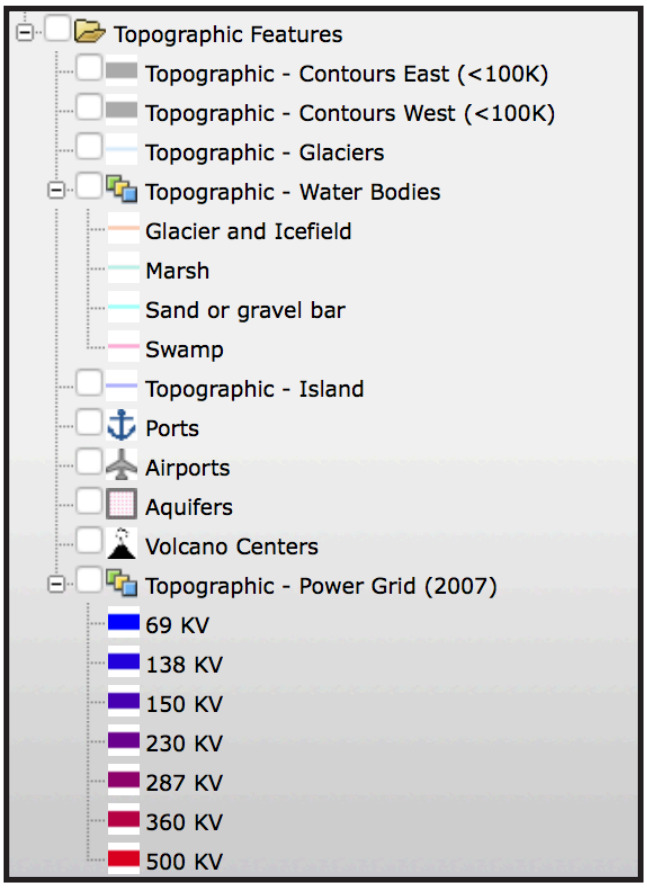
Map Grid

- Grid - UTM Grid
- Grid - UTM Grid Label
- Grid - UTM Zones
- Grid - UTM Zones Label
- Grid - 1:20k Mapsheet
- Grid - 1:20k Label
- Grid - 1:50k Mapsheet
- Grid - 1:50k Label
- Grid - 1:250k Mapsheet
- Grid - 1:250k Label



Topographic Features

- Topographic - Contours east (<100k)
- Topographic - Contours west (<100k)
- Topographic - Glaciers
- Topographic - Water Bodies
  - Glacier and Icefield
  - Marsh
  - Sand or Gravel bar
  - Swamp
- Topographic - Island
- Ports
- Airports
- Aquifers
- Volcano Centres
- Topographic - Power Grid (2007)
  - 69 kV
  - 128 kV
  - 150 kV
  - 230 kV
  - 287 kV
  - 360 kV
  - 500 kV



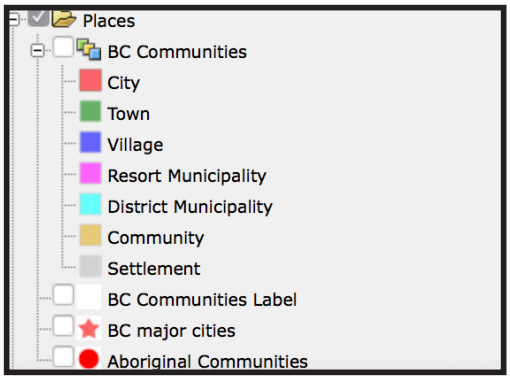
Maps from the 'Base Maps' folder are recommended for making custom maps, or for accessing features unavailable from the 'External Providers', (e.g., UTM Grid and Power Grid).

2.3 Places

This folder contains named communities and places in British Columbia.

BC Communities (detailed display available at a scale of 1:1 million or greater)
- City
- Town
- Village
- Resort Municipality
- District Municipality
- Community
- Settlement

BC Communities Label
BC Major Cities
Aboriginal Communities



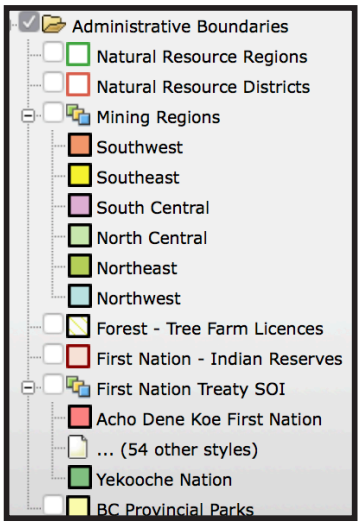
2.4 Administrative Boundaries

This folder contains administrative boundaries for natural resources, First Nations, and provincial parks.

Natural Resource Regions
Natural Resource Districts
Mining Regions
- Southwest
- South Central
- Southeast
- Northeast
- North Central
- Northwest

Forest - Tree Farm Licences
First Nation - Indian Reserves
First Nation Treaty SOI
- (from Acho Dene Koe First Nation to Yekooche Nation, 54 in total)

BC Provincial Parks



2.5 Mineral Inventory

The 'Mineral Inventory' folder contains maps and reports that are related to minerals, including Assessment Reports (ARIS), Coal Assessment Reports, Prospectors Reports, Property File, and mineral occurrences (MINFILE).

Assessment Reports (ARIS)

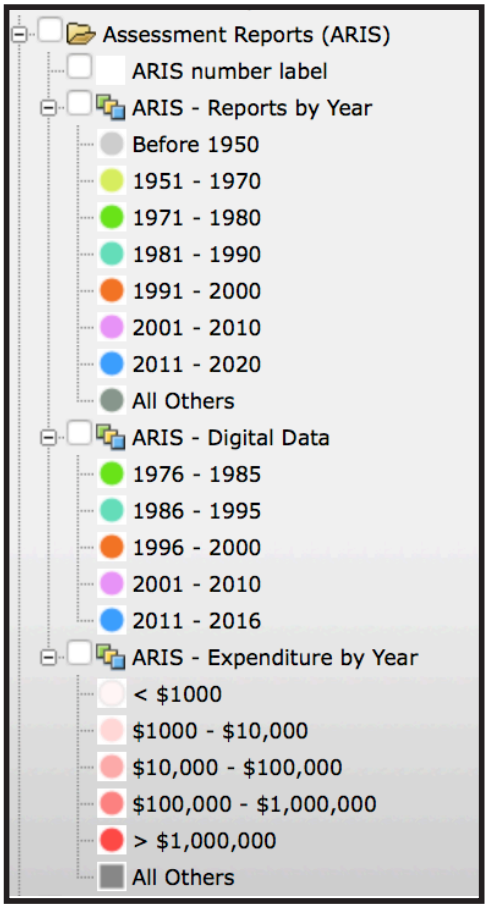
The Assessment Reports are themed by year, expenditure, and, if digital data available, by year.

ARIS Number Label
ARIS - Reports by Year
- Before 1950
- 1951 - 1970
- 1971 - 1980

1981 - 1990
1991 - 2000
2001 - 2010
2011 - 2020
All Others

ARIS with digital Data
1976 - 1985
1986 - 1995
1996 - 2000
2001 - 2010
2011 - 2016

ARIS - Expenditure
< $1000
$1000 - $10,000
$1000 - $10,000
$10,000 - $100,000
$100,000 - $1,000,000
> $1,000,000
All Others

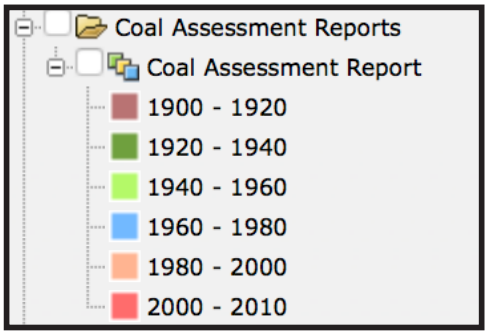


ARIS (Assessment Report Indexing System) is the searchable database of over 36,000 assessment reports submitted to the Ministry of Energy and Mines. These reports summarize results from exploration programs on mineral claims dating from 1947. After a one-year confidentiality period, the reports become an open resource for planning mineral exploration, investment, research, land use, and resource management. ARIS archives previous exploration results so that explorationists can advance projects without duplicating previous work. Between 1967 and 2015, about $2.6 billion of exploration expenditures has been reported in ARIS. Assessment reports contain information on geology, geochemistry, geophysics, sampling, drilling, prospecting and physical work. Data in digital format from 450 Assessment Reports can be downloaded through the ARIS web application (http://aris.empr.gov.bc.ca/), where 'Digital Data' is a searchable keyword. More information about ARIS is available at: http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx.

Coal Assessment Reports

The Coal Assessment Reports are themed by report year.

1900 - 1920
1920 - 1940
1940 - 1960
1960 - 1980
1980 - 2000
2000 - 2010

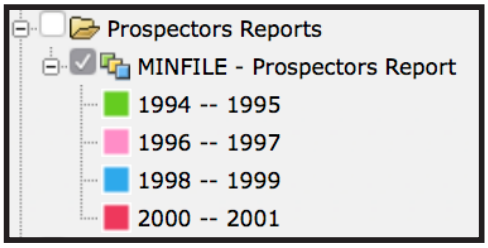


COALFILE is a collection of assessment reports, maps, and data from boreholes, trenching, and sampling dating from 1900. COALFILE contains 990 reports, 5570 maps, 16,090 boreholes, 3640 trenches, and information about 550 bulk samples. There is a web-enabled application to search COALFILE reports (http://webmap.em.gov.bc.ca/mapplace/coal/search.asp). For more information see http://www.empr.gov.bc.ca/Mining/Geoscience/Coal/Pages/default.aspx

Prospectors Reports

The MINFILE - Prospectors Report are themed by report year

1994
1995
1996
1997

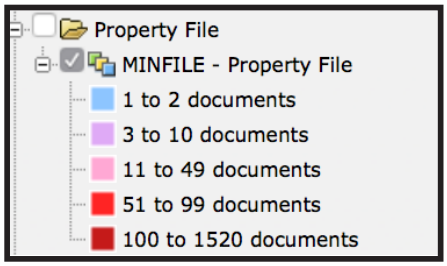


Prospectors Reports contains reports from the Prospectors Assistance Program (now discontinued) which provided grants to encourage grassroots prospecting in British Columbia. The Prospectors Assistance Program contributed up to 75 per cent of the eligible costs of a proposed prospecting program to a maximum of $10,000. The reports were submitted from 1994 to 2001. These documents have been amalgamated into Property File and linked to MINFILE occurrences when possible. For more information, see: http://www.empr.gov.bc.ca/Mining/Geoscience/PropertyFile/Pages/ProspectorsReports.aspx.

Property File

The MINFILE - Property File is themed by number of documents

1 to 2 documents
3 to 10 documents
11 to 49 documents
50 to 99 documents
More than 100 documents

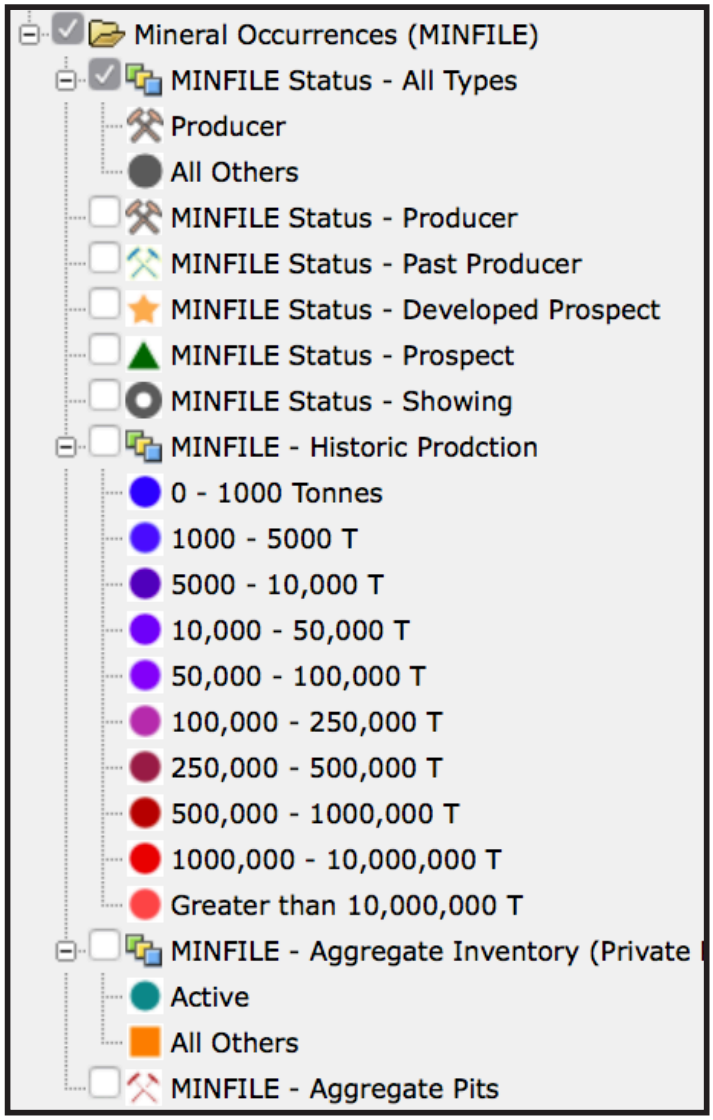


Property File is a collection of about 100,000 documents donated to the British Columbia Geological Survey over the last 150 years by government, university, industry, and individuals. To date, over 60,000 documents have been indexed, scanned, and made available to the public. These documents include unpublished reports, theses, papers, field notes, company prospectuses, correspondence, hand-drawn maps, geology, geochemistry, geophysics, drilling data, claim maps, mine plans, and photographs. The public can search the document index, link through MINFILE, and view the PDF files, at http://propertyfile.gov.bc.ca. For more information see http://www.empr.gov.bc.ca/Mining/Geoscience/PropertyFile/Pages/default.aspx

Mineral Occurrences (MINFILE)

Mineral occurrences are themed by status.

- MINFILE - Number Label
- MINFILE - Name Label
- MINFILE - Status
- MINFILE Status - All Types
  - Producer
  - Past Producer
  - Developed Prospect
  - Prospect
  - Showing
- MINFILE Status - Producer
- MINFILE Status - Past Producer
- MINFILE Status - Developed Prospect
- MINFILE Status - Prospect
- MINFILE Status - Showing
- MINFILE - Historical Production
  - 0 – 1,000 tonnes
  - 1,000 - 5,000 T
  - 5,000 - 5,000 T
  - 10,000 - 50,000 T
  - 50,000 - 100,000 T
  - 100,000 - 250,000 T
  - 250,000 - 500,000 T
  - 500,000 - 1,000,000 T
  - 1,000,000 - 10,000,000 T
  - Greater than 10,000,000 T
- MINFILE - Aggregate Inventory (Private Pits)
  - Active
  - All others
- MINFILE - Aggregate Pits



MINFILE is an inventory documenting more than 14,600 metallic mineral, industrial mineral, and coal occurrences in British Columbia. MINFILE has a web-enabled application (http://minfile.gov.bc.ca) where mineral occurrences can be searched by location, mineralogy, commodities, host rocks, deposit type, geological setting, age, production, and references. The MINFILE application also has a secure online process to capture and edit data. MINFILE contains links to related Assessment Reports.

MINFILE is themed on MapPlace 2 by status:

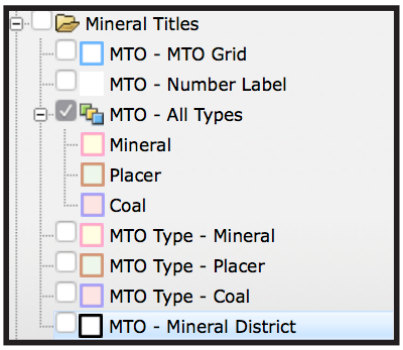
- Producer (currently producing mine): occurrences from which ore containing one or more commodities is being mined.
- Past Producer (Past producing mine): occurrences that are not currently being mined but have recorded production in the past.
- Developed Prospect: occurrences on which exploration and development have progressed to a stage that allows a reasonable estimate of the amount(s) of potentially mineable commodities.
- Prospect: occurrences documented as containing mineralization that warrants further exploration.
- Showing: occurrences with minor in-situ mineralization

For more information see http://www.empr.gov.bc.ca/Mining/Geoscience/MINFILE/Pages/default.aspx

2.6 Mineral Titles

The ‘Mineral Titles’ folder contains Mineral Titles Online (MTO) data available from the British Columbia Geographic Warehouse (BCGW). The MTO data in BCGW are delayed by one day.

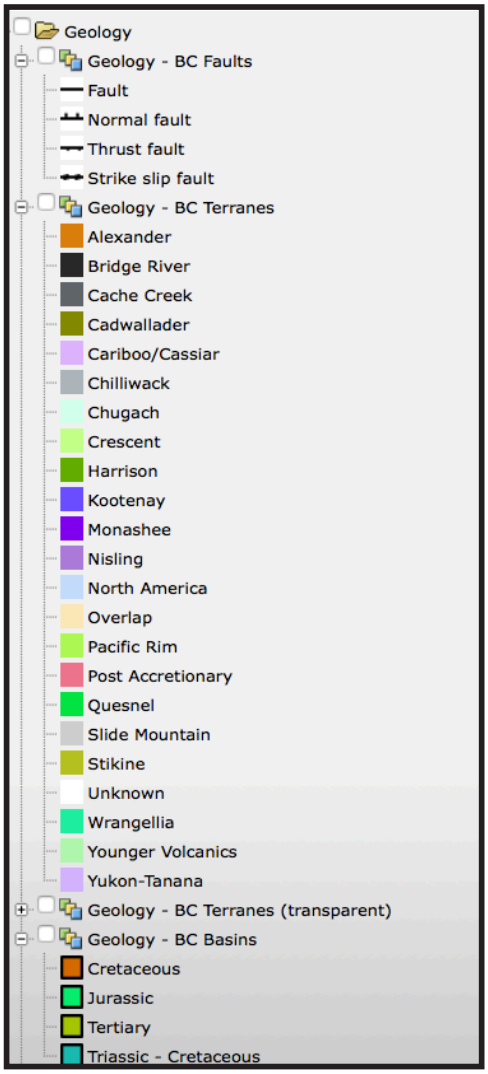
- MTO - MTO Grid
- MTO - Number Label
- MTO - All Types
  - Mineral
  - Placer
  - Coal
- MTO Type - Mineral
- MTO Type - Placer
- MTO Type - Coal
- MTO - Mining Districts



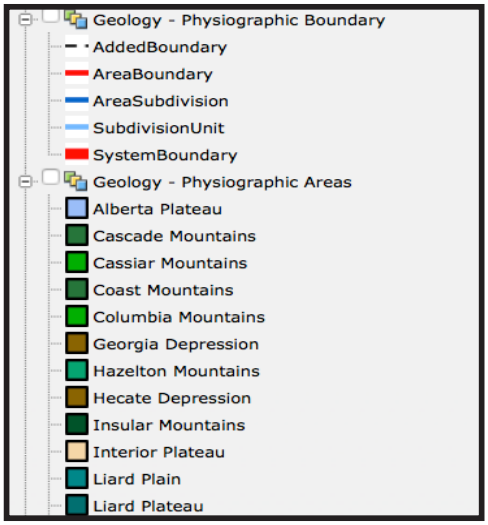
Mineral Titles Online (MTO) is a GIS-based system that enables the exploration industry to electronically acquire and maintain mineral, placer, and coal rights. For more information see https://www.mtonline.gov.bc.ca.
MapPlace 2 draws mineral title data from the British Columbia Geographic Warehouse which is delayed by one day. For more information see https://data.gov.bc.ca/

2.7 Geology: Bedrock geology

This folder contains the most current province-wide bedrock geology, and a number of related maps, including terranes, tectonic assemblages, basins, and physiogeographic areas.



- Geology - BC Faults
  - Fault
  - Normal fault
  - Thrust fault
  - Strike-slip fault
- Geology - Terranes (also in transparent)
  - Alexander
  - Bridge River
  - Cache Creek
  - Cadwallader
  - Chilliwack
  - Chugach
  - Crescent
  - Harrison
  - Methow
  - Pacific Rim
  - Quesnellia
  - Slide Mountain
  - Stikinia
  - Wrangellia
  - Yukon-Tanana
- Geology - BC Basins (also in transparent)
  - Cenozoic
  - Cretaceous
  - Jurassic
  - Triassic - Cretaceous
- Geology - Physiographic Boundary
  - AddedBoundary
  - AreaBoundary
  - AreaSubdivision
  - SubdivisionUnit
  - SystemBoundary
- Geology - Physiographic Area (also in transparent)
  - Alberta Plateau
  - Cascade Mountains
  - Cassiar Mountains
  - Coast Mountains
  - Columbia Mountains
  - Georgia Depression
  - Hazelton Mountains
  - Hecate Depression
  - Insular Mountains
  - Interior Plateau
  - Liard Plain
  - Liard Plateau



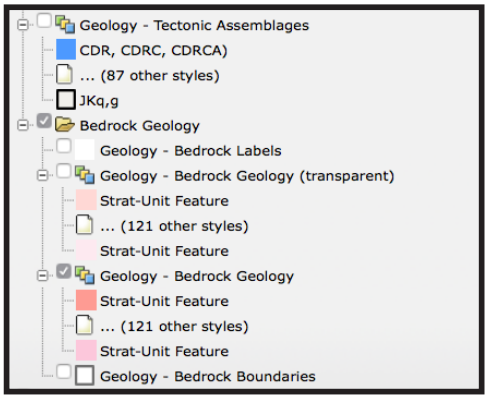
Nass Basin
Omineca Mountains
Rocky Mountain Foothills
Rocky Mountain Trench
Rocky Mountains
Skeena Mountains
St. Elias Mountains
Stikine Plateau
Yukon Plateau
All Others

Geology - Tectonic Assemblages

The source and legend of this map: Wheeler, J.O., and McFeely, P. (comp.), 1991, Tectonic Assemblage Map of the Canadian Cordillera and adjacent parts of the United States of America; Geological Survey of Canada, Map 1712A, scale 1:2,000,000.

Bedrock Geology

Geology - Bedrock Geology (transparent)
Geology - Bedrock Labels
Geology - Bedrock Geology
Geology - Bedrock Geology Boundaries



The British Columbia Geological Survey delivers a continuously updated, downloadable provincial bedrock geology map. The current edition operates in a spatial database, using a geospatial frame data model and anchoring mechanism to simplify the map compilation and integration. The data download contains tables for geological units and suggested legend colours in RGB, ESRI ArcGIS layer files, and an image illustrating the suggested colour theme for the bedrock polygons.
For more information see http://www.empr.gov.bc.ca/Mining/Geoscience/BedrockMapping/Pages/default.aspx

2.8 Surficial Geology

This folder contains the British Columbia part of Geological Survey of Canada map 1880A (Surficial materials of Canada; R.J. Fulton, 1995) and an ice-flow indicator map and surficial geology map index compiled by the British Columbia Geological Survey.

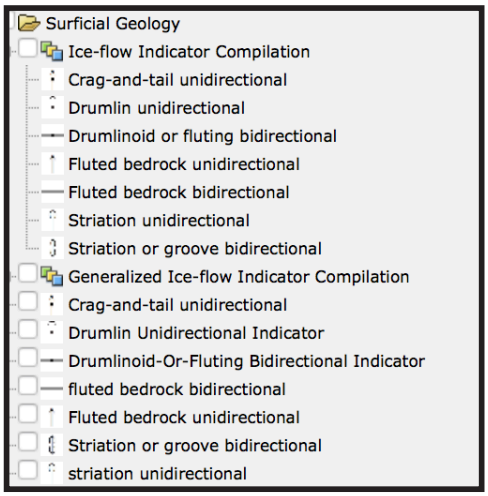
Ice flow indicators are themed by landform or outcrop and flow direction.

Ice-Flow Indicators

Crag-and-tail unidirectional
Drumlin unidirectional
Drumlinoid or fluting bidirectional
Fluted bedrock unidirectional
Fluted bedrock bidirectional
Striation unidirectional
Striation or groove bidirectional

Generalized Ice-Flow Indicators

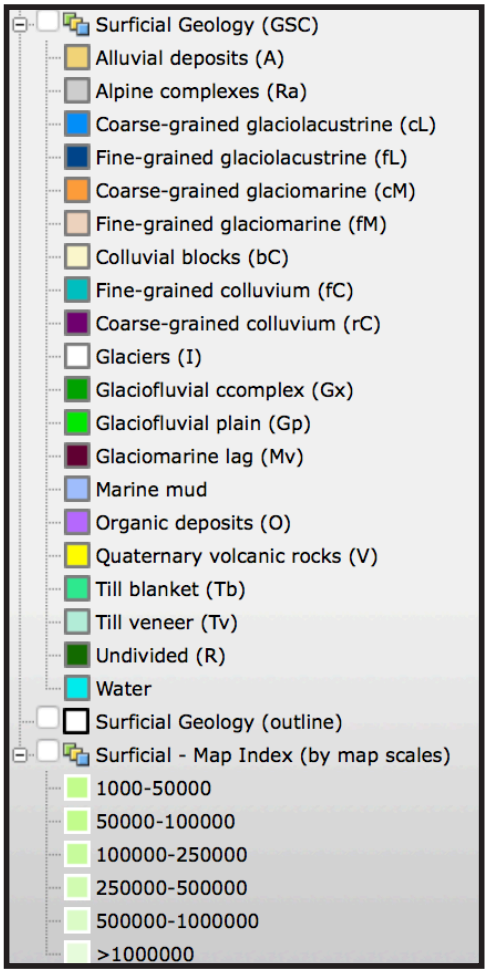
Unidirectional
Bidirectional



Landform-scale (e.g., drumlins and flutes) and outcrop-scale (e.g. striations and grooves) ice-flow indicators record the movement of glaciers over the landscape. A compilation of ice-flow indicators digitally captured from published and unpublished surficial geology, terrain, glacial features, and bedrock geology maps has been produced for British Columbia. These data illustrate ice-flow directions for the glaciers during the Late Pleistocene. For more information about surficial geology in British Columbia, see http://www.empr.gov.bc.ca/Mining/Geoscience/SurficialGeology/Pages/default.aspx

Surficial Geology (GSC)
- Alluvial deposits (A)
- Alpine complexes (Ra)
- Coarse-grained glaciolacustrine (cL)
- Fine-grained glaciolacustrine (fL)
- Coarse-grained glaciomarine (cM)
- Fine-grained glaciomarine (fM)
- Fine-grained colluvium (fC)
- Coarse-grained colluvium (rC)
- Colluvial blocks (bC)
- Glaciers (I)
- Glaciofluvial complex (Gx)
- Glaciofluvial plain (Gp)
- Glaciomarine lag (Mv)
- Marine mud
- Organic deposits (O)
- Quaternary volcanic rocks (V)
- Till blanket (Tb)
- Till veneer (Tv)
- Undivided (R)
- Water

Surficial - Map Index (by map scales)
- <1,000
- 1,000 – 50,000
- 50,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 1,000,000
- >1,000,000



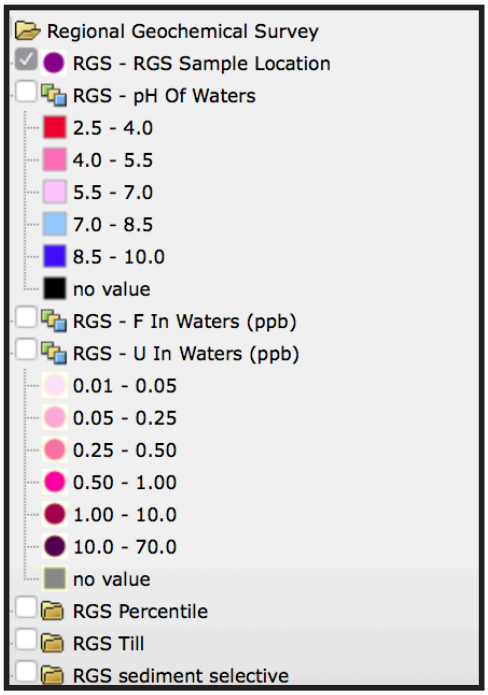
Surficial geology maps show the spatial distribution of surficial materials and their surface expression. As with any geological map, surficial geology maps are created by defining internally consistent map units, establishing the nature of map unit boundaries, and establishing map unit geometries. Units are defined by surficial material type and surface expression.

The surficial geology map index for British Columbia includes 218 maps available for download. The index can be searched in fields such as author, source type, source series, and map scale. Publication page URLs are supplied for each map from which the source files, PDFs or digital data can be downloaded.

2.9 Geochemical Data

This folder contains themes for data from the Regional Geochemical Survey (RGS), till samples, and rock samples.

Regional Geochemical Survey (RGS)



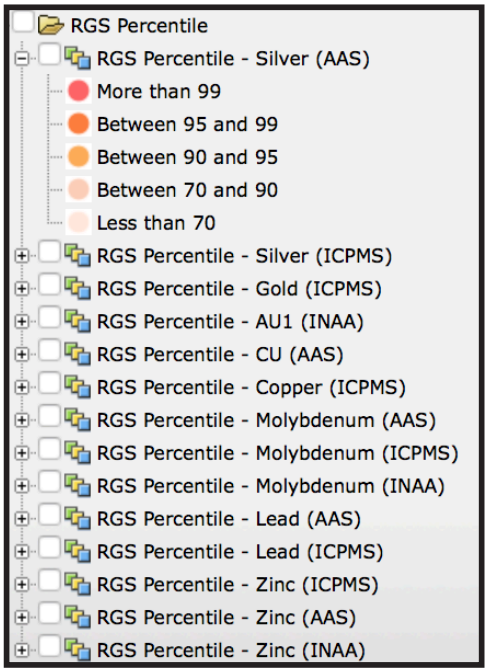
RGS - Sample Location
RGS - pH in Water
- 2.5 – 4.0
- 4.0 – 5.5
- 5.5 – 7.0
- 7.0 – 8.5
- 8.5 – 10.0
- No value

RGS - U in water (ppb)
- 0.01 – 0.05
- 0.05 – 0.25
- 0.25 – 0.50
- 0.50 – 1.00
- 1.00 – 10.0
- 10.0 – 70.0
- No value

RGS sediment selective

These elements are themed by ICPMS, INAA and / or AAS:
Ag, As, Au, Co, Cr, Cu, Fe, Mo, Ni, Pb, Sb, and Zn
(Silver, Arsenic, Gold, Cobalt, Chromium, Copper, Iron, Molybdenum, Nickle, Lead, Antimony, and Zinc)

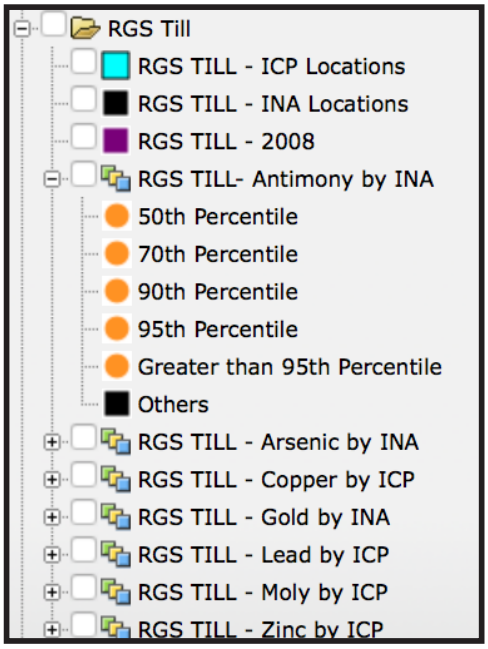
RGS Percentiles



- RGS Percentile - Silver (AAS)
- RGS Percentile - Silver (ICPMS)
- RGS Percentile - Gold (ICPMS)
- RGS Percentile - Gold (INAA)
- RGS Percentile - Copper (AAS)
- RGS Percentile - Copper (ICPMS)
- RGS Percentile - Molybdenum (AAS)
- RGS Percentile - Molybdenum (ICPMS)
- RGS Percentile - Molybdenum (INAA)
- RGS Percentile - Lead (AAS)
- RGS Percentile - Lead (ICPMS)
- RGS Percentile - Zinc (AAS)
- RGS Percentile - Zinc (ICPMS)
- RGS Percentile - Zinc (INAA)

Note: percentiles for each of the themes:
- 99th
- 95th
- 90th
- 70th
- 50th
- < below 50th

Till Geochem
- Till - Sample Locations (for ICP)
- Till - Sample Locations (for INA)
- Till - Sample Locations (2008)
- Till Percentiles
  - Till - Arsenic by INA
  - Till - Copper by ICP
  - Till - Gold by INA
  - Till - Lead by ICP
  - Till - Moly by ICP
  - Till - Zinc by ICP
  - Note: percentiles for each of the themes:
    - 99th
    - 95th
    - 90th
    - 70th
    - 50th
    - < below 50th



The British Columbia Geological Survey maintains geochemical databases containing multielement analyses from rock, till, stream-sediment, and water samples. For example, the Regional Geochemical Survey (RGS), includes determinations for up to 60 elements from over 64,000 sites covering about 80% of the province.
For more information see http://www.empr.gov.bc.ca/Mining/Geoscience/Geochemistry/Pages/default.aspx

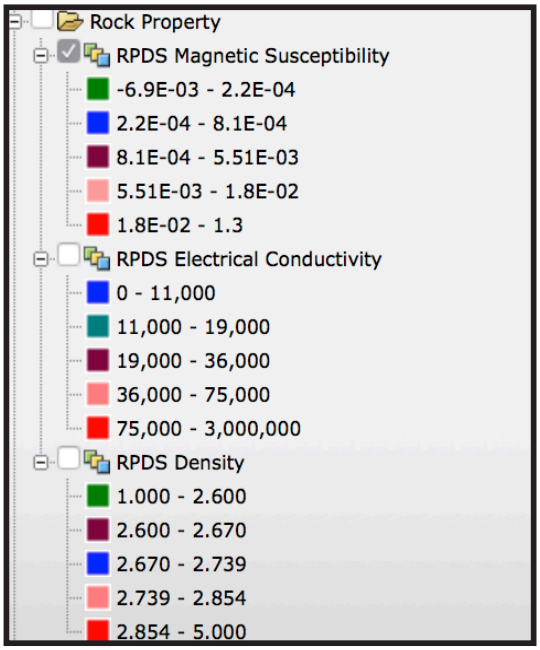
2.10 Rock Property

The rock property data for 11,582 sites are themed by measurements of magnetic susceptibility, electrical conductivity, and density.

RPDS Magnetic Susceptibility
- -6.9E-03 – 2.2E-04
- 2.2E-04 – 8.1E-04
- 8.1E-04 – 5.5E-03
- 5.5E-03 – 1.8E-02
- 1.8E-02 – 1.3

RPDS Electrical Conductivity
- 0 – 11,000
- 11,000 – 19,000
- 19,000 – 36,000
- 36,000 – 75,000
- 75,000 – 3,000,000

RPDS Density
- 1.000 – 2.600
- 2.600 – 2.670
- 2.670 – 2.739
- 2.739 – 2.854
- 2.854 – 5.000

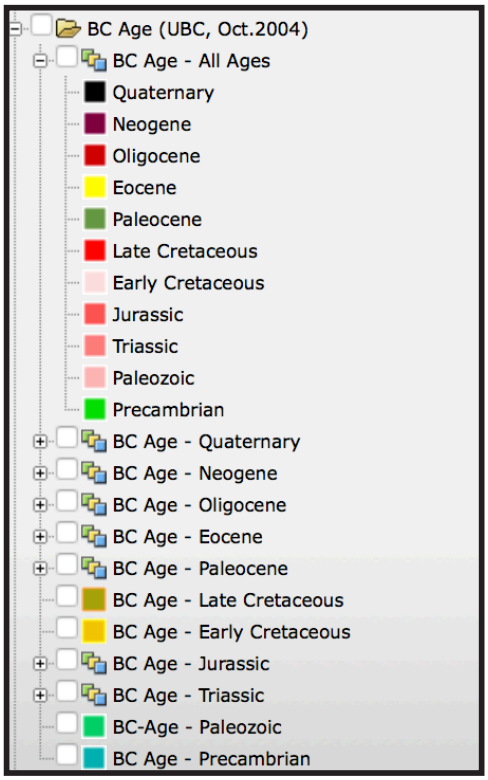


The rock property data are from the Rock Properties Database System (RPDS), a Geoscience BC project partnered with Mira Geoscience, the Geological Survey of Canada and the Canadian Mining Industry Research Organization (CAMIRO). This database brings together geophysical and geological information and assigns physical property values to geological units. Using this information to characterize the rock property environment of specific ore deposits can improve geophysical survey design, forward modelling, inversion, and interpretation. The physical properties, mostly density and magnetic susceptibility, along with location, lithology and other metadata have been compiled for 13,555 sites. For more information see
http://www.empr.gov.bc.ca/mining/geoscience/publicationscatalogue/openfiles/2008/pages/2008-4.aspx

2.11 BC Age

BC Age - All Ages
- Quaternary
- Neogene
- Oligocene
- Eocene
- Paleocene
- Late Cretaceous
- Early Cretaceous
- Jurassic
- Triassic
- Paleozoic
- Precambrian

BC Age - Quaternary
BC Age - Neogene
BC Age - Oligocene
BC Age - Eocene
BC Age - Paleocene
BC Age - Late Cretaceous
BC Age - Early Cretaceous
BC Age - Jurassic
BC Age - Triassic
BC Age - Paleozoic
BC Age - Precambrian



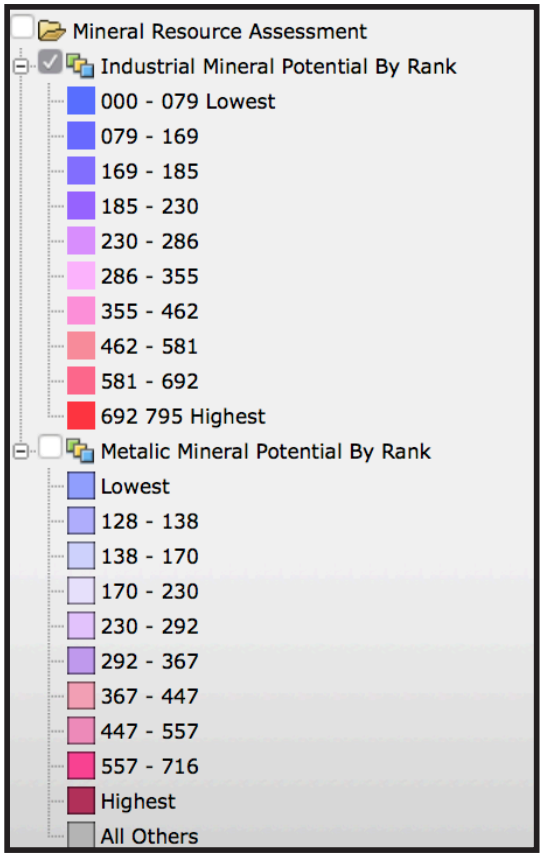
The BC Age Database contains 7,779 isotopic ages complied by the Pacific Centre for Isotopic and Geochemical Research at the University of British Columbia. The database has details on sample location, sample description, dating methods, laboratories, ages and uncertainty, interpretation, and information on data sources. Geochronologic methods include Ar/Ar, Fission Track, K/Ar, Pb/Pb, Rb/Sr, Re/Os, Sm/Nd, U-Th/He, and U/Pb.

2.12 Mineral Resource Assessment

This folder contains mineral resource assessment themed for metallic mineral potentials by rank and industrial mineral potential by rank.

Metallic Mineral Potential by Rank
- Lowest
- 128 – 138
- 138 – 170
- 170 – 230
- 230 – 292
- 292 – 367
- 367 – 447
- 447 – 557
- 557 – 716
- Highest
- All others

Industrial Mineral Potential by Rank
- Lowest
- 79 – 169
- 169 – 185
- 185 – 230
- 230 – 286
- 286 – 355
- 355 – 462
- 462 – 581
- 581 – 692
- Highest
- All others



The Mineral Resource Assessment (MRA) of British Columbia began in early 1992 to support geological compilations and land-use planning.
For more information see
http://www.empr.gov.bc.ca/Mining/Geoscience/MineralPotential/Pages/default.aspx

2.13 Geophysical Surveys

This folder contains a geophysical survey index, links to data download sites, and displays of geophysical data themed by types of surveys.

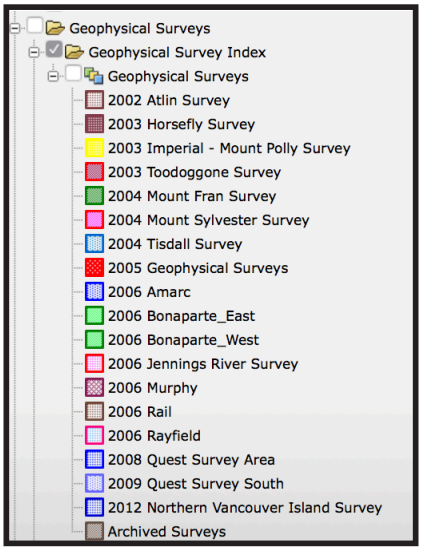
Geophysical Survey Index

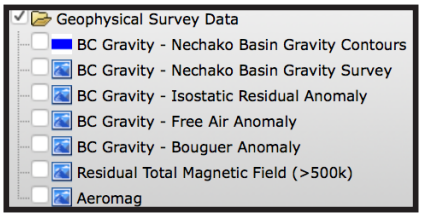
Geophysical Surveys
- 2002 Atlin Survey
- 2003 Horsefly Survey
- 2003 Imperial – Mount Polly Survey
- 2004 Toodoggone Survey
- 2004 Mount Fran Survey

- 2004 Mount Sylvester Survey
- 2004 Tisdall Survey
- 2005 Geophysical Survey
- 2006 Amarc
- 2006 Bonaparte_East
- 2006 Bonaparte_West
- 2006 Jennings River Survey
- 2006 Murphy
- 2006 Rail
- 2006 Rayfield
- 2008 QUEST Survey Area
- 2009 QUEST Survey South
- 2012 Northern Vancouver Island Survey
- Archived Surveys

Geophysical Survey Data

- Necheko Basin Gravity Contours
- Necheko Basin Gravity Survey
- BC Gravity: Isostatic Residual Anomaly
- BC Gravity: Free Air Anomaly
- BC Gravity: Bouguer Anomaly
- Residual Total Magnetic Field (>500k)
- Aeromag





The geophysical survey database includes multisensor, airborne geophysical surveys of targeted areas across the province. Most of the surveys were carried out in cooperation with the Geological Survey of Canada and industry partners. For more information see
http://www.empr.gov.bc.ca/Mining/Geoscience/Pages/GeophysicalData.aspx

2.14 Publication Catalogue

Reports and maps by the British Columbia Geological Survey can be search for and downloaded from the Publication Catalogue under the Tasks Pane on MapPlace 2.

Reports and maps produced by the British Columbia Geological Survey since 1874 can be searched for, and downloaded at no cost from, the Publications Catalogue. The Survey currently publishes Papers, Open Files, GeoFiles, Geoscience Maps, and Information Circulars. The catalogue is searchable by author, title, keyword, abstract, year, NTS map, scale, series, publication number, .and map extent. Results to searches are displayed as footprints and a report with a URL link to the publication in PDF and/or digital formats.
For more information see
http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/Pages/default.aspx.

Part 3. MapPlace 2 tools

This section outlines the basic tools available in MapPlace 2 and how to search for data, generate reports, and annotate and make maps.

3.1 Pan

The Pan tool can be accessed from the Toolbar and from the Map Window menu (right click anywhere in the map window to see the menu). It must be active for panning in the Map Window to work.

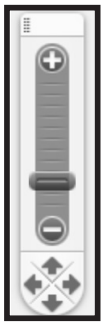
To pan, click anywhere within the Map Window and drag the cursor while holding the left mouse button down. The map will move in the same direction as the cursor. Release the left mouse button to end the panning operation.

Alternatively, the arrows at the bottom of the Navigation Control can be used to pan the Map Window.

3.2 Zoom

The different ways to zoom in and out are outlined below. Zoom levels are hard coded by the system and cannot be changed by the user. The scales of each zoom step are approximate and are determined by screen resolution.

Navigation Control

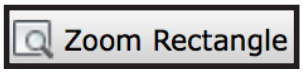


The Navigation Control is at the top right corner of the Map Window. It offers two ways of zooming in and out. Clicking the + will zoom in one step, and clicking the - will zoom out one step. Dragging the slider up will zoom in, and dragging it down will zoom out.

Mouse wheel/touch pad scroll gesture

Using the mouse or touch pad to scroll up while the cursor is in the Map Window will zoom in, and scroll down will zoom out.

Zoom Rectangle



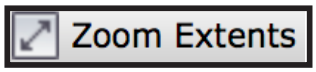
The Zoom Rectangle button is on the Toolbar and in the Map Window menu. This tool zooms to a rectangular area drawn with the mouse. Activate the tool, left click, hold and drag to draw a rectangle over the area of interest. When the left button is released, it zooms to the full extent of the rectangle.

Zoom In and Zoom Out buttons

These buttons are on the Toolbar and in the Map Window menu. They are equivalent to the + and - buttons in the Navigation Control. One click of the Zoom In or Zoom Out zooms the Map Window in or out by one zoom level.

Zoom Extents

This tool is on the Toolbar and in the Map Window menu. It adjusts the Map Window zoom level to fit the entire province.



Zoom Selection

This tool is on the Toolbar and in the Map Window menu. It is only available if features are selected. It adjusts the zoom level to fit all the features selected in the Map Window.

Previous and Next

These tools are on the Toolbar and in the Map Window menu. They control pan and zoom of the Map Window. The Previous tool returns to the previous location and zoom level of the Map Window; it can go back several steps. The Next tool is only available if the Previous tool has been used. It reverses the changes in zoom and location done using the Previous tool.

Map Window Scale Box

The zoom level can be changed by entering a scale in the Scale box on the Information Bar and pressing the Enter key. Because scales are predetermined by the system, the scale displayed will adjust to the level nearest to the value entered.

3.3 Select

MapPlace 2 offers several tools to select features from active layers. A layer must be visible in the Map Window for its features to be selectable. The selection tools select features from all visible layers. To limit selection to specific layers, ensure they are the only ones turned on in the Legend Pane. Features selected are highlighted in blue in the Map Window. Selection information on number of selected features and layers is displayed in the Information Bar. Attributes of selected items can be viewed in the Selection Pane.

Select

The basic Select tool is on the Toolbar and in the Map Window menu. It must be activated to enable selection. Once the tool is active it can be used in two ways.

1) Select single features by clicking on or in the feature.
2) To select multiple features, left click, hold and drag to draw a rectangle over the features. When the button is released all features in the selection area are selected. Alternatively, multiple features can be selected by holding the Shift key and clicking on each feature.

Select Radius

Select Radius, on the Toolbar and in the Map Window menu, is used to select all features in a circular area. To use the tool, activate it then click on the centre point of the area to select and, while holding the left mouse button down, drag the cursor away from the centre. Once the circle is at the desired size, release the left mouse button. All features in the circle are selected.

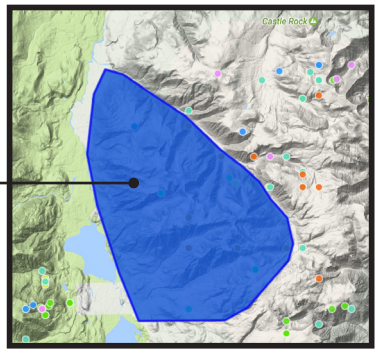
Select Polygon

Select Polygon, on the Toolbar and in the Map Window menu, is used to select features in a polygonal area. To use it, activate it then left click on one of the vertices of the polygon, and then click at all vertices, creating the outline of the polygon. Once the polygon is complete, double click the last vertex, which will complete the selection.

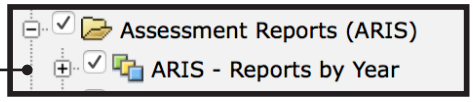
Select Within

Spatial queries search features based on location or spatial relationships with other features (eg. finding mineral occurrences in the Late Triassic volcanic rocks in the Takla Group). In MapPlace 2, Select Within is the tool to use for spatial queries. It selects features from one layer in a selected polygon from another layer as follows.

a) Select a polygon or set of polygons within which you want to select data. This can be a single feature in a polygon layer, multiple features in one or multiple layers, a Redline feature or a Buffer layer feature.

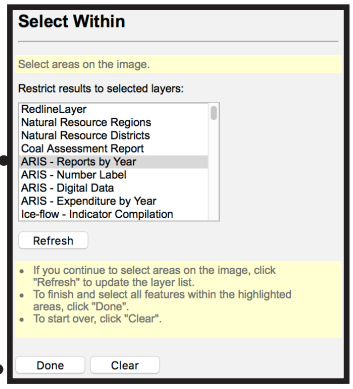


b) From the Legend Pane, turn on the layer(s) to select features from.



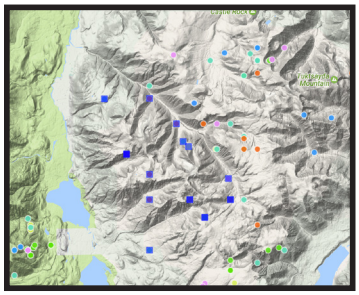
c) From the Map Window menu, under Select More, click Select Within.

d) In the Tasks Pane, under Restrict results to selected layers: select the layers with the desired features (to select multiple layers hold the ctrl key down while clicking; the layers must be turned on in the Legends Pane otherwise their features will not be selected.)



e) Click Done.

The selected features are highlighted in blue in the Map Window.



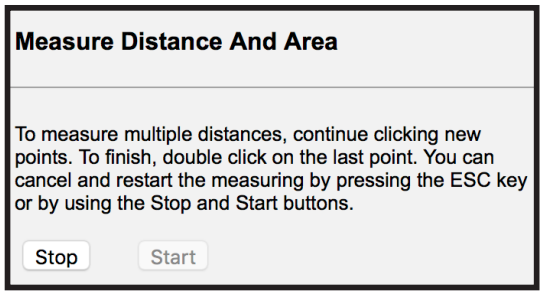
Clear Selection

The Clear Selection tool is on the Toolbar and in the Map Window menu. Only available when features are selected, it deselects all features.

3.4 Measure

The Measure tool is in the Toolbar and in the Task List in the Tasks Pane.

When it is activated, measurements and instructions are shown in the Tasks Pane.



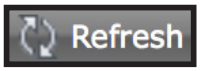
A yellow overlay in the top portion of the Map Window also indicates that the tool is active.

To measure a distance and/or area left click at the starting point in the Map Window, then click at the end point to create a line (or multiple points to create a polygon). Double click when you are done. All measurements are displayed in the Tasks Pane. If a single point is clicked, the distance between that point and the cursor is displayed. If multiple points are clicked, the length of each segment is shown, along with the perimeter and polygon area. The Esc key clears the line or polygon.

By default the units are metres, but can be changed to miles by selecting the Imperial option from the Options menu in the Toolbar. This also changes location coordinate units displayed in the Information Bar. If, in the process of measuring, the cursor goes over the Navigation Control, the measurement line or polygon is reset.

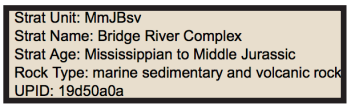
3.5 Refresh

The Refresh tool reloads all of the components of the Map Window. It is on the Toolbar and in the Map Window menu. To use the Refresh tool, click the button and the Map Window will immediately refresh.



3.6 Maptips

Maptips are displayed in the Map Window when the cursor hovers over a feature. They are used to quickly display a few attributes of that feature. The exact attributes vary by layer. Hyperlinks to pages with further details are commonly given.

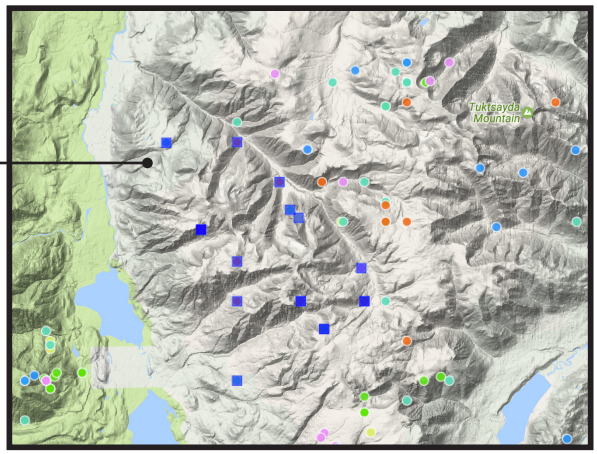


Maptips are activated by default but can be turned on or off by clicking the Maptip button in the Toolbar.

3.7 Buffer

The Select Within tool only accepts polygons as a spatial filter. This works well when a query is based on an existing polygon layer (e.g., Find all MINFILE occurrences in a rock unit or a claim block) but what if you would like to select features near a line (e.g. assessment reports near a fault) or point (e.g. assessment reports near a cluster of MINFILE occurrences)? The Buffer tool can be used to create polygons to use as a spatial filter from any selection on any type of layer as follows.

a) Select the feature or features around which to create a buffer. These can be points, lines, polygons or any combination.



b) Click the Buffer tool in the Toolbar.

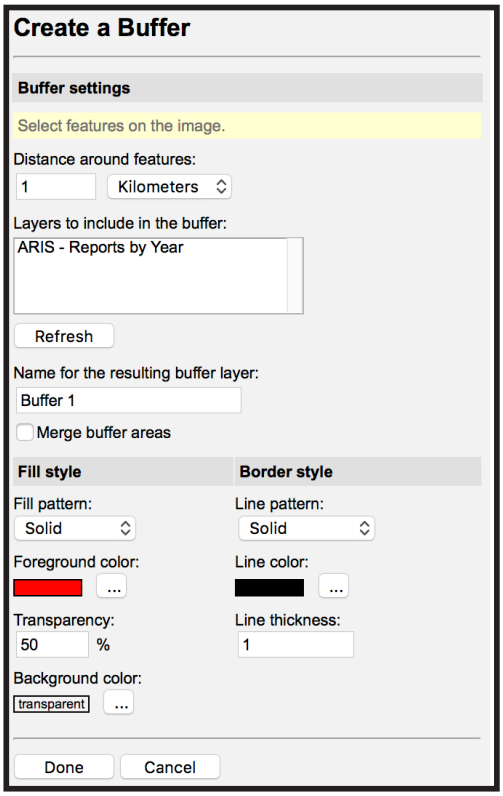
Complete the following steps in the Tasks Pane

c) Set the distance around features for the buffer.

d) Select the layers to include in the buffer. Only layers with selected features are listed. If creating a buffer around a multi-layer selection hold the Ctrl key down while clicking the layer name.

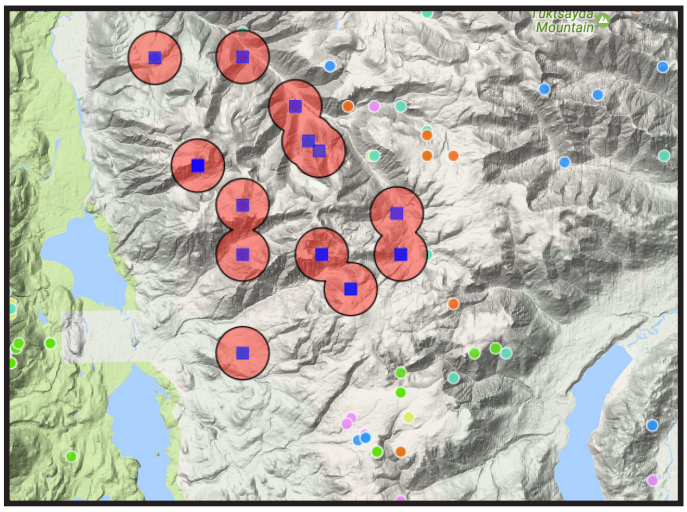
e) Set the name of the buffer layer. This layer will appear in the Legend Pane with this name, which cannot be changed once the buffer is created.

f) Settings for the buffer fill and border styles can be adjusted. These cannot be changed once the buffer layer is created.



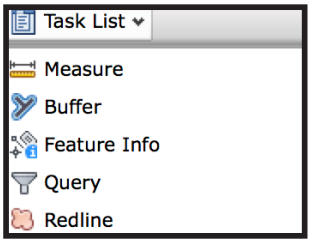
g) Click Done

The buffer is created, added to the Legend Pane as a layer (at the top of the list), and displayed in the Map Window. It can now be selected and used as any other polygon layer to do a spatial query using the Select Within tool.



3.8 Redline

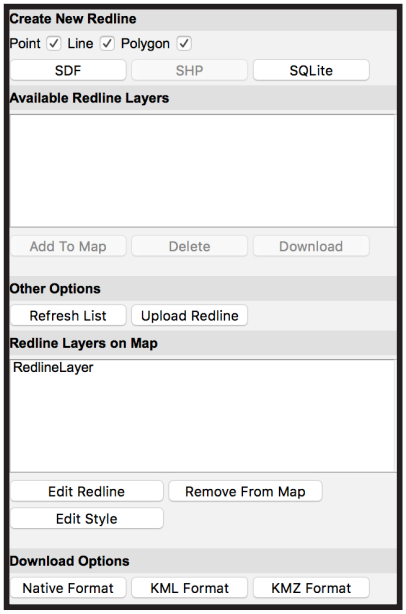
The Redline tool can be used to annotate and draw on maps. It can create points (e.g., sample locations), lines (e.g., faults, traverse routes) and polygons (e.g., areas of interest, rock units). All features can be assigned custom labels. Redline layer styles can be used to change symbol type, colour, size, and transparency. A Redline layer is created as follows.



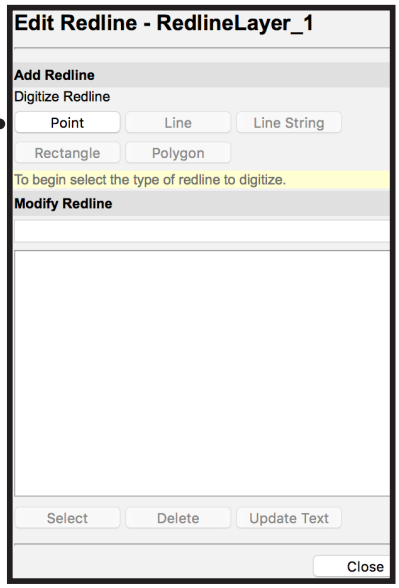
a) Start the Redline tool from the Task List in the Tasks Pane.

b) In the Create New Redline section, check/uncheck boxes so that only the feature type to be created is left checked (e.g., to create point features leave Point checked and uncheck Line and Polygon).

c) Click SHP. This sets the file format being created; once features are created it cannot be changed. SDF, SHP, and SQLite are different file formats. We recommend using the SHP format (ESRI shapefile).



d) The Edit Redline pane will open when you choose the file format. In the Digitize Redline section, select the type of feature to create (different options are available, depending on the type selected in the previous screen).



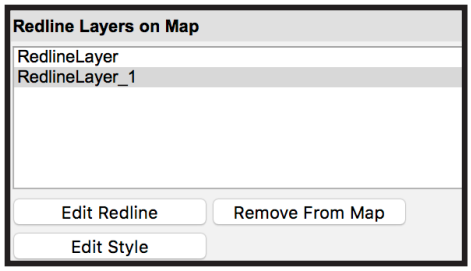
e) Draw the feature in the Map Window. For points, click the location. For lines and polygons, click each vertex, double clicking the final vertex to complete the drawing.

f) If desired, add labels by entering text in the box below Modify Redline, then click Update Text.

The RedlineLayer is added to the Markup folder in the Legend Pane.

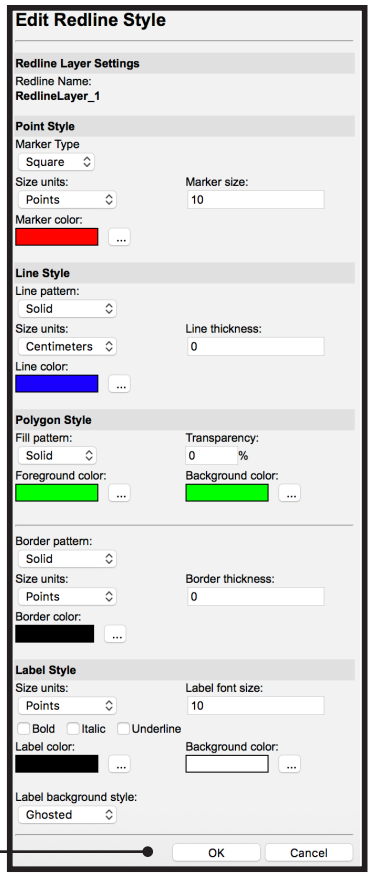
Redline layer styles can be edited as follows.

a) In the Redline Layers on Map section (Tasks Pane, in the Manage Redline tool) select the RedlineLayer to edit.



b) Click the Edit Style button.

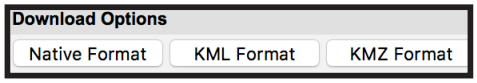
c) Find the feature type in the Redline layer and edit.



d) Click OK

The Redline layer is updated in the Map Window to reflect the changes.

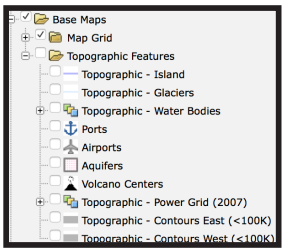
In the Download Options section, the Native Format button downloads a zip file containing the shapefile of the features created.



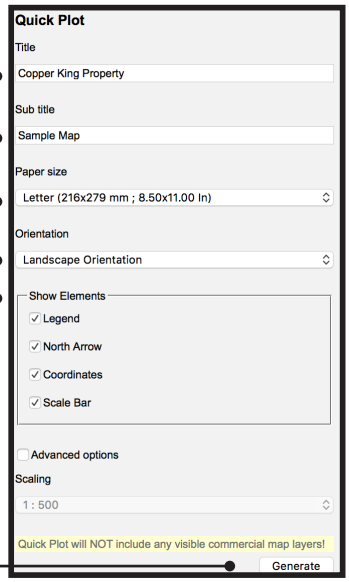
3.9 Quick Plot

With the Quick Plot tool, users can create personalized maps that include user-defined cartographic elements. These maps can be saved in PDF format. The tool is accessed from the Toolbar.

Because of licensing restrictions, External Provider base maps or imagery cannot be displayed in maps created by Quick Plots. To ensure base map data are displayed on the map, turn on the Base Maps folder and other topographic features as desired.



Create a map using the Quick Plot tool, by clicking Quick Plot on the Toolbar and completing the steps below in the Tasks Pane.



a) Enter a Title for the map in the text box under Title.

b) Enter a sub-title for the map under Sub Title.

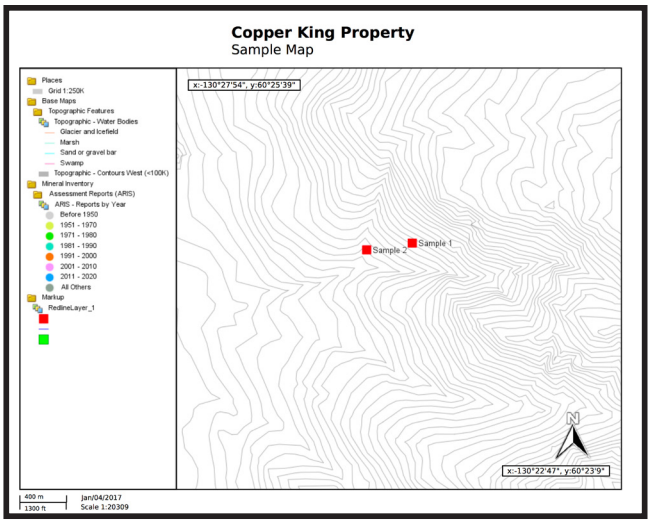
c) Chose a Paper size.

d) Chose Portrait or Landscape orientation.

e) Select the cartographic elements to include by checking boxes in the Show Elements section.

f) Unless the map scale needs to be set (following page), click Generate.

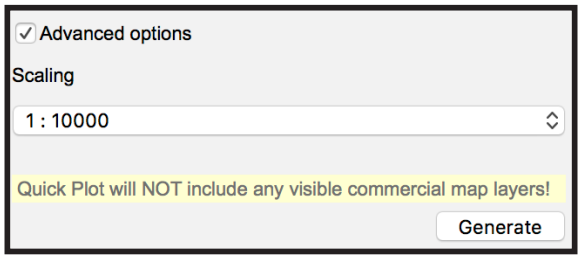
The map is opened in a new browser tab where it can be printed or saved as a PDF file. If changes need to be made, close the tab that contains the map and return to the MapPlace 2 interface. The Quick Plot tool will stay open in the Tasks Pane; change the desired settings and regenerate the map.



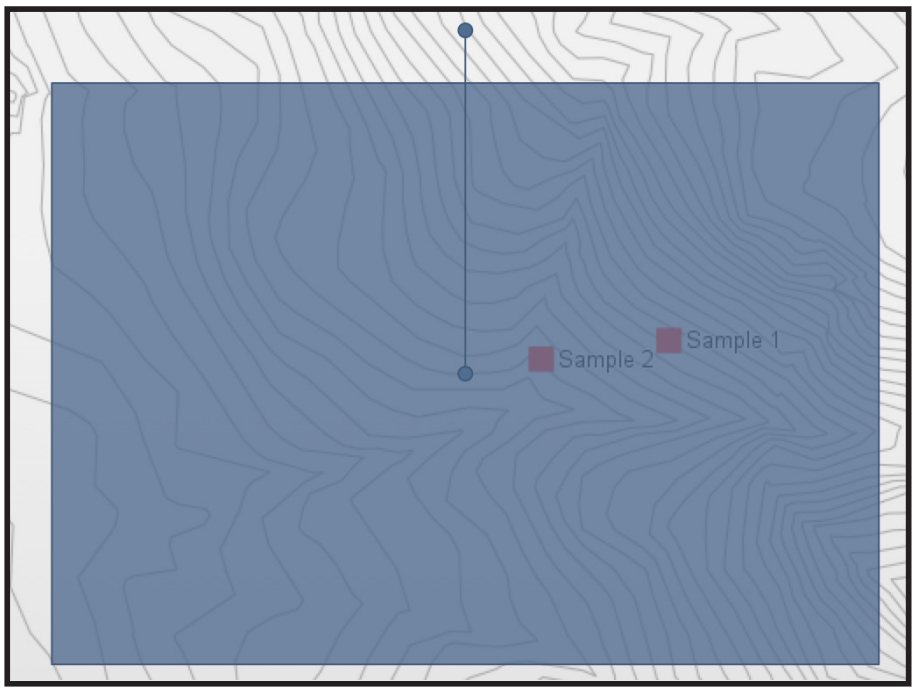
Create a map at a set scale as follows.

a) Create the map as described previously, but instead of clicking Generate, check the box next to Advance Options.

b) Select the desired scale from the list under Scaling.



c) A blue box will appear in the centre of the Map Window showing the extent of the map. The location of the map can be adjusted by clicking in and dragging the box. The orientation of the map can be changed by clicking the dot above the box and dragging the cursor.

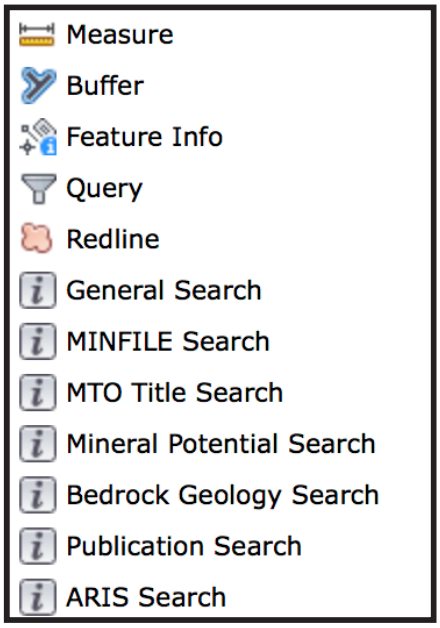


d) Once the scale, location, and orientation of the map are set, click Generate.

The map again will open in a new browser tab.

3.10 Database search tools

Search tools are available for most databases accessed by MapPlace 2. These tools are in the Task List in the Tasks Pane.



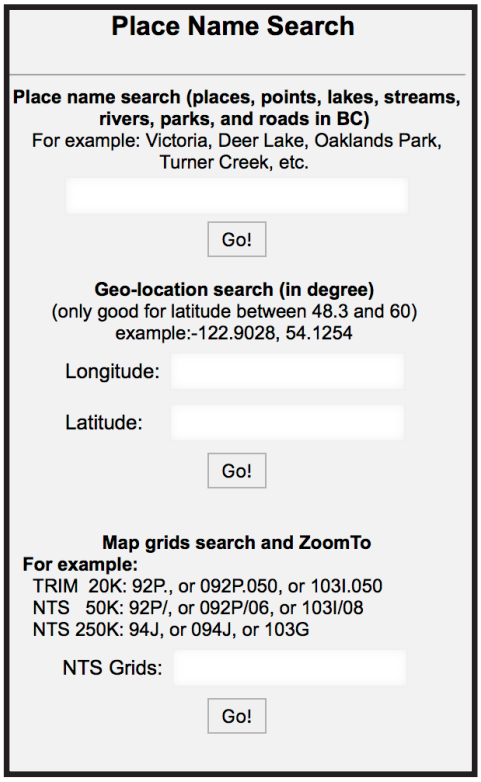
3.11 General Search

Locations in the province can be searched for using place names, latitude and longitude, and NTS or TRIM map sheet numbers.

Place Name Search
Search for points of interest such as cities, roads, lakes, streams, and parks by name (e.g., 'Merritt', 'Mount Robson', 'Fraser River').

Search by coordinates
Search for a location by its latitude and longitude in decimal degrees; longitudes need to be entered as negative values (e.g., -122.9028).

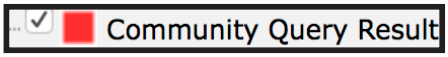
Search by map grid
Search for map sheets by their NTS or TRIM map sheet numbers (e,g., 092/P06).

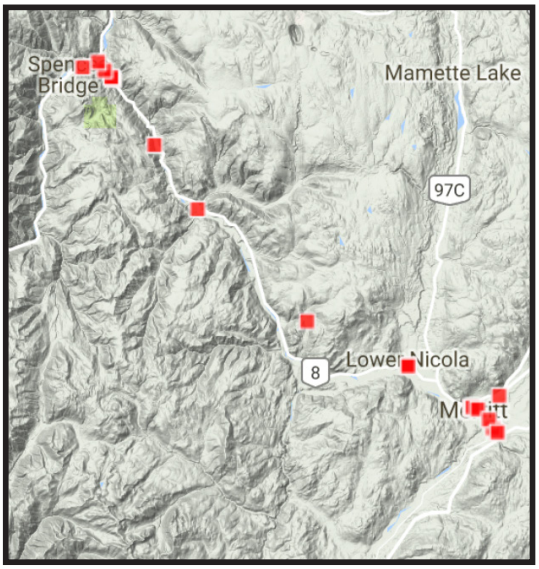


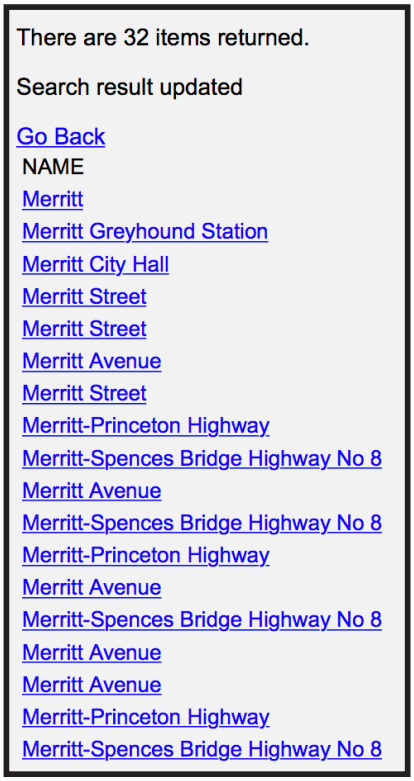
General Search results

Place Name Search results

The Place Name Search tool returns a list of locations with names that contain the searched string in the Tasks Pane and a point layer in the Legend Pane called Place Query Result that highlights search results with red squares in the Map Window. Clicking on place names returned in the Tasks Pane centres and zooms the map window to the location.

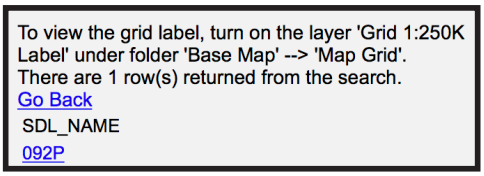




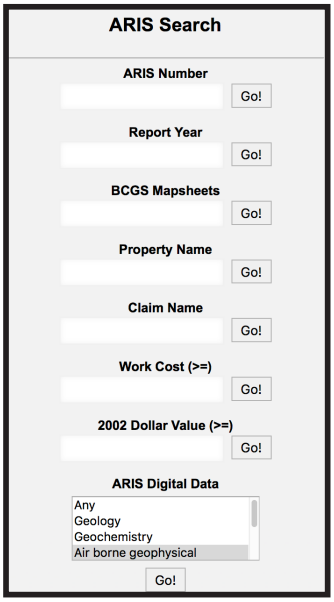


Search by coordinates
The Search by coordinates tool returns a link in the Tasks Pane. The ZoomTo link centres and zooms the map window to the searched latitude and longitude. Clicking the Go Back link will return to the Geo-location search menu. This search does not create a layer in the Legends Pane or display any data in the Map Window.

Search by map grid results
The Search by map grid results in a link to the searched map sheet. Clicking the link centres and zooms the Map Window to the centre of the map sheet. Clicking the Go Back link will return to the Geo-location search menu. This search does not create a layer in the Legends Pane or display any data in the Map Window.



3.12 ARIS Search



The ARIS Search tool provides several ways of searching for Assessment Reports. They are outlined below.

ARIS Number
Search for reports by their ARIS numbers. These numbers are assigned by the Ministry as reports are received. Only exact matches are returned so the entire ARIS number must be entered (e.g., 32523).

Report Year
Search for reports by the year they were received (e.g., 1996).

BCGS Mapsheets
Search for reports by the BC Geographic System map sheet numbers they cover (e.g., 104A051).

Property Name
Search for reports by the name of the property where the work was completed (e.g., Peach). This search is case sensitive (i.e., 'Peach' and 'peach' will not return the same results).

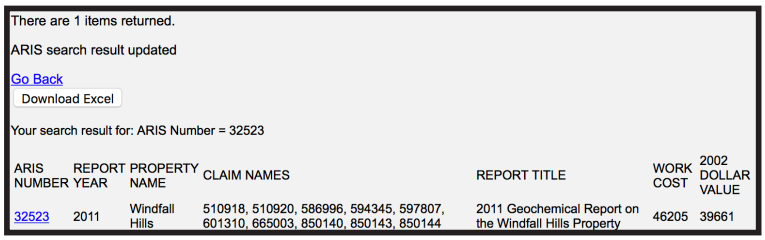
Claim Name
Search reports by the name(s) of the claim(s) it covers (e.g., BIG BEAR). This search is case sensitive (i.e., BIG BEAR and big bear will not return the same results).

Work Cost (>=)
The work cost search returns reports where the cost was equal to or greater than a value entered. This search only accepts numbers, no commas or spaces (e.g., 3000000 is acceptable, but 3,000,000 or 3 000 000 will not work).

2002 Dollar Value (>=)
The 2002 dollar value search returns reports where the cost was equal to or greater than a value entered. This search only accepts numbers, no commas or spaces (e.g., 3000000 is acceptable, but 3,000,000 or 3 000 000 will not work).

ARIS Digital Data
Assessment reports where digital data are available to download can be searched by type of data. For example, selecting 'Drilling' will return all reports that contain digital drill data).

ARIS Search results


There are 1 items returned.

ARIS search result updated

Go Back

Download Excel

Your search result for: ARIS Number = 32523

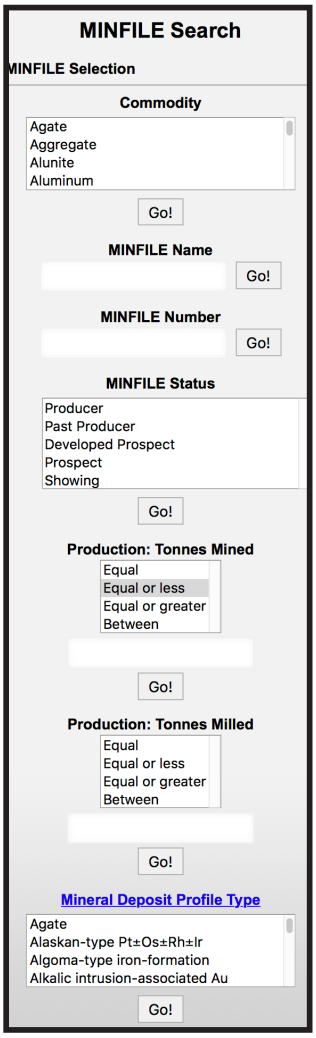
ARIS NUMBER	REPORT YEAR	PROPERTY NAME	CLAIM NAMES	REPORT TITLE	WORK COST	2002 DOLLAR VALUE
32523	2011	Windfall Hills	510918, 510920, 586996, 594345, 597807, 601310, 665003, 850140, 850143, 850144	2011 Geochemical Report on the Windfall Hills Property	46205	39661

All ARIS searches results are listed in the Tasks Pane along with the report year, property name, claim names, report title, work cost, and 2002 dollar value. Click the ARIS Number highlighted in blue to center and zoom the map window to the report's location. All ARIS Search tools also create a layer in the Legends Pane called ARIS Search Result

, which displays the reports' location as red squares in the Map Window. Clicking the Download Excel button at the top of the ARIS search results downloads a spreadsheet of the results with attributes for each feature, including latitudes and longitudes.

3.13 MINFILE Search

The MINFILE Search tool is in the Tasks Pane and enables searches by individual attributes, a combination of attributes, and region.



MINFILE Selection
This section offers tools to search for MINFILE occurrences based on individual attributes.

Commodity
Search for occurrences by commodity by selecting one from the list (e.g., Copper).

MINFILE Name
Search for occurrences by entering any part of a name (e.g., Kemess). This search is not case sensitive (i.e., KEMESS and kemess will return the same results).

MINFILE Number
MINFILE number searches need enter only part of a nine-character number (e.g., 094E returns all occurrences in map sheet 094E, whereas 094E 094 returns a single showing). A quadrant identifier (NE, NW, SE, SW) is added in areas with a high density of occurrences; in others two spaces are required after the map sheet component. The exception is 092IW, where only 1 space is required.

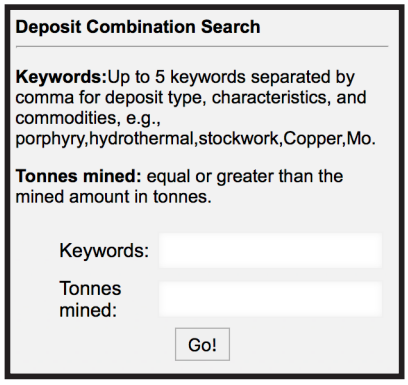
MINFILE Status
Search for occurrences by their status. Only one status can be selected at a time (e.g., Developed Prospect).

Production: Tonnes Mines
Search for occurrences by total tonnes mined. Select one of the 'operators' (e.g., equal or less) and enter a number in the search box. This field only accepts numbers, do not use commas or spaces as a separator (e.g., 1,000,000 should be entered as 1000000).

Production: Tonnes Milled
Search ffor occurrences by total tonnes milled. Select one of the 'operators' (e.g., equal or less) and enter a number in the search box. This field only accepts numbers, do not use commas or spaces as a separator (e.g., 1,000,000 should be entered as 1000000).

Mineral Deposit Profile Type
Search for occurrences by deposit type. Only one type can be selected at a time (e.g., PORPHYRY).

Deposit Combination Search
Using the Deposit Combination Search more than one attribute can be searched for at a time. Enter separate keywords (maximum of five) separated by a comma (do not add spaces between words). The Tonnes mined box will find all occurrences with values equal to or greater than the value entered (no commas or spaces in the number); if left blank all values will be allowed. Results will contain all values entered in these fields (e.g., occurrences that have porphyry AND copper AND 1000000 or more tonnes mined in their attributes will be listed).



MINFILE by regions

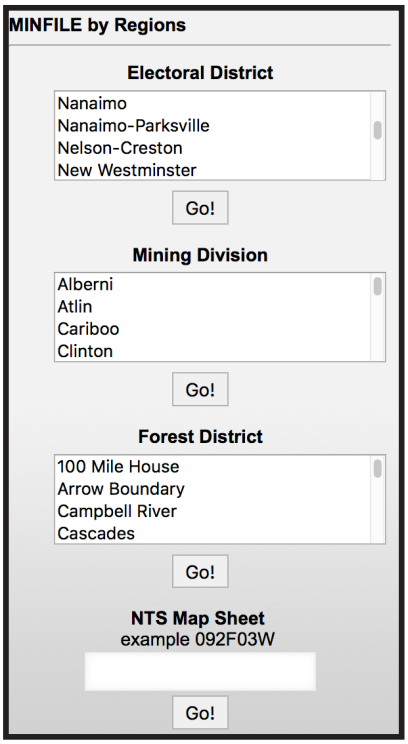
With MINFILE by Regions, MINFILE occurrences can be searched for by regions or mapsheets.

Electoral District
Search for MINFILE occurrences within an electoral district (e.g., Columbia River-Revelstoke). Only one district can be selected at a time.

Mining Division
Search for MINFILE occurrences within a Mining Division (e.g., Atlin). Only one mining division can be selected at a time.

Forest District
Search for MINFILE occurrences within a Forest District (e.g., Cascades). Only one forest district can be selected at a time.

NTS Map Sheet
Search for MINFILE occurrences within an NTS map sheet (e.g., 092 or 092F03). This tool can search using 1:1,000,000, 1:250,000 or 1:50,000 map sheet alphanumerical ID's.



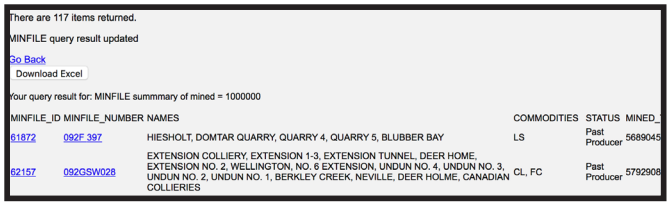
MINFILE Search results

The MINFILE Search results page includes a Download Excel button that populates an Excel spreadsheet with the search results.

The results are sorted by MINFILE_ID and displayed along with MINFILE_NUMBER, NAMES, COMMODITIES and STATUS. Clicking the MINFILE_ID entry will zoom and centre the Map Window on that occurrence. Click the MINFILE_NUMBER to open the MINFILE Record Summary webpage in a new tab containing the complete MINFILE.

All MINFILE Searches create a layer in the Legend Pane called MINFILE Query Result. It displays red squares in the map window for all MINFILE occurrences found as a result of the search.

Production: Tonnes Mined
In addition to the above attributes, the results page for the tonnes mined search displays a MINED_TONNES field.


There are 117 items returned.

MINFILE query result updated

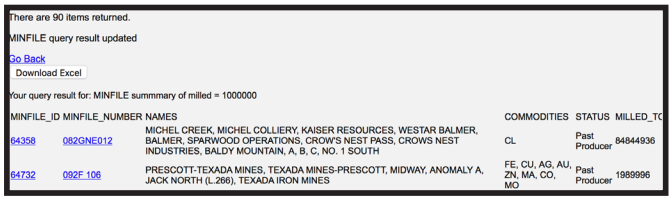
Go Back

Download Excel

Your query result for: MINFILE summmary of mined = 1000000

MINFILE_ID	MINFILE_NUMBER	NAMES	COMMODITIES	STATUS	MINED_
61872	092F 397	HIESHOLT, DOMTAR QUARRY, QUARRY 4, QUARRY 5, BLUBBER BAY	LS	Past Producer	5689045
62157	092GSW028	EXTENSION COLLIERY, EXTENSION 1-3, EXTENSION TUNNEL, DEER HOME, EXTENSION NO. 2, WELLINGTON, NO. 6 EXTENSION, UNDUN NO. 4, UNDUN NO. 3, UNDUN NO. 2, UNDUN NO. 1, BERKLEY CREEK, NEVILLE, DEER HOLME, CANADIAN COLLIERIES	CL, FC	Past Producer	5792908

Production: Tonnes Milled
In addition to the above attributes, the results page for the tonnes milled search displays the MILLED_TONNES field.


There are 90 items returned.

MINFILE query result updated

Go Back

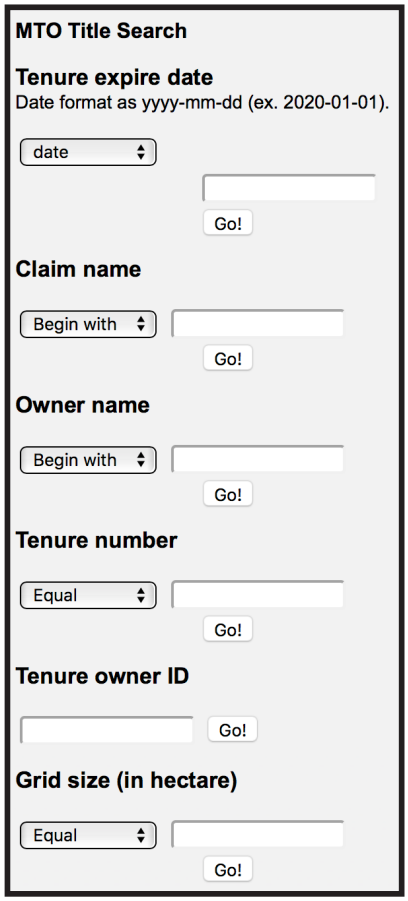
Download Excel

Your query result for: MINFILE summmary of milled = 1000000

MINFILE_ID	MINFILE_NUMBER	NAMES	COMMODITIES	STATUS	MILLED_TO
64358	082GNE012	MICHEL CREEK, MICHEL COLLIERY, KAISER RESOURCES, WESTAR BALMER, BALMER, SPARWOOD OPERATIONS, CROW'S NEST PASS, CROWS NEST INDUSTRIES, BALDY MOUNTAIN, A, B, C, NO. 1 SOUTH	CL	Past Producer	84844936
64732	092F 106	PRESCOTT-TEXADA MINES, TEXADA MINES-PRESCOTT, MIDWAY, ANOMALY A, JACK NORTH (L.266), TEXADA IRON MINES	FE, CU, AG, AU, ZN, MA, CO, MO	Past Producer	1989996

3.14 MTO Title Search

Search the Mineral Titles Online's database for mineral, placer or coal tenures by selected attributes.



Tenure due date
Search for tenure by their due date (e.g., entering 180 for Within (days) will find all tenures with a due date in the next 180 days). Options for tenure expire date include a specific date, on today's date, within a certain number of days of today's date, in a certain year or between two dates.

Claim name
When searching for tenure by the claim name, selecting 'Begin with' will search for a name that begins with the search string. It can be followed by anything. For example, searching for 'big' returns all claims with names beginning with big (e.g., BIG BULK). Using 'Contains' will find any tenure with a name that contains the search string anywhere in its name. For example, searching for 'big' returns claims with 'big' anywhere (e.g., KAMLOOPS BIG ONE). Using 'Equal to' will only return exact matches. Claim name searches are not case sensitive.

Owner name
Owner name searches operate in the same way as claim name searches (see above).

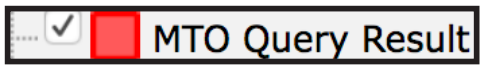
Tenure number
For tenure title number searches (e.g., 250684), 'Equal' will find the tenure that exactly matches the search term. 'Between' will find all tenure in a range between two tenure numbers.

Tenure owner ID
You can search for all tenure by an owner using an ID number. For example, '266048' will return all claims owned by Dolly Varden Silver Corp. The ID must be an exact match; partial numbers will not return a result.

Grid size (in hectare)
A grid size query will display all tenure with a specified surface area. For example, entering 100 for Equal or larger will display all tenure with a surface area of 100 hectares or more.

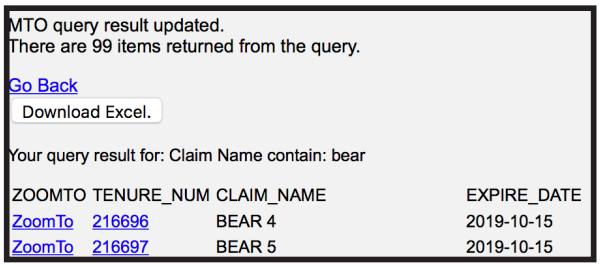
MTO Title Search results

All MTO Title searches create a layer in the Legend Pane called MTO Query Result. This layer displays the search results as red polygons in the Map Window.

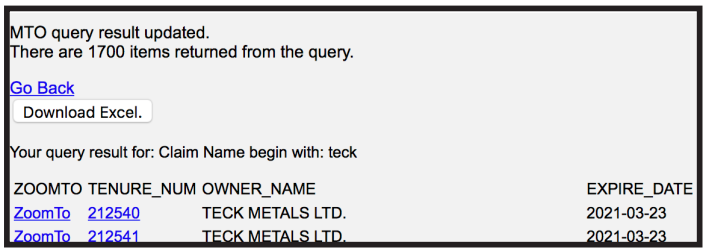


All results in the Task pane include a Download Excel button that populates an Excel spreadsheet with the search results and selected attributes that can be saved.

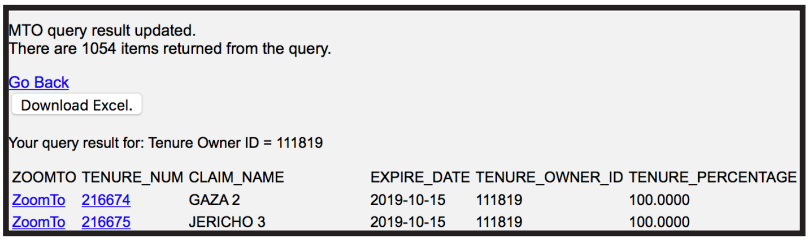
Tenure due date query, Claim name query and Tenure number query results
Results are listed with a ZoomTo link that zooms and centres the map window to the associated tenure. The attributes listed for each tenure are TENURE_NUM, CLAIM_NAME and EXPIRE_DATE. Clicking on the tenure number opens a new browser tab with all of the title's details from the MTO database.



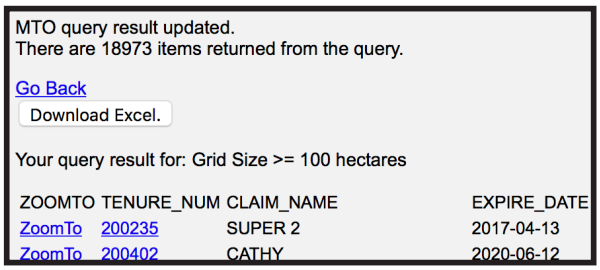
Owner name search results
The results are similar to those above. The ZoomTo link zooms and centres the map window to the associated tenure, clicking on the tenure number opens the MTO Title details page in another browser tab. The attributes listed for each tenure are TENURE_NUM, OWNER_NAME and EXPIRE_DATE.



Tenure owner ID query results
As with the other MTO search results, the ZoomTo link zooms and centres the map window to the associated tenure and clicking on the tenure number opens a new tab with the title details from the MTO database.
The attributes listed for search results are: TENURE_NUM, CLAIM_NAME, EXPIRE_DATE, TENURE_OWNER_ID, TENURE_PERCENTAGE.OWNER_NAME and EXPIRE_DATE.

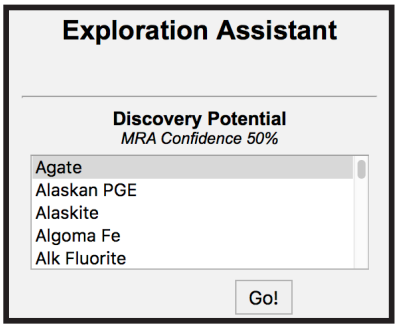


Grid size query (in hectares) results
The ZoomTo link centres and zooms the map window to the associated tenure and clicking the tenure number opens the MTO title details page in a new tab. The attributes listed for each result are: TENURE_NUM, CLAIM_NAME and EXPIRE_DATE.



3.15 Mineral Potential Search

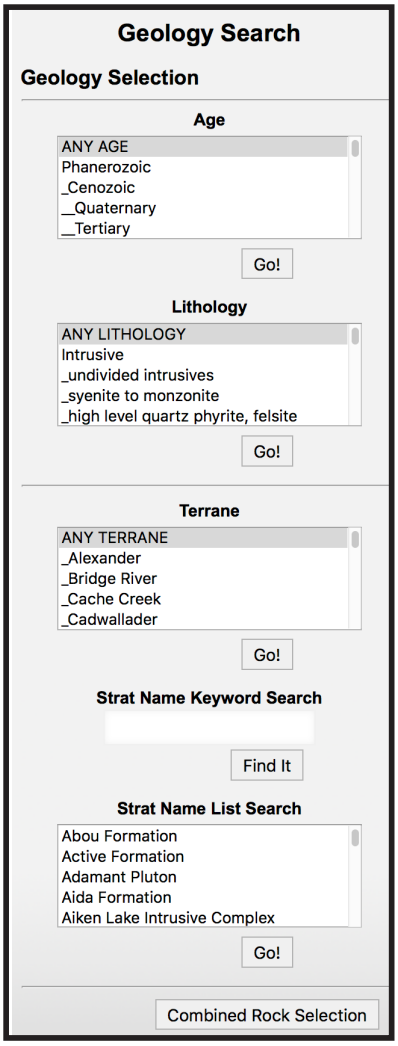
Search the Mineral Resource Assessment database for tracts that have a discovery potential confidence level of 50% or more for deposit types selected from a list.



Results of this search are added as a layer in the Legend Pane and listed in the Tasks Pane. The results page for this tool is currently under development.

3.16 Bedrock Geology Search

Search the BCGS Bedrock Geology database on selected attributes



Age
Search for bedrock geology units by eon, era or period by selecting from a list (e.g., Cretaceous). Only one item can be selected at a time.

Lithology
Search for bedrock geology units by lithology by selecting from a list (e.g., Orthogneiss). Only one item can be selected at a time.

Terrane
Search for bedrock geology units by terrane name by selecting from a list (e.g., Cache Creek). Only one item can be selected at a time.

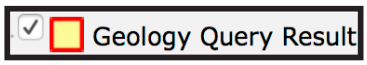
Strat Name Keyword Search
Search for bedrock geology units by stratigraphic unit name using keywords (e.g., Cache Creek).

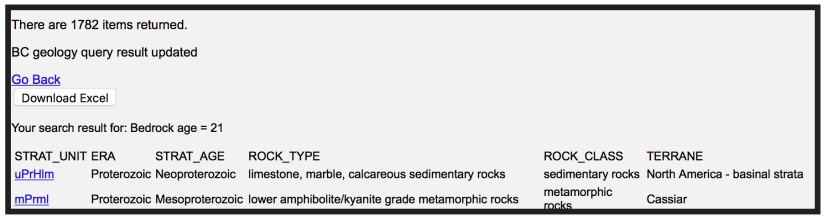
Strat Name List Search
Search for bedrock geology units by stratigraphic unit name by selecting from a list (e.g., Adamant Pluton). Only one item can be selected at a time.

Combined Rock Selection
Combine elements from the above searches to restrict your searches further. Select elements in any of the searches on this page, but instead of clicking the individual Go! buttons, click the Combined Rock Selection button.

Bedrock Geology Search results

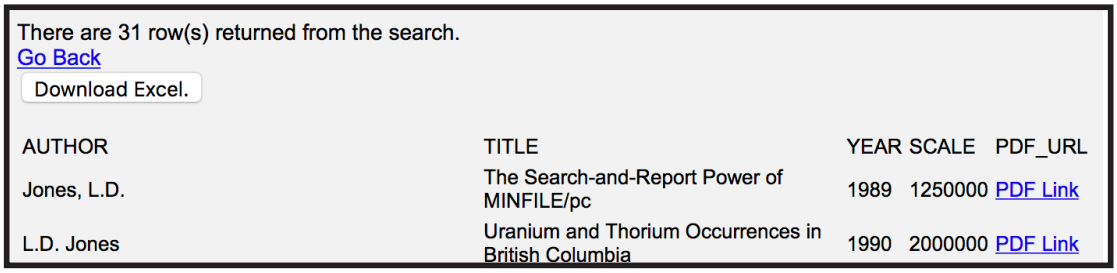
All bedrock geology searches display results in a new layer in the Legend Pane called Geology Query Result. The results page within the Tasks Pane lists the units' STRAT_UNIT codes, STRAT_AGE, ROCK_TYPE, ROCK_CLASS and TERRANE. Clicking on the STRAT_UNIT code zooms and centres the map window to the associated unit's polygon.





3.17 Publications Search

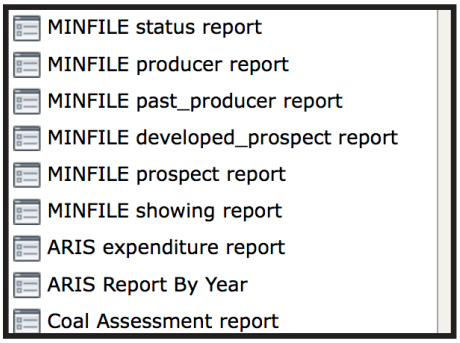
Search the BCGS Publications Catalogue using selected fields. Results are returned as a list in the Tasks Pane that includes Authors, Publication Title, Year, Scale and a link to the web page with additional information and download links. A Download Excel button will generate a spreadsheet of the results with selected attributes. A spatial component for this search is planned for future development.



3.18 Summary report tools

Summary reports can be generated for most geoscience datasets in MapPlace 2. These reports are displayed as web pages with links to external pages and can be downloaded as Excel files and, for some datasets, as Google Earth KML files. To generate reports, select features from a layer, click the corresponding report tool, either in the Report menu from the Toolbar or from the Map Window menu. The report will open in a new browser window.

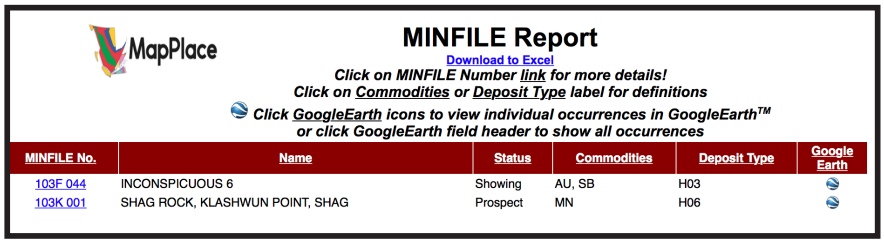
3.19 Reports derived from MINFILE



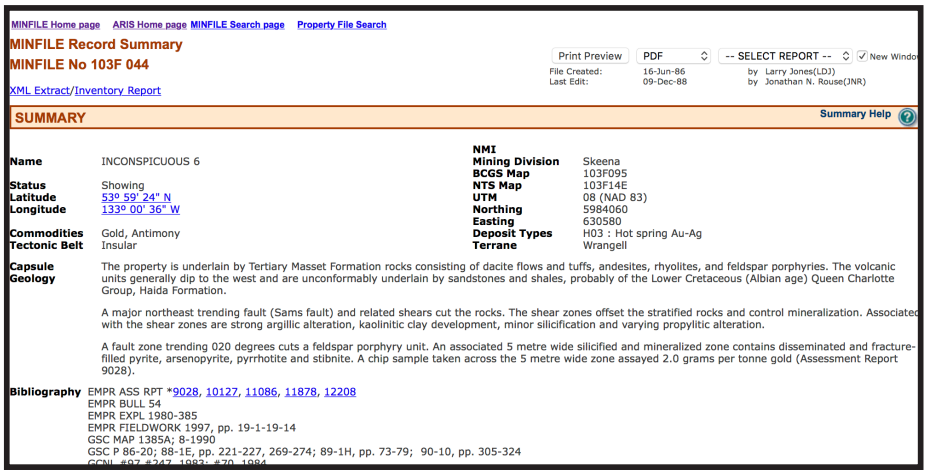
MapPlace 2 provides several reports derived from the MINFILE database, the names of which correspond to the layer names in the Legend Pane. Because each report links to a specific layer, you must ensure that the data selection is done on the layer linked to the report you want to generate.

The reports are generated as web pages. Below the title is a Download to Excel link. Clicking this link downloads an Excel spreadsheet with the details listed in the report.

The main body of the report is a table listing the MINFILE No., Name, Status, Commodities and Deposit Type of each occurrence, along with a link to a Google Earth KML file for all the mineral occurrences in the table. Clicking one of the column headers for MINFILE No., Name or Status sorts the table by that column. Clicking the Commodities column header opens the commodity code definition table and clicking the Deposit Type header open the B.C. Mineral Deposit Profiles page. Clicking the Google Earth column header downloads a Google Earth KML file with the showings listed in the report table.

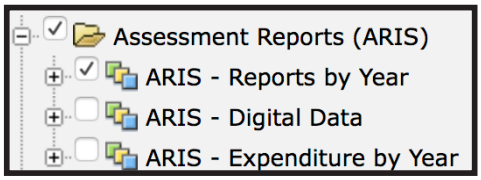


Within the table, each MINFILE No. is a link to the MINFILE database that opens the MINFILE Record Summary for that particular occurrence. In the Google Earth column, the icon is linked to a Google Earth KML file containing only that occurrence.



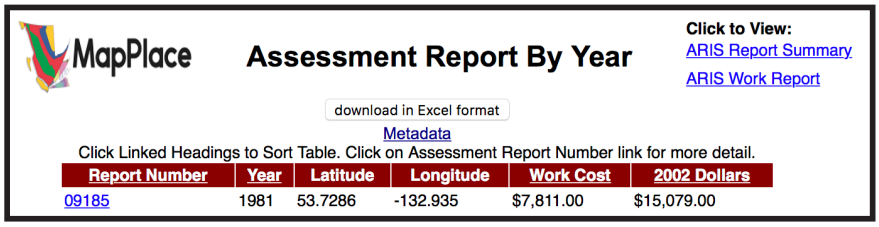
3.20 Reports derived from ARIS

Reports derived from ARIS can be generated based on the ARIS - Reports by Year or ARIS - Expenditure by Year layers. Data from the layer linked to the report to be generated must be selected.

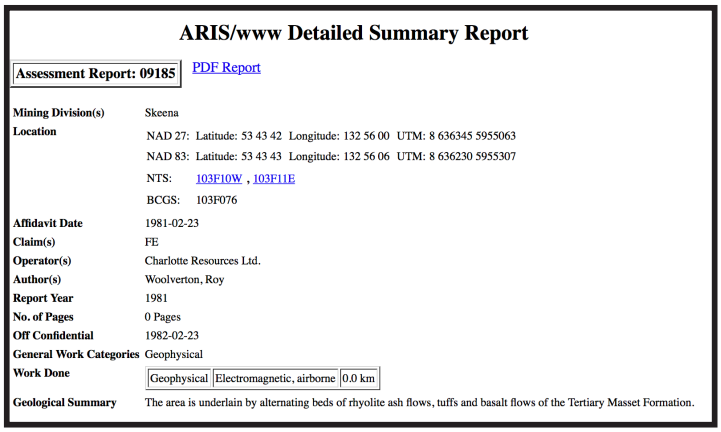


Below the title is a download in Excel button that downloads a spreadsheet version of the report. Underneath this button is a link to metadata from the ARIS database where the meaning of each column is defined.

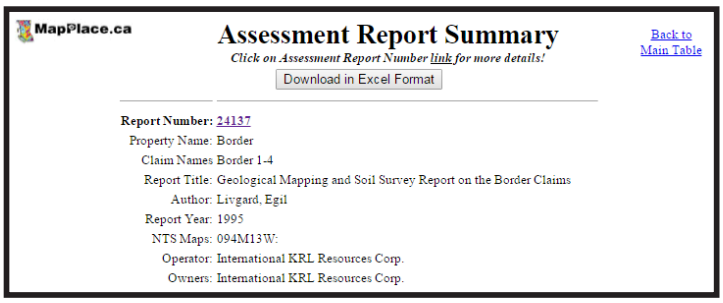
The main report table consists of six columns: Report Number, Year, Latitude, Longitude, Work Cost and 2002 Dollars. Clicking one of the column headers for Report Number, Year, Work Cost or 2002 Dollars sorts the table by the column.



The report numbers link directly to the ARIS/www Detailed Summary Report, where more information can be found along with links to the PDF version of the report and digital data (where available). In the top right corner of the report are links to two additional views of the report: Assessment Report Summary and Assessment Report Work Summary.

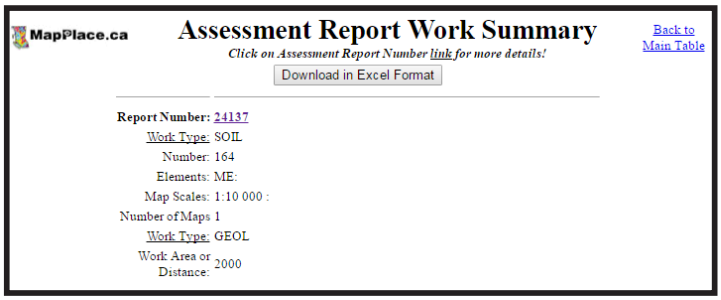


The Assessment Report Summary displays the Report Number (linked to the ARIS/www Detailed Summary Report), Property Name, Claim Names, Report Title, Author, Report Year, NTS Maps, Operator and Owner.



The Assessment Report Work Summary displays the Report Number Number (linked to the ARIS/www Detailed Summary Report) along with details such as Work Type, Number, Elements, Map Scales, Number of Maps.

Both of these additional report views include Download in Excel Format buttons. Maps and Operator.



3.21 Reports derived from COALFILE

The Coal Assessment report has two links below the title. The Download to Excel link downloads a spreadsheet listing the attributes from the report's main table. The Metadata link opens the COALFILE page where metadata about the COALFILE database columns is listed. The main table of the report lists the Report No., Year, Area, NTS Maps, Latitude, Longitude, Total Pages, Web Size (KB) and PDF Files for each report.

MapPlace.ca

Coal Assessment Reports

Click on PDF File link to view Exploration Report.

Note: Some of the reports have large file sizes; only part of the report is posted for downloading. Complete Reports are available on request.

Download to Excel

Metadata

Click Linked Headings to Sort Table.

Report No.	Year	Area	NTS Maps	Latitude	Longitude	Total Pages	Web Size (KB)	PDF Files
111	1983	MT KLAPP	104H02 104H07	57.243	-128.907	1498	17639	111ab.pdf

The Report No. is linked directly to the COALFILE Record Summary where additional details on the reports are displayed. The PDF file names are directly linked to the PDF versions of the reports.

COALFILE Record Summary

COALFILE Report Number 111

Property Name	MOUNT KLAPPAN	**Coal Field**	GROUNDHOG-KLAPPAN
Property ID	GR003	**NTS Map**	104H02 104H07
Owner	Gulf Canada Resources	**Latitude** **Longitude**	57.243 -128.907
Operator	Gulf Canada Resources	**MINFILE**	104H 020 104H 021 104H 022
Report Year	1983		
Report Title	Mt. Klappan Coal Project Geological Report 1983		
Report Author	B.Flynn, C.Williams, G.Seve, J.Innis, F. McKenzie		

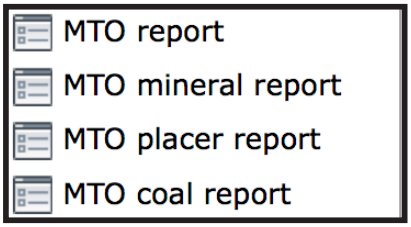
Download PDF		
0111a.pdf	302 page(s)	9256 kb
0111b.pdf	240 page(s)	5390 kb
0111c.pdf	20 page(s)	50328 kb
0111d.pdf	75 page(s)	22937 kb
0111e.pdf	105 page(s)	195304 kb
0111f.pdf	74 page(s)	25113 kb
0111g.pdf	682 page(s)	67879 kb

Comments	
Trenches	93
Boreholes	9
Bulk Samples	1
Maps	186

Printer Friendly Version

3.22 Reports derived from MTO

Four reports can be generated from the MTO layers. The report names relate directly to the Mineral Titles layers available in the Legends Pane. Data must be selected from the corresponding layer before generating a report.



Below the Mineral Titles Online Report title is the Download to Excel link that downloads a spreadsheet listing the selected tenures and attributes as listed in the report table.

The report table lists Tenure Number, Type, Claim Name, Good Until and Area (ha). The Tenure Number links directly to the Title Detail page on the Mineral Titles Online website where up-to-date information can be found. The table can be sorted by clicking column headers. A red arrow next to a column name indicates the sort order.

MapPlace

Mineral Titles Online Report

Click on Tenure Number ID for more information.
Click column headings to sort results.

Download to Excel

Tenure Number ID	Claim Name	Tenure Type Code	Tenure Type Description	Tenure Subtype Code	Tenure Subtype Description	Title Type Code	Title Type Description	Issue Date	Good to Date	Area in Hectares	Protected Indicator	Client Number ID	Owner Name	Percent Ownership	Number of Owners	Google Earth
1046163	GT10	M	Mineral	C	CLAIM	MCX	Mineral Cell Title Submission	8/20/2016	6/7/2021	1435.4201	N	262868	BRIXTON METALS CORPORATION	100	1	

Total Area: 1435.4201 ha

3.23 Reports derived from Bedrock Geology

The BC bedrock report is linked to the Geology - Bedrock Geology layer and will give results on data selections done at a scale of 1:1,000,000 or greater. Because the zoom levels in MapPlace 2 interface are fixed, this is equivalent to 1: 1155584.0436 in the Map Window Scale box.

The report lists, for each polygon selected, the UPID, Strat Unit, Era, Strat Age, Rock Class, Rock Type, Age (maximum) and Age (minimum), Belt and Project.

MapPlace

Summary of Bedrock Geology

Click on UPID for more information.
Click column headings to sort results.

UPID	Strat Unit	Period	Strat Age	Rock Class	Rock Type	Age (maximum)	Age (minimum)	Terrane	Project
825d39ad	MiPIL	Neogene to Quaternary	Miocene to Pleistocene	volcanic rocks	alkaline volcanic rocks	Miocene	Pleistocene	Younger Volcanics	Northwest

The UPID links to a more detailed display of attributes for the specific unit. Table columns can sorted by clicking headers.

MapPlace.ca

Details of Bedrock Geological Unit

Previous Table

PID: 825d39ad

SUMMARY

UPID: 825d39ad
Strat unit: MiPIL
Strat age: Miocene to Pleistocene
Strat Name: Level Mountain Group
Rock class: volcanic rocks
Rock type: alkaline volcanic rocks
Description: Alkali olivine basalt, minor trachyte and rhyolite. Aphyric, and olivine, plagioclase and augite-phyric, fine-grained basalt flows, in part columnar-jointed, locally vesicular or amygdaloidal; may include massive, fine-grained diaba
Terrane: Younger Volcanics
Belt: Intermontane
Basin:
Basin age:
Project: Northwest
Edit reference: Massey et al., 2005, BC

3.24 Reports derived from RGS

Four reports can be generated from the Regional Geochemical Survey (RGS), all of which are linked to the RGS - RGS Sample Location layer. All RGS reports have a Download in Excel format and a link to View RGS Metadata.

- RGS sample location report
- RGS report(AAS)
- RGS report(ICMPS)
- RGS report(INAA)

The RGS sample location report lists, for each selected sample, a Master ID, Latitude, Longitude, Year, NTS Map-250k, NTS Map-50k, NTS Map-20k and a link to a Google Earth file. In the top left portion of the report page is a section labelled 'View data by:' with three buttons (AAS, INAA, ICPMS). These link to the other three RGS reports available, where results for each type of analysis (if available) are displayed.

MapPlace **Regional Geochemical Survey Data**

View data by:
AAS
INAA
ICPMS

Download in Excel format

View RGS Metadata

Note: Value of '-1' indicates 'not determined'.

Master ID	Latitude	Longitude	Year	NTS Map-250k	NTS Map-50k	NTS Map-20k	Google Earth
104K873252	58.69	-132.38	1987	104K	104K09	104K.069	

Last updated in June 2016

3.25 Reports derived from Rock Property

MapPlace 2 offers two rock property reports. Rock Magnetic Susceptibility is linked to the RPDS Magnetic Susceptibility layer and Rock Density is linked to the RPDS Density layer.

Both reports have a Download in Excel format button. For each sample the spreadsheet lists the Location ID, Sample Name, Location Site, Latitude, Longitude, Lithology, Formation, Sample Value, Sample Methodology and Sample Parameter (MS for magnetic susceptibility and DEN for density).

Rock Property Database

Magnetic Susceptibility

BCGS Open File 2008-04
Geoscience BC Report 2006-015

Download in Excel format

View Metadata

Click Headings to Sort Table. Click on Master ID link for more detail.

Location ID	Sample Name	Location Site	Latitude	Longitude	Lithology	Formation	Sample Value	Sample Methodology	Sample Parameter
NECH-SCB97-1102	093K09	NECH-SCB97-1102	54.718	-124.328	Argillite	Inzana Lk Fm	0	KT-9 KAPPAMETER MS METER	MS
NECH-SCB97-1102	093K09	NECH-SCB97-1102	54.718	-124.328	Argillite	Inzana Lk Fm	0	KT-9 KAPPAMETER MS METER	MS

Rock Property Database

Density

BCGS Open File 2008-04
Geoscience BC Report 2006-015

Download in Excel format

View Metadata

Click Headings to Sort Table. Click on Master ID link for more detail.

Location ID	Sample Name	Location Site	Latitude	Longitude	Lithology	Formation	Sample Value	Sample Methodology	Sample Parameter
lha06-11-3	lha06-11-3	093K12	54.51	-125.519	Unknown	-	2.952	WEIGHT-IN-AIR/WEIGHT-IN-WATER	DEN
lha06-11-3	lha06-11-3	093K12	54.51	-125.519	Unknown	-	2.952	WEIGHT-IN-AIR/WEIGHT-IN-WATER	DEN

3.26 Reports derived from Mineral Resource Assessment

The industrial mineral potential report is linked to the Industrial Mineral Potential By Rank layer. Below the title is a download in Excel format button. The main table includes columns for Tract Name, Area (ha), No. MINFILE Occurrences, Metallic Inventory Value, Exploration ARIS (1986$), Projection Value, IM Inventory Value, IM Rank, Latitude and Longitude.

Mineral Potential Tracts Report

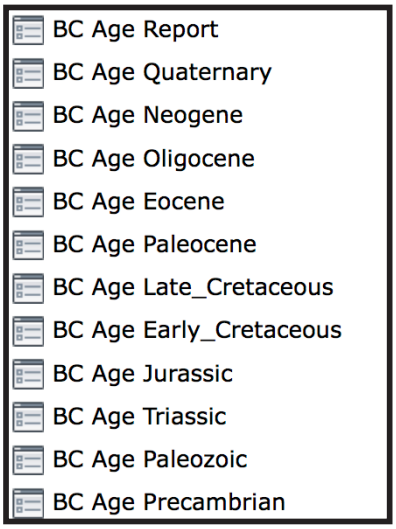
download in Excel format

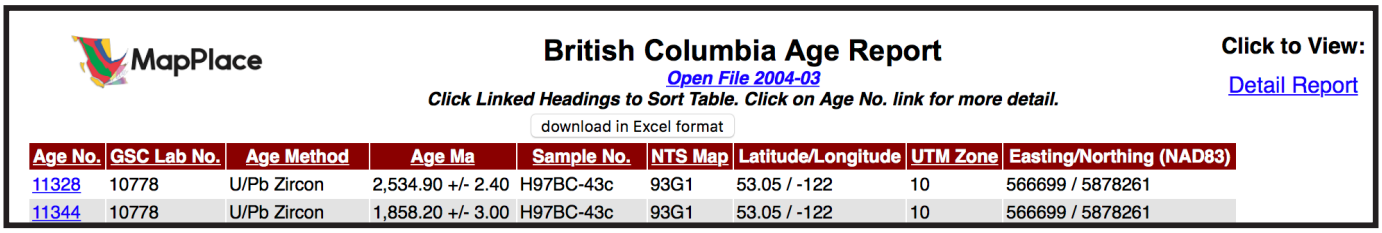
Click Headings to Sort Table.

Tract Name	Area (ha)	No. MINFILE Occurrences	Metallic Inventory Value	Exploration ARIS (1986$)	Projection Value	IM Inventory Value	IM Rank	Latitude	Longitude
CO1___NEBC	338116	2	0	0	0	0	285	57.21	-124.99
CO2___NEBC	337753	3	0	137182	0	0	360	57.36	-124.33

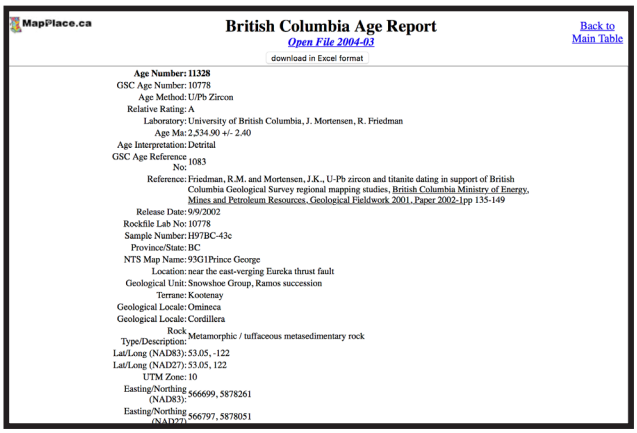
3.27 Reports derived from Geochron age data

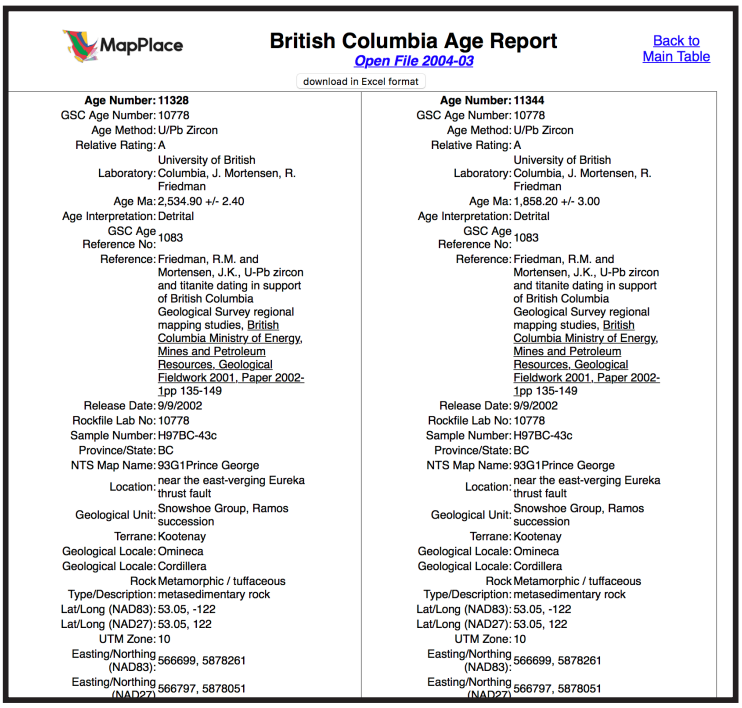
Geochron age data reports are linked to the BC Age layers available. The main report page has a download in Excel format button. The main table has colunns for Age No., GSC Lab No., Age Method, Age Ma, Sample No., NTS Map, Latitude/Longitude, UTM Zone and Easting/Northing (NAD83). The Age No. entries are linked to a detailed report. Alternatively the detailed reports for all of the ages listed can be displayed together by clicking the Detail Report link near the top right of the screen. and Property for each selected sample.





Age No.	GSC Lab No.	Age Method	Age Ma	Sample No.	NTS Map	Latitude/Longitude	UTM Zone	Easting/Northing (NAD83)
11328	10778	U/Pb Zircon	2,534.90 +/- 2.40	H97BC-43c	93G1	53.05 / -122	10	566699 / 5878261
11344	10778	U/Pb Zircon	1,858.20 +/- 3.00	H97BC-43c	93G1	53.05 / -122	10	566699 / 5878261





Part 4. Exercises

You've just been hired by a new junior exploration company. As the only geologist, you've been tasked to identify the first prospect for the company to stake or option. The CEO has given you only two weeks to find a prospect that they can present to the board of directors, but has not given you a budget. Aware of renewed interest in BC's porphyry copper deposits, the CEO has instructed you to focus on those only in areas with existing infrastructure. He also told you he is not interested in grassroots projects.

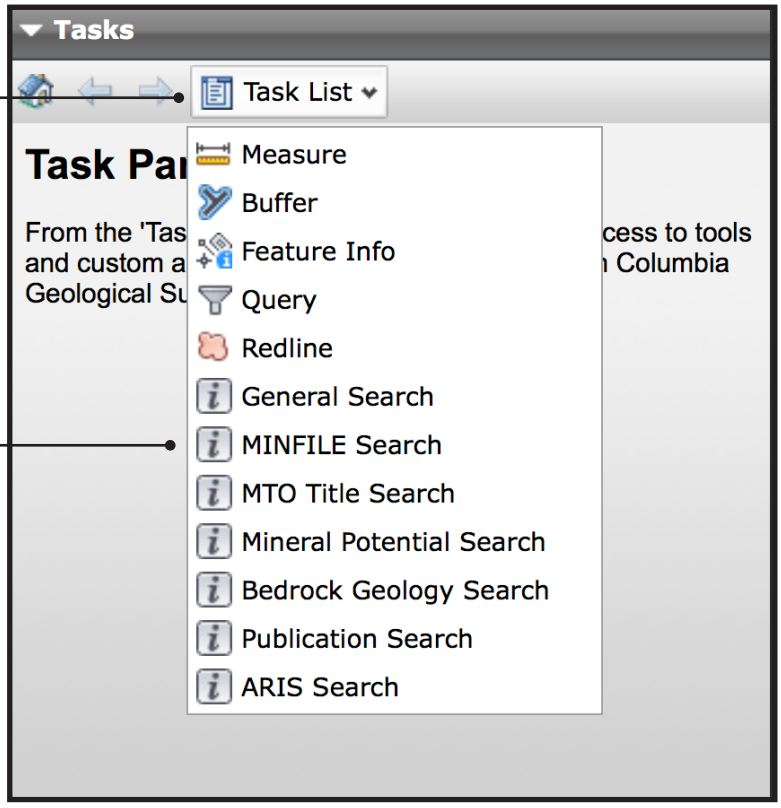
You are new to the province and start looking for information online. Having found the BCGS website, you come across the MapPlace 2 web service and immediately recognize its potential to help you get the job done.

Exercise 1: Interface and datasets

Step 1: To begin, you want to find a few porphyry copper occurrences where at least 450 million tonnes have been mined.

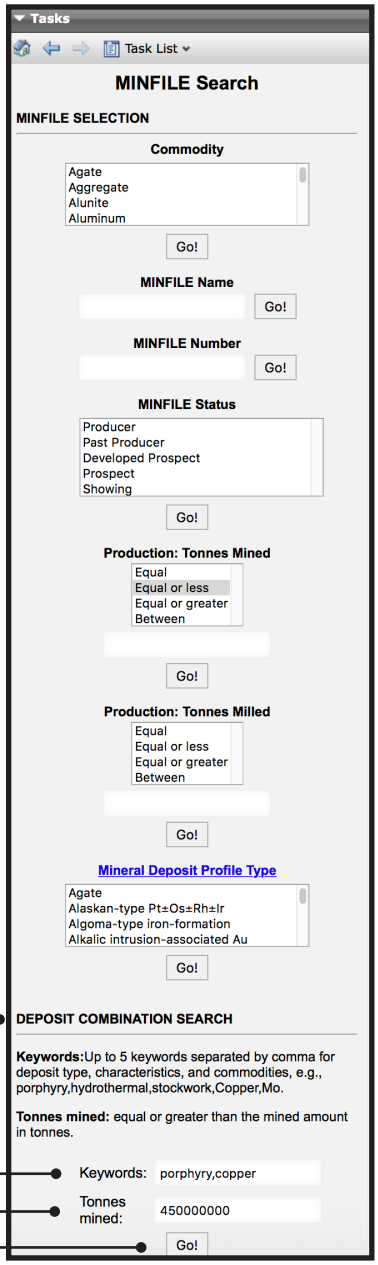
a) In the Tasks Pane, click on Task List.

b) Click MINFILE Search.



Step 1 cont...

MINFILE contains geological, location, and economic information about more than 14,600 metallic, industrial mineral and coal mines, deposits and occurrences in B.C.

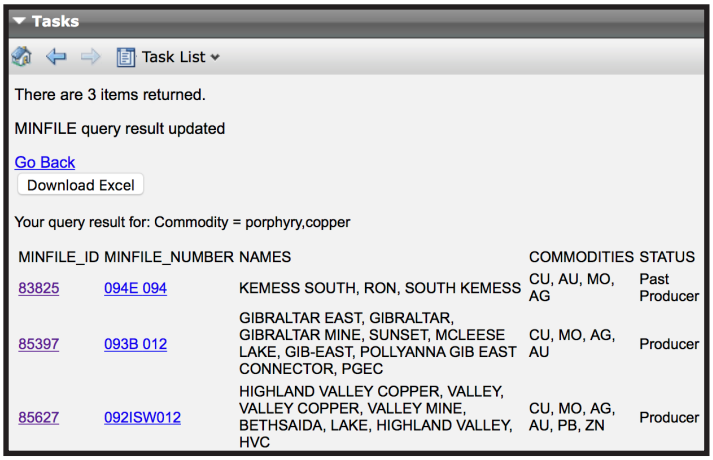


c) Scroll down to the section labelled DEPOSIT COMBINATION SEARCH.

d) In the Keywords box enter: porphyry, copper.

e) In the Tonnes mined box enter: 450000000

f) Click Go!



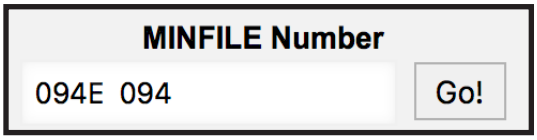
Through this search you've identified 3 occurrences of interest: MINFILE numbers 094E 094, 093B 012, and 092ISW012.

For each occurrence repeat the following steps.

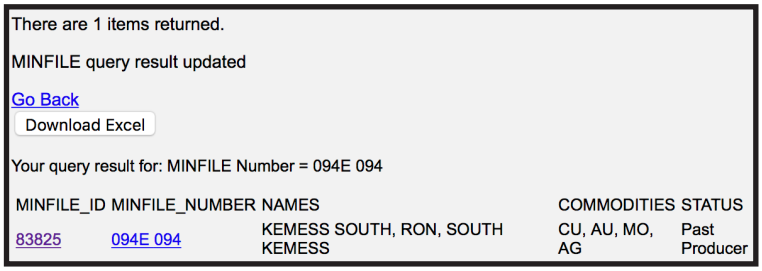
Step 2: Search for the MINFILE occurrence using the 'MINFILE Search' task to centre the map window directly around the area of interest (for the first occurrence you can skip to part c of this step).

a) In the Tasks pane, click Task List and then MINFILE Search.

b) In the box under MINFILE Number Finder enter the occurrence number to search (eg. 094E 094) then click Go!



c) Click the MINFILE_ID to zoom in to the occurrence (e.g. 83825).



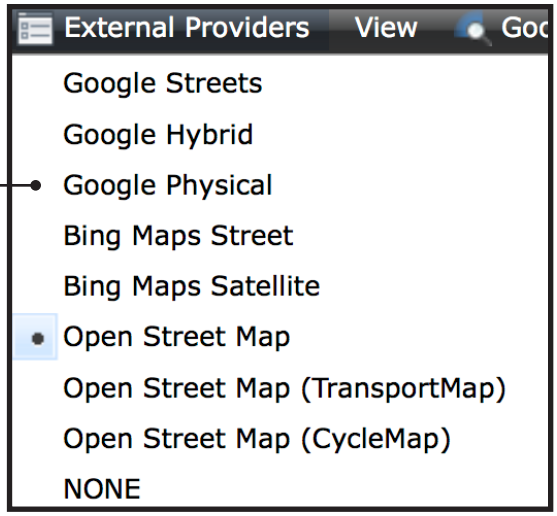
Step 3: Adjust the scale to about 1:250K to get a better view of the surrounding area.

a) On the Information Bar enter 250000 in the Map window scale box and hit the Enter key (note that the value in the box will change to 2888896.0109; this is normal and happens because the interface works with predetermined zoom level).

Step 4: To get a better feel for the topography, change the base map to Google Physical.

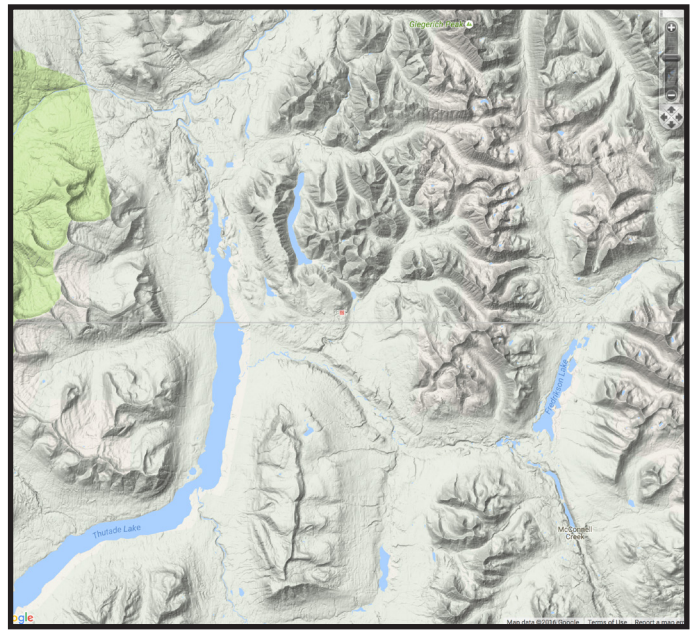
a) On the Toolbar click External Providers.

b) Click Google Physical (if the base map doesn't change automatically, click the Refresh button in the Toolbar).



Step 4 cont...

Google Physical as base map.



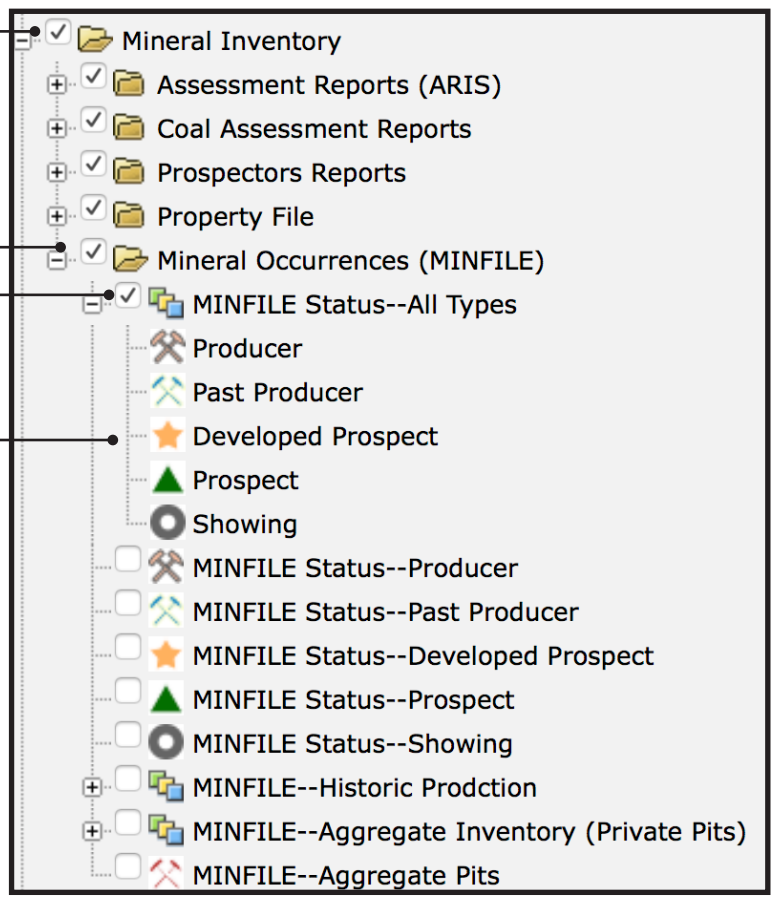
Step 5: View other occurrences in the area.

a) In the Legend pane expand the Mineral Inventory folder by clicking the '+'.

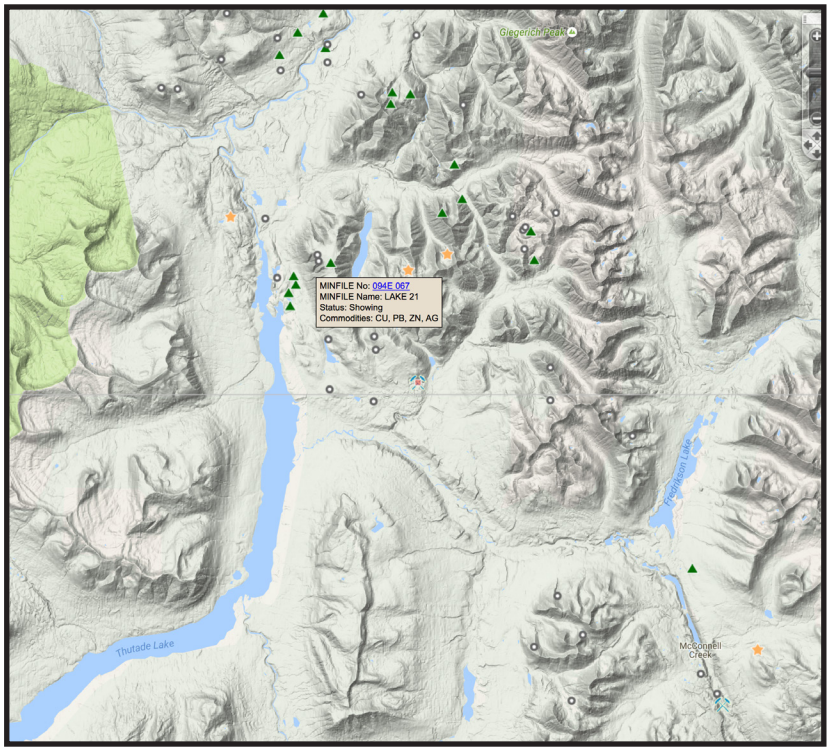
b) Expand the Mineral Occurrences (MINFILE) folder.

c) Turn on the MINFILE Status - All Types layer by clicking the empty checkbox to the left of the layer name.

d) In the Legend pane, expand the MINFILE Status - All Types layer to view the layer's legend.



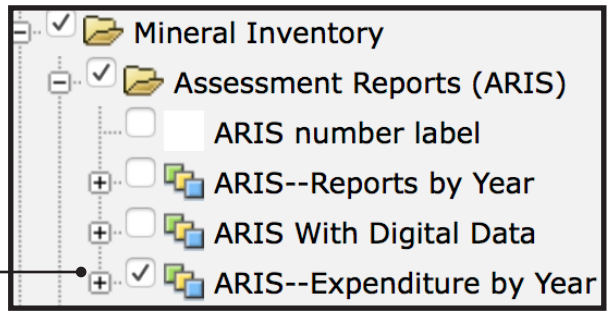
Step 5 cont...



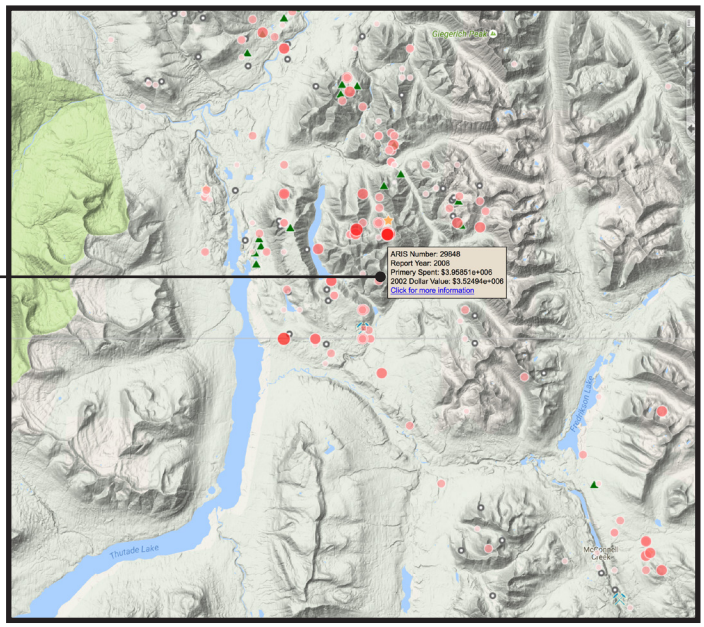
How many developed prospects can you see in the Map Window?

Step 6: To determine the value, timing, and distribution of past work in the area, examine the ARIS layers.

a) Turn on the ARIS - Expenditure by Year layer (within the Assessment Reports (ARIS) folder).



b) Hovering over points will reveal maptips displaying key attributes. You can also pan around the screen and zoom in and out to areas of interest.

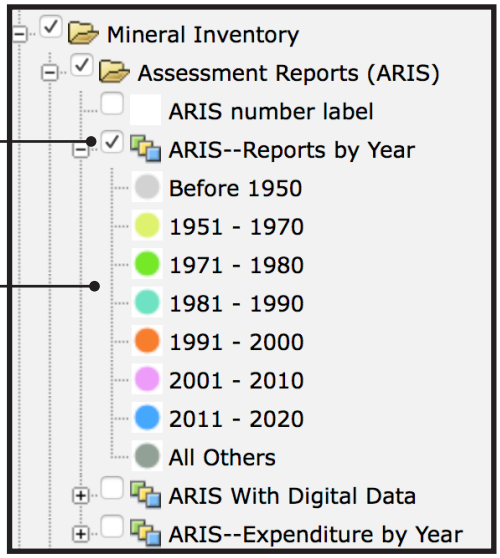


Step 6 cont...

c) Turn off the ARIS - Expenditure layer.

d) Turn on the ARIS - Reports by Year layer.

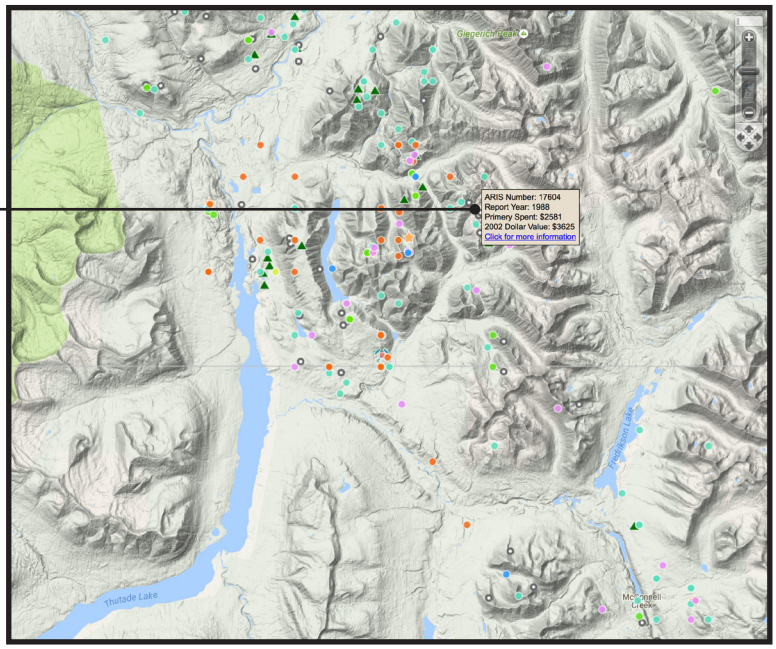
e) Expand the ARIS - Reports by Year layer to see its legend.



ARIS is the BCGS Assessment Report Indexing System. It contains over 35,600 mineral exploration assessment reports filed by the exploration and mining industry since 1947.

f) Hover over points to see the exact year in which the work was completed.

g) Turn off the ARIS - Reports by Year layer.

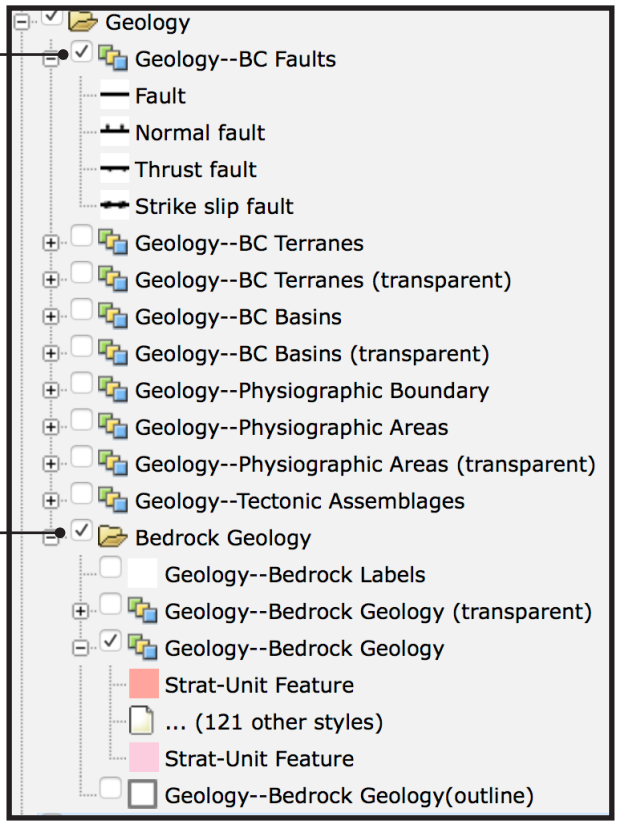


Can you identify three assessment reports submitted since 2010?

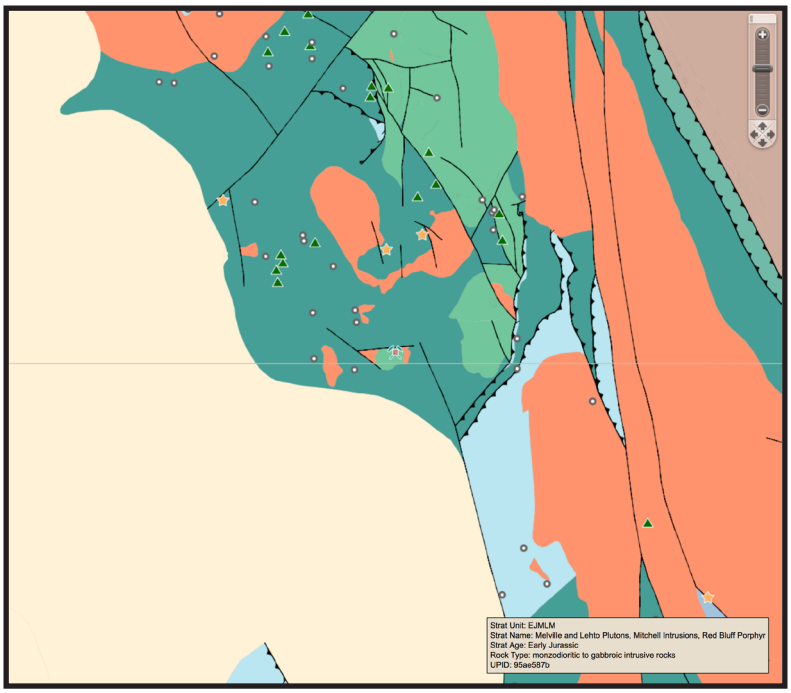
Step 7: To relate the work that has been done to the geology, examine the bedrock geology layers.

a) Turn on the Geology - BC Faults layer.

b) Turn on the Geology - Bedrock Geology layer from the Bedrock Geology folder.



c) Use the maptips and selection tools to get information on the different rock types. Zoom and pan around the area to get an understanding of how occurrences relate to geology. See if you can identify any trends.

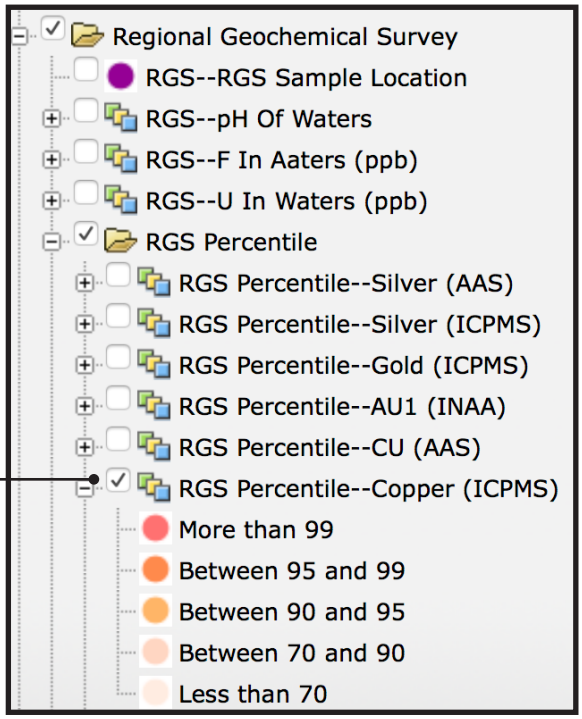


The geology data in MapPlace 2 are obtained from the British Columbia Digital Geology, which provides up to date province-wide coverage of bedrock geology.

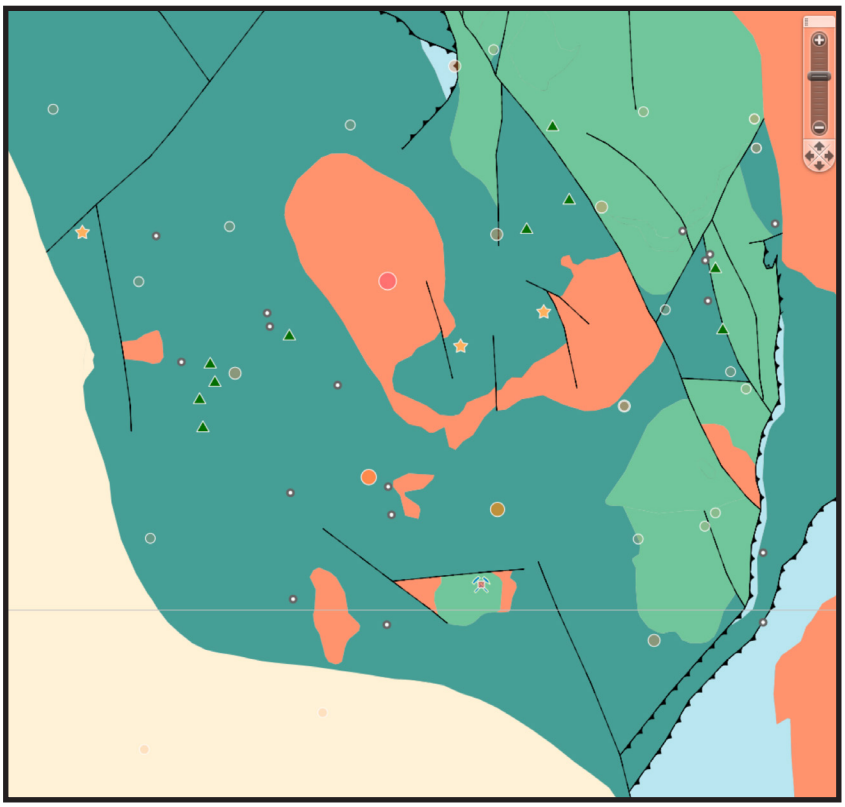
Can you identify a stratigraphic unit that is spatially related to developed prospects?

Step 8: To establish relative copper concentrations examine the Regional Geochemical Survey data.

a) Turn on the RGS Percentile - Copper (ICPMS) layer then turn on the RGS Percentile - CU (AAS) layer and compare the results.



b) Pan and zoom to see if you can identify any correlation between these results and MINFILE occurrences, rock types or faults.



The Regional Geochemical Survey (RGS) dataset includes analyses for almost 65,000 stream and lake sediments and water samples across the province.

How many RGS samples in the 99th percentile can you see in the Map Window?

In this exercise, you used MapPlace 2 to identify three target areas by searching the MINFILE database. Using the ARIS database, you established the level of previous work in these areas. You then determined the relationship between MINFILE occurrences and lithology, structure, and geochemistry by using the Bedrock Geology and Regional Geochemical Survey databases. Linking to an external provider (Google Physical) enabled you to examine the topography of the areas.

You used the data visualization capabilities of MapPlace 2 to conduct a preliminary assessment of each target area.

Datasets used in this exercise:

- Google Physical Basemap
- MINFILE database
- ARIS (Assessment Reports)
- Bedrock Geology
- Regional Geochemical Survey

Tools used in this exercise:

- External Providers (base maps)
- MINFILE Search
- Map Window Scale Box
- Legend Pane
- Tasks Pane

Exercise 2: Selection, reports, and downloads

After considering the data available for each area you've decided to eliminate the area around the Highland Valley occurrence (092ISW012). Because so much work has been done in the area in the last six years, you're not sure that you could productively insert your company into the area.

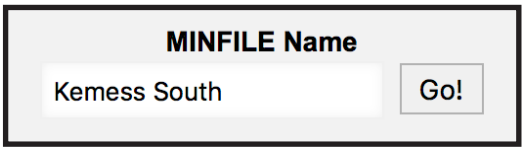
You also eliminated the area near Gibraltar (occurrence 093B 012) because the potential seems to be limited to the immediate area near the occurrence itself, with little prospect of further nearby discoveries.

You found the area near Kemess South (094E 094) to be the most interesting. It contains several porphyry copper prospects and developed prospects. The numerous assessment reports suggest that interest in the area has been sustained over several decades, something your company could build on.

Now that you've narrowed your interest to the area surrounding the 094E 094 (Kemess South) occurrence, you want to take a closer look at the data available. You use MapPlace 2 to access MINFILE record summaries, assessment reports, regional geochemical results, and lithology reports.

Step 1: Find and zoom in to the Kemess South showing.

Enter Kemess South in the MINFILE Name search box of the MINFILE Search task (Tasks pane/Task List/MINFILE Search). Select the MINFILE_ID link to zoom to the occurrence.



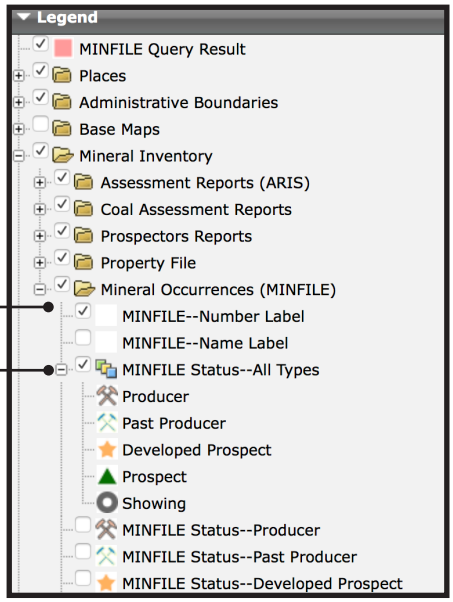
Step 2: Set the map window scale to a level that gives a good regional view of the area.

Enter 150000 in the Map Window Scale Box.
Note: the scale will not be exact as the map has step zooms.

Take a closer look at the other showings surrounding Kemess South and further focus your area of interest.

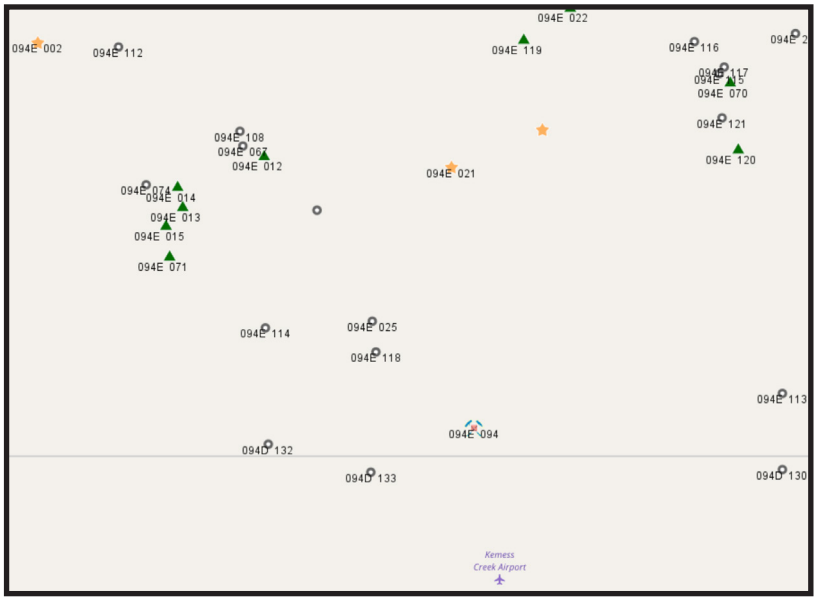
Step 3: Display MINFILE occurrences on the map.

Turn on the MINFILE Status - All Types and MINFILE - Number Label layer.



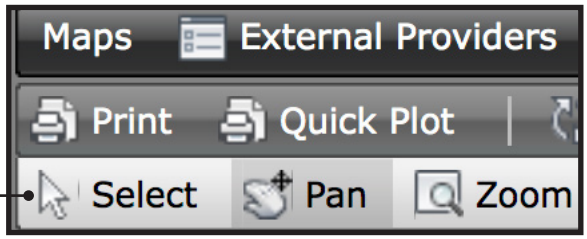
Step 3 cont...

MINFILE displayed with labels.

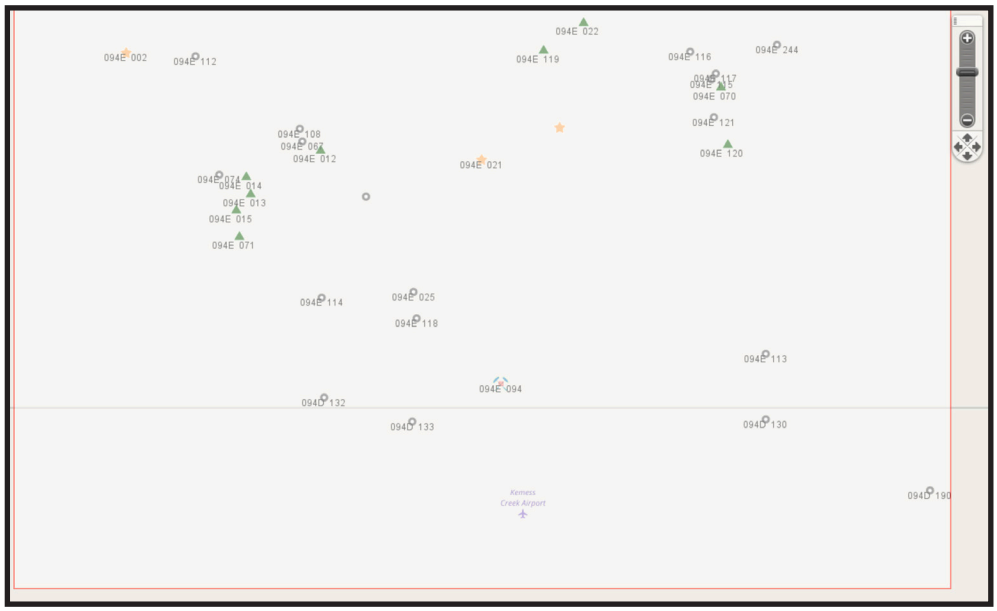


Step 4: Select all the occurrences in the Map Window.

a) Turn on the select tool from the toolbar.



b) Start the selection by moving the cursor in the top left corner of the map window. Then click and hold the left button while dragging the cursor down to the lower right corner of the map window. Release the left button once the rectangle covers the whole window.



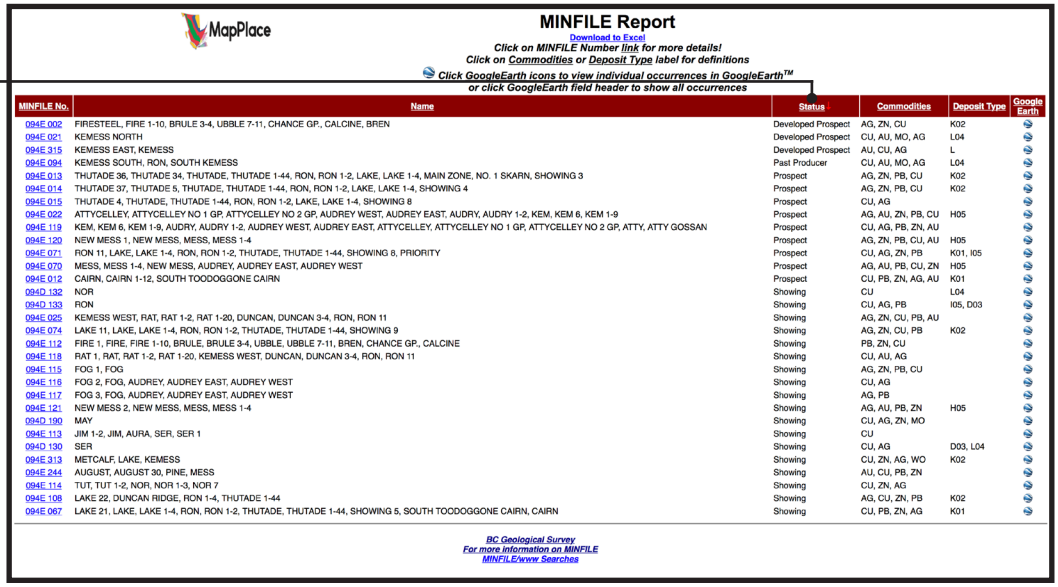
How many occurrences have you selected?

Step 5: Get an easy-to-read summary of all of the occurrences selected.

a) Right click anywhere in the Map Window

b) In the pop-up menu, select MINFILE Reports then MINFILE status report.

c) Re-sort the report by occurrence Status by clicking the column header.



MapPlace

MINFILE Report

Download to Excel
Click on MINFILE Number link for more details!
Click on Commodities or Deposit Type label for definitions
Click GoogleEarth icons to view individual occurrences in GoogleEarth™
or click GoogleEarth field header to show all occurrences

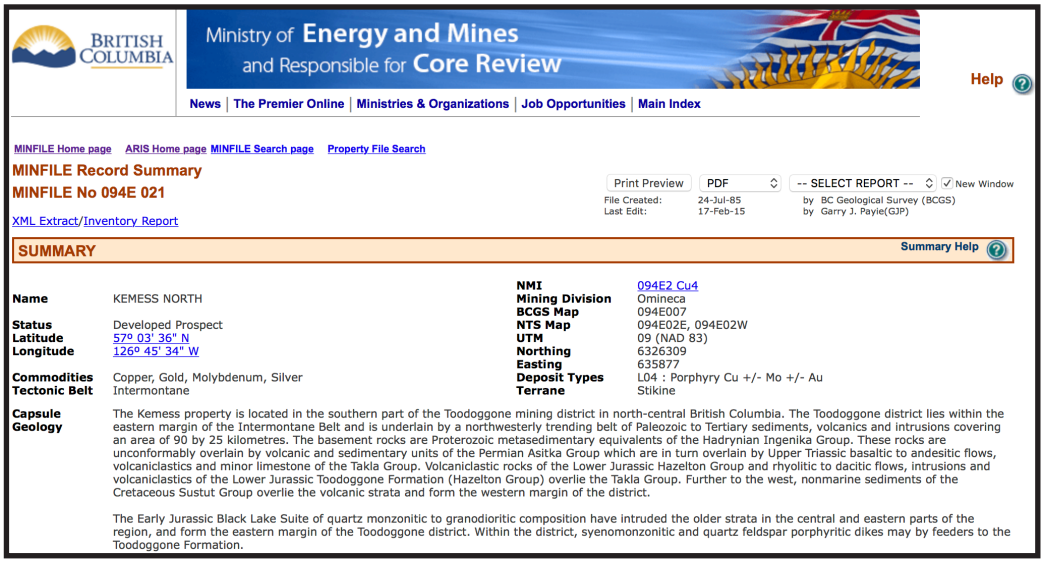
MINFILE No.	Name	Status	Commodities	Deposit Type	Google Earth
094E 002	FIRESTEEL, FIRE 1-10, BRULE 3-4, UBBLE 7-11, CHANCE GP., CALCINE, BREN	Developed Prospect	AG, ZN, CU	K02	
094E 021	KEMESS NORTH	Developed Prospect	CU, AU, MO, AG	L04	
094E 315	KEMESS EAST, KEMESS	Developed Prospect	AU, CU, AG	L	
094E 094	KEMESS SOUTH, RON, SOUTH KEMESS	Past Producer	CU, AU, MO, AG	L04	
094E 013	THUTADE 36, THUTADE 34, THUTADE, THUTADE 1-44, RON, RON 1-2, LAKE, LAKE 1-4, MAIN ZONE, NO. 1 SKARN, SHOWING 3	Prospect	AG, ZN, PB, CU	K02	
094E 014	THUTADE 37, THUTADE 5, THUTADE, THUTADE 1-44, RON, RON 1-2, LAKE, LAKE 1-4, SHOWING 4	Prospect	AG, ZN, PB, CU	K02	
094E 015	THUTADE 4, THUTADE, THUTADE 1-44, RON, RON 1-2, LAKE, LAKE 1-4, SHOWING 8	Prospect	CU, AG		
094E 022	ATTYCELLEY, ATTYCELLEY NO 1 GP, ATTYCELLEY NO 2 GP, AUDREY WEST, AUDREY EAST, AUDRY, AUDRY 1-2, KEM, KEM 6, KEM 1-9	Prospect	AG, AU, ZN, PB, CU	H05	
094E 119	KEM, KEM 6, KEM 1-9, AUDRY, AUDRY 1-2, AUDREY WEST, AUDREY EAST, ATTYCELLEY, ATTYCELLEY NO 1 GP, ATTYCELLEY NO 2 GP, ATTY, ATTY GOSSAN	Prospect	CU, AG, PB, ZN, AU		
094E 120	NEW MESS 1, NEW MESS, MESS, MESS 1-4	Prospect	AG, ZN, PB, CU, AU	H05	
094E 071	RON 11, LAKE, LAKE 1-4, RON, RON 1-2, THUTADE, THUTADE 1-44, SHOWING 8, PRIORITY	Prospect	CU, AG, ZN, PB	K01, I05	
094E 070	MESS, MESS 1-4, NEW MESS, AUDREY, AUDREY EAST, AUDREY WEST	Prospect	AG, AU, PB, CU, ZN	H05	
094E 012	CAIRN, CAIRN 1-12, SOUTH TOODOGGONE CAIRN	Prospect	CU, PB, ZN, AG, AU	K01	
094D 132	NOR	Showing	CU	L04	
094D 133	RON	Showing	CU, AG, PB	I05, D03	
094E 025	KEMESS WEST, RAT, RAT 1-2, RAT 1-20, DUNCAN, DUNCAN 3-4, RON, RON 11	Showing	AG, ZN, CU, PB, AU		
094E 074	LAKE 11, LAKE, LAKE 1-4, RON, RON 1-2, THUTADE, THUTADE 1-44, SHOWING 9	Showing	AG, ZN, CU, PB	K02	
094E 112	FIRE 1, FIRE, FIRE 1-10, BRULE, BRULE 3-4, UBBLE, UBBLE 7-11, BREN, CHANCE GP., CALCINE	Showing	PB, ZN, CU		
094E 118	RAT 1, RAT, RAT 1-2, RAT 1-20, KEMESS WEST, DUNCAN, DUNCAN 3-4, RON, RON 11	Showing	CU, AU, AG		
094E 115	FOG 1, FOG	Showing	AG, ZN, PB, CU		
094E 116	FOG 2, FOG, AUDREY, AUDREY EAST, AUDREY WEST	Showing	CU, AG		
094E 117	FOG 3, FOG, AUDREY, AUDREY EAST, AUDREY WEST	Showing	AG, PB		
094E 121	NEW MESS 2, NEW MESS, MESS, MESS 1-4	Showing	AG, AU, PB, ZN	H05	
094D 190	MAY	Showing	CU, AG, ZN, MO		
094E 113	JIM 1-2, JIM, AURA, SER, SER 1	Showing	CU		
094D 130	SER	Showing	CU, AG	D03, L04	
094E 313	METCALF, LAKE, KEMESS	Showing	CU, ZN, AG, WO	K02	
094E 244	AUGUST, AUGUST 30, PINE, MESS	Showing	AU, CU, PB, ZN		
094E 114	TUT, TUT 1-2, NOR, NOR 1-3, NOR 7	Showing	CU, ZN, AG		
094E 108	LAKE 22, DUNCAN RIDGE, RON 1-4, THUTADE 1-44	Showing	AG, CU, ZN, PB	K02	
094E 067	LAKE 21, LAKE, LAKE 1-4, RON, RON 1-2, THUTADE, THUTADE 1-44, SHOWING 5, SOUTH TOODOGGONE CAIRN, CAIRN	Showing	CU, PB, ZN, AG	K01	

BC Geological Survey
For more information on MINFILE
MINFILE/www Searches

Which developed prospect lists copper as the main (first) commodity?

Step 5 cont...

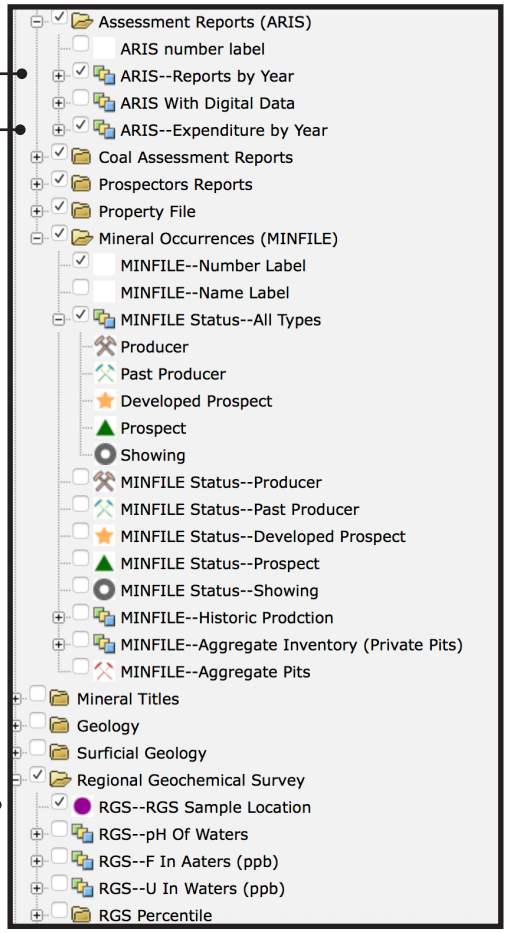
d) The Kemess North showing is a developed prospect with copper as the main commodity. Click the MINFILE No. (ie. 094E 021) to get a detailed summary.



How many showings or prospects can you find that have copper as their main commodity that may be porphyry related?

Step 6: You can use many other databases to create summaries such as the ones you generated for MINFILE. To speed things up, select data from multiple databases at the same time.

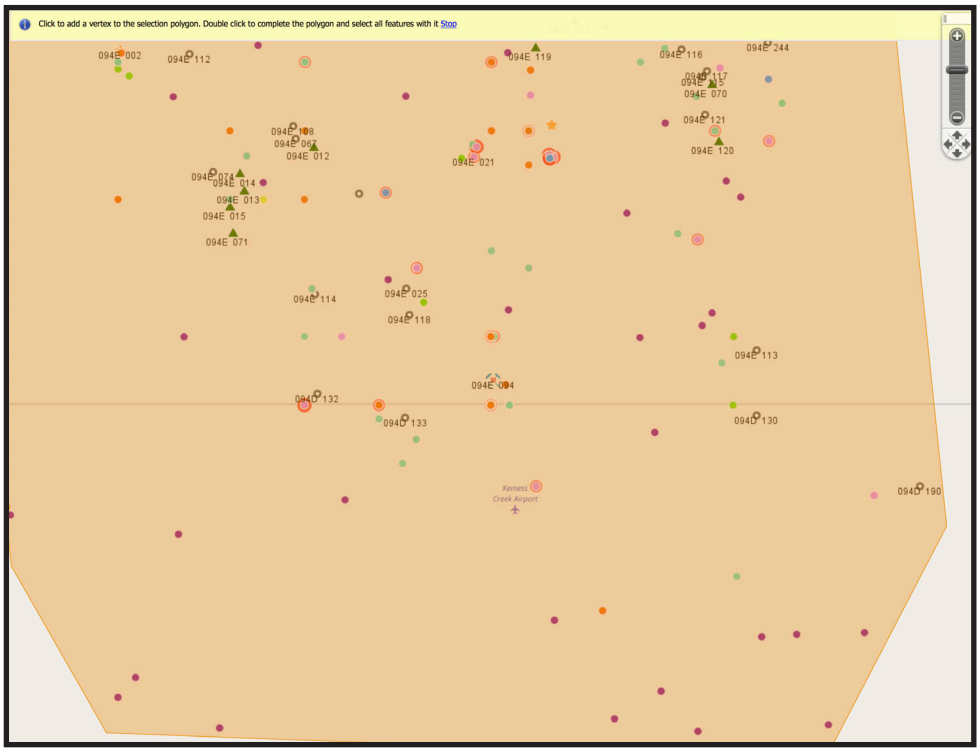
a) Turn on the ARIS - Reports by Year, ARIS - Expenditure and RGS - RGS Sample Locations layers from the Legend pane.



Step 6 cont...

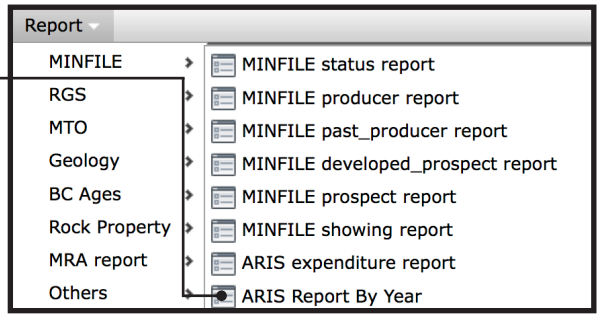
b) Click the Select Polygon button on the toolbar.

c) Left click in the top left corner of the Map Window, then the top right and bottom right corners. Move the cursor to the bottom left corner (you should see a selection polygon). Once you are happy with the shape and coverage of the polygon, double click in the last corner to Turn on the selection.



Step 7: View the assessment reports available in the area to determine what has been done and by whom.

a) Generate a report of all of the assessment reports selected by clicking Reports in the toolbar then MINFILE and ARIS Report by Year.



What was the total work cost reported in the most recent report?

Step 7 cont...

b) Download the list of reports as an Excel file by clicking the download in Excel format button.

MapPlace

Assessment Report By Year

Click to View:
ARIS Report Summary
ARIS Work Report

download in Excel format
Metadata

Click Linked Headings to Sort Table. Click on Assessment Report Number link for more detail.

Report Number	Year	Latitude	Longitude	Work Cost	2002 Dollars
01705	1968	57.0597	-126.765	$6,413.00	$33,753.00
01908	1968	57.0247	-126.7819	$2,100.00	$11,053.00
01956	1969	57.0897	-126.7183	$300.00	$1,515.00
02406	1969	57.0247	-126.7819	$2,000.00	$10,101.00
02902	1970	57.0497	-126.8536	$8,200.00	$40,000.00
02903	1970	57.0497	-126.8536	$24,000.00	$117,073.00
03694	1971	57.0897	-126.7183	$500.00	$2,370.00
04200	1973	57.0814	-126.9186	$13,300.00	$55,882.00

c) See the data summaries available in the three different report views available by following the links under Click to View.

MapPlace.ca

Assessment Report Summary

Click on Assessment Report Number link for more details!

Download in Excel Format

Report Number: 01705
Property Name: Kemess
Claim Names KEMESS
Report Title: Geological and Soil Geochemical Surveys on the Kemers No. 1,2,3 Groups Thutade Lake, BC
Author: Stevenson, R.W.
Report Year: 1968
NTS Maps: 094E02W:094E02E:
Operator: Kennco Explorations (Canada) Limited

When downloading data sets, set up a working directory (folder) on your computer.

MapPlace.ca

Assessment Report Work Summary

Click on Assessment Report Number link for more details!

Download in Excel Format

Report Number: 01705
Work Type: SOIL
Number: 88
Elements: CU:MO:ZN:PB:
Map Scales: 1:4800 :
Number of Maps 5
Work Type: GEOL
Map Scales: 1:9600 :
Number of Maps 1

What is the name of the company that filed the first assessment report in the area?

Step 7 cont...

d) Click the report number to get the detailed report summary and access to the pdf and digital data files (if available).

e) Close the ARIS report window.

New Search Refine Search Import Reports Help ARIS Home Page

ARIS/www Detailed Summary Report

Assessment Report: 01705 PDF Report

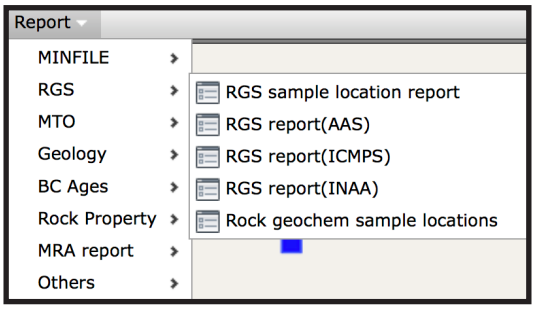
Property Name	Kemess
Mining Division(s)	Omineca
Location	NAD 27: Latitude: 57 03 36 Longitude: 126 45 48 UTM: 9 635645 6326075
	NAD 83: Latitude: 57 03 35 Longitude: 126 45 54 UTM: 9 635540 6326253
	NTS: 094E02E , 094E02W
	BCGS: 094E007
Title of Report	Geological and Soil Geochemical Surveys on the Kemers No. 1,2,3 Groups Thutade Lake, BC
Affidavit Date	1968-01-01
Claim(s)	KEMESS
Operator(s)	Kennco Explorations (Canada) Limited
Author(s)	Stevenson, R.W.
Report Year	1968
No. of Pages	19 Pages
Off Confidential	1969-01-01
General Work Categories	Geological, Geochemical
Work Done	

Geochemical	Soil	88 sample(s); No. of maps: 5; Scale(s) : 1:4800
	Elements Analyzed For	Copper, Molybdenum/Molybdenite, Zinc, Lead
Geological	Geological	0.0 ha; No. of maps: 1; Scale(s) : 1:9600

New Search Refine Search Import Reports Help ARIS Home Page

Step 8: Rather than trying to recompile all the raw data in the ARIS reports, use the RGS layers to view analytical results from samples taken in this area.

a) From the toolbar, click the Reports button and then in the RGS Reports section select RGS sample location reports.



b) View tabulated results for different types of analyses by clicking the buttons under View data by.

MapPlace **Regional Geochemical Survey Data**

View data by: AAS INAA ICPMS

Download in Excel format

View RGS Metadata

Note: Value of '-1' indicates 'not determined'.

Master ID	Latitude	Longitude	Year	NTS Map-250k	NTS Map-50k	NTS Map-20k	Google Earth
ID094D961053	56.92	-126.7	1996	094D	094D15	094D.097	ID094D961053
ID094D961054	56.92	-126.66	1996	094D	094D15	094D.097	ID094D961054
ID094D961055	56.94	-126.62	1996	094D	094D15	094D.097	ID094D961055
ID094D961056	56.92	-126.6	1996	094D	094D15	094D.097	ID094D961056

?

What is the highest ICPMS copper value reported in the area?

Step 8 cont...

c) Download a full set of results for the selected samples for later viewing by clicking the Download in Excel format button.

MapPlace

Main Table

RGS ICPMS Data

Download in Excel format

View RGS Metadata

Click Linked Headings to Sort Table. Click on Master ID link for more detail.

Note: Value of '-1' indicates 'not determined'; values are in ppm unless specified.

To print this file correctly, set page orientation to Landscape.

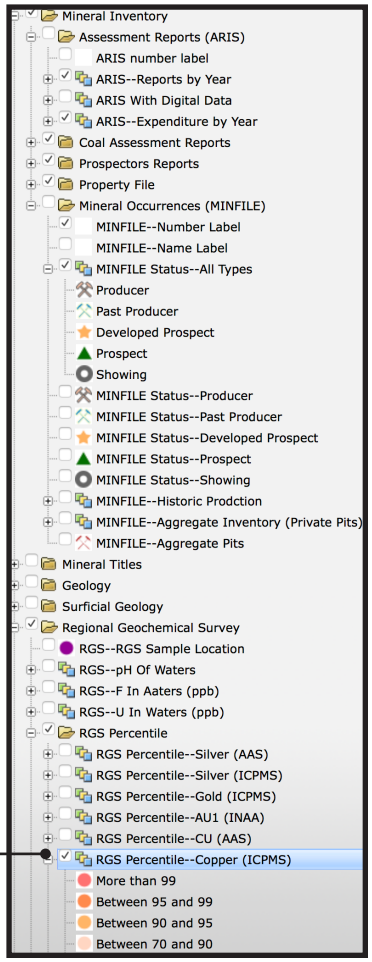
Master ID	Al (%)	Sb	As	Ba	Bi	Cd	Ca (%)	Cr	Co	Cu	Ga	Au (ppb)	Fe (%)	La	Pb	Mg (%)	Mn	Hg (ppb)	Mo	Ni	P (%)	K (%)	Sc	Se	Ag (ppb)	Na (%)	Sr	S (%)	Te	Tl	Th	Ti (%)	W	U
ID094D961053	1.36	0.09	4.3	142	0.09	0.13	0.53	32.5	10.8	33.04	3.9	2	2.39	9.8	4.95	0.56	455	25	0.31	19.2	0.036	0.05	5.3	0.2	51	0.007	51.3	-0.02	0.02	0.03	1.6	0.067	-0.1	0.4
ID094D961054	2.2	0.11	7.7	175	0.1	0.39	1.21	39.2	15.8	75.93	5.9	6.7	3.54	7.1	5.09	0.89	1316	42	2.33	24.1	0.074	0.07	6.9	0.8	135	0.011	56.1	0.03	0.04	0.03	1	0.088	0.1	0.9
ID094D961055	1.86	0.12	3.9	124.8	0.07	0.31	0.89	34	11	38.21	6.4	2	3.47	10.1	4.43	0.65	492	27	0.92	17.1	0.087	0.06	3.9	1.1	100	0.013	50.1	0.04	0.03	-0.02	1.2	0.099	0.1	11.8
ID094D961056	1.77	0.08	2.5	97.2	0.09	0.16	0.91	28.9	10.9	48.44	5.1	8.6	2.88	7.4	3.92	0.64	442	19	0.73	15.5	0.072	0.06	4.1	0.4	59	0.015	55.4	-0.02	0.02	-0.02	1.4	0.095	1.2	1.1
ID094D961068	1.21	0.09	2.6	99.1	0.05	0.12	0.6	31.9	9.9	27.65	3.9	1.1	2.32	7.1	3.4	0.54	382	18	0.22	16.9	0.047	0.04	4.6	-0.1	41	0.01	41.1	-0.02	-0.02	-0.02	1.4	0.074	-0.1	0.3
ID094D961069	1.84	0.11	3.8	102.1	0.06	0.25	0.9	56.1	12.9	35.2	6.3	3.1	3.91	7.8	4.91	0.8	545	23	0.5	21.7	0.073	0.06	5.4	0.6	82	0.017	58	-0.02	-0.02	-0.02	1.2	0.112	0.1	0.7
ID094D961070	3.24	0.13	6.5	74.4	0.21	1.02	1.42	32.8	19.9	98.93	8.6	2.3	4.3	10.1	86.77	0.47	524	44	2.51	41.4	0.083	0.06	3.4	1.1	754	0.014	75.3	0.08	0.21	0.03	0.4	0.056	0.2	4.6
ID094D961071	3.38	0.11	11.4	141.7	0.07	0.61	1.67	39.7	20	71.26	8.9	12.1	3.78	6.5	11.36	1.29	967	26	1.11	24.5	0.079	0.06	7.2	0.8	176	0.013	90.1	0.02	0.02	0.03	0.7	0.159	-0.1	0.7
ID094D961072	1.75	0.06	2.2	126	0.05	0.18	0.82	26.1	10.7	24.4	5.4	2	3.03	8.8	3.91	0.62	432	19	1.36	15.8	0.073	0.05	4	0.3	49	0.015	59.8	-0.02	-0.02	-0.02	1.8	0.101	0.1	2.1
ID094D963304	1.37	0.17	7.3	224.1	0.19	0.21	0.38	18	9.1	14.86	4.2	0.9	1.9	16.2	12.08	0.34	558	36	1.13	21.2	0.045	0.1	3	0.3	90	0.011	84.6	-0.02	0.02	0.13	2.3	0.011	-0.1	2.2

Step 9: The RGS report revealed samples with elevated copper. Go back to the MapPlace interface and use the RGS Percentile layers and the Google Hybrid base map to view RGS results with respect to topography.

a) On the toolbar click on Clear Selection.

b) Turn off the ARIS, MINFILE, Property File and RGS Sample Location layers.

c) Turn on the RGS Percentile/RGS Percentile - Copper (ICPMS) layer.

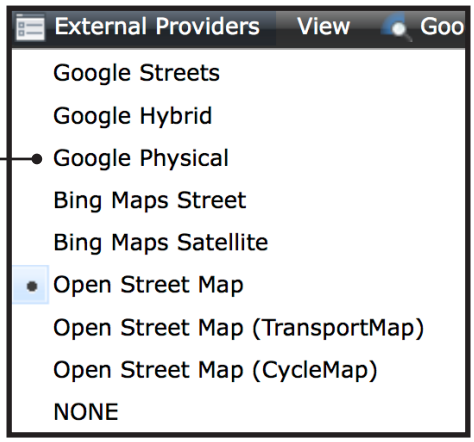


?

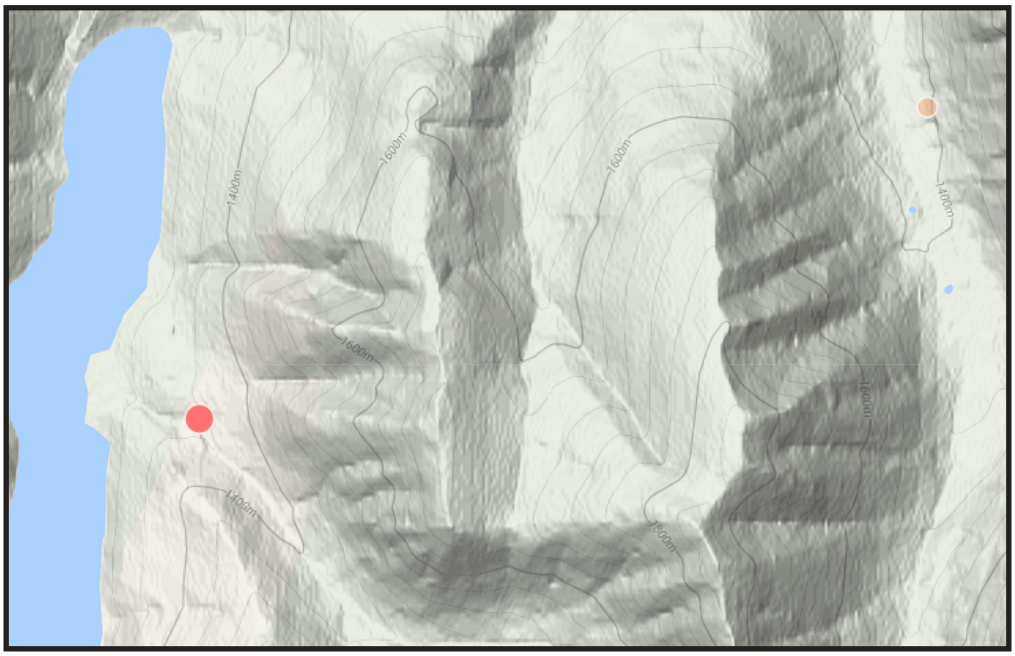
Are any samples in the area ranked in the 99th percentile?

Step 9 cont...

d) Change the base map to Google Physical using the External Providers menu on the toolbar.



e) Pan and zoom around the area to get a closer view of each sample.

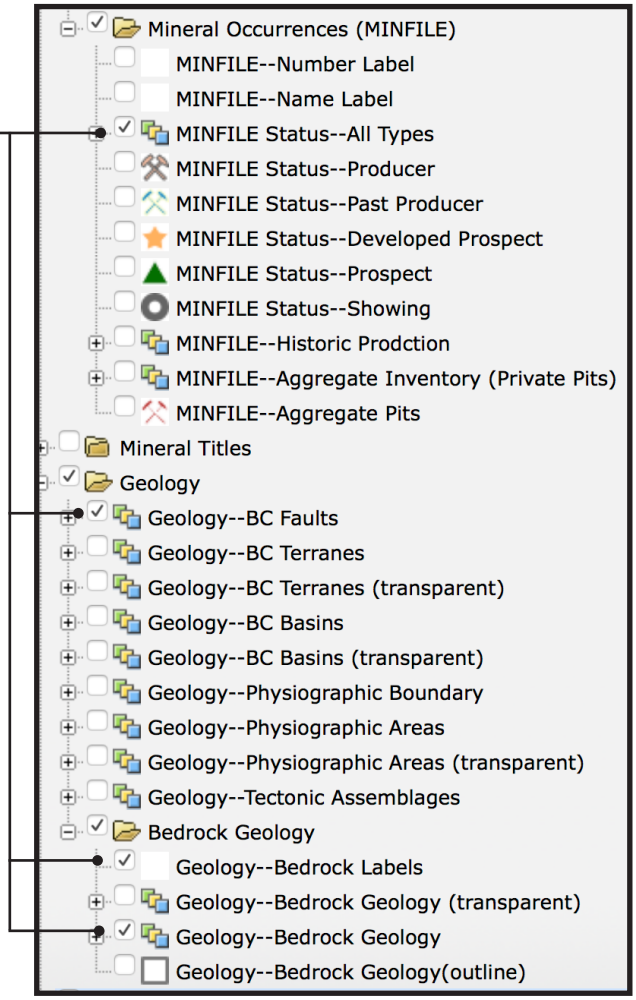


Using the topographic base map, can you identify a possible source for the sample with the highest copper value?

f) Turn off the RGS Percentile - Copper (ICPMS) layer.

Step 10: Looking for additional targets, test if the geology of nearby showings is similar to that at Kemess South.

Turn on the Geology - Bedrock Geology, Geology - Bedrock Labels, Geology - BC Faults and MINFILE Status - All Types layers from the Legend pane.

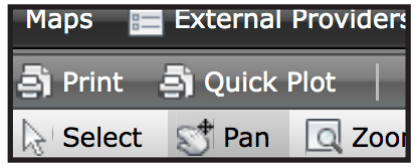


Can you identify an intrusive rock unit that is spatially related to the Kemess South deposit and that may be related to other developed prospects?

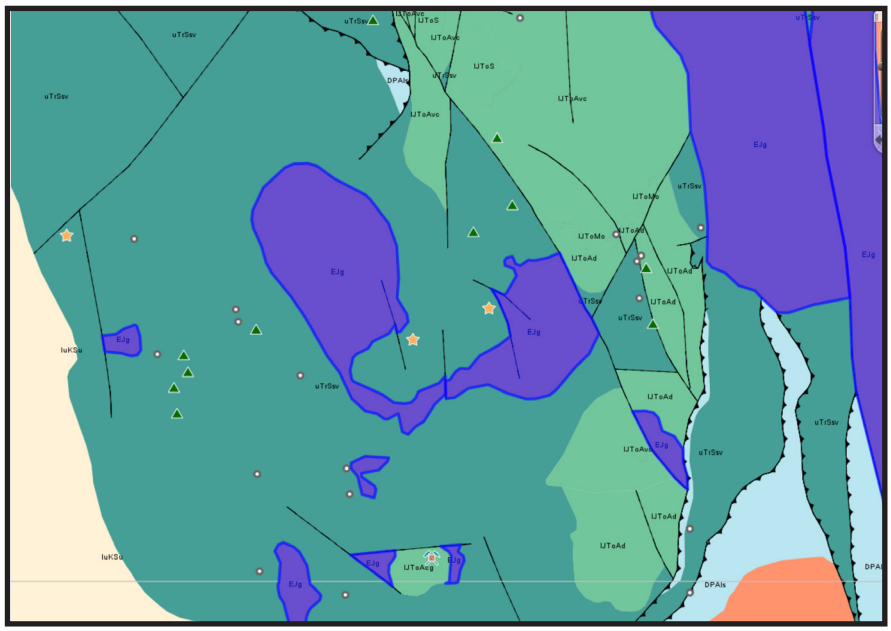
Step 11: You found that the showings are spatially related to Early Jurassic intrusive rocks (EJg), so refine your search of ARIS, MINFILE and RGS data to only points within 5km of EJg units.

a) Select all of the EJg polygons visible in the Map Window.

i) Turn on the select tool from the toolbar

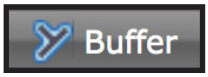


ii) Left click to select the polygon (press and hold the shift key while you left click to select multiple features). Note that you can zoom in and out as you do this to help select smaller polygons.



b) Create a 5km buffer around the selected features to be used for selecting other data.

i) On the toolbar, click the Buffer button.

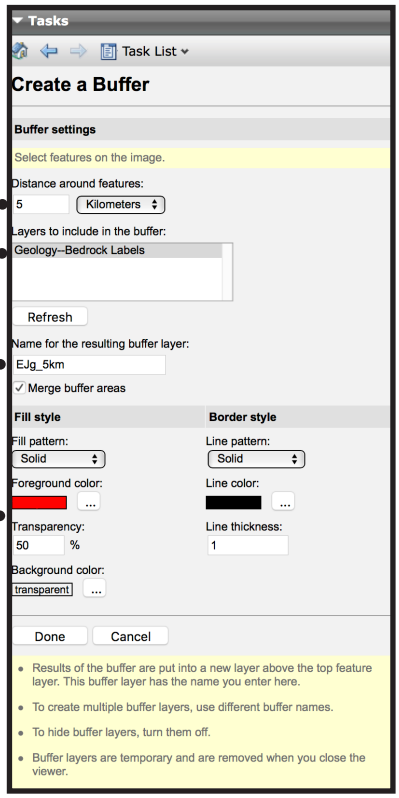


ii) Under Distance around features set the distance to 5 kilometers.

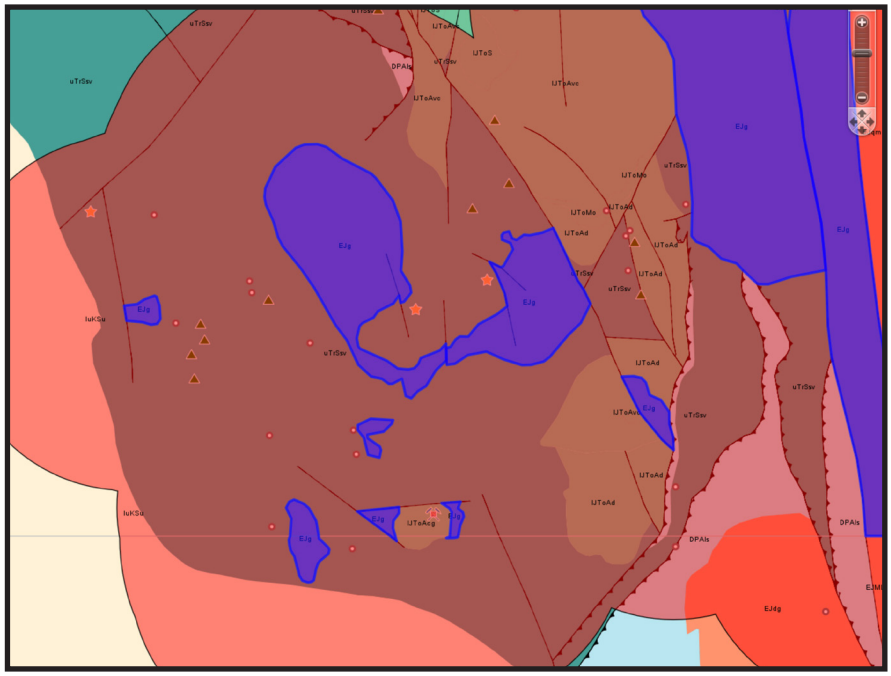
iii) Ensure the Geology - Bedrock Geology layer is selected under Layers to include in the buffer.

iv) Under Name for the resulting buffer layer: change the name to EJg_5km.
Note: this name will be shown in the Legend and cannot be changed once the buffer is created.

v) Leave the Fill and Border style as they are (Note that, as with the layer name, the styles cannot be changed once the buffer is created) and click Done.

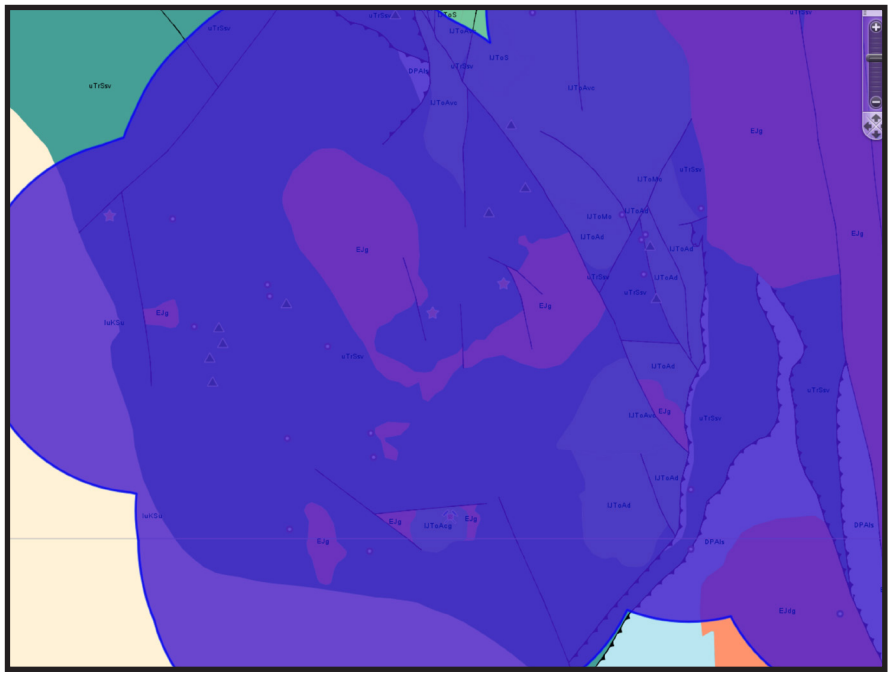


Step 11 cont...



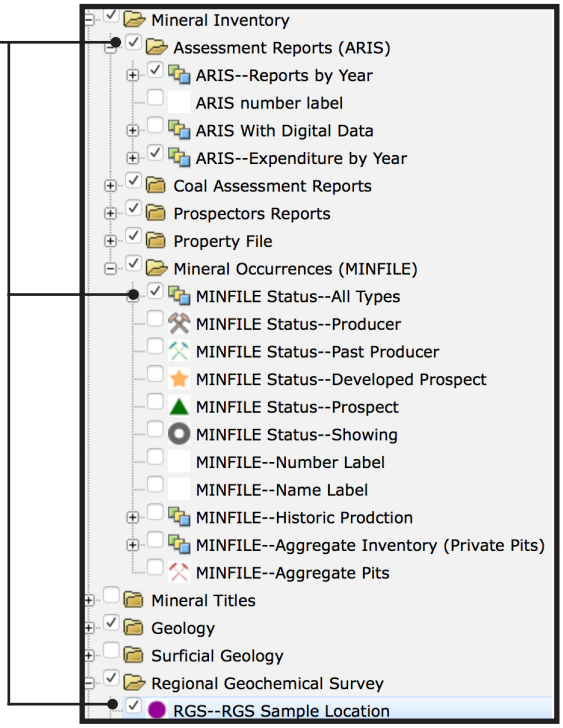
c) Select all ARIS, MINFILE and RGS points in the buffer area.

i) Left click anywhere in the buffer polygon.



Step 11 cont...

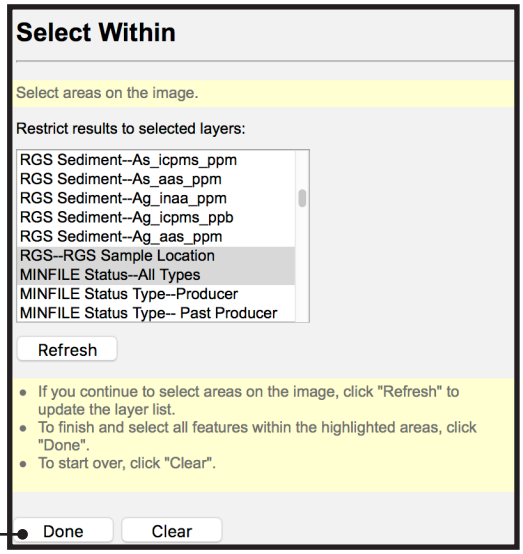
ii) Turn on the ARIS, MINFILE and RGS layers to be selected from.



iii) Right click anywhere in the Map Window.

iv) From the pop-up menu, go to Select More then click on Select within.

v) Under Restrict results to selected layers select ARIS - Reports by Year, MINFILE Status - All Types and RGS - RGS Sample Location (hold the Ctrl key while you left click on layer's names to select multiple layers at once).



vi) Click Done to complete the selection.

Step 12: Using the same procedures as in Steps 7 to 9, create reports and export Excel listings for the selected ARIS, MINFILE and RGS data.

In this exercise, you used the MapPlace 2 reporting tools to access detailed summaries of MINFILE occurrences, ARIS reports, and RGS samples in the area surrounding the Kemess South occurrence.

You then used the bedrock geology layer to identify a stratigraphic unit spatially related to the Kemess South mine and Kemess North and East developed prospects. Using a buffer around this stratigraphic unit you refined your search of the MINFILE, ARIS, and RGS databases and used the download tool to save spreadsheets of occurrences, reports, and samples.

You now have all the information you need to evaluate the prospects in this area.

Datasets used in this exercise:

- MINFILE
- ARIS
- RGS
- Google Hybrid base map
- Bedrock Geology

Tools used in this exercise:

- MINFILE Search
- Reports
- Simple Select
- Select Polygon
- Buffer
- Select Within

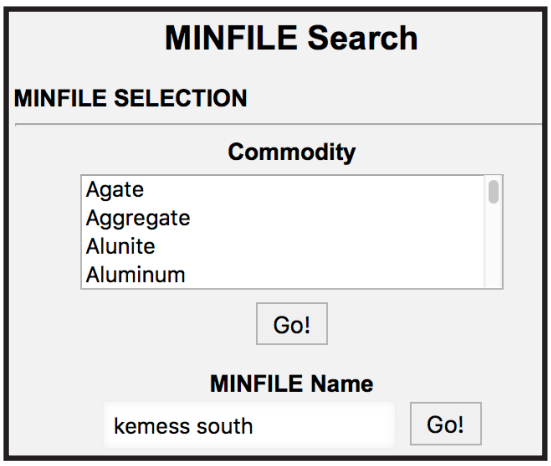
Exercise 3: Tenure research

You are getting closer to your goal of finding a prospect to be staked or optioned. After reviewing the MINFILE summaries and assessment reports, you recognize mineral occurrences that could match what your company is looking for.

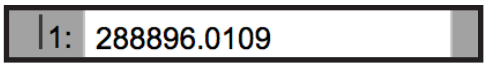
Now you need to view these prospects in relation to land tenure. From that, you hope to outline an area for your company to pursue.

Step 1: Zoom in to the Kemess South (094E 094) occurrence again and set the zoom level to about 1:250K.

a) Use MINFILE Search to find and zoom to the occurrence.

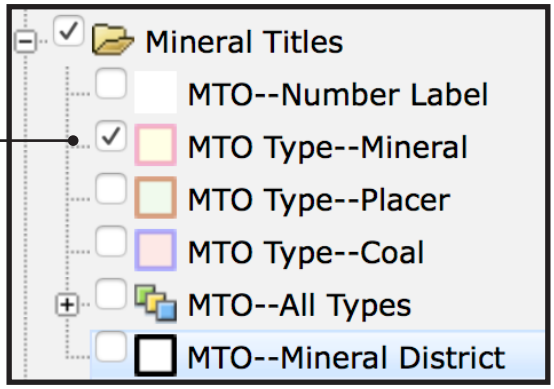


b) Set the scale using the Map Window Scale Box.



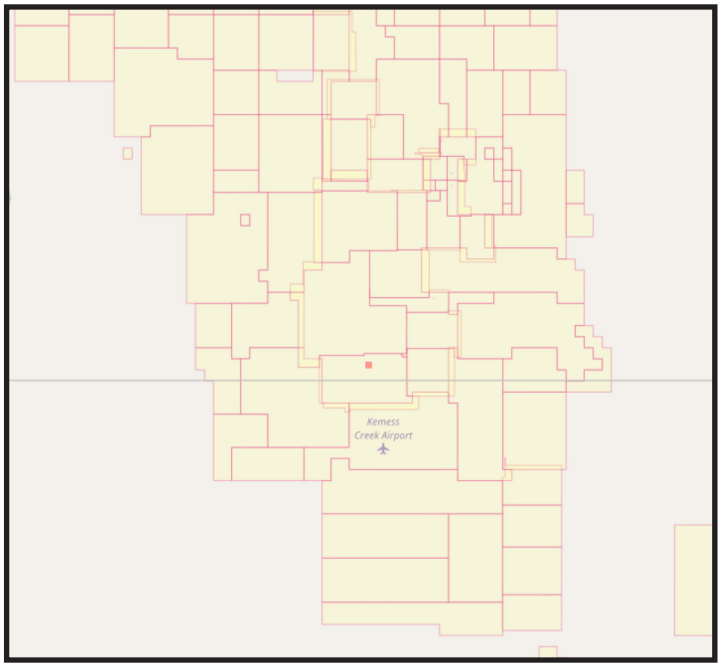
Step 2: View the current Mineral tenure.

In the Legend pane, within the Mineral Titles folder, turn on the MTO Type - Mineral layer.



The MTO (Mineral Titles Online) databases are managed by the Mineral Titles Branch who administer the legislation governing mineral, placer mineral, and coal rights in the province.

Step 2 cont...

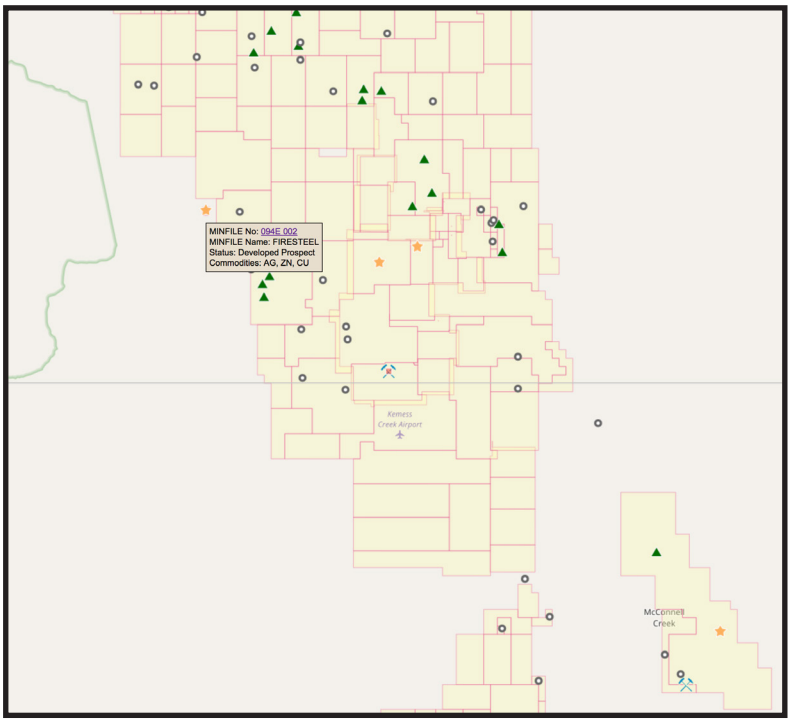


Step 3: At first glance it looks like most of the interesting ground is already covered by active tenure. To confirm this, add the MINFILE occurrences to the map.

In the Legend pane, turn on the MINFILE Status - All Types layer (under Mineral Inventory/Mineral Occurrences (MINFILE).

Step 4: It looks like one developed prospect to the northwest of Kemess South might be on open ground.

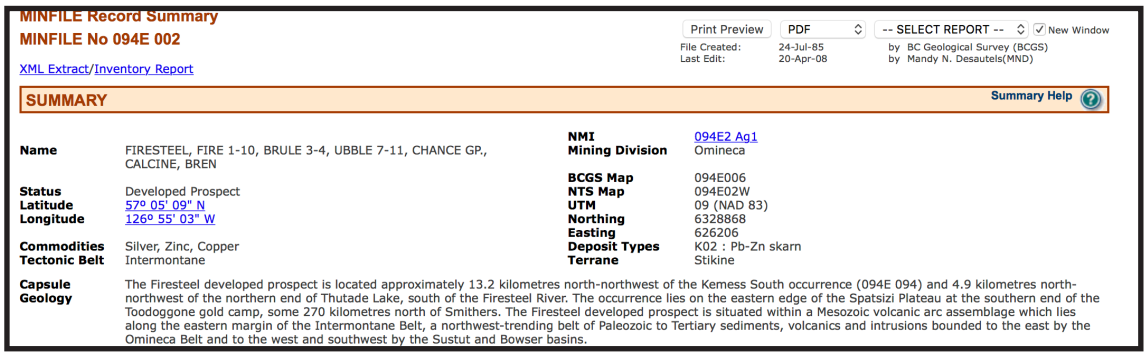
Hover over the prospect to get its name from the maptip.



What is the name of the occurrence?

Step 5: Get more details on this occurrence.

Within the maptip click the MINFILE number (094E 002) to view the MINFILE record summary.



MINFILE Record Summary
MINFILE No 094E 002

Print Preview | PDF | -- SELECT REPORT -- | New Window

File Created: 24-Jul-85 by BC Geological Survey (BCGS)
Last Edit: 20-Apr-08 by Mandy N. Desautels(MND)

XML Extract/Inventory Report

SUMMARY — Summary Help

Name	FIRESTEEL, FIRE 1-10, BRULE 3-4, UBBLE 7-11, CHANCE GP., CALCINE, BREN	**NMI**	094E2 Ag1
		Mining Division	Omineca
Status	Developed Prospect	**BCGS Map**	094E006
Latitude	57º 05' 09" N	**NTS Map**	094E02W
Longitude	126º 55' 03" W	**UTM**	09 (NAD 83)
		Northing	6328868
		Easting	626206
Commodities	Silver, Zinc, Copper	**Deposit Types**	K02 : Pb-Zn skarn
Tectonic Belt	Intermontane	**Terrane**	Stikine

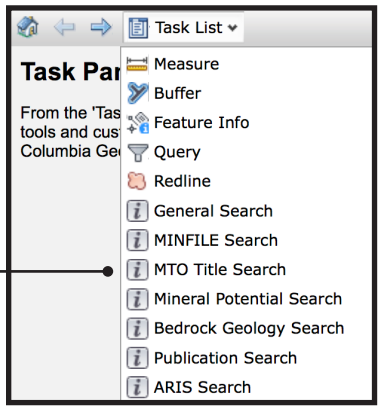
Capsule Geology The Firesteel developed prospect is located approximately 13.2 kilometres north-northwest of the Kemess South occurrence (094E 094) and 4.9 kilometres north-northwest of the northern end of Thutade Lake, south of the Firesteel River. The occurrence lies on the eastern edge of the Spatsizi Plateau at the southern end of the Toodoggone gold camp, some 270 kilometres north of Smithers. The Firesteel developed prospect is situated within a Mesozoic volcanic arc assemblage which lies along the eastern margin of the Intermontane Belt, a northwest-trending belt of Paleozoic to Tertiary sediments, volcanics and intrusions bounded to the east by the Omineca Belt and to the west and southwest by the Sustut and Bowser basins.

What deposit type has been assigned to this occurrence in the MINFILE database?

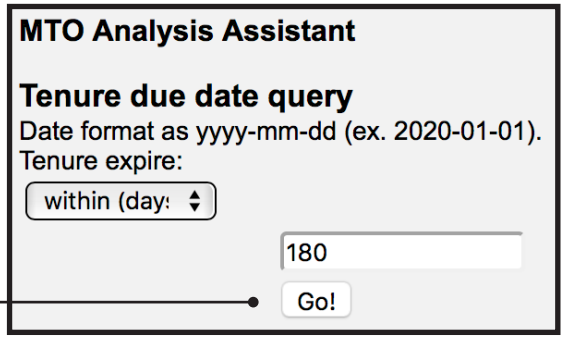
Because your company is looking for porphyry copper deposits and this prospect is a Pb-Zn skarn you quickly dismiss the occurrence and continue your research into the active mineral tenure.

Step 6: Establish if any of the current claims might come due within the next 6 months.

a) In the Tasks pane, under Task List click MTO Title Search.

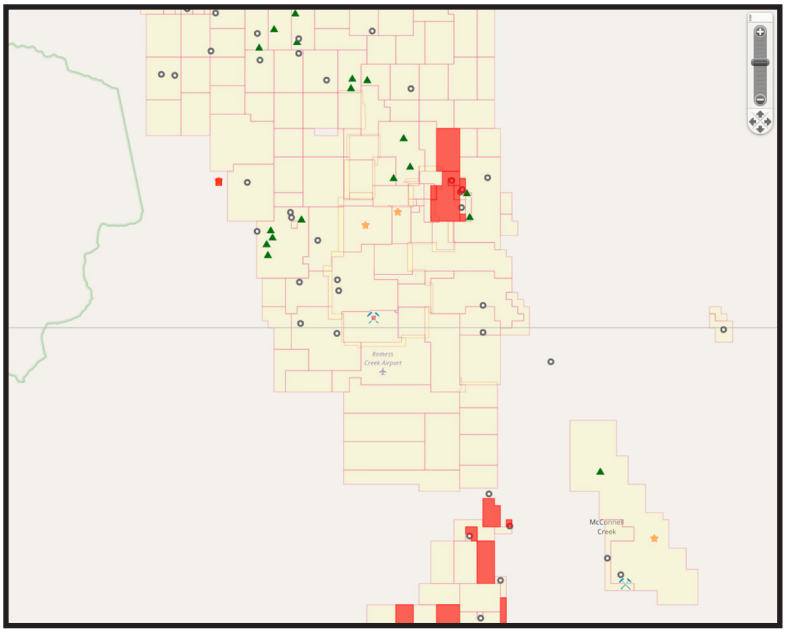


b) Under Tenure due date query, change date to within (days) and enter 180 in the text box then click Go!



Step 6 cont...

How many claims are coming due in the next 6 months in this area?

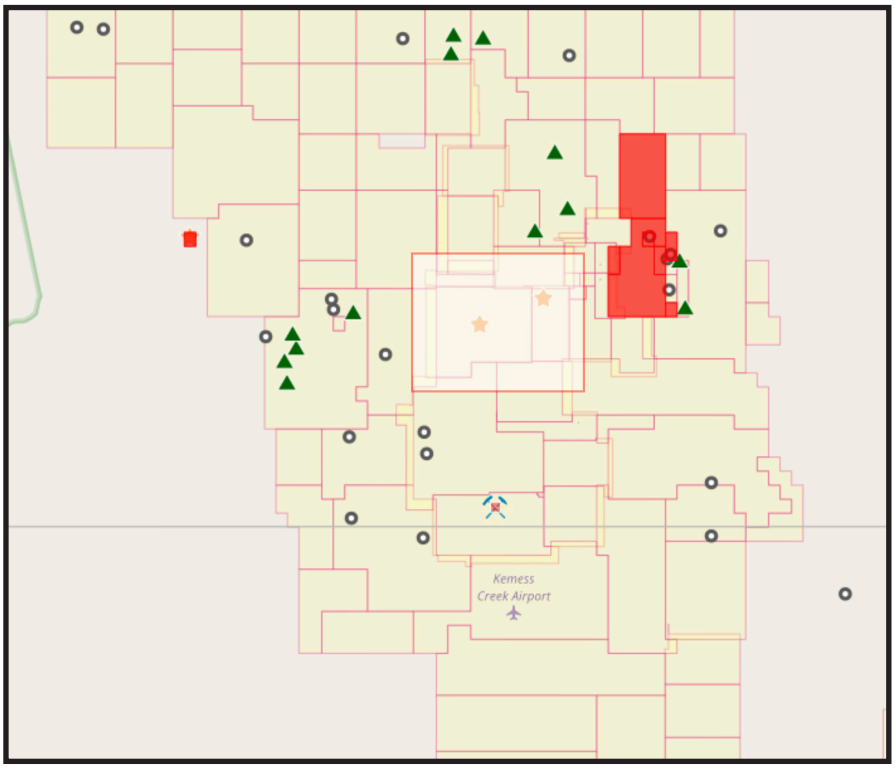


This highlights, in red, the claims with due dates in the next 180 days in the map window. None of the claims highlighted have occurrences above the showing level so, considering the possibility of an option agreement, you turn your attention to the two developed prospects north of Kemess South.

Step 7: Zoom in to view the tenure containing the Kemess North and Kemess East occurrences.

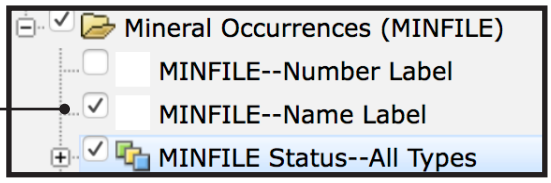
a) In the toolbar click the Zoom Rectangle button.

b) Draw the zoom rectangle by left clicking in the map window just outside the top left corner of the claims and dragging the pointer (while holding the left button down) to a point outside the lower right corner of the claims. Release the button to complete the zoom.

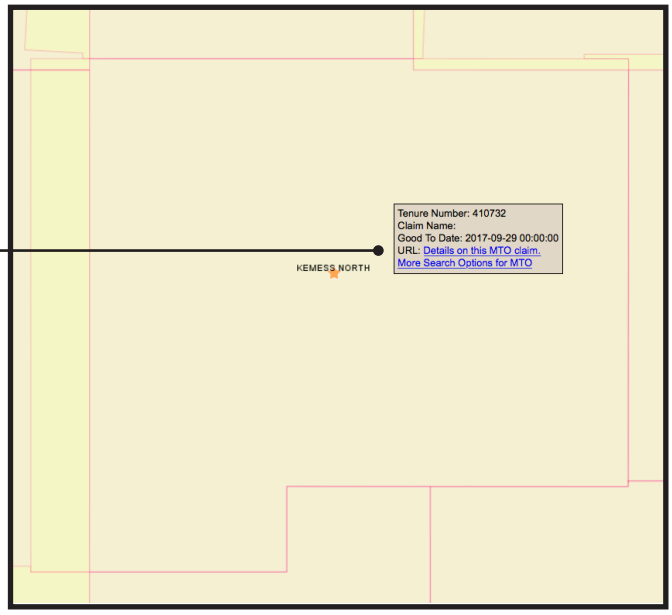


Step 8: Display the MINFILE name labels and view tenure details on the MTO website for both of these claims.

a) Turn on the MINFILE - Name Label layer.



b) For the claims that contain the Kemess North and Kemess East showings, view the maptip and click the Details on this MTO claim link.



Mineral Titles Online Viewer

Title Detail

Title Number	**410732** **View Tenure**
Title Type	Mineral (M)
Title Sub Type	Lease (L)
Title Type	Mining Lease (ML)
Mining Division	OMINECA
Good To Date	2017/sep/29
Issue Date	2004/sep/29
Demised To	
Termination Type	
Termination Comments	
Termination Date	
Tag Number	
Claim Name	
Old Titles Code	410732
Area In Hectares	950.00
Term Expiry Date	2034/SEP/29

Map Numbers:
094E007

Owners:
281385 AURICO METALS INC. 100.0%

Title Events:	Submitter	Event	Effective Date
	110550 GULAJEC, EUGENE JOHN	L_LNOI MIDA Not. of Intent (3210917)	2004/MAY/28
	110550 GULAJEC, EUGENE JOHN	L_LAPP MIDA Lease Applic. (3214955)	2004/AUG/09
	888888 MINERAL TITLES BRANCH	L_LISS MIDA Lease Issuance (3217610)	2004/SEP/29
	110550 GULAJEC, EUGENE JOHN	L_CAD MIDA Common Anniv. (3221374)	2004/DEC/10
	110550 GULAJEC, EUGENE JOHN	LPAY Lease Rental Payment(4049220)	2005/SEP/22
	MINERAL TITLE BRANCH	TAME amendment (4062478)	2006/JAN/06
	142594 KEMESS MINES LTD.	OTRA Ownership Trans(4097918)	2006/AUG/15
	110550 GULAJEC, EUGENE JOHN	LPAY Lease Rental Payment(4099705)	2006/AUG/30
	110550 GULAJEC, EUGENE JOHN	LPAY Lease Rental Payment(4168617)	2007/SEP/07
	110550 GULAJEC, EUGENE JOHN	LPAY Lease Rental Payment(4233718)	2008/AUG/29
	110550 GULAJEC, EUGENE JOHN	LPAY Lease Rental Payment(4312489)	2009/AUG/07

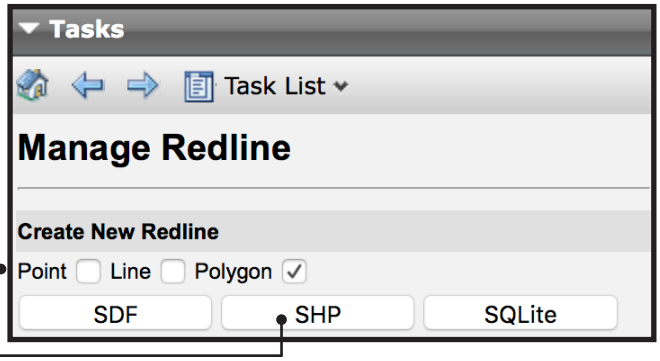
Who currently owns the Kemess North lease?

The maptips and MTO site indicate that the Kemess North occurrence is on a lease that expires in 2034 and that the Kemess East occurrence is on a claim that is in good standing until 2026.

You decide to recommend that your company get in touch with the tenure owner to discuss the possibility of an option agreement. Save an outline of the area covered by these two claims to use in the data package you will present to the CEO.

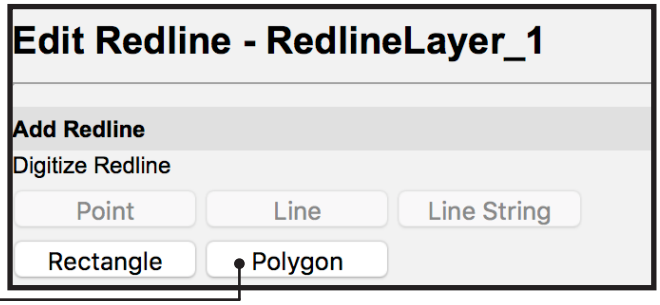
Step 9: Create, style, and save an outline of the property.

a) Click the Redline button in the toolbar (the Manage Redline tool will appear in the Tasks pane).



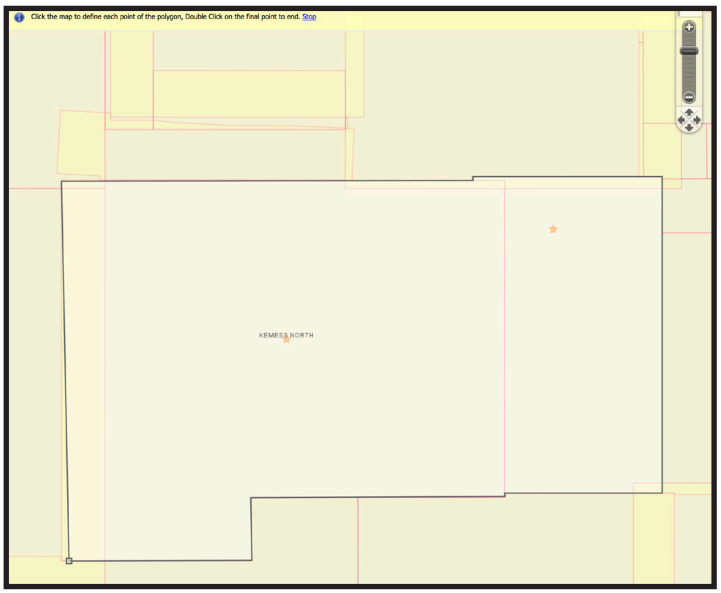
b) Under Create New Redline deselect Point and Line.

c) Click the SHP button.

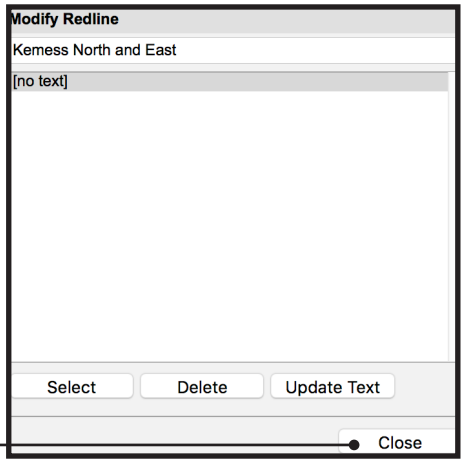


d) Under Add Redline click on the Polygon button.

e) Draw a polygon by left clicking on the top left corner of the claim containing the Kemess North occurrence then delineate the claim block by left clicking on each corner. Double click on the last corner to complete the drawing.

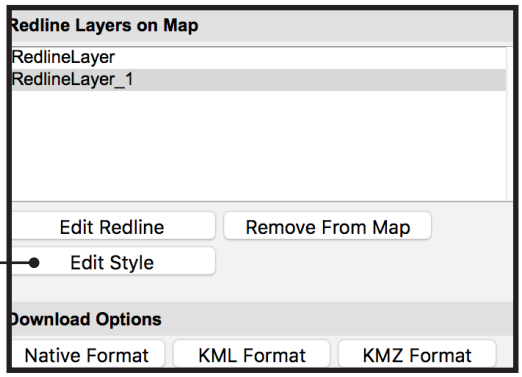


Step 9 cont...

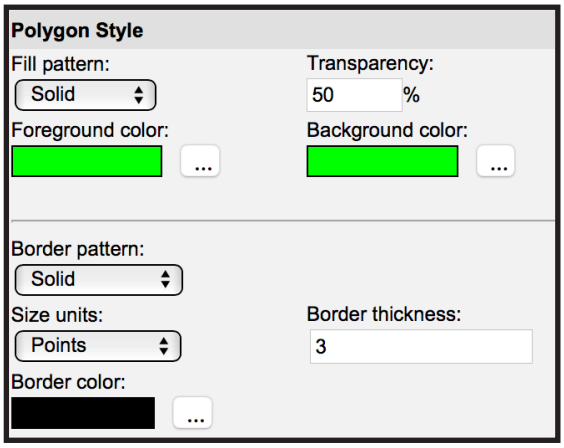


f) To label the polygon enter 'Kemess North and East' in the Modify Redline text box and click the Update Text button.

g) Click the Close button.



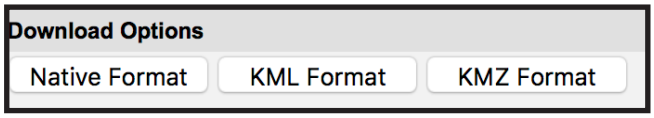
h) Edit the style of the polygon: click the Edit Style button.



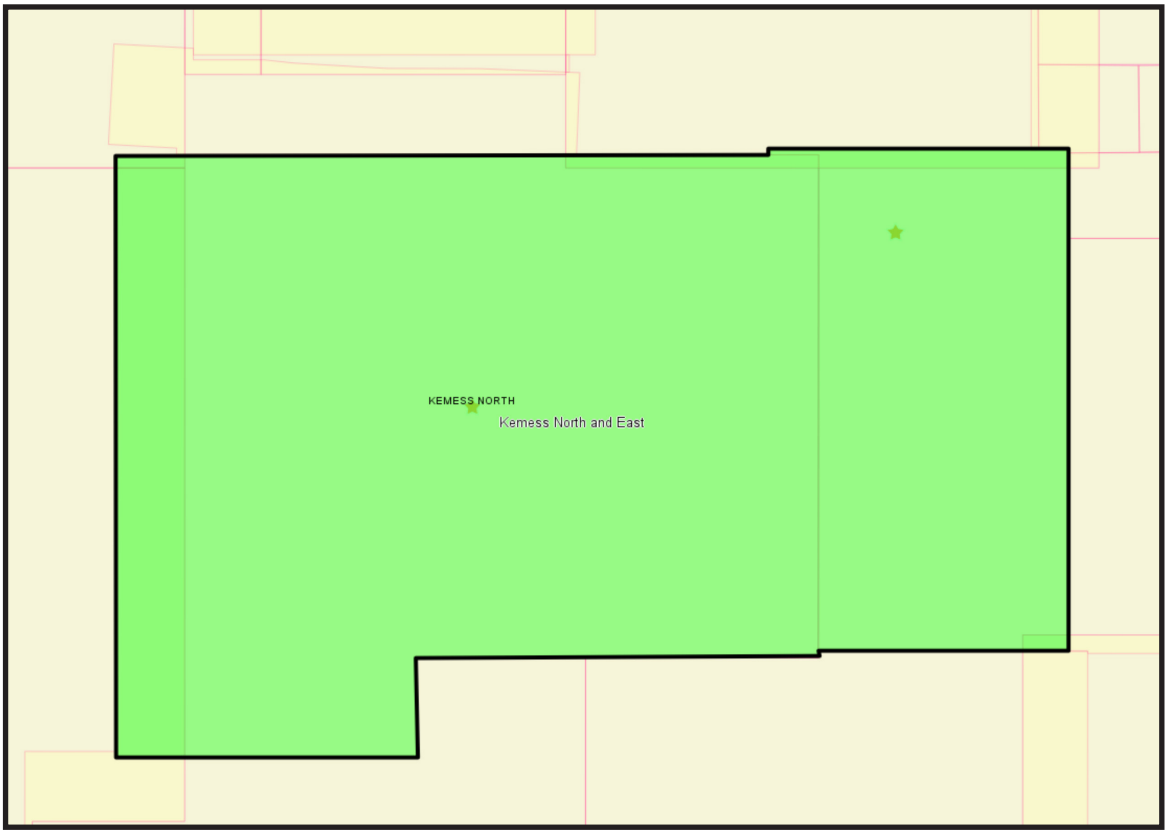
i) Under Polygon Style, change Transparency to 50% and Border Thickness to 3.

j) Click Ok.

k) To export your outline as a shapefile click the Native Format button under Download Options. The shapefile will download to your browser's default download location in a zip file called RedlineLayer.



Step 9 cont...



In this exercise, you used MapPlace 2 to view MTO tenure data along with MINFILE occurrences. Using MINFILE searches you determined that none of the prospects that might interest your company are on open ground or on ground that will be open in the next 6 months. You then used direct links to the MTO Title Detail pages to get more information on the claims you think your company should negotiate an option agreement on. Using the Redline tool you created and saved an outline of the area you're interested in.

You have now selected a specific area for your company to negotiate an agreement on and are ready to prepare a presentation to the CEO.

Datasets used in this exercise:

- MINFILE
- MTO Tenure database

Tools used in this exercise:

- MINFILE Search
- MTO Title Search
- Zoom Rectangle
- Redline

Exercise 4: Map creation

Having outlined an area that you consider would meet your company's needs, you want to create a map to include in your presentation to the CEO and, eventually, the rest of the board of directors.

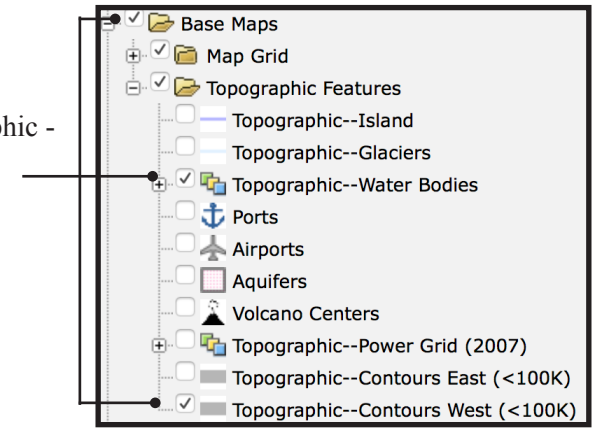
The first part of this exercise uses the property outline created in the previous exercise. If you have started a new MapPlace session, recreate the outline using the Redline tool before continuing to Step 1.

Step 1: Adjust the zoom level to show the claims in a more regional context.

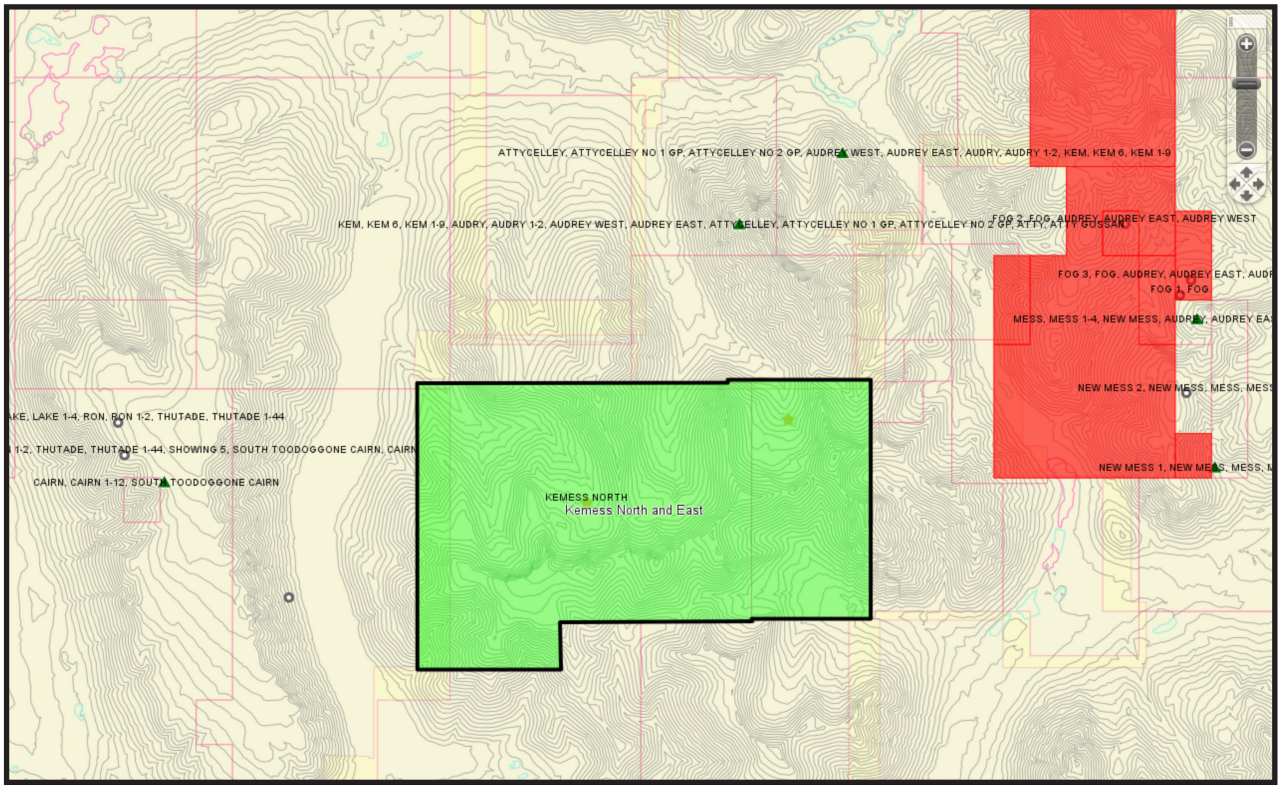
With the map window centered on the property outline, enter 100000 in the Map Window Scale Box.

Step 2: Display base map layers.

In the Legend pane turn on the Base Maps folder and the Topographic - Water Bodies and Topographic - Contours West layers.



Data for the Base Map layers are extracted from the OpenStreetMap database.



Step 3: Create the map.

a) In the toolbar click the Quick Plot button.

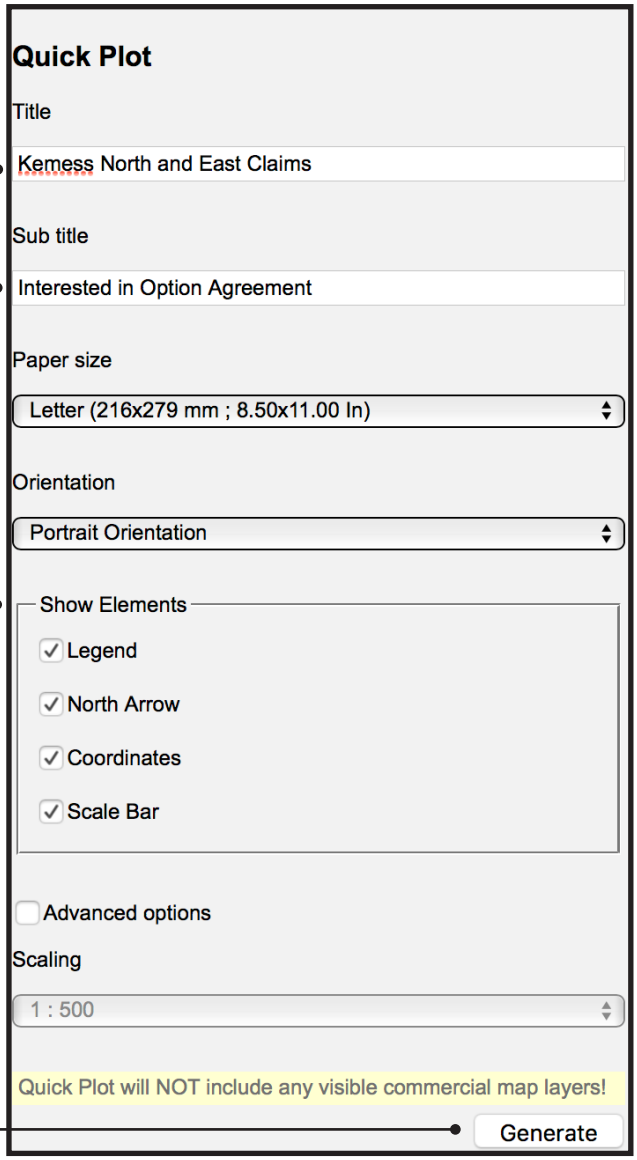
b) Adjust the map settings in the Tasks pane.

i) Change the title to ‘Kemess North and East Claims’.

ii) Change the Sub title to ‘Interested in Option Agreement’.

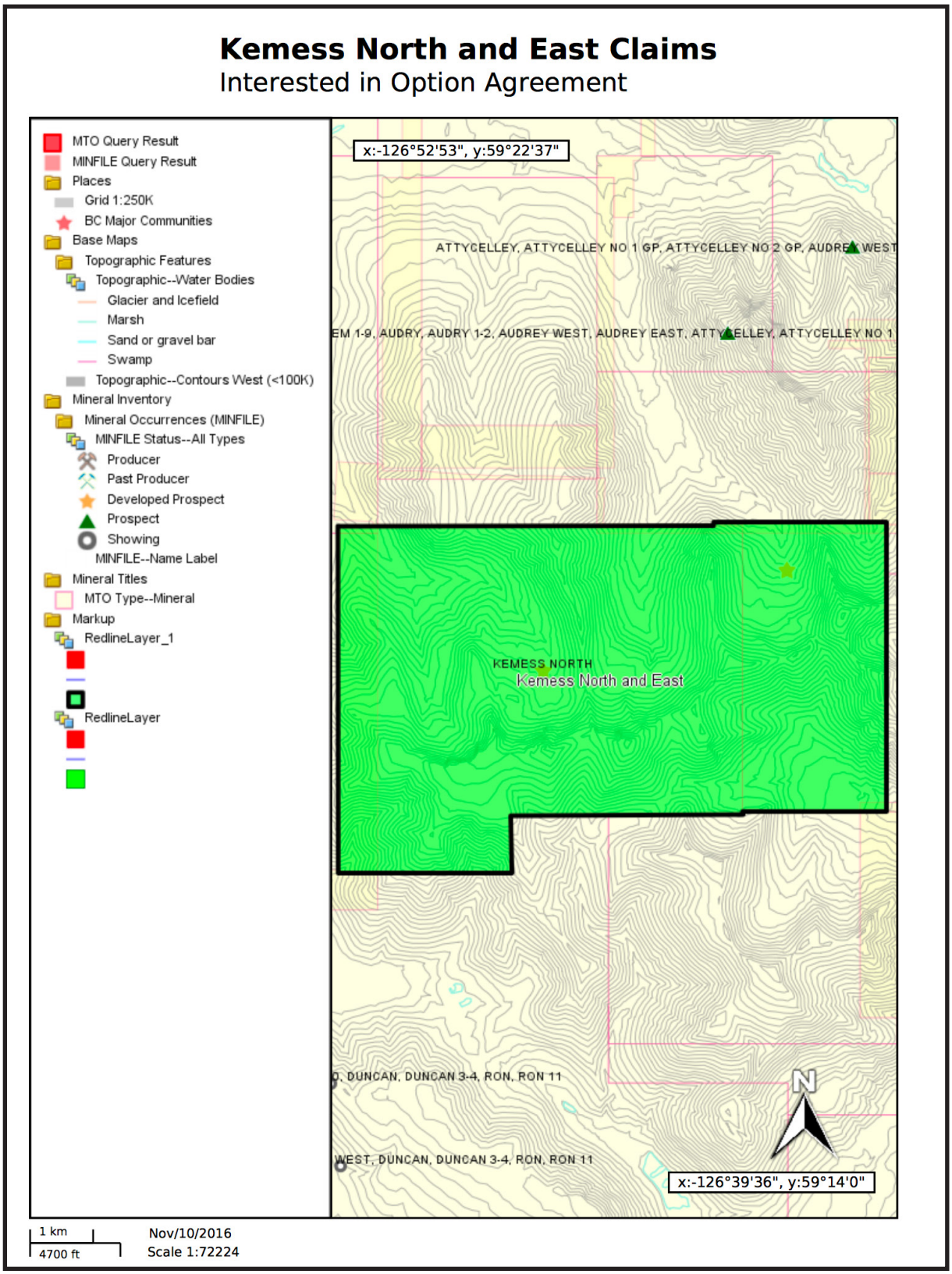
iii) Under Show Elements turn on Legend, North Arrow, Coordinates and Scale Bar.

c) Click Generate.



Step 3 cont...

This creates a map that you can print, download as a pdf file, and incorporate into your documents.



Fast forward a year. Your company followed your advice and entered into an option agreement for the Kemess North and East prospect. You are writing an assessment report and need to create property location and claim maps.

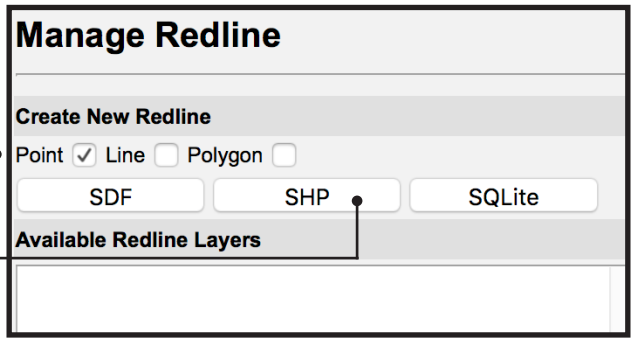
First, create the property location map.

Step 4: Create a point centered near the middle of the property.

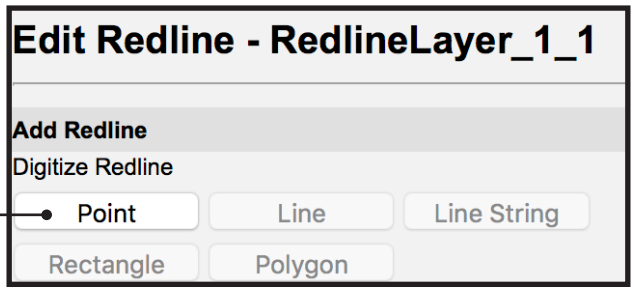
a) In the toolbar, click the Redline button.

b) Under Create New Redline in the Task pane, deselect Polygon and Line.

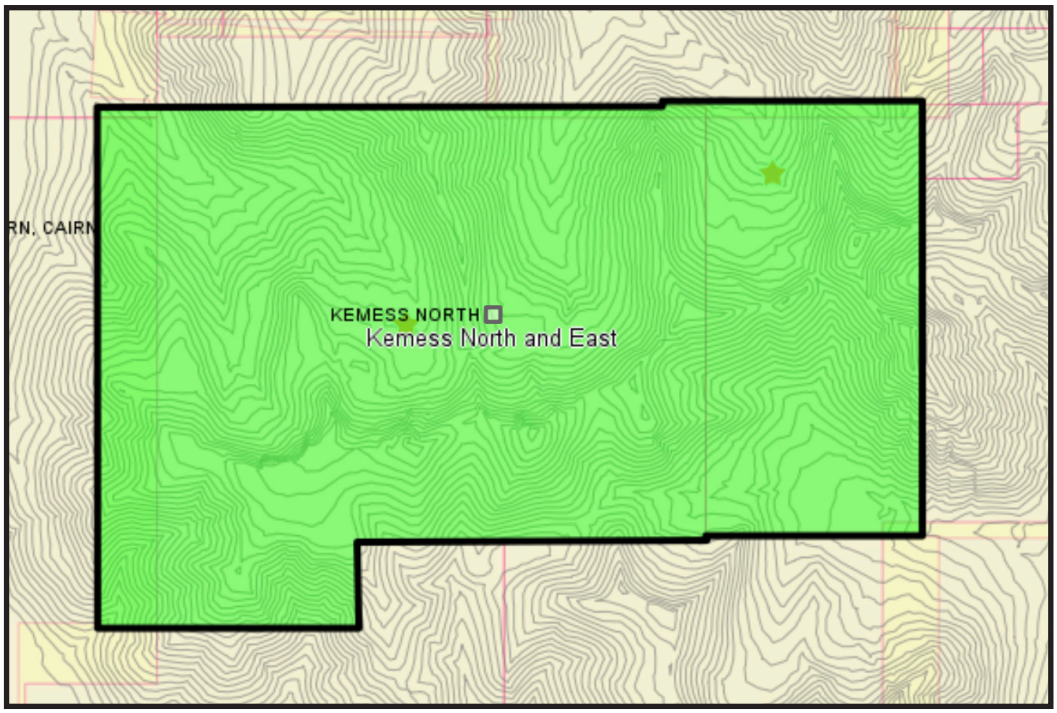
c) Click the SHP button.



d) Click the Point button.



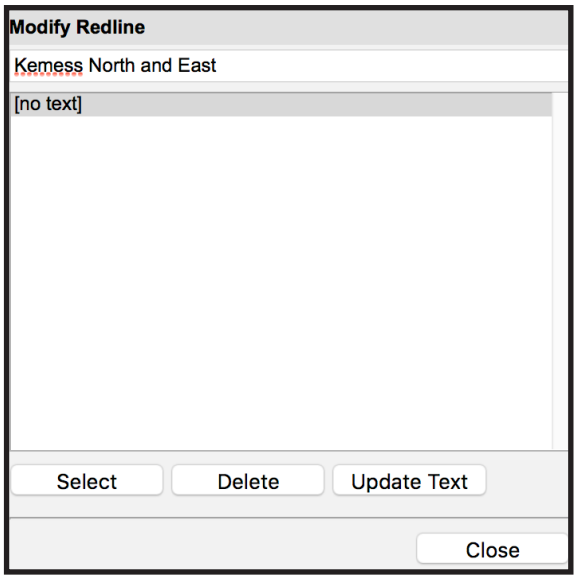
e) Place your cursor near the middle of the property and left click to create the point.



Step 5: Label the point with the property name.

a) Update the text label by typing 'Kemess North and East' in the text box under Modify Redline and then Click Update Text.

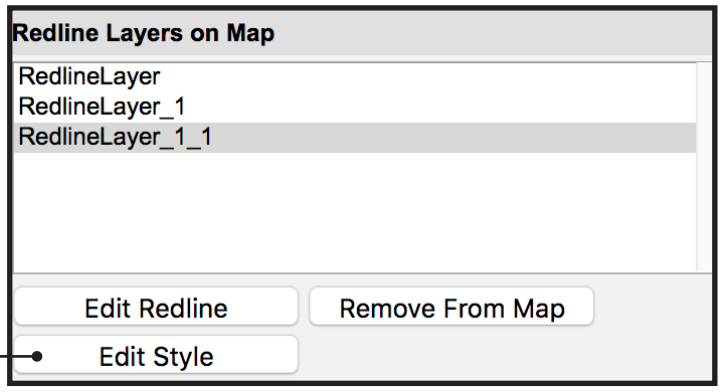
b) Click Close.



Step 6: Change the point style to ensure it is visible in the final map.

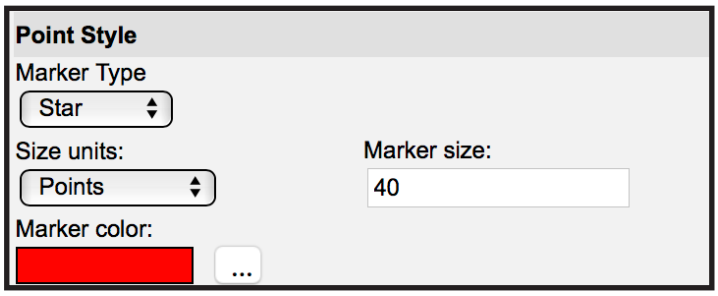
a) To change the point style, under Redline Layers on Map, select the redline layer with your point (RedlineLayer_1).

b) Click Edit Style.



c) Under Point Style, change Marker Type to Star and change the Marker size to 40 to make the point visible when zoomed out to see the whole province.

d) Click the OK button at the bottom of the pane.



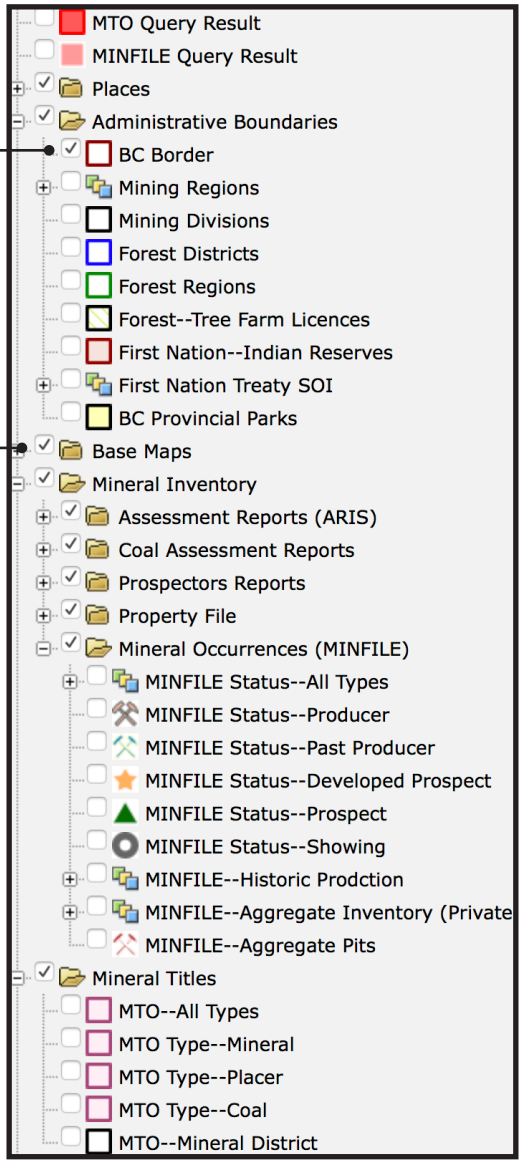
Step 7: Zoom out to view the point at the province scale.

In the toolbar, click the Zoom Extents button to see the whole province.

Step 8: Ensure the BC Border will be displayed and remove unnecessary layers from the map.

a) In the Legend pane, turn on the Base Maps folder and the BC Border layer in the Administrative Boundaries folder (this will add the proper base map to the map you create).

b) If the following layers are still turned on, turn them off: MTO Query Result, MINFILE Query Result, MINFILE Status—All Types, MTO Type—Mineral.



Step 9: Create the property location map.

a) Click the Quick Plot button in the toolbar.

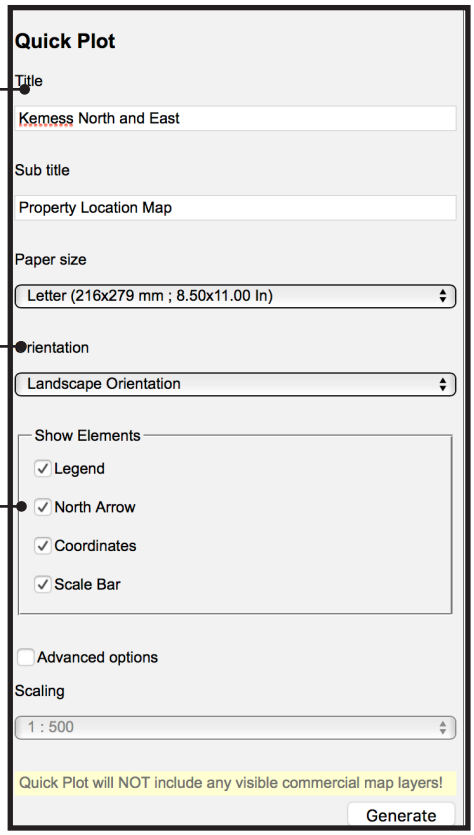
Step 9 cont...

b) Enter Kemess North and East in the Title box and Property Location Map in the Sub title box.

c) Change the Orientation to Landscape Orientation.

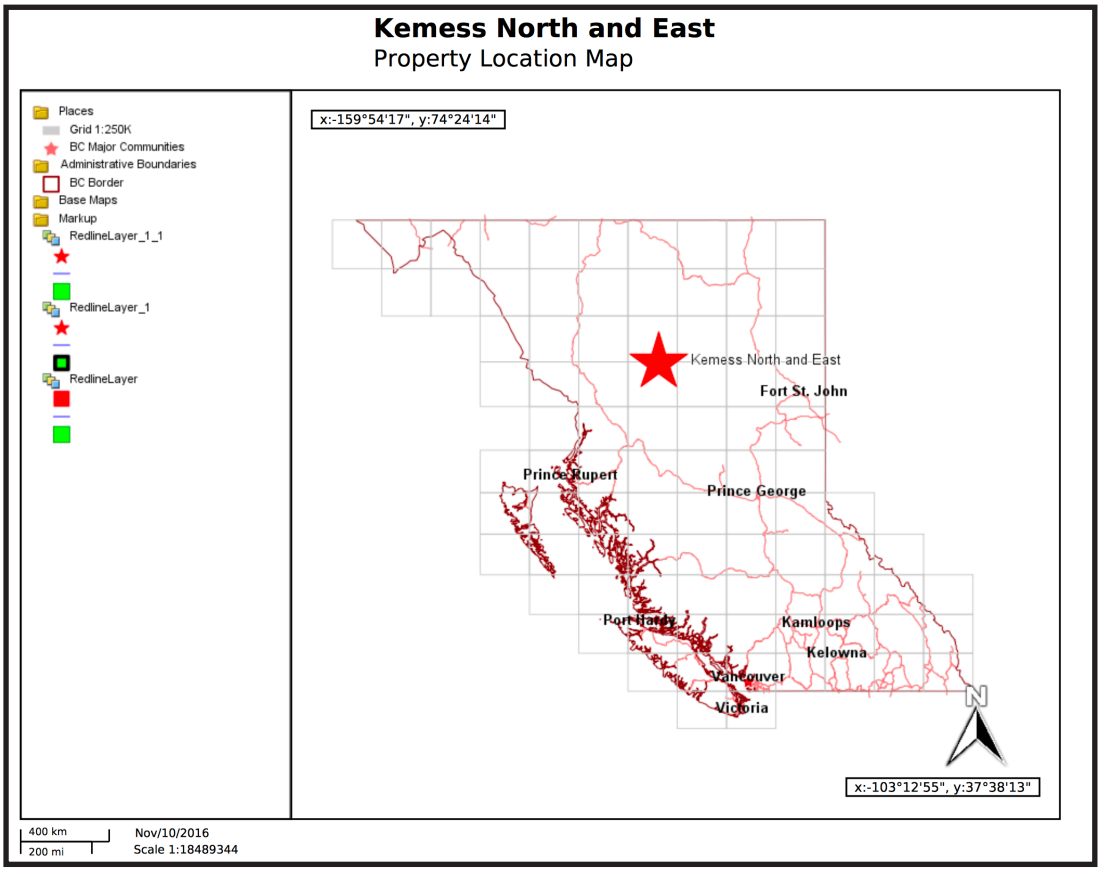
d) Turn on the Legend, North Arrow, Coordinates and Scale Bar under Show Elements.

e) Click Generate.



You have now created a pdf property location map that can be included directly into your assessment report.

Next create a labelled 1:100,000-scale claim map.



Step 10: Hide the Redline layers.

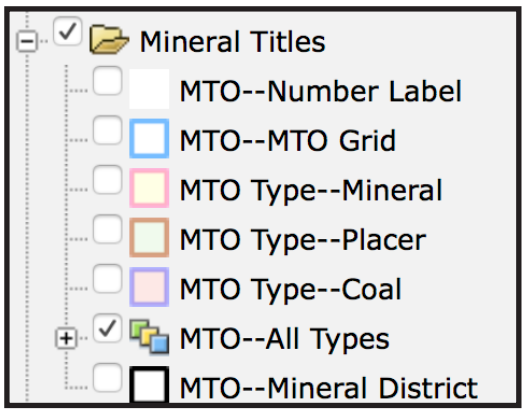
In the legend pane, turn off the RedlineLayer_1 and RedlineLayer layers under the Markup folder (this will hide the property location point and outline polygon you created above).

Step 11: Zoom in to the property area.

Use the Zoom Rectangle tool from the toolbar to manually zoom and center the map window to the extent of the property.

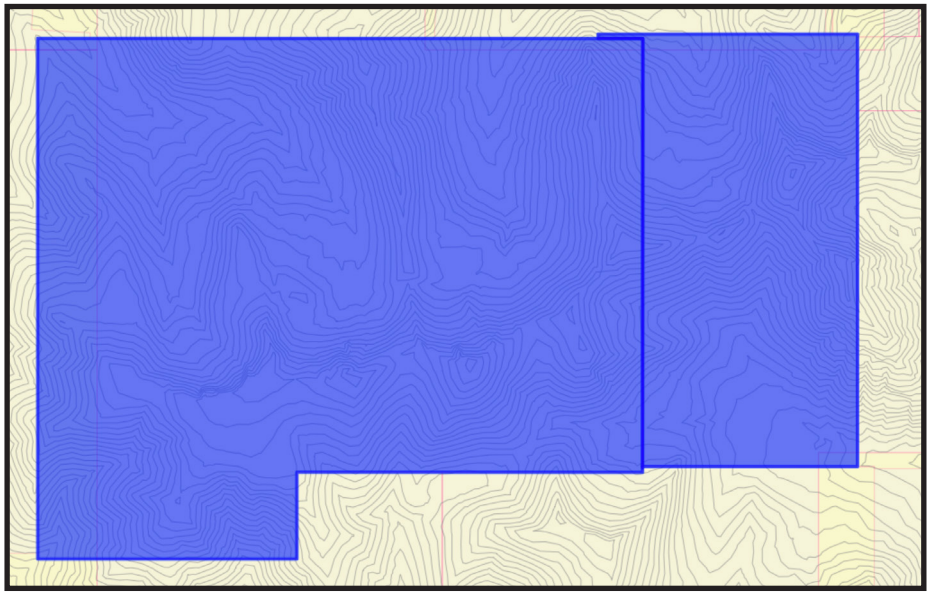
Step 12: Display tenure data.

Turn on the MTO - All Types layer.



Step 13: Create an outline of the two claims included in the property.

a) Click the Select button in the toolbar and manually select the two claims that make up the property (shift + left click to select the second claim).



Step 13 cont...

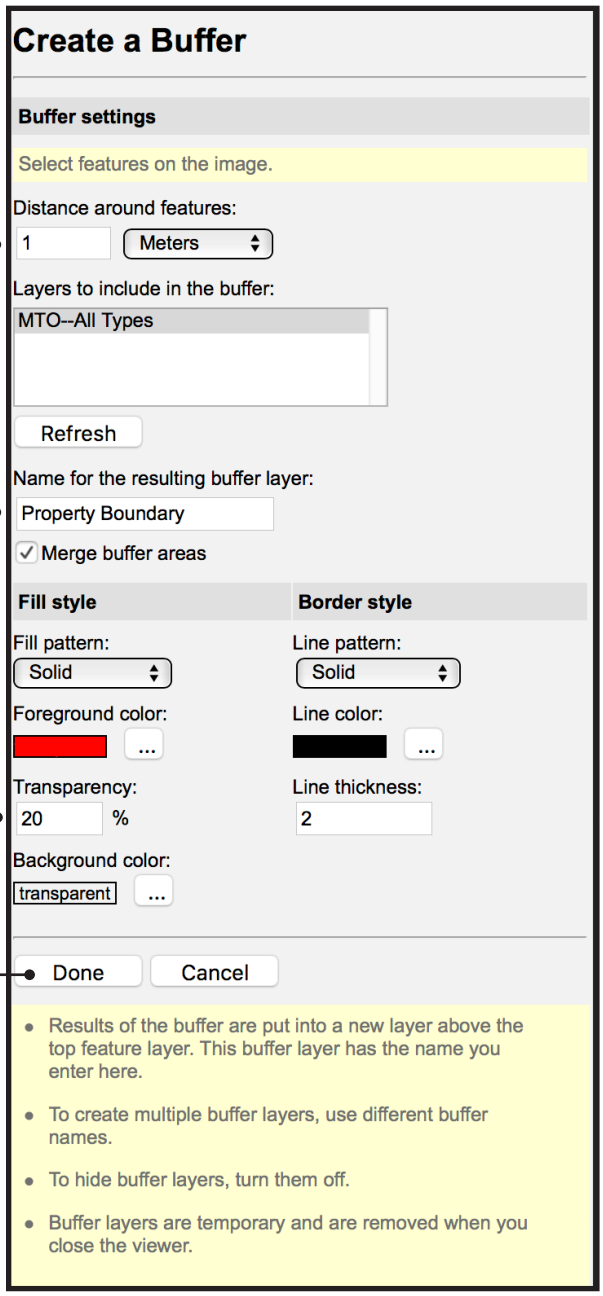
b) Click the Buffer button in the toolbar.

c) Set the Distance around features to 1 meter.

d) Change the name of the resulting layer to Property Boundary.

e) Change the transparency to 20% and the Border line thickness to 2.

f) Click Done.



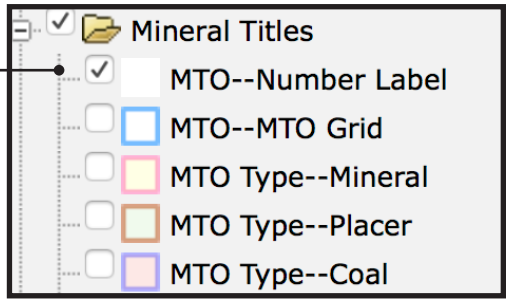
?

What other MapPlace 2 tool can be used to create a property outline?

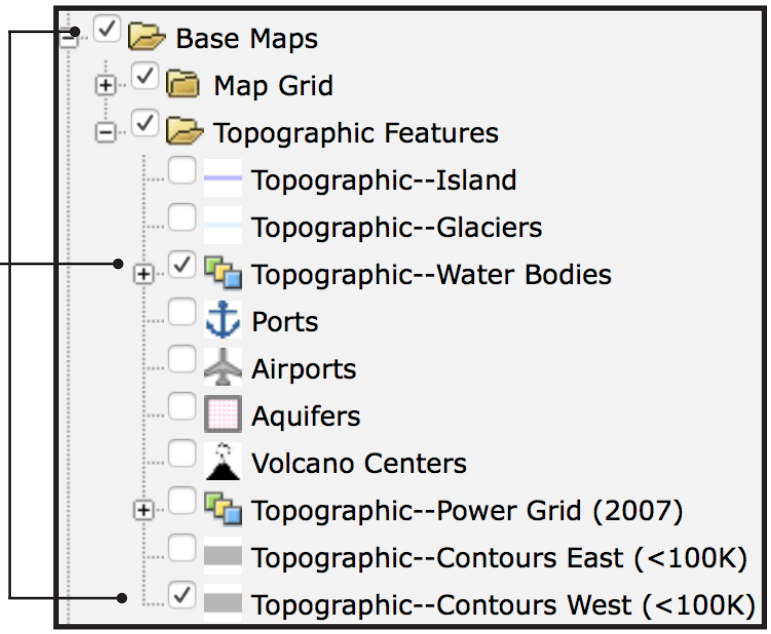
Step 14: Prepare the map display.

a) On the toolbar, click Clear Selection.

b) In the Legend pane, turn on the MTO - Number Label layer.



c) Ensure the Base Maps folder, Topographic - Water Bodies and Topographic - Contours West layers are turned on in the Legend Pane.



Step 15: Create the map.

a) In the toolbar, click Quick Plot.

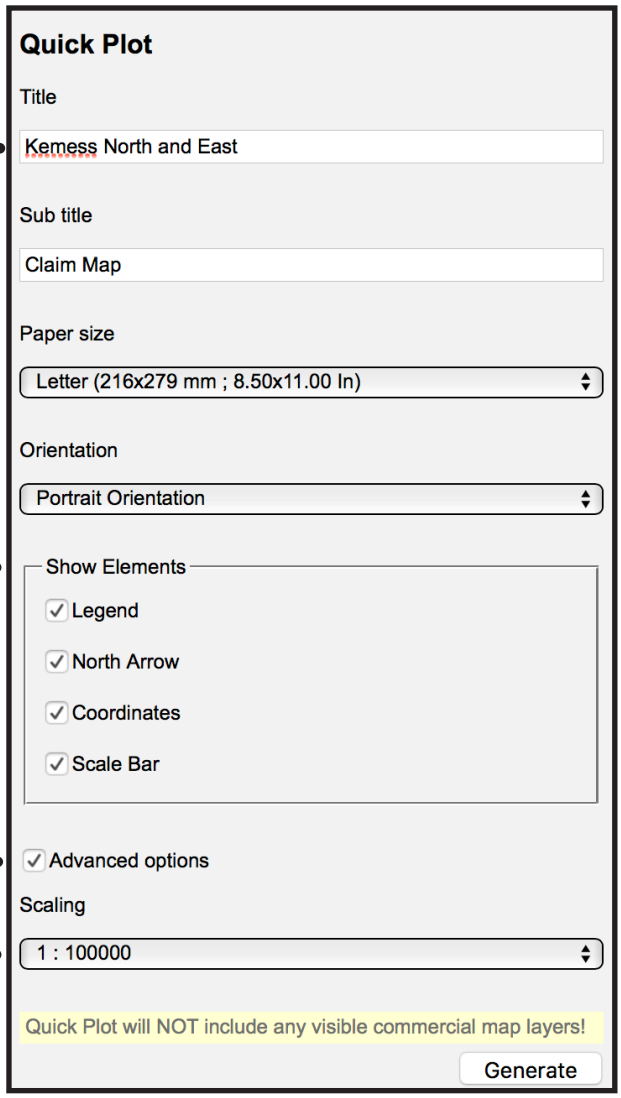
Step 15 cont...

b) In the Tasks pane, set the Title as ‘Kemess North and East’ and the Sub title as ‘Claim Map’.

c) Turn on all the options under Show Elements.

d) Turn on Advanced Options.

e) Set Scaling to 1: 100000.

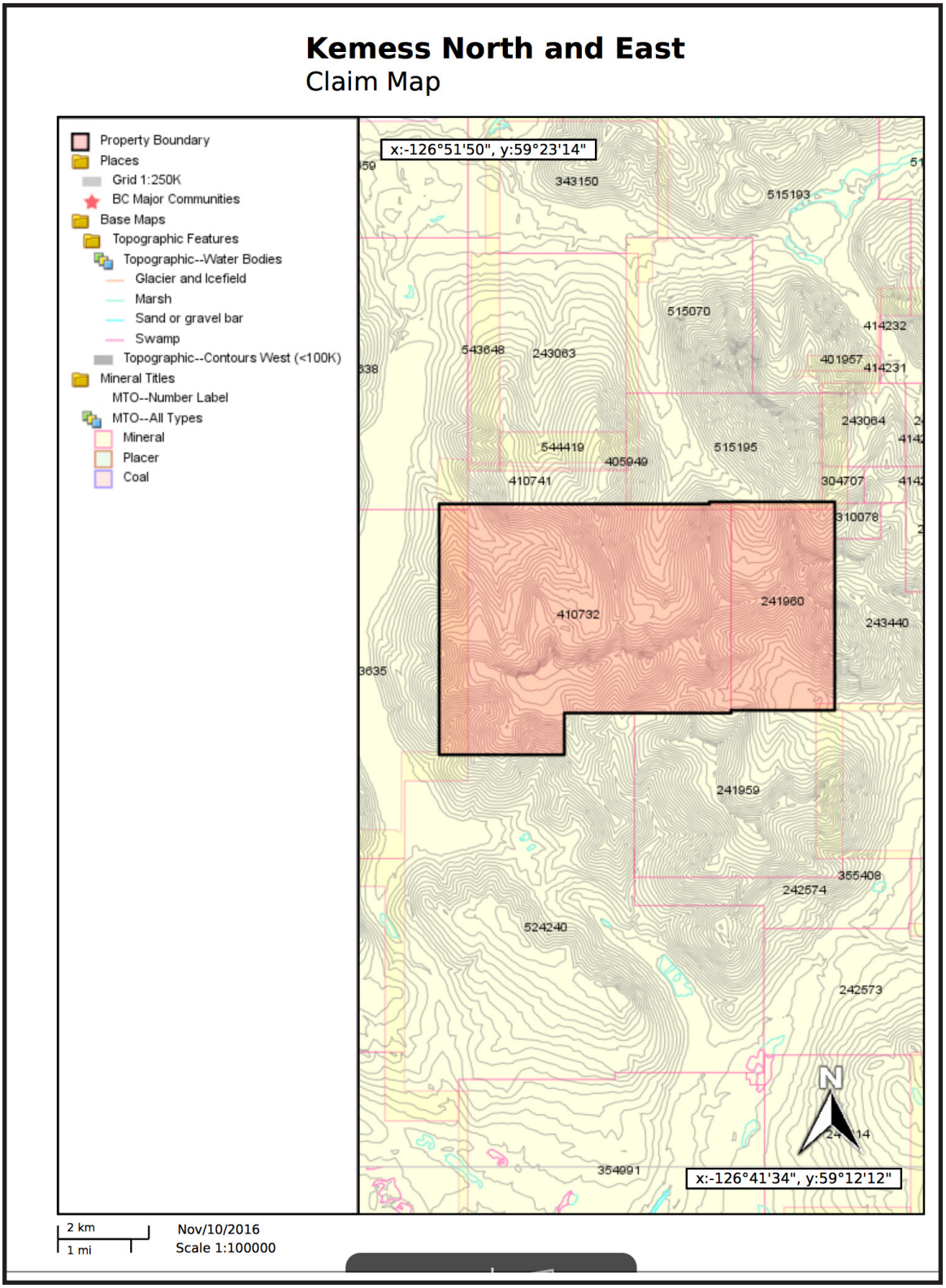


f) A blue box appears in the Map Window showing the extent of the map that will be created, if necessary, center the blue box onto the claims.

g) Click Generate.

Step 15 cont...

You now have a 1:100,000-scale claim map that can be directly included in your assessment report.



In this exercise you used the Quick Plot, Redline, and Buffer tools to create maps that can be directly incorporated into your documents and presentations. You first created a map outlining the area of interest you identified in previous exercises. You then created property location and claims maps with all the elements required of an assessment report.

Datasets used in this exercise:

- Base Map and Topographic layers
- MTO Tenure

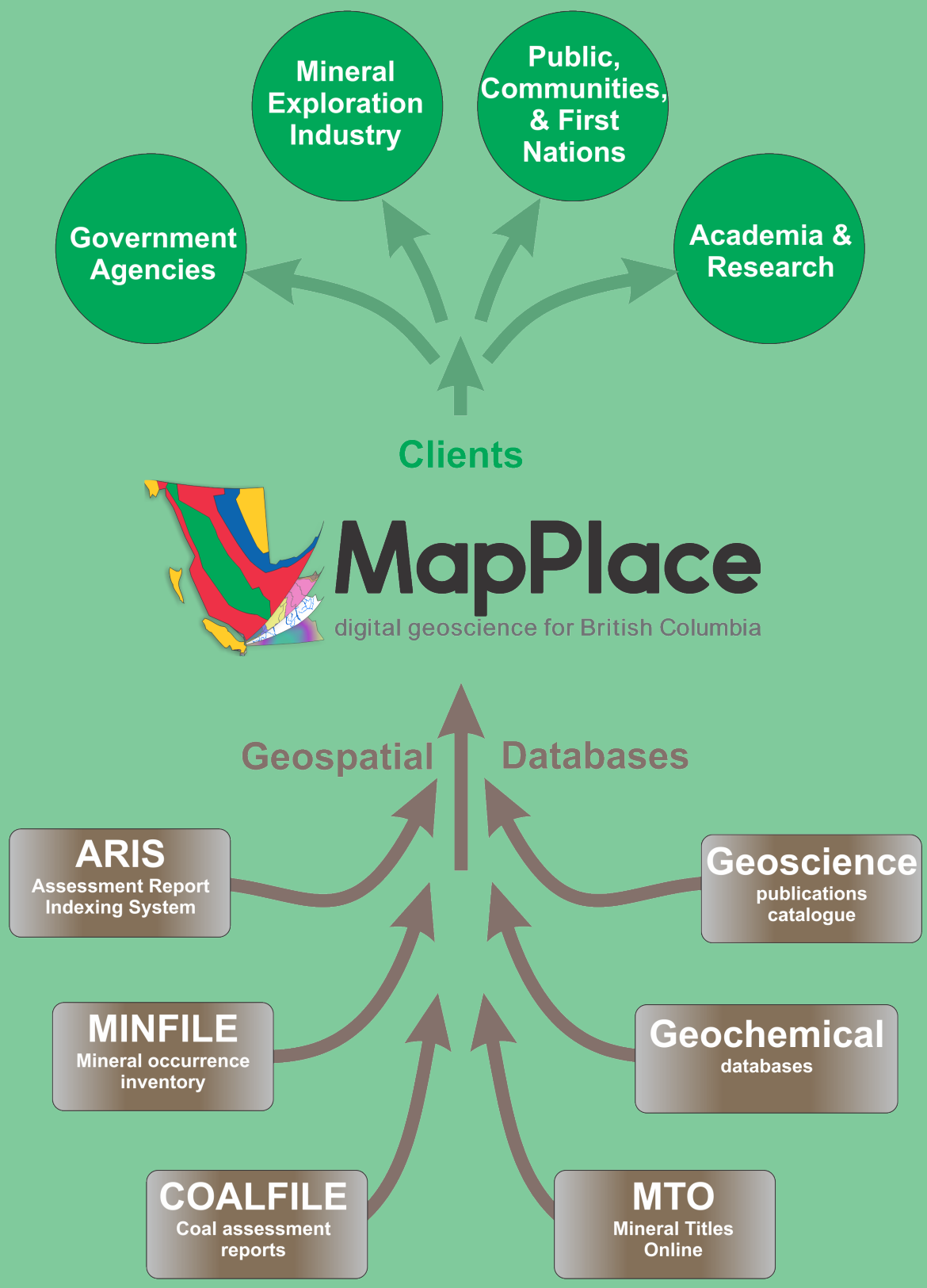
Tools used in this exercise:

- Quick Plot
- Redline
- Buffer

Conclusion

In this scenario, as the lone geologist in a new junior exploration company you were tasked with finding a porphyry copper prospect to acquire. The data and tools available in MapPlace 2 enabled you to identify and refine potential targets and to produce maps for your presentations and reports.

Starting with a broad search of the MINFILE database, you identified several favourable areas. By examining the ARIS, RGS, and Bedrock Geology databases, you narrowed your interest to just one, and confirmed your interest by assessing reports of past work. You then used the Mineral Titles search, display, and reporting tools to determine if the area was on open ground. Hoping that your company might negotiate an option agreement, you identified the owner from the tenure information. Anticipating the need for imagery to report your choice to your company, you produced a map highlighting the prospect. Your recommendation was a success and your company reached an agreement with the tenure owners. A year later, having completed work on the prospect, you returned to MapPlace 2 to create property location and claim maps for your assessment report.

Like its predecessor, MapPlace 2 continues to evolve, largely based on feedback from those who use it. We welcome, and actively solicit, your comments on how to make MapPlace 2 better.

British Columbia Geological Survey
Ministry of Energy and Mines
www.em.gov.bc.ca/geology