MAPPLACE CLIENT-MAPPING TOOLS

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INTRODUCTION

The MapPlace (www.MapPlace.ca) is a website designed to facilitate easy access to the maps and databases of the British Columbia Ministry of Energy and Mines. The site is built using Autodesk MapGuide® technology and has been in operation for about eight years. The site has been highly successful and gained acceptance from its target audience and beyond. Most major datasets that are of value in the promotion and investigation of BC's mineral wealth may be accessed through the site in an interactive format. The site provides a variety of tools to perform sophisticated spatial searches, excellent hardcopy production, and limited GIS functions.

Data themes available on the MapPlace cover a broad range of spatial data in vector and attribute form, including bedrock geology, geochemical surveys, mineral occurrences, exploration assessment reports; and mineral, coal and petroleum tenure locations. These data can be combined with other base data, including administrative boundaries, topographic features and raster images, such as LandSat images and aeromagnetics. User-defined map views can then be printed or pasted into common graphics packages. Many individual map objects are linked to valuable attribute data or to a separate Internet site, allowing further search and retrieval capabilities.

The site has continued to expand both in content and purpose. With each version of MapGuide new functionality has been added to the MapPlace, increasing ease of use, speed of delivery and sophistication of potential products. The quality and quantity of the data content has continually increased. During this time the diversity of users has also greatly increased and this has led to a large array of specialized map products targeted to niche requirements. The site has been used for purposes from simple map viewing to field entry of map data. It has been used in a production environment to manage the Notices of Work information for a district office. Products from the MapPlace have become ubiquitous in the mineral exploration community.

The British Columbia and Yukon Chamber of Mines' 'Rocks to Riches' program funded this project to add 6 new client-mapping tools to the MapPlace including:

1. Redline Mapping Tools
2. Client-defined Grid Overlay
3. Geochemistry Symbol Resizing
4. Copy Maps with Scale Preservation
5. Off-line Map Viewing
6. Re-projection of Raster Images

The objective and expected result of each tool will be described in this article. Subsequent articles will describe the method of delivery and operation of each tool. These enhancements will increase the ways in which clients use and generate products with the MapPlace.

CLIENT-MAPPING TOOLS

REDLINE MAPPING TOOLS

Objective: A set of client-side tools to draw on MapPlace maps. The tools allow the client to draw lines, polygons, symbols and text on any number of 'redline' layers. The client will be able to select the display attributes for these objects and delete objects. The map file (*.MWF) that contains the new 'redline' layers can be saved on the client's computer for later use and distribution.

Expected Result: The feature will provide a simple set of controls in a side panel to MapPlace maps and give the end-user the ability to:

➢ add new layers to the map

➢ add linework of any color, width and pattern

➢ add polygons of any color, fill pattern and edge characteristics

➢ add text of any size, color and font

➢ add any symbols included in the original map being able to adjust its rotation and size

➢ include descriptive text as labels and/or cursor-over displays

➢ delete any selected 'client added' object

➢ save the final map file on the client's machine

CLIENT DEFINED GRID OVERLAY

Objective: A capability to generate evenly spaced labeled grid lines in either geographic or map coordinates over the map window.

Expected Result: The user will select separate line spacings for the N-S and E-W lines as well as their colour, thickness and pattern. The lines will be generated on a Redline layer on the client's machine. The grid variables will be retained so that a new grid can be generated by a simple mouse click if the map is panned or zoomed.

GEOCHEMISTRY SYMBOL RESIZING

Objective: A capability to resize the geochemistry symbols to improve the visual clarity of printed output from MapPlace.

Expected Result: The tool will appear in the side panel of the map display. A 'Printer Friendly' dialog will allow the client to define the magnification factor to be applied to a list of layers that the client can select. A new *.MWF file will be generated and sent for printing.

COPY MAPS WITH SCALE PRESERVATION

Objective: A procedure to maintain a selected map scale between the MapPlace map window and a secondary application during a 'Cut&Paste' operation.

Expected Result: A procedure will be recommended that simplifies the process of moving a map view object from the MapPlace into a secondary application while maintaining the same scale, or very close to the same scale, that was present in the map window. The procedure will include the generation of some map window size parameters that are used to structure a frame or window in the secondary application. This product will be a set of instructions for the client along with any required map window parameters.

OFF-LINE MAP VIEWING

Objective: A MapPlace generated product that can be used off-line. An example would be a project map, embedded with a limited number of data themes, such as LandSat, topography, hydrology, roads, MINFILE and geology.

Expected Result: This feature will allow a user-selected window of essential data to be included in the *.MWF file for off-line use. The client will select the themes to be embedded in the map file but there would be protections to ensure that the amount of embedded data remains within acceptable limits.

RE-PROJECTION OF RASTER IMAGES

Objective: Produce additional versions of some selected raster datasets on the MapPlace in different projections to allow their use in more maps.

Expected Result: Selected raster data sets will be reprojected so that they are available in both of the common projections on the MapPlace.

SUMMARY

The MapPlace uses the Internet to provide interactive map access to data relevant for energy and mineral resource evaluation. The addition of new tools will greatly enhance the ability of clients to use the MapPlace and Ministry databases, with their own data, to research and investigate attractive exploration areas. Industry, government, universities and the public benefit from the use of the MapPlace for exploration investment planning, resource management, policy and land-use planning, teaching and research. The MapPlace website can be found at www.MapPlace.ca.

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SELECTED BIBLIOGRAPHY

Jones, L. (2003): Web-based Solutions for Geoscience Data - MapPlace.ca, *CAMI 2003 Proceedings* Calgary September 8-10, 2003,

Jones, L., MacIntyre, D., and Desjardins, P. (2002): The MapPlace - An Internet-based Mineral Exploration Tool, *B.C. Ministry of Energy and Mines*, Geological Fieldwork 2001, Paper 2002-1, pages 409-420.

Tupper, D., Jones, L., Kilby, W. and MacIntyre, D. (2001): The MapPlace, Using Web-Based Mineral Exploration Data as an Environmental Tool, *Innovation* June 2001, Volume 5, Number 5.

MacIntyre, D., Jones, L., and Kilby, W. (2001): The MapPlace, An award winning Internet exploration service for B.C. *GEOLOG* Spring 2001, Volume 30, Part 1.

Kilby W E. (1999): The MapPlace — Web-Based GIS Access to British Columbia Mineral Exploration Information. *Proceedings of the Thirteenth International Conference on Applied Geologic Remote Sensing*, Vol. 1 (1999), pp 204-212.

MapPlace Website (December 2003): *http://www.MapPlace.ca*.

Domvile, Julie (2003): The MapPlace A Jewel of a Tool, *Mining Review*, Winter 2003, Vol. 23, No. 4.