INTRODUCTION TO MAPINFO/DISCOVER
SHORT COURSE PROPOSAL

Course Title

Introduction to MapInfo Professional/Discover for Geologists

Course Description

Utilizing MapInfo Professional and Encom Discover software, the course provides an introduction to the basics of GIS concepts and the elements of desktop mapping. MapInfo Professional and Encom software are recognized as current industry standards. The software combination, designed especially for the geosciences, provides the tools to effectively compile, visualize, analyze and map spatial geosciences data. The course consists of a series of lectures and hands-on exercises using geological data to build maps and visualize data. The course has been customized to allow participants to work with their own data sets and produce maps and data analysis which they can immediately implement.

Specific Objectives

Participants will learn how to:

- Use MapInfo's interface to open and manage map files. Utilize Discover's Enhanced Layer Control to manage multiple map windows.
- Understand and use MapInfo's map layering system.
- Build geological datasets - Import Excel files, delimited ASCII files, AutoCAD dxf files into MapInfo Professional. Rectify and manipulate raster images.
- Geocode and create points for data sets. Turn your database of geochem samples into points on a map.
- Perform querying and geographic searching of maps and data. Query your maps and databases for information you need to get your job done.
- Color code maps using symbols for geochem data, lineaments, rock units (a.k.a.). Thematic Mapping
- Create a geologic map using on-screen digitizing, build polygons from your linework, edit the objects created, use Autotrace to trace existing objects, create a color table, attribute and color your map.
- Construct, manipulate and analyze gridded surfaces
- Retrieve map data from Web Mapping Services
- Utilize Discover to produce high-quality scaled output with grids and a title block. Use the layout window to produce high-quality scaled geological maps for the plotter, Word document or the Internet.
- Review additional useful MapInfo tools and utilities.

Course Audience – Who Should Attend?

The course is designed for geologists, cartographers, exploration managers, exploration technicians, students, and others involved with GIS and map making in mineral exploration. The course is recommended for any professional who wishes to learn how to utilize the powerful data analysis and mapping tools of MapInfo Professional and Encom Discover.

Estimated # of Pages of Course Notes

200 pages

Course Duration

2 days

Course Outline

Day One	Day Two
Basics of Desktop Mapping Exercise 1 (using a different dataset)	Creating a Geologic Map Exercise 7 (using a different dataset)
Mapping in Layers Exercise 2 (using a different dataset)	Grid Mapping
Building Geological Datasets Exercise 3 (using a different dataset)	Retrieving Map Data from Web Mapping Services
Creating Points on a Map Exercise 4 (using a different dataset)	Working with Layouts
Using Queries Exercise 5 (using a different dataset)	Embedding a MapInfo Map in Other Programs
Using Thematic Mapping to Analyze your Data Exercise 6 (using a different dataset)	Useful MapInfo Utilities

Prerequisites:

Windows familiarity is required and knowledge of MS Excel is beneficial. No previous experience with MapInfo is necessary. Each attendee is required to provide their own laptop. An evaluation license for both MapInfo and Discover will be provided for the duration of the course. Attendees are encouraged to bring their own data sets.

Special Features

The course provides each attendee with a workbook, documentation, data sets and an evaluation license to the current versions of both MapInfo and Discover. See attached Course Outline for the Table of Contents from course workbook.

Course Instructor

Barbara Carroll

Barbara Carroll is a Principal Consultant and Founder of GeoGRAFX. Her firm provides professional and technical geological services and products to the resource exploration and mining industries worldwide. Ms. Carroll is a certified Professional Geologist by the American Institute of Professional Geologists with over 30 years of wide ranging international exploration experience in the mining industry. Immediately prior to forming GeoGRAFX, Ms. Carroll served as Project Manager for Phelps Dodge Mining Co.'s Jerome Project, a multi-million dollar preliminary evaluation of the remaining potential of the United Verde Mine in Arizona which resulted in completion of a new geologic model and preliminary resource estimate. Prior to working for Phelps Dodge, she was Systems Geologist at Battle Mountain Gold Co., and responsible for resource evaluation and selection and support of software/hardware for all US Exploration offices as well as remote computer communications. She has extensive experience in

construction of geologic models and resource/reserve estimation, as well as creation and management of GIS databases.

Course History:

This course was developed in response to the requests of geologists and mining consultants who recognize the need to expand and update their skill set. In the highly competitive world of mining, the ability to quickly and easily map and analyze data has become increasingly important. MapInfo Professional and Encom Discover software are the industry data analysis tools of choice.

The course has been presented throughout the US, Central / South America and Canada. The course has been customized to allow participants to utilize their own data sets, which allows the participants to take away a completed project for immediate use.

Course Outline

Lesson 1: Basics of Desktop Mapping
- Starting MapInfo
- Viewing your Map
- Toolbars
- Discover User Interface
- Button Bars and Icons
- MapInfo Browser Window
- Make the geology bigger
- Organize the Screen
- Saving Time with Workspaces
- Finding Information

Exercise 1 (a different dataset)

Setting Preferred Distance and Area Units

Lesson 2: Mapping in Layers
- Maps as Layers
- Layering your Data
- Working with Layers
- Discover - Enhanced Layer Control
- ECL Pop-Up Menu Options
- ELC Layer Controls
- ELC Layer Controls
- ELC Layer Pop-Up Menu Options
- ELC Previous View
- Selective Layering
- Labeling your Layers

Exercise 2 (a different dataset)
- Browser windows

Lesson 3: Build Geological Datasets
- Introduction
- Import an Excel Spreadsheet
- Import an ASCII delimited file (.CSV)
- Import AutoCAD .dxf files
- Comparison of DXF Import – MapInfo, Universal Translator or Discover
- Opening a Registered Raster Image
- Opening a GeoReferenced Image
- Registering a Raster Image
- Adjust Image Styles

Exercise 3 (a different dataset)

Lesson 4: Creating Points on a Map
- Introduction
- Assigning Co-ordinates
- Map Projections and Datums
- Creating Points
- Assigning Co-ordinates

Exercise 4 (a different dataset)
- Assigning Co-ordinates

Lesson 5: Using Queries
- Introduction
- Using the Select Tool
- Using Find command (Query menu)
- Using the Radius Select Tool
- Using the Boundary Select Tool
- Using the Marquee Select Tool
- Selecting By Query

Exercise 5 (a different dataset)
- Introduction
- Query Select

Lesson 6: Using Thematic Mapping to Analyze your Data
- Introduction
- Creating a Ranged Map
- Using Graduated Symbols

Saving a Theme to a Table

Exercise 6 (a different dataset)
- Individual Themes

Highlighting particular Objects

Lesson 7: Creating a Geologic Map
On-Screen Digitizing
Clean Linework
Building Polygons
Object Editing
Using Autotrace to Trace Existing Objects
Add Attributes to Polygons
Building a Color Table
Attributing and Coloring the Map
Line Annotation
Labeling
Final Map

Lesson 8 – Grid Mapping
An Exercise in Surface Modeling and Analysis
Configure Grid Handlers
Generate a Surface Grid
Contour Elevation Grid
Altering Grid Colors, Sun-Shading and Transparency
Create a Profile from a Grid
Assign Values from Grid
Grid Queries
Using the Grid Calculator
Clipping a Grid
Volume Calculations
Points to Regions (Voronoi Polygons)

Lesson 9 - Retrieving Map Data from Web Map Services
How Does MapInfo Professional Use WMS Servers?
Projection Issues Associated with WMS
Controlling WMS Image Quality When Printing
The Metadata Browser

Lesson 10: Map Making Tutorial
An Exercise in Map Production
Laying Out the Map
Apply SeeThru Shading
Line Annotation
Text Labels
Producing a Map Legend
Generating Scaled Hardcopy Output
Add Scaled Frame to Layout
Adjusting the Layout
Adding Text to your Layout
Moving Items in the Layout
Adding Frame Titles to the Layout Window
Exit Scaled Output and Plot Map
Printing the Layout
Exercise 8 (a different dataset)

Lesson 11: Embedding a MapInfo Map in Other Programs
Introduction
Saving a Window to a Graphics File Format
Copying a Map
Using the Drag Map Window Button
Embedding a MapInfo Map

Lesson 12 – MapInfo Utilities
Obtaining Help - MapInfo
Obtaining Help - Discover
Function/Shortcuts Key list.
MapInfo HotKeys:
MapInfo Professional Tools
URLs
MapInfo Tools