



# Identifying New Exploration Targets using the Quest-West Data and Inexpensive GIS Technology

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# Presentation Outline

- Overview of the geology & mineral deposits of the QW project area
- New Quest-West datasets and other sources of free digital map data
- Examples of using an inexpensive Geographic Information System (GIS) called Manifold to identify new exploration targets
- Conclusions

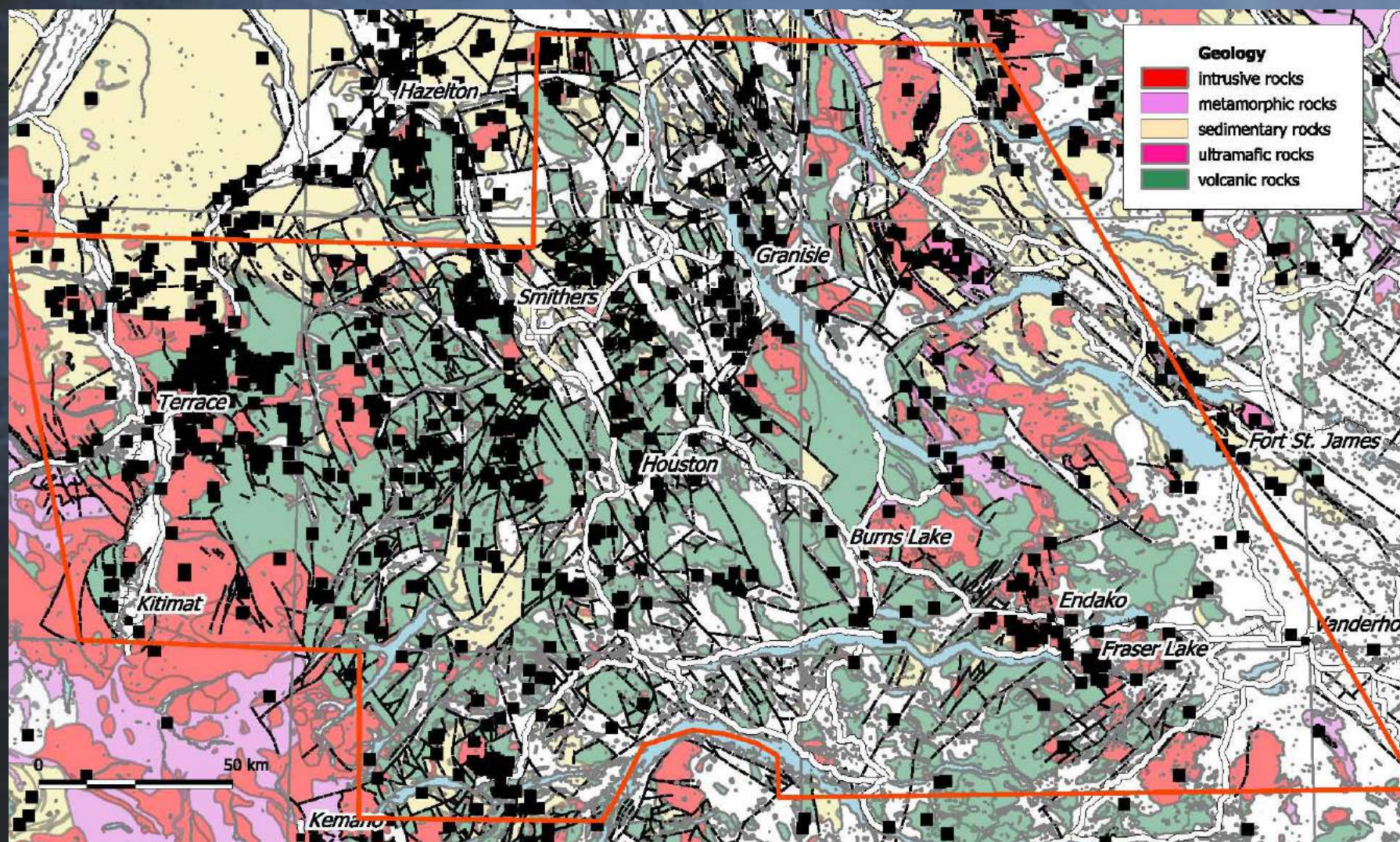


# Geology





# Mineral Occurrences





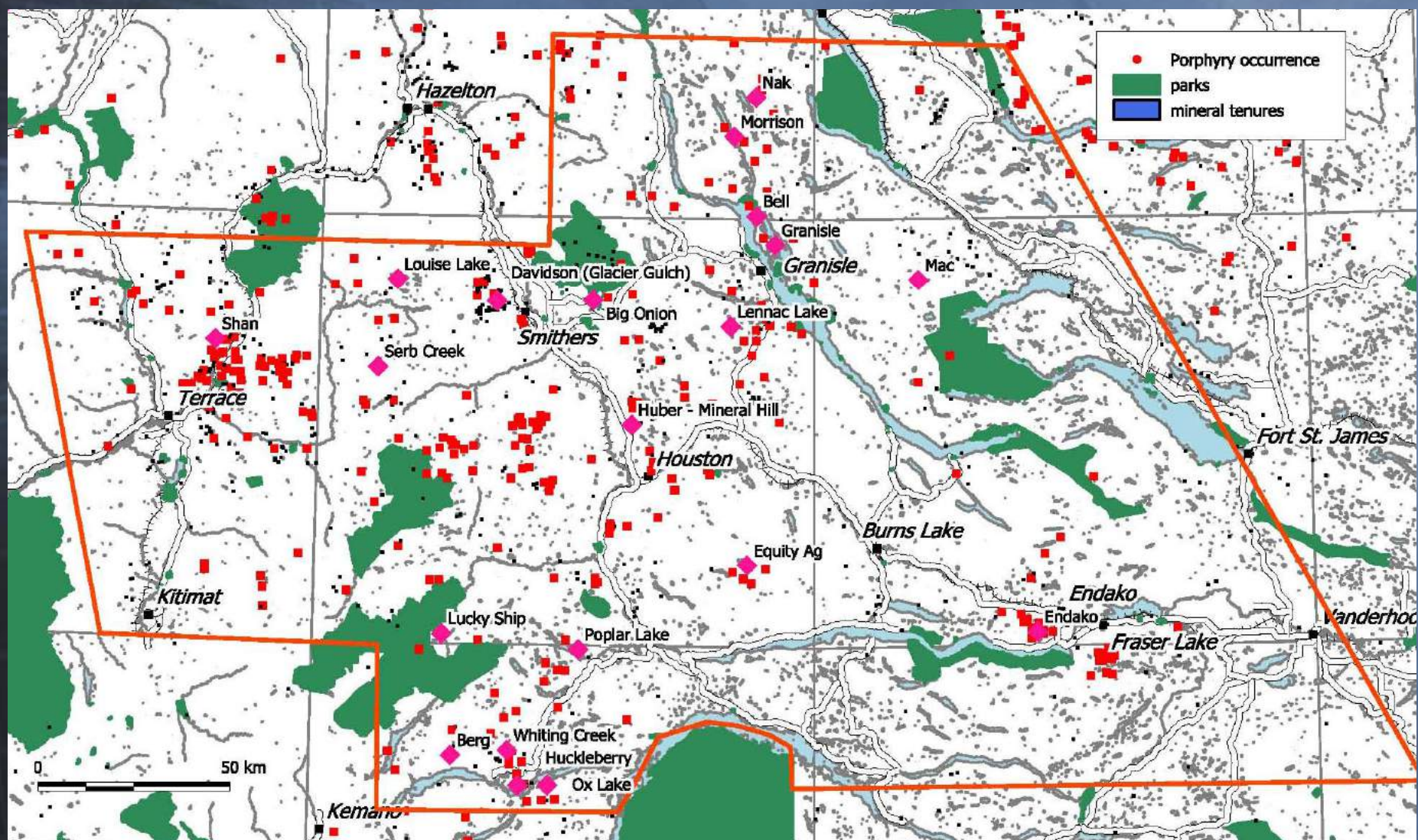
# Types of Mineral Deposits

- Porphyry
  - Cu (Mo, Au) e.g. Huckleberry, Bell, Granisle, Morrison, Berg
  - Mo e.g. Davidson (Hudson Bay Mtn.), Endako, Lucky Ship
- Vein
  - Au-quartz veins e.g. Dome Mtn.
  - Pb-Zn-Ag veins e.g. Cronin, Duthie
  - Epithermal Au-Ag e.g. Bob Creek
- Transitional Porphyry/Epithermal
  - Cu-Zn-Pb-Ag e.g. Equity





# Porphyry Occurrences





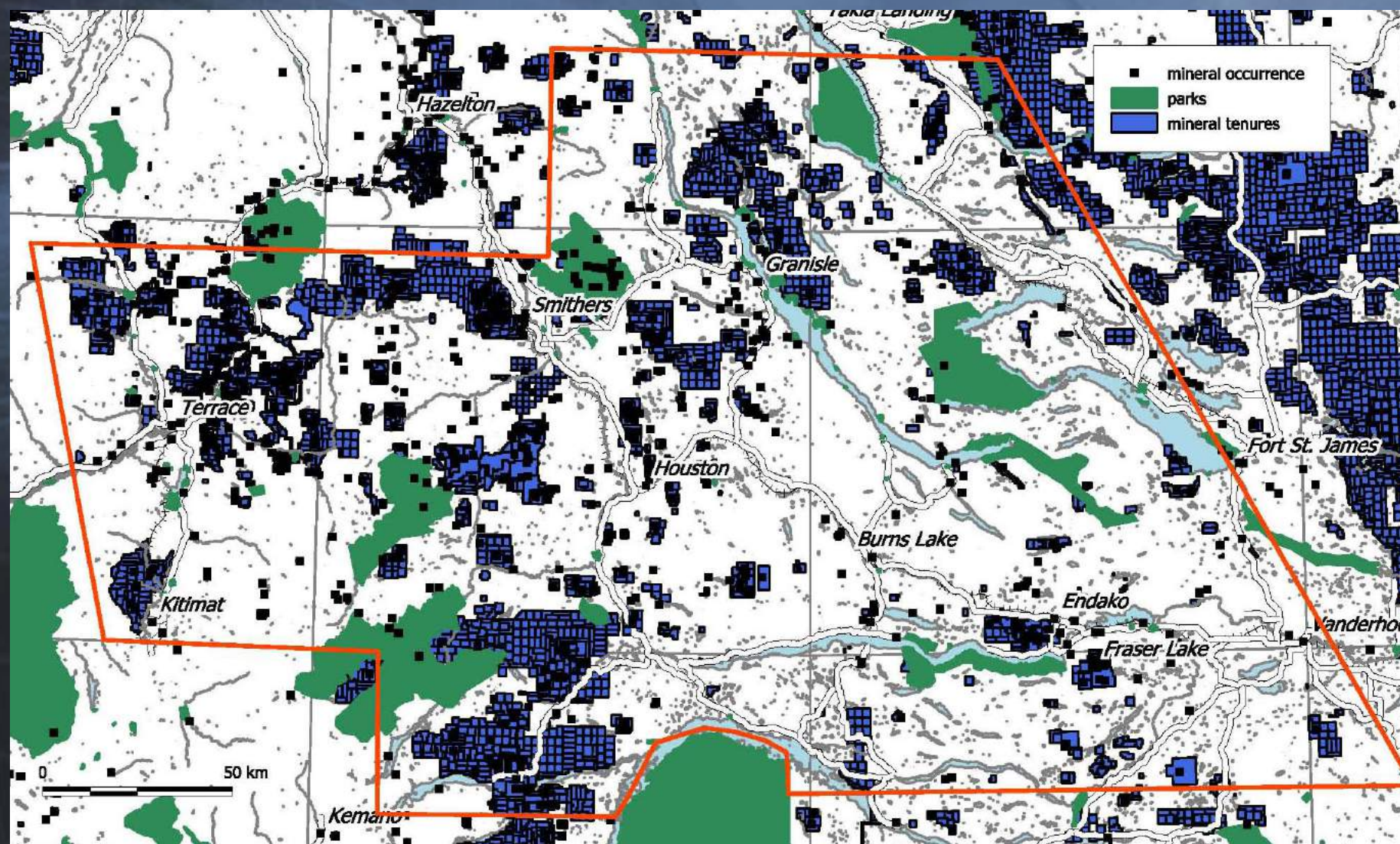
# Current Exploration Targets

- Porphyry Cu-Mo-Au
- Porphyry Mo
- Epithermal Au-Ag veins
- High grade Au-quartz veins
- Eskay Creek type massive sulphide



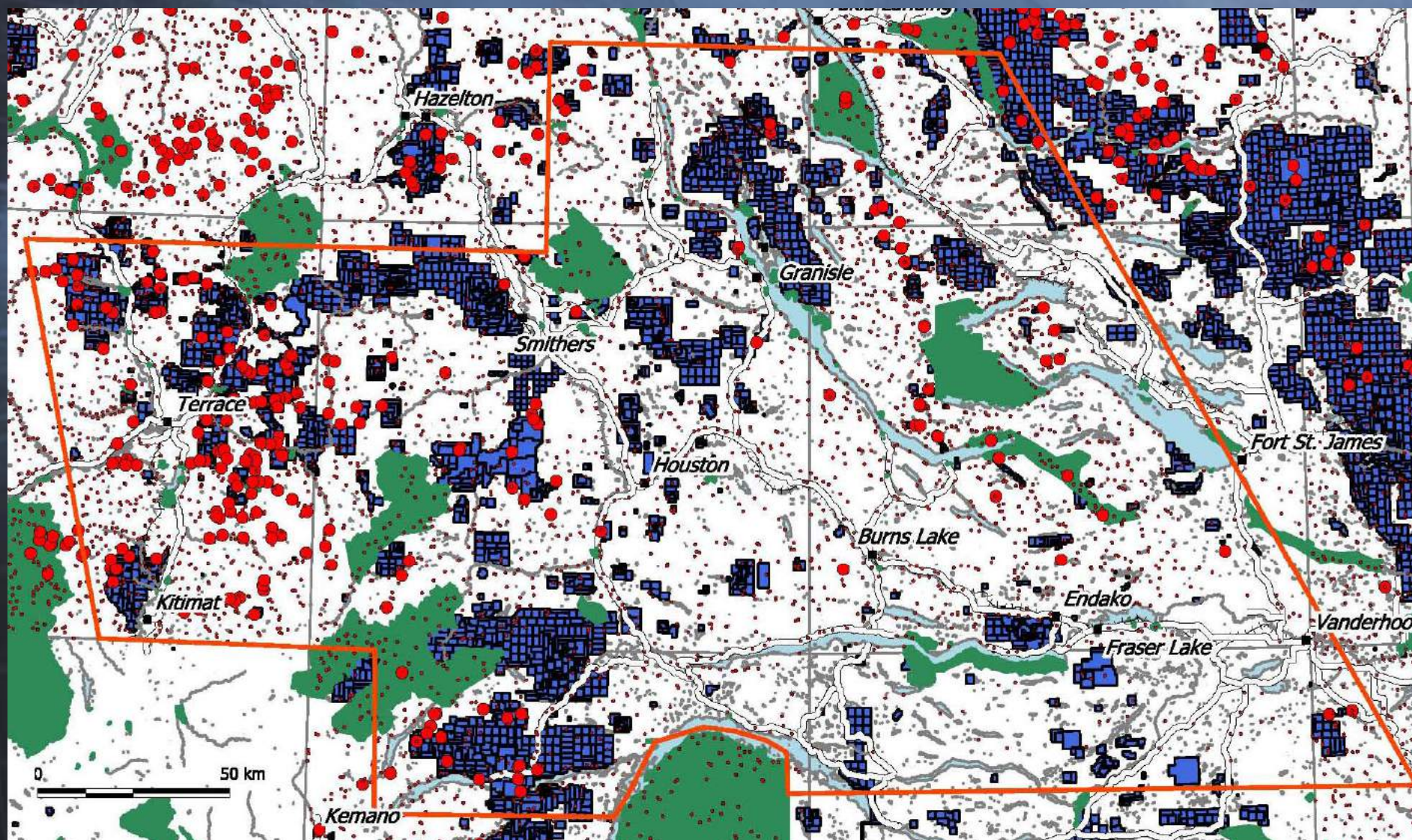


# Mineral Tenure





# Cu > 95<sup>th</sup> percentile





# Exploration Steps

- Identify a target using QW datasets
- Acquire tenure
- Raise money
- Do ground geophysics, geochemistry and geologic mapping
- Identify and drill best targets
- Depending on results – move forward with more drilling or drop property





# Target Identification

- Traditional method
  - Use hardcopy maps to select areas of interest
  - Difficult to overlay multiple datasets such as geophysics & geochemistry
- GIS method
  - Import digital data into a GIS
  - Overlay multiple data layers to identify possible targets
  - Ability to “see through” layers
  - Great way to use Quest-West data to its fullest potential



# The GIS Myth

- Geographic Information Systems (GIS) are expensive
  - True for most but not all
  - Manifold is a powerful GIS that sells for only \$245US!!
- Such systems required a specially trained operator
  - Anyone can learn to use Manifold to produce high quality maps
  - Easy to use product designed to work within the MS Windows environment





# What is Manifold?

[www.manifold.net](http://www.manifold.net)

## The World's Best GIS at an Unbeatable Price



Manifold® System Release 8 delivers the world's most powerful, most full-featured and most modern Geographic Information System (GIS) package as a fully-integrated application at one low price. By using modern software technology and leveraging mainstream Microsoft standards, Manifold System can deliver more capabilities, more power, greater quality and greater ease of use in the **\$395** Manifold Enterprise Edition than old-fashioned GIS products costing **tens of thousands of dollars more**.

**Get more for your money.** Don't waste money on old-fashioned, overpriced, unreliable GIS products in a tough economy. Fight back against rising costs with Manifold for better quality and more capability at far lower cost! **Do more. Spend**

**less.**



Manifold also **includes** a world-class Internet Map Server (IMS), full object library and development environment to create custom applications and GIS-enabled web sites. No need to buy expensive extras or to struggle to integrate separate products. One package, Manifold System, scales from personal use on the desktop to enterprise use within the largest organizations deploying thousands of users simultaneously editing terabytes of data. **Get Manifold now, from \$245 for Personal Edition!**

## Windows 7, Windows Vista and Windows Server 2008 Today

Manifold guarantees support for Windows 7, Windows 7 x64, Windows Vista, Windows Vista x64, Windows Server 2008 and Windows Server 2008 x64 **today**. Tired of waiting years for your legacy GIS vendor to support Microsoft's current Windows editions? Manifold supports new Windows editions right away throughout the entire Manifold product line. The latest Manifold updates support both the Release Candidate and the final release of Windows 7, Microsoft's outstanding new operating system - the best Windows yet! Microsoft's Windows Server 2008 product delivers the best production Windows for GIS enabled web applications, while Vista has emerged as the premium Windows for advanced desktop users

worldwide. Manifold supports both Windows 7 and Windows Server 2008 **right now** with a perfectly integrated desktop, enterprise and web IMS stack! Don't be fooled by GIS products that don't honestly support Windows - see the [Windows Reality Check](#) to see how Manifold supports Windows when others do not.





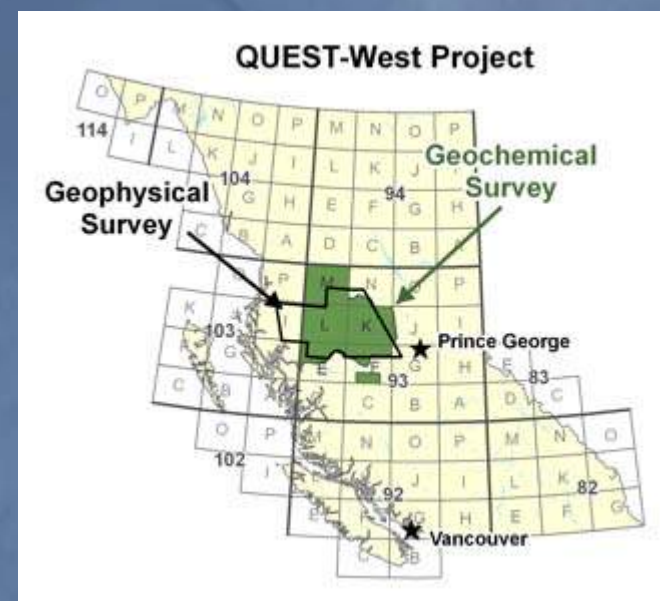
# Why Manifold?

- Great value - thousands of \$\$ less expensive than other GIS
- Extensive range of GIS functions all in one package, not a series of add-on modules
- Very strong drawing and database capabilities
- Many built-in image and surface manipulation tools
- Supports most of the common import and export data formats allowing exchange of data with other GIS
- Written in modern object oriented programming language to work in a MS Windows environment – very efficient and stable



# GIS Data Sources

- Data available for free from the Geoscience BC website ([www.geosciencebc.com](http://www.geosciencebc.com))
  - Airborne EM
    - Summary Report, PDF maps, Geosoft Grid & Map files
  - Airborne Gravity
    - Summary Report, PDF maps, Geosoft Grid & Map files
  - Silt and Lake sediment geochem
    - Summary Report, PDF maps, data tables
  - Oasis Montaj viewer for Geosoft Grid & Map files
    - Required to convert Grid & Map files to georeference images for use in a GIS





# Other sources of free digital data

- EMPR MapPlace ([www.mapplace.ca](http://www.mapplace.ca))
  - Geospatial Downloads: Geology, Minfile, Aris, RGS, base map layers, satellite imagery
- ILMB - LRDW – ([www.ilmb.gov.bc.ca/lrdw](http://www.ilmb.gov.bc.ca/lrdw))
  - Land & Resource Data Warehouse (LRDW)
    - requires BCeID registration
    - mineral tenures, parks, other administrative boundaries
- NRCAN Geogratis (<http://geogratis.cgdi.gc.ca>)
  - Topographic base maps (1:250K, 1:50K)
- Geobase ([www.geobase.ca](http://www.geobase.ca))
  - Digital elevation model data (1:250K, 1:50K)



# Manifold Demonstration

- Let's check out how Manifold can be used to identify new exploration targets in the Quest-West project area using the new geochemical and geophysical datasets



# Conclusions

- The Quest-West (QW) datasets provide a wealth of new geoscience information that is being used to identify new exploration targets
- Manifold is a powerful, affordable GIS that can be used to import, view and analyze the QW geoscience data
- Manifold allows users to quickly identify potential exploration targets by overlaying different QW datasets onto existing, free government geoscience data such as geology, mineral occurrences etc.



# Want to learn more?

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## CONTINUING EDUCATION & INDUSTRY TRAINING

Courses are available through the Northwest Community College's School of Exploration and Mining

### **Mapping with Manifold**

The objective of this one day course is to demonstrate the capabilities of Manifold GIS using free publicly available digital geoscience data. Participants will learn where to acquire free geoscience data, how to import it into Manifold and how to make their own geoscience maps and databases for use in regional and property scale mineral exploration programs.