



**MAGMA METALS LIMITED**

**Thunder Bay North:  
A Greenfields  
Platinum – Palladium  
Discovery in Canada**

Image courtesy of Johnson Matthey Platinum Today

# Disclaimer & Competent Persons Statement



## Disclaimer

This presentation is provided to you for the sole purpose of providing preliminary background technical, financial and other information to enable you to review the business activities of Magma Metals Limited (“Magma”). The material provided to you does not constitute an invitation, solicitation, recommendation or an offer to purchase or subscribe for securities. The information in this presentation will be subject to completion, verification and amendment and should not be relied upon as a complete and accurate representation of any matters that a potential investor should consider in evaluating Magma. This presentation may contain “forward looking statements” which are made in good faith and are believed to have reasonable basis. However, such forward looking statements are subject to risks, uncertainties and other factors which could cause the actual results to differ materially from future results expressed, projected or implied by forward looking statements.

## Competent Persons Statement

The information in this presentation that relates to Exploration Results or Mineral Resources is based on information compiled by Dr Keith Watkins and/or Mr Ralph Porter, the Managing Director and Exploration Director of Magma Metals Limited, respectively, who are both Members of the Australasian Institute of Mining and Metallurgy. Both Dr Watkins and Mr Porter have sufficient experience, which is relevant to the style of mineralization and type of deposit under consideration and to the activities undertaken to qualify as Competent Persons as defined in the 2004 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Dr Watkins and Mr Porter consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.



# Presentation Outline



- 1. Magma Metals – Background**
- 2. Project Location & Regional Setting**
- 3. Discovery**
- 4. Geophysics & Drilling**
- 5. Geology & Mineralization**
- 6. Regional Potential**
- 7. Exploration Program**
- 8. Conclusions**

# Company Background



- ❑ ASX listed Exploration Company
- ❑ Ni-Cu-PGM Focus
- ❑ Projects in Ontario and Western Australia
- ❑ Experienced Management Group
- ❑ Market Capitalization: ~C\$25 million
- ❑ More information: [www.magmametals.com.au](http://www.magmametals.com.au)

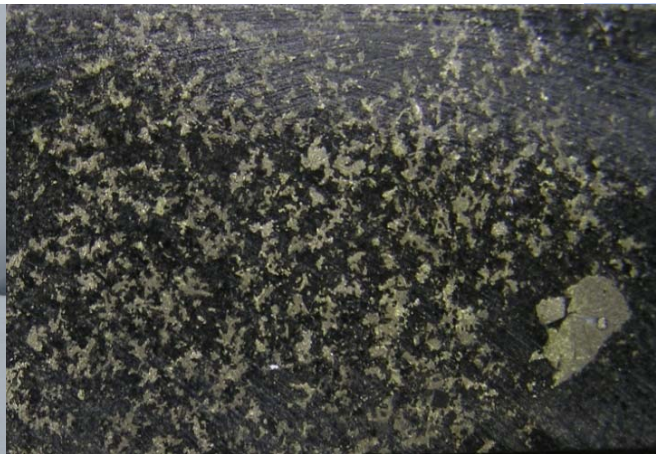




# Thunder Bay North PGM Project

## One of the Best Advanced PGM Exploration Projects in North America

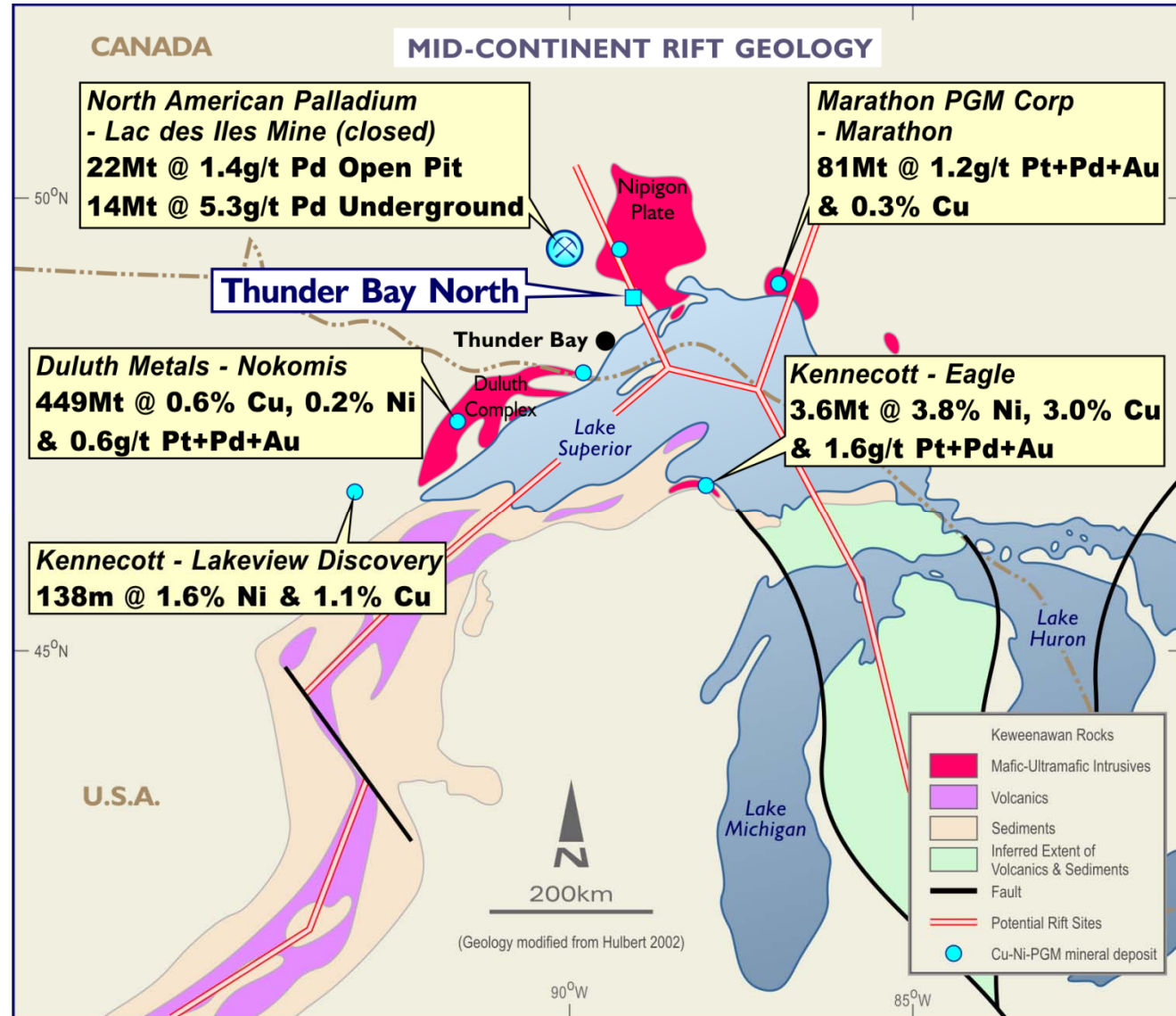
- Excellent widths and grades in drilling:  
up to 61.7m @ 5.61g/t Pt+Pd, 0.7% Cu & 0.4% Ni
- 1:1 Pt:Pd ratio
- Significant Cu & Ni credits with potential for Cu-Ni massive sulphide deposits
- Potential for large mineralized system
- Close to excellent infrastructure



# Regional Setting

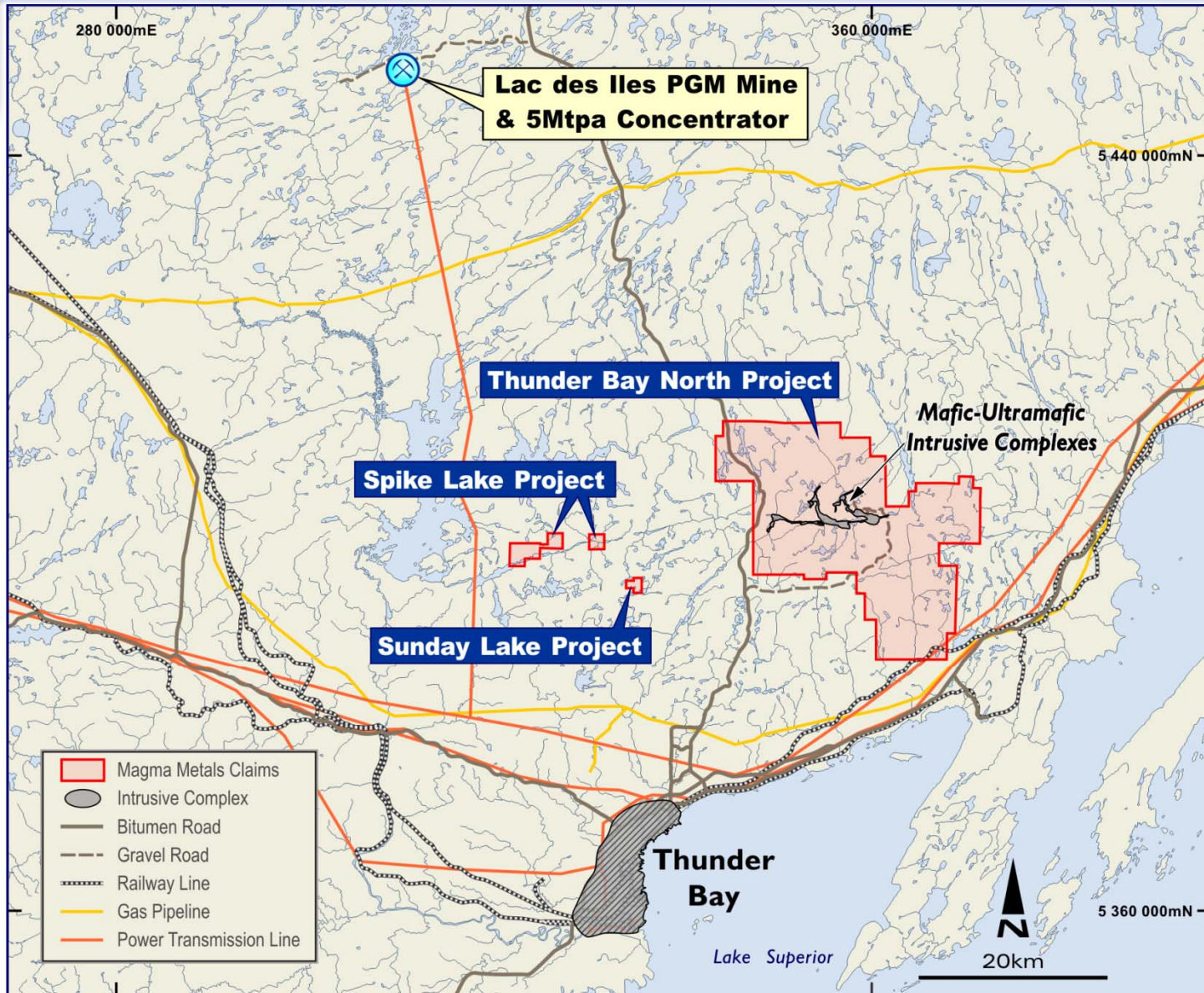


- Geology analogous to giant Noril'sk - Talnakh Ni-Cu-PGM deposits in Russia
- Established Ni-Cu-PGM Province
- Lac des Iles: Mothballed 300,000ozpa PGM mine with 5mtpa concentrator
- Region is under-explored with potential for large discoveries





# Project Location & Infrastructure

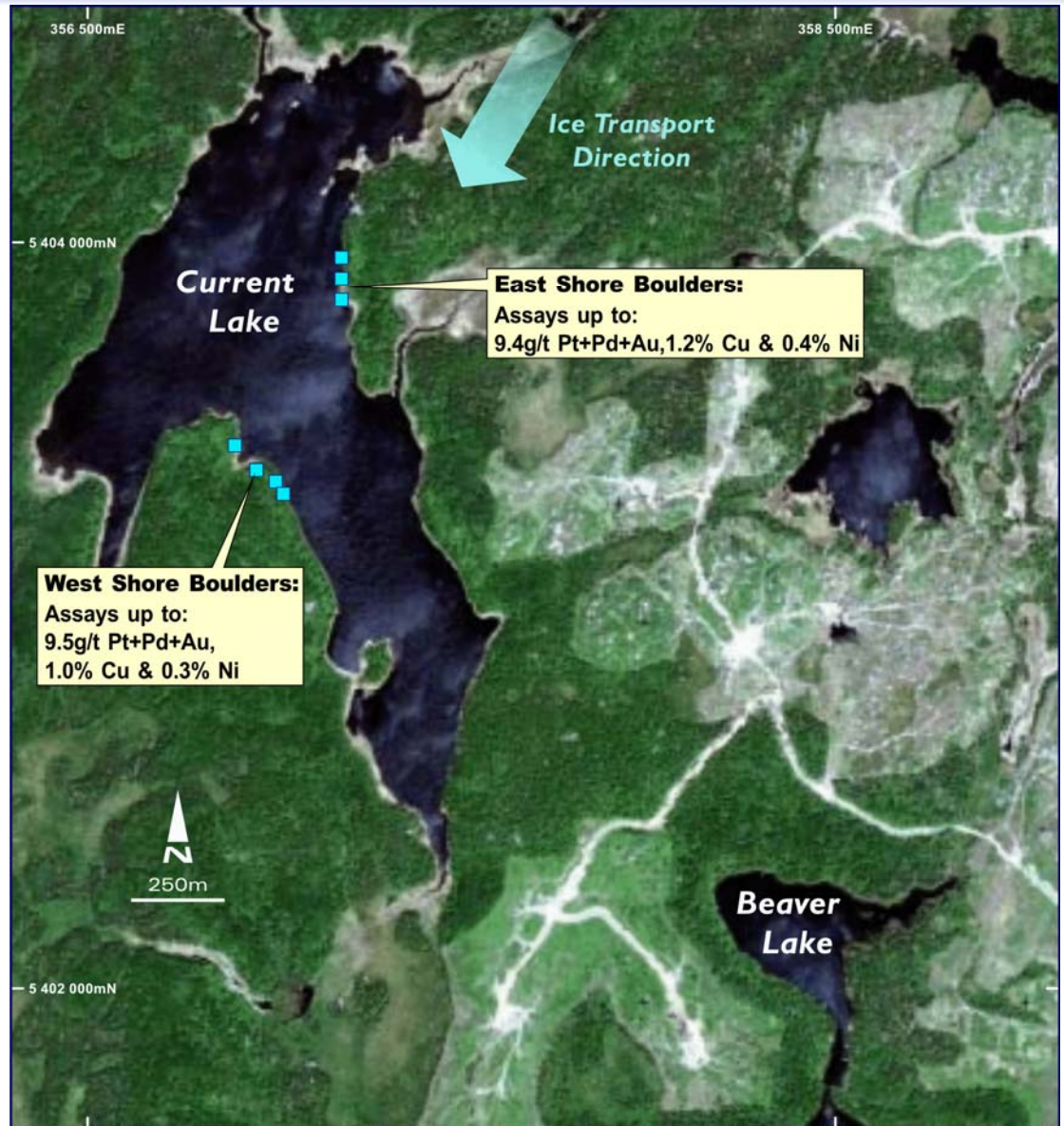






# Discovery History

- PGM-rich glacial boulders found on west shore of Current Lake by two geologists in 2001
- Magma optioned the claims in 2005 and staked larger area
- East shore boulder outcrop found in mid-2006
- Discovery hole drilled under east shore boulders in December 2006:  
10.5m @ 2.8g/t Pt+Pd+Au



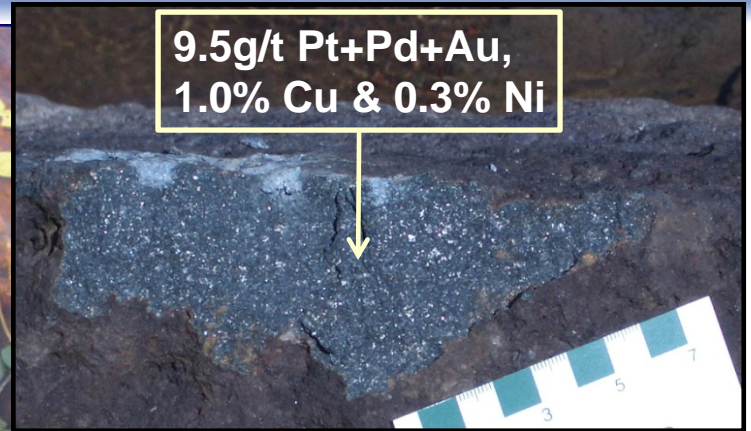




# Current Lake Mineralized Boulders



**WEST SHORE BOULDERS**



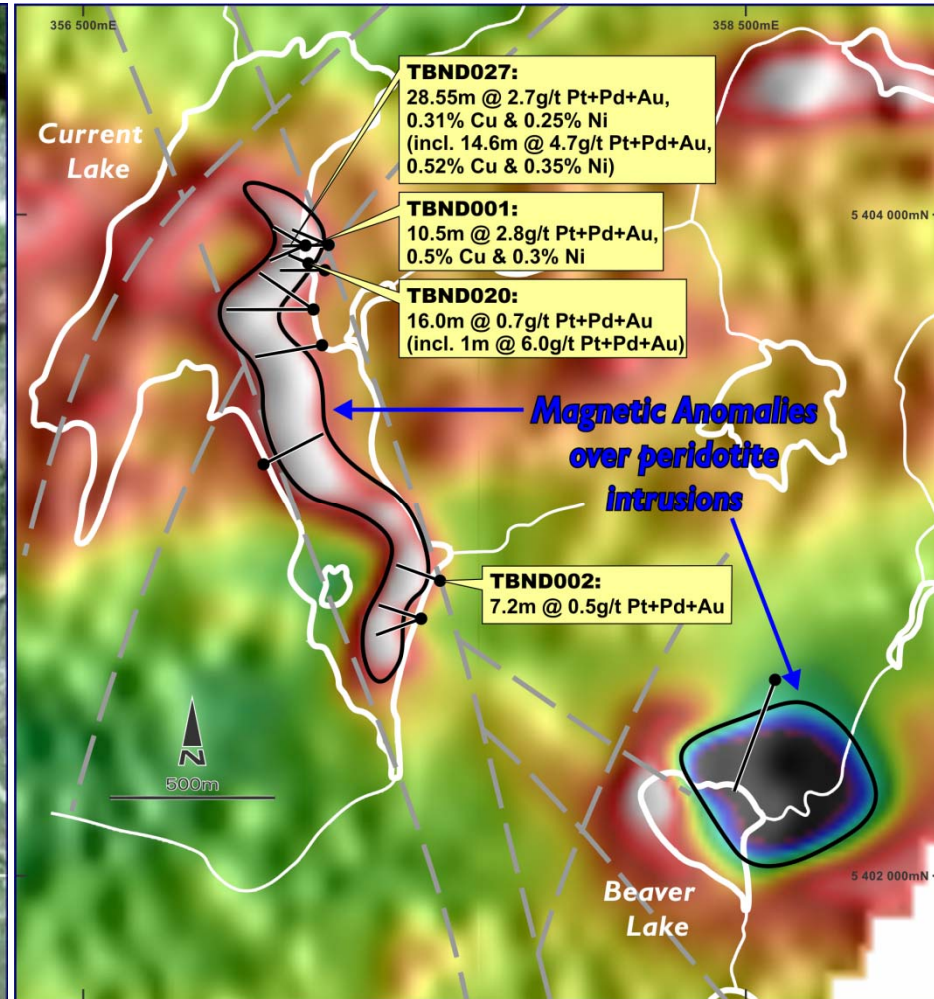
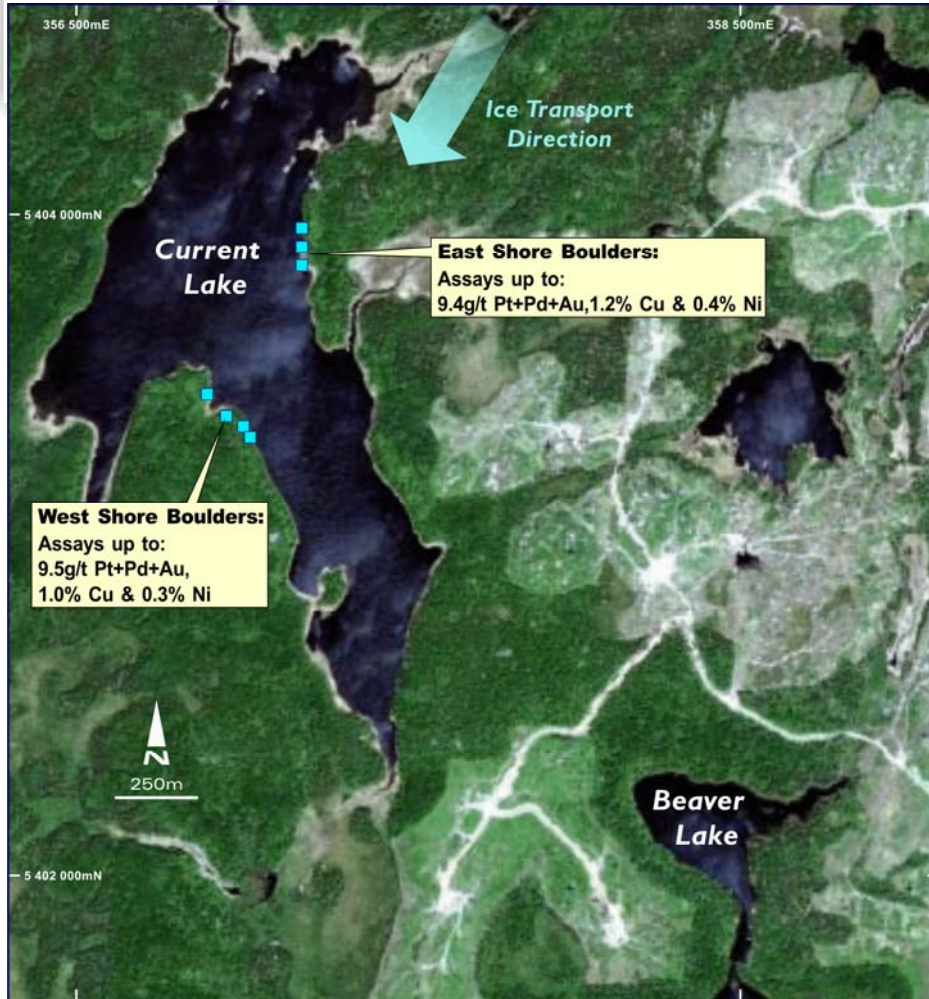
**EAST SHORE BOULDERS**



**First drill-hole under the East-Shore Boulders:  
10.5m @ 2.80g/t Pt+Pd+Au, 0.45% Cu & 0.34% Ni**



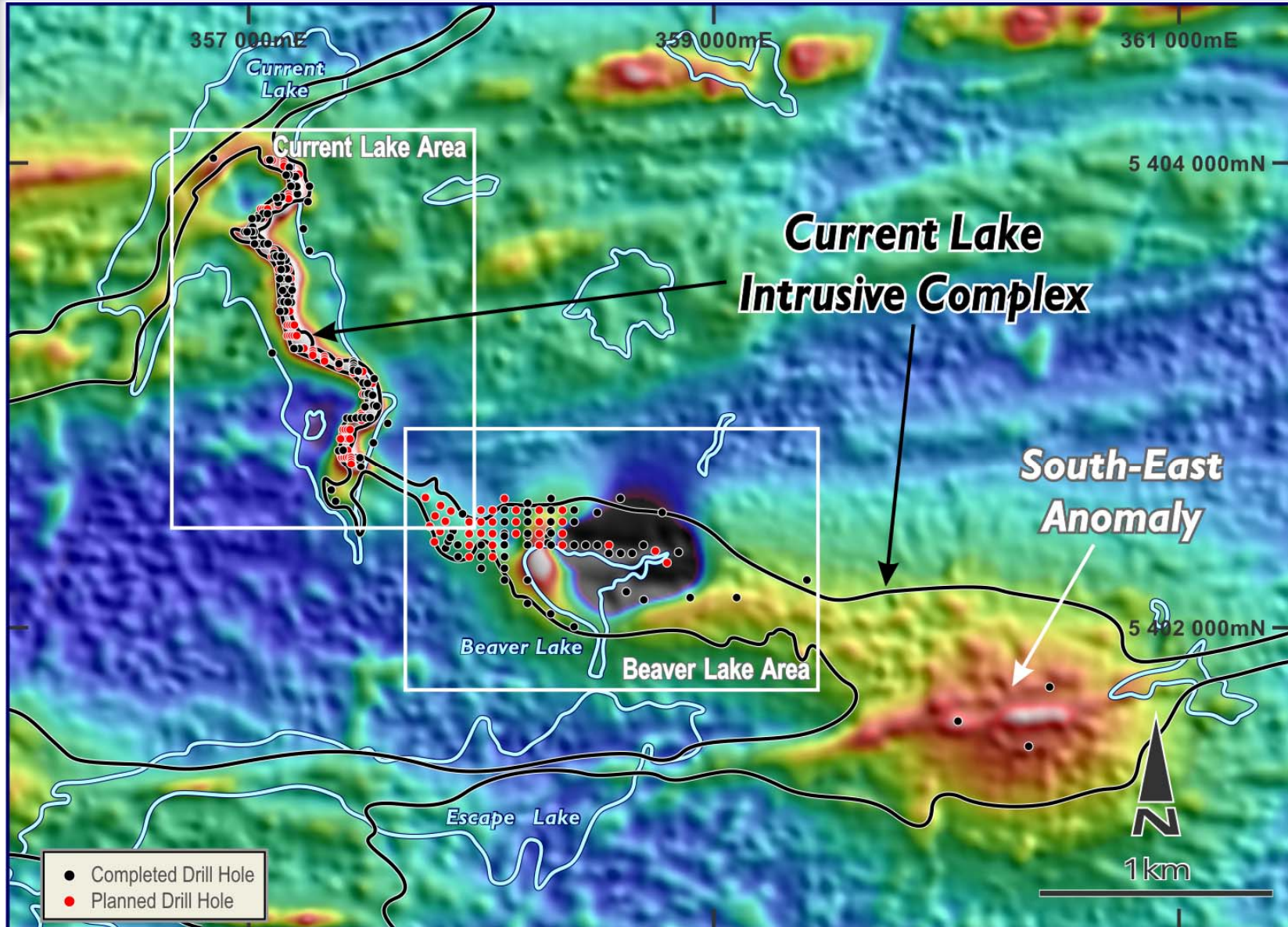
# Early Magnetics & Drilling



After the first drill-hole it looked like it was going to be easy – but we drilled another 25 holes before the next significant intersection



# Current Lake Intrusive Complex Magnetics & Drilling

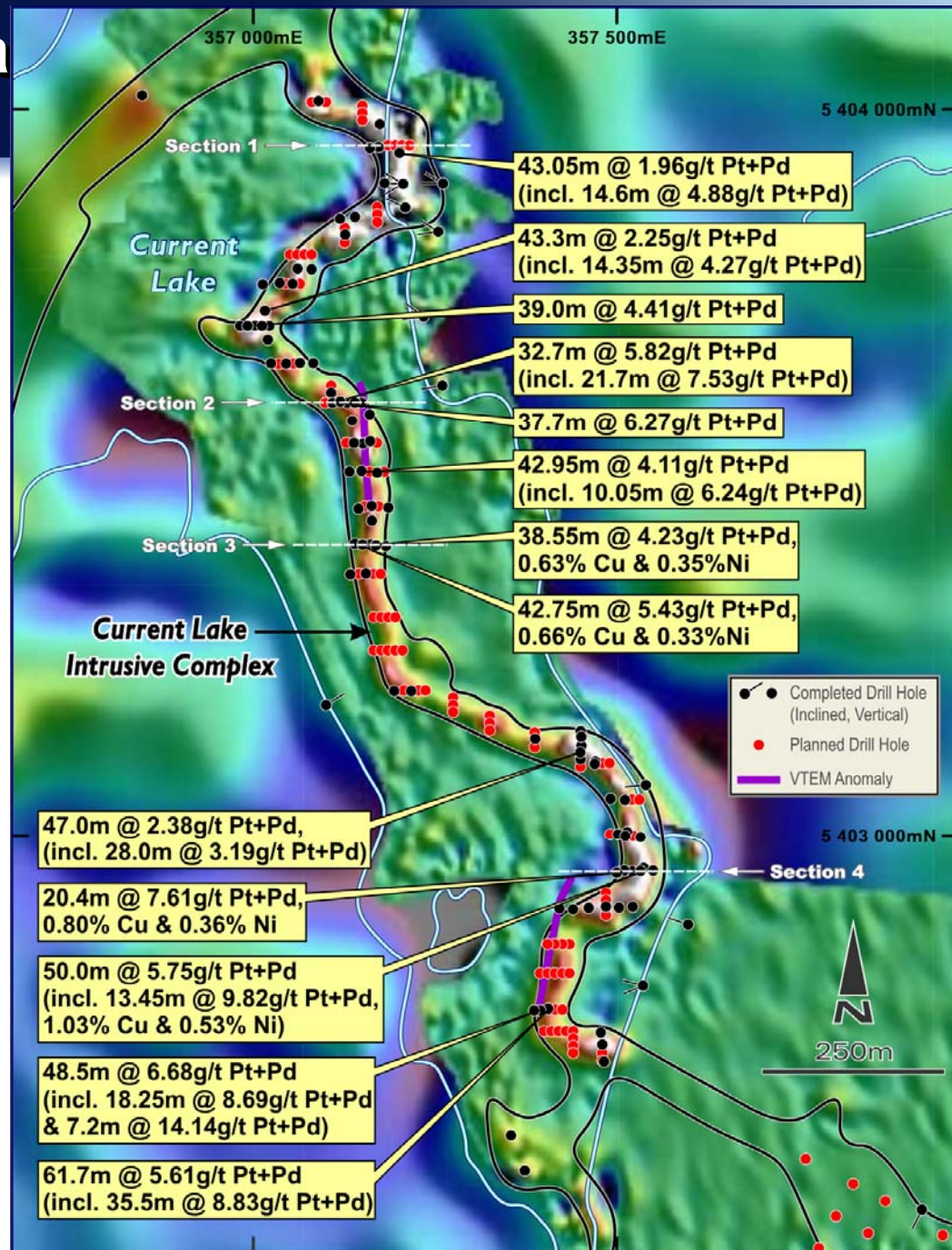




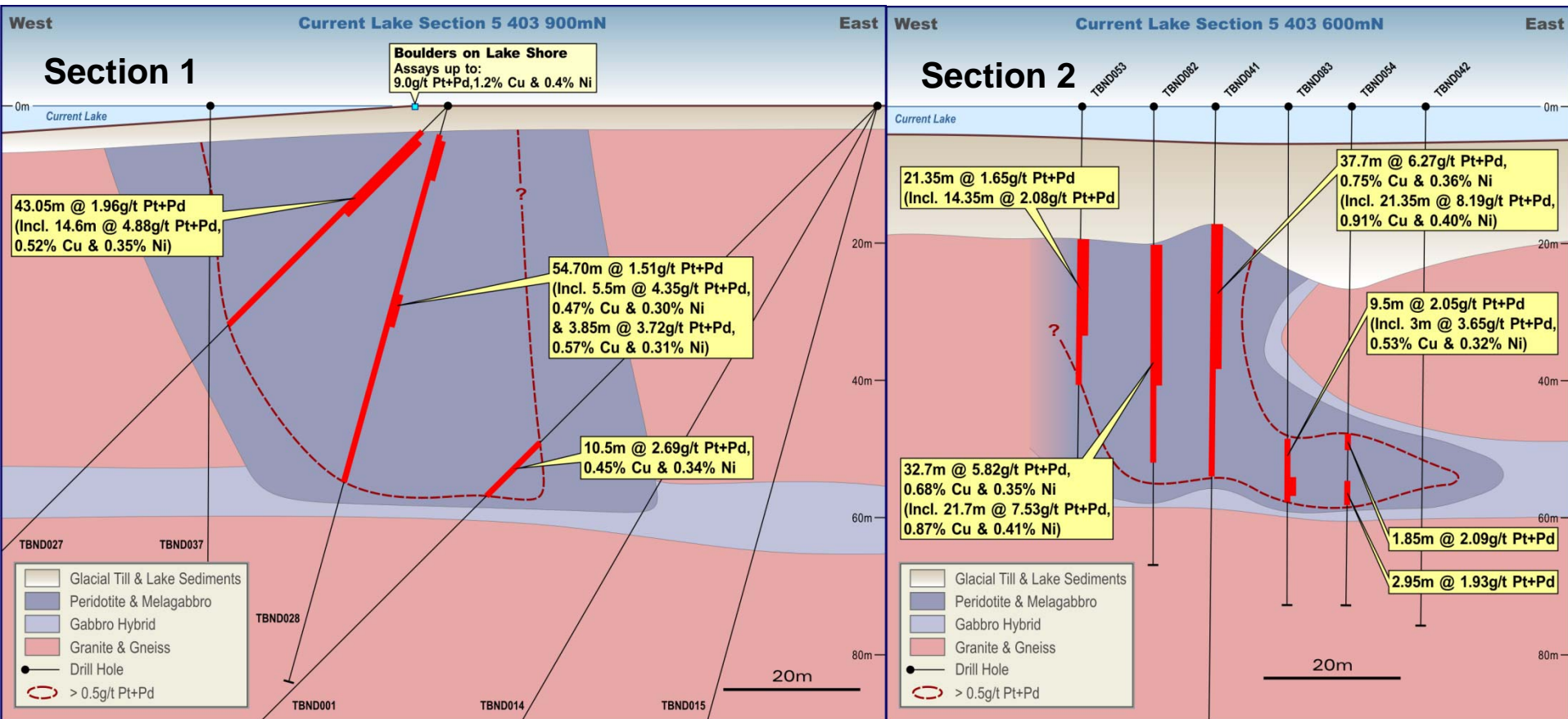


# Current Lake Area Magnetics & Drilling

- Tube-like body of peridotite about 1.8km long
- Drilling on 50m x 10m pattern from a barge (summer) and the ice (winter) – in progress
- Several high-grade zones identified
- Mineralisation is just beneath floor of Current Lake – mostly within 100m of the surface

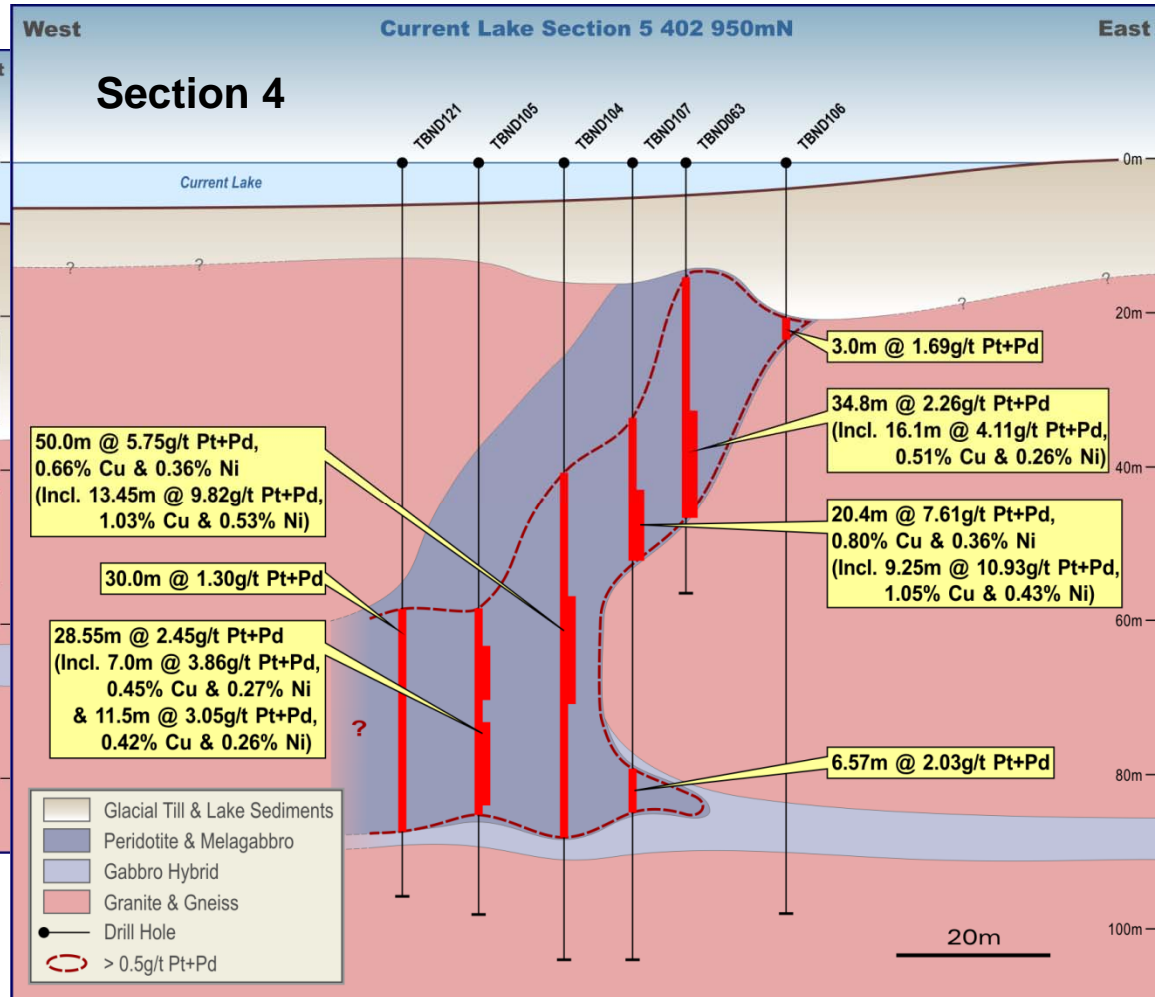
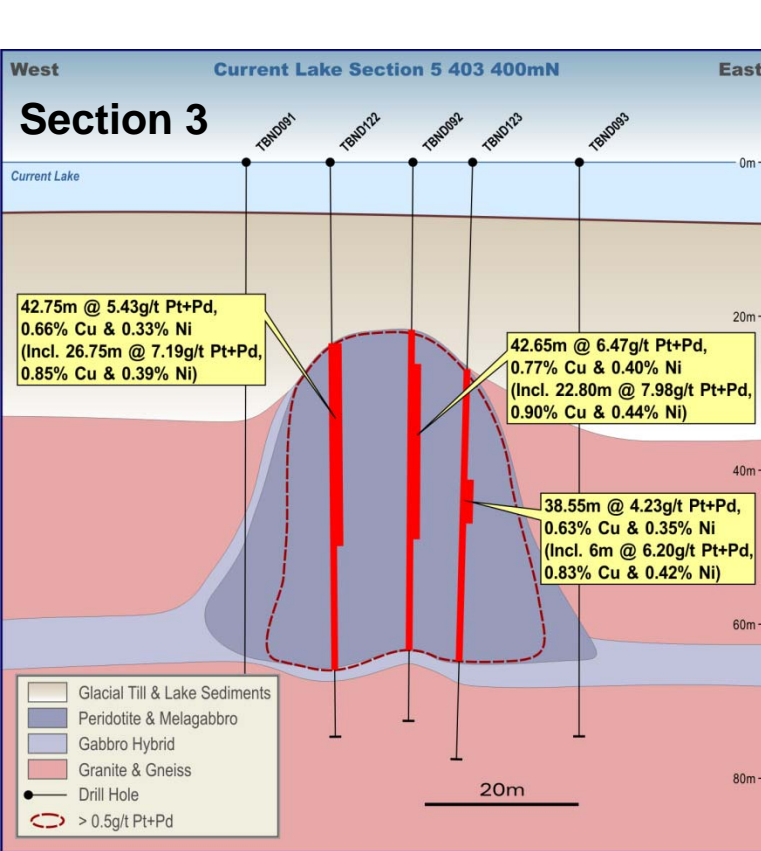


# Current Lake Cross-Sections 1 & 2

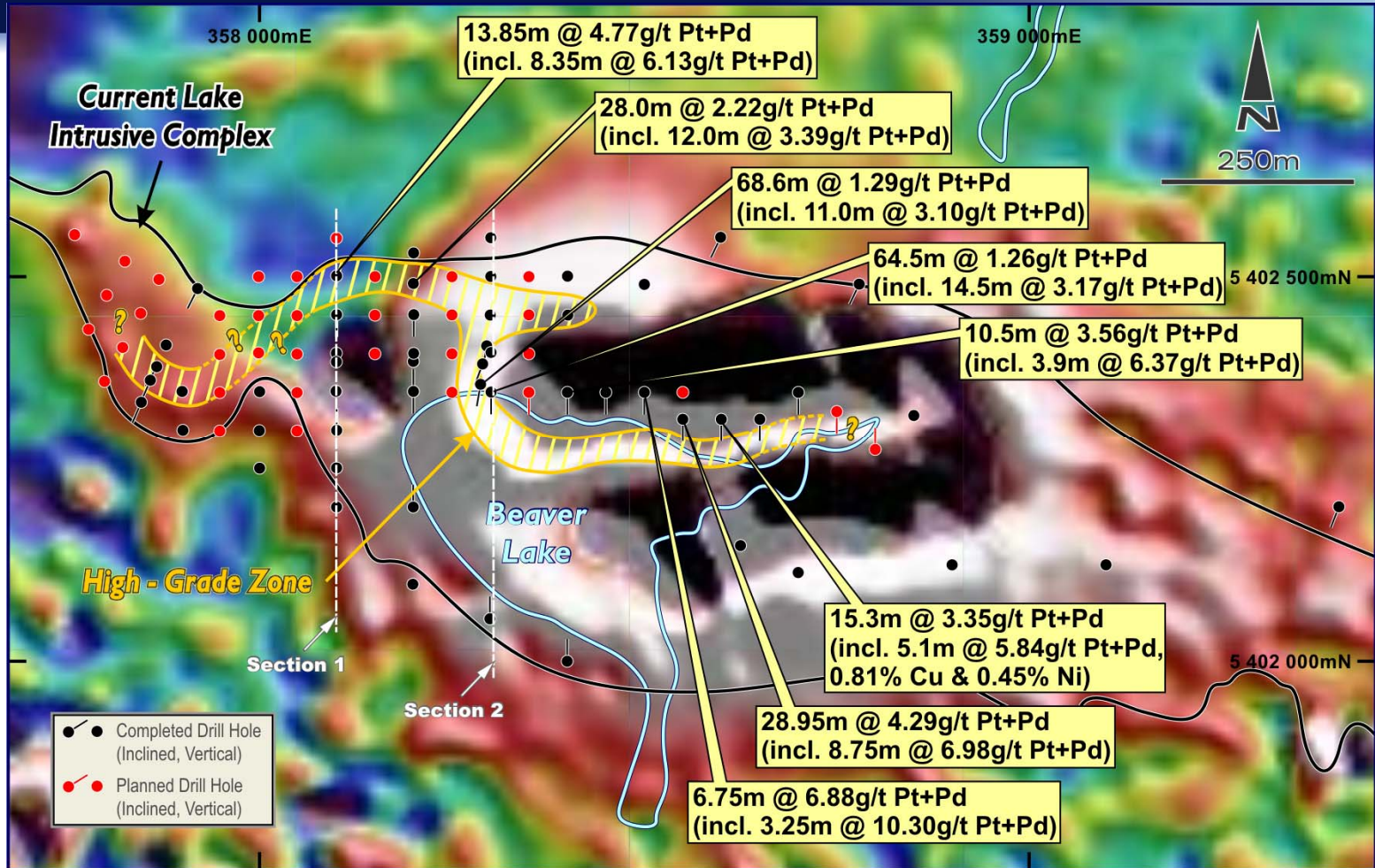




# Current Lake Cross-Sections 3 & 4



# Beaver Lake Area - Magnetics & Drilling

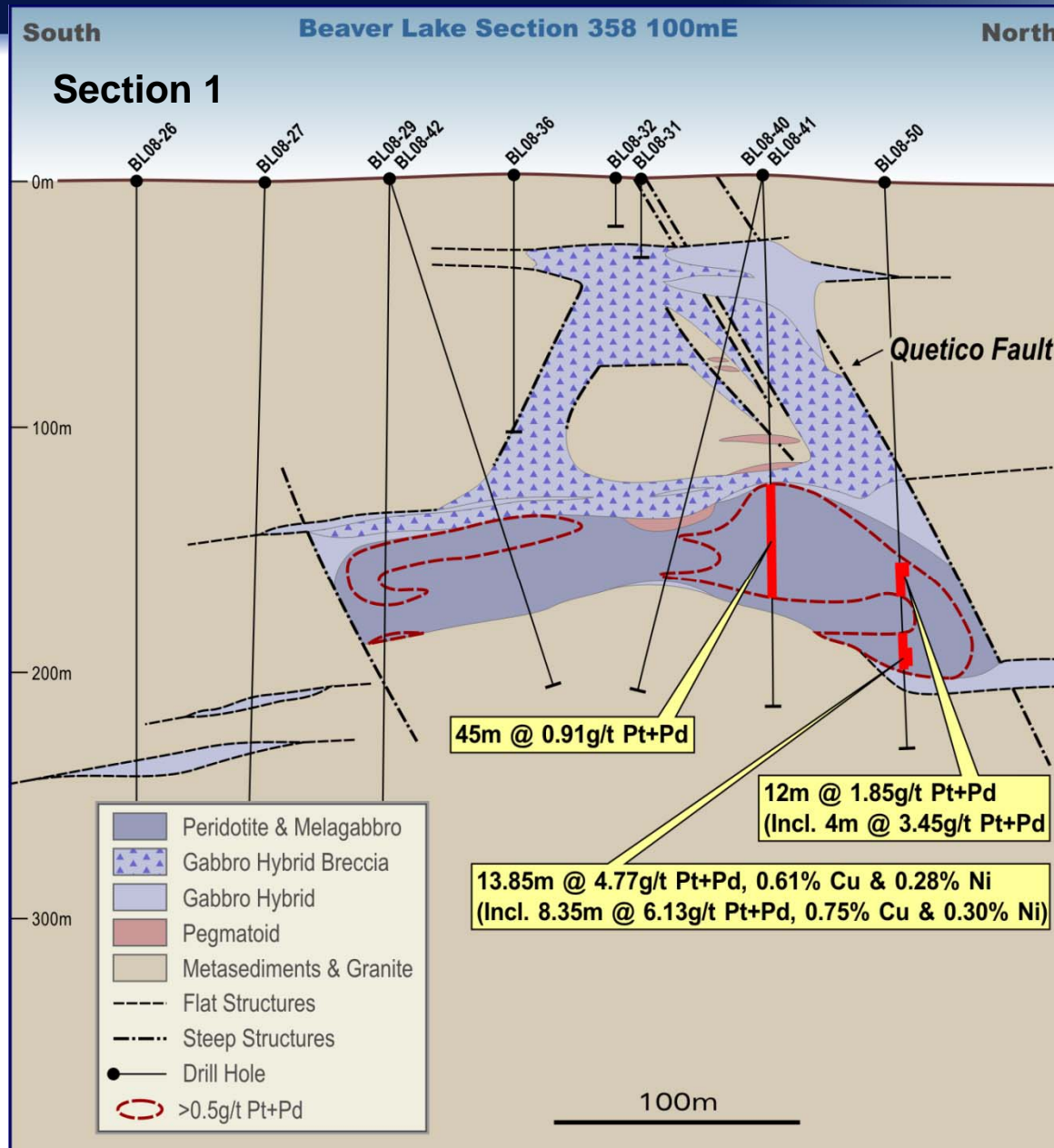


- Large flattened pipe-like peridotite-melagabbro body
- Drilling on 50m x 25-50m pattern has identified a sinuous high-grade zone at least 1km long near the basal contact



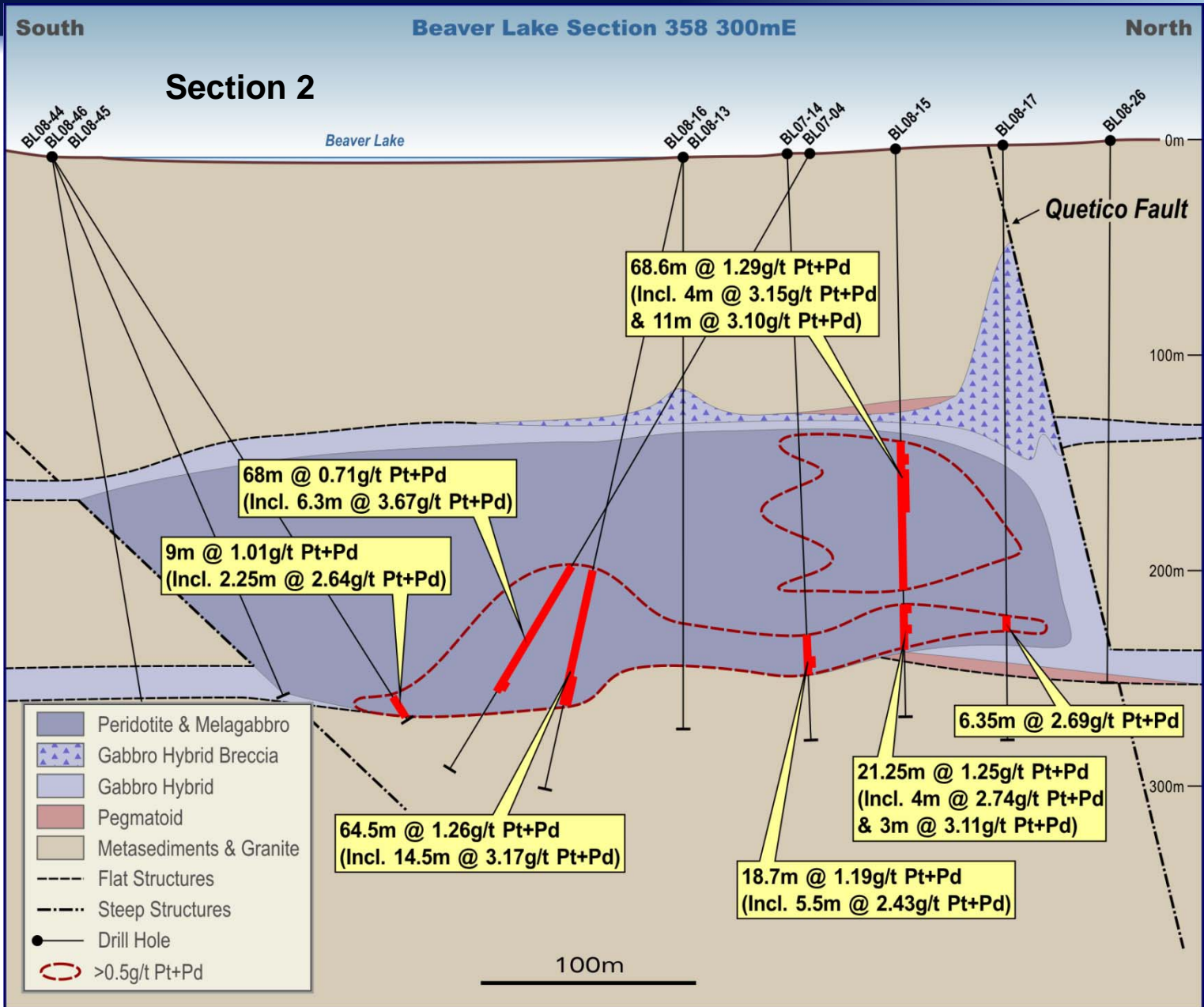


# Beaver Lake Cross-Section 1





# Beaver Lake Cross-Section 2





# Country Rocks



**Quetico Granitoids (North)**



**Quetico Schist & Gneiss (South)**

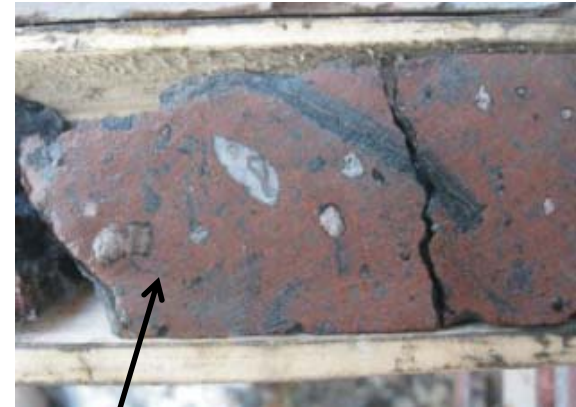




# Early Intrusions



The earliest intrusive in the Complex is a red-white granite pegmatite



Various gabbro hybrids intrude flat and steep structures in the second phase



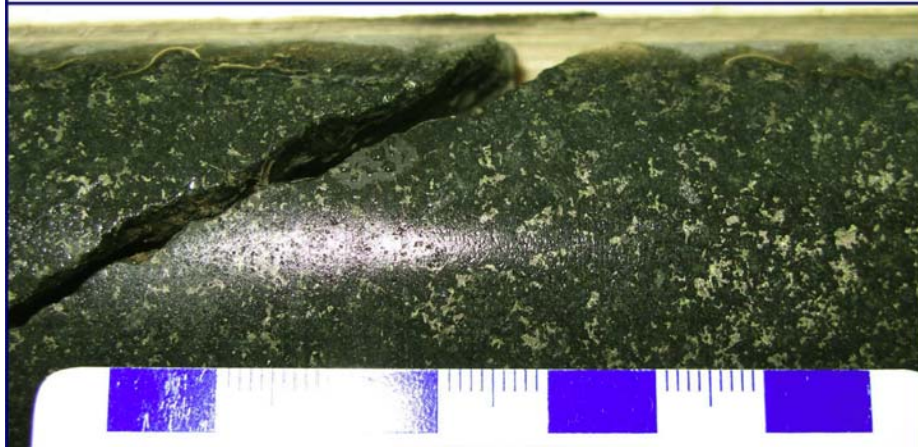
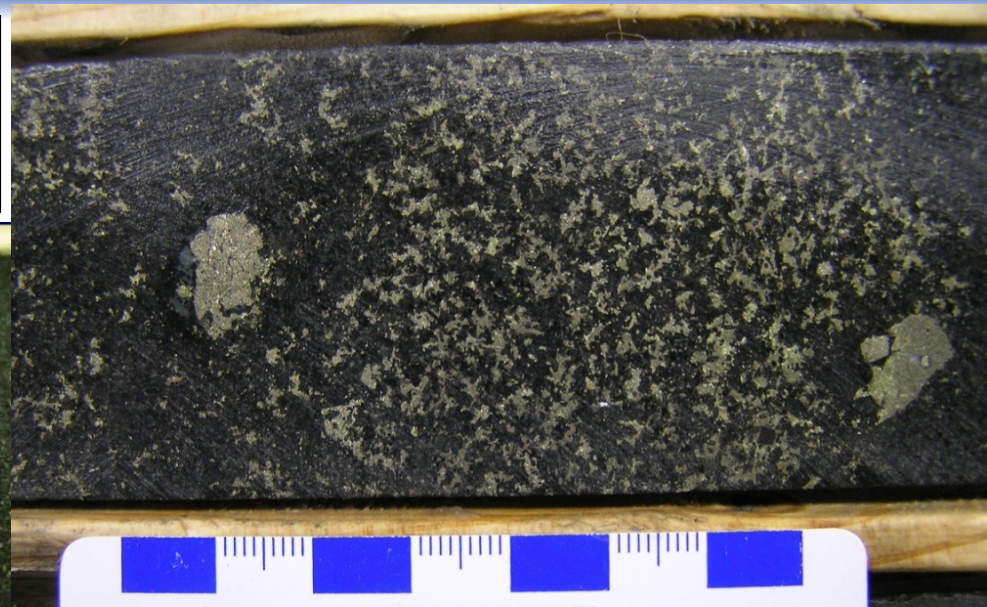


# Late Mineralized Intrusions

Several pulses of sulphide-rich Peridotite-Melagabbro magma



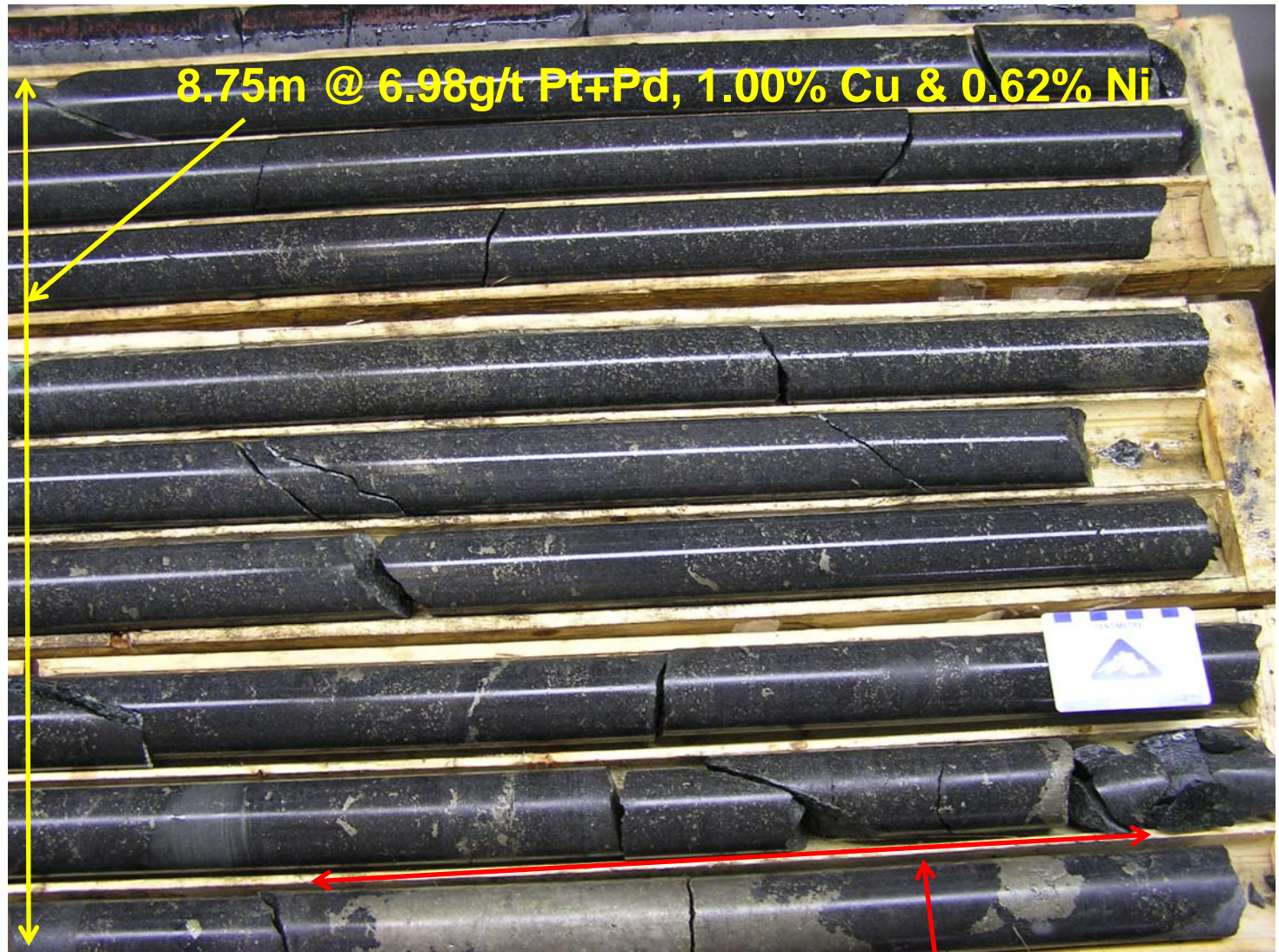
CENTIMETRE







# Beaver Lake Drill Core (BL08-61)



8.75m @ 6.98g/t Pt+Pd, 1.00% Cu & 0.62% Ni

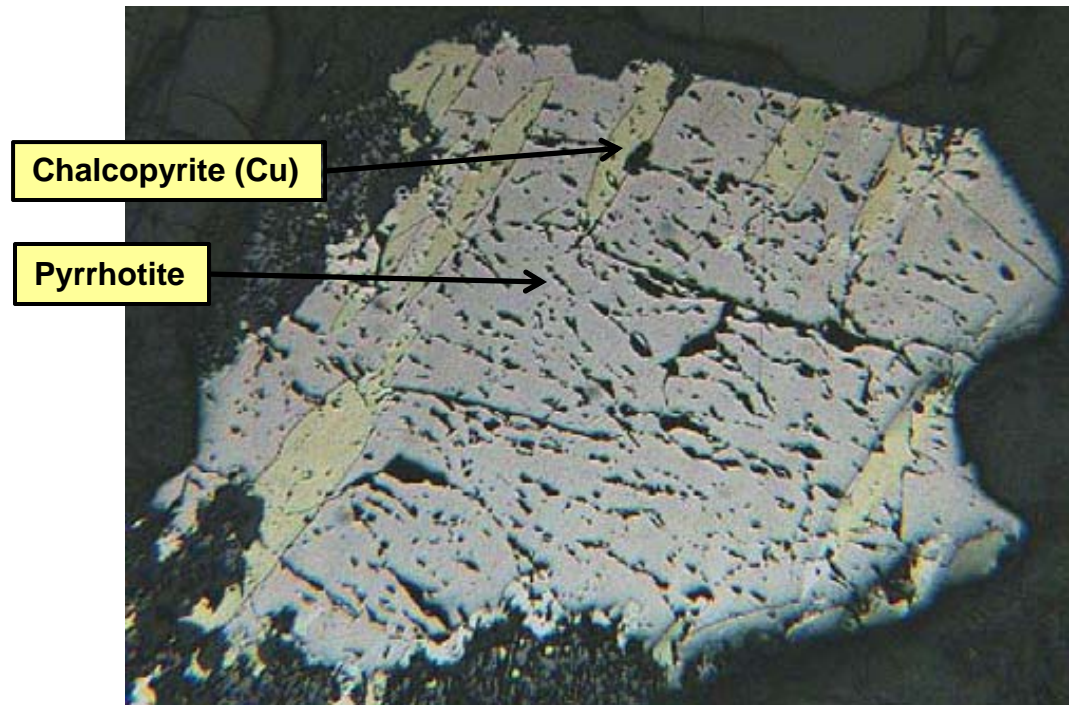
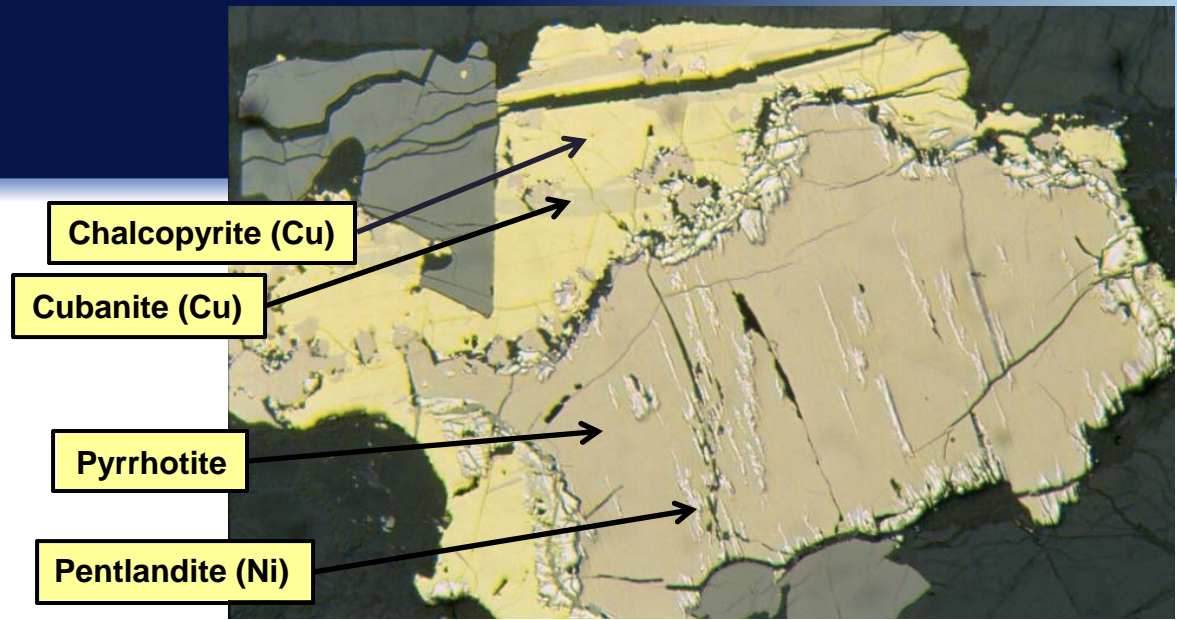
0.4m @ 24.55g/t Pt+Pd, 3.7% Cu & 2.9% Ni





# Sulphides

- Sulphides are coarse-grained composite grains
- Preliminary Quemscan work indicates
  - Moncheite ( $\text{PtTe}_2$ )
  - Michenerite ( $\text{PdBiTe}$ )
  - Platarsite ( $\text{PtAsS}$ )are the most abundant PGM phases in an East Shore Boulder sample.
- Chalcopyrite carries most of the copper.



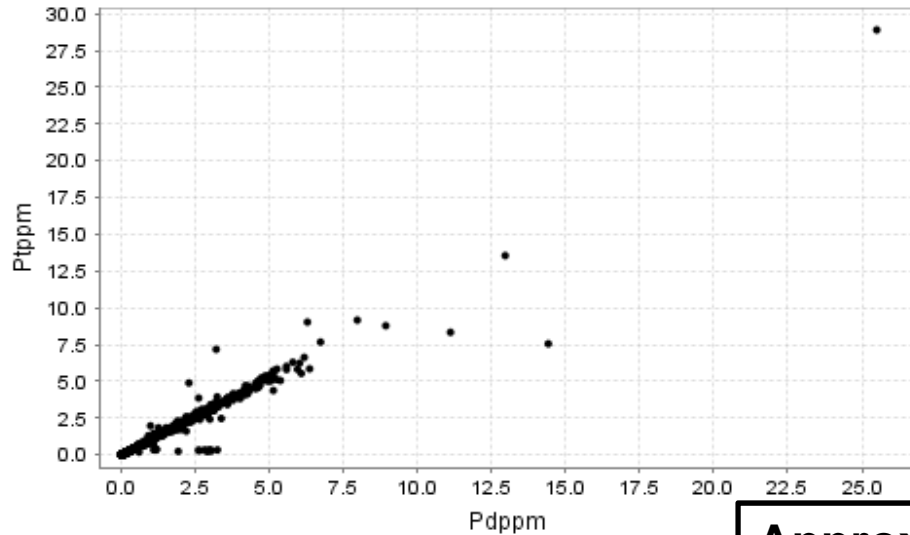
2mm approx



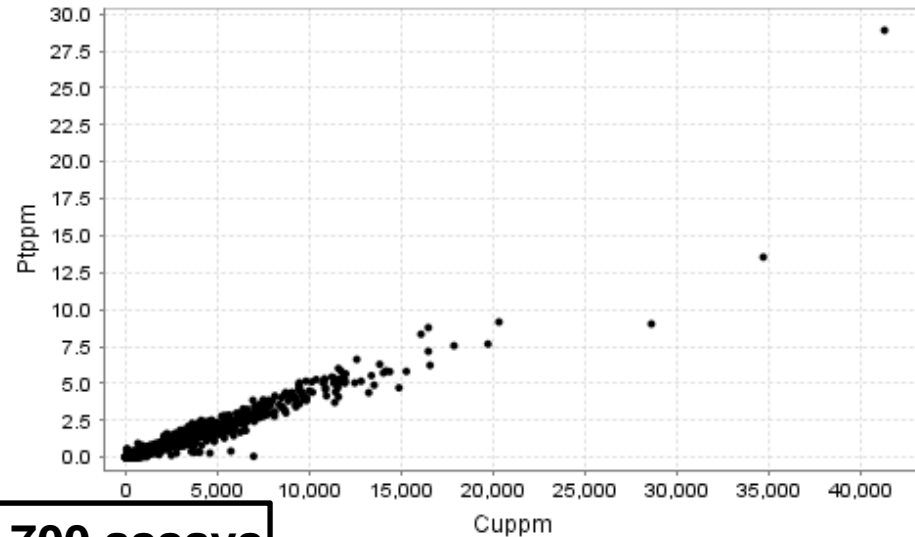


# Metal Geochemistry

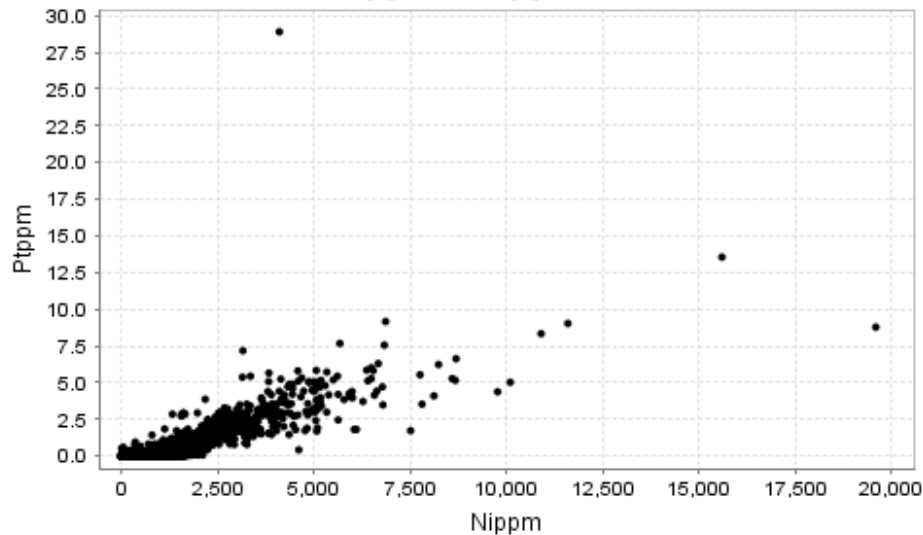
**Pdppm : Ptppm**



**Cuppm : Ptppm**

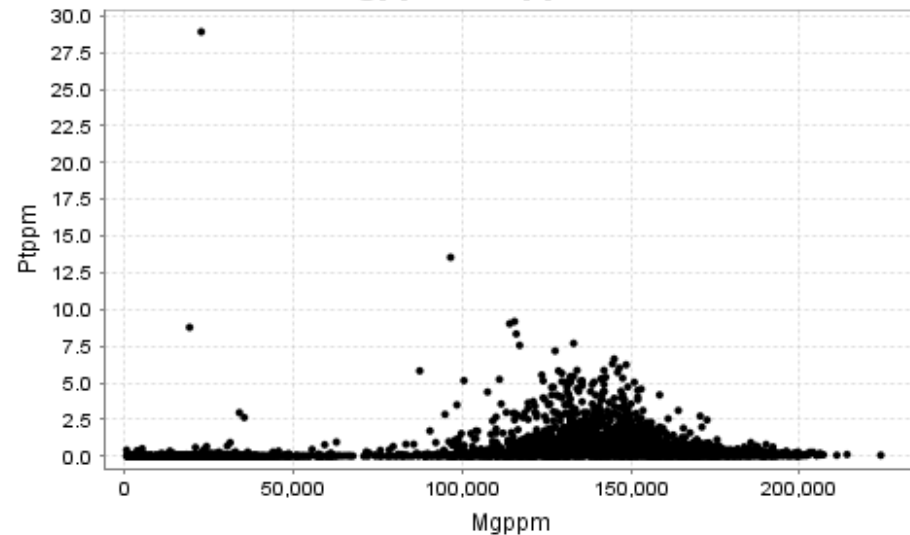


**Nippm : Ptppm**



**Approx 5,700 assays**

**Mgppm : Ptppm**



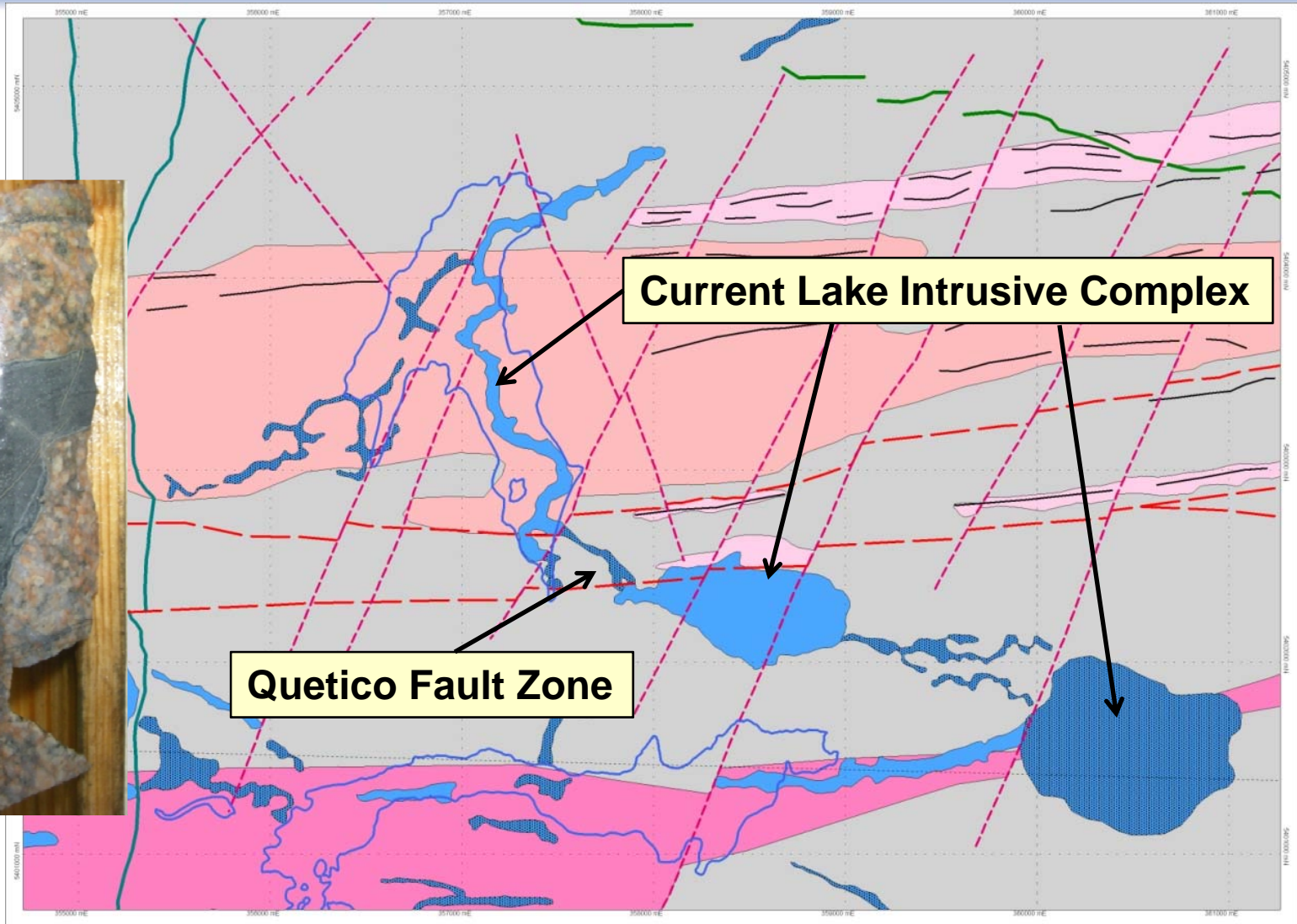


# Petrochemistry

- Parent magma had a tholeiitic (~6% MgO) composition
- High background levels of metals & strong Pt-Pd-Cu-Ni correlation – pristine magmatic sulphide system with little alteration/re-distribution
- Evidence for homogenized crustal contamination in addition to localized marginal contamination
- Pt, Pd, Au & Cu are enriched relative to Fe, Mg, Cr, Ni & Co – is this due to fractionation of olivine and chromite or fractionation of Ni-rich sulphides or both?
- Sulphide tenors: 3-4% Ni, 6-8% Cu, 24-38g/t Pt & 22-37g/t Pd



# Structural Controls

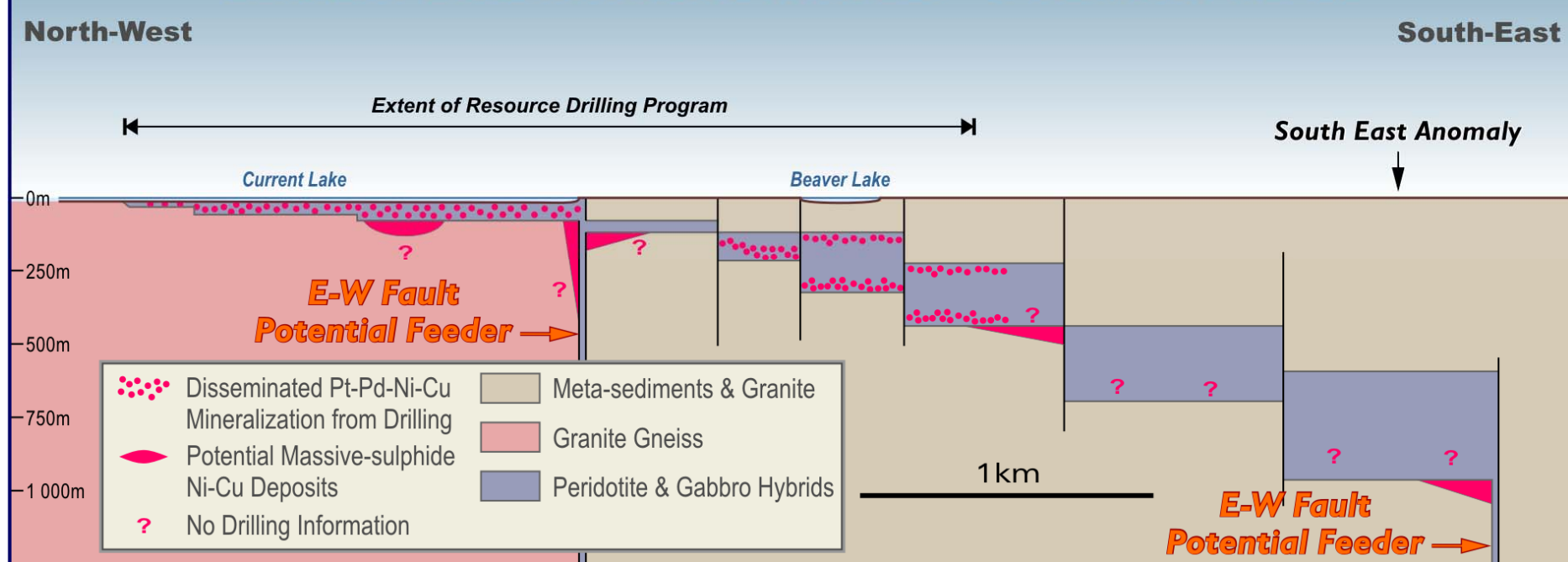


**Strong structural controls to the intrusive complex at all scales**

# Magma-Conduit Exploration Model



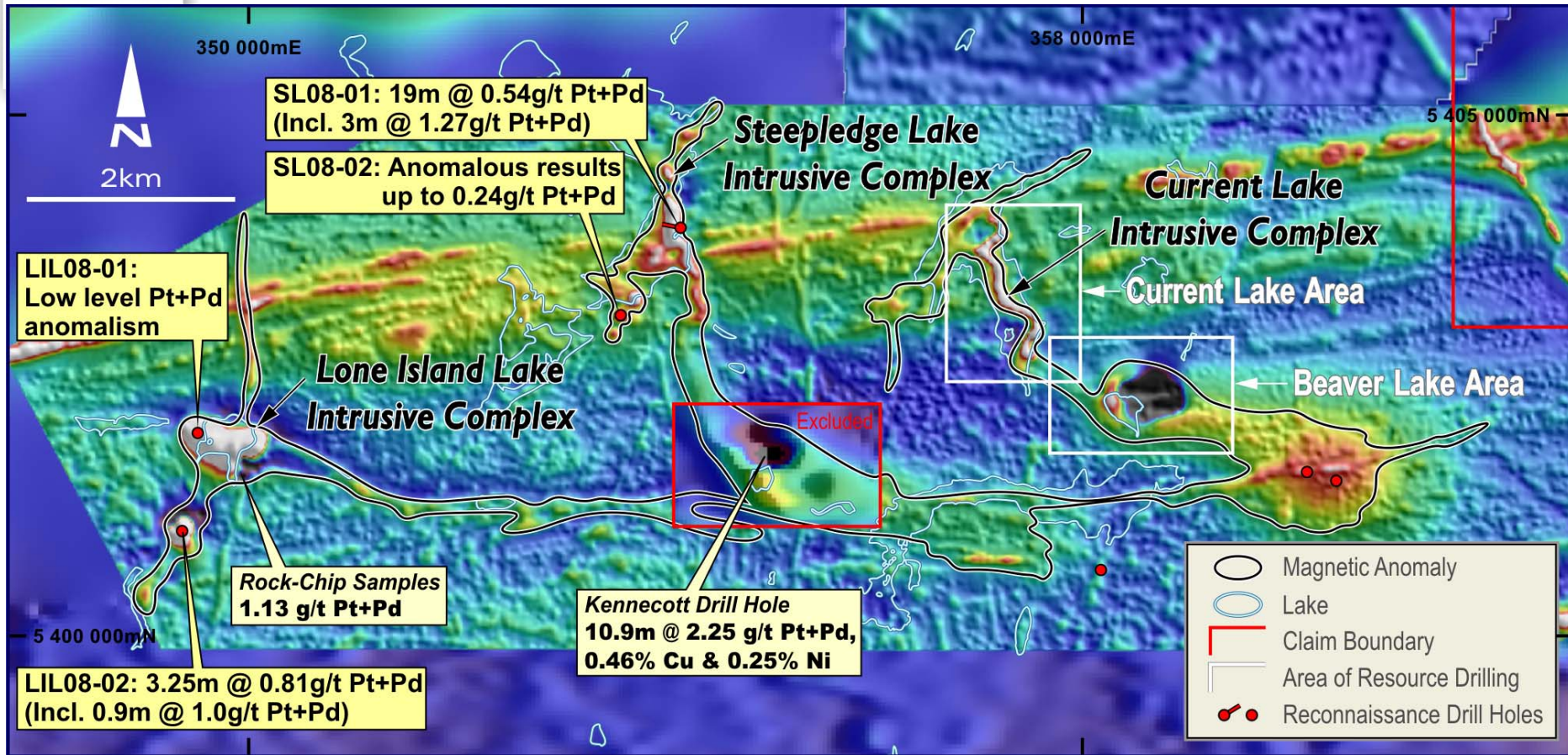
## CURRENT LAKE INTRUSIVE COMPLEX - SCHEMATIC MODEL



- Geological environment highly favourable for large disseminated and massive sulphide Ni-Cu-PGM deposits
- Analogies are the Voisey's Bay Ni-Cu deposit in Canada & the giant Noril'sk-Talnakh Ni-Cu-Pt-Pd deposits in Russia

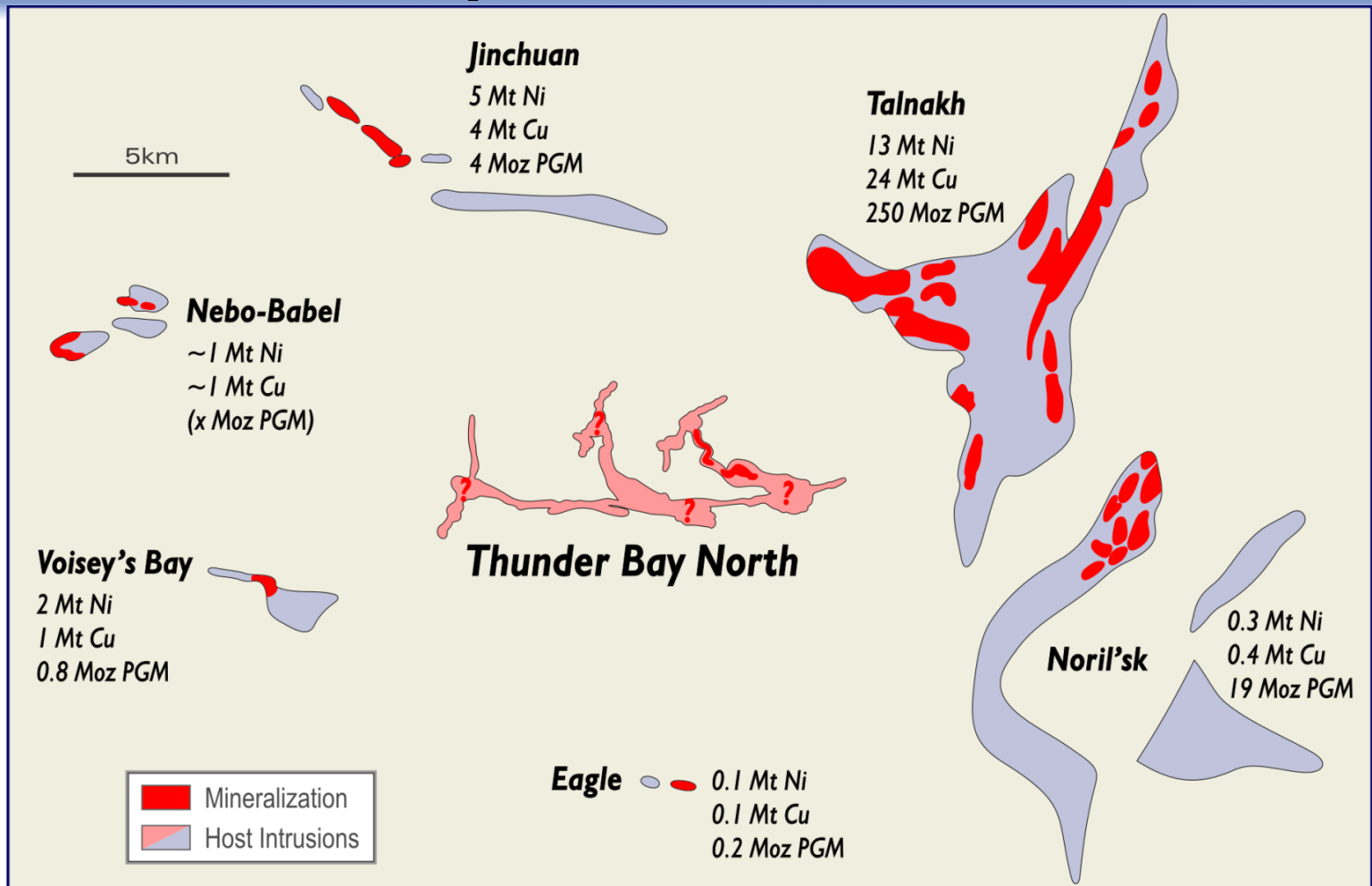


# Potential for Large Scale System



- Current Lake Complex is part of a larger network of magma-conduits
- Reconnaissance drilling returned encouraging results
- Significant resource potential

# Footprints of Large Magma Conduit Hosted Ni-Cu-PGM Deposits













- Shapes illustrate relative sizes of magma-conduit intrusions that host “world class” Ni-Cu-PGM ore-bodies
- The ore-bodies are generally much smaller than the host intrusions



# Program to September Quarter 2009

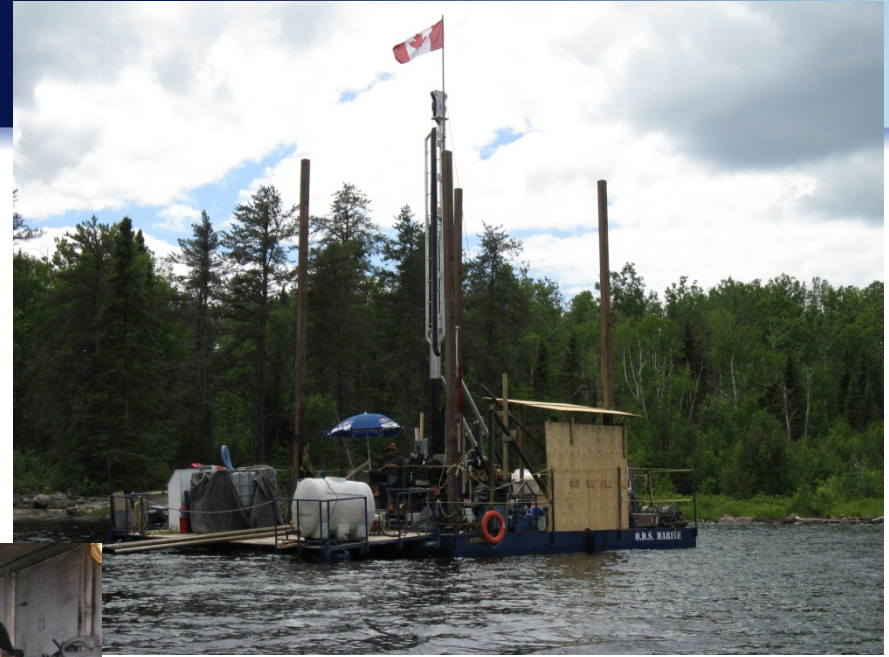


Work Program	March Quarter 2008	June Quarter 2009	Sept Quarter 2009
Resource Drilling (15,000m)			
NI43-101/JORC Resource Estimation			
Prelim. Metallurgy			
Mining Concepts			
Geophysics: EM Surveys			
Environmental & Hydrology Studies			

- **SRK Consulting (Toronto):** Resource Drilling & Estimation, Metallurgy & Mining Concepts
- **Southern Geoscience Consultants (Perth):** Geophysics
- **DST Consulting Engineers (Thunder Bay):** Environmental & Hydrology Studies, Geotechnical Studies (Cofferdam) & Permitting Program



# Drilling at TBN





# Conclusions



- **Potentially large greenfields Platinum – Palladium discovery in the Mid-Continent Rift region**
- **Significant base metals credits with potential for Nickel – Copper massive-sulphide ore-bodies**
- **Magma Conduit Geology related to Mid-Continent Rift magmatism**
- **Initial discovery from boulders and outcrop at Current Lake an hours drive from Thunder Bay**
- **Initial resource estimates September Quarter 2009**
- **It's still early days in understanding what we have at Thunder Bay North!**