

Footwall – Mineral Exploration

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Title - Footwall/Offset Geological Studies in the Sudbury Basin (“Footwall”)

Purpose - The Footwall Strategic Research Project (SRP) is focused on developing a greater understanding of the Footwall /Offset geology of the Sudbury Igneous Complex thereby enhancing future opportunities for exploration success.

Context – In recent years, mining company exploration within the Sudbury Basin has been successful in making discoveries of new high grade nickel-copper-PGM-rich mineralization. The value of these ores on a per tonne basis are high and thus additional further refined and sophisticated exploration methods to help identify others are warranted.

Although the majority of Sudbury’s past production is from mines which occur in the co called “Contact environment” some also occur in the “Offset or Footwall environment”, that is, in the rocks immediately below and in juxtaposition to the contact-hosted ores. NSR values in excess of \$1000/t are not uncommon in footwall deposits, making them significantly more valuable than contact ores. Vale Inco’s Totten Mine is an example of an Offset-hosted new mine and Xstrata Nickel’s new Nickel Rim South Mine is a recent example of one located in both contact and footwall rocks. The Footwall project is focused on more thoroughly understanding the geology of these types of ore deposits to optimize future exploration efforts.

Objectives

1. Conduct detailed geological studies of footwall and offset rocks in Sudbury and better understand how to optimize our chances of exploration success in the future.
2. Promote HQP development

Project Listings:

1. Detailed petrologic and geochemical studies of Offset rocks
2. Detailed petrologic and geochemical and partial melting studies of South Range rocks (in prep)
3. Detailed structural and metamorphic analysis of footwall rocks in the South Range

In addition, approval from NSERC for funding of a further two related projects is awaited:

4. Experimental studies of the role of Bi, Te, As in PGE fractionation and remobilization during sulfide liquid fractionation and during metamorphism and
5. The role of fluids in the modification and formation of Cu-Ni-PGE systems

The project is part of a four-year strategic program (SRP#1; see www.miningexcellence.ca) with a total of \$1M in funding in place.

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Industry Sponsorship

Further industry interest in this and other exploration-related projects is encouraged through sponsorship and collaboration.

- a) The current company and other program sponsors and solution team members are :
 - Vale Inco, Xstrata Nickel, Wallbridge Mining Company and FNX, with Ontario Government-leveraged funding.
 - The Mineral Exploration Research Centre (MERC) and the Department of Earth Sciences at Laurentian University.
- b) New program sponsors to the Mineral Exploration program can join as:
 - A single strategic research program (SRP) sponsor and contribute \$50,000 per year for 4 years. If the program is extended, new sponsors will be expected to contribute at a higher rate to buy into previous achievements (\$75,000/year). Program sponsors are also expected to make in-kind contributions by providing access to data and information and by designating an active program participant.
 - Multiple strategic research program sponsor and CEMI membership (as per bylaws) at \$100,000 per year for 4 years. CEMI Membership allows the member to participate in up to two SRPs and to assume technical advisory functions within CEMI's program management structure.

Benefits to Strategic Research Program (SRP) Sponsorship

- Free access to the all products of the research (e.g., handbook) for the duration of the project and for use at all of its operation (some confidentiality, IP or copyright rules may apply)
- Receive a final reports in electronic form (e.g., the online handbook) for free use within all their operations.
- Members have the ability to focus the research on sponsor specific sites, data and case studies.