6th Annual PRC Professional Workshop
October 6 - 13, 2013
Cu-Ni-PGE Deposits of the Lake Superior Region
PRELIMINARY SCHEDULE

Sunday, October 6th – Inn on Lake Superior
6-9PM Welcoming Reception/Workshop Overview

Monday, October 7th - Griggs Center – University of Minnesota
Short Course I: Attributes of Magmatic Sulfide Deposits
7:30-8 AM Van Transport from Downtown/Canal Park lodgings to UMD
8:00-8:45 Classification and Metallogenic Models
Tony Naldrett, Emeritus Professor of Economic Geology, University of Toronto
8:45-9:30 Mineralogy and Textures
Sarah-Jane Barnes, Professor, Canada Research Chair Magmatic Ore Deposits, University of Quebec Chicoutimi
9:30-10:15 Geochemistry
Ed Ripley, Professor, Indiana University, Bloomington
10:15-11:00 Geophysical Properties
Alan King, Geoscience North Ltd (Formerly with Vale)
11:00-11:45 Exploration Strategies
Dean Peterson, Senior VP of Exploration, Duluth Metals Ltd.
12:00-1:00 Lunch
1:15-2:00 Options for Mining
Vern Baker, President, Duluth Metals Ltd
2:00-2:45 Processing and Beneficiation of MSD ores
Louis Cabri, Cabri Consulting Inc., former scientist with Canada Centre for Mineral and Energy Technology (CANMET)
2:45-3:30 Mineral Economics
Rick Sandri, President, Vermilion Gold
3:30-4:15 Environmental Protection
Rens Verburg, Principal Geochemist, Golder Associates
4:30-5:00 Return participant to motels
5:30-6:00 Cocktail Reception
6:00-9:00 Evening Banquet - Inn on Lake Superior
Talks: Eagle Ni-Cu-PGE Deposit – Dean Rossell, Rio Tinto Exploration
Upper Michigan Cu Deposits – Ted Bornhorst, Orvana Minerals Corp.
**Tuesday, October 8th** - Field Trip #1: *Copper Deposits of Upper Michigan*

7:30 AM    *Bus departs Inn on Lake Superior*

10-12      Copperwood Cu-sulfide Deposit, Ironwood, MI - Orvana Minerals Corp.

1:30 -3     Caledonia Native Cu Mine, Ontonagon, MI, - Caledonia Mine

6:00 PM    *Overnight at Ramada Inn, Marquette, MI*

**Wednesday, October 9th** - Field Trip #2: *Ni-Cu-PGE Eagle Deposit*

7:30 AM    *Buses depart Radisson Inn, Marquette, Mi*

8:30-11     Bus A - Underground Tour of Eagle Ni-Cu-PGE Mine- Rio Tinto-Eagle

Bus B - Humboldt Processing Plant and Core Shack,- Rio Tinto-Eagle

12:30-3     Bus B - Underground Tour of Eagle Ni-Cu-PGE Mine- Rio Tinto-Eagle

Bus A - Humboldt Processing Plant and Core Shack,- Rio Tinto-Eagle

7:00 PM    *Return to Duluth*

**Thursday, October 10th** - Griggs Center – University of Minnesota

Short Course Lectures: *Cu-Ni-PGE Deposits in the Lake Superior Region*

7:30 -8AM   *Van Transport from Downtown/Canal Park lodgings to UMD*

8:00-8:45   Geology and Mineral Deposits related to the Midcontinent Rift

Jim Miller, University of Minnesota Duluth

8:45-9:15   Maturi/Birch Lake deposit, Duluth Complex

Dean Peterson, Duluth Metals Ltd.

9:15-9:45   Mesaba deposit, Duluth Complex

Mark Severson, Teck American

9:45-10:15  NorthMet deposit, Duluth Complex

Jim Tieberg, PolyMet

10:15-10:45 Potential for PGE reef deposits, Duluth Complex

Jim Miller, University of Minnesota Duluth

10:45-11:15 Great Lakes Nickel, Crystal Lake Gabbro

Mark Smyk, Ontario Geological Survey

11:15-12:00 Marathon Deposit, Coldwell Complex

David Good, Stillwater Canada

12:15-1:15  *Lunch*

1:30-2:00   Tamarack Ni-Cu-PGE deposit (Minnesota)

Dean Rossell, Rio Tinto-Kennecott Exploration

2:00-2:30   BIC (Upper Michigan)

Dan Foley, Rio Tinto-Kennecott Exploration
2:30-3:00  Thunder Bay North, Current Lake Intrusion (Ontario)  
  **Al MacTavish**, Panoramic Resources

3:00-3:30  Seagull Lake Intrusion (Ontario)  
  **Geoff Heggie**, Panoramic Resources

3:30-4:00  Rare Metal Mineralization in Carbonatitic and Alkaline Intrusions  
  **Shannon Zurevinski**, Ontario Geological Survey

4:00-4:30  Pd Mineralization in the Archean Lac des Iles Complex  
  **Dave Peck**, North American Palladium

4:30-5:00  New Frontiers for Ore Deposits in the Lake Superior Region  
  **Klaus Schulz**, US Geological Survey

5:15-5:30  Return participant to motels

6:00-6:45  Bus transport participants from Inn on Lake Superior to Tamarack

6:45-9:00  Picnic dinner /Rio Tinto core display of Tamarack Ni-Cu-PGE deposit

**Friday, October 11th - Field Trip #3: Duluth Complex Deposits**

7:45 AM  Bus departs Inn on Lake Superior

9:00-11:00  NorthMet (Polymet), Hoyt Lakes, MN

11:30-1:30  Mesaba (Teck American), Babbit, MN

2:00-4:00  Maturi (Twin Metals Minnesota), Ely, MN

5:30-7:00  Dinner in Tofte, MN

10:00 PM  Overnight at Airlane Travelodge, Thunder Bay, ON

**Saturday, October 12th - Field Trip #4: Northwestern Ontario PGE-Ni-Cu Deposits**

7:45-9:30  Bus to Lac des Iles

9:30-3:30  Lac des Iles Pd Mine (North American Palladium)

3:30-5:15  Bus returns to Airlane Travelodge, Thunder Bay

6:00-9:00  Banquet and Evening Core Display:

  - Thunder Bay North (Panoramic)
  - Seagull (MinFocus/Black Panther/Panoramic)
  - Marathon (Stillwater Canada)

  Overnight in Thunder Bay

**Sunday, October 13th - Field Trip #5: North Shore Geology (Thunder Bay – Duluth)**

8:00  Bus departs Airlane Travelodge

8:30-10  Thunder Intrusion, Thunder Bay

11:30-1  North Shore Volcanics, Sugarloaf, Lunch

1:30-2  Lake Superior Anorthosites, Silver Bay

3:30  Return to Duluth