

The logo features the text 'PDAC S-IMEW' in orange. 'PDAC' is in a smaller font above 'S-IMEW'. Below the text is the subtitle 'Student-Industry Mineral Exploration Workshop' in black. The background includes abstract geometric shapes: a grey triangle pointing up-left, a dark blue triangle pointing down-right, an orange polygon pointing down-right, and a large grey triangle pointing down-left.

PDAC
S-IMEW

Student-Industry Mineral Exploration Workshop



49 applicants from 9 provinces

25 selected, representing 8 provinces

Follow our journey on social media



facebook.com/PDACStudents



@PDAC_Students
@the_PDAC

MacBook Pro

S-IMEW 2019 Participants



Jordan Olivier-Lapierre
Graduate Geologist
Osisko Mining



Miguel Vaccaro
Acadia University



Francisco Amaya
Brock University



Christopher Sinclair
Carleton University



Juan Chavez Cabrera
Dalhousie University



Louis Sautelli
Lakehead University



Adrian Oberland
Laurentian University



Melissa Mills
Memorial University of Newfoundland



Shelby Austin-Fafard
Mount Royal University



Stephanie Walmsley
Queen's University



Sabrina Kormann
St. Mary's University



Gabrielle Jones
Simon Fraser University



Sean Freeborne
St. Francis Xavier University



Jérémie Langlois
Université du Québec
à Montréal



Gaëlle Saint-Louis
Université Laval

S-IMEW 2019 Participants



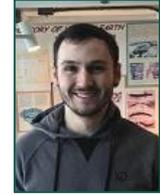
Emily Creaser
University of Alberta



Taylor Ledoux
University of British Columbia



Dominick Mallette
University of Calgary



Ryan Desjarlais
University of Manitoba



Liam Maw
University of Ottawa



Shelby Brandt
University of Regina



Joshua Spanier
University of Saskatchewan



Joy Carter
University of Toronto



Benjamin Eaton
University of Victoria



Grant Mitchell
University of Waterloo



Jolee Stewart
Western University

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Laura Ratcliffe (OGS) pointing out cross-bedding as a way up indicator.



Heading out to do some regional mapping with the Ontario Geological Survey!



Getting oriented - now where are we on this map!?

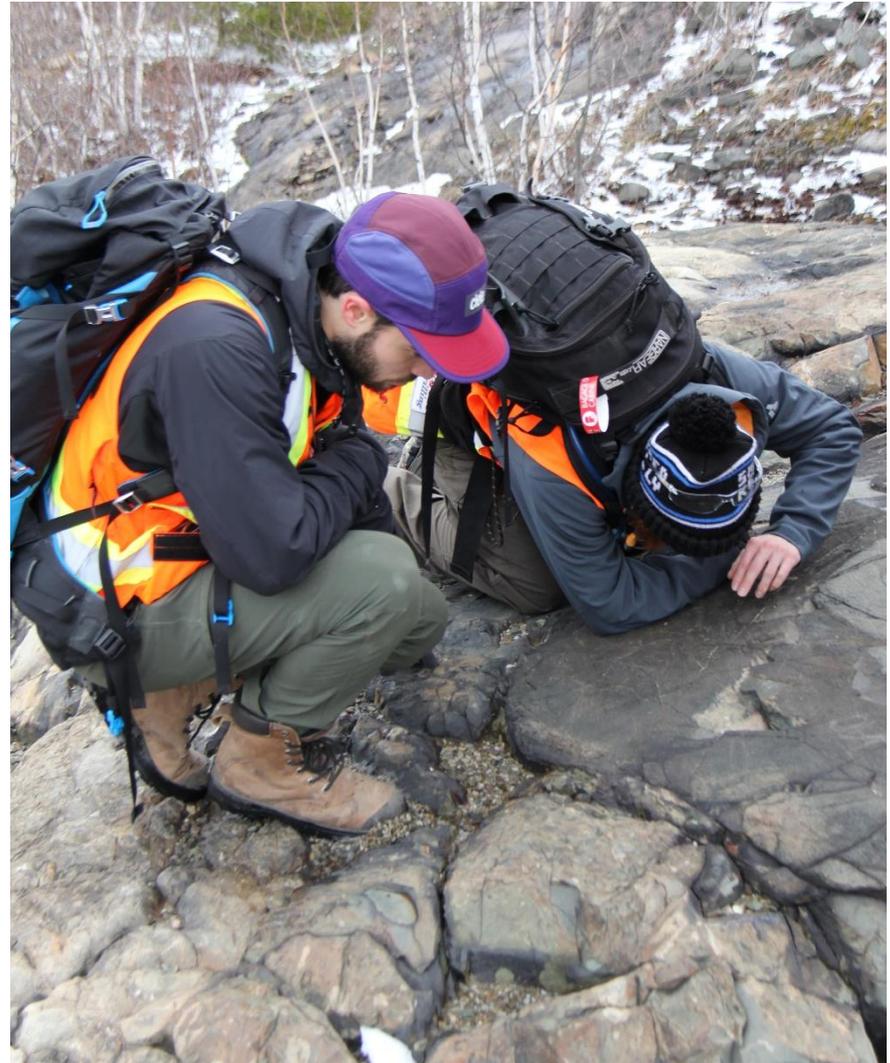
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TSX-V: **RZZ**



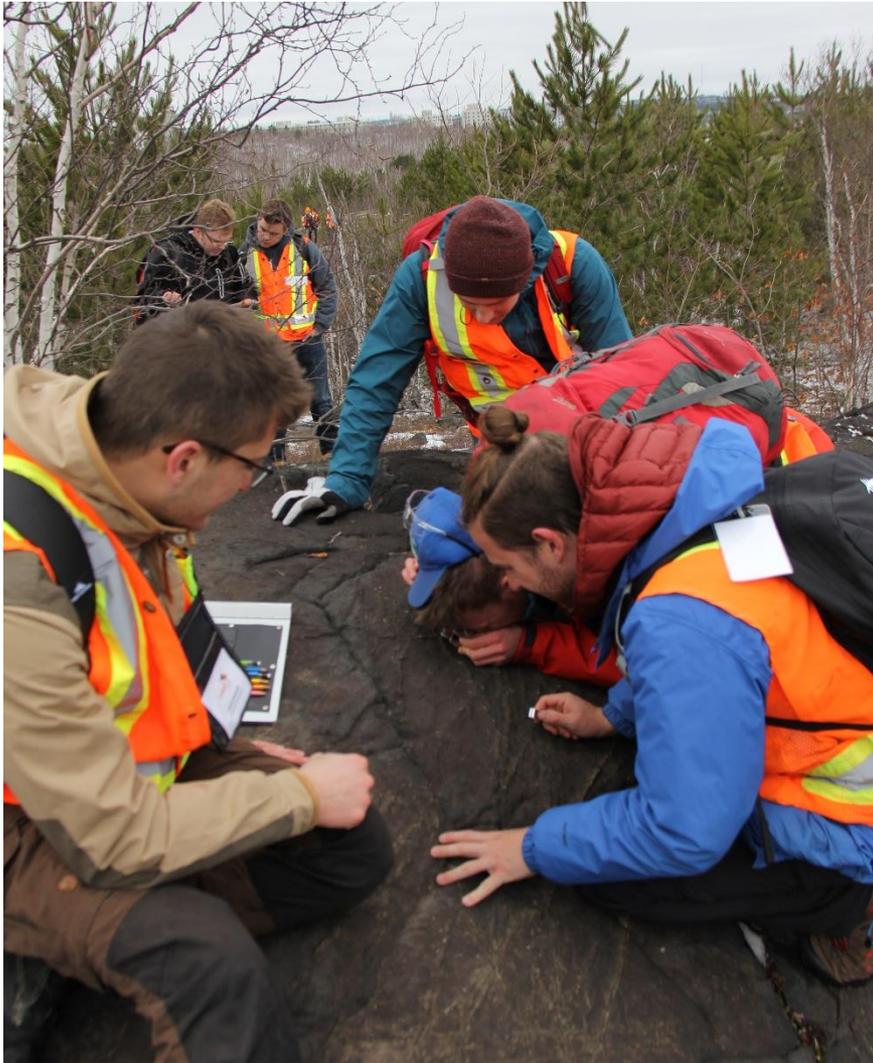
Shelby (MRU) placing himself on the map



Going in for a closer look



Laura Ratcliffe (OGS) and her group positioning themselves on the map.



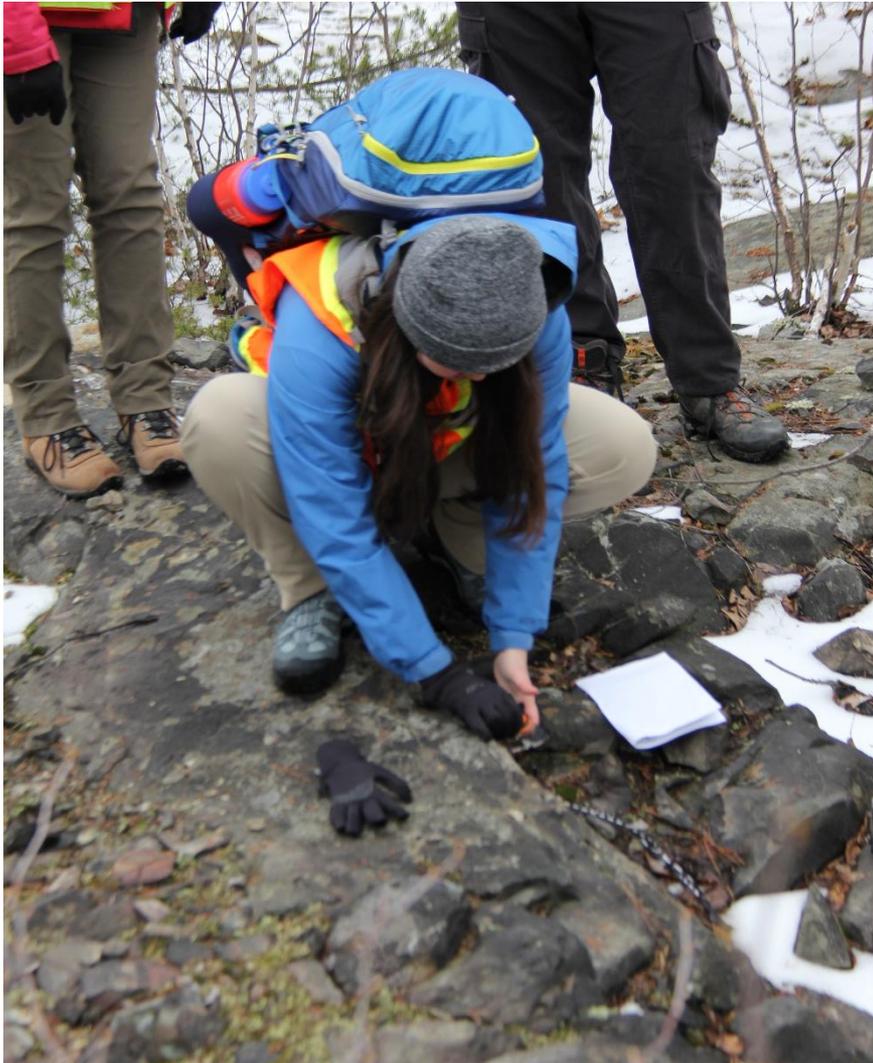
Adrian (LU) checking out the epidote veins.



Joy (UofT) and Joshua (UofS) finding their next waypoint.



Picturesque day in Sudbury.



Joy (UofT) getting that strike and dip.



Jolee (WesternU) and Francisco (Brock) learning how to use the mapping tablet.

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Another gabbro!



Joy (UofU) consulting her group: “does this make sense?”



Great map Shelby (UofR)!



Groups compiling mapping observations.



Melissa (MUN) and Stephanie (Queen's U) correlating outcrops.

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Miguel (Acadia U): “The clasts were THIS big”



Juan (Dalhousie U) and Shelby (Mount Royal U) in deep discussion about the map...



Coffee time!



Thanks, OGS!



Lisa McDonald (Executive Director, PDAC) talks about Canada's exploration industry



Lisa McDonald (PDAC) and Chris “The Beard” Sinclair (Carleton U)

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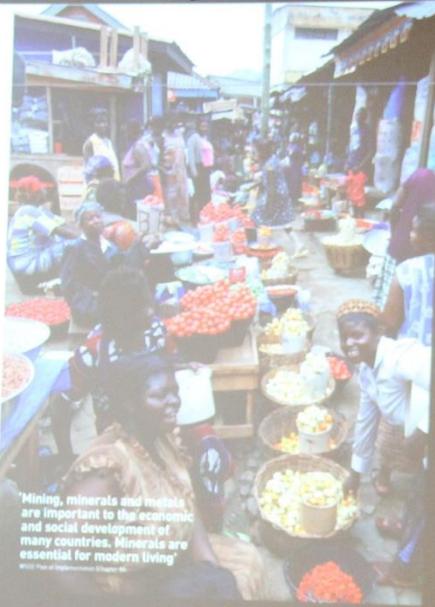
Cameron Clark (Primero) teaching students how to mine a mining network



How to sell yourself in 30 seconds

Why do we need Mining?

- For a quick buck?
 - Sunset industry of scam men
 - Avatar avarice
- For society?
 - Create new wealth
 - Essential for global infrastructure, despite better recycling
 - Raise living standard in emerging nations
 - Low carbon economy makes minerals more important



Tony Green giving an overview of his 30+ years in the mining industry



Karen Rees (Tahoe Canada) shares insight on careers in geosciences



Liam Maw (OttawaU) and Karen Rees (Tahoe Canada)



Craig Waldie (OSC) – What you need to know about NI 43-101



Andrea Waldie (Geoscientists Canada) informing students about professional registration



Jeff Killeen (PDAC) on capital markets

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Big Nickel!!!!



Looking sharp, guys!



Brian Buss educating the students on mining engineering

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John Korczak (Vale) sharing his wisdom



David Pearson (Laurentian U) and Andrea Waldie getting caught up



S-IMEW Co-Chairs Felix Lee and Karen Rees with keynote speaker Alan Coutts, Noront



Ryan (UofM) testing his mineralogy knowledge

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Teck

PDAC
Student-Industry
Mineral Exploration
Workshop
(S-IMEW) 2019



Karen Rees (Tahoe Canada) welcoming the group



NORTHERN BC AND YUKON TERRITORY

NORONT

Prospecting



Claim Staking



- An introduction to the business
- The value of being diverse

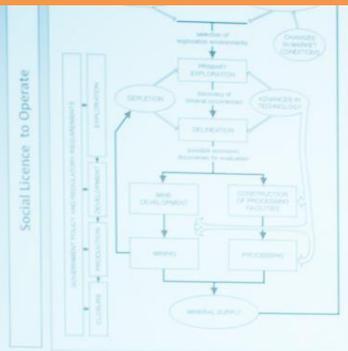
Alan Coutts (President & CEO, Noront Resources) sharing his journey



Sweden doesn't look that different from
Canada



“It's one thing to earn your opportunity, and it's another thing to see it and take it when it's staring you in the face ”



The Mineral Supply Process is a linear yet highly dynamic sequence of activities and expenditures characterized by periods of cyclicality.



You can't choose where the mine is! – Michael Doggett (El Olivar Imperial)

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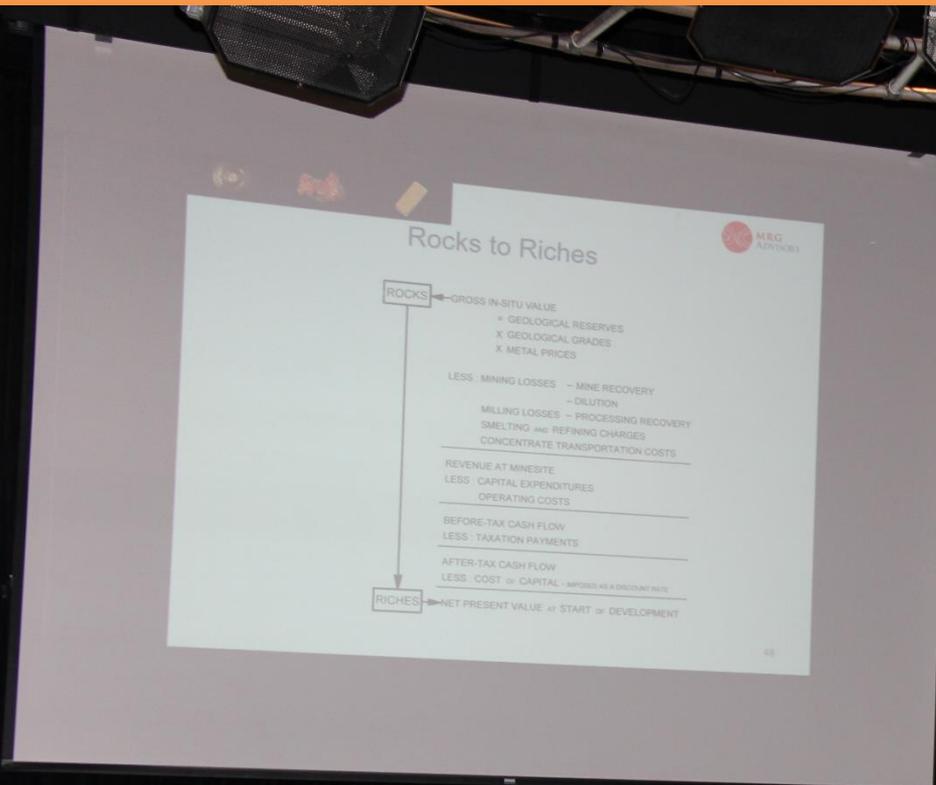
IAMGOLD



Mineralogy with Michael Doggett



Sabrina (SMU) is prepared!



Michael Durose (Mining Research Group) reviewing project evaluation



Brian Buss (BWB Consulting) talking about various mining methods

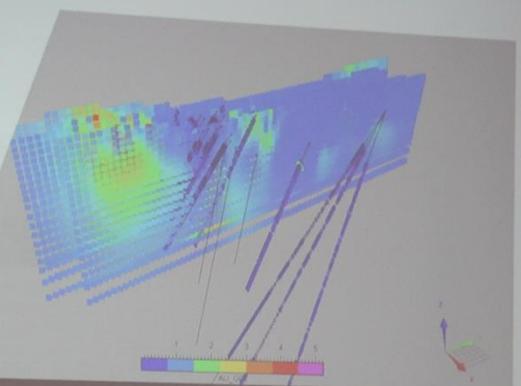


Julie Selway (Power Metals) explaining the importance of QA/QC

Software

Many options:

- Leapfrog
- Gocad
- Geosoft
- Geoscience Analyst
- etc.



**RONACHER
MCKENZIE
GEOSCIENCE**



Elisabeth Ronacher (Ronacher McKenzie Geoscience) discusses resource and 3D modelling



The lucky winners of new sledge hammers! Thanks Frank (Racicot Geological Consulting0!



Drake Hyden and Blake Mowbray (Laurentian U) describes their prospecting adventures in N.W.T. and Nova Scotia.



Thank you Blake and Drake for inspiring young geologists!



Sudbury Basin tour with Attila Pentek (Wallbridge Mining) and Grant Moure (Transition Metals)



Everyone loves a good shatter cone!



Looking for sulphides

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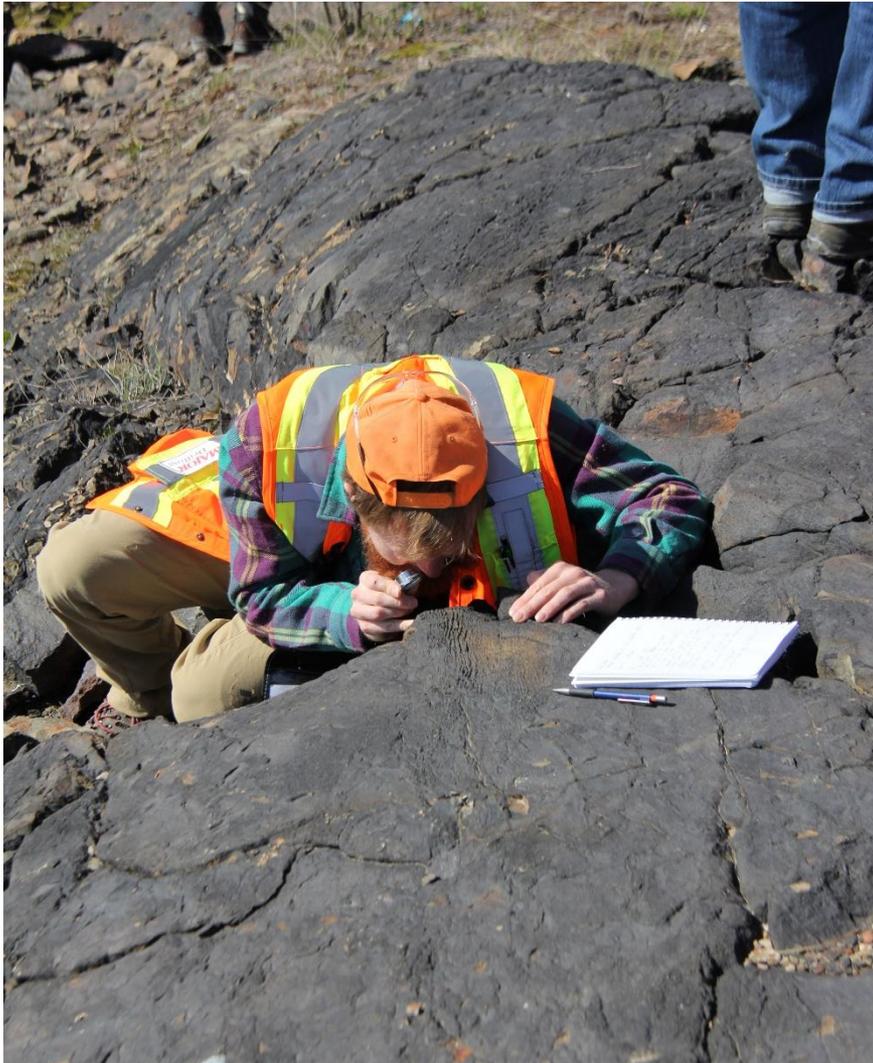
♪ I'm just a girl standing in front of a rock asking it to be mineralized ♪ – Jolee (Western)



Liam Maw (UOttawa) getting a close look at chalcopyrite



Attila Pentek (Wallbridge Mining) points out the Sudbury mines



Chris (Carleton) and Emily (UofA) checking out the textures



Dominick (UofC), Ryan (UofM), and Stephanie (Queens) found some slag

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The swarm of field vests



J r mie (UQAM) finding sulphides



Jolee (Western) checking out the sublayer norites



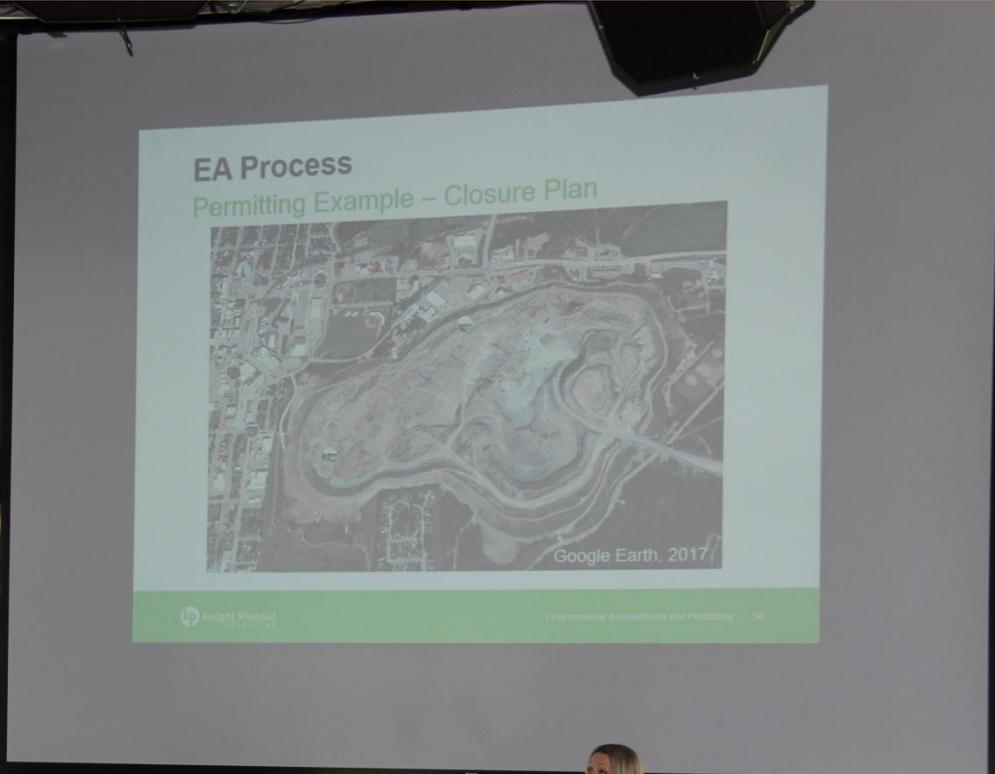
Insert geology pun here – Gaëlle (Laval), Jordan (Osisko), and Louis (Lakehead)



Geology photo shoot!



Onaping Falls group shot



Amber Blackwell (Knight Piésold Consulting) talks about Environmental Assessments

Advanced Materials Inc
com



Bill Mercer (Avalon Advanced Materials) speaks about health and safety in our industry



Stephanie (Queens U) thanks Sabrina for her insightful talk

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Sudbury's environmental history and reflections on the far north of Ontario's environmental future

S-IMEW 2019
David Pearson
Laurentian University
5 May, 2019

dpearson@laurentian.ca

OSISKO
S-IMEW
Sudbury Basin, Environment & Sustainability
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David Pearson explains climate change from a geologists perspective



Kevin Slemko (Major Drilling) tells us what drillers really think of us



Explaining what all the different bits can do

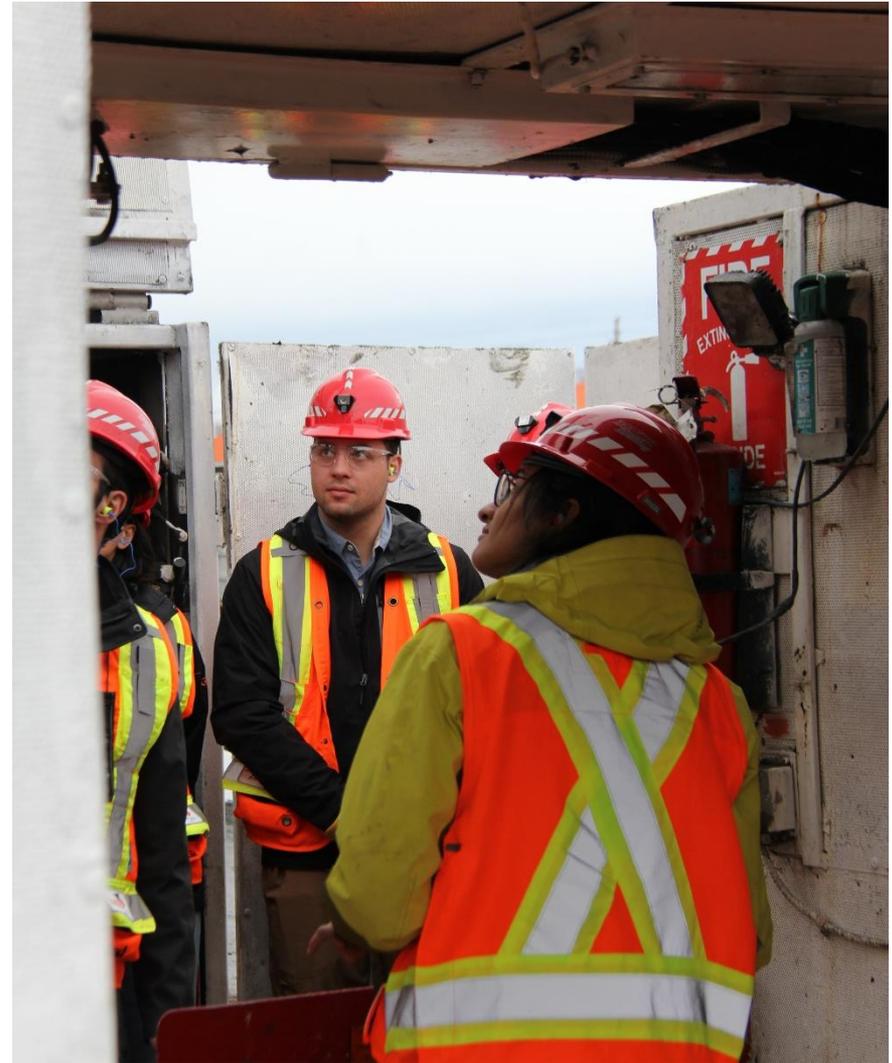


The new driller on site – Emily (UofA)

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Melissa (MUN) and Gaëlle (Laval) playing with the drill



Students learn how a RC drill operates



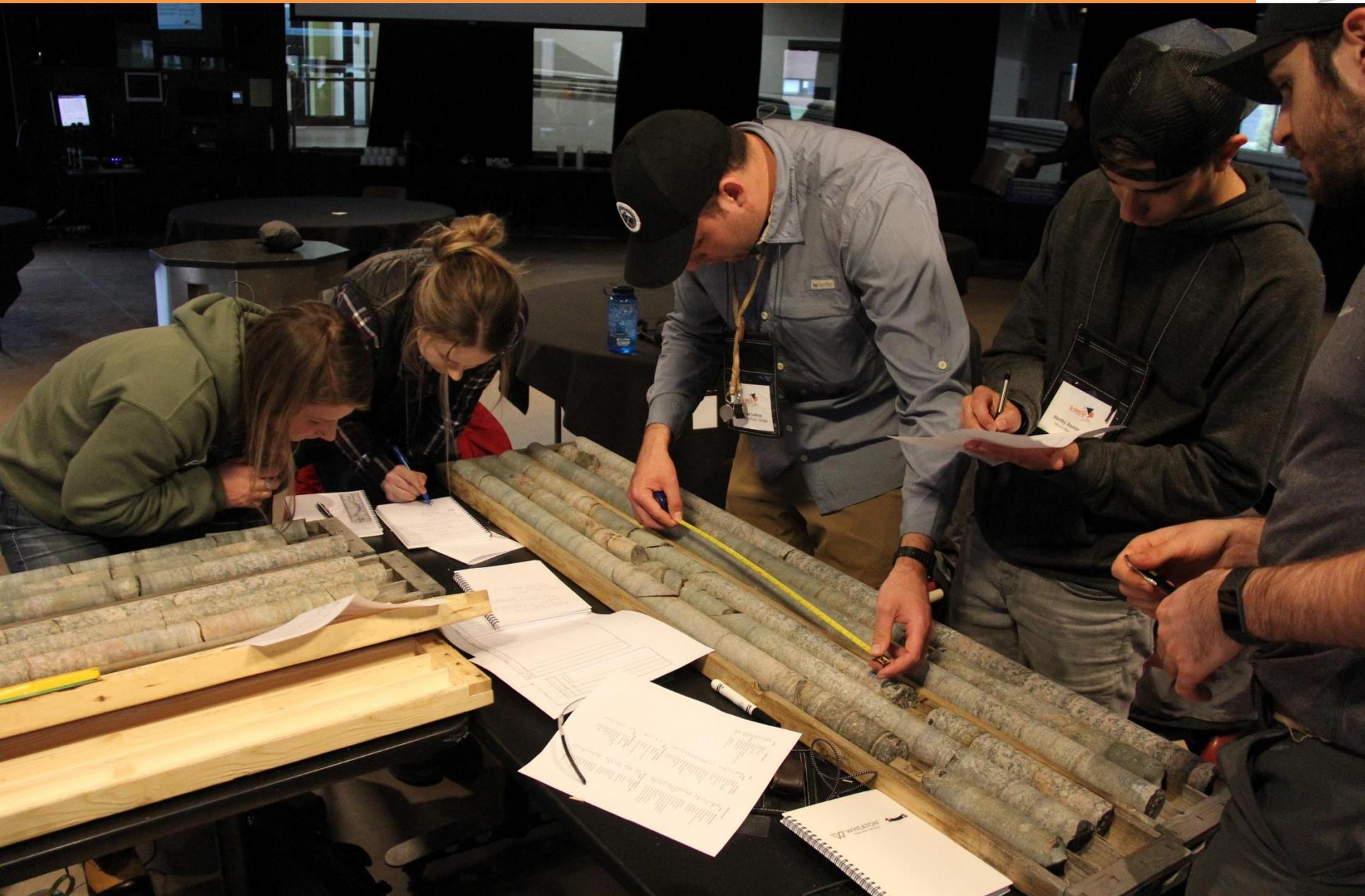
Thanks for hosting us, Major Drilling!



Students learning the in's and out's of core logging with Ian Trinder, CSA Global



Louis (Lakehead U) and Jordan (Osisko Mining) make sure all the core is accounted for



Taylor (UBC) does all the work while the others take notes



Josh (UofS) making sure the boxes are in the right order



Start measuring!

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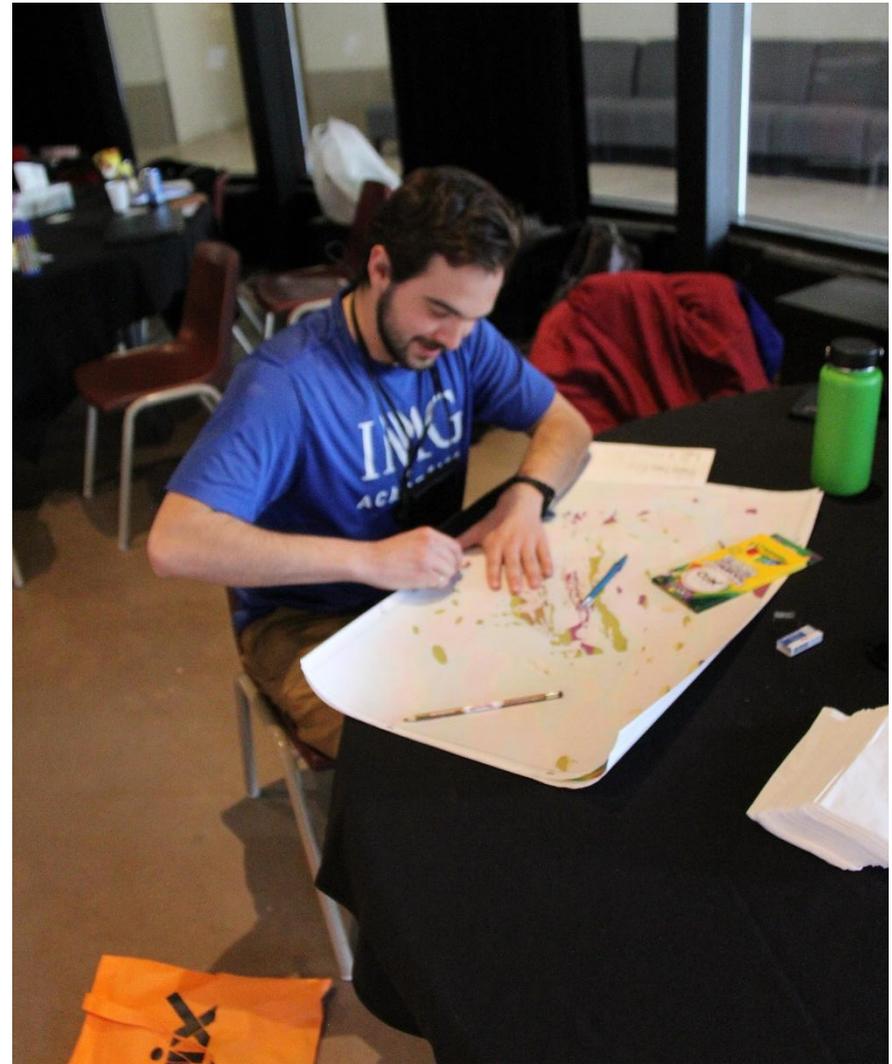




Jillian (IAMGOLD) shows the students how to measure orientated core



Shastri Ramnath helps Jérémie (UQAM) find errors in an old data set

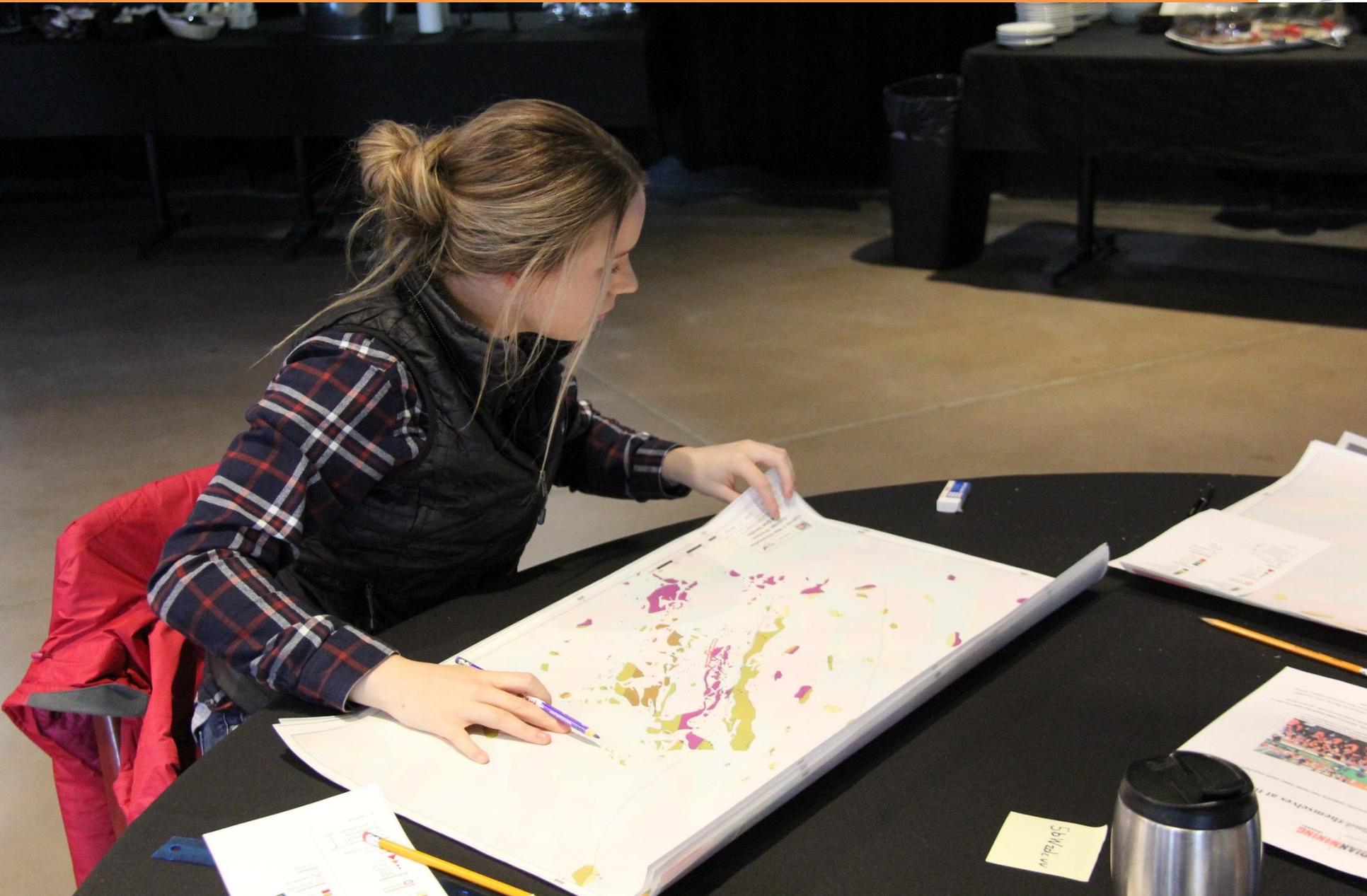


Dominick (UofC) and Juan (Dalhousie) colouring in their maps

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Emily (UofA) trying to figure out where the ultramafics are supposed to go

Go the extra mile



Robert Patterson (Minalytix) with an awe inspiring presentation



The Beards – Chris (Carelton) and Robert Patterson (Minalytix)



Sean Dickie (Vale) getting everyone ready for geophysical survey demos



Getting the EM tripods set up!!

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Tripods are set up, now it's time to take the measurements

Contact Resistance

- The resistance at the contact between two materials in a circuit. In resistivity surveys, the 'contact' is between electrodes and the ground.
- For current electrodes, high contact resistance limits current, giving a low signal and more error.



Pam Coles (Abitibi Geophysics) going over the theory of IP surveys



Oddly enough, they are not looking at their phones



Pam (Abitibi Geophysics) demoing an IP survey to the students



Shelby (UofR) trying to level the gravimeter

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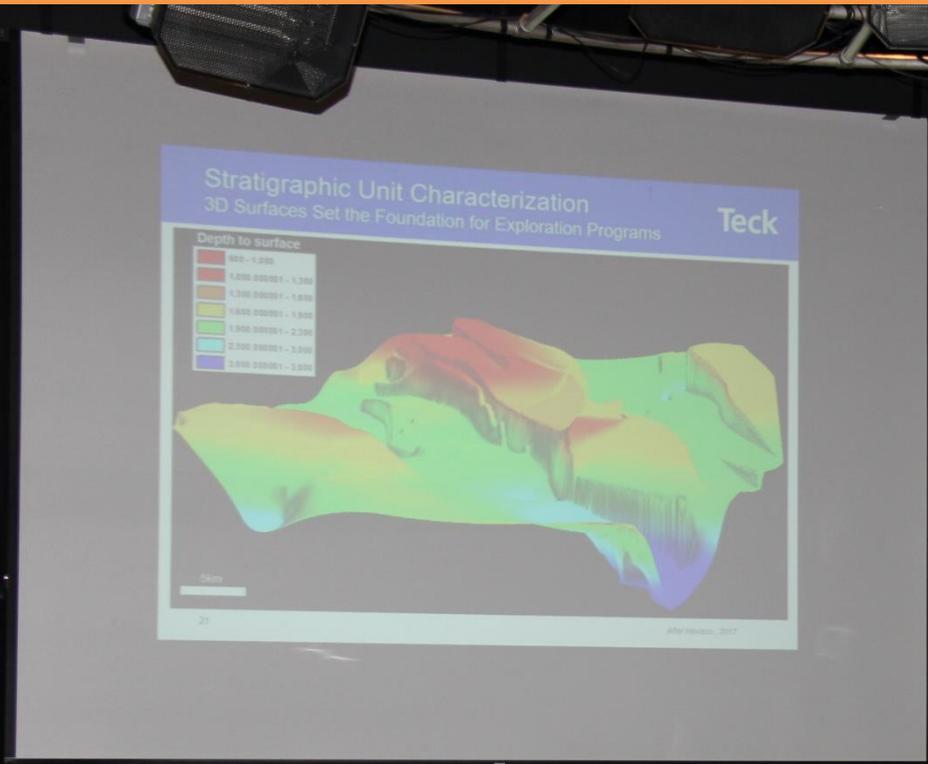


Was that measurement right? – Taylor
(UBC)

Just to be sure...



Everyone looking in to make sure the instrument is smiling 😊



Brendan Howe (Teck) presenting to an audience.



OSISKO
BARRICK
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Brendan Howe (Teck) going over various geophysical case studies for zinc exploration

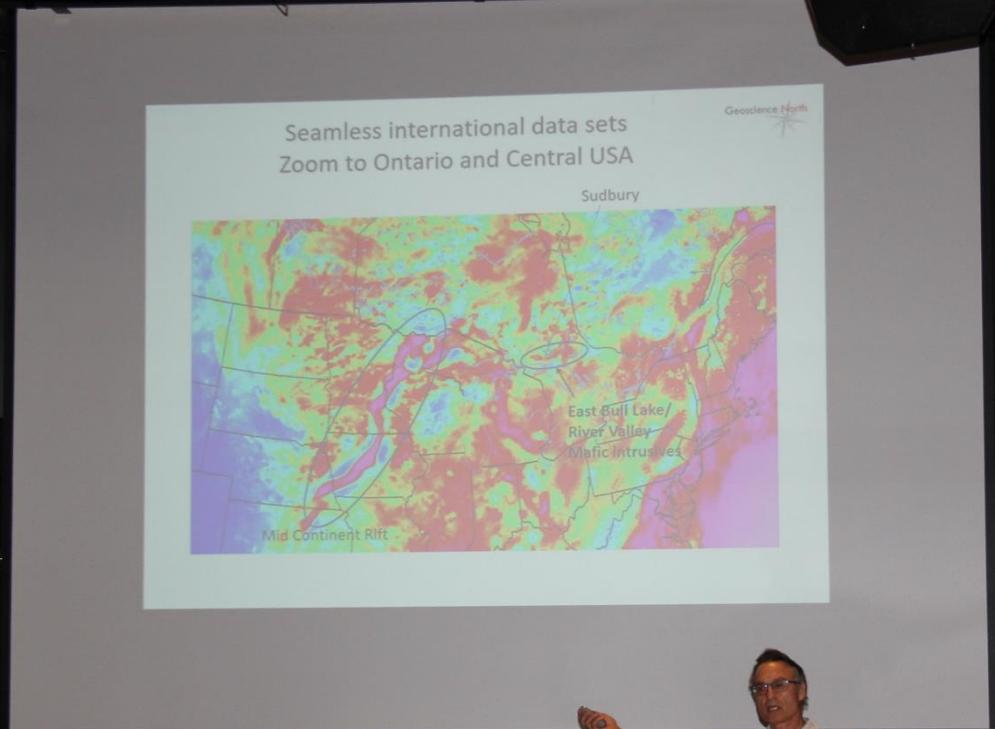
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Alan King (Geoscience North Ltd) gives an overview of emerging technology in geophysics



Thanks for fun geophysics field demos!



Networking after a long day of geophysics



How I Got Here

- In July of 1977, my sister took me to see Star Wars

\vec{B}

Brain Bengert (B-Field Geophysics) tells us how Star Wars shaped his career path



Thank you Teck for sponsoring the day!!



Brad Lazich (Glencore) explaining how to estimate Ni and Cu grades



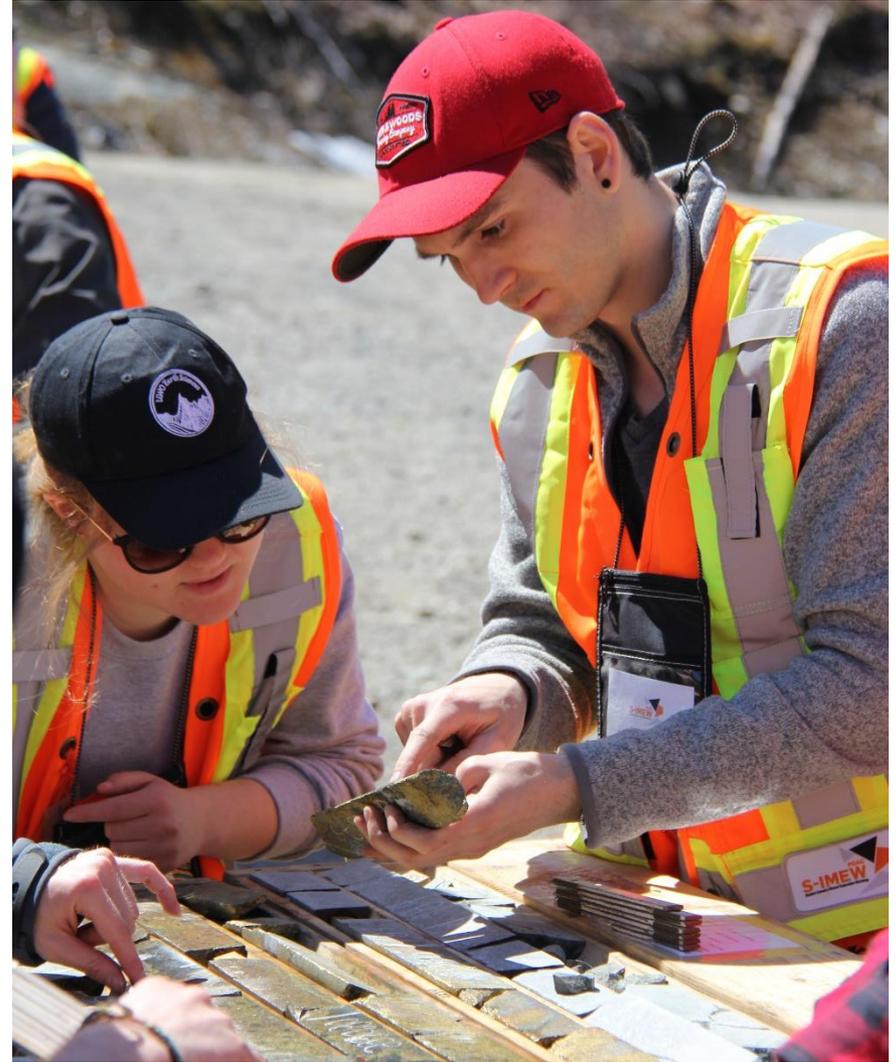
Debating over how much chalcopyrite there is in the core



One day we'll figure out how to use this meter stick



Josh (UofS) seems pretty focused on getting that measurement right



Isn't that shiny?!?! – Ryan (UofM) and Jolee (WesternU)



Teamwork makes the dream work



Brad (Glencore) explaining the drill layout for Glencore's Norman West property



Brad Lazich (Glencore) explains how wedging works



Students rummaging through the core dump



Thanks to Brad (Glencore) and the drillers from Foraco for touring us around the drill

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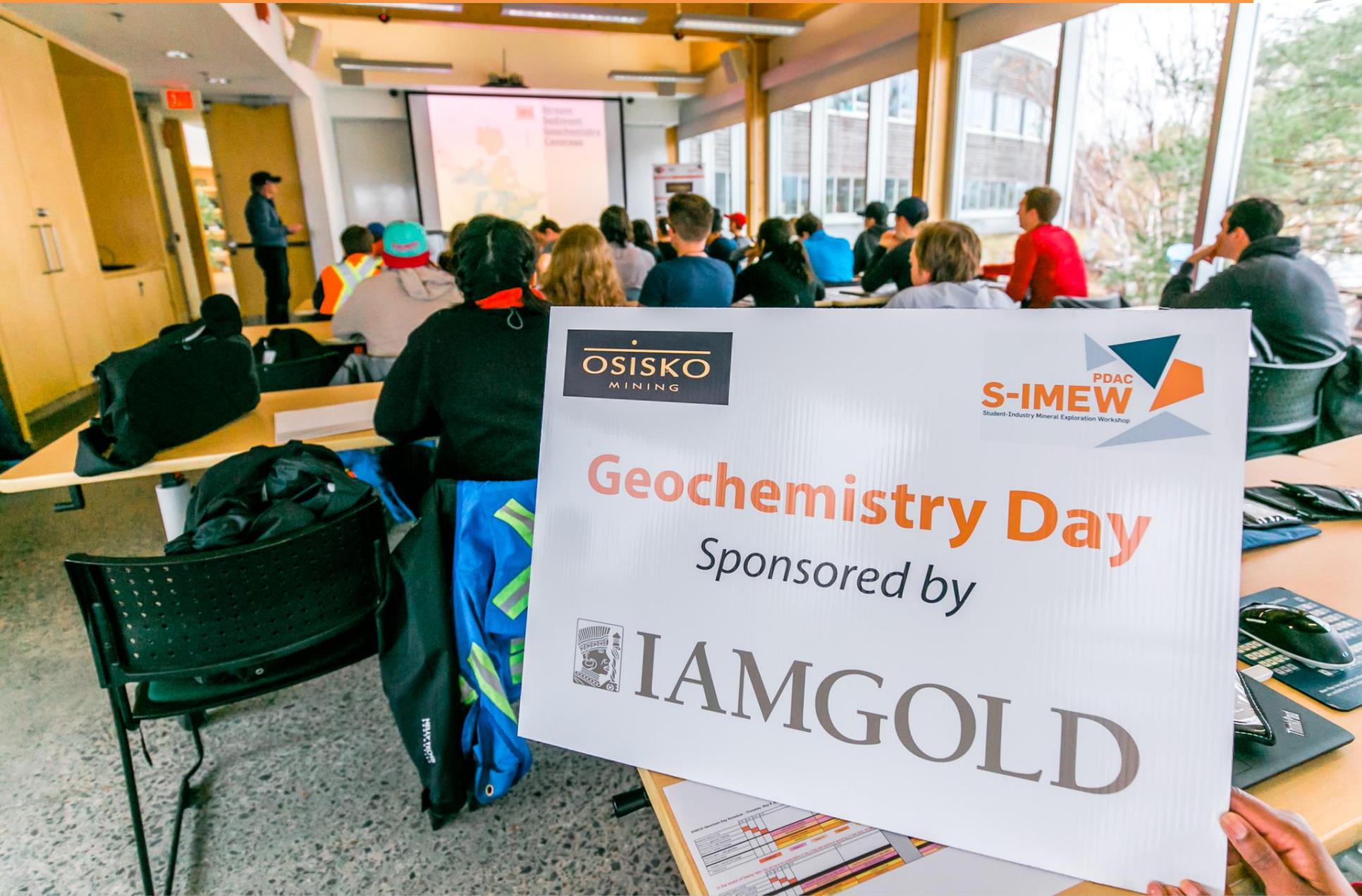
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End of another great day!



Michael Fox (Fox High Impact Consulting) describes the role of Aboriginal Affairs in exploration



Geochemistry day at the Living with Lakes center



Geochemical Exploration

- By definition, all ore deposits are unusual accumulations of commodity elements in the Earth's crust
- By many processes these elements get dispersed away from their original point of accumulation
- Exploration geochemistry uses geological and chemical principles to follow these dispersed materials back to their source



Stew Hamilton (OGS) gives an intro to Geochem Day



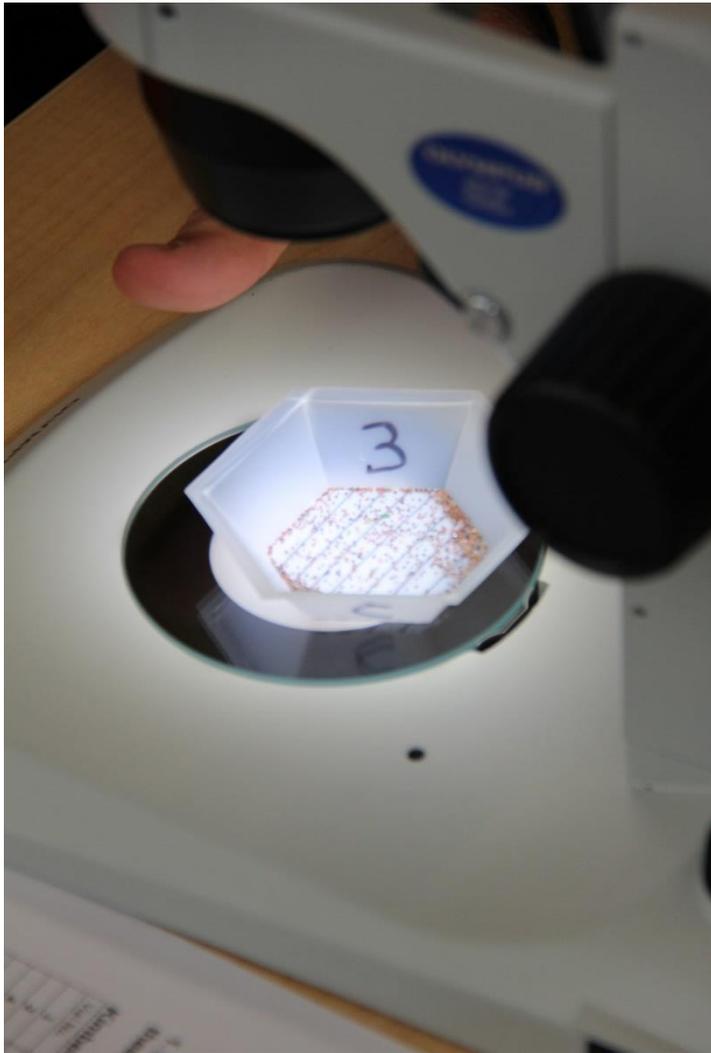
Richard Dyer (OGS) on running a lake and stream sediment survey



Beth McClenaghan (GSC) provides an overview of indicator minerals



Students getting acquainted with indicator minerals



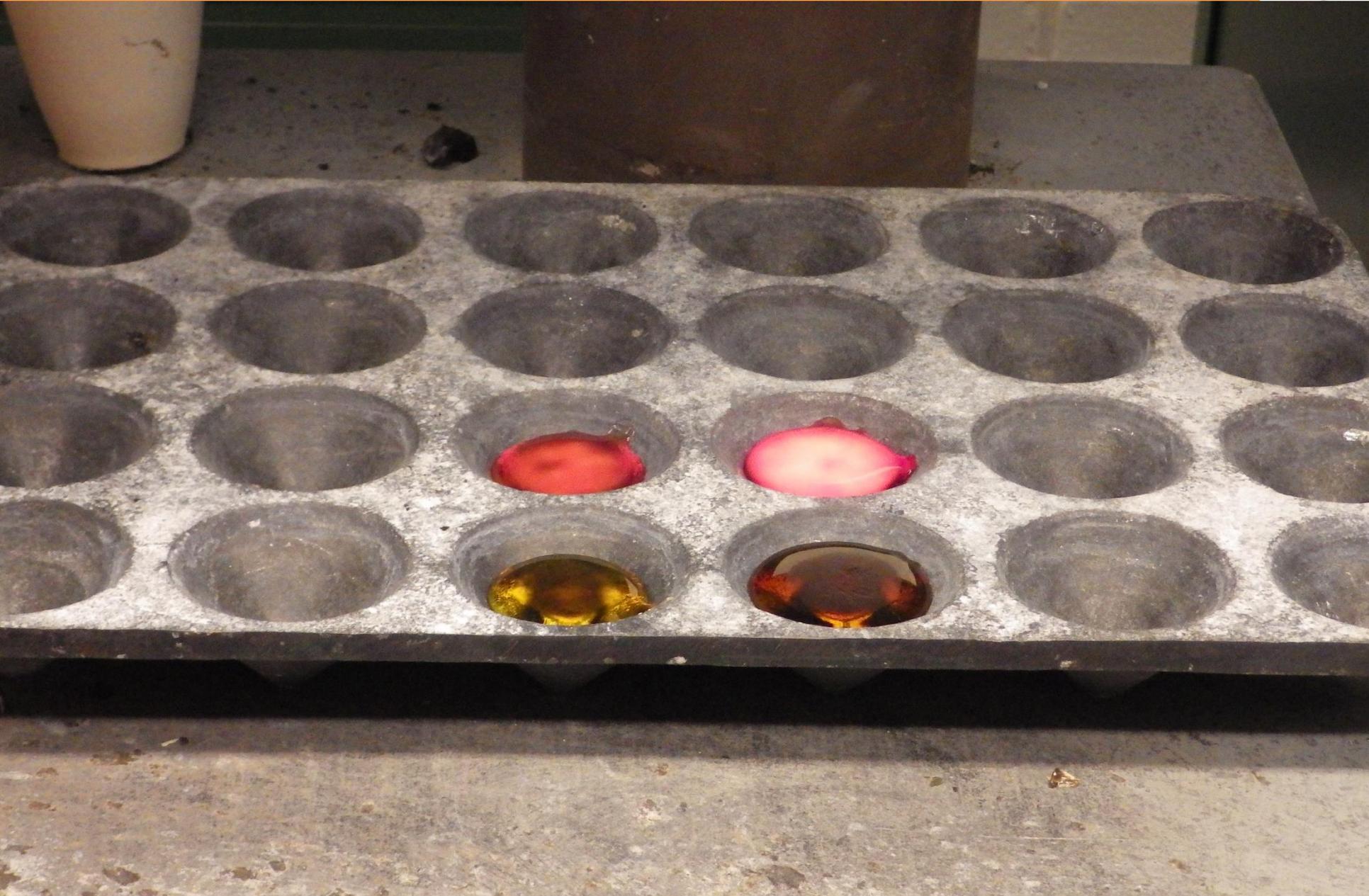
Francisco (Brock) huntin' for those diamonds!



Into the inferno



Hot Stuff!



Time to cool down



Checkin' out the SEM!



Laura and Richard (OGS) showing off the lake sediment sample torpedo



Getting a feel for the mud – Joy (UofT) and Stephanie (Queens)



Captivated audience for the evening

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Ben (UVic) and Hugh de Souza (SGS)

In Canada, 5 Diamond Mines

Ekati Mine, NT (opened 1998)

Diavik Mine, NT (opened 2001)

Victor Mine, ON (opened 2008)

Renard Mine, QC (opened 2016)

Gahcho Kué Mine, NT (opened 2016)

Jericho Mine NU (opened 2006; closed 2008)

Snap Lake, NT (opened 2008; closed 2015)

Orion/Star, SK (advanced exploration)

Chidliak, NU (advanced exploration)



Bruce Kjarsgaard (GSC) goes over the basics of diamond deposits in Canada



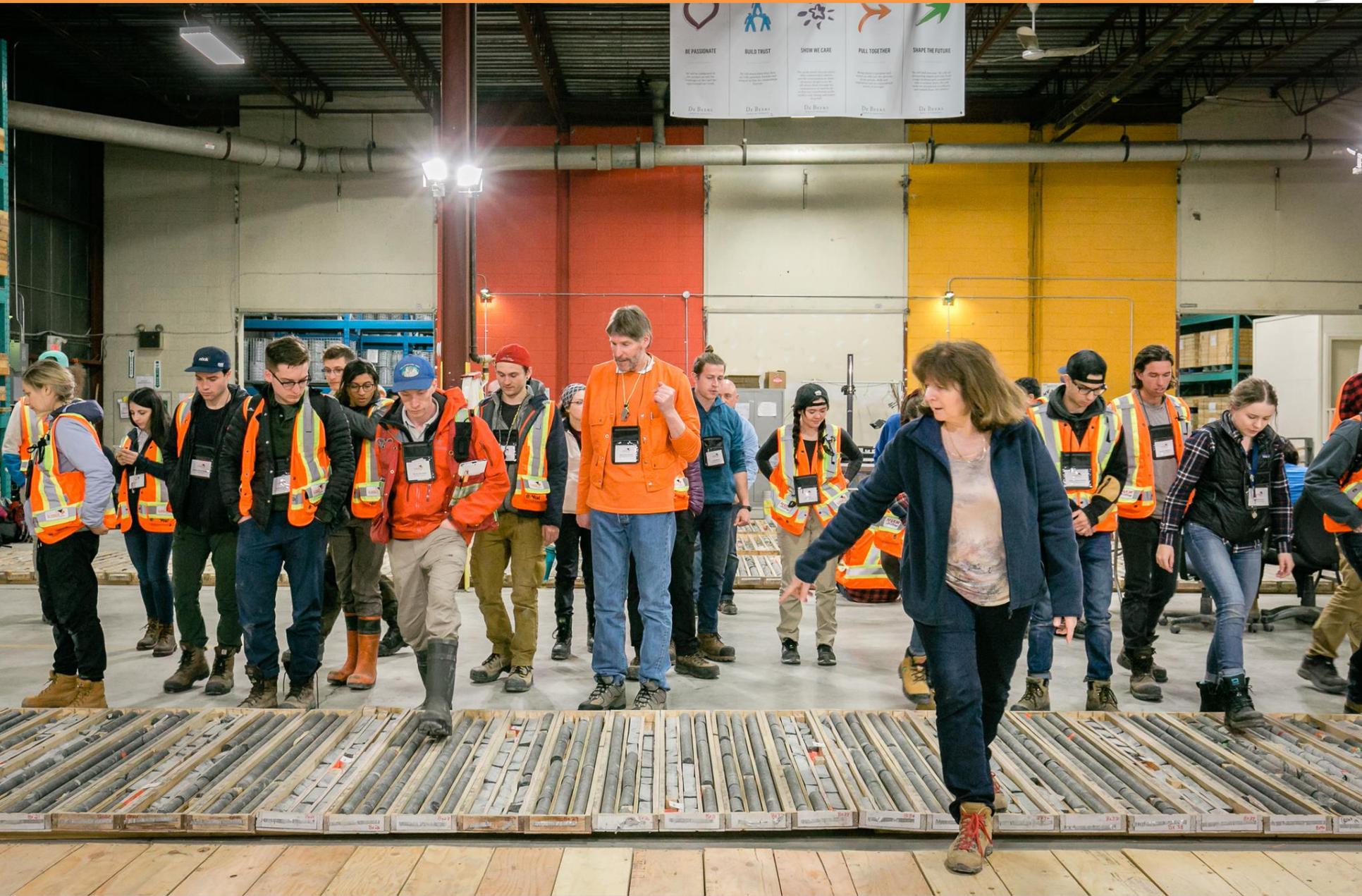
Bruce Kjarsgaard (GSC) explaining the finer details of kimberlites to Juan (Dalhousie)



Louis (Lakehead) and Chris trying to find those microdiamonds



Stephanie (Queens) and Sean (StFX) taking a closer look at a kimberlite



Alexandrina Fulop (De Beers) walking the students through kimberlite facies



Shine bright like a diamond - Gaëlle (Laval U)



Diamonds!

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Miguel (Acadia) getting giddy over some diamonds



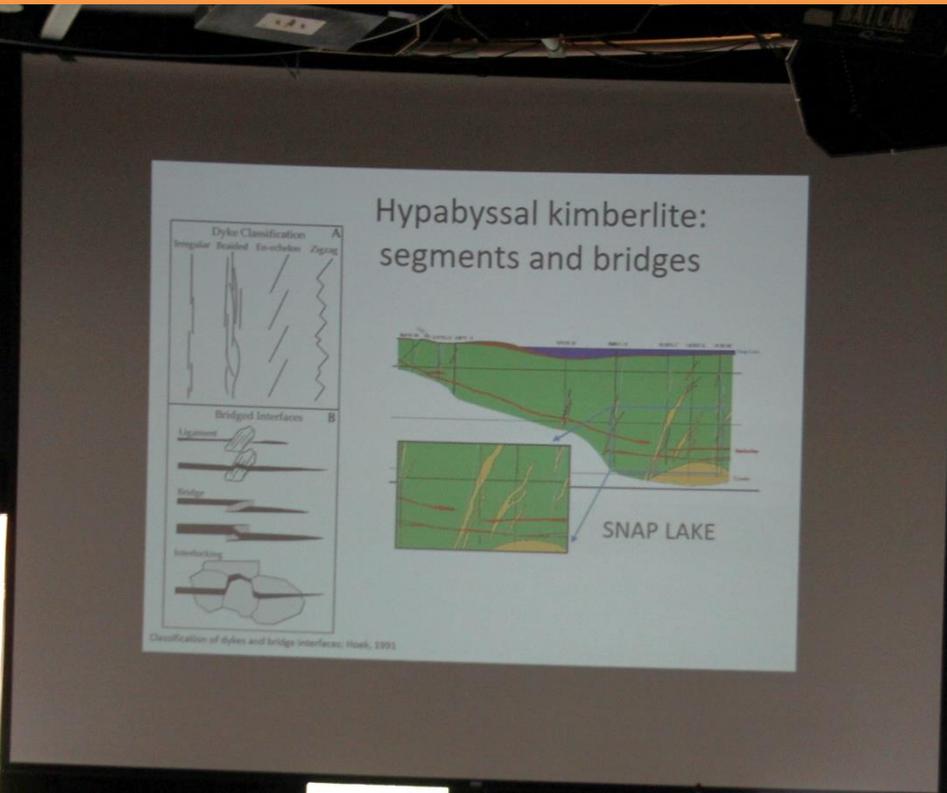
Adrian (Laurentian) polishing up a diamond



Woah! – Louis (Lakehead)



Learning all about the diamond polishing process



Bruce Kjarsgaard (GSC) talking about exploration for diamond deposits



Dan Leroux (SGS) explains the economics of diamond mining



John Armstrong (Lucara Diamond) on finding the big rocks!



Parkin Offset mapping



Adrian (Laurentian) and Marshall (Magna Mining) planning out their traverse



Day in the bush



Gettin' that strike and dip



Francisco (Brock) getting ready to sweep some snow



Mapping the trench



Good doggo Rex!



Exposing the outcrop



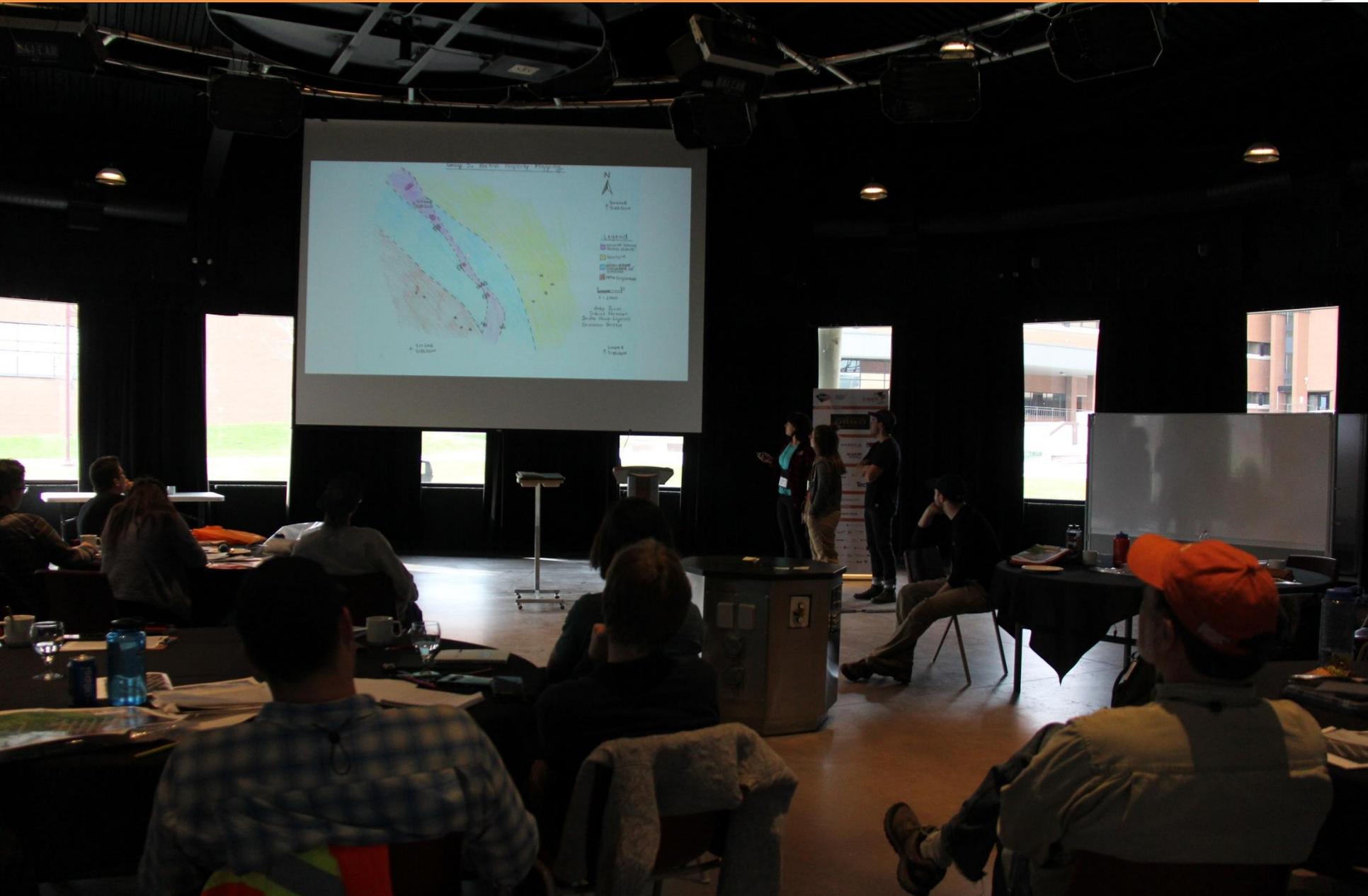
Juan (Dalhousie) searching for sulphides

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How far can we extrapolate the mineralized zone?



Nice map!!!



1st stop of the trip with Ruth Debicki (field trip leader)



Beautiful BIF



Ruth explaining how BIFs form to Stephanie (Queens)



BIF Pics!



Bienvenue a Quebec!!



Neither snow nor rain stops S-IMEW!



Michael Rosatelli (Golden Valley Mines) gives an overview of the companies projects



Thank you Golden Valley Mines Ltd!!!!



Another amazing dinner by Jackie Koh and Glenn Mullan – Thank you!!!



James Moorhead (BCQC) gives an overview of the Val d'Or geology



Mapping in the Lamaque pit



Luc Theberge (Eldorado Lamaque Gold) points out structures



Look at those quartz veins!



In the Lamaque open pit



Ruth helping students log some core



Pointing out the VG



Thank you Eldorado!!



A small part of the Malartic Mine!!



Rouyn-Noranda day with Ross Sherlock (MERC)

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Ross pointing out the lineations within the conglomerate



Checking out pillows and hyaloclastite



Nap time on the pillows



Climbing the tuff breccia mountain



Ryan (UofM) taking a closer look at the bombs



Ross wrapping up the Noranda day at the Horne West outcrop



Standing in front of the Noranda caldera



Francois Vezina (Falco Resources) on the work happening at the Horne 5 project



Thanks for the great presentations Falco Resources!



Gary Grabowski (OGS, retired) explains the significance of Timiskaming conglomerate



Josh (UofS) plucking out Archean clasts



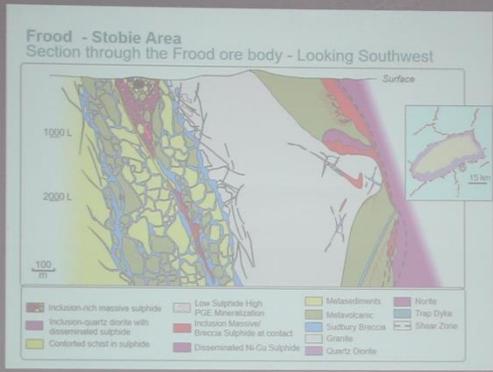
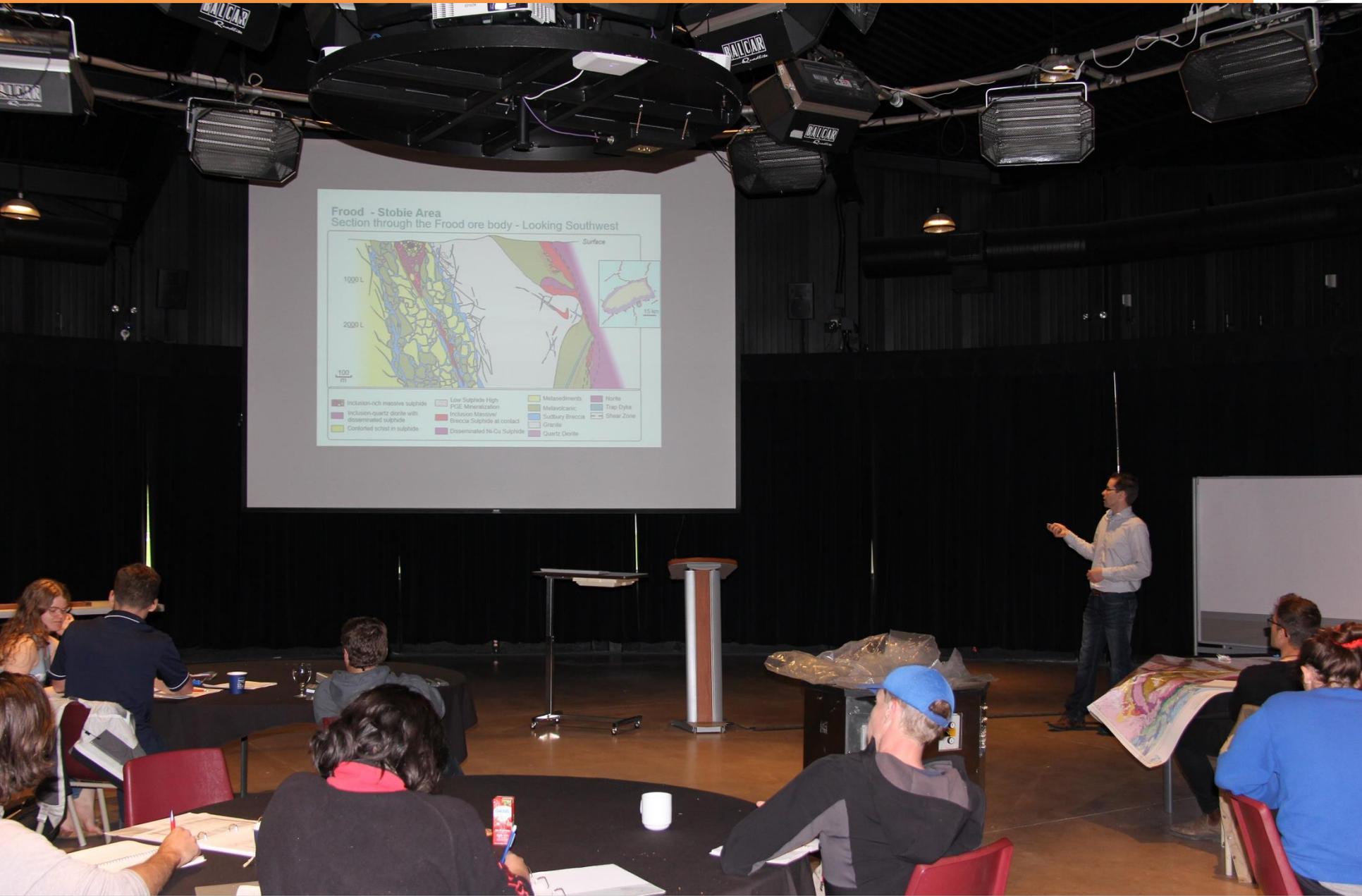
Where there's a will, there's a way



Checking out the Archean – Proterozoic contact



Historical mining in Cobalt doesn't look safe



Jason Letto, Vale, talks about the Sudbury geology and mines



Looking at core and rock samples from Jason's collection



Richard LaCroix, Vale, explains the geology of this part of the Coleman Mine



All smiles for an amazing underground tour at Vale's Coleman Mine



A day in the life of a mine geologist – mapping the freshly blasted faces



The Finale – a great way to end the workshop: networking with speakers, sponsors and industry



Last but not least, Stephanie Walmsley (Queen's U) receives her certificate from Karen Rees

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