



PDAC

S-IMEW

Student - Industry Mineral Exploration Workshop

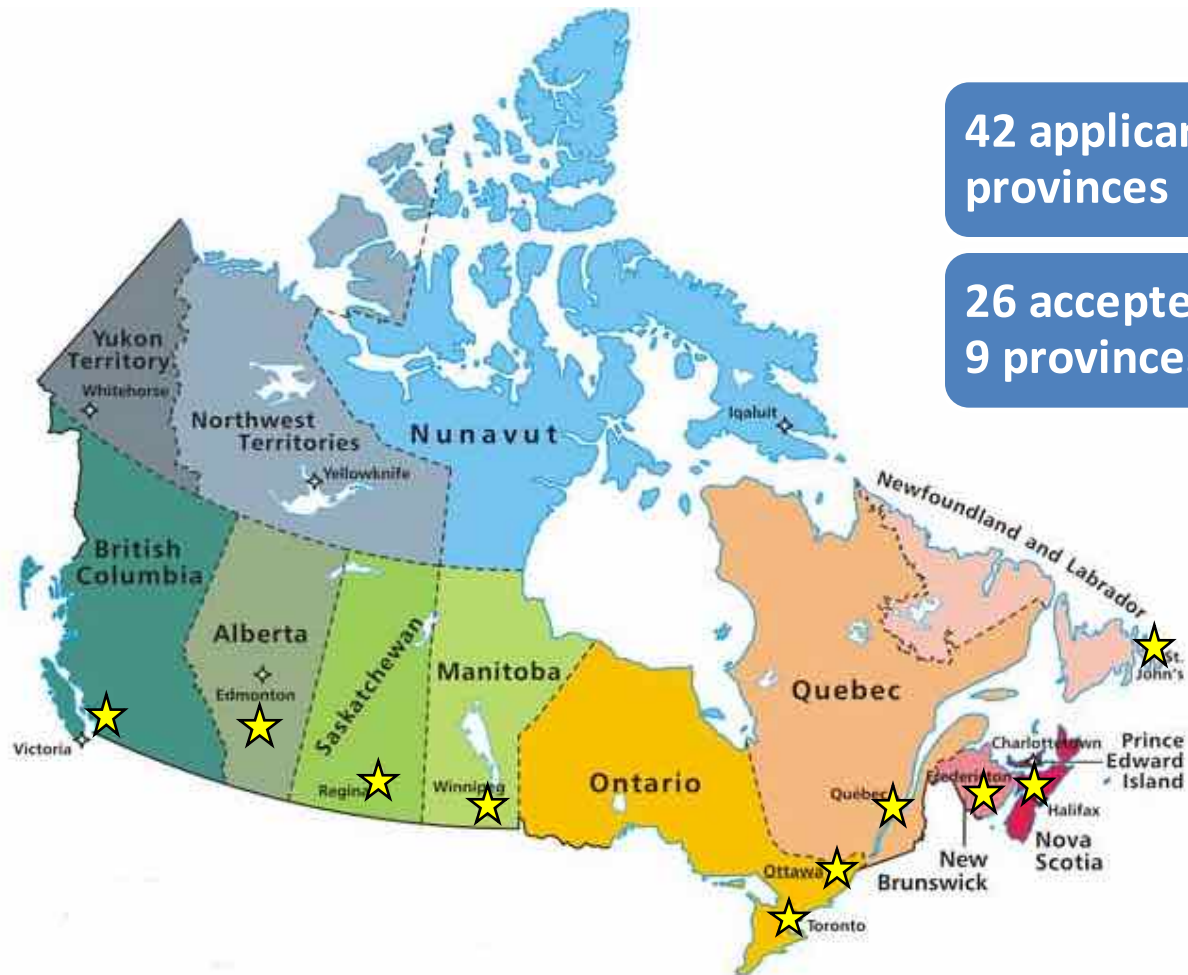
CELEBRATING

10

YEARS

42 applicants from 9 provinces

26 accepted, representing 9 provinces



2016 PARTICIPANTS



Taylor Chew
Acadia University



Michael Frank
British Columbia Institute
of Technology



Mark Klapheke
Brandon University



Stephanie Kupers
Brock University



Robert Wu
Carleton University



Monique Ruhl
Dalhousie University



Quang Ngo
Fleming College



Sam Metteer
Lakehead University



Thomas Gore
Laurentian University



Lucia Krivankova-smal
McMaster University



Stacey Paramenter
Memorial University of
Newfoundland



Kayla Hayashi
Northern Alberta
Institute of Technology



Nigel Bocking
Queen's University



Corwin Trottier
Saint Mary's University



Rita Dubman
Simon Fraser
University



Lori Paslawski
St. Francis Xavier
University



Hannah Cavallin
University of British
Columbia



Eric Garcelon
University of New
Brunswick



Anthony Knutson
University of Calgary



Grant Hagedorn
University of Guelph



James Macdonald
University of Manitoba



Cassandra Powell
University of Ottawa



Ryan Bachynski
University of Regina



Jeremy Beales
University of Victoria



Helena Diao
University of Waterloo



Dylan Langille
Western University

Follow our journey on social media



facebook.com/PDACStudents



@PDAC_Students
@the_PDAC

Premium Sponsor





The S-IMEW motorcade about to leave for Sudbury to kick-off its 10th anniversary



S-IMEW participants are officially welcomed by Felix Lee (S-IMEW Co-Chair)



Patrick McAndless (Geodude Corner) helping the students discover their inner “Purple Cow”



Aftab Khan, APGO, explains how to become a registered professional geologist



Tony Green presenting an overview of the geoscience industry



An attentive audience soaking up networking and career advice



Karen Rees talking about flow through shares, joint ventures and option agreements



Many questions are asked during the morning session



PDAC's own Nadim Kara explains what the association is all about

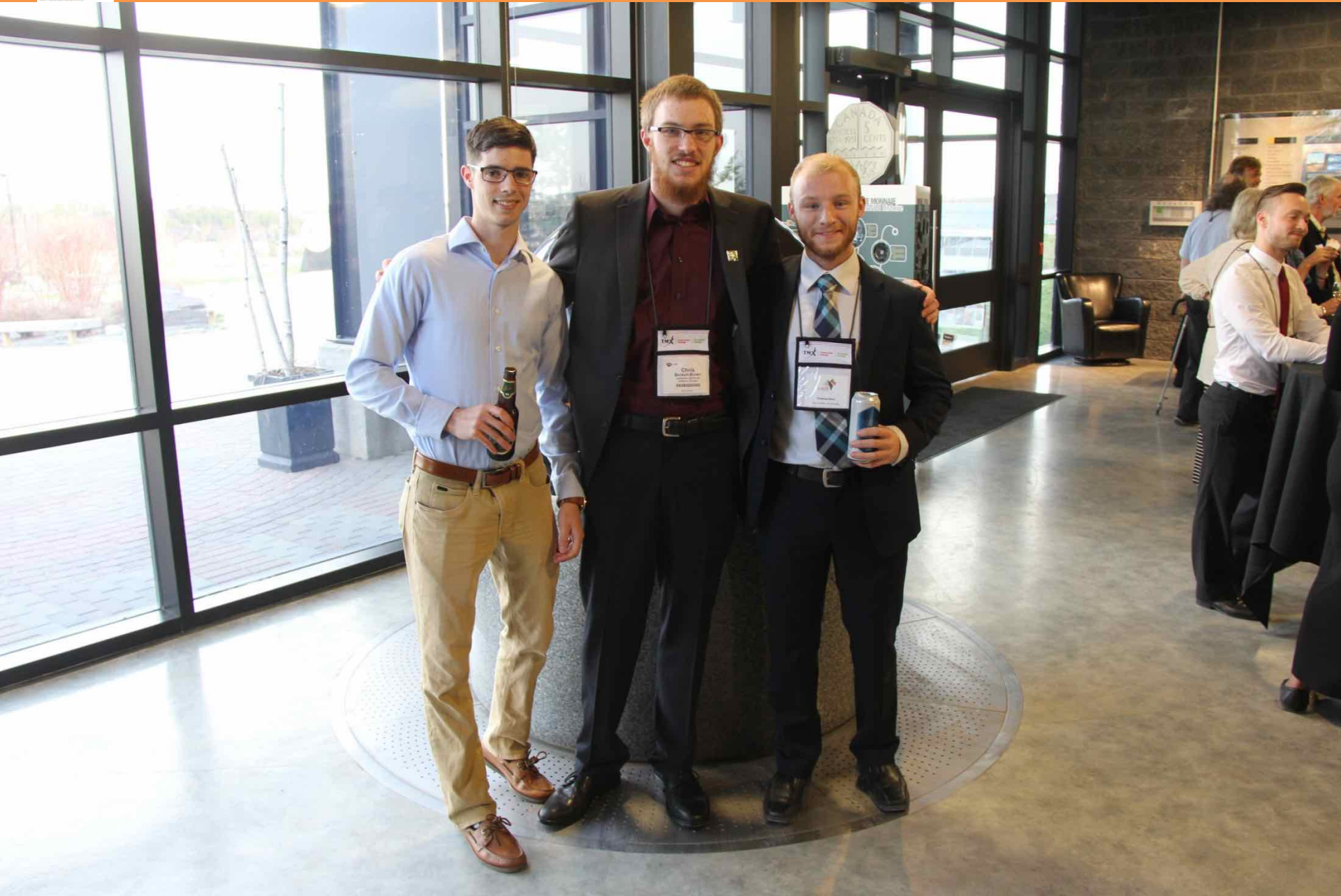
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Ontario



The annual “Big Nickel” group shot outside Dynamic Earth – PASSION!



Eric Giroux (Goodman School of Mines), Chris Beckett-Brown (LU) and Thomas Gore (LU)



Dynamic Earth's rock collection attracts some attention

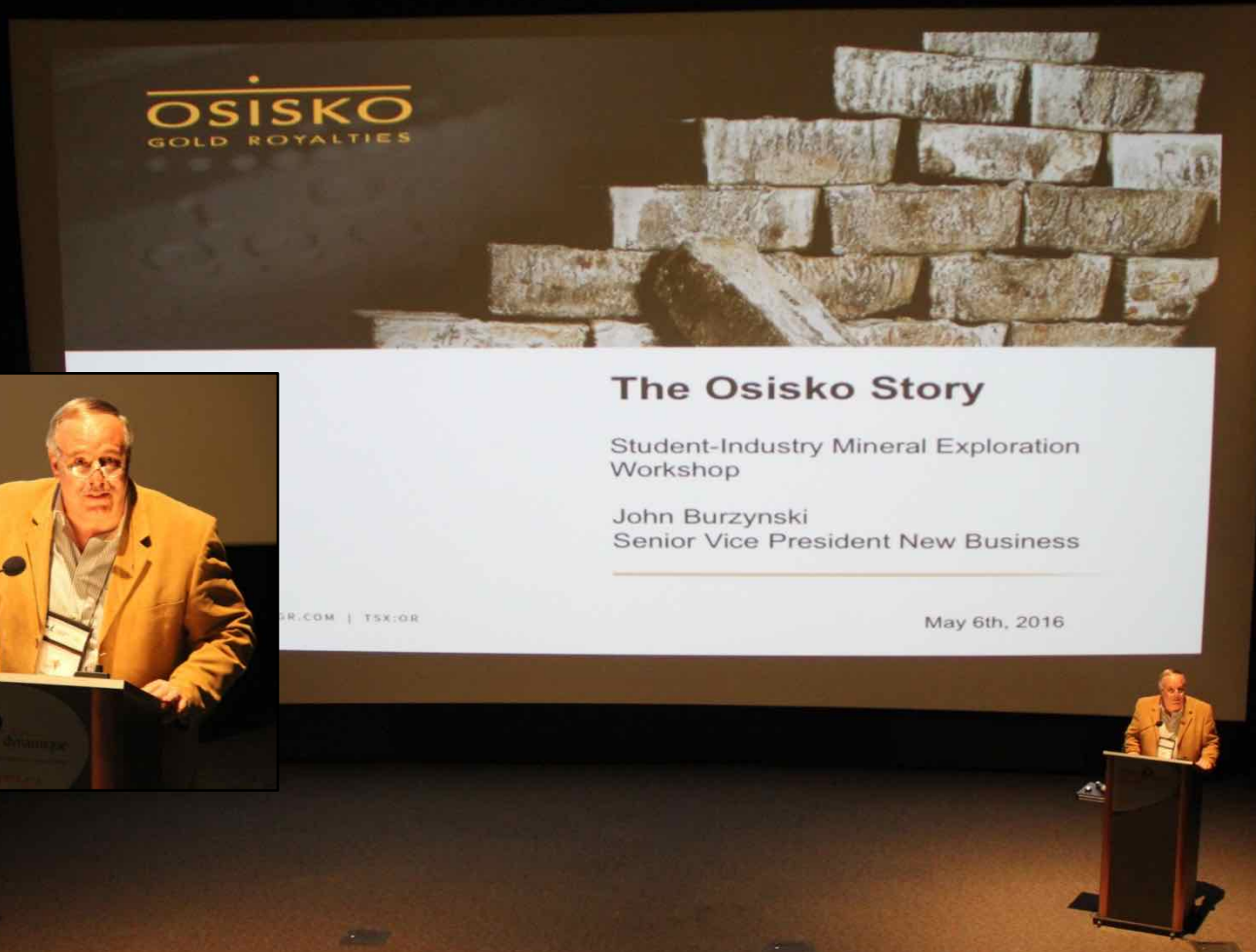


Sharknado!





Dylan Langille (Western) and Thomas Gore (Laurentian) at the S-IMEW Welcome Reception



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May 6th, 2016

PDAC President Robert Schafer (Eagle Mines Management) introduces the Opening Keynote Speaker, John Burzynski, at the S-IMEW Welcome Reception



Opening Keynote Speaker John Burzynski (Osisko Gold Royalties) telling “The Osisko Story” in the Atlas Copco Theatre at Dynamic Earth



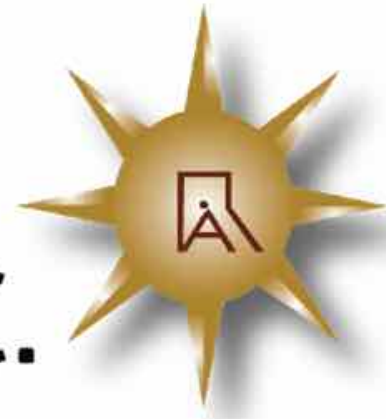
Felix Lee, John Burzynski, Kayla Hayashi (NAIT) and Robert Schafer



Dr. Michael Doggett relates geological quality to economic quality

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ROYALTIES INC.





Sam Metteer (Lakehead U) identifies chrysocolla in one of Dr. Doggett's samples



Jeremy Beales (U Vic) identifies chalcocite in his sample after performing a streak test



Nigel Bocking (Queen's U) and his group presenting during the Gold Exploration Group

Bernard Boily (Bear Lake Gold) - Mar 2013

• VP Exploration and QP for Bear Lake Gold

- Between Dec 2007 and Jul 2009 he admitted to altering approximately 140 assay results received from the lab
- Changed drill logs and rearranged drill core
- Prepared and "signed-off" as the QP for several press releases which contained incorrect and inflated assay results
- Modified the assay database which was delivered to Independent QPs preparing an initial mineral resource estimate

• OSC Settlement agreement sanctions

- Lifetime ban from acting as a QP
- Lifetime ban from acting as a director of a company with a market value of \$50,000,000 or more





Matthew Pickard talks about permitting



CSR: A Lived Experience Right. From the start

Andrew M. Cheadle, P.Geo., MBA, FGC, ARSM
Executive Director

April 7th, 2016
Sudbury

PDAC



Andrew Cheadle conducts a roleplaying game to stress the importance of CSR



S-IMEW alumni Paul Medici sharing his industry experiences and how S-IMEW impacted his career path



Vale geologist, Jason Letto, introduces the Sudbury geology



S-IMEW and Attila Penték, Wallbridge Mining, at the Sudbury discovery outcrop



Where it all started! S-IMEW students at the plaque commemorating the Sudbury discovery

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The logo for FORACO features the word "FORACO" in a bold, black, sans-serif font. The letters are set against a red background that is shaped like a downward-pointing triangle. A thick black horizontal line runs beneath the text.

FORACO



Mark Klapheke (Brandon U) reaches for a carbonate concretion in the Chelmsford Formation



Cassandra Powell (U Ottawa) looking for magnetite in a felsic dike



Stacey Parmenter (Memorial U) inspecting unmineralized SIC Sublayer



The difference between a geologist and an archaeologist....."We Ain't Afraid of No Snake!"



Bird's-eye view of the SIC Main Mass transition zone



Group photo during lunch at Onaping Falls





Geography??? Grant Hagedorn (Guelph U) is in the market for a new toque

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Golden Valley Mines Ltd.
Mines de la Vallée de l'Or ltée





Michael Frank (BCIT) enjoying the first day in the field



Recently uncovered Sudbury Breccia



Dinner at Restaurant Bryson's on the Park (old sulfide roast bed)



Dr. David Pearson (Laurentian U) talking about Sudbury's environmental history



Mark Smyk and Sara McIlraith (OGS) introducing Government Mapping Day



Caroline Gordon (OGS) explaining what a field season with the OGS would be like



SHATTER CONES!

Gold Sponsors



LaurentianUniversity
Université**Laurentienne**

GOODMAN SCHOOL OF MINES
ÉCOLE DES MINES



Ben Berger (retired OGS) showing S-IMEW students shatter cones



Group photo at Laurentian University during OGS mapping day



Eric Garcelon (UNB) leading the way through the bushes during OGS mapping day



Thomas Gore (Laurentian U) taking a closer look



Ben Berger's (retired OGS) group makes an interesting discovery....



Perfect day for field work!



The field observations are collected, now to go through the interpretations.....



NORCAT safety training.....luckily they all passed



Hannah Cavallin (UBC) with her brand new NORCAT pass – ready for underground mapping!



Cheryl Recollet (Director of Sustainable Development, Wahnapiatae First Nation) talking about aboriginal participation in exploration

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O BAN
MINING CORPORATION



Rita Dubman (Simon Fraser) makes an unusual discovery....

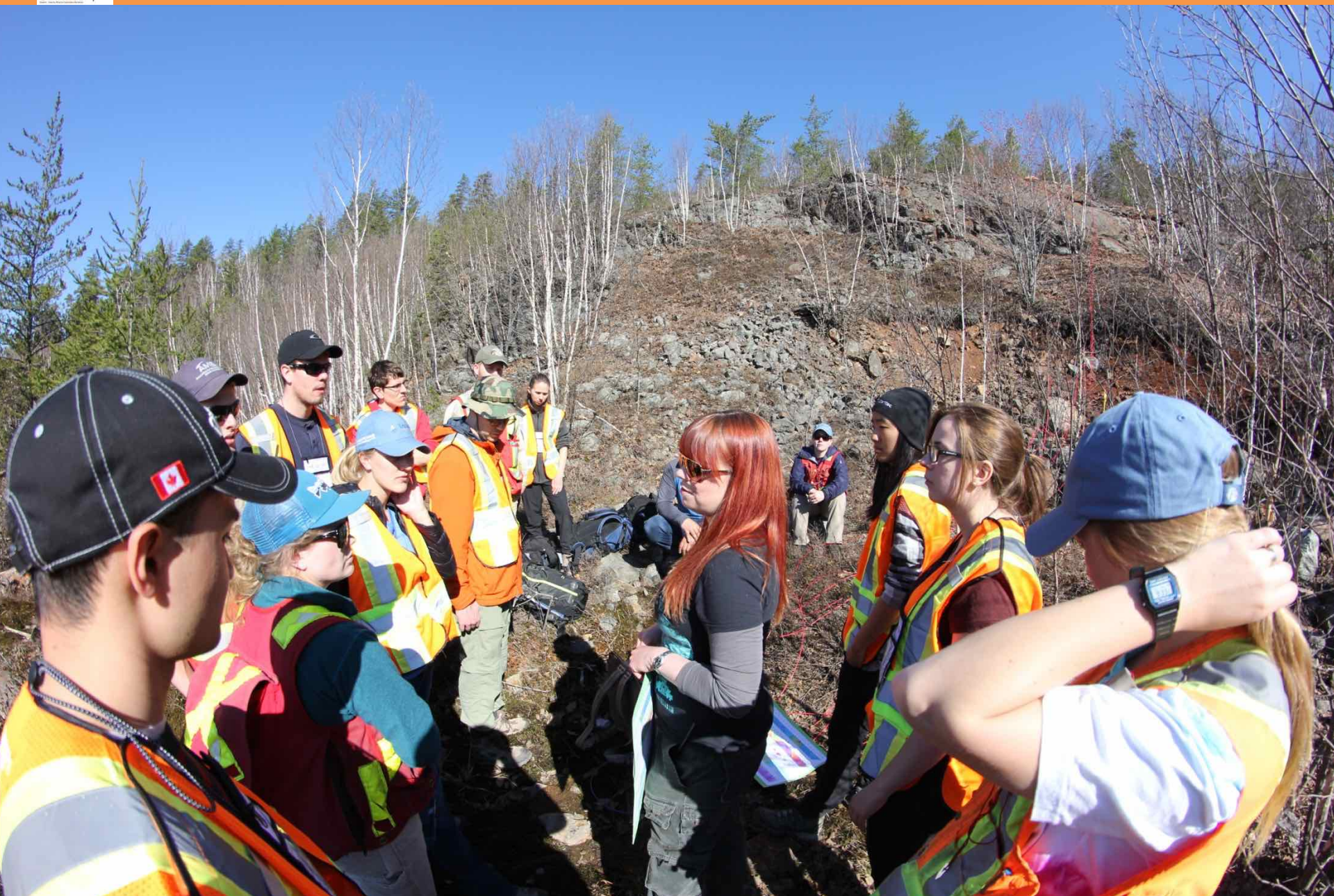


Sean Dickie (Vale) setting up for an EM survey demonstration

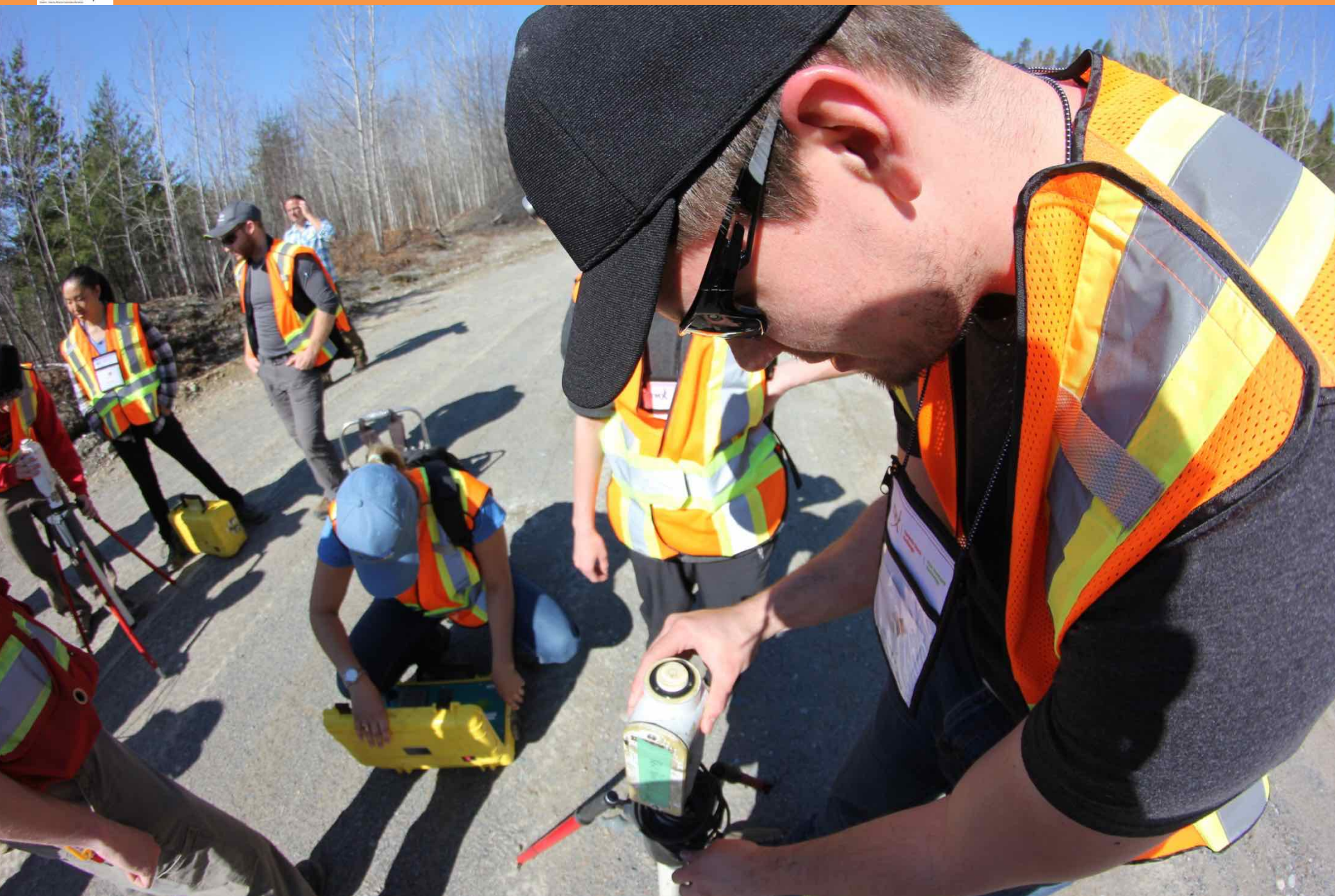


Tim Dohey (Newmont) posing for a photograph with S-IMEW students setting up a line for an IP survey demonstration in the background





Pam Coles (Abitibi Geophysics) talking the S-IMEW students through an IP survey



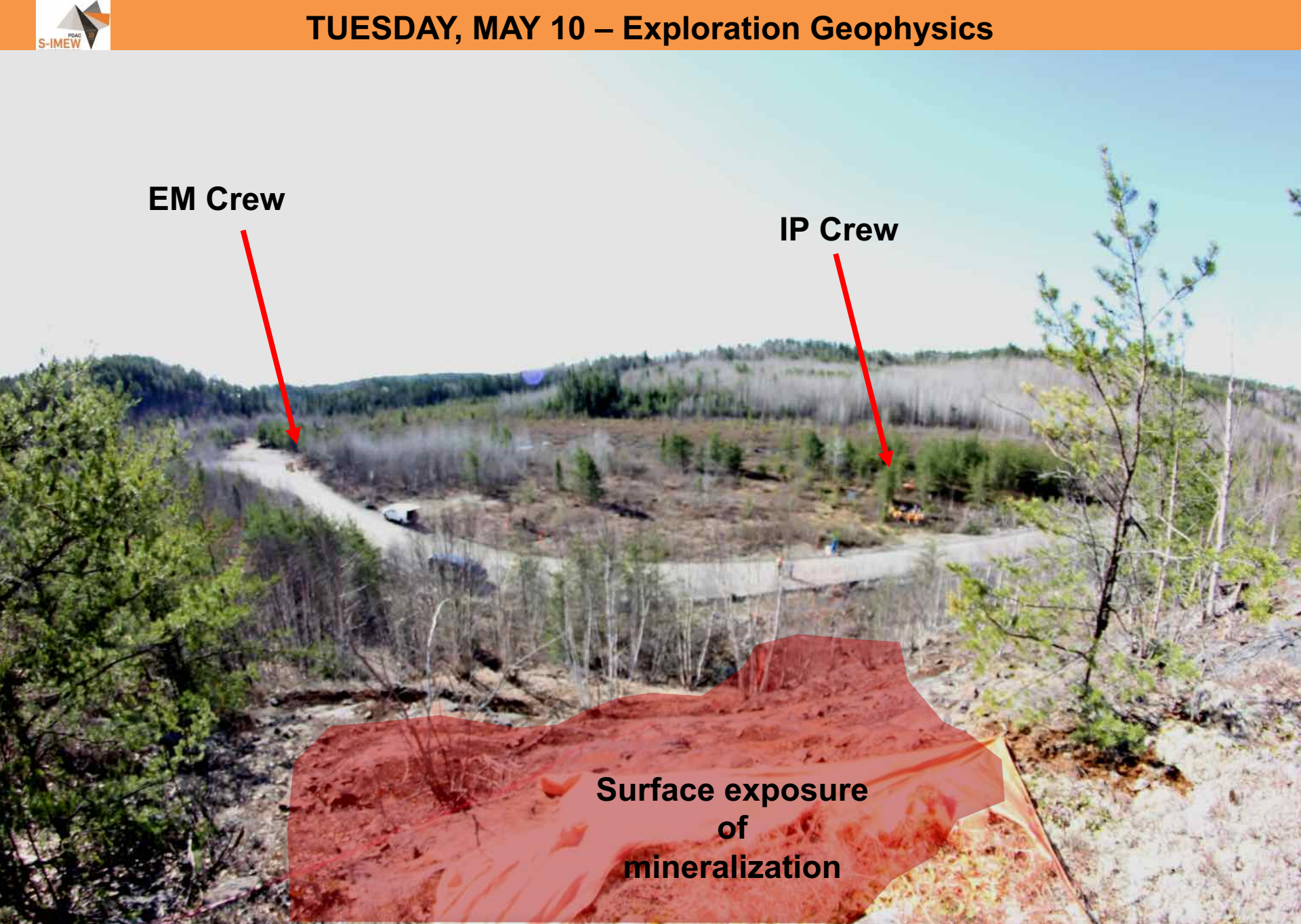
Eric Garcelon (UNB) setting up for a measurement on the EM grid

EM Crew

IP Crew

**Surface exposure
of
mineralization**

Two geophysics crews surveying for the same deposit







A picture of a picture inside the Glencore smelter



The inside of the furnace

Silver Sponsors



BARRICK



Start of the Glencore smelter tour



Group picture outside the Glencore smelter





Linette takes care of the stack



Lori Paslawski (St. FX U) inspecting core from Glencore's Norman West deposit



Helana Diao (U Waterloo) reaching for a piece of massive sulfide core



Quang Ngo (Fleming College) in the Foraco diamond drill rig

Silver Sponsors

YAMANA GOLD



Group photo at the Foraco drill site



Frasier Chief Mine Geologist, Dave Richardson, giving his evening talk at Cambrian College



Leaving the *Living with the Lakes* facility to learn how to collect lake sediment samples



Monique Ruhl (Dalhousie U) collecting lake sediment samples



Helena Diao (U Waterloo) collecting a lake sediment sample



Nigel Bocking (Queen's U) and James Macdonald (U Manitoba) going for a rip!



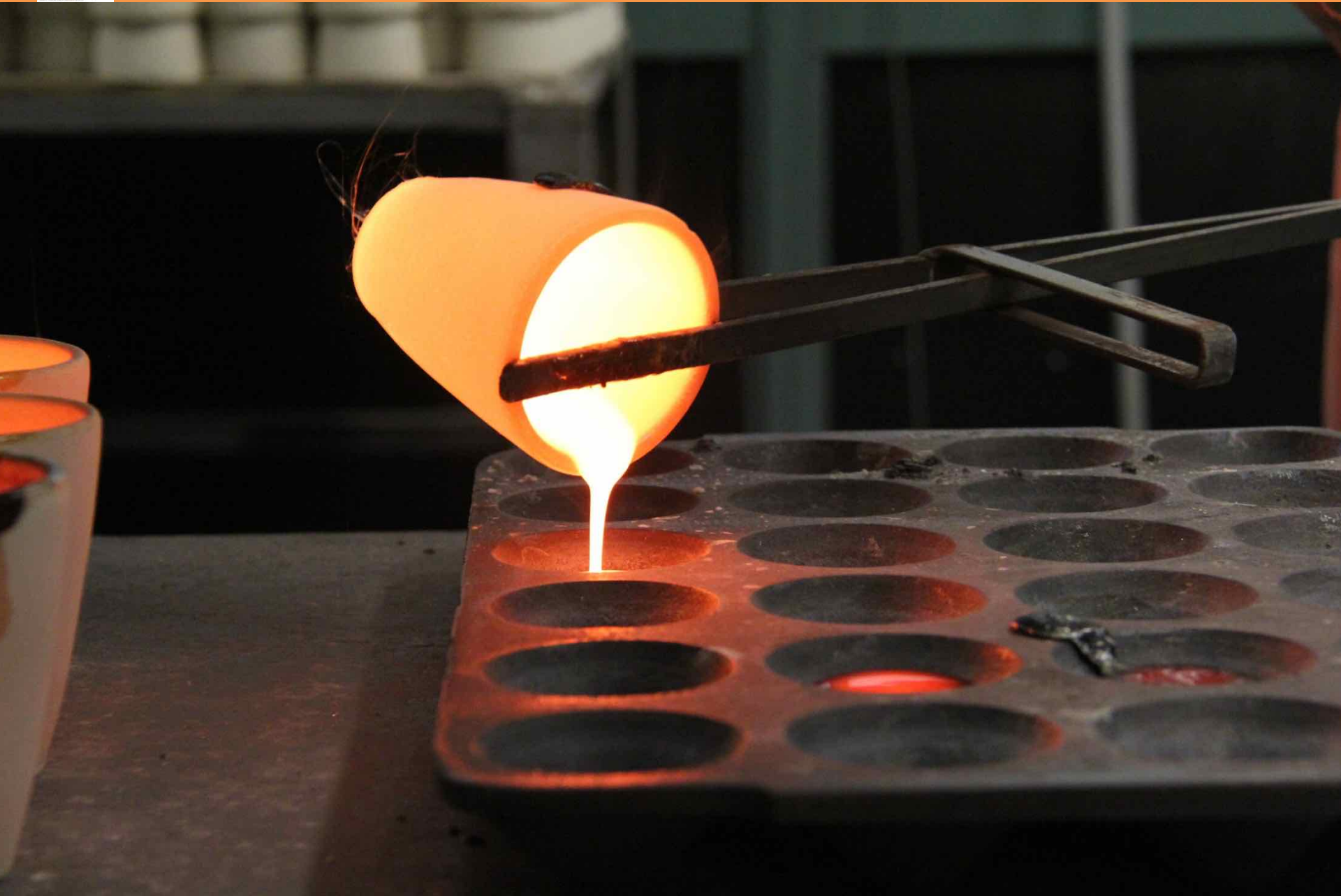
James Macdonald (U Manitoba) digging for till



Helena Diao (U Waterloo) determining ice flow directions with Sarah (OGS) and Noelle (Vale) (left to right)

Silver Sponsors

Teck



A fire assay pour at the Ontario Geoscience Laboratories



Beth McClenaghan (GSC) and S-IMEW students looking at indicator minerals



S-IMEW alumni Seamus Magnus (OGS) is thanked by Cassandra Powell (U Ottawa) on behalf of the students after his evening talk about his career in geology



Exploration Mapping Day starts with a visit at the Parkin quartz diorite offset dike



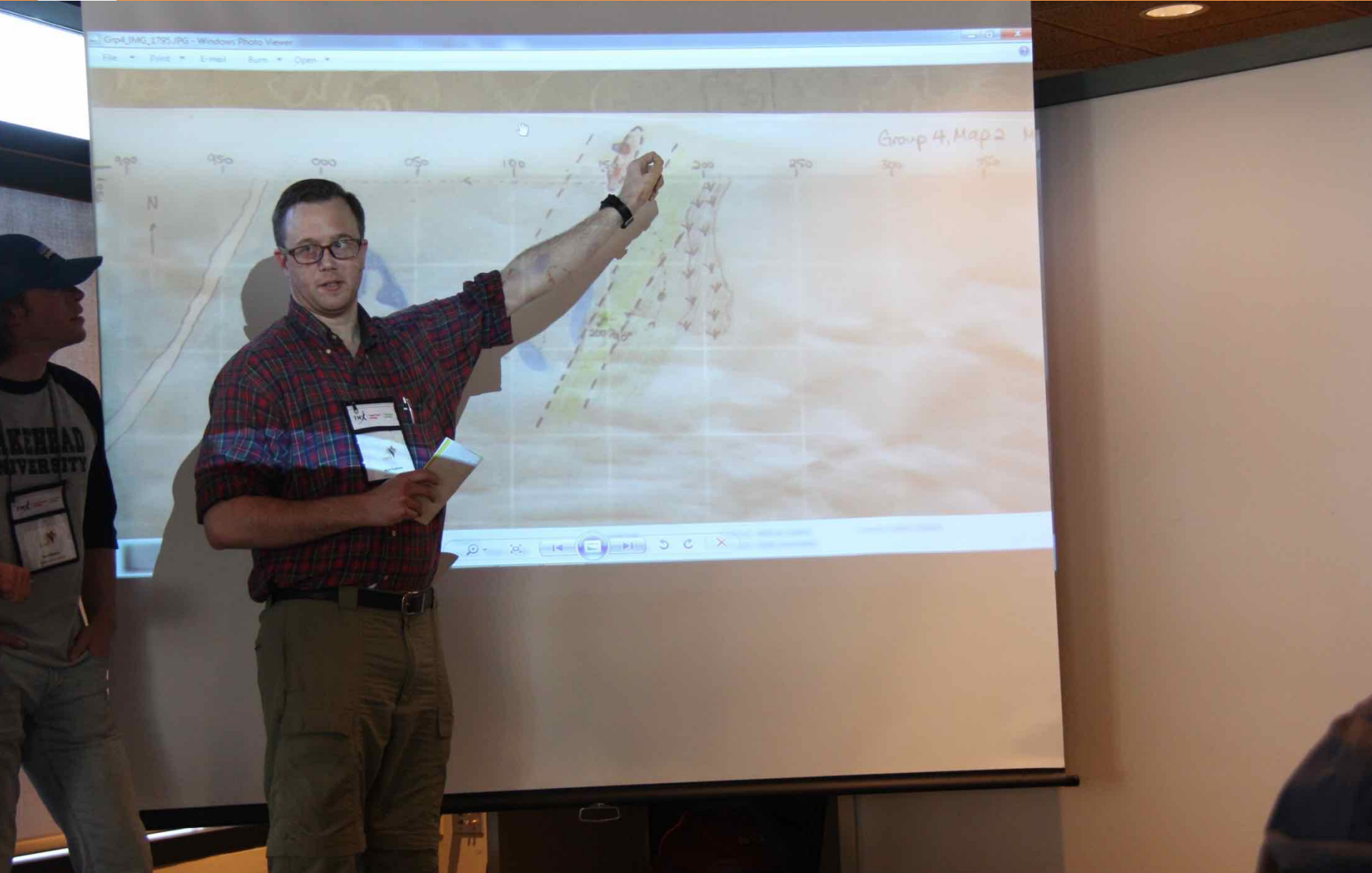
A structural measurement being recorded – perhaps with implication for mineralization?



Moss peeling is an important part of the job!



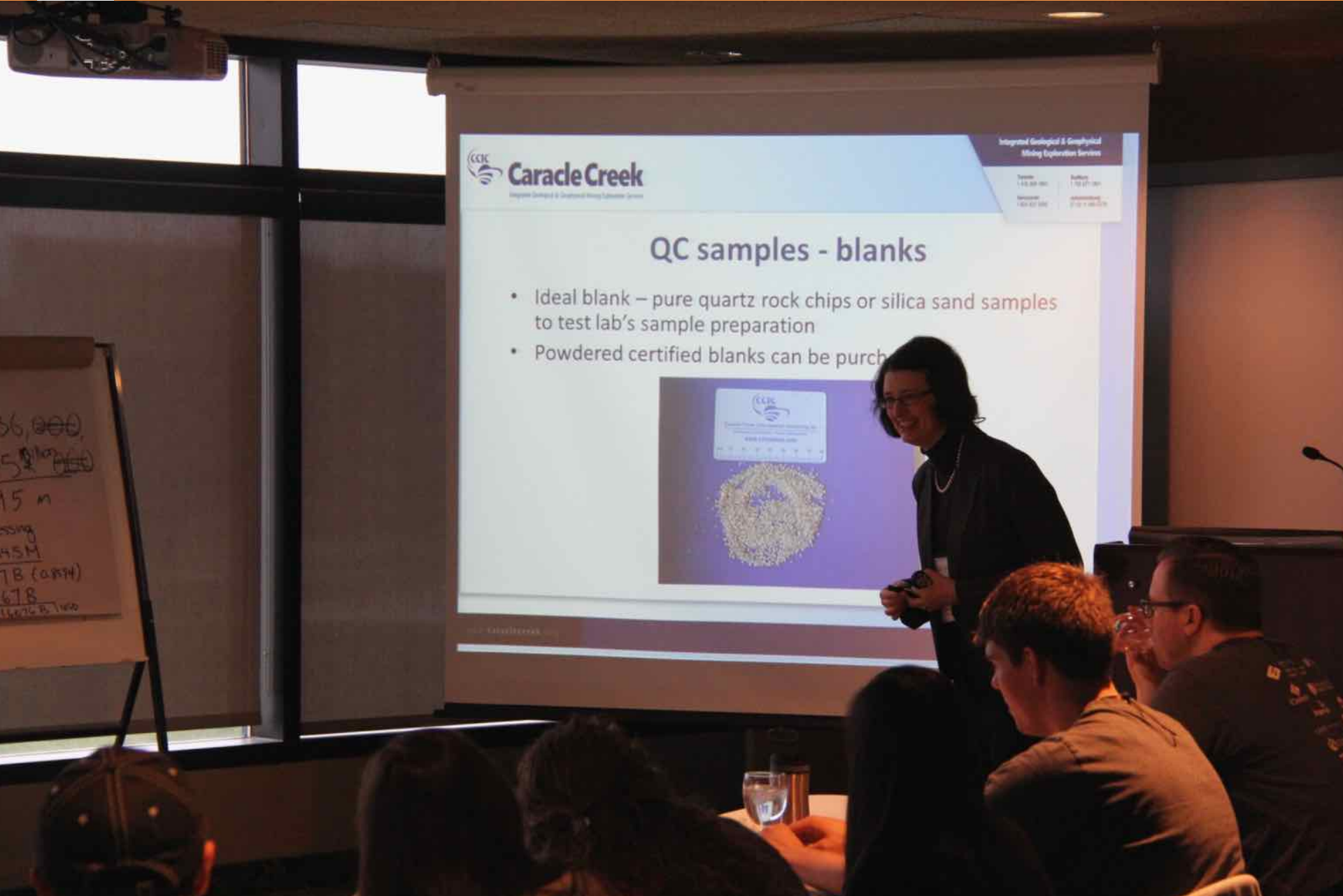
Ryan Bachynski (Regina) measuring the orientation of a vein



Mark Klapheke (Brandon U) walksthe spectators through his groups observations and interpretations from the mapping exercise



S-IMEW alumni David Milstead (Franco-Nevada) shares his experiences in the mining industry post graduation.



Caracle Creek
Integrated Geological & Geophysical Mining Exploration Services

QC samples - blanks

- Ideal blank – pure quartz rock chips or silica sand samples to test lab's sample preparation
- Powdered certified blanks can be purchased

Caracle Creek
Integrated Geological & Geophysical Mining Exploration Services

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T 866-887-1000

Boulder
T 781-277-1000

Calgary
T 403-427-1000

Edmonton
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T 204-427-1000

Regina
T 306-427-1000

Saskatoon
T 306-427-1000

Weyburn
T 306-427-1000

Yorkton
T 306-427-1000

North Battleford
T 306-427-1000

Estimote
T 306-427-1000

Caracle Creek
Integrated Geological & Geophysical Mining Exploration Services

Julie Selway explains the importance of QA/QC in exploration

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C O R P O R A T I O N





Elisabeth Ronacher, Ronacher Mackenzie Geoscience, talks about Resource and 3D Modelling



Taylor Chew (Acadia U) posing on an outcrop of banded iron formation



Bonjour Québec! Next stop Rouyn-Noranda!



The rain is pouring as the S-IMEW group makes a quick stop in Cobalt



Gerald Riverin (Yorbeau Resources) introducing the geology of the Noranda caldera at *Le Gouverneur*



A cold but beautiful morning in Noranda



Stephanie Kupers (Brock U) sitting on an outcrop of pillowed *dalmatianite* characterized by cordierite porphyroblasts that grew during contact metamorphism of sericitized basalt



Students walking along a steam generated fault breccia that formed as cold seawater came into contact with hot solidified rock – an example of a syn-volcanic fluid pathway, critical in VMS exploration



James Macdonald (U Manitoba) on a strongly silicified basalt



Rita Dubman (Simon Fraser U), Thomas Gore (Laurentian U) and Cassandra Powell (U Ottawa) enjoying the rock couch in Noranda

In-Kind Contributors





Jeremy Beales (UVic) dictates the reasons for drilling on the Bedford – McDougall – South Rusty Hill lineament as presented by a former geologist to justify spending money on drilling



Stacey Parmenter (Memorial U) sitting just below an exhalative horizon that is easily missed in the field if you are not observant





Lucia Krivankova-smal (McMaster U) on a spectacular outcrop of subaqueous phreatomagmatic explosion breccias at Buttercup Hill (aka The Fragment Factory)



Taylor Chew (Acadia U) thanks Christian Tessier (Canadian Malartic Mine) after his evening talk



Columnar joints in a felsic flow



Mapping volcanic stratigraphy (CHANGE CHANGE CHANGE) with Meg Stewart (Laurentian U)



Complete ultramafic flow sequence at Pyke's Hill

In-Kind Contributors





David Gamble (Gamble Geoservices) marking out potential lava tubes at Pike's Hill



Grant Hagedorn (U Guelph) and Corwin Trottier (Saint Mary's U) with evening speakers S-



Quang Ngo (Fleming College), Helena Diao (U Waterloo) and Dylan Langille (Western U) hanging out with famous Timmins' prospectors Jack Wilson, Sandy McIntyre and Benny



A couple of mining carts among other artifacts from Timmins' mining history



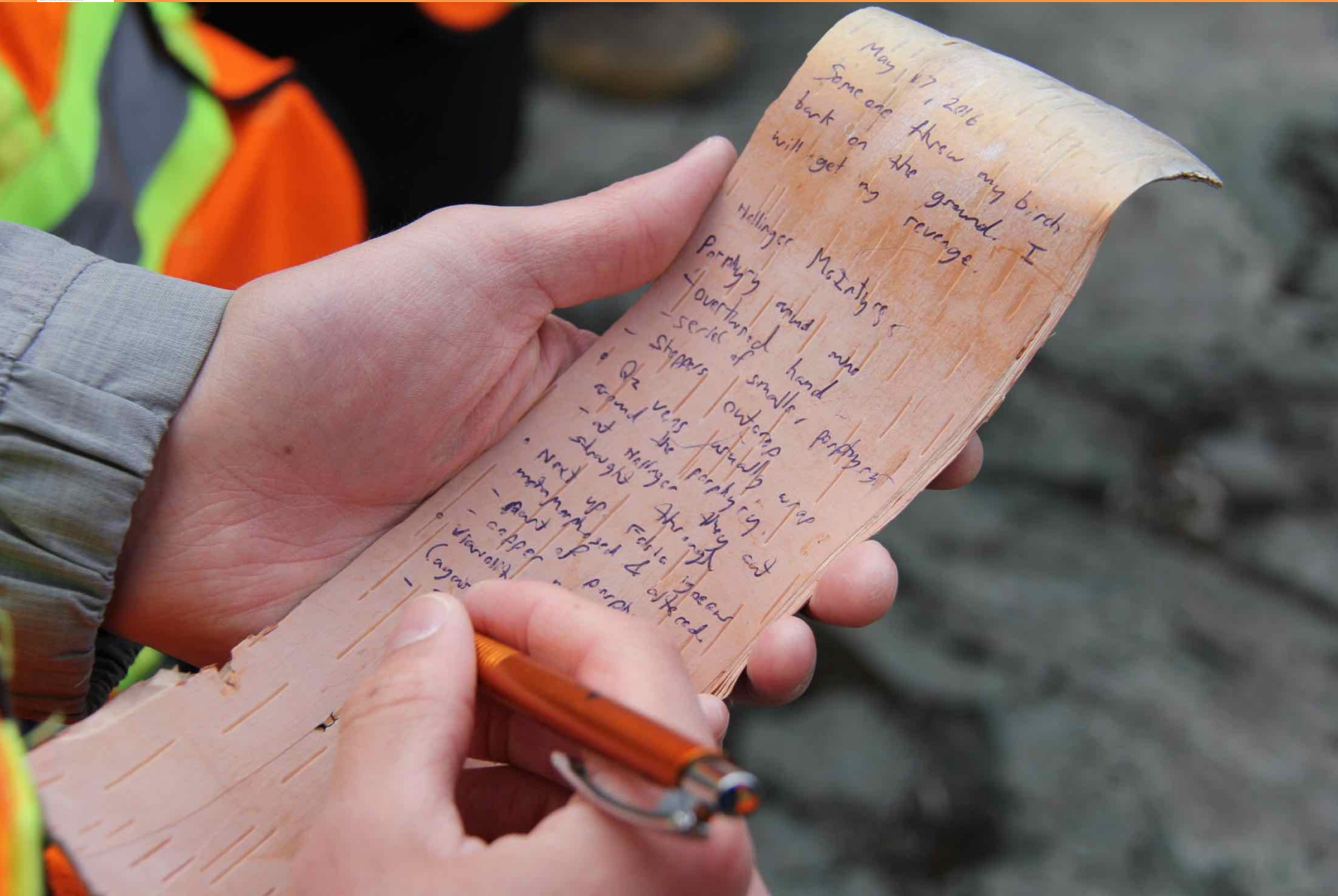
A miniature of a Timmins gold deposit



Lori Paslawski (St. FX) and Jeremy Beales (UVic) might have something to fall back on if geology doesn't work out



Peter Harvey explaining the structural controls on the gold mineralization in the Timmins



What do you do when you run out of note book? You make a scroll of birch bark of course!



Outcrop exposure of an angular unconformity between Timiskaming conglomerates and Porcupine Group turbidites



Bad news: we got a flat. Good news: we brought a team of Formula 1 mechanics

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.....and stuck in the sand



Quang Ngo (Fleming College) thanks Peter Calloway after his evening talk on the Kidd Creek



The Young Davidson crew is ready to go underground



Stephanie Kupers (Brock U), Sam Metteer (Lakehead U) and Ryan Bachynski (U Regina) enjoying a blue sky, a blue building and blue coveralls at the Timmins West mine



Light at the end of the tunnel at Timmins West...you might want to get out of the way though



Olivia Greaves and Mynyr Hoxha (Alamos Gold) explains the underground workings



Syenite-hosted auriferous quartz veins in the Timmins West mine



Checking a new cut from the scoop

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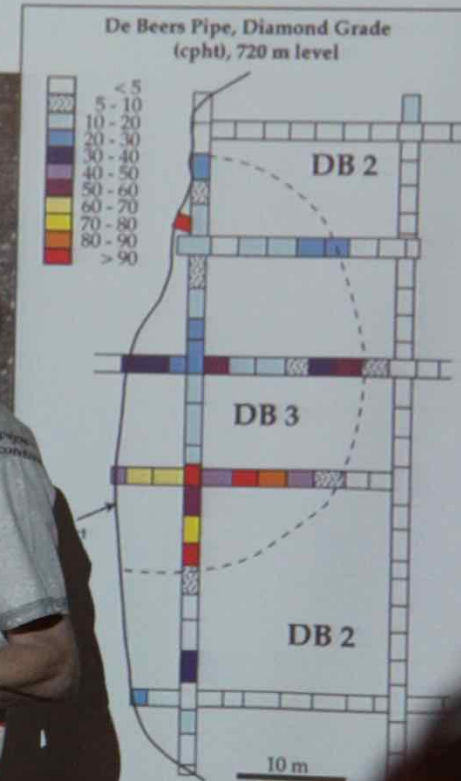
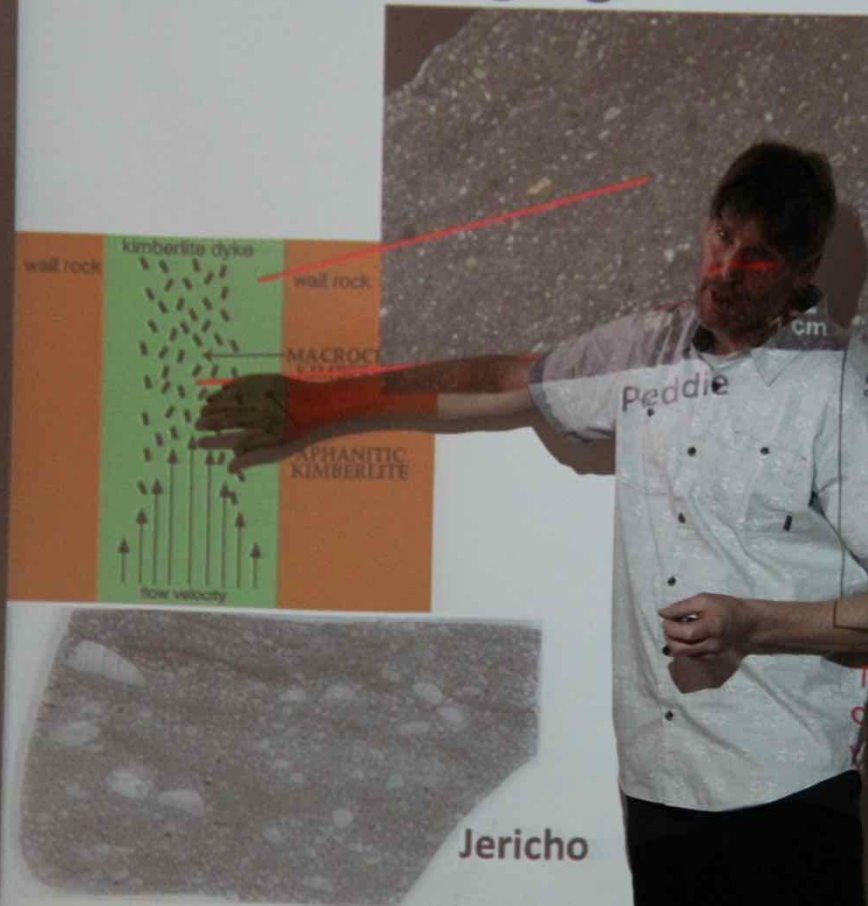


Ontario



The brave ones jumped into Lake Temagami after an early dinner

Flowage segregation



two orders of magnitude
diamond grade variation
within a single (DB)
intrusion



Nicole Januszczak (De Beers) giving an overview of diamond exploration



SRK Consulting | Idealized Exploration and Evaluation

EXPLORATION COMPONENTS:

- Research / writing on paper exercises
- Sediment sampling
- Airborne Geophysics - magnetic - EM / gravity
- Desktop geophysics
- Core drilling - exploration phase (single hole into kimberlite)
- Kimberlite sampling / MAC / MDA (minimum 100kg / phase)
- Additional geophysics, sampling and drilling

EVALUATION COMPONENTS: (first hole to end of mine)

- Core drilling - exploration and delineation - MAC
- Development of both external and internal pipe model
- Small diameter RC drilling - first MADA parcel ("20")
- Core drilling - delineation and pilot holes for LDCR
- Update of 3D geology model
- Large diameter RC drilling - second MADA parcel
- Core drilling for delineation
- Update of 3D geology model / resource classification
- Large diameter RC drilling - and possible underground parcel

Casey Hetman (SRK Consulting) presents his talk on evaluation of diamond deposits



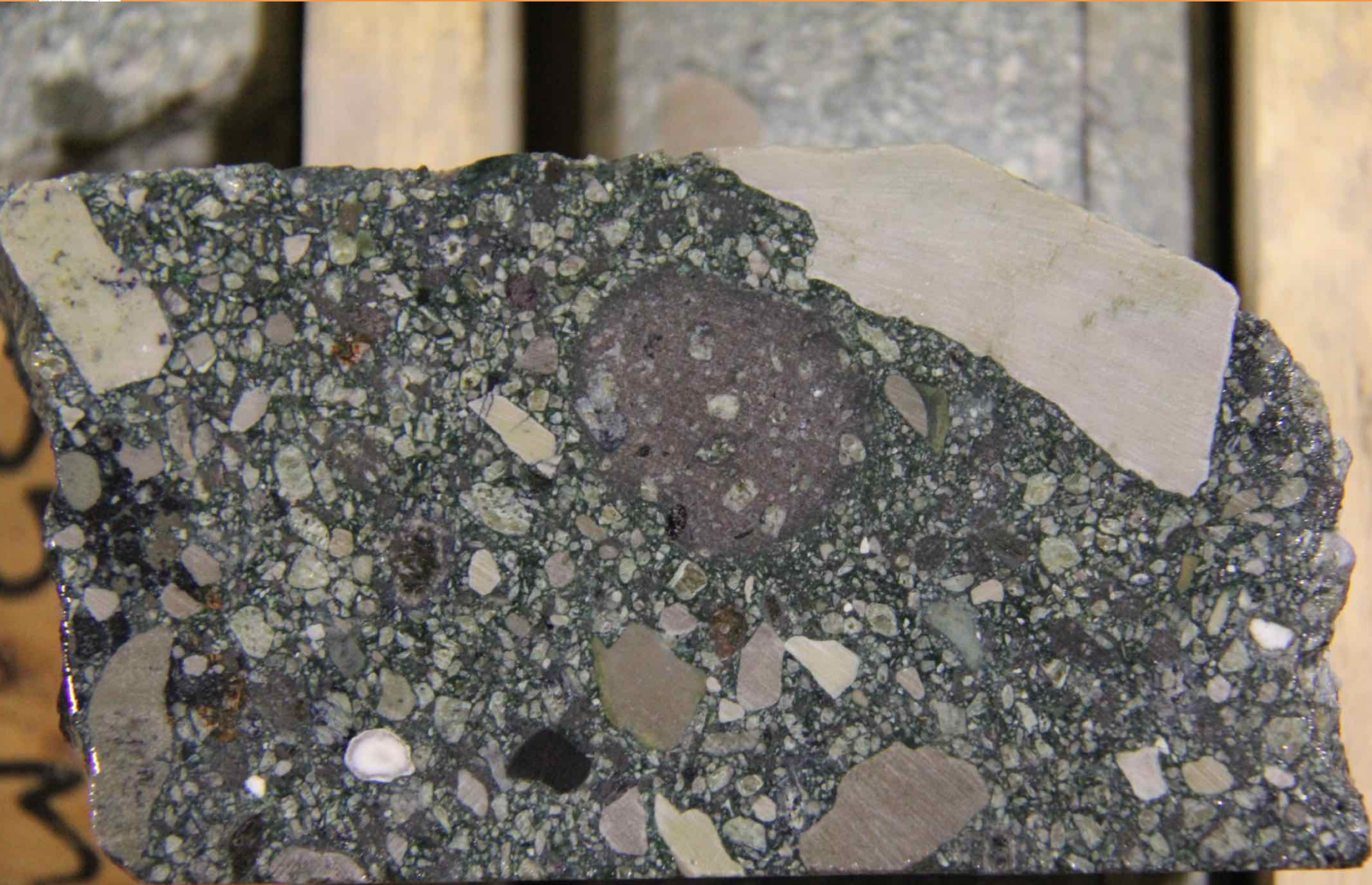
Krishana Michaud (fearless S-IMEW Leader) and Felix Lee (S-IMEW Co-Chair) enjoying lunch



Stephanie Kupers (Brock U) chatting with Casey Hetman (SRK Consulting) in the De Beers



Dylan Langille (Western U) with a row of diamond drill core from the Victor diamond mine



Kimberlite core from the Victor diamond mine with sub-rounded juvenile material

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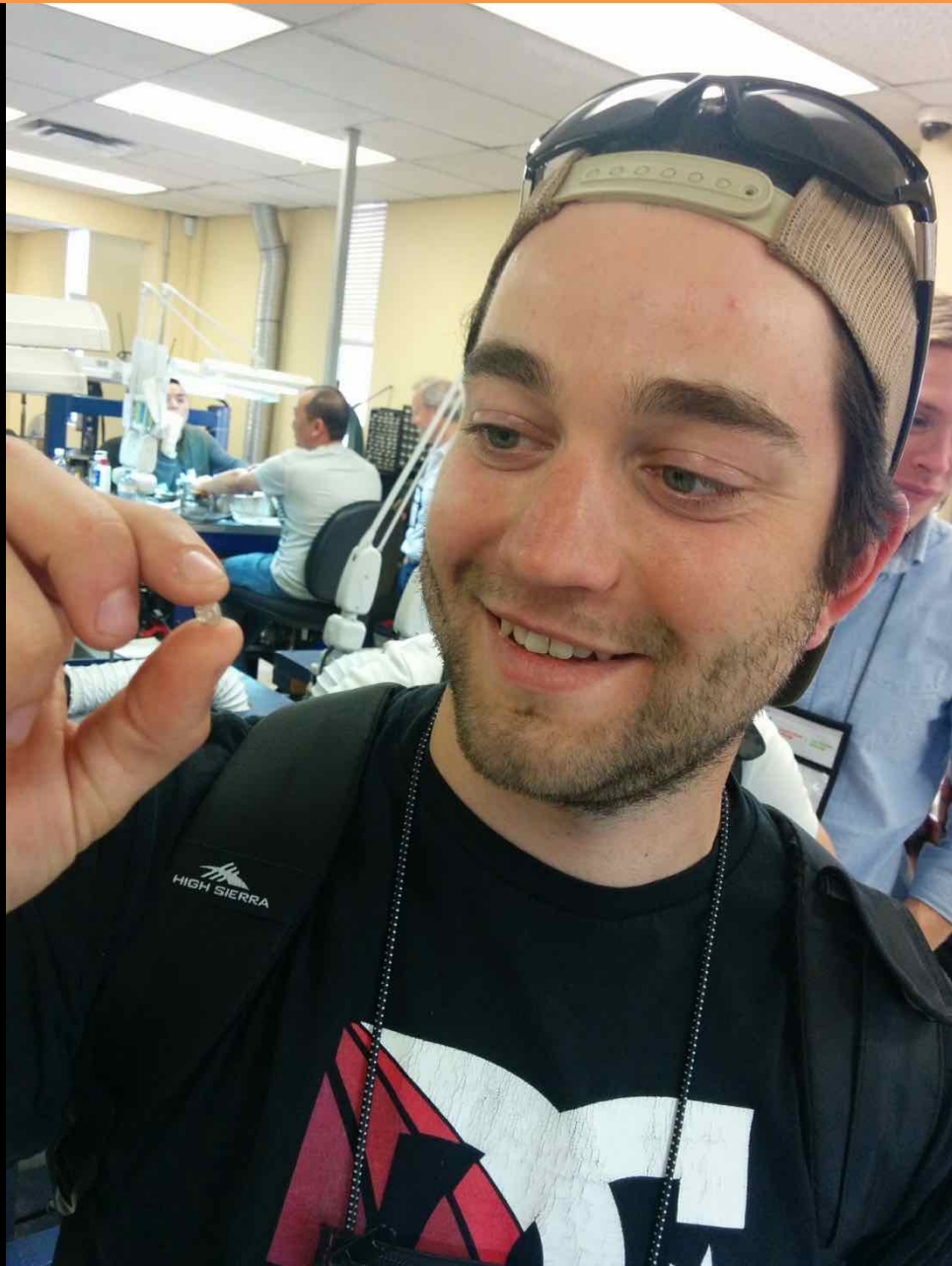
Students inspect kimberlite core from the Victor diamond mine



Raw diamond mounted for 3D scanning



Diamond mounted for polishing



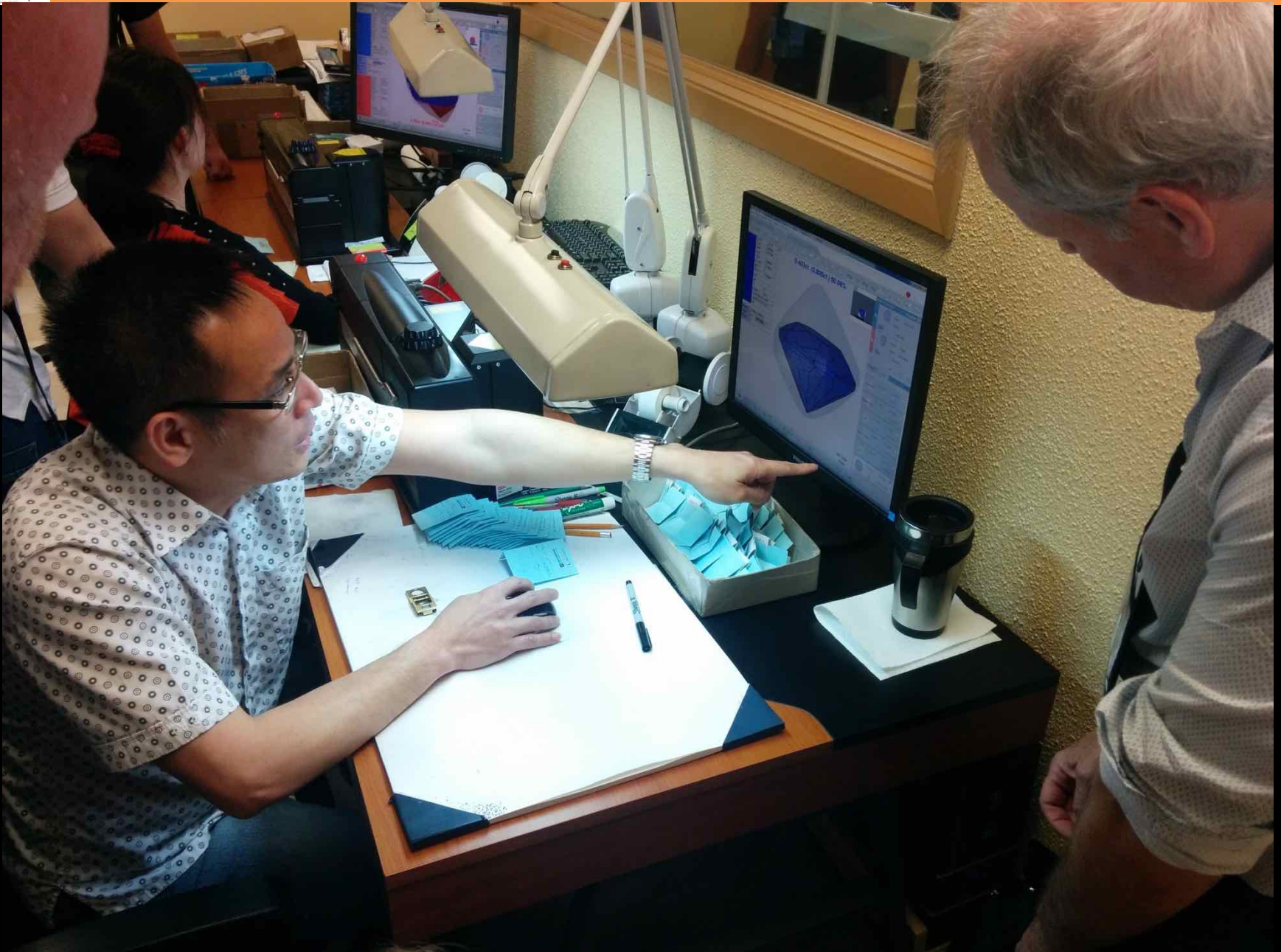
Steady hands required....



Robert Wu (Carleton U) looking at a 2.4 ct diamond with an incomplete polish



Rita Dubman (Simon Fraser U) with some BLING!



Diamond cut optimization



The ca. 1 ct “*Cassandra Powell*” diamond named after the photographer



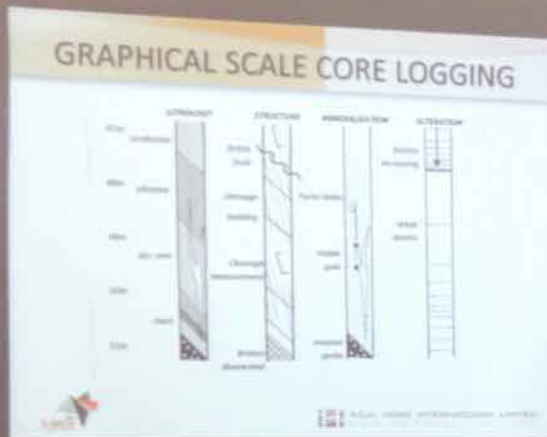
John Armstrong (Lucara Diamond Corp.) tells the captivating story of the Karowe mine in Botswana and their discovery of the 1109.67 ct *Lesedi La Rona* ("Our Light") diamond



Anthony Knutson (U Calgary) and Jeremy “Diamond Eye” Beales (UVic) handling a resin model of a special stone from the Karowe diamond mine in Botswana



Preparing for an underground mining exercise at the NORCAT training facility



Ian Trinder presents the ABC's of core logging



Lori Paslawski (St. FX U) logging an interval of diamond drill core



Anthony Knutson (U Calgary) shares his S-IMEW highlights during student presentations