# GAC-CS **NEWS**

### Geological Association of Canada | Cordilleran Section | Vancouver, BC

#### Hope Mountain update p.2

Kelly Pearce is grateful for GAC-CS support in offering the annual School of Rock field trip lead by John Claque.

#### Geoscience BC update p.4

An overview of recent Geoscience BC activity in the Cordillera.

#### New core shack BCIT p.5

Russell Hartlaub gives us a sneak peek into BCIT's new core shack.

### Roundup/PDAC review p.7

Robert Lee gives us a summary of his impressions from this year's Roundup and PDAC conferences.

### New CIM volume p.8

John Chapman previews a new CIM volume on Cordilleran porphyry systems.

### Upcoming events p.10

A place to advertise upcoming talks, conferences and workshops.

# **President's Message**

By Thomas Bissig, GAC-CS president

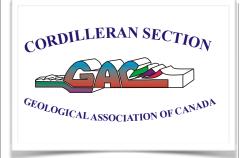
#### Dear GAC-CS members,

You may not recall the last GAC-CS newsletter and rest assured, your memory is not failing. The lack of recent newsletters is in part due to recent changes to council as personal situations and careers take some of us into new directions. However, the good news is that we have seen a renewed upswing in activities and we are looking at a busy few months ahead.

Four talks were presented this fall and winter as part of the GAC-CS breakfast series and a public lecture by **Alan Wilson**, Society of Economic Geologists international exchange lecturer, was recently held. In addition, SEG Distinguished Lecturer Dr. **Christoph Heinrich** will be in town in September and has agreed to give one or two talks (downtown and at UBC). The details are still subject to further planning, but the likely dates are between Sept 17-19<sup>th</sup> 2018.

GAC-CS is also sponsoring a number of sessions and field trips at the upcoming **Resources for Future Generations** conference (RFG2018) being held in Vancouver in June. GAC-CS is sponsoring a field trip to the Seymour-Capilano water system and twin tunnels project - North Vancouver. Numerous sessions at the conference are of interest to the GAC-CS membership. There is something for everyone and I encourage you to check out the technical program (www.rfg2018.org).

As alluded to in the opening paragraph, the GAC-CS council has recently experienced significant changes. John Chapman is stepping down as vice president and Tyler Ruks



#### **Council**

President: Thomas Bissig (Goldcorp.)

Vice-President: Robert Lee

(UBC-MDRU)

Secretary: Jamie Kraft (Teck)

Treasurer: Peter Friz (Hatch)

Membership/website: Glyn Williams-Jones (SFU)

Newsletter: Nathalie Vigouroux

(Douglas College)

UBC Student Rep: Nikolett

Kovacz (UBC)

Councillors:

Carl Verley (Amerlin Exploration Services)

Russell Hartlaub (BCIT)

#### **Contact Us**

For more information about the GAC-CS and to become a member, contact us at:

Email: info@gac-cs.ca

http://www.gac-cs.ca

Mail: PO Box 398 Station A Bentall Centre Vancouver, BC V6C 2N2 will no longer be secretary although both are keen to stay involved when possible. I would like to thank both of them for the great work they have done over the years. Jamie Kraft (Teck) has taken on the role of secretary and the task of e-mailing announcements and informing members of upcoming activities as well as collaborating with the breakfast series talks. Robert Lee (UBC-MDRU) will take on the vice-president position. Speaking of change, our GAC-CS website and newsletter have received a significant makeover. Thank you to Glyn Williams-Jones and Nathalie Vigouroux!

Although we are coming up on the summer field season, which looks like it is going to be a busy one, we welcome feedback and if you would like to get more involved in the council, by all means let us know!

### Thomas Bissig



# **Hope Mountain Update**

By Kelly Pearce

Hope Mountain Centre, in collaboration with GAC Cordilleran Section and SFU geologist John Clague, has been running a series of very popular geology tours since 2010. "School of Rock" is an annual summer bus tour exploring different landscapes in British Columbia, aimed at the general public.

The August 2017 trip showcased the spectacular Howe Sound-Whistler corridor, with stops at Cypress Lookout, Porteau Cove, Britannia Mine, Stawamus Chief, and Squamish River. Dr. John Clague brings tremendous skills to the program, having a deep knowledge of the province's diverse geology while also possessing the talent needed to convey complex ideas to an audience. Over the years, Dr. Clague has built a loyal following

of people who return to the program, eager to explore new areas with him. New participants are also recruited each year, demonstrating that there is broad public interest in the topic of BC's geological history. School of Rock will be taking a break in 2018, but will return with gusto in 2019. To find out more about Hope Mountain Centre and its educational mission, visit <a href="https://www.hopemountain.org">www.hopemountain.org</a>.







# Geoscience BC Update

Geoscience BC is an independent, non-profit organization that generates earth science in collaboration with First Nations, local

communities, governments, academia and the resource sector. Our independent earth science enables informed resource management decisions.

#### **Project highlights**

Search Phase III - Geoscience BC announced results from Search Phase III program in January at the AME Roundup conference in Vancouver. The airborne survey covered 9,600 km2 in north central and northeastern BC and is expected to spark investment in mineral exploration in the area. Helicopters equipped with ultra-sensitive magnetometers flew at a constant elevation of 80 metres for more than 40,000 km.

Geoscience BC is continuing to work with First Nations and local communities to demonstrate how the data can be of best use – all data and maps are available publicly for free. Learn more about the results here: Search Phase III.

Groundwater Monitoring Research Project – Geoscience BC is collaborating on a new research project with BC Oil and Gas Commission, the University of British Columbia, Simon Fraser University and the University of Calgary to install 30 new groundwater monitoring wells within the Peace Region of British Columbia. The infrastructure will allow ongoing monitoring of groundwater trends and cumulative effects in northeast BC: Groundwater Monitoring Research Project.

Peace Project – Geoscience BC recently released new reports on shallow groundwater in the Peace region of northeastern British Columbia. The four-year Peace Project is due to complete in spring 2018. Learn more about the Peace Project.

TREK Project – Geoscience BC and the University of British Columbia's Mineral Deposit Research Unit (MDRU) hosted a workshop to summarize and present final information from the four-year Targeting Resources for Exploration and Knowledge (TREK) project in BC's central interior. The event featured posters and ten presentations across three sessions and was attended by over 80 people both in person and via live webcast. Copies of presentations and video from the workshop are now available on the Geoscience BC website.

#### Strategic Plan

Hundreds of people from the resource sectors, governments, communities, First Nations and academia offered their time and shared ideas to guide Geoscience BC's planning process.

The Strategic Plan 2018-2022: Forging Opportunities Through Earth Science Partnerships document has now been released and is available here: <a href="http://www.geosciencebc.com/s/OurPlan.asp">http://www.geosciencebc.com/s/OurPlan.asp</a>.

#### **Summary of Activities and Annual Report**

In early 2018, Geoscience BC published its 2017 Annual Report and Summary of Activities reports, providing a summary and technical details of all active projects in 2017. For the first time, the Summary of Activities reports have been split into separate Minerals & Mining and Energy volumes. Copies of both Summary of Activities and Annual Report are available to download on the Geoscience BC website.

#### **Upcoming events**

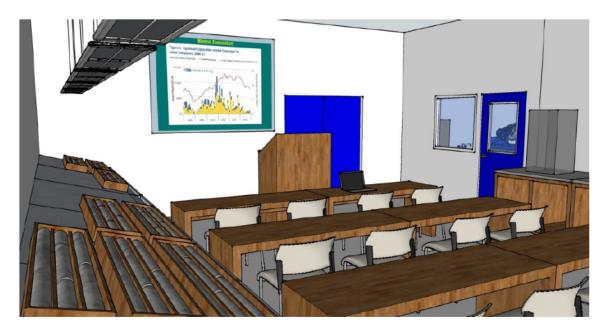
\* The Geoscience BC Technical Advisory Committees for Minerals and Mining, Geothermal and Oil and Gas will meet in early spring to discuss future projects.

- \* Geoscience BC will be attending Minerals North in Houston on April 25-27, 2018 with Vice President, Minerals and Mining Bruce Madu providing a project update.
- + Geoscience BC will be attending at Geoconvention in Calgary on May 7-9, 2018.
- \* Geoscience BC representatives will be attending local government conferences in British Columbia in the spring including: Association of Kootenay and Boundary Local Governments Association, Southern Interior Local Government Association and North Central Local Government Association.

## **New Core Shack at BCIT**

#### By Russell Hartlaub

A Core Shack Training Facility is currently under construction on the BCIT Burnaby campus. This facility will provide a new lab in western Canada to provide training on the geological and geotechnical aspects of collecting data from core. The facility is being built to support the new BCIT Mining and Mineral Resource Engineering Degree, as well as the existing Mineral Exploration and Mining Diploma program and part-time studies courses.



Layout of the Core Facility will allow lectures and labs to occur in the same space

#### This facility will include:

\* Core logging room (with water supply, floor drainage, photography station, benches and desks);

- \* Sample prep room
- \* Geotechnical laboratory with various testing equipment (for specific gravity measurements, point load, shear, uniaxial, and triaxial tests);
- \* Exterior covered core storage racks



Renovation of the existing space is well underway and should be completed in June 2018.

The grand opening of the facility is planned for June 2018 and will coincide with the first graduating class from the Mining and Mineral Resource Engineering program. The first full and part-time studies classes are scheduled to use the facility in the fall of 2018.

Please contact Russell Hartlaub, Thomas Mumford or Reza Tafti (bcit.ca/mining) if you have core that you, or your company, would be willing to donate.

# **Roundup and PDAC Review**

By Robert Lee

Optimism with a touch of caution was the mood at this year's AME Roundup and PDAC. With copper and other base metal prices up and gold prices holding steady, opportunities abound for those in the mining industry. Both Roundup and PDAC provide a location to gather and share new projects, new innovations, and new opportunities. Over 6,500 in attendance at Roundup and 25,600 participants at PDAC (both up from previous years), descended upon Vancouver and Toronto en masse to seek out these opportunities, and the excitement was clear from the opening ceremonies to the closing bell.

Opening short courses and technical sessions were well attended and covered a wide range of mining aspects, from Geometallurgy to Zinc. Additional effort was extended to engage the investment community with the technical sessions, opening new avenues of communication and interaction. Research groups and Universities highlighted new innovative studies and showcased the work of students and young researchers at the poster sessions, technical talks, and mentoring roundtables. Additionally, there was active progress into engaging and reconciling with our indigenous community, and their important role in mining and production in Canada.

On the floor of the convention centre, Majors were actively looking for potential projects and Juniors promoted targets and prospects of quality. The core sheds contained great samples from both new and old projects; with gold the primary focus, but porphyry Cu(Mo), VMS, and other base metal targets also present. New technology was on display with drones, VR, and spectral imaging cameras the hot items. Software and analytical providers were busy reconnecting with clients and picking up new ones.

While the past five years have been up and down in our industry, there is clear drive now to move forward and seize the opportunities where available. Companies are actively seeking new employees and here in British Columbia there are multiple projects available. The industry looks bright as the next generation of geologists, engineers, and investors move out to start their careers.

The GAC-CS looks forward to the upcoming 2018RFG conference, which will be hosted in Vancouver, where we will have an active presence. Hope to see you there!



© Global News (https://globalnews.ca/event/3944583/ame-roundup-2018-new-generation-of-discovery/

# A New Cordilleran Porphyry Volume

By John B. Chapman, outgoing vice-president of GAC-CS

"The time to take inventory is when the store has very few customers."

These are the opening words Robert H. Seraphim wrote in his preface to CIM Special Volume 15, "Porphyry Deposits of the Canadian Cordillera", edited by Atholl Sutherland Brown and published in 1976. He was writing at a time when BC's minerals industries were going through lean times; optimism about the future was needed, and SV15 served to remind the mining and exploration communities that the Cordillera was still one of the most prospective tracts of land in North America. This comfortingly weighty blue book contained more than three dozen papers on porphyry-related deposits, large and small, along the length of the Cordilleran spine from Copper Mountain in the south of BC, to Casino in central Yukon.

Nearly 20 years later, during the recession and exploration slump of the early 1990s, a time when the economic downturn and political hostility to the mining industry saw an exodus of people and knowledge from this district, the lesson was repeated. Tom Schroeter and his editorial board brought together a gargantuan list of 69 papers – 61 of which were on individual deposits! – to produce CIM Special Volume 46, "Porphyry Deposits of the Northwestern Cordillera of North America", familiar to many of us as the big blue book that dwarfs most others in our personal reference collections.

Recent economic upheavals have been somewhat more prolonged than those experienced back in the '70s and '90s – their effects have been similarly profound – and again it was time to take stock. Looking at the amount of work that has been done on elucidating the genesis of porphyry deposits within the Cordillera, the new deposits found, and the new mines opened, it was clear that although quieter than had been the case our region was still an active hub of global exploration activity. The two existing 'big blue books' remain valuable sources of fundamental data, but with changes in exploration methods, expectations, and understanding, as well as the simple march of progress rendering some portions stale, the time has come for another update.

The Northwestern Cordillera of British Columbia, Yukon and Alaska is one of the world's most richly-endowed and varied porphyry-style mineral deposit provinces. Within this belt porphyry mineralization includes calc-alkalic Cu-Mo(-Au), arc-related Mo, and W-Mo styles, as well as globally scarce but regionally significant alkalic Cu-Au deposits. Thousands of porphyry-related deposits are known within the Cordillera, and, depending on your definition of 'deposit', some two dozen or so are currently in production. These latter include long-established mines such as Gibraltar, Copper Mountain and the Highland Valley cluster, but also include recent additions to the inventory, such as Red Chris, Mount Milligan and New Afton.

The depth and breadth of research and knowledge built up by geologists working in and on this prolific domain has enriched the global community and continues to elucidate fundamental controls on porphyry metallogeny. Despite this density of activity, large areas of the region remain underexplored and our knowledge of the distribution and genesis of its various porphyry tracts, and of the secular and spatial evolution of the Cordillera's various deposit styles and their controls, is incomplete.

Key to unlocking these macro-scale questions is a thorough and comprehensive review of deposit research and knowledge pertaining to known occurrences. The previous CIM special publications (1976 and 1995) still contain either the most accessible introductory papers for many deposits covered, and for some the only reliable source of detailed information available. However, much of this information has been superseded in the last 20 (or 40!) years but these data and interpretations are sequestered in company reports and research theses, scattered through numerous lengthy research papers, or bowdlerised within statutory reports.

To fill the gap, the CIM is sponsoring the production of a new publication that seeks to update and liberate this information, and provide a new resource for the next generation of Cordilleran ore deposit explorers and miners. An editorial board has been convened and the GAC Cordilleran Section is well represented. The book will be broken down into three sections: broadly past, present, and future. Like SV15 and SV46, the backbone of the volume will be short papers that bring together available data on individual deposits, but this will be presented in a strongly templated style. Using a template to guide the authors will ensure that the book forms an easy and quick-to-access reference resource, while maintaining the thorough coverage that made its predecessors so valuable. It is also greatly reducing the workload for authors, reviewers and editors, as everybody knows exactly what is expected and how it should be presented. These papers will be clustered by region, with each district being introduced with an overview paper that sets the metallogenic environment and its deposits in context within the wider Cordilleran picture.

The editorial board already has manuscript commitments for the great majority of important Cordilleran porphyry systems from Alaska south to Washington, but we are always on the lookout for more. We anticipate that initial publication announcements will be in late 2019, with full availability by early 2020. The volume itself will be printed in hard copy and will be available in electronic format, with the papers being fully citable. Whether it will be blue or not, well, that remains to be decided!

#### **Proposed Content Outline**

Section I – Geology and Mineral Deposit Genesis within the Northwestern Cordillera: Background review and synthesis of advances made in knowledge and understanding of arc fertility in general and porphyry deposit formation within the Northwestern Cordillera in particular.

Section 2 – Northwestern Cordilleran Deposits: Comprehensive selection of shorter papers (approx. 10 pages each; templated) designed to provide a broad but abbreviated capsule overview of notable deposits. Papers are designed to provide a sound grounding in each deposit such that major characteristics and deposit genesis knowledge are covered in detail, and to provide an accessible gateway to more detailed academic studies available elsewhere.

Section 3 – Looking to the Future: Selection of more speculative, big-thinking, integrated geology and industry reviews, and papers looking at developments in technology and society that will influence porphyry exploration and mining in the next 25 years.

#### **Editorial Board**

Co-Chairs:

John Chapman (GSC, and GAC Cordilleran Section), James Lang (HDI), Libby Sharman (BHP)

Board:

Thomas Bissig (Goldcorp, and GAC Cordilleran Section), Ron Britten (Independent), John Dilles (Oregon State University). Joanna Lipske (Independent), Patrick Redmond (Teck), Brock Riedell (Independent), Jason Dunning (Adventus Zinc, ex officio), Serge Perrault (SOQUEM, ex officio)

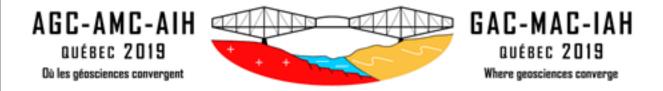
# **Upcoming Events**

## **Resources for Future Generations**

PREMIER CONFERENCE ON ENERGY • MINERALS • WATER • THE EARTH
June 16-21, 2018 | Vancouver Convention Center | Vancouver, BC, CANADA



See the full list of sessions, pre- and post-conference field trips and short courses at rfg2018.org



Session proposals due May 1st. See <a href="http://gacmac-quebec2019.ca">http://gacmac-quebec2019.ca</a> for more information.