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DNR Geologist Chris White Awarded 2014 CPTG Medal

We are pleased to announce that Department of Natural Resources geologist Dr. Chris White was recently awarded the 2014 Provincial and Territorial Geologists Medal. The medal is awarded annually by the Committee of Provincial and Territorial Geologists (CPTG) to an outstanding geoscientist from one of Canada's provincial or territorial geological surveys. The winner is selected by an independent evaluation committee consisting of a representative from industry, academia and the Geological Survey of Canada.

Chris is a great choice for the 2014 CPTG Medal. He embodies all of the best qualities in a geologist: highly engaged, incredibly knowledgeable, passionate about what he does and struggling to accept that you can't be in the field 24 hours a day, 7 days a week. During his more than 16 years of outstanding service to the Government of Nova Scotia Chris has consistently demonstrated excellence in every aspect of his profession. He thrives on developing innovative solutions to complex geological problems, and strives to provide maximum value to government through application of his research and expertise.

Chris's research output is phenomenal, comprising over 150 published maps, 100 internal publications and 60 journal publications. He has mapped the bedrock



Presentation of the Canadian Provincial and Territorial Geologists Medal at the 2014 Energy and Mines Ministers' Conference in Sudbury, Ontario. From L to R: Hon. Michael Gravelle, Ontario Minister of Northern Development and Mines; Hon. Zach Churchill, Nova Scotia Minister of Natural Resources; Chris White; and Hon. Greg Rickford, Minister of Natural Resources Canada.

geology of approximately half of Nova Scotia and has made a considerable dent in the bedrock mapping of New Brunswick. The scope of his research is impressive spanning the spectrum from Cambrian trace-fossils, through mineral deposit modelling, to the origin of the northern Appalachians. His work has led to the recognition of new opportunities for mineral exploration, enhanced the understanding of Nova Scotia's geoheritage and helped communities deal

with geohazards such as radon in homes, acid rock drainage and arsenic in drinking water.

Chris's collaboration with geoscientists from across North America and Europe has attracted numerous researchers and valuable research funding to Nova Scotia. In recognition of his scientific achievements Chris also received the 2013 Distinguished Scientist Award-Gesner Medal-from the Atlantic

Geoscience Society, and for his volunteer efforts he has received awards from the Geological Association of Canada and the Atlantic Geoscience Society. Chris is a mentor to his colleagues, a favoured advisor to students and the go-to person on all aspects of Nova Scotia geology. DNR is fortunate to have Chris as a member of our staff, and grateful for all that he has done for Nova Scotia.

Rob Naylor

Geology Matters 2014: November 12 and 13 at the Westin Hotel in Halifax

On November 12 and 13, the Geoscience and Mines Branch of the Nova Scotia Department of Natural Resources (DNR) will host its 38th annual fall conference at the Westin Hotel in Halifax. Geology Matters 2014 will showcase the mineral resources of Nova Scotia, the geological framework in which they occur and the issues of vital importance to industry, government and other stakeholders.

Geoscience and Mines Branch staff, prospectors, exploration companies, university researchers, and numerous related associations will present accounts of their initiatives, exploration activities and results. The program will include:

- an innovation session;
- a gold session featuring keynote speakers Ross Large of the University of Tasmania, Dan

Kontak, Laurentian University, Chris Lawley, Geological Survey of Canada, and Rick Horne, Atlantic Gold Corporation;

- Geoscience and Mines Branch initiatives, including the Nova Scotia Mineral Incentive Program, mapping activities throughout the province, and a report on prospector activities; as well as
- reports from various exploration and mining companies.

Instructor Patrick McAndless will lead a student workshop, *A Career in Geoscience: Getting Discovered*, followed by a Reception and Awards Ceremony hosted by the Honourable Zach Churchill, Minister of Natural Resources.

Guest luncheon speakers will include David Acker, First Vice-President, CIBC Woody Gundy, and Carl Weatherell, CEO and Executive Director of the Canadian Mining Innovation Council. The Commonwealth Ballroom at the Westin Hotel will be filled with corporate booths, prospector and DNR staff posters, GIS and prospector demonstrations and much more.

Information about the conference, a conference program (see p. 8), and online registration can be found on the Geoscience and Mines Branch website (<http://novascotia.ca/natr/meb/>). For further information, please contact Diane Webber at 902-424-3053 or Diane.Webber@novascotia.ca.

Diane Webber



Participants enjoy the Minister's Reception at Geology Matters 2013.

New Web Site for the Geoscience and Mines Branch

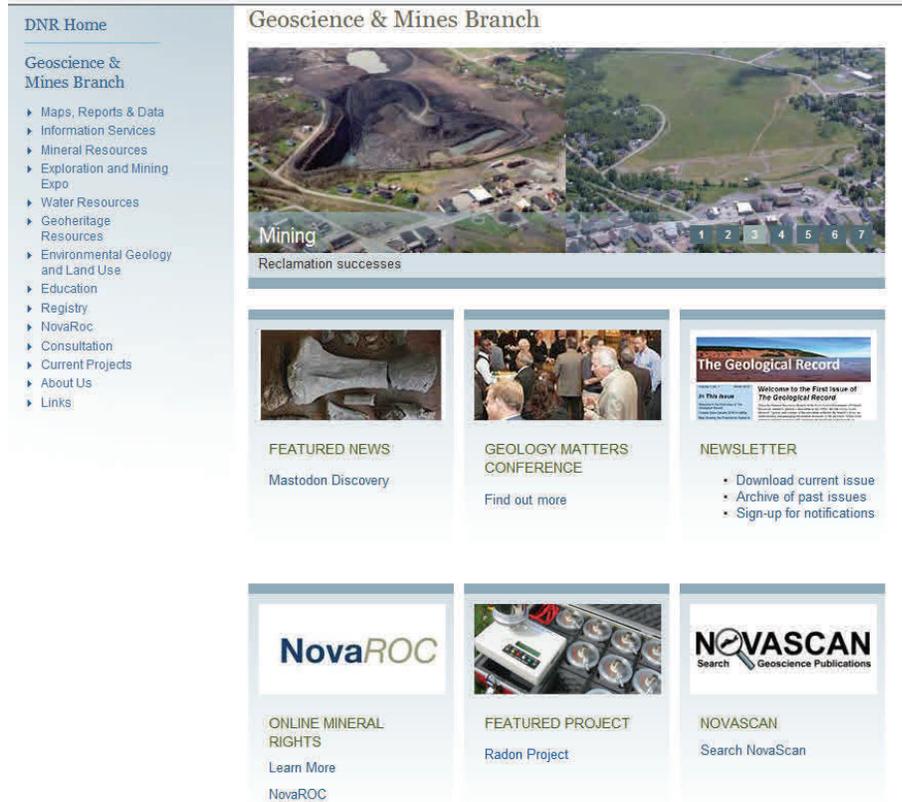
Over the past number of months the Geoscience and Mines Branch (see the article on p. 8) has been working to create a new web site (<http://novascotia.ca/natr/meb/>). We have tried to make the site more graphical, with fewer long pages of text, and more client friendly to navigate. The left hand side of the page offers the choice of our major program areas and high level access points. From there clients can drill down to find more specific information. We have tried to cross link pages where appropriate to lead clients where they may want to go.

Through the web site clients can access:

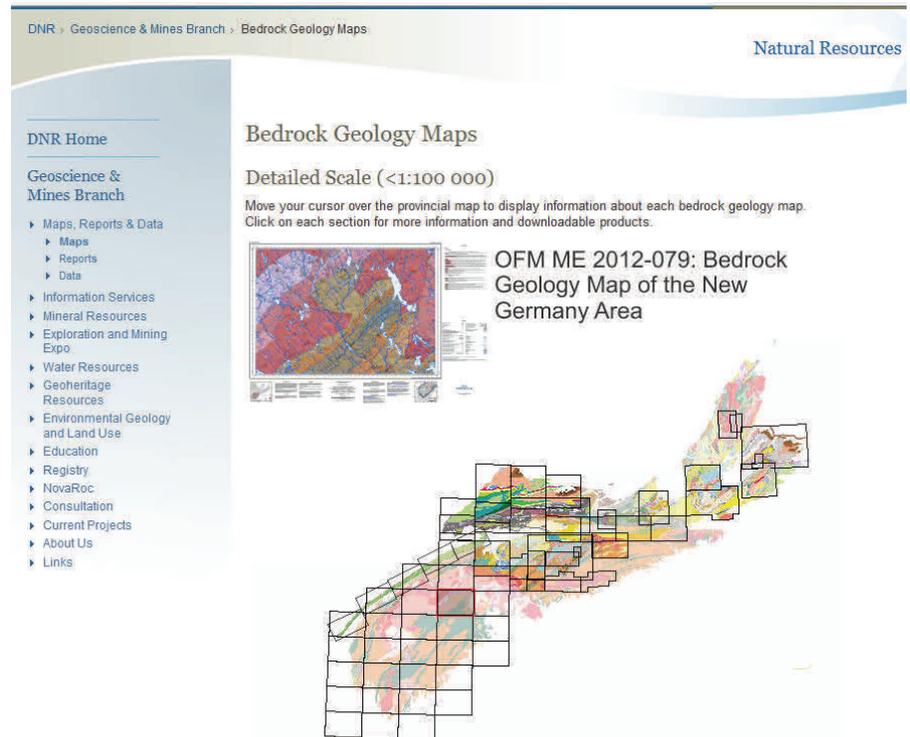
- information on our programs, projects and staff;
- direct links to related publications, maps and other links of interest;
- thousands of reports, maps and assessment reports, not only through NovaScan but also on pages listing the most common documents related to the topic the client is investigating; and
- many of the most recent maps and GIS data products, which can be accessed visually through web pages of the province outlining the maps and digital products.

The site was launched on July 2 and since then we have been working to make it even better. We have received a number of good suggestions on items to add to the site and we will be working on these over the next few months. Please take a look at the site and send any suggestions and ideas that you might have to mebweb@novascotia.ca. I'd like to thank the entire staff of the Geoscience and Mines Branch who contributed to the site, with special thanks to project leader Diane Webber and web masters Susan Saunders and Mark Alberstat.

Brian Fisher



Above: Home page of the new Geoscience and Mines Branch web site. **Below:** Accessing maps just got easier. Place your cursor over the map you want and click.



The Abandoned Mine Openings Program for 2014-2015

In January 2014, the Abandoned Mine Openings (AMO) Remediation Working Group reviewed the field work completed in 2013 and prioritized field activities for 2014-2015. The subsequent work plan was approved in March by the AMO Steering Committee, consisting of three DNR Executive Directors. About 50 abandoned mine openings will be remediated on seven Crown land properties in 2014-15.

This work is part of the DNR's long-term program to address the hazards and liabilities resulting from AMOs on Crown land. This year's work plan has

been expanded from the usual \$50,000 expenditure to a value of about \$68,000.

The largest project will be in the Joggins area. An extensive area of about 25 old coal slopes and 125 crop pits is being excavated and backfilled in Phase III of work that began in 2012.

The next largest project is at Leipsigate, within the Town of Bridgewater Water Supply Area. Fourteen AMOs will be remediated there in 2014-2015. Other, smaller remediation projects are planned for Montague Mines, Lake Charlotte, Mill

Village, Crousetown and West Side Country Harbour. Through a partnership with a private sector forestry company, a number of AMOs at Stanburne, Lunenburg County, will also be remediated in 2014.

DNR has released a provincial scale (1:500 000) figure showing AMO locations in the province, dated January 22, 2014. It is available from a link on the DNR website, at: http://novascotia.ca/natr/meb/download/mg/ofm/htm/ofm_2014-001.asp.

Ernie Hennick

Cabot Gypsum Advances Beaver Dam Lake Prospect

The Geoscience and Mines Branch is helping Cabot Gypsum find high quality gypsum close to its wallboard manufacturing plant in Port Hawkesbury.

In January 2014, Cabot Gypsum, which is based in Moncton, N.B., met with the One Window Standing Committee in Halifax to describe its proposal to open a new quarry. The One Window Committee consists of representatives from six provincial and federal government departments.

Following that meeting, the One Window Chair organized a meeting in Port Hawkesbury to give company President, Marcel Girouard, an opportunity to meet with the town's Chief Administration Officer, Maris Freimanis. This meeting provided Mr. Freimanis with an opportunity to discuss the concerns that the town has with regard to quarrying gypsum within the boundaries of the Port Hawkesbury Designated Protected Water Supply Area.

Cabot presently employs 40 people to manufacture gypsum wallboard, which is sold in hardware and building supply stores across Atlantic Canada. The company is presently obtaining gypsum from National Gypsum's quarry in East Milford. Cabot estimates that if a source of gypsum can be found close to Port Hawkesbury, it would reduce costs significantly.

Garth DeMont, a geologist in the Geoscience and Mines Branch, provided technical assistance to help identify potential gypsum resource areas. Cabot then hired Mercator Geological Services Limited, a local consulting company, to further evaluate the potential gypsum prospects. Cabot received a Nova Scotia Mineral Incentive Program grant in 2012 and 2014 for the evaluation program.

The prospect selected for advanced exploration is southwest of Beaver Dam Lake, about 6 km from the company's wallboard plant. A 100 tonne bulk sample was collected from

the site in August 2013 and was used successfully in the company's wallboard plant (see photo below).

Currently, the company is collaborating with the Town of Port Hawkesbury and the County of Inverness to identify concerns that they have about developing a new quarry. The One Window process will continue to assist the company to work with the various government departments to find a responsible and sustainable way for Cabot to quarry gypsum close to the company's plant.

Patrick Whiteway



Cabot Gypsum operates this wallboard manufacturing plant (center) in Point Tupper.

From the Mineral Inventory Files

A Pockwoc Walk

Last fall, I revisited a Au-Ag occurrence at Pockwoc, Halifax County (Fig. 1), that has intrigued me since I first visited there in 1997. My visit was at the request of the current mineral rights holder, prospector Corey Barkhouse, who was doing some trenching. I jumped at the chance to see the geological relationships of the veins since most of these were obscured in my earlier visits. When I first field checked the site in 1997 it was just to catalogue another small, Meguma-style Au prospect. On visiting the site, however, it quickly became apparent that there was a lot more here than I assumed.

The only written mention of this prospect is a few lines on p. 218 of W. Malcolm's *Gold Fields of Nova Scotia* (1976 GSC Memoir 385). Malcolm states that in 1863, three shafts 37, 9 and 5 m deep were sunk on three quartz veins that are slightly discordant to bedding; by 1868 the site was abandoned. I located the old shafts at the site, but found that immediately north of the old workings there is an area of considerable trenching and blasting for which there is absolutely no record in DNR exploration assessment reports. The work was concentrated on the contact zone of the South Mountain Batholith with the Halifax Formation country rocks (Fig. 1) and exposed monzogranite intruded by highly silicified and greisenized leucogranite and pegmatite. There are several veins of blocky quartz related to the leucogranite and pegmatite, and these intrude both the granites and the adjacent Halifax Formation slates.

Although geologically interesting, the granitic relationship of this system of veins and silicified zones led me to feel that the site probably had little gold potential. To my great surprise, however, three samples I collected and analyzed from the granite-related veins and silicified zones in the large trenched area returned 1160, 780 and 158 ppb Au and 5, 3 and 14 ppm Ag, respectively. Since then, the prospect has been in the back of my mind, hence my interest in the current work being done there. The early

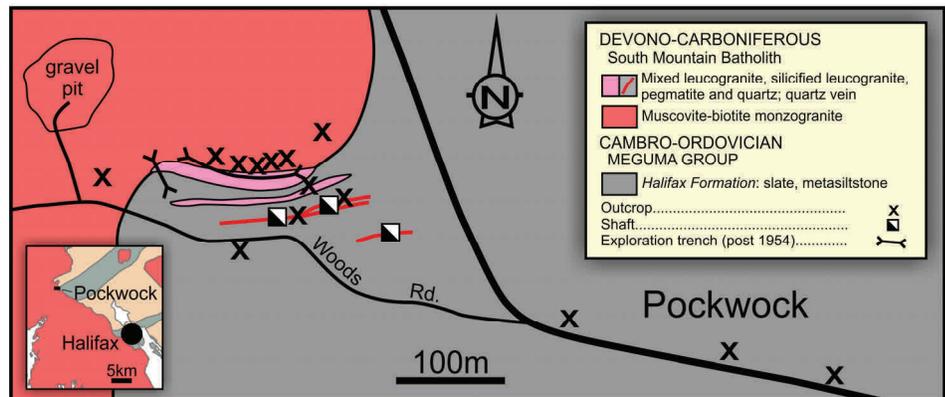


Figure 1. Geology of the Pockwoc Au Prospect, Hammonds Plains, Nova Scotia.



Figure 2. Vial of gold grains obtained from crushing a 5 gallon bucket full of quartz collected from waste piles at the Pockwoc Au Prospect.

results of prospector Corey Barkhouse are perking my interest even more, in particular the result of a test he carried out where he collected a 5 gallon bucket of loose quartz debris from the property, which he subsequently crushed and panned. This effort produced the impressive vial full of gold grains shown in Figure 2.

When and by whom was all the trenching and blasting of the contact zone done? This ground disturbance was clearly done by earth-moving equipment and, although recognizable on a 1992 air photo of the area, there is no evidence of it on 1954, 1947 or 1931 vintage air photos. My feeling is that this work was done in the mid-

1960s when a company called Atlantic Silica Limited was exploring several large quartz vein deposits as a source of quartz for the making of a specialized, pre-cast concrete. The Annual Mines Reports between 1966-1970 mention this search for vein quartz material but since this is classed as an industrial mineral, the work did not need to be submitted for exploration assessment. Clearly, the gold potential of this property deserves a more detailed round of exploration. I hope this study takes place, as it will help shed light on what may be a style of gold mineralization in the province that has an obvious granite association.

G. A. O'Reilly

Welcome Geoffrey Baldwin to the Geological Services Division

Geoffrey Baldwin is a welcome addition to the staff of the Geological Services Division in Halifax. On November 1, 2014, Geoff will take up the position of Economic Geologist. He has a B.Sc. from Acadia University, M.Sc. from Laurentian University and has recently defended his Ph.D. at Laurentian University. His Ph.D. research was on iron formations in the Northwest Territories and Yukon. Geoff has also been employed by Teck Resources Ltd. and Aurora Geosciences Ltd. to carry out exploration in greenstone belts and SEDEX Pb-Zn deposits in western Canada. Most recently Geoff has been working for Wallbridge Mining prospecting, mapping, trench mapping, and core logging in Sudbury Footwall-type Cu-PGE deposits on several properties in the Sudbury basin. As an avid cross country skier, Geoff is hoping for lots of snow this winter. I hope everyone in the exploration community will join me in making Geoff feel at home in his new job.

Bob Ryan



Geoffrey Baldwin in the mountains without skis.

Industrial Approval Issued for DDV Gold's Touquoy Project

The possibility of open pit gold mining in Nova Scotia took a significant step forward in March 2014 when Nova Scotia Environment (NSE) issued an Industrial Approval to DDV Gold Ltd., 60% owner and operator of the Touquoy project. The approval attaches 22 conditions for the company to construct and operate an open pit gold mine and processing facility at Moose River, Halifax County. Capital costs for the project are estimated at \$140 million.

The Mineral Development and Policy section of the Geoscience and Mines Branch provided technical assistance to NSE in issuing the approval. The approval attaches conditions related to suspended solids in runoff, particulate emissions (dust), air emissions, sound levels, liquid effluent, surface water monitoring, tailings management, acid rock drainage, blast monitoring, dangerous goods handling, spills and accidental releases management, inventory, insurance, contingency plans, reclamation security, complaint resolution and a community liaison committee.

In August 2014, Atlantic Gold NL, the Australian parent of DDV Gold, merged with Atlantic Gold Corporation, formerly Spur Ventures Inc. of Vancouver. In September 2014, Atlantic Gold Corporation acquired Acadian Mining Corporation from LionGold Mining Canada Inc., a deal that included the Beaver Dam and Fifteen Mile Stream gold projects.

Patrick Whiteway



On October 14, John Calder (centre) led a staff field trip to the Blomidon area, visiting Ross Creek and Paddy's Island (shown in the photo above). From left to right: Chris White, Patrick Whiteway, Jeff Poole, Mick O'Neill, John Calder, Rob Naylor, John Drage, Bob Ryan, Sonia Cowper and John MacNeil.

Nova Scotia Mineral Incentive Grants Approved for 2014

For the third consecutive year, the Province of Nova Scotia is funding the Nova Scotia Mineral Incentive Program (NSMIP). The latest program was launched on May 15, 2014, and will run until February 13, 2015, when all final reports must be submitted. Forty-three applications were received, with 20 under the Prospectors Grant Program and 23 under the Advanced Project Grant Program. Project areas include 13 of the 18 counties of Nova Scotia and over \$4.2 million dollars of proposals were received. Similar to the last two years, there is a concentration of projects looking for gold in the Meguma Supergroup, with 25 of the proposed projects located there. Some of the other

key minerals to be explored for are tin, lead, zinc, copper, silver, kaolin, limestone, gypsum and rare earth elements.

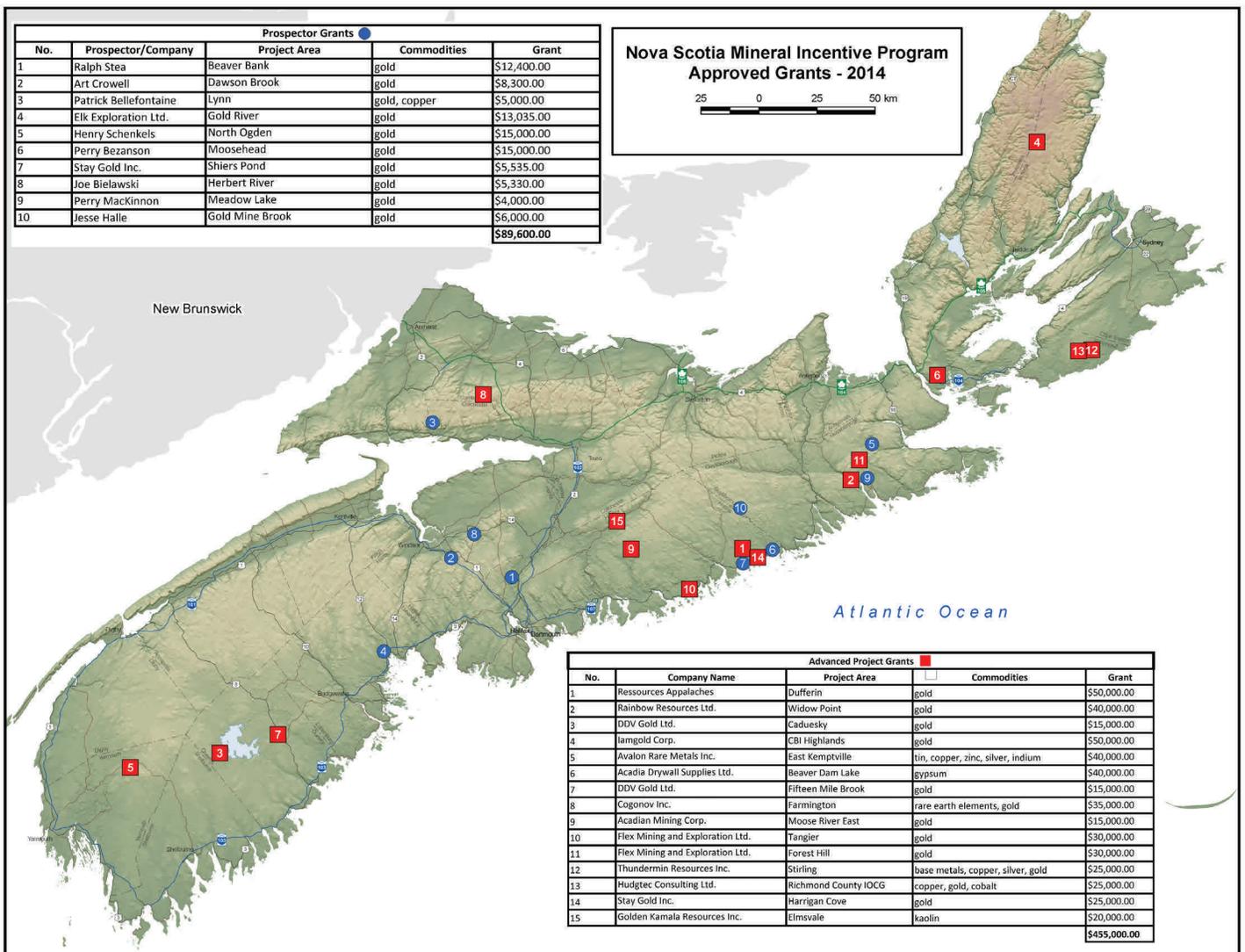
Fourteen of the applications for this year represent project areas that received an NSMIP grant last year. New plans are now proposed to build on the success of that funding. Two exploration areas that received a Prospector Grant last year now have proposals submitted under the Advanced Project Grant Program after the success of last year's findings.

After a review of proposals by the NSMIP committee, 10 Prospector Grants and 15 Advanced Project

Grants were awarded in June (please see the map below). Projects that were evaluated as having the best chance of success in obtaining important economic and geological knowledge were scored more favourably by the NSMIP committee. An Interim Report was required, and received, from all grantees in September to indicate what progress had been made on their project.

As you read this article there are drills spinning, trenches opened, samples submitted to laboratories, geophysical surveys completed and many boots on the ground due to this year's Mineral Incentive Program.

Mick O'Neill



Introducing the Geoscience and Mines Branch

You may have noticed that we recently changed our name from the Mineral Resources Branch to the Geoscience and Mines Branch. The change was made to better reflect the range of services that we provide. Stewardship of the province's mineral resources remains the principal focus for the branch. Branch geoscientists, however, have been increasingly called upon to undertake work in the areas of groundwater resource evaluation, assessment of geohazards (e.g. radon) and determining the vulnerability of the Nova Scotia coast to erosion and flooding. Although our name has changed, our commitment to undertaking work that is valued, timely and relevant remains unchanged.

Donald James

Geology Matters 2014

Preliminary Program

Wednesday, November 12

- 8:00 am - 3:00 pm Registration Open
- 9:00 am - 5:00 pm Poster Session / Prospector's Exchange / Industry Trade Show
- 9:00 am - 12:00 pm Geoscience Session - DNR Initiatives
- 12:00 pm - 1:30 pm Luncheon - Guest Speaker David Acker, First Vice-President, CIBC Wood Gundy
- 1:30 pm - 5:00 pm Gold Session - Keynote Speaker Dr. Ross Large, University of Tasmania
- 3:00 pm - 5:00 pm Student Workshop - A Geoscience Career: Getting Discovered, by Patrick McAndless
- 5:00 pm - 7:30 pm Minister's Reception and Awards Ceremony, Hosted by the Minister of Natural Resources, Hon. Zach Churchill

Thursday, November 13

- 8:00 am - 3:00 pm Registration Open
- 9:00 am - 5:00 pm Poster Session / Prospector's Exchange / Industry Trade Show
- 9:00 am - 12:00 pm Innovation Session
- 12:00 pm - 1:30 pm Luncheon - Guest Speaker Carl Weatherell, CEO and Executive Director, Canadian Mining Innovation Council
- 1:30 pm - 5:00 pm Exploration and Mining Session
- 5:00 pm - 7:00 pm Closing Reception

Westin Hotel, Halifax

Register online: novascotia.ca/natr/meb/geology-matters/



Special Note

E-mail Notification

If you would like to receive an e-mail notice (with hot links) when new maps, digital products and publications are released, or when a new issue of *The Geological Record* is released, please send your e-mail address to Tracy.Lenfesty@novascotia.ca.

Sorry for the Delay

Due to a staff member's illness in June and July, the spring and summer issues of the Geological Record were not produced. The Geoscience and Mines Branch now hopes to resume regular publication of the newsletter.

Dates to Remember

October 23-25, 2014

Atlantic Universities Geological Conference, Wu Conference Centre, Fredericton, NB. For information please visit the web site: <https://scienceatlantic.ca/conferences/index.php/augc/AUGC2014/index>.

November 2-4, 2014

Exploration, Mining and Petroleum New Brunswick Conference 2014, Fredericton Convention Centre, Fredericton, NB. For more information please visit the web site: http://www2.gnb.ca/content/gnb/en/departments/energy/conference/Conf_home.html.

November 6-8, 2014

Newfoundland and Labrador Mineral Resources Review 2014, Delta St. John's Hotel and Conference Centre, 120 New Gower St., St. John's, NL. For more information please visit the web site: <http://www.nr.gov.nl.ca/nr/mines/mineral.html>.

November 12 and 13, 2014

Geology Matters 2014, The Westin Hotel, Halifax, NS. For more information please contact Diane Webber at 902-424-3053 or Diane.Webber@novascotia.ca. For online registration please visit the web site: <http://novascotia.ca/natr/meb/geology-matters/>.