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In This Issue

Progressive Reclamation at the
Wentworth Quarry

Upgrades to Web Mapping Applications

DNR Well Represented at AUGC 2015

Abandoned Mine Openings Program
Protects People and Bat Habitat

Paleomagnetic Study Resumes in
Southwest Nova Scotia

The Great Diversity of Metals and
Minerals in Nova Scotia

From the Mineral Inventory Files

Community Engagement Workshops

Trace Fossil Expert Visits Nova Scotia

Mining Consultation Table

Archaeology and Geology in Nova
Scotia

Nova Scotia Gem and Mineral Show
2015

Special Note/Dates to Remember

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Progressive Reclamation at the Wentworth Quarry

In continuous operation for more than 140 years, during which time some 127 million tons of gypsum and anhydrite have been extracted, CGC's Windsor operations fell on hard times during the recent recession. In December 2011, CGC informed the Nova Scotia Department of Natural Resources (DNR) that they would like to place the operations on care-and-maintenance for up to 10 years. The company felt it could maintain the site, which has several decades of gypsum and anhydrite reserves remaining, until demand for gypsum justified a quarry restart. DNR agreed, provided the company satisfy conditions including development of a final reclamation plan for both the Wentworth and Miller Creek quarries and a commitment to provide an appropriate reclamation security.

For the past three years, DNR has worked with the company to develop a plan that includes ensuring that naturally revegetated areas remain undisturbed and requires annual reclamation work that would not impede possible future quarrying operations. In early 2015, DNR reached agreement with the company to increase, over the balance of the care-and-maintenance period, the reclamation security presently held by the province while progressively reclaiming priority areas. As a result, the two quarries will be fully bonded by 2021, and quarrying can be restarted if justified by economic conditions.

Patrick Whiteway



To ensure that reclamation work by mining companies results in safe, stable and revegetated landscapes, staff of the Mineral Development and Policy Section examine work upon completion. In this photo, DNR Planning and Development Officer Dan Khan (yellow vest) walks the site of a recently resloped and reseeded area of the Wentworth gypsum quarry, owned by CGC near Windsor, Hants County.

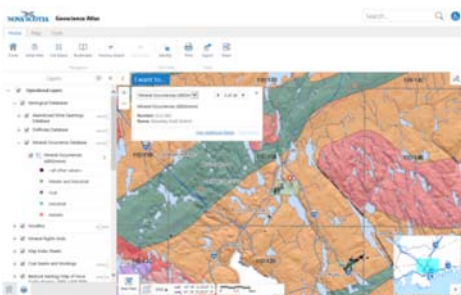
Upgrades to Web Mapping Applications

This fall, five of six Geoscience and Mines Branch interactive map applications were upgraded to a new platform. This included the *Geoscience Atlas*, *Groundwater Atlas*, *Radon Risk*, *Acid Rock Drainage Risk*, and the *Southwest Nova Bedrock Map*. A new version of the *Mineral Resource Land-Use Atlas* will be available soon.

The look-and-feel of the applications has been improved and their behavior is more like Google Earth. Panning now just involves a mouse click and drag, and the mouse scroll wheel will allow zooming in and out. Mashing-up (combining) layers is easier because the transparency of each layer can be controlled with its own slider bar. Co-ordinates are now available in lat/long and UTM. Customizing maps with notes and drawings is now possible, along with improved and added functionality to search, print, export and share maps via Facebook, Twitter and email.

Improvements to all of our interactive map applications will be rolled out over the coming months, so visit them regularly and try them out. The URL link to the Geoscience and Mines Branch interactive maps page is <http://novascotia.ca/natr/meb/geoscience-online/maps-interactive.asp>.

Jeff Poole and Sonya Cowper



An example of the interface for the upgraded *Geoscience Atlas*. In this case, a mineral occurrence in the Waverly gold district is selected. The shaded relief imagery is turned on and the transparency of the bedrock geology layer has been adjusted to make both layers visible.

DNR Well Represented at AUGC 2015

The 65th annual Atlantic Universities Geology Conference (AUGC) was hosted by the D. Hope-Simpson Geology Club at Saint Mary's University (SMU), Halifax, Nova Scotia, on October 22-24th. Approximately 120 students from Memorial, Dalhousie, Saint Francis Xavier, St. Mary's, Acadia, and the University of New Brunswick attended the conference. This included professors from many of the universities and geological professionals from local government organizations.

On Friday the students enjoyed field trips to (1) the Joggins Fossil Cliffs UNESCO World Heritage Site, led by Dr. John Calder (DNR) and Matt Stimson; (2) the Popes Harbour dyke, led by Dr. Victor Owen (SMU) with input from Dr. Chris White (DNR); and (3) Blue Beach, led by Dr. Andrew MacRae (SMU).

Student oral and poster presentations took place all day Saturday. Michael MacDonald (former executive director of the Geoscience and Mines Branch), gave a lunchtime talk about being an exploration geologist in Mongolia and career opportunities for young geologists. Fred Bonner (former DNR employee) was the speaker at the evening awards banquet and delivered an entertaining talk on his career as a geoscientist and the importance of geoscience in government policies.

Awards were given to five students for exceptional presentations and posters at the conference. Glen Hodge (SMU) was presented with the Imperial Oil Award for the best poster presentation. Daniel MacLeod (SFX) received the Canadian Society of Petroleum Geologists Award for his talk. Kazuhito Mizutani (MUN) received the new Atlantic Geoscience Society Award for the best environmental presentation. The Frank Shea Memorial Award for best economic geology presentation went to Corwin Trotter (SMU). Acadia University Honours student Katie McCulloch was the winner of the Science Atlantic Best Paper Award for her presentation on "Petrology and geochemistry of the Jeffers Brook pluton, western Cobequid Highlands, Nova Scotia." This dealt with her last two summers' field work with the Nova Scotia Department of Natural Resources, and was co-authored by her supervisor, Sandra Barr (Acadia), and field supervisor, Trevor McHattie (DNR).

The organizing committee for the Atlantic Universities Geological Conference (SMU students Glen Hodge, Haley LeBlanc, Zachary Matheson, Jeremy Bentley, Amara Ells, Mehran Durrani, Wahab Israr and Anthony Vieira) thank the many volunteers and sponsors, and especially everyone who attended, for helping to make AUGC 2015 such a memorable event.

Chris White

Katie McCulloch with her Science Atlantic Best Paper Award plaque for best overall presentation at the Atlantic Universities Geology Conference 2015, which was held at Saint Mary's University in Halifax. Image used with permission of Katie McCulloch. Ms. McCulloch's presentation focused on the work she carried out over two years as a summer student for DNR. Her project was supervised by Dr. Sandra Barr at Acadia University and Dr. Trevor MacHattie with the Geoscience and Mines Branch, DNR.



Abandoned Mine Openings Program Protects People and Bat Habitat

Every year, DNR's Abandoned Mine Openings (AMO) program remediates historical mine openings on Crown land that could pose a safety hazard to the public. In four cases, such as the one pictured below, an abandoned mine opening has been grated off to prevent people from entering a hazardous adit while still providing access for other animals, such as bats, to enter. In this way, the program serves two purposes: enhancing public safety and preserving habitat for threatened or endangered species. In 2015, about \$50,000 has been invested to remediate mine openings on four properties in Nova Scotia. Since the program began in 2001, hundreds of the most extreme hazards have been addressed. The program is managed jointly by the Geoscience and Mines, Regional Services and Internal Services branches of the Department of Natural Resources, with invaluable participation by the Department of Transportation and Infrastructure Renewal.

Ernie Hennick and Patrick Whiteway



Paleomagnetic Study Resumes in Southwest Nova Scotia

After a long hiatus, a paleomagnetic study is being undertaken in the Meguma terrane of southern Nova Scotia through a collaborative research project carried out by the University of Western Ontario, Acadia University and the Nova Scotia Department of Natural Resources (DNR). During a hot, bug-filled two days in early July, Dr. Philip McCausland (University of Western Ontario) and two of his students, Halima Warsame and Celeste Cunningham, together with field support from Drs. Sandra Barr (Acadia University) and Chris White (DNR) collected 5-6 short rock cores at each of 13 sites for paleomagnetic studies. The sites are located in the Mavillette Gabbro, inferred to be a sill-like intrusion in the Silurian to Devonian Rockville Notch Group in southwestern Nova Scotia. The Mavillette Gabbro was selected for the study based on previous work on the field relations, magnetic characteristics and petrology of the gabbro done by White and Barr.

In the early- to mid-1950s, paleomagnetic studies provided key evidence supporting the hypothesis of continental drift, which in turn paved the way for the theory of plate tectonics. Paleomagnetism is the study of the record of the Earth's magnetic field preserved in rocks. Igneous rocks such as basalt or gabbro contain minerals (mainly magnetite) that are capable of acquiring a net, permanent magnetic orientation that is aligned with the Earth's magnetic field at the time the rocks cooled, and this "remnant magnetism" can be measured in the laboratory. This information can be used to determine the original latitudinal position of the Meguma terrane in the Silurian and perhaps its subsequent drift history up to collision and interaction with Avalonia. The samples will be analyzed in the Western Paleomagnetic & Petrophysical Laboratory, of which Dr. McCausland is director, and will be a component of Halima's M.Sc. thesis at the University of Western Ontario.

Chris White



Dr. Philip McCausland (left) and two of his students, Celeste Cunningham (standing) and Halima Warsame (right), working under the watchful eye of Dr. Sandra Barr.

The Great Diversity of Metals and Minerals in Nova Scotia

Very few Nova Scotians know that their province has so many kinds of metal and mineral deposits. This is truly a global geological anomaly and bodes well for future discoveries that will create new wealth for the province.

It is well known that in the past Nova Scotia has had mines for coal, gypsum, iron and gold. There was an old zinc mine at Stirling in Cape Breton, and there is an idle zinc-lead mine at Gays River and an idle silica (quartz) mine in Yarmouth County. It is also fairly common knowledge there are several gold deposits with economic potential in Halifax and Guysborough counties, and one of them at Moose River is getting ready for production. Many Nova Scotians know that halite (salt) is mined at Pugwash.

Many, however, are not cognizant of the world-class metal and mineral deposits that became mines and were of great importance to the economy of Nova Scotia, or that the province has so many types of mineral deposits and showings.

In the 1980s the tin mine at East Kemptville, Yarmouth County, was the second largest tin mine in the world and the only tin mine in North America.

The barite deposit near the village of Walton in Hants County was historic: it was the largest, highest grade deposit in the world, and from 1941 to 1978 supported the largest barite mine in the world. Barite was used in the drilling of holes for oil and gas. As a result of its high density and inertness, barite is mixed into mud and pumped down the bore holes to combat blowouts, condition the walls and facilitate the return of cuttings to be studied by geologists.

The Walton area even had connections to the White House. For nearly 30 years the firm Dresser Industries of Houston, Texas, owned the barite mine and made huge profits in the drill service industry by using Walton barite to supply drill mud for thousands of holes around the world. The Bush family has very close ties to Dresser as Prescott Bush, the father of GW and the granddaddy of GH, played a big role in making the firm so successful in the late

1920s. The Walton mine later helped in a big way to make the Bush family a dynasty. In the late 1950s a zone containing copper, lead-zinc and high-grade silver was discovered just below the barite deposit at Walton. The grade of silver in the deposit was 12 ounces per ton. In the 1960s the mine had the distinction of containing the second highest silver grade of any base metal mine in the world. This also added considerably to Dresser's coffers.

Although smaller, the former barite mine at Brookfield, Colchester County, was a valuable producer. Ore was sent to a plant in Debert to be converted into a pure pharmaceutical powder that was sent to X-ray departments in hospitals all over North America. This barite operation was the only one of its type in the world.

In the 1970s the largest celestine (strontium sulphate) mine in the world was located in the Enon-Loch Lomond district of Cape Breton Island, and it supplied ore to the world's only strontium compound chemical plant at Point Edward. At this plant, strontium carbonate was produced to stop the emission of radiation from colour-TV tubes, to make permanent magnets and to be used in pyrotechnics. Later in the 1970s the second largest sandstone-hosted lead deposit in the world was mined at Salmon River on Cape Breton Island.

Several deposits could be of important economic significance in the future. These include deposits of spodumene (lithium) at Brazil Lake, Yarmouth County, kaolinite in the Musquodoboit Valley, flake graphite at Boisedale on Cape Breton Island, zeolites in Annapolis County, several deposits of barite-fluorite near Lake Ainslie, and zinc-lead deposits at Jubilee, Cape Breton Island.

There are also indications for deposits of rare-earth elements in Colchester County and for the rare metal tantalum in Yarmouth, Hants and Annapolis counties. Tin-zinc deposits at Dominique in Yarmouth County have significant concentrations of the

rare metal indium. At Meat Cove in Cape Breton Island, zinc deposits contain elevated amounts of the rare metal germanium. Gypsum deposits in Hants County and in several areas of Cape Breton Island contain borate minerals. Several areas have promising potentials for large potash deposits.

Many deposits of manganese oxides occur in Nova Scotia. Mineralized zones of copper, lead and zinc occur in several geological environments in numerous areas. Several areas have zones of molybdenum and tungsten. There is a good potential for discovering new antimony deposits around a small, former antimony-gold mine at West Gore in Hants County, and near an old antimony prospect at Lansdowne in Digby County.

Indications for the existence of large base metal-silver deposits in the same age and types of strata in which our coal deposits were formed are evident in several areas of Cumberland and Colchester counties and on Cape Breton Island. There is a geological setting in three areas in Digby County that is very favourable for large tin and tungsten deposits. There are indications that iron oxide-copper-gold (IOCG) deposits occur in Colchester County. Potential exists for the discovery of new types of large gold deposits in Pictou County. Intrusive-type gold deposits are located at Kemptville, Yarmouth County, and these type of deposits are also indicated in the East Inglisville area of Annapolis County. An important geological setting for large epithermal gold deposits occurs in Colchester County.

The current prices of, and demand for, most metals and industrial minerals are the lowest they have been in many years. Things could turn around fast, however, as they have in the past when similar hard times prevailed, only to be reversed by a major discovery.

Avard Hudgins

The writer is a retired exploration geologist and resides in Truro. He has spent many years exploring for various metals and minerals in Nova Scotia, and promoting its mineral resources.

From the Mineral Inventory Files

Tin, Tungsten, 'Eagle Egg' Breccias and Buried Granite at Caledonia, Queens County

In late 1977 Shell Canada Resources Limited discovered Sn- and W-bearing boulders of quartz and altered Meguma Supergroup metasedimentary rocks south of Caledonia, Queens County (Fig. 1). Follow-up exploration by Shell (1978-1981) then Billiton Canada Limited (1982-1983) consisted of prospecting, geological mapping, till geochemical and geophysical surveys, trenching and diamond-drilling. The exploration returned promising results, but by 1985 the collapse of global Sn prices, low W prices and a bleak outlook for both resulted in Billiton abandoning the property. In 1987, the Nova Scotia Department of Mines and Energy drilled a 681 m vertical drillhole to test for the presence of a buried altered granitic cupola, suggested as underlying the property by gravity surveys carried out by Shell and Billiton. Even though this hole did not intersect granite, thick sequences of highly altered and thermally metamorphosed metasediment were found in the core, as well as numerous skarnoid zones rich in scheelite (up to 1.88% W).

Every exploration effort carried out on the Caledonia property has been promising; collectively, they weave an attractive tapestry. The site is 7 km south of the nearest outcrop of granite, the Devonian-Carboniferous South Mountain Batholith. Exploration results, however, all indicate the property is underlain by a highly evolved satellite pluton of the batholith. It's believed that dyke and breccia offshoots, as well as Sn-W-rich hydrothermal fluid, emanated from this pluton into the enclosing Meguma Supergroup metasediments, producing three main styles of granophile element mineralization.

Foremost is a composite albite granite dyke and breccia complex discovered by Shell. The complex intrudes metasediments along a zone of at least 400 m strike length northwest of Meagher Lake (Fig. 1). This intrusion consists mostly of albitite and albite granite. Brecciated portions of the complex up to 2 m thick contain rounded fragments of albitite and potassic granite, and angular fragments of metasediment. The rounded shape of the granite clasts

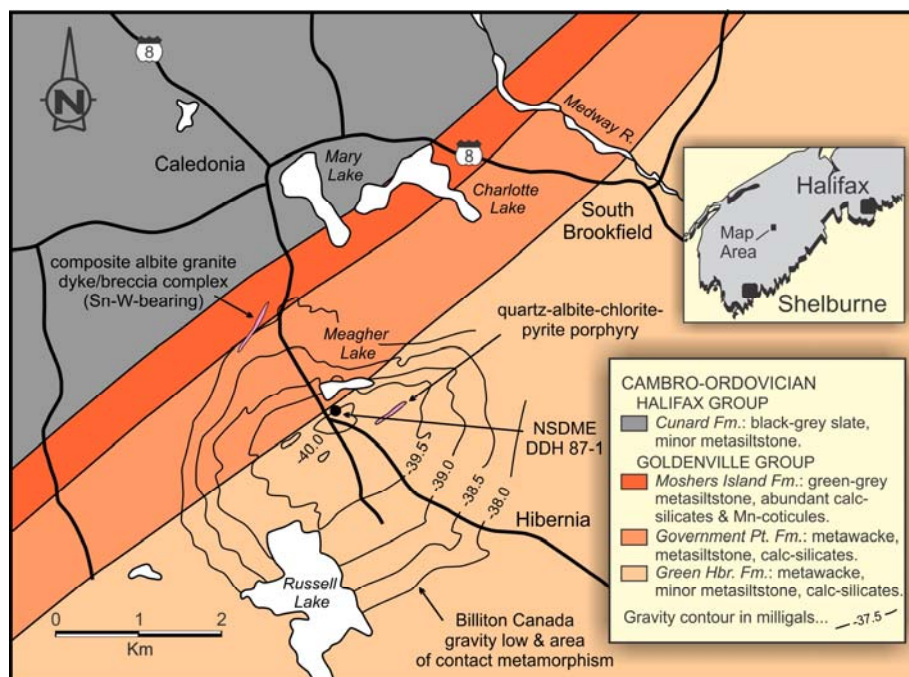


Figure 1. Geology of the Caledonia Sn-W prospect showing the location of a cassiterite-scheelite-bearing albite granite dyke/breccia complex, as well as a gravity low determined by Billiton Canada Limited in 1983.

resulted in the exploration geologists referring to the dykes as 'eagle egg' breccias. These breccias carry cassiterite and scheelite and returned Sn and W levels in the hundreds to thousands of ppm. Associated with these granite dykes and breccias is a system of vuggy quartz veins that have produced the most impressive mineral specimens on the property. The veins commonly have spectacular crystals of cassiterite and scheelite occurring along the vein-metasediment contact and concentrations of 3.8% Sn and 0.75% W have been reported. A third style of mineralization is widespread throughout much of the property as lens- or cigar-shaped pods or beds of skarnoid from a few centimetres up to 1 m thick. These skarnoids are interpreted to be calcareous concretions that have been metasomatized by granophile-rich hydrothermal fluids emanating from an underlying granite. Most of these skarnoids carry impressive amounts of scheelite and typically thousands of ppm W. Shell reported a level of 3% W from a

skarnoid just south of Meagher Lake and a skarnoid with 1.8% W was found in the Mines and Energy diamond-drill hole (Fig. 1).

The abundance of Sn-W occurrences and the presence of cordierite spotting (thermal metamorphism) in slate units over much of the property led both Shell and Billiton to carry out gravity surveys in an attempt to locate the suspected granite cupola. Neither the Shell nor the Mines and Energy drill attempts to locate this pluton were successful, but it is still likely that a pluton is present. Given the highly evolved nature of the granite dykes and breccias, and the abundance of Sn-W occurrences, finding the source granite is vital as it may represent a complete and intact mineralized cupola. Recent years have seen a marked rise in the global prices of both W and Sn. A property like Caledonia, which has strong indications of both elements and exploration targets that have yet to be followed up, should be explored.

G. A. O'Reilly

Community Engagement Workshops

A community's readiness to accept mineral exploration and mining depends largely on the level of trust that exists between the proponents and the community. Building trust can only be achieved through effective community engagement. The challenge is how individuals or companies involved in mineral exploration or mining can best engage with communities. To help answer this question DNR sponsored Geoscientists Nova Scotia to present a workshop on community engagement for the mineral exploration industry.

The workshop was developed and facilitated by Fred Bonner of Eduterra Consulting. Three opportunities were provided to participate in the workshop, and a total of 50 people attended, including professional geoscientists, professional geoscientists in training and prospectors. The workshop content included information on leading practices for community engagement, and a practical exercise that allowed participants to apply what they had learned. There was also plenty of learning that was passed on through the shared experiences of the participants.

Rob Naylor



Fred Bonner (standing) outlines the principles of community engagement.

Trace Fossil Expert Visits Nova Scotia

During the first week in August this past summer, Dr. Soren Jensen from the Universidad de Extremadura, Badajoz, Spain, returned to Nova Scotia to continue his collaborative research with Drs. Chris White (NSDNR) and Sandra Barr (Acadia University). Dr. Jensen specializes in Cambrian to Ordovician trace fossils and dabbles in the microfossil world of acritarchs. Our focus on this trip was to collect additional samples from the Cambrian to Ordovician sedimentary rocks in the Antigonish Highlands and southeastern Cape Breton Island and Goldenville-Halifax groups on the Meguma terrane to better constrain the age of these rocks and their depositional environment.

The Iron Brook Group in the northern Antigonish Highlands consists of a fault-bound package of sedimentary rocks that previously yielded early Cambrian macro- and microfossils. We resampled the Black John Formation for acritarchs and collected a suite of shelly macrofossils from the ironstone beds in the Ferrona Formation. We also visited the Mira River and Bourinot groups in southeastern and central Cape Breton Island to sample the Cambrian McCodrum Brook Formation and Ordovician McLeod Brook Formation, respectively. We collected black shale samples for acritarchs and quartz arenite and ash for U-Pb zircon dating, and also photographed numerous trace fossil specimens.

During the last part of the trip we examined various locations in the Goldenville and Halifax groups on the Meguma terrane, but our main focus was on the trace fossil-rich High Head Member in the Yarmouth area. Since our last visit in 2011 significant erosion along the coast has destroyed many of the original trace fossil locations but several new ones have been exposed, including the trace fossils *Oldhamia* and *Paleodictyon*. The trace fossils at High Head continue to represent the best known assemblage of Lower Cambrian, deep-water ichnofossils in the world. A talk on this topic will be presented at the Geological Society of America's Annual Meeting in Baltimore in early November 2015.

Chris White



Figure 1. Photograph of *Oldhamia radiata* (upper left of one-dollar coin).

Mining Consultation Table

Every six months, representatives of Nova Scotia's Office of Aboriginal Affairs (OAA), Nova Scotia Environment (NSE) and Department of Natural Resources (DNR) meet with the Mi'kmaq of Nova Scotia at the 'Mining Consultation Table' to discuss issues related to mining and to communicate updates on mineral exploration activity and advanced mineral development projects. The objective is to provide the Mi'kmaq with meaningful consultation on mining projects and to explore ways for the Mi'kmaq to participate in the industry. On May 29, 2015, representatives met in Truro and then toured the nearby East Milford gypsum quarry, which is operated by National Gypsum. The representatives who attended are pictured below with Mine Manager Jeff Newton (far right). They are, from left to right, Executive Director of Geoscience and Mines, DNR, Dr. Donald James; Environmental Assessment Officer, NSE, Helen MacPhail; Director of Consultation, OAA, Heather Potter; Manager of Mineral Development and Policy, DNR, Patrick Whiteway; Consultation Researcher, Assembly of Nova Scotia Mi'kmaq Chiefs, Melissa Nevin; Consultation Advisor, OAA, Laurent Jonart; and Industry Liaison Geologist, DNR, Diane Webber. Members of the Mining Consultation Table most recently met on October 21, and will meet again in May 2016.

Patrick Whiteway



Archaeology and Geology in Nova Scotia

Over the past few decades the Department of Archaeology at Memorial University of Newfoundland (MUN) has been undertaking targeted excavations of First Nations prehistory sites in Nova Scotia. Prehistory refers to First Nations history prior to European settlement. This past summer John Campbell, a graduate student from MUN, his supervisor Dr. Micheal Deal, and numerous others conducted an archaeological excavation along the Annapolis River near Wilmot. The excavation was successful in locating and recovering artifacts (Fig. 1) that have been dated to around 3630 ± 30 yr. BP, otherwise known as the Transitional Archaic period.

At the site, several copper nodules and awls were recovered, indicating that this site may record the earliest known use of copper in the Maritime Provinces. Many of these artifacts (scrapers, projectile points and axe heads) are made from flow-banded rhyolite thought to have originated from known prehistory worksites, such as Mt. Jasper in New Hampshire and Vinalhaven/Mount Keno in Maine.

Drs. Chris White (DNR) and Sandra Barr (Acadia University) were contacted by Mr. Campbell about other possible sources of flow-banded rhyolite in Nova Scotia that could have provided material for these artifacts, such as the rock units in the Cobequid Highlands, Arisaig, McKay Head and Coxheath Hills. On a recent visit to the Department of Archaeology at MUN in St. John's we viewed these artifacts and discovered that in addition to rhyolite, many of the items are also made from quartzite, siltstone and hornfels. Based on detailed DNR bedrock mapping in the Annapolis Valley, similar rock types occur in the Silurian Rockville Notch Group, only a few kilometres away from the dig site. This similarity suggests that local stone may have been used for many of these tools.

With permission from the Nova Scotia Provincial Archaeologist, many of the artifacts have been analyzed using the portable X-ray fluorescence spectrometer (pXRF) at MUN and we are currently comparing these results to data collected from rock samples from the Rockville Notch Group using the DNR pXRF.

This work is part of a longer term initiative to chemically fingerprint lithic artifacts and possible source rocks to aid in defining prehistory hunting and trading routes in eastern North America. During additional site excavations next summer (2016) in the Annapolis Valley, field trips are also planned to several local sites in the Rockville Notch Group to collect suitable source rocks for pXRF analysis and to identify possible prehistory work sites.

Chris White

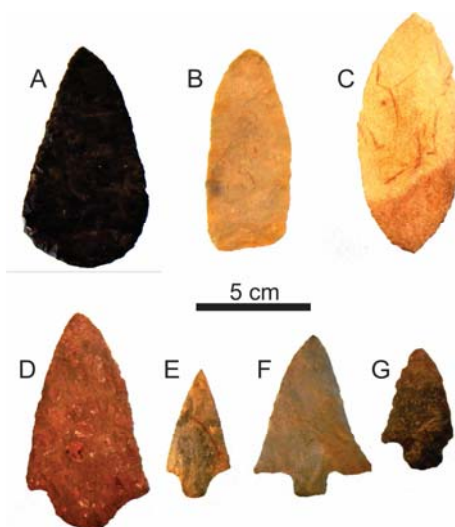


Figure 1. Selected artifacts from the Wilmot site. A, B and D are bifaced tools. C is a bipointed-bifaced tool. E, F and G are stemmed projectile points. These tools would be used as scrapers, knives, picks, or even weapons. Photographs modified from Deal, M. 2015: *The Collection of Ages, a Prehistory of the Maritime Provinces*; Memorial University of Newfoundland, 193 p. Photo is used with the permission of Dr. Michael Deal.

Nova Scotia Gem and Mineral Show 2015

From August 14-16 the town of Parrsboro celebrated another important milestone. Thousands of rock enthusiasts made their way to the picturesque town, nestled along the breathtaking coast of the Bay of Fundy, to attend the 50th Nova Scotia Gem and Mineral Show. Exhibitors travelled from across the Maritimes, and as far away as Ontario and Maine, to offer a broad mix of earth treasures including fine mineral specimens, jewelry, precious stones, fossils and more.

The Nova Scotia Gem and Mineral Show (originally called the Parrsboro Rockhound Roundup) was started by Eldon George and two other local citizens in 1966. Eldon was on hand to open this year's Gem Show, a special treat for everyone.

This year the Cumberland Geological Society (CGS) announced that it was purchasing the famous Parrsboro Rock and Mineral Shop from Eldon George in order to build a permanent exhibit at the Fundy Geological Museum that will pay tribute to Eldon and his many discoveries. The CGS is engaged in a fundraising campaign to complete this project, and you can learn more at <http://ParrsboroRocks.ca>.

The Lions Arena, the Fundy Geological Museum and the community were home to many visitors partaking in activities during the three day event. Rock and gem enthusiasts watched live demonstrations at booths, participated in a penny auction and heard presentations about the geology of Nova Scotia, in particular the Bay of Fundy area. There were guided geology tours to Five Islands Provincial Park and Wasson Bluff, which once was home to some of Canada's oldest dinosaurs.

Tim Fedak and Diane Webber



Visitors view some of the many displays at the Fiftieth Nova Scotia Gem and Mineral Show in Parrsboro. The event was attended by 2916 visitors.

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 DNR.Library.List@novascotia.ca.

Dates to Remember

November 2015

Canada's first National Radon Action Month. For more information on radon risk in Nova Scotia please consult the online map: novascotia.ca/natr/meb/download/mg/ofm/ofm_2013-028.asp. For more information on Canada's Radon Action Month please visit the web site: www.takeactiononradon.ca.

January 25-28, 2016

Association for Mineral Exploration BC presents Mineral Exploration Roundup 2016, Vancouver Convention Centre East, Vancouver, BC. For more information please visit the web site: www.amebc.ca/roundup/about-roundup.

February 5 and 6, 2016

Atlantic Geoscience Society Colloquium 2016, Holiday Inn, Truro, NS. For more information please visit the web site: www.acadiau.ca/-raeside/ags2016.

March 6-9, 2016

Prospectors and Developers Association of Canada, International Convention, Trade Show & Investors Exchange, Metro Toronto Convention Centre, Toronto, ON. For more information please visit the web site: www.pdac.ca/convention.

June 1-3, 2016

Geological Association of Canada-Mineralogical Association of Canada 2016: Margins through Time, Yukon College Campus, Whitehorse, YT. For more information please visit the web site: whitehorse2016.ca/.