

Minerals Update

Department of Natural Resources, Minerals and Energy Branch

Volume 16, no. 1

Winter 1999

In This Issue

New Lease Means Change for MEB

Past and Future Prospecting Courses

Plaques Commemorate Mining in NS

Parrsboro Celebrates Eldon George

The Nova Scotia-Australia-New Zealand Connection

Forging New Partnerships at Mining Matters '98

Jeff Poole Joins MEB

October-December Open Assessment Reports

Mineral Promotion Activities for the Winter of 1999

Nova Scotia Tides Rule the World

The Prospector's Stake

Special Note/Dates to Remember

Comments or questions? Please contact:

Doug MacDonald
Editor, *Nova Scotia Minerals Update*


NOVA SCOTIA
Natural Resources

Minerals and Energy Branch
P.O. Box 698, Halifax
Nova Scotia, Canada B3J 2T9
Phone 902-424-2510
E-mail drmacdon@gov.ns.ca
Minerals Update Web Site:
<http://www.gov.ns.ca/natr/meb>



Printed on paper that contains recycled fibre

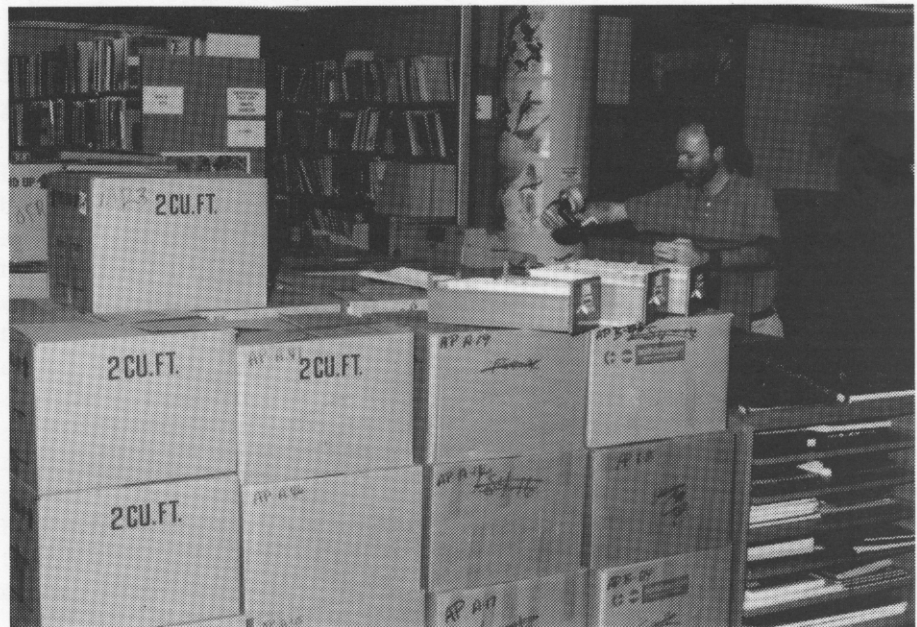
New Lease Means Change for Minerals and Energy Branch

Head office for the Nova Scotia Department of Natural Resources is located in Founders Square, a downtown Halifax building we have occupied since 1987. The department's most recent lease with the owner of Founders Square expired April 30, 1998. Since then the department has entered into a new lease for office space in the building, which will see changes in the department's office configuration. As a whole, DNR will occupy approximately 20% less space in our new configuration.

For the Minerals and Energy Branch, moving started in early December and is still underway. The branch move should be completed by late January,

and so far we are right on schedule. The department's Library will undergo extensive renovations in January but will emerge fully functional in early February. Some library materials, such as books, journals and aerial photos, will be unavailable until February 8.

Some of the changes will be very apparent to our visitors. Reception will remain on the third floor of Founders Square, as will the Library, and the Registry of Mineral and Petroleum Titles. Offices for the Minister and Deputy Minister will be located on the third floor. The Executive Director and Directors for the Minerals and Energy Branch will be located on the fourth floor. Phone numbers and e-mail



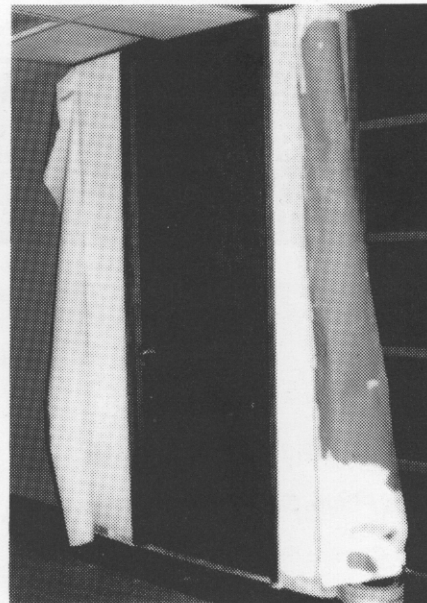
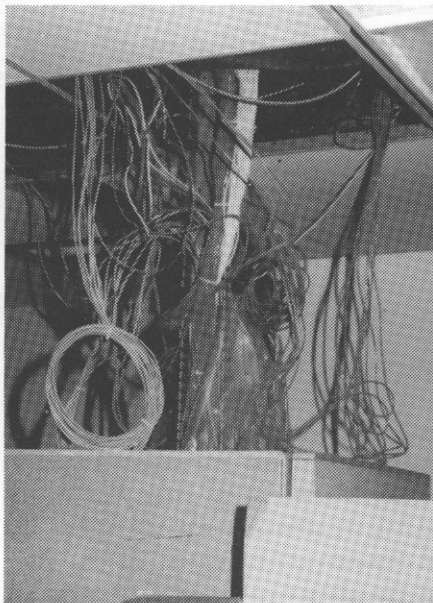
DNR librarian David Colborne packs up another box of books and journals. The Library will gain several large windows overlooking Halifax Harbour. Library renovations should be complete in early February.

(Continued from page 1)

addresses will remain the same, with the exception of Minerals and Energy Branch Executive Director Scott Swinden. His phone number has changed to 902-424-7943.

We hope that these changes in the operating space for the Minerals and Energy Branch will offer only minor disruption to our clients. However, most staff members will spend at least a short period of time without a phone, desk or PC, not to mention the maps and files needed for current work. We will try our best to minimize any delays in service due to our own "down time" as the move progresses.

Doug MacDonald



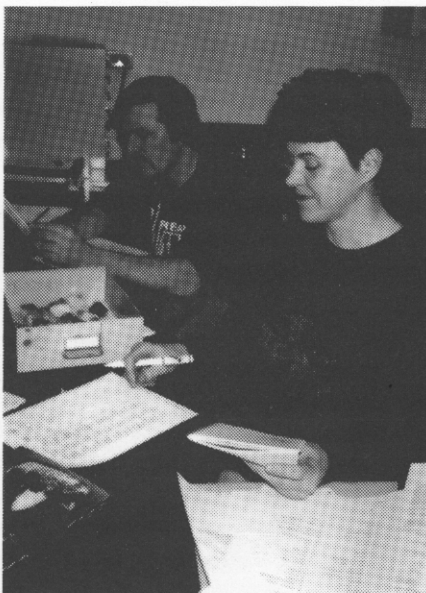
The move has been a challenge for information technology staff and contractors.

Past and Future Prospecting Courses in Nova Scotia

Two more basic prospecting courses were conducted in the autumn of 1998 to introduce would-be prospectors to the skills they will need to be successful. A total of thirty students took the courses, which were held at the Pictou Campus of the Nova Scotia Community College in Stellarton, and the Nova Scotia Museum of Natural History in Halifax.

As always, graduate prospectors are enthusiastic about the work they do. Dave Dawe, the Stellarton instructor, says that the class is organizing a group to keep in touch with everyone. Furthermore, they want to attend an Advanced Prospecting Course in the spring of 1999. The organizing group will contact all of the students from last fall's course and any other graduates in the area to get the number of students necessary for the advanced course.

Course instructor Lyndon Jensen reports that the same level of excitement was present in the Halifax course. Both Lyndon and Dave noted their students' enthusiasm for field trips. Everyone enjoys



Learning to identify rocks and minerals is an important part of the Basic Prospecting Course.

the special 'hands-on' learning that field trips provide. The students have the opportunity to see new parts of Nova Scotia as they learn more about geology and our rich mining history.

Beginning in April 1999 several basic prospecting courses will be held around the province. There will be a course in the Sydney region of Cape Breton Island. Another course will be held in Windsor and there might be enough support for a course in the Middleton area of the central Annapolis Valley. A course will also be offered this spring in the Halifax area.

Training for the basic and advanced prospecting courses is funded by the Prospector Assistance Program (PAP), a component of the Canada-Nova Scotia Cooperation Agreement on Economic Diversification. DNR is responsible for administering the program. The PAP began in 1997 and will continue until 2001. During this time the program will disburse \$600,000 in support of training, prospector assistance contributions, and marketing assistance.

For more information on future prospecting courses, please give Howard Donohoe a call at 902-424-7199.

Howard Donohoe

Plaques Commemorate Mining in Nova Scotia

During 1998 the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) celebrated its 100th anniversary. The CIM has a strong Nova Scotia connection because the Mining Society of Nova Scotia was one of several local organizations that helped to organize the CIM. To celebrate the CIM's centennial anniversary, the Mining Society embarked on a project to commemorate important mining centres in the province with historical plaques.

John Fitzgerald, past president of the Mining Society of Nova Scotia, has led this project. "Overall, the Society hopes to have about twenty-five plaques placed in museums and local tourist centres" John says. "Our objective is to give residents and visitors a sense of the importance of mining in the province". The first plaque was presented by the Honourable Kennie MacAskill, Minister of Natural Resources, to Roy MacLean, a member of the Board of Directors of the Cape Breton Miners Museum. This plaque commemorates coal mining in the Glace Bay region and will reside at



The Honourable Kennie MacAskill presents the first plaque to Roy MacLean, member of the Board of Directors of the Cape Breton Miners Museum, Glace Bay. The plaques commemorate important mining centres in Nova Scotia, and the heritage of mining in the province.

the Cape Breton Miners Museum in Glace Bay.

Four other plaques have been presented to museums in Waverley for gold mining, Springhill for coal mining, Malagash for salt mining, and Londonderry for iron mining. Producing the plaques and making the presentations is a team effort. Wayne Morrison, Dave Forrester, Howard Donohoe, Wayne Rogers, John

Fitzgerald and Robert MacKenzie have all worked together on this important project.

The Mining Society will be arranging for presentations of commemorative mining plaques during Mining Week '99, May 8 to 16, 1999. Former mining centres for gold, coal, gypsum and limestone will be honoured. Look for the event in your area.

Howard Donohoe

Parrsboro Celebrates Eldon George



Eldon George (L), Elaine George (C) and Parrsboro Mayor Doug Robinson (R).

Eldon George has been part of the Parrsboro mineral, fossil and rock collecting scene for more than 50 years. He has turned a fascination with collecting minerals and fossils into a life-long hobby that became a business enterprise for he and his wife Elaine. Together they have managed the Parrsboro Rock and Mineral Shop and Museum and acted as unofficial ambassadors for Nova Scotia tourism. On October 3, 1998, the Parrsboro and Area Board of Trade honoured Eldon and Elaine George with an evening of celebration.

More than 150 people came to celebrate Eldon and Elaine's contributions to

Parrsboro. For as long as they have had their shop on Whitehall Road they have been promoting tourism by helping people learn more about the area and its attractions. Scientifically, Eldon has made some important discoveries that have helped paleontologists understand more about early dinosaurs. These discoveries have made the Parrsboro region a critical site for the study of dinosaur evolution. Eldon has also found trackways of reptiles and amphibians. His keen observation has led to many discoveries of invertebrate fossils, such as horseshoe crabs, and rare mineral specimens.

Howard Donohoe

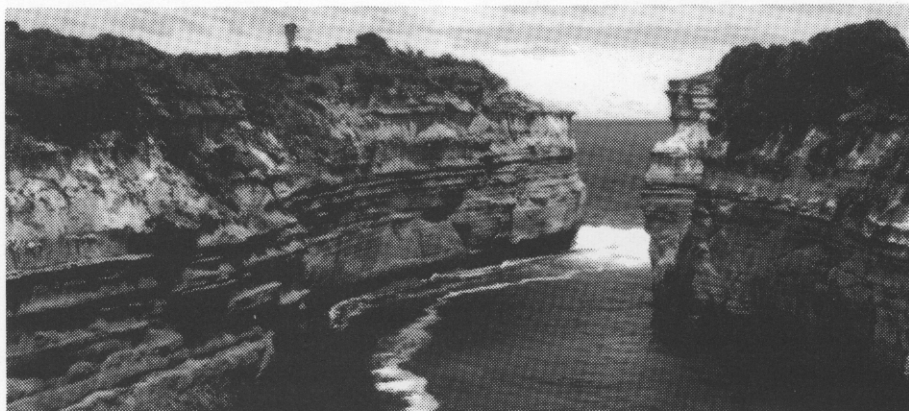
The Nova Scotia – Australia – New Zealand Connection

For many years, geologists have discussed the correlations between gold deposits in the Central Victoria region of Australia, the Westland of New Zealand, and the Meguma Terrane of Nova Scotia (see *Minerals Update* vol. 11). More recently, bulk testing for gold at Moose River and other private sector exploration throughout Nova Scotia, as well as research conducted by DNR at North Brookfield and Beaverbank, led to the recognition of potentially economic disseminated gold deposits (gold in the host-rock sediments) at these, and other former gold districts. This discovery was noted with interest in Australia and New Zealand because of the potentially huge deposits that might be discovered there.

Gold production from Central Victoria has totaled more than 2500 tonnes; that of New Zealand more than 915 tonnes; compared to 45 tonnes of gold recorded in Nova Scotia. Why such a difference? Are we missing something? Could we have more? Unfortunately, very few geologists have been able to study the gold deposits in all three regions - until now.

In December 1998, a conference and workshop dealing with sediment-hosted, disseminated gold deposits, based on the discoveries in Nova Scotia, was organized by GPIC Bendigo, AIG Victoria and the University of Ballarat in Australia. The conference was held in Bendigo, Central Victoria, for the sole purpose of making the industry aware of this style of deposit. Because of my role in the discovery of disseminated gold in sandstone in this province, I was invited to the conference to present several talks and papers on the mineral deposits of Nova Scotia.

The workshop at Bendigo was a huge success, their largest audience since the demise of flow-through funding ten years ago. There was tremendous interest in the styles of mineralization and methods of exploration in Nova Scotia. Many private sector companies ex-



Scenery along the south coast of Australia. These cliffs are 60 to 90 m high.

pressed an interest in coming to Nova Scotia to determine the possibility for joint projects.

After the conference, I also had the opportunity to: (1) promote the mineral wealth of Nova Scotia in person to both the academic and mining communities of Australia and New Zealand, (2) compare and contrast various geological 'indicator' features in the three regions, (3) examine the alluvial deposits of Australia and New Zealand, (4) observe the deposits and modern processes associated with epithermal mineralization, (5) foster a research scientist exchange program, (6) initiate a joint publication comparing the mesothermal gold deposits of the three regions, and of course, (7) enjoy the scenery!

My first underground mine visit, in the Central Deborah Mine at Bendigo, revealed immediate similarities to gold deposits in Nova Scotia. Likewise, the first open-pit mine I visited (Fosterville) had close similarities to the Touquoy Zone at Moose River. However, throughout the rest of my visit differences would far outweigh the similarities. Gold-bearing host rocks in Australia are slightly younger than those of the Meguma Group, the shape of the mineralized veins is typically different, and the geometry of ore bodies appears to be different. Commonly, en-echelon 'bull' quartz veins in Central Victoria are extremely rich, whereas similar veins in

Nova Scotia are typically barren. One of the more fascinating features of several Australian deposits is the close association of high-grade ore shoots to minor structures (minor faults and thin veins). Perhaps we need to pay closer attention to minor structures in this region.

Alluvial deposits in both Australia and New Zealand account for about half of their total gold production. Quartz-rich gravel deposits were mined over thicknesses greater than 30 m. One deposit in New Zealand had been mined over a distance of 1.5 km with an average width of 0.5 km. Glaciation in Nova Scotia ensured that similar deposits do not exist here. However, there is a lesson to be learned with regard to methods of exploration and the potential for paleoplacer deposits in this region.

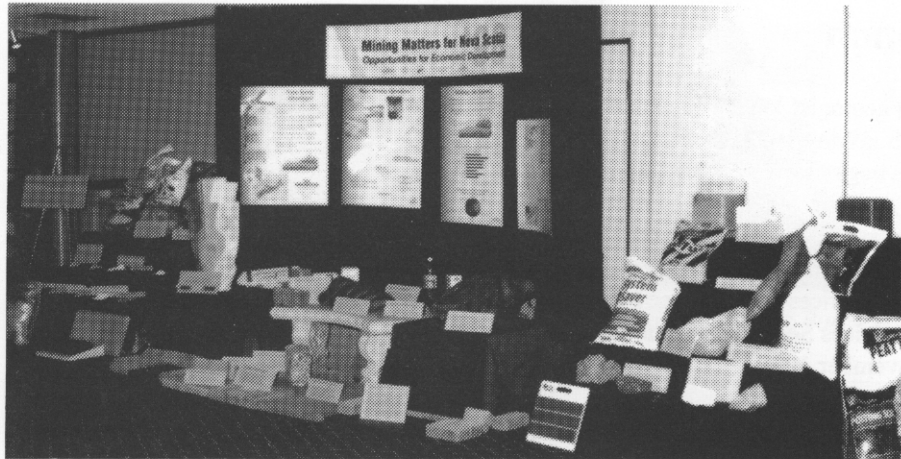
Invaluable geological knowledge gained during this trip highlights the importance of information exchange between scientists of each region. To that end, we are promoting an exchange program that will result in comprehensive research involving geologists of the three regions. In March, Dr. T. Christie will come to Nova Scotia from New Zealand to undertake isotopic age studies in collaboration with Dalhousie University.

As for the scenic part of the trip: it was gorgeous!

Paul Smith

Forging New Partnerships at Mining Matters '98

Mining Matters for Nova Scotia '98 was held at the World Trade and Convention Centre in Halifax on November 9 and 10, 1998. The conference was a cooperative effort between the provincial departments of Natural Resources and Economic Development and Tourism, the Mining Society of Nova Scotia, the Chamber of Mineral Resources of Nova Scotia, and the Nova Scotia Prospectors Association. A total of 411 delegates attended the event, a record attendance in the more than 20 years that we have hosted our annual fall conference!



Nova Scotia industrial minerals and their products form an impressive display.

Gisele Jacob of the Mining Association of Canada gave the keynote address on Tuesday November 10. Ms. Jacob spoke about the importance of the mining industry to the Canadian economy and her involvement with the national *Mining Works for Canada* campaign. She reviewed some of the challenges facing the mining industry, including the globalization of capital markets, the liberalization of investment regimes, and rapidly changing technologies. Ms. Jacob summarized the many ways that mining is important to Canadians, accounting for a \$26.2 billion contribution to the Gross Domestic Product.

A more personal perspective on why mining matters for Nova Scotia was presented by Peter Atkinson of Tangier Mining Inc. Mr. Atkinson proudly showed the photographs of his company's many local employees, happy to be working in their own community in Nova Scotia's newest gold mine.

The conference featured a commercial trade show with service and supply companies. In addition, several mineral-producing companies, exploration companies and prospectors had displays in the exhibit area. More than 50 geoscientists from DNR, the Geological Survey of Canada and local universities participated, with exhibits highlighting many



Deputy Minister Dan Graham (kneeling, centre) pans for gold with cartographer Cynthia Phillips (R), geologist Paul McCulloch (L) and prospector Doug Boddy.

topics of current research in Nova Scotia and its offshore regions.

Technical sessions held on November 9 and 10 were very well attended, attesting to the high quality of the talks. Presentations covered a wide range of topics including: the partnership between Georgia Pacific Corporation and Aboriginal Nations in developing a new gypsum mine in Melford; using zeolites to make kitty litter and much more; an overview of Nova Scotia's newest gold mine; development opportunities related to our famous fossil cliffs; and much more!

The theme of this year's conference was economic development opportunities related to mineral resources. Many delegates represented economic development agencies, in addition to numerous geoscientists, prospectors and developers. Since our goal was to provide a venue where new partnerships could be nurtured that will contribute to Nova Scotia's future economic health, this combination of delegates showed that we are on the right track. Plans are already underway for improvements at next year's conference.

Mike MacDonald

Jeff Poole Joins Minerals and Energy Branch

When geologist Janette Freeman left the branch in May 1998, an extensive job search began for a new digital information specialist. Jeff Poole was offered, and accepted, the vacant position as a geologist specializing in Digital Information Services (Geoscience Information Services Section) and started work in November 1998.



Jeff graduated with a First Class Honours degree in Geology from St. Francis Xavier in 1984 and did graduate work in Geology at Memorial from 1984 to 1986. From 1981 to 1994, when not in school, Jeff worked in mineral exploration in Nova Scotia, New Brunswick and Newfoundland with Selco, Billiton, Noranda, Falconbridge and BP Resources. From 1993 to 1995 Jeff attended the College of Geographic Sciences in Lawrencetown, Nova Scotia, and acquired a Certificate in GIS and a Diploma in Integrated Studies in GIS and Remote Sensing. Since 1995, he has been working as a geomatics specialist for Statistics Canada in Ottawa, working extensively with ESRI and MapInfo GIS products and ESRI Web-based GIS technology.

Norman Lyttle

October-December Open Assessment Reports

Report No.	Claim Ref. Map	Licensee
85-103	011F/05A and B	Seabright Resources Incorporated
87-286	011F/05A and B	Seabright Resources Incorporated
87-287	011F/05A and B	Seabright Resources Incorporated
87-288	011F/05A and B	Seabright Resources Incorporated
88-422	011F/05A and B	Seabright Resources Incorporated
89-294	011F/05A and B	Westminer Canada Limited
90-176	011F/05A and B	Westminer Canada Limited
90-177	011F/05A and B	Westminer Canada Limited
96-082	021H/02B	Booth, I
96-083	011K/07B	Johnson, C G
96-084	021H/02B	Booth, I
96-085	021A/07C	Baker, R
96-086	011D/10C	Mason, J
96-087	011E/04A	MacPhee, T J
96-088	011F/09C 011F/16B	A. J. Perron Gold Corporation
96-089	011F/09C 011F/16B	A. J. Perron Gold Corporation
96-090	011K/07B	Kelly, D G
96-091	011F/04D	McAllister, K
96-092	011F/04D	McAllister, K
96-093	011F/05C	Schenkels, H
96-094	011K/10B	Doucet, G J
96-095	011K/10B and C	Hemlo Gold Mines Incorporated
96-097	011F/04B	MacNaughton, T
96-098	011F/14B	Marchant, R
96-099	021H/01D	Geocol Mining and Exploration
96-100	011D/11C	Gammon Lake Resources Incorporated
96-101	011D/15A	Tangier Limited Partnership
96-102	011F/14C	Kelly Rock Limited
96-104	011F/12B	MacEachern, A
96-105	011F/05A	Langille, B H
96-106	011D/14C	DeBay, A
96-107	011D/14D	Tusket Mining Incorporated
96-108	011D/11C	Gammon Lake Resources Incorporated
96-109	011F/04D	Groundstar Resources Limited
96-110	011F/04D	Groundstar Resources Limited
96-111	011F/14A	Barrett, A
96-112	011D/14C	DeBay, A
96-113	011F/05B	Gold'n Crystal Minerals
96-114	011E/01D	Gold'n Crystal Minerals
97-066	011E/06D 011E/11A	Grant, S
97-080	021H/07B	Booth, I
97-081	021H/01C	WTC Resources Limited
97-082	021H/01C	WTC Resources Limited
97-083	021H/02B	WTC Resources Limited
97-098	021H/02D	WTC Resources Limited
97-109	011F/04D	Schenkels, H
97-119	011E/01D	Gold'n Crystal Minerals

Susan Saunders and Norman Lyttle

Mineral Promotion Activities for the Winter of 1999

Once again, the Minerals and Energy Branch mineral promotion team will be hitting the road this winter to promote opportunities for economic development in Nova Scotia. First stop will be the Cordilleran Roundup in Vancouver from January 26 to 29. A poster display for the DNR booth will present mineral production highlights, exploration and development highlights, opportunities for mineral-related developments associated with the Sable Offshore Energy Project, new research on the Stirling Zn-Pb-Cu-Ag-Au deposit, and new research into carbonate-hosted Pb-Zn deposits in the Carboniferous Basins of central and northern Nova Scotia. Prospectors Joe Richman, Larry Riteman (True Metallic Exploration Inc.), Scott Grant and Will Felderhof (Lynx Minerals Corporation) will receive assistance through the Prospector Assistance Program to attend the conference.

The branch is also preparing for the 1999 Prospectors and Developers Association of Canada (PDAC) conference in Toronto, which will take place from March 14 to 17 at the Metro Toronto Convention Centre. DNR will have booths in the Team Canada area and in the Atlantic Canada Rock Room. Funding for local prospectors to attend the PDAC conference will be made available through the Prospector Assistance Program. Readers who qualify for this program are encouraged to contact Howard Donohoe (902-424-7199) or Mike MacDonald (902-424-2523) for more information.

In December, mineral licence holders were asked to supply information for the annual DNR publication *Properties for Option in Nova Scotia*. Twenty-three submissions were received and the publication will be circulated at the conferences and through the DNR library.

Come and see our displays if you attend these conventions, or give us a call. Remember.... We're Worth Exploring!

Mike MacDonald



Nova Scotia prospectors (L to R) Doug Boddy, Heather Boddy, Hubert Burrill and John O'Sullivan at a previous PDAC conference.

Nova Scotia Tides Rule the World

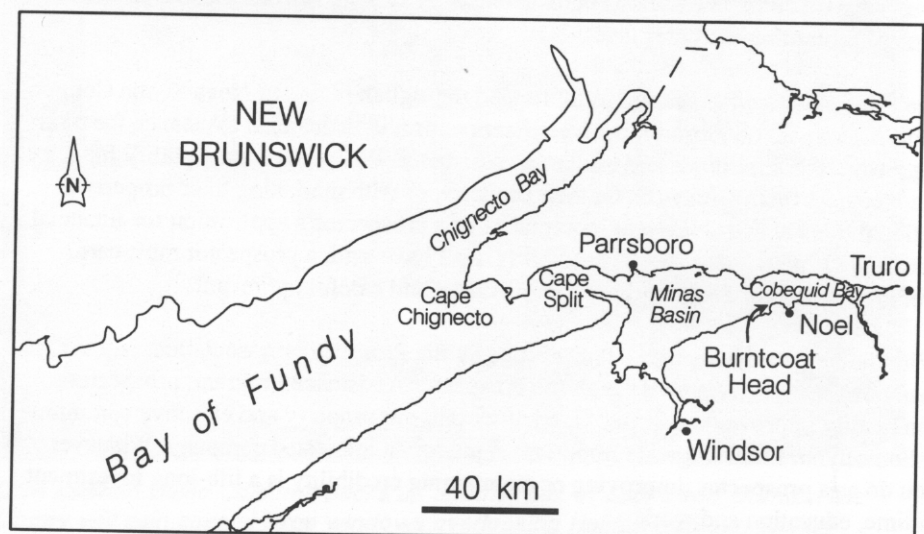
Twice in the past five years representatives of the *Guinness Book of World Records* have contacted the Canadian Hydrographic Service in Dartmouth for clarification of the title for world record tides. It seems that the government of the Northwest Territories has challenged Nova Scotia's long-standing claim to the world's highest tides, specifically at the head of the Minas Basin in the Bay of Fundy. The challenge claimed that the Leaf Basin in southwest Ungava Bay has higher tides than Fundy!

In the summer of 1998 the Canadian Hydrographic Service installed a tide gauge at Burntcoat Head near Noel, where the Fundy tidal system reaches its

highest levels. This area is famous everywhere except in Nova Scotia. In 1998, two Japanese television crews produced short documentaries on the area. The Discovery Channel will obtain video from these productions to prepare an English documentary. Tides of the Minas Basin are truly one of our province's most fascinating natural systems.

Data from last summer's study show that our Nova Scotia tides rule the world. The Bay of Fundy 'highest astronomic tides' (HAT) range from 16.0 to 16.5 m at Burntcoat Head. The HAT at Leaf Basin in Ungava Bay is 15.5 m; close, but still 0.5 to 1.0 m short of the Bay of Fundy tides at Burntcoat Head.

George O'Reilly and Doug MacDonald



Burntcoat Head, Nova Scotia, is the site of the world's highest tides.

The Prospector's Stake

This column is all about credibility and how it affects prospectors. Credibility is a combination of being reliable and honest, having integrity, and doing what you say you will do. For prospectors this is important. Companies seeking information from a prospector about his or her claim will always try to measure how credible that person is. In a sense this is a first order of 'due diligence' for the company.

Being prepared for inquiries about your property is one way to be seen as credible. This means coupling optimism with knowledge of the geological setting of the mineral occurrence. It doesn't mean using inflated descriptions of the property. Companies may probe to determine what the prospector doesn't know or understand about their property and how they speak about these problem areas. Finally, having a plan for future work on your property will always signal faith in your abilities, the property's value, and your organizational skills.

Prospectors should learn about any known or suspected mineral commodity on their property. What is the current price? Where has it been in the past several months or years? How might it change in the future? Having an insight into under-utilized applications of the mineral commodity and future usage trends is another way of showing a company that you have "done your homework". It also means that you know the value of finding mineable resources of the commodity. All of this helps in presenting yourself as a credible source of information about your property and its mineral resources.

Many prospectors are experienced in working with mining and exploration companies. The Nova Scotia Prospectors Association (NSPA), through its many functions, provides a way of meeting experienced prospectors and learning from them. For further information please call the President, Joey Collier, at 902-434-9282.

The Department of Natural Resources also helps prospectors. You are welcome to talk with our prospector liaison geologist, Ron Mills, about any matter concerning your property. We can help you develop a work plan for your property and provide a limited number of assays. Our geologists are always ready to assist you. The department can help you by publicizing your property in the publication *Properties for Option in Nova Scotia*. We use this book extensively in our trade show displays and mineral promotion activities (see p. 7).

The Prospector Assistance Program, funded through the Canada-Nova Scotia Cooperation Agreement on Economic Diversification, provides financial assistance for training, prospector assistance and marketing assistance. Prospectors may qualify for funds to help them with work on their property, or with marketing their property at national trade shows. However, acceptance of a prospector's application for financial assistance is not a guarantee of credibility. As I have said, a prospector must earn credibility through good work, proper planning and careful optimism.

With the help of the department, the Nova Scotia Prospectors Association, and the many opportunities found through the Prospector Assistance Program, prospectors can readily improve their skills. Good work on your property and effective communication of your knowledge are important signs for an interested company. Whatever you do as a prospector, improving or maintaining credibility is a life-long investment in time, education and work.

Howard Donohoe

Special Note

New Geologist 3 Positions

On December 12, 1998, Scott Swinden announced the promotion of six staff members to Geologist 3 positions in the Mineral and Energy Resources Division. The successful candidates are: George O'Reilly, Mineral Inventory; Paul Smith, Mineral Deposits; Linda Ham and Rick Horne, Geological Mapping; Phil Finck, Industrial Minerals; and Brian Fisher, Digital Information.

Dates to Remember

February 5 and 6, 1999

Atlantic Geoscience Society, Annual Colloquium and General Meeting, Wandlyn Inn, Amherst, Nova Scotia. Themes for papers and posters: Current Research in the Atlantic Provinces, Geology of the Maritimes Basin, Offshore Petroleum Geology and Geological Resources. Special Session on Geoscience Software. Contact Peter Wallace at 494-2364 or e-mail peter.wallace@dal.ca.

March 14-17, 1999

Prospectors and Developers Association of Canada (PDAC), International Convention and Trade Show, Metro Toronto Convention Centre, Toronto, Ontario. For more information call 416-362-1969.

May 2-5, 1999

Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Calgary '99, Annual Meeting, Round-up Centre, Stampede Grounds, Calgary, Alberta. For more information contact Rick McCosh 403-220-9500.

May 26-28, 1999

Geological Association of Canada/Mineralogical Association of Canada (GAC/MAC), Joint Annual Meeting, Laurentian University, Sudbury, Ontario. For more information contact Barb Evans 705-673-6572.