



DECEMBER 2004

**FROM THE PRESIDENT**

The Cordilleran Section is active on several fronts this season. Brown Bags have started with a great talk by Dave Dunkley of the GVRD on Vancouver's watersheds and the impact of geology on these. In the New Year, we are expecting more lively talks - so watch the website for news of these.

The Section is sponsoring a public Lecture on December 7, 2004. Entitled: The Ice-Free Corridor and the Peopling of the Americas-- an Open and Shut Case. This presentation by Lionel Jackson of the GSC and Michael Wilson of Douglas College, will look at the use of geoscience in answering some of the questions surrounding the early migration of people to North America.

The 2004/2005 W.W. Hutchison Lecturer Dr. Shoufa Lin will be coming to Vancouver during the week of January 31 – February 4, 2005. Dr Lin will be talking on Structural thinking: a key to mineral deposit studies in deformed terrain. In this edition of the newsletter, a contribution from Jim Roddick is included. This story puts a different face on the work and outcomes of geological investigation. Do you have an interesting "Geostory" to submit to the Cordilleran Section. If so, don't hold back!

In the spring the Section will be hosting an EdGeo workshop for grade 10 teachers wishing to upgrade their earth science teaching skills. An earth science segment in the grade 10 science curriculum is now subject to provincial exams, consequently there is a need for upgrading the teaching skills of this material.

Website development continues, with much of this effort being undertaken by Derek Kinakin

– who by the way, has just completed and defended his MSc thesis at SFU. The

Photo archive component of the website is also progressing. Further information on how you can contribute and what will happen to your images vis á vis copyright issues will be forthcoming.

The Section would like to welcome a new councillor to its executive: Dr. Glyn Williams –Jones of Simon Fraser University. Glyn's primary interest is on physical volcanology and the processes controlling persistently active volcanoes. His current research integrates the study of geophysical signatures with geochemical and remote sensing data to investigate precursory signals to volcanic activity and the mechanisms that trigger eruptions. Glyn uses a variety of geophysical and geochemical techniques (gravity, differential GPS, gas flux, satellite remote sensing) to study volcanoes in the Americas, Europe and Hawaii. He is especially interested in the hazards and impact of persistently degassing volcanoes on the local environment. Glyn is always looking for good graduate students interested in field-intensive studies of active volcanoes around the world.

I'd like to thank all of the Section's councillors for their support and efforts during the past year. With Christmas and a New Year just about to roll out, I'd also like to wish council, our membership and their families a warm Christmas and prosperous New Year!  
 - Carl Verley



**CONTENTS**

- [PRESIDENT'S MESSAGE](#)
- [SFU News](#)
- [UBC News](#)
- [DINOSAUR TRACKS](#)
- [MONITORING ST. HELENS](#)
- [WHENCE THE MOUNTAINS](#)
- [RETIREMENT OF DR. ANDREW OKULITCH](#)
- [GEOLOGY AND THE LOST NUKE](#)
- [GEOSCAPE COMMUNITY GUIDES](#)
- [LECTURES AND EVENTS](#)
- [2004-05 HOWARD ST. ROBINSON LECTURE](#)
- [GREATER VANCOUVER REGIONAL DISTRICT'S WATERSHEDS](#)
- [W.W.HUTCHISON FUNDRAISER DINNER](#)
- [CHANGES TO NATIONAL INSTRUMENT 43-101](#)
- [MINERAL TITLES ONLINE IMPLEMENTATION](#)
- [GAC MEDALS AND AWARDS - CALL FOR NOMINATIONS](#)
- [PACIFIC MUSEUM OF THE EARTH](#)
- [GEM NEWS](#)



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**CORDILLERAN SECTION GAC**  
 P.O Box 398  
 STN A BENTALL CENTRE,  
 VANCOUVER  
 B.C. V6C 2N2

www.gac-cs.ca



## NEWS FROM SFU - Peter Mustard

The Department of Earth Sciences at Simon Fraser continued to grow in 2004. We had two new faculty members join us. Dr Brian Coffey came in January from Exxon Research in Houston to take up a position to teach and research in the fields of petroleum geology and carbonate sedimentology. Dr Dan Gibson joined us in September after completing his PhD at Carleton University and a post-doc at the University of Massachusetts and will teach and research in the field of structural geology. Dr Gwenn Flowers will join us in January 2005 to fill a position as a Tier II Canada Research Chair, specializing in glaciology. This brings our faculty complement up to 14 Professors in addition to our two lecturers and support staff. We also finally had our Ph.D. graduate program formally approved by the province and admitted our first 4 PhD students in September (although we already had one student complete a PhD last spring as a Special Arrangements student). We graduated an even dozen M.Sc. students in the last year and admitted a bit more than that as new students, bringing our current graduate student population up to 37. All in all the department continues to grow. A new Applied Science building is well underway and we are scheduled to move into our much larger, better equipped and more focused area of space by September of 2005, none too soon.

## NEWS FROM UBC - Stuart Sutherland

### *Awards And Honours*

APEGBC 2004 EDITORIAL BOARD AWARD - OLDRICH HUNGR. Congratulations to Oldrich Hungr who is the winner of the APEGBC (Association of Professional Engineering and Geoscientists of BC) 2004 Editorial Board Award for his article "Landslide Hazards in BC: Achieving Balance in Risk Assessment", published in the April 2004 issue of "Innovation."

### *New Earth Scientists At UBC*

The department is pleased to welcome Dr. Mark Jellinek to EOS in January. Mark's research interests include volcanology, geodynamics, planetary Science and Geological Fluid Mechanics.

### *Sedimentology At UBC*

The department of Earth and Ocean Sciences is seeking an Assistant Professor, in Applied Sedimentology and/or Stratigraphy; deadline for receipt of complete applications is February 14, 2005. For more information see: <http://www.eos.ubc.ca/public/employ/index.html>

## *The Pacific Center For Isotopic And Geochemical Research (PCIGR) Dominique Weis*

PCIGR is in the process of moving from the E-wing of the Chemistry building to the Earth and Ocean Sciences (EOS) building. The floor plan of the new laboratories at EOS as well as various pictures documenting the construction process are provided on the following website: <http://www.eos.ubc.ca/research/pcigr/News.htm>.

All the instruments are now installed in the EOS basement, next to each other in modular labs with hepafilter system for the MC-ICP-MS, TIMS and HR-ICP-MS - the move was just completed on November 25 2004 (see photographs of that memorable event on the website). The instruments are now being tested by the engineers and everything will be back in working order by the end of November



Constructing the new labs in EOS

Three new Class 100 chemistry laboratories, designed for specific applications (tracer studies, Rb-Sr, Sm-Nd, Lu-Hf radiogenic systems - U-Pb geochronology - low trace-metal geochemistry and non-traditional stable isotopes) are being build on the third floor. They are in the final process of inspection and certification.

Numerous pictures have been uploaded on the PCIGR website: <http://www.eos.ubc.ca/research/pcigr/> - Dominique Weis (Director PCIGR)

## **NEW DINOSAUR TRACK DISCOVERY IN BRITISH COLUMBIA - Jim Ryan**

Geological field mapping in north-central British Columbia has led to important new discoveries of dinosaur footprints and a fossilized turtle in early Cretaceous



Turtle showing some details of shell and vertebra (lower centre) about 1 cm diameter.

strata of the Bowser Basin. The fossils were found during a collaborative mapping project of the Geological Survey of Canada and the B.C. Ministry of Energy and Mines. The project “Integrated Petroleum Resource Potential and Geo-



Theropod print on rippled bedding surface (natural cast in raised relief).

science Studies of the Bowser and Sustut Basins” is part of the Northern Resource Development Program of Natural Resources Canada (see [http://nrd.nrcan.gc.ca/nrd\\_t3/index\\_e.aspx?articleid=278](http://nrd.nrcan.gc.ca/nrd_t3/index_e.aspx?articleid=278)).

The fossils will become part of the collection of the Royal British Columbia Museum in Victoria, where the discovery was officially announced at a well-publicized media event in September.

Mike Boddy, with B.C.’s Ministry of Energy and Mines, made the initial find of a well-preserved turtle in an Early Cretaceous unit. Shortly afterward, Peter Mustard from Simon Fraser University uncovered the dinosaur tracks nearby. Later in the summer, Carol Evenchick of the G.S.C. found bones from a dinosaur or reptile in Late

Jurassic rocks.

The dinosaur tracks are the most westerly in British Columbia and the third most westerly in North America. They are the footprints of theropod dinosaurs, carnivores that walked or ran on two strong hind legs and were perhaps the size of an adult human. The turtle skeleton is a rare find and may turn out to have great scientific value. Significant discoveries of tracks, vertebrate remains and abundant plant material in the remote and little-explored area indicate it is likely to stimulate future research, and yield additional finds, possibly including dinosaur bones.

The Bowser Basin and adjoining Sustut Basin contain Jurassic and Cretaceous sedimentary strata more than 5,000 metres thick, covering an area of some 65,000 square kilometres. Information from the project will be used by the oil and gas industry to better focus its exploration efforts in the region. The program also incorporates outreach activities to communities and schools in north-central BC and will produce geoscience products for the general public.

### MONITORING MOUNT ST. HELENS: A HOT OPPORTUNITY - Jim Ryan

Dr. Kirstie Simpson of the Geological Survey of Canada (GSC) has recently had the great opportunity to collaborate with the USGS at the Cascades Volcano Observatory, monitoring Mount St. Helens during its heightened activity in October, 2004. Seismologist in the Sidney office and volcanologists from the Vancouver office of the GSC were



Setting up a new GPS station north of the active dome (seen steaming away in the background).

involved with numerous direct media contacts and public inquires regarding the events related to the Mt. St. Helen’s activity. Over the course of three weeks they fielded over 150 media inquiries including national and local TV, newspaper, and radio. The Cordilleran Section is taking the opportunity to profile Kirstie, and through a Q&A, get an inside look at how they monitored the volcano. Such experience serves to strengthen the expertise and capac-

ity of GSC personnel, charged with monitoring Canadian volcanic hazards. Volcanology is clearly an exciting field to be in!

### *PROFILE*

P.o.B: Born and raised in North Vancouver.  
Undergrad: University of British Columbia  
Doctorate: University of Tasmania, Australia (April 1997-Feb. 2001)  
Post-doc: Seismic Research Unit, University of the West Indies, Trinidad and Tobago (March 2001-Nov. 2001)  
Presently: Geological Survey of Canada, Vancouver subdivision, since Nov. 2001

Summary: After completing a degree in geology from the University of British Columbia I pursued a PhD in



Looking through a thermal imaging camera with Mt. St. Helens reflecting in the lens. (Oct 11th)

volcanology in Australia (April 1997-February 2001). I then went on to work as a volcanologist (Post-doctoral Research Fellow) in the Caribbean for nine months, following that I moved back to Vancouver to work for the Geological Survey of Canada where I have been for three years.

### *INTERVIEW*

Q: How did you get into geology, and more specifically volcanology?

A: I was initially attracted to geology because I liked the idea of working in the outdoors in incredible places all over the world. Geology is a science that explains the processes that have formed and continue to form our landscape, it is exciting, physically challenging, and can be somewhat risky, all of which I enjoy. As an under-

graduate at UBC I was given the opportunity by Dr. Kelly Russell to work on a young volcano in northern BC for my thesis. This experience and seeing images of erupting volcanoes and volcanologists working on erupting volcanoes got me hooked.

Q: What are your ongoing research interests?

A: As a physical volcanologist, with a background in both modern and ancient volcanic terranes, my current research interests include volcanic hazards in Canada, Quaternary subglacial volcanism in northwest British Columbia and volcanic facies mapping and interpretation in mineralized volcanic successions. I have been a sessional lecturer at UBC in volcanic and landslide hazards. And, I am very committed to public outreach and volcanic hazards education.

Q: How did you get invited to Mt St Helens, and what did you do there?

A: I have worked collaboratively with the USGS over the past two years and developed a strong working relationship. I received an official request of assistance from the USGS on Oct 5th. Participating in a volcanic crisis is often a once in a lifetime opportunity so there was no way I was going to pass up the invitation. I arrived at the Cascades Volcano Observatory on the morning of Oct. 6th, 2004. One of my first tasks was to assist in the installation of a time-lapse camera on the crater rim. The camera was intended to capture the deformation in the crater. The camera was installed on October 10th at a location called Sugar Bowl which is on the NE side of the crater rim, approximately 2.5 km from the actively deforming area.

The camera allows scientists to get glimpses of the crater during times when clouds make it impossible to view the volcano from the ground or reach the volcano by helicopter. The camera has been operational since Oct. 10, 2004 and has captured the significant uplift that is occurring in the SE part of the crater. The still images are easily stitched together into a movie which visually illustrates the growing lava dome.

I also assisted in the regular maintenance of GPS stations located on the volcanoes flanks. This work included replacing batteries, downloading data, fixing instrumentation problems, dismantling stations for the winter and hardening and setting up winterized stations on the flanks of the volcano. During this maintenance work we also made observations of the new dome growth, took photos and reported any obvious changes.

Office work included participation in science meetings, providing information for the media and building equipment and cables for instruments being deployed on the volcano. I was also involved in an eruption chronology project, which

involved compiling all data, observations and representative photographs from Sept. 23rd to the present. A visual timeline (very large poster!) has been created on a wall and is updated daily to show the sequence of events as they occur. This timeline has helped to illustrate/identify the major events, observations and changes in activity that have occurred throughout the volcanic crisis.

Lastly, I took shifts in the operations room which is a duty watch of the seismometers. Twenty-four hours a day scientists watch the seismometers for changes in the character, magnitude or number of seismic events.

Q: What has the experience meant to you?

A: Participating in the Mount St. Helens crisis has been the most exciting experience of my life. Flying by helicopter into and working in the crater of an active volcano is awesome. The energy and enthusiasm amongst the scientists is unbelievable and as a young scientist I feel very lucky to have been a part of it all.

Q: Why do you like being a volcanologist?

A: There are many things I enjoy about being a volcanologist: Through my work I am able to help reduce the risk to people and property, educate the public, and to travel and work in incredible, often remote locations with interesting and amazing people. The most exhilarating part is to experience the excitement of working on an erupting volcano.

I have seen erupting volcanoes in Hawaii and on the island of Montserrat and now Mt. St. Helens. It is exciting, powerful, unbelievable ... all rolled into one. It is amazing to see the landscape change so dramatically and so rapidly. People tend to view the landscape around us as static and unchanging, but in reality, much of the earth's landscape has been formed by rapid, catastrophic events. Observing volcanic eruptions makes you realize how powerful nature can be.

*Kirstie Simpson will be giving a joint GAC/GSC lunchtime brown bag talk on the Mt St Helens field work, with implications for monitoring needs around Canadian volcanoes in late winter (check back at our website in the New Year for update on time and place).*

### **WHENCE THE MOUNTAINS? - Jim Ryan**

At the recent 2004 Denver Annual Meeting of the GSA (November 7–10, 2004), a session was devoted to celebrating the first 50 years of the career of one of the Canadian Cordilleran Greats, Dr. Raymond Price. Topical session 85 was titled “Whence the mountains? New developments in the tectonic evolution of orogenic belts: Celebrating the dynamic

career of Raymond A. Price at the 50-year mark”. The session, which was sponsored by the GSA Structural Geology and Tectonics Division and the Geological Association of Canada, featured a line up of speakers that was truly impressive - a fine tribute to the first 50 years of Ray's career. Speakers came from around the globe, and included both the most senior and most cutting edge thinkers in thrust belts and orogenic belts. Orogens on every continent were discussed, with scales



Ray Price

ranging from thin section to orogen-wide. 56 presentations were made during 4 oral sessions and 1 poster session.

The session honored the contributions of Ray, an outstanding structural geologist and tectonist whose work has helped establish the Canadian Cordillera as a reference standard for students of mountain systems around the globe. Fifty years ago, as an undergraduate, Ray posed the question, “Whence the Mountains?” in a short article published in the University of Manitoba Science Faculty newsletter. Since then, Ray's 250+ papers, maps, reports, and abstracts have illuminated the processes and history of compression, crustal wedging, collapse, crustal boudinage, transpression, and trans-tension in orogenic settings. In the North American Cordillera, Ray has worked from the foreland through the hinterland to the collage of accreted terranes at the Cordilleran margin.

The session was organized by Jim Sears (University of Montana), Tekla Harms (Amherst College), and Carol

Evenchick (Geological Survey of Canada), who hope to have a special publication in Ray's honor on the evolution of orogenic systems as a follow up to the topical session, published by 2006.

Ray has been Professor Emeritus of Geological Sciences and Geological Engineering at Queen's University in Kingston, Ontario since he retired from Queens in 1998. He has remained highly active in research and in the supervision of thesis research projects. Ray joined Queens in 1968, after coming from the Geological Survey of Canada. He has held a number of prestigious and influential positions throughout his career on the national and international scientific stage.

Well done on the first 50 years Ray!

### RETIREMENT OF DR. ANDREW OKULITCH - Jim Ryan

After 30 plus years of public service at the Geological Survey of Canada, Dr. Andrew Okulitch has finally decided to retire to the good life. Andy will in fact stay on at the GSC as an Emeritus Scientist, and continue his



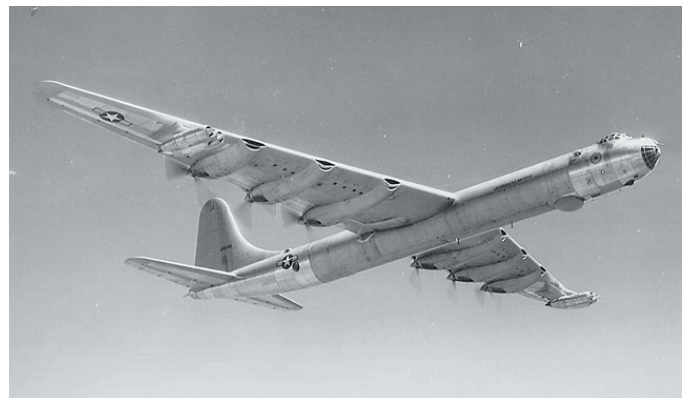
Cutting the retirement cake

passion of map compilation, and complete ongoing projects. But this will happen on his own schedule. Andy was given a proper send off, with a party in Calgary held

by his longtime friends and colleagues, and by two functions in Vancouver. An office function was held in the GSC Vancouver boardroom on Friday, October 29, where Andy was presented with a cake, a gift, a "Ye Old Geezers Society" card, and a very attractive "pink slip" that he strutted proudly. On Saturday, October 30, a larger retirement party was held at Steamworks Brew Company in downtown Vancouver, where nearly 70 friends of Andy gathered to toast and roast him. In addition to a gift certificate to Lee Valley (will come in very handy), Andy was presented with a cake emblazoned with the Geology Map of Canada, to which Andy was a major contributor. Andy and his wife Melynda enjoyed the functions very much, and appreciated all the fuss. Melynda has a long list of things to add to Andy's "to do" list. Enjoy your retirement Andy.

### REKINDLED INTEREST IN THE LOST NUKE - Jim Ryan

Recently, interest in the mystery surrounding the USAF B-36 atomic bomber (flight 2075) that crashed in northwestern BC in 1950 has been rekindled. On November 18, 2004, the Vancouver Museum opened a display (called Lost Nuke), exhibiting items that include artifacts found at the crash site and a replica of the nuclear weapon (a Mark IV Fat Man) that was originally aboard the flight but had been jettisoned over Queen Charlotte Sound. The display was set up to coincide with a Discovery Channel Documentary entitled "Lost Nuke" that aired on November 19, 2004. It will be maintained until at



A 1950's B-36 Peacemaker  
(U.S. Airforce photo)

least the end of January 2005. The documentary was shot and directed by Michael Jorgensen, and is largely influenced by the research of Dirk Septer (who has previously published on the incident, including a 1993 article Broken Arrow).

The GAC Cordilleran Section is taking the opportunity to present a historical version of this relatively unknown incident by the Section's own Jim Roddick, whose Geological Survey of Canada mapping party re-discovered the wreckage in 1956 while doing reconnaissance mapping in the Bowser Basin as

part of the GSC's "Operation Stikine". Jim has maintained his interest in this story ever since. Below, we include the first segment of this story - watch upcoming newsletters for further instalments.

**THE GENTLE GIANT:  
Our resident atomic bomber  
Jim Roddick**

*When the giant aircraft slammed into a remote glacial cirque in northwestern British Columbia during a late-night blizzard fifty-three years ago, it was the first unplanned destruction of an atomic bomb. It created both a mystery and a worry, but I knew nothing about the incident when, six years later, we first came across the twisted aluminum wreckage.*

*In the summer of 1956, one of my Geological Survey of Canada field teams reported finding some aircraft parts during a routine ridge-traverse. Even though it was late July, most of the wreckage was encased in glacier ice and covered by snow. I began checking it for possibly significant serial numbers. A fragment of aluminum cowling was jutting out from the snow. The words on it were wholly unexpected, Engine No. 6! This was definitely not some bush plane which I was expecting; it was a very big aircraft. Although a geologist, I was also a pilot and had some knowledge of the aircraft of the day. I was pretty sure I knew what it was. Letting on a blister cover soon confirmed my suspicions:*

*spec. no. 98-26751-h  
model b36b  
consolid. vultee aircraft corp.  
date of manufacture - 5/28/49  
airforce - u.s. army*

*No doubt now. I was looking at the remains of a B-36 Peacemaker, the largest bomber, in sheer physical size, ever put into service.*

*At the edge of the crash scene, lay an undamaged canister of incendiary grenades, and another, full of dynamite sticks with a parachute still attached. Clearly, someone had found the aircraft before us. Furthermore, they had further destruction in mind.*

*I made a few entries in my Survey notebook:*

*The wreck is located at El. 5500, Long 12834', Lat. 5605'. The aircraft was apparently on a westerly course when it struck within 100 feet or so of the ridge top. The fragments now visible are lower down the*

*slope, probably thrown back by the explosion, or carried downhill by subsequent snow slides. The wreckage is concentrated in about a 1/4 mile circular area, the upper part of which is covered by deep snow. The exposed wreckage shows very little linearity, except for a slight elongation down slope. Most of the pieces are very small, the largest being the three propeller blades, several panel fragments from wing or fuselage, and a tail fragment. There is considerable emergency gear, such as, canned goods, clothing, etc., also armaments (incendiary grenades and 20 mm cannon shells). Although clothing is quite common, there is no indication of bodies. One fragment of a duffel bag has a name attached to it, H.L. Barry Capt. AO-808341.*

... Continued at the GAC Corilleran web site

[www.gac-cs.ca](http://www.gac-cs.ca)

**NEW GEOSCAPE GOMMUNITY GUIDE SERIES  
LAUNCHED IN NORTHERN BC - Jim Ryan**

The Geoscape Canada initiative of the Geological Survey of Canada (GSC), headed up by Bob Turner ([bturner@nrcan.gc.ca](mailto:bturner@nrcan.gc.ca)), involves collaboration with provincial geological surveys, universities, and other agencies. For years now, it has been promoting the use



of relevant local geoscience information by communities across Canada through the production of colourful, large-format Geoscape posters. Details about this ongoing initiative are available on the internet at their new and improved site <http://geoscape.nrcan.gc.ca/>.

A new development is the Waterscape poster series focusing on community water issues, looked at with a geological perspective. A prototype was developed for the small community of Bowen Island, B.C., and the Gulf Islands, B.C. Other waterscape posters are currently underway for the Bow River Basin (Calgary area) and the Okanagan Valley, B.C.

The most recent avenue in the project explored by Bob Turner is a Geoscape Community Guide series. Through the "Integrated Petroleum Resource Potential

and Geoscience Studies of the Bowser and Sustut Basins” project led by Carol Evenchick, a collaborative mapping project of the Geological Survey of Canada and the B.C. Ministry of Energy and Mines, Bob met with community partners in Prince George, Smithers, Terrace, Hazelton, and the First Nations community of Iskut back in October, to design Geoscape Community Guides. The first Community Guide will be created for Prince George and is a partnership between the Exploration Place science center, City of Prince George, Regional District of Fraser-Fort George, the BC government, and the local school district. The guides will provide specific answers to such questions as “What local earth resources do we depend on? Where does our water come from? Where does our gasoline, natural gas, electricity come from? Where does our food come from? Where does our sewage go? Where does our garbage go? The Prince George Community Guide will profile local gravel quarries, asphalt and concrete plants, the local groundwater aquifer, the sewage plant on the Fraser River, the landfill, and oil refinery. The hope is that a geoscientist working with community members could create such a guide for any community. In addition to Prince George, guides are currently being created for other communities in B.C. (Mackenzie, Smithers, Terrace), and are hoped to inspire similar guides in communities across Canada. Who knows, in a decade we could have a hundred or more out there. Wouldn't that bring geoscience to Canadians!

## WHAT'S ON: LECTURES AND EVENTS

### *Public Lecture : December 7*

The Cordilleran Section of the Geological Association of Canada is pleased to sponsor a **FREE** public lecture presented by Drs Lionel Jackson of the Geological Survey Canada and Michael Wilson of Douglas College. Entitled: The Ice-Free Corridor and the Peopling of the Americas--an Open and Shut Case. Come and discover the latest thoughts and research on controversies surrounding the peopling of the Americas! Everyone welcome!

Time & Date: 7:30 pm; December 7, 2004

Location: H.R. McMillan Space Centre Auditorium, 1100 Chestnut Street, Vancouver.

### *SEG Thayer-Lindsley Lecture for 2004 December 14*

Gold Quartz Veins of the Val d'Or district of Abitibi: settings and ages  
Francois Robert, Barrick Gold.

Noon to 1 PM  
GSC Board room  
15th Floor, 605 Robson Street  
Vancouver, BC

### *MEG Lunches - December 15*

Eskay Update  
Dave Gale, Barrick Gold Corporation  
Hyatt Regency Hotel Ticket pick-up, 11:30 am; lunch: 12 noon. Reservations required.

### *MEG Lunches - January 12 2005*

Galore Creek  
Scott Petsel, NovalGold Resources Inc.  
Hyatt Regency Hotel Ticket pick-up, 11:30 am; lunch: 12 noon. Reservations required.

### *MEG Lunches - January 19 2005*

“Blue Ice”  
Mark Kolebaba, Diamonds North Resources Ltd.  
Hyatt Regency Hotel Ticket pick-up, 11:30 am; lunch: 12 noon. Reservations required.

### *Mineral Exploration Roundup 2005 January 24 - 27*

### *Mineral Exploration Roundup 2005 - January 24 - 27*



Westin Bayshore Resort & Marina, Vancouver, BC.

### *BC And Yukon Chamber Of Mines Student - Industry Networking Event - January 25*

Organized by the Mineral Deposits Division and the Cordilleran Section of the Geological Association of Canada  
Proposed Date and Time: Tuesday, January 25th, 5 to 7 pm, Marine Room, Westin Bayshore Hotel.

Rationale: The goal of this event is to provide an organized but informal networking opportunity at Roundup for students interested in possible careers in geology and/or the mineral exploration business and related industries (surveying, analytical labs, drilling etc), and for companies interested in encouraging students to consider careers in their industry.

Format:

Opening remarks by Michael Gray - President of BCYCM  
Introductions: University Student Reps



Speakers:

Randy Turner - Chair of Roundup Organizing Committee  
Nicole Adshead-Bell - Roundup Organizing Committee members and Co-Chair of Roundup technical session.  
Jim Ryan - Cordilleran Section GAC, and GSC Research Scientist  
Lyn Anglin - Mineral Deposits Division GAC, and GSC Research Manager

Randy Turner and Nikki Adshead-Bell have volunteered to speak to the students about their careers and experiences. The talks will be followed by an informal get-together, with complimentary food and beverages (so that people do not have to go out for dinner before BC Night starts at 7 pm).

Target Audience:

40 to 50 graduate and undergraduate students in earth sciences at the local universities and community colleges, and 30 to 40 representatives of industry, (plus some academia and government) to give advice and guidance to students and answer their questions about careers in geology and exploration.

Organizers:

Dr. Lyn Anglin, Associate Director, GSC-Pacific, 604-666-2562, Mineral Deposits Division of GAC  
Dr. Jim Ryan, Research Scientist, GSC-Pacific, 604-666-7756, Cordilleran Section of GAC

Student Representatives:

SFU - Oliver Roenitz; UBC - Andrea Cade; U.Vic - Jason Mackenzie, Kendra Johnston  
BCIT - TBD  
Capilano College - TBD; Douglas College - TBD,

Refreshments: Baron of Beef Sandwiches, or other buffet-style food, assorted beverages (to be organized through the BCYCM).

***Brown Bag Talks: Geoscience Issue  
Along The Sea To Sky Corridor***

A public lecture by Bob Turner to be held sometime over the next few months. Check website in the New Year for details of exact date and location.

***GeoSpanish***

With the dramatic resurgence in exploration activity in the past year more and more of us are going to Mexico or other Spanish speaking countries. There are now more "geoSpanish" resources available other than USGS open-file report 91-0579 (A Partial Glossary of Spanish Geological Terms). The Geological Society of Mexico has

compiled a lexicon of Spanish geological terms as used in Mexico. It and links to other resources are available in PDF files at the following site:

<http://www.satori.geociencias.unam.mx/lgm/default.htm>

***2004 - 2005 Hutchison Medal Lecture***

The Hutchison Medal Lecture Tour has been inaugurated in 2004-2005. The lecturer is Shoufa Lin (University of Waterloo), the first W.W. Hutchison medalist. The title of Shoufa Lin's lecture is "Structural thinking: a key to mineral deposit studies in deformed terrain". Shoufa has tentatively agreed to a Cordilleran Section request to add Vancouver to his tour dates. The plan is still taking shape, but will possibly take place in latest January to February, downtown in the 15th floor GSC Boardroom. Check our website in January for an update.

***Hands On Monitoring Of Mt St Helens: Implications For Monitoring Needs Around Canadian Volcanoes***

Kirstie Simpson will be giving a joint GAC/GSC lunchtime brown bag talk on the Mt St Helens field work, with implications for monitoring needs around Canadian volcanoes in late winter (check back at our website in the New Year for update on time and place).

**2004-2005 HOWARD STREET ROBINSON LECTURE**

On October 27 at UBC, Dr. Herman Zwanzig of the Manitoba Geological Survey, presented the GAC's 2004-2005 Howard Street Robinson Lecture, entitled :

Hot, thin and mineral-rich - evolution of the Paleoproterozoic. Trans-Hudson Orogen in western Canada

Herman gave an excellent talk on the latest thinking and research that has helped unravel the Trans-Hudson Orogen. He pointed out that the Trans-Hudson has developed through normal plate tectonics processes of rifting, basin formation and collision. The metal-rich orogen owes much to the hot and thin 2.1 Ga juvenile crust. The well known deposits of the Thomson Nickel belt formed in a rift setting. The Cu-Zn-Au deposits of Flin-Flon (Kidd Creek) are related to arc-backarc magmatism. Lastly, Ni-Cu-Au and Au deposits (Snow Lake) are related to arc-continent collision.

Dr Zwanzig reviewed the extensive use of Zr and Nd dating to sort out sequences and terranes within the orogen. He also demonstrated that internal belts have similar chemical signatures to their modern analogues with respect to Nb, Zr, Tl and HFSE anomalies.

It is interesting to note that through all this tectonism, diamonds have survived! Saskatchewan cratonal rocks are exposed in the Pelican Dome within the THO. It is these craton rocks that host diamondiferous kimberlites in Saskatchewan. The Saskatchewan craton appears chemically different from the Superior craton to the east, but has some similarities to the Wyoming craton to the south

### **GREATER VANCOUVER REGIONAL DISTRICT'S DRINKING WATERSHEDS: GEOLOGICAL EFFECTS ON WATER QUALITY AND SUPPLY**

Dave Dunkley, geologist with the GVRD, gave an excellent presentation on the geology, geomorphology, issues surrounding these and water supply and quality of the GVRD's watersheds on November 23rd. Dave pointed out that we are very fortunate to have watersheds in relatively pristine environments. While there is lots of water to meet immediate demands, steps need to be taken to expand access to existing supplies and to expand existing reservoirs as well as consider options for new source reservoirs in order to meet future demands. Water quality is mainly affected by turbidity. Either landslides or silty surficial materials in the catchment areas generate turbid conditions. Landslides are for the most part natural events and in general do not appear related to past logging activities. Logging is no longer permitted in the watersheds.

Dave also indicated which of the 3 main reservoirs feed the various communities making up the GVRD. He showed that an east-west pipeline provides a certain amount of resiliency to the system as it allows water to flow into different districts should one of the reservoirs need to be shut down – as happens from time to time during periods of high turbidity. A major undertaking of the GVRD at the moment is construction of a filtration plant in North Vancouver to lessen the impact of turbid incidents.

Dave's talk was very well illustrated and well delivered to a nearly packed boardroom. The Section appreciates the time and effort he took as well as the GVRD's permission for allowing him to present.

### **W.W. HUTCHISON FUNDRAISER DINNER Dirk Tempelman-Kluit for "Friends of Hutch"**

Friday November 5th "Friends of Hutch" enjoyed a congenial dinner at Brock House in Vancouver to support

the Hutchison endowment. As you know the endowment is planned to be a self-sustaining source of funds for cross-Canada travel for the Hutchison medallist's lecture tour.

Just over 50 people responded with donations to the endowment and 47 turned out for the dinner on a wet Vancouver evening. Most respondents were people who remembered Hutch personally; about 35 industry and 15 government and academe. Judging by the noise level at the reception preceding dinner and in the dining room people enjoyed it. We have few occasions to get together socially with peers, aside from at conventions and meetings and people took full advantage. The numbers matched the room well, and the menu was memorable. Something over \$3000 was raised for the endowment.

After dinner we remembered Hutch in words and pictures. There were witty, serious and moving moments. Jim Roddick showed and commented on a collection of wonderful photos of Hutch. We saw Hutch as a young geologist in the Coast Mountains, where he worked to produce the first geological maps of a vast and difficult region of BC, maps many of us have used and continue to use.

Others remembered Hutch in his pioneer role to bring computers into geology. In this Hutch was less the innovator than the salesman or promoter. He saw the huge possibilities, without necessarily appreciating the details and he made this initiative his and pushed it hard. It seems unimaginable now, but this was when the geological fraternity was gripped by extreme and pervasive cynicism about computers; they could only capture numerical data, never descriptive information, it was felt.

Still others recounted Hutch's resolve to found the GAC's Cordilleran Section. This led him directly to the Cordilleran Symposia, annual meetings that put Canadian Cordilleran geology in front of the world, meetings which incidentally furthered the careers of every geologist that participated in the meetings. This was when he also started GEOLOG.

Some reminisced about Hutch as a GSC leader in Ottawa; he was a strong defender of the GSC in the halls of power and he was one of the survey's last leaders to stand up to insidious and pervasive bureaucratization. A number of people sent written memories of Hutch, which were read and appreciated. One touching moment was Stu Blusson's tribute to Hutch. He described his visit with Hutch as he lay dying; and how Hutch's smile broke through when he woke to see Stu there at his bedside.

Donations to the Hutchison Fund can be made by credit card through the GAC website directly at the following ad-

dress:

<http://www.gac.ca/ABOUT/HutchisonFund.html>

If anyone would prefer to write a cheque, please make the cheque payable to the Canadian Geological Foundation and send it to :

Geological Association of Canada  
c/o Department of Earth Sciences  
Memorial University of Newfoundland  
St. John's, NL A1B 3X5

## CHANGES TO NATIONAL INSTRUMENT 43-101

The last chance for P.Geo's practising in the mineral sector to respond to proposed changes to NI43-101 is rapidly approaching.

The Canadian Securities Administrators (CSA) have published for a 90 day comment period (ending December 10, 2004) proposed revisions to the following documents:

- National Instrument 43-101 Standards of Disclosure for Mineral Projects
- Form 43-101F1
- Companion Policy 43-101

Reasons for Amending NI 43-101:

CSA has been monitoring NI 43-101 since it was adopted on February 1, 2001, and have identified a number of areas where it is not operating as intended. Therefore, CSA are proposing a number of changes that will:

- generally make the current NI 43-101 more user friendly and practical,
- reflect changes that have occurred in the mining industry,
- correct errors,
- simplify the drafting, and
- provide exemptions in specified circumstances.

If all of the amendments are accepted as proposed, approximately 90% of the disclosure obligations and filing requirements under NI 43-101 will remain the same. The current version of NI 43-101 will remain in place until the proposed revisions are accepted and adopted by each CSA member jurisdiction. A clean text and black-line version showing the proposed changes can be viewed on the following websites:

<http://www.bcsc.bc.ca/industryinfo/mining.asp>

<http://www.albertasecurities.com?currentPage=102&cmsS>

[upressBody=1&newsID=5508](http://www.osc.gov.on.ca)

[www.osc.gov.on.ca](http://www.osc.gov.on.ca)

### *In addition:*

The British Columbia Securities Commission is holding a special session on two areas of interest to the mining industry.

Proposed changes to National Instrument 43-101 Standards of Disclosure for Mineral Projects are now published for comment. These changes will streamline the existing regulation and impact how mining companies report information to the public.

The special session will explain the changes to NI 43-101 and what they mean for mining companies reporting in Canada. Additionally, it will address how cross-border mining issuers can accommodate mining technical disclosure requirements in Canada and the US. The session will be highly informative for mining company officers, directors, engineers, geologists, and investor relations personnel.

The session is free of charge. Seating is limited. Online registration is available.

NOVEMBER 29, 2004: Monday 9 am to 11 am or DECEMBER 3, 2004: Friday 8 am to 10 am, Metropolitan Hotel Vancouver, BC.

To reserve your place, please visit [www.bcsc.bc.ca](http://www.bcsc.bc.ca)  
Further information is available by calling 604-899-6500.

## MINERAL TITLES ONLINE IMPLEMENTATION

Mineral Titles Online is a new internet-based system under development by the Ministry of Energy and Mines. It will present complete title administration services online, including digital Geographic Information System (GIS) mapping and e-business functions such as electronic submission of information and electronic payment. This client-driven process will result in secure title and 24-hour access to title information.

You must have a BCeID registered in order to acquire title or use other online features. If you have not yet received your notification, please contact Chris Kositsin at 250.952.0542.

### *Two important dates to remember:*

**November 30, 2004** is the last day to stake mineral and placer claims in British Columbia.

All other titles transactions will continue as normal.

**January 12, 2005** is the target implementation date of Mineral Titles Online.

From this date forward, prospectors and miners will be able to acquire title, record work and renew FMCs online at their convenience.

For more information – and for Mineral Titles Online tutorials – please visit their website at:  
[www.em.gov.bc.ca/mtonline](http://www.em.gov.bc.ca/mtonline)

Training sessions are available at various time throughout November and December in Vancouver: Sign-up at the Mineral Titles Office, 300 - 865 Hornby Street.

### **GAC MEDALS & AWARDS: CALL FOR NOMINATIONS**

GAC National gives out many different awards for geoscientists each year (a full listing of awards can be found on the GAC National website <http://www.esd.mun.ca/~gac/>). In this article we have summarized a partial list of available awards, to be considered for any of these a geoscientist must be nominated. If you know of someone in the geoscience community who deserves recognition in one of these categories please contact the GAC Cordilleran Section Executive

#### ***The Logan Medal***

The Logan Medal is the highest award bestowed by the Geological Association of Canada. It is awarded to an individual who has made outstanding contributions to geoscientific knowledge in Canada.

#### ***Past Presidents' Medal***

The Past Presidents' Medal of the Geological Association of Canada is awarded to a geoscientist who during the first decade or so of her/his career is judged to have made an outstanding accomplishment in research, development, or applications in their particular field. The recipient shall be expected to undertake a lecture tour in Canada, visiting major centres, at the expense of the Association.

#### ***J. Willis Ambrose Medal***

The Ambrose Medal of the Geological Association of Canada is awarded to an individual who has rendered sustained distinguished service to the earth sciences in Canada, through outstanding accomplishments in one or more of the following realms: education; research; management; and administration; promotion; and institutional, professional or society affairs. This medal is

awarded annually unless no suitable candidate is identified.

#### ***The E.R. Ward Neale Medal***

The E. R. Ward Neale Medal of the Geological Association of Canada is awarded to an individual who has made, or is making, significant contributions to the public awareness of geoscience. The award recognizes outstanding efforts to communicate and explain geoscience to the public through one or more of the following vehicles: public lectures, print or electronic media articles, school visits, elementary and secondary school educational materials, field trips, science fairs, and other public communications. The medal will be awarded annually unless no suitable candidate is nominated.

#### ***The W.W. Hutchison Medal***

The W. W. Hutchison Medal of the Geological Association of Canada is named after Dr. William W. Hutchison in recognition of his many contributions to the Geological Association of Canada and to Canadian and international geoscience. The W.W. Hutchison Medal is awarded to a geoscientist who, during the first decade or so of her/his career, is judged to have made an outstanding accomplishment in research, development, or applications in their field. The recipient will undertake a GAC funded lecture tour in Canada, visiting major centres. The 2004 recipient was Shoufa Lin of the University of Waterloo

#### ***Yves O. Fortier Earth Science Journalism Award***

This Earth Science Journalism Award is named after Yves O. Fortier, a founding member of the Geological Association of Canada and a former Director of the Geological Survey of Canada. The GAC's Fortier award is presented for excellence in journalistic presentation of Earth science in the newspaper medium. The award recognizes a journalist who is a resident of Canada and who has been exceptionally effective in presenting a story dealing with Earth science in one of Canada's daily or weekly newspapers. Past winners have been Ed Struzik of the Edmonton Journal and Larry Pynn of the Vancouver Sun. The entries for the Yves Fortier Award deal with a broad spectrum of Earth science topics, ranging from Earth to ocean and atmosphere. They are judged on the basis of originality, clarity of interpretation, scientific accuracy and value in promoting a broader understanding of Earth sciences to the public. The subject matter should be relevant to a wide audience and should lead to a higher degree of awareness or understanding of Earth science and/or its role in society today.

#### ***Distinguished Fellows***

The honor of Distinguished Fellow is intended for the Fellows of the Association who fit any or all of the following

categories:

1. significant contributions to geoscientific knowledge in terms of research, development or applications of geosciences;
2. significant contributions to geoscience education;
3. significant contributions to institutional, professional or society affairs in terms of administration, management and/or promotion of geosciences.

### ***GAC Service Awards***

The Geological Association of Canada is a volunteer organization. In recognition of the outstanding contribution of its volunteers, the Association has instituted a series of service awards to be given out as significant contributions are made. The series includes: Honorary Life Members Award, 50-Year Members Award, the Distinguished Service Award, and the Volunteer Award.

### ***Honorary Life Members Award***

The GAC has established a series of service awards to recognize outstanding volunteer efforts:

**Honorary Life Membership.** This is the highest award, made to an individual who has contributed long-term distinguished service to the Geological Association of Canada. There is no age limit. Recommendations of persons for honorary membership may be made at any time to the Council. The recipient shall not be required to pay dues. The award will include a framed certificate and a GAC publication of the recipient's choice.

### ***Distinguished Service Award***

This award is made to those people who have made an outstanding contribution to the GAC through volunteer work. There is no limit to the number of awards that can be given, but this is an award of distinction and should be given only for specific exemplary service. The award will consist of a plaque bearing the GAC logo, the name of the winner and the particular contribution being recognized.

### ***Volunteer Award***

The objective of this award is to recognize those members and non-members who have made a significant singular contribution through voluntary service to the Association. There is no limit to the number of awards that can be given. The award will consist of an unframed certificate of achievement.

### ***Mary-Claire Ward Geoscience Award*** ***ATTENTION GRADUATE STUDENTS!!!!***

The Selection Committee for the Mary-Claire Ward Geoscience Award is now calling for applications for the first presentation of the Award. The Award honours the many

contributions to the Canadian geoscience community of Mary-Claire Ward, Chairman of Watts, Griffis and McQuat Limited, Past President of GAC and long-serving Chairman of the PDAC's Geoscience Committee. The Award, which comprises a \$3,000 prize and a certificate, will be made to support students whose research has a significant mapping component, in recognition of Mary-Claire's strong belief in the importance of geoscience mapping.

**Eligibility:** Full-time graduate students attending a Canadian university and undertaking a Canadian geoscience thesis that has a focus on mapping (e.g., bedrock or surficial geology, geochemistry, geophysics) are eligible for the Award.

**Selection Criteria:** Applicants will be assessed on the contribution of their work to geoscience mapping in Canada, their academic qualifications and supporting statements from referees.

**How to Apply:** Application forms and additional information about application procedures will soon be available on the websites of PDAC ([www.pdac.ca](http://www.pdac.ca)) and GAC ([www.gac.ca](http://www.gac.ca)); check back periodically.

**Application Deadline:** January 15, 2005

### **THE PACIFIC MUSEUM OF THE EARTH AT UBC** **Stuart Sutherland**

In October the Pacific Museum of the Earth officially opened its new courtyard extension. The event was attended by members of the downtown geology industry, K-12 educators and representatives from the greater UBC community.



At the event Ross Beaty (Pan American Silver) donated \$100 000 towards the museum. This will help continue the expansion and development of the facility and will certainly help with the opening of the new teacher's resource centre that is planned for 2005. For more images of the new courtyard see the August 2004 GAC-Cordilleran Newsletter.

For more information on the PME see:

<http://www.eos.ubc.ca/public/museum/main.html>



Paul Smith (Department Head, EOS) opens the new museum courtyard

### GEM NEWS - Ted Danner

#### *Canadian Diamonds Get Recognized*

Although Canada Post wouldn't issue a stamp for the Canadian diamond industry at the time of the International Kimberlite Conference held in Victoria two years ago, the Royal Canadian Mint is going to recognize Canadian diamonds with a \$20 silver hologram coin dated 2005. The proof coin in 99.99% fine silver features a 3-D hologram of a semi-cut diamond in cameo. The background features the landscape surrounding Lac de Gras. Encapsulated and presently in a display case including a serialized certificate of Authenticity. Price \$69.95 plus Prov. Sales tax but not GST. It can be ordered from the National Philatelic Centre Canada Post, 75 St, Ninian Street, Antigonish, NS, B2G 2R8 or call 1 800 565 4362 for credit card order. Presumably it will be available at the main post office philatelic counter in Vancouver. Available now.

#### *The 15th Annual Canadian Gemmological Association Gemology Conference*

The conference was held in Vancouver between October 22 - 24 at the Terminal City Club. It started last Friday evening with a wine and cheese reception at which there was a special exhibit of coloured cut diamonds by Diamonds Direct of Vancouver and a display of cut stones, jewelry and books for a silent auction. Saturday was filled with a series of speakers and a dinner and dance in the evening with a graduating ceremony for students of the Gemmological Association receiving their diplomas. Lunch was provided for both Saturday and Sunday. Sunday was filled with a series of speakers and the end of the silent auction. Of interest to geol-

ogists was a talk by Robert Boyd of Ashton Mining in North Vancouver about the exploration work they are doing and a talk by Brad Wilson on new Gemstone finds in Canada including a new emerald find in Ontario. Did you know that there are 8 gem peridot location in British Columbia? Other talks concerned appraising, the RCMP and gemstones, gemstone treatments, new synthetic diamonds, jade in Myanmar, etc. It was interesting to see two new companies in the United States going into the synthetic diamond business. The DeBeers representative disagreed with their premise that people really don't care whether the diamond is man made or natural as long as it is a diamond. Before the meeting the European Gemmological laboratory gave tours of their impressive Vancouver facilities and before and after the meeting Alan Hodgkinson from Scotland exhibited a special collection of 45 gem stones at the Vancouver Community College. Could you tell the difference between a \$10 000 black opal and a synthetic made to look like it? A very successful conference and very educational.

### MEMBERSHIP RENEWAL

2005 GAC membership renewal is now and until December 15, 2004 available online. This year Cordilleran Section dues can be paid as part of the GAC National membership renewal as provision has been made for this item on the membership renewal forms. Please take advantage of the online renewal and save . . . up to \$20!

All information normally mailed with your Membership Renewal, including a Letter from the President, as well as information on some of our Sections and Divisions can be found at

<http://www.gac.ca/MEMBERSHIP/JoinEm.htm>.

Please take the time to read it so that you can catch up on what's happening!

