

NEWSLETTER OF THE STRUCTURAL GEOLOGY AND TECTONICS DIVISION GEOLOGICAL ASSOCIATION OF CANADA

November 1997

Hello Folks

Welcome to another addition of the Main Thrust. With snow falling outside (well, for many of us anyway) here is some news to warm your hearts.

News from the CTG Meeting

This years CTG meeting was held on Oct 3 - 6 in Halifax, Nova Scotia. Nick Culshaw and Rick Horne put together a fine slate of talks at the equally grand Keddy's Motel. A list of abstracts can be found on our web site for those who missed the meeting. All the talks and poster presentations were packed into a long Saturday morning session which left time for an afternoon excursion to spectacular outcrops of the South Mountain Batholith led by Barrie Clark. Sunday's field trip went to the Lunenburg and The Ovens area where CTG'ers observed and debated the finer points of flexural-slip folds. A handful of us stayed on for some serious kelp climbing in the Yarmouth area where Nick presented coastal outcrops showing evidence for Carboniferous reworking of Acadian folds.

Many thanks to everyone who contributed to organizing of this years CTG meeting. The organization along with the talks, the great outcrops we visited on the field trips and the weather all contributed to making this meeting a great success. Some scanned photos of the meeting will shortly be available at our web site. If anybody has additional photos from the field trips please send JPGs to Frank (ffueten@craton.geol.brocku.ca) to put up on the web site.

SGTD business discussed at the CTG meeting over several glasses of a Nova Scotian drink made from fermented grapes is summarized below.

The SGTD's Best Paper award

The SGTD's Best Paper award is given for the best paper of the year by Canadian authors, or dealing with Canadian structural geology and tectonics. The winning paper is chosen by the Division Executive from short lists of papers submitted by the Division Councillors and other people. The 1997 best paper award goes to:

Joe C. White, 1996, Transient discontinuities revisited: pseudotachylite, plastic instability and the influence of low pore fluid pressure on deformation processes in the mid crust. *Journal of Structural Geology*, vol. 18, no. 12, 1471-1487.20

Congratulations Joe for an outstanding contribution. The complete list of Canadian papers submitted by our councillors (Larry Lane, Willem Langenberg, Keith Benn, Sandy Cruden, Lori Kennedy, Philippe Erdmer) is given below.

The Jack Henderson award for the best thesis

During the summer we proposed renaming our Best Thesis Prize after Jack Henderson, who passed away in July. Jack had always been extremely supportive of graduate students. Many Canadian structural geologists did theses as part of Jack's mapping projects with the Geological Survey of Canada; many more had the privilege to work with him as summer field assistants. All of us will remember Jack's low-key, patient style

of imparting structural wisdom in the field.

The response to our proposal was overwhelmingly positive, many of your replies were very touching and will be passed on to Mariette and the rest of his family. At the CTG meeting in Nova Scotia we formally voted unanimously to rename the Best Thesis award to the Jack Henderson Award for the Best Thesis.

While this award is usually selected by the executive we found ourselves in the unusual position of having to declare conflicts of interest. Phillippe Erdmer kindly agreed to help us out in the selection process and we are happy to announce that the first winner of the Jack Henderson Award for the Best Thesis is:

Ullrich Riller, University of Toronto

Tectonometamorphic episodes affecting the southern Footwall of the Sudbury Basin and their significance for the origin of the Sudbury Igneous Complex, Central Ontario, Canada. Supervised by Fried Schwerdtner.

We congratulate Ullrich on a fine piece of work and wish him the best of luck in his future career in geology.

Further on the subject of prizes:

At the business meeting held during the annual CTG meeting in Nova Scotia the Executive proposed to change the amount and number of the SGTD best student abstract awards. We are trying to enable more students to attend the annual GAC/MAC meetings. The attending membership unanimously supported a motion that the SGTD award up to 3 Outstanding Student Abstract Awards, each valued at \$200. We hope that this will help to defer some of the student's expenses to attend the conference or enable the student to go a conference sponsored field trip. Students submitting an abstract to the GAC/MAC meeting are encouraged to email their abstract to the executive at the same time (a reminder will go out via this list). The decision will be announced early in the year (again through this list) to ensure that the students will have their cheque in hand well before the meeting. Note: This change means that we will spend essentially our entire yearly income on prizes, four of which are directly supporting students (well, one recent graduate). We hope that all of the membership shares our view that support of students is the best way to use our funds.

Upcoming Meetings

GAC-MAC Quebec '98.

This meeting looks like it will have a lot going on for SGTD members. We are sponsoring a special session on "External domains in orogenic belts with emphasis on cross-sections and palinspastic restorations" organized by D. Kirkwood and D. Lebel will be accompanied by a field trip on "Nappes, tectonic melanges and sedimentary olistostromes of Quebec City and neighboring areas: an appraisal of their regional tectonic and stratigraphic significance in the Humber Zone.

GAC-MAC Sudbury '98

The SGTD membership voted to support a proposal for a symposium at the GAC-MAC Sudbury '98 meeting on "Precambrian terrane boundaries", organized by A. Cruden and M. Easton. It is hoped that the symposium will be sponsored jointly by the Precambrian Division. An accompanying field trip to the Grenville Front is also in the mill. Here is a preliminary outline of the symposium: "The concept of terrane amalgamation has been applied at all scales in Precambrian orogens. The tectonic evolution of many Proterozoic mobile belts is interpreted in terms of collisions between older Archean blocks. The Archean continental crust is itself interpreted as a collection of smaller units with distinct lithological and geochronological characteristics. Fundamental to the application of the terrane concept in the Precambrian is the recognition and kinematic interpretation of terrane boundaries. We invite papers on all aspects of the nature of Archean and Proterozoic terrane boundaries, from the scale of individual terrane bounding deformation zones to that of the architecture of Precambrian orogens. Emphasis will be placed on how interpretations of the timing and kinematics of deformation associated with these boundaries, associated

sedimentary basins and igneous activity are used to construct models of Precambrian orogeny." Comments and suggestions are welcome.

GSA Toronto '98

The deadline for special session proposals for this meeting is fast approaching. Theme session and symposia proposals should be submitted to the technical program chairs Denis Shaw (McMaster, shawden@mcmaster.ca) or Andrew Miall (U of T, miall@quartz.geology.utoronto.ca) by January 2 1998.

Next CTG Meeting

In honor of Paul F. Williams, an international conference concerning the "Evolution of Structures in Deforming Rocks" will be held September 26-27, 1998, at Canmore, Alberta, a picturesque town in the Canadian Rockies. The conference is sponsored by the Geological Association of Canada (NUNA conference) and the Canadian Tectonics Group.

The conference will provide a forum for discussion of the processes, mechanisms, and implications of the evolution of structures at different scales and in different geological settings. Contributions in all aspects, either theoretical, experimental or field-based, are welcome.

A collection of papers presented at the conference will be published as a special issue of the Journal of Structural Geology.

The conference will be followed by a two-day field trip in the Canadian Cordillera.

If you are interested in attending the conference, either to present your research results or just to join in celebration of Paul Williams' work, please contact Shoufa Lin (slin@gsc.nrcan.gc.ca) before Friday, December 12, 1997, with your name, address, telephone and fax numbers and e-mail address.

More business from the business meeting

Please recall that a while ago the GAC had asked the SGTD to develop some plans for the long term future of the division. We subsequently asked you for ideas and based on the responses we received it was decided that the SGTD will compile material (maps, photographs etc.) which can be used as a resource to all those teaching or learning Structural Geology. This resource will then be made available, either freely through a web site or for a nominal charge on CD. Bill Fyson has kindly agreed collate this material. In addition, Bill has agreed to get the ball rolling by contributing a geological puzzle. It is available on our web site under the heading "The Fyson Quiz". Please check it out and, more importantly, if you have something to contribute, please get in touch with Bill.

"The List"

Note: As far as we can tell our new mail list is working fine now, however if you do have problems with it please mail ffueten@craton.geol.brocku.ca. And if you do use an automated return mailer when you are on vacation/holiday please unsubscribe yourself from the list temporarily and resubscribe on you return.20 This issue of the Main Thrust will also be archived at our web site (<http://craton.geol.Brocku.ca/CTG.HTML>).

List of "Canadian content" papers compiled by our division councilors for 1996/97.

Cousineau, P.A. and R. Marquis, 1996, Contrasting fold styles in a volcano-sedimentary succession, Can. J. of Earth Sci., 33, 1193-1200.

Kellett, R.L. and B. Rivard, 1996, Characterization of the Benny deformation zone, Sudbury, Ontario, Can. J. of Earth Sci., 33, 1256-1267.

Pinet, N., Castonguay, S., and A. Tremblay, 1996, Thrusting and back thrusting in the Taconian internal

zone, southern Quebec Appalachians, *Can. J. of Earth Sci.*, 33, 1283-1293.

Connelly, J.N. and B. Ryan, 1996, Late Archean evolution of the Nain Province, Nain, Labrador: imprint of a collision, *Can. J. of Earth Sci.*, 33, 1325-1342.

Desrochers, J.-P. and C. Hubert, 1996, Structural evolution and early accretion of the Archean Malartic Composite Block, southern Abitibi greenstone belt, Quebec, Canada, *Can. J. of Earth Sci.*, 33, 1556-1569.

Crowley, J.L., Ghent, E.D. and R.L. Brown, 1996, Metamorphism in the Clachnacudainn terrane and implications for tectonic setting in the southern Omineca Belt, Canadian Cordillera, *Can. J. of Earth Sci.*, 33, 1570-1582.

Johnson, B.J. and R.L. Brown, 1996, Crustal structure and early Tertiary extensional tectonics of the Omineca belt at 51°N latitude, southern Canadian Cordillera, *Can. J. of Earth Sci.*, 33, 1596-1611.

Plint, H.E. and T.M. Gordon, 1997, The Slide Mountain Terrane and the structural evolution of the Finlayson Lake Fault Zone, southeastern Yukon, *Can. J. of Earth Sci.*, 34, 105-126.

Beavon, R.V., 1997, The role of gravity and magma in the structural evolution of a deformed Archean volcanic centre, Timmins, Ontario, Canada, *Can. J. of Earth Sci.*, 34, 655-666.

Zhao, X., Ji, S. and J. Martignole, 1997, Quartz microstructures and c-axis preferred orientations in high-grade gneisses and mylonites around the Morin anorthosite (Grenville Province), *Can. J. of Earth Sci.*, 34, 819-832.

Culshaw, N. and M. Liesa, 1997, Alleghanian reactivation of the Acadian fold belt, Meguma Zone, southwest Nova Scotia, *Can. J. of Earth Sci.*, 34, 833-847.

Culshaw, N. and P. Reynolds, 1997, $^{40}\text{Ar}/^{39}\text{Ar}$ age of shear zones in the southwest Meguma Zone between Yarmouth and Meteghan, Nova Scotia, *Can. J. of Earth Sci.*, 34, 848-853.

Ferri, F., 1997, Nina Creek Group and Lay Range Assemblage, north-central British Columbia: remnants of late Paleozoic oceanic and arc terranes, *Can. J. of Earth Sci.*, 34, 854-874.

Cureton, J.S., van der Pluijm, B.A. and E.J. Essene, 1997, Nature of the Elzevir-Mazinaw domain boundary, Grenville Orogen, Ontario, *Can. J. Earth Sci.*, 34, 976-991.

Launeau, P. and Robin, P.-Y. F. 1996. Fabric analysis using the intercept method. *Tectonophysics* 267, 91-119.