

NWT GEOLOGY ACTIVITIES REPORT FOR NOVEMBER & DECEMBER 2001

General Activities

The Geology Division responded to over 180 requests for information in November and December.

The majority of most staff's time in November was spent on final preparations for the Geoscience Forum, held Nov 21-24. Final edits were made to the Exploration Overview (Sternberg, Goff, Heimbach), and the Abstracts Volume (Janicki; C.S. Lord). Technical sessions included poster and core displays, and talks on diamonds, oil & gas, the EXTECH project, NWT mineral exploration activity, NWT government/university geoscience, Nunavut, and a session on environmental & regulatory issues. In addition, a workshop was held for industry clients to fill them in on Protected Areas Strategy activities, and to seek their input on the implementation of the strategy to date.

A post-mortem on the Forum in early December generally found that in spite on the inconvenience of holding the conference in two locations, the theatre was a much better venue for the technical presentations than the Katimavik Rooms at the Explorer Hotel. Participants found that having all hospitality at the hotel ensured sufficient traffic in the late afternoon/early evening.

In mid-December, Bernie MacLean (GSC-Calgary) agreed to a two-year assignment to the C.S. Lord Northern Geoscience Centre. His responsibilities will include overseeing the merging of staff into the new Centre upon completion of construction, integration of program areas, and ramping up of the petroleum program.

Following some confusion regarding the naming system for our geological publications, it was agreed between DIAND's NWT and NU offices that the Economic Geology Series (EGS) of publications will be discontinued. Instead, NWT and NU will each generate and distribute Open Files, Open Reports and Mineral Potential Series, and they will be distinguished with the prefix "NWT" or "NU". Publications that straddle the border between the two territories will be NWT-NU Open Files, NWT-NU Open Reports, and NWT-NU MPS's. In January, a letter will be distributed to clients explaining the change.

Assessment Reports

Seven new assessment reports, worth \$3,391.5K, were received by the Geology Division in November, and a further 5 reports, worth \$427.3K, were received in December. No reviews of reports were completed in this two-month period. At the end of December, 44 reports were awaiting first review.

Gochnauer coordinated input by and liaised between District Geologists and the Mining Recorder Office on changes to Schedule II of the Canada Mining Regulations.

Archives

Total sales by the Archives in November and December were \$2720 , including 50 EGS Open Files and Open Reports. Over 130 clients visited the Archives in person, primarily during the week of the Geoscience Forum in December. Maps from 32 assessment reports were scanned in November, and 6

complete reports were scanned in December. At the end of the month, Lorraine Tees left Geology to work elsewhere in the department.

Archives staff indexed 16 assessment reports in November and December, and entered them into the NORMIN reference database. During the same period, 200 library books were entered into VTLS. Numerous NWT assessment reports, 1 Open File (paper on Northern Russell Lake) and one Mineral Potential Series (MPS 3) were released, and 3 GSC Open Files were acquired by the library.

Copies of Nunavut Assessment Reports to be released in 2002 were packaged and shipped to Iqaluit.

NORMIN.DB

Kellie Emon was hired in December to back-fill Chris Bianchi's vacancy; she is working on Nunavut metadata for the Canadian Geoscience Knowledge Network (see below). Usage reports generated for the web site indicate about 1800-2000 hits in 700 to 800 visitor sessions (400-500 unique users) per month since last January.

NORMIN upgrades:

A number of SQL scripts were developed for generating reference database reports, and a bug in the warehouse procedures was fixed. In addition, requests were made for some changes/edits to the web application, including re-establishing an automatic re-direct preceeded/accompanied by a message requesting the user to bookmark the new NORMIN URL, and changing the message form to allow users to enter quotation marks and other common characters. These changes are pending.

NWT Mineral Potential Series

The brochure for MPS 2 was completed, approved and released in November in time for the Geoscience Forum. The CD, complete with ArcView and ArcExplorer projects, as well as data on gold showings in the southern Slave Province (adjacent to all-weather and seasonal roads), was submitted to the Archives for final review and release in late December.

MPS 3, a compilation of bedrock geology, geophysical images (gravity and magnetic), and mineral occurrences in the Rutledge Lake area (NTS 75E) was also released.

Canadian Geoscience Knowledge Network

The CGKN working group still intends to launch the geoscience data catalogue in January 2002. In order for NWT and Nunavut data to be part of the digital network, geospatial data on references need to be entered and the fields in the NORMIN reference database must be mapped to those in the Metamanager (which provides the link between the central Ottawa "porthole" and the NWT/NU). To date, 3239 assessment reports have been georeferences (3489 have not).

No progress was made on mapping database fields in November/December, and Metamanager will not likely be installed on the DIAND server before February or March. As an interim measure, Sage, with the help of a contractor and Corporate Services staff, moved a copy of the database files onto a temporary machine with Metamanager installed, and is overseeing the mapping of fields. This arrangement allows mapping to proceed ahead of the installation of Metamanager on the DIAND web

server.

C. S. Lord Northern Geoscience Centre

C.S. Lord staff spent most of November preparing for and presenting results of ongoing projects at the Geoscience Forum. Specific presentations made by staff are listed below.

EXTECH activities:

- Organized and ran pre-Geoscience Forum half-day workshop (organized by Falck; attended by Falck, Armstrong, Gochnauer)
- created overview poster with general information on progress to date on EXTECH (Schwarz, Relf)
- organized an EXTECH committee meeting in Vancouver during RoundUp (Falck)
- completed and reviewed draft map of Crestaurum property (Ootes, Jackson)
- generated several satellite images of Yellowknife greenstone belt area, and scanned/geocorrected bedrock geology map; for poster at GAC (Schwarz)
- continued editing of base geology map for EXTECH area (Irwin)
- completed field guide for GAC EXTECH field trip (Falck, Irwin, Armstrong)

Snare River project (Jackson):

- completed first draft of 1:50K bedrock geology map for areas covered in 2001; draft ready for review
- presented talk and poster at Forum, summarizing results of 2001 field season
- scanned field photographs for Open File paper on structural geology of Snare River area (paper with Fyson; Ottawa U)

Oil & Gas activities:

- completed draft hydrodynamic study of southern NWT; currently being reviewed (Janicki)
- completed draft updated pool analysis for Cameron Hills, Grumbler areas (Janicki)
- submitted abstracts for geoscience forum posters (Janicki, Jones)
- research on southern NWT petroleum geology (Jones)
- created poster/brochure on petroleum geology of NWT regions
- reviewed GNWT petroleum resource assessment for Deh Cho, began updating (Jones)

MVT project (Turner):

- completed digitizing of drill hole data from Westmin property, and scanned and organized geochemical data from holes into one master spreadsheet
- held meeting with MVT Project partners during Forum (AGS, GSC-Calgary, Westmin)
- began first draft of regional/deposit geology section for paper on hyperspectral study
- created DEM of Pine Point area (1:250K; Schwarz)
- collaborated with AGS on a common format for distributing both NWT and AB data
- digitized geology map of Pine Point area (from Rhodes et al., 1984)
- initiated halogen chemistry study; seeking options for a suitable lab

- submitted some samples for thin sections to Vancouver Petrographics for hyperspectral work (scheduled for January)

Walmsley project (GSC lead):

- presented draft maps of bedrock (2001 map area) and surficial (N half 75N) geology (bedrock geology map produced by Cairns; surficial geology by Hardy)
- contribution to 3 talks: project overview (MacLachlan et al), metamorphic study (Cairns), volcanic study (Renaud)

Diamonds/Alkaline rocks (Armstrong):

- Slave MAGnetic Survey (SMAC) released
- final edits underway for kimberlite anomaly drillhole database
- participated in/gave a presentation to an in-house De Beers short course on Quaternary geology and kimberlite exploration
- began work with Nunavut colleagues on a compilation of data in the Northern Slave Province; release planned for Cordilleran RoundUp
- pursued discussions with Geosoft regarding them posting/hosting KIDD and KIMC data for public access

Protected Areas Strategy/Resource Appraisals (Lariviere, Gal):

- organized workshops to present progress on PAS implementation and acquire feedback from industry clients
- reached agreement with PAS Secretariat on maps of PAS candidate areas and areas of interest; map will be available to public through the Secretariat
- completed first draft of Phase I Refuge Area resource appraisal; editing underway
- initial work on Phase I appraisal for Sayoue/Edacho candidate protected area; review of existing reports, well logs, etc.
- visited to NED in Calgary to examine seismic reports
- preparations of presentation for Sayoue/Edacho candidate area working group workshop in January
- discussions with GSC-C re. training opportunities for petroleum appraisals
- began compilation of geological and resource information for Hook Lake area in anticipation of an Economic Information Request from PAS Secretariat

Pistol Bay bedrock geology map (Goff):

- some work on editing of maps

Other

Presentations by NWT staff at Geoscience Forum:

- Armstrong (talks on zirconian spinels from Slave lamprophyres, and timing of alternation and gold

mineralization at Con Mine; posters on Slave magnetics compilation and kimberlite drillhole database)

- Falck (lead on posters on gamma ray spectrometer study of Gold Lake alteration, remote sensing applied to Pine Point; co-author on talk on EXTECH metallogenic studies and poster on geophysical surveys at Gold Lake)
- Gochnauer (lead on poster on gold fineness variations in Yellowknife EXTECH area)
- Goff (talk on NWT mineral exploration activity)
- Irwin (poster on pocket PC tool for field mapping)
- Jackson (talk & poster on Snare River mapping project)
- Janicki (posters on hydrocarbon pools in Cameron Hills area, history of NWT hydrocarbon exploration, hydrodynamic study of mid-Devonian rocks in southern NWT)
- Relf (co-author on talk and poster on Walmsley Lake mapping project, and co-author on talk on overview of Western Churchill Province)
- Schwarz (co-author on poster on remote sensing applied to Pine Point)
- Sterenberg (co-author on poster on petrogenetic/metallogenic study of Cretaceous granites in the Tintina gold belt)
- Turner (talk on reflectance spectrometry, North trend of Pine Point deposit)

Presentations by thesis students supported by C.S. Lord:

- Cairns (talk on metamorphic petrology of Walmsley Lake area; co-author on talk and poster on Walmsley Lake mapping project)
- Heffernan (poster on petrogenetic/metallogenic study of Cretaceous granites in the Tintina gold belt)
- Hubbard (poster on alteration of the Supercrest deposit, Giant Mine)
- Jowett (poster on Lower Cretaceous stratigraphy in Liard Basin)
- Martel (talk on study of the Yellowknife River fault zone and Jackson Lake Formation)
- Ootes (talk on geology and gold potential of Crestaurum Mine; co-author on talk on IP and petrophysical character of Yellowknife EXTECH area rocks)
- Renaud (talk on volcanology and mineral potential of Aylmer volcanic belt; co-author on talk and poster on Walmsley Lake mapping project)
- Siddorn (talk on structural analysis of Con and Giant gold deposits; co-author on talk on 3D GIS model of Con and Giant deposits)

Irwin gave a talk at a RadarSat Workshop held in Yellowknife in early November, presenting GIS and remote sensing applications being used at the C.S. Lord Centre.

Several staff took a 2-day course in ArcView to upgrade/refresh skills.

Jones attended management courses in Toronto and Calgary in November, and spent some time liaising with GSC-Calgary staff.

Gal received an H2S safety certificate in December, to enable well site visits.

Heimbach and Irwin liaised with GNWT Public Works and DIAND's building project manager to design a heated lapidary facility in the cold core storage facility.

Yana Preston was hired on a term until March 2002, to work on KIDD/KIMC updates and to enter data

in the Kimberlite Anomaly Drillhole Database.

Sage assisted in the review of a preliminary mineral resource assessment for the Deh Cho area.