

CGKN Workshop #3, Toronto, March 7, 8, 9, 2003:

**Charting the Course for CGKN
through 2005**

**A National Geological Surveys Committee
Canadian Geoscience Knowledge Network
Workshop Report**

Executive Summary

This workshop is the third in a series of Canadian Geoscience Knowledge Network (CGKN) workshops, organized by the National Geological Surveys Committee (NGSC) and held in Toronto in March 2003, and re-confirmed the importance of the CGKN initiative. The CGKN is designed to create a seamless network of geoscience information from Federal, Provincial, and Territorial agencies in Canada. This workshop resulted in renewed commitment and clarification of priorities for CGKN development by the NGSC.

The workshop was organized for the CGKN Secretariat, (John Broome, Chair) and the NGSC. It was supported financially by GeoConnections under the Canadian Geospatial Data (CGDI) Infrastructure program.

The workshop included presentations and demonstrations of CGKN activities followed by discussion of technical and implementation details of the CGKN. The workshop's objectives were to identify priorities for future CGKN development and to design a 2-year plan for each participating agency.

The workshop had several outcomes. It enabled participants to gain a clear understanding of what each agency has accomplished and what tools and services they have developed. It validated that the CGKN Online data Catalogue is the flagship CGKN project and all agencies committed to its support and improvement.

The participants at the workshop also recognized the need for a clear path for future CGKN development. To address this, the CGKN secretariat will prepare a set of questions to be sent to NGSC agencies with the goal of clarifying NGSC priorities for the development of the CGKN. These priorities will then be used to develop a new two-year business plan to chart the course for the CGKN into the near future.

Introduction

An initial workshop, organized by the National Geological Surveys Committee (NGSC) and held in Ottawa in December 1998, explored and endorsed the concept of the Canadian Geoscience Knowledge Network (CGKN) as a way of providing a consistent Internet Portal that would increase and simplify access to the geoscience information holdings of Canada's federal, provincial and territorial geological surveys.

A second workshop, organized by the Canadian Geoscience Data Model Working group and held in Calgary in June 2000 confirmed the importance of the goals of the CGKN initiative, which are to develop and implement methods to make the geoscience data holdings of the Federal, Provincial and Territorial surveys of Canada interoperable, and to provide access to the data through the Internet. The need for a common geoscience data model was also recognized as central to achieving these goals.

The rapid evolution and revolution of information technology and subsequent management of digital information have opened new avenues for capturing, managing and disseminating geoscience information. Geological surveys now routinely capture field data using digital technology. Laboratory results are recorded automatically in digital form. Geological information is not stored in relational databases and routinely make use of geographical information and satellite imaging systems. This fundamental change in how geoscience data are managed has impacted all geological surveys. As Canadian geological surveys adapt to the management of digital data, it is reasonable to expect that they can benefit by sharing their experiences and knowledge. Making geoscience information available over the Internet is an important way Canada can maintain its global competitiveness in attracting resource exploration. By adopting common standards and data management tools, data can be more accessible to all.

The complete agenda for the workshop is listed in Appendix 1.

Workshop Objectives

- 1) Review the progress of the CGKN to date
- 2) To identify priorities and issues to be resolved for future CGKN development

Workshop Format

A combination of information sessions, breakout sessions and discussions were held over three days, with John Broome, GSC, Earth Sciences Sector and Mike Cherry, Geological Services Division, Nova Scotia Department of Natural Resources acting as workshop co-chairs and chief facilitators.

Day 1 opened with plenary session where a series of progress reports and demonstrations of CGKN activities were presented. The presentations were followed by discussions of technical implementation details of the CGKN.

Day 2 opened with a continuation of presentations and demonstrations of Geoscience information on the Internet/Intranet. Breakout sessions to deal with sub-groups' issues were held in the afternoon. The leaders of the breakout groups presented a summary of their

recommendations and conclusions following the sessions. Breakout session reports were given by Andy Moore, Lesley Chorlton and Eric Grunsky.

Day 3 opened with 4 short demos of

- 1) CGKN Online Data Catalogue, presented by James Rupert GSC Program Office
- 2) Newfoundland Online Maps and Links, presented by Larry Nolan, Geological Survey of Newfoundland and Labrador;
- 3) Geochemistry presented by Guy Buller, TSD / GSC; and
- 4) Quebec Online System, Charles Roy, Ministère des Ressources naturelles du Québec.

Participation

More than 60 people, including management and technical experts in Geoscience information management, representing NGSC agencies participated at the workshop and in discussions to ensure that their data building aspects integrate with the national/international standards and software tools used by mutual clients. Provincial and Territory Survey Directors were welcome to participate in all 3 days of the workshop, and were specifically invited to attend the Sunday sessions. Appendix 5 provides a list of participants.

Day 1 and Morning of Day 2

John Broome opened the workshop and outlined the format and its expected outcomes. Following roundtable introductions by the participants, Mike Cherry gave a brief PowerPoint presentation on the history of the CGKN and offered the following challenges:

- 1) Can we develop standards that everyone will accept and use?
- 2) Can we set realistic, achievable targets that will provide solid products?
- 3) Can we develop protocols that improve communication within and among agencies?
- 4) Can we produce a CGKN that can and will be sustained by all agencies within the resource envelopes we have?

The balance of day 1 and the morning of day 2 were taken up by a series of brief progress reports and presentations by the CGKN and provincial and territorial agencies:

- CGKN data catalog, James Rupert;
- CGKN geological map databases;
 - Bedrock Geology, Peter Davenport;
 - Surficial Geology, Andy Moore;
- CGKN geochemical databases and XML, Eric Grunsky;
- CGKN mineral deposits group, Lesley Chorlton;
- CGKN geochronology, Linda Richard;
- CGKN Web mapping services, linking existing pieces, Eric Boisvert;
- ESS CCGK program, Mark Williamson;
- Ontario, Steve van Haaften;
- Quebec, Charles Roy;
- British Columbia, Don MacIntyre/Larry Jones;
- Saskatchewan, Bill Slimmon;
- Manitoba, Len Chackowsky;
- Newfoundland, Larry Nolan;
- Nova Scotia, Brian Fisher;
- New Brunswick, Paul Rennick;
- Yukon: Amy Stuart;
- Nunavut: Celine Gilbert;
- NWT, Beth Sage; and
- Alberta, Barry Fildes.

Breakout sessions were scheduled in the afternoon of Day 2 to deal with sub-group issues on 1) Minerals deposits, 2) Geochemistry and 3) Web mapping services. Summaries of their recommendations and conclusions were presented following the breakouts and are presented in Appendices 2, 3 and 4.

Day 2 – Afternoon: Breakout Session Reports and Report from the NGSC meeting

Mineral deposits breakout summary presented by Lesley Chorlton

The mineral deposits breakout group emphasizes in essence that a limited but consistent national view of distributed provincial and territorial mineral deposit and occurrence databases is feasible under CGKN, and would be useful as an advertisement of resource potential, especially for national and international clients. The enhancement of the metadata catalogue to include provincial and territorial URL's, as recommended by Mike Cherry after Day 1 of the workshop, would also be worthwhile, and could be implemented while the implications of enabling the national view was being investigated during the coming fiscal year for presentation to the NGSC.

A more complete report is given in Appendix 2.

Geochemistry breakout session / workshop summary presented by Eric Grunsky

The breakout session was in part a discussion on the future and direction; and in part a presentation on the history and recent developments of the geochemical data model. The session started out with a history of the geochemical data model by Steve Adcock. The history of the development of the model is significant as it represents the issues that were faced when dealing with diverse geochemical datasets. Richard Laframboise also presented the development of the LIMS (Laboratory Information Management System) and how it is being integrated into the geochemistry data model. A presentation was also made by Steve Adcock, on the proposed development of GOLDTools (Geochemistry On-Line Database Tools) for populating, managing and reporting using the geochemical database.

A discussion focused on the ability to implement the data model at the national level. Representatives of geological surveys provided comments on the likelihood of implementing the data model within their organization.

Appendix 3 provides the minutes of this breakout session / workshop.

Web mapping services breakout summary presented by Andy Moore

Overview of the CGKN Internet presence:

1. Continue work on CGKN Metadata catalogue to:
 - a. develop new interface (more intuitive)
 - b. provide a generic IMS service (MapServer)
 - c. provide URL links to Agencies' downloadable data in metadata
2. Agencies will continue to develop IMS services independently, and migrate to WMS server compliance
3. CGKN Geoscience Portal (IMS viewer) will:
 - a. develop as a WMS client and server
 - b. access agencies WMS servers for specific info (2.a.)
4. Agencies will develop WMS client services as needed
 - a. Can a variety of WMS services co-exist with geoscience Portal?

Tasks for agencies:

1. Update Metadata content to provide URL link to IMS services where available
2. Migrate IMS services to act as WMS server - share a simple map to start
3. Review GetCapability specs for CGKN requirements
4. Review GetInfo specs for CGKN requirements (i.e. to pass legend information)

Additional detail is listed in Appendix 4.

Report from the NGSC Meeting

On day 2, Mike Cherry and John Broome attended a meeting of the NGSC where the future of the CGKN was an item on the agenda.

Following the workshop reports, John Broome reported on the results of CGKN discussions at the NGSC meeting. John and Mike Cherry presented the CGKN progress to date and raised issues that are holding back CGKN progress such as agency commitment, funding requirements, and lack of a dedicated Secretariat. A round table discussion followed.

M.E. Cherry

- *The CGKN Workshop, currently being held, has demonstrated that CGKN-type of work can be done and that there is a need to do it. But CGKN is at critical point in its development, especially with ESS, since many of the projects cannot be entirely successful unless there is Provincial/Territorial commitment/participation.*
- *CGKN should be a national portal to existing geoscience data - the operative word here is PORTAL with clear links to the jurisdictions that actually own and "house" the data*
- *NGSC noted the following:*
 - *the metadata catalogue initiative is very important and of high priority, and must be finished;*
 - *other CGKN initiatives will have to be scaled back and should focus on realistic deliverables that serve the needs of NGSC agencies and its clients.*
 - *It may not be possible to get the participation of all players/jurisdictions and each agency will participate at their own level of ability.*

John Broome

- *A number of jurisdictions are keen on moving towards having on-line data access.*
- *A significant investment has been made by various jurisdictions on Web servers and, while many things have been aligned with CGKN priorities, some have not.*
- *Metadata initiative is largely complete but needs to be marketed and advertised.*
- *The bedrock standards that have been developed and used by ESS & Newfoundland could be used by the other jurisdictions.*
- *A strength of CGKN has been the development of a strong national team with excellent collegial spirit*
- *We need commitment from NGSC on what services it wants the CGKN want to deliver through the Internet?*

I. Itzkovitch:

- *A NGSC CGKN Sub-committee should be convened to define what is needed quickly. There is a need for a NGSC Collective Plan (and/or) Business/Work Plan Document.*
- *The resulting NGSC CGKN Work Plan Document should focus on identifying what should stay, as well as come off the "CGKN table". It should not be focused at too high a level, but rather define what is actually required at the working level.*
- *The NGSC Collective Plan (and/or) Business/Work Plan Document is to be completed before the next meeting of the NGSC in September.*

- *Consensus was reached that the NGSC Sub-committee would consist of M.E. Cherry, J. Broome and the two members of the CGKN Secretariat (Larry Nolan and J. Rupert).*

M.E. Cherry:

- *The crafting of a NGSC Collective Plan for CGKN could potentially impact the CCGK Program*

M. Williamson:

- *Would welcome a new or revised plan that would define what CGKN will or will not do*

Day 3

Day 3 opened with a series of presentations by CGKN participants to demonstrate CGKN progress to NGSC agency directors

Presentations made were by:

- 1) CGKN Online Data Catalogue, presented by James Rupert GSC Program Office;
- 2) Newfoundland Online Maps and Links, presented by Larry Nolan, Geological Survey of Newfoundland and Labrador;
- 3) Geochemistry presented by Guy Buller, TSD / GSC; and
- 4) Quebec Online System, Charles Roy, Ministère des Ressources naturelles du Québec;

Much discussion followed with NGSC agency members on the future of the CGKN.

Mike Cherry's closing remarks at the morning session reflected a sense of renewed enthusiasm and optimism for the future of the CGKN. The workshop concluded with a final brainstorming session where recommendations and actions were recapped.

Consensus from Open Discussion on the afternoon of Day 3

The following is a list of functions and services the CGKN could potentially offer suggested at the brainstorming session held after the breakout summaries:

There was general consensus that NGSC agency support for the CGKN initiative must be clarified. Three options for support were identified:

- 1) All NGSC agencies will support the development of agreed upon CGKN initiatives at an appropriate level.
- 2) Core CGKN initiatives, such as the data catalogue, will be supported by all NGSC agencies and other CGKN projects will be supported on a voluntary basis.
- 3) All CGKN activities will be supported on a voluntary basis.

The following points summarize the key points raised during the discussion:

- The CGKN data catalogue is strongly supported and continued development is warranted.

- The CGKN Portal should provide links to NGSC agency services.
- CGKN linkages to NGSC online data source through the CGKN online data catalogue.
- Develop a CGKN client for all NGSC agencies online Web Mapping Services (WMS) that will display online map data as is.
- Improve communication and promotion of NGSC and CGKN online information sources and services.
- Improve the CGKN data catalogue online client and search tool.
- Establish CGKN performance measures and conduct regular measurement of CGKN usage.
- Deliver a CGKN online national visualization service of selected geoscience layers at regional scales (1:1M?) Based on a simple overlay of agency coverages using existing agency ARC-IMS/OGC-WMS technology.
- Conduct annual or bi-annual national CGKN workshops to encourage networking and sharing of best practice between NGSC staff.
- Conduct and analyse a client identification and needs analyses for both traditional and non-traditional uses of geoscience data.
- Actively market and promote the CGKN as a national, Internet portal for geoscience information.
- Proceed with the development of methodologies and tools for the automated integration and exchange of different types of geoscience data between NGSC agencies.

Action Items

Action 1: John Broome and Mike Cherry will prepare for NGSC a report containing a review of the CGKN and option for the future. This report will then be used to support development of a new two-year business plan to chart the course for the CGKN into the near future. The following questions identify some of the issues that need to be considered by NGSC agencies.

Q1: What is the most important aspect of CGKN for your agency?

Q2: The Online data Catalogue is viewed as the flagship CGKN Project and agencies committed to support catalogue completion and improvement at the NGSC meeting. Please indicate what improvements are required to improve on-line data catalogue?

Q3: Other than the on-line data catalogue, outline 3 functions or service your agency would like the CGKN to deliver within two years and outline your agencies; current commitment to these developments. (Please consider the 10 ideas in the list of recommendations)

Q4: What five data sets do you believe should be top priority for the CGKN development?

Q5: Indicate what role you would like each jurisdiction to assess, what they want to bring forward in terms of legacy data and identify what they want to do for the future.

Action 2: Based on the NGSC agency priorities identified from the responses to the questions, the CGKN Secretariat and Mike Cherry will revise the CGKN business plan and develop and action plan for CGKN activities during 2003-2004.

CGKN Workshop Conclusions

The workshop proved to be a valuable session in terms of:

- Evaluation the current state of the CGKN initiative and
- Review of progress on current CGKN projects and an opportunity to demonstrate progress to NGSC senior managers.
- A report of the various CGKN-initiatives being undertaken by all participating agencies
- An opportunity for Geoscience IM/IT people to meet and discuss important issues and share knowledge.
- The presence of Dolores Durant from GeoConnections provided an opportunity to demonstrate the CGKN community effort. Advice received from Dolores will help focus GeoConnections funding applications.

Meeting participants were divided into two major groups, the geoscience managers, who steward and champion the management and dissemination of geoscience knowledge, and technical experts who carry out the operational implementation. The geoscience managers expressed concern regarding whether CGKN activities were focused on the NGSC's current goals and deliverables were clearly defined. The technical experts focused on strategies for optimising methods for management and dissemination of geoscience information and the development of integrated services and the standards required to establish them.

The meeting demonstrated that there is enthusiasm for the CGKN to continue and that participants see benefiting from the CGKN. However, the NGSC information management and delivery environment has changed significantly since the last CGKN national workshop. Many agencies have developed their own sophisticated geoscience portals independent of the CGKN. With the exception of the CGKN on-line data catalogue, agency participation in CGKN initiatives has been variable. While this situation is not in conflict with the original CGKN business plan, which promoted incremental and adaptive development and participation, the changing new environment indicates that it is time to review the CGKN Business Plan and refine the objectives of the CGKN.

There was general agreement at the workshop that lack of funding and NGSC commitment was the chief obstacles to accelerated development of the CGKN. Without NGSC agency commitment to CGKN projects, the CGKN cannot commit to deliverables and timelines. The lack of a full-time CGKN Secretariat was also seen as an obstacle to accelerated development of the CGKN.

John Broome and Mike Cherry agreed to work together with the CGKN Secretariat and other key CGKN participants to develop a proposal for NGSC consideration that will refine the CGKN vision and develop options for future development.

Appendix 1

Agenda

3rd CGKN workshop: “Charting the course for CGKN through 2005”

Provisional

Objective: a revised CGKN business plan with a two-year action plan (April, 2003 - March 2005) for each agency

Day 1: plenary

8:30 am

Introduction and discussion of workshop objective

9:00 am

CGKN Progress reports (20 minute presentations)

1. CGKN data catalog: James Rupert
2. CGKN geological map databases: Peter Davenport and Andy Moore
3. CGKN geochemical databases: Eric Grunsky
4. CGKN mineral deposits group: Lesley Chorlton
5. CGKN geochronology: Linda Richards
6. XML and CGKN: Eric Grunsky
7. Web mapping services: linking existing pieces: Eric Boisvert

12:00 noon

Lunch

1:30 pm

Geoscience information on the Internet/Intranet:

Progress reports from agencies (oral &/or posters) 20-minute presentations

1. ESS: CCGK program: Mark Williamson
2. Ontario: Steve van Haften
3. Quebec: Charles Roy
4. British Columbia: Don MacIntyre/Larry Jones
5. Saskatchewan: Bill Slimmon
6. Manitoba: Len Chackowsky
7. Newfoundland: Larry Nolan

DEMOS / Show and Tell

Day 2: plenary

Geoscience information on the Internet/Intranet:

Progress reports from agencies (oral &/or posters) 20-minute presentations continued

8:30 am

8. Nova Scotia: Brian Fisher
9. New Brunswick: Paul Rennick
10. Yukon: Amy Stuart
11. Nunavut: TBA
12. NWT: Beth Sage
13. Alberta: TBA

DEMOS / Show and Tell - time permitting

12:00 am

Lunch

1:30 pm

Breakout sessions

Two or three sessions to deal with sub-groups issues (details to be confirmed)

3:30 pm

Finalize presentation to NGSC

Day 3: NGSC session

8:30 am

Presentation to NGSC and discussion of future directions for CGKN

Short demos

12:00 noon

Lunch

1:30 pm

Discussion of changes to business plan, and preliminary drafting of 2-year plan

Appendix 2

Mineral deposits breakout summary presented by Lesley Chorlton

Present: Lesley Chorlton, GSC-Ottawa; Beth Sage, NT; Greg Stapleton, NF; Larry Jones, BC; Malcolm McLeod, NB; Jason Sharpe, NU; Zoran Madon, ON; Phil Moir, GSC-Atlantic

The mineral deposits breakout group emphasizes in essence that a limited but consistent national view of distributed provincial and territorial mineral deposit and occurrence databases is feasible under CGKN, and would be useful as an advertisement of resource potential, especially for national and international clients. The enhancement of the metadata catalogue to include provincial and territorial URL's, as recommended by Mike Cherry after Day 1 of the workshop, would also be worthwhile, and could be implemented while the implications of enabling the national view were being investigated during the coming fiscal year for presentation to the NGSC.

The breakout group revised a client survey designed to: (1) collect the profiles of a wide range of clients for mineral deposit and occurrence data; (2) evaluate their interest in the cross-Canada CGKN overview; (3) determine their preferred mineral information topics; and (4) indicate (indirectly) satisfactory forms of data access. Ways of advertising the survey were discussed.

The issue of classification was also discussed. BC has led the way in adapting the USGS classification system for Cordilleran models, and it will be useful to cross-tabulate BCGS, USGS, DNAG, and more empirical, commodity-based classification systems for users with different interests and ultimately to aid resource assessments. This will be started as soon as possible in the coming fiscal year.

The final item in the breakout session was a report by Larry Jones and Greg Stapleton on their Geoconnections Project with Georeference-OnLine, a Vancouver-based company that is importing the descriptive parameters for prominent deposits into their proprietary artificial intelligence software called MineMatch™.

Appendix 3

Geochemistry Workshop and Discussion on the Future of the Geochemical Data Model

Present: Eric Grunsky, GSC; Paul Rennick, NB; Brian Fisher, NS; Carolyn Relf, NWT; Janet Campbell, SK; Steve van Haaften, ON; John Ernsting, ON; Greg Stott, ON; Steve Adcock, GSC; Richard Laframboise, GSC; Wendy Spirito; Greg Buller, GSC

This breakout session was also a workshop on the implementation of the Geochemical Data Model. Comments on the usefulness of the model and its implementation were key points of discussion.

History of the Geochemical Database Presentation

Steve Adcock presented the rationale and history for the development of the geochemical database. Based on past experience and the variety of geochemical survey information, the current data format is preferable as it is extensible. The flexibility of the database is guaranteed by the management of the SHARED tables which provide the essential metadata and parameters that uniquely define a geochemical survey and a laboratory batch of samples.

Paul Rennick commented that sample site information detail is core to field work notes and that each survey should define their own SHARED tables.

Steve noted that field observations are not tied to the geochemical dB and the field note system.

Geochemistry on-line presentation

Guy Buller presented two web mapping discovery tools using MapObjects and Arc/IMS. Active server Pages (.asp) were used in the design of the MapObjects and ArcIMS pages. The ASPs are used to refine the query process for all the databases involved in the project. The site is designed to return a positive result for each request so as to maintain user interest. Currently, the final map of element concentrations as percentiles that is displayed is shown as “results only” as there is no query capability for the individual point data. Access to the geochemical data is enhanced by having a DERIVED table set that contains all the necessary information required for the presentation purposes. Development is on-going with the geochemistry On-line Discovery tool.

Presentation of LIMS

Richard Laframboise made a presentation on the history and development of the Laboratory Information Management System (LIMS). This system was designed to maintain quality control and track the flow of samples from collection, preparation, splitting and archiving. Currently the system operates within Excel. The LIMS system will be merged in the Geochemistry On-line database through the GOLDTools project.

Some discussion occurred regarding how other agencies create their own QA/QC procedures. Richard pointed out that the LIMS flow diagram provides several “portals” through which samples are processed.

Discussion topics:

- 1) Data integrity check
- 2) QA/QC for standards and sample batching methods

- 3) Importing analytical results
- 4) QA/QC checking and correcting prior to report generation

GOLDTools

GOLDTools (Geochemical On-Line Data Tools) is a series of procedures that will run using internet protocols with transactions based on XML methodology. They will replace the LIMS QA/QC procedures developed by Richard Laframboise.

These tools will facilitate:

- 1) Data loading (importing)
- 2) Tools for QA/QC assessment
- 3) Comprehensive data management
- 4) Consistent logging of methods of sample preparation, analytical methods
- 5) Tools for exporting and report generation
- 6) Access to web map-based querying/discovery

General Discussion

Following the presentations, a general discussion was launched. Given the slow adoption of the data model by participating agencies the following options were presented:

- 1) Should the data model and GOLDTools procedures be adopted at the national level for all agencies?
- 2) Should only the data model and database implementation be adopted?
- 3) Should the GOLDTools suite be adopted with the flexibility to adapt to a variety of geochemical data models?

Steve van Haften (ON)

The OGS built its own data model based on requirements from Land Information Ontario (LIO). However, OGS clients have indicated that it would be desirable for OGS and GSC geochemical data be compatible. The OGS built their own database based on OGS requirements but using the GSC architecture. For the SHARED tables, the OGS opted for alphanumeric rather than numeric descriptors. The OGS would like to be able to synchronize their database with the GSC but maintain independence. Guy Buller worked with the OGS to prepared a DERIVED table from which the web map discovery tool was applied.

Brian Fisher (NS)

Nova Scotia has adopted the GSC model and has not had any problems with it. LIMS is not currently used by NS but it may become necessary when legacy data are ported into the database.

Carolyn Relf (NWT)

NWT does not have a history of releasing geochemical data as almost all geochemical surveys were carried out under the NGR program. It does not use the CGKN geochemical database at this point. NWT would like to release data to industry clients and supports the idea of using the CGKN geochemistry data model.

Janet Campbell (SK)

Although Saskatchewan supports the CGKN geochemical database model it is not currently using it. Saskatchewan uses its own database that supplies the geochemical data in a downloadable format from its website. Saskatchewan lacks sufficient information to provide the necessary descriptions in the SHARED tables for legacy data. Saskatchewan plans to restructure its geochemical database in the near future using at least the CORE tables to be compatible with the CGKN geochemical database model. GOLDTools is viewed as a valuable component to assist with integration of existing database into the CGKN model.

Paul Rennick (NB)

New Brunswick sees value in the geochemical data model and there are many common elements between the NB model and the CGKN geochemical data model. At this point, it is uncertain if NB will change its current implementation however it will be migrating its database from INGRES to ORACLE, at which time the option of switching might be considered. Paul recommends that the agencies adopt a common set of CORE tables that would serve as the national standard.

Steve van Haaften (ON)

The OGS could re-work the OGS database to be compatible with the CGKN Geochemistry dB, if there was a business case. The on-line GOLDTools and web mapping discovery tools are appealing however simpler data standards are required.

John Ernsting (ON)

Currently OGS geochemistry resides with the OGS; they are in the process of implementing a mechanism to have it accessed through Land Information Ontario (LIO). The GOLDTools GUI is very appealing and this project should continue.

Brian Fisher (NS)

Nova Scotia supports the CGKN geochemistry project. The metadata part (SHARED tables) is useful. GOLDTools is viewed as a valuable and important component of the project.

Some discussion about the role of the CGKN Geochemistry data model suggested that this data model represent a “federated” model that would support subsets that would meet the needs of individual agencies. The feasibility of this type of interface needs further investigation.

Appendix 4

Web mapping services breakout session

Present: Eric Boisvert, GSC; Andy Moore, GSC; Larry Nolan, NF; Barb Szlavko, GSC; Tracy Lynds, GSC; Barry Fildes, AB; Len Chackowsky, MN; Peter Davenport, GSC; Terry Houlahan, GSC; David Viljoen, GSC; Amy Stuart, Yukon; Jodie Francis, GSC; Celine Gilbert, Nunavut

This breakout session, lead by Eric Boisvert, GSC Quebec focused on the technical aspects of the CGKN. The format was a mixture of presentation and demonstration as Eric gave an overview of emerging Internet web services technology with examples connecting and querying databases and maps located in Quebec City and St. John's. There was an open discussion on the future directions of Internet web services, web mapping and international standards for displaying and querying maps and data over the Internet. i.e. The Open GIS Consortiums web mapping standards (OGC WMS).

Building on the presentations on day one and the morning of day two it was agreed that as a group we would investigate the integration of existing agency web mapping sites using OGC web mapping services as the interoperability standard. This will ensure that each agency can continue to build their web mapping sites to their current requirements and still contribute to the national project. The discussion centered around web mapping services and connecting agency web sites to the CGKN Data Catalogue and the amount of effort involved. A review of software, hardware, data storage and security environments was suggested for each agency. Most of the web mapping software being used by the CGKN members at their own sites is capable of delivering maps and data to the CGKN so this review will look at needs to be done to make the connections happen. The intention here is to connect what we already have, not to integrate our data on a science language level, that will continue to evolve as the geological data model matures and the demands of fully interoperable data are realized.

The data catalogue is considered the flagship product of the CGKN and by encouraging and assisting agencies contribute their maps, data and metadata we can build the geoscience portal from what we have now with the long term goal of building the depth of geoscience knowledge required for data analysis, modeling and custom applications.

Tasks for CGKN:

Continue work on CGKN Metadata catalogue to:

- develop a new interface (more intuitive)
- provide a generic IMS service (MapServer)
- provide URL links to Agencies downloadable data in metadata

Agencies will continue to develop IMS services independently, and migrate to WMS server compliance

CGKN Geoscience Portal (IMS viewer) will:

- develop as a WMS client and server
- Access agencies WMS servers for specific information

Agencies will develop WMS client services as needed
Can co-exist with geoscience Portal

Tasks for agencies:

- 1) Update Metadata content to provide URL link to IMS services where available
- 2) Migrate IMS services to act as WMS server - share a simple map to start
- 3) Review GetCapability specs for CGKN requirements
- 4) Review GetInfo specs for CGKN requirements (i.e. to pass legend information)

Appendix 5

List of Participants

CKGN Workshop – March 7-9, 2003, Toronto, Ontario

1. John Broome - ESS Info/ESS
2. Jamie Rupert – GSC/ESS
3. Nancy Allaire - ESS Info/ESS
4. Larry Nolan - Geological Survey of Newfoundland and Labrador
5. Brian Fisher - Nova Scotia
6. Steve van Haaften - Ontario Geological Survey
7. Bill Slimmon - Saskatchewan Northern Geological Survey
8. Janet Campbell - Saskatchewan Northern Geological Survey
9. Glen Prior - Alberta Geological Survey
10. Mark Williamson - SMGB/GSC Atlantic
11. Carolyn Relf - CS Lord Geoscience Centre, Yellowknife, NWT
12. Beth Sage - CS Lord Northern Geoscience Centre, Yellowknife, NWT
13. Lesley Chorlton - MRD/GSC-MRGB/ESS
14. Phil Moir - SMGB/GSC Atlantic
15. Barbara Szlavko - SMGB/GSC Atlantic
16. Bob Mummery - Canadian Geoscience Council
17. David Viljoen - CGD/GSC-MRGB/ESS
18. Linda Richard - CGD/GSC-MRGB/ESS
19. Paul Rennick - Geological Surveys, New Brunswick Department of Natural Resources and Energy
20. Eric Boisvert - GSC-QUE/GSC-SMGB/ESS
21. Len Chackowsky - Manitoba Geological Survey
22. Amy Stuart - Yukon Energy Mines and Resources
23. Barry Fildes - Alberta Geological Survey
24. Jodie Francis - ESS Info/ESS
25. Terry Houlahan - ESS Info/ESS
26. Larry Jones - B.C. Ministry of Energy and Mines
27. Don McIntyre - B.C. Ministry of Energy and Mines
28. Greg Stapleton, - Geological Survey of Newfoundland and Labrador
29. Eric Grunsky - MRD/GSC-MRGB/ESS
30. Andy Moore - TSD/GSC-SMGB/ESS
31. Charles Roy - Quebec ministere des ressources naturelles
32. Harvey Thorleifson - TSD/GSC-SMGB/ESS
33. Guy Buller- TSD/GSC-SMGB/ESS
34. Peter Davenport - GSC-CAL/GSC-SMGB/ESS
35. Ross Kelly - Ontario Geological Survey
36. John Ernsting - Ontario Ministry of Natural Resources
37. Stephen W. Adcock - MRD/GSC-MRGB/ESS
38. Richard-Romeo Laframboise - TSD/GSC-SMGB/ESS
39. Wendy Spirito - MRD/GSC-MRGB/ESS
40. Tracy Lynds - SMGB/GSC Atlantic

41. Celine Gilbert - Nunavut Geoscience Office
42. Zoran Madan - NDM, Gov. Of Ontario
43. Dolores Durant – Geomatics Canada - Geoconnections
44. Frank Blackwood - Geological Survey of Newfoundland and Labrador
45. Mike Cherry - Geological Services Division, Nova Scotia Department of Natural Resources
46. Les Fyffe - N.B. Geological Survey
47. Alain Simard - Quebec ministere des ressources naturelles
48. Andy Fyon - Ontario Geological Survey
49. Ric Syme - Manitoba Geological Survey
50. Gary Delaney - Saskatchewan Geological Survey
51. Rick Richardson - Alberta Geological Survey
52. Dave Lefebure - BC Ministry of Energy and Mines
53. Bernie Maclean - NWT
54. Grant Abbot - Yukon Energy Mines and Resources
55. Rod Hill - Yukon Energy Mines and Resources
56. Dave Scott – Geological Survey of Canada - Nunavut
57. Jan Boon - Geological Survey of Canada
58. Murray Duke - Geological Survey of Canada
59. Dan Richardson - Geological Survey of Canada
60. Carol Smith - Mines & Minerals Division, Ministry of Northern Development & Mines, Government of Ontario
61. Jason Sharp - Nunavut Regional Office, Department of Indian Affairs and Northern Development