

Digital Information Services

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The Digital Information Services group is responsible for developing and maintaining the Minerals and Energy Branch (MEB) Geographic Information System and associated databases, the NovaScan bibliographic geoscience database, for supplying digital data and services to clients and staff, and for developing the MEB internet web site. Permanent Digital Information Services staff consist of geologists Brian Fisher and Jeff Poole, and word processor operator Susan Saunders. Krista Fraser, a GIS specialist (left in May 1999), Gayle Chapman, Michelle Williamson and Megan Surette, all geology students (left in August), and Angela Murphy, a planning and land information technology graduate, have worked with the group on a casual basis over the past year.

Digital Geoscience Data Products

A collection of digital geology maps, databases and images (in DXF, ARC export format, or as TIFF images in a UTM projection using the NAD27 datum) on Nova Scotia has been developed and is now on sale through the library and available for free download from the MEB web site at <http://www.gov.ns.ca/natr/meb/pub3.htm>. The complete list of digital data products available is in Appendix 3. This list can be obtained from the Nova Scotia Department of Natural Resources (DNR) Library in Halifax or viewed on the MEB web site at <http://www.gov.ns.ca/natr/meb/pubshome.htm>. A licence agreement is issued with all digital data sets. This agreement allows unrestricted use of the data with the understanding that DNR remains the owner of the data and is not transferring copyright to the user. Since March 1999, when the downloadable data were made available on the web site, there have been a total of 3611 downloads.

Public Access GIS

A public access GIS has been developed for use by clients in the Halifax Library. This is a user-friendly query and display system which uses a customized version of ArcView® to access a variety of geographically referenced digital geoscience data. It can display and query data sets, overlay various themes of geoscience, topographic and land-use information, and output the resulting maps as coloured plots. Version 2 of

the public access GIS has been released. It has been upgraded to work in ArcView® 3.1, and includes new labelling and drawing capabilities, the ability to create shapefiles, to add a georeferenced grid to the layout, and many other new features. Version 3 is currently being worked on and will contain many new themes and an improved menu system. This version should be available in early 2000.

GIS Development

Digital Information Services staff have been working cooperatively with other MEB staff on several projects. In conjunction with the land-use staff, they are continuing to convert the Mineral Resources Land-Use (MRLU) Maps for Nova Scotia into digital form. The new 1:500 000 *Geology Map of Nova Scotia* is completed and was released as published Map ME 2000-1 in January 2000. Work on integrating the Registry of Mineral and Petroleum Titles database into the GIS and automating the production of the *Mineral Claims Disposition Map* has been completed. This database will be available in version 3 of the public access GIS. Work is continuing on converting the NovaScan database into ARC/INFO® format. When completed, the database will be made available in the public access GIS and on the internet early in 2000. Work by Gayle Chapman and Michelle Williamson on a new composite geology map of Nova Scotia continued. Work has been completed on the initial digitizing and verification of 45 geology maps, including the geological line work and over 60 000 data points and their attributes, using AutoCAD® and Fieldlog®. Many of these maps have been converted to ARC/INFO® format and included in the GIS. These maps and databases will be completed in the next year and made available through the public access GIS and also as digital products available through our web site. Thirty of the detailed Faribault gold district maps have been digitized and checked by Gayle Chapman. Megan Surette, a summer student, has converted many of these maps into ARC/INFO® format and put them into the GIS.

1:10 000 Digital Elevation Model and Watershed Project

This project was initiated with the cooperation of the Nova Scotia Geomatics Centre (NSGC), Department of

Agriculture and Marketing, DNR Forestry Division and DNR Wildlife Division. Krista Fraser developed a GIS application to produce hydrologically correct Digital Elevation Models (DEMs) from the 1:10 000 topographic base maps and then produce watershed maps. In April 1999 Krista left the department and joined NSGC, where she has been overseeing the continuation of this project. Development of the DEMs was completed in December 1999. These images will be added to the public access GIS, and the digital data will be available through NSGC. Development of the watersheds from the DEMs will begin in January 2000.

Internet Map Projects

Jeff Poole is currently investigating the feasibility of creating an internet map server that will allow our clients to view, query, plot and download our digital maps and databases over the internet. Several prototype applications have already been developed internally. Over the next year Jeff will be committing the majority of his development time to producing an internet application that will be available to the general public. It is planned that the initial deployment of this application will be in the summer of 2000.

Y2K Project

Brian Fisher worked on Y2K-related issues to ensure that the UNIX SUN workstation, GIS software, hardware, and all the GIS databases are Y2K ready. All hardware and software were upgraded to ensure compliance. The GIS databases were thoroughly checked and found to be fully compliant. The Digital Information Services group experienced no Y2K-related problems entering the new year and look forward to continuing to serve its clientele in the year 2000.

Web Site Development

NovaScan

NovaScan is the bibliographic geoscience database on Nova Scotia and its offshore regions. As of December 31, 1999, the database contained 14 515 DNR records, consisting of 6411 mineral exploration assessment reports, 3415 publications, 2606 open files, 1156 journal literature references, 756 theses, 155 contribution series, 12 digital publications, and 4 outside publications. NovaScan was updated with the following 238 new records this year: 219 assessment reports, 15 open files and 4 contribution series. Custom searches of the NovaScan database for clients will be done on request.

This year 129 assessment reports were publicly released from confidential status. Each month, a list of open assessment reports was generated from NovaScan, distributed to the DNR Library, the Core Library in Stellarton, and to the three Regional Geologists in Coxheath, Bible Hill and Bridgewater, as well as posted on the MEB web site. Quarterly reports were produced and published in the *Nova Scotia Minerals Update* newsletter, and on the web site. The following assessment report index was released during this calendar year: *NTS Location, Author and Citation Index to Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports 1996-1998, Open File Report ME 1999-1. NTS Location, Author and Citation Index to Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports 1996-1999, Open File Report ME 2000-1*, will be released in January 2000.

In order to provide better service to our staff and clients by allowing internet access to and searching of the NovaScan database, two independent projects were carried out in 1999. The first project involved downloading the database into the branch GIS and creating geographic boundaries for all NovaScan records. When complete, the user will be able to search the NovaScan database through the public access GIS, and also on the internet. Completion of this project should take place in year 2000. The second project involved downloading and converting the NovaScan records into standard library MARC format, so that they could be loaded into the Provincial Library's internet-accessible *Ncompass*® catalogue database. The catalogue can be accessed at the following address: <http://ncompass.library.ns.ca>. After selecting your language of choice (English/French), select Nova Scotia Department of Natural Resources from the available catalogue listings, and you will then be able to search the NovaScan records.

Publications

The following publications are available on our web site. An asterisk indicates that the publication was posted to the web site during 1999.

Bulletin

***Bulletin ME 1, 1962** Port Hawkesbury Project - Geology, Geochemistry and Groundwater Investigations of Southwest Inverness and Richmond Counties, Nova Scotia.

Contribution Series

CS ME 1998-1 Gold and Base Metals Highlight Exploration in 1997, by Paul D. McCulloch (presented at the 1998 PDAC).

Economic Geology Series

***EGS ME 1975-1** Iron Deposits of Nova Scotia.

***EGS ME 1990-1** Diatomaceous Earth Occurrences in Nova Scotia.

EGS ME 1996-1 Building Stone in Nova Scotia.

Information Circulars

***IC ME 1, 1988 (revised 1993)** Directory of Goods and Services for Exploration Companies.

***IC ME 2, 1986** Mineral Rights, Landowners, and Mineral Exploration.

***IC ME 3, 1986** A Walking Tour of Rocks, Minerals, and Building Stones in Downtown Halifax.

***IC ME 4, 1988** Nova Scotia Gold.

***IC ME 7, 1986** A Walking Tour of Rocks, Minerals and Landforms of Point Pleasant Park.

***IC ME 9, 1987** A Walking Tour of Rocks, Minerals and Landforms of Peggys Cove.

IC ME 10, 1987 A Walking Tour of Rocks, Minerals and Building Stones of Spring Garden Road, Halifax.

***IC ME 11, 1987** A Walking Tour of Rocks, Minerals and Landforms of Victoria Park, Truro.

IC ME 12, 1993 Building Stone in Nova Scotia.

IC ME 13, 1993 Limestone and Dolomite in Nova Scotia.

IC ME 14, 1991 Silica in Nova Scotia.

IC ME 15, 1991 Barite, Celestite and Fluorite in Nova Scotia.

IC ME 16, 1993 Gypsum and Anhydrite in Nova Scotia.

IC ME 18, 1993 Peat Moss in Nova Scotia.

IC ME 19, 1993 Salt in Nova Scotia.

IC ME 20, 1993 Aggregate in Nova Scotia.

IC ME 22, 1988 Land Use Policy Development Project.

***IC ME 23, 1981** Petroleum Resources Offshore and Onshore Nova Scotia, Canada.

IC ME 24, 1991 Industrial Minerals in Nova Scotia.

***IC ME 25, 1993** One of the Greatest Treasures: The Geology and History of Coal in Nova Scotia

***IC ME 26 (revised March 1993)** The Cohasset Project.

IC ME 27, 1992 GEOFACTS: Using Digital Sound in Marine Geoscience.

IC ME 28, 1992 GEOFACTS: Hydrocarbon Charge Modelling.

IC ME 29, 1992 GEOFACTS: Canada's Dynamic Coastline.

IC ME 30, 1992 GEOFACTS: Modelling the Development of Rifted Continental Margins - "Time Travel by Computer".

IC ME 31, 1992 GEOFACTS: Anhydrite in Nova Scotia.

IC ME 32, 1992 GEOFACTS: Gypsum in Nova Scotia.

IC ME 33, 1992 GEOFACTS: Salt in Nova Scotia.

IC ME 34, 1992 GEOFACTS: Industrial Minerals in Nova Scotia.

***IC ME 36, 1993** Metalliferous Environments of Nova Scotia - Base Metals (Summary).

***IC ME 37, 1993** Properties Available For Option In Nova Scotia, March 1993.

***IC ME 38, 1994** Properties Available For Option In Nova Scotia, March 1994.

***IC ME 39, 1994** Petroleum Resources, Offshore and Onshore, Nova Scotia, Canada - We're Worth Exploring!

***IC ME 41, 1993** Career Choices in the Petroleum Industry.

***IC ME 42, 1995** A Sign to Watch Your Step (This information brochure describes hazards associated with abandoned mine sites).

***IC ME 45, 1996** Take Advantage of Mineral Exploration and Development in Nova Scotia.

***IC ME 46, 1996** Copper Deposits in the Carboniferous Rocks of Northern Nova Scotia.

***IC ME 47, 1996** Vein and Breccia Deposits of Fe-Cu-Co-Ni-Ba-Au Associated with the Cobequid-Chedabucto Fault Zone, Nova Scotia.

***IC ME 49, 1996** Ni-Cu-Co Associated with Mafic and Ultramafic Rocks of Cape Breton Island.

***IC ME 50, 1996** Carbonate-Hosted Zn-Pb-Ba-Ag-Cu Deposits in the Lower Carboniferous of Nova Scotia: the Irish Connection.

***IC ME 51, 1996** Gold Deposits in the Meguma Group of Nova Scotia.

***IC ME 52, 1996** Geology and Mineral Deposits of Nova Scotia.

***IC ME 53, 1998** Secondary Processing of Industrial Minerals in Nova Scotia.

***IC ME 54, 1997** Properties Available for Option in Nova Scotia, January 1997.

IC ME 55, 1997 Safe Work Methods Handbook, August 1997.

IC ME 56, 1997 A User's Guide to the 'One Window' Process for Mine Development Approvals.

IC ME 57, 1998 Properties for Option in Nova Scotia, January 1998.

IC ME 58, 1998 A Guide to Mineral Exploration Legislation in Nova Scotia.

***IC ME 59, 1999** Properties for Option in Nova Scotia, January 1999.

Information Series

IS ME 10, 1986 Petroleum Wells, and Drillholes with Petroleum Significance Onshore Nova Scotia.

***IS ME 13, 1987** Gold in Nova Scotia.

IS ME 19, 1987 Nova Scotia Dimension Stone for Designers, Developers, Quarriers.

IS ME 22, 1993 Metalliferous Environments of Nova Scotia - Base Metals (Main Paper).

IS ME 23, 1997 Abandoned Mine Openings Hazards and Remediation Handbook.

***IS ME 24, 1996** Twentieth Annual Review of Activities, 1996.

Open File Reports

OFR ME 1997-6 Report on a Diamond-Drilling Program, Mile 16 East Road and MacKenzie Road South, Victoria County, Nova Scotia.

OFR ME 1997-7 Report on Diamond-Drilling and Geological Investigations of the Steves Road Lead-Gold Occurrence, North Beaverbank, Hants County, Nova Scotia.

***OFR ME 1997-8** First Annual Nova Scotia Department of Natural Resources/Geological Survey of Canada (Atlantic) Joint Work Plan for Geoscience in Nova Scotia, 1997-1998.

OFR ME 1998-2 NTS Location Index to Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports, Contribution Series, Digital Geoscience Data Products, Open Files and Publications, 1996 and 1997.

OFR ME 1998-3 Author Index to Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports, Contribution Series, Digital Geoscience Data Products, Open Files and Publications, 1996 and 1997.

OFR ME 1998-4 Petroleum Occurrence in Drillholes from the Pictou Coalfield.

***OFR ME 1998-5** Classic Carboniferous Sections of the Minas and Cumberland Basins in Nova Scotia: with Special Reference to Organic Deposits.

***OFR ME 1999-1** NTS Location, Author and Citation Index Map Nova Scotia Department of Natural Resources, Minerals and Energy Branch Assessment Reports, 1996-1998.

Reports

***Report ME 1998-2** Mining Matters for Nova Scotia '98: Opportunities for Economic Development.

***Report ME 1999-1** Minerals and Energy Branch Report of Activities, 1998.

***Report ME 1999-2** Mining Matters for Nova Scotia '99: Opportunities for Economic Development.

