

Drill Core Library 2009

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Introduction

Based in Stellarton, Pictou County, the Nova Scotia Department of Natural Resources (DNR) Drill Core Library receives and stores drill cores, well cuttings and other sample materials derived from various exploration and development projects conducted by the private sector, as well as from departmental field work and other government and academic sources.

Many of these sample materials represent projects that were oriented towards exploration, research and development of mineral resources, energy resources (such as coal) and oil and gas resources. The DNR Core Library is also the repository for core and well cuttings obtained from drilling completed under the jurisdiction of the Nova Scotia Department of Energy.

A large collection of very valuable drill core, totalling approximately 650 000 m from more than 7500 holes drilled throughout Nova Scotia, is in storage and made available for future geological work (Fig. 1). In addition to drill core, the archived samples include well cuttings (from oil and gas drilling), rock slabs, geochemical samples (such as silts, tills, soils, lake sediments and biogeochemical samples) and large samples of various industrial mineral commodities such as limestone, barite and building stone. All core and cuttings (unless held confidential) are available for examination by interested parties and may be sampled subject to certain constraints and conditions. Many logs, reports and maps, both published and unpublished, are also available for consultation.

All visitors are advised to make contact in advance by phoning (902) 752-4842 or by e-mail at

mcmulljm@gov.ns.ca. Clients should note that safety policies require that they bring and wear work boots when using any of the sample materials. Clients must do their own layout and pickup of core boxes, which usually involves some heavy lifting. The use of work gloves is recommended.

Facilities and Services

The main Core Library facility is located centrally in Nova Scotia, 2 km off the Trans-Canada Highway (exit 23) at 105 - 109 Acheron Court in the Stellarton Industrial Park, Pictou County. Five purpose-built buildings occupy a total of 4000 m² including 375 m² of laboratory space and 120 m² of office space. Extra storage space, totalling 230 m², is being provided by the Nova Scotia Department of Energy within 0.5 km of the main facility. Some additional core is stored in an older facility in Debert, Colchester County, 75 km west of Stellarton. Free parking is available at all facilities.

Most of the core is stored in standard 1.5 m (5 ft.) long wooden boxes or trays with capacities of 4.6-7.6 m (15-25 ft.) of core, depending on the core diameter, each of which may weigh in the 15-35 kg range. A large proportion of the drill core in storage was drilled in imperial units and the boxes and depth markers are measured in feet rather than metres. Boxes of core are stored on custom-made wooden pallets which are then vertically stacked in rows in the storage areas. The storage areas only have basic lighting and are unheated. As needed, individual pallets are retrieved from storage and transferred by fork-lift to the core examination labs, where the core boxes may be laid out for viewing, using benches, portable stands, or the floor. A large paved yard also serves as a core box



Figure 1. Drill core from Eight Island Lake area, Guysborough County. This is NQ core with a diameter of 47.6 mm.

layout area during good weather. The Core Library is equipped with a binocular microscope, a portable UV light, weigh scales, core-splitters and diamond saws.

A small reference library area with tables, chairs and a microfiche reader-printer is available for use by both clients and staff. A complete set of microfiche for assessment reports that became available on a nonconfidential basis prior to the end of 2006, and for open file reports and maps released prior to 2007 is available for use. Paper copies of many reports, papers and maps published by the Mineral Resources Branch are also available for reference. Various information on some drillholes (logs, sections, maps, reports, analyses, etc.), not available elsewhere from departmental sources, may be consulted at the Core Library upon request.

Assessment reports released between 1984 and 2009 are now available as PDFs on the branch web site, but a public broadband internet connection is not yet available at the Core Library. Clients wishing to consult reports and logs alongside core examination may prefer to download the required files prior to their visits.

New Acquisitions in 2009

In 2009, core was received from three drill programs. The second shipment of core from Forent Energy Ltd.'s 2008 deep diamond-drill hole near Camden, Colchester County, was received in January. The core (351 boxes; 79 cores) from two holes drilled in the Kennetcook area of Hants County in 2007 by Elmworth Energy Corporation

was received in June. The core (43 boxes) from 10 holes drilled in 2005 by Federal Gypsum Company at the following three exploration sites: Isle Madame, Richmond County; near Eden, Inverness County; and Southside Harbour, Antigonish County, was recovered from the Federal Gypsum plant in Point Tupper, Richmond County.

2009 Client Activity

Clients traditionally include private sector geologists and prospectors working in the mineral exploration and development sectors, or in the oil and gas sector, as well as geologists with the Geological Survey of Canada and DNR (Mineral Resources Branch), and university staff and students. Activity levels in 2009 were unpredictable and variable.

Total client activity for the year was 72 person-days for use of core, cuttings or other samples. Approximately 48 other visitors used the facilities for various reasons, including access to information and equipment. These figures do not include offsite activity, when core or cuttings were loaned out. Overall activity was lower than in 2007 or 2008, reflecting the economic downturn during the past year and a half. Clients accessing core, cuttings and rocks consisted primarily of mining and exploration company representatives (72%), and academic or government researchers (28%).

Core Library Database

The Drill Core Database provides information on all drill core in the Core Library facilities, including operational data such as storage location and number of boxes per hole.

The database can be searched by single or multiple fields, for example by place name, company name, hole number, map sheet or year. The database is updated continually and at the end of December 2009 it contained approximately 7700 records. It is currently based on Advanced Revelation® database software, using OpenInsight for Windows® for querying and data entry. An online beta version of the database, redesigned in Microsoft SQL®, was tested and debugged throughout the year. Until this is completed, queries should be directed to the Core Library geologist.

Core Library Assistant

A new position was created effective September 2009 for another geologist to help provide service in the Core Library. The vacancy was advertised in the fall and interviews were conducted in November. Hiring was being completed at the end of the year.