Mineral Inventory Activities in Mainland Nova Scotia for 1997

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Introduction

In 1997 the focus of the Mineral Inventory Program in mainland Nova Scotia was to update the department's Mineral Occurrence Database with respect to the central and eastern Meguma Zone. Those areas contain many of the more notable past-producing gold districts in the province; however, information on them in the database, and on the hard-copy Mineral Occurrence Cards maintained in our library, is sadly lacking or out-of-date. Based on this, a concerted effort was made to bring the level of information on these mineral occurrences in the database to a more suitable level. Furthermore, geological mapping in the central Meguma region is nearly complete (see Horne *et al.*, this volume) and the maps are in need of an accurate compilation of mineral occurrence information before publication.

Office-related tasks Program were dominated by adding mineral occurrence information to the database for sites visited during the previous field season and for sites researched from departmental assessment reports, open files and publications. In addition, modifications were made to the run-time Mineral Occurrence Query Program used to browse and query the data in the Mineral Occurrence Database. These modifications were made to the program in order to include some recommended features and to correct some bugs that were recognized over the past year. The modifications were released together with the updated data files as Version 2 of the Mineral Occurrence Query Program in July 1997.

Field-related Activities

The sites visited during 1997 are shown in Figure 1. The first part of the field season was spent, visiting mineral occurrences on NTS map area 11D/13 and the southern half of 11E/04. Geological mapping of these areas is nearing completion by the branch's Geological Mapping Section and will need updated mineral occurrence locations prior to public release. In total, 14 sites from these map areas were checked in the field. Some of the more notable sites visited include the West Gore Sb-Au mine, and the Centre Rawdon, Rawdon, Renfrew, Mount Uniacke, South Uniacke and Oldham gold districts.

Much of July and August was spent visiting mineral occurrences along the Eastern Shore region, primarily between Dartmouth and Sheet Harbour. This area includes several notable gold districts and those visited were Cow Bay, Mooseland, Beaver Dam, Gold Lake and Clam Harbour. In addition to the Dartmouth-Sheet Harbour region, several sites in Guysborough County were checked in the field, among them the Erinville Iron Mine, and the Forest Hill, Mile Lake and Widow Point gold districts. Although excellent progress was made during the past field season, many sites still remain on the Eastern Shore that require field checking and an update of information in the database. This effort will continue to be a high priority of the Mineral Inventory Program.

Nova Scotia has long been world renowned as a collecting site for naturally occurring zeolites. The physical properties of many of the members of the diverse family of zeolite minerals are such that they have industrial applications in agriculture, environmental clean-ups, and manufacture of construction materials. The outlook for commercial zeolites is bright given the continuing expansion of known applications for the zeolite minerals.

Recent prospecting and exploration in the Jurassic basalts of the North Mountain region of Kings and Annapolis Counties strongly suggests that zeolites may occur in commercially recoverable quantities. Field examination of 15 zeolite occurrences in the area between the Look-Off, north of Kentville, and Hampton, Annapolis County, was carried out during the latter part of the field season (Fig. 1). Many of the better known zeolite occurrences are found as zeolite-rich amygdaloidal zones formed at the top of the massive basaltic flows that constitute the North Mountain basaltic pile. Many locations are known from cliff exposures along the Bay of Fundy shore where they occur in tabular, flow concordant layers up to 10 m thiek with grades of 15-20% (by weight) zeolite. However, zones exposed at or near the shore would be difficult or impossible to commercially exploit for technical and social reasons. The task is to find inland exposures of these and similar amygdaloidal zones. Recent exploration indicates that inland exposures of zeolite-rich zones occur commonly and over large areas. The Mineral Inventory Program intends to continue

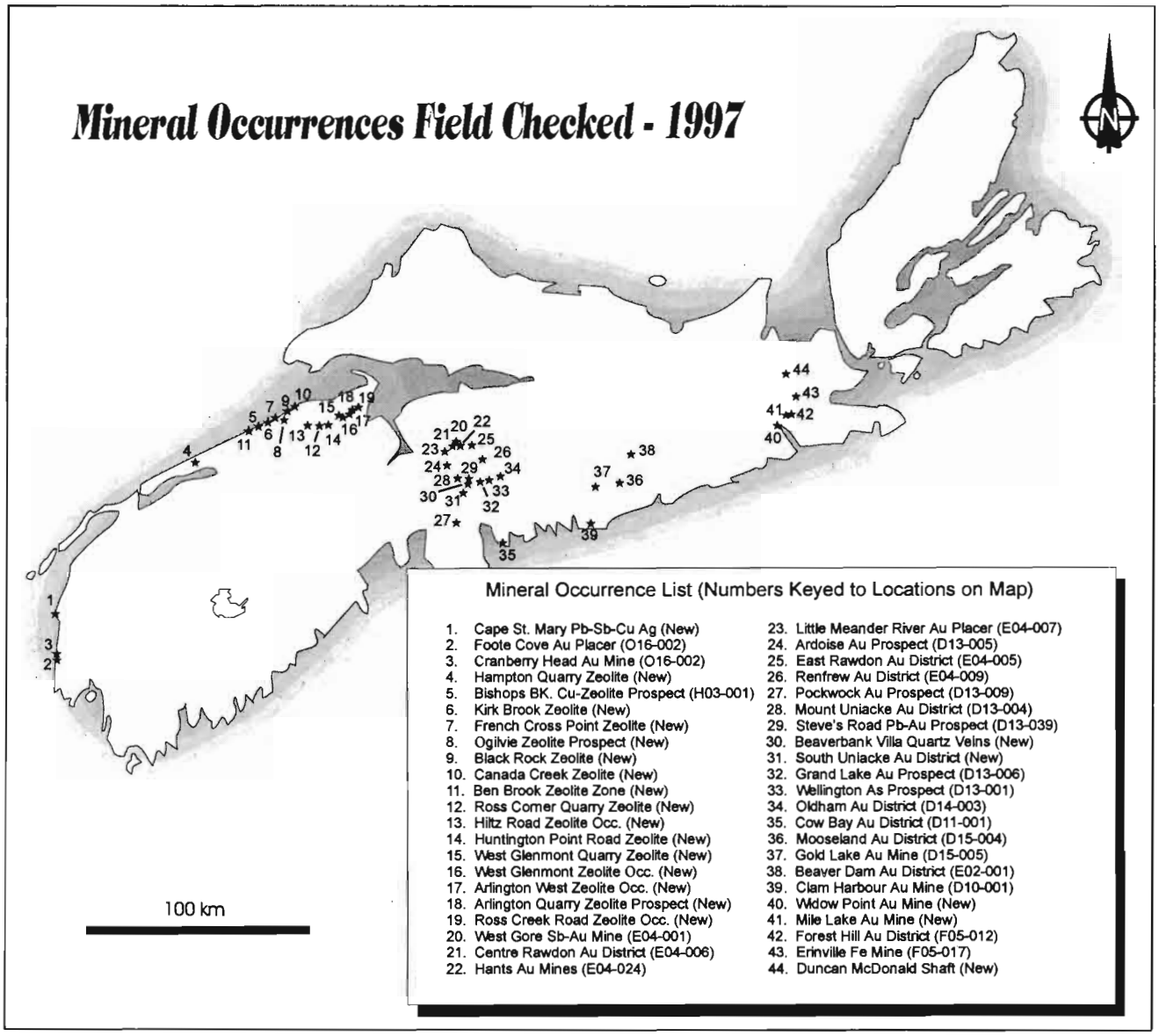

Figure 1. Map of the province showing the location of mineral occurrences visited during 1997.

including information for the dozens of reported zeolite occurrences from the North Mountain region in the database during next field season.

Office-related Activities

Information for mineral occurrences field checked during the 1996 field season and information researched from departmental exploration assessment files, open file reports and scientific publications were entered in the Mineral Occurrence Database during the fall of 1997 and winter of 1997. All of this information was released as DP-001b Mineral Occurrence Database, Version 2, on July 21, 1997. This release is an update of Version 1 of the database and consists of 33 mineral occurrences not previously in the database and information updates to 178 mineral occurrences that were already in the database. This represents a fairly substantial update of information in the Mineral Occurrence Database.

During the winter of 1996, a computer programmer was hired to implement several modifications to the Mineral Occurrence Query Program, the computer program used to browse and query the Mineral Occurrence Database. The modifications incorporate several enhancements to the program that were suggested by clients who used Version 1 since its public release in

November of 1996. As well, we took the opportunity to correct some minor bugs in the program that were recognized since the program's first release.

One of the options in Version 1 of the Mineral Occurrence Query Program allows the client to select mineral occurrences from any of the NTS map sheets in the province. The client selects the map sheet of interest and the program searches out all mineral occurrences on that particular map sheet and presents these to the client in a list. Likewise, Version 1 allows the client to select mineral occurrences from any of the counties or claim reference maps in the province. Unfortunately, the program limited the client to selecting only one NTS map sheet, county or claim reference map. Several clients, as well as staff of the branch GIS Section, indicated it would be an advantage for them to be able to select mineral occurrences from more than one map sheet at a time. As a result, this capability has been added to the program and clients may now select mineral occurrences from more than one NTS map sheet, county or claim reference map at a time. These modifications were included and released as DP-001a Mineral Occurrence Query Program, Version 2, on July 21, 1997, the same date as the release of the Mineral Occurrence Database information update described earlier.