NORTH AMERICAN SOIL GEOCHEMICAL LANDSCAPES PROJECT WORKSHOP II – A SUMMARY OF PROCEEDINGS AND BACKGROUND INFORMATION ON THE PROJECT

INTRODUCTION

The North American Soil Geochemical Landscapes Project is a tri-national initiative between the United States, Canada and Mexico and the first multi-national, multi-agency collaboration of its kind for this continent. It was established to develop a useful set of geochemical data for North America generated using a consistent set of protocols. The Project is designed to show the following: 1) systematic regional variations in chemistry and microbiology at a 40 km sample spacing (13 212 samples for North America, including 6 183 for Canada); 2) regional natural-occurring differences, thereby defining natural regional background levels and controls; and 3) regional variation from anthropogenic sources, thereby identifying human impacts on the soil landscape. From the start the Project goal has been to have a common understanding and focus and to have outcomes related to government decision-making.

The Canadian part of the Project started in 2006 has had three successful years. Work has been on-going on developing protocols for field sampling, laboratory analysis, and data handling and interpretation. Through co-operative efforts with provincial and territorial agencies samples were collected on a continent-wide transect aided by scientists from the provincial surveys. In 2007, sampling was undertaken in New Brunswick, Nova Scotia and Prince Edward Island, as well as at some sites in the northern Northwest Territories. In 2008, sampling was undertaken at sites along a trans-continental swath that lies roughly parallel to the Trans-Canada Highway and also in the Ottawa area of Ontario and Quebec. Samples were also collected at some sites in Nova Scotia and New Brunswick where follow-up work was needed, based on results from 2007. A large part of the core and other data from the 2007 samples has been generated and the first-stage data analysis is completed. A Geological Survey of Canada Open file based on these results is in preparation for release later in 2009.

The Tri-national Project provides a framework upon which participants in the Tri-national Project and researchers in other agencies can build and add new types of data. The Tri-national framework provides pre-selected study sites and a rationale for selecting them, systematic information on chemical and physical characteristics of soils and underlying sediments, and other information pertaining to surficial and bedrock geology. Value-added data such as soil gas radon and natural radioactivity have been collected at Tri-national sites. An effort is being made to work with soil geochemical data users to further existing applications and search for new ones.

Purpose of Tri-national Project Workshops

The holding of an annual workshop was part of the Tri-national Project plan from its inception. Three Workshops have been organized since 2007. The workshops are set up to achieve the following:

- Outline the accomplishments from the previous year's activities related to both "core" sample collection and value-added research. Review a "best plan" for new work.
- Hear from our present partners in value-added research and look for new partners. Learn how partners will benefit from having a set of consistent geochemical data for Canada. Ask how they can add more to the Tri-national Project in the current year and beyond.
- Look for ways to work together with existing and potential data users more effectively. Determine how to best use the resultant survey data to address their specific problems. Establish priorities for identifying future survey areas.
- Plan for the field season for the current year and beyond. This includes surveys for protocol development such as in permafrost and peatland terranes. Learn where and for what reasons other groups are undertaking field surveys. Explore possibilities for combining resources and expertise.

SUMMARY OF NASGLP WORKSHOP II

The second of three workshops, Tri-national Workshop II , was held at the Sala San Marco in Ottawa, Ontario, Canada on February 27th and 28th, 2008. The year's theme was "Looking Forward to 2008". Since the beginning of the Project there has been an emphasis on working with other groups and these collaborations were highlighted. The collaborations took a variety of forms including the collection of extra sample materials by the sampling crews, the analysis of samples using the Tri-national protocols, use of Tri-national data to supply information on natural background concentrations of elements in soil and use of the Project framework to select reference sites.

The 1½ day session hosted 36 attendees bringing together a broad cross-section of (bio)geochemical data suppliers and users. The presentations, exchanges and feedback that occurred were productive for the ongoing development of the Tri-national Project. The building of relationships among government data users and suppliers is essential for the success of this Project and for having the Project data and protocols used as a national and international standard.

The Workshop opened with some remarks from Andy Rencz outlining the Workshop purpose. Next the Geological Survey of Canada and United States Geological Survey participants reported on the progress in 2007 related to field sampling, laboratory analysis, and data handling and interpretation. These presentations were followed by reports from Toon Pronk from the New Brunswick Department of Natural Resources and Terry Goodwin from Nova Scotia Department of Natural Resources who carried out the Tri-national sampling in New Brunswick and Nova Scotia and from participants involved

in establishing and testing field and laboratory protocols. At the last session of the afternoon, Eric Grunsky discussed the Project framework and presented some new data based on the 2007 sampling.

On the morning of Day 2, participants undertaking "value-added" research projects associated with the Tri-national Project described their activities. Following these presentations, the discussion focused on finding ways to work with data users and providers more effectively. Next, participants from the provincial geological surveys outlined ongoing and upcoming field activities and the possibilities for collecting soil samples for the Tri-national Project.

The collected remarks on the experience gained from the 2007 sample collection and on the needs of the data users provided important insights. Preliminary plans were made for sampling new areas in Canada in 2008. It is apparent from the discussions that information on background levels of chemical elements in soils is useful and will be used immediately for a variety of activities ongoing in many government agencies.

PURPOSE OF GEOLOGICAL SURVEY OF CANADA OPEN FILE 6209

This Open File release contains explanatory materials and files (pdf format) of the PowerPoint presentations made at Workshop II. It serves as a record of the workshop proceedings and also of the progress on the Project between the years 2006 and early 2008.

FILE STRUCTURE OF GEOLOGICAL SURVEY OF CANADA OPEN FILE 6209

The contents of Geological Survey of Canada Open File 6209 are organized into eight directories representing the eight areas of subject matter covered at Workshop II. In turn, the directories contain files that consist of the presentations or other associated documents. For a complete listing of the Workshop II presentations, authors, and related documents, proceed to the directory entitled "01_Introduction" and the file entitled "01_2_Introduction_Files".

Directory	**EXPLANATION**
01_Introduction	Background information on Tri-National Project , Workshop agenda and Open File release
02_Workshop Purpose	Description of the Workshop Purpose
03_Field Data Collection	Accomplishments in the field in 2008
04_Laboratory Protocols	Progress with protocol development and laboratory analyses
05_Data Interpretation	Working with the Tri-national soil geochemical data
06_Value_Added Projects	Building on the framework with other types of data--demonstrations from value-added activities
07_Data Application	Getting on the map in 2009 - fostering applications of Tri-national data by groups concerned with health

	protection and the environment
08_Provincial Activities	Present and future activities in the Canadian provinces and territories

RECOMMENDED CITATION

For open file release:

Rencz, A.N. and Kettles, I.M. (ed.)
2009: North American Soil Geochemical Landscapes Project (NASGLP): Proceedings of Workshop II, Ottawa, Canada, 2008; Geological Survey of Canada Open File 6209, CD-ROM.

For individual presentations or other documents (example):
Pronk, A.G.
2009: The Maritime Soil Survey: a New Brunswick perspective; in North American Soil Geochemical Landscapes Project (NASGLP): Proceedings of Workshop II, Ottawa, Canada, 2008, in (ed.) A.N. Rencz and I.M. Kettles; Geological Survey of Canada Open File 6209, CD-ROM.

ACKNOWLEDGMENTS

The authors thank Wendy Spirito, Geological Survey of Canada, for a helpful review of this Open File.