



Vancouver Geotechnical Society

A Local Section of the Canadian Geotechnical Society

www.v-g-s.ca

Chair	David Regehr, Thurber	604-684-4384
Past Chair	John Richmond, Golder	604-296-2811
Program Director	Chris Williams, Golder	604-296-4204
Treasurer	Marc Bossé, Trow	604-874-1245
Secretary	Stuart Hrysió, Braun	604-513-4190
Registrar	Chris Anderson, Golder	604-296-4348
Web Manager	Carl Kelman, Levelton	604-278-1411
CGS Director	Mustapha Zergoun, Thurber	604-684-4384

NOTICE OF UPCOMING DINNER PRESENTATION

2009 SPRING CANADIAN GEOTECHNICAL SOCIETY CROSS CANADA LECTURE TOUR WEDNESDAY, MAY 6, 2009

SUBJECT: **Construction on Organic Terrain and Characterization of Organic Soils**

CONTENT: “Geotechnical interest in peats and organic soils tends to be confined to those who, on a specific project, have the misfortune to have to construct on such a deposit. Certainly the efforts made to comprehend and work with organic soils are negligible compared with the research efforts expended on the far more tractable inorganic soils. One reason for this may be that, in the past, one either avoided organic sites or removed all the organic material from beneath the structure. These expedient approaches are becoming uneconomical, however, and the present tendency is to face up to the challenges of building on highly organic soils” (introduction to ASTM conference on Testing of Peats and Organic Soils, P.M. Jarrett, editor, 1982). These statements are equally valid today, 27 years later.

Organic soil may be any material between two such extremes as a coarse-fibrous strong matting and an amorphous jelly-like and very soft gyttja. It follows that it is important and indeed necessary to describe the peat in some detail. A case record or a specification for construction on organic terrain is of little value without such detailed description.

One problem with peats and organic soils is their classification. A modified version of the Laboratoire des Ponts et Chaussées classification system for organic soils is presented in this lecture. This system is based on the Unified Classification System and the original von Post humification index, but is here modified to also include the peat classification system proposed at the 1982 ASTM conference. This system follows the French practice of supplementing the classification with pertinent geotechnical tests to determine various engineering properties.

Descriptions of the behaviour of embankments constructed on various organic soil foundation soils are given. Included are (i) several test fills of thickness 0.6 to 6.0 metres on a wholly organic fibrous peat at Escuminac, NB, (ii) embankments resting on an organic diatomaceous clayey silt in northern New Brunswick, and (iii) an embankment for the 1997 construction of the Trans-Canada Highway at New Maryland, NB, built across a semi-fibrous peaty soil deposit using the displacement method. Mention is also made of amorphous peat deposits encountered in PEI and in southern NB. The only practical method of embankment construction across these amorphous deposits would seem to be by displacing the peat with coarse rockfill forced into the peat with heavy equipment.

SPEAKER: **ARVID LANDVA, Dr. ing., Ph.D., P.eng., FEIC**
Geotechnical Consultant, Fredericton, New Brunswick

Arvid has considerable academic and practical experience, both in Atlantic Canada and worldwide, and is internationally known for his contributions to the understanding of the geotechnical characteristics of municipal waste, peat and other “non-textbook” soils. He received the 1985 Hogentogler Award from the American Society for Testing and

Materials for a paper on the geotechnical behaviour of peats. He has been a member of various ASTM subcommittees including D18.07 (Soil classification), D18.14 (Waste management) and D18.18 (Peats and organic soils).

Arvid received his B.Sc in civil engineering from the University of Strathclyde in Glasgow; received his Dr. ing. in geotechnical engineering from the Norwegian Technical University in Trondheim; and received his Ph. D. in geotechnical engineering from Laval University, Quebec. After working in consulting from 1959 through to 1968, he spent the next two decades, from 1968 through to 1996, as a Professor of Civil Engineering at the University of New Brunswick researching and developing field and laboratory techniques on difficult and degradable soils such as peats, organic soils, wetlands, woodwaste, refuse, waste fills, and plastic foam.

Executive Inn, 4201 Lougheed Highway, Burnaby, BC V5C 3Y6 (Phone: 604-298-2010)

Social Hour: 5:30 to 6:30 pm (drinks available at the hotel bar)

Technical Presentation: 6:30 to 7:30pm

Dinner: 7:45pm (\$10 will be charged for dinner to cover a small portion of the cost.)

RSVP: Dinner reservation to cwilliams@golder.com on or before Friday, May 1, 2009

The VGS would like to thank the following companies for financially sponsoring this Cross Canada Lecture Tour:

- *DST Consulting Engineers*
- *Golder Associates*
- *Jacques Whitford*
- *Klohn Crippen Berger*

The Cross Canada Lecture Tour is organized by the Canadian Geotechnical Society and its various local sections, and travel funds are provided by the Canadian Foundation for Geotechnique.