

## **27th Canadian Geotechnical Conference (New Frontiers in Geotechnical Engineering)**

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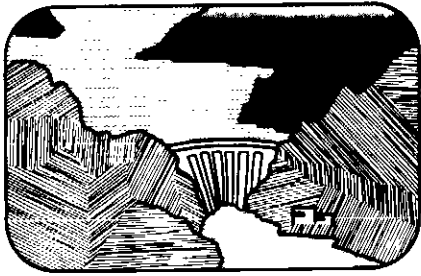
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## 27th Canadian Geotechnical Conference (New Frontiers in Geotechnical Engineering)

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The 27th Canadian Geotechnical Conference, under the capable chairmanship of Murray Harris, lived up to its theme and provided over 350 participants with two days of lively discussion. The wide variety of topics under consideration attracted a mixed crowd of earth scientists, environmentalists, contractors and engineers from many parts of North America.

Each session was organized with a Chairman, a General Reporter and a Panel, who discussed, with varying relevance, the subject matter in papers submitted to the session. Since each panel consisted of four or five speakers who considered five to seven papers of different authorship, any attempt to summarize the conference would break down into a long list of names. Therefore, only a brief description of each session will follow. The papers accepted for the conference are available in the Volume of Preprints and high quality papers of completed projects will be published in forthcoming issues of the Canadian Geotechnical Journal.

Session 1 considered "Geotechnical Engineering and Environmental Analysis" and discussions covered such topics as geophysics, radioactive

waste disposal, subsidence due to mining, earthquakes induced by reservoir impounding, land management, underground space utilization and reservoirs in quick clay.

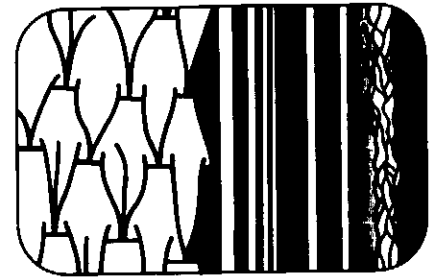
Session 2 considered "Geotechnical Engineering in the Mining Industry" with the subject matter varying from open pit mine stability and mountain slides to the design of tailings and coal waste disposal systems both above and below ground.

Session 3 covered the subject "Permafrost and Northern Pipelines" with lively discussion of arctic engineering topics such as bearing capacity, pipeline design for a thawing soil situation, offshore drilling islands and water flow induced by freezing. Considerable discussion centered on the rates of thawing around pipelines and the mechanics of formation of ice layers in free draining granular deposits.

Session 4 was divided into two sub-sessions, the first considering "Geotechnical Aspects of Northern Roads and Runways" and the second dealing with "Geotechnical Aspects of Ocean Engineering." In the first sub-session, the discussion dealt with northern problems such as design on frozen or organic soils. In the second sub-session, discussion related to wave and ice forces on ocean platforms, electro-osmotic reduction of pull out forces, platform anchors, sediment strength and bottom scouring by icebergs.

Perhaps the highlight of the conference was the awards presentation ceremony at which Dr. Geoff Meyerhof received the R. F. Legget Award for his many contributions to geotechnical engineering in Canada and the world. The best paper award went to Jack Clark and Geoff Meyerhof for their paper entitled "The behaviour of piles driven in clay. II. Investigation of the bearing capacity using total and effective strength parameters." A special award was made to Tony Stermac in recognition of several years of dedicated service as Editor of the Canadian Geotechnical Journal.

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## Eastern Canada Paleontology and Biostratigraphy Seminar

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The eighth annual meeting of this group was held on December 6th and 7th, 1974 at McGill University, Montreal. Each year the nature of the meetings has been determined by the convenor of the seminar. This year three invited speakers were asked to present discussions on major factors in the evolution of life: latitude, random processes, and geography. A wide range of subjects was covered by the ten other speakers who presented research results.

Maxwell Dunbar, of McGill's Marine Science Centre, considered the influence of latitudinal factors on rates of evolution and diversity. He contrasted the diversity and degree of metabolic adaptation of Antarctic communities to Arctic ones and attributed this largely to the earlier onset of glacial conditions in the Antarctic (perhaps 20 million years ago), and the consequent greater maturity of the ecosystem. He recognizes two types of stability in marine communities; the first, an adaptation to steady state conditions such as exist in the tropics and having a low productivity/biomass ratio, and the second type, developed to absorb the oscillations of conditions found in high latitudes and having higher productivity/biomass ratios. He believes the rate of evolution and ecosystem development was, and is, higher in high latitudes and innovations