

"Crystal Cliffs" — A Field Training School in Geology

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c/o Department of Geology,
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Deadline for submission is July 1, 1965.

Eight field trips are being considered.

Those interested in the field trips should contact:

DR. D.G. KELLEY,
Geological Survey of Canada,
601 Booth Street,
Ottawa, Ontario.

A later issue of MARITIME SEDIMENTS will enlarge upon the convention.

New York Geological Association, 1966

The 1966 Annual Meeting of the NEW YORK GEOLOGICAL ASSOCIATION will be held at the STATE UNIVERSITY OF NEW YORK AT BUFFALO. The meeting will feature a series of student papers and several field trips covering Silurian and Devonian stratigraphy and Pleistocene geology. The university will also be host for a group of Denver-bound INQUA geologists on August 28, 1965. A one-day field trip is planned featuring nearby glaciolacustrine features and a view of Niagara Falls.

"Crystal Cliffs" - A Field Training School in Geology

by DAVID HOPE-SIMPSON

St. Mary's University, Halifax, N. S.

The NOVA SCOTIA CENTRE FOR GEOLOGICAL SCIENCES at Crystal Cliffs, six miles north of Antigonish, Nova Scotia was operated for some fifteen years as a centre for field-training and studies under a joint agreement by the Department of Geology and Geophysics, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, and by the NOVA SCOTIA DEPARTMENT OF MINES. As a result of this unique arrangement, at the end of the decade 1948-1957, it could be reported (M.I.T. Report, 1957) that "340 youthful students of geology from 5 Maritime schools and 17 schools in the United States have been instructed and have been led to instruct themselves. Of these, 265 have received undergraduate

instruction in surveying, field methods, and report preparation, and 75 have carried on independent field-thesis work, either alone or as a member of a small team,- 10 for doctor's degrees, 29 for master's degrees, and 44 for bachelor's degrees. From this latter effort have come thus far (1957) 6 completed Ph.D. theses, 15 S.M. theses, and 29 S.B. theses for a total of 50 separate reports of investigation. In addition, students and staff have conducted and prepared reports on some 15 special investigations of Nova Scotia geology."

"Professor WALTER L. WHITEHEAD (M.I.T.) was director from the founding of the school in 1948. Professor ROLAND D. PARKS (M.I.T.) was Associate Director . . . Professor DONALD J. MACNEIL of ST. FRANCIS XAVIER UNIVERSITY, Antigonish, has served the school in many important ways, notably as lecturer in Geology and as secretary of the Centre's Board of Governors"

It continues; (M.I.T. Report, 1957): "throughout its decade of existence the school has been supported in large part by the Province of Nova Scotia through the DEPARTMENT OF MINES and the NOVA SCOTIA RESEARCH FOUNDATION. Important support and co-operation have also been given by the GEOLOGICAL SURVEY OF CANADA, the DOMINION COAL COMPANY and the DOMINION STEEL COMPANY"

"The program of instruction and field work has been provided and supervised" (mostly) "by regular staff members of the faculty of the Department of Geology and Geophysics of the MASSACHUSETTS INSTITUTE OF TECHNOLOGY."

The number of students and distinguished visitors has considerably increased since the date of that report.

The Crystal Farm property, long used as a resort, includes a large manor house, six spacious waterfront cottages, a cookhouse, a fine barn modified as a hall, and the caretaker's house. The orchard, meadows and woodlands (a haunt of bald eagles) range along the shores of a lagoon enclosed by a shingle bar. Beyond the bar lie the waters of George's Bay and the Gulf of St. Lawrence.

This property was selected for a field school because of the great variety and excellence of coastal exposures around Cape George. Here within about thirty miles, many important features of Acadian geology are demonstrable: Lower 'Palaeozoic' metamorphic and igneous rocks; a classic Silurian and Devonian section; and a late-orogenic assemblage of very great thickness. Near Arisaig, in particular, are some six sedimentary groups nearly continuously exposed, ranging in age from Upper Mississippian (Canso) down to Lower Ordovician (?) (Brown's Mountain Group). Amongst these rocks, two volcanic suites and small but highly differentiated igneous intrusive complexes may also be studied in shoreline exposure.

Through the generosity, goodwill and co-operation of those responsible, many field parties have used Crystal Cliffs as a base or as stop-over up until last summer.

Of especial value to many Maritime geological students and staff have been the Field Schools held following examinations each year since 1959 in May. These have been attended annually by between 10 and 20 undergraduates, students and at sometimes by almost all staff members of the participating Universities. The Field Schools, fostered by the interest and concern of PROFESSOR D.J. MACNEIL and DR. J.P. NOWLAN, DEPUTY MINISTER OF MINES OF NOVA SCOTIA, have been under the direction and co-ordination of DR. J.D. WRIGHT of the Department of Mines. To these, the university staff and student geologists we owe a continuing debt of gratitude. The Universities who have benefited in different degree are: ACADIA, DALHOUSIE, MOUNT ALLISON, ST. FRANCIS XAVIER, and ST. MARY'S.

The ten days of intensive drill in field methods unquestionably help most students in their studies in the following years, and gives them field skills that make them of more value to their summer employer. The NOVA SCOTIA DEPARTMENT OF MINES as an employer, has a special interest in the camp for that reason.

The agreement with M.I.T. was terminated about three years ago, and the following year Crystal Farm was placed under the NOVA SCOTIA DEPARTMENT OF PUBLIC WORKS. It has recently be leased to ST. FRANCIS XAVIER UNIVERSITY, and it is through the goodwill of the Administrators of that institution that the field camp will be held this year (May 9-19, 1965). All who have been privileged to enjoy the use of the facilities of Crystal Cliffs in the past will be interested and concerned that it shall still play a (perhaps expanded) rôle in field studies and education in the future.

An important legacy of the M.I.T. years is the series of collected reports that were produced. These are in the libraries of M.I.T., and of the NOVA SCOTIA RESEARCH FOUNDATION. The reports may be consulted at the latter in Halifax, or may under certain circumstances be obtained by special arrangement with the librarian. It must be appreciated that the reports have scarcity value and are not easily replaced if lost.

The publication "Ten Years in Nova Scotia" referred to above contains abstracts of Ph.D., M.Sc., and B.Sc. theses, and other studies of the period 1948-1957.

In conclusion, it may be said that the initiative of those staff members at M.I.T., at ST. FRANCIS XAVIER and in the NOVA SCOTIA DEPARTMENT OF MINES who established and kept alive the idea of the NOVA SCOTIA CENTRE FOR GEOLOGICAL SCIENCES, besides increasing greatly the knowledge of Nova Scotian geology, has enriched Maritime students

in training and background through contacts with top-ranking scientists, and made many friends for Nova Scotia, who would not otherwise have visited it.

Reference Cited

M.I.T.. Department of Geology and Geophysics, 1957, Ten years in Nova Scotia - the Massachusetts Institute of Technology Summer School of Geology 1948-1957: M.I.T. Cambridge, Mass., p.

Note

A meeting to prepare the 1965 camp and to discuss new organizational plans was held in Halifax on April 2. The Crystal Cliffs Field School will be held from May 9-19 this year. This popular session will be well-attended by undergraduate geology majors from each of the participating maritime universities - Acadia, Dalhousie, Mount Allison, St. Francis Xavier, and St. Mary's. The session concentrates on practical field mapping and geologic study and interpretations of the classic exposures of the area. The school is staffed by faculty of the universities under the co-ordination of DRS. C.D. WRIGHT and DAVID HOPE-SIMPSON.