

Nova Scotia Department of Natural Resources
Mines and Energy Branches
OPEN FILE MAP 93 - 004

**HALIFAX FORMATION COMPILATION
FOR SOUTHERN NOVA SCOTIA**
MAP SHEET 11D/11 and part of 11D/10
1 OF 38 SHEETS

F. J. BONER

Scale 1:50 000

Nova Scotia Department of Natural Resources
Honourable Don Downe, Minister

Halifax, Nova Scotia
1993

Symbol Legend

Geological boundary of Halifax Formation (approximate, assumed, unknown)

Fault

Halifax Formation

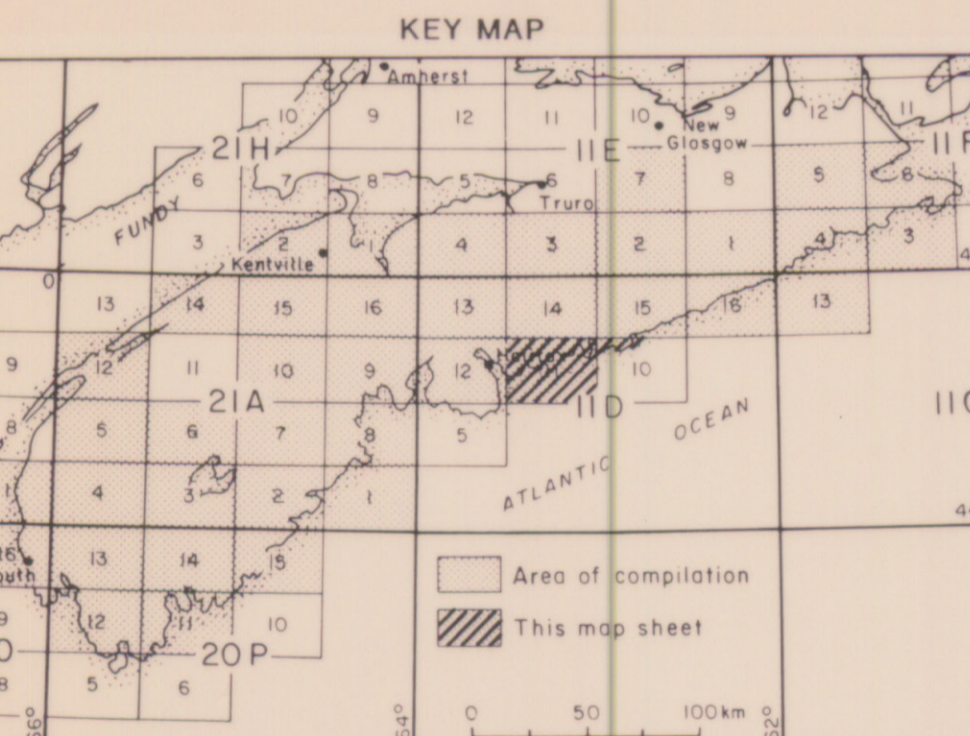
Geoscience for Strategic Planning: Acid Slates

The goal of the Land-Use Section of the Nova Scotia Department of Natural Resources (NSDNR) is to find ways and means of integrating geological information with environmental concerns and strategic land-use planning. The Land-Use Section encourages an anticipatory planning process to prevent unnecessary environmental degradation and protect economic investment. The Halifax State Compilation Project is the first in a series of information circulars, maps and reports geared towards the mineral industry, municipal planners, and other strategic land and water resource planners to help identify various geological constraints in selected areas of Nova Scotia.

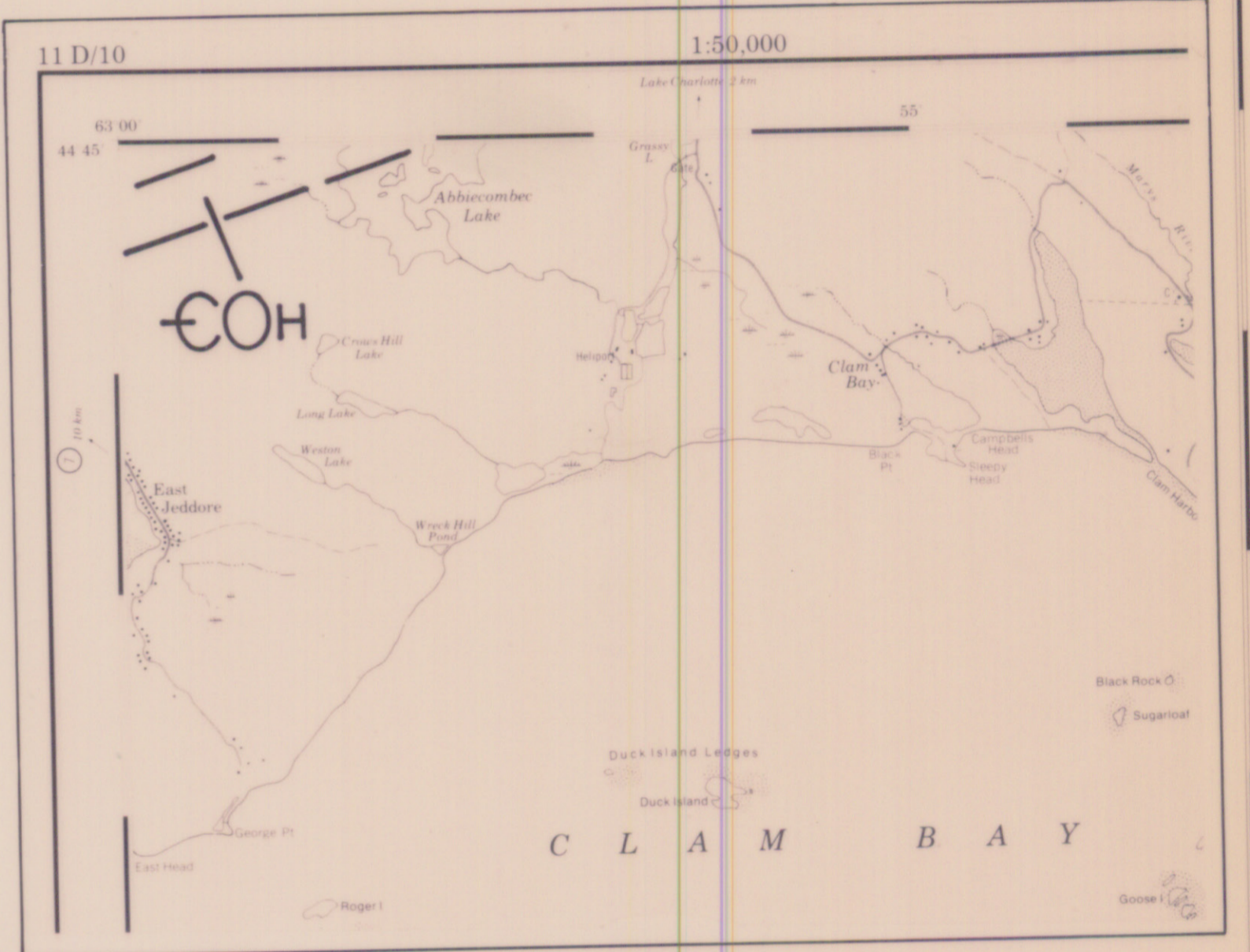
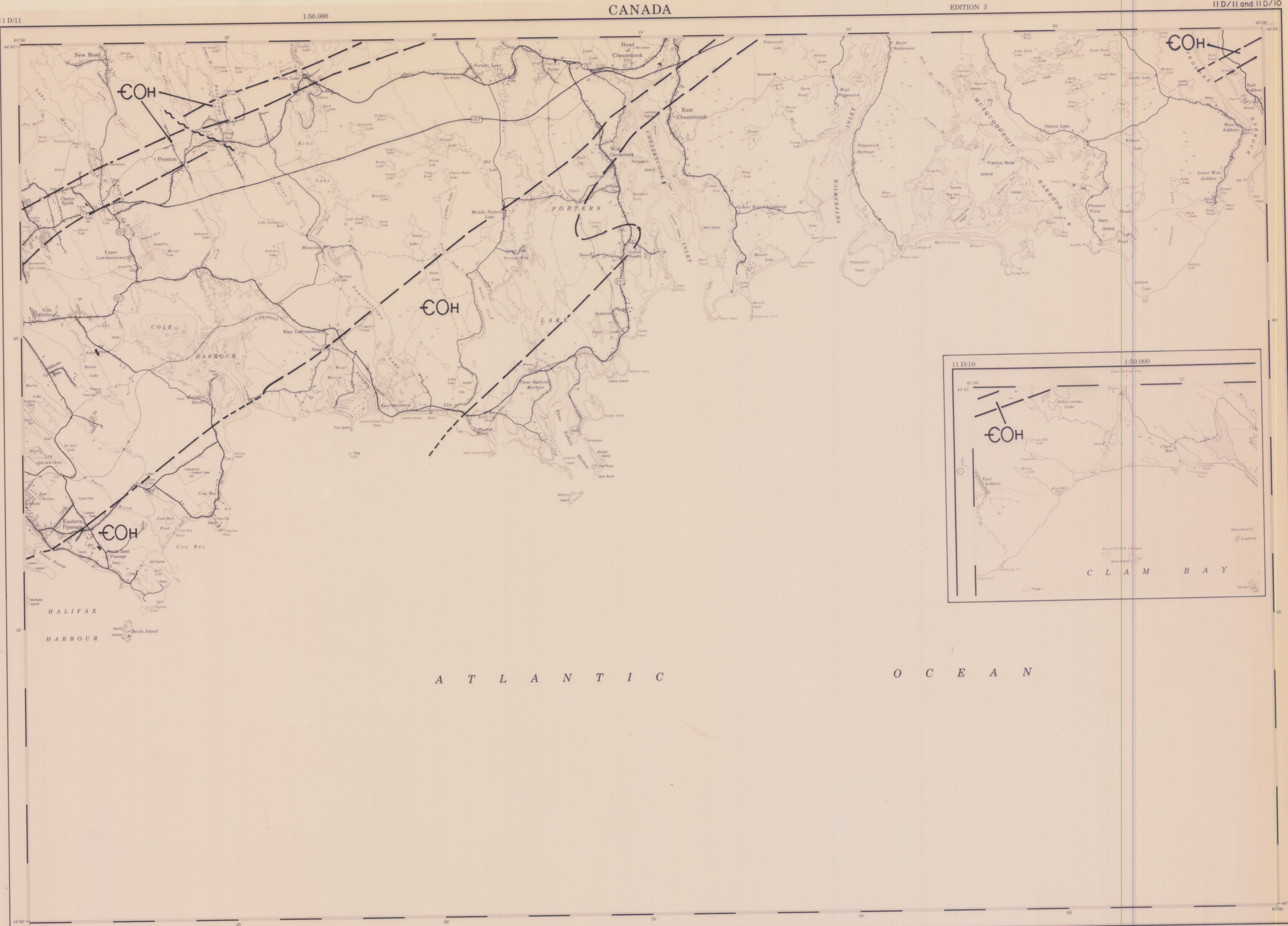
The phenomenon known as 'acid drainage' is commonly associated with mining and mineral processing. However, in Nova Scotia, acid drainage is also a natural phenomenon in certain areas of the Province. For example, black slates found at the base of the Halifax Formation (Canard Member) contain sulphide minerals that can readily produce a mild sulphuric acid when disturbed and exposed to the atmosphere. The Canard Member often contains high amounts of the magnetic sulphide mineral called pyrrhotite, and aeromagnetic vertical gradient maps seem to accurately reflect these magnetic bands. These maps were used in this compilation, primarily in areas of limited field mapping. However, they cannot be used to indicate acid production potential. A reduction in environmental quality and high clean-up costs associated with acid drainage have resulted from road resurfacing and construction, industrial development, and quarrying. Since a large portion of southern Nova Scotia is underlain by the Halifax Formation, the potential for future problems is considerable and warrants access to the best available geological information which plays a very important role in identifying the areas to avoid or which may require special attention.

The data for this series of maps were compiled at a scale of 1:50 000 (and 1:250 000 to accompany Open File Report 93-010, *The Geology and Distribution of Acid Generating Slates of the Halifax Formation in Southern Nova Scotia*). The data were derived from various sources that date back to the late 1800s and include mapping available to date. NSDNR staff are currently remapping Meguma Group rocks, which includes the Halifax Formation, in an effort to better understand the geology of this part of Nova Scotia.

The author wishes to thank Rick Horne, Dr. Bob Ryan, George O'Reilly, Steve King, and Dr. Peter Giles for their assistance in interpreting the aeromagnetic vertical gradient maps, and Patricia LeBlanc for her assistance in locating maps and reports in the NSDNR library.



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CHEZZETCOOK
HALIFAX COUNTY
NOVA SCOTIA