

Materials:

- 730 Instructions
- 750 Air photo map
- 202 Columnar section (page size)
- 749/1-2 Some mid-Ordovician fossils

Purpose

In this field problem you will learn how to describe sedimentary rocks, draw a stratigraphic column, and recognize some Ordovician fossils. Then you will use rock types, sedimentary structures and textures, and fossils of the Crown Point section to determine the changes in environment of deposition from Chazy time to Glens Falls time.

Geography of the Area

The Crown Point section includes part of the Chazy Group (Crown Point Formation, Valcour Formation), all of the Orwell Limestone, and part of the Glens Falls Limestone. The beds dip northwest, and so a traverse going from the southeast to northwest will be, in effect, climbing a cliff to see the successively younger beds. Parts of the section are covered, and the thickness of some of the covered intervals will be measured by determining angle of dip of beds and outcrop width. Certain geographic localities in the area are identified by letters, A, B, C, L. This simplifies referring to certain beds in the stratigraphic section.

ProcedureLocality A

Make a columnar section of the rocks exposed at this locality on the left third of a sheet of graph paper at the scale of 1 in/m. Note rock types, sedimentary textures and structures, and fossils off to the right of the column at the appropriate level. Get strike and dip, and instructions on graphing the thickness of rocks in the covered intervals between A and B, and between B and D. You will write a summary description of the rocks at locality A (the Crown Point Limestone).

Locality B

Describe the Crown Point Limestone at B. Measure a strike and dip.

Traverse from D to K

During a traverse from locality D to locality K (shown on the page-size columnar section sheet, and also on the air photo map) observe the rock types, sedimentary textures and structures, and fossils. Record rock types graphically in the column; check fossils seen in appropriate columns, and write a summary description for the stratigraphic units visited on this traverse (the Valcour, the Orwell, and the Glens Falls). At the end of the traverse, we will discuss how to use the data to infer environments of deposition.