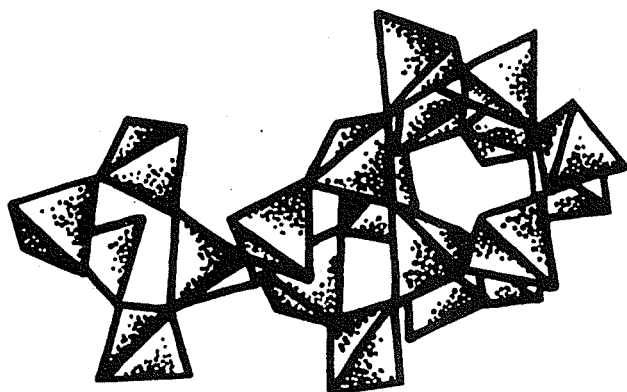


NYSGA 73

45th ANNUAL MEETING SEPT. 28 - 30

NEW YORK STATE GEOLOGICAL ASSOCIATION

GUIDEBOOK



S. U. N. Y. BROCKPORT and MONROE COMMUNITY COLLEGE

Guidebook to Field Trips

45th Annual Meeting - September 28-30, 1973

Rochester, N.Y. Area

Co-hosts: State University of New York College at Brockport -
Monroe Community College

Edited by: Philip C. Hewitt, Department of The Earth Sciences,
SUNY Brockport

Field Trip Leaders

Robert W. Adams, Department of The Earth Sciences,
SUNY Brockport

William A. Bassett, Department of Geological Sciences,
University of Rochester

Samuel J. Ciurca, Jr., Eastman Kodak, Rochester, N.Y.

Thomas X. Grasso, Department of Geosciences,
Monroe Community College

Gary L. Kinsland, Department of Geological Sciences,
University of Rochester

William Kirchgasser, Department of Geological Sciences,
SUNY Potsdam

Wendell D. Rhodes, Department of Anthropology,
SUNY Geneseo

Robert A. Sanders, Department of Geosciences,
Monroe Community College

Victor E. Schmidt, Department of The Earth Sciences,
SUNY Brockport

Richard A. Young, Department of Geological Sciences,
SUNY Geneseo

PREFACE

In preparing this guidebook the basic premises accepted were that simplicity was to be primary and maximum flexibility of style and opinion would be maintained.

Therefore, the editor made no attempt to alter any author's style or opinion. In this way, of course, the editor's task became easier. All that remained was to do the usual proofing, make minor changes and prepare the parts as a whole. Even this task was simple since each field trip is a whole unit and the guidebook merely a collection of field trip descriptions.

If the trips and the meeting are successful it is because of the efforts of many people; the contributors, my patient faculty and students, my secretary and many others including Mrs. Marion Cassie who designed the cover. My thanks go to them and most particularly to Thomas X. Grasso of Monroe Community College who is my co-host.

We hope you will enjoy the trips and the many different styles in this book.

Philip C. Hewitt
Editor

INTRODUCTION

The geology of the Rochester area involves some intriguing problems. These are primarily based in the fields of paleontology and stratigraphy, glacial geology and geomorphology, mineralogy and other related subfields. A simple way to describe the geology as a whole is that it involves Lower Paleozoic (Ordovician to Devonian) sedimentary rocks veneered by dissected glacial deposits.

Although a few minor folds appear and the area displays a small number of faults, this is not the easiest place in which to observe structural geologic features. Nor will one find igneous or metamorphic rocks in place here. Rather they can only be seen as erratics from glacial deposition. It is obvious therefore, that the field trips selected for our area involve the type of geology which is so plentiful and well exposed here.

The emphasis for each trip is to teach. The method or style used by the field trip leaders may differ but the intent is the same. In every case the student is the person for whom the trips were planned and for whom the papers were written. The only assumption that is made is that the student has had at least a few courses in geology and will be able to follow the basic concepts involved.

The oldest rocks exposed in this area are of the late Ordovician and are found in the "Rochester Gorge" of the Genesee River Valley. Most of the rocks exposed at the surface in the northern part of the area (south of Lake Ontario) are Silurian in age. Knowing that the strata dip generally to the south it is obvious that younger strata will appear in the southern part of the region. Therefore, Devonian beds are exposed south of Rochester. Erosion by streams and ice and subsequent deposition by glacial action represent the most obvious later events following post-Paleozoic uplift. Yet weathering and erosion continue to leave their mark - erosion by humans shows strongly.

All field trips have been designed to add to the brief outline above. The mineralogic visit to the Penfield Quarry is placed in context with the stratigraphy and general geology of the Rochester area. At Hamlin Beach recent sedimentation will be observed - though no precise details can be given in this guidebook for that locality. Recent water levels and strong wave action have altered the entire picture there. No one can predict what conditions will be like at the time of the trip. We shall have to wait and see.

TABLE OF CONTENTS

	<u>Page</u>
PREFACE	
INTRODUCTION	
TRIP A. GLACIAL GEOLOGY OF THE WESTERN FINGER LAKES REGION	A-1
by Victor E. Schmidt	
Map of area	A-2
Stop 1. Rt. 20A between Hemlock and Honeoye, 2.5 mi east of	A-3
jct with Rt. 15A	
Stop 2. West Lake Rd., 4.6 mi S of Honeoye	A-4
Map - Stops 1 & 2	A-5
Stop 3. West Lake Rd., approx 12.7 mi S of Honeoye, 0.1 mi	A-6
W of jct with French Hill Rd.	
Map - Stops 3 & 6	A-7
Stop 4. Bristol Springs Rd., 2 mi NNE of Naples	A-8
Map - Stop 4	A-9
Stop 5. Bristol Springs; Ontario County Park	A-10
Map - Stop 5	A-11
Stop 6. Rt. 21, 2 mi SW of Naples, 1.4 mi SW of jct w/Rt. 53	A-12
Stop 7. Black Creek Rd., 2 mi W of Atlanta, 0.4 mi S of jct	A-13
w/Sawdust Rd.	
Map - Stops 7, 8, 9	A-14
Stop 8. E side of Rt. 371, 2 mi NNE of Cohocton, S of the	A-15
mouth of Kirkwood Gully	
Stop 9. Lunch - rest area on E side of Rt. 15, 0.9 mi S of	A-16
Cohocton	
Stop 10. Rt. 21, 0.2 mi NW of Country Rd. 92, W of Loon Lake	A-17
Map - Stop 10	A-18
Stop 11. Straight Rd., just W of Price Rd., 1.7 mi ENE of	A-19
Springwater	
Map - Stops 11, 12	A-20
Stop 12. Rt. 15A, 4.6 mi N of Springwater	A-21
References	A-21
TRIP B. A COMPARISON OF ENVIRONMENTS, The Middle Devonian Hamilton	B-1
Group in the Genesee Valley, by Thomas X. Grasso	
Stratigraphy	B-2
Table 1	B-3
Paleoecology	B-4
Feeding Types	B-4
Large Epifaunal Filter Feeders	B-4
Small Epifaunal Filter Feeders	B-5
Infaunal Filter Feeders	B-5
Infaunal Deposit Feeders	B-6
Vagrant Epifaunal Deposit Feeders; Scavengers; Carnivores;	
Herbivores	B-7
Microphagous Carnivores	B-7
Habit	B-8
Species Diversity	B-9
Faunal Analysis of Jaycox Run	B-10
Methods and Acknowledgement	B-10
Plate 1 - Faunal Analysis Ludlow Formation	B-10a
Plate 2 - Faunal Analysis Ludlow Formation Feeding Type	B-10b

TRIP B. (Continued)

	<u>Page</u>
Jaycox Run Section	B-12
Centerfield Member	B-12
Ledyard Member	B-14
Wanakah Member	B-15
Tichenor Member	B-20
Deep Run Member	B-21
Moscow Formation	B-21
Menteth Member	B-21
Selected Readings and References Cited	B-22
Road Log	B-24

TRIP C. LOWER UPPER DEVONIAN STRATIGRAPHY FROM THE BATAVIA-WARSAW . . . C-1
 MERIDIAN TO THE GENESEE VALLEY: GONIATITE SEQUENCE AND
 CORRELATIONS, by William Kirchgasser

Introduction	C-1
Previous Work	C-1
Figure 1 - Correlation Chart	C-2
Present Study	C-3
Figure 2 - Generalized Cross Section of Lower U. Dev. Rocks - Western New York	C-4
Genesee Formation	C-5
Genesee and Penn Yan shale members	C-5
Figure 3 - Locality Map	C-6
Genundewa limestone member	C-7
Figure 4A - Lower Genesee Formation - Western New York	C-8
Figure 4B - Lower Genesee Formation - Western New York	C-9
West River Shale Member	C-10
Sonyea Formation	C-11
Cashaqua shale member	C-11
West Falls Formation	C-13
Figure 5 - Middle West Falls Formation - Warsaw, N.Y. area	C-14
Explanation Plate 1 - Lower Upper Devonian goniatites from the Genesee, Sonyea and West Falls Formations, Western New York	C-16
Plate 1 - West Falls Formation	C-17
References	C-18
Road Log	C-21

TRIP D. EURYPTERID HORIZONS AND THE STRATIGRAPHY OF THE UPPER SILURIAN D-1
 AND ?LOWER DEVONIAN OF WESTERN NEW YORK STATE, by Samuel
 J. Ciurca, Jr.

Introduction	D-1
Stratigraphy and Paleontology	D-1
Cayuga Series	D-3
Fort Hill Waterlime	D-3
Oatka Formation	D-3
Fiddlers Green Formation	D-3
Morganville Waterlime	D-4
Victor Member (Dolostone, Limestone)	D-4
Figure 1 - Composite Stratigraphic Section based on examination of outcrops at Honeoye Falls, N.Y. and outcrops to the west and east (LeRoy to Phelps, N.Y.)	D-4A
Phelps Waterlime	D-5

TRIP D. (Continued)

Scajaquada Formation D-5
Williamsville Waterlime D-6
Cobleskill Formation D-6
Helderbergian Series D-7
Honeoye Falls Formation D-7
Unconformities D-8
 Figure 2 - Lithostratigraphic Cross Section D-8A
Summary D-9
References D-10
Road Log D-12

TRIP E. LATE GLACIAL AND POSTGLACIAL GEOLOGY OF THE GENESEE VALLEY . . E-1
 IN LIVINGSTON COUNTY, NEW YORK: A Preliminary Report, by
 Richard A. Young and Wendell D. Rhodes

Introduction E-1
Previous Work E-1
Figure 1 - Genesee River Basin Diagram E-2
Figure 2 - Genesee Valley Profiles A-D E-4
Figure 3 - Large slump of April, 1973 on east bank of Genesee . E-5
 River at the end of Oxbow Lane, Town of Avon
Glacial Valley Fill and Postglacial Sedimentation E-6
Terraces Near Geneseo E-8
Figure 4 - Genesee Valley near mouth of Canaseraga Creek - . . E-10
 Diagrammatic and Composite
Figure 5 - Excavation at the Macauley Complex near Geneseo, . . E-12
 New York
Summary and Conclusions E-14
Addendum E-15
Figure 6 - Exposure of delta gravels and sands interbedded with E-18
 varved clays (V) on the east side of the Genesee
 Valley along Route 63, two miles south of Hampton
 Corners
References E-19
Road Log E-20

TRIP F. THE PINNACLE HILLS AND THE MENDON KAME AREA: CONTRASTING . . . F-1
 MORAINAL DEPOSITS, by Robert A. Sanders

Introduction F-1
The Pinnacle Hills F-2
 General Description F-2
 Origin F-3
The Mendon Kame Area F-5
 General Description F-5
 Eskers F-5
 Kames F-6
 Kettles F-7
 Drumlins F-7
Origin of Mendon Ponds Park and surrounding stagnant ice . . . F-8
 features
 General Statement F-8
 Specific Deposits F-10
 Eskers F-10

TRIP F. (Continued)

	The West Esker	F-10
	The East Esker-Kame-Kettle Complex	F-11
	Acknowledgements	F-15
	Figures 2-11 - Sketch diagrams	F-16
	Figure 1 - Maps	F-22
	Plate I - Till capping lake sand. Near Winton Rd., looking west in 1922	F-24
	Plate II - Cobbs Hill. North side of Hill by Erie Canal wide- waters east end of pit, looking SW, in 1903	F-25
	Plate III - Cobbs Hill. Looking east from Klinck Knoll on . . . Pinnacle Hill in 1895	F-26
	Plate IV - Cobbs Hill. Looking northwest from south ridge in . 1903	F-27
	Plate V - Section at S Clinton St. View of west slope of the . Pinnacle looking west, in 1895	F-28
	Plate VI - Section at S Clinton St. View looking north of east toward the Pinnacle, in 1894	F-29
	Trip Log	F-30
	Bibliography	F-33
TRIP G.	PLEISTOCENE AND HOLOCENE SEDIMENTS AT HAMLIN BEACH STATE PARK, NEW YORK, by Robert W. Adams	G-1
	Shoreline Sedimentation	G-1
	Pleistocene Sediments	G-2
TRIP H.	MINERAL COLLECTING AT PENFIELD QUARRY, by William A. Bassett and Gary L. Kinsland	H-1
	Abstract	H-1
	Lockport Dolomite	H-1
	Mineralization	H-1
	Origin of the Mineralization	H-4
	References	H-7
	Plate H-1	H-9
TRIP I.	STRATIGRAPHY OF THE GENESEE GORGE AT ROCHESTER, by Thomas X. Grasso	I-1
	Introduction	I-1
	Ordovician System	I-1
	Upper Ordovician	I-1
	Queenston Formation	I-1
	Silurian System	I-2
	Table I - Zonal chart	I-4
	Table II - Generalized Silurian Section	I-5
	Lower Silurian - Medina Group	I-6
	Grimsby Formation	I-6
	Clinton Group	I-7
	Table III - Clinton Group Ostracode Zones	I-8
	Figure 1. Diagram of Clinton Facies	I-9
	Thorold Sandstone	I-10
	Maplewood Shale	I-11

TRIP I. (Continued)

Reynales Limestone	I-11
Lower Sodus Shale	I-14
Williamson Shale	I-14
Irondequoit Limestone	I-15
Rochester Shale	I-16
Lockport Group	I-18
References	I-19