probably as extension fractures. In general, veins and stylolites facilitate the development of the local pore fluid pressure, acting as an important control. The scatter of principal stress orientations and a lack of consistent relations to bedding, shear zones, or fold geometry support an episode of minor, inhomogeneous strain.

THE HORSE ISLANDS GROUPIAN EXTENSION OF THE FLEUR DE LY SUPERGROUP, NEWFOUNDLAND

BURRIS, John T., Department of Geology, Syracuse University, Syracuse, New York 13210; HIBBARD, J. A., Department of Mines and Energy, St. John's, Newfoundland, A1E 1J7

The lithological, structural, and metamorphic character of the Horse Islands Group in the northwestern part of the Fleur de Lys terrane of the western Duralong Fold Belt, Newfoundland, is different from that of the Fleur de Lys Supergroup. A newly described Horse Islands-

The Huit or Miss Point sequence is a thick basement sequence of locally metamorphosed calcareous rocks that underlies the Huit Point series. The Huit Point series is a series of fine-grained, pelitic metasedimentary rocks, including cherty slates, phyllites, and quartzites. The metavolcanic rocks are characterized by the presence of volcaniclasticlastic sediments, including volcaniclastics and volcaniclastic breccias.

Both sequences are conformably deformed. Early phase structures (minor and possibly large magnitude) tight to isoclinal, steeply plunging folds and related sedimentary structures are deformed by later phase shear zones that are deformed by at least two generations of locally intense cleavages and related tight folds. These folds are the result of the deformation of the Horse Islands Group in the northeastern part of the Halifax Bay area, with respect to similar sequences on the mainland of Newfoundland. The Horse Islands Group is considered a part of the Huit Point series, with the Huit Point series being part of the Huit Point sequence.

COMPOSITION AND LITHIC FACIES OF NEW ENGLAND UPPER TILL AND A POSSIBLE ORIGIN

CASSIDY, Joseph A., Earth Sciences Group, Rockwell Hanford Operation, Richland, Wash., 99352

Three lithic facies of Upper Tertiary tills are described from three distinct rock types that are in contact along the Connecticut Valley coastline. The most prominent feature is the presence of glaciolacustrine sediments, which are characterized by the presence of ponded lakes and a variety of sedimentary structures, including ice-rafted debris, glacial lake deposits, and glacial outwash deposits.

The three upper till units are all composed of the youngest Wisconsin drift and are partly or completely on source rock. They are composed of a mix of fine- to coarse-grained sandstone, siltstone, and claystone, with a significant amount of lithic fragments. The upper till units are characterized by a variety of sedimentary structures, including cross-bedding, ripple marks, and horizontal lamination.

The upper till unit in the Belchertown quadrangle is texturally similar and a time equivalent of upper and lower till of New England. Both tills are interpreted as basal till deposited by two different glaciers. The youngest till is a middle Wisconsin age and is characterized by the presence of glacial erratics, glacial striations, and glacially polished bedrock. The older till is interpreted as an upper Wisconsin age and is characterized by the presence of glacial erratics, glacial striations, and glacially polished bedrock.

DRUMLINS IN SOUTHWESTERN MAINE CONTAINING ABUNDANT STRATIFIED DRIFT

CALDWELL, J. W., Department of Geology, Boston University, Boston, Mass.

In Elliot and York, Maine, there is a group of twenty-two, all of which have extensive exposures and six of which have abundant deposits. Two of these features are stratified deposits. The stratified drift occurs on the northwest (stoss) sides of the hills. The bedding resembles the foreset beds of dunes, with dips toward the northwest, and northeast. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan.

There are many similarities between the stratified drift in the Elliot and York and the stratified drift in the nearby lakes. Both are characterized by the presence of glacial erratics, glacial striations, and glacially polished bedrock. For this reason, the stratified drift deposits may have been remolded by glacial meltwater and re-deposited in the area. If this interpretation is correct, the Elliot and York drumlins may be identified as having been formed during a period of glacial emergence.

LANDWARD MIGRATION OF BARRIER ISLAND ENVIRONMENTS: DISCRIMINANT FUNCTION ANALYSIS OF SAND SIZE FREQUENCY DISTRIBUTIONS

CANNON, Barry, Department of Geology, Pennsylvania State University, University Park, PA 16802; JONES, J. Richard, Department of Geology, Boston State College, Boston, MA 02115

It has been suggested that there is a subaerial surface landward

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DRUMLINS IN SOUTHWESTERN MAINE CONTAINING ABUNDANT STRATIFIED DRIFT

CALDWELL, J. W., Department of Geology, Boston University, Boston, Mass. 02215; MANSON, Lindley S., Earth Sciences Department, Salem State College, Salem, Mass. 01970; HOLLAND, William S., Department of Geology, Boston University, Boston, Mass. 02215

In Elliot and York, Maine, there is a group of twenty-two, all of which have extensive exposures and six of which have abundant deposits. Two of these features are stratified deposits. The stratified drift occurs on the northwest (stoss) sides of the hills. The bedding resembles the foreset beds of dunes, with dips toward the northwest, and northeast. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan. The stratified drift in the Elliot and York area is interpreted as representing an advance of ice followed by the deposition of a glacial fan.
PROGRAM OF TECHNICAL SESSIONS

THURSDAY, MARCH 1, 1979

SYMPOSIUM: ADIRONDACK GEOLOGY I
Trinidad Room, 0800 hours

Bill Romey and Russell S. Jacoby, Presiding

Bill Romey: Introductory Remarks ............................ 0800

1 Tibor Gasparik: Geology of the Area between
Elizabethstown and Mineville, Eastern Adirondacks ...... 0805

2 Lewis D. Ashwal,* Karl E. Seifert: Rare Earth Element
Evidence for Mafic Enriched Residual Liquids of the
Massif-Type Anorthosite Suite, Adirondacks, N.Y. .... 0830

3 Richard O. Sack: Corona Reactions in Gabbroic-Ultramafic
Rocks from the Eastern Adirondacks .............................. 0855

4 James W. Granath,* N. Barstow: Fold Growth and
Transposition in Metasedimentary Rocks of the South-
eastern Adirondacks ........................................ 0920

5 James McLellan,* Yngvar Isachsen: Structural Syn-
thestis of the Central and Southern Adirondacks,
New York .................................................. 0945

Recess .................................................................. 1010

6 Brian B. Turner: Polyphase Precambrian Deformation
in the Newcomb Quadrangle, Central Adirondack
Mountains, New York .............................................. 1020

7 Ennis P. Geraghty: Nappe Formation, Fold-Interference
Patterns, and Structural Evolution of the Blue Mountain
Area, Central Adirondack Mountains, New York .... 1045

8 E. J. Essene, J. W. Valley*: High Pressure Akermanite
in the Adirondacks .................................................. 1110

9 S. R. Bohlen, E. J. Essene*: Distribution Coefficient
Thermometry in Metamorphic Rocks—A Critical
Appraisal .......................................................... 1135

10 J. W. Valley, S. R. Bohlen*: A Petrogenetic Grid
for Adirondack Metamorphism ................................. 1200

SEMINAR: PALEOBIOLOGY OF SILURO-DEVONIAN
REEFS IN NORTHEASTERN NORTH AMERICA
Suite F, 0800 hours

Robert M. Finks, Convenor

The Seminar series was inaugurated last year by the North-
eastern Section of the Paleontological Society as a means of
bringing paleontologists up to date on recent work concerning
a specific topic. The Seminars lie somewhere between a short
course and a symposium. They are conceived of as a single unit,
the atmosphere is informal, and discussion is encouraged.
Although abstracts of the talks are presented in the abstract
section of the Program and the order of speakers is given,
specific times for each talk will not be listed, and participants
are encouraged to attend the entire half-day session.

1 Roger J. Cuffey,* Carolyn E. Davidheiser: Paleoeologic
Zonation within a Mid-Silurian (Rochester Shale) Patch Reef
near Lock Haven, Central Pennsylvania

2 Carlton E. Brett: Pelmatozoan Echinoderms and Faunal

Succession in Late Silurian (Wenlockian) Bioherms

3 Pierre-André Bourque: Evolution of a Silurian Reef Complex
in the Gaspé Peninsula, Northern Appalachians

4 Steven M. Warshauer,* Richard A. Smosna*: Congruent
Patch Reef Biofacies: A Comparison of the Mid-Appalachian
Devonian with Modern Florida Analogues

5 Peter E. Isaacson,* H. Allen Curran, Alexandra J. S. Smith:
Anatomy of Early Devonian Carbonate Buildups, Central
New York

6 Robert M. Finks,* Ira B. Lamster: Differential Coral Growth
in Onondaga Reefs

7 L. A. Williams: Physical and Biotic Controls in Thompsons
Lake Reef (Middle Devonian, New York State) and Their
Relevance to Community Succession Models

8 Don L. Kissling,* Robert M. Coughlin: Succession of Faunas
and Frameworks in Middle Devonian Pinacle Reefs of
South-Central New York

9 William A. Oliver, Jr.: Devonian “Reefs” in New York:
An Overview

10 Colin W. Stearn,* Gary P. Smith: Reef Development in the
Blue Flord Formation (Devonian) of Southwestern Ellesmere
Island, Arctic Canada

An informal discussion of the Seminar papers will continue
Thursday evening, March 1, 1900 to 2100 hours, in Suite E.

STRUCTURAL GEOLOGY AND TECTONICS I—
NEWFOUNDLAND, NOVA SCOTIA, AND MAINE
Suite E, 0800 hours

Harold Williams and David R. Wones, Presiding

1 K. Douglas Nelson: Stratigraphy in the Badger Bay–
Seal Bay Area of Western Notre Dame Bay, and Its Rela-
tionship to Ordovician Tectonics in Western
Newfoundland ......................................................... 0800

2 John T. Burnsall,* J. Hibbard: The Horse Islands
Group: An Extension of the Fleur de Lys Supergroup,
Newfoundland .......................................................... 0820

3 D. A. Knapp,* H. Williams: Ophiolitic Rocks along the
Baie Verte-Brompton Line at Grand Lake, Western
Newfoundland ......................................................... 0840

4 John F. Casey,* W.S.F. Kidd, Sylvana Pulaski:
Erosional Unconformity above the Bay of Islands
Ophiolite Complex and the Para-Allochthonous
Nature of Overlying Sedimentary Rocks ............. 0900

5 H. Scott Schillereff: Relationship among Rock Units
within and beneath the Humber Arm Allochthon at
Fox Island River, West Newfoundland ................. 0920

6 H. Williams: Relationships among Rock Groups at the
Leading Edge of the Humber Arm Allochthon,
Port au Port Peninsula, Newfoundland ............... 0940

7 J. Duncan Keppie: Precambrian Tectonics of Nova
Scotia .............................................................. 1000
abstracts
with
programs

Northeastern Section of
The Geological Society of America
14th Annual Meeting

with
THE NORTHEASTERN SECTION OF THE PALEONTOLOGICAL SOCIETY
and
THE EASTERN SECTION OF THE SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS

March 1–3, 1979
Hershey Motor Lodge
and Convention Center
Hershey, Pennsylvania