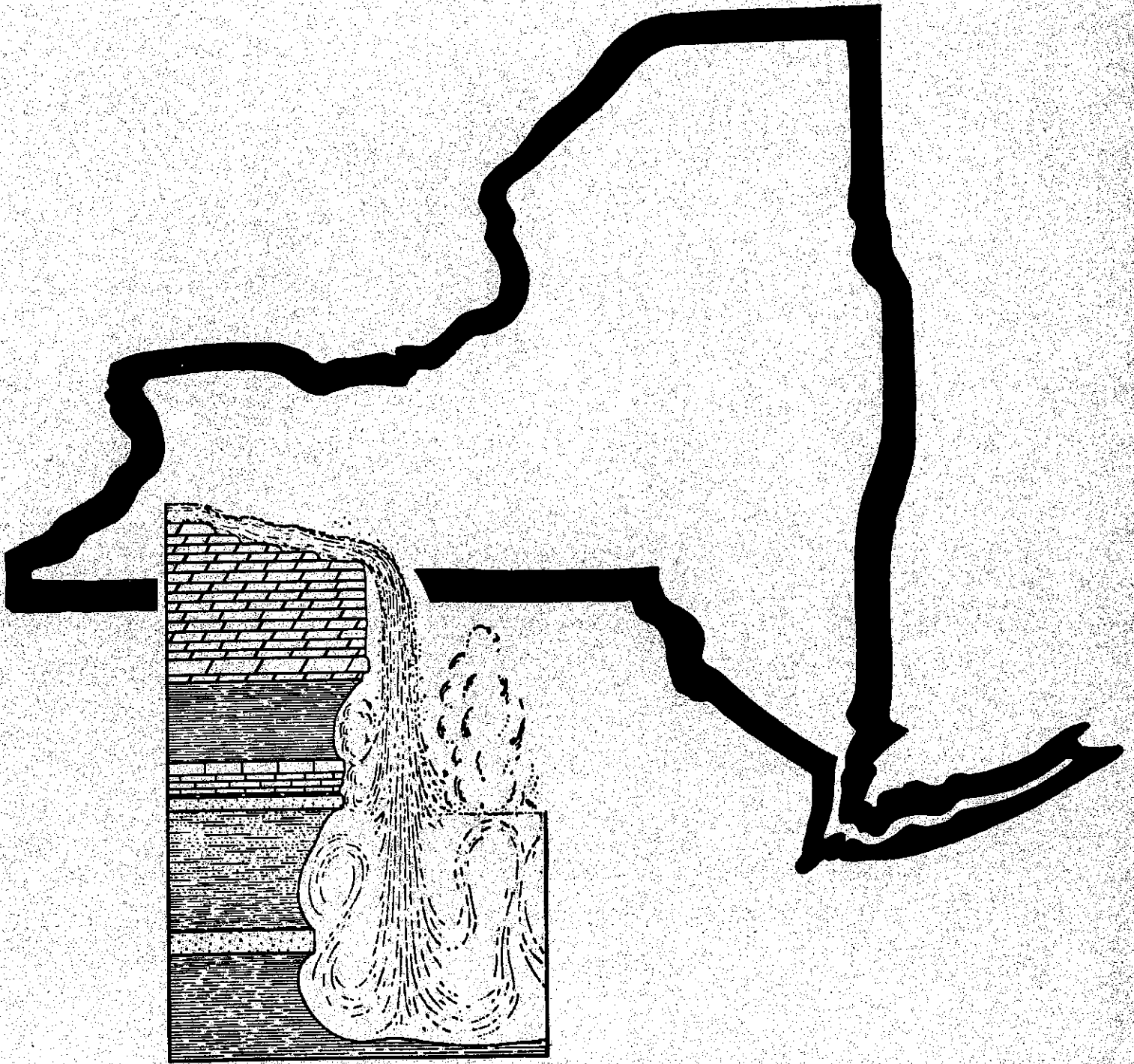


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EDITOR'S PAGE

This has been a very exciting year to be working on the Pleistocene stratigraphy of the Northeast - New York in particular. Many exciting projects - some ending and some beginning; two excellent meetings; the finest autumn foliage in many, many years - and more to look forward to. This March 6-7 the Northeast Section of the Geological Society of America will meet in Syracuse, New York; May 10-11 will see the Friends of the Pleistocene in eastern Pennsylvania; and May 14-17 the conference at the University of Waterloo on Quaternary non-marine Paleoecology.

In this issue there are reports of some new ventures just starting out, e.g. my new field course in Mexico and Ed Evenson's new field camp. Many projects have been wrapped up and are awaiting the presses, e.g. the Niagara Sheet by Ernie Muller and several Pennsylvania quadrangles by Bill Sevon and Tom Berg. And of course the environment is still a major concern of Bob Fakundiny, Kernan Davis, and Don Coates. We are happy that the Glaciogram is still a vehicle for reporting the tidings. However, Art Bloom suggests a possible reorientation.

On September 22-23 Don Coates hosted the Annual Geomorphology Symposium at SUNY/Binghamton and registration was "over the top" as usual. This year, in addition to the many well received papers, Don had the publication Glacial Geomorphology available at the symposium - quite an editorial feat. The Penrose Conference on Pleistocene Stratigraphy in the Northeast on Oct. 13-18 was tremendously exciting even though no formal publication will result. Ernie Muller hopes that many of the ideas generated will turn up in Syracuse in March. From all indications, the 60 Pleistocene stratigraphers found the 5½ days of concentrated discussions, built around social events and an epicurian menu, to be a unique and dynamic approach to communication. I think we all have a new concept for deglaciation of the Northeast which will be reflected in new stratigraphic models.

From the contributions contained herein it appears that the Glaciogram is still serving as a useful forum and Parker and I are happy to continue as your editors for this year. It is exciting times like these that remind me of Paul MacClintock. When we used to sit down together for lunch, overlooking the Champlain Valley, he would look around and say "Heh! And they pay us for this!"

We look forward to seeing you and hearing from you in the Spring.

G.G.C.

Robert F. Black

A review of available information on fossil ice-wedge casts inside the Wisconsinan border in New England and New York leads me to conclude that none is correctly identified. Climate wasn't as cold as some have suggested.

Arthur L. Bloom

My contribution must be philosophical, because I haven't been working in New York State recently. Why should the Glaciogram reward provinciality with the thrill for the contributor of seeing his/her name in print (even if only by mimeograph)? Shouldn't we be training students to have broader outlooks? A lesson of the GSA Penrose Conference was that researchers who get too involved with their own state/county/quadrangle/valley/gravel pit (multiple choice) can miss important regional implications. The pleasure of that conference was in seeing how regions fit together. How about it, Editors-why not take advantage of your strategic location near state and international borders and convert the Glaciogram into a mind-expanding prophylactic treatment for myopia and omphaloskepsis? There must be something going on in Antarctica, Canada, Maine, and Illinois that is important for New York State Quaternarists.

Ed.

Note contributions from Dick Goldthwait, Paul Karrow, Alan and Ann Morgan, Jane Forsyth, Bill Sevon and Tom Berg, Bob Black, George White, and Stanley Totten.

Most Antarctic workers are off in the field at this time. Langway and Calkin the local Antarctic contingent will contribute in the Spring issue.

Donald R. Coates

I was happy to see many of you at our Fifth Annual Geomorphology Symposium in September. The 374 participants that attended was the largest ever, and nearly overwhelmed us. The proceedings volume is published and contains many references to glaciation in New York such as the chapters by Cuchlaine King, Ernie Muller, Bob LaFleur, William Heroy, and Don Coates. The book can be purchased for \$8.50 postpaid (\$9.00 if billed) and is hard cover with 398 pages, entitled "Glacial Geomorphology".

My present project is reviewing the Quaternary stratigraphic relations in New York and Pennsylvania. I will be presenting a paper on this theme, with Jim Kirkland as co-author, at the Quaternary Stratigraphy Symposium. This meeting has been organized by Bill Mahaney and will be held in May 1975 at York University, Canada. I solicit any and all suggestions and information you may wish to divulge. Thus I call for your cooperation in an attempt to make the coverage as complete as possible. Please write me and let me know which of your publications you want me to reference along with any amendments or recent thoughts that could be included under your name. The paper will be a status report and will be published in the proceedings volume of the symposium. The purpose of the volume is to be an updating of the 1965 INQUA volume.

Another current project is the preparation for publication of the manuscripts of papers that will be presented at GSA-Miami Beach in the symposium I organized on "Urban Geomorphology". They will be published in a GSA-Memoir, and GSA will even permit me to add a few other papers because they feel the topic is timely and important. Therefore, if any of you have manuscripts that you feel are relevant please let me know immediately. I am aiming for an early publication so would need the manuscripts as soon as possible.

G. Gordon Connally

There is little new to report as far as New York and Pennsylvania go. Les and I have another date in the neighborhood of 12,800 at the base of the spruce zone in a bog near Saylorburg. As usual there is plenty of near-tundra pollen stratigraphy below the dated zone. We are going to core one final kettle, right on the Terminal Moraine, this winter and hope to have the data available for the Friends meeting in the Spring. Meanwhile, Jack Epstein and I hope to have the final check of the Saylorburg Quadrangle completed in the Spring so that it may go to press next summer.

My most exciting news concerns a new field program in Mexico. This summer we will offer a field research course on Coastal Plain Stratigraphy on the west Mexican coastal plain. We will have room for 14 students, either graduate or advanced undergraduate. In addition to our basic course they may register for a graduate course in Introductory Palynology with Les Sirkin or Problems in Sedimentation with Nick Coch who will help staff the project. The lecture-lab-field schedule will revolve around the active surface and subsurface research project initiated by me during the past two years. There will be three or four assistantships available for this summer and plenty of thesis problem if any of your students might be interested.

Kernan W. Davis

"What has fly ash to do with glacial geology?"

Fly ash is a waste product of the coal-fired furnace. Power plants will be producing fly ash in large quantities and will be creating surficial deposits of geologic significance (about 1/4 million tons per plant per year). Fly ash, extracted from the flue gases by electric precipitators, resemble loess, is pozzolanic, alkaline and rich in sulfate. Trace elements found in coal are concentrated in the ash. Fly ash chemistry is well documented, but the geochemistry of fly ash deposits is not well documented. The geologic behavior of the material, as a new soil, is not well documented. Research is needed.

Certain places tend to attract fly ash depositors: old quarries, sand pits, swamps, bogs and other tracts of unused land. Glacial geologists, in their meanderings across the State, may come across such deposits growing in their favorite exposures of Pleistocene deposits.

It would be much appreciated if you would drop me a line, telling me of the location and condition of fly ash deposits you encounter. Some water quality people in our Department have found unusual groups of dissolved solids in a stream near a new fly ash deposit. Perhaps you could lead us to other older deposits of ash.

I am in the business of evaluating the environmental impacts of power plant sites proposed by the power companies to the New York State Board on Electric Generation and the Environment. In addition, to fly ash production, such plants could, when built on the shore of a water body, alter the character and rate of beach erosion. Some might deplete or contaminate groundwater resources. The principles of sedimentation and groundwater hydrology are well documented, but the geologic character of large deposits of fly ash is largely unknown. Therefore, any sources of data or ideas for research would be greatly appreciated.

R. K. Fahnestock, at SUC Fredonia has already responded to my call, which I now extend to you colleagues.

Ed Evenson

Not having completed the transition to becoming an "Easterner" my work on the Quaternary is still restricted mainly to the mid-west and the Idaho Rockies.

One item that may be of interest to all of us training glacial geologists and geomorphologists is the field camp now being offered by Lehigh University. It is co-taught by Paul Myers (structural geology, petrology, stratigraphy) and myself (glacial geology, geomorphology, stratigraphy) and will travel to Idaho and Wyoming for six weeks of intensive study. Unique to this camp will be its almost equal attention to rock and surficial deposits. Glacial and Geomorphic features will be mapped along with structure and stratigraphy in an attempt to totally train students in field mapping. Type localities of the Pinedale and Bull Lake stades will be visited and students will have an opportunity to map extensive valley glacier deposits in the Idaho Rockies. At the same time all the traditional aspects of structural geology and rock stratigraphic mapping will be covered in detail.

I already have a full crew for the summer of '75, but in the future I expect to have some room for visitors from other universities. If you have a "special" student who would benefit from this type of field training, do not hesitate to have him/her contact us.

Robert H. Fakundiny

There are two recently enacted State laws that require geological investigations of surficial deposits as part of the evaluation of suitability of proposed sites for power plants or large-scale mining operations. Under Article VIII of the Public Service Law power plant site proposals are being submitted for State review at an accelerating rate. These must include a detailed study of the surficial deposits and to some extent a study of the soils at the site and a limited discussion of the regional glacial history, where necessary to set the framework for the site geology. The new State mine reclamation law, part of the Environmental Conservation Law, requires a study of surficial deposits for large-scale sand and gravel operations.

The Surficial Geology of New York State - Niagara Sheet (soon to be published by the State Geological Survey) and the Finger Lakes Sheet (now in preparation) are being compiled by Ernie Muller. These will be invaluable for setting the regional framework for western and central New York site studies.

My own studies of the sand and gravel situation in the Genesee/Finger Lakes Region are producing some ideas about methods for regional and county planners to predict the consequences of their plans upon the sand and gravel business. One method employs a map analysis of resources and reserves, transportation routes and their

changes, and predicted demand locations. These data are obtained on a confidential basis from a canvass of the operators. A set of market areas, each with its own internal market dynamics, is obtained by plotting the production-transportation-consumption patterns on a map. When new plans are proposed, such as a new limited-access highway (a transportation funnel at its ends and barrier along its path), a new residential area or industrial park (altered consumption patterns), or a new zoning regulation (altered production patterns), the changes in production-transportation-consumption that will result are evident. By comparing the altered market dynamics with available sand and gravel reserves, it is instantly seen from where new production must come. The sand and gravel industry can predict where it must search for new reserves, and local government can institute sequential land use plans to accomodate both the industry and the resident citizenry. The operator can continue to produce and the resident feels the least impact from truck truck traffic and dust from abandoned pits.

Jane Forsyth

Don't have a lot to report. Am continuing research into late-glacial history of Lake Erie and relation of plants to geologic substrate and history (specifically right now trying to determine reason for distribution of ancient wet praires in northwestern Wood County - county in which Bowling Green is located - and also evaluate possible use of certain plants as bases on which to map glacial geology). Lost some Ohio research time (and gained immeasurably other ways) by taking University of California Berkeley's 2-week course in "Swiss Alpine Botany and Ecology" in Switzerland, with 2 more weeks in the field "for review".

Richard P. Goldthwait

Things at Ohio State go on at the usual mad pace. Besides Alaskan-New Zealand research on analogues we have Marc Hoyer still beating details (mostly magnetic and clay mineralogy) out of the Minford Silts (really clay) in the Teays Valleys. These were once much thicker and have been mostly removed since middle Pleistocene time. Mike Quinn's treatise on Ross County is just done; it features four tills (3 are Wisconsin age from 21,300 to 17,00 B.P.) and very intricate invasions of ice tongues into the valleys of Appalachian low escarpment. Two loesses and five periods of outwash construction help deliniate the history. Now, at last, John McKeon is reading out a few glacial features from his satellite imagery tapes of Ohio.

Paul F. Karrow

Recent Research Activities at University of Waterloo

Anthropology

W. B. Roosa is continuing investigations of Paleo-Indian sites northwest of London, Ontario. A number of fluted points and other stone artifacts have been recovered and radiocarbon dating is anticipated.

Biology

Dr. B.A. Sreenivasa is now located at the University of New Brunswick where he is preparing manuscripts on his recent work at Waterloo on the midges of the Toronto interglacial and several postglacial pollen studies.

Brenda Hahn is studying the cladocera of the Toronto interglacial after a year's study in Russia.

Dr. Ann Morgan is continuing fossil beetles studies on interstadial and postglacial sites of the Great Lakes area. A manuscript is in preparation on the beetles of the Early Wisconsinan Scarborough Formation at Toronto.

Civil Engineering

Dr. O.L. White is currently engaged in shore erosion studies along Lake Ontario and Lake Huron, and urban geology of the Waterloo Region. A final report on the Pleistocene geology of the Bolton area will be published shortly by the Ontario Division of Mines.

Earth Sciences

Dr. Peter Fritz is studying the uptake of old carbon by fresh-water molluscs and its relationship to radiocarbon dating error, and postglacial oxygen and carbon isotope variation in Great Lakes bottom cores. Paleoclimatic reconstructions are being attempted. A radiocarbon laboratory was also established in the past year.

Dr. Paul F. Karrow completed the mapping of the Quaternary geology of the St. Mary's area for the Ontario Division of Mines. Preliminary maps have been published and a final report has been completed. Work continues on a final report of the Stratford-Conestogo area for the Geological Survey of Canada. A paper on the paleontology and chronology of Lake Algonquin is in press.

Biostratigraphic studies of molluscs from Lake Algonquin and Lake Nipissing are in progress jointly with Barry Miller of Kent State University. Graduate students are studying old tills near Waterloo, Precambrian clasts in tills as provenance indicators, till character of the Niagara Peninsula, physical properties of marine sediments near Rimouski, Quebec, and glacial and marine deposits Baie-Comeau to Sept Illes, Quebec.

Dr. Alan Morgan is continuing a regional study of fossil patterned ground, now known to occur widely in southwestern Ontario, and is studying till variations near Parkhill, Ontario. Joint investigations of fossil beetle sites in the Great Lakes area, are in progress with Dr. Anne Morgan.

Dr. David Lawson is on research leave in Scotland, engaged in a marine deep-sea drilling program in the north Sea.

University of Waterloo, Waterloo, Ontario
Conference on
Quaternary non-marine Paleocology
May 12-14, 1975

A two-day conference will consist of eight sessions each dealing with the contribution to paleoenvironmental reconstructions of a particular animal or plant group. Each session will begin with a review paper by a leading specialist to be followed by shorter papers on specific studies. Review papers will be presented as follows: beetles (G.R. Coope, University of Birmingham), ostracods (L.D. Delorme, Canada Centre for Inland Waters), molluscs (B.B. Miller, Kent State University), vertebrates (H.A. Semken, University of Iowa), pollen (M.B. Davis, Yale University), plant macrofossils (W.A. Watts, Trinity College, Dublin).

Following the indoor sessions there will be a one-day field trip to visit Late Quaternary interglacial and interstadial sites in the Toronto district.

The conference is timed to minimize travel inconvenience as it will immediately precede the three-day joint Annual Meeting of the Geological Association of Canada, and the north-central section of the Geological Society of America. At these meetings there will be sessions on geomorphology, and Quaternary Geology and a two-day trip will view glacial stratigraphy (including interstadial organic sites) and landforms of glaciation and glacial lakes between Waterloo and Lake Huron.

The Quaternary Paleocology Conference is jointly sponsored by the University of Waterloo and the National Research Council. For further information please contact P.F. Karrow or A.V. Morgan, Dept. of Earth Sciences, University of Waterloo, Waterloo, Ontario.

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The Quaternary Paleoecology Conference is jointly sponsored by the University of Waterloo and the National Research Council. For further information please contact P.F. Karrow or A.V. Morgan, Dept. of Earth Sciences, University of Waterloo, Waterloo, Ontario.

Alan and Anne Morgan

Anne and I have been continuing work on a number of sites in northern New York and southern Ontario for fossil beetle remains. Winter Gulf has produced some well preserved beetle fragments and this site needs a lot of further study. Lockport Gulf has produced a large number of insect fragments indicative of northern boreal forest conditions - some of the nearest modern distributions are as far as the Yukon today. Two Creeks, Wisconsin, is similarly producing a middle boreal forest fauna more typical of north-central Manitoba today.

The patterned ground story is continuing apace with polygon networks now being found at nearly 200 different localities in southern Ontario. It appears that these networks can be detected by resistivity runs and show up fairly clearly in test areas close to Waterloo. We are attempting to link the faunal studies to other climatically sensitive indicators to build up a late and post-glacial history of this northern N.Y. southwestern Ontario region.

Marie Morisawa and students

Research and monitoring of fluvial systems in the vicinity of Binghamton to determine the impact of man and how the river recovers from man's interference.

Study of geological landmarks on the Appalachia Plateau of New York and northeastern Pennsylvania. Development of criteria and methods of evaluation. Will complete a list by December 1974 for possible inclusion as National Landmarks by the Park Service. Any suggestions will be appreciated.

In final stages of two student studies on the south shore of Long Island:

- (1) effectiveness of groins on erosion and sedimentation (S. Gilje)
- (2) movement of beach sand in the foreshore zone (D. Ash).

Bruce E. Raemsch

On the following page is a preliminary interpretation of a boring taken beside West Creek at Hyndsville, New York for those who might be interested in early investigations of sediments by us in that area. Detailed information may be obtained from William W. Vernon, Department of Geology, Dickinson College, Carlisle, Pennsylvania. Dr. Vernon is doing x-ray diffraction and other studies on the materials from the coring operations. The apparent continuum represented in the enclosed diagram reflects a reconstruction put together from samples taken at about every three feet, sometimes less. We are interested, of course, in the age of the upper sediments because of the findings of human artifacts in association with them (GLACIOGRAM, May 1974).

More recently, we have decided to do a number of borings (to be done by Empire Soils, Inc., Groton, New York) which will remove a continuous column from the sediments down to bedrock and wondered if any of you would be interested in samples to work with in your own special Pleistocene studies. We plan the boring to bedrock for the summer of 1975, and then a series of shallower borings at another time.

Perhaps you would like to advise us of your special interests so that they might be taken into account as the borings are done; or you might have some advice to give which would benefit more complete studies as the coring operations proceed. Please let Vernon or myself hear from you if interested.

LOG INTERPRETATION OF CORE FROM CREEK LEVEL OF TIMLIN SITE (PRELIMINARY)

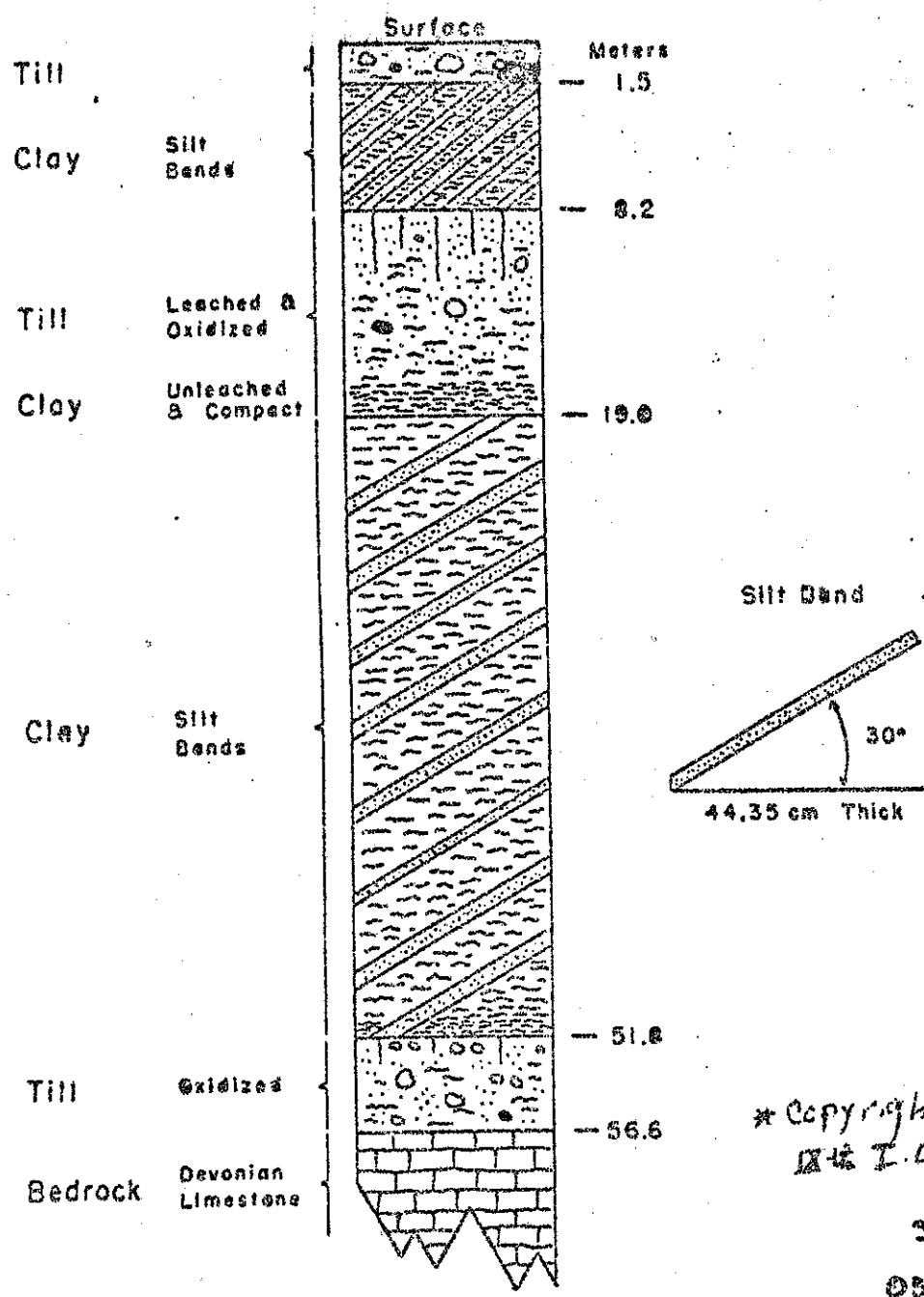


Table 2. Preliminary interpretation of the log of a single core taken from the Timlin site near West Creek and beside an earlier excavation at an elevation lower than the terrace worked during the summer of 1972, where an in situ assemblage of tools representing an occupation was discovered.

William Sevon & Thomas Berg

Since the April, 1973 Glaciogram, we have continued detailed field mapping of bedrock and surficial deposits in the 540 square miles of Pike County, Pennsylvania, and 1975 will be devoted to preparation of that report. Our work there has greatly expedited by the use of color aerial photographs (1:24,000) which we reported on in Baltimore (G.S.A. Abst. s/Prog., v. 5, no. 1, p.6) At the same meeting Sevon outlined our current understanding of glacial deposits in part of N.E. Pa. (ibid., p. 71). Although Pike County has an abundance of Late Wisconsinan deposits, we have yet to find any trace of glacial stratigraphy in the area. This lack of stratigraphy is dramatic in view of the abundance of stratigraphy present in northwestern Pa., and farther west. Absence of good exposure may contribute to this difference, but we suspect that the dynamics of glacial erosion in areas of contrasting terrain is more important.

We are presently compiling the bedrock and surficial geologic maps and reports for Pocono Pines, Mount Pocono (surficial geology in cooperation with Milena Bucek) and Skytop 7 1/2' quadrangles in Monroe Co., Pa. All of our previously mapped quadrangles are now on open file.

On October 31, the East Lawn Research Center, an informal, but sentimentally important establishment, was permanently closed. Located in Saylorsburg, Pa., this arm of the Pennsylvania Geological Survey was the center for a wide diversity of geological field investigations in northeastern Pennsylvania. Over the past ten years over 65 visitors had come to East Lawn Center to discuss and discourse upon the geology of northeastern Pennsylvania.

In May, 1975, G.H. Crowl, G.G. Connally and I will host the Friends of the Pleistocene trip and take a look at the "Late Wisconsinan drift border in Northeastern Pennsylvania". A similar trip will be run by Crowl, T.M. Berg and myself in October, 1975, for the Pennsylvania Field Geologists Conference.

Jaan Terasmae

STUDY OF BURIED VALLEYS IN SOUTHERN ONTARIO

A few years ago J. Terasmae carried out a drilling project with support from the Geological Survey of Canada, including geophysical studies, related to an investigation of buried valleys in southern Ontario. A number of boreholes were drilled and core samples

taken in the buried St. Davids gorge at Niagara Falls and in the buried Dundas valley at Hamilton. The study of core samples is now continuing. The bottom of the buried Dundas valley was found to be below sea level and it raised the question of an eastward outlet valley from the Lake Ontario basin. Two reports have been published on the progress of studies of the St. Davids buried gorge where pollen bearing sediments radiocarbon dated at $22,800 \pm 450$ years B.P. (GSC-816) were found.

Hobson, G.D. and Terasmae, J. 1969: Pleistocene geology of the buried St. Davids gorge, Niagara Falls, Ontario: geophysical and palynological studies. Geol. Survey Canada, Paper 68-67.

Karrow, P.F. and Terasmae, J. 1970: Pollen-bearing sediments of the St. Davids buried valley fill at the Whirlpool, Niagara River gorge, Ontario. Can. J. Earth Sciences, vol. 7, no. 2, pp. 539-542.

George W. White

George W. White, University of Illinois, and Stanley M. Totten, Hanover College, continued their field work in the Allegheny Plateau in northeastern Ohio during the summer of 1974. They completed the mapping of Ashtabula County, the most northeastern county in Ohio. The colored map, at a scale of 1 inch/1 mile, and the report are now in process, and will be submitted to the Survey in early 1975. The County is an interesting one, consisting of generally thin till in the Plateau, end moraines along the Plateau escarpment, lacustrine deposits and beaches in the Lake Plain. Extensive subsurface stratigraphic information was available from Corps of Engineers boring records, other engineering records, and water well records. Superhighway cuts and gorge sections provided additional stratigraphic data.

The map and report on Columbiana County by White and Totten based on field work completed in 1973, and the map and report on Mahoning County by Totten and White, also based on work completed in 1973, are now in press by the Survey.

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James F. Davis

I am working with Bob Dineen on completion of our investigation of the Upper Hudson Valley (south to Coeymans area) bedrock topography and drainage history. We hope to complete map and texts before the middle of 1975. I am trying to arrange for several research drill holes to be put through the surficial materials at critical locations. Bob and I will work on the interpretation of these results if we are able to acquire them.

Robert J. Dineen

I've completed field work on the bedrock topography study of the Hudson from Coeymans to Newburgh. Maps have been prepared showing the bedrock topography of the Upper Hudson from Coeymans north to Crown Point on Lake Champlain. The reports will be published in two or three parts ("The Bedrock Topography of the Upper Hudson Valley" and "Relationships of Bedrock Channels in the Coeymans Area" in collaboration with James Davis, and "Bedrock Topography of the Lower Hudson Valley").

Jim Davis and I have concluded that the primary control on the preglacial drainage was structure, with bedrock type being the second major control. The Hudson flowed south from the Lake George basin via the buried Colonie Channel, with a major tributary coming out of the Battenkill drainage basin. These two streams met the primary stream, the preglacial Mohawk, at Albany (Colonie Channel) and Ravena (Battenkill-Hudson Channel). A buried rapids or falls of preglacial or interglacial age lies between the Colonie-Mohawk and Battenkill-Hudson channels.

I have also prepared isopach maps of subsurface glacial units (till, ice-contact sand and gravel, and deltaic sand and gravel) for the Hudson Valley from Glens Falls to Ravens. Several subsurface gravel masses can be traced on these maps. These masses may be buried eskers. The "Luzerne Readvance" till ridge can be traced below Lake Albany sediments from Kings Station to Bacon Hill. This is entitled "Surficial Deposits in the Hudson Valley from Glens Falls to Albany."

I also have a paper in press dealing with the environmental and glacial geology of the Pine Bush area near Albany. This paper presents surface and subsurface maps of the glacial geology of the area and an evaluation of potential land use of the area based on the geologic maps.

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