

Thirteenth Annual Meeting
NEW YORK STATE GEOLOGICAL ASSOCIATION
Syracuse University, May 14 and 15, 1937

Final Notice

Standard Time will be used

FRIDAY, MAY 14

10:00 - 12:00

Parking to facilitate starting on the field trip after lunch please enter the campus on the east side between Sims Hall and Slocum Hall and park nearby.

Registration in the main lobby of Lyman Hall of Natural Science. A twenty-five cent fee entitles registrant to badge, program, and field guide.

Topographic maps showing routes of field trips may be had at cost so long as the supply lasts. Thirty sets of eight maps each will be available at 50 cents per set.

Arrangement for lodging for the night should be made. In addition to the hotels listed in the first announcement, several good tourist homes are located nearby on Genesee Street. These will be listed at the registration desk.

Tickets at \$1 each must be purchased for dinner reservations at 6:45 at the Drumlins Country Club.

Tickets at 55¢ each must be purchased to assure a box luncheon for Saturday.

Sign up for bus transportation if you prefer it to your own car.

Lyman Hall and the Museum on the top floor may be explored for a view of the destruction by fire and water on January 11th, and the partial restoration accomplished to date.

11:45

LUNCHEON in the College Commons (Slocum Hall next to Lyman Hall)

1:00 (sharp)

Leave on field trip for Jamesville, Lafayette, Tully Center, Vesper, Otisco, South Onondaga, and return to Syracuse.

Immediately after luncheon line up your cars heading south on Comstock Avenue south of Euclid Avenue preparatory for leaving on the afternoon field trip

6:45

DINNER at Drumlins Country Club. Please be prompt and seated at the tables by 7 o'clock as the room must be vacated at 8:30. The program will be continued in another room, followed by dancing.

SATURDAY, MAY 15

8:30 (sharp)

Leave on field trip northward. Cars should be lined up on the east side of Walnut Avenue opposite Walnut Park headed north.

Destination will be Watertown (or beyond for those who wish). Place for eating luncheon will depend on progress made. Details will be given in field guide.

N. B.

A passenger bus will be available for both Friday afternoon's and Saturday's trips if sufficient registration warrants.

FIELD GUIDE, NEW YORK STATE GEOLOGICAL ASSOCIATION
FRIDAY AFTERNOON, MAY 14, 1937.
South from Syracuse University

Syracuse University is situated on the escarpment which lies between the Allegheny Plateaus which extend to the south and the lake plain which extends northward and across Lake Ontario. The location of the escarpment is due to the outcropping edges of the southward dipping limestones of Silurian and Devonian age.

The effect of glaciation upon the topography of the area around Syracuse is due to the relationship of the low land over which the ice first moved and plateau against which the ice front impinged in its southward progress. Northward drainage of the streams along the plateau margin resulted in the ponding of waters by the glacier so that the northward opening valleys were occupied by glacial lakes when the ice front stood across the valleys north of the divide.

The sequence of lakes which occupied the several valleys in the vicinity of Syracuse has been the subject of some study at Syracuse University. The evidence of occupation of only one of the several plateau valleys by a succession of glacial lakes will be observed on this trip. These lakes lay in Onondaga Valley.

The table of formations found in this locality is below. The principal limestones are the Manlius of Silurian age and the Onondaga of Devonian age. On top of the limestones lies the Hamilton group of shales which have, along the top of the escarpment, been stripped from the limestones to make "The Onondaga Bench". The shales rise in a rolling upland topography to the general plateau level which ranges between fourteen and eighteen hundred feet above sea level within ten miles of the plateau escarpment.

The stratigraphic section underlying the route of this excursion begins with the Camillus shale which underlies the Syracuse Campus. Because the route will follow the plateau uplands and because the trip will be to the south, successively younger formations will underlie the route up through the stratigraphic section to the Tully limestone. If time permits a visit will be made to a quarry in the Tully.

GENERALIZED COLUMNAR SECTION FOR THE SYRACUSE REGION

<u>Thicknesses</u> <u>Approximate</u>	<u>Revised Subdivisions</u>	<u>Older Usage</u>
400'	Ithaca Sh. and Ss.	Ithaca
210'	Sherburne Flags	Sherburne
75'	Genesee Sh.	Genesee
25'	Tully Ls.	Tully
165'	Windom Sh.) H H) A A	
8'	Portland Point Ls.) M M) I I	Moscow Shale
220'	Ludlowville Sh.) L L) T T	Ludlowville
10'	Centerfield Horizon) O O) N N	
200'	Berwyn Sh.) G G	
40'	Pompey Sh.) R R) O O	Skaneateles Sh.
140'	Delhi Sh.) U U) P P	
5'	Mottville Ls.)	
160'	Cardiff Sh.	Cardiff
85'	Chittenango Sh.)	
3'	Cherry Valley Ls.) Cv.	Marcellus Sh.
15'	Union Springs Sh.)	

<u>Thicknesses Approximate</u>	<u>Revised Subdivisions</u>	<u>Older Usage</u>
100'	Onondaga Ls.	Onondaga
0-12'	Oriskany Ss.	Oriskany
6'	Bishops Brook Ls.)	Helderberg Ls.
16'	Pools Brook Ls.)	
16'	Jamesville Ls.)	
4'	Clark Reservation Ls.)	
	Elmwood C Waterlime)	Manlius Ls.
	Elmwood B Ls.)	
	Elmwood A Waterlime)	
77'	Olney Ls.)	
	Unnamed Ls.)	
16'	Rondout Waterlime	Rondout
6'	Cobleskill Dolomite	Cobleskill
6-10'	Bertie Waterlime	S A L I N A Bertie
25-63'	Upper Gypsum Member	
20-40'	Fiddlers Green Ls. Member	
500'	Lower Gypsum Member	G R
700'	Vernon Sh.	O U P Vernon
300'	Lockport Dolomite	P Lockport
10'	Clinton-Rochester Sh.	Clinton-Rochester

ITINERARY

The following are mostly running comments on observations which may be made en route. Some stops will be made where it is possible to observe either stratigraphy or topography to advantage. No attempt will be made to give field lectures to the group, but the several members of the Syracuse staff will be available to answer questions and discuss observations with visitors. The orange ribbon in the badge will identify these guides.

The route will be south from the campus along Comstock Avenue on which the cars will be lined up for the beginning of the trip. The party will follow the indicated route to East Onondaga to the intersection of Seneca Turnpike and Brighton Avenue where a right turn is made. The route crosses the intake end of the railroad cross channel, the origin of which is related to Clark Reservation plunge basin lake which will be seen later. An excellent view of this cross channel may be had from the cars.

OBSERVATION: At East Onondaga there are several small quarries in the limestones which armor the plateau escarpment. In the quarry to the left of Seneca Turnpike may be observed the Manlius waterlimes above the Olney member which extends to the bottom of the quarry. The upper strata at the west end may be observed to be disturbed, due to the presence of a fault which roughly parallels the south face of this quarry. The highest rock in the quarry is the Olney limestone.

The party will travel westward on Seneca Turnpike about two and one-half miles to Onondaga Hill.

OBSERVATION: Along the route descending the east wall of Onondaga Valley may be observed a fairly well developed terrace on the right. This lies at about the elevation of the intake of the railroad cross channel. Excavations in this terrace show the surface to be composed of sand and gravel. Westward the route crosses the broad, relatively level floor of Onondaga Valley. Views to the south and north will give some impression of the shape of the valley where it crosses the escarpment. At the top of the hill a view to the right overlooks the Onondaga Bench. In this place it is something over a mile in width.

OBSERVATION: The climb up the west wall of Onondaga Valley is through Hoppers Glen. This is a stream valley eroded through glacial material which includes sand and gravel strongly cross-bedded. Some of the material has been cemented so that ledges of glacial conglomerate stand out along the slopes to the right of the road, while massive boulders of the same material are found along the lower parts of the slope on the left of the road.

Onondaga County Tuberculosis Sanatorium is passed on the right. Follow through the village of Onondaga Hill, taking the left fork on the road, then to the first left turn onto a "stabilized" gravel road. "Stabilized" roads are the development of the Onondaga County Highway Department. The use of calcium chloride on an aggregate material of certain specifications produces a road surface which is water resistant and relatively dust free.

The road southward follows the South Onondaga Scenic Highway and lies about three miles across the plateau upland. From several places along the route excellent views may be had eastward (to the left) across the dissected plateau to the higher plateau ridges some miles away. The ground moraine along the route shows small upland ponds and swamps formed in till basins. The ground moraine is thick enough to obscure the bed rock for the first few miles, but the Hamilton shales appear at the surface near the high part of the route.

OBSERVATION: When the view westward opens up after crossing the hill crest the upper end of Cedarvale channel may be seen as a steep sided valley off to the west.

BRIEF STOP: This stop is made to permit a somewhat more detailed observation of the amphitheater-like head of the Cedarvale channel which appears to be possibly an extension of the southern part of Onondaga Valley. Entering this wider depression from the west is the narrower valley which has been cut in bed rock, largely in the Marcellus shale. At the foot of the hill may be seen the top of one of the deltas built into the ponded waters dammed in Onondaga Valley by ice which stood somewhat north of this point. The small summit which is most conspicuous from this place of observation is only part of a more extensive area which will be seen from lower down the slope.

The route lies on down the hill into the broader part of the Cedarvale channel and southward through the village of South Onondaga, thence up the hill on the south wall of this depression.

OBSERVATION: Note the gravel beds excavated in the material of this delta, and that these beds lie high on the slopes. The lower parts of the slopes in some places show glacial till and therefore this material is in part moraine.

The long rise to the plateau is called Lords Hill. On the right just around the first bend may be seen the coarse boulder and cobble gravel which is one phase of the deposits carried into the Onondaga Valley waters. A little further up the slope on the left red lake clays may be seen where they were left on the slope by the eddying waters. High on the slope glacial till forms the road cut.

STOP: Lords Hill Coral reef. This is one of the great Devonian coral reefs of New York. Several species, both colonial and simple, may be collected in a short time. The rock is the Ludlowville shale of the Hamilton group.

The route continues south over the dissected plateau upland through the village of Otisco, thence southeast to Vesper.

BRIEF STOP: About a mile beyond Vesper a brief stop will be made at the edge of the Tully moraine. At the foot of the moraine are The Solvay Process Company salt wells which will be observed to be in two groups near the valley walls. The center of the valley is filled with glacial material to below sea level and part of the salt has been removed by erosion. The moraine shows what appear to be ice contact slopes and the surface shows well developed knob and kettle topography. The shoulder on the west valley wall lies on the top of an accumulation of morainic material which is probably the continuation of the fill across the Onondaga Valley.

If time permits, the party will continue about one mile south along the road which lies close against the foot of the west valley wall. A brief stop will be made in a quarry in the Tully limestone. A short climb above the quarry leads to exposures of the Genesee Shale and the Sherburne flags. The flag stones occur abundantly in a small stream valley and occasionally swash marks and rill marks are found on the surface.

The route lies across the top of the Tully moraine to Tully Center.

OBSERVATION: Numerous kettle holes will be passed, many with small ponds or lakes in them.

From Tully Center the route lies northward along the side of Onondaga Valley from which excellent views can be had of Onondaga Valley, the Tully moraine, Dutch Hill and Dutch Hollow across the valley; and a thin veneer of moraine plastered on the right of the road.

Highway eleven will be followed to Lafayette, where a right turn will be made, and at the first intersection a left turn onto the Arsenal Hill road.

BRIEF STOP: About one-half mile from the intersection an excellent view is to be had of Butternut Valley. To the south may be seen Labrador Hollow. A moraine similar to the moraine on Onondaga Valley may be seen blocking the southern end of Butternut Valley.

The route lies northward along the Arsenal Hill road, crossing a depression which may have carried the drainage between the Onondaga and Butternut Valleys, the road about three miles north of the last stop swings west to avoid going down into the Loop Channel.

OBSERVATION: At the bottom of the long hill the entrance to the Loop Channel may be seen on the right. The route continues northward past the New York State College of Forestry experimental farm on the left, to East Onondaga where a sharp right turn is made onto the road leading to Clark Reservation.

STOP: At Clark Reservation. This plunge basin lake occupies the lower of two similar basins made by tandem water falls. Stratigraphers may be interested in going down the trail and steps from the rim shelter and observing the sequence downward from the Onondaga limestone. Others may be interested in making a circuit crossing the rim of the ancient cataract and going westward around the rim of the upper cataract. An attempt will be made to allow time for either one or the other of these excursions in the Reservation. The party should leave for the return to Syracuse not later than five-thirty.

Leaving Clark Reservation turn left and follow highway to Jamesville. Turn abruptly left after crossing railroad tracks in Jamesville and bear left along highway to road to right with under-pass under the railroad tracks. Turn right through under-pass and keep left on highway past Drumlins Country Club on left (where the Annual Dinner will be served at 6.45) and thence on Colvin Street to Comstock Avenue and north on Comstock to the Syracuse University campus.

NEW YORK STATE GEOLOGICAL ASSOCIATION
Syracuse University, May 14, 15, 1937.

Selected References

A. For Friday P.M. field trip:

1. Hopkins, T.C.: Geology of Syracuse Quadrangle.
N.Y. State Mus. Bull. 171. 1914.
2. Smith, Burnett: Influence of Erosion Intervals on the Manlius-Helderberg Series of Onondaga County, New York.
N.Y. State Mus. Bull. 281, 25-36. 1929.
3. Hartnagel, C.A.: Preliminary Observations on the Cobleskill (Coralline) Limestones of New York.
N.Y. State Mus. Bull. 69, 1109-75. 1903.
4. Clark, J.M. and Luther, D.D.: Geologic Map of the Tully Quadrangle.
N.Y. State Mus. Bull. 82. 1905.
5. Cooper, G. Arthur: Stratigraphy of the Hamilton Group of New York.
Amer. Jour. Sci., Vol. 19, Feb, Mar. 1930. pp 116-34, 214-36.
6. Trainer, D.W.: The Tully Limestone of Central New York.
N.Y. State Mus. Bull. 291. 1932.
7. Fairchild, H.L.: Glacial Waters in Central New York.
N.Y. State Mus. bull. 442. 1909.
8. Von Engel, D.O.: The Tully Glacial Series.
N.Y. State Mus. Bull. 227-228, pp 39-62. 1921.

B. For Saturday field trip:

1. Hopkins, T.C.: Geology of the Syracuse Quadrangle.
N.Y. State Mus. Bull. 171, 1914.
2. Ruedemann, Rudolf: The Utica and Lorraine Formations of New York.
Part 1, Stratigraphy. N.Y. State Mus. Bull. 253. 1925.
3. Kay, G. Marshall: Stratigraphy of the Trenton Group.
Bull. G.S.A. V. 48, pp 233-302. 1937.
4. Cushing, Fairchild, Ruedemann, and Smyth: Geology of the Thousand Islands Region.
N.Y. State Mus. Bull. 145, 1910.
5. Fairchild, H.L.: Glacial Waters in the Black and Ontario Valleys.
N.Y. State Mus. Bull. 16. 1909.