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Pleistocene Geology - Southeastern New Hampshire

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48th Annual Meeting of the New England Intercollegiate Geological Conference

PLEISTOCENE GEOLOGY - Southeastern New Hampshire

TIME: 8:45 A.M. Saturday, October 13, 1956

LEADERS: Donald H. Chapman and Edward Bradley

Assembly Point: The trip will leave from the middle of the parking lot, on the west side of U.S. Route 1, just south of Seybolt's Garage, at the intersection of Route 1 and Route 1 Bypass, Portsmouth, N. H. Trip should be leaving the same area at 8:30 A.M. Set your trip indicator at 0 miles.

Total		
Pt. to Pt.	Mileage	REMARKS
		Proceed south, on U S. Route 1, at
.2	.2	cross Sagamore Creek and salt marsh, and at
.1	.3	road rises onto ice contact slope of kame terrace, at
.3	.6	turn right on Elwyn Rd. just beyond Sunoco station, at
.4	1.0	turn left and park. Walk back to Portsmouth land-fill dump for STOP 1. Here clay bands may be seen inter- fingered and rising onto ice contact deposits.
		Continue south, and at
.4	1.4	pit east of road, possible STOP 1A - coarse, rotted rubble, slightly stratified, part of kame terrace around Peverly bed-rock hill. Continue south
.9	2.3	pits dug into clay horizon, and at
.2	2.5	Great Bog partially visible to west, beyond railroad, and is probably underlain by marine "clay" and at
.4	2.9	road passes onto bedrock and till hill, at
.1	3.0	turn left on Ocean Rd., probably on ground moraine, at
.6	3.6	road runs onto outwash plain, and at
.4	4.0	turn right onto Route 1, heading south, and at
.6	4.6	clay flats seen on both sides of road until
.7	5.3	where bedrock core of Breakfast Hill appears, and at
.2	5.5	turn right off Route 1, and at
.2	5.7	turn left into Coakley's sand and gravel pit and park for STOP 2. Here a congeliturbate (?) covers clean sorted and stratified gravels. Return to road, turn left
1.4	7.1	road reaches eastern limit of Greenland kame plain at Yeaton's greenhouse - lacks an ice contact slope, at
.6	7.7	turn left on Route 151, at
.7	8.4	possible ice contact slopes to right and left of road, at
.3	8.7	road drops off lobe of Greenland kame plain, crossing onto bedrock and till just south of Norton Brook, at
.8	9.5	Leave Dover quadrangle and enter Exeter quadrangle, at
.3	9.8	turn right, going west and at
.4	10.2	a kettle shows on the left in a small kame field. Clay flats are seen on the right as you pass back onto the Dover quadrangle, and at
.2	10.4	the road rises onto kame terrace, where weak kettles may be seen on the left, then on the right, and at
.3	10.7	a small knob is visible about 250 yards on the left, made of kame gravel and probably made by a kettle, at
.1	10.8	road passes over till core of hill, and then at

Trip B - Continued

- .2 11.0 passes back onto kame terrace. The kame terrace completely surrounds this drumlin-like hill, and at
- .5 11.5 the road rises up onto a kame, and at
- .1 11.6 turn right at cross roads and at
- .4 12.0 bear left, and at fork near Winneconic School
- .5 12.5 turn right, flats at turn may represent a wave terrace on the drumlin-like hill, at
- .3 12.8 turn left, clay flats are visible off to right, northeast, but road is still on terraced (?) flat, at
- .3 13.1 bear left, and at
- .4 13.5 road rises onto kame terrace (?), and at
- .5 14.0 pull off to right side of road and park for STOP 3.
A trail through the end of Stratham Hill exposes new materials - This flat region and ridge has been called a kame terrace and beach spit. Continue, and at
- .2 14.2 turn left on route 101, and at
- .6 14.8 turn left into park on west end of Stratham Hill for STOP 4. This hill is a drumlin and a stratified spit (?) may be seen extending to the south.
Return left on route 101, and at
- .8 15.6 turn right on road to Newmarket and Durham, at
- .3 15.9 sand over marine "clay" seen on right of road, and at
- .3 16.2 Squamscott River estuary shows at right, more sand over clay,
- .6 16.8 turn right on route 108. Great Bay is off to the right.
Continue north across the Squamscott River and at
- .5 17.3 turn left to Newfields
- .8 18.1 ice contact slope to left,
- .1 18.2 turn right out of Newfields, and at
- .5 18.7 start of till and bedrock exposures, bear left and at
- 2.8 21.5 cross railroad track - off Dover onto Pawtuckaway quadrangles and onto sand over clay deposits.
- .6 22.1 left turn on dirt road, still on sand over clay, and at
- .6 22.7 cross roads, turn left across railroad, go south across sand plains for
- 1.5 24.2 to crossing with Route 101, keep straight on bed road to
- .3 24.5 road goes up ice contact slope,
- .8 25.3 park for STOP 5. Wind blown (?) sands over stratified sand-also near border of Pawtuckaway and Hamstead topographic sheets. Continue south and at
- .3 25.6 turn right to
- 1.0 26.6 possible STOP 5A. Clay "terraces" on south side of road.
Continue west to
- 1.4 28.0 for STOP 6, outwash plain sediments. Continue for
- .1 28.1 turn right on route 125 and drive north to
- 3.9 32.0 W.S.Goodrich, Inc., Brick Works for STOP 7. You are now back on the Pawtuckaway quadrangle. Walk back into the clay pits; both old diggings and active pits.
Continue north on 125 (railroad track on old maps) at
- .4 32.4 cross route 101 at traffic light, continue on 125 to
- 1.1 33.5 right turn on dirt road - slow down - till hill on right with kame terraces surrounding it; both older than sand over clay. Continue to
- .5 34.0 possible STOP 7A, at sand pit; gently dipping medium to fine sand without coarse fraction. at

Trip B - Continued

- .5 34.5 turn right on tar road, cross Lamprey River, at
- .5 35.0 turn left on dirt road, running onto
- .2 35.2 a sand plain. Bald Hill drumlin lies ahead on the right, at
- 1.2 36.4 turn left,
- .7 37.1 bear right, sand dunes visible on left, at
- .2 37.3 possible STOP 7B. Thick outwash (?) sands with windblown
top and stratified base, and clay in river bottom,
- .5 37.8 up bedrock and till hill, and at
- 1.0 38.8 turn left on route 152, Wadley Falls, and
- .1 38.9 turn right over Lamprey River, more sand over clay (?), at
- 1.7 40.6 start of kame plain, bear right on 155, and at
- .8 41.4 turn right after graveyard in town of Lee, and at
- .1 41.5 road passes off ice contact slope of kame plains.
Trip also returns to Dover topographic sheet.
- .8 42.3 road runs up on kame terrace (?), at
- .1 42.4 the Wednesday Hill drumlin is seen on the left, surrounded
by a kame terrace, at
- .2 42.6 drive off ice contact slope, and at
- .5 43.1 turn left again at
- .6 43.7 turn left on tar road. Kame plain on right with large
kettle, Spruce Hole, and at
- .6 44.3 turn left, kame terrace ahead on right,
- .7 45.0 take right turn on route 155, and at
- .3 45.3 road passes Turtle Pond, a water filled kettle, at
- .9 46.2 go left on U.S. route 4, and at
- .4 46.6 turn right and park for gravel pit, STOP 8. This pit shows
a wide assortment of materials, including clay bands
and coarse gravels. Turn back on route 4, going east, at
- .4 47.0 turn left on route 155, and go to
- 2.3 49.3 Hicks Hill drumlin and wave cut (?) terrace, stay on 155 for
- .8 50.1 cross railroad tracks and turn right on Pudding Hill Road
which soon rises up on kame moraine (?). Open pits are
seen in kame gravels, and the road passes at
- 1.1 51.2 a kettle on the left, across the field. At
- .1 51.3 bear left, continuing past sand and gravel piles to
- .8 52.1 turn left on route 108 and again at
- .2 52.3 turn left into large sand and gravel pit for STOP 9. Watch
out for large trucks. This pit exhibits some fine
"crumpled" sands and also shows coarse material over
finer sands.

Dismissal Point: To return to Portsmouth, go left on 108 for 1 mile, pass over bridge and go up hill to right turn for entrance to Spaulding turnpike which will return you to Dover Point, U.S. route 4 and the Portsmouth traffic circle.