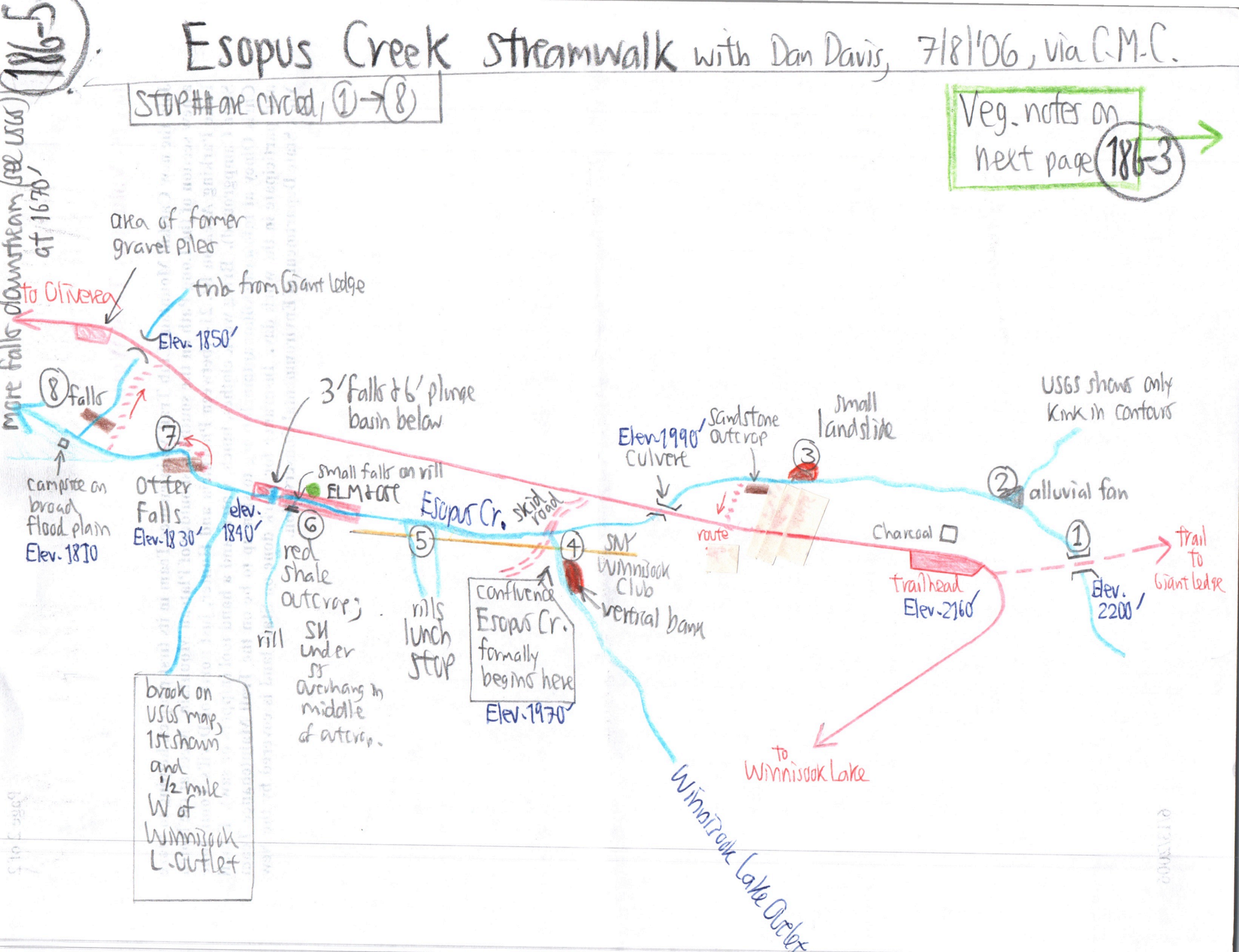
186-5

Esopus Creek Streamwalk with Dan Davis, 7/8/'06, via C.M.C.

STOP#s are circled, ①→⑧

Veg. notes on next page 186-3



Dan's timeline from a chart in his office → MK questions 18-10

Pleistocene 1 my → 12000 my.
Late Cretaceous, ~100 my → (Why not Miocene, 25 my?) "mysterious" uplift thrust Appalachians, then direction of plateau
Triassic-Jurassic, 250 to 145 my erosion to a flat plain
Pennsylvanian and Permian: 290 my Alleghanian Uplift ~~→ Appalachian Orogeny?~~
Devonian 408→360 my sedimentation

How do we know that there were 2 uplifts? 1st to form a plain? 2nd to direct it?

Postglacial Peekamoose Lake at Phoenicia was 200 to 300' deep with 200' of clay deposited in several hundred years, 1 varve/year. Outlet via Wagan Wheel Gap to Peekamoose Gorge.

Stop ① Terraces on both sides of bridge mark the level of the stream bed 15000 y when ice was stagnant over the whole region. Since then, stream has cut down ± 20 ft. Only headwaters streams can move boulders.

Stream form steps 40' to 80' apart, about 2 to 3x the channel width, not an even downgrade, uniformly sloping. Pools develop in level spots.

Catskills bedrock:

Sed's deposited here while seashore was in Oneonta–Binghamton area.
Conglomerate closer to Acadian Mtn. source
Sandstone makes stream channels.
Shale makes flood plain between the stream channels. Bob Titus refers to these as "soils" instead of alluvium.

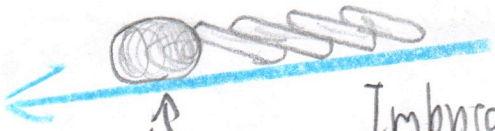
Stop ② Tributary created an alluvial fan because gradient of main stream was gentler.

STOP ③ Landslide, small on N.
Rotten rock boulder in stream, limonite-colored, and prob NOT from Catskills. Crumbles to touch. Dan says maybe a granite. (Maybe from Rte 9 cut betw. L. Leaser Wanensburg, or a similar rock?)
"Synclinal" structure in sandstone ledge is NOT a fold but a channel fill. Cross-bedding here, too.

leaf debris is removed by floods. Where it begins marks high water mark.

STOP ④ Below culvert under road, stream gradient becomes gentler and a pile of rocks was dropped here; especially in April 2005, some on 6/28/06.

STOP ③ Flat rocks pile up in stream bed slanting upstream. Lowest rock serves as a dam upon which the others rest.



dam rock

Imbricated

noted on Dry Brook near 2810, but cobbles more rounded.

STOP ④ Terrace on Wilmsook outlet is eroded almost to vertical
Step pools are more distant from each other here (see Stop ①)
Stream channels constantly change and can't move all its deposits.
Cause of brown flood waters. Shale bedrock → shale in till → clay in till washes into glaciolacustrine deposits → clay in stream suspended. Suspended particles like clay create stream turbidity

STOP ⑥ Stream on red shale bedrock. Joints in more planes than usual for the Cs could be from meteorite impact, followed by uplift. Downstream from ⑥ sandstone overhangs shale. Shales are more fossiliferous, have more O.M. than SS; one plant stem or root (?) obs. by MK. Green "blebs" in shale several inches across are patches of reduced iron (in contrast to red oxidized iron) where water prevented oxidation to form. Cracked shale suggests Devonian mudflat.
Nail in rock ledge S side of stream; can't be a mill site, in 2nd shale gave