

MEMO TO: File
FROM: Jeanette Stanley, Chemist, NC Superfund Section
SUBJECT: Sediment Samples – Falls Reservoir, Badin, NC
DATE: October 1, 2012

On Tuesday, September 25, 2012, Jim Bateson and I collected sediment samples in Falls Reservoir, below the Badin Lake Dam. We met Jason Green and Jeff Deberardinis, NC DWQ around 0915 at the Falls Reservoir boat ramp at the end of Falls Rd. They launched their boat and we proceeded upstream to just below the dam. There was minimal cell phone service in this area and the GPS unit would not take a reading. We decided to mark sample locations on an aerial photograph. We observed one boat with two fishermen in this area. We made four attempts to collect sediment samples near the dam and found rocks and gravel. We moved to a point between the main channel and spillway.

At 1050, we collected Falls 1 sample, just south of the spillway. The sediment was large grain (coarse grain sand & gravel with some pebbles and small clams). One photo was collected. Only one sample jar was collected. We had planned to collect samples to hold for subsequent analysis for grain size, depending on PCB results. However, due to the large grain size and difficulty in collecting one jar from location Falls 1, we did not collect a grain size sample at this location.

We motored downstream, and at 1110, we collected Falls 2 on the west bank of the lake below a large bolder. Photos taken. The sediment was a mix of medium-course sand with minor shells and gravel. Collected two 8 oz jars of sediment.

At 1137, we collected Falls 3 near the lower point of the second island between the spillway and main channel. Three jars were collected – Falls 3, Falls 3 duplicate, and one for subsequent grain size. The sediment was medium sand with algae, and minor shell material.

At 1205, we collected Falls 4 near the lower point of the third island between the spillway and main channel. Sediment was grey silty sand with some shell and organic material, some pebbles. We collected two sample containers.

Jason reported that as we have been motoring in the lake in these upper reaches, the fish finder has shown much bottom contour (up & down) indicating a rocky bottom. We concurred it was highly unlikely that a dredge could grab any sediment from lake center in these upper reaches. Jason will observe the fish finder as we proceed down the lake and look for a flat bottom.

At 1225, Falls 5 was collected in a small cove on the west bank. There is a small, walk-in camp site and rock fire pit. Very little trash observed – one beer can. Photos taken. We collected two sample containers. Leaf litter was removed from the surface sediment. Sediment was a dark grey fine sand/silt with abundant organic matter / oak leaves. Jason reported that the fish finder still indicated a rocky bottom in the lake center.

At 1245, we collected sample Falls 6 on the east bank, in the small recreation area for Uwharrie Forest. We collected two sample containers. Photographed canoe launch area and rope swing over lake. Sediment was a fine grain sand with some clay; pebbly.

At 1300, we collected sample Falls 7 in a small cove on the lake, just upstream from the boat launch cove. We collected two sample containers. The sediment was silt and clay, organic rich, with some leaf litter.

At 1312, we collected Falls 8 sample on the north shore side of the boat launch cove, about ½ way between the boat launch and the main lake. We collected three sample jars – sample, a duplicate, and a jar for potential future grain size analysis. Sediment has sample appearance as Falls 7.

At 1330, we collected Falls 9 on the south side of this cove, almost opposite of Falls 8. Sediment had same appearance as Falls 7 & Falls 8. Collected two sample jars – both for sample analysis (sample + extra volume for MS/MSD). No grain size collected at this location.

At 1350, we collected Falls 10 in the center / mouth of the boat launch cove using a ponar dredge. (All other samples were collected with a scoop attached to a pole.) The dredge was removed from the sealed bag before collecting the sample. Sediment appearance was similar to Falls 7, 8 & 9 only slightly more silty and slightly elastic. We collected two sample containers, one for PCB analysis and one for potential future grain size analysis.

We proceeded to the lake center below the boat launch. The fish finder indicated the lake bottom was flat. We dropped a clean ponar dredge numerous times at two locations in about 61'-deep water and retrieved no sediment. We believed at this point, we were hitting bedrock. We cancelled the 2nd planned center-channel sample. We drove the boat around the lake looking for other possible sample locations and noted 3 – 4 fishing boats in the lake. The western shoreline was a rock wall – at ~20' from this shore/wall, the lake was 40' deep. In the lake center in front of the dam, the lake was 72' deep. We located the canoe portage on the east bank near the dam and attempted to collect a sediment sample; however, it was all gravel. We decided we had collected sediment samples at all possible locations and at 1430, we headed back to the boat launch.