**Sediment Characterization**

Sediments were wet sieved, thoroughly rinsed with deionized water, oven-dried, and stored in a closed container before use. Sediment characterization was performed in the Laboratory for Environmental Analysis at the University of Georgia (Athens, GA). Total organic carbon was analyzed with a LECO CNS-2000 analyzer. Particle size distribution was determined using the hydrometer method, and pH measurements were made in a 5% slurry. Mineralogical analyses were performed on a Brucker D8-Advanced multi-purpose X-ray diffraction system. The bulk data were collected over a range of 2 to 70° 2θ using a Co-Kα source, and the diffraction patterns were matched to the International Centre for Diffraction Data (ICDD) Powder Diffraction Files (PDF).

Table 1. Major properties of sediments.

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|  Lake Waccamaw Yadkin River Lake Barco |
| Particle size distribution(% sand, silt, clay) | 99.2-0.4-0.4 | 87.6-8.0-4.4 | 99.6-0.0-0.4 |
| Organic carbon (% by weight) | 0.08 | 0.18 | 0.16 |
| pH | 4.69 | 5.62 | 4.81 |
| Mineralogy |  | quartz | mostly quartz, with smaller amounts of kaolinite, calcite, and various micas and feldspars. | quartz |
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