Sediment via Eckman Dredge

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1.1 Dredge Preparation and Deployment

1. Set cleaned dredge (scrubbed and rinsed with tap water) to trigger upon contact with the sediment.
2. Lower the dredge to approximately 2 m above the sediment; then release line to allow free-fall of dredge.

1.2 Dredge Retrieval

1. Recover the dredge using a winch or by hand.
2. Gently pour off supernatant, aspirating the last 4 cm using a syringe.

1.3 Sample Retrieval

1. Put on powderless Nitrile gloves.
2. Label sample jar with site ID, date, time, and sample designation code, and cover label with clear packaging tape.
3. Examine the sediment surface; a brownish ooze should be present on the surface if retrieval was performed correctly.
4. Using a plastic spoon, gently remove the organic-rich ooze from the surface of the sediment.
5. Place the ooze inside a chemically clean jar, preferably leaving only 10% of the volume as headspace by the time the third addition is made (see step 7 below). Replace lid between additions.
6. Collect a sample of the sediment from below the ooze layer to 5 cm sediment depth and put into chemically clean plastic jar for mixing with additional two dredge samples (see step 7 below). Replace lid between additions.
7. Repeat the dredge retrieval and sample retrieval procedure twice at the same location. Mix the samples to form a homogeneous composite of the three samples of

ooze layer and a homogeneous composite of the three samples of mineral sediment to form one sample of each. Fill sample jars to allow about 10% headspace.

8. Thoroughly rinse dredge in lake water before re-deployment.

1.4 Sample Storage

1. Hold samples in cooler with ice while in field.
2. In laboratory, split the sample into 20-mL plastic centrifuge tubes leaving 10% headspace to allow expansion for samples that will be frozen.
3. Ensure that the jar and the bottles are labeled properly with date, time, site ID and sample code.
4. Freeze samples during holding for total Se and TOC analysis, and refrigerate duplicates during holding for FFF analysis.