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2004

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Noah P. Snyder  
*U.S. Geological Survey*

James R. Allen  
*U.S. Geological Survey*

Carlin Dare  
*U.S. Geological Survey*

Margaret A. Hampton  
*U.S. Geological Survey*

Gary Schneider  
*U.S. Geological Survey*

*See next page for additional authors*

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Snyder, Noah P.; Allen, James R.; Dare, Carlin; Hampton, Margaret A.; Schneider, Gary; Wooley, Ryan J.; Alpers, Charles N.; and Marvin-DiPasquale, Mark C., "Sediment grain-size and loss-on-ignition analyses from 2002 Englebright Lake coring and sampling campaigns" (2004). *Publications of the US Geological Survey*. 58.

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**Authors**

Noah P. Snyder, James R. Allen, Carlin Dare, Margaret A. Hampton, Gary Schneider, Ryan J. Wooley, Charles N. Alpers, and Mark C. Marvin-DiPasquale



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By Noah P. Snyder<sup>1</sup>,  
James R. Allen<sup>2</sup>,  
Carlin Dare<sup>2</sup>,  
Margaret A. Hampton<sup>1</sup>,  
Gary Schneider<sup>2</sup>,  
Ryan J. Wooley<sup>2</sup>,  
Charles N. Alpers<sup>3</sup>, and  
Mark C. Marvin-DiPasquale<sup>2</sup>

Open-File Report 2004-1080

2004



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U.S. Department of the Interior  
U.S. Geological Survey

<sup>1</sup>Santa Cruz, CA

<sup>2</sup>Menlo Park, CA

<sup>3</sup>Sacramento, CA



1879–2004

## **Sediment grain-size and loss-on-ignition analyses from 2002 Englebright Lake coring and sampling campaigns**

USGS Open-File Report 2004-1080

Noah P. Snyder<sup>1</sup>  
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Charles N. Alpers<sup>3</sup>  
Mark C. Marvin DiPasquale<sup>2</sup>

<sup>1</sup>Santa Cruz, CA

<sup>2</sup>Menlo Park, CA

<sup>3</sup>Sacramento, CA

### **ABSTRACT**

This report presents sedimentologic data from three 2002 sampling campaigns conducted in Englebright Lake on the Yuba River in northern California. This work was done to assess the properties of the material deposited in the reservoir between completion of Englebright Dam in 1940 and 2002, as part of the Upper Yuba River Studies Program. Included are the results of grain-size-distribution and loss-on-ignition analyses for 561 samples, as well as an error analysis based on replicate pairs of subsamples.

### **INTRODUCTION**

Beginning in 2001, the California Bay-Delta Authority (CBDA, formerly the California-Federal Bay-Delta Program or CALFED) has sponsored the Upper Yuba River Studies Program (UYRSP, <http://www.nasites.com/pam/yuba/>), an investigation of the feasibility of introducing anadromous fish species to the Yuba River system upstream of Englebright Dam (Figure 1). The UYRSP has six scopes of work: sediment, water quality, habitat, flood risk, water supply and hydropower, and economics. To achieve the UYRSP objective of fish passage, some of the future management scenarios under consideration include lowering or removing the dam. Any reduction in size of the dam would result in some change in the sediment regime of the lower Yuba River, and could cause the release of material presently stored in the reservoir. This potential increased sediment load could exacerbate existing physical and chemical hazards in the lower Yuba River area. Sediment deposition could raise riverbed elevations and therefore increase flood risk in the valley around Marysville (Figure 1). Because much of the stored material is likely derived from historical gold mining areas in the Yuba River watershed (James, 2004), it may contain high concentrations of mercury (Hg) that was lost during gold mining and recovery operations (Alpers and Hunerlach, 2000). The release of Hg-rich sediment from the reservoir could increase the amount of Hg available for bioaccumulation in downstream areas. The ability to make accurate predictions of the fate and transport of the material stored in Englebright Lake is critical to assessing the feasibility of various future dam-

management scenarios. This report presents data from three 2002 sediment-sampling campaigns undertaken to characterize the three-dimensional distribution of sediment grain-size and organic content in the reservoir (Tables 1 and 2).

Harry L. Englebright Lake (Englebright Lake; Figure 1) is a 14-kilometer-long reservoir located on the Yuba River in the Sierra Nevada foothills of northern California. The reservoir is impounded by Englebright Dam, which is 80 m tall, and was completed in December 1940 by the California Debris Commission. Its primary purpose was to help mitigate flood risk in the Central Valley around Marysville by impounding sediment from anticipated future hydraulic-mining activity in the watershed upstream. At present, the reservoir is a popular destination for recreational boaters and campers, and is a site for hydroelectric power generation. The reservoir also serves as an afterbay for peak power generation at the Colgate Powerhouse, which receives water from New Bullards Bar Reservoir on the North Yuba River (Figure 1). A previous report as part of this study describing lake bathymetry and pre-dam Yuba River topography (Childs and others, 2003) found that in 2001 the reservoir contained 21,890,000 m<sup>3</sup> of material deposited since the dam was completed, reducing the original storage capacity (85,970,000 m<sup>3</sup>) by 25.5%.

## **RESERVOIR SEDIMENT SAMPLING**

To characterize the geochemistry and physical properties of the reservoir sediments, three sediment-sampling campaigns were conducted in 2002 (Figures 2 and 3, Tables 1 and 2). The first, a reconnaissance effort using grab-sampling equipment was done in April. The second, a large mobilization with a hydraulic-piston coring rig was done in May-June. The third focused on surficial sediment using box and gravity cores, and was done in October. In all cases, sample locations were measured using differential global positioning system (DGPS) equipment (Childs and others, 2003). The sampling strategies for all three are described below.

### **Reconnaissance sampling (April 2002, USGS project F-1-02-NC; Table 3)**

The first sediment-sampling campaign was focused on identifying downstream changes in the surficial grain size of the reservoir deposits. The primary purpose was to aid in designing the sample-location strategy during the May-June deep coring campaign. Samples were taken with a small Van Veen clamshell sampler at 14 locations along the longitudinal axis of the reservoir, spaced approximately 1 km apart. Grab samples were not collected at all analysis stations, therefore the site numbering scheme is discontinuous (Figure 2; Table 3). In most cases, at least two subsamples were taken for grain-size analysis: the unconsolidated fine-grained surficial layer (1-3 cm thick), and a more consolidated integrated sample from below this surficial layer (5-10 cm thick). Additional information on F-1-02-NC is available at <http://walrus.wr.usgs.gov/infobank/f/f102nc/html/f-1-02-nc.meta.html>.

### **Deep coring campaign (May-June 2002, USGS/DOSECC project GLAD3-ENG02; Tables 4-6)**

The purpose of the deep coring project was to sample the entire post-dam sediment thickness in a variety of locations in Englebright Lake. Most of the results presented herein are from this campaign, conducted by the U.S. Geological Survey and the DOSECC (Drilling, Observation, and Sampling of the Earth's Continental Crust, <http://www.dosecc.org/>) research drilling company. Field and laboratory coring methodologies are discussed by Snyder and others (2004). Additional information is available at <http://walrus.wr.usgs.gov/infobank/g/g102nc/html/g-1-02-nc.meta.html>. Boreholes were made at 7 locations along the longitudinal axis of the reservoir (Figure 2, Table 2). At each location, 2 to 5 boreholes were made, spaced approximately 5-10 m apart (Figure 3), with the goal of complete recovery of the entire sedimentary section in each location by collection of redundant material.

After the initial logging and descriptions phase was completed for most of the core sections, the core depth estimates were refined, and then resulting stratigraphy for each hole was graphed and plotted (Snyder and others, 2004). This descriptive stratigraphy formed the basis for subsampling the cores in a manner that sought to retrieve as continuous a set of material as possible. At each location, the material comprising a composite borehole section was termed the “Y” series of subsamples (for example, the series collected at site 1 from boreholes 1A, 1B, 1C, and 1D was 1Y; Table 4). Each subsample was mixed thoroughly by stirring and was split into several subsamples for analyses of grain-size distribution, loss-on-ignition (LOI), and trace metals including total mercury concentration. Another set of subsamples (the “X” series) was collected for  $^{137}\text{Cs}$  and  $^{210}\text{Pb}$  geochronological analyses along the same intervals, but with greater frequency in some instances. Subsamples from the X-series were also used for LOI analyses at sites 4 and 7 (Figure 2; Table 4). The first step in the subsampling for each coring location was to identify a “master” hole that included the most complete recovery, to be used for subsampling as much as possible to minimize the uncertainty created by correlations. Each subsample included about 10-100 cm of material, with the length determined by the stratigraphy. The first subsample collected from each coring location was the material interpreted to be the uppermost recovered, as estimated by the properties of the material (fine grained, poorly consolidated, high water content) and the core depths. The subsampling then continued in the same core whenever possible, shifting to adjacent holes at the gaps between cores when necessary. These shifts were based upon direct, visual correlations of the stratigraphy wherever possible, and were made using the core-depth-interval estimates when the visual correlations could not be made with confidence. Rarely, short gaps in the series of subsamples were unavoidable due to incomplete recovery of a specific stratigraphic unit from all of the parallel holes. At the base of each coring location an effort was made to include the lowermost material recovered, generally based on the core-depth estimates. After subsampling was completed for each coring location, the depth interval for each subsample was computed based on the “master” hole that contained the majority of the material.

Subsamples were also taken from various intervals in the deep cores for other geochemical analyses, including methyl-Hg and total Hg concentration (MEM; Table 5), and Hg methylation-demethylation potential (MDP; Table 6). Each of these subsamples was split and analyzed for grain-size distribution (Tables 5 and 6), and the MEM subsamples were also analyzed for loss on ignition, a proxy for organic content (LOI; Table 5). The results of the mercury and other geochemical analyses will be presented elsewhere.

### **Shallow coring campaign (October 2002; Tables 7-8)**

The purpose of the shallow coring project was to sample in detail the most recently deposited sediment in the reservoir. During the campaign, 29 box cores (Table 7) and 21 gravity cores (Table 8) were taken at 11 locations throughout the reservoir (Figure 2; Table 2). The top ~12 cm of the box cores (representing the youngest material in the reservoir) were subsampled immediately after coring for grain-size distribution and organic-content analysis (presented herein), and geochemical analyses (including Hg and methyl-Hg, trace elements, and  $^7\text{Be}$  to be presented elsewhere). A series of box and gravity cores were taken along transverse sections on the lake floor at 3 locations (Figures 2 and 3, Table 2). These provided a means of testing the degree of lateral variability in sediment grain-size and geochemical properties. The gravity cores from these three transects (sites 10-12) were subsampled for grain-size and organic-content analysis. Depending on the stratigraphy recovered, up to two subsamples were taken from some of the site 10 and 12 gravity cores, with a top sample (1) of surficial fine-grained sediment and a bottom sample (2) of underlying sand. Additional information is available at <http://walrus.wr.usgs.gov/infobank/h/h102nc/html/h-1-02-nc.meta.html>.

## GRAIN-SIZE ANALYSIS

Calculation of precise, intercomparable grain sizes for the sediment deposited in the reservoir was a critical part of the project. To ensure data quality, each sample was processed in the laboratory using the same sequence of steps. Two types of replicate subsamples were used to quantify analytical uncertainty: core replicates (labeled 1 of 2 and 2 of 2) and laboratory replicates (labeled with an "R"). Core replicates were identical pairs either sampled separately over the same intervals from the grab sampler (Table 3), or split by mixing and cutting a single subsample immediately after removing the sample from the deep, box, or gravity cores (Tables 4, 5, 7, and 8). Laboratory replicates were split from a single subsample at the beginning of the laboratory analysis (Tables 3-5, 7-8).

### Laboratory methods

Each grain-size analysis followed the same protocol. First, a group of 10 subsamples, including at least one core or laboratory replicate, were gathered together to form an analysis batch. The average dry weight of sediment analyzed was about 25 g for the samples taken specifically for grain-size analysis (grabs, Y-series, gravity cores) and 11-12 g for the other samples (MEM, box cores; Table 1). Each sample was washed out of its storage container into a glass beaker with distilled water. Next, organics were moved by oxidative treatment with approximately 30 ml of 30% hydrogen peroxide ( $H_2O_2$ ) overnight (or longer, if necessary based on visual inspection). After the oxidation reaction was complete, excess  $H_2O_2$  was removed by boiling the sample. Salts were then removed by centrifuge and decanting. The coarse sand and gravel were removed by wet sieving using 2, 1.4, and 1 mm (-1, -0.5, 0  $\phi$ ) sieves. This sediment was dried and weighed. For samples containing gravel, the intermediate axis of the largest particle was measured to improve the interpolation of grain-size distributions.

The sediment <1 mm was then dispersed using 5 ml of 10% sodium hexametaphosphate ( $(NaPO_3)_6$ ), agitated, and allowed to sit overnight. For each batch of 10 subsamples, 3 measurements were averaged to compute the dry weight of the added  $(NaPO_3)_6$ . Next, the processed <1 mm sediment was agitated again, and a representative sample removed from suspension using a pipette. This sediment and liquid were then placed into the Beckman-Coulter LS 100Q particle-size analyzer outfitted with a variable-speed module (<http://walrus.wr.usgs.gov/infobank/programs/html/facilities/mp/15.3/m3009a.html>). If necessary, one or more additional representative samples were used to increase the amount of suspended sediment in the instrument to the optimal range (8-12% obscuration). This obscuration corresponds to approximately 0.1 g of dry sediment for fine-grained samples and to >1 g for sandy samples. The instrument was then run three times, and the average of the 3 runs was used as the output grain-size distribution. The sediment run through the instrument as well as the remaining <1 mm sediment was then dried and weighed.

Grain-size statistics were calculated using a computer program called SDSZ (McHendrie and Madison, 1989) based on 0.5  $\phi$  intervals from 11.5  $\phi$  (0.345  $\mu m$ ; the smallest size the instrument can analyze is 0.375  $\mu m$ ) to -1  $\phi$  (>2 mm). The input data to SDSZ were interpolated grain-size distribution distributions output from the particle-size analyzer for the material <1 mm, and the weights of the <1, 1-1.4, 1.4-2, and >2 mm size fractions (corrected for added  $(NaPO_3)_6$  as necessary). SDSZ calculates a full series of grain-size statistics (in  $\phi$ ) including the four moments (mean, variance, skewness, and kurtosis) and several graphical methods (Trask, 1930; Folk and Ward, 1957; Inman, 1962). Only a subset of these data is included here, with median, mean, and standard deviation (the square root of the variance) converted from  $\phi$  to mm (Tables 3-8).

A table comparing  $\phi$  to mm and other measurements of sieve sizes is available as Figure 9 in Poppe and others (2000).

## Results

Tables 3-8 present the results of the grain-size and loss-on-ignition analyses. Taken as a whole, all of the sample series show the downstream-fining trend of the reservoir deposit (Snyder and Hampton, 2003). For the surficial grab samples (Table 3), the median grain size ranges from 0.006 mm (subsamples grab26top, grab31fluff, and grab31top) to 2.1 mm (subsample grab15int-2of2). For the box cores (Table 7), the median grain size ranges from 0.006 mm (subsamples GS 231 and 232, the top 0-1 cm and 1-2 cm from core 11F-B) to 0.08 mm (subsample GS 248, the basal 4-5.5 cm of core 12C-B). In the gravity cores (Table 8), the range of median grain size is 0.007 mm (11A-1G-1) to 0.7 mm (12D-1G-2). Figures 4-10 show the series of 7 vertical sediment sections from the deep coring, in order from downstream to upstream. In the upstream part of the reservoir (sections 8Y, 9Y, 7Y, and 4Y), the sediment sections generally coarsen upward, with median grain size ranging from 0.01 mm (subsamples 7Y-62, 7Y-63, and 7Y-67) to >2 mm in two 9Y and six 8Y subsamples. In the downstream part of the reservoir (sections 6Y and 1Y) the sediment is dominantly silt, and median grain size ranges from 0.006 mm (subsample 1Y-17) to 0.04 mm (subsample 6Y-7). Recovery of sediment was limited to the top ~1.5 m in the farthest upstream part of the reservoir (Snyder and others, 2004), so section 2Y does not represent a full vertical section of the reservoir deposit.

## Uncertainty analysis

The reproducibility of the 561 grain-size analyses was evaluated using 54 replicate subsamples (Tables 1, 9). Of these, 45 were laboratory replicates split at the beginning of the analysis and 9 were core replicates initially subsampled as identical pairs. The measurement of uncertainty is focused on the replicate analyses of six size parameters: percent gravel, sand, silt, and clay, median ( $D_{50}$ ), and mean. For the percentage statistics, the absolute value of the difference between the two replicates ( $|R1-R2|$ ) is evaluated. For the median and mean grain size, the absolute value of the difference between the two replicates in  $\phi$  units is evaluated, along with the relative percent difference (RPD) of the grain size in mm. The RPD is defined as the absolute value of the difference over the mean of the two replicates. Overall, the 54 replicate pairs yield an average difference from 9.13 (% gravel) to 0.74 (% clay; Table 9). The higher variability in the gravel fraction is expected because individual grains can make up such a large part of the total weight of the subsample. For example, one 10-mm-diameter spherical quartz clast weighs 1.4 g, or ~5-10% of a typical sample. The median grain size has a mean difference of 0.19  $\phi$ , which corresponds to an RPD of 12.9%; the comparables values for the mean grain size are 0.20  $\phi$  and 13.8%, respectively. Because of the relatively large uncertainty associated with gravel-bearing samples, a subset of the samples without gravel was also considered. The gravel-free samples show a lower mean difference with regard to the median (0.10  $\phi$  or 7.0%) and the mean (0.15  $\phi$  or 10.2%).

Careful analysis of replicate grain-size histograms indicates that a similar (but less severe) problem to the one for gravelly samples exists for sand (Figure 11). A single 1-mm-diameter sand grain weighs 0.0014 g, or approximately 0.1-1% of the typical weight of material run through the Beckman-Coulter LS instrument. This is particularly a problem for samples containing a wide range of grain sizes because finer grain sizes have greater cross-sectional area and therefore cause greater obscuration than sand grains, so a smaller total weight of sample must be run through the instrument or else the suspension will become too opaque. Three factors may contribute to a lack of reproducibility at the coarse tail of the sandy part of the sample. The first issue is the uncertainty created by splitting the sample in half, because both halves must contain the same distribution of particle sizes. Second, often in silty samples the coarsest particles are flakes of mica, which



are common in Yuba River sediment. These flat particles settle more slowly than ordinary sand grains, so they often behave in fluvial transport more like silt. The Beckman-Coulter instrument measures cross-sectional area, and the analysis assumes roughly spherical particles. Micas clearly violate this assumption, so these particles will contribute to uncertainty when they make up a significant portion of a given size class, generally at the coarse end. Third, and likely most importantly, a key source of uncertainty in the analysis is obtaining a representative sample to be placed in the instrument. Through trial-and-error and repeated testing, a methodology was developed to do this by suspending the sample uniformly in a reversing mechanical stirring device and removing a depth-integrated sample with a pipette. However, as Figure 11 suggests, occasionally a representative number of the coarsest grains of a given sample may not be obtained. Assuming the problem is not with the initial splitting of the sample, the solution to this problem (and that of the mica flakes) would be to separate the fines (<0.063 mm) from the 0.063-1 mm part of the sand fraction by wet sieve, and to run these two splits through the instrument separately. This would solve mixed-grain-size obscuration problems, but introduces additional steps and associated opportunities for introducing variability and error. The small decrease in precision associated with keeping the <1 mm sediment together was deemed acceptable because of the increased efficiency in processing the large number of samples required of this study.

The population of core replicates (N=9) is not large enough to compare uncertainty quantitatively with the laboratory replicates (Table 9). The limited data show somewhat higher error in the core replicate set of subsample pairs, but this may be simply a function of the smaller sample size. Critical evaluation of replicate splitting techniques would require a larger dataset of both replicate types.

The USGS Coastal and Marine Sedimentology Laboratory that operates the Beckman-Coulter LS 100Q instrument used for these grain-size analyses participates in the inter-laboratory Laser Diffraction Proficiency Testing Scheme (LDPTS, <http://www.ptscheme.com/introduction.cfm>). The laboratory has always tested within the acceptable range of reproducibility. The instrument uses the Fraunhofer optical model, which is appropriate for the heterogeneous samples associated with geologic materials (Agrawal and others, 1991). However, for sizes below a few  $\mu\text{m}$  the particles do not diffract light in the manner required for valid application of Fraunhofer diffraction theory because their diameter approaches that of the wavelength of light (Agrawal and others, 1991). Therefore the distribution of finest part of our analyses is likely to be less accurate than that obtained using either a different optical model or other grain-size analysis techniques.

### **LOSS-ON-IGNITION ANALYSIS**

Organic content in lacustrine sediment is typically quantified via loss-on-ignition (LOI) analysis. LOI measures mass loss after incineration. Another technique, carbon coulometry, measures total inorganic carbon (TIC, carbonate) and total carbon (TC) also as a function of mass change. The difference between TC and TIC is the total mass of carbon contained in the organic portion of a sample (total organic carbon, TOC). Coulometry is more analytically precise, and is typically done on small (~30 mg) samples of ground, representative material. In Englebright Lake, much of the organic material found in the cores was dominantly macroscopic pieces of terrestrially derived leaves and wood. This type of material is difficult to grind down to a constant grain size, and therefore the small, representative sample sizes required for precise coulometry are difficult to attain. Moreover, the main purpose of this study is to know the percentage by mass of the reservoir material that is organic material (that is not inorganic sediment), which is most closely

approximated by LOI. For comparison with other systems, the LOI results are compared to coulometry for a selected set of 10 subsamples.

### Laboratory methods

The LOI analyses were straightforward. A 2-5 cm<sup>3</sup> sample of sediment was dried in pre-weighted ceramic crucible at approximately 100°C overnight, allowed to cool in a desiccator, and weighed. Next, the samples were heated to 500°C in a Sybron Thermolyne model #F-A1638 muffle furnace for 4 hours, and allowed to cool overnight in the furnace. The next morning, the samples were placed in a desiccator, cooled to room temperature, and weighed again. The percent change in mass from the initial drying to the final combustion is the LOI value. To increase sample size, samples collected for <sup>137</sup>Cs and <sup>210</sup>Pb geochronologic analysis (the X-series) were sometimes used instead of the Y-series samples. The LOI data reported here for the 7Y series of samples was produced by the USGS geochronology laboratory in St. Petersburg, Florida by processing the 7X series of subsamples, which shared the same depth intervals as the 7Y series. The data for the 4Y series reported here was obtained by processing the 4X series in the sediment laboratory in Menlo Park. The 4X series was subsampled over the same depth intervals as 4Y, but occasionally 2-3 samples of the 4X series make up one 4Y interval. In these cases, a depth-weighted average is reported for the 4Y data on Table 4.

### Results

LOI values for all of the subsamples are shown in Tables 4-8. LOI values (in weight percent) vary from less than 1% to greater than 50%. LOI logs for the Y-series subsamples are shown in Figures 4-10. The highest LOI values (>20%) are associated with distinct organic-rich layers in the upper halves of the upstream deep coring vertical sections (Snyder and others, 2004).

### Uncertainty Analysis

Ninety-four core and laboratory replicate pairs of LOI subsamples were processed, including all 56 4X subsamples (Table 10). As with the grain-size percentage statistics, the uncertainty analysis for LOI is focused on the absolute value of the difference between the replicate pairs. The mean difference for the 94 pairs is 0.72%. The 69 X- and Y-series replicate pairs have a mean value of 5.82% and a mean difference of 0.45%. The 16 methyl-Hg and total Hg (MEM) sample pairs have a higher mean value (7.91%) and correspondingly higher mean difference (1.85%).

### Comparison to coulometry

Samples 4X-1 through 4X-10 were processed for total inorganic carbon (TIC) and total carbon (TC) analysis with a UIC Coulometrics CM5012 CO<sub>2</sub> coulometer with a CM5120 Furnace Apparatus and CM5130 Acidification Module, respectively, using standard laboratory procedures (<http://walrus.wr.usgs.gov/infobank/programs/html/facilities/mp/15.3/m3005.html>). For each sample two laboratory replicates were processed for TIC and TC analysis, as well as the pair of LOI analysis. The average dry weight of each replicate subsample for the coulometry analysis was 0.031 g, compared to 4.0 g for LOI.

Table 11 shows the average results of the 10 replicate pairs. The overall average value of LOI is 8.51% (±0.72%), average TIC is 0.030% (±0.012%), and average TC is 3.644% (±0.118%). The difference between TC and TIC is total organic carbon, which had a mean value of 3.614% (±0.123%). The greater precision of coulometry relative to LOI is apparent. Values of the ratio of TOC to LOI range from 18% to 56% and average about 35%, indicating that, by mass, only this fraction of the organic material is carbon. TIC values are uniformly low, only 1.9% of the total carbon.

**SUMMARY**

Results from 561 grain-size analyses of sediment sampled during 3 different campaigns on Englebright Lake in 2002 are presented, along with loss-on-ignition data for a subset of these samples. Error analysis on 54 grain-size replicate pairs shows a mean difference in median grain size of 0.19  $\phi$  and a relative percent difference (RPD) of 12.9%. A subset of 41 replicate pairs that do not contain gravel has a mean difference in median grain size of 0.10  $\phi$  and RPD of 7.0%. A set of 94 loss-on-ignition replicate pairs shows a mean difference of 0.72%.

**ACKNOWLEDGMENTS**

The authors wish to thank the following people for assistance in the field and laboratory: Connie Clapton, Jennifer Curtis, Lorraine Flint, Michael Hunerlach, Benjamin Wilkins (USGS, Sacramento); the DOSECC drilling crew; Jennifer Agee, Simon Barber, Michael Boyle, Jonathan Childs, Heather Harms, Larry Kooker, Andrew Matthew, Gerald O'Brien, Walt Olsen, Helen Tai, Michael Torresan (USGS, Menlo Park); Charles Holmes (USGS, St. Petersburg); and David Rubin (USGS, Santa Cruz). This report benefited from reviews by Curt Storlazzi and Michael Torresan.

This work was funded by the California Bay-Delta Authority (CALFED) Ecosystem Restoration Program, and a CALFED Science Fellows Program award to NPS.

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Table 1. Basic data about sample series presented in this report.

Sample series	Lab ID range (numerical)	Table number	Number of grain-size samples	Number of replicates	Mean sample dry weight (g)	LOI analysis	Density analysis
April 2002 grab samples	grab2int - grab31bot	3	29	3	28	no	no
Composite boreholes (Y-series)	1Y-1 - 9Y-39	4	255	25	28	yes	yes
Methyl-Hg & total Hg analysis (MEM series)	GS 1 - GS 166	5	159*	13	12	yes	yes
Hg methylation/ demethylation potential (MDP)	1C-mid - 9A-bottom	6	6	0	na	no	yes
October 2002 box cores	GS 200 - GS 280	7	90	10	11	yes	no
October 2002 gravity cores	10A-1G-1 - 12E-1G-2	8	22	3	21	yes	no
<b>Total</b>			<b>561</b>	<b>54</b>			

Explanation for Table 1.

**Sample series**, Data series presented in this report, includes short series name in parentheses if applicable.

**Lab ID range**, Range of sample identification numbers used in the lab. Samples are often listed in order from downstream to upstream, which differs from numerical order in some cases (Figure 2).

**Table number**, All grain-size and loss-on-ignition data are presented in Tables 3-10.

**Number of samples**, includes replicates. \*20 MEM samples were not analyzed for grain-size distribution.

**Number of replicates**, includes both core and laboratory replicates.

**Mean sample dry weight**, weight of sediment used for the grain-size analysis.

**LOI analysis**, not done on all data series.

**Density analysis**, done with a multisensor core logger on the deep-core samples only.

**na**, data not available.

Table 2. Location information for all core and grab samples. For October 2002 cores, “B” indicates a box core, and “G” indicates a gravity core. Note: gravity cores from October 2002 sites 13-19 were not subsampled for grain-size analysis. More information on each sampling campaign is available at the following locations.

April 2002, <http://walrus.wr.usgs.gov/infobank/f/f102nc/html/f-1-02-nc.meta.html>

May-June 2002, <http://walrus.wr.usgs.gov/infobank/g/g102nc/html/g-1-02-nc.meta.html>

October 2002, <http://walrus.wr.usgs.gov/infobank/h/h102nc/html/h-1-02-nc.meta.html>

grab/core ID	date collected	latitude	longitude	borehole ID	date collected	latitude	longitude
<b>April 2002 grab samples</b>				<b>May-June 2002 deep cores</b>			
grab2	4/2/02	39.25692	-121.25849	1A	5/11/02	39.24540	-121.26865
grab5	4/4/02	39.26818	-121.26683	1B	5/13/02	39.24543	-121.26875
grab10	4/2/02	39.28177	-121.24680	1C	5/13/02	39.24545	-121.26879
grab12	4/3/02	39.28318	-121.23638	1D	5/14/02	39.24536	-121.26852
grab13	4/3/02	39.28285	-121.23037	2A	5/16/02	39.29524	-121.21050
grab14	4/3/02	39.28237	-121.22422	2B	5/16/02	39.29522	-121.21050
grab15	4/2/02	39.28367	-121.21902	3A	5/17/02	39.28295	-121.22821
grab16	4/3/02	39.28761	-121.21595	3B	5/17/02	39.28300	-121.22827
grab18	4/3/02	39.29455	-121.21083	3C	5/17/02	39.28298	-121.22827
grab19	4/3/02	39.29855	-121.20790	3D	5/17/02	39.28296	-121.22826
grab24	4/4/02	39.25155	-121.26978	4A	5/18/02	39.27585	-121.25922
grab26	4/4/02	39.24263	-121.26883	4B	5/19/02	39.27599	-121.25928
grab27	4/4/02	39.24038	-121.26890	4C	5/19/02	39.27597	-121.25933
grab31	4/4/02	39.24150	-121.26895	4D	5/20/02	39.27600	-121.25933
<b>October 2002 box cores and gravity cores</b>				5A	5/20/02	39.27915	-121.24930
10A (B&G)	10/3/02	39.27550	-121.25860	6A	5/21/02	39.25782	-121.25972
10B (B&G)	10/4/02	39.27591	-121.25872	6B	5/22/02	39.25779	-121.25963
10C (B&G)	10/4/02	39.27615	-121.25880	6C	5/22/02	39.25770	-121.25961
10D (B&G)	10/4/02	39.27638	-121.25886	6D	5/22/02	39.25767	-121.25962
10E (B&G)	10/4/02	39.27664	-121.25894	6E	5/22/02	39.25795	-121.25999
10F (B)	10/11/02	39.27620	-121.25845	6F	5/22/02	39.25787	-121.25994
10G (B)	10/11/02	39.27605	-121.25910	7A	5/29/02	39.27904	-121.24922
11A (B&G)	10/7/02	39.24569	-121.26779	7B	5/30/02	39.27906	-121.24920
11B (B&G)	10/7/02	39.24575	-121.26815	7C	5/31-6/1/02	39.27904	-121.24933
11C (B&G)	10/7/02	39.24581	-121.26859	8A	6/1-2/02	39.28268	-121.22710
11D (B&G)	10/7/02	39.24588	-121.26899	8B	6/2/02	39.28277	-121.22717
11E (B&G)	10/8/02	39.24596	-121.26950	8C	6/3/02	39.28277	-121.22717
11F (B)	10/11/02	39.24555	-121.26875	9A	6/3/02	39.28390	-121.23751
11G (B)	10/11/02	39.24583	-121.26835	9B	6/4/02	39.28389	-121.23766
12A (B&G)	10/9/02	39.28350	-121.23734	9C	6/5/02	39.28381	-121.23755
12B (B&G)	10/9/02	39.28360	-121.23730				
12C (B)	10/9/02	39.28385	-121.23717				
12D (B&G)	10/9/02	39.28410	-121.23704				
12E (B&G)	10/9/02	39.28420	-121.23699				
13 (B&G)	10/8/02	39.25752	-121.26040				
14 (B&G)	10/8/02	39.26731	-121.26589				
15 (B&G)	10/8/02	39.27740	-121.25260				
16 (B&G)	10/8/02	39.27927	-121.24893				
17 (B&G)	10/8/02	39.25318	-121.26623				
18 (B&G)	10/8/02	39.28388	-121.24285				
19 (B&G)	10/10/02	39.28348	-121.22852				
23A (B)	10/11/02	39.28380	-121.24278				
23B (B)	10/11/02	39.28383	-121.24289				

Table 3. Sedimentologic data from the April 2002 grab samples.

sample ID	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
grab2int	0.00	7.20	69.40	23.40	0.0102	0.0097	0.2852	0.25	2.66
grab2top	0.00	4.20	69.80	26.00	0.0088	0.0082	0.2994	0.25	2.80
grab2bot	0.59	56.88	34.60	7.93	0.0890	0.0698	0.1696	0.60	2.80
grab5top	0.00	4.00	72.70	23.30	0.0107	0.0093	0.2973	0.44	2.83
grab5bot	0.00	5.69	73.45	20.86	0.0121	0.0105	0.2892	0.33	3.23
grab10top	0.00	9.80	76.10	14.10	0.0188	0.0153	0.3015	0.70	3.13
grab10bot	0.00	17.10	69.70	13.20	0.0261	0.0194	0.2774	0.90	3.32
grab12top	0.00	18.40	67.60	14.00	0.0270	0.0192	0.2698	0.89	3.15
grab12bot	0.00	37.80	52.29	9.91	0.0442	0.0315	0.2570	1.03	3.54
grab13top	0.00	70.48	24.50	5.02	0.1127	0.1001	0.2088	0.90	3.87
grab14top	0.00	27.90	59.20	12.90	0.0298	0.0226	0.2483	0.75	2.93
grab14bot	1.77	79.53	15.31	3.39	0.2535	0.1708	0.2269	1.30	5.10
grab15int-1of2	26.04	69.63	3.49	0.83	0.8409	0.7170	0.2852	1.87	8.23
grab15int-2of2	57.43	39.50	2.66	0.41	2.0849	1.1251	0.3057	2.14	8.64
grab16top-1of2	0.00	70.70	23.81	5.49	0.0994	0.0718	0.2793	1.68	5.86
grab16top-2of2	0.00	72.50	22.40	5.10	0.1008	0.0748	0.2872	1.74	6.24
grab18int-1of2	0.59	98.09	1.11	0.21	0.4931	0.4633	0.5434	3.28	24.85
grab18int-2of2	0.30	98.13	1.36	0.22	0.5000	0.4633	0.5285	3.23	22.44
grab19int	0.71	88.81	8.65	1.82	0.2643	0.2207	0.2813	1.57	6.41
grab24top	0.00	1.20	70.60	28.20	0.0079	0.0071	0.3209	0.39	2.87
grab24bot	0.00	1.00	69.20	29.80	0.0077	0.0070	0.3121	0.35	2.72
grab26top	0.00	0.00	65.80	34.20	0.0060	0.0054	0.3560	0.44	3.00
grab26bot	0.00	8.10	72.50	19.40	0.0138	0.0120	0.2813	0.46	2.78
grab27top	0.00	6.26	69.18	24.56	0.0094	0.0090	0.2852	0.12	3.09
grab27mid	0.12	34.01	44.76	21.11	0.0137	0.0250	0.1119	-0.27	1.86
grab27bot	1.75	1.73	64.96	31.56	0.0066	0.0071	0.2333	-1.59	8.23
grab31fluff	0.00	0.00	65.70	34.30	0.0058	0.0052	0.3842	0.57	3.15
grab31top	0.00	0.00	66.90	33.10	0.0063	0.0055	0.3660	0.54	3.03
grab31bot	0.00	15.10	72.20	12.70	0.0242	0.0186	0.2852	0.87	3.37

Explanation for Table 3.

**Sample ID**, Unique identifier of the sample. Suffixes: int, vertically integrated sample of the entire grab; top, bot, mid, sections of the grab separated depending on stratigraphy; fluff, uppermost fine sediment; 1of2/2of2 field-sampled replicate pairs (“core replicates”).

**% gravel**, Weight percent coarser than 2 mm.

**% sand**, Weight percent in the 0.0625–2 mm size class.

**% silt**, Weight percent in the 3.9–62.5  $\mu\text{m}$  size class.

**% clay**, Weight percent finer than 3.9  $\mu\text{m}$ .

**D<sub>50</sub> (mm)**, Median grain size.

**mean (mm)**, Mean grain size (1<sup>st</sup> moment).

**s.d. (mm)**, Grain size standard deviation (square root of the 2<sup>nd</sup> moment).

**skew.**, Grain size skewness (3<sup>rd</sup> moment).

**kurt.**, Grain size kurtosis (4<sup>th</sup> moment).

Table 4. Sedimentologic data from the composite Y-series of subsamples from the May-June 2002 deep cores. Coring sites ordered from downstream to upstream (Figure 2).

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
1Y-1	1A-1H-1, 4-93 cm	60.79	61.68	6.054	1.250	0.00	17.40	67.60	15.00	0.0208	0.0169	0.2679	0.63	2.83
1Y-1A	1D-1H-1, 51-69 cm	61.50	61.68	na	1.318	0.00	25.60	61.10	13.30	0.0257	0.0215	0.2415	0.55	2.82
1Y-2	1D-1H-1, 69-80 cm	61.68	61.79	7.849	1.349	0.00	10.20	61.10	28.70	0.0078	0.0087	0.2449	-0.35	2.99
1Y-3	1D-1H-1, 80-94 cm	61.79	61.93	6.902	1.404	0.00	17.40	67.30	15.30	0.0201	0.0171	0.2535	0.45	2.86
1Y-4	1D-1H-1, 94-140 cm	61.93	62.39	5.644	1.416	0.00	5.26	67.04	27.70	0.0077	0.0075	0.2952	-0.19	3.54
1Y-5	1D-1H-2, 0-52 cm	62.39	62.91	4.376	1.455	0.00	7.37	66.63	26.00	0.0085	0.0085	0.2698	-0.13	3.13
1Y-6	1D-1H-2, 52-80 cm	62.91	63.19	3.459	1.477	0.00	13.30	71.20	15.50	0.0169	0.0153	0.2624	0.30	3.01
1Y-7	1B-2E-1, 10-33 cm	63.19	63.26	5.514	1.329	0.00	0.00	71.30	28.70	0.0071	0.0063	0.3660	0.54	3.14
1Y-8	1B-2E-2, 0-75 cm	63.26	63.94	5.639	1.344	0.00	12.50	61.50	26.00	0.0081	0.0094	0.2253	-0.56	3.25
1Y-9	1B-2E-2, 75-150 cm	63.94	64.61	4.988	1.308	0.00	4.52	66.58	28.90	0.0072	0.0071	0.2973	-0.23	3.70
1Y-10	1B-2E-3, 0-80 cm	64.61	65.35	5.502	1.293	0.00	10.20	63.60	26.20	0.0081	0.0090	0.2449	-0.41	3.25
1Y-11	1B-2E-3, 80-108 cm	65.35	65.61	5.884	1.412	0.00	27.11	58.00	14.89	0.0252	0.0219	0.2102	0.25	2.83
1Y-12	1B-2E-3, 108-117 cm	65.61	65.69	4.393	1.443	0.00	3.81	64.69	31.50	0.0066	0.0065	0.3078	-0.05	3.27
1Y-13	1B-2E-3, 117-150 cm	65.69	66.00	4.935	1.467	0.00	16.60	69.50	13.90	0.0190	0.0171	0.2624	0.40	2.98
1Y-14	1B-2E-6, 0-5 cm	66.00	66.05	6.307	na	0.00	17.90	64.60	17.50	0.0173	0.0156	0.2398	0.35	2.65
1Y-15	1B-2E-7, 0-1 cm	66.05	66.06	3.099	na	0.00	14.30	70.60	15.10	0.0187	0.0158	0.2736	0.61	2.95
1Y-16	1B-3E-1, 0-52 cm	66.11	66.63	2.699	1.492	0.00	12.20	71.30	16.50	0.0157	0.0140	0.2736	0.41	2.86
1Y-16R	1B-3E-1, 0-52 cm	66.11	66.63	3.670	1.492	0.00	12.10	71.20	16.70	0.0163	0.0143	0.2679	0.41	2.88
1Y-17	1B-3E-1, 52-76 cm	66.63	66.87	5.743	1.447	0.00	0.00	66.30	33.70	0.0059	0.0053	0.3842	0.56	3.26
1Y-18	1B-3E-1, 76-90 cm	66.87	67.01	4.977	1.458	0.00	0.00	70.40	29.60	0.0068	0.0060	0.3686	0.55	3.15
1Y-19	1B-3E-1, 90-101 cm	67.01	67.12	2.394	1.445	0.00	9.62	74.48	15.90	0.0153	0.0135	0.2872	0.44	3.06
1Y-20	1B-3E-1, 101-110 cm	67.12	67.21	5.576	1.413	0.00	0.00	71.60	28.40	0.0068	0.0059	0.3816	0.76	3.65
1Y-21	1B-3E-6, 0-5 cm	67.21	67.26	2.256	na	0.00	10.50	74.00	15.50	0.0125	0.0127	0.2717	-0.10	3.46
1Y-22	1B-3E-7, 0-4 cm	67.26	67.30	5.857	na	0.00	0.00	70.20	29.80	0.0067	0.0060	0.3737	0.51	3.24
1Y-23	1A-4E-1, 4-72 cm	67.30	67.51	6.182	1.487	1.76	20.55	59.54	18.15	0.0166	0.0169	0.2003	-0.24	3.62
6Y-1	6F-1H-1, 5-110 cm	51.23	52.11	6.356	1.426	0.49	14.68	66.56	18.28	0.0175	0.0148	0.2449	0.25	3.42
6Y-2	6F-1H-2, 0-56.5 cm	52.11	52.58	9.973	1.220	0.00	25.60	59.80	14.60	0.0245	0.0206	0.2316	0.49	2.68
6Y-3	6E-1H-2, 17-71.5 cm	52.58	53.13	6.551	1.338	0.00	23.50	60.00	16.50	0.0199	0.0186	0.2161	0.24	2.51
6Y-4	6E-1H-2, 71.5-104.5 cm	53.13	53.46	5.219	1.394	0.00	2.50	72.10	25.40	0.0087	0.0079	0.3186	0.32	3.07
6Y-5	6E-1H-2, 104.5-150 cm	53.46	53.91	4.572	1.440	0.00	13.00	65.40	21.60	0.0117	0.0118	0.2398	-0.01	2.72
6Y-6	6F-2H-1, 21-80 cm	53.91	54.47	5.658	1.455	0.00	31.60	57.00	11.40	0.0326	0.0270	0.2285	0.54	2.87
6Y-7	6E-2H-2, 0-49.5 cm	54.47	54.96	6.762	1.382	0.00	39.70	49.60	10.70	0.0415	0.0328	0.2176	0.62	2.80
6Y-8	6E-2H-2, 49.5-105.5 cm	54.96	55.53	7.072	1.365	0.00	29.10	56.50	14.40	0.0263	0.0226	0.2146	0.41	2.59
6Y-9	6F-2H-2, 73-105.5 cm	55.53	55.84	4.729	1.445	0.00	21.10	61.70	17.20	0.0177	0.0169	0.2253	0.24	2.51
6Y-10	6F-2H-2, 105.5-127.5 cm	55.84	56.05	3.065	1.545	0.00	2.62	72.08	25.30	0.0088	0.0079	0.3164	0.36	2.97
6Y-11	6B-2H-2, 0-47 cm	56.05	57.26	4.862	1.373	0.00	19.90	66.60	13.50	0.0245	0.0188	0.2717	0.81	3.10
6Y-11B	6F-2H-2, 127.5-150 cm	56.05	56.27	4.483	1.553	0.00	29.90	58.60	11.50	0.0300	0.0254	0.2365	0.53	2.86
6Y-11C	6F-3E-1, 8-69.5 cm	56.67	57.26	6.122	1.422	0.00	29.00	58.50	12.50	0.0302	0.0240	0.2365	0.62	2.93
6Y-12	6F-3E-1, 71-102.5 cm	57.26	57.56	5.049	1.497	0.00	3.08	73.82	23.10	0.0096	0.0087	0.3143	0.40	2.93
6Y-13 (1/2)	6E-3E-1, 56.5-102 cm	57.56	58.02	5.763	1.399	0.00	28.40	58.80	12.80	0.0272	0.0242	0.2192	0.39	2.73
6Y-13 (2/2)	6E-3E-1, 56.5-102 cm	57.56	58.02	5.957	1.399	0.00	30.70	57.30	12.00	0.0290	0.0261	0.2146	0.38	2.70
6Y-14	6E-3E-2, 0-31 cm	58.02	58.33	6.584	1.369	0.00	28.90	58.60	12.50	0.0286	0.0254	0.2161	0.39	2.78
6Y-15	6E-3E-2, 31-80 cm	58.33	58.82	5.701	1.486	0.00	27.80	53.60	18.60	0.0131	0.0183	0.1731	-0.18	2.11
4Y-1	4B-1H-1, 4-24 cm	34.37	34.57	4.648	1.650	0.00	40.80	48.50	10.70	0.0396	0.0337	0.2073	0.58	2.65
4Y-2	4B-1H-1, 24-70 cm	34.57	35.03	1.390	1.825	0.00	89.10	8.60	2.30	0.2102	0.1571	0.3345	2.50	9.98
4Y-3	4A-1H-1, 35-73 cm	35.03	35.41	20.059	1.197	0.00	78.40	15.60	6.00	0.1649	0.0988	0.2365	1.70	5.28



lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
4Y-4	4A-1H-1, 73-110 cm	35.41	35.77	7.759	1.343	0.00	21.30	64.40	14.30	0.0230	0.0187	0.2588	0.65	2.86
4Y-5	4A-1H-2, 0-27 cm	35.77	36.05	6.711	1.331	0.00	27.50	56.40	16.10	0.0206	0.0192	0.2192	0.35	2.38
4Y-6	4A-1H-2, 27-62 cm	36.05	36.40	18.364	1.066	0.00	54.20	36.30	9.50	0.0733	0.0433	0.2207	1.02	3.24
4Y-7	4A-1H-2, 62-150 cm	36.40	37.27	6.882	1.402	0.00	23.00	62.90	14.10	0.0240	0.0201	0.2449	0.53	2.80
4Y-8 (1/2)	4B-2H-1, 14-124 cm	37.27	38.38	6.411	1.425	0.00	28.90	58.70	12.40	0.0300	0.0247	0.2333	0.53	2.87
4Y-8 (2/2)	4B-2H-1, 14-124 cm	37.27	38.38	6.411	1.425	0.00	29.00	58.70	12.30	0.0298	0.0245	0.2349	0.54	2.83
4Y-9	4B-2H-2, 0-44 cm	38.38	38.86	6.046	1.414	0.00	7.81	72.29	19.90	0.0119	0.0109	0.2832	0.20	3.08
4Y-10	4B-2H-2, 44-66 cm	38.86	39.08	4.321	1.576	0.00	62.00	31.50	6.50	0.0902	0.0591	0.2449	1.24	4.13
4Y-11	4B-2H-2, 66-78 cm	39.08	39.20	4.482	1.540	0.00	29.80	59.00	11.20	0.0326	0.0259	0.2449	0.66	3.04
4Y-12	4A-2H-3, 17-81 cm	39.20	39.84	4.412	1.589	0.00	7.61	77.59	14.80	0.0175	0.0142	0.3035	0.78	3.25
4Y-13	4A-2H-3, 81-117 cm	39.84	40.20	5.784	1.514	0.00	8.60	73.10	18.30	0.0151	0.0127	0.2813	0.56	2.83
4Y-14	4A-2H-4, 0-25 cm	40.20	40.45	6.444	na	0.00	7.68	74.32	18.00	0.0157	0.0129	0.2832	0.63	2.92
4Y-15	4B-3H-1, 0-47 cm	40.45	41.06	5.787	1.484	0.00	6.52	75.48	18.00	0.0147	0.0123	0.2932	0.63	3.00
4Y-16	4B-3H-1, 47-86 cm	41.06	41.57	3.790	1.241	0.00	43.30	47.60	9.10	0.0501	0.0354	0.2449	0.99	3.43
4Y-16x	4A-4H-1, 25-35 cm	41.27	41.37	na	1.997	0.00	89.50	8.10	2.40	0.2285	0.1756	0.3164	2.31	9.35
4Y-17	4A-4H-1, 55-108 cm	41.57	42.10	9.435	1.464	0.00	75.90	18.80	5.30	0.1560	0.1029	0.2222	1.33	4.55
4Y-18	4A-4H-1, 108-127 cm	42.10	42.38	5.382	1.521	0.00	14.70	66.70	18.60	0.0156	0.0138	0.2553	0.43	2.63
4Y-19	4A-4H-2, 9-95 cm	42.38	43.24	8.776	1.301	0.00	47.30	42.30	10.40	0.0563	0.0377	0.2192	0.90	3.06
4Y-20	4A-4H-2, 95-146 cm	43.24	43.75	6.133	1.542	0.00	22.10	62.70	15.20	0.0240	0.0187	0.2500	0.67	2.77
4Y-20R	4A-4H-2, 95-146 cm	43.24	43.75	na	1.542	0.00	26.30	59.50	14.20	0.0274	0.0211	0.2432	0.69	2.80
4Y-21	4B-4H-1, 26-48 cm	43.75	43.89	6.934	na	0.00	5.85	73.75	20.40	0.0123	0.0107	0.2932	0.49	2.85
4Y-22	4B-4H-1, 48-73 cm	43.89	44.04	8.283	1.487	0.00	20.70	63.10	16.20	0.0219	0.0175	0.2449	0.62	2.74
4Y-23	4B-4H-1, 73-125 cm	44.04	44.36	5.028	1.575	0.00	5.40	76.20	18.40	0.0138	0.0116	0.3015	0.62	3.03
4Y-24	4B-4H-1, 125-140 cm	44.36	44.59	3.754	1.445	0.00	27.00	60.60	12.40	0.0294	0.0226	0.2535	0.77	3.00
4Y-25	4B-4H-2, 20-89 cm	44.59	45.01	5.158	1.492	0.00	43.10	45.50	11.40	0.0470	0.0326	0.2176	0.82	2.92
4Y-26	4B-4H-2, 89-150 cm	45.01	45.39	7.268	1.514	0.00	34.80	51.80	13.40	0.0335	0.0256	0.2192	0.63	2.66
4Y-27	4A-5H-2, 51-101 cm	45.39	45.86	7.829	1.456	0.00	28.90	57.20	13.90	0.0286	0.0226	0.2300	0.60	2.72
4Y-28	4B-5H-1, 0-56.5 cm	45.86	46.42	5.450	1.491	0.00	7.80	74.50	17.70	0.0141	0.0122	0.2912	0.55	3.00
4Y-29	4B-5H-1, 56.5-142 cm	46.42	47.26	5.124	1.563	0.00	24.50	61.80	13.70	0.0270	0.0208	0.2517	0.73	2.91
4Y-29R	4B-5H-1, 56.5-142 cm	46.42	47.26	5.124	1.563	0.00	29.60	57.90	12.50	0.0315	0.0238	0.2449	0.76	2.98
4Y-30	4B-5H-2, 0-71 cm	47.26	47.97	7.160	1.512	0.00	19.50	65.20	15.30	0.0224	0.0178	0.2517	0.62	2.80
4Y-31	4B-5H-2, 71-135 cm	47.97	48.61	5.348	1.566	0.00	2.61	75.39	22.00	0.0096	0.0085	0.3299	0.42	3.19
4Y-32	4B-5H-2, 135-250 cm	48.61	48.76	4.895	1.596	0.00	17.40	68.50	14.10	0.0216	0.0176	0.2698	0.69	3.00
4Y-33	4B-5H-6, 0-5 cm	48.77	48.82	6.602	na	0.00	27.40	59.10	13.50	0.0256	0.0226	0.2222	0.40	2.68
4Y-34	4B-6H-1, 0-80 cm	48.93	49.70	5.386	1.569	0.00	10.70	72.80	16.50	0.0128	0.0124	0.2832	0.20	3.05
7Y-1	7C-1H-1, 0-80 cm	14.33	15.13	1.000	1.934	0.00	91.62	6.48	1.90	0.2793	0.2222	0.3322	2.50	10.77
7Y-1R	7C-1H-1, 0-80 cm	14.33	15.13	1.000	1.934	0.00	92.31	5.70	2.00	0.2892	0.2333	0.3322	2.69	11.82
7Y-2	7C-1H-1, 80-117 cm	15.13	15.50	10.400	1.393	0.00	46.20	43.40	10.40	0.0522	0.0352	0.2222	0.85	2.91
7Y-3	7C-1H-2, 0-31 cm	15.50	15.81	7.600	1.408	0.00	11.50	70.50	18.00	0.0150	0.0131	0.2755	0.46	2.74
7Y-4	7C-1H-2, 31-97 cm	15.81	16.47	4.200	1.646	0.00	40.90	46.80	12.30	0.0393	0.0294	0.2146	0.70	2.66
7Y-5	7C-1H-2, 97-135 cm	16.47	16.85	0.800	1.805	0.06	96.18	2.88	0.89	0.3789	0.3345	0.4147	3.01	16.41
7Y-6	7C-2H-1, 42-92 cm	17.13	17.63	1.200	1.908	0.00	95.61	3.39	1.00	0.3487	0.2994	0.4090	3.10	16.29
7Y-7	7C-2H-1, 92-150 cm	17.63	18.21	1.400	1.853	0.00	90.90	6.80	2.30	0.2643	0.2059	0.3143	2.37	9.93
7Y-8	7C-2H-2, 0-74 cm	18.21	18.95	1.400	1.806	0.00	92.80	5.60	1.60	0.2466	0.2117	0.3536	2.43	11.53
7Y-9	7A-2H-2, 29.5-66.5 cm	19.28	19.65	1.800	1.750	0.00	97.40	2.20	0.40	0.5212	0.4263	0.4506	2.54	13.55
7Y-10	7A-2H-2, 66.5-112 cm	19.65	20.10	5.930	1.493	0.00	33.40	53.80	12.80	0.0337	0.0243	0.2415	0.81	2.92
7Y-11	7C-3H-1, 46-93.5 cm	20.10	20.58	5.200	1.498	0.00	15.40	68.90	15.70	0.0208	0.0163	0.2679	0.70	2.88
7Y-12	7C-3H-1, 93.5-146 cm	20.58	21.10	5.600	1.492	0.00	6.54	75.36	18.10	0.0146	0.0122	0.2952	0.62	2.97

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
7Y-13	7C-3H-2, 0-52 cm	21.10	21.60	3.600	1.572	0.00	27.10	59.50	13.40	0.0261	0.0219	0.2382	0.59	2.77
7Y-14	7C-3H-2, 52-101.5 cm	21.60	22.08	5.800	1.475	0.00	27.90	60.10	12.00	0.0317	0.0235	0.2606	0.91	3.27
7Y-15	7C-3H-2, 101.5-150 cm	22.08	22.55	2.600	1.689	0.00	35.30	54.80	9.90	0.0385	0.0290	0.2588	0.93	3.36
7Y-16	7A-3H-2, 40-65 cm	22.55	22.75	0.600	1.943	9.67	76.09	11.33	2.91	0.2774	0.2588	0.1805	0.72	4.23
7Y-17	7C-4H-1, 9-52 cm	22.75	23.18	3.400	1.625	0.00	3.48	78.82	17.70	0.0139	0.0116	0.3099	0.69	3.11
7Y-17R	7C-4H-1, 9-52 cm	22.75	23.18	3.400	1.625	0.00	4.91	77.79	17.30	0.0143	0.0120	0.3057	0.67	3.10
7Y-18	7C-4H-2, 4-79 cm	23.18	23.93	0.600	1.892	1.35	94.37	3.35	0.93	0.4538	0.3896	0.3686	2.44	12.67
7Y-19	7C-4H-3, 0-54 cm	23.93	24.47	0.800	1.740	1.62	93.80	3.65	0.94	0.4061	0.3610	0.3635	2.18	11.31
7Y-20	7C-4H-3, 54-124.5 cm	24.47	25.18	4.000	1.710	0.42	76.01	18.88	4.69	0.2832	0.1539	0.1869	1.28	3.97
7Y-20R	7C-4H-3, 54-124.5 cm	24.47	25.18	4.000	1.710	11.37	51.16	29.47	8.00	0.1731	0.1150	0.1058	0.23	2.43
7Y-21	7A-4H-2, 29.5-73 cm	25.18	25.60	1.600	1.627	0.00	86.60	10.50	2.90	0.1895	0.1466	0.2932	1.93	7.54
7Y-22	7A-4H-2, 73-109.5 cm	25.60	25.96	24.200	0.935	0.00	83.50	13.30	3.20	0.1908	0.1446	0.2661	1.61	6.02
7Y-23	7C-5H-1, 41.5-98.5 cm	25.96	26.52	8.800	1.437	0.00	64.70	29.10	6.20	0.1073	0.0723	0.2102	0.89	3.47
7Y-24	7C-5H-1, 98.5-140 cm	26.52	26.92	26.600	1.071	0.00	75.20	20.70	4.10	0.1615	0.1127	0.2269	1.18	4.23
7Y-25	7C-5H-2, 0-20 cm	26.92	27.11	15.400	na	0.00	79.40	16.60	4.00	0.1830	0.1321	0.2316	1.37	4.90
7Y-26	7C-6H-1, 0-87.5 cm	27.30	28.06	21.800	1.058	0.00	63.60	29.30	7.10	0.1022	0.0748	0.1882	0.77	3.18
7Y-27	7C-6H-1, 87.5-151 cm	28.06	28.61	6.400	1.217	0.00	59.50	32.80	7.70	0.0909	0.0595	0.2059	0.89	3.41
7Y-28	7C-6H-2, 0-78 cm	28.61	29.39	1.000	1.795	0.04	91.39	6.58	1.99	0.2774	0.2207	0.3143	2.24	9.37
7Y-29	7C-6H-2, 78-131 cm	29.39	29.92	3.000	1.682	0.11	77.19	17.75	4.96	0.1649	0.1134	0.2269	1.38	4.84
7Y-30	7C-6H-2, 131-150 cm	29.92	30.11	1.330	1.694	0.39	93.04	4.71	1.86	0.3299	0.2698	0.3231	2.39	11.13
7Y-31	7C-7H-1, 10-71 cm	30.30	30.91	2.200	1.792	0.00	84.83	11.48	3.69	0.1817	0.1340	0.2698	1.84	6.88
7Y-32	7C-7H-1, 71-144 cm	30.91	31.64	1.000	1.848	0.00	89.92	7.88	2.19	0.2415	0.1921	0.3099	2.07	8.48
7Y-32R	7C-7H-1, 71-144 cm	30.91	31.64	1.000	1.848	0.04	90.58	7.28	2.09	0.2500	0.2003	0.3164	2.15	9.00
7Y-33	7C-7H-2, 0-68 cm	31.64	32.28	1.000	1.663	0.51	90.55	7.09	1.85	0.2606	0.2207	0.3078	1.83	8.16
7Y-34	7C-7H-2, 68-120 cm	32.28	32.77	4.000	1.436	0.00	64.55	28.18	7.27	0.1150	0.0728	0.1961	0.94	3.37
7Y-35	7C-7H-2, 120-150 cm	32.77	33.05	1.000	1.780	0.39	90.94	6.21	2.46	0.3015	0.2333	0.2994	2.27	9.60
7Y-36	7C-8H-1, 23-90 cm	33.33	34.00	1.600	1.655	0.70	86.01	10.04	3.25	0.2698	0.1961	0.2466	1.72	6.67
7Y-37	7C-8H-1, 90-126 cm	34.00	34.36	1.000	1.855	0.19	85.05	11.04	3.71	0.2466	0.1756	0.2382	1.70	6.16
7Y-38	7B-4H-1, 88.5-120 cm	34.36	34.72	2.000	1.678	1.13	62.71	27.49	8.68	0.1103	0.0638	0.1895	0.85	3.53
7Y-39	7C-9H-2, 7-108.5 cm	34.72	35.60	1.400	1.563	0.19	89.77	7.68	2.36	0.2698	0.2132	0.2932	2.03	8.39
7Y-40	7C-9H-2, 108.5-142 cm	35.60	35.89	4.400	1.495	0.25	49.78	39.59	10.37	0.0625	0.0439	0.1908	0.65	2.90
7Y-41	7C-9H-3, 0-93.5 cm	35.92	36.68	4.400	1.573	0.37	48.02	39.74	11.87	0.0571	0.0407	0.1756	0.48	2.62
7Y-41R	7C-9H-3, 0-93.5 cm	35.92	36.68	4.400	1.573	0.61	48.59	39.23	11.57	0.0600	0.0418	0.1756	0.53	2.78
7Y-42	7B-6H-1, 50-113 cm	36.68	37.24	0.800	1.845	0.00	92.42	6.08	1.50	0.2774	0.2285	0.3511	2.39	10.86
7Y-43	7C-10H-1, 10-98 cm	37.24	38.06	1.200	1.851	0.00	86.23	10.48	3.29	0.2117	0.1528	0.2774	2.00	7.55
7Y-44	7C-10H-1, 98-150 cm	38.06	38.55	2.800	1.483	0.00	75.20	19.80	5.00	0.1466	0.0974	0.2415	1.42	4.94
7Y-45	7C-10H-2, 5-67 cm	38.55	39.17	2.800	1.714	0.00	64.50	28.40	7.10	0.1008	0.0638	0.2333	1.28	4.12
7Y-46	7C-10H-2, 67-137.5 cm	39.17	39.87	4.400	1.684	0.00	24.00	63.10	12.90	0.0284	0.0211	0.2624	0.84	3.12
7Y-46R	7C-10H-2, 67-137.5 cm	39.17	39.87	4.400	1.684	0.00	23.50	63.50	13.00	0.0278	0.0209	0.2643	0.82	3.09
7Y-47	7B-9H-1, 57-113 cm	39.87	40.41	3.400	1.556	0.00	28.30	60.10	11.60	0.0349	0.0249	0.2643	0.95	3.32
7Y-48	7C-11H-1, 21-70 cm	40.41	40.88	3.950	1.621	0.00	22.90	64.40	12.70	0.0280	0.0215	0.2624	0.78	3.15
7Y-49	7C-11H-1, 70-92 cm	40.88	41.10	4.590	1.604	0.00	3.29	79.41	17.30	0.0149	0.0119	0.3121	0.77	3.22
7Y-50	7C-11H-2, 0-44.5 cm	41.10	41.54	3.980	1.617	0.00	11.80	73.30	14.90	0.0194	0.0155	0.2872	0.73	3.08
7Y-51	7C-11H-2, 44.5-104 cm	41.54	42.13	3.550	1.622	0.00	25.10	62.80	12.10	0.0284	0.0221	0.2624	0.80	3.15
7Y-52	7C-11H-2, 104-130 cm	42.13	42.38	4.340	1.634	0.00	23.10	63.90	13.00	0.0249	0.0203	0.2570	0.68	2.99
7Y-53	7B-10H-1, 102-136 cm	42.38	42.74	1.570	1.730	0.00	73.80	20.90	5.30	0.1397	0.0866	0.2500	1.56	5.00
7Y-54	7C-12H-1, 0-47 cm	42.74	43.21	3.570	1.420	1.41	79.28	15.07	4.24	0.1638	0.1142	0.2500	1.44	5.86
7Y-55	7C-12H-1, 47-99.5 cm	43.21	43.74	na	1.623	0.29	71.02	22.02	6.67	0.1267	0.0802	0.2176	1.23	4.19
7Y-56	7C-12H-1, 99.5-133 cm	43.74	44.07	4.380	1.645	0.00	20.20	66.80	13.00	0.0243	0.0198	0.2661	0.70	3.10
7Y-57	7C-12H-2, 0-40.5 cm	44.07	44.47	4.760	1.569	0.00	17.90	67.00	15.10	0.0188	0.0169	0.2517	0.42	2.82
7Y-57R	7C-12H-2, 0-40.5 cm	44.07	44.47	4.760	1.569	0.00	19.60	65.50	14.90	0.0195	0.0178	0.2415	0.33	2.78

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
7Y-58	7C-12H-2, 40.5-69 cm	44.47	44.75	4.560	1.644	0.00	15.90	68.70	15.40	0.0176	0.0160	0.2570	0.34	2.85
7Y-59	7C-12H-2, 69-104 cm	44.75	45.10	2.380	1.525	0.00	38.90	51.00	10.10	0.0436	0.0324	0.2349	0.79	3.12
7Y-60	7B-11H-2, 4-47 cm	45.10	45.48	3.750	1.484	0.00	59.30	33.00	7.70	0.0909	0.0559	0.2192	1.02	3.36
7Y-60B	7C-12H-2, 104-123.5 cm	45.10	45.29	3.170	1.526	0.00	36.90	52.20	10.90	0.0382	0.0284	0.2398	0.77	2.94
7Y-60C	7C-12H-2, 123.5-150 cm	45.29	45.55	3.180	1.598	0.00	33.50	54.70	11.80	0.0328	0.0261	0.2349	0.64	2.78
7Y-61	7B-11H-2, 47-82 cm	45.48	45.78	3.550	1.611	0.00	40.10	49.30	10.60	0.0436	0.0326	0.2285	0.78	3.01
7Y-62	7B-11H-2, 82-113 cm	45.78	46.06	2.970	1.648	0.00	0.70	78.20	21.10	0.0100	0.0086	0.3439	0.63	3.24
7Y-63	7B-11H-2, 113-140.5 cm	46.06	46.30	3.780	1.621	0.00	2.56	77.14	20.30	0.0102	0.0092	0.3322	0.48	3.25
7Y-64	7C-13H-3, 23-55 cm	46.30	46.52	4.560	1.605	0.00	14.00	68.90	17.10	0.0144	0.0138	0.2606	0.22	2.82
7Y-64R	7C-13H-3, 23-55 cm	46.30	46.52	4.560	1.605	0.00	15.20	67.80	17.00	0.0146	0.0144	0.2483	0.12	2.82
7Y-65	7C-13H-3, 55-61.5 cm	46.52	46.57	0.990	1.675	0.00	95.01	3.80	1.20	0.3536	0.2952	0.3842	2.99	15.31
7Y-66	7C-13H-3, 61.5-99 cm	46.57	46.83	3.750	1.608	0.00	14.00	70.80	15.20	0.0148	0.0144	0.2679	0.23	2.97
7Y-67	7C-13H-3, 99-125.5 cm	46.83	47.02	3.780	1.590	0.00	3.48	77.72	18.80	0.0107	0.0096	0.3299	0.48	3.37
7Y-68	7C-13H-3, 125.5-142 cm	47.02	47.13	0.990	1.764	0.00	95.62	3.39	1.00	0.3763	0.3231	0.3978	2.94	15.17
9Y-1	9A-1H-1, 1-127 cm	10.56	11.75	1.525	1.893	0.29	93.52	4.62	1.57	0.4965	0.3711	0.3253	2.83	12.64
9Y-2	9A-1H-2, 25.5-119 cm	11.75	12.57	5.042	1.629	0.00	67.74	25.97	6.29	0.1550	0.0872	0.1961	1.03	3.39
9Y-3	9A-1H-2, 119-134 cm	12.57	12.70	1.147	1.975	0.00	94.50	4.00	1.50	0.2553	0.2146	0.4147	3.70	19.13
9Y-4	9A-2H-1, 0-24 cm	13.23	13.43	0.596	2.026	1.09	95.36	2.78	0.77	0.4601	0.3950	0.3950	2.53	14.10
9Y-5	9A-2H-1, 24-89 cm	13.43	13.96	4.968	1.538	0.00	50.00	41.10	8.90	0.0625	0.0451	0.2073	0.75	2.89
9Y-6	9C-2H-1, 74-114 cm	13.96	14.35	0.936	2.031	4.69	89.54	4.37	1.40	0.4293	0.3896	0.2932	1.72	9.06
9Y-7 (1/2)	9C-2H-2, 0-82 cm	14.35	15.15	0.466	2.001	9.13	87.56	2.54	0.76	0.4730	0.5035	0.3121	0.80	8.27
9Y-7 (2/2)	9C-2H-2, 0-82 cm	14.35	15.15	0.424	2.001	36.12	61.86	1.66	0.36	0.6926	1.1975	0.2045	0.23	2.94
9Y-8	9A-2H-3, 56-108.5 cm	15.15	15.70	5.990	1.648	0.00	28.60	59.40	12.00	0.0290	0.0249	0.2316	0.47	2.81
9Y-8R	9A-2H-3, 56-108.5 cm	15.15	15.70	5.990	1.648	0.00	23.00	63.90	13.10	0.0252	0.0209	0.2483	0.56	2.95
9Y-9	9A-2H-3, 108.5-150 cm	15.70	16.14	1.020	1.785	0.56	94.42	3.94	1.08	0.3842	0.3299	0.3763	2.67	13.22
9Y-10	9C-3H-1, 18-91 cm	16.14	16.87	1.091	1.887	12.60	84.36	2.48	0.56	0.5141	0.5704	0.2932	0.52	6.47
9Y-11	9A-3H-1, 95-114 cm	16.87	17.07	1.685	1.907	0.00	76.80	19.00	4.20	0.1921	0.1166	0.2415	1.53	5.08
9Y-12	9A-3H-2, 0-44.5 cm	17.07	17.55	1.801	1.785	0.00	84.80	12.10	3.10	0.1934	0.1436	0.2813	1.85	7.10
9Y-13	9A-3H-2, 44.5-82 cm	17.55	17.95	3.344	1.798	0.00	51.00	41.20	7.80	0.0647	0.0484	0.2222	0.85	3.39
9Y-14	9A-3H-2, 82-150 cm	17.95	18.69	0.726	2.072	29.38	67.93	2.17	0.53	0.6156	0.8827	0.2161	0.28	3.62
9Y-15	9C-4H-1, 0-97 cm	18.69	19.64	0.533	2.094	39.58	58.70	1.46	0.26	0.9075	1.4142	0.2365	0.56	3.56
9Y-16	9C-4H-2, 9-48 cm	19.64	20.03	0.242	2.035	58.80	40.14	0.89	0.17	4.3169	2.8481	0.2117	0.91	3.11
9Y-17 (1/2)	9C-4H-2, 48-131.5 cm	20.03	20.86	0.351	2.048	27.87	70.44	1.43	0.26	0.6462	0.9330	0.2432	0.07	3.35
9Y-17 (2/2)	9C-4H-2, 48-131.5 cm	20.03	20.86	0.398	2.048	49.01	50.08	0.78	0.14	1.8025	1.8921	0.2192	0.47	2.40
9Y-18 (1/2)	9A-5H-1, 24-118 cm	20.86	21.67	0.224	2.155	51.65	45.57	2.20	0.58	2.3950	1.6586	0.1921	1.01	4.04
9Y-18 (2/2)	9A-5H-1, 24-118 cm	20.86	21.67	0.224	2.155	39.66	58.06	1.86	0.41	0.9138	1.3755	0.1975	0.49	3.18
9Y-19	9A-5H-2, 3-116 cm	21.67	22.80	0.633	2.039	17.12	79.78	2.63	0.46	0.4965	0.6199	0.2755	0.23	5.04
9Y-20	9C-6H-1, 36-98 cm	23.14	23.76	0.386	2.111	4.06	91.55	3.48	0.91	0.3923	0.3763	0.3487	1.73	10.37
9Y-20R	9C-6H-1, 36-98 cm	23.14	23.76	0.386	2.111	10.77	85.15	3.23	0.85	0.3896	0.4444	0.2832	0.50	6.80
9Y-21	9C-6H-2, 0-95 cm	23.76	24.63	0.967	1.969	0.88	91.57	6.00	1.55	0.3253	0.2624	0.3276	2.24	10.33
9Y-22	9C-6H-2, 95-150 cm	24.63	25.14	0.451	2.113	35.70	61.85	2.03	0.42	0.9330	1.2834	0.2300	0.69	4.21
9Y-22R	9C-6H-2, 95-150 cm	24.63	25.14	0.451	2.113	28.27	70.29	1.21	0.23	0.8293	1.1096	0.2912	0.51	4.87
9Y-23	9A-8H-2, 31-129 cm	25.14	25.99	1.187	1.828	0.09	91.74	6.18	1.99	0.2570	0.2073	0.3392	2.51	11.35
9Y-24	9C-7H-1, 21-89 cm	25.99	26.66	2.566	1.741	0.00	81.70	14.60	3.70	0.1571	0.1103	0.2912	1.98	7.20
9Y-25	9C-7H-1, 89-148 cm	26.66	27.25	4.646	1.526	0.00	39.40	51.20	9.40	0.0464	0.0326	0.2588	1.07	3.63
9Y-26	9C-7H-2, 0-60.5 cm	27.25	27.85	3.891	1.648	0.00	41.30	49.40	9.30	0.0467	0.0364	0.2285	0.73	3.20
9Y-27 (1/2)	9C-7H-2, 60.5-140 cm	27.85	28.64	4.268	1.691	0.00	35.80	54.50	9.70	0.0404	0.0326	0.2316	0.62	3.16
9Y-27 (2/2)	9C-7H-2, 60.5-140 cm	27.85	28.64	4.295	1.691	0.00	37.90	52.70	9.40	0.0427	0.0347	0.2285	0.65	3.17
9Y-28	9C-8H-1, 0-84 cm	28.74	29.52	5.778	1.659	0.00	21.70	65.10	13.20	0.0256	0.0203	0.2606	0.71	3.05
9Y-29	9C-8H-1, 84-150 cm	29.52	30.14	4.686	1.468	0.00	51.50	40.60	7.90	0.0656	0.0474	0.2253	0.90	3.42
9Y-30	9C-8H-4, 0-38 cm	30.16	30.53	5.998	1.624	0.00	60.40	32.60	7.00	0.0988	0.0656	0.2073	0.96	3.27

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
9Y-31	9C-8H-4, 38-82.5 cm	30.53	30.97	5.833	1.684	0.00	9.21	72.99	17.80	0.0121	0.0118	0.2813	0.08	3.15
9Y-32	9C-8H-4, 82.5-125.5 cm	30.97	31.40	4.318	1.626	0.00	29.60	59.40	11.00	0.0313	0.0247	0.2588	0.73	3.01
9Y-33	9A-10H-3, 0-35 cm	31.40	31.71	4.652	1.584	0.00	11.10	74.40	14.50	0.0182	0.0151	0.2932	0.69	3.11
9Y-34	9A-10H-3, 35-94.5 cm	31.71	32.26	5.122	1.700	0.00	9.16	76.44	14.40	0.0165	0.0142	0.3015	0.60	3.30
9Y-35	9A-10H-3, 94.5-135.5 cm	32.26	32.63	5.380	1.672	0.00	47.40	43.90	8.70	0.0563	0.0412	0.2253	0.81	3.14
9Y-36	9C-9H-3, 7-41 cm	32.63	32.95	4.664	1.582	0.00	7.62	78.68	13.70	0.0154	0.0135	0.3143	0.60	3.47
9Y-37 (1/2)	9C-9H-3, 41-99 cm	32.95	33.50	5.374	1.514	0.00	11.30	75.60	13.10	0.0164	0.0152	0.2852	0.33	3.41
9Y-37 (2/2)	9C-9H-3, 41-99 cm	32.95	33.50	4.058	1.514	0.00	6.28	79.92	13.80	0.0154	0.0132	0.3231	0.72	3.50
9Y-38	9C-9H-3, 99-130 cm	33.50	33.79	4.963	1.335	0.00	7.62	76.48	15.90	0.0121	0.0116	0.2912	-0.06	3.82
9Y-39	9A-11H-2, 55-102 cm	33.79	34.26	0.574	2.045	3.32	91.04	4.29	1.35	0.6373	0.4897	0.3015	2.40	10.97
8Y-1	8A-1H-1, 0-4 cm	10.16	10.20	4.848	na	0.56	76.10	19.17	4.18	0.1615	0.1436	0.1934	0.96	3.81
8Y-2	8A-1H-2, 0-17 cm	10.20	10.37	4.147	1.651	1.44	67.43	25.74	5.39	0.1233	0.1134	0.1672	0.63	3.06
8Y-3	8A-1H-2, 17-45.5 cm	10.37	10.66	0.457	2.064	24.06	74.75	1.00	0.18	1.0867	1.0867	0.3276	0.72	5.04
8Y-4	8A-1H-2, 45.5-89 cm	10.66	11.09	0.610	1.961	3.31	95.66	0.96	0.08	0.5987	0.5946	0.4863	1.43	11.25
8Y-5	8A-1H-3, 0-127.5 cm	11.09	12.37	0.540	1.881	0.95	97.13	1.63	0.29	0.4830	0.4506	0.4830	2.62	18.17
8Y-6	8A-1H-3, 127.5-150 cm	12.37	12.59	4.710	1.627	0.09	18.87	66.66	14.39	0.0226	0.0191	0.2333	0.11	3.70
8Y-7	8A-1H-6, 0-5 cm	12.59	12.64	5.488	na	0.00	11.56	73.65	14.79	0.0187	0.0154	0.2872	0.65	3.14
8Y-7R	8A-1H-6, 0-5 cm	12.59	12.64	5.488	na	0.04	8.98	75.33	15.65	0.0172	0.0143	0.2872	0.50	3.44
8Y-43x	8B-1H-2, 43-101 cm	12.64	13.02	0.436	1.963	0.60	95.65	2.86	0.89	0.4965	0.4263	0.4061	3.46	19.13
8Y-8	8A-2H-1, 72-114 cm	13.02	13.44	0.527	2.228	52.32	46.42	1.08	0.19	2.3620	1.9862	0.2398	0.86	3.46
8Y-9	8A-2H-2, 4-22 cm	13.44	13.62	0.410	2.058	35.16	63.20	1.44	0.20	1.0140	1.0943	0.2698	0.59	3.55
8Y-10	8A-2H-2, 22-66 cm	13.62	14.06	3.951	1.691	0.62	68.14	25.30	5.93	0.1294	0.0848	0.2088	0.99	3.78
8Y-11	8A-2H-2, 66-129 cm	14.06	14.69	0.621	1.928	0.76	92.77	4.92	1.55	0.3816	0.3099	0.3253	2.38	11.02
8Y-12	8B-2H-1, 48-62 cm	14.69	14.83	0.365	2.143	43.96	54.80	1.07	0.17	1.4845	1.4845	0.2932	0.96	4.55
8Y-13	8B-2H-1, 62-127 cm	14.83	15.47	1.481	1.853	0.18	91.04	6.98	1.79	0.2698	0.2316	0.2973	1.63	7.71
8Y-14	8B-2H-2, 5-133 cm	15.47	16.75	1.251	2.006	8.93	80.25	8.80	2.03	0.4263	0.3415	0.2207	1.21	5.64
8Y-15	8A-4H-2, 3-82 cm	16.81	17.60	0.460	1.975	59.96	38.58	1.21	0.25	5.0982	2.6208	0.2222	1.16	4.17
8Y-16	8B-3H-1, 16-83 cm	17.60	18.27	0.653	2.155	72.82	26.51	0.62	0.05	4.2871	3.1821	0.2736	1.51	4.43
8Y-17	8B-3H-2, 0-136 cm	18.27	19.63	0.823	1.827	65.42	30.78	3.05	0.75	8.2821	2.2501	0.1780	1.57	5.20
8Y-18	8C-2H-1, 17-81 cm	19.63	20.23	0.511	1.985	37.20	61.49	1.20	0.11	0.8293	1.2746	0.2382	0.23	2.62
8Y-19	8C-2H-1, 81-133 cm	20.23	20.72	3.823	1.760	0.01	87.62	9.27	3.09	0.2449	0.1792	0.2736	2.08	7.97
8Y-20	8C-2H-2, 0-31 cm	20.72	20.99	20.540	1.258	0.00	76.20	19.40	4.40	0.1416	0.0961	0.2500	1.39	5.00
8Y-21	8C-2H-2, 31-102 cm	20.99	21.59	6.299	1.659	0.00	12.10	72.60	15.30	0.0149	0.0139	0.2832	0.35	2.99
8Y-22	8A-8H-1, 29-129 cm	21.59	22.59	0.599	2.032	53.40	44.94	1.32	0.34	2.7321	2.0000	0.2316	1.06	4.38
8Y-23	8C-3H-1, 33-66 cm	22.59	22.74	2.748	1.694	0.22	7.25	79.45	13.07	0.0171	0.0149	0.2973	0.19	4.84
8Y-24	8C-3H-1, 66-102 cm	22.74	22.91	1.324	1.910	0.00	87.71	10.09	2.20	0.2316	0.1743	0.3164	2.11	8.58
8Y-25	8C-3H-2, 0-73 cm	22.91	23.27	0.484	2.019	0.88	97.06	1.59	0.47	0.4175	0.4033	0.4506	2.30	15.36
8Y-26	8C-3H-2, 73-135 cm	23.27	23.57	0.292	2.105	66.02	33.31	0.50	0.17	10.1261	3.2043	0.2535	1.25	4.23
8Y-27	8A-10H-1, 42.5-76.5 cm	23.57	23.91	2.821	2.037	14.74	80.66	3.39	1.21	0.4569	0.5035	0.2553	0.94	6.88
8Y-27R	8A-10H-1, 42.5-76.5 cm	23.57	23.91	2.821	2.037	14.04	83.41	1.89	0.66	0.5105	0.5743	0.3078	0.68	7.46
8Y-28	8A-10H-1, 76.5-110 cm	23.91	24.24	2.623	1.835	0.00	84.20	12.10	3.70	0.1436	0.1037	0.3099	2.27	8.47
8Y-29	8C-4H-1, 22-141 cm	24.24	25.57	3.313	1.771	0.00	76.00	19.40	4.60	0.1358	0.0915	0.2588	1.53	5.36
8Y-29R	8C-4H-1, 22-141 cm	24.24	25.57	3.313	1.771	0.00	69.00	25.20	5.80	0.1127	0.0679	0.2570	1.48	4.67
8Y-30	8C-4H-2, 0-26 cm	25.57	25.84	4.490	1.532	0.00	79.30	16.60	4.10	0.1276	0.0941	0.2872	1.76	6.52
8Y-31	8C-4H-2, 26-151 cm	25.84	27.15	7.522	1.463	0.00	57.50	35.00	7.50	0.0780	0.0470	0.2588	1.29	4.00
8Y-32	8A-12H-1, 113.5-142 cm	27.15	27.43	10.442	na	0.00	59.60	33.80	6.60	0.0797	0.0497	0.2755	1.42	4.48
8Y-33	8C-5H-1, 34.5-136 cm	27.43	28.18	4.322	1.561	0.00	62.80	30.50	6.70	0.0890	0.0544	0.2606	1.40	4.38
8Y-34	8C-5H-2, 0-59.5 cm	28.18	28.63	6.109	1.532	0.00	25.80	62.70	11.50	0.0272	0.0224	0.2643	0.72	3.04
8Y-35	8C-5H-2, 59.5-119 cm	28.63	29.07	2.876	1.735	0.00	63.10	31.50	5.40	0.0878	0.0595	0.2813	1.49	5.07
8Y-36	8A-13H-1, 25-144 cm	29.07	30.26	1.866	1.802	0.00	55.70	38.30	6.00	0.0723	0.0497	0.2832	1.38	4.67
8Y-37	8A-13H-2, 0-50.5 cm	30.26	30.76	3.621	1.692	0.00	7.31	82.49	10.20	0.0245	0.0187	0.3322	1.18	4.19

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
8Y-38	8A-13H-2, 50.5-126 cm	30.76	31.50	3.132	1.605	0.00	32.40	56.00	11.60	0.0308	0.0266	0.2269	0.51	2.76
8Y-39	8C-6H-3, 65.5-125 cm	31.50	32.02	5.115	1.726	0.00	8.60	78.20	13.20	0.0161	0.0142	0.3099	0.54	3.51
8Y-39R	8C-6H-3, 65.5-125 cm	31.50	32.02	5.115	1.726	0.00	5.87	80.73	13.40	0.0156	0.0134	0.3276	0.76	3.57
8Y-40	8A-14H-1, 16-81 cm	32.02	32.67	5.884	1.671	0.00	0.01	83.99	16.00	0.0125	0.0103	0.3610	0.94	3.73
8Y-41	8A-14H-2, 0-21.5 cm	32.67	32.89	2.792	1.925	0.00	82.70	13.20	4.10	0.2624	0.1604	0.2285	1.74	5.61
8Y-42	8A-14H-2, 21.5-115 cm	32.89	33.82	1.285	2.007	0.00	93.70	4.70	1.60	0.3164	0.2553	0.3560	2.80	13.14
2Y-1	2B-1H-1, 0-72 cm	3.82	4.54	3.407	2.047	3.20	94.48	1.76	0.56	0.4730	0.4633	0.4175	1.83	15.07
2Y-2	2B-1H-1, 72-146 cm	4.54	5.28	0.413	2.089	10.15	86.40	2.63	0.82	0.4863	0.5471	0.2793	0.43	7.15

Explanation for Table 4.

**lab ID**, Laboratory identifier. An “A” at the end denotes an extra subsample from an interval that overlaps with the main series of subsamples. An “R” refers to a replicate subsample.

**core ID**, Unique interval within a core section. Example: “1A-1H-1, 4-93 cm” is from borehole 1A, core 1H, section 1, interval 4-93 cm (measured from the top of the core liner).

**top (mbls)**, Top of the cored interval in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). The lake floor elevation is approximately the top of the first sample in each series.

**bottom (mbls)**, Bottom of the cored interval in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m).

**LOI**, Weight percent loss on ignition.

$\rho_w$  (g/cm<sup>3</sup>), Mean wet bulk density for the subsampled interval, from multisensor logger data (Snyder and others, 2004).

**na**, no data available.

See Table 3 for additional explanation of column headings.

Table 5. Sedimentologic data from the May-June 2002 deep coring methylmercury/total mercury subsamples (MEM series).

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 1	1C-1E-1 / MEM, 23-34 cm	62.09	62.20	7.216	1.129	0.00	25.10	60.50	14.40	0.0256	0.0209	0.2349	0.52	2.74
GS 2	1C-1E-2 / MEM, 56-66 cm	62.83	62.93	4.526	1.367	0.00	4.53	67.47	28.00	0.0078	0.0076	0.2973	0.12	2.86
GS 3	1C-2E-2 / MEM, 15-25 cm	65.27	65.37	5.549	1.505	0.00	17.80	67.10	15.10	0.0218	0.0176	0.2553	0.59	2.89
GS 4	4C-1H-1 / MEM, 20-30 cm	34.40	34.50	4.853	1.389	0.00	35.30	52.60	12.10	0.0352	0.0280	0.2192	0.63	2.87
GS 5	2B-1H-1 / MEM, 114-124 cm	4.96	5.06	0.321	2.099	12.63	85.38	1.67	0.32	0.5510	0.6199	0.3392	0.48	6.91
GS 6	2B-1H-1 / MEM, 53-63 cm	4.35	4.45	0.360	2.041	18.46	79.79	1.43	0.32	0.4965	0.6285	0.3121	0.03	5.04
GS 7	4C-1H-2 / MEM, 72-82 cm	35.64	35.74	6.737	1.336	0.00	19.70	66.50	13.80	0.0226	0.0186	0.2624	0.64	2.95
GS 8	4C-2H-1 / MEM, 72-82 cm	37.29	37.39	2.824	1.480	0.00	25.80	61.70	12.50	0.0278	0.0224	0.2483	0.65	3.00
GS 9	4C-2H-2 / MEM, 64-74 cm	38.65	38.75	7.960	1.426	0.00	0.78	77.02	22.20	0.0100	0.0087	0.3322	0.57	3.03
GS 10	4C-3H-1 / MEM, 70-80 cm	40.15	40.25	na	1.550	0.00	10.80	72.60	16.60	0.0163	0.0139	0.2813	0.54	2.86
GS 11	4C-3H-2 / MEM, 71-81 cm	41.39	41.48	8.451	1.430	0.00	78.10	16.80	5.10	0.1661	0.1088	0.2300	1.47	4.93
GS 12	4C-4H-2 / MEM, 63-73 cm	43.25	43.34	5.858	1.485	0.00	26.10	59.10	14.80	0.0250	0.0212	0.2238	0.43	2.67
GS 13	4C-4H-3 / MEM, 67-77 cm	44.60	44.70	5.064	1.555	0.00	16.70	68.00	15.30	0.0183	0.0163	0.2570	0.42	2.86
GS 14	4C-5H-2 / MEM, 44-54 cm	46.07	46.16	6.797	1.509	0.00	36.20	51.10	12.70	0.0396	0.0272	0.2333	0.81	2.89
GS 15	4C-5H-3 / MEM, 52-62 cm	47.08	47.18	4.342	1.631	0.00	39.60	49.60	10.80	0.0433	0.0315	0.2300	0.79	3.03
GS 15R	4C-5H-3 / MEM, 52-62 cm	47.08	47.18	4.342	1.631	0.00	37.90	51.00	11.10	0.0409	0.0298	0.2333	0.79	3.01
GS 16	4C-5H-4 / MEM, 45-55 cm	47.97	48.07	6.581	1.534	0.00	18.10	66.10	15.80	0.0211	0.0171	0.2553	0.57	2.76
GS 17	4C-6E-1 / MEM, 58-68 cm	49.24	49.34	2.055	1.573	0.00	0.12	82.88	17.00	0.0108	0.0093	0.3711	0.81	3.71
GS 18	4D-1H-1 / MEM, 41-51 cm	34.75	34.85	8.599	1.475	0.00	85.20	11.90	2.90	0.2003	0.1426	0.2932	1.99	7.32
GS 19	4D-1H-2 / MEM, 60-70 cm	35.82	35.92	7.243	1.440	0.00	34.40	55.00	10.60	0.0364	0.0294	0.2333	0.64	3.01
GS 20	4D-2E-1 / MEM, 51-61 cm	37.88	37.98	na	1.620	0.00	35.70	53.10	11.20	0.0385	0.0290	0.2333	0.72	2.99
GS 20R	4D-2E-1 / MEM, 51-61 cm	37.88	37.98	na	1.620	0.00	30.60	57.40	12.00	0.0337	0.0247	0.2500	0.83	3.11
GS 21	4D-3E-1 / MEM, 51-61 cm	40.46	40.54	7.138	1.395	0.00	13.30	70.60	16.10	0.0185	0.0152	0.2717	0.60	2.87
GS 22	4D-3E-2 / MEM, 49-59 cm	41.28	41.35	8.312	1.396	0.00	25.40	60.20	14.40	0.0232	0.0218	0.2102	0.24	2.63
GS 23	4D-3E-3 / MEM, 50-60 cm	42.14	42.21	6.708	1.429	0.00	19.30	64.70	16.00	0.0186	0.0176	0.2253	0.14	2.73
GS 24	4D-4E-1 / MEM, 112-122 cm	43.68	43.76	na	1.618	0.00	25.30	59.00	15.70	0.0224	0.0191	0.2333	0.51	2.57
GS 25	4D-5E-1 / MEM, 32-42 cm	45.70	45.80	6.364	1.409	0.00	42.60	46.40	11.00	0.0467	0.0356	0.2059	0.65	2.79
GS 26	4D-5E-2 / MEM, 55-65 cm	46.50	46.60	6.459	1.335	0.00	44.20	44.60	11.20	0.0490	0.0367	0.2017	0.67	2.75
GS 27	4D-6H-1 / MEM, 68-78 cm	49.11	49.21	na	1.558	0.00	11.20	71.40	17.40	0.0131	0.0124	0.2813	0.31	2.88
GS 27R	4D-6H-1 / MEM, 68-78 cm	49.11	49.21	na	1.558	0.00	25.90	59.70	14.40	0.0176	0.0202	0.2045	0.02	2.47
GS 28	6A-1H-2 / MEM, 70-80 cm	52.69	52.79	10.780	1.267	0.00	30.90	55.20	13.90	0.0278	0.0243	0.2073	0.38	2.57
GS 29	6A-3E-3 / MEM, 53-63 cm	57.65	57.72	6.306	1.404	0.00	32.80	53.30	13.90	0.0288	0.0256	0.1975	0.36	2.48
GS 30	6A-4E-1 / MEM, 65-75 cm	59.02	59.12	na	1.554	0.00	12.40	58.90	28.70	0.0071	0.0084	0.2300	-0.67	3.38
GS 31	6B-1H-1 / MEM, 48-58 cm	52.00	52.09	7.936	1.305	0.00	21.70	62.90	15.40	0.0235	0.0185	0.2517	0.65	2.74
GS 32	6B-1H-2 / MEM, 81-91 cm	53.67	53.76	3.161	1.577	0.00	4.70	72.50	22.80	0.0100	0.0091	0.2952	0.20	3.22
GS 33	6B-2H-1 / MEM, 61-71 cm	55.15	55.24	7.424	1.449	0.00	31.80	54.90	13.30	0.0306	0.0252	0.2161	0.51	2.69
GS 34	6B-2H-2 / MEM, 109-119 cm	57.02	57.12	2.373	1.444	0.00	8.11	63.49	28.40	0.0071	0.0075	0.2736	-0.57	3.87
GS 35	6A-3E-1 / MEM, 62-72 cm	56.79	56.86	5.966	1.282	0.00	23.50	61.70	14.80	0.0219	0.0196	0.2269	0.35	2.69
GS 36	6D-1H-1 / MEM, 110-120 cm	52.26	52.36	na	1.328	0.00	30.50	57.50	12.00	0.0326	0.0257	0.2333	0.64	2.99
GS 37	6D-1H-2 / MEM, 54-64 cm	53.04	53.14	4.934	1.488	0.00	1.07	67.93	31.00	0.0068	0.0063	0.3368	0.31	3.03
GS 38	6D-2E-1 / MEM, 41-51 cm	54.57	54.67	5.574	1.467	0.00	10.90	65.40	23.70	0.0094	0.0100	0.2415	-0.33	3.21
GS 38R	6D-2E-1 / MEM, 41-51 cm	49.11	49.21	5.574	1.558	0.00	15.90	61.90	22.20	0.0102	0.0118	0.2161	-0.35	2.79

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 39	6E-1H-2 / MEM, 51-62 cm	52.92	53.03	8.437	1.281	na	na	na	na	na	na	na	na	na
GS 40	6E-2H-2 / MEM, 77-83 cm	55.24	55.30	8.643	1.415	na	na	na	na	na	na	na	na	na
GS 41	6E-3E-1 / MEM, 26-34 cm	57.26	57.34	6.344	1.544	na	na	na	na	na	na	na	na	na
GS 42	6E-3E-2 / MEM, 26-31 cm	58.28	58.33	7.075	1.432	na	na	na	na	na	na	na	na	na
GS 43	7A-1H-1 / MEM, 34-40 cm	14.45	14.51	0.831	1.977	na	na	na	na	na	na	na	na	na
GS 44	7A-1H-1 / MEM, 84-92 cm	14.95	15.03	10.922	1.423	na	na	na	na	na	na	na	na	na
GS 45	7A-1H-2 / MEM, 58-68 cm	15.91	16.01	8.740	1.401	na	na	na	na	na	na	na	na	na
GS 46	7A-2H-1 / MEM, 107-114 cm	18.13	18.20	1.514	1.949	na	na	na	na	na	na	na	na	na
GS 47	7A-2H-2 / MEM, 32-40 cm	18.76	18.84	2.380	1.801	na	na	na	na	na	na	na	na	na
GS 48	7A-2H-2 / MEM, 124-132 cm	19.68	19.76	6.253	1.572	na	na	na	na	na	na	na	na	na
GS 49	7A-3H-1 / MEM, 106-114 cm	21.09	21.17	3.822	1.618	na	na	na	na	na	na	na	na	na
GS 50	7A-3H-2 / MEM, 91-100 cm	22.25	22.34	5.325	1.615	na	na	na	na	na	na	na	na	na
GS 51	7A-4H-1 / MEM, 40-47 cm	23.44	23.51	0.701	1.993	na	na	na	na	na	na	na	na	na
GS 52	7A-4H-2 / MEM, 92-100 cm	25.14	25.22	46.834	1.017	na	na	na	na	na	na	na	na	na
GS 53	7B-1H-1 / MEM, 68-79 cm	24.70	24.81	na	1.357	na	na	na	na	na	na	na	na	na
GS 54	7B-1H-2 / MEM, 46-56 cm	25.83	25.93	1.999	2.009	na	na	na	na	na	na	na	na	na
GS 55	7B-2H-1 / MEM, 82-90 cm	28.03	28.11	1.240	1.876	na	na	na	na	na	na	na	na	na
GS 56	7B-2H-2 / MEM, 104-112 cm	29.40	29.48	1.466	1.837	na	na	na	na	na	na	na	na	na
GS 57	7B-3H-1 / MEM, 18-28 cm	30.08	30.18	na	1.287	na	na	na	na	na	na	na	na	na
GS 58	7B-3H-1 / MEM, 74-82 cm	30.64	30.72	1.474	1.952	na	na	na	na	na	na	na	na	na
GS 59	7B-3H-2 / MEM, 24-34 cm	31.38	31.48	3.961	1.796	1.07	17.37	60.03	21.53	0.0107	0.0136	0.1780	-0.67	3.39
GS 60	7B-4H-1 / MEM, 54-65 cm	33.00	33.11	7.048	1.673	1.41	84.56	10.81	3.22	0.2517	0.1908	0.2382	1.53	6.08
GS 61	7B-5H-1 / MEM, 57-71 cm	33.86	33.98	4.751	1.605	0.84	85.41	9.82	3.93	0.1975	0.1518	0.2570	1.77	6.98
GS 62	7B-5H-1 / MEM, 95-107 cm	34.17	34.27	5.092	1.727	0.00	48.30	40.70	11.00	0.0579	0.0387	0.2003	0.75	2.79
GS 63	7B-6H-1 / MEM, 37-49 cm	34.57	34.68	6.035	1.580	0.00	39.22	48.10	12.67	0.0396	0.0304	0.2017	0.56	2.67
GS 64	7B-7H-1 / MEM, 95-113 cm	36.30	36.48	7.270	1.601	0.00	17.46	42.37	40.17	0.0072	0.0074	0.1406	0.04	2.09
GS 65	7B-8H-1 / MEM, 103-114 cm	37.86	37.97	3.441	1.761	0.00	87.30	9.80	2.90	0.1934	0.1406	0.3186	2.40	9.37
GS 66	7B-9H-1 / MEM, 72-82 cm	39.09	39.19	na	1.531	0.00	21.00	67.20	11.80	0.0294	0.0221	0.2736	0.86	3.35
GS 67	7B-10H-1 / MEM, 61-72 cm	40.48	40.59	3.872	1.609	0.00	31.10	59.60	9.30	0.0372	0.0294	0.2606	0.82	3.53
GS 67R	7B-10H-1 / MEM, 61-72 cm	40.48	40.59	3.872	1.609	0.00	31.30	60.50	8.20	0.0372	0.0296	0.2624	0.80	3.54
GS 68	7B-11H-1 / MEM, 3-15 cm	41.45	41.56	2.695	1.194	0.00	81.80	14.10	4.10	0.1638	0.1150	0.2679	1.79	6.44
GS 69	7B-11H-2 / MEM, 54-64 cm	43.37	43.47	4.837	1.606	0.00	31.80	56.70	11.50	0.0344	0.0266	0.2415	0.72	3.02
GS 70	7B-12H-1 / MEM, 7-19 cm	44.48	44.60	na	1.552	0.00	1.63	82.47	15.90	0.0126	0.0107	0.3487	0.76	3.55
GS 71	7B-12H-2 / MEM, 29-39 cm	44.93	44.98	6.044	1.510	0.00	0.00	81.10	18.90	0.0102	0.0086	0.3711	0.87	3.70
GS 72	7B-12H-3 / MEM, 34-44 cm	45.08	45.09	0.701	1.933	0.00	93.01	5.49	1.50	0.3209	0.2535	0.3511	2.57	11.89
GS 73	7C-1H-1 / MEM, 16-25 cm	14.49	14.58	2.198	1.840	0.00	82.80	13.40	3.80	0.2398	0.1487	0.2517	1.89	6.34
GS 74	7C-1H-2 / MEM, 64-74 cm	16.14	16.24	7.739	1.581	0.00	61.80	30.00	8.20	0.0921	0.0567	0.2176	1.13	3.64
GS 74R	7C-1H-2 / MEM, 64-74 cm	16.14	16.24	7.739	1.581	0.00	62.00	29.90	8.10	0.0934	0.0571	0.2176	1.13	3.65
GS 75	7C-2H-1 / MEM, 86-95 cm	17.57	17.66	1.230	1.881	0.00	92.50	5.90	1.60	0.2912	0.2333	0.3487	2.52	11.44
GS 76	7C-2H-2 / MEM, 54-64 cm	18.75	18.85	1.162	1.929	0.00	92.81	5.50	1.70	0.2415	0.2031	0.3610	2.59	12.28
GS 77	7C-3H-1 / MEM, 72-80 cm	20.36	20.44	7.376	1.533	0.00	22.70	62.80	14.50	0.0240	0.0194	0.2483	0.61	2.79
GS 77R	7C-3H-1 / MEM, 72-80 cm	20.36	20.44	7.376	1.533	0.00	23.80	61.80	14.40	0.0247	0.0199	0.2432	0.60	2.78
GS 78	7C-3H-2 / MEM, 70-79 cm	21.78	21.86	6.206	1.486	0.00	24.60	65.00	10.40	0.0330	0.0235	0.2892	0.99	3.46
GS 79	7C-4H-1 / MEM, 34-44 cm	23.00	23.10	6.090	1.534	0.00	15.70	68.50	15.80	0.0213	0.0169	0.2606	0.60	2.88

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GS 80	7C-4H-2 / MEM, 35-44 cm	23.49	23.58	0.668	1.980	1.55	92.24	4.78	1.43	0.3322	0.2832	0.3322	2.09	10.47
GS 81	7C-4H-3 / MEM, 124-131 cm	25.17	25.24	2.979	1.715	0.00	90.31	7.49	2.20	0.2588	0.2031	0.3099	2.19	8.98
GS 82	7C-5H-1 / MEM, 17-29 cm	25.72	25.84	19.332	1.210	0.00	71.64	23.07	5.29	0.1224	0.0698	0.2698	1.57	4.85
GS 83	7C-6H-1 / MEM, 25-37 cm	27.52	27.62	48.950	1.027	0.00	45.96	41.65	12.39	0.0504	0.0317	0.2146	0.72	2.54
GS 84	7C-6H-2 / MEM, 73-81 cm	29.34	29.42	1.509	1.850	0.00	93.71	4.89	1.40	0.2736	0.2398	0.3511	2.17	10.24
GS 85	7C-7H-1 / MEM, 90-99 cm	31.10	31.19	1.661	1.857	0.00	92.82	5.78	1.40	0.2606	0.2207	0.3610	2.21	10.17
GS 86	7C-7H-2 / MEM, 92-102 cm	32.50	32.60	4.727	1.604	0.00	34.47	52.05	13.49	0.0352	0.0252	0.2285	0.76	2.84
GS 86R	7C-7H-2 / MEM, 92-102 cm	32.50	32.60	4.727	1.604	0.00	32.89	53.25	13.86	0.0330	0.0242	0.2269	0.70	2.84
GS 87	7C-9H-2 / MEM, 85-93 cm	35.40	35.47	0.903	1.865	0.00	94.20	4.30	1.50	0.2570	0.2102	0.4005	3.30	16.35
GS 88	7C-8H-1 / MEM, 74-81 cm	33.84	33.91	1.366	1.780	0.20	92.09	5.95	1.76	0.3143	0.2535	0.3209	2.28	10.06
GS 89	7C-9H-3 / MEM, 75-84 cm	36.53	36.61	5.034	1.503	0.00	50.32	38.61	11.07	0.0634	0.0427	0.1908	0.70	2.81
GS 90	7C-10H-1 / MEM, 60-70 cm	37.71	37.80	3.316	1.792	0.00	87.70	9.60	2.70	0.2073	0.1604	0.2973	1.98	7.85
GS 91	7C-10H-2 / MEM, 73-82 cm	39.23	39.32	4.396	1.669	0.00	46.70	43.60	9.70	0.0571	0.0361	0.2500	1.18	3.74
GS 92	7C-11H-1 / MEM, 43-52 cm	40.62	40.71	4.034	1.633	0.00	19.60	68.30	12.10	0.0276	0.0206	0.2813	0.94	3.45
GS 93	7C-11H-2 / MEM, 49-57 cm	41.58	41.66	5.240	1.688	0.00	13.90	70.30	15.80	0.0186	0.0154	0.2717	0.61	2.86
GS 94	7C-12H-1 / MEM, 58-68 cm	43.32	43.42	6.061	1.597	0.00	82.50	13.00	4.50	0.1843	0.1285	0.2449	1.71	5.94
GS 95	7C-12H-2 / MEM, 69-79 cm	44.75	44.85	29.311	1.685	0.00	37.00	54.70	8.30	0.0448	0.0321	0.2774	1.14	4.00
GS-95R	7C-12H-2 / MEM, 69-79 cm	44.75	44.85	29.311	1.685	0.00	35.40	56.20	8.40	0.0427	0.0315	0.2774	1.09	3.91
GS 96	7C-13H-1 / MEM, 10-20 cm	45.83	45.93	5.900	1.574	0.00	0.03	76.77	23.20	0.0089	0.0075	0.3585	0.72	3.36
GS 97	7C-13H-3 / MEM, 38-48 cm	46.41	46.48	4.887	1.617	0.00	21.40	65.80	12.80	0.0232	0.0203	0.2483	0.46	3.00
GS 98	7C-13H-3 / MEM, 126-135 cm	47.02	47.08	0.927	1.761	0.00	94.71	4.19	1.10	0.3487	0.2872	0.3816	2.73	13.54
GS 99	8A-1H-2 / MEM, 64-73 cm	10.64	10.73	0.776	1.805	9.47	88.68	1.70	0.15	0.5510	0.5471	0.3896	0.85	5.66
GS 100	8A-1H-3 / MEM, 89-101 cm	11.78	11.90	0.532	1.937	0.32	97.62	1.86	0.20	0.4763	0.4263	0.4965	2.59	15.92
GS 101	8A-2H-2 / MEM, 47-56 cm	13.87	13.96	na	1.710	0.00	84.22	13.58	2.20	0.1507	0.1174	0.3368	1.86	7.53
GS 102	8A-3H-2 / MEM, 73-84 cm	15.55	15.63	0.453	2.138	19.23	78.77	1.82	0.18	0.7371	0.7792	0.2973	0.40	4.07
GS 103	8A-4H-1 / MEM, 44-51 cm	16.67	16.74	0.430	2.041	4.18	93.80	1.77	0.25	0.6373	0.5783	0.4475	2.17	13.41
GS 104	8A-4H-2 / MEM, 69-77 cm	17.47	17.55	0.442	1.918	14.66	84.51	0.77	0.06	0.9202	0.8827	0.4633	1.58	9.46
GS 105	8A-7H-2 / MEM, 51-63 cm	19.88	20.00	na	2.027	0.85	93.76	4.51	0.88	0.2382	0.2059	0.4353	2.39	13.83
GS 106	8A-8H-1 / MEM, 110-118 cm	22.40	22.48	0.414	2.130	18.07	80.26	1.40	0.27	0.7170	0.8236	0.3322	0.56	6.01
GS 107	8A-8H-2 / MEM, 0-13 cm	22.71	22.73	4.767	1.687	0.00	10.80	77.70	11.50	0.0185	0.0162	0.3143	0.64	3.41
GS 108	8A-10H-1 / MEM, 77-85 cm	23.91	23.99	1.426	1.892	0.00	89.24	9.17	1.59	0.1817	0.1528	0.3610	2.11	9.54
GS 109	8A-11H-1 / MEM, 76-83 cm	25.28	25.35	7.301	1.436	0.00	60.10	34.30	5.60	0.0884	0.0552	0.2553	1.09	3.64
GS 110	8A-12H-1 / MEM, 38-52 cm	26.41	26.55	5.706	1.536	0.00	48.80	45.00	6.20	0.0595	0.0421	0.2570	0.85	3.26
GS 111	8A-12H-2 / MEM, 38-47 cm	27.77	27.86	4.153	1.612	0.00	78.10	19.20	2.70	0.1207	0.0909	0.3253	1.76	6.62
GS 112	8A-13H-1 / MEM, 68-78 cm	29.50	29.60	2.676	1.802	0.00	72.20	24.80	3.00	0.1073	0.0786	0.3253	1.68	6.24
GS 113	8A-13H-2 / MEM, 44-55 cm	30.69	30.80	5.523	1.684	0.00	4.94	82.76	12.30	0.0175	0.0144	0.3392	0.89	3.80
GS 114	8A-14H-1 / MEM, 27-37 cm	32.13	32.23	4.927	1.684	0.00	8.01	80.59	11.40	0.0177	0.0156	0.3164	0.45	3.89
GS 115	8A-14H-2 / MEM, 25-33 cm	32.92	33.00	na	1.900	0.00	90.80	7.40	1.80	0.2415	0.1934	0.3392	2.26	9.67
GS 116	8B-1H-1 / MEM, 30-38 cm	11.48	11.56	0.443	2.063	3.23	93.58	2.72	0.48	0.5704	0.4633	0.3511	1.34	7.26
GS 117	8B-1H-2 / MEM, 69-78 cm	12.67	12.76	0.296	1.986	0.13	96.99	2.39	0.50	0.4633	0.3869	0.4538	3.04	17.04
GS 118	8B-2H-1 / MEM, 104-112 cm	15.24	15.32	3.032	1.748	0.00	85.90	10.60	3.50	0.1731	0.1207	0.3057	2.39	8.86
GS 119	8B-2H-2 / MEM, 62-71 cm	16.04	16.13	0.847	2.060	0.02	25.07	39.37	35.55	0.0106	0.0107	0.1174	0.04	2.08
GS 120	8B-3H-1 / MEM, 50-58 cm	17.67	17.75	0.603	2.107	0.09	25.59	39.24	35.09	0.0111	0.0112	0.1142	0.02	2.11
GS 121	8B-3H-2 / MEM, 117-127 cm	19.17	19.27	2.585	1.444	6.04	88.81	4.04	1.12	0.4118	0.3896	0.3057	1.56	8.71



lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 122	8C-2H-1 / MEM, 92-101 cm	20.05	20.14	2.915	1.856	0.00	88.51	8.79	2.70	0.2192	0.1560	0.3143	2.46	9.45
GS 123	8C-2H-2 / MEM, 52-61 cm	20.93	21.01	6.291	1.655	0.00	7.55	76.65	15.80	0.0178	0.0141	0.2973	0.77	3.13
GS 123R	8C-2H-2 / MEM, 52-61 cm	20.93	21.01	6.291	1.655	0.00	8.97	75.33	15.70	0.0185	0.0146	0.2912	0.76	3.10
GS 124	8C-3H-1 / MEM, 52-61 cm	22.54	22.62	4.311	1.660	0.00	9.79	76.41	13.80	0.0160	0.0142	0.3057	0.58	3.25
GS 125	8C-3H-2 / MEM, 63-71 cm	23.64	23.72	0.409	2.042	2.04	95.38	1.98	0.60	0.4730	0.4538	0.3978	2.14	13.17
GS 126	8C-4H-1 / MEM, 75-83 cm	25.18	25.26	3.588	1.694	0.00	52.50	39.30	8.20	0.0684	0.0418	0.2483	1.17	3.72
GS 127	8C-4H-2 / MEM, 77-87 cm	26.56	26.65	5.869	1.559	0.00	66.70	27.10	6.20	0.0941	0.0579	0.2774	1.65	5.20
GS 128	8C-5H-1 / MEM, 56-65 cm	27.87	27.96	2.220	1.704	0.00	70.90	24.10	5.00	0.0974	0.0638	0.3078	1.92	6.44
GS 129	8C-5H-2 / MEM, 26-36 cm	28.93	29.03	5.152	1.630	0.00	6.27	78.33	15.40	0.0165	0.0135	0.3099	0.76	3.24
GS 130	8C-6H-1 / MEM, 69-79 cm	30.97	31.06	3.938	1.689	0.00	11.60	79.00	9.40	0.0306	0.0219	0.3276	1.31	4.45
GS 131	8C-6H-3 / MEM, 40-50 cm	32.13	32.22	4.984	1.340	0.00	59.50	29.90	10.60	0.0915	0.0433	0.2192	1.15	3.27
GS 132	8C-7H-1 / MEM, 18-28 cm	33.41	33.50	5.683	1.654	0.00	0.00	82.90	17.10	0.0107	0.0087	0.3923	1.14	4.27
GS 133	9A-1H-1 / MEM, 90-103 cm	11.31	11.42	4.682	1.877	0.00	96.82	2.88	0.30	0.3923	0.3439	0.4601	2.31	12.26
GS 134	9A-1H-2 / MEM, 83-94 cm	12.43	12.53	na	1.454	0.00	52.10	42.90	5.00	0.0661	0.0480	0.2912	0.75	2.82
GS 135	9A-2H-1 / MEM, 49-56 cm	13.94	14.01	3.116	1.695	0.00	60.40	35.80	3.80	0.1191	0.0652	0.2517	0.74	2.36
GS 136	9A-2H-3 / MEM, 110-119 cm	15.74	15.83	0.660	1.803	0.00	96.31	3.29	0.40	0.3842	0.3368	0.4538	2.63	13.74
GS 137	9A-3H-1 / MEM, 72-80 cm	16.65	16.73	0.690	2.042	6.21	89.75	3.77	0.27	0.4444	0.4090	0.3789	1.31	7.57
GS 138	9A-3H-2 / MEM, 39-48 cm	17.46	17.55	4.038	1.587	0.00	31.60	65.10	3.30	0.0421	0.0369	0.3635	0.57	3.23
GS 139	9A-4H-2 / MEM, 72-80 cm	19.80	19.87	0.267	2.150	24.04	71.32	4.41	0.22	0.7738	0.6071	0.2793	0.95	3.80
GS 140	9A-5H-1 / MEM, 53-61 cm	21.12	21.19	na	2.118	17.24	80.57	2.04	0.15	0.4897	0.6373	0.2892	-0.13	4.03
GS 141	9A-7H-1 / MEM, 69-78 cm	23.71	23.78	0.326	2.071	0.45	97.88	1.49	0.19	0.5249	0.4863	0.4931	2.33	15.12
GS 142	9A-8H-2 / MEM, 93-101 cm	25.58	25.66	1.409	1.790	0.00	84.90	13.90	1.20	0.2222	0.1604	0.3392	1.68	6.01
GS 143	9A-9H-1 / MEM, 88-96 cm	26.88	26.96	4.565	1.632	0.00	54.70	42.20	3.10	0.0708	0.0540	0.3276	0.88	3.24
GS 144	9A-9H-2 / MEM, 74-83 cm	27.94	28.02	4.397	1.685	0.00	33.00	62.50	4.50	0.0396	0.0340	0.3345	0.49	2.77
GS 145	9A-10H-1 / MEM, 40-49 cm	29.24	29.32	3.470	1.647	0.00	66.70	31.30	2.00	0.1008	0.0728	0.3231	1.04	3.45
GS 146	9A-10H-3 / MEM, 70-79 cm	30.98	31.07	5.102	1.748	0.00	19.10	74.60	6.30	0.0270	0.0234	0.3610	0.43	2.34
GS 147	9A-11H-1 / MEM, 107-116 cm	32.28	32.42	na	1.628	0.00	8.65	87.05	4.30	0.0178	0.0181	0.3896	-0.48	3.61
GS 148	9C-1H-1 / MEM, 62-69 cm	11.29	11.36	0.507	2.017	0.00	95.92	3.39	0.70	0.4444	0.3487	0.4033	2.62	12.87
GS 149	9C-1H-2 / MEM, 105-114 cm	12.56	12.65	1.349	1.885	0.00	92.42	5.59	2.00	0.2535	0.2176	0.3276	2.44	10.76
GS 150	9C-2H-1 / MEM, 16-26 cm	13.40	13.50	9.250	1.481	0.00	4.81	76.69	18.50	0.0150	0.0121	0.2994	0.66	2.88
GS 150R	9C-2H-1 / MEM, 16-26 cm	13.40	13.50	9.250	1.481	0.00	3.36	77.54	19.10	0.0143	0.0115	0.3035	0.68	2.96
GS 151	9C-2H-2 / MEM, 17-26 cm	14.51	14.60	0.458	2.067	6.77	89.78	2.77	0.67	0.4763	0.4633	0.3322	1.20	8.25
GS 152	9C-2H-2 / MEM, 98-107 cm	15.31	15.40	7.625	1.562	0.00	20.00	65.40	14.60	0.0242	0.0185	0.2643	0.76	2.95
GS 153	9C-3H-1 / MEM, 88-98 cm	16.84	16.94	1.012	1.952	0.51	95.26	3.44	0.79	0.3511	0.3099	0.4033	2.61	13.67
GS 154	9C-3H-2 / MEM, 26-36 cm	17.34	17.42	3.046	1.731	0.00	5.68	81.52	12.80	0.0223	0.0165	0.3143	1.09	3.88
GS 155	9C-4H-1 / MEM, 44-54 cm	19.12	19.22	0.577	2.076	4.94	92.37	2.16	0.52	0.5396	0.5000	0.3869	1.73	11.03
GS 156	9C-4H-2 / MEM, 70-79 cm	20.25	20.34	0.451	1.936	3.54	93.26	2.75	0.44	0.4353	0.4061	0.3816	1.33	8.79
GS 157	9C-5H-1 / MEM, 51-61 cm	21.41	21.51	0.186	2.259	46.38	52.07	1.23	0.32	1.3104	1.5692	0.2553	0.91	4.55
GS 158	9C-5H-2 / MEM, 46-57 cm	22.04	22.13	6.339	1.607	2.46	83.92	11.26	2.36	0.1805	0.1560	0.2793	1.18	6.48
GS 159	9C-6H-1 / MEM, 60-68 cm	23.38	23.46	0.374	2.089	5.18	90.93	3.26	0.63	0.4234	0.4118	0.3536	1.31	9.27
GS 160	9C-6H-2 / MEM, 70-78 cm	24.76	24.83	1.674	1.942	0.00	96.51	2.89	0.60	0.3610	0.3253	0.4444	3.01	16.66
GS 161	9C-7H-1 / MEM, 70-81 cm	26.48	26.59	3.433	1.640	0.00	71.20	23.00	5.80	0.1029	0.0638	0.2872	1.84	5.91
GS 162	9C-7H-2 / MEM, 65-74 cm	27.89	27.98	3.842	1.647	0.00	15.80	71.20	13.00	0.0257	0.0188	0.2852	0.95	3.37
GS 162R	9C-7H-2 / MEM, 65-74 cm	27.89	27.98	3.842	1.647	0.00	18.50	68.70	12.80	0.0270	0.0198	0.2793	0.95	3.36

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 163	9C-8H-1 / MEM, 57-67 cm	29.27	29.36	6.669	1.602	0.00	14.70	67.00	18.30	0.0191	0.0149	0.2570	0.60	2.68
GS 164	9C-8H-4 / MEM, 70-79 cm	30.85	30.94	3.902	1.670	0.00	0.00	78.70	21.30	0.0092	0.0080	0.3560	0.80	3.61
GS 164R	9C-8H-4 / MEM, 70-79 cm	30.85	30.94	3.902	1.670	0.00	0.00	78.50	21.50	0.0090	0.0078	0.3610	0.84	3.68
GS 165	9C-9H-2 / MEM, 33-43 cm	32.09	32.19	5.001	1.660	0.00	7.29	78.21	14.50	0.0191	0.0149	0.3057	0.84	3.31
GS 166	9C-9H-3 / MEM, 10-20 cm	32.66	32.75	4.309	1.531	0.00	42.80	48.00	9.20	0.0497	0.0356	0.2415	0.89	3.34

See Tables 3 and 4 for explanation of column headings.

Table 6. Sedimentologic data from the May-June 2002 deep coring mercury methylation/demethylation subsamples.

lab ID	core ID	top (mbls)	bottom (mbls)	LOI (wt. %)	$\rho_w$ (g/cm <sup>3</sup> )	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
1C-mid	1C-2E-1 / MDP, 4-104 cm	63.66	64.66	9.16	1.401	0.00	16.20	69.00	14.80	0.0166	0.0333	0.0422	2.14	4.48
1C-bottom	1C-3E-1 / MDP, 2-85 cm	66.33	67.07	5.72	1.424	0.00	6.10	69.60	24.30	0.0086	0.0172	0.0252	3.06	10.27
4B-mid	4B-3H-2 / MDP, 0-100 cm	41.48	42.41	6.71	1.341	0.00	47.70	44.88	7.42	0.0549	0.1008	0.1076	1.25	0.89
4B-bottom	4B-6H-1 / MDP, 0-80 cm	49.42	50.19	6.23	1.569	0.00	9.26	74.74	16.00	0.0128	0.0234	0.0297	2.53	7.06
9A-mid	9A-5H-2 / MDP, 3-103 cm	21.67	22.67	0.23	2.033	5.74	90.21	3.34	0.70	0.4033	0.4090	0.3415	1.23	9.10
9A-bottom	9A-11H-2 / MDP, 4-54 cm	32.46	32.96	3.79	1.629	0.00	7.53	77.27	15.20	0.0132	0.0243	0.0379	3.90	17.41

See Tables 3 and 4 for explanation of column headings.

Table 7. Sedimentologic data from the October 2002 box-core samples.

lab #	core ID	LOI (wt. %)	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 200	10F-B, 0-1	9.847	0.00	2.55	79.25	18.20	0.0139	0.0113	0.3186	0.72	3.10
GS 201	10F-B, 1-2	7.832	0.00	5.70	77.20	17.10	0.0153	0.0124	0.3035	0.67	3.11
GS 202	10F-B, 2-3	5.542	0.00	14.60	69.10	16.30	0.0167	0.0154	0.2483	0.20	2.89
GS 203	10F-B, 3-4	8.510	0.00	16.60	67.60	15.80	0.0177	0.0167	0.2349	0.12	2.88
GS 204	10F-B, 4-8 (1/2)	4.453	0.00	21.40	64.50	14.10	0.0198	0.0198	0.2222	0.14	2.75
GS 205	10F-B, 4-8 (2/2)	6.110	0.00	4.57	78.03	17.40	0.0149	0.0120	0.3078	0.70	3.12
GS 205R	10F-B, 4-8 (2/2)	6.110	0.00	19.10	66.10	14.80	0.0188	0.0185	0.2238	0.09	2.83
GS 206	10F-B, 8-12	8.102	0.00	25.20	62.60	12.20	0.0238	0.0237	0.2192	0.20	2.72
GS 207	10G-B, 0-1	11.954	0.00	23.90	62.00	14.10	0.0198	0.0212	0.2045	0.04	2.59
GS 208	10G-B, 1-2	11.782	0.00	18.00	67.40	14.60	0.0187	0.0182	0.2285	0.08	2.93
GS 209	10G-B, 2-3	9.509	0.00	2.86	78.64	18.50	0.0133	0.0110	0.3164	0.70	3.17
GS 210	10G-B, 3-4	7.752	0.00	19.20	66.00	14.80	0.0185	0.0185	0.2238	0.08	2.79
GS 211	10G-B, 4-8	15.717	0.00	22.90	63.40	13.70	0.0206	0.0211	0.2117	0.10	2.70
GS 212	10G-B, 8-12 (1/2)	8.924	0.00	20.00	66.10	13.90	0.0190	0.0192	0.2238	0.07	2.84
GS 213	10G-B, 8-12 (2/2)	8.594	0.00	18.60	67.20	14.20	0.0185	0.0185	0.2285	0.08	2.90
GS 213R	10G-B, 8-12 (2/2)	8.594	0.00	14.50	70.80	14.70	0.0175	0.0164	0.2500	0.16	3.10
GS 214	11A-B, 0-4	6.403	0.00	3.03	66.17	30.80	0.0069	0.0066	0.3143	0.12	3.05
GS 215	11A-B, 4-8	6.712	0.00	24.10	53.30	22.60	0.0120	0.0154	0.1708	-0.20	2.22
GS 216	11A-B, 8-12	5.058	0.00	22.60	55.20	22.20	0.0106	0.0142	0.1780	-0.36	2.36
GS 217	11B-B, 0-4	9.458	0.00	26.80	49.20	24.00	0.0110	0.0154	0.1604	-0.22	2.08
GS 218	11B-B, 4-8	6.527	0.00	4.99	64.61	30.40	0.0071	0.0070	0.2952	0.04	2.89
GS 219	11B-B, 8-12	7.903	0.00	5.34	65.26	29.40	0.0071	0.0070	0.3035	-0.04	3.12
GS 220	11C-B1, 0-4	5.182	0.00	2.72	64.98	32.30	0.0065	0.0061	0.3231	0.11	3.16
GS 221	11C-B1, 4-8	6.214	0.00	5.13	66.17	28.70	0.0076	0.0073	0.2952	0.05	3.03
GS 222	11C-B1, 8-12	6.175	0.00	8.68	64.22	27.10	0.0083	0.0084	0.2624	-0.17	2.99
GS 222R	11C-B1, 8-12	6.175	0.00	2.42	68.78	28.80	0.0075	0.0070	0.3164	0.26	2.96
GS 223	11C-B2, 0-4	6.132	0.00	26.40	49.30	24.30	0.0100	0.0149	0.1560	-0.32	2.10
GS 224	11C-B2, 4-8	6.635	0.00	17.40	56.60	26.00	0.0093	0.0114	0.1934	-0.37	2.59
GS 225	11C-B2, 8-12	6.061	0.00	18.30	57.90	23.80	0.0102	0.0123	0.1948	-0.33	2.57
GS 226	11D-B, 0-4	7.323	0.00	23.50	54.90	21.60	0.0133	0.0160	0.1743	-0.14	2.29
GS 227	11D-B, 4-8	6.638	0.00	2.37	70.03	27.60	0.0078	0.0071	0.3209	0.28	2.97
GS 228	11D-B, 8-12	5.544	0.00	2.90	66.50	30.60	0.0069	0.0065	0.3186	0.13	3.11
GS 229	11E-B, 0-4	7.078	0.00	4.69	68.19	27.11	0.0078	0.0074	0.2932	-0.40	4.93
GS 229R	11E-B, 0-4	7.078	0.74	10.41	64.25	24.60	0.0087	0.0096	0.2300	-0.78	4.71
GS 230	11E-B, 4-7	6.162	4.07	6.03	63.64	26.26	0.0082	0.0100	0.1731	-1.49	6.33
GS 231	11F-B, 0-1	8.069	0.00	0.00	62.10	37.90	0.0055	0.0050	0.3511	0.35	2.83
GS 232	11F-B, 1-2	5.954	0.00	1.33	65.87	32.80	0.0064	0.0058	0.3368	0.26	3.05
GS 233	11F-B, 2-3	7.226	0.00	12.60	60.60	26.80	0.0081	0.0092	0.2285	-0.46	3.08
GS 234	11F-B, 3-4	6.660	0.00	13.60	61.60	24.80	0.0092	0.0102	0.2285	-0.26	2.81
GS 235	11F-B, 4-8	na	0.00	9.59	64.91	25.50	0.0087	0.0091	0.2535	-0.23	3.10
GS 236	11F-B, 8-9	6.033	0.00	0.03	69.67	30.30	0.0074	0.0065	0.3299	0.46	2.78
GS 236R	11F-B, 8-9	6.033	0.00	7.54	65.56	26.90	0.0087	0.0084	0.2679	-0.02	2.88
GS 237	11G-B, 0-4	7.472	0.00	2.12	66.28	31.60	0.0066	0.0061	0.3322	0.17	3.22
GS 238	11G-B, 4-8	6.527	0.00	11.70	64.00	24.30	0.0096	0.0102	0.2365	-0.23	2.93

lab #	core ID	LOI (wt. %)	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 239	11G-B, 8-12	6.327	0.00	10.30	63.70	26.00	0.0088	0.0093	0.2415	-0.29	3.05
GS 240	12A-B, 0-4	8.874	0.00	31.60	57.70	10.70	0.0398	0.0294	0.2466	0.83	3.41
GS 241	12A-B, 4-8	7.328	0.00	19.30	68.30	12.40	0.0270	0.0205	0.2755	0.88	3.36
GS 242	12A-B, 8-10	7.277	0.00	23.60	64.40	12.00	0.0298	0.0235	0.2483	0.61	3.18
GS 243	12B-B, 0-2	7.191	0.00	42.70	48.10	9.20	0.0518	0.0374	0.2432	0.97	3.65
GS 244	12B-B, 2-4	6.394	0.00	31.70	57.50	10.80	0.0377	0.0286	0.2449	0.76	3.28
GS 245	12B-B, 4-7.5	5.617	0.00	30.38	58.64	10.99	0.0379	0.0263	0.2679	1.03	3.54
GS 246	12C-B, 0-2	5.718	0.00	37.60	51.42	10.98	0.0464	0.0294	0.2570	1.10	3.58
GS 247	12C-B, 2-4	4.791	0.00	46.87	44.44	8.69	0.0579	0.0393	0.2500	1.10	3.93
GS 248	12C-B, 4-5.5	3.616	0.08	59.45	33.99	6.48	0.0825	0.0733	0.1895	0.55	3.22
GS 249	12D-B, 0-2	6.639	0.00	33.30	54.60	12.10	0.0430	0.0266	0.2588	1.10	3.41
GS 250	12D-B, 2-4	6.344	0.00	46.40	45.00	8.60	0.0579	0.0385	0.2606	1.23	4.12
GS 250R	12D-B, 2-4	6.344	0.00	46.30	45.10	8.60	0.0575	0.0390	0.2535	1.14	4.00
GS 251	12D-B, 4-7	5.038	0.00	47.30	44.00	8.70	0.0583	0.0401	0.2466	1.09	3.82
GS 282	12E-B, 0-2	7.636	0.00	36.50	53.40	10.10	0.0477	0.0317	0.2643	1.21	3.95
GS 252	12E-B, 2-4	6.236	0.00	37.00	53.60	9.40	0.0458	0.0333	0.2553	0.99	3.76
GS 253	12E-B, 4-6	6.206	0.00	27.60	61.30	11.10	0.0374	0.0254	0.2774	1.15	3.70
GS 254	13-B, 0-4	7.969	0.00	4.16	69.54	26.30	0.0086	0.0079	0.3015	0.21	2.96
GS 255	13-B, 4-8	6.378	0.00	8.12	69.38	22.50	0.0104	0.0099	0.2698	0.06	3.05
GS 256	13-B, 8-12	5.218	0.00	9.84	69.36	20.80	0.0117	0.0111	0.2643	0.11	2.90
GS 256R	13-B, 8-12	5.218	0.00	13.40	67.00	19.60	0.0127	0.0128	0.2398	-0.04	2.87
GS 257	14-B, 0-4	8.360	0.00	10.80	67.60	21.60	0.0118	0.0113	0.2517	0.05	2.83
GS 258	14-B, 4-8	6.947	0.00	2.49	76.41	21.10	0.0109	0.0093	0.3209	0.55	3.10
GS 259	14-B, 8-12	6.671	0.00	2.90	77.70	19.40	0.0120	0.0102	0.3186	0.62	3.17
GS 260	15-B, 0-4	6.800	0.00	17.10	69.10	13.80	0.0212	0.0187	0.2466	0.32	3.03
GS 261	15-B, 4-8	9.322	0.00	15.50	70.40	14.10	0.0208	0.0178	0.2570	0.41	3.09
GS 262	15-B, 8-12	7.423	0.00	12.90	72.80	14.30	0.0206	0.0165	0.2813	0.72	3.15
GS 263	16-B, 0-4	7.944	0.00	10.10	75.00	14.90	0.0205	0.0157	0.2912	0.80	3.22
GS 264	16-B, 4-8	6.476	0.00	16.00	70.50	13.50	0.0221	0.0183	0.2661	0.55	3.17
GS 264R	16-B, 4-8	6.476	0.00	16.30	70.00	13.70	0.0221	0.0183	0.2624	0.53	3.13
GS 265	17-B, 0-4	7.410	0.00	11.20	61.90	26.90	0.0083	0.0089	0.2432	-0.32	3.01
GS 266	17-B, 4-8	11.189	0.00	3.36	69.74	26.90	0.0083	0.0076	0.3078	0.25	2.96
GS 267	17-B, 8-10	3.396	0.00	14.50	63.30	22.20	0.0110	0.0116	0.2300	-0.11	2.75
GS 268	18-B, 0-4	8.341	0.00	20.60	65.70	13.70	0.0256	0.0203	0.2483	0.55	2.99
GS 269	18-B, 4-8	6.847	0.00	19.00	67.50	13.50	0.0243	0.0199	0.2517	0.53	3.08
GS 270	18-B, 8-12	6.590	0.00	26.80	61.40	11.80	0.0319	0.0243	0.2535	0.78	3.27
GS 271	19-B, 0-4	7.741	0.00	20.50	68.00	11.50	0.0313	0.0227	0.2832	1.06	3.69
GS 272	19-B, 4-8	6.958	0.00	28.50	61.00	10.50	0.0352	0.0274	0.2588	0.84	3.53
GS 273	19-B, 8-10	7.315	0.00	30.30	59.20	10.50	0.0367	0.0288	0.2483	0.76	3.41
GS 274	23A-B, 0-1	8.456	0.00	17.80	68.00	14.20	0.0263	0.0192	0.2661	0.80	3.09
GS 275	23A-B, 1-2	8.114	0.00	22.20	64.30	13.50	0.0286	0.0216	0.2483	0.67	3.05
GS 276	23A-B, 2-3	7.911	0.00	24.90	62.40	12.70	0.0306	0.0235	0.2432	0.65	3.08
GS 277	23A-B, 3-4	6.626	0.00	15.90	70.30	13.80	0.0249	0.0185	0.2774	0.86	3.21
GS 278	23A-B, 4-8	5.543	0.00	22.40	64.90	12.70	0.0270	0.0224	0.2415	0.51	3.09

lab #	core ID	LOI (wt. %)	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
GS 279	23A-B, 8-10	6.480	0.00	38.20	52.02	9.78	0.0436	0.0337	0.2349	0.77	3.27
GS 280	23B-B, 0-4	9.470	0.00	25.10	62.20	12.70	0.0282	0.0238	0.2285	0.44	2.91

Explanation for Table 7.

**core ID**, indicates depth interval sampled in cm measured from the recovered sediment-water interface (lake-floor surface).

See Tables 3 and 4 for additional explanation of column headings.

Table 8. Sedimentologic data from the October 2002 gravity-core samples.

labID/ core ID	top (mblf)	bottom (mblf)	LOI (wt. %)	% gravel	% sand	% silt	% clay	D <sub>50</sub> (mm)	mean (mm)	s.d. (mm)	skew.	kurt.
10A-1G-1	0.00	0.15	5.082	0.17	2.33	76.85	20.65	0.0114	0.0099	0.3057	0.33	3.73
10B-1G-1	0.00	0.11	5.924	0.00	7.72	75.28	17.00	0.0166	0.0133	0.2892	0.70	3.06
10B-1G-2	0.11	0.21	1.293	0.07	80.96	14.28	4.69	0.1604	0.1001	0.2736	1.99	6.64
10C-1G-1	0.00	0.10	6.654	0.00	3.84	79.16	17.00	0.0156	0.0124	0.3099	0.77	3.15
10D-1G-1	0.00	0.11	6.844	0.00	6.70	76.10	17.20	0.0162	0.0130	0.2932	0.70	3.10
10D-1G-2	0.11	0.22	2.318	0.00	75.10	18.40	6.50	0.1416	0.0780	0.2449	1.71	5.13
10E-1G-1	0.00	0.11	6.108	0.00	10.50	72.60	16.90	0.0171	0.0140	0.2774	0.61	2.98
10E-1G-2	0.11	0.20	1.712	0.34	72.75	20.53	6.38	0.1387	0.0748	0.2415	1.54	4.82
11A-1G-1	0.00	0.48	4.650	0.00	0.00	70.80	29.20	0.0074	0.0065	0.3439	0.54	2.94
11A-1G-1R	0.00	0.48	4.650	0.00	0.00	71.30	28.70	0.0075	0.0065	0.3511	0.58	2.94
11B-1G-1	0.00	0.41	3.680	0.00	0.00	71.60	28.40	0.0076	0.0067	0.3487	0.57	2.89
11B-1G-1R	0.00	0.41	3.680	0.00	0.04	72.07	27.89	0.0080	0.0071	0.3322	0.47	2.93
11C-1G-1	0.00	0.56	6.833	0.00	9.86	70.84	19.30	0.0158	0.0130	0.2717	0.56	2.70
11D-1G-1	0.00	0.52	5.269	0.00	4.38	71.72	23.90	0.0106	0.0094	0.2872	0.41	2.67
12A-1G-1	0.00	0.12	6.538	0.00	13.90	71.70	14.40	0.0237	0.0175	0.2813	0.87	3.19
12B-1G-1	0.00	0.05	6.451	0.00	24.90	62.20	12.90	0.0319	0.0221	0.2643	0.96	3.27
12B-1G-2	0.05	0.17	0.521	0.22	95.95	2.97	0.86	0.5471	0.4204	0.3816	2.73	13.48
12D-1G-1	0.00	0.06	5.573	0.00	39.40	50.10	10.50	0.0480	0.0310	0.2588	1.17	3.68
12D-1G-2	0.06	0.15	0.478	1.06	95.89	2.36	0.70	0.6736	0.5249	0.3842	2.78	14.65
12E-1G-1	0.00	0.05	5.613	0.00	34.40	54.50	11.10	0.0424	0.0276	0.2661	1.14	3.60
12E-1G-1R	0.00	0.05	5.613	0.00	35.00	54.10	10.90	0.0433	0.0284	0.2643	1.14	3.63
12E-1G-2	0.05	0.09	0.928	0.00	91.32	6.59	2.10	0.3487	0.2517	0.3035	2.33	9.58

Explanation for Table 8.

**mblf**, meters below lake floor, lake-floor datum defined as the sediment-water interface preserved in the core liner.

See Tables 3 and 4 for additional explanation of column headings.

Table 9. Data from all grain-size replicate subsamples. All samples are laboratory replicate pairs except those marked with (1/2), which are core-replicate pairs. See text for definitions.

lab ID	% gravel	% sand	% silt	% clay	D <sub>50</sub>	D <sub>50</sub>	mean	mean	n
	IR1-R2I	IR1-R2I	IR1-R2I	IR1-R2I	IR1-R2I (ø)	RPD	IR1-R2I (ø)	RPD	
<b>April 2002 grab samples</b>									<b>3</b>
grab15 (1/2)	31.39	30.13	0.83	0.42	1.31	85.04	0.65	44.31	
grab16top (1/2)	na	1.80	1.41	0.39	0.02	1.39	0.06	4.16	
grab18int (1/2)	0.29	0.04	0.25	0.01	0.02	1.39	0.00	0.00	
<b>Y series</b>									<b>25</b>
1Y-16	na	0.10	0.10	0.20	0.05	3.47	0.03	2.08	
6Y-13 (1/2)	na	2.30	1.50	0.80	0.09	6.24	0.11	7.62	
4Y-8 (1/2)	na	0.10	0.00	0.10	0.01	0.69	0.01	0.69	
4Y-20	na	4.20	3.20	1.00	0.19	13.15	0.17	11.77	
4Y-29	na	5.10	3.90	1.20	0.22	15.22	0.20	13.84	
7Y-1	na	0.69	0.78	0.10	0.05	3.47	0.07	4.85	
7Y-17	na	1.43	1.03	0.40	0.04	2.77	0.05	3.47	
7Y-20	10.95	24.85	10.59	3.31	0.71	48.24	0.42	28.91	
7Y-32	0.04	0.66	0.60	0.10	0.05	3.47	0.06	4.16	
7Y-41	0.24	0.57	0.51	0.30	0.07	4.85	0.04	2.77	
7Y-46	na	0.50	0.40	0.10	0.03	2.08	0.01	0.69	
7Y-57	na	1.70	1.50	0.20	0.05	3.47	0.08	5.54	
7Y-64	na	1.20	1.10	0.10	0.02	1.39	0.06	4.16	
9Y-7 (1/2)	26.99	25.70	0.88	0.40	0.55	37.67	1.25	81.60	
9Y-8	na	5.60	4.50	1.10	0.20	13.84	0.25	17.29	
9Y-17 (1/2)	21.14	20.36	0.65	0.12	1.48	94.44	1.02	67.90	
9Y-18 (1/2)	11.99	12.49	0.34	0.17	1.39	89.53	0.27	18.66	
9Y-20	6.71	6.40	0.25	0.06	0.01	0.69	0.24	16.60	
9Y-22	7.43	8.44	0.82	0.19	0.17	11.77	0.21	14.53	
9Y-27 (1/2)	na	2.10	1.80	0.30	0.08	5.54	0.09	6.24	
9Y-37 (1/2)	na	5.02	4.32	0.70	0.09	6.24	0.20	13.84	
8Y-7	0.04	2.58	1.68	0.86	0.12	8.31	0.11	7.62	
8Y-27	0.70	2.75	1.50	0.55	0.16	11.08	0.19	13.15	
8Y-29	na	7.00	5.80	1.20	0.27	18.66	0.43	29.59	
8Y-39	na	2.73	2.53	0.20	0.04	2.77	0.08	5.54	
<b>All Y series</b>	<b>8.62</b>	<b>5.78</b>	<b>2.01</b>	<b>0.55</b>	<b>0.25</b>	<b>16.36</b>	<b>0.23</b>	<b>15.32</b>	<b>25</b>
<b>All Y w/o gravel</b>	<b>∅</b>	<b>2.65</b>	<b>2.16</b>	<b>0.51</b>	<b>0.10</b>	<b>6.60</b>	<b>0.12</b>	<b>8.48</b>	<b>15</b>
<b>MEM subsamples</b>									<b>13</b>
GS 15	na	1.70	1.40	0.30	0.08	5.54	0.08	5.54	
GS 20	na	5.10	4.30	0.80	0.19	13.15	0.23	15.91	
GS 27	na	14.70	11.70	3.00	0.42	28.91	0.70	47.59	
GS 38	na	5.00	3.50	1.50	0.11	7.62	0.24	16.60	
GS 67	na	0.20	0.90	1.10	0.00	0.00	0.01	0.69	
GS 74	na	0.20	0.10	0.10	0.02	1.39	0.01	0.69	
GS 77	na	1.10	1.00	0.10	0.04	2.77	0.04	2.77	
GS 86	na	1.58	1.20	0.37	0.09	6.24	0.06	4.16	
GS 95	na	1.60	1.50	0.10	0.07	4.85	0.03	2.08	
GS 123	na	1.42	1.32	0.10	0.05	3.47	0.05	3.47	
GS 150	na	1.45	0.85	0.60	0.07	4.85	0.07	4.85	
GS 162	na	2.70	2.50	0.20	0.07	4.85	0.07	4.85	



lab ID	% gravel	% sand	% silt	% clay	D <sub>50</sub>	D <sub>50</sub>	mean	mean	n
	IR1-R2I	IR1-R2I	IR1-R2I	IR1-R2I	IR1-R2I (ø)	RPD	IR1-R2I (ø)	RPD	
GS 164	na	na	0.20	0.20	0.02	1.39	0.04	2.77	
<b>2002 box core samples</b>									<b>10</b>
GS 204-205 (1/2)	na	16.83	13.53	3.30	0.41	28.23	0.72	48.90	
GS 205	na	14.53	11.93	2.60	0.34	23.46	0.62	42.33	
GS 212-213 (1/2)	na	1.40	1.10	0.30	0.04	2.77	0.06	4.16	
GS 213	na	4.10	3.60	0.50	0.08	5.54	0.17	11.77	
GS 222	na	6.26	4.56	1.70	0.13	9.00	0.27	18.66	
GS 229	0.73	5.71	3.93	2.50	0.16	11.08	0.36	24.82	
GS 236	na	7.51	4.11	3.40	0.23	15.91	0.38	26.19	
GS 250	na	0.10	0.10	0.00	0.01	0.69	0.02	1.39	
GS 256	na	3.56	2.36	1.20	0.12	8.31	0.20	13.84	
GS 264	na	0.30	0.50	0.20	0.00	0.00	0.00	0.00	
<b>2002 gravity core samples</b>									<b>3</b>
11A-1G-1	na	na	0.50	0.50	0.02	1.39	0.00	0.00	
11B-1G-1	na	0.04	0.47	0.51	0.07	4.85	0.08	5.54	
12E-1G-1	na	0.60	0.40	0.20	0.03	2.08	0.04	2.77	
<b>All samples</b>	<b>9.13</b>	<b>5.27</b>	<b>2.41</b>	<b>0.74</b>	<b>0.19</b>	<b>12.87</b>	<b>0.20</b>	<b>13.78</b>	<b>54</b>
<b>All samples (w/o gravel)</b>		<b>3.42</b>	<b>2.62</b>	<b>0.76</b>	<b>0.10</b>	<b>7.02</b>	<b>0.15</b>	<b>10.22</b>	<b>41</b>
<b>All lab reps</b>	<b>5.85</b>	<b>4.37</b>	<b>2.36</b>	<b>0.75</b>	<b>0.14</b>	<b>9.42</b>	<b>0.16</b>	<b>10.98</b>	<b>45</b>
<b>All core reps</b>	<b>20.04</b>	<b>9.59</b>	<b>2.68</b>	<b>0.69</b>	<b>0.46</b>	<b>30.15</b>	<b>0.41</b>	<b>27.73</b>	<b>9</b>
<b>All lab reps (w/o gravel)</b>		<b>3.21</b>	<b>2.44</b>	<b>0.73</b>	<b>0.10</b>	<b>6.80</b>	<b>0.14</b>	<b>9.64</b>	<b>35</b>
<b>All core reps (w/o gravel)</b>		<b>4.63</b>	<b>3.71</b>	<b>0.92</b>	<b>0.12</b>	<b>8.29</b>	<b>0.20</b>	<b>13.57</b>	<b>6</b>

Explanation for Table 9.

**lab ID**, see Tables 3-8 for corresponding core ID and grain-size data.

**IR1-R2I**, absolute value of the difference between two replicate subsamples.

**RPD**, relative percent difference, defined as the absolute value of the difference between two replicate subsamples divided by the mean of the two subsamples, calculated on grain size in mm.

**n**, number of replicate pairs in each sample category.

Table 10. Data from all loss-on-ignition replicate subsamples. All samples are laboratory replicate pairs except those marked with (1&2) which are core replicate pairs. See text for definitions.

ID	LOI R1 (wt. %)	LOI R2 (wt. %)	%LOI mean (wt. %)	LOI  R1-R2  (wt. %)	n
<b>Y series (including 4X)</b>					
1Y-4 (1&2)	5.70	5.59	5.64	0.11	
1Y-16 (1&2)	2.70	3.67	3.18	0.97	
6Y-1	6.37	6.34	6.36	0.03	
6Y-13 (1&2)	5.76	5.96	5.86	0.19	
4X-1	4.54	4.75	4.65	0.21	
4X-2	1.32	1.46	1.39	0.13	
4X-3	22.11	18.01	20.06	4.10	
4X-4	7.76	7.76	7.76	0.00	
4X-5	6.58	6.84	6.71	0.26	
4X-6	18.44	18.29	18.36	0.15	
4X-7	9.48	8.35	8.91	1.13	
4X-8	5.45	4.24	4.85	1.20	
4X-9	5.93	5.94	5.93	0.01	
4X-10	6.48	6.49	6.49	0.01	
4X-11	5.52	6.69	6.10	1.16	
4X-12	6.14	6.00	6.07	0.14	
4X-13	6.30	6.51	6.41	0.22	
4X-14	6.77	7.40	7.08	0.62	
4X-15	8.73	8.70	8.72	0.03	
4X-16	5.77	5.53	5.65	0.23	
4X-17	4.41	4.23	4.32	0.19	
4X-18	4.20	4.76	4.48	0.56	
4X-19	4.71	4.44	4.58	0.27	
4X-20	3.97	4.52	4.25	0.56	
4X-21	5.90	5.66	5.78	0.24	
4X-22	6.42	6.47	6.44	0.05	
4X-23	6.11	5.96	6.03	0.15	
4X-24	5.42	5.27	5.35	0.15	
4X-25	3.47	4.11	3.79	0.64	
4X-26	7.67	11.20	9.44	3.53	
4X-27	5.23	5.53	5.38	0.30	
4X-28	5.22	5.33	5.27	0.11	
4X-29	9.26	12.44	10.85	3.17	
4X-30	6.13	6.13	6.13	0.00	
4X-31	6.89	6.98	6.93	0.09	
4X-32	8.48	8.09	8.28	0.39	
4X-33	5.58	5.61	5.60	0.03	
4X-34	4.86	3.90	4.38	0.96	
4X-35	3.95	3.56	3.75	0.39	
4X-36	5.03	4.79	4.91	0.24	

ID	LOI R1 (wt. %)	LOI R2 (wt. %)	%LOI mean (wt. %)	LOI  R1-R2  (wt. %)	n
4X-37	5.75	5.11	5.43	0.64	
4X-38	5.58	6.00	5.79	0.41	
4X-39	6.74	6.53	6.63	0.21	
4X-40	9.59	9.94	9.77	0.35	
4X-41	7.76	7.89	7.83	0.13	
4X-42	5.29	5.25	5.27	0.04	
4X-43	5.58	5.63	5.60	0.05	
4X-44	3.96	4.25	4.10	0.29	
4X-45	4.97	4.46	4.71	0.51	
4X-46	6.42	6.40	6.41	0.03	
4X-47	6.14	6.32	6.23	0.18	
4X-48	7.87	7.90	7.88	0.03	
4X-49	5.98	6.00	5.99	0.03	
4X-50	5.35	3.96	4.66	1.39	
4X-51	5.03	5.55	5.29	0.52	
4X-52	4.98	4.80	4.89	0.18	
4X-53	6.20	6.34	6.27	0.14	
4X-54	6.63	6.58	6.60	0.05	
4X-55	5.52	5.58	5.55	0.06	
4X-56	4.61	5.48	5.04	0.87	
9Y-7 (1&2)	0.47	0.42	0.44	0.04	
9Y-14	0.69	0.77	0.73	0.08	
9Y-17 (1&2)	0.35	0.40	0.37	0.05	
9Y-27 (1&2)	4.27	4.30	4.28	0.03	
9Y-37 (1&2)	5.37	4.06	4.72	1.32	
8Y-4	0.58	0.64	0.61	0.06	
8Y-17 (1&2)	0.82	0.83	0.82	0.01	
8Y-29	3.15	3.48	3.31	0.34	
8Y-33	4.44	4.20	4.32	0.24	
<b>all 4X</b>			<b>6.45</b>	<b>0.49</b>	<b>56</b>
<b>all 1&amp;2</b>			<b>3.17</b>	<b>0.34</b>	<b>8</b>
<b>all lab replicates</b>			<b>6.17</b>	<b>0.47</b>	<b>61</b>
<b>all Y+4X</b>	∅	∅	<b>5.82</b>	<b>0.45</b>	<b>69</b>
<b>MEM series</b>					
GS 6	0.39	0.33	0.36	0.06	
GS 8	4.58	1.06	2.82	3.52	
GS 11	8.79	8.12	8.45	0.66	
GS 39	6.13	8.09	7.11	1.96	
GS 48	6.13	6.38	6.25	0.25	
GS 52	54.59	39.08	46.83	15.52	
GS 54	2.20	1.79	2.00	0.41	
GS 65	1.68	5.21	3.44	3.53	
GS 82	19.43	19.24	19.33	0.19	

ID	LOI R1 (wt. %)	LOI R2 (wt. %)	%LOI mean (wt. %)	LOI  R1-R2  (wt. %)	n
GS 91	4.36	4.35	4.35	0.00	
GS 124	4.36	4.27	4.31	0.09	
GS 128	1.72	2.72	2.22	0.99	
GS 132	6.37	5.00	5.68	1.37	
GS 138	3.83	4.24	4.04	0.41	
GS 154	3.28	2.81	3.05	0.46	
<b>GS 158</b>	6.23	6.45	<b>6.34</b>	<b>0.22</b>	1
<b>all MEM</b>			<b>7.91</b>	<b>1.85</b>	<b>16</b>
<b>MDP series</b>					
1C-mid	10.74	7.59	9.16	3.16	
1C-bottom	5.99	5.45	5.72	0.53	
4B-mid	7.05	6.36	6.71	0.69	
4B-bottom	6.26	6.20	6.23	0.06	
9A-mid	0.27	0.20	0.23	0.07	
9A-bottom	4.56	3.01	3.79	1.55	
<b>October 2002 box cores</b>					
<b>GS 279</b>	6.61	6.35	6.48	0.25	
<b>October 2002 gravity cores</b>					
10A-1G-1	5.01	5.15	5.08	0.14	
<b>10C-1G-1</b>	6.63	6.67	<b>6.65</b>	<b>0.04</b>	1
<b>all samples</b>			<b>6.15</b>	<b>0.72</b>	<b>94</b>

Table 11. Comparison of loss-on-ignition and coulometry results.

Lab ID	LOI mean (wt. %)	TIC mean (wt. %)	TC mean (wt. %)	TOC mean (wt. %)	TIC/TC (%)	TOC/LOI (%)
4X-1	4.65	0.012	1.549	1.537	0.78	33.04
4X-2	1.39	0.028	0.279	0.250	10.11	18.02
4X-3	20.06	0.062	10.873	10.811	0.57	53.89
4X-4	7.76	0.023	2.785	2.761	0.84	35.59
4X-5	6.71	0.037	2.006	1.969	1.87	29.34
4X-6	18.37	0.032	10.387	10.355	0.31	56.37
4X-7	8.92	0.043	3.625	3.582	1.20	40.16
4X-8	4.85	0.034	1.386	1.351	2.47	27.86
4X-9	5.94	0.014	1.772	1.757	0.82	29.59
4X-10	6.49	0.008	1.775	1.767	0.45	27.22
mean	<b>8.51</b>	<b>0.030</b>	<b>3.644</b>	<b>3.614</b>	<b>1.94</b>	<b>35.11</b>
mean difference ( R1-R2 )	<b>0.72</b>	<b>0.012</b>	<b>0.118</b>	<b>0.123</b>		

Explanation for Table 11.

**LOI**, Loss on ignition.

**TIC**, Total inorganic carbon.

**TC**, Total carbon.

**TOC**, Total organic carbon.

**LOI**, **TIC**, **TC**, and **TOC**, values are the mean of two laboratory replicate analyses.

**mean difference (|R1-R2|)**, average of the absolute value of the difference between the replicates.

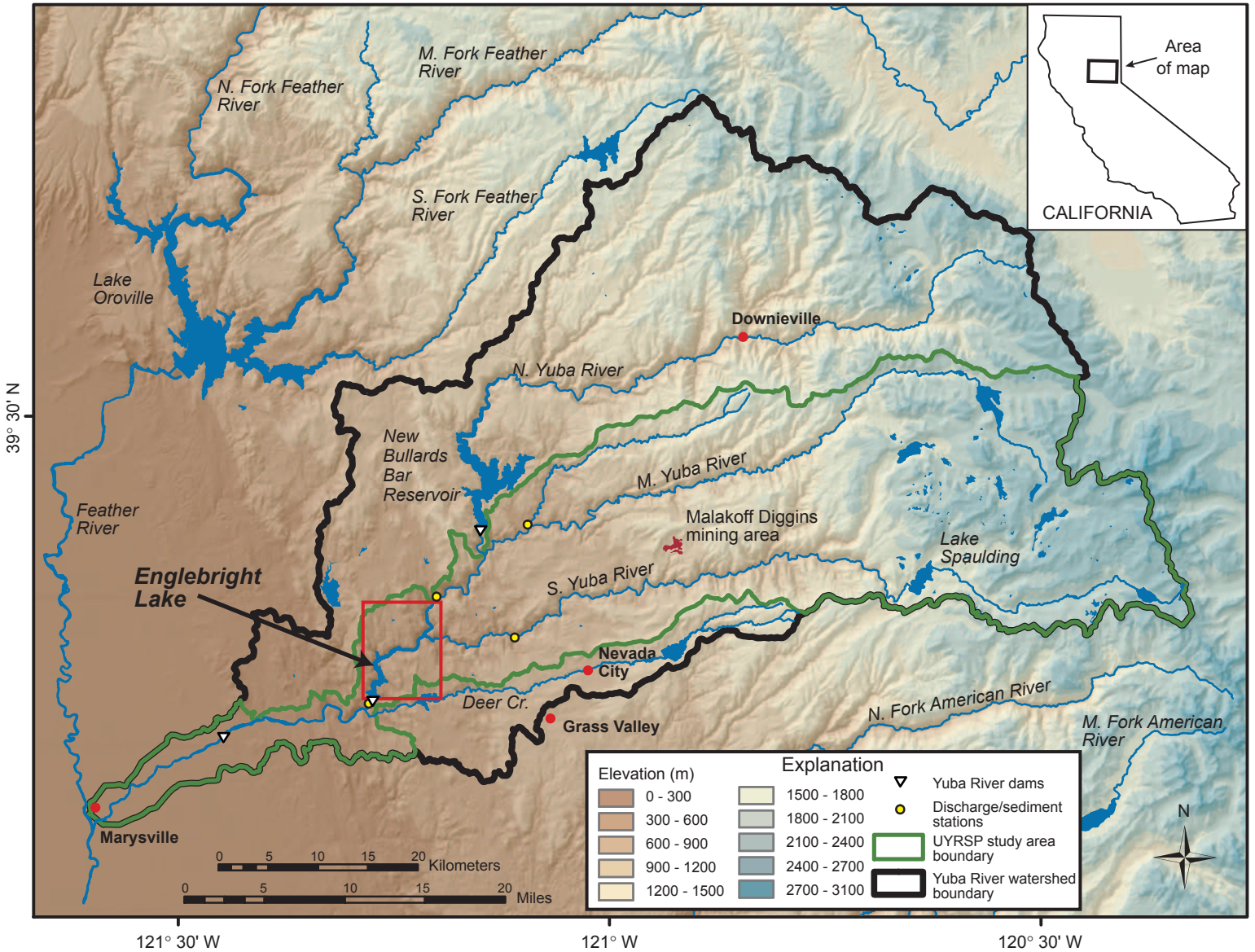


Figure 1. Map of the Yuba River watershed. Red box indicates the region around Englebright Lake shown in Figure 3.

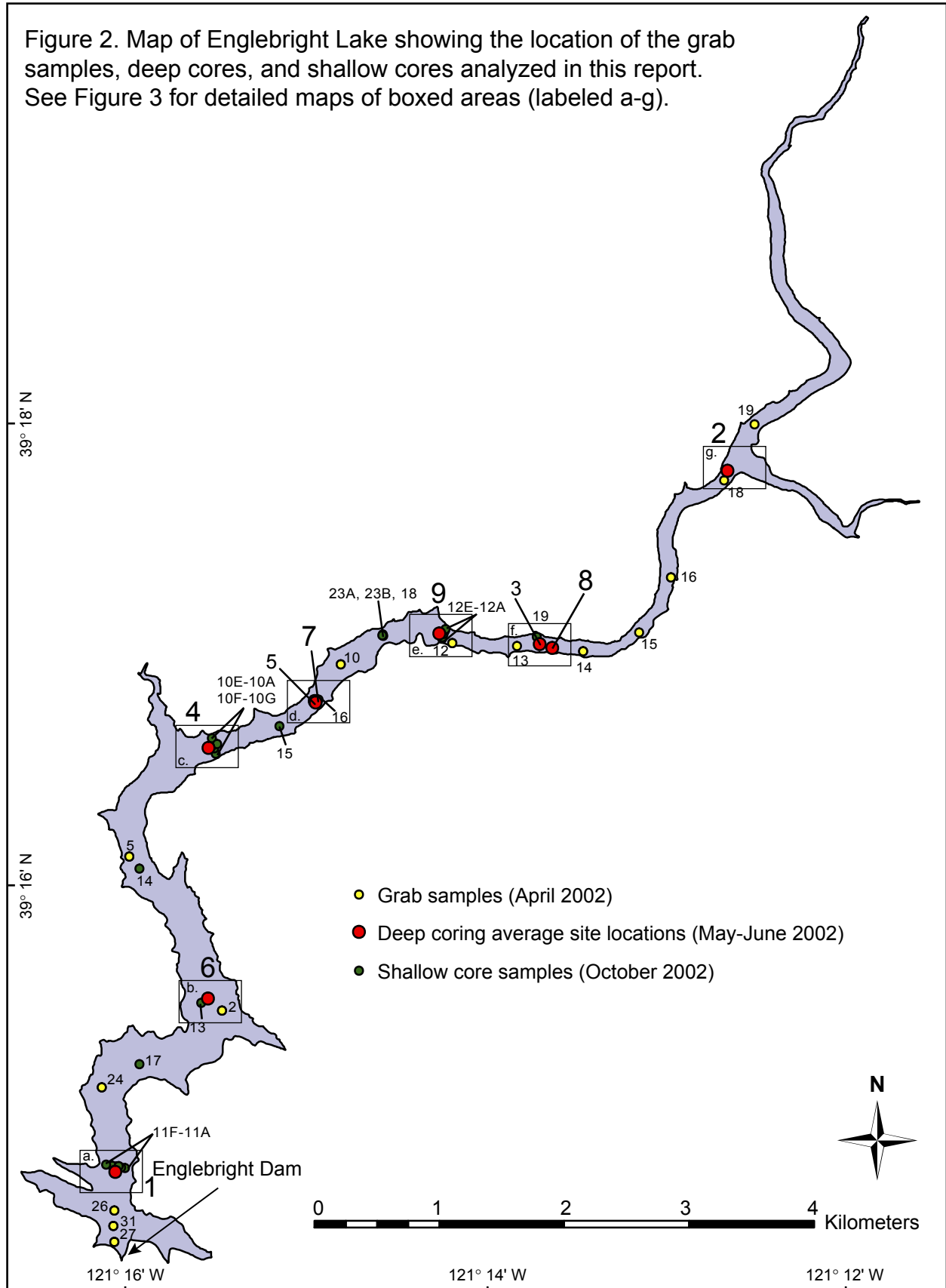
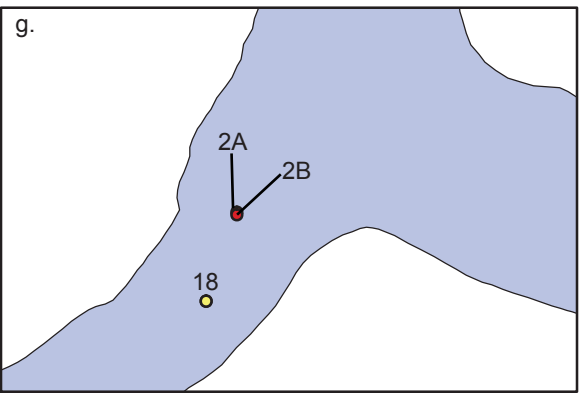
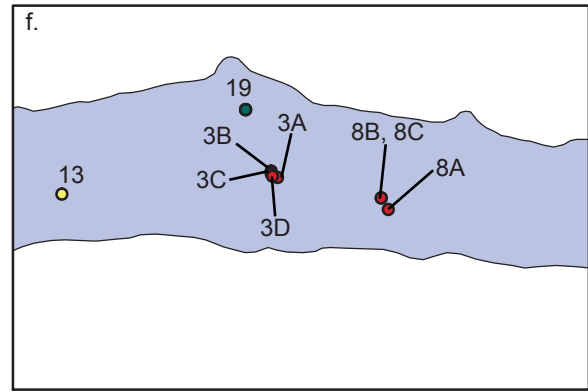
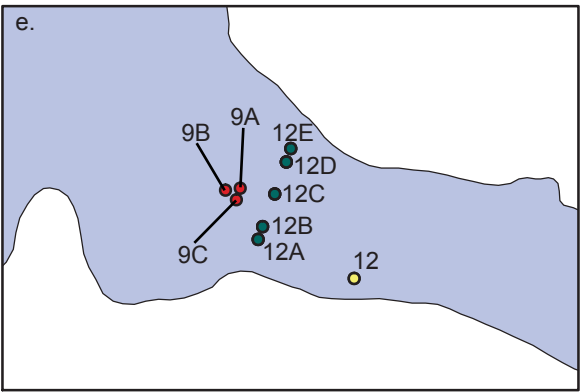
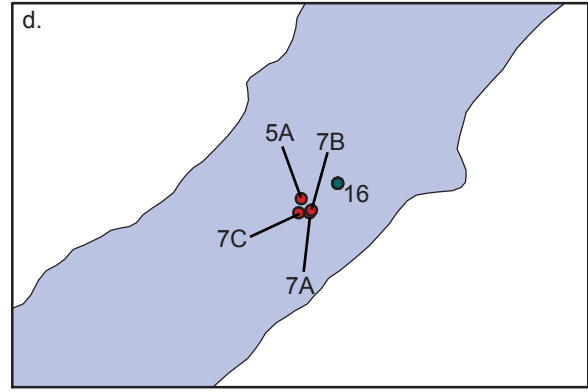
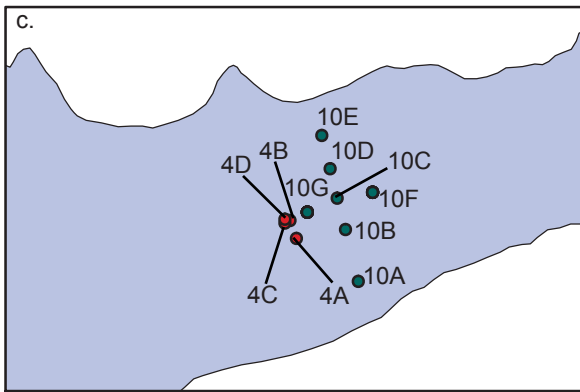
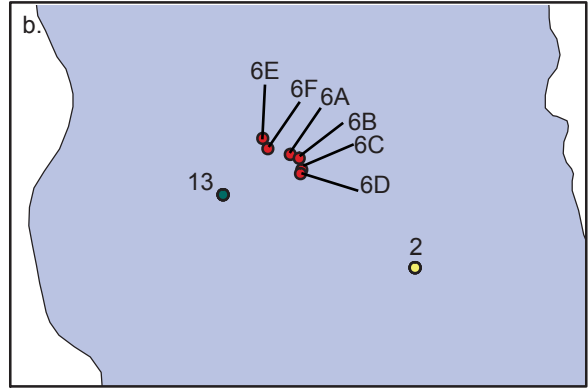
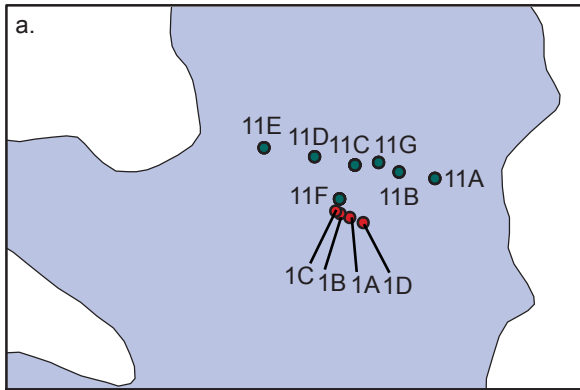


Figure 3. Detailed maps of Englebright Lake sampling locations. See Figure 2 for position of each box within the lake.



- Grab samples (April 2002)
- Deep coring boreholes (May-June 2002)
- Shallow core samples (October 2002)





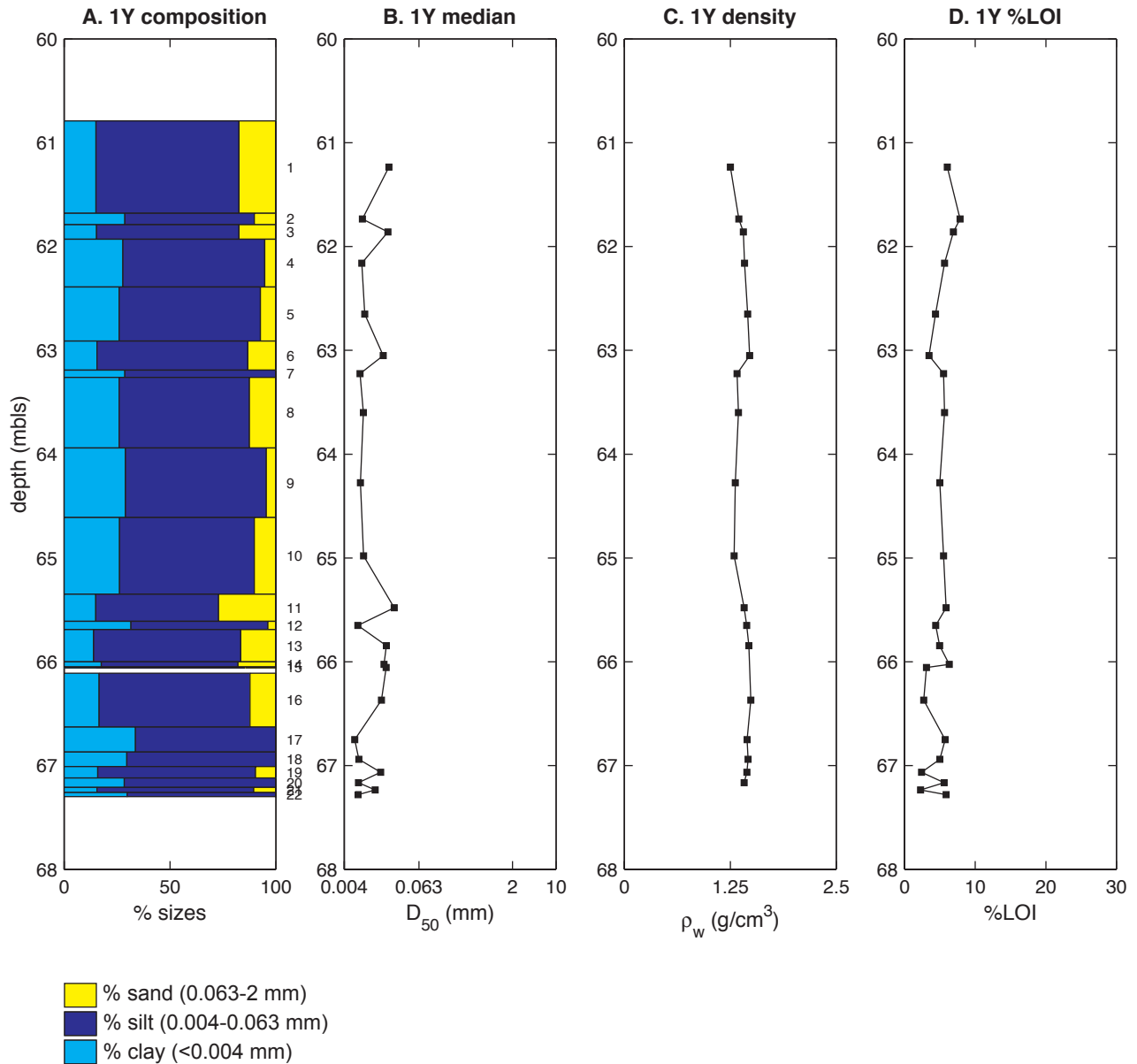


Figure 4. Sediment data logs for composite subsample series 1Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

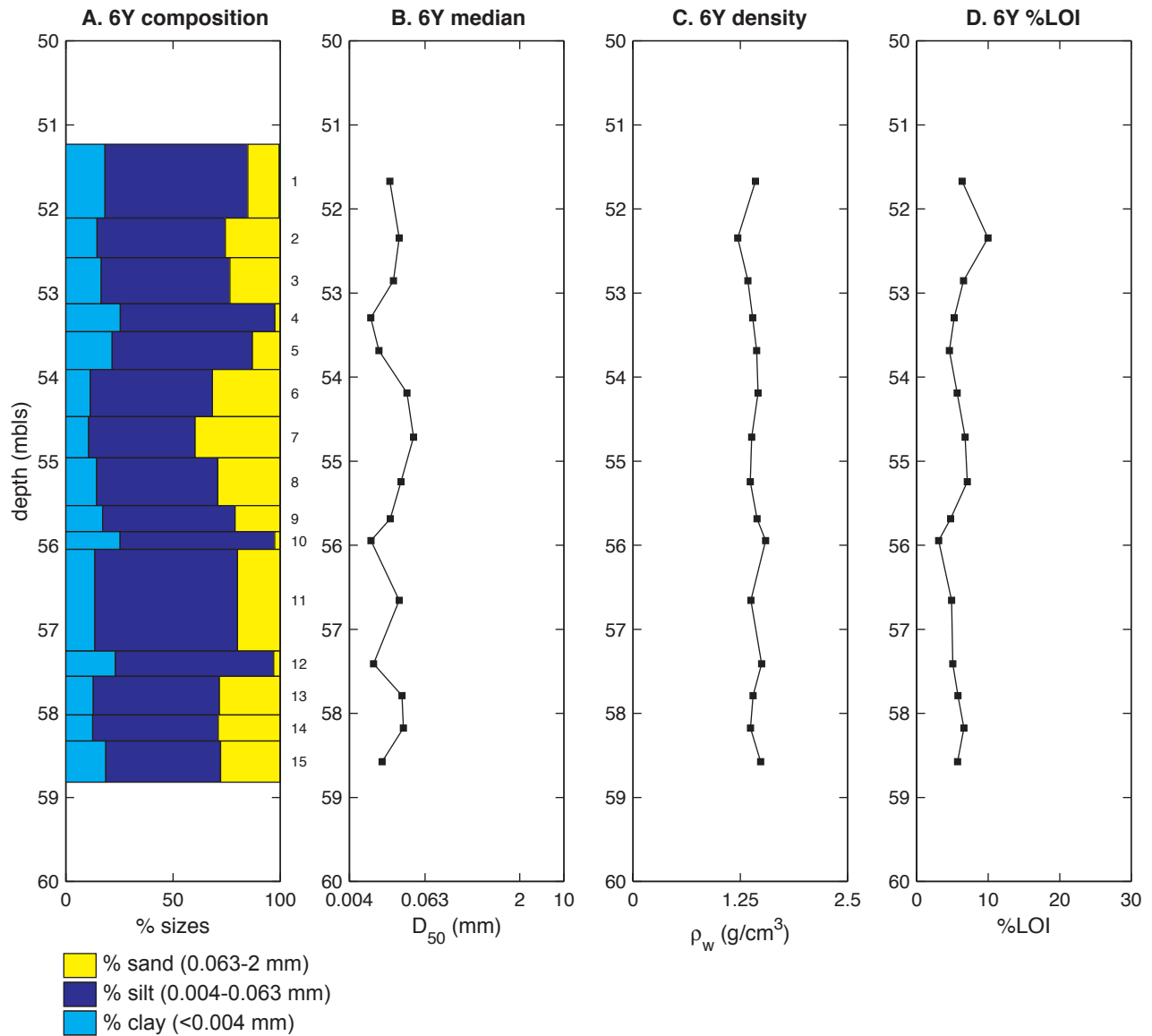


Figure 5. Sediment data logs for composite subsample series 6Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

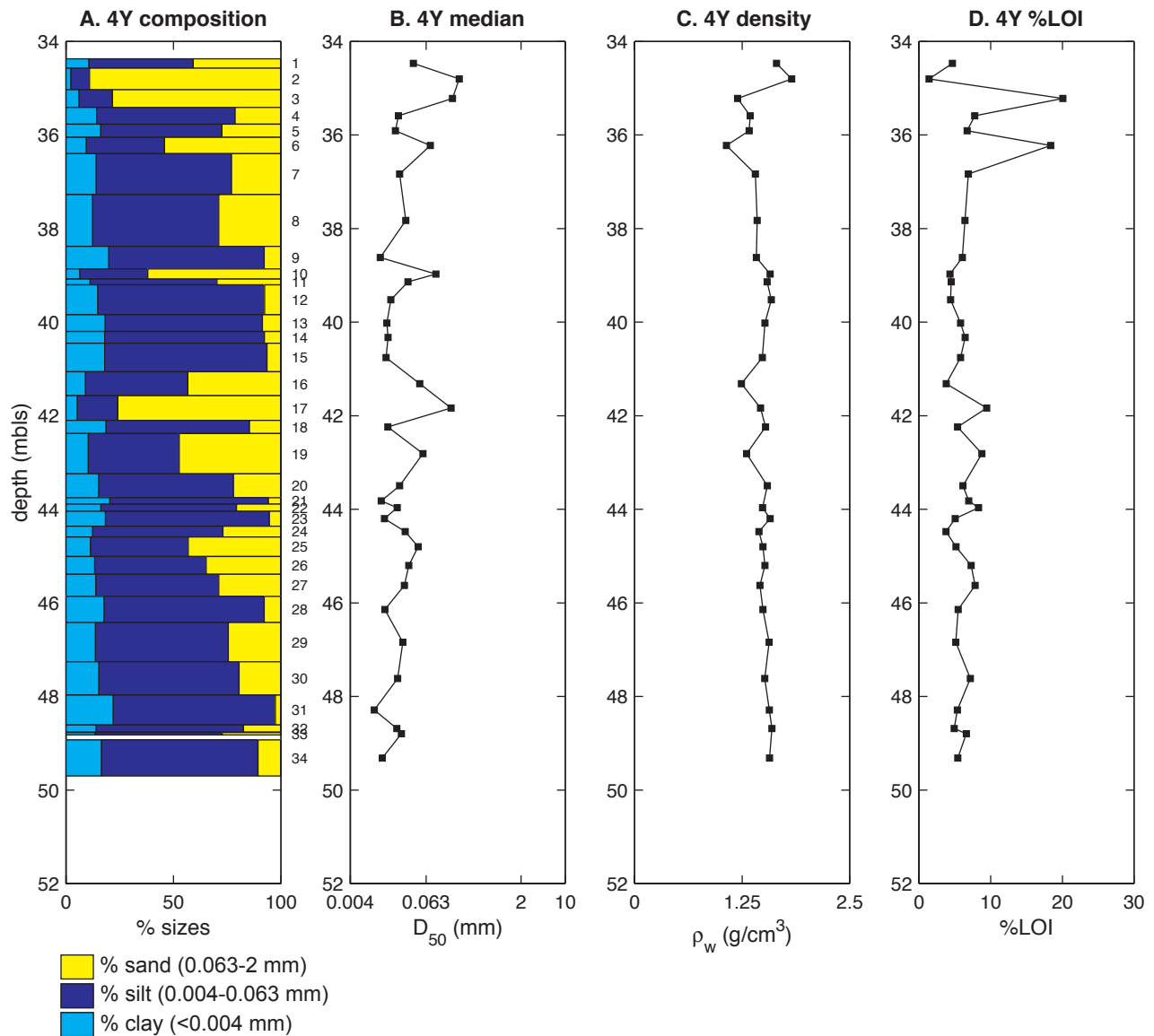


Figure 6. Sediment data logs for composite subsample series 4Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

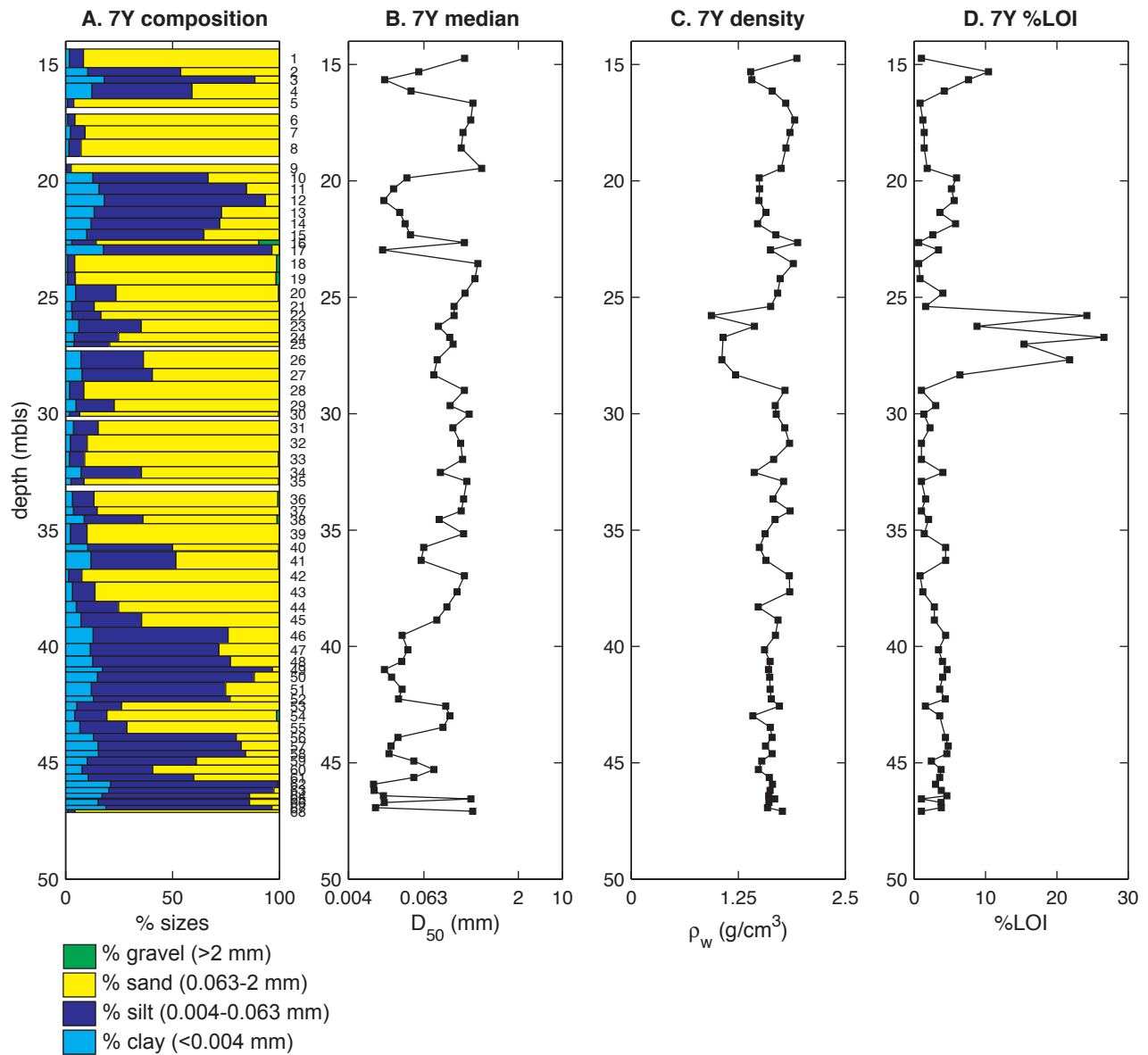


Figure 7. Sediment data logs for composite subsample series 7Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

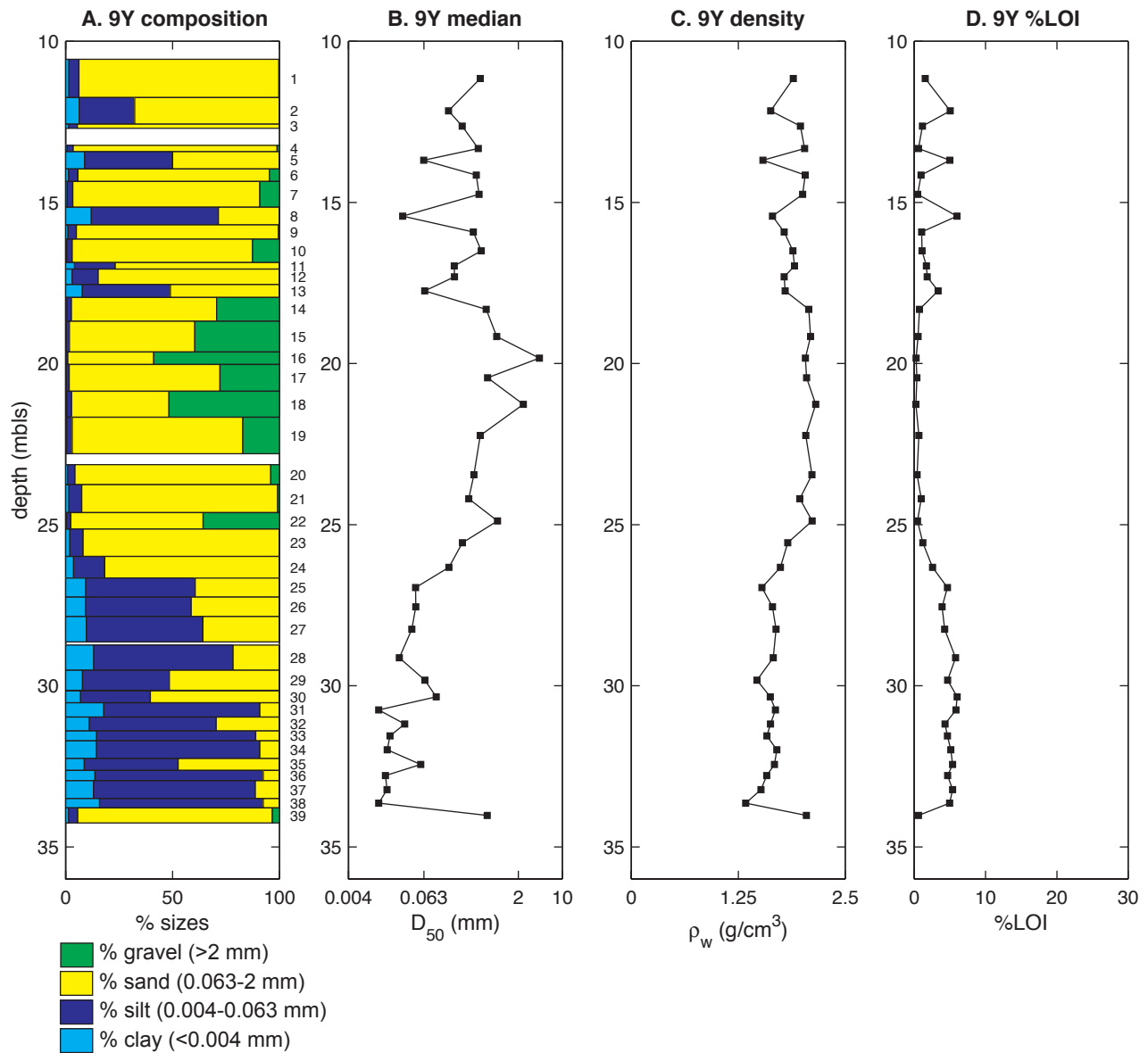


Figure 8. Sediment data logs for composite subsample series 9Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

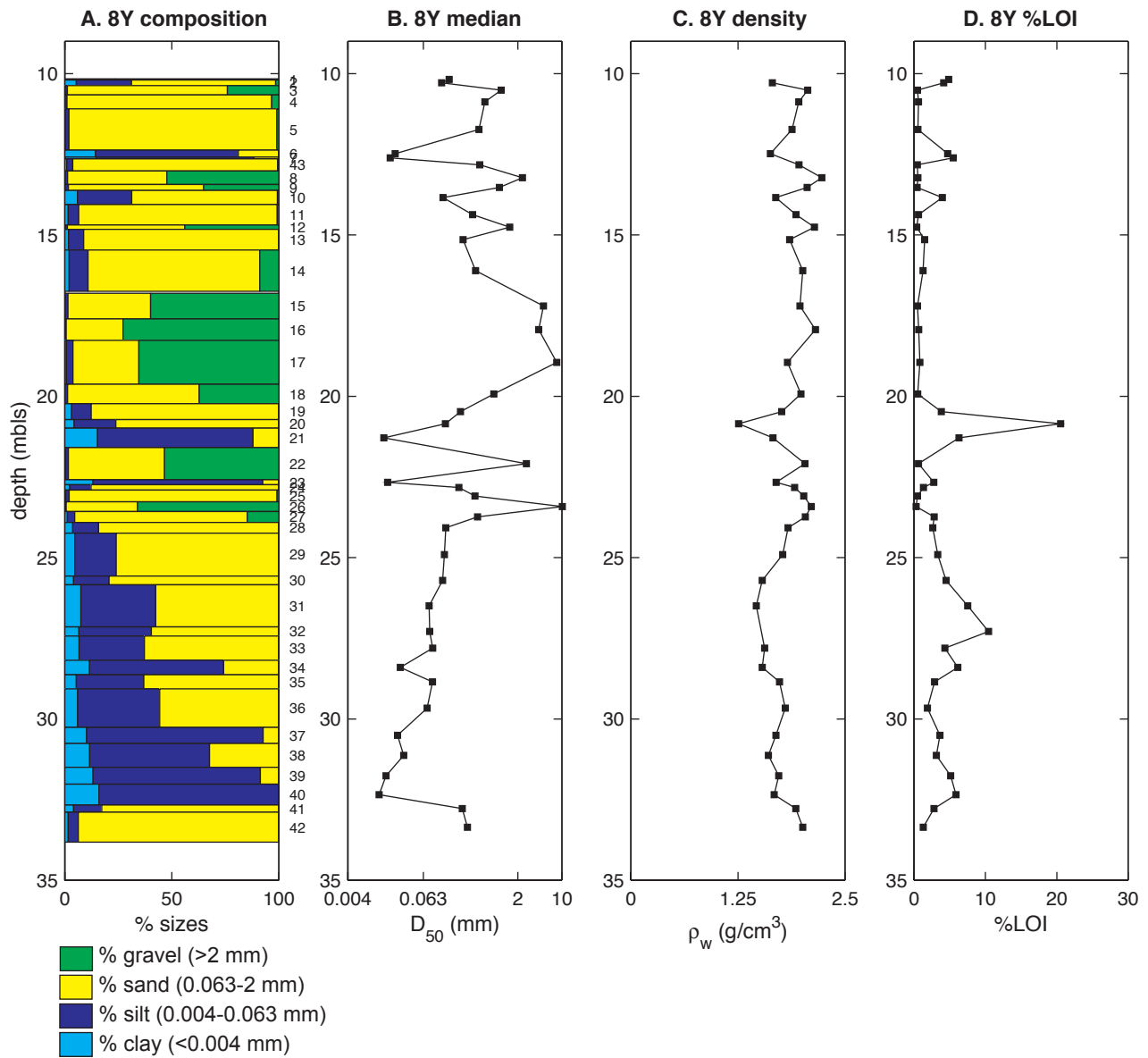


Figure 9. Sediment data logs for composite subsample series 8Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

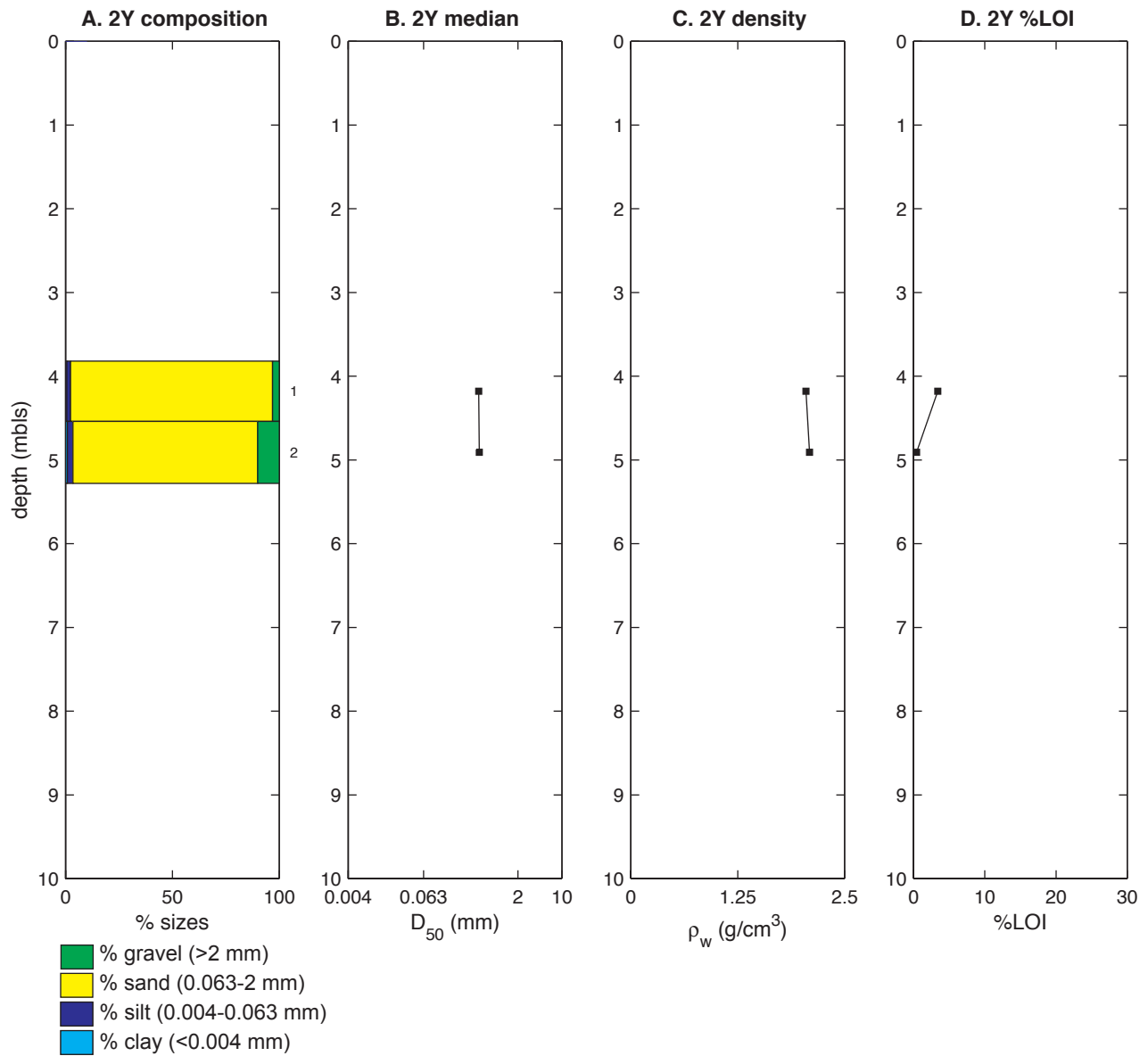


Figure 10. Sediment data logs for composite subsample series 2Y. Vertical axis is in meters below lake surface (mbls), defined as the dam spillway elevation (160.60 m). (A) Sediment composition. Sample laboratory numbers are shown on the right side. (B) Sediment median grain size ( $D_{50}$ ). (C) Sample wet bulk density ( $\rho_w$ , from the multisensor logger). (D) Sample loss-on-ignition. See Table 4 for data and further explanations.

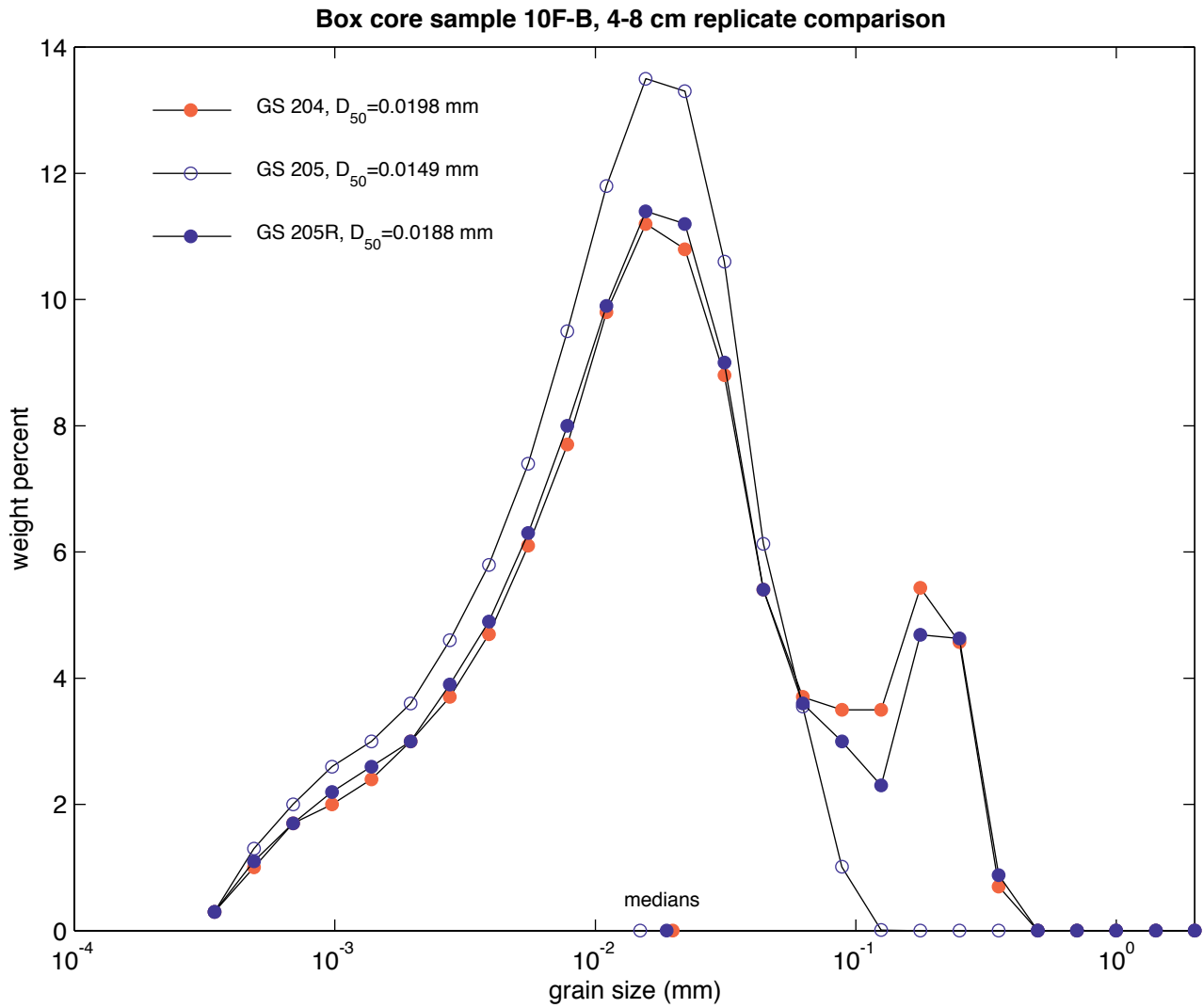


Figure 11. Grain-size distribution for box core sample 10F-B, 4-8 cm. Three datasets are plotted: GS 204 and GS 205 are a core replicate pair, and GS 205 and GS 205R are a laboratory replicate pair. Data is plotted in 0.5- $\phi$  weight-percent bins. Note that the fine-sand mode present in samples GS 204 and GS 205R is absent in sample GS 205.