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Sediment and Nutrient Deposition in Lake Jesup, Florida (USA)

Final Report

for

St. Johns River Water Management District
Palatka, Florida 32178-1429

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Table of Contents

List of Tables and Figures

Page

Page

Page

Page

Page

Executive Summary

Land uses within the Lake Jesup watershed currently are devoted to urban areas (48%), agriculture and rangeland (12%), wetlands (18%), transportation (6%), forests (9%), and water (7%). Forty-nine sediment stations were sampled within an equal area grid across Lake Jesup on 13-15 and 26 March, 1996 to assess the recent environmental history of the region. Cores were collected in 5-cm section intervals and ranged in length from 10 cm to 1.6 m. Paleolimnological assessments for this study included nutrient analyses (N, P, and C) for all samples, ^{210}Pb dating and bulk sediment accumulation calculations of eight sediment cores, and silica measurements on six cores collected within the lake basin. The Constant Rate of Supply model allowed us to determine the age/depth relationships in these cores. Recent rates of accumulation for the nutrients, total sediment mass, organic matter, and inorganic matter were calculated using the sediment ages from the dated cores.

Isotopic activities in the eight sediment cores were analyzed by gamma spectrometry, which permitted simultaneous measurements of ^{210}Pb, ^{226}Ra, and ^{137}Cs. Radium-226 activities (supported ^{210}Pb) ranged from 2 to 7 $dpmg^{-1}$ and this correction for total ^{210}Pb is essential to obtain accurate dates in these lake sediments. Cesium-137 activities were low (< 1 dpm g^{-1} usually) and variable with depth, making this radionuclide an unreliable independent time marker. Due to the acidic, organic-rich sediment environment, cesium likely solubilized over time and migrated throughout the sediment column.

Lake Jesup's shape and position along the St. Johns River contribute to its uneven sediment distribution. The lake is a slightly U-shaped ellipse with only a narrow channel connecting it to the St. Johns River. Circulation and dilution are limited to a few small streams entering the lake and this narrow connection to the river. The western end of the lake does not mix well with the central and northern regions of the lake due to its shape and prevailing wind. The hydrologic residence time of Lake Jesup is 3 months to 1 year, but the residence time within the western embayment may be much longer due to the poor circulation and mixing.

In recent sediments (less than 100 years in age), the nutrient profiles, particularly total phosphorus, appear to demonstrate decreasing concentration with depth in the sediments. At greater depths phosphorus concentrations increased again, but this sediment is likely several thousand years old. Nutrient deposition in Lake Jesup has varied throughout the 20th Century. Sediment within the central basin of the lake and in the narrow northern channel have consistently

shown an increasing trend in organic matter content, total phosphorus, non-apatite inorganic phosphorus, and total nitrogen accumulation since the early 1900s. The western embayment has consistently reflected the highest accumulation of organic matter and nutrients during the 1950 to 1985 time interval. A large accumulation of organic matter and nutrients occurred early in this century in several regions of the lake, especially the areas on opposite ends of the circulation gyre which forms in the central wide area of the lake.

Paleolimnologic investigations using diatom microfossils in Florida lakes demonstrate consistent patterns are found in several eutrophic or hypereutrophic lakes. In contrast to some of the lakes of the Ocklawaha chain, such as Lakes Apopka, Eustis, and Griffin, Lake Jesup diatom assemblages resemble Lake Dora or Lake Hollingsworth. Two cases have been identified in Florida lakes for diatom assemblages: (1) lakes in which the dominant surface sediment species are *Aulacoseira italica* and *Aulacoseira ambigua*; and (2) lakes in which the dominant surface sediment species are *Pseudostaurosira brevistriata*, *Staurosirella pinnata*, and *Staurosira construens*. Diatom assemblages were analyzed at selected stratigraphic levels in the following three ^{210}Pb-dated cores: (1) LJ-21-96; (2) LJ-45-96; and (3) LJ-B-96, and Lake Jesup clearly belongs in Case 2.

In conclusion, lake sediments preserve a record of the historical ecology of an ecosystem which can be interpreted from stratigraphic analyses of sediments, nutrients, diatoms, and other paleolimnological tools. A reliable ^{210}Pb geochronology was obtained from seven of the eight original historic cores collected in Lake Jesup and provided a useful measurement of mass accumulation rates. These accumulation rates were used to calculate a recent record of nutrient accumulation in the lake sediments.

Introduction

Restoration of Lake Jesup, Florida, is of interest to many groups, including fishermen, recreational boaters, homeowners, and environmental resource managers. Water circulation, chemical loading, sediment loading, fish populations, and water quality in Lake Jesup have all experienced changes through the cumulative effects of road construction, river channel modification, agriculture, commercial and residential development, wastewater effluent discharge, and hydrologic manipulation.

Land uses within the Lake Jesup watershed currently are devoted to urban areas (48%), agriculture and rangeland (12%), wetlands (18%), transportation (6%), and forests (9%). The forests consist of coniferous, hardwood, and plantation trees. Water represents the remaining 7% of the watershed land use (Fig. 1). Urban areas around Lake Jesup include the cities of Sanford to the north and Orlando to the south. Several smaller towns are present within the watershed and border creeks entering the lake. Wetlands are important to freshwater ecosystems by moderating the effects of floods and improving water quality (Mitsch and Gosselink, 1993). Two main types

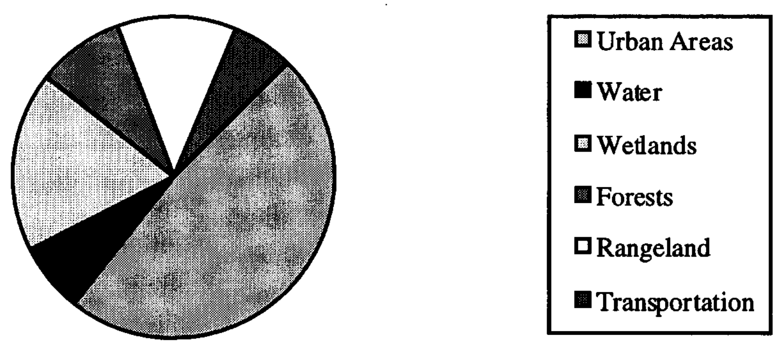

Fig. 1: Land uses for the Lake Jesup watershed are shown in this area chart. Urban areas and transportation control 54% of the watershed, while the combined natural resources of forests, wetlands, and waterways represent only 34% of this same watershed. The remaining 12% of the land is used for agricultural purposes and rangeland.

of wetlands occur around Lake Jesup. Herbaceous wetlands, which generally contain emergent rooted macrophytes with low nutrient requirements, are good for filtering discharge by accumulating and storing available nutrients in the plants (Kushlan, 1990). Herbaceous wetlands are found on the north-northeastern end of the lake where four creeks or canals flow through the marshland: Shortcut Canal, Sweetwater Creek, Salt Creek, and Phelps Creek. On the western-southwestern end of the lake, creeks discharging to the lake include Soldier Creek, Gee Creek, and Howell Creek. These creeks flow through wetlands consisting primarily of cypress swamps. Cypress trees can generally tolerate long hydroperiods and extended periods of low dissolved oxygen concentrations. As the water drains through the swamp, peat, sand, and clay substrates retain nutrients. Although this nutrient retention does act as a filter for downstream water bodies, it may eventually produce severe reducing conditions in some swamps, which can in turn be harmful to the cypress trees (Ewel, 1990).

Prior to 1890, the historical condition of Lake Jesup and its connection to the St. Johns River is considered undisturbed (E. Marzolf, pers. comm.). Water hyacinth was first introduced to the St. Johns River in 1896, and by 1899 it was reported to be all over the river. In 1902 the Corps of Engineers began mechanical removal of the plants on a limited basis. It is suspected that hydrologic and construction manipulations around Lake Jesup did not begin in earnest until the 1920s. During the early 1900s, some kind of road across the north end of Lake Jesup appears on U. S. Army Corps of Engineers maps. By 1926, an old ferry canal and a channel called Government Cut connecting two bends in the St. Johns River were present around Lake Jesup. Government Cut was built to aid commercial boating traffic by allowing boats and ferries to bypass the natural channel through Lake Jesup. Once the cut was in place, a turntable bridge was built over the western opening between Lake Jesup and the St. Johns River while a fixed bridge span was built over the eastern branch. This road became known as state road (SR) 44 shortly after bridges were built. In maps produced around 1950, SR 44 is renamed as SR 46 and the bridges are replaced. The turntable bridge was replaced with a fixed span and the eastern bridge was removed and that channel was filled in to complete a causeway. In addition, by 1948 2-4-D pesticide was approved for use and came into widespread application for controlling water hyacinth.

Agriculture surrounding Lake Jesup consists primarily of citrus groves and pastureland for livestock. During the 1940s, row crops were present northeast of the lake adjacent to the wetlands along the narrow northern channel connecting the lake to the St. Johns River (E. Marzolf, pers. comm.). Currently, rangeland for livestock grazing occupies the land north of the lake and east of the 417 Expressway. South of the lake between the 417 Expressway and State Highway 46 is the Black Hammock agricultural area. Production in this area is primarily citrus groves and row crops.

Water quality, and consequently the sediments, of this lake suffered during the 1960s, 70s, and 80s when seven wastewater discharge points were directed toward Lake Jesup (E. Marzolf, pers. comm.). These discharge pipes were located on three different streams entering Lake Jesup from the south and west. Howell Creek and Gee Creek each had three discharge pipes, while one effluent pipe was located on Soldier Creek. Wastewater and storm water runoff and the construction of a causeway which inhibited circulation between the lake and the St. Johns River contributed to the pollutant loading. By the early 1960s, the first of four modern fish kills was documented in the lake. Other fish kills were reported in 1968, 1981, and as late as 1985. In addition, blue tilapia (*Tilapia aurea*; Robins et al., 1991), which rarely develop reproducing populations in nutrient poor lakes (Hoyer and Canfield, 1994), could be found surviving well in Lake Jesup by 1975. The success of this exotic species suggests that these lake waters were nutrient rich by the late 1970s . Gu et al. (1997) also found that blue tilapia utilize diverse sources of food and thus are adapted to invade new environments. Despite decreased loading of nutrient-laden wastewaters in the middle 1980s, Lake Jesup is a hypereutrophic water body today. This condition is primarily due to the high phosphorus in the lake waters.

The goals of this study were four-fold: (1) to evaluate nutrient storage in lake sediments; (2) to evaluate sediment storage; (3) to estimate historical nutrient and sedimentation rates; and (4) to understand trophic conditions within the lake basin.

Geologic Setting

Geomorphology of Seminole County, Florida, typically consists of alternating sand ridges and valleys formed during the Pleistocene as ice-age marine inundations periodically deposited large quantities of sand, shells, and clay. Lake Jesup is located in the Eastern Valley region of Seminole County where the elevation is about 6 to 7.5 m and characterized by a relatively broad, flat valley through which the St. Johns River flows (Brooks, 1982; Johnson, 1990). During a higher stand of sea level (>7 mya), present-day inland eastern Florida (including Lake Jesup) was part of an estuarine environment (Brooks, 1982). In the eastern part of the Florida peninsula, including Seminole County, the Avon Park and Ocala Formations are present below the surface soils and sediments. The Ocala Limestone Formation (0 to 40 m thickness) is composed primarily of limestone with little dolomite present at depth. Surficial deposits in this region consist of a relatively thin section of undifferentiated clastics (sand, silt, shell, and clay) ranging in thickness from 9 to 45 m. Clastics were deposited during the early Miocene (22 mya) and again in the Pleistocene (1.6 mya) when the Florida Plateau was inundated (Rosenau et al., 1977; Webb, 1990). The Hawthorn Group is present below most of Lake Jesup between the surficial material and the Ocala Limestone Formation. Where present the Hawthorn Group will act as a confining unit for the Floridan Aquifer. However, stratigraphic analysis of well cuttings in the region indicates the Hawthorn pinches off near the northern portion of Lake Jesup (Johnson, 1990). The Floridan Aquifer is connected directly to the surficial deposits in the northern portion of Seminole County.

Most potable water for the region is obtained from wells tapping the Floridan Aquifer of the Avon Park and Ocala Formations.

Hydrologic exchange between Lake Jesup and the St. Johns River occurs at their intersection on the narrow northern end of the lake. Some surface water - ground water interaction occurs along the shoreline between the surficial (unconfined) aquifer and the lake water. Deeper ground water sources likely are present where the Hawthorn Group pinches out above the Ocala Limestone. The poorly drained floodplain soil and sediment surrounding Lake Jesup is composed primarily of black muck (well-decomposed organic material) overlying brown and dark gray sandy clay. The nature of these sediments allows the ground to become saturated easily and maintain this water for extended periods. The wet season for this region lasts from June through September, while the dry season usually occurs between November and February. Prevailing winds are generally northerly in fall and winter and southerly in spring and summer (Schellentrager and Hunt, 1990).

Sample Collection and Analysis

Forty-nine stations were sampled within an equal area grid across Lake Jesup on 13-15 and 26 March, 1996 (Fig. 2). At each station, the latitude and longitude position was determined by a global positioning system. Water column depth was measured by lowering a Secchi disk to the sediment-water interface. Soft sediment thickness was determined using a 5-cm interval depth-calibrated steel spudding rod driven vertically through the sediments to the hard bottom and subtracting the water depth from this spudding depth. Sediment cores were collected using a piston corer (Fisher et al., 1992) with a polycarbonate core barrel (1.83 m L x 3.8 cm ID). Each core was sectioned in the field at 5-cm intervals. Stratigraphic features were described visually prior to sectioning and confirmed during sectioning (Appendix A; Figs. A1 to A12). All samples were stored in coolers for transportation back to the laboratory at the University of Florida.

Upon return to the laboratory, all samples were frozen, weighed wet, freeze-dried, weighed dry, and homogenized using a mortar and pestle. Fraction dry weight was calculated as the dry mass per wet mass. Organic matter content was determined on dry sediment by loss on ignition (%LOI) at 550°C for 2 hours in a muffle furnace. The fraction remaining after combustion represents the inorganic sediment content. Dry sediment density (g dry sediment cm^{-3} wet sediment) was calculated using the equation in Binford (1990):

$$\rho = \frac{D \cdot (2.5 \cdot I_X + 1.6 \cdot C_X)}{D + (1-D) \cdot (2.5 \cdot I_X + 1.6 \cdot C_X)} \qquad \text{Eq. 1}$$

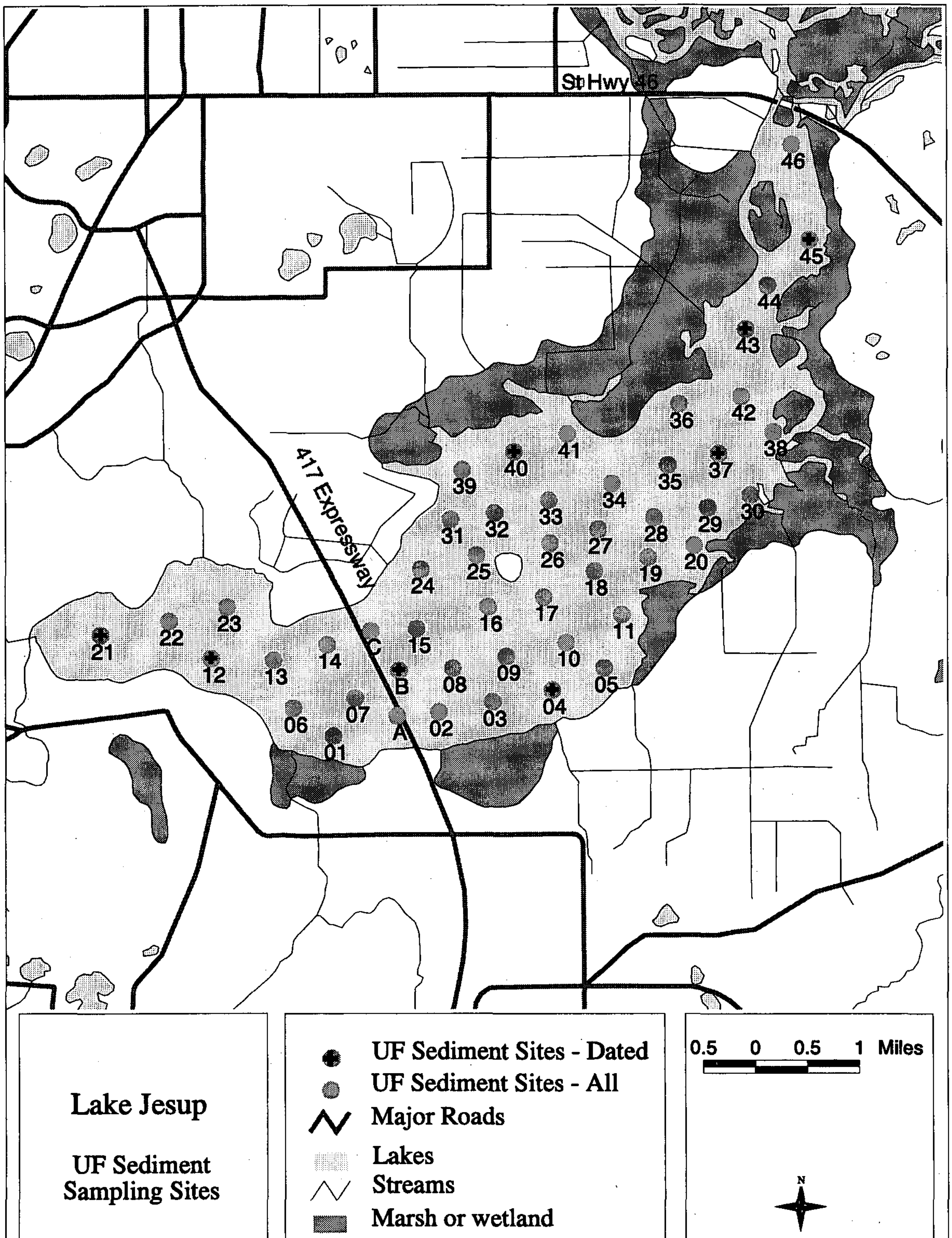

Fig. 2: Lake Jesup, Florida, is located in Seminole County and is connected to the St. Johns River at the northern end by a narrow channel. Sediment station locations are numbered and shown as gray circles. Stations used for radiometric dating have a cross overlying the circle.

where ρ is the density; D is the proportion dry mass in wet sediment (dry mass/wet mass) expressed as a fraction; I is the inorganic proportion of dry mass expressed as a fraction, assuming a dry grain density of 2.5 g cm^{-3}; x is the depth in the sediment profile (cm); and C is the organic proportion of dry mass expressed as a fraction, assuming a dry grain density of 1.6 g cm^{-3} (Binford, 1990).

Nutrient analyses for all samples included total phosphorus (TP), non-apatite inorganic phosphorus (NAIP), total carbon (TC), and total nitrogen (TN). NAIP represents the fraction of TP considered biologically available (Williams et al., 1976) and is measured by a room temperature (25°C) leach of small sediment aliquots with 0.1 N NaOH over 17 hours. TP was analyzed using persulfate digestion of dry sediment. Phosphate is measured in the leachate (or digested sediment) with a segmented flow autoanalyzer (Schelske et al., 1986). TC and TN were measured with a Carlo Erba NA1500 CNS elemental analyzer based on methodology described in Verardo et al. (1990). Gravimetric and nutrient analyses results are reported in Appendix B Tables.

Biogenic silica (Appendix C Tables; Figs. C1-C6) was measured in sediment samples using procedures described in Conley and Schelske (1993). Six cores were analyzed for silica: (1) LJ-14-96; (2) LJ-19-96; (3) LJ-21-96; (4) LJ-40-96; (5) LJ-45-96; and (6) LJ-B-96. In addition, the 0 to 5-cm intervals of 18 other stations were also analyzed for silica. Samples (~ 0.6 g sediment aliquot) were leached in 1 L 1% Na_2CO_3 at 85°C. After 2 hours, all diatoms are dissolved and the remaining sources of silica are non-diatom amorphous silica and non-biogenic mineral silica. After 12 hours in solution, all sponge spicules are dissolved and the remaining silica is due to non-biogenic mineral silica. Total dissolved silica was obtained by extraction at 20 hours. Concentrations of SiO_2 from diatoms, sponge spicules, minerals, and biogenic material are calculated using a mass balance of the components.

Diatom assemblages were analyzed at selected stratigraphic levels in the following three ^{210}Pb-dated cores: (1) LJ-21-96; (2) LJ-45-96; and (3) LJ-B-96 (Appendix D). Stratigraphic levels for diatom study were chosen after preliminary geochemical and radiometric analyses were completed. At the time of diatom analysis, all sediment samples had been homogenized and concern existed about diatom frustule breakage. Sediment samples for diatom analysis were digested in hydrogen peroxide and potassium dichromate according to Van der Werff (1955). Slides were then prepared with Naphrax mounting medium. Diatoms were counted at 1500X magnification and identified using standard floras. At least 500 valves were counted and identified at each stratigraphic level. Each diatom valve was identified to the lowest taxonomic level possible using standard diatom floras including those of Patrick and Reimer (1966-1975) and Hustedt (1930;1930-1966). Historical inferences for limnetic total P values were obtained from the diatom data by linear regression using the TROPH1 diatom index (Whitmore, 1989) and statistical models derived from a calibrated data set of 47 Florida lakes (Brenner et al., 1993; Brenner et al., 1995).

Sediment Dating

As part of the ^{238}U decay series, ^{210}Pb is produced by decay of ^{226}Ra. Radium resides in the mineral matrix of many rocks where it decays directly to ^{222}Rn by alpha decay. Some radon remains trapped inside the mineral grains where it decays to ^{210}Pb within this micro-environment. Because radon is a chemically inert gas, it may migrate within the mineral matrix but will not interact with other elements present. If the radon gas is produced close enough to the surface of the mineral, it can escape into the surrounding pore space. When this pore space is occupied by groundwater, radon dissolves and moves with the flow of the water. If the pore space is occupied by air, the radon can migrate toward the rock or soil surface and emanate into the atmosphere. Radon may be absorbed also by plant roots and carried through the stem to the leaves. Much of the radon that enters the atmosphere from vegetated areas does so by evapotranspiration off leaves (Turekian et al., 1977).

With a mean life of about 5 days, ^{222}Rn will decay continuously through a series of nuclides (e.g., ^{214}Pb, ^{214}Bi) to its particle reactive daughter, ^{210}Pb. Continental (supported) ^{210}Pb is present on the Earth due to *in situ* decay from its mineral bound parents (^{222}Rn via ^{226}Ra). In lake sediments, a fraction of total ^{210}Pb is in equilibrium with ^{226}Ra, thus providing supported levels of ^{210}Pb. Another important component of total ^{210}Pb in lake environments is excess (unsupported) ^{210}Pb which may have several sources: (1) atmospheric deposition; (2) overland wash; (3) diffusion of dissolved radon from lake sediments; and (4) weathering of terrestrial ^{226}Ra and water column production of ^{210}Pb. In the atmosphere, ^{222}Rn decays to ^{210}Pb, which quickly adsorbs onto aerosols. These aerosols wash out of the atmosphere as both wet and dry deposition and represent the most important source of excess ^{210}Pb to lake surfaces. Generally other excess ^{210}Pb contributors are minor in comparison to atmospheric deposition.

After 75% of nutrient analyses were complete, eight sediment cores were selected from the original 49 survey cores to be radiometrically dated. Selection was based on soft sediment thickness, length of core, concentration trends in TP, TC, and TN, and station location within the lake. Sample preparation included tightly packing polypropylene vials (84 mm H x 14.5 mm OD) with homogenized sediment to a uniform height of 30 mm. Net sediment weight and height were recorded prior to sealing each vial at the sediment surface with clear, 2-part epoxy resin. For sediment samples in which too little material was available to pack to the standard height of 30 mm, a geometry correction was applied to normalize the measurements to the 30 mm height. Samples were equilibrated for 3 weeks to allow ingrowth of the radon daughters, ^{214}Pb and ^{214}Bi. Lead-210 ($t_{1/2}$ = 22.3 y), ^{226}Ra ($t_{1/2}$ = 1620 y), and ^{137}Cs ($t_{1/2}$ = 30.2 y) were measured using low background well-type intrinsic germanium detectors (Schelske et al., 1994). Total ^{210}Pb and ^{137}Cs were determined directly from their respective photon peaks, 46.5 keV and 661.7 keV. Radium-226 was in 99% equilibrium with its daughters after 3 weeks. Its activity was determined from the mean of its daughter peaks at 295.3 and 351.7 keV for ^{214}Pb and 609.1 keV for ^{214}Bi. Activities ($\pm 1\sigma$ propagated analytical error) were calculated for each radionuclide using the following equation:

$$A = \frac{(C_{sample} - C_{background})}{(f_g \cdot f_i \cdot f_{eff} \cdot W)} \qquad \text{Eq. 2}$$

where A is the activity (dpm g^{-1}); C_{sample} is the sample count rate measured for each radionuclide of interest expressed as counts per minute (cpm); $C_{background}$ is the background count rate (cpm) measured for each radionuclide of interest; f_g is the fractional geometry factor (only applied to samples with heights in vials differing from 30 mm); f_i is the fractional γ-ray intensity for each radionuclide of interest; f_{eff} is the fractional overall efficiency of the detector for each radionuclide of interest; and W is the net sample mass (g). Excess (or unsupported) ^{210}Pb was calculated as the difference between total ^{210}Pb and ^{226}Ra (assumed to represent supported ^{210}Pb) and decay corrected to the time of sampling using the following equation:

$$ex\ ^{210}Pb = \frac{(tot\ ^{210}Pb - ^{226}Ra)}{e^{-\lambda t}} \qquad \text{Eq. 3}$$

where λ is the decay constant for ^{210}Pb (8.51 x 10^{-5} day^{-1}) and t is the time (days) elapsed between sample collection and sample counting (see Appendix E).

Sediments were dated using the Constant Rate of Supply (CRS) model (Appleby and Oldfield, 1983). Assumptions that must hold true to apply this model to lake sediments are threefold: (1) the flux of excess ^{210}Pb to the lake sediments is constant; (2) variations from exponential decrease in excess ^{210}Pb with depth are dependent on variations in sedimentation rate (mass flux) not the ^{210}Pb flux; and (3) ^{210}Pb decays at a rate governed by first order kinetics. The rate at which ^{210}Pb arrives in the sediments will be governed by both the mass flux of water column particles and the flux of atmospheric excess ^{210}Pb. The CRS model allows the sediments to be aged assuming a constant ^{210}Pb flux and a varying mass flux to the sediment-water interface. In contrast, the constant initial concentration (CIC) model allows the ^{210}Pb flux to vary, but requires the mass flux to be constant. Sediment age at depth x in Lake Jesup is given by the following equation from the CRS model:

$$t = \left(\frac{1}{\lambda}\right) \ln \left(\frac{A_o}{A}\right) \qquad \text{Eq. 4}$$

where t is time (years); λ is the ^{210}Pb decay constant (0.03114 yr^{-1}); A_o is the excess ^{210}Pb inventory (total residual ex ^{210}Pb) in the sediment core; and A is the excess ^{210}Pb integrated below depth x. Calculations at each depth interval provide a continuous sediment age profile as a function of depth. Mass sedimentation rate (MSR) is calculated from the sediment age at depth x using

$$MSR = \frac{m}{t} \qquad \text{Eq. 5}$$

where m is the sediment dry mass (mg cm^{-2}) at depth x. Analytical errors (1σ) on activities of ^{210}Pb and ^{226}Ra were propagated through age and MSR calculations. Model results are given in Appendix E.

Results and Discussion

Variations in Sediment Deposition

Organic and inorganic particles sedimented from a lake water column are not deposited uniformly over lake basins. Whitmore et al. (1996) discuss the variable sedimentation patterns existing in Florida lakes and demonstrate that certain areas within a lake basin are more likely to have long sedimented records, while other areas will have relatively little deposition. However, some researchers recommend locating sites with the deepest sediment accumulation by multiple samples (Anderson 1990). Sites within a lake basin can be characterized as one of three types: depositional, erosional or transitional, and non-depositional sites. Depositional sites have the greatest accumulation and these sediments form the permanent historical record. In contrast, non-depositional sites usually contain only a thin veneer of recently deposited material or no sediment at all. Transitional sites may contain accumulated material, but this sediment is subject to erosion and will not be permanent. Eventually sediment from transitional zones may be resuspended and transported by physical processes to other locations along the lake bottom. Sorting of sediment material may also occur during resuspension as more dense inorganic particles will stay settled out for longer than low density organic matter. The tendency of material to accumulate in certain areas of a lake basin and erode from others is called sediment focusing.

In the case of Lake Jesup, sampling took place over an equal area grid of 49 stations within the lake basin. This sampling scheme provides the best estimate of sediment distribution for the lake. In addition, this scheme assures that all focused areas, i.e., depositional sites, where the permanent nutrient and sediment storage records accumulate will be sampled. Coring stations were grouped according to location in the lake to determine the zonal changes in sediment and nutrient deposition (Fig. 3). These groups were based on the lake hydrology, geomorphology, circulation patterns, and proximity of survey core to dated core stations. Once these groups were determined, averages in water depth and soft sediment depth were made over the group area (Table 1). These sediment station groups are based on each group having a geochronology and will be referred to continuously in the discussion.

Lake Jesup's shape and position along the St. Johns River contribute to its sediment distribution. The lake is a slightly U-shaped ellipse with only a narrow channel connecting it to the St. Johns River. Circulation and dilution are limited to a few small streams entering the lake and this narrow connection to the river. The western end of the lake does not mix well with the central and northern regions of the lake due to its shape and prevailing wind directions (E. Marzolf, pers. comm.). The hydrologic residence time of Lake Jesup is 3 months to 1 year, but the residence time within the western embayment may be much longer due to the poor circulation and mixing. Additional evidence that this western embayment does not mix often with the rest of the lake can be found in the sediment distribution of the lake. The soft sediment thickness of the western end, represented by Groups 21 and B sediments, averages 2.6 m (Table 1). Only two sites along the northern side of Group 21 do not fit the deposition scheme, LJ-13 and LJ-23, because their soft sediment thicknesses are only 0.6 and 0.7 m respectively. The higher depositional rate on the southern side of the western embayment may be due to discharge of 6 of the 7 wastewater effluent discharge pipes into this side of the lake. The depth of soft sediments averages 1.7 m for the remainder of the lake suggesting that the western end is a depositional zone. Other depositional zones in Lake Jesup occur around the perimeter of the lake where slowing currents deposit sediments. Perimeter sites considered depositional occur along the southern edge (LJ-04, LJ-05, LJ-11, LJ-19, LJ-20, LJ-29, LJ-30, and LJ-38). The central region of the lake is a scour zone in which very little sediment is deposited (represented by many stations in Groups 4, 40, and 37). Transitional sites are located along the north central edge of the lake (LJ-39, LJ-40, LJ-33, LJ-35,

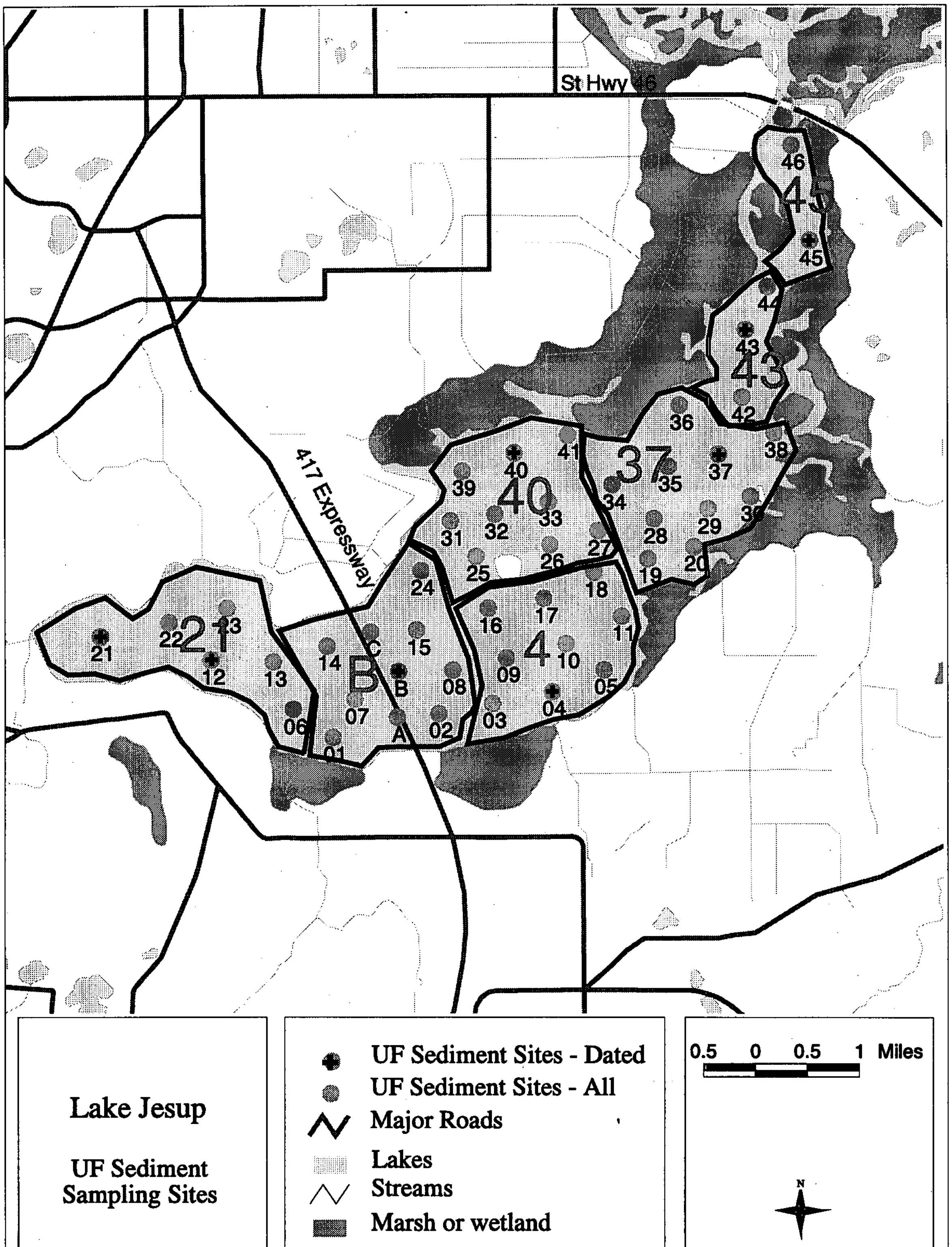

Fig. 3: Map showing outlines of seven sediment station groups used in data interpretation for Lake Jesup cores.

LJ-36, and LJ-37) and within the narrow northern channel (LJ-42, LJ-43, and LJ-44). Sediment is primarily deposited around the southern lake edges or in the western embayment.

Table 1: Sediment station groups are based on the distribution of ^{210}Pb dated cores so that each region has a geochronology.

Station Group	Stations Within Each Group	Weighted % of Lake Region*	Lake Area for Group (km^2)	Mean Soft Sediment Thickness (m)†	Mean Water Column Depth (m)†
Group 21	6, 12, 13, 21, 22, 23	17.5	13.1	2.3	1.84
Group B	1, 2, 7, 8, 14, 15, 24, A, B, C	15.9	11.9	2.8	1.89
Group 4	3, 4, 5, 9, 10, 11, 16, 17, 18	15.9	11.9	1.5	1.92
Group 40	25, 26, 27, 31, 32, 33, 39, 40, 41	18.3	13.7	0.9	1.91
Group 37	19, 20, 28, 29, 30, 34, 35, 36, 37, 38	16.6	12.4	1.8	1.80
Group 43	42, 43, 44	8.9	6.7	1.7	1.73
Group 45	45, 46	7.1	5.3	1.7	2.03
Summary	49 stations	100 %	75 km^2	1.8 m	1.87 m

*The weighted percent for lake region is the percent of the lake area each station group inhabits.

†Soft sediment thickness and water column depth for each station group are averages measured during the March, 1996 sample collection.

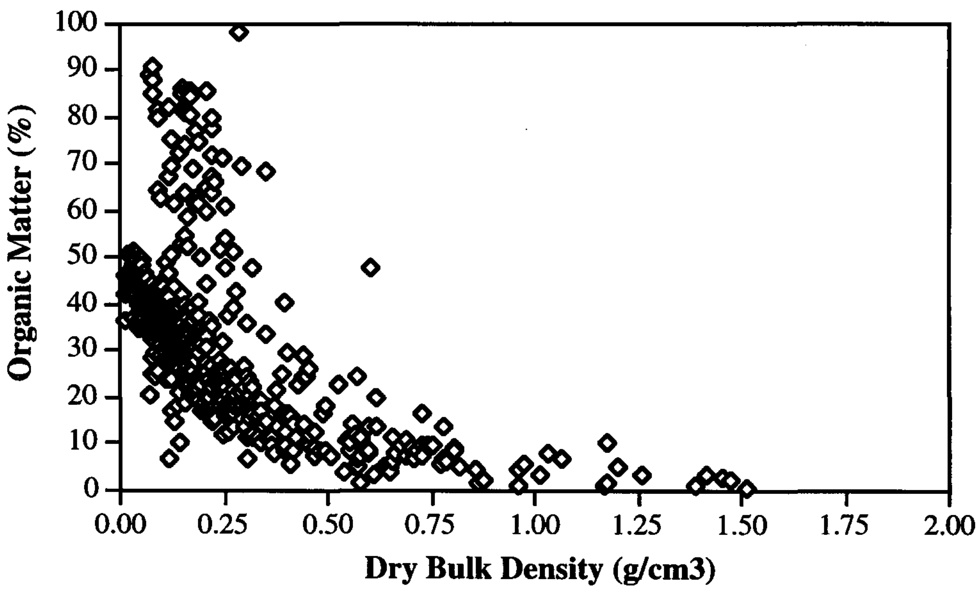

Fig. 4: Organic matter (%) given versus dry bulk density (g cm^{-3}) for all samples (n = 786) demonstrates that most of the sediment in Lake Jesup contains less than 50% organics.

Gravimetric analysis results of 49 survey sediment cores (n = 786 samples) are given in Figure 4. Two distinct groups of sediments appear in Lake Jesup, whereby deeper sediments generally contain some consolidated organic material but primarily peat, sand, pink carbonate, and grey/brown clays. Upper sediments typically consist of loose organic material (see Appendix A) with some shell fragments and plant fibers present in places. Dry bulk density is used as a proxy for depth in the sediments for several forthcoming figures. When density is plotted versus organic matter content (expressed as percent loss on ignition or % LOI), most of the organic material present in the lake appears in the uppermost sections of sediments (Fig. 4; see also Appendix B Tables). Organic matter content is generally about 25% to 45% in these sediments. Excursions in organic matter content greater than 50% occur at isolated depth intervals of six cores (i.e., LJ-21, LJ-30, LJ-33, LJ-29, LJ-38, LJ-A) and near the bottom of 14 cores (i.e., LJ-05, LJ-08, LJ-09, LJ-12, LJ-13, LJ-15, LJ-16, LJ-21, LJ-35, LJ-37, LJ-42, LJ-43, LJ-45, LJ-46). Four short (less than 45 cm) cores also contain greater than 50% organic matter at depth (e.g., LJ-10, LJ-18, LJ-26, LJ-27). About 10 to 15 cm of low organic matter content (less than 20%) sediments usually occur at or near the bottom of these cores immediately below the high organic matter sediments. Fraction dry weight and dry bulk density (g cm^{-3}) generally increase with increasing depth in the cores.

Nutrient Distributions in the Sediments

Nutrient concentration profiles with depth in the sediments (Figs. B1 to B45), demonstrate the time frame over which Lake Jesup, Florida, may have been impacted by cultural changes and forcing, i.e., agriculture, construction, and wastewater discharge. Total phosphorus is greater than 0.75 mg/g to depths exceeding 100 cm at several stations. In addition, TC/TN ratios generally do not demonstrate a distinct change with depth in the sediments as occurs in lakes having a relatively fast change from a macrophyte to phytoplankton dominated system. TC/TN molar ratios indicative of structural carbon from macrophytes are generally greater than 14.5 to 15.0, but higher ratios are not present until very deep in the sediments. When the TC/TN ratio does increase, it is usually much higher than expected for a macrophyte system. The TC/TN ratio can be found as high as 73, and the total carbon concentrations at these sediment depths indicate an inorganic carbon source, such as shells or carbonate, is present as well. This pervasive inorganic carbon fraction makes resolving the historical nutrient record based on TC/TN ratios difficult. High phosphorus concentrations and the uniform TC/TN ratios within the more organic-rich portion of sediments suggest that if a phytoplankton community was not dominating the system prior to the 1920s, this community structure would certainly have begun its takeover in the 1920s when the most aggressive road and channel construction around the lake began.

Nutrient analyses of these sediments reveal that TN, TP, and NAIP generally are higher in the surficial sediments and decrease with depth in the cores (Figs. 5 & 8; see also Figs. B1 to B45).

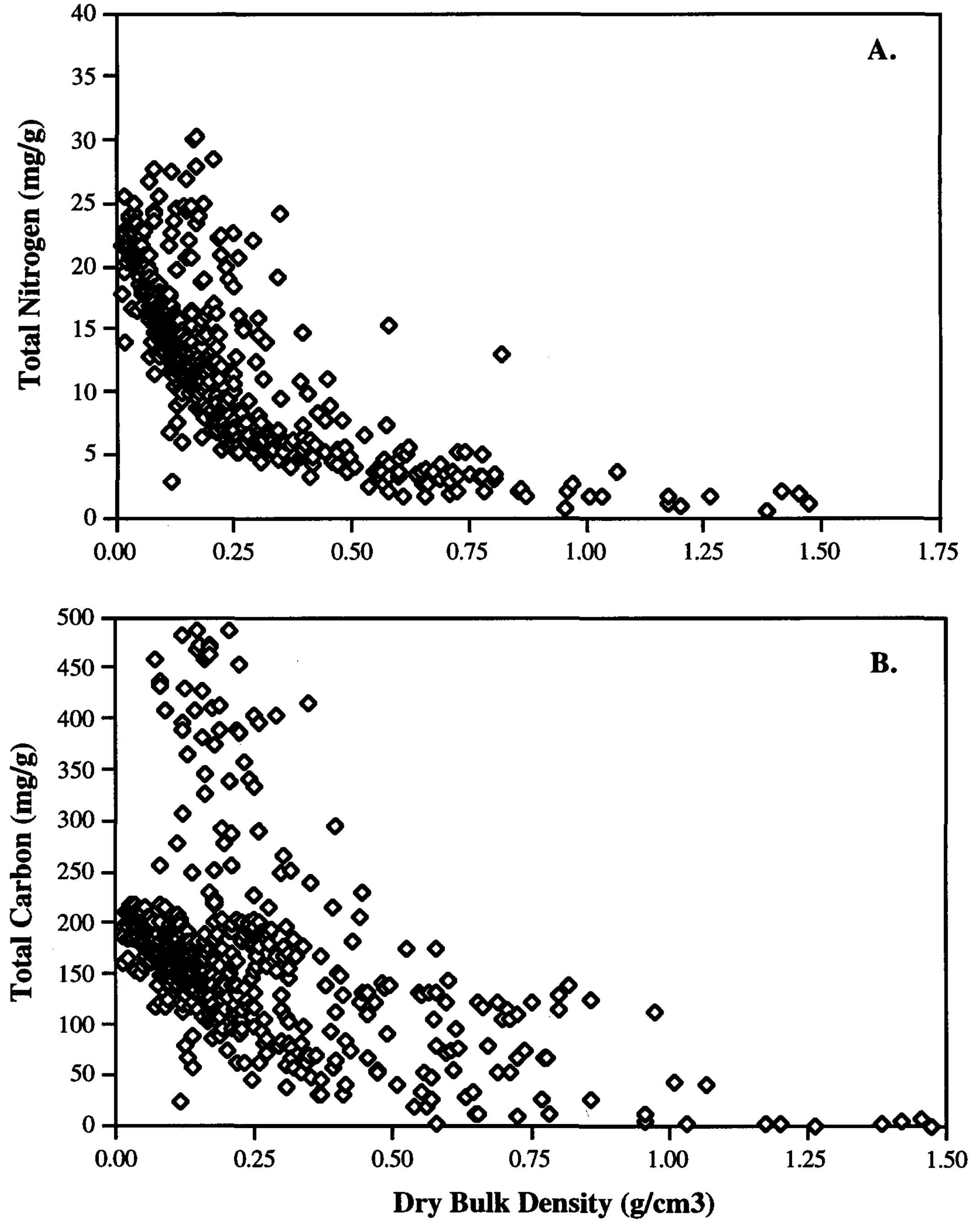

Fig. 5: Dry density (g cm-3) is given versus (A) TN (mg/g) and (B) TC (mg/g) for all sediment samples (n = 777). TN generally decreases with increasing density, while TC is more scattered with respect to density.

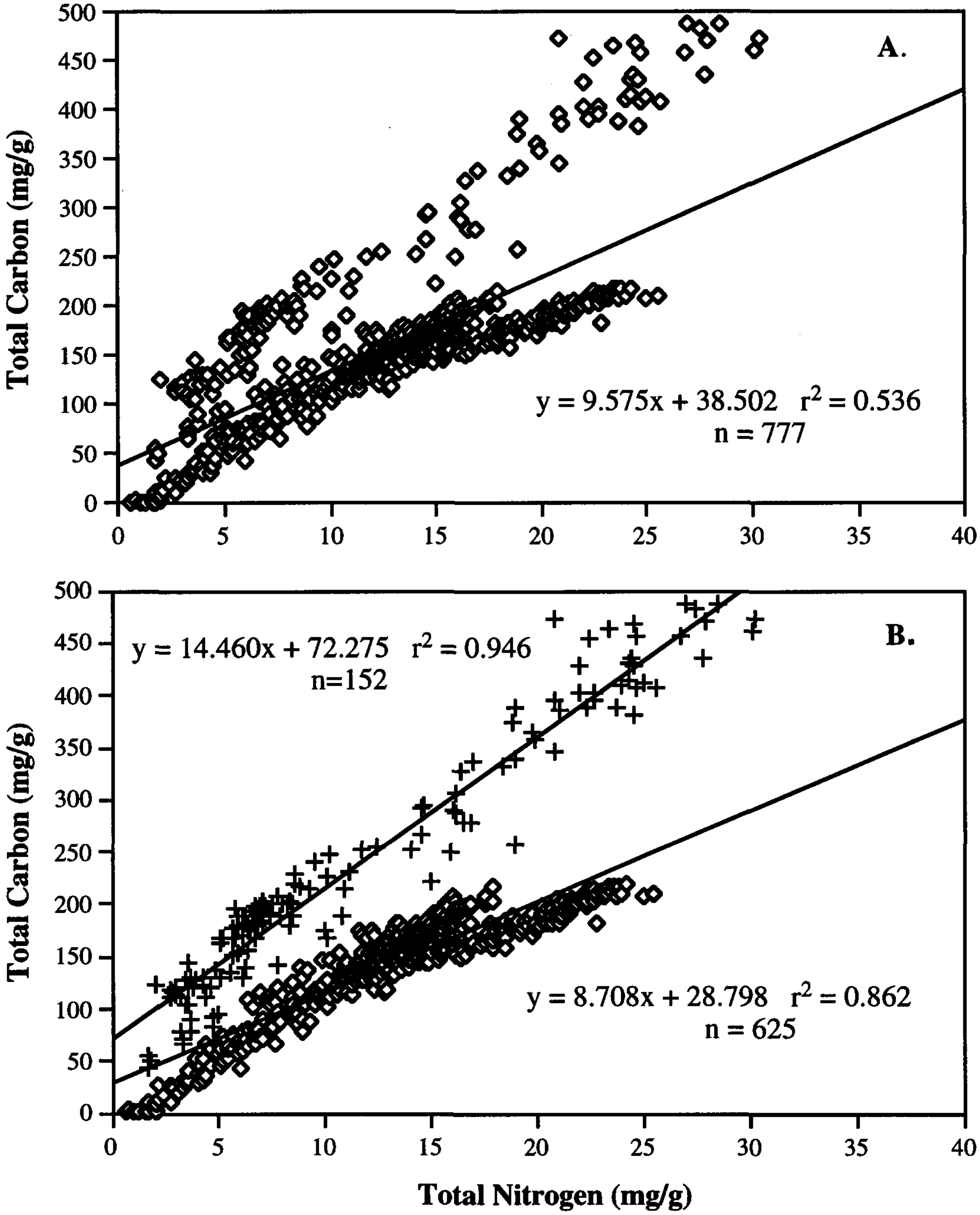

Fig. 6: Two distinct sediment groups appear when total carbon (mg/g) is plotted versus total nitrogen (mg/g). In (A) samples (n = 777) are plotted together with a linear regression through all data ($r^2 = 0.536$). In (B) samples from each sediment group are plotted separately, where deeper sediments represent the smallest group (crosses; n = 152; $r^2 = 0.946$) and upper sediments represent most of the data (diamonds; n = 625; $r^2 = 0.862$).

Total nitrogen concentrations (Fig. 5A) demonstrate a tighter relationship with dry density (proxy for depth) than TC (Fig. 5B). Total carbon concentrations are much more scattered in these sediments than organic matter and TN. A direct comparison between TC and TN reveals that at least two distinct groups of sediments appear in Lake Jesup (Fig. 6A; n = 777; $r^2 = 0.536$). When these two groups are further investigated it is determined that one group is characterized by sediments present deep in the core. Likewise the other group consists primarily of upper core sediments. These individual groups, shown in Figure 6B as TC versus TN for upper sediments (diamonds; n = 625; $r^2 = 0.862$) and deeper sediments (crosses; n = 152; $r^2 = 0.946$), demonstrate

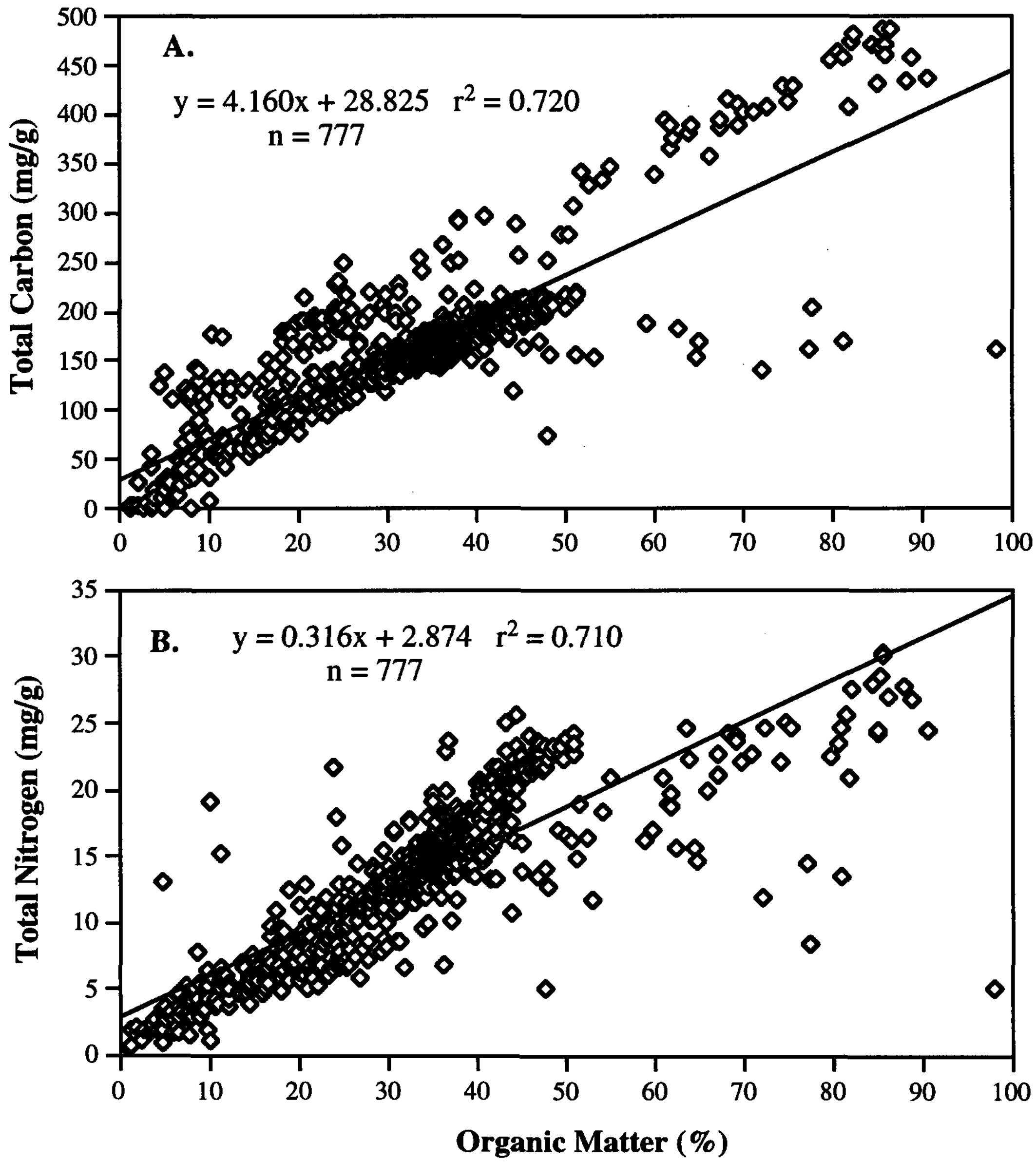

Fig. 7: Organic matter content (%) is plotted versus both (A) total carbon (mg/g; n = 777) and (B) total nitrogen (mg/g; n = 777) for all samples. When inorganic matter is greater than 50%, total carbon is less than about 225 mg/g. As the organic matter percent increases to greater than 50% of total mass, total carbon increases as well. Total nitrogen appears between 0 and 50% organic matter content primarily.

much better relationships when plotted separately. In addition, these sediment groups appear in the relationship between TC and organic matter content (Fig. 7). These relationships suggest more than one source of carbon may exist in Lake Jesup. The ratio between TC and TN, expressed as both a percent and the molar concentration (see Appendix B), supports this hypothesis of multiple carbon sources present in sediments at most stations. Sources to the lake may include terrestrial carbon, phytoplankton carbon, wetland macrophyte carbon, and carbonate deposition. If you assume that the surface of each core does not contain any inorganic carbon, a simple assessment of the organic carbon can be made using the ratio between total carbon and loss on ignition (organic matter content). In this case, 45±6% of loss on ignition may be attributed to organic carbon. However, a uniform fraction of organic carbon with depth must be assumed using this method, and this fraction can not account for environmental variations in lake chemistry or cultural forcing. Physical descriptions of lake sediments (Appendix A) support a high inorganic matter content. A high density of shell fragments and clay were observed in many cores. The presence of a carbonate sediment layer at depth in some cores was observed in the field and can be seen in the TC/TN ratio. For example, TC/TN (molar) changes rapidly from 12 at 55 cm to 29 at 60 cm in LJ-11. Observations made during core collection confirm that below about 55 cm in LJ-11 the sediments consist of pink carbonate and shell fragments (Appendix A).

Like nitrogen and carbon, phosphorus concentrations generally decrease with depth in the sediments (Figs. B1 to B49). A horizon appears in TP concentrations at about 25 to 45 cm in most cores where the concentration decreases markedly from surface sediment to depth. A corresponding decrease in NAIP usually occurs at this TP demarcation depth. In some cores a large spike in both TP and NAIP occurs at depth, indicating a possible historical event that may have contributed to the lake's current eutrophic condition. Total phosphorus concentrations are highest within the upper sediments of the Lake Jesup sediments, although TP displays some scatter similar to TC when plotted versus dry density (Fig. 8A). Like TN, NAIP demonstrates a much tighter relationship to density (Fig. 8B). However, when TP is compared directly to NAIP, unique groups of sedimentary deposits do not appear (Fig. 9; $n = 768$; $r^2 = 0.559$). Most of the data occurs at less than 2 mg g^{-1} TP and 0.5 mg g^{-1} NAIP. About 25 samples appear to be outliers in this relationship.

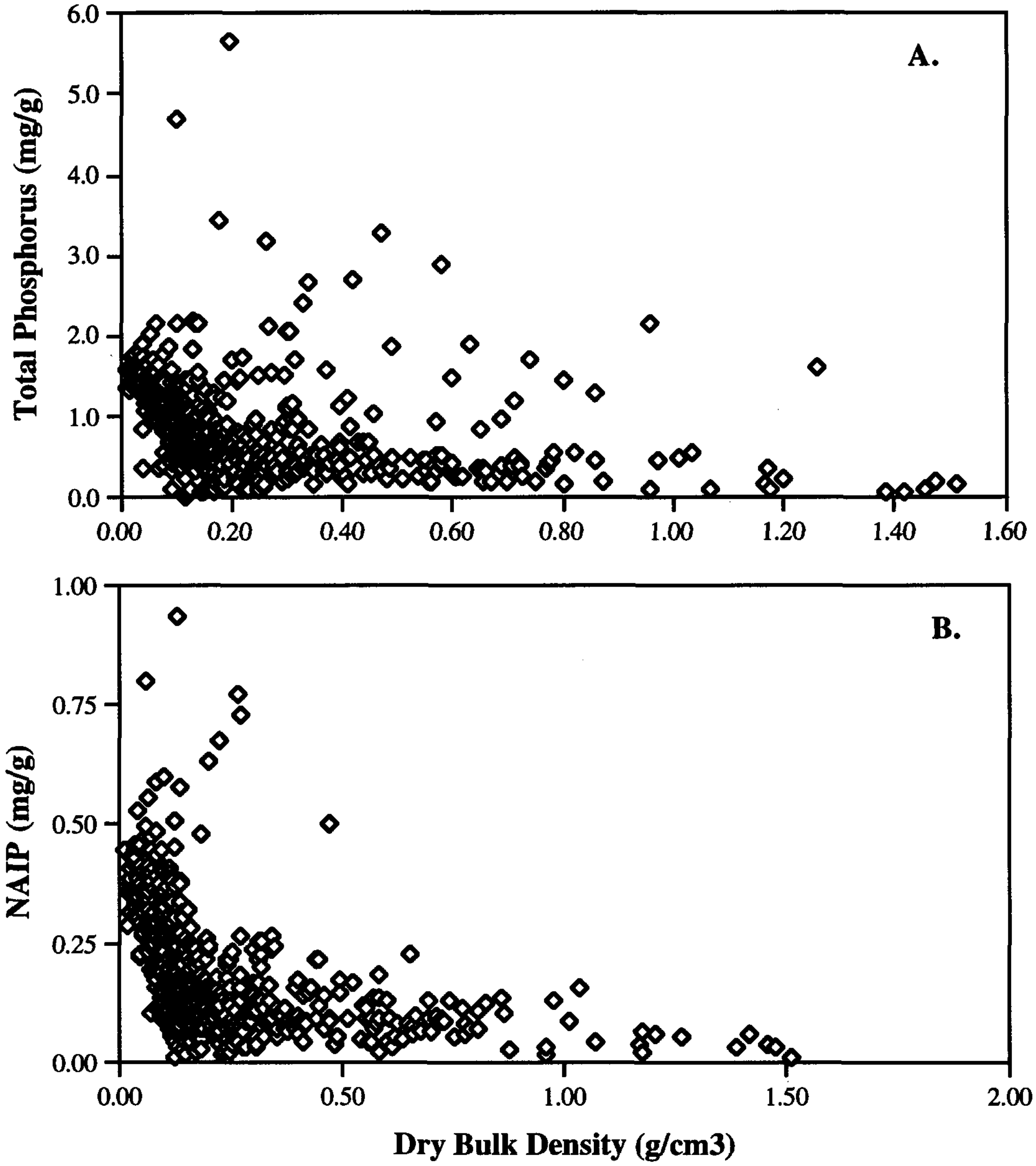

Fig. 8: Dry density (g·cm-3) is given with (A) TP (mg/g) and (B) NAIP (mg/g) for all sediment samples (n = 768). Most phosphorus appears in the upper sediment column.

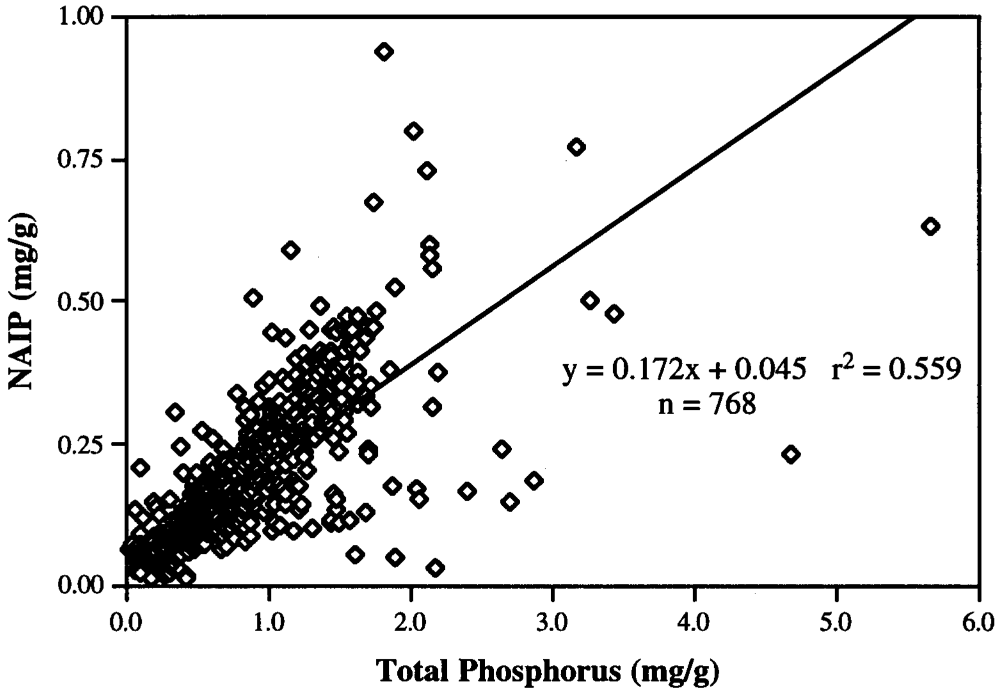

Fig. 9: When all sediment data (n = 768) is plotted for total phosphorus (TP; mg/g) versus NAIP (mg/g), sediment does not break into two groups. Most data is less than 0.5 mg/g NAIP and 2 mg/g TP.

To identify what caused these anomalous samples, TN/TP and NAIP/TP ratios were plotted versus dry density (Fig. 10). NAIP is most likely to resemble the labile, biologically available material in the lake sediments. It is possible that TN can represent biologically available material as well in these sediments. In addition, these nutrient concentrations do not appear to contain the interfering constituents that TC must contain. Most of the data are centered below a TN/TP ratio of 50 (Fig. 10A) and NAIP/TP ratio of 0.5 (Fig. 10B) when shown with density. Sediments with nutrient ratios greater than these values probably contain a refractory (likely mineralogical) component of TP. A mineralogical component of TP or that which is buried deep in the sediments will be much less available to biological production within the lake.

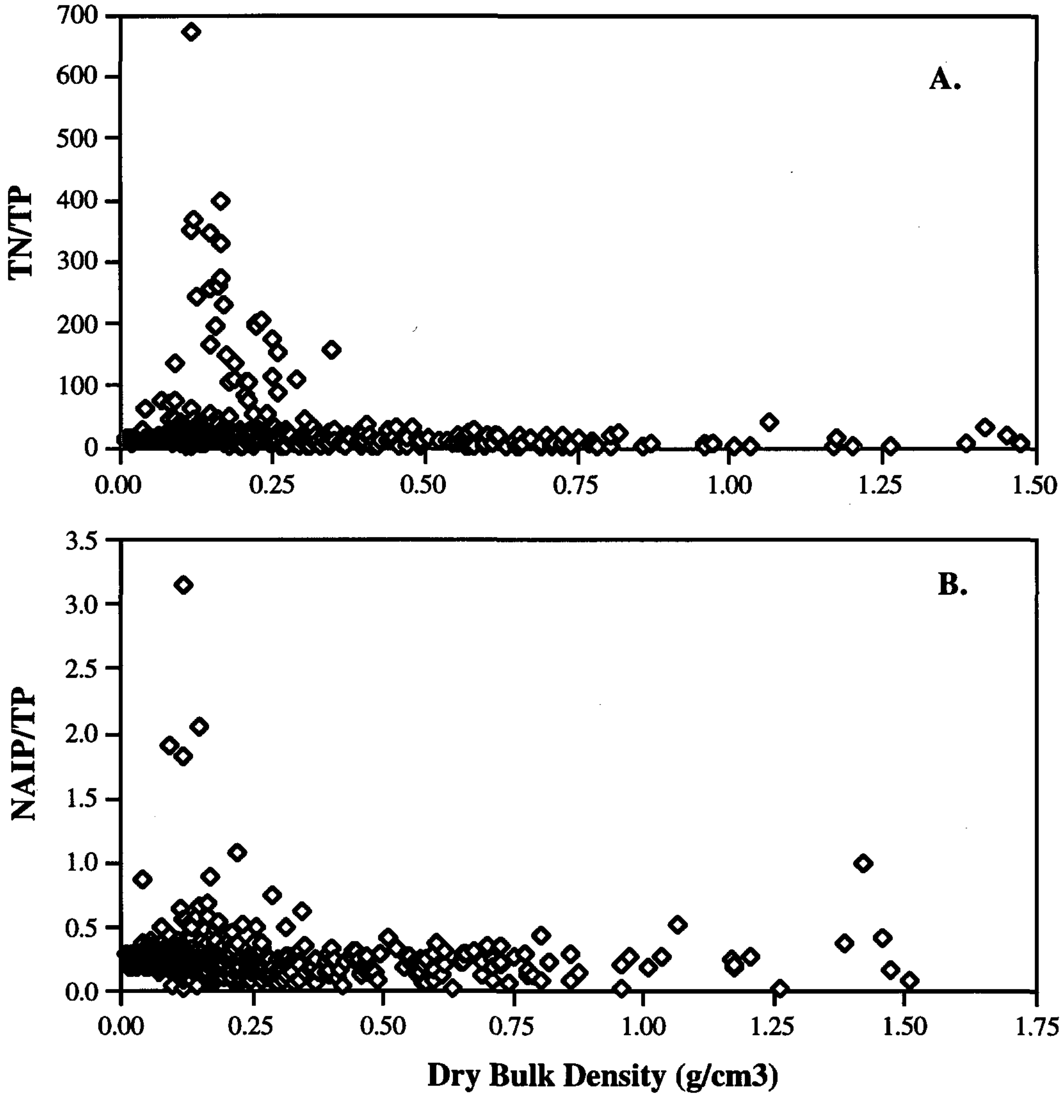

Fig. 10: Nutrient ratios for (A) TN/TP and (B) NAIP/TP are plotted versus dry density (g cm^{-3}) to distinguish labile forms from refractory forms of phosphorus. Most of the data appears labile (biologically available), while only a small proportion is refractory (likely mineralogical).

Accumulation Rates Within Lake Jesup

Areas with the greatest sediment accumulation provide the most useful historical records. Eight survey sediment cores from Lake Jesup were analyzed for ^{210}Pb, ^{226}Ra, and ^{137}Cs (Appendix E) and dated using the CRS model: (A) LJ-04-96; (B) LJ-12-96; (C) LJ-21-96; (D) LJ-37-96; (E) LJ-40-96; (F) LJ-43-96; (G) LJ-45-96; and (H) LJ-B-96 (Fig. 11). Total ^{210}Pb (sum of supported and unsupported ^{210}Pb) is generally about 10 to 14 dpm g^{-1} in the upper sediment samples and decreases with depth in the sediments. In some cases, activities present in the

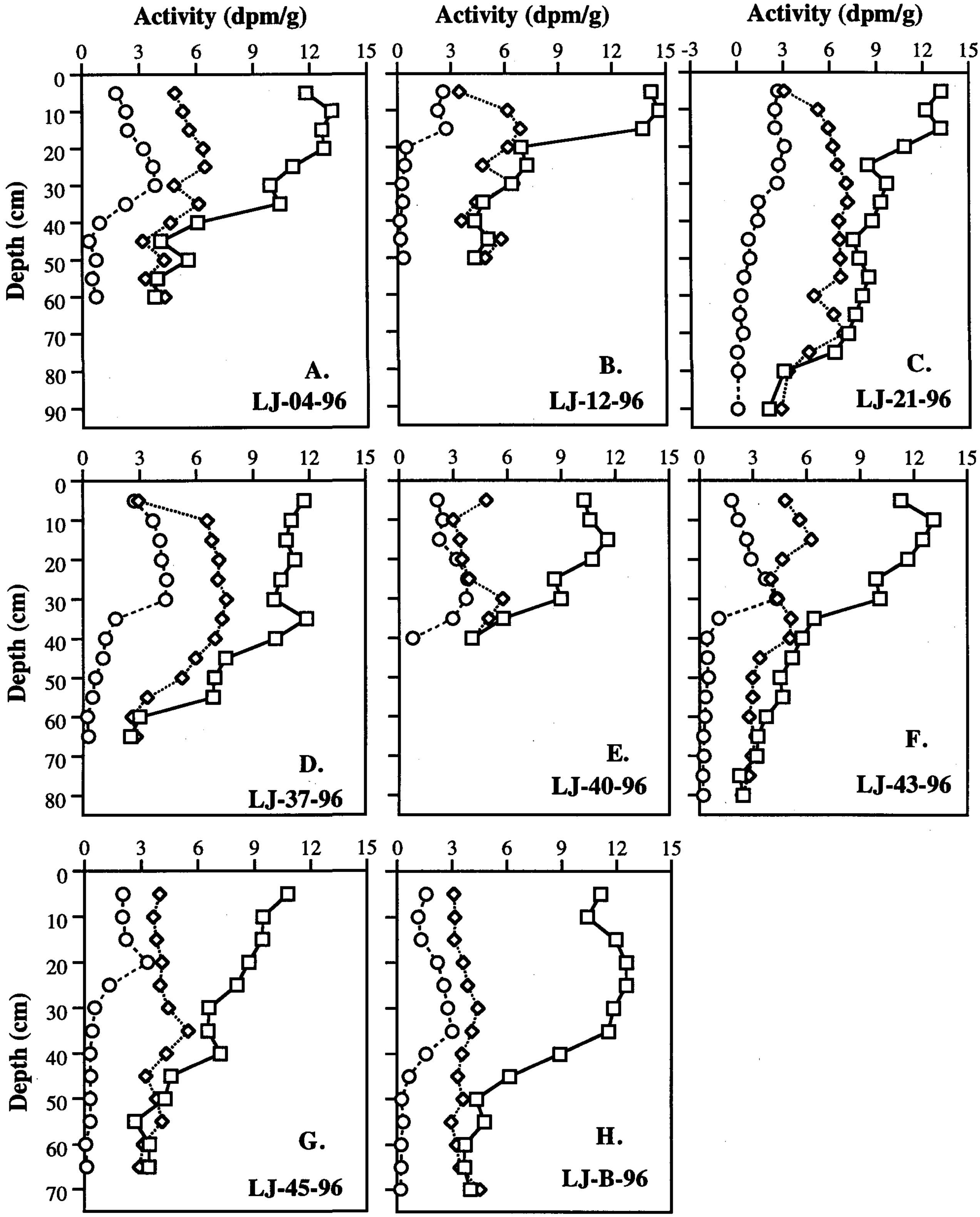

Fig. 11: Eight survey sediment cores were chosen for ^{210}Pb dating: (A) LJ-04-96; (B) LJ-12-96; (C) LJ-21-96; (D) LJ-37-96; (E) LJ-40-96; (F) LJ-43-96; (G) LJ-45-96; and (H) LJ-B-96. Activities (dpm/g) for total ^{210}Pb (squares), ^{226}Ra (diamonds), and ^{137}Cs (circles) are given with depth (cm) in the sediments for each core.

uppermost sample were lower than activities in the immediately underlying sample. Causes for this reduction in activity at the surface can be due to a dilution effect as excess ^{210}Pb is deposited on the sediment surface or it could be due to recent rapid sedimentation and insufficient time for sediment diagenesis. Radium-226 activities range from about 3 to 7 dpm g^{-1}, which makes the correction for supported ^{210}Pb essential in these sediments. This activity represents about 25% to 30% of the total ^{210}Pb activity at the surface of the core, but the highly variable nature of ^{226}Ra activities within these sediments make this correction important at all depths. Cesium-137 activities are low and fairly homogenous in these cores, indicating that the bomb fall-out peak present at 1963 has probably been obscured. Cesium is an alkali metal and tends to solubilize in acidic environments such as the organic-rich sediments found in Lake Jesup, Florida. Therefore, it can migrate from its original deposition site with diffusion in pore waters. The remnants of a ^{137}Cs peak is probably shown in Fig. 11F for LJ-43-96.

The total ^{210}Pb record was corrected for ^{226}Ra and decay and the excess ^{210}Pb is given versus depth in Figure 12. Several cores demonstrate decreasing excess ^{210}Pb with depth, which is an important assumption for using the CRS model (Figs. 12A, 12B, 12C, and 12G). However, one core has a short excess ^{210}Pb records, LJ-12-96 (Fig. 12B), and may indicate the record has been partially truncated. At least three of the total ^{210}Pb profiles (Figs. 12D, 12F, and 12H) do not indicate decreasing excess ^{210}Pb with depth, but this condition may have several explanations. Uniform activities with depth in a portion of the core can be related to sediment mixing or changing depositional rates. Nevertheless, the CRS model can accommodate the changing activities with depth since no ^{210}Pb migration has occurred in the sediments.

Age versus depth profiles for each dated core are given in Figure 13. Ages ranged from a total of 65 years in LJ-12-96 to greater than 150 years in LJ-B-96. It is possible from the age and MSR data for LJ-12-96 that this core has a truncated or mixed record. This core demonstrated unsupported ^{210}Pb to only 20 cm and appears to be problematic. The record from LJ-12-96 is not used in further interpretation of the historical record of Lake Jesup. The total residual (integrated) excess ^{210}Pb measured in the remaining seven dated cores ranged between 14.42 and 27.18 dpm cm^{-2} (Table 2). This value represents the total inventory of excess ^{210}Pb that has accumulated below one square centimeter of sediment surface (Appleby and Oldfield, 1983). Site to site variability in the excess ^{210}Pb inventory can indicate sediment redistribution over time since the atmospheric flux

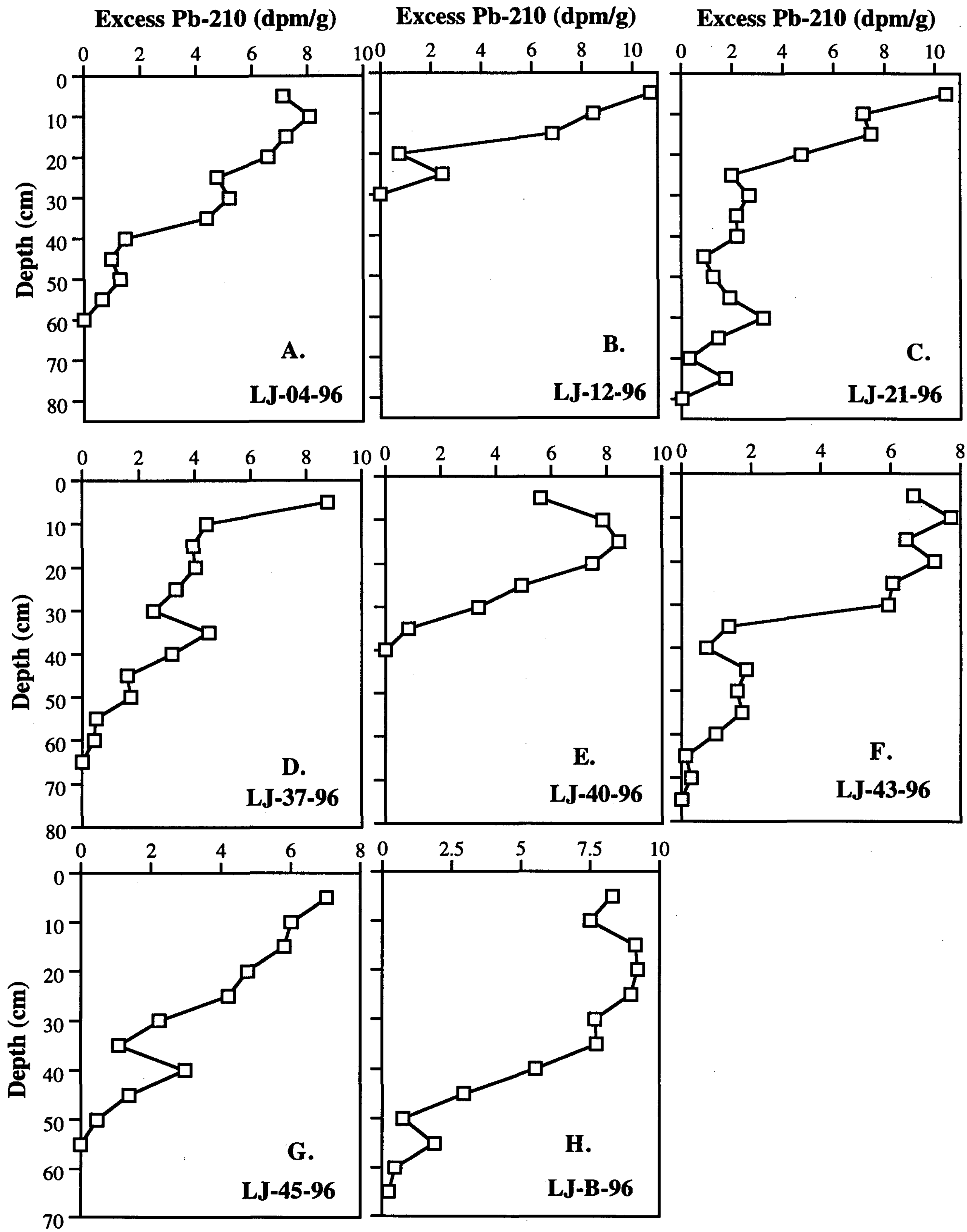

Fig. 12: Excess ^{210}Pb (dpm/g) is given versus depth (cm) for each of eight cores: (A)LJ-04-96; (B)LJ-12-96; (C)LJ-21-96; (D)LJ-37-96; (E)LJ-40-96; (F)LJ-43-96; (G)LJ-45-96; and (H)LJ-B-96.

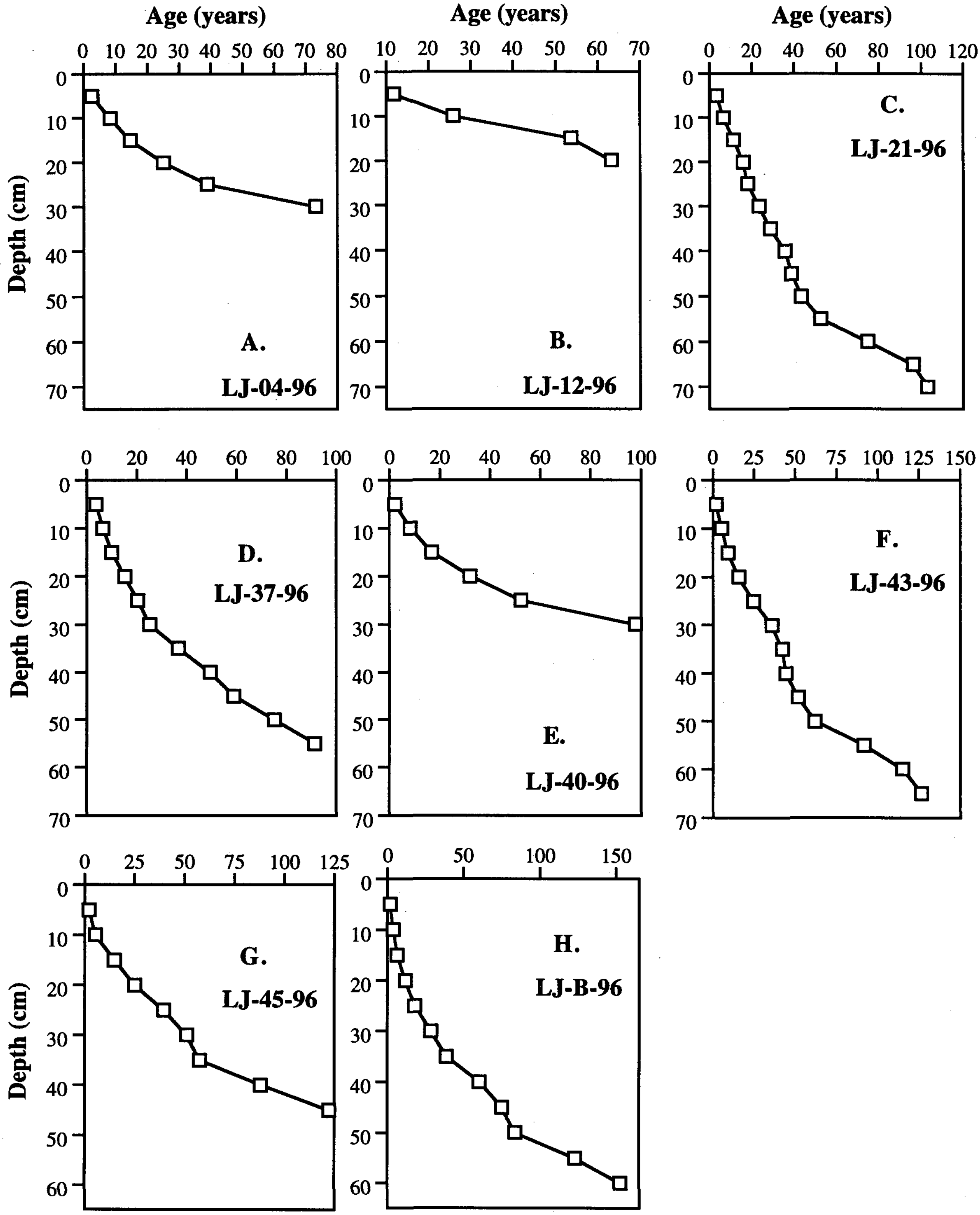

Fig. 13: Sediment age (years) is given versus depth in the sediments (cm) based on the CRS model results for (A) LJ-04-96; (B) LJ-12-96; (c) LJ-21-96; (d) LJ-37-96; (E) LJ-40-96; (F) LJ-43-96; (G) LJ-45-96; and (H) LJ-B-96.

Table 2: Ex ^{210}Pb inventories for each dated core.

Station	LJ-04-96	LJ-21-96	LJ-37-96	LJ-40-96	LJ-43-96	LJ-45-96	LJ-B-96
Integrated ex ^{210}Pb (dpm/cm^2)	17.16	17.12	20.70	14.42	26.10	27.18	20.16

of ^{210}Pb will not vary over the relatively small area of a lake surface. From these values in Table 2, LJ-40-96 has the least accumulation of ^{210}Pb, and likewise sediment. Four sites indicated similar inventories of ^{210}Pb and probably are subject to the same sediment focusing factor within the lake (LJ-04-96, LJ-21-96, LJ-37-96, and LJ-B-96). The two sites present in the narrowest portion of the lake, LJ-43-96 and LJ-45-96, had the highest inventories and likely receive the greatest sediment load. As the St. Johns River angles its way past Lake Jesup a percentage of the riverine sediment load will move into the lake and get deposited as this water mass slows against the lake water.

Mass sedimentation rates (MSR) are reported in Appendix E and shown in Figures 14 to 20. LJ-04-96, LJ-40-96, and LJ-B-96 demonstrate decreasing sedimentation with depth (Figs. 14A, 17A, and 20A). LJ-21-96 demonstrates a long dateable sediment record (Fig. 15A). A large deposit of sediments appears between 20 and 50 cm (which represents 20 to 60 years). High MSRs occur in the surface sediments of LJ-37-96, LJ-43-96, and LJ-45-96 (Figs. 16A, 18A, and19A). Using the mass sedimentation rates obtained from the CRS model for the dated cores, accumulation rates can be calculated for organic matter, TN, TC, TP, and NAIP (see also Figs. 14 to 20) within the sediments. Figures 14A to 20A contain a plot of MSR versus date overlain by accumulation rates for organic and inorganic matter. Generally, increasing nutrient accumulation was observed in more recent sediments for LJ-04-96, LJ-37-96, LJ-40-96, LJ-45-96, and LJ-B-96 (Figs. 14, 16, 17, 19, and 20). This increase in nutrient storage in the sediments can be related to the mass accumulation of organic and inorganic sediments and increased system production over time. The dated core collected within the western basin of the lake, LJ-21-96, did not demonstrate an increasing nutrient storage in recent sediments (Fig. 15). A large increase in nutrient accumulation appears in early sediments. LJ-21-96 contains sediment nutrient concentrations typical of Lake Jesup, and it demonstrates a mid-depth increase in accumulation for most nutrients. LJ-43-96 demonstrates a mid-depth spike in accumulation which occurs around the 1950s (Fig. 18).

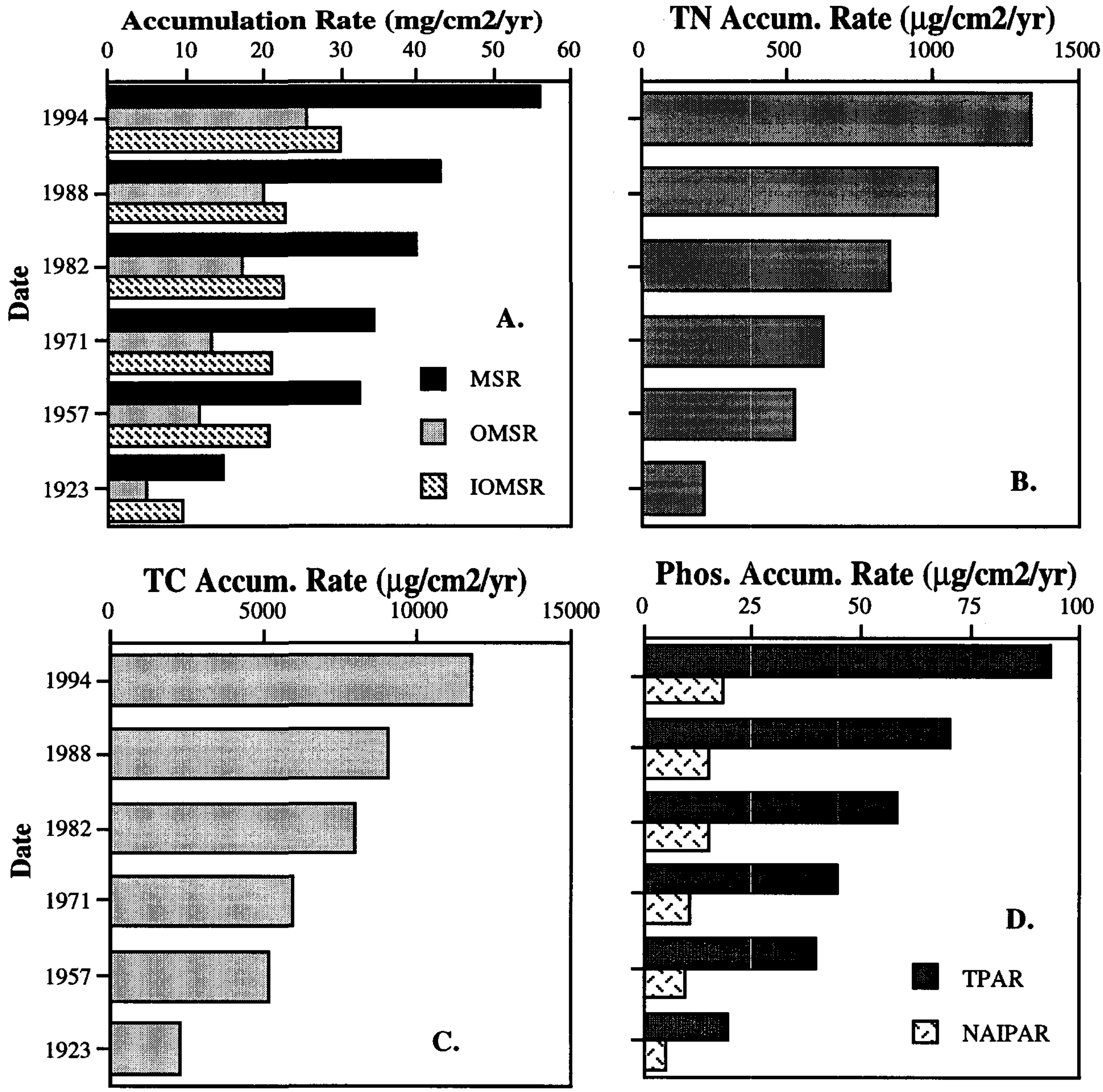

Fig. 14: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-04-96.

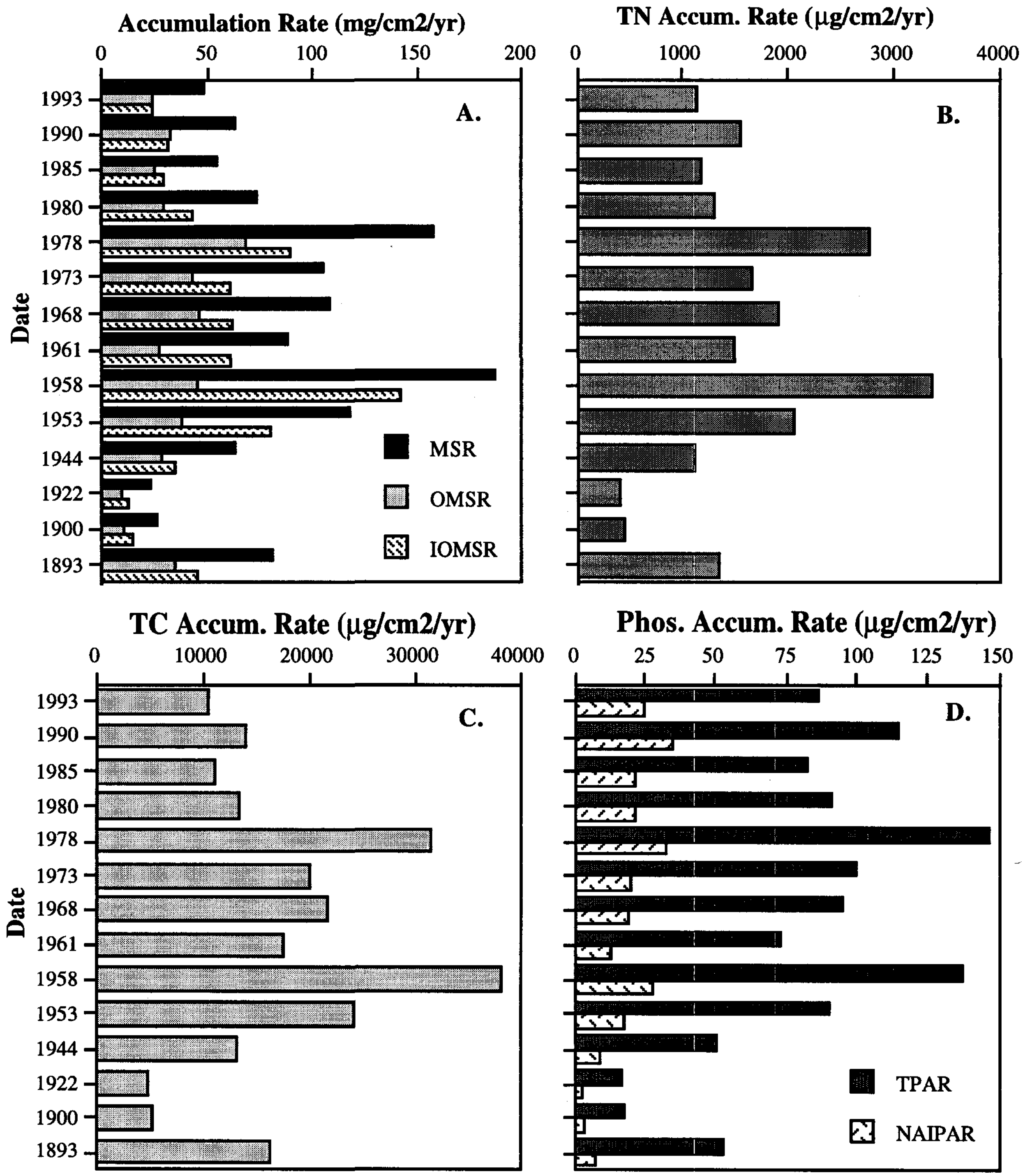

Fig. 15: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-21-96.

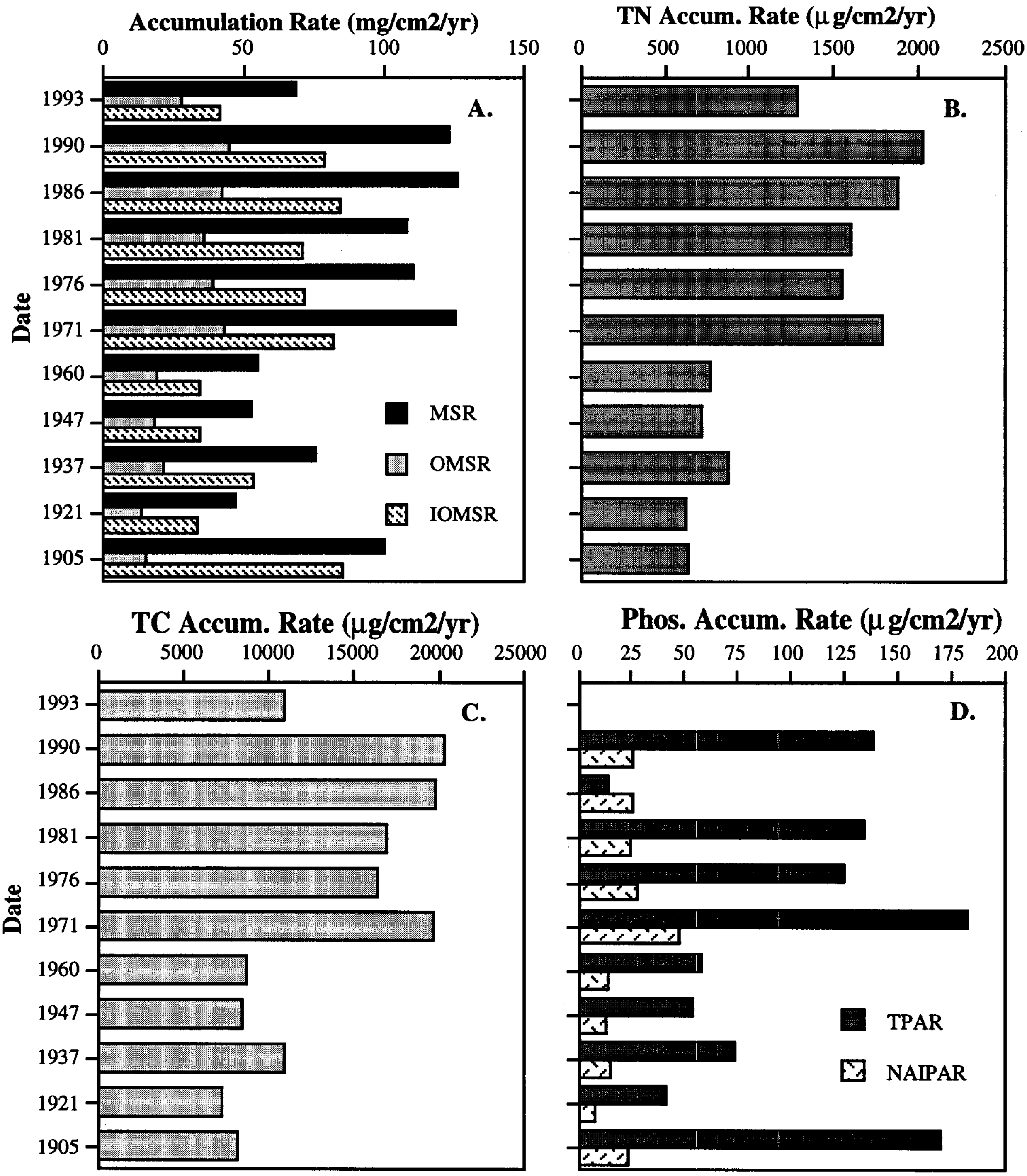

Fig. 16: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-37-96.

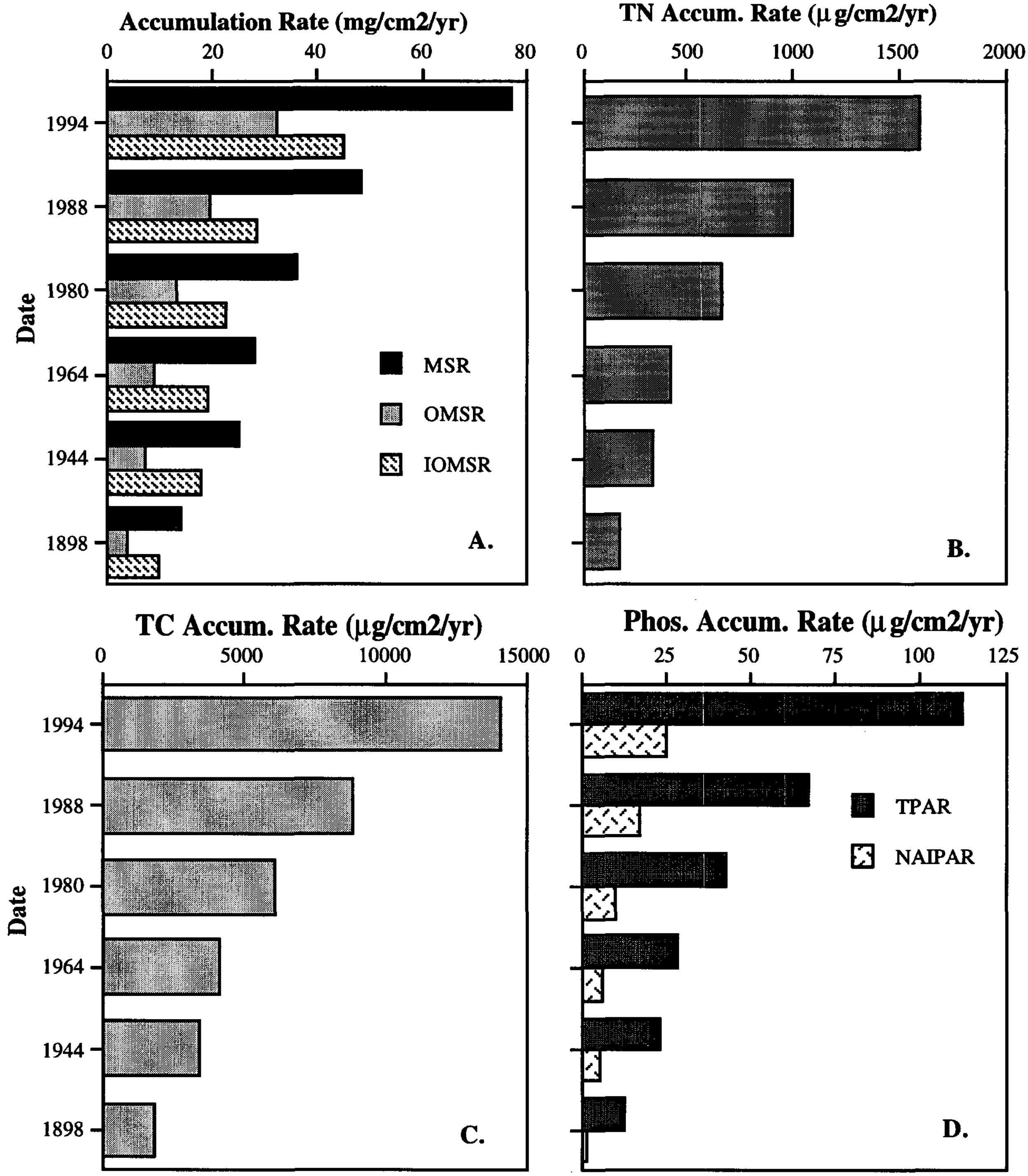

Fig. 17: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-40-96.

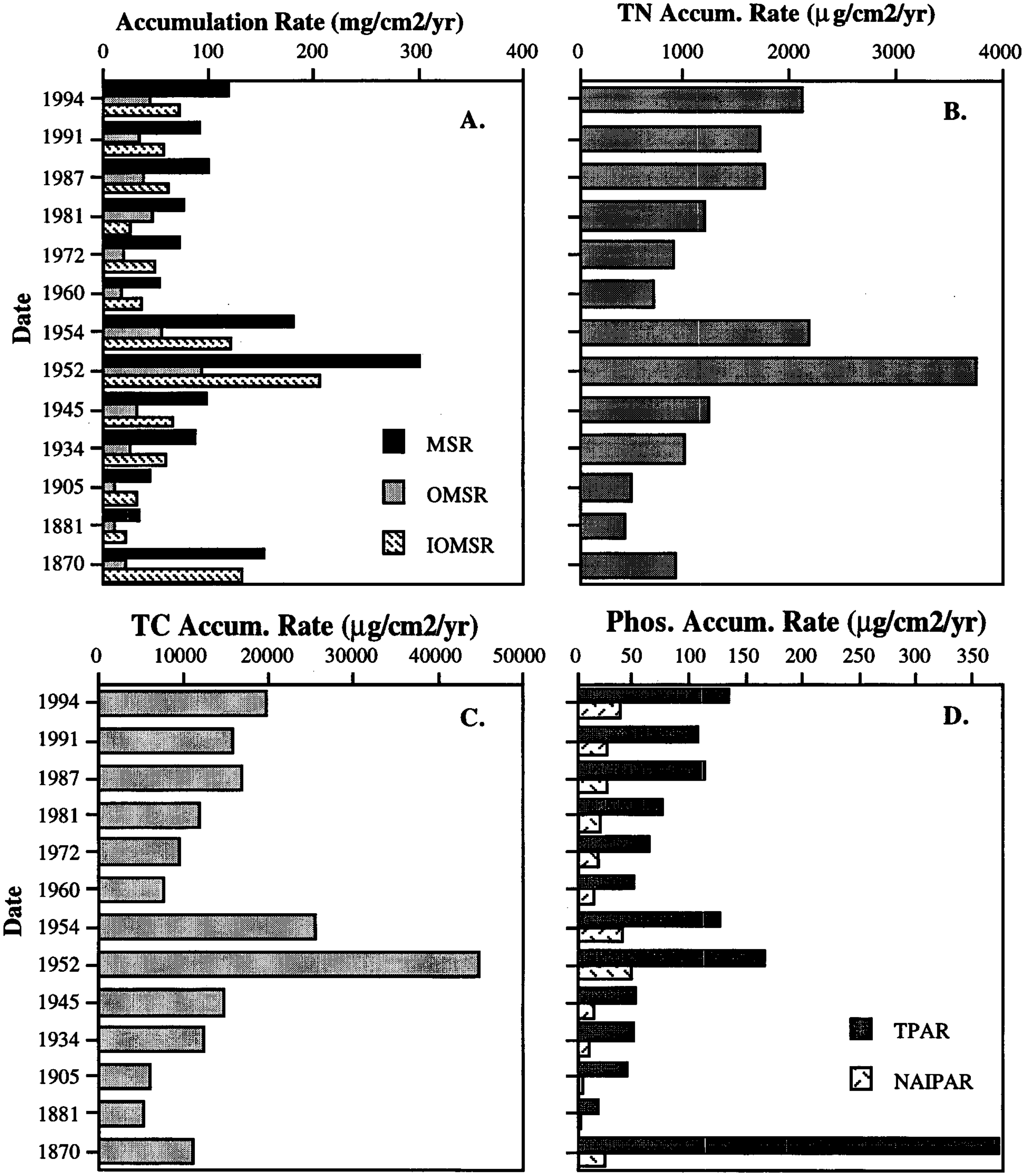

Fig. 18: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-43-96.

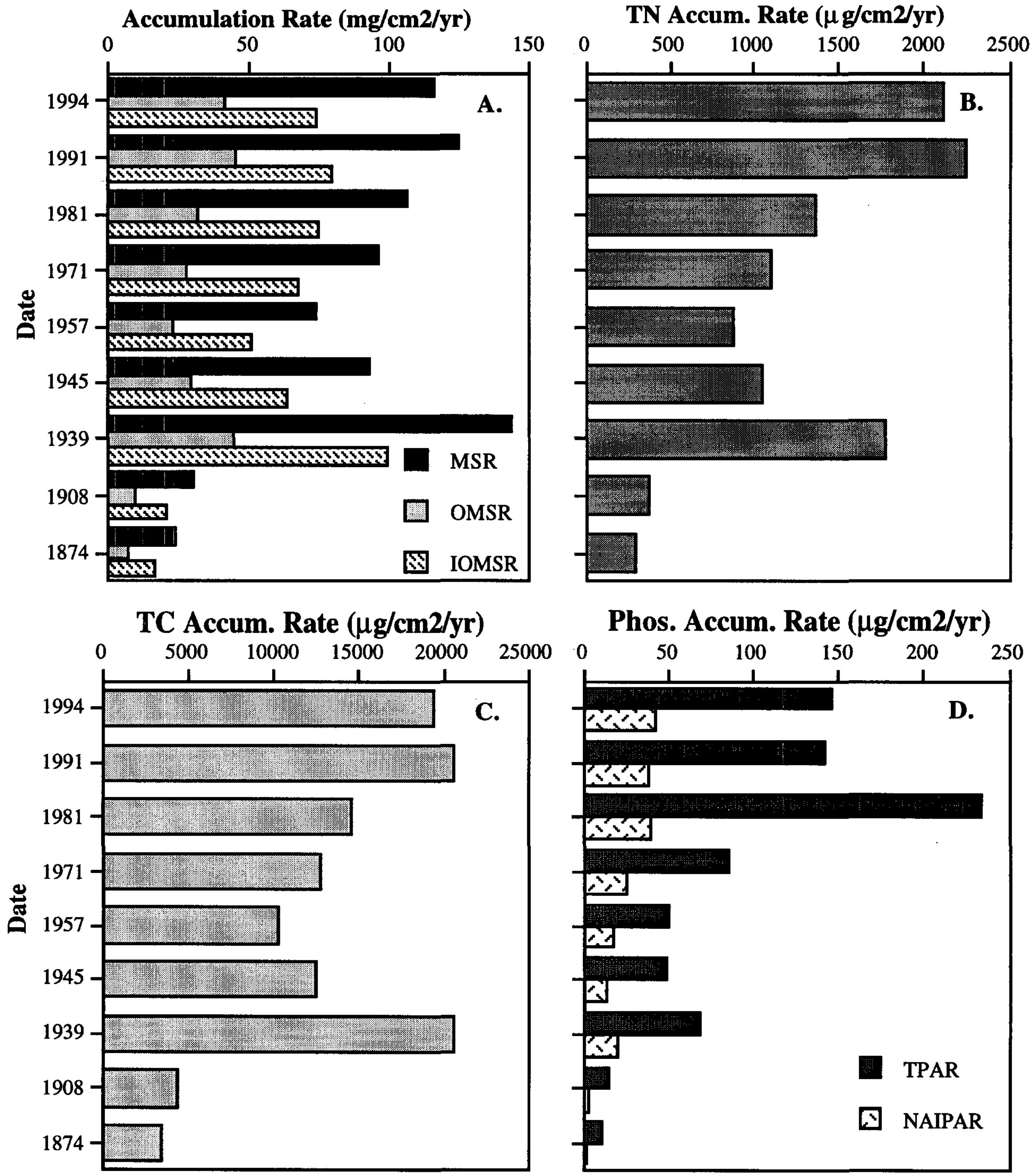

Fig. 19: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-45-96.

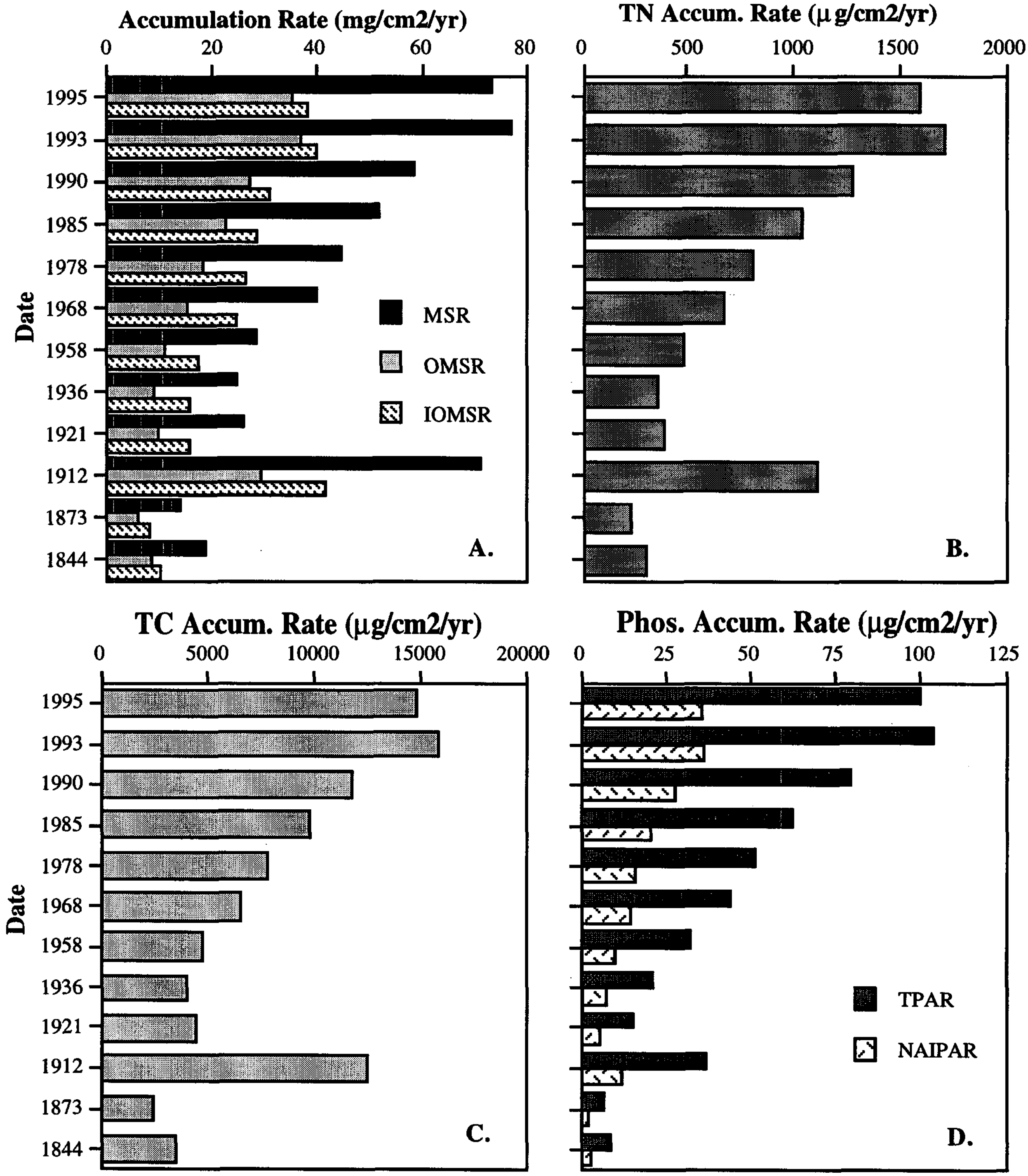

Fig. 20: Accumulation rates are given versus date for (A) total mass, organic matter, and inorganic matter; (B) total nitrogen; (C) total carbon; and (D) total phosphorus and NAIP in LJ-B-96.

Silica Concentrations and Diatom Microfossils

Five forms of silica were analyzed in six cores from Lake Jesup to understand the changes the lake has undergone in the recent (<150 years) past: (1) diatom silica (DSi); (2) sponge spicule silica (SSi); (3) biogenic silica (BSi; sum of DSi and SSi); (4) total silica (TSi; sum of BSi and MSi); and (5) mineral silica (MSi; see Appendix C). In general, freshwater sponges can survive in variable environments including stained waters, however they prefer hard substrates for their existence. These substrates may include hard bottoms of lakes and rivers, macrophytes, and even fallen trees present in the water column. They have the ability to change morphologically to adapt to changing environmental conditions. Biogenic SiO_2 and total SiO_2 demonstrated similar trends in concentrations throughout in each core and demonstrated that little mineral silica is present in these cores (Figs. C1 to C6). Both biogenic and total silica concentrations were low at the surface and increased at around 30 to 40 cm. Trends among cores are very different. When the stratigraphy of the core shifted from organic material to clay, peat, or carbonate, the silica concentrations would generally display a marked decrease. Mineral silica varied with depth in all cores and generally did not have discernible concentration trends. In LJ-21-96 (Fig. C3) and LJ-B-96 (Fig. C6), mineral silica appeared to be fairly low at the surface and increase with depth in the sediments, which indicates that the inorganic content of the deeper samples in these cores was higher as well. The inorganic matter accumulation rates in these cores (Figs. 15A and 20A) support a high inorganic mineral content at depth in these cores. In contrast, LJ-40-96 (Fig. C4) demonstrated a high mineral silica content in the surface sediments which decreased with depth and was likewise supported by inorganic matter accumulation rates. Diatom and sponge spicule silica concentrations were generally similar to one other in each core, while trends in these silica constituents varied between cores (Figs. C1 to C6). In the surface (0 to 5 cm) sediments the concentrations diverged. Diatom silica increased where sponge spicule silica decreased.

Six cores were analyzed for silica, four of which were dated using ^{210}Pb (Figs. 21 to 24). These stations, LJ-21-96, LJ-40-96, LJ-45-96, and LJ-B-96, can be separated into two groups of silica accumulation. LJ-21-96 shows a similar trend in silica accumulation that was observed for its nutrients, TN, TC, and TP (Figs. 15 and 21). However, LJ-40-96 clearly shows increasing accumulation of all silica components in more recent sediments, although these accumulation rates are much slower than other cores (Fig. 22). LJ-45-96 does not have silica results for the 5-cm interval due to insufficient sediment material for analysis. This station appears to have a high accumulation of silica around 1939 and fairly uniform and decreased accumulation in recent years

(Fig. 22). Trends in silica accumulation for LJ-B-96 are similar to the nutrients generally (Fig. 23). Diatom silica does not demonstrate the same spike in accumulation that occur in the early 1900s for all other analyzed silica and nutrient components.

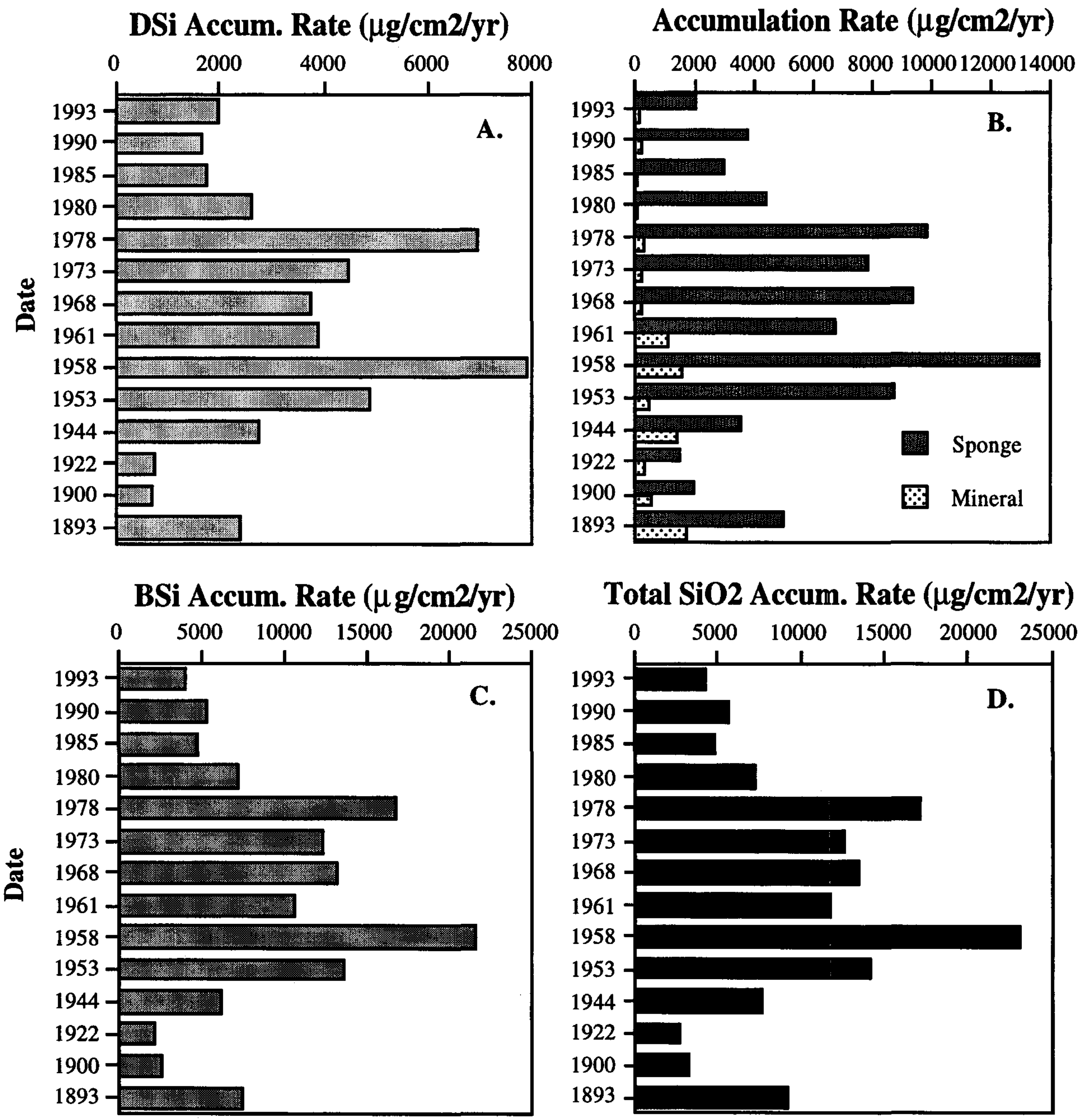

Fig. 21: Accumulation rates are given versus date for (A) diatom silica; (B) sponge spicule silica and mineral silica; (C) biogenic silica; and (D) total silica in LJ-21-96.

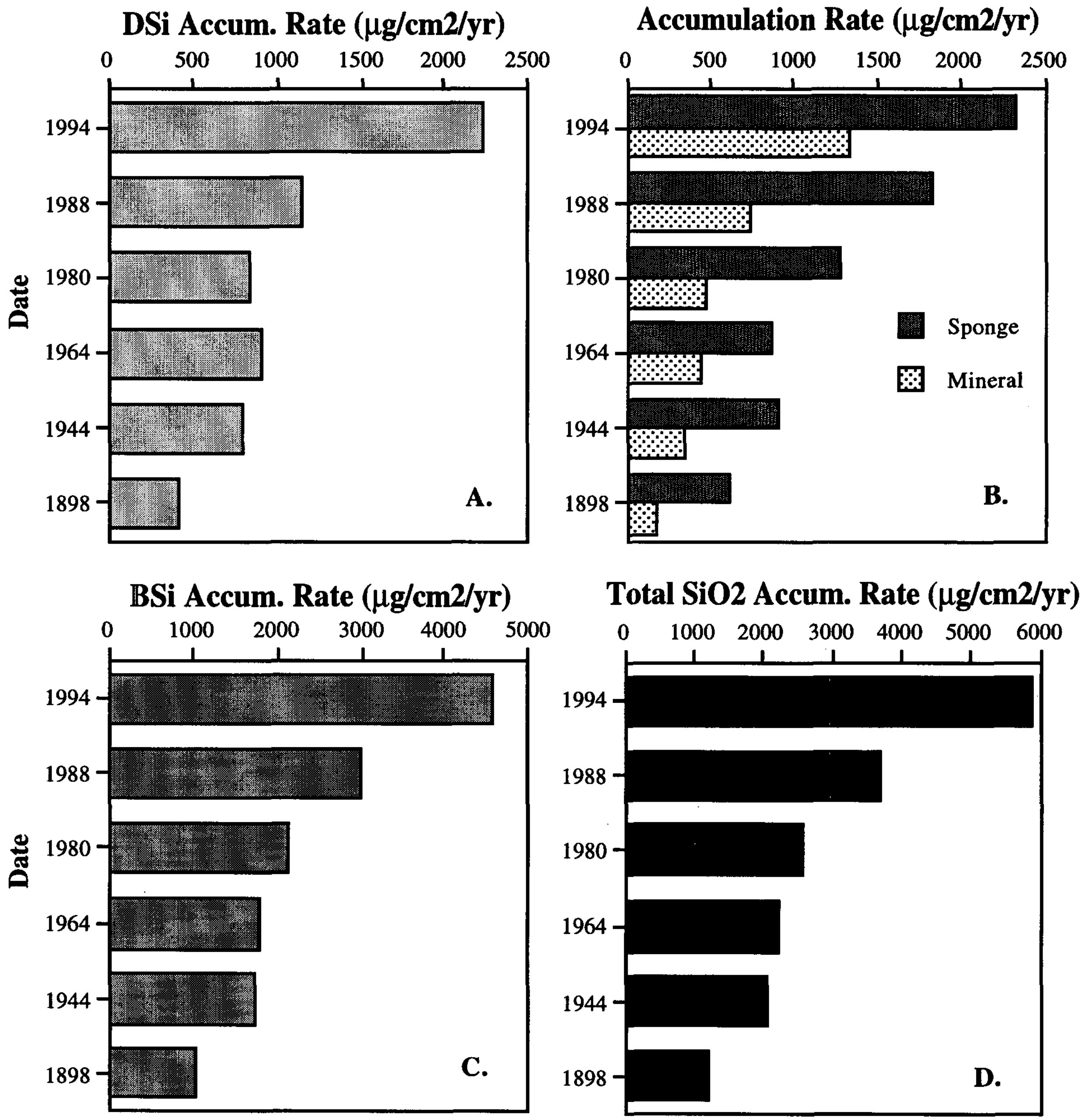

Fig. 22: Accumulation rates are given versus date (A) diatom silica; (B) sponge spicule silica and mineral silica; (C) biogenic silica; and (D) total silica in LJ-40-96.

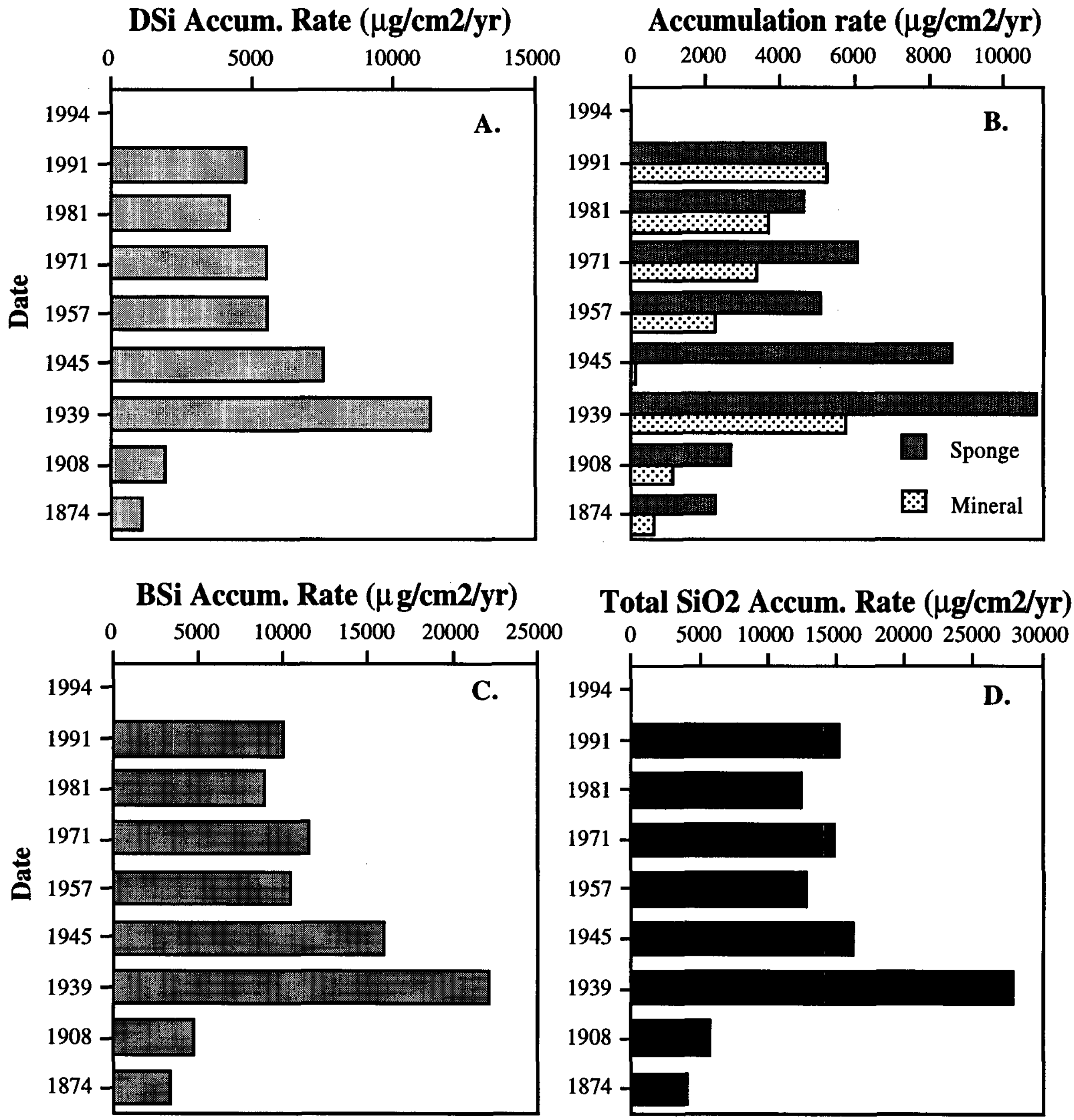

Fig. 23: Accumulation rates are given versus date (A) diatom silica; (B) sponge spicule silica and mineral silica; (C) biogenic silica; and (D) total silica in LJ-45-96.

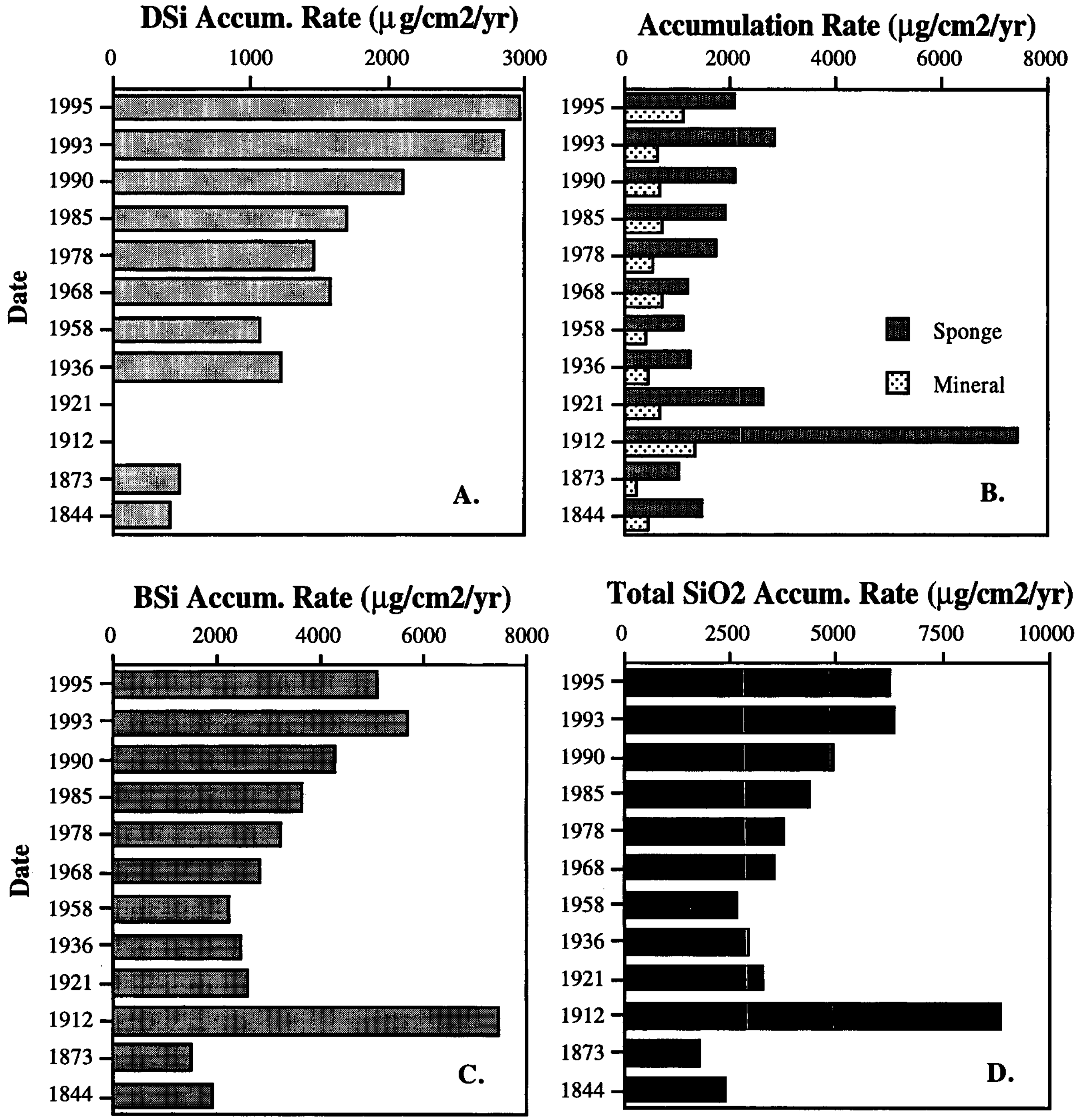

Fig. 24: Accumulation rates are given versus date (A) diatom silica; (B) sponge spicule silica and mineral silica; (C) biogenic silica; and (D) total silica in LJ-B-96.

Paleolimnologic investigations using diatom microfossils in Florida lakes demonstrate consistent patterns are found in several eutrophic or hypereutrophic lakes. In contrast to some of the lakes of the Ocklawaha chain, such as Lakes Apopka, Eustis, and Griffin, Lake Jesup diatom assemblages resemble Lake Dora or Lake Hollingsworth. Schelske (in prep.) identified two cases in Florida lakes for diatom assemblages: (1) lakes in which the dominant surface sediment species are *Aulacoseira italica* and *Aulacoseira ambigua*; and (2) lakes in which the dominant surface sediment species are *Pseudostaurosira brevistriata*, *Staurosirella pinnata*, and *Staurosira construens*. Lake Jesup clearly belongs in Case 2.

The diatom assemblage in the modern (0-5 cm) sample from core LJ-21-96 is dominated by the periphytic taxa *Pseudostaurosira brevistriata, Staurosirella pinnata,* and *Staurosira construens* var. *venter* (Fig. 25; see also Appendix D). Diatoms in cores LJ-45-96 and LJ-B-96 (Figs. 26 and 27) exhibit similar patterns to those in core LJ-21-96. In cores LJ-B-96 and LJ-45-96, *Pseudostaurosira brevistriata, Staurosirella pinnata,* and *Staurosira construens* var. *venter* dominate as they did in LJ-21-96 from the surface to approximately the 30-cm levels in cores LJ-B-96 and LJ-45-96 (Appendix D). *Pseudostaurosira brevistriata* is indicative of eutrophic to hypereutrophic conditions, whereas *Staurosirella pinnata* and *Staurosira construens* var. *venter* are found in mesotrophic to hypereutrophic conditions (Whitmore 1989). These periphytic taxa often dominate the diatom assemblages of shallow, hypereutrophic Florida lakes that exhibit cyanobacterial blooms (Brenner *et al.* 1993, Brenner *et al.* 1995, Brenner *et al.* 1996). Cyanobacteria may depress phytoplanktonic taxa because greater optical density decreases turbulence and allows heavy planktonic diatoms such as *Aulacoseira* to settle out of the water column (Bradbury, 1977), because of allelelopathic interference (Keating 1978), or because of light or nutrient limitations. Benthic diatoms, in contrast, may proliferate at the sediment-water interface even when nutrients are limited in the water column, or they may have lower light requirements and be better able than heavier planktonic taxa to survive with only intermittent resuspension into the water column (Carrick *et al.* 1993). *Pseudostaurosira brevistriatis, Staurosirella pinnata,* and *Staurosira construens* var. *venter* continue to account for about 85% of the diatom assemblages from the top of core LJ-21-96 down to about the 25-30-cm interval. From 0 to 30 cm represents the time interval from 1996 down to 1973. Benthic assemblages appear to exist in this lake at a mean water depth greater than the photic depth.

At the 25 to 30-cm level of LJ-21-96, these taxa begin to diminish in abundance and planktonic taxa including *Aulacoseira ambigua* and *Cyclotella meneghiniana* increase in abundance (Fig. 25). *Aulacoseira ambigua* and *Cyclotella meneghiniana* increase below the 25-30-cm level in LJ-B-96 and below the 25-cm level in LJ-45-96 as they did in LJ-21-96. *Pseudostaurosira brevistriata* decreases from >45% above the 30-cm level to approximately 20% below the 30-cm level, while *Aulacoseira ambigua* increases from <5% above the 30-cm level to approximately 20% below the 30-cm level. *Aulacoseira ambigua* and *Cyclotella meneghiniana* are large

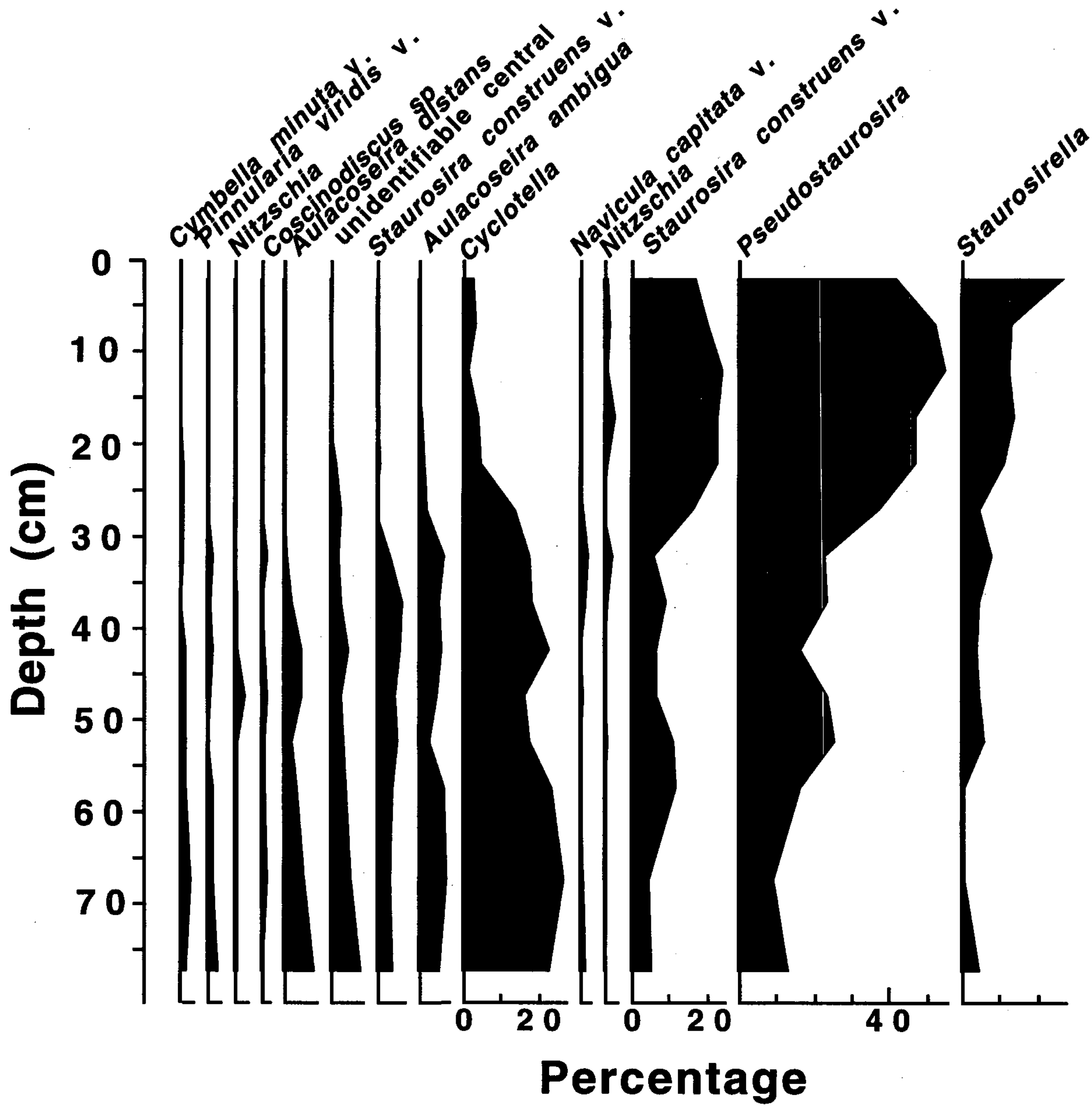

Fig. 25: Diatom assemblage (%) for LJ-21-96 is given versus depth in the sediments. Three taxa clearly dominate the system in recent sediments. Pseudostaurosira brevistriata, Staurosirella pinnata, and several subspecies of Staurosira construens were once considered part of the genus Fragilaria.

planktonic taxa that are prone to settling out of the water column, and they require frequent turbulence to keep them suspended. Changes in the hydrology of the lake, such as might be due to diminished river inputs, may have affected these taxa abundances over time. In small lakes, benthic diatoms that are produced in the littoral zone may contribute significantly to the overall microfossil flora record. The littoral zone acts as a refuge for the diatoms until sediment is redistributed by focusing. Diatoms throughout core LJ-21-96 indicate historically eutrophic conditions. The shift to greater abundance of periphytic, hypereutrophic diatoms above the 30-cm level suggests that the lake progressed to hypereutrophic conditions in recent decades. Breakage of diatom frustules was considerable throughout core LJ-21-96, possibly because of high mineral content in the samples or because samples were homogenized prior to subsampling for diatom analyses. The extent of valve breakage is evident from the percentages of "unidentifiable central areas" noted in the samples (Appendix D).

Limnetic total P inferences based on diatom assemblages in core LJ-21-96 (Fig. 28A; Appendix D) indicate that Lake Jesup has been at least eutrophic since the turn of the century. Limnetic inferences are also shown for cores LJ-45-96 (Fig. 28B) and LJ-B-96 (Fig. 28C). However, since Lake Jesup is not a P-limited lake, a low bias in the inferred TP values will occur. Total P inferences prior to the 25-cm level in core LJ-21-96 (c. 1979) are generally less than 90 μg L^{-1} and increase to >100 μg L^{-1} above the 25-cm level, possibly because of sewage effluent inputs from wastewater treatment plants. A slight decrease in limnetic total P seems apparent in the 0 to 5-cm level, which may have resulted from diversion of effluent away from Lake Jesup. Ninety-five percent confidence intervals for the limnetic total P predictions overlap throughout all three cores (Fig. 28) indicating that specific trends in limnetic total P concentrations cannot be discerned. Limnetic total P inferred from recent samples differs markedly from the modern measured mean for 1996 limnetic total P of approximately 195 μg L^{-1} with a minimum-maximum range of 100 to 400 µg.L-1 (E. Marzolf, pers. comm.). Qualitative evidence shown by the shift from eutrophic, planktonic taxa to benthic taxa typical of shallow, hypereutrophic lakes, nevertheless, suggests that water quality declined after the 1960s. This water quality change is demonstrated by a marked shift in diatom diversity that occurred around that time. Prior to the 1950s and 1960s, a diverse diatom assemblage was present in Lake Jesup. However, only three main taxa dominate the recent assemblage. Primary data from the diatom taxa identification are strong evidence for increasing trophic state in Lake Jesup.

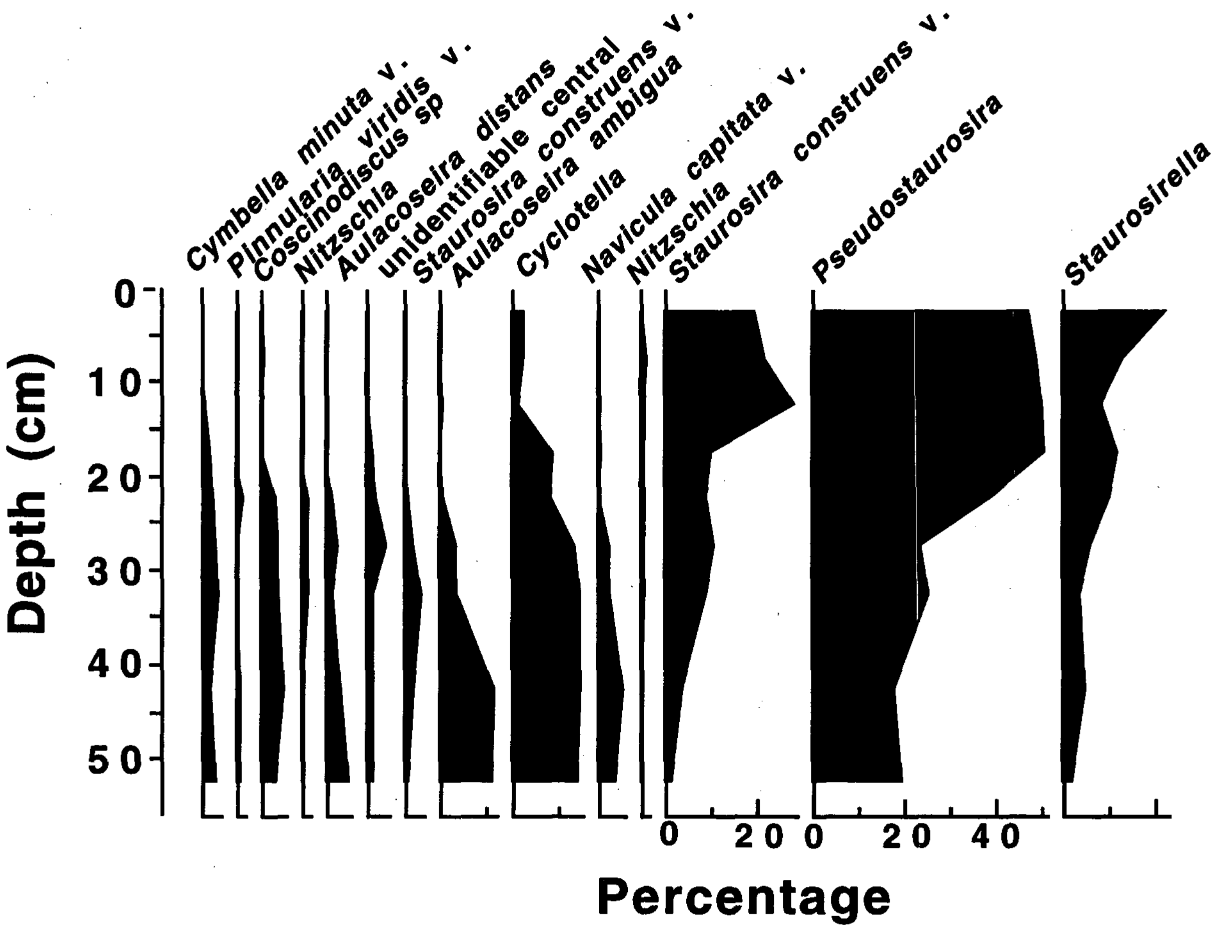

Fig. 26: Diatom assemblage (%) for LJ-45-96 is plotted versus depth in the sediments.

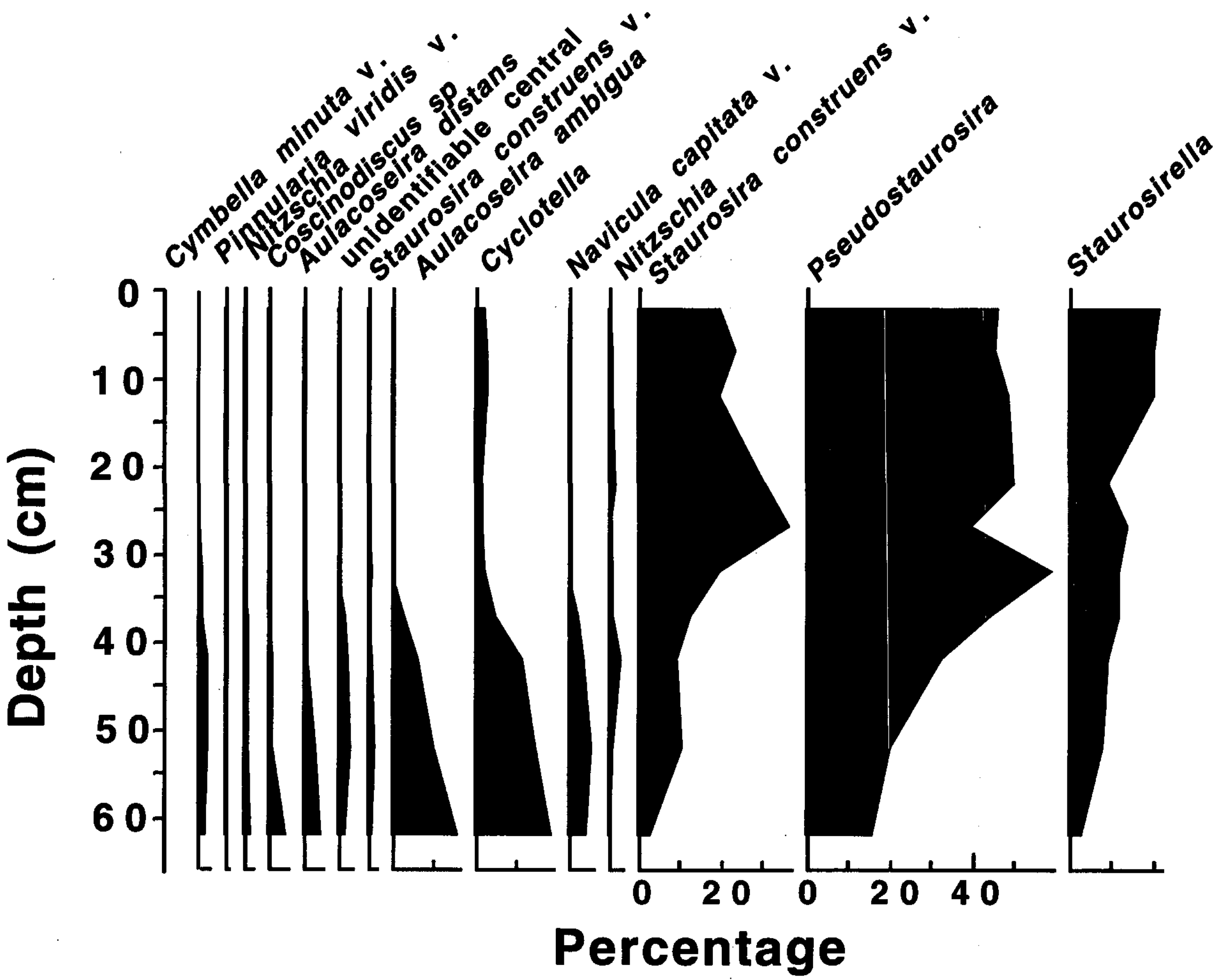

Fig. 27: Diatom assemblage (%) for LJ-B-96 is plotted versus depth in the sediments.

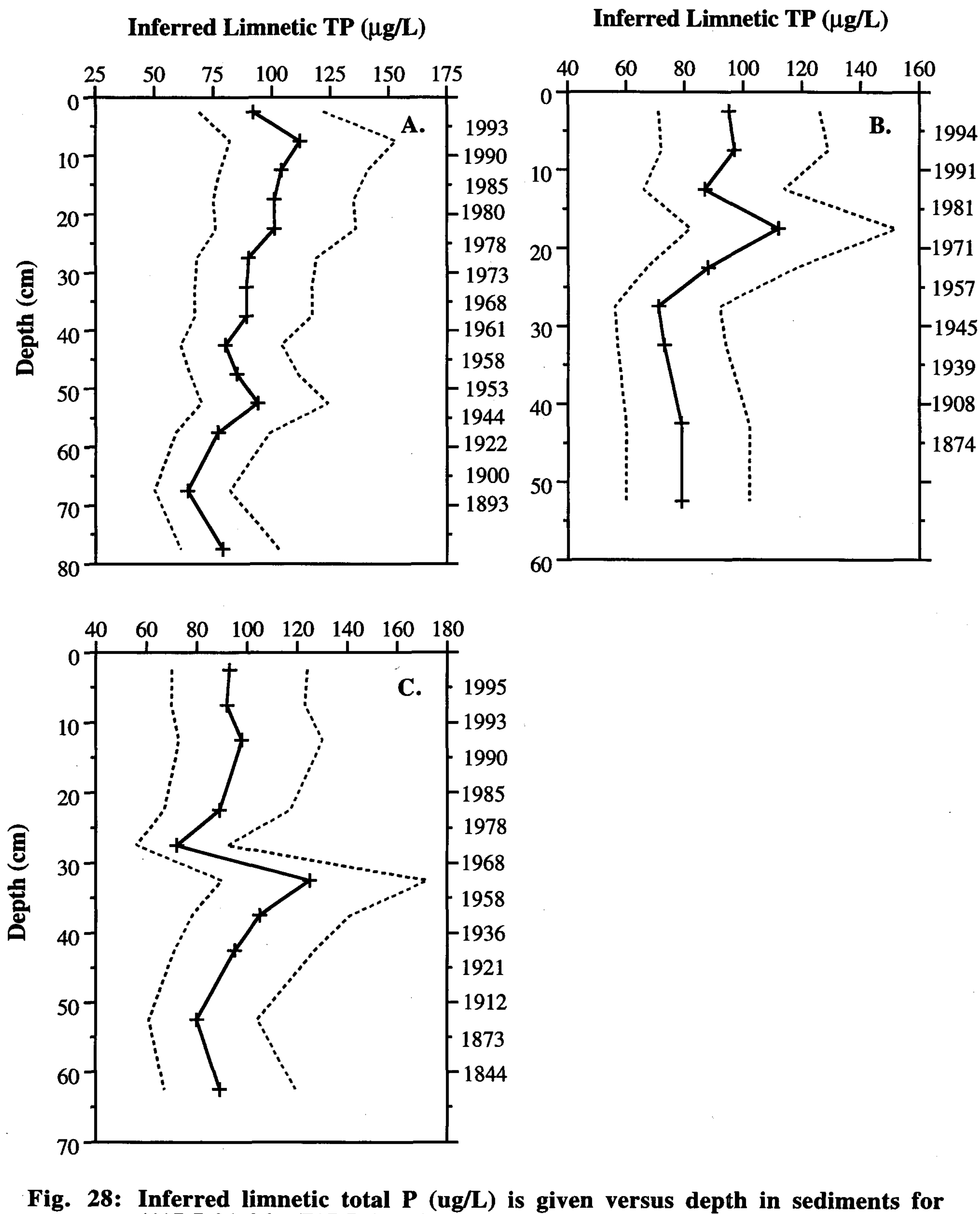

Fig. 28: Inferred limnetic total P (ug/L) is given versus depth in sediments for (A)LJ-21-96; (B)LJ-45-96; and (c)LJ-B-96. Dates for each core are plotted along the y-axis. The solid line represents the modeled limnetic total P concentrations based on discreet diatom counts and the dashed lines are the 95% confidence interval about this inference.

Magnitudes and Variations in Sediment and Nutrient Storage

Lake Jesup sediments consist of clays and carbonates underlying black-brown organic material. Storage of dry mass represents the sum of all sediment, both organic and inorganic (see Table B1, Appendix B). In many cases, the inorganic fraction represents the largest fraction of the total mass. Cumulative TP, NAIP, TN, TC, and BSi are reported for the entire core length for all cores (Table B1) and for only the sediments deposited since 1900 in all cores (see Table B2, Appendix B) in Lake Jesup. Depositional and erosional sites are evident in the storage calculations, because the cumulative content for that station will reflect high or low storage. Transitional sites are more difficult to discern from this information. Some stations have deep soft sediment thicknesses but low storage of nutrients possibly due to varying mineral content. Mean areal storage was calculated from the Appendix B Table data, based on sampling on an equal area grid, for each sediment station group to observe spatial variations in sediment and nutrient storage (Table 3). For mean storage within the entire core, all stratigraphic horizons, which include a wide range in densities, are included (organic matter, clays, carbonates, peats, and shells). However, when the mean areal storage is calculated for sediments deposited since 1900, only the lowest density sediment, consisting of organic matter with some mixed shells or plant fibers, is present. From the dated cores in each group (see Fig. 3), a distinct change in nutrient concentrations with depth was used to identify the beginning of the 1900s in the corresponding undated cores of each station group. Each station group storage value represents the mean for the group for both the whole core and the 1900 to present portion of the core.

The greatest mass deposition occurred within Group 45 in the northern end of the lake where the mean cumulative storage for the entire core was 44.63 g cm^{-2}. However, 81% of that mass in Group 45 is attributed to inorganic material. Prior to the causeway construction for SR 46, river deposition would have been a potentially large source of sediment. Most of this riverine deposition would have ended with the beginning of construction projects in the 1920s. Since the lake still receives some input from the St. Johns River due to back flow, the back and forth motion may make this area a significant deposition zone and possibly explain the higher excess ^{210}Pb inventories found in this area. Groups 21, 37, 40, 43, and B contained similar total sediment mass storage with values ranging between 19.61 and 24.66 $g{\cdot}cm^{-2}$. In each of these groups, greater than 70% of the material is inorganic. Group 04 had the lowest total sediment mass storage with a mean of 12.87 $g{\cdot}cm^{-2}$ and also the lowest inorganic content (approximately 65%). When the >1900s

Table 3. Mean areal storage of nutrients and sediments are given for two scenarios: (1) entire paleolimnological record of core; and (2) historical record since 1900s. Mean storage is grouped to show spatial variability in different regions of the lake. Each station weighted equally in the mean (±1σ) because samples were collected on an equal area grid.

Station Group	Cum. Mass (g/cm2)	Cum. Organic Matter (g/cm2)	Cum. Inorg. Matter (g/cm2)	Cum. TP (mg/cm2)	Cum. NAIP (mg/cm2)	Cum. TN (mg/cm2)	Cum TC (mg/cm2)
Entire Core							
Group 04	12.87	4.160	8.71	9.88	1.795	134.9	1909
Group 21	24.53	5.176	19.35	17.16	2.758	207.9	2611
Group 37	19.61	4.799	14.81	11.75	2.208	162.2	2986
Group 40	22.38	3.262	19.12	10.75	2.295	133.9	1993
Group 43	24.66	6.322	18.33	22.82	4.215	224.0	3921
Group 45	44.63	8.141	36.49	19.79	5.265	300.3	6078
Group B	21.14	6.220	14.92	16.62	3.392	235.3	2990
Mean of Lake	24.26	5.440	18.82	15.54	3.133	199.8	3212
Since 1900							
Group 04	3.430	0.7379	2.718	2.844	0.7070	42.28	423.7
Group 21	3.293	1.205	2.088	3.408	0.9279	56.30	592.1
Group 37	3.875	1.266	2.609	4.454	1.012	54.04	581.9
Group 40	2.503	0.664	1.839	2.180	0.5612	30.17	302.6
Group 43	5.975	1.994	3.981	5.051	1.262	80.15	882.6
Group 45	6.203	1.759	4.443	4.965	1.341	70.66	779.4
Group B	3.003	1.107	1.896	3.129	0.8698	48.87	509.2
Mean of Lake	4.040	1.248	2.796	3.719	0.9544	54.64	581.6
Percent in 1900s	16.7 %	23.4 %	14.9 %	23.9 %	30.5 %	27.3 %	18.1 %

storage figures are compared to these whole core values, the mean areal storage is greatly reduced. Only 16.7% of the total sediment mass and 14.9% of the inorganic sediment storage can be attributed to the period after 1900. However, 23.4% of the organic matter storage is found after 1900.

Whole core nutrient storage in the lake is distributed somewhat similarly. Group 45 has the highest NAIP, total nitrogen, and total carbon storage of all the regions and Group 04 has the lowest storage for each of these nutrients except TN. This low storage value for Group 04 may be a result of several non-depositional sites within this area which bring down the overall average of the group. Group 40 demonstrates the lowest TN storage with a mean of 133.9 mg cm^{-2}. All other groups are similar to one another in nutrient storage. Total phosphorus storage ranges between 9.88 and 22.8 mg cm^{-2} for the lake with a mean of 15.5 mg cm^{-2}. Groups 04, 37, and 40 represent the lowest TP, NAIP, and TN storage, and these regions of the lake have the most non-depositional stations of all groups. Even though less than 17% of the sediment mass storage is associated with the period since 1900, recent nutrient storage represents a higher percentage of the total nutrient storage in Lake Jesup. Total phosphorus storage shows 24% of its storage occurs since 1900, while about 30% of the NAIP and TN storage occurred after 1900. Despite these trends in storage, it is evident that the lake has been eutrophic for an extended period. Greater than 70% of the phosphorus and nitrogen present in the lake sediments appears to have arrived prior to 1900.

Temporal variations in sediment and nutrient storage were further investigated within the period after 1900 to determine what factors may have had the greatest impact on the lake during this century. Four time intervals were identified when changes around and in Lake Jesup may have affected its trophic state: (1) 1900 to 1920 represents the period when channel diversions and steamboat shipping along the St. Johns River occurred; (2) 1920 to 1950 represents the time frame when large-scale manipulation of the hydrology between the river and lake took place and also when the bridges were constructed on this end of the lake; (3) 1950 to 1985 represents the time interval when the lake received the largest constant input of wastewater effluent discharge; (4) 1985 to 1996 represents the period when secondary sewage effluent discharge to the lake's tributaries was halted and steps were begun to restore Lake Jesup. Population data for the state of Florida also shows a dramatic increase in the number of people living in the state occurred around the 1950s (Fig. 29).

The seven dated cores were used to determine the fraction of material associated with each time interval (see Tables B3 and B4, Appendix B). These fractions were then applied to the undated cores associated with each group to obtain the storage and MSR values for each sediment station group. After determining the fractional storage values associated with each time interval, the individual storage for each time interval in each survey core was calculated. From the cumulative mass and nutrient values for each time interval, accumulation rates could be determined for these different periods. In addition, the change in accumulation over time was determined using the ratio between the first time interval (1900 to 1920) and each interval that followed. The mean storage for each time interval in each sediment group is given together with accumulation rates and ratios of sediment mass and nutrients (Tables 4 to 8).

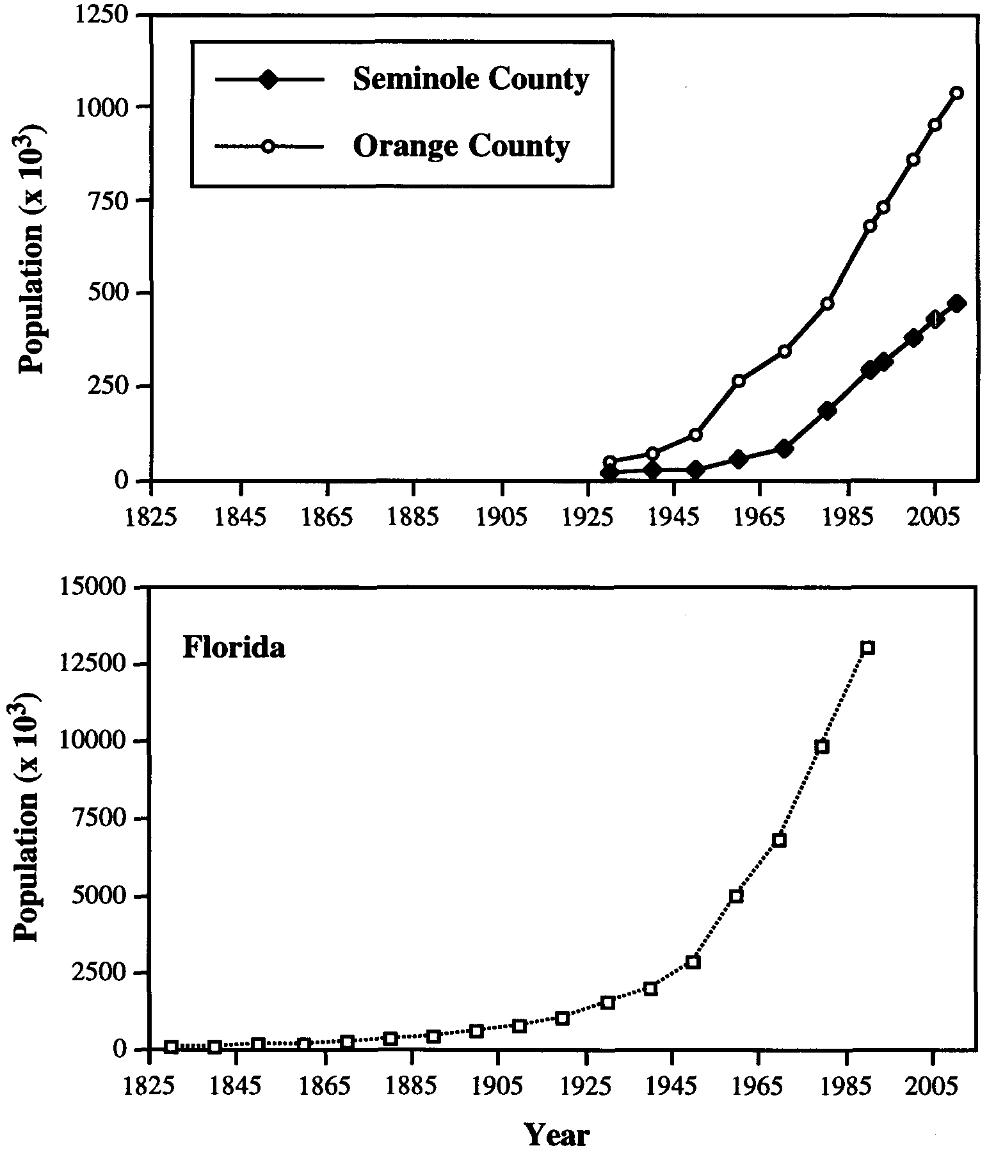

Fig. 29. Population growth in Florida since the early 1800s has increased steadily, although the most significant growth occurred starting in the 1950s.

Mass sedimentation rates have been highest in recent years in Groups 04, 45, and B, and appear to have increased over time since 1900 (Table 4). Accumulation rates have increased as much as 3.6-fold since the 1900s. Group 43 has had relatively constant deposition over time since 1950. The lowest MSR in recent years has occurred in Group 21, which may be related to the reduction of wastewater effluent loading in the middle 1980s. Groups 37 and 40 have had less deposition based on MSRs in the last decade than other sites in the lake, which continues to support the hypothesis that these areas are transitional zones. Group 43 has demonstrated fairly constant, high MSRs (82 mg cm^{-2} yr^{-1}) since the 1950s, while its pattern of sediment accumulation in the early part of the century was a constant but much lower MSR of 18 mg cm^{-2} yr^{-1}. The sediment depositional characteristics appear to have changed markedly with the reduction in effluent discharge to the lake.

Table 4. Mass accumulation rates (mg cm^{-2} yr^{-1}) in Lake Jesup since 1900 divided into four time intervals for each sediment group.

Time interval (years)	Group 04	Group 21	Group 37	Group 40	Group 43	Group 45	Group B
MSR							
1985-1996	61.37	18.93	38.56	34.48	82.38	106.8	59.24
1950-1985	40.92	65.20	52.00	42.05	82.90	82.62	32.08
1920-1950	43.45	7.525	28.53	18.60	52.93	60.06	11.19
1900-1920	30.44	29.00	98.88	18.03	32.42	29.33	52.53
MSR Ratio							
1985-1996	2.016	0.6528	0.3900	1.912	2.541	3.640	1.128
1950-1985	1.344	2.248	0.5259	2.331	2.557	2.817	0.6108
1920-1950	1.427	0.2595	0.2886	1.031	1.632	2.048	0.2130
1900-1920	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Organic matter accumulation distributions are generally similar to total mass sedimentation rates for most Groups (Table 5). Groups 04, 43, 45 and B showed an increasing trend in organic matter accumulation since 1900 which is approximately 30 to 50 % of the total mass accumulation. In contrast to MSR, Group 40 (not Group 43) demonstrated relatively little change in organic matter deposition since 1950. Groups 21 and 37 maintained their highest deposition for organic matter and total mass during the time period when wastewater effluent was being discharged to Lake Jesup. The overall deposition within the lake appears to have changed from station group to station group over time, despite changes in the sediment composition. It is evident that an abundant supply of inorganic material is present in these lake sediments which may be attributed to the construction that has occurred around the lake since 1900 and to the natural geology of the region. Generally, greater than a 2-fold increase in organic matter accumulation rates occurred since 1900 in Lake Jesup.

Table 5. Organic matter accumulation rates (mg cm^{-2} yr^{-1}) in Lake Jesup since 1900 divided into four time intervals for each sediment group.

Time interval (years)	Group 04	Group 21	Group 37	Group 40	Group 43	Group 45	Group B
OMSR							
1985-1996	21.06	8.914	16.73	14.27	34.61	31.91	25.02
1950-1985	11.05	22.39	20.64	14.12	27.95	22.92	11.43
1920-1950	9.386	3.085	10.31	5.300	15.69	17.05	3.690
1900-1920	8.189	11.61	21.89	5.099	9.369	8.330	19.71
OM Ratio							
1985-1996	2.571	0.7678	0.7643	2.798	3.694	3.831	1.270
1950-1985	1.349	1.928	0.9431	2.768	2.983	2.751	0.5797
1920-1950	1.146	0.2657	0.4709	1.039	1.675	2.046	0.1872
1900-1920	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Most station groups demonstrated a consistently increasing trend in total phosphorus accumulation rates (TPAR) and NAIP accumulation rates (NAIPAR) from 1900 to present (Tables 6 and 7). Group 37 had anomalously high accumulation rates of TP and NAIP in the first 20 years

Table 6. Total phosphorus accumulation rates (µg cm^{-2} yr^{-1}) in Lake Jesup since 1900 divided into four time intervals for each sediment group.

Time interval (years)	Group 04	Group 21	Group 37	Group 40	Group 43	Group 45	Group B
TPAR							
1985-1996	95.01	38.06	25.39	48.41	95.15	156.9	87.90
1950-1985	49.73	67.05	55.69	44.39	65.33	66.31	39.70
1920-1950	34.68	6.639	29.18	16.71	38.58	25.89	10.74
1900-1920	18.40	22.42	148.7	16.01	30.24	12.61	32.43
TP Ratio							
1985-1996	5.168	1.698	0.1708	3.024	3.146	12.45	2.710
1950-1985	2.703	2.991	0.3746	2.772	2.160	5.260	1.224
1920-1950	1.885	0.2962	0.1963	1.043	1.276	2.054	0.3312
1900-1920	1.000	1.000	1.000	1.000	1.000	1.000	1.000

of the 20th Century which dropped dramatically during the next time period (1920 to 1949.9). Groups 21 and 37 demonstrated a high deposition of TP and NAIP during the 1950 to 1985 time interval. However, the highest TP and NAIP deposition for Group 37 occurred during the earliest dated time period (1900 to 1919.9). Group 45 demonstrated the greatest increase in TP and NAIP accumulation since 1900 with 12.5-fold and 9.7-fold increases, respectively. Most groups that followed the trend of increasing TPAR with time ranged between 2.7- and 5.2-fold increases. Those groups that followed the increasing trend of NAIPAR with time generally ranged between 3.9- and 5.9-fold.

Table 7. NAIP accumulation rates (μg cm^{-2} yr^{-1}) in Lake Jesup since 1900 divided into four time intervals for each sediment group.

Time interval (years)	Group 04	Group 21	Group 37	Group 40	Group 43	Group 45	Group B
NAIPAR							
1985-1996	21.05	14.67	5.372	13.06	24.25	35.57	23.87
1950-1985	12.27	17.99	16.07	12.18	19.16	19.04	10.12
1920-1950	7.879	1.502	7.031	3.819	7.993	8.074	2.940
1900-1920	3.546	4.672	24.20	3.265	4.773	3.663	8.950
NAIP Ratio							
1985-1996	5.937	3.140	0.2220	3.998	5.081	9.710	2.666
1950-1985	3.461	3.851	0.6640	3.730	4.014	5.198	1.130
1920-1950	2.222	0.3214	0.2905	1.169	1.675	2.204	0.3285
1900-1920	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Groups 04, 40, 43, 45, and B each demonstrate generally increasing trends in total nitrogen accumulation rates (TNAR) with time since 1900 (Table 8). Group B contains a high deposition of TN in the 1900 to 1919.9 time interval which decreases markedly during the next time interval (1920 to 1949.9). Groups 21 and 37 also show this high deposition in the first time interval and drop off in the next interval. However, groups 21 and 37 have high TN deposition from 1950 to present as well. Deposition of TN ranges between 1.6- and 4.5-fold increases from 1900 to 1996 in Lake Jesup. Only Group 37 does not demonstrate an increase in TN over time.

Table 8. Total nitrogen accumulation rates (µg cm^{-2} yr^{-1}) in Lake Jesup since 1900 divided into four time intervals for each sediment group.

Time interval (years)	Group 04	Group 21	Group 37	Group 40	Group 43	Group 45	Group B
TNAR							
1985-1996	1324	433.9	772.8	682.6	1472	1499	1231
1950-1985	614.8	1095	859.1	642.7	1083	876	522.1
1920-1950	515.9	126.3	414.9	225.9	638.7	658.2	157.8
1900-1920	410.2	475.0	969.2	208.4	388.9	329.9	791.8
TN Ratio							
1985-1996	3.228	0.9134	0.7973	3.276	3.784	4.546	1.555
1950-1985	1.499	2.304	0.8864	3.084	2.785	2.655	0.6594
1920-1950	1.258	0.2659	0.4281	1.084	1.642	1.996	0.1993
1900-1920	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Summary

Nutrient deposition in Lake Jesup has varied throughout the 20^{th} Century. Sediment within the central basin of the lake and in the narrow northern channel have consistently shown an increasing trend in organic matter content, total phosphorus, non-apatite inorganic phosphorus, and total nitrogen accumulation since the early 1900s. The western embayment represented by Group 21 has consistently reflected the highest accumulation of organic matter and nutrients during the 1950 to 1985 time interval. Surprisingly, a large accumulation of organic matter and nutrients occurred early in this century in several regions of the lake, especially the areas occupied by Groups 37 and B.

Lake-wide estimates of sediment and nutrient storage is shown in Table 3 as the mean areal storage for two time intervals, the entire historical record and the record dated using ^{210}Pb. Organic matter storage appears as 22% of the total sediment storage for the entire core record and 31% of the sediment record since 1900. Seventy-six percent of TP storage appeared in the sediments prior to the 1900s. However, since this lake is probably several thousand years old, the accumulation rates of nutrients and sediment was probably fairly slow until the 1900s. Based on the time interval over which the last 24% of TP was deposited, the nutrient accumulation rate increased dramatically in a single century.

Diatom and nutrient data from Lake Jesup sediments indicate that the lake has been at least eutrophic since the turn of the century. Nutrient storage has been high since 1900 when the state of Florida was just beginning to be settled in earnest. A qualitative relationship exists between nutrient storage and two majors changes in the surrounding area: (1) the population boom of the 1950s; and (2) the time when wastewater effluent was discharged to Lake Jesup. Diatom abundance counts indicate that the lake became hypereutrophic in the 1950s and 1960s, based on a marked shift in the assemblage composition of three sediment cores. The lake has demonstrated some recovery from the high nutrient loading that occurred during the 1950 to 1985 time interval. This recovery is slow and probably will continue to be so, since circulation within the lake tends to exclude the western embayment and is restricted by a narrow entrance/exit at the confluence with the St. Johns River.

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APPENDIX A

Station locations and physical descriptions of 49 sediment cores collected in Lake Jesup, Florida in March 1996 are given with stratigraphic plots of sediments along north-south and east-west transects.

Station LJ-1-96 **March 14, 1996**

Station Location:
Lat.: 28°42'08"
Long: 81°14'44"

Sediment Survey Data:
Depth of water column: 1.5 m
Depth to hard bottom: 4.6 m
Soft sediment thickness: 3.1 m
Sediment core length: 1.05 m

Sediment core description:
0-20 cm unconsolidated floc w/some shells
20-105 cm consolidated organic sediment w/shells throughout

Station LJ-2-96 **March 14, 1996**

Station Location:
Lat.: 28°42'21"
Long: 81°13'49"

Sediment Survey Data:
Depth of water column: 2.0 m
Depth to hard bottom: 4.75 m
Soft sediment thickness: 2.75 m
Sediment core length: 1.20 m

Sediment core description:
0-15 cm unconsolidated floc
15-25 cm partially consolidated sediment
25-90 cm consolidated organic sediment w/some shells
90-120 cm pink carbonate w/many shells

Station LJ-3-96 **March 14, 1996**

Station Location:
Lat.: 28°42'29"
Long: 81°13'20"

Sediment Survey Data:
Depth of water column: 2.3 m
Depth to hard bottom: 3.3 m
Soft sediment thickness: 1.0 m
Sediment core length: 0.65 m

Sediment core description:
0-15 cm unconsolidated floc
15-65 cm consolidated organic sediment w/small shells, sand below 65 cm

Station LJ-4-96 **March 14, 1996**

Station Location:
Lat.: 28°42'35"
Long: 81°12'51"

Sediment Survey Data:
Depth of water column: 1.6 m
Depth to hard bottom: 3.5 m
Soft sediment thickness: 1.9 m
Sediment core length: 0.96 m

Sediment core description:
Station was so shallow that filling tube resulted in some unconsolidated floc entering tube above stopper.
0-15 cm unconsolidated floc
15-30 cm partially consolidated, some shells
30-55 cm consolidated organic sediments
55-60 cm second unconsolidated layer
60-75 cm consolidated organic sediments
75-96 cm pink carbonate with lots of shells

Station LJ-5-96 **March 14, 1996**

Station Location:
Lat.: 28°42'39"
Long: 81°12'29"

Sediment Survey Data:
Depth of water column: 1.5 m
Depth to hard bottom: 4.45 m
Soft sediment thickness: 2.95 m
Sediment core length: 1.10 m

Sediment core description:
0-25 cm unconsolidated floc
25-45 cm consolidated organic sediment
45-55 cm second unconsolidated layer
55-85 cm red-brown peat
85-110 cm pink/grey carbonate w/root material and some shells

Station LJ-6-96 **March 14, 1996**

Station Location:
Lat.: 28°42'22"
Long: 81°15'03"

Sediment Survey Data:
Depth of water column: 1.55 m
Depth to hard bottom: 5.55 m
Soft sediment thickness: 4.0 m
Sediment core length: 1.27 m

Sediment core description:
0-20 cm unconsolidated floc
20-30 cm partially consolidated
30-127 cm consolidated organic sediment w/whole snail shells from 30-35 cm; shell fragments throughout w/greater amount at bottom of core both broken and whole

Station LJ-7-96 **March 13, 1996**

Station Location:
 Lat.: 28°42'33"
 Long: 81°14'34"

Sediment Survey Data:
 Depth of water column: 1.5 m
 Depth to hard bottom: 5.97 m
 Soft sediment thickness: 4.2 m
 Sediment core length: 1.40 m

Sediment core description:
 0-15 cm loose unconsolidated floc--no clear horizons
 15-140 cm more consolidated than top layer

Station LJ-8-96 **March 13, 1996**

Station Location:
 Lat.: 28°42'47"
 Long: 81°13'38"

Sediment Survey Data:
 Depth of water column: 2.00 m
 Depth to hard bottom: 5.70 m
 Soft sediment thickness: 3.7 m
 Sediment core length: 1.45 m

Sediment core description:
 0-10 cm unconsolidated organic floc
 10-15 cm same composition with sand grains
 15-95 cm organic consolidated mud w/shell fragments
 95-120 cm dense shell fragments w/sand and organic mud, light color
 120-135 cm shells, organic
 135 cm band of grey sand and shells
 135-145 cm shells, organic

Station LJ-9-96 **March 13, 1996**

Station Location:
 Lat.: 28°42'51"
 Long: 81°13'12"

Sediment Survey Data:
 Depth of water column: 2.4 m
 Depth to hard bottom: 3.7 m
 Soft sediment thickness: 1.3 m
 Sediment core length: 0.55 m

Sediment core description:
 0-10 cm floc
 10-20 cm shelly, sandy, clay layer
 20-50 cm dark brown organic mud w/shells
 50-55 cm light brown sandy layer w/shells

Station LJ-10-96 **March 13, 1996**

Station Location:
Lat.: 28°42'58"
Long: 81°12'45"

Sediment Survey Data:
Depth of water column: 2.4 m
Depth to hard bottom: 3.25 m
Soft sediment thickness: 0.85 m
Sediment core length: 0.37 m

Sediment core description:
0-5 cm grey sandy shell, organic layer /w 1 cm/ floc on top
5-15 cm same as top, start of dark brown consolidated layer
15 cm layer of water
15-37 cm loose organic rich sediment, dark brown

Station LJ-11-96 **March 14, 1996**

Station Location:
Lat.: 28°43'05"
Long: 81°12'18"

Sediment Survey Data:
Depth of water column: 1.65 m
Depth to hard bottom: 4.25 m
Soft sediment thickness: 2.6 m
Sediment core length: 0.73 m

Sediment core description:
0-12 cm unconsolidated floc
12-53 cm consolidated organic sediment
53-55 cm shell interface
55-73 cm pink carbonate w/few shells

Station LJ-12-96 **March 13, 1996**

Station Location:
Lat.: 28°42'47"
Long: 81°15'50"

Sediment Survey Data:
Depth of water column: 1.9 m
Depth to hard bottom: 6.00 m
Soft sediment thickness: 4.1 m
Sediment core length: 1.45 m

Sediment core description:
0-25 cm unconsolidated floc w/sparse shells (shells 20-40 cm)
25-120 cm consolidated organic sediment (shells 50-70 cm
120-135 cm layer of organic sediment w/dense shell fragments and sand.
135-145 cm dark organic layer, probably peat.

Station LJ-13-96 **March 13, 1996**

Station Location:
- Lat.: 28°42'45"
- Long: 81°15'25"

Sediment Survey Data:
- Depth of water column: 1.9 m
- Depth to hard bottom: 2.54 m
- Soft sediment thickness: 0.64 m
- Sediment core length: 1.10 m

Sediment core description:
- 0-70 cm unconsolidated organic sediment.
- 70-80 cm sand/clay layer; sand, fine and light grey.
- 80-110 cm consolidated organic sediment, same as 0-70 cm

Station LJ-14-96 **March 14, 1996**

Station Location:
- Lat.: 28°42'53"
- Long: 81°14'52"

Sediment Survey Data:
- Depth of water column: 2.0 m
- Depth to hard bottom: 3.6 m
- Soft sediment thickness: 1.6 m
- Sediment core length: 1.30 m

Sediment core description:
- 0-10 cm unconsolidated floc
- 10-15 cm partially consolidated sediment
- 15-130 cm consolidated organic sediment w/shell fragments

Station LJ-15-96 **March 14, 1996**

Station Location:
- Lat.: 28°43'04"
- Long: 81°13'59"

Sediment Survey Data:
- Depth of water column: 2.05 m
- Depth to hard bottom: 4.4 m
- Soft sediment thickness: 2.35 m
- Sediment core length: 1.18 m

Sediment core description:
- 0-20 cm unconsolidated floc
- 20-80 cm consolidated organic sediment w/shell fragments
- 80-90 cm unconsolidated organic material w/much sand
- 90-100 cm consolidated organic sediment w/much sand
- 100-118 cm peat

Station LJ-16-96 **March 14, 1996**

Station Location:
Lat.: 28°43'08"
Long: 81°13'35"

Sediment Survey Data:
Depth of water column: 1.9 m
Depth to hard bottom: 3.75 m
Soft sediment thickness: 1.85 m
Sediment core length: 1.10 m

Sediment core description:
0-15 cm unconsolidated floc
15-20 cm partially consolidated sediment
20-90 cm consolidated organic sediment w/shells
90-100 cm mixture of mud, sand and peat
100-110 cm peat

Station LJ-17-96 **March 14, 1996**

Station Location:
Lat.: 28°43'18"
Long: 81°13'02"

Sediment Survey Data:
Depth of water column: 1.35 m
Depth to hard bottom: 1.55 m
Soft sediment thickness: 0 2 m
Sediment core length: 0 m

Sediment core description:
no material sampled

Station LJ-18-96 **March 14, 1996**

Station Location:
Lat.: 28°43'21"
Long: 81°12'38"

Sediment Survey Data:
Depth of water column: 2.2 m
Depth to hard bottom: 3.0 m
Soft sediment thickness: 0.8 m
Sediment core length: 0.20 m

Sediment core description:
0-5 cm unconsolidated floc
5-10 cm partially consolidated sediment w/many shells
10-15 cm same material, last 2 cm were peat
15-20 cm peat

Station LJ-19-96 **March 14, 1996**

Station Location:
- Lat.: 28°43'27"
- Long: 81°12'08"

Sediment Survey Data:
- Depth of water column: 1.6 m
- Depth to hard bottom: 4.1 m
- Soft sediment thickness: 2.5 m
- Sediment core length: 1.10 m

Sediment core description:
- 0-25 cm unconsolidated floc
- 25-65 cm consolidated sediment w/shell fragments starting at 45 cm, some sand at 50 cm
- 65-70 cm pink carbonate w/shells and some mud
- 70-110 cm pink carbonate

Station LJ-20-96 **March 14, 1996**

Station Location:
- Lat.: 28°43'37"
- Long: 81°11'43"

Sediment Survey Data:
- Depth of water column: 1.3 m
- Depth to hard bottom: 4.3 m
- Soft sediment thickness: 3.0 m
- Sediment core length: 1.18 m

Sediment core description:
- 0-10 cm unconsolidated floc
- 10-25 cm partially consolidated sediment
- 25-45 cm consolidated organic sediment w/shells starting at 30 cm
- 45-60 cm second unconsolidated layer
- 60-80 cm grey clay w/plant fibers and shells
- 80-118 cm pink carbonate w/plant fibers and shells

Station LJ-21-96 **March 13, 1996**

Station Location:
- Lat.: 28°42'58"
- Long: 81°16'46"

Sediment Survey Data:
- Depth of water column: 1.7 m
- Depth to hard bottom: 3.82 m
- Soft sediment thickness: 2.12 m
- Sediment core length: 1.00 m

Sediment core description:
- 0-25 cm unconsolidated organic sediment
- 25-85 cm consolidated organic sediment w/ some shells
- 85-95 cm sandy organic sediment w/shell fragments
- 95-100 cm peat

Station LJ-22-96 **March 13, 1996**

Station Location:
- Lat.: 28°43'01"
- Long: 81°16'10"

Sediment Survey Data:
- Depth of water column: 2.3 m
- Depth to hard bottom: 4.55 m
- Soft sediment thickness: 2.25 m
- Sediment core length: 1.05 m

Sediment core description:
- 0-25 cm unconsolidated floc
- 25-65 cm consolidated organic sediment w/shell and leaf fragments.
- 65-67 cm sand horizon
- 67-70 cm reddish brown organic mud w/some sand
- 70-95 cm light grey clay and organics
- 95-105 cm darker clay

Station LJ-23-96 **March 13, 1996**

Station Location:
- Lat.: 28°43'12"
- Long: 81°15'43"

Sediment Survey Data:
- Depth of water column: 1.7 m
- Depth to hard bottom: 2.4 m
- Soft sediment thickness: 0.7 m
- Sediment core length: 0.80 m

Sediment core description:
- 0-20 cm unconsolidated flocculent layer
- 20-65 cm consolidated organic sediment with a few shell fragments
- 65-70 cm light brown sand
- 70-80 cm light grey clay

Station LJ-24-96 **March 15, 1996**

Station Location:
- Lat.: 28°43'27"
- Long: 81°13'55"

Sediment Survey Data:
- Depth of water column: 2.25 m
- Depth to hard bottom: 3.63 m
- Soft sediment thickness: 1.38 m
- Sediment core length: 0.90 m

Sediment core description:
- 0-5 cm unconsolidated floc
- 5-60 cm consolidated organic sediment w/few shell fragments
- 60-65 cm sand w/shells
- 65-90 cm dark grey clay

Station LJ-25-96 **March 15, 1996**

Station Location:
Lat.: 28°43'34"
Long: 81°13'23"

Sediment Survey Data:
Depth of water column: 2.0 m
Depth to hard bottom: 2.48 m
Soft sediment thickness: 0.48 m
Sediment core length: 0.53 m

Sediment core description:
0-20 cm unconsolidated floc w/shell fragments and plant fibers at 15 cm
20-40 cm consolidated organic sediment w/shell fragments
40-50 cm partially consolidated sediment w/some clay at 50 cm
50-53 cm grey clay

Station LJ-26-96 **March 15, 1996**

Station Location:
Lat.: 28°43'43"
Long: 81°12'55"

Sediment Survey Data:
Depth of water column: 2.25 m
Depth to hard bottom: 3.35 m
Soft sediment thickness: 1.1 m
Sediment core length: 0.45 m

Sediment core description:
0-20 cm unconsolidated floc w/sand at 15 cm
20-30 cm consolidated organic sediment w/sand, clay and shell fragments
30-45 cm peat

Station LJ-27-96 **March 15, 1996**

Station Location:
Lat.: 28°43'46"
Long: 81°12'29"

Sediment Survey Data:
Depth of water column: 2.3 m
Depth to hard bottom: 3.1 m
Soft sediment thickness: 0.8 m
Sediment core length: 0.37 m

Sediment core description:
0-15 cm unconsolidated floc w/shells and plant fibers at 5 cm
15-30 cm consolidated organic sediment w/few shells
30-37 cm peat

Station LJ-28-96 **March 15, 1996**

Station Location:
- Lat.: 28°43'54"
- Long: 81°12'05"

Sediment Survey Data:
- Depth of water column: 2.53 m
- Depth to hard bottom: 3.5 m
- Soft sediment thickness: 0.97 m
- Sediment core length: 0.30 m

Sediment core description:
- 0-15 cm unconsolidated floc w/shell fragments in sand starting at 5 cm
- 15-20 cm sand
- 20-30 cm pink carbonate w/shells

Station LJ-29-96 **March 14, 1996**

Station Location:
- Lat.: 28°43'58"
- Long: 81°11'33"

Sediment Survey Data:
- Depth of water column: 1.73 m
- Depth to hard bottom: 4.05 m
- Soft sediment thickness: 2.32 m
- Sediment core length: 1.00 m

Sediment core description:
- 0-10 cm unconsolidated floc
- 10-25 cm partially consolidated sediment
- 25-60 cm consolidated organic sediment w/sand at 30 cm
- 60-65 cm mud w/shells and clay
- 65-70 cm pink carbonate w/shells and plant fibers
- 70-100 cm pink carbonate w/shells

Station LJ-30-96 **March 14, 1996**

Station Location:
- Lat.: 28°44'05"
- Long: 81°11'03"

Sediment Survey Data:
- Depth of water column: 1.55 m
- Depth to hard bottom: 3.93 m
- Soft sediment thickness: 2.38 m
- Sediment core length: 1.12 m

Sediment core description:
- 0-15 cm unconsolidated floc w/some whole snail shells
- 15-25 cm partially consolidated sediment w/shell and plant fibers
- 25-40 cm consolidated sediment w/many shells and plant fibers
- 40-65 cm organic sediment w/many shells and plant fibers
- 65-70 cm transition from shell layer to pink organic material w/plant fibers
- 70-112 cm pink grey carbonate w/clay material w/plant fibers

Station LJ-31-96 **March 15, 1996**

Station Location:
Lat.: 28°43'48"
Long: 81°13'44"

Sediment Survey Data:
Depth of water column: 2.15 m
Depth to hard bottom: 2.66 m
Soft sediment thickness: 0.51 m
Sediment core length: 0.65 m

Sediment core description:
0-25 cm unconsolidated floc
25-55 cm consolidated organic sediment w/few shell fragments
55-65 cm sand to black clay at 64 cm

Station LJ-32-96 **March 15, 1996**

Station Location:
Lat.: 28°43'59"
Long: 81°13'17"

Sediment Survey Data:
Depth of water column: 1.65 m
Depth to hard bottom: 2.35 m
Soft sediment thickness: 0.7 m
Sediment core length: 0.62 m

Sediment core description:
0-25 cm unconsolidated sediment w/shell fragments starting at 10 cm
25-62 cm consolidated organic sediment w/few shell fragments, whole shells at 45 cm

Station LJ-33-96 **March 15, 1996**

Station Location:
Lat.: 28°44'07"
Long: 81°12'47"

Sediment Survey Data:
Depth of water column: 1.85 m
Depth to hard bottom: 3.15 m
Soft sediment thickness: 1.3 m
Sediment core length: 0.80 m

Sediment core description:
0-20 cm unconsolidated floc
20-65 cm consolidated organic sediment w/shells at 45-65 cm
65-70 cm consolidated organic sediment w/shell and sand
70-80 cm peat

Station LJ-34-96 **March 15, 1996**

Station Location:
Lat.: 28°44'15"
Long: 81°12'21"

Sediment Survey Data:
Depth of water column: 1.95 m
Depth to hard bottom: 2.4 m
Soft sediment thickness: 0.45 m
Sediment core length: 0.13 m

Sediment core description:
0-8 cm unconsolidated floc
8-13 cm interface of shells then light grey clay

Station LJ-35-96 **March 26, 1996**

Station Location:
Lat.: 28°44'18"
Long: 81°11'54"

Sediment Survey Data:
Depth of water column: 2.0 m
Depth to hard bottom: 3.4 m
Soft sediment thickness: 1.4 m
Sediment core length: 0. 68 m

Sediment core description:
0-10 cm unconsolidated floc
10-25 cm partially consolidated sediment
25-45 cm consolidated organic sediment
45-60 cm unconsolidated material w/many shells at 50 cm
60-68 cm peat w/shells

Station LJ-36-96 **March 26, 1996**

Station Location:
Lat.: 28°44'47"
Long: 81°11'45"

Sediment Survey Data:
Depth of water column: 1.6 m
Depth to hard bottom: 3.3 m
Soft sediment thickness: 1.7 m
Sediment core length: 1.10 m

Sediment core description:
0-10 cm unconsolidated floc
10-15 cm partially consolidated sediment
15-33 cm consolidated organic sediment w/shell fragments
33-40 cm unconsolidated floc and shell fragments
40-59 cm consolidated organic sediment w/sand and shell fragments
59-75 cm spongy grey clay w/plant fibers
75-105 cm firm grey clay w/shell fragments and plant fibers at 90 cm
105-110 cm peat

Station LJ-37-96 **March 26, 1996**

Station Location:
Lat.: 28°44'24"
Long: 81°11'27"

Sediment Survey Data:
Depth of water column: 2.1 m
Depth to hard bottom: 3.35 m
Soft sediment thickness: 1.25 m
Sediment core length: 0.85 m

Sediment core description:
0-15 cm unconsolidated floc
15-20 cm partially consolidated w/shell fragments
20-45 cm consolidated organic sediments w/few shell fragments
45-50 cm partially consolidated w/shell fragments
50-55 cm unconsolidated material w/shell fragments
55-65 cm partially consolidated w/sand and shells
65-70 cm consolidated organic sediment w/shells
70-85 cm peat

Station LJ-38-96 **March 26, 1996**

Station Location:
Lat.: 28°44'28"
Long: 81°11'01"

Sediment Survey Data:
Depth of water column: 1.65 m
Depth to hard bottom: 3.65 m
Soft sediment thickness: 2.0 m
Sediment core length: 1.10 m

Sediment core description:
0-15 cm unconsolidated floc
15-25 cm partially consolidated sediment
25-42 cm consolidated organic sediment
42-75 cm pink carbonate w/shell fragments
75-100 cm pink carbonate and grey clay w/shell fragments
100-109 cm pink carbonate w/shell fragments
109-110 cm brown clay w/shell fragments

Station LJ-39-96 **March 26, 1996**

Station Location:
Lat.: 28°44'16"
Long: 81°13'34"

Sediment Survey Data:
Depth of water column: 1.5 m
Depth to hard bottom: 2.9 m
Soft sediment thickness: 1.4 m
Sediment core length: 1.10 m

Sediment core description:
0-20 cm unconsolidated floc w/hard lumps
20-25 cm partially consolidated sediment
25-70 cm consolidated organic sediment w/few shell fragments at 35 cm and sand and shells at 70 cm
70-80 cm organic mud and grey clay, half of each side by side
80-90 cm consolidated organic sediment w/shell fragments and clay
90-110 cm consolidated organic sediments w/sand and clay

Station LJ-40-96 **March 26, 1996**

Station Location:
Lat.: 28°44'23"
Long: 81°13'13"

Sediment Survey Data:
Depth of water column: 1.7 m
Depth to hard bottom: 3.55 m
Soft sediment thickness: 1.85 m
Sediment core length: 1.20 m

Sediment core description:
0-15 cm unconsolidated floc
15-25 cm partially consolidated sediment
25-50 cm consolidated organic sediment w/shell fragments at 40 cm
50-65 cm partially consolidated ooze w/shells and sand
65-75 cm grey clay w/shell fragments
75-90 cm grey clay w/no shells
90-105 cm grey clay w/shell fragments
105-120 cm consolidated organic sediment w/peat at bottom

Station LJ-41-96 **March 26, 1996**

Station Location:
Lat.: 28°44'26"
Long: 81°12'42"

Sediment Survey Data:
Depth of water column: 1.8 m
Depth to hard bottom: 2.4 m
Soft sediment thickness: 0.6m
Sediment core length: 0.15 m

Sediment core description:
0-1 cm unconsolidated floc
1-10 cm sand and shell fragments
10-15 cm dark grey clay

Station LJ-42-96 **March 26, 1996**

Station Location:
Lat.: 28°44'50"
Long: 81°11'19"

Sediment Survey Data:
Depth of water column: 1.9 m
Depth to hard bottom: 3.9 m
Soft sediment thickness: 2.0 m
Sediment core length: 1.25 m

Sediment core description:
0-15 cm unconsolidated floc
15-25 cm partially consolidated sediment
25-55 cm consolidated organic sediments w/few shells
55-60 cm consolidated organic sediments w/shells and sand
60-65 cm consolidated organic sediments w/shell and pink carbonate
65-90 cm grey clay w/shells
90-105 cm partially consolidated organic sediment
105-125 cm peat

Station LJ-43-96 **March 26, 1996**

Station Location:
Lat.: 28°45'11"
Long: 81°11'10"

Sediment Survey Data:
Depth of water column: 1.7 m
Depth to hard bottom: 3.35 m
Soft sediment thickness: 1.65 m
Sediment core length: 1.10 m

Sediment core description:
0-10 cm unconsolidated floc
10-15 cm partially consolidated
15-79 cm consolidated organic sediment w/few shells
79-90 cm grey clay
90-100 cm grey clay w/organic material
100-110 cm peat

Station LJ-44-96 **March 26, 1996**

Station Location:
Lat.: 28°45'35"
Long: 81°11'04"

Sediment Survey Data:
Depth of water column: 1.6 m
Depth to hard bottom: 2.9 m
Soft sediment thickness: 1.3 m
Sediment core length: 0. 65 m

Sediment core description:
0-15 cm unconsolidated floc
15-25 cm partially consolidated sediment w/few shell fragments
25-50 cm consolidated organic sediment w/shell fragments and whole snails
50-65 cm consolidated organic sediment w/many shells

Station LJ-45-96 **March 26, 1996**

Station Location:
Lat.: 28°46'02"
Long: 81°10'38"

Sediment Survey Data:
Depth of water column: 2.7 m
Depth to hard bottom: 3.35 m
Soft sediment thickness: 0.65 m
Sediment core length: 1.15 m

Sediment core description:
0-15 cm unconsolidated sediment
15-20 cm partially consolidated w/ shell fragments
20-73 cm consolidated organic with shell fragments w/whole shells starting at 50 cm
73-95 cm grey clay w/ shell fragments
95-115 cm peat

Station LJ-46-96 **March 13, 1996**

Station Location:
Lat.: 28°46'41"
Long: 81°10'38"

Sediment Survey Data:
Depth of water column: 1.35 m
Depth to hard bottom: 4.02 m (did not reach sand level)
Soft sediment thickness: 2.67 m
Sediment core length: 1.35 m

Sediment core description:
0-2 cm floc
2-63 cm dark consolidated organic sediment (2-30 cm shells sparsely spread;30-45 cm more shells)
63-75 cm mix of sediment and clay, some sand ; shells in clay
75-120 cm entirely clay
120-125 cm clay/peat interface
125-135 cm peat with no shells

Station LJ-A-96 **March 14, 1996**

Station Location:
- Lat.: 28°42'14"
- Long: 81°14'13"

Sediment Survey Data:
- Depth of water column: 1.8 m
- Depth to hard bottom: 5.25 m
- Soft sediment thickness: 3.45 m
- Sediment core length: 1.50 m

Sediment core description:
- 0-10 cm unconsolidated floc
- 10-30 cm partially consolidated sediment
- 30-115 cm consolidated organic sediment, shells starting at 50 cm
- 115-120 cm organic sediment w/many shells, start of pink carbonate
- 120-130 cm pink carbonate w/shells
- 130-150 cm grey clay w/fewer shells

Station LJ-B-96 **March 13, 1996**

Station Location:
- Lat.: 28°42'38"
- Long.: 81°14'07"

Sediment Survey Data:
- Depth of water column: 1.9 m
- Depth to hard bottom: 5.3 m
- Soft sediment thickness: 3.4 m
- Sediment core length: 1.65 m

Sediment core description:
- 0-10 cm unconsolidated organic floc
- 10-80 cm more consolidated dark grey brown organic mud
- 80-130 cm consolidated dark brown organic sediment w/shell fragments
- 130-165 cm consolidated less dark brown organics with shell fragments

Station LJ-C-96 **March 14, 1996**

Station Location:
- Lat.: 28°42'56"
- Long: 81°14'29"

Sediment Survey Data:
- Depth of water column: 1.85 m
- Depth to hard bottom: 4.25 m
- Soft sediment thickness: 2.4 m
- Sediment core length: 1.00 m

Sediment core description:
- 0-5 cm unconsolidated floc
- 5-25 cm partially consolidated sediment
- 25-100 cm consolidated organic sediment

Legend

- UCF
- PCF
- CF
- Carbonate
- Clay
- Shells/Sand mix
- Sand
- Shells
- Shells/Plant Fiber mix
- Peat
- Sand/Clay mix

Figs. A1-A12. Stratigraphic descriptions of sediment stations are arranged in transects across Lake Jesup, Florida in two configurations: (1) north-south transects and (2) east-west transects. A legend is provided above to identify different sediment layers.

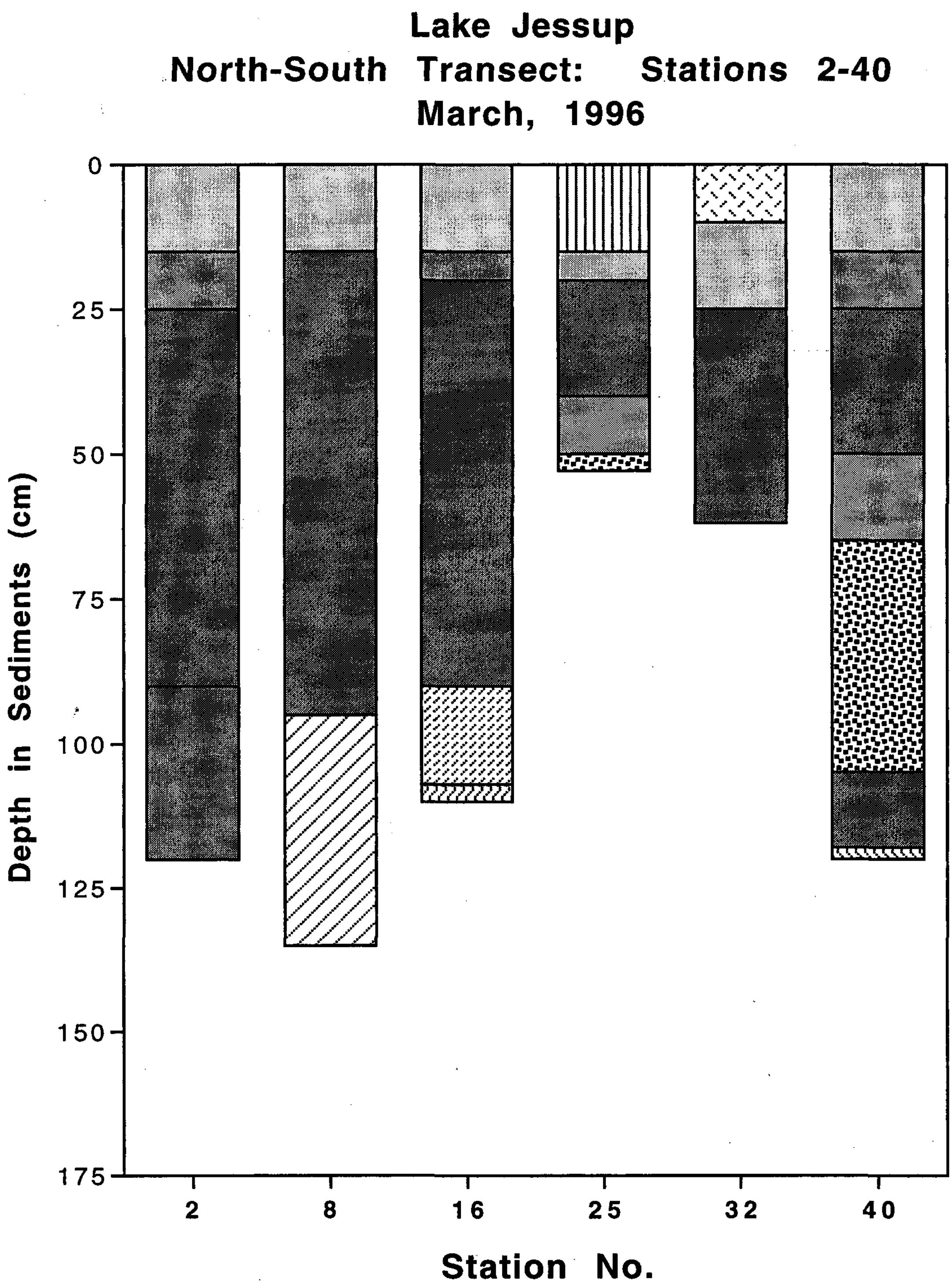


Fig. A1: Stations 2-40-North-South transect.

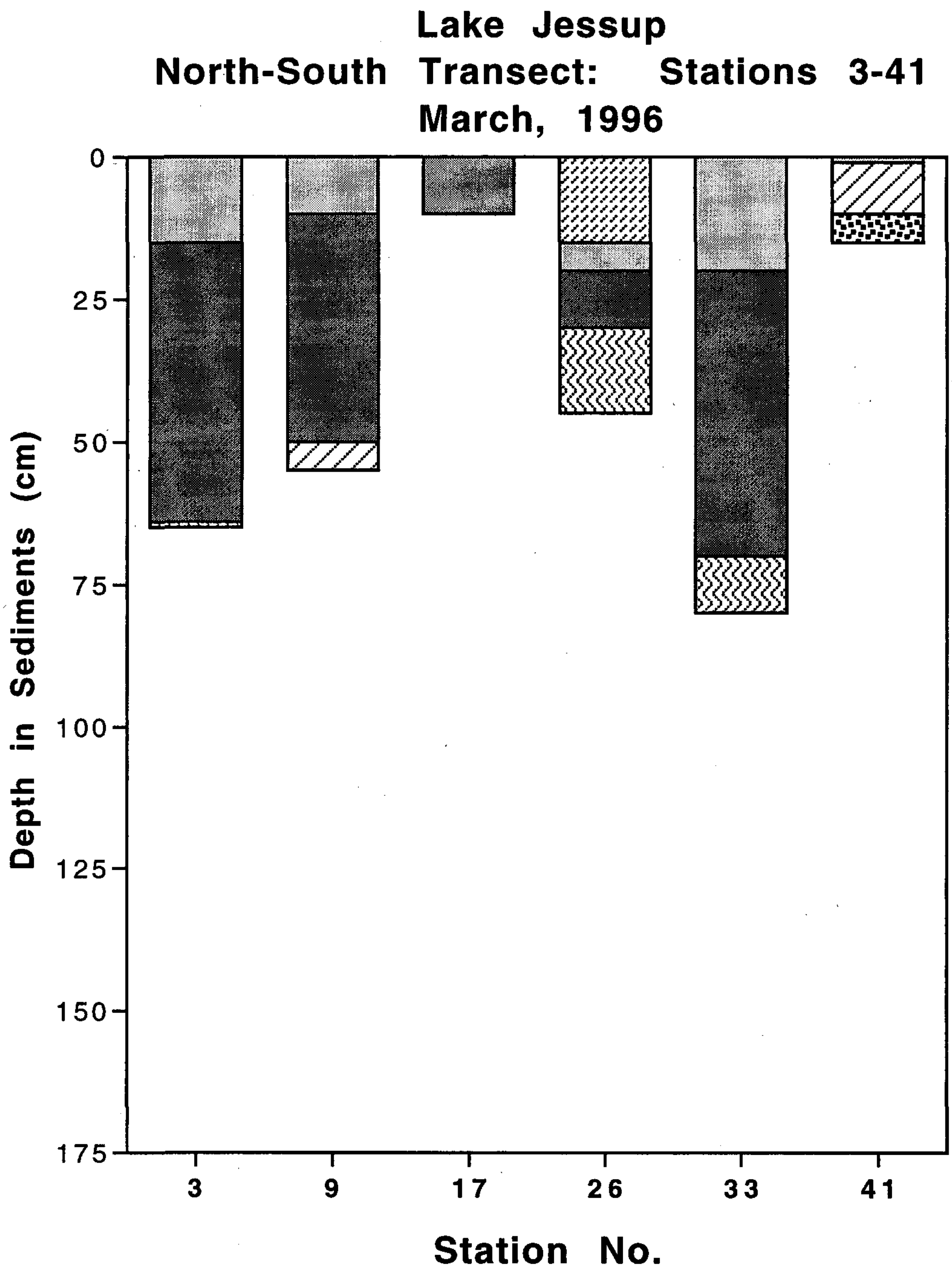


Fig. A2: Stations 3-41-North-South transect.

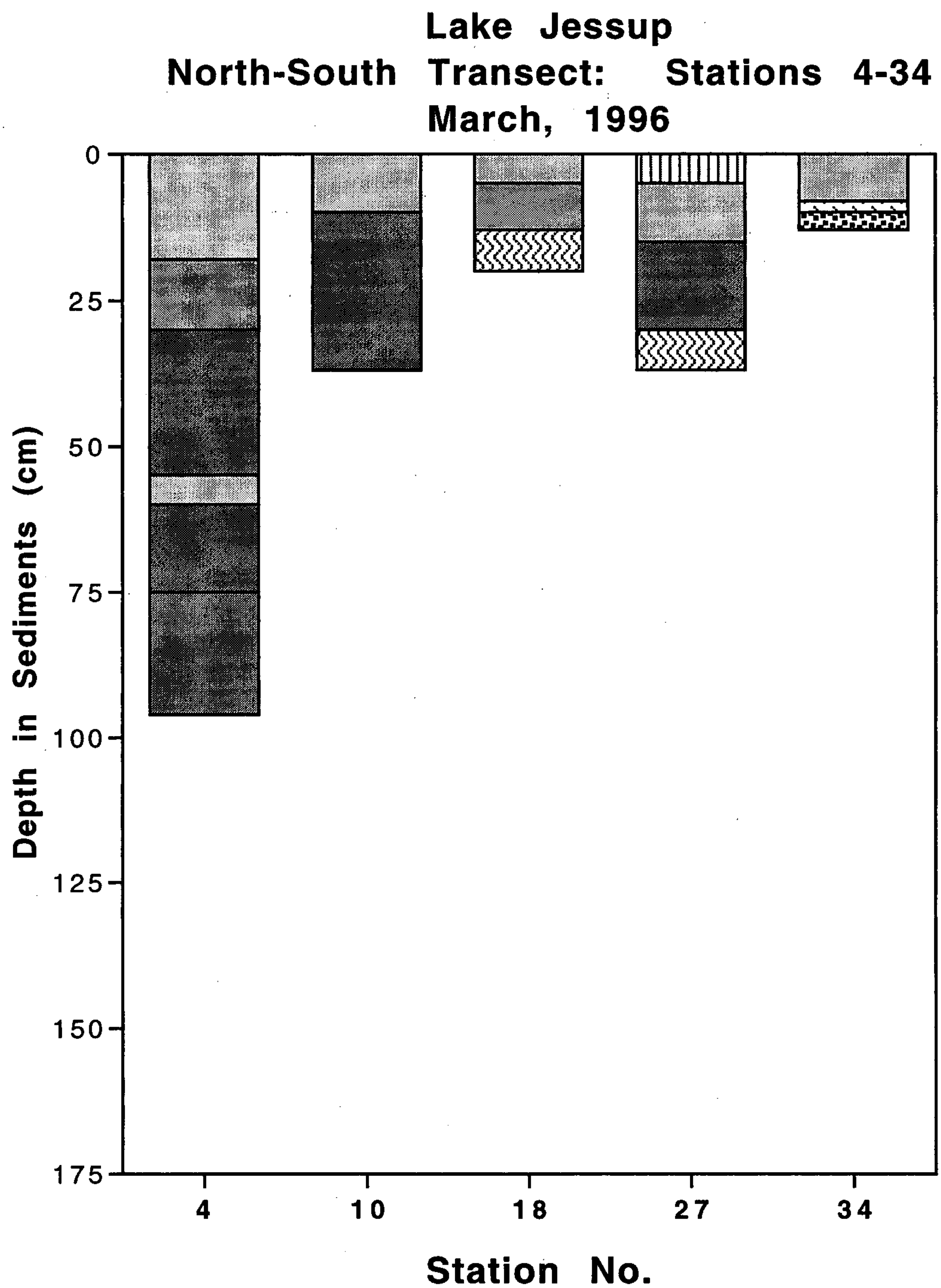


Fig. A3: Stations 4-34-North-South transect.

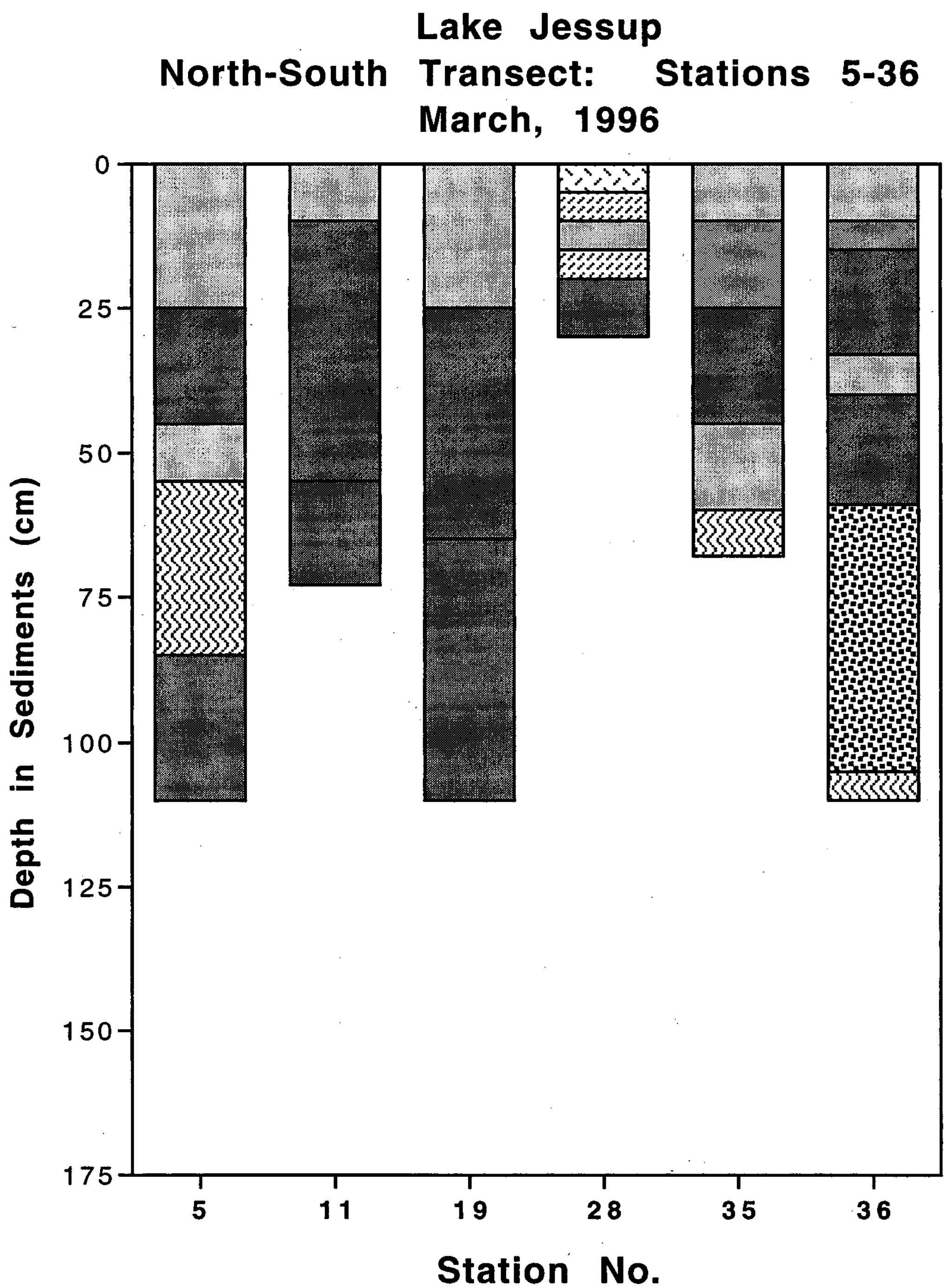


Fig. A4: Stations 5-36-North-South transect.

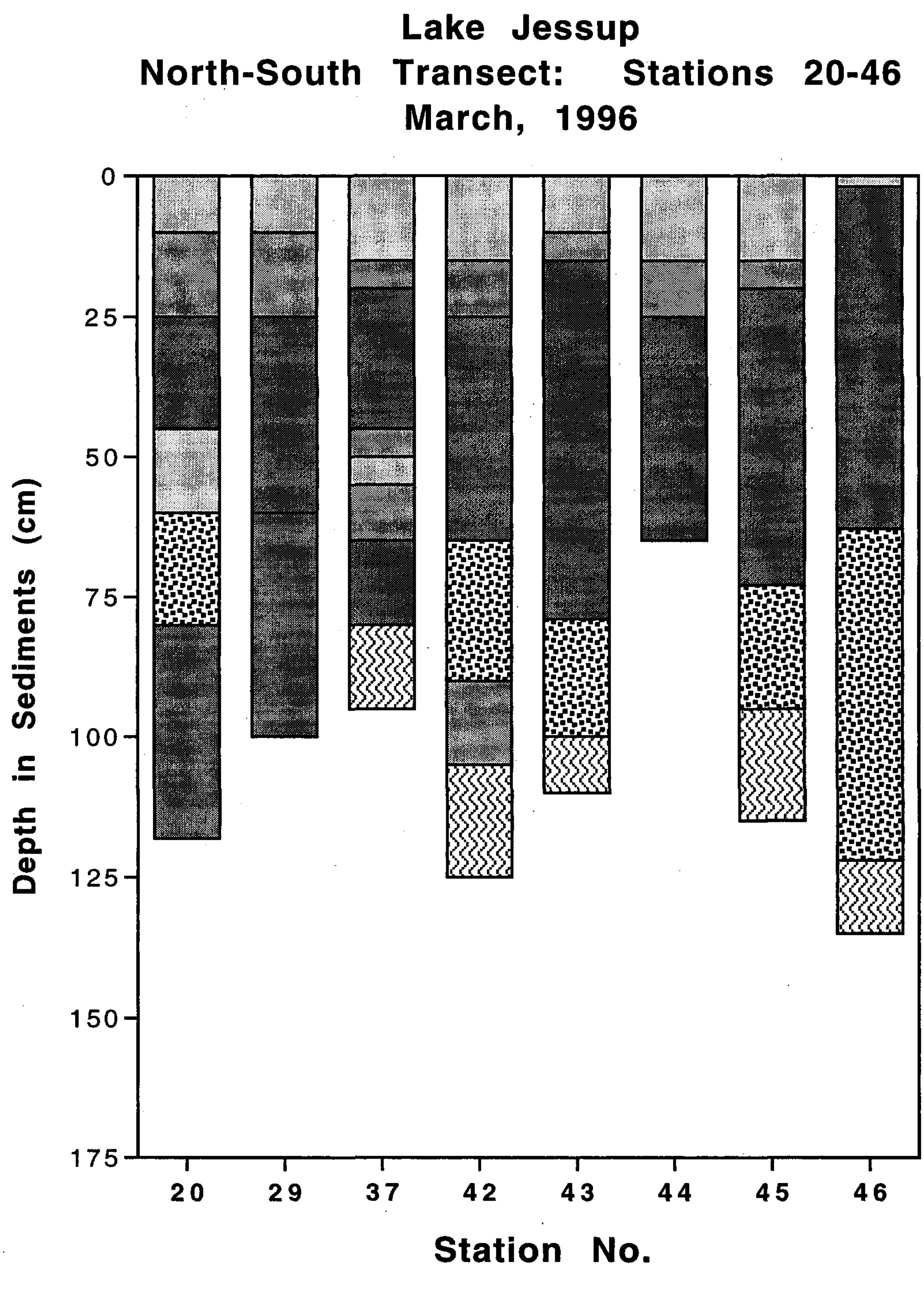


Fig. A5: Stations 20-46-North-South transect.

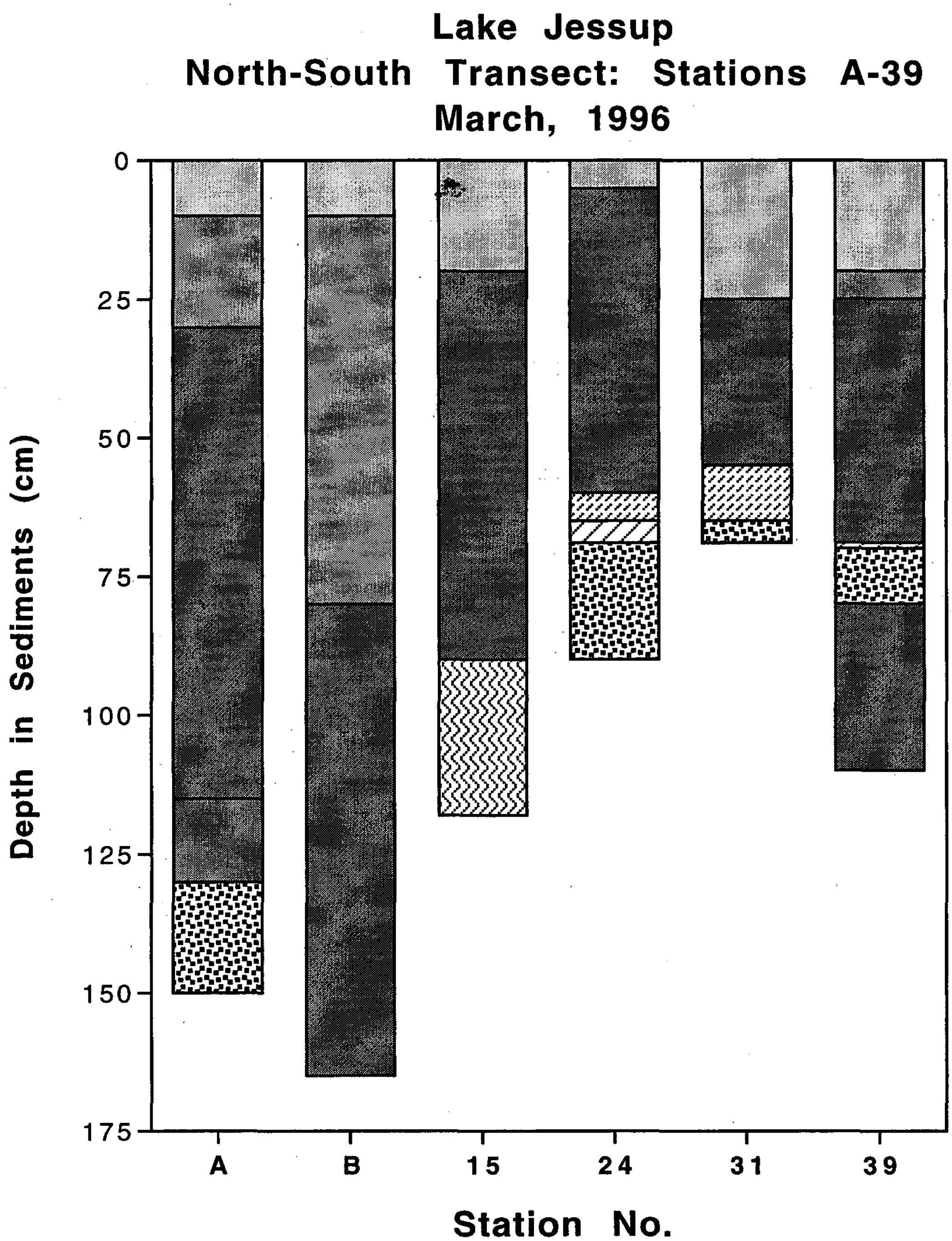


Fig. A6: Stations A-39-North-South transect.

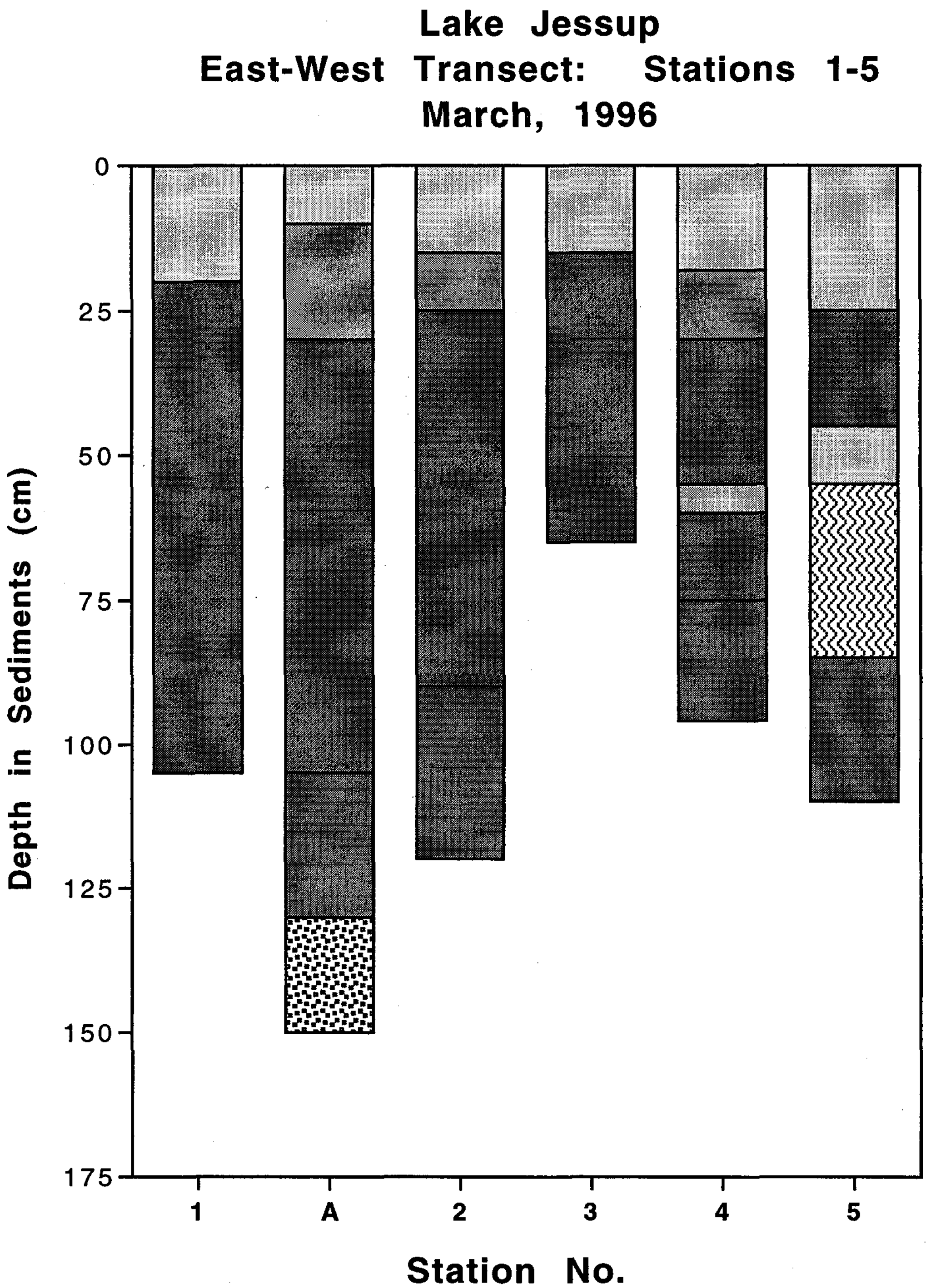


Fig. A7: Stations 1-5-East-West transect.

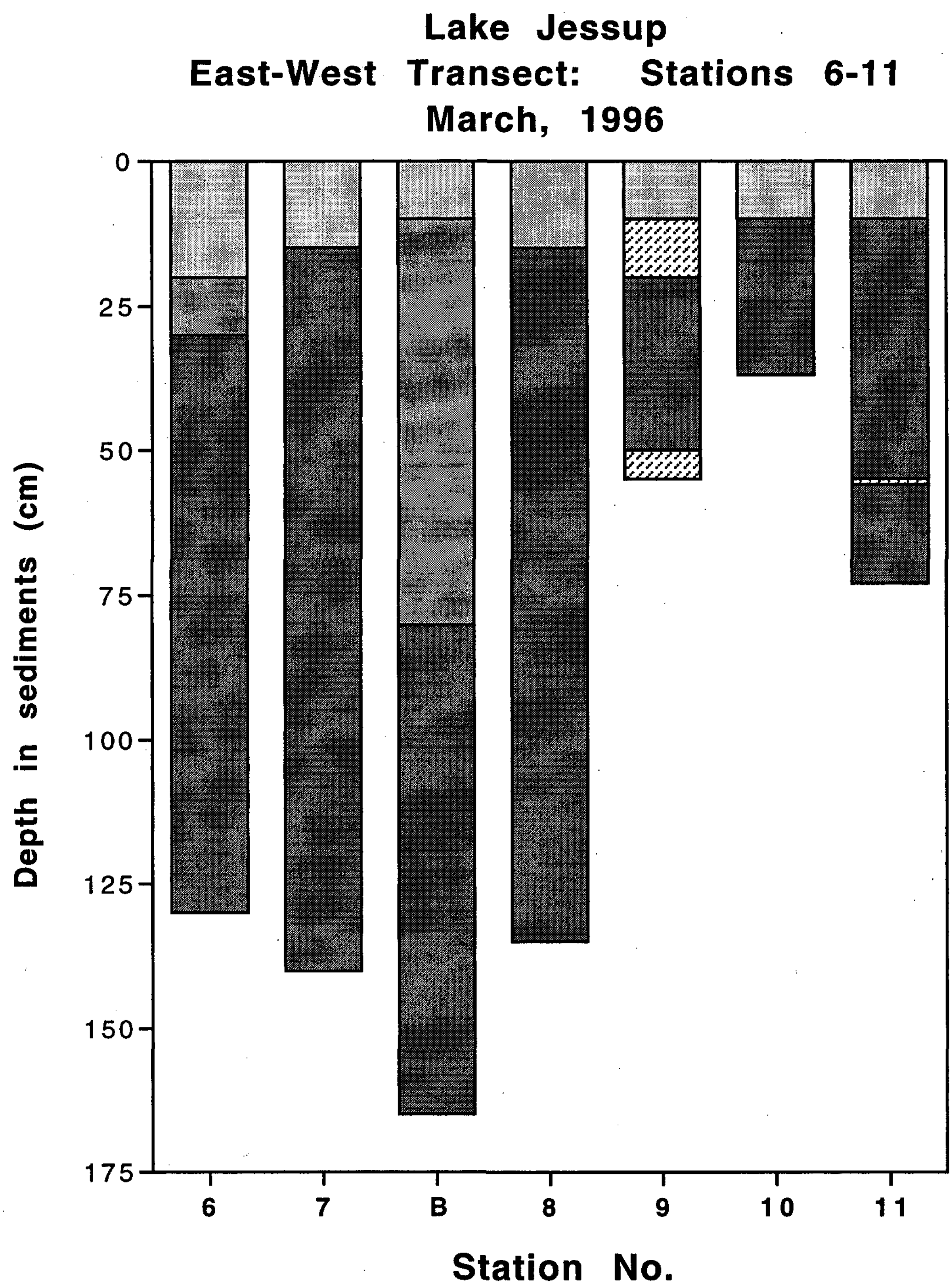


Fig. A8: Stations 6-11-East-West transect.

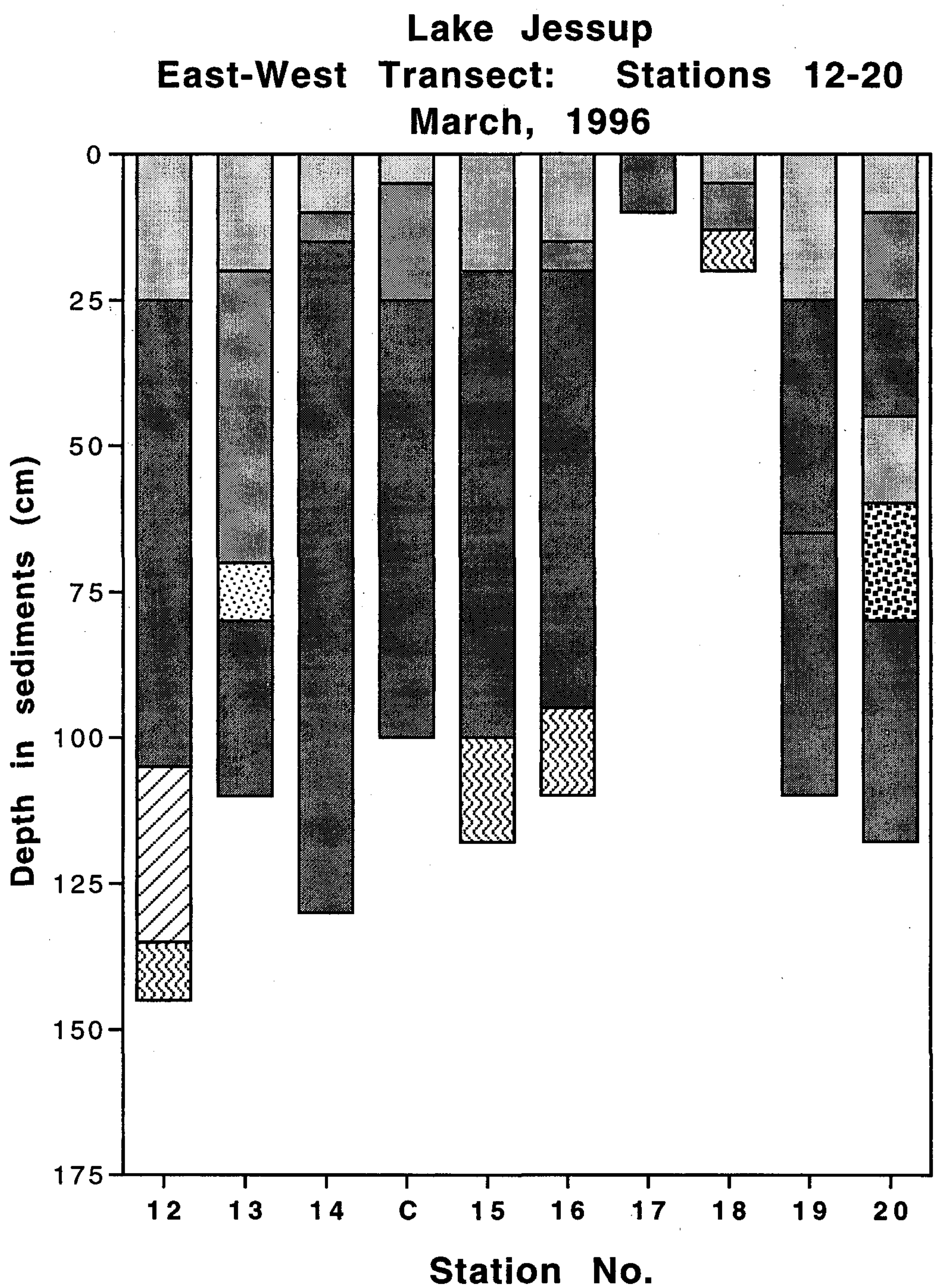


Fig. A9: Stations 12-20-East-West transect.

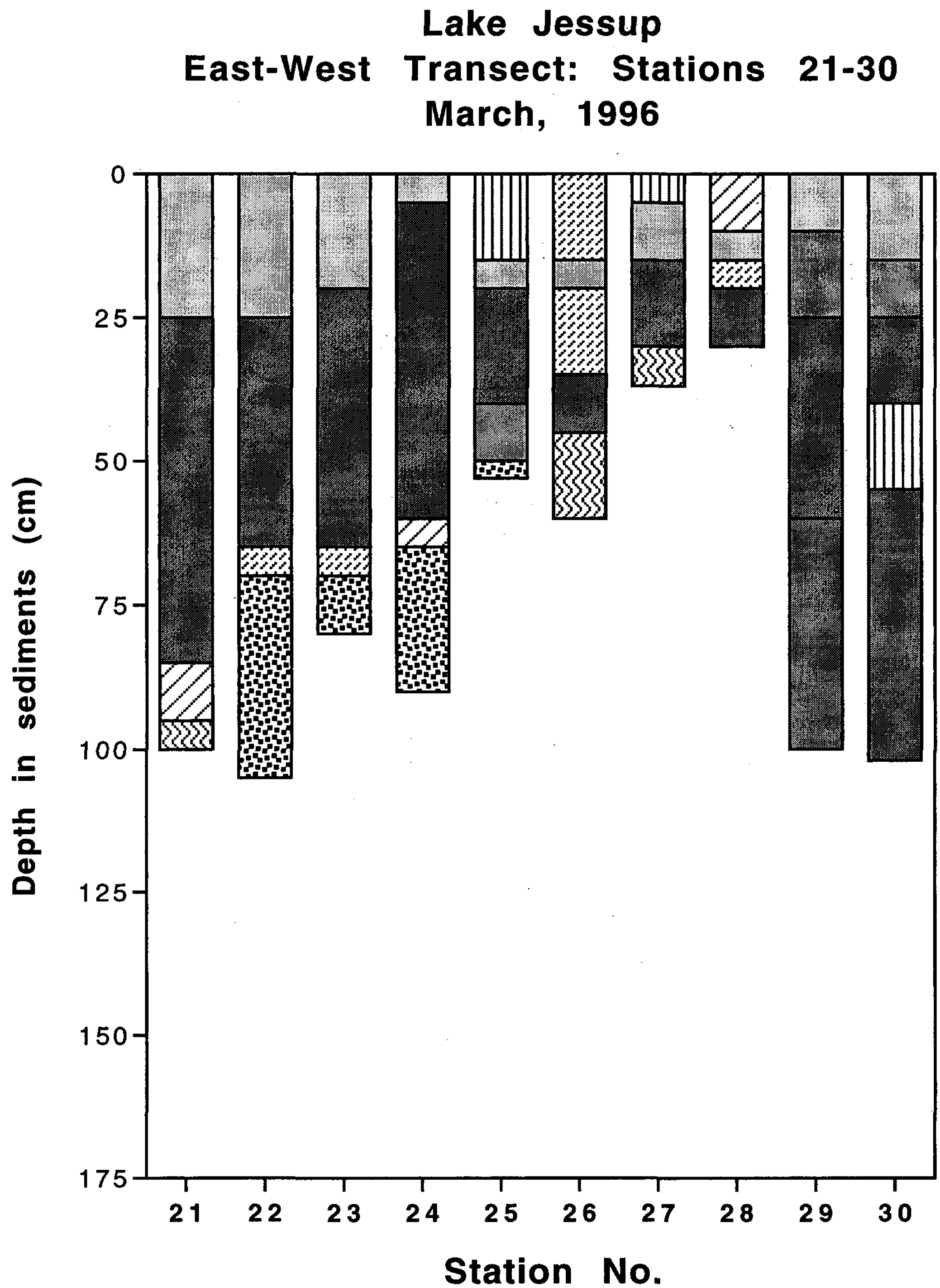


Fig. A10: Stations 21-30-East-West transect.

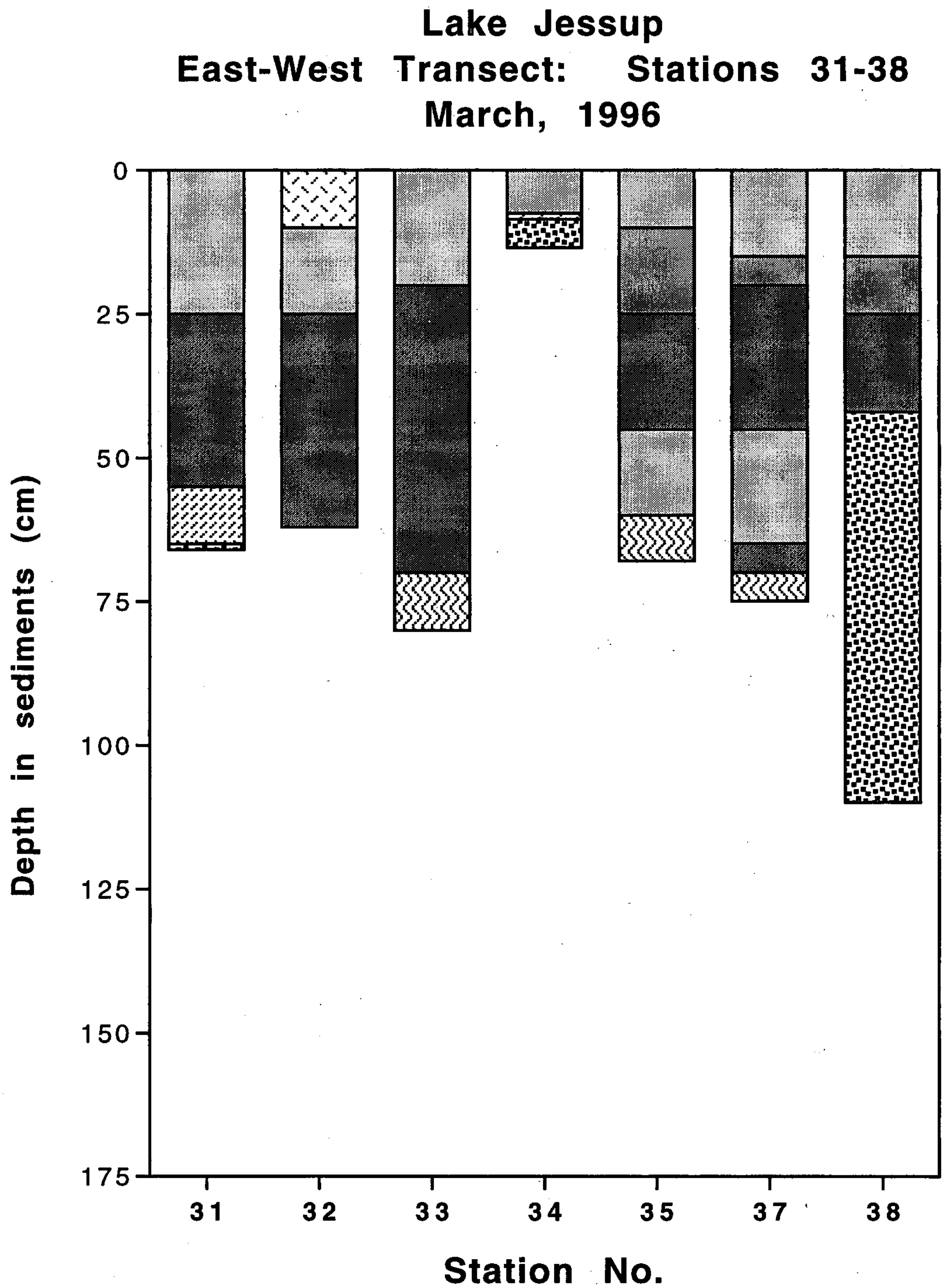


Fig. A11: Stations 31-38-East-West transect.

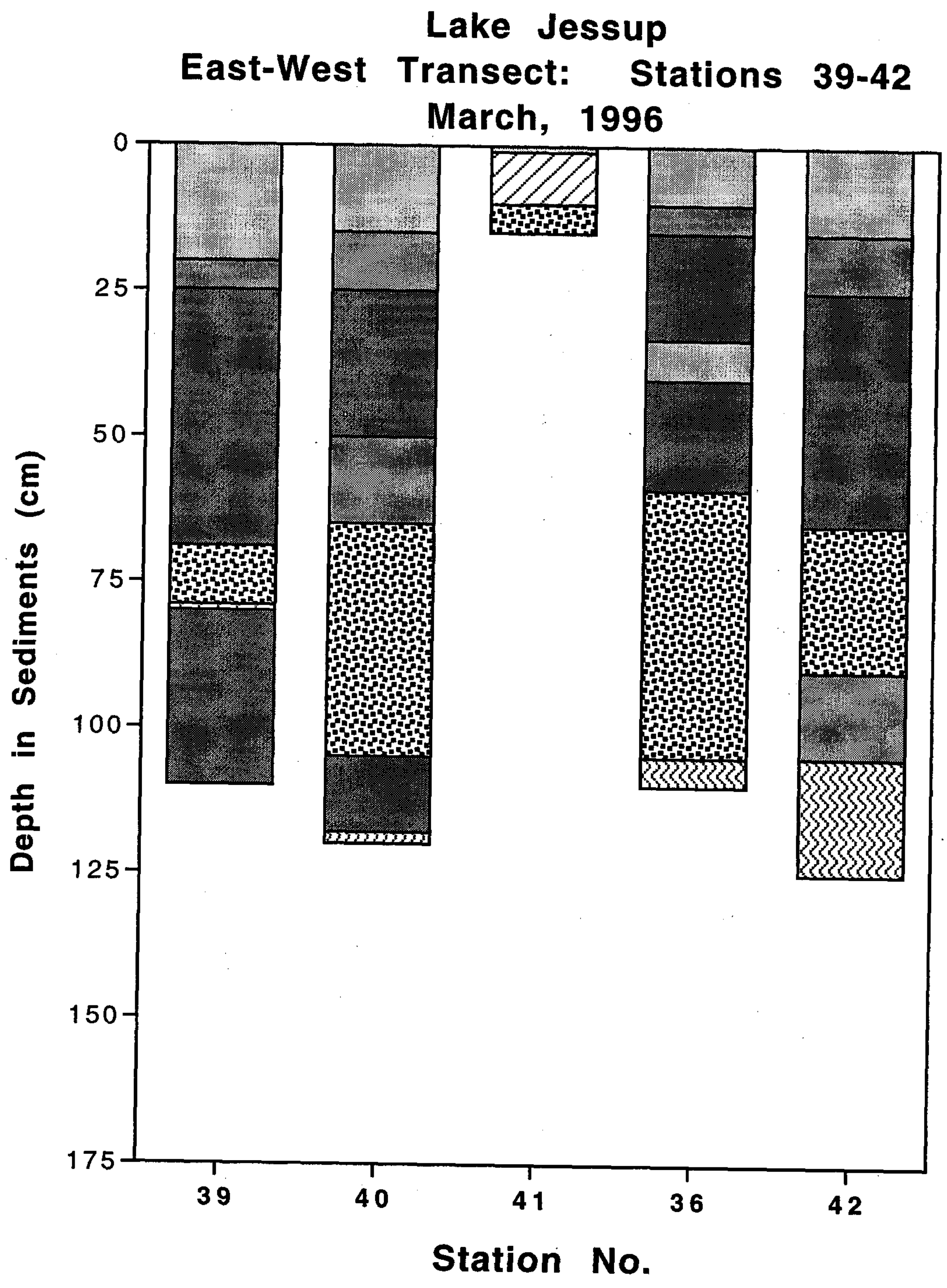


Fig. A12: Stations 39-42-East-West transect.

APPENDIX B

Gravimetric and nutrient results for 49 survey sediment cores presented in tabular form and as graphs of concentration versus depth. Stratigraphy for each station is shown pictorially with a legend to explain core descriptions. Dates are given on the TC/TN versus depth plots for dated cores.

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-01-96	5	0.035	47.15	0.036	2.270	20.280	8.934	10.463	0.242	0.242	1.724	0.353
	10	0.045	45.30	0.046	2.180	19.920	9.138	10.702	0.249	0.491	1.504	0.358
	15	0.053	41.82	0.054	2.040	18.930	9.279	10.868	0.295	0.786	1.380	0.285
	20	0.067	39.83	0.070	1.830	17.970	9.820	11.501	0.412	1.198	1.253	0.257
	25	0.093	38.03	0.098	1.640	17.390	10.604	12.419	0.471	1.669	1.242	0.275
	30	0.093	37.91	0.098	1.610	16.890	10.491	12.286	0.475	2.145	1.153	0.232
	35	0.126	29.88	0.135	1.310	15.860	12.107	14.179	0.702	2.847	0.766	0.120
	40	0.098	38.83	0.104	1.610	17.950	11.149	13.058	0.543	3.390	0.647	0.101
	45	0.120	34.98	0.128	1.560	17.750	11.378	13.326	0.683	4.073	0.641	0.086
	50	0.119	36.49	0.127	1.480	17.090	11.547	13.524	0.615	4.689	0.639	0.101
	55	0.144	38.52	0.156	1.520	17.820	11.724	13.730	0.809	5.497	0.708	0.146
	60	0.145	37.76	0.158	1.600	18.820	11.763	13.776	0.804	6.301	0.661	0.148
	65	0.145	36.93	0.158	1.530	18.310	11.967	14.016	0.779	7.080	0.754	0.135
	70	0.118	38.60	0.125	1.530	18.840	12.314	14.422	0.689	7.769	0.601	0.133
	75	0.170	40.77	0.187	1.610	20.270	12.590	14.745	0.923	8.692	0.607	0.120
	80	0.239	39.52	0.274	1.520	19.260	12.671	14.840	1.240	9.932	0.620	0.134
	90	0.118	37.40	0.126	1.370	17.700	12.920	15.131	1.395	11.327	0.625	0.104
	100	0.265	17.40	0.313	1.100	14.510	13.191	15.449	3.226	14.553	1.168	0.221
	110	0.427	6.63	0.571	0.460	4.670	10.152	11.890	3.332	17.885	0.932	0.135

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-02-96	5	0.039	46.22	0.040	2.230	19.980	8.960	10.493	0.173	0.173	1.711	0.456
	10	0.048	43.46	0.049	2.070	19.050	9.203	10.778	0.282	0.454	1.479	0.352
	15	0.057	41.23	0.059	2.010	18.080	8.995	10.535	0.305	0.759	1.472	0.445
	20	0.066	40.32	0.069	1.950	18.070	9.267	10.853	0.372	1.131	1.453	0.384
	25	0.081	38.88	0.084	1.820	16.990	9.335	10.933	0.464	1.595	1.770	0.484
	30	0.083	39.28	0.087	1.850	17.620	9.524	11.155	0.464	2.059	1.590	0.416
	35	0.087	38.77	0.091	1.800	17.320	9.622	11.269	0.445	2.504	1.412	0.410
	40	0.096	38.12	0.102	1.770	16.970	9.588	11.229	0.510	3.013	1.409	0.397
	45	0.102	36.24	0.108	1.630	16.260	9.975	11.683	0.523	3.536	1.360	0.409
	50	0.101	36.19	0.107	0.680	19.560	28.765	33.688	0.580	4.116	1.398	0.396
	55	0.108	29.11	0.115	1.310	14.540	11.099	12.999	0.605	4.722	1.447	0.450
	60	0.110	33.20	0.117	1.370	16.510	12.051	14.114	0.621	5.343	1.028	0.303
	65	0.117	37.42	0.124	1.510	19.090	12.642	14.806	0.739	6.082	0.796	0.219
	70	0.122	37.81	0.131	1.470	18.430	12.537	14.684	0.692	6.774	0.796	0.221
	75	0.125	28.30	0.135	1.260	15.970	12.675	14.844	0.735	7.508	2.162	0.316
	80	0.130	20.89	0.140	0.990	12.300	12.424	14.551	0.811	8.319	1.447	0.304
	90	0.185	30.95	0.206	1.230	15.800	12.846	15.044	2.173	10.493	0.809	0.155
	100	0.183	18.86	0.204	0.840	12.600	15.000	17.568	2.331	12.824	1.706	0.243
	110	0.184	24.42	0.206	0.680	19.240	28.294	33.137	2.242	15.066	0.746	0.120
	120	0.184	25.68	0.206	0.690	19.910	28.855	33.794	2.248	17.314	0.479	0.066

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-03-96	5	0.030	48.52	0.030	2.320	20.740	8.940	10.470	0.159	0.159	1.600	0.345
	10	0.050	43.72	0.051	2.150	19.290	8.972	10.508	0.298	0.457	1.629	0.319
	15	0.157	20.27	0.172	1.130	11.430	10.115	11.846	1.058	1.514	1.214	0.241
	20	0.145	31.90	0.157	1.250	15.260	12.208	14.298	0.820	2.334	0.877	0.244
	25	0.118	38.71	0.126	1.540	19.140	12.429	14.556	0.700	3.034	0.806	0.163
	30	0.135	36.02	0.145	1.190	14.670	12.328	14.438	0.745	3.779	0.997	0.142
	35	0.144	31.55	0.157	1.270	16.260	12.803	14.995	0.787	4.566	0.980	0.181
	40	0.138	36.13	0.149	1.310	17.310	13.214	15.476	0.797	5.364	1.083	0.186
	45	0.215	24.80	0.244	0.950	11.790	12.411	14.535	1.325	6.689	0.909	0.183
	50	0.162	34.08	0.177	1.350	18.140	13.437	15.737	0.873	7.561	0.824	0.142
	55	0.166	34.39	0.183	1.190	16.870	14.176	16.603	0.974	8.535	0.865	0.163
	60	0.176	32.01	0.195	1.220	17.450	14.303	16.752	0.998	9.533	1.182	0.174
	65	0.255	22.03	0.298	0.800	11.490	14.363	16.821	1.359	10.892	1.099	0.170

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-04-96	5	0.032	46.15	0.032	2.400	21.050	8.771	10.272	0.148	0.148	1.680	0.335
	10	0.042	46.91	0.043	2.370	20.900	8.819	10.328	0.245	0.394	1.634	0.355
	15	0.049	43.71	0.051	2.140	19.800	9.252	10.836	0.250	0.643	1.466	0.366
	20	0.067	38.14	0.069	1.840	17.390	9.451	11.069	0.355	0.999	1.301	0.312
	25	0.078	35.75	0.081	1.620	15.970	9.858	11.545	0.446	1.445	1.228	0.292
	30	0.094	34.24	0.099	1.480	15.520	10.486	12.282	0.499	1.943	1.354	0.329
	35	0.090	35.57	0.094	1.410	14.880	10.553	12.360	0.479	2.422	1.197	0.301
	40	0.151	24.66	0.164	1.170	12.860	10.991	12.873	0.857	3.279	0.809	0.176
	45	0.111	35.24	0.119	1.410	16.210	11.496	13.464	0.662	3.941	0.625	0.122
	50	0.113	36.38	0.120	1.460	16.880	11.562	13.541	0.594	4.535	0.657	0.118
	55	0.112	31.47	0.120	1.390	16.140	11.612	13.599	0.729	5.264	0.730	0.126
	60	0.122	32.74	0.131	1.380	16.040	11.623	13.613	0.616	12.228	0.620	0.154
	65	0.138	31.56	0.149	1.410	16.240	11.518	13.489	0.727	12.955	0.691	0.115
	70	0.141	30.72	0.153	1.250	14.710	11.768	13.782	0.858	13.813	0.738	0.120
	75	0.173	23.67	0.191	1.050	14.150	13.476	15.783	0.999	14.812	0.819	0.119
	80	0.432	7.53	0.580	0.320	7.890	24.656	28.877	2.935	17.747	2.884	0.186
	90	0.236	20.19	0.273	0.620	18.990	30.629	35.872	2.950	20.697	0.831	0.078
	100	0.223	21.74	0.255	0.580	19.580	33.759	39.537	1.508	22.206	0.453	0.068

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-05-96	5	0.023	45.15	0.023	1.390	16.530	11.892	13.928	0.194	0.194	1.626	0.374
	10	0.041	44.54	0.042	2.330	21.110	9.060	10.611	0.232	0.426	1.568	0.375
	15	0.049	41.98	0.050	2.160	20.170	9.338	10.936	0.276	0.702	1.414	0.325
	20	0.056	40.52	0.057	2.070	19.630	9.483	11.106	0.304	1.005	1.712	0.319
	25	0.078	34.25	0.081	1.580	16.460	10.418	12.201	0.441	1.447	1.199	0.268
	30	0.109	30.30	0.116	1.370	16.190	11.818	13.840	0.580	2.027	0.950	0.223
	35	0.096	35.73	0.101	1.500	16.630	11.087	12.984	0.523	2.550	0.682	0.163
	40	0.094	36.77	0.100	1.550	18.080	11.665	13.661	0.567	3.117	0.597	0.114
	45	0.117	29.35	0.125	1.390	15.670	11.273	13.203	0.659	3.775	0.735	0.119
	50	0.114	26.55	0.121	1.440	14.480	10.056	11.777	0.601	4.377	0.709	0.097
	55	0.071	37.29	0.074	1.560	17.330	11.109	13.011	0.406	4.783	1.154	0.270
	60	0.088	81.53	0.091	2.560	40.770	15.926	18.652	0.475	5.258	0.335	0.095
	65	0.079	88.14	0.081	2.780	43.490	15.644	18.322	0.434	5.692	0.399	0.117
	70	0.068	88.83	0.070	2.680	45.760	17.075	19.997	0.344	6.036	0.362	0.106
	75	0.077	90.60	0.079	2.440	43.580	17.861	20.918	0.405	6.441	0.550	0.180
	80	0.079	85.02	0.081	2.430	43.100	17.737	20.773	0.428	6.869	0.859	0.156
	90	0.113	50.73	0.120	1.620	30.630	18.907	22.144	1.286	8.155	0.673	0.064
	100	0.166	29.59	0.183	0.880	21.750	24.716	28.947	1.909	10.064	0.309	0.044
	110	0.165	27.73	0.182	0.860	21.930	25.500	29.865	1.978	12.042	0.379	0.053

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-06-96	5	0.023	44.43	0.023	2.550	21.140	8.290	9.709	0.122	0.122	1.733	0.316
	10	0.034	43.44	0.035	2.280	20.870	9.154	10.720	0.192	0.313	1.540	0.399
	15	0.040	43.51	0.041	2.500	20.910	8.364	9.796	0.243	0.557	1.541	0.393
	20	0.054	36.47	0.056	2.280	18.290	8.022	9.395	0.332	0.888	1.306	0.301
	25	0.067	35.01	0.069	1.980	17.030	8.601	10.073	0.432	1.321	1.107	0.295
	30	0.094	32.49	0.099	1.780	16.620	9.337	10.935	0.581	1.902	0.846	0.247
	35	0.098	30.71	0.104	1.700	16.320	9.600	11.243	0.573	2.475	0.914	0.135
	40	0.098	34.19	0.103	1.530	17.670	11.549	13.526	0.564	3.039	0.499	0.125
	45	0.091	36.85	0.095	1.580	18.420	11.658	13.654	0.520	3.558	0.464	0.121
	50	0.089	37.08	0.094	1.640	19.200	11.707	13.711	0.535	4.094	0.445	0.098
	55	0.124	27.25	0.134	1.190	13.620	11.445	13.405	0.718	4.811	0.625	0.109
	60	0.093	38.91	0.098	1.660	19.830	11.946	13.991	0.552	5.363	0.416	0.104
	65	0.086	42.58	0.091	1.790	21.640	12.089	14.159	0.512	5.875	0.409	0.120
	70	0.093	37.88	0.098	1.610	19.230	11.944	13.989	0.526	6.402	0.391	0.095
	75	0.100	36.51	0.106	1.550	19.210	12.394	14.515	0.597	6.999	0.420	0.111
	80	0.106	38.02	0.112	1.580	19.750	12.500	14.640	0.615	7.614	0.482	0.124
	90	0.100	40.18	0.106	1.570	20.210	12.873	15.076	1.138	8.752	0.487	0.127
	100	0.105	38.54	0.111	1.600	20.780	12.988	15.211	1.236	9.988	0.530	0.110
	110	0.186	19.97	0.208	0.770	9.470	12.299	14.404	2.262	12.250	0.594	0.098
	120	0.300	8.16	0.365	0.410	4.590	11.195	13.111	3.957	16.207	1.564	0.113
	130	0.566	1.92	0.855	0.220	2.660	12.091	14.161	7.692	23.899	1.302	0.103

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-07-96	10	0.040	45.23	0.041	2.260	20.860	9.230	10.810	0.499	0.499	0.351	0.308
	20	0.042	45.25	0.043	2.180	20.280	9.303	10.895	0.360	0.859	1.247	0.341
	25	0.054	43.16	0.055	2.050	19.630	9.576	11.215	0.351	1.210	1.152	0.269
	30	0.063	38.04	0.065	1.800	17.930	9.961	11.666	0.364	1.574	1.027	0.236
	35	0.069	36.97	0.071	1.650	16.640	10.085	11.811	0.370	1.945	0.948	0.194
	40	0.080	36.75	0.084	2.360	21.850	9.258	10.843	0.488	2.433	0.937	0.175
	45	0.081	36.39	0.085	1.550	16.690	10.768	12.611	0.388	2.821	0.918	0.201
	50	0.085	35.84	0.089	1.520	16.750	11.020	12.906	0.516	3.337	0.889	0.192
	55	0.095	34.89	0.100	1.560	16.930	10.853	12.710	0.505	3.841	0.929	0.239
	60	0.099	35.22	0.104	1.580	17.010	10.766	12.609	0.572	4.413	0.952	0.250
	65	0.102	34.90	0.108	1.600	17.200	10.750	12.590	0.566	4.980	0.969	0.351
	70	0.103	33.99	0.109	1.510	16.520	10.940	12.813	0.507	5.487	0.972	0.252
	75	0.106	36.58	0.113	1.530	17.300	11.307	13.243	0.617	6.104	1.031	0.290
	80	0.106	37.14	0.112	1.520	17.020	11.197	13.114	0.584	6.688	1.073	0.310
	90	0.112	35.99	0.120	1.490	16.870	11.322	13.260	1.202	7.891	1.004	0.315
	100	0.114	36.86	0.122	1.460	16.410	11.240	13.164	1.332	9.222	0.748	0.215
	110	0.113	36.70	0.120	1.430	16.720	11.692	13.694	1.316	10.539	0.773	0.193
	120	0.115	36.90	0.123	1.470	16.710	11.367	13.313	1.310	11.848	0.632	0.148
	130	0.116	37.11	0.124	1.470	16.750	11.395	13.345	1.199	13.047	0.623	0.143
	140	0.115	35.99	0.123	1.430	16.740	11.706	13.710	1.225	14.271	0.655	0.170

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-08-96	5	0.018	42.56	0.018	2.160	19.650	9.097	10.654	0.064	0.064	1.438	0.356
	10	0.051	35.08	0.052	1.910	17.710	9.272	10.859	0.148	0.212	1.355	0.328
	15	0.094	30.78	0.099	1.300	13.850	10.654	12.478	0.471	0.683	0.812	0.206
	20	0.088	34.56	0.093	1.520	17.450	11.480	13.445	0.474	1.157	0.612	0.151
	25	0.095	37.45	0.100	1.480	15.770	10.655	12.479	0.510	1.667	0.510	0.148
	30	0.093	37.65	0.098	1.570	18.370	11.701	13.703	0.530	2.197	0.504	0.126
	35	0.101	36.13	0.107	1.630	18.840	11.558	13.537	0.515	2.712	0.534	0.135
	40	0.113	33.95	0.120	1.470	16.920	11.510	13.480	0.617	3.329	0.483	0.114
	45	0.114	31.83	0.122	1.440	16.240	11.278	13.208	0.591	3.920	0.539	0.121
	50	0.137	28.27	0.149	1.200	13.960	11.633	13.625	0.864	4.784	0.535	0.146
	55	0.138	31.53	0.150	1.290	14.950	11.589	13.573	0.883	5.667	0.639	0.173
	60	0.140	31.61	0.152	1.360	15.720	11.559	13.537	0.685	6.353	0.536	0.175
	65	0.150	29.45	0.164	1.190	14.380	12.084	14.153	0.828	7.181	0.569	0.177
	70	0.137	33.09	0.148	1.320	16.750	12.689	14.861	0.785	7.966	0.591	0.152
	75	0.143	33.73	0.155	1.300	16.510	12.700	14.874	0.804	8.770	0.621	0.160
	80	0.199	17.68	0.224	0.850	11.100	13.059	15.294	1.054	9.824	1.752	0.674
	90	0.220	25.72	0.250	1.070	15.400	14.393	16.856	2.405	12.229	1.503	0.235
	100	0.217	51.74	0.244	1.900	34.030	17.911	20.976	2.613	14.843	0.338	0.072
	110	0.146	52.56	0.158	1.640	32.730	19.957	23.374	1.611	16.454	0.342	0.084
	120	0.119	61.81	0.126	1.980	36.530	18.449	21.608	1.370	17.824	0.486	0.088
	130	0.113	69.39	0.119	2.370	38.860	16.397	19.203	1.242	19.066	0.782	0.107
	140	0.257	24.90	0.300	1.590	25.010	15.730	18.422	3.095	22.161	2.069	0.152

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-09-96	5	0.101	23.95	0.107	2.160	19.650	9.097	10.654	0.319	0.319	1.293	0.336
	10	0.280	10.19	0.335	1.910	17.710	9.272	10.859	1.679	1.998	0.854	0.268
	15	0.551	4.89	0.819	1.300	13.850	10.654	12.478	4.347	6.345	0.548	0.125
	20	0.436	11.31	0.584	1.520	17.450	11.480	13.445	3.045	9.389	0.530	0.136
	25	0.237	51.23	0.270	1.480	15.770	10.655	12.479	1.459	10.848	0.486	0.185
	30	0.169	62.59	0.184	1.570	18.370	11.701	13.703	0.879	11.727	0.318	0.152
	35	0.150	58.90	0.162	1.630	18.840	11.558	13.537	0.843	12.570	0.436	0.146
	40	0.193	64.80	0.213	1.470	16.920	11.510	13.480	0.988	13.559	0.190	0.086
	45	0.170	77.22	0.184	1.440	16.240	11.278	13.208	1.014	14.573	0.138	0.052
	50	0.197	72.07	0.216	1.200	13.960	11.633	13.625	1.263	15.836	0.525	0.079
	55	0.247	42.98	0.284					1.372	17.208	0.746	0.086

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-10-96	5	0.131	10.31	0.142	0.590	5.700	9.661	11.315	0.207	0.207	0.545	0.154
	10	0.448	3.49	0.610	0.170	5.540	32.588	38.167	2.642	2.850	0.263	0.031
	15	0.215	15.86	0.246	0.690	11.720	16.986	19.893	1.419	4.268	0.208	0.046
	20	0.373	8.77	0.478	0.770	14.150	18.377	21.522	2.105	6.373	0.240	0.037
	25	0.228	37.87	0.260	1.600	29.120	18.200	21.315	1.283	7.656	0.177	0.047
	30	0.190	44.31	0.211	1.620	28.860	17.815	20.864	1.151	8.806	0.155	0.054
	35	0.219	54.13	0.246	1.840	33.240	18.065	21.158	1.121	9.927	0.105	0.039
	40	0.211	66.07	0.234	1.990	35.720	17.950	21.022	0.878	10.806	0.097	0.051

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-11-96	5	0.023	47.07	0.024	2.270	20.980	9.242	10.824	0.160	0.160	1.520	0.385
	10	0.041	44.65	0.042	2.130	20.410	9.582	11.222	0.230	0.390	1.417	0.350
	15	0.057	41.25	0.059	1.880	18.400	9.787	11.463	0.312	0.702	1.329	0.259
	20	0.061	41.63	0.063	1.980	19.080	9.636	11.286	0.383	1.086	1.382	0.378
	25	0.078	39.42	0.082	1.830	17.930	9.798	11.475	0.319	1.404	1.430	0.394
	30	0.096	34.22	0.101	1.620	16.370	10.105	11.835	0.575	1.980	1.333	0.402
	35	0.106	35.05	0.113	1.550	15.710	10.135	11.870	0.544	2.523	1.373	0.388
	40	0.109	34.89	0.116	1.570	16.060	10.229	11.980	0.635	3.158	1.346	0.371
	45	0.119	31.55	0.127	1.500	15.390	10.260	12.016	0.544	3.702	1.267	0.380
	50	0.230	13.64	0.266	0.710	7.250	10.211	11.959	1.392	5.094	1.550	0.267
	55	0.367	8.97	0.468	0.540	5.570	10.315	12.080	2.262	7.356	3.280	0.500
	60	0.262	20.54	0.308	0.630	15.610	24.778	29.019	1.833	9.189	0.980	0.257
	65	0.213	24.86	0.243	0.680	18.040	26.529	31.071	1.192	10.381	0.633	0.209
	70	0.209	27.75	0.236	0.720	19.850	27.569	32.289	1.417	11.798	0.663	0.218
	75	0.354	29.26	0.440	0.770	20.710	26.896	31.500	1.268	13.066	0.690	0.220

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-12-96	5	0.039	47.88	0.040	2.330	21.060	9.039	10.586	0.253	0.253	1.891	0.526
	10	0.051	49.83	0.052	2.230	20.280	9.094	10.651	0.258	0.511		
	15	0.066	38.05	0.068	1.760	17.120	9.727	11.392	0.337	0.848	1.405	0.296
	20	0.098	31.34	0.103	1.310	14.880	11.359	13.303	0.572	1.420	2.143	0.597
	25	0.092	35.28	0.097	1.440	16.230	11.271	13.200	0.502	1.922	0.686	0.166
	30	0.102	35.26	0.108	1.430	16.450	11.503	13.473	0.542	2.464	0.854	0.146
	35	0.133	28.36	0.143	1.220	14.240	11.672	13.670	0.725	3.190	0.607	0.112
	40	0.149	22.49	0.162	1.120	12.870	11.491	13.458	0.850	4.040	0.473	0.125
	45	0.105	35.44	0.111	1.570	18.370	11.701	13.703	0.576	4.616	0.495	0.091
	50	0.101	39.18	0.107	1.560	17.680	11.333	13.273	0.515	5.131	0.503	0.104
	55	0.103	38.50	0.109	1.570	18.020	11.478	13.442	0.600	5.730	0.546	0.123
	60	0.104	40.59	0.110	1.570	18.960	12.076	14.144	0.544	6.274	0.728	0.197
	65	0.103	39.90	0.110	1.550	18.500	11.935	13.979	0.584	6.858	0.560	0.110
	70	0.107	37.12	0.113	1.530	17.850	11.667	13.664	0.569	7.427	0.791	0.109
	75	0.105	39.74	0.111	1.590	18.600	11.698	13.701	0.605	8.032	0.519	0.114
	80	0.105	41.42	0.112	1.640	19.370	11.811	13.833	0.482	8.515	0.525	0.136
	90	0.106	41.15	0.113	1.640	19.690	12.006	14.061	1.246	9.761	0.595	0.144
	100	0.105	40.70	0.111	1.620	19.550	12.068	14.134	0.960	10.721	0.529	0.139
	110	0.131	28.18	0.141	1.080	13.040	12.074	14.141	1.542	12.262	0.549	0.100
	120	0.198	16.93	0.223	0.710	9.070	12.775	14.961	2.272	14.535	0.484	0.064
	130	0.442	7.90	0.597	0.330	7.080	21.455	25.127	5.817	20.352	1.471	0.132
	140	0.132	72.44	0.141	2.470	40.830	16.530	19.360	1.640	21.992	1.536	0.308

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-13-96	5	0.032	46.81	0.032	2.310	20.880	9.039	10.586	0.131	0.131	1.611	0.425
	10	0.044	47.23	0.046	2.350	21.170	9.009	10.551	0.177	0.308	1.655	0.412
	15	0.053	45.27	0.055	2.160	20.240	9.370	10.974	0.270	0.578	1.460	0.368
	20	0.061	43.81	0.063	1.940	18.470	9.521	11.150	0.291	0.869	1.318	0.398
	25	0.078	36.02	0.082	1.840	18.230	9.908	11.604	0.438	1.307	1.145	0.292
	30	0.098	36.54	0.104	1.470	16.960	11.537	13.512	0.465	1.772	0.808	0.179
	35	0.114	33.26	0.121	1.340	15.520	11.582	13.565	0.674	2.446	0.676	0.158
	40	0.111	35.87	0.118	1.440	16.600	11.528	13.501	0.567	3.013	0.614	0.149
	45	0.129	31.35	0.139	1.370	15.220	11.109	13.011	0.858	3.871	0.567	0.092
	50	0.115	32.73	0.123	1.430	15.710	10.986	12.867	0.596	4.466	0.437	0.093
	55	0.102	37.95	0.108	1.520	17.210	11.322	13.260	0.501	4.968	0.464	0.104
	60	0.083	39.07	0.087	1.650	18.470	11.194	13.110	0.495	5.463	0.480	0.122
	65	0.260	11.40	0.306	0.610	5.930	9.721	11.385	1.323	6.786	1.087	0.107
	70	0.421	4.86	0.562	0.310	1.930	6.226	7.292	2.676	9.462	0.193	0.043
	75	0.687	1.22	1.166					7.407	16.869	0.157	0.041
	80	0.611	4.72	0.959	0.200	1.180	5.900	6.910	5.437	22.306	2.171	0.033
	90	0.144	63.66	0.155	2.460	38.230	15.541	18.201	1.527	23.834	1.313	0.286
	100	0.140	81.91	0.149	2.080	47.270	22.726	26.616	1.535	25.369	0.390	0.076
	110	0.189	85.53	0.206	2.850	48.700	17.088	20.013	2.085	27.454	0.267	0.068

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-14-96	5	0.042	44.55	0.043	2.170	20.100	9.263	10.848	0.207	0.207	1.479	0.377
	10	0.050	40.85	0.051	2.040	19.170	9.397	11.006	0.303	0.510	1.361	0.319
	15	0.079	29.50	0.083	1.540	15.100	9.805	11.484	0.443	0.953	1.044	0.222
	20	0.141	23.18	0.153	1.190	13.790	11.588	13.572	0.774	1.727	0.788	0.144
	25	0.116	31.31	0.124	1.290	14.990	11.620	13.609	0.667	2.393	0.643	0.125
	30	0.119	31.78	0.128	1.300	15.210	11.700	13.703	0.727	3.120	0.571	0.103
	35	0.146	34.09	0.159	1.400	16.230	11.593	13.577	0.810	3.930	0.507	0.102
	40	0.118	38.26	0.126	1.500	16.930	11.287	13.219	0.693	4.624	0.458	0.096
	45	0.111	36.96	0.118	1.520	17.690	11.638	13.630	0.663	5.287	0.469	0.092
	50	0.117	35.37	0.125	1.470	17.320	11.782	13.799	0.600	5.886	0.488	0.100
	55	0.124	39.65	0.133	1.420	16.590	11.683	13.683	0.729	6.615	0.434	0.091
	60	0.132	33.64	0.143	1.390	15.880	11.424	13.380	0.727	7.342	0.428	0.019
	65	0.133	36.36	0.144	1.330	15.490	11.647	13.640	0.793	8.135	0.406	0.091
	70	0.131	35.93	0.141	1.400	17.170	12.264	14.364	0.713	8.849	0.466	0.101
	75	0.131	39.34	0.141	1.400	16.880	12.057	14.121	0.790	9.638	0.457	0.104
	80	0.128	38.97	0.137	1.450	17.760	12.248	14.345	0.722	10.360	0.460	0.091
	90	0.145	39.78	0.157	1.340	16.950	12.649	14.814	1.667	12.028	0.457	0.104
	100	0.289	14.54	0.347	0.590	6.870	11.644	13.637	3.858	15.886	0.384	0.244
	110	0.155	31.02	0.169	1.160	14.690	12.664	14.832	1.801	17.687	0.461	0.105
	120	0.136	42.08	0.146	1.320	17.740	13.439	15.740	1.582	19.269	0.463	0.089
	130	0.147	29.41	0.159	1.170	17.040	14.564	17.057	1.422	20.691	0.500	0.076

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-15-96	5	0.026	47.16	0.027	2.190	20.000	9.132	10.696	0.128	0.128	1.565	0.429
	10	0.040	42.14	0.041	2.020	18.680	9.248	10.830	0.257	0.385	1.415	0.409
	15	0.076	32.54	0.079	1.460	14.780	10.123	11.856	0.393	0.778	1.103	0.299
	20	0.118	33.09	0.126	1.330	15.050	11.316	13.253	0.687	1.465	0.718	0.171
	25	0.100	34.54	0.106	1.440	16.270	11.299	13.233	0.508	1.973	0.635	0.135
	30	0.097	37.66	0.102	1.490	16.710	11.215	13.134	0.532	2.506	0.591	0.111
	35	0.100	39.55	0.106	1.530	17.400	11.373	13.319	0.558	3.063	0.495	0.102
	40	0.105	36.50	0.111	1.490	17.010	11.416	13.370	0.539	3.602	0.509	0.100
	45	0.109	36.56	0.116	1.430	16.690	11.671	13.669	0.644	4.246	0.469	0.095
	50	0.119	34.23	0.127	1.330	15.530	11.677	13.675	0.627	4.873	0.445	0.089
	55	0.114	35.61	0.122	1.430	16.530	11.559	13.538	0.650	5.523	0.483	0.087
	60	0.118	32.12	0.126	1.420	15.480	10.901	12.767	0.650	6.173	0.739	0.201
	65	0.114	33.20	0.121	1.400	16.120	11.514	13.485	0.664	6.837	0.466	0.086
	70	0.123	31.39	0.132	1.310	15.220	11.618	13.607	0.683	7.520	0.426	0.079
	75	0.155	25.53	0.169	0.980	11.890	12.133	14.209	0.863	8.383	0.473	0.094
	80	0.167	21.89	0.184	1.010	11.040	10.931	12.802	0.962	9.345	0.393	0.085
	90	0.470	3.84	0.651	0.270	1.150	4.259	4.988	6.753	16.098	0.839	0.228
	100	0.537	6.40	0.785	0.210	1.230	5.857	6.860	8.068	24.166	0.559	0.071
	110	0.147	55.04	0.158	2.080	34.560	16.615	19.460	1.575	25.741	1.049	0.111
	120	0.178	50.24	0.196	1.650	27.850	16.879	19.768	1.296	27.037	5.663	0.633

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-16-96	5	0.033	43.16	0.034	2.130	19.350	9.085	10.640	0.179	0.179	1.514	0.328
	10	0.062	36.06	0.065	1.850	16.920	9.146	10.711	0.321	0.500	1.419	0.291
	15	0.089	28.34	0.094	1.430	15.240	10.657	12.482	0.454	0.954	1.089	0.193
	20	0.113	31.25	0.121	1.270	14.970	11.787	13.805	0.637	1.591	0.766	0.164
	25	0.102	34.41	0.108	1.490	17.260	11.584	13.567	0.567	2.158	0.557	0.088
	30	0.108	31.71	0.115	1.310	15.110	11.534	13.509	0.580	2.738	0.472	0.098
	35	0.101	35.73	0.107	1.370	16.210	11.832	13.857	0.541	3.279	0.501	0.084
	40	0.111	33.77	0.118	1.330	15.870	11.932	13.975	0.652	3.930	0.513	0.077
	45	0.120	33.29	0.128					0.728	4.659	0.450	0.073
	50	0.110	46.94	0.116	1.350	17.010	12.600	14.757	0.584	5.242	0.020	0.063
	55	0.110	37.64	0.117	1.370	16.270	11.876	13.909	0.590	5.833	0.039	0.071
	60	0.106	33.04	0.113	1.160	17.550	15.129	17.719	0.594	6.427	1.212	0.133
	65	0.106	39.06	0.112	1.380	17.290	12.529	14.674	0.599	7.026	0.375	0.071
	70	0.107	39.81	0.113	1.340	16.790	12.530	14.675	0.634	7.660	0.347	0.058
	75	0.109	37.49	0.115	1.340	16.780	12.522	14.666	0.548	8.208	0.216	0.140
	80	0.136	31.26	0.147	1.090	14.160	12.991	15.215	0.794	9.002	0.065	0.134
	90	0.142	32.37	0.154	1.230	15.480	12.585	14.740	1.413	10.415	0.301	0.132
	100	0.461	4.87	0.634	0.340	2.930	8.618	10.093	5.868	16.283	1.894	0.048
	110	0.160	69.24	0.173	2.400	41.070	17.113	20.042	1.726	18.009	0.162	0.072

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-17-96	5	0.769	3.63	1.418	0.200	0.350	1.750	2.050	6.414	6.414	0.062	0.062

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-18-96	5	0.121	14.84	0.130	0.760	6.630	8.724	10.217	0.558	0.558	0.786	0.340
	10	0.268	11.31	0.318	0.670	6.730	10.045	11.764	1.620	2.178	0.959	0.259
	15	0.327	40.70	0.395	1.460	29.590	20.267	23.736	2.097	4.275	0.616	0.175
	20	0.157	80.64	0.169	2.340	46.430	19.842	23.238	0.951	5.226	0.101	0.090

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-19-96	5	0.031	49.66	0.032	2.320	21.300	9.181	10.753	0.142	0.142	1.510	0.345
	10	0.049	48.28	0.051	2.280	21.000	9.211	10.787	0.237	0.380	1.399	0.326
	15	0.066	42.40	0.068	1.910	18.370	9.618	11.264	0.343	0.723	1.299	0.257
	20	0.074	40.29	0.077	1.820	17.980	9.879	11.570	0.380	1.103	1.117	0.251
	25	0.084	38.80	0.088	1.640	17.170	10.470	12.262	0.467	1.570	1.048	0.197
	30	0.096	35.37	0.102	1.510	16.350	10.828	12.681	0.516	2.086	1.035	0.175
	35	0.103	36.49	0.109	1.490	16.600	11.141	13.048	0.596	2.681	0.987	0.177
	40	0.105	36.01	0.111	1.500	16.900	11.267	13.195	0.613	3.294	0.964	0.220
	45	0.116	34.45	0.124	1.410	16.200	11.489	13.456	0.617	3.911	1.071	0.171
	50	0.122	33.81	0.131	1.360	16.370	12.037	14.097	0.655	4.566	0.616	0.100
	55	0.164	20.50	0.180	0.880	10.570	12.011	14.067	0.894	5.460	0.841	0.077
	60	0.189	18.00	0.213	0.950	11.480	12.084	14.153	1.084	6.544	1.485	0.151
	65	0.204	23.94	0.231	0.910	13.720	15.077	17.658	1.425	7.969	0.748	0.100
	70	0.165	30.67	0.182	1.080	18.990	17.583	20.593	0.880	8.848	0.648	0.099
	75	0.210	25.84	0.238	0.800	20.090	25.113	29.411	1.255	10.103	0.346	0.051
	80	0.218	22.60	0.249	0.690	19.360	28.058	32.861	1.434	11.537	0.284	0.044
	90	0.212	22.01	0.240	0.710	19.430	27.366	32.051	2.390	13.928	0.315	0.035
	100	0.238	21.56	0.275	0.590	18.980	32.169	37.676	2.716	16.643	0.283	0.035
	110	0.243	23.75	0.281	0.660	19.300	29.242	34.248	2.532	19.175	0.323	0.034

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-20-96	5	0.034	47.18	0.034	2.340	21.690	9.269	10.856	0.186	0.186	1.523	0.354
	10	0.053	45.27	0.054	2.250	21.450	9.533	11.165	0.311	0.497	1.419	0.285
	15	0.071	39.14	0.073	1.850	18.340	9.914	11.610	0.417	0.915	1.173	0.185
	20	0.076	38.10	0.079	1.610	17.020	10.571	12.381	0.497	1.412	1.123	0.196
	25	0.093	35.05	0.097	1.410	16.240	11.518	13.489	0.482	1.894	1.091	0.180
	30	0.124	33.40	0.133	1.280	15.920	12.438	14.566	0.824	2.718	0.992	0.164
	35	0.128	33.24	0.137	1.290	16.310	12.643	14.808	0.800	3.518	0.714	0.103
	40	0.158	28.47	0.173	1.020	14.660	14.373	16.833	0.875	4.393	0.763	0.081
	45	0.159	28.09	0.174	1.170	14.870	12.709	14.885	1.008	5.401	0.829	0.078
	50	0.187	25.31	0.209	0.880	13.940	15.841	18.552	1.265	6.666	1.438	0.116
	55	0.170	34.44	0.187	1.000	17.470	17.470	20.460	1.060	7.726	1.457	0.160
	60	0.147							0.947	8.674		
	65	0.163	37.91	0.179	1.170	25.170	21.513	25.195	1.048	9.722	0.708	0.067
	70	0.164	31.21	0.180	0.860	21.990	25.570	29.947	1.006	10.728	0.290	0.027
	75	0.154	31.14	0.168	0.860	22.900	26.628	31.186	1.012	11.741	0.305	0.023
	80	0.127	37.09	0.136	1.020	24.900	24.412	28.590	0.739	12.479	0.334	0.030
	90	0.202	25.35	0.228	0.750	20.000	26.667	31.231	2.577	15.057	0.263	0.019
	100	0.216	32.01	0.245	0.670	18.960	28.299	33.142	2.800	17.856	0.251	0.021
	110	0.205	20.59	0.232	0.610	18.960	31.082	36.402	2.789	20.646	0.257	0.022
	118	0.213	23.81	0.242	0.670	19.830	29.597	34.663	2.142	22.788	0.293	0.024

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-21-96	5	0.028	50.00	0.028	2.380	21.740	9.134	10.698	0.161	0.161	1.778	0.507
	10	0.036	50.97	0.037	2.420	21.910	9.054	10.603	0.206	0.367	1.791	0.542
	15	0.048	46.76	0.049	2.200	20.580	9.355	10.956	0.257	0.624	1.523	0.385
	20	0.063	40.40	0.065	1.780	18.220	10.236	11.988	0.337	0.961	1.234	0.284
	25	0.078	43.10	0.081	1.760	20.000	11.364	13.309	0.344	1.305	0.927	0.204
	30	0.097	41.22	0.103	1.600	19.160	11.975	14.025	0.557	1.861	0.952	0.185
	35	0.108	42.26	0.114	1.760	20.090	11.415	13.369	0.586	2.448	0.873	0.173
	40	0.110	30.65	0.117	1.680	19.780	11.774	13.789	0.618	3.066	0.823	0.147
	45	0.107	24.13	0.114	1.790	20.400	11.397	13.347	0.577	3.643	0.733	0.147
	50	0.103	32.62	0.109	1.760	20.590	11.699	13.701	0.551	4.194	0.764	0.150
	55	0.098	43.92	0.103	1.760	20.880	11.864	13.894	0.579	4.773	0.794	0.139
	60	0.098	43.55	0.103	1.750	20.910	11.949	13.994	0.514	5.288	0.707	0.111
	65	0.100	42.30	0.105	1.690	20.000	11.834	13.860	0.569	5.856	0.669	0.108
	70	0.099	43.76	0.105	1.690	20.150	11.923	13.964	0.554	6.410	0.654	0.096
	75	0.105	40.97	0.111	1.640	19.790	12.067	14.133	0.401	6.811	0.622	0.111
	80	0.270	12.00	0.321	0.530	5.650	10.660	12.485	1.642	8.454	0.639	0.115
	90	0.322	9.89	0.396	0.640	6.370	9.953	11.657	1.898	10.352	0.693	0.088
	100	0.492	10.58	0.690	0.420	5.280	12.571	14.723	7.095	17.447	0.969	0.129
	105	0.223	71.15	0.249	2.270	40.370	17.784	20.828	1.273	18.720	0.198	0.042

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-22-96	5	0.025	47.05	0.025	2.300	21.280	9.252	10.836	0.112	0.112	1.686	0.438
	10	0.041	46.32	0.042	2.210	20.470	9.262	10.848	0.177	0.288	1.738	0.456
	15	0.052	42.55	0.054	2.170	20.060	9.244	10.827	0.261	0.549	1.552	0.473
	20	0.143	19.03	0.156	1.240	13.290	10.718	12.552	0.732	1.281	0.828	0.215
	25	0.117	30.96	0.126	1.260	14.840	11.778	13.794	0.571	1.852	0.684	0.192
	30	0.106	33.38	0.112	1.430	16.240	11.357	13.301	0.512	2.364	0.556	0.151
	35	0.104	34.60	0.111	1.570	17.990	11.459	13.420	0.605	2.969	0.504	0.151
	40	0.124	27.43	0.133	1.160	13.540	11.672	13.670	0.729	3.698	0.454	0.140
	45	0.175	22.54	0.194	1.090	12.880	11.817	13.839	1.047	4.745	0.365	0.099
	50	0.136	29.36	0.147	1.200	14.680	12.233	14.327	0.794	5.539	0.424	0.111
	55	0.203	15.46	0.230	0.570	6.170	10.825	12.677	1.374	6.913	0.477	0.135
	60	0.279	11.18	0.333	0.540	5.240	9.704	11.365	1.187	8.100	0.406	0.096
	65	0.430	1.44	0.578	0.200	0.220	1.100	1.288	4.150	12.250	0.383	0.025
	70	0.420	14.41	0.555	0.390	5.290	13.564	15.886	3.336	15.586	0.208	0.045
	75	0.362	26.10	0.454	0.890	13.040	14.652	17.160	1.928	17.514	0.284	0.069
	80	0.433	24.52	0.572	0.740	10.510	14.203	16.634	2.531	20.045	0.313	0.080
	90	0.353	24.52	0.440	0.780	12.200	15.641	18.318	4.582	24.628	0.287	0.092
	100	0.329	29.77	0.403	0.990	14.800	14.949	17.508	4.425	29.053	0.266	0.090

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-23-96	5	0.065	42.75	0.068	2.100	18.160	8.648	10.128	0.421	0.421	1.629	0.474
	10	0.056	37.79	0.058	1.880	17.820	9.479	11.101	0.340	0.761	1.370	0.493
	15	0.078	32.50	0.082	1.530	16.550	10.817	12.669	0.361	1.121	1.118	0.438
	20	0.089	34.49	0.094	1.450	16.650	11.483	13.448	0.485	1.606	1.034	0.444
	25	0.120	30.64	0.129	1.350	15.180	11.244	13.169	0.766	2.373	1.822	0.938
	30	0.124	34.61	0.133	1.470	16.190	11.014	12.899	0.607	2.980	0.614	0.261
	35	0.107	35.37	0.114	1.450	15.750	10.862	12.721	0.567	3.546	0.592	0.210
	40	0.112	41.47	0.119	1.330	14.430	10.850	12.707	0.659	4.205	0.428	0.014
	45	0.115	39.21	0.122	1.370	15.130	11.044	12.934	0.640	4.845	0.478	0.176
	50	0.105	39.11	0.111	1.660	18.520	11.157	13.066	0.702	5.547	0.490	0.142
	55	0.123	43.91	0.132	1.070	11.820	11.047	12.938	0.436	5.983	0.368	0.120
	60	0.109	6.55	0.117	0.290	2.410	8.310	9.733	0.739	6.722	1.035	0.096
	65	0.793	0.62	1.510					9.181	15.903	0.178	0.014
	70	0.784	2.45	1.474	0.120	0.030	0.250	0.293	10.137	26.039	0.209	0.034

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-24-96	5	0.075	25.35	0.079	1.130	12.240	10.832	12.686	0.392	0.392	1.166	0.588
	10	0.115	30.90	0.123	1.150	13.700	11.913	13.952	0.752	1.144	0.891	0.504
	15	0.124	32.12	0.133	1.180	14.180	12.017	14.074	0.694	1.838	0.534	0.271
	20	0.116	35.87	0.124	1.340	15.780	11.776	13.792	0.633	2.472	0.506	0.127
	25	0.142	33.17	0.154	1.220	14.160	11.607	13.593	0.794	3.266	0.456	0.114
	30	0.114	35.21	0.121	1.350	15.490	11.474	13.438	0.621	3.887	0.452	0.100
	35	0.107	35.94	0.114	1.420	16.500	11.620	13.609	0.640	4.527	0.447	0.091
	40	0.112	35.55	0.119	1.400	16.520	11.800	13.820	0.598	5.126	0.459	0.089
	45	0.112	35.43	0.119	1.380	16.640	12.058	14.122	0.635	5.760	0.454	0.085
	50	0.112	35.11	0.119	1.410	16.770	11.894	13.930	0.626	6.386	0.483	0.089
	55	0.132	30.39	0.143	1.180	13.460	11.407	13.359	0.777	7.164	0.463	0.087
	60	0.390	7.10	0.507	0.400	3.900	9.750	11.419	2.514	9.678	0.227	0.093
	65	0.690	1.85	1.174	0.160	0.260	1.625	1.903	6.560	16.238	0.108	0.023
	70	0.535	13.38	0.776	0.490	6.660	13.592	15.918	4.160	20.398	0.438	0.059
	75	0.460	47.86	0.604	0.510	7.490	14.686	17.200	3.409	23.807	0.255	0.094
	80	0.458	20.04	0.619	0.560	7.640	13.643	15.978	3.216	27.023	0.252	0.081
	90	0.512	16.44	0.725	0.510	6.750	13.235	15.501	6.434	33.458	0.248	0.087

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-25-96	5	0.012	46.42	0.012	2.160	19.550	9.051	10.600	0.069	0.069	1.578	0.449
	10	0.032	44.23	0.032	2.110	19.010	9.009	10.552	0.179	0.248	1.535	0.448
	15	0.062	35.54	0.064	1.760	16.380	9.307	10.900	0.388	0.636	1.228	0.344
	20	0.126	18.40	0.136	0.930	8.730	9.387	10.994	0.765	1.401	0.792	0.227
	25	0.231	16.11	0.267	0.750	8.070	10.760	12.602	1.666	3.067	0.499	0.159
	30	0.156	24.18	0.172	1.050	11.880	11.314	13.251	0.888	3.955	0.511	0.157
	35	0.110	36.97	0.117	1.510	17.260	11.430	13.387	0.656	4.611	0.558	0.156
	40	0.149	27.04	0.162	1.140	12.870	11.289	13.222	0.835	5.446	0.435	0.115
	45	0.329	5.37	0.408	0.320	2.950	9.219	10.797	1.965	7.411	0.170	0.044
	50	0.472	5.98	0.655	0.170	1.030	6.059	7.096	3.557	10.968	0.350	0.079
	55	0.643	7.84	1.034	0.160	0.070	0.438	0.512	3.509	14.477	0.557	0.157

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-26-96	5	0.011	36.58	0.011	1.790	15.970	8.922	10.449	0.050	0.050	1.339	0.474
	10	0.083	24.48	0.087	1.290	11.810	9.155	10.722	0.521	0.571	1.058	0.280
	15	0.117	16.81	0.125	0.890	7.910	8.888	10.409	0.637	1.208	0.680	0.208
	20	0.408	3.66	0.538	0.240	1.760	7.333	8.589	2.953	4.160	0.251	0.050
	25	0.631	3.44	1.010	0.170	4.300	25.294	29.624	5.683	9.843	0.478	0.088
	30	0.384	18.21	0.492	0.480	13.870	28.896	33.842	2.752	12.596	0.503	0.148
	35	0.170	61.60	0.186	1.900	38.950	20.500	24.009	0.893	13.488	0.141	0.074
	40	0.139	85.11	0.148	2.450	46.920	19.151	22.429	0.843	14.331	0.095	0.064
	45	0.138	86.32	0.146	2.700	48.840	18.089	21.185	0.749	15.080	0.078	0.046

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-27-96	5	0.034	37.10	0.035	1.660	15.240	9.181	10.752	0.177	0.177	1.395	0.345
	10	0.073	28.41	0.076	1.390	13.930	10.022	11.737	0.415	0.591	1.088	0.241
	15	0.112	23.82	0.120	1.050	11.310	10.771	12.615	0.669	1.261	0.605	0.157
	20	0.113	30.93	0.120	1.240	14.980	12.081	14.149	0.627	1.888	0.522	0.139
	25	0.134	29.55	0.145	1.210	15.370	12.702	14.877	0.774	2.662	0.430	0.091
	30	0.360	9.75	0.456	0.440	6.720	15.273	17.887	2.529	5.191	0.508	0.071
	35	0.260	36.04	0.303	1.450	26.680	18.400	21.550	1.453	6.645	0.303	0.056
	40	0.149	81.04	0.159	2.470	45.800	18.543	21.717	0.920	7.564	0.095	0.046

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-28-96	5	0.015	42.48	0.015	1.960	18.740	9.561	11.198	0.095	0.095	1.331	0.359
	10	0.066	20.57	0.069	1.280	11.660	9.109	10.669	0.445	0.539	1.024	0.281
	15	0.259	6.62	0.305	0.440	3.780	8.591	10.061	1.955	2.494	0.832	0.102
	20	0.500	6.52	0.710	0.180	5.100	28.333	33.183	3.308	5.802	1.184	0.096
	25	0.249	20.99	0.290	0.510	16.840	33.020	38.672	1.448	7.249	0.486	0.089
	30	0.223	22.22	0.255	0.520	16.750	32.212	37.725	1.243	8.493	0.402	0.080

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-29-96	5	0.033	51.13	0.033	2.340	21.710	9.278	10.866	0.182	0.182	1.591	0.431
	10	0.061	43.77	0.063	2.100	19.750	9.405	11.015	0.330	0.512	1.544	0.413
	15	0.093	36.36	0.098	1.680	16.940	10.083	11.809	0.489	1.001	1.325	0.330
	20	0.095	37.02	0.100	1.600	16.480	10.300	12.063	0.480	1.481	1.259	0.360
	25	0.110	37.30	0.117	1.580	16.470	10.424	12.208	0.665	2.147	1.307	0.340
	30	0.108	35.71	0.115	1.470	16.070	10.932	12.803	0.569	2.716	1.242	0.266
	35	0.139	32.35	0.151	1.320	14.950	11.326	13.264	0.760	3.476	1.254	0.322
	40	0.117	36.57	0.125	1.460	16.710	11.445	13.404	0.638	4.114	0.769	0.196
	45	0.130	33.80	0.140	1.260	15.130	12.008	14.063	0.753	4.868	0.698	0.210
	50	0.193	19.85	0.217	0.760	9.200	12.105	14.177	1.203	6.071	0.620	0.126
	55	0.168	21.57	0.186	1.130	13.680	12.106	14.178	0.969	7.040	0.722	0.129
	60	0.145	25.50	0.158	1.060	12.450	11.745	13.756	0.732	7.772	0.734	0.143
	65	0.264	16.26	0.311	0.660	10.250	15.530	18.189	1.656	9.429	0.830	0.139
	70	0.274	19.21	0.325	0.670	16.830	25.119	29.419	1.813	11.242	0.546	0.085
	75	0.202	24.94	0.228	0.700	18.270	26.100	30.568	1.114	12.356	0.487	0.094
	80	0.219	25.42	0.249	0.670	18.010	26.881	31.482	1.315	13.671	0.495	0.093
	90	0.218	25.05	0.249	0.700	20.360	29.086	34.064	2.492	16.163	0.380	0.078
	100	0.271	22.20	0.320	0.700	18.390	26.271	30.768	3.114	19.277	0.333	0.057

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-30-96	5	0.030	48.09	0.030	2.220	21.090	9.500	11.126	0.129	0.129	1.435	0.414
	10	0.062	45.14	0.064	2.090	20.630	9.871	11.560	0.352	0.481	1.299	0.367
	15	0.062	44.51	0.064	2.020	19.920	9.861	11.549	0.317	0.797	0.938	0.324
	20	0.079	38.46	0.082	1.680	18.260	10.869	12.730	0.460	1.257	1.078	0.284
	25	0.092	37.39	0.097	1.480	17.220	11.635	13.627	0.614	1.871	0.894	0.242
	30	0.165	33.17	0.182	1.230	17.160	13.951	16.339	0.974	2.845	1.217	0.176
	35	0.153	33.59	0.167	1.220	17.470	14.320	16.771	0.800	3.645	1.275	0.203
	40	0.162	39.64	0.178	1.500	22.220	14.813	17.349	0.931	4.576	3.438	0.480
	45	0.107	49.24	0.113	1.690	27.800	16.450	19.265	0.592	5.168	0.966	0.170
	50	0.224	20.27	0.257	0.850	18.950	22.294	26.110	1.417	6.585	0.678	0.111
	55	0.257	98.05	0.285	0.510	16.280	31.922	37.386	1.524	8.109	0.576	0.143
	60	0.240	20.36	0.278	0.930	21.440	23.054	27.000	1.438	9.547	0.652	0.103
	65	0.218	24.00	0.248	1.010	22.680	22.455	26.299	1.354	10.901	0.569	0.095
	70	0.173	37.74	0.191	1.450	29.270	20.186	23.642	0.958	11.859	0.592	0.113
	75	0.187	33.33	0.208	1.240	25.550	20.605	24.132	1.119	12.978	0.579	0.097
	80	0.226	24.25	0.259	0.840	20.090	23.917	28.011	1.346	14.324	0.324	0.075
	90	0.200	77.59	0.219	0.830	20.440	24.627	28.842	2.374	16.698	0.282	0.058
	100	0.218	19.57	0.248	0.710	18.850	26.549	31.094	2.642	19.341	0.292	0.063
	110	0.212	21.28	0.241	0.690	19.070	27.638	32.369	2.589	21.930	0.252	0.049

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-31-96	5	0.022	43.54	0.022	2.030	18.330	9.030	10.575	0.113	0.113	1.370	0.411
	10	0.047	36.65	0.048	1.990	17.840	8.965	10.499	0.282	0.395	1.339	0.405
	15	0.088	25.74	0.092	1.280	12.460	9.734	11.401	0.480	0.875	0.941	0.258
	20	0.254	26.58	0.297	1.240	12.800	10.323	12.090	1.343	2.218	0.945	0.238
	25	0.107	29.41	0.113	1.270	13.760	10.835	12.689	0.609	2.827	0.959	0.230
	30	0.129	29.42	0.139	1.160	13.210	11.388	13.337	0.730	3.557	0.850	0.224
	35	0.138	29.56	0.149	1.120	12.970	11.580	13.563	0.770	4.328	0.671	0.185
	40	0.163	23.96	0.180	0.640	11.020	17.219	20.166	0.991	5.318	0.498	0.114
	45	0.235	16.47	0.272	0.750	8.470	11.293	13.226	1.444	6.763	0.336	0.088
	50	0.144	28.98	0.156	1.170	14.200	12.137	14.214	0.827	7.589	0.427	0.107
	55	0.291	11.45	0.351	0.510	4.710	9.235	10.816	1.709	9.298	0.509	0.072
	60	0.574	2.41	0.873	0.170				5.094	14.392	0.211	0.030
	65	0.721	3.51	1.262	0.170	0.030	0.176	0.207	6.849	21.241	1.611	0.055

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-32-96	5	0.035	45.47	0.036	2.150	19.250	8.953	10.486	0.217	0.217	1.592	0.451
	10	0.055	40.26	0.057	2.060	18.720	9.087	10.643	0.430	0.647	1.399	0.392
	15	0.077	35.19	0.080	1.620	15.700	9.691	11.350	0.479	1.127	1.106	0.299
	20	0.086	33.42	0.090	1.530	15.460	10.105	11.834	0.553	1.679	1.073	0.308
	25	0.085	34.15	0.089	1.450	15.400	10.621	12.439	0.633	2.312	1.039	0.281
	30	0.099	34.34	0.104	1.410	15.500	10.993	12.875	0.649	2.961	1.062	0.277
	35	0.121	32.07	0.130	1.260	14.300	11.349	13.292	0.799	3.760	0.878	0.218
	40	0.116	28.25	0.123	1.210	14.030	11.595	13.580	0.832	4.592	0.530	0.120
	45	0.129	34.08	0.138	1.240	15.100	12.177	14.262	0.990	5.582	0.459	0.103
	50	0.154	28.14	0.168	1.010	12.850	12.723	14.901	1.310	6.892	0.553	0.134
	55	0.155	25.51	0.170	0.940	10.980	11.681	13.680	1.160	8.052	0.471	0.087
	60	0.223	48.00	0.252	1.270	15.700	12.362	14.478	1.014	9.065	0.399	0.073
	65	0.177	17.02	0.197	0.970	11.380	11.732	13.740	0.734	9.800	0.419	0.086

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-33-96	5	0.039	41.22	0.040	2.030	18.400	9.064	10.616	0.206	0.206	1.272	0.388
	10	0.061	35.37	0.063	1.620	15.970	9.858	11.545	0.342	0.548	1.115	0.304
	15	0.080	34.16	0.084	1.570	15.620	9.949	11.652	0.440	0.988	1.043	0.254
	20	0.086	35.57	0.090	1.530	15.440	10.092	11.819	0.457	1.445	1.102	0.277
	25	0.091	35.76	0.095	1.560	15.880	10.179	11.922	0.488	1.934	1.087	0.307
	30	0.097	34.83	0.102	1.420	14.590	10.275	12.033	0.527	2.460	1.100	0.276
	35	0.100	36.06	0.106	1.420	15.160	10.676	12.504	0.582	3.042	1.032	0.268
	40	0.108	34.79	0.115	1.380	14.540	10.536	12.340	0.571	3.613	1.000	0.264
	45	0.108	27.84	0.149	1.180	12.860	10.898	12.764	0.834	4.447	1.046	0.249
	50	0.108	29.58	0.124	1.120	12.890	11.509	13.479	0.655	5.102	0.499	0.118
	55	0.118	75.44	0.125	2.460	42.930	17.451	20.438	0.653	5.755	0.101	0.036
	60	0.301	9.79	0.365	0.430	3.130	7.279	8.525	1.824	7.579	0.529	0.098
	65	0.467	5.27	0.646	0.360	3.190	8.861	10.378	3.584	11.164	0.363	0.084
	70	0.516	9.75	0.740	0.520	7.370	14.173	16.599	4.247	15.410	1.694	0.129
	75	0.299	68.25	0.348	2.430	41.530	17.091	20.016	1.500	16.910	0.154	0.055
	80	0.195	35.60	0.219	1.450	16.360	11.283	13.214	1.192	18.102	0.527	0.097

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-34-96	5	0.214	11.80	0.244	0.600	4.380	7.300	8.550	1.581	1.581	0.779	0.220
	10	0.509	9.81	0.724	0.200	0.900	4.500	5.270	3.284	4.865	0.429	0.092
	15	0.696	10.15	1.173	0.110				3.737	8.602	0.368	0.067

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-35-96	5	0.029	46.41	0.030	2.120	19.040	8.981	10.518	0.195	0.195	1.462	0.456
	10	0.059	45.38	0.061	2.090	18.880	9.033	10.580	0.354	0.549	1.440	0.402
	15	0.068	43.54	0.071	1.920	17.550	9.141	10.705	0.371	0.919	1.281	0.448
	20	0.065	43.49	0.068	1.920	17.300	9.010	10.553	0.354	1.274	1.205	0.397
	25	0.079	40.65	0.083	1.730	16.090	9.301	10.893	0.413	1.687	1.145	0.358
	30	0.088	37.20	0.092	1.620	15.250	9.414	11.025	0.480	2.167	1.091	0.324
	35	0.096	35.78	0.102	1.490	14.390	9.658	11.311	0.522	2.689	0.998	0.289
	40	0.114	29.54	0.122	1.230	11.950	9.715	11.378	0.697	3.386	0.887	0.271
	45	0.179	17.77	0.199	0.690	7.340	10.638	12.459	1.110	4.496	0.644	0.157
	50	0.225	12.33	0.259	0.510	6.210	12.176	14.261	1.248	5.745	0.534	0.112
	55	0.333	8.77	0.414	0.430	3.900	9.070	10.622	2.336	8.081	0.880	0.086
	60	0.320	25.31	0.390	1.090	21.610	19.826	23.219	2.229	10.310	0.453	0.092
	65	0.228	61.09	0.256	2.080	39.470	18.976	22.224	1.366	11.676	0.137	0.070
	70	0.202	67.31	0.223	2.100	38.610	18.386	21.533	0.689	12.365	0.106	0.041

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-36-96	5	0.044	34.88	0.045	1.640	14.990	9.140	10.705	0.202	0.202	1.061	0.225
	10	0.090	33.42	0.095	1.600	15.390	9.619	11.265	0.525	0.727	1.002	0.271
	15	0.084	35.31	0.088	1.690	15.820	9.361	10.963	0.485	1.212	1.058	0.308
	20	0.158	19.75	0.174	0.870	8.600	9.885	11.577	0.863	2.074	0.691	0.171
	25	0.165	21.35	0.182	0.890	9.170	10.303	12.067	0.955	3.029	0.710	0.188
	30	0.162	25.84	0.178	1.020	11.160	10.941	12.814	0.887	3.917	0.822	0.205
	35	0.168	19.26	0.186	0.790	8.870	11.228	13.150	0.972	4.888	0.723	0.173
	40	0.195	14.60	0.220	0.540	6.160	11.407	13.360	1.083	5.971	0.659	0.140
	45	0.216	20.29	0.246	0.730	10.710	14.671	17.183	1.391	7.363	0.604	0.157
	50	0.268	16.46	0.317	0.670	7.570	11.299	13.233	1.660	9.023	0.596	0.133
	55	0.298	11.59	0.360	0.590	6.810	11.542	13.518	1.839	10.862	0.652	0.107
	60	0.334	14.33	0.415	0.470	8.330	17.723	20.757	2.302	13.164	0.497	0.081
	65	0.310	21.51	0.376	0.620	13.920	22.452	26.295	2.089	15.254	0.419	0.064
	70	0.380	16.59	0.486	0.550	13.580	24.691	28.917	2.578	17.831	0.370	0.053
	75	0.443	13.62	0.597	0.460	12.080	26.261	30.756	3.429	21.260	0.286	0.046
	80	0.475	11.08	0.656	0.380	12.070	31.763	37.200	3.472	24.732	0.205	0.060
	90	0.496	9.24	0.699	0.340	10.580	31.118	36.444	7.158	31.890	0.187	0.067
	100	0.482	9.36	0.672	0.370	7.960	21.514	25.196	7.137	39.028	0.207	0.067
	110	0.454	13.56	0.616	0.500	9.450	18.900	22.135	5.830	44.857	0.271	0.056

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-37-96	5	0.046	40.12	0.048	1.850	15.820	8.551	10.015	0.262	0.262		
	10	0.071	36.38	0.074	1.640	16.530	10.079	11.805	0.345	0.607	1.126	0.215
	15	0.085	33.43	0.090	1.490	15.700	10.537	12.341	0.446	1.053	0.109	0.208
	20	0.095	33.88	0.100	1.480	15.650	10.574	12.384	0.551	1.604	1.246	0.237
	25	0.102	35.46	0.108	1.390	14.760	10.619	12.436	0.580	2.184	1.127	0.259
	30	0.110	34.65	0.117	1.420	15.670	11.035	12.924	0.595	2.779	1.461	0.382
	35	0.115	36.23	0.123	1.390	16.030	11.532	13.506	0.632	3.411	1.056	0.255
	40	0.119	35.23	0.127	1.360	15.780	11.603	13.589	0.671	4.082	1.022	0.244
	45	0.146	29.31	0.159	1.170	14.360	12.274	14.374	0.730	4.813	0.987	0.199
	50	0.133	29.31	0.144	1.340	15.500	11.567	13.547	0.760	5.573	0.883	0.174
	55	0.265	15.28	0.313	0.640	8.200	12.813	15.006	1.635	7.208	1.706	0.231
	60	0.381	8.75	0.491	0.370	9.070	24.514	28.710	2.874	10.082	1.876	0.177
	65	0.344	22.70	0.427	0.830	18.090	21.795	25.526	2.225	12.307	0.686	0.157
	70	0.197	63.97	0.218	2.230	38.950	17.466	20.456	1.159	13.466	0.421	0.139
	75	0.172	74.82	0.186	2.500	41.240	16.496	19.320	0.972	14.438	0.231	0.124
	80	0.154	85.76	0.165	3.010	46.130	15.326	17.949	0.764	15.202	0.110	0.075
	85	0.156	85.75	0.167	3.030	47.220	15.584	18.252	0.614	15.816	0.092	0.054

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-38-96	5	0.017	50.92	0.017	2.260	21.080	9.327	10.924	0.098	0.098	1.536	0.290
	10	0.038	49.50	0.039	2.270	21.400	9.427	11.041	0.198	0.296	0.846	0.317
	15	0.054	46.95	0.056	2.160	20.620	9.546	11.180	0.290	0.586	2.025	0.798
	20	0.062	45.73	0.065	2.100	20.090	9.567	11.204	0.325	0.911	2.162	0.558
	25	0.073	43.33	0.075	1.880	18.900	10.053	11.774	0.386	1.298	1.372	0.272
	30	0.092	35.80	0.097	1.460	16.020	10.973	12.851	0.543	1.841	1.234	0.286
	35	0.102	35.69	0.108	1.480	16.460	11.122	13.025	0.554	2.395	1.225	0.293
	40	0.125	30.50	0.134	1.190	14.360	12.067	14.133	0.747	3.142	2.144	0.579
	45	0.149	26.69	0.163	1.010	16.930	16.762	19.632	0.814	3.956	0.668	0.164
	50	0.229	26.28	0.263	0.740	19.190	25.932	30.371	1.301	5.257	0.384	0.088
	55	0.240	18.43	0.278	0.640	18.060	28.219	33.049	1.503	6.760	0.407	0.097
	60	0.213	18.41	0.243	0.630	18.010	28.587	33.481	1.274	8.033	0.420	0.088
	65	0.223	18.39	0.256	0.640	18.140	28.344	33.195	1.405	9.439	0.358	0.073
	70	0.225	18.99	0.258	0.570	17.670	31.000	36.306	1.373	10.812	0.350	0.075
	75	0.238	18.14	0.275	0.590	17.940	30.407	35.612	1.519	12.331	0.356	0.066
	80	0.257	18.82	0.302	0.590	17.730	30.051	35.195	1.579	13.909	0.315	0.048
	90	0.260	24.43	0.305	0.690	19.580	28.377	33.234	3.361	17.270	0.339	0.038
	100	0.236	24.41	0.272	0.660	18.390	27.864	32.633	2.701	19.971	0.251	0.035
	110	0.258	26.78	0.301	0.580	16.820	29.000	33.964	2.799	22.770	0.240	0.035

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-39-96	5	0.029	41.88	0.030	2.070	18.660	9.014	10.558	0.159	0.159	1.420	0.313
	10	0.043	40.52	0.044	1.990	18.120	9.106	10.664	0.211	0.371	1.153	0.294
	15	0.075	44.59	0.078	1.890	25.710	13.603	15.932	0.408	0.778	0.820	0.173
	20	0.077	33.36	0.080	1.550	16.050	10.355	12.127	0.386	1.164	1.048	0.207
	25	0.126	29.16	0.135	1.280	16.650	13.008	15.234	0.708	1.872	0.766	0.157
	30	0.104	28.32	0.111	1.270	13.520	10.646	12.468	0.546	2.419	0.923	0.152
	35	0.118	28.20	0.126	1.160	12.990	11.198	13.115	0.676	3.095	0.890	0.176
	40	0.167	20.86	0.185	0.900	10.790	11.989	14.041	0.972	4.067	0.554	0.135
	45	0.156	22.52	0.171	1.070	12.760	11.925	13.967	0.950	5.017	0.522	0.130
	50	0.146	25.88	0.159	1.120	13.430	11.991	14.044	0.870	5.887	0.479	0.106
	55	0.136	32.53	0.147	1.360	15.770	11.596	13.580	0.717	6.604	0.484	0.091
	60	0.173	23.16	0.191	0.870	9.430	10.839	12.694	0.955	7.560	0.485	0.099
	65	0.199	17.71	0.225	0.950	10.440	10.989	12.871	1.146	8.706	0.479	0.092
	70	0.368	7.58	0.470	0.520	5.180	9.962	11.667	2.512	11.218	0.340	0.090
	75	0.533	6.82	0.777	0.330	6.670	20.212	23.672	4.482	15.700	0.459	0.080
	80	0.502	8.58	0.712	0.360	10.450	29.028	33.997	3.791	19.491	0.501	0.100
	90	0.357	24.24	0.446	1.110	23.060	20.775	24.331	4.768	24.259	0.671	0.216
	100	0.655	6.69	1.067	0.360	4.080	11.333	13.273	10.459	34.718	0.088	0.046
	110	0.779	2.71	1.454	0.190	0.650	3.421	4.007	12.798	47.516	0.092	0.039

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-40-96	5	0.032	41.73	0.033	2.070	18.320	8.850	10.365	0.174	0.174	1.447	0.323
	10	0.053	40.58	0.054	2.050	18.240	8.898	10.421	0.293	0.467	1.378	0.366
	15	0.058	37.08	0.060	1.810	16.900	9.337	10.935	0.305	0.772	1.173	0.287
	20	0.080	32.16	0.084	1.470	14.580	9.918	11.616	0.435	1.208	0.993	0.234
	25	0.094	28.86	0.099	1.360	13.650	10.037	11.755	0.505	1.712	0.928	0.232
	30	0.111	28.19	0.118	1.220	12.800	10.492	12.288	0.637	2.349	0.896	0.164
	35	0.143	22.80	0.155	0.980	10.750	10.969	12.847	0.818	3.167	0.719	0.179
	40	0.160	21.76	0.176	0.990	11.040	11.152	13.060	0.876	4.043	0.512	0.127
	45	0.200	17.99	0.225	0.840	9.620	11.452	13.413	1.163	5.206	0.388	0.082
	50	0.149	26.46	0.162	1.080	12.800	11.852	13.881	0.864	6.070	0.461	0.112
	55	0.303	7.65	0.369	0.400	2.990	7.475	8.755	2.091	8.161	0.335	0.082
	60	0.425	5.21	0.568	0.270	2.630	9.741	11.408	2.972	11.132	0.530	0.071
	65	0.319	8.51	0.393	0.500	5.750	11.500	13.469	1.960	13.092	0.382	0.089
	70	0.368	12.32	0.468	0.420	12.270	29.214	34.215	2.586	15.678	0.401	0.094
	75	0.432	10.67	0.578	0.420	13.170	31.357	36.725	2.992	18.670	0.420	0.092
	80	0.491	7.38	0.690	0.300	12.220	40.733	47.706	3.794	22.464	0.403	0.093
	90	0.500	7.99	0.709	0.290	11.550	39.828	46.645	7.544	30.008	0.384	0.096
	100	0.508	7.53	0.724	0.320	11.070	34.594	40.515	8.184	38.193	0.383	0.090
	110	0.476	7.65	0.661	0.270	11.800	43.704	51.185	6.937	45.130	0.336	0.099
	120	0.271	47.75	0.315	1.400	25.250	18.036	21.123	3.031	48.161	0.402	0.200

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-41-96	5	0.609	1.21	0.958	0.080	0.310	3.875	4.538	4.049	4.049	0.092	0.02
	10	0.758	1.12	1.386	0.060	0.110	1.833	2.147	7.625	11.674	0.082	0.031
	15	0.702	4.93	1.202	0.100	0.150	1.500	1.757	7.794	19.468	0.218	0.061

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-42-96	5	0.046	40.84	0.047	1.930	17.660	9.150	10.717	0.238	0.238	1.260	0.229
	10	0.088	37.28	0.093	1.790	16.940	9.464	11.084	0.449	0.687	1.119	0.232
	15	0.083	35.20	0.087	1.530	14.600	9.542	11.176	0.396	1.083	1.012	0.197
	20	0.094	33.28	0.099	1.480	14.460	9.770	11.443	0.475	1.558	1.016	0.225
	25	0.115	29.41	0.123	1.320	13.330	10.098	11.827	0.677	2.235	1.463	0.261
	30	0.143	30.82	0.155	1.220	13.750	11.270	13.200	0.792	3.027	0.968	0.243
	35	0.173	29.60	0.191	1.210	13.820	11.421	13.377	0.983	4.010	0.652	0.159
	40	0.151	31.33	0.164	1.260	14.510	11.516	13.487	0.856	4.866	0.594	0.143
	45	0.129	35.53	0.139	1.260	14.480	11.492	13.459	0.736	5.602	0.559	0.147
	50	0.125	33.07	0.135	1.290	14.990	11.620	13.609	0.693	6.295	0.474	0.128
	55	0.159	28.75	0.174	1.270	13.960	10.992	12.874	0.921	7.216	0.512	0.154
	60	0.197	22.17	0.222	0.850	10.510	12.365	14.481	1.150	8.366	0.782	0.114
	65	0.252	15.43	0.295	0.610	7.960	13.049	15.283	1.613	9.979	1.500	0.112
	70	0.354	14.41	0.444	0.510	13.120	25.725	30.129	2.276	12.255	0.470	0.120
	75	0.414	10.66	0.546	0.370	13.150	35.541	41.624	3.055	15.310	0.445	0.119
	80	0.418	10.43	0.553	0.390	12.930	33.154	38.829	2.962	18.272	0.442	0.117
	90	0.425	12.17	0.564	0.370	13.140	35.514	41.593	5.396	23.669	0.405	0.091
	100	0.294	33.84	0.350	0.950	24.050	25.316	29.649	3.288	26.957	0.326	0.115
	110	0.187	59.97	0.206	1.700	33.800	19.882	23.286	2.011	28.968	0.199	0.078
	120	0.113	82.31	0.119	2.750	48.210	17.531	20.532	1.265	30.233	0.075	0.042
	125	0.156	84.43	0.167	2.790	47.140	16.896	19.788	0.849	31.082	0.070	0.027

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-43-96	5	0.053	39.03	0.054	1.790	16.770	9.369	10.972	0.236	0.236	1.136	0.325
	10	0.066	37.62	0.069	1.830	17.010	9.295	10.886	0.328	0.564	1.139	0.283
	15	0.072	37.41	0.075	1.750	16.710	9.549	11.183	0.378	0.942	1.123	0.275
	20	0.089	64.58	0.093	1.560	15.410	9.878	11.569	0.493	1.435	0.984	0.285
	25	0.115	29.38	0.123	1.270	13.270	10.449	12.237	0.646	2.080	0.883	0.260
	30	0.112	32.55	0.119	1.320	14.770	11.189	13.105	0.603	2.683	0.935	0.278
	35	0.176	31.89	0.194	1.210	14.230	11.760	13.773	1.112	3.795	0.707	0.219
	40	0.129	31.33	0.139	1.250	14.930	11.944	13.989	0.697	4.492	0.548	0.166
	45	0.124	32.13	0.134	1.250	15.050	12.040	14.101	0.710	5.203	0.534	0.159
	50	0.155	30.47	0.170	1.170	14.390	12.299	14.404	0.911	6.114	0.580	0.144
	55	0.214	27.93	0.243	1.150	14.470	12.583	14.736	1.305	7.419	0.969	0.147
	60	0.141	34.61	0.153	1.270	15.560	12.252	14.349	0.793	8.212	0.580	0.134
	65	0.277	14.58	0.330	0.600	7.210	12.017	14.074	1.765	9.976	2.409	0.165
	70	0.284	16.83	0.340	0.700	9.880	14.114	16.530	1.848	11.824	2.654	0.239
	75	0.261	17.65	0.307	0.760	10.670	14.039	16.443	1.611	13.435	2.054	0.172
	80	0.332	16.16	0.411	0.610	12.950	21.230	24.863	2.263	15.699	1.241	0.141
	90	0.546	9.02	0.803	0.300	11.400	38.000	44.505	8.651	24.350	1.436	0.112
	100	0.404	22.55	0.524	0.650	17.590	27.062	31.694	5.311	29.661	0.500	0.170
	110	0.202	79.73	0.222	2.250	45.410	20.182	23.637	2.215	31.876	0.113	0.121

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-44-96	5	0.036	43.76	0.036	2.070	18.850	9.106	10.665	0.201	0.201	1.431	0.410
	10	0.053	41.76	0.054	2.070	18.920	9.140	10.705	0.295	0.497	1.395	0.393
	15	0.079	38.27	0.082	1.800	16.980	9.433	11.048	0.418	0.914	1.104	0.292
	20	0.088	33.37	0.093	1.440	14.970	10.396	12.175	0.517	1.431	0.954	0.226
	25	0.145	29.56	0.158	1.140	13.190	11.570	13.551	0.709	2.140	0.829	0.244
	30	0.132	32.29	0.142	1.220	14.340	11.754	13.766	0.780	2.920	0.847	0.260
	35	0.141	32.77	0.153	1.160	14.190	12.233	14.327	0.702	3.622	0.764	0.226
	40	0.133	30.91	0.144	1.160	14.230	12.267	14.367	0.608	4.230	0.520	0.130
	45	0.122	33.78	0.131	1.300	15.680	12.062	14.126	0.673	4.903	0.549	0.136
	50	0.217	22.57	0.247	0.770	9.880	12.831	15.028	1.227	6.130	0.577	0.129
	55	0.231	18.31	0.266	0.820	10.580	12.902	15.111	1.474	7.605	2.115	0.729
	60	0.228	18.51	0.262	0.760	9.260	12.184	14.270	1.432	9.037	3.169	0.772
	65	0.321	12.29	0.394	0.540	6.370	11.796	13.816	1.972	11.009	1.119	0.161

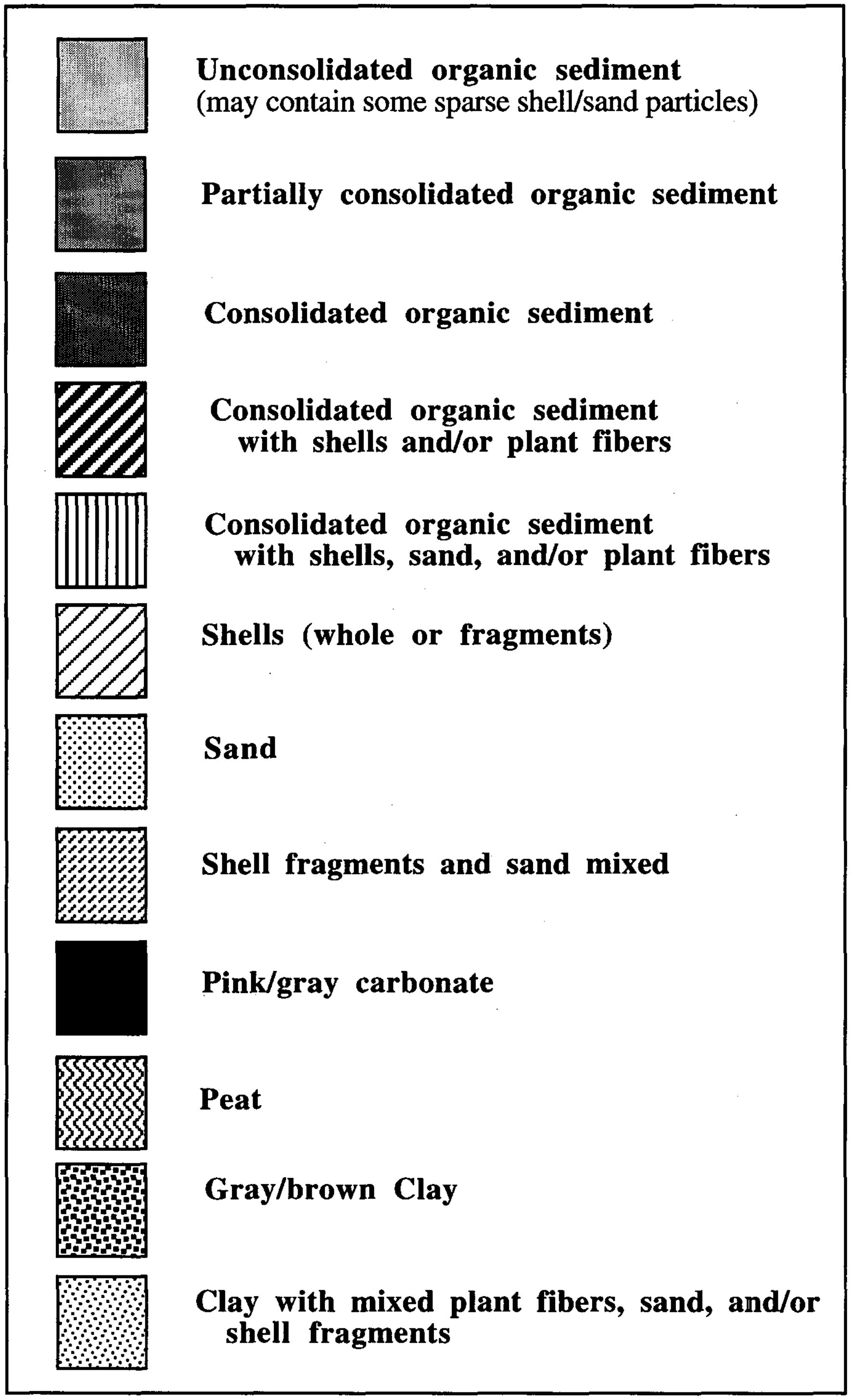
Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-45-96	5	0.050	36.07	0.052	1.820	16.680	9.165	10.734	0.269	0.269	1.259	0.369
	10	0.071	36.32	0.073	1.790	16.550	9.246	10.828	0.379	0.649	1.147	0.317
	15	0.122	29.53	0.131	1.280	13.720	10.719	12.554	1.018	1.666	2.189	0.377
	20	0.173	29.55	0.191	1.140	13.300	11.667	13.664	0.962	2.629	0.899	0.262
	25	0.176	31.38	0.195	1.180	13.780	11.678	13.677	1.079	3.708	0.681	0.239
	30		31.41		1.120	13.450	12.009	14.065	1.075	4.784	0.525	0.158
	35	0.157	31.24	0.172	1.230	14.350	11.667	13.664	0.935	5.718	0.477	0.144
	40	0.155	31.33	0.170	1.240	14.430	11.637	13.629	0.936	6.654	0.490	0.134
	45	0.151	32.44	0.165	1.250	14.650	11.720	13.726	0.841	7.495	0.464	0.121
	50	0.195	26.96	0.218	1.100	12.880	11.709	13.713	1.296	8.791	0.517	0.125
	55	0.217	26.21	0.247	1.140	13.200	11.579	13.561	1.446	10.237	0.472	0.119
	60	0.186	33.66	0.206	1.200	15.010	12.508	14.649	1.235	11.473	0.510	0.161
	65	0.172	32.97	0.189	1.260	15.870	12.595	14.751	0.975	12.447	0.520	0.114
	70	0.190	23.15	0.213	0.960	11.930	12.427	14.554	1.197	13.645	0.609	0.105
	75	0.361	11.92	0.456	0.440	11.080	25.182	29.492	2.723	16.368	1.041	0.142
	80	0.618	5.89	0.973	0.270	11.250	41.667	48.799	6.217	22.585	0.467	0.130
	90	0.568	4.24	0.857	0.200	12.460	62.300	72.964	9.223	31.808	0.467	0.135
	100	0.443	8.57	0.599	0.360	14.440	40.111	46.977	5.746	37.554	0.429	0.129
	110	0.001	61.84	0.180	1.880	37.510	19.952	23.367	1.627	39.181	0.175	0.071
	115	0.144	74.37	0.155	2.200	42.800	19.455	22.785	0.956	40.138	0.111	0.045

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-46-96	5	0.050	37.40	0.052	1.690	16.190	9.580	11.220	0.180	0.180	0.985	0.273
	10	0.104	34.18	0.110	1.530	14.810	9.680	11.337	0.454	0.634	0.955	0.256
	15	0.093	36.21	0.098	1.650	15.710	9.521	11.151	0.514	1.149	1.028	0.312
	20	0.134	26.35	0.145	1.100	11.540	10.491	12.287	0.666	1.815	0.812	0.238
	25	0.153	24.01	0.168	0.950	10.420	10.968	12.846	0.534	2.349	0.679	0.220
	30	0.152	23.87	0.166	1.010	10.270	10.168	11.909	0.467	2.816	0.721	0.209
	35	0.190	23.91	0.213	0.900	10.590	11.767	13.781	0.999	3.814	0.604	0.182
	40	0.281	19.34	0.335	0.680	8.130	11.956	14.002	1.937	5.751	0.452	0.133
	45	0.285	14.90	0.341	0.590	6.970	11.814	13.836	1.578	7.329	0.376	0.091
	50	0.278	16.03	0.331	0.620	7.130	11.500	13.469	1.638	8.967	0.351	0.087
	55	0.168	32.32	0.185	1.170	14.590	12.470	14.605	1.005	9.972	0.535	0.117
	60	0.203	23.38	0.229	0.880	11.570	13.148	15.398	1.215	11.187	0.578	0.148
	65	0.417	8.29	0.552	0.350	3.240	9.257	10.842	3.114	14.301	0.321	0.091
	70	0.530	5.60	0.771	0.330	2.570	7.788	9.121	4.003	18.304	0.372	0.113
	75	0.323	16.27	0.397	0.730	11.150	15.274	17.888	2.030	20.333	0.613	0.098
	80	0.318	16.07	0.389	0.470	9.210	19.596	22.950	2.130	22.463	0.485	0.071
	90	0.266	23.29	0.313	0.610	16.970	27.820	32.582	3.055	25.519	0.282	0.077
	100	0.306	18.03	0.371	0.570	16.840	29.544	34.601	3.926	29.445	0.301	0.073
	110	0.325	16.33	0.400	0.570	15.110	26.509	31.046	4.043	33.488	0.245	0.063
	120	0.522	9.63	0.752	0.350	12.070	34.486	40.389	8.128	41.616	0.196	0.054
	125	0.546	8.70	0.803	0.340	12.910	37.971	44.470	4.763	46.380	0.167	0.072
	130	0.256	69.92	0.290	2.200	40.350	18.341	21.480	2.742	49.121	0.197	0.149

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-A-96	5	0.039	47.44	0.040	2.150	19.650	9.140	10.704	0.237	0.237	1.447	0.350
	10	0.050	43.13	0.052	2.030	19.450	9.581	11.221	0.315	0.552	1.277	0.318
	15	0.052	42.96	0.053	2.040	19.330	9.475	11.097	0.325	0.877	1.275	0.363
	20	0.055	43.07	0.057	2.040	19.080	9.353	10.954	0.305	1.182	1.267	0.342
	25	0.059	41.44	0.061	1.870	17.900	9.572	11.211	0.388	1.571	1.254	0.344
	30	0.074	39.60	0.077	1.770	17.320	9.785	11.460	0.397	1.968	1.251	0.406
	35	0.084	38.70	0.088	1.660	16.710	10.066	11.789	0.433	2.401	1.863	0.378
	40	0.094	37.96	0.099	1.690	17.030	10.077	11.802	0.522	2.924	1.194	0.328
	45	0.100	37.46	0.106	1.600	16.590	10.369	12.144	0.619	3.543	1.189	0.373
	50	0.103	37.19	0.109	1.590	16.980	10.679	12.507	0.495	4.038	1.170	0.302
	55	0.114	35.23	0.122	1.510	16.160	10.702	12.534	0.615	4.653	1.032	0.304
	60	0.107	37.41	0.114	1.650	17.720	10.739	12.578	0.585	5.238	0.836	0.294
	65	0.115	35.92	0.123	1.590	18.130	11.403	13.354	0.720	5.958	0.706	0.207
	70	0.124	35.32	0.133	1.560	18.170	11.647	13.641	0.688	6.646	0.885	0.205
	75	0.115	39.18	0.122	1.610	18.840	11.702	13.705	0.587	7.233	0.641	0.190
	80	0.125	34.27	0.135	1.380	16.060	11.638	13.630	0.720	7.953	0.595	0.168
	90	0.126	33.70	0.136	1.480	17.270	11.669	13.666	1.361	9.314	0.603	0.159
	100	0.147	81.06	0.157	1.340	16.950	12.649	14.814	1.652	10.965	0.793	0.159
	110	0.256	13.92	0.300	0.670	8.230	12.284	14.386	3.024	13.989	1.118	0.142
	120	0.338	11.37	0.421	0.570	7.350	12.895	15.102	4.502	18.491	2.698	0.146
	130	0.249	18.20	0.290	0.590	15.350	26.017	30.470	3.048	21.538	0.884	0.112
	140	0.184	27.19	0.206	0.790	19.040	24.101	28.227	2.084	23.622	0.328	0.097
	150	0.163	29.73	0.179	0.820	20.000	24.390	28.565	1.845	25.467	0.266	0.067

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-B-96	5	0.028	47.69	0.029	2.170	20.130	9.276	10.864	0.121	0.121	1.362	0.485
	10	0.030	47.99	0.030	2.220	20.500	9.234	10.815	0.158	0.278	1.349	0.473
	15	0.028	46.80	0.028	2.180	20.140	9.239	10.820	0.159	0.437	1.350	0.475
	20	0.052	44.06	0.053	2.020	19.120	9.465	11.086	0.267	0.704	1.214	0.405
	25	0.059	40.93	0.061	1.820	17.770	9.764	11.435	0.283	0.987	1.168	0.368
	30	0.073	38.62	0.076	1.670	16.420	9.832	11.515	0.415	1.402	1.109	0.365
	35	0.068	39.77	0.070	1.680	16.790	9.994	11.705	0.296	1.698	1.132	0.358
	40	0.085	35.65	0.089	1.440	16.230	11.271	13.200	0.539	2.236	0.871	0.303
	45	0.086	39.53	0.090	1.490	16.890	11.336	13.276	0.379	2.616	0.601	0.217
	50	0.109	41.55	0.116	1.560	17.620	11.295	13.228	0.621	3.236	0.520	0.173
	55	0.102	42.03	0.107	1.590	17.870	11.239	13.163	0.557	3.793	0.500	0.201
	60	0.097	45.15	0.102	1.610	18.620	11.565	13.545	0.557	4.351	0.487	0.161
	65	0.126	32.72	0.135	1.280	14.260	11.141	13.048	0.728	5.079	0.493	0.161
	70	0.102	38.87	0.108	1.600	17.920	11.200	13.117	0.544	5.623	0.472	0.129
	75	0.100	41.70	0.105	1.550	17.600	11.355	13.298	0.544	6.167	0.428	0.113
	80	0.095	42.14	0.100	1.630	18.860	11.571	13.551	0.528	6.695	0.417	0.101
	90	0.099	36.94	0.105	1.520	18.000	11.842	13.869	1.095	7.789	0.432	0.110
	100	0.190	36.49	0.212	1.360	16.090	11.831	13.856	2.186	9.975	0.452	0.094
	110	0.139	53.05	0.150	1.170	15.430	13.188	15.445	1.439	11.414	0.409	0.098
	120	0.157	36.58	0.172	1.340	18.120	13.522	15.837	1.727	13.141	0.924	0.223
	130	0.285	13.49	0.342	0.460	6.220	13.522	15.836	3.731	16.872	0.518	0.109
	140	0.095	63.06	0.100					1.033	17.905	4.692	0.233
	150	0.087	80.17	0.091					0.941	18.846	0.821	0.136
	160	0.113	67.32	0.119	2.270	39.510	17.405	20.385	1.190	20.036	0.481	0.080

Station	Depth (cm)	Fraction Dry Weight	LOI (%)	Dry Bulk Density (g/cm3)	Total Nitrogen (%)	Total Carbon (%)	TC/TN (%)	TC/TN Molar	Mass (g/cm2)	Cum. Mass (g/cm2)	Total Phosphorus (mg/g)	NAIP (mg/g)
LJ-C-96	5	0.062	34.44	0.065	1.800	17.600	9.778	11.451	0.291	0.291	1.013	0.360
	10	0.096	30.06	0.102	1.420	14.450	10.176	11.918	0.555	0.846	0.860	0.270
	15	0.085	36.36	0.090	1.480	16.880	11.405	13.358	0.546	1.392	0.693	0.218
	20	0.084	40.17	0.088	1.520	17.330	11.401	13.353	0.408	1.800	0.673	0.192
	25	0.109	32.84	0.116	1.240	14.300	11.532	13.506	0.629	2.429	0.548	0.154
	30	0.121	33.40	0.130	1.310	15.140	11.557	13.536	0.700	3.129	0.553	0.147
	35	0.114	37.04	0.121	1.420	16.210	11.415	13.370	0.635	3.764	0.446	0.136
	40	0.114	37.15	0.121	1.420	16.500	11.620	13.609	0.649	4.412	0.452	0.139
	45	0.107	40.73	0.114	1.500	17.510	11.673	13.672	0.598	5.011	0.439	0.132
	50	0.124	36.38	0.133	1.400	15.990	11.421	13.376	0.683	5.694	0.402	0.129
	55	0.129	30.82	0.139	1.370	16.130	11.774	13.789	0.729	6.423	0.430	0.104
	60	0.120	35.36	0.128	1.450	17.340	11.959	14.006	0.699	7.122	0.465	0.161
	65	0.119	37.85	0.127	1.440	17.410	12.090	14.160	0.615	7.738	0.430	0.127
	70	0.117	37.90	0.125	1.440	17.690	12.285	14.388	0.678	8.416	0.399	0.136
	75	0.122	36.45	0.131	1.500	18.230	12.153	14.234	0.699	9.115	0.423	0.117
	80	0.157	25.56	0.172	1.160	14.050	12.112	14.185	0.868	9.983	0.412	0.122
	90	0.135	37.21	0.146	1.430	18.210	12.734	14.914	1.510	11.493	0.430	0.109
	100	0.144	23.91	0.157	1.070	13.320	12.449	14.579	1.611	13.104	0.534	0.110



Figs. B1-B45. Nutrient concentrations versus depth (cm) are given for 45 sediment stations: (1) TN (mg/g; squares); (2) TC (mg/g; diamonds); (3) TP (mg/g; circles); (4) fraction dry weight (triangles); (5) TC/TN ratio (shaded squares); and (6) NAIP (mg/g; shaded diamonds). Dates are given on dated cores. A stratigraphic description (see legend above) is shown for each station.

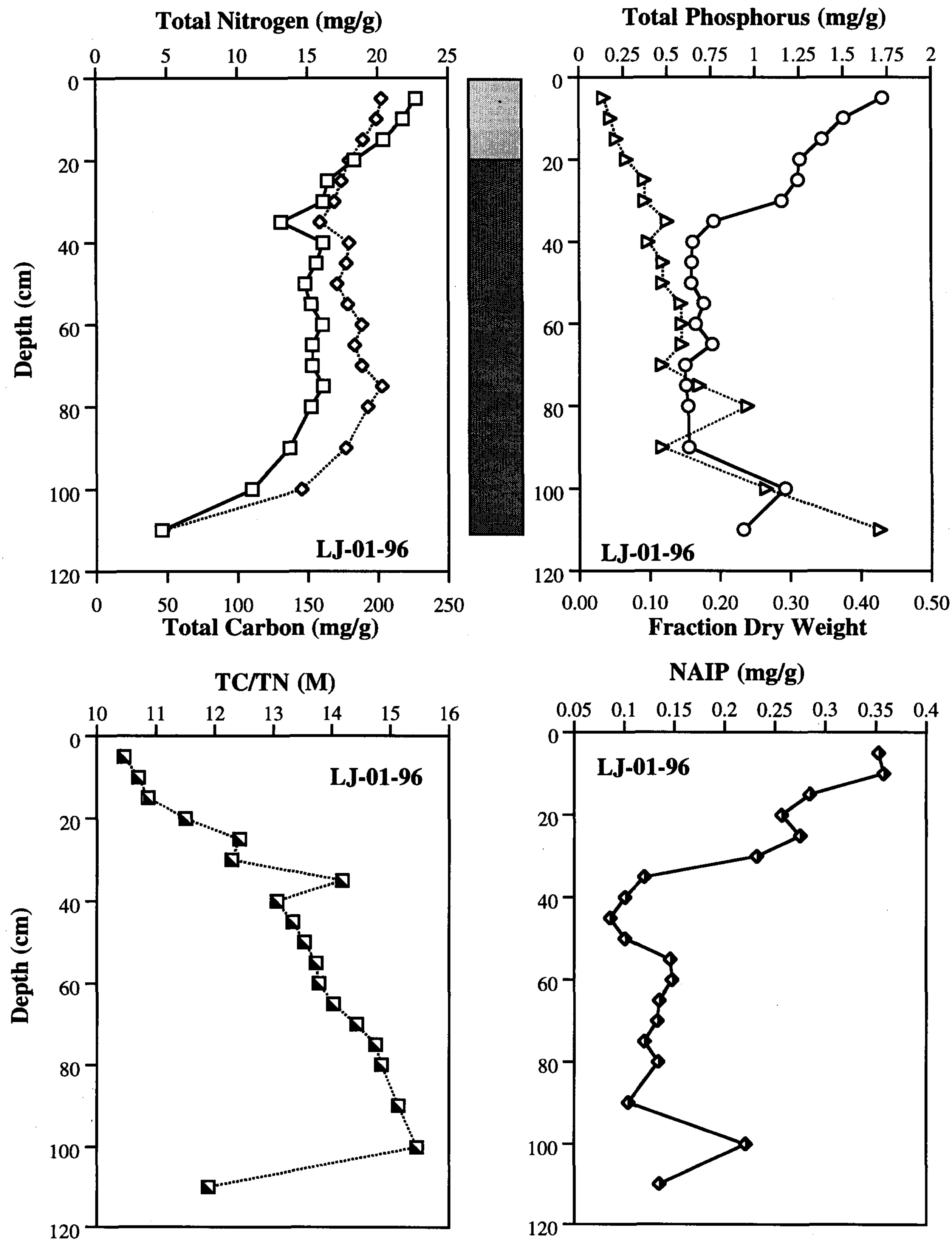


Fig. B1: **LJ-01-96 nutrient concentration profiles.**

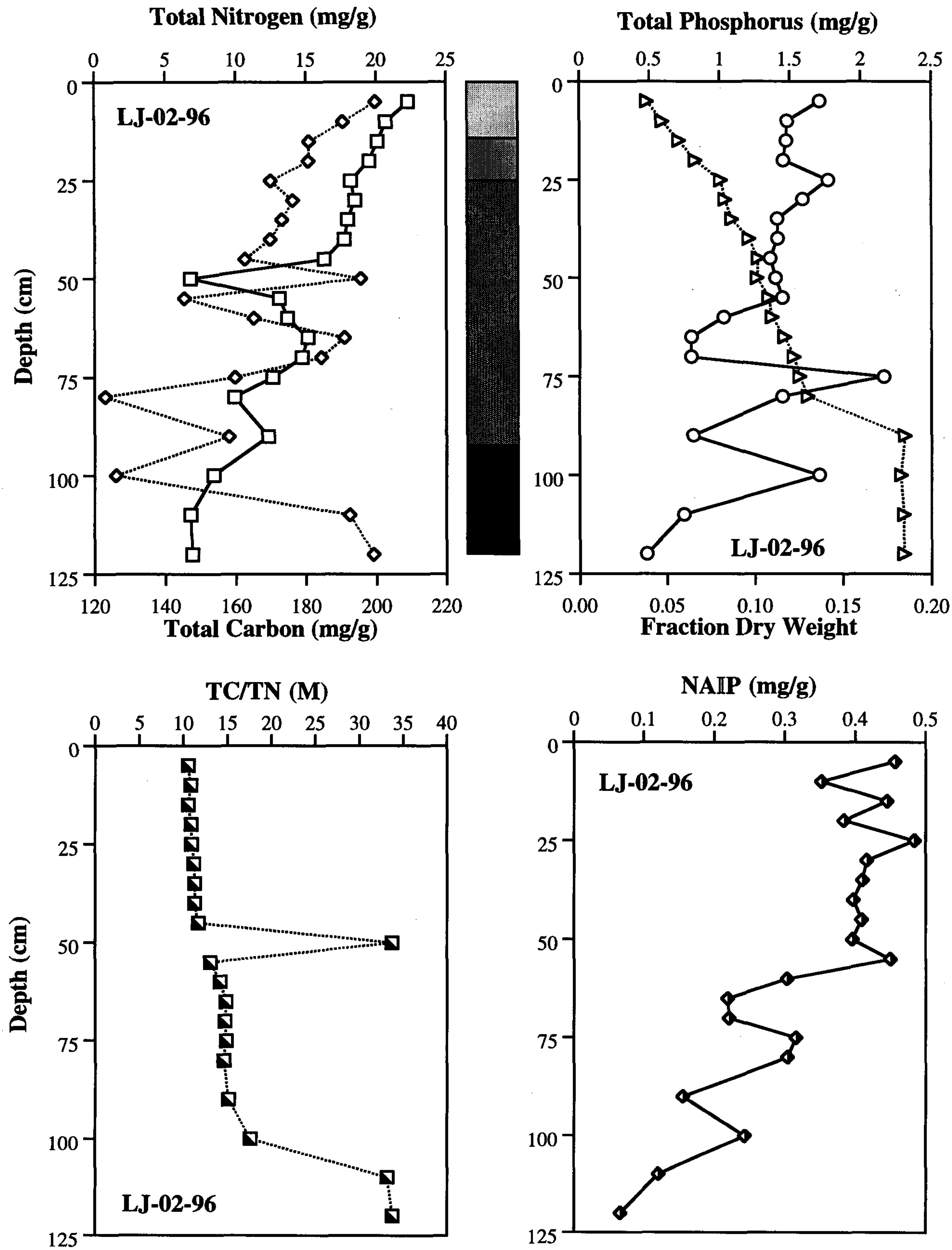


Fig. B2: LJ-02-96 nutrient concentration profiles.

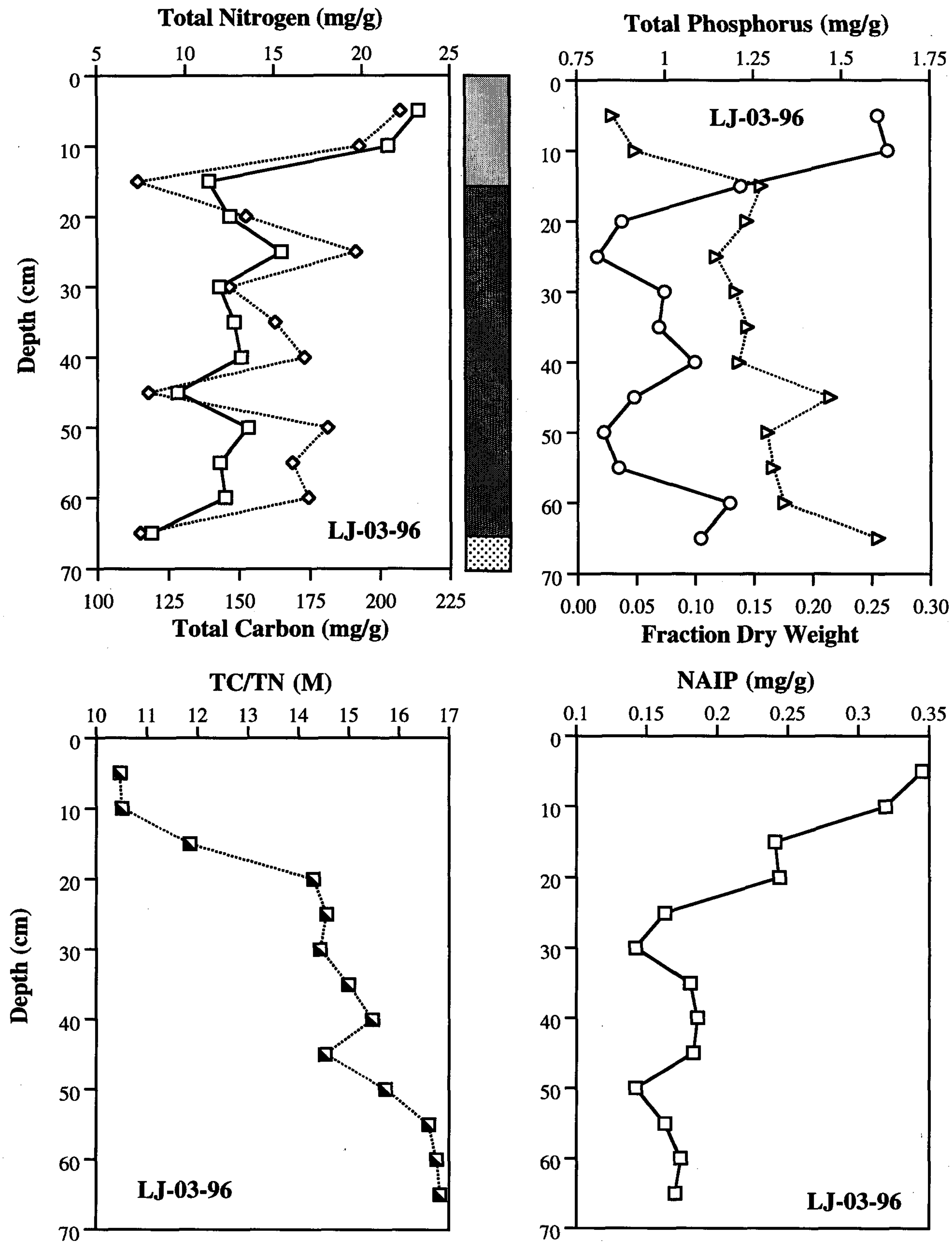


Fig. B3: **LJ-03-96 nutrient concentration profiles.**

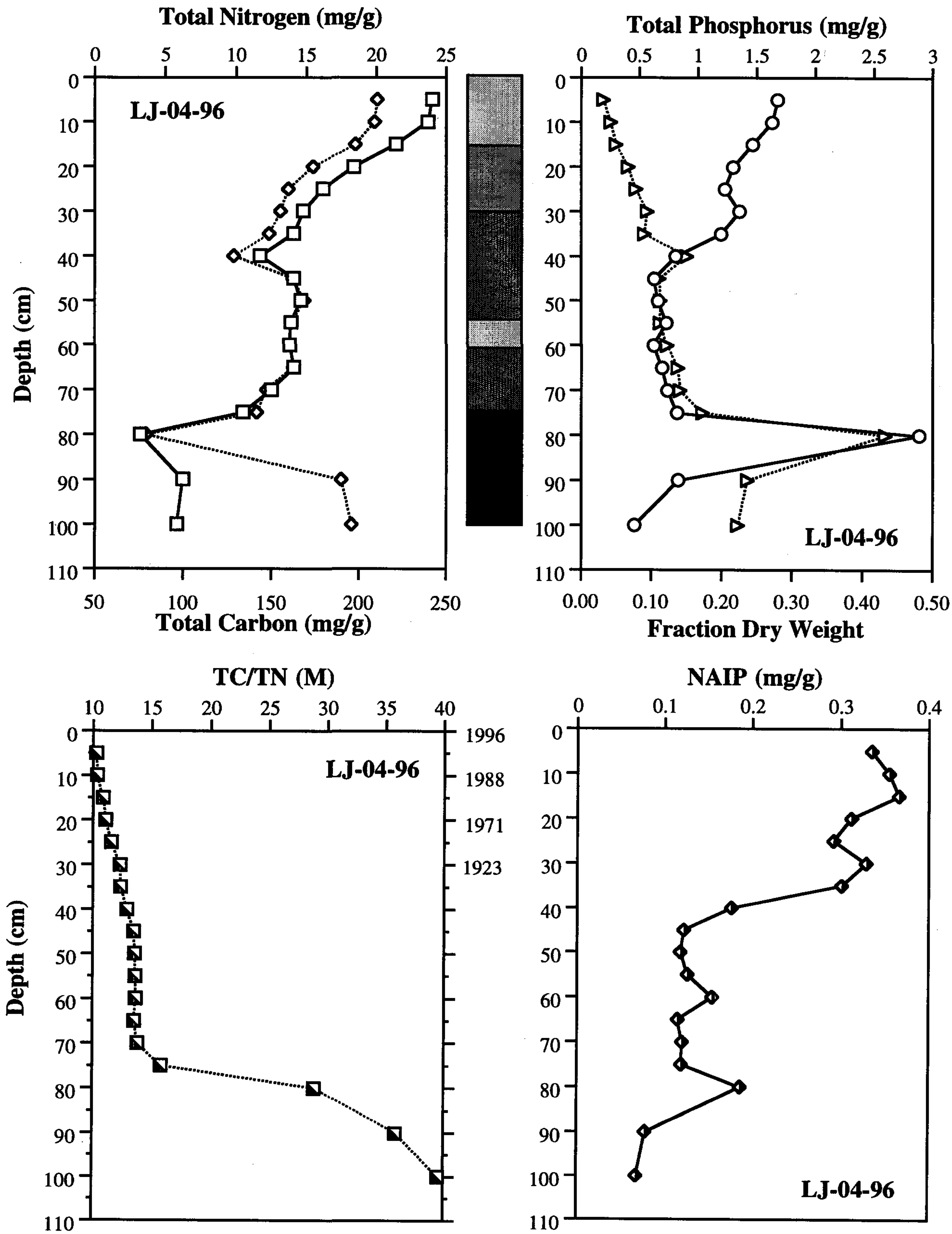


Fig. B4: LJ-04-96 nutrient concentration profiles.

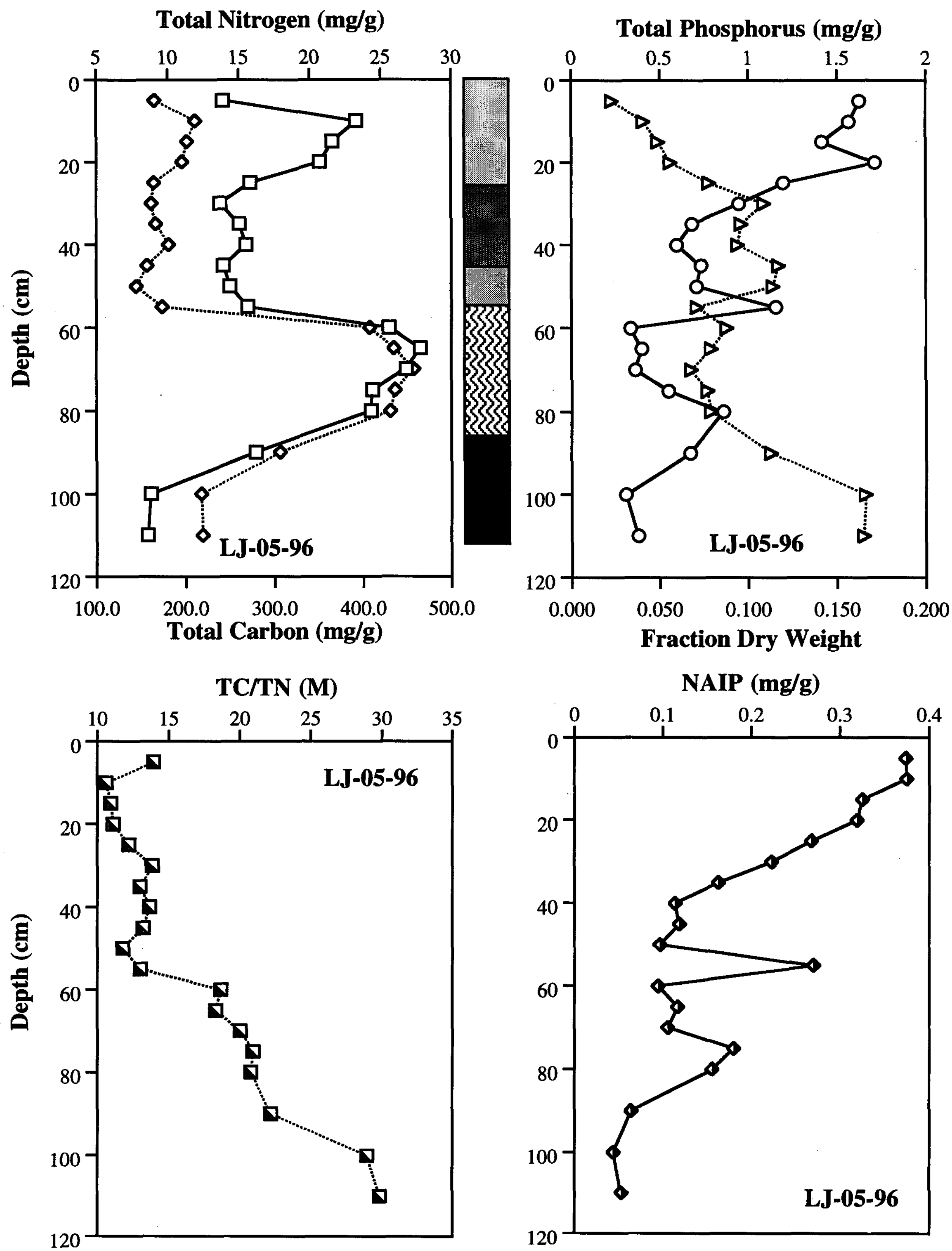


Fig. B5: **LJ-05-96 nutrient concentration profiles.**

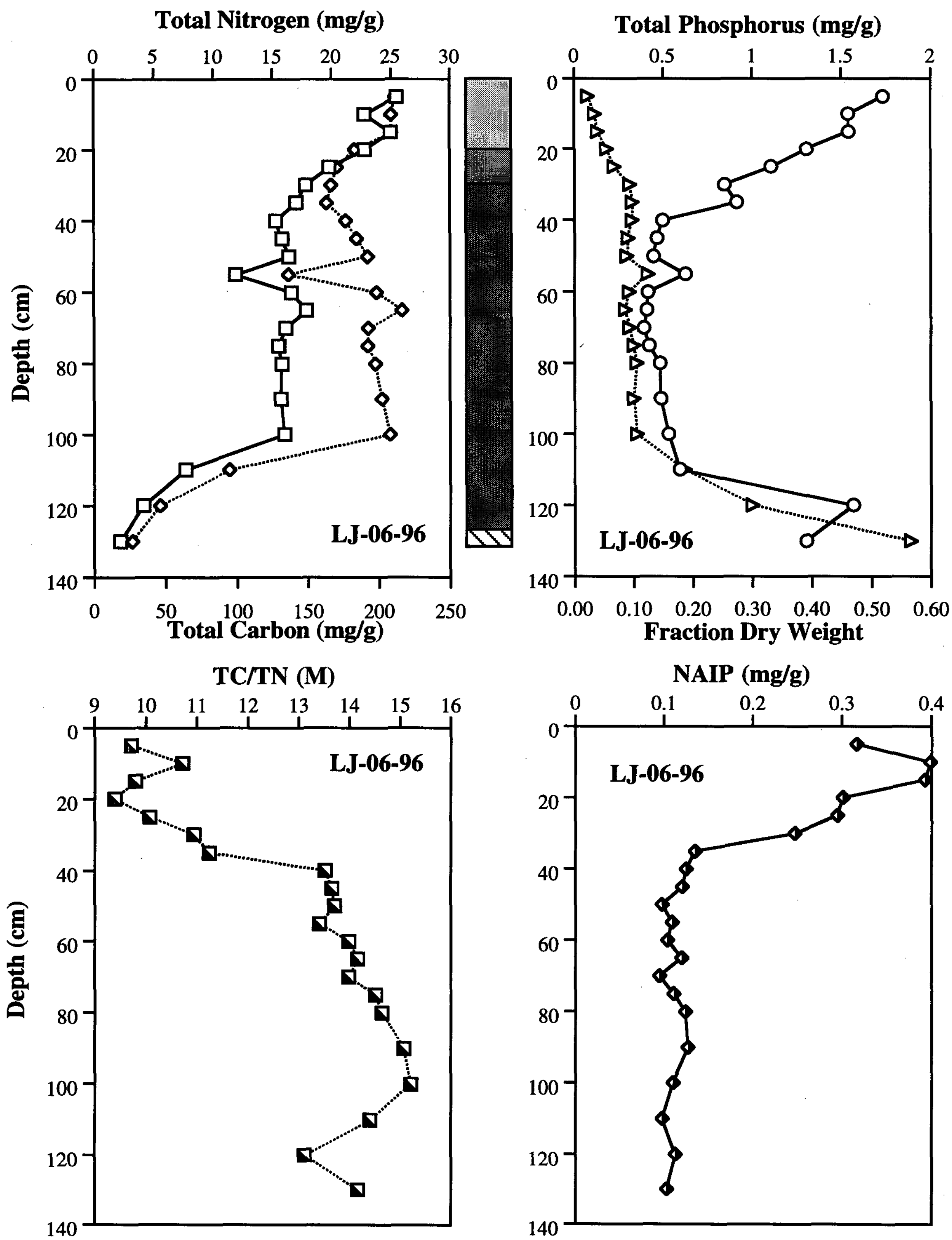


Fig. B6: **LJ-06-96 nutrient concentration profiles.**

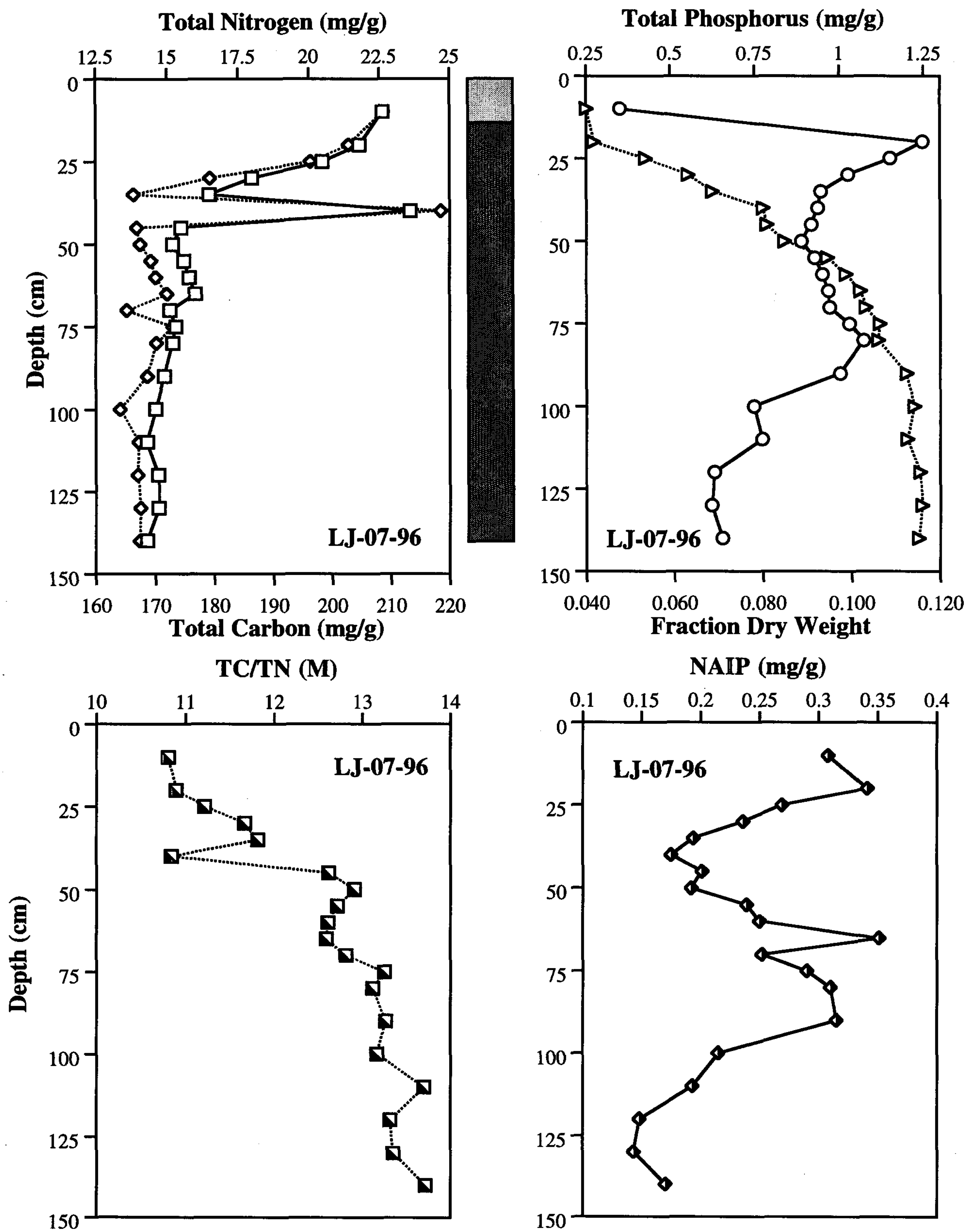


Fig. B7: LJ-07-96 nutrient concentration profiles.

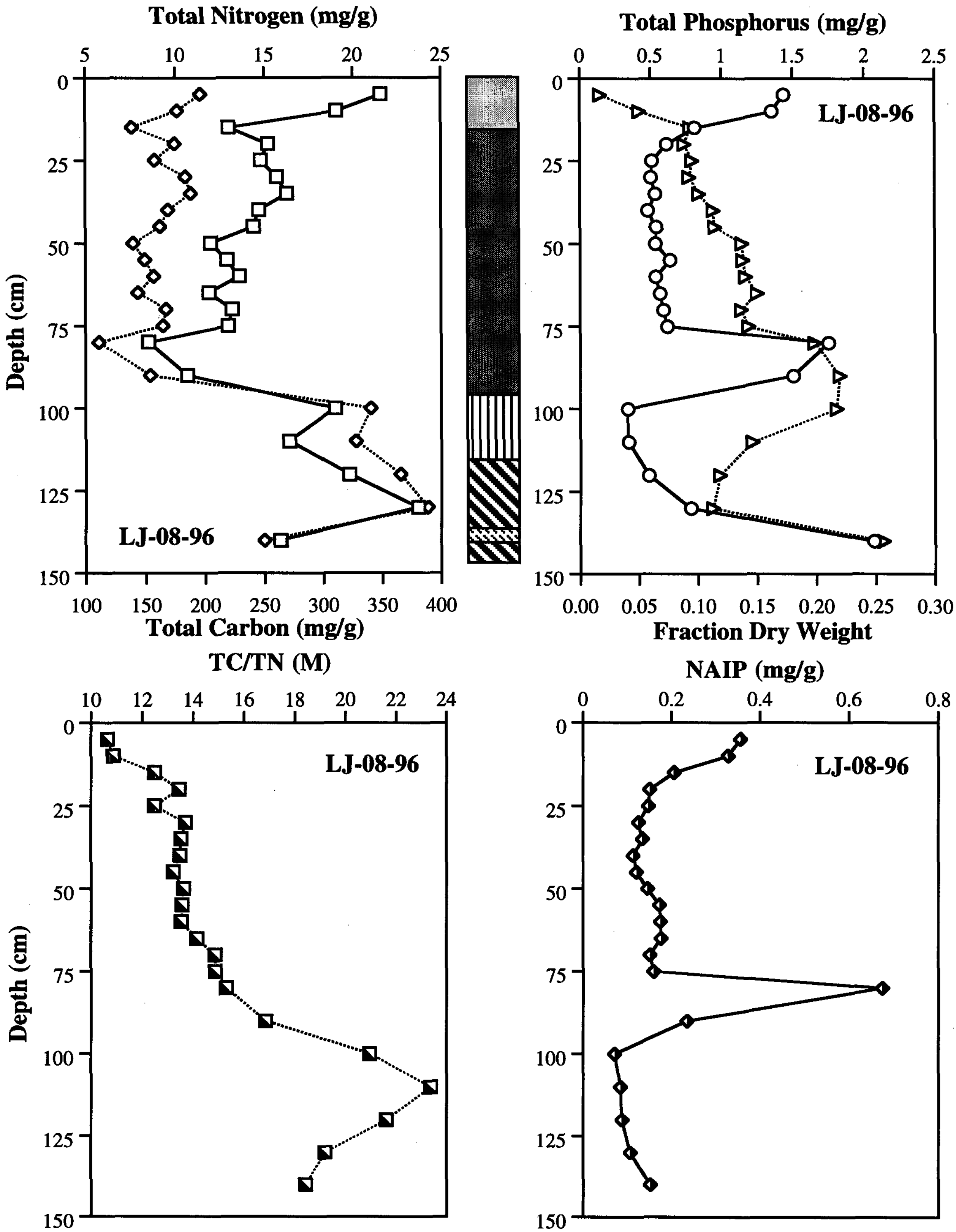


Fig. B8: **LJ-08-96 nutrient concentration profiles.**

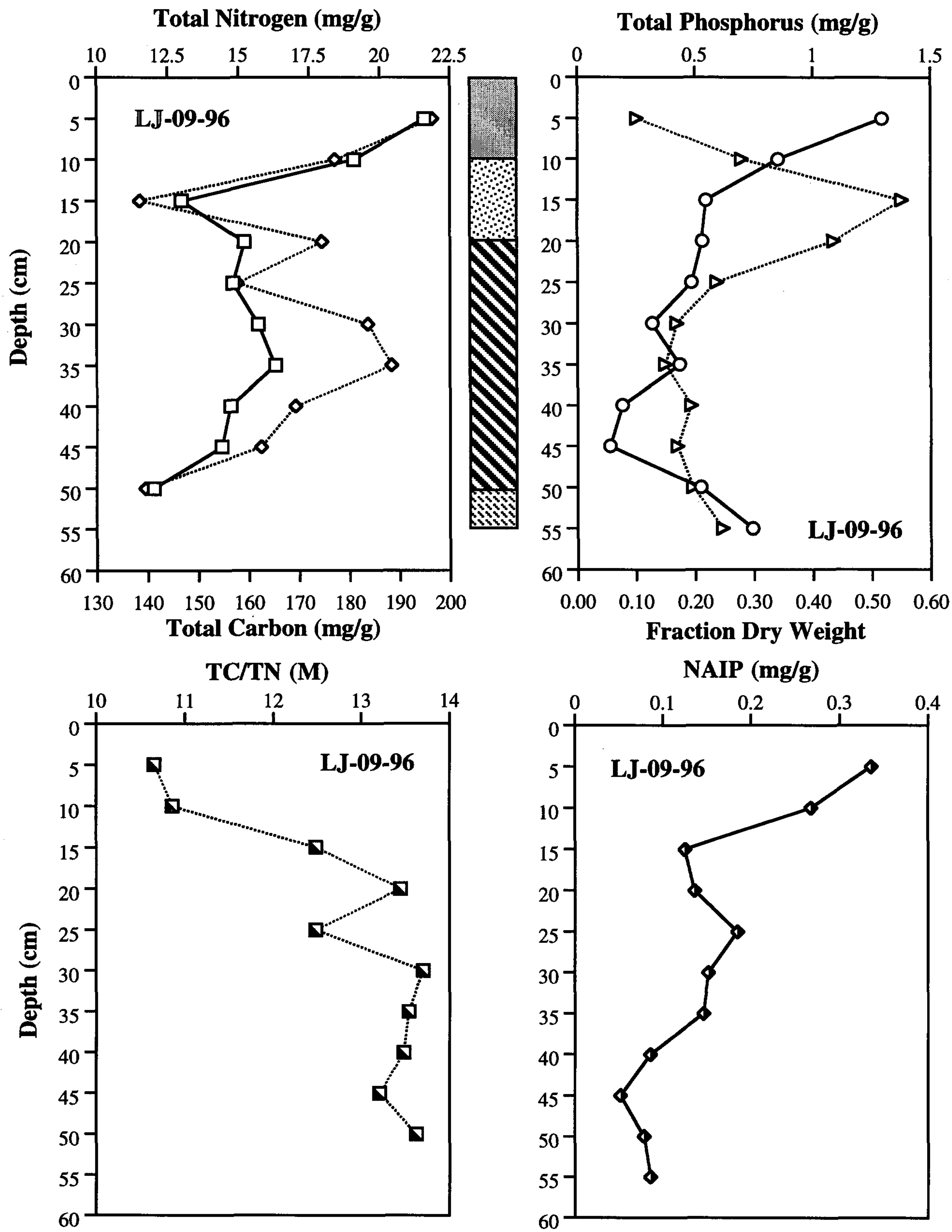


Fig. B9: **LJ-09-96 nutrient concentration profiles.**

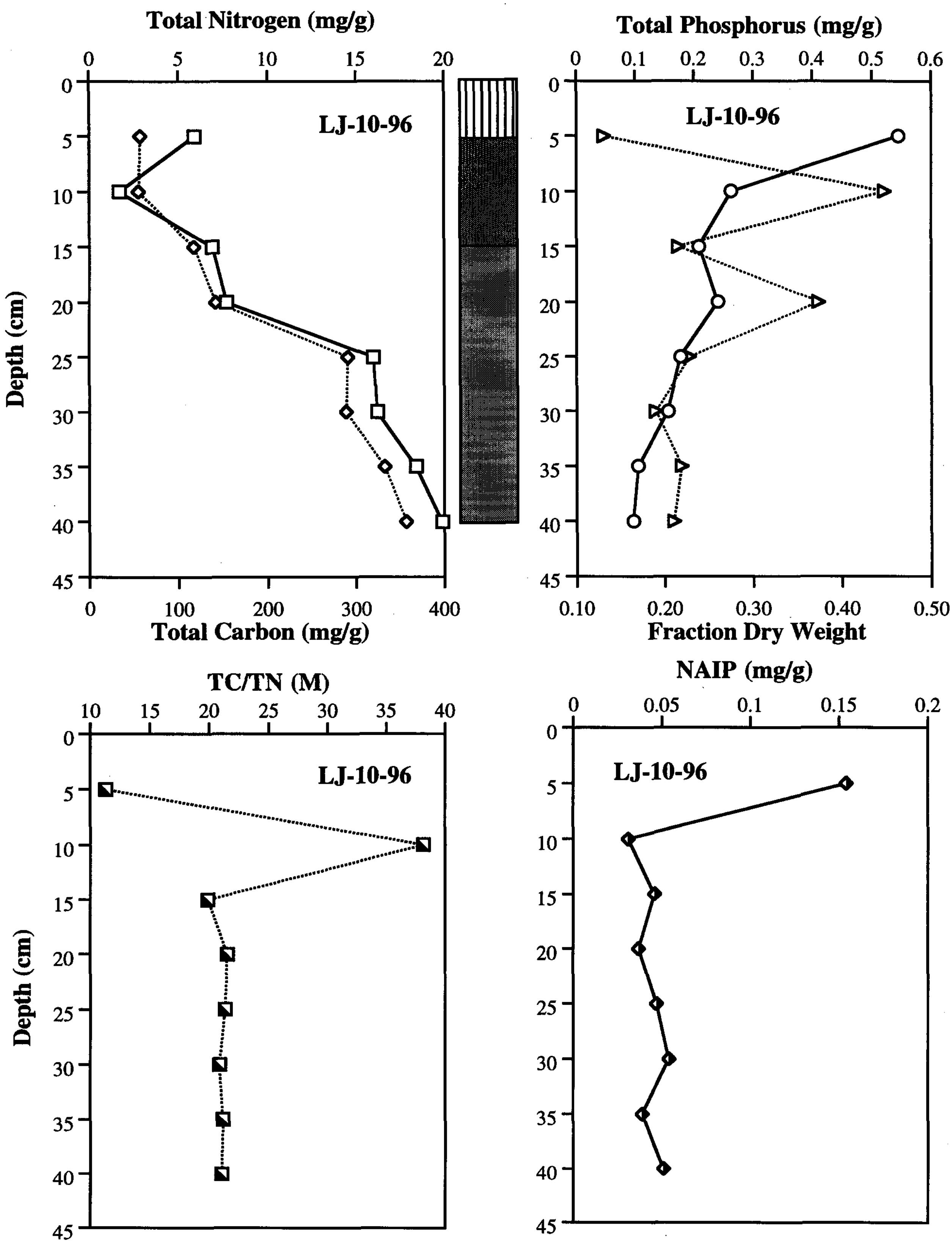


Fig. B10: LJ-10-96 nutrient concentration profiles.

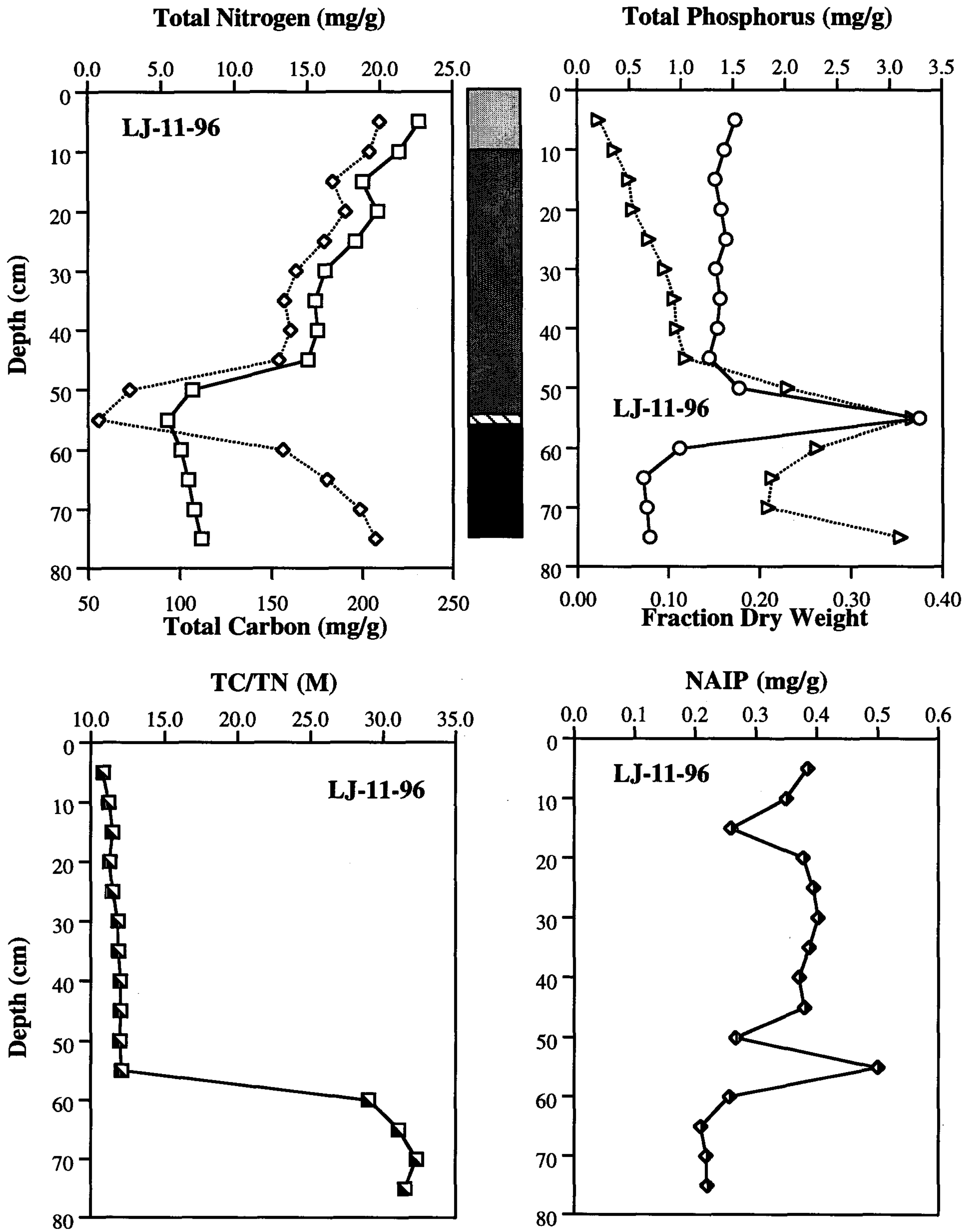


Fig. B11: LJ-11-96 nutrient concentration profiles.

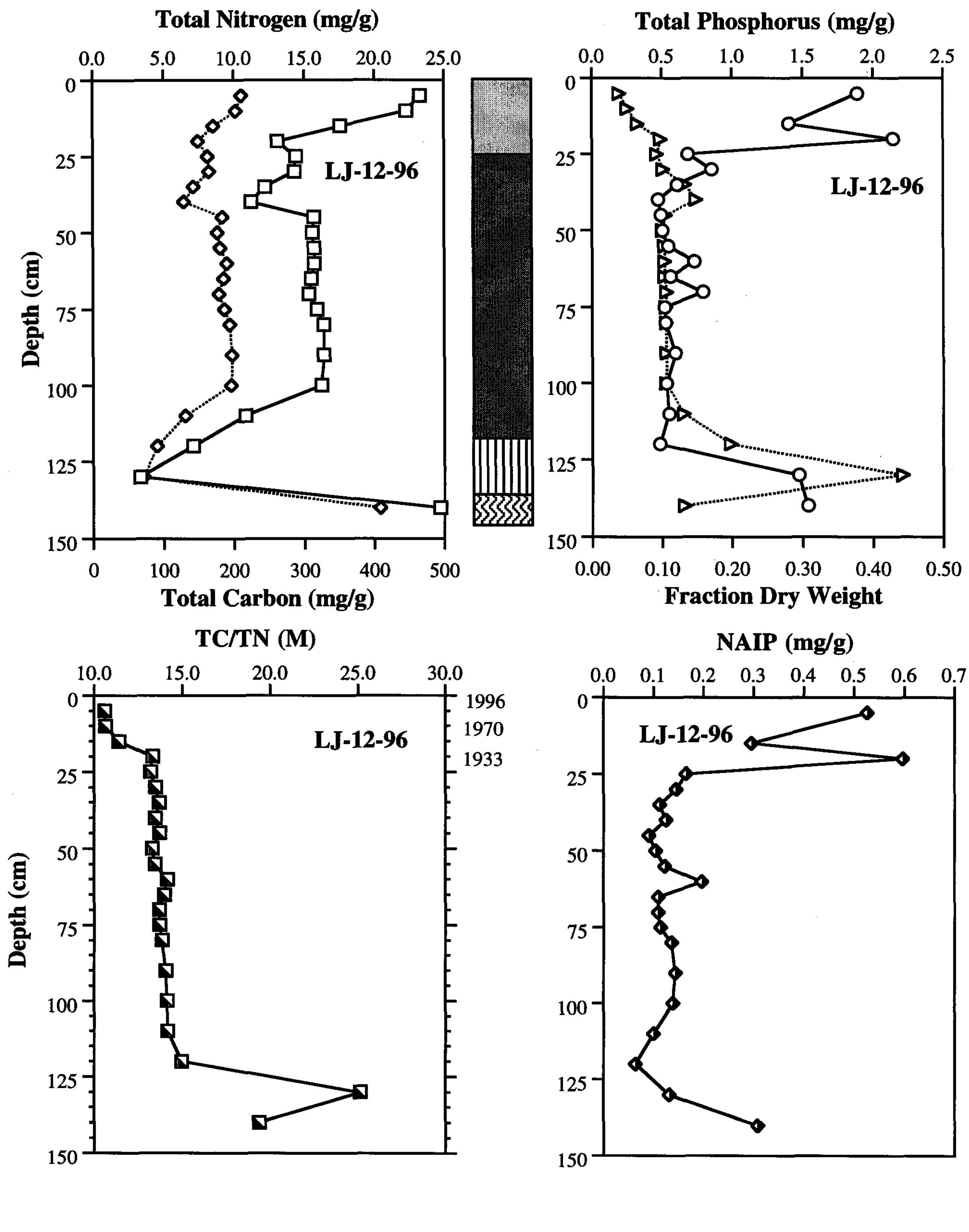


Fig. B12: LJ-12-96 nutrient concentration profiles.

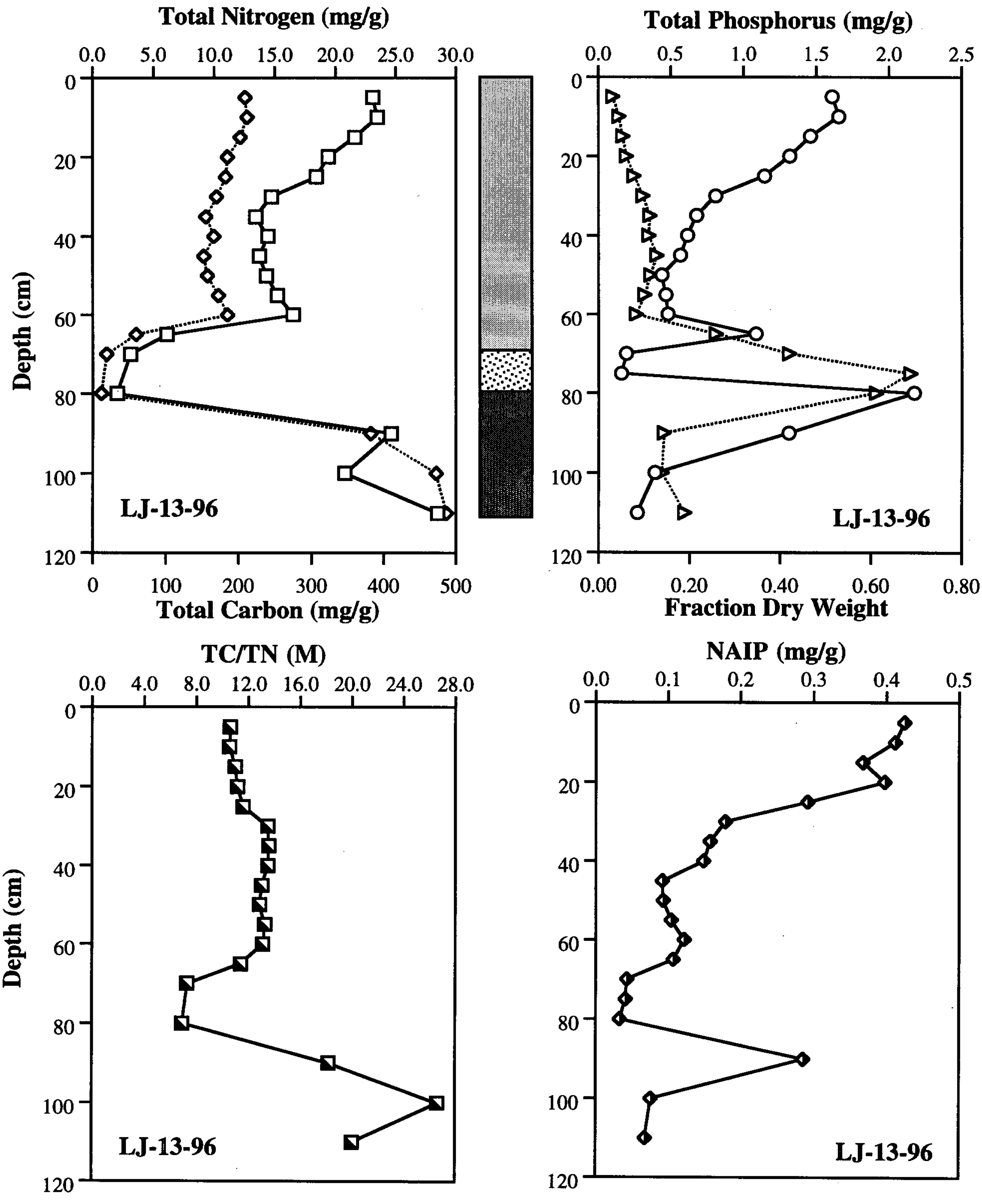


Fig. B13: LJ-13-96 nutrient concentration profiles.

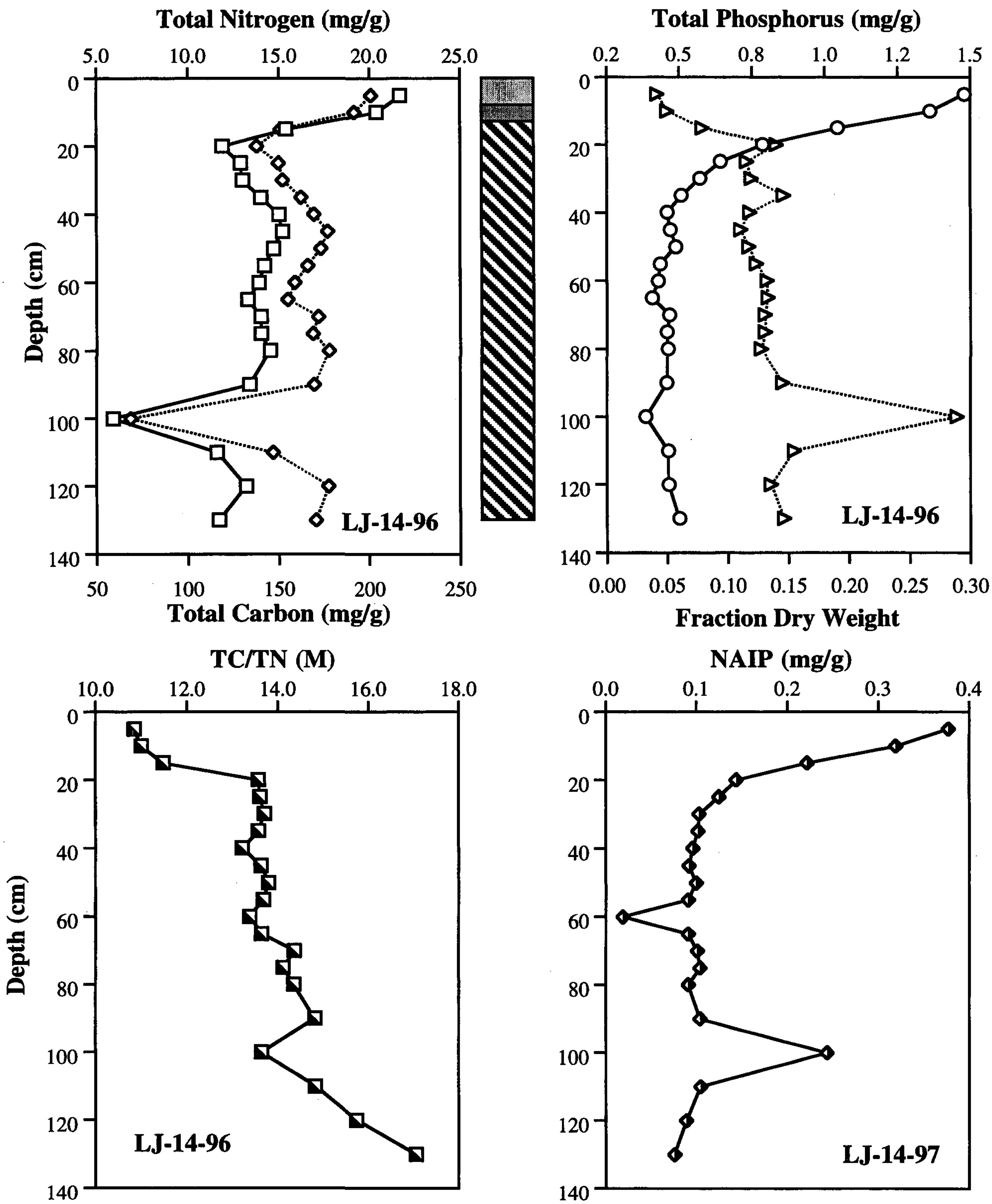


Fig. B14: LJ-14-96 nutrient concentration profiles.

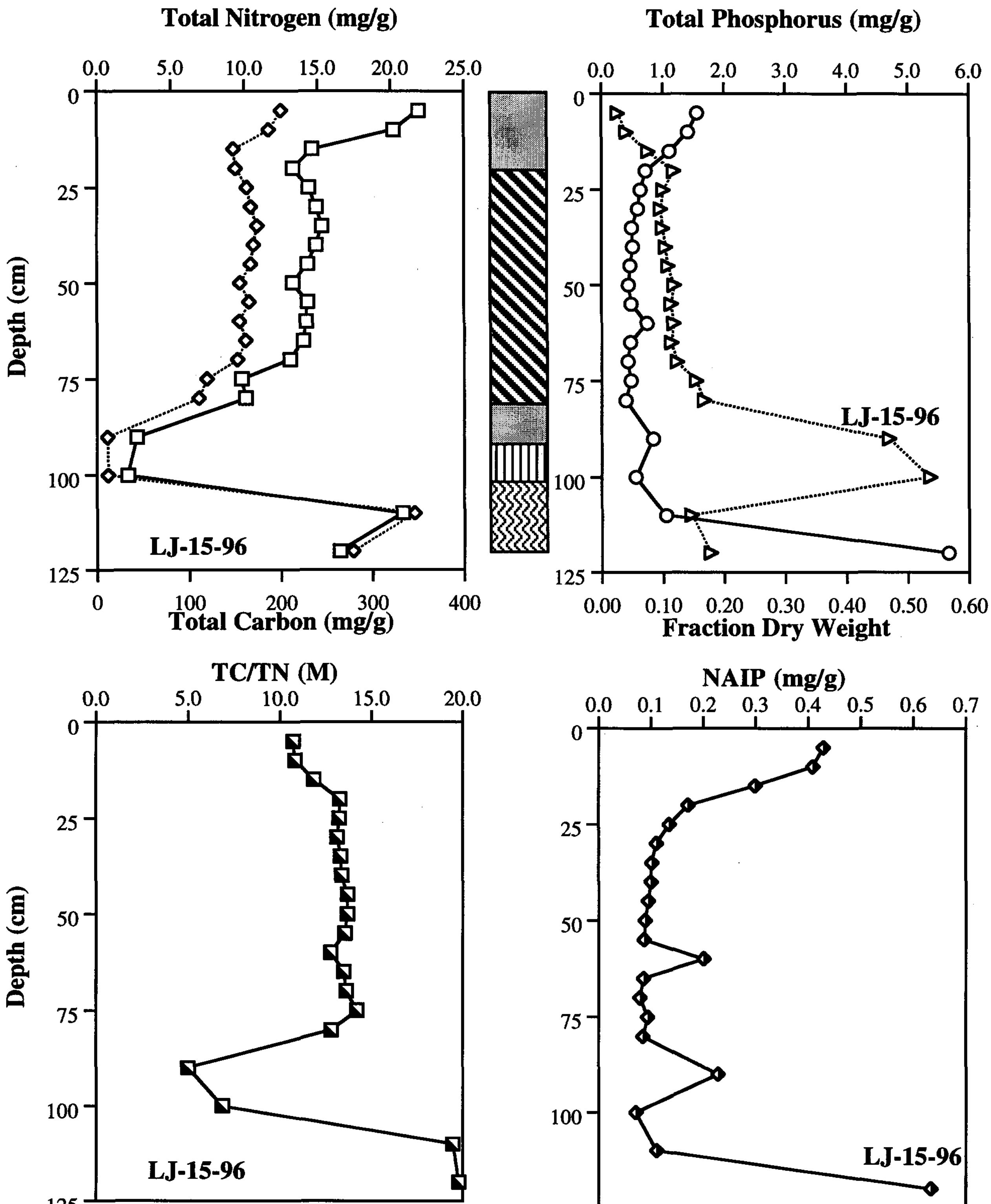


Fig. B15: LJ-15-96 nutrient concentration profiles.

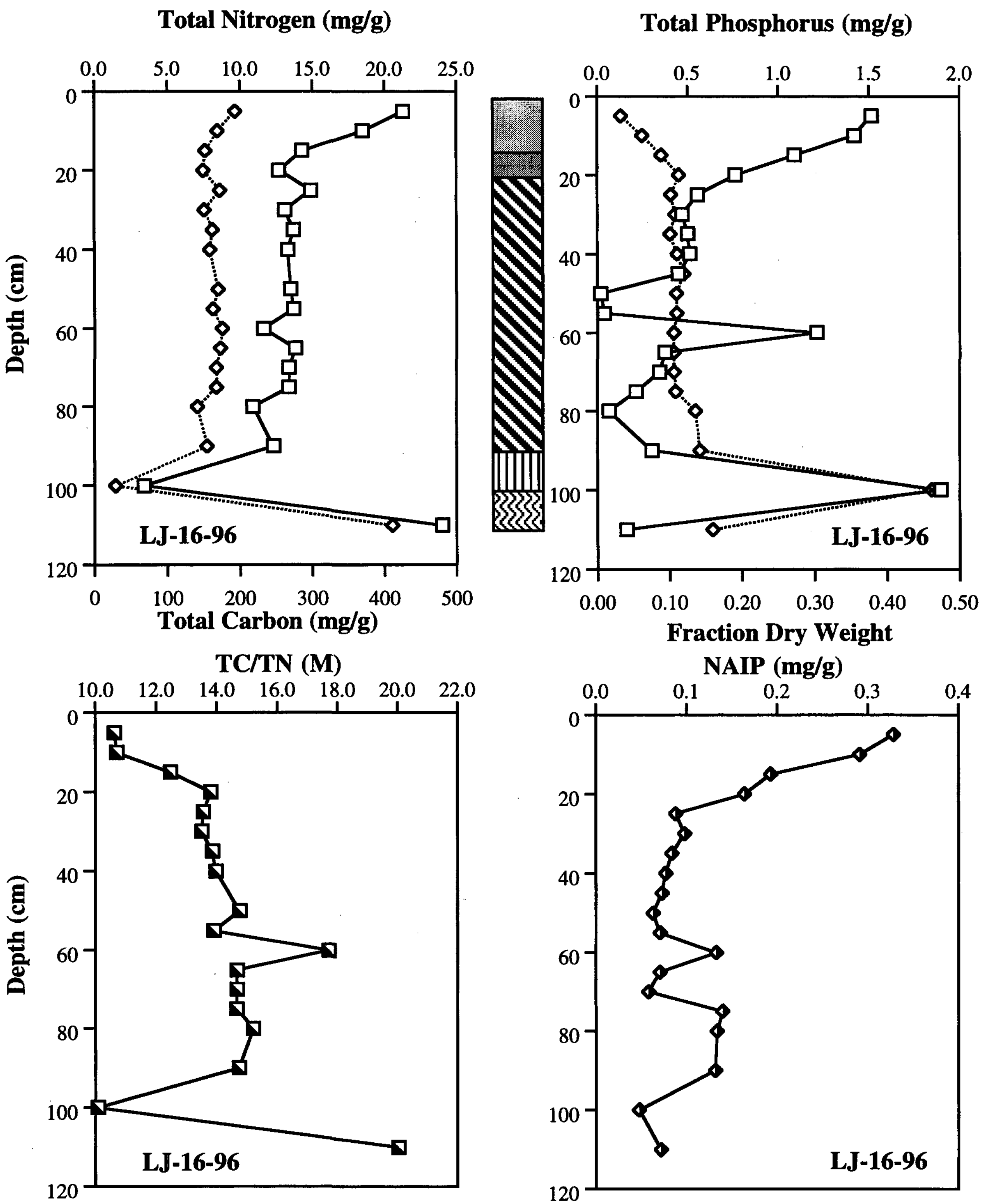


Fig. B16: LJ-16-96 nutrient concentration profiles.

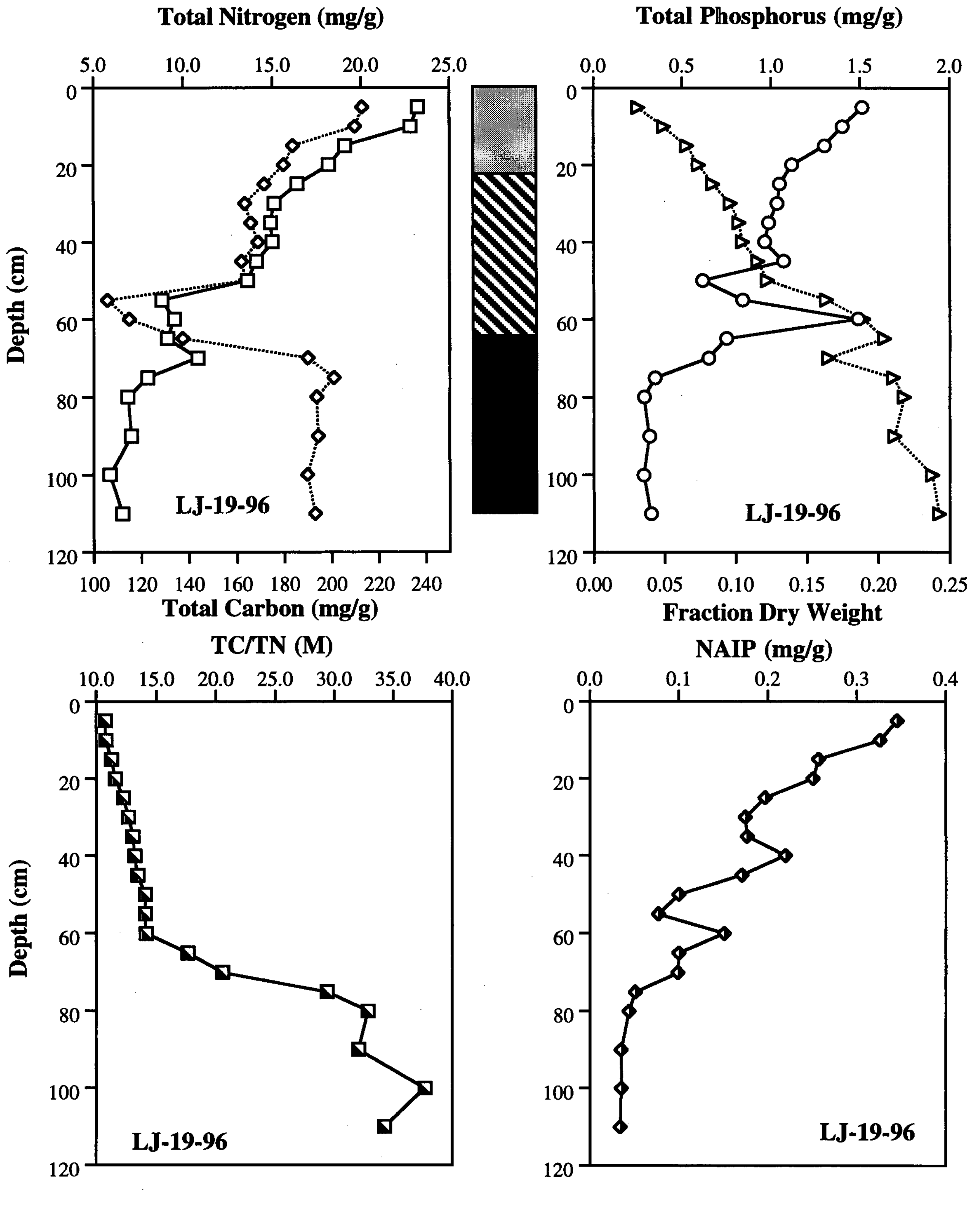


Fig. B17: LJ-19-96 nutrient concentration profiles.

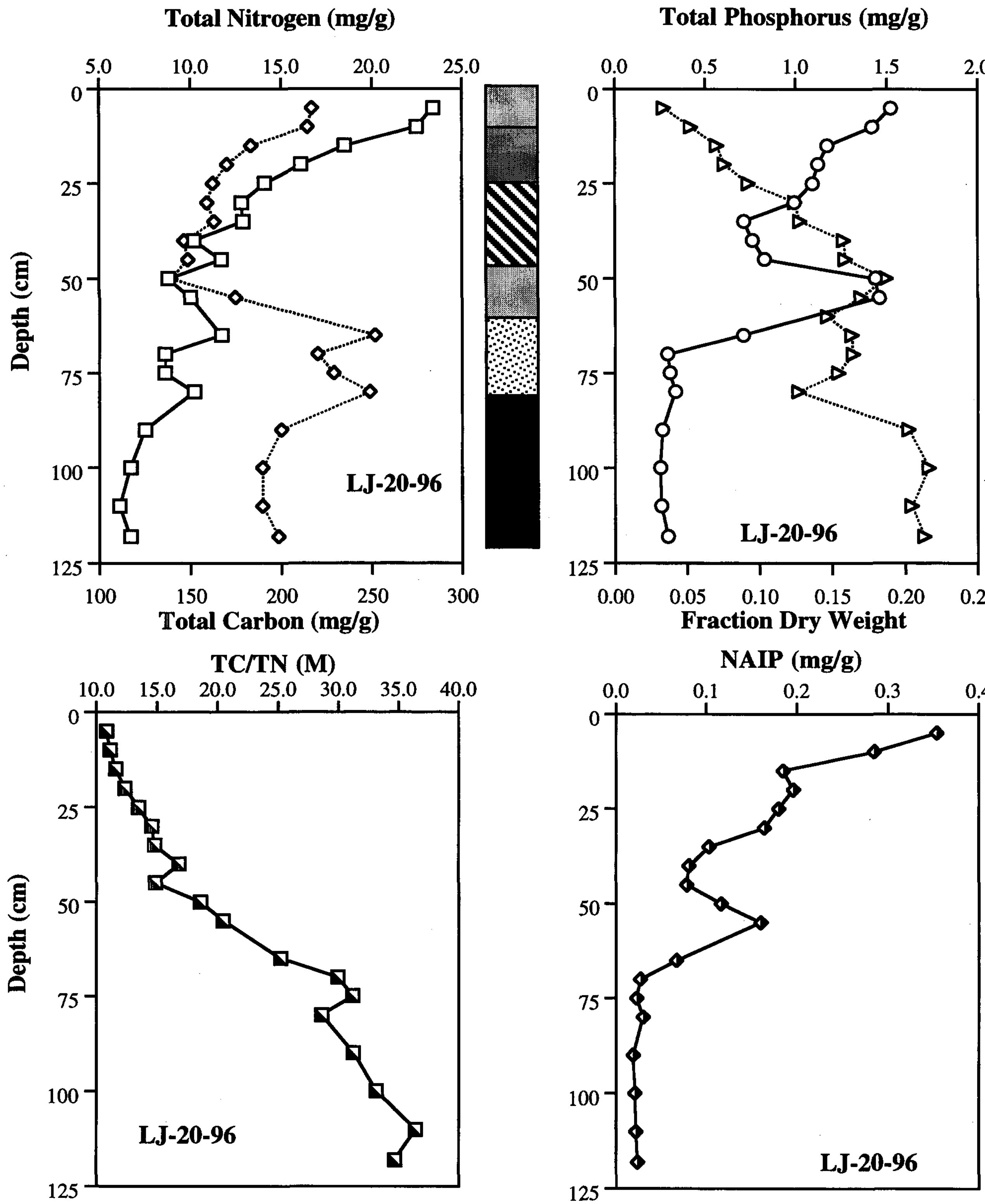


Fig. B18: LJ-20-96 nutrient concentration profiles.

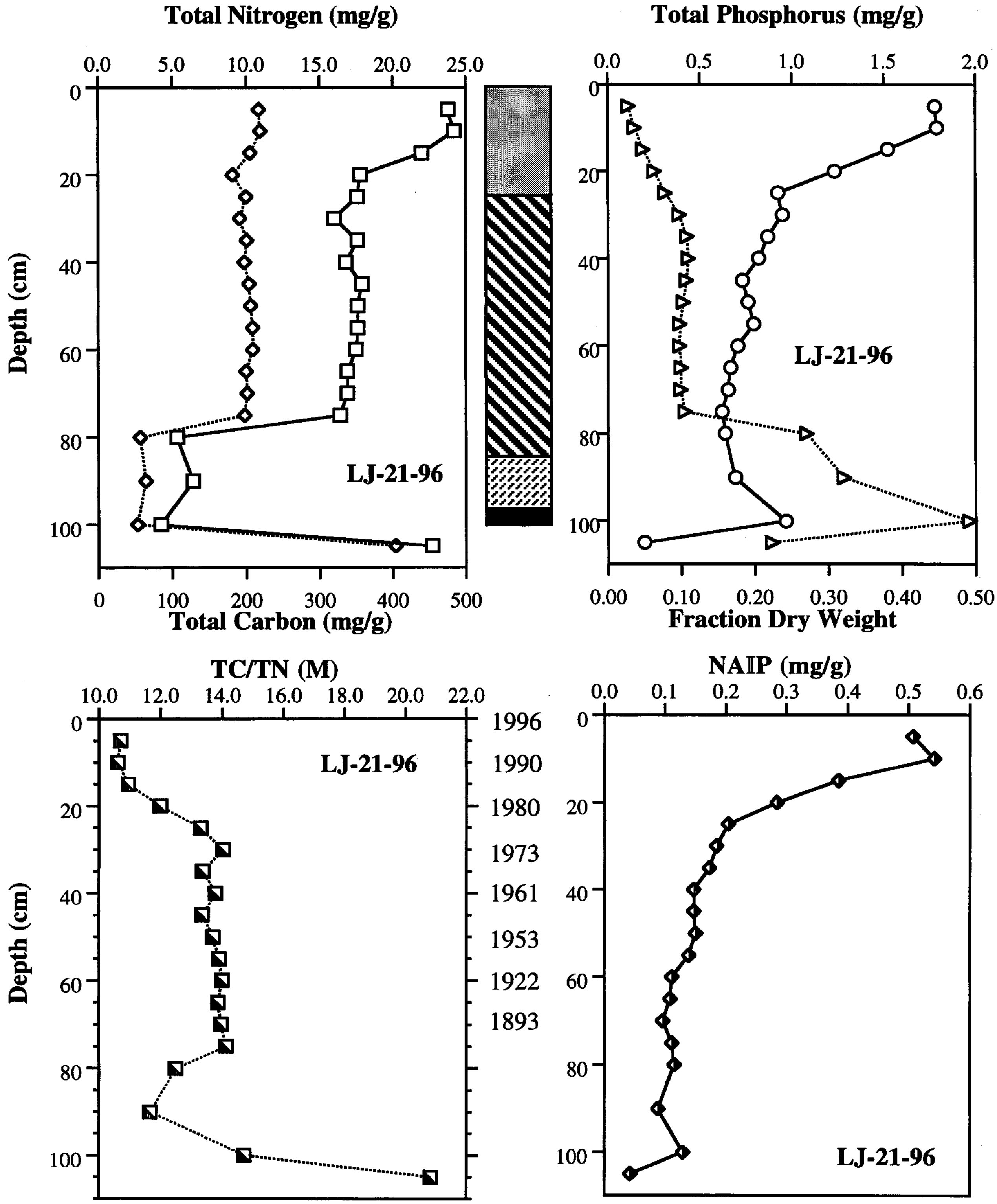


Fig. B19: LJ-21-96 nutrient concentration profiles.

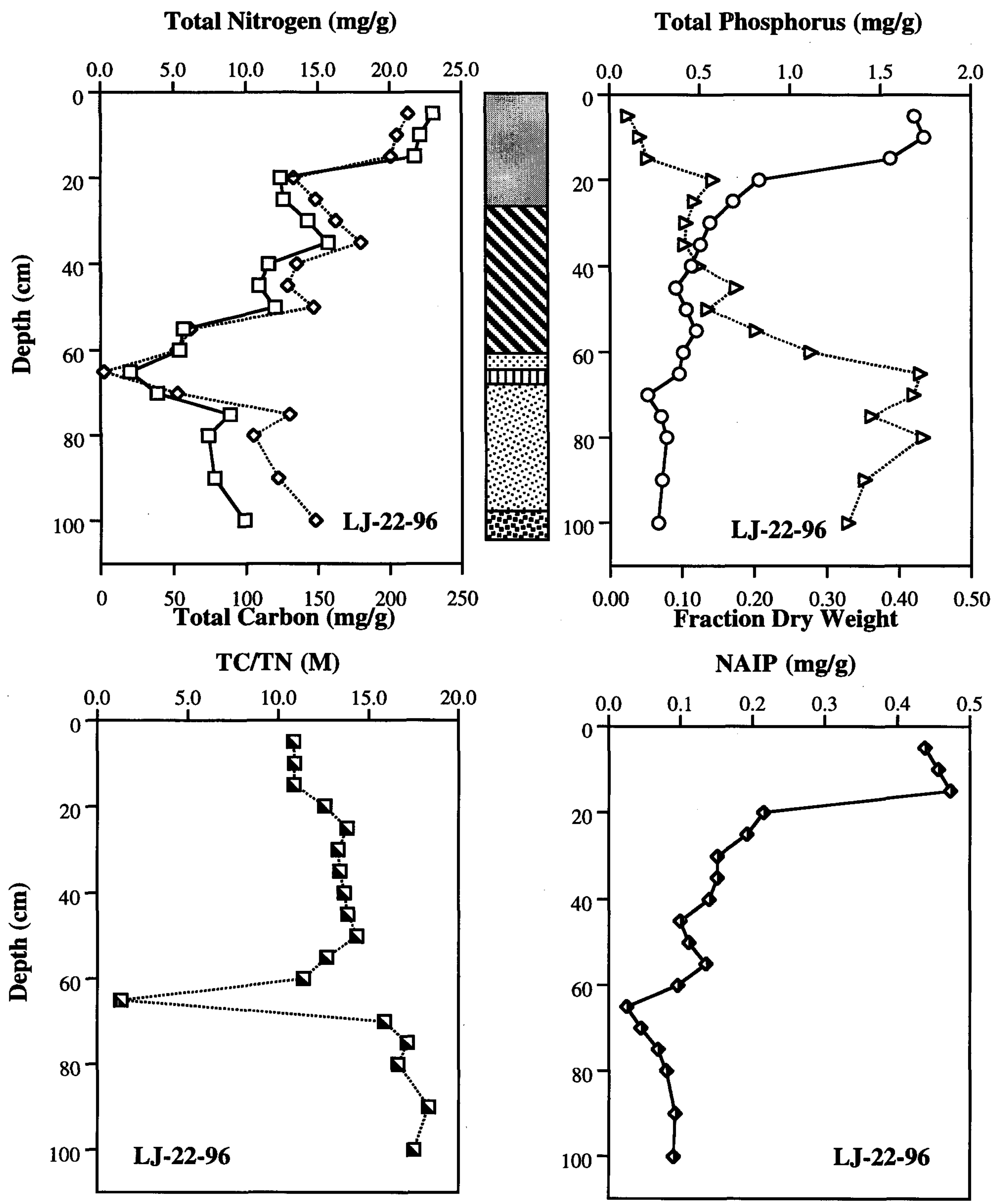


Fig. B20: LJ-22-96 nutrient concentration profiles.

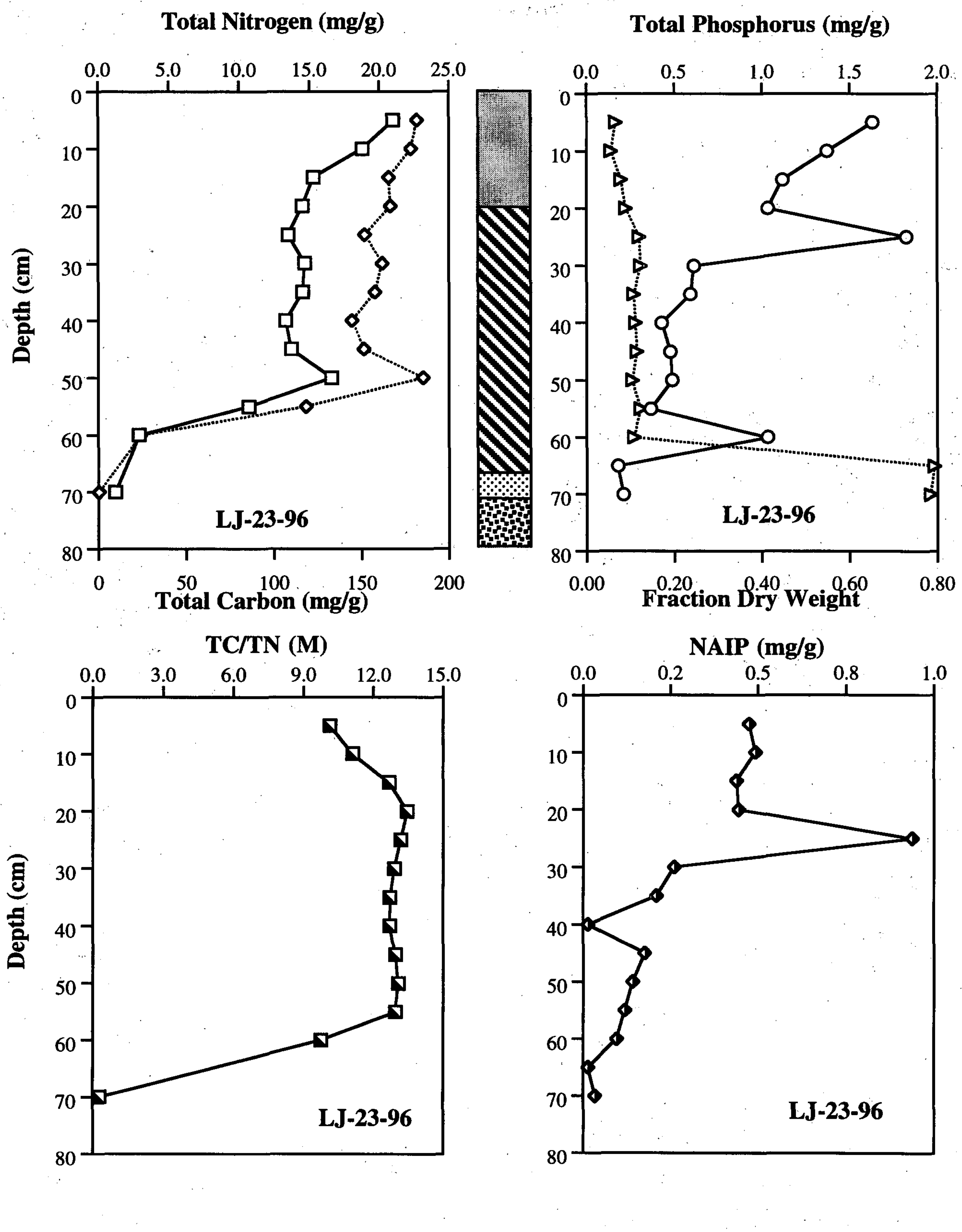


Fig. B21: LJ-23-96 nutrient concentration profiles.

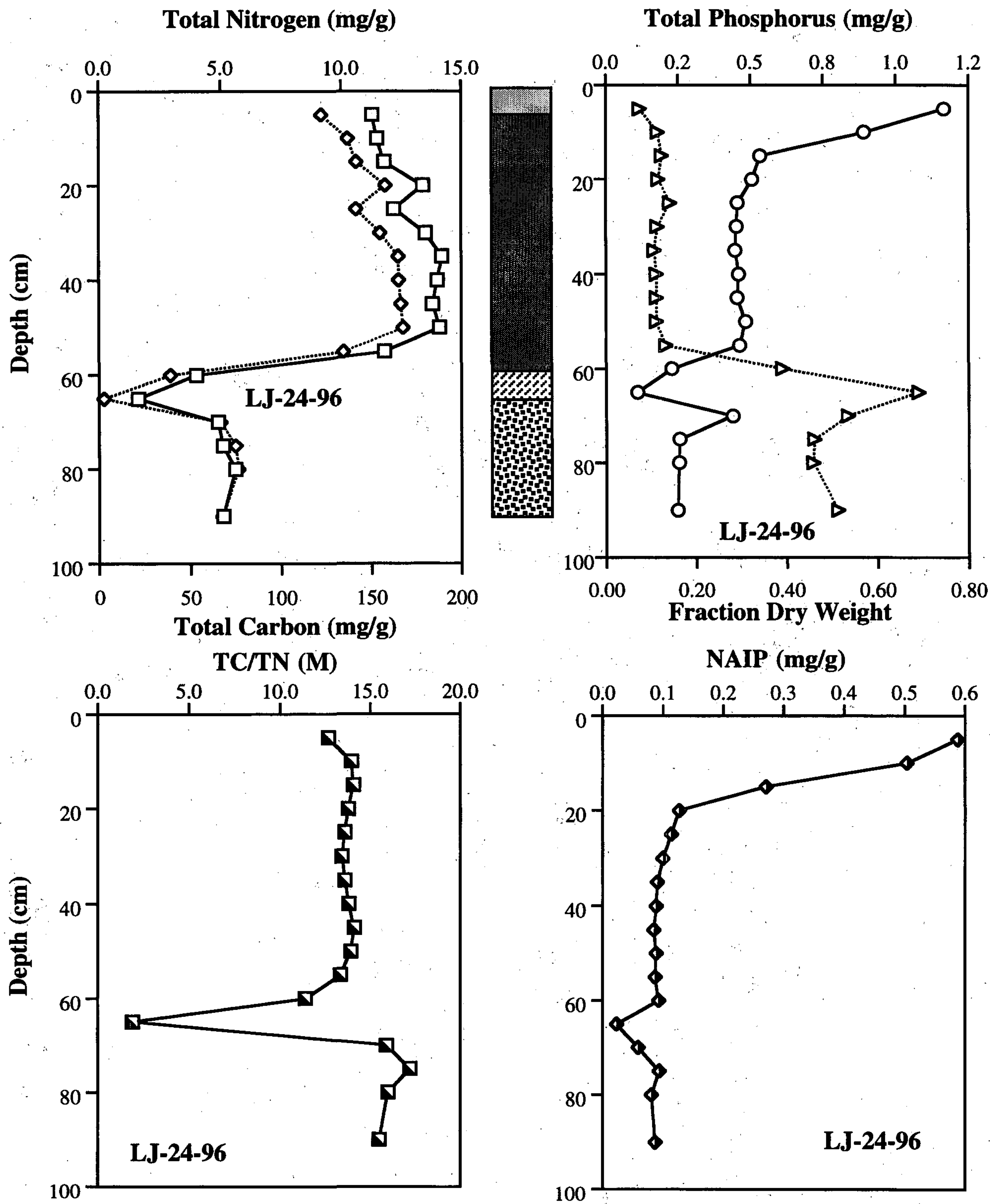


Fig. B22: LJ-24-96 nutrient concentration profiles.

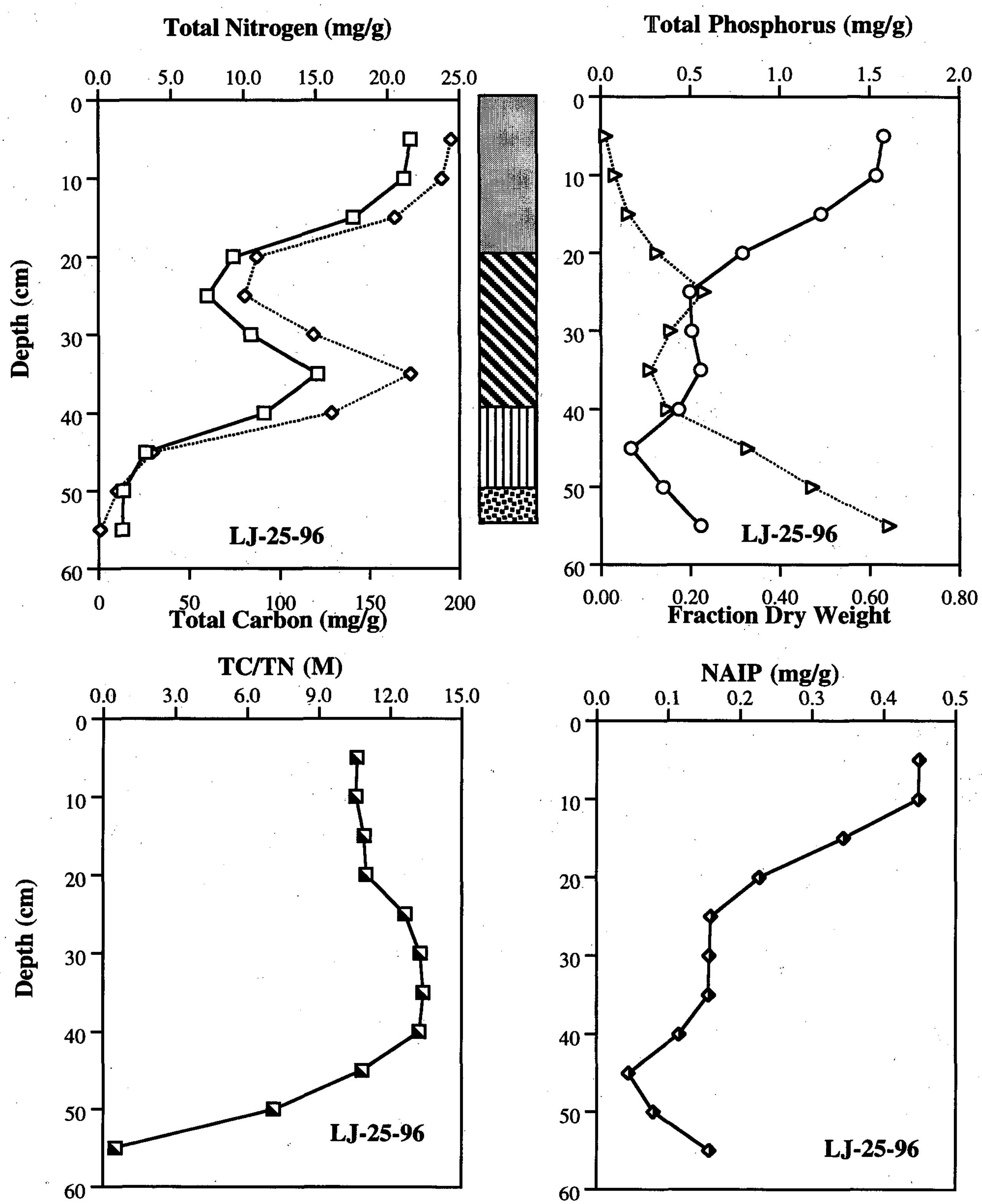


Fig. B23: LJ-25-96 nutrient concentration profiles.

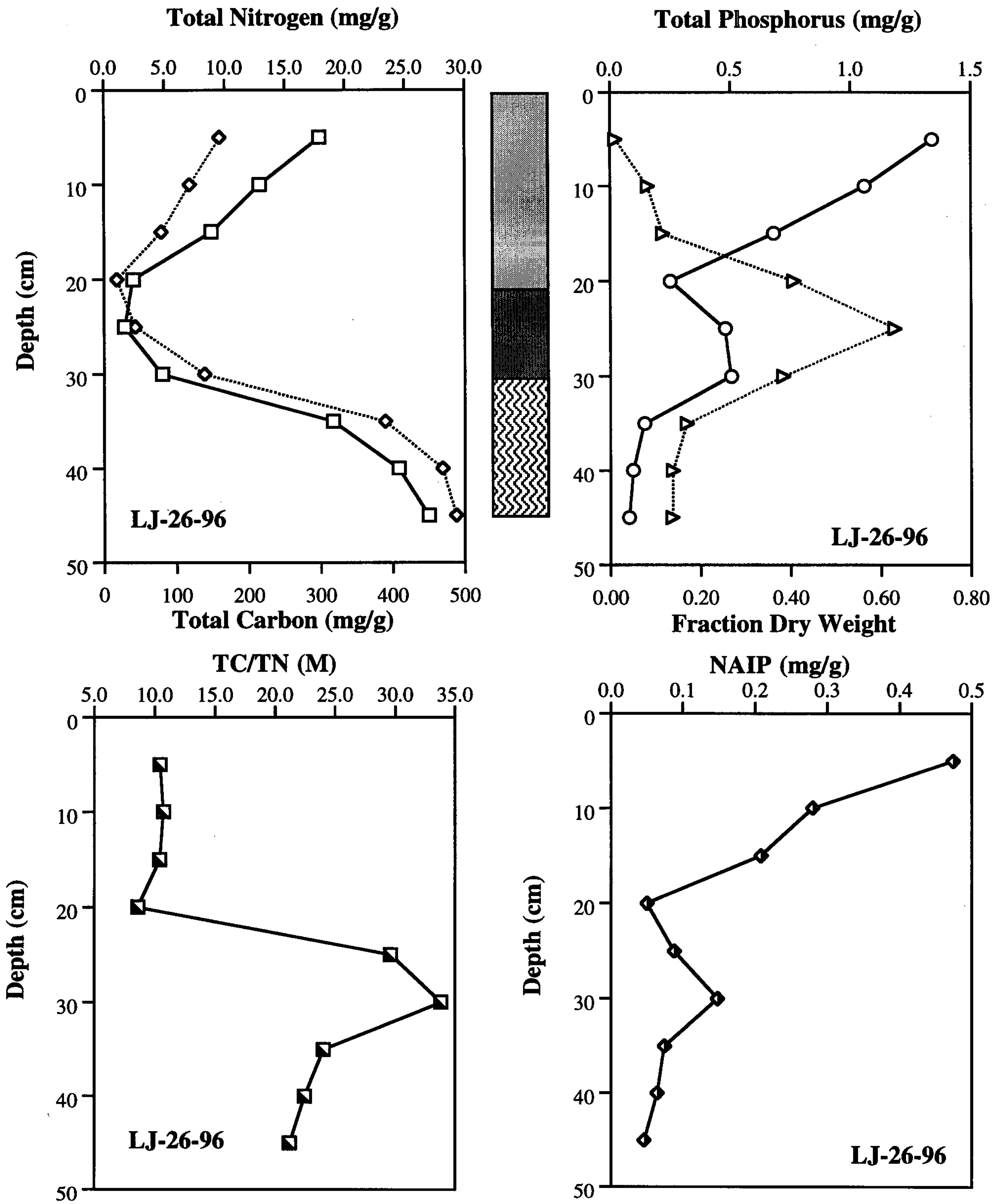


Fig. B24: LJ-26-96 nutrient concentration profiles.

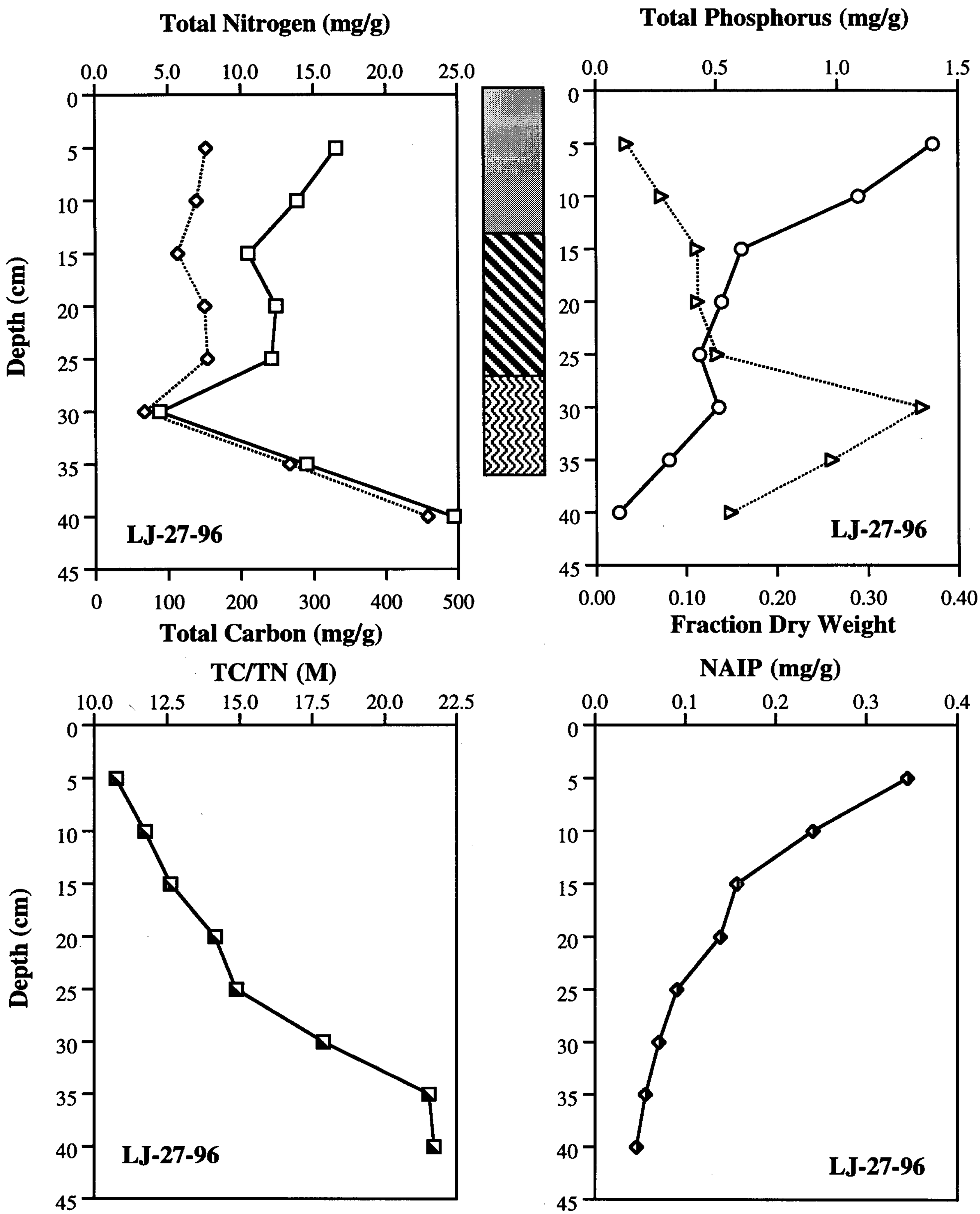


Fig. B25: LJ-27-96 nutrient concentration profiles.

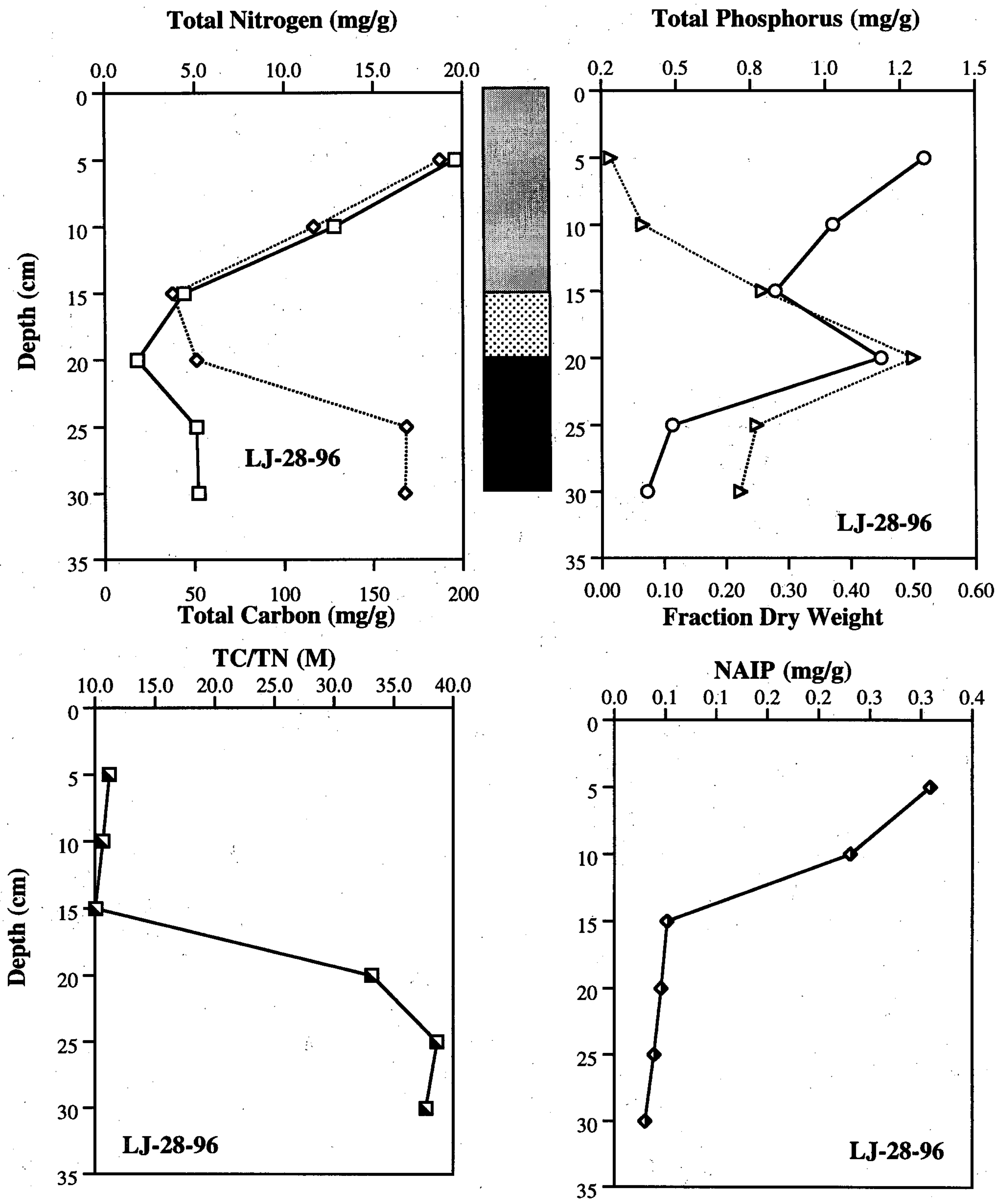


Fig. B26: LJ-28-96 nutrient concentration profiles.

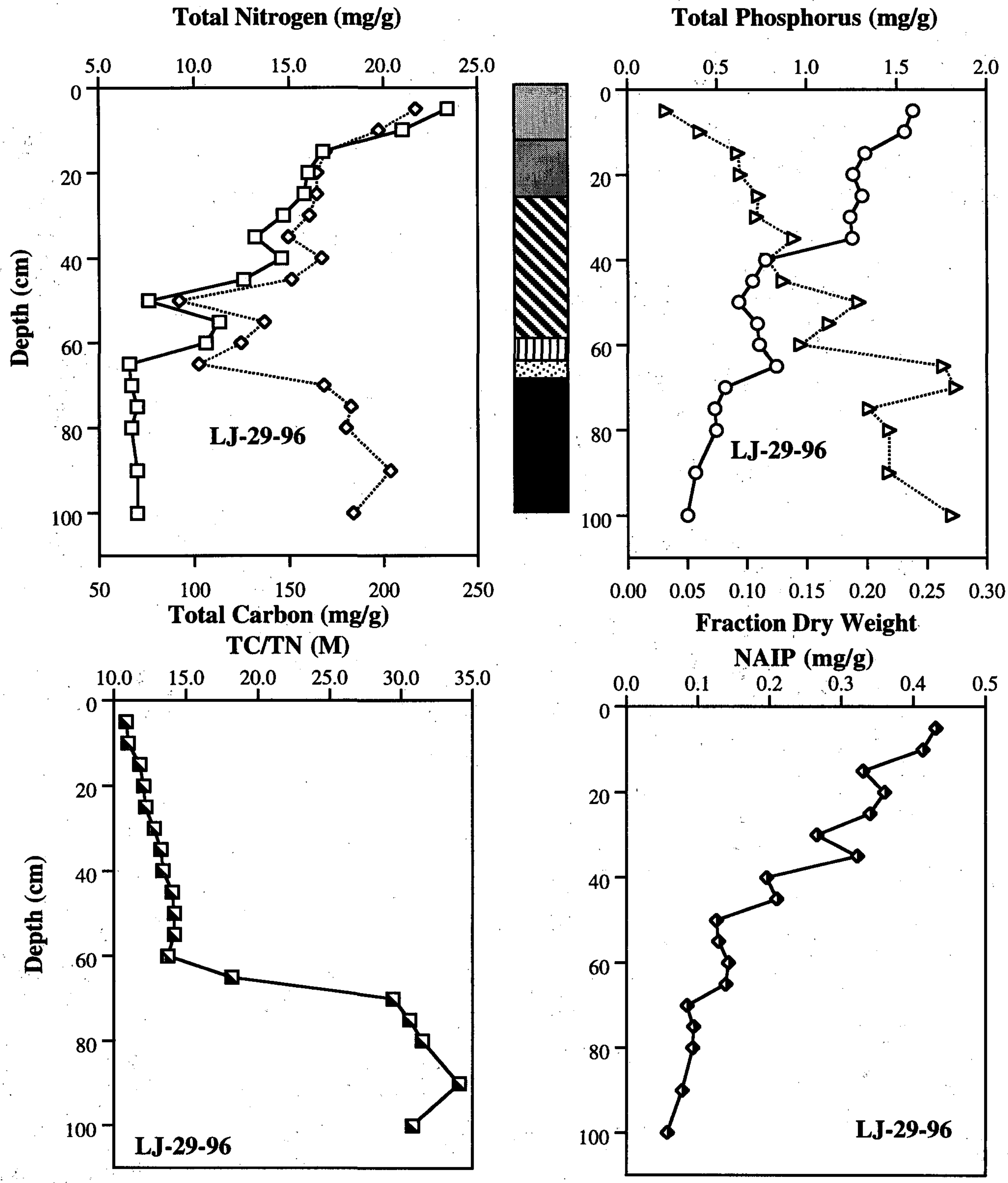


Fig. B27: LJ-29-96 nutrient concentration profiles.

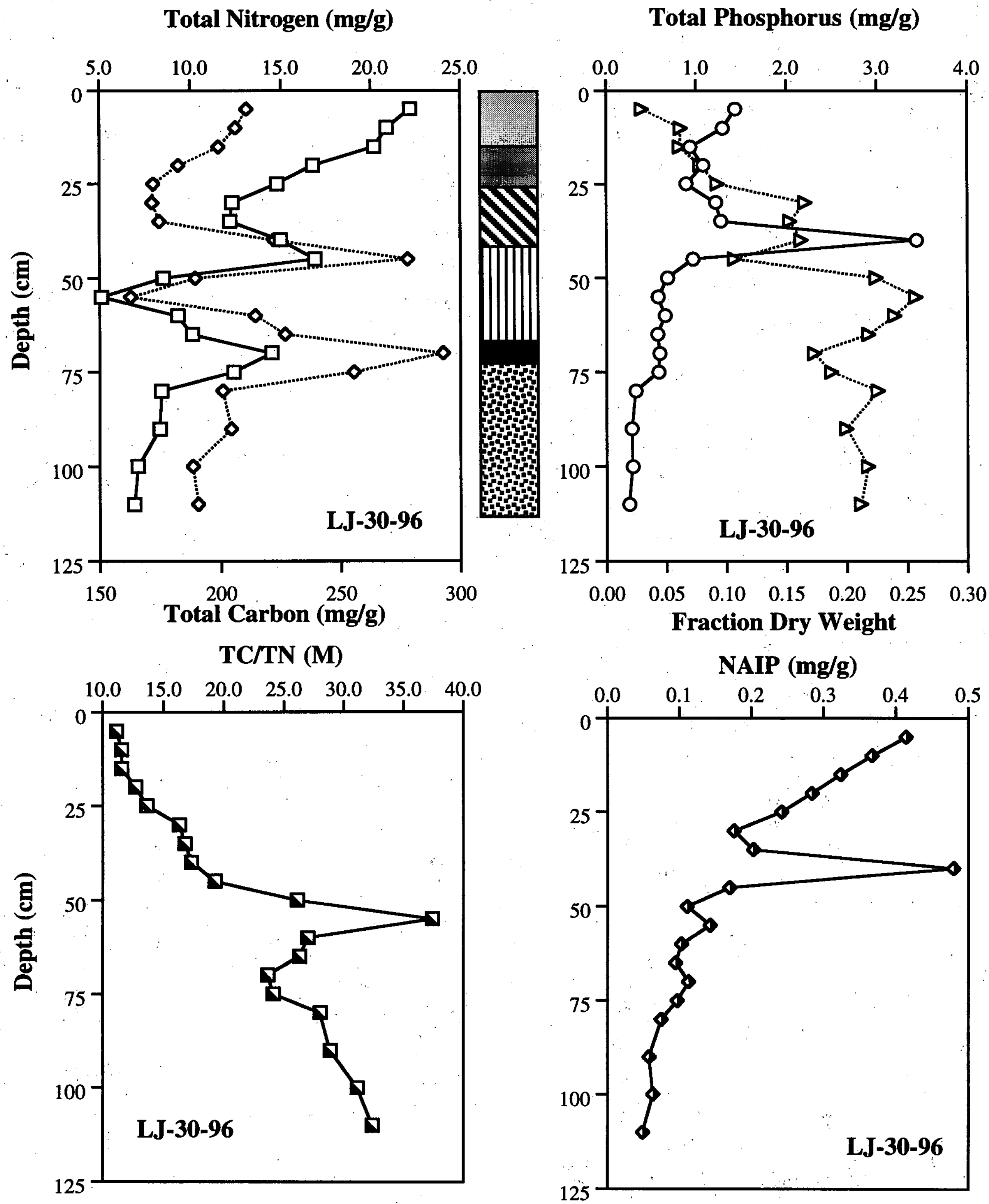


Fig. B28: LJ-30-96 nutrient concentration profiles.

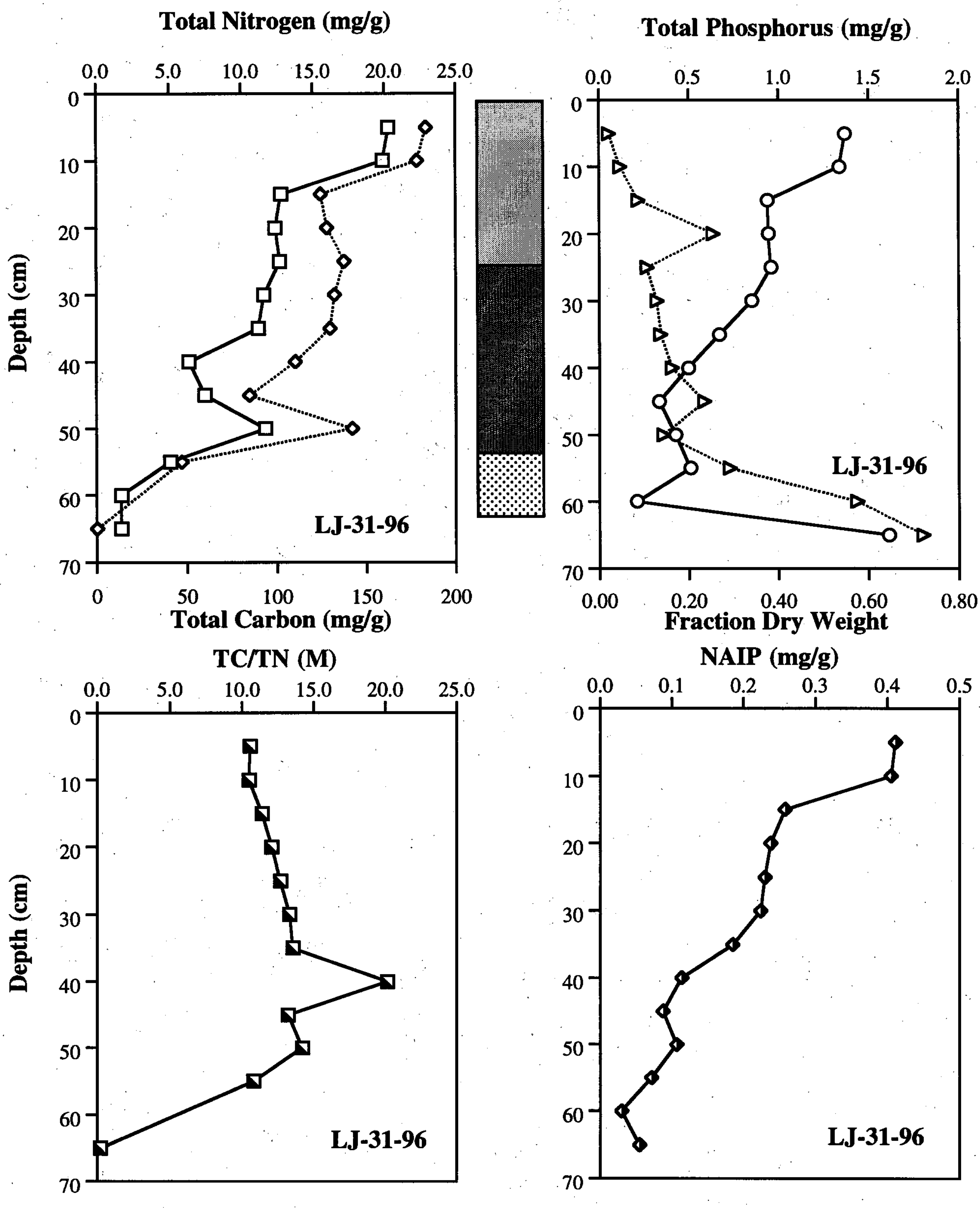


Fig. B29: LJ-31-96 nutrient concentration profiles.

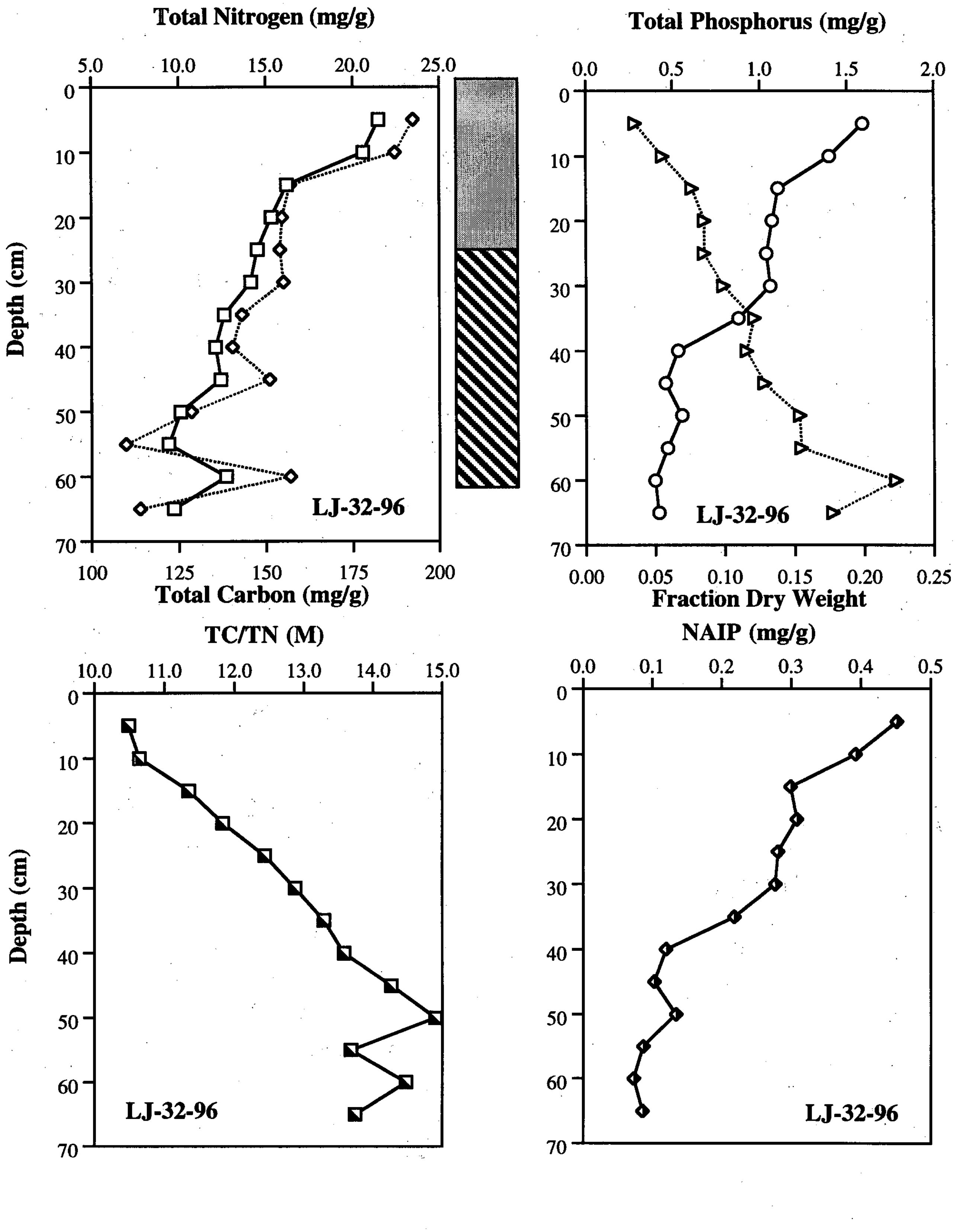


Fig. B30: LJ-32-96 nutrient concentration profiles.

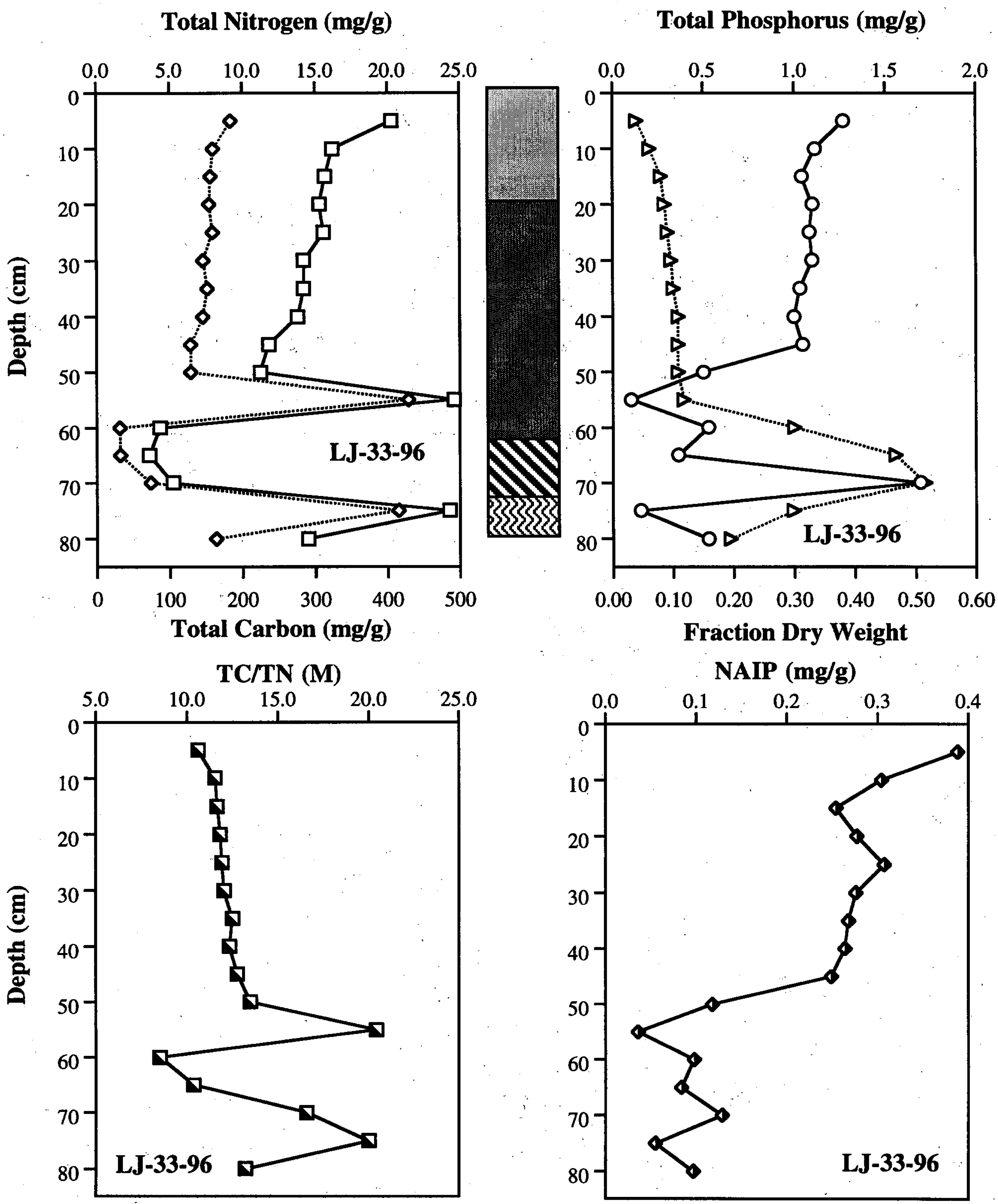


Fig. B31: LJ-33-96 nutrient concentration profiles.

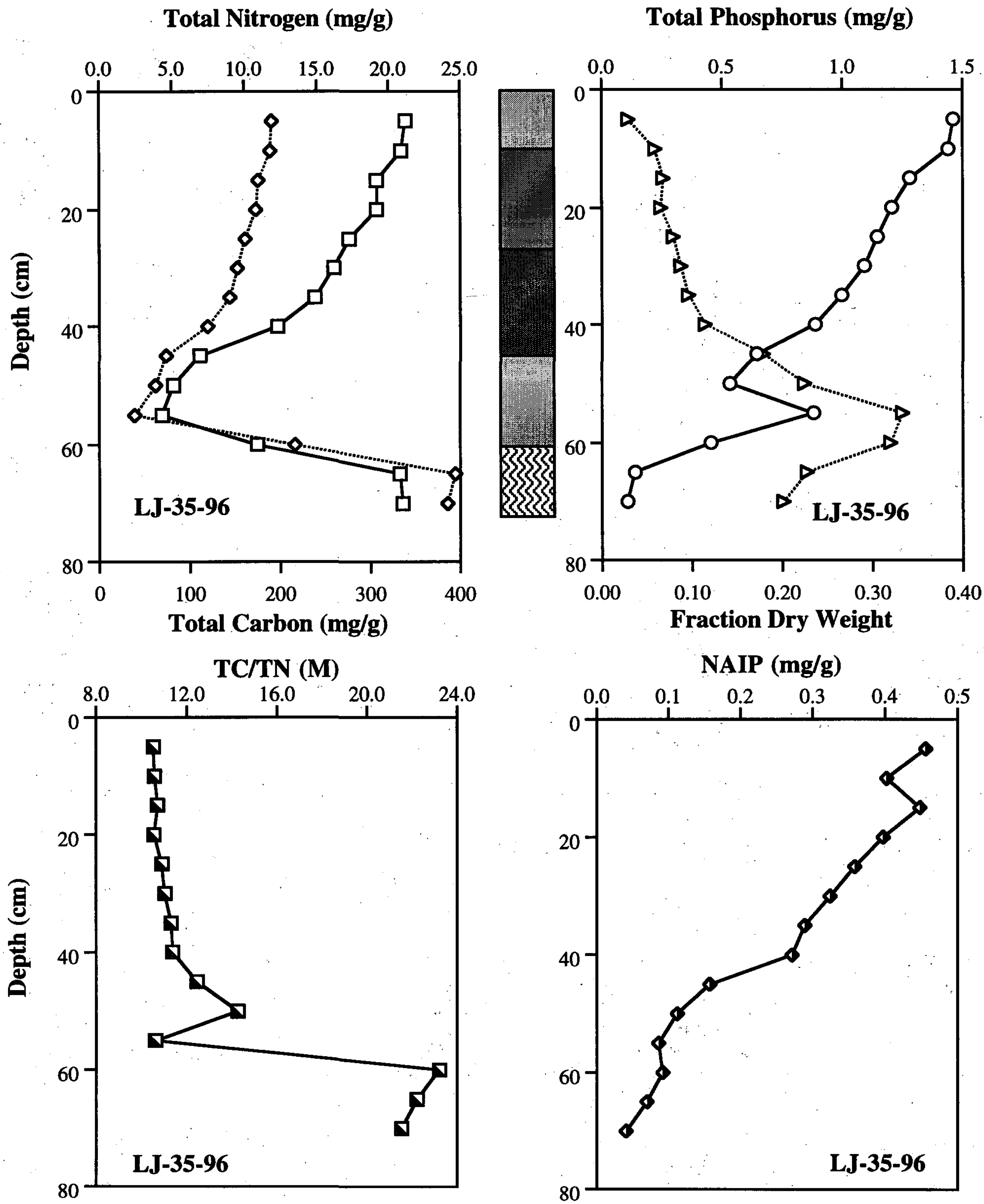


Fig. B32: LJ-35-96 nutrient concentration profiles.

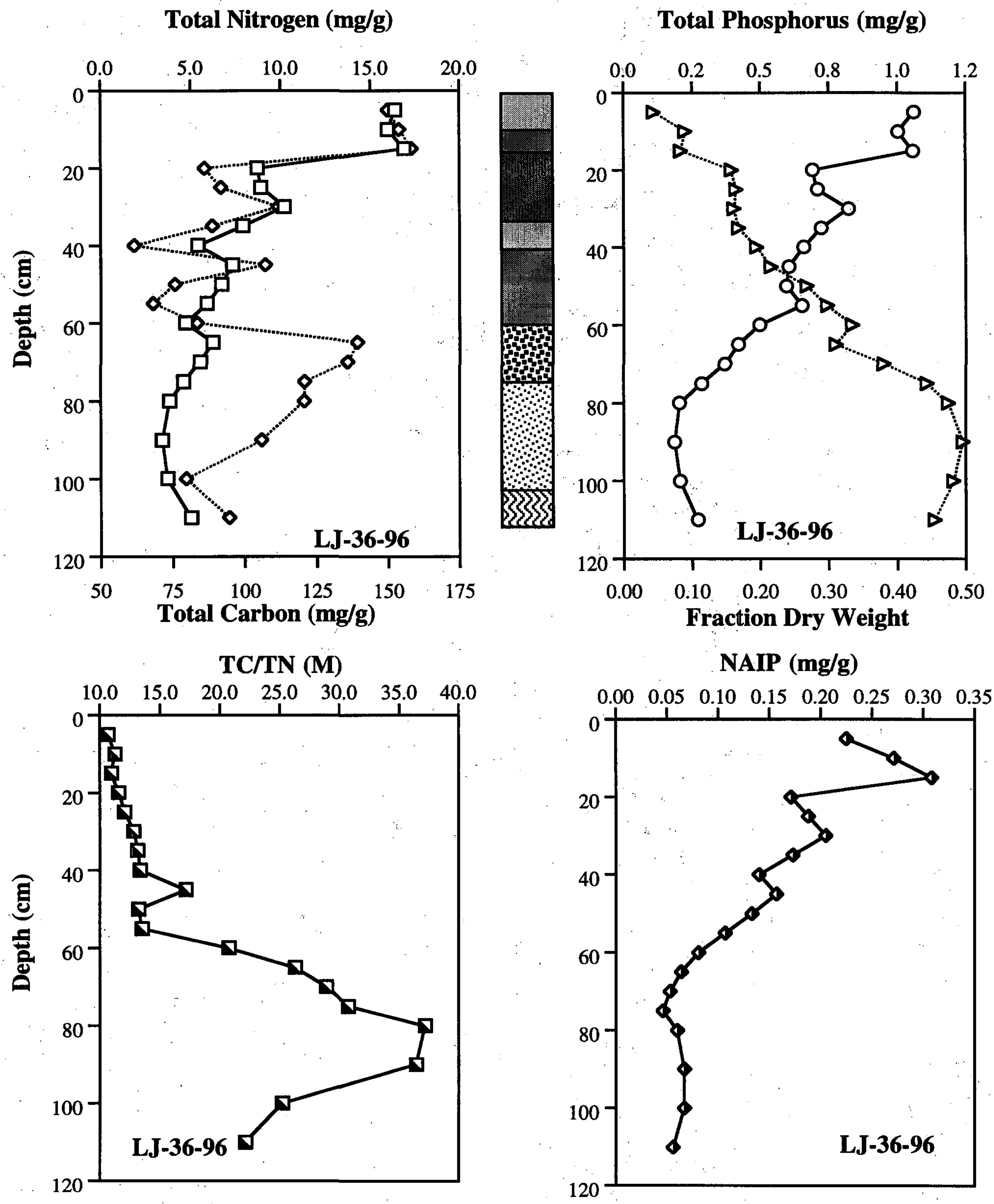


Fig. B33: LJ-36-96 nutrient concentration profiles.

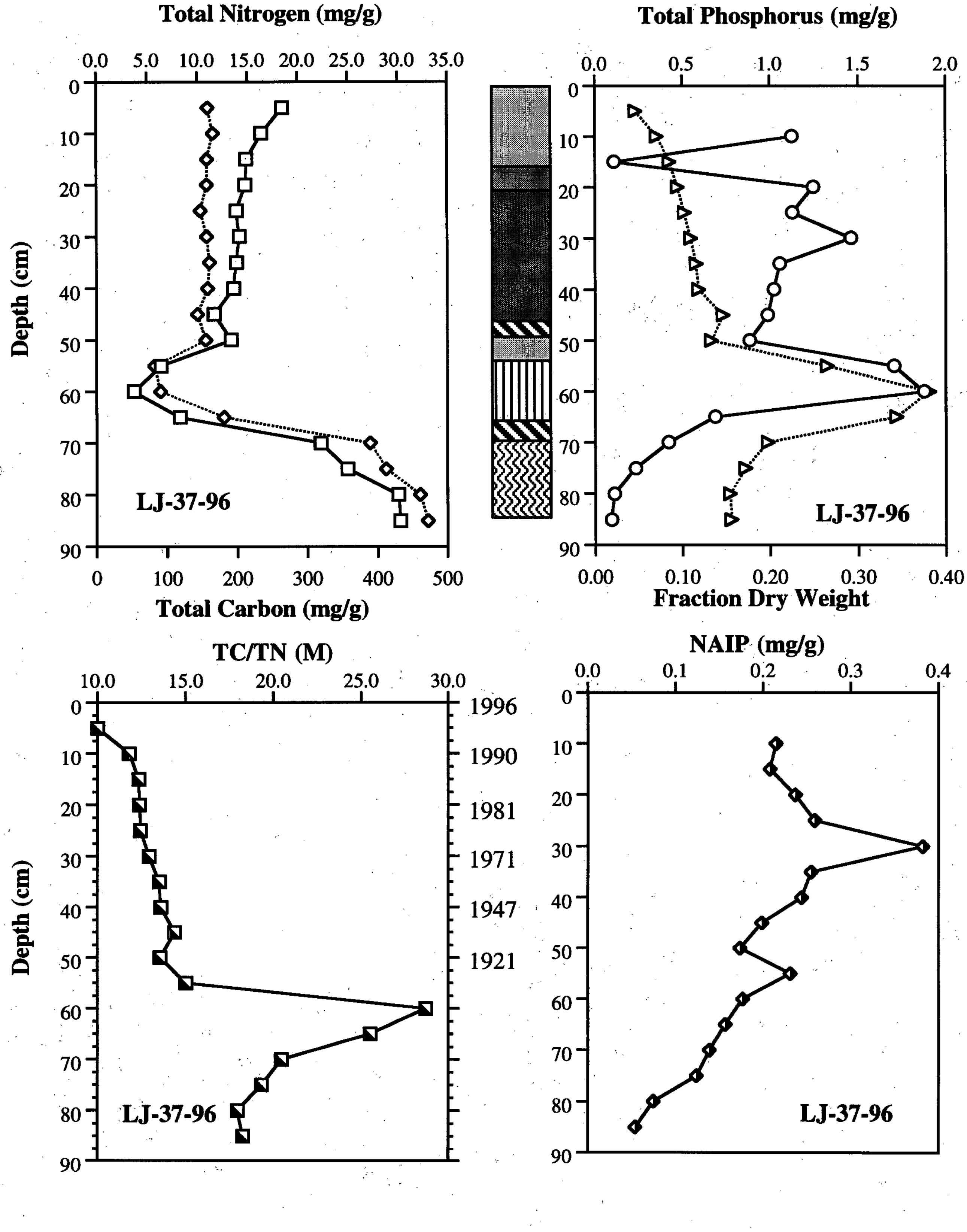


Fig. B34: LJ-37-96 nutrient concentration profiles.

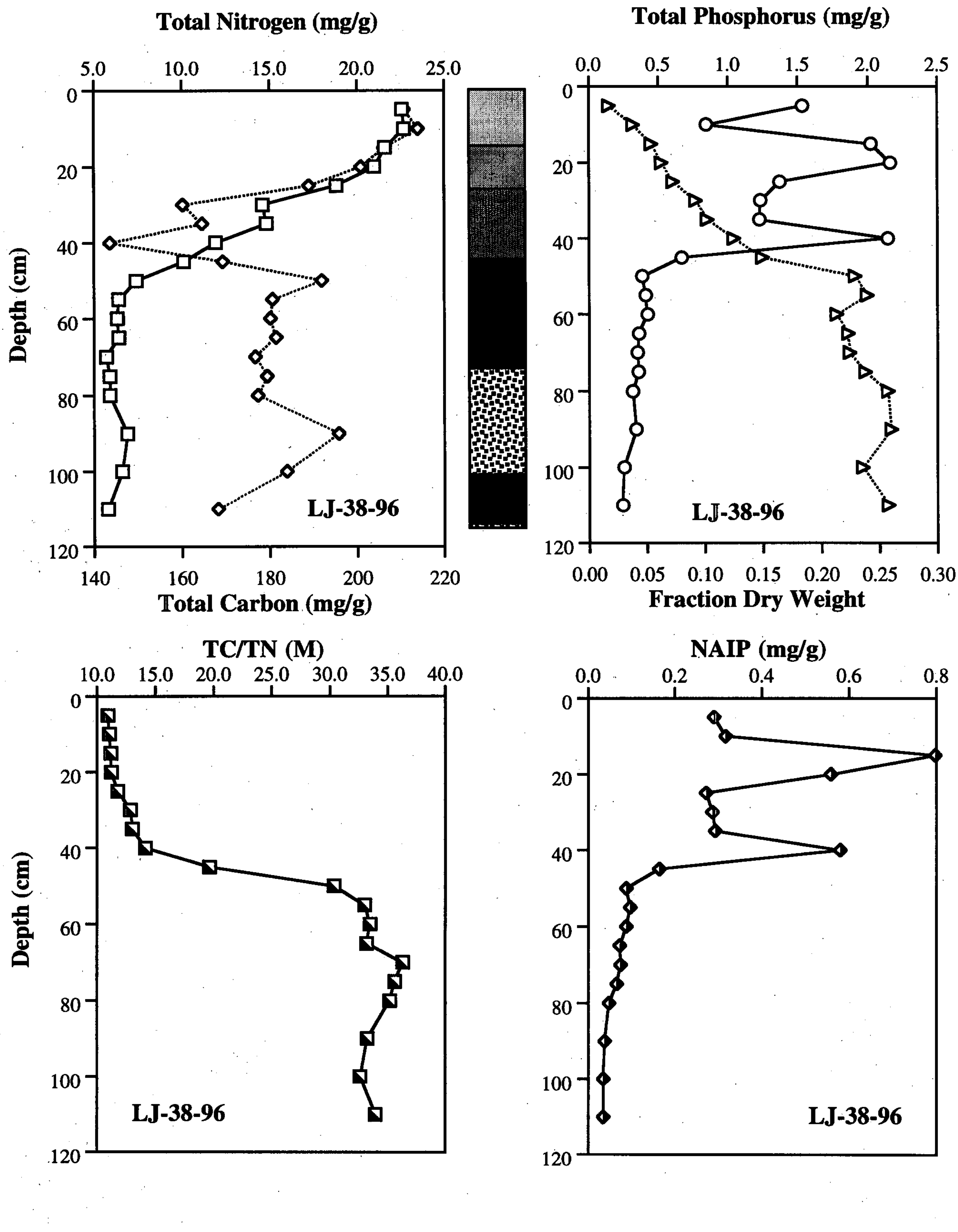


Fig. B35: LJ-38-96 nutrient concentration profiles.

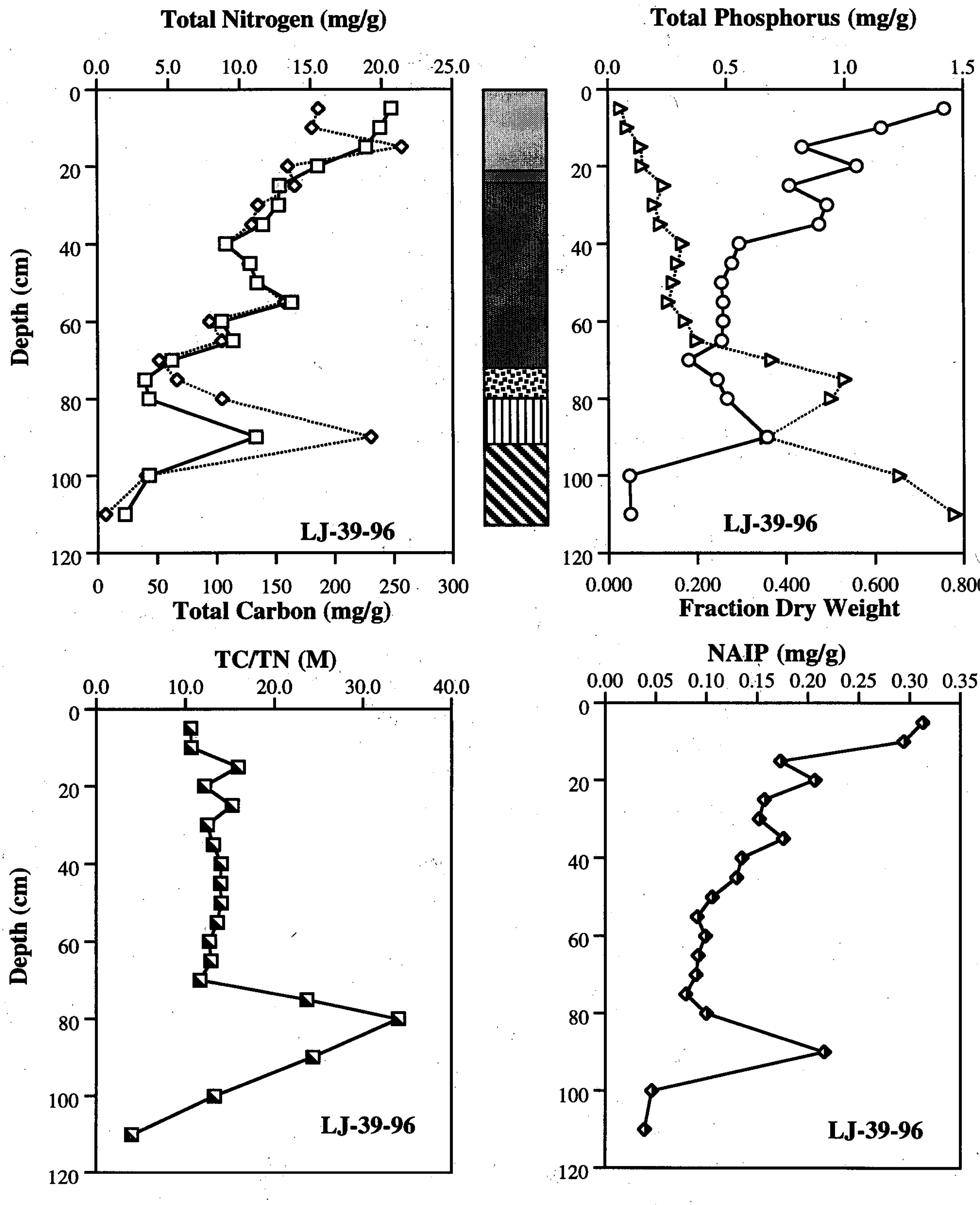


Fig. B36: LJ-39-96 nutrient concentration profiles.

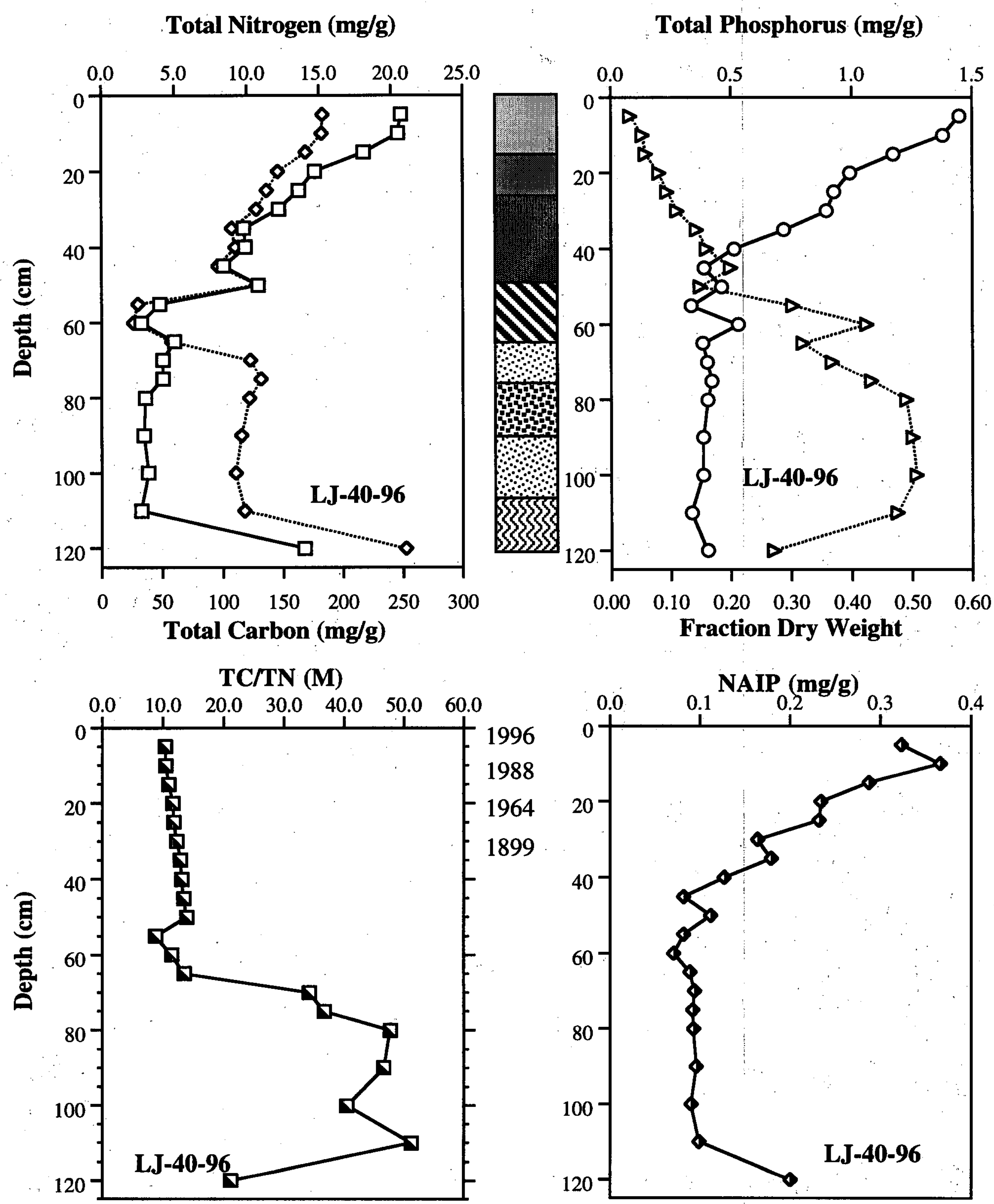


Fig. B37: LJ-40-96 nutrient concentration profiles.

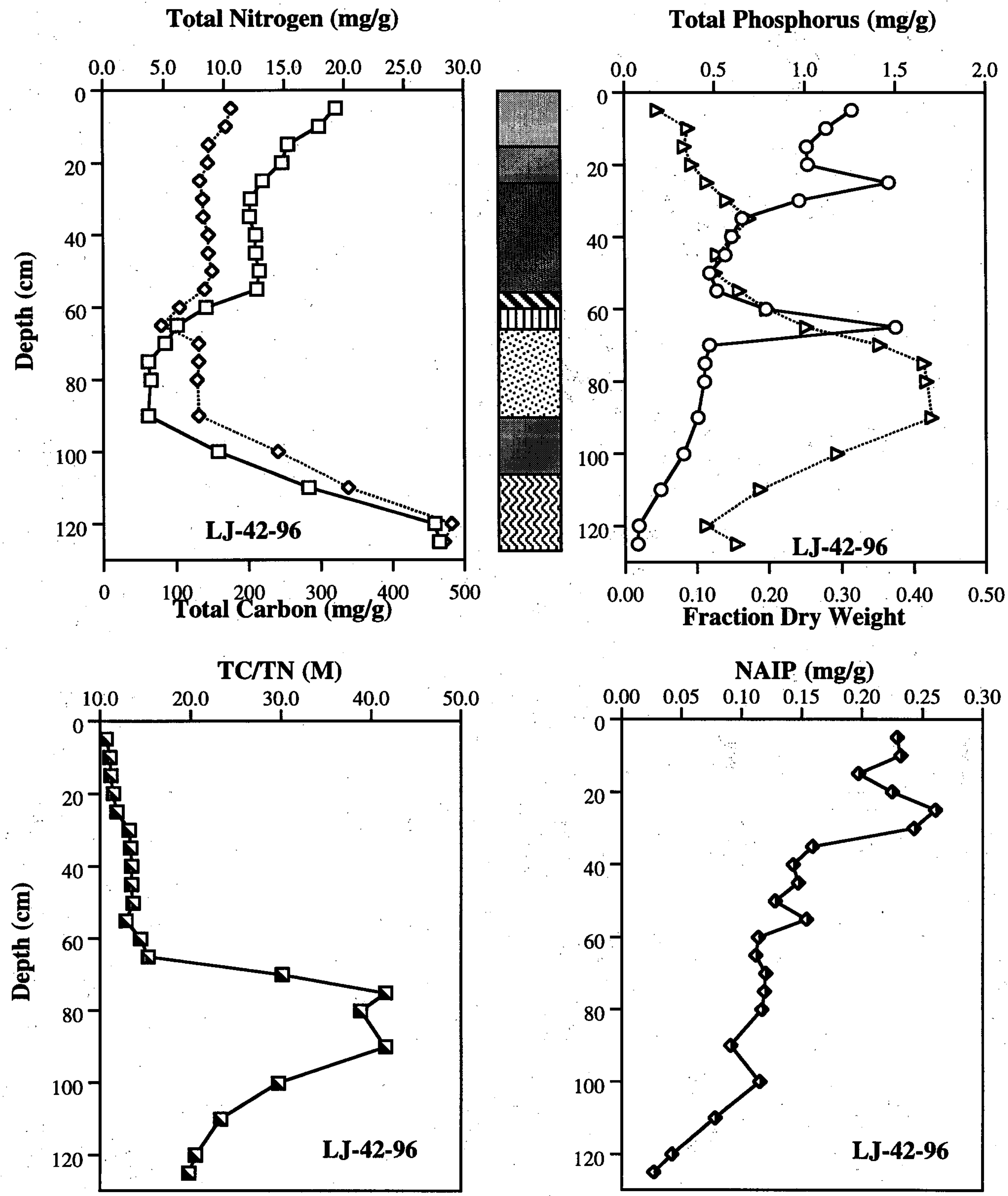


Fig. B38: LJ-42-96 nutrient concentration profiles.

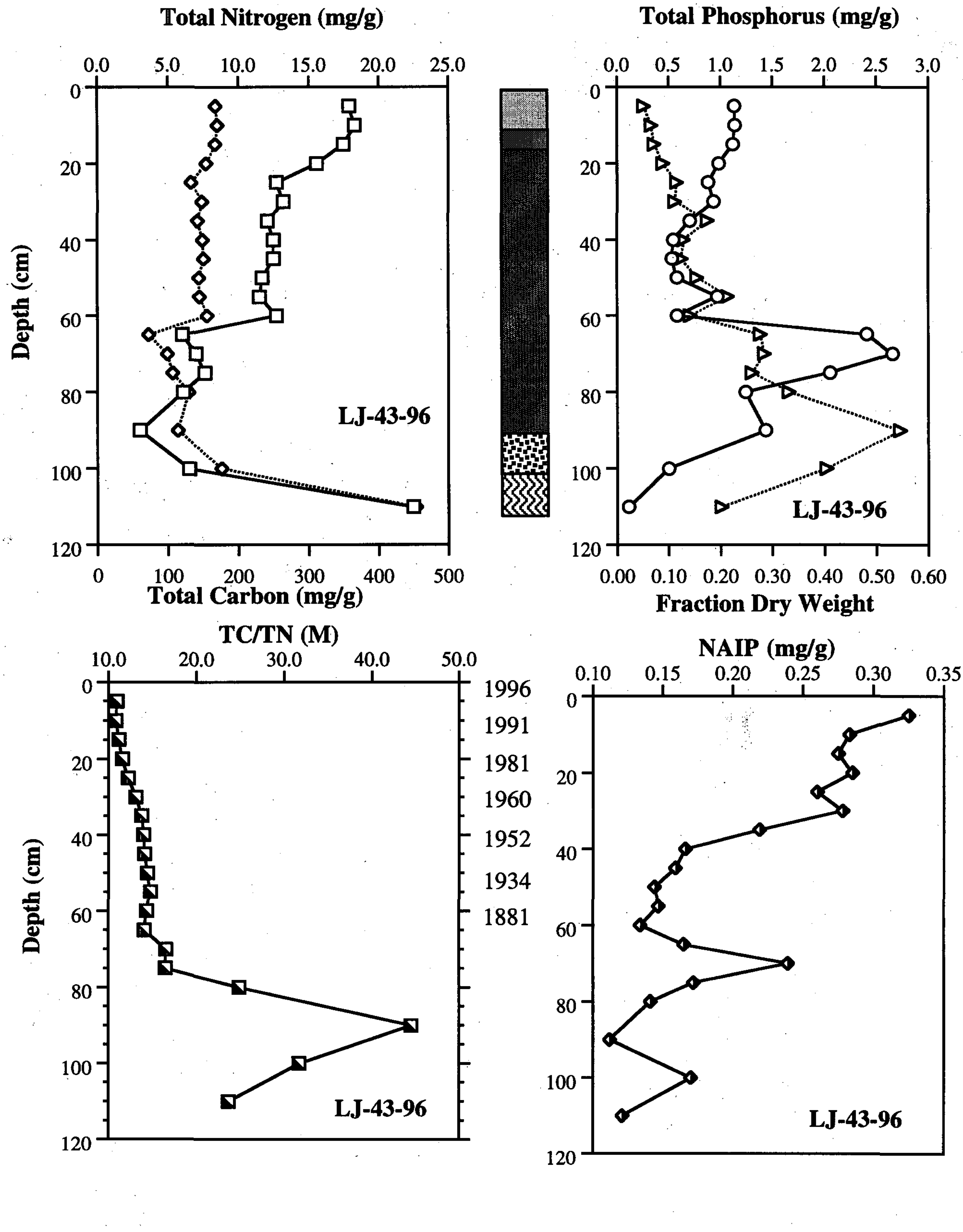


Fig. B39: LJ-43-96 nutrient concentration profiles.

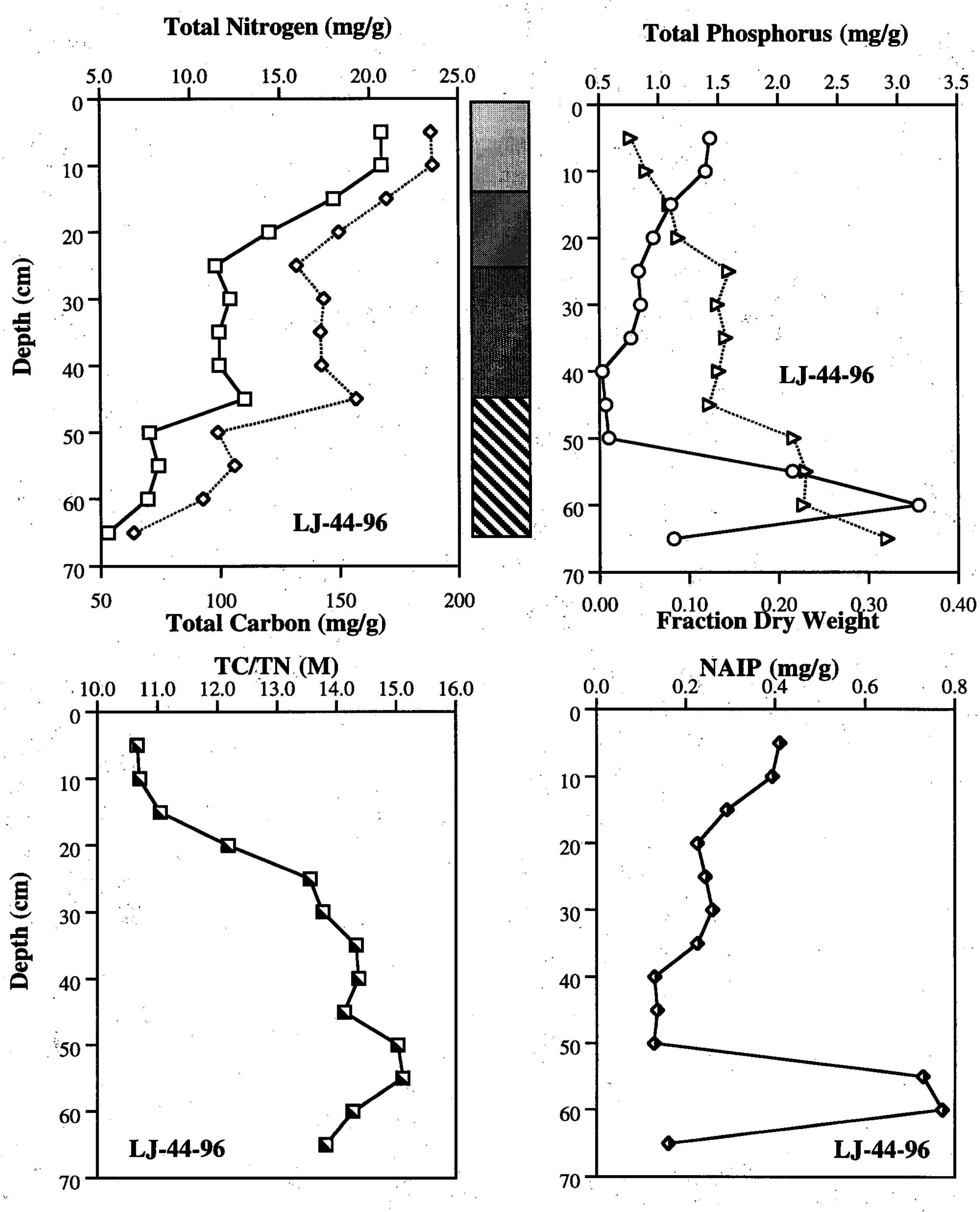


Fig. B40: LJ-44-96 nutrient concentration profiles.

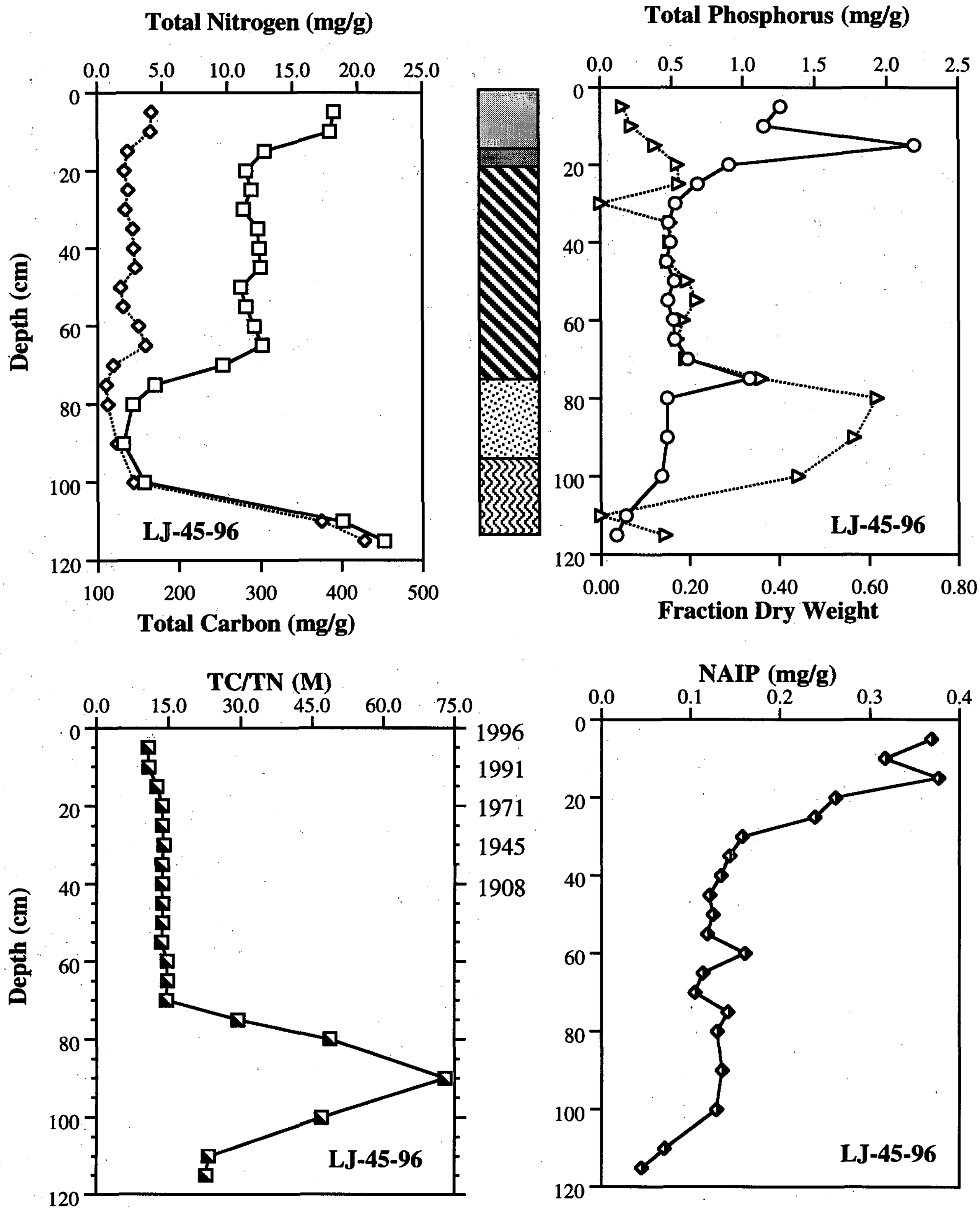


Fig. B41: LJ-45-96 nutrient concentration profiles.

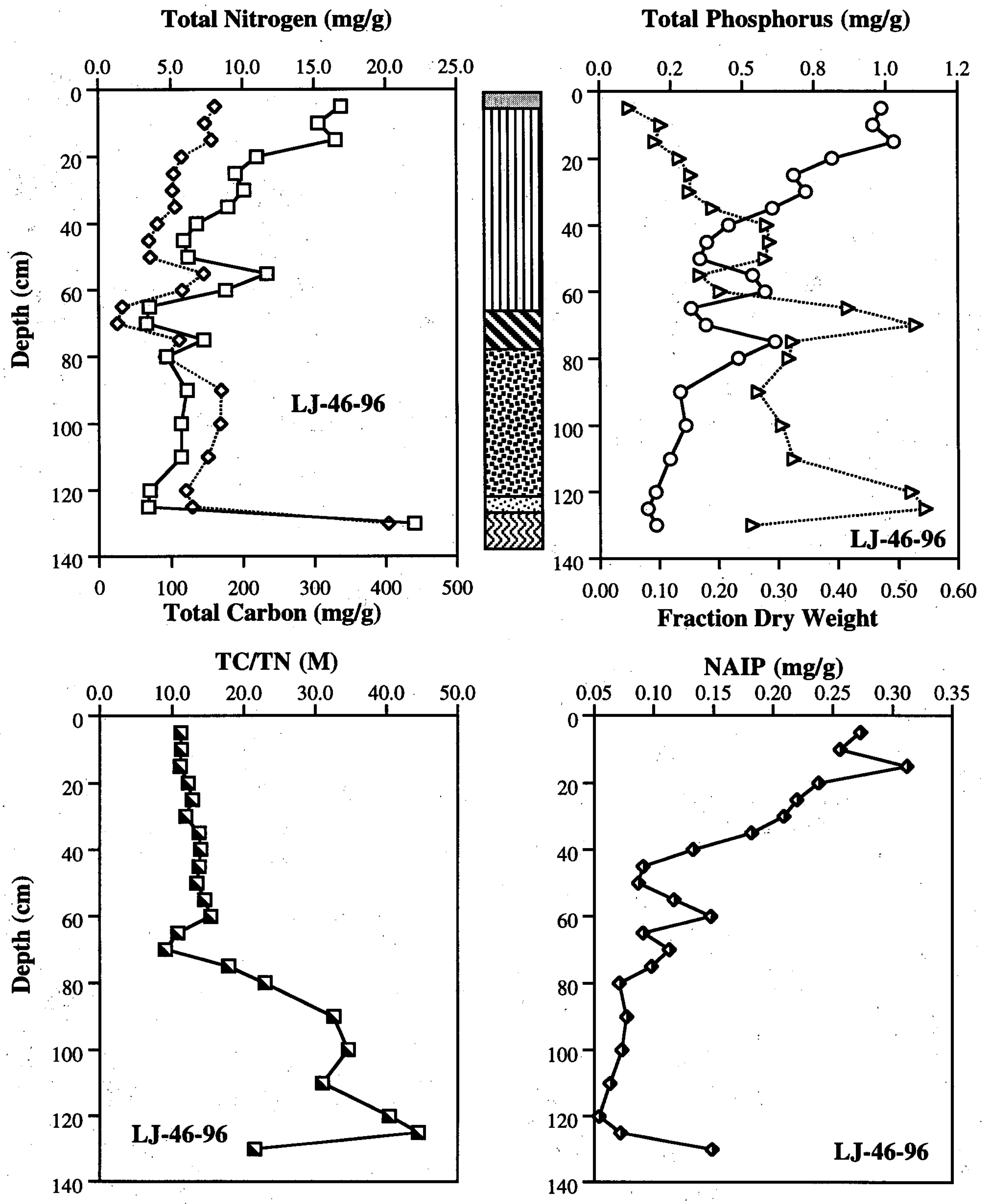


Fig. B42: LJ-46-96 nutrient concentration profiles.

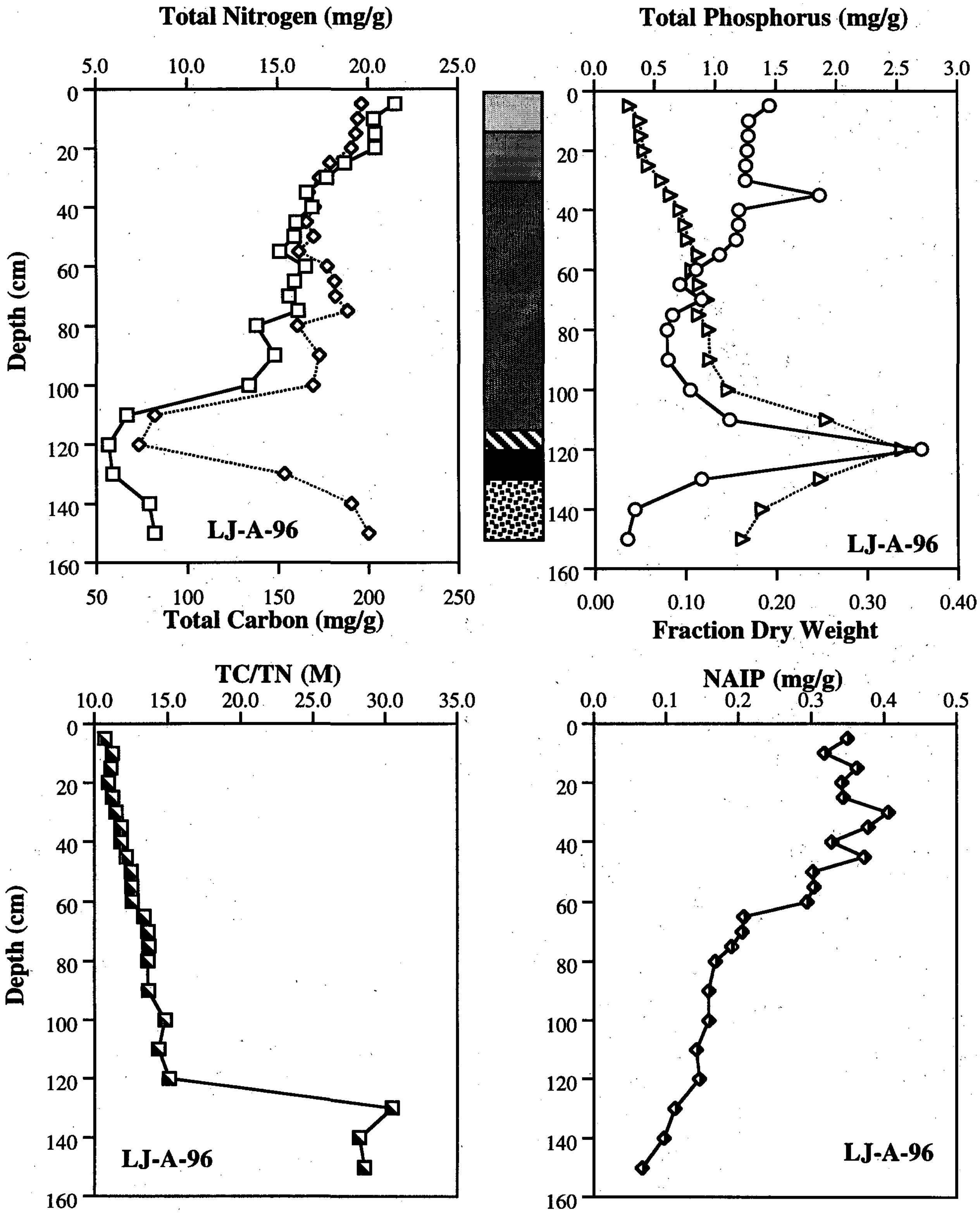


Fig. B43: LJ-A-96 nutrient concentration profiles.

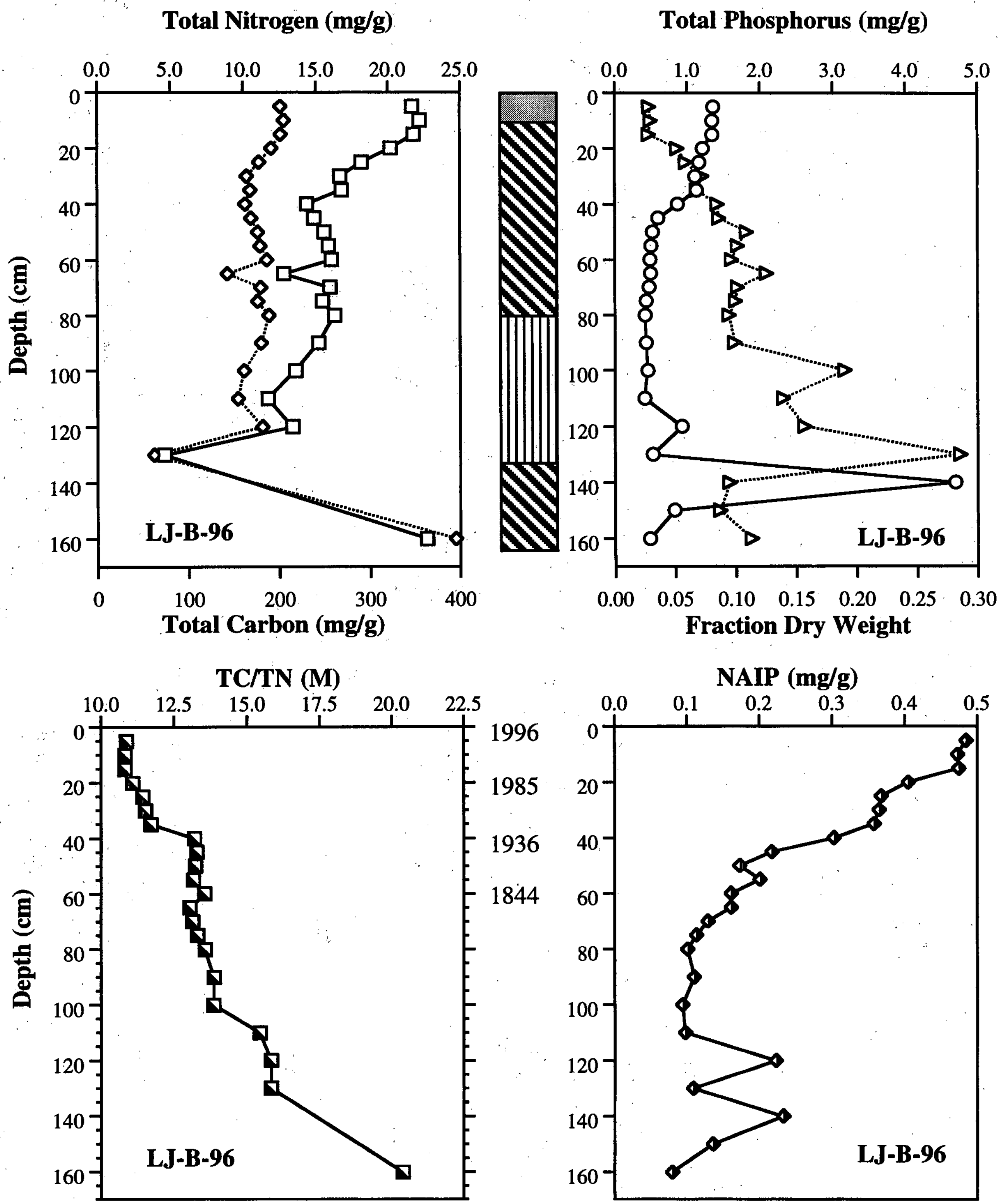


Fig. B44: LJ-B-96 nutrient concentration profiles.

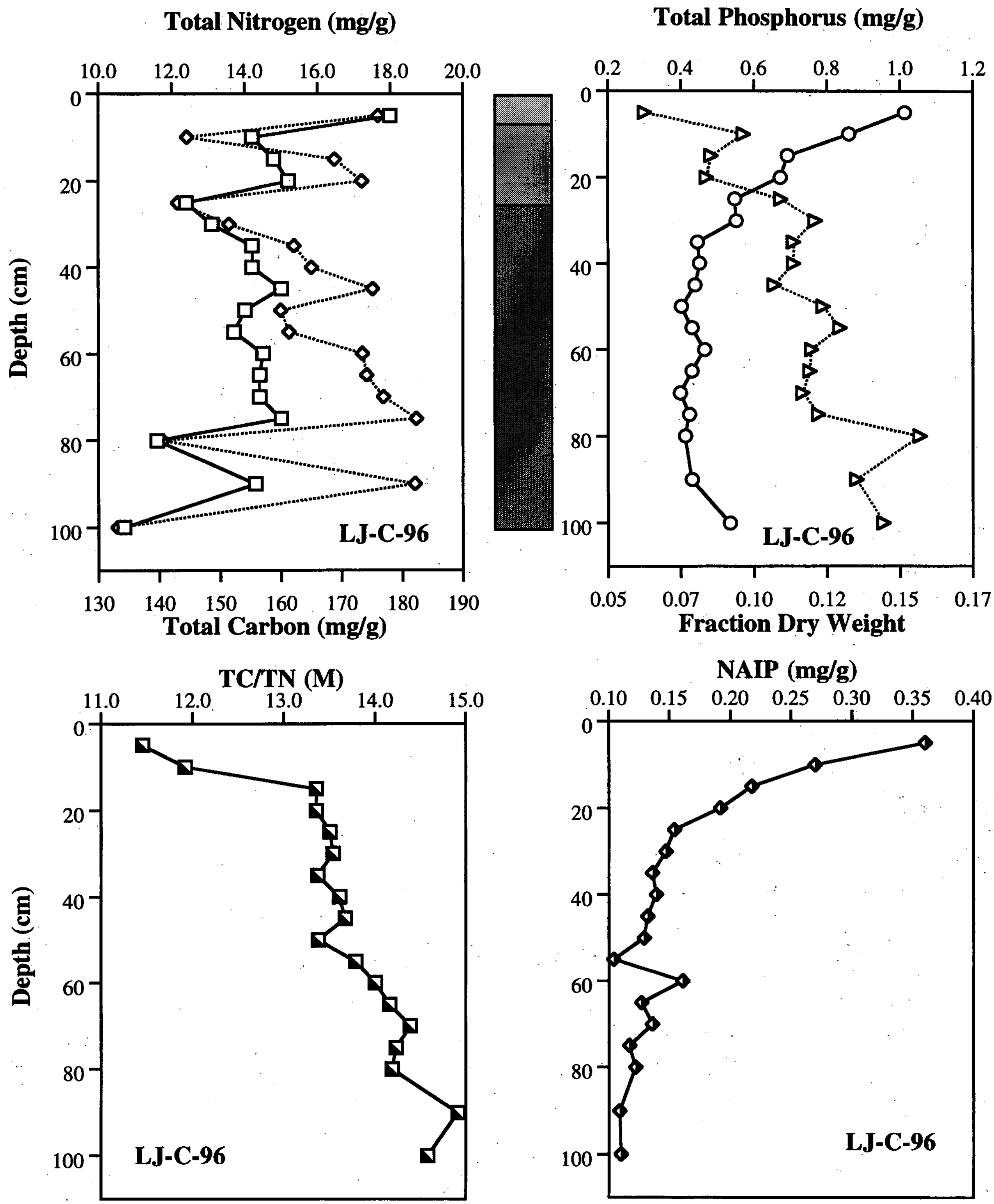


Fig. B45: LJ-C-96 nutrient concentration profiles.

Table B1. Total storage of the entire core length for each measured constituent in 49 sediment cores collected on Lake Jesup.

Core ID	Cum. Mass (g/cm2)	Cum. Organic Matter (g/cm2)	Cum. Inorg. Matter (g/cm2)	Cum. TP (mg/ cm2)	Cum. NAIP (mg/ cm2)	Cum. TN (mg/ cm2)	Cum TC (mg/ cm2)	Cum. BSi* (mg/ cm2)
Group 04								
LJ-03-96	10.89	3.339	7.554	11.12	2.045	131.4	1655	
LJ-04-96†	22.21	3.895	11.96	19.24	2.450	157.2	2421	
LJ-05-96	12.04	5.228	6.813	7.996	1.533	184.4	2957	
LJ-09-96	17.21	5.522	11.69	9.212	2.397	235.2	2552	
LJ-10-96	10.81	2.706	8.100	2.216	0.4679	109.0	2014	
LJ-11-96	13.07	3.203	9.864	18.97	4.189	125.4	1906	
LJ-16-96	18.01	5.126	12.88	16.42	1.612	190.8	2444	
LJ-17-96	6.414	0.2330	6.181	0.3976	0.3977	12.83	22.45	
LJ-18-96	5.226	1.886	3.339	3.380	1.062	67.97	1208	
Group 21								
LJ-06-96	23.90	4.599	19.30	23.97	2.976	217.9	2482	
LJ-12-96†	21.99	6.435	15.56	20.71	3.358	257.2	3377	
LJ-13-96	27.45	6.639	20.82	22.26	2.428	243.0	3452	
LJ-21-96†	18.72	4.742	13.98	15.48	2.542	200.5	2477	1882
LJ-22-96	29.05	6.061	22.99	10.79	2.691	225.6	2900	
LJ-23-96	26.04	2.583	23.46	9.770	2.554	103.4	975.5	
Group 37								
LJ-19-96	19.18	5.070	14.11	11.86	1.758	183.6	3365	838.6
LJ-20-96	22.79	6.443	16.34	12.87	1.463	203.8	4149	
LJ-28-96	8.493	1.057	7.436	7.327	0.9041	35.95	764.2	
LJ-29-96	19.28	4.958	14.32	13.12	2.819	181.6	3132	
LJ-30-96	21.93	8.390	13.54	15.25	2.846	221.4	4477	
LJ-34-96	8.602	0.8879	7.714	4.016	0.9003	20.17	98.81	
LJ-35-96	12.37	3.724	8.640	8.540	2.025	148.0	2065	
LJ-36-96	44.86	6.313	38.54	16.76	3.909	237.4	4544	
LJ-37-96†	15.82	5.538	10.28	15.95	2.886	209.8	3156	
LJ-38-96	22.77	5.613	17.16	11.79	2.567	179.9	4110	

Table B1. Sediment and nutrient storage for the entire core length continued.

Core ID	Cum. Mass (g/cm2)	Cum. Organic Matter (g/cm2)	Cum. Inorg. Matter (g/cm2)	Cum. TP (mg/ cm2)	Cum. NAIP (mg/ cm2)	Cum. TN (mg/ cm2)	Cum TC (mg/ cm2)	Cum. BSi* (mg/ cm2)
Group 40								
LJ-25-96	14.48	1.934	12.54	7.014	1.939	78.40	735.5	
LJ-26-96	15.08	2.972	12.11	6.157	1.511	101.1	1907	
LJ-27-96	7.564	2.282	5.283	3.576	0.7269	87.79	1352	
LJ-31-96	21.24	2.529	18.71	18.28	2.031	111.4	1014	
LJ-32-96	9.800	3.169	6.631	6.997	1.727	124.6	1400	
LJ-33-96	18.10	4.433	13.67	15.47	2.559	184.7	2332	
LJ-39-96	47.52	5.338	42.18	15.78	4.162	259.0	3615	
LJ-40-96†	48.16	6.182	41.98	20.80	5.206	242.2	5548	2503
LJ-41-96	19.47	0.5184	18.95	2.697	0.7928	15.61	32.63	
Group 43								
LJ-42-96	31.08	8.520	22.56	16.67	3.727	294.9	5565	
LJ-43-96†	31.88	7.741	24.13	37.09	5.120	267.4	4923	
LJ-44-96	11.01	2.705	8.304	14.70	3.799	109.9	1275	
Group 45								
LJ-45-96†	40.14	7.389	32.75	22.58	5.755	283.0	5902	2166
LJ-46-96	49.12	8.893	40.23	17.00	4.775	317.6	6254	
Group B								
LJ-01-96	17.89	5.097	12.79	15.75	2.883	228.8	2690	
LJ-02-96	17.31	5.142	12.17	20.03	4.277	201.7	2925	
LJ-07-96	14.27	5.287	8.984	11.94	3.234	226.9	2467	
LJ-08-96	22.16	8.360	13.80	20.15	3.710	337.7	5067	
LJ-14-96	20.69	6.502	14.19	10.46	2.738	251.4	3032	468.3
LJ-15-96	27.04	5.367	21.67	24.61	4.319	216.5	2510	
LJ-24-96	33.46	6.579	26.88	10.35	3.091	201.2	2405	
LJ-A-96	25.47	7.434	18.03	29.85	4.530	270.7	3729	
LJ-B-96†	20.04	8.011	12.03	16.45	3.257	238.5	2954	1460
LJ-C-96	13.10	4.424	8.680	6.607	1.884	179.3	2119	

†Cores dated using ^{210}Pb.

*Biogenic silica was only measured on six cores.

Table B2. Storage for each measured constituent since 1900 in 49 sediment cores collected on Lake Jesup.

Core ID	Cum. Mass (g/cm2)	Cum. Organic Matter (g/cm2)	Cum. Inorg. Matter (g/cm2)	Cum. TP (mg/cm^2)	Cum. NAIP (mg/cm^2)	Cum. TN (mg/cm^2)	Cum TC (mg/cm^2)
Group 04							
LJ-03-96	3.034	0.9542	2.080	3.307	0.7189	43.07	470.4
LJ-04-96†	3.941	1.460	2.719	4.537	1.037	65.44	671.2
LJ-05-96	3.117	1.152	1.965	3.364	0.7436	51.90	552.3
LJ-09-96	6.345	0.4601	5.885	4.228	1.100	95.47	962.1
LJ-10-96	0.2072	0.02137	0.1859	0.1129	0.03191	1.223	11.81
LJ-11-96	5.094	1.563	3.532	7.184	1.750	73.58	734.5
LJ-16-96	2.158	0.7158	1.442	2.025	0.3941	32.78	351.3
LJ-17-96	6.414	0.2330	6.181	0.3977	0.3977	12.83	22.45
LJ-18-96	0.5581	0.08281	0.4753	0.4386	0.1897	4.241	37.00
Group 21							
LJ-06-96	2.475	0.8803	1.595	2.808	0.6588	49.76	441.0
LJ-12-96†	2.464	0.9255	1.539	2.985	0.7368	40.06	419.1
LJ-13-96	3.013	1.150	1.863	2.963	0.7459	50.76	530.7
LJ-21-96†	5.856	2.295	3.562	5.380	1.120	105.0	1183
LJ-22-96	2.969	0.9415	2.027	2.486	0.6883	45.21	486.2
LJ-23-96	2.980	1.038	1.942	3.825	1.617	47.05	492.0
Group 37							
LJ-19-96	3.911	1.498	2.413	4.280	0.8380	64.40	678.4
LJ-20-96	2.718	1.026	1.692	3.116	0.5511	44.42	477.7
LJ-28-96	0.5393	0.1317	0.4076	0.5813	0.1589	7.547	69.59
LJ-29-96	7.772	2.413	5.359	7.581	1.836	102.7	1136
LJ-30-96	4.576	1.729	2.847	7.389	1.345	69.12	866.2
LJ-34-96	1.581	0.1865	1.395	1.232	0.3479	9.487	69.26
LJ-35-96	3.386	1.306	2.081	3.833	1.181	56.73	528.4
LJ-36-96	3.917	1.021	2.896	3.257	0.8460	44.96	448.5
LJ-37-96†	7.208	2.130	5.078	8.182	1.655	88.93	997.6
LJ-38-96	3.142	1.220	1.922	5.089	1.360	52.09	546.7

Table B2. Sediment and nutrient storage since 1900 continued.

Core ID	Cum. Mass (g/cm2)	Cum. Organic Matter (g/cm2)	Cum. Inorg. Matter (g/cm2)	Cum. TP (mg/cm^2)	Cum. NAIP (mg/cm^2)	Cum. TN (mg/cm^2)	Cum TC (mg/cm^2)
Group 40							
LJ-25-96	1.401	0.3898	1.011	1.466	0.4183	19.21	177.8
LJ-26-96	1.208	0.2528	0.9548	1.051	0.3019	13.28	119.8
LJ-27-96	0.5914	0.1834	0.4080	0.6977	0.1609	8.697	84.70
LJ-31-96	3.557	1.027	2.530	3.458	0.9077	46.91	483.0
LJ-32-96	3.760	1.321	2.440	4.119	1.112	58.15	595.3
LJ-33-96	4.447	1.518	2.930	4.760	1.232	64.71	664.7
LJ-39-96	1.164	0.4629	0.7014	1.209	0.2624	21.19	234.8
LJ-40-96†	2.349	0.7699	1.579	2.485	0.5745	36.17	350.8
LJ-41-96	4.049	0.04888	4.000	0.3725	0.08098	3.239	12.55
Group 43							
LJ-42-96	5.602	1.826	3.776	5.004	1.100	76.27	810.3
LJ-43-96†	7.419	2.504	4.914	6.025	1.545	97.40	1098
LJ-44-96	4.903	1.650	3.253	4.124	1.142	66.78	739.1
Group 45							
LJ-45-96†	6.654	2.081	4.573	6.071	1.543	83.57	937.9
LJ-46-96	5.751	1.437	4.314	3.859	1.139	57.75	620.9
Group B							
LJ-01-96	3.390	1.295	2.095	3.738	0.7435	57.81	599.7
LJ-02-96	4.722	1.783	2.939	7.004	1.974	77.51	821.0
LJ-07-96	2.821	1.136	1.685	2.567	0.6922	56.53	544.4
LJ-08-96	1.667	0.5790	1.088	1.225	0.3154	25.08	267.2
LJ-14-96	3.930	1.242	2.688	3.045	0.6253	56.09	615.3
LJ-15-96	1.973	0.6994	1.274	1.813	0.4636	30.19	317.8
LJ-24-96	1.838	0.5548	1.284	1.498	0.7978	21.27	249.4
LJ-A-96	4.653	1.836	2.816	5.911	1.603	81.73	814.8
LJ-B-96†	3.236	1.319	1.918	3.061	1.031	55.11	568.6
LJ-C-96	1.800	0.6295	1.171	1.425	0.4519	27.40	294.3

†Cores dated using ^{210}Pb.

Table B3. Fraction of dry mass and organic matter associated with each of four time periods when changes in human impact occurred on Lake Jesup, Florida.

Time Period (y)	LJ-04-96	LJ-21-96	LJ-37-96	LJ-40-96	LJ-43-96	LJ-45-96	LJ-B-96
Mass							
1985.1-1996	0.154	0.063	0.084	0.136	0.150	0.189	0.207
1950 - 1985	0.368	0.693	0.408	0.528	0.480	0.465	0.355
1920 -1949.9	0.326	0.068	0.186	0.200	0.263	0.290	0.106
1900 -1919.9	0.152	0.176	0.322	0.136	0.107	0.056	0.332
OM							
1985.1-1996	0.200	0.081	0.108	0.172	0.189	0.199	0.303
1950 - 1985	0.377	0.650	0.480	0.539	0.485	0.455	0.439
1920 -1949.9	0.267	0.076	0.200	0.173	0.233	0.290	0.094
1900 -1919.9	0.155	0.193	0.211	0.117	0.093	0.056	0.333

Table B4. Fraction of total phosphorus, non-apatite inorganic phosphorus, and total nitrogen associated with each of four time periods when changes in human impact occurred on Lake Jesup, Florida.

Time Period (y)	LJ-04-96	LJ-21-96	LJ-37-96	LJ-40-96	LJ-43-96	LJ-45-96	LJ-B-96
TP							
1985.1-1996	0.233	0.122	0.048	0.183	0.206	0.348	0.291
1950 - 1985	0.435	0.689	0.374	0.531	0.449	0.466	0.417
1920 -1949.9	0.253	0.058	0.163	0.171	0.227	0.156	0.097
1900 -1919.9	0.089	0.132	0.415	0.115	0.118	0.030	0.0194
NAIP							
1985.1-1996	0.220	0.172	0.045	0.191	0.210	0.292	0.298
1950 - 1985	0.460	0.679	0.480	0.566	0.527	0.496	0.400
1920 -1949.9	0.246	0.048	0.175	0.152	0.188	0.180	0.099
1900 -1919.9	0.074	0.101	0.300	0.091	0.075	0.033	0.202
TN							
1985.1-1996	0.225	0.084	0.118	0.183	0.200	0.233	0.259
1950 - 1985	0.375	0.680	0.471	0.546	0.468	0.433	0.349
1920 -1949.9	0.262	0.067	0.190	0.165	0.236	0.279	0.090
1900 -1919.9	0.139	0.169	0.221	0.106	0.096	0.056	0.302

APPENDIX C

Results of sediment silica analyses are given as diatom silica (DSi), sponge spicule silica (SSSi), mineral silica (Min-Si), biogenic silica (BSi), and total silica (TSi). For all depositional stations, the first 5 cm interval was analyzed. In addition, silica is given versus depth for six stations.

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
Surface Samples						
LJ-01-96	5	20.7	48.8	16.7	69.5	86.2
LJ-02-96	5	32.7	34.9	16.6	67.6	84.1
LJ-05-96	5	19.9	58.9	1.3	78.8	80.0
LJ-06-96	5	26.9	58.1	1.3	85.0	86.4
LJ-11-96	5	25.6	45.9	16.5	71.5	88.0
LJ-12-96	5	26.0	55.4	4.7	81.3	86.1
LJ-14-96	5	55.3	22.1	14.7	77.4	92.1
LJ-17-96	5	0.0	12.8	19.2	12.8	32.0
LJ-19-96	5	45.0	26.2	10.0	71.3	81.3
LJ-21-96	5	40.6	43.4	3.0	84.0	87.0
LJ-22-96	5	28.3	60.9	3.4	89.2	92.6
LJ-23-96	5	32.2	60.5	1.4	92.7	94.1
LJ-28-96	5	29.0	7.6	52.3	36.6	88.9
LJ-29-96	5	29.0	48.2	16.4	77.2	93.7
LJ-30-96	5	30.7	51.2	23.0	81.8	104.9
LJ-31-96	5	34.2	46.0	12.7	80.2	92.9
LJ-33-96	5	30.8	34.1	26.2	64.9	91.1
LJ-34-96	5	19.8	23.4	10.0	43.1	53.1
LJ-36-96	5	24.6	41.9	20.0	66.6	86.5
LJ-40-96	5	28.9	30.2	17.2	59.1	76.3
LJ-42-96	5	30.9	46.4	15.7	77.3	92.9
LJ-46-96	5	26.1	49.2	22.6	75.3	97.9
LJ-B-96	5	40.4	28.6	15.8	69.0	84.8

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
LJ-14-96	5	55.3	22.1	14.7	77.4	92.1
	10	43.8	27.8	16.8	71.6	88.4
	15	36.9	32.4	13.2	69.3	82.5
	20	36.9	39.0	14.1	75.8	89.9
	25	58.9	57.1	14.4	115.9	130.4
	30	52.8	53.9	18.4	106.7	125.1
	35	39.1	70.5	14.8	109.5	124.3
	40	59.5	51.1	17.6	110.5	128.1
	45	32.6	78.2	9.8	110.8	120.6
	50	47.0	54.0	16.3	101.0	117.4
	55					
	60					
	65					
	70					
	75					
	80					
	90					
	100					
	110					
	120					
	130					

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
LJ-19-96	5	45.0	26.2	10.0	71.3	81.3
	10	28.9	54.8	1.2	83.7	84.9
	15	27.7	36.8	9.7	64.6	74.2
	20	38.4	35.7	8.9	74.1	83.0
	25	41.0	48.0	1.4	88.9	90.4
	30	50.6	40.7	13.1	91.3	14.4
	35	57.2	44.1	13.5	101.4	114.8
	40	43.9	51.5	10.1	95.3	105.4
	45	39.7	52.6	12.5	92.2	104.7
	50	28.3	62.1	12.8	90.4	103.2
	55	20.1	24.0	11.7	44.1	55.8
	60	16.4	19.8	10.0	36.2	46.2
	65	26.5	25.3	6.3	51.8	58.1
	70	15.4	15.5	6.1	30.8	36.9
	75	0.0	0.7	0.5	0.7	1.2
	80	0.0	0.0	0.0	0.0	0.0
	90					
	100					
	110					

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
LJ-21-96	5	40.6	43.4	3.0	84.0	87.0
	10	26.1	58.8	3.5	84.9	88.4
	15	32.4	55.5	1.6	87.9	89.5
	20	35.4	61.2	1.8	96.6	98.4
	25	43.9	62.1	2.0	105.9	107.9
	30	42.8	75.2	2.3	118.0	120.3
	35	34.3	86.7	2.2	121.0	123.1
	40	43.3	76.1	12.4	119.4	131.8
	45	42.3	72.6	8.3	114.9	123.1
	50	41.1	74.5	3.9	115.6	119.5
	55	42.4	55.5	22.3	98.0	120.2
	60	32.4	64.7	15.5	97.1	112.6
	65	27.6	72.2	19.8	99.8	119.6
	70	29.3	62.8	21.7	92.1	113.8
	75	26.7	65.6	21.8	92.3	114.1
	80	10.0	27.9	30.4	37.9	68.3
	90	5.1	12.5	23.0	17.6	40.7
	100	0.0	0.0	8.7	0.0	8.7
	105			6.5		6.5

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
LJ-40-96	5	28.9	30.2	17.2	59.1	76.3
	10	23.3	37.9	15.3	61.3	76.6
	15	23.3	35.4	13	58.7	71.7
	20	32.0	30.5	15.7	62.6	78.2
	25	32.2	36.6	14.0	68.9	82.8
	30	29.0	43.7	12.8	72.7	85.5
	35	24.9	59.2	2.6	84.1	86.7
	40	19.2	65.4	2.3	84.6	86.9
	45	21.4	52.9	1.4	74.3	75.7
	50	18.5	75.5	4.3	94.0	98.3
	55	13.2	57.9	0.9	71.1	72.0
	60	16.5	36.4	1.2	52.9	54.2
	65	11.9	59.9	11.2	71.8	83.0
	70	16.0	77.8	1.1	93.8	94.9
	75	14.7	29.2	5.2	43.9	49.1
	80	6.2	15.8	4.0	22.0	26.0
	90	0.3	22.5	6.8	22.7	29.5
	100	0.0	24.3	0.8	24.3	25.1
	110	0.0	16.2	1.4	16.2	17.6
	120	5.7	42.1	1.1	47.7	48.8

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
LJ-45-96	5					
	10	38.5	41.6	42.0	80.1	122.1
	15	39.3	43.6	34.6	82.9	117.6
	20	57.1	63.4	35.1	120.5	155.6
	25	73.5	68.7	30.6	142.2	172.8
	30	80.6	92.6	1.3	173.2	174.5
	35	78.7	75.4	39.9	154.1	194.0
	40	65.1	87.8	36.0	152.9	188.8
	45	46.4	93.9	24.5	140.3	164.9
	50	53.1	62.8	21.9	115.9	137.8
	55	51.7	73.3	25.6	125.0	150.6
	60	49.7	82.4	41.6	132.1	173.7
	65	31.9	87.2	37.3	119.1	156.4
	70	39.0	73.8	32.2	112.8	145.0
	75	27.1	45.2	13.8	72.3	86.0
	80	3.1	0.0	18.1	3.2	21.3
	90	2.5	3.0	2.5	5.5	8.1
	100					
	110	8.2	3.6	2.1	11.8	13.9
	115	13.2	5.7	1.8	18.9	20.7

Station	Depth (cm)	Diatom SiO2 (mg/g)	Sponge Spicule SiO2 (mg/g)	Mineral SiO2 (mg/g)	Biogenic SiO2 (mg/g)	Total SiO2 (mg/g)
LJ-B-96	5	40.4	28.6	15.8	69.0	84.8
	10	36.9	37.2	8.6	74.1	82.7
	15	35.9	36.7	11.6	72.6	84.2
	20	33.3	37.7	14.0	71.0	85.0
	25	32.9	39.7	12.8	72.6	85.4
	30	39.7	31.7	18.1	71.4	89.5
	35	37.0	40.7	15.9	77.7	93.6
	40	49.2	52.1	19.6	101.3	120.9
	45	0.0	101.5	26.3	101.5	127.8
	50	0.0	104.8	19.6	104.8	124.4
	55	33.4	76.2	20.0	109.6	129.6
	60	22.1	78.9	25.1	101.0	126.1
	65	8.3	77.5	24.0	85.8	109.7
	70	12.6	81.8	21.6	94.4	116.0
	75	0.0	87.0	26.3	87.0	113.4
	80	22.8	60.9	27.1	83.7	110.9
	90	6.9	73.6	24.7	80.6	105.3
	100	0.0	76.2	25.7	76.2	101.9
	110	8.1	50.4	22.6	58.5	81.1
	120	5.6	32.0	19.3	37.5	56.8
	130	4.6	12.0	10.3	16.7	27.0
	140					
	150					
	160					

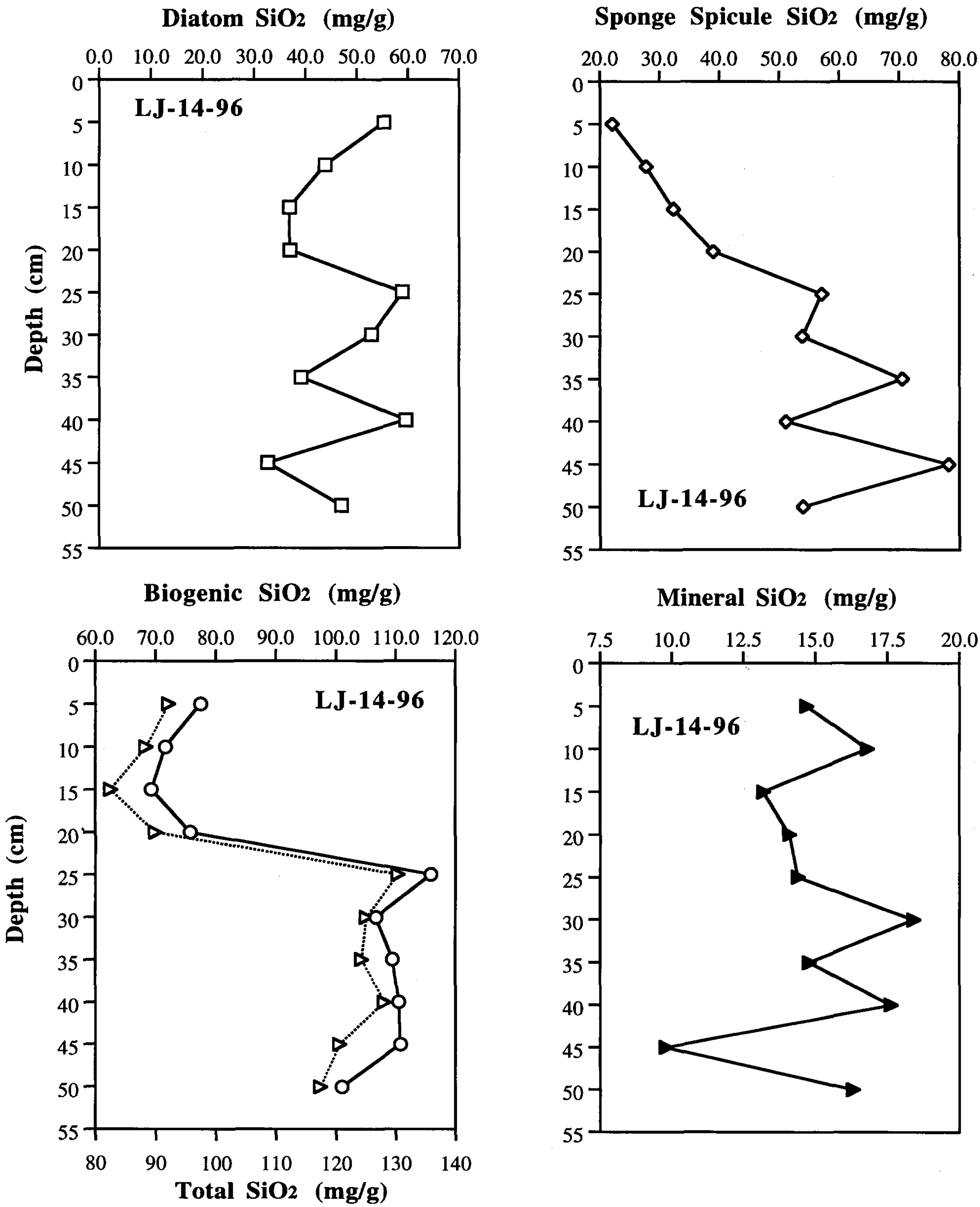


Fig. C1. Silica constituents (mg/g) for LJ-14-96 plotted versus depth (cm).

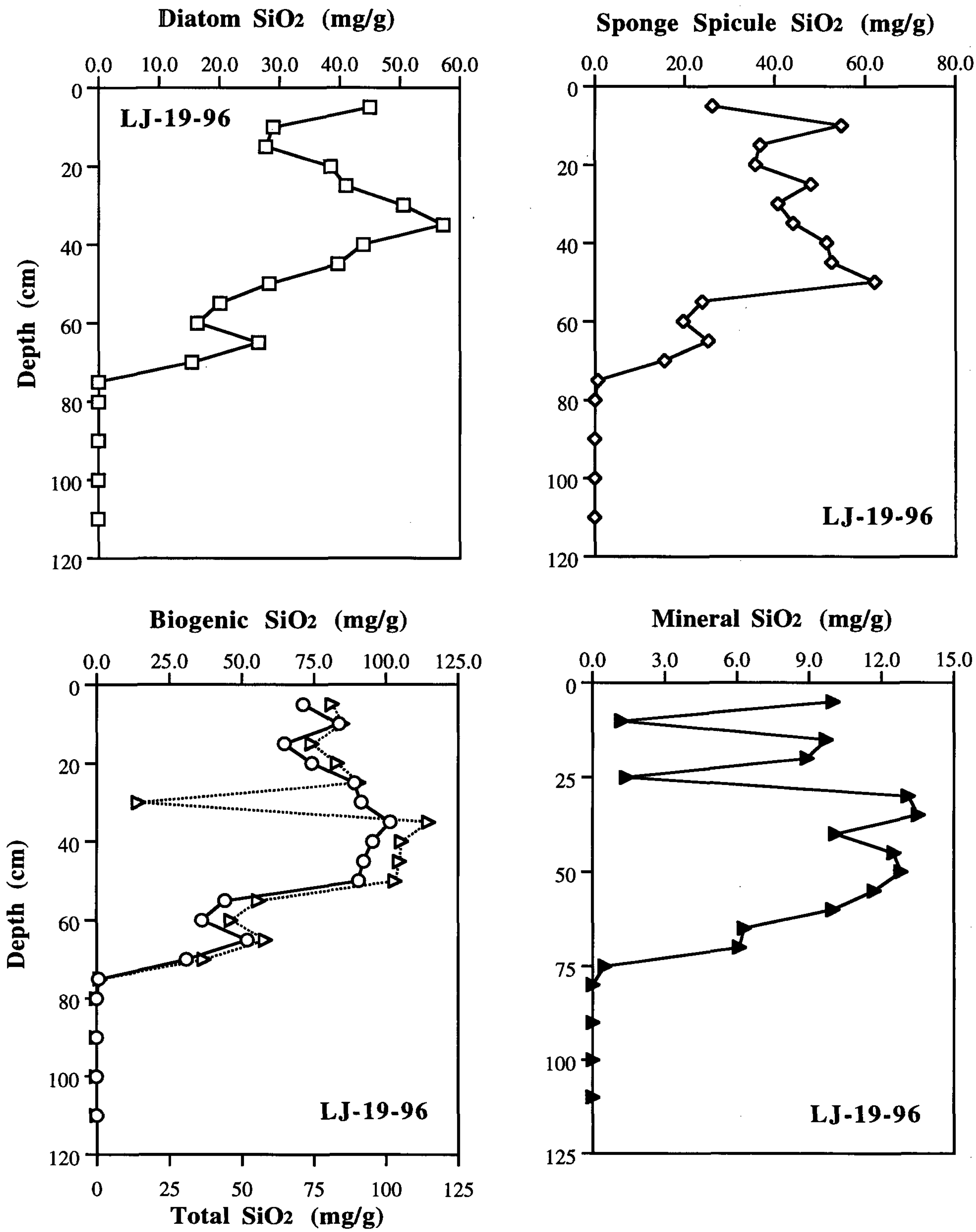


Fig. C2. Silica constituents (mg/g) for LJ-19-96 plotted versus depth (cm).

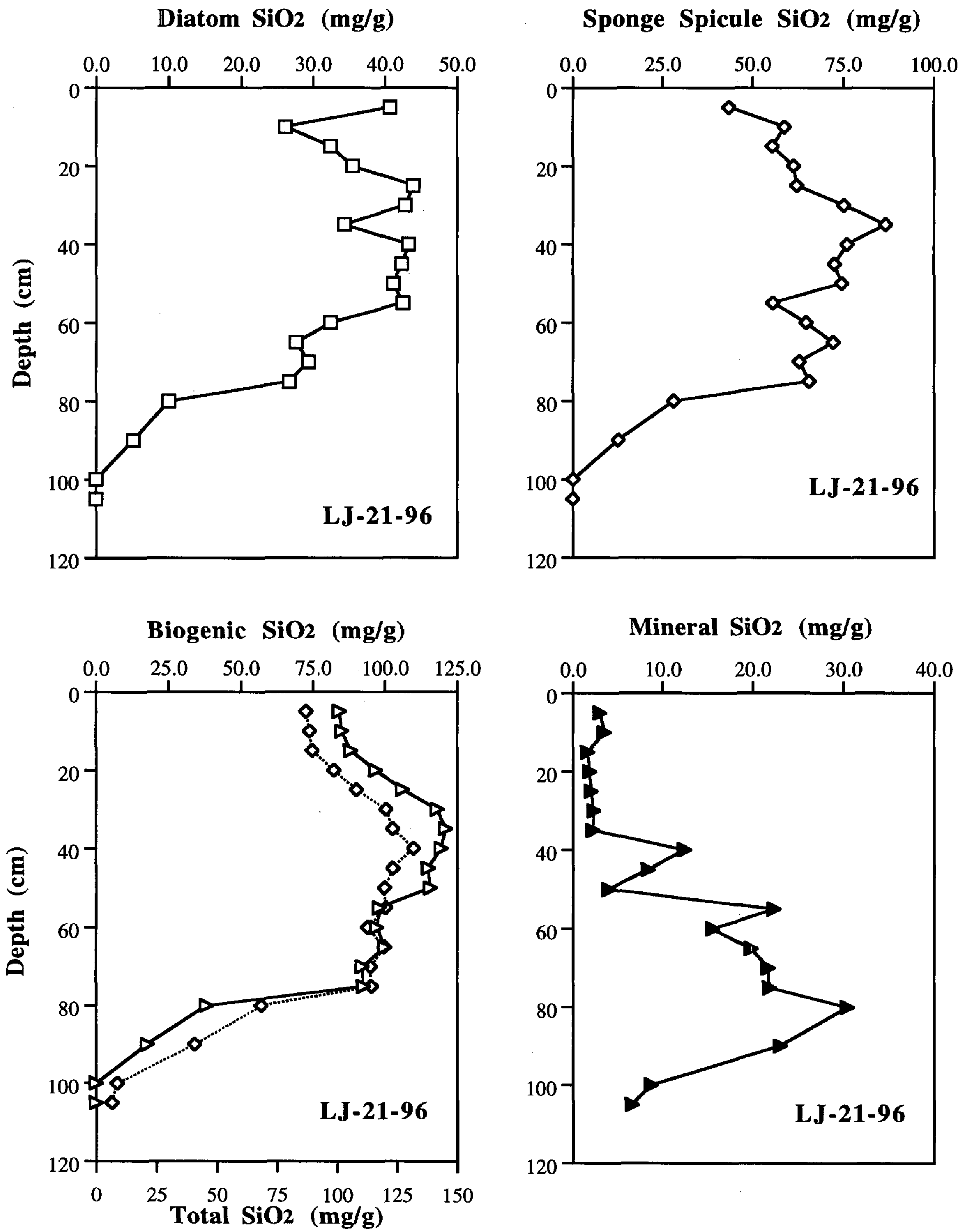


Fig. C3. Silica constituents (mg/g) for LJ-21-96 plotted versus depth (cm).

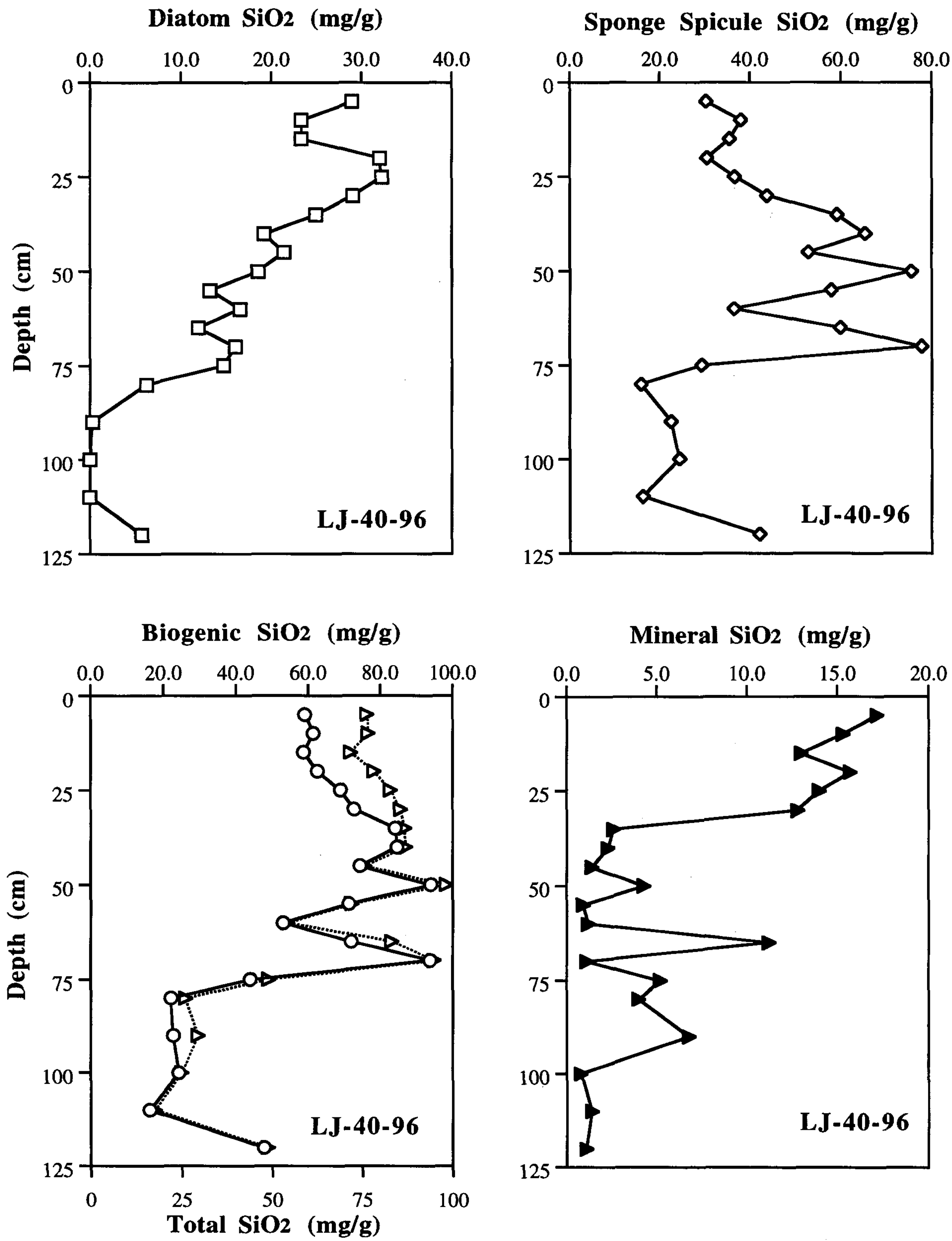


Fig. C4. Silica constituents (mg/g) for LJ-40-96 plotted versus depth (cm).

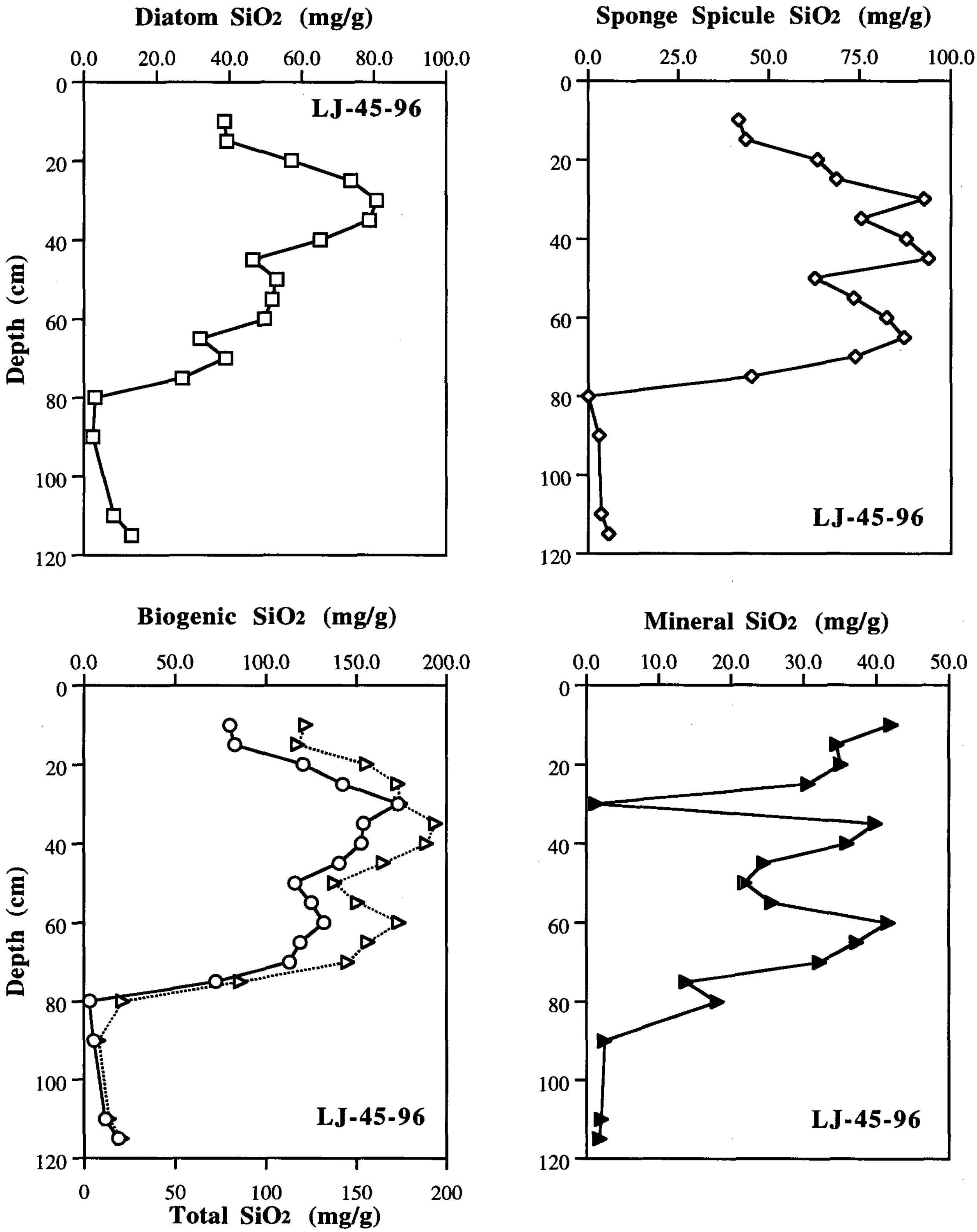


Fig. C5. Silica constituents (mg/g) for LJ-45-96 plotted versus depth (cm).

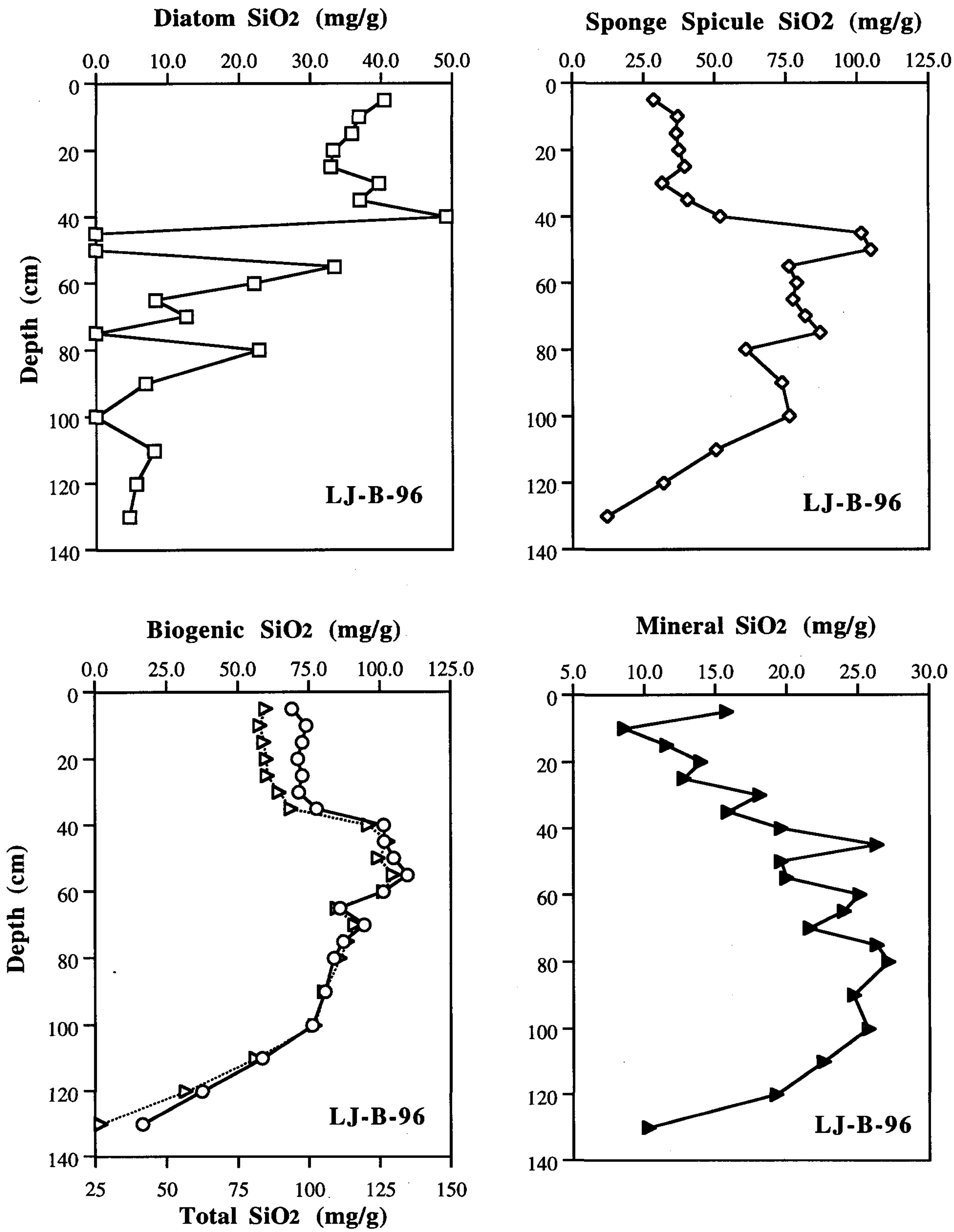


Fig. C6. Silica constituents (mg/g) for LJ-B-96 plotted versus depth (cm).

APPENDIX D

Sedimentary diatom percentages for three stations, LJ-21-96, LJ-45-96, and LJ-B-96.

Lake Jessup, Core LJ-21-96, 0-5 cm

Species	Percentage
Amphora ovalis	0.196
Aulacoseira ambigua	0.196
Aulacoseira granulata	0.393
Aulacoseira granulata angustissima	0.982
Aulacoseira italica	1.179
Coscinodiscus sp	0.196
Cyclotella meneghiniana	3.143
Cyclotella stelligeroides	0.196
Cymbella aspera	0.196
Cyclostephanos dubius	0.982
Diploneis elliptica	0.393
Gomphonema gracile	0.196
Gomphonema sp	0.589
Nitzschia frustulum	1.375
Nitzschia palea	0.196
Pinnularia latevittata domingensis	0.196
Pinnularia viridis minor	0.196
Pseudostaurosira brevistriata	42.633
Staurosirella pinnata	27.112
Staurosira construens	0.393
Staurosira construens pumila	0.196
Staurosira construens venter	17.682
Synedra rumpens familiaris	0.196
Synedra sp	0.196
unidentifiable central areas	0.786
Total	100.000

Lake Jessup, Core LJ-21-96, 5-10 cm

Species	Percentage
Amphora ovalis	0.183
Aulacoseira ambigua	0.183
Aulacoseira distans	0.183
Aulacoseira granulata	0.183
Aulacoseira granulata angustissima	0.367
Aulacoseira italica	1.468
Cyclotella meneghiniana	4.220
Cyclotella stelligeroides	0.367
Cyclostephanos dubius	1.101
Eunotia pectinalis minor	0.183
Navicula capitata hungarica	0.183
Neidium sp	0.183
Nitzschia fonticola	0.734
Nitzschia frustulum	2.202
Nitzschia palea	0.183
Opephora americana	0.183
Pinnularia viridis minor	0.183
Pseudostaurosira brevistriata	52.477
Staurosirella pinnata	13.945
Staurosira construens	0.183
Staurosira construens pumila	0.183
Staurosira construens venter	20.917
Total	100.000

Lake Jessup, Core LJ-21-96, 10-15 cm

Species	Percentage
Aulacoseira ambigua	0.165
Aulacoseira italica	0.331
Cyclotella meneghiniana	2.149
Cymbella minuta silesiaca	0.165
Cyclostephanos dubius	0.496
Diploneis elliptica	0.165
Eunotia camelus	0.165
Eunotia pectinalis minor	0.165
Gomphonema gracile	0.496
Gomphonema sp	0.331
Nitzschia amphibia	0.331
Nitzschia fonticola	0.331
Nitzschia frustulum	1.322
Pinnularia sp	0.165
Pseudostaurosira brevistriata	55.207
Staurosirella pinnata	12.893
Staurosira construens pumila	0.165
Staurosira construens venter	24.463
unknown	0.496
Total	100.000

Lake Jessup, Core LJ-21-96, 15-20 cm

Species	Percentage
Amphora ovalis	0.188
Aulacoseira ambigua	1.507
Aulacoseira granulata	0.377
Aulacoseira italica	0.377
Cocconeis placentula lineata	0.188
Cyclotella meneghiniana	4.331
Cymbella minuta silesiaca	0.188
Diploneis elliptica	0.188
Epithemia argus alpestris	0.188
Eunotia monodon	0.377
Gomphonema gracile	0.188
Gomphonema sp	0.188
Nitzschia amphibia	0.753
Nitzschia frustulum	3.578
Nitzschia granulata	0.188
Pinnularia viridis minor	0.188
Pseudostaurosira brevistriata	47.646
Staurosirella pinnata	14.501
Staurosira construens pumila	0.753
Staurosira construens venter	23.164
unknown	0.942
Total	100.000

Lake Jessup, Core LJ-21-96, 20-25 cm

Species	Percentage
Achnanthes sp	0.189
Amphora ovalis	0.378
Aulacoseira ambigua	2.268
Aulacoseira distans	0.756
Aulacoseira italica	0.189
Coscinodiscus sp	0.378
Cyclotella meneghiniana	5.104
Cyclotella stelligeroides	0.189
Cymbella minuta silesiaca	0.378
Diploneis elliptica	0.378
Eunotia camelus	0.189
Navicula capitata hungarica	0.189
Nitzschia amphibia	0.567
Nitzschia fonticola	0.189
Nitzschia frustulum	1.512
Nitzschia scalaris	0.189
Opephora martyi	0.567
Pinnularia viridis minor	0.189
Pseudostaurosira brevistriata	47.259
Staurosirella pinnata	11.909
Staurosirella pinnata trigona	0.189
Staurosira construens	0.189
Staurosira construens pumila	1.134
Staurosira construens venter	23.629
unidentifiable central areas	1.890
Total	100.000

Lake Jessup, Core LJ-21-96, 25-30 cm

Species	Percentage
Achnanthes exigua	0.391
Amphora ovalis	1.563
Aulacoseira ambigua	2.734
Aulacoseira distans	0.977
Aulacoseira granulata	0.977
Aulacoseira granulata angustissima	0.391
Aulacoseira italica	1.367
Caloneis ventricosa	0.391
Cocconeis placentula lineata	0.391
Coscinodiscus sp	0.391
Cyclotella meneghiniana	14.453
Cyclotella stelligeroides	0.195
Cymbella minuta	0.391
Cymbella minuta silesiaca	0.391
Cymbella sp	1.172
Cyclostephanos dubius	0.391
Diploneis elliptica	0.391
Eunotia camelus	0.391
Eunotia monodon	0.391
Eunotia pectinalis minor	0.391
Gomphonema sp	0.586
Navicula capitata hungarica	1.367
Navicula mutica	0.195
Navicula radiosa	0.391
Neidium sp	0.391
Nitzschia amphibia	0.977
Nitzschia frustulum	0.195
Nitzschia granulata	0.195
Nitzschia sp	0.391
Opephora americana	0.391
Opephora martyi	0.195
Pinnularia appendiculata	0.195
Pinnularia legumen	0.195
Pinnularia sp	0.977
Pinnularia viridis minor	0.977
Pseudostaurosira brevistriata	38.086
Rhopalodia sp	0.195
Staurosirella pinnata	5.469
Staurosira construens	0.195
Staurosira construens pumila	0.195
Staurosira construens venter	16.797
Stauroneis phoenocenteron gracilis	0.195
unidentifiable central areas	3.125
Total	100.000

Lake Jessup, Core LJ-21-96, 30-35 cm

Species	Percentage
Achnanthes exigua	0.195
Amphora ovalis	1.946
Aulacoseira ambigua	7.393
Aulacoseira distans	1.167
Aulacoseira granulata	0.195
Aulacoseira granulata angustissima	1.167
Aulacoseira italica	1.167
Caloneis ventricosa	0.973
Cocconeis placentula lineata	0.389
Coscinodiscus sp	2.140
Cyclotella meneghiniana	18.482
Cyclotella stelligeroides	0.389
Cymbella minuta silesiaca	0.778
Cymbella sp	0.584
Cyclostephanos dubius	0.195
Diploneis elliptica	0.973
Epithemia argus alpestris	0.389
Eunotia camelus	0.389
Eunotia monodon	0.584
Eunotia pectinalis minor	0.584
Eunotia sp	0.389
Gomphonema gracile	0.778
Gomphonema sp	0.584
Gomphonema subclavatum mexicanum	0.195
Hantzschia amphioxys	0.195
Navicula capitata hungarica	2.529
Navicula mutica	0.389
Navicula pupula rectangularis	0.195
Neidium sp	0.584
Nitzschia amphibia	0.973
Nitzschia frustulum	2.529
Nitzschia granulata	0.584
Nitzschia scalaris	0.195
Nitzschia sp	0.195
Nitzschia tryblionella victoriae	0.389
Opephora americana	0.389
Opephora martyi	0.195
Pinnularia appendiculata	0.389
Pinnularia sp	0.389
Pinnularia viridis minor	1.751
Pseudostaurosira brevistriata	23.152
Staurosirella pinnata	8.755
Staurosirella pinnata trigona	0.195
Staurosira construens	0.195
Staurosira construens pumila	4.086
Staurosira construens venter	6.809
Stauroneis phoenocenteron gracilis	0.389
Stephanodiscus rotula minutula	0.195
unidentifiable central areas	2.335
Total	100.000

Lake Jessup, Core LJ-21-96, 35-40 cm

Species	Percentage
Amphora acutiuscula	0.197
Amphora ovalis	1.183
Amphora ovalis	0.592
Aulacoseira ambigua	5.720
Aulacoseira distans	2.367
Aulacoseira granulata	1.183
Aulacoseira granulata angustissima	1.381
Aulacoseira italica	1.183
Caloneis lewisii inflata	0.394
Caloneis ventricosa	0.197
Cocconeis placentula lineata	0.789
Coscinodiscus sp	0.789
Cyclotella meneghiniana	18.935
Cymbella aspera	0.197
Cymbella minuta	0.197
Cymbella minuta silesiaca	0.197
Cymbella sp	0.789
Cyclostephanos dubius	0.197
Diploneis elliptica	1.183
Epithemia argus alpestris	0.197
Eunotia camelus	0.394
Eunotia flexuosa	0.197
Eunotia monodon	0.197
Eunotia pectinalis	0.197
Eunotia pectinalis minor	0.592
Gomphonema gracile	0.394
Gomphonema parvulum	0.197
Gomphonema sp	0.986
Navicula capitata hungarica	1.775
Navicula cuspidata	0.592
Navicula seminulum intermedia	0.197
Neidium sp	0.394
Nitzschia amphibia	0.986
Nitzschia frustulum	0.986
Nitzschia granulata	0.789
Opephora americana	0.197
Opephora martyi	0.197
Pinnularia appendiculata	0.789
Pinnularia sp	0.592
Pinnularia viridis	0.197
Pinnularia viridis minor	0.986
Pseudostaurosira brevistriata	23.866
Staurosirella pinnata	5.325
Staurosira construens	0.986
Staurosira construens pumila	7.101
Staurosira construens venter	9.467
Stauroneis phoenocenteron gracilis	0.197
unidentifiable central areas	3.353
Total	100.000

Lake Jessup, Core LJ-21-96, 40-45 cm

Species	Percentage
Achnanthes exigua	0.198
Amphora acutiuscula	0.198
Amphora ovalis	1.779
Aulacoseira ambigua	6.719
Aulacoseira distans	5.138
Aulacoseira granulata	0.988
Aulacoseira granulata angustissima	0.791
Aulacoseira italica	1.186
Caloneis lewisii inflata	0.395
Cocconeis placentula lineata	0.395
Coscinodiscus sp	1.581
Cyclotella meneghiniana	23.320
Cyclotella stelligera	0.198
Cymbella aspera	0.198
Cymbella minuta silesiaca	1.581
Cyclostephanos dubius	0.198
Diploneis elliptica	1.779
Eunotia camelus	0.198
Eunotia formica	0.395
Eunotia pectinalis	0.395
Eunotia pectinalis minor	1.581
Gomphonema gracile	0.791
Gomphonema sp	0.395
Hantzschia amphioxys	0.198
Navicula capitata hungarica	0.791
Navicula cuspidata	0.198
Navicula mutica	0.395
Navicula pupula rectangularis	0.198
Nitzschia amphibia	1.186
Nitzschia frustulum	0.593
Nitzschia granulata	0.395
Opephora americana	0.988
Pinnularia sp	0.593
Pinnularia subcapitata paucistriata	0.198
Pinnularia viridis	0.395
Pinnularia viridis minor	1.779
Pseudostaurosira brevistriata	16.798
Staurosirella pinnata	4.545
Staurosira construens	0.988
Staurosira construens pumila	6.719
Staurosira construens venter	7.115
Synedra parasitica	0.593
unidentifiable central areas	4.941
Total	100.000

Lake Jessup, Core LJ-21-96, 45-50 cm

Species	Percentage
Achnanthes exigua	0.388
Amphora ovalis	2.713
Aulacoseira ambigua	5.426
Aulacoseira distans	5.426
Aulacoseira granulata	0.581
Aulacoseira granulata angustissima	0.581
Aulacoseira italica	1.938
Caloneis lewisii inflata	0.194
Caloneis ventricosa	0.388
Capartogramma cruciclula	0.194
Cocconeis placentula lineata	0.194
Coscinodiscus sp	1.938
Cyclotella meneghiniana	16.860
Cymbella aspera	0.388
Cymbella minuta silesiaca	1.163
Cymbella sp	1.163
Cyclostephanos dubius	0.194
Diploneis elliptica	0.581
Diploneis smithii	0.194
Eunotia maior	0.194
Eunotia pectinalis	0.194
Eunotia pectinalis minor	0.581
Frustulia rhomboides	0.194
Gomphonema parvulum	0.194
Gomphonema sp	0.969
Navicula capitata hungarica	1.163
Navicula cuspidata	0.194
Navicula mutica	0.194
Navicula pupula rectangularis	0.388
Navicula sp	0.194
Neidium sp	0.194
Nitzschia amphibia	3.101
Nitzschia frustulum	0.581
Nitzschia palea	0.194
Nitzschia sp	0.194
Nitzschia tryblionella victoriae	0.388
Opephora americana	0.775
Pinnularia abaujensis rostrata	0.194
Pinnularia divergens	0.194
Pinnularia sp	0.969
Pinnularia viridis minor	1.357
Pseudostaurosira brevistriata	23.837
Staurosirella pinnata	5.233
Staurosira construens	0.969
Staurosira construens pumila	5.426
Staurosira construens venter	7.364
Stauroneis phoenocenteron gracilis	0.194
Synedra parasitica	0.388
unidentifiable central areas	3.488
Total	100.000

Lake Jessup, Core LJ-21-96, 50-55 cm

Species	Percentage
Achnanthes exigua	0.183
Amphora ovalis	1.651
Aulacoseira ambigua	3.303
Aulacoseira distans	2.385
Aulacoseira granulata	0.734
Aulacoseira granulata angustissima	0.734
Aulacoseira italica	0.550
Caloneis ventricosa	0.367
Coscinodiscus sp	1.468
Cyclotella meneghiniana	17.982
Cymbella aspera	0.183
Cymbella minuta	0.550
Cymbella minuta silesiaca	1.101
Cymbella sp	0.917
Cyclostephanos dubius	0.550
Diploneis elliptica	0.734
Diploneis finnica	0.183
Eunotia camelus	0.183
Eunotia formica	0.367
Eunotia pectinalis	0.183
Eunotia pectinalis minor	0.367
Frustulia rhomboides	0.183
Gomphonema gracile	0.550
Gomphonema parvulum	0.183
Gomphonema sp	0.917
Navicula capitata hungarica	0.550
Navicula cuspidata	0.917
Navicula mutica	0.183
Navicula pupula rectangularis	0.917
Navicula sp	0.734
Neidium sp	0.183
Nitzschia amphibia	1.284
Nitzschia fonticola	0.367
Nitzschia frustulum	1.468
Nitzschia granulata	0.183
Nitzschia sp	0.367
Nitzschia tryblionella victoriae	0.183
Opephora americana	1.284
Opephora martyi	0.183
Pinnularia divergens	0.183
Pinnularia viridis minor	0.550
Pseudostaurosira brevistriata	26.055
Staurosirella pinnata	6.239
Staurosira construens	0.367
Staurosira construens pumila	5.872
Staurosira construens venter	11.560
Stauroneis phoenocenteron gracilis	0.183
unidentifiable central areas	3.670
Total	100.000

Lake Jessup, Core LJ-21-96, 55-60 cm

Species	Percentage
Achnanthes exigua	0.198
Amphora ovalis	1.389
Anomoeoneis sphaerophora sculpta	0.198
Aulacoseira ambigua	6.944
Aulacoseira distans	3.770
Aulacoseira granulata	0.992
Aulacoseira italica	1.389
Caloneis lewisii inflata	0.397
Caloneis ventricosa	0.595
Cocconeis placentula lineata	0.198
Coscinodiscus sp	1.587
Cyclotella meneghiniana	23.810
Cymbella aspera	0.397
Cymbella minuta	0.794
Cymbella minuta silesiaca	0.992
Cyclostephanos dubius	0.198
Diploneis elliptica	0.794
Diploneis smithii	0.595
Epithemia argus alpestris	0.198
Eunotia camelus	0.198
Eunotia curvata capitata	0.198
Eunotia pectinalis	0.198
Eunotia pectinalis minor	0.397
Eunotia sp	0.198
Gomphonema gracile	0.397
Gomphonema sp	1.190
Mastagloia sp	0.198
Navicula capitata hungarica	0.595
Navicula cuspidata	0.198
Navicula pupula rectangularis	0.397
Nitzschia amphibia	0.992
Nitzschia frustulum	0.397
Nitzschia granulata	0.198
Nitzschia scalaris	0.198
Opephora americana	0.794
Opephora martyi	1.587
Pinnularia appendiculata	0.198
Pinnularia braunii amphicephala	0.397
Pinnularia sp	0.992
Pinnularia viridis	0.198
Pinnularia viridis minor	2.183
Pseudostaurosira brevistriata	17.262
Staurosirella pinnata	1.587
Staurosira construens	1.389
Staurosira construens pumila	4.762
Staurosira construens venter	12.103
Stauroneis phoenocenteron gracilis	0.397
unidentifiable central areas	4.762
Total	100.000

Lake Jessup, Core LJ-21-96, 65-70 cm

Species	Percentage
Achnanthes exigua	0.198
Achnanthes linearis curta	0.198
Amphora ovalis	1.779
Amphora ovalis pediculis	0.593
Amphora perpusilla	0.198
Anomoeoneis sp	0.198
Aulacoseira ambigua	7.510
Aulacoseira distans	5.929
Aulacoseira granulata	1.383
Aulacoseira granulata angustissima	0.791
Caloneis ventricosa	0.791
Campylodiscus clypeus	0.198
Cocconeis placentula lineata	0.593
Coscinodiscus sp	2.174
Cyclotella meneghiniana	27.470
Cymbella aspera	0.791
Cymbella minuta silesiaca	2.372
Diploneis elliptica	1.581
Eunotia formica	0.198
Eunotia monodon constricta	0.198
Eunotia pectinalis	0.593
Eunotia pectinalis minor	0.198
Eunotia pectinalis minor	0.988
Gomphonema gracile	1.581
Gomphonema sp	1.186
Gomphonema subclavatum mexicanum	0.198
Navicula capitata hungarica	1.581
Navicula cuspidata	0.791
Navicula pupula rectangularis	0.395
Navicula radiosa	0.198
Navicula sp	0.198
Neidium sp	0.198
Nitzschia amphibia	1.383
Nitzschia frustulum	0.593
Nitzschia granulata	0.593
Nitzschia scalaris	0.198
Opephora americana	1.186
Opephora martyi	0.988
Pinnularia appendiculata	0.791
Pinnularia braunii	0.198
Pinnularia sp	0.988
Pinnularia viridis minor	1.779
Pseudostaurosira brevistriata	9.684
Staurosirella pinnata	1.383
Staurosira construens	1.383
Staurosira construens pumila	3.755
Staurosira construens venter	5.336
Stauroneis phoenocenteron gracilis	0.198
Synedra ulna	0.198
unidentifiable central areas	6.126
Total	100.000

Lake Jessup, Core LJ-21-96, 75-80 cm

Species	Percentage
Achnanthes exigua	0.195
Amphora ovalis	0.973
Aulacoseira ambigua	5.837
Aulacoseira distans	8.171
Aulacoseira granulata	0.973
Aulacoseira italica	0.389
Caloneis sp	0.195
Caloneis ventricosa	0.389
Coscinodiscus sp	0.973
Cyclotella meneghiniana	23.541
Cymbella aspera	0.389
Cymbella minuta silesiaca	1.362
Cyclostephanos dubius	0.195
Diploneis elliptica	0.389
Diploneis smithii	0.973
Diploneis sp	0.389
Eunotia camelus	0.195
Eunotia naegelia	0.195
Eunotia pectinalis minor	0.389
Gomphonema gracile	0.389
Gomphonema sp	1.167
Navicula capitata hungarica	1.751
Navicula cuspidata	0.778
Navicula radiosa	0.195
Navicula seminulum intermedia	0.195
Neidium iridis amphigomphus	0.195
Neidium sp	0.584
Nitzschia amphibia	1.556
Nitzschia frustulum	0.389
Nitzschia granulata	0.389
Nitzschia tryblionella victoriae	0.195
Opephora americana	1.362
Pinnularia sp	1.556
Pinnularia viridis	0.195
Pinnularia viridis minor	3.113
Pseudostaurosira brevistriata	13.619
Staurosirella pinnata	5.253
Staurosira construens	1.946
Staurosira construens pumila	4.864
Staurosira construens venter	5.642
unidentifiable central areas	8.560
Total	100.000

Lake Jessup, Core LJ-B-96, 0-5 cm

Species	Percentage
Amphora ovalis	0.389
Aulacoseira ambigua	0.778
Aulacoseira distans	0.778
Coscinodiscus sp	0.389
Cyclotella meneghiniana	2.724
Cyclotella ocellata	0.195
Cyclotella stelligera	0.195
Cyclotella stelligeroides	0.195
Cymbella minuta silesiaca	0.195
Cyclostephanos dubius	0.778
Gomphonema sp	0.195
Navicula capitata hungarica	0.195
Nitzschia amphibia	0.584
Nitzschia fonticola	1.167
Nitzschia frustulum	0.389
Nitzschia palea	0.389
Nitzschia tryblionella victoriae	0.195
Opephora martyi	0.195
Pinnularia viridis minor	0.584
Pseudostaurosira brevistriata	46.887
Staurosirella pinnata	22.179
Staurosira construens pumila	0.584
Staurosira construens venter	19.844
Total	100.000

Lake Jessup, Core LJ-B-96, 5-10 cm

Species	Percentage
Amphora ovalis	0.194
Aulacoseira ambigua	0.388
Aulacoseira distans	0.583
Aulacoseira italica	0.194
Coscinodiscus sp	0.388
Cyclotella meneghiniana	3.301
Cymbella minuta silesiaca	0.194
Cyclostephanos dubius	0.971
Diploneis elliptica	0.194
Eunotia naegelia	0.194
Nitzschia amphibia	0.388
Nitzschia fonticola	0.583
Nitzschia frustulum	1.359
Pseudostaurosira brevistriata	45.825
Staurosirella pinnata	20.777
Staurosira construens venter	24.272
unidentifiable central areas	0.194
Total	100.000

Lake Jessup, Core LJ-B-96, 10-15 cm

Species	Percentage
Aulacoseira ambigua	0.593
Aulacoseira distans	0.791
Aulacoseira granulata	0.198
Aulacoseira italica	0.395
Cyclotella meneghiniana	3.360
Cyclotella stelligera	0.395
Cyclotella stelligeroides	0.198
Cymbella minuta silesiaca	0.198
Diploneis elliptica	0.395
Eunotia flexuosa	0.198
Eunotia pectinalis	0.198
Navicula seminulum	0.198
Nitzschia frustulum	1.581
Nitzschia palea	0.395
Pinnularia sp	0.198
Pseudostaurosira brevistriata	49.012
Staurosirella pinnata	20.751
Staurosira construens	0.198
Staurosira construens venter	20.356
Stauroneis phoenocenteron gracilis	0.198
unidentifiable central areas	0.198
Total	100.000

Lake Jessup, Core LJ-B-96, 20-25 cm

Species	Percentage
Amphora ovalis	0.392
Aulacoseira ambigua	0.196
Aulacoseira distans	0.196
Aulacoseira granulata	0.196
Aulacoseira granulata angustissima	0.784
Coscinodiscus sp	0.392
Cyclotella meneghiniana	1.961
Eunotia pectinalis	0.196
Gomphonema sp	0.588
Nitzschia amphibia	0.588
Nitzschia fonticola	0.588
Nitzschia frustulum	1.961
Pinnularia sp	0.196
Pinnularia viridis minor	0.196
Pseudostaurosira brevistriata	50.588
Staurosirella pinnata	9.412
Staurosira construens venter	30.784
unidentifiable central areas	0.784
Total	100.000

Lake Jessup, Core LJ-B-96, 25-30 cm

Species	Percentage
Aulacoseira ambigua	0.194
Aulacoseira distans	0.194
Aulacoseira granulata	0.388
Aulacoseira granulata angustissima	0.194
Aulacoseira italica	0.388
Cyclotella meneghiniana	1.744
Cymbella minuta	0.194
Cymbella minuta silesiaca	0.194
Cyclostephanos dubius	0.388
Eunotia pectinalis minor	0.194
Nitzschia amphibia	0.388
Nitzschia fonticola	0.969
Nitzschia frustulum	0.581
Nitzschia sp	0.194
Pinnularia viridis	0.194
Pinnularia viridis minor	0.194
Pseudostaurosira brevistriata	40.116
Staurosirella pinnata	14.535
Staurosira construens	0.581
Staurosira construens pumila	0.581
Staurosira construens venter	37.209
unidentifiable central areas	0.388
Total	100.000

Lake Jessup, Core LJ-B-96, 30-35 cm

Species	Percentage
Aulacoseira distans	0.396
Aulacoseira granulata	0.198
Aulacoseira granulata angustissima	0.198
Caloneis sp	0.198
Cyclotella meneghiniana	2.772
Cymbella minuta silesiaca	0.396
Gomphonema sp	0.198
Navicula capitata hungarica	0.198
Nitzschia amphibia	0.198
Nitzschia fonticola	0.198
Nitzschia frustulum	1.584
Pinnularia viridis minor	0.198
Pseudostaurosira brevistriata	59.406
Staurosirella pinnata	12.079
Staurosira construens pumila	1.386
Staurosira construens venter	20.198
unidentifiable central areas	0.198
Total	100.000

Lake Jessup, Core LJ-B-96, 35-40 cm

Species	Percentage
Amphora ovalis	1.230
Aulacoseira ambigua	3.515
Aulacoseira distans	1.230
Aulacoseira granulata	1.582
Aulacoseira granulata angustissima	0.527
Aulacoseira italica	0.527
Coscinodiscus sp	0.527
Cyclotella meneghiniana	4.921
Cyclotella ocellata	0.176
Cyclotella stelligeroides	0.176
Cymbella minuta silesiaca	0.879
Cyclostephanos dubius	0.527
Diploneis elliptica	0.527
Eunotia flexuosa	0.176
Eunotia monodon	0.176
Gomphonema sp	0.351
Navicula capitata hungarica	2.285
Navicula cuspidata	0.351
Navicula mutica	0.176
Navicula radiosa	0.176
Navicula seminulum intermedia	0.176
Navicula sp	0.176
Neidium sp	0.176
Nitzschia amphibia	1.582
Nitzschia fonticola	0.176
Nitzschia frustulum	1.406
Nitzschia granulata	0.176
Opephora americana	1.054
Opephora martyi	0.351
Pinnularia sp	0.176
Pinnularia viridis minor	0.351
Pseudostaurosira brevistriata	44.815
Staurosirella pinnata	12.478
Staurosira construens	0.703
Staurosira construens pumila	0.879
Staurosira construens venter	13.005
unidentifiable central areas	2.109
unknown	0.176
Total	100.000

Lake Jessup, Core LJ-B-96, 40-45 cm

Species	Percentage
Amphora ovalis	0.593
Amphora ovalis pediculis	0.198
Aulacoseira ambigua	6.522
Aulacoseira distans	1.186
Aulacoseira granulata	1.976
Aulacoseira granulata angustissima	0.791
Aulacoseira italica	0.791
Caloneis latiuscula	0.198
Coscinodiscus sp	1.383
Cyclotella meneghiniana	11.660
Cyclotella stelligera	0.198
Cymbella minuta silesiaca	1.779
Cyclostephanos dubius	0.198
Diploneis elliptica	0.198
Eunotia camelus	0.198
Eunotia monodon	0.395
Eunotia pectinalis minor	0.198
Gomphonema gracile	1.581
Gomphonema sp	0.593
Navicula capitata hungarica	3.953
Navicula cuspidata	0.593
Navicula peregrina	0.593
Navicula pupula rectangularis	0.198
Navicula seminulum intermedia	0.198
Nitzschia amphibia	1.383
Nitzschia frustulum	3.360
Nitzschia tryblionella victoriae	0.198
Opephora americana	0.791
Pinnularia viridis	0.593
Pinnularia viridis minor	0.198
Pseudostaurosira brevistriata	32.806
Staurosirella pinnata	9.881
Staurosirella pinnata trigona	0.395
Staurosira construens	0.395
Staurosira construens pumila	1.383
Staurosira construens venter	9.881
Stauroneis phoenocenteron gracilis	0.198
unidentifiable central areas	2.372
Total	100.000

Lake Jessup, Core LJ-B-96, 50-55 cm

Species	Percentage
Amphora ovalis	0.596
Amphora ovalis pediculis	0.199
Aulacoseira ambigua	10.139
Aulacoseira distans	2.982
Aulacoseira granulata	0.398
Aulacoseira granulata angustissima	1.590
Aulacoseira italica	2.386
Caloneis ventricosa	0.199
Coscinodiscus sp	0.994
Cyclotella meneghiniana	14.712
Cymbella minuta	1.590
Cymbella minuta silesiaca	1.988
Cyclostephanos dubius	0.398
Diploneis elliptica	0.596
Diploneis smithii	0.596
Eunotia camelus	0.199
Eunotia naegelia	0.199
Eunotia pectinalis minor	0.199
Gomphonema gracile	0.994
Gomphonema sp	0.398
Navicula capitata hungarica	5.567
Navicula cuspidata	0.199
Navicula peregrina	0.199
Navicula pupula rectangularis	0.596
Navicula radiosa	0.199
Nitzschia amphibia	1.590
Nitzschia fonticola	0.199
Nitzschia frustulum	1.392
Nitzschia tryblionella victoriae	0.199
Opephora martyi	0.795
Pinnularia viridis minor	0.795
Pseudostaurosira brevistriata	20.875
Staurosirella pinnata	8.350
Staurosirella pinnata trigona	0.596
Staurosira construens	0.994
Staurosira construens pumila	1.789
Staurosira construens venter	10.934
unidentifiable central areas	3.380
Total	100.000

Lake Jessup, Core LJ-B-96, 60-65 cm

Species	Percentage
Amphora ovalis	0.967
Aulacoseira ambigua	16.054
Aulacoseira distans	4.642
Aulacoseira granulata angustissima	2.515
Aulacoseira italica	3.482
Caloneis ventricosa	0.774
Coscinodiscus sp	4.255
Cyclotella comta	0.193
Cyclotella meneghiniana	18.762
Cyclotella stelligera	0.193
Cymbella lunata	0.387
Cymbella minuta	0.387
Cymbella minuta silesiaca	1.547
Cyclostephanos dubius	0.193
Diploneis elliptica	0.774
Eunotia camelus	0.193
Eunotia pectinalis minor	0.387
Gomphonema gracile	1.934
Gomphonema sp	0.193
Navicula capitata hungarica	4.255
Navicula cuspidata	0.387
Navicula pupula rectangularis	0.774
Navicula sp	0.580
Nitzschia amphibia	1.934
Nitzschia fonticola	0.193
Nitzschia frustulum	0.967
Nitzschia granulata	0.193
Nitzschia palea	0.387
Nitzschia scalaris	0.193
Opephora americana	1.161
Opephora martyi	0.387
Pinnularia sp	0.193
Pinnularia viridis	0.193
Pinnularia viridis minor	0.774
Pseudostaurosira brevistriata	16.054
Staurosirella pinnata	3.482
Staurosirella pinnata trigona	0.387
Staurosira construens	2.321
Staurosira construens pumila	1.547
Staurosira construens venter	3.288
Stauroneis phoenocenteron gracilis	0.193
unidentifiable central areas	2.128
unknown	0.193
Total	100.000

Lake Jessup, Core LJ-45-96, 0-5 cm

Species	Percentage
Aulacoseira ambigua	0.578
Aulacoseira distans	0.578
Aulacoseira granulata	0.193
Aulacoseira granulata angustissima	0.193
Coscinodiscus sp	0.385
Cyclotella meneghiniana	3.083
Cyclotella stelligeroides	0.193
Eunotia pectinalis minor	0.193
Gomphonema gracile	0.193
Gomphonema sp	0.385
Navicula confervacea	0.193
Navicula sp	0.193
Nitzschia amphibia	0.771
Nitzschia fonticola	0.385
Nitzschia frustulum	0.578
Nitzschia palea	0.385
Opephora martyi	0.385
Pinnularia sp	0.385
Pseudostaurosira brevistriata	47.399
Staurosirella pinnata	22.736
Staurosira construens pumila	0.578
Staurosira construens venter	19.653
unidentifiable central areas	0.193
unknown	0.193
Total	100.000

Lake Jessup, Core LJ-45-96, 5-10 cm

Species	Percentage
Aulacoseira ambigua	0.585
Aulacoseira distans	0.585
Aulacoseira granulata	0.195
Aulacoseira granulata angustissima	1.170
Aulacoseira italica	0.195
Caloneis latiuscula	0.195
Cocconeis placentula lineata	0.195
Coscinodiscus sp	0.195
Cyclotella meneghiniana	3.119
Cymbella minuta silesiaca	0.195
Cyclostephanos dubius	0.780
Navicula capitata hungarica	0.390
Navicula exigual capitata	0.195
Nitzschia amphibia	1.170
Nitzschia fonticola	0.975
Nitzschia frustulum	1.949
Nitzschia palea	0.975
Pinnularia divergens	0.195
Pinnularia sp	0.390
Pinnularia viridis	0.195
Pinnularia viridis minor	0.390
Pseudostaurosira brevistriata	49.513
Staurosirella pinnata	13.255
Staurosira construens	0.195
Staurosira construens pumila	0.195
Staurosira construens venter	22.027
unidentifiable central areas	0.585
Total	100.000

Lake Jessup, Core LJ-45-96, 10-15 cm

Species	Percentage
Amphora ovalis	0.375
Aulacoseira ambigua	1.124
Aulacoseira distans	0.375
Aulacoseira granulata	0.375
Aulacoseira granulata angustissima	0.187
Cyclotella meneghiniana	1.685
Cymbella angustata	0.187
Cymbella aspera	0.187
Cymbella minuta silesiaca	0.749
Cymbella sp	0.375
Diploneis elliptica	0.187
Eunotia camelus	0.187
Eunotia pectinalis minor	0.187
Gomphonema sp	0.562
Navicula capitata hungarica	0.562
Nitzschia amphibia	0.375
Nitzschia fonticola	0.375
Nitzschia frustulum	1.311
Opephora martyi	0.187
Pinnularia appendiculata	0.187
Pinnularia divergens	0.187
Pinnularia sp	0.375
Pinnularia viridis minor	0.562
Pseudostaurosira brevistriata	50.375
Staurosirella pinnata	8.614
Staurosira construens	0.375
Staurosira construens pumila	0.562
Staurosira construens venter	28.464
Stauroneis phoenocenteron gracilis	0.187
unidentifiable central areas	0.562
Total	100.000

Lake Jessup, Core LJ-45-96, 15-20 cm

Species	Percentage
Amphora ovalis pediculis	0.394
Aulacoseira ambigua	0.789
Aulacoseira granulata	0.197
Aulacoseira granulata angustissima	0.197
Aulacoseira italica	0.394
Caloneis lewisii inflata	0.197
Capartogramma cruciclula	0.197
Cocconeis placentula lineata	0.197
Coscinodiscus sp	0.197
Cyclotella meneghiniana	9.467
Cyclotella stelligera	0.394
Cymbella aspera	0.394
Cymbella lunata	0.197
Cymbella minuta	0.394
Cymbella minuta silesiaca	1.775
Diploneis elliptica	0.394
Diploneis smithii	0.197
Eunotia incisa	0.197
Eunotia naegelia	0.592
Eunotia pectinalis minor	0.197
Eunotia pectinalis undulata	0.197
Eunotia rabenhorstii monodon	0.197
Gomphonema sp	0.986
Navicula bacillum	0.197
Navicula capitata hungarica	0.986
Navicula confervacea	0.197
Nitzschia amphibia	0.592
Nitzschia frustulum	1.381
Nitzschia palea	0.394
Opephora martyi	0.789
Pinnularia sp	0.197
Pinnularia viridis minor	0.197
Pseudostaurosira brevistriata	51.085
Staurosirella pinnata	12.229
Staurosirella pinnata trigona	0.197
Staurosira construens pumila	0.592
Staurosira construens venter	10.454
unidentifiable central areas	1.972
unknown	0.197
Total	100.000

Lake Jessup, Core LJ-45-96, 20-25 cm

Species	Percentage
Achnanthes exigua	0.197
Amphora acutiuscula	0.197
Amphora ovalis	0.197
Aulacoseira ambigua	0.984
Aulacoseira distans	1.772
Aulacoseira granulata	1.575
Aulacoseira granulata angustissima	0.394
Aulacoseira italica	0.787
Cocconeis placentula lineata	0.197
Coscinodiscus sp	1.575
Cyclotella meneghiniana	8.858
Cyclotella stelligeroides	0.197
Cymbella minuta	0.394
Cymbella minuta silesiaca	2.362
Cymbella sp	0.197
Diploneis elliptica	0.591
Diploneis smithii	0.197
Eunotia camelus	0.394
Eunotia flexuosa	0.197
Eunotia incisa	0.197
Eunotia pectinalis	0.197
Eunotia pectinalis minor	0.394
Gomphonema gracile	0.197
Gomphonema sp	1.378
Mastagloia sp	0.197
Navicula capitata hungarica	0.787
Navicula cuspidata	0.394
Navicula radiosa	0.197
Navicula sp	0.197
Neidium sp	0.394
Nitzschia amphibia	3.543
Nitzschia fonticola	0.591
Nitzschia frustulum	1.181
Nitzschia granulata	0.197
Nitzschia palea	0.394
Nitzschia scalaris	0.197
Nitzschia sp	0.197
Nitzschia tryblionella victoriae	0.984
Opephora martyi	0.197
Pinnularia appendiculata	0.197
Pinnularia sp	0.394
Pinnularia viridis	0.197
Pinnularia viridis minor	1.772
Pseudostaurosira brevistriata	39.370
Rhopalodia sp	0.197
Staurosirella pinnata	10.827
Staurosira construens pumila	1.181
Staurosira construens venter	9.646
unidentifiable central areas	2.362
unknown	0.591
Total	100.000

Lake Jessup, Core LJ-45-96, 25-30 cm

Species	Percentage
Amphora acutiuscula	0.197
Amphora ovalis	0.789
Amphora ovalis pediculis	0.394
Aulacoseira ambigua	4.339
Aulacoseira distans	3.156
Aulacoseira granulata	1.972
Aulacoseira granulata angustissima	1.183
Coscinodiscus sp	1.775
Cyclotella meneghiniana	13.807
Cyclotella stelligera	0.197
Cyclotella stelligeroides	0.197
Cymbella angustata	0.197
Cymbella minuta silesiaca	2.959
Cyclostephanos dubius	0.394
Diploneis elliptica	1.183
Diploneis sp	0.197
Epithemia argus alpestris	0.197
Eunotia camelus	0.394
Eunotia curvata	0.197
Eunotia flexuosa	0.197
Eunotia maior	0.197
Eunotia monodon constricta	0.197
Eunotia pectinalis minor	1.183
Eunotia sp	0.394
Gomphonema gracile	1.381
Gomphonema sp	0.394
Navicula capitata hungarica	2.761
Navicula confervacea	0.394
Navicula oblonga	0.394
Navicula peregrina	0.197
Navicula pupula rectangularis	0.197
Navicula radiosa	0.197
Neidium iridis ampliatum	0.197
Nitzschia amphibia	3.945
Nitzschia frustulum	1.183
Nitzschia granulata	0.197
Nitzschia palea	0.592
Nitzschia scalaris	0.197
Nitzschia sp	0.197
Nitzschia tryblionella victoriae	0.197
Opephora americana	0.789
Pinnularia sp	0.197
Pinnularia viridis	0.592
Pinnularia viridis minor	0.789
Pseudostaurosira brevistriata	24.063
Staurosirella pinnata	6.509
Staurosira construens	0.197
Staurosira construens pumila	2.367
Staurosira construens venter	11.045
Stauroneis phoenocenteron gracilis	0.197

Lake Jessup, Core LJ-45-96, 25-30 cm cont'd.

unidentifiable central areas	4.536
unknown	0.197
Total	100.000

Lake Jessup, Core LJ-45-96, 30-35 cm

Species	Percentage
Achnanthes exigua	0.197
Amphora ovalis	0.394
Amphora ovalis pediculis	0.394
Aulacoseira ambigua	4.142
Aulacoseira distans	1.775
Aulacoseira granulata	0.986
Aulacoseira granulata angustissima	0.394
Aulacoseira italica	0.789
Caloneis latiuscula	0.197
Capartogramma cruciclula	0.197
Cocconeis placentula lineata	0.197
Coscinodiscus sp	1.972
Cyclotella comta	0.394
Cyclotella meneghiniana	15.187
Cyclotella stelligeroides	0.197
Cymbella minuta	0.394
Cymbella minuta silesiaca	3.550
Cyclostephanos dubius	0.197
Diploneis elliptica	1.578
Diploneis smithii	0.592
Diploneis sp	0.197
Epithemia argus alpestris	0.197
Eunotia camelus	0.789
Eunotia maior	0.197
Eunotia naegelia	0.197
Eunotia pectinalis	0.197
Eunotia pectinalis minor	0.986
Eunotia pectinalis undulata	0.197
Gomphonema gracile	2.170
Mastagloia smithii lacustris	0.197
Navicula capitata hungarica	3.156
Navicula exigual capitata	0.394
Navicula peregrina	0.592
Navicula pupula rectangularis	0.197
Navicula radiosa	0.197
Navicula radiosa parva	0.197
Navicula seminulum intermedia	0.394
Neidium iridis amphigomphus	0.197
Nitzschia amphibia	4.339
Nitzschia fonticola	0.394
Nitzschia frustulum	0.986
Nitzschia granulata	0.592
Nitzschia obtusa	0.197
Nitzschia palea	0.592
Nitzschia scalaris	0.197
Nitzschia sp	0.197
Nitzschia tryblionella victoriae	0.394
Opephora americana	0.394
Pinnularia appendiculata	0.789
Pinnularia viridis	0.592

Lake Jessup, Core LJ-45-96, 30-35 cm cont'd.

\Pinnularia viridis minor	0.592
Pseudostaurosira brevistriata	25.838
Staurosirella pinnata	3.945
Staurosirella pinnata trigona	0.197
Staurosira construens	0.197
Staurosira construens pumila	4.142
Staurosira construens venter	9.270
unidentifiable central areas	1.775
Total	100.000

Lake Jessup, Core LJ-45-96, 40-45 cm

Species	Percentage
Amphora ovalis	0.777
Amphora ovalis pediculis	0.777
Aulacoseira ambigua	12.233
Aulacoseira distans	3.495
Aulacoseira granulata	1.165
Aulacoseira granulata angustissima	0.777
Aulacoseira italica	1.553
Caloneis latiuscula	0.388
Campylodiscus clypeus	0.194
Cocconeis placentula lineata	0.194
Coscinodiscus sp	0.583
Cyclotella meneghiniana	15.534
Cymbella angustata	0.194
Cymbella minuta	0.194
Cymbella minuta silesiaca	1.942
Diploneis elliptica	0.194
Eunotia camelus	1.165
Eunotia carolina	0.194
Eunotia incisa	0.194
Eunotia maior	0.194
Eunotia naegelia	0.971
Eunotia pectinalis minor	0.583
Frustulia rhomboides	0.388
Gomphonema gracile	4.078
Navicula capitata hungarica	5.825
Navicula cuspidata	0.194
Navicula pupula rectangularis	0.777
Navicula radiosa	0.194
Navicula radiosa parva	0.583
Navicula seminulum intermedia	0.388
Navicula sp	0.194
Neidium iridis amphigomphus	0.194
Nitzschia amphibia	5.437
Nitzschia frustulum	0.583
Nitzschia granulata	0.194
Nitzschia palea	0.388
Nitzschia sp	0.388
Nitzschia tryblionella victoriae	0.583
Opephora americana	0.388
Pinnularia appendiculata	0.388
Pinnularia viridis	0.194
Pinnularia viridis minor	0.971
Pseudostaurosira brevistriata	18.058
Staurosirella pinnata	5.243
Staurosira construens	2.913
Staurosira construens pumila	2.136
Staurosira construens venter	3.883
Stauroneis phoenocenteron gracilis	0.388
unidentifiable central areas	1.553
Total	100.000

Lake Jessup, Core LJ-45-96, 50-55 cm

Species	Percentage
Amphora ovalis	0.386
Amphora ovalis pediculis	0.386
Aulacoseira ambigua	11.583
Aulacoseira distans	5.019
Aulacoseira granulata	6.950
Aulacoseira granulata angustissima	2.703
Aulacoseira italica	1.737
Caloneis latiuscula	0.772
Caloneis ventricosa	0.193
Cocconeis placentula lineata	0.386
Coscinodiscus sp	0.579
Cyclotella meneghiniana	14.865
Cymbella angustata	0.579
Cymbella aspera	0.193
Cymbella minuta	1.158
Cymbella minuta silesiaca	3.089
Cyclostephanos dubius	0.193
Diploneis elliptica	0.579
Diploneis smithii	0.386
Eunotia camelus	0.386
Eunotia maior	2.703
Eunotia naegelia	0.193
Eunotia pectinalis minor	0.772
Gomphonema gracile	1.931
Navicula capitata hungarica	4.247
Navicula cuspidata	1.158
Navicula pupula mutata	0.193
Navicula pupula rectangularis	0.579
Navicula radiosa parva	0.193
Nitzschia amphibia	3.282
Nitzschia fonticola	0.193
Nitzschia frustulum	0.579
Nitzschia palea	0.193
Nitzschia scalaris	0.193
Nitzschia tryblionella victoriae	0.193
Opephora martyi	0.386
Pinnularia legumen	0.193
Pinnularia sp	0.193
Pinnularia viridis minor	1.158
Pseudostaurosira brevistriata	19.884
Staurosirella pinnata	2.124
Staurosirella pinnata trigona	0.386
Staurosira construens	1.931
Staurosira construens pumila	1.544
Staurosira construens venter	0.965
Stauroneis phoenocenteron gracilis	0.193
Synedra ulna	0.386
unidentifiable central areas	1.931
Total	100.000

Limnetic total P inferences with bounds on the 95% confidence intervals for samples from Core LJ-21-96.

Depth (cm)	inferred limnetic total P ($\mu g\ l^{-1}$)	lower bound on 95% confidence interval ($\mu g\ l^{-1}$)	upper bound on 95% confidence interval ($\mu g\ l^{-1}$)
0-5	92	69	122
5-10	112	82	153
10-15	104	78	141
15-20	101	75	135
20-25	101	76	136
25-30	90	68	119
30-35	89	67	117
35-40	89	67	117
40-45	80	61	104
45-50	85	65	111
50-55	94	70	124
55-60	77	59	99
65-70	64	50	82
75-80	79	61	103

Limnetic total P inferences with bounds on the 95% confidence intervals for samples from Core LJ-B-96.

Depth (cm)	inferred limnetic total P ($\mu g\ l^{-1}$)	lower bound on 95% confidence interval ($\mu g\ l^{-1}$)	upper bound on 95% confidence interval ($\mu g\ l^{-1}$)
0-5	93	70	124
5-10	92	70	123
10-15	98	73	130
20-25	89	67	117
25-30	72	56	92
30-35	125	90	172
35-40	105	78	141
40-45	95	71	127
50-55	80	61	104
60-65	89	67	119

Limnetic total P inferences with bounds on the 95% confidence intervals for samples from Core LJ-45-96

Depth (cm)	inferred limnetic total P ($\mu g\ l^{-1}$)	lower bound on 95% confidence interval ($\mu g\ l^{-1}$)	upper bound on 95% confidence interval ($\mu g\ l^{-1}$)
0-5	95	71	126
5-10	97	72	129
10-15	87	66	114
15-20	112	82	152
20-25	88	67	118
25-30	71	56	92
30-35	73	57	94
40-45	79	60	102
50-55	79	60	102

APPENDIX E

Activities for total ^{210}Pb, ^{226}Ra, ^{137}Cs, and excess ^{210}Pb for eight sediment cores used for historical analysis with results of the CRS ^{210}Pb dating model.

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-04-96	0-5	11.798	0.461	4.891	0.486	1.793	0.071	7.121	0.691
	5-10	13.159	0.443	5.311	0.219	2.312	0.068	8.093	0.510
	10-15	12.641	0.363	5.637	0.408	2.385	0.059	7.223	0.563
	15-20	12.739	0.380	6.360	0.132	3.222	0.026	6.579	0.415
	20-25	11.065	0.462	6.449	0.239	3.731	0.030	4.761	0.536
	25-30	9.882	0.264	4.839	0.198	3.821	0.030	5.205	0.340
	30-35	10.386	0.344	6.123	0.110	2.278	0.050	4.398	0.373
	35-40	6.074	0.260	4.642	0.086	0.896	0.032	1.477	0.282
	40-45	4.122	0.299	3.160	0.052	0.357	0.043	0.993	0.313
	45-50	5.548	0.350	4.296	0.142	0.732	0.048	1.292	0.390
	50-55	3.930	0.204	3.314	0.143	0.512	0.027	0.636	0.257
	55-60	3.798	0.251	4.341	0.065	0.739	0.033	0.000	0.000

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-12-96	0-5	14.179	0.973	3.462	0.519	2.561	0.107	10.718	1.103
	5-10	14.618	0.405	6.167	0.454	2.246	0.046	8.451	0.608
	10-15	13.709	0.756	6.876	0.381	2.734	0.070	6.833	0.847
	15-20	6.916	0.452	6.174	0.552	0.470	0.056	0.742	0.714
	20-25	7.224	0.454	4.758	0.348	0.400	0.051	2.466	0.572
	25-30	6.374	0.603	6.474	0.105	0.220	0.074	0.000	0.000
	30-35	4.784	0.339	4.415	0.516	0.284	0.044	0.000	0.000
	35-40	4.307	0.349	3.574	0.051	0.134	0.040	0.000	0.000
	40-45	5.040	0.575	5.796	0.239	0.155	0.075	0.000	0.000
	45-50	4.291	0.390	4.887	0.474	0.308	0.046	0.000	0.000

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-21-96	0-5	13.203	0.784	3.078	0.343	2.660	0.118	10.443	0.882
	5-10	12.201	0.549	5.247	0.818	2.462	0.060	7.172	1.016
	10-15	13.160	0.482	5.918	0.758	2.475	0.056	7.470	0.926
	15-20	10.816	0.444	6.222	0.742	3.096	0.051	4.742	0.892
	20-25	8.428	0.361	6.502	0.716	2.684	0.056	1.987	0.828
	25-30	9.660	0.418	7.071	0.823	2.593	0.070	2.672	0.953
	30-35	9.266	0.366	7.152	1.121	1.383	0.057	2.181	1.217
	35-40	8.729	0.439	6.597	1.013	1.345	0.065	2.200	1.139
	40-45	7.501	0.325	6.637	0.905	0.741	0.049	0.892	0.993
	45-50	7.890	0.395	6.672	0.717	0.841	0.057	1.258	0.845
	50-55	8.515	0.638	6.692	0.622	0.434	0.051	1.883	0.920
	55-60	8.096	0.449	4.973	0.463	0.241	0.058	3.227	0.666
	60-65	7.629	0.441	6.241	0.948	0.152	0.056	1.440	1.085
	65-70	7.165	0.386	6.877	0.570	0.361	0.047	0.298	0.715
	70-75	6.298	0.306	4.638	0.304	-0.001	0.033	1.723	0.448
	75-80	3.002	0.189	3.256	0.356	0.012	0.024	0.000	0.420
	80-90	2.011	0.163	2.814	0.279	0.004	0.021	0.000	0.336

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-37-96	0-5	11.719	0.651	2.937	0.189	2.720	0.087	8.782	0.678
	5-10	11.021	0.358	6.581	0.364	3.705	0.059	4.440	0.511
	10-15	10.759	0.379	6.817	0.483	4.078	0.050	3.941	0.614
	15-20	11.228	0.291	7.197	0.396	4.161	0.041	4.031	0.492
	20-25	10.473	0.405	7.134	0.634	4.407	0.069	3.339	0.753
	25-30	10.107	0.400	7.580	0.462	4.362	0.030	2.527	0.612
	30-35	11.844	0.524	7.341	0.656	1.718	0.081	4.503	0.840
	35-40	10.184	0.419	6.993	0.265	1.173	0.056	3.191	0.496
	40-45	7.550	0.354	5.962	0.266	1.040	0.031	1.589	0.443
	45-50	6.944	0.305	5.223	0.262	0.652	0.047	1.721	0.402
	50-55	3.871	0.172	3.383	0.169	0.486	0.027	0.487	0.242
	55-60	2.993	0.200	2.576	0.191	0.224	0.033	0.417	0.276
	60-65	2.501	0.261	2.795	0.072	0.288	0.046	0.000	0.000

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-40-96	0-5	10.289	0.501	4.845	0.885	2.110	0.076	5.616	1.049
	5-10	10.623	0.434	3.002	0.348	2.408	0.040	7.865	0.574
	10-15	11.568	1.078	3.385	0.386	2.229	0.072	8.446	1.182
	15-20	10.717	0.380	3.498	0.760	3.188	0.059	7.468	0.879
	20-25	8.631	0.358	3.883	0.536	3.789	0.020	4.920	0.668
	25-30	8.993	0.372	5.754	0.871	3.716	0.029	3.357	0.981
	30-35	5.783	0.368	4.975	0.538	2.959	0.040	0.838	0.676
	35-40	4.049	0.310	4.049	0.164	0.746	0.038	0.000	0.000

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-43-96	0-5	11.251	0.354	4.809	0.174	1.815	0.079	6.642	0.407
	5-10	13.109	0.311	5.612	0.154	2.163	0.070	7.733	0.358
	10-15	12.500	0.520	6.275	0.274	2.637	0.130	6.436	0.607
	15-20	11.656	0.371	4.640	0.173	2.900	0.098	7.255	0.424
	20-25	9.868	0.246	4.000	0.116	3.714	0.078	6.050	0.281
	25-30	10.094	0.306	4.357	0.150	4.322	0.104	5.914	0.351
	30-35	6.420	0.224	5.113	0.138	1.079	0.050	1.348	0.271
	35-40	5.735	0.262	5.054	0.170	0.412	0.043	0.702	0.322
	40-45	5.169	0.192	3.369	0.104	0.429	0.035	1.856	0.226
	45-50	4.515	0.190	2.969	0.106	0.487	0.037	1.595	0.225
	50-55	4.642	0.315	2.969	0.172	0.329	0.049	1.731	0.371
	55-60	3.724	0.237	2.774	0.126	0.309	0.039	0.983	0.278
	60-65	3.255	0.215	3.136	0.062	0.205	0.029	0.123	0.232
	65-70	3.209	0.214	2.945	0.059	0.228	0.030	0.274	0.230
	70-75	2.262	0.187	2.766	0.064	0.184	0.029	0.000	0.206
	75-80	2.435	0.179	2.389	0.063	0.199	0.029	0.000	0.197

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-45-96	0-5	10.781	0.522	3.976	0.474	2.030	0.070	7.036	0.729
	5-10	9.453	0.330	3.639	0.184	2.005	0.044	6.012	0.391
	10-15	9.413	0.350	3.805	0.217	2.195	0.056	5.806	0.426
	15-20	8.700	0.300	4.102	0.130	3.323	0.026	4.760	0.338
	20-25	8.070	0.429	4.001	0.079	1.321	0.062	4.214	0.452
	25-30	6.604	0.421	4.440	0.320	0.549	0.054	2.242	0.547
	30-35	6.543	0.400	5.494	0.130	0.428	0.052	1.087	0.436
	35-40	7.204	0.412	4.331	0.154	0.321	0.053	2.977	0.455
	40-45	4.575	0.387	3.254	0.457	0.341	0.052	1.368	0.620
	45-50	4.256	0.381	3.811	0.167	0.314	0.047	0.461	0.432
	50-55	2.681	0.363	4.097	0.264	0.322	0.048	0.000	0.000
	55-60	3.449	0.338	3.107	0.248	0.072	0.042	0.000	0.000
	60-65	3.413	0.282	2.919	0.167	0.142	0.035	0.000	0.000

Station ID	Depth Interval (cm)	Total Pb-210 Activity (dpm/g)	Total Pb-210 1s Error	Ra-226 Activity (dpm/g)	Ra-226 1s Error	Cs-137 Activity (dpm/g)	Cs-137 1s Error	Excess Pb-210 Activity (dpm/g)	Excess Pb-210 Activity 1s Error
LJ-B-96	0-5	11.132	0.871	3.099	0.063	1.588	0.116	8.309	0.904
	5-10	10.410	0.770	3.163	0.439	1.131	0.107	7.498	0.917
	10-15	11.955	0.760	3.128	0.384	1.317	0.106	9.136	0.881
	15-20	12.529	0.462	3.623	0.367	2.207	0.026	9.219	0.610
	20-25	12.529	0.489	3.861	0.133	2.547	0.078	8.973	0.524
	25-30	11.836	0.247	4.413	0.078	2.774	0.034	7.684	0.268
	30-35	11.565	0.424	4.091	0.365	3.014	0.069	7.740	0.579
	35-40	8.895	0.363	3.548	0.233	1.586	0.054	5.538	0.446
	40-45	6.159	0.369	3.307	0.036	0.662	0.045	2.954	0.384
	45-50	4.330	0.347	3.608	0.166	0.243	0.045	0.746	0.398
	50-55	4.778	0.364	2.963	0.243	0.326	0.042	1.880	0.454
	55-60	3.707	0.406	3.255	0.241	0.222	0.052	0.468	0.489
	60-65	3.676	0.266	3.446	0.203	0.234	0.035	0.238	0.346
	65-70	3.999	0.333	4.542	0.231	0.192	0.040	0.000	0.000

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-04-96	0-5	2.03	5.36	1994.2	72.73	10.97
	5-10	6.27	5.77	1990.0	58.08	8.28
	10-15	10.65	6.27	1985.6	56.91	9.39
	15-20	17.42	7.26	1978.8	52.58	9.70
	20-25	25.10	8.71	1971.2	58.04	13.98
	25-30	37.96	12.30	1958.3	38.73	11.73
	30-35	54.38	19.83	1941.9	29.16	13.75
	35-40	70.86	32.51	1925.4	52.02	41.08
	40-45	84.59	49.38	1911.7	48.21	60.83
	45-50	115.95	129.84	1880.3	18.94	45.62
	50-55					
	55-60					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-12-96	0-5	11.735	6.390	1984.5	21.560	3.514
	5-10	25.803	8.769	1970.4	18.339	3.804
	10-15	53.708	18.481	1942.5	12.077	4.563
	15-20	63.177	22.198	1933.1	60.410	63.538
	20-25					
	25-30					
	30-35					
	35-40					
	40-45					
	45-50					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-21-96	0-5	3.32	5.58	1992.9	48.51	7.11
	5-10	6.55	5.89	1989.7	63.78	12.18
	10-15	11.30	6.43	1985.0	54.11	10.33
	15-20	15.87	7.04	1980.4	73.71	18.24
	20-25	18.04	7.34	1978.2	158.26	70.59
	25-30	23.35	8.08	1972.9	104.85	41.02
	30-35	28.74	8.66	1967.5	108.76	61.62
	35-40	35.68	9.58	1960.6	89.04	47.81
	40-45	38.76	9.77	1957.5	187.61	206.18
	45-50	43.43	10.56	1952.8	117.92	81.70
	50-55	52.51	12.62	1943.7	63.78	35.13
	55-60	74.64	23.40	1921.6	23.27	12.54
	60-65	96.17	38.99	1900.1	26.38	29.55
	65-70	103.06	44.60	1893.2	80.42	203.57
	70-75					
	75-80					
	80-90					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-37-96	0-5	3.783	3.507	1992.6	69.266	7.347
	5-10	6.573	3.672	1989.8	123.632	17.199
	10-15	10.106	3.888	1986.2	126.242	22.004
	15-20	15.209	4.275	1981.1	107.965	16.591
	20-25	20.436	4.643	1975.9	110.974	26.644
	25-30	25.176	5.056	1971.2	125.517	32.840
	30-35	36.679	6.320	1959.7	54.944	12.481
	35-40	49.258	8.673	1947.1	53.343	13.594
	40-45	58.931	11.090	1937.4	75.574	29.046
	45-50	75.114	17.417	1921.2	46.961	21.876
	50-55	91.470	26.808	1904.9	99.963	78.405
	55-60					
	60-65					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-40-96	0-5	2.253	2.582	1994.0	77.215	15.241
	5-10	8.292	2.906	1988.0	48.518	5.425
	10-15	16.739	3.500	1979.5	36.108	5.970
	15-20	32.107	5.226	1964.1	28.372	5.017
	20-25	52.341	9.441	1943.9	24.909	6.511
	25-30	97.776	29.253	1898.5	14.020	8.492
	30-35					
	35-40					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-43-96	0-5	1.988	2.080	1994.3	118.692	8.901
	5-10	5.492	2.204	1990.8	93.621	6.208
	10-15	9.255	2.336	1987.0	100.453	10.526
	15-20	15.736	2.643	1980.6	76.062	6.283
	20-25	24.719	3.235	1971.6	71.803	6.390
	25-30	35.943	4.285	1960.4	53.723	6.341
	30-35	42.154	4.916	1954.1	179.052	40.978
	35-40	44.472	5.137	1951.8	300.668	140.628
	40-45	51.716	6.269	1944.6	98.150	19.925
	45-50	62.207	8.403	1934.1	86.841	21.936
	50-55	91.688	18.030	1904.6	44.265	18.380
	55-60	115.200	36.106	1881.1	33.728	27.398
	60-65	126.630	44.467	1869.7	154.324	319.006
	65-70					
	70-75					
	75-80					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/yr)	Mass 1s error
LJ-45-96	0-5	2.318	2.026	1993.9	116.050	13.703
	5-10	5.359	2.145	1990.9	124.969	11.488
	10-15	14.886	2.654	1981.4	106.750	11.042
	15-20	24.910	3.496	1971.3	96.062	11.821
	20-25	39.417	5.320	1956.8	74.379	13.002
	25-30	51.004	7.164	1945.2	92.861	27.669
	30-35	57.490	8.450	1938.8	144.006	64.621
	35-40	88.095	21.386	1908.2	30.584	13.596
	40-45	122.565	57.391	1873.7	24.398	27.965
	45-50					
	50-55					
	55-60					
	60-65					

Station ID	Depth Interval (cm)	Age (years)	Age 1s error	Date	Mass Sed. Rate (mg/cm2/ yr)	Mass 1s error
LJ-B-96	0-5	1.636	1.684	1994.6	73.686	8.278
	5-10	3.680	1.723	1992.6	77.115	9.617
	10-15	6.386	1.786	1989.9	58.784	5.947
	15-20	11.562	1.936	1984.7	51.566	3.928
	20-25	17.955	2.179	1978.3	44.270	3.314
	25-30	28.347	2.765	1967.9	39.911	2.925
	30-35	38.654	3.532	1957.6	28.704	3.190
	35-40	60.473	6.187	1935.8	24.688	3.795
	40-45	75.082	9.344	1921.2	25.968	6.671
	45-50	83.815	10.989	1912.4	71.069	40.461
	50-55	123.206	32.267	1873.0	14.141	8.531
	55-60	152.704	63.085	1843.5	18.897	31.408
	60-65					
	65-70					