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Geochemistry of Sediments from Coastal Marshes of Louisiana: I. Sampling and Analysis Methods and Chemical Analysis Results

by

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EXECUTIVE SUMMARY

Product: U.S. Geological Survey Open-File Report 95-251, 1995: Geochemistry of Sediments from Coastal Marshes of Louisiana: I. Sampling and Analysis Methods and Chemical Analysis Results

This report presents the study design, sampling methods, and chemical analysis procedures and results for a biogeochemistry study of four marsh sites of varying salinity on the Louisiana coast. Three primary sites were located at salt, intermediate, and fresh water sites in Terrebonne Basin. One secondary site was located at a fresh water marsh in Barataria Basin. Marsh sediments to a depth of about 1 m, the associated sediment pore water, surface water, and above-ground biomass of selected marsh plants were collected and chemically analyzed for major, minor, and trace constituents. Mineralogical and particle-size characteristics of the sediments were determined. Samples were collected at the Terrebonne primary sites in May and September, 1991 and in January and May, 1992. Samples were collected at the Barataria site in September 1991 only. All collections were made prior to any effects that may have been brought about by Hurricane Andrew in August 1992.

This report presents the data without interpretation for the various analyses that were performed. Use of these data should be done with caution and appropriately take into account the nature of the sampling, preparation, and analysis methods. Although the sites sampled were typical of the general marsh area in the various salinity regimes, extrapolation of these data to widespread areas of the Louisiana coast should also be done with caution.

Form of Product: USGS Open-File Report 95-251, Typed Report, 8½ x 11 inches, 154 pages, including 38 tables and 5 figures.

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CONVERSION FACTORS

Measurement values in the International (metric) System (meter/kilogram units) used in this report may be converted to the U.S. Customary System (inches/pounds units) by using the following factors:

To convert from	To	Multiply by
millimeter (mm)	inch (in)	0.03937
meter (m)	foot (ft) yard (yd)	3.281 1.094
kilometer (km)	mile (mi)	0.6214
hectare (ha)	acre	2.471
kilometer^2 (km^2)	mile^2 (mi^2)	0.3861
gram (g)	ounce avoirdupois (oz avdp)	0.03527
kilogram (kg)	pound avoirdupois (lb avdp)	2.205
liter (l)	quart (qt)	1.057

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INTRODUCTION

As a part of the U.S. Geological Survey Global Change and Climate History Program we have been studying the biogeochemistry of coastal marshes in Terrebonne Basin, Louisiana. Louisiana has about 40 percent of the coastal wetlands in the conterminous U.S. and it is losing wetlands at one of the highest rates in the U.S. with the conversion of about 65 km^2/yr of marsh to open water (Britsch and Dunbar, 1993). The losses have been attributed to human and natural causes including saltwater intrusion through man-made canals, reduced sediment input, and regional subsidence. The net effect of these influences is to change the salinity of interior marshes in a fashion similar to a eustatic sea level rise. We are studying the cycling of carbon, sulfur, and other elements in sediments, waters, and marsh macrophytes in fresh, intermediate/brackish, and saltwater marshes in order to better understand how sea level rise, one aspect of global change, will influence and in turn be influenced by cycling of these elements. By characterizing the critical biogeochemical processes and the recent past environments in these rapidly changing marshes, we can improve predictions of future changes and interpretations of the historic geologic record in similar environments.

In this report we describe our coastal marsh study sites in Louisiana, the types of samples collected, the collection methods, the chemical analysis methods, and selected chemical analysis results. Also included are summaries of the project quality control results. The raw chemical analysis results are provided in this report without interpretation. Interpretations will be provided in subsequent reports.

STUDY DESIGN

The Louisiana coastal marshes have distinct assemblages of emergent macrophytes that are salinity dependent. Chabreck and Linscombe (1978, 1988) mapped the vegetation by salinity characteristics. They divided the coastal marshes into vegetation zones based on fresh, intermediate, brackish, and saline salinity ecotypes. We are studying marsh sediments, water, and vegetation at three of these salinity ecotypes--fresh, intermediate, and saline marsh, in Terrebonne Basin (Figure 1). Within this hydrologic basin only one site in each salinity regime was sampled, although an additional freshwater marsh site in Barataria Basin also was sampled (Figure 1).

In order to provide an integrated biogeochemical assessment of the seasonal cycling of various elements, sampling of surface water, pore water, sediments, and above-ground biomass was conducted at four month intervals between May 1991 and May 1992 at the three primary sampling sites in Terrebonne Basin. Various physical and chemical aspects of the sediments were examined from the surface down to about 1 m, a depth which represents about the last one hundred years of marsh development. Pore waters along with the surface water were analyzed for a variety of chemical constituents including major cations and anions, nutrients, and selected trace elements. Above-ground biomass for a variety of common marsh vegetation was chemically analyzed, as well. A description of the marsh study sites and an overview of the field sampling are provided below.

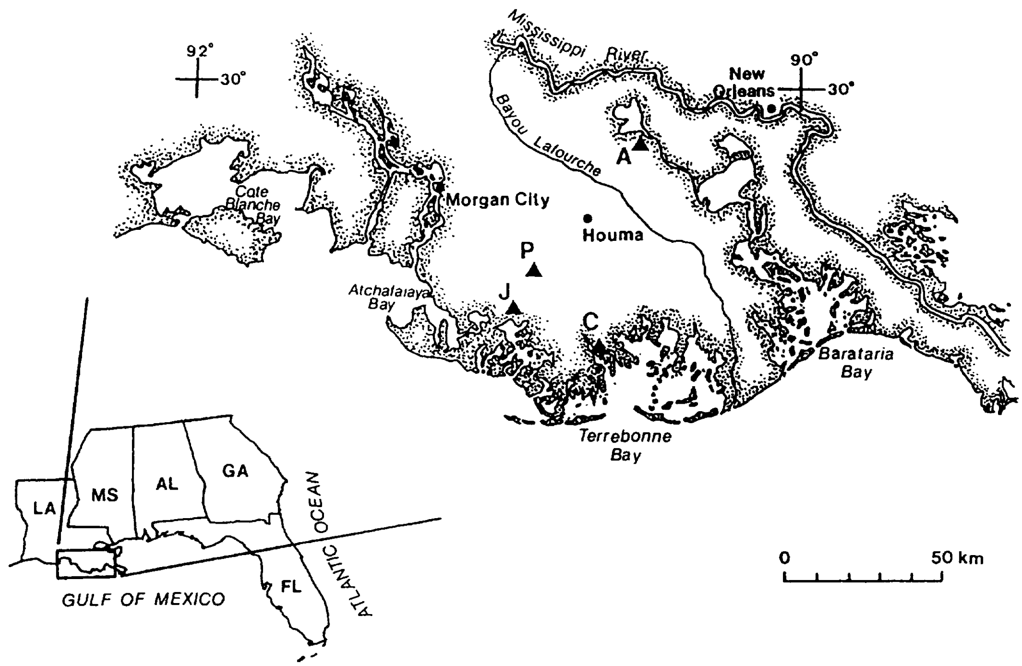

Figure 1. Location map of study sites in Terrebonne Basin (C = Cocodrie salt marsh, J = Jug Lake intermediate marsh, and P = Peoples Canal fresh water marsh) and Barataria Basin (A = Lac des Allemands fresh water marsh).

Coastal Marsh Study Sites

The salt marsh site is located to the west of the Louisiana Marine Consortium (LUMCON) laboratories at Cocodrie in Terrebonne Basin (referred to as Cocodrie site throughout text, Figure 2). The site has been previously described by Reed and Cahoon (1992). This site, at 29° 15.27'N, 90° 40.37'W (T21S, R18E), is a mesohaline marsh with *Spartina alterniflora* (smooth cordgrass) as the predominant vegetation. The *S. alterniflora* grows fairly uniformly throughout the area with culms of about 1 m tall ranging up to 1.5 m with inflorescence. *Juncus roemerianus* (black rush) also is present in small, but dense, stands along the tidal levee on the west and in more extensive stands to the south of the study area. Several small clumps of *Spartina patens* (salt-meadow cordgrass) have been observed in the central portion of the study area. This area is well within the salt marsh zone based on the vegetation maps of Chabreck and Linscombe (1978, 1988) and has typical vegetation characteristics. With surface-water salinity in the range of 5-15‰ (parts per thousand), this marsh is less saline than southeastern Atlantic coast marshes where surface water salinity approaches open ocean water salinity of 35‰ (e.g., Jackson, 1993). In the Atlantic and Gulf coasts of the United States, *S. alterniflora* generally grows in extensive monotypic stands in high salinity areas or intermixed with *J. roemerianus* in brackish marshes (Eleuterius, 1990).

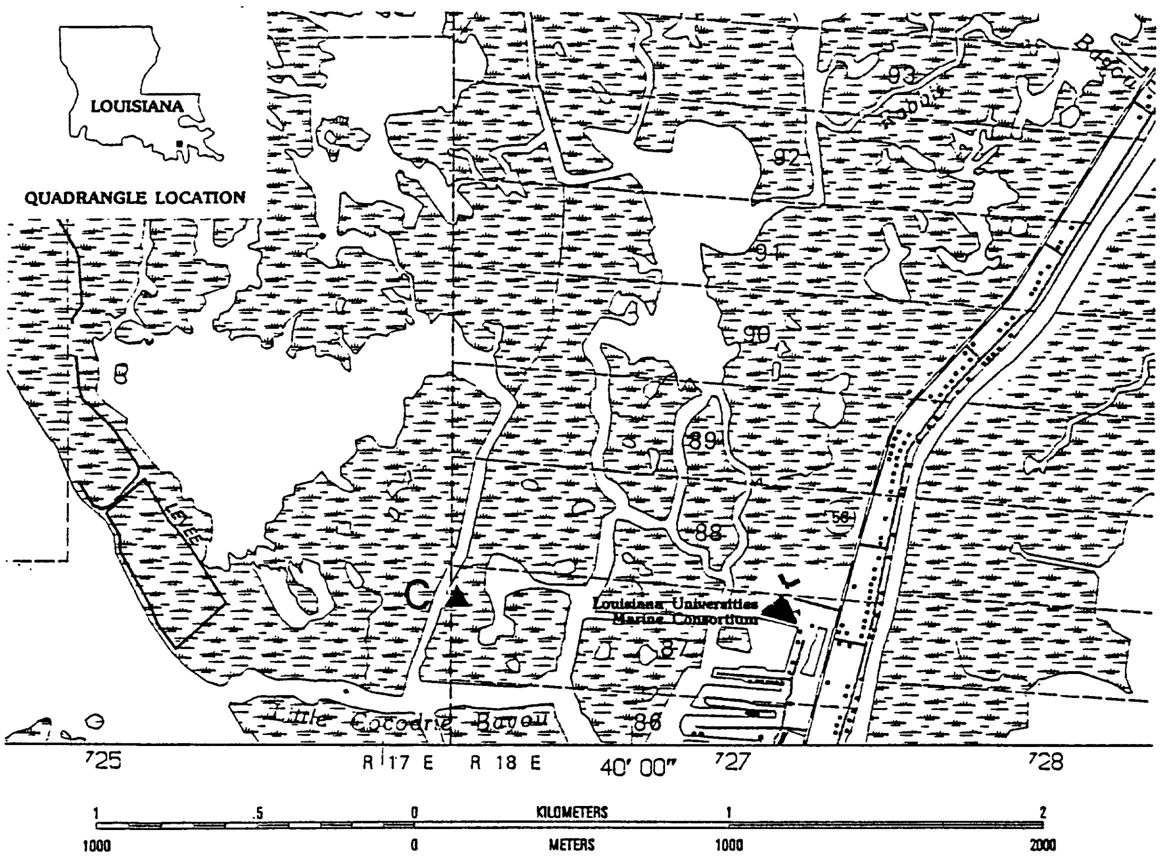

Figure 2. Location map of Cocodrie salt marsh site.

The intermediate to brackish marsh site is located near the northwest shore of Jug Lake along Bayou La Loutre in Terrebonne Basin at 29° 22.19'N, 90° 57.70'W (T19S, R15E) (referred to as Jug Lake site throughout text, Figure 3). It is the site of a National Biological Service (NBS) study on the alterations of critical processes in coastal wetlands--effects of marsh impoundment and management on the vegetation of Louisiana's deltaic wetlands. The study site is a deteriorating oligohaline marsh (surface water salinity < 2‰) with predominantly *Spartina patens* in the immediate vicinity. The *S. patens* grows in dense clumps with numerous shallow ponds scattered throughout the area. Along U.S. coasts, *S. patens* is normally found at higher elevations in saline marshes or in brackish marshes (Eleuterius, 1990). Other species that were present in minor amounts at this site, such as *Eichhornia* sp. (water-hyacinth), *Ipomoea* sp. (morning glory), *Lythrum* sp. (loosestrife), *Polygonum* sp. (smartweed), *Setaria* sp. (foxtail grass), are indicative of brackish and fresh water marshes. This site was identified as being near the intermediate-brackish marsh zone boundary by Chabreck and Linscombe in 1978 and as intermediate-salinity marsh in 1988. In the NBS marsh-management studies the site is identified as Jug Lake Control #3 (L. Foote, NBS, oral commun., 1990).

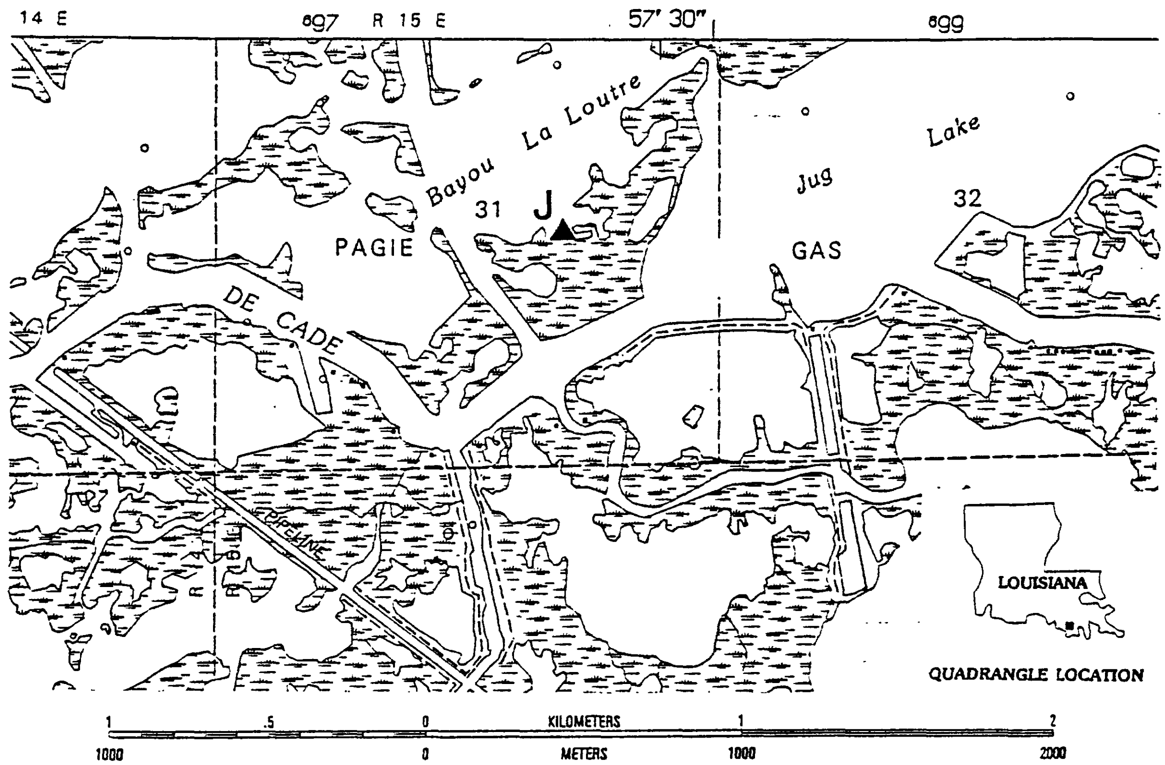

Figure 3. Location map of Jug Lake intermediate marsh site.

The primary fresh water marsh site is located at 29° 25.84'N, 90° 54.53'W (T19S, R15E) along Peoples Canal about 1.7 km north of the Mauvais Bois Ridge, which is a natural barrier between the fresh and more saline marshes in the area (referred to as Peoples Canal site throughout text, Figure 4). The site is located in Terrebonne Basin in the fresh water marsh zone as mapped by Chabreck and Linscombe (1978, 1988). *Panicum hemitomon* (maiden cane) is the dominant plant species at this site. It grows in a dense robust monotypic stand with an average height of culms and leaves of 120-130 cm (without inflorescence). Some *Sagittaria lancifolia* (bull tongue) is present (<5 percent). A few clumps of *Ludwigia leptocarpa* (false loosestrife or water primrose) and wild rice (*Zizania aquatica* or Southern wild rice, *Zizaniopsis miliacea*) were present along the canal. Stands of *Typha* sp. (cattails) also were observed in other areas along the canal. *Myrica cerifera* (wax myrtle) was scattered throughout the area to the east in more interior, higher elevation sections of the marsh. The marsh in the immediate vicinity of the canal was burned sometime in December 1991 to early January 1992. In May 1992 there appeared to be an increase in *S. lancifolia*, presumably because of the burning, but *P. hemitomon* was still the dominant plant species.

At this site, the marsh mat is floating with a rising and lowering of the marsh surface depending upon the water level (i.e., known as flotant marsh; Swarzenski and others, 1991).

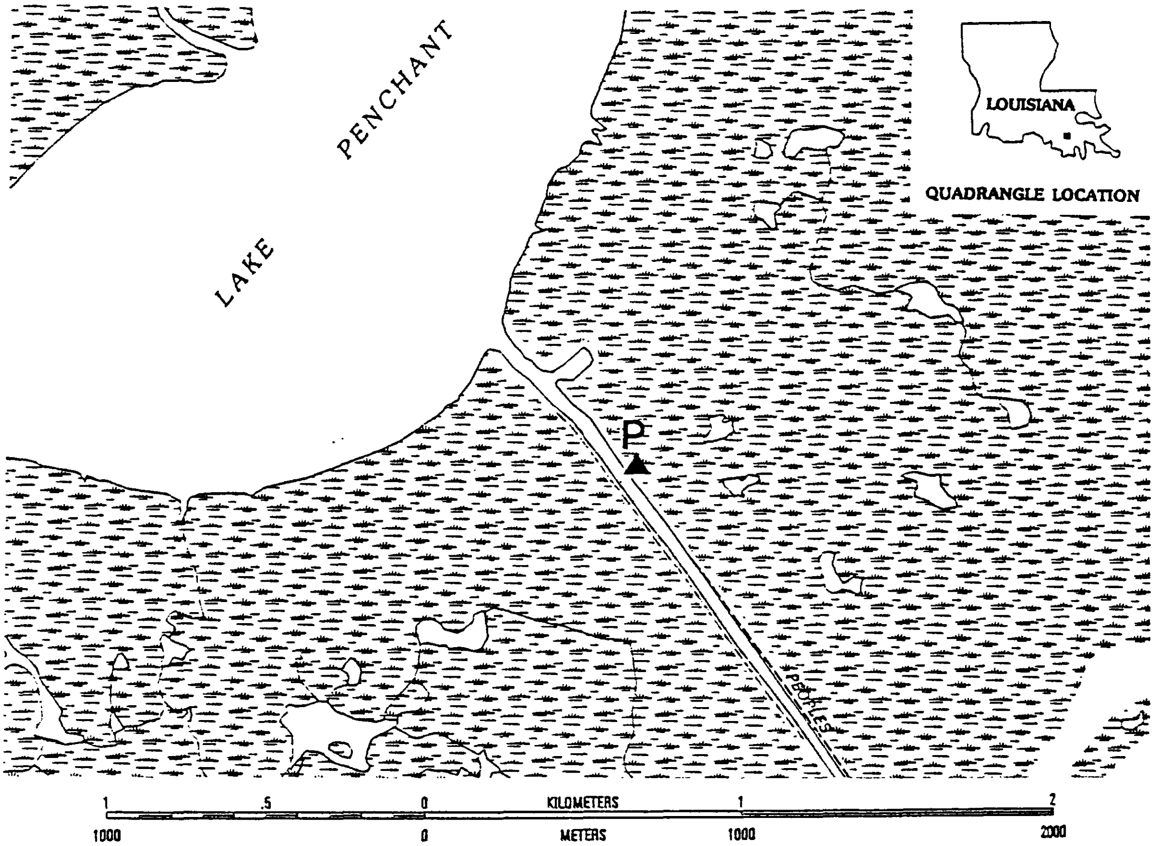

Figure 4. Location map of Peoples Canal fresh water marsh site.

A second fresh water marsh site was sampled in September 1992 at 29° 52.71'N 90° 31.85'W (T14S, R19E) near a pipeline crossing on the western edge of Baie des Deux Chenes between Lac des Allemands to the northwest and Bayou des Allemands to the southeast (referred to as Lac des Allemands site throughout text, Figure 5). The site is located in Barataria Basin in a fresh water marsh as mapped by Chabreck and Linscombe (1978, 1988). It is in the same general vicinity as the fresh water marsh studies conducted by Feijtel and others (1988a, 1988b). The marsh is primarily a monotypic stand of *P. hemitomon* with some *S. lancifolia* present. *Typha* sp. also are present in the general area, but not at the site itself. The marsh mat appeared to be floating in a similar fashion as at the Peoples Canal site, although the separation of the mat and the substrate may not have been as great.

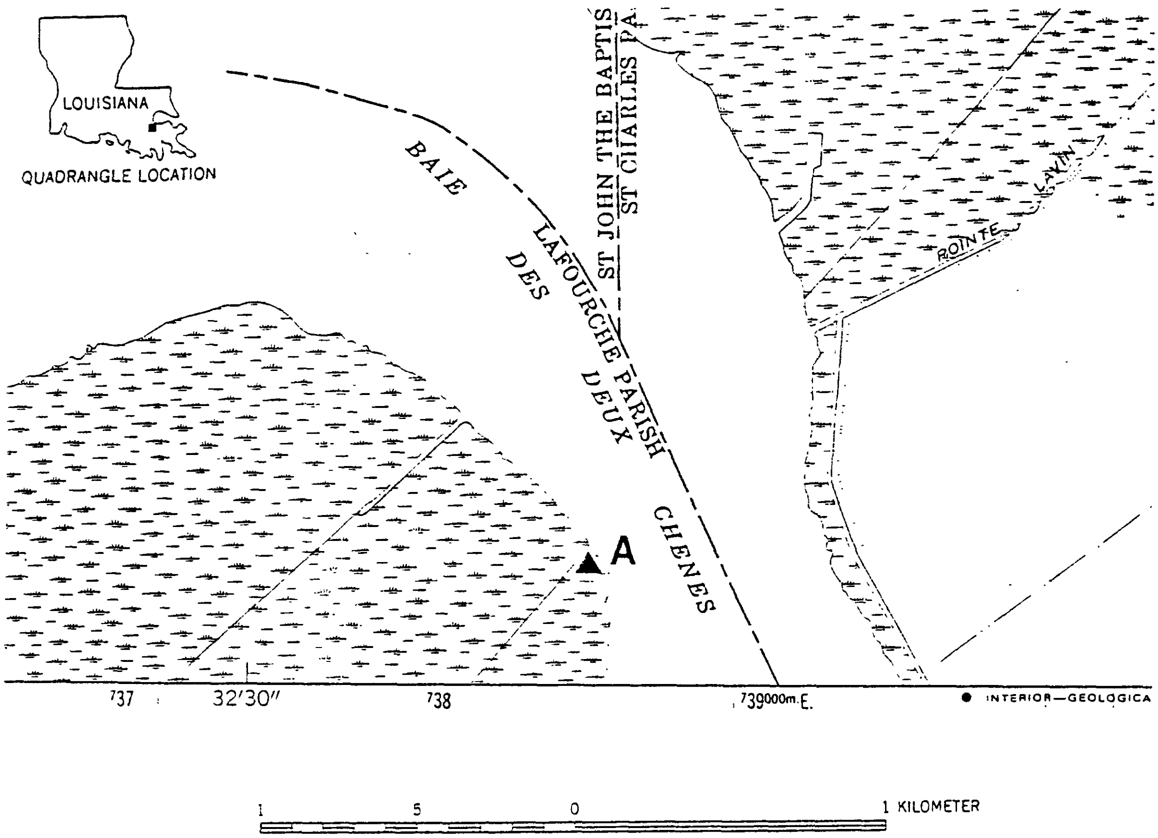

Figure 5. Location map of Lac des Allemands fresh water marsh site.

Overview of Field Sampling

This report provides information on four sampling periods, May 1991, September 1991, January 1992, and May 1992, at the coastal marsh sites. The May sampling periods represent a point of active emergent vegetation growth that is after the spring growth begins in late February or March, but before the most productive summer months. The September sampling period is near the end of the major productivity period, but before complete senescence of the vegetation. The January sampling period represents a low point in marsh macrophyte productivity--a period after the first winter frosts and before new spring growth starts. Thus, at the four month interval of sampling, the biogeochemistry of the marsh sites can be directly linked to seasonal aspects of emergent marsh vegetation productivity.

A preliminary sampling trip was conducted in May 1991. This trip was intended to familiarize us with the Louisiana marshes, establish three sampling sites along a salinity gradient in Terrebonne Basin, test sampling techniques, and collect the first suite of samples for chemical characterization. Sampling sites were established at the salt and intermediate salinity marsh sites at Cocodrie and Jug Lake, respectively. Water, sediment, and vegetation samples were collected at these two sites. The general area along Peoples Canal was identified as a potential fresh water sampling site, however, no samples were collected in this area. There were especially heavy rains during May 1991 which precluded additional field work. The large spring and early summer rainfall in coastal Louisiana made 1991 one of the highest rainfall years in the previous 100 years (D. Cahoon, NBS, oral commun., 1993).

In the May 1991 sampling period, sediment cores were collected with a 5 cm diameter corer. Although we were successful in collecting sediment cores, compaction of the sediments during coring exceeded 60 percent. Sediment collection tests with the 5 cm diameter corer were unsuccessful at the fresh water site at Peoples Canal (J. Leventhal, USGS, oral commun., July 1991). Thus, a new 10 cm diameter all plastic corer was designed, constructed, and used for sampling on all subsequent trips, September 1991 through May 1992.

In September 1991 the new 10 cm diameter corer was tested at a fresh water marsh site near Lac des Allemands in Barataria Basin where other researchers had been successful in obtaining sediment cores from flotant marshes (Feijtel and others, 1988b). A sediment core was obtained successfully with the new corer at this site. Vegetation and water samples also were collected at the site. Because we were equally successful in collecting sediment cores at the Peoples Canal fresh water marsh site, the Lac des Allemands site was not resampled in the later sampling periods. In this sampling period, water, sediments, and vegetation were collected at Peoples Canal, and at the previously sampled Jug Lake and Cocodrie sites. Sediment compaction during coring was much lower with the 10 cm diameter corer (i.e., about 20-25 percent) than with the 5 cm diameter corer (about 60 percent) at the salt and intermediate salinity sites.

In January and May 1992, water, sediments, and vegetation were collected at the fresh, intermediate, and salt marsh sites at Peoples Canal, Jug Lake, and Cocodrie, respectively, in a similar fashion to the September 1991 collections. The last sampling period, May 1992, was prior to Hurricane Andrew, which struck the Louisiana coast on August 26, 1992. The hurricane had a substantial influence on these sites that has been described by Jackson and others (1995).

STUDY METHODS

Sample collection

<u>Site Location.</u> The latitude and longitude of each sample site were determined by using either a LORAN-C receiver (Spotlink Model SL-1000, Pathcor Div., Technology Projects, Ltd., Tempe, AZ) or a Magellan NAV 5000 Pro global satellite positioning receiver. The LORAN-C receiver was calibrated daily at the NE corner of the intersection of Drum Road and Highway 56. The calibration position location was 29° 15.34'N, 90° 39.55'W as measured from the USGS Lake Quitman 7½' series topographic map.

<u>Sediment Collection.</u> In May 1991, sediment cores were collected using a 5 cm id x 2.1 m PVC core barrel with a serrated lexan nosepiece (Wildco, Saginaw, MI). Three segments of

5 cm od (4.75 cm id) x 76 cm clear acrylic butyrate (CAB) tubing (acid-rinsed) were taped together for a core liner. The core liner extended about 15 cm beyond the length of the barrel.

The core barrel and liner were inserted slowly into the sediment. The outer barrel was twisted as it was pushed downward to cut through roots and other organic matter. The liner was pushed downward simultaneously with the barrel, however, it was held so that it did not twist with the barrel. The barrel was pushed into the sediment until about 60 cm remained above the surface of the water. A rubber stopper and tubing were inserted into the end of the liner. A hand vacuum pump was attached and a slight negative pressure was created in the liner. The liner with sediment core was then removed. A neoprene stopper was inserted in the bottom of the core liner. The sediment was entirely contained in the lower segment of liner (first 76 cm). The lower segment was separated and capped with a neoprene stopper. The cores were maintained upright and at ambient temperature until they were processed the following day.

The distances from the top of the core liner to the surface water on the inside and outside of the corer were measured in order to make compaction corrections. The distance to the water surface inside the core barrel was 60 to 75 cm lower than the water surface on the outside of the barrel. Although the cores retrieved seemed representative of the sediments, it is unclear whether this difference in interior and exterior height is owing to compaction of the sediment during coring, pushing away of the sediments as the corer is inserted due to the small diameter, or a combination of the two. For depth correction calculations, we have assumed uniform compaction over the entire length of the core.

In September 1991 through May 1992, sediment cores were collected using a 10 cm id x 2 m PVC core barrel with a serrated nosepiece. Two segments of 10 cm od (9.5 cm id) x 122 cm CAB tubing were taped together for a core liner. The 10 cm diameter sediment cores then were obtained in a similar fashion to the 5 cm cores. Sediment cores were sealed with plastic liner caps, maintained in an upright position, transported to the laboratory at ambient temperatures, and stored overnight in a refrigerator until processing on the day following collection.

Compaction estimates were obtained for all sediment cores (Table 1). Compaction is defined here as the amount of sediment core lost as a percentage of the uncompacted, true length of the core (i.e., $\ell = \Delta d +$ measured length). Thus:

$$\text{percent compaction} = \Delta d \text{ (length of core lost)} / \ell \text{ (true length)} * 100$$

True depth increments have been estimated based on compaction corrections that assume equal compaction over the entire length of the core where

$$\text{depth}_{\text{true}} = \text{depth}_{\text{compacted}} / (1 - [\%\text{compaction}/100]).$$

<u>Plant collection.</u> Twenty five to two hundred grams of each plant species were collected as a composite from numerous plants throughout a site. This usually represented 25 to more than 100 leaves or stems depending upon the plant species. For *S. alterniflora*, *S. patens*, *P.*

hemitomon, and *J. roemerianus* culms and leaves above the high water and sediment contamination mark (about 25 cm) were collected. Inflorescent, when present, was removed. The leaves and inflated petioles of *E. crassipes* were sampled and composited from numerous plants that were trapped in interior portions of the intermediate and fresh water marsh sites. Leaves and petioles above about 15 cm from the base of *S. lancifolia* also were collected. During the May and September sampling periods, dead or senescent material generally was removed from the composite samples. Replicate samples were collected as composites of other plants in the area. The plant samples were collected with stainless steel clippers and stored in Hubco cloth bags at ambient temperatures.

<u>Surface water collection.</u> Surface water samples were collected in 500-1000 mL, acid-washed polyethylene bottles and in acid-washed 30 mL plastic syringes. Additional samples of 8-20 L were collected for ultrafiltration studies. Generally, samples were collected from the water overlaying the marsh surface. However, when that was not possible, nearby shallow ponds or drainage channels, or the adjacent tidal creek or canal (listed in order of sampling preference) were sampled.

Field processing and analysis of samples

<u>Sediments.</u> Cores were maintained upright and sealed until they were sliced. The sediment cores were extruded into a nitrogen filled glove bag. The core was extruded upward into a CAB plastic ring (same material as the liner). The rings were 2 to 5 cm high. Once the ring was full, a stainless steel knife was used to slice off the segment. The sediment segment was placed on a lexan plate. A pie shaped piece of the sediment segment (about 1/6 of the segment) was removed and placed in a pre-weighed polyvial for determination of moisture. The remainder of the 2 cm sediment segment was placed in an acid-washed 250 mL polycarbonate centrifuge tubes by using a Teflon coated spatula. For the 5 cm sediment segments, in addition to collecting a portion of the sediment for moisture, about one-half or more of the sediment was placed in a 250 mL centrifuge tube and the remainder was reserved in polycarbonate jars. Some extremely wet segments of the cores, such as the upper flocculent portion of cores from Jug Lake, were removed directly from the end of the liner (cm graduations were marked on the upper end of the liner) using a turkey baster or a spoon. Some pore water was still lost from segments when we were slicing or putting them into the centrifuge tubes. In addition, a minor amount of pore water was lost during the extruding from the bottom of fresh water cores with extremely high water content (i.e., water leaked past the extruder o-ring as the core was pushed upward).

Three glove bags were connected together which allowed one bag to be used as an airlock. Thus, after about one-half of the core had been sliced, the tubes were removed from the glove bag and centrifuged with a Sorval temperature controlled, high speed centrifuge. The samples were centrifuged (GSA rotor, 6 at a time) at 12,000 rpm for 30 minutes at 20°C. In several instances, samples had to be re-centrifuged for an additional 30 minutes in order to separate the pore water. Total time for centrifuging all samples from a core was 2-5 hrs. After the samples were centrifuged, they were returned to the glove bag where the pore water was removed with 30 mL syringes. Two or more syringes were used for each sample to remove as much of the pore water as possible. The sediment samples were refrigerated after the pore water was removed.

<u>**Sediment pore water.**</u> Sediment pore-water samples were extracted by centrifugation and collected in syringes as described above. The pore-water samples were then processed and analyzed as outlined in Table 2. About 1 mL of unfiltered pore water was placed in a test tube and the pH was determined. Absolute millivolts were measured by using an Orion model 290A pH meter with a Ross semi-micro pH electrode that had been pre-equilibrated in fresh or salt water. Three buffers with pH of 4, 7, and 10 were used for calibration.

Another 1 mL aliquot was saved for alkalinity determination. The remainder of the sample was filtered through Whatman 25 mm diameter glass-fiber filters (GF/A, nominal particle size retention of 1.6 μm) or acid-washed Nuclepore 0.40 μm polycarbonate filters in Swinnex® filter holders (Millipore Corp.). The glass-fiber filters had been pre-combusted at 500°C overnight and the polycarbonate filters had been acid-washed. As shown in Table 2, a series of aliquots were obtained, preserved or treated, stored, and returned to our main laboratories for analysis.

In addition to pH, sulfide was determined at the field laboratory immediately after extraction of the pore water from the sediments. Sulfide was determined by a micro-scale colorimetric procedure based on the method of Cline (1969). Sulfide standards (~20 mM, pH 10) were prepared from Na_2S, sealed in glass vials without air, and standardized iodometrically prior to the field sampling. Based on our tests, the sulfide concentrations in sealed and refrigerated vials changed less than 2 percent within several weeks of preparation. In the field, multiple calibration curves, as described by Cline (1969), were prepared in order to cover the range of sulfide concentrations present. Dilutions of samples and standards were performed in test tubes by using adjustable microliter pipets. Colorimetric measurements were made by using a portable Milton Roy Mini 20® spectrometer.

<u>**Surface water.**</u> Surface water pH was determined at the field site at the time of collection as described above for the pore water samples. At the site or in the field laboratory, conductivity was determined for the surface water sample and a standard KCl solution with a mass fraction of 32.4356 x 10^{-3} which had been equilibrated to the same temperature as the field sample. The conductivity was measured by using an Orion Model 126 conductivity meter with a Model 014010 4-electrode cell. Based on the ratio of the conductivities of the sample and the KCl standard at 15°C ($Cond._{sample}/Cond._{KCl} = K_{15}$), surface water conductivities were converted to practical salinity (S) (UNESCO, 1966) where:

$$S = 0.0080 - 0.1692\,(K_{15})^{1/2} + 25.3851\,(K_{15}) + 14.0941\,(K_{15})^{3/2} - 7.0261\,(K_{15})^{2} + 2.7081\,(K_{15})^{5/2}$$

A correction factor (from UNESCO oceanographic tables) was applied to the practical salinity for temperatures other than 15°C. Although the equation is valid for practical salinities from 2 to 42‰, we have used the equation to estimate salinities down to 0.5‰. Thus, our estimated practical salinity values that are less than 2‰ are in error; however, they still provide an estimate of the salinity magnitude at the fresher water sites.

At the field laboratory, surface water samples that were collected in syringes (referred to as bottom water) were treated in the same fashion as pore water samples (see above). The 500-1000 mL samples (referred to as marsh water) were split into aliquots that were raw (i.e., unfiltered) or filtered and unacidified or acidified. The samples were filtered through 47 mm diameter x 0.40 μm pore size acid-washed Nuclepore polycarbonate filters. Samples were acidified with approximately 1 mL of redistilled concentrated nitric acid per liter of sample. An additional aliquot was filtered through a pre-combusted glass fiber filter (Whatman GF/A) for the determination of dissolved organic carbon. This aliquot was preserved with 50 μL of 0.01 M mercury nitrate per 1 mL of sample. Two aliquots of the largest water sample were collected after passing through a Millipore Minitan® ultrafiltration unit. One of the ultrafiltration aliquots was saved without acidification whereas the other aliquot was acidified as above. All aliquots were refrigerated until analysis.

Laboratory sample preparation

Sediments. At our main laboratories, the centrifuge tubes with sediment were placed in an N_2-flushed glove box. The sediment was mixed in the tube and approximately one half of the material was removed for grinding. The sediment then was dried in a forced-air oven at 40°C for about 6 days. The dried sediment was disaggregated by hand in a mortar and pestle or for clay-rich samples in a rock crusher. The disaggregated material then was ground in a vertical ceramic plate grinder so that the majority of the material was less than 0.15 mm (< 100 mesh). The ground samples were homogenized on a rotary mixer. Selected samples were split in a Jones riffle splitter for duplicate analyses. Prior to analysis, a few grams of each sample were dried at 105°C for about 16 hours and then stored in a desiccator.

Because of the high organic matter content of many of the samples, ashing was required prior to the determination of major, minor, and trace elements by inductively coupled plasma-atomic emission spectroscopy (ICP). Thus, all sediment samples and sediment standard reference materials were ashed prior to ICP analysis. For each sample, about one gram of the dried sediment (at 105°C) was weighed into a ceramic crucible. The samples were placed in a Fisher Model 497 programmable furnace. Over about 6 hours in a series of steps[1], the furnace temperature was ramped up to 500°C where it was held for 4 hours. The oven was then cooled to room temperature over about 5 hours. The ashed material was reweighed and then mixed prior to ICP analysis.

Plants. Plant material was washed five times in deionized water by hand agitation in a large beaker. The wash water was replaced after each wash. The washed material was dried at 40°C in a forced-air oven for 48 hours. The dried plant material was ground in a Wiley mill to pass a 2 mm (10 mesh) screen. Prior to ICP analyses, about 10 g of ground sample material were ashed in Vitreosil dishes. The plant material was ashed in a Mellon

[1] Furnace program: from room temperature, step to 225°C at 2°/min, hold 30 min, step to 450°C at 2°/min, hold 60 min, step to 500°C at 2°/min, hold 240 min, then cool to room temperature at 2°/min.

programmable furnace by ramping the temperature from 25° up to 450°C in 10 hours and then holding at 450° for 8 hours. The samples were slowly cooled to room temperature. Approximately 2 g of botanical reference materials that had been predried at 85°C for 2 hours (National Institute of Standards and Technology (NIST) Certificate of Analysis) were ashed in the same fashion.

Laboratory Analyses

The analyses of plants, sediments, and waters were performed by using a wide variety of techniques. The techniques which are outlined below have been assigned specific method codes which are carried through the results tables that are found in later sections of this report. For analyses that were performed by routine methods of the USGS Analytical Chemistry Services Group, the technique codes correspond with those listed by Arbogast (1990). All other methods have been assigned a unique technique code specific to this project.

Plants. A summary of the plant analysis methods is given in Table 3. Ash yield for the plants was determined as described above. Major, minor, and trace elements in 0.1 g of plant ash were determined by using ICP in a fashion similar to the sediments. The determination limits for the ICP and other analysis methods are shown in Table 4. Sulfur was determined on 0.25 g of dried, ground plant material by combusting the sample and determining the evolved SO_2 with an infrared detector. Carbon, hydrogen, and nitrogen were determined on about 20 mg of plant material (dried at 40°C) by using a conventional Perkin-Elmer combustion/gas chromatography CH&N analyzer.

Sediments. Bulk sediment analysis methods and determination limits are given in Tables 3 and 4, respectively. A simplified material classification has been assigned to each sediment sample (Table 5). The classification is based on the amount of organic matter present (after Kostner and Bailey, 1983) and particle-size distribution. The percentage organic matter was equal to 100 minus the ash yield where the ash content was determined as described above. The particle size for core slices from the September 1991 cores from Cocodrie, Jug Lake, and Peoples Canal were analyzed for their percentage coarse-, silt-, and clay-size particles. About 25 g of wet sediment sample were separated into particle size categories. In some samples two depth increments from a core were combined in order to have sufficient material to analyze. Organic matter was not removed prior to the size fractionation. All sediment material retained on a 230-mesh (62 μm) sieve after wet-sieving was defined as coarse. This included macro-organic matter and sand size particles (quartz, etc.). Silt- and clay-size particles were separated by centrifugation with the clay-size particles being left in suspension after centrifuging at 600 rpm for 10 minutes. A portion of the clay-size particles was plated onto a glass slide for XRD analysis. This latter fraction was not included in the final percentage calculations. Each of the various size fractions was air-dried under a heat lamp. The weight of each fraction was determined and the three fraction weights were summed to give the total sample weight used for percentage calculations. Using this method the size fractions are defined as:

Coarse $> 62\ \mu m$, Silt $> 2\ \mu m$, Clay $< 2\ \mu m$

The results obtained are only approximations because rigorous recovery and drying procedures were not used, organic matter was not removed, and particle dispersion reagents were not used (Day, 1965).

Mineralogic characterization of the silt- and clay-sized particles was done by X-ray diffraction analysis (XRD). Silt-sized sediment fractions were analyzed by XRD from 4°-60° 2θ in packed powder mounts. The mounted clay specimens were analyzed from 2°-32° 2θ by XRD four times: once unaltered, once glycolated, once after heating to 400°C, and once after heating to 550°C. Organic matter in the clay-sized fraction can inhibit orientation of the clay-sized particles in preparation of the oriented samples (Whittig, 1965). Whether this had a significant influence on the mineralogical characterization of our clay-sized samples is not known.

The sediment moisture content was determined by drying at 70°C for at least 48 hours about 2-20 g of sediment that had been placed in pre-weighed polyvials when the core was sliced. The dried material was reserved for the determination of ^{210}Pb. The ^{210}Pb activity (disintegrations/min/g of dried sediment [dpm/g]) was determined by examining the activity of its daughter, ^{210}Po. The half life of the daughter is much less than the parent so the daughter and the parent are in secular equilibrium (i.e., their activities are equal). The activity of ^{210}Po and ^{209}Po, which is added as a yield tracer, are measured and used in the calculations for sedimentation rate. The dried sample was digested with nitric acid, then perchloric acid, and finally hydrochloric acid; the sample and a ^{209}Po spike were plated on to a silver planchet; and the activities of ^{210}Po and ^{209}Po were measured with α spectrometry.

All sediment samples were analyzed by ICP for major, minor, and trace elements. One to two hundred milligrams of ash were digested completely with mixed acids and the resulting solution was analyzed by ICP. Total sulfur was determined directly on 250 mg of the dried (at 105°C) sediment material by combustion at 1370°C in an oxygen atmosphere with infrared detection of evolved SO_2. Total carbon was determined by combustion of 0.25 to 1 g of dried material at 1370°C in an oxygen atmosphere with infrared detection of evolved CO_2. Carbonate carbon (C_{crbnt}) was determined on 0.1 g of dried sediment by coulometric titration of acid-evolved CO_2. Organic carbon (C_{org}) was determined by the difference of total and carbonate carbon. Total carbon, hydrogen, and nitrogen were determined on about 20 mg of sediment (dried at 40°C) by using a Perkin-Elmer CH&N analyzer.

Element-sediment mineral phase associations were determined by a series of sequential extractions for sediments collected in May 1991 at Jug Lake and Cocodrie. The residual moisture content of sediments that had been centrifuged at the field laboratory was determined by drying at 105°C for 24 hrs (NRCC, 1979). A sample of wet, unground sediment which corresponded to 0.5 g of dry-weight sediment based on the moisture content was weighed and carried through a series of five sequential extractions. The extractions are shown in Table 6. Each extraction is designed to measure a specific element-phase association, however, these associations are defined by the very nature of the extraction procedure. Thus, the results are referred to in this report by fraction number and not element-phase association. The sediments analyzed by this procedure were stored from the time of collection to the time of analysis in a refrigerator in capped centrifuge bottles that had been flushed with nitrogen. The samples were stored about two months prior to the sequential extraction analysis. All extractant solutions were deoxygenated by bubbling with nitrogen and all additions of extractants to the sediment samples were conducted in a nitrogen-filled glove box.

Surface and pore waters. Water samples were analyzed for a variety of constituents. The number of constituents determined depended upon the amount of sample available and the sampling period. A summary of the analyses techniques is shown in Table 7 and determination limits are given in Table 8. Processing of the samples in the field was outlined above (Table 2).

The pH and sulfide content of pore water were determined at the field laboratory as soon as the pore water was extracted. The methods are described above. Total alkalinity was determined by potentiometric microtitration with HCl. The anions, chloride and total sulfur as sulfate, were determined by ion chromatography (IC). The anions were separated on a Dionex AS4a column with an eluent of $NaHCO_3$-Na_2CO_3 (0.75 and 2 mM, respectively) and a flow rate of 2 mL/min. The sulfate concentration represents total sulfur, that is those sulfur species oxidizable by peroxide to sulfate (e.g., sulfide, sulfite, thiosulfate, and potentially thiols) plus any sulfate originally present in the sample.

Dissolved organic carbon (DOC) was determined by using a Dohrmann DOC analyzer with a persulfate-UV oxidation procedure. Fresh and saline water samples were treated similarly. Major, minor, and some trace elements were determined in surface and pore water samples by ICP. Selected surface water samples were concentrated up to 20-fold prior to ICP analysis. These samples were analyzed with and without preconcentration. Several trace metals also were determined in selected water samples by graphite furnace atomic absorption spectrometry procedures with the method of standard additions for quantification. Reactive silicate was determined colorimetrically as molybdosilicate. Also, the nutrients (ammonia, nitrate, nitrite, and total reactive phosphorus) were determined colorimetrically by using an autoanalyzer.

ANALYSIS RESULTS

The analysis results are presented in a series of tables that follow. The results are arranged by material type, sample site, and sampling period. Following the raw data tables is a section on the project level quality control results.

Plants

The field sampling codes for plants are shown in Table 9 and a summary of plant samples collected is given in Table 10. The sample codes are carried throughout succeeding tables. The chemical analysis results for all plant samples are listed in Table 11.

Sediments

Field sample codes for all sediment samples are shown in Table 12. Table 13 provides an overview of the sediment samples collected. Descriptions of the sediments are listed in Tables 14-17, based on visual observation of the whole core (intact in the liner) and of each sediment interval during slicing. Tables 18-20 list the size-fractionation and mineralogical composition of cores collected in September 1991. Tables 21-24 list the bulk chemical analysis results for sediments at each sampling site for each sampling period. For each constituent determined, a method number is listed as defined in the preceding sections. Each sample is identified by the depth increment in the compacted core. A compaction corrected depth for the midpoint of each depth increment (i.e., core slice) also is provided (in cm from the apparent surface of the marsh). For elements that were determined by ICP, the results reported by the laboratory were converted from an ash weight basis to a dry weight basis for Tables 21-24. In performing the conversion, two significant figures were retained, however for concentrations near the determination limit only one significant figure was reported originally by the laboratory. Table 25 lists the ^{210}Pb results for selected sediment samples.

Results for sequential extractions are given in Table 26. For each element, the amount recovered by the extractions were summed and the amount for each fraction expressed as a percentage of the sum. Qualified values (i.e., those censored values that were below the detection limit) were set to zero for the percentage calculation. The total recovery was calculated as the percentage that the sum of the amount measured in the extraction steps represented of the amount measured in the dried sediment (Tables 21 and 22). The NIST Buffalo River sediment SRM 2704 was analyzed by the sequential extraction scheme along with the sediment samples. The results for three analyses of the SRM also are presented in Table 26. Total recovery was calculated as the amount recovered by the extraction scheme versus the amount that we determined in the dried SRM (see Table 37), not the certified value. The extraction data should be treated as preliminary data and used with great caution. The difficulty inherent in obtaining a homogeneous subsample of the wet, unground sediment used for the sequential extractions compared to the dried, ground sediment used for the total element determinations may have contributed significantly to poor element recoveries. Oxidation changes during storage or the extraction procedures may have significantly influenced the element-phase associations.

Surface and pore waters

Field sampling codes for surface and pore waters are shown in Tables 27 and 28, respectively. A summary of the surface water samples collected is given in Table 29. The pore water samples collected correspond to the sediment core samples listed in Table 13. The surface water pH and salinity, as measured in the field, are listed in Table 30. Element concentrations determined by ICP in the various surface water samples are listed in Table 31. Concentrations in the pore water samples and selected surface water samples are listed in Tables 32-35. Element concentrations determined by ICP in water samples were reported on a weight basis by the laboratory (ng/g or μg/g). ICP results were converted to a molar basis assuming a density of 1 g/mL for all water samples, regardless of salinity.

QUALITY CONTROL

Each section of the Branch of Geochemistry laboratories has quality control (QC) methods tailored to the specific analyses. The QC methods generally require the analysis of appropriate reference materials and duplicate analyses of the submitted samples. The data from this part of the laboratory QC program are not reported here. As part of the field study QC program, NIST standard reference materials (SRM) were submitted to the laboratories with each suite of plant and sediment samples. Samples were submitted in suites with a maximum of 40 samples. In each suite of samples, two SRM were included. All suites of plant samples included NIST SRM: 1572, Citrus Leaves; and 1575, Pine Needles. All suites of sediment samples included NIST SRM: 1646, Estuarine Sediment; and NIST 2704, Buffalo River Sediment. USGS Water Resources Division (WRD) Standard Reference Water samples (M112, Major Constituents; and T-85, Trace Constituents) were submitted with all suites of water samples. The mean observed value for our analyses for these reference materials are compared to NIST certified and WRD most probable concentration values and other published concentration values in Tables 37-39. In addition to the analysis of SRM, samples of the plants and soils were split in the laboratory and submitted randomized within each suite of samples. The duplicate analyses are listed in the various data tables.

In reviewing our analysis results of the SRM, several factors must be considered. First, the ICP instrumental determination limits for solid materials are usually a few μg/g. The concentration of several elements that are given in this report could be determined with lower determination limits by individual element analysis techniques instead of by the multielement ICP technique. In general, for those elements that do not exceed the determination limit by an order of magnitude, the accuracy and precision of the results are poorer, but are still useful for screening purposes. Secondly, the certified and recommended concentration values have error ranges associated with them that are listed in the Certificates of Analysis. The consensus values (Gladney and others, 1987; Gladney and Roelandts, 1994) are simply arithmetic averages of published values using an iterative mean approach to eliminate extreme outliers when sufficient data were available. In general, there is a paucity of published data for these SRM, especially for many trace elements. In numerous cases, the number of analyses compiled may be only one or two for an individual element and the consensus value is the mean of the limited available data. Despite the caveats associated with the consensus values, they are very useful for comparison. Lastly, the results for the SRM are indicative only of the quality of the results for the samples studied in our work. Because of differences in the nature of the samples and their elemental content, only inferences to the quality of chemical analysis results can be made.

The data in Tables 37 through 39 for the botanical, sediment, and water SRM indicate that the among-sample suite precision of the various determination methods was excellent. In regards to accuracy, for the botanical and sediment standards the results obtained for most elements for both SRM were within 10 percent (relative) of the certified and/or consensus values. Our observed results for Co and Th in the botanical SRM were too high compared to the reference values and Co and Th results in Table 11 should be viewed with caution. For the sediment SRM, our observed results were too low for Ce, Nb, and Ti and the results shown in Tables 21-24 for these elements should be viewed with caution.

Most water samples (including the reference samples) were analyzed by ICP without preconcentration. Thus, many of the elements were measured near the method determination limits. Despite the low concentrations measured, the ICP results for most elements were acceptable for the reference water samples. However, Cr results should be viewed with caution in Tables 32-35.

CAUTIONARY NOTE

Users of these data are cautioned that interpretations of the data presented in this report must take into account the nature of the sampling, preparation, and the types of analysis methods and their determination limits that were used to obtain these data. For example, no absolute elevation controls were maintained for the surface of the marsh during the collection of these samples. Because the apparent surface of the marsh may have varied between sample times, particularly for the fresh water and intermediate salinity sites, and because the efficacy of compaction corrections between sampling periods may have varied, comparisons of absolute depths between sample collections or sites should be done with caution. Although sites were selected as being generally representative of marsh ecotypes throughout the area, extrapolation of subsurface characteristic that we have reported should be performed with caution, as well.

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Table 1. Summary of compaction information for sediment cores collected 5/91-5/92.

Site	Date	Core id-diameter, cm	Sediment recovered, cm	Maximum corrected depth, cm	%Compaction
Cocodrie	May 1991	SEC13-5 cm	48	129	63%
	Sept 1991	SEC23-10 cm	94	120	22%
	Jan 1992	SEC31-10 cm	104	136	24%
	May 1992	SEC41-10 cm	95	121	21%
Jug Lake	May 1991	SEJ11-5 cm	57	143	60%
	Sept 1991	SEJ21-10 cm	93	124	25%
	Jan 1992	SEJ31-10 cm	91	121	25%
	May 1992	SEJ41-10 cm	95	116	19%
Peoples Canal	Sept 1991	SEP21-10 cm	97	150	35%
	Jan 1992	SEP31-10 cm	78	145	45%
	May 1992	SEP42-10 cm	90	151	41%
Lac des Allemands	Sept 1991	SEA21-10 cm	70	129	46%

Table 2. Summary of pore water processing.

Constituent	Sample volume	Filter	Additives	Storage
pH	1 mL	-	-	-
Alkalinity	1 mL	-	-	R
Sulfide	1 mL	GF/A	-	-
DOC	1 mL	GF/A	50µL 0.01M $Hg(NO_3)_2$	R
Cl	1 mL	PC	-	R
Major elements by ICP	5 mL	PC	5µL conc. HNO_3	R
Nutrients	5 mL	PC	-	F
Silicate	1 mL	PC	-	R
S_{total}	1 mL	PC	100µL 30% H_2O_2	R
Trace metals	≥5 mL	PC	5µL conc. HNO_3/5mL sample	R

Filters: PC = Nuclepore 25 mm acid-washed polycarbonate, 0.40 µm pore size
GF/A = Whatman 25 mm GF/A glass microfiber filters
Storage: F = Frozen; R = Refrigerated

Table 3. Summary of sediment and plant analysis methods.

Constituent	Method #	Technique	Comments	Reference
Ash yield	GCS010	Combustion @ 500°C	Sediments only	
Ash yield	LRZ001	Combustion @ 450°C	Plants only	Peacock, 1992
C_{total}	LRN010	Combustion/IR		Jackson & others, 1987
$C_{carbonate}$	LRC010	Coulometric titration		Engleman & others, 1985
$C_{organic}$	LRZ002	Difference	C_{total} - C_{crbnt}	Jackson & Roof, 1992
C, H, & N	RTZ000	Combustion/GC	sediments & plants, dried @ 40°C	Kirschenbaum, 1983
Element-mineral phase associations	GCS020	Sequential extractions/ICP	Analysis of 5 extractions & residual sediment	see Table 6
Major, minor, & trace elements	LQE010	ICP	determined on sediment & plant ash	Briggs, 1990; Lichte & others, 1987
Mineralogy	GCS030	X-ray diffraction		Pollastro, 1982
Moisture	GCS040	Gravimetric	sediments: drying @ 70°C	
^{210}Pb	GCS050	α spectrometry		Flynn, 1968
S_{total}	LRN020	Combustion/IR		Jackson & others, 1985, 1987
Size-fractionation	GCS060	Sieving/centrifugation		Starkey & others, 1984

Table 4. Lower determination limits for the analysis of sediments and plants.

Inductively-Coupled Plasma Emission			
Element	Sediments & Plants[1]	Element	Sediments & Plants[1]
Al%	0.1	Ga µg/g	8
Ca%	0.1	Ho µg/g	8
Fe%	0.1	La µg/g	4
K%	0.1	Li µg/g	4
Mg%	0.1	Mn µg/g	8
Na%	0.01	Mo µg/g	4
P%	0.01	Nb µg/g	8
Ti%	0.01	Nd µg/g	8
Ag µg/g	4	Ni µg/g	4
As µg/g	20	Pb µg/g	8
Au µg/g	16	Sc µg/g	4
Ba µg/g	2	Sn µg/g	10
Be µg/g	2	Sr µg/g	4
Bi µg/g	20	Ta µg/g	80
Cd µg/g	4	Th µg/g	8
Ce µg/g	8	U µg/g	200
Co µg/g	2	V µg/g	4
Cr µg/g	2	Y µg/g	4
Cu µg/g	2	Yb µg/g	2
Eu µg/g	4	Zn µg/g	4

Other Methods		
Element	Sediments	Plants
C_{total}%	0.05	-
C_{crbnt}%	0.01	-
S%	0.05	0.05
C, H, & N%	0.1	0.1

[1]Determination limits for ICP are based on 0.1 g samples. Increasing the sample size to 0.2 g decreases the determination limit proportionally.

Table 5. Sediment material classifications based on organic matter content and particle-size distribution.

	Material class	Class code	Organic matter content, %
organic-rich	Peat	P	75-100
	Peaty muck	P-M	55-75
	Muck	M	35-55
mineral-rich	Silty or clayey muck	S-M C-M	15-35
	Mucky silt or clay	M-S M-C	5-15
	Silt or Clay	S C	0-5

Table 6. Sequential extractions of sediments.

Fraction #	Extraction conditions	Nominal element-phase association	References
F1	1 M $MgCl_2$, pH 7 for 1.5 hrs	Elements in residual pore water & easily exchangeable elements	Tessier & others, 1979; Gibbs, 1973
F2	0.1 M $Na_4P_2O_7$, pH 10 for 16-20 hrs	Elements bound to humic materials	Aleksandrova, 1960; Bascomb & Thanigasalam, 1978; Schnitzer & Schuppli, 1989; Papp & others, 1991
F3	1 M HCl for 16-20 hrs	Elements bound to oxides and monosulfides	Leventhal & Taylor, 1990
F4	0.1 M $Na_4P_2O_7$ & 0.1 M NaOH for 16-20 hrs	Elements bound to more resistant organic matter	Kononova, 1966; Berger & others, 1984
F5	8 M HNO_3 for 2 hrs	Elements bound to sulfides	Chao & Sanzolone, 1977
F6	Mixed acids	Elements in residual solid phase sediment	Lichte & others, 1987

Table 7. Summary of water analysis techniques.

Constituent	Method #	Technique	Comments	Reference
Conductivity/Practical Salinity	GCW010	Conductivity meter	Field measurement	UNESCO, 1966
pH	GCW020	pH meter/Ross electrode	Field measurement	
Sulfide	GCW030	Colorimetry	Field measurement	Cline, 1969
Total alkalinity	GCW040	Potentiometric Gran titration		Stumm & Morgan, 1981
Chloride	GCW050	Ion chromatography		Smee & others, 1978
Dissolved organic carbon	GCW060	Persulfate-UV oxidation/IR detection		APHA, 1985
Major & minor elements	LQZ000	ICP	Surface water, with and without preconcentration	Briggs, 1990; Lichte & others, 1987
Nutrients NO_3^-, NO_2^-, NH_3, PO_4^{3-}	GCW070	Autoanalyzer/Colorimetry		Whitledge & others, 1981
Selected metals: Cr, Cu, Fe, Mn, Ni	GCW080	Graphite furnace atomic absorption spectrometry		Perkin-Elmer, 1984
Silicate	GCW090	Colorimetry		Parsons & others, 1984
Total sulfur	GCW055	Peroxide oxidation/ion chromatography		Smee & others, 1978

Table 8. Nominal lower determination limits for the analysis of waters.

Inductively-Coupled Plasma Emission (LQZ000)			
Element	Waters[1]	Element	Waters[1]
Ag ng/g	40	Li ng/g	40
Al µg/g	1	Mg µg/g	1
B ng/g	50	Mn ng/g	80
Ba ng/g	20	Mo ng/g	40
Be ng/g	20	Na µg/g	1
Bi ng/g	200	Ni ng/g	40
Ca µg/g	1	Pb ng/g	80
Cd ng/g	40	Si µg/g	1
Co ng/g	40	Sn ng/g	100
Cr ng/g	40	Sr ng/g	40
Cu ng/g	40	Ti ng/g	100
Fe µg/g	0.5	V ng/g	40
Ga ng/g	80	Zn ng/g	40
K µg/g	1	Zr ng/g	40

Other Methods			
Element	Waters	Element	Waters
Cr nM (GCW080)	2	NH_3 µM (GCW070)	0.5
Cu nM (GCW080)	2	NO_3^- µM (GCW070)	1
Fe µM (GCW080)	0.02	NO_2^- µM (GCW070)	0.3
Mn µM (GCW080)	0.01	PO_4^{3-} µM (GCW070)	0.5
Ni nM (GCW080)	2	Silicate µM (GCW090)	1.8
Alkalinity meq/l (GCW040)	0.05	Sulfide µM (GCW030)	5
Cl µM (GCW050)	1	S_{total} µM (GCW055)	1
DOC mg/l (GCW060)	0.3		

[1]Determination limits are based on direct analysis of waters. Preconcentration decreases the determination limits proportionately.

Table 9. Field sampling codes for plants.

Plants: Field number = ABC12345

AB = Plant species

EC = *Eichornia crassipes*

JR = *Juncus roemerianus*

PH = *Panicum hemitomon*

SA = *Spartina alterniflora*

SL = *Sagittaria lancifolia*

SP = *Spartina patens*

C = Site location

C = Cocodrie, salt marsh

J = Jug Lake, intermediate marsh

P = Peoples Canal, fresh water marsh

A = Lac des Allemands, fresh water marsh

1 = Trip date

1 = 5/91

2 = 9/91

3 = 1/92

4 = 5/92

2 = Site replication (i.e., duplicate composite samples)

34 = 00 (not used)

5 = Laboratory replicate (1 or 2)

Example: SAC32001 = *Spartina alterniflora* sampled at Cocodrie, 1/92, composite sample # 2, replicate #1.

Table 10. Summary of plant samples collected.

Site	*J. roemerianus*	*S. alterniflora*	*S. patens*	*E. crassipes*	*P. hemitomon*	*S. lancifolia*
	Plant species					
Cocodrie, Salt marsh		SAC11				
	JRC21	SAC21 SAC22	SPC21			
	JCR31	SAC31 SAC32	SPC31			
	JCR41	SAC41 SAC42	SPC41			
Jug Lake, Intermediate marsh			SPJ11			
			SPJ21 SPJ22	ECJ21		
			SPJ31 SPJ32	ECJ31		
			SPJ41 SPJ42			
Peoples Canal, Fresh water marsh				ECP21	PHP21 PHP22	SLP21
					PHP31 PHP32	
					PHP41 PHP42	SLP41
Lac des Allemands, Fresh water marsh				ECA21	PHA21 PHA22	SLA21

Table 11. Element concentrations in plants (see Table 3 for Method #).

	Dry weight basis					Ash weight basis			
Element	Ash%	S%	H%	N%	C%	Al%	Ca%	Fe%	K%
Method #	LRZ000	LRN020	RTZ000	RTZ000	RTZ000	LQE010	LQE010	LQE010	LQE010
Field #									
ECA21001	11.4	0.17	5.6	1.8	39	0.02	17	0.07	24
ECJ21001	11.5	0.13	5.6	1.1	39	< 0.01	18	0.03	22
ECJ31001	8.04	0.13	5.7	1.1	41	0.06	32	0.09	1.0
ECP21001	11.6	0.13	5.5	1.3	39	< 0.01	21	0.03	20
ECP21002	11.6	0.14	5.5	1.5	40	< 0.01	22	0.03	21
JRC21001	4.72	0.23	6.1	1.1	46	0.41	2.2	0.27	16
JRC21002	4.85	0.24	6.1	1.0	46	0.38	2.2	0.27	16
JRC31001	2.95	0.24	6.2	1.0	47	0.34	4.6	0.27	11
JRC41001	5.08	0.26	6.1	1.2	45	0.24	2.9	0.20	19
PHA21001	5.17	0.27	6.0	1.8	44	0.01	2.8	0.10	24
PHA22001	5.08	0.32	6.2	2.6	44	0.01	2.8	0.10	24
PHA22002	4.94	0.33	6.2	2.0	45	0.01	2.8	0.10	22
PHP21001	5.94	0.42	5.8	3.6	44	< 0.01	2.5	0.09	23
PHP22001	4.88	0.41	6.0	1.5	44	0.02	4.0	0.08	19
PHP31001	2.59	0.08	6.0	0.47	45	0.06	3.4	0.20	2.1
PHP31002	2.60	0.08	6.0	0.42	46	0.06	3.3	0.20	2.0
PHP32001	3.45	0.10	6.0	0.46	45	0.07	2.9	0.20	2.6
PHP41001	5.64	0.44	6.0	1.1	44	0.02	3.7	0.07	21
PHP41002	5.70	0.44	5.9	1.0	44	0.02	3.6	0.07	21
PHP42001	6.13	0.43	5.7	1.3	42	0.01	3.6	0.07	19
SAC11001	7.75	0.44	5.9	1.3	43	0.41	2.6	0.29	13
SAC21001	7.50	0.73	5.8	1.0	43	0.03	4.0	0.05	5.1
SAC21002	7.51	0.76	5.9	1.2	43	0.03	4.2	0.05	5.2
SAC22001	7.72	0.71	5.7	1.4	42	0.04	4.5	0.07	5.0
SAC31001	3.70	0.30	6.2	0.39	45	0.38	4.5	0.29	3.6
SAC32001	4.17	0.28	6.1	1.2	45	0.50	4.6	0.34	3.1
SAC32002	4.14	0.29	6.1	1.4	45	0.39	4.7	0.30	3.1
SAC41001	11.5	0.58	5.8	0.81	41	0.1	2.8	0.10	7.3
SAC42001	12.4	0.47	5.6	0.85	40	0.06	3.1	0.09	6.8
SAC42002	12.4	0.47	5.6	0.88	40	0.07	3.2	0.10	6.7
SLA21001	13.4	0.33	5.7	2.5	42	< 0.01	4.9	0.04	26
SLP21001	12.1	0.45	5.8	3.0	43	< 0.01	7.6	0.04	25
SLP41001	10.7	0.20	6.0	2.0	44	< 0.01	6.7	0.03	22
SPC21001	6.97	0.48	5.9	0.86	43	0.25	2.7	0.20	6.2
SPC21002	7.10	0.51	5.6	0.83	43	0.25	2.8	0.20	6.3
SPC31001	3.25	0.26	6.2	0.68	46	0.76	3.4	0.49	10
SPC41001	9.83	0.43	5.7	0.73	42	0.20	2.2	0.10	4.9
SPJ11001	4.18	0.24	6.1	1.2	46	0.32	6.5	0.24	19
SPJ21001	4.73	0.22	6.1	1.0	45	0.03	5.4	0.08	17
SPJ22001	4.90	0.27	6.0	0.98	45	0.02	6.3	0.07	12
SPJ31001	2.37	0.13	5.9	0.47	47	0.2	8.1	0.24	11
SPJ32001	3.11	0.19	5.8	2.0	45	0.1	6.7	0.26	14
SPJ32002	3.08	0.19	5.9	1.5	45	0.1	6.7	0.27	13
SPJ41001	5.38	0.28	5.9	1.4	44	0.05	5.2	0.09	12
SPJ42001	4.72	0.26	5.9	1.0	46	0.1	5.5	0.10	14
SPJ42002	4.47	0.26	6.1	0.82	45	0.1	5.6	0.10	15

Table 11. Element concentrations in plants (continued).

	Ash weight basis								
Element	Na%	P%	Ti%	As µg/g	Ba µg/g	Co µg/g	Cr µg/g	Cu µg/g	Li µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #									
ECA21001	0.73	3.0	< 0.01	< 20	850	4	3	21	4
ECJ21001	2.3	0.99	< 0.01	< 20	1800	5	4	20	6
ECJ31001	0.85	0.84	< 0.01	< 20	1400	3	5	10	< 4
ECP21001	0.24	1.4	< 0.01	< 20	1800	3	2	10	< 4
ECP21002	0.28	1.4	< 0.01	< 20	1800	4	< 2	10	< 4
JRC21001	15	2.2	0.02	< 20	47	< 2	10	44	10
JRC21002	15	2.3	0.02	< 20	46	< 2	10	43	10
JRC31001	12	2.2	0.01	< 20	95	< 2	10	38	10
JRC41001	13	2.0	< 0.01	< 20	35	< 2	6	44	10
PHA21001	1.7	4.0	< 0.01	< 20	93	< 2	20	65	4
PHA22001	1.7	4.0	< 0.01	< 20	20	2	20	58	6
PHA22002	1.7	3.9	< 0.01	< 20	20	2	20	59	5
PHP21001	2.0	4.2	< 0.01	< 20	89	< 2	10	43	< 4
PHP22001	3.2	3.2	< 0.01	< 20	160	< 2	10	50	5
PHP31001	0.66	0.94	< 0.01	< 20	350	< 2	29	10	< 4
PHP31002	0.65	0.90	< 0.01	< 20	330	< 2	29	8	< 4
PHP32001	1.2	0.86	< 0.01	< 20	250	< 2	26	8	< 4
PHP41001	4.0	2.9	< 0.01	< 20	160	< 2	10	25	6
PHP41002	4.0	2.9	< 0.01	< 20	160	< 2	10	22	6
PHP42001	4.0	2.7	< 0.01	< 20	190	< 2	10	20	5
SAC11001	16	2.7	0.02	< 20	77	< 2	20	29	7
SAC21001	18	1.4	< 0.01	< 20	220	< 2	6	10	< 4
SAC21002	18	1.4	< 0.01	< 20	240	< 2	6	9	< 4
SAC22001	17	1.4	< 0.01	< 20	310	< 2	8	7	4
SAC31001	15	0.90	0.01	< 20	190	3	10	10	5
SAC32001	15	0.87	0.02	< 20	150	3	20	10	6
SAC32002	14	0.88	0.02	< 20	150	3	10	10	5
SAC41001	19	1.5	< 0.01	< 20	54	< 2	5	10	6
SAC42001	18	1.4	< 0.01	< 20	41	< 2	4	20	6
SAC42002	18	1.5	< 0.01	< 20	44	< 2	4	20	6
SLA21001	8.6	2.8	< 0.01	< 20	220	< 2	3	10	4
SLP21001	10	2.4	< 0.01	< 20	510	< 2	4	10	< 4
SLP41001	14	2.3	< 0.01	< 20	440	< 2	3	8	< 4
SPC21001	19	1.7	0.01	< 20	100	< 2	10	20	5
SPC21002	18	1.7	0.01	< 20	100	2	10	20	6
SPC31001	9.1	1.8	0.03	< 20	240	3	24	20	8
SPC41001	20	1.1	< 0.01	< 20	71	< 2	6	10	8
SPJ11001	11	2.1	0.01	71	330	3	69	60	5
SPJ21001	13	1.4	< 0.01	< 20	300	< 2	20	28	4
SPJ22001	13	1.5	< 0.01	40	310	< 2	31	44	< 4
SPJ31001	5.4	1.0	< 0.01	< 20	470	3	27	23	< 4
SPJ32001	6.5	1.4	< 0.01	42	300	3	45	100	< 4
SPJ32002	6.4	1.4	< 0.01	44	260	2	42	110	< 4
SPJ41001	15	1.4	< 0.01	< 20	280	< 2	10	35	6
SPJ42001	14	1.4	< 0.01	20	350	2	24	42	6
SPJ42002	14	1.4	< 0.01	20	350	2	23	40	7

Table 11. Element concentrations in plants (continued).

	Ash weight basis							
Element	Mn µg/g	Mo µg/g	Nd µg/g	Ni µg/g	Pb µg/g	Sr µg/g	V µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #								
ECA21001	4100	4	< 8	5	< 8	950	< 4	1000
ECJ21001	4500	7	< 8	7	< 8	1600	< 4	82
ECJ31001	12000	10	20	7	< 8	3100	< 4	93
ECP21001	5100	5	< 8	10	< 8	1200	< 4	94
ECP21002	5100	6	< 8	20	< 8	1200	< 4	97
JRC21001	2300	4	< 8	5	< 8	150	9	170
JRC21002	2300	5	< 8	< 4	10	150	8	180
JRC31001	2300	8	< 8	8	20	490	9	260
JRC41001	3900	6	< 8	< 4	< 8	180	5	260
PHA21001	3000	9	< 8	31	< 8	93	< 4	1400
PHA22001	2800	9	< 8	10	< 8	93	< 4	1000
PHA22002	2800	8	< 8	10	< 8	94	< 4	1000
PHP21001	1300	10	< 8	7	< 8	84	< 4	430
PHP22001	2500	20	< 8	8	< 8	160	< 4	470
PHP31001	900	< 4	< 8	20	10	200	< 4	130
PHP31002	860	< 4	< 8	20	9	190	< 4	120
PHP32001	1300	4	< 8	20	10	160	4	150
PHP41001	1800	6	< 8	7	< 8	150	< 4	360
PHP41002	1800	6	< 8	6	< 8	150	< 4	350
PHP42001	2000	6	< 8	5	< 8	150	< 4	340
SAC11001	1200	6	< 8	5	10	220	8	110
SAC21001	1700	< 4	< 8	< 4	< 8	450	< 4	75
SAC21002	1700	< 4	< 8	< 4	< 8	470	< 4	75
SAC22001	2000	< 4	< 8	< 4	< 8	500	< 4	78
SAC31001	2100	< 4	< 8	8	< 8	640	9	88
SAC32001	2200	< 4	< 8	9	< 8	640	10	90
SAC32002	2400	< 4	8	9	< 8	660	9	86
SAC41001	530	< 4	< 8	< 4	< 8	320	< 4	73
SAC42001	1300	4	< 8	< 4	< 8	330	< 4	76
SAC42002	1300	5	< 8	< 4	< 8	340	< 4	80
SLA21001	1200	< 4	< 8	10	< 8	300	< 4	190
SLP21001	1400	< 4	< 8	9	< 8	360	< 4	110
SLP41001	1700	< 4	< 8	< 4	< 8	350	< 4	100
SPC21001	1600	6	< 8	7	< 8	210	5	66
SPC21002	1600	6	< 8	6	< 8	210	4	71
SPC31001	1700	< 4	< 8	10	10	370	10	120
SPC41001	1000	< 4	< 8	< 4	< 8	190	< 4	36
SPJ11001	2400	< 4	< 8	8	10	310	7	170
SPJ21001	1200	< 4	< 8	10	< 8	260	< 4	140
SPJ22001	1400	< 4	< 8	6	< 8	290	< 4	140
SPJ31001	2400	5	< 8	10	8	500	5	140
SPJ32001	2200	< 4	< 8	10	< 8	410	4	200
SPJ32002	2200	4	< 8	8	< 8	410	< 4	210
SPJ41001	970	< 4	< 8	4	< 8	300	< 4	130
SPJ42001	1700	< 4	< 8	5	< 8	320	< 4	160
SPJ42002	1800	4	< 8	5	< 8	320	< 4	160

Table 12. Field sampling codes for sediments.

Sediments: Field number = ABC12345
AB = Sample type
SE = marsh sediment
C = Site location
C = Cocodrie, salt marsh
J = Jug Lake, intermediate marsh
P = Peoples Canal, fresh water marsh
A = Lac des Allemands, fresh water marsh
1 = Trip date
1 = 5/91
2 = 9/91
3 = 1/92
4 = 5/92
2 = Site replication (i.e., core number)
34 = Upper level of core slice depth increment, cm
5 = Laboratory replicate (1 or 2)
Example: SEJ21051 = Sediment sampled at Jug Lake, 9/91, core #1, core slice 5-10 cm, sample #1

Table 13. Summary of sediment samples collected (depths are not corrected for compaction).

Site	Core id-diameter, cm	Total # of samples/core	Sediment intervals collected	
			Thickness of sediment interval, cm	Depth range, cm
Cocodrie, Salt marsh	SEC13-5	15	2	0-20
			5	20-45
	SEC23-10	25	2	0-20
			5	20-90
			4	90-94
	SEC31-10	23	2	0-10
			5	10-90
	SEC41-10	22	2	0-10
			5	10-90
			2.5	90-92.5
Jug Lake, Intermediate marsh	SEJ11-5	12	4	0-20
			5	20-55
	SEJ21-10	19	5	0-90
			3	90-93
	SEJ31-10	18	5	0-90
	SEJ41-10	19	5	0-90
			2	90-92
Peoples Canal, Fresh water marsh	SEP21-10	22	2	0-10
			5	10-90
			4	90-94
	SEP31-10	18	2	0-10
			5	10-70
			2.5	70-72.5
	SEP42-10	20	2	0-10
			5	10-80
			4	80-84
Lac des Allemands, Fresh water marsh	SEA21-10	17	2	0-10
			5	10-65
			4	65-69

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (depth in cm).

14a. Core SEC13: Whole core description

Depth	Comments: SEC13
0-1	Gray, uneven surface, very lumpy with roots sticking out, white gelatinous material floating on surface.
1-15	Gray sediment/organic-rich.
15-22	Gray with plant parts.
22-32	Gray sediment/organic-rich.
32-44	Gray/brown mixed layer with plant parts.
44-48	Dark brown organic-rich layer.

14b. Core SEC13: Core slice descriptions

Depth	Comments: SEC13
0-2	Brown/dark gray, fine sediment, some fine roots.
2-4	Brown/dark gray, more fine roots than above.
4-6	Gray-brown, many fine roots.
6-8	Gray-brown, many fine roots, few intermediate to large plant fragments.
8-10	Gray-brown, many fine roots, few intermediate to large plant fragments.
10-12	Gray-brown, few large plant fragments, many fine roots.
12-14	Gray-brown, many fine roots, few large plant fragments.
14-16	Same as above.
16-18	Same as above.
18-20	Gray-brown, many fine roots.
20-25	Slightly darker gray-brown than above, few intermediate plant parts, many fine roots.
25-30	Same as above.
30-35	Same as above.
35-40	Dark brown, many fine roots.
40-45	Darker brown than above, many fine roots.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14c. Core SEC23: Whole core description

Depth	Comments: SEC23
0-16	Gray fine sediment with few plant parts, some black streaks.
16-30	Gray-brown sediment with more coarse roots.
30-48	Gray-brown organic rich with reddish tint, many coarse roots, more inorganic layer towards bottom of section.
48-62	Slightly darker brown organic-rich with gray clayey smears.
62-72	Much darker brown peat? with few obvious plant parts.
72-80	Even darker brown peat? with no obvious plant parts.
80-85	Similar to 62-72 cm layer, but no plant parts.
85-91	Gray-black clay with no plant parts.

14d. Core SEC23: Descriptions of core slices

Depth	Comments: SEC23
0-2	Gray-green, fine grained, clump of root mass in the center, soupy, half water.
2-4	Greenish-gray, many fine roots with a few large culms.
4-6	Browner than above, many fine roots with a few large culms.
6-8	Same as above.
8-10	Fine grained matrix, a few more large culms, many fine roots, contains horizontal rhizomes.
10-12	Color and texture same as above, many fine roots although less then above, more rhizomes than above, fewer large roots or culms.
12-14	Color and texture the same as above, fewer fine roots than above, vertical vegetation stems and apparent rhizomes.
14-16	Browner then the above gray-green, numerous fine debris, predominantly large vertical coarse debris, predominantly red and yellow versus white and yellow above, plant debris still intact as if living, drier and more dense than above, seems to be some medium sized horizontal roots not seen above.
16-18	Browner than above, sediment, many coarse (2-5 mm diameter) vertical fragments, several intermediate-sized roots (1-2 mm diameter), some rhizomes, quite moist compared to 14-16 cm layer, spongy and water squeezes out when sediment is compressed.
18-20	Many coarse and fine roots, few rhizomes, spongy and water squeezes out when sediment is compressed.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14d. Core SEC23: Descriptions of core slices (continued)

Depth	Comments: SEC23
20-25	Reddish-brown (redder than above), many coarse plant fragments which appear more decomposed, fragments not holding shape but are splintered fragmented and deformed, top is very spongy.
25-30	Still reddish-brown, predominantly large plant fragments, seems more decomposed than above, very spongy.
30-35	Still sort of reddish-brown, many coarse plant fragments, seems to be decomposing, spongy but denser than above.
35-40	Same as above.
40-45	Same as above, lots of coarse fragment, spongy and quite moist.
45-50	Same as above.
50-55	Slightly less red than above, still many plant fragments but fewer recognizable fragments than above, plant fragments are grayer than above.
55-60	Still numerous large plant fragment, still spongy but denser than the 10 cm above.
60-65	Reddish-brown and copious plant fragments in upper 2/3 of the layer and darker brown and fewer plant fragments (looks like leaves cleaned out of the gutter) in the lower 1/3 of the layer.
65-70	Very dark brown, sediment is denser than above, some fine plant fragments, large fragments that resemble wood and are reddish in color (particle dimensions are 1.5 cm x 2 cm x 3 cm), absence of coarse plant fragments and darker color distinguishes it from above.
70-75	Very dark brown, very few obvious plant fragments, not as spongy and cohesive as above, does not seem as wet as spongy material 20 cm above, one large fragment.
75-80	Very dark brown with some lighter brown material towards the bottom, few obvious plant fragments, but a few Spartina-like pieces in the section (these are medium to fine sized), becomes more soupy towards the bottom and more recognizable plant fragments of medium size, still not cohesive.
80-85	Very dark brown with the upper portion a lighter brown, some fine plant fragments, water pours out as sample is handled, not really spongy, lost some water (the 5 cm ring was not full at the end of processing).
85-90	Gray, fine clay, at bottom of interval 0.5 or less in thickness a few fine plant fragments in overlying dark brown and black material, not particularly cohesive, otherwise as above.
90-94	Gray-black, very dense clay, few fine fibrous material, very sticky, much lower water content.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14e. Core SEC31: Whole core description

Depth	Comments: SEC31
0-2	Light brown, very fine sediment.
2-8	Dark gray-brown, sediment, some large and fine roots.
8-16	Very brown but lighter than above, more roots than above.
16-31	Reddish-brown but slightly lighter than above, sediment, many fine and large roots.
31-48	Same as above but roots appear more decomposed.
48-54	Same as above except slightly redder.
54-58	Same as above, appears to be smeared gray layer.
58-66	Darker red-brown than above, sediment, many decomposing plant debris.
66-72	Same as above except even darker brown.
72-76	Black-brown, dense sediment, some obvious plant debris.
76-83	Same as above except lighter brown than above, dense sediment, color is darker than all other layer except the one above.
83-88	Same as above but appears to be intermixed with gray clay.
88-104	Metallic silver-gray with darker gray streaks, clay.

14f. Core SEC31: Descriptions of core slices

Depth	Comments: SEC31
0-2	Light greenish brown, very fine sediment, very little plant debris, very soupy.
2-4	Same as above except with about 50% medium sized plant debris.
4-6	Light greenish-brown, fine sediment, numerous fine roots and some large stem debris. less soupy than above.
6-8	Same as above except silty sediment.
8-10	Light greenish-brown (slightly reddish cast), fine sediment, many fine roots and a few large stem debris, a few rhizomes (appears to be the beginning of rhizome zone), drier than the 4-6 cm layer.
10-15	Greenish-brown, sediment a mixture of organic debris and silt, many fine roots and many large rhizomes, less dense than the 6-8 cm layer.
15-20	Reddish-brown, sediment with mostly fine silt with plant debris in between, denser root concentration than the 8-10 cm layer, many fine roots, numerous large rhizome debris, soupier than the 8-10 cm layer, plant debris is more decayed than the 8-10 cm layer.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14f. Core SEC31: Descriptions of core slices (continued)

Depth	Comments: SEC31
20-25	Two parts vertically with one part greenish silty sediment with fewer roots, the other part has numerous medium sized plant debris and many fine plant debris, few large rhizomes but a lot less than above, both parts are soupier than the 10-15 cm layer.
25-30	Brown with slight reddish cast, fine sediment, vertically sections as noted above, numerous large rhizome debris, many fine roots, very soupy with water oozing out.
30-35	Medium brown, mixture of plant material and fine sediment, vertical difference is gone, spongy with many fine and medium plant parts, dryness same as the 20-25 cm layer.
35-40	Reddish-brown, sediment, very high concentration of plant debris, many large decaying plant debris, many fine roots, spongy with a little water oozing out.
40-45	Same as above.
45-50	Reddish-brown, sediment, numerous large decaying plant debris, many fine plant parts, spongy, very little water oozing out.
50-55	Same as above, except a thin gray layer with no plant parts.
55-60	Same as the 45-50 cm layer.
60-65	Upper centimeter is the same as above, lower four centimeters are dark brown, many fine roots, essentially no medium or large plant debris, spongy with no water oozing out.
65-70	Dark brown-black, very decomposed peat, appears fairly dry and a little bit spongy, forms little (1-2 cm diameter) clumps that don't stick together, falls off spatula, breaks up easily.
70-75	Same as above.
75-80	Same as the 65-70 cm layer except slightly lighter in color and drier, a few small (1 cm x 1.5 cm) wood debris.
80-85	Dark black-brown, many fine roots, a lot more water than the 70-75 cm layer, bottom 0.5 cm grades into a metallic silver colored clay.
85-90	Light and dark gray and black intermixed, clay, black appears to have decomposed plant debris in it, wetter than the black peaty layer above, grays are darker than the metallic silver at Jug Lake.
90-95	Same as above except not sure if decomposed plant material - black, stiff.
95-100	Light gray clay with some black mottling that appears to be decaying plant matter, very dense and stiff.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14g. Core SEC41: Whole core description

Depth	Comments: SEC41
0-4	Gray-brown, very fine silt, intermediate plant fragments, with a black layer 2-4 mm thick at the base of fine silt and at uneven depth around the core.
4-9	Darker gray-brown than above, fine silt, fine and intermediate plant fragments, from 6-9 cm there is a smear of shiny micaceous like fragments (probably clam shell fragments).
9-20	Gray-brown, silt, many fine intermediate and coarse plant fragments.
20-38	Medium brown, organic-rich, many fine intermediate and coarse plant fragments.
38-41	Same as 9-20 cm layer, with a clay-like layer 2-4 mm thick in the upper portion of the section.
41-48	Medium brown, organic-rich, many fine intermediate and coarse plant fragments.
48-52	Gray-brown, silty, similar to 38-41 cm layer.
52-57	Medium brown, organic-rich, many fine intermediate and coarse plant fragments.
57-64	Darker brown than above, fine and intermediate plant fragments.
64-66	Black-brown, organic-rich, many fine plant fragments with some intermediate plant fragments.
66-74	Dark reddish-brown, many fine plant fragments, darker brown than the layer from 20-38 cm layer and more reddish-brown than the layer from 57-64 cm layer.
74-84	Silver-gray with reddish-brown, clay, mixture of silver-gray clay and the dark reddish brown from above.
84-94	Silver-gray with black streaks, clay.

14h. Core SEC41: Core slice descriptions

Depth	Comments: SEC41
0-2	Medium brown, very fine sediment, numerous fine and some intermediate roots (root mat in center of section), darker brown around the perimeter of core, very soupy.
2-4	Mixture of medium and dark brown, very fine silty sediment, numerous fine roots in balls and a few coarse stems (5 mm in diameter and 5 cm long), very soupy.
4-6	Gray-brown, fine silty sediment, many fine roots with a few coarse stems, still soupy.
6-8	Medium brown, fine silty sediment, many fine and intermediate roots with numerous coarse stems, very moist, most coarse stems go up and down.
8-10	Gray-brown, fine silty sediment, dense root mat with many fine roots and numerous stems, drier than above with 2 clam shell fragments 2-3 cm in diameter.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14h. Core SEC41: Core slice descriptions (continued)

Depth	Comments: SEC41
10-15	Lighter brown than above, silty sediment, root mat with numerous coarse stems and roots, drier than above.
15-20	Reddish medium brown, fine sediment, very dense root mat with many fine intermediate and coarse roots including rhizomes, very spongy (pressing on it expels water), transition from silty to root mat.
20-25	Reddish medium brown, fine sediment, many fine roots, dense root mat, spongy, rhizomes (partially decomposed).
25-30	Reddish medium brown (slightly darker than above), fine sediment, dense root mat with many fine and intermediate roots and a few coarse roots and rhizomes, more intermediate-sized roots than above, spongy.
30-35	Same as above except more decomposed.
35-40	Same as 25-30 cm layer except more decomposed, 1 cm down the core changed horizontally from reddish-brown to more gray-brown.
40-45	Slightly darker but otherwise the same as 35-40 cm layer.
45-50	Mixture of reddish-brown and gray-brown with the upper 2-3 cm a darker brown and less compacted than the lower 2-3 cm, fine silt for upper 2-3 cm and less silty for bottom 2-3 cm, many fine and numerous intermediate fragments with coarse fragments increasing with depth, both parts still spongy but drier than above.
50-55	Upper 1 cm is black-brown and lower is dark brown, both silt, many fine and intermediate fragments (most intermediate fragments are decomposed), still spongy but drier than above.
55-60	Dark black-brown with reddish wood chunks, very peaty with little noticeable silt, some large fragments and a few wood chunks (1 cm x 0.3 cm x 2.5 cm is the largest and some smaller) with many fine fibrous fragments, spongy drier.
60-65	Same as 55-60 cm layer except very few coarse plant fragments and only one identifiable wood chunk (6 cm x 1.5 to 2 cm x 1 cm).
65-70	Dark black-brown, well decomposed peat, many fine fibers and essentially no large plant fragments, somewhat spongy but dry and crumbly.
70-75	Same as 65-70 cm layer except bottom 1/2 cm or less is black-gray clay.
75-80	Very dark black-gray clay top 1-2 cm with lighter silver-gray clay for bottom portions, some fine and a few intermediate plant fragments (well decomposed), drier than the 65-70 cm layer.
80-85	Silver-gray which grades to lighter color towards the bottom, stiff clay, few fine roots.

Table 14. Visual descriptions of sediment cores: Cocodrie, salt marsh (continued).

14h. Core SEC41: Core slice descriptions (continued)

Depth	Comments: SEC41
85-90	Silver-gray (lighter than 80-85 cm layer) with some black streaks that appear to be fine to intermediate very decomposed plant fragments, very stiff dry clay.
90-92	Same as 85-90 cm layer.

Table 15. Visual descriptions of sediment cores: Jug Lake, intermediate marsh (depth in cm).

15a. Core SEJ11: Whole core description

Depth	Comments: SEJ11
0-17	Greenish algal? flocculent material, very light, fluffy, becoming more dense with depth, individual bright green algal? particles at surface.
17-24	Lighter brown, organic layer, fairly dense, whitish plant parts observable?
24-37	Dark brown, organic layer, much denser, fine fibers matting together?
37-39	Black/silver-gray mix.
39-57	Metallic silver-gray clay with very fine sand.

15b. Core SEJ11: Core slice descriptions

Depth	Comments: SEJ11
0-4	Green-brown, algal floc, few plant parts, very high moisture content, looks like mold growth during storage.
4-8	Green, algal floc, no obvious plant parts, less moisture than above, no obvious mold.
8-12	Same as above, few plant parts.
12-16	Dark brown, sediment with some algal floc, some small plant parts.
16-20	Darker brown than above, many fine rootlets, some intermediate plant fragments.
20-25	Dark brown, many fine rootlets (more than above), some intermediate plant parts.
25-30	Black to dark brown (darker than above), many fine rootlets.
30-35	Black, clay-like, some fine roots, denser than above.
35-40	Blackish-gray, fine clay, some fine roots.
40-45	Dark gray, fine clay, no obvious plant parts.
45-50	Same as above.
50-55	Darker gray than above, very fine clay, no obvious plant parts.

Table 15. Visual descriptions of sediment cores: Jug Lake, intermediate marsh (continued).

15c. Core SEJ21: Whole core description

Depth	Comments: SEJ21
0-38	Olive-gray green algal floc becoming more densely packed with depth.
38-48	Brown peat with many fine and coarse plant parts or fragments.
48-66	Same as above, but fewer coarse plant fragments.
66-75	Darker brown peat with few coarse plant fragments.
75-79	Black-brown peat with few coarse plant fragments.
79-93	Metallic silver clay.

15d. Core SEJ21: Core slice descriptions

Depth	Comments: SEJ21
0-5	Green, floc, some stems, high water content, contains lime-green gelatinous transparent spheres (2-4 mm diameter).
5-10	Same as above.
10-15	Same as above.
15-20	Same as above but seems to have more roots than above.
20-25	Same as above but denser with a lower water content and more roots, medium-sized stems and roots, no more gelatinous spheres.
25-30	Gradually getting denser than above, medium-sized stems and roots.
30-35	Same as above but gradually getting denser.
35-40	Brown, getting more peaty and less flocculent, abundant medium roots, still too soupy to slice (borderline).
40-45	Brown, dense, abundant medium roots, still fairly soupy, when sliced water seeped out.
45-50	Brown, dense peat, abundant medium and fine roots, high water content.
50-55	Same as above.
55-60	Dark brown peat, many fine roots, some intermediate plant parts, high water content.
60-65	Dark brown, many fine roots and some intermediate fragments-roots, water content is lower than above, sediment is more cohesive than above.
65-70	Dark deep brown, well decomposed peaty material, numerous finer roots and a few medium roots, denser than above.
70-75	Black-brown, well decomposed, not as many fine roots as above, sediment is stiff.

Table 15. Visual descriptions of sediment cores: Jug Lake, intermediate marsh (continued).

15d. Core SEJ21: Core slice descriptions (continued)

Depth	Comments: SEJ21
75-80	Almost black, somewhat clay like, relatively few fine roots, a few larger decaying fibers and wood like chunks, very dense and sticky.
80-85	Mottled black and metallic silver, organic-rich clay, few fine roots, gummy and very sticky and stiff.
85-90	Silver-gray black mottled or streaked, clay, some recognizable plant fragments, brown clump which may have been dragged down from above during coring.
90-93	Same as above.

15e. Core SEJ31: Whole core description

Depth	Comments: SEJ31
0-30	Green, algal floc loosely consolidated, small bright green spheres ((1 mm diameter), larger khaki to light green spheres at the surface and intermixed and denser with depth, plant debris interspersed throughout (1-2 mm in diameter and 1-2 cm in length).
30-37	Same as above but appears more consolidated, finer smaller plant debris, and fewer algal spheres.
37-43	Gray-brown, mixed layer of algal and peat material, many fine plant particles ($\leq$ 0.5 cm in length).
43-56	Red-brown, peat layer, many fine plant particles.
56-61	Slightly darker brown but otherwise as above.
61-68	Very dark brown, peat, much finer plant debris than above.
68-75	Mixed silver-gray and black-brown, obvious clay, very fine plant debris.
75-84	Mixed dark and light gray, clay, small lens of red brown peat material, no obvious intact plant material.
84-91	Light silver-gray, clay.

Table 15. Visual descriptions of sediment cores: Jug Lake, intermediate marsh (continued).

15f. Core SEJ31: Core slice descriptions

Depth	Comments: SEJ31
0-5	Khaki green, algal floc, small bright green spheres (1-2 mm diameter), light transparent green gelatinous spheres (1-4 mm diameter), small amount of macro debris present (1-2 mm diameter and 1-2 cm long).
5-10	Same as above but perhaps more larger debris and more smaller debris particles.
10-15	Same as above but more consolidated, the light transparent green spheres are disappearing, more fine plant debris.
15-20	Khaki green, algal floc more consolidated than above, a few larger pieces of debris than above (1-2 mm diameter and 1-4 cm length), Small bright green spheres (1 mm diameter), light transparent green gelatinous spheres (1-2 mm diameter), macro debris.
20-25	Same as above but more consolidated, more fine plant debris (≤ 0.5 cm in length), more large plant stems (3 mm diameter and 3-5 cm length), browner appearance than above.
25-30	Same as above but more consolidated, there is an increase in the amount of large plant debris, no pooling of water present.
30-35	Greenish-brown, mixed layer of silty organic-rich material with some algal floc material, more consolidated than above, numerous large plant debris (≥ 2 mm diameter and 1-3 cm length).
35-40	Reddish-brown, fibrous silty organic-rich material, numerous medium-sized plant debris (1-2 mm diameter and 1-2 cm length), many fine roots.
40-45	Dark brown, fibrous silty organic-rich material, some medium-sized plant roots and many fine roots, much denser than above, started slicing rather than scooping.
45-50	Same as above.
50-55	Darker brown, slightly more fibrous than above, no medium-sized plant roots but abundant fine roots, drier than above.
55-60	Same as above.
60-65	Very dark brown, silty organic-rich material, numerous fine roots, slightly drier than above.
65-70	Black-brown, silty organic-rich material, numerous very fine roots, much drier and stiffer than above, 2 large stems, bottom begins silver-black appearance.
70-75	Black upper (≤ 1 cm) and dark gray below, entire section is clay, a few fine roots.
75-80	Metallic silver-gray, clay, mottled with roots, medium amount of fine roots, very stiff.
80-85	Metallic silver gray, clay, very few fine roots, some mottling that appears to be decaying organic matter.
85-90	Same as above except medium amount of very fine roots.

Table 15. Visual descriptions of sediment cores: Jug Lake, intermediate marsh (continued).

15g. Core SEJ41: Whole core description

Depth	Comments: SEJ41
0-23	Green, algal floc with many bright green transparent spheres (1-2 mm diameter) increasing in density with depth.
23-29	Mixture of green and brown, largely algal floc and some peat, numerous large plant fragments.
29-50	Medium brown, peat, many large plant fragments.
50-62	Dark brown, peat, few obvious plant fragments.
62-68	Black-brown, peat.
68-72	Same as above but with silver-gray clay steaks.
72-94	Silver-gray with some black steaks, clay.

15h. Core SEJ41: Core slice descriptions

Depth	Comments: SEJ41
0-5	Light gray-green, algal floc with many darker bright green transparent spheres (1-2 mm diameter), few large plant fragments, used turkey baster to transfer the sample.
5-10	Light gray-green, algal floc with many darker bright green transparent spheres (1-2 mm diameter), numerous intermediate plant fragments that appear to be detrital *S. Patens*, the floc material appears to be smaller less distinct fragments especially when compared to the larger clumpy fragments form 0-1 cm depth, used a spoon to transfer the sample.
10-15	Same as above with an increase in the number of intermediate plant fragments, there appear to be some fine roots, used a spoon to transfer the sample.
15-20	Brownish-green, algal floc, a few large and many intermediate and numerous fine plant fragments, fewer bright green transparent spheres smaller than above ($\leq$ 1 mm diameter), overall more dense than above, used a spoon to transfer the sample.
20-25	Medium brown to green, algal floc in upper 2-3 cm and peat or root mat in the lower 2-3 cm, in lower portion very dense root mat with many fine and some intermediate to large plant fragments, much drier than above, no noticeable spheres in upper portion, used a spoon to transfer the sample.
25-30	Medium brown, peat, few large and many intermediate and many fine plant fragments, moist and spongy, plant fragments are not well decomposed, began to slice the core at this point, appears to be a dense fibrous mat with lot of silt.
30-35	Same as above.

Table 15. Visual descriptions of sediment cores: Jug Lake, intermediate marsh (continued).

15h. Core SEJ21: Core slice descriptions (continued)

Depth	Comments: SEJ41
35-40	Darker medium brown, peat, many fine and numerous intermediate plant fragments, fragments are more decomposed than above, layer seems denser and drier than above but still spongy, vegetation mat is not as tightly woven and appears more crumbly than above.
40-45	Same as above.
45-50	Dark brown, peat, many fine some intermediate plant fragments, drier and denser than above, seems well decomposed.
50-55	Same as above.
55-60	Dark black-brown, peat, many fine plant fragments, well decomposed peat, crumbly and relatively dry.
60-65	Black brown, intermix of peat and clay, decomposed plant fragments, numerous fine and some intermediate plant fragments, sediment has a stiffness to it, more moist than the 55-60 cm layer.
65-70	Black clayey for the top 4 cm, silver-gray clay for bottom 1 cm, some fine plant fragments, relatively dry and stiff.
70-75	Silver-gray with black streaks, clay, fine roots in the black streaks of decomposing root fibers, very stiff.
75-80	Silver-gray, clay, with black streaks and mottling from decomposing organic matter, relatively dry and stiff.
80-85	Same as above.
85-90	Section is contaminated with peat and plant fragments characteristic of the peat at the 20-60 cm depths, we attempted to discard all contamination, otherwise it is silver-gray clay with black streaks and mottling, relatively dry and stiff.
90-92	Same as above with more black streaks and mottling.

Table 16. Visual descriptions of sediment cores: Peoples Canal, fresh water marsh (depth in cm).

16a. Core SEP21: Whole core description

Depth	Comments: SEP21
0-11	Dark brown fine grained sediment with numerous fine plant parts (relatively homogeneous).
11-51	Dark brown organic-rich layer with abundant coarse plant parts (primarily a dense root mat).
51-64	Darker black-brown fine grained peat with few coarse plant fragments (<5%).
64-97	Slightly lighter brown peat with moderate amount of coarse plant fragments.

16b. Core SEP21: Core slice descriptions

Depth	Comments: SEP21
0-2	Dark brown, much more fine grained than below, many fine and a few intermediate fragments, several large pieces of *Panicum* stem litter, very moist, and low density.
2-4	Dark brown, some fine and several large stems, 8 on a 1 to 10 moisture content scale.
4-6	Same as 0-2 cm, dark brown, seemed to have some fine particles, very few intermediate and a few large pieces of apparent *Panicum* stems, lots of moisture.
6-8	Dark brown, dense clumps of small roots, several large stems, clumpy masses of roots (water hyacinth), noticeably different for the 2-4 cm layer.
8-10	Dark brown, many fine roots, numerous intermediate roots, much denser mass of plant fragments than the 4-6 cm layer, moist but drier than the 4-6 cm layer.
10-15	Dark brown, very dense mass of all sizes of root but intermediate size dominates, very spongy, releases moisture when pressed.
15-20	Dark brown, very dense root mat, many fine and intermediate roots, a few coarse fragments, much wetter than the 8-10 cm layer.
20-25	Same as above but much wetter than the 10-15 cm layer.
25-30	Darker brown than above, dense root mat many fine and intermediate roots, more intermediate roots than above, very moist with pore water oozing out, lost a lot of water while cutting.
30-35	Dark brown, very dense root mass, mostly intermediate in size, moister than the 20-25 cm layer, looks like roots trapping finer grained material (either organic or inorganic).
35-40	Dark brown, many fine and intermediate roots tightly interwoven, very moist and spongy with water oozing out but slightly less than the 25-30 cm layer.
40-45	Same as above and looks like partially decayed leaves.

Table 16. Visual descriptions of sediment cores: Peoples Canal, fresh water marsh (continued).

16b. Core SEP21: Core slice descriptions (continued)

Depth	Comments: SEP21
45-50	It may be a darker brown than above, numerous fine and intermediate fragments, a few very large (2 cm across) partially decayed fresh water plants, appeared to be partially decayed flattened stem material not a leaf, spongy.
50-55	Dark brown to black, many fine and intermediate roots, spongy and does not have the water content of overlying layer, that is, a lower water content than above.
55-60	Dark brown, dense peat, many fine roots, some intermediated, some clumps, very large partially decayed plant fragments as in the 45-50 cm layer.
60-65	Dark brown (not as black as the 50-55 cm layer), huge clumps of matted partially decaying plant material.
65-70	Dark brown, many fine and intermediate plant fragments, numerous reddish decaying plant fragments, very spongy and moister than above, water is leaking out.
70-75	Same as above but no reddish fragments and severe leakage of water.
75-80	Dark brown-blacker than before, numerous fine and intermediate fragments, some reddish-brown decaying fragments, small wood chips (0.5 cm across), 1 large wood chunk (approximately 3 cm x 1.5 cm x 1.5 cm), very wet with pore water leaking out.
80-85	Dark brown, many fine and intermediate roots, very moist with pore water leaking out, still spongy in texture.
85-90	Dark brown, numerous fine roots and some intermediate roots but fewer than above, very moist and spongy with pore water leaking out.
90-94	Same as above.

16c. Core SEP31: Whole core description

Depth	Comments: SEP31
1-1.5	Brown, very fine silt.
1.5-17	Lighter brown than above, peat, many medium and fine plant roots, many gas pockets.
17-33	Light brown, peat, very dense coarse root mat, many gas pockets.
33-40	Same as above but darker brown.
40-50	Same as above but root mat less obvious.
50-60	Darkest brown in the core, peat, no obvious coarse stems.
60-79	Medium brown, peat, some obvious coarse plant debris and many fine plant debris.

Table 16. Visual descriptions of sediment cores: Peoples Canal, fresh water marsh (continued).

16d. Core SEP31: Core slice descriptions

Depth	Comments: SEP31
0-2	Dark brown, silt, large plant straw like debris, very soupy.
2-4	Dark brown, silty peat, very fibrous with large straw (≥ 3 mm diameter and 4-6 cm length), some stems still green, many fine roots, very soupy.
4-6	Dark brown, silty peat, very fibrous with large straw and one green stem, many fine roots, a large ball of roots, soupy but less than above.
6-8	Dark brown, silty peat, very fibrous with fewer large straw, many fine roots, large ball of roots, same soupy consistency as above.
8-10	Same as above but spongy instead of soupy, many medium-sized plant debris, very many fine roots.
10-15	Brown, silty, fibrous root mat, numerous rhizomes (0.5 cm diameter), many intermediate and very many fine roots, very spongy, water oozing out.
15-20	Same as above.
20-25	Lighter brown than above, fibrous peat, numerous large rhizome pieces (not obviously alive), very many fine roots and very few intermediate roots, very spongy but with little water oozing out.
25-30	Medium brown, fibrous peat, numerous intermediate roots and very many fine roots, a few rhizomes, very spongy but with little water oozing out.
30-35	Very dark brown, fibrous peat, very few large plant debris, many dense interwoven intermediate roots and many fine roots, no rhizomes, spongy but looks drier and more decomposed than above.
35-40	Same as above.
40-45	Dark brown, fibrous peat, few large rhizome-like pieces, many intermediate roots and many fine roots, spongy but denser than above, still interwoven, no water oozing out.
45-50	Dark brown, very fibrous peat, many intermediate roots especially near the bottom of the section, very many fine roots, spongy, drier and denser than above, very interwoven, mat near bottom with sparse sediment.
50-55	Very dark brown to black, fibrous peat, numerous large clumps of straw colored decaying plant debris, clumps look like decaying stem or rhizome material (3-4 cm diameter), very tightly interwoven, spongy but dry.
55-60	Same as above.
60-65	Lighter brown than above (almost reddish), many straw colored debris of all sizes, smaller clumps and more abundant straw colored debris than above, fairly dense and dry but still spongy.

Table 16. Visual descriptions of sediment cores: Peoples Canal, fresh water marsh (continued).

16d. Core SEP31: Core slice descriptions (continued)

Depth	Comments: SEP31
65-70	Very dark brown to black, fibrous peat, otherwise same as above.
70-72.5	Same as above except no big roots, dominated by fine roots with numerous intermediated roots, still spongy but dry. 50 ml of liquid was lost from the core as it was sliced (from pushing the core up into the glove box).

16e. Core SEP42: Whole core description

Depth	Comments: SEP42
0-16	Medium brown, peat, appears to be a dense root mat with gas pockets, fine silt in the upper few centimeters.
16-36	Medium brown, peat, denser than above, few gas pockets.
36-50	Slightly darker medium brown than above, peat, appears to be a dense root mat like 0-16 cm depth section, many coarse to fine plant fragments are obvious.
50-56	Dark brown, peat, not as many plant fragments are obvious.
56-64	Medium brown, peat, many intermediate to fine plant fragments are obvious, appears to be dense root-like mat at 36-50 cm.
64-89	Medium to dark brown, peat, appears to be denser with more decomposed plant fragments.

16f. Core SEP42: Core slice descriptions

Depth	Comments: SEP42
0-2	Dark brown, peat, dense root mat with many intermediate and fine roots, some hydrocotyls, a few detrital pieces of grass stems, relatively moist but no water runs out of it.
2-4	Same as above and very fibrous.
4-6	Medium brown lighter than above, peat, dense fibrous root mat with largely fine roots some intermediate detrital stems and a few large rhizomes, moist and spongy like the 0-2 cm layer.
6-8	Dark brown, peat, fibrous root mat with numerous fine and many intermediate plant fragments, one large rhizome (10 cm x 2 mm), spongy (similar to 2-4 cm layer).
8-10	Medium brown, peat, many fine plant fragments or roots with numerous intermediate and a few large plant fragments, more intermediate fragments then the 4-6 cm layer, spongy and more moist than the 4-6 cm layer.

Table 16. Visual descriptions of sediment cores: Peoples Canal, fresh water marsh (continued).

16f. Core SEP42: Core slice descriptions (continued)

Depth	Comments: SEP42
10-15	Dark brown, peat, fibrous root mat with silt, many fine and intermediate plant fragments, one large rhizome, spongy and more moist than the 6-8 cm layer.
15-20	Medium to dark brown, peat, very dense fibrous root mat, many fine and intermediate plant fragments and numerous large plant fragments, very wet with water running out of it.
20-25	Dark brown, peat, fibrous mat with silt, many fine and intermediate plant fragments, spongy and very moist with water oozing out. Pushing up the core doesn't seem to be as messy as previous trips (much less water dripping down).
25-30	Dark brown, peat, many fine plant fragment a few intermediate and almost no large plant fragments, not a dense root mat like 15-20 cm layer, peat seems more decomposed than the 15-20 cm layer, moist and spongy but water is not oozing out.
35-40	Dark brown, peat, many fine and intermediate plant fragments with a few large decomposing fragments, much denser fibrous mat with many more intermediate fragments than the 25-30 cm layer, spongy and moist, wetter than the 25-30 cm layer.
40-45	Same as above.
45-50	Dark brown almost black, peat, many fine and numerous intermediate plant fragments, a few large decomposing plant fragments, not as dense a root mat as the 35-40 cm layer and there are fewer intermediate fragments, moist and spongy about like the 35-40 cm layer, in general plant matter seems more decomposed than the 35-40 cm layer.
50-55	Same as 45-50 cm layer but with no large decomposing plant fragments, drier than the 40-45 cm layer but still spongy.
55-60	Dark red-brown, peat, many fine and intermediate decomposing plant fragments and some large fragments that form a dense fibrous mat, moist and spongy, perhaps moister than the 45-50 cm layer.
60-65	Dark red-brown, peat, fibrous root mat, many fine and intermediate plant fragments and some large plant parts (decomposed), spongy and moist like the 50-55 cm layer.
65-70	Dark red-brown, peat, similar to 55-60 cm layer with no large fragments.
70-75	Dark reddish-brown, peat, very fibrous, many fine and intermediate plant fragments and some large plant fragments (decomposed), spongy and drier than 60-65 cm layer.
75-80	Dark brown, peat, many fine and some intermediate plant fragments, seems more decomposed and crumbly than 65-70 cm layer, as dry or drier than the 65-70 cm layer. Many of the fine almost intermediate fragments are more yellow-white than the reddish-brown more decomposed fragments in the shallower depths of the core. The fragments are more similar in color to fragments found near the top of the core.
80-84	Same as 75-80 cm layer but saw intermix of reddish-brown and yellow-white plant fragments.

Table 17. Visual descriptions of sediment cores: Lac des Allemands, fresh water marsh (depth in cm).

17a. Core SEA21: Whole core description

Depth	Comments: SEA21
0-2	Fine detrital material.
2-10	Brown, coarse plant parts.
10-20	Brown with fewer coarse plant parts than above.
20-30	Brown finer grained sediment/peat with no coarse plant parts, but about 80% medium sized.
30-36	Grayish-brown fine grained sediment/peat with few obvious plant parts except few very fine (<1x2 mm).
36-42	Darker brown-gray fine grained sediment/peat with increasing number of plant fragments with depth.
42-48	Darker brown peat with coarse plant fragments and lots of fine fragments.
48-70	Medium brown peat with fewer coarse fragments than 42-48 cm, primarily fine grained organic matter.

17b. Core SEA21: Core slice descriptions

Depth	Comments: SEA21
0-2	Dark brown, abundant and large plant fragments, recognizable undecayed surface plant litter, water running out as it is transferred to the bottle.
2-4	Dark brown, dense plant fragments, numerous fine to medium fragments, many fine roots, culms in sediment make it difficult to cut through, still some plant litter, found recognizable leafs, very spongy.
4-6	Similar to above, denser root mat, more intermediate-sized fibers, decaying fibrous clumps, less water.
8-10	Similar to above, still very dense root mat, large fragments, maybe rhizomes, seems moister than above.
10-15	Dense root mat, many fine fragments, more numerous medium roots, some apparent seeds, few large stem fragments, no obvious vertical culm-like material.
15-20	Fine root fragment mat with more intermediate roots than above, few large rhizome like fragments, seems to be wetter than above.
20-25	Many fine fragments with copious intermediate roots all tightly interwoven, few large fragments.
25-30	Similar to above however a few large decaying reddish plant fragments. Lighter gray-brown layer ((1 cm thick average thickness is 0.5 cm) at bottom of layer, this material continues on to the next layer.

Table 17. Visual descriptions of sediment cores: Lac des Allemands, fresh water marsh (continued).

17b. Core SEA21: Core slice descriptions (continued)

Depth	Comments: SEA21
30-35	Light grayish-brown, very dense mat of many fine roots and copious medium roots.
35-40	Same as above but color is dark brown, there is no light gray clayey material.
40-45	Dark brown, many fine roots with copious medium roots, seems wetter than above.
45-50	Same as above but possibly lighter brown.
50-55	Dark brown, many fine fibers and numerous medium fragments but less than above, interval seems to be getting wetter than above.
55-60	Same as above but seems to be more decomposed.
60-65	Dark brown, a lot of fine fragments and a few intermediate fragments of unrecognizable organic material, very wet, seems like fragments are well decomposed.
65-69	Same as above but lighter brown, had a few coarse fragments.

Table 18. Size-fractionation and mineralogy for core SEC23: Cocodrie, salt marsh.

Depth, core interval, cm	%Coarse-sized	%Silt-sized	%Clay-sized	Mineralogy of silt-sized fraction	Mineralogy of clay-sized fraction
2-4	16	81	3	Major Qtz, minor Plag, K-spar, and Pyr, trace Mica, Kao and poorly xlized Smec, and minor amorphous material	Expandable Smec (probably Mont), Mica, Kao, Qtz, minor Chlor, trace Feld (Plag and K-spar), minor amorphous material
6-8	19	80	2		
10-12	13	83	3	Major Qtz, minor Plag and Pyr, and trace Kao, Mica, K-spar, and poorly xlized Smec, and trace amorphous material	Expandable Smec, Mica, Kao, Qtz, minor Chlor, trace Feld, minor amorphous material
14-16	13	83	4		
18-20	22	66	12	Major Qtz, minor Plag, K-spar, trace Mica, Kao, poorly xlized Smec, and goethite, with minor amorphous material	Expandable Smec, Mica, Kao, Qtz, minor Chlor, Plag, and amorphous material
20-25	10	74	15	Major Qtz, minor Plag and orthoclase, trace Kao, Mica, Pyr, and poorly xlized Smec, and minor amorphous material	Moderate amounts of an expandable Smec, Mica (Ill), Kao, and possible trace to small amount of Chlor
25-30	11	81	8		
30-35	23	65	13		
35-40	20	67	12	Major Qtz, minor Plag, trace K-spar, Kao, Mica, Pyr, and poorly xlized Smec, and minor amorphous material	Moderate amounts of an expandable Smec, Mica (Ill), Kao, and possible trace to small amount of Chlor
40-45	19	69	12		
45-50	38	50	12		
50-55	20	72	8	Major Qtz, minor Plag, K-spar, Pyr and trace Kao, Mica, and poorly xlized Smec, and minor amorphous material	Moderate amounts of an expandable Smec, Mica (Ill), Kao, and possible trace to small amount of Chlor
55-60	35	56	8		
60-65	49	44	7		
65-70	31	64	5	Major Qtz and Pyr, minor Plag, trace K-spar, Kao, Mica, and poorly xlized Smec, and minor amorphous material	Minor amounts of a moderately xlized expandable Smec, Mica (Ill), and Kao
70-75	60	38	2		
75-80	75	22	3	Major Pyr and minor Qtz	Very minor amounts of a poorly xlized Smec, Kao, and Mica (Ill)
80-85	45	51	4		
85-90	8	57	34		
90-94	2	64	33	Major Qtz, minor Pyr and Plag and trace Kao, Mica, and poorly xlized Smec, and minor amorphous material	Expandable Smec, Mica (Ill), Kao
94-95	3	54	43		

Abbreviations: Chlor = chlorite; Feld = feldspar; Ill = illite, Kao = kaolinite; K-spar = orthoclase or microcline; Mont = montmorillonite; Plag = plagioclase; Pyr = pyrite; Qtz = quartz; Smec = smectite; Verm = vermiculite; xlized = crystallized.

Table 19. Size-fractionation and mineralogy for core SEJ21: Jug Lake, intermediate marsh.

Depth, core interval, cm	%Coarse-sized	%Silt-sized	%Clay-sized	Mineralogy of silt-sized fraction	Mineralogy of clay-sized fraction
0-5	68	30	2	Major Qtz, minor Plag, Pyr, K-spar, Mica, Kao, trace poorly xlized Smec, amorphous material	Very poor pattern, pattern shows very low responses for a very poorly xlized Smec, Mica, Kao, Qtz, and Chlor
5-10	61	33	6		
10-15	58	39	3	Major Qtz, minor Plag and Pyr, trace K-spar, Mica, Kao, poorly xlized Smec, and amorphous material	Poorly xlized expandable Smec, Mica, Kao, Qtz, minor Chlor and amorphous material, trace Feld and Verm
15-20	43	52	5		
20-25	48	48	4	Major Qtz, minor Plag, trace Mica, Kao, poorly xlized Smec, and amorphous material	Expandable Smec, Mica, Kao, Qtz, minor Chlor, amorphous material, trace Feld, Verm
25-30	45	52	3		
30-35	60	36	4	Major Qtz, minor Plag, trace K-spar, Mica, Pyr, Kao, and poorly xlized Smec, and minor amorphous material	Minor amounts of a poorly xlized expandable Smec, Kao, and Mica (Ill)
35-40	55	39	6		
40-45	59	34	6	Major Qtz, minor Plag, and trace Pyr, Kao, Mica, and poorly xlized Smec, and minor amorphous material	Minor amounts of a poorly xlized expandable Smec, Kao, and Mica (Ill)
45-50	48	45	7		
50-55	55	36	8		
55-60	60	34	6	Major Qtz, trace Pyr, Plag, K-spar, Kao, Mica, and poorly xlized Smec, and minor amorphous material	Minor amounts of a poorly xlized expandable Smec, Kao, and Mica (Ill)
60-65	34	57	8		
65-70	32	56	13		
70-75	18	68	13		
75-80	8	64	28	Major Qtz, minor Pyr, Plag, poorly xlized Smec, trace Kao, Mica, K-spar, and minor amorphous material	expandable Smec, Kao, and Mica (probably Ill)
80-85	8	67	25		
85-90	2	59	38		expandable Smec, Kao, and Mica (probably Ill)

Abbreviations: Chlor = chlorite; Feld = feldspar; Ill = illite; Kao = kaolinite; K-spar = orthoclase or microcline; Mont = montmorillonite; Plag = plagioclase; Pyr = pyrite; Qtz = quartz; Smec = smectite; Verm = vermiculite; xlized = crystallized.

Table 20. Size-fractionation and mineralogy for core SEP21: Peoples Canal, fresh water marsh.

Depth, core interval, cm	%Coarse-sized	%Silt-sized	%Clay-sized	Mineralogy of silt-sized fraction	Mineralogy of clay-sized fraction
0-4	29	67	4	Major Qtz, minor Plag and amorphous material, trace K-spar, Mica, Kao, poorly xlized Smec, and Pyr	Expandable Smec, Mica, Kao, Qtz, minor amorphous material, trace Chlor
4-8	49	48	3		
8-10	36	62	2	Major Qtz, minor Plag and amorphous material, and trace Mica, Kao, and poorly xlized Smec	Expandable Smec, Mica, Kao, Qtz, minor Chlor, amorphous material, trace Feld
10-15	82	17	1		
15-20	57	37	6	Major Qtz and amorphous material, trace Plag, K-spar, and Smec	Extremely small concentrations of a very poorly xlized expandable Smec, Kao, and Mica (Ill)
20-25	76	23	1		
25-30	81	19	1		
30-35	70	30	< 0.5		
35-40	76	23	1	Major amorphous material, minor Qtz, trace Pyr, K-spar	Extremely small concentrations of a very poorly xlized expandable Smec, Kao, and Mica (Ill)
40-45	77	22	< 0.5		
45-50	65	34	< 0.5		
50-55	79	20	1		
55-60	62	37	1	Major amorphous material, minor Qtz	Essentially no xline material at all
60-65	80	19	< 0.5		
65-70	55	42	3		
70-75	56	40	4	Major Qtz and amorphous material, minor poorly xlized Smec, trace Kao and Plag	very small concentrations of a very poorly xlized expandable Smec, Kao, and Mica (Ill)
75-80	59	38	3		
80-85	59	38	3		
85-90	57	41	1	Major Qtz and Pyr, minor poorly xlized Smec, trace Kao, Mica, and Plag, minor amorphous material	
90-94	42	57	1	Major Qtz, minor Pyr and poorly xlized Smec, trace Kao, Plag, and Mica, and minor amorphous material	minor concentrations of a poorly xlized expandable Smec, Kao, and Mica (Ill)
94-95	43	56	1		

Abbreviations: Chlor = chlorite; Feld = feldspar; Ill = illite; Kao = kaolinite; K-spar = orthoclase or microcline; Mont = montmorillonite; Plag = plagioclase; Pyr = pyrite; Qtz = quartz; Smec = smectite; Verm = vermiculite; xlized = crystallized.

Table 21. Element concentrations in sediments at Cocodrie,, salt marsh site (dry wt. basis, depth in cm, see Table 3 for Method # and Table 5 for Material class descriptions).

Element Method #	Mid- depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-May 1991									
SEC13001	3	S-M	85.0	6.8	0.49	3.1	1.9	1.1	0.94
SEC13021	8	S-M	82.0	7.2	0.48	3.2	1.9	1.1	0.90
SEC13041	13	S-M	80.4	6.4	1.2	2.9	1.7	1.0	0.88
SEC13061	19	S-M	75.7	6.1	0.39	2.7	1.7	0.98	0.91
SEC13081	24	S-M	80.2	6.4	0.52	3.0	1.8	1.0	0.88
SEC13101	30	M-S	85.3	6.5	0.40	3.1	1.8	1.0	0.94
SEC13121	35	S-M	80.3	6.6	0.39	3.2	1.8	1.1	1.0
SEC13141	40	S-M	78.9	6.4	0.42	2.8	1.7	1.1	1.1
SEC13161	46	S-M	74.3	6.2	0.43	2.6	1.7	1.1	1.3
SEC13181	51	S-M	82.0	6.6	0.40	3.0	1.8	1.1	1.1
SEC13201	60	S-M	82.5	6.7	0.41	2.8	1.8	1.1	1.2
SEC13202	60	S-M	82.5	6.9	0.43	2.9	1.9	1.2	1.2
SEC13251	74	S-M	75.6	5.1	0.48	2.0	1.5	0.83	1.4
SEC13301	87	S-M	66.2	5.0	0.49	2.0	1.5	0.99	1.6
SEC13351	101	M	63.7	4.8	0.51	2.0	1.3	1.0	1.7
SEC13401	114	M	59.6	3.9	0.66	2.6	1.1	1.0	1.9
SEC13402	114	M	59.6	4.1	0.66	2.7	1.2	1.1	2.0
Field #-September 1991									
SEC23001	1	S-M	84.4	6.9	0.40	3.0	1.9	1.1	1.1
SEC23021	4	S-M	81.0	6.5	0.40	2.9	1.8	1.1	1.1
SEC23041	6	S-M	84.8	6.8	0.42	2.9	2.0	1.1	1.1
SEC23061	9	S-M	84.2	7.1	0.38	3.0	1.9	1.2	0.93
SEC23081	11	S-M	83.0	7.6	0.37	3.3	2.1	1.3	0.91
SEC23101	14	S-M	80.7	7.4	0.39	3.1	1.9	1.3	0.97
SEC23121	17	S-M	79.4	6.7	0.40	2.8	1.8	1.2	0.95
SEC23141	19	S-M	70.4	6.3	0.46	2.3	1.7	1.2	1.1
SEC23161	22	M	61.3	5.3	0.46	1.9	1.5	1.1	1.2
SEC23181	24	M	61.9	4.9	0.48	1.6	1.4	0.99	1.2
SEC23201	29	S-M	72.1	5.8	0.48	1.9	1.7	1.0	1.3
SEC23202	29	S-M	72.2	5.6	0.47	1.9	1.7	1.0	1.3
SEC23251	35	S-M	74.5	5.4	0.51	1.8	1.6	0.89	1.4
SEC23301	42	S-M	70.8	5.0	0.53	1.6	1.6	0.85	1.5
SEC23351	48	M	59.1	4.7	0.51	1.8	1.4	1.1	1.8
SEC23401	54	S-M	72.9	5.5	0.48	1.7	1.7	1.0	1.4
SEC23451	61	M	54.1	4.3	0.54	1.8	1.2	1.0	1.8
SEC23501	67	S-M	71.2	5.7	0.49	2.2	1.6	1.1	1.5
SEC23551	73	M	48.4	3.7	0.63	2.0	1.0	1.1	2.1
SEC23601	80	P-M	41.7	3.0	0.96	1.6	0.83	1.2	2.2
SEC23651	86	M	49.7	3.0	0.99	4.4	0.84	1.1	1.8
SEC23701	93	P-M	40.8	1.4	1.2	7.8	0.40	1.1	2.3
SEC23702	93	P-M	37.6	1.5	0.94	6.0	0.41	1.1	2.6
SEC23751	99	P-M	37.7	1.5	0.90	6.0	0.41	1.1	2.5
SEC23801	105	M	64.6	5.4	0.63	5.0	1.2	1.2	1.5
SEC23851	112	S-M	82.4	8.1	0.45	4.3	1.7	1.4	0.99
SEC23901	117	M-S	90.9	10	0.34	4.4	2.1	1.5	1.0
SEC23902	117	M-S	90.8	9.1	0.34	4.3	2.1	1.5	1.0

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element Method #	Mid-depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-January 1992									
SEC31001	1	M-S	89.0	7.1	0.41	3.2	2.0	1.1	0.98
SEC31021	4	S-M	85.0	6.6	1.2	2.9	1.9	1.0	1.0
SEC31041	7	M-S	90.2	6.7	0.44	2.9	2.0	0.99	1.2
SEC31061	9	M-S	87.5	6.8	0.42	3.1	1.9	1.1	1.2
SEC31081	12	S-M	84.4	7.2	0.39	3.2	1.9	1.2	1.3
SEC31101	16	S-M	79.2	6.4	0.41	2.7	1.8	1.1	1.4
SEC31151	23	S-M	74.2	5.9	0.45	2.4	1.6	1.0	1.6
SEC31201	30	S-M	77.9	6.1	0.45	2.4	1.8	1.1	1.6
SEC31251	36	S-M	77.7	5.8	0.45	2.3	1.7	1.0	1.5
SEC31301	43	S-M	77.8	5.4	0.50	1.7	1.7	0.86	1.6
SEC31302	43	S-M	77.0	5.4	0.49	1.7	1.6	0.85	1.6
SEC31351	49	M	59.8	4.6	0.52	1.7	1.3	1.0	2.0
SEC31401	56	S-M	73.5	5.5	0.48	1.8	1.6	0.96	1.6
SEC31451	62	M	52.3	4.0	0.52	1.6	1.0	0.94	1.9
SEC31501	69	S-M	74.3	5.7	0.47	2.2	1.7	1.0	1.6
SEC31551	75	M	47.1	3.2	0.61	1.9	0.94	1.0	2.6
SEC31601	82	M	47.3	2.9	0.85	3.5	0.85	1.0	2.4
SEC31651	89	M	47.1	2.4	1.0	5.7	0.66	1.0	1.9
SEC31652	89	M	47.3	2.5	1.0	6.1	0.71	1.0	1.9
SEC31701	95	P-M	37.8	1.6	0.87	6.0	0.42	0.98	2.2
SEC31751	102	M	58.6	3.9	0.64	7.6	0.94	1.0	1.5
SEC31752	102	M	58.3	3.9	0.64	7.6	0.93	0.99	1.5
SEC31801	108	S-M	78.1	7.0	0.54	4.5	1.6	1.2	1.2
SEC31851	115	M-S	90.8	8.8	0.35	4.4	2.1	1.4	1.0
SEC31901	121	C-S	95.5	9.5	0.29	3.8	2.3	1.4	0.96
SEC31951	128	C-S	97.6	9.5	0.25	3.7	2.3	1.4	0.93
Field #-May 1992									
SEC41001	1	M-S	87.9	7.1	0.41	3.3	2.0	1.1	1.2
SEC41021	4	M-S	87.0	7.0	1.3	3.0	2.0	1.1	1.2
SEC41041	6	M-S	88.6	6.9	1.2	3.0	2.0	1.1	1.2
SEC41061	9	M-S	87.1	6.9	0.44	3.1	1.9	1.1	1.1
SEC41081	11	S-M	83.8	7.3	0.45	3.4	2.0	1.3	1.2
SEC41101	16	S-M	79.7	6.8	0.42	2.9	1.8	1.2	1.2
SEC41151	22	M	63.2	5.2	0.50	1.8	1.5	1.0	1.6
SEC41152	22	M	62.9	5.1	0.50	1.8	1.4	1.0	1.6
SEC41201	29	S-M	72.9	5.3	0.52	1.7	1.6	0.95	1.5
SEC41251	35	S-M	70.5	4.9	0.55	1.6	1.6	0.92	1.6
SEC41301	41	M	62.1	5.0	0.55	1.7	1.4	1.1	1.6
SEC41351	48	S-M	75.0	5.9	0.48	2.2	1.6	1.1	1.4
SEC41401	54	M	51.5	3.8	0.62	1.7	1.1	1.0	2.0
SEC41451	60	S-M	68.7	5.2	0.58	2.1	1.5	1.0	1.6
SEC41501	67	P-M	40.3	2.6	0.73	1.9	0.77	1.0	2.3
SEC41551	73	M	50.5	3.4	0.96	2.8	0.96	1.2	2.1
SEC41552	73	M	50.6	3.4	0.96	2.8	1.0	1.2	2.1
SEC41601	80	P-M	39.6	1.8	1.1	4.4	0.51	1.1	1.9
SEC41651	86	P-M	45.0	3.0	0.86	4.1	0.72	1.1	1.9
SEC41701	92	S-M	67.0	5.8	0.62	4.6	1.3	1.3	1.3
SEC41751	99	M-S	89.6	9.0	0.40	4.4	2.1	1.5	0.99
SEC41752	99	M-S	89.7	9.0	0.39	4.3	2.0	1.5	0.99
SEC41801	105	C-S	96.9	9.7	0.25	3.7	2.3	1.5	0.90
SEC41851	111	C-S	97.6	9.8	0.24	3.8	2.5	1.5	0.92
SEC41901	116	C-S	97.9	9.4	0.25	3.8	2.4	1.4	0.93

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	P%	Ti%	As µg/g	Ba µg/g	Be µg/g	Cd µg/g	Ce µg/g	Co µg/g	Cr µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1991									
SEC13001	0.068	0.31	< 17	690	1.7	< 3.4	48	8.5	77
SEC13021	0.066	0.32	< 16	570	1.6	< 3.3	50	8.2	81
SEC13041	0.056	0.27	< 16	470	1.6	< 3.2	43	8.0	69
SEC13061	0.061	0.26	< 15	440	1.5	< 3.0	42	7.6	66
SEC13081	0.064	0.29	< 16	470	1.6	< 3.2	47	8.0	69
SEC13101	0.060	0.29	< 17	490	1.7	< 3.4	46	8.5	70
SEC13121	0.064	0.28	< 16	430	1.6	< 3.2	47	8.0	71
SEC13141	0.063	0.27	< 16	450	1.6	< 3.2	41	7.9	67
SEC13161	0.067	0.29	< 15	400	1.5	< 3.0	44	7.4	66
SEC13181	0.066	0.29	< 16	440	1.6	< 3.3	43	8.2	71
SEC13201	0.058	0.30	< 17	440	1.7	< 3.3	47	8.3	72
SEC13202	0.066	0.31	< 17	450	1.7	< 3.3	49	8.3	73
SEC13251	0.053	0.23	< 15	400	< 1.5	< 3.0	38	6.8	49
SEC13301	0.060	0.24	< 13	360	1.3	< 2.6	38	6.0	52
SEC13351	0.057	0.20	< 13	320	1.3	< 2.5	34	6.4	48
SEC13401	0.060	0.18	< 12	290	< 1.2	< 2.4	30	6.0	40
SEC13402	0.060	0.17	< 12	300	< 1.2	< 2.4	29	6.0	41
Field #-September 1991									
SEC23001	0.068	0.32	< 17	660	1.7	< 3.4	60	8.4	73
SEC23021	0.065	0.29	< 16	520	1.6	< 3.2	53	8.1	62
SEC23041	0.059	0.31	< 17	530	1.7	< 3.4	60	8.5	60
SEC23061	0.059	0.30	< 17	490	1.7	< 3.4	60	8.4	67
SEC23081	0.066	0.34	< 17	460	1.7	< 3.3	64	8.3	77
SEC23101	0.065	0.33	< 16	450	1.6	< 3.2	63	8.1	76
SEC23121	0.064	0.29	< 16	440	1.6	< 3.2	58	7.9	61
SEC23141	0.063	0.27	< 14	400	1.4	< 2.8	51	7.0	54
SEC23161	0.061	0.23	< 12	340	1.2	< 2.5	45	6.1	47
SEC23181	0.062	0.22	< 12	340	< 1.2	< 2.5	43	5.6	45
SEC23201	0.050	0.26	< 14	430	< 1.4	< 2.9	50	5.8	52
SEC23202	0.051	0.25	< 14	420	< 1.4	< 2.9	47	6.5	49
SEC23251	0.052	0.25	< 15	450	< 1.5	< 3.0	49	6.0	49
SEC23301	0.050	0.23	< 14	420	< 1.4	< 2.8	49	5.7	45
SEC23351	0.059	0.21	< 12	320	1.2	< 2.4	44	5.9	42
SEC23401	0.051	0.26	< 15	430	< 1.5	< 2.9	50	5.8	48
SEC23451	0.054	0.19	< 11	290	1.1	< 2.2	41	5.4	43
SEC23501	0.057	0.25	< 14	410	1.4	< 2.8	48	7.1	51
SEC23551	0.048	0.15	< 9.7	240	0.97	< 1.9	32	4.8	38
SEC23601	0.083	0.13	< 8.3	230	0.83	< 1.7	26	4.2	30
SEC23651	0.050	0.13	< 9.9	270	< 0.99	< 2.0	30	9.9	31
SEC23701	0.041	0.041	16	190	< 0.82	< 1.6	16	9.8	14
SEC23702	0.038	0.075	21	140	< 0.75	< 1.5	15	10	17
SEC23751	0.038	0.075	20	140	< 0.75	< 1.5	15	9.8	16
SEC23801	0.052	0.21	19	300	1.3	< 2.6	42	13	56
SEC23851	0.049	0.30	< 16	390	2.5	< 3.3	64	8.2	77
SEC23901	0.045	0.36	< 18	450	2.7	< 3.6	75	18	91
SEC23902	0.045	0.36	< 18	430	2.7	< 3.6	74	9.1	91

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	P%	Ti%	As µg/g	Ba µg/g	Be µg/g	Cd µg/g	Ce µg/g	Co µg/g	Cr µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-January 1992									
SEC31001	0.080	0.29	< 8.9	210	1.8	< 1.8	63	11	74
SEC31021	0.068	0.27	8.5	150	1.7	< 1.7	53	10	61
SEC31041	0.063	0.28	< 9.0	460	1.8	< 1.8	59	11	59
SEC31061	0.061	0.29	< 8.8	440	1.8	< 1.8	58	11	61
SEC31081	0.059	0.30	< 8.4	290	1.7	< 1.7	59	11	68
SEC31101	0.063	0.26	7.9	230	1.6	< 1.6	52	9.5	55
SEC31151	0.059	0.24	< 7.4	72	1.5	< 1.5	47	8.2	47
SEC31201	0.055	0.26	< 7.8	200	1.6	< 1.6	55	8.6	59
SEC31251	0.054	0.25	< 7.8	140	1.6	< 1.6	49	8.5	47
SEC31301	0.047	0.23	< 7.8	200	1.6	< 1.6	47	5.4	40
SEC31302	0.046	0.24	< 7.7	250	1.5	< 1.5	50	6.2	40
SEC31351	0.060	0.17	< 6.0	45	1.2	< 1.2	50	6.6	41
SEC31401	0.059	0.24	< 7.4	220	1.5	< 1.5	45	5.9	42
SEC31451	0.058	0.15	< 5.2	28	1.0	< 1.0	44	5.2	36
SEC31501	0.052	0.24	< 7.4	89	1.5	< 1.5	46	7.4	42
SEC31551	0.071	0.12	< 4.7	16	0.94	< 0.94	26	6.1	33
SEC31601	0.061	0.11	4.7	13	0.95	< 0.95	26	11	30
SEC31651	0.052	0.089	10	11	0.47	< 0.94	20	7.5	24
SEC31652	0.052	0.090	11	12	0.47	< 0.95	20	7.6	25
SEC31701	0.049	0.057	19	7.2	0.38	< 0.76	12	11	15
SEC31751	0.041	0.14	21	54	1.2	< 1.2	26	10	40
SEC31752	0.041	0.14	22	16	1.2	< 1.2	26	9.9	39
SEC31801	0.047	0.26	7.8	66	1.6	< 1.6	54	11	66
SEC31851	0.045	0.34	9.1	290	2.7	< 1.8	71	14	77
SEC31901	0.048	0.37	< 9.6	690	2.9	< 1.9	77	13	76
SEC31951	0.039	0.39	< 9.8	670	2.9	< 2.0	77	15	79
Field #-May 1992									
SEC41001	0.079	0.30	8.8	470	1.8	< 1.8	60	11	70
SEC41021	0.070	0.30	8.7	270	1.7	< 1.7	58	10	64
SEC41041	0.062	0.30	< 8.9	450	1.8	< 1.8	59	11	65
SEC41061	0.061	0.30	< 8.7	520	1.7	< 1.7	58	11	62
SEC41081	0.067	0.30	< 8.4	440	1.7	< 1.7	59	12	62
SEC41101	0.064	0.28	< 8.0	270	1.6	< 1.6	55	11	61
SEC41151	0.063	0.21	6.3	110	1.3	< 1.3	44	7.0	49
SEC41152	0.063	0.20	6.3	130	1.3	< 1.3	43	6.3	46
SEC41201	0.051	0.23	< 7.3	250	1.5	< 1.5	44	5.8	40
SEC41251	0.049	0.21	< 7.1	220	1.4	< 1.4	45	5.6	34
SEC41301	0.062	0.20	< 6.2	130	1.2	< 1.2	47	6.8	47
SEC41351	0.053	0.26	< 7.5	270	1.5	< 1.5	49	6.8	48
SEC41401	0.062	0.15	< 5.2	43	1.0	< 1.0	35	5.2	39
SEC41451	0.055	0.20	< 6.9	100	1.4	< 1.4	45	6.9	48
SEC41501	0.073	0.093	< 4.0	12	0.81	< 0.81	22	5.6	22
SEC41551	0.066	0.14	< 5.1	16	1.0	< 1.0	28	7.1	35
SEC41552	0.061	0.14	< 5.1	17	1.0	< 1.0	29	7.6	33
SEC41601	0.055	0.071	11	8.7	0.79	< 0.79	17	8.3	18
SEC41651	0.054	0.10	14	11	0.90	< 0.90	20	10	30
SEC41701	0.054	0.21	13	49	1.3	< 1.3	46	12	59
SEC41751	0.045	0.35	9.0	460	2.7	< 1.8	75	14	78
SEC41752	0.045	0.34	< 9.0	450	2.7	< 1.8	74	14	80
SEC41801	0.039	0.40	< 9.7	610	2.9	< 1.9	74	14	84
SEC41851	0.039	0.40	< 9.8	720	2.9	< 2.0	78	15	84
SEC41901	0.039	0.40	< 9.8	710	2.9	< 2.0	79	17	83

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1991									
SEC13001	34	17	28	41	210	3.4	8.5	24	28
SEC13021	29	16	30	43	200	4.1	8.2	22	31
SEC13041	27	16	27	38	160	5.6	8.0	21	28
SEC13061	26	15	25	36	170	6.8	7.6	20	26
SEC13081	26	16	27	37	190	4.0	7.2	23	29
SEC13101	25	17	27	37	200	3.4	6.8	20	28
SEC13121	27	16	27	39	220	4.8	7.2	22	30
SEC13141	26	16	25	36	200	7.9	7.9	21	28
SEC13161	25	15	26	36	190	7.4	7.4	25	27
SEC13181	27	16	26	39	230	4.9	8.2	19	29
SEC13201	26	18	28	38	220	5.0	7.4	24	29
SEC13202	27	17	29	40	230	5.8	8.3	24	28
SEC13251	17	15	22	27	120	6.8	< 6.0	20	21
SEC13301	20	13	23	30	110	6.6	6.6	19	24
SEC13351	22	13	20	27	110	5.7	5.7	15	24
SEC13401	23	12	18	23	150	12	4.8	14	25
SEC13402	24	12	17	24	150	13	5.4	13	26
Field #-September 1991									
SEC23001	30	17	34	41	180	4.2	8.4	29	29
SEC23021	27	16	32	36	160	7.3	8.1	27	28
SEC23041	25	17	34	39	170	5.9	8.5	28	27
SEC23061	31	18	34	42	170	5.9	8.4	29	30
SEC23081	32	17	37	46	200	5.8	8.3	30	36
SEC23101	35	18	36	45	200	8.1	16	27	36
SEC23121	28	16	32	39	170	7.1	7.9	27	32
SEC23141	25	15	30	37	150	7.0	7.0	25	29
SEC23161	25	13	25	31	130	12	6.1	21	25
SEC23181	18	12	24	27	110	14	6.2	19	22
SEC23201	22	14	28	32	120	7.2	7.2	25	22
SEC23202	19	14	27	31	110	7.2	7.2	21	22
SEC23251	19	15	28	28	100	7.5	7.5	25	22
SEC23301	20	14	26	25	110	7.1	7.1	23	20
SEC23351	24	12	25	28	110	12	5.9	18	24
SEC23401	18	15	27	30	110	5.1	7.3	23	20
SEC23451	28	11	23	25	100	11	5.4	20	24
SEC23501	22	14	26	31	120	6.4	7.1	21	26
SEC23551	25	9.7	19	22	120	14	4.8	17	26
SEC23601	15	8.3	15	19	140	13	4.2	13	22
SEC23651	20	5.0	16	16	230	15	< 4.0	13	23
SEC23701	9.8	< 3.3	8.2	8.6	280	8.2	< 3.3	8.2	20
SEC23702	8.6	3.4	9.0	9.0	180	7.9	< 3.0	7.9	22
SEC23751	9.4	< 3.0	8.7	9.8	170	7.5	< 3.0	7.9	21
SEC23801	26	13	24	32	160	4.5	6.5	19	29
SEC23851	37	19	37	50	160	4.1	16	33	39
SEC23901	36	23	43	62	180	< 3.6	18	32	41
SEC23902	35	25	43	62	180	< 3.6	9.1	37	41

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-January 1992									
SEC31001	29	15	35	43	200	< 1.8	6.2	28	29
SEC31021	26	14	30	39	180	3.4	6.0	24	27
SEC31041	24	14	32	38	180	2.7	6.3	27	27
SEC31061	27	15	32	40	210	2.6	6.1	27	30
SEC31081	30	15	33	44	210	4.2	5.9	26	33
SEC31101	27	14	29	39	180	6.3	6.3	24	29
SEC31151	26	13	26	36	170	6.7	5.2	21	26
SEC31201	24	13	30	36	160	5.5	6.2	24	26
SEC31251	20	13	28	33	160	5.4	5.4	23	25
SEC31301	19	12	26	28	120	5.4	5.4	21	19
SEC31302	18	12	27	28	120	6.2	5.4	23	19
SEC31351	22	9.0	29	28	110	9.0	4.2	22	25
SEC31401	22	12	26	32	120	5.1	5.9	21	22
SEC31451	21	8.9	25	24	99	8.4	3.1	20	20
SEC31501	23	13	26	33	130	6.7	5.9	21	24
SEC31551	22	6.6	14	20	110	16	2.4	12	24
SEC31601	21	5.2	14	18	250	19	< 1.9	12	30
SEC31651	13	4.2	11	14	250	7.1	< 1.9	10	19
SEC31652	14	4.3	11	15	260	7.1	< 1.9	9.5	21
SEC31701	7.2	3.0	6.8	9.5	230	4.9	< 1.5	5.7	23
SEC31751	18	8.2	15	23	290	4.1	< 2.3	13	25
SEC31752	17	7.6	15	23	290	4.7	< 2.3	13	25
SEC31801	34	15	30	44	190	< 1.6	4.7	25	32
SEC31851	35	20	40	54	190	< 1.8	6.4	34	38
SEC31901	33	21	43	59	180	< 1.9	8.6	36	36
SEC31951	29	21	44	58	190	< 2.0	8.8	35	39
Field #-May 1992									
SEC41001	38	17	33	42	180	1.8	6.2	28	32
SEC41021	30	16	31	42	170	1.7	6.1	26	28
SEC41041	27	16	34	40	190	2.7	7.1	27	27
SEC41061	27	16	32	40	190	3.5	6.1	27	29
SEC41081	34	17	34	44	200	5.0	6.7	27	33
SEC41101	31	15	30	41	190	6.4	6.4	25	31
SEC41151	22	12	25	32	110	12	5.7	20	23
SEC41152	22	12	24	31	110	11	5.0	21	23
SEC41201	18	12	25	28	120	7.3	5.8	20	19
SEC41251	18	12	25	27	110	7.8	5.6	21	18
SEC41301	22	12	27	32	110	6.8	4.3	21	24
SEC41351	26	14	28	34	130	6.0	6.0	22	23
SEC41401	24	9.3	20	24	100	8.8	3.6	17	21
SEC41451	24	12	25	30	130	8.2	4.8	21	23
SEC41501	22	5.6	12	16	120	14	< 1.6	11	21
SEC41551	16	7.6	16	20	190	14	2.0	14	22
SEC41552	15	7.6	16	21	190	14	2.0	14	22
SEC41601	12	3.6	9.9	11	210	7.1	< 1.6	9.5	22
SEC41651	13	7.2	11	18	170	4.1	< 1.8	9.5	27
SEC41701	29	13	26	36	210	2.7	2.7	22	32
SEC41751	39	22	43	59	200	< 1.8	8.1	35	39
SEC41752	39	22	42	58	200	< 1.8	7.2	34	38
SEC41801	34	23	42	62	170	< 1.9	9.7	35	36
SEC41851	32	23	43	59	190	< 2.0	8.8	34	39
SEC41901	34	22	44	58	200	< 2.0	8.8	36	43

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1991								
SEC13001	23	8.5	130	8.5	110	19	2.6	110
SEC13021	25	8.2	120	8.2	120	20	2.5	110
SEC13041	23	8.0	140	7.2	110	17	1.6	100
SEC13061	23	7.6	110	7.6	110	17	2.3	91
SEC13081	26	8.0	120	8.0	110	18	2.4	96
SEC13101	26	8.5	120	6.8	110	18	1.7	94
SEC13121	26	8.0	110	8.0	110	18	2.4	96
SEC13141	24	7.9	120	7.9	110	17	2.4	87
SEC13161	21	7.4	110	7.4	110	17	2.2	82
SEC13181	23	8.2	110	6.6	110	17	1.6	90
SEC13201	26	8.3	120	8.3	120	18	2.5	91
SEC13202	27	8.3	120	7.4	120	19	2.5	91
SEC13251	17	7.6	130	6.0	83	15	1.5	57
SEC13301	17	6.6	120	6.6	93	16	1.3	60
SEC13351	17	6.4	110	< 5.1	89	15	1.3	56
SEC13401	14	6.0	130	5.4	77	12	1.2	66
SEC13402	15	6.0	130	< 4.8	77	12	1.2	72
Field #-September 1991								
SEC23001	24	8.4	130	8.4	120	19	1.7	110
SEC23021	25	8.1	120	8.1	110	18	1.6	97
SEC23041	24	8.5	140	8.5	120	20	1.7	93
SEC23061	26	8.4	120	8.4	130	20	2.5	100
SEC23081	29	17	120	17	140	21	2.5	120
SEC23101	27	16	110	16	140	19	2.4	100
SEC23121	26	7.9	120	7.9	120	18	2.4	95
SEC23141	21	7.0	120	14	110	18	2.1	77
SEC23161	15	6.1	110	6.1	100	15	1.2	61
SEC23181	20	6.2	110	6.2	93	15	1.2	59
SEC23201	17	7.2	130	7.2	100	16	2.2	62
SEC23202	17	7.2	130	7.2	100	16	1.4	61
SEC23251	17	7.5	140	15	89	16	1.5	57
SEC23301	16	7.1	140	7.1	85	16	1.4	52
SEC23351	17	5.9	120	5.9	95	15	1.2	58
SEC23401	15	7.3	130	7.3	100	16	1.5	50
SEC23451	15	5.4	120	11	92	14	1.6	48
SEC23501	16	7.1	130	7.1	110	15	1.4	63
SEC23551	11	4.8	120	9.7	82	12	1.5	58
SEC23601	4.2	4.2	150	4.2	58	8.3	0.83	41
SEC23651	9.9	5.0	170	5.0	60	9.9	1.5	60
SEC23701	4.1	2.9	180	4.1	29	4.1	< 0.82	41
SEC23702	3.8	3.0	140	3.8	38	7.5	< 0.75	35
SEC23751	3.0	3.0	130	3.4	37	7.5	0.75	35
SEC23801	13	6.5	120	6.5	100	15	1.9	71
SEC23851	21	16	120	16	160	24	2.5	130
SEC23901	25	18	110	18	180	25	2.7	150
SEC23902	23	18	110	18	170	25	2.7	150

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-January 1992								
SEC31001	22	12	130	11	120	18	1.8	120
SEC31021	22	10	160	9.4	110	16	1.7	100
SEC31041	22	9.9	140	9.9	110	17	1.8	99
SEC31061	25	11	130	11	110	18	1.8	110
SEC31081	25	12	120	10	140	18	1.7	110
SEC31101	22	10	120	9.5	120	16	1.6	87
SEC31151	20	9.6	120	8.2	110	15	1.5	82
SEC31201	19	10	130	9.3	110	16	1.6	78
SEC31251	19	9.3	120	9.3	100	16	1.6	93
SEC31301	14	8.6	140	8.6	93	13	1.6	51
SEC31302	15	8.5	140	7.7	92	14	1.5	50
SEC31351	16	7.2	120	7.2	96	17	1.2	60
SEC31401	15	8.8	130	8.8	100	15	1.5	56
SEC31451	9.4	6.8	120	7.8	84	14	1.6	41
SEC31501	16	9.7	130	8.2	100	14	1.5	66
SEC31551	8.5	5.2	110	4.7	80	9.4	0.94	52
SEC31601	7.6	5.2	140	4.7	66	9.5	0.95	66
SEC31651	5.7	4.2	160	4.2	45	7.1	0.94	52
SEC31652	5.7	4.3	170	4.3	46	6.6	0.47	52
SEC31701	3.0	3.0	130	3.0	33	4.5	0.38	38
SEC31751	7.0	7.0	120	6.4	82	11	1.2	52
SEC31752	7.0	7.0	120	5.8	82	11	1.2	52
SEC31801	15	12	120	11	140	18	1.6	94
SEC31851	21	16	120	14	170	23	2.7	120
SEC31901	25	17	120	14	170	24	1.9	130
SEC31951	24	17	120	15	180	23	2.0	140
Field #-May 1992								
SEC41001	22	11	120	11	120	18	1.8	110
SEC41021	22	11	170	9.6	120	17	1.7	100
SEC41041	23	11	170	9.7	120	18	1.8	97
SEC41061	24	11	130	9.6	120	17	1.7	100
SEC41081	26	12	120	10	130	18	1.7	110
SEC41101	22	11	120	9.6	130	16	1.6	96
SEC41151	14	8.2	110	7.0	100	13	1.3	63
SEC41152	14	8.2	110	6.9	100	13	1.3	63
SEC41201	13	8.0	140	7.3	95	13	1.5	55
SEC41251	13	7.8	130	7.1	92	13	1.4	52
SEC41301	17	8.1	120	6.8	110	14	1.2	58
SEC41351	15	9.8	130	7.5	110	14	1.5	62
SEC41401	11	6.2	110	5.2	88	12	1.0	45
SEC41451	12	8.2	130	8.2	96	13	1.4	59
SEC41501	6.0	4.4	120	4.0	64	7.7	0.81	44
SEC41551	5.6	5.6	160	5.1	66	8.6	1.0	76
SEC41552	6.6	5.6	160	4.6	66	8.6	1.0	76
SEC41601	5.1	3.2	170	3.6	37	6.3	0.40	48
SEC41651	5.9	5.0	130	4.1	59	5.9	0.45	54
SEC41701	12	10	120	8.7	110	15	1.3	80
SEC41751	22	16	120	14	180	23	1.8	120
SEC41752	23	16	120	13	170	23	1.8	120
SEC41801	22	17	110	14	180	21	1.9	130
SEC41851	23	18	120	14	200	22	2.0	130
SEC41901	22	17	120	13	180	23	2.0	130

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	H2O- %	S, total%	C, total%
Method #	GCS040	LRN020	LRN010
Field #-May 1991			
SEC13001	79.7	1.35	7.81
SEC13021	78.0	1.19	9.61
SEC13041	75.9	1.31	10.7
SEC13061	77.2	1.34	12.8
SEC13081	77.1	1.38	10.3
SEC13101	79.4	1.44	7.79
SEC13121	80.4	1.66	10.8
SEC13141	78.0	1.37	11.3
SEC13161	76.8	1.48	13.9
SEC13181	79.4	1.39	9.96
SEC13201	76.4	1.33	9.68
SEC13202	-	1.34	9.70
SEC13251	78.7	1.75	14.0
SEC13301	83.3	2.01	19.4
SEC13351	83.5	2.38	20.8
SEC13401	85.3	3.36	23.3
SEC13402	-	3.40	23.3
Field #-September 1991			
SEC23001	85.2	1.24	8.62
SEC23021	75.9	1.43	10.4
SEC23041	68.1	1.23	8.16
SEC23061	74.9	1.12	8.52
SEC23081	77.3	1.34	9.55
SEC23101	77.8	1.25	10.9
SEC23121	78.2	1.36	11.7
SEC23141	81.4	1.45	16.9
SEC23161	84.3	1.76	22.2
SEC23181	86.0	1.78	21.7
SEC23201	83.3	1.52	15.9
SEC23202	-	1.47	16.2
SEC23251	81.3	1.49	14.9
SEC23301	82.2	1.73	17.0
SEC23351	86.3	2.45	23.5
SEC23401	83.8	1.57	15.8
SEC23451	90.1	2.92	26.6
SEC23501	83.2	2.00	16.4
SEC23551	89.4	3.47	30.2
SEC23601	89.7	3.61	33.7
SEC23651	84.8	6.01	30.2
SEC23701	83.4	10.5	35.6
SEC23702	-	8.82	36.4
SEC23751	85.6	8.58	35.6
SEC23801	80.4	4.51	21.9
SEC23851	74.3	2.17	10.4
SEC23901	59.9	1.37	4.85
SEC23902	-	1.34	4.84

Table 21. Element concentrations in sediments at Cocodrie, salt marsh site (dry wt. basis) (cont.).

Element	H2O- %	S, total%	C, total%	C, org%	C, crbnt%	C, total%	H, total%	N, total%
Method #	GCS040	LRN020	LRN010	LRZ002	LRC010	RTZ000	RTZ000	RTZ000
Field #-January 1992								
SEC31001	76.4	1.26	6.84	6.84	< 0.01			
SEC31021	77.9	1.32	8.72	8.30	0.42			
SEC31041	73.1	1.16	6.09	6.09	< 0.01			
SEC31061	70.9	1.34	7.39	7.39	< 0.01			
SEC31081	76.8	1.36	9.37	9.37	< 0.01			
SEC31101	78.7	1.44	12.0	12.0	< 0.01			
SEC31151	86.5	1.60	14.7	14.7	< 0.01			
SEC31201	80.9	1.59	13.0	13.0	< 0.01			
SEC31251	84.5	1.65	13.2	13.2	< 0.01			
SEC31301	84.2	1.43	13.3	13.3	< 0.01			
SEC31302	-	1.49	13.2	13.2	< 0.01			
SEC31351	88.4	2.57	23.4	23.4	< 0.01			
SEC31401	85.2	1.58	15.5	15.5	< 0.01			
SEC31451	88.9	3.09	26.8	26.8	< 0.01			
SEC31501	85.5	1.82	14.9	14.9	< 0.01			
SEC31551	90.7	3.76	30.1	30.1	< 0.01			
SEC31601	88.9	5.95	30.4	30.4	0.01			
SEC31651	84.0	8.12	30.8	30.8	0.02			
SEC31652	-	8.07	31.2	31.2	0.02			
SEC31701	84.8	9.45	35.5	35.5	0.03			
SEC31751	81.9	8.75	24.4	24.4	0.01			
SEC31752	-	8.79	25.3	25.3	0.01			
SEC31801	78.2	3.16	14.4	14.4	< 0.01			
SEC31851	59.8	1.94	5.97	5.97	< 0.01			
SEC31901	52.2	0.90	2.78	2.78	< 0.01			
SEC31951	45.9	0.63	1.20	1.20	< 0.01			
Field #-May 1992								
SEC41001	79.4	1.24	7.04	7.04	< 0.01	6.6	1.4	0.44
SEC41021	77.6	1.24	7.67	7.41	0.26	7.2	1.5	0.45
SEC41041	75.3	1.26	6.52	6.32	0.20	6.0	1.3	0.35
SEC41061	72.2	1.36	7.43	7.43	< 0.01	6.7	1.5	0.38
SEC41081	74.6	1.39	9.37	9.35	0.02	8.9	1.8	0.51
SEC41101	76.2	1.47	11.5	11.5	< 0.01	11	2.1	0.62
SEC41151	86.2	1.87	20.4	20.4	< 0.01	19	3.0	1.1
SEC41152	-	1.75	20.2	20.2	< 0.01	20	3.0	1.1
SEC41201	82.6	1.48	15.9	15.9	< 0.01	15	2.3	0.87
SEC41251	81.0	1.68	16.9	16.9	< 0.01	17	2.5	0.96
SEC41301	86.7	2.07	20.8	20.8	< 0.01	20	3.0	1.1
SEC41351	80.9	1.60	13.9	13.9	< 0.01	13	2.1	0.96
SEC41401	87.9	3.31	27.6	27.6	< 0.01	27	3.6	1.5
SEC41451	82.4	2.17	18.1	18.1	< 0.01	17	2.6	1.0
SEC41501	88.9	4.54	33.7	33.7	< 0.01	33	4.3	2.1
SEC41551	85.8	4.35	29.0	29.0	0.02	27	3.6	1.5
SEC41552	-	4.33	29.2	29.2	0.02	28	3.6	1.6
SEC41601	84.6	6.95	35.1	35.1	< 0.01	33	4.0	2.0
SEC41651	85.0	5.74	32.9	32.9	< 0.01	31	3.9	1.8
SEC41701	79.6	4.09	20.0	20.0	0.02	19	2.7	1.1
SEC41751	59.9	1.64	6.29	6.29	< 0.01	5.7	1.6	0.34
SEC41752	-	1.66	6.37	6.37	< 0.01	5.7	1.6	0.35
SEC41801	51.8	0.63	1.58	1.58	< 0.01	1.5	1.1	0.12
SEC41851	45.9	0.61	1.23	1.23	< 0.01	1.2	1.0	0.10
SEC41901	42.6	0.65	1.11	1.11	< 0.01	1.0	0.97	0.10

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis, depth in cm, see Table 3 for Method # and Table 5 for Material class descriptions).

Element Method #	Mid- depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-May 1991									
SEJ11001	5	M	53.5	4.2	0.96	2.0	1.1	0.86	0.54
SEJ11041	15	M	52.0	4.3	0.94	2.0	1.1	0.94	0.62
SEJ11081	25	M	50.7	4.1	0.81	1.9	1.1	0.91	0.66
SEJ11121	35	M	61.0	4.6	0.73	1.8	1.2	0.92	0.73
SEJ11161	45	M	47.3	3.5	0.85	1.6	0.90	0.80	0.66
SEJ11201	56	P-M	34.8	2.6	0.94	0.97	0.66	0.80	0.73
SEJ11251	69	P-M	31.3	2.2	0.94	1.3	0.50	0.88	0.81
SEJ11301	81	M	52.9	4.1	0.95	2.0	0.95	1.0	0.79
SEJ11351	94	M-S	91.7	7.7	0.51	3.0	1.9	1.2	0.80
SEJ11352	94	M-S	91.3	7.8	0.50	3.0	1.9	1.2	0.79
SEJ11401	107	C-S	96.4	9.1	0.35	3.9	2.3	1.4	0.70
SEJ11451	119	C-S	95.7	8.9	0.36	3.6	2.3	1.5	0.71
SEJ11501	132	C-S	95.7	8.3	0.41	3.3	2.2	1.3	0.83
SEJ11502	132	C-S	95.6	8.3	0.42	3.3	2.1	1.3	0.84
Field #-September 1991									
SEJ21001	3	M	48.4	3.9	0.92	1.8	1.1	0.82	0.46
SEJ21051	10	M	47.7	3.8	0.91	1.8	1.0	0.81	0.52
SEJ21101	17	M	50.8	4.1	0.86	1.9	1.1	0.86	0.51
SEJ21151	23	M	51.4	4.3	0.82	2.0	1.1	0.87	0.51
SEJ21201	30	M	57.7	4.9	0.75	2.3	1.2	0.98	0.48
SEJ21251	37	M	61.8	5.3	0.74	2.4	1.3	1.1	0.53
SEJ21301	43	M	49.4	3.9	0.84	1.8	0.99	0.94	0.49
SEJ21351	50	P-M	32.6	2.4	0.98	1.0	0.59	0.82	0.46
SEJ21401	57	P-M	30.9	2.3	0.87	0.87	0.56	0.80	0.40
SEJ21451	63	P-M	39.1	3.0	0.90	1.3	0.78	0.86	0.47
SEJ21501	70	P-M	35.3	2.6	0.88	1.2	0.64	0.88	0.53
SEJ21551	77	P-M	33.2	2.5	0.93	1.2	0.60	0.90	0.56
SEJ21601	83	P-M	38.0	2.9	1.0	1.6	0.68	0.99	0.76
SEJ21602	83	P-M	37.9	2.8	0.99	1.6	0.68	0.95	0.72
SEJ21651	90	M	52.8	4.0	1.0	1.5	1.0	1.1	0.74
SEJ21701	97	M	60.8	4.9	0.97	1.9	1.2	1.1	0.73
SEJ21702	97	M	60.8	4.8	0.97	1.9	1.2	1.0	0.73
SEJ21751	103	S-M	74.9	6.4	0.9	2.8	1.5	1.2	0.72
SEJ21801	110	M-S	93.7	8.4	0.43	3.4	2.2	1.3	0.70
SEJ21851	117	C-S	95.8	8.9	0.34	3.8	2.3	1.4	0.68
SEJ21851	117	C-S	96.1	8.9	0.35	3.8	2.3	1.3	0.68
SEJ21901	122	C-S	96.7	9.1	0.33	4.4	2.3	1.5	0.67

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element Method #	Mid-depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-January 1992									
SEJ31001	3	M	51.5	3.9	0.93	1.8	1.1	0.93	1.1
SEJ31051	10	M	53.9	4.3	0.81	2.0	1.2	1.0	1.6
SEJ31101	17	M	58.5	4.6	0.76	2.2	1.2	1.1	1.7
SEJ31151	23	M	61.9	5.0	0.74	2.4	1.3	1.1	1.6
SEJ31201	30	M	63.9	5.2	1.1	2.4	1.3	1.1	1.2
SEJ31251	37	M	58.1	4.6	0.87	2.0	1.2	0.99	1.0
SEJ31301	43	M	59.6	4.7	0.83	2.0	1.2	1.73	1.0
SEJ31351	50	M	48.6	3.9	0.73	1.6	0.97	0.83	0.83
SEJ31352	50	M	49.0	3.7	0.88	1.6	0.93	0.93	1.1
SEJ31401	57	P-M	40.6	3.0	0.93	1.3	0.77	0.89	0.89
SEJ31451	63	P-M	33.4	2.5	1.0	0.97	0.60	0.90	0.87
SEJ31501	70	P-M	33.9	2.6	1.1	1.2	0.58	0.92	0.78
SEJ31502	70	P-M	34.2	2.6	1.1	1.2	0.62	0.92	0.79
SEJ31551	77	P-M	41.2	3.3	0.99	1.4	0.74	0.99	0.82
SEJ31601	83	M	57.5	4.3	0.92	2.0	1.1	1.0	0.81
SEJ31651	90	S-M	73.0	5.5	0.88	3.1	1.4	1.0	0.80
SEJ31701	97	M-S	92.3	7.7	0.58	3.0	1.9	1.2	0.80
SEJ31751	103	C-S	95.6	8.6	0.41	3.3	2.1	1.3	0.77
SEJ31752	103	C-S	96.0	8.4	0.40	3.2	2.1	1.2	0.73
SEJ31801	110	C-S	97.9	8.7	0.35	3.8	2.3	1.4	0.73
SEJ31851	117	C-S	97.7	9.1	0.36	3.7	2.3	1.5	0.72
Field #-May 1992									
SEJ41001	3	M	48.1	3.8	0.91	1.7	1.1	0.87	0.82
SEJ41051	9	M	49.8	4.0	0.90	1.8	1.0	0.90	0.80
SEJ41101	15	M	52.2	4.4	0.73	2.0	1.0	0.94	0.84
SEJ41151	22	M	61.4	5.2	0.74	2.2	1.4	1.0	0.68
SEJ41201	28	M	63.6	5.1	0.70	2.0	1.4	1.0	0.76
SEJ41251	34	P-M	40.2	3.0	0.84	1.3	0.80	0.84	0.76
SEJ41252	34	P-M	39.5	3.0	0.83	1.3	0.75	0.83	0.75
SEJ41301	40	P-M	37.0	2.7	0.89	1.0	0.70	0.81	0.81
SEJ41351	46	P-M	30.1	2.1	0.90	0.93	0.54	0.78	0.84
SEJ41401	53	P-M	32.1	2.3	0.90	1.2	0.58	0.80	0.87
SEJ41451	59	P-M	36.6	2.7	1.1	1.1	0.62	0.92	1.0
SEJ41501	65	P-M	44.4	3.2	1.1	1.3	0.80	0.98	0.93
SEJ41551	71	M	62.1	4.9	0.93	1.9	1.2	1.1	0.87
SEJ41552	71	M	61.7	5.0	0.93	2.0	1.2	1.0	0.93
SEJ41601	77	S-M	72.5	5.7	0.80	3.0	1.5	1.1	0.87
SEJ41651	83	M-S	90.4	7.7	0.53	3.8	1.8	1.2	0.73
SEJ41701	90	C-S	97.2	8.9	0.32	4.3	2.1	1.4	0.63
SEJ41751	96	C-S	97.7	8.8	0.34	4.2	2.3	1.5	0.70
SEJ41752	96	C-S	97.8	8.6	0.34	4.1	2.2	1.4	0.68
SEJ41801	102	C-S	97.4	8.7	0.36	3.8	2.2	1.5	0.70
SEJ41851	108	C-S	95.4	8.7	0.39	3.4	2.2	1.4	0.70
SEJ41901	112	C-S	95.3	7.9	0.47	3.2	2.2	1.2	0.88

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	P%	Ti%	As µg/g	Ba µg/g	Be µg/g	Cd µg/g	Ce µg/g	Co µg/g	Cr µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1991									
SEJ11001	0.20	0.17	< 11	350	1.1	< 2.1	29	5.4	53
SEJ11041	0.23	0.16	< 10	360	1.0	< 2.1	28	5.2	50
SEJ11081	0.21	0.17	< 10	330	1.0	< 2.0	29	5.1	47
SEJ11121	0.12	0.18	< 12	410	1.2	< 2.4	33	6.1	50
SEJ11161	0.095	0.14	< 9.5	300	0.95	< 1.9	24	4.7	38
SEJ11201	0.077	0.11	< 7.0	260	< 0.70	< 1.4	19	3.1	27
SEJ11251	0.075	0.088	< 6.3	190	< 0.63	< 1.3	16	3.1	22
SEJ11301	0.053	0.17	< 11	380	1.1	< 2.1	31	3.7	42
SEJ11351	0.046	0.37	< 18	540	1.8	< 3.7	58	8.3	85
SEJ11352	0.046	0.33	< 18	540	1.8	< 3.7	56	9.1	82
SEJ11401	0.048	0.42	< 19	590	2.9	< 3.9	67	9.6	95
SEJ11451	0.048	0.40	< 19	640	2.9	< 3.8	67	19	94
SEJ11501	0.048	0.37	< 19	800	1.9	< 3.8	60	9.6	89
SEJ11502	0.048	0.37	< 19	800	1.9	< 3.8	63	9.6	89
Field #-September 1991									
SEJ21001	0.26	0.15	< 9.7	430	0.97	< 1.9	29	4.8	46
SEJ21051	0.26	0.14	< 9.5	400	0.95	< 1.9	28	4.8	42
SEJ21101	0.28	0.17	< 10	420	1.0	< 2.0	29	5.1	46
SEJ21151	0.25	0.16	< 10	400	1.0	< 2.1	32	5.1	48
SEJ21201	0.12	0.19	< 12	440	1.2	< 2.3	38	12	57
SEJ21251	0.12	0.22	< 12	460	1.2	< 2.5	41	6.2	60
SEJ21301	0.099	0.15	< 9.9	370	0.99	< 2.0	31	4.9	43
SEJ21351	0.095	0.088	< 6.5	280	< 0.65	< 1.3	18	3.3	26
SEJ21401	0.083	0.087	< 6.2	240	< 0.62	< 1.2	17	2.8	24
SEJ21451	0.078	0.12	< 7.8	290	< 0.78	< 1.6	23	3.9	30
SEJ21501	0.081	0.099	< 7.1	230	< 0.71	< 1.4	19	3.5	27
SEJ21551	0.083	0.096	< 6.6	180	< 0.66	< 1.3	20	3.3	25
SEJ21601	0.076	0.11	< 7.6	280	< 0.76	< 1.5	22	3.4	30
SEJ21602	0.076	0.11	< 7.6	200	< 0.76	< 1.5	22	3.8	28
SEJ21651	0.053	0.16	< 11	420	< 1.1	< 2.1	33	3.2	41
SEJ21701	0.055	0.21	< 12	440	< 1.2	< 2.4	41	3.0	50
SEJ21702	0.055	0.20	< 12	440	< 1.2	< 2.4	39	3.6	49
SEJ21751	0.060	0.26	< 15	490	1.5	< 3.0	57	4.5	64
SEJ21801	0.047	0.37	< 19	570	1.9	< 3.7	67	7.5	83
SEJ21851	0.048	0.40	< 19	570	1.9	< 3.8	70	9.6	87
SEJ21851	0.048	0.39	< 19	590	1.9	< 3.8	67	9.6	89
SEJ21901	0.048	0.42	< 19	610	2.9	< 3.9	73	9.7	91

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	P%	Ti%	As µg/g	Ba µg/g	Be µg/g	Cd µg/g	Ce µg/g	Co µg/g	Cr µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-January 1992									
SEJ31001	0.25	0.14	< 5.2	62	1.0	< 1.0	31	6.7	40
SEJ31051	0.25	0.16	5.4	59	1.1	< 1.1	34	7.0	37
SEJ31101	0.19	0.17	< 5.9	70	1.2	< 1.2	37	7.6	44
SEJ31151	0.14	0.19	< 6.2	80	1.2	< 1.2	40	8.7	46
SEJ31201	0.26	0.20	6.4	130	1.3	< 1.3	43	8.3	47
SEJ31251	0.14	0.18	12	99	1.2	< 1.2	39	7.0	44
SEJ31301	0.10	0.18	6	89	1.2	< 1.2	40	6.6	40
SEJ31351	0.097	0.15	4.9	87	0.97	< 0.97	32	4.9	31
SEJ31352	0.083	0.14	4.9	39	0.98	< 0.98	31	4.9	37
SEJ31401	0.085	0.11	4.1	35	0.81	< 0.81	24	4.1	29
SEJ31451	0.077	0.094	3.3	17	0.67	< 0.67	20	3.3	20
SEJ31501	0.068	0.095	3.4	17	0.68	< 0.68	20	3.4	24
SEJ31502	0.068	0.099	3.4	17	0.68	< 0.68	21	3.8	22
SEJ31551	0.062	0.12	4.1	27	0.82	< 0.82	26	3.7	30
SEJ31601	0.058	0.18	< 5.8	51	1.2	< 1.2	40	3.5	39
SEJ31651	0.051	0.23	< 7.3	120	1.5	< 1.5	55	5.8	47
SEJ31701	0.046	0.32	< 9.2	580	1.8	< 1.8	70	8.3	64
SEJ31751	0.048	0.36	< 9.6	600	1.9	< 1.9	75	9.6	73
SEJ31752	0.048	0.36	< 9.6	600	1.9	< 1.9	83	8.6	67
SEJ31801	0.049	0.38	< 9.8	620	2.0	< 2.0	80	13	77
SEJ31851	0.049	0.38	< 9.8	690	2.9	< 2.0	79	14	82
Field #-May 1992									
SEJ41001	0.27	0.13	< 4.8	53	0.96	< 0.96	28	6.3	40
SEJ41051	0.22	0.14	< 5.0	47	1.0	< 1.0	31	7.0	41
SEJ41101	0.16	0.16	< 5.2	78	1.0	< 1.0	35	7.8	48
SEJ41151	0.098	0.19	6.1	100	1.2	< 1.2	41	8.6	55
SEJ41201	0.083	0.19	6.4	110	1.3	< 1.3	41	6.4	53
SEJ41251	0.076	0.11	4	20	0.80	< 0.80	25	4.8	32
SEJ41252	0.075	0.11	7.9	23	0.79	< 0.79	25	4.7	32
SEJ41301	0.078	0.10	3.7	18	0.74	< 0.74	22	3.3	26
SEJ41351	0.075	0.075	3.0	9	0.60	< 0.60	17	3.0	20
SEJ41401	0.077	0.083	3.2	11	0.64	< 0.64	18	3.5	22
SEJ41451	0.070	0.092	< 3.7	11	0.73	< 0.73	20	2.6	26
SEJ41501	0.062	0.13	< 4.4	19	0.89	< 0.89	28	3.1	31
SEJ41551	0.056	0.20	< 6.2	52	1.2	< 1.2	42	3.1	48
SEJ41552	0.056	0.20	< 6.2	74	1.2	< 1.2	43	3.7	48
SEJ41601	0.051	0.23	< 7.3	87	1.5	< 1.5	51	5.1	52
SEJ41651	0.045	0.32	< 9.0	500	1.8	< 1.8	63	9.0	65
SEJ41701	0.049	0.38	9.7	520	1.9	< 1.9	72	16	86
SEJ41751	0.049	0.40	< 9.8	590	2.9	< 2.0	78	13	90
SEJ41752	0.049	0.36	< 9.8	570	2.0	< 2.0	72	12	85
SEJ41801	0.049	0.38	< 9.7	680	1.9	< 1.9	74	14	76
SEJ41851	0.048	0.37	< 9.5	700	1.9	< 1.9	73	13	85
SEJ41901	0.048	0.35	< 9.5	750	1.9	< 1.9	70	15	79

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1991									
SEJ11001	18	11	18	27	220	2.7	5.4	14	26
SEJ11041	18	10	18	27	210	2.6	4.2	13	25
SEJ11081	19	11	17	26	180	2.5	5.1	14	24
SEJ11121	17	12	20	27	200	3.7	6.1	18	23
SEJ11161	15	9.5	15	20	190	4.7	4.7	12	19
SEJ11201	11	7.0	11	15	170	7.0	3.5	9.7	13
SEJ11251	14	6.3	9.4	12	170	6.6	2.5	8.1	14
SEJ11301	22	11	19	24	150	3.7	5.3	15	16
SEJ11351	29	18	35	47	130	< 3.7	9.2	27	26
SEJ11352	29	18	33	47	130	< 3.7	9.1	27	26
SEJ11401	27	22	40	54	160	< 3.9	19	36	32
SEJ11451	30	20	40	55	160	< 3.8	9.6	33	49
SEJ11501	30	19	35	53	150	< 3.8	9.6	30	33
SEJ11502	29	19	36	53	150	< 3.8	9.6	30	33
Field #-September 1991									
SEJ21001	20	10	17	25	270	< 1.9	4.4	13	24
SEJ21051	19	10	17	24	210	< 1.9	4.3	13	23
SEJ21101	19	10	18	26	200	3.0	5.1	14	24
SEJ21151	22	11	19	27	200	3.1	< 4.1	16	26
SEJ21201	23	13	23	31	250	4.6	5.2	20	28
SEJ21251	23	12	24	33	260	5.6	6.2	20	30
SEJ21301	16	9.9	17	24	220	4.0	4.0	14	23
SEJ21351	10	6.5	10	14	220	3.3	3.3	8.2	15
SEJ21401	12	6.5	10	14	190	6.5	3.1	8.3	14
SEJ21451	14	8.2	13	17	200	7.8	3.9	12	15
SEJ21501	15	7.1	12	15	190	7.4	3.5	11	16
SEJ21551	16	7.0	11	14	190	8.0	3.3	9.6	14
SEJ21601	17	7.6	13	16	180	7.6	3.8	10	17
SEJ21602	16	7.6	13	15	170	7.6	3.8	11	14
SEJ21651	21	11	19	22	150	3.2	5.3	16	16
SEJ21701	28	12	24	27	130	3.0	6.1	18	18
SEJ21702	27	12	22	27	120	3.6	6.1	18	17
SEJ21751	38	17	34	43	130	< 3.0	7.5	27	19
SEJ21801	25	21	37	54	140	< 3.7	9.4	27	23
SEJ21851	25	22	39	53	150	< 3.8	9.6	30	29
SEJ21851	24	22	38	53	160	< 3.8	9.6	34	30
SEJ21901	41	21	42	53	210	< 3.9	9.7	29	36

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-January 1992									
SEJ31001	22	9.3	16	24	190	1.5	3.1	14	23
SEJ31051	20	9.7	19	27	190	2.2	3.8	16	25
SEJ31101	26	11	20	29	200	2.3	3.5	16	26
SEJ31151	25	12	23	32	240	3.1	4.3	19	29
SEJ31201	26	12	24	32	300	3.8	4.5	20	29
SEJ31251	24	10	21	28	250	4.1	4.6	18	26
SEJ31301	20	11	21	28	240	3.6	4.8	18	23
SEJ31351	17	8.7	17	23	200	2.9	3.4	15	18
SEJ31352	19	8.8	17	22	210	5.4	3.4	15	20
SEJ31401	14	6.9	13	17	210	6.1	2.4	11	15
SEJ31451	13	6.0	11	14	200	4.3	2.3	9.4	13
SEJ31501	17	6.4	11	14	210	3.7	2.4	10	17
SEJ31502	17	6.5	11	14	220	3.8	2.4	10	17
SEJ31551	20	7.8	14	18	210	2.9	2.9	12	15
SEJ31601	27	10	21	24	190	3.5	4.0	18	15
SEJ31651	32	13	31	34	150	3.7	4.4	26	18
SEJ31701	31	18	38	48	150	< 1.8	7.4	33	25
SEJ31751	32	19	40	51	150	< 1.9	9.6	33	27
SEJ31752	28	19	47	47	160	< 1.9	8.6	36	28
SEJ31801	26	20	42	51	180	< 2.0	9.8	36	33
SEJ31851	25	21	43	53	180	< 2.0	8.8	37	34
Field #-May 1992									
SEJ41001	16	9.1	15	25	180	< 0.96	2.9	13	23
SEJ41051	19	9.5	17	26	200	1.5	2.5	15	28
SEJ41101	23	9.9	19	29	210	4.2	3.1	17	26
SEJ41151	25	12	23	33	230	4.3	4.3	20	28
SEJ41201	20	12	24	32	210	3.2	5.1	20	24
SEJ41251	14	7.2	14	18	180	4.4	2.4	13	18
SEJ41252	16	7.1	13	18	190	4.3	2.8	13	18
SEJ41301	13	6.7	12	16	180	5.6	2.6	11	13
SEJ41351	12	4.8	9.3	13	180	6.9	1.8	9.6	13
SEJ41401	14	5.5	9.6	14	190	11	1.9	9.6	13
SEJ41451	16	6.2	11	16	200	5.1	2.2	11	14
SEJ41501	20	7.5	16	18	180	3.1	3.1	15	15
SEJ41551	27	12	23	29	150	2.5	5.0	20	16
SEJ41552	27	12	24	30	150	1.9	4.3	23	16
SEJ41601	30	13	28	35	130	3.6	5.1	25	18
SEJ41651	29	18	35	50	140	< 1.8	6.3	32	24
SEJ41701	25	21	40	52	160	< 1.9	7.8	36	36
SEJ41751	25	21	42	54	210	< 2.0	8.8	39	32
SEJ41752	23	20	40	52	210	< 2.0	7.8	36	31
SEJ41801	26	20	42	53	190	< 1.9	8.8	36	36
SEJ41851	29	21	41	53	150	< 1.9	8.6	35	37
SEJ41901	28	18	39	51	150	< 1.9	7.6	34	37

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1991								
SEJ11001	18	5.4	120	4.8	70	11	1.6	70
SEJ11041	19	5.2	110	4.7	68	10	1.0	68
SEJ11081	19	5.1	110	5.1	66	11	1.0	66
SEJ11121	23	6.1	130	6.1	79	13	1.2	59
SEJ11161	19	4.7	130	4.7	61	9.9	0.95	45
SEJ11201	12	3.5	130	3.5	45	7.0	0.70	29
SEJ11251	7.8	3.1	130	2.8	41	6.6	0.63	30
SEJ11301	13	5.3	160	5.3	74	13	1.6	37
SEJ11351	19	9.2	150	9.2	130	23	2.8	82
SEJ11352	23	9.1	150	9.1	130	23	2.7	81
SEJ11401	24	19	130	9.6	150	25	2.9	110
SEJ11451	24	19	120	9.6	150	26	2.9	130
SEJ11501	23	9.6	140	9.6	140	24	2.9	110
SEJ11502	22	9.6	140	9.6	140	24	2.9	110
Field #-September 1991								
SEJ21001	17	4.8	110	3.9	63	9.7	0.97	63
SEJ21051	17	4.8	110	4.8	62	9.5	< 0.95	62
SEJ21101	20	5.1	110	5.1	71	10	1.0	66
SEJ21151	21	5.1	110	5.1	72	10	1.0	67
SEJ21201	29	5.8	120	12	87	12	1.2	81
SEJ21251	29	6.2	120	6.2	93	14	1.2	80
SEJ21301	26	4.9	130	4.9	69	9.9	0.99	54
SEJ21351	13	3.3	140	2.9	46	6.5	0.65	29
SEJ21401	12	3.1	120	3.1	43	6.2	0.62	29
SEJ21451	14	3.9	140	3.9	55	7.8	0.78	31
SEJ21501	14	3.5	130	3.5	49	7.1	0.71	33
SEJ21551	10	3.3	140	3.3	46	6.6	0.66	32
SEJ21601	9.5	3.8	160	3.4	53	7.6	0.76	35
SEJ21602	9.1	3.8	150	3.8	53	7.6	0.76	34
SEJ21651	12	5.3	170	5.3	74	11	1.1	36
SEJ21701	15	6.1	180	6.1	91	13	1.2	43
SEJ21702	16	6.1	180	6.1	85	13	1.2	42
SEJ21751	22	7.5	180	7.5	110	21	2.2	59
SEJ21801	22	9.4	140	9.4	140	22	1.9	91
SEJ21851	23	19	120	9.6	160	22	1.9	96
SEJ21851	22	19	120	9.6	160	21	1.9	96
SEJ21901	25	19	130	9.7	160	24	1.9	110

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-January 1992								
SEJ31001	14	6.7	130	5.7	62	9.3	1.0	62
SEJ31051	15	7.0	120	4.9	70	10	1.1	70
SEJ31101	18	7.6	120	5.9	76	11	1.2	70
SEJ31151	24	8.7	120	6.8	87	12	1.2	87
SEJ31201	26	8.9	150	6.4	89	13	1.3	83
SEJ31251	26	7.6	130	6.4	81	13	1.2	76
SEJ31301	23	7.7	140	6.0	83	13	1.2	60
SEJ31351	20	6.3	120	4.9	68	10	0.97	53
SEJ31352	17	5.9	140	4.9	69	9.8	0.98	49
SEJ31401	13	4.9	140	4.1	57	8.1	0.81	40
SEJ31451	6.3	4.3	150	3.0	47	6.7	0.67	29
SEJ31501	6.1	4.4	150	3.7	51	6.4	0.68	27
SEJ31502	6.2	4.4	150	3.4	51	6.8	0.68	28
SEJ31551	7.4	5.4	150	4.1	62	8.2	0.82	35
SEJ31601	11	7.5	170	6.3	75	13	1.2	37
SEJ31651	14	9.5	170	8.0	95	18	1.5	49
SEJ31701	18	13	160	11	130	23	1.8	78
SEJ31751	21	14	140	12	150	22	1.9	96
SEJ31752	17	14	130	14	140	24	1.9	89
SEJ31801	21	15	130	12	160	23	2.0	110
SEJ31851	21	16	140	14	170	24	2.0	120
Field #-May 1992								
SEJ41001	15	6.3	110	5.8	63	8.2	0.96	63
SEJ41051	16	6.5	110	5.5	65	9.5	1.0	85
SEJ41101	20	7.3	110	6.8	78	11	1.0	73
SEJ41151	31	8.6	130	7.4	98	13	1.2	80
SEJ41201	26	8.3	130	8.3	89	13	1.3	63
SEJ41251	16	4.8	120	4.8	56	8.0	0.80	40
SEJ41252	16	4.7	120	4.7	55	7.9	0.79	43
SEJ41301	11	4.4	130	4.1	48	7.0	0.74	31
SEJ41351	11	3.3	130	3.3	39	6.3	0.60	25
SEJ41401	9.3	3.9	130	3.5	45	6.1	0.64	32
SEJ41451	7.7	4.4	150	4.0	51	7.3	0.73	29
SEJ41501	8.4	5.3	160	5.8	58	9.3	0.89	32
SEJ41551	12	8.1	170	8.1	87	13	1.2	42
SEJ41552	11	8.6	170	8.0	86	13	1.2	42
SEJ41601	15	9.4	170	9.4	100	16	1.5	51
SEJ41651	18	14	140	13	140	21	1.8	89
SEJ41701	19	16	130	15	170	19	1.9	97
SEJ41751	21	15	130	16	160	24	2.0	110
SEJ41752	20	15	130	13	160	23	2.0	98
SEJ41801	20	16	130	15	160	24	1.9	110
SEJ41851	19	15	130	14	150	23	1.9	100
SEJ41901	17	13	150	12	130	22	1.9	95

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	H2O- %	S, total%	C, total%
Method #	GCS040	LRN020	LRN010
Field #-May 1991			
SEJ11001	98.3	-	-
SEJ11041	96.9	-	-
SEJ11081	95.2	-	27.0
SEJ11121	94.8	1.45	21.8
SEJ11161	91.6	2.13	30.1
SEJ11201	88.4	2.58	37.1
SEJ11251	87.6	3.64	40.8
SEJ11301	84.4	2.98	29.2
SEJ11351	54.0	0.91	4.48
SEJ11352	-	0.91	4.67
SEJ11401	47.1	0.89	1.04
SEJ11451	47.8	0.70	1.52
SEJ11501	48.2	0.64	1.80
SEJ11502	-	0.63	1.82
Field #-September 1991			
SEJ21001	97.9	1.52	26.6
SEJ21051	97.8	1.58	27.1
SEJ21101	97.0	1.59	25.5
SEJ21151	96.7	1.62	25.8
SEJ21201	95.7	1.74	22.8
SEJ21251	94.1	1.71	21.0
SEJ21301	94.2	2.26	28.7
SEJ21351	93.2	2.70	38.9
SEJ21401	93.1	2.62	38.8
SEJ21451	91.4	2.93	35.2
SEJ21501	91.1	3.27	37.9
SEJ21551	91.0	3.53	39.1
SEJ21601	90.2	3.75	36.4
SEJ21602	-	3.74	36.4
SEJ21651	85.2	2.63	29.5
SEJ21701	79.9	2.39	24.9
SEJ21702	-	2.40	24.9
SEJ21751	71.4	1.96	15.9
SEJ21801	50.6	0.95	2.93
SEJ21851	49.4	1.09	1.49
SEJ21851	-	1.09	1.39
SEJ21901	47.9	1.50	1.00

Table 22. Element concentrations in sediments at Jug Lake, intermediate marsh site (dry wt. basis) (continued).

Element	H2O- %	S, total%	C, total%	C, org%	C, crbnt%	C, total%	H, total%	N, total%
Method #	GCS040	LRN020	LRN010	LRZ002	LRC010	RTZ000	RTZ000	RTZ000
Field #-January 1992								
SEJ31001	97.6	1.72	25.0	25.0	0.03			
SEJ31051	96.8	1.66	23.8	23.8	0.01			
SEJ31101	96.2	1.65	21.7	21.7	< 0.01			
SEJ31151	95.5	1.71	20.2	20.2	< 0.01			
SEJ31201	94.1	1.77	20.0	20.0	0.01			
SEJ31251	93.5	1.88	23.4	23.4	< 0.01			
SEJ31301	92.4	1.82	23.1	23.1	< 0.01			
SEJ31351	90.2	2.36	29.2	29.2	< 0.01			
SEJ31352	-	2.37	28.7	28.7	< 0.01			
SEJ31401	90.7	1.94	34.1	34.1	< 0.01			
SEJ31451	90.0	3.27	38.8	38.8	< 0.01			
SEJ31501	89.0	3.62	38.0	38.0	< 0.01			
SEJ31502	-	3.65	38.6	38.6	< 0.01			
SEJ31551	89.0	3.50	34.3	34.3	< 0.01			
SEJ31601	84.2	2.80	26.9	26.9	< 0.01			
SEJ31651	77.1	2.78	17.9	17.9	< 0.01			
SEJ31701	55.2	1.06	5.24	5.24	< 0.01			
SEJ31751	48.9	0.67	2.30	2.30	< 0.01			
SEJ31752	-	0.65	2.42	2.42	< 0.01			
SEJ31801	47.8	0.92	1.15	1.15	< 0.01			
SEJ31851	49.7	0.66	1.17	1.17	< 0.01			
Field #-May 1992								
SEJ41001	98.0	1.56	25.3	25.3	0.02	25	4.1	3.0
SEJ41051	96.5	1.59	25.6	25.6	0.02	25	3.9	2.4
SEJ41101	96.0	1.55	24.9	24.9	< 0.01	24	3.7	1.9
SEJ41151	93.9	1.53	21.0	21.0	< 0.01	20	3.2	1.5
SEJ41201	92.6	1.48	19.9	19.9	< 0.01	19	2.9	1.3
SEJ41251	91.0	2.35	32.4	32.4	< 0.01	31	4.1	1.9
SEJ41252	-	2.34	32.5	32.5	< 0.01	32	4.1	1.9
SEJ41301	91.4	2.58	34.9	34.9	< 0.01	33	4.3	2.1
SEJ41351	91.3	3.18	40.0	40.0	< 0.01	37	4.7	2.2
SEJ41401	90.1	3.36	38.2	38.2	< 0.01	36	4.6	2.2
SEJ41451	88.4	3.39	35.6	35.6	< 0.01	34	4.2	2.2
SEJ41501	87.2	2.96	32.5	32.5	< 0.01	31	3.7	1.9
SEJ41551	82.2	2.27	23.0	23.0	< 0.01	22	2.8	1.3
SEJ41552	-	2.22	22.7	22.7	< 0.01	22	2.8	1.3
SEJ41601	71.5	2.50	16.8	16.8	< 0.01	16	2.3	0.95
SEJ41651	63.6	1.81	5.47	5.47	< 0.01	5.1	1.3	0.31
SEJ41701	48.6	1.57	1.23	1.23	< 0.01	1.2	1.0	0.09
SEJ41751	47.7	1.30	0.95	0.95	< 0.01	0.96	0.97	0.08
SEJ41752	-	1.28	0.97	0.97	< 0.01	0.98	0.96	0.08
SEJ41801	49.9	0.78	0.99	0.99	< 0.01	0.98	0.92	0.09
SEJ41851	50.8	0.57	2.15	2.15	< 0.01	2.0	1.1	0.15
SEJ41901	53.4	0.67	2.47	2.47	< 0.01	2.5	0.97	0.16

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis, depth in cm, see Table 3 for Method # and Table 5 for Material class descriptions).

Element Method #	Mid-depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-September 1991									
SEP21001	2	M	51.9	4.3	0.99	1.9	0.93	0.67	0.20
SEP21021	5	M	51.3	4.1	1.0	1.8	0.87	0.67	0.19
SEP21041	8	M	50.2	4.1	0.95	1.9	0.85	0.65	0.19
SEP21061	11	M	47.1	3.9	0.94	1.7	0.80	0.61	0.18
SEP21081	14	P-M	40.1	3.1	0.92	1.7	0.64	0.52	0.15
SEP21101	19	P-M	28.0	1.8	1.1	1.3	0.34	0.39	0.11
SEP21151	27	P	22.7	1.4	1.2	0.89	0.23	0.36	0.09
SEP21201	35	P	20.1	1.2	1.3	0.74	0.17	0.34	0.08
SEP21251	43	P	20.3	1.2	1.2	0.77	0.17	0.32	0.08
SEP21301	50	P	21.4	1.4	1.2	0.96	0.21	0.34	0.11
SEP21302	50	P	20.3	1.3	1.2	0.91	0.19	0.32	0.09
SEP21351	58	P	14.3	0.69	1.2	0.86	0.08	0.29	0.07
SEP21401	66	P	16.5	0.76	1.4	0.79	0.09	0.33	0.08
SEP21451	73	P	23.4	1.5	1.5	0.75	0.02	0.40	0.08
SEP21501	81	P	20.7	1.3	1.4	0.60	0.18	0.39	0.08
SEP21502	81	P	20.4	1.3	1.4	0.61	0.18	0.39	0.08
SEP21551	89	P	18.3	0.99	1.4	0.55	0.13	0.35	0.07
SEP21601	97	P	21.7	1.5	1.2	0.65	0.22	0.39	0.10
SEP21651	104	P-M	28.7	2.2	1.2	0.89	0.34	0.43	0.11
SEP21701	112	P-M	34.8	2.8	1.2	1.0	0.45	0.49	0.14
SEP21751	120	P-M	37.1	2.8	1.1	1.3	0.45	0.48	0.14
SEP21801	128	P-M	35.5	2.8	1.3	1.5	0.46	0.53	0.14
SEP21851	135	P-M	39.2	3.1	1.3	2.0	0.55	0.59	0.15
SEP21852	135	P-M	38.7	3.1	1.3	2.0	0.54	0.58	0.15
SEP21901	142	M	46.1	3.9	1.2	2.3	0.74	0.69	0.18
Field #-January 1992									
SEP31001	2	P-M	42.9	3.5	1.0	1.4	0.77	0.60	0.18
SEP31021	6	P-M	39.0	3.3	0.94	1.2	0.74	0.55	0.17
SEP31041	9	P-M	44.8	3.9	0.94	1.3	0.85	0.63	0.19
SEP31061	13	M	51.0	4.6	0.97	1.5	0.97	0.71	0.21
SEP31081	17	P-M	44.2	3.8	1.0	1.2	0.80	0.62	0.19
SEP31101	23	P-M	33.6	2.7	0.97	1.0	0.54	0.47	0.15
SEP31151	32	P-M	27.8	2.1	0.97	1.2	0.42	0.42	0.16
SEP31152	32	P-M	27.6	2.1	0.97	1.2	0.41	0.41	0.16
SEP31201	41	P	19.6	0.69	0.53	0.35	0.13	0.17	0.06
SEP31251	50	P	19.3	1.2	1.2	0.64	0.21	0.35	0.13
SEP31301	60	P	19.8	1.3	1.3	0.57	0.18	0.36	0.12
SEP31351	69	P	18.8	1.3	1.3	0.83	0.18	0.36	0.12
SEP31352	69	P	18.8	1.3	1.3	0.83	0.17	0.36	0.12
SEP31401	78	P	16.8	1.2	1.4	0.76	0.15	0.37	0.12
SEP31451	87	P	23.3	1.6	2.0	0.84	0.20	0.51	0.13
SEP31501	96	P	16.5	0.94	1.5	0.51	0.12	0.38	0.11
SEP31551	106	P	15.9	1.2	1.3	0.49	0.16	0.38	0.11
SEP31601	115	P-M	25.4	2.1	1.4	0.74	0.33	0.48	0.15
SEP31602	115	P	24.8	2.1	1.4	0.74	0.35	0.47	0.15
SEP31651	124	P-M	33.0	3.0	1.3	1.1	0.50	0.56	0.18
SEP31701	131	P-M	33.8	3.0	1.4	1.2	0.51	0.57	0.18

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element Method #	Mid- depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-May 1992									
SEP42001	2	P-M	40.7	3.3	1.1	1.4	0.77	0.57	0.27
SEP42021	5	P-M	40.1	3.3	1.0	1.4	0.76	0.56	0.22
SEP42041	8	M	49.7	4.5	0.99	1.6	0.99	0.70	0.22
SEP42061	12	M	50.6	4.7	1.0	1.7	1.0	0.76	0.22
SEP42081	15	M	51.8	4.8	0.98	1.7	1.1	0.73	0.22
SEP42101	21	M	50.8	4.7	1.0	1.8	1.0	0.76	0.21
SEP42151	30	P-M	38.3	3.3	1.1	1.5	0.65	0.57	0.18
SEP42201	38	P-M	33.5	2.6	1.1	1.4	0.54	0.50	0.15
SEP42202	38	P-M	33.2	2.6	1.2	1.4	0.56	0.50	0.15
SEP42251	47	P-M	36.2	3.0	1.1	1.9	0.65	0.54	0.15
SEP42301	55	P	22.3	1.7	1.3	0.98	0.27	0.40	0.10
SEP42351	64	P	16.1	1.0	1.2	0.98	0.14	0.34	0.11
SEP42401	72	P	18.1	1.2	1.6	0.81	0.16	0.40	0.10
SEP42451	81	P	19.5	1.2	1.7	0.68	0.16	0.41	0.11
SEP42501	89	P	15.1	0.79	1.4	0.65	0.10	0.35	0.11
SEP42551	97	P	20.9	1.6	1.3	0.90	0.23	0.42	0.13
SEP42552	97	P	20.9	1.6	1.3	0.84	0.23	0.40	0.13
SEP42601	106	P-M	30.5	2.7	1.3	1.0	0.46	0.52	0.16
SEP42602	106	P-M	30.7	2.7	1.3	0.98	0.43	0.52	0.16
SEP42651	114	P-M	33.6	2.9	1.3	1.2	0.50	0.57	0.18
SEP42701	123	P-M	35.8	2.9	1.3	2.1	0.54	0.57	0.21
SEP42751	131	M	47.1	4.2	1.3	2.4	0.80	0.75	0.24
SEP42801	139	M	50.2	4.7	1.3	2.4	0.95	0.80	0.25

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	P%	Ti%	As µg/g	Ba µg/g	Be µg/g	Cd µg/g	Ce µg/g	Co µg/g	Cr µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-September 1991									
SEP21001	0.13	0.16	< 10	500	1.0	< 2.1	31	5.2	52
SEP21021	0.13	0.14	< 10	400	< 1.0	< 2.1	30	5.1	51
SEP21041	0.13	0.14	< 10	400	1.0	< 2.0	32	5.0	50
SEP21061	0.11	0.14	< 9.4	420	0.94	< 1.9	29	4.7	47
SEP21081	0.10	0.11	< 8.0	200	< 0.80	< 1.6	24	4.0	37
SEP21101	0.10	0.062	8.4	62	< 0.56	< 1.1	15	2.8	20
SEP21151	0.098	0.050	4.5	39	< 0.45	< 0.91	12	1.8	14
SEP21201	0.084	0.044	6.0	30	< 0.40	< 0.80	12	1.4	12
SEP21251	0.079	0.045	8.1	32	< 0.41	< 0.81	12	1.6	12
SEP21301	0.081	0.049	8.6	43	< 0.43	< 0.86	12	1.9	14
SEP21302	0.083	0.045	8.1	24	< 0.41	< 0.81	11	2.0	13
SEP21351	0.073	0.029	8.2	13	< 0.29	< 0.57	7.9	1.4	6.6
SEP21401	0.064	0.033	8.6	17	0.33	< 0.66	9.6	1.5	7.1
SEP21451	0.073	0.051	7.0	49	0.47	< 0.94	13	1.4	15
SEP21501	0.070	0.048	6.2	43	0.41	< 0.83	12	1.7	13
SEP21502	0.071	0.047	6.1	45	0.41	< 0.82	12	1.6	13
SEP21551	0.062	0.037	7.3	33	0.37	< 0.73	11	1.3	9.9
SEP21601	0.061	0.052	8.7	65	0.43	< 0.87	13	1.3	16
SEP21651	0.063	0.080	8.6	110	0.57	1.4	18	2.6	23
SEP21701	0.070	0.097	10	130	0.70	< 1.4	23	3.5	29
SEP21751	0.074	0.10	11	220	0.74	< 1.5	24	3.7	30
SEP21801	0.071	0.096	14	150	0.71	< 1.4	23	7.8	29
SEP21851	0.039	0.11	16	240	0.78	< 1.6	26	7.8	33
SEP21852	0.039	0.11	16	160	0.77	< 1.5	26	7.7	32
SEP21901	0.046	0.15	18	210	0.92	< 1.8	31	4.6	41
Field #-January 1992									
SEP31001	0.15	0.13	< 4.3	73	0.86	< 0.86	24	4.3	36
SEP31021	0.14	0.12	< 3.9	59	0.78	< 0.78	23	3.9	35
SEP31041	0.12	0.15	< 4.5	67	0.90	< 0.90	27	4.5	39
SEP31061	0.12	0.17	< 5.1	120	1.0	< 1.0	32	5.1	44
SEP31081	0.12	0.15	< 4.4	71	0.88	< 0.88	27	4.0	38
SEP31101	0.11	0.094	< 3.4	37	0.67	< 0.67	19	4.0	32
SEP31151	0.11	0.072	2.8	13	0.56	< 0.56	16	4.4	26
SEP31152	0.10	0.072	5.5	15	0.55	< 0.55	16	4.4	25
SEP31201	0.045	0.024	2.0	13	0.20	< 0.39	5.5	1.4	7.8
SEP31251	0.095	0.042	< 3.9	25	< 0.39	< 0.77	9.7	1.9	13
SEP31301	0.095	0.048	< 4.0	28	< 0.40	< 0.79	9.7	1.6	11
SEP31351	0.081	0.049	5.6	23	0.38	< 0.75	10	1.9	14
SEP31352	0.083	0.047	5.6	34	0.38	< 0.75	11	1.9	14
SEP31401	0.081	0.042	6.9	20	0.34	< 0.67	9.9	1.7	12
SEP31451	0.084	0.056	7.0	28	0.70	< 0.93	14	1.9	17
SEP31501	0.066	0.035	5.0	16	0.50	< 0.66	9.9	1.3	10
SEP31551	0.056	0.043	6.4	22	0.32	< 0.64	9.9	1.4	13
SEP31601	0.058	0.076	6.6	11	0.51	< 0.51	16	2.3	23
SEP31602	0.060	0.079	6.2	12	0.50	< 0.50	17	2.2	23
SEP31651	0.066	0.11	8.3	23	0.66	< 0.66	23	7.6	31
SEP31701	0.061	0.11	9.8	29	0.68	< 0.68	23	8.5	31

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	P%	Ti%	As µg/g	Ba µg/g	Be µg/g	Cd µg/g	Ce µg/g	Co µg/g	Cr µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1992									
SEP42001	0.17	0.13	4.1	69	0.81	< 0.81	24	4.1	38
SEP42021	0.16	0.13	4.0	48	0.80	< 0.80	26	4.4	38
SEP42041	0.12	0.17	5.0	110	0.99	< 0.99	34	5.0	49
SEP42061	0.12	0.18	5.1	120	1.0	< 1.0	35	5.1	50
SEP42081	0.11	0.19	5.2	120	1.0	< 1.0	36	5.2	50
SEP42101	0.10	0.18	5.1	86	1.0	< 1.0	36	6.1	51
SEP42151	0.10	0.12	7.7	33	0.77	< 0.77	26	5.4	38
SEP42201	0.097	0.097	7.7	18	0.67	< 0.67	22	4.7	31
SEP42202	0.096	0.10	7.3	17	0.66	< 0.66	22	4.3	31
SEP42251	0.098	0.11	8.7	24	0.72	< 0.72	24	5.8	54
SEP42301	0.080	0.058	7.8	8.7	0.45	< 0.45	13	2.2	20
SEP42351	0.076	0.039	7.6	18	< 0.32	< 0.64	8.9	1.6	12
SEP42401	0.072	0.043	7.2	20	0.36	< 0.72	12	1.8	13
SEP42451	0.076	0.045	5.9	21	0.39	< 0.78	12	1.4	14
SEP42501	0.059	0.030	6.5	12	0.45	< 0.60	9.1	1.5	8.6
SEP42551	0.063	0.061	6.3	42	0.42	< 0.84	14	1.7	19
SEP42552	0.061	0.059	6.9	13	0.42	< 0.42	14	1.5	18
SEP42601	0.061	0.10	8.5	14	0.61	< 0.61	22	3.4	29
SEP42602	0.061	0.10	7.4	14	0.61	< 0.61	21	3.4	29
SEP42651	0.060	0.11	9.7	21	0.67	< 0.67	25	5.7	32
SEP42701	0.061	0.11	14	13	0.72	< 0.72	25	7.9	31
SEP42751	0.052	0.16	12	38	0.94	< 0.94	34	8.0	46
SEP42801	0.050	0.18	11	50	1.0	< 1.0	39	8.0	50

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-September 1991									
SEP21001	21	10	19	26	180	2.6	5.2	16	20
SEP21021	21	11	18	25	170	2.1	5.1	15	26
SEP21041	23	10	19	26	170	2.5	5.0	14	19
SEP21061	22	9.4	17	24	140	2.8	4.7	13	19
SEP21081	15	8.0	14	18	120	3.2	4	14	16
SEP21101	11	5.6	9.2	11	110	2.8	2.5.	7.8	11
SEP21151	8.4	4.5	7.5	8.2	100	2.3	2.3	6.8	8.9
SEP21201	8.0	2.0	6.8	6.6	98	2.0	1.8	5.8	8.4
SEP21251	8.9	4.1	6.7	6.3	100	2.0	1.8	6.5	8.7
SEP21301	12	4.3	7.3	7.5	96	4.3	2.1	5.8	11
SEP21302	11	2.0	6.5	6.5	95	4.1	2.0	6.1	11
SEP21351	10	1.4	4.1	3.0	83	4.1	< 1.1	3.7	8.6
SEP21401	9.2	1.7	5.1	3.5	110	4.1	< 1.3	4.6	8.1
SEP21451	8.7	4.7	8.2	7.5	130	2.3	2.1	6.3	8.9
SEP21501	9.1	4.1	7.5	6.6	120	4.1	2.1	6.6	9.5
SEP21502	10	4.1	7.3	6.3	120	4.1	1.8	6.3	11
SEP21551	9.2	1.8	6.4	4.4	120	3.7	< 1.5	5.7	8.4
SEP21601	12	4.3	8.0	7.6	95	5.2	2.2	7.2	9.1
SEP21651	15	5.7	11	12	110	5.7	2.9	8.3	12
SEP21701	19	7.0	14	18	120	3.5	3.5	12	17
SEP21751	20	7.4	14	20	120	3.7	3.7	12	17
SEP21801	17	7.1	14	16	120	7.1	3.6	11	21
SEP21851	18	7.8	16	17	130	3.9	3.9	13	25
SEP21852	19	7.7	15	17	130	3.9	3.9	13	25
SEP21901	19	9.2	19	21	120	4.1	4.6	16	25
Field #-January 1992									
SEP31001	17	8.6	13	21	160	< 0.86	3.0	11	15
SEP31021	15	8.2	12	20	130	< 0.78	3.1	11	14
SEP31041	54	9.0	15	24	130	< 0.90	4.0	13	16
SEP31061	16	12	18	29	130	< 1.0	4.6	14	18
SEP31081	17	9.7	15	23	120	0.88	4.0	12	16
SEP31101	19	6.7	10	16	94	2.0	2.4	9.4	13
SEP31151	17	5.3	8.6	13	92	3.1	1.4	7.8	25
SEP31152	18	5.2	8.6	13	91	2.8	1.4	8.0	16
SEP31201	6.3	1.6	3.1	3.7	45	1.6	< 0.78	2.5	4.9
SEP31251	9.8	3.9	5.4	6.8	91	1.9	< 1.5	4.6	7.5
SEP31301	7.9	2.0	5.7	6.5	97	2.0	< 1.6	5.0	7.5
SEP31351	14	3.8	5.8	6.6	100	3.8	< 1.5	4.9	11
SEP31352	14	3.8	5.8	6.4	100	3.8	< 1.5	4.3	10
SEP31401	14	3.4	5.4	5.4	110	4.0	< 1.3	5.4	9.4
SEP31451	11	2.3	8.2	7.5	170	4.7	< 1.9	7.2	10
SEP31501	11	1.7	5.4	4.1	120	3.8	< 1.3	5.0	8.1
SEP31551	11	3.2	5.6	5.4	99	5.1	< 1.3	5.6	8.6
SEP31601	16	5.1	8.9	11	110	4.8	2.0	8.4	13
SEP31602	16	5.0	8.9	11	110	5.0	2.0	8.4	12
SEP31651	23	7.3	13	17	120	4.0	3.0	12	18
SEP31701	18	7.1	13	16	120	4.1	2.7	11	18

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1992									
SEP42001	38	8.1	14	19	200	2.0	2.4	11	14
SEP42021	17	8.0	14	20	160	1.6	2.8	12	15
SEP42041	17	11	19	27	160	1.5	4.0	15	19
SEP42061	17	12	20	28	150	1.0	4.0	15	20
SEP42081	18	12	20	29	130	1.6	4.7	16	20
SEP42101	20	12	20	28	130	2.0	3.6	17	21
SEP42151	15	8.0	14	19	110	3.4	2.7	12	17
SEP42201	16	6.4	12	15	130	4.0	1.7	10	15
SEP42202	17	6.0	12	15	130	4.3	2.0	10	15
SEP42251	18	6.9	13	18	110	3.6	1.8	11	17
SEP42301	12	3.8	7.4	9.1	96	3.1	1.1	6.7	11
SEP42351	12	3.2	5.2	4.8	95	4.5	< 1.3	4.7	9.7
SEP42401	10	3.6	6.5	5.4	120	4.3	< 1.4	5.2	9.1
SEP42451	11	2.0	7.0	5.5	130	3.9	< 1.6	6.6	9.0
SEP42501	10	1.5	5.1	3.2	110	4.1	< 1.2	5.1	8.6
SEP42551	14	4.2	8.4	7.5	110	4.4	< 1.7	7.1	10
SEP42552	13	3.8	7.7	7.7	100	4.4	1.3	7.1	11
SEP42601	22	6.7	12	14	120	4.9	2.4	11	14
SEP42602	25	6.4	12	14	120	4.9	2.5	11	14
SEP42651	21	7.1	13	16	130	4.0	2.4	12	16
SEP42701	20	6.8	14	15	140	3.9	< 1.4	13	21
SEP42751	23	9.9	19	22	150	3.3	2.8	16	25
SEP42801	24	12	21	25	150	2.5	3.0	17	26

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-September 1991								
SEP21001	25	5.2	93	5.2	73	10	< 1.0	67
SEP21021	23	5.1	87	5.1	72	10	< 1.0	67
SEP21041	24	5.0	90	5.0	70	10	< 1.0	65
SEP21061	23	4.7	85	4.7	71	9.4	< 0.94	61
SEP21081	22	4.0	80	4.0	56	8.0	< 0.80	52
SEP21101	17	2.8	81	2.5	34	5.6	< 0.56	28
SEP21151	10	2.3	84	2.3	25	4.5	< 0.45	15
SEP21201	9.8	2.0	84	2.0	22	4.0	0.40	11
SEP21251	8.9	2.0	83	2.0	22	4.1	< 0.41	9.9
SEP21301	8.1	2.1	79	2.1	28	4.3	< 0.43	14
SEP21302	8.1	2.0	79	2.0	26	4.1	< 0.41	13
SEP21351	5.3	1.3	73	1.4	17	2.9	0.29	6.0
SEP21401	6.4	1.3	91	1.3	20	3.3	< 0.33	5.9
SEP21451	6.1	2.3	100	2.1	30	4.7	0.47	9.1
SEP21501	5.4	2.1	95	2.1	27	4.1	0.41	11
SEP21502	5.5	2.0	96	1.8	27	4.1	< 0.41	10
SEP21551	4.4	1.8	88	< 1.5	22	4.0	< 0.37	6.0
SEP21601	4.3	2.2	80	2.2	30	4.3	< 0.43	9.1
SEP21651	7.2	2.9	83	2.9	43	5.7	< 0.57	14
SEP21701	8.7	3.5	90	3.5	52	7.0	< 0.70	21
SEP21751	9.6	3.7	85	3.7	56	7.4	< 0.74	25
SEP21801	7.8	3.6	96	3.6	53	7.1	< 0.71	28
SEP21851	8.6	3.9	98	3.9	59	8.2	0.78	38
SEP21852	8.9	3.9	97	3.9	58	8.1	0.77	38
SEP21901	12	4.6	100	9.2	74	10	0.92	51
Field #-January 1992								
SEP31001	14	5.6	86	4.3	60	6.9	0.86	51
SEP31021	13	5.5	78	3.9	59	6.6	0.78	51
SEP31041	17	6.3	85	4.5	67	7.6	0.90	54
SEP31061	22	7.7	92	5.6	77	8.7	1.0	56
SEP31081	23	6.2	88	4.0	66	7.5	0.88	53
SEP31101	20	4.4	74	3.4	50	5.7	0.67	40
SEP31151	19	3.6	72	2.5	44	5.0	0.56	39
SEP31152	28	3.6	72	3.0	44	5.0	0.55	39
SEP31201	11	1.2	37	0.98	14	1.8	0.20	13
SEP31251	12	1.9	77	< 1.5	21	3.9	< 0.39	14
SEP31301	9.5	2.0	87	< 1.6	22	4.0	0.40	11
SEP31351	8.1	1.9	88	1.7	24	3.8	< 0.38	11
SEP31352	8.1	1.9	88	1.7	24	3.8	0.38	12
SEP31401	6.6	1.7	91	1.7	25	3.4	0.34	9.7
SEP31451	6.8	2.3	130	2.3	35	5.1	0.47	9.3
SEP31501	3.5	1.7	96	1.7	23	3.8	0.33	5.9
SEP31551	3.2	1.6	86	1.6	27	3.3	0.32	8.0
SEP31601	3.6	3.6	97	3.3	43	5.6	0.51	15
SEP31602	3.5	3.5	97	3.0	42	5.5	0.50	15
SEP31651	5.6	5.0	99	4.6	59	7.6	0.99	21
SEP31701	5.4	5.1	100	4.4	57	7.8	0.68	20

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-May 1992								
SEP42001	19	5.3	85	4.1	53	6.5	0.81	69
SEP42021	18	5.6	84	3.6	60	6.8	0.80	68
SEP42041	27	7.5	89	5.0	80	8.9	0.99	65
SEP42061	24	7.6	91	5.1	81	9.1	1.0	66
SEP42081	26	7.8	93	5.2	83	9.3	1.0	67
SEP42101	32	7.6	91	5.6	81	9.1	1.0	71
SEP42151	26	5.4	88	3.8	61	6.9	0.77	50
SEP42201	25	4.4	87	3.0	50	6.4	0.67	47
SEP42202	24	4.3	86	3.0	50	6.3	0.66	46
SEP42251	26	4.7	87	3.6	58	6.5	0.72	62
SEP42301	8.9	2.7	85	2.2	31	3.8	0.45	17
SEP42351	7.9	1.6	81	1.4	23	3.2	< 0.32	11
SEP42401	8.1	1.8	100	1.6	25	3.8	0.36	10
SEP42451	6.6	2.0	110	2.0	27	4.3	0.39	9.6
SEP42501	4.7	1.4	89	1.2	20	3.5	0.30	6.2
SEP42551	5.2	2.1	88	2.1	33	4.6	0.42	13
SEP42552	4.4	2.7	82	2.3	31	4.6	0.42	12
SEP42601	7.0	4.6	95	3.4	52	6.7	0.61	19
SEP42602	6.8	4.6	92	3.7	52	6.8	0.61	18
SEP42651	7.1	5.0	97	3.4	57	7.7	0.67	20
SEP42701	7.5	5.0	100	3.9	54	8.2	0.72	29
SEP42751	12	7.1	110	5.7	75	10	0.94	57
SEP42801	13	8.0	110	6.5	85	12	1.0	65

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	H2O- %	S, total%	C, total%	C, org%	C, crbnt%
Method #	GCS040	LRN020	LRN010	LRZ002	LRC010
Field #-September 1991					
SEP21001	91.4	1.13	27.2		
SEP21021	91.7	1.13	27.7		
SEP21041	92.1	1.23	28.3		
SEP21061	92.0	1.25	29.8		
SEP21081	90.8	1.62	33.9		
SEP21101	93.0	1.82	42.3		
SEP21151	93.8	1.51	45.1		
SEP21201	94.4	1.39	46.9		
SEP21251	93.8	1.32	46.5		
SEP21301	93.8	1.43	-		
SEP21302	-	-	51.3		
SEP21351	94.1	1.71	50.6		
SEP21401	94.4	1.56	50.6		
SEP21451	92.4	1.22	48.0		
SEP21501	91.5	-	48.6		
SEP21502	-	1.12	51.1		
SEP21551	92.9	1.27	49.2		
SEP21601	93.7	1.34	46.4		
SEP21651	92.3	1.39	44.4		
SEP21701	91.9	1.31	40.3		
SEP21751	87.3	1.52	38.1		
SEP21801	91.2	1.89	39.0		
SEP21851	91.6	2.29	36.8		
SEP21852	-	2.26	37.9		
SEP21901	90.0	2.11	32.4		
Field #-January 1992					
SEP31001	93.7	0.64	32.2	32.2	0.02
SEP31021	92.2	0.58	33.6	33.6	0.02
SEP31041	90.5	0.59	30.5	30.5	< 0.01
SEP31061	91.3	0.68	27.6	27.6	< 0.01
SEP31081	92.1	0.75	31.2	31.2	< 0.01
SEP31101	92.9	1.12	37.9	37.9	< 0.01
SEP31151	93.8	1.63	40.6	40.6	< 0.01
SEP31152	-	1.60	40.4	40.4	< 0.01
SEP31201	93.3	1.48	45.2	45.2	< 0.01
SEP31251	92.9	1.35	45.4	45.4	< 0.01
SEP31301	91.8	1.26	45.4	45.4	< 0.01
SEP31351	92.1	1.46	46.9	46.9	< 0.01
SEP31352	-	1.46	48.8	48.8	< 0.01
SEP31401	91.9	1.37	47.9	47.9	< 0.01
SEP31451	90.0	1.23	46.6	46.6	< 0.01
SEP31501	90.6	1.21	49.5	49.5	0.01
SEP31551	91.3	1.31	49.7	49.7	< 0.01
SEP31601	90.1	1.45	44.8	44.8	< 0.01
SEP31602	-	1.46	45.2	45.2	< 0.01
SEP31651	88.5	1.37	40.0	40.0	< 0.01
SEP31701	88.3	1.58	40.1	40.1	0.02

Table 23. Element concentrations in sediments at Peoples Canal, fresh water marsh site (dry wt. basis) (continued).

Element	H2O- %	S, total%	C, total%	C, org%	C, crbnt%	C, total%	H, total%	N, total%
Method #	GCS040	LRN020	LRN010	LRZ002	LRC010	RTZ000	RTZ000	RTZ000
Field #-May 1992								
SEP42001	88.8	0.65	32.3	32.2	0.05	30	4.1	2.1
SEP42021	89.2	0.78	33.0	33.0	0.02	30	4.1	2.1
SEP42041	89.5	0.73	27.8	27.8	0.01	26	3.7	1.8
SEP42061	88.5	0.76	27.5	27.5	< 0.01	26	3.6	1.7
SEP42081	89.9	0.76	27.6	27.6	< 0.01	26	3.6	1.7
SEP42101	91.4	1.06	27.2	27.2	< 0.01	26	3.4	1.8
SEP42151	93.2	1.57	35.6	35.6	< 0.01	33	4.1	2.1
SEP42201	93.5	1.73	39.4	39.4	< 0.01	36	4.5	2.4
SEP42202	-	1.76	38.8	38.8	< 0.01	36	4.5	2.4
SEP42251	91.4	2.02	36.6	36.6	< 0.01	34	4.2	2.2
SEP42301	92.8	1.51	45.8	45.8	< 0.01	42	4.7	2.5
SEP42351	93.1	1.63	49.9	49.9	< 0.01	46	4.9	2.3
SEP42401	92.2	1.39	49.6	49.6	< 0.01	45	4.9	2.4
SEP42451	91.5	1.28	48.0	48.0	< 0.01	44	4.8	2.3
SEP42501	92.2	1.42	51.4	51.4	< 0.01	47	5.1	2.2
SEP42551	91.6	1.57	47.1	47.1	< 0.01	44	4.9	2.2
SEP42552	-	1.59	48.3	48.3	< 0.01	44	5.0	2.2
SEP42601	90.1	1.42	41.9	41.9	< 0.01	39	4.6	2.3
SEP42602	-	1.43	42.7	42.7	< 0.01	39	4.5	2.3
SEP42651	89.3	1.58	40.6	40.6	< 0.01	37	4.5	2.4
SEP42701	88.6	2.50	38.5	38.5	< 0.01	36	4.4	2.4
SEP42751	86.3	2.12	32.8	32.8	< 0.01	30	3.8	2.2
SEP42801	86.0	1.67	30.3	30.3	0.02	29	3.7	2.0

Table 24. Element concentrations in sediments at Lac des Allemands, fresh water marsh site (dry wt. basis, depth in cm, see Table 3 for Method # and Table 5 for Material class descriptions).

Element Method #	Mid- depth	Material class	Ash % GCS010	Al% LQE010	Ca% LQE010	Fe% LQE010	K% LQE010	Mg% LQE010	Na% LQE010
Field #-September 1991									
SEA21001	2	P-M	41.8	3.3	0.71	1.3	0.71	0.50	0.22
SEA21021	6	P-M	43.7	3.6	0.66	1.2	0.74	0.48	0.24
SEA21041	9	P-M	43.8	3.6	0.66	1.2	0.74	0.48	0.24
SEA21061	13	M	50.4	4.1	0.71	1.4	0.86	0.55	0.29
SEA21081	17	M	52.4	4.6	0.73	1.5	0.94	0.63	0.29
SEA21101	23	P-M	42.4	3.5	0.72	1.1	0.72	0.51	0.22
SEA21151	32	P-M	35.6	2.6	0.71	0.96	0.50	0.43	0.16
SEA21201	41	P-M	30.0	2.3	0.69	1.4	0.42	0.39	0.14
SEA21251	51	M	64.5	6.3	0.65	2.1	1.2	0.90	0.26
SEA21301	60	S-M	67.4	6.7	0.74	2.4	1.3	0.94	0.26
SEA21302	60	S-M	67.4	6.7	0.74	2.3	1.3	0.94	0.25
SEA21351	69	M	46.3	4.1	0.79	2.1	0.69	0.65	0.20
SEA21401	78	M	49.7	4.8	0.80	2.3	0.75	0.70	0.19
SEA21451	87	M	54.0	4.9	0.76	4.3	0.81	0.76	0.20
SEA21501	97	P-M	36.8	2.8	0.85	2.8	0.48	0.52	0.20
SEA21502	97	P-M	36.7	2.8	0.88	2.9	0.48	0.51	0.20
SEA21551	106	P-M	36.0	2.6	0.90	3.3	0.47	0.47	0.21
SEA21601	115	P-M	43.0	3.4	0.77	2.3	0.69	0.56	0.29
SEA21602	115	P-M	43.2	3.6	0.82	2.5	0.73	0.60	0.31
SEA21651	123	M	50.1	4.2	0.75	2.1	1.0	0.65	0.40

Element Method #	P% LQE010	Ti% LQE010	As µg/g LQE010	Ba µg/g LQE010	Be µg/g LQE010	Cd µg/g LQE010	Ce µg/g LQE010	Co µg/g LQE010	Cr µg/g LQE010
Field #-September 1991									
SEA21001	0.16	0.14	< 8.4	310	< 0.84	< 1.7	25	3.8	35
SEA21021	0.15	0.15	< 8.7	330	0.87	< 1.7	28	3.5	39
SEA21041	0.14	0.15	< 8.8	330	0.88	< 1.8	28	3.5	36
SEA21061	0.14	0.18	< 10	370	1.0	< 2.0	32	4.0	39
SEA21081	0.14	0.19	< 10	390	1.0	< 2.1	36	4.2	50
SEA21101	0.12	0.14	< 8.5	310	0.85	< 1.7	27	3.8	36
SEA21151	0.14	0.11	< 7.1	250	0.71	< 1.4	21	3.6	28
SEA21201	0.12	0.096	9.0	190	0.60	< 1.2	19	7.8	25
SEA21251	0.065	0.25	< 13	430	1.3	< 2.6	45	6.5	57
SEA21301	0.13	0.28	< 13	450	2.0	< 2.7	51	6.1	62
SEA21302	0.13	0.29	< 13	440	2.0	< 2.7	52	6.1	74
SEA21351	0.13	0.17	14	270	1.4	< 1.9	37	10	44
SEA21401	0.12	0.18	15	300	0.99	< 2.0	35	9.9	49
SEA21451	0.11	0.19	16	290	1.1	< 2.2	35	19	52
SEA21501	0.096	0.11	15	200	1.1	< 1.5	26	12	37
SEA21502	0.095	0.11	15	190	1.1	< 1.5	26	11	30
SEA21551	0.090	0.10	14	190	0.72	< 1.4	25	12	27
SEA21601	0.086	0.15	8.6	240	0.86	< 1.7	28	8.6	37
SEA21602	0.086	0.16	8.6	250	0.86	< 1.7	29	8.6	38
SEA21651	0.050	0.18	< 10	330	1.0	< 2.0	36	10	45

Table 24. Element concentrations in sediments at Lac des Allemands, fresh water marsh site (dry wt. basis) (continued).

Element	Cu µg/g	Ga µg/g	La µg/g	Li µg/g	Mn µg/g	Mo µg/g	Nb µg/g	Nd µg/g	Ni µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-September 1991									
SEA21001	54	8.8	16	18	150	< 1.7	4.2	13	15
SEA21021	30	8.7	17	19	130	< 1.7	4.4	13	15
SEA21041	16	8.8	18	20	120	< 1.8	4.4	14	16
SEA21061	16	10	20	23	110	< 2.0	5.0	16	17
SEA21081	17	12	21	25	120	< 2.1	5.2	17	18
SEA21101	36	8.9	16	19	100	< 1.7	4.2	14	17
SEA21151	64	7.1	13	14	96	2.1	3.6	10	17
SEA21201	26	6.0	12	12	90	2.4	3.0	9.9	20
SEA21251	19	16	26	42	120	< 2.6	6.5	22	22
SEA21301	20	17	30	49	140	< 2.7	13	26	28
SEA21302	20	18	30	48	130	< 2.7	6.7	26	27
SEA21351	17	11	21	27	130	< 1.9	4.6	18	27
SEA21401	15	13	21	38	130	< 2.0	5.0	16	27
SEA21451	21	11	21	36	120	2.7	5.4	17	42
SEA21501	17	7.4	15	15	130	3.7	3.3	14	33
SEA21502	17	7.3	15	16	130	3.3	2.9	14	30
SEA21551	12	3.6	14	14	140	2.9	2.9	13	31
SEA21601	14	8.6	16	18	130	2.6	3.9	14	25
SEA21602	15	8.6	17	19	140	3.0	4.3	15	25
SEA21651	17	11	21	22	140	2.0	5.0	18	26

Element	Pb µg/g	Sc µg/g	Sr µg/g	Th µg/g	V µg/g	Y µg/g	Yb µg/g	Zn µg/g
Method #	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010	LQE010
Field #-September 1991								
SEA21001	27	4.2	84	4.2	59	8.8	0.84	190
SEA21021	28	4.4	87	4.4	66	9.6	0.87	87
SEA21041	29	4.4	88	4.4	66	9.6	0.88	66
SEA21061	32	5.0	96	5.0	76	12	1.0	55
SEA21081	36	5.2	100	5.2	79	13	1.0	58
SEA21101	38	4.2	89	4.2	64	9.8	0.85	42
SEA21151	35	3.6	82	3.6	53	8.2	0.71	39
SEA21201	26	3.0	75	3.0	48	8.1	0.90	29
SEA21251	30	13	97	6.5	110	15	1.3	60
SEA21301	29	13	110	6.7	120	19	2.0	66
SEA21302	30	13	100	13	120	20	2.0	65
SEA21351	24	9.3	93	4.6	83	15	1.4	38
SEA21401	21	9.9	94	5.0	89	13	1.5	36
SEA21451	20	11	86	5.4	97	12	1.6	43
SEA21501	12	3.7	81	3.7	63	11	1.1	23
SEA21502	12	3.7	81	3.7	62	11	1.1	23
SEA21551	10	3.6	83	3.6	54	9.7	1.1	24
SEA21601	11	4.3	82	3.9	60	9.9	0.86	47
SEA21602	12	4.3	86	8.6	65	11	1.3	52
SEA21651	15	5.0	95	10	75	12	1.5	80

Table 24. Element concentrations in sediments at Lac des Allemands, fresh water marsh site (dry wt. basis) (continued).

Element	H2O- %	S, total%	C, total%
Method #	GCS040	LRN020	LRN010
Field #-September 1991			
SEA21001	92.8	0.51	31.3
SEA21021	90.2	0.50	30.6
SEA21041	86.8	0.49	30.5
SEA21061	86.3	0.51	27.9
SEA21081	88.4	0.52	26.7
SEA21101	89.8	0.78	32.1
SEA21151	91.7	0.93	36.1
SEA21201	93.1	1.66	39.8
SEA21251	84.7	0.72	20.4
SEA21301	80.8	0.78	18.2
SEA21302	-	0.75	18.5
SEA21351	89.7	1.84	30.7
SEA21401	89.9	1.71	28.9
SEA21451	89.2	4.03	27.3
SEA21501	90.0	3.27	-
SEA21502	-	-	36.9
SEA21551	90.4	3.74	37.4
SEA21601	90.5	-	-
SEA21602	-	2.34	34.1
SEA21651	88.4	1.64	29.8

Table 25. Activity of ^{210}Pb in sediments (disinigrations per minute per gram of sediment on a dry weight basis).

Cocodrie, salt marsh					
Field #	Mid-depth, cm	^{210}Pb dpm/g	Field #	Mid-depth, cm	^{210}Pb dpm/g
SEC13001	3	-	SEC41001	1	5.10
SEC13021	8	5.62	SEC41021	4	-
SEC13041	13	-	SEC41041	6	4.71
SEC13061	19	4.89	SEC41061	9	-
SEC13081	24	4.58	SEC41081	11	3.69
SEC13101	30	6.91	SEC41101	16	-
SEC13121	35	5.39	SEC41151	22	4.09
SEC13141	40	4.51	SEC41201	29	2.67
SEC13161	46	4.06	SEC41251	35	1.81
SEC13181	51	3.99	SEC41301	41	-
SEC13201	60	3.88	SEC41351	48	1.44
SEC13251	74	2.36	SEC41401	54	-
SEC13301	87	1.95	SEC41451	60	0.89
SEC13351	101	1.18	SEC41501	67	-
SEC13401	114	1.01	SEC41551	73	0.79
			SEC41601	80	-
			SEC41651	86	0.84
			SEC41701	92	-
			SEC41751	99	1.84
			SEC41801	105	-
			SEC41851	111	1.81
			SEC41901	116	-

Jug Lake, intermediate marsh					
Field #	Mid-depth, cm	^{210}Pb dpm/g	Field #	Mid-depth, cm	^{210}Pb dpm/g
SEJ11001	5	8.89	SEJ41001	3	11.3
SEJ11041	15	-	SEJ41051	9	-
SEJ11081	25	11.6	SEJ41101	15	-
SEJ11121	35	8.95	SEJ41151	22	12.5
SEJ11161	45	8.61	SEJ41201	28	10.2
SEJ11201	56	4.01	SEJ41251	34	-
SEJ11251	69	0.97	SEJ41301	40	4.55
SEJ11301	81	1.63	SEJ41351	46	-
SEJ11351	94	1.72	SEJ41401	53	3.44
SEJ11401	107	1.74	SEJ41451	59	1.61
SEJ11451	119	2.65	SEJ41501	65	1.16
SEJ11501	132	2.85	SEJ41551	71	1.28
			SEJ41601	77	1.47
			SEJ41651	83	-
			SEJ41701	90	1.68
			SEJ41751	96	-
			SEJ41801	102	2.72
			SEJ41851	108	-
			SEJ41901	112	2.72

Table 25. Activity of ^{210}Pb in sediments (continued).

Peoples Canal, fresh water marsh		
Field #	Mid-depth, cm	^{210}Pb dpm/g
SEP41001	2	11.5
SEP41021	5	-
SEP41041	8	14.4
SEP41061	12	-
SEP41081	15	11.7
SEP41101	21	-
SEP41151	30	14.6
SEP41201	38	-
SEP41251	47	12.6
SEP41301	55	2.86
SEP41351	64	2.22
SEP41401	72	0.95
SEP41451	81	0.16
SEP41501	89	-
SEP41551	97	0.63
SEP41601	106	-
SEP41651	114	1.00
SEP41701	123	-
SEP41751	131	-
SEP41801	139	-

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered).

Aluminum								
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	2	6	3	2	87	92
SEC13021	8	0	1	6	4	2	86	86
SEC13041	13	0	0	7	6	2	85	111
SEC13061	19	0	0	6	5	2	87	108
SEC13081	24	0	0	6	5	2	87	90
SEC13082	24	0	0	6	4	2	88	95
SEC13101	30	0	0	7	4	2	87	84
SEC13121	35	0	0	6	4	2	88	93
SEC13141	40	0	0	5	4	2	90	88
SEC13161	46	0	0	6	6	2	86	95
SEC13181	51	0	0	5	4	2	89	92
SEC13201	60	0	0	7	6	2	85	96
SEC13202	60	0	0	7	0	1	88	92
SEC13251	74	0	0	7	6	2	86	80
SEC13301	87	0	0	7	7	1	85	96
SEC13351	101	0	0	6	6	2	87	95
SEC13401	114	0	0	7	6	1	85	84
Jug Lake, May 1991								
SEJ11001	5	0	0	4	1	1	94	122
SEJ11041	15	0	0	7	1	1	91	98
SEJ11081	25	0	0	8	2	1	89	89
SEJ11121	35	0	0	6	3	1	90	84
SEJ11161	45	0	0	4	2	1	93	86
SEJ11201	56	0	0	0	1	1	98	86
SEJ11251	69	0	0	0	1	1	98	79
SEJ11301	80	0	0	5	8	1	86	83
SEJ11351	94	0	2	5	2	2	89	81
SEJ11352	94	0	2	6	1	2	89	81
SEJ11401	107	0	0	6	2	2	91	91
SEJ11451	119	0	1	7	6	2	84	89
SEJ11501	132	0	1	6	2	2	90	88
NIST Buffalo River Sediment SRM 2704								
N27041		0	0	5	0	1	93	80
N27042		0	0	6	1	1	92	84
N27043		0	1	7	1	1	90	77

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Barium				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	4	3	34	1	4	54	102
SEC13021	8	5	3	22	1	2	67	95
SEC13041	13	6	4	11	1	2	76	114
SEC13061	19	6	3	9	1	1	80	117
SEC13081	24	7	4	10	1	1	77	91
SEC13082	24	6	4	9	1	3	78	101
SEC13101	30	8	5	8	0	2	78	81
SEC13121	35	6	4	6	1	1	81	109
SEC13141	40	14	4	4	0	1	77	99
SEC13161	46	7	4	6	1	1	81	108
SEC13181	51	6	3	5	1	1	85	107
SEC13201	60	7	3	4	1	1	84	105
SEC13202	60	5	3	5	0	1	85	100
SEC13251	74	7	4	4	1	2	81	71
SEC13301	87	7	4	5	1	2	82	92
SEC13351	101	8	3	5	1	1	82	121
SEC13401	114	10	4	9	1	2	74	93
Jug Lake, May 1991								
SEJ11001	5	19	7	37	0	6	31	93
SEJ11041	15	34	7	24	2	4	29	48
SEJ11081	25	31	15	18	2	3	31	59
SEJ11121	35	19	4	11	1	2	63	77
SEJ11161	45	18	5	15	1	2	59	113
SEJ11201	56	34	4	22	0	2	37	103
SEJ11251	69	32	9	21	1	2	35	149
SEJ11301	80	23	9	14	1	1	51	103
SEJ11351	94	13	4	4	0	1	78	89
SEJ11352	94	12	4	5	0	1	78	91
SEJ11401	107	15	3	6	1	2	73	101
SEJ11451	119	19	7	9	0	2	63	100
SEJ11501	132	20	6	16	0	2	57	95
NIST Buffalo River Sediment SRM 2704								
N27041		5	5	10	0	2	78	83
N27042		5	5	11	1	2	76	87
N27043		5	5	14	0	1	73	81

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

Calcium								
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	53	12	14	0	0	21	109
SEC13021	8	50	13	18	0	0	19	112
SEC13041	13	17	25	52	1	1	4	251
SEC13061	19	51	8	11	0	0	30	121
SEC13081	24	61	7	10	0	1	21	93
SEC13082	24	53	7	11	0	0	28	81
SEC13101	30	60	6	10	0	0	24	102
SEC13121	35	52	7	12	0	0	29	106
SEC13141	40	65	7	7	0	0	22	131
SEC13161	46	60	10	11	0	0	20	129
SEC13181	51	45	7	14	0	0	34	110
SEC13201	60	59	6	9	0	0	26	130
SEC13202	60	51	7	13	0	0	29	103
SEC13251	74	61	11	8	0	1	19	92
SEC13301	87	56	13	9	0	1	21	109
SEC13351	101	62	9	6	0	0	23	153
SEC13401	114	61	15	14	0	1	10	105
Jug Lake, May 1991								
SEJ11001	5	53	8	29	0	3	6	106
SEJ11041	15	60	10	22	1	1	6	85
SEJ11081	25	56	18	18	1	1	6	93
SEJ11121	35	66	10	11	0	0	14	94
SEJ11161	45	62	11	17	1	1	8	113
SEJ11201	56	72	5	18	0	1	4	155
SEJ11251	69	63	11	21	1	1	3	112
SEJ11301	80	67	15	12	0	1	5	109
SEJ11351	94	57	7	7	0	0	29	89
SEJ11352	94	56	6	8	0	0	30	93
SEJ11401	107	58	3	14	0	0	25	100
SEJ11451	119	68	4	11	0	0	17	123
SEJ11501	132	53	5	11	0	0	33	98
NIST Buffalo River Sediment SRM 2704								
N27041		13	19	60	0	0	8	81
N27042		11	16	65	0	0	7	99
N27043		11	19	63	0	0	6	94

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Chromium				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	7	7	4	1	82	111
SEC13021	8	0	0	7	32	1	60	103
SEC13041	13	0	0	14	3	1	81	125
SEC13061	19	0	0	8	4	0	89	120
SEC13081	24	0	0	9	4	1	86	101
SEC13082	24	0	0	9	4	0	87	100
SEC13101	30	0	0	10	4	0	86	83
SEC13121	35	0	0	9	4	0	87	97
SEC13141	40	0	0	6	2	0	91	114
SEC13161	46	0	0	9	4	0	87	105
SEC13181	51	0	0	9	4	0	87	97
SEC13201	60	0	0	9	4	0	87	96
SEC13202	60	0	0	9	4	0	88	94
SEC13251	74	0	0	7	4	0	88	116
SEC13301	87	0	0	9	5	0	86	112
SEC13351	101	0	0	8	5	0	87	120
SEC13401	114	0	0	10	3	0	87	145
Jug Lake, May 1991								
SEJ11001	5	0	16	16	2	0	66	143
SEJ11041	15	0	19	18	3	0	60	132
SEJ11081	25	0	0	16	5	0	79	80
SEJ11121	35	0	6	6	3	0	85	188
SEJ11161	45	0	8	9	2	0	81	194
SEJ11201	56	0	0	28	1	0	70	157
SEJ11251	69	0	19	19	0	0	63	146
SEJ11301	80	0	0	7	5	0	87	136
SEJ11351	94	0	8	7	4	0	81	87
SEJ11352	94	0	9	8	4	0	78	78
SEJ11401	107	0	0	8	2	0	90	82
SEJ11451	119	0	0	9	4	0	87	73
SEJ11501	132	0	0	9	3	0	88	76
NIST Buffalo River Sediment SRM 2704								
N27041		0	23	18	2	10	46	94
N27042		0	27	23	1	10	38	94
N27043		0	24	29	1	6	40	89

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Cobalt				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	0	33	0	34	33	107
SEC13021	8	0	19	37	0	13	31	118
SEC13041	13	0	0	29	0	40	32	158
SEC13061	19	0	0	24	0	37	39	134
SEC13081	24	0	0	35	0	36	29	130
SEC13082	24	0	0	31	0	39	31	122
SEC13101	30	0	0	27	0	43	30	119
SEC13121	35	0	0	27	0	46	27	138
SEC13141	40	0	0	21	0	44	35	108
SEC13161	46	8	0	40	0	24	28	143
SEC13181	51	0	0	40	0	28	33	111
SEC13201	60	5	0	25	0	43	27	132
SEC13202	60	0	0	31	0	39	31	118
SEC13251	74	0	0	29	0	40	32	93
SEC13301	87	0	0	38	0	30	32	105
SEC13351	101	6	0	18	0	45	31	153
SEC13401	114	0	0	0	0	76	24	138
Jug Lake, May 1991								
SEJ11001	5	0	0	20	0	35	0	166
SEJ11041	15	0	0	30	0	32	38	151
SEJ11081	25	0	0	33	0	26	41	143
SEJ11121	35	0	0	27	0	28	45	109
SEJ11161	45	9	0	27	0	36	29	149
SEJ11201	56	0	0	0	0	0	100	64
SEJ11251	69	13	0	39	0	27	21	150
SEJ11301	80	0	0	0	0	44	56	96
SEJ11351	94	0	0	44	0	0	56	65
SEJ11352	94	0	0	38	23	0	38	86
SEJ11401	107	0	0	32	0	23	45	115
SEJ11451	119	6	27	30	0	12	25	83
SEJ11501	132	0	0	40	0	12	48	109
NIST Buffalo River Sediment SRM 2704								
N27041		7	0	34	0	10	49	82
N27042		9	0	42	0	10	39	86
N27043		4	0	45	0	14	37	90

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Copper				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	17	35	0	36	12	102
SEC13021	8	0	20	43	0	23	14	95
SEC13041	13	2	5	31	2	48	13	144
SEC13061	19	0	10	35	7	36	12	133
SEC13081	24	0	4	38	6	40	13	121
SEC13082	24	3	0	37	9	39	12	125
SEC13101	30	0	5	35	0	49	12	103
SEC13121	35	0	5	23	9	48	15	97
SEC13141	40	0	10	24	0	50	16	96
SEC13161	46	0	9	37	2	39	12	128
SEC13181	51	0	11	42	11	22	14	105
SEC13201	60	0	16	23	0	49	12	99
SEC13202	60	0	5	19	5	51	20	92
SEC13251	74	0	0	10	0	68	22	108
SEC13301	87	0	8	16	3	56	18	113
SEC13351	101	0	0	7	7	74	12	115
SEC13401	114	0	4	0	11	70	15	117
Jug Lake, May 1991								
SEJ11001	5	0	7	24	2	50	16	139
SEJ11041	15	0	0	9	0	65	26	107
SEJ11081	25	0	8	14	0	59	19	112
SEJ11121	35	0	7	34	0	36	23	102
SEJ11161	45	0	0	11	4	69	17	121
SEJ11201	56	0	10	15	0	51	24	111
SEJ11251	69	0	23	10	0	54	13	167
SEJ11301	80	0	0	8	0	75	16	113
SEJ11351	94	0	15	48	0	25	12	87
SEJ11352	94	0	14	48	0	25	12	86
SEJ11401	107	0	5	23	7	47	19	98
SEJ11451	119	0	14	53	2	19	12	112
SEJ11501	132	0	7	46	7	24	15	86
NIST Buffalo River Sediment SRM 2704								
N27041		1	15	57	0	15	12	87
N27042		1	14	68	0	7	11	92
N27043		1	13	67	0	7	11	92

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Iron				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	5	13	4	32	47	96
SEC13021	8	0	4	13	6	29	49	95
SEC13041	13	0	2	15	7	31	46	120
SEC13061	19	0	2	13	7	29	49	114
SEC13081	24	0	2	13	6	35	45	97
SEC13082	24	0	2	12	5	36	45	103
SEC13101	30	0	2	14	5	36	44	96
SEC13121	35	0	1	12	5	38	44	99
SEC13141	40	0	2	11	5	30	52	96
SEC13161	46	0	2	13	8	30	47	106
SEC13181	51	0	3	12	5	31	50	94
SEC13201	60	0	1	17	7	29	46	101
SEC13202	60	0	1	19	4	27	50	97
SEC13251	74	0	0	10	7	38	46	92
SEC13301	87	0	0	13	9	28	50	98
SEC13351	101	0	0	11	8	33	48	94
SEC13401	114	0	0	10	4	59	28	99
Jug Lake, May 1991								
SEJ11001	5	0	5	18	3	20	55	127
SEJ11041	15	0	1	24	2	17	57	105
SEJ11081	25	0	2	24	2	21	51	99
SEJ11121	35	0	0	16	3	27	53	94
SEJ11161	45	0	0	12	2	39	46	100
SEJ11201	56	0	0	10	1	32	57	103
SEJ11251	69	0	0	4	0	55	39	96
SEJ11301	80	0	0	3	7	52	38	94
SEJ11351	94	0	4	10	2	27	56	84
SEJ11352	94	0	4	11	2	27	56	84
SEJ11401	107	0	1	15	2	24	58	93
SEJ11451	119	0	3	16	8	20	53	95
SEJ11501	132	0	2	15	2	19	63	92
NIST Buffalo River Sediment SRM 2704								
N27041		0	6	23	0	10	60	80
N27042		0	6	28	0	10	55	87
N27043		0	7	32	1	9	51	84

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Lead				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	26	52	0	0	22	100
SEC13021	8	0	21	64	0	0	14	112
SEC13041	13	0	0	80	0	0	20	130
SEC13061	19	0	0	78	0	0	22	100
SEC13081	24	0	0	78	0	0	22	89
SEC13082	24	0	0	78	0	0	22	88
SEC13101	30	0	0	82	0	0	18	85
SEC13121	35	0	0	78	0	0	22	89
SEC13141	40	0	0	75	0	0	25	67
SEC13161	46	0	0	78	0	0	22	109
SEC13181	51	0	0	75	0	0	25	104
SEC13201	60	0	0	69	0	12	19	101
SEC13202	60	0	0	75	0	0	25	89
SEC13251	74	0	0	75	0	0	25	94
SEC13301	87	0	0	75	0	0	25	94
SEC13351	101	0	0	75	0	0	25	94
SEC13401	114	0	0	46	0	39	15	93
Jug Lake, May 1991								
SEJ11001	5	0	0	78	0	0	22	128
SEJ11041	15	0	0	78	0	0	22	120
SEJ11081	25	0	0	82	0	0	18	116
SEJ11121	35	0	0	82	0	0	18	95
SEJ11161	45	0	0	83	0	0	17	122
SEJ11201	56	0	0	86	0	0	14	116
SEJ11251	69	0	0	100	0	0	0	77
SEJ11301	80	0	0	75	0	0	25	123
SEJ11351	94	0	24	45	0	0	30	105
SEJ11352	94	0	0	67	0	0	33	78
SEJ11401	107	0	0	49	0	26	25	101
SEJ11451	119	0	0	67	0	0	33	75
SEJ11501	132	0	0	67	0	0	33	78
NIST Buffalo River Sediment SRM 2704								
N27041		0	35	57	0	0	8	70
N27042		0	22	73	0	0	5	109
N27043		0	21	71	0	3	4	112

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Lithium				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	0	15	0	0	85	86
SEC13021	8	0	0	15	0	0	85	82
SEC13041	13	0	0	13	0	0	87	121
SEC13061	19	0	0	17	0	0	83	100
SEC13081	24	0	0	15	0	0	85	96
SEC13082	24	0	0	14	0	0	86	94
SEC13101	30	0	0	15	0	0	85	96
SEC13121	35	0	0	15	0	0	85	91
SEC13141	40	0	0	11	0	0	89	93
SEC13161	46	0	0	15	0	0	85	98
SEC13181	51	0	0	14	0	0	86	89
SEC13201	60	0	0	16	0	0	84	94
SEC13202	60	0	0	15	0	0	85	88
SEC13251	74	1	0	13	0	0	86	86
SEC13301	87	0	0	17	0	0	83	81
SEC13351	101	1	0	15	0	0	84	89
SEC13401	114	0	0	15	0	0	85	103
Jug Lake, May 1991								
SEJ11001	5	0	0	15	0	0	85	132
SEJ11041	15	0	0	17	0	0	83	89
SEJ11081	25	0	0	19	0	0	81	95
SEJ11121	35	0	0	15	0	0	85	87
SEJ11161	45	0	0	14	0	0	86	116
SEJ11201	56	0	0	0	0	0	100	67
SEJ11251	69	0	0	0	0	0	100	83
SEJ11301	80	0	0	0	0	0	100	83
SEJ11351	94	0	0	12	0	0	88	73
SEJ11352	94	0	0	14	0	0	86	74
SEJ11401	107	0	0	13	0	0	87	85
SEJ11451	119	0	0	13	0	0	87	84
SEJ11501	132	0	0	13	0	0	87	87
NIST Buffalo River Sediment SRM 2704								
N27041		0	0	14	0	0	86	71
N27042		0	0	13	0	0	87	94
N27043		0	0	17	0	0	83	73

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

Manganese								
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	1	23	20	0	24	33	102
SEC13021	8	0	21	18	2	25	34	102
SEC13041	13	0	13	21	3	27	36	140
SEC13061	19	0	15	21	3	28	34	120
SEC13081	24	0	15	19	3	32	31	102
SEC13082	24	0	15	18	2	31	34	107
SEC13101	30	0	10	22	0	35	33	90
SEC13121	35	0	7	14	0	50	28	113
SEC13141	40	0	10	17	0	35	39	90
SEC13161	46	0	12	21	3	31	34	108
SEC13181	51	0	7	14	2	49	28	110
SEC13201	60	3	5	16	2	48	27	119
SEC13202	60	2	2	17	0	50	28	108
SEC13251	74	6	11	17	0	29	37	89
SEC13301	87	8	10	24	4	15	40	115
SEC13351	101	13	4	22	4	19	37	122
SEC13401	114	11	4	25	4	35	21	95
Jug Lake, May 1991								
SEJ11001	5	35	0	23	2	17	23	118
SEJ11041	15	28	2	25	3	18	24	101
SEJ11081	25	17	7	30	3	21	22	99
SEJ11121	35	33	3	23	3	17	22	92
SEJ11161	45	4	8	57	6	11	14	117
SEJ11201	56	5	3	65	0	10	16	108
SEJ11251	69	37	7	37	4	4	12	97
SEJ11301	80	38	8	24	8	4	19	106
SEJ11351	94	3	11	19	0	12	55	84
SEJ11352	94	3	11	22	0	11	54	86
SEJ11401	107	0	3	25	0	19	53	105
SEJ11451	119	0	8	28	4	8	52	95
SEJ11501	132	0	4	26	0	13	57	94
NIST Buffalo River Sediment SRM 2704								
N27041		10	21	31	1	2	34	100
N27042		10	21	31	0	2	35	99
N27043		13	25	38	0	3	21	81

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Nickel				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	0	24	12	25	40	90
SEC13021	8	0	0	39	8	20	33	99
SEC13041	13	0	0	25	7	26	42	171
SEC13061	19	0	0	24	12	25	40	97
SEC13081	24	0	0	38	11	20	31	110
SEC13082	24	0	0	38	10	20	32	108
SEC13101	30	0	0	42	0	22	35	101
SEC13121	35	0	0	24	12	25	40	84
SEC13141	40	0	0	17	9	18	57	126
SEC13161	46	0	0	38	10	20	32	116
SEC13181	51	0	0	24	12	25	40	87
SEC13201	60	0	0	32	11	22	35	97
SEC13202	60	0	0	39	8	20	33	109
SEC13251	74	0	0	25	10	26	38	113
SEC13301	87	0	0	38	10	20	32	130
SEC13351	101	0	0	24	14	25	36	104
SEC13401	114	0	0	23	0	47	30	106
Jug Lake, May 1991								
SEJ11001	5	0	9	17	0	18	57	136
SEJ11041	15	0	11	2	11	22	35	113
SEJ11081	25	0	0	27	0	28	45	93
SEJ11121	35	0	2	18	0	19	61	142
SEJ11161	45	0	0	19	0	19	61	172
SEJ11201	56	0	0	24	0	31	45	154
SEJ11251	69	0	3	28	11	26	32	155
SEJ11301	80	0	0	15	7	34	44	114
SEJ11351	94	0	6	30	7	8	49	78
SEJ11352	94	0	11	27	19	0	44	87
SEJ11401	107	0	0	30	7	13	50	125
SEJ11451	119	0	21	42	6	9	23	88
SEJ11501	132	0	2	33	0	10	55	110
NIST Buffalo River Sediment SRM 2704								
N27041		3	3	30	0	13	51	90
N27042		4	6	29	0	12	49	94
N27043		3	4	38	0	13	42	108

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Potassium				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	5	3	4	1	3	85	99
SEC13021	8	6	2	4	2	3	83	95
SEC13041	13	6	2	5	2	3	82	122
SEC13061	19	6	2	4	2	2	83	120
SEC13081	24	9	2	4	2	3	80	98
SEC13082	24	7	2	4	1	3	83	100
SEC13101	30	9	2	5	1	3	80	91
SEC13121	35	7	2	4	1	3	83	107
SEC13141	40	12	2	3	1	2	79	104
SEC13161	46	12	3	4	2	3	77	108
SEC13181	51	7	2	3	1	3	84	106
SEC13201	60	11	2	5	2	2	78	113
SEC13202	60	8	2	5	1	3	82	103
SEC13251	74	10	2	5	2	2	78	84
SEC13301	87	8	2	5	2	2	80	100
SEC13351	101	12	2	4	2	2	77	119
SEC13401	114	12	3	6	2	2	74	97
Jug Lake, May 1991								
SEJ11001	5	10	3	4	0	3	80	137
SEJ11041	15	9	3	6	1	2	80	109
SEJ11081	25	9	4	6	1	2	77	95
SEJ11121	35	6	2	5	1	2	84	93
SEJ11161	45	6	1	5	1	3	83	100
SEJ11201	56	12	2	5	0	2	80	106
SEJ11251	69	10	2	5	0	2	80	102
SEJ11301	80	8	1	3	3	2	82	94
SEJ11351	94	5	2	3	1	3	87	91
SEJ11352	94	5	2	3	0	3	87	91
SEJ11401	107	5	1	3	1	3	87	99
SEJ11451	119	7	1	4	2	3	83	94
SEJ11501	132	5	1	3	1	2	88	93
NIST Buffalo River Sediment SRM 2704								
N27041		0	0	1	0	2	96	83
N27042		0	1	1	0	2	94	90
N27043		0	1	2	0	2	94	80

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Strontium				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	27	5	5	0	0	63	86
SEC13021	8	25	5	10	0	0	59	98
SEC13041	13	25	15	25	1	1	33	172
SEC13061	19	23	4	4	0	0	69	119
SEC13081	24	27	4	4	0	0	64	91
SEC13082	24	25	4	4	0	0	67	99
SEC13101	30	31	4	4	0	0	61	82
SEC13121	35	25	4	4	0	0	67	109
SEC13141	40	43	4	3	0	0	50	116
SEC13161	46	42	4	4	0	0	50	129
SEC13181	51	25	4	4	0	0	67	109
SEC13201	60	37	3	3	0	0	56	118
SEC13202	60	25	4	4	0	0	67	100
SEC13251	74	33	7	5	0	0	55	69
SEC13301	87	30	11	5	0	0	54	92
SEC13351	101	38	8	4	0	0	51	144
SEC13401	114	48	10	10	0	0	32	95
Jug Lake, May 1991								
SEJ11001	5	42	4	17	0	2	35	119
SEJ11041	15	52	3	10	0	0	35	105
SEJ11081	25	51	5	10	0	0	34	107
SEJ11121	35	50	3	5	0	0	42	92
SEJ11161	45	46	9	15	0	0	31	101
SEJ11201	56	64	3	16	0	2	16	144
SEJ11251	69	62	8	16	0	0	14	112
SEJ11301	80	54	11	11	0	0	24	104
SEJ11351	94	25	3	3	0	3	66	81
SEJ11352	94	25	3	3	0	2	66	80
SEJ11401	107	25	0	4	0	3	68	90
SEJ11451	119	42	3	4	0	2	49	119
SEJ11501	132	25	3	5	0	2	66	87
NIST Buffalo River Sediment SRM 2704								
N27041		8	0	16	0	0	71	87
N27042		7	5	19	0	0	70	99
N27043		8	5	16	0	0	71	87

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

Titanium								
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	0	0	0	0	100	81
SEC13021	8	0	0	0	0	0	100	75
SEC13041	13	0	0	2	2	2	93	103
SEC13061	19	0	0	0	0	0	98	95
SEC13081	24	0	0	0	3	0	97	81
SEC13082	24	0	0	0	0	0	100	83
SEC13101	30	0	0	0	0	0	100	69
SEC13121	35	0	0	0	2	0	98	88
SEC13141	40	0	0	0	0	0	100	78
SEC13161	46	0	0	0	5	0	95	83
SEC13181	51	0	0	0	0	0	100	86
SEC13201	60	0	0	2	2	0	95	87
SEC13202	60	0	0	2	2	0	95	84
SEC13251	74	0	0	0	0	0	100	65
SEC13301	87	0	0	3	3	0	94	84
SEC13351	101	0	0	3	0	0	97	93
SEC13401	114	0	0	5	0	0	95	70
Jug Lake, May 1991								
SEJ11001	5	0	0	3	0	0	97	116
SEJ11041	15	0	0	0	4	0	96	103
SEJ11081	25	0	0	0	4	0	96	80
SEJ11121	35	0	0	0	0	0	100	83
SEJ11161	45	0	0	5	0	0	95	90
SEJ11201	56	0	0	0	0	0	100	79
SEJ11251	69	0	0	0	0	0	100	86
SEJ11301	80	0	0	0	0	0	100	77
SEJ11351	94	0	0	0	0	0	100	68
SEJ11352	94	0	0	0	0	0	100	79
SEJ11401	107	0	0	0	0	0	100	81
SEJ11451	119	0	0	0	2	0	98	77
SEJ11501	132	0	0	0	0	0	100	78
NIST Buffalo River Sediment SRM 2704								
N27041		0	0	0	0	0	100	62
N27042		0	0	0	0	0	100	59
N27043		0	0	0	0	0	100	69

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

Vanadium								
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	12	6	5	0	77	94
SEC13021	8	0	16	5	5	0	73	92
SEC13041	13	0	10	10	10	0	71	115
SEC13061	19	0	10	10	5	0	75	109
SEC13081	24	0	11	11	5	0	73	100
SEC13082	24	0	11	11	5	0	73	100
SEC13101	30	0	12	12	6	0	70	91
SEC13121	35	0	11	11	5	0	73	100
SEC13141	40	0	12	6	5	0	77	94
SEC13161	46	0	11	11	5	0	73	100
SEC13181	51	0	12	6	6	0	77	95
SEC13201	60	0	5	11	11	0	73	92
SEC13202	60	0	5	16	5	0	73	91
SEC13251	74	0	8	16	8	0	68	89
SEC13301	87	0	7	20	7	0	67	97
SEC13351	101	0	5	20	7	0	68	100
SEC13401	114	0	0	28	6	5	61	85
Jug Lake, May 1991								
SEJ11001	5	0	5	7	0	0	89	129
SEJ11041	15	0	5	9	0	0	87	101
SEJ11081	25	0	6	10	0	0	84	90
SEJ11121	35	0	6	18	0	0	76	83
SEJ11161	45	0	0	23	0	5	72	91
SEJ11201	56	0	0	29	0	0	71	93
SEJ11251	69	0	0	29	0	0	71	102
SEJ11301	80	0	5	16	8	3	67	100
SEJ11351	94	0	12	5	4	0	79	78
SEJ11352	94	0	12	6	3	0	79	78
SEJ11401	107	0	5	14	5	0	77	86
SEJ11451	119	0	13	8	8	0	70	95
SEJ11501	132	0	9	9	4	0	78	92
NIST Buffalo River Sediment SRM 2704								
N27041		0	5	5	0	0	91	84
N27042		0	5	6	0	0	89	85
N27043		0	5	8	0	0	87	75

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 26. Element-sediment phase associations[1] at salt and intermediate marsh sites (expressed as a percentage of the total amount of an element recovered) (continued).

				Zinc				
Field #	Mid-depth	%F1	%F2	%F3	%F4	%F5	%F6	%Recovery
Cocodrie, May 1991								
SEC13001	3	0	2	58	4	6	29	94
SEC13021	8	0	8	52	5	6	29	95
SEC13041	13	0	0	53	5	6	36	112
SEC13061	19	0	0	59	6	6	29	112
SEC13081	24	0	0	56	6	7	31	100
SEC13082	24	0	1	56	6	7	31	100
SEC13101	30	0	2	58	5	6	29	110
SEC13121	35	0	0	56	6	7	31	100
SEC13141	40	0	0	46	8	8	38	90
SEC13161	46	0	1	52	7	7	33	112
SEC13181	51	0	3	52	6	7	33	102
SEC13201	60	0	0	56	6	7	31	106
SEC13202	60	0	0	57	4	7	32	104
SEC13251	74	0	0	51	7	7	34	103
SEC13301	87	0	0	50	10	7	33	101
SEC13351	101	0	0	49	10	8	33	109
SEC13401	114	0	0	70	6	9	15	104
Jug Lake, May 1991								
SEJ11001	5	0	0	46	8	8	38	112
SEJ11041	15	0	0	53	9	9	29	100
SEJ11081	25	0	0	56	5	9	31	98
SEJ11121	35	0	0	51	6	9	34	99
SEJ11161	45	0	0	41	8	8	43	104
SEJ11201	56	0	0	30	0	14	56	62
SEJ11251	69	0	0	39	18	10	33	102
SEJ11301	80	0	0	39	12	7	43	126
SEJ11351	94	0	2	31	14	7	46	107
SEJ11352	94	0	2	41	8	8	41	91
SEJ11401	107	0	0	39	3	12	46	97
SEJ11451	119	0	2	52	5	5	35	88
SEJ11501	132	0	0	52	4	6	38	95
NIST Buffalo River Sediment SRM 2704								
N27041		4	33	34	1	5	23	81
N27042		4	28	43	0	4	21	96
N27043		3	29	45	1	5	18	91

[1] See Table 6: F1 = $MgCl_2$; F2 = $Na_4P_2O_7$; F3 = HCl; F4 = $Na_4P_2O_7$ & NaOH; F5 = HNO_3; F6 = Residue.

Table 27. Field sampling codes for surface waters.

Surface waters: Field number = ABC12DE5

AB = Sample type

- MW[1] = Marsh surface water (large volume collection)
- BW = Bottom water (collected in syringes)
- OW = Overlying water within liner of sediment core

C = Site location

- C = Cocodrie, salt marsh
- J = Jug Lake, intermediate marsh
- P = Peoples Canal, fresh water marsh
- A = Lac des Allemands, fresh water marsh

1 = Trip date

- 1 = 5/91
- 2 = 9/91
- 3 = 1/92
- 4 = 5/92

2 = Site replication (i.e., duplicate field collections)

DE = Treatment codes

- RU = raw unacidified
- RA = raw acidified
- FU = filtered (0.45 μm) unacidified
- FA = filtered acidified
- LU = ultrafiltration (Minitan) unacidified
- LA = ultrafiltration acidified

5 = Laboratory replicate (1 or 2)

Example: MWP41FA1 = Marsh surface water sampled at Peoples Canal, 5/92, sample #1, filtered acidified, replicate #1

[1]"X" in front of eight character field code indicates those surface water samples that were preconcentrated prior to ICP analysis.

Table 28. Field sampling codes for pore waters.

Pore waters: Field number = ABC12345
AB = Sample type
PW = Pore water
C = Site location
C = Cocodrie, salt marsh
J = Jug Lake, intermediate marsh
P = Peoples Canal, fresh water marsh
A = Lac des Allemands, fresh water marsh
1 = Trip date
1 = 5/91
2 = 9/91
3 = 1/92
4 = 5/92
2 = Core number
34 = Upper level of core slice depth increment, cm
5 = Laboratory replicate (1 or 2)
Example: PWA23751 = Pore water from Lac des Allemands, 9/91, core #3, core slice interval 75-80 cm, replicate #1

Table 29. Summary of surface water samples collected.

Site	Sample id	Treatments[1]	Comments
Cocodrie, Salt marsh	MWC11__1 MWC11__2	FA, RA	Sampled from bayou at high tide after heavy rains
	BWC11__1	FA	" " "
	MWC21__1	FA, LA, RA XFA, XLA, XRA	Sampled from marsh surface near coring site at high tide
	BWC21__1	FA	" " "
	MWC31__1	FA, LA, RA XFA, XLA, XRA	Sampled from shallow channel in interior marsh at low tide with no water on marsh surface
	BWC31__1	FA	" " "
	MWC41__1	FA, LA, RA XFA, XLA, XRA	Sampled from marsh surface near coring site at high tide
	MWC43__1 MWC43__2	RA	Sampled from adjacent bayou
	BWC41__1	FA, RA	Sampled from marsh surface
Jug Lake, Intermediate marsh	MWJ11__1 MWJ11__2	FA, RA	Sampled from surface of the marsh at boardwalk near coring site after heavy rains
	BWJ11__1	FA, RA	" " "
	MWJ21__1	FA, LA, RA XFA, XLA, XRA	Sampled from marsh surface at boardwalk near coring site
	BWJ21__1	FA	" " "
	MWJ31__1	FA, LA, RA	Sampled from surface of the marsh at boardwalk near coring site
	BWJ31__1	FA	" " "
	MWJ41__1	FA, LA, RA XFA, XLA, XRA	Sampled from surface of the marsh at boardwalk near coring site
	BWJ41__1	FA	" " "
	OWJ41__1	FA	Sampled from water overlying sediment within core liner
Peoples Canal, Fresh water marsh	MWP21__1	FA, RA XFA, XRA	Sampled from canal, no standing water on marsh surface
	BWP21__1	FA	" " "
	MWP31__1	FA, LA, RA XFA, XLA, XRA	Sampled from surface of the marsh
	BWP31__1	FA	" " "
	MWP41__1	FA, LA, RA XFA, XLA, XRA	Sampled from canal, no standing water on marsh surface
	BWP41__1	FA	" " "
Lac des Allemands, Fresh water marsh	MWA21__1	FA, LA, RA XFA, XLA, XRA	Sampled from shallow depressions in marsh surface
	BWA21__1	FA	" " "

[1]Treatment codes: F = filtered, L = ultrafiltered (Minitan), R = raw, unfiltered; A = acidified. Treatment codes are indicated only for those samples that were analyzed by ICP. Treatment codes with "X" indicate ICP analysis on preconcentrated solution. Other aliquots of the samples were analyzed after processing as indicated in Table 2.

Table 30. Summary of surface water pH and salinity.

Site	Date	pH[1]	Conductivity, mS	Salinity, ppt[2]
Cocodrie, Salt marsh	5/91	7.52	7.51	4.37‰
	9/91	7.51 (7.39)	17.8	9.99‰
	1/92	7.27	15.0	9.48‰
	5/92	(7.35)	28.4	15.1‰
Jug Lake, Intermediate marsh	5/91	7.61	0.768	< 0.5‰
	9/91	(6.95)	1.20	0.54‰
	1/92	7.36	1.33	0.83‰
	5/92	(7.96)	1.53	0.74‰
Peoples Canal, Fresh water marsh	9/91	(6.89)	0.328	< 0.5‰
	1/92	7.53	0.183	< 0.5‰
	5/92	(10.2)	0.210	< 0.5‰
Lac des Allemands, Fresh water marsh	9/91	6.35 (6.35)	0.260	< 0.5‰

[1]pH values in parentheses were measured at the field laboratory on the day following collection.
[2]Practical salinity values less than 2‰ are not accurate (see text and note temperature influence on calculated practical salinity at Jug Lake, 1/92 and 5/92).

Table 31. Element concentrations in surface waters (major, minor, and trace elements determined by ICP method LQZ000; "*" in the field # indicates results are an average of analyses of two field replicates).

Element	Al, µM	B, µM	Ba, µM	Ca, µM	Cr, µM	Fe, µM	K, µM	Li, µM	Mg, µM
Field #-Cocodrie, salt marsh									
MWC11FA*	< 74	52	0.87	1600	< 0.38	< 18	1200	< 5.8	6200
MWC11RA*	< 74	53	0.87	1600	< 0.38	< 18	1200	< 5.8	6200
MWC21FA1	< 74	110	1.7	3000	< 0.38	18	2600	6.6	13000
XMWC21FA1	37	81	1.8	3000	< 0.077	5.4	3100	8.6	-
MWC21LA1	< 74	110	1.7	3000	< 0.38	< 18	2600	7.6	13000
XMWC21LA1	37	92	1.8	3000	< 0.077	18	3100	8.6	-
MWC21RA1	< 74	93	1.5	2500	< 0.38	< 18	2200	6.2	11000
XMWC21RA1	37	74	1.5	2500	< 0.077	5.4	2600	7.2	-
MWC31FA1	< 74	110	4.2	4000	< 0.38	< 18	2600	< 12	14000
XMWC31FA1	37	87	4.2	3700	< 0.077	< 3.6	2800	10	-
MWC31LA1	< 74	34	0.80	1200	< 0.38	< 18	840	< 12	4100
XMWC31LA1	< 15	19	0.73	1200	< 0.077	< 3.6	770	< 2.9	-
MWC31RA1	< 74	110	4.3	4000	< 0.38	< 18	2600	< 12	14000
XMWC31RA1	37	85	4.3	3700	< 0.077	5.4	3100	10	-
BWC31FA1	< 74	140	4.4	4000	< 0.38	< 18	2800	< 12	14000
MWC41FA1	< 74	180	1.5	4700	< 0.38	< 18	4600	< 12	22000
XMWC41FA1	74	130	1.5	4500	< 0.077	9.0	5400	14	-
MWC41LA1	< 74	180	1.6	4700	< 0.38	< 18	4600	12	22000
XMWC41LA1	74	130	1.5	4500	< 0.077	< 3.6	5400	14	-
MWC41RA1	110	180	1.6	4700	< 0.38	18	4600	12	22000
XMWC41RA1	110	140	1.5	4500	< 0.077	36	5400	14	-
MWC43RA*	110	180	1.2	4700	< 0.38	< 18	4600	12	22000
XMWC43RA*	74	140	1.5	4500	< 0.077	9.0	5400	14	-
BWC41FA1	< 74	200	1.6	4700	< 0.38	< 18	4900	13	20000
Field #-Jug Lake, intermediate marsh									
MWJ11FA*	< 74	5.6	0.67	370	< 0.38	< 18	< 100	< 5.8	580
MWJ11RA*	< 74	7.4	0.87	470	< 0.38	< 18	< 100	< 5.8	660
MWJ21FA1	< 74	10	1.4	400	< 0.38	< 18	< 100	< 5.8	660
XMWJ21FA1	< 7.4	9.3	1.4	500	< 0.038	< 1.8	100	< 1.2	820
MWJ21LA1	< 74	11	1.4	420	< 0.38	< 18	< 100	< 5.8	740
XMWJ21LA1	< 7.4	9.3	1.5	500	< 0.038	< 1.8	100	< 1.2	820
MWJ21RA1	< 74	10	1.4	400	< 0.38	< 18	< 100	< 5.8	620
XMWJ21RA1	< 7.4	9.3	1.4	500	< 0.038	< 1.8	100	< 1.2	820
MWJ31FA1	< 74	12	0.95	500	< 0.38	< 18	310	< 12	1400
XMWJ31FA1	< 7.4	6.5	0.95	500	< 0.038	< 1.8	260	< 1.2	1300
MWJ31LA1	< 74	12	0.95	520	< 0.38	< 18	310	< 12	1400
XMWJ31LA1	< 7.4	7.4	0.95	500	< 0.038	< 1.8	260	< 1.2	1300
MWJ31RA1	< 74	11	1.0	520	< 0.38	< 18	310	< 12	1400
XMWJ31RA1	11	8.3	1.0	500	< 0.038	5.4	260	< 1.2	1300
BWJ31FA1	< 74	14	0.95	520	< 0.38	< 18	360	< 12	1400
MWJ41FA1	< 74	12	1.5	800	< 0.38	< 18	230	< 12	1400
XMWJ41FA1	< 7.4	9.3	1.5	770	< 0.038	< 1.8	230	1.4	1300
MWJ41LA1	< 74	12	1.5	770	< 0.38	< 18	200	< 12	1300
XMWJ41LA1	< 7.4	8.3	1.5	770	< 0.038	< 1.8	230	1.3	1200
MWJ41RA1	< 74	12	1.5	820	< 0.38	< 18	230	< 12	1400
XMWJ41RA1	7.4	9.3	1.6	820	< 0.038	3.6	230	1.4	1300
BWJ41FA1	< 74	14	1.5	820	< 0.38	< 18	260	< 12	1300
OWJ41FA1	< 74	20	2.1	920	< 0.38	< 18	310	< 12	1600

Table 31. Element concentrations in surface waters (major, minor, and trace elements determined by ICP method LQZ000) (continued).

Element	Al, µM	B, µM	Ba, µM	Ca, µM	Cr, µM	Fe, µM	K, µM	Li, µM	Mg, µM
Field #-Peoples Canal, fresh water marsh									
MWP21FA1	< 74	4.6	1.6	550	< 0.38	< 18	< 100	< 5.8	370
XMWP21FA1	< 3.7	4.6	1.7	550	< 0.019	7.2	130	0.58	370
MWP21RA1	< 74	4.6	1.8	570	< 0.38	< 18	130	< 5.8	410
XMWP21RA1	3.7	4.6	1.8	570	0.019	14	150	0.58	370
BWP21FA1	< 74	10	4.3	500	< 0.38	< 18	< 100	< 5.8	330
MWP31FA1	< 74	< 1.9	0.66	350	< 0.38	< 18	51	< 12	250
XMWP31FA1	< 3.7	1.9	0.66	350	< 0.019	1.8	77	< 0.58	250
MWP31LA1	< 74	2.8	0.73	400	< 0.38	< 18	77	< 12	250
XMWP31LA1	< 3.7	1.9	0.62	320	< 0.019	< 0.90	77	< 0.58	210
MWP31RA1	< 74	2.8	0.71	350	< 0.38	< 18	51	< 12	250
XMWP31RA1	3.7	1.9	0.71	350	< 0.019	5.4	77	< 0.58	250
BWP31FA1	< 74	1.9	0.68	320	< 0.38	< 18	77	< 12	210
MWP41FA1	< 74	1.9	0.67	320	< 0.38	< 18	15	< 12	210
XMWP41FA1	< 3.7	1.9	0.66	300	< 0.019	< 0.90	26	< 0.58	160
MWP41LA1	< 74	1.9	0.68	320	< 0.38	< 18	13	< 12	210
XMWP41LA1	< 3.7	1.9	0.66	320	< 0.019	< 0.90	26	< 0.58	160
MWP41RA1	< 74	2.8	0.71	320	< 0.38	< 18	13	< 12	210
XMWP41RA1	< 3.7	1.9	0.70	320	< 0.019	5.4	26	< 0.58	160
BWP41FA1	< 74	1.9	0.67	300	< 0.38	< 18	20	< 12	160
Field #-Lac des Allemands, fresh water marsh									
MWA21FA1	< 74	3.7	0.29	200	< 0.38	< 18	< 100	< 5.8	210
XMWA21FA1	< 3.7	3.7	0.30	220	< 0.019	7.2	130	< 0.58	210
MWA21LA*	< 74	3.7	0.29	200	< 0.38	< 18	< 100	< 5.8	210
XMWA21LA1	< 3.7	3.7	0.29	200	< 0.019	1.3	100	0.58	210
MWA21RA1	< 74	4.6	0.32	220	< 0.38	< 18	130	< 5.8	290
XMWA21RA1	< 3.7	3.7	0.33	220	< 0.019	16	130	0.58	210

Table 31. Element concentrations in surface waters (major, minor, and trace elements determined by ICP method LQZ000) (continued).

Element	Mn, μM	Na, μM	Si, μM	Sr, μM	Zn, μM
Field #-Cocodrie, salt marsh					
MWC11FA*	0.69	43000	71	13	< 0.61
MWC11RA*	1.0	43000	71	13	< 0.61
MWC21FA1	1.4	78000	71	26	< 0.61
XMWC21FA1	1.3	-	-	26	< 0.15
MWC21LA1	1.6	78000	71	26	< 0.61
XMWC21LA1	1.6	-	-	26	< 0.15
MWC21RA1	1.8	70000	71	22	< 0.61
XMWC21RA1	1.8	-	-	23	< 0.15
MWC31FA1	5.3	100000	430	29	< 0.92
XMWC31FA1	5.1	-	-	29	< 0.15
MWC31LA1	0.56	34000	36	7.9	< 0.92
XMWC31LA1	0.55	-	-	7.9	< 0.15
MWC31RA1	5.3	100000	500	29	< 0.92
XMWC31RA1	5.1	-	-	29	< 0.15
BWC31FA1	5.6	87000	390	27	< 0.92
MWC41FA1	3.5	126000	36	41	< 0.92
XMWC41FA1	3.3	-	-	41	< 0.15
MWC41LA1	5.1	126000	36	41	< 0.92
XMWC41LA1	4.7	-	-	41	< 0.15
MWC41RA1	4.9	126000	210	41	< 0.92
XMWC41RA1	4.7	-	-	41	< 0.15
MWC43RA*	2.6	126000	110	41	< 0.92
XMWC43RA*	2.4	-	-	41	< 0.15
BWC41FA1	4.2	91000	36	39	2.0
Field #-Jug Lake, intermediate marsh					
MWJ11FA*	1.2	2900	25	1.6	< 0.61
MWJ11RA*	2.6	3700	36	2.2	< 0.61
MWJ21FA1	< 0.36	5200	110	2.2	< 0.61
XMWJ21FA1	0.36	5200	-	2.2	< 0.092
MWJ21LA1	0.77	5700	110	2.3	< 0.61
XMWJ21LA1	0.78	5700	-	2.3	< 0.092
MWJ21RA1	0.38	5200	71	2.2	< 0.61
XMWJ21RA1	0.36	5700	-	2.2	< 0.092
MWJ31FA1	< 0.36	11000	7.1	3.0	< 0.92
XMWJ31FA1	0.18	9600	-	3.0	< 0.092
MWJ31LA1	0.58	11000	11	3.1	< 0.92
XMWJ31LA1	0.55	9600	-	3.1	< 0.092
MWJ31RA1	0.40	11000	21	3.1	< 0.92
XMWJ31RA1	0.36	9600	-	3.1	< 0.092
BWJ31FA1	< 0.36	11000	11	2.9	< 0.92
MWJ41FA1	< 0.36	9100	180	4.0	< 0.92
XMWJ41FA1	0.091	8300	-	4.0	< 0.092
MWJ41LA1	< 0.36	8700	180	3.9	< 0.92
XMWJ41LA1	0.055	7800	-	3.9	< 0.092
MWJ41RA1	1.5	9100	180	4.1	< 0.92
XMWJ41RA1	1.5	8300	-	4.2	< 0.092
BWJ41FA1	< 0.36	9100	140	3.8	< 0.92
OWJ41FA1	0.36	13000	210	4.5	< 0.92

Table 31. Element concentrations in surface waters (major, minor, and trace elements determined by ICP method LQZ000) (continued).

Element	Mn, μM	Na, μM	Si, μM	Sr, μM	Zn, μM
Field #-Peoples Canal, fresh water marsh					
MWP21FA1	< 0.36	1000	180	1.7	< 0.61
XMWP21FA1	0.13	1100	-	1.7	0.061
MWP21RA1	1.4	1100	180	1.8	< 0.61
XMWP21RA1	1.3	1100	-	1.8	< 0.046
BWP21FA1	< 0.36	1000	140	1.6	4.3
MWP31FA1	< 0.36	910	7.1	1.0	< 0.92
XMWP31FA1	0.036	910	-	1.0	< 0.046
MWP31LA1	< 0.36	960	< 7.1	1.1	< 0.92
XMWP31LA1	< 0.018	870	-	0.94	< 0.046
MWP31RA1	0.55	910	11	0.99	< 0.92
XMWP31RA1	0.46	910	-	0.99	< 0.046
BWP31FA1	< 0.36	830	< 7.1	0.84	< 0.92
MWP41FA1	< 0.36	740	28	0.95	< 0.92
XMWP41FA1	0.036	740	-	0.91	< 0.046
MWP41LA1	< 0.36	740	28	0.99	< 0.92
XMWP41LA1	< 0.018	740	-	0.94	< 0.046
MWP41RA1	0.38	740	28	0.92	< 0.92
XMWP41RA1	0.36	740	-	0.94	< 0.046
BWP41FA1	< 0.36	650	25	0.79	< 0.92
Field #-Lac des Allemands, fresh water marsh					
MWA21FA1	0.89	960	140	0.70	< 0.61
XMWA21FA1	0.87	1000	-	0.73	0.12
MWA21LA*	2.6	910	140	0.66	< 0.61
XMWA21LA1	2.4	1000	-	0.67	0.15
MWA21RA1	1.6	1700	140	0.88	< 0.61
XMWA21RA1	1.6	1100	-	0.74	0.15

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (depth in cm, see Table 7 for Method # descriptions).

Element Method #	Mid- depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-May 1991									
MWC11FA*	0	< 74	52	0.87	1600	< 0.38	< 18	1200	< 5.8
PWC13001	3								
PWC13021	8								
PWC13041	13								
PWC13061	19								
PWC13081	24								
PWC13101	30								
PWC13121	35								
PWC13141	40								
PWC13161	46								
PWC13181	51								
PWC13201	60								
PWC13251	74								
PWC13301	87								
PWC13351	101								
PWC13401	114								
Field #-September 1991									
MWC21FA1	0	< 74	110	1.7	3000	< 0.38	18	2600	6.6
PWC23001	1	< 74	87	1.2	3000	< 0.38	< 18	2400	6.8
PWC23021	4	< 74	75	1.3	3200	< 0.38	< 18	2100	< 5.8
PWC23041	6	< 74	67	3.3	3000	< 0.38	< 18	1900	5.8
PWC23061	9	< 74	64	6.6	2700	< 0.38	< 18	1800	6.5
PWC23081	11	< 74	69	5.3	2500	< 0.38	< 18	1800	< 5.8
PWC23101	14	< 74	74	5.6	2200	< 0.38	< 18	1800	< 5.8
PWC23121	17	< 74	79	4.4	2100	< 0.38	< 18	1800	< 5.8
PWC23141	19	< 74	85	4.8	2000	< 0.38	< 18	1800	< 5.8
PWC23161	22	< 74	88	4.6	2000	< 0.38	< 18	1900	< 5.8
PWC23181	24	< 74	93	5.0	2100	< 0.38	< 18	1900	5.9
PWC23201	29	< 74	130	6.9	2200	< 0.38	< 18	2000	6.1
PWC23251	35	74	120	4.6	2300	< 0.38	< 18	2100	7.9
PWC23301	42	< 74	110	4.2	2200	< 0.38	< 18	2300	6.9
PWC23351	48	< 74	110	5.2	2300	< 0.38	< 18	2300	6.6
PWC23401	54	< 74	120	4.2	2400	< 0.38	< 18	2400	6.6
PWC23451	61	< 74	130	4.9	2700	< 0.38	< 18	2500	7.6
PWC23501	67	< 74	140	6.0	2700	< 0.38	< 18	2600	8.1
PWC23551	73	< 74	130	5.5	3000	< 0.38	< 18	2800	8.2
PWC23601	80	-	-	-	-	-	-	-	-
PWC23651	86	< 74	120	5.5	2700	< 0.38	< 18	2800	8.4
PWC23701	93	-	-	-	-	-	-	-	-
PWC23751	99	-	-	-	-	-	-	-	-
PWC23801	105	-	-	-	-	-	-	-	-
PWC23851	112	< 74	150	7.3	3500	< 0.38	< 18	3100	10
PWC23901	117	< 74	140	8.0	3500	< 0.38	< 18	3300	9.9

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element Method #	Mid-depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-January 1992									
BWC31FA1	0	< 74	140	4.4	4000	< 0.38	< 18	2800	< 12
PWC31001	1	< 74	110	1.5	2500	< 0.38	18	2200	< 12
PWC31021	4	< 74	110	1.8	2500	< 0.38	< 18	2400	< 12
PWC31041	7	< 74	120	3.1	3000	< 0.38	< 18	2800	< 12
PWC31061	9	< 74	130	2.0	3500	< 0.38	< 18	3100	< 12
PWC31081	12	< 74	120	4.0	3700	< 0.38	< 18	3100	< 12
PWC31101	16	< 74	110	3.4	3700	< 0.38	< 18	3300	< 12
PWC31151	23	< 74	110	5.4	4000	< 0.38	< 18	3300	< 12
PWC31201	30	< 74	100	4.5	3700	< 0.38	< 18	3100	< 12
PWC31251	36	< 74	110	3.9	3500	< 0.38	< 18	3100	< 12
PWC31301	43	110	130	3.5	3200	< 0.38	< 18	3100	< 12
PWC31351	49	< 74	120	3.3	3000	< 0.38	< 18	3100	< 12
PWC31401	56	< 74	120	3.1	3000	< 0.38	< 18	2800	< 12
PWC31451	62	< 74	140	3.5	3200	< 0.38	< 18	3100	< 12
PWC31501	69	74	150	4.2	3500	< 0.38	< 18	3600	< 12
PWC31551	75	74	140	4.3	3700	< 0.38	18	3600	< 12
PWC31601	82	< 74	150	4.4	3500	< 0.38	< 18	3600	< 12
PWC31651	89	< 74	150	4.7	3500	< 0.38	< 18	3600	< 12
PWC31701	95	-	-	-	-	-	-	-	-
PWC31751	102	< 74	150	5.3	3500	< 0.38	< 18	3600	< 12
PWC31801	108	< 74	150	5.9	3700	< 0.38	< 18	3600	< 12
PWC31851	115	< 74	150	6.3	3700	< 0.38	< 18	3600	< 12
PWC31901	121	-	-	-	-	-	-	-	-
PWC31951	128	< 74	140	6.6	3700	< 0.38	< 18	3600	< 12
Field #-May 1992									
BWC41FA1	0	< 74	200	1.6	4700	< 0.38	< 18	4900	13
PWC41001	1	< 74	160	2.0	5500	< 0.38	36	4100	< 12
PWC41021	4	< 74	120	2.7	5000	< 0.38	< 18	3300	< 12
PWC41041	6	< 74	120	3.6	4200	< 0.38	< 18	3100	< 12
PWC41061	9	< 74	110	3.1	3500	< 0.38	< 18	2800	< 12
PWC41081	11	< 74	110	3.6	3500	< 0.38	< 18	2800	< 12
PWC41101	16	< 74	110	3.8	3200	< 0.38	< 18	2800	< 12
PWC41151	22	< 74	120	2.6	3200	< 0.38	< 18	2800	< 12
PWC41201	29	< 74	120	3.6	3200	< 0.38	< 18	2800	< 12
PWC41251	35	< 74	120	2.5	3200	< 0.38	< 18	2800	< 12
PWC41301	41	< 74	130	2.3	3200	< 0.38	< 18	2800	< 12
PWC41351	48	< 74	120	2.4	3200	< 0.38	< 18	2800	< 12
PWC41401	54	< 74	120	1.9	3200	< 0.38	< 18	2800	< 12
PWC41451	60	< 74	120	3.4	3200	< 0.38	18	3100	< 12
PWC41501	67	< 74	130	3.4	3200	< 0.38	< 18	3100	< 12
PWC41551	73	< 74	140	3.4	3200	< 0.38	< 18	3100	< 12
PWC41601	80	-	-	-	-	-	-	-	-
PWC41651	86	< 74	130	3.9	3200	< 0.38	< 18	3100	< 12
PWC41701	92	< 74	150	4.6	3200	< 0.38	< 18	3300	< 12
PWC41751	99	74	160	5.8	3500	< 0.38	< 18	3300	< 12
PWC41801	105	< 74	150	6.7	3500	< 0.38	< 18	3300	< 12
PWC41851	111	-	-	-	-	-	-	-	-
PWC41901	116	< 74	140	8.0	3500	< 0.38	< 18	3300	< 12

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element	Mg μM	Mn μM	Na μM	Si μM	Sr μM	Zn μM	Cl mM	S tot. μM	S^{2-} μM
Method #	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	GCW050	GCW055	GCW030
Field #-May 1991									
MWC11FA*	6200	0.69	43000	71	13	< 0.61	53	3600	-
PWC13001							52	2500	< 5
PWC13021							51	2300	5
PWC13041							55	2200	37
PWC13061							61	2500	96
PWC13081							67	2000	210
PWC13101							83	1800	260
PWC13121							94	1700	410
PWC13141							95	1100	580
PWC13161							100	840	650
PWC13181							100	870	670
PWC13201							130	1600	1000
PWC13251							140	2200	1100
PWC13301							130	2300	1000
PWC13351							140	2200	1200
PWC13401							250	1600	1200
Field #-September 1991									
MWC21FA1	13000	1.4	78000	71	26	< 0.61	140	-	-
PWC23001	12000	14	70000	180	25	2.9	140	5900	< 5
PWC23021	12000	12	74000	280	24	2.1	130	4600	11
PWC23041	11000	7.8	65000	360	23	2.0	110	2500	19
PWC23061	10000	4.4	61000	360	22	1.8	110	1700	< 5
PWC23081	9500	3.8	61000	430	19	2.8	99	1100	81
PWC23101	9100	3.1	57000	460	18	4.9	94	990	< 5
PWC23121	8600	2.9	57000	530	17	4.3	96	930	16
PWC23141	8200	2.9	61000	570	16	3.2	92	-	8
PWC23161	8200	2.9	61000	600	16	3.2	100	1000	80
PWC23181	8600	2.9	65000	640	17	3.2	99	900	36
PWC23201	9100	3.5	61000	680	18	6.6	100	1400	500
PWC23251	9900	3.8	70000	780	19	3.2	110	1500	920
PWC23301	9500	3.3	70000	600	19	3.2	110	1700	650
PWC23351	9900	3.5	70000	600	19	2.9	120	1800	580
PWC23401	10000	3.8	70000	570	21	3.2	130	2100	800
PWC23451	11000	4.2	78000	600	22	3.2	130	2400	1500
PWC23501	12000	4.6	78000	570	24	4.6	130	2300	1300
PWC23551	13000	4.7	78000	570	25	2.8	150	2200	1300
PWC23601	-	-	-	-	-	-	-	-	500
PWC23651	12000	3.5	78000	500	24	2.8	160	2000	630
PWC23701	-	-	-	-	-	-	-	-	-
PWC23751	-	-	-	-	-	-	-	-	-
PWC23801	-	-	-	-	-	-	-	-	46
PWC23851	14000	2.7	83000	530	30	2.6	180	3000	920
PWC23901	15000	2.7	83000	460	31	2.1	180	2300	39

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element	Mg µM	Mn µM	Na µM	Si µM	Sr µM	Zn µM	Cl mM	S tot. µM	S^{2-} µM
Method #	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	GCW050	GCW055	GCW030
Field #-January 1992									
BWC31FA1	14000	5.6	87000	390	27	< 0.92	160	2400	< 5
PWC31001	9500	4.0	65000	36	17	< 0.92	86	4800	< 5
PWC31021	9900	3.1	70000	180	18	< 0.92	110	4900	11
PWC31041	12000	3.8	78000	280	22	< 0.92	140	5600	88
PWC31061	13000	4.7	87000	360	25	< 0.92	160	5800	25
PWC31081	14000	4.9	87000	390	26	< 0.92	160	5700	21
PWC31101	15000	4.7	87000	460	29	< 0.92	170	5100	230
PWC31151	16000	5.3	91000	530	31	< 0.92	170	4500	540
PWC31201	15000	5.3	87000	570	29	< 0.92	170	4000	800
PWC31251	14000	5.1	87000	570	27	< 0.92	87	3500	820
PWC31301	14000	5.1	87000	640	24	< 0.92	130	3200	940
PWC31351	13000	4.9	87000	530	23	< 0.92	150	3300	640
PWC31401	13000	4.7	87000	530	23	< 0.92	140	3100	1100
PWC31451	14000	4.6	91000	530	25	< 0.92	160	3300	1100
PWC31501	14000	4.4	87000	570	27	< 0.92	150	3000	1500
PWC31551	15000	4.2	91000	640	27	< 0.92	170	3200	1400
PWC31601	15000	3.5	91000	530	27	< 0.92	180	-	1200
PWC31651	15000	3.5	87000	570	27	< 0.92	180	2900	1500
PWC31701	-	-	-	-	-	-	-	-	-
PWC31751	15000	2.9	96000	500	27	< 0.92	180	2800	1200
PWC31801	15000	2.9	87000	530	29	< 0.92	180	3200	1300
PWC31851	15000	3.1	91000	460	30	< 0.92	180	3400	1300
PWC31901	-	-	-	-	-	-	180	3600	890
PWC31951	16000	2.7	91000	430	30	< 0.92	180	-	920
Field #-May 1992									
BWC41FA1	20000	4.2	91000	36	39	2.0	250	13000	< 5
PWC41001	18000	12	96000	210	37	< 0.92	210	8700	< 5
PWC41021	15000	6.7	87000	320	32	< 0.92	180	5000	10
PWC41041	14000	5.1	83000	390	29	< 0.92	150	4000	270
PWC41061	13000	4.2	83000	460	24	< 0.92	140	3100	400
PWC41081	12000	3.8	78000	460	24	< 0.92	140	2900	590
PWC41101	12000	3.5	78000	530	23	< 0.92	130	2500	450
PWC41151	12000	3.8	78000	530	23	< 0.92	120	3500	490
PWC41201	12000	4.4	78000	500	23	< 0.92	130	4500	430
PWC41251	12000	4.7	78000	460	23	< 0.92	140	4800	380
PWC41301	12000	4.9	83000	500	23	< 0.92	120	4600	230
PWC41351	12000	5.1	78000	460	23	< 0.92	120	4700	450
PWC41401	12000	4.9	83000	500	24	< 0.92	97	4600	540
PWC41451	13000	5.1	83000	500	25	< 0.92	140	4200	840
PWC41501	14000	5.1	83000	500	25	< 0.92	150	3600	800
PWC41551	13000	4.4	83000	530	24	< 0.92	-	-	1100
PWC41601	-	-	-	-	-	-	140	-	800
PWC41651	13000	3.3	83000	500	24	< 0.92	-	-	700
PWC41701	14000	2.7	87000	500	25	< 0.92	150	2300	1200
PWC41751	14000	2.7	91000	530	26	< 0.92	150	3000	1500
PWC41801	14000	2.2	91000	430	26	< 0.92	-	-	1400
PWC41851	-	-	-	-	-	-	160	2900	1600
PWC41901	14000	1.6	87000	390	27	< 0.92	-	-	1700

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element	pH	Alk. meq/l	DOC mg/l	Si µM	PO_4 µM	NO_3 µM	NO_2 µM	NH_4 µM
Method #	GCW020	GCW040	GCW060	GCW090	GCW070	GCW070	GCW070	GCW070
Field #-May 1991								
MWC11FA*	7.52	1.70	1.5					
PWC13001	7.40	2.57	9.8					
PWC13021	7.39	3.28	8.3					
PWC13041	7.42	3.62	14					
PWC13061	7.26	3.99	14					
PWC13081	7.26	5.21	8.9					
PWC13101	7.15	7.19	34					
PWC13121	7.19	8.24	29					
PWC13141	7.29	8.63	300					
PWC13161	7.34	9.65	41					
PWC13181	7.31	9.96	16					
PWC13201	7.17	10.7	15					
PWC13251	7.12	10.8	21					
PWC13301	7.22	10.8	40					
PWC13351	7.15	11.9	27					
PWC13401	7.26	12.9	38					
Field #-September 1991								
MWC21FA1	7.39	1.91		69				
PWC23001	6.93	2.92		156				
PWC23021	7.03	3.49		266				
PWC23041	7.20	5.62		357				
PWC23061	7.51	6.66		372				
PWC23081	7.35	7.82		436				
PWC23101	7.64	8.43		481				
PWC23121	7.56	9.20		529				
PWC23141	7.59	8.63		609				
PWC23161	7.65	9.77		597				
PWC23181	7.70	11.0		595				
PWC23201	7.23	12.6		651				
PWC23251	7.21	13.3		633				
PWC23301	7.43	11.9		598				
PWC23351	7.46	12.1		587				
PWC23401	7.47	12.4		581				
PWC23451	7.15	12.7		582				
PWC23501	7.28	13.2		568				
PWC23551	7.29	13.6		566				
PWC23601	7.33	13.7		570				
PWC23651	7.38	13.2		559				
PWC23701	-	-		-				
PWC23751	-	-		-				
PWC23801	7.57	14.2		523				
PWC23851	7.28	14.7		523				
PWC23901	7.59	15.6		447				

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element	pH	Alk. meq/l	DOC mg/l	Si µM	PO_4 µM	NO_3 µM	NO_2 µM	NH_4 µM
Method #	GCW020	GCW040	GCW060	GCW090	GCW070	GCW070	GCW070	GCW070
Field #-January 1992								
BWC31FA1	7.56	11.3		416	71.0	< 1	0.7	236
PWC31001	7.07	2.08		57	6.7	< 1	< 0.3	15.7
PWC31021	7.37	3.08		164	13.1	< 1	< 0.3	72.2
PWC31041	7.53	3.33		276	23.4	< 1	< 0.3	133
PWC31061	7.68	5.27		356	30.9	< 1	< 0.3	204
PWC31081	7.71	5.66		398	35.9	< 1	0.3	254
PWC31101	7.54	6.34		452	40.3	< 1	2.0	334
PWC31151	7.68	6.48		477	38.5	< 1	3.4	386
PWC31201	7.51	7.24		523	47.0	< 1	3.9	398
PWC31251	7.38	7.58		526	48.0	< 1	0.9	377
PWC31301	7.46	10.6		509	51.3	< 1	3.3	345
PWC31351	7.30	7.37		510	50.8	< 1	2.3	315
PWC31401	7.31	7.97		498	49.4	< 1	4.0	314
PWC31451	7.62	9.08		507	46.7	< 1	4.4	347
PWC31501	7.27	13.8		506	48.4	< 1	5.3	400
PWC31551	7.33	9.41		522	54.8	< 1	3.0	430
PWC31601	7.52	13.7		-	53.7	< 1	4.3	433
PWC31651	7.24	13.7		-	56.1	< 1	1.1	428
PWC31701	-	-		-	-	-	-	-
PWC31751	7.45	13.3		487	58.9	< 1	6.3	392
PWC31801	7.39	14.1		478	64.1	< 1	3.7	390
PWC31851	7.41	14.9		452	67.5	< 1	1.0	391
PWC31901	7.68	15.0		-	59.5	< 1	2.3	387
PWC31951	7.64	15.3		-	62.0	< 1	1.2	390
Field #-May 1992								
BWC41FA1	7.35	2.16	16	42	0.5	2	< 0.3	1.7
PWC41001	6.98	2.87	16	226	13.4	2	< 0.3	33.4
PWC41021	7.56	6.28	13	337	28.3	< 1	< 0.3	136
PWC41041	7.47	6.78	13	396	33.5	< 1	< 0.3	175
PWC41061	7.39	7.62	15	453	35.3	< 1	< 0.3	201
PWC41081	7.37	7.26	-	463	41.8	< 1	< 0.3	211
PWC41101	7.40	7.51	15	571	43.8	< 1	< 0.3	223
PWC41151	7.30	6.15	8.9	526	32.1	< 1	< 0.3	194
PWC41201	7.21	5.39	9.2	485	31.0	< 1	< 0.3	157
PWC41251	7.17	5.24	6.7	455	21.0	< 1	< 0.3	131
PWC41301	7.13	6.39	13	546	29.3	< 1	< 0.3	145
PWC41351	7.26	5.62	12	461	27.6	< 1	< 0.3	148
PWC41401	7.09	5.57	16	480	31.0	< 1	< 0.3	196
PWC41451	7.16	7.12	12	499	31.1	< 1	< 0.3	287
PWC41501	7.38	8.53	19	525	32.0	< 1	< 0.3	318
PWC41551	7.13	8.05	15	-	33.9	< 1	< 0.3	336
PWC41601	7.16	8.33	18	-	35.6	< 1	< 0.3	335
PWC41651	7.28	10.4	15	502	35.9	< 1	< 0.3	333
PWC41701	7.34	10.9	23	496	38.6	< 1	< 0.3	333
PWC41751	7.32	12.3	15	490	40.3	< 1	< 0.3	328
PWC41801	7.54	12.8	14	-	41.7	< 1	< 0.3	316
PWC41851	7.43	13.2	12	444	48.7	< 1	< 0.3	323
PWC41901	7.47	12.8	21	405	-	-	-	-

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element	Cr nM	Cu nM	Fe µM	Mn µM	Ni nM
Method #	GCW080	GCW080	GCW080	GCW080	GCW080
Field #-May 1991					
MWC11FA*			4.0	0.66	
PWC13001			5.0	10.0	
PWC13021			3.3	5.5	
PWC13041			1.7	4.5	
PWC13061			1.8	4.9	
PWC13081			1.0	7.1	
PWC13101			3.0	6.8	
PWC13121			2.3	6.5	
PWC13141			3.1	5.3	
PWC13161			2.9	4.4	
PWC13181			3.4	4.5	
PWC13201			2.8	5.2	
PWC13251			0.57	5.7	
PWC13301			0.64	6.2	
PWC13351			0.65	6.1	
PWC13401			0.47	5.5	
Field #-September 1991					
MWC21FA1	11		0.87	1.5	
PWC23001	11		5.0	16	
PWC23021	11		1.0	14	
PWC23041	14		1.4	10	
PWC23061	13		0.29	5.7	
PWC23081	13		0.13	4.6	
PWC23101	14		0.46	3.8	
PWC23121	14		0.14	3.6	
PWC23141	13		0.63	3.4	
PWC23161	16		0.72	3.3	
PWC23181	15		0.11	3.5	
PWC23201	12		0.07	4.2	
PWC23251	13		0.03	4.2	
PWC23301	12		0.11	4.0	
PWC23351	10		0.20	4.1	
PWC23401	10		0.07	4.6	
PWC23451	9		0.51	5.3	
PWC23501	7		0.09	5.7	
PWC23551	8		0.24	5.9	
PWC23601	14		0.09	5.8	
PWC23651	8		0.52	4.9	
PWC23701	-		-	-	
PWC23751	-		-	-	
PWC23801	26		0.04	3.6	
PWC23851	12		0.04	3.5	
PWC23901	14		0.34	3.2	

Table 32. Element concentrations in pore waters at Cocodrie, salt marsh site (continued).

Element	Cr nM	Cu nM	Fe µM	Mn µM	Ni nM
Method #	GCW080	GCW080	GCW080	GCW080	GCW080
Field #-January 1992					
BWC31FA1	-	-	-	-	
PWC31001	11	6	11	5.6	
PWC31021	8	19	1.2	3.9	
PWC31041	8	24	0.25	4.8	
PWC31061	9		0.08	6.0	
PWC31081	7	20	0.09	6.4	
PWC31101	7	26		6.5	
PWC31151	5	20	0.08	6.8	
PWC31201	6	23	0.08	7.0	
PWC31251	5	23	0.10	6.6	
PWC31301	5	26	0.06	6.4	
PWC31351	7	17	0.11	6.0	
PWC31401	7	22	0.09	5.9	
PWC31451	4	16	0.10	5.7	
PWC31501	16	30	-	5.6	
PWC31551	5	28	0.15	4.9	
PWC31601	9	29	-	4.4	
PWC31651	6	15	0.15	4.1	
PWC31701	-	-	-	-	
PWC31751	8	28	0.13	3.7	
PWC31801	10	15	0.14	3.5	
PWC31851	10	10	0.18	3.7	
PWC31901	12	14	0.15	3.7	
PWC31951	15	15	0.14	3.6	
Field #-May 1992					
BWC41FA1	7	60	0.21	4.4	190
PWC41001	18	15	35	13	270
PWC41021	22	-	2.2	8.4	-
PWC41041	16	8	0.43	6.1	50
PWC41061	-	-	-	-	-
PWC41081	12	9	0.16	4.3	48
PWC41101	12	9	0.17	3.8	37
PWC41151	9	10	0.04	4.0	46
PWC41201	8	12	0.05	4.9	35
PWC41251	8	11	0.05	5.4	52
PWC41301	7	10	0.05	1.5	53
PWC41351	10	9	0.08	5.8	56
PWC41401	7	11	0.03	5.7	61
PWC41451	5	8	0.03	5.9	41
PWC41501	6	9	0.08	5.7	47
PWC41551	8	13	0.11	5.2	-
PWC41601	6	7	0.14	3.8	-
PWC41651	7	7	0.38	3.7	-
PWC41701	6	8	0.06	2.9	60
PWC41751	8	10	0.06	2.7	33
PWC41801	16	13	0.09	2.2	44
PWC41851	13	15	0.06	2.0	43
PWC41901	14	17	0.11	1.5	24

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (depth in cm, see Table 7 for Method # descriptions).

Element Method #	Mid-depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-May 1991									
MWJ11FA*	0	< 74	5.6	0.67	370	< 0.38	< 18	< 100	< 5.8
PWJ11001	5								
PWJ11041	15								
PWJ11081	25								
PWJ11121	35								
PWJ11161	45								
PWJ11201	56								
PWJ11251	69								
PWJ11301	81								
PWJ11351	94								
PWJ11401	107								
PWJ11451	119								
PWJ11501	132								
Field #-September 1991									
MWJ21FA1	0	< 74	10	1.4	400	< 0.38	< 18	< 100	< 5.8
PWJ21001	3	< 74	11	1.8	600	< 0.38	< 18	< 100	< 5.8
PWJ21051	10	< 74	14	1.8	570	< 0.38	< 18	< 100	< 5.8
PWJ21101	17	< 74	14	1.8	550	< 0.38	< 18	< 100	< 5.8
PWJ21151	23	< 74	16	1.5	520	< 0.38	< 18	< 100	< 5.8
PWJ21201	30	< 74	19	1.4	450	< 0.38	< 18	100	< 5.8
PWJ21251	37	< 74	19	1.0	370	< 0.38	< 18	130	< 5.8
PWJ21301	43	< 74	22	0.95	350	< 0.38	< 18	180	< 5.8
PWJ21351	50	< 74	24	1.0	320	< 0.38	< 18	200	< 5.8
PWJ21401	57	< 74	25	0.80	300	< 0.38	< 18	230	< 5.8
PWJ21451	63	< 74	36	2.1	320	< 0.38	< 18	260	< 5.8
PWJ21501	70	-	-	-	-	-	-	-	-
PWJ21551	77	-	-	-	-	-	-	-	-
PWJ21601	83	-	-	-	-	-	-	-	-
PWJ21651	90	74	45	3.5	800	< 0.38	18	590	< 5.8
PWJ21701	97	150	49	3.0	970	< 0.38	36	690	< 5.8
PWJ21751	103	< 74	50	2.4	1000	< 0.38	< 18	740	< 5.8
PWJ21801	110	< 74	49	1.7	1100	< 0.38	< 18	790	< 5.8
PWJ21851	117	< 74	46	2.0	1100	< 0.38	18	820	< 5.8
PWJ21901	122	< 74	48	2.0	1100	< 0.38	< 18	840	< 5.8

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element Method #	Mid-depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-January 1992									
BWJ31FA1	0	< 74	14	0.95	520	< 0.38	< 18	360	< 12
PWJ31001	3	< 74	26	2.5	1300	< 0.38	< 18	640	< 12
PWJ31051	10	< 74	32	4.4	1800	< 0.38	< 18	870	< 12
PWJ31101	17	< 74	32	4.7	2100	< 0.38	< 18	1000	< 12
PWJ31151	23	< 74	32	5.0	2200	< 0.38	< 18	1000	< 12
PWJ31201	30	< 74	29	4.5	2100	< 0.38	< 18	1000	< 12
PWJ31251	37	< 74	26	4.2	2000	< 0.38	< 18	920	< 12
PWJ31301	43	< 74	26	3.8	1900	< 0.38	< 18	870	< 12
PWJ31351	50	< 74	28	4.1	1700	< 0.38	< 18	820	< 12
PWJ31401	57	< 74	27	2.8	1300	< 0.38	< 18	770	< 12
PWJ31451	63	< 74	31	2.4	1200	< 0.38	< 18	740	< 12
PWJ31501	70	< 74	37	2.4	1200	< 0.38	< 18	820	< 12
PWJ31551	77	< 74	41	2.5	1200	< 0.38	< 18	900	< 12
PWJ31601	83	< 74	47	3.1	1100	< 0.38	< 18	920	< 12
PWJ31651	90	< 74	49	2.8	1200	< 0.38	< 18	920	< 12
PWJ31701	97	< 74	52	1.7	1200	< 0.38	< 18	1000	< 12
PWJ31751	103	< 74	47	2.0	1300	< 0.38	< 18	1000	< 12
PWJ31801	110	-	-	-	-	-	-	-	-
PWJ31851	117	< 74	52	2.3	1300	< 0.38	< 18	1000	< 12
Field #-May 1992									
BWJ41FA1	0	< 74	14	1.5	820	< 0.38	< 18	260	< 12
PWJ41001	3	< 74	17	2.0	970	< 0.38	< 18	280	< 12
PWJ41051	9	< 74	18	1.9	970	< 0.38	< 18	330	< 12
PWJ41101	15	< 74	20	1.6	920	< 0.38	< 18	410	< 12
PWJ41151	22	< 74	23	1.7	870	< 0.38	< 18	490	< 12
PWJ41201	28	< 74	24	1.7	800	< 0.38	< 18	510	< 12
PWJ41251	34	-	-	-	-	-	-	-	-
PWJ41301	40	< 74	36	1.8	850	< 0.38	< 18	720	< 12
PWJ41351	46	< 74	34	1.7	850	< 0.38	< 18	720	< 12
PWJ41401	53	< 74	35	2.2	1000	< 0.38	< 18	820	< 12
PWJ41451	59	-	-	-	-	-	-	-	-
PWJ41501	65	< 74	36	2.7	1400	< 0.38	< 18	970	< 12
PWJ41551	71	-	-	-	-	-	-	-	-
PWJ41601	77	< 74	48	2.4	1700	< 0.38	< 18	1100	< 12
PWJ41651	83	110	51	2.3	1700	< 0.38	18	1200	< 12
PWJ41701	90	< 74	47	2.2	1600	< 0.38	< 18	1200	< 12
PWJ41751	96	< 74	50	2.5	1600	< 0.38	< 18	1100	< 12
PWJ41801	102	< 74	53	3.0	1600	< 0.38	< 18	1100	< 12
PWJ41851	108	< 74	53	3.2	1500	< 0.38	< 18	1100	< 12
PWJ41901	112	-	-	-	-	-	-	-	-

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element	Mg μM	Mn μM	Na μM	Si μM	Sr μM	Zn μM	Cl mM	S tot. μM	S^{2-} μM
Method #	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	GCW050	GCW055	GCW030
Field #-May 1991									
MWJ11FA*	580	1.2	2900	25	1.6	< 0.61	6.6	700	-
PWJ11001							9.0	100	< 5
PWJ11041							10	22	< 5
PWJ11081							12	22	< 5
PWJ11121							15	170	< 5
PWJ11161							18	170	< 5
PWJ11201							21	39	< 5
PWJ11251							35	130	47
PWJ11301							41	190	130
PWJ11351							43	160	88
PWJ11401							56	460	120
PWJ11451							60	500	110
PWJ11501							62	720	43
Field #-September 1991									
MWJ21FA1	660	< 0.36	5200	110	2.2	< 0.61	7.3	230	< 5
PWJ21001	780	8.0	5700	210	2.9	< 0.61	8.3	140	< 5
PWJ21051	740	4.7	5700	250	2.6	0.86	8.7	140	< 5
PWJ21101	780	3.5	6100	280	2.6	0.61	7.7	160	< 5
PWJ21151	820	2.9	6500	320	2.6	< 0.61	8.3	200	< 5
PWJ21201	860	2.6	7000	320	2.4	1.1	7.3	220	15
PWJ21251	860	2.4	7000	320	2.2	< 0.61	8.4	220	12
PWJ21301	910	2.2	7400	320	2.2	< 0.61	8.1	200	7
PWJ21351	860	2.0	7400	320	2.1	0.86	9.1	130	13
PWJ21401	820	1.7	7400	280	1.9	0.76	8.1	120	34
PWJ21451	910	2.0	8700	320	2.2	2.0	10	170	30
PWJ21501	-	-	-	-	-	-	16	200	39
PWJ21551	-	-	-	-	-	-	15	260	44
PWJ21601	-	-	-	-	-	-	21	290	100
PWJ21651	2600	2.4	23000	460	5.9	1.8	30	400	140
PWJ21701	3200	2.0	27000	570	7.5	1.2	36	550	340
PWJ21751	3300	1.3	29000	360	7.9	< 0.61	26	640	380
PWJ21801	3500	1.2	32000	360	8.4	< 0.61	44	830	440
PWJ21851	3500	1.0	33000	360	8.4	< 0.61	47	780	580
PWJ21901	3600	0.58	36000	320	8.8	< 0.61	47	980	770

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element	Mg µM	Mn µM	Na µM	Si µM	Sr µM	Zn µM	Cl mM	S tot. µM	S^{2-} µM
Method #	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	GCW050	GCW055	GCW030
Field #-January 1992									
BWJ31FA1	1400	< 0.36	11000	11	2.9	< 0.92	13	590	< 5
PWJ31001	3200	8.6	24000	36	7.5	< 0.92	21	750	< 5
PWJ31051	4900	8.0	35000	140	11	< 0.92	44	1100	96
PWJ31101	5300	8.6	40000	180	11	< 0.92	52	1400	170
PWJ31151	5800	8.9	42000	180	13	< 0.92	54	1600	220
PWJ31201	5800	8.9	40000	210	13	< 0.92	52	1500	200
PWJ31251	5300	8.4	38000	210	11	< 0.92	48	1300	210
PWJ31301	4900	7.5	36000	250	11	< 0.92	46	1100	190
PWJ31351	4500	6.7	33000	250	11	< 0.92	42	810	140
PWJ31401	4000	4.7	30000	280	8.7	< 0.92	40	610	210
PWJ31451	3700	5.6	28000	280	7.9	< 0.92	38	-	66
PWJ31501	4000	5.8	30000	320	8.2	< 0.92	38	510	210
PWJ31551	4100	5.5	33000	320	8.1	< 0.92	39	500	21
PWJ31601	4000	3.8	33000	360	7.6	1.4	42	540	110
PWJ31651	4000	2.9	34000	390	7.9	1.2	41	-	350
PWJ31701	4100	2.0	37000	320	8.6	< 0.92	43	690	270
PWJ31751	4000	3.1	38000	320	8.6	< 0.92	45	710	350
PWJ31801	-	-	-	-	-	-	50	-	640
PWJ31851	4100	1.1	43000	280	9.0	< 0.92	-	-	610
Field #-May 1992									
BWJ41FA1	1300	< 0.36	9100	140	3.8	< 0.92	9.3	330	< 5
PWJ41001	1700	5.5	12000	210	4.6	< 0.92	13	250	< 5
PWJ41051	1800	5.6	13000	210	4.8	< 0.92	14	190	43
PWJ41101	1900	5.1	16000	210	4.9	< 0.92	17	310	30
PWJ41151	2100	4.2	17000	210	4.9	< 0.92	18	340	67
PWJ41201	2100	3.8	17000	210	4.6	< 0.92	19	320	-
PWJ41251	-	-	-	-	-	-	21	-	-
PWJ41301	2500	3.8	24000	250	5.1	< 0.92	26	480	100
PWJ41351	2600	4.0	26000	250	5.4	< 0.92	28	570	190
PWJ41401	3300	4.6	30000	250	6.8	< 0.92	33	610	210
PWJ41451	-	-	-	-	-	-	-	-	120
PWJ41501	4500	5.1	39000	250	9.5	< 0.92	46	760	280
PWJ41551	-	-	-	-	-	-	55	1100	380
PWJ41601	5800	2.6	43000	320	11	< 0.92	58	1000	380
PWJ41651	5800	1.8	43000	460	13	< 0.92	57	1000	520
PWJ41701	5300	1.1	43000	360	11	< 0.92	57	1100	600
PWJ41751	5300	0.71	43000	320	11	< 0.92	57	1100	580
PWJ41801	4900	0.53	48000	320	11	< 0.92	56	920	580
PWJ41851	4900	0.58	48000	320	10	< 0.92	54	840	520
PWJ41901	-	-	-	-	-	-	51	540	260

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element	pH	Alk. meq/l	DOC mg/l	Si µM	PO_4 µM	NO_3 µM	NO_2 µM	NH_4 µM
Method #	GCW020	GCW040	GCW060	GCW090	GCW070	GCW070	GCW070	GCW070
Field #-May 1991								
MWJ11FA*	7.61	1.61	2.8					
PWJ11001	7.35	2.21	14					
PWJ11041	7.30	2.68	3.6					
PWJ11081	7.19	2.84	6.7					
PWJ11121	7.22	2.63	6.2					
PWJ11161	7.41	3.20	8.4					
PWJ11201	7.48	3.72	190					
PWJ11251	7.35	4.05	20					
PWJ11301	7.51	4.67	15					
PWJ11351	7.52	3.52	17					
PWJ11401	7.65	6.04	11					
PWJ11451	7.62	5.63	11					
PWJ11501	7.66	5.91	18					
Field #-September 1991								
MWJ21FA1	6.95	1.11		86				
PWJ21001	7.43	2.21		189				
PWJ21051	7.53	2.02		262				
PWJ21101	7.51	2.35		307				
PWJ21151	7.53	2.75		314				
PWJ21201	7.50	2.43		313				
PWJ21251	7.67	2.24		302				
PWJ21301	7.53	2.49		306				
PWJ21351	7.59	2.56		303				
PWJ21401	7.67	2.64		283				
PWJ21451	7.58	2.76		285				
PWJ21501	7.60	3.30		305				
PWJ21551	7.67	3.22		312				
PWJ21601	7.63	4.14		321				
PWJ21651	7.79	4.93		322				
PWJ21701	7.77	5.28		326				
PWJ21751	7.67	5.11		328				
PWJ21801	7.74	5.95		308				
PWJ21851	7.80	5.95		291				
PWJ21901	7.86	6.13		294				

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element	pH	Alk. meq/l	DOC mg/l	Si µM	PO_4 µM	NO_3 µM	NO_2 µM	NH_4 µM
Method #	GCW020	GCW040	GCW060	GCW090	GCW070	GCW070	GCW070	GCW070
Field #-January 1992								
BWJ31FA1	7.26	1.20	16	19	< 0.5	< 1	0.4	0.6
PWJ31001	7.45	3.30	12	58	< 0.5	< 1	< 0.3	1.2
PWJ31051	7.33	3.90	10	143	< 0.5	< 1	< 0.3	154
PWJ31101	7.28	5.36	21	178	0.9	< 1	< 0.3	286
PWJ31151	7.25	3.87	31	185	4.0	< 1	0.4	361
PWJ31201	7.15	4.60	14	212	6.4	< 1	0.4	386
PWJ31251	7.07	4.12	11	226	8.6	< 1	0.5	387
PWJ31301	7.09	3.56	14	222	8.1	< 1	0.3	384
PWJ31351	7.11	2.80	12	231	9.2	< 1	< 0.3	384
PWJ31401	7.09	3.87	13	262	10.5	< 1	< 0.3	399
PWJ31451	7.07	2.44	19	299	12.4	< 1	0.6	262
PWJ31501	7.18	3.39	18	297	13.7	2	0.6	403
PWJ31551	7.46	3.06	21	300	15.2	4	1.7	388
PWJ31601	7.30	2.68	15	311	15.2	< 1	0.8	362
PWJ31651	7.34	2.42	18	289	17.4	8	3.4	343
PWJ31701	7.44	5.44	16	264	17.9	< 1	0.5	301
PWJ31751	7.37	4.57	12	253	21.9	1	0.7	281
PWJ31801	7.67	5.73	14	246	27.1	< 1	< 0.3	252
PWJ31851	7.61	5.98	11	259	31.2	< 1	< 0.3	239
Field #-May 1992								
BWJ41FA1	7.48	2.76	23	208	< 0.5	< 1	< 0.3	8
PWJ41001	7.67	3.30	24	209	< 0.5	1	< 0.3	1.4
PWJ41051	7.34	3.71	19	220	< 0.5	1	< 0.3	143
PWJ41101	7.50	3.44	16	209	2.1	1	< 0.3	349
PWJ41151	7.35	3.41	20	205	4.2	1	0.3	351
PWJ41201	7.36	3.31	26	[illegible]	5.7	[illegible]	< 0.3	368
PWJ41251	7.52	2.92	-	187	9.1	< 1	0.8	371
PWJ41301	7.44	3.73	36	232	12.1	< 1	0.6	328
PWJ41351	7.53	3.88	26	228	13.2	< 1	< 0.3	327
PWJ41401	7.43	4.33	15	234	5.3	< 1	< 0.3	334
PWJ41451	7.57	-	-	-	-	-	-	-
PWJ41501	7.41	4.22	27	249	11.3	< 1	< 0.3	374
PWJ41551	7.40	4.79	20	283	12.4	1	< 0.3	399
PWJ41601	7.63	5.10	23	303	14.4	< 1	< 0.3	408
PWJ41651	7.57	5.38	16	299	19.8	< 1	< 0.3	427
PWJ41701	7.63	5.50		279	27.6	< 1	< 0.3	390
PWJ41751	7.60	5.65	21	289	32.5	< 1	< 0.3	359
PWJ41801	7.68	6.06	21	315	38.8	< 1	< 0.3	335
PWJ41851	7.81	6.30	18	299	41.3	< 1	< 0.3	320
PWJ41901	7.90	6.23	18	329	-	-	-	-

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element	Cr nM	Cu nM	Fe µM	Mn µM	Ni nM
Method #	GCW080	GCW080	GCW080	GCW080	GCW080
Field #-May 1991					
MWJ11FA*			0.19	1.7	
PWJ11001			2.6	5.1	
PWJ11041			2.1	4.9	
PWJ11081			1.7	3.7	
PWJ11121			1.1	3.1	
PWJ11161			0.28	2.7	
PWJ11201			0.16	3.3	
PWJ11251			0.15	3.6	
PWJ11301			1.0	3.2	
PWJ11351			1.3	1.5	
PWJ11401			0.99	1.2	
PWJ11451			0.71	1.1	
PWJ11501			0.43	1.0	
Field #-September 1991					
MWJ21FA1	3		1.4	0.31	
PWJ21001	7		5.8	9.0	
PWJ21051	8		3.9	5.3	
PWJ21101	7		3.1	4.1	
PWJ21151	8		2.9	3.5	
PWJ21201	8		0.95	3.0	
PWJ21251	7		0.73	2.8	
PWJ21301	7		0.44	2.5	
PWJ21351	7		1.7	2.2	
PWJ21401	6		0.31	2.0	
PWJ21451	6		1.0	2.0	
PWJ21501	7		2.1	2.0	
PWJ21551	11		2.5	2.5	
PWJ21601	7		0.72	2.2	
PWJ21651	7		3.4	2.3	
PWJ21701	8		0.60	1.9	
PWJ21751	28		-	1.7	
PWJ21801	15		0.65	1.4	
PWJ21851	17		0.11	1.2	
PWJ21901	20		0.14	0.62	

Table 33. Element concentrations in pore waters at Jug Lake, intermediate marsh site (continued).

Element	Cr nM	Cu nM	Fe µM	Mn µM	Ni nM
Method #	GCW080	GCW080	GCW080	GCW080	GCW080
Field #-January 1992					
BWJ31FA1	4	32	0.34	0.25	11
PWJ31001	7	4	0.63	9.9	9
PWJ31051	6	20	0.44	9.6	10
PWJ31101	4	4	0.13	11	25
PWJ31151	4	3	0.06	11	28
PWJ31201	3	2	0.18	11	15
PWJ31251	3	2	0.07	10	12
PWJ31301	3	< 2	0.03	9.4	9
PWJ31351	-	-	-	-	-
PWJ31401	4	5	0.10	7.3	9
PWJ31451	4	5	0.12	6.4	7
PWJ31501	5	4	0.22	6.4	14
PWJ31551	6	3	0.24	5.8	21
PWJ31601	9	6	-	4.3	22
PWJ31651	13	6	-	2.9	10
PWJ31701	11	7	0.23	2.1	12
PWJ31751	9	5	0.55	3.3	16
PWJ31801	12	5	0.09	0.99	8
PWJ31851	13	7	0.33	0.80	11
Field #-May 1992					
BWJ41FA1	7	17	0.43	0.25	23
PWJ41001	8	4	6.0	6.7	16
PWJ41051	8	2	1.2	6.4	12
PWJ41101	6	< 2	0.20	5.8	10
PWJ41151	5	2	0.27	4.5	8
PWJ41201	6	3	0.14	4.4	9
PWJ41251	5	5	< 0.02	4.0	11
PWJ41301	4	2	0.04	4.1	10
PWJ41351	5	2	0.09	4.4	10
PWJ41401	4	4	0.08	4.9	10
PWJ41451	5	4	< 0.02	5.3	15
PWJ41501	4	4	0.03	5.2	10
PWJ41551	6	3	< 0.02	4.5	13
PWJ41601	9	5	0.06	3.2	-
PWJ41651	11	5	0.15	2.0	13
PWJ41701	14	5	0.03	1.2	10
PWJ41751	16	5	0.08	0.73	14
PWJ41801	15	6	0.08	0.43	12
PWJ41851	11	5	0.03	0.50	16
PWJ41901	11	4	0.02	0.54	12

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (depth in cm, see Table 7 for Method # descriptions).

Element Method #	Mid- depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-September 1991									
MWP21FA1	0	< 74	10	4.3	500	< 0.38	< 18	< 100	< 5.8
PWP21001	2	< 74	7.4	2.8	220	< 0.38	< 18	< 100	< 5.8
PWP21021	5	< 74	110	14	270	< 0.38	< 18	< 100	< 5.8
PWP21041	8	< 74	5.6	2.7	270	< 0.38	< 18	< 100	< 5.8
PWP21061	11	< 74	5.6	2.8	270	< 0.38	< 18	< 100	< 5.8
PWP21081	14	< 74	11	3.1	220	< 0.38	< 18	< 100	< 5.8
PWP21101	19	< 74	5.6	1.8	220	< 0.38	< 18	< 100	< 5.8
PWP21151	27	< 74	8.3	1.7	200	< 0.38	< 18	< 100	< 5.8
PWP21201	35	< 74	7.4	2.2	220	< 0.38	< 18	< 100	< 5.8
PWP21251	43	< 74	5.6	2.3	220	< 0.38	< 18	< 100	< 5.8
PWP21301	50	< 74	5.6	2.3	220	< 0.38	< 18	< 100	< 5.8
PWP21351	58	< 74	7.4	2.7	200	< 0.38	< 18	< 100	< 5.8
PWP21401	66	< 74	6.5	1.7	200	< 0.38	< 18	< 100	< 5.8
PWP21451	73	< 74	5.6	1.7	220	< 0.38	< 18	< 100	< 5.8
PWP21501	81	< 74	7.4	3.0	220	< 0.38	< 18	< 100	< 5.8
PWP21551	89	< 74	6.5	2.4	170	< 0.38	< 18	< 100	< 5.8
PWP21601	97	< 74	10	2.0	220	< 0.38	< 18	< 100	< 5.8
PWP21651	104	< 74	7.4	4.0	220	< 0.38	< 18	< 100	< 5.8
PWP21701	112	< 74	6.5	2.3	250	< 0.38	< 18	< 100	< 5.8
PWP21751	120	< 74	4.6	1.7	220	< 0.38	< 18	< 100	< 5.8
PWP21801	128	< 74	12	2.8	250	< 0.38	< 18	< 100	< 5.8
PWP21851	135	< 74	7.4	1.5	250	< 0.38	< 18	< 100	< 5.8
PWP21901	142	< 74	9.3	2.4	250	< 0.38	< 18	< 100	< 5.8
Field #-January 1992									
BWP31FA1	0	< 74	1.9	0.68	320	< 0.38	< 18	77	< 12
PWP31001	2	< 74	2.8	0.80	270	< 0.38	< 18	100	< 12
PWP31021	6	< 74	2.8	0.87	270	< 0.38	< 18	100	< 12
PWP31041	9	< 74	3.7	0.80	220	< 0.38	< 18	100	< 12
PWP31061	13	< 74	3.7	0.73	220	0.38	< 18	100	< 12
PWP31081	17	< 74	3.7	0.66	200	< 0.38	< 18	77	< 12
PWP31101	23	< 74	3.7	0.95	220	< 0.38	< 18	77	< 12
PWP31151	32	< 74	3.7	0.68	220	< 0.38	< 18	77	< 12
PWP31201	41	< 74	4.6	0.56	220	< 0.38	< 18	77	< 12
PWP31251	50	< 74	4.6	0.63	220	0.38	< 18	51	< 12
PWP31301	60	< 74	4.6	0.65	250	0.38	< 18	51	< 12
PWP31351	69	< 74	4.6	0.43	220	< 0.38	< 18	51	< 12
PWP31401	78	< 74	4.6	0.53	220	< 0.38	< 18	51	< 12
PWP31451	87	< 74	4.6	0.40	250	< 0.38	< 18	51	< 12
PWP31501	96	< 74	3.7	0.35	220	< 0.38	< 18	51	< 12
PWP31551	106	-	-	-	-	-	-	-	-
PWP31601	115	-	-	-	-	-	-	-	-
PWP31651	124	-	-	-	-	-	-	-	-
PWP31701	131	-	-	-	-	-	-	-	-

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element Method #	Mid-depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-May 1992									
BWP41FA1	0	< 74	1.9	0.67	300	< 0.38	< 18	20	< 12
PWP41001	2	< 74	4.6	1.2	370	< 0.38	36	51	< 12
PWP41021	5	< 74	4.6	1.1	370	< 0.38	36	51	< 12
PWP41041	8	< 74	3.7	0.95	350	< 0.38	< 18	26	< 12
PWP41061	12	< 74	3.7	0.95	320	< 0.38	< 18	51	< 12
PWP41081	15	< 74	2.8	0.87	300	0.77	< 18	51	< 12
PWP41101	21	< 74	2.8	0.80	270	< 0.38	< 18	51	< 12
PWP41151	30	< 74	2.8	0.71	270	< 0.38	< 18	51	< 12
PWP41201	38	< 74	3.7	0.66	250	< 0.38	< 18	51	< 12
PWP41251	47	< 74	3.7	0.53	250	< 0.38	< 18	51	< 12
PWP41301	55	< 74	3.7	0.44	250	< 0.38	< 18	51	< 12
PWP41351	64	< 74	3.7	0.39	250	< 0.38	< 18	51	< 12
PWP41401	72	< 74	3.7	0.43	250	< 0.38	< 18	51	< 12
PWP41451	81	< 74	4.6	1.1	220	< 0.38	< 18	51	< 12
PWP41501	89	< 74	4.6	0.31	220	< 0.38	< 18	51	< 12
PWP41551	97	< 74	3.7	0.32	250	< 0.38	< 18	51	< 12
PWP41601	106	< 74	3.7	0.39	270	< 0.38	< 18	51	< 12
PWP41651	114	< 74	4.6	0.43	300	< 0.38	< 18	51	< 12
PWP41701	123	-	-	-	-	-	-	-	-
PWP41751	131	-	-	-	-	-	-	-	-
PWP41801	139	< 74	3.7	0.65	320	< 0.38	< 18	51	< 12

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element	Mg µM	Mn µM	Na µM	Si µM	Sr µM	Zn µM	Cl mM	S tot. µM	S^{2-} µM
Method #	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	GCW050	GCW055	GCW030
Field #-September 1991									
MWP21FA1	330	< 0.36	1000	140	1.6	4.3	0.98	70	< 5
PWP21001	160	1.2	870	250	0.71	2.6	0.96	22	< 5
PWP21021	210	1.8	960	360	1.1	20	0.98	19	< 5
PWP21041	210	1.5	910	250	0.86	3.8	0.97	24	< 5
PWP21061	210	1.3	910	250	0.81	3.5	0.98	26	< 5
PWP21081	160	0.73	910	210	0.75	4.1	0.96	20	< 5
PWP21101	210	0.62	960	210	0.73	2.6	0.96	12	< 5
PWP21151	160	0.58	1000	180	0.66	2.3	0.99	10	< 5
PWP21201	210	0.55	1000	140	0.71	2.8	0.99	11	< 5
PWP21251	210	0.51	1000	140	0.71	2.4	1.0	10	< 5
PWP21301	160	0.55	1000	140	0.70	2.6	1.0	11	< 5
PWP21351	160	0.40	1000	140	0.65	3.5	0.99	13	< 5
PWP21401	160	0.38	1000	140	0.65	2.1	1.0	11	< 5
PWP21451	160	0.42	1100	140	0.70	2.0	1.1	11	< 5
PWP21501	160	0.40	1100	140	0.71	3.7	1.1	19	< 5
PWP21551	160	0.42	1000	140	0.59	3.2	1.0	15	< 5
PWP21601	210	0.40	1100	140	0.72	3.4	1.1	17	< 5
PWP21651	210	0.51	1100	140	0.78	4.3	1.1	31	< 5
PWP21701	210	0.44	1100	140	0.81	3.1	1.1	18	< 5
PWP21751	210	0.53	1100	140	0.74	1.5	1.1	14	< 5
PWP21801	210	0.53	1100	140	0.80	3.4	1.1	24	< 5
PWP21851	210	0.53	1200	180	0.80	3.1	1.1	28	< 5
PWP21901	210	0.51	1200	180	0.81	2.9	1.1	16	< 5
Field #-January 1992									
BWP31FA1	210	< 0.36	830	< 7.1	0.84	< 0.92	0.88	81	< 5
PWP31001	210	1.8	910	25	0.78	< 0.92	0.99	23	< 5
PWP31021	210	1.5	960	36	0.75	< 0.92	1.0	38	< 5
PWP31041	160	1.1	960	36	0.64	< 0.92	1.0	44	< 5
PWP31061	160	0.82	1000	71	0.61	< 0.92	1.0	37	< 5
PWP31081	160	0.64	1000	71	0.55	< 0.92	1.1	47	< 5
PWP31101	160	0.75	1200	110	0.62	1.5	1.2	68	< 5
PWP31151	160	0.66	1400	71	0.62	< 0.92	1.6	56	< 5
PWP31201	160	0.67	1500	71	0.64	< 0.92	1.5	57	< 5
PWP31251	210	0.58	1600	71	0.67	< 0.92	1.7	21	< 5
PWP31301	210	0.49	1600	71	0.72	< 0.92	1.8	17	< 5
PWP31351	210	0.47	1600	71	0.68	< 0.92	1.8	40	< 5
PWP31401	210	0.51	1500	110	0.65	1.2	1.8	24	< 5
PWP31451	210	0.51	1500	110	0.68	< 0.92	1.8	21	< 5
PWP31501	210	0.44	1600	71	0.68	< 0.92	1.8	19	< 5
PWP31551	-	-	-	-	-	-	-	-	< 5
PWP31601	-	-	-	-	-	-	2.0	-	< 5
PWP31651	-	-	-	-	-	-	-	-	< 5
PWP31701	-	-	-	-	-	-	-	-	< 5

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element	Mg µM	Mn µM	Na µM	Si µM	Sr µM	Zn µM	Cl mM	S tot. µM	S^{2-} µM
Method #	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	LQZ000	GCW050	GCW055	GCW030
Field #-May 1992									
BWP41FA1	160	< 0.36	650	25	0.79	< 0.92	0.57	70	< 5
PWP41001	250	2.7	1700	140	0.92	1.5	-	-	-
PWP41021	250	2.9	1700	210	0.96	< 0.92	1.9	53	< 5
PWP41041	250	2.2	1300	250	0.90	< 0.92	1.6	37	< 5
PWP41061	250	1.8	1100	210	0.87	< 0.92	1.2	32	< 5
PWP41081	210	1.4	1000	180	0.78	< 0.92	1.0	32	< 5
PWP41101	210	1.0	870	180	0.74	< 0.92	0.86	28	< 5
PWP41151	210	0.80	830	140	0.73	< 0.92	0.71	26	< 5
PWP41201	210	0.95	780	110	0.72	< 0.92	0.37	26	< 5
PWP41251	210	0.60	910	110	0.72	1.5	0.77	21	< 5
PWP41301	210	0.51	1100	110	0.73	< 0.92	0.93	25	< 5
PWP41351	210	0.44	1200	110	0.72	< 0.92	1.0	22	< 5
PWP41401	210	0.46	1300	110	0.68	< 0.92	1.2	17	< 5
PWP41451	210	0.46	1300	110	0.68	3.1	-	-	-
PWP41501	210	0.44	1400	110	0.64	< 0.92	-	12	< 5
PWP41551	210	0.49	1500	110	0.68	< 0.92	1.7	11	< 5
PWP41601	250	0.58	1700	140	0.80	< 0.92	1.9	18	< 5
PWP41651	250	0.64	1900	140	0.89	< 0.92	-	-	< 5
PWP41701	-	-	-	-	-	-	2.5	-	< 5
PWP41751	-	-	-	-	-	-	-	-	-
PWP41801	290	0.89	2100	180	0.95	1.4	-	15	-

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element	pH	Alk. meq/l	DOC mg/l	Si μM	PO_4 μM	NO_3 μM	NO_2 μM	NH_4 μM
Method #	GCW020	GCW040	GCW060	GCW090	GCW070	GCW070	GCW070	GCW070
Field #-September 1991								
MWP21FA1	6.89	1.91		146				
PWP21001	6.98	0.75		233				
PWP21021	6.93	1.02		241				
PWP21041	6.99	0.87		242				
PWP21061	6.99	1.07		232				
PWP21081	6.86	0.70		213				
PWP21101	6.97	0.95		199				
PWP21151	7.03	0.95		164				
PWP21201	6.94	1.06		151				
PWP21251	6.98	1.05		147				
PWP21301	6.85	0.89		146				
PWP21351	6.91	0.86		139				
PWP21401	6.85	0.89		138				
PWP21451	6.86	1.02		137				
PWP21501	6.86	1.02		138				
PWP21551	7.01	0.84		140				
PWP21601	6.94	0.87		141				
PWP21651	6.70	0.79		143				
PWP21701	6.82	1.16		143				
PWP21751	6.76	1.04		143				
PWP21801	6.80	1.13		143				
PWP21851	6.78	1.15		145				
PWP21901	6.76	1.17		149				
Field #-January 1992								
BWP31FA1	7.60	1.16		14	< 0.5	13	0.5	1.7
PWP31001	7.07	1.16		29	2.4	< 1	0.4	26.1
PWP31021	6.95	1.15		40	9.2	< 1	0.6	37.0
PWP31041	6.87	0.97		40	5.8	< 1	0.7	32.4
PWP31061	6.84	0.72		37	3.0	< 1	0.8	23.7
PWP31081	6.81	0.82		42	4.0	< 1	0.9	28.8
PWP31101	6.73	0.79		50	6.7	< 1	0.7	28.1
PWP31151	6.67	0.79		68	4.4	< 1	0.9	23.3
PWP31201	6.65	0.78		72	4.2	< 1	0.5	18.9
PWP31251	6.77	0.78		77	2.8	< 1	0.4	17.9
PWP31301	6.68	0.72		145	1.6	< 1	0.6	14.9
PWP31351	6.62	0.73		4	2.5	< 1	0.4	15.1
PWP31401	6.64	0.71		95	2.1	< 1	0.5	14.1
PWP31451	6.68	0.73		102	1.4	< 1	0.3	9.2
PWP31501	6.68	0.79		78	1.7	< 1	0.6	14.5
PWP31551	6.61	0.66		-	1.6	< 1	0.6	17.8
PWP31601	6.69	0.67		109	1.3	< 1	0.7	18.0
PWP31651	6.62	0.42		-	-	-	-	-
PWP31701	6.71	0.41		-	-	-	-	-

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element	pH	Alk. meq/l	DOC mg/l	Si µM	PO_4 µM	NO_3 µM	NO_2 µM	NH_4 µM
Method #	GCW020	GCW040	GCW060	GCW090	GCW070	GCW070	GCW070	GCW070
Field #-May 1992								
BWP41FA1	-	0.92	24	28	< 0.5	4	0.5	1.7
PWP41001	6.93	1.13	-	-	-	-	-	-
PWP41021	6.59	0.99	57	88	7.6	3	1.2	59.8
PWP41041	6.39	0.86	24	155	7.0	< 1	0.6	35.5
PWP41061	6.41	1.03	24	163	3.3	< 1	0.6	26.9
PWP41081	6.42	0.90	19	107	3.4	< 1	0.6	23.4
PWP41101	6.43	0.92	18	162	2.4	2	2.8	18.2
PWP41151	6.43	0.99	13	115	3.8	< 1	0.7	15.9
PWP41201	6.61	0.96	11	94	2.2	< 1	0.9	19.3
PWP41251	6.60	0.73	-	109	2.6	< 1	0.8	34.1
PWP41301	6.68	1.24	-	111	3.0	< 1	0.8	31.8
PWP41351	6.72	0.84	11	108	2.4	< 1	5.7	31.2
PWP41401	6.67	1.12	9.8	34	2.4	4	0.9	33.4
PWP41451	6.71	0.80	12	-	-	-	-	-
PWP41501	6.85	0.82	11	90	2.4	< 1	0.7	27.1
PWP41551	6.78	0.80	25	97	1.6	< 1	0.6	31.1
PWP41601	6.66	0.87	9.9	104	1.3	< 1	0.6	32.8
PWP41651	6.64	1.01	14	115	1.4	< 1	0.6	40.7
PWP41701	6.64	0.84		185	1.6	< 1	0.6	51.5
PWP41751	6.77	1.11	18	-	-	-	-	-
PWP41801	6.78	0.90	-	140	1.1	< 1	0.6	57.7

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element	Cr nM	Cu nM	Fe µM	Mn µM	Ni nM
Method #	GCW080	GCW080	GCW080	GCW080	GCW080
Field #-September 1991					
MWP21FA1	23		10	0.13	
PWP21001	140		5.3	1.8	
PWP21021	150		6.7	2.4	
PWP21041	150		5.7	2.3	
PWP21061	130		3.8	1.6	
PWP21081	83		1.6	0.94	
PWP21101	71		0.83	0.75	
PWP21151	32		0.80	0.57	
PWP21201	24		0.60	0.57	
PWP21251	21		0.65	0.59	
PWP21301	17		0.66	0.56	
PWP21351	8		0.52	0.44	
PWP21401	5		0.48	0.45	
PWP21451	4		0.42	0.47	
PWP21501	3		2.0	0.45	
PWP21551	4		1.2	0.45	
PWP21601	2		0.47	0.45	
PWP21651	2		0.42	0.52	
PWP21701	< 2		0.87	0.55	
PWP21751	2		1.2	0.58	
PWP21801	2		0.93	0.57	
PWP21851	2		0.87	0.52	
PWP21901	5		2.9	0.57	
Field #-January 1992					
BWP31FA1	< 2	6	2.0	0.03	7
PWP31001	7	8	7.9	2.0	11
PWP31021	6	13	5.9	1.9	15
PWP31041	6	19	3.5	1.2	15
PWP31061	24	24	-	0.90	30
PWP31081	3	8	1.2	0.54	8
PWP31101	3	6	0.53	0.47	8
PWP31151	3	5	0.34	0.57	8
PWP31201	3	3	0.31	0.60	9
PWP31251	3	35	0.15	0.60	7
PWP31301	2	4	0.11	0.50	8
PWP31351	2	11	0.19	0.49	9
PWP31401	3	4	0.21	0.45	9
PWP31451	2	4	-	0.48	8
PWP31501	2	4	0.31	0.45	6
PWP31551	3	15	0.26	0.42	8
PWP31601	3	9	0.31	0.46	7
PWP31651	2	27	0.45	0.48	6
PWP31701	3	7	0.38	0.45	6

Table 34. Element concentrations in pore waters at Peoples Canal, fresh water marsh site (continued).

Element	Cr nM	Cu nM	Fe µM	Mn µM	Ni nM
Method #	GCW080	GCW080	GCW080	GCW080	GCW080
Field #-May 1992					
BWP41FA1	-	-	-	-	-
PWP41001	-	-	-	-	-
PWP41021	19	16	38	3.8	42
PWP41041	10	5	11	2.8	20
PWP41061	8	7	4.3	2.3	14
PWP41081	8	5	3.7	1.6	11
PWP41101	5	5	2.4	1.1	8
PWP41151	5	3	1.2	0.90	6
PWP41201	3	5	0.34	1.0	5
PWP41251	8	4	0.96	0.78	7
PWP41301	3	3	0.28	0.56	5
PWP41351	4	< 2	0.08	0.55	3
PWP41401	4	3	0.26	0.51	5
PWP41451	-	-	-	-	-
PWP41501	3	2	0.18	0.50	5
PWP41551	4	6	0.38	0.61	9
PWP41601	2	< 2	0.37	0.68	7
PWP41651	3	4	0.64	0.84	7
PWP41701	3	7	1.4	1.0	9
PWP41751	-	-	-	-	-
PWP41801	-	-	-	-	-

Table 35. Element concentrations in pore waters at Lac des Allemands, fresh water marsh site (depth in cm, see Table 7 for Method # descriptions).

Element Method #	Mid- depth	Al µM LQZ000	B µM LQZ000	Ba µM LQZ000	Ca µM LQZ000	Cr µM LQZ000	Fe µM LQZ000	K µM LQZ000	Li µM LQZ000
Field #-September 1991									
MWA21FA1	0	< 74	< 4.6	0.29	200	< 0.38	< 18	< 100	< 5.8
PWA21001	2	< 74	3.7	1.3	170	< 0.38	< 18	< 100	< 5.8
PWA21021	6	< 74	6.5	3.0	150	< 0.38	36	< 100	< 5.8
PWA21041	9	< 74	9.3	2.6	170	< 0.38	18	< 100	< 5.8
PWA21061	13	< 74	7.4	4.6	200	< 0.38	18	< 100	< 5.8
PWA21081	17	< 74	5.6	3.5	170	< 0.38	18	< 100	< 5.8
PWA21101	23	< 74	3.7	1.2	170	< 0.38	36	< 100	< 5.8
PWA21151	32	< 74	4.6	0.95	150	< 0.38	18	< 100	< 5.8
PWA21201	41	< 74	3.7	1.3	120	< 0.38	< 18	< 100	< 5.8
PWA21251	51	110	6.5	1.7	150	< 0.38	36	< 100	< 5.8
PWA21301	60	190	6.5	2.0	150	< 0.38	36	< 100	< 5.8
PWA21351	69	< 74	17	3.1	120	< 0.38	< 18	< 100	< 5.8
PWA21401	78	< 74	7.4	1.2	100	< 0.38	< 18	< 100	< 5.8
PWA21451	87	< 74	7.4	1.1	120	< 0.38	< 18	< 100	< 5.8
PWA21501	97	< 74	10	1.7	100	< 0.38	18	< 100	< 5.8
PWA21551	106	< 74	19	2.7	100	< 0.38	< 18	< 100	< 5.8
PWA21601	115	< 74	13	1.5	120	< 0.38	18	< 100	< 5.8
PWA21651	123	< 74	10	0.87	150	< 0.38	< 18	< 100	< 5.8

Element Method #	Mg µM LQZ000	Mn µM LQZ000	Na µM LQZ000	Si µM LQZ000	Sr µM LQZ000	Zn µM LQZ000	Cl mM GCW050	S tot. µM GCW055	S^{2-} µM GCW030
Field #-September 1991									
MWA21FA1	210	0.89	960	140	0.70	< 0.61	0.93	31	< 5
PWA21001	160	1.6	910	140	0.58	2.8	0.90	17	< 5
PWA21021	120	1.3	830	180	0.57	4.4	0.81	19	< 5
PWA21041	160	1.3	830	180	0.66	4.9	0.73	27	< 5
PWA21061	210	1.3	870	180	0.78	7.0	0.74	27	< 5
PWA21081	160	1.2	740	180	0.72	4.1	0.71	52	< 5
PWA21101	210	1.1	700	180	0.72	2.0	0.49	30	< 5
PWA21151	160	0.80	700	210	0.62	2.3	0.63	17	< 5
PWA21201	120	0.64	740	250	0.47	2.3	0.63	22	< 5
PWA21251	160	0.87	910	390	0.56	2.6	0.64	27	< 5
PWA21301	160	0.98	1000	530	0.57	3.4	0.65	36	8
PWA21351	120	0.66	1200	320	0.46	4.0	0.64	22	< 5
PWA21401	120	0.62	1400	360	0.39	3.5	0.59	30	< 5
PWA21451	120	0.73	1700	360	0.43	1.7	0.66	51	< 5
PWA21501	120	0.69	1700	320	0.40	2.8	0.79	47	< 5
PWA21551	120	0.66	1900	280	0.40	4.7	1.0	42	< 5
PWA21601	160	0.87	2700	320	0.49	3.8	2.0	36	< 5
PWA21651	210	1.1	3200	320	0.55	2.0	2.8	23	< 5

Table 35. Element concentrations in pore waters at Lac des Allemands, fresh water marsh site (continued).

Element	pH	Alk. meq/l	Si μM
Method #	GCW020	GCW040	GCW090
Field #-September 1991			
MWA21FA1	6.35	0.89	136
PWA21001	6.45	0.63	130
PWA21021	6.17	0.62	145
PWA21041	6.41	0.69	138
PWA21061	6.30	0.78	141
PWA21081	6.25	0.64	143
PWA21101	6.18	0.69	169
PWA21151	6.06	0.72	217
PWA21201	6.16	0.44	228
PWA21251	6.14	0.75	240
PWA21301	6.22	0.81	270
PWA21351	6.25	0.93	279
PWA21401	6.30	1.20	292
PWA21451	6.36	1.34	288
PWA21501	6.37	1.42	280
PWA21551	6.42	1.38	277
PWA21601	6.40	1.12	289
PWA21651	6.40	1.31	312

Table 36. Summary of analysis results on a dry-weight basis for botanical standard reference materials.

Element	NIST SRM 1572, Citrus Leaves				NIST SRM 1575, Pine Needles			
	This work		NIST value[2]	Consensus value[3]	This work		NIST value[2]	Consensus value[3]
	Mean[1]	Range			Mean[1]	Range		
C%	43	1	-	-	50	0	-	50.49
H%	5.8	0.2	-	5.96	6.5	0	-	6.48
N%	2.9	0.1	(2.86)	3.62	1.2	0.1	(1.2)	1.20
S%	0.41	0.03	0.407	0.408	0.13	0	-	0.13
Ash %	13.7	0.3	-	-	2.69	0.13	-	-
Al µg/g	75	15	92	76	590	30	545	510
Ca%	3.27	0.2	3.15	3.13	0.42	0.007	0.41	0.42
Fe µg/g	89	12	90	101	190	4	200	185
K%	1.91	0.04	1.82	1.83	0.36	0.04	0.37	0.37
Mg µg/g	6000	140	5800	5600	1100	26	-	1200
Na µg/g	210	140	160	163	54	3	-	50
P µg/g	1600	100	1300	1310	1300	10	1200	1200
Ti µg/g	< 14	-	-	22	12	1.7	-	14
Ba µg/g	21	0.5	21	24	7.3	0.4	-	7.2
Cd µg/g	< 0.6	-	0.03	0.046	0.2	0.02	(< 0.5)	0.22
Ce µg/g	< 1	-	(0.28)	0.45	< 0.2	0.14	(0.4)	0.21
Co µg/g	0.4	0.01	(0.02)	0.016	0.2	0.01	(0.1)	0.12
Cr µg/g	1	0.1	0.8	1	2.4	0.05	2.6	2.6
Cu µg/g	17	1	16.5	16	2.8	0.13	3	3
Ga µg/g	< 1	-	-	-	0.60	0.67	-	-
La µg/g	< 0.6	-	(0.19)	0.2	0.2	0.01	(0.2)	0.16
Li µg/g	< 0.6	-	-	0.23	0.2	0.01	-	0.34
Mn µg/g	23	2	23	23	629	50	675	650
Mo µg/g	< 0.6	-	0.17	0.15	0.1	0.02	-	0.15
Nd µg/g	< 1	-	-	0.317	< 0.2	-	-	0.164
Ni µg/g	< 0.6	-	0.6	0.72	2.2	0.02	(3.5)	2.5
Pb µg/g	13	0.93	13.3	13.4	9.7	1	10.8	10.7
Sr µg/g	110	1	100	98	4.8	0.23	4.8	5
Th µg/g	< 1	-	-	-	0.27	0.01	0.037	0.040
V µg/g	< 0.6	-	-	0.24	0.30	0.07	-	0.39
Y µg/g	< 0.6	-	-	-	0.11	0.014	-	-
Zn µg/g	29	0.7	29	30	62	2	-	67

[1] Arithmetic average of two analyses. [2] NIST values from Certificate of Analysis for each reference material; values in parentheses are non-certified values. [4] Arithmetic average of all published values as of 3/86, frequently n equals only 1 or 2 (Gladney and others, 1987).

Table 37. Summary of analysis results for sediment quality control standards.

	NIST SRM 1646, Estuarine Sediment (n=11)				NIST SRM 2704, Buffalo River Sediment (n=11)			
	This work				This work			
Element	Average[1]	Std. Dev.[2]	NIST value[3]	Consensus value[4,5]	Average	Std. Dev.	NIST value	Consensus value
C total%	1.79	0.05	-	1.67	3.51	0.06	3.348	-
C org%[6]	1.70	0.06	-	1.57	2.63	0.07	-	-
C crbnt%[6]	0.10	0	-	0.099	0.88	0.01	-	-
C total%[7]	1.7	0	-	1.67	3.4	0.06	3.348	-
N %[7]	0.17	0.01	-	-	0.18	0.01	-	-
S%	0.94	0.03	(0.96)	0.96	0.30	0.03	0.397	0.378
Ash%	95.0	0.3	-	-	95.1	0.2	-	-
Al%	6.2	0.1	6.25	6.13	6.2	0.1	6.11	6.28
Ca%	0.88	0.03	0.83	0.83	2.72	0.04	2.60	2.61
Fe%	3.4	0.1	3.35	3.37	4.2	0.05	4.11	4.15
K%	1.9	0.1	(1.4)	1.94	2.0	0.1	2.00	2.02
Mg%	1.1	0.03	1.09	1.04	1.2	0	1.20	1.18
Na%	2.0	0.05	(2.0)	1.95	0.63	0.01	0.547	0.60
P%	0.07	0.004	0.054	0.047	0.10	0.003	0.0998	0.071
Ti%	0.38	0.02	(0.51)	0.46	0.29	0.01	0.457	0.44
As µg/g	< 10	-	11.6	11.0	20	3	23.4	21.8
Ba µg/g	405	18	-	413	420	12	414	420
Be µg/g	< 2	-	(1.5)	1.16	< 2	-	-	0.73
Cd µg/g	< 4	-	0.36	0.36	< 4	-	3.45	3.2
Ce µg/g	63	6	(80)	78	57	4	(72)	67
Co µg/g	10	1	10.5	10.1	15	3	14.0	13.8
Cr µg/g	73	7	76	75	140	6	135	133
Cu µg/g	18	2	18	17	97	3	98.6	94
Ga µg/g	16	3	-	16	15	3	(15)	14.6
La µg/g	33	3	-	37.0	29	2	(29)	32
Li µg/g	49	2	(49)	46	49	1	47.5	43
Mn µg/g	360	10	375	360	580	12	555	550
Mo µg/g	< 4	-	(2.0)	4	< 4	-	-	5.2
Nb µg/g	7	2	-	18	< 4	-	-	16
Nd µg/g	30	2	-	38	29	2	-	32
Ni µg/g	30	1	32	32	44	1	44.1	46
Pb µg/g	27	2	28.2	29	150	9	161	156
Sc µg/g	10	0.5	(10.8)	10.5	11	1	(12)	12.0
Sr µg/g	150	5	-	170	130	5	(130)	171
Th µg/g	9	1	(10)	10.0	9	1	(9.2)	9.2

Table 37. Summary of analysis results for sediment quality control standards (continued).

	NIST SRM 1646, Estuarine Sediment (n=11)				NIST SRM 2704, Buffalo River Sediment (n=11)			
	This work				This work			
Element	Average[1]	Std. Dev.[2]	NIST value[3]	Consensus value[4,5]	Average	Std. Dev.	NIST value	Consensus value
V µg/g	90	2	94	88	92	2	95	95
Y µg/g	18	1	-	21	20	1	-	22
Yb µg/g	2	0.3	-	2.7	2	0.4	(2.8)	3.26
Zn µg/g	120	5	138	127	440	21	438	434

[1] Average of all non-qualified values. [2] Sample standard deviation. [3] NIST values from Certificate of Analysis for each reference material; values in parentheses are non-certified values. [4] Arithmetic average of all published values as of 7/92, frequently n equals only 1 or 2 (Gladney and others, 1994). [5] Values for forms of C (i.e., total, organic, and carbonate C) from Jackson and Roof (1992). [6] n = 6. [7] Determined by C,H,&N analyzer (method RTZ000), n = 3.

Table 38. Summary of analysis results for USGS-WRD standard reference water quality control standards.

	WRD T85 (trace constituents standard)					WRD M112 (major constituents standard)				
Element	Minimum	Maximum	Mean[1]	Std. Dev.[2]	Most Probable Value	Minimum	Maximum	Mean[3]	Std. Dev.	Most Probable Value
Al mg/l	-	< 2	-	-	0.035	-	< 2	-	-	-
B µg/l	190	250	206	15	-	< 20	20	-	-	22
Ba µg/l	< 40	44	-	-	36	-	< 40	-	-	-
Ca mg/l	67	83	74	5	-	10	14	13	1	12.4
Cr µg/l	< 20	60	-	-	3.9	< 20	40	-	-	-
Cu µg/l	30	70	52	15	54.1	< 20	30	-	-	-
Fe mg/l	-	< 1	-	-	0.188	-	< 1	-	-	-
K mg/l	< 4	5	-	-	-	< 4	4	-	-	3.2
Li µg/l	-	< 80	-	-	29	-	< 80	-	-	-
Mg mg/l	50	65	55	4	-	3	4	3	0.5	3.04
Mn µg/l	80	110	99	6	96.7	-	< 20	-	-	-
Na mg/l	72	110	81	9	-	33	50	41	4	41
Si mg/l	3	5	4	0.4	-	1	2	2	0.2	1.86
Sr µg/l	1000	1300	1180	130	1196	80	100	94	6	89
Zn µg/l	90	120	103	6	103	-	< 60	-	-	-

[1] For T85, n = 38 for most elements. [2] Sample standard deviation [3] For M112, n = 24 for most elements.