METHODS FOR THE COLLECTION OF GEOCHEMICAL DATA FROM THE SEDIMENTS OF THE TIDAL POTOMAC RIVER AND ESTUARY, AND DATA FOR 1978-1980

by Steven D. Goodwin, Barbara I. Schultz, David L. Parkhurst,
Nancy S. Simon, Edward Callender

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CONVERSION TABLE: METRIC TO INCH-POUND

Multiply SI units	by	To obtain inch-pound units
	Length	
nanometer (nm)	3.937×10^{-8}	inch (in)
micrometer (µm)	3.937×10^{-5}	inch (in)
millimeter (mm)	3.937×10^{-2}	inch (in)
centimeter (cm)	0.3937	inch (in)
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
	Volume	
microliter (µL)	3.382×10^{-5}	ounce, fluid (oz)
milliliter (mL)	3.382 X 10-2	ounce, fluid (oz)
liter (L)	33.82	ounce, fluid (oz)
liter (L)	0.2642	gallon (gal)
	Mass	
milligram (mg)	3.527×10^{-5}	ounce, avoirdupois (oz)
gram (g)	3.527×10^{-2}	ounce, avoirdupois (oz)
	Temperature	
degree Celsius (°C)	$F = 9/5\ ^{\circ}C + 32$	degree Fahrenheit (°F)

OTHER ABBREVIATIONS

meq/L	milliequivalent per liter
mmol/L	millimole per liter
µmol/L	micromole per liter
nmol/L	nanomole per liter
mV	millivolt

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ABSTRACT

The chemical composition of bottom sediments and their associated pore waters from the tidal Potomac River and Estuary was studied from May 1978 through June 1980. Pore waters were routinely analyzed for pH, Eh, alkalinity, and concentrations of sulfide, sulfate, phosphate, carbon, ammonium, silica, iron, manganese, chloride, sodium, potassium, calcium, and magnesium. Porosity, weight loss on ignition, and carbon, nitrogen, and phosphorus contents were determined for the solid sediments. The range of salinity and chemical composition encountered in the estuary frequently necessitated modifications of standard methods of analysis. Therefore, the methods used, their modifications, and their limitations are presented in some detail. The appendix lists the data obtained during six sampling periods.

INTRODUCTION

From June 1977 to September 1982, the U.S. Geological Survey conducted a study of the tidal Potomac River and Estuary. One part of that study was an investigation of the chemical composition of the bottom sediments and their associated pore waters. The investigation examined both spatial and seasonal variation over a three-year period. The data from this investigation are presented in the Appendix. The body of this report presents the methods which were used to obtain the data. Although many of the methods are standard and commonly employed, they are presented here in some detail for two reasons. The first is that the wide range of salinities encountered in the estuary necessitated many modifications of the methods. It is hoped that presentation of these modifications will be useful to others undertaking sediment chemistry studies in estuaries. The second reason for the detailed presentation is that even standard methods have limitations and can present problems when applied to as heterogeneous an environment as estuarine sediment. It is important that these limitations and problems be clearly stated for those who will use and interpret these data.

Station Locations

The locations of all stations are presented in figures 1-3. Cores are designated by both the site from which they were taken and the cruise during which that station was occupied. The first letter of the site designation, V or J, indicates the ship from which the core was taken, either the R/V Venus or the R/V Judith Ann, respectively. At the end of August 1978, three stations were sampled which were labelled H1, H2, and H3. The H represents an associated investigator, Douglas E. Hammond, although the R/V Venus was the ship from which the sampling was done. The cruises are represented by two numerals for the year of the cruise, followed by two numerals for the month of the cruise (e.g., 7809 represents a cruise in September 1978). The cruise dates are as listed in table 1.

During September 1978, two to four cores were taken at each station, as indicated by the letters A, B, C, and D after the station number. A central buoy was placed and cores were retrieved on a crossing pattern, each core being approximately 150 m from the central buoy. In addition to providing information on seasonal changes that occurred between May and September, this procedure allowed us to determine the spatial variability at the sites.

Table 1.- Cruise dates and codes

Sampling Dates	Code	Stations Sampled	Ship Used
May 10 - May 30, 1978	7805	V1 through V28	R/V Venus
Aug. 29 - Aug. 31, 1978	7808	H1 through H3	R/V Venus
Sept. 5 - Sept. 22, 1978	7809	V3A-C, V6A-D, V14A-D, V16A-D, V20A-D, V26A-D, V28A-B	R/V Venus
Mar. 20 - Mar. 22, 1979	7903	V3B,D, V14B,D, V26B,D	R/V Venus
July 31 - Aug. 5, 1979	7908	V3,V14, V16, V26, V28, VSM, VPI, VBB, VPT,VPC VQ	R/V Venus
Oct. 31 - Nov. 7, 1979	7910	JQA, JQB, JPT, J16, JPC, JQC	R/V Judith Ann
June 10 - June 19, 1980	8006	J-IHA, J-IHC, JBELA JBELC, JMPA, JMPB	R/V Judith Ann

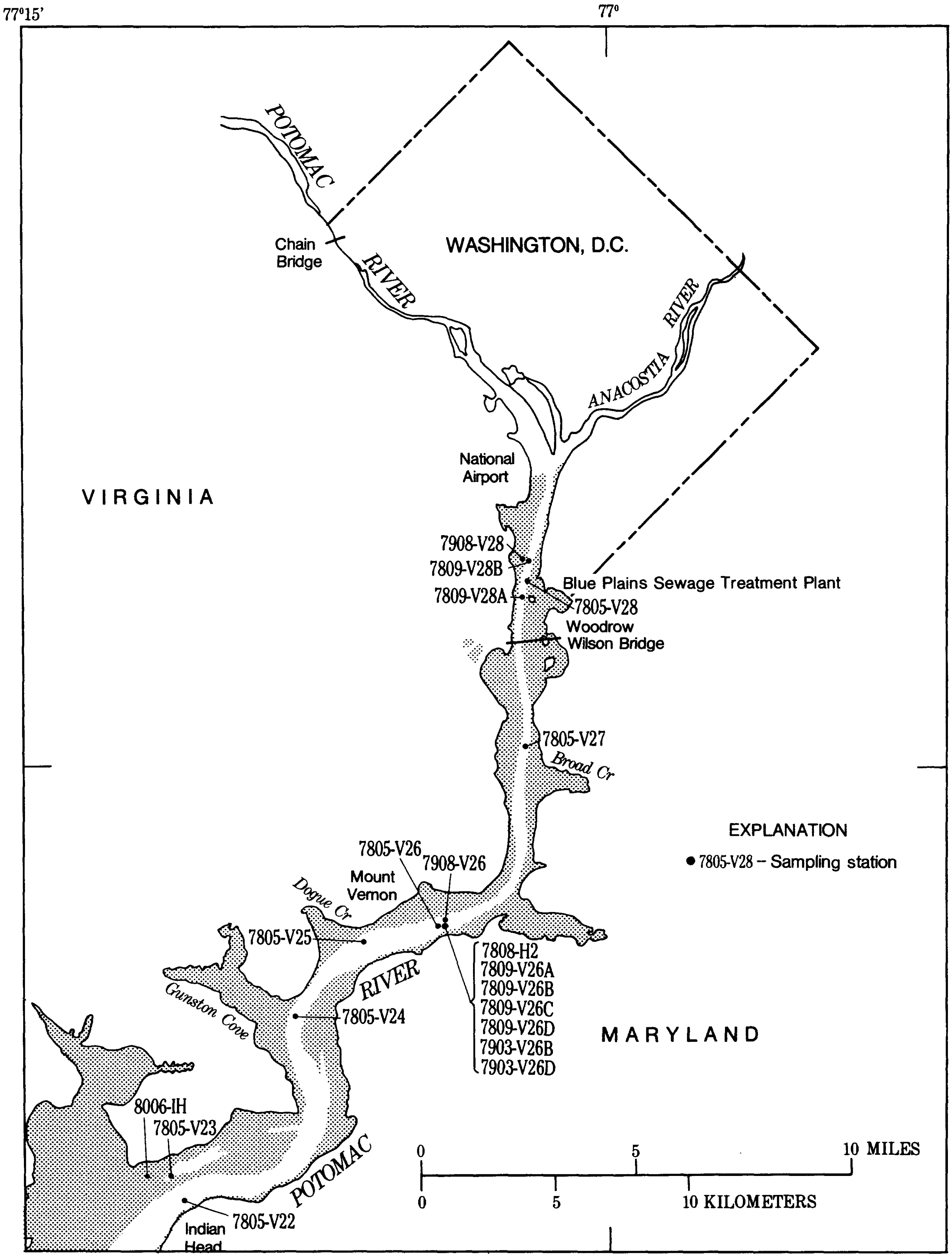

Figure 1.- Station locations in the tidal Potomac River.

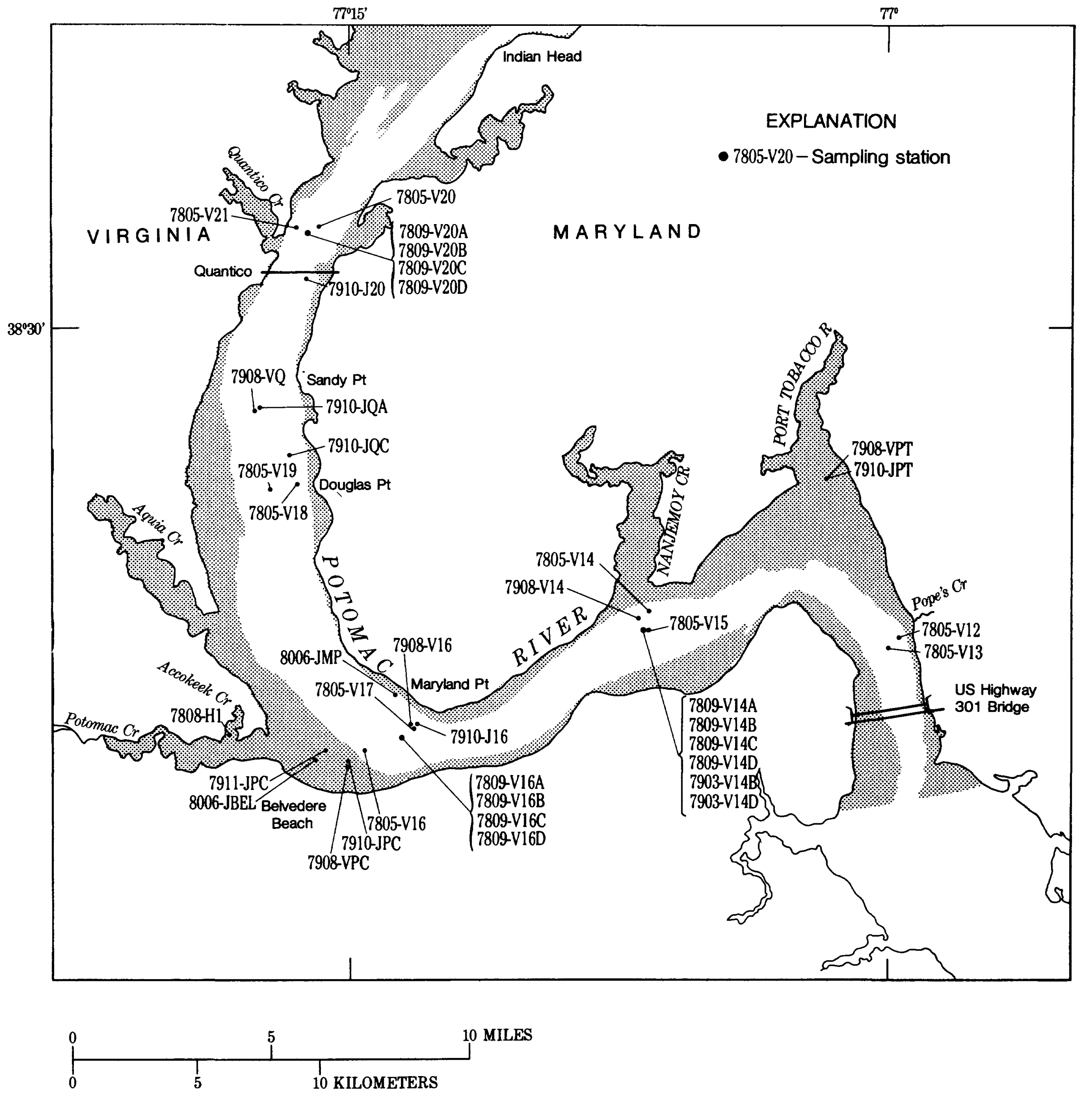

Figure 2.- Station locations in the transition zone of the Potomac River.

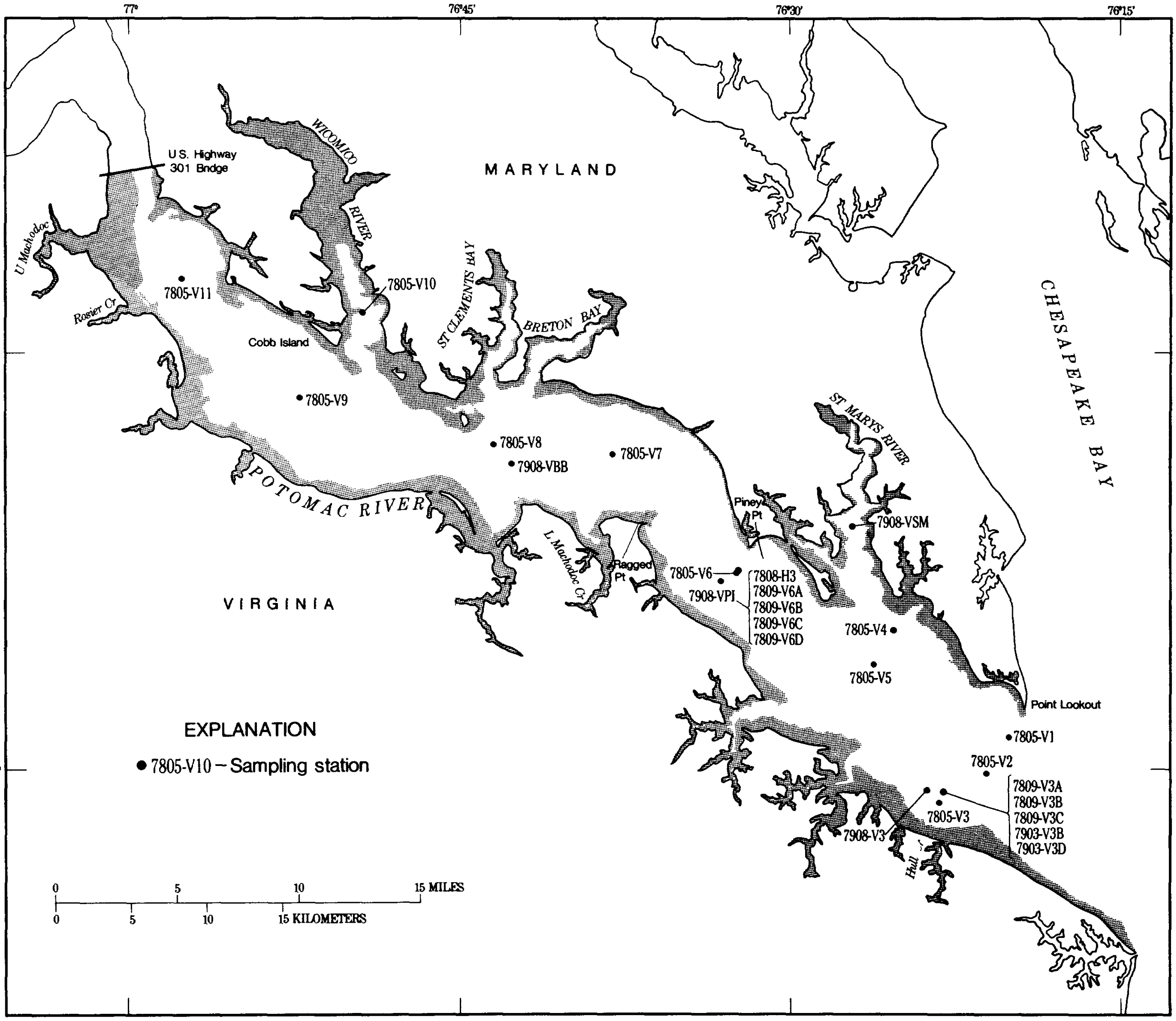

Figure 3.- Station locations in the lower estuary of the Potomac River.

Acknowledgements

A great many people made our sampling and analysis program possible. The authors owe a particular debt of gratitude to Richard Younger, captain of the R/V Venus. His ingenuity, his ability to make or repair almost anything we needed, and his unfailing cheerfulness were invaluable to the success of our sampling work. We also thank Joseph Dealteris, captain of the R/V Judith Ann. Owen P. Bricker, George Burr, Robert Conkwright, Robert Cuthbertson, Jeffrey Halka, Kathryn Kuivila, James Mackin, Darlene Wells O'Connell, Elizabeth J. Phillips, Thomas Treese, and Joan C. Woodward all provided valuable shipboard assistance. Darlene W. O'Connell also assisted in setting up and running the titrimetric sulfate analysis and Joan C. Woodward tested the methods and analyzed samples for chloride, dissolved reactive phosphate, and silica. Leslie F. Ruppert helped with the pore-water alkalinity and dissolved reactive phosphate analyses, Mary Jo Baedecker with the dissolved carbon, and Leslie Adams with dissolved and solid carbon analyses. Margaret M. Kennedy assisted with the dissolved ammonia and the solid nitrogen analyses and Joseph C. Chemerys provided the major cation data. Paul P. Hearn provided the Potomac River sediment X-ray fluorescence phosphorus data used for recovery comparisons in the solid phosphorus analysis. Linda Estel Powers helped prepare the sediments for solid analyses and assisted in the transportation of samples from ship to laboratory, a vital link in the process. Patricia C. Butler capably provided the necessary office support for this effort and Ana M. MacKay assisted in preparation of the manuscript. And, finally, the review comments of Dana D. Harmon, Stephen E. Ragone, and David J. Shultz were greatly appreciated.

METHODS OF ANALYSIS

Field Sampling Techniques

The cores examined in this study were taken either with a ship-operated Benthos[1] gravity coring device, Model 2171, or manually by divers using self-contained underwater breathing apparatus (SCUBA). In both cases, cellulose acetate butyrate core liners with a 6.7-cm inner diameter were used. A ship-operated corer made it possible to work safely in waters of the upper part of the tidal Potomac River which are directly affected by the sewage treatment plants. The disadvantages of the ship-board corer were that it was not possible to know the angle of penetration and that the corer had to be dropped into the sediment with some force, thus disturbing the surface of the sediment. Divers could insure vertical penetration and less disturbance of

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[1] The mention of brand names is for identification purposes only and does not constitute endorsement by the U. S. Geological Survey.

the sediment. Manual retrieval of cores by divers was hampered by poor visibility and highly compacted sediments at some locations. Sandy sediments and sediments containing or overlain by oyster shells or large quantities of undecomposed detrital material, such as leaves and sticks, precluded manual and mechanical sampling or extrusion of the cores and therefore were not sampled.

Once on board, the cores were capped and stored upright in a box supplied with a continuous flow of river water to maintain the ambient water temperature. The entire sampling operation required 5 hours. No core was stored for longer than 5 hours before being processed.

Cores were processed in two anaerobic glove boxes that were connected with a flexible rubber sleeve. Prior to extruding the core, both boxes were purged with nitrogen gas for a minimum of one-half hour then maintained with a constant positive pressure of nitrogen gas during processing. The core was inserted into one glove box through a port in the bottom. A piston, made either of rubber or plexiglass with rubber o-rings, was placed into the bottom of the core liner. Water overlying the sediment was removed with a peristaltic pump and chilled for later analysis. Hydraulic pressure against the piston allowed the core to be extruded directly into nylon squeezers (Reeburgh, 1967) which were kept refrigerated until the time of use. The usual sampling intervals were 0-2, 2-4, 4-6, 6-8, 8-10, 15-17.5, 25-27.5, 35-37.5, 45-47.5 and 65-67.5 cm. The increase from 2-cm to 2.5-cm intervals at 15 cm and beyond was necessitated by the reduced porosity of the core with depth and consequent difficulty in expressing a sufficient volume of pore water.

Electrode measurements were made by direct insertion of the electrodes into the sediment before the water was extracted. A second set of electrode measurements, made on expressed pore water, is discussed below. The four electrodes (pH glass, platinum, silver/silver sulfide, and double junction reference) were secured in a plastic holder and inserted into the sediment. Specifics of the electrode measurements are described in the analytical methods section.

The three-piece nylon squeezers, modelled after Reeburgh's design (1967), were fitted with o-ring seals. Pore water was expressed by the pressure of nitrogen gas against a sheet of dental dam rubber which covered the sediment.

During May 1978, September 1978, and March 1979, the pore water was passed through an 82-mm diameter, 0.1- µm pore-size Millipore membrane filter. From August 1979 until the end of the study, 0.22- µm poresize Millipore membrane filters were used. The membrane filter was placed over a Schleicher and Schuell No. 589 Black Ribbon paper filter. The water was expressed through a Swagelok fitting directly into a 30-mL plastic syringe. Most sediment intervals provided from 20 to 30 mL of water and 15 minutes to 1 hour were required to complete the squeezing. The first 1 to 2 ml of water were not collected in the syringe because of possible contamination as discussed below.

Approximately 3.5 mL of the expressed pore water were injected into a plexiglass cell which contained a second set of the same four electrodes that were used for the insertion into the sediment. The electrodes were flushed by repeatedly injecting and withdrawing the pore water. The water was discarded and the cell was rinsed with distilled water and wiped dry after each sample was completed. The discarded water was sometimes used for sulfate measurements.

Samples to be analyzed for alkalinity, phosphate, chloride, ammonium, sulfate, organic carbon, inorganic carbon, sulfide, and the major cations, K^+, Na^+, Ca^{2+}, and Mg^{2+} were stored in borosilicate glass vials with Poly-Seal caps. The samples for silica, iron, and manganese were stored in linear polyethylene vials with Poly-Seal caps. The samples for iron and manganese were acidified to a pH of less than 2 with J. T. Baker Ultrex concentrated hydrochloric acid. The 2- to 8-mL samples required from 0.05 to 0.150 mL of acid to achieve the proper pH and to remove the yellow color indicative of iron oxyhydroxides. Acidification was especially important in the tidal river where iron levels were highest. A second 1-mL iron sample was placed in a borosilicate-glass snap-cap vial for analysis by the Hach Company FerroZine method. Fifty μL of the reducing agent hydroxylamine hydrochloride was added to this sample on shipboard. Brinkmann Eppendorf pipettes were used for all sample transfers and reagent additions.

The sediment remaining in the squeezer after expressing the pore water was placed in plastic Whirl-Pak bags and frozen for shipment back to the laboratory. The pore-water samples were chilled with a commercially available reusable ice substitute. The pore-water samples were not allowed to freeze. The total time required for coring, sample processing, and transport back to the laboratory was 12 to 16 hours.

The membrane filters were investigated for background contamination. The 0.22- μm pore-size Millipore filters gave blanks of 60 nmol Cl^-, and 6 nmol SO_4^{2-} when 100 mL of distilled water was passed through them. These values are both several orders of magnitude below the levels of these constituents in the pore waters. Other investigators have determined background levels for Millipore membrane filters for total organic carbon, nitrate, chemical oxygen demand (Hwang and others, 1979), and Ca^{2+}, Mg^{2+}, Na^+, SiO_2, total dissolved phosphorus, and total dissolved nitrogen (Wageman and Graham, 1974). The results were not included here, however, because the Millipore filters tested were different in both pore size and diameter from those used in this study.

The changes in the pore-water carbon concentration during squeezing were investigated by Sheila Boulay (written communication, August 9, 1978). The most significant source of contamination was found to be the Millipore membrane filter. The paper filter was found to be a less important source of contamination. The results, which are presented in figure 4, indicate that the contamination is most severe for the first five 1-mL aliquots. Additional testing (fig. 4) suggested that the first milliliter expressed from the sediment can have concentrations five times as high as the sample taken as a whole. For this reason, the first 1 to 3 mL were discarded before attaching the syringes for sample collection.

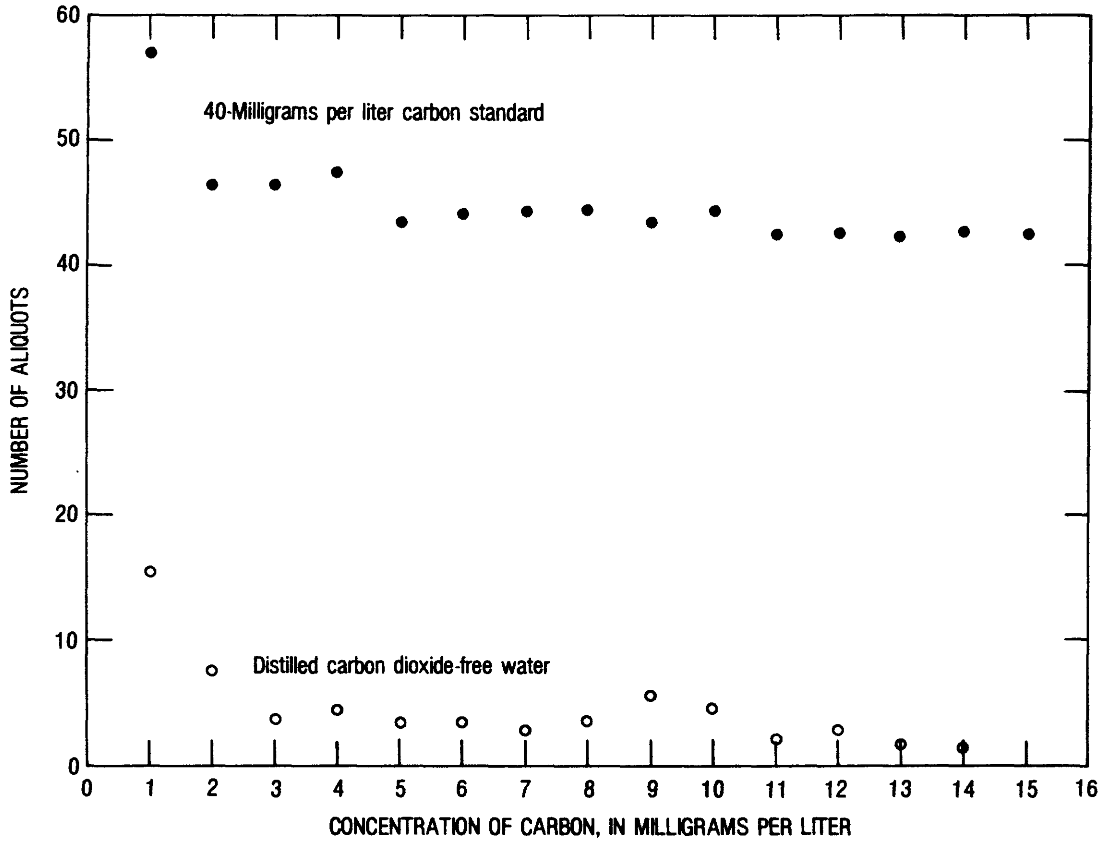

Figure 4.- Concentration of carbon in sequential aliquots of two solutions passed through 0.22 μm poresize Millipore membrane filters.

Experiments were performed during October 1979 to determine if there were any changes in the concentrations of NH_4^+, alkalinity, or SiO_2 during squeezing. Three cores were taken from site JQ downstream from Quantico. The pore water from two of the cores, JQA and JQC, was partitioned into three consecutive fractions (A, B, and C) of 7 ml each. The results are presented in table 2. The sediment intervals were placed into the squeezer in such a way that the uppermost portion of any interval was at the bottom of the squeezer. For both silica and alkalinity, the increase with each successive aliquot parallels the increase down the core. This suggests that the pore water is being forced out of the interval with very little mixing, and that the water nearest the bottom of the squeezer (which is the top of the interval) is expressed first. Ammonium does not show the same pattern. Although ammonium concentrations increase with depth, concentrations in successive fractions from the same interval tend to decrease.

Chemical Analyses

The following sections describe the analytical methods used in this study. In some cases, more than one technique was used, and in others, the literature method was modified. The reasons for these changes are discussed. Table 3 lists the methods of analysis for determined species.

ELECTRODE METHODS

pH

The pH of sediment pore waters was measured two ways: (1) by insertion of electrodes into the sediment after extrusion but before squeezing, called the sediment pH, and (2) on expressed pore water that was transferred to the plexiglass electrode cell, called the cell pH.

The following pH meters were used during the indicated sampling times: Orion 701 pH meter (cruises 7805 and 7809), Chemtrix 60A (7903), and Corning 125 (7908 and after). All pH measurements were made using Orion pH electrodes (model 91-01-00) with Ag/AgCl internal references and Orion double junction reference electrodes (model 90-02-00). The inner filling solution (Orion 90-00-02) and outer filling solution (Orion 90-00-03, 10% KNO_3) of the reference electrode were changed daily. In locations with significant concentrations of H_2S, the outer filling solution was changed after each core (10 samples) in an attempt to avoid the formation of highly insoluble Ag_2S in the porous junction between the inner and outer filling solution or on the silver wire which is in contact with the inner solution.

Electrode pairs were calibrated with standard buffers of pH 7.00 (± 0.02 at 25°C) and pH 4.00 (± 0.02 at 25°C) before and after a set of core samples was measured. Fresh buffers were used for each core.

Table 2.-Concentrations of alkalinity (meq/L), ammonium (mmol/L), and silica (μmol/L) from three sucessive 7-ml aliquots from from 7910-JQA

	Depth, in cm	Squeezer aliquots First	Second	Third
Alkalinity				
	0-2	1.78	1.93	2.07
	2-4	2.36	2.70	2.80
	4-6	2.99	3.33	3.04
	6-8	3.95	4.34	4.05
	8-10	3.66	4.15	4.24
Ammonium				
	0-2	0.24	0.17	0.17
	2-4	0.33	0.28	0.27
	4-6	0.40	0.38	0.39
	6-8	0.56	0.51	0.53
	8-10	0.55	0.55	0.50
Silica				
	0-2	267.5	287.5	
	2-4	490.0	537.5	
	4-6	562.5	592.0	
	6-8	617.5	580.0	
	8-10	532.5	575.0	

Table 3.-Methods of analysis for determined species

Species	Method	Reference	Dates used
Dissolved:			
Alkalinity	single point titration	Almgreen and Fonselius (1976)	May 1978
	automated titration	Radiometer	July-Aug. 1979 Oct.-Nov. 1979 June 1980
Ammonium	phenol-hypochlorite	Solorzano (1969)	May 1978 Sept. 1978 July-Aug. 1979 Oct.-Nov. 1979
	electrode	HNU Systems Inc. (1978)	June 1980
Sulfate	ion exchange	Dollman (1968)	May 1978 Sept. 1978 March 1979
	ion chromatography	Dionex (1978)	July-Aug. 1979 Oct.-Nov. 1979 June 1980
Sulfide	spectrophotometric analysis	Cline (1969)	May 1978
	iodometric titration	Skougstad and others (1979)	All[1] except May 1978
	AgS electrode		All
Phosphate	molybdenum blue	Murphy and Riley (1962)	May 1978 Sept. 1978 March 1979 July-Aug. 1979 Oct.-Nov. 1979
	ion chromatography	Dionex (1978)	June 1980
Carbon	Beckman Carbon Analyzer	Beckman Instruments Inc. (1968)	May 1978 Sept. 1978 March 1979 July-Aug. 1979 Oct.-Nov. 1979

Table 3.- Methods of analysis for determined species (continued)

Species	Method	Reference	Dates used
	Oceanography International system	Oceanography International manuals	June 1980
Iron	atomic absorption spectrophotometry	Perkin-Elmer Corporation (1976)	All
	Ferrozine	Stookey (1970)	May 1978 March 1979
Manganese	atomic absorption spectrophotometry	Perkin-Elmer Corporation (1976)	All
Major cations (K^+, Na^+, Mg^{2+}, Ca^{2+})	atomic absorption spectrophotometry	Skougstad and others (1979)	All
Chloride	Mohr titration	Skougstad and others (1979)	All
Silica	molybdate blue	Skougstad and others (1979)	All
pH	glass electrode		All
Eh	platinum electrode		All
Solids:			
Phosphorus	acid extraction	Aspila and others (1976)	All
Nitrogen	Kjeldahl digestion and ammonia electrode	Bremner (1965) Bremner and Tabatabai (1972)	All
Carbon	Leco Carbon Determinator	Leco Corporation (1978)	All

[1] All for which data are listed.

All measurements were made to the nearest millivolt and converted to pH units. The length of time allowed for each measurement varied from 1 to 10 minutes depending on the length of time necessary to reach a stable reading. Because of time limitations, a drift of <1 mV/minute was considered a stable reading.

The precision of the method, assuming temperature was relatively constant, was estimated by comparing the calibrations at the end of a set of measurements with those made at the beginning of the set. The precision was $\pm$ 0.05 pH units. The accuracy in terms of well-defined (buffered) solutions was estimated to be $\pm$ 0.1 pH units.

The sediment pH was measured in a relatively intact volume of sediment (60-80 cc) before squeezing. Consequently, there was less opportunity for pH errors due to sample temperature changes, oxidation, or degassing. On the other hand, the contact between the electrodes and the pore water was not uniform, there may have been sediment electrical effects, the glass membrane of the pH electrode is easily scratched, and there was usually a temperature difference between the calibration buffers and the sediment.

The cell pH measurement assured a uniform interface between electrodes and solution and close agreement between the temperature of the buffers and the temperature of the pore water. Unfortunately, the similarity in temperatures was the result of a change in pore-water temperature from in situ to shipboard temperature. In addition to temperature changes, oxidation of reduced species and degassing of dissolved species could have altered the pH of the solution.

In general, the pH was higher in the cell measurements than in the sediment measurements by 0.1 to 0.2 pH units. This pH change is attributed to degassing of CO_2 and H_2S according to the following equations:

$$H^+ + HCO_3^- \rightarrow H_2O + CO_{2(g)} \qquad (1)$$

$$H^+ + HS^- \rightarrow H_2S_{(g)} \qquad (2)$$

Because the partial pressures of these gases in the glove box were practically zero, this degassing would, after a period of time, essentially deplete the pore waters of bicarbonate and bisulfide if they were left in contact with the glove box atmosphere. In some instances, the pH of the cell measurements was lower than that of the sediment. There are several possible explanations for these results: (1) incomplete electrode solution equilibration, (2) oxidation of ferrous iron and precipitation of ferric hydroxide,

$$12H_2O + 4Fe^{2+} \rightarrow 4Fe(OH)_3 + 12H^+ \qquad (3)$$

or (3) temperature variation between electrodes and samples or between calibration solutions and samples.

Eh

The redox potential, Eh, was measured in the same two ways as the pH: (1) in the sediment and (2) in a plexiglass cell. Eh was measured in millivolts using a platinum electrode (Beckman number 39271) and the same double junction reference electrode used for the pH measurement. Time limitations required that readings be taken after a maximum of 10 minutes even though the drift, at times, was greater than 5 mV/minute. Occasionally, it seemed that several measurements were required for the electrode to equilibrate with the reduced environment of the sediments, with sediment Eh decreasing over the first few samples for each core regardless of the order in which the samples were measured. Because of the drift and slowness of equilibration, the precision is estimated to be only ± 50 mV.

Like pH, Eh is subject to continuous change from the time of coring. Any oxygen in the glove box atmosphere or trapped within the filter will contribute to the oxidation of the reduced species, resulting in the observed increase in Eh from the sediment measurements to the cell measurements. The sediment appears to provide a redox buffering capacity which is absent in the pore water alone, as indicated by the following observations. In the lower estuary, where there was significant sulfide production in the sediments, the sediment Eh was approximately -200 mV. The cell Eh was generally about -150 mV if there was measurable sulfide in the extracted water. In the tidal river, where there are high concentrations of iron in the pore water, the sediment and cell measurements range from 0 to 100 mV. In the transition zone, the sediment Eh values are about -200 mV, but the pore-water Eh values are between 0 and 100 mV. It appears that as long as the pore water is in contact with the sediments there are small but sufficient concentrations of sulfide or an organic redox couple to produce a low Eh. After filtration, the pore water is no longer in contact with the solids and has virtually no redox buffering. Thus, the Eh rises until it reaches an equilibrium value of the iron system. The squeezing and filtering process can make as much as a 300 mV difference in the measured Eh. For these reasons, the sediment measurements are considered to be the more representative of the *in situ* redox potentials.

Sulfide Specific Ion Electrode

The activity of the sulfide (S^{2-}) ion was measured with the Orion sulfide electrode (model 94-16A) and the Orion double junction reference electrode (model 90-02-00). Use of a double junction rather than a single junction electrode minimized the problem of precipitation of Ag_2S within the junction. In addition, the filling solutions were changed frequently, as discussed in the pH section.

The electrode was calibrated in solutions saturated with hydrogen sulfide gas at one atmosphere partial pressure and at varying pH values (Berner, 1963). The sulfide electrode, the reference electrode, and a glass pH electrode were enclosed in a chamber containing distilled water and an overlying head space of hydrogen sulfide gas. The chamber was vented to the atmosphere and gas slowly bubbled through the solution. Na_2S and NaOH were used to vary the pH of the solution. The glass electrode had previously been calibrated in the same chamber at the same temperature. After the system reached equilibrium, the activity of sulfide (at 25°) could be computed from the expression:

$$(a_{H^+})^2 \quad (a_{S^{2-}}) \; / \; p_{H_2S} \; = 10^{-21.9} \; . \tag{4}$$

To ensure equilibrium, periods of up to 1/2 hour were required for each point on the calibration curve.

Because the electrode is also responsive to silver ions, solutions of $AgNO_3$ were used to check the electrode calibration. The assumption was made that Ag^+ is in equilibrium with Ag_2S at the electrode surface. Using solutions of silver in the linear response range of the electrode, the activity of sulfide was determined from the expression:

$$a_{S^{2-}} = \frac{10^{-49.7}}{(a_{Ag^+})^2} \tag{5}$$

where the k_{sp} of Ag_2S was taken as $10^{-49.7}$ (Sillen and Martell, 1964). The slopes determined by the silver ion method were within 15 percent of the slopes determined from calibration with hydrogen sulfide gas in spite of the need to extrapolate over many orders of magnitude to the levels of sulfide found in anoxic estuarine sediments. The sulfide electrode was usually calibrated by the hydrogen sulfide gas method at the beginning and completion of a cruise. The silver calibration provided a convenient check on the electrode calibration during shipboard operation.

To facilitate comparison with the iodometric method, discussed in a later section, the pS^{2-} values determined by the sulfide electrode were used to estimate the total concentration of S^{2-}, HS^-, and H_2S. The distribution of the sulfide species was determined from the pH and pS^{2-} by the following equations:

$$a_{HS^-} = \frac{(a_{S^{2-}}) \quad (a_{H^+})}{K_2} \tag{6}$$

$$a_{H_2S} = \frac{(a_{HS^-}) \quad (a_{H^+})}{K_1} \tag{7}$$

$$T_{sulfide} = \frac{a_{HS^-}}{\gamma_{HS^-}} + \frac{a_{S^{2-}}}{\gamma_{S^{2-}}} + \frac{a_{H_2S}}{\gamma_{H_2S}} \quad (8)$$

where:

$\gamma_{H_2S} = 1$

$K_1 = 10^{-7.19}$

$K_2 = 10^{-14.00}$.

The ionic strength of the pore water from localities with measureable concentrations of sulfide ranged from 0.20 to 0.35. The range of activity coefficients was 0.66 to 0.71 for γ_{HS^-} and 0.25 to 0.30 for $\gamma_{S^{2-}}$. Because of the uncertainties in the activity coefficients, the pH, and the dissociation constants, the total sulfide values reported from the electrode measurements should be understood to provide only a qualitative comparison with the iodometric titrations.

DISSOLVED CONSTITUENTS

Alkalinity

Two methods were used to determine the alkalinity of the pore waters during the course of this study. The first method consisted of a single addition of acid, followed by a correction to account for the excess acid added (Almgreen and Fonselius, 1976). The second method was an automated titration of unacidified sample to the bicarbonate endpoint. The first method was used on all cruises from May 1978 to March 1979. The second method was used on all subsequent cruises because of its ease of measurement and improved accuracy.

Single acid addition

This method involved the addition of a known quantity of 0.01N HCl to reduce the pH of the sample to approximately 3.5. The pH of the sample was measured and the excess acid remaining in solution was calculated. The difference between the acid added and the excess remaining in solution was a measure of the alkalinity.

$$Alk = H_a^+ - H_r^+ = \frac{(V_a)(N_a)}{V_s + V_a} - 10^{-pH} \quad (9)$$

where:

H_a^+ = concentration of hydrogen ion added to solution

H_r^+ = concentration of hydrogen ion remaining in solution

V_a = volume of acid added

V_s = volume of sample

N_a = normality of the acid

pH = pH of sample after adding acid

The pH is strictly the $-\log a_{H^+}$; the activity of H^+ ions therefore was corrected to the concentration of H^+. This was done by determining an empirical activity coefficient for a range of pH values beyond the second equivalence point of carbonic acid. Such a calibration was carried out by titrating past the end point and recording excess acid added and pH for several additions.

$$\gamma'_{H^+} = \frac{a_{H^+}}{(H^+)} = \frac{10^{-pH}}{(V_{a2})\,(N_a)/(V_s + V_a)} \qquad (10)$$

where:

γ'_{H^+} = empirical activity coefficient for hydrogen ions

V_{a2} = volume of acid added beyond the second equivalence point of the carbonic acid system

a_{H^+} = activity of hydrogen ion

(H^+) = concentration of hydrogen ions

The γ'_{H^+} for each pH was determined according to equation 10. Almgreen and Fonselius (1976) point out that a table of coefficients should be determined with the same electrode couple that will be used to measure the samples because liquid junction potentials vary significantly between electrode couples. Because the activity coefficient is a function of ionic strength, several sets of coefficients had to be determined to include the range of ionic strengths of the samples. Table 4 presents two abbreviated sets of coefficients determined with the same electrode couple but for samples of greatly differing ionic strengths. Equation 9 was corrected by dividing by the activity coefficient.

Table 4.-Empirical activity coefficients (γ'_{H^+}) for alkalinity determination

Sample site	pH	γ'_{H^+}
V6	4.30	0.80
	4.24	0.73
	4.19	0.68
	4.13	0.67
	3.59	0.60
	3.32	0.60
V26	4.32	0.89
	4.26	0.82
	4.19	0.74
	4.15	0.71
	3.59	0.65
	3.34	0.64

V6 salinity was 16 ppt June 1978

V26 salinity was 0.23 ppt June 1978

$$Alk = \frac{(V_a)(N_a)}{V_s + V_a} - \frac{10^{-pH}}{\gamma'_{H^+}} \qquad (11)$$

Both the precision and the accuracy of the method improved the closer the final pH was to the endpoint. The results of five replicates of a standard, which contained 16.4 meq/L of alkalinity, gave a mean of 16.0 meq/L and a standard deviation of 0.79. Five replicates of a 1.64 meq/L standard produced a mean of 1.92 meq/L and a standard deviation of 0.02. The standard deviation of the 16.4 meq/L standard was large because the final pH values for those analyses were close to 3.0. This large separation from the true equivalence point can be expected to produce a large standard deviation. The need to maintain final pH values above 3.3 must be stressed.

The alkalinity values obtained in May and September of 1978 were determined without making the activity correction. The maximum error was 1 meq/L when the final pH was greater than 3.3 and less than the carbonate endpoint. The error resulting from not correcting for activity was as large as 3 meq/L when the final pH was below 3.3. The true alkalinity is always lower than the reported alkalinity if the activity correction is not made. The use of this method, although it has the advantage of allowing a large number of samples to be completed in a short period of time, should be discouraged due to its inherent inaccuracy.

Automated titration

Throughout the second half of this study, alkalinity was determined with a Radiometer (RTS822) automated titration recording system, following the procedures given in the manual (Radiometer). The system allowed for the automatic addition of acid and precise measurement of pH. The equivalence point was determined from the maximum change in pH per unit of acid titrant addition. The rate of titration could be varied over a wide range to improve precision. For this study, the rate selected allowed each titration to be completed in less than five minutes. A 1-mL sample was diluted to 5 mL with distilled water in order to completely submerge the calomel reference electrode (Radiometer E4040) and the glass electrode (Radiometer G2040B).

Five replicates of each of the Na_2CO_3 standards gave the following means ($\bar{X}$) and standard deviations (s. d.): 16.4 meq/L standard, $\bar{X}$ = 16.5, s. d. = 0.008; 8.20 meq/L, $\bar{X}$ = 8.1, s. d. = 0.005; 1.64 meq/L, $\bar{X}$ = 1.64, s. d. = 0.006; 0.164 meq/L, $\bar{X}$ = 0.166, s. d. = 0.003. The standards used were representative of the range of alkalinities found in the tidal Potomac River and Estuary. The precision of the titrations was limited by the precision of the Eppendorf pipettes used to measure the sample.

The end point determined from titration curves ranged from pH 4.5 to 4.3. Carbonate alkalinity can be represented as:

$$\text{Carb alk} = HCO_3^- + 2CO_3^{2-} + OH^- - H^+. \qquad (12)$$

Other species which may contribute to the alkalinity include S^{2-}, HS^-, NH_3, and the anions of some organic acids, e.g., acetate and formate. Several samples from V26 and V6 were acidified to the carbonate endpoint and then degassed with nitrogen to remove all carbonate species as CO2 gas. The samples were then back titrated with NaOH to a pH of 7.5 to determine the contribution of non-carbonate species to measured alkalinity. The contributions ranged between 0.3 and 1.9 meq/l. This is most likely an underestimate of the contribution because the sulfide species may have been lost during degassing.

Ammonium

Analyses for ammonium-ion concentrations were done two ways. The phenol-hypochlorite colorimetric method based on the Berthelot reaction as described by Solorzano (1969) was used for pore-water analyses during 1978 and 1979. An ammonia electrode was used for subsequent analyses.

The reaction of ammonia, hypochlorite, and phenol is described in Bolleter and others (1961), Helder and DeVries (1979), and Patton and Crouch (1977). The chromophore, indophenol, is produced by the reaction of monochloroamine with phenol in an alkaline solution.

The colorimetric reaction is affected by variation in pH and salinity, the presence of sulfide and ferrous iron, and light (Bolleter and others, 1961; Gravitz and Gleye, 1975; Helder and De Vries, 1979; Ngo and others, 1982; Koroleff, 1976; Patton and Crouch, 1977; and Solorzano, 1969).

Standards were prepared in dilutions of artificial seawater (as given by Lyman and Fleming in Horne, 1969) in the salinity ranges of the samples being analyzed. Sulfide can be removed by acidifying the sample to pH 3 and bubbling an inert gas (N_2) through the sample. A less rigorous, but often adequate, method is to shake the capped sample vial, then remove the cap and allow exposure to air so that H2S can outgas. This shaking and exposure to air sequence was repeated several times over a period of twenty to thirty minutes before an aliquot was removed for analysis. Samples which had concentrations of iron which would have interfered with the colorimetric analysis also had concentrations of ammonia which required dilution of the samples before analysis, thereby minimizing the interference by the iron. Because light catalyzes the reaction, the samples were stored in the dark from the time of reagent addition until absorbances were determined spectrophotometrically.

Because volatile amines, which may be found in sewage effluent, are the only direct interference with the ammonia electrode, (HNU Systems Inc., 1978; Gilbert and Clay, 1973), the electrode was used for interstitial water analyses after 1979. An HNU Ammonia Electrode with replaceable caps and Corning model 130 pH meter (0.1 mV resolution) were used for all ammonium analyses by electrode following the procedure described in the HNU manual (HNU Systems Inc., 1978).

Sulfate

Sulfate concentrations in the pore water were determined by the ion exchange-titrimetric method of Dollman (1968). The anions of the sample were converted to their acid forms by passage through an ion-exchange column. Volatile acids were removed during two selective evaporations and the remaining sulfuric acid was titrated with sodium hydroxide.

The exchange resin (Bio-Rad AG50W-X8 100-200 mesh) was used in the hydrogen form. A column with an 8-mm diameter and packed 80 mm deep had approximately 30 meq of exchange capacity. The column was not allowed to go to dryness and could be used for three samples before being regenerated with 25 mL of 1N HCl and 25 mL of distilled water. The sample volume was kept close to 5 mL, depending upon availability.

After being placed on the column, the sample was eluted with four 5-mL rinses of distilled water. The eluent was evaporated to 3 mL under an infrared lamp, but was not allowed to boil. This required 1-1/2 hours. The sample was then taken to dryness in a 75° oven, which required 2 to 2-1/2 hours.

The sample was transferred to the titration vessel with three distilled water washes of 3 mL each. A solution of 0.1N NaOH was then used to titrate the sample to an endpoint of pH 7. Bromothymol blue or a microelectrode system was used to indicate the endpoint. A 2-mL Gilmont microburette was used for the titration. Interference from atmospheric $CO2$ was prevented by bubbling nitrogen gas through the sample during the titration.

The sample was not allowed to go to dryness under the infrared lamps and the temperature of the oven never exceeded 80°C, because in either case sulfuric acid would have been lost. Phosphoric acid is less volatile than sulfuric acid and will interfere with the determination. The data in the appendix of this report have not been corrected for phosphate interference because the phosphate was only a small percentage of the sulfate present. Non-volatile acidic anions such as arsenate, chromate, molybdate, and borate will also interfere. None of these were believed to be present in appreciable quantities in the reported samples.

The samples required 5 to 6 hours to analyze. Two blanks were carried through with each set of samples. Overall, the method was found to be time consuming and sulfate is presently being measured by ion exchange chromatography, as discussed in a later section.

Sulfide

Concentrations of dissolved sulfide species (H_2S, HS^-, S^{2-}) were measured using three methods. A specific ion electrode was used to measure S^{2-} (as detailed in the electrode section), and a spectrophotometric method and an iodometric titration were used to determine the total of all three dissolved sulfide species.

Samples collected in May 1978 were analyzed for dissolved sulfide by the spectrophotometric determination presented by Cline (1969). Because of the wide range of sulfide concentrations encountered in the Potomac River Estuary, standards were prepared in four concentration ranges resulting in four calibration curves. The preparation of accurate dissolved sulfide standards from $Na_2S \cdot 9H_2O$ was difficult due to the hygroscopic nature and the fairly rapid oxidation of the reagent.

In September of 1978, and for all subsequent cruises, samples were analyzed iodometrically. Iodine was added in excess to the sample and reduced by the dissolved sulfide present. Thiosulfate was used to titrate the iodine which had not been reduced. The procedure followed was that given in Skougstad and others (1979).

To analyze for dissolved sulfide in the small volume of pore water available, the amounts of reagents added were reduced. The 1-mL samples were preserved at the time of collection with 1 mL of 1N $Zn(C_2H_3O_2)_2$ solution. The sample was acidified at the time of analysis with 1 mL of concentrated HCl. The iodine solution was added to the sample, 1 mL at a time, until the iodine color persisted (generally within 1 to 2 mL). A Gilmont microburette was used to titrate the sample with thiosulfate to the starch endpoint. This procedure determined the sum of the three dissolved sulfide species common in natural waters (H_2S, HS^-, S^{2-}).

Phosphorus

Soluble reactive phosphorus concentrations in pore-water samples of the Potomac River sediments were measured colorimetrically for samples collected through November of 1979 and by ion chromatographic techniques for samples collected after that time. Soluble reactive phosphorus concentrations in core-top waters were determined colorimetrically for all samples due to the lower limit of detection provided by this method.

The colorimetric method of Murphy and Riley (1962) was used. Orthophosphate is converted to phosphomolybdate by an acidified ammonium molybdate solution and is reduced by ascorbic acid in the presence of antimony, producing a blue complex which has a maximum absorbance at 882 nm on a spectrophotometer (Skougstad and others, 1979).

Pore-water samples collected during the August 1978 cruise were tested for the loss of phosphate to their containers. The differences between the phosphate concentrations of aliquots of samples stored in glass versus those in plastic containers ranged from 0 to 14 percent for samples collected from a fresh-water location (with relatively low phosphate levels) and from 0 to 2 percent for samples from a saline site (with relatively high phosphate levels). (It should be noted here that the designation of sample sets by the salinity or freshness of their location is not meant to imply that the salinity or lack thereof is responsible for any differences observed. The effect of salinity on the analysis is discussed below.) Generally, aliquots stored in plastic containers had lower phosphate concentrations.

The time of sample storage was tested for its effect on the analysis of phosphorus. Aliquots of samples from a saline location, in both glass and plastic containers, showed lower concentrations of phosphate when analyzed one day following collection as compared to aliquots analyzed the night of collection. However, a similar experiment run on samples from a fresh-water site yielded varying results. Samples from both saline and fresh-water sites (stations V6 and V22, respectively) were analyzed the night of collection and again approximately two months later. The concentration of phosphate in all samples decreased by 9 to 58 percent in two months. Pore-water samples from stations V22, V23, and V24 were analyzed the night of collection and again the following day. Changes in phosphate concentrations ranged in this instance from 5 to 13 percent. Although the results of these experiments were often inconsistent within a single set of samples, in general it was concluded that the samples should by stored in glass vials with Poly-Seal caps and should be analyzed the night of collection.

The pore waters often developed a yellowish color when the glass vials containing samples were exposed to sunlight. This occurred primarily at the fresh-water stations where the concentration of iron in the pore water was high. Because the products of photo-oxidation could react with and tie up available phosphate (e. g. iron phosphates), the samples were kept as dark as possible between the time of collection and analysis.

Samples were also tested for interferences from arsenic, sulfide, and salinity. Several samples were collected to be analyzed by atomic absorption spectrophotometry for their arsenic concentration. No arsenic was detected at the part per billion level. Because H_2S was present in many of the pore-water samples from the sediments in the lower portion of the estuary, the effect of sulfide on the phosphate analysis was examined. Sulfide, as Na2S, does not interfere in concentrations up to 1.0 mg/L (American Public Health Association and others, 1975). Distilled water and artificial seawater standards were prepared to contain 264 µmol/L sulfide and were analyzed with the normal procedure. The differences in phosphate concentration between the samples with sulfide and those without were within the analytical error. Any differences between sulfide-containing samples made up in distilled water and those in seawater also fell within the normal analytical error. However, when samples from September 1978 (stations V3 and V6) were analyzed, there may have been some interference from sulfide, as the absorbances obtained tended to drift more for these samples than for those from other locations.

(The drift was usually downward.) When the vials were shaken and left uncapped for up to one hour before analysis, the drift was decreased or eliminated. Concentrations of sulfide determined with the sulfide electrode and adjusted for dilution of the sample during the phosphate analysis were commonly in excess of the 264 μmol/L concentraion used in testing for sulfide interference. The downward drift of the absorbances was also noted in samples whose sulfide concentrations fell slightly below 264 μmol/L, indicating that the sulfide concentrations may be higher than actually measured (if sulfide is the sole interference), or, that the problem is a combination of several factors.

The possibility of interference due to the salinity of the pore waters was checked by comparing a series of standards made up in artificial fresh water with a series made up in 50 percent artificial sea water (Horne, 1969). The differences observed were within the normal analytical error. In addition, samples from the more saline portions of the estuary were also those with higher concentrations of phosphate and required dilution (usually at least by five) before analysis. This dilution reduced the possibility of interference due to the salinity of the sample. Murphy and Riley (1962) also found that the salt error using their method was less than 1 percent for the analysis of ocean water.

Samples were checked for the length of time required for color development. Murphy and Riley (1962) found the minimum time required for color development to be 10 minutes and that the color was then stable for at least 24 hours. In analyzing pore waters from Potomac River sediments, however, it appeared that color development proceeded at different rates for different samples and that, after the peak absorbance was reached, the absorbance then commonly decreased. Samples from cores taken in September 1978 were analyzed for phosphate and the absorbances read on the spectrophotometer after 20 minutes, then again after all samples had been read the first time. This was repeated up to approximately one hour after addition of the mixed reagent in order to determine the peak absorbances. The peak absorbance of each sample was then used to calculate the phosphate concentrations. Although this procedure was carried out for all September 1978 samples, and for later samples analyzed colorimetrically, there is some question as to whether procedural consistency should be in the determination of maximum absorbance for each sample or in reading the absorbances of all samples following the same amount of elapsed time from addition of the mixed reagent.

Data from a number of investigators indicate that the molybdenum blue method measures compounds of phosphate other than orthophosphate (Rigler, 1968; Strickland and Parsons, 1968; Dick and Tabatabai, 1977; Chamberlain and Shapiro, 1973; Edwards and others, 1965). This may be the reason for the observation that not all samples reached maximum color development at the same time. Because the water sample is in contact with the acidic mixed reagent for a minimum of 20 minutes, it is possible that some of the more easily hydrolyzed condensed phosphates and organic phosphorus compounds may be contributing to the apparent orthophosphate concentration. Analysis of several solutions containing known concentrations of $Na_2P_2O_7$ (sodium pyrophosphate), $(NaPO_3)_6$ (sodium metaphosphate), and ATP, but not KH_2PO_4, indicated the apparent presence of orthophosphate. If no hydrolysis of these compounds were occurring, the orthophosphate concentrations should have been zero. The absorbances of these solutions increased slowly with time, as the phosphorus compounds continued to be in contact with the mixed reagent. Therefore, in using this colorimetric analysis for natural water samples, what is being measured is not, in all likelihood, just orthophosphate, but also other phosphorus compounds, and should be referred to as soluble reactive phosphorus, as suggested by Strickland and Parsons (1968).

Carbon

Dissolved carbon was measured on a Beckman Model 915 Carbon Analyzer, following the method given in the instruction manual (Beckman Instruments, Inc., 1968). Total dissolved carbon was determined by oxidizing the sample at 950° C and measuring evolved CO_2 by infrared spectroscopy. Dissolved inorganic carbon was determined at 250° C and dissolved organic carbon was calculated by difference. High-salinity samples poison the catalyst of the total carbon system. Because the carbon levels were high enough to require up to tenfold dilutions of the samples, poisoning was not a particular problem.

Analyses were not accepted until replicates agreed to within 2 percent. Replicates of a single dilution were usually well within this limit. The replication between different dilutions of the same sample was poorer than between replicates of a single dilution. Dilution of the sample appears to be the limit to the precision of the analysis. Samples with high dissolved iron concentrations tended to form a yellowish precipitate and exhibited a reduced precision.

During June 1980, water samples were analyzed for total dissolved carbon and dissolved inorganic carbon on an Oceanography International 0524B Total Carbon System and the OIC 0524B-HR Direct Injection Module following the procedures given in the instruction manuals (Oceanography International Corporation, a, b). The direct injection module was used to determine total dissolved carbon. All of the combustion occurred in a stream of purified oxygen and the CO_2 produced was carried to an infrared detector after having been stripped of water vapor. Dissolved inorganic carbon was determined on the ampule analyzing unit. A sample of 0.3 mL was injected into an ampule containing 2 mL of 10-percent phosphoric acid. A stream of nitrogen gas carried the evolved CO2 to the infrared detector.

Iron and Manganese

Atomic absorption spectrophotometry method

Concentrations of dissolved iron and manganese were determined by standard flame atomic absorption spectrophotometric techniques (Perkin-Elmer Corporation, 1976). The spectrophotometer used was a Perkin-Elmer Model 603. The salinity of the standards was matched to that of the samples to within 5 parts per thousand and the standards were also made up in 0.1N HCl.

Pore-water samples collected for the determination of their iron and manganese concentrations were stored in linear-polyethylene bottles. The sample size ranged from 2 to 8 mL, depending on the availability of pore water. Each sample was acidified to pH 2 or lower with 0.05 to 0.15 mL of concentrated HCl. The amount of acid added was dependent upon both the volume of the sample and the concentration of iron expected for the sample. At stations V26 and V28, the concentrations of iron present in the pore waters were high enough to cause the almost immediate precipitation of iron oxides upon the extraction of the water from the sediment (in spite of the nitrogen atmosphere present in the glove box). Therefore, acid was added to these samples in small increments until the yellow color disappeared. The final volume of acid added to these samples was generally 0.15 mL.

FerroZine method

During May 1978 and March 1979, iron was also measured using the FerroZine spectrophotometric method (Stookey, 1970). At the time of sampling, 50 µL of hydroxylamine-hydrochloride was added to a 1-mL sample as a reducing agent. In the laboratory, 200 µL of FerroZine reagent and 100 µL of acetate buffer were added to the sample. Color was allowed to develop for 15 minutes and then measured at 562 nm on a spectrophotometer. If the sample required dilution, an additional 50 µL of hydroxylamine-hydrochloride was added to the sample before the reagents were added.

Major Cations

Concentrations of the four major cations in the pore waters, Mg^{2+}, K^{+}, Na^{+}, and Ca^{2+}, were measured by flame atomic absorption spectrophotometry, using an Instrumentation Laboratory Model 351 spectrophotometer. Standard Geological Survey methods were employed (Skougstad and others, 1979).

Chloride

Chloride concentrations were determined by a Mohr titration with $AgNO_3$ (Skougstad and others, 1979). During the cruises of 1978, fluorescein was used as the indicator of excess Ag^{+}, while on subsequent cruises, $K_2Cr_2O_7$ was used as the indicator. Iodide and bromide are also titrated as chloride, and the chloride data include these two anions. Estimates of the precision of the method are given in Skougstad and others (1979).

Silica

The molybdate blue method (Armstrong, 1951; Strickland and Parsons, 1968), using $SnCl_2$ as the reducing agent, was used to determine the levels of dissolved reactive silica. At the values of pH encountered in the tidal Potomac River and Estuary, the predominant forms of silica are silicic acid (H_4SiO_4) and polymers of silicic acid. Larger polymers appear to be unreactive toward molybdate and are not measured by the methods described (Strickland and Parsons, 1968).

The silica is complexed with molybdate at a pH of less than 2.5 (Strickland 1952) to favor the development of beta silicomolybdate. After 10 minutes, tartaric acid is added to decompose unwanted phosphorus and ammonium complexes. The addition of $SnCl_2$ causes the remaining silicomolybdate complex to be reduced to molybdate blue which can be measured at a wavelength of 810 nm on a spectrophotometer after 1 hour of color development. Absorbance values were found to slowly decrease after 1 hour.

Standards were made from a stock solution of sodium silicofluoride (Na_2SiF_6). Comparisons made between standards made from comparable amounts of Na2SiF6 and Na2SiO3 suggest that 80 times more silica goes into solution from the former than the latter. Increasing levels of salinity depressed the absorbance values. Therefore, standards were prepared in dilutions of artificial seawater (Horne, 1969) to match the salinities of the samples.

Samples were stored in linear polyethylene vials with Poly-Seal caps to ensure minimal evaporative losses. Avoiding the use of glass eliminated a source of silica contamination. Sulfide will interfere with the method and was removed by repeatedly shaking and exposing the samples to the atmosphere before analysis.

Ion Chromatography

In suppressed ion chromatography (IC), dissolved charged species with differing affinities for a low capacity resin are separated and move through a second resin bed which replaces the counter-ion to give an eluent with low conductivity while converting the separated sample ions to highly conducting forms for detection by a conductivity meter.

Starting in August 1979, pore-water samples were analyzed using a Dionex Model 14 Ion Chromatograph. Using the anion system, chloride, phosphate, and sulfate concentrations were determined. Samples diluted with IC eluent were used for chloride and sulfate analysis. Cation resin (Dowex 50W 8X) saturated with $AgNO_3$ was added to samples to remove high chloride concentrations and provide better resolution for the determination of phosphate.

Silver from the resin exchanges with Na in the sample solution. Chloride is removed by precipitation as AgCl. The concentration of dissolved iron in interstitial water samples from the tidal Potomac River ranges from 0.02 to 0.93 mmol/L. These samples will precipitate iron oxyhydroxides in the alkaline anion eluent. To analyze these samples by IC, cyanide should be added to the samples at the time of collection (Nancy Simon, written communication, August, 1979). To prepare the cyanide-treated aliquot, 1.0 mL of interstitial water was added to a vial containing 3.0 mL of concentrated eluent and 1.0 mL of 25 mmol/L NaCN. The concentration of $NaHCO_3$ and Na_2CO_3 in the diluted sample was the same as the eluent in the chromatographic system. The ferro- or ferricyanide complex requires six cyanide ions per ferrous or ferric ion, and the ratio of cyanide to iron in all the samples was more than 12 to 1.

During 1979, samples were analyzed using a 500-mm anion separator column and a 1.2 mmol/L $NaHCO_3$/1.8 mmol/L Na_2CO_3 eluent. In 1980, a 250-mm anion separator column and a 4.5 mmol/L NaHCO3/3.0 mmol/L Na2CO3 eluent were used. The shorter column and stronger eluent reduced analysis time from 30 to 20 minutes per sample. The use of double-deionized water (15 megohm resistivity) improved the baseline of the conductivity cell and extended the life of the columns.

SEDIMENT PROPERTIES

Porosity

Sediment samples were placed in 125-mL widemouth polypropylene jars with screw caps and frozen immediately. Each sample and jar pair was then weighed and the sample freeze-dried. After drying was complete, the sample and jar pair was reweighed. The sediment was removed from the jar, the jar was cleaned, and a weight was obtained for the jar. The porosity of the sediments was calculated using the following relationships:

$$\phi = \frac{V_{H_2O}}{V_{H_2O} + V_{sed}} \qquad (13)$$

$$\phi = \frac{Wt_{(Jar + H_2O + sed)} - Wt_{(Jar + sed)}}{Wt_{(Jar + H_2O + sed)} - Wt_{(Jar + sed)} + \dfrac{Wt_{(Jar + sed)} - Wt_{(Jar)}}{Dsed}} \qquad (14)$$

where:

ϕ = porosity of sediment

V = volume

Wt = weight

D = density; D_{H_2O} = 1 and D_{sed} = 2.5

The value of Dsed is taken from average clay mineral densities.

Weight Loss on Ignition

Sediment weight loss on ignition was determined as part of the analysis for total phosphorus. An accurately weighed aliquot of freeze-dried, ground sediment was placed in a preweighed Coors porcelain crucible. The samples were heated in a muffle furnace for 90 minutes at 550°C, cooled to room temperature in a desiccator and reweighed. The difference between the initial weight of the aliquot of sediment and the weight after heating is the weight loss on ignition.

SOLID CONSTITUENTS

Phosphorus

The procedure for phosphorus analysis of sediments followed that recommended by Aspila and others (1976). Inorganic phosphorus concentrations were determined by a 1.0N HCl extraction of the sediments, preceded by ashing of the sample when total phosphorus was desired, and subsequent analysis of the extract for phosphate by the method of Murphy and Riley (1962).

For the determination of solid phosphorus, an accurately weighed aliquot (about 0.5 g) of freeze-dried, ground sediment was placed in a pre-weighed Coors porcelain crucible. The sample was ignited in a muffle furnace at 550°C for 90 minutes, cooled to room temperature in a desiccator, and reweighed to determine weight loss. The sediment was transferred quantitatively to a 50-mL Pyrex Erlenmeyer flask and 25 mL of 1.0 N HCl were added. The flask was covered with Parafilm and stirred on a gyratory shaker at room temperature for 16 to 18 hours. The contents of the flask were then filtered through a Millipore 0.45 µm poresize membrane filter. The filtrate was transferred quantitatively to a 50-mL volumetric flask and diluted to volume with distilled water. The procedure for inorganic phosphorus was the same as above, except the ignition step was omitted.

The weighed sample was placed directly into the Erlenmeyer flask and extracted.

Analysis of the extract followed the procedure of Murphy and Riley (1962) but required dilution of the extract such that the concentration of HCl was less than 0.15N.

Organic phosphorus was calculated by difference between the total and the inorganic phosphorus values.

The sediment analyzed was that from which the pore water had been expressed. Calculations showed that the phosphorus in the pore water that remained with the sediments after the squeezing process was negligible.

The recovery of phosphorus from a marine mud from the Gulf of Maine (USGS standard rock, MAG-1) was 78.9 percent of the phosphorus detected by X-ray fluorescence (Fabbi, 1976). The recovery of phosphorus from a sample of Potomac River sediment was 88.2 percent of the phosphorus detected by X-ray fluorescence. The variation between duplicate samples was generally less than 2.5 percent of the mean.

Total Nitrogen

Total nitrogen refers, in this report, to the sum of organic nitrogen plus dissolved and adsorbed ammonium ion. Total nitrogen was extracted by Kjeldahl digests prepared according to the procedure of Bremner (1965). The extracted ammonium ion was measured using an ammonia electrode (Bremner and Tabatabai, 1972; HNU Systems Inc., 1978; Powers and others, 1981). An HNU Ammonia Electrode with replaceable caps and Corning model 130 pH meter (0.1 mV resolution) were used. The analytical procedure is the method of addition as described in the HNU manual (HNU Systems Inc., 1978) modified by the use of Na_2EDTA (Nancy Simon and Margaret Kennedy, written communication, March 1978). Disodiumethylenediaminetetracetic acid, Na_2EDTA, which is effective in alkaline solutions as a complexer of metals, was added to the Kjeldahl extracts in the amount of 1 mg/L before the addition of the sodium hydroxide solution. Na_2EDTA prevents the formation of hydroxides of copper, which is part of the Kjeldahl catalyst, and iron, which is found in the sediment. It also prevents the formation of carbonates of calcium and magnesium. A dilute HCl solution may be used to remove deposits on the electrode membrane. However, if Na_2EDTA is added to the analyte solution, the exposure of the electrode to any solution other than samples and standards is avoided. The single modification of adding Na_2EDTA to the sample solutions at the time of analysis results in a rapid, sensitive method which is free of interferences.

Carbon

Total and organic carbon were analyzed using a Model DC-12 Leco Carbon Determinator, following the methods given in the instruction manual (Leco Corporation, 1978). The sample was combusted with oxygen at 800°C and the carbon produced was trapped on a molecular sieve at room temperature. The sieve was heated to 320°C to release the carbon dioxide which was then measured by thermal conductivity.

Overestimation of the organic carbon content may occur due to the potential combustion of carbonates. Therefore, if the sediments contain large amounts of carbonate, they must be acidified to release the carbonate from the sample prior to analysis for organic carbon. Preliminary experimentation with acidification of the organic carbon samples in this study found that the inorganic carbonate fraction was within the analytical error of the instrument. Therefore, organic carbon analyses excluded acid treatment.

REFERENCES

Almgreen T., and Fonselius, S. H., 1976, Determination of alkalinity and total carbonate, in Grasshoff, K., ed., Methods of Seawater Analysis: New York, Verlag Chemie, p. 97-115.

American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1975, Standard methods for the examination of water and wastewater (14th ed.): Washington, D. C., 1193 p.

Armstrong, F. A. J., 1951, The determination of silicate in sea water: Journal of the Marine Biological Association U. K., v. 30, p. 149-160.

Aspila K. I., Agemian, H., and Chau, A. S. Y., 1976, A semi-automated method for the determination of inorganic, organic, and total phosphorus in sediments: Analyst, v. 101, p. 187-197.

Beckman Instruments, Inc., 1968, Beckman instructions: Model 915 total organic carbon analyzer and 191860 air purification unit: Fullerton, CA., 34 p.

Berner, R. A., 1963, Electrode studies of hydrogen sulfide in marine sediments: Geochimica et Cosmochimica Acta, v. 27, p. 563-575.

Bolleter, W. T., Bushman, C. J., and Tidwell, P. W., 1961, Spectrophotometric determination of ammonia as indophenol: Analytical Chemistry, v. 33, p. 592-594.

Bremner, J. M., 1965, Methods of soil analysis. Part 2: American Society of Agronomy, Inc., p. 1149-1176.

Bremner, J. M. and Tabatabai, M. A., 1972, Use of ammonia electrode for determination of ammonium in Kjeldahl analysis of soils: Communications in Soil Science and Plant Analysis, v. 3, p. 159-165.

Chamberlain, W., and Shapiro, J., 1973, Phosphate measurements in natural waters- a critique, in Griffith, E. J. and others, eds., Environmental Phosphorus Handbook: New York, John Wiley and Sons, p. 355-366.

Cline, J. D., 1969, Spectrophotometric determination of hydrogen sulfide in natural waters: Limnology and Oceanography, v. 14, p. 454-458.

Dick, W. A., and Tabatabai, M. A., 1977, Determination of orthophosphate in aqueous solutions containing labile organic and inorganic phosphorus compounds: Journal of Environmental Quality, v. 6, p. 82-85.

Dionex Corporation: Ion Chromatography Systems, 1978, Ion chromatography training course [manual]: Sunnyvale, CA., 141 p.

Dollman, G. W., 1968, Determination of sulfate and phosphate in water by ion exchange titrimetric method: Environmental Science and Technology, v. 2, p. 1027-1029.

Edwards, G. P., Molof, A. A., and Scheeman R. W., 1965, Determination of orthophosphate in fresh and saline waters: Journal of American Water Works Association, v. 57, p. 917-925.

Fabbi, B. P. and Espos, L. F., 1976, X-ray fluorescence analysis of 21 selected major, minor, and trace elements in eight new USGS standard rocks, in Flanagan, F. J., ed., Descriptions and analyses of eight new USGS rock standards: Geological Survey Professional Paper 840, Washington, U. S. Government Printing Office, p. 89-93.

Gilbert, T. R. and Clay, A. M., 1973, Determination of ammonia in aquaria and in sea water using the ammonia electrode: Analytical Chemistry, v. 45, p. 1757-1759.

Gravitz, N. and Gleye, L., 1975, A photochemical side reaction that interferes with the phenol-hypochlorite assay for ammonia: Limnology and Oceanography, v. 20, p. 1015-1017.

Helder, W. and De Vries, R. T. P., 1979, An automated phenol-hypochlorite method for the determination of ammonia in sea and brackish waters: Netherlands Journal of Sea Research, v. 13, p. 154-160.

HNU Systems Inc., 1978, Ion selective electrodes: Newton, MA., 10 p.

Horne, R. A., 1969, Marine Chemistry: New York, Wiley-Interscience, 140 p.

Hwang, C. P., Lackie, T. H., and Munch, R. R., 1979, Correction for total organic carbon, nitrate, and chemical oxygen demand when using the MF-Millipore filter: Environmental Science and Technology, v. 13, p. 871-872.

Koroleff, F., 1976, Determination of ammonia, in Grasshoff, K., ed., Methods of Seawater Analysis: New York, Verlag Chemie, p. 126-137.

Leco Corporation, 1978, Instruction manual: DC-12 Duo-Carb System 737-700, 761-000 Determinator, 763-900 Furnace: St. Joseph, MI., 29 p.

Murphy, J., and Riley, J. P., 1962, A modified single solution method for the determination of phosphate in natural waters: Analytica Chimica Acta, v. 27, p. 31-36.

Ngo, T. T., Phan, A.P.H., Yam, C. F., and Lenhoff, H. M., 1982, Interference in determination of ammonia with hypochlorite-alkaline phenol method of Berthelot: Analytical Chemistry, v. 54, p. 46-49.

Oceanography International Corporation, a, Operating procedures manual for 0524B Total Carbon System: College Station, Texas.

_____b, Preliminary operating procedures manual for the Direct Injection Module, OIC Model 0524B-HR: College Station, Texas.

Patton, C. J., and Crouch, S. R., 1977, Spectrophotometric and kinetics investigation of the Berthelot reaction for the determination of ammonia: Analytical Chemistry, v.49, p. 464-469.

Perkin-Elmer Corporation, 1976, Analytical methods for atomic absorption spectrophotometry: Norwalk, CT.

Powers, R. F., Van Gent, D. L., and Townsend, R. F., 1981, Ammonia electrode analysis of nitrogen in microkjeldahl digests of forest vegetation: Communications in Soil Science and Plant Analysis, v. 12, p. 19-30.

Radiometer, Autotitration: Users' Handbook: Copenhagen, Denmark, 97 p.

Reeburgh, W. S., 1967, An improved interstitial water sampler: Limnology and Oceanography, v. 12, p.163-165.

Rigler, F. H., 1968, Further observations inconsistent with the hypothesis that molybdenum blue measures orthophosphate in lake water: Limnology and Oceanography, v. 13, p. 7-13.

Sillen, L. G., and Martell, A. E., 1964, Stability constants of metal ion complexes: Special Publication no. 17, The Chemical Society of London, 745 p.

Skougstad M. W., and others, 1979, Methods for determination of inorganic substances in water and fluvial sediments: Techniques of Water-Resources Investigations of the United States Geological Survey, Book 5, Chapter A1, Washington, U. S. Government Printing Office, 626 p.

Solorzano, L., 1969, Determination of ammonia in natural waters by phenol-hypochlorite method: Limnology and Oceanography, v. 14, p. 799-801.

Stookey, L. L., 1970, FerroZine- a new spectrophotometric reagent for iron: Analytical Chemistry, v. 42, p. 779-781.

Strickland, J. D. H., 1952, The preparation and properties of silicomolybdic acid; I. the properties of alpha silicomolybdic acid: American Chemical Society Journal, v. 74, p. 862.

Strickland, J. D. H., and Parsons, T. R., 1968, A practical handbook of seawater analysis: Fisheries Research Board of Canada, Bulletin 167, 311 p.

Wageman, R., and Graham, B., 1974, Membrane and glass fiber filter contamination in chemical analysis of fresh water: Water Research, v. 8, p. 407-412.

APPENDIX I

Aids For Using the Data

Sampling location, date, and depth.- The heading of each data page consists of the cruise code (as explained in the text); the location, as designated by the nearest easily-identifiable named location on shore (see figs. 1 - 3); the date of collection of the sample, given as month-day-year; the water depth, in meters, at the sampling site; and, where applicable, the distance, in meters, and direction from a centrally located buoy at the given sampling site. Water depth was determined by the boat's fathometer.

Depth, cm.- The depth, in centimeters, of the sampling intervals from each core is the average, to the nearest whole centimeter, of the depth sampled. For example, depth cm 16 represents the sampling interval 15-17.5 cm.

Missing data.- Missing data will appear as dashed lines.

Interstitial Water Data

pH.- The hydrogen-ion concentration of the expressed pore water.

pH sed.- The hydrogen-ion concentration of the interstitial water which is still in contact with the sediment, prior to the squeezing process.

Eh, mV.- The redox potential, in millivolts, of the expressed pore water.

Eh sed, mV.- The redox potential, in millivolts, of the interstitial water which is still in contact with the sediment, prior to the squeezing process.

Alk, meq/L.- Alkalinity, in milliequivalents per liter.

NH_4, mmol/L.- Dissolved ammonium ion, in millimoles per liter.

PO4, µmol/L.- Dissolved reactive phosphate, in micromoles per liter.

Silica, µmol/L.- Dissolved reactive silica, in micromoles per liter.

Tot C, mg/L.- Total dissolved carbon, in milligrams per liter.

Org C, mg/L.- Dissolved organic carbon, in milligrams per liter.

Inorg C, mg/L.- Dissolved inorganic carbon, in milligrams per liter.

Cl, mmol/L.- Dissolved chloride, in millimoles per liter.

SO4, mmol/L.- Dissolved sulfate in millimoles per liter.

Na, mmol/L.- Dissolved sodium, in millimoles per liter.

K, mmol/L.- Dissolved potassium, in millimoles per liter.

Ca, mmol/L.- Dissolved calcium, in millimoles per liter.

Mg, mmol/L.- Dissolved magnesium, in millimoles per liter.

Mn, µmol/L.- Dissolved manganese, in micromoles per liter.

Fe AA, µmol/L.- Dissolved iron, in micromoles per liter, as determined by flame atomic absorption spectrophotometry.

Fe Ferro, µmol/L.- Dissolved iron, in micromoles per liter, as determined by the FerroZine spectrophotometric method.

S^{-2}, µmol/L.- The sum of dissolved sulfide species (H_2S, HS^-, S^{2-}), in micromoles per liter, as determined by spectrophotometric method (Cline, 1969) or an iodometric titration. See table 3 for dates each method was used.

S^{-2} Elect, µmol/L.- The sum of dissolved sulfide species (H_2S, HS^-, S^{2-}), in micromoles per liter, as calculated from the activity of the sulfide ion (S^{2-}) determined by a sulfide electrode.

Sediment Data

Tot C, µmol/g.- Total carbon, in micromoles per gram of dry sediment.

Org C, µmol/g.- Organic carbon, in micromoles per gram of dry sediment.

Tot N, µmol/g.- The sum of organic nitrogen plus dissolved and adsorbed ammonium ion, in micromoles per gram of dry sediment.

Tot P, µmol/g.- Total phosphorus, in micromoles per gram of dry sediment.

Inorg P, µmol/g.- Inorganic phosphorus, in micromoles per gram of dry sediment.

Wt loss, %.- Sediment weight loss on ignition, in percent.

Porosity.- Porosity is defined as the ratio of the volume of pore space to the total bulk volume of the sediment interval. It is assumed in the calculations used to obtain these data that the volume of water in the sample is equal to the volume of the pore space. The possiblilty that gas pockets may occupy some of the pore spaces is not included. Multiply the given data by 100 to obtain percent.

APPENDIX II

Data Tables

The data tables are arranged according to station location, beginning with station V1 in the lower Potomac Estuary and proceeding upstream. See Figures 1, 2, and 3 in the main body of the report.

7805-V1 PT. LOOKOUT 5-10-78 18.3 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.30	-	310	-	5.9	0.32	8	413	70	41	29
3	7.37	-	-86	-	8.2	0.55	115	637	150	82	65
5	7.62	-	-150	-	14.9	0.99	202	617	160	44	120
7	7.59	-	-160	-	17.9	1.22	228	867	240	81	160
9	7.60	-	-170	-	19.7	1.48	249	915	230	41	190
16	7.59	-	-170	-	25.4	1.92	307	878	290	79	210
26	7.44	-	-160	-	28.2	2.64	356	778	310	31	280
36	7.45	-	-150	-	29.1	2.88	400	737	340	21	320
46	7.42	-	-140	-	32.3	3.14	402	858	350	55	290
66	7.43	-	-120	-	34.3	3.52	431	831	400	38	360

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	285.0	10.0	-	-	-	-	364	113	145	-	0
3	232.0	6.5	-	-	-	-	49	33	42	-	75
5	204.0	5.0	-	-	-	-	11	4	8	-	200
7	248.0	4.0	-	-	-	-	3	0	33	-	45
9	245.0	2.5	-	-	-	-	3	0	2	-	610
16	276.0	0.5	-	-	-	-	3	0	1	-	550
26	264.0	0.5	-	-	-	-	1	3	1	-	580
36	275.0	0.5	-	-	-	-	7	1	-	-	230
46	271.0	0.5	-	-	-	-	1	0	3	-	260
66	275.0	0.5	-	-	-	-	1	0	1	-	86

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.90
3	-	-	-	-	-	-	0.89
5	-	-	-	-	-	-	0.88
7	-	-	-	-	-	-	0.87
9	-	-	-	-	-	-	0.88
16	-	-	-	-	-	-	0.85
26	-	-	-	-	-	-	0.84
36	-	-	-	-	-	-	0.84
46	-	-	-	-	-	-	0.84
66	-	-	-	-	-	-	0.81

7806-V1(V30 FILE) PT. LOOKOUT 6-1-78 19.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.02	-	150	-	-	0.49	38	709	-	-	-
3	7.45	-	-120	-	-	1.24	191	1240	-	-	-
5	7.57	-	-160	-	-	1.53	240	1320	-	-	-
7	7.69	-	-170	-	-	-	268	1350	-	-	-
9	7.75	-	-180	-	-	2.31	310	1400	-	-	-
16	7.54	-	-170	-	-	-	351	1400	-	-	-
26	7.47	-	-160	-	-	-	359	1490	-	-	-
36	7.50	-	-160	-	-	-	376	1390	-	-	-
46	7.56	-	-150	-	-	3.86	387	1390	-	-	-
66	7.39	-	-120	-	-	-	399	1420	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	8.0	-	-	-	-	29	75	78	-	-
3	-	4.5	-	-	-	-	22	8	8	-	370
5	-	3.0	-	-	-	-	6	4	6	-	370
7	-	1.5	-	-	-	-	5	5	6	-	260
9	-	0.5	-	-	-	-	6	8	6	-	140
15	-	3.0	-	-	-	-	6	7	6	-	110
26	-	0.5	-	-	-	-	2	7	5	-	70
36	-	0.5	-	-	-	-	3	8	5	-	41
46	-	0.5	-	-	-	-	1	4	3	-	14
66	-	0.5	-	-	-	-	5	13	11	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.88
3	-	-	-	-	-	-	0.89
5	-	-	-	-	-	-	0.89
7	-	-	-	-	-	-	0.88
9	-	-	-	-	-	-	0.87
16	-	-	-	-	-	-	0.82
26	-	-	-	-	-	-	0.84
36	-	-	-	-	-	-	0.84
46	-	-	-	-	-	-	0.83
66	-	-	-	-	-	-	0.84

7805-V2 PT. LOOKOUT 5-10-78 12.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.87	-	290	-	3.4	0.13	8	335	49	36	14
3	7.16	-	160	-	3.9	0.17	40	408	53	32	21
5	7.39	-	190	-	4.7	0.20	73	450	61	25	36
7	7.37	-	120	-	5.7	0.28	85	614	74	27	47
9	7.41	-	110	-	6.4	0.34	73	621	79	25	54
16	7.62	-	120	-	8.1	0.44	92	721	97	28	68
26	7.65	-	120	-	9.0	0.54	75	710	180	65	110
36	7.58	-	86	-	11.5	0.55	64	691	140	40	100
46	7.56	-	91	-	12.0	0.56	56	648	150	47	100
66	7.63	-	150	-	13.4	0.55	43	660	140	34	100

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	200.0	9.0	-	-	-	-	45	43	86	-	-
3	186.0	9.0	-	-	-	-	47	92	107	-	-
5	195.0	8.5	-	-	-	-	42	3	8	-	-
7	210.0	9.5	-	-	-	-	29	0	2	-	3
9	216.0	9.5	-	-	-	-	27	12	22	-	1
16	235.0	8.0	-	-	-	-	25	31	67	-	0
26	-	6.5	-	-	-	-	16	22	24	-	0
36	236.0	7.0	-	-	-	-	7	1	3	-	0
46	225.0	3.0	-	-	-	-	7	1	4	-	2
66	256.0	3.0	-	-	-	-	14	11	15	-	0

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.90
3	-	-	-	-	-	-	0.87
5	-	-	-	-	-	-	0.85
7	-	-	-	-	-	-	0.84
9	-	-	-	-	-	-	0.84
16	-	-	-	-	-	-	0.83
26	-	-	-	-	-	-	0.83
36	-	-	-	-	-	-	0.80
46	-	-	-	-	-	-	0.76
66	-	-	-	-	-	-	-

7805-V3 PT. LOOKOUT 5-11-78 9.8 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.30	-	180	-	5.8	0.28	38	438	130	85	43
3	7.51	-	-96	-	9.0	0.64	155	606	170	79	93
5	7.42	-	-250	-	12.9	0.81	185	650	190	99	95
7	7.51	-	-200	-	13.7	0.80	167	670	200	92	110
9	7.69	-	-170	-	13.8	0.90	158	660	220	110	120
16	7.46	-	-160	-	13.7	0.89	125	549	240	130	110
32	7.60	-	-150	-	13.8	0.90	90	633	210	100	110
39	7.49	-	-160	-	13.4	0.72	82	600	230	120	110
49	7.40	-	-150	-	12.4	0.66	73	552	250	150	100
61	7.59	-	-140	-	11.8	0.57	58	600	230	140	95

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	159.0	6.0	130.0	3.3	3.1	14.6	51	30	48	-	2
3	171.0	5.5	150.0	3.5	3.5	17.0	13	1	3	-	3900
5	190.0	5.0	165.0	3.9	3.9	18.7	7	0	3	-	130
7	189.0	5.0	176.0	4.2	4.1	20.0	8	0	4	-	120
9	210.0	8.0	171.0	4.0	4.2	20.0	10	7	4	-	83
16	200.0	4.0	172.0	4.1	4.0	20.4	11	2	5	-	130
32	221.0	5.5	189.0	5.9	4.1	21.2	8	0	14	-	91
39	216.0	5.5	188.0	4.4	4.1	21.3	7	1	4	-	110
49	218.0	6.5	194.0	6.0	4.1	22.0	7	1	4	-	170
61	235.0	6.5	195.0	4.7	4.2	22.5	7	0	2	-	40

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2960	2940	320	19	8	12.4	0.93
3	2880	2670	280	17	7	12.0	0.90
5	2370	2340	230	15	7	11.1	0.87
7	2160	2130	200	13	6	10.4	0.86
9	2020	1990	170	12	6	9.9	0.86
16	1800	1770	150	11	6	9.5	0.84
32	1460	1440	100	11	7	8.2	0.83
39	1470	1460	110	11	7	7.9	0.81
49	1510	1490	140	11	7	8.0	0.81
61	1430	1420	160	11	7	7.9	0.76

7809-V3A PT. LOOKOUT 9/21/78 9.4 METERS DEPTH 180 METERS EAST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.29	7.36	-110	-230	9.7	0.69	97	534	190	93	95
3	7.50	7.36	-140	-240	17.8	1.16	205	867	210	56	160
5	7.57	7.35	-150	-230	18.5	1.42	363	1010	230	59	170
7	7.47	7.35	-150	-230	16.8	1.13	175	904	230	76	150
9	7.49	7.33	-160	-210	14.7	0.95	142	858	240	110	130
16	7.49	7.42	-140	-220	13.1	0.91	112	831	210	92	120
26	7.68	7.40	-140	-220	12.7	0.80	91	758	290	180	110
36	7.80	7.43	-120	-210	11.7	0.71	148	851	240	120	110
46	7.56	7.45	-130	-220	11.2	0.65	68	808	230	120	110
66	7.62	7.38	-110	-220	10.5	0.62	55	904	230	130	98

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	211.0	6.5	-	-	-	-	13	4	-	1000	2300
3	202.0	2.0	-	-	-	-	17	5	-	3200	5300
5	194.0	1.5	-	-	-	-	44	14	-	3000	4100
7	196.0	2.0	-	-	-	-	20	1	-	3200	4300
9	191.0	3.5	-	-	-	-	14	1	-	2700	2800
16	196.0	3.5	-	-	-	-	16	0	-	2000	2500
26	208.0	5.0	-	-	-	-	14	1	-	1400	1400
36	222.0	5.5	-	-	-	-	35	6	-	370	260
46	219.0	6.5	-	-	-	-	10	2	-	780	710
66	239.0	6.5	-	-	-	-	9	7	-	530	420

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.91
3	-	-	-	-	-	-	0.89
5	-	-	-	-	-	-	0.87
7	-	-	-	-	-	-	0.84
9	-	-	-	-	-	-	0.83
16	-	-	-	-	-	-	0.85
26	-	-	-	-	-	-	0.81
36	-	-	-	-	-	-	0.82
46	-	-	-	-	-	-	0.80
66	-	-	-	-	-	-	0.78

7809-V3B PT.LOOKOUT 9/21/78 9.4 METERS DEPTH 100 METERS SOUTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.50	7.32	-3	-160	7.4	0.41	55	381	140	65	74
3	7.45	7.28	-140	-200	16.2	1.06	202	867	210	45	160
5	7.50	7.30	-160	-200	19.3	1.35	227	879	260	76	180
7	7.50	7.28	-160	-200	17.6	1.18	126	924	240	81	160
9	7.56	7.28	-160	-200	15.9	1.09	141	899	260	110	150
16	7.61	7.34	-150	-190	14.3	1.00	120	860	230	93	130
26	7.68	7.43	-140	-200	14.4	0.93	129	879	230	92	130
36	7.66	7.46	-140	-190	13.5	0.84	119	810	210	89	120
46	7.71	7.43	-130	-180	12.6	0.75	106	828	210	93	120
66	7.76	7.36	-73	-180	11.3	0.73	106	867	210	110	100

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	213.0	8.5	182.0	4.9	4.0	20.6	31	14	-	-	44
3	204.0	3.0	174.0	4.3	3.8	19.1	20	14	-	3200	4300
5	207.0	1.0	163.0	4.3	3.7	17.7	22	17	-	4000	3700
7	198.0	2.0	166.0	4.6	3.8	18.3	9	0	-	4000	3700
9	200.0	3.0	167.0	4.6	3.8	18.3	10	2	-	3400	2300
16	211.0	10.0	176.0	4.9	4.1	19.3	12	1	-	2400	1900
26	216.0	4.5	180.0	5.1	4.3	19.8	11	1	-	1700	1300
36	217.0	4.5	186.0	5.2	4.5	20.6	11	1	-	1200	960
46	225.0	5.5	190.0	5.3	4.6	20.9	16	4	-	810	500
66	225.0	16.0	194.0	5.7	4.8	21.4	33	15	-	250	43

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2890	2870	-	18	7	12.7	0.91
3	2800	-	350	18	8	12.3	0.88
5	2570	-	380	15	7	11.8	0.86
7	2200	2160	490	13	7	10.8	0.85
9	2060	-	150	12	6	10.5	0.84
16	1780	-	200	11	6	10.3	0.83
26	1630	1610	190	11	6	9.4	0.83
36	1470	-	170	11	6	8.7	0.82
46	1280	-	100	11	7	7.9	0.76
66	1340	1330	120	10	7	8.0	0.77

7809-V3C PT. LOOKOUT 9/22/78 9.8 METERS DEPTH 100 METERS NW

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.34	7.31	-110	-260	9.4	0.69	68	555	220	120	98
3	7.46	7.45	-130	-220	15.0	1.10	141	847	270	120	150
5	7.44	7.31	-140	-200	16.8	1.15	149	904	260	110	150
7	7.46	7.31	-140	-210	14.9	1.00	125	888	250	110	140
9	7.48	7.31	-140	-210	13.6	0.88	129	867	240	100	140
16	7.48	7.35	-120	-210	11.7	0.78	97	847	230	110	120
26	7.55	7.38	-120	-240	11.9	0.77	80	847	220	110	120
36	7.50	7.37	-130	-220	11.5	0.69	69	847	230	110	120
46	7.50	7.31	-120	-220	10.9	0.64	61	828	220	110	110
66	7.51	7.28	-94	-200	10.6	0.60	51	828	230	120	100

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	223.0	3.5	-	-	-	-	14	1	-	950	3500
3	203.0	4.5	-	-	-	-	7	1	-	3200	7400
5	201.0	-	-	-	-	-	11	1	-	3800	7800
7	194.0	2.5	-	-	-	-	12	1	-	3300	6000
9	196.0	1.5	-	-	-	-	12	1	-	2700	3700
16	205.0	2.5	-	-	-	-	14	1	-	1700	2900
26	213.0	3.5	-	-	-	-	12	1	-	1200	1800
36	216.0	2.5	-	-	-	-	11	1	-	990	1300
46	217.0	2.5	-	-	-	-	11	1	-	790	970
66	223.0	3.0	-	-	-	-	10	5	-	360	400

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.91
3	-	-	-	-	-	-	0.88
5	-	-	-	-	-	-	0.86
7	-	-	-	-	-	-	0.84
9	-	-	-	-	-	-	0.83
16	-	-	-	-	-	-	0.84
26	-	-	-	-	-	-	0.80
36	-	-	-	-	-	-	0.82
46	-	-	-	-	-	-	0.80
66	-	-	-	-	-	-	0.80

7903-V3B 2.8 KM FROM HULL CREEK 9.8 METERS 3/20/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.79	-	18	150	5.9	0.40	59	427	-	-	-
3	7.27	-	-140	15	8.5	0.54	101	516	-	-	-
5	7.07	-	-140	-90	9.8	0.70	103	555	-	-	-
7	7.14	-	-150	-120	12.1	0.84	119	602	-	-	-
9	7.09	-	-140	-140	12.4	0.96	124	627	-	-	-
16	7.23	-	-160	-170	14.6	1.00	124	641	-	-	-
26	7.29	-	-150	-170	14.0	0.79	114	662	-	-	-
36	7.10	-	-140	-170	12.4	0.70	91	651	-	-	-
46	7.12	-	-120	-160	9.5	0.64	65	623	-	-	-
66	6.99	-	-95	-160	1.2	0.62	44	651	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	175.0	8.20	143.0	3.7	3.9	18.0	96	169	148	170	-
3	199.0	8.10	166.0	4.0	4.2	20.6	11	1	2	180	190
5	214.0	6.70	174.0	4.2	4.4	21.6	8	1	3	200	430
7	209.0	5.70	179.0	4.2	4.5	22.2	9	1	3	260	620
9	217.0	5.10	180.0	4.1	4.6	22.2	10	1	3	250	610
16	214.0	4.30	178.0	4.1	4.4	21.5	13	4	4	310	710
26	214.0	4.80	180.0	4.2	4.4	21.5	13	-	2	250	490
36	219.0	6.00	184.0	4.3	4.6	21.6	13	0	2	210	350
46	226.0	7.10	194.0	4.5	4.6	22.2	12	1	2	110	200
66	222.0	7.00	200.0	4.6	4.7	23.0	-	-	1	-	67

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7903-V3D 2.8 KM FROM HULL CREEK 9.8 METERS 3/20/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.44	-	110	-	2.8	0.26	40	363	-	-	-
3	7.14	-	-88	-	2.0	0.47	73	520	-	-	-
5	7.18	-	-130	-	11.2	0.70	93	634	-	-	-
7	7.20	-	-130	-	11.1	0.82	114	612	-	-	-
9	7.23	-	-140	-	12.2	0.88	99	598	-	-	-
16	7.23	-	-140	-	13.5	0.80	94	609	-	-	-
26	7.12	-	-130	-	11.4	0.68	72	641	-	-	-
36	7.09	-	-120	-	10.9	0.58	58	952	-	-	-
46	7.01	-	-110	-	9.1	0.58	50	623	-	-	-
66	6.88	-	-77	-	8.3	0.56	40	651	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	165.0	8.40	134.0	3.4	3.4	16.0	32	69	64	0	-
3	195.0	8.20	156.0	3.8	4.0	19.0	11	2	3	66	140
5	212.0	6.80	164.0	3.8	4.2	20.4	16	3	4	100	320
7	215.0	5.90	168.0	3.8	4.3	20.2	19	1	3	140	380
9	211.0	5.10	167.0	3.7	4.4	20.2	18	1	3	180	390
16	214.0	5.30	164.0	3.8	4.4	20.2	16	1	2	220	500
26	217.0	7.40	172.0	3.8	4.4	21.0	13	0	2	130	220
36	226.0	7.70	177.0	4.2	4.6	21.7	12	1	2	52	190
46	229.0	8.30	187.0	4.1	4.8	22.6	11	1	2	36	130
66	238.0	9.10	185.0	4.3	4.9	22.8	9	1	1	34	55

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7908-V3 PT. LOOKOUT 7/31/79 9.8 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.63	-	150	8	3.8	0.85	14	300	-	-	-
3	6.81	-	-62	-65	4.7	0.65	19	467	-	-	-
5	7.05	-	-140	-120	4.8	0.60	16	483	-	-	-
7	7.07	-	-160	-160	6.7	0.61	14	533	-	-	-
9	7.24	-	-180	-180	8.4	0.92	23	617	-	-	-
16	7.10	-	-160	-170	8.5	1.05	26	767	-	-	-
26	7.08	-	-160	-190	11.1	1.02	30	767	-	-	-
36	7.19	-	-160	-170	11.1	0.94	-	783	-	-	-
46	7.24	-	-170	-170	10.5	0.74	-	733	-	-	-
66	7.17	-	-150	-160	8.9	0.68	-	750	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	209.0	1.00	179.0	5.0	3.4	17.5	40	21	-	3	-
3	223.0	1.00	174.0	4.4	3.4	15.1	38	12	-	29	14
5	207.0	0.83	172.0	4.4	3.4	14.6	12	8	-	60	460
7	197.0	0.75	160.0	4.2	3.3	14.2	11	2	-	150	780
9	188.0	0.67	157.0	4.2	3.1	13.9	13	0	-	220	1000
16	186.0	0.58	158.0	4.5	2.9	13.8	13	0	-	100	500
26	212.0	0.56	173.0	4.7	3.1	14.7	14	0	-	78	750
36	214.0	0.58	185.0	5.0	3.3	15.2	13	1	-	76	620
46	223.0	0.64	190.0	5.2	3.4	15.4	11	0	-	49	490
66	231.0	0.75	194.0	5.3	3.4	15.7	9	1	-	27	310

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	3020	-	390	20	9	12.8	0.93
3	2800	2570	400	18	9	12.3	0.91
5	2720	-	300	17	7	12.3	0.90
7	2600	-	350	17	8	11.9	0.89
9	2620	-	300	17	7	12.0	0.88
16	1880	-	240	13	7	10.2	0.84
26	1550	-	210	11	6	9.3	0.84
36	1470	1320	160	12	7	9.2	0.82
46	1390	-	180	11	7	8.4	0.81
66	1220	-	140	11	8	7.6	0.78

7805-V4 WYNNE 5-11-78 10.4 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.74	-	190	-	4.8	0.10	10	174	110	86	20
3	7.10	-	-25	-	4.3	0.23	50	529	130	89	38
5	7.37	-	-88	-	5.0	0.29	81	593	160	110	45
7	7.46	-	-130	-	6.9	0.36	91	667	160	110	51
9	7.24	-	-140	-	7.7	0.41	94	646	130	65	62
16	7.50	-	-160	-	9.3	0.57	84	734	180	100	78
26	7.55	-	-170	-	9.3	0.51	68	765	180	97	85
36	7.29	-	-170	-	9.1	0.47	62	781	170	86	83
46	7.31	-	-170	-	9.0	0.44	54	758	180	100	80
66	7.37	-	-170	-	8.0	0.42	43	704	200	130	72

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	153.0	7.5	-	-	-	-	34	89	100	-	-
3	159.0	7.5	-	-	-	-	17	7	10	-	-
5	180.0	7.5	-	-	-	-	12	3	4	-	35
7	190.0	7.5	-	-	-	-	10	4	6	-	34
9	192.0	7.5	-	-	-	-	9	0	7	-	97
16	150.0	6.5	-	-	-	-	10	0	2	-	100
26	187.0	7.0	-	-	-	-	8	3	2	-	83
36	235.0	6.5	-	-	-	-	7	3	7	-	210
46	239.0	8.0	-	-	-	-	6	0	1	-	170
66	149.0	8.5	-	-	-	-	6	3	3	-	94

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.89
3	-	-	-	-	-	-	0.88
5	-	-	-	-	-	-	0.88
7	-	-	-	-	-	-	0.87
9	-	-	-	-	-	-	0.85
16	-	-	-	-	-	-	0.83
26	-	-	-	-	-	-	0.78
36	-	-	-	-	-	-	0.79
46	-	-	-	-	-	-	0.77
66	-	-	-	-	-	-	0.70

7805-V5 WYNNE 5-12-78 19.5 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.97	-	290	-	4.7	0.15	24	454	120	96	19
3	7.03	-	310	-	4.6	0.16	41	486	76	45	31
5	7.24	-	70	-	5.0	0.23	65	559	150	100	42
7	7.27	-	170	-	5.8	0.26	75	653	130	76	52
9	7.38	-	110	-	6.8	0.43	104	683	140	82	62
16	7.43	-	-68	-	10.3	0.66	118	845	150	64	87
26	7.53	-	-71	-	14.1	0.80	114	807	230	98	130
36	7.44	-	-72	-	23.1	0.79	101	779	230	110	120
46	7.43	-	-72	-	24.5	0.91	103	793	200	110	93
66	7.41	-	-72	-	17.7	0.92	81	730	230	110	120

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	239.0	11.0	-	-	-	-	98	322	310	-	0
3	230.0	10.0	-	-	-	-	68	104	122	-	0
5	217.0	9.5	-	-	-	-	32	5	6	-	0
7	229.0	9.5	-	-	-	-	21	0	29	-	60
9	233.0	9.5	-	-	-	-	7	0	2	-	130
16	255.0	8.0	-	-	-	-	3	0	1	-	270
26	259.0	6.5	-	-	-	-	0	0	8	-	370
36	-	6.0	-	-	-	-	1	0	4	-	330
46	262.0	3.5	-	-	-	-	3	0	11	-	400
66	283.0	5.0	-	-	-	-	4	0	11	-	390

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.93
3	-	-	-	-	-	-	0.90
5	-	-	-	-	-	-	0.89
7	-	-	-	-	-	-	0.88
9	-	-	-	-	-	-	0.86
16	-	-	-	-	-	-	0.86
26	-	-	-	-	-	-	0.86
36	-	-	-	-	-	-	0.84
46	-	-	-	-	-	-	0.79
66	-	-	-	-	-	-	0.73

7908-V SM ST. MARY'S RIVER 7/30/79 7.5 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.83	-	-100	-110	4.9	0.70	-	450	-	-	-
3	7.17	-	-140	-130	10.1	0.70	-	800	-	-	-
5	7.26	-	-140	-170	11.7	0.90	-	750	-	-	-
7	7.21	-	-160	-180	11.7	1.00	-	817	-	-	-
9	7.24	-	-150	-180	12.3	1.00	-	833	-	-	-
16	7.23	-	-160	-190	13.0	1.10	-	917	-	-	-
26	7.28	-	-170	-180	16.9	1.20	-	883	-	-	-
36	7.26	-	-180	-190	17.7	1.10	-	883	-	-	-
46	7.26	-	-180	-200	19.0	1.70	-	850	-	-	-
66	7.24	-	-180	-200	20.7	1.60	-	917	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	202.0	-	159.0	4.3	3.8	14.7	7	11	-	150	2000
3	189.0	-	151.0	3.9	2.6	15.8	7	2	-	390	3100
5	196.0	-	146.0	4.5	2.6	15.5	1	1	-	470	2700
7	185.0	-	141.0	3.7	2.6	15.0	0	1	-	430	4500
9	188.0	-	150.0	4.0	2.6	15.6	0	1	-	480	3200
16	204.0	-	164.0	4.2	2.8	16.8	0	0	-	390	3600
26	220.0	-	171.0	4.5	3.2	17.9	1	1	-	490	3300
36	228.0	-	177.0	4.7	3.5	18.5	0	1	-	520	3500
46	229.0	-	178.0	4.8	3.8	19.1	0	1	-	510	3200
66	238.0	-	184.0	4.9	3.8	19.5	0	0	-	520	3800

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.95
3	-	-	-	-	-	-	0.91
5	-	-	-	-	-	-	0.90
7	-	-	-	-	-	-	0.90
9	-	-	-	-	-	-	0.90
16	-	-	-	-	-	-	0.87
26	-	-	-	-	-	-	0.86
36	-	-	-	-	-	-	0.85
46	-	-	-	-	-	-	0.84
66	-	-	-	-	-	-	0.84

7805-V6 PINEY PT. 5-12-78 23.5 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.25	-	120	-	3.8	0.23	29	493	140	110	34
3	7.63	-	-100	-	15.2	1.05	263	691	220	95	130
5	7.62	-	-110	-	23.3	1.25	401	786	260	82	180
7	7.59	-	-110	-	26.2	2.28	455	798	310	100	200
9	7.61	-	-100	-	27.8	2.75	504	814	520	240	280
16	7.60	-	-63	-	31.1	3.36	503	803	370	79	290
26	7.57	-	24	-	33.8	3.33	486	786	370	76	290
36	7.50	-	60	-	34.9	3.39	497	768	440	85	350
46	7.43	-	60	-	36.1	3.68	423	727	430	99	330
66	7.34	-	58	-	36.9	3.91	527	681	410	99	320

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	227.0	9.5	184.0	4.8	4.3	20.9	75	79	67	-	0
3	217.0	4.5	185.0	4.7	4.1	19.8	40	0	3	-	0
5	235.0	1.0	205.0	5.1	4.4	23.0	30	0	2	-	540
7	-	1.5	202.0	4.9	4.5	22.3	23	0	3	-	470
9	248.0	0.5	210.0	5.2	4.8	23.7	18	0	3	-	330
16	252.0	0.5	205.0	4.9	4.7	23.7	10	0	5	-	53
26	258.0	0.5	215.0	6.7	1.7	25.4	5	5	6	-	1
36	260.0	0.5	214.0	5.5	5.2	26.2	20	6	5	-	0
46	266.0	0.5	217.0	6.8	1.3	26.3	40	23	13	-	0
66	263.0	1.0	226.0	5.9	4.9	27.1	55	50	24	-	0

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	3000	2870	370	21	9	13.9	0.93
3	-	2590	280	18	9	13.8	0.92
5	-	2570	310	19	10	13.7	0.92
7	2680	2540	280	17	9	13.2	-
9	-	2280	210	16	8	11.9	0.90
16	-	2120	210	14	8	11.7	0.88
26	2200	2060	240	14	8	11.7	0.88
36	-	1860	210	14	9	10.7	0.81
46	-	1710	180	15	10	11.2	0.88
66	1950	1800	190	15	10	11.6	0.86

7806-V6(V29 FILE) PINEY PT. 6-1-78 23.2 METERS2

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.20	-	240	-	-	0.74	53	534	-	-	-
3	7.43	-	-74	-	-	2.70	599	952	-	-	-
5	7.36	-	-80	-	-	4.20	669	926	-	-	-
7	7.23	-	-34	-	-	-	686	968	-	-	-
9	7.21	-	48	-	-	6.08	713	993	-	-	-
16	7.02	-	9	-	-	-	641	977	-	-	-
26	7.09	-	36	-	-	-	543	984	-	-	-
36	7.18	-	17	-	-	-	706	1030	-	-	-
46	6.98	-	21	-	-	9.68	845	1070	-	-	-
66	7.12	-	51	-	-	-	699	1020	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	8.0	135.0	3.2	3.0	14.8	43	68	69	-	-
3	-	1.5	169.0	4.3	4.0	21.3	102	20	21	-	37
5	-	1.0	188.0	4.7	4.3	23.0	113	12	14	-	11
7	-	0.5	191.0	4.8	4.3	24.4	162	28	29	-	-
9	-	0.5	193.0	4.9	4.5	24.4	182	5	5	-	-
16	-	0.5	205.0	5.1	4.7	26.3	273	174	125	-	-
26	-	0.5	-	-	-	-	291	394	241	-	-
36	-	0.5	216.0	5.7	5.3	28.3	364	287	101	-	-
46	-	0.5	-	-	-	-	419	215	121	-	-
66	-	1.0	216.0	5.9	5.8	29.6	328	155	72	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	3110	3050	-	27	15	13.9	-
3	3140	3070	-	20	9	14.6	-
5	3250	3200	-	21	10	15.1	-
7	3280	3240	-	21	10	15.1	-
9	3780	3730	-	22	11	14.6	-
16	-	2970	-	19	10	14.3	-
26	-	2790	-	25	16	14.1	-
36	-	2850	-	22	13	14.3	-
46	2560	2510	-	20	13	13.3	-
66	2600	2570	-	17	10	12.7	-

7808-H3 AT V6 8/31/78 22.6 METERS DEPTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.18	7.16	-120	-180	13.4	0.64	218	830	250	140	110
3	7.30	7.01	-41	-130	33.5	4.65	660	1200	500	130	360
5	7.15	6.96	15	-100	39.2	5.40	729	1210	610	210	390
7	7.05	6.93	16	-120	41.9	6.32	777	1170	640	210	430
9	7.05	6.99	17	-130	43.6	7.11	774	1130	610	180	430
16	7.01	6.89	20	-120	48.9	8.58	621	1130	670	190	480
26	7.06	6.86	13	-170	52.3	9.89	405	1080	750	290	460
36	6.99	6.88	22	-190	57.0	9.50	698	1170	800	210	600
46	7.05	6.89	17	-140	58.9	10.10	802	1140	780	180	600
66	7.25	7.08	27	-98	59.1	9.92	552	1070	780	190	590

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	53	9	-	-	540
3	-	-	-	-	-	-	160	10	-	-	1
5	-	-	-	-	-	-	255	38	-	-	-
7	-	-	-	-	-	-	291	43	-	-	-
9	-	-	-	-	-	-	309	57	-	-	-
16	-	-	-	-	-	-	309	251	-	-	-
26	-	-	-	-	-	-	291	287	-	-	-
36	-	-	-	-	-	-	346	215	-	-	-
46	-	-	-	-	-	-	400	154	-	-	-
66	-	-	-	-	-	-	309	98	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.92
3	-	-	-	-	-	-	0.91
5	-	-	-	-	-	-	0.91
7	-	-	-	-	-	-	0.91
9	-	-	-	-	-	-	0.90
16	-	-	-	-	-	-	0.91
26	-	-	-	-	-	-	0.88
36	-	-	-	-	-	-	0.89
46	-	-	-	-	-	-	0.88
66	-	-	-	-	-	-	0.88

7809-V6A PINEY PT. 9/19/78 20.4 METERS DEPTH 120 METERS NORTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.25	7.20	-89	-230	9.0	0.65	94	680	230	170	54
3	7.30	7.15	-110	-200	25.4	3.10	545	1080	410	110	300
5	7.10	7.01	60	-150	36.3	5.66	641	1100	500	140	360
7	7.06	6.94	140	-100	40.9	6.74	705	1170	720	-	410
9	7.01	6.91	82	-80	42.3	7.05	745	1160	720	-	430
16	7.01	6.91	76	-180	46.3	8.48	795	1100	620	150	470
26	7.01	6.86	61	-200	52.1	9.70	787	1120	680	150	530
36	7.01	7.03	59	-160	55.4	9.86	773	1120	710	140	570
46	7.01	6.91	57	-170	58.0	9.97	762	1130	710	120	590
66	7.12	6.94	59	-130	58.9	10.00	629	1050	720	-	590

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	250.0	9.0	-	-	-	-	35	14	-	380	1200
3	234.0	1.0	-	-	-	-	76	21	-	1200	1800
5	227.0	1.0	-	-	-	-	62	9	-	130	24
7	223.0	0.5	-	-	-	-	109	21	-	170	2
9	226.0	0.5	-	-	-	-	158	27	-	86	4
16	232.0	0.5	-	-	-	-	218	133	-	370	1
26	238.0	-	-	-	-	-	237	161	-	340	0
36	243.0	0.5	-	-	-	-	237	161	-	140	0
46	246.0	0.5	-	-	-	-	200	172	-	140	0
66	255.0	-	-	-	-	-	200	158	-	400	0

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.93
3	-	-	-	-	-	-	0.92
5	-	-	-	-	-	-	0.91
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	0.92
16	-	-	-	-	-	-	0.90
26	-	-	-	-	-	-	0.90
36	-	-	-	-	-	-	0.90
46	-	-	-	-	-	-	0.87
66	-	-	-	-	-	-	0.86

7809-V6B PINEY PT. 9/19/78 18.6 METERS DEPTH 215 METERS EAST

- - - INTERSTITIAL WATER DATA - - -

DEPTH	PH	PH SED	EH	EH SED	ALK	NH4	PO4	SILICA	TOT C	ORG C	INORG C
CM			MV	MV	MEQ/L	MMOL/L	UMOL/L	UMOL/L	MG/L	MG/L	MG/L
1	7.23	7.30	-82	-170	6.4	0.35	57	556	170	120	49
3	7.44	7.60	-140	-200	19.9	1.56	281	1040	300	110	190
5	7.45	7.28	-150	-230	24.0	2.27	331	1120	360	130	230
7	7.49	7.37	-150	-210	26.6	2.70	428	1140	360	100	260
9	7.47	7.30	-130	-190	28.2	3.07	437	1200	430	150	270
16	7.34	7.28	-82	-170	32.5	4.12	543	1120	470	140	330
26	7.23	7.10	3	-110	37.7	5.30	594	1120	530	160	370
36	7.27	7.05	25	-120	39.7	6.10	542	1110	560	160	400
46	7.22	7.16	8	-190	43.0	6.74	549	1090	580	150	430
66	7.27	7.20	9	-210	48.6	7.38	413	1090	650	160	480

DEPTH	CL	SO4	NA	K	CA	MG	MN	FE AA	FE FERRO	S-2	S-2 ELECT
CM	MMOL/L	MMOL/L	MMOL/L	MMOL/L	MMOL/L	MMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
1	257.0	10.0	216.0	5.9	4.7	25.3	14	9	-	1000	2400
3	235.0	1.0	196.0	5.2	4.4	22.2	35	13	-	3800	5500
5	223.0	0.5	190.0	5.3	4.4	22.2	22	5	-	3400	4300
7	219.0	0.5	187.0	5.3	4.5	21.3	22	8	-	2200	1700
9	220.0	1.5	190.0	5.5	4.5	22.0	16	6	-	1400	1300
16	225.0	-	195.0	5.6	4.7	23.1	10	13	-	230	290
26	232.0	0.5	201.0	6.0	4.9	24.3	27	4	-	18	3
36	238.0	0.5	207.0	6.2	5.1	25.1	69	30	-	36	1
46	242.0	0.5	210.0	6.1	5.3	26.1	102	104	-	32	1
66	246.0	0.5	217.0	6.3	5.6	28.6	87	145	-	130	0

- - - SEDIMENT DATA - - -

DEPTH	TOT C	ORG C	TOT N	TOT P	INORG P	WT LOSS	POROSITY
CM	UMOL/G	UMOL/G	UMOL/G	UMOL/G	UMOL/G	%	
1	2730	2690	380	17	6	13.2	0.91
3	2690	-	240	15	7	13.5	0.92
5	2580	-	170	15	7	12.5	0.91
7	2640	2590	270	16	7	12.5	0.90
9	2920	-	340	16	7	13.6	0.90
16	2270	-	300	14	7	11.6	0.87
26	2200	2190	270	14	8	11.4	0.87
36	2350	-	330	18	13	12.2	0.87
46	2400	-	260	15	9	12.4	0.85
66	2080	2040	260	30	27	11.4	0.84

7809-V6C PINEY PT. 9/20/78 24.1 METERS DEPTH 170 METERS WEST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.05	7.24	-130	-240	8.8	0.58	99	561	180	120	67
3	7.25	7.19	-150	-230	27.0	2.70	566	1030	370	84	280
5	7.22	7.10	-95	-190	34.9	4.58	753	1150	470	120	340
7	7.15	7.09	18	-160	36.2	5.23	788	1100	460	110	350
9	7.12	7.03	85	-150	37.6	5.70	790	1070	490	120	370
16	7.05	6.98	94	-170	41.1	7.20	732	1070	560	140	420
26	7.05	7.00	61	-200	46.3	7.65	717	1080	610	140	470
36	7.12	7.00	63	-170	49.6	8.01	732	1090	610	110	500
46	7.20	7.03	68	-160	51.0	7.86	668	1070	690	170	520
66	7.17	7.02	66	-160	51.9	7.85	594	999	660	140	530

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	264.0	9.5	-	-	-	-	25	2	-	1800	3300
3	239.0	2.0	-	-	-	-	95	12	-	3100	5600
5	226.0	1.5	-	-	-	-	118	2	-	580	880
7	232.0	0.5	-	-	-	-	167	3	-	-	73
9	230.0	0.5	-	-	-	-	200	29	-	170	4
16	239.0	0.5	-	-	-	-	218	91	-	120	1
26	240.0	0.5	-	-	-	-	218	170	-	130	0
36	244.0	0.5	-	-	-	-	237	115	-	99	0
46	249.0	0.5	-	-	-	-	200	95	-	140	0
66	250.0	0.5	-	-	-	-	200	88	-	72	1

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.91
3	-	-	-	-	-	-	0.92
5	-	-	-	-	-	-	0.91
7	-	-	-	-	-	-	0.91
9	-	-	-	-	-	-	0.90
16	-	-	-	-	-	-	0.91
26	-	-	-	-	-	-	0.91
36	-	-	-	-	-	-	0.88
46	-	-	-	-	-	-	0.88
66	-	-	-	-	-	-	0.86

7809-V6D PINEY PT. 9/20/78 23.5 METERS DEPTH 60 METERS SOUTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.16	7.19	-90	-170	10.6	0.87	129	696	210	120	94
3	7.26	7.10	-110	-160	28.5	3.48	577	1150	400	100	300
5	7.16	7.07	6	-150	37.0	5.26	625	1110	470	93	370
7	7.05	6.95	100	-150	40.0	6.40	642	1140	480	99	380
9	7.09	6.96	110	-160	42.3	7.10	644	1150	510	85	430
16	7.02	7.03	55	-180	47.1	8.24	586	1080	610	120	490
26	7.12	6.91	58	-170	52.4	9.30	738	1120	690	160	530
36	7.02	6.91	70	-170	55.4	9.68	804	1120	690	120	570
46	7.03	6.96	56	-160	59.3	9.74	764	1020	690	100	590
66	7.10	6.91	45	-160	58.2	9.64	555	1100	700	110	580

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	260.0	9.0	-	-	-	-	33	2	-	680	2400
3	243.0	2.0	-	-	-	-	89	16	-	500	1500
5	234.0	1.0	-	-	-	-	116	6	-	110	94
7	234.0	0.5	-	-	-	-	167	32	-	87	3
9	232.0	0.5	-	-	-	-	182	52	-	92	1
16	239.0	0.5	-	-	-	-	237	233	-	45	0
26	241.0	0.5	-	-	-	-	291	176	-	52	0
36	246.0	0.5	-	-	-	-	328	116	-	58	0
46	250.0	0.5	-	-	-	-	328	150	-	43	0
66	254.0	0.5	-	-	-	-	328	159	-	16	0

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.92
3	-	-	-	-	-	-	0.91
5	-	-	-	-	-	-	0.92
7	-	-	-	-	-	-	0.91
9	-	-	-	-	-	-	0.91
16	-	-	-	-	-	-	0.90
26	-	-	-	-	-	-	0.90
36	-	-	-	-	-	-	0.89
46	-	-	-	-	-	-	0.88
66	-	-	-	-	-	-	0.86

7908-V PI PINEY POINT 8/5/79 11.0 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.90	-	-77	-110	6.5	0.82	-	1640	-	-	-
3	7.23	-	-110	-160	9.5	0.77	-	1990	-	-	-
5	7.37	-	-120	-150	10.8	0.78	-	1820	-	-	-
7	7.40	-	-110	-140	10.8	0.77	-	1740	-	-	-
9	7.51	-	-79	-130	8.6	0.73	-	1640	-	-	-
16	7.49	-	-58	-94	7.6	0.65	-	1500	-	-	-
26	7.52	-	-35	-7	8.4	0.60	-	1500	-	-	-
36	7.52	-	-25	-35	8.9	0.69	-	1640	-	-	-
46	7.54	-	-52	-100	10.0	0.71	-	1530	-	-	-
66	7.68	-	-100	-130	10.3	0.76	-	1820	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	229.0	4.80	190.0	5.0	4.5	21.3	11	3	-	150	-
3	214.0	5.20	181.0	4.9	4.2	19.3	17	2	-	170	-
5	201.0	4.20	170.0	4.7	3.9	17.8	16	4	-	130	-
7	192.0	3.80	167.0	4.6	3.9	17.5	20	4	-	73	-
9	189.0	4.20	162.0	4.6	3.9	16.7	31	4	-	33	-
16	199.0	6.20	173.0	4.9	4.0	17.9	32	0	-	19	-
26	212.0	6.20	185.0	5.3	4.3	18.5	30	0	-	16	-
36	205.0	5.90	191.0	5.5	4.4	19.8	24	1	-	16	-
46	224.0	5.90	190.0	5.5	4.4	20.2	17	0	-	20	-
66	235.0	5.80	205.0	5.9	4.6	21.7	9	6	-	38	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	3900	-	510	24	8	16.7	0.96
3	3020	-	370	22	9	13.7	0.92
5	2600	-	300	19	9	12.8	0.89
7	2310	-	240	18	9	12.4	0.86
9	2120	-	210	15	7	11.4	0.85
16	1730	-	410	13	7	10.5	0.85
26	1460	-	160	13	8	9.8	0.83
36	1440	-	150	13	8	9.8	0.83
46	1540	-	180	12	7	9.9	0.84
66	1550	-	170	12	7	9.6	0.80

7805-V7 WHITE PT. BEACH 5-15-78 9.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.26	-	160	-	3.1	0.21	17	392	130	100	26
3	7.70	-	97	-	6.6	0.36	88	560	160	99	61
5	7.73	-	38	-	11.5	0.74	158	749	270	180	93
7	7.78	-	-14	-	14.5	0.90	238	763	210	65	140
9	7.88	-	-91	-	15.6	1.05	241	800	260	95	160
16	7.78	-	-97	-	19.2	1.33	282	802	330	110	210
26	7.94	-	-73	-	21.8	1.42	319	727	340	110	230
36	7.95	-	17	-	23.1	1.50	294	666	380	130	250
46	7.82	-	34	-	24.0	1.55	272	661	400	130	270
66	7.74	-	56	-	25.6	1.62	269	683	390	100	290

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	157.0	6.4	-	-	-	-	54	82	74	-	-
3	157.0	6.7	-	-	-	-	25	1	4	-	-
5	180.0	6.1	-	-	-	-	13	0	4	-	-
7	205.0	8.3	-	-	-	-	12	1	4	-	-
9	205.0	7.4	-	-	-	-	12	0	4	-	-
16	215.0	6.4	-	-	-	-	16	0	4	-	-
26	198.0	5.3	-	-	-	-	22	0	2	-	-
36	170.0	1.2	-	-	-	-	29	4	25	-	-
46	224.0	1.0	-	-	-	-	31	9	26	-	-
66	232.0	0.8	-	-	-	-	30	18	32	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.92
3	-	-	-	-	-	-	0.89
5	-	-	-	-	-	-	0.90
7	-	-	-	-	-	-	0.89
9	-	-	-	-	-	-	0.88
16	-	-	-	-	-	-	0.86
26	-	-	-	-	-	-	0.85
36	-	-	-	-	-	-	0.85
46	-	-	-	-	-	-	0.84
66	-	-	-	-	-	-	0.83

7908-V BB BRETON BAY 8/5/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.93	-	-5	-42	3.3	0.45	-	467	-	-	-
3	7.38	-	53	-100	8.1	0.88	-	700	-	-	-
5	7.29	-	75	-120	10.0	0.87	-	650	-	-	-
7	7.43	-	130	-160	8.8	0.83	-	617	-	-	-
9	7.59	-	110	-140	8.6	0.69	-	583	-	-	-
16	7.78	-	-15	-73	7.8	0.59	-	583	-	-	-
26	7.78	-	49	-93	9.8	-	-	533	-	-	-
36	7.82	-	-98	-150	11.3	-	-	567	-	-	-
46	7.85	-	-140	-180	14.0	-	-	667	-	-	-
61	7.80	-	-140	-180	19.1	1.12	-	683	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	173.0	0.30	140.0	4.2	3.5	16.1	28	4	-	7	-
3	145.0	1.20	140.0	3.8	3.5	14.9	36	4	-	120	-
5	154.0	1.10	137.0	3.7	3.4	14.2	28	3	-	120	-
7	145.0	1.10	120.0	3.2	3.1	12.7	33	2	-	0	-
9	143.0	1.40	122.0	3.5	3.1	12.8	39	1	-	0	-
16	150.0	2.30	128.0	3.7	3.2	13.4	41	24	-	13	-
26	169.0	2.20	148.0	4.2	3.6	15.1	36	0	-	15	-
36	175.0	0.10	152.0	4.4	3.9	16.0	24	1	-	38	-
46	183.0	0.10	155.0	4.4	3.8	16.1	21	1	-	130	-
61	181.0	0.10	157.0	4.4	3.7	16.2	21	2	-	230	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.93
3	-	-	-	-	-	-	0.93
5	-	-	-	-	-	-	0.91
7	-	-	-	-	-	-	0.89
9	-	-	-	-	-	-	0.87
16	-	-	-	-	-	-	0.83
26	-	-	-	-	-	-	0.81
36	-	-	-	-	-	-	0.82
46	-	-	-	-	-	-	0.85
61	-	-	-	-	-	-	0.83

7805-V8 ST. CLEMENTS ISL. 5-15-78 11.0 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.22	-	140	-	2.8	0.12	17	335	110	88	21
3	7.60	-	46	-	5.0	0.27	112	560	130	86	43
5	7.70	-	15	-	6.2	0.48	142	701	180	110	64
10	7.80	-	23	-	9.1	0.69	174	723	220	130	90
12	7.75	-	36	-	10.8	0.73	159	712	260	160	94
16	7.71	-	74	-	11.2	0.79	156	679	230	120	110
26	7.65	-	100	-	10.6	0.76	136	754	200	110	97
36	7.66	-	95	-	10.0	0.53	107	751	200	110	86
46	7.63	-	76	-	8.1	0.51	94	764	250	170	81
66	7.55	-	81	-	7.6	0.47	76	705	250	180	71

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	143.0	7.1	-	-	-	-	84	35	33	-	-
3	148.0	6.0	-	-	-	-	81	2	9	-	-
5	151.0	5.7	-	-	-	-	51	1	2	-	-
10	185.0	4.4	-	-	-	-	41	0	4	-	-
12	187.0	4.7	-	-	-	-	46	1	6	-	-
16	213.0	4.7	-	-	-	-	45	1	4	-	-
26	208.0	5.4	-	-	-	-	39	1	4	-	-
36	206.0	5.9	-	-	-	-	32	1	2	-	-
46	192.0	4.4	-	-	-	-	26	0	4	-	-
66	222.0	3.9	-	-	-	-	19	0	2	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.93
3	-	-	-	-	-	-	0.91
5	-	-	-	-	-	-	0.89
10	-	-	-	-	-	-	0.89
12	-	-	-	-	-	-	0.88
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	0.82
36	-	-	-	-	-	-	0.75
46	-	-	-	-	-	-	0.73
66	-	-	-	-	-	-	0.70

7805-V9 COBB ISL. 5-16-78 7.3 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.05	-	280	-	2.3	0.09	9	201	90	76	14
3	7.37	-	170	-	2.9	0.13	37	306	99	77	22
5	7.44	-	200	-	3.6	0.19	47	403	130	99	34
7	7.47	-	210	-	4.4	0.24	56	358	150	110	44
9	7.58	-	180	-	6.2	0.30	68	444	140	84	57
16	7.65	-	180	-	13.2	0.52	95	445	200	100	99
26	8.00	-	28	-	14.4	0.72	120	410	270	120	150
36	7.92	-	150	-	17.1	0.80	121	449	310	120	180
46	7.90	-	110	-	18.4	0.89	123	536	320	130	190
66	7.70	-	-160	-	20.5	1.05	133	703	360	130	220

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	81.0	3.5	-	-	-	-	75	16	17	-	-
3	90.0	4.0	-	-	-	-	47	33	30	-	-
5	104.0	53.0	-	-	-	-	31	8	9	-	-
7	117.0	13.0	-	-	-	-	22	6	10	-	-
9	-	1.0	-	-	-	-	23	9	10	-	-
16	158.0	63.0	-	-	-	-	27	13	12	-	-
26	174.0	0.0	-	-	-	-	19	4	5	-	-
36	176.0	84.0	-	-	-	-	24	3	4	-	-
46	182.0	0.0	-	-	-	-	22	0	14	-	-
66	191.0	63.0	-	-	-	-	23	0	21	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.92
3	-	-	-	-	-	-	0.88
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	0.79
36	-	-	-	-	-	-	0.82
46	-	-	-	-	-	-	0.84
66	-	-	-	-	-	-	0.84

7805-V10 WICOMICO R. 5-16-78 9.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.96	-	390	-	1.9	0.21	2	152	91	76	15
3	7.34	-	130	-	4.8	0.23	49	410	140	88	49
5	7.55	-	84	-	8.8	0.59	208	560	140	51	88
7	7.66	-	68	-	12.4	0.85	204	627	240	110	130
9	7.57	-	64	-	14.7	1.12	242	637	280	120	160
16	7.39	-	58	-	21.6	1.87	300	606	340	100	240
26	7.34	-	-1	-	26.9	2.65	177	703	420	110	310
36	7.23	-	-7	-	28.5	3.52	145	700	450	120	340
46	7.23	-	-19	-	34.1	4.21	139	724	490	120	380
66	7.26	-	3	-	36.9	4.00	337	641	510	110	400

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	96.0	4.5	-	-	-	-	50	4	6	-	-
3	103.0	4.0	-	-	-	-	200	72	83	-	-
5	121.0	3.0	-	-	-	-	182	10	9	-	-
7	133.0	2.0	-	-	-	-	150	10	7	-	-
9	144.0	1.0	-	-	-	-	140	13	11	-	-
16	168.0	79.0	-	-	-	-	309	35	36	-	-
26	177.0	0.0	-	-	-	-	582	251	237	-	-
36	180.0	0.5	-	-	-	-	692	340	322	-	-
46	180.0	0.0	-	-	-	-	528	358	713	-	-
66	190.0	51.0	-	-	-	-	455	197	90	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.93
3	-	-	-	-	-	-	0.91
5	-	-	-	-	-	-	0.89
7	-	-	-	-	-	-	0.89
9	-	-	-	-	-	-	0.88
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	0.82
36	-	-	-	-	-	-	0.75
46	-	-	-	-	-	-	0.73
66	-	-	-	-	-	-	-

7805-V11 POTOMAC BEACH 5-17-78 10.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.88	-	470	-	2.1	0.03	1	137	140	130	12
3	7.13	-	450	-	2.4	0.00	2	188	90	74	16
5	7.27	-	390	-	2.8	0.03	4	238	290	260	22
7	7.38	-	360	-	3.5	0.09	12	315	160	140	24
9	7.58	-	330	-	4.1	0.17	35	386	140	97	40
16	7.87	-	350	-	8.9	0.62	86	442	210	120	90
28	7.58	-	320	-	16.1	1.21	109	486	270	99	170
36	7.50	-	64	-	18.3	1.44	104	498	290	87	200
46	7.43	-	34	-	19.7	1.67	86	513	310	87	220
66	7.39	-	13	-	21.6	2.01	56	481	330	89	250

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	49.0	2.0	-	-	-	-	0	2	5	-	-
3	53.0	2.0	-	-	-	-	6	0	4	-	-
5	60.0	24.0	-	-	-	-	19	4	8	-	-
7	69.0	14.0	-	-	-	-	37	7	7	-	-
9	86.0	3.5	-	-	-	-	49	9	9	-	-
16	140.0	3.0	-	-	-	-	36	3	3	-	-
28	162.0	1.0	-	-	-	-	78	40	51	-	-
36	166.0	1.0	-	-	-	-	80	166	138	-	-
46	167.0	0.5	-	-	-	-	92	251	208	-	-
66	172.0	0.5	-	-	-	-	87	376	318	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.87
3	-	-	-	-	-	-	0.80
5	-	-	-	-	-	-	0.77
7	-	-	-	-	-	-	0.77
9	-	-	-	-	-	-	0.78
16	-	-	-	-	-	-	0.79
28	-	-	-	-	-	-	0.78
36	-	-	-	-	-	-	0.76
46	-	-	-	-	-	-	0.78
66	-	-	-	-	-	-	-

7805-V12 OFF POPES CREEK 5-17-78 20.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.20	-	380	-	2.4	0.04	2	131	130	110	18
4	7.33	-	340	-	3.9	0.10	5	303	140	100	35
6	7.55	-	200	-	4.0	0.19	52	417	110	72	38
8	7.59	-	180	-	4.0	0.22	52	491	190	150	39
10	7.54	-	140	-	4.3	0.26	63	554	160	120	43
16	7.54	-	210	-	6.2	0.38	78	746	110	50	61
26	7.74	-	130	-	7.1	0.63	97	909	190	120	72
36	7.61	-	92	-	8.3	0.84	132	986	210	120	89
46	7.56	-	140	-	9.4	0.96	149	942	210	120	91
66	7.41	-	200	-	11.8	1.12	175	964	250	140	110

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	26.0	2.0	-	-	-	-	0	0	2	-	-
4	47.0	2.5	-	-	-	-	170	6	5	-	-
6	63.0	3.0	-	-	-	-	127	28	9	-	-
8	80.0	3.5	-	-	-	-	71	15	13	-	-
10	95.0	4.5	-	-	-	-	70	14	64	-	-
16	134.0	5.0	-	-	-	-	117	8	7	-	-
26	138.0	6.0	-	-	-	-	78	12	13	-	-
36	139.0	4.0	-	-	-	-	55	19	126	-	-
46	142.0	2.0	-	-	-	-	49	20	21	-	-
66	151.0	0.5	-	-	-	-	45	25	3	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7805-V13 OFF POPES CREEK 5-18-78 10.4 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.10	-	320	-	2.2	0.04	0	92	130	120	14
3	7.12	-	290	-	2.2	0.06	18	377	140	120	16
5	7.49	-	280	-	3.1	0.13	63	477	130	100	26
7	7.76	-	270	-	4.1	0.29	89	597	140	99	38
9	7.72	-	270	-	5.7	0.40	136	637	130	75	57
16	7.77	-	250	-	11.2	0.70	127	645	210	94	120
26	7.66	-	230	-	13.8	1.01	118	549	240	83	160
36	7.59	-	210	-	15.3	1.30	102	558	240	76	160
46	7.46	-	94	-	17.6	1.59	102	597	280	79	200
66	7.42	-	12	-	21.7	1.94	76	565	330	85	240

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	0.5	-	-	-	-	1	1	10	-	-
3	26.0	1.0	-	-	-	-	16	21	17	-	-
5	36.0	1.0	-	-	-	-	27	5	4	-	-
7	54.0	2.0	-	-	-	-	47	7	7	-	-
9	67.0	2.0	-	-	-	-	70	6	9	-	-
16	101.0	0.0	-	-	-	-	98	4	40	-	-
26	121.0	0.0	-	-	-	-	154	30	26	-	-
36	124.0	0.0	-	-	-	-	170	36	35	-	-
46	127.0	0.0	-	-	-	-	138	118	146	-	-
66	135.0	0.0	-	-	-	-	85	287	197	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.82
3	-	-	-	-	-	-	0.80
5	-	-	-	-	-	-	0.80
7	-	-	-	-	-	-	0.79
9	-	-	-	-	-	-	0.79
16	-	-	-	-	-	-	0.78
26	-	-	-	-	-	-	0.76
36	-	-	-	-	-	-	0.77
46	-	-	-	-	-	-	0.77
66	-	-	-	-	-	-	0.76

7908-V PT PORT TOBACCO 8/1/79 2.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.86	-	200	-17	2.9	0.16	5	300	-	-	-
3	7.02	-	89	-32	3.4	0.25	14	517	-	-	-
5	7.09	-	72	-54	3.7	0.30	8	533	-	-	-
7	7.10	-	100	-34	4.8	0.30	4	483	-	-	-
9	7.26	-	130	-37	4.6	0.28	-	450	-	-	-
16	7.53	-	100	-7	5.3	0.28	6	417	-	-	-
26	7.41	-	120	0	8.2	0.39	7	450	-	-	-
36	7.51	-	160	-50	10.4	0.43	8	433	-	-	-
46	7.84	-	130	-100	11.6	0.65	12	433	-	-	-
66	7.68	-	160	-77	14.4	0.88	14	750	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	53.0	0.25	44.4	1.2	1.6	5.3	95	5	-	-	-
3	50.8	0.24	42.8	1.2	1.7	5.1	170	85	-	-	-
5	49.4	0.16	42.8	1.2	1.8	4.9	118	71	-	-	-
7	48.5	0.15	40.5	1.3	1.8	4.6	64	19	-	-	-
9	48.0	0.15	40.5	1.3	1.6	4.8	45	9	-	-	-
16	48.5	0.13	43.1	1.5	1.2	4.3	26	6	-	-	-
25	67.1	0.12	58.7	1.8	1.5	5.8	33	6	-	-	-
36	78.4	0.03	68.7	2.0	1.9	7.2	26	3	-	-	-
46	82.4	-	72.2	2.2	2.0	8.0	31	2	-	-	-
66	88.9	-	77.4	2.4	2.1	8.6	28	1	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.89
3	-	-	-	-	-	-	0.86
5	-	-	-	-	-	-	0.82
7	-	-	-	-	-	-	0.79
9	-	-	-	-	-	-	0.78
16	-	-	-	-	-	-	0.74
26	-	-	-	-	-	-	0.74
36	-	-	-	-	-	-	0.73
46	-	-	-	-	-	-	0.74
66	-	-	-	-	-	-	0.77

7910-JPT PORT TOBACCO 11/5/79 2.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.98	-	340	53	1.5	0.16	4	243	-	-	-
3	7.07	-	100	7	2.3	0.21	96	423	-	-	-
5	7.45	-	160	-59	3.9	0.36	167	528	-	-	-
7	-	-	-	-93	-	-	119	-	-	-	-
9	-	-	-	-69	5.0	0.41	-	483	-	-	-
16	7.55	-	200	9	5.5	0.41	62	338	-	-	-
26	7.59	-	170	-	6.0	0.46	71	350	-	-	-
36	7.84	-	83	-19	8.0	0.58	98	370	-	-	-
46	8.12	-	90	-64	10.1	0.60	136	398	-	-	-
61	8.62	-	16	-26	13.5	0.83	168	665	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	30.1	1.1	1.2	3.7	16	0	-	-	-
3	-	-	29.7	1.0	1.3	3.8	181	126	-	-	-
5	-	-	30.7	1.0	1.1	3.7	107	34	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	43.9	1.5	1.1	4.6	21	2	-	-	-
26	-	-	53.1	1.8	1.3	5.7	29	2	-	-	-
36	-	-	63.1	2.0	1.6	6.7	25	0	-	-	-
46	-	-	69.2	2.2	1.7	7.7	19	0	-	-	-
61	-	-	75.7	2.4	2.0	8.7	17	0	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.88
3	-	-	-	-	-	-	0.82
5	-	-	-	-	-	-	0.77
7	-	-	-	-	-	-	0.74
9	-	-	-	-	-	-	0.69
16	-	-	-	-	-	-	0.68
26	-	-	-	-	-	-	0.65
36	-	-	-	-	-	-	0.65
46	-	-	-	-	-	-	0.69
61	-	-	-	-	-	-	0.71

7805-V14 OFF NANJEMOY CREEK 5-18-78 7.6 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.31	-	380	-	2.8	0.04	1	162	150	120	22
3	7.26	-	260	-	2.7	0.05	9	241	140	120	20
5	7.29	-	110	-	2.8	0.06	62	377	140	110	21
7	7.44	-	150	-	3.0	0.12	72	457	130	110	23
9	7.54	-	170	-	3.3	0.41	84	511	140	120	28
16	7.64	-	210	-	6.1	0.43	106	658	150	88	62
26	7.32	-	19	-	12.2	1.41	67	658	210	95	120
36	7.27	-	32	-	13.7	1.45	45	625	250	95	150
46	7.33	-	10	-	16.0	1.59	47	596	260	92	170
66	7.25	-	10	-	18.1	1.89	58	602	270	67	210

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	19.0	0.5	3.3	0.2	0.6	0.6	4	2	2	-	-
3	19.0	1.0	8.3	0.4	0.5	0.9	20	9	10	-	-
5	25.0	1.0	12.8	0.5	0.4	1.1	22	17	95	-	-
7	28.0	1.5	17.3	0.7	0.4	1.4	24	6	55	-	-
9	-	1.5	22.1	0.8	0.5	1.7	29	4	24	-	-
16	60.0	1.5	47.8	1.4	1.0	3.8	61	6	7	-	-
26	102.0	0.5	82.6	2.9	1.5	8.6	218	233	394	-	-
36	105.0	0.5	81.8	2.1	2.2	9.1	237	322	378	-	-
46	98.0	0.5	86.1	2.9	1.3	10.0	237	358	298	-	-
66	112.0	13.0	88.7	2.3	2.3	10.2	218	358	228	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2140	2030	220	41	30	11.2	0.87
3	-	1840	190	28	20	10.9	0.83
5	-	1660	150	27	19	10.0	0.80
7	1670	1580	160	28	21	10.0	0.79
9	-	1540	140	25	19	9.7	0.80
16	-	1470	160	20	15	9.7	0.79
26	1420	1340	150	21	16	9.1	0.79
36	-	1300	130	20	14	9.0	0.75
46	-	-	-	-	-	-	0.77
66	1180	1140	91	18	13	8.8	0.75

7809-V14A OFF NANJEMOY CREEK 9/14/78 7.6 METERS DEPTH 120 METERS EAST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.70	7.44	470	10	4.9	0.16	5	165	110	73	42
3	7.40	7.35	73	-18	13.0	0.66	129	600	200	70	130
5	7.38	7.25	25	-20	20.1	1.09	100	714	270	62	210
7	7.36	7.25	-1	-24	22.7	1.45	71	696	290	45	240
9	7.29	7.20	1	-26	25.1	1.62	64	684	330	75	260
16	7.17	7.00	38	-40	20.9	1.81	54	680	280	75	200
26	7.19	7.08	50	-3	18.5	3.04	58	821	290	110	180
36	7.26	7.00	38	-140	20.8	3.81	53	666	290	84	210
46	7.28	7.42	38	-180	22.9	3.69	65	661	300	63	240
66	7.35	7.30	36	-150	23.1	2.60	72	581	310	66	240

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	92.0	4.0	-	-	-	-	29	39	-	-	-
3	83.0	1.5	-	-	-	-	564	215	-	-	-
5	68.0	0.0	-	-	-	-	746	448	-	-	-
7	58.0	0.0	-	-	-	-	946	609	-	-	-
9	52.0	0.0	-	-	-	-	1000	752	-	-	-
16	46.0	5.5	-	-	-	-	382	698	-	-	-
26	64.0	-	-	-	-	-	91	537	-	-	-
36	76.0	1.0	-	-	-	-	100	537	-	-	-
46	85.0	0.0	-	-	-	-	131	484	-	-	-
66	94.0	0.0	-	-	-	-	65	430	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.90
3	-	-	-	-	-	-	0.86
5	-	-	-	-	-	-	0.85
7	-	-	-	-	-	-	0.85
9	-	-	-	-	-	-	0.85
16	-	-	-	-	-	-	0.79
26	-	-	-	-	-	-	0.80
36	-	-	-	-	-	-	0.79
46	-	-	-	-	-	-	0.76
66	-	-	-	-	-	-	0.76

7809-V14B OFF NANJEMOY CREEK 9/15/78 6.7 METERS DEPTH 135 METERS WEST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.03	7.25	420	78	2.8	0.12	8	214	120	100	20
3	7.26	7.27	300	-38	3.2	0.13	57	436	150	120	24
5	7.38	7.46	290	-130	3.9	0.25	81	536	170	140	33
7	7.52	7.53	310	-100	4.6	0.31	111	552	120	74	44
9	7.59	7.53	320	-220	6.8	0.50	155	593	140	77	65
16	7.38	7.27	140	-220	11.6	1.11	108	736	200	85	120
26	7.38	7.27	81	-250	15.7	1.75	94	761	250	93	160
36	7.31	7.17	67	-240	17.9	2.04	114	748	270	80	190
46	7.28	7.18	40	-220	18.9	2.21	74	674	250	50	200
66	7.26	7.12	42	-200	19.7	2.49	70	571	260	63	200

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	100.0	5.0	80.9	2.4	2.4	9.5	135	107	-	-	-
3	91.7	4.5	80.5	2.0	2.3	9.4	175	38	-	-	-
5	92.5	3.5	77.0	1.9	2.3	9.3	160	52	-	-	-
7	93.1	2.0	77.0	2.0	2.3	9.2	142	17	-	-	-
9	86.9	3.0	71.8	1.9	2.0	8.3	155	20	-	-	-
16	76.2	0.5	64.4	1.9	1.8	7.2	200	113	-	-	-
26	86.0	0.0	73.9	2.1	2.2	8.9	291	145	-	-	-
36	90.8	0.0	77.0	2.4	2.3	9.7	255	251	-	-	-
46	94.5	0.0	80.9	2.4	2.2	9.5	149	430	-	-	-
66	102.0	0.0	87.9	2.5	2.2	10.7	60	448	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2020	1950	200	35	27	10.1	0.85
3	1850	1820	150	40	33	9.7	0.82
5	1820	1760	210	40	32	9.6	0.81
7	1830	1770	180	34	28	9.7	0.84
9	1880	1830	170	33	27	9.9	0.84
16	1820	1730	160	46	41	10.1	0.82
26	1640	1610	210	24	19	9.8	0.79
36	1570	1530	33	21	16	9.4	0.78
46	1560	1530	63	25	21	9.3	0.79
66	1460	1420	81	21	16	9.1	0.78

7809-V14C OFF NANJEMOY CREEK 9/15/78 7.3 METERS DEPTH 160 METERS SOUT

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.13	-	440	-	3.6	0.14	11	255	130	100	26
3	7.36	-	170	-	6.5	0.38	103	558	160	110	57
5	7.48	-	330	-	8.1	0.50	108	611	170	94	75
7	7.50	-	270	-	8.8	0.54	166	682	180	100	80
9	7.39	-	220	-	8.8	0.64	171	720	170	93	79
16	7.31	-	75	-	11.0	0.90	93	826	220	110	110
26	7.24	-	49	-	14.1	1.25	75	781	240	95	140
36	7.19	-	53	-	15.9	1.48	55	677	250	93	160
46	7.20	-	47	-	17.0	1.67	50	649	270	93	180
66	7.19	-	29	-	19.8	1.96	67	607	290	87	200

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	80.4	4.0	77.0	2.0	2.3	9.3	80	9	-	-	-
3	-	1.5	68.7	1.7	2.3	8.2	169	70	-	-	-
5	73.9	0.5	61.8	1.6	1.9	7.3	84	17	-	-	-
7	70.5	0.5	60.5	1.7	1.9	7.2	115	9	-	-	-
9	70.5	0.5	61.3	1.8	1.9	7.2	162	41	-	-	-
16	73.3	0.5	66.6	2.0	1.9	7.2	218	127	-	-	-
26	84.6	0.5	75.7	2.3	2.2	8.6	273	233	-	-	-
36	-	0.0	77.9	2.5	2.2	9.2	218	340	-	-	-
46	-	0.0	82.2	2.7	1.9	9.7	155	376	-	-	-
66	94.5	0.0	83.5	2.7	2.2	10.3	122	448	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.86
3	-	-	-	-	-	-	0.84
5	-	-	-	-	-	-	0.83
7	-	-	-	-	-	-	0.84
9	-	-	-	-	-	-	0.84
16	-	-	-	-	-	-	0.80
26	-	-	-	-	-	-	0.78
36	-	-	-	-	-	-	0.79
46	-	-	-	-	-	-	0.77
66	-	-	-	-	-	-	0.77

7809-V14D OFF NANJEMOY CREEK 9/18/78 6.4 METERS DEPTH 185 METERS NORT

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.09	7.25	340	55	3.6	0.17	16	307	99	78	21
3	7.47	7.35	270	-71	5.9	0.44	78	623	170	110	51
5	7.59	7.42	320	-170	7.7	0.52	99	634	150	85	70
7	7.64	7.47	320	-220	9.0	0.57	116	659	170	81	89
9	7.68	7.45	320	-250	10.0	0.65	135	686	180	80	99
16	7.59	7.32	300	-230	11.8	0.90	132	743	220	97	120
26	7.43	7.23	120	-250	14.4	1.26	120	768	230	84	140
36	7.42	7.28	48	-250	16.4	1.48	96	727	230	65	160
46	7.40	7.25	46	-170	18.5	1.71	69	651	280	80	200
66	7.40	7.25	19	-240	21.8	1.87	94	579	290	61	230

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	100.0	3.5	-	-	-	-	106	34	-	-	-
3	94.0	1.5	-	-	-	-	93	32	-	-	-
5	97.0	0.0	-	-	-	-	78	10	-	-	-
7	91.0	0.0	-	-	-	-	104	30	-	-	-
9	88.0	2.0	-	-	-	-	120	8	-	-	-
16	82.0	6.0	-	-	-	-	160	32	-	-	-
26	101.0	0.0	-	-	-	-	200	88	-	-	-
36	107.0	0.0	-	-	-	-	200	172	-	-	-
46	104.0	-	-	-	-	-	173	197	-	-	-
66	119.0	0.0	-	-	-	-	182	269	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.84
3	-	-	-	-	-	-	0.80
5	-	-	-	-	-	-	0.75
7	-	-	-	-	-	-	0.81
9	-	-	-	-	-	-	0.81
16	-	-	-	-	-	-	0.78
26	-	-	-	-	-	-	0.79
36	-	-	-	-	-	-	0.79
46	-	-	-	-	-	-	0.69
66	-	-	-	-	-	-	0.79

7903-V14B OFF NANJEMOY CREEK 7.3 METERS 3/21/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	5.97	-	460	300	1.4	0.07	2	132	-	-	-
3	6.99	-	210	22	2.1	0.18	46	296	-	-	-
5	7.24	-	170	-160	3.8	0.31	94	413	-	-	-
7	7.31	-	190	-190	4.9	0.36	118	384	-	-	-
9	7.31	-	190	-200	6.0	0.46	128	470	-	-	-
16	7.38	-	130	-180	-	0.73	139	584	-	-	-
26	7.35	-	78	-150	12.2	0.96	122	621	-	-	-
36	7.26	-	67	-240	14.4	1.19	90	582	-	-	-
46	7.33	-	35	-230	16.4	1.40	74	509	-	-	-
56	7.40	-	15	-240	18.0	1.60	74	475	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	45.1	2.50	38.3	1.1	1.5	4.5	3	1	2	-	-
3	43.7	2.40	37.2	1.1	1.2	4.2	140	52	26	-	-
5	57.0	2.90	50.9	1.4	1.4	5.2	140	31	36	-	-
7	70.5	3.00	62.2	1.5	1.8	6.6	129	12	12	-	-
9	81.8	2.80	68.3	1.6	2.1	8.0	124	8	10	-	-
15	90.3	0.33	73.5	1.7	2.4	9.2	182	35	37	-	-
26	81.8	0.25	69.6	1.7	2.1	8.5	246	112	114	-	-
36	84.6	0.13	71.8	1.9	2.2	8.7	251	186	192	-	-
46	90.3	0.17	75.7	2.0	2.4	9.8	233	310	317	-	-
56	97.3	0.17	80.5	2.1	2.5	10.5	206	373	382	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-

7903-V14D OFF NANJEMOY CREEK 6.4 METERS 3/21/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.76	-	370	-	1.3	0.06	1	125	-	-	-
3	6.72	-	200	-	1.4	0.15	26	210	-	-	-
5	6.83	-	200	-	2.9	0.23	56	305	-	-	-
7	7.31	-	150	-	4.2	0.30	72	391	-	-	-
9	7.42	-	170	-	5.8	0.44	82	438	-	-	-
16	7.49	-	120	-	10.9	0.84	130	559	-	-	-
26	7.39	-	65	-	14.4	1.14	115	577	-	-	-
36	7.35	-	57	-	17.0	1.33	77	563	-	-	-
46	7.44	-	31	-	19.2	1.54	66	513	-	-	-
56	7.49	-	10	-	20.6	1.68	73	478	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	48.0	3.50	42.4	1.0	1.6	4.8	1	2	1	-	-
3	45.7	2.80	40.0	1.1	1.7	4.5	64	121	54	-	-
5	57.8	4.70	52.6	1.4	1.6	5.3	71	30	32	-	-
7	70.5	4.00	63.9	1.6	1.8	6.6	83	19	20	-	-
9	86.0	3.40	75.7	1.8	1.7	8.4	115	15	15	-	-
16	95.9	0.42	81.8	1.9	2.7	10.0	193	33	38	-	-
26	87.5	0.06	75.7	1.8	2.4	9.6	260	121	121	-	-
36	87.5	0.06	76.6	1.9	2.4	9.7	215	202	206	-	-
46	89.4	0.07	79.2	1.9	2.5	10.0	-	-	274	-	-
56	93.1	0.13	83.5	2.0	2.6	11.0	161	310	322	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-

7908-V14 NANJEMOY 8/1/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.14	-	240	29	1.4	0.19	6	158	-	-	-
3	6.68	-	120	-25	2.5	0.19	6	350	-	-	-
5	6.69	-	84	-39	4.9	0.38	12	483	-	-	-
7	6.71	-	72	-36	7.3	0.53	12	483	-	-	-
9	7.12	-	18	-160	6.6	0.53	9	433	-	-	-
16	7.17	-	53	-230	9.9	0.55	18	650	-	-	-
26	7.19	-	51	-280	11.7	0.79	28	700	-	-	-
36	7.15	-	36	-250	13.9	1.22	26	717	-	-	-
46	7.31	-	23	-250	15.3	1.08	12	-	-	-	-
56	-	-	-	-210	-	-	-	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	84.6	0.44	72.6	2.4	2.3	8.2	217	43	-	-	-
3	89.7	0.22	71.8	2.0	2.5	8.0	275	117	-	-	-
5	71.9	0.21	58.7	1.5	3.2	6.2	409	292	-	-	-
7	67.1	0.21	53.9	1.4	3.4	5.7	428	390	-	-	-
9	59.8	0.13	49.2	1.4	2.8	5.4	284	279	-	-	-
16	48.0	0.05	43.5	1.6	1.6	4.9	104	27	-	-	-
26	68.8	0.05	60.5	2.0	1.7	6.1	135	23	-	-	-
36	84.1	0.05	73.5	2.3	2.1	8.1	187	91	-	-	-
46	86.9	0.05	80.0	2.5	2.1	8.7	180	125	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2280	-	230	42	34	10.9	0.89
3	2250	-	-	41	33	10.8	0.87
5	2190	-	200	44	36	10.6	0.86
7	2070	-	200	40	32	10.0	0.85
9	1820	-	160	29	22	9.4	0.81
16	1670	-	-	25	19	9.3	0.81
26	1530	-	110	23	19	8.9	0.77
36	1510	-	120	22	18	9.1	0.78
46	1490	-	160	22	18	8.9	0.78
56	1290	-	97	20	15	8.2	0.75

7805-V15 OFF NANJEMOY CREEK 5-18-78 5.5 METERS

--- INTERSTITIAL WATER DATA ---

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.21	-	360	-	2.2	-	3	176	120	100	16
3	7.54	-	270	-	2.7	0.13	67	521	130	100	24
5	7.69	-	280	-	3.9	-	91	604	130	92	38
7	7.72	-	260	-	6.2	0.36	100	648	150	87	62
9	7.66	-	260	-	7.6	0.47	92	687	200	120	81
16	7.48	-	170	-	11.0	0.80	117	724	200	67	130
26	7.46	-	88	-	12.0	0.97	104	744	210	71	140
36	7.40	-	43	-	12.5	1.17	63	734	240	93	140
46	7.44	-	17	-	13.5	1.15	56	667	230	81	150
66	7.43	-	23	-	15.1	1.26	53	586	280	100	180

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	0.5	-	-	-	-	9	0	4	-	-
3	17.0	0.5	-	-	-	-	16	4	49	-	-
5	25.0	1.0	-	-	-	-	26	7	13	-	-
7	42.0	0.5	-	-	-	-	46	4	15	-	-
9	52.0	10.0	-	-	-	-	73	6	7	-	-
16	79.0	0.5	-	-	-	-	218	51	51	-	-
26	80.0	0.5	-	-	-	-	218	76	68	-	-
36	80.0	0.5	-	-	-	-	172	140	146	-	-
46	80.0	0.5	-	-	-	-	177	158	158	-	-
66	86.0	0.5	-	-	-	-	182	169	155	-	-

--- SEDIMENT DATA ---

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS X	POROSITY
1	-	-	-	-	-	-	0.84
3	-	-	-	-	-	-	0.85
5	-	-	-	-	-	-	0.84
7	-	-	-	-	-	-	0.81
9	-	-	-	-	-	-	0.80
16	-	-	-	-	-	-	0.81
26	-	-	-	-	-	-	0.80
36	-	-	-	-	-	-	0.78
46	-	-	-	-	-	-	0.78
66	-	-	-	-	-	-	0.76

7805-V16 MARYLAND PT. 5-19-78 8.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.97	-	180	-	1.8	0.08	0	115	150	130	11
3	7.09	-	110	-	2.0	0.12	18	225	110	92	16
5	7.36	-	85	-	2.8	0.17	36	402	110	83	24
7	7.46	-	58	-	4.2	0.28	68	520	150	110	42
9	7.33	-	110	-	6.0	0.39	76	592	150	88	63
16	7.34	-	-19	-	9.1	0.98	77	617	180	94	88
26	7.18	-	40	-	10.8	1.36	72	649	200	87	110
36	7.22	-	24	-	11.8	1.54	66	708	230	100	130
46	7.19	-	27	-	12.8	1.63	78	780	260	120	140
66	7.14	-	41	-	14.2	1.90	80	979	290	130	160

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	0.5	0.8	0.1	0.5	0.3	6	1	2	-	-
3	-	0.5	2.3	0.2	0.4	0.5	24	30	26	-	-
5	-	0.5	7.1	0.3	0.3	0.7	16	18	18	-	-
7	25.0	0.5	15.7	0.5	0.3	1.1	13	26	24	-	-
9	37.0	0.5	25.8	0.7	0.6	2.1	19	51	48	-	-
16	56.0	0.5	40.8	1.0	1.1	4.5	39	287	241	-	-
26	62.0	0.5	45.2	1.6	1.1	5.2	58	376	349	-	-
36	59.0	0.5	45.2	1.2	1.2	5.2	72	358	317	-	-
46	61.0	0.5	48.7	1.7	1.0	5.5	76	304	292	-	-
66	64.0	0.5	48.7	1.3	1.3	6.0	70	233	247	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	1270	1230	120	19	12	8.8	0.77
3	-	1220	110	18	13	8.9	0.80
5	-	1260	99	19	13	8.9	0.79
7	1300	1270	130	19	14	8.7	0.78
9	-	1400	120	21	15	9.0	0.78
16	-	1180	94	19	15	8.5	0.80
26	1250	1200	120	18	11	9.0	0.80
36	-	1210	110	18	15	8.8	0.80
46	-	1220	130	19	15	9.1	0.83
66	2320	2280	210	15	14	11.1	0.81

7809-V16A MARYLAND PT. 9/7/78 8.8 METERS DEPTH 185 METERS NORTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.00	7.34	350	27	2.7	0.09	16	269	160	140	19
3	7.24	7.25	230	-22	3.7	0.35	67	676	140	110	33
5	7.32	7.30	200	-39	4.9	0.46	85	750	140	91	48
7	7.55	7.39	240	-210	5.3	0.57	70	758	240	180	52
9	7.36	7.27	180	-200	6.1	0.60	88	769	160	96	62
16	7.27	7.22	74	-250	7.6	0.79	94	756	170	91	82
26	7.27	7.22	50	-210	11.4	1.02	80	690	250	140	110
36	7.27	7.23	43	-210	11.5	1.05	64	615	310	190	120
46	7.43	7.20	38	-85	11.7	0.97	37	506	340	220	110
66	-	-	-	-	-	-	-	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMCL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	53.0	-	-	-	-	-	93	29	-	-	-
3	47.0	-	-	-	-	-	100	75	-	-	-
5	47.0	-	-	-	-	-	84	50	-	-	-
7	57.0	-	-	-	-	-	89	45	-	-	-
9	42.0	-	-	-	-	-	100	72	-	-	-
16	64.0	-	-	-	-	-	127	116	-	-	-
26	73.0	-	-	-	-	-	142	215	-	-	-
36	72.0	-	-	-	-	-	107	215	-	-	-
46	66.0	-	-	-	-	-	91	197	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.84
3	-	-	-	-	-	-	0.81
5	-	-	-	-	-	-	0.81
7	-	-	-	-	-	-	0.83
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.80
26	-	-	-	-	-	-	0.77
36	-	-	-	-	-	-	0.73
46	-	-	-	-	-	-	0.73
66	-	-	-	-	-	-	0.44

7809-V16B MARYLAND PT. 9/7/78 7.0 METERS DEPTH 115 METERS WEST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.32	7.52	310	-42	3.4	0.16	29	379	210	180	34
3	7.44	7.45	200	-180	4.6	0.34	84	682	170	130	48
5	7.43	7.42	100	-230	4.9	0.38	66	660	150	100	45
7	7.50	7.42	170	-240	4.6	0.36	66	631	160	110	48
9	7.46	7.42	210	-220	5.0	0.60	73	629	150	100	50
16	7.27	7.15	110	-240	6.0	0.61	79	711	160	-	-
26	7.19	7.08	41	-210	7.8	0.97	62	739	180	-	-
36	7.15	6.99	30	-170	8.8	1.28	46	718	250	-	-
46	7.15	7.01	33	-220	9.4	1.52	37	678	190	-	-
66	7.12	7.01	44	-200	10.8	1.82	46	711	210	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	28.9	-	25.8	1.3	1.3	3.0	82	54	-	-	-
3	25.7	-	21.7	0.8	1.4	2.6	98	38	-	-	-
5	24.3	-	21.2	0.8	1.1	2.5	62	21	-	-	-
7	24.7	-	20.8	0.8	0.9	2.5	51	9	-	-	-
9	25.0	-	22.1	0.9	0.8	2.3	40	15	-	-	-
16	31.4	-	29.0	0.9	0.9	2.4	47	68	-	-	-
26	41.6	-	37.3	1.1	1.2	3.7	65	322	-	-	-
36	47.2	-	41.3	1.3	1.3	4.5	58	448	-	-	-
46	49.4	-	42.9	1.3	1.3	4.7	51	394	-	-	-
66	53.3	-	47.4	1.4	1.4	5.6	51	376	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2110	2040	180	33	23	10.0	0.85
3	1990	1930	180	31	23	10.1	0.84
5	1420	1380	180	20	13	8.7	0.80
7	1230	1190	130	18	12	8.4	0.76
9	1150	1120	100	19	13	9.3	0.73
16	1280	1230	-	17	12	8.4	0.79
26	1270	1230	-	19	15	8.8	0.78
36	1220	1180	-	20	15	8.7	0.77
46	1110	1080	-	17	13	7.9	0.76
66	1130	1110	-	17	13	8.8	0.78

7809-V16C MARYLAND PT. 9/8/78 6.7 METERS DEPTH 275 METERS SOUTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.24	7.40	310	-16	2.9	0.26	42	426	110	87	23
3	7.39	7.49	220	-230	3.0	0.27	45	488	130	110	24
5	7.50	7.45	260	-220	3.6	0.31	53	493	130	95	31
7	7.51	7.42	280	-240	4.1	0.34	65	555	130	90	39
9	7.43	7.25	130	-230	5.2	0.41	81	641	140	98	44
16	7.20	7.15	100	-210	6.3	0.82	74	722	170	100	62
26	7.13	7.06	60	-220	8.2	1.28	53	667	200	120	78
36	7.15	7.03	45	-230	9.3	1.66	45	655	200	120	81
46	7.13	7.08	57	-250	10.1	1.90	51	639	200	110	97
66	7.13	7.01	39	-210	11.5	2.30	56	665	240	130	110

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	34.0	-	-	-	-	-	111	39	-	-	-
3	34.0	-	-	-	-	-	69	27	-	-	-
5	35.0	-	-	-	-	-	47	18	-	-	-
7	32.0	-	-	-	-	-	44	20	-	-	-
9	37.0	-	-	-	-	-	45	27	-	-	-
16	44.0	-	-	-	-	-	55	150	-	-	-
26	61.0	-	-	-	-	-	75	430	-	-	-
36	55.0	-	-	-	-	-	71	448	-	-	-
46	55.0	-	-	-	-	-	76	430	-	-	-
66	-	-	-	-	-	-	58	501	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.83
3	-	-	-	-	-	-	0.79
5	-	-	-	-	-	-	0.78
7	-	-	-	-	-	-	0.79
9	-	-	-	-	-	-	0.78
16	-	-	-	-	-	-	0.76
26	-	-	-	-	-	-	0.77
36	-	-	-	-	-	-	0.77
46	-	-	-	-	-	-	0.76
66	-	-	-	-	-	-	0.77

7809-V16D MARYLAND PT. 9/8/78 7.9 METERS DEPTH 25 METERS WEST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.10	7.25	170	-130	2.4	0.12	14	335	140	130	10
3	7.31	7.40	140	-180	2.7	0.23	60	499	130	110	20
5	7.48	7.42	130	-220	3.6	0.35	91	615	120	87	31
7	7.65	7.47	180	-220	3.8	0.37	81	620	140	110	31
9	7.53	7.42	150	-210	4.0	0.41	83	657	120	89	36
16	7.46	7.30	150	-260	7.0	0.60	103	750	180	110	70
26	7.26	7.20	51	-270	9.4	0.93	87	701	230	130	97
36	7.24	7.17	37	-250	10.5	1.21	74	723	190	54	130
46	7.24	7.15	22	-230	11.1	1.33	60	700	200	74	130
66	7.24	7.18	17	-200	12.6	1.53	71	731	230	75	160

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	24.7	2.3	22.6	0.6	1.5	3.0	82	50	-	-	-
3	28.2	1.6	24.1	0.7	1.3	2.9	84	38	-	-	-
5	29.6	1.1	24.4	0.8	1.3	3.0	69	38	-	-	-
7	27.3	1.0	24.4	0.8	1.1	3.0	58	23	-	-	-
9	28.8	0.8	24.5	0.9	1.0	2.8	58	41	-	-	-
16	33.9	-	30.3	0.9	1.1	3.3	78	21	-	-	-
26	48.0	-	41.9	1.3	1.4	4.9	106	145	-	-	-
36	53.6	-	45.7	1.5	1.6	5.9	106	287	-	-	-
46	57.0	-	48.3	1.4	1.6	6.2	98	322	-	-	-
66	61.5	-	53.9	1.6	1.8	7.0	107	376	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.85
3	-	-	-	-	-	-	0.84
5	-	-	-	-	-	-	0.84
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.80
26	-	-	-	-	-	-	0.75
36	-	-	-	-	-	-	0.78
46	-	-	-	-	-	-	0.77
66	-	-	-	-	-	-	0.78

7908-V16 MARYLAND POINT 8/2/79 6.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.91	-	410	7	2.9	0.23	1040	217	-	-	-
3	-	-	-	-28	-	-	-	-	-	-	-
5	6.93	-	51	-140	3.8	0.37	960	583	-	-	-
7	7.17	-	45	-92	6.0	0.76	720	650	-	-	-
9	7.19	-	57	-54	6.6	1.00	600	733	-	-	-
16	7.14	-	26	-34	11.1	1.90	600	667	-	-	-
26	7.22	-	-4	-250	15.2	2.66	680	600	-	-	-
36	7.19	-	3	-240	17.4	3.30	720	617	-	-	-
46	7.22	-	-31	-240	18.7	3.43	720	617	-	-	-
66	7.19	-	-7	-220	18.0	3.68	740	567	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	28.2	0.30	22.2	0.6	1.5	2.7	195	116	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	22.6	0.10	18.3	0.6	1.3	2.4	87	77	-	-	-
7	22.6	0.05	18.7	0.8	1.2	2.2	58	86	-	-	-
9	23.3	0.03	19.6	0.7	1.1	2.2	58	107	-	-	-
16	31.0	-	28.7	1.0	1.5	3.3	93	265	-	-	-
26	45.1	-	39.1	1.3	2.1	4.9	145	315	-	-	-
36	52.2	-	43.1	1.6	2.2	5.9	139	346	-	-	-
46	52.2	-	43.9	1.6	2.1	6.1	170	376	-	-	-
66	55.0	-	52.2	1.7	2.0	6.8	95	428	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2050	-	140	50	42	9.2	0.86
3	1960	1840	360	50	43	9.6	0.84
5	1870	-	240	51	45	9.5	-
7	1830	-	190	56	50	9.2	0.83
9	1870	-	220	56	49	9.2	0.82
16	1890	-	200	60	53	9.2	0.81
26	1820	-	200	60	54	9.2	0.81
36	1790	1590	210	45	40	9.1	0.80
46	1830	-	180	31	25	9.1	0.78
66	1670	-	130	25	20	9.0	0.80

7910-J16 MARYLAND POINT 11/6/79 4.9 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.31	-	240	32	2.5	0.16	3	232	-	-	-
3	7.22	-	120	-28	3.4	0.33	67	372	-	-	-
5	7.22	-	87	-130	4.6	0.68	100	472	-	-	-
7	7.24	-	72	-190	6.3	0.69	104	380	-	-	-
9	7.29	-	68	-210	7.9	1.35	91	575	-	-	-
16	7.24	-	67	-240	10.6	1.47	75	637	-	-	-
26	7.24	-	45	-220	11.9	2.11	68	625	-	-	-
36	7.28	-	53	-150	12.2	2.59	54	632	-	-	-
46	7.26	-	35	-75	12.4	2.63	45	602	-	-	-
66	-	-	-	-190	-	-	-	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	3.5	-	3.5	0.2	1.0	0.6	37	0	-	-	-
3	6.7	-	6.3	0.2	1.2	0.9	113	64	-	-	-
5	9.4	-	9.6	0.3	1.1	1.4	140	112	-	-	-
7	15.0	-	14.3	0.4	1.1	2.2	158	120	-	-	-
9	19.9	-	19.7	0.5	1.1	2.8	175	144	-	-	-
16	31.6	-	31.0	0.7	1.4	4.1	220	245	-	-	-
26	42.3	-	38.9	1.0	1.7	5.3	204	330	-	-	-
36	48.2	-	43.5	1.0	1.7	5.8	110	364	-	-	-
46	55.0	-	46.1	1.0	1.7	6.2	47	369	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.87
3	-	-	-	-	-	-	0.83
5	-	-	-	-	-	-	0.82
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.81
26	-	-	-	-	-	-	0.81
36	-	-	-	-	-	-	0.80
46	-	-	-	-	-	-	0.77
66	-	-	-	-	-	-	0.77

7805-V17 MARYLAND PT. 5-19-78 4.3 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.07	-	140	-	2.1	0.18	4	231	130	110	17
3	7.44	-	39	-	3.4	0.52	36	405	150	110	36
5	7.49	-	-10	-	10.4	1.08	58	585	230	130	100
7	7.43	-	-13	-	14.3	1.71	55	627	270	110	160
9	7.39	-	-5	-	15.2	1.89	47	657	260	99	160
16	7.35	-	-17	-	15.6	1.63	49	614	280	110	170
26	7.42	-	-14	-	15.0	1.17	70	622	280	120	160
36	7.35	-	-5	-	12.6	1.14	77	698	270	130	140
46	7.28	-	-10	-	11.3	1.37	62	690	240	110	120
66	7.26	-	-12	-	11.7	1.77	52	601	250	120	130

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	0.5	-	-	-	-	19	6	6	-	-
3	19.0	0.5	-	-	-	-	46	41	40	-	-
5	24.0	0.5	-	-	-	-	139	131	162	-	-
7	36.0	0.5	-	-	-	-	273	269	282	-	-
9	41.0	0.5	-	-	-	-	328	287	375	-	-
16	47.0	0.5	-	-	-	-	328	322	317	-	-
26	58.0	0.5	-	-	-	-	255	128	142	-	-
36	58.0	0.5	-	-	-	-	309	131	152	-	-
46	54.0	0.5	-	-	-	-	309	233	244	-	-
66	-	0.5	-	-	-	-	200	287	254	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.78
3	-	-	-	-	-	-	0.83
5	-	-	-	-	-	-	0.82
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.82
26	-	-	-	-	-	-	0.73
36	-	-	-	-	-	-	0.80
46	-	-	-	-	-	-	0.79
66	-	-	-	-	-	-	0.79

8006-J-MP-A MARYLAND POINT 6-18-80 5.5 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.20	-	340	480	2.5	0.14	-	-	34	-	25
3	7.32	-	330	360	3.3	0.09	-	-	47	-	36
5	7.37	-	330	100	5.3	0.11	-	-	70	-	62
7	7.44	-	310	0	6.1	0.23	-	-	85	-	71
9	7.27	-	130	14	5.2	0.25	-	-	76	-	62
16	7.20	-	110	-2	6.7	0.87	-	-	91	-	78
26	7.25	-	78	-97	12.9	2.01	-	-	170	-	160
36	7.19	-	74	-110	14.3	2.55	-	-	190	-	180
46	-	-	-	-30	15.7	-	-	-	-	-	-
66	7.17	-	50	-97	-	2.89	-	-	200	-	190

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	43.7	-	34.2	0.9	1.4	4.3	23	-	-	-	-
3	33.9	-	28.6	0.7	1.4	3.8	54	6	-	-	-
5	31.6	-	27.4	0.7	1.4	4.1	182	1	-	-	-
7	30.5	-	26.2	0.7	1.7	3.9	258	11	-	-	-
9	26.8	-	22.8	0.6	1.9	3.0	220	98	-	-	-
16	19.0	-	18.0	0.6	1.3	2.4	113	108	-	-	-
26	33.9	-	31.1	1.0	1.4	4.1	114	204	-	-	-
36	45.1	-	42.3	1.3	1.6	5.4	87	304	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	59.2	-	53.1	1.6	1.7	6.8	21	333	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

8006-J-MP-B MARYLAND POINT 6-19-80 5.5 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.39	-	320	400	2.8	0.37	-	-	32	-	29
3	7.47	-	310	180	3.8	0.02	-	-	48	-	41
5	7.61	-	290	120	4.9	0.09	-	-	71	-	54
7	7.54	-	280	91	5.6	0.10	-	-	79	-	63
9	7.51	-	210	0	5.9	0.27	-	-	80	-	69
16	7.25	-	92	-85	6.6	0.39	-	-	93	-	80
26	7.32	-	69	-230	13.3	0.70	-	-	170	-	160
36	7.22	-	58	-260	14.6	2.02	-	-	180	-	180
46	7.27	-	52	-52	14.4	3.09	-	-	180	-	170
66	7.25	-	45	-59	15.8	3.21	-	-	200	-	180

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	38.9	-	33.5	0.8	1.4	4.3	31	-	-	-	-
3	38.1	-	32.6	0.8	1.5	4.4	100	0	-	-	-
5	33.9	-	28.9	0.7	1.5	4.3	171	0	-	-	-
7	31.0	-	27.6	0.7	1.5	4.3	202	2	-	-	-
9	29.9	-	25.8	0.7	1.6	3.9	246	6	-	-	-
16	24.7	-	20.2	0.6	1.7	2.7	178	127	-	-	-
26	32.7	-	32.3	1.0	1.6	4.6	136	156	-	-	-
36	41.2	-	41.2	1.2	1.6	5.4	108	240	-	-	-
46	50.2	-	46.1	1.3	1.6	5.8	61	258	-	-	-
66	57.0	-	51.3	1.5	1.7	6.7	53	294	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.90
3	-	-	-	-	-	-	0.86
5	-	-	-	-	-	-	0.83
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.81
16	-	-	-	-	-	-	0.81
26	-	-	-	-	-	-	0.80
36	-	-	-	-	-	-	0.80
46	-	-	-	-	-	-	0.82
66	-	-	-	-	-	-	0.78

7908-V PC POTOMAC CREEK 8/2/79 3.4 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.16	-	190	-11	3.6	0.22	320	383	-	-	-
3	7.14	-	84	-31	4.2	0.39	250	700	-	-	-
5	7.21	-	77	-22	3.9	0.39	160	700	-	-	-
7	7.45	-	83	-47	5.0	0.32	160	617	-	-	-
9	7.53	-	86	-110	5.0	0.29	120	500	-	-	-
16	7.59	-	92	-100	5.5	0.29	100	533	-	-	-
26	7.43	-	84	-180	6.5	0.36	200	617	-	-	-
36	7.29	-	88	-53	6.7	0.44	200	650	-	-	-
46	7.40	-	85	-31	7.2	0.48	140	733	-	-	-
66	7.52	-	100	-64	7.8	0.47	120	683	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	7.4	0.06	6.5	0.8	1.0	1.0	60	4	-	-	-
3	4.2	-	3.9	0.8	1.1	0.8	104	83	-	-	-
5	3.8	-	3.9	0.8	0.8	0.7	73	70	-	-	-
7	4.5	-	4.5	0.8	0.6	0.9	41	25	-	-	-
9	5.4	-	5.8	0.9	0.5	0.9	23	6	-	-	-
16	10.4	-	11.7	1.0	0.4	1.0	17	2	-	-	-
26	20.9	-	20.3	1.2	0.7	1.9	32	11	-	-	-
36	30.5	-	24.6	1.4	0.9	2.5	56	32	-	-	-
46	27.1	-	25.9	1.5	1.0	2.9	69	35	-	-	-
66	28.2	-	28.1	1.6	1.1	3.0	64	20	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.91
3	-	-	-	-	-	-	0.88
5	-	-	-	-	-	-	0.85
7	-	-	-	-	-	-	0.83
9	-	-	-	-	-	-	0.77
16	-	-	-	-	-	-	0.79
26	-	-	-	-	-	-	0.76
36	-	-	-	-	-	-	0.77
46	-	-	-	-	-	-	0.79
66	-	-	-	-	-	-	0.73

7910-JPC POTOMAC CREEK 11/7/79 3.4 METERS

--- INTERSTITIAL WATER DATA ---

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.12	-	320	49	1.3	0.13	1	209	-	-	-
3	7.22	-	130	-49	1.5	0.18	32	282	-	-	-
5	7.36	-	210	-140	1.9	0.26	45	400	-	-	-
7	7.46	-	170	-110	1.8	0.21	49	347	-	-	-
9	7.53	-	200	-72	1.8	0.22	43	322	-	-	-
16	7.57	-	230	-3	2.3	0.23	57	372	-	-	-
26	7.57	-	230	-50	3.9	0.30	99	480	-	-	-
36	7.55	-	210	-230	4.9	0.37	115	650	-	-	-
46	7.51	-	150	-240	5.3	0.37	106	710	-	-	-
66	7.62	-	77	-39	5.6	0.44	95	695	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.5	-	0.6	0.1	0.6	0.3	5	0	-	-	-
3	0.8	-	1.1	0.1	0.4	0.4	26	23	-	-	-
5	1.2	-	1.6	0.1	0.4	0.4	14	5	-	-	-
7	1.4	-	2.0	0.1	0.3	0.4	10	4	-	-	-
9	1.9	-	2.4	0.2	0.3	0.4	8	2	-	-	-
16	5.6	-	6.3	0.3	0.2	0.7	11	2	-	-	-
26	14.8	-	16.4	0.4	0.5	1.6	26	2	-	-	-
36	22.6	-	21.6	0.5	0.7	2.3	48	9	-	-	-
46	31.0	-	25.6	0.6	0.9	2.9	67	38	-	-	-
66	32.7	-	30.1	0.6	1.0	3.6	89	41	-	-	-

--- SEDIMENT DATA ---

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.91
3	-	-	-	-	-	-	0.82
5	-	-	-	-	-	-	0.76
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.78
16	-	-	-	-	-	-	0.73
26	-	-	-	-	-	-	0.77
36	-	-	-	-	-	-	0.78
46	-	-	-	-	-	-	0.78
66	-	-	-	-	-	-	0.77

8006-J-BEL A BELVEDERE BEACH 6-15-80 2.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.10	-	360	130	1.6	0.08	8	320	16	-	14
3	6.80	-	220	68	1.3	0.08	8	530	14	-	10
5	7.00	-	210	-50	1.4	0.11	10	565	17	-	12
7	7.15	-	230	-45	1.7	0.12	13	585	67	-	15
9	7.27	-	320	1	1.9	0.14	21	612	31	-	18
16	7.56	-	320	2	3.1	0.09	47	635	61	-	36
26	7.47	-	310	13	4.3	0.21	42	692	65	-	48
36	7.58	-	290	58	4.6	0.30	34	700	67	-	52
46	-	-	-	-	-	-	-	632	-	-	-
66	-	-	-	-	-	-	-	680	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	14.4	0.89	12.4	0.4	1.2	1.6	24	7	-	-	-
3	8.5	0.60	6.9	0.2	1.0	0.9	52	42	-	-	-
5	8.1	0.50	6.0	0.3	0.9	1.0	51	20	-	-	-
7	7.8	0.45	6.3	0.3	0.8	1.0	33	12	-	-	-
9	6.0	0.30	5.4	0.3	0.5	0.9	21	4	-	-	-
16	7.1	0.08	8.4	0.3	0.2	0.6	10	3	-	-	-
26	14.4	0.02	15.1	0.5	0.4	1.1	17	3	-	-	-
36	19.7	0.02	19.3	0.6	0.5	1.5	23	8	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.89
3	-	-	-	-	-	-	0.86
5	-	-	-	-	-	-	0.75
7	-	-	-	-	-	-	0.77
9	-	-	-	-	-	-	0.77
16	-	-	-	-	-	-	0.72
26	-	-	-	-	-	-	0.65
36	-	-	-	-	-	-	0.64
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

8006-J-BEL C BELVEDERE BEACH 6-17-80 2.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.15	-	340	72	2.2	0.09	17	-	31	-	16
3	7.10	-	250	-12	1.5	0.05	24	-	29	-	16
5	7.10	-	240	64	1.5	0.05	21	-	15	-	14
7	7.15	-	250	55	1.6	0.10	18	-	37	-	16
9	7.27	-	260	40	1.7	0.10	21	-	38	-	17
16	7.46	-	330	22	3.3	0.08	37	-	46	-	33
26	-	-	-	30	4.3	0.09	37	-	41	-	44
36	-	-	-	22	4.3	0.15	27	-	83	-	43
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	3.0	0.34	2.7	0.2	0.6	0.5	24	19	-	-	-
3	4.5	0.46	3.9	0.2	0.6	0.6	31	27	-	-	-
5	-	0.53	5.4	0.3	0.8	0.8	43	21	-	-	-
7	7.6	0.52	5.6	0.3	0.9	1.0	39	13	-	-	-
9	7.6	0.45	5.4	0.4	0.8	1.1	32	11	-	-	-
16	7.1	0.00	7.5	0.4	0.3	0.7	14	4	-	-	-
26	13.8	0.00	13.8	0.5	0.4	1.1	21	9	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7808-H1 ACCOKEEK CREEK 8/29/78 1.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	-	7.15	-	-4	2.7	0.14	13	357	120	90	28
3	-	7.13	-	-22	3.3	0.32	42	790	160	120	33
5	-	7.05	-	-64	3.9	0.38	57	640	140	100	43
7	-	6.94	-	-140	4.5	0.43	47	940	160	110	47
9	-	6.93	-	-160	4.6	0.47	45	900	210	170	48
16	-	6.89	-	-200	5.1	0.52	48	470	130	79	56
26	-	6.81	-	-110	6.1	0.85	43	910	180	120	65
36	-	6.76	-	-55	8.8	1.35	32	950	150	64	84
46	-	6.68	-	-21	9.0	1.56	32	970	200	100	92
66	-	6.66	-	-37	14.6	2.14	46	1000	230	130	100

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	22	41	-	-	-
3	7.0	-	-	-	-	-	40	133	-	-	-
5	5.0	-	-	-	-	-	45	136	-	-	-
7	5.0	-	-	-	-	-	36	107	-	-	-
9	7.0	-	-	-	-	-	31	86	-	-	-
16	7.0	-	-	-	-	-	31	163	-	-	-
26	15.0	-	-	-	-	-	53	322	-	-	-
36	17.0	-	-	-	-	-	85	591	-	-	-
46	18.0	-	-	-	-	-	71	501	-	-	-
66	20.0	-	-	-	-	-	53	663	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7805-V18 BRENT PT. 5-22-78 11.0 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.28	-	370	-	5.2	0.14	1	256	130	67	66
3	7.52	-	70	-	8.5	0.36	31	403	180	82	95
5	7.52	-	55	-	7.3	0.65	58	524	170	92	80
7	7.23	-	65	-	9.3	1.12	46	639	180	91	94
9	7.27	-	55	-	11.4	1.62	39	644	180	74	110
16	7.29	-	-54	-	12.9	2.57	33	683	210	80	130
26	7.30	-	-21	-	14.2	2.71	40	626	190	58	140
36	7.25	-	28	-	15.2	2.70	44	601	200	65	130
46	7.23	-	35	-	14.2	2.64	42	590	170	58	110
66	7.02	-	43	-	12.7	2.99	38	562	140	49	86

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	47	0	1	-	-
3	17.0	-	-	-	-	-	200	69	65	-	-
5	21.0	-	-	-	-	-	117	147	134	-	-
7	24.0	-	-	-	-	-	112	251	218	-	-
9	28.0	-	-	-	-	-	182	448	396	-	-
16	31.0	-	-	-	-	-	273	788	648	-	-
26	36.0	-	-	-	-	-	200	627	503	-	-
36	34.0	-	-	-	-	-	94	591	371	-	-
46	38.0	-	-	-	-	-	33	627	533	-	-
66	38.0	-	-	-	-	-	19	806	497	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.90
3	-	-	-	-	-	-	0.83
5	-	-	-	-	-	-	0.81
7	-	-	-	-	-	-	0.83
9	-	-	-	-	-	-	0.83
16	-	-	-	-	-	-	0.82
26	-	-	-	-	-	-	0.75
36	-	-	-	-	-	-	0.76
46	-	-	-	-	-	-	0.65
66	-	-	-	-	-	-	0.74

7805-V19 BRENT PT. 5-22-78 11.0 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.36	-	210	-	2.5	0.09	4	256	120	100	20
3	7.39	-	150	-	2.7	0.10	50	400	120	99	23
5	7.55	-	170	-	2.9	0.12	59	442	110	79	27
7	7.60	-	150	-	3.3	0.17	54	434	100	71	32
9	7.64	-	180	-	3.9	0.22	69	466	100	63	39
16	7.45	-	85	-	4.9	0.46	63	618	130	73	61
26	7.07	-	75	-	7.9	0.78	61	655	140	51	86
36	7.28	-	40	-	8.4	0.86	44	633	160	62	100
46	7.29	-	33	-	9.2	0.87	49	624	370	260	110
66	7.36	-	49	-	10.0	0.85	50	879	220	110	110

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	43	3	3	-	-
3	-	-	-	-	-	-	27	22	24	-	-
5	-	-	-	-	-	-	17	8	18	-	-
7	18.0	-	-	-	-	-	13	4	8	-	-
9	18.0	-	-	-	-	-	16	5	9	-	-
16	27.0	-	-	-	-	-	70	37	41	-	-
26	31.0	-	-	-	-	-	172	233	231	-	-
36	32.0	-	-	-	-	-	182	304	278	-	-
46	33.0	-	-	-	-	-	200	287	261	-	-
66	36.0	-	-	-	-	-	237	197	357	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INCRG P UMOL/G	WT.LOSS %	POROSITY
1	-	-	-	-	-	-	0.80
3	-	-	-	-	-	-	0.85
5	-	-	-	-	-	-	0.85
7	-	-	-	-	-	-	0.83
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.80
26	-	-	-	-	-	-	0.80
36	-	-	-	-	-	-	0.79
46	-	-	-	-	-	-	0.76
66	-	-	-	-	-	-	0.82

7910-JQCA QUANTICO, NEAR BUOY 37 11/8/79 6.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.23	-	140	41	1.8	0.24	6	267	-	-	-
3	7.16	-	57	-48	2.4	0.33	63	490	-	-	-
5	7.33	-	70	-85	3.0	0.40	70	562	-	-	-
7	7.36	-	69	-120	3.9	0.56	71	617	-	-	-
9	7.57	-	67	-260	3.7	0.55	48	532	-	-	-
16	7.35	-	66	-260	5.4	0.74	57	627	-	-	-
26	7.38	-	60	-250	6.7	0.94	77	665	-	-	-
36	7.36	-	69	-230	7.6	1.17	64	667	-	-	-
46	7.29	-	59	-250	8.6	1.15	45	585	-	-	-
66	7.33	-	52	-230	10.0	1.32	45	627	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7910-JQCB QUANTICO, NEAR BUCY 37 11/8/79 6.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.23	-	140	41	1.9	0.17	6	287	-	-	-
3	7.16	-	57	-48	2.7	0.28	78	537	-	-	-
5	7.33	-	70	-85	3.3	0.38	81	592	-	-	-
7	7.36	-	69	-120	4.3	0.51	74	580	-	-	-
9	7.57	-	67	-260	4.2	0.55	61	575	-	-	-
16	7.35	-	66	-260	6.3	0.71	66	667	-	-	-
26	7.38	-	60	-250	7.2	0.96	84	685	-	-	-
36	7.36	-	69	-230	8.3	1.04	77	672	-	-	-
46	7.29	-	59	-250	9.5	1.12	61	615	-	-	-
66	7.33	-	52	-230	10.6	1.30	50	685	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7910-JQCC QUANTICO, NEAR BUCY 37 11/8/79 6.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.23	-	140	41	2.1	0.17	12	320	-	-	-
3	7.16	-	57	-48	2.8	0.27	79	530	-	-	-
5	7.33	-	70	-85	3.0	0.39	76	565	-	-	-
7	7.36	-	69	-120	4.1	0.53	70	585	-	-	-
9	7.57	-	67	-260	4.2	0.50	55	612	-	-	-
16	7.35	-	66	-260	5.8	0.68	68	635	-	-	-
26	7.38	-	60	-250	7.4	0.90	93	692	-	-	-
36	7.36	-	69	-230	8.5	1.04	80	700	-	-	-
46	7.29	-	59	-250	9.8	1.12	72	632	-	-	-
66	7.33	-	52	-230	11.1	1.32	54	680	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7908-V Q QUANTICO 8/4/79 4.9 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.97	-	270	-37	3.7	0.13	14	158	-	-	-
3	7.12	-	68	-40	6.8	0.46	77	550	-	-	-
5	7.14	-	51	-44	7.0	0.62	56	700	-	-	-
7	7.14	-	43	-32	7.0	0.73	91	767	-	-	-
9	7.15	-	55	-29	6.7	0.59	42	750	-	-	-
16	7.27	-	53	-240	6.1	0.64	49	717	-	-	-
26	7.29	-	54	-230	7.2	0.71	84	750	-	-	-
36	7.22	-	46	-210	7.4	0.78	84	700	-	-	-
46	7.22	-	46	-77	8.1	0.78	70	717	-	-	-
66	7.32	-	47	-19	7.4	0.72	70	767	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.6	1.60	0.7	0.2	1.2	0.5	6	0	-	-	-
3	0.8	0.20	0.8	0.2	1.6	0.7	130	99	-	-	-
5	1.0	-	1.0	0.2	1.7	0.7	147	155	-	-	-
7	1.2	-	1.3	0.2	1.6	0.7	136	150	-	-	-
9	1.4	-	1.7	0.3	1.4	0.7	118	121	-	-	-
16	3.0	-	3.6	0.3	0.9	0.9	70	61	-	-	-
26	6.5	-	7.3	0.4	0.8	1.3	76	67	-	-	-
36	9.3	-	9.8	0.5	0.8	1.6	89	108	-	-	-
46	10.6	-	10.7	0.5	0.8	1.7	97	155	-	-	-
66	10.2	-	11.2	0.6	0.7	1.6	103	71	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2490	-	280	40	29	10.6	0.87
3	2480	-	250	39	29	10.5	0.85
5	2470	-	240	40	31	10.5	0.84
7	2460	-	240	40	32	10.2	0.81
9	2360	-	220	42	35	10.3	0.82
16	1980	-	190	36	29	9.8	0.71
26	1680	-	160	22	17	8.9	0.73
36	1420	-	120	20	14	8.3	0.72
46	1370	-	130	22	16	8.4	0.72
66	1680	-	90	8	5	9.3	0.74

7910-JQAA QUANTICO 10/30/79

--- INTERSTITIAL WATER DATA ---

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	-	-	-	-	-	0.70	12	-	-	-	-
3	-	-	-	-	3.4	0.14	47	-	-	-	-
5	-	-	-	-	3.7	0.52	81	-	-	-	-
7	-	-	-	-	4.5	0.46	69	-	-	-	-
9	-	-	-	-	4.2	0.84	61	-	-	-	-
16	-	-	-	-	5.0	0.52	95	-	-	-	-
26	-	-	-	-	5.7	0.41	75	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	5.4	0.76	29	-	-	-	-
66	-	-	-	-	5.1	0.45	29	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

--- SEDIMENT DATA ---

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7910-JQAB QUANTICO 10/30/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	-	-	-	-	-	0.41	21	-	-	-	-
3	-	-	-	-	3.4	0.44	78	-	-	-	-
5	-	-	-	-	4.0	0.51	149	-	-	-	-
7	-	-	-	-	4.7	0.42	75	-	-	-	-
9	-	-	-	-	5.0	0.60	84	-	-	-	-
16	-	-	-	-	5.4	-	96	-	-	-	-
26	-	-	-	-	5.9	0.54	77	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	5.7	0.37	50	-	-	-	-
66	-	-	-	-	5.2	0.41	41	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7910-JQAC QUANTICO 10/30/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	-	-	-	-	2.5	0.26	31	-	-	-	-
3	-	-	-	-	-	-	31	-	-	-	-
5	-	-	-	-	3.9	0.45	-	-	-	-	-
7	-	-	-	-	-	0.51	67	-	-	-	-
9	-	-	-	-	4.9	0.46	88	-	-	-	-
16	-	-	-	-	5.4	0.68	96	-	-	-	-
26	-	-	-	-	-	0.50	76	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	0.41	48	-	-	-	-
66	-	-	-	-	-	-	39	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS X	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7910-JQB QUANTICO 10/31/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.28	-	230	-35	3.1	0.24	1	-	-	-	-
3	7.32	-	54	-100	5.4	0.64	60	-	-	-	-
5	7.37	-	65	-120	5.9	0.83	51	-	-	-	-
7	7.35	-	72	-79	6.3	0.57	42	-	-	-	-
9	7.39	-	64	-170	6.3	0.66	50	-	-	-	-
16	7.35	-	79	-190	6.5	0.65	56	-	-	-	-
26	7.39	-	90	-160	6.7	0.60	56	-	-	-	-
36	7.44	-	87	-6	6.7	0.54	52	-	-	-	-
46	7.48	-	130	86	5.9	0.50	25	-	-	-	-
66	6.79	-	230	140	5.2	0.34	42	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.7	-	0.7	0.1	1.2	0.7	24	1	-	-	-
3	1.5	-	1.8	0.1	1.5	0.8	129	162	-	-	-
5	2.1	-	2.5	0.2	1.5	0.9	121	134	-	-	-
7	2.8	-	3.3	0.2	1.4	1.1	102	105	-	-	-
9	3.4	-	3.8	0.2	1.5	1.1	96	105	-	-	-
16	3.5	-	5.8	0.3	1.2	1.3	87	113	-	-	-
26	5.6	-	8.2	0.3	1.0	1.6	76	75	-	-	-
36	8.5	-	9.8	0.4	0.9	1.8	71	75	-	-	-
46	9.4	-	10.8	0.6	0.8	1.8	63	31	-	-	-
66	9.9	-	11.3	2.0	0.7	1.6	59	13	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMCL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

78?5-V20 N. OF QUANTICO 5-24-78 8.8 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.77	-	420	-	2.6	0.12	5	234	88	59	29
3	7.32	-	160	-	3.8	0.30	34	376	170	130	37
5	7.22	-	160	-	4.0	0.46	42	433	130	94	40
7	7.19	-	90	-	5.5	0.79	40	507	150	91	54
9	7.13	-	58	-	7.6	1.32	41	592	180	100	76
16	7.01	-	52	-	10.1	2.37	29	660	210	98	110
26	7.06	-	37	-	11.3	2.47	33	565	210	89	120
36	7.08	-	31	-	10.8	2.20	18	548	260	140	120
46	7.07	-	29	-	12.0	2.10	32	594	230	100	130
66	7.12	-	17	-	12.5	2.13	34	639	270	140	130

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	0.9	0.1	0.7	0.3	25	4	4	-	-
3	-	-	1.6	0.1	0.7	0.5	61	47	42	-	-
5	-	-	2.3	0.2	0.6	0.5	45	69	60	-	-
7	18.0	-	4.4	0.2	0.9	0.7	75	161	143	-	-
9	20.0	-	7.4	0.3	1.4	0.9	125	340	285	-	-
16	22.0	-	9.9	0.4	2.3	1.6	182	645	551	-	-
26	21.0	0.3	9.1	0.4	-	2.2	120	681	603	-	-
36	25.0	-	10.4	0.5	1.8	2.1	51	519	447	-	-
46	23.0	0.3	12.2	0.5	-	2.5	43	663	596	-	-
66	-	-	16.3	0.6	1.4	2.5	30	627	544	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2520	2470	230	41	30	11.1	0.86
3	-	2370	190	38	32	10.4	0.85
5	-	2400	240	-	37	10.4	0.84
7	2440	2380	230	42	41	10.5	0.84
9	-	2290	200	50	46	10.3	0.82
16	-	2170	170	47	52	10.2	0.77
26	1840	1800	160	16	11	7.8	0.71
36	-	1310	72	-	11	7.0	0.74
46	-	1370	70	15	12	8.5	0.77
66	1270	1240	98	12	11	7.8	0.59

7809-V20A N. OF QUANTICO 9/5/78 7.6 METERS DEPTH 115 METERS SOUTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.12	-	350	-	6.9	0.55	10	389	180	120	60
3	7.12	-	22	-	11.7	1.74	51	771	240	160	83
5	7.07	-	48	-	10.9	2.01	51	767	220	140	87
7	-	-	52	-	11.5	2.10	44	779	220	130	86
9	7.03	-	41	-	11.2	2.68	35	774	240	150	86
16	6.98	-	47	-	13.1	3.00	24	767	260	150	110
26	6.96	-	43	-	12.7	2.97	32	758	250	150	96
36	6.95	-	40	-	11.9	2.80	36	705	220	130	91
46	6.91	-	41	-	10.6	2.76	31	650	260	190	73
66	6.91	-	42	-	9.7	2.98	31	676	230	170	60

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.3	-	0.7	0.2	2.1	1.0	62	20	-	-	-
3	1.2	-	1.5	0.2	2.8	1.3	291	448	-	-	-
5	1.6	-	2.4	0.2	2.5	1.4	237	501	-	-	-
7	3.0	-	3.4	0.3	2.3	1.3	-	-	-	-	-
9	4.2	-	4.6	0.3	2.2	1.2	200	591	-	-	-
16	11.8	-	6.5	0.3	2.6	1.6	200	698	-	-	-
26	8.0	-	7.2	0.4	2.4	1.9	93	698	-	-	-
36	9.2	-	8.9	0.4	1.8	1.9	45	716	-	-	-
46	10.6	-	10.9	0.4	1.6	1.7	31	698	-	-	-
66	13.8	-	13.2	0.4	1.5	1.9	20	752	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2520	2450	-	40	31	10.1	0.89
3	2480	2410	-	40	32	10.1	0.86
5	2370	2330	-	47	39	10.0	0.83
7	2350	2280	-	50	44	10.0	0.82
9	2270	2260	-	52	48	9.8	0.81
16	2110	2090	-	53	50	9.6	0.79
26	1570	1530	-	20	15	7.8	0.74
36	1610	1570	-	18	12	7.8	0.71
46	1770	1730	-	18	12	7.7	0.64
66	1470	1450	-	18	13	8.0	0.71

7809-V20R N. OF QUANTICO 9/6/78 8.5 METERS DEPTH 120 METERS EAST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.21	-	290	-	8.5	0.43	12	440	170	120	58
3	7.17	-	41	-	14.2	1.74	63	741	240	110	130
5	7.17	-	30	-	15.6	2.24	51	815	280	140	140
7	7.14	-	35	-	14.7	2.53	45	797	490	360	130
9	7.00	-	49	-	12.8	2.35	38	750	220	120	100
16	7.02	-	57	-	12.5	2.78	32	784	250	150	97
26	7.02	-	38	-	13.3	3.06	32	741	260	140	120
36	7.02	-	56	-	12.1	2.73	30	641	250	160	94
46	6.96	-	48	-	11.5	2.63	31	655	280	190	87
66	6.93	-	58	-	11.1	2.71	34	693	250	170	83

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	84	34	-	-	-
3	-	-	-	-	-	-	346	448	-	-	-
5	5.0	-	-	-	-	-	382	519	-	-	-
7	6.0	-	-	-	-	-	364	573	-	-	-
9	6.0	-	-	-	-	-	255	591	-	-	-
16	8.0	-	-	-	-	-	200	663	-	-	-
26	10.0	-	-	-	-	-	138	681	-	-	-
36	12.0	-	-	-	-	-	60	609	-	-	-
46	14.0	-	-	-	-	-	31	663	-	-	-
66	16.0	-	-	-	-	-	25	842	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.89
3	-	-	-	-	-	-	0.86
5	-	-	-	-	-	-	0.85
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.79
26	-	-	-	-	-	-	0.74
36	-	-	-	-	-	-	0.69
46	-	-	-	-	-	-	0.69
66	-	-	-	-	-	-	0.73

7809-V20C N. OF QUANTICO 9/6/78 8.5 METERS DEPTH 115 METERS NORTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.16	-	420	-	9.0	0.53	15	414	410	350	65
3	7.09	-	88	-	13.3	1.83	56	780	220	120	97
5	7.09	-	69	-	13.6	2.07	52	812	560	450	100
7	7.10	-	49	-	14.0	2.30	51	818	230	120	100
9	7.03	-	56	-	12.1	2.07	44	818	210	120	87
16	7.02	-	55	-	10.6	2.27	35	787	210	130	78
26	7.00	-	60	-	10.0	2.55	29	792	200	140	63
36	6.96	-	62	-	10.3	2.73	25	748	250	180	69
46	7.05	-	49	-	9.7	3.00	34	647	240	180	60
66	6.98	-	55	-	10.8	3.42	35	693	270	190	75

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.6	0.3	0.9	0.2	2.6	1.1	91	14	-	-	-
3	2.2	0.3	1.9	0.3	2.5	1.5	309	448	-	-	-
5	2.6	0.5	3.3	0.3	2.4	1.7	309	484	-	-	-
7	3.6	0.7	4.7	0.4	2.1	1.8	255	537	-	-	-
9	4.8	0.3	6.0	0.4	2.2	1.6	218	555	-	-	-
16	7.9	0.3	7.7	0.3	2.0	1.7	149	484	-	-	-
26	8.6	0.3	8.1	0.4	1.7	1.8	75	519	-	-	-
36	8.5	0.3	9.4	0.4	1.5	1.7	42	537	-	-	-
46	10.2	0.3	10.6	0.4	1.4	1.5	27	501	-	-	-
66	12.7	0.3	13.1	0.5	1.4	1.9	20	609	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.89
3	-	-	-	-	-	-	0.84
5	-	-	-	-	-	-	0.83
7	-	-	-	-	-	-	0.82
9	-	-	-	-	-	-	0.80
16	-	-	-	-	-	-	0.80
26	-	-	-	-	-	-	0.77
36	-	-	-	-	-	-	0.73
46	-	-	-	-	-	-	0.64
66	-	-	-	-	-	-	0.74

7809-V20D N. OF QUANTICO 9/6/78 8.5 METERS DEPTH 230 METERS WEST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.07	7.15	200	9	8.6	0.85	28	587	230	170	58
3	7.22	7.10	65	-5	13.4	1.89	36	859	280	170	110
5	7.15	7.08	55	-7	13.9	1.96	48	879	260	150	120
7	7.17	7.10	51	-5	14.8	2.21	44	865	310	200	120
9	7.12	7.01	48	-7	14.0	2.25	41	853	240	140	110
16	7.03	6.94	52	-3	11.9	2.45	28	819	250	150	97
26	7.02	6.89	55	6	10.3	2.82	22	800	210	140	66
36	7.03	6.89	55	13	9.7	3.30	21	812	210	150	66
46	7.03	6.93	48	3	10.5	3.60	25	805	190	120	78
66	7.03	6.88	45	-15	11.7	4.07	33	763	200	120	80

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	157	109	-	-	-
3	8.0	-	-	-	-	-	309	322	-	-	-
5	10.0	-	-	-	-	-	273	394	-	-	-
7	14.0	-	-	-	-	-	255	430	-	-	-
9	10.0	-	-	-	-	-	218	430	-	-	-
16	14.0	-	-	-	-	-	182	484	-	-	-
26	14.0	-	-	-	-	-	109	537	-	-	-
36	12.0	-	-	-	-	-	56	466	-	-	-
46	12.0	-	-	-	-	-	38	555	-	-	-
66	21.0	-	-	-	-	-	25	573	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.87
3	-	-	-	-	-	-	0.84
5	-	-	-	-	-	-	0.82
7	-	-	-	-	-	-	0.80
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.80
26	-	-	-	-	-	-	0.77
36	-	-	-	-	-	-	0.79
46	-	-	-	-	-	-	0.75
66	-	-	-	-	-	-	0.73

7805-V21 N. OF QUANTICO 5-24-78 7.0 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.13	-	350	-	2.4	0.09	6	260	72	44	28
3	7.36	-	85	-	3.3	0.20	49	399	150	110	39
5	7.40	-	61	-	3.9	0.18	52	405	130	91	37
7	7.30	-	82	-	4.0	0.28	34	414	150	110	40
9	7.44	-	74	-	3.7	0.41	32	451	160	110	43
16	7.17	-	58	-	5.6	1.04	37	600	140	83	59
26	7.13	-	33	-	8.3	1.72	35	562	190	100	85
36	7.11	-	13	-	9.8	1.89	31	596	220	120	100
46	7.14	-	16	-	11.3	2.02	35	623	220	99	120
66	7.12	-	15	-	12.3	1.87	28	720	260	130	130

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	45	5	6	-	-
3	-	-	-	-	-	-	92	67	60	-	-
5	-	-	-	-	-	-	59	80	75	-	-
7	-	-	-	-	-	-	27	82	71	-	-
9	18.0	-	-	-	-	-	26	95	86	-	-
16	-	-	-	-	-	-	41	251	194	-	-
26	-	-	-	-	-	-	51	484	399	-	-
36	-	-	-	-	-	-	55	537	499	-	-
46	-	-	-	-	-	-	76	537	507	-	-
66	27.0	-	-	-	-	-	140	466	462	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.81
3	-	-	-	-	-	-	0.77
5	-	-	-	-	-	-	0.82
7	-	-	-	-	-	-	0.81
9	-	-	-	-	-	-	0.80
16	-	-	-	-	-	-	0.77
26	-	-	-	-	-	-	0.76
36	-	-	-	-	-	-	0.75
46	-	-	-	-	-	-	0.75
66	-	-	-	-	-	-	0.78

7805-V22 INDIAN HEAD 5-25-78 12.8 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.21	-	110	-	9.1	0.80	12	419	180	74	110
3	7.20	-	42	-	18.7	1.79	27	582	330	130	200
5	7.21	-	24	-	24.9	2.57	26	627	410	140	280
7	7.28	-	13	-	25.9	2.63	29	643	400	120	290
9	7.32	-	5	-	25.4	2.60	21	605	410	130	280
16	7.15	-	28	-	21.1	2.94	16	633	360	130	240
26	7.13	-	14	-	21.3	4.60	14	726	360	120	240
36	7.13	-	11	-	21.7	4.71	17	641	350	120	230
46	7.07	-	24	-	17.7	4.13	6	571	330	120	220
66	-	-	-	-	15.3	3.17	18	556	300	130	170

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	218	168	174	-	-
3	-	-	-	-	-	-	546	716	706	-	-
5	-	-	-	-	-	-	619	895	806	-	-
7	-	-	-	-	-	-	528	824	791	-	-
9	15.0	-	-	-	-	-	473	770	645	-	-
16	-	-	-	-	-	-	364	716	625	-	-
26	-	-	-	-	-	-	309	1020	932	-	-
36	15.0	-	-	-	-	-	273	1130	1090	-	-
46	-	-	-	-	-	-	59	842	762	-	-
66	-	-	-	-	-	-	17	842	721	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.86
3	-	-	-	-	-	-	0.85
5	-	-	-	-	-	-	0.84
7	-	-	-	-	-	-	0.83
9	-	-	-	-	-	-	0.82
16	-	-	-	-	-	-	0.79
26	-	-	-	-	-	-	0.78
36	-	-	-	-	-	-	0.75
46	-	-	-	-	-	-	0.62
66	-	-	-	-	-	-	0.61

7805-V23 INDIAN HEAD 5-25-78 4.0 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.94	-	380	-	3.5	0.11	1	329	110	73	37
3	7.27	-	70	-	5.0	0.41	42	470	140	83	59
5	7.27	-	59	-	4.3	0.48	44	550	150	95	50
7	7.25	-	60	-	4.3	0.55	42	621	140	89	49
9	7.24	-	53	-	4.1	0.59	36	618	140	97	47
16	7.29	-	36	-	4.3	0.68	28	627	140	89	51
26	7.15	-	43	-	4.3	0.73	22	605	140	99	42
36	7.12	-	41	-	4.3	0.76	21	572	150	100	45
46	7.17	-	34	-	4.5	0.70	24	614	140	98	42
66	7.16	-	34	-	4.5	0.74	21	591	160	100	56

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	19	0	6	-	-
3	-	-	-	-	-	-	150	233	199	-	-
5	-	-	-	-	-	-	73	152	155	-	-
7	-	-	-	-	-	-	66	165	159	-	-
9	12.0	-	-	-	-	-	61	163	159	-	-
16	-	-	-	-	-	-	87	287	255	-	-
26	-	-	-	-	-	-	127	466	436	-	-
36	-	-	-	-	-	-	125	466	418	-	-
46	14.0	-	-	-	-	-	112	430	414	-	-
66	-	-	-	-	-	-	81	340	318	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.87
3	-	-	-	-	-	-	0.85
5	-	-	-	-	-	-	0.84
7	-	-	-	-	-	-	0.83
9	-	-	-	-	-	-	0.83
16	-	-	-	-	-	-	0.73
26	-	-	-	-	-	-	0.72
36	-	-	-	-	-	-	0.67
46	-	-	-	-	-	-	0.66
66	-	-	-	-	-	-	0.67

8006-J-IH-A INDIAN HEAD 6-10-80 3.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.91	-	140	28	3.2	0.15	-	-	44	-	30
3	6.90	-	140	17	3.7	0.47	-	-	84	-	42
5	6.90	-	110	20	3.8	0.69	-	-	61	-	39
7	6.86	-	130	15	3.8	0.72	-	-	63	-	41
9	6.85	-	140	11	3.6	1.08	-	-	65	-	44
16	6.97	-	110	10	4.8	1.00	-	-	78	-	64
26	6.97	-	94	14	5.3	1.13	-	-	74	-	68
36	6.98	-	79	15	4.9	1.08	-	-	61	-	73
46	7.03	-	65	-25	6.0	1.16	-	-	79	-	82
66	6.98	-	53	-20	7.1	1.67	-	-	100	-	110

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.7	-	0.4	0.1	1.0	0.4	66	37	-	-	-
3	0.8	-	0.4	0.1	1.0	0.4	118	285	-	-	-
5	0.6	-	0.6	0.1	0.9	0.4	105	346	-	-	-
7	0.8	-	0.6	0.1	0.9	0.4	99	337	-	-	-
9	1.0	-	0.7	0.2	0.9	0.4	91	285	-	-	-
16	0.9	-	1.0	0.2	1.1	0.6	86	313	-	-	-
26	1.4	-	1.5	0.2	1.2	0.7	71	407	-	-	-
36	1.9	-	2.0	0.2	1.1	0.6	64	518	-	-	-
46	2.3	-	2.7	0.2	1.1	0.7	54	561	-	-	-
66	3.2	-	5.1	0.3	1.7	1.3	29	589	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	36	25	9.4	0.90
3	-	-	-	38	28	9.4	0.85
5	-	-	-	37	30	9.5	0.83
7	-	-	-	37	31	9.4	0.83
9	-	-	-	41	35	9.1	0.81
16	-	-	-	39	36	8.1	-
26	-	-	-	19	12	6.9	0.76
36	-	-	-	20	13	7.5	0.64
46	-	-	-	21	14	7.5	0.73
66	-	-	-	15	10	6.3	0.68

8006-J-IH-C INDIAN HEAD 6-12-80 3.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.17	-	360	29	2.7	0.05	8	-	49	-	25
3	7.05	-	180	56	2.5	0.01	14	-	58	-	27
5	7.02	-	140	45	2.1	0.06	33	-	61	-	23
7	7.05	-	120	36	2.1	0.12	30	-	62	-	21
9	7.16	-	100	26	2.1	0.14	30	-	64	-	22
16	7.10	-	100	19	2.8	0.24	28	-	75	-	29
26	7.00	-	90	20	4.7	0.65	18	-	82	-	59
36	7.02	-	58	-5	5.1	0.81	-	-	71	-	67
46	7.03	-	54	6	5.5	1.10	-	-	46	-	62
66	7.00	-	41	18	7.5	1.58	-	-	120	-	89

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	0.10	0.5	0.1	1.1	0.3	25	4	-	-	-
3	-	0.06	0.4	0.1	0.7	0.3	53	75	-	-	-
5	0.4	0.01	0.4	0.1	0.5	0.2	37	102	-	-	-
7	0.4	0.01	0.4	0.1	0.5	0.2	31	88	-	-	-
9	0.4	0.01	0.4	0.1	0.5	0.2	28	76	-	-	-
16	0.6	0.01	0.7	0.1	0.7	0.3	32	95	-	-	-
26	1.1	-	1.3	0.1	0.9	0.5	55	317	-	-	-
36	1.4	-	2.3	0.1	-	0.5	54	417	-	-	-
46	1.6	-	2.1	0.1	1.0	0.6	53	507	-	-	-
66	2.6	-	3.3	0.2	1.2	0.8	37	587	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7805-V24 OFF GUNSTON COVE 5-25-78 10.7 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.18	-	290	-	1.6	0.02	2	146	140	130	14
3	7.05	-	190	-	2.1	0.64	12	293	170	150	18
5	-	-	-	-	3.0	0.63	20	532	190	160	28
7	7.08	-	47	-	3.8	1.10	36	697	190	150	40
9	7.00	-	58	-	4.5	1.55	39	780	180	140	48
16	6.99	-	84	-	6.1	2.39	32	792	220	160	61
26	6.95	-	61	-	8.0	3.26	39	775	280	190	92
36	6.93	-	52	-	8.8	3.58	39	777	300	210	93
46	6.88	-	58	-	9.4	3.70	37	845	290	200	97
66	6.90	-	43	-	10.1	4.14	39	777	270	160	110

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	3	0	3	-	-
3	-	-	-	-	-	-	8	50	62	-	-
5	-	-	-	-	-	-	9	136	177	-	-
7	-	-	-	-	-	-	8	251	218	-	-
9	-	-	-	-	-	-	10	251	262	-	-
16	-	-	-	-	-	-	24	340	329	-	-
26	-	-	-	-	-	-	14	448	395	-	-
36	-	-	-	-	-	-	15	537	425	-	-
46	16.0	-	-	-	-	-	12	519	425	-	-
66	-	-	-	-	-	-	13	591	610	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.74
3	-	-	-	-	-	-	0.71
5	-	-	-	-	-	-	0.70
7	-	-	-	-	-	-	0.70
9	-	-	-	-	-	-	0.70
16	-	-	-	-	-	-	0.68
26	-	-	-	-	-	-	0.68
36	-	-	-	-	-	-	0.68
46	-	-	-	-	-	-	0.67
66	-	-	-	-	-	-	0.67

7805-V25 MARSHALL HALL 5-26-78 7.3 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.18	-	340	-	10.7	0.46	4	357	180	47	140
3	7.40	-	40	-	21.7	1.62	31	568	330	120	210
5	7.44	-	-2	-	22.5	1.99	27	605	340	97	240
7	7.23	-	6	-	18.0	2.07	23	625	300	94	210
9	7.17	-	2	-	15.7	2.48	23	698	270	100	170
16	7.10	-	12	-	18.8	4.33	21	706	340	120	220
26	7.12	-	16	-	18.8	4.38	20	658	350	140	210
36	6.91	-	32	-	16.0	4.34	22	682	340	160	180
46	6.95	-	29	-	14.6	4.51	19	653	360	190	170
66	6.79	-	43	-	14.6	5.52	19	568	320	160	170

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	118	18	18	-	-
3	-	-	-	-	-	-	437	519	444	-	-
5	-	-	-	-	-	-	528	645	556	-	-
7	-	-	-	-	-	-	455	788	675	-	-
9	-	-	-	-	-	-	273	770	612	-	-
16	14.0	-	-	-	-	-	255	931	1000	-	-
26	-	-	-	-	-	-	237	1020	895	-	-
36	-	-	-	-	-	-	94	788	626	-	-
46	-	-	-	-	-	-	27	752	570	-	-
66	-	-	-	-	-	-	11	788	651	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.85
3	-	-	-	-	-	-	0.79
5	-	-	-	-	-	-	0.78
7	-	-	-	-	-	-	0.76
9	-	-	-	-	-	-	0.73
16	-	-	-	-	-	-	0.70
26	-	-	-	-	-	-	0.68
36	-	-	-	-	-	-	0.63
46	-	-	-	-	-	-	0.63
66	-	-	-	-	-	-	0.53

7805-V26 MT. VERNON 5-26-78 9.1 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.90	-	240	-	9.9	0.37	3	356	240	110	130
3	7.18	-	8	-	23.0	1.70	27	564	360	240	120
5	7.16	-	-16	-	27.2	2.36	27	663	460	160	300
7	7.12	-	-29	-	30.4	3.24	19	731	470	160	300
9	7.18	-	-21	-	34.0	4.22	23	781	530	160	370
16	6.91	-	2	-	26.1	5.12	27	765	410	120	290
26	6.96	-	5	-	29.0	7.34	18	783	420	92	330
36	6.87	-	-3	-	31.0	8.06	24	759	430	110	320
46	6.96	-	-14	-	28.1	7.73	24	780	390	200	190
66	6.84	-	14	-	18.5	6.24	26	745	350	150	200

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	0.4	0.2	3.1	1.2	155	27	27	-	-
3	-	-	0.7	0.3	6.7	2.5	491	698	661	-	-
5	-	-	0.8	0.4	6.5	2.7	619	1020	892	-	-
7	-	-	0.8	0.5	7.6	2.8	673	1220	1070	-	-
9	-	-	0.9	0.6	8.1	2.9	655	1430	1250	-	-
16	-	-	1.1	0.4	5.1	2.1	473	1330	1160	-	-
26	-	-	-	-	-	-	273	1270	1100	-	-
36	-	-	1.0	0.4	6.1	2.4	291	1430	1230	-	-
46	15.0	-	-	-	-	-	237	1310	1160	-	-
66	-	-	1.2	0.3	3.0	1.6	28	860	752	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2700	2620	170	26	19	8.4	0.77
3	2790	2640	110	31	22	9.5	0.78
5	2580	2440	160	27	18	8.6	0.75
7	2840	2640	210	27	17	9.5	0.74
9	2680	2520	210	27	18	8.6	0.72
16	2520	2430	210	37	30	9.2	0.76
26	2500	2380	190	45	39	9.7	0.77
36	2550	2430	190	45	40	9.3	0.74
46	2420	2350	190	56	50	8.8	0.74
66	2170	2270	180	34	31	8.3	0.68

7808-H2 AT V26, 10 METERS OFF PIER 8/30/78 9.1 METERS DEPTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.96	6.83	130	10	8.5	0.50	14	460	290	230	65
3	6.90	6.86	-19	2	14.4	2.38	17	800	440	250	190
5	6.91	6.78	24	0	25.5	4.48	16	820	390	140	260
7	6.93	6.83	-13	-36	27.3	4.98	12	800	420	150	260
9	6.96	6.78	13	-7	28.0	6.10	10	760	450	170	280
16	6.84	6.84	13	9	30.1	7.20	11	760	450	140	310
26	6.91	6.67	5	5	30.3	8.23	11	810	430	110	320
36	6.96	6.86	-53	4	31.1	9.36	8	750	400	160	250
46	7.05	6.84	-53	2	41.2	10.30	6	700	490	130	350
66	7.18	6.93	-13	-4	31.7	10.40	9	720	450	130	320

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	169	95	-	-	-
3	-	-	-	-	-	-	546	1040	-	-	-
5	-	-	-	-	-	-	619	1270	-	-	-
7	-	-	-	-	-	-	546	1270	-	-	-
9	-	-	-	-	-	-	400	1250	-	-	-
16	-	-	-	-	-	-	309	1340	-	-	-
26	-	-	-	-	-	-	133	1240	-	-	-
36	-	-	-	-	-	-	118	1000	-	-	-
46	-	-	-	-	-	-	116	1040	-	-	-
66	-	-	-	-	-	-	95	895	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.85
3	-	-	-	-	-	-	0.78
5	-	-	-	-	-	-	0.79
7	-	-	-	-	-	-	0.74
9	-	-	-	-	-	-	0.77
16	-	-	-	-	-	-	0.74
26	-	-	-	-	-	-	0.74
36	-	-	-	-	-	-	0.68
46	-	-	-	-	-	-	0.72
66	-	-	-	-	-	-	0.73

7809-V26A MT. VERNON 9/12/78 10.4 METERS DEPTH 185 METERS SOUTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.96	6.88	240	22	5.8	0.38	8	274	200	160	32
3	6.91	6.79	57	5	17.9	3.99	57	787	320	180	130
5	6.95	6.96	31	-11	23.8	4.25	58	771	350	170	180
7	6.88	6.78	30	-26	25.8	5.07	43	780	390	180	200
9	6.96	6.83	23	-1	28.7	5.57	29	738	380	170	200
16	6.89	6.83	30	-14	31.5	7.31	41	777	410	160	250
26	6.84	6.63	42	-64	33.2	8.10	37	831	400	150	250
36	6.88	6.74	35	12	27.4	8.42	30	771	420	210	210
46	6.89	6.64	58	49	26.0	6.63	23	644	370	220	150
66	6.72	6.49	68	57	14.5	5.01	32	653	310	210	96

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	106	47	-	-	-
3	-	-	-	-	-	-	437	1020	-	-	-
5	-	-	-	-	-	-	582	1330	-	-	-
7	-	-	-	-	-	-	510	1380	-	-	-
9	-	-	-	-	-	-	437	1250	-	-	-
16	-	-	-	-	-	-	291	1340	-	-	-
26	-	-	-	-	-	-	200	1290	-	-	-
36	-	-	-	-	-	-	237	1150	-	-	-
46	-	-	-	-	-	-	49	609	-	-	-
66	-	-	-	-	-	-	11	878	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.83
3	-	-	-	-	-	-	0.81
5	-	-	-	-	-	-	0.78
7	-	-	-	-	-	-	0.78
9	-	-	-	-	-	-	0.72
16	-	-	-	-	-	-	0.77
26	-	-	-	-	-	-	0.75
36	-	-	-	-	-	-	0.73
46	-	-	-	-	-	-	0.60
66	-	-	-	-	-	-	0.59

7809-V26B MT. VERNON 9/13/78 10.1 METERS DEPTH 135 METERS EAST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.74	6.69	230	46	8.2	0.88	15	413	190	130	52
3	6.86	6.74	94	28	19.4	3.61	46	708	320	180	140
5	6.95	6.84	53	2	23.8	5.61	44	701	510	330	190
7	7.03	6.79	27	18	27.8	5.93	36	678	370	180	190
9	6.88	6.76	52	9	32.9	6.65	35	726	370	260	110
16	6.84	6.74	72	16	34.6	8.38	33	723	410	160	250
26	6.93	6.72	41	23	33.6	9.50	33	791	350	99	250
36	6.95	6.72	45	21	30.7	10.50	28	701	420	170	250
46	6.95	6.88	43	-5	35.5	11.50	24	666	480	190	290
66	6.81	6.59	55	40	26.1	8.14	34	647	410	210	210

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	0.7	0.4	2.3	1.0	173	197	-	-	-
3	-	-	0.7	0.4	4.6	1.7	328	1070	-	-	-
5	-	-	0.7	0.5	5.6	1.9	309	1200	-	-	-
7	-	-	0.8	0.7	6.9	2.5	309	1330	-	-	-
9	-	-	0.8	0.7	7.5	2.8	273	1310	-	-	-
16	-	-	0.9	0.7	8.1	2.9	200	1410	-	-	-
26	-	-	0.8	0.8	7.1	2.9	127	1340	-	-	-
36	-	-	0.8	0.7	7.1	2.8	166	1240	-	-	-
46	-	-	0.8	0.8	7.4	2.9	120	1150	-	-	-
66	-	-	0.9	0.6	4.9	2.3	106	1240	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2810	2570	140	32	23	9.5	0.85
3	2750	2600	180	34	23	10.4	0.83
5	3260	3090	180	33	26	11.5	0.79
7	2560	2420	200	33	24	10.0	0.78
9	2570	2480	470	46	40	9.8	0.77
16	2720	2620	63	40	32	10.1	0.76
26	2550	2540	40	35	25	10.4	0.76
36	2790	2600	53	36	27	9.7	0.73
46	3130	2970	130	41	31	10.6	0.74
66	792	825	2	12	10	2.8	0.73

7809-V26C MT. VERNON 9/13/78 9.1 METERS DEPTH 130 METERS NORTH

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.17	7.08	280	18	7.9	0.58	18	304	260	220	42
3	7.00	7.24	130	18	15.1	1.68	68	758	270	150	120
5	7.02	7.00	86	14	21.3	3.09	56	842	350	180	170
7	7.19	6.91	33	9	23.5	4.25	44	749	290	100	180
9	7.17	6.93	43	23	23.6	5.05	44	774	370	160	210
16	6.93	6.84	79	15	27.6	6.78	41	769	450	230	220
26	6.96	6.83	56	10	26.0	7.14	39	752	450	240	220
36	6.96	6.77	62	36	22.3	6.90	36	684	390	210	180
46	6.93	6.77	73	26	18.4	6.98	37	738	320	180	140
66	6.98	6.84	72	16	16.4	7.33	36	673	460	330	130

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	164	109	-	-	-
3	-	-	-	-	-	-	382	734	-	-	-
5	-	-	-	-	-	-	491	1000	-	-	-
7	-	-	-	-	-	-	491	1000	-	-	-
9	-	-	-	-	-	-	455	1070	-	-	-
16	-	-	-	-	-	-	346	1150	-	-	-
26	-	-	-	-	-	-	273	1150	-	-	-
36	-	-	-	-	-	-	135	949	-	-	-
46	-	-	-	-	-	-	24	734	-	-	-
66	-	-	-	-	-	-	10	573	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.86
3	-	-	-	-	-	-	0.79
5	-	-	-	-	-	-	0.76
7	-	-	-	-	-	-	0.70
9	-	-	-	-	-	-	0.79
16	-	-	-	-	-	-	0.75
26	-	-	-	-	-	-	0.74
36	-	-	-	-	-	-	0.70
46	-	-	-	-	-	-	0.72
66	-	-	-	-	-	-	0.69

7809-V26D MT. VERNON 9/14/78 9.8 METERS DEPTH 185 METERS WEST

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.05	6.83	290	22	8.4	0.56	8	340	190	130	56
3	6.91	6.81	89	25	19.0	1.76	54	685	330	180	150
5	6.81	6.84	76	18	26.7	4.06	50	815	430	220	210
7	7.02	6.76	44	4	29.2	4.97	36	786	430	190	240
9	6.88	6.81	65	21	32.2	6.67	38	792	440	170	270
16	6.83	6.88	220	35	32.7	7.74	23	759	460	180	280
26	6.86	6.72	72	33	33.2	8.50	31	754	470	210	260
36	6.86	6.64	67	26	34.9	9.89	36	745	450	210	240
46	6.93	6.67	59	5	35.2	9.93	27	706	490	190	290
66	7.02	7.08	46	11	30.0	9.05	27	686	460	210	240

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	157	84	-	-	-
3	-	-	-	-	-	-	473	1040	-	-	-
5	-	-	-	-	-	-	710	1560	-	-	-
7	-	-	-	-	-	-	601	1410	-	-	-
9	-	-	-	-	-	-	437	1470	-	-	-
16	-	-	-	-	-	-	328	1410	-	-	-
26	-	-	-	-	-	-	144	1310	-	-	-
36	-	-	-	-	-	-	153	1310	-	-	-
46	-	-	-	-	-	-	155	1200	-	-	-
66	-	-	-	-	-	-	133	1130	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.87
3	-	-	-	-	-	-	0.81
5	-	-	-	-	-	-	0.77
7	-	-	-	-	-	-	0.73
9	-	-	-	-	-	-	0.74
16	-	-	-	-	-	-	0.74
26	-	-	-	-	-	-	0.77
36	-	-	-	-	-	-	0.70
46	-	-	-	-	-	-	0.71
66	-	-	-	-	-	-	0.70

7903-V26B MT. VERNON 8.8 METERS 3/22/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.99	-	420	93	5.4	0.36	1	287	-	-	-
3	7.06	-	97	64	8.3	1.47	23	388	-	-	-
5	7.10	-	63	26	15.8	2.65	22	508	-	-	-
7	7.24	-	20	16	19.7	3.56	25	516	-	-	-
9	7.19	-	27	5	22.9	4.05	13	492	-	-	-
16	7.06	-	34	12	24.0	5.22	22	558	-	-	-
26	7.01	-	39	22	29.6	5.78	25	562	-	-	-
36	6.99	-	44	19	25.3	5.51	22	542	-	-	-
46	7.03	-	55	32	20.3	5.50	23	585	-	-	-
66	7.08	-	49	27	18.0	5.55	29	483	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.5	0.62	0.5	0.1	1.8	0.7	13	1	5	-	-
3	0.5	0.04	0.6	0.2	2.4	0.8	220	480	458	-	-
5	0.6	0.67	0.7	0.2	3.8	1.3	371	829	759	-	-
7	0.6	0.37	0.9	0.2	5.0	1.6	431	1040	982	-	-
9	0.7	0.27	0.9	0.3	5.3	1.8	437	999	932	-	-
16	0.7	0.08	1.0	0.3	5.9	1.9	371	1270	939	-	-
26	0.6	0.00	1.0	0.3	6.1	2.0	306	1340	1280	-	-
36	0.6	0.00	1.0	0.3	5.5	1.8	193	1220	1140	-	-
46	0.6	0.02	1.0	0.3	4.1	1.6	35	754	723	-	-
66	0.5	0.02	1.3	0.3	2.8	1.4	14	688	586	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-

7903-V26D MT. VERNON 8.5 METERS 3/22/79

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.97	-	200	-	5.8	0.30	4	255	-	-	-
3	7.30	-	52	-	10.9	1.19	38	477	-	-	-
5	7.15	-	56	-	11.1	1.70	29	477	-	-	-
7	7.14	-	37	-	11.6	2.37	29	488	-	-	-
9	7.10	-	45	-	13.5	2.80	29	489	-	-	-
16	7.03	-	56	-	15.0	3.82	28	529	-	-	-
26	6.97	-	53	-	19.1	4.45	24	503	-	-	-
36	6.90	-	50	-	16.7	5.27	21	541	-	-	-
46	6.97	-	60	-	12.7	4.87	24	517	-	-	-
66	7.14	-	26	-	9.4	4.57	28	538	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	390.0	0.10	0.5	0.2	2.0	0.7	47	14	17	-	-
3	540.0	0.02	0.7	0.2	3.0	0.9	222	390	399	-	-
5	590.0	0.10	0.8	0.2	3.0	0.9	211	530	522	-	-
7	620.0	0.02	0.8	0.2	3.0	1.0	218	623	716	-	-
9	680.0	0.02	0.9	0.2	3.5	1.1	198	652	716	-	-
16	680.0	0.02	0.9	0.2	3.7	1.1	161	736	709	-	-
26	680.0	0.00	0.9	0.3	3.7	1.2	128	838	802	-	-
36	760.0	0.02	1.0	0.3	3.1	1.3	77	858	1130	-	-
46	760.0	0.02	1.0	0.3	3.0	1.1	36	754	788	-	-
66	850.0	0.02	1.0	0.3	2.3	1.0	-	-	687	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.80
3	-	-	-	-	-	-	0.78
5	-	-	-	-	-	-	0.75
7	-	-	-	-	-	-	0.73
9	-	-	-	-	-	-	0.74
16	-	-	-	-	-	-	0.73
26	-	-	-	-	-	-	0.74
36	-	-	-	-	-	-	0.72
46	-	-	-	-	-	-	0.70
66	-	-	-	-	-	-	0.68

7908-V26 MT. VERNON 8/3/79 8.8 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.80	-	170	-36	7.4	0.68	33	317	-	-	-
3	6.95	-	6	-42	12.3	1.43	38	650	-	-	-
5	7.14	-	25	-35	14.3	1.83	38	750	-	-	-
7	6.98	-	-34	-52	15.2	2.30	33	683	-	-	-
9	7.02	-	3	-51	14.8	3.00	16	733	-	-	-
16	6.86	-	28	-23	18.8	5.32	12	800	-	-	-
26	6.95	-	0	-35	22.8	7.95	12	783	-	-	-
36	6.97	-	-78	-33	23.5	7.81	12	783	-	-	-
46	6.90	-	-53	-20	17.5	6.55	10	733	-	-	-
66	6.88	-	-34	-42	13.3	6.24	10	717	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	1.2	0.16	0.8	0.2	2.2	0.9	72	17	-	-	-
3	0.8	-	0.9	0.3	3.2	1.3	242	380	-	-	-
5	0.8	-	0.9	0.3	3.7	1.4	258	493	-	-	-
7	0.6	-	0.9	0.3	3.9	1.4	271	570	-	-	-
9	0.8	-	0.9	0.3	3.7	1.2	280	613	-	-	-
16	0.6	-	0.8	0.4	4.2	1.4	268	811	-	-	-
26	0.8	-	1.0	0.5	5.2	1.8	195	863	-	-	-
36	1.0	-	1.0	0.5	5.4	1.8	195	928	-	-	-
46	0.8	-	1.0	0.4	3.3	1.4	40	578	-	-	-
66	0.7	-	1.1	0.4	2.2	1.1	15	527	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2420	-	91	36	26	8.9	0.86
3	2300	-	86	34	26	8.6	0.81
5	2040	-	71	33	26	7.5	0.76
7	2060	-	27	30	25	6.8	0.70
9	2200	-	190	31	27	7.8	0.67
16	2250	-	120	39	33	8.1	0.75
26	2140	-	120	41	38	8.0	0.75
36	2230	-	90	50	48	8.6	0.71
46	2050	-	130	39	37	8.1	0.70
66	1980	-	130	27	24	6.8	0.68

7805-V27 FT. FOOTE 5-30-78 9.4 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	6.90	-	200	-	9.8	0.79	4	-	190	88	110
3	7.04	-	42	-	20.8	3.29	23	-	330	120	210
5	6.88	-	44	-	23.0	4.32	16	-	340	120	220
7	6.69	-	47	-	23.6	4.02	20	-	340	110	230
9	6.95	-	37	-	22.8	5.52	18	-	370	120	240
16	7.04	-	27	-	26.6	6.26	13	-	380	150	230
26	6.94	-	36	-	28.3	7.85	13	-	380	120	260
36	6.91	-	44	-	28.2	7.87	15	-	380	110	260
46	7.02	-	42	-	26.2	8.92	25	-	380	120	260
66	6.89	-	39	-	21.0	8.35	26	-	340	140	200

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	163	93	87	-	-
3	-	-	-	-	-	-	564	1290	1230	-	-
5	-	-	-	-	-	-	510	1310	1280	-	-
7	-	-	-	-	-	-	491	1400	1370	-	-
9	-	-	-	-	-	-	455	1470	1490	-	-
16	-	-	-	-	-	-	328	1380	1350	-	-
26	-	-	-	-	-	-	291	1400	1400	-	-
36	13.0	-	-	-	-	-	237	1360	1320	-	-
46	-	-	-	-	-	-	182	1180	1140	-	-
66	-	-	-	-	-	-	66	1000	992	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.82
3	-	-	-	-	-	-	0.80
5	-	-	-	-	-	-	0.80
7	-	-	-	-	-	-	0.81
9	-	-	-	-	-	-	0.81
15	-	-	-	-	-	-	0.76
26	-	-	-	-	-	-	0.73
36	-	-	-	-	-	-	0.74
46	-	-	-	-	-	-	0.72
66	-	-	-	-	-	-	0.71

7805-V28 OFF BLUE PLAINS 5-30-78 8.2 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.01	-	29	-	10.7	0.90	13	-	210	110	100
3	6.92	-	26	-	26.8	2.90	14	-	460	280	180
5	6.86	-	28	-	29.4	4.63	22	-	440	200	240
7	6.76	-	35	-	22.7	5.93	31	-	280	75	210
9	6.77	-	37	-	22.7	7.69	27	-	300	72	220
16	6.97	-	17	-	34.7	39.30	32	-	430	75	350
26	7.02	-	7	-	38.7	43.60	17	-	430	64	360
36	6.93	-	9	-	43.9	54.80	41	-	470	79	400
46	6.92	-	17	-	49.2	69.40	45	-	560	82	470
66	6.98	-	4	-	54.3	78.90	58	-	590	100	490

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	0.7	0.2	3.0	1.0	182	376	350	-	-
3	-	-	0.8	0.5	6.9	2.4	1000	1450	1410	-	-
5	-	-	-	-	-	-	928	2060	2300	-	-
7	-	-	0.9	0.3	4.1	1.3	364	2150	2050	-	-
9	-	-	1.1	0.4	4.2	1.3	273	1500	1460	-	-
16	-	-	1.3	0.7	5.5	2.2	116	1310	1200	-	-
26	-	-	-	-	-	-	77	967	911	-	-
36	-	-	1.1	0.8	5.4	2.1	118	1400	1240	-	-
46	14.0	-	-	-	-	-	82	1330	1170	-	-
66	-	-	1.1	0.8	5.3	2.4	92	1160	1020	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	3220	3080	340	34	22	11.1	0.87
3	-	3210	320	32	17	12.0	0.85
5	-	3150	300	43	32	11.0	0.83
7	2720	2640	240	37	32	9.4	0.76
9	-	2570	260	39	31	10.2	0.77
16	-	2180	170	35	40	7.0	0.78
26	3220	3110	340	71	73	12.0	0.77
36	-	3040	310	71	78	11.5	0.78
46	-	3100	290	72	71	10.4	0.76
66	3920	3850	370	100	100	12.7	0.77

7819-V28A BLUE PLAINS 9/11/78 8.8 M DEPTH 45 M SOUTH OF BUOY 6

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.17	7.15	360	-20	8.7	0.83	14	402	180	110	68
3	7.31	7.23	26	-6	14.1	1.84	46	649	290	190	99
5	7.17	7.00	30	16	13.5	1.92	37	564	270	170	99
7	7.17	7.64	17	-42	14.3	2.44	33	482	300	210	97
9	6.98	-	27	-	17.0	3.40	33	634	280	170	110
16	7.24	-	-7	-	25.3	10.20	25	631	440	210	230
26	7.00	6.71	18	10	29.5	13.60	53	742	420	160	260
36	7.13	6.88	-6	-12	30.1	17.00	32	670	470	190	270
46	7.17	6.84	12	13	30.7	17.00	51	685	420	160	260
66	-	-	-	-	-	-	-	-	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	-	-	-	-	89	34	-	-	-
3	-	-	-	-	-	-	200	376	-	-	-
5	-	-	-	-	-	-	200	448	-	-	-
7	-	-	-	-	-	-	218	681	-	-	-
9	-	-	-	-	-	-	255	967	-	-	-
16	-	-	-	-	-	-	237	1040	-	-	-
26	-	-	-	-	-	-	49	663	-	-	-
36	-	-	-	-	-	-	29	537	-	-	-
46	-	-	-	-	-	-	16	537	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	-	-	-	-	-	-	0.72
3	-	-	-	-	-	-	0.65
5	-	-	-	-	-	-	0.59
7	-	-	-	-	-	-	0.45
9	-	-	-	-	-	-	0.45
16	-	-	-	-	-	-	0.47
26	-	-	-	-	-	-	0.58
36	-	-	-	-	-	-	0.76
46	-	-	-	-	-	-	0.72
66	-	-	-	-	-	-	-

7809-V288 BLUE PLAINS 9/12/78 7.9 M DEPTH 230 M WEST OF NRL

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.07	6.99	280	26	6.3	0.68	16	371	190	120	63
3	6.98	6.88	86	0	10.9	2.23	54	617	210	140	62
5	7.03	6.86	74	26	13.5	3.83	56	648	240	150	91
7	7.21	6.83	45	-6	14.1	5.12	44	635	300	200	100
9	7.05	6.74	46	11	15.9	7.82	61	671	300	-	-
16	7.17	6.91	28	4	21.9	11.60	53	667	380	190	190
26	7.08	6.71	31	-18	24.6	14.00	50	641	400	180	230
36	7.07	6.69	36	-10	27.0	16.30	57	661	360	140	220
46	7.10	6.81	31	3	24.8	14.90	52	609	370	170	200
66	6.91	6.64	47	19	23.7	12.50	54	644	390	200	200

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	-	-	0.9	0.2	1.9	0.9	102	73	-	-	-
3	-	-	0.7	0.2	2.6	1.0	167	537	-	-	-
5	-	-	0.9	0.3	2.9	1.1	102	466	-	-	-
7	-	-	0.9	0.4	2.7	1.1	58	430	-	-	-
9	-	-	0.9	0.3	3.0	1.2	45	448	-	-	-
16	-	-	1.0	0.4	3.2	1.4	35	430	-	-	-
26	-	-	1.1	0.5	3.4	1.5	24	519	-	-	-
36	-	-	1.0	0.5	3.3	1.6	18	537	-	-	-
46	-	-	0.9	0.5	2.6	1.4	13	466	-	-	-
66	-	-	0.9	0.5	2.9	1.5	9	591	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2630	2540	-	38	28	10.5	0.86
3	2820	2720	-	53	51	10.4	0.79
5	2790	2720	-	54	46	9.7	0.78
7	2870	2780	-	62	58	10.0	0.78
9	3190	3070	-	76	86	11.2	0.74
16	3100	3020	-	82	89	11.6	0.76
26	3050	2960	-	84	80	10.6	0.73
36	2650	2580	-	73	68	9.6	0.66
46	2170	2060	-	24	17	7.5	0.70
66	2400	2340	-	58	47	9.8	0.70

7908-V28 NAVAL RESEARCH LAB 8/3/79 8.5 METERS

- - - INTERSTITIAL WATER DATA - - -

DEPTH CM	PH	PH SED	EH MV	EH SED MV	ALK MEQ/L	NH4 MMOL/L	PO4 UMOL/L	SILICA UMOL/L	TOT C MG/L	ORG C MG/L	INORG C MG/L
1	7.02	-	150	-12	6.8	0.70	12	367	-	-	-
3	6.95	-	61	-13	10.7	2.75	16	600	-	-	-
5	7.00	-	51	-11	12.0	4.61	12	633	-	-	-
7	7.27	-	12	-29	13.0	5.70	10	667	-	-	-
9	7.21	-	29	-	16.2	9.70	10	650	-	-	-
16	7.19	-	7	-21	21.2	12.90	10	633	-	-	-
26	7.22	-	11	-22	24.4	14.90	10	600	-	-	-
36	7.14	-	20	-28	24.9	17.80	10	650	-	-	-
46	7.09	-	29	-35	23.2	17.10	10	583	-	-	-
61	7.05	-	34	-27	21.2	17.10	10	600	-	-	-

DEPTH CM	CL MMOL/L	SO4 MMOL/L	NA MMOL/L	K MMOL/L	CA MMOL/L	MG MMOL/L	MN UMOL/L	FE AA UMOL/L	FE FERRO UMOL/L	S-2 UMOL/L	S-2 ELECT UMOL/L
1	0.6	-	0.8	0.2	1.8	0.8	94	33	-	-	-
3	0.6	-	0.7	0.2	2.2	0.9	88	279	-	-	-
5	0.6	-	0.8	0.2	2.3	0.9	36	296	-	-	-
7	0.6	-	0.8	0.3	2.1	0.8	29	233	-	-	-
9	0.6	-	0.8	0.3	2.4	1.0	31	224	-	-	-
16	0.6	-	0.9	0.4	2.8	1.2	31	322	-	-	-
26	0.7	-	1.0	0.5	3.0	1.3	19	322	-	-	-
36	0.8	-	1.0	0.5	3.1	1.4	15	430	-	-	-
46	0.8	-	0.9	0.5	2.7	1.3	11	387	-	-	-
61	0.8	-	0.8	0.6	2.4	1.2	8	378	-	-	-

- - - SEDIMENT DATA - - -

DEPTH CM	TOT C UMOL/G	ORG C UMOL/G	TOT N UMOL/G	TOT P UMOL/G	INORG P UMOL/G	WT LOSS %	POROSITY
1	2750	-	-	49	41	10.0	-
3	3200	2840	-	73	66	10.7	-
5	2840	-	-	56	49	9.6	-
7	2790	-	-	60	53	9.3	-
9	2840	-	-	91	83	11.2	-
16	2820	-	-	94	88	11.0	-
26	3390	-	-	90	87	11.1	-
36	3100	2670	-	90	88	10.2	-
46	2770	-	-	62	57	9.8	-
61	2920	-	-	64	61	10.2	-