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1985 OPEN LAKE WATER QUALITY CONDITIONS FOR LAKE ERIE'S CENTRAL AND EASTERN BASINS

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16. ABSTRACT The 1985 Lake Erie surveillance/monitoring program consisted of eight central basin and five eastern basin surveys. Surveys were conducted from May through November, examining concentrations of conventional nutrients (e.g. phosphorus, nitrogen), dissolved oxygen, chloride, conductivity and several additional parameters.

The eastern basin offshore epilimnion waters indicated an oligotrophic water quality status while the central basin was found to be borderline between oligotrophic and mesotrophic. For many of the variables measured, no statistical difference in concentration was found between the surface waters of the two basins.

In contrast, the hypolimnion waters of the two basins were found to be very different in regards to oxygen content, oxygen depletion rates and the concentrations of the nutrients measured. The central basin hypolimnion oxygen concentrations declined to $<$2.0 mg/l by early August, reaching concentrations of $<$0.5 mg/l by late August and into September. The mean annual central basin calculated oxygen depletion rate was 3.7 mg/l/mo. This rate is slightly greater than those calculated in recent years. In response to the anoxic hypolimnion conditions, concentrations of phosphorus, ammonia and dissolved silica were greatly elevated, while nitrate + nitrite concentrations were reduced to near detection limits.

Eastern basin hypolimnion oxygen and nutrient concentrations did not undergo the dramatic seasonal fluctuations evident in the central basin. In fact, no significant difference was found between the epilimnion and hypolimnion for many of the variables measured.

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EXECUTIVE SUMMARY

The 1985 Lake Erie open lake surveillance/monitoring program followed the recommended study plan sanctioned by the Water Quality Board of the International Joint Commission, Great Lakes Regional Office. Eight surveys were conducted on the central basin and five on the eastern basin. Concentrations of oxygen, phosphorus, nitrogen, silica, chloride, chlorophyll, suspended solids and several additional parameters were determined. Detailed results and data interpretation are presented in this report.

The 1985 central basin data indicated a significantly longer stratified period than is generally recorded for the basin. The mean annual oxygen depletion rate calculated was 3.7 mg/l/month, which was slightly greater than rates recorded in recent years. By early August the hypolimnion waters contained less than 2 mg/l of dissolved oxygen. Anoxic conditions were present through much of late August and into September. The anoxia resulted in significant sediment regeneration of phosphorus into the overlying waters. In contrast, the epilimnion concentrations of phosphorus and chlorophyll were low through much of the stratified period.

The eastern basin data indicated an oxygen rich hypolimnion through the entire stratified period. Epilimnion and hypolimnion nutrient concentrations were similar and did not fluctuate significantly during the field season. The eastern basin epilimnion water quality is better than that recorded for the central basin however, the difference in phosphorus and chlorophyll concentrations is becoming less as a result of central basin improvements.

INTRODUCTION AND METHODS

PROGRAM OBJECTIVES

The open lake surveillance/monitoring program implemented during 1985 was designed specifically to comply with the Great Lakes Water Quality Agreement of 1978. The plan was developed in 1984 by the Lake Erie Task Force under the direction of the Surveillance Work Group and subsequently endorsed by the Water Quality Board of the International Joint Commission.

Under Annex 3 of the Agreement, two goals specific to Lake Erie concerning the phosphorus control program are put forward:

1. The restoration of year-round aerobic conditions in the bottom waters of the central basin of Lake Erie

2. The reduction in algal biomass.

Under Annex 11, the Agreement specifies the purpose of surveillance/monitoring activities, calling for a program designed to identify non-achievement of the Agreement objectives, evaluation of trends, and a program to provide baseline open lake data collection, sample analysis and evaluation. The current program provides the data necessary to comply with the open lake considerations of the Agreement.

Since 1973, the open lake surveillance/monitoring program has been focused on obtaining seasonal data for total phosphorus, corrected chlorophyll and dissolved oxygen. Total phosphorus and chlorophyll concentrations have been tracked as eutrophication indices for long term trend analysis and to evaluate the effectiveness of remedial actions designed to curb the eutrophication of the Great Lakes. Since one of the most serious results of eutrophication is the depletion of oxygen in the bottom waters, oxygen data is utilized to calculate hypolimnetic oxygen depletion rates. Ultimately, as the phosphorus and chlorophyll concentrations are reduced, the seasonal rate at which oxygen is depleted from the hypolimnion is expected to be reduced. In addition, several other limnological parameters have also been evaluated to help explain variations in parameter concentrations due to lake processes and for the development and refinement of lake models.

SAMPLING PROGRAM DESCRIPTION

Scheduling, sampling strategies, and parameters used for the 1985 open lake study conformed to the revised Great Lakes International Surveillance Plan (GLISP) developed by the Lake Erie Task Force (1986) under the Surveillance Work Group of the International Joint Commission.

Eight open lake surveys were conducted in the central basin during the 1985 field season beginning on May 15th and ending on November 15th. Survey dates and survey durations are presented in Table 1. Due to the stability and less eutrophic nature of the eastern basin, relative to the central basin, only five surveys were conducted in this basin. A total of 14 stations were located throughout the central (n=10) and eastern (n=4) basins (Figure 1). A listing of the geographic coordinates, bottom depths and basin designations are presented in Table 2.

METHODS

A summary of the methods employed for the 1985 season can be seen in Table 3. A detailed description of the methods are presented in Letterhos (1982). A copy of this methods manual is on file with the IJC Great Lakes Regional Office, Windsor, Ontario and with US-EPA Region V, Chicago, Illinois as well as with the Center for Lake Erie Area Research, Columbus, Ohio.

During the 1985 field season, three forms of phosphorus, three forms of nitrogen and dissolved silica were measured at all stations and depths within the central and eastern basin representative areas. The soluble nutrients were examined within 12 hours of filtration while the remaining forms were analyzed after returning to the land based laboratory.

DATA ANALYSIS

Raw data analysis was accomplished utilizing Biomedical Computer Programs (BMDP) that calculate limnion means and medians with the appropriate variance statistics. Analyisis of data over the last few years has indicated that medians are the most relevant indicator of the actual conditions in Lake Erie. Generally, mean and median values are very similar, however, when extremely high or low values are encountered (i.e., during anoxic conditions) and account for only a small percent of the data set (< 10%), the median value best illustrates the overall data being presented.

A modified version of the notched block plot (Reckhow, 1980) as explained in Figure 2 is used to present seasonal concentrations. The median point is not usually in the center of the box indicating that several high values are skewing the means upward. Tables for the central and eastern basins are presented with the limnion means and medians for those who find it difficult to adjust to the use of medians (Tables 4 and 5).

Volume weighted data for nutrients, chlorophyll and dissolved oxygen that are presented in Tables 6 - 9 are derived from the Survey 8 volume weighting program (Hanson et al,1978). Dissolved oxygen depletion rate calculations were made following the procedure that adjusts for vertical mixing (Rosa and Burns, 1986). Additional rate calculations, adjusting for temperature, hypolimnion thickness, an initial dissolved oxygen were provided by F. Rosa (CCIW-NWRI).

BMDP programs were also used to examine the relative significance when comparisons were made between data sets. This type of analysis was carried out for inter and intra basin comparisons.

QUALITY CONTROL

A quality control program is routinely followed for all pertinent parameters, constituting approximately ten percent of the total sampling effort. This program utilizes a series of known standards, duplicates and spikes, as suggested by the International Joint Commission, to monitor accuracy and precision and to provide estimates of standard deviations.

A detailed description of the quality control program (Quality Assurance Project Plan - Open Lake Surveillance Monitoring Program; May 1, 1985 to June 30, 1986) is on file with the U.S. Environmental Protection Agency - Great Lakes National Program Office and Quality Assurance Office.

PHYSICAL DATA

Lake Erie is comprised of three basins (western, central, and eastern) which are unique both physically and chemically, with much of their unique nature attributed to their distinct individual morphologies. Lake Erie in itself is unique among the Great Lakes. The Great Lakes all have mean depths greater than 60 meters, while Lake Erie has a mean depth of less than 20 meters. In particular, the central basin has a mean depth of only 18.5 meters making it extremely susceptible to the effects of eutrophication, which in this case has resulted in extensive anoxic hypolimnion conditions.

The central basin is just deep enough to form and maintain a stable hypolimnion through the summer months but not of sufficient depth to establish a hypolimnion which has an adequate oxygen reserve. Due to the increase in oxygen demand rates over time (from 1929 through the mid 1970's), periods of hypolimnion anoxia have been routinely reported since the early 1960's (Rathke 1984). The degree/duration of the anoxic period is largely dependent upon the annual hypolimnion oxygen reserve which is governed by the annual variability in hypolimnion thickness and temperature.

The thickness of the hypolimnion is a major consideration when developing a hypolimnion oxygen budget. The establishment and subsequent seasonal changes in the thermocline thickness are attributed to meteorological conditions and events which take place during the spring and through the stratified period. Since the initial quantity of oxygen found in the hypolimnion during formation serves as a reservoir for the remaining stratified season, seasonal changes in hypolimnion volume (both increases and decreases) are of critical importance to the seasonal changes in hypolimnion oxygen concentrations.

The water temperature also has a significant effect on the hypolimnion oxygen budget. The temperature during initial hypolimnion formation largely determines the initial oxygen concentration. Prior to the on-set of thermal stratification, spring dissolved oxygen concentrations throughout the water column are generally greater than 100% saturation. Hypolimnion temperatures continue to exert a physical influence on the concentration as they increase through the stratified period. In addition, the bottom water temperatures also effects the rate of biological metabolic activity (Q10) which is associated with hypolimnion oxygen consumption. Since the central basin hypolimnion temperature is known to increase as much as 10 °C through the stratified period, temperature is an important factor effecting the depletion of oxygen.

The concerns about the central basin hypolimnion oxygen do not apply to the eastern basin. Since the hypolimnion is generally 4 to 5 times thicker than the central basin, the eastern basin oxygen reservoir is significantly greater. This, in addition to the fact that the eastern basin oxygen demand rate is one-fifth that of the central basin, explains why oxygen concentrations do not reach critical levels (< 5.0 mg/l) in the eastern basin. The eastern basin hypolimnion thickness and temperature information is being presented only for comparison purposes.

THERMAL STRUCTURE

CENTRAL BASIN. The on set of thermal stratification in the central basin was first observed on May 1st (David Rockwell, personal communication) and remained stratified through September 21st. The observed stratified period spanned 144 days, approximately 33 days longer than the average annual stratified period. Stable stratification generally is not established before late May and frequently the central basin destratifies by mid-September. Thus the 1985 stratified period was protracted both during the spring and fall.

A mean hypolimnion thickness of 8.4 meters was observed during the first survey (May 15th) after which the hypolimnion thickness decreased throughout the remaining season. One exception was noted between Surveys 3 (July 2) and 4 (July 24) when an increase of 1.6 meters occurred. The basin remained partially stratified through Survey 7 (September 19 - 21) but the stratified area was limited in geographical expanse. Central basin hypolimnion thickness data is presented in Table 6 and Figure 3 and contours are presented in Appendix C.

EASTERN BASIN. The observed eastern basin stratified period extended from July 2 through September 19, an observed period of only 80 days. The actual stratified period generally ranges from 145 to 170 days, however, due to the limited eastern basin survey schedule the observed period was much shorter than the probable period.

The mean hypolimnion thickness was observed to be greatest during Survey 3 (July 2) at 17.8 meters. The hypolimnion thickness decreased by 3.9 meters between the early July and early August survey and then increased in thickness by 2.8 meters between the early August and mid September survey. Hypolimnion thickness data is presented in Table 7 and Figure 4 and contours are presented in Appendix C.

TEMPERATURE PATTERNS

The seasonal temperature pattern characteristic of the central and eastern basin is very similar. The most striking difference is in the initial spring warming and the fall cooling cycle. The shallower central basin warms sooner and cools faster than the deeper eastern basin. A comparison of the mean annual epilimnion temperature indicated no significant difference between the two basins.

EPILIMNION TEMPERATURE (°C)

	CENTRAL BASIN	EASTERN BASIN
N	225	57
MEAN	17.82(ST.ERR 1.62)	15.46(ST.ERR 3.32)
MIN	10.87	4.42
MAX	22.27	21.54
ST.DEV	4.59	7.42

No significant difference between these basins at $\alpha = 0.1$.

In contrast, the central and eastern basin hypolimnions did show a significant difference in the mean annual temperatures as would be expected from the difference in the basin morphologies.

HYPOLIMNION TEMPERATURES (°C)

	CENTRAL BASIN	EASTERN BASIN
N	84	33
MEAN	12.68(ST.ERR 1.16)	5.73(ST.ERR 0.29)
MIN	7.45	5.20
MAX	15.70	6.90
ST.DEV	3.08	0.50

There is a significant difference between these basins at $\alpha = 0.1$.

CENTRAL BASIN. The epilimnion waters warmed throughout the stratified season (Figure 5) with the largest average daily temperature increase occurring during late June:

SURVEY INTERVAL	TEMPERATURE	DAYS	TEMP/DAY
May 16 - June 12	+ 4.1	28	+ 0.150
June 12 - July 3	+ 4.4	22	+ 0.200
July 3 - July 24	+ 3.3	22	+ 0.150
July 24 - August 7	- 0.3	15	- 0.020
August 7 - August 28	+ 0.4	22	+ 0.018
August 28 - September 20	- 1.4	24	+ 0.058
September 20 - November 14	- 8.7	54	- 0.160

By the September 19-21 survey, a portion of the basin had destratified, decreasing the hypolimnion area from 4,000 km2 during Survey 6 to 2,000 km2 during Survey 7 (Table 6). The destratification or the mixing of mesolimnion and hypolimnion into the existing epilimnion explains the slight decrease (1.4°C) in epilimnion temperature (Figure 5).

The central basin mesolimnion also warmed consistently throughout the stratified season, the only exception involved an observed mesolimnion temperature reduction during Survey 7 (September 20). An incorporation of hypolimnion waters into the mesolimnion as part of the destratification process may have contributed to the slight cooling.

The mean hypoli ion temperature steadily increased through the stratified period (Figure 6). The temperature increased from 7.5 °C (recorded on May 16) to 17.4 °C (on September 20th) at an increase of 9.9 °C over the 144 days (0.06875 °C/day).

The stability of the thermal structure varied seasonally. The difference between mean epilimnion (Te) and mean hypolimnion temperatures (Th) indicates the durability of stratification. This simplification of stratified layer stability is based on the fact that density is temperature dependent. To determine precise stability values it is necessary to calculate the difference in density resulting from the different temperatures in the epilimnion and hypolimnion. The calculation of stability must also include sounding depth and thermocline depth according to Schmidt's formula for the stability of stratification (Ruttner, 1963). The simplified determination of stratification stability is as follows:

SURVEY	SURVEY MID POINT	(Te - Th) (°C)
1	May 16	3.2
2	June 12	5.6
3	July 3	6.7
4	July 24	8.1
5	August 7	7.9
6	August 28	6.8
7	September 20	3.6

The most stable thermal stratification occurred during Survey 4 (late July) and 5 (early August).

EASTERN BASIN. The epilimnion warmed between Surveys 3 (July 3) and 5 (August 7) and exhibited slight cooling between Surveys 5 (August 7) and 7 (September 20):

SURVEY INTERVAL	TEMPERATURE	DAYS	TEMP/DAY
July 3 - August 7	3.4	36	+ 0.09
August 7-September 20	- 1.1	45	- 0.02

The warming of the epilimnion occurred at a much slower rate (+ 0.09 °C/day) in the eastern basin than in the central basin (+ 0.15 to + 0.20 °C/day) (Figure 7).

The mesolimnion and the hypolimnion both warmed consistently throughout the season. The mesolimnion warmed from 10.1 °C to 13.8 °C while the hypolimnion increased from 4.7 °C (July 3) to 6.0 °C (September 20th). The measured hypolimnion temperature increase (Figure 8) was 1.3 °C or 13.1% of the observed central basin increase (9.9 °C). The warming of 1.3 °C over the 80 day observed stratified period represents a daily hypolimnion warming of 0.01625 °C.

The stability of eastern basin stratification also varied through the season as was noted for the central basin. The difference between the mean epilimnion (Te) and the mean hypolimnion temperature (Th) is as follows:

SURVEY	SURVEY MID POINT	(Te - Th) (°C)
3	July 3	13.5
5	August 7	16.4
7	September 20	14.5

Using this criteria to demonstrate stability, the eastern basin thermal regime is 2 times more stable than the central basin. The combination of a thick hypolimnion water mass and the stability of the temperature differential help explain the longer duration of eastern basin stratification.

DISSOLVED OXYGEN

The surface waters of Lake Erie remain well oxygenated throughout the year with very little difference evident between basins. A comparison of the mean annual epilimnion dissolved oxygen concentrations indicated that there was no significant difference between the basins. When differences do appear they can generally be attributed to temperature or photosynthetic production.

EPILIMNION DISSOLVED OXYGEN CONCENTRATIONS (MG/1)

	CENTRAL BASIN	EASTERN BASIN
N	225	57
MEAN	9.39(ST.ERR 0.56)	9.96(ST.ERR 0.84)
MIN	7.49	8.23
MAX	12.57	13.08
ST.DEV	1.57	1.88

No significant difference between these basins at $\alpha = 0.1$.

As would be expected, a significant difference did exist between the mean annual hypolimnion dissolved oxygen concentrations for the two basins. Since the central basin hypolimnion storage capacity and depletion rate are very different from the eastern basin, the resulting concentrations would also greatly differ.

HYPOLIMNION DISSOLVED OXYGEN CONCENTRATIONS (MG/l)

	CENTRAL BASIN	EASTERN BASIN
N	84	33
MEAN	4.64(ST.ERR 1.60)	9.24(ST.ERR 0.92)
MIN	0.2	7.47
MAX	12.11	10.55
ST.DEV	4.45	1.59

There is a significant difference between these basins at $\alpha = 0.1$.

CENTRAL BASIN. The epilimnion dissolved oxygen (DO) concentration decreased from 12.3 mg/l (May 16) to a minimum of 8.3 mg/l (August 28). The decrease in concentration is attributed to decreased solubility of oxygen in water as the temperature increases through the summer. Although the concentration decreased 4 mg/l throughout the season, the DO did not drop below 93% saturation (Tables 4 and 7).

The hypolimnion DO decreased from 11.9 mg/l on May 16 to 0.33 mg/l on August 28 (Figure 9). Between August 28th and September 20th a partial destratification of the hypolimnion occurred leaving the remaining hypolimnion region anoxic (0.1 mg/l). Unlike the epilimnion, the hypolimnion DO % saturation decreased continually throughout the stratified season reaching a median low of 0.5% during the late September survey (Figure 10).

Dissolved oxygen depletion rates (adjusted for vertical mixing) were calculated for each stratified survey interval. The Adjusted Oxygen Depletion Rates for the stratified period are as follows:

SURVEY INTERVAL	DAYS	DAILY RATE MG O2/L/DAY	MONTHLY RATE MG O2/L/MO
MAY 16 - June 12	28	0.150	4.51
June 12 - July 3	22	0.173	5.19
July 3 - July 24	22	0.110	3.30
July 24 - August 7	15	0.184	5.52
August 7 - August 28	22	0.134	4.02
August 28 - September 20	24	0.015	0.45

The 1985 rates presented in Figure 11 indicated two major deviations from a seasonally uniform rate. First, the rate decreased during the July interval. This is consistent with the documented increase in hypolimnion volume, hypolimnion area and quantity of oxygen over the previous interval. Second, the rate for the last stratified interval decreased dramatically. Due to the lack of oxygen present in the hypolimnion during the last interval, the rate at which oxygen can be lost naturally decreases.

An additional set of calculations was prepared (Corrected O2 Depletion Rates) that adjusts the depletion rates for temperature, hypolimnion thickness, and seasonal variation. This calculation procedure was employed by Rosa and Burns (1986) when they calculated the central basin representative region's depletion rates for 1929 through 1984 (Figure 12). Using the 1985 CLEAR data base, Rosa calculated the annual mean depletion rate applying the corrections previously mentioned. The late August to September rate was not included in this mean since it does not represent normal conditions. The 1985 mean rate was 0.124 mg/l/day or 3.73 mg/l/mo. This rate was included in Figure 12 with rates calculated over the historcal record. Clearly, the 1985 rate was one of the highest depletion rates calculated in recent years. The reason for the high 1985 rate is not apparent. It is thought that the extremely windy conditions encountered throughout the field season, resulted in the repeated resuspension of oxygen demanding sedimented material into the hypolimnion waters, thereby accelerating the 1985 rate.

The 1985 Corrected O2 Depletion Rates are as follows:

SURVEY INTERVAL	DAYS	DAILY RATE MG O2/L/DAY	MONTHLY RATE MG O2/L/MO
May 16 - June 12	28	0.150	4.50
June 12 - July 3	22	0.120	3.60
July 3 - July 24	22	0.093	2.79
July 24 - August 7	15	0.153	4.59
August 7 - August 28	22	0.110	3.30

During the 1983 and 1984 field season, oxygen depletion rates were calculated only for the month of July due to a modified survey plan (Rathke and Fay 1984). The adjusted depletion rate calculated for the mid summer (July) of 1985 was 0.110 mg/l/day or 3.3 mg/l/mo. The 1985 rate is slightly higher than those found in the preceeding two years, 2.92 and 3.16 mg/l/mo (1983 and 1984 respectively), however it was the lowest 1985 interval rate and well below the mean rate. As is evident from Figure 11, the depletion rate changes during each interval throughout the season, thus using a rate based upon a single interval, i.e. July, is not a reliable means for tracking oxygen depletion rate trends.

EASTERN BASIN. Typically, the eastern basin exhibits an orthograde vertical profile through most of the summer. As the stratification process extends into September the hypolimnion oxygen concentrations decrease to a level below those in the epilimnion however, never reaching critical levels (Table 7 and Figure 13).

SURVEY MID POINT	DISSOLVED OXYGEN CONCENTRATIONS *		
	EPILIMNION	MESOLIMNION	HYPOLIMNION
July 2	9.5	10.2	10.4
August 7	8.8	8.9	10.0
September 20	8.3	6.6	7.8

* = Survey 8 Volume Weighted Concentrations

The epilimnion oxygen concentration decreased 1.2 mg/l between July 2 and September 20th, while the hypolimnion concentration decreased by 2.6 mg/l over the same period. This hypolimnion decrease represents a decline of only 25% compared with the dissolved oxygen loss recorded for the central basin hypolimnion. As evident by the recorded concentrations, oxygen depletion is less severe in the eastern basin than in the central. This is reflected in the levels of DO saturation. The lowest observed median percent DO saturation for the eastern basin (63%) occurred during the September 20th survey (Figure 14).

Adjusted dissolved oxygen depletion rates were also calculated for the eastern basin according to the technique of Rosa and Burns (1986). The depletion rate for the 1985 mid summer period (July) was 0.0225 mg O2/l/day or 0.68 mg O2/l/mo. Rates for the early (July) and late (August - September) intervals were approximately 100% different with the latter portion of the summer having the higher rate. The eastern basin rate is approximately 20% of the rate calculated for the central basin. In other words, the central basin depletes oxygen at a rate 500% faster than the eastern basin. Adjusted oxygen depletion rates for the stratified period are as follows:

SURVEY INTERVAL	DAYS	DAILY RATE MG O2/L/DAY	MONTHLY RATE MG O2/L/MO
July 3 - August 8	36	0.0225	0.68
August 8 - September 20	45	0.0495	1.48

The historical record of dissolved oxygen depletion rates for the eastern basin is not as complete as the historical record for the central basin. The data available since 1970 has been compiled and is presented in Figure 15. The rate calculated for the eastern basin mid summer period (July) during the 1970 Lake Erie Study (Burns and Ross, 1974) was 1.47 mg O2/l/mo. This 1970 rate is very similar to the 1.48 mg O2/l/mo calculated for the 1985 late summer period (August - September) but almost twice the rate calculated for the 1985 mid summer period (0.68 mg O2/l/mo) (Figure 15). As was discussed earlier, a definite seasonal pattern is apparent from the interval calculations and may differ from year to year.

WATER QUALITY PARAMETERS

Since 1970 the open lake surveillance/monitoring program has routinely measured forms of phosphorus and nitrogen, chlorophyll, pH, alkalinity, conductivity, and chloride. In addition, dissolved silica and suspended solids have also been measured but not as routinely. The information base has been used to track trends over the period of record as well as aid in the development of ecosystem models. The following presentation provides a summary and limited interpretation of the 1985 data base.

NUTRIENTS

PHOSPHORUS. Phosphorus concentrations (total, total filtered and soluble reactive) were routinely measured on all surveys. Trends in total phosphorus concentrations are used to evaluate the success of the remedial action plans designed to reduce phosphorus loading to Lake Erie. Figure 16 presents the central basin median total phosphorus concentrations through the field season. Seasonal changes are evident for both the epilimnion and the hypolimnion with a definite upward concentration shift occurring during the end of the stratified season.

The fractions comprising total phosphorus also demonstrate substantial shifts during the field year. Together, the total filtered (dissolved) fraction and the particulate phosphorus fraction comprise total phosphorus, with each fraction contributing a variable percentage. The relationship between these two fractions is dependent upon the quantity of organic and inorganic material suspended in the water column. Figure 17 shows the seasonal changes in the central basin epilimnion and hypolimnion phosphorus concentrations and percent contribution of the two fractions. The percent contribution by the dissolved and particulate fractions shifted back and forth through the field season with each form contributing 50% +-10%.

Total filtered and soluble reactive phosphorous provide information on the amount of phosphorus most readily available for biological processing. Epilimnion and hypolimnion concentrations remain fairly stable until late in the summer at which time they increase and continue to increase through fall turnover (Survey 7, September 20), (Figure 18).

The greatest seasonal changes in phosphorus concentration took place in the hypolimnion. Central basin hypolimnion phosphorus concentrations also remained fairly stable through Survey 5 but due to the development of anoxic conditions, the concentrations increased four fold during the interval between Surveys 5 and 6 (Figures 16 and 18). This anoxic regeneration of sediment bound phosphorus increased the hypolimnion total phosphorus concentrations from 23 ug/l to nearly 100 ug/l in a twenty day period. As is evident by the percent contribution of the dissolved and particulate fractions (Figure 17), regeneration of the soluble phosphorus dominated the increase in concentration.

Not only did the anoxic regeneration of phosphorus result in a concentration increase, but more importantly it resulted in doubling the quantity of total phosphorus found in the entire central basin sampling region. Between Surveys 5 and 6 the metric tons (MT) of phosphorus increased from 1205 to 2503 (Figure 19, Table 9) which means an internal loading of 1300 MT occurred during the interval. Considering that the volume of the representative region accounts for approximately 33% of the central basin, a conservative estimate of the total internal loading to the basin would be at least 2600 MT.

By mid-November (Survey 8), phosphorus concentrations had reached a seasonal peak. Since fall turnover was nearly complete by Survey 7, the further increase between Surveys 7 and 8 was due to storm induced resuspension of unconsolidated sediments. Figure 17 shows the shift to a particulate phosphorus dominated fraction during Survey 7. The total quantity of phosphorus increased to over 2800 MT which was 2.5 times the quantity recorded during the mid-May Survey (1).

The eastern basin phosphorus concentrations followed a pattern more typical for the Great Lakes (Figure 20). Concentration differences between the epilimnion and the hypolimnion for all the phosphorus forms measured were minimal (Figures 20 and 21). During the three stratified surveys the concentrations were fairly uniform (7 to 10 ug/l). Both the first and last surveys (unstratified) also had very similar concentrations (11.7 ug/l and 11.3 ug/l respectively) but were somewhat higher than the summer values. The percent contribution of the soluble and particulate fractions were close to 50% $\pm$ 10% for both limnions. Only during Survey 5 (August 7) did this pattern deviate when particulate phosphorus increased to 80% of the total. This trend is supported by the volatile solids fraction comprising 70% of the total solids (Figure 22).

Annual mean epilimnion total phosphorus concentrations indicate a significant difference between the central and eastern basins. Due to the near proximity of the central basin to the major external phosphorus loading sources and the pronounced sediment interactions characteristic of the basin, central basin concentrations would be expected to be greater than the eastern basin.

EPILIMNION TOTAL PHOSPHOROUS CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	217	54
MEAN	12.63(ST.ERR 0.39)	10.15(ST.ERR 0.41)
MIN	3.8	6.4
MAX	34.5	22.4
ST.DEV	5.86	3.03

There is a significant difference between these basins at $\alpha = 0.1$.

Hypolimnion concentration were also found to be significantly greater in the central basin than the eastern. This was primarily due to the central basin anoxic phosphorus regeneration which occurred during the latter portion of the stratified period.

HYPOLIMNION TOTAL PHOSPHORUS CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	81	22
MEAN	34.4(ST.ERR 6.55)	9.62(ST.ERR 0.37)
MIN	4.9	6.2
MAX	316.0	12.6
ST.DEV	58.97	1.74

There is a significant difference between these basins at $\alpha = 0.1$.

NITROGEN. Three forms of nitrogen were measured during the 1985 field season; nitrate plus nitrite, ammonia and total kjeldahl nitrogen. The total kjeldahl nitrogen data reported represents total dissolved organic nitrogen plus dissolved ammonia. Both nitrate plus nitrite and ammonia have been measured routinely since 1970. Kjeldahl nitrogen has been less consistently measured over this period.

As with phosphorus, the rationale for the measurement of nitrogen forms is to enable the development of trend data and for the calibration of ecosystem models. Unlike phosphorus, sources of nitrogen in the lake include a large atmospheric contribution as well as agricultural and municipal. This coupled with the numerous biological and chemical transformations associated with the forms make nitrogen a very difficult nutrient to quantify.

Central basin nitrate plus nitrite, ammonia and total kjeldahl nitrogen all indicated significant concentration differences between the epilimnion and hypolimnion. Seasonal fluctuations were also evident for each of the nitrogen forms. In general, the epilimnion concentrations were most stable, showing only modest changes through the field season. This was most clearly evident with the ammonia nitrogen data, having a mean concentration of 7.4 ug/l $\pm$ 3.9 ug/l for the season. Since ammonia is considered to be the preferred nitrogen form for phytoplankton, these low concentrations would be expected. Epilimnion nitrate plus nitrite concentration were also uniform until mid-September when the concentration decreased. This decline coincided with a doubling of the chlorophyll concentrations, indicating possible biological uptake. Epilimnion kjeldahl nitrogen concentrations were more erratic than ammonia or nitrate plus nitrite, possibly reflecting changes in the plankton populations (Figure 23).

Hypolimnion concentrations of ammonia and nitrate plus nitrite indicated a gradual increase through Survey 5. Between Surveys 5 (August 7) and 6 (August 28) oxygen concentrations decreased sufficiently to create reducing conditions in the hypolimnion which persisted through the remaining stratified period (Survey 7, September 20). As a result, nitrate plus nitrite concentrations were reduced to detection limits while ammonia concentrations were greatly increased due to regeneration from the sediments. During this same period the kjeldahl nitrogen concentrations increased to peak levels. An actual increase in organic nitrogen was indicated between Surveys 5 and 6, but a decrease was evident from Surveys 6 to 7 (Figure 23).

The forms of nitrogen measured in the eastern basin epilimnion were found to have similar seasonal patterns as were described for the central basin (Figure 24). Ammonia concentrations remained close to detection limits, nitrate plus nitrite were steady following a spring maximum and kjeldahl nitrogen peaked with chlorophyll. Since the eastern basin hypolimnion remains well oxygenated throughout the summer and reducing conditions do not develop, the forms of nitrogen measured in the hypolimnion do not fluctuate as was the case for the central basin hypolimnion.

The annual mean epilimnion concentrations of nitrate plus nitrite and ammonia were not significantly different for the two basins.

EPILIMNION NITRATE PLUS NITRITE CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	222	57
MEAN	185.95(ST.ERR 18.5)	210.22(ST.ERR 20.94)
MIN	121.5	174.3
MAX	283.4	288.0
ST.DEV	52.31	46.83

No significant difference between these basins at $\alpha = 0.1$.

EPILIMNION AMMONIA CONCENTRATIONS (UG/l)

	CENTRAL BASIN	EASTERN BASIN
N	200	57
MEAN	10.2(ST.ERR 2.29)	6.72(ST.ERR 2.13)
MIN	2.10	2.00
MAX	21.33	14.7
ST.DEV	6.48	4.78

No significant difference between these basins at $\alpha = 0.1$.

In contrast, the annual hypolimnion mean concentrations were significantly different for the two basins. The concentration differences between the two basins were due to the anoxic conditions which developed in the central basin. As was previously discussed, central basin nitrate plus nitrite levels are reduced nearly to the detection limit while ammonia concentrations increase dramatically.

HYPOLIMNION NITRATE PLUS NITRITE CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	81	33
MEAN	178.41(ST.ERR 38.76)	346.8(ST.ERR 15.4)
MIN	2.5	319.5
MAX	262.6	372.8
ST.DEV	102.55	26.67

There is a significant difference between these basins at $\alpha = 0.1$.

HYPOLIMNION AMMONIA CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	82	33
MEAN	62.31(ST.ERR 29.62)	8.50(ST.ERR 0.21)
MIN	6.7	8.1
MAX	228.3	8.80
ST.DEV	78.37	0.36

There is a significant difference between these basins at $\alpha = 0.1$.

DISSOLVED SILICA. Dissolved silica serves as an important nutrient for diatom populations in Lake Erie. Diatoms contribute up to 80% of the phytoplankton biomass during much of the year (Munawar and Munawar, 1970), with the major population base present during the spring and fall. In both the central and eastern basins the concentrations measured in the epilimnion were consistently below 500 ug/l, indicating a depletion and continual demand through the field season (Figures 25 and 26). Hypolimnion concentrations showed a marked increase through the stratified period. The increase noted for the first four central basin surveys and the entire eastern basin season was due primarily to dissolution of diatom frustules. The rapid concentration increase evident through August and September was a result of anoxic regeneration from the sediments. An increase in the water column dissolved silica concentration was expected following turnover (Survey 8), however no increase was evident. During Survey 7 (September 20) there was approximately 55,000 metric tons (MT) of dissolved silica in the entire water column and approximately 44,000 MT during Survey 8 (November 19). Over the survey interval (7 to 8) 10,000 MT were lost from the system, which is attributed to biological uptake.

As was evident with both phosphorus and nitrogen, mean annual epilimnion concentrations of dissolved silica show no significant difference between basins.

EPILIMNION SOLUBLE SILICA CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	219	57
MEAN	376.29(ST.ERR 70.93)	326.86(ST.ERR 62.56)
MIN	120.30	219.80
MAX	819.00	555.8
ST.DEV	200.62	139.89

No significant difference between these basins at $\alpha = 0.1$.

Mean annual hypolimnion concentrations were significantly different. As with the other nutrients discussed, the central basin concentrations increased substantially during the anoxic period.

HYPOLIMNION SOLUBLE SILICA CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	81	33
MEAN	2246.49(ST.ERR 670.78)	733.40(ST.ERR 133.11)
MIN	320.7	553.2
MAX	4740.8	993.2
ST.DEV	1774.71	230.55

There is a significant difference between these basins at $\alpha = 0.1$.

ANOXIC REGENERATION OF NUTRIENTS. The first documented accounts of extensive oxygen depletion of the central basin hypolimnion were during the late 1950's and early 1960's, however, anoxic conditions likely existed many years before (Rathke 1984). Due to the shallow nature of the basin, the mean annual hypolimnion thickness is rarely over five meters and is frequently closer to three. As a result, the reservoir of oxygen contained in the hypolimnion is not sufficient to supply the demand encountered over the stratified period. Consequently, by the latter portion of the stratified period (mid to late August) the oxygen reservoir has been depleted.

Two important consequences result from the central basin becoming anoxic. First, an extensive benthic region is made uninhabitable for organisms requiring oxygen levels greater than 2 mg/l. This is particularly important for oxygen dependent benthic organisms having a life cycle that would be interrupted and/or eliminated by anoxic conditions. This in turn adversely effects other organisms such as bottom feeding fish. Second, the development of reducing conditions (0.0 mg/l dissolved oxygen) results in a very significant pulse of nutrients being released from the sediments and interstitial waters. Figures 27 and 28 illustrate the dramatic increase in concentrations of phosphorus, silica and ammonia once the oxygen levels have been depleted. The critical issue involves the increased internal loading of these primary nutrients. The exception to this should be pointed out, nitrate + nitrite concentrations reach levels below detection limits during this time due to the reducing conditions.

Thus, once fall turnover has taken place these nutrients freely mix throughout the water column and become available to the plankton community. For example, between the first survey in May and the fifth survey in early August concentrations and quantities of total phosphorus and chlorophyll changed only slightly but following turnover (survey 7) a dramatic increase was evident.

DATE	SURVEY	WHOLE WATER COLUMN		HYPOLIMNION
		TOTAL PHOSPHORUS (UG/L) (MT)	CHLOROPHYLL (UG/L) (MT)	DISSOLVED OXYGEN (MG/L)
MAY	1	10.0 (1128)	2.3 (254)	11.9
AUGUST (EARLY)	5	10.2 (1205)	2.8 (316)	1.8
AUGUST (LATE)	6	22.4 (2503)	2.4 (269)	0.2
SEPTEMBER	7	19.5 (2169)	5.9 (655)	3.6

As is indicated by this table, a substantial increase in chlorophyll results from the mixing of previously sediment bound nutrients (anoxic regeneration) into the overlying water column during the fall. This process aids in replenishing the supply of oxygen demanding organic material, further contributing to the central basin oxygen depletion problem. The anoxia induced internal loading cycle will be interrupted only if the measures to further reduce external nutrient sources are successful.

PARTICULATES

In order to determine the quantity of particulate material suspended in the water column, measurements of total suspended solids, residual solids, volatile solids and chlorophyll were measured at all stations and depths. Information from total suspended solids can be divided into the organic fraction (volatile solids) and inorganic fraction (residual solids). The chlorophyll values reported are corrected chlorophyll or chlorophyll which is reported to be photosynthetically active.

CORRECTED CHLOROPHYLL A. Central and eastern basin epilimnion chlorophyll concentrations indicated a somewhat different seasonal pattern and concentration range (Figures 29 and 30). Central basin concentrations declined following the spring peak, reaching minimum levels by mid summer. During the late summer and fall the highest concentrations attained were associated with fall turnover. In contrast, eastern basin concentrations showed a steady increase through the summer with peak values developing during the fall.

The mean annual epilimnion central basin chlorophyll levels were significantly higher than those measured for the eastern basin. Higher concentrations were evident throughout the year but most dramatically different during the last two fall surveys.

EPILIMNION CHLOROPHYLL CONCENTRATIONS (UG/L)

	CENTRAL BASIN	EASTERN BASIN
N	223	56
MEAN	3.62(ST.ERR 1.07)	1.29(ST.ERR 0.16)
MIN	1.18	0.89
MAX	7.24	1.81
ST.DEV	2.39	0.35

There is a significant difference between these basins at $\alpha = 0.1$.

In both basins the hypolimnion is either below the photic zone or very close, so that minimal primary production is associated with this region.

SUSPENDED SOLIDS. Total suspended solids show similar seasonal patterns in the epilimnion waters of the two basins, however, eastern basin concentrations were somewhat lower. In general, concentrations are highest during unstratified periods (spring and fall) while summer values are lowest (Figures 29 and 30). The composition of organic versus inorganic fractions also changes with the season (Figures 31 and 32). Due to resuspension of unconsolidated sediments during the spring and fall, residual solids comprised the major portion (> 70%) of the total solids. In contrast, the organic fraction contributes a higher percentage (> 70%) during the summer months (stratified period).

The concentration of particulate material suspended in the hypolimnion is primarily affected by two processes, settling and resuspension. The flux of material settling through the overlying water column provides a continuous supply of particulate material to the hypolimnion and during the stratified summer months detritus comprises a significant portion. In addition, an upward flux of unconsolidated material from the sediment water interface can occur during severe storm periods. This process is more common in the central basin due to the shallow depth of the basin and the resulting shallow thickness of the hypolimnion. The result is a higher percentage of inorganic material found suspended in the hypolimnion than is generally found in the epilimnion (Figure 31).

EPILIMNION TOTAL SUSPENDED SOLIDS CONCENTRATIONS (MG/L)

	CENTRAL BASIN	EASTERN BASIN
N	215	56
MEAN	1.10(ST.ERR 0.23)	1.44(ST.ERR 0.49)
MIN	0.70	0.56
MAX	1.64	3.23
ST.DEV	0.46	1.11

No significant difference between these basins at $\alpha = 0.1$.

HYPOLIMNION TOTAL SUSPENDED SOLIDS CONCENTRATIONS (MG/L)

	CENTRAL BASIN	EASTERN BASIN
N	81	34
MEAN	2.55(ST.ERR 0.17)	2.09(ST.ERR 0.19)
MIN	2.22	1.72
MAX	3.14	2.37
ST.DEV	0.39	0.33

No significant difference between these basins at $\alpha = 0.1$.

PRINCIPAL IONS

Both conductivity (umhos) and chloride (mg/l) concentrations were measured at all stations and sampling depths throughout the field season. Conductivity is a measure of the total ionic strength with each of the major ions contributing proportionately. In Lake Erie the system is dominated by the carbonate ion contributing over 50%, while chloride accounts for approximately 12% (Rathke, 1984).

CONDUCTIVITY. Conductivity values for the central basin ranged from 251 to 288, having a median of 269. Values between 264 and 271 accounted for 58% of the data recorded. Epilimnion values indicated an increase following Survey 1 (May 16) and remained fairly stable through the remainder of the field season (Figure 33). The hypolimnion values showed a steady increase through the entire stratified period. Maximum values were reached during the last stratified survey (7) when the hypolimnion was anoxic and a free exchange between the sediments and overlying waters existed.

Eastern basin conductivity ranged from 257 to 289 with a median value of 274.5 umhos. The values between 270 and 280 accounted for 63% of the data base. A similar seasonal trend was apparent for the epilimnion and hypolimnion in the eastern basin as was observed for the central basin (Figure 34). Since the eastern basin remaind oxic throughout the stratified period increases were attributed to normal processes.

The following table provides a detailed summary of the data for the two basins and Tables 4 and 5 show the individual survey results.

	CENTRAL BASIN	EASTERN BASIN
N	313	106
MEAN	269.3 (ST.ERR. 0.34)	274.4 (ST.ERR. 0.61)
MEDIAN	269.0 (ST.ERR 0.29)	274.5 (ST.ERR. 0.87)
MAXIMUM	288.0	289.0
MINIMUM	251.0	257.0
RANGE	37.0	32.0
ST. DEV.	6.4	6.3
25%	266.0	271.0
75%	273.0	279.0

When the annual means for the epilimnion and hypolimnion were examined for differences between the basins, no statistically significant difference was determined.

EPILIMNION CONDUCTIVITY (umhos)

	CENTRAL BASIN	EASTERN BASIN
N	225	57
MEAN	266.96(ST.ERR 1.11)	270.91(ST.ERR 1.91)
MIN	263.25	263.25
MAX	269.40	274.83
ST.DEV	2.48	4.28

No significant difference between these methods at $\alpha = 0.1$.

HYPOLIMNION CONDUCTIVITY (umhos)

	CENTRAL BASIN	EASTERN BASIN
N	84	33
MEAN	274.99(ST.ERR 3.60)	279.76(ST.ERR 1.70)
MIN	265.40	277.09
MAX	282.83	282.91
ST.DEV	7.20	2.94

No significant difference between these basins at $\alpha = 0.1$.

CHLORIDE. Chloride concentrations were very stable through the field season showing a slight increase (0.5 mg/l) in both basins from Survey 1 through 7 (Figures 33 and 34 and Tables 4 and 5). Considering that the eastern basin has a slightly higher conductivity than the central basin, a difference in chloride concentration may have been expected. The following table provides a comparison between the two basins and no concentration difference is evident.

	CENTRAL BASIN	EASTERN BASIN
N	312	106
MEAN	15.0 (ST.ERR 0.04)	15.3 (ST.ERR. 0.11)
MEDIAN	15.0 (ST.ERR. 0.02)	15.0 (ST.ERR. 0.00)
MAXIMUM	20.0	20.0
MINIMUM	13.5	14.4
RANGE	6.5	5.6
ST. DEV	0.7	1.1
25%	14.7	14.8
75%	15.3	15.3

No significant difference in the annual mean concentration was apparent between the basins for either the epilimnion or the hypolimnion.

EPILIMNION CHLORIDE CONCENTRATION (MG/L)

	CENTRAL BASIN	EASTERN BASIN
N	225	57
MEAN	15.02(ST.ERR 0.18)	15.22(ST.ERR 0.30)
MIN	14.6	15.6
MAX	15.6	16.4
ST.DEV	0.39	0.67

No significant difference between these basins at $\alpha = 0.1$.

HYPOLIMNION CHLORIDE CONCENTRATION (MG/L)

	CENTRAL BASIN	EASTERN BASIN
N	84	33
MEAN	14.83(ST.ERR 0.19)	15.30(ST.ERR 0.30)
MIN	14.3	15.0
MAX	15.2	15.9
ST.DEV	0.39	0.52

No significant difference between these basins at $\alpha = 0.1$.

TOTAL ALKALINITY. Central and eastern basin values were examined separately, with no significant difference apparent. The following table presents the data summary and Tables 4 and 5 provide the individual survey results.

	CENTRAL BASIN	EASTERN BASIN
N	313	106
MEAN	95.7 (ST.ERR. 0.47)	97.6 (ST.ERR. 0.24)
MEDIAN	96.5 (ST.ERR. 0.17)	97.4 (ST.ERR. 0.26)
MAXIMUM	111.6	103.6
MINIMUM	90.4	93.1
RANGE	21.2	10.5
ST. DEV	8.4	2.5
25%	94.7	95.7
75%	97.5	98.6

In addition, no significant difference was found between the annual mean values for either the epilimnion or hypolimnion.

EPILIMNION ALKALINITY (MG/L)

	CENTRAL BASIN	EASTERN BASIN
N	225	56
MEAN	95.49(ST.ERR 1.30)	97.25(ST.ERR 1.27)
MIN	90.91	95.17
MAX	98.48	102.13
ST.DEV	2.90	2.83

No significant difference between these basins at $\alpha = 0.1$.

HYPOLIMNION ALKALINITY (MG/L)

	CENTRAL BASIN	EASTERN BASIN
N	84	33
MEAN	95.68(ST.ERR 5.08)	98.25(ST.ERR 0.66)
MIN	83.22	97.07
MAX	108.10	99.34
ST.DEV	10.16	1.14

No significant difference between these basins at $\alpha = 0.1$.

pH. pH values are determined on a routine basis during all surveys. pH data was examined for the central and eastern basins separately, with no significant differences. The following table presents the data summary and Tables 4 and 5 provide the individual survey results.

	CENTRAL BASIN	EASTERN BASIN
N	313	106
MEAN	8.1 (ST.ERR. 0.02)	7.9 (ST.ERR. 0.03)
MEDIAN	8.2 (ST.ERR. 0.02)	7.9 (ST.ERR. 0.02)
MAXIMUM	8.9	8.5
MINIMUM	7.0	7.3
RANGE	1.8	1.2
ST.DEV	0.4	0.3
25%	7.9	7.7
75%	8.4	8.3

In addition, no significant difference was found between the annual mean values for either the epilimnion or hypolimnion.

EPILIMNION pH

	CENTRAL BASIN	EASTERN BASIN
N	225	56
MEAN	8.25(ST.ERR 0.06)	8.20(ST.ERR 0.13)
MIN	8.02	7.89
MAX	8.35	8.48
ST.DEV	0.14	0.29

No significant difference between these methods at $\alpha = 0.1$.

HYPOLIMNION pH

	CENTRAL BASIN	EASTERN BASIN
N	84	33
MEAN	7.52(ST.ERR 0.17)	7.67(ST.ERR 0.07)
MIN	7.21	7.56
MAX	8.00	7.79
ST.DEV	0.35	0.12

No significant difference between these basins at $\alpha = 0.1$.

BASIN COMPARISON

Throughout the physical data and water quality parameters sections, comparisons between the central and eastern annual mean values were presented. Epilimnion comparisons only indicated a significant difference between basins for total phosphorus and chlorophyll. In both cases, the central basin values were found to be greater than the eastern.

In order to better understand the similarities and dissimilarities of the basins, a comparison was made on a survey by survey basis using variables known to show strong seasonality.

LAKE ERIE EPILIMNION - BASIN COMPARISON

Parameter	SURVEY 1 CB	SURVEY 1 EB	SURVEY 3 CB	SURVEY 3 EB	SURVEY 5 CB	SURVEY 5 EB	SURVEY 7 CB	SURVEY 7 EB	SURVEY 8 CB	SURVEY 8 EB
TEMPERATURE										
X	11.0	4.7	19.2	20.7	22.1	21.6	21.4	20.6	12.3	11.5
t	-15.99		2.59		-7.24		-5.86		-5.40	
Result	>		=		>		>		>	
TOTAL SUSPENDED SOLIDS										
X	1.4	2.4	0.6	0.6	0.8	0.6	1.6	1.0	3.7	1.3
t	4.47		0.10		-1.53		-2.71		-4.22	
Result	<		=		>		>		>	
CORRECTED CHLOROPHYLL										
X	1.9	1.3	1.2	0.6	2.9	1.4	5.8	1.9	4.5	1.2
t	-1.44		-1.33		-3.73		-8.53		-10.11	
Result	=		=		>		>		>	
TOTAL PHOSPHORUS										
X	10.2	12.9	7.2	10.2	10.3	8.9	16.3	8.5	21.5	10.9
t	2.39		2.27		-1.47		-5.66		-7.09	
Result	=		=		=		>		>	

COMPARISON BASED ON TWO-TAILED T-TEST WITH $\alpha = 0.05$
X = MEAN t = t STATISTIC

> - SIGNIFICANTLY GREATER.
< - SIGNIFICANTLY LESS.
= - NOT SIGNIFICANTLY DIFFERENT.

Temperature indicated a strong basin difference during the first survey and showed a statistically significant difference during the last two surveys. Even though temperature was reported to be statistically different for the last surveys, from a limnological perspective these basin differences could be considered not to be significantly different. The remaining parameters all indicated significant basin differences during the late summer and early fall. This result would be expected considering the effect turnover and fall resuspension have on the central basin.

OPEN LAKE SAMPLING REGIONS

The station pattern for both the central and eastern basins was based upon studies carried out by F. Rosa and A. El-Sharrawi (CCIW-NWRI). These studies were reviewed by the Lake Erie Task Force (IJC) and the current sampling program resulted. The central and eastern basin sampling regions were recommended because these regions were shown to represent the open lake water quality of the respective basin.

Since 1985 was the first year for the implementation of the new surveillance plan, it was deemed necessary to test the variability of the stations within each basin. The null hypothesis was that individual stations within the basin would have equal means for each of the variables tested. An analysis of variance was used to examine each basin data set. Temperature (TEMP), total suspended solids (TSS), corrected chlorophyll (CHLACORR), total phosphorus (CORRTP), and nitrate + nitrite (NITNIT) were the variables examined.

Results from the central basin and eastern basin analysis showed that there were no significant differences between individual station means within a basin as compared with the overall mean for the representative region ($\alpha = 0.05$). The following table shows the means and standard deviations calculated for the representative regions (all stations and epilimnion depths included):

THE EPILIMNION MEANS AND STANDARD DEVIATIONS FOR THE CENTRAL (N = 221) AND EASTERN BASIN REGIONS (N = 57)

	TEMP	TSS	CHLACORR	CORRTP	NITNIT
CENTRAL BASIN					
MEAN	18.3	1.3	2.9	12.4	182.6
ST. DV.	4.2	1.4	1.9	6.1	80.5
EASTERN BASIN					
MEAN	14.9	1.2	1.3	9.5	213.2
ST.DV.	6.9	0.9	0.5	3.9	45.5

The following table shows the maximum range of the mean and standard deviation calculated for each of the ten stations comprising the central basin data base and the four stations comprising the eastern basin data base:

RANGE OF STATION MEANS AND STANDARD DEVIATIONS FOR
THE CENTRAL BASIN (N = 20 TO 23)
AND EASTERN BASIN STATIONS (N = 14 TO 15)

	TEMP	TSS	CHLACORR	CORRTP	NITNIT
CENTRAL BASIN					
MEAN	17.9 - 18.6	0.8 - 1.8	2.2 - 3.4	10.3 - 14.2	148.5 - 230.5
ST.DV.	4.1 - 4.5	0.4 - 2.4	1.4 - 2.9	3.2 - 8.1	30.2 - 109.4
EASTERN BASIN					
MEAN	14.2 - 15.3	1.1 - 1.4	1.1 - 1.4	8.7 - 10.9	207.3 - 223.5
ST.DV	6.7 - 7.3	0.5 - 1.4	0.4 - 0.7	2.2 - 5.9	42.6 - 52.1

Tables 10 and 11 present the individual station means plotted against the means and standard deviations for the representative area. The individual station means did not exceed $\pm$ 1 standard deviation of the area mean in either basin. In fact, in only one case (NITNIT) at central basin station 43 did the individual mean exceed $\pm$ 0.5 standard deviation of the area mean. The fact that the individual station means (for all variables) were not significantly different from the area means, indicated the central and eastern basin sampling program provides a uniform picture of the open lake epilimnion waters.

TROPHIC CLASSIFICATION

Reviews of the numerous trophic classifications and trophic indicies have been prepared by Rawson (1956), Zafar (1959), Dobson (1976) Carlson (1977), Rast and Lee (1978), Gregor and Rast (1979), Maloney (1979), and Steinhart et al, (1981).

Dobson's index was selected for presentation because it was designed to evaluate Great Lakes offshore summer trophic conditions. Summer condition were defined based on the disappearance of the thermal bar. The summer period for central Lake Erie is considered to extend from June 15 to September 5th. Dobson did not determine specific dates for the eastern basin however since the basin resembles the deeper Great Lakes, a similar summer period was used. The eastern basin summer period would include July, August and September. The Dobson index uses summer mean secchi reciprocals, total chlorophyll a, particulate organic carbon and total phosphorus, from the offshore near-surface waters. To calculate the summer mean values, the individual survey means are plotted. The summer mean is then calculated by using values interpolated from the graph on a 10 day interval. These interpolated values are then averaged to determine the summer mean. Dobson's 1976 trophic index is as follows:

	SECCHI RECIPROCALS	TOTAL CHLOROPHYLL	PARTICULATE ORGANIC CARBON	TOTAL PHOSPHORUS
	30/SD (m)	ug/l	ug/l	ug/l
OLIGOTROPHIC	0 - 5	0 - 2.5	0 - 250	0 - 9
MESOTROPHIC	5 - 10	2.5 - 5.0	250 - 500	9 - 18
EUTROPHIC	10 - 30	5.0 - 15.0	500 - 1500	18 - 50
HYPEREUTROPHIC	> 30	> 15	> 1500	> 50

SD = SECCHI DEPTH

The 1985 summer results for the offshore near-surface waters of the central and eastern basins are as follows:

MID SURVEY	SURVEY MEAN SECCHI RECIPROCAL 30/SD (m)	SURVEY MEAN TOTAL CHLOROPHYLL ug/l	SURVEY MEAN TOTAL PHOSPHORUS ug/l
CENTRAL BASIN			
July 3	3.98	1.42	7.8
July 24	3.81	2.42	9.9
August 7	4.46	3.26	9.9
August 28	6.93	3.55	22.6
MEAN	4.80	2.66	12.6
EASTERN BASIN			
July 3	3.82	1.67	8.9
August 7	3.57	1.92	9.9
September 20	6.12	2.10	7.6
MEAN	4.50	1.90	8.8

SD = SECCHI DEPTH

All three parameters indicate the eastern basin area as an oligotrophic zone. The central basin is borderline between oligotrophic and mesotrophic. The central basin secchi reciprocal indicates oligotrophic conditions by falling near the upper limit of the oligotrophic boundary while both chlorophyll and phosphorus indicate the lower end of the mesotrophic state.

QUALITY CONTROL SUMMARY

During each day of a survey, water was collected to be used for quality control samples. Two terms are used to describe the types of quality control sample being examined. First, replicate water samples are collected as two separate samples (X1 and X2) taken from the same selected depth. The submersible pump is lowered to the designated depth for X1 and then lowered again for X2. Second, splits or two sub-samples of each replicate are prepared for analysis.

X1 <-----Replicates-----> X2

↙ ↘ ↙ ↘

X11 <--Splits--> X12 X21 <--Splits--> X22

The quality control program determines the PRECISION and ACCURACY of the analytical methods employed. Precision is a measurement of the agreement among duplicate analysis. The standard deviation of the difference between replicates or the difference between splits represents the precision (uncertainty) of the method. Standard deviations are estimated for each analytical method by summing the differences between duplicate analysis, calculating the mean and dividing by 1.128. An acceptable limit for the range of differences is determined by multiplying the standard deviation by 3.686 (Clark, 1981).

The 1985 results are presented in Table 10. The range limit of 40.46 ug/l for soluble silica seems high when compared to the range limits of the other parameters. However, the silica range limit is acceptable because the smallest increment on the Auto Analyzer chart paper is 50 ug/l. All parameters have greater than 88% of the quality control samples within the range limits. Almost half of the parameters have greater than 95% of the samples within the range limits. Appendix D contains the BMDP statistical computer outputs for each parameter.

Auto Analyzer quality control checks are performed repeatedly throughout the sampling period. Fresh standards are used in a daily linearity series. Standards near the sample concentrations are run before and after a group of samples (n=10) as a concentration check. In addition, at each quality control station a distilled water sample is run as a blank for all Auto Analyzer and suspended solid parameters.

1985 BLANK VALUES

PARAMETER	UNITS	N	MEAN
Total Phosphorus	ug/l	12	1.30
Total Filtered Phosphorus	ug/l	10	1.70
Soluble Reactive Phosphorus	ug/l	9	0.31
Nitrate + Nitrite	ug/l	9	0.12
Ammonia	ug/l	10	2.70
Soluble Reactive Silica	ug/l	10	22.90
Chloride	mg/l	8	0.00
Total Suspended Solids	mg/l	12	0.10
Residual Solids	mg/l	12	-0.09
Volatile Solids	mg/l	12	0.19

The mean blank value of 22.9 ug/l for silica is acceptable because the smallest increment on the Auto Analyzer chart paper is 50 ug/l. The values of the 1985 blanks indicate the distilled waters used for making standards and rinsing filter units contains minimal organic and inorganic material. The low blank values also indicate very little sample bottle contamination.

The quality control program also includes the spiking of splits with a known concentration in a 1:1 ratio to determine the accuracy of the method. Accuracy is a measure of the difference between a true value and a measured value, and it is expressed through the spike difference and the percent recovery.

Spike Difference: The difference between the actual spike value and the theoretical spike value:

$$\text{SPIKE DIFFERENCE} = \text{ACTUAL} - \text{THEORETICAL}$$

Percent Recovery:

$$\text{PERCENT RECOVERY} = \frac{\text{ACTUAL} \times 100\%}{\text{THEORETICAL}}$$

Where: ACTUAL = Actual Spike Value of the Sample

$$\text{THEORETICAL} = \frac{\text{Spike Standard} + \text{Original Sample Value}}{2\,*}$$

* Division by 2 because of a 1:1 spike to sample ratio

1985 CALCULATED SPIKE DIFFERENCES

PARAMETER	UNITS	MEAN	ST DEV	N	RANGE LIMIT LOWER	RANGE LIMIT UPPER	% SAMPLES WITHIN RANGE
TP	ug/l	-.64	.72	59	-2.80	1.52	100%
TFP	ug/l	-.92	.77	46	-3.21	1.38	100%
SRP	ug/l	1.33	1.47	49	-3.06	5.73	100%
N+N	ug/l	.17	11.04	46	-32.93	33.28	97.8%
NH3	ug/l	-.75	6.39	43	-19.93	18.43	100%
SRS	ug/l	-3.97	118.51	56	-359.50	351.56	100%
CL	mg/l	-.16	.23	29	-.84	.52	100%

1985 PERCENT RECOVERY RESULTS

PARAMETER	N	MEAN PERCENT RECOVERY	PERCENT RECOVERY RANGE
TP	59	98.05%	91.78% - 102.97%
TFP	46	96.91%	89.98% - 100.90%
SRP	49	105.33%	97.86% - 128.71%
N+N	46	100.15%	95.95% - 112.36%
NH3	43	95.50%	73.97% - 148.57%
SRS	56	100.06%	92.09% - 109.43%
CL	29	99.30%	97.99% - 102.57%

Overall, the 1985 results indicate very good quality control. Once again, the high silica spike difference values are acceptable because of the 50 ug/l chart paper increment. However, the large percent recovery range of 73.97% to 148.57% indicates a slight problem with ammonia. More effort will be taken to decrease airborne ammonia contamination and therefore increase the quality control of ammonia.

STANNOUS CHLORIDE VERSUS ASCORBIC ACID PHOSPHORUS METHOD

From 1970 through 1977 all open lake phosphorus measurements made by the Canada Centre for Inland Waters and Ohio State University - CLEAR (Under contract to the US-EPA), utilized only the stannous chloride procedure. During the 1978 and 1979 Lake Erie Intensive Study both stannous chloride (CCIW) and ascorbic acid (US-EPA GLNPO) methods were employed on the open lake phosphorus analysis. Upon comparing the data bases, it was found that a significant difference was apparent between the two data sets (Rathke 1984).

In order to resolve this discrepancy between the data bases, a program was implemented during the 1985 field season designed to compare the two methods. The protocol was as follows:

1. All phosphorus samples (total, total filtered, and soluble reactive) were analyzed using the conventional stannous chloride procedure as was employed during the 1970 through 1977 open lake studies, 1978 and 1979 western basin nearshore, and the 1980 through 1982 open lake program.

2. All total phosphorus samples would be re-analyzed using the ascorbic acid procedure employed by US-EPA GLNPO. The initial digestion of the raw sample was that used for the stannous chloride procedure. A comparison of the digestion procedure was not part of the plan.

3. During two surveys (Surveys 5 and 8) total filtered phosphorus samples would be re-analyzed using the protocol as described for total phosphorus.

The central and eastern basin data sets were combined and treated as one file. Only the paired phosphorus data was used i.e., samples which were analyzed by both stannous chloride and ascorbic acid methods. The BMDP statistical summaries are presented in Figures 35 and 36 with a summary table provided below:

COMPARISON OF THE STANNOUS CHLORIDE AND ASCORBIC ACID
TOTAL PHOSPHORUS DATA

	STANNOUS CHLORIDE	ASCORBIC ACID
N	372	372
MEAN	12.0 (ST. ERR. 0.27)	11.9 (ST. ERR. 0.29)
MEDIAN	10.6 (ST. ERR. 0.23)	10.4 (ST. ERR. 0.26)
MAXIMUM	34.5	39.0
MINIMUM	3.8	3.3
RANGE	30.7	35.8
ST. DEV.	5.3	5.6
25%	8.6	8.2
75%	13.8	13.7

It is evident from this initial evaluation of the two data bases that the two methods produced nearly identical results. A survey by survey summary of the total phosphorus data was made and is presented as a modified notch block graph (Figure 37) which also shows the similarity of the two methods.

Next, a data file was created by using the difference between the notched pairs:

STANNOUS CHLORIDE - ASCORBIC ACID = DIFFERENCE ($\pm$)

COMPARISON OF THE COMPUTED DIFFERENCES BETWEEN PAIRED STANNOUS CHLORIDE AND ASCORBIC ACID TOTAL PHOSPHORUS VALUES

N	363
MEAN	0.18 (ST.ER. 0.09)
MEDIAN	0.20 (ST.ER. 0.06)
MAXIMUM	7.6
MINIMUM	-6.0
RANGE	13.6
ST. DEV.	1.8
25%	-0.8
75%	1.1

A 0.0 difference between the two methods (distinct value = 0.0) was reached when the cumulative percent of observations equaled 44.9% (Figure 38). In other words the negative values (ascorbic acid values greater than stannous chloride) represented 44.9% of the data, while for 55.1% of the data the reverse was true. The positive mean and median results indicated that the stannous chloride values were slightly greater than the ascorbic acid values (0.18 ug/l).

A t-test was used to determine if the two data sets were statistically significantly different (α= 0.05).

The null hypcthesis was: $H_o = \bar{X} - \bar{Y} = 0$

The test showed that these two methods were not statistically different. The results of the t-test indicated that total phosphorus data employing these two procedures could be used interchangeably. However, this would be true only if the digestion procedure employed in this test was utilized.

Analyses from two surveys were used to test the compatibility of the methods for determining total filtered phosphorus. In general, total filtered phosphorus concentrations are approximately half the concentrations of total phosphorus. The procedure used to analyze the total phosphorus data was also employed to examine the total filtered phosphorus. Figures 39 and 40 present the BMDP statistical summaries for total filtered phosphorus data bases while the following table presents a summary of the statistical information.

COMPARISON OF THE STANNOUS CHLORIDE AND ASCORBIC ACID TOTAL FILTERED PHOSPHORUS DATA

	STANNOUS CHLORIDE	ASCORBIC ACID
N	103	103
MEAN	6.4 (ST. ERR. 0.36)	5.6 (ST. ERR. 0.34)
MEDIAN	6.1 (ST. ERR. 0.43)	4.5 (ST. ERR. 0.31)
MAXIMUM	14.7	15.5
MINIMUM	0.3	0.3
RANGE	14.4	14.8
ST. DEV.	3.6	3.4
25%	3.5	3.1
75%	8.9	8.1

A survey by survey comparison is presented in Figure 41. It is evident that the difference noted in the two mean/median concentrations can be accounted for in the last survey. The stannous chloride results are 1 ug/l greater than those determined using the ascorbic acid procedure.

The computed difference between paired samples is shown in the following table. Figure 42 presents the complete BMDP file output, further illustrating the difference between the two data sets. Two thirds of the data (66.7%) showed that the stannous chloride procedure yielded higher concentrations than the ascorbic acid method.

COMPARISON OF THE COMPUTED DIFFERENCES BETWEEN PAIRED STANNOUS CHLORIDE AND ASCORBIC ACID TOTAL FILTERED PHOSPHORUS VALUES

N	102
MEAN	0.74 (ST.ER. 0.13)
MEDIAN	0.80 (ST.ER. 0.11)
MAXIMUM	3.6
MINIMUM	-3.3
RANGE	6.9
ST. DEV.	1.3
25%	-0.2
75%	1.8

A t-test indicated that a statistically significant difference existed between the two methods for the total filtered phosphorus analysis. The positive mean (0.74 ug/l) indicatd that the stannous chloride method produced total filtered phosphorus concentrations higher than the ascorbic acid method. The difference between the methods was only apparent during the last survey (Figure 41).

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TABLES

TABLE 1

1985 LAKE ERIE OPEN LAKE WATER QUALITY SURVEY SCHEDULE

BASIN	SURVEY	DATE	JULIAN DATE	JULIAN MID POINT
EB,CB	1	MAY 15-MAY 17	135-137	136
CB	2	JUNE 12-JUNE 13	163-164	163
EB,CB	3	JULY 2-JULY 4	183-185	184
CB	4	JULY 24-JULY 25	205-206	205
EB,CB	5	AUGUST 6-AUGUST 8	218-220	219
CB	INTER COMPARISON	AUGUST 27	239	239
CB	6	AUGUST 28-AUGUST 29	240-241	240
EB,CB	7	SEPTEMBER 19-SEPTEMBER 21	262-264	263
EB,CB	8	NOVEMBER 12-NOVEMBER 15	316-319	318

EB = EASTERN BASIN

CB = CENTRAL BASIN

TABLE 2

GEOGRAPHIC COORDINATES FOR THE 1985
LAKE ERIE STATIONS

STATION	BASIN	LATITUDE (N)	LONGITUDE (W)	WATER DEPTH (m)
9	EB	423218	793700	46.6
10	EB	424048	794130	31.8
15	EB	423100	795336	60.2
63	EB	422500	794800	45.3
30	CB	422548	801218	20.5
31	CB	421512	810624	21.3
32	CB	420454	810042	21.5
36	CB	415606	812842	22.9
37	CB	420636	813430	23.9
38	CB	421654	814018	21.6
42	CB	415754	820230	22.2
43	CB	414718	815642	22.6
73	CB	415840	814525	24.1
78	CB	420700	811500	22.5

EB = EASTERN BASIN

CB = CENTRAL BASIN

TABLE 3
SYNOPSIS OF METHODS

PARAMETER	METHOD	RANGE	DETECTION LIMIT
Specific Conductance	In situ probe (Interocean) Electrode (Beckman, YSI)	0-1000umhos/cm	2 umhos 1%
Suspended Solids	Gravimetric, using Whatman GF/C glass fiber filters	1-10,000 mg/l	.01 mg
Temperature	Thermistor (InterOcean) Mechanical Bathythermograph NBS Calibrated Thermometer	0-35 degrees°C	0.2 degrees°C
Transparency	Secchi Disk	NA	.01m
Turbidity	Hach Turbidimeters (Model 2100A and Ratio)	0-1000 NTV	.02 NTV
Alkalinity	Titrimetric (.02N HCl)	0-250 mg/l CaCO3	.5 mg/l
Chloride	Ferricyanide, AAII	.5-50 mg Cl/l	.5 mg/l
Ammonia	Phenate Method, AAII	0.5-100 ug N/l 1.0-200 ug N/l 2.0-400 ug N/l	.5 ug/l 1.0 ug/l 2.0 ug/l
Nitrate + Nitrite	Cadmium Reduction, AAII	.005-1 mg N/l	.005 mg/l
pH	Electrode (InterOcean, Martek, Orion)	0-14	0.1
Dissolved Oxygen	Electrode (InterOcean, Titrimetric (Winkler azide modification)	0-20 mg O2/l	0.05 mg O2/l
Soluble Reactive Phosphorus	Stannous Chloride, AAII	.5-50 ug P/l	.5 ug/l
Total Phosphorus	Persulfate Digestion, Stannous Chloride	.5-50 ug/l 1.0-100 ug	.5 ug/l 1.0 ug/l
Total Filtered Phosphorus	Persulfate Digestion, Stannous Chloride, AAII	Expanded further by Machine or Manual Dilutions	

TABLE 3 (CONTINUED)
SYNOPSIS OF METHODS

PARAMETER	METHOD	RANGE	DETECTION LIMIT
Dissolved Reactive Silicate	Molibdosilicate-Ascorbic Acid-Oxalic Acid, AAII	.03-5.00 mg SiO_2/l	.03 mg/l
Chlorophyll	Acetone extinction Varian Spectrophotometer	0-50 ug/l	.02 ug/l
Pheopigment	Acetone extinction Varian Spectrophotometer	0-50 ug/l	.04 ug/l
Kjeldahl Nitrogen	Analysis performed by USEPA		
Particulate Organic Nitrogen	Perkin-Elmer Model 240 Elemental Analyzer	0-5000 mg N	.002 mg
Particulate Organic Carbon	Perkin-Elmer Model 240 Elemental Analyzer	0-5000 mg C	.005 mg
Phyto-plankton	Optical examination (Collected w/ Niskin Bottle, Preserved w/ Lugols)	macro + nanoplankton	species
Zooplankton	Optical examination (64 u net, $CaCO_3$ formalin + sucrose)	.075 mm	species

TABLE 4

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 1 MAY 15 - MAY 17					
	EPI	MEAN	8.22	0.00	95.54
		STD. ERR.	0.02	0.00	0.34
		MEDIAN	8.25	0.00	95.70
		Q1	8.19	0.00	94.80
		Q3	8.27	0.00	96.60
		N	20	0	20
	HYPO	MEAN	8.00	0.00	95.69
		STD. ERR.	0.02	0.00	0.39
		MEDIAN	7.99	0.00	96.15
		Q1	7.91	0.00	94.40
		Q3	8.09	0.00	96.60
		N	20	0	20
SURVEY 2 JUNE 12 - JUNE 13					
	EPI	MEAN	8.19	0.00	93.13
		STD. ERR.	0.02	0.00	0.43
		MEDIAN	8.18	0.00	93.10
		Q1	8.14	0.00	91.40
		Q3	8.27	0.00	94.00
		N	21	0	21
	HYPO	MEAN	7.68	0.00	94.56
		STD. ERR.	0.06	0.00	0.41
		MEDIAN	7.61	0.00	94.00
		Q1	7.57	0.00	94.00
		Q3	7.74	0.00	95.70
		N	9	0	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 3					
JULY 2 - JULY 4					
	EPI	MEAN	8.33	4.94	95.14
		STD. ERR.	0.01	0.35	0.25
		MEDIAN	8.35	5.20	95.70
		Q1	8.32	4.40	94.00
		Q3	8.37	6.10	95.90
		N	30	9	30
	HYPO	MEAN	7.52	0.00	95.92
		STD. ERR.	0.03	0.00	0.49
		MEDIAN	7.55	0.00	95.70
		Q1	7.42	0.00	94.85
		Q3	7.59	0.00	97.00
		N	12	0	12
SURVEY 4					
JULY 24 - JULY 25					
	EPI	MEAN	8.43	5.20	95.65
		STD. ERR.	0.02	0.22	0.30
		MEDIAN	8.48	5.30	95.90
		Q1	8.32	4.40	95.00
		Q3	8.52	6.20	96.80
		N	30	30	30
	HYPO	MEAN	7.41	0.00	97.69
		STD. ERR.	0.02	0.00	0.22
		MEDIAN	7.41	0.00	97.70
		Q1	7.34	0.00	96.80
		Q3	7.49	0.00	98.60
		N	19	0	19

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 5 AUG. 6 - AUG. 8					
	EPI	MEAN	8.33	4.31	90.91
		STD. ERR.	0.01	0.33	3.19
		MEDIAN	8.34	4.10	94.40
		Q1	8.28	3.00	92.40
		Q3	8.39	5.10	95.40
		N	30	28	30
	HYPO	MEAN	7.21	0.00	83.22
		STD. ERR.	0.06	0.00	12.05
		MEDIAN	7.14	0.00	95.40
		Q1	7.09	0.00	92.40
		Q3	7.23	0.00	96.90
		N	8	0	8
SURVEY 6 AUG. 28 - AUG. 29					
	EPI	MEAN	8.58	4.50	96.87
		STD. ERR.	0.02	0.16	0.22
		MEDIAN	8.57	4.00	96.50
		Q1	8.53	4.00	96.50
		Q3	8.61	5.00	97.50
		N	30	30	30
	HYPO	MEAN	7.44	0.00	104.00
		STD. ERR.	0.03	0.00	0.64
		MEDIAN	7.43	0.00	104.00
		Q1	7.38	0.00	102.50
		Q3	7.50	0.00	105.50
		N	10	0	10

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 7					
SEPT. 19 - SEPT. 21					
	EPI	MEAN	8.35	3.07	98.48
		STD. ERR.	0.07	0.31	0.71
		MEDIAN	8.47	3.00	97.00
		Q1	8.37	2.00	96.50
		Q3	8.56	4.00	99.50
		N	34	29	34
	HYPO	MEAN	7.33	0.00	108.10
		STD. ERR.	0.02	0.00	0.85
		MEDIAN	7.33	0.00	107.10
		Q1	7.30	0.00	106.60
		Q3	7.38	0.00	109.60
		N	6	0	6
SURVEY 8					
NOV. 12 - NOV. 15					
	EPI	MEAN	8.02	1.71	97.37
		STD. ERR.	0.01	0.20	0.26
		MEDIAN	8.01	1.50	97.50
		Q1	7.98	1.00	97.00
		Q3	8.05	2.00	98.50
		N	30	27	30

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	10.87	12.57	112.01	263.25
		STD. ERR.	0.14	0.20	1.62	0.86
		MEDIAN	10.95	12.50	111.65	264.00
		Q1	10.40	11.85	105.80	261.50
		Q3	10.24	12.95	114.39	265.50
		N	20	20	20	20
	HYPO	MEAN	7.45	12.11	101.42	265.40
		STD. ERR.	0.15	0.15	1.30	0.70
		MEDIAN	7.35	12.20	101.33	264.50
		Q1	6.95	11.60	98.04	263.50
		Q3	7.85	12.60	104.92	267.00
		N	20	20	20	20
SURVEY 2 JUNE 12 - JUNE 13						
	EPI	MEAN	14.79	10.04	96.54	269.52
		STD. ERR.	0.12	0.13	1.10	1.37
		MEDIAN	14.60	10.00	95.84	270.00
		Q1	14.40	9.60	93.51	269.00
		Q3	15.40	10.20	98.18	272.00
		N	21	21	21	21
	HYPO	MEAN	9.77	8.38	73.27	273.22
		STD. ERR.	0.47	0.27	2.61	2.39
		MEDIAN	9.50	8.60	73.82	273.00
		Q1	8.70	7.80	67.80	270.00
		Q3	10.10	9.00	77.70	277.00
		N	9	9	9	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	18.31	9.18	95.22	269.40
		STD. ERR.	0.18	0.06	0.74	0.52
		MEDIAN	18.60	9.30	96.42	270.00
		Q1	17.60	9.10	92.82	268.00
		Q3	19.00	9.40	98.84	271.00
		N	30	30	30	30
	HYPO	MEAN	12.10	5.66	51.74	275.25
		STD. ERR.	0.34	0.21	2.13	0.74
		MEDIAN	11.95	5.65	50.54	275.50
		Q1	11.00	5.35	47.99	273.50
		Q3	13.20	6.10	56.97	277.50
		N	12	12	12	12
SURVEY 4 JULY 24 - JULY 25						
	EPI	MEAN	21.70	8.99	100.52	268.43
		STD. ERR.	0.10	0.05	0.67	1.04
		MEDIAN	21.50	8.95	100.38	268.00
		Q1	21.40	8.80	100.31	266.00
		Q3	21.90	9.20	103.31	271.00
		N	30	30	30	30
	HYPO	MEAN	13.61	4.13	38.85	276.95
		STD. ERR.	0.16	0.28	2.68	0.84
		MEDIAN	13.30	4.20	38.92	277.00
		Q1	13.00	3.00	28.69	276.00
		Q3	14.40	5.40	50.63	279.00
		N	19	19	19	19

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	22.03	8.40	94.68	267.10
		STD. ERR.	0.03	0.29	3.29	0.79
		MEDIAN	22.00	8.70	98.09	267.00
		Q1	22.00	8.50	95.72	264.00
		Q3	22.20	8.80	99.10	269.00
		N	30	30	30	30
	HYPO	MEAN	14.15	1.75	16.68	276.50
		STD. ERR.	0.25	0.33	3.24	1.02
		MEDIAN	14.30	1.45	13.68	277.00
		Q1	13.50	1.10	10.37	275.00
		Q3	14.50	2.30	21.82	278.50
		N	8	8	8	8
SURVEY 6 AUG. 28 - AUG. 29						
	EPI	MEAN	22.27	8.23	93.32	267.20
		STD. ERR.	0.03	0.04	0.49	0.50
		MEDIAN	22.30	8.20	93.11	267.00
		Q1	22.20	8.00	90.73	266.00
		Q3	22.40	8.50	96.18	269.00
		N	30	30	30	30
	HYPO	MEAN	15.66	0.33	3.29	279.80
		STD. ERR.	0.51	0.11	1.07	1.03
		MEDIAN	15.65	0.20	1.93	280.50
		Q1	14.70	0.10	0.97	276.00
		Q3	17.00	0.60	5.88	282.00
		N	10	10	10	10

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	20.36	7.49	82.49	268.97
		STD. ERR.	0.32	0.48	5.29	1.18
		MEDIAN	20.90	8.40	92.41	268.00
		Q1	20.70	8.00	87.40	267.00
		Q3	21.10	8.60	95.94	269.00
		N	34	34	34	34
	HYPO	MEAN	15.57	0.10	0.98	282.83
		STD. ERR.	0.18	0.05	0.51	1.25
		MEDIAN	15.56	0.05	0.49	282.50
		Q1	15.30	0.00	0.00	281.00
		Q3	16.00	0.20	1.97	284.00
		N	6	6	6	6
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	12.26	10.19	93.26	266.10
		STD. ERR.	0.05	0.44	0.36	0.88
		MEDIAN	12.25	10.20	93.61	267.00
		Q1	12.20	10.00	91.80	264.00
		Q3	12.50	10.40	95.08	269.00
		N	30	30	30	30

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	1.33	0.63	0.70	53.00
		STD. ERR.	0.07	0.05	0.03	1.72
		MEDIAN	1.25	0.55	0.68	52.67
		Q1	1.17	0.51	0.58	56.91
		Q3	1.47	0.73	0.80	45.70
		N	18	18	18	18
	HYPO	MEAN	2.43	1.63	0.80	40.87
		STD. ERR.	0.66	0.53	0.14	2.76
		MEDIAN	1.63	0.95	0.63	41.28
		Q1	1.21	0.64	0.52	30.06
		Q3	1.80	1.19	0.75	47.22
		N	18	18	18	18
SURVEY 2 JUNE 12 - JUNE 13						
	EPI	MEAN	1.06	0.47	0.60	62.15
		STD. ERR.	0.09	0.08	0.03	4.61
		MEDIAN	1.00	0.31	0.60	59.84
		Q1	0.69	0.14	0.51	40.19
		Q3	1.35	0.79	0.67	79.12
		N	20	20	20	20
	HYPO	MEAN	3.08	2.18	0.94	33.86
		STD. ERR.	0.38	0.37	0.06	4.04
		MEDIAN	2.96	2.52	0.89	27.36
		Q1	2.23	1.24	0.79	23.65
		Q3	4.00	3.11	1.06	47.53
		N	9	9	9	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	0.70	0.28	0.42	64.61
		STD. ERR.	0.06	0.05	0.03	3.28
		MEDIAN	0.57	0.19	0.42	65.06
		Q1	0.48	0.12	0.34	55.42
		Q3	0.83	0.38	0.47	73.53
		N	29	29	29	29
	HYPO	MEAN	2.22	1.49	0.73	33.53
		STD. ERR.	0.20	0.16	0.09	2.94
		MEDIAN	2.38	1.49	0.72	31.13
		Q1	1.70	0.97	0.53	27.62
		Q3	2.78	1.98	0.84	35.58
		N	12	12	12	12
SURVEY 4 JULY 24 - JULY 25						
	EPI	MEAN	0.63	0.17	0.46	74.41
		STD. ERR.	0.04	0.02	0.03	2.38
		MEDIAN	0.57	0.12	0.46	75.61
		Q1	0.48	0.10	0.34	69.78
		Q3	0.67	0.19	0.55	83.61
		N	27	27	27	27
	HYPO	MEAN	3.22	2.40	0.82	30.85
		STD. ERR.	1.20	1.03	0.19	2.64
		MEDIAN	2.06	1.41	0.62	26.54
		Q1	1.63	1.04	0.49	24.02
		Q3	2.45	1.79	0.64	36.47
		N	19	19	19	19

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	0.73	0.16	0.57	78.11
		STD. ERR.	0.05	0.02	0.05	2.83
		MEDIAN	0.68	0.12	0.55	83.33
		Q1	0.58	0.08	0.47	72.97
		Q3	0.80	0.20	0.64	87.50
		N	29	29	29	29
	HYPO	MEAN	2.76	1.96	0.81	36.75
		STD. ERR.	0.48	0.46	0.05	8.93
		MEDIAN	2.46	1.76	0.81	30.58
		Q1	2.18	1.49	0.69	24.40
		Q3	3.32	2.51	0.93	37.80
		N	7	7	7	7
SURVEY 6 AUG. 28 - AUG. 29						
	EPI	MEAN	0.95	0.20	0.75	79.02
		STD. ERR.	0.04	0.02	0.03	1.77
		MEDIAN	0.95	0.19	0.72	80.71
		Q1	0.87	0.12	0.63	72.59
		Q3	1.08	0.27	0.86	86.73
		N	30	30	30	30
	HYPO	MEAN	2.15	1.46	0.70	36.88
		STD. ERR.	0.41	0.37	0.08	3.23
		MEDIAN	1.89	1.20	0.59	34.80
		Q1	1.12	0.58	0.53	28.73
		Q3	2.68	1.91	0.77	48.21
		N	10	10	10	10

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	1.64	0.80	0.84	55.08
		STD. ERR.	0.11	0.10	0.10	2.96
		MEDIAN	1.56	0.67	0.86	54.28
		Q1	1.12	0.41	0.60	44.00
		Q3	2.03	1.00	1.04	65.87
		N	34	34	34	34
	HYPO	MEAN	2.24	1.45	0.79	38.21
		STD. ERR.	0.40	0.38	0.14	8.65
		MEDIAN	1.93	1.29	0.88	37.28
		Q1	1.63	1.10	0.62	22.76
		Q3	2.39	1.44	1.03	47.28
		N	6	6	6	6
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	4.15	3.14	1.01	26.92
		STD. ERR.	0.37	0.32	0.08	1.61
		MEDIAN	4.01	2.76	0.84	24.67
		Q1	2.10	1.55	0.66	20.47
		Q3	5.40	3.84	1.41	34.44
		N	30	30	30	30

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	2.18	0.56	1.22	3.66
		STD. ERR.	0.15	0.13	0.07	0.28
		MEDIAN	2.25	0.38	1.10	3.55
		Q1	1.96	0.21	1.00	3.10
		Q3	2.55	0.68	1.45	3.80
		N	20	20	20	8
	HYPO	MEAN	2.16	0.59	2.63	NA
		STD. ERR.	0.13	0.11	1.05	NA
		MEDIAN	2.20	0.41	1.35	NA
		Q1	1.73	0.34	1.10	NA
		Q3	2.42	0.73	1.70	NA
		N	20	20	20	NA
SURVEY 2 JUNE 12 - JUNE 13						
	EPI	MEAN	1.00	0.85	0.96	3.90
		STD. ERR.	0.09	0.14	0.13	0.21
		MEDIAN	1.09	0.61	0.60	3.80
		Q1	0.69	0.35	0.50	3.60
		Q3	1.35	1.26	1.50	4.30
		N	21	21	21	3
	HYPO	MEAN	1.14	2.25	3.03	NA
		STD. ERR.	0.19	0.50	0.40	NA
		MEDIAN	0.90	1.97	3.50	NA
		Q1	0.80	1.66	2.30	NA
		Q3	1.67	2.27	3.80	NA
		N	9	9	9	NA

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	1.18	0.60	0.64	7.53
		STD. ERR.	0.19	0.16	0.10	0.87
		MEDIAN	0.95	0.39	0.45	7.30
		Q1	0.64	0.16	0.30	7.00
		Q3	1.29	0.82	0.60	9.30
		N	28	30	30	7
	HYPO	MEAN	0.91	1.12	2.28	NA
		STD. ERR.	0.14	0.22	0.23	NA
		MEDIAN	0.79	0.96	2.35	NA
		Q1	0.58	0.56	1.85	NA
		Q3	1.22	1.55	2.75	NA
		N	12	12	12	NA
SURVEY 4 JULY 24 - JULY 25						
	EPI	MEAN	2.14	0.50	0.46	7.88
		STD. ERR.	0.16	0.10	0.04	0.41
		MEDIAN	1.93	0.34	0.40	7.55
		Q1	1.48	0.20	0.20	6.90
		Q3	2.58	0.65	0.60	8.70
		N	30	30	30	8
	HYPO	MEAN	1.64	2.44	2.68	NA
		STD. ERR.	0.89	1.03	0.89	NA
		MEDIAN	1.80	1.21	1.80	NA
		Q1	1.50	0.75	1.50	NA
		Q3	2.10	1.92	2.10	NA
		N	19	19	19	NA

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	2.81	0.80	0.40	6.73
		STD. ERR.	0.14	0.10	0.01	0.23
		MEDIAN	2.61	0.63	0.40	6.65
		Q1	2.24	0.44	0.40	6.30
		Q3	3.18	0.94	0.40	7.20
		N	30	30	30	6
	HYPO	MEAN	2.49	4.55	2.61	NA
		STD. ERR.	0.88	0.79	0.51	NA
		MEDIAN	1.17	4.37	2.45	NA
		Q1	0.81	2.77	1.60	NA
		Q3	4.01	6.55	3.65	NA
		N	7	7	8	NA
SURVEY 6 AUG. 28 - AUG. 29						
	EPI	MEAN	2.70	1.46	0.49	4.33
		STD. ERR.	0.14	0.18	0.02	0.27
		MEDIAN	2.68	1.05	0.50	4.20
		Q1	2.31	0.79	0.40	3.90
		Q3	3.14	1.67	0.60	4.50
		N	30	30	30	7
	HYPO	MEAN	0.58	1.66	2.43	NA
		STD. ERR.	0.11	0.44	0.57	NA
		MEDIAN	0.53	1.33	2.10	NA
		Q1	0.31	0.51	0.80	NA
		Q3	0.69	2.31	3.30	NA
		N	10	10	10	NA

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	7.24	1.76	1.01	4.40
		STD. ERR.	2.03	0.39	0.92	0.20
		MEDIAN	5.16	1.32	0.85	4.40
		Q1	3.94	1.13	0.70	4.20
		Q3	6.03	1.55	1.20	4.60
		N	34	34	34	5
	HYPO	MEAN	2.07	1.34	1.38	NA
		STD. ERR.	0.51	0.49	0.27	NA
		MEDIAN	1.76	0.88	1.05	NA
		Q1	1.29	0.81	1.00	NA
		Q3	2.31	1.30	1.50	NA
		N	6	6	6	NA
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	4.70	4.39	3.50	2.72
		STD. ERR.	0.36	0.45	0.36	0.61
		MEDIAN	2.90	4.20	2.90	3.15
		Q1	1.80	2.45	1.80	1.85
		Q3	4.40	5.04	4.40	3.60
		N	30	30	30	4

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 1						
MAY 15 - MAY 17						
	EPI	MEAN	177.1	2.1	255.0	120.3
		STD. ERR.	6.5	0.6	75.0	13.8
		MEDIAN	170.0	1.5	255.0	104.5
		Q1	158.0	1.0	180.0	75.0
		Q3	197.0	2.5	330.0	138.5
		N	20	19	2	20
	HYPO	MEAN	183.0	6.7	NA	150.4
		STD. ERR.	5.9	1.2	NA	20.6
		MEDIAN	180.0	7.3	NA	150.0
		Q1	166.5	0.5	NA	75.0
		Q3	187.0	10.5	NA	224.0
		N	20	19	NA	19
SURVEY 2						
JUNE 12 - JUNE 13						
	EPI	MEAN	283.4	11.2	248.6	320.7
		STD. ERR.	31.3	1.5	17.0	22.9
		MEDIAN	177.0	9.6	220.0	300.0
		Q1	164.0	7.9	200.0	288.0
		Q3	465.0	14.7	270.0	349.0
		N	21	21	21	21
	HYPO	MEAN	253.8	25.3	308.9	627.3
		STD. ERR.	25.6	4.0	32.9	108.7
		MEDIAN	202.0	22.4	280.0	744.0
		Q1	199.0	20.2	260.0	450.0
		Q3	281.0	28.1	310.0	855.0
		N	9	9	9	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	215.3	8.4	126.9	268.4
		STD. ERR.	18.8	1.7	10.9	17.6
		MEDIAN	162.5	6.7	130.0	254.0
		Q1	145.0	4.4	80.0	205.0
		Q3	252.0	8.2	170.0	284.0
		N	30	30	29	30
	HYPO	MEAN	228.0	53.1	179.2	1216.9
		STD. ERR.	11.8	28.4	24.4	60.3
		MEDIAN	216.5	25.9	160.0	1224.0
		Q1	194.0	18.1	120.0	1084.5
		Q3	273.5	32.0	240.0	1366.0
		N	12	12	12	12
SURVEY 4 JULY 24 - JULY 25						
	EPI	MEAN	198.0	5.2	212.3	410.1
		STD. ERR.	10.8	0.7	11.5	16.9
		MEDIAN	180.0	4.3	215.0	423.5
		Q1	157.0	2.5	170.0	350.0
		Q3	200.0	5.8	240.0	475.0
		N	30	30	30	30
	HYPO	MEAN	244.2	25.7	237.8	1664.5
		STD. ERR.	9.8	2.4	31.2	91.0
		MEDIAN	242.0	28.0	220.0	1767.0
		Q1	215.0	20.7	170.0	1435.0
		Q3	250.0	29.5	240.0	1910.0
		N	19	19	18	19

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	197.2	7.3	154.3	312.0
		STD. ERR.	5.3	0.5	12.0	12.2
		MEDIAN	200.5	6.8	160.0	310.0
		Q1	186.0	5.4	110.0	265.0
		Q3	218.0	8.0	180.0	375.0
		N	30	29	30	27
	HYPO	MEAN	262.6	9.6	167.5	2740.0
		STD. ERR.	10.6	0.8	16.2	93.0
		MEDIAN	267.5	10.6	160.0	2765.0
		Q1	239.0	8.2	150.0	2557.0
		Q3	283.0	11.4	170.0	2974.0
		N	8	8	8	7
SURVEY 6 AUG. 28 - AUG. 29						
	EPI	MEAN	173.5	18.1	219.6	819.0
		STD. ERR.	6.9	8.4	20.3	169.4
		MEDIAN	175.5	7.8	200.0	590.0
		Q1	163.0	5.7	170.0	502.5
		Q3	199.0	10.7	260.0	651.5
		N	32	32	25	32
	HYPO	MEAN	69.8	87.5	348.8	4415.2
		STD. ERR.	24.6	16.2	48.2	223.4
		MEDIAN	21.0	76.4	345.0	4466.0
		Q1	15.0	45.5	260.0	4229.0
		Q3	153.0	118.9	440.0	4822.0
		N	9	9	8	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	121.6	8.0	312.4	370.0
		STD. ERR.	5.1	0.7	27.0	22.1
		MEDIAN	125.0	7.7	320.0	360.0
		Q1	114.0	5.4	240.0	280.0
		Q3	135.0	10.4	410.0	460.0
		N	29	29	25	29
	HYPO	MEAN	2.5	228.3	266.7	4740.8
		STD. ERR.	0.9	23.0	12.0	266.1
		MEDIAN	2.0	211.4	260.0	4919.0
		Q1	1.5	181.1	250.0	4167.0
		Q3	3.5	291.1	290.0	4980.0
		N	4	6	3	6
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	121.5	21.3	199.3	389.8
		STD. ERR.	4.4	4.9	17.3	23.3
		MEDIAN	128.0	15.1	195.0	393.0
		Q1	115.0	13.1	150.0	312.0
		Q3	133.0	18.0	240.0	491.0
		N	30	30	30	30

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	9.9	4.6	4.5	14.6
		STD. ERR.	0.4	0.2	1.0	0.2
		MEDIAN	9.7	4.6	4.0	14.4
		Q1	8.7	3.9	1.4	14.0
		Q3	11.2	5.3	5.9	15.0
		N	20	20	14	20
	HYPO	MEAN	10.4	5.3	5.7	14.3
		STD. ERR.	0.6	0.2	1.5	0.2
		MEDIAN	9.8	5.0	4.0	14.1
		Q1	9.0	4.6	0.9	13.8
		Q3	11.1	6.0	6.8	14.9
		N	20	20	17	20
SURVEY 2 JUNE 12 - JUNE 13						
	EPI	MEAN	10.7	5.6	2.5	15.1
		STD. ERR.	0.6	0.6	0.2	0.2
		MEDIAN	9.8	4.1	2.9	15.0
		Q1	8.9	3.4	1.8	14.0
		Q3	13.0	7.9	3.2	16.0
		N	21	21	21	21
	HYPO	MEAN	17.7	7.2	4.3	15.0
		STD. ERR.	1.2	0.9	0.9	0.3
		MEDIAN	17.2	6.0	2.5	15.3
		Q1	15.3	5.6	2.2	14.2
		Q3	21.0	9.9	7.2	15.5
		N	8	9	9	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	7.8	4.9	1.0	15.1
		STD. ERR.	0.5	0.3	0.1	0.1
		MEDIAN	7.8	4.7	0.8	14.9
		Q1	6.4	3.7	0.5	14.6
		Q3	8.4	5.6	1.0	15.7
		N	30	27	30	30
	HYPO	MEAN	13.5	6.5	1.7	15.0
		STD. ERR.	0.8	0.5	0.1	0.2
		MEDIAN	13.9	5.6	1.5	14.8
		Q1	12.7	5.2	1.4	14.5
		Q3	15.0	8.0	2.0	15.3
		N	10	11	12	11
SURVEY 4 JULY 24 - JULY 25						
	EPI	MEAN	9.9	4.4	1.2	14.8
		STD. ERR.	0.9	0.2	0.1	0.1
		MEDIAN	9.1	4.2	1.1	14.9
		Q1	7.9	3.7	0.9	14.7
		Q3	10.8	4.8	1.4	15.0
		N	30	29	30	30
	HYPO	MEAN	13.6	6.0	2.0	14.8
		STD. ERR.	1.4	0.3	0.2	0.1
		MEDIAN	13.2	5.8	2.0	14.7
		Q1	10.1	5.0	1.4	14.6
		Q3	14.6	7.1	2.4	15.0
		N	19	19	19	19

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	9.9	4.2	1.2	15.1
		STD. ERR.	0.3	0.3	0.2	0.1
		MEDIAN	9.4	4.0	1.3	15.0
		Q1	8.6	3.2	0.3	14.9
		Q3	11.2	4.7	1.5	15.5
		N	30	30	26	30
	HYPO	MEAN	21.6	9.8	3.3	14.8
		STD. ERR.	3.0	1.5	0.7	0.1
		MEDIAN	23.3	10.4	3.1	14.8
		Q1	14.3	5.6	1.6	14.7
		Q3	27.1	13.4	5.3	15.0
		N	8	8	8	8
SURVEY 6 AUG. 28 - AUG. 29						
	EPI	MEAN	22.6	14.9	6.4	15.3
		STD. ERR.	8.9	6.7	3.6	0.1
		MEDIAN	12.2	7.6	2.2	15.3
		Q1	11.1	6.0	2.0	15.0
		Q3	14.2	8.4	2.6	15.5
		N	32	32	32	32
	HYPO	MEAN	120.5	86.1	50.2	15.3
		STD. ERR.	29.0	19.8	11.5	0.2
		MEDIAN	101.4	66.6	40.2	15.1
		Q1	52.4	45.8	28.0	15.0
		Q3	158.0	127.2	72.8	15.2
		N	9	9	9	9

TABLE 4 (CONTINUED)

1985 CENTRAL BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	16.0	6.7	1.9	15.6
		STD. ERR.	0.6	0.6	0.2	0.2
		MEDIAN	15.9	7.2	1.8	15.3
		Q1	14.8	5.6	1.1	15.1
		Q3	17.3	8.4	2.4	15.5
		N	26	26	29	30
	HYPO	MEAN	141.6	118.6	59.0	15.2
		STD. ERR.	41.7	32.0	17.1	0.2
		MEDIAN	118.5	107.5	59.7	15.3
		Q1	68.4	62.6	16.5	14.7
		Q3	196.2	182.7	99.4	15.7
		N	6	6	6	6
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	23.0	10.3	4.2	14.7
		STD. ERR.	1.0	0.4	0.2	0.1
		MEDIAN	23.5	9.8	4.3	14.8
		Q1	18.9	8.9	3.8	14.4
		Q3	26.6	11.9	4.8	15.0
		N	30	30	30	30

TABLE 5

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 1 MAY 15 - MAY 17					
	EPI	MEAN	7.90	0.00	95.17
		STD. ERR.	0.04	0.00	0.38
		MEDIAN	7.90	0.00	95.70
		Q1	7.88	0.00	94.80
		Q3	7.96	0.00	96.60
		N	13	0	13
SURVEY 3 JULY 2 - JULY 4					
	EPI	MEAN	8.48	5.50	97.14
		STD. ERR.	0.02	0.49	0.34
		MEDIAN	8.48	5.75	97.70
		Q1	8.44	4.40	96.80
		Q3	8.53	6.60	97.70
		N	8	8	8
	MESO	MEAN	8.10	1.78	96.80
		STD. ERR.	0.07	0.35	0.24
		MEDIAN	8.13	1.80	96.80
		Q1	7.90	1.35	96.35
		Q3	8.26	2.20	97.25
		N	8	4	8
	HYPO	MEAN	7.79	0.0	98.33
		STD. ERR.	0.01	0.0	0.51
		MEDIAN	7.78	0.0	98.60
		Q1	7.76	0.0	97.70
		Q3	7.82	0.0	99.40
		N	11	0	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 5 AUG. 6 - AUG.8					
	EPI	MEAN	8.31	3.88	96.34
		STD. ERR.	0.02	0.37	0.62
		MEDIAN	8.31	4.10	96.40
		Q1	8.25	3.00	94.40
		Q3	8.36	5.10	97.50
		N	12	11	12
	MESO	MEAN	7.55	0.00	97.70
		STD. ERR.	0.10	0.00	0.78
		MEDIAN	7.51	0.00	97.45
		Q1	7.38	0.00	96.40
		Q3	7.72	0.00	99.00
		N	4	0	4
	HYPO	MEAN	7.56	0.00	97.07
		STD. ERR.	0.05	0.00	0.48
		MEDIAN	7.60	0.00	97.40
		Q1	7.40	0.00	95.40
		Q3	7.75	0.00	98.50
		N	11	0	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	PH (SU)	ALK PHEN (MG/L)	ALK TOT. (MG/L)
SURVEY 7 SEPT. 19 - SEPT. 21					
	EPI	MEAN	8.43	2.75	95.50
		STD. ERR.	0.03	0.43	0.35
		MEDIAN	8.45	2.50	95.50
		Q1	8.40	1.50	94.50
		Q3	8.49	4.00	96.00
		N	12	12	12
	MESO	MEAN	7.73	0.00	98.25
		STD. ERR.	0.03	0.00	0.63
		MEDIAN	7.70	0.00	98.50
		Q1	7.69	0.00	97.50
		Q3	7.76	0.00	99.00
		N	4	0	4
	HYPO	MEAN	7.65	0.00	99.34
		STD. ERR.	0.02	0.00	0.67
		MEDIAN	7.65	0.00	98.50
		Q1	7.64	0.00	97.50
		Q3	7.70	0.00	100.50
		N	11	0	11
SURVEY 8 NOV. 12 - NOV. 15					
	EPI	MEAN	7.89	1.00	102.13
		STD. ERR.	0.01	0.13	0.25
		MEDIAN	7.89	1.00	102.25
		Q1	7.87	0.75	101.50
		Q3	7.92	1.25	102.50
		N	12	8	12

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	4.42	13.08	104.11	263.85
		STD. ERR.	0.18	0.08	0.93	1.20
		MEDIAN	4.30	13.10	103.13	264.00
		Q1	4.00	12.80	101.78	261.00
		Q3	4.50	13.20	105.14	265.00
		N	13	13	13	13
SURVEY 3 JULY 2 -JULY 4						
	EPI	MEAN	19.70	9.46	101.14	270.63
		STD. ERR.	0.48	0.24	2.73	1.03
		MEDIAN	19.30	9.40	100.40	271.00
		Q1	18.65	9.15	97.94	268.50
		Q3	20.80	9.70	105.97	273.00
		N	8	8	8	8
	MESO	MEAN	12.28	9.95	91.31	274.00
		STD.ERR.	1.19	0.25	2.54	0.60
		MEDIAN	13.15	9.70	92.26	274.00
		Q1	9.65	9.45	84.53	273.00
		Q3	15.25	10.55	94.69	275.50
		N	8	8	8	8
	HYPO	MEAN	5.15	10.55	84.93	277.09
		STD. ERR.	0.28	0.37	2.81	0.58
		MEDIAN	5.00	11.10	88.26	277.00
		Q1	4.50	10.10	80.45	275.00
		Q3	5.30	11.30	90.31	278.00
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	21.54	8.89	99.06	273.67
		STD. ERR.	0.06	0.05	0.65	2.35
		MEDIAN	21.60	8.85	98.96	272.00
		Q1	21.45	8.80	97.37	269.00
		Q3	21.70	9.05	101.08	274.50
		N	12	12	12	12
	MESO	MEAN	14.52	8.35	79.96	279.00
		STD. ERR.	1.32	0.62	6.03	2.52
		MEDIAN	14.80	8.50	77.97	280.00
		Q1	12.35	7.55	71.63	276.00
		Q3	16.70	9.15	88.29	282.00
		N	4	4	4	4
	HYPO	MEAN	5.82	9.70	78.89	279.27
		STD. ERR.	0.44	0.40	2.83	0.75
		MEDIAN	5.10	10.30	82.21	280.00
		Q1	4.90	9.40	79.10	278.00
		Q3	7.70	10.50	84.48	281.00
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TEMP (°C)	DO (MG/L)	DO SAT. (%)	COND.CR (UMHOS)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	20.47	8.23	89.41	271.58
		STD. ERR.	0.08	0.11	1.32	0.80
		MEDIAN	20.60	8.35	91.01	271.50
		Q1	20.40	8.15	88.54	270.00
		Q3	20.60	8.50	92.11	272.50
		N	12	12	12	12
	MESO	MEAN	11.65	6.15	55.55	281.50
		STD. ERR.	1.37	0.59	4.67	1.19
		MEDIAN	11.80	6.10	56.81	281.50
		Q1	9.70	5.30	48.04	279.50
		Q3	13.60	7.00	63.06	283.50
		N	4	4	4	4
	HYPO	MEAN	6.19	7.47	61.16	282.91
		STD. ERR.	0.29	0.27	2.01	1.02
		MEDIAN	6.00	7.90	63.35	283.00
		Q1	5.40	7.30	60.37	281.00
		Q3	6.70	8.00	65.36	285.00
		N	11	11	11	11
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	11.18	10.14	90.94	274.83
		STD. ERR.	0.16	0.01	0.31	1.10
		MEDIAN	11.40	10.10	91.03	275.00
		Q1	11.15	10.10	90.69	271.50
		Q3	11.55	10.20	91.50	278.00
		N	12	12	12	12

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	3.23	1.86	1.37	36.41
		STD. ERR.	0.85	0.33	0.54	3.53
		MEDIAN	2.47	1.41	0.77	31.32
		Q1	1.87	1.34	0.61	27.99
		Q3	2.87	1.89	1.09	43.22
		N	12	12	12	12
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	0.66	0.30	0.37	56.62
		STD. ERR.	0.06	0.06	0.04	6.21
		MEDIAN	0.63	0.23	0.39	60.10
		Q1	0.53	0.17	0.27	42.07
		Q3	0.77	0.42	0.45	71.79
		N	8	8	8	8
	MESO	MEAN	0.93	0.43	0.50	57.42
		STD. ERR.	0.10	0.10	0.02	5.76
		MEDIAN	0.93	0.38	0.51	59.17
		Q1	0.73	0.22	0.47	44.96
		Q3	1.01	0.56	0.55	69.43
		N	8	8	8	8
	HYPO	MEAN	2.17	1.50	0.67	34.54
		STD. ERR.	0.31	0.33	0.15	7.57
		MEDIAN	1.76	1.28	0.47	23.81
		Q1	1.61	0.53	0.40	17.79
		Q3	2.81	2.31	0.73	47.00
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	0.56	0.16	0.40	71.58
		STD. ERR.	0.01	0.01	0.01	1.81
		MEDIAN	0.58	0.16	0.39	70.37
		Q1	0.54	0.13	0.38	67.43
		Q3	0.60	0.19	0.45	76.92
		N	12	12	12	12
	MESO	MEAN	1.14	0.74	0.40	39.60
		STD. ERR.	0.26	0.24	0.04	6.65
		MEDIAN	1.07	0.66	0.41	38.84
		Q1	0.80	0.41	0.34	28.84
		Q3	1.48	1.07	0.47	50.35
		N	4	4	4	4
	HYPO	MEAN	2.37	1.54	0.83	34.13
		STD. ERR.	0.22	0.25	0.23	7.59
		MEDIAN	2.41	1.48	0.52	21.76
		Q1	1.84	0.63	0.40	18.93
		Q3	3.05	2.12	0.74	38.83
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TSS (MG/L)	RS (MG/L)	VS (MG/L)	PERVS (%)
SURVEY 7 NOV. 12 - NOV. 15						
	EPI	MEAN	0.94	0.41	0.53	57.41
		STD. ERR.	0.05	0.05	0.05	4.46
		MEDIAN	0.91	0.42	0.53	60.57
		Q1	0.78	0.26	0.42	45.01
		Q3	1.11	0.51	0.67	70.41
		N	12	12	12	12
	MESO	MEAN	0.91	0.43	0.48	51.97
		STD. ERR.	0.10	0.07	0.09	7.55
		MEDIAN	0.87	0.44	0.52	55.75
		Q1	0.76	0.32	0.34	41.68
		Q3	1.06	0.55	0.62	62.26
		N	4	4	4	4
	HYPO	MEAN	1.72	1.29	0.42	28.16
		STD. ERR.	0.29	0.27	0.05	4.75
		MEDIAN	1.45	1.16	0.37	21.70
		Q1	1.26	0.87	0.33	19.57
		Q3	1.95	1.60	0.45	30.95
		N	10	10	10	10
SURVEY 8 MAR. 3 - APR. 5						
	EPI	MEAN	1.81	1.34	0.47	29.59
		STD. ERR.	0.30	0.29	0.03	2.43
		MEDIAN	1.42	0.97	0.47	30.29
		Q1	1.29	0.83	0.38	26.01
		Q3	1.52	1.08	0.56	37.60
		N	12	12	12	12

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	1.17	0.50	2.57	3.28
		STD. ERR.	0.17	0.12	0.18	0.23
		MEDIAN	0.99	0.40	2.10	3.20
		Q1	0.75	0.26	2.10	3.00
		Q3	1.44	0.80	3.00	3.55
		N	12	12	13	4
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	0.89	1.57	0.41	7.86
		STD. ERR.	0.12	0.38	0.07	0.78
		MEDIAN	0.84	1.30	0.40	7.90
		Q1	0.63	0.73	0.25	6.50
		Q3	1.10	2.38	0.55	9.20
		N	8	8	8	3
	MESO	MEAN	1.73	2.44	0.61	NA
		STD. ERR.	0.20	0.47	0.11	NA
		MEDIAN	1.76	2.58	0.55	NA
		Q1	1.25	1.36	0.40	NA
		Q3	2.20	3.04	0.75	NA
		N	8	8	8	
	HYPO	MEAN	0.62	2.11	2.35	NA
		STD. ERR.	0.22	0.34	0.42	NA
		MEDIAN	0.38	1.81	1.90	NA
		Q1	0.27	1.32	1.60	NA
		Q3	0.85	3.18	3.00	NA
		N	10	10	11	NA

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	1.47	0.81	0.53	8.40
		STD. ERR.	0.05	0.14	0.02	0.00
		MEDIAN	1.45	0.60	0.50	8.40
		Q1	1.40	0.43	0.50	8.40
		Q3	1.53	1.78	0.60	8.40
		N	12	12	12	1
	MESO	MEAN	0.65	1.65	1.13	NA
		STD. ERR.	0.17	0.30	0.17	NA
		MEDIAN	0.69	1.90	1.05	NA
		Q1	0.40	1.31	0.90	NA
		Q3	0.92	2.00	1.35	NA
		N	4	4	4	NA
	HYPO	MEAN	-0.01	2.68	2.93	NA
		STD. ERR.	0.14	0.54	0.39	NA
		MEDIAN	-0.11	2.76	2.80	NA
		Q1	-0.38	0.93	2.40	NA
		Q3	0.21	3.46	2.30	NA
		N	11	11	11	NA

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	CHLA CORR. (UG/L)	PHEO. (UG/L)	TURBID (NTU)	SECCHI (METER)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	1.81	0.51	0.60	4.90
		STD. ERR.	0.11	0.08	0.03	0.44
		MEDIAN	1.91	0.43	0.60	5.00
		Q1	1.66	0.31	0.50	4.10
		Q3	2.11	0.66	0.70	5.60
		N	12	12	12	3
	MESO	MEAN	1.09	0.65	0.50	NA
		STD. ERR.	0.13	0.27	0.07	NA
		MEDIAN	1.15	0.44	0.45	NA
		Q1	0.89	0.33	0.40	NA
		Q3	1.29	0.98	0.60	NA
		N	4	4	4	NA
	HYPO	MEAN	0.46	0.82	1.65	NA
		STD. ERR.	0.08	0.24	0.20	NA
		MEDIAN	0.38	0.48	1.50	NA
		Q1	0.28	0.37	1.10	NA
		Q3	0.73	0.91	2.00	NA
		N	11	11	11	NA
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	1.10	1.78	1.82	3.67
		STD. ERR.	0.06	0.28	0.35	0.28
		MEDIAN	1.10	1.55	1.30	3.90
		Q1	1.04	1.16	1.20	3.10
		Q3	1.25	1.96	1.60	4.00
		N	12	12	12	3

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	288.0	2.0	NA	250.1
		STD. ERR.	3.0	0.4	NA	10.1
		MEDIAN	283.0	1.8	NA	256.0
		Q1	280.0	0.8	NA	231.0
		Q3	300.0	3.5	NA	280.0
		N	13	11	NA	13
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	185.8	5.7	227.5	243.1
		STD. ERR.	4.3	0.9	45.4	15.6
		MEDIAN	182.5	4.8	215.0	242.5
		Q1	178.0	3.6	135.0	222.5
		Q3	194.0	7.6	275.0	280.0
		N	8	8	8	8
	MESO	MEAN	237.8	16.8	195.0	210.6
		STD. ERR.	11.0	3.6	17.1	19.9
		MEDIAN	233.0	13.3	185.0	202.5
		Q1	210.0	8.9	170.0	170.0
		Q3	270.5	27.2	205.0	247.5
		N	8	8	8	8
	HYPO	MEAN	315.9	8.8	319.1	553.2
		STD. ERR.	3.9	1.5	145.7	39.4
		MEDIAN	319.0	7.4	180.0	550.0
		Q1	305.0	4.6	60.0	475.0
		Q3	321.0	11.5	230.0	670.0
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 5 AUG. 6 - AUG.8						
	EPI	MEAN	183.0	4.7	155.0	219.8
		STD. ERR.	3.9	0.4	11.8	8.2
		MEDIAN	179.0	4.7	155.0	216.0
		Q1	173.5	3.8	120.0	197.0
		Q3	192.5	5.7	180.0	242.0
		N	12	12	12	12
	MESO	MEAN	327.0	3.7	145.0	451.0
		STD. ERR.	10.7	1.2	21.0	113.8
		MEDIAN	325.0	3.2	140.0	468.0
		Q1	313.0	1.8	115.0	265.5
		Q3	341.0	5.6	175.0	636.5
		N	4	4	4	4
	HYPO	MEAN	348.1	8.1	130.0	653.8
		STD. ERR.	3.7	1.6	8.9	56.6
		MEDIAN	345.0	8.2	120.0	658.0
		Q1	335.0	2.3	110.0	605.0
		Q3	360.0	12.7	140.0	747.0
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	NITRATE NITRITE (UG/L)	AMMOMIA NITROGEN (UG/L)	KJELDAHL NITROGEN (UG/L)	SOLUBLE SILICA (UG/L)
SURVEY 7						
SEPT. 19 - SEPT. 21						
	EPI	MEAN	174.3	6.5	286.7	365.8
		STD. ERR.	3.5	1.9	35.0	11.2
		MEDIAN	172.0	4.6	320.0	367.5
		Q1	168.0	2.8	180.0	337.5
		Q3	174.0	7.2	370.0	380.0
		N	12	12	9	12
	MESO	MEAN	327.3	7.2	457.5	575.0
		STD. ERR.	34.6	5.0	239.7	44.2
		MEDIAN	357.0	2.5	290.0	545.0
		Q1	289.0	1.8	165.0	512.5
		Q3	365.5	12.6	750.0	637.5
		N	4	4	4	4
	HYPO	MEAN	372.8	8.6	184.1	993.2
		STD. ERR.	1.9	2.9	19.4	48.0
		MEDIAN	372.0	6.8	200.0	980.0
		Q1	370.0	3.2	170.0	900.0
		Q3	380.0	9.0	220.0	1040.0
		N	11	11	9	11
SURVEY 8						
NOV. 12 - NOV. 15						
	EPI	MEAN	219.9	14.7	169.2	555.8
		STD. ERR.	3.6	0.5	27.6	39.1
		MEDIAN	219.0	14.9	150.0	543.0
		Q1	208.5	14.1	115.0	519.0
		Q3	221.5	16.1	190.0	628.5
		N	12	12	12	12

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 1 MAY 15 - MAY 17						
	EPI	MEAN	11.5	6.4	7.6	14.9
		STD. ERR.	0.6	0.4	1.5	0.1
		MEDIAN	11.8	6.2	4.8	14.6
		Q1	10.1	5.6	4.0	14.5
		Q3	12.9	7.2	13.1	15.1
		N	13	10	13	13
SURVEY 3 JULY 2 - JULY 4						
	EPI	MEAN	8.9	3.8	0.7	14.8
		STD. ERR.	1.4	0.1	0.1	0.0
		MEDIAN	7.5	3.7	0.5	14.8
		Q1	7.4	3.7	0.4	14.7
		Q3	7.9	4.2	1.0	14.9
		N	8	6	8	8
	MESO	MEAN	10.1	15.2	1.2	14.7
		STD. ERR.	0.5	0.7	0.2	0.1
		MEDIAN	9.8	4.7	1.4	14.6
		Q1	9.6	3.6	0.8	14.6
		Q3	10.0	6.1	1.5	14.8
		N	8	8	8	8
	HYPO	MEAN	9.5	4.3	1.5	15.0
		STD. ERR.	0.6	0.3	0.2	0.2
		MEDIAN	8.9	3.7	1.5	14.9
		Q1	7.5	3.4	1.3	14.6
		Q3	11.2	5.2	1.8	15.0
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 5 AUG. 6 - AUG. 8						
	EPI	MEAN	9.9	2.9	0.6	15.1
		STD. ERR.	1.2	0.4	0.1	0.1
		MEDIAN	9.0	2.6	0.5	15.0
		Q1	8.1	1.7	0.4	15.0
		Q3	9.8	3.5	0.8	15.1
		N	12	12	12	12
	MESO	MEAN	8.8	2.6	0.8	16.2
		STD. ERR.	0.5	1.3	0.1	1.3
		MEDIAN	9.0	2.1	0.8	14.9
		Q1	8.3	0.6	0.6	14.9
		Q3	9.4	4.7	0.9	17.5
		N	4	4	4	4
	HYPO	MEAN	9.4	3.2	1.3	15.0
		STD. ERR.	0.3	0.5	0.1	0.0
		MEDIAN	8.9	3.1	1.1	15.0
		Q1	8.6	1.9	1.0	14.9
		Q3	10.5	4.2	1.8	15.0
		N	11	11	11	11

TABLE 5 (CONTINUED)

1985 EASTERN BASIN MEAN/MEDIAN WATER QUALITY MEASUREMENTS

SURVEY /DATE	DEPTH	STATISTICS	TOTAL PHOSPHORUS (UG/L)	TOTAL FILTERED PHOSPHORUS (UG/L)	SOLUBLE REACTIVE PHOSPHORUS (UG/L)	TOTAL CHLORIDE (MG/L)
SURVEY 7 SEPT. 19 - SEPT. 21						
	EPI	MEAN	7.6	3.5	1.9	16.4
		STD. ERR.	0.4	0.2	1.0	0.5
		MEDIAN	7.5	3.7	1.4	15.5
		Q1	6.7	3.0	0.3	15.4
		Q3	7.9	3.9	3.5	17.0
		N	9	12	4	12
	MESO	MEAN	6.7	4.5	0.5	17.3
		STD. ERR.	0.2	0.6	0.0	1.2
		MEDIAN	6.9	4.5	0.5	17.0
		Q1	6.3	3.5	0.5	15.3
		Q3	7.0	5.5	0.5	19.3
		N	3	4	1	4
	HYPO	MEAN	9.4	5.0	1.5	15.9
		STD. ERR.	0.8	0.4	0.5	0.3
		MEDIAN	9.1	5.0	0.5	15.4
		Q1	8.0	3.5	0.5	15.1
		Q3	11.2	6.5	2.5	16.8
		N	8	11	10	11
SURVEY 8 NOV. 12 - NOV. 15						
	EPI	MEAN	11.6	6.3	2.2	14.9
		STD. ERR.	0.4	0.2	0.1	0.1
		MEDIAN	11.2	6.3	2.1	14.9
		Q1	10.6	6.0	1.9	14.7
		Q3	12.5	6.6	2.4	15.0
		N	12	12	12	12

TABLE 6

LAKE ERIE CENTRAL BASIN REPRESENTATIVE AREA
LIMNION, OXYGEN AND TEMPERATURE DATA, 1985*

DATE	SUR	STRAT	LIMNION	VOLUME (km3)	HYPO AREA (km2)	THICKNESS (m)	OXYGEN (mg/l)	TEMP (°C)
5/15-5/17	1	STRAT	EPI	64.8		13.5	12.3	10.7
			MESO	8.8		1.9	12.2	9.0
			HYPO	39.3	4,680	8.4	11.9	7.5
			TOTAL	112.9				
6/12-6/13	2	STRAT	EPI	99.0		20.6	10.0	14.8
			MESO	5.2		1.2	8.8	10.8
			HYPO	8.8	3,670	2.4	8.3	9.2
			TOTAL	113.0				
7/2-7/4	3	STRAT	EPI	92.9		19.3	9.2	18.4
			MESO	9.1		1.9	7.3	14.0
			HYPO	10.5	4,200	2.5	5.6	11.7
			TOTAL	112.5				
7/24-7/25	4	STRAT	EPI	87.0		18.1	9.0	21.7
			MESO	6.0		1.3	6.3	17.5
			HYPO	19.5	4,760	4.1	4.1	13.6
			TOTAL	112.5				
8/6-8/8	5	STRAT	EPI	98.6		20.5	8.7	22.0
			MESO	6.9		1.5	5.8	18.6
			HYPO	6.4	3,560	1.8	1.8	14.1
			TOTAL	111.9				
8/28-8/29	6	STRAT	EPI	100.1		20.8	8.3	22.4
			MESO	4.3		1.0	3.3	18.8
			HYPO	7.6	4,000	1.9	0.2	15.6
			TOTAL	112.0				
9/19-9/21	7	STRAT	EPI	107.0		22.3	8.5	21.0
			MESO	2.0		0.8	3.4	17.0
			HYPO	2.4	2,000	1.2	3.6	17.4
			TOTAL	111.4				
11/12-11/15	8	UNSTR.	TOTAL	112.0	-	23.3	10.2	12.3

* THIS DATA WAS DERIVED FROM THE SURVEY 8 VOLUME WEIGHTING PROGRAM

TABLE 7

LAKE ERIE EASTERN BASIN REPRESENTATIVE AREA
LIMNION, OXYGEN AND TEMPERATURE DATA, 1985*

DATE	SUR	STRAT	LIMNION	VOLUME (km3)	HYPO AREA (km2)	THICKNESS (m)	OXYGEN (mg/l)	TEMP (°C)
5/15-5/17	1	UNSTR	TOTAL	72.1	-	45.9	13.1	4.3
7/2-7/4	3	STRAT	EPI	26.0		16.6	9.5	18.2
			MESO	18.1		11.5	10.2	10.1
			HYPO	27.8	1,560	17.8	10.4	4.7
			TOTAL	71.9				
8/6-8/8	5	STRAT	EPI	31.3		19.9	8.8	21.6
			MESO	19.4		12.4	8.9	12.6
			HYPO	21.0	1,510	13.9	10.0	5.2
			TOTAL	71.7				
9/19-9/21	7	STRAT	EPI	38.4		24.4	8.3	20.5
			MESO	7.4		4.7	6.6	13.8
			HYPO	28.5	1,540	16.7	7.8	6.0
			TOTAL	71.6				
11/12-11/15	8	UNSTR	TOTAL	71.8	-	45.7	10.1	11.2

* THIS DATA WAS DERIVED FROM THE SURVEY 8 VOLUME WEIGHTING PROGRAM

TABLE 8

LAKE ERIE CENTRAL BASIN REPRESENTATIVE AREA
VOLUME WEIGHTED TOTAL PHOSPHORUS AND CORRECTED CHLOROPHYLL A DATA, 1985

DATE	SUR	STRAT	LIMNION	VOLUME (km3)	TOTAL PHOSPHORUS metric tons	TOTAL PHOSPHORUS conc. (ug/l)	CORR CHL A metric tons	CORR CHL A conc. (ug/l)
5/15-5-17	1	STRAT	EPI	64.8	645.6	10.0	152.6	2.4
			MESO	8.8	82.9	9.4	20.6	2.3
			HYPO	39.3	399.3	10.2	80.9	2.0
			TOTAL	112.9	1127.8	10.0	254.1	2.3
6/12-6/13	2	STRAT	EPI	99.0	1098.5	11.1	102.3	1.0
			MESO	5.2	79.4	15.2	5.0	1.0
			HYPO	8.8	163.2	18.7	12.6	1.4
			TOTAL	113.0	1341.1	11.9	119.9	1.1
7/2-7/4	3	STRAT	EPI	92.9	782.4	8.4	121.6	1.3
			MESO	9.1	90.5	9.9	7.8	0.9
			HYPO	10.5	135.6	13.0	8.5	0.8
			TOTAL	112.5	1008.5	9.0	137.9	1.2
7/24-7/25	4	STRAT	EPI	87.0	827.7	9.5	192.9	2.2
			MESO	6.0	57.6	9.6	12.6	2.1
			HYPO	19.5	250.6	12.9	29.9	1.5
			TOTAL	112.5	1135.9	10.1	235.4	2.1
8/6-8/8	5	STRAT	EPI	98.6	959.9	9.7	281.5	2.8
			MESO	6.9	97.4	14.1	14.3	2.1
			HYPO	6.4	148.0	23.0	20.0	3.1
			TOTAL	111.9	1205.3	10.2	315.8	2.8
8/28-8/29	6	STRAT	EPI	100.1	1264.6	12.6	261.1	2.6
			MESO	4.3	506.3	116.8	4.0	0.9
			HYPO	7.6	732.1	96.6	3.5	0.5
			TOTAL	112.0	2503.0	22.4	268.6	2.4
9/19-9/21	7	STRAT	EPI	107.0	1711.3	16.0	639.5	6.0
			MESO	2.0	166.6	81.3	6.2	3.0
			HYPO	2.4	290.6	120.8	9.0	3.7
			TOTAL	111.4	2168.5	19.5	654.7	5.9
11/12-11/15	8	UNSTR	TOTAL	112.0	2824.2	25.2	550.1	5.0

TABLE 9

LAKE ERIE EASTERN BASIN REPRESENTATIVE AREA
VOLUME WEIGHTED TOTAL PHOSPHORUS AND CORRECTED CHLOROPHYLL A DATA, 1985

DATE	SUR	STRAT	LIMNION	VOLUME (km3)	TOTAL PHOSPHORUS metric tons	conc. (ug/l)	CORR. CHL.A metric tons	conc. (ug/l)
5/15-5/17	1	UNSTR	TOTAL	72.1	837.0	11.7	68.6	0.9
7/2-7/4	3	STRAT	EPI	26.0	212.2	8.2	26.2	1.0
			MESO	18.1	173.6	9.5	37.6	2.1
			HYPO	27.8	253.6	9.1	18.7	0.7
			TOTAL	71.9	639.4	8.9	82.5	1.2
8/6-8/8	5	STRAT	EPI	31.3	323.7	10.3	48.2	1.5
			MESO	19.4	178.5	9.2	11.9	0.6
			HYPO	21.0	211.4	10.1	14.6	0.7
			TOTAL	71.7	713.6	10.0	74.7	1.0
9/19-9/21	7	STRAT	EPI	38.4	284.4	7.4	74.9	2.0
			MESO	7.4	50.0	6.7	9.7	1.3
			HYPO	25.8	234.2	9.1	13.1	0.5
			TOTAL	71.6	568.6	7.9	97.7	1.4
11/12-11/15	8	STRAT	TOTAL	71.8	810.7	11.3	83.8	1.2

TABLE 10

```
            VARIABLE     TEMP                  VARIABLE     TSS
   MEAN              18.3502                             1.3332
ST.DV.                4.251                              1.452

STATION *-   S    S    M    S    S   +*    *-   S    S    M    S    S   +*
  32.0  * )            B            ( *    * )          B              ( *
  78.0  * )            B            ( *    * )           B             ( *
  31.0  * )            B            ( *    * )           B             ( *
  30.0  * )            B            ( *    * )            B            ( *
  38.0  * )            B            ( *    * )              B          ( *
  37.0  * )            B            ( *    * )            B            ( *
  36.0  * )            B            ( *    * )            B            ( *
  73.0  * )            B            ( *    * )            B            ( *
  42.0  * )            B            ( *    * )            B            ( *
  43.0  * )            B            ( *    * )             B           ( *


            VARIABLE     CHLACORR              VARIABLE     CORRTP
   MEAN               2.8772                             12.3792
ST.DV.                1.934                               6.090

STATION *-   S    S    M    S    S   +*    *-   S    S    M    S    S   +*
  32.0  * )          B              ( *    * )          B              ( *
  78.0  * )            B            ( *    * )           B             ( *
  31.0  * )            B            ( *    * )            B            ( *
  30.0  * )             B           ( *    * )             B           ( *
  38.0  * )             B           ( *    * )            B            ( *
  37.0  * )             B           ( *    * )            B            ( *
  36.0  * )           B             ( *    * )            B            ( *
  73.0  * )           B             ( *    * )            B            ( *
  42.0  * )            B            ( *    * )             B           ( *
  43.0  * )            B            ( *    * )             B           ( *


            VARIABLE     NITNIT
   MEAN             182.5882
STD.DEV.             80.541

STATION *-   S    S    M    S    S   +*
  32.0  * )           B             ( *
  78.0  * )          B              ( *
  31.0  * )            B            ( *
  30.0  * )           B             ( *
  38.0  * )             B           ( *
  37.0  * )          B              ( *
  36.0  * )           B             ( *
  73.0  * )            B            ( *
  42.0  * )              B          ( *
  43.0  * )               B         ( *
```

TABLE 11

```
            VARIABLE     TEMP
 MEAN                  14.9702
ST.DV.                  6.945

STATION *-   S    S    M    S    S   +*
 63.0   * )            A            ( *
 9.00   * )            A            ( *
 10.0   * )            A            ( *
 15.0   * )           A             ( *
```

```
            VARIABLE     TSS
 MEAN                  1.2193
ST.DV.                 0.981

STATION *-   S    S    M    S    S   +*
 63.0   * )             A           ( *
 9.00   * )           A             ( *
 10.0   * )            A            ( *
 15.0   * )           A             ( *
```

```
            VARIABLE     CHLACORR
 MEAN                  1.2760
ST.DV.                 0.563

STATION *-   S    S    M    S    S   +*
 63.0   * )            A            ( *
 9.00   * )           A             ( *
 10.0   * )             A           ( *
 15.0   * )             A           ( *
```

```
            VARIABLE     CORRTP
 MEAN                  9.5614
ST.DV.                 3.872

STATION *-   S    S    M    S    S   +*
 63.0   * )           A             ( *
 9.00   * )              A          ( *
 10.0   * )            A            ( *
 15.0   * )            A            ( *
```

```
            VARIABLE     NITNIT
 MEAN                  213.2632
STD.DEV.                45.543

STATION *-   S    S    M    S    S   +*
 63.0   * )           A             ( *
 9.00   * )            A            ( *
 10.0   * )            A            ( *
 15.0   * )             A           ( *
```

TABLE 12

QUALITY CONTROL SUMMARY FOR 1985
Difference Between Duplicate Samples

PARAMETER	UNITS	N	MEAN	STANDARD DEVIATION	RANGE LIMIT	PERCENT OF SAMPLES WITHIN RANGE LIMIT
TEMPERATURE	°C	8	.03	.02	.10	100%
DISSOLVED OXYGEN	mg/l	15	.12	.11	.39	100%
CONDUCTIVITY 25°C	umhos	19	1.84	1.63	6.02	100%
pH	SU	27	.02	.02	.07	92.6%
ALKALINITY TOTAL	mg/l	18	1.11	.98	3.63	94.4%
ALKALINITY PHENOLPHTHALEIN	mg/l	18	.56	.50	1.93	88.9%
SECCHI	M	4	.13	.11	.41	100%
TURBIDITY	NTU	24	.18	.16	.60	95.8%
TOTAL SUSPENDED SOLIDS	mg/l	15	.16	.15	.53	93.3%
RESIDUAL SOLIDS	mg/l	15	.21	.18	.67	93.3%
VOLITILE SOLIDS	mg/l	15	.15	.14	.50	100%
CORR CHLOROPHYLL A	ug/l	17	.40	.35	1.30	94.1%
PHEOPHYTIN	ug/l	17	.68	.60	2.22	94.1%
PHOSPHORUS: TOTAL PHOSPHORUS	ug/l	35	.32	.29	1.06	97.1%
TOTAL FILTERED	ug/l	34	.41	.36	1.33	91.2%
SOLUBLE REACTIVE	ug/l	35	.28	.25	.92	97.1%
NITRATE + NITRITE	ug/l	33	1.24	1.10	4.06	97.0%
AMMONIA	ug/l	33	.84	.75	2.76	93.9%
SOLUBLE SILICA	ug/l	36	12.39	10.98	40.46	97.2%
CHLORIDE	mg/l	36	.08	.69	.26	91.7%

FIGURES

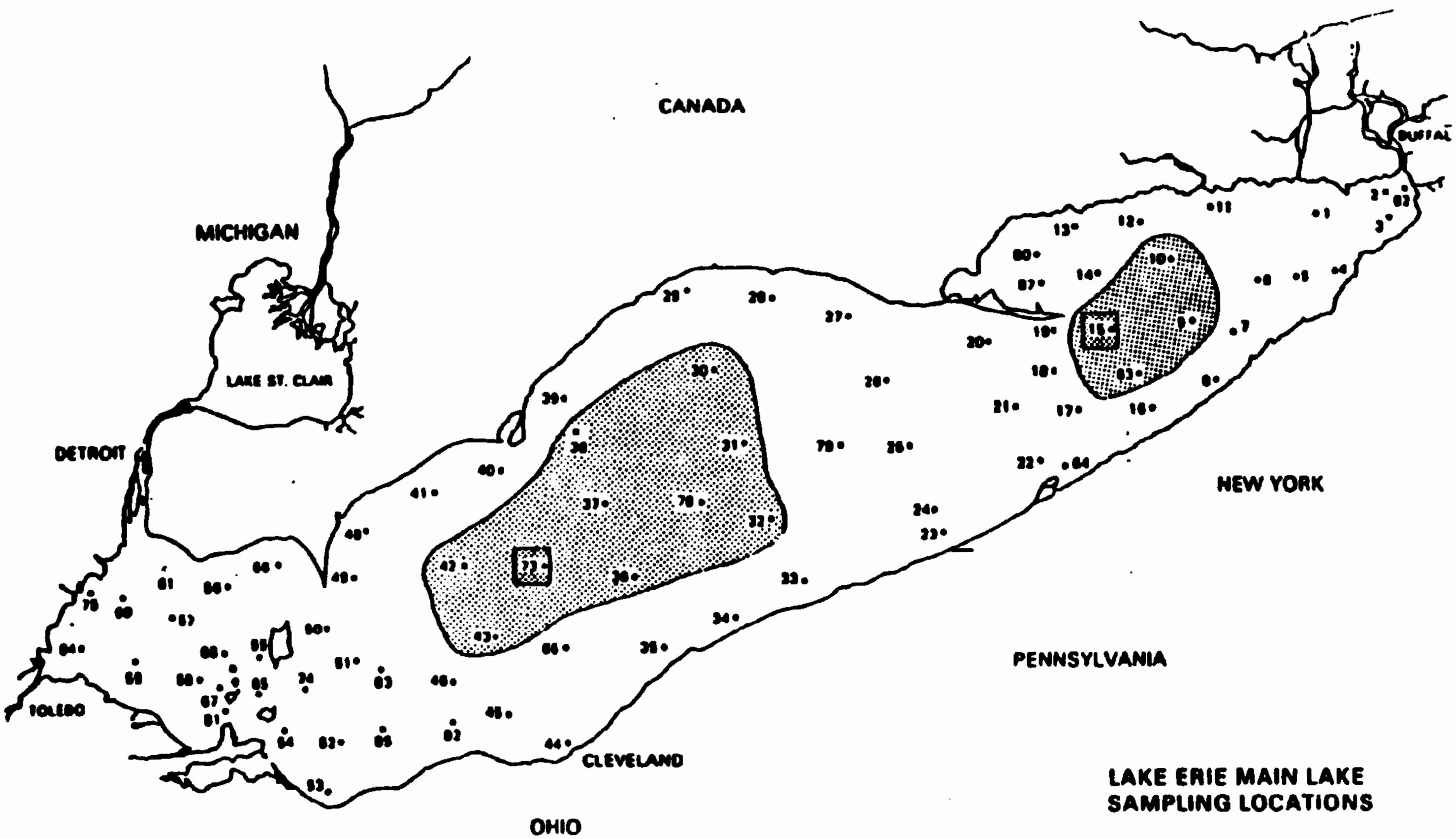
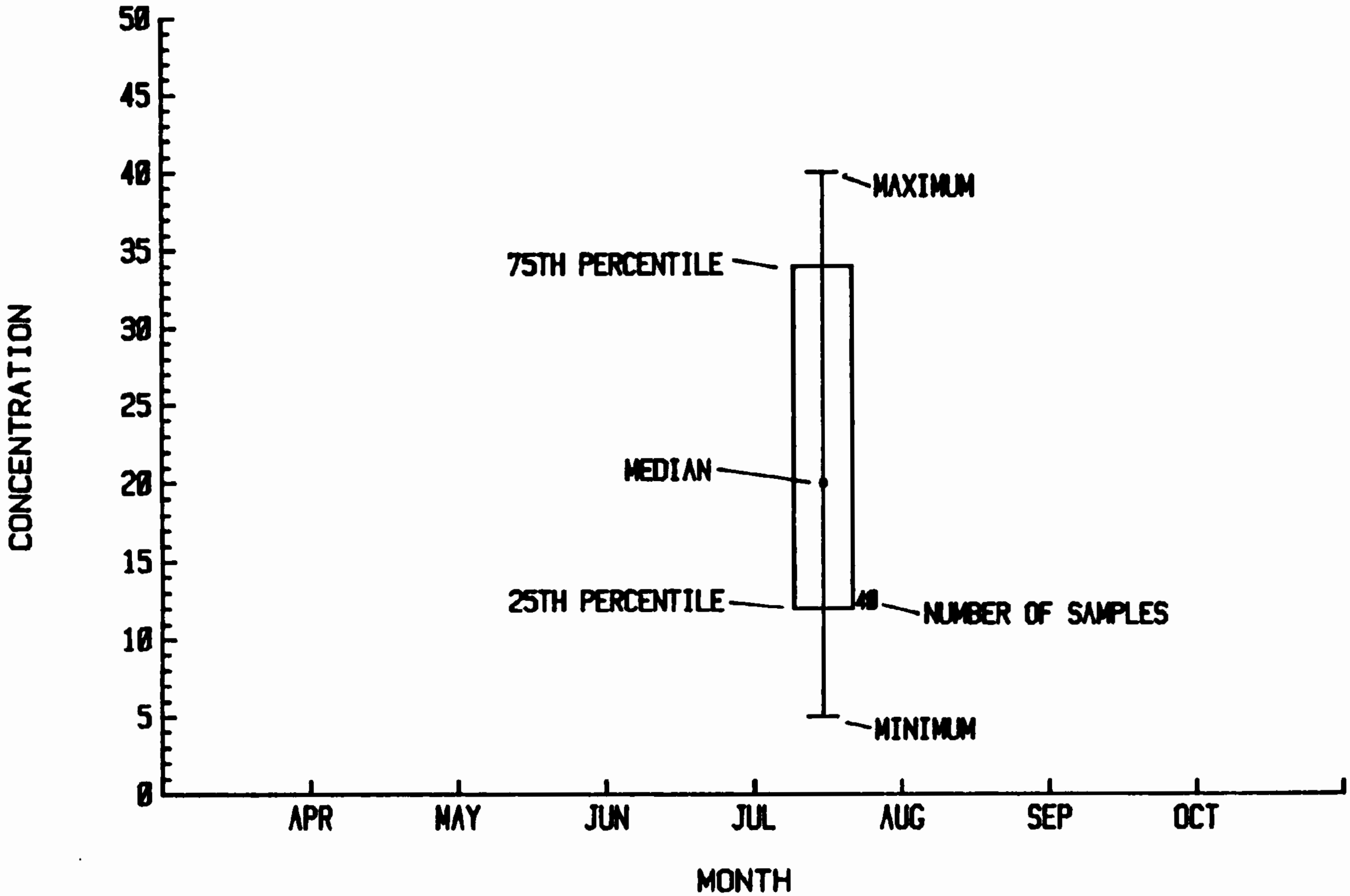


Figure 1 1985 Lake Erie Open Lake Sampling Locations



EXPLANATION OF MEDIAN PLOTS

(After Reckhow, 1980)

Figure 2

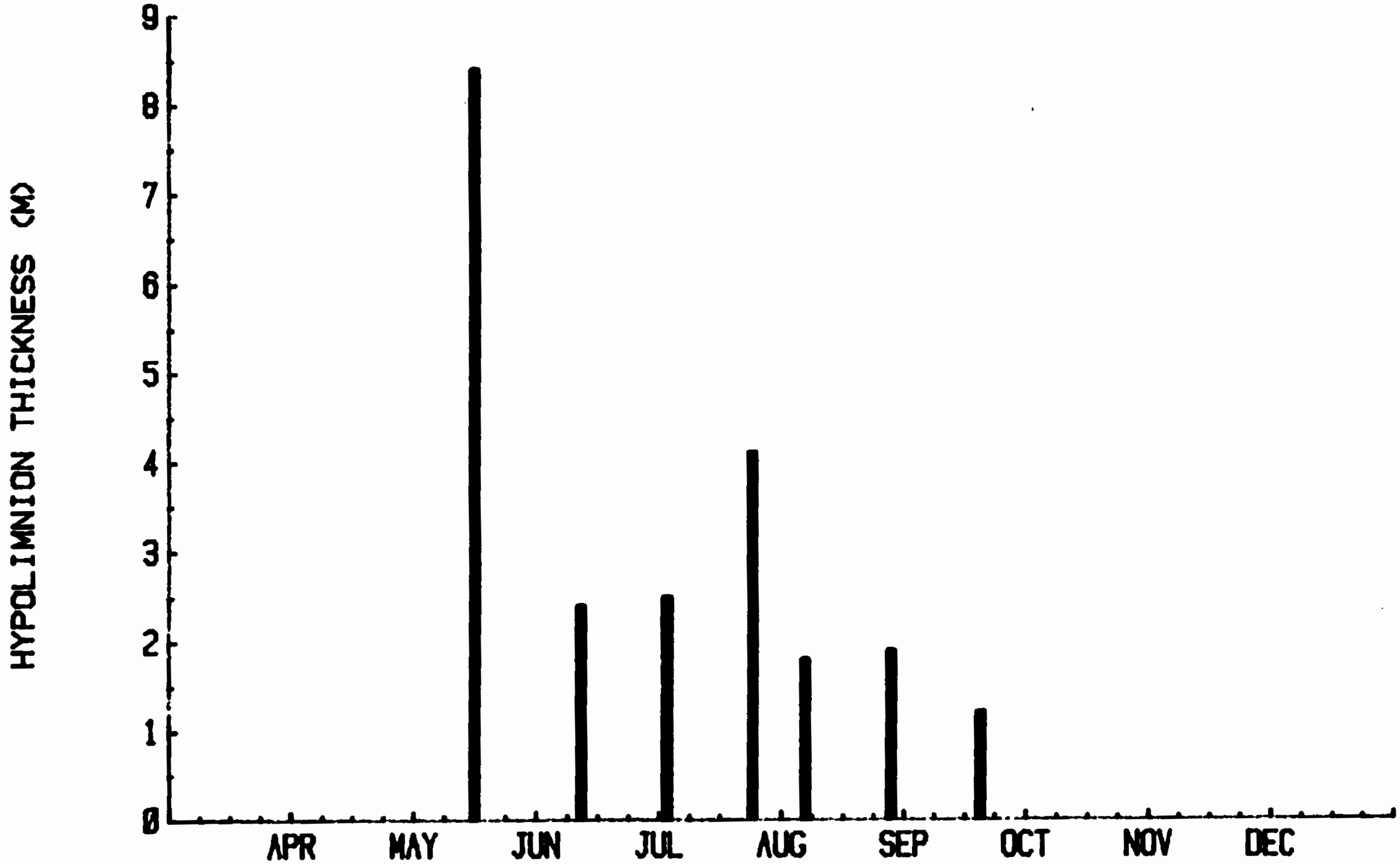


FIGURE 3 CENTRAL BASIN HYPOLIMNION THICKNESS (M), 1985

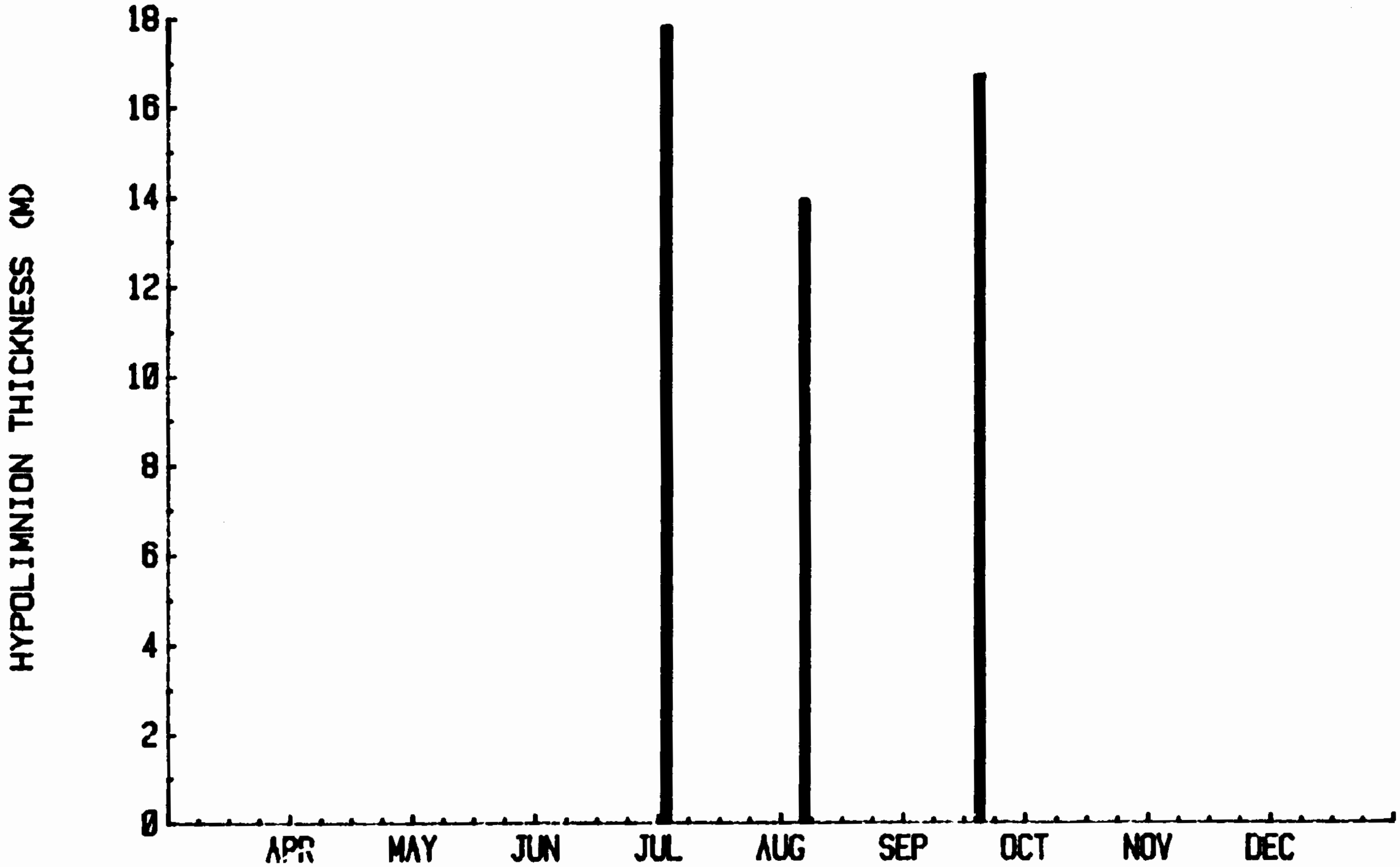


FIGURE 4 EASTERN BASIN HYPOLIMNION THICKNESS (M), 1985

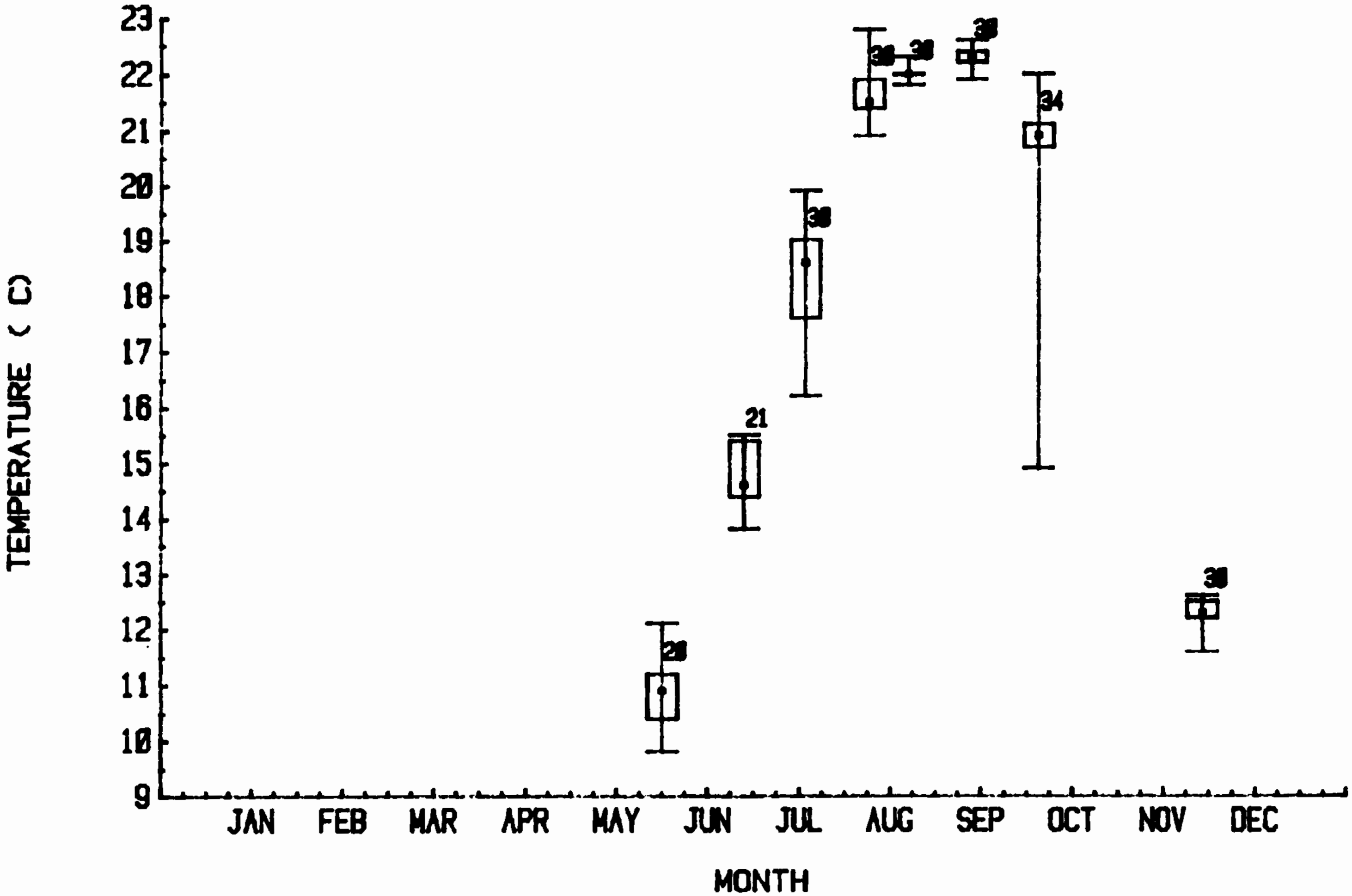


FIGURE 5 MEDIAN CENTRAL BASIN EPILIMNION TEMPERATURE, 1985

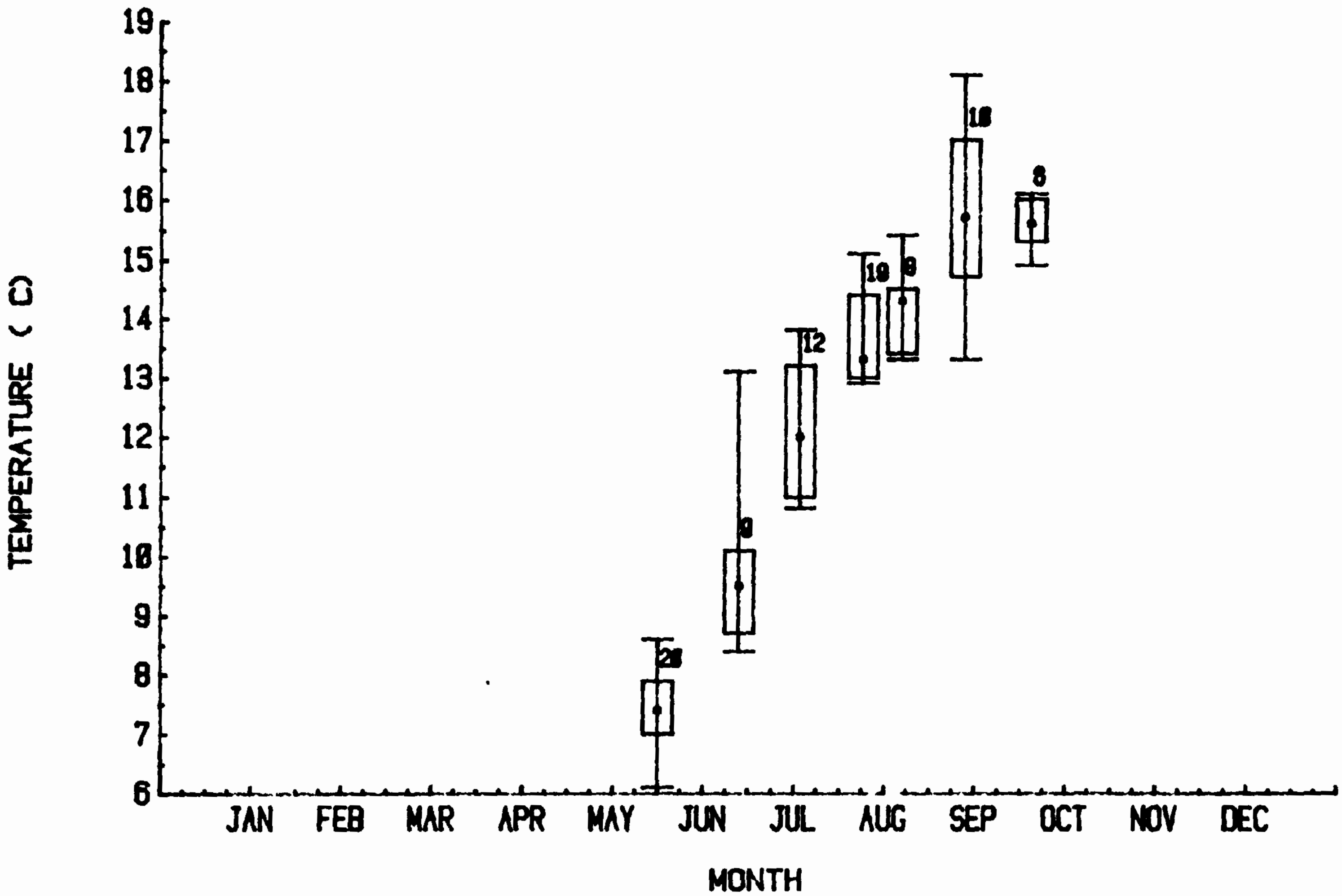


FIGURE 6 MEDIAN CENTRAL BASIN HYPOLIMNION TEMPERATURE, 1985

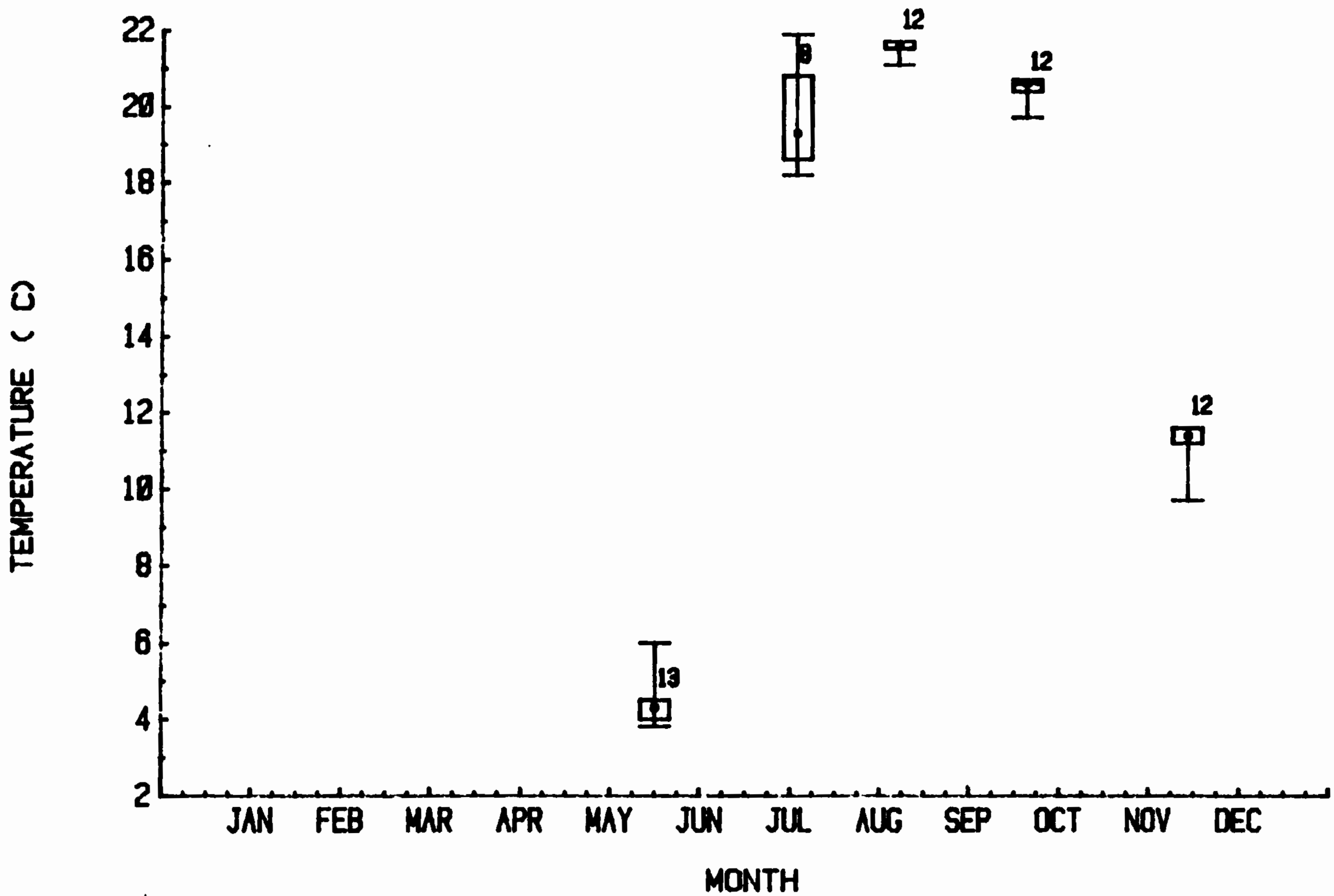


FIGURE 7 MEDIAN EASTERN BASIN EPILIMNION TEMPERATURE, 1985

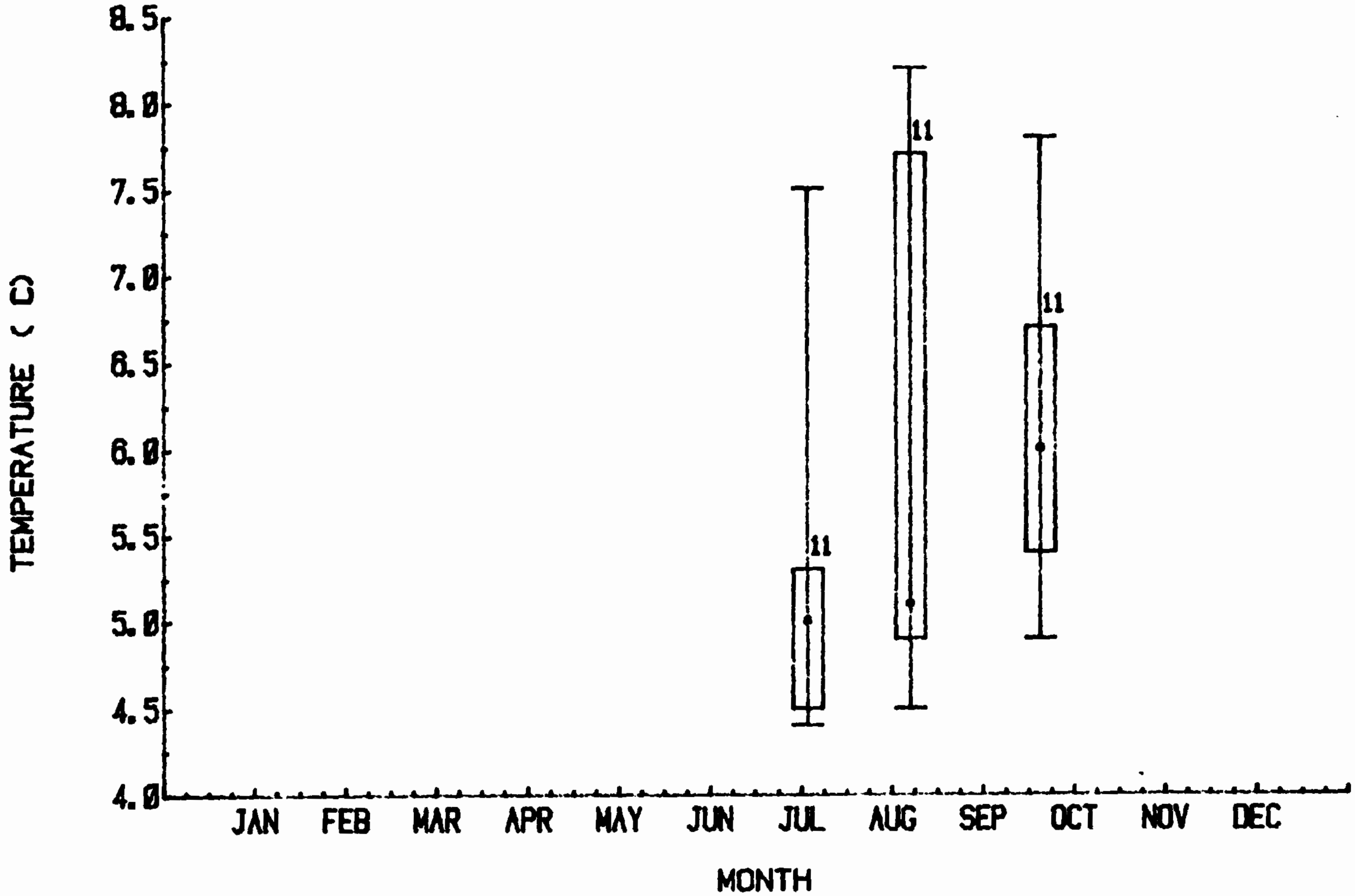


FIGURE 8 MEDIAN EASTERN BASIN HYPOLIMNION TEMPERATURE, 1985

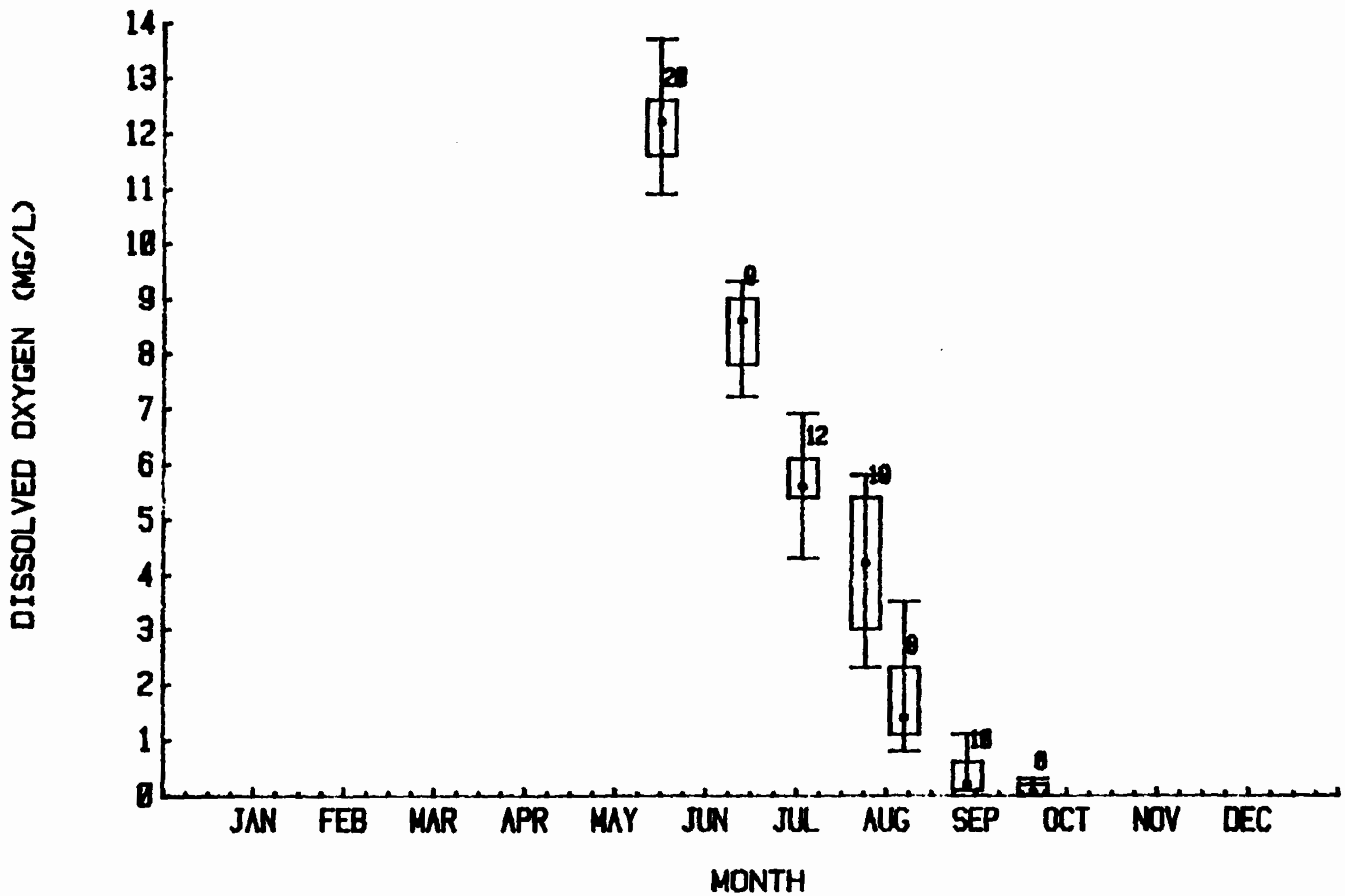


FIGURE 9 MEDIAN CENTRAL BASIN HYPOLIMNION DISSOLVED OXYGEN CONCENTRATION (MG/L), 1985

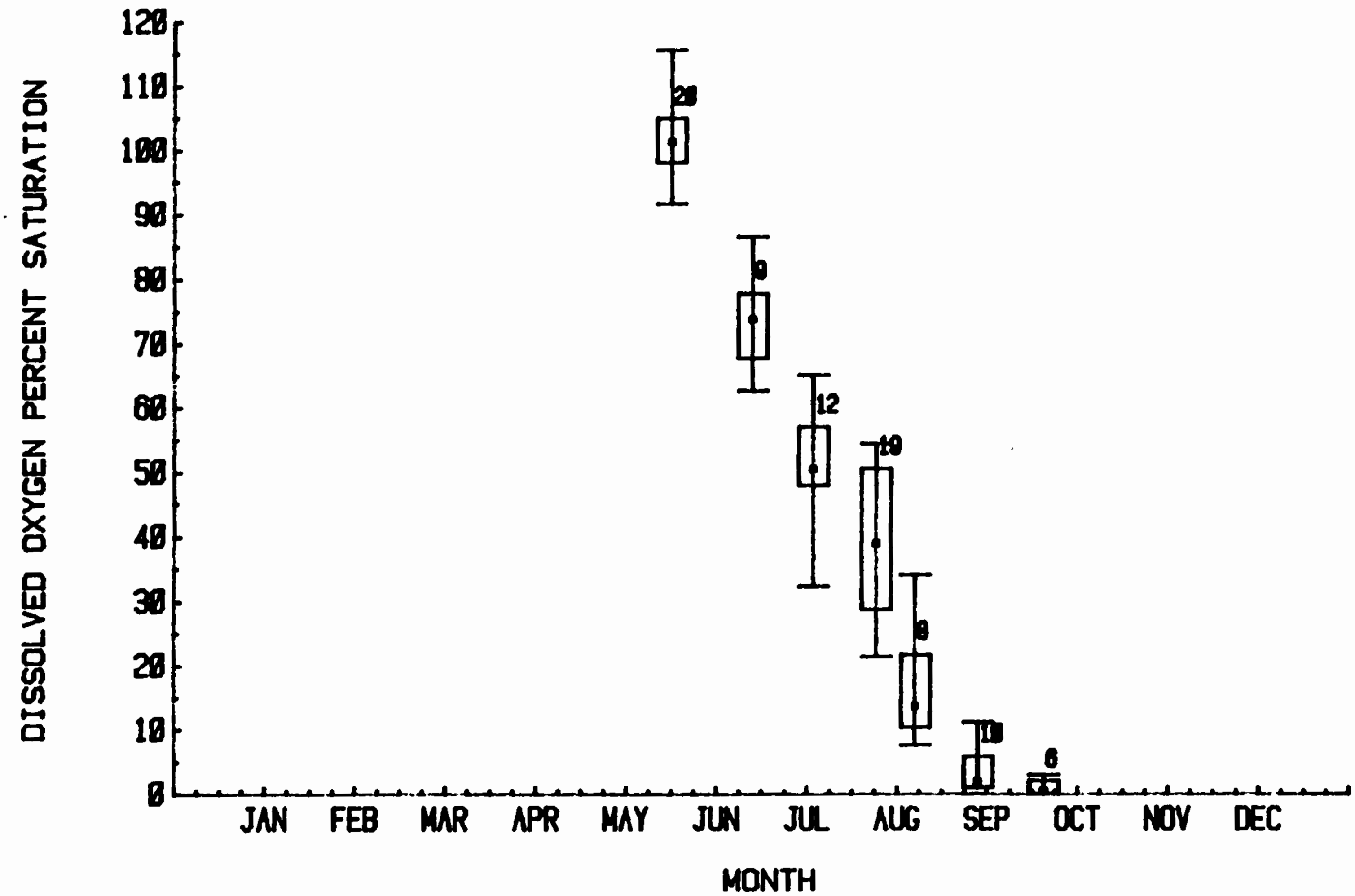


FIGURE 10 MEDIAN CENTRAL BASIN HYPOLIMNION DISSOLVED OXYGEN PERCENT SATURATION, 1985

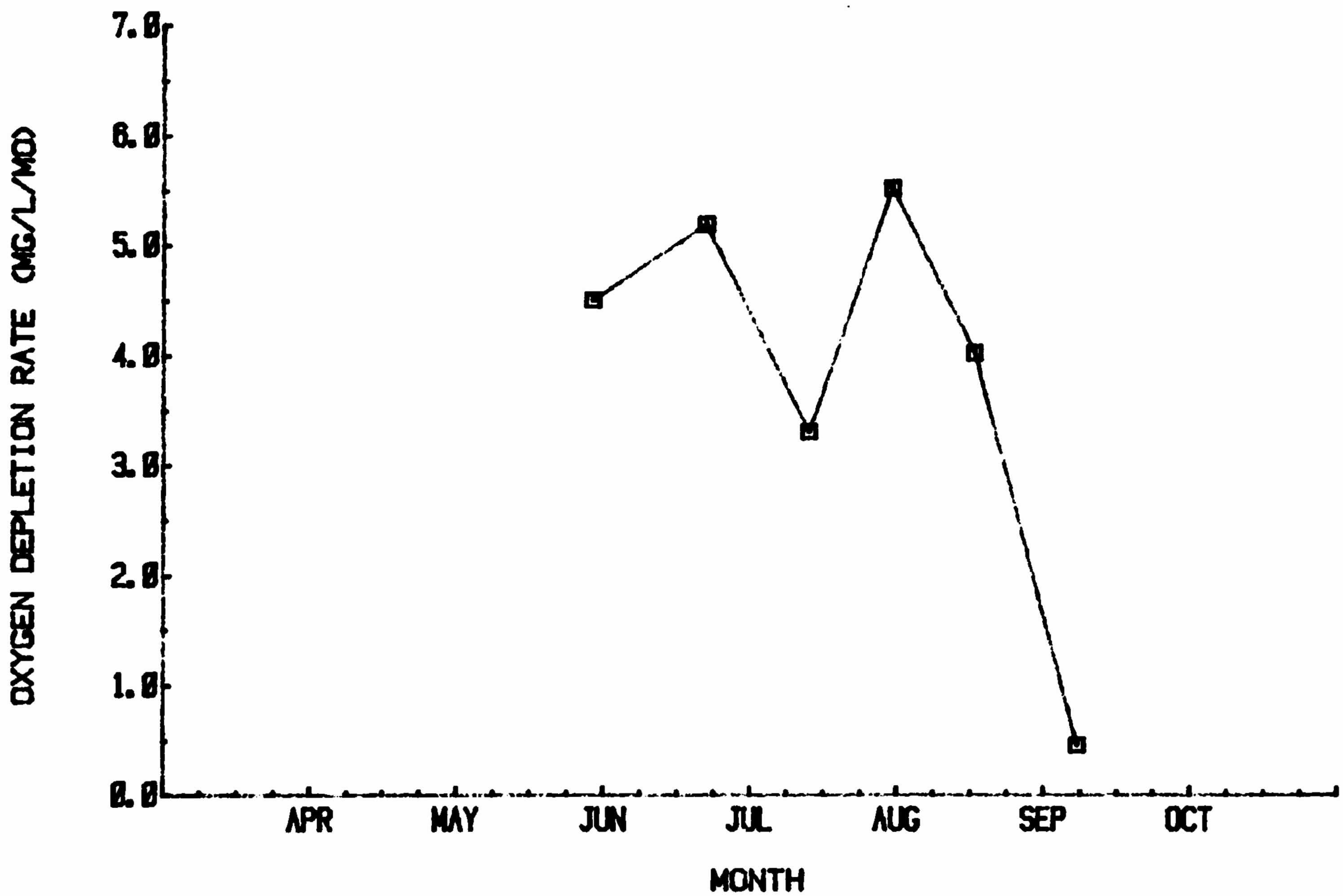


FIGURE 11 CENTRAL BASIN HYPOLIMNION OXYGEN DEPLETION RATE FOR 1985

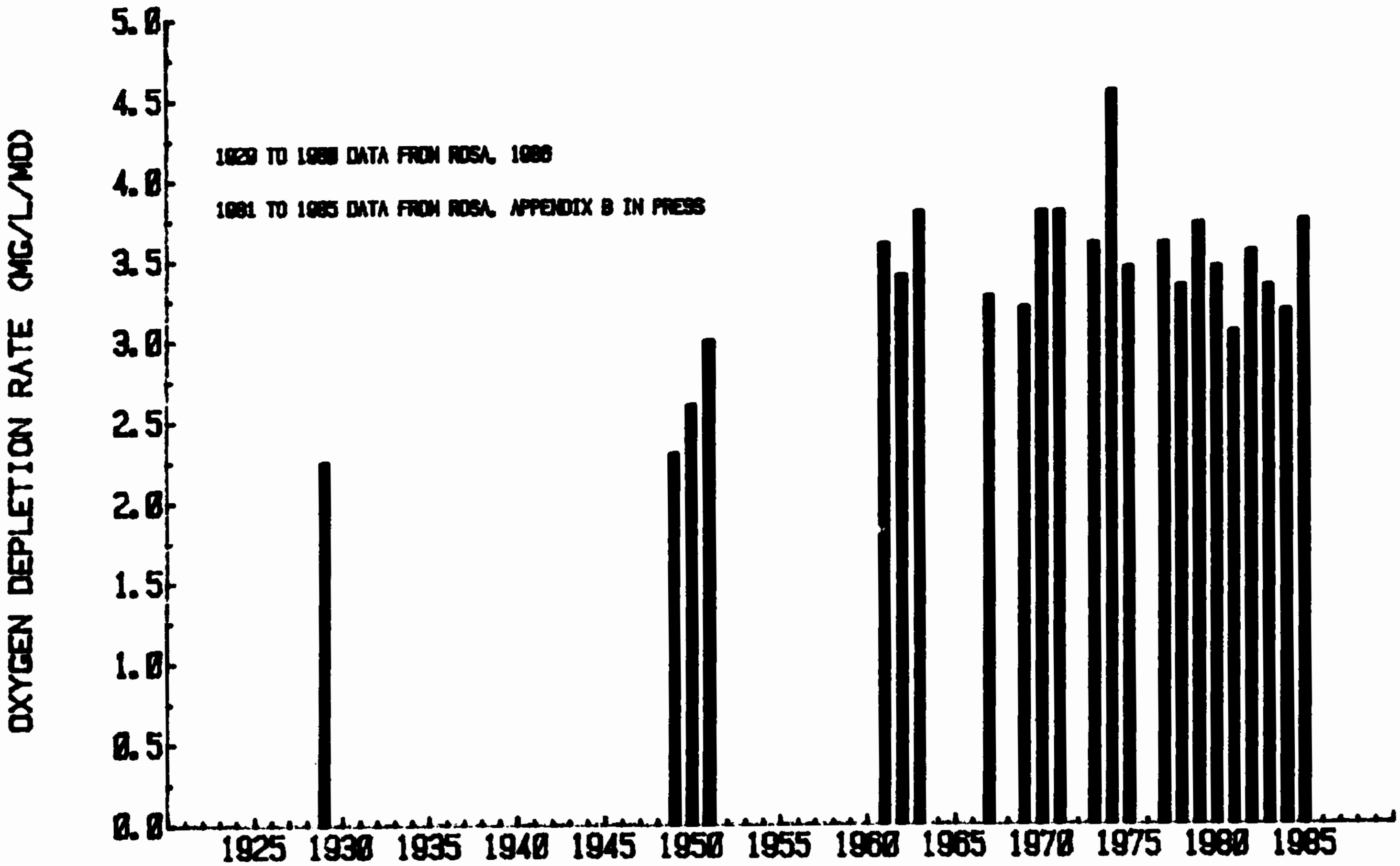


FIGURE 12 MEAN CENTRAL BASIN HYPOLIMNION CORRECTED OXYGEN DEPLETION RATES FROM 1929 THROUGH 1985

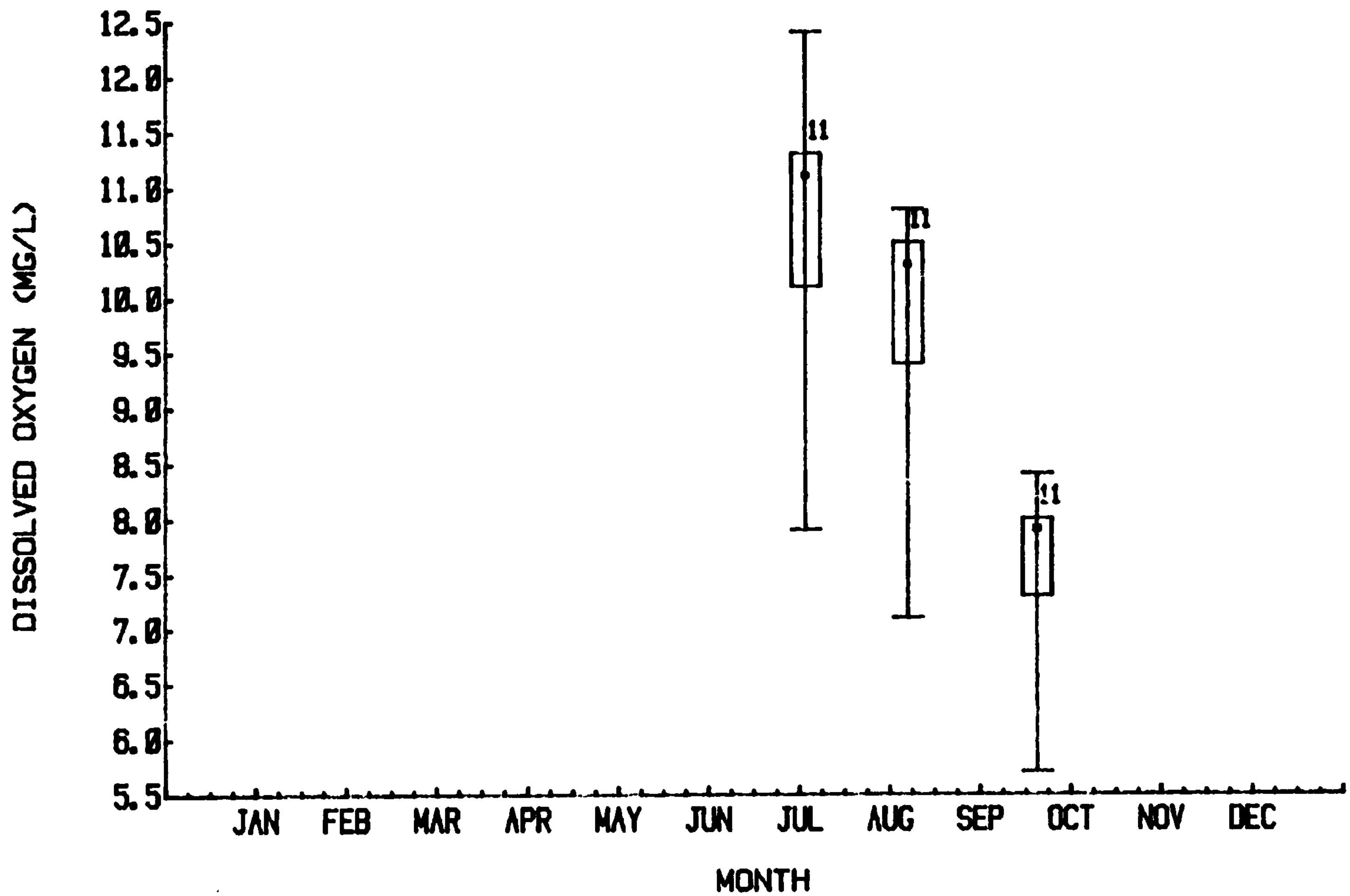


FIGURE 13 MEDIAN EASTERN BASIN HYPOLIMNION DISSOLVED OXYGEN CONCENTRATION (MG/L), 1985

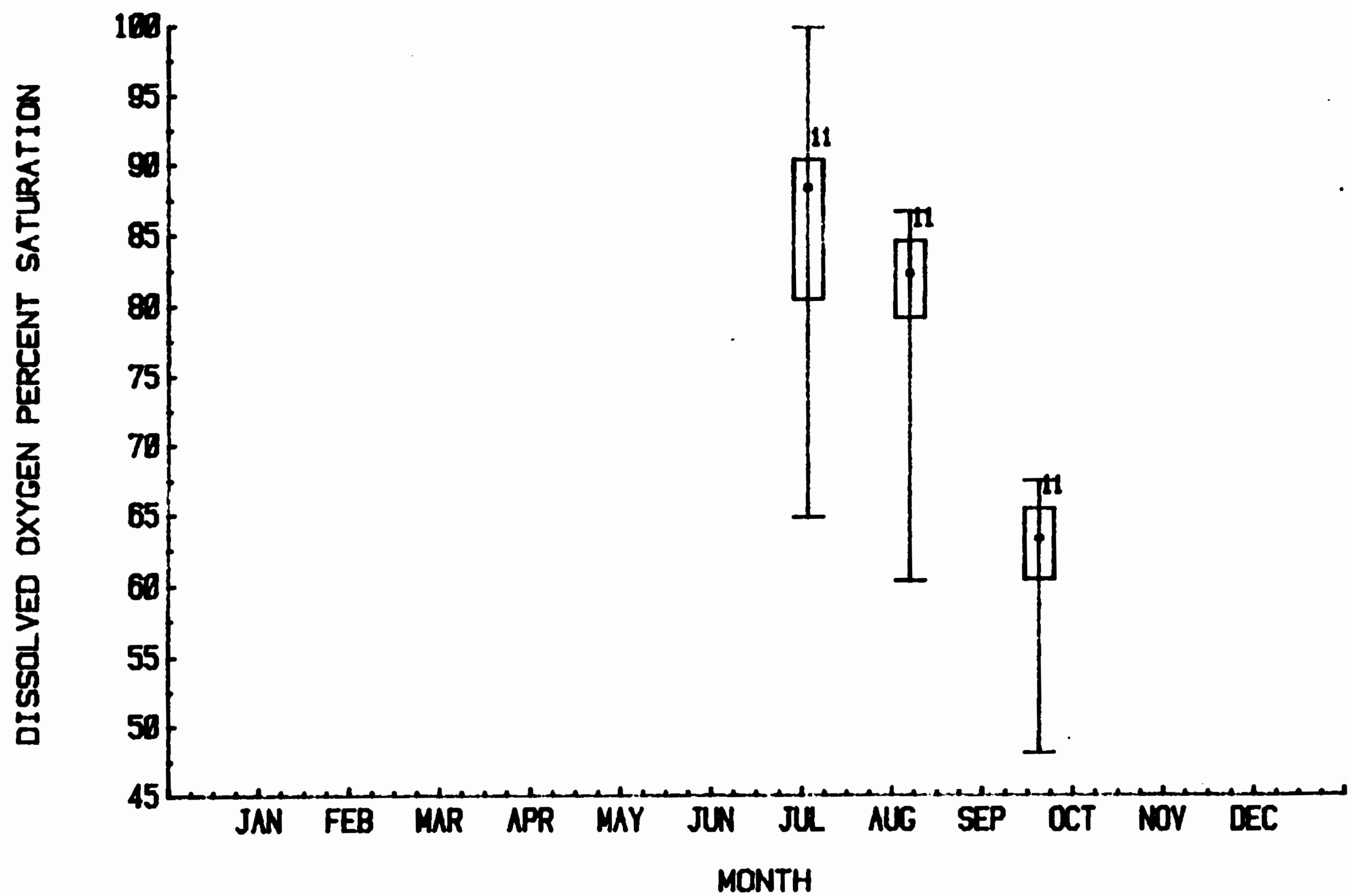


FIGURE 14 MEDIAN EASTERN BASIN HYPOLIMNION DISSOLVED OXYGEN PERCENT SATURATION, 1985

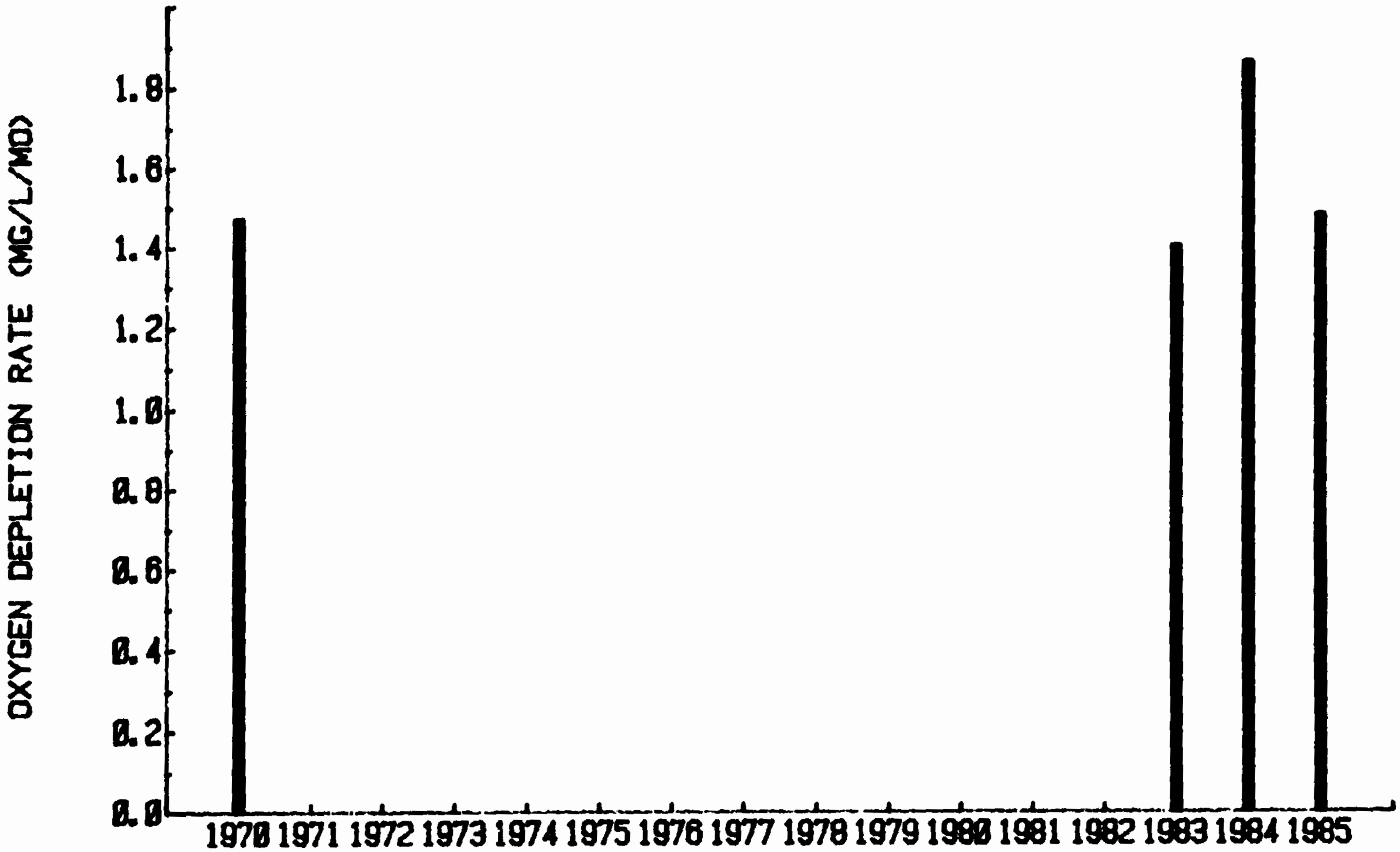
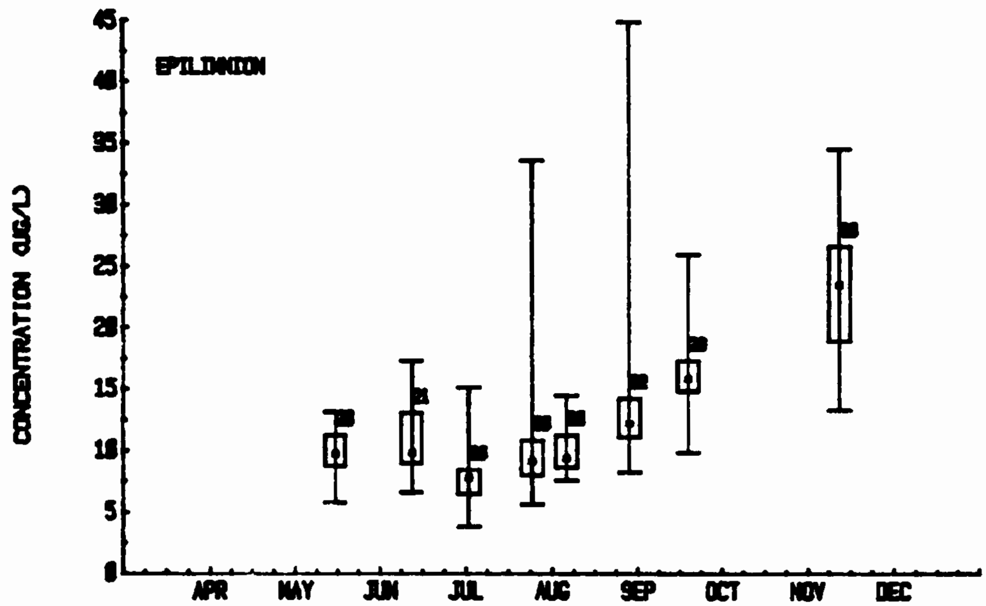


FIGURE 15 EASTERN BASIN OXYGEN DEPLETION RATES FOR JULY FROM 1970 TO 1985



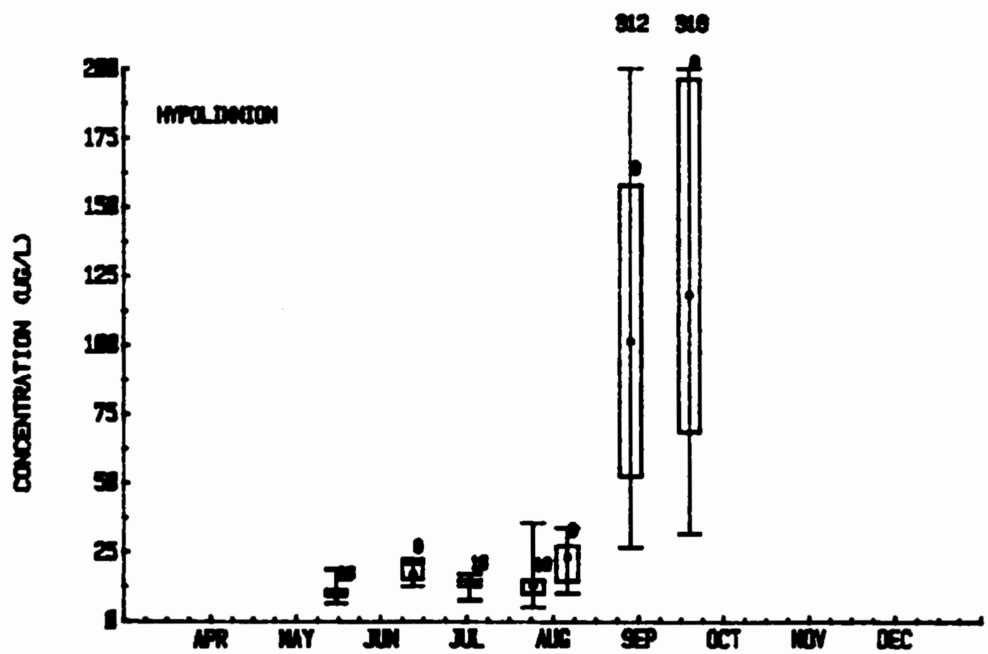


FIGURE 16 MEDIAN CENTRAL BASIN TOTAL PHOSPHORUS CONCENTRATIONS
FOR 1985

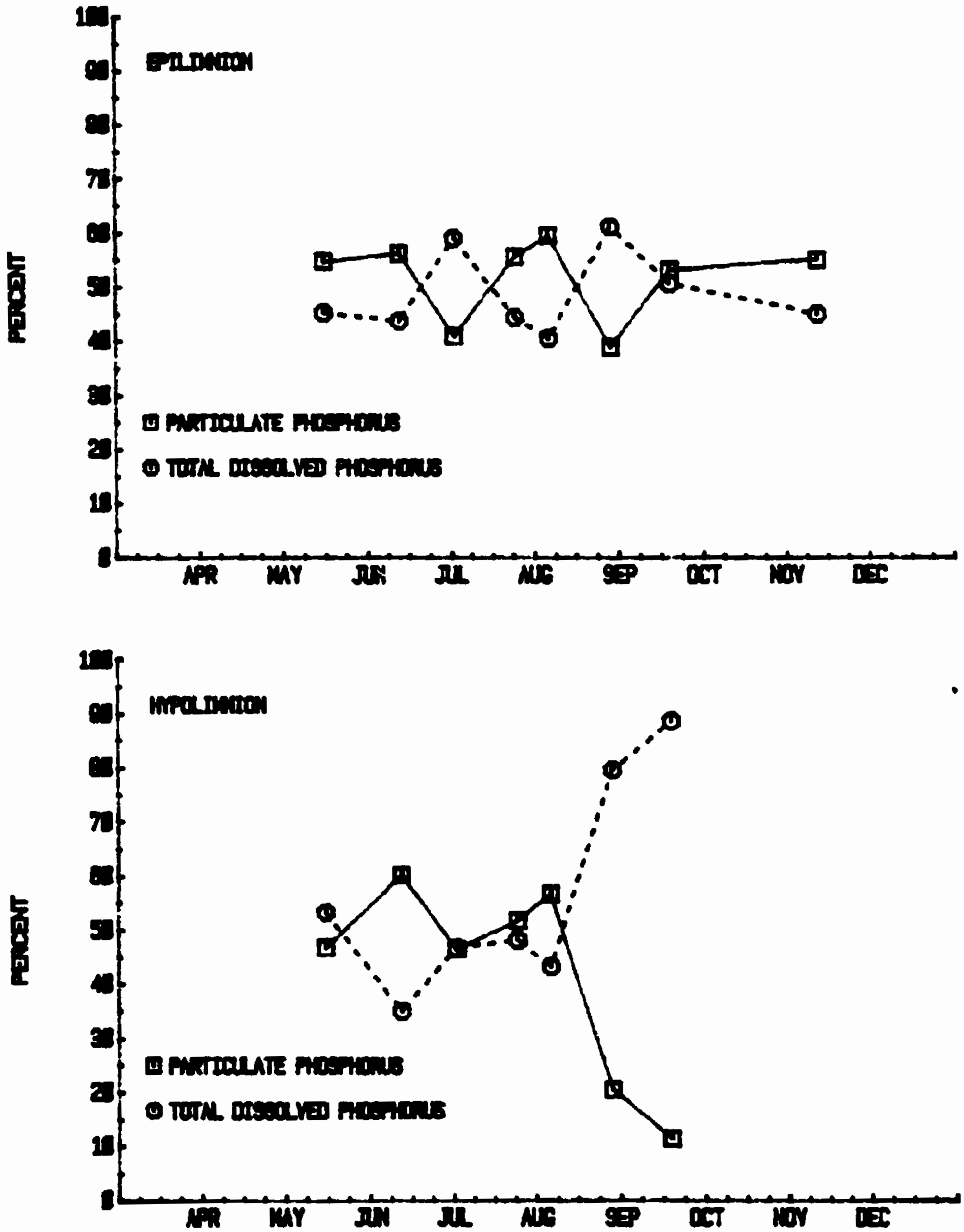


FIGURE 17 PERCENT COMPOSITION OF PARTICULATE AND TOTAL DISSOLVED PHOSPHORUS IN CENTRAL BASIN, 1985

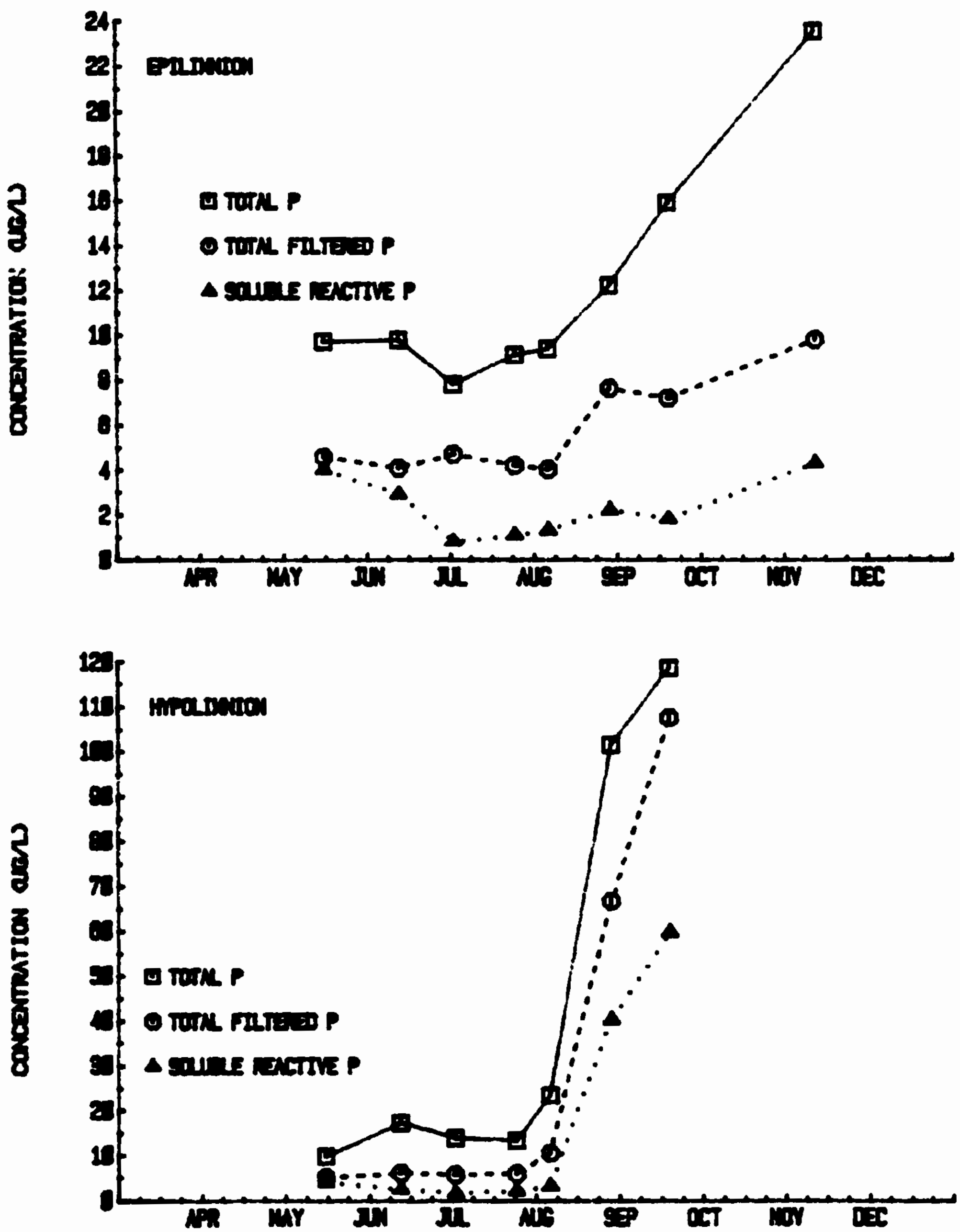


FIGURE 18 THE MEDIAN CENTRAL BASIN EPILIMNION AND HYPOLIMNION TOTAL PHOSPHORUS, TOTAL FILTERED PHOSPHORUS AND SOLUBLE REACTIVE PHOSPHORUS CONCENTRATIONS FOR 1985

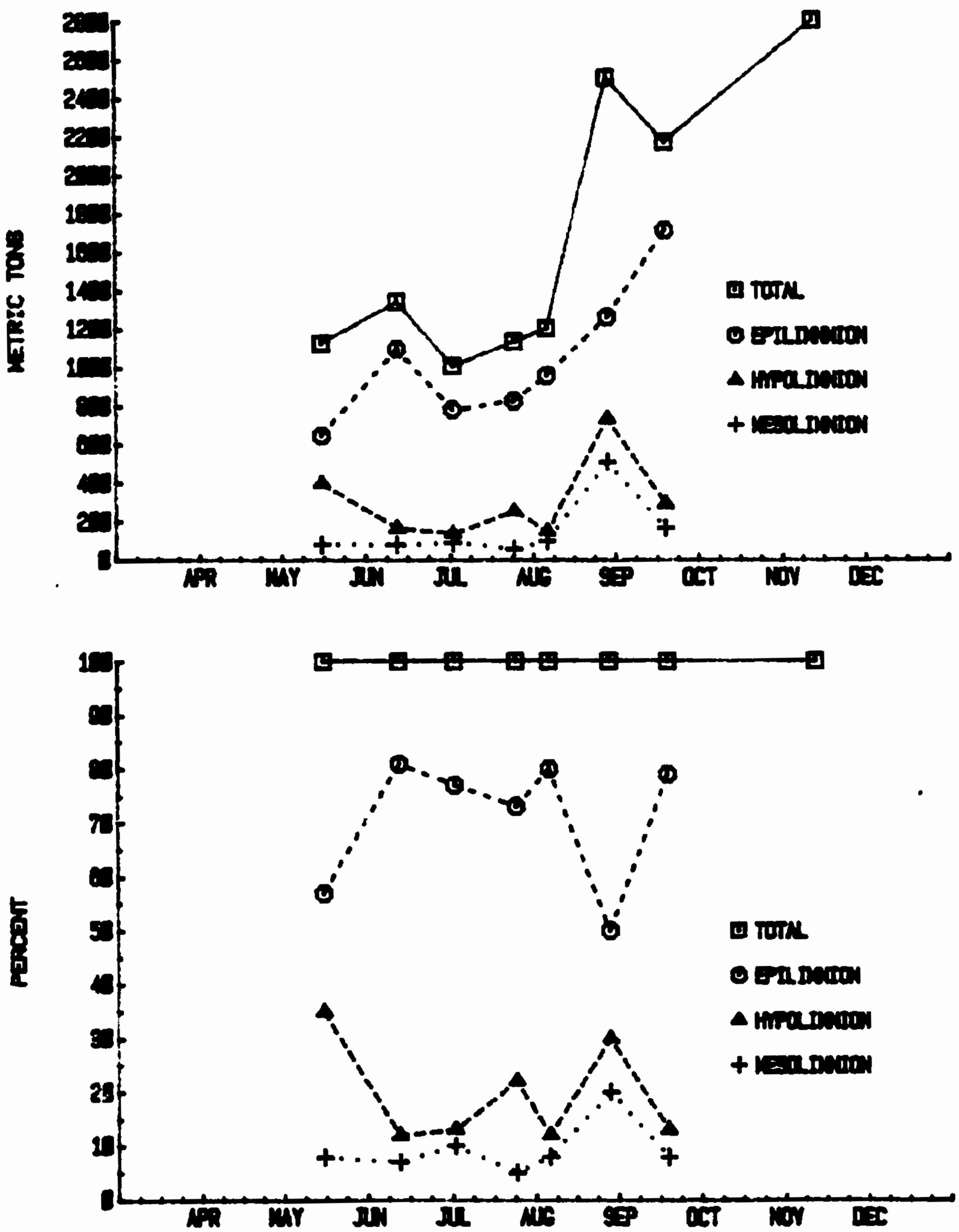


FIGURE 10 CENTRAL BASIN LIMNION DISTRIBUTION OF TOTAL PHOSPHORUS IN
METRIC TONS AND PERCENT FOR 1985

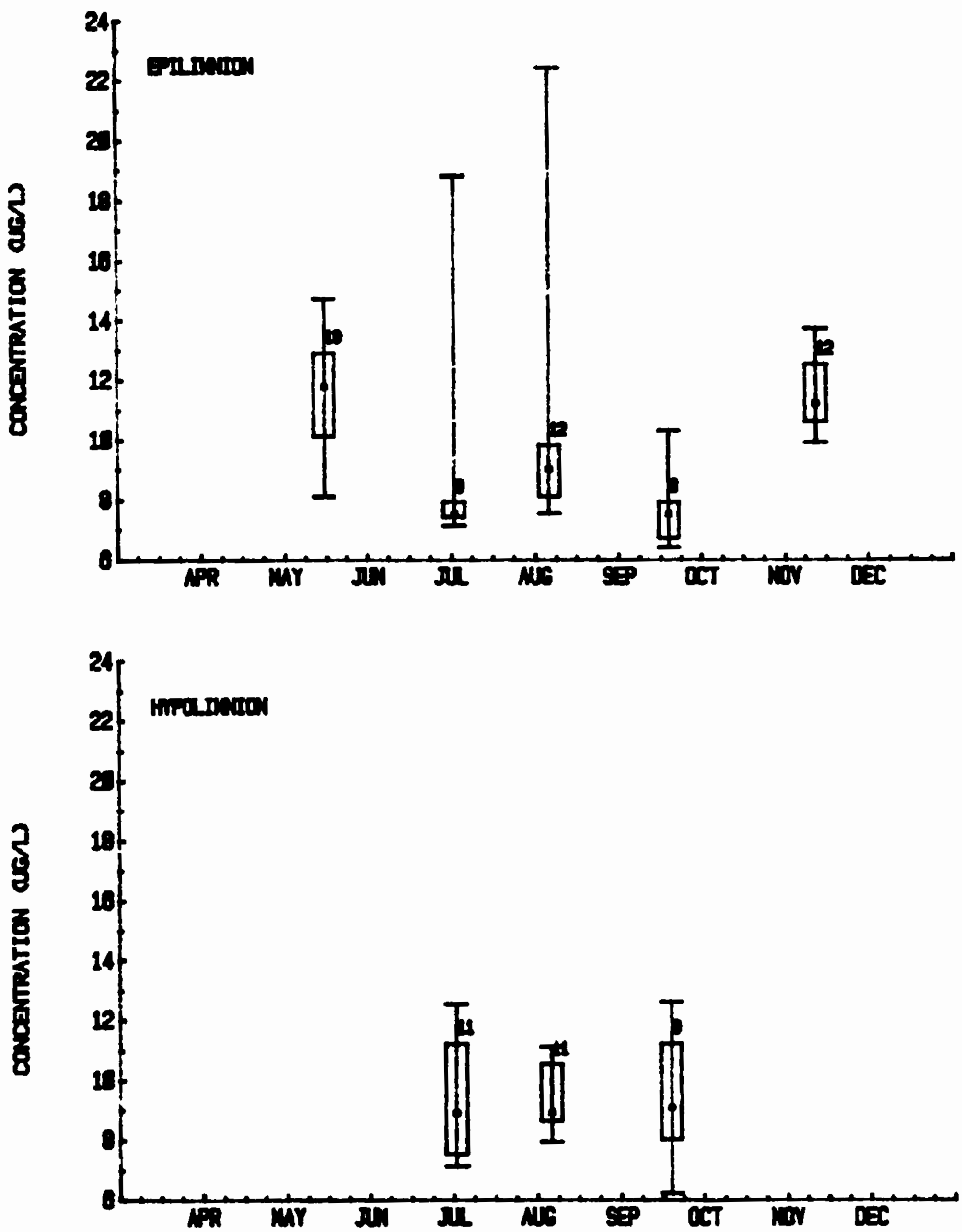
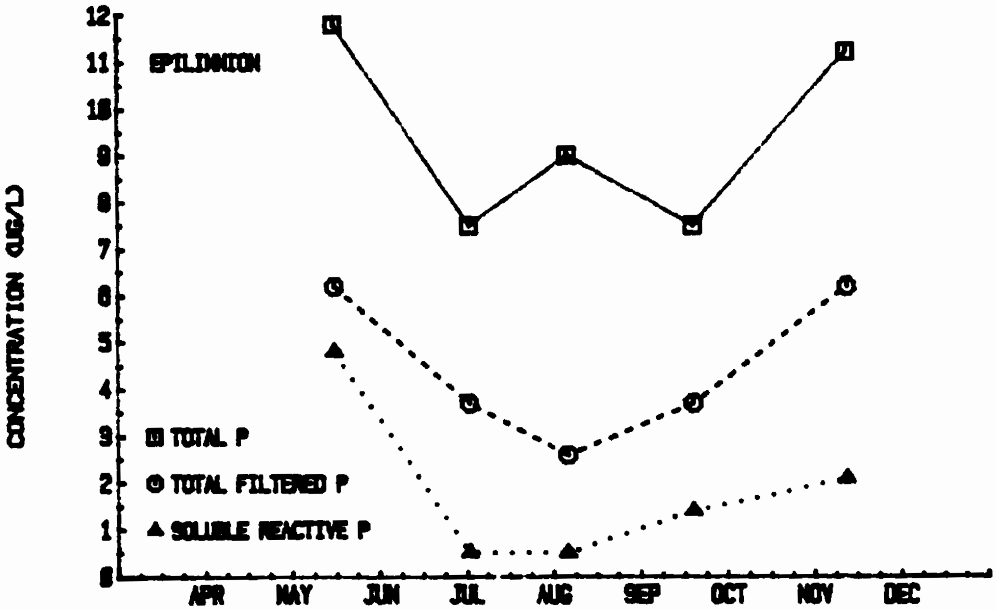


FIGURE 28 MEDIAN EASTERN BASIN TOTAL PHOSPHORUS CONCENTRATIONS FOR 1985



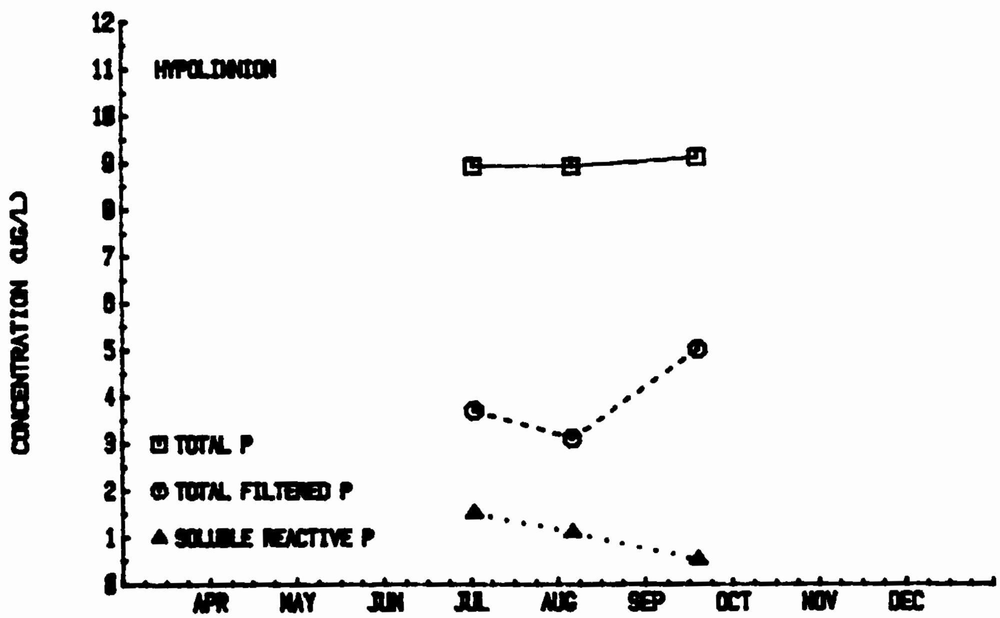


FIGURE 21 THE MEDIAN EASTERN BASIN EPILIMNION AND HYPOLIMNION TOTAL PHOSPHORUS, TOTAL FILTERED PHOSPHORUS AND SOLUBLE REACTIVE PHOSPHORUS CONCENTRATIONS FOR 1985

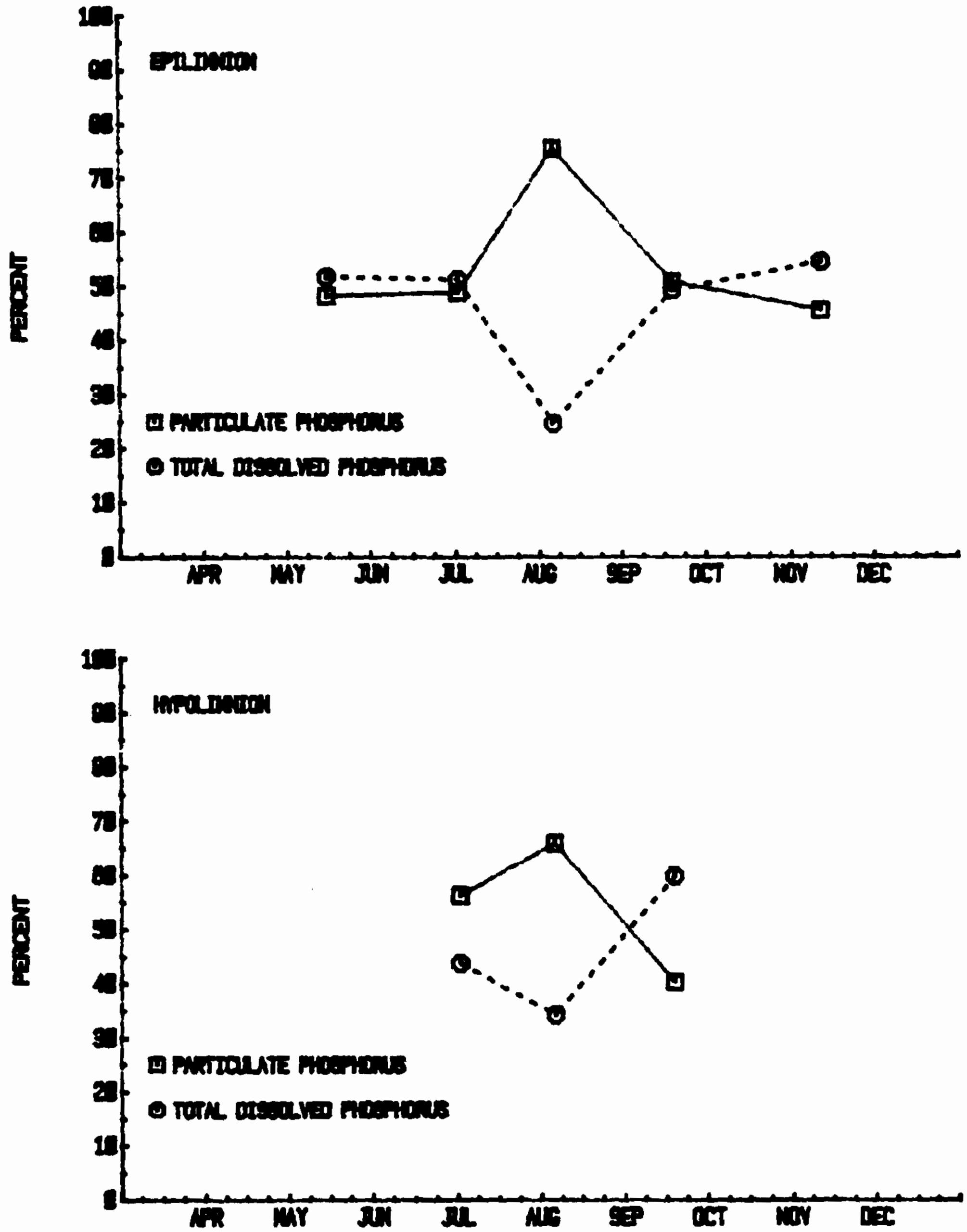


FIGURE 22 PERCENT COMPOSITION OF PARTICULATE AND TOTAL DISSOLVED PHOSPHORUS IN EASTERN BASIN, 1985

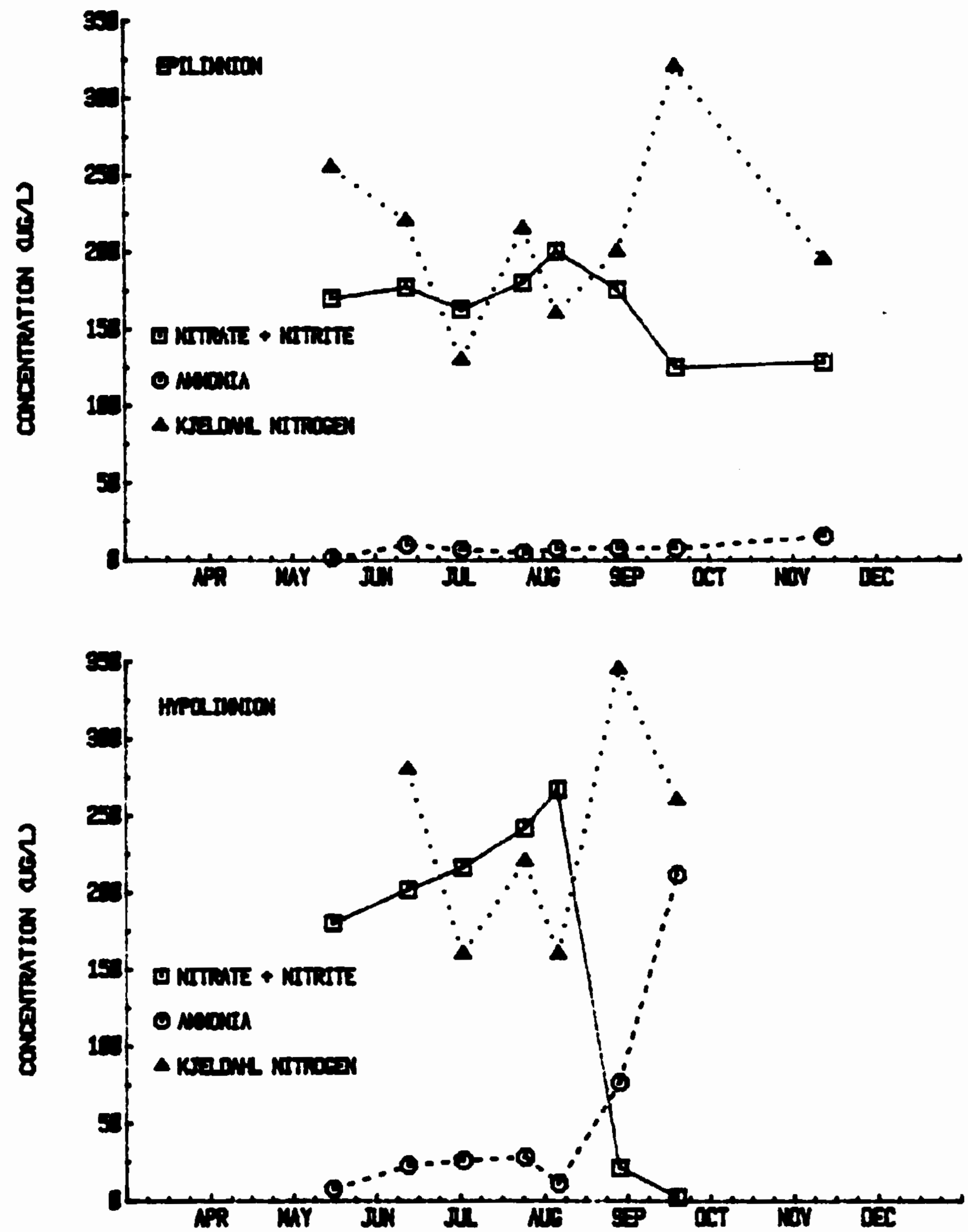


FIGURE 23 THE MEDIAN CENTRAL BASIN EPILIMNION AND HYPOLIMNION NITRATE AND NITRITE, AMMONIA AND KJELDAHL NITROGEN CONCENTRATIONS FOR 1985

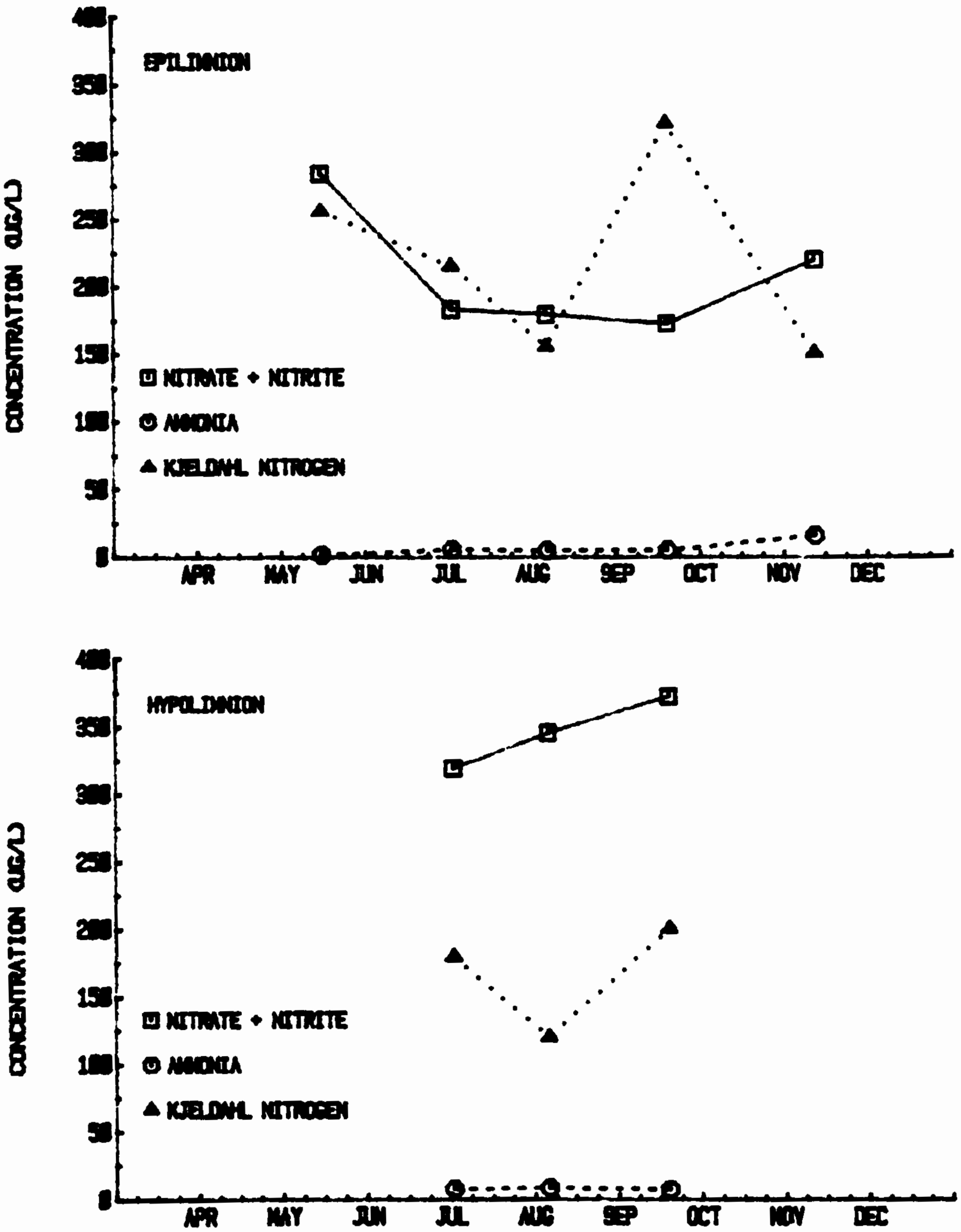


FIGURE 24 THE MEDIAN EASTERN BASIN EPILIMNION AND HYPOLIMNION NITRATE AND NITRITE, AMMONIA AND KJELDAHL NITROGEN CONCENTRATIONS FOR 1985

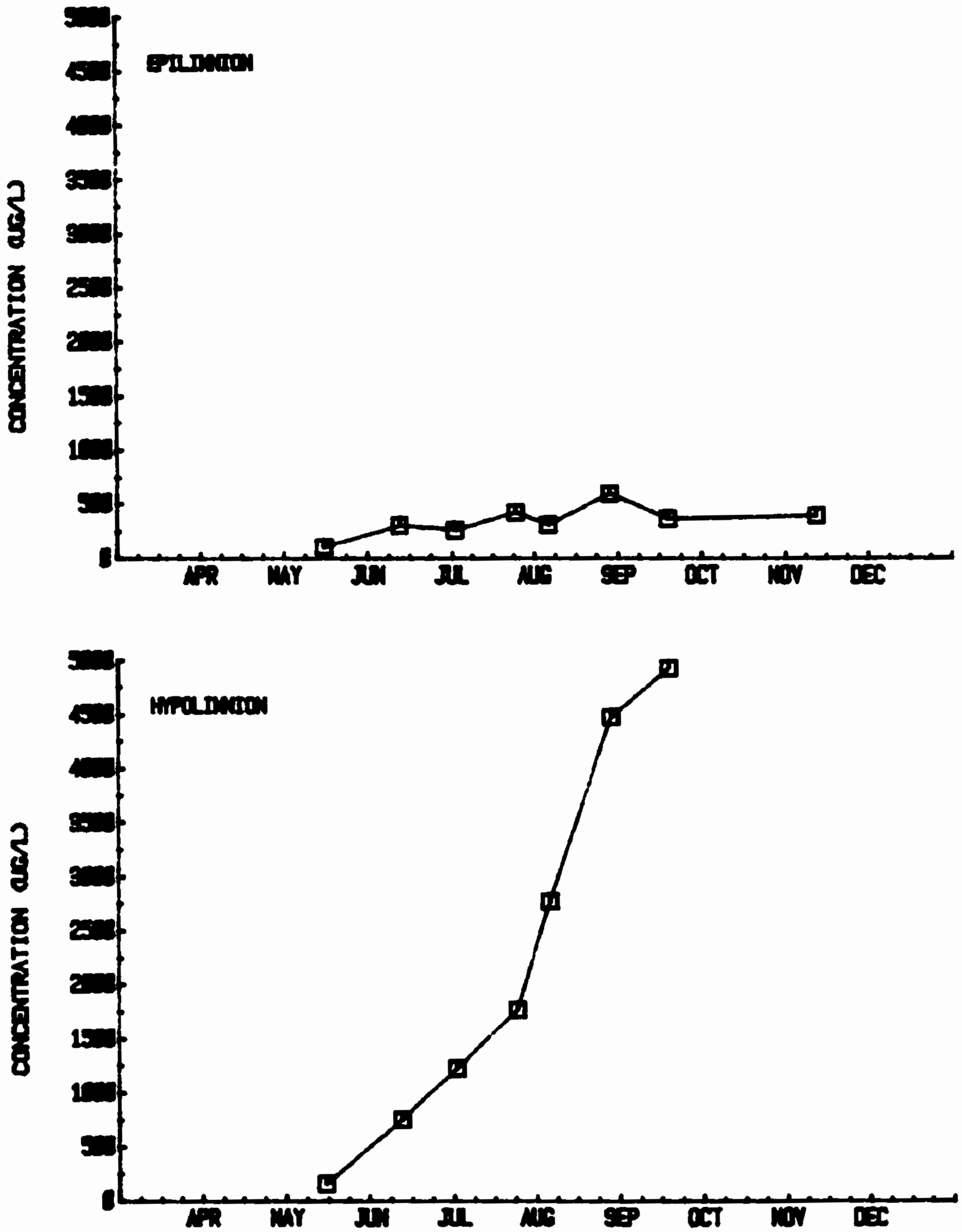


FIGURE 25 THE MEDIAN CENTRAL BASIN EPILIMNION AND HYPOLIMNION SOLUBLE REACTIVE SILICA CONCENTRATIONS FOR 1985

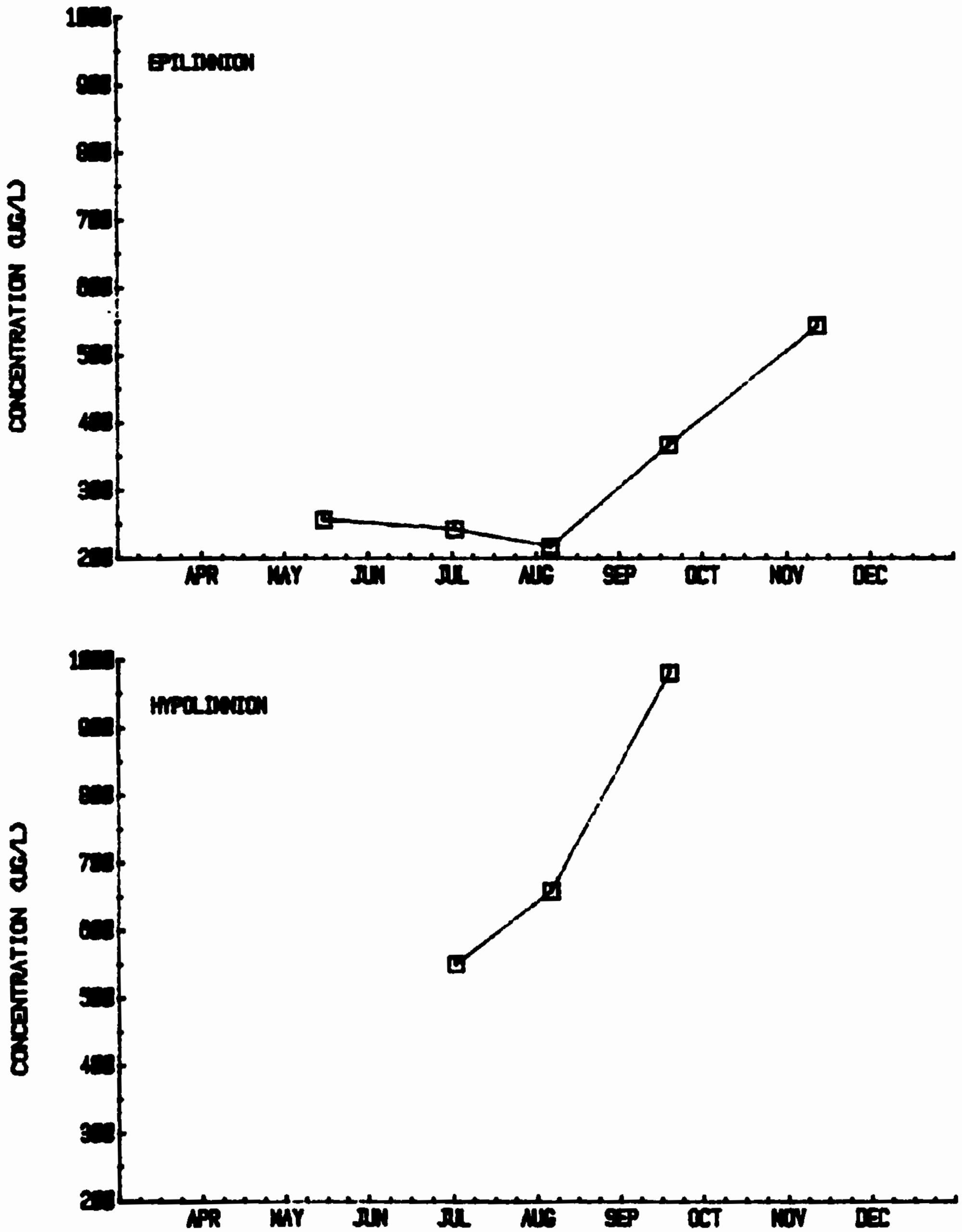


FIGURE 26 THE MEDIAN EASTERN BASIN EPILIMNION AND HYPOLIMNION SOLUBLE REACTIVE SILICA CONCENTRATIONS FOR 1985

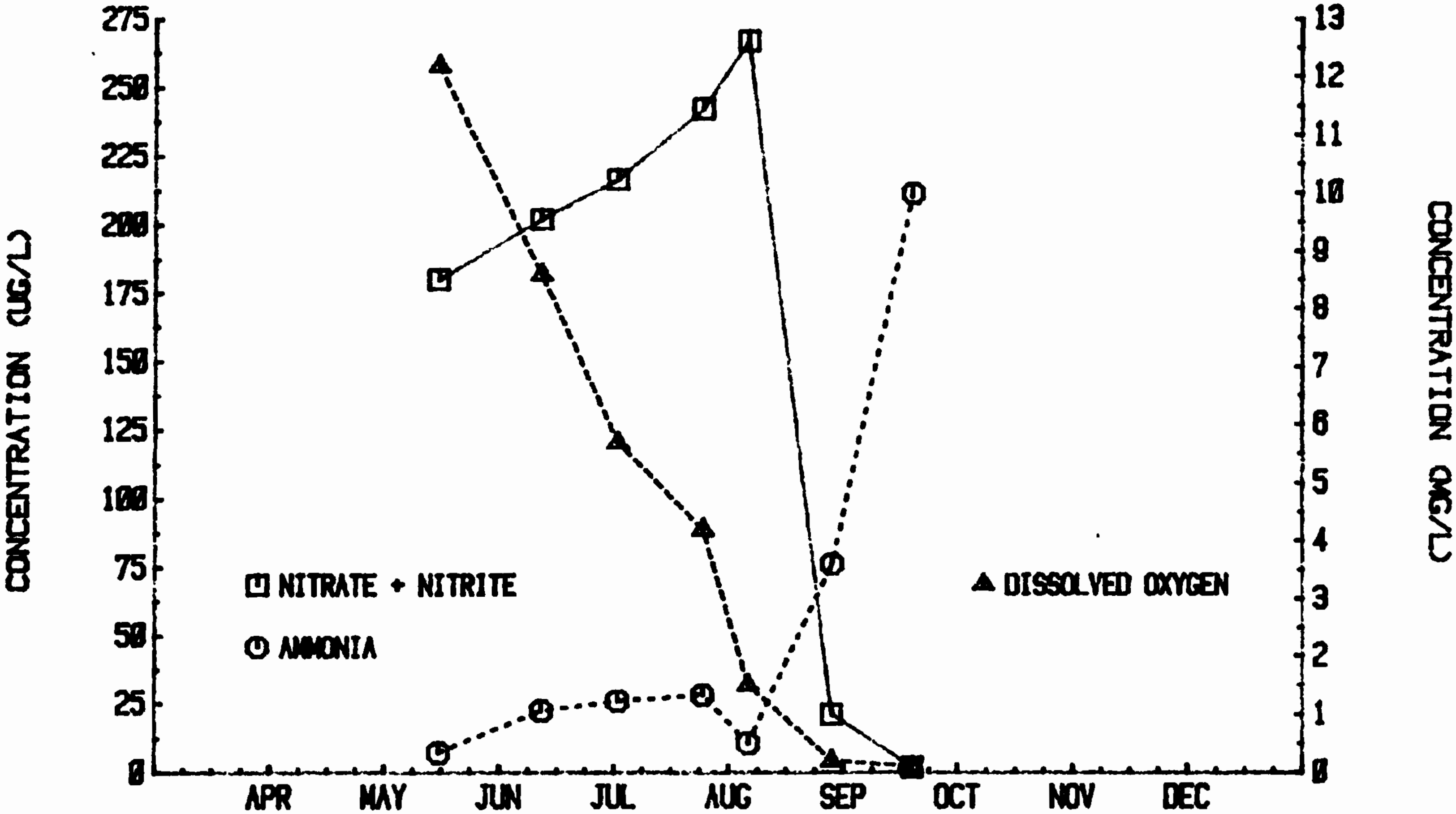


FIGURE 27 MEDIAN CENTRAL BASIN HYPOLIMNION NITRATE AND NITRITE (UG/L), AMMONIA (UG/L) AND DISSOLVED OXYGEN (MG/L) CONCENTRATIONS FOR 1985

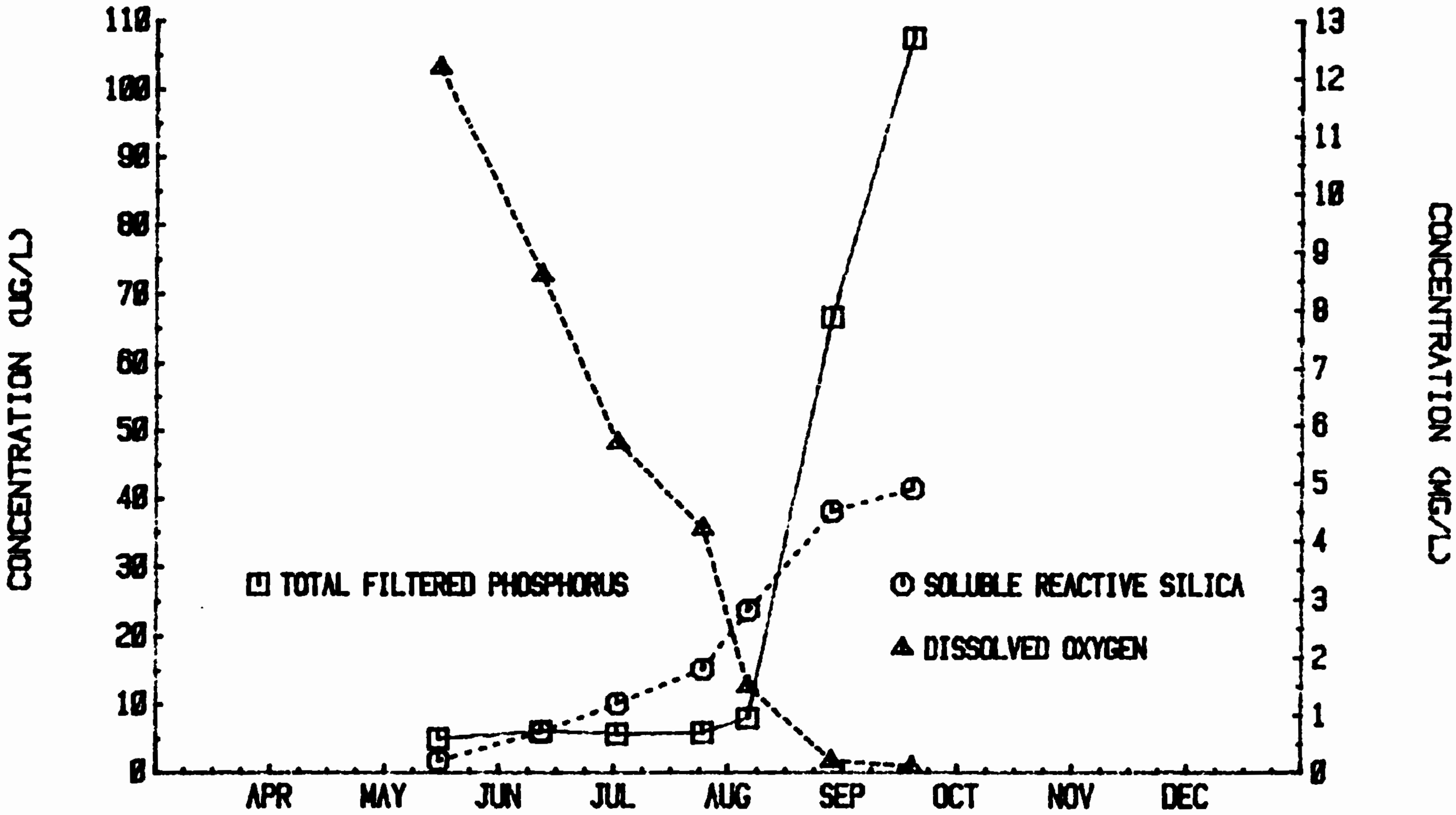


FIGURE 28 MEDIAN CENTRAL BASIN HYPOLIMNION TOTAL FILTERED PHOSPHORUS (UG/L), SOLUBLE REACTIVE SILICA (MG/L) AND DISSOLVED OXYGEN (MG/L) CONCENTRATIONS FOR 1985

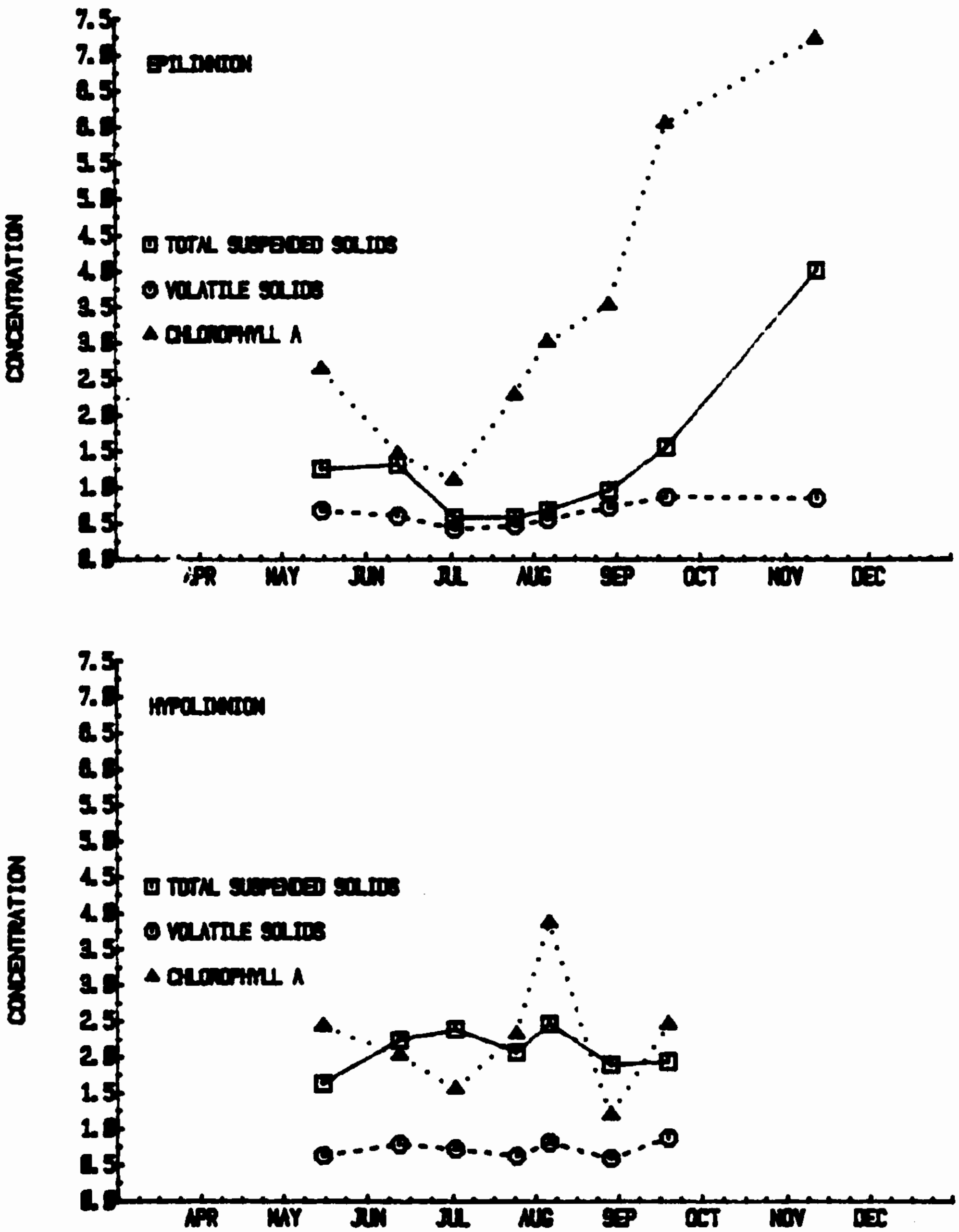


FIGURE 29 THE MEDIAN CENTRAL BASIN EPILIMNION AND HYPOLIMNION TOTAL SUSPENDED SOLIDS (MG/L), VOLATILE SOLIDS (MG/L), AND CHLOROPHYLL A (UG/L), CONCENTRATIONS FOR 1985

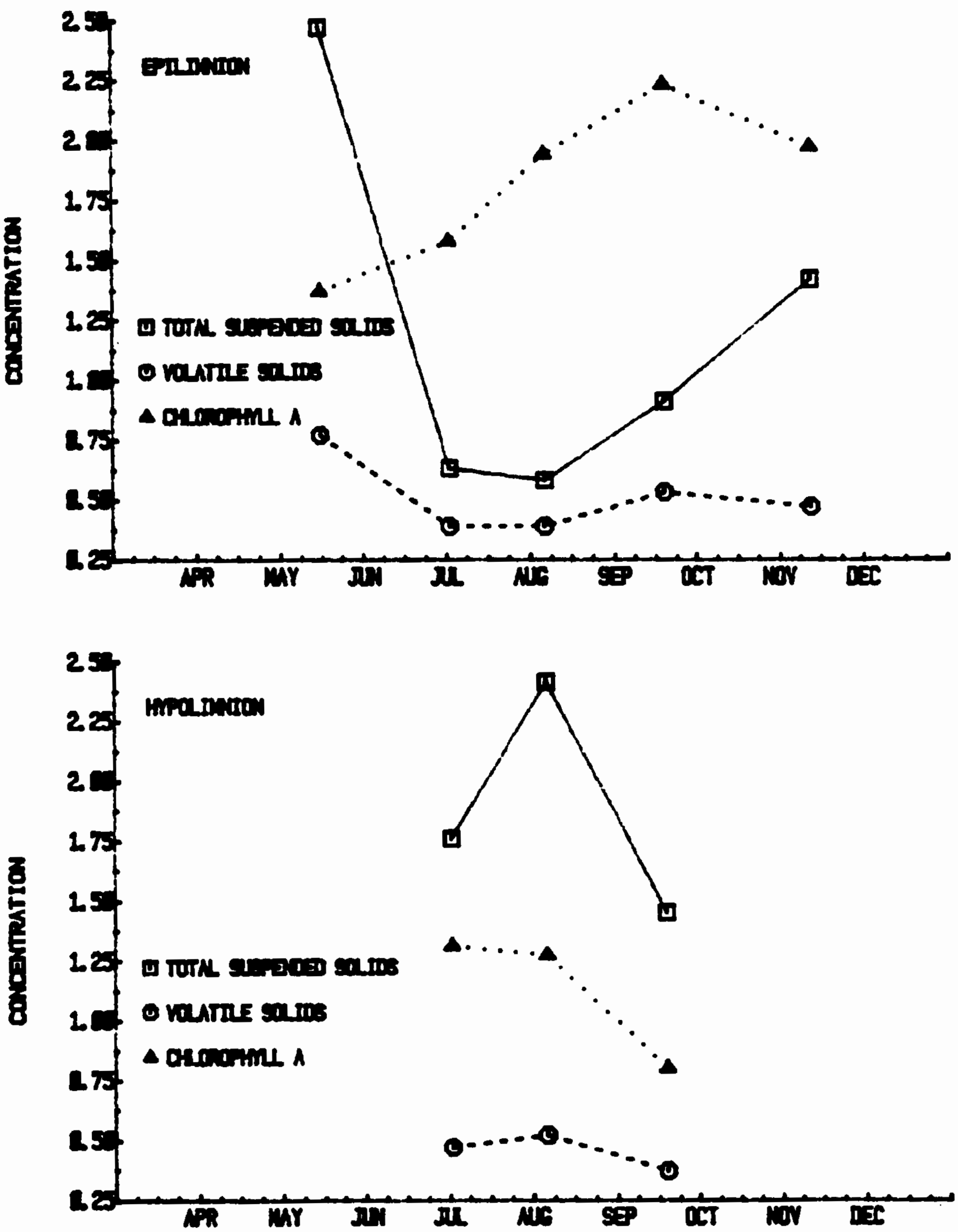


FIGURE 30 THE MEDIAN EASTERN BASIN EPILIMNION AND HYPOLIMNION TOTAL SUSPENDED SOLIDS (MG/L), VOLATILE SOLIDS (MG/L), AND CHLOROPHYLL A (UG/L), CONCENTRATIONS FOR 1985

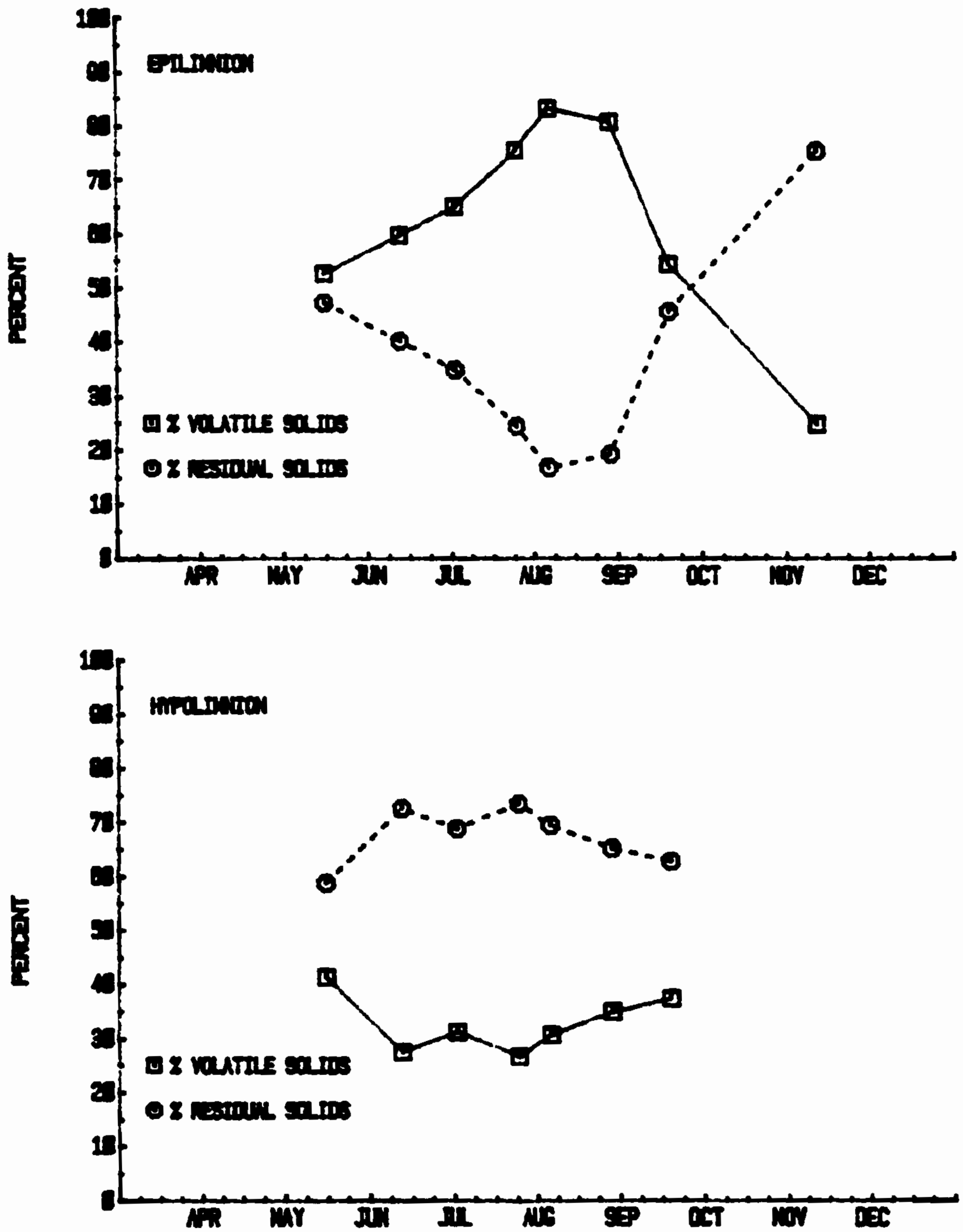


FIGURE 31 PERCENT COMPOSITION OF VOLATILE AND RESIDUAL SOLIDS
CENTRAL BASIN, 1985

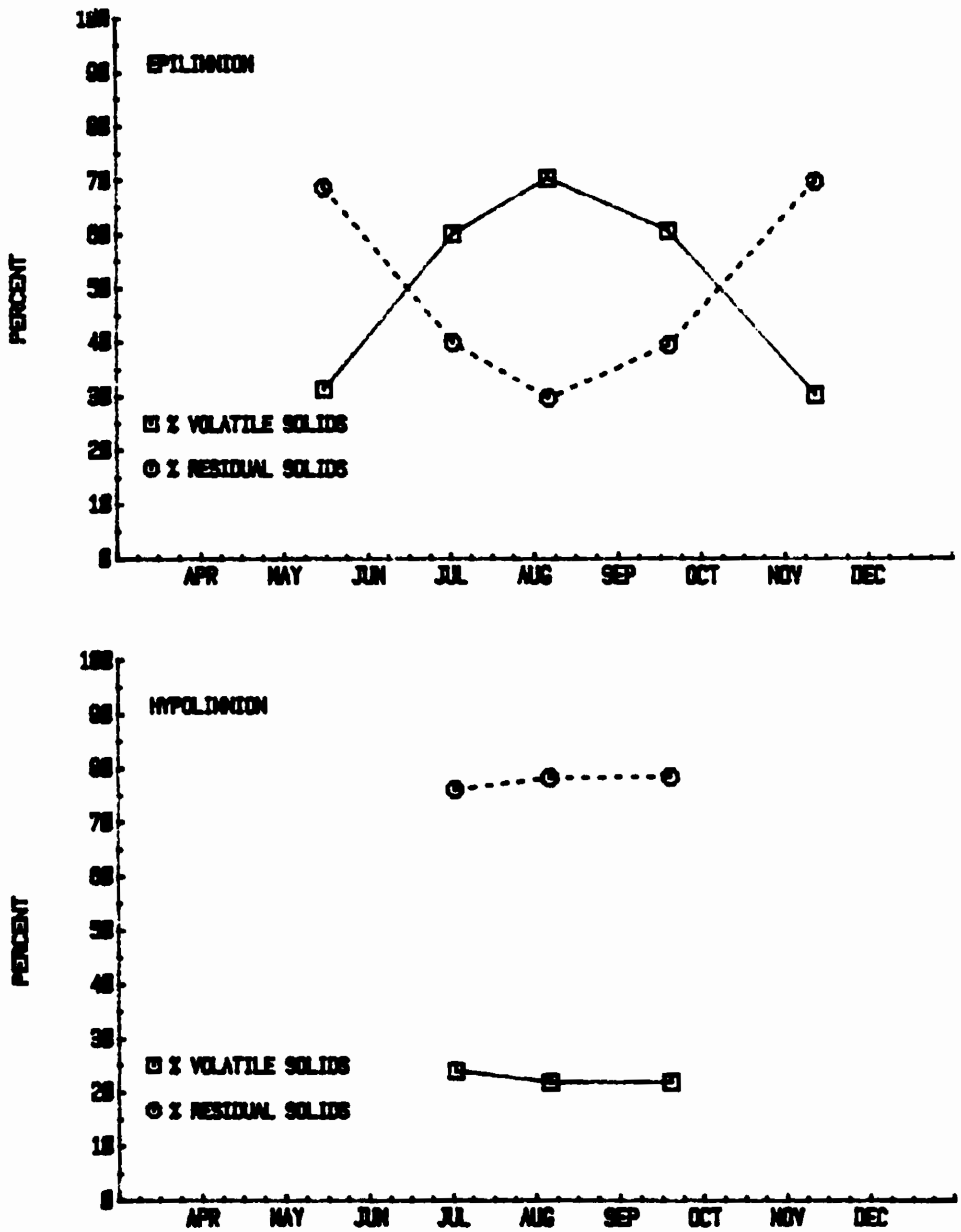


FIGURE 32 PERCENT COMPOSITION OF VOLATILE AND RESIDUAL SOLIDS
EASTERN BASIN, 1985

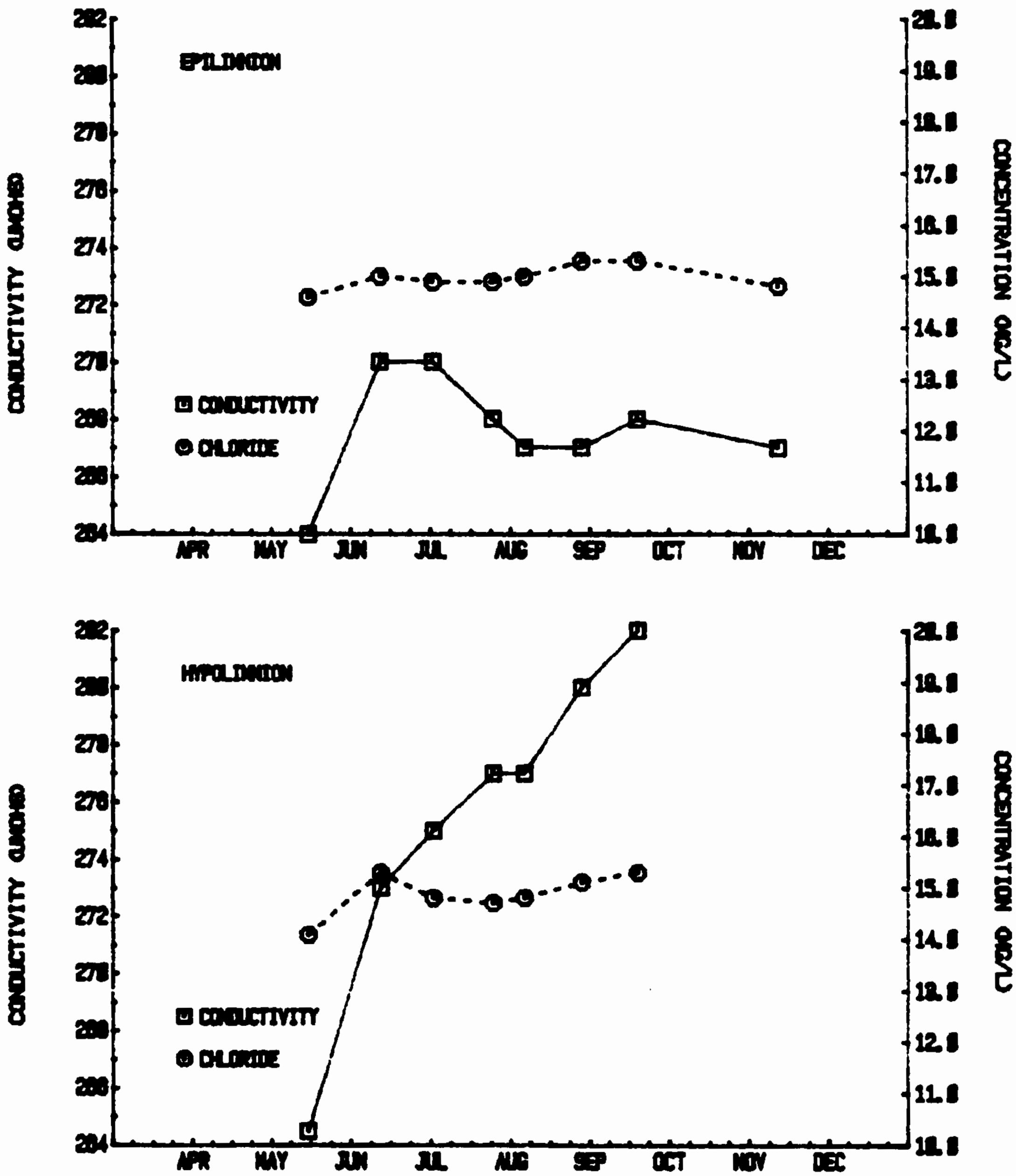


FIGURE 33 THE MEDIAN CENTRAL BASIN EPILIMNION AND HYPOLIMNION CONDUCTIVITY AND CHLORIDE CONCENTRATIONS FOR 1985

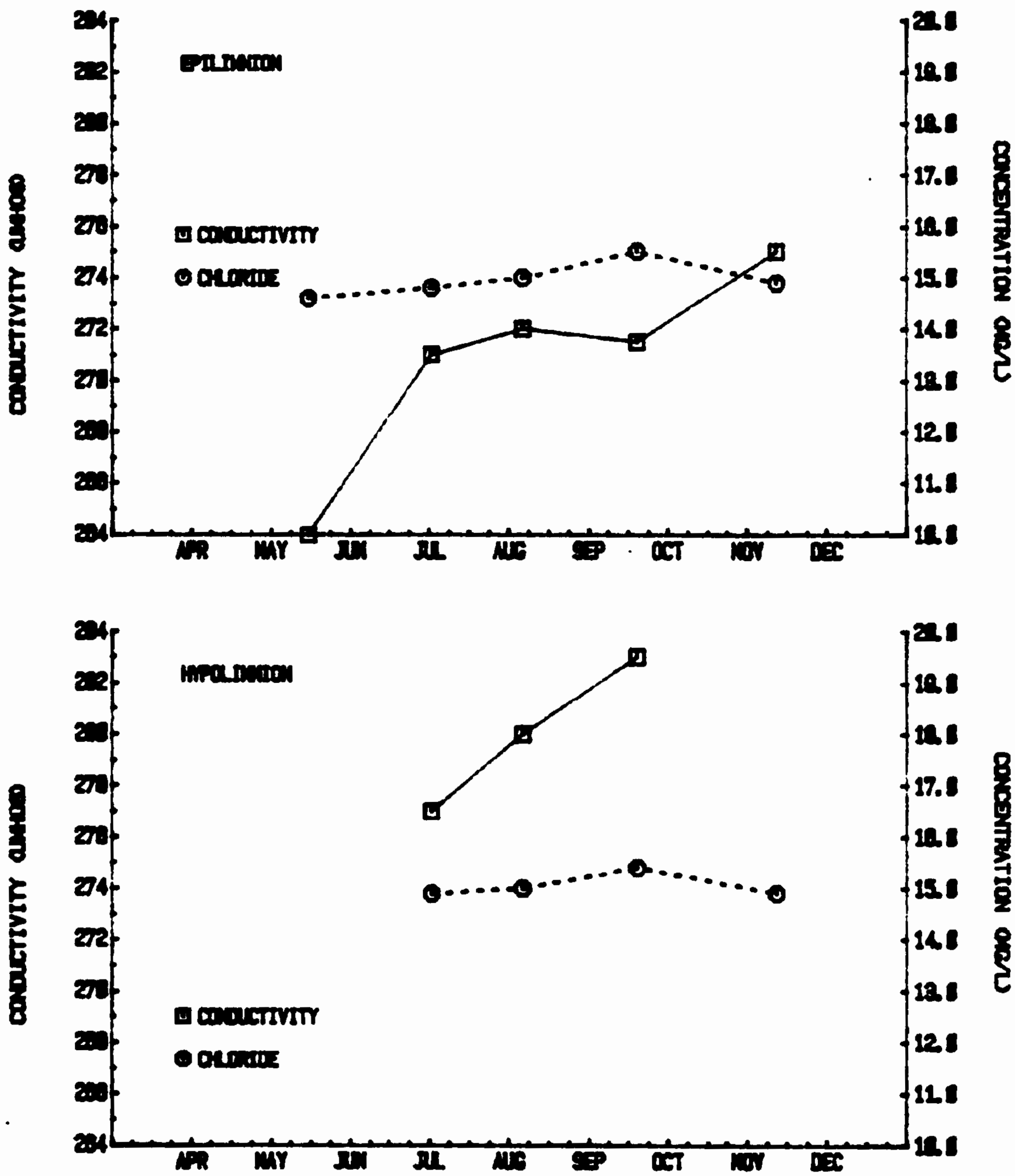


FIGURE 34 THE MEDIAN EASTERN BASIN EPILIMNION AND HYPOLIMNION CONDUCTIVITY AND CHLORIDE CONCENTRATIONS FOR 1985

HYDRABS NEW (PAIRED CASES) TP AND TFP P2D ALL DATA


```
************
* NCTP     *
************
                                          MAXIMUM        34.5000000
VARIABLE NUMBER . . . . . . .     2       MINIMUM         3.8000000                       HH
NUMBER OF DISTINCT VALUES .     143       RANGE          30.7000008                       HHH
NUMBER OF VALUES COUNTED. .     372       VARIANCE       28.4438457                       HHH            EACH 'H'
NUMBER OF VALUES NOT COUNTED     47       ST.DEV.         5.3332772                       HHH           REPRESENTS
                                          (Q3-Q1)/2       2.5749998                      HHHH               2
                                                                                         HHHHHH          COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                                 HHHHHH
                  MEAN          12.0368261      0.2765175                                HHHHHHHH
                  MEDIAN        10.6000004      0.2309400                              HHHHHHHHHHHHHHHHHHHHH
                  MODE          11.1999998                                           L---------------------------U

                                                                                       EACH '-' ABOVE =     1.5000
                                                                                                    L=      0.0000
                                                                                                    U=     39.0000

                                                                                                          Q1      8.6000004
                                                                                  VALUE   VALUE/S.F.      Q3-    13.7500000
                                                               SKEWNESS            1.77       13.9?       S-=     6.7035489
                                                               KURTOSIS            3.4?       13.48       S+=    17.3701038

                                                                                   EACH '.' BELOW =         0.2000
            S     Q                 Q          S
M           -     1        M  M  M   3          +                                                                  M
I.......................E..O..E...........................................................................A
N                          D  D  A                                                                                 X
                           I  E  N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
3.800	2	0.5	0.5	9.300	2	0.5	33.6	13.300	2	0.5	72.8	18.700	1	0.3	89.8
4.800	1	0.3	0.8	9.400	12	3.2	36.8	13.500	1	0.3	73.1	18.800	1	0.3	90.1
4.900	1	0.3	1.1	9.500	6	1.6	38.4	13.600	4	1.1	74.2	18.900	1	0.3	90.3
5.000	1	0.3	1.3	9.600	2	0.5	39.0	13.700	3	0.8	75.0	19.000	1	0.3	90.6
5.600	2	0.5	1.9	9.700	3	0.8	39.8	13.800	2	0.5	75.5	19.100	1	0.3	90.9
5.700	1	0.3	2.2	9.800	13	3.5	43.3	13.900	1	0.3	75.8	19.400	1	0.3	91.1
5.900	1	0.3	2.4	9.900	4	1.1	44.4	14.000	2	0.5	76.3	19.900	1	0.3	91.4
6.200	2	0.5	3.0	10.000	3	0.8	45.2	14.100	4	1.1	77.4	20.100	1	0.3	91.7
6.300	1	0.3	3.2	10.100	9	2.4	47.6	14.200	1	0.3	77.7	20.300	1	0.3	91.9
6.400	3	0.8	4.0	10.200	2	0.5	48.1	14.400	2	0.5	78.2	20.600	2	0.5	92.5
6.500	5	1.3	5.4	10.300	3	0.8	48.9	14.500	3	0.8	79.0	21.100	1	0.3	92.7
6.800	1	0.3	5.6	10.500	3	0.8	49.7	14.600	2	0.5	79.6	21.300	2	0.5	93.3
6.900	1	0.3	5.9	10.600	3	0.8	50.5	14.700	1	0.3	79.8	22.400	1	0.3	93.5
7.000	3	0.8	6.7	10.700	2	0.5	51.1	14.800	1	0.3	80.1	22.500	1	0.3	93.8
7.100	4	1.1	7.8	10.800	12	3.2	54.3	15.000	2	0.5	80.6	22.700	1	0.3	94.1
7.200	2	0.5	8.3	10.900	3	0.8	55.1	15.100	3	0.8	81.5	23.200	1	0.3	94.4
7.300	1	0.3	8.6	11.000	2	0.5	55.6	15.200	1	0.3	81.7	23.700	1	0.3	94.6
7.400	3	0.8	9.4	11.100	6	1.6	57.3	15.400	1	0.3	82.0	24.100	1	0.3	94.9
7.500	10	2.7	12.1	11.200	14	3.8	61.0	15.500	1	0.3	82.3	24.500	2	0.5	95.4
7.600	4	1.1	13.2	11.300	1	0.3	61.3	15.700	2	0.5	82.8	24.800	1	0.3	95.7
7.700	1	0.3	13.4	11.400	1	0.3	61.6	15.900	4	1.1	83.9	25.200	1	0.3	96.0
7.800	2	0.5	14.0	11.500	2	0.5	62.1	16.000	1	0.3	84.1	25.900	1	0.3	96.2
7.900	12	3.2	17.2	11.600	1	0.3	62.4	16.300	1	0.3	84.4	26.200	1	0.3	96.5
8.000	6	1.6	18.8	11.700	5	1.3	63.7	16.500	2	0.5	84.9	26.300	1	0.3	96.8
8.100	3	0.8	19.6	11.800	1	0.3	64.0	16.600	1	0.3	85.2	26.500	1	0.3	97.0
8.200	6	1.6	21.2	11.900	2	0.5	64.5	16.800	1	0.3	85.5	26.600	1	0.3	97.3
8.300	2	0.5	21.8	12.000	2	0.5	65.1	16.900	1	0.3	85.8	27.600	1	0.3	97.6
8.400	9	2.4	24.2	12.200	6	1.6	66.7	17.000	3	0.8	86.6	28.300	1	0.3	97.8
8.500	2	0.5	24.7	12.300	1	0.3	66.9	17.100	1	0.3	86.8	29.600	1	0.3	98.1
8.600	6	1.6	26.3	12.500	4	1.1	68.0	17.200	1	0.3	87.1	29.900	1	0.3	98.4
8.700	5	1.3	27.7	12.600	4	1.1	69.1	17.300	3	0.8	87.9	30.300	2	0.5	98.9
8.800	2	0.5	28.2	12.700	2	0.5	69.6	17.400	1	0.3	88.2	31.900	1	0.3	99.2
8.900	9	2.4	30.6	12.900	3	0.8	70.4	17.800	2	0.5	88.7	33.500	1	0.3	99.5
9.000	3	0.8	31.5	13.000	1	0.3	70.7	18.000	1	0.3	89.0	33.900	1	0.3	99.7
9.100	3	0.8	32.3	13.100	4	1.1	71.8	18.300	1	0.3	89.2	34.500	1	0.3	100.0
9.200	3	0.8	33.1	13.200	2	0.5	72.3	18.500	1	0.3	89.5				

FIGURE 35 STATISTICAL SUMMARY OF THE STANNOUS CHLORIDE (SC) TOTAL PHOSPHORUS DATA USED FOR THE METHOD COMPARISON

```
************
* NCTPAS   *
************
                                           MAXIMUM       39.0999985                  H
VARIABLE NUMBER . . . . . .        3       MINIMUM        3.3000000                  HH
NUMBER OF DISTINCT VALUES .      133       RANGE         35.7999992                  HHH
NUMBER OF VALUES COUNTED. .      372       VARIANCE      31.5231400                  HHH                    EACH 'H'
NUMBER OF VALUES NOT COUNTED      47       ST.DEV.        5.6145473                 HHHH                   REPRESENTS
                                           (Q3-Q1)/2      2.7500000                 HHHHH                       7
                                                                                    HHHHHH                  COUNT(S)
LOCATION ESTIMATES                          ST.ERROR                               HHHHHHHHH
                  MEAN        11.8965044   0.2911007                               HHHHHHHHHH
                  MEDIAN      10.3500004   0.2598079                              HHHHHHHHHHHHHHHHHHHHH  H
                  MODE         9.3999996                                         L-------------------------U

                                                                                  EACH '-' ABOVE =     1.5000
                                                                                               L=     1.5000
                                                                                               U=    40.5000

                                                                                                     Q1-    8.1999998
                                                                               VALUE   VALUE/S.E.    Q3=   13.6999998
                                                             SKEWNESS           1.83      14.38      S-=    6.2819571
                                                             KURTOSIS           4.01      15.80      S+=   17.5110512

                                                                                  EACH '.' BELOW =     0.3000
         S     Q              Q          S
M        -     1  M  M    M   3          +                                                                          M
I.................O..E....E.......................................................................................A
N                 D  D    A                                                                                         X
                  E  I    N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
3.300	1	0.3	0.3	9.100	2	0.5	35.8	13.100	1	0.3	72.0	18.700	2	0.5	90.3
3.700	1	0.3	0.5	9.200	1	0.3	36.0	13.200	1	0.3	72.3	18.900	2	0.5	90.9
4.700	1	0.3	0.8	9.300	2	0.5	36.6	13.300	5	1.3	73.7	19.100	1	0.3	[illegible]
5.000	1	0.3	1.1	9.400	19	5.1	41.7	13.600	4	1.1	74.7	19.200	1	0.3	91.4
5.100	1	0.3	1.3	9.600	3	0.8	42.5	13.700	2	0.5	75.3	19.400	1	0.3	91.7
5.200	2	0.5	1.9	9.700	1	0.3	42.7	13.800	2	0.5	75.8	20.000	1	0.3	[illegible]
5.300	1	0.3	2.2	9.800	8	2.2	44.9	13.900	1	0.3	76.1	20.100	2	0.5	92.5
5.400	2	0.5	2.7	9.900	6	1.6	46.5	14.000	5	1.3	77.4	20.200	1	0.3	92.7
5.500	1	0.3	3.0	10.000	5	1.3	47.8	14.100	1	0.3	77.7	21.[illegible]	1	[illegible]	[illegible]
5.600	5	1.3	4.3	10.100	4	1.1	48.9	14.400	1	0.3	78.0	21.100	1	0.3	93.3
5.800	1	0.3	4.6	10.300	4	1.1	50.0	14.500	2	0.5	78.5	22.[illegible]	1	[illegible]	[illegible]
5.900	2	0.5	5.1	10.400	6	1.6	51.6	14.900	3	0.8	79.3	22.100	1	0.3	[illegible]
6.000	1	0.3	5.4	10.600	2	0.5	52.2	15.000	2	0.5	79.8	22.[illegible]	2	0.5	[illegible]
6.100	5	1.3	6.7	10.700	1	0.3	52.4	15.100	1	0.3	80.1	23.100	1	0.3	[illegible]
6.300	1	0.3	7.0	10.800	9	2.4	54.8	15.300	1	0.3	80.4	23.600	1	0.3	[illegible]
6.500	7	1.9	8.9	10.900	7	1.9	56.7	15.400	3	0.8	81.2	23.900	1	0.3	[illegible]
6.600	1	0.3	9.1	11.000	2	0.5	57.3	15.700	1	0.3	81.5	24.300	2	0.5	95.7
7.000	6	1.6	10.8	11.100	1	0.3	57.5	15.900	2	0.5	82.0	24.700	1	0.3	[illegible]
7.200	4	1.1	11.8	11.200	9	2.4	59.9	16.000	1	0.3	82.3	25.600	1	0.3	[illegible]
7.300	3	0.8	12.6	11.300	2	0.5	60.5	16.200	2	0.5	82.8	26.200	1	0.3	[illegible]
7.500	14	3.8	16.4	11.400	5	1.3	61.8	16.300	1	0.3	83.1	27.100	1	0.3	[illegible]
7.600	5	1.3	17.7	11.500	2	0.5	62.4	16.400	2	0.5	83.6	27.300	1	0.3	97.0
7.800	5	1.3	19.1	11.600	2	0.5	62.9	16.500	1	0.3	83.9	28.200	2	0.5	97.4
7.900	12	3.2	22.3	11.700	2	0.5	63.4	16.700	2	0.5	84.4	29.700	1	0.3	[illegible]
8.000	2	0.5	22.8	11.900	3	0.8	64.2	16.800	2	0.5	84.9	30.100	1	0.3	[illegible]
8.100	5	1.3	24.2	12.000	6	1.6	65.9	16.900	1	0.3	85.2	30.400	1	0.3	[illegible]
8.200	4	1.1	25.3	12.100	1	0.3	66.1	17.000	3	0.8	86.0	31.600	1	0.3	[illegible]
8.300	3	0.8	26.1	12.200	7	1.9	68.0	17.200	2	0.5	86.6	32.700	2	0.5	[illegible]
8.400	9	2.4	28.5	12.300	1	0.3	68.3	17.300	1	0.3	86.8	34.300	1	0.3	[illegible]
8.500	2	0.5	29.0	12.400	2	0.5	68.3	17.600	3	0.8	87.6	34.900	1	0.3	99.7
8.600	2	0.5	29.6	12.600	6	1.6	70.4	17.800	3	0.8	88.4	39.100	1	0.3	100.0
8.700	5	1.3	30.9	12.700	2	0.5	71.0	17.900	1	0.3	88.7				
8.800	2	0.5	31.5	12.900	1	0.3	71.2	18.000	2	0.5	89.2				
8.900	14	3.8	35.2	13.000	2	0.5	71.8	18.200	2	0.5	89.8				

FIGURE 36 STATISTICAL SUMMARY OF THE ASCORBIC ACID (AA)
TOTAL PHOSPHORUS DATA USED FOR THE METHOD COMPARISON

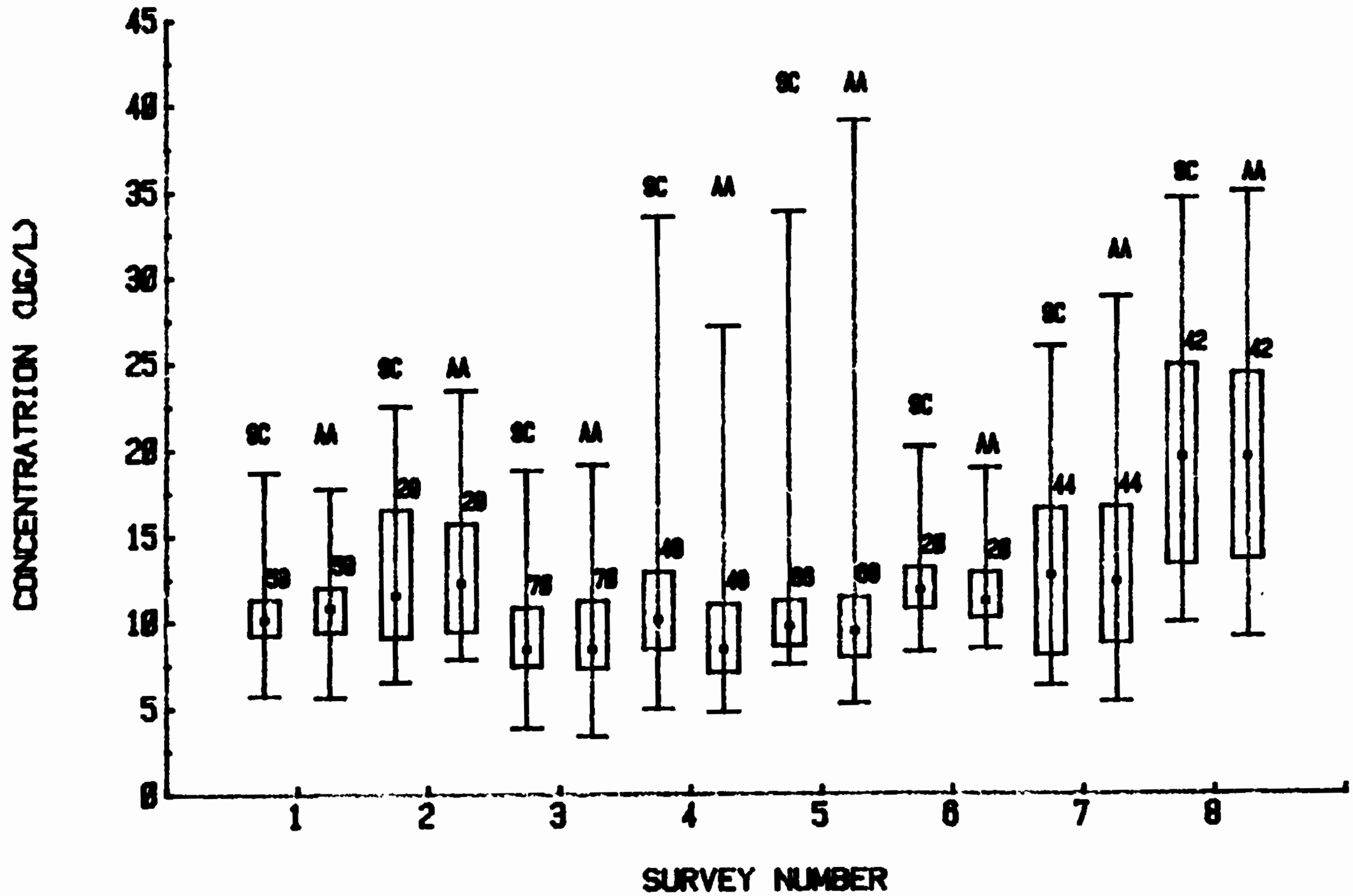


FIGURE 37 COMPARISON OF STANNOUS CHLORIDE (SC) AND ASCORBIC ACID (AA)
TOTAL PHOSPHORUS ANALYSIS, 1985

HYDRA85 TPDIF ST CL VS AS ACID


```
************
* TPDIF    *
************

                                                   MAXIMUM        7.5999994
VARIABLE NUMBER . . . . . .       4                MINIMUM       -6.0000000
NUMBER OF DISTINCT VALUES .     157                RANGE         13.5999994
NUMBER OF VALUES COUNTED. .     372                VARIANCE       3.2933023
NUMBER OF VALUES NOT COUNTED     47                ST.DEV.        1.8147458
                                                   (Q3-Q1)/2      0.9999998

LOCATION ESTIMATES                                 ST.ERROR
              MEAN                0.1403227        0.0940902
              MEDIAN              0.1000004        0.0866026
              MODE                0.0000000

                         H
                        HH
                        HH
                        HHH                    EACH 'H'
                        HHH                    REPRESENTS
                       HHHH                       8
                      HHHHH H                  COUNTS
                     HHHHHHHH
                     HHHHHHHHH
                HHHHHHHHHHHHHHHH HH
              L------------------------- U

              EACH '-' ABOVE =
                           L=
                           U=       10.5

                                                   Q1=
                          VALUE   VALUE/S.E.       Q3=
          SKEWNESS         0.08        0.61        S-=
          KURTOSIS         1.44        5.66        S+=

              EACH '.' BELOW =

                       S    Q          Q    S
         M             -    1    MM    3    +                M
         I...............................OF.....................A
         N                               DA                     X
                                         EN
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
-6.00000	1	0.3	0.3	-1.40000	3	0.8	18.8
-5.30000	1	0.3	0.5	-1.30000	1	0.3	19.1
-4.80000	1	0.3	0.8	-1.30000	1	0.3	19.4
-4.70000	1	0.3	1.1	-1.20000	2	0.5	19.9
-4.70000	1	0.3	1.3	-1.10000	3	0.8	20.7
-4.40000	2	0.5	1.9	-1.10000	2	0.5	21.2
-4.30000	1	0.3	2.2	-1.10000	1	0.3	21.5
-4.20000	1	0.3	2.4	-1.00000	1	0.3	21.8
-3.80000	1	0.3	2.7	-1.00000	8	2.2	23.9
-3.60000	1	0.3	3.0	-0.90000	1	0.3	24.2
-3.40000	1	0.3	3.2	-0.90000	1	0.3	24.5
-3.20000	1	0.3	3.5	-0.90000	5	1.3	25.8
-2.90000	1	0.3	3.8	-0.80000	3	0.8	26.6
-2.90000	2	0.5	4.3	-0.80000	1	0.3	26.9
-2.80000	1	0.3	4.6	-0.80000	2	0.5	27.4
-2.70000	1	0.3	4.8	-0.70000	1	0.3	27.7
-2.70000	3	0.8	5.6	-0.70000	1	0.3	28.0
-2.60000	1	0.3	5.9	-0.70000	2	0.5	28.5
-2.50000	1	0.3	6.2	-0.70000	1	0.3	28.8
-2.50000	3	0.8	7.0	-0.60000	3	0.8	29.6
-2.50000	2	0.5	7.5	-0.60000	3	0.8	30.4
-2.40000	1	0.3	7.8	-0.60000	2	0.5	30.9
-2.30000	3	0.8	8.6	-0.50000	10	2.7	33.6
-2.30000	1	0.3	8.9	-0.50000	1	0.3	33.9
-2.20000	1	0.3	9.1	-0.40000	1	0.3	34.1
-2.10000	6	1.6	10.8	-0.40000	3	0.8	34.9
-2.10000	1	0.3	11.0	-0.40000	5	1.3	36.3
-2.00000	1	0.3	11.3	-0.30000	4	1.1	37.4
-1.90000	1	0.3	11.6	-0.30000	1	0.3	37.6
-1.80000	3	0.8	12.4	-0.30000	1	0.3	37.9
-1.70000	1	0.3	12.6	-0.20000	1	0.3	38.2
-1.70000	1	0.3	12.9	-0.20000	7	1.9	40.1
-1.70000	2	0.5	13.4	-0.10000	5	1.3	41.4
-1.60000	1	0.3	13.7	-0.10000	3	0.8	42.2
-1.60000	2	0.5	14.2	-0.10000	2	0.5	42.7
-1.50000	2	0.5	14.8	0.00000	14	3.8	46.5
-1.50000	5	1.3	16.1	0.10000	1	0.3	46.8
-1.50000	2	0.5	16.7	0.10000	5	1.3	48.1
-1.40000	1	0.3	16.9	0.10000	8	2.2	50.3
-1.40000	4	1.1	18.0	0.20000	1	0.3	50.5

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.20000	3	0.8	51.3	1.90000	2	[illegible]	[illegible]
0.20000	1	0.3	51.6	1.90000	1	0.3	[illegible]
0.20000	7	1.9	53.5	2.00000	1	0.3	[illegible]
0.30000	13	3.5	57.0	2.10000	2	0.5	[illegible]
0.40000	2	0.5	57.5	2.10000	2	[illegible]	[illegible]
0.40000	5	1.3	58.9	2.10000	1	0.3	[illegible]
0.40000	4	1.1	59.9	2.20000	1	[illegible]	[illegible]
0.50000	12	3.2	63.2	2.20000	1	0.3	[illegible]
0.60000	1	0.3	63.4	2.20000	1	[illegible]	[illegible]
0.60000	6	1.6	65.1	2.30000	6	[illegible]	[illegible]
0.70000	4	1.1	66.1	2.40000	4	[illegible]	90.7
0.70000	1	0.3	66.4	2.50000	4	[illegible]	[illegible]
0.70000	3	0.8	67.2	2.60000	1	.3	[illegible]
0.80000	3	0.8	68.0	2.70000	3	[illegible]	[illegible]
0.80000	3	0.8	68.8	2.70000	1	[illegible]	[illegible]
0.90000	5	1.3	70.2	2.80000	[illegible]	0.5	[illegible]
0.90000	2	0.5	70.7	2.80000	2	[illegible]	[illegible]
0.90000	3	0.8	71.5	2.90000	3	0.8	[illegible]
0.90000	1	0.3	71.8	2.90000	1	0.3	[illegible]
1.00000	7	1.9	73.7	3.00000	1	0.3	[illegible]
1.10000	1	0.3	73.9	3.00000	1	[illegible]	[illegible]
1.10000	1	0.3	74.2	3.10000		0.3	[illegible]
1.10000	4	1.1	75.3	3.10000	1	0.3	94.0
1.10000	3	0.8	76.1	3.20000	1	0.3	94.2
1.20000	1	0.3	76.3	3.30000	1	[illegible]	[illegible]
1.20000	4	1.1	77.4	3.40000	1	0.3	[illegible]
1.20000	3	0.8	78.2	3.40000	1	.3	[illegible]
1.30000	1	0.3	78.5	3.50000	[illegible]	0.5	[illegible]
1.30000	1	0.3	78.8	3.60000	1	0.3	[illegible]
1.40000	6	1.6	80.4	3.70000	1	0.3	[illegible]
1.40000	1	0.3	80.6	3.80000	1	0.3	[illegible]
1.50000	1	0.3	80.9	4.00000	1	0.3	[illegible]
1.50000	4	1.1	82.0	4.30000	1	0.3	[illegible]
1.50000	1	0.3	82.3	5.50000	1	0.3	[illegible]
1.60000	1	0.3	82.5	6.00000	1	0.3	99.5
1.70000	1	0.3	82.8	6.40000	1	0.3	[illegible]
1.70000	1	0.3	83.1	7.60000	1	0.3	100.0
1.80000	1	0.3	83.3				
1.80000	2	0.5	83.9				
1.90000	2	0.5	84.4				

FIGURE 38 STATISTICAL SUMMARY OF THE COMPUTED DIFFERENCE BETWEEN PAIRED STANNOUS CHLORIDE (SC) AND ASCORBIC ACID (AA) TOTAL PHOSPHORUS

HYDRAB5 NEW (PAIRED CASES) TP AND TFP P2D ALL DATA


```
************
* NCTFP    *
************
                                              MAXIMUM          14.6999998
VARIABLE NUMBER . . . . . . .        4        MINIMUM           0.3000000
NUMBER OF DISTINCT VALUES .         69        RANGE            14.3999996
NUMBER OF VALUES COUNTED. .        103        VARIANCE         13.0532570
NUMBER OF VALUES NOT COUNTED       316        ST.DEV.           3.6129291
                                              (Q3-Q1)/2         2.6999998

LOCATION ESTIMATES                                 ST.ERROR
                    MEAN            6.3572822      0.3559925
                    MEDIAN          6.0999999      0.4330129
                    MODE            6.5000000
```

```
  H   H                          EACH 'H'
  H   H                          REPRESENTS
  H H H                              2
  HHH H    H                     COUNT(S)
 HHHHH HH  H
HHHHHHHHHHHHH   HH
HHHHHHHHHHHHHHHHHHHH
L--------------------------U

EACH '-' ABOVE =       0.7500
            L=         0.0000
            U=        19.5000

                                        Q1-     3.5000000
           VALUE    VALUE/S.E.          Q3=     8.8999996
SKEWNESS    0.56        2.30            S-=     2.7443531
KURTOSIS   -0.54       -1.12            S+=     9.9702110

EACH '.' BELOW =       0.1500
```

```
                      S   Q                            Q     S
M                     -   1                 M MM       3     +                            M
I...........................................E.EQ.......................................A
N                                           D AD                                         X
                                            I NE
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.3000	1	1.0	1.0	3.6000	2	1.9	28.2	6.4000	2	1.9	58.3	10.1000	1	1.0	84.5
0.6000	1	1.0	1.9	3.7000	2	1.9	30.1	6.5000	4	3.9	62.1	10.4000	1	1.0	85.4
0.9000	1	1.0	2.9	3.9000	1	1.0	31.1	6.6000	1	1.0	63.1	10.5000	1	1.0	86.4
1.2000	1	1.0	3.9	4.2000	1	1.0	32.0	7.0000	2	1.9	65.0	10.6000	1	1.0	87.4
1.4000	1	1.0	4.9	4.3000	2	1.9	34.0	7.2000	1	1.0	66.0	11.2000	1	1.0	88.3
1.5000	1	1.0	5.8	4.4000	1	1.0	35.0	7.5000	3	2.9	68.9	11.9000	1	1.0	89.3
1.6000	1	1.0	6.8	4.5000	2	1.9	36.9	7.7000	1	1.0	69.9	12.3000	1	1.0	90.3
1.8000	1	1.0	7.8	4.6000	1	1.0	37.9	7.9000	1	1.0	70.9	12.4000	1	1.0	91.3
1.9000	3	2.9	10.7	4.7000	3	2.9	40.8	8.2000	1	1.0	71.8	12.8000	1	1.0	92.2
2.1000	1	1.0	11.7	5.0000	3	2.9	43.7	8.4000	1	1.0	72.8	13.1000	1	1.0	93.2
2.5000	2	1.9	13.6	5.1000	1	1.0	44.7	8.6000	1	1.0	73.8	13.2000	1	1.0	94.2
2.6000	1	1.0	14.6	5.2000	1	1.0	45.6	8.8000	1	1.0	74.8	13.6000	3	2.9	97.1
2.8000	2	1.9	16.5	5.6000	1	1.0	46.6	8.9000	1	1.0	75.7	13.7000	1	1.0	98.1
3.1000	2	1.9	18.4	5.8000	2	1.9	48.5	9.1000	1	1.0	76.7	14.6000	1	1.0	99.0
3.2000	2	1.9	20.4	6.0000	1	1.0	49.5	9.2000	1	1.0	77.7	14.7000	1	1.0	100.0
3.3000	3	2.9	23.3	6.1000	3	2.9	52.4	9.4000	2	1.9	79.6				
3.4000	1	1.0	24.3	6.2000	2	1.9	54.4	9.8000	3	2.9	82.5				
3.5000	2	1.9	26.2	6.3000	2	1.9	56.3	10.0000	1	1.0	83.5				

FIGURE 39 STATISTICAL SUMMARY OF THE STANNOUS CHLORIDE (SC) TOTAL FILTERED PHOSPHORUS DATA USED FOR THE METHOD COMPARISON

HYDRABS NEW (PAIRED CASES) TP AND TFP P2D ALL DATA

```
************
* NCTFPAS  *
************
                                          MAXIMUM        15.5000000                  H
VARIABLE NUMBER . . . . . .       5       MINIMUM         0.7000000                  H
NUMBER OF DISTINCT VALUES .      67       RANGE          14.8000002                  H
NUMBER OF VALUES COUNTED. .     103       VARIANCE       11.5601187                  H                      EACH 'H'
NUMBER OF VALUES NOT COUNTED    316       ST.DEV.         3.4000175                H H                     REPRESENTS
                                          (Q3-Q1)/2       2.5000002                HHHH                        2
                                                                                   HHHHH H  H                COUNT(S)
LOCATION ESTIMATES                             ST.ERROR                            HHHHHHH  HH
              MEAN            5.6427193      0.3350137                            HHHHHHHH  HHH   H
              MEDIAN          4.5000000      0.3175429                           HHHHHHHHHHHHHHHHHHH H
              MODE           NOT UNIQUE                                         L--------------------------U

                                                                                   EACH '-' ABOVE =      0.7500
                                                                                                L=       0.0000
                                                                                                U=      19.5000

                                                                                                      Q1-      3.0999999
                                                                                VALUE     VALUE/S.E.  Q3=      8.1000004
                                                                   SKEWNESS     0.95         3.94     S-=      2.2427018
                                                                   KURTOSIS     0.15         0.32     S+=      9.0427370

                                                                                   EACH '.' BELOW =      0.1500

                   S    Q                                 Q    S
         M         -    1       M      M                  3    +                                          M
         I......................E......E..........................................................A
         N                      D      A                                                          X
                                I      N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.7000	1	1.0	1.0	3.4000	1	1.0	30.1	5.6000	2	1.9	62.1	9.2000	1	1.0	[illegible]
1.0000	2	1.9	2.9	3.6000	3	2.9	33.0	5.7000	1	1.0	63.1	9.3000	1	1.0	[illegible]
1.1000	1	1.0	3.9	3.8000	1	1.0	34.0	5.8000	1	1.0	64.1	9.4000	1	1.0	[illegible]
1.6000	1	1.0	4.9	3.9000	4	3.9	37.9	6.3000	3	2.9	67.0	9.6000	1	[illegible]	[illegible]
1.8000	2	1.9	6.8	4.0000	2	1.9	39.8	6.4000	1	1.0	68.0	10.3000	2	1.9	[illegible]
1.9000	2	1.9	8.7	4.1000	1	1.0	40.8	6.5000	2	1.9	69.9	10.5000	1	1.0	[illegible]
2.0000	1	1.0	9.7	4.2000	4	3.9	44.7	6.6000	1	1.0	70.9	10.7000	1	1.0	[illegible]
2.1000	1	1.0	10.7	4.3000	3	2.9	47.6	6.7000	1	1.0	71.8	11.1000	1	1.0	[illegible]
2.2000	2	1.9	12.6	4.4000	2	1.9	49.5	7.0000	1	1.0	72.8	12.6000	1	1.0	[illegible]
2.3000	2	1.9	14.6	4.5000	2	1.9	51.5	7.5000	1	1.0	73.8	12.8000	1	1.0	94.2
2.6000	1	1.0	15.5	4.6000	1	1.0	52.4	8.0000	1	1.0	74.8	12.9000	1	1.0	[illegible]
2.8000	4	3.9	19.4	4.8000	1	1.0	53.4	8.1000	1	1.0	75.7	13.0000	1	1.0	[illegible]
2.9000	2	1.9	21.4	4.9000	1	1.0	54.4	8.3000	1	1.0	76.7	13.7000	1	1.0	[illegible]
3.0000	3	2.9	24.3	5.0000	2	1.9	56.3	8.4000	3	2.9	79.6	13.9000	1	1.0	98.1
3.1000	1	1.0	25.2	5.1000	2	1.9	58.3	8.5000	2	1.9	81.6	14.2000	1	1.0	99.0
3.2000	2	1.9	27.2	5.3000	1	1.0	59.2	8.8000	1	1.0	82.5	15.5000	1	1.0	100.0
3.3000	2	1.9	29.1	5.5000	1	1.0	60.2	9.1000	1	1.0	83.5				

FIGURE 40 STATISTICAL SUMMARY OF THE ASCORBIC ACID (AA)
TOTAL FILTERED PHOSPHORUS DATA USED FOR THE METHOD COMPARISON

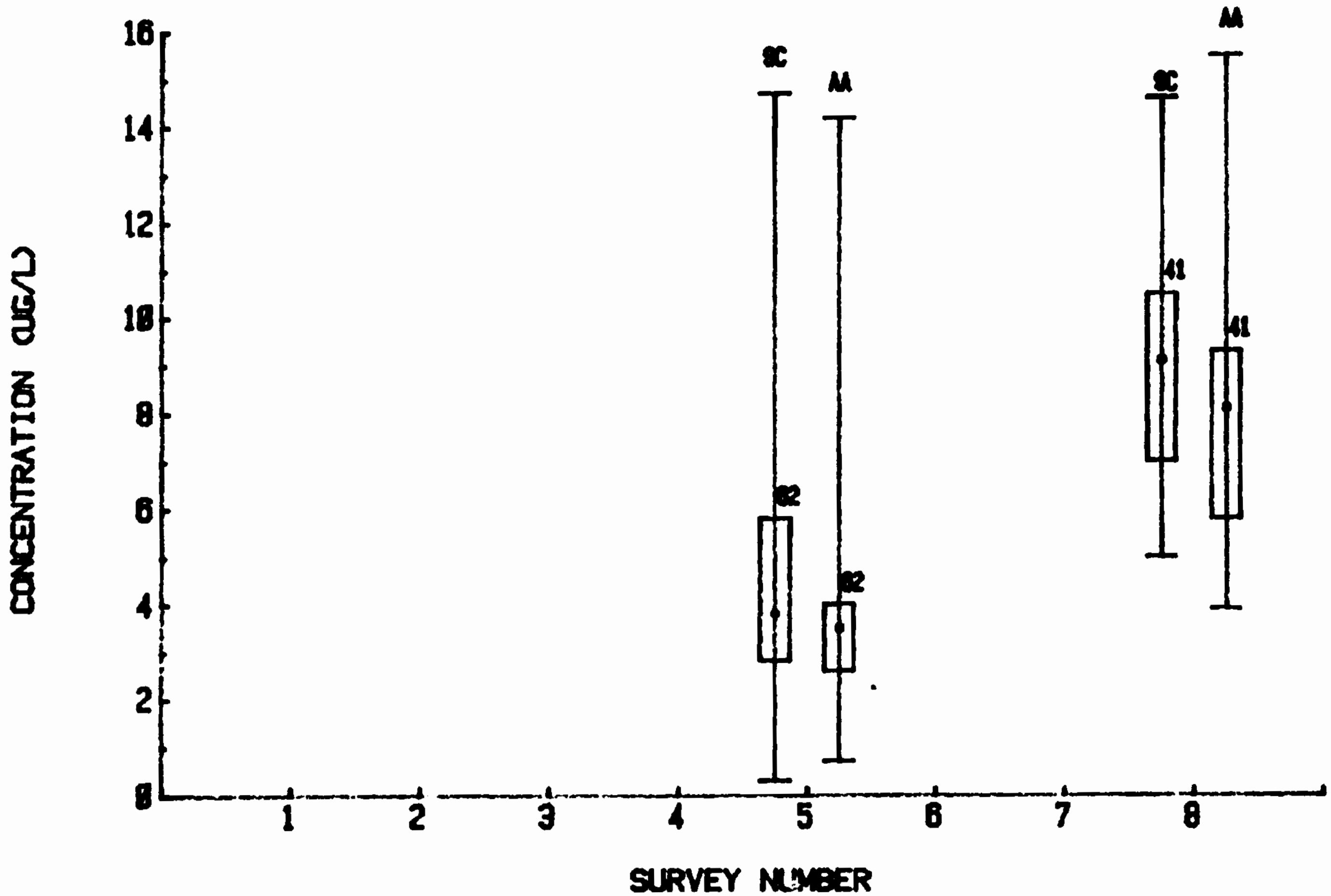


FIGURE 41 COMPARISON OF STANNOUS CHLORIDE (SC) AND ASCORBIC ACID (AA) TOTAL FILTERED PHOSPHORUS ANALYSIS, 1985

```
************
* TFPDIF   *
************
                                                MAXIMUM           3.5999999
VARIABLE NUMBER . . . . . .         3           MINIMUM          -3.3000000
NUMBER OF DISTINCT VALUES .        41           RANGE             6.9000001
NUMBER OF VALUES COUNTED. .       102           VARIANCE          1.7097546                                          EACH 'H'
NUMBER OF VALUES NOT COUNTED      317           ST.DEV.           1.3075758                        H                REPRESENTS
                                                (Q3-Q1)/2         1.0000000                    H  H   H                  2
                                                                                              HH HHHHHH               COUNT(S)
LOCATION ESTIMATES                                   ST.ERROR                                 HHH HHHHHHH
                 MEAN               0.7401960       0.1294693                                 HHHHHHHHHHH
                 MEDIAN             0.8000000       0.1154701                          H  HHHHHHHHHHHHHHHHHHHH
                 MODE               1.9000000                                          L-------------------------U

                                                                                         EACH '-' ABOVE =      0.3000
                                                                                                     L=       -3.6000
                                                                                                     U=        4.2000

                                                                                                              Q1=    -0.2000000
                                                                                  VALUE    VALUE/S.E.         Q3=     1.8000000
                                                                      SKEWNESS    -0.37       -1.52           S-=    -0.5673798
                                                                      KURTOSIS     0.03        0.07           S+=     2.0477719

                                                                                         EACH '.' BELOW =      0.0750
                                                      S    Q                    Q   S
               M                                      -    1           MM       3 M +                    M
               I.......................................................FE...............O.......................A
               N                                                       AD       D                        X
                                                                       NI       E
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
-3.30000	1	1.0	1.0	-0.30000	3	2.9	23.5	0.90000	2	2.0	54.9	2.20000	4	3.9	91.2
-2.40000	1	1.0	2.0	-0.20000	4	3.9	27.5	1.00000	4	3.9	58.8	2.40000	2	2.0	93.1
-2.10000	1	1.0	2.9	-0.10000	2	2.0	29.4	1.10000	4	3.9	62.7	2.60000	1	1.0	94.1
-1.80000	2	2.0	4.9	0.00000	4	3.9	33.3	1.40000	2	2.0	64.7	2.70000	1	1.0	95.1
-1.50000	1	1.0	5.9	0.20000	1	1.0	34.3	1.50000	5	4.9	69.6	2.80000	2	2.0	97.1
-1.20000	2	2.0	7.8	0.30000	2	2.0	36.3	1.60000	2	2.0	71.6	3.20000	1	1.0	98.0
-0.90000	2	2.0	9.8	0.40000	2	2.0	38.2	1.70000	3	2.9	74.5	3.30000	1	1.0	99.0
-0.80000	1	1.0	10.8	0.50000	2	2.0	40.2	1.80000	3	2.9	77.5	3.60000	1	1.0	100.0
-0.60000	5	4.9	15.7	0.60000	3	2.9	43.1	1.90000	6	5.9	83.3				
-0.50000	1	1.0	16.7	0.70000	5	4.9	48.0	2.00000	1	1.0	84.3				
-0.40000	4	3.9	20.6	0.80000	5	4.9	52.9	2.10000	3	2.9	87.3				

FIGURE 42 STATISTICAL SUMMARY OF THE COMPUTED DIFFERENCE BETWEEN PAIRED STANNOUS CHLORIDE (SC) AND ASCORBIC ACID (AA) TOTAL FILTERED PHOSPHORUS

APPENDIX A

```
*************
* NO        *
*************
                                              MAXIMUM          15.5000000              H
VARIABLE NUMBER . . . . . . .      2          MINIMUM           0.0000000              H
NUMBER OF DISTINCT VALUES .       86          RANGE            15.5000000              H
NUMBER OF VALUES COUNTED. .      312          VARIANCE          9.2045431              H              EACH 'H'
NUMBER OF VALUES NOT COUNTED       1          ST.DEV.           3.0338991              HH            REPRESENTS
                                              (Q3-Q1)/2         0.9499998              HHH               9
                                                                                      HHHH            COUNT(S)
LOCATION ESTIMATES                                ST.ERROR                            HHHH
                  MEAN            8.3147430       0.1717607                  H     H  HHHH HH
                  MEDIAN          8.8000002       0.0864026                  HHHHHHHHHHHHHHHHHHHH H
                  MODE            8.5000000                                 L----------------------U

                                                                             EACH '-' ABOVE =      0.7500
                                                                                         L=      0.0000
                                                                                         U=     18.0000

                                                                                             Q1=    8.0000000
                                                                           VALUE  VALUE/S.E.  Q3=    9.8999996
                                                                SKEWNESS   -1.17       -8.46  S-=    5.2808442
                                                                KURTOSIS    1.33        4.79  S+=   11.3486423

                                                                             EACH '.' BELOW =      0.1500
                                             S               Q      Q      S
      M                                      -               1 M M M  3      +                          M
      I.......................... ..............................E.D.E..........................................A
      N                                                          A D D                                        X
                                                                 N E I
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.00000	4	1.3	1.3	5.30000	2	0.6	14.1	8.70000	7	2.2	46.5	11.10000	2	0.6	87.5
0.10000	5	1.6	2.9	5.40000	2	0.6	14.7	8.80000	13	4.2	50.6	11.20000	2	0.6	88.1
0.20000	4	1.3	4.2	5.60000	3	1.0	15.7	8.90000	10	3.2	53.8	11.50000	2	0.6	88.8
0.30000	1	0.3	4.5	5.70000	4	1.3	17.0	9.00000	9	2.9	56.7	11.60000	2	0.6	89.4
0.60000	2	0.6	5.1	5.80000	1	0.3	17.3	9.10000	9	2.9	59.6	11.70000	2	0.6	90.1
0.80000	1	0.3	5.4	6.00000	2	0.6	17.9	9.20000	10	3.2	62.8	11.80000	3	1.0	91.0
1.10000	4	1.3	6.7	6.20000	1	0.3	18.3	9.30000	15	4.8	67.6	11.90000	2	0.6	91.7
1.80000	1	0.3	7.1	6.30000	1	0.3	18.6	9.40000	8	2.6	70.2	12.00000	1	0.3	92.0
1.90000	1	0.3	7.4	6.90000	1	0.3	18.9	9.50000	3	1.0	71.2	12.10000	1	0.3	92.3
2.30000	2	0.6	8.0	7.10000	1	0.3	19.2	9.60000	5	1.6	72.8	12.20000	6	1.9	94.2
2.50000	2	0.6	8.7	7.20000	2	0.6	19.9	9.70000	3	1.0	73.7	12.30000	1	0.3	94.6
2.70000	1	0.3	9.0	7.50000	1	0.3	20.2	9.80000	3	1.0	74.7	12.40000	3	1.0	95.5
3.00000	1	0.3	9.3	7.70000	1	0.3	20.5	9.90000	5	1.6	76.3	12.70000	4	1.3	96.8
3.10000	1	0.3	9.6	7.80000	3	1.0	21.5	10.00000	4	1.3	77.6	12.80000	2	0.6	97.4
3.50000	1	0.3	9.9	7.90000	3	1.0	22.4	10.10000	5	1.6	79.2	12.90000	2	0.6	98.1
3.90000	2	0.6	10.6	8.00000	11	3.5	26.0	10.20000	7	2.2	81.4	13.00000	2	0.6	98.7
4.20000	2	0.6	11.2	8.10000	5	1.6	27.6	10.30000	3	1.0	82.4	13.30000	1	0.3	99.0
4.30000	3	1.0	12.2	8.20000	9	2.9	30.4	10.40000	5	1.6	84.0	13.40000	1	0.3	99.4
4.40000	1	0.3	12.5	8.30000	3	1.0	31.4	10.50000	6	1.9	85.9	13.70000	1	0.3	99.7
4.50000	1	0.3	12.8	8.40000	9	2.9	34.3	10.80000	1	0.3	86.2	15.50000	1	0.3	100.0
4.60000	1	0.3	13.1	8.50000	19	6.1	40.4	10.90000	1	0.3	86.5				
4.70000	1	0.3	13.5	8.60000	12	3.8	44.2	11.00000	1	0.3	86.9				

```
************
* CORRTP   *
************
                                                MAXIMUM        316.0000000          H
VARIABLE NUMBER . . . . . . .      12           MINIMUM          3.8000000          H
NUMBER OF DISTINCT VALUES .       149           RANGE          312.2000122          H
NUMBER OF VALUES COUNTED. .       306           VARIANCE      1299.2971191          H                          EACH 'H'
NUMBER OF VALUES NOT COUNTED        7           ST.DEV.         36.0457649          H                         REPRESENTS
                                                (Q3-Q1)/2        3.4999998          H                            22
                                                                                    HH                        COUNT(S)
LOCATION ESTIMATES                                   ST.ERROR                       HH
                 MEAN               19.9055538      2.0605993                       HH
                 MEDIAN             11.4499998      0.4041453                       HHHHH HHH HH H      HHH
                 MODE               11.1999998                                     L-------------------------U

                                                                                    EACH '-' ABOVE =     15.0000
                                                                                                 L=       0.0000
                                                                                                 U=     360.0000

                                                                                                      Q1=    9.1600004
                                                                                  VALUE  VALUE/S.E.   Q3=   16.5000000
                                                              SKEWNESS             6.15       43.94   S-=  -16.1402111
                                                              KURTOSIS            41.98      149.89   S+=   55.9513206

                                                                                    EACH '.' BELOW =      3.0000

      S      Q Q         S                                                                                     M
      -    M M 3M        +
........I.E..E.................................................................................................A
           M D  A                                                                                              X
            I  N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
3.800	2	0.7	0.7	10.200	1	0.3	37.3	15.200	1	0.3	70.9	24.800	1	0.3	88.2
4.800	1	0.3	1.0	10.300	1	0.3	37.6	15.400	1	0.3	71.2	25.200	1	0.3	88.6
4.900	1	0.3	1.3	10.500	2	0.7	38.2	15.500	1	0.3	71.6	25.900	1	0.3	88.9
5.000	1	0.3	1.6	10.600	3	1.0	39.2	15.700	2	0.7	72.2	26.200	1	0.3	89.2
5.600	2	0.7	2.3	10.700	1	0.3	39.5	15.800	1	0.3	72.5	26.300	1	0.3	89.5
5.700	1	0.3	2.6	10.800	8	2.6	42.2	15.900	5	1.6	74.2	26.500	1	0.3	89.9
5.900	1	0.3	2.9	10.900	4	1.3	43.5	16.000	1	0.3	74.5	26.600	2	0.7	90.5
6.200	1	0.3	3.3	11.000	2	0.7	44.1	16.300	1	0.3	74.8	27.600	1	0.3	90.8
6.400	1	0.3	3.6	11.100	4	1.3	45.4	16.500	2	0.7	75.5	28.300	1	0.3	91.2
6.500	5	1.6	5.2	11.200	13	4.2	49.7	16.600	1	0.3	75.8	29.000	1	0.3	91.5
6.800	1	0.3	5.6	11.400	1	0.3	50.0	16.800	1	0.3	76.1	29.900	1	0.3	91.8
7.000	2	0.7	6.2	11.500	2	0.7	50.7	16.900	1	0.3	76.5	30.300	2	0.7	92.5
7.100	2	0.7	6.9	11.700	6	2.0	52.6	17.000	3	1.0	77.5	31.800	1	0.3	92.8
7.200	1	0.3	7.2	12.000	2	0.7	53.3	17.100	1	0.3	77.8	31.900	1	0.3	93.1
7.400	1	0.3	7.5	12.200	4	1.3	54.6	17.200	1	0.3	78.1	33.500	1	0.3	93.5
7.500	4	1.3	8.8	12.300	1	0.3	54.9	17.300	3	1.0	79.1	33.800	1	0.3	93.8
7.600	2	0.7	9.5	12.500	1	0.3	55.2	17.400	1	0.3	79.4	34.500	1	0.3	94.1
7.800	2	0.7	10.1	12.600	3	1.0	56.2	17.800	2	0.7	80.1	35.600	1	0.3	94.4
7.900	8	2.6	12.7	12.700	2	0.7	56.9	18.000	1	0.3	80.4	41.400	1	0.3	94.8
8.000	6	2.0	14.7	12.900	2	0.7	57.5	18.300	1	0.3	80.7	44.800	1	0.3	95.1
8.200	5	1.6	16.3	13.000	3	1.0	58.5	18.500	1	0.3	81.0	44.900	1	0.3	95.4
8.300	1	0.3	16.7	13.100	4	1.3	59.8	18.700	2	0.7	81.7	52.400	1	0.3	95.8
8.400	8	2.6	19.3	13.200	2	0.7	60.5	18.900	1	0.3	82.0	62.600	1	0.3	96.1
8.500	2	0.7	19.9	13.300	3	1.0	61.4	19.000	1	0.3	82.4	68.400	1	0.3	96.4
8.600	3	1.0	20.9	13.500	1	0.3	61.8	19.100	1	0.3	82.7	99.700	1	0.3	96.7
8.700	3	1.0	21.9	13.600	2	0.7	62.4	19.400	1	0.3	83.0	101.400	1	0.3	97.1
8.800	1	0.3	22.2	13.700	3	1.0	63.4	19.900	1	0.3	83.3	109.000	1	0.3	97.4
8.900	5	1.6	23.9	13.800	2	0.7	64.1	20.100	1	0.3	83.7	117.800	1	0.3	97.7
9.000	1	0.3	24.2	13.900	1	0.3	64.4	20.300	1	0.3	84.0	128.000	1	0.3	98.0
9.100	3	1.0	25.2	14.000	2	0.7	65.0	20.600	2	0.7	84.6	158.000	1	0.3	98.4
9.200	2	0.7	25.8	14.100	4	1.3	66.3	21.100	1	0.3	85.0	171.100	1	0.3	98.7
9.300	2	0.7	26.5	14.200	1	0.3	66.7	21.300	2	0.7	85.6	196.200	1	0.3	99.0
9.400	10	3.3	29.7	14.300	2	0.7	67.3	22.500	1	0.3	85.9	297.300	1	0.3	99.3
9.500	4	1.3	31.0	14.500	2	0.7	68.0	22.700	1	0.3	86.3	312.300	1	0.3	99.7
9.600	2	0.7	31.7	14.600	2	0.7	[illegible]	23.200	1	0.3	86.6	316.000	1	0.3	100.0
9.800	8	2.6	34.3	14.800	1	0.3	69.0	23.700	1	0.3	86.9				
10.000	3	1.0	35.3	15.000	2	0.7	69.6	24.100	1	0.3	87.3				
10.100	5	1.6	36.9	15.100	3	1.0	70.6	24.500	2	0.7	87.9				

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************
* CORTPAS  *
************
                                                  MAXIMUM         39.0999985          H
VARIABLE NUMBER . . . . . . .        3            MINIMUM          3.3000000          H
NUMBER OF DISTINCT VALUES . .      115            RANGE           35.7999992          HHH                        EACH 'H'
NUMBER OF VALUES COUNTED. .        281            VARIANCE        36.8729897          HHH                        REPRESENTS
NUMBER OF VALUES NOT COUNTED        32            ST.DEV.          6.0723133         HHHH                           6
                                                  (Q3-Q1)/2        3.3000002         HHHHH                       COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                             HHHHHHHH
                MEAN              12.6455526     0.3622439                          HHHHHHHHHH
                MEDIAN            10.8999996     0.3175426                         HHHHHHHHHHHHHHHHHHHHHHHH H
                MODE               9.3999996                                      L------------------------U

                                                                                    EACH '-' ABOVE =       1.5000
                                                                                                  L=       3.0000
                                                                                                  U=      39.0000

                                                                                                      Q1=     8.5000000
                                                                               VALUE    VALUE/S.E.    Q3=    15.1000004
                                                         SKEWNESS              1.61        11.01      S-=     6.5732393
                                                         KURTOSIS              2.82         9.66      S+=    18.7178659

                                                                                    EACH '.' BELOW =       0.3000

          S    Q                 Q          S
M         -    1  M   M    M     3          +                                                                                M
I..................O...E....E...................................................................................................A
N                  D   D    A                                                                                                X
                   E   I    N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
3.300	1	0.4	0.4	9.700	1	0.4	38.1	13.700	1	0.4	69.8	19.100	1	0.4	88.6
3.700	1	0.4	0.7	9.800	7	2.5	40.6	13.800	2	0.7	70.5	19.200	1	0.4	89.0
4.700	1	0.4	1.1	9.900	3	1.1	41.6	13.900	1	0.4	70.8	20.000	1	0.4	89.3
5.000	1	0.4	1.4	10.000	4	1.4	43.1	14.000	5	1.8	72.6	20.100	2	0.7	90.0
5.400	2	0.7	2.1	10.100	2	0.7	43.8	14.500	2	0.7	73.3	20.200	1	0.4	90.4
5.600	4	1.4	3.6	10.300	4	1.4	45.2	14.800	3	1.1	74.4	21.000	1	0.4	90.7
5.800	1	0.4	3.9	10.400	2	0.7	45.9	15.000	1	0.4	74.7	21.100	1	0.4	91.1
5.900	1	0.4	4.3	10.800	9	3.2	49.1	15.100	1	0.4	75.1	22.000	1	0.4	91.5
6.100	4	1.4	5.7	10.900	5	1.8	50.9	15.300	1	0.4	75.4	22.100	1	0.4	91.8
6.300	6	2.1	7.8	11.100	1	0.4	51.2	15.400	3	1.1	76.5	22.600	2	0.7	92.5
7.000	3	1.1	8.9	11.200	6	2.1	53.4	15.700	1	0.4	76.9	23.400	1	0.4	92.9
7.200	3	1.1	10.0	11.300	2	0.7	54.1	15.900	2	0.7	77.6	23.600	1	0.4	93.2
7.300	3	1.1	11.0	11.400	4	1.4	55.5	16.000	1	0.4	77.9	23.900	1	0.4	93.6
7.500	7	2.5	13.5	11.500	2	0.7	56.2	16.200	1	0.4	78.3	24.300	2	0.7	94.3
7.600	3	1.1	14.6	11.600	2	0.7	56.9	16.300	1	0.4	78.6	24.700	1	0.4	94.7
7.800	5	1.8	16.4	11.700	2	0.7	57.7	16.400	2	0.7	79.4	25.600	1	0.4	95.0
7.900	6	2.1	18.5	11.900	2	0.7	58.4	16.500	1	0.4	79.7	26.200	1	0.4	95.4
8.000	1	0.4	18.9	12.000	4	1.4	59.8	16.700	2	0.7	80.4	27.100	1	0.4	95.7
8.100	3	1.1	19.9	12.100	1	0.4	60.1	16.800	2	0.7	81.1	27.300	1	0.4	96.1
8.200	4	1.4	21.4	12.200	7	2.5	62.6	17.000	3	1.1	82.2	28.800	2	0.7	96.8
8.300	2	0.7	22.1	12.300	1	0.4	63.0	17.200	1	0.4	82.6	29.500	1	0.4	97.2
8.400	8	2.8	24.9	12.400	1	0.4	63.3	17.300	1	0.4	82.9	30.100	1	0.4	97.5
8.500	1	0.4	25.3	12.600	6	2.1	65.5	17.600	3	1.1	84.0	30.400	1	0.4	97.9
8.600	2	0.7	26.0	12.900	1	0.4	65.8	17.800	3	1.1	85.1	31.600	1	0.4	98.2
8.700	4	1.4	27.4	13.000	1	0.4	66.2	17.900	1	0.4	85.4	32.300	2	0.7	98.9
8.900	12	4.3	31.7	13.100	1	0.4	66.5	18.000	2	0.7	86.1	34.300	1	0.4	99.3
9.100	1	0.4	32.0	13.200	1	0.4	66.9	18.200	2	0.7	86.8	34.900	1	0.4	99.6
9.400	14	5.0	37.0	13.300	4	1.4	68.3	18.700	2	0.7	87.5	39.100	1	0.4	100.0
9.600	2	0.7	37.7	13.600	3	1.1	69.4	18.900	2	0.7	88.3				

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************
* CORRTFP  *
************
                                                  MAXIMUM       232.3000031
VARIABLE NUMBER . . . . . . .       6             MINIMUM         0.0000000
NUMBER OF DISTINCT VALUES .       117             RANGE         232.3000031
NUMBER OF VALUES COUNTED. .       307             VARIANCE      762.7762451
NUMBER OF VALUES NOT COUNTED        6             ST.DEV.        27.6184044
                                                  (Q3-Q1)/2       1.9499998

LOCATION ESTIMATES                                     ST.ERROR
                 MEAN            11.5068398          1.5742656
                 MEDIAN           5.5999999          0.1732051
                 MODE             4.6999998
```

```
H
H
H
H                                        EACH 'H'
H                                       REPRESENTS
H                                           27
H                                        COUNT(S)
H
H
HHHHHHH  H  H H   HH  HH
L-----------------------U

EACH '-' ABOVE =      10.0000
             L=        0.0000
             U=      240.0000

                                   Q1=    4.3000002
VALUE      VALUE/S.E.              Q3=    8.1999998
SKEWNESS        5.91        42.25  S-=  -16.1115646
KURTOSIS       36.96       132.17  S+=   39.1252441

EACH '.' BELOW =       2.0000
```

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S        Q Q           S
-      M M 3M          +                                                                            M
........I..E..E...............................................................................................A
       N  D  A                                                                                      X
          I  N
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
0.000	4	1.3	1.3	4.800	2	0.7	36.2	7.800	2	0.7	71.7	12.300	1	0.3	90.9
1.000	1	0.3	1.6	4.900	4	1.3	37.5	7.900	8	2.6	74.3	12.400	1	0.3	91.2
1.300	1	0.3	2.0	5.000	7	2.3	39.7	8.000	2	0.7	74.9	12.800	1	0.3	91.5
1.500	1	0.3	2.3	5.100	5	1.6	41.4	8.200	2	0.7	75.6	13.100	1	0.3	91.9
1.700	1	0.3	2.6	5.200	7	2.3	43.6	8.300	1	0.3	75.9	13.200	1	0.3	92.2
1.900	2	0.7	3.3	5.300	1	0.3	44.0	8.400	7	2.3	78.2	13.400	3	1.0	93.2
2.100	1	0.3	3.6	5.400	2	0.7	44.6	8.600	2	0.7	78.8	13.700	1	0.3	93.5
2.400	1	0.3	3.9	5.500	6	2.0	46.6	8.700	1	0.3	79.2	14.200	1	0.3	93.8
2.500	2	0.7	4.6	5.600	13	4.2	50.8	8.800	1	0.3	79.5	14.600	1	0.3	94.1
2.600	2	0.7	5.2	5.700	3	1.0	51.8	8.900	4	1.3	80.8	14.700	1	0.3	94.5
2.800	1	0.3	5.5	5.800	3	1.0	52.8	9.000	2	0.7	81.4	19.200	1	0.3	94.8
2.900	2	0.7	6.2	5.900	2	0.7	53.4	9.100	1	0.3	81.8	28.400	1	0.3	95.1
3.000	4	1.3	7.5	6.000	3	1.0	54.4	9.200	2	0.7	82.4	35.600	1	0.3	95.4
3.100	1	0.3	7.8	6.100	3	1.0	55.4	9.400	3	1.0	83.4	36.000	1	0.3	95.8
3.200	5	1.6	9.4	6.200	3	1.0	56.4	9.600	1	0.3	83.7	45.800	1	0.3	96.1
3.300	6	2.0	11.4	6.300	1	0.3	56.7	9.800	3	1.0	84.7	51.400	1	0.3	96.4
3.400	3	1.0	12.4	6.400	2	0.7	57.3	9.900	2	0.7	85.3	62.600	1	0.3	96.7
3.500	3	1.0	13.4	6.500	8	2.6	59.9	10.000	2	0.7	86.0	66.600	1	0.3	97.1
3.600	6	2.0	15.3	6.600	2	0.7	60.6	10.100	1	0.3	86.3	93.500	1	0.3	97.4
3.700	10	3.3	18.6	6.700	2	0.7	61.2	10.300	1	0.3	86.6	93.700	1	0.3	97.7
3.800	2	0.7	19.2	6.800	1	0.3	61.6	10.400	2	0.7	87.3	121.500	1	0.3	98.0
3.900	2	0.7	19.9	6.900	2	0.7	62.2	10.500	1	0.3	87.6	127.200	1	0.3	98.4
4.000	2	0.7	20.5	7.000	3	1.0	63.2	10.600	1	0.3	87.9	141.200	1	0.3	98.7
4.100	4	1.3	21.8	7.100	3	1.0	64.2	10.700	1	0.3	88.3	182.700	1	0.3	99.0
4.200	5	1.6	23.5	7.200	5	1.6	65.8	11.100	1	0.3	88.6	198.700	1	0.3	99.3
4.300	5	1.6	25.1	7.300	2	0.7	66.4	11.200	2	0.7	89.3	221.100	1	0.3	99.7
4.400	6	2.0	27.0	7.400	1	0.3	66.8	11.700	1	0.3	89.6	232.300	1	0.3	100.0
4.500	8	2.6	29.6	7.500	8	2.6	69.4	11.900	1	0.3	89.9				
4.600	4	1.3	30.9	7.600	3	1.0	70.4	12.000	1	0.3	90.2				
4.700	14	4.6	35.5	7.700	2	0.7	71.0	12.200	1	0.3	90.6				

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 ************
 * SRP      *
 ************
                                                    MAXIMUM        118.4000015                   H
VARIABLE NUMBER . . . . . . .        5              MINIMUM          0.0000000                   H
NUMBER OF DISTINCT VALUES .         80              RANGE          118.4000015                   H
NUMBER OF VALUES COUNTED. .        305              VARIANCE       230.2209015                   H                          EACH 'H'
NUMBER OF VALUES NOT COUNTED         8              ST.DEV.         15.1730318                   H                         REPRESENTS
                                                    (Q3-Q1)/2        1.1500000                   H                             27
                                                                                                 H                          COUNT(S)
LOCATION ESTIMATES                                     ST.ERROR                                  H
                          MEAN            5.2042627    0.8688053                                 H
                          MEDIAN          1.9000000    0.0846026                                 HH HHHH H H   HH H HH HH
                          MODE            1.5000000                                             L------------------------U

                                                                                                 EACH '-' ABOVE =      5.0000
                                                                                                                L=     0.0000
                                                                                                                U=   120.0000

                                                                                                                 Q1=    1.1000000
                                                                                  VALUE   VALUE/S.E.             Q3=    3.4000001
                                                                   SKEWNESS        5.65        40.29             S-=   -9.9687491
                                                                   KURTOSIS       33.15       118.16             S+=   20.3772945

                                                                                                 EACH '.' BELOW =      1.0000
S         Q Q                S
-        MIN 3M              +                                                                                                  M
..........I.E..E................................................................................................................A
          N D  A                                                                                                                X
           I  N
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
0.00000	12	3.9	3.9	2.00000	15	4.9	58.0	4.00000	6	2.0	82.6	8.10000	1	0.3	93.8
0.10000	3	1.0	4.9	2.10000	5	1.6	59.7	4.10000	2	0.7	83.3	8.20000	1	0.3	94.1
0.20000	3	1.0	5.9	2.20000	5	1.6	61.3	4.20000	2	0.7	83.9	15.60000	1	0.3	94.4
0.30000	4	1.3	7.2	2.30000	6	2.0	63.3	4.30000	1	0.3	84.3	16.30000	1	0.3	94.8
0.40000	1	0.3	7.5	2.40000	8	2.6	65.9	4.40000	2	0.7	84.9	17.00000	1	0.3	95.1
0.50000	14	4.6	12.1	2.50000	8	2.6	68.5	4.50000	2	0.7	85.6	19.80000	1	0.3	95.4
0.60000	2	0.7	12.8	2.60000	3	1.0	69.5	4.60000	1	0.3	85.9	20.90000	1	0.3	95.7
0.70000	4	1.3	14.1	2.70000	1	0.3	69.8	4.70000	3	1.0	86.9	22.50000	1	0.3	96.1
0.80000	11	3.6	17.7	2.80000	1	0.3	70.2	4.80000	1	0.3	87.2	28.00000	1	0.3	96.4
0.90000	6	2.0	19.7	2.90000	4	1.3	71.5	4.90000	2	0.7	87.9	32.50000	1	0.3	96.7
1.00000	14	4.6	24.3	3.00000	1	0.3	71.8	5.10000	2	0.7	88.5	33.20000	1	0.3	97.0
1.10000	9	3.0	27.2	3.10000	4	1.3	73.1	5.20000	1	0.3	88.9	40.20000	1	0.3	97.4
1.20000	3	1.0	28.2	3.20000	3	1.0	74.1	5.30000	1	0.3	89.2	52.30000	1	0.3	97.7
1.30000	11	3.6	31.8	3.30000	2	0.7	74.8	5.40000	3	1.0	90.2	72.80000	1	0.3	98.0
1.40000	12	3.9	35.7	3.40000	3	1.0	75.7	5.50000	2	0.7	90.8	78.80000	1	0.3	98.4
1.50000	17	5.6	41.3	3.50000	4	1.3	77.0	5.60000	3	1.0	91.8	86.80000	1	0.3	98.7
1.60000	6	2.0	43.3	3.60000	2	0.7	77.7	5.90000	1	0.3	92.1	99.40000	1	0.3	99.0
1.70000	8	2.6	45.9	3.70000	1	0.3	78.0	6.80000	1	0.3	92.5	103.00000	1	0.3	99.3
1.80000	11	3.6	49.5	3.80000	5	1.6	79.7	7.20000	1	0.3	92.8	115.00000	1	0.3	99.7
1.90000	11	3.6	53.1	3.90000	3	1.0	80.7	7.60000	2	0.7	93.4	118.40000	1	0.3	100.0

```
 ************
 * MM3      *
 ************
                                              MAXIMUM        304.3999939           M
VARIABLE NUMBER . . . . . . .      7          MINIMUM          0.0000000           M
NUMBER OF DISTINCT VALUES .      180          RANGE          304.3999939           M
NUMBER OF VALUES COUNTED. .      311          VARIANCE      1556.1759033           M                     EACH 'M'
NUMBER OF VALUES NOT COUNTED       2          ST.DEV.         39.4483948           M                    REPRESENTS
                                              (Q3-Q1)/2        5.3499999           M                        23
                                                                                   M                     COUNT(S)
LOCATION ESTIMATES                                 ST.ERROR                        MM
                  MEAN          19.1926041       2.2349132                         MM
                  MEDIAN         9.1999998       0.6639531                         MMMM M MM  MM M   MMM
                  MODE           0.5000000                                         L-----------------------U

                                                                                   EACH '-' ABOVE =     15.0000
                                                                                                L=       0.0000
                                                                                                U=     360.0000

                                                                                                    Q1=     5.1999998
                                                                                VALUE   VALUE/S.E.  Q3=    15.8999996
                                                                   SKEWNESS      4.88        35.17  S-=   -20.2557907
                                                                   KURTOSIS     26.02        93.67  S+=    58.6409988

                                                                                   EACH '.' BELOW =      2.5000
S        Q  Q               S
-      M 1M 3M              +                                                                                 M
........I..E...E..............................................................................................A
       N  D   A                                                                                                X
          I   N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.0000	2	0.6	0.6	6.5000	3	1.0	35.4	11.8000	2	0.6	64.3	23.1000	1	0.3	83.9
0.5000	8	2.6	3.2	6.6000	2	0.6	36.0	11.9000	2	0.6	65.0	23.5000	2	0.6	84.6
0.7000	1	0.3	3.5	6.7000	3	1.0	37.0	12.0000	1	0.3	65.3	24.7000	1	0.3	84.9
0.9000	1	0.3	3.9	6.8000	3	1.0	37.9	12.1000	1	0.3	65.6	25.5000	1	0.3	85.2
1.0000	5	1.6	5.5	6.9000	3	1.0	38.9	12.2000	1	0.3	65.9	26.1000	1	0.3	85.5
1.1000	1	0.3	5.8	7.0000	2	0.6	39.5	12.3000	2	0.6	66.6	26.2000	1	0.3	85.9
1.2000	1	0.3	6.1	7.1000	3	1.0	40.5	12.4000	1	0.3	66.9	26.8000	1	0.3	86.2
1.4000	1	0.3	6.4	7.2000	2	0.6	41.2	12.6000	1	0.3	67.2	27.5000	2	0.6	86.8
1.5000	3	1.0	7.4	7.3000	2	0.6	41.8	12.7000	1	0.3	67.5	28.0000	2	0.6	87.5
1.6000	1	0.3	7.7	7.5000	3	1.0	42.8	13.1000	3	1.0	68.5	28.1000	1	0.3	87.8
1.9000	1	0.3	8.0	7.6000	3	1.0	43.7	13.2000	1	0.3	68.8	28.2000	1	0.3	88.1
2.0000	3	1.0	9.0	7.7000	2	0.6	44.4	13.6000	1	0.3	69.1	28.5000	1	0.3	88.4
2.1000	2	0.6	9.6	7.8000	1	0.3	44.7	13.8000	2	0.6	69.8	29.0000	1	0.3	88.7
2.2000	1	0.3	10.0	7.9000	2	0.6	45.3	13.9000	1	0.3	70.1	29.2000	1	0.3	89.1
2.3000	2	0.6	10.6	8.0000	1	0.3	45.7	14.0000	1	0.3	70.4	29.5000	1	0.3	89.4
2.5000	2	0.6	11.3	8.1000	3	1.0	46.6	14.5000	1	0.3	70.7	30.3000	1	0.3	89.7
2.9000	2	0.6	11.9	8.2000	3	1.0	47.6	14.7000	3	1.0	71.7	30.5000	2	0.6	90.4
3.0000	3	1.0	12.9	8.4000	1	0.3	47.9	14.9000	1	0.3	72.0	32.5000	1	0.3	90.7
3.1000	4	1.3	14.1	8.5000	1	0.3	48.2	15.0000	2	0.6	72.7	33.3000	1	0.3	91.0
3.2000	3	1.0	15.1	8.6000	1	0.3	48.6	15.2000	1	0.3	73.0	33.5000	1	0.3	91.3
3.3000	2	0.6	15.8	8.7000	2	0.6	49.2	15.4000	1	0.3	73.3	34.0000	1	0.3	91.6
3.4000	3	1.0	16.7	9.0000	1	0.3	49.5	15.5000	3	1.0	74.3	34.4000	1	0.3	92.0
3.5000	3	1.0	17.7	9.1000	1	0.3	49.8	15.8000	2	0.6	74.9	39.6000	2	0.6	92.6
3.6000	3	1.0	18.6	9.2000	3	1.0	50.8	15.9000	1	0.3	75.2	41.2000	1	0.3	92.9
3.8000	3	1.0	19.6	9.3000	1	0.3	51.1	16.1000	1	0.3	75.6	41.4000	1	0.3	93.2
4.0000	2	0.6	20.3	9.4000	1	0.3	51.4	16.2000	2	0.6	76.2	44.1000	1	0.3	93.6
4.3000	1	0.3	20.6	9.5000	1	0.3	51.8	16.3000	1	0.3	76.5	45.3000	2	0.6	94.2
4.4000	3	1.0	21.5	9.6000	3	1.0	52.7	16.6000	1	0.3	76.8	50.8000	1	0.3	94.5
4.5000	1	0.3	21.9	9.8000	1	0.3	53.1	16.9000	2	0.6	77.5	53.2000	1	0.3	94.9
4.6000	1	0.3	22.2	10.0000	4	1.3	54.3	17.0000	1	0.3	77.8	53.6000	1	0.3	95.2
4.7000	1	0.3	22.5	10.2000	5	1.6	55.9	17.5000	1	0.3	78.1	54.0000	1	0.3	95.5
4.9000	1	0.3	22.8	10.3000	1	0.3	56.3	17.8000	2	0.6	78.8	76.4000	1	0.3	95.8
5.0000	5	1.6	24.4	10.4000	1	0.3	56.6	18.0000	1	0.3	79.1	104.9000	1	0.3	96.1
5.2000	4	1.3	25.7	10.5000	2	0.6	57.2	18.7000	1	0.3	79.4	117.1000	1	0.3	96.5
5.3000	2	0.6	26.4	10.6000	2	0.6	57.9	19.0000	3	1.0	80.4	118.9000	1	0.3	96.8
5.4000	5	1.6	28.0	10.7000	1	0.3	58.2	19.2000	1	0.3	80.7	129.4000	1	0.3	97.1
5.5000	3	1.0	28.9	10.8000	1	0.3	58.5	19.7000	1	0.3	81.0	170.2000	1	0.3	97.4
5.7000	3	1.0	29.9	10.9000	2	0.6	59.2	20.2000	1	0.3	81.4	170.4000	1	0.3	97.7
5.8000	4	1.3	31.2	11.0000	2	0.6	59.8	20.5000	1	0.3	81.7	177.7000	1	0.3	98.1
5.9000	1	0.3	31.5	11.1000	2	0.6	60.5	20.7000	1	0.3	82.0	181.1000	1	0.3	98.4
6.0000	3	1.0	32.5	11.2000	3	1.0	61.4	21.1000	1	0.3	82.3	210.7000	1	0.3	98.7
6.1000	2	0.6	33.1	11.3000	1	0.3	61.7	22.2000	1	0.3	82.6	212.1000	1	0.3	99.0
6.2000	2	0.6	33.8	11.4000	1	0.3	62.1	22.4000	1	0.3	83.0	273.6000	1	0.3	99.4
6.3000	1	0.3	34.1	11.5000	4	1.3	63.3	22.5000	1	0.3	83.3	291.1000	1	0.3	99.7
6.4000	1	0.3	34.4	11.6000	1	0.3	63.7	22.8000	1	0.3	83.6	304.4000	1	0.3	100.0

```
************
* NITNIT   *
************
                                                        MAXIMUM          479.0000000
VARIABLE NUMBER . . . . . . .            6              MINIMUM            0.0000000
NUMBER OF DISTINCT VALUES .            161              RANGE            479.0000000
NUMBER OF VALUES COUNTED. .            312              VARIANCE        6819.7424738
NUMBER OF VALUES NOT COUNTED             1              ST.DEV.           82.5817337
                                                        (Q3-Q1)/2         32.5000000

LOCATION ESTIMATES                                ST.ERROR
                  MEAN            185.4903870     4.6752701
                  MEDIAN          174.0000000     3.7527785
                  MODE            200.0000000
```

```
              H
             HHH
            HHHH                       EACH 'H'
            HHHH                       REPRESENTS
            HHHHH                          6
            HHHHH                       COUNT(S)
           HHHHHH
      H    HHHHHHHHHH
      HHHHHHHHHHHHHHHHHHHHHHH H
     L-----------------------U

      EACH '-' ABOVE =        20.0000
                   L=          0.0000
                   U=        480.0000

                                        Q1=  143.0000000
                   VALUE   VALUE/S.E.   Q3=  208.0000000
SKEWNESS           1.07         7.38    S-=  102.9086533
KURTOSIS           2.61         9.40    S+=  268.0721130

      EACH '.' BELOW =         5.0000
```

```
                 S      Q         Q             S
 M               -      1     M M M3            +                                 M
 I.............................E..E..O.............................................A
 N                            D A D                                               X
                              I N E
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
0.	2	0.6	0.6	143.	3	1.0	25.6	190.	4	1.3	61.5	249.	1	0.3	85.6
1.	2	0.6	1.3	145.	6	1.9	27.6	191.	2	0.6	62.2	250.	3	1.0	86.5
2.	2	0.6	1.9	146.	1	0.3	27.9	192.	1	0.3	62.5	252.	1	0.3	86.9
5.	2	0.6	2.6	147.	1	0.3	28.2	193.	3	1.0	63.5	255.	1	0.3	87.2
13.	1	0.3	2.9	148.	3	1.0	29.2	194.	2	0.6	64.1	261.	1	0.3	87.5
15.	1	0.3	3.2	149.	2	0.6	29.8	195.	2	0.6	64.7	262.	1	0.3	87.8
21.	2	0.6	3.8	150.	4	1.3	31.1	196.	3	1.0	65.7	270.	1	0.3	88.1
50.	1	0.3	4.2	152.	1	0.3	31.4	198.	4	1.3	67.0	271.	1	0.3	88.5
53.	1	0.3	4.5	153.	5	1.6	33.0	199.	3	1.0	67.9	273.	1	0.3	88.8
55.	1	0.3	4.8	154.	5	1.6	34.6	200.	7	2.2	70.2	274.	2	0.6	89.4
60.	2	0.6	5.4	155.	2	0.6	35.3	201.	2	0.6	70.8	276.	1	0.3	89.7
62.	1	0.3	5.8	157.	2	0.6	35.9	202.	3	1.0	71.8	279.	1	0.3	90.1
70.	1	0.3	6.1	158.	1	0.3	36.2	203.	2	0.6	72.4	281.	1	0.3	90.4
94.	1	0.3	6.4	160.	6	1.9	38.1	204.	1	0.3	72.8	282.	1	0.3	90.7
95.	1	0.3	6.7	161.	1	0.3	38.5	205.	3	1.0	73.7	283.	1	0.3	91.0
105.	1	0.3	7.1	162.	2	0.6	39.1	206.	1	0.3	74.0	285.	1	0.3	91.3
106.	2	0.6	7.7	163.	2	0.6	39.7	207.	1	0.3	74.4	290.	1	0.3	91.7
107.	3	1.0	8.7	164.	6	1.9	41.7	208.	3	1.0	75.3	292.	1	0.3	92.0
112.	1	0.3	9.0	165.	6	1.9	43.6	211.	1	0.3	75.6	300.	2	0.6	92.6
113.	1	0.3	9.3	166.	2	0.6	44.2	213.	1	0.3	76.0	306.	1	0.3	92.9
114.	1	0.3	9.6	167.	3	1.0	45.2	215.	2	0.6	76.6	320.	1	0.3	93.3
115.	4	1.3	10.9	168.	3	1.0	46.2	216.	2	0.6	77.2	321.	2	0.6	93.9
116.	2	0.6	11.5	169.	3	1.0	47.1	217.	1	0.3	77.6	348.	2	0.6	94.6
119.	1	0.3	11.9	170.	1	0.3	47.4	218.	3	1.0	78.5	368.	1	0.3	94.9
120.	2	0.6	12.5	171.	2	0.6	48.1	219.	1	0.3	78.8	379.	1	0.3	95.2
122.	1	0.3	12.8	172.	1	0.3	48.4	220.	2	0.6	79.5	381.	2	0.6	95.8
123.	1	0.3	13.1	173.	4	1.3	49.7	221.	1	0.3	79.8	383.	1	0.3	96.2
124.	1	0.3	13.5	174.	2	0.6	50.3	222.	1	0.3	80.1	390.	1	0.3	96.5
125.	1	0.3	13.8	175.	3	1.0	51.3	227.	1	0.3	80.4	397.	1	0.3	96.8
126.	2	0.6	14.4	176.	2	0.6	51.9	230.	1	0.3	80.8	402.	1	0.3	97.1
128.	4	1.3	15.7	177.	2	0.6	52.6	232.	1	0.3	81.1	403.	1	0.3	97.4
130.	5	1.6	17.3	178.	3	1.0	53.5	235.	2	0.6	81.7	411.	1	0.3	97.8
131.	2	0.6	17.9	180.	6	1.9	55.4	237.	1	0.3	82.1	430.	1	0.3	98.1
132.	3	1.0	18.9	181.	2	0.6	56.1	238.	1	0.3	82.4	445.	1	0.3	98.4
133.	5	1.6	20.5	183.	2	0.6	56.7	239.	1	0.3	82.7	468.	2	0.6	99.0
135.	3	1.0	21.5	184.	1	0.3	57.1	240.	2	0.6	83.3	472.	1	0.3	99.4
137.	2	0.6	22.1	185.	2	0.6	57.7	241.	1	0.3	83.7	478.	1	0.3	99.7
138.	2	0.6	22.8	186.	4	1.3	59.0	242.	1	0.3	84.0	479.	1	0.3	100.0
139.	2	0.6	23.4	187.	2	0.6	59.6	245.	1	0.3	84.3				
140.	3	1.0	24.4	188.	1	0.3	59.9	246.	2	0.6	84.9				
142.	1	0.3	24.7	189.	1	0.3	60.3	248.	1	0.3	85.3				

```
************
* KJEL     *
************
                                                  MAXIMUM        720.0000000
VARIABLE NUMBER . . . . . . .        11           MINIMUM         10.0000000
NUMBER OF DISTINCT VALUES .          49           RANGE          710.0000000
NUMBER OF VALUES COUNTED. .         255           VARIANCE     11231.4736328
NUMBER OF VALUES NOT COUNTED         58           ST.DEV.        105.9786453
                                                  (Q3-Q1)/2       55.0000000

LOCATION ESTIMATES                                     ST.ERROR
              MEAN              215.8431396      6.6366401
              MEDIAN            200.0000000      8.4602583
              MODE              220.0000000
```

```
        H
       H H
       HHH                         EACH 'H'
      HHHH                        REPRESENTS
     HHHHHH                            5
     HHHHHH                         COUNT(S)
     HHHHHHHHH
   H HHHHHHHHH
  HHHHHHHHHHHHHHHHHHHHHHH   H
 L------------------------U

  EACH '-' ABOVE =     30.0000
                L=      0.0000
                U=    720.0000

                                         Q1=  150.0000000
                    VALUE   VALUE/S.E.   Q3=  260.0000000
SKEWNESS            1.28          8.32   S-=  109.8644943
KURTOSIS            2.99          9.75   S+=  321.8217773

  EACH '.' BELOW =      7.5000
```

```
                  S   Q       Q     S
M                 -   1    M M 3    +                                                       M
I.........................E.E...............................................................A
N                          D A                                                              X
                           I N
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
10.	1	0.4	0.4	150.	10	3.9	27.5	280.	6	2.4	82.0	420.	1	0.4	95.3
20.	1	0.4	0.8	160.	14	5.5	32.9	290.	5	2.0	83.9	430.	2	0.8	96.1
30.	3	1.2	2.0	170.	16	6.3	39.2	300.	4	1.6	85.5	450.	2	0.8	96.9
40.	3	1.2	3.1	180.	8	3.1	42.4	310.	2	0.8	86.3	480.	1	0.4	97.3
50.	1	0.4	3.5	190.	11	4.3	46.7	320.	3	1.2	87.5	500.	1	0.4	97.6
60.	4	1.6	5.1	200.	11	4.3	51.0	330.	7	2.7	90.2	530.	1	0.4	98.0
80.	3	1.2	6.3	210.	9	3.5	54.5	340.	2	0.8	91.0	540.	1	0.4	98.4
90.	2	0.8	7.1	220.	17	6.7	61.2	360.	3	1.2	92.2	570.	2	0.8	99.2
100.	5	2.0	9.0	230.	9	3.5	64.7	370.	1	0.4	92.5	600.	1	0.4	99.6
110.	8	3.1	12.2	240.	15	5.9	70.6	380.	1	0.4	92.9	720.	1	0.4	100.0
120.	9	3.5	15.7	250.	6	2.4	72.9	390.	1	0.4	93.3				
130.	10	3.9	19.6	260.	9	3.5	76.5	400.	1	0.4	93.7				
140.	10	3.9	23.5	270.	8	3.1	79.6	410.	3	1.2	94.9				

```
************
* SRS      *
************
                                             MAXIMUM        5645.0000000
VARIABLE NUMBER . . . . . .        2         MINIMUM           0.0000000
NUMBER OF DISTINCT VALUES .      206         RANGE          5645.0000000
NUMBER OF VALUES COUNTED. .      308         VARIANCE    1142845.8750000
NUMBER OF VALUES NOT COUNTED       5         ST.DEV.        1069.0490723
                                             (Q3-Q1)/2       179.0000000

LOCATION ESTIMATES                                ST.ERROR
                 MEAN         764.9675293     60.9147263
                 MEDIAN       380.0000000     20.7846203
                 MODE         250.0000000
```

```
 H
 H
 H
 H                                EACH 'H'
HH                               REPRESENTS
HH                                   13
HH                                COUNT(S)
HHH
HHH
HHHHHHHHHHHHH  HHH H HH
L----------------------U

EACH '-' ABOVE =     250.0000
               L=      0.0000
               U=   6000.0000

                                Q1=  256.0000000
               VALUE   VALUE/S.E.    Q3=  614.0000000
SKEWNESS        2.79       19.96    S-= -302.0815430
KURTOSIS        7.49       26.84    S+= 1836.0166016

EACH '.' BELOW =      50.0000
```

```
S        Q  Q                      S
-   M    M M  3 M                  +                                              M
.....I....O..E......E...........................................................A
    N    D D    A                                                                 X
         E I    N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.	1	0.3	0.3	288.	1	0.3	32.5	475.	2	0.6	62.3	1201.	1	0.3	83.4
40.	1	0.3	0.6	290.	2	0.6	33.1	485.	2	0.6	63.0	1211.	1	0.3	83.8
50.	4	1.3	1.9	291.	1	0.3	33.4	488.	2	0.6	63.6	1237.	1	0.3	84.1
52.	1	0.3	2.3	294.	1	0.3	33.8	489.	1	0.3	64.0	1289.	1	0.3	84.4
63.	1	0.3	2.6	298.	1	0.3	34.1	491.	2	0.6	64.6	1299.	1	0.3	84.7
75.	4	1.3	3.9	300.	7	2.3	36.4	500.	5	1.6	66.2	1333.	1	0.3	85.1
79.	1	0.3	4.2	309.	1	0.3	36.7	505.	1	0.3	66.6	1419.	1	0.3	85.4
80.	1	0.3	4.5	310.	4	1.3	38.0	512.	2	0.6	67.2	1433.	1	0.3	85.7
100.	5	1.6	6.2	312.	1	0.3	38.3	513.	1	0.3	67.5	1435.	1	0.3	86.0
104.	1	0.3	6.5	315.	1	0.3	38.6	515.	1	0.3	67.9	1469.	1	0.3	86.4
105.	1	0.3	6.8	316.	1	0.3	39.0	517.	1	0.3	68.2	1490.	1	0.3	86.7
110.	2	0.6	7.5	320.	1	0.3	39.3	525.	2	0.6	68.8	1505.	1	0.3	87.0
115.	2	0.6	8.1	325.	2	0.6	39.9	537.	1	0.3	69.2	1512.	1	0.3	87.3
130.	1	0.3	8.4	329.	2	0.6	40.6	540.	1	0.3	69.5	1610.	1	0.3	87.7
140.	1	0.3	8.8	333.	2	0.6	41.2	546.	1	0.3	69.8	1640.	1	0.3	88.0
147.	1	0.3	9.1	335.	3	1.0	42.2	549.	1	0.3	70.1	1739.	1	0.3	88.3
150.	1	0.3	9.4	340.	1	0.3	42.5	551.	1	0.3	70.5	1767.	1	0.3	88.6
155.	1	0.3	9.7	345.	3	1.0	43.5	563.	2	0.6	71.1	1800.	2	0.6	89.3
156.	1	0.3	10.1	349.	1	0.3	43.8	568.	1	0.3	71.4	1819.	1	0.3	89.6
158.	3	1.0	11.0	350.	3	1.0	44.8	570.	1	0.3	71.8	1845.	1	0.3	89.9
167.	1	0.3	11.4	353.	1	0.3	45.1	571.	1	0.3	72.1	1877.	1	0.3	90.3
168.	1	0.3	11.7	355.	1	0.3	45.5	575.	1	0.3	72.4	1910.	1	0.3	90.6
170.	1	0.3	12.0	357.	1	0.3	45.8	577.	1	0.3	72.7	2000.	1	0.3	90.9
180.	2	0.6	12.7	360.	3	1.0	46.8	580.	1	0.3	73.1	2076.	1	0.3	91.2
184.	1	0.3	13.0	365.	1	0.3	47.1	586.	1	0.3	73.4	2097.	1	0.3	91.6
186.	1	0.3	13.3	371.	1	0.3	47.4	589.	1	0.3	73.7	2135.	1	0.3	91.9
190.	1	0.3	13.6	375.	6	1.9	49.4	600.	3	1.0	74.7	2300.	1	0.3	92.2
191.	1	0.3	14.0	380.	3	1.0	50.3	613.	1	0.3	75.0	2322.	1	0.3	92.5
195.	1	0.3	14.3	381.	1	0.3	50.6	615.	2	0.6	75.6	2357.	1	0.3	92.9
200.	5	1.6	15.9	385.	4	1.3	51.9	625.	1	0.3	76.0	2724.	1	0.3	93.2
205.	4	1.3	17.2	390.	1	0.3	52.3	633.	1	0.3	76.3	2765.	1	0.3	93.5
211.	2	0.6	17.9	395.	1	0.3	52.6	644.	1	0.3	76.6	2786.	1	0.3	93.8
214.	2	0.6	18.5	400.	3	1.0	53.6	645.	1	0.3	76.9	2974.	1	0.3	94.2
215.	1	0.3	18.8	405.	1	0.3	53.9	658.	1	0.3	77.3	3050.	1	0.3	94.5
217.	1	0.3	19.2	410.	1	0.3	54.2	700.	1	0.3	77.6	3052.	1	0.3	94.8
220.	2	0.6	19.8	419.	2	0.6	54.9	730.	1	0.3	77.9	3142.	1	0.3	95.1
224.	1	0.3	20.1	425.	2	0.6	55.5	744.	1	0.3	78.2	3815.	1	0.3	95.5
225.	1	0.3	20.5	428.	2	0.6	56.2	760.	1	0.3	78.6	3862.	1	0.3	95.8
230.	1	0.3	20.8	429.	1	0.3	56.5	775.	1	0.3	78.9	4167.	1	0.3	96.1
245.	2	0.6	21.4	435.	2	0.6	57.1	791.	1	0.3	79.2	4229.	1	0.3	96.4
247.	1	0.3	21.8	437.	1	0.3	57.5	800.	1	0.3	79.5	4279.	1	0.3	96.8
250.	8	2.6	24.4	439.	1	0.3	57.8	823.	1	0.3	79.9	4466.	1	0.3	97.1
253.	1	0.3	24.7	443.	1	0.3	58.1	854.	1	0.3	80.2	4783.	1	0.3	97.4
254.	1	0.3	25.0	444.	1	0.3	58.4	855.	1	0.3	80.5	4822.	1	0.3	97.7
258.	4	1.3	26.3	450.	2	0.6	59.1	858.	1	0.3	80.8	4919.	2	0.6	98.4
260.	3	1.0	27.3	453.	1	0.3	59.4	884.	1	0.3	81.2	4941.	1	0.3	98.7
265.	3	1.0	28.2	460.	2	0.6	60.1	890.	1	0.3	81.5	4980.	1	0.3	99.0
273.	1	0.3	28.6	463.	1	0.3	60.4	934.	1	0.3	81.8	5305.	1	0.3	99.4
274.	2	0.6	29.2	464.	1	0.3	60.7	975.	1	0.3	82.1	5395.	1	0.3	99.7
275.	4	1.3	30.5	465.	1	0.3	61.0	1015.	1	0.3	82.5	5645.	1	0.3	100.0
280.	2	0.6	31.2	469.	1	0.3	61.4	1050.	1	0.3	82.8				
284.	3	1.0	32.1	470.	1	0.3	61.7	1119.	1	0.3	83.1				

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*************
* CHLACORR *
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                                          MAXIMUM        13.0699997              H
VARIABLE NUMBER . . . . . .       9       MINIMUM         0.1600000              H
NUMBER OF DISTINCT VALUES .     237       RANGE          12.9099998              HHH
NUMBER OF VALUES COUNTED. .     310       VARIANCE        3.6801367              HHH                 EACH 'H'
NUMBER OF VALUES NOT COUNTED      3       ST.DEV.         1.9183682             HHHH                 REPRESENTS
                                          (Q3-Q1)/2       1.0599999             HHHHH                    7
                                                                                HHHHH                COUNT(S)
LOCATION ESTIMATES                            ST.ERROR                          HHHHHH
                 MEAN            2.5795486    0.1089560                         HHHHHHHH
                 MEDIAN          2.1650002    0.1183569                         HHHHHHHHHHHHH    HH
                 MODE            0.8000000                                     L------------------------U

                                                                                EACH '-' ABOVE =      0.7500
                                                                                              L=      0.0000
                                                                                              U=     18.0000

                                                                                                Q1=     1.2300000
                                                                          VALUE    VALUE/S.E.   Q3=     3.3499999
                                                            SKEWNESS      1.71        12.31     S-=     0.6611804
                                                            KURTOSIS      4.72        16.95     S+=     4.4979167

                                                                                EACH '.' BELOW =      0.1000
     S    Q               Q         S
M    -M   1        M  M   3         +                                                                              M
I....O.............E...E..........................................................................................A
N    D             D  A                                                                                            X
     E             I  N
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		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
0.1600	1	0.3	0.3	1.3000	1	0.3	27.7	2.3500	1	0.3	55.5	3.8600	1	0.3	80.3
0.1900	1	0.3	0.6	1.3100	1	0.3	28.1	2.3600	2	0.6	56.1	3.9400	2	0.6	81.0
0.2100	1	0.3	1.0	1.3200	2	0.6	28.7	2.3700	1	0.3	56.5	3.9800	1	0.3	81.3
0.2200	1	0.3	1.3	1.3300	1	0.3	29.0	2.3900	2	0.6	57.1	3.9900	2	0.6	81.9
0.2300	1	0.3	1.6	1.3400	1	0.3	29.4	2.4200	2	0.6	57.7	4.0100	1	0.3	82.3
0.2400	2	0.6	2.3	1.3500	2	0.6	30.0	2.4300	3	1.0	58.7	4.0300	2	0.6	82.9
0.2600	1	0.3	2.6	1.3700	1	0.3	30.3	2.4500	3	1.0	59.7	4.0500	1	0.3	83.2
0.3100	1	0.3	2.9	1.3900	2	0.6	31.0	2.4700	1	0.3	60.0	4.1100	1	0.3	83.5
0.3200	1	0.3	3.2	1.4100	1	0.3	31.3	2.4900	1	0.3	60.3	4.3100	1	0.3	83.9
0.3400	1	0.3	3.5	1.4200	1	0.3	31.6	2.5100	1	0.3	60.6	4.3200	1	0.3	84.2
0.4200	1	0.3	3.9	1.4300	2	0.6	32.3	2.5200	1	0.3	61.0	4.3800	1	0.3	84.5
0.4700	2	0.6	4.5	1.4500	1	0.3	32.6	2.5400	1	0.3	61.3	4.4000	1	0.3	84.8
0.4800	1	0.3	4.8	1.4700	1	0.3	32.9	2.5600	1	0.3	61.6	4.4200	1	0.3	85.2
0.4900	3	1.0	5.8	1.4800	3	1.0	33.9	2.5800	1	0.3	61.9	4.4300	1	0.3	85.5
0.5500	2	0.6	6.5	1.5400	2	0.6	34.5	2.5900	2	0.6	62.6	4.4400	1	0.3	85.8
0.5600	1	0.3	6.8	1.6000	2	0.6	35.2	2.6200	2	0.6	63.2	4.6100	1	0.3	86.1
0.5700	1	0.3	7.1	1.6100	1	0.3	35.5	2.6300	1	0.3	63.5	4.6800	1	0.3	86.5
0.5800	1	0.3	7.4	1.6300	3	1.0	36.5	2.6700	1	0.3	63.9	4.7300	1	0.3	86.8
0.5900	1	0.3	7.7	1.6500	1	0.3	36.8	2.6800	1	0.3	64.2	4.7900	1	0.3	87.1
0.6000	1	0.3	8.1	1.6600	1	0.3	37.1	2.7200	1	0.3	64.5	4.8600	1	0.3	87.4
0.6100	1	0.3	8.4	1.6700	2	0.6	37.7	2.7500	1	0.3	64.8	4.8700	1	0.3	87.7
0.6300	2	0.6	9.0	1.6800	2	0.6	38.4	2.7600	1	0.3	65.2	4.8900	1	0.3	88.1
0.6400	1	0.3	9.4	1.6900	2	0.6	39.0	2.7700	1	0.3	65.5	4.9100	1	0.3	88.4
0.6500	1	0.3	9.7	1.7000	2	0.6	39.7	2.7800	1	0.3	65.8	4.9700	1	0.3	88.7
0.6600	1	0.3	10.0	1.7200	1	0.3	40.0	2.8000	2	0.6	66.5	5.0400	1	0.3	89.0
0.6900	2	0.6	10.6	1.7300	1	0.3	40.3	2.8100	1	0.3	66.8	5.0900	1	0.3	89.4
0.7000	1	0.3	11.0	1.7500	1	0.3	40.6	2.8200	1	0.3	67.1	5.1300	1	0.3	89.7
0.7100	1	0.3	11.3	1.7600	1	0.3	41.0	2.8300	1	0.3	67.4	5.1900	1	0.3	90.0
0.7200	1	0.3	11.6	1.7700	1	0.3	41.3	2.8500	1	0.3	67.7	5.3400	1	0.3	90.3
0.7900	1	0.3	11.9	1.7800	1	0.3	41.6	2.8800	1	0.3	68.1	5.4500	1	0.3	90.6
0.8000	5	1.6	13.5	1.7900	1	0.3	41.9	2.9000	1	0.3	68.4	5.4600	1	0.3	91.0
0.8100	1	0.3	13.9	1.8000	1	0.3	42.3	2.9200	1	0.3	68.7	5.6300	2	0.6	91.6
0.8400	2	0.6	14.5	1.8300	1	0.3	42.6	2.9400	1	0.3	69.0	5.6400	2	0.6	92.3
0.8700	2	0.6	15.2	1.8400	2	0.6	43.2	2.9500	1	0.3	69.4	5.6900	1	0.3	92.6
0.8800	3	1.0	16.1	1.8500	1	0.3	43.5	2.9700	1	0.3	69.7	5.7700	1	0.3	92.9
0.8900	1	0.3	16.5	1.8600	1	0.3	43.9	3.0200	1	0.3	70.0	5.8500	1	0.3	93.2
0.9000	1	0.3	16.8	1.9000	2	0.6	44.5	3.0400	1	0.3	70.3	5.8800	1	0.3	93.5
0.9100	1	0.3	17.1	1.9100	1	0.3	44.8	3.0800	2	0.6	71.0	5.8900	1	0.3	93.9
0.9200	1	0.3	17.4	1.9300	1	0.3	45.2	3.1000	1	0.3	71.3	5.9400	1	0.3	94.2
0.9400	1	0.3	17.7	1.9900	2	0.6	45.8	3.1300	1	0.3	71.6	6.0100	1	0.3	94.5
0.9600	1	0.3	18.1	2.0500	3	1.0	46.8	3.1400	3	1.0	72.6	6.0300	1	0.3	94.8
0.9700	2	0.6	18.7	2.0700	1	0.3	47.1	3.1700	1	0.3	72.9	6.1400	1	0.3	95.2
0.9800	3	1.0	19.7	2.0800	1	0.3	47.4	3.1800	3	1.0	73.9	6.2100	1	0.3	95.5
0.9900	1	0.3	20.0	2.1200	2	0.6	48.1	3.2200	2	0.6	74.5	6.4000	1	0.3	95.8
1.0000	1	0.3	20.3	2.1300	1	0.3	48.4	3.3300	1	0.3	74.8	6.4300	1	0.3	96.1
1.0100	1	0.3	20.6	2.1400	2	0.6	49.0	3.3500	1	0.3	75.2	6.9500	1	0.3	96.5
1.0600	1	0.3	21.0	2.1500	1	0.3	49.4	3.4300	1	0.3	75.5	7.0300	1	0.3	96.8
1.0900	1	0.3	21.3	2.1600	2	0.6	50.0	3.4700	1	0.3	75.8	7.0500	1	0.3	97.1
1.1300	2	0.6	21.9	2.1700	1	0.3	50.3	3.4900	1	0.3	76.1	7.1800	1	0.3	97.4
1.1400	3	1.0	22.9	2.2100	2	0.6	51.0	3.5600	1	0.3	76.5	7.3000	1	0.3	97.7
1.1500	1	0.3	23.2	2.2300	1	0.3	51.3	3.5800	1	0.3	76.8	7.4100	1	0.3	98.1
1.1800	3	1.0	24.2	2.2400	1	0.3	51.6	3.5900	2	0.6	77.4	7.4400	1	0.3	98.4
1.2000	1	0.3	24.5	2.2500	1	0.3	51.9	3.6400	1	0.3	77.7	7.5900	1	0.3	98.7
1.2200	1	0.3	24.8	2.2600	1	0.3	52.3	3.6500	1	0.3	78.1	8.4100	1	0.3	99.0
1.2300	1	0.3	25.2	2.2700	1	0.3	52.6	3.6600	1	0.3	78.4	8.5700	1	0.3	99.4
1.2400	2	0.6	25.8	2.2900	3	1.0	53.5	3.6700	1	0.3	78.7	12.5800	1	0.3	99.7
1.2500	1	0.3	26,1	2.3000	1	0.3	53.9	3.6900	1	0.3	79.0	13.0700	1	0.3	100.0
1.2600	1	0.3	2685	2.3100	2	0.6	54.5	3.7800	1	0.3	79.4				
1.2800	1	0.3	26.8	2.3300	1	0.3	54.8	3.8000	1	0.3	79.7				
1.2900	2	0.6	27.4	2.3400	1	0.3	55.2	3.8100	1	0.3	80.0				

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************
* TSS      *
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                                        MAXIMUM        24.7199993        M
VARIABLE NUMBER . . . . . .     8       MINIMUM         0.2300000        M
NUMBER OF DISTINCT VALUES .   178       RANGE          24.4899998        M
NUMBER OF VALUES COUNTED. .   303       VARIANCE        3.9836051        M                  EACH 'M'
NUMBER OF VALUES NOT COUNTED   10       ST.DEV.         1.9958971        M                 REPRESENTS
                                        (Q3-Q1)/2       0.6000000        MM                    19
                                                                         MM                 COUNT(S)
LOCATION ESTIMATES                            ST.ERROR                   MM
                 MEAN          1.7578878      0.1146613                  MMM
                 MEDIAN        1.2500000      0.0692821                  MMMMMMMM      M
                 MODE          0.8300000                                 L-----------------------U

                                                                         EACH '-' ABOVE =      1.5000
                                                                                      L=       0.0000
                                                                                      U=      36.0000

                                                                                            Q1=     0.7800000
                                                                         VALUE   VALUE/S.E. Q3=     1.9800000
                                                          SKEWNESS        6.14        43.67 S-=    -0.2380092
                                                          KURTOSIS       58.99       209.60 S+=     3.7537849

                                                                         EACH '.' BELOW =      0.2000
S   Q    Q      S
- M M  M M3     +                                                                                          M
..I..O..E.E...........................................................................................A
  N D  B A                                                                                                 X
    E  I N
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VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.2300	1	0.3	0.3	0.9500	2	0.7	36.6	1.6200	1	0.3	63.7	2.6800	1	0.3	85.1
0.3400	1	0.3	0.7	0.9600	1	0.3	37.0	1.6300	6	2.0	65.7	2.7200	1	0.3	85.5
0.3700	1	0.3	1.0	0.9800	3	1.0	38.0	1.6600	2	0.7	66.3	2.8300	1	0.3	85.8
0.4000	2	0.7	1.7	0.9900	4	1.3	39.3	1.6900	1	0.3	66.7	2.8400	1	0.3	86.1
0.4100	2	0.7	2.3	1.0000	3	1.0	40.3	1.7000	3	1.0	67.7	2.8800	1	0.3	86.5
0.4300	2	0.7	3.0	1.0200	1	0.3	40.6	1.7100	1	0.3	68.0	2.9100	1	0.3	86.8
0.4500	3	1.0	4.0	1.0300	2	0.7	41.3	1.7200	3	1.0	69.0	2.9200	1	0.3	87.1
0.4400	1	0.3	4.3	1.0500	1	0.3	41.6	1.7300	1	0.3	69.3	2.9400	1	0.3	87.5
0.4800	3	1.0	5.3	1.0700	1	0.3	41.9	1.7600	2	0.7	70.0	2.9800	2	0.7	88.1
0.4900	2	0.7	5.9	1.0800	2	0.7	42.6	1.7900	1	0.3	70.3	2.9900	1	0.3	88.4
0.5000	1	0.3	6.3	1.0900	3	1.0	43.6	1.8000	2	0.7	71.0	3.0600	1	0.3	88.8
0.5100	2	0.7	6.9	1.1000	3	1.0	44.6	1.8100	2	0.7	71.6	3.2700	1	0.3	89.1
0.5200	3	1.0	7.9	1.1100	2	0.7	45.2	1.8600	1	0.3	71.9	3.3200	1	0.3	89.4
0.5300	1	0.3	8.3	1.1200	3	1.0	46.2	1.8700	1	0.3	72.3	3.3400	1	0.3	89.8
0.5400	3	1.0	9.2	1.1300	1	0.3	46.5	1.8900	1	0.3	72.6	3.5300	1	0.3	90.1
0.5500	3	1.0	10.2	1.1400	2	0.7	47.2	1.9000	1	0.3	72.9	3.5500	1	0.3	90.4
0.5600	1	0.3	10.6	1.1700	2	0.7	47.9	1.9100	2	0.7	73.6	3.6300	1	0.3	90.8
0.5700	6	2.0	12.5	1.1800	1	0.3	48.2	1.9200	1	0.3	73.9	3.6500	1	0.3	91.1
0.5800	4	1.3	13.9	1.2000	1	0.3	48.5	1.9300	1	0.3	74.3	3.7400	1	0.3	91.4
0.6100	3	1.0	14.9	1.2100	1	0.3	48.8	1.9400	1	0.3	74.6	3.7500	1	0.3	91.7
0.6200	4	1.3	16.2	1.2300	2	0.7	49.5	1.9800	2	0.7	75.2	3.9500	1	0.3	92.1
0.6300	1	0.3	16.5	1.2500	2	0.7	50.2	1.9900	1	0.3	75.6	4.0000	1	0.3	92.4
0.6400	2	0.7	17.2	1.2600	5	1.7	51.8	2.0300	1	0.3	75.9	4.0800	1	0.3	92.7
0.6500	1	0.3	17.5	1.2700	1	0.3	52.1	2.0600	2	0.7	76.6	4.1300	1	0.3	93.1
0.6600	1	0.3	17.8	1.2900	3	1.0	53.1	2.0700	1	0.3	76.9	4.1900	2	0.7	93.7
0.6700	3	1.0	18.8	1.3000	1	0.3	53.5	2.0800	3	1.0	77.9	4.2100	1	0.3	94.1
0.6800	3	1.0	19.8	1.3100	1	0.3	53.8	2.0900	1	0.3	78.2	4.2200	1	0.3	94.4
0.6900	5	1.7	21.5	1.3300	1	0.3	54.1	2.1000	1	0.3	78.5	4.3900	1	0.3	94.7
0.7000	1	0.3	21.8	1.3400	1	0.3	54.5	2.1200	1	0.3	78.9	4.4700	1	0.3	95.0
0.7200	1	0.3	22.1	1.3500	2	0.7	55.1	2.1400	1	0.3	79.2	4.9500	1	0.3	95.4
0.7300	3	1.0	23.1	1.3600	2	0.7	55.8	2.1600	1	0.3	79.5	5.0200	1	0.3	95.7
0.7400	2	0.7	23.8	1.3700	2	0.7	56.4	2.1800	1	0.3	79.9	5.0300	1	0.3	96.0
0.7700	1	0.3	24.1	1.3800	1	0.3	56.8	2.2300	1	0.3	80.2	5.4000	2	0.7	96.7
0.7800	4	1.3	25.4	1.3900	1	0.3	57.1	2.2800	1	0.3	80.5	5.9900	1	0.3	97.0
0.8000	4	1.3	26.7	1.4100	1	0.3	57.4	2.2900	1	0.3	80.9	6.1800	1	0.3	97.4
0.8100	1	0.3	27.1	1.4200	3	1.0	58.4	2.3300	1	0.3	81.2	6.7400	1	0.3	97.7
0.8300	8	2.6	29.7	1.4600	2	0.7	59.1	2.3700	1	0.3	81.5	6.9200	1	0.3	98.0
0.8400	3	1.0	30.7	1.4700	1	0.3	59.4	2.3800	1	0.3	81.8	7.0700	1	0.3	98.3
0.8500	3	1.0	31.7	1.4800	2	0.7	60.1	2.3900	2	0.7	82.5	7.5000	1	0.3	98.7
0.8700	2	0.7	32.3	1.4900	1	0.3	60.4	2.4300	1	0.3	82.8	8.7300	1	0.3	99.0
0.8800	4	1.3	33.7	1.5100	2	0.7	61.1	2.4500	2	0.7	83.5	9.4000	1	0.3	99.3
0.8900	3	1.0	34.7	1.5400	3	1.0	62.0	2.4600	1	0.3	83.8	11.2300	1	0.3	99.7
0.9000	1	0.3	35.0	1.5500	1	0.3	62.4	2.4900	1	0.3	84.2	24.7200	1	0.3	100.0
0.9200	2	0.7	35.6	1.5800	2	0.7	63.0	2.5400	1	0.3	84.5				
0.9400	1	0.3	36.0	1.6000	1	0.3	63.4	2.6700	1	0.3	84.8				

HYDRA85 ALL CRUISE CENTRAL BASIN

```
************
* TURBID   *
************
                                              MAXIMUM          22.0000000
VARIABLE NUMBER . . . . . . .         9       MINIMUM           0.2000000
NUMBER OF DISTINCT VALUES .          49       RANGE            21.7999992
NUMBER OF VALUES COUNTED. .         313       VARIANCE          4.3171568
NUMBER OF VALUES NOT COUNTED          0       ST.DEV.           2.0777769
                                              (Q3-Q1)/2         0.4000000

LOCATION ESTIMATES                                  ST.ERROR
                  MEAN              1.5073483      0.1174429
                  MEDIAN            0.9000000      0.0864026
                  MODE              0.4000000
```

```
H
H
H
H                                        EACH 'H'
H                                       REPRESENTS
HH                                          17
HH                                       COUNT(S)
HH
HHH
HHHHHHHH    H        H  H
L--------------------------U

EACH '-' ABOVE =        1.0000
              L=        0.0000
              U=       24.0000
```

```
                                                     Q1=     0.5000000
                         VALUE    VALUE/S.E.         Q3=     1.7000000
          SKEWNESS        5.63        40.68          S-=    -0.5704286
          KURTOSIS       44.59       161.04          S+=     3.5851252

                    EACH '.' BELOW =      0.2000
```

```
S   Q    Q        S
-   MM M  M3      +                                                                                   M
....ID.E..E...........................................................................................A
    ND D  A                                                                                           X
     E I  N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.2000	12	3.8	3.8	1.5000	16	5.1	70.9	2.9000	1	0.3	89.1	5.7000	1	0.3	96.8
0.3000	18	5.8	9.6	1.6000	6	1.9	72.8	3.0000	3	1.0	90.1	6.4000	1	0.3	97.1
0.4000	41	13.1	22.7	1.7000	11	3.5	76.4	3.1000	3	1.0	91.1	6.6000	2	0.6	97.8
0.5000	33	10.5	33.2	1.8000	4	1.3	77.6	3.3000	2	0.6	91.7	6.9000	1	0.3	98.1
0.6000	22	7.0	40.3	1.9000	4	1.3	78.9	3.4000	1	0.3	92.0	7.0000	1	0.3	98.4
0.7000	12	3.8	44.1	2.0000	5	1.6	80.5	3.5000	1	0.3	92.3	7.1000	1	0.3	98.7
0.8000	12	3.8	47.9	2.1000	2	0.6	81.2	3.6000	2	0..	93.0	7.3000	1	0.3	99.0
0.9000	9	2.9	50.8	2.2000	3	1.0	82.1	3.8000	2	0.6	93.6	10.9000	1	0.3	99.4
1.0000	9	2.9	53.7	2.3000	5	1.6	83.7	4.3000	2	0.6	94.2	18.6000	1	0.3	99.7
1.1000	13	4.2	57.8	2.4000	1	0.3	84.0	4.4000	4	1.3	95.5	22.0000	1	0.3	100.0
1.2000	8	2.6	60.4	2.5000	5	1.6	85.6	4.5000	1	0.3	95.8				
1.3000	8	2.6	62.9	2.6000	6	1.9	87.5	4.9000	1	0.3	96.2				
1.4000	9	2.9	65.8	2.7000	4	1.3	88.8	5.0000	1	0.3	96.5				

HYDRAOS ALL CRUISE CENTRAL BASIN

```
*************
* CONDCORR *
*************-
                                                 MAXIMUM        288.0000000                         H
VARIABLE NUMBER . . . . . .         2            MINIMUM        251.0000000                         H
NUMBER OF DISTINCT VALUES .        34            RANGE           37.0000000                         HH
NUMBER OF VALUES COUNTED. .       313            VARIANCE        37.7200851                         HH              EACH 'H'
NUMBER OF VALUES NOT COUNTED        0            ST.DEV.          6.1416678                        HHHH             REPRESENTS
                                                 (Q3-Q1)/2        3.5000000                       HHHHH                  6
                                                                                                  HHHHH  H           COUNT(S)
LOCATION ESTIMATES                                        ST.ERROR                               HHHHHHHHHH
                   MEAN          269.3929749      0.3471476                                     HHHHHHHHHHHH
                   MEDIAN        269.0000000      0.2886753                                  HHHHHHHHHHHHHHHHH H
                   MODE          268.0000000                                               L------------------------U

                                                                                             EACH '-' ABOVE =        2.0000
                                                                                                             L=    246.0000
                                                                                                             U=    294.0000

                                                                                                                   Q1=  265.0000000
                                                                                     VALUE    VALUE/S.E.           Q3=  273.0000000
                                                                        SKEWNESS      0.15          1.08           S-=  263.2513123
                                                                        KURTOSIS      0.18          0.65           S+=  275.5346375

                                                                                       EACH '.' BELOW =        0.3000
                                                   S       Q                    Q        S
 M                                                 -       1       M  MM        3        +                                     M
 I.................................................................O..EE...................................................A
 N                                                                 D  DA                                                      X
                                                                   E  IN
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
251.	1	0.3	0.3	261.	5	1.6	7.7	270.	22	7.0	63.9	279.	10	3.2	93.9
253.	1	0.3	0.6	262.	8	2.6	10.2	271.	23	7.3	71.2	280.	6	1.9	95.8
254.	2	0.6	1.3	263.	9	2.9	13.1	272.	9	2.9	74.1	281.	2	0.6	96.5
255.	1	0.3	1.6	264.	18	5.8	18.8	273.	8	2.6	76.7	282.	6	1.9	98.4
256.	2	0.6	2.2	265.	10	3.2	22.0	274.	8	2.6	79.2	283.	2	0.6	99.0
257.	2	0.6	2.9	246.	26	8.3	30.4	275.	5	1.6	80.8	284.	2	0.6	99.7
258.	3	1.0	3.8	267.	23	7.3	37.7	276.	8	2.6	83.4	288.	1	0.3	100.0
259.	4	1.3	5.1	268.	36	11.5	49.2	277.	14	4.5	87.9				
260.	3	1.0	6.1	269.	24	7.7	56.9	278.	9	2.9	90.7				

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HYDRAB5 ALL CRUISE CENTRAL BASIN

  ************
  * CL       *
  ************
                                           MAXIMUM          20.0000000                 H
VARIABLE NUMBER . . . . . .       11       MINIMUM          13.5000000                 H
NUMBER OF DISTINCT VALUES .       36       RANGE             6.5000000                 H
NUMBER OF VALUES COUNTED. .      312       VARIANCE          0.5815409                 H                 EACH 'H'
NUMBER OF VALUES NOT COUNTED       1       ST.DEV.           0.7625883                 HH                REPRESENTS
                                           (Q3-Q1)/2         0.3000002                HHH                    9
                                                                                      HHHH               COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                             HHHHH
                  MEAN            15.0099344     0.0431731                          HHHHHHHHH
                  MEDIAN          15.0000000     0.0288676                         HHHHHHHHHHH H  H   H  H
                  MODE            15.0000000                                      L-----------------------U

                                                                                   EACH '-' ABOVE =     0.3000
                                                                                               L=      13.2000
                                                                                               U=      20.4000

                                                                                              Q1=    14.6999998
                                                                    VALUE   VALUE/S.F.        Q3=    15.3000002
                                                   SKEWNESS          1.66       11.97         S-=    14.2473459
                                                   KURTOSIS          8.17       29.44         S+=    15.7725229

                                                                                   EACH '.' BELOW =     0.0500
           S        Q         Q        S
M          -        1    M    3        +                                                                         M
I.............................E..................................................................................A
N                             A                                                                                  X
                              N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
13.50	3	1.0	1.0	14.40	8	2.6	18.3	15.30	12	3.8	76.6	16.30	2	0.6	96.2
13.60	5	1.6	2.6	14.50	7	2.2	20.5	15.40	13	4.2	80.8	16.40	2	0.6	96.8
13.70	3	1.0	3.5	14.60	12	3.8	24.4	15.50	13	4.2	84.9	16.50	3	1.0	97.8
13.80	7	2.2	5.8	14.70	21	6.7	31.1	15.60	5	1.6	86.5	16.90	1	0.3	98.1
13.90	3	1.0	6.7	14.80	22	7.1	38.1	15.70	6	1.9	88.5	17.00	2	0.6	98.7
14.00	10	3.2	9.9	14.90	22	7.1	45.2	15.80	6	1.9	90.4	17.70	1	0.3	99.0
14.10	2	0.6	10.6	15.00	45	14.4	59.6	15.90	2	0.6	91.0	17.90	1	0.3	99.4
14.20	7	2.2	12.8	15.10	26	8.3	67.9	16.00	6	1.9	92.9	19.00	1	0.3	99.7
14.30	9	2.9	15.7	15.20	15	4.8	72.8	16.10	8	2.6	95.5	20.00	1	0.3	100.0

HYDRAB3 ALL DATA CENTRAL BASIN


```
*************
* ALKTOT    *
*************
                                                    MAXIMUM        111.5999985
VARIABLE NUMBER . . . . . . .        10             MINIMUM         90.4000015
NUMBER OF DISTINCT VALUES .          53             RANGE           21.1999969
NUMBER OF VALUES COUNTED. .         311             VARIANCE         9.5836439
NUMBER OF VALUES NOT COUNTED          2             ST.DEV.          3.0957460
                                                    (Q3-Q1)/2        1.3499985

LOCATION ESTIMATES                                 ST.ERROR
                  MEAN           96.3549881        0.1755437
                  MEDIAN         96.5000000        0.1732047
                  MODE           97.5000000
```

```
          H
          H
          H
         HHH                     EACH 'H'
       H HHH                     REPRESENTS
       HHHHH                          7
       HHHHHH                    COUNT(S)
       HHHHHH
     HHHHHHHHH
    HHHHHHHHHHHHHHHHHH H H
  L-----------------------U

  EACH '-' ABOVE =          1.0000
                 L=        89.0000
                 U=       113.0000

                                               Q1=   94.8000031
               VALUE    VALUE/S.E.             Q3=   97.5000000
SKEWNESS        1.62        11.63              S-=   93.2592392
KURTOSIS        5.12        18.42              S+=   99.4507370

  EACH '.' BELOW =          0.2000
```

```
                  S      Q          Q      S
  M               -      1    MM    M      +                                                        M
  I.............................EE....D.........................................................A
  N                             AD    D                                                  .          X
                                NI    F
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
90.40	1	0.3	0.3	94.40	7	2.3	23.5	96.60	21	6.8	62.7	101.50	2	0.6	95.2
90.50	2	0.6	1.0	94.50	3	1.0	24.4	96.80	18	5.8	68.5	102.50	2	0.6	95.8
90.90	1	0.3	1.3	94.70	1	0.3	24.8	97.00	2	0.6	69.1	103.50	1	0.3	96.1
91.30	3	1.0	2.3	94.80	12	3.9	28.6	97.40	7	2.3	71.4	104.50	1	0.3	96.5
91.40	9	2.9	5.1	94.90	1	0.3	28.9	97.50	26	8.4	79.7	105.50	3	1.0	97.4
91.50	1	0.3	5.5	95.00	6	1.9	30.9	97.70	9	2.9	82.6	106.60	3	1.0	98.4
92.20	3	1.0	6.4	95.10	3	1.0	31.8	98.00	2	0.6	83.3	107.50	1	0.3	98.7
92.40	5	1.6	8.0	95.40	6	1.9	33.8	98.30	3	1.0	84.2	107.60	1	0.3	99.0
93.10	13	4.2	12.2	95.50	10	3.2	37.0	98.50	12	3.9	88.1	109.50	1	0.3	99.4
93.30	2	0.6	12.9	95.70	22	7.1	44.1	98.60	7	2.3	90.4	109.60	1	0.3	99.7
93.40	6	1.9	14.8	95.90	8	2.6	46.6	99.00	2	0.6	91.0	111.60	1	0.3	100.0
93.50	3	1.0	15.8	96.10	1	0.3	46.9	99.40	2	0.6	91.6				
94.00	14	4.5	20.3	96.40	4	1.3	48.2	99.50	7	2.3	93.9				
94.20	3	1.0	21.2	96.50	24	7.7	55.9	100.30	2	0.6	94.5				

```
************
* PH       *
************

                                          MAXIMUM          8.8800001
VARIABLE NUMBER . . . . . . .       2     MINIMUM          7.0400000          H
NUMBER OF DISTINCT VALUES .       119     RANGE            1.8400002          HH
NUMBER OF VALUES COUNTED. .       313     VARIANCE         0.1704748          HH H        EACH 'H'
NUMBER OF VALUES NOT COUNTED        0     ST.DEV.          0.4128859          HH H       REPRESENTS
                                          (Q3-Q1)/2        0.2349999          HHHH           5
                                                                         H   HHHHHHH      COUNT(S)
LOCATION ESTIMATES                                ST.ERROR              HHH  HHHHHHH
                 MEAN           8.1115656      0.0233377               HHHH HHHHHHHHH
                 MEDIAN         8.2399998      0.0202075              HHHHHHHHHHHHHHHHHHH
                 MODE           8.3400002                            L----------------------U

                                                                       EACH '-' ABOVE =      0.1000
                                                                                   L=        6.8000
                                                                                   U=        9.7000

                                                                                        Q1=    7.9299998
                                                               VALUE   VALUE/S.E.       Q3=    8.3999996
                                                  SKEWNESS     -0.81      -5.87         S-=    7.6986799
                                                  KURTOSIS     -0.39      -1.40         S+=    8.5244513

                                                                       EACH '.' BELOW =      0.0150
                                          S          Q                            Q    S
M                                         -          1         M     M     M      3    +                  M
I..............................................................E.....E.....O...............................A
N                                                              A     D     D                              X
                                                               N     I     E
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
7.040	1	0.3	0.3	7.560	2	0.6	16.6	8.090	3	1.0	38.0	8.400	5	1.6	75.7
7.060	1	0.3	0.6	7.570	5	1.6	18.2	8.100	1	0.3	38.3	8.410	1	0.3	76.0
7.070	1	0.3	1.0	7.590	2	0.6	18.8	8.110	2	0.6	39.0	8.420	3	1.0	77.0
7.120	1	0.3	1.3	7.610	2	0.6	19.5	8.120	3	1.0	39.9	8.430	1	0.3	77.3
7.130	1	0.3	1.6	7.630	1	0.3	19.8	8.130	2	0.6	40.6	8.440	2	0.6	78.0
7.150	1	0.3	1.9	7.640	1	0.3	20.1	8.140	3	1.0	41.5	8.450	2	0.6	78.6
7.230	2	0.6	2.6	7.680	1	0.3	20.4	8.160	2	0.6	42.2	8.460	2	0.6	79.2
7.250	2	0.6	3.2	7.720	1	0.3	20.8	8.170	1	0.3	42.5	8.470	4	1.3	80.5
7.290	1	0.3	3.5	7.740	2	0.6	21.4	8.180	6	1.9	44.4	8.480	4	1.3	81.8
7.300	2	0.6	4.2	7.830	1	0.3	21.7	8.190	2	0.6	45.0	8.490	4	1.3	83.1
7.330	3	1.0	5.1	7.840	1	0.3	22.0	8.200	1	0.3	45.4	8.500	2	0.6	83.7
7.340	2	0.6	5.8	7.870	1	0.3	22.4	8.210	3	1.0	46.3	8.510	4	1.3	85.0
7.350	1	0.3	6.1	7.880	1	0.3	22.7	8.220	3	1.0	47.3	8.520	5	1.6	86.6
7.370	2	0.6	6.7	7.900	5	1.6	24.3	8.230	5	1.6	48.9	8.530	5	1.6	88.2
7.380	5	1.6	8.3	7.910	2	0.6	24.9	8.240	4	1.3	50.2	8.540	2	0.6	88.8
7.390	4	1.3	9.6	7.930	1	0.3	25.2	8.250	4	1.3	51.4	8.550	4	1.3	90.1
7.400	2	0.6	10.2	7.940	1	0.3	25.6	8.260	5	1.6	53.0	8.560	4	1.3	91.4
7.410	2	0.6	10.9	7.950	2	0.6	26.2	8.270	7	2.2	55.3	8.570	4	1.3	92.7
7.420	3	1.0	11.8	7.960	2	0.6	26.8	8.280	3	1.0	56.2	8.580	3	1.0	93.6
7.440	2	0.6	12.5	7.970	3	1.0	27.8	8.290	4	1.3	57.5	8.590	4	1.3	94.9
7.450	1	0.3	12.8	7.980	3	1.0	28.8	8.300	5	1.6	59.1	8.600	2	0.6	95.5
7.460	1	0.3	13.1	7.990	7	2.2	31.0	8.310	2	0.6	59.7	8.610	2	0.6	96.2
7.470	1	0.3	13.4	8.000	2	0.6	31.6	8.320	4	1.3	61.0	8.620	2	0.6	96.8
7.480	1	0.3	13.7	8.010	2	0.6	32.3	8.330	5	1.6	62.6	8.630	3	1.0	97.8
7.490	1	0.3	14.1	8.020	2	0.6	32.9	8.340	11	3.5	66.1	8.640	2	0.6	98.4
7.500	1	0.3	14.4	8.030	2	0.6	33.5	8.350	6	1.9	68.1	8.650	1	0.3	98.7
7.510	1	0.3	14.7	8.040	2	0.6	34.2	8.360	8	2.6	70.6	8.680	2	0.6	99.4
7.520	2	0.6	15.3	8.050	5	1.6	35.8	8.370	4	1.3	71.9	8.780	1	0.3	99.7
7.530	1	0.3	15.7	8.060	2	0.6	36.4	8.380	2	0.6	72.5	8.880	1	0.3	100.0
7.550	1	0.3	16.0	8.080	2	0.6	37.1	8.390	5	1.6	74.1				

APPENDIX B

```
************
* DO       *
************
                                              MAXIMUM          13.6000004
VARIABLE NUMBER . . . . . . .         2       MINIMUM           4.8000002
NUMBER OF DISTINCT VALUES .          47       RANGE             8.8000007
NUMBER OF VALUES COUNTED. .         106       VARIANCE          3.4764023
NUMBER OF VALUES NOT COUNTED          0       ST.DEV.           1.8645113
                                              (Q3-Q1)/2         1.0000000

LOCATION ESTIMATES                                  ST.ERROR
                 MEAN                9.5811329      0.1810973
                 MEDIAN              9.4499998      0.3175429
                 MODE               10.1000004
```

```
                  M
                  M                  EACH 'M'
                  M                  REPRESENTS
              M   M                      3
              MMM M                  COUNT(S)
             MMMM M
            MMMMMMMMM   MM
       M MMMMMMMMMMMMM MMMM
      L--------------------U

      EACH '-' ABOVE =      0.5000
                    L=      4.5000
                    U=     14.5000

                                          Q1=     8.3999996
                    VALUE   VALUE/S.E.    Q3=    10.3999996
SKEWNESS             0.23         0.97    S-=     7.7166219
KURTOSIS            -0.04        -0.08    S+=    11.4456444

                    EACH '.' BELOW =      0.0750
```

```
                                         S       Q                   Q           S
M                                        -       1         M M     M 3           +                                   M
I..........................................................E.E.....O.......................................................A
N                                                          D A     D                                                     X
                                                           I N     E
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
4.800	1	0.9	0.9	8.200	1	0.9	19.8	9.400	2	1.9	50.0	11.100	3	2.8	84.0
5.700	1	0.9	1.9	8.300	3	2.8	22.6	9.500	3	2.8	52.8	11.200	1	0.9	84.9
5.800	2	1.9	3.8	8.400	6	5.7	28.3	9.700	3	2.8	55.7	11.300	2	1.9	86.8
6.400	1	0.9	4.7	8.500	3	2.8	31.1	9.900	1	0.9	56.6	12.400	1	0.9	87.7
6.700	1	0.9	5.7	8.600	2	1.9	33.0	10.100	9	8.5	65.1	12.700	2	1.9	89.6
7.100	2	1.9	7.5	8.700	1	0.9	34.0	10.200	7	6.6	71.7	12.800	2	1.9	91.5
7.200	1	0.9	8.5	8.800	4	3.8	37.7	10.300	2	1.9	73.6	13.000	2	1.9	93.4
7.300	1	0.9	9.4	8.900	2	1.9	39.6	10.400	2	1.9	75.5	13.100	2	1.9	95.3
7.400	1	0.9	10.4	9.000	3	2.8	42.5	10.500	2	1.9	77.4	13.200	2	1.9	97.2
7.600	2	1.9	12.3	9.100	3	2.8	45.3	10.600	1	0.9	78.3	13.300	1	0.9	98.1
7.900	4	3.8	16.0	9.200	1	0.9	46.2	10.700	1	0.9	79.2	13.600	2	1.9	100.0
8.000	3	2.8	18.9	9.300	2	1.9	48.1	10.800	2	1.9	81.1				

HYDRABS ALL CRUISE EASTERN BASIN

```
*************
* CORRTP    *
*************
                                               MAXIMUM         22.3999996                       HH
VARIABLE NUMBER . . . . . .          12        MINIMUM          6.1999998                       HHH
NUMBER OF DISTINCT VALUES .          52        RANGE           16.1999989                       HHH
NUMBER OF VALUES COUNTED. .          99        VARIANCE         6.3953757                       HHHH               EACH 'H'
NUMBER OF VALUES NOT COUNTED          7        ST.DEV.          2.5289080                       HHHH              REPRESENTS
                                               (Q3-Q1)/2        1.4500000                       HHHHH                  2
                                                                                               HHHHHHH              COUNT(S)
LOCATION ESTIMATES                                       ST.ERROR                              HHHHHHH
                   MEAN               9.7747478           0.2541648                            HHHHHHHHH
                   MEDIAN             9.5000000           0.2884753                            HHHHHHHHHH   H   H
                   MODE               7.5000000                                              L--------------------U

                                                                                   EACH '-' ABOVE =       1.0000
                                                                                                L=        4.0000
                                                                                                U=       24.0000

                                                                                                     Q1=     7.9000001
                                                                              VALUE   VALUE/S.E.     Q3=    10.8000002
                                                                  SKEWNESS     1.82         7.38     S-=     7.2458401
                                                                  KURTOSIS     5.92        12.03     S+=    12.3036556

                                                                                   EACH '.' BELOW =       0.1500

           S   Q               Q       S
     M   - M   1        MM     3       +                                                                              M
     I.......O............FE...................................................................................A
     N       D            DA                                                                                     X
             E            IN
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
6.200	1	1.0	1.0	7.900	4	4.0	26.3	9.700	3	3.0	53.5	11.800	1	1.0	82.8
6.300	1	1.0	2.0	8.100	3	3.0	29.3	9.800	5	5.1	58.6	11.900	2	2.0	84.8
6.400	2	2.0	4.0	8.200	1	1.0	30.3	9.900	4	4.0	67.6	12.200	2	2.0	86.9
6.700	1	1.0	5.1	8.300	1	1.0	31.3	10.100	4	4.0	66.7	12.500	3	3.0	89.9
6.900	1	1.0	6.1	8.400	1	1.0	32.3	10.200	1	1.0	67.7	12.600	1	1.0	90.9
7.000	1	1.0	7.1	8.600	3	3.0	35.4	10.300	2	2.0	69.7	12.900	1	1.0	91.9
7.100	2	2.0	9.1	8.700	2	2.0	37.4	10.500	1	1.0	70.7	13.100	1	1.0	92.9
7.200	1	1.0	10.1	8.800	2	2.0	39.4	10.700	1	1.0	71.7	13.600	2	2.0	94.9
7.300	1	1.0	11.1	8.900	4	4.0	43.4	10.800	4	4.0	75.8	13.700	1	1.0	96.0
7.400	2	2.0	13.1	9.000	2	2.0	45.5	11.100	2	2.0	77.8	14.500	1	1.0	97.0
7.500	6	6.1	19.2	9.200	1	1.0	46.5	11.200	2	2.0	79.8	14.700	1	1.0	98.0
7.600	2	2.0	21.2	9.400	2	2.0	48.5	11.400	1	1.0	80.8	18.800	1	1.0	99.0
7.700	1	1.0	22.2	9.500	2	2.0	50.5	11.600	1	1.0	81.8	22.400	1	1.0	100.0

HYDRABS ALL DATA EASTERN BASIN

```
************
* CORTPAS  *
************
                                                   MAXIMUM         19.3999996
VARIABLE NUMBER . . . . . .         3              MINIMUM          5.0999999
NUMBER OF DISTINCT VALUES .        61              RANGE           14.3000002
NUMBER OF VALUES COUNTED. .       104              VARIANCE         7.3963017
NUMBER OF VALUES NOT COUNTED        2              ST.DEV.          2.7196143
                                                   (Q3-Q1)/2        1.6750000

LOCATION ESTIMATES                                   ST.ERROR
                 MEAN               9.5778856       0.2666801
                 MEDIAN             9.3500004       0.3175426
                 MODE               7.5000000
```

```
     H   H                   EACH 'H'
    HH HHH                   REPRESENTS
     HHHHHH                      2
   H HHHHHH                  COUNT(S)
   HHHHHHHHH
   HHHHHHHHHH H
   HHHHHHHHHHHHH HH  H
  L--------------------U

EACH '-' ABOVE =      0.7500
             L=       5.2500
             U=      20.2500

                                        Q1=    7.5999999
                 VALUE    VALUE/S.E.    Q3=   10.9499979
SKEWNESS          0.93          3.87    S-=    6.8582716
KURTOSIS          1.25          2.60    S+=   12.2974997

EACH '.' BELOW =      0.1500
```

```
            S   Q             Q       S
 M          -   M       M M   3       +                                              M
 I..............O.......E.E..................................................A
 N              D       D A                                                  X
                E       I N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
5.100	1	1.0	1.0
5.200	2	1.9	2.9
5.300	1	1.0	3.8
5.500	1	1.0	4.8
5.600	1	1.0	5.8
5.900	1	1.0	6.7
6.000	1	1.0	7.7
6.100	1	1.0	8.7
6.300	1	1.0	9.6
6.500	2	1.9	11.5
6.600	1	1.0	12.5
7.000	3	2.9	15.4
7.200	1	1.0	16.3
7.500	7	6.7	23.1
7.600	3	2.9	26.0
7.800	1	1.0	26.9

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
7.900	6	5.8	32.7
8.000	1	1.0	33.7
8.100	2	1.9	35.6
8.200	1	1.0	36.5
8.300	1	1.0	37.5
8.400	1	1.0	38.5
8.500	1	1.0	39.4
8.700	1	1.0	40.4
8.800	2	1.9	42.3
8.900	4	3.8	46.2
9.100	1	1.0	47.1
9.200	1	1.0	48.1
9.300	2	1.9	50.0
9.400	6	5.8	55.8
9.600	1	1.0	56.7
9.800	1	1.0	57.7

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
9.900	3	2.9	60.6
10.000	1	1.0	61.5
10.100	2	1.9	63.5
10.400	4	3.8	67.3
10.500	1	1.0	68.3
10.600	3	2.9	71.2
10.700	1	1.0	72.1
10.800	1	1.0	73.1
10.900	2	1.9	75.0
11.000	3	2.9	77.9
11.200	3	2.9	80.8
11.400	1	1.0	81.7
11.700	1	1.0	82.7
11.900	1	1.0	83.7
12.000	2	1.9	85.6
12.100	1	1.0	86.5

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
12.400	1	1.0	87.5
12.700	2	1.9	89.4
13.000	1	1.0	90.4
13.300	1	1.0	91.3
13.600	1	1.0	92.3
13.700	1	1.0	93.3
14.100	1	1.0	94.2
14.400	1	1.0	95.2
15.000	1	1.0	96.2
16.200	1	1.0	97.1
16.900	1	1.0	98.1
17.200	1	1.0	99.0
19.400	1	1.0	100.0

HYDRAGS ALL CRUISE EASTERN BASIN

```
*************
* CORRTFP  *
*************
                                                 MAXIMUM          9.3999996
VARIABLE NUMBER . . . . . . .        13          MINIMUM          0.3000000
NUMBER OF DISTINCT VALUES .          47          RANGE            9.0999994
NUMBER OF VALUES COUNTED. .         101          VARIANCE         3.2825363
NUMBER OF VALUES NOT COUNTED          5          ST.DEV.          1.8117771
                                                 (Q3-Q1)/2        1.2500001

LOCATION ESTIMATES                                ST.ERROR
                 MEAN            4.4079208      0.1802786
                 MEDIAN          4.1999998      0.3175429
                 MODE           NOT UNIQUE
```

```
          H
          H
          HH                EACH 'H'
          HH    H          REPRESENTS
          HH H  H               2
          HHHH  H           COUNT(S)
      H  HHHHHHH H
     HH HHHHHHHHHH
    HHHHHHHHHHHHHHHH  H
   L-------------------U

EACH '-' ABOVE =        0.5000
            L=          0.0000
            U=         10.0000

                                            Q1=     3.3000000
                   VALUE    VALUE/S.E.      Q3=     5.8000002
SKEWNESS            0.22         0.89       S-=     2.5961437
KURTOSIS           -0.11        -0.22       S+=     6.2196980

                   EACH '.' BELOW =        0.0750
```

```
                    S      Q               Q   S
M                   -      1        M M    3   +                        M
I...................................E..E.................................A
N                                   D A                                  X
                                    I N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.3000	1	1.0	1.0	2.6000	1	1.0	13.9	4.3000	2	2.0	53.5	6.2000	4	4.0	83.2
0.4000	1	1.0	2.0	2.7000	1	1.0	14.9	4.4000	3	3.0	56.4	6.3000	3	3.0	86.1
0.9000	1	1.0	3.0	2.8000	1	1.0	15.8	4.7000	2	2.0	58.4	6.5000	3	3.0	89.1
1.2000	1	1.0	4.0	2.9000	1	1.0	16.8	4.8000	3	3.0	61.4	6.6000	1	1.0	90.1
1.4000	1	1.0	5.0	3.1000	6	5.9	22.8	5.0000	5	5.0	66.3	6.7000	2	2.0	92.1
1.5000	1	1.0	5.9	3.3000	4	4.0	26.7	5.1000	1	1.0	67.3	7.1000	1	1.0	93.1
1.6000	1	1.0	6.9	3.4000	4	4.0	30.7	5.2000	2	2.0	69.3	7.2000	2	2.0	95.0
1.8000	1	1.0	7.9	3.5000	4	4.0	34.7	5.5000	3	3.0	72.3	7.5000	2	2.0	97.0
1.9000	2	2.0	9.9	3.6000	3	3.0	37.6	5.6000	2	2.0	74.3	7.8000	1	1.0	98.0
2.0000	1	1.0	10.9	3.7000	6	5.9	43.6	5.8000	2	2.0	76.2	9.2000	1	1.0	99.0
2.4000	1	1.0	11.9	3.9000	5	5.0	48.5	6.0000	1	1.0	77.2	9.4000	1	1.0	100.0
2.5000	1	1.0	12.9	4.2000	3	3.0	51.5	6.1000	2	2.0	79.2				

```
*************
* SRP       *
*************
                                              MAXIMUM          5.0999999
VARIABLE NUMBER . . . . . .        5          MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .       32          RANGE            5.0999999
NUMBER OF VALUES COUNTED. .      102          VARIANCE         1.6919562
NUMBER OF VALUES NOT COUNTED       4          ST.DEV.          1.3007522
                                              (Q3-Q1)/2        0.7000000

LOCATION ESTIMATES                                 ST.ERROR
                  MEAN               1.4049020     0.1287937
                  MEDIAN             1.0000000     0.1443376
                  MODE               0.5000000
```

```
HH
HH
HH  H
HH  H                      EACH 'H'
HH  H                      REPRESENTS
HH HH                          2
HH HH H                    COUNT(S)
HHHHHHH
HHHHHHHHH      H H
HHHHHHHHHHHHHHHHHH
L--------------------U

EACH '-' ABOVE =      0.3000
             L=       0.0000
             U=       6.0000

                                             Q1=     0.5000000
                    VALUE    VALUE/S.E.      Q3=     1.9000000
SKEWNESS            1.26          5.18       S-=     0.1041498
KURTOSIS            0.95          1.96       S+=     2.7056541

                    EACH '.' BELOW =      0.0500
```

```
   S        Q                            D          S
 M -        M        M     M             3          +                                           M
 I.........O.........E.......E.............................................................................A
 N          D        D     A                                                                        X
            E        I     N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.00000	12	11.8	11.8	0.80000	2	2.0	41.2	1.90000	3	2.9	76.5	3.70000	1	1.0	91.2
0.10000	1	1.0	12.7	0.90000	2	2.0	43.1	2.00000	3	2.9	79.4	3.80000	1	1.0	92.2
0.20000	1	1.0	13.7	1.00000	8	7.8	51.0	2.10000	2	2.0	81.4	4.00000	1	1.0	93.1
0.30000	5	4.9	18.6	1.10000	2	2.0	52.9	2.40000	3	2.9	84.3	4.40000	1	1.0	94.1
0.40000	5	4.9	23.5	1.30000	3	2.9	55.9	2.50000	2	2.0	86.3	4.50000	2	2.0	96.1
0.50000	13	12.7	36.3	1.40000	4	3.9	59.8	3.00000	2	2.0	88.2	4.80000	1	1.0	97.1
0.60000	1	1.0	37.3	1.50000	9	8.8	68.6	3.10000	1	1.0	89.2	5.00000	2	2.0	99.0
0.70000	2	2.0	39.2	1.80000	5	4.9	73.5	3.40000	1	1.0	90.2	5.10000	1	1.0	100.0

```
************
* NH3      *
************
                                               MAXIMUM        34.7999992
VARIABLE NUMBER . . . . . . .        7         MINIMUM         0.0000000
NUMBER OF DISTINCT VALUES .         70         RANGE          34.7999992
NUMBER OF VALUES COUNTED. .        106         VARIANCE       48.3277016
NUMBER OF VALUES NOT COUNTED         0         ST.DEV.         6.9518127
                                               (Q3-Q1)/2       4.3000002

LOCATION ESTIMATES                               ST.ERROR
                 MEAN              7.8858485     0.6752197
                 MEDIAN            5.4500003     0.7216882
                 MODE              3.2000000
```

```
  HH                          EACH 'H'
 HHH                         REPRESENTS
 HHH                              3
 HHHH   H                     COUNT(S)
 HHHH H H
 HHHHHHHH
 HHHHHHHHHH HHH H H
L-------- ----------U

EACH '-' ABOVE =      2.0000
              L=      0.0000
              U=     40.0000
```

```
                                                 Q1=    3.2000000
                         VALUE   VALUE/S.E.      Q3=   11.8000002
         SKEWNESS         1.56        6.55       S-=    0.9340358
         KURTOSIS         2.52        5.29       S+=   14.8376617

                    EACH '.' BELOW =     0.3000
```

```
    S    Q                        Q    S
M   -    M      M      M          3    +                                             M
I........O......E......E.................................................................A
N        D      D      A                                                                 X
         E      I      N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.0000	2	1.9	1.9	4.0000	2	1.9	35.8	7.3000	1	0.9	62.3	14.8000	1	0.9	84.9
0.3000	2	1.9	3.8	4.1000	1	0.9	36.8	7.4000	2	1.9	64.2	14.9000	1	0.9	85.8
0.8000	1	0.9	4.7	4.2000	4	3.8	40.6	7.8000	1	0.9	65.1	15.1000	1	0.9	86.8
1.0000	2	1.9	6.6	4.3000	2	1.9	42.5	8.2000	2	1.9	67.0	15.4000	1	0.9	87.7
1.4000	1	0.9	7.5	4.5000	2	1.9	44.3	8.4000	1	0.9	67.9	15.5000	2	1.9	89.6
1.5000	3	2.8	10.4	4.6000	1	0.9	45.3	9.0000	1	0.9	68.9	15.6000	1	0.9	90.6
1.8000	3	2.8	13.2	4.9000	1	0.9	46.2	10.2000	1	0.9	69.8	16.6000	1	0.9	91.5
2.0000	4	3.8	17.0	5.0000	3	2.8	49.1	10.6000	1	0.9	70.8	16.7000	1	0.9	92.5
2.1000	1	0.9	17.9	5.4000	1	0.9	50.0	11.2000	1	0.9	71.7	16.8000	1	0.9	93.4
2.3000	1	0.9	18.9	5.5000	2	1.9	51.9	11.5000	3	2.8	74.5	19.6000	1	0.9	94.3
2.5000	2	1.9	20.8	5.8000	1	0.9	52.8	11.8000	2	1.9	76.4	22.2000	1	0.9	95.3
3.0000	2	1.9	22.6	5.9000	2	1.9	54.7	12.1000	2	1.9	78.3	25.5000	1	0.9	96.2
3.1000	1	0.9	23.6	6.0000	1	0.9	55.7	12.7000	1	0.9	79.2	26.6000	1	0.9	97.2
3.2000	5	4.7	28.3	6.1000	1	0.9	56.6	13.5000	1	0.9	80.2	27.7000	1	0.9	98.1
3.3000	1	0.9	29.2	6.8000	2	1.9	58.5	14.0000	1	0.9	81.1	31.2000	1	0.9	99.1
3.5000	2	1.9	31.1	6.9000	1	0.9	59.4	14.2000	1	0.9	82.1	34.8000	1	0.9	100.0
3.6000	2	1.9	33.0	7.0000	1	0.9	60.4	14.3000	1	0.9	83.0				
3.7000	1	0.9	34.0	7.2000	1	0.9	61.3	14.5000	1	0.9	84.0				

HYDRABS ALL CRUISE EASTERN BASIN

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  ************
  * METMIT   *
  ************
                                                  MAXIMUM        383.0000000          H
VARIABLE NUMBER . . . . . . .       4             MINIMUM        163.0000000          H
NUMBER OF DISTINCT VALUES .        66             RANGE          220.0000000          H
NUMBER OF VALUES COUNTED. .       106             VARIANCE      5371.4970703          H                   EACH 'H'
NUMBER OF VALUES NOT COUNTED        0             ST.DEV.         73.2904968          H H                REPRESENTS
                                                  (U3-U1)/2       67.5000000          H HH   H    H           2
                                                                                      H HH   H HHHHH        COUNT(S)
LOCATION ESTIMATES                                     ST.ERROR                       H HH   H HHHHH
                  MEAN            264.9056702     7.1186023                           HHHHH  HHHHHHHH
                  MEDIAN          275.0000000    21.0732956                          HHHHHHHHHHHHHHHH
                  MODE             NOT UNIQUE                                      L--------------------U

                                                                         EACH '-' ABOVE =      15.0000
                                                                                     L=       135.0000
                                                                                     U=       435.0000

                                                                                            Q1=  200.0000000
                                                                     VALUE   VALUE/S.E.     Q3=  335.0000000
                                                      SKEWNESS        0.10         0.40     S-=  191.6151733
                                                      KURTOSIS       -1.50        -3.15     S+=  338.1961670

                                                                     EACH '.' BELOW =       2.0000
          S  Q                                                        QS
  M       -  1                             M    M                     3+                      M
  I........................................E....E.........................................A
  N                                        A    D                                         X
                                           N    I
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
163.	1	0.9	0.9	208.	3	2.8	34.0	281.	1	0.9	55.7	335.	3	2.8	77.4
165.	1	0.9	1.9	209.	1	0.9	34.9	283.	1	0.9	56.6	340.	1	0.9	78.3
168.	3	2.8	4.7	212.	1	0.9	35.8	286.	1	0.9	57.5	343.	1	0.9	79.2
171.	1	0.9	5.7	218.	1	0.9	36.8	295.	1	0.9	58.5	345.	2	1.9	81.1
172.	4	3.8	9.4	219.	2	1.9	38.7	299.	1	0.9	59.4	346.	1	0.9	82.1
173.	3	2.8	12.3	220.	1	0.9	39.6	300.	1	0.9	60.4	354.	1	0.9	83.0
174.	1	0.9	13.2	221.	2	1.9	41.5	301.	2	1.9	62.3	355.	1	0.9	84.0
175.	1	0.9	14.2	222.	1	0.9	42.5	302.	1	0.9	63.2	360.	4	3.8	87.7
176.	3	2.8	17.0	224.	1	0.9	43.4	303.	2	1.9	65.1	365.	2	1.9	89.6
178.	1	0.9	17.9	228.	1	0.9	44.3	305.	1	0.9	66.0	370.	4	3.8	93.4
180.	3	2.8	20.8	238.	2	1.9	46.2	312.	1	0.9	67.0	371.	1	0.9	94.3
184.	1	0.9	21.7	248.	1	0.9	47.2	314.	1	0.9	67.9	372.	3	2.8	97.2
185.	3	2.8	24.5	268.	1	0.9	48.1	319.	1	0.9	68.9	380.	1	0.9	98.1
200.	3	2.8	27.4	273.	1	0.9	49.1	320.	2	1.9	70.8	382.	1	0.9	99.1
203.	1	0.9	28.3	275.	2	1.9	50.9	321.	2	1.9	72.6	383.	1	0.9	100.0
204.	1	0.9	29.2	276.	1	0.9	51.9	323.	1	0.9	73.6				
205.	2	1.9	31.1	280.	3	2.8	54.7	327.	1	0.9	74.5				

HYDRA85 ALL CRUISE EASTERN BASIN

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************
* KJEL     *
************
                                                MAXIMUM      1700.0000000                     H
VARIABLE NUMBER . . . . . .      14             MINIMUM        40.0000000                     H
NUMBER OF DISTINCT VALUES .      34             RANGE        1660.0000000                     H
NUMBER OF VALUES COUNTED. .      88             VARIANCE    45824.0742187                     H                    EACH 'H'
NUMBER OF VALUES NOT COUNTED     18             ST.DEV.       214.0653823                     H                   REPRESENTS
                                                (Q3-Q1)/2      50.0000000                     H                       5
                                                                                              H                    COUNT(S)
LOCATION ESTIMATES                                  ST.ERROR                                 HHH
                    MEAN          214.2840881       22.8194675                               HHH
                    MEDIAN        170.0000000       11.5470114                               HHHHHHH     H    H
                    MODE           NOT UNIQUE                                               L-------------------U

                                                                                     EACH '-' ABOVE =      100.0000
                                                                                                   L=         0.0000
                                                                                                   U=      2000.0000

                                                                                                        Q1=  120.0000000
                                                                                 VALUE    VALUE/S.E.    Q3=  220.0000000
                                                             SKEWNESS             4.91        18.79     S-=    0.2185059
                                                             KURTOSIS            28.27        54.13     S+=  428.3496704

                                                                                     EACH '.' BELOW =       15.0000

     S     Q   Q             S
     - M   1 M M             +                                                                                      M
     ..I.......E..E.................................................................................................A
       N       D  A                                                                                                 X
               I  N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
40.	1	1.1	1.1	130.	4	4.5	33.0	220.	3	3.4	76.1	370.	2	2.3	93.2
57.	1	1.1	2.3	140.	5	5.7	38.6	230.	3	3.4	79.5	410.	1	1.1	94.3
60.	2	2.3	4.5	150.	2	2.3	40.9	240.	2	2.3	81.8	440.	1	1.1	95.5
70.	1	1.1	5.7	160.	5	5.7	46.6	250.	2	2.3	84.1	490.	1	1.1	96.6
80.	1	1.1	6.8	170.	4	4.5	51.1	280.	1	1.1	85.2	600.	1	1.1	97.7
90.	1	1.1	8.0	180.	7	8.0	59.1	300.	2	2.3	87.5	1160.	1	1.1	98.9
100.	5	5.7	13.6	190.	4	4.5	63.6	320.	1	1.1	88.6	1700.	1	1.1	100.0
110.	7	8.0	21.6	200.	6	6.8	70.5	340.	1	1.1	89.8				
120.	6	6.8	28.4	210.	2	2.3	72.7	360.	1	1.1	90.9				

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HYDRAGS ALL CRUISE EASTERN BASIN

  ############
  # SRS      #
  ############
                                                    MAXIMUM        1275.0000000
VARIABLE NUMBER . . . . . . .         6             MINIMUM         135.0000000
NUMBER OF DISTINCT VALUES .          87             RANGE          1140.0000000          H
NUMBER OF VALUES COUNTED. .         106             VARIANCE      69323.3125000          H                   EACH 'H'
NUMBER OF VALUES NOT COUNTED          0             ST.DEV.         263.2932129         HH                  REPRESENTS
                                                    (Q3-Q1)/2       191.5000000         HHH                      3
                                                                                        HHH   H              COUNT(S)
LOCATION ESTIMATES                                       ST.ERROR                       HHH HHHH
                    MEAN             461.1792603    25.5732975                          HHH HHHH H H
                    MEDIAN           367.5000000    54.8483047                         HHHHHHHHHHHHH  H
                    MODE             375.0000000                                      L--------------------U

                                                                                 EACH '-' ABOVE =      75.0000
                                                                                                L=      0.0000
                                                                                                U=   1500.0000

                                                                                                     Q1=  245.0000000
                                                                        VALUE    VALUE/S.E.          Q3=  628.0000000
                                                          SKEWNESS       0.95         4.00           S-=  197.8860474
                                                          KURTOSIS       0.20         0.42           S+=  724.4724731

                                                                                 EACH '.' BELOW =      10.0000

             S    Q                                         Q        S
      M      -    1               MM       M                3        +                                                       M
      I.......................MED.......E...........................................................................A
      N                       DD       A                                                                             X
                              IE       N
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
135.	1	0.9	0.9	247.	1	0.9	27.4	375.	4	3.8	53.8	658.	1	0.9	78.3
155.	1	0.9	1.9	250.	1	0.9	28.3	385.	1	0.9	54.7	670.	1	0.9	79.2
160.	1	0.9	2.8	256.	2	1.9	30.2	420.	1	0.9	55.7	684.	2	1.9	81.1
168.	1	0.9	3.8	258.	1	0.9	31.1	440.	1	0.9	56.6	700.	2	1.9	83.0
179.	2	1.9	5.7	260.	1	0.9	32.1	475.	1	0.9	57.5	705.	1	0.9	84.0
184.	2	1.9	7.5	264.	1	0.9	33.0	500.	1	0.9	58.5	719.	1	0.9	84.9
185.	1	0.9	8.5	270.	1	0.9	34.0	510.	2	1.9	60.4	725.	1	0.9	85.8
189.	1	0.9	9.4	280.	1	0.9	34.9	515.	1	0.9	61.3	747.	1	0.9	86.8
200.	1	0.9	10.4	282.	1	0.9	35.8	519.	2	1.9	63.2	750.	1	0.9	87.7
205.	3	2.8	13.2	290.	1	0.9	36.8	538.	2	1.9	65.1	771.	1	0.9	88.7
210.	1	0.9	14.2	295.	1	0.9	37.7	548.	1	0.9	66.0	868.	1	0.9	89.6
211.	2	1.9	16.0	300.	2	1.9	39.6	550.	1	0.9	67.0	884.	1	0.9	90.6
215.	1	0.9	17.0	305.	1	0.9	40.6	555.	1	0.9	67.9	900.	2	1.9	92.5
221.	1	0.9	17.9	309.	1	0.9	41.5	575.	1	0.9	68.9	915.	1	0.9	93.4
231.	1	0.9	18.9	310.	1	0.9	42.5	589.	1	0.9	69.8	965.	1	0.9	94.3
232.	1	0.9	19.8	320.	1	0.9	43.4	605.	2	1.9	71.7	980.	1	0.9	95.3
235.	1	0.9	20.8	330.	1	0.9	44.3	619.	1	0.9	72.6	1000.	1	0.9	96.2
237.	1	0.9	21.7	333.	1	0.9	45.3	625.	1	0.9	73.6	1010.	1	0.9	97.2
240.	1	0.9	22.6	345.	1	0.9	46.2	626.	1	0.9	74.5	1040.	1	0.9	98.1
241.	1	0.9	23.6	347.	1	0.9	47.2	628.	1	0.9	75.5	1240.	1	0.9	99.1
245.	2	1.9	25.5	350.	1	0.9	48.1	629.	1	0.9	76.4	1275.	1	0.9	100.0
246.	1	0.9	26.4	360.	2	1.9	50.0	642.	1	0.9	77.4				

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************
* CHLACORR *
************
                                                     MAXIMUM          2.6199999
VARIABLE NUMBER . . . . . . .         9              MINIMUM          0.0400000
NUMBER OF DISTINCT VALUES .          77              RANGE            2.5799999
NUMBER OF VALUES COUNTED. .          96              VARIANCE         0.3487823
NUMBER OF VALUES NOT COUNTED         10              ST.DEV.          0.5905780
                                                     (Q3-Q1)/2        0.3750000

LOCATION ESTIMATES                                   ST.ERROR
                    *MEAN             1.1280209      0.0602756
                     MEDIAN           1.0850000      0.0750556
                     MODE             NOT UNIQUE
```

```
                 H H                EACH 'H'
                 H H                REPRESENTS
             H  HHHHHH                  2
             HHHHHHHHHH H H          COUNT(S)
             HHHHHHHHHHHH H
            HHHHHHHHHHHHHHHHHH
           L------------------U

        EACH '-' ABOVE =        0.1300
                     L=         0.0000
                     U=         3.0000

                                        Q1=     0.7300000
            VALUE     VALUE/S.E.        Q3=     1.4800000
SKEWNESS     0.34           1.36        S-=     0.5374429
KURTOSIS    -0.52          -1.05        S+=     1.7185988

        EACH '.' BELOW =        0.0200
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                        S        Q                                Q          S
M                       -        1                M M             3          +                                        M
I.................................................E.E..........................................................A
N                                                 D A                                                             X
                                                  I N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.04000	1	1.0	1.0	0.74000	1	1.0	28.1	1.11000	1	1.0	52.1	1.64000	1	1.0	81.2
0.19000	1	1.0	2.1	0.75000	1	1.0	29.2	1.14000	1	1.0	53.1	1.75000	1	1.0	82.3
0.21000	1	1.0	3.1	0.76000	1	1.0	30.2	1.18000	1	1.0	54.2	1.76000	1	1.0	83.3
0.22000	1	1.0	4.2	0.77000	1	1.0	31.2	1.19000	2	2.1	56.2	1.80000	1	1.0	84.4
0.23000	1	1.0	5.2	0.78000	1	1.0	32.3	1.22000	1	1.0	57.3	1.81000	1	1.0	85.4
0.25000	1	1.0	6.2	0.79000	1	1.0	33.3	1.23000	1	1.0	58.3	1.87000	1	1.0	86.5
0.27000	1	1.0	7.3	0.81000	1	1.0	34.4	1.24000	1	1.0	59.4	1.88000	1	1.0	87.5
0.28000	1	1.0	8.3	0.83000	1	1.0	35.4	1.26000	2	2.1	61.5	1.91000	2	2.1	89.6
0.34000	3	3.1	11.5	0.85000	1	1.0	36.5	1.27000	2	2.1	63.5	1.97000	1	1.0	90.6
0.35000	1	1.0	12.5	0.94000	1	1.0	37.5	1.30000	1	1.0	64.6	2.10000	1	1.0	91.7
0.38000	1	1.0	13.5	0.95000	3	3.1	40.6	1.31000	1	1.0	65.6	2.11000	2	2.1	93.7
0.41000	1	1.0	14.6	0.98000	1	1.0	41.7	1.33000	1	1.0	66.7	2.14000	1	1.0	94.8
0.47000	1	1.0	15.6	0.99000	1	1.0	42.7	1.35000	1	1.0	67.7	2.17000	1	1.0	95.8
0.50000	1	1.0	16.7	1.00000	1	1.0	43.7	1.39000	1	1.0	68.7	2.20000	1	1.0	96.9
0.54000	1	1.0	17.7	1.02000	1	1.0	44.8	1.40000	2	2.1	70.8	2.26000	1	1.0	97.9
0.58000	2	2.1	19.8	1.03000	1	1.0	45.8	1.44000	2	2.1	72.9	2.52000	1	1.0	99.0
0.60000	1	1.0	20.8	1.04000	2	2.1	47.9	1.45000	1	1.0	74.0	2.62000	1	1.0	100.0
0.61000	2	2.1	22.9	1.05000	1	1.0	49.0	1.48000	2	2.1	76.0				
0.64000	1	1.0	24.0	1.08000	1	1.0	50.0	1.51000	3	3.1	79.2				
0.73000	3	3.1	27.1	1.09000	1	1.0	51.0	1.54000	1	1.0	80.2				

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************
* TSS      *
************
                                              MAXIMUM         12.3800001            H
VARIABLE NUMBER . . . . . . .       8         MINIMUM          0.4800000            H
NUMBER OF DISTINCT VALUES .        88         RANGE           11.9000006            H
NUMBER OF VALUES COUNTED. .       105         VARIANCE         2.4924557            HH                  EACH 'H'
NUMBER OF VALUES NOT COUNTED        1         ST.DEV.          1.5787513            HH                  REPRESENTS
                                              (Q3-Q1)/2        0.5450000            HHH                     4
                                                                                    HHH                 COUNT(S)
LOCATION ESTIMATES                                  ST.ERROR                        HHHH
                MEAN              1.6721907        0.1540703                        HHHHH
                MEDIAN            1.2300000        0.1154701                        HHHHHHH    H    H
                MODE             NOT UNIQUE                                        L-------------------U

                                                                          EACH '-' ABOVE =      0.7500
                                                                                      L=        0.0000
                                                                                      U=       15.0000

                                                                                      Q1=    0.7800000
                                                                 VALUE    VALUE/S.F.  Q3=    1.8700000
                                                     SKEWNESS     4.06        16.98   S-=    0.0934393
                                                     KURTOSIS    21.94        45.88   S+=    3.2509420

                                                                          EACH '.' BELOW =      0.1000
 S     Q          Q             S
 -  M  1   M    M 3             +                                                                        M
....I......E....E........................................................................................A
    N      D    A                                                                                        X
           I    N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.4800	1	1.0	1.0	0.8400	1	1.0	28.6	1.3500	1	1.0	54.3	2.0600	1	1.0	78.1
0.4900	2	1.9	2.9	0.8500	1	1.0	29.5	1.3600	1	1.0	55.2	2.1400	1	1.0	79.0
0.5200	1	1.0	3.8	0.8900	1	1.0	30.5	1.3700	1	1.0	56.2	2.3100	2	1.9	81.0
0.5300	1	1.0	4.8	0.9600	2	1.9	32.4	1.3800	1	1.0	57.1	2.4100	1	1.0	81.9
0.5400	3	2.9	7.6	0.9700	1	1.0	33.3	1.4700	1	1.0	58.1	2.4400	1	1.0	82.9
0.5600	1	1.0	8.6	0.9800	1	1.0	34.3	1.4900	1	1.0	59.0	2.4600	1	1.0	83.8
0.5800	1	1.0	9.5	0.9900	2	1.9	36.2	1.5000	1	1.0	60.0	2.4900	1	1.0	84.8
0.5900	3	2.9	12.4	1.0000	1	1.0	37.1	1.5200	2	1.9	61.9	2.5700	1	1.0	85.7
0.6000	1	1.0	13.3	1.0100	1	1.0	38.1	1.5300	1	1.0	62.9	2.6300	1	1.0	86.7
0.6100	3	2.9	16.2	1.0300	2	1.9	40.0	1.5400	1	1.0	63.8	2.8100	1	1.0	87.6
0.6300	1	1.0	17.1	1.0700	1	1.0	41.0	1.6100	1	1.0	64.8	2.8400	1	1.0	88.6
0.6400	1	1.0	18.1	1.0900	1	1.0	41.9	1.6500	1	1.0	65.7	2.9000	1	1.0	89.5
0.6800	1	1.0	19.0	1.1000	1	1.0	42.9	1.6800	1	1.0	66.7	3.0500	1	1.0	90.5
0.6900	1	1.0	20.0	1.1200	3	2.9	45.7	1.6900	1	1.0	67.6	3.4000	2	1.9	92.4
0.7000	1	1.0	21.0	1.1600	1	1.0	46.7	1.7600	1	1.0	68.6	3.4300	1	1.0	93.3
0.7100	1	1.0	21.9	1.1700	1	1.0	47.6	1.8000	1	1.0	69.5	3.5500	1	1.0	94.3
0.7300	1	1.0	22.9	1.1800	1	1.0	48.6	1.8400	3	2.9	72.4	3.6900	1	1.0	95.2
0.7500	1	1.0	23.8	1.2200	1	1.0	49.5	1.8500	1	1.0	73.3	4.1300	1	1.0	96.2
0.7700	1	1.0	24.8	1.2300	1	1.0	50.5	1.8600	1	1.0	74.3	4.3800	1	1.0	97.1
0.7800	1	1.0	25.7	1.2500	1	1.0	51.4	1.8700	1	1.0	75.2	4.5100	1	1.0	98.1
0.8100	1	1.0	26.7	1.2600	1	1.0	52.4	1.9500	1	1.0	76.2	8.8800	1	1.0	99.0
0.8300	1	1.0	27.6	1.3200	1	1.0	53.3	2.0400	1	1.0	77.1	12.3800	1	1.0	100.0

HYDRABS ALL CRUISE EASTERN BASIN

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************
* TURBID   *
************
                                              MAXIMUM          6.0999999
VARIABLE NUMBER . . . . . . .        9        MINIMUM          0.2000000                    H
NUMBER OF DISTINCT VALUES .         36        RANGE            5.9000001                    H                    EACH 'H'
NUMBER OF VALUES COUNTED. .        106        VARIANCE         1.4486229                    H                    REPRESENTS
NUMBER OF VALUES NOT COUNTED         0        ST.DEV.          1.2035875                    HH                       4
                                              (Q3-Q1)/2        0.7499999                    HH                   COUNT(S)
                                                                                            HHH  H
LOCATION ESTIMATES                                ST.ERROR                                  HHHHHH  HH
             MEAN              1.5066041      0.1169028                                     HHHHHHHHHHHHHH HH  H
             MEDIAN            1.1500001      0.1732052                                    L--------------------U
             MODE              0.5000000
                                                                                 EACH '-' ABOVE =      0.3000
                                                                                              L=       0.3000
                                                                                              U=       6.3000

                                                                                                    Q1=    0.6000000
                                                                     VALUE    VALUE/S.E.            Q3=    2.0999999
                                                          SKEWNESS    1.39          5.83            S-=    0.3030165
                                                          KURTOSIS    1.84          3.87            S+=    2.7101917

                                                                                 EACH '.' BELOW =      0.0500
    S    Q                       Q           S
 M  -    M 1       M      M      3           +                                                                                M
 I.....O............E......E.............................................................................................A
 N       D          D      A                                                                                              X
         E          I      N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.2000	2	1.9	1.9	1.1000	3	2.8	50.0	2.1000	6	5.7	78.3	3.2000	3	2.8	92.5
0.3000	2	1.9	3.8	1.2000	5	4.7	54.7	2.3000	1	0.9	79.2	3.3000	1	0.9	93.4
0.4000	10	9.4	13.2	1.3000	3	2.8	57.5	2.4000	1	0.9	80.2	3.6000	1	0.9	94.3
0.5000	12	11.3	24.5	1.4000	2	1.9	59.4	2.5000	3	2.8	83.0	3.7000	1	0.9	95.3
0.6000	5	4.7	29.2	1.5000	1	0.9	60.4	2.7000	1	0.9	84.0	4.1000	1	0.9	96.2
0.7000	11	10.4	39.6	1.6000	5	4.7	65.1	2.8000	1	0.9	84.9	4.3000	1	0.9	97.2
0.8000	5	4.7	44.3	1.8000	2	1.9	67.0	2.9000	1	0.9	85.8	5.0000	1	0.9	98.1
0.9000	2	1.9	46.2	1.9000	2	1.9	68.9	3.0000	3	2.8	88.7	5.3000	1	0.9	99.1
1.0000	1	0.9	47.2	2.0000	4	3.8	72.6	3.1000	1	0.9	89.6	6.1000	1	0.9	100.0

HYDRABS ALL CRUISE EASTERN BASIN

```
************
* CONDCORR *
************
                                           MAXIMUM       289.0000000
VARIABLE NUMBER . . . . . .         2      MINIMUM       257.0000000
NUMBER OF DISTINCT VALUES .        27      RANGE          32.0000000
NUMBER OF VALUES COUNTED. .       106      VARIANCE       39.4347687
NUMBER OF VALUES NOT COUNTED        0      ST.DEV.         6.2797108
                                           (Q3-Q1)/2       4.0000000

LOCATION ESTIMATES                              ST.ERROR
                 MEAN          274.3679199      0.6099394
                 MEDIAN        274.5000000      0.8660259
                 MODE           NOT UNIQUE
```

```
              H
           HHH H        EACH 'H'
           HHH H        REPRESENTS
          HHHH HH           2
          HHHHHHH        COUNT(S)
        H HHHHHHHH
        HHHHHHHHHHH
    HHHHHHHHHHHHHHH H
  L--------------------U

EACH '-' ABOVE =     2.0000
             L=    254.0000
             U=    294.0000

                                           Q1=  271.0000000
                    VALUE   VALUE/S.E.     Q3=  279.0000000
SKEWNESS            -0.34        -1.42     S-=  268.0881958
KURTOSIS            -0.10        -0.21     S+=  280.6476440

                  EACH '.' BELOW =          0.2500
```

```
                              S         Q                  Q   S
M                             -         1           MM     3   +                          M
I.......................................................EE...................................A
N                                                   AD                                    X
                                                    MI
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
257.	1	0.9	0.9	267.	3	2.8	14.2	275.	8	7.5	57.5	282.	4	3.8	91.5
260.	2	1.9	2.8	269.	5	4.7	18.9	276.	7	6.6	64.2	283.	2	1.9	93.4
261.	2	1.9	4.7	270.	5	4.7	23.6	277.	2	1.9	66.0	284.	4	3.8	97.2
263.	1	0.9	5.7	271.	8	7.5	31.1	278.	5	4.7	70.8	285.	1	0.9	98.1
264.	1	0.9	6.6	272.	6	5.7	36.8	279.	6	5.7	76.4	286.	1	0.9	99.1
265.	3	2.8	9.4	273.	7	6.6	43.4	280.	7	6.6	83.0	289.	1	0.9	100.0
266.	2	1.9	11.3	274.	7	6.6	50.0	281.	5	4.7	87.7				

```
HYDRAGS ALL CRUISE EASTERN BASIN

 ************
 * CL       *
 ************
                                              MAXIMUM        20.0000000
VARIABLE NUMBER . . . . . . .      11         MINIMUM        14.3999996                 H
NUMBER OF DISTINCT VALUES .        22         RANGE           5.6000004                 H
NUMBER OF VALUES COUNTED. .       106         VARIANCE        1.2847627                 H                 EACH 'H'
NUMBER OF VALUES NOT COUNTED        0         ST.DEV.         1.1334738                 H                 REPRESENTS
                                              (Q3-Q1)/2       0.2500000                HH                     5
                                                                                       HH                 COUNT(S)
LOCATION ESTIMATES                                 ST.ERROR                            HHHH
                     MEAN           15.3216982      0.1100927                          HHHH
                     MEDIAN         15.0000000      0.0000000                          HHHHHHH HH  HH HH  H
                     MODE           15.0000000                                        L--------------------U

                                                                         EACH '-' ABOVE =       0.3000
                                                                                      L=      14.4000
                                                                                      U=      20.4000

                                                                                              Q1=   14.8000002
                                                                         VALUE   VALUE/S.E.   Q3=   15.3000002
                                                        SKEWNESS          2.80       11.79    S-=   14.1882248
                                                        KURTOSIS          7.66       16.10    S+=   16.4551716

                                                                         EACH '.' BELOW =       0.0500
   S        Q      Q                      S
   -   M    1  M   M                      +                                                           M
   ....I.......E...E..............................................................................A
       N       D   A                                                                              X
               I   N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
14.40	2	1.9	1.9	15.00	25	23.6	64.2	15.80	1	0.9	87.7	18.00	1	0.9	95.3
14.50	5	4.7	6.6	15.10	5	4.7	68.9	16.00	1	0.9	88.7	18.60	1	0.9	96.2
14.60	11	10.4	17.0	15.20	3	2.8	71.7	16.20	1	0.9	89.6	18.90	1	0.9	97.2
14.70	7	6.6	23.6	15.30	5	4.7	76.4	16.80	2	1.9	91.5	20.00	3	2.8	100.0
14.80	6	5.7	29.2	15.40	4	3.8	80.2	17.00	2	1.9	93.4				
14.90	12	11.3	40.6	15.50	7	6.6	86.8	17.90	1	0.9	94.3				

HYDRABS ALL CRUISE EASTERN BASIN

```
************
* ALKTOT   *
************
                                                 MAXIMUM        103.5999985
VARIABLE NUMBER . . . . . . .          10         MINIMUM         93.0999985
NUMBER OF DISTINCT VALUES .            31         RANGE           10.5000000
NUMBER OF VALUES COUNTED. .           106         VARIANCE         6.3532467
NUMBER OF VALUES NOT COUNTED            0         ST.DEV.          2.5205648
                                                 (Q3-Q1)/2        1.4500008

LOCATION ESTIMATES                                     ST.ERROR
                  MEAN                97.5679245      0.2448189
                  MEDIAN              97.4000015      0.2598060
                  MODE                98.5000000
```

```
                    H
                   HH H              EACH 'H'
                  HHH H             REPRESENTS
                  HHHHH                 2
                H HHHHH              COUNT(S)
               HHHHHHHHH  HH
               HHHHHHHHHH HH
               HHHHHHHHHHHHHHH
            L--------------------U

         EACH '-' ABOVE =      0.7500
                     L=       90.7500
                     U=      105.7500

                                      Q1=    95.6999969
            VALUE    VALUE/S.E.       Q3=    98.5999985
SKEWNESS     0.54         2.27        S-=    95.0473633
KURTOSIS    -0.24        -0.50        S+=   100.0884857

         EACH '.' BELOW =      0.1000
```

```
                     S     Q               M M       Q           S
M                    -     1               E E      M3           +                                     M
I..........................................E.E.......O...............................................A
N                                          D A       D                                                 X
                                           I N       E
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
93.10	3	2.8	2.8	95.50	5	4.7	23.6	97.50	4	3.8	54.7	101.20	1	0.9	87.7
93.40	1	0.9	3.8	95.70	3	2.8	26.4	97.70	10	9.4	64.2	101.50	4	3.8	91.5
93.50	1	0.9	4.7	[illegible]	2	1.9	28.3	98.50	11	10.4	74.5	102.00	1	0.9	92.5
94.40	5	4.7	9.4	96.40	6	5.7	34.0	98.60	3	2.8	77.4	102.50	4	3.8	96.2
94.50	3	2.8	12.3	96.50	3	2.8	36.8	99.40	1	0.9	78.3	102.60	1	0.9	97.2
94.80	3	2.8	15.1	96.60	4	3.8	40.6	99.50	5	4.7	83.0	103.50	2	1.9	99.1
95.00	2	1.9	17.0	96.80	7	6.6	47.2	100.30	1	0.9	84.0	103.60	1	0.9	100.0
95.40	2	1.9	18.9	97.40	4	3.8	50.9	100.50	3	2.8	86.8				

HYDRAB5 ALL DATA EASTERN BASIN

```
************
* PH       *
************
                                              MAXIMUM        8.5600004
VARIABLE NUMBER . . . . . . .      2          MINIMUM        7.3499999
NUMBER OF DISTINCT VALUES .       63          RANGE          1.2100005
NUMBER OF VALUES COUNTED. .      106          VARIANCE       0.1107029
NUMBER OF VALUES NOT COUNTED       0          ST.DEV.        0.3319681
                                              (Q3-Q1)/2      0.2900002

LOCATION ESTIMATES                          ST.ERROR
            MEAN           7.9716983      0.0322436
            MEDIAN         7.8200002      0.0202072
            MODE          NOT UNIQUE
```

```
                 H
                 H                 EACH  H
                HH                 REPRESENTS
            H HHP      H               2
            HHHHH    H HH          COUNT(S)
            HHHHH    HHHH
         H  HHHHH  HHHHHH
        HHHHHHHHHHHHHHHHHH
      L-------------------U

   EACH '-' ABOVE =       0.0750
                L=        7.2000
                U=        8.7000

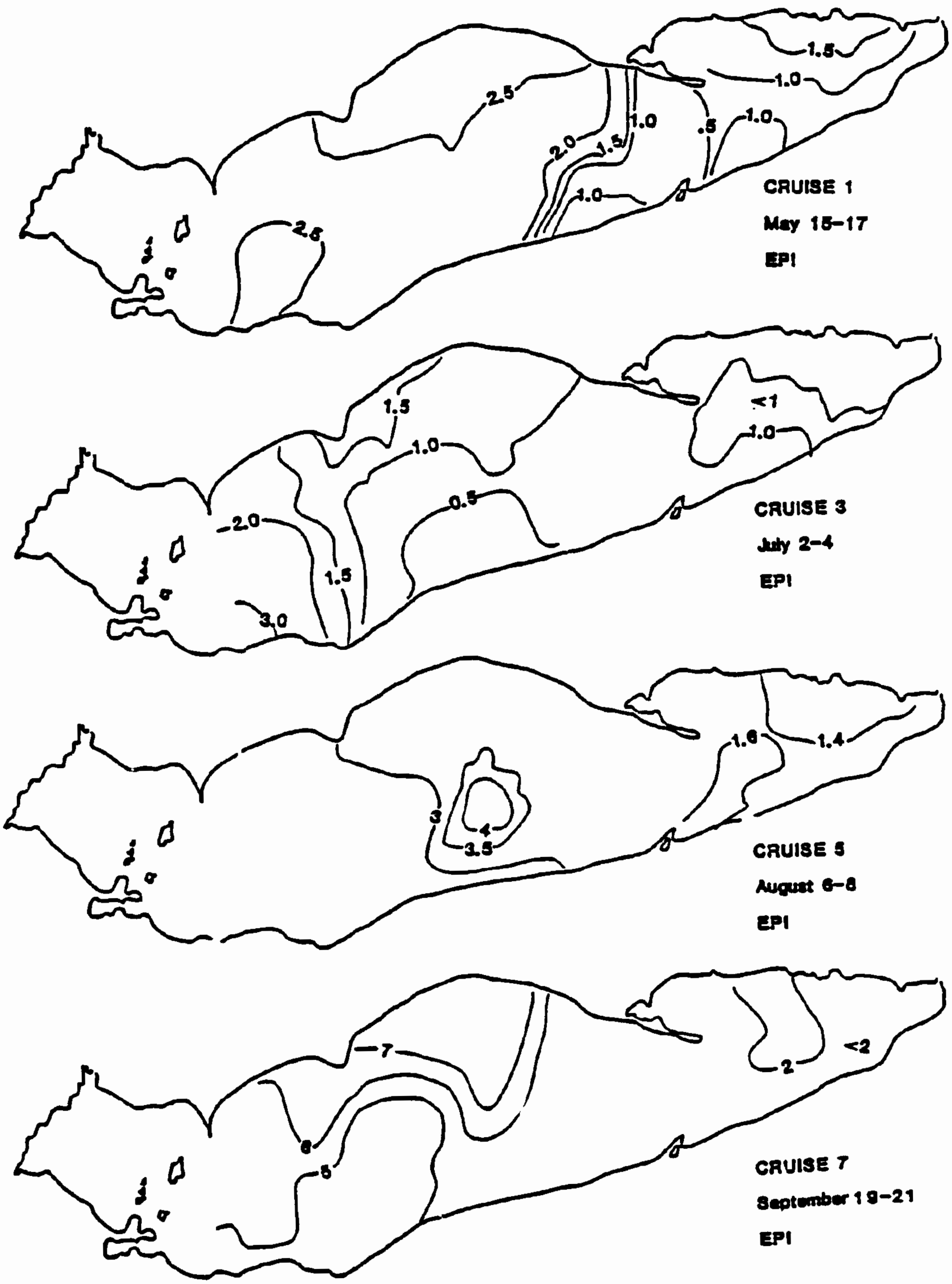
                                   Q1=    7.7300000
            VALUE   VALUE/S.E.     Q3=    8.3100014
SKEWNESS     0.21       0.38       S-=    7.6397300
KURTOSIS    -1.08      -2.25       S+=    8.3036661

   EACH '.' BELOW =       0.0100
```

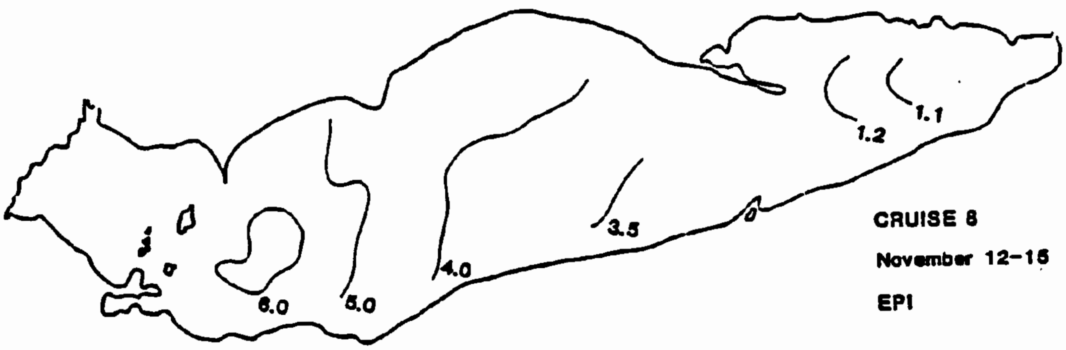
```
                        S      Q                                                  S
M                       -      1                  M      M                        D                      M
I.................................................E......E..................................................A
N                                                 D      A                        +3                     X
                                                  I      N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
7.350	2	1.9	1.9	7.740	1	0.9	27.4	7.940	1	0.9	60.4	8.350	1	0.9	79.2
7.370	1	0.9	2.8	7.750	1	0.9	28.3	7.950	1	0.9	61.3	8.380	1	0.9	80.2
7.400	2	1.9	4.7	7.760	2	1.9	30.2	7.960	1	0.9	62.3	8.390	3	2.8	83.0
7.440	1	0.9	5.7	7.770	1	0.9	31.1	8.030	1	0.9	63.2	8.410	1	0.9	84.0
7.470	1	0.9	6.6	7.780	2	1.9	33.0	8.080	1	0.9	64.2	8.420	2	1.9	85.8
7.560	1	0.9	7.5	7.790	1	0.9	34.0	8.100	2	1.9	66.0	8.430	2	1.9	87.7
7.570	1	0.9	8.5	7.810	3	2.8	36.8	8.170	1	0.9	67.0	8.440	1	0.9	88.7
7.600	1	0.9	9.4	7.820	2	1.9	38.7	8.180	2	1.9	68.9	8.450	1	0.9	89.6
7.610	1	0.9	10.4	7.840	4	3.8	42.5	8.200	1	0.9	69.8	8.460	3	2.8	92.5
7.620	2	1.9	12.3	7.860	1	0.9	43.4	8.220	1	0.9	70.8	8.480	1	0.9	93.4
7.640	1	0.9	13.2	7.870	2	1.9	45.3	8.250	2	1.9	72.6	8.490	2	1.9	95.3
7.650	5	4.7	17.9	7.880	5	4.7	50.0	8.260	1	0.9	73.6	8.500	1	0.9	96.2
7.690	4	3.8	21.7	7.890	2	1.9	51.9	8.300	1	0.9	74.5	8.520	1	0.9	97.2
7.700	2	1.9	23.6	7.900	5	4.7	56.6	8.310	2	1.9	76.4	8.530	2	1.9	99.1
7.720	1	0.9	24.5	7.910	2	1.9	58.5	8.320	1	0.9	77.4	8.560	1	0.9	100.0
7.730	2	1.9	26.4	7.930	1	0.9	59.4	8.330	1	0.9	78.3				

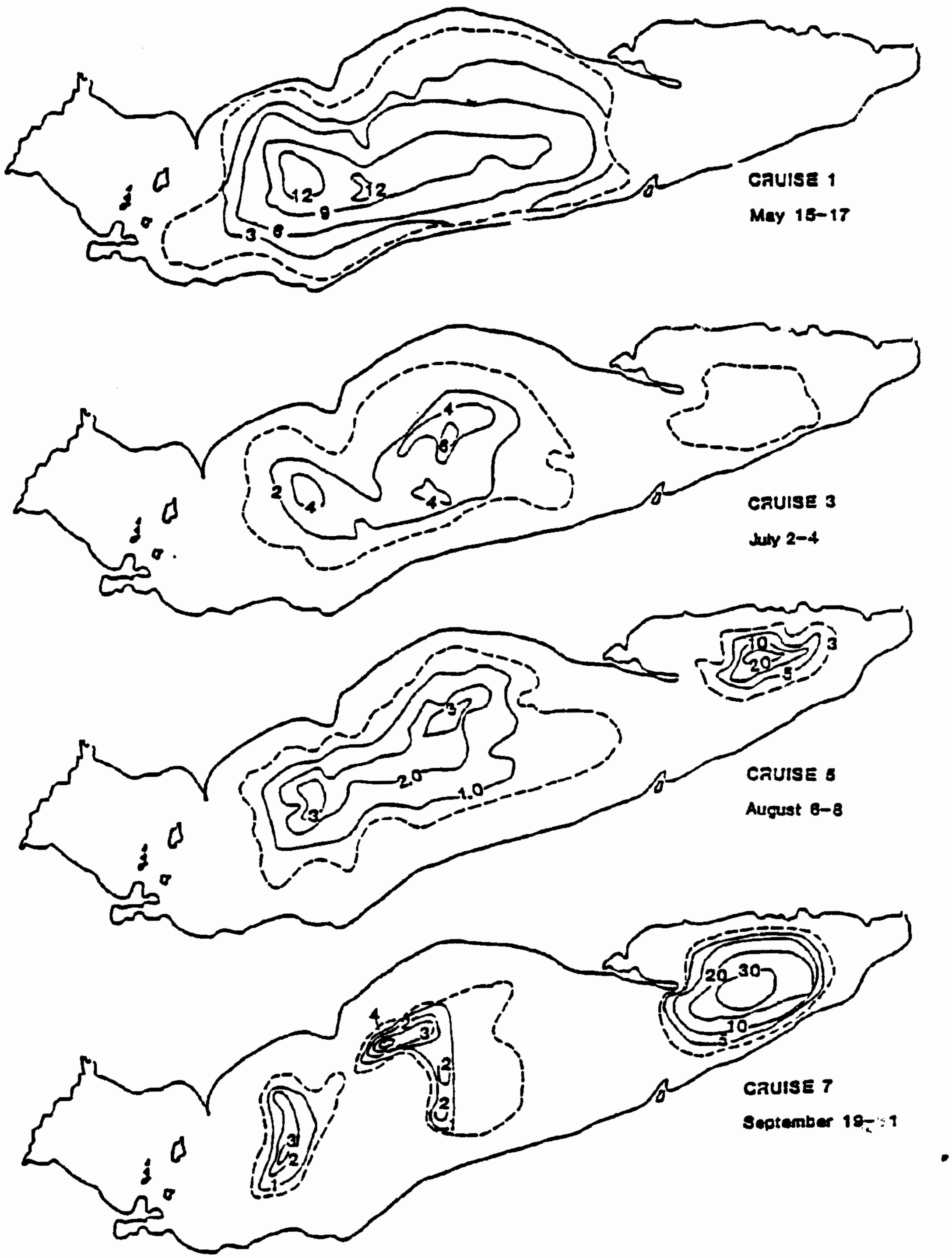
APPENDIX C



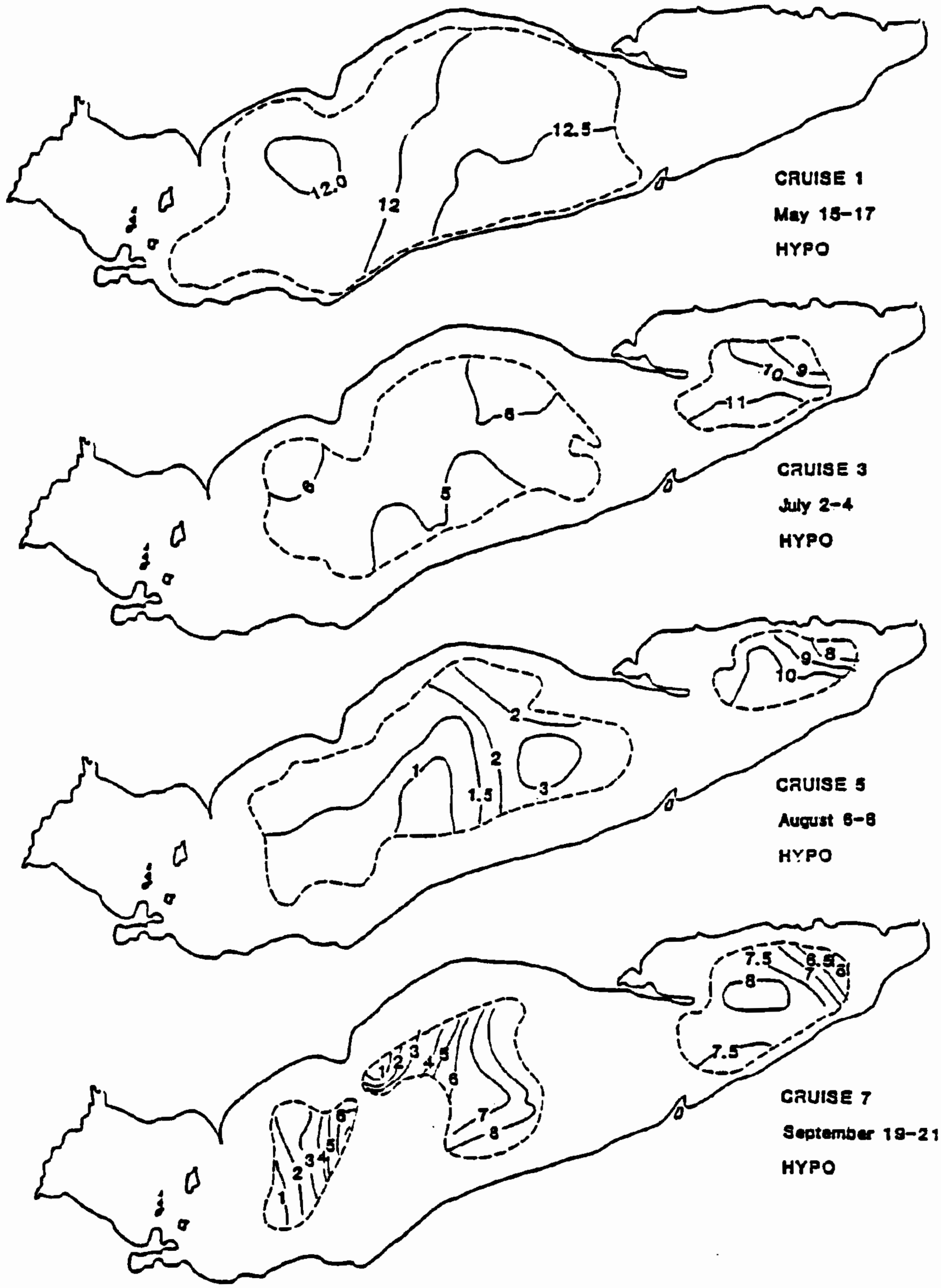
THE SEASONAL PATTERN OF EPILIMNION CORRECTED CHLOROPHYLL a (ug/l) IN THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



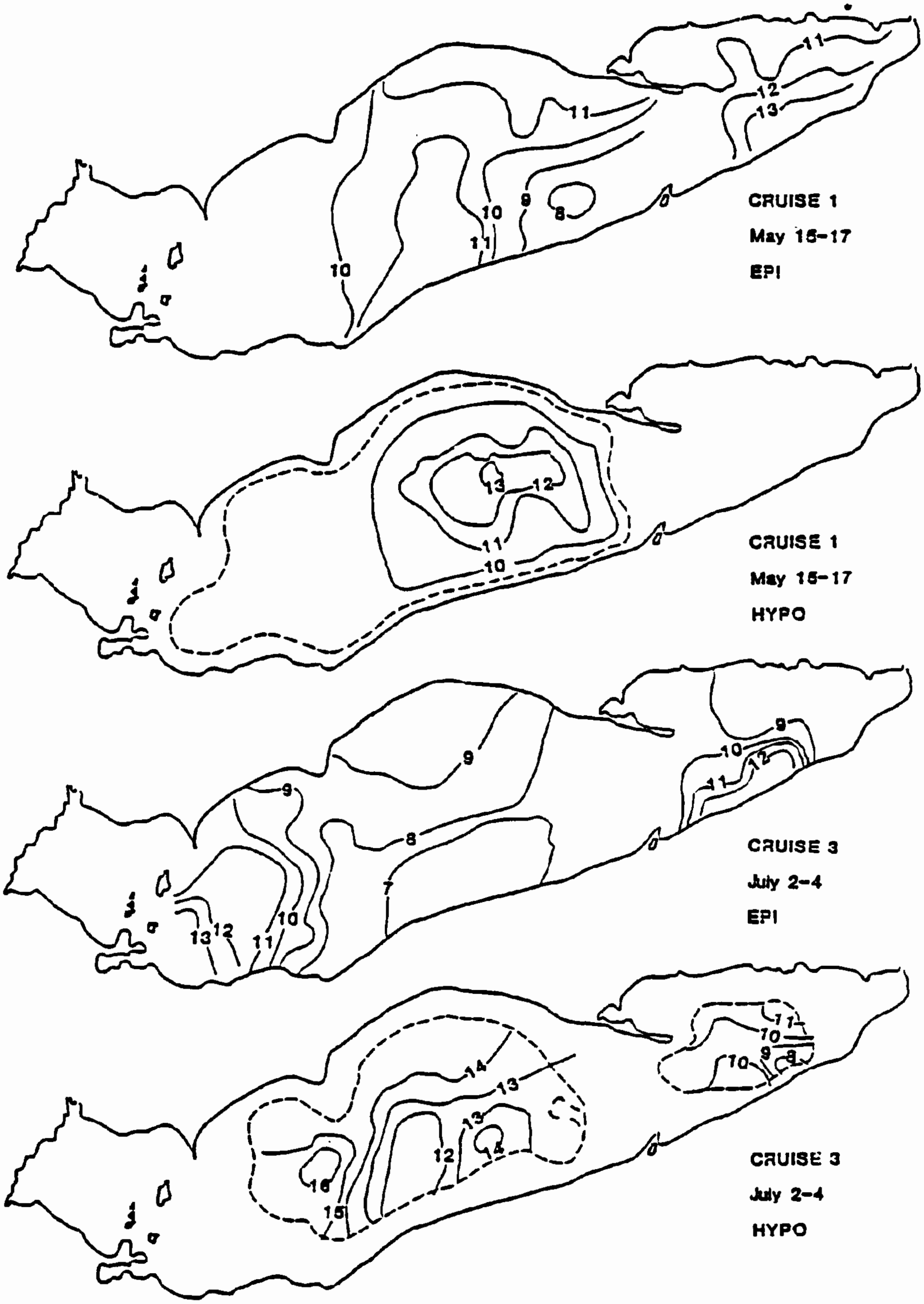
THE SEASONAL PATTERN OF EPILIMNION CORRECTED CHLOROPHYLL a (ug/l)
IN THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



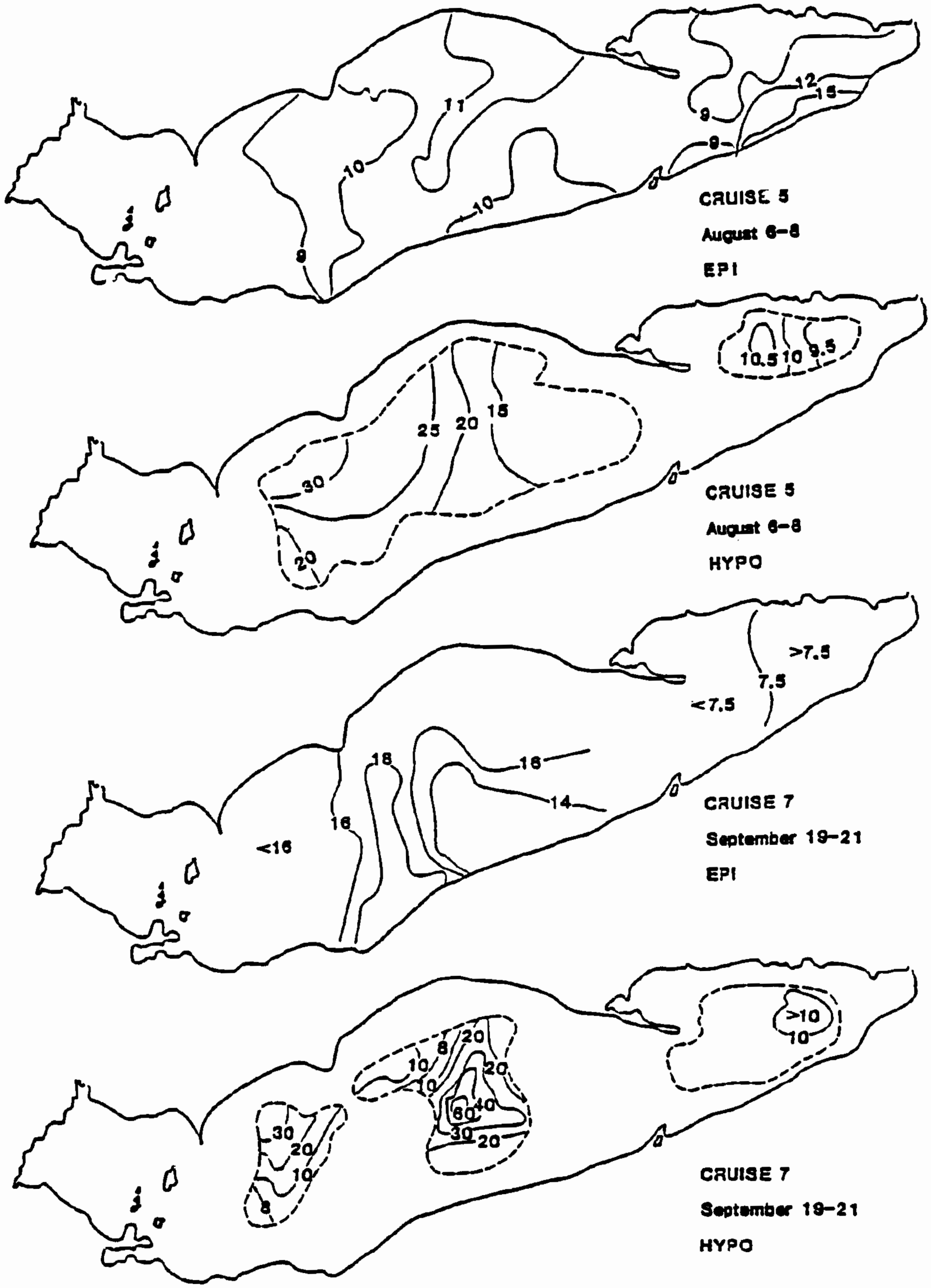
THE SEASONAL PATTERN OF HYPOLIMNION THICKNESS (m) IN THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



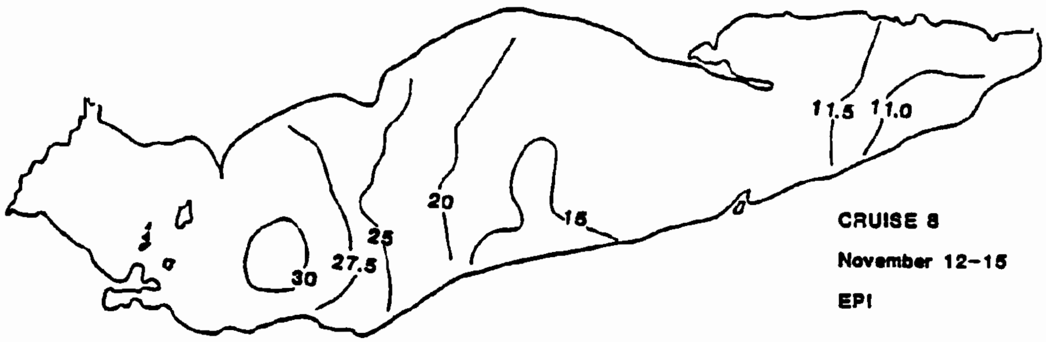
THE SEASONAL PATTERN OF HYPOLIMNION DISSOLVED OXYGEN (mg/l) IN THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



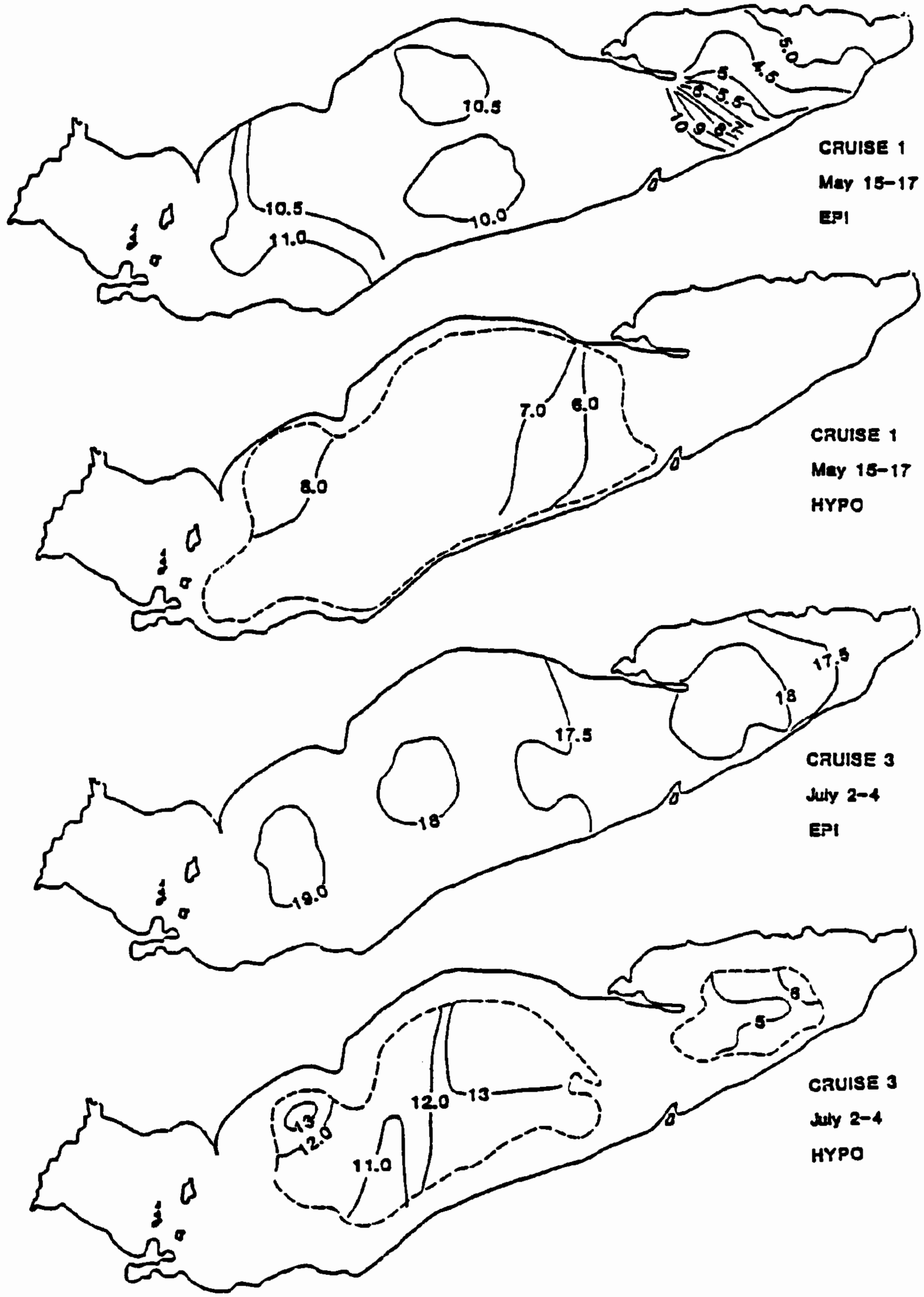
THE SEASONAL EPILIMNION AND HYPOLIMNION TOTAL PHOSPHORUS (ug/l) DISTRIBUTION PATTERNS FOR THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



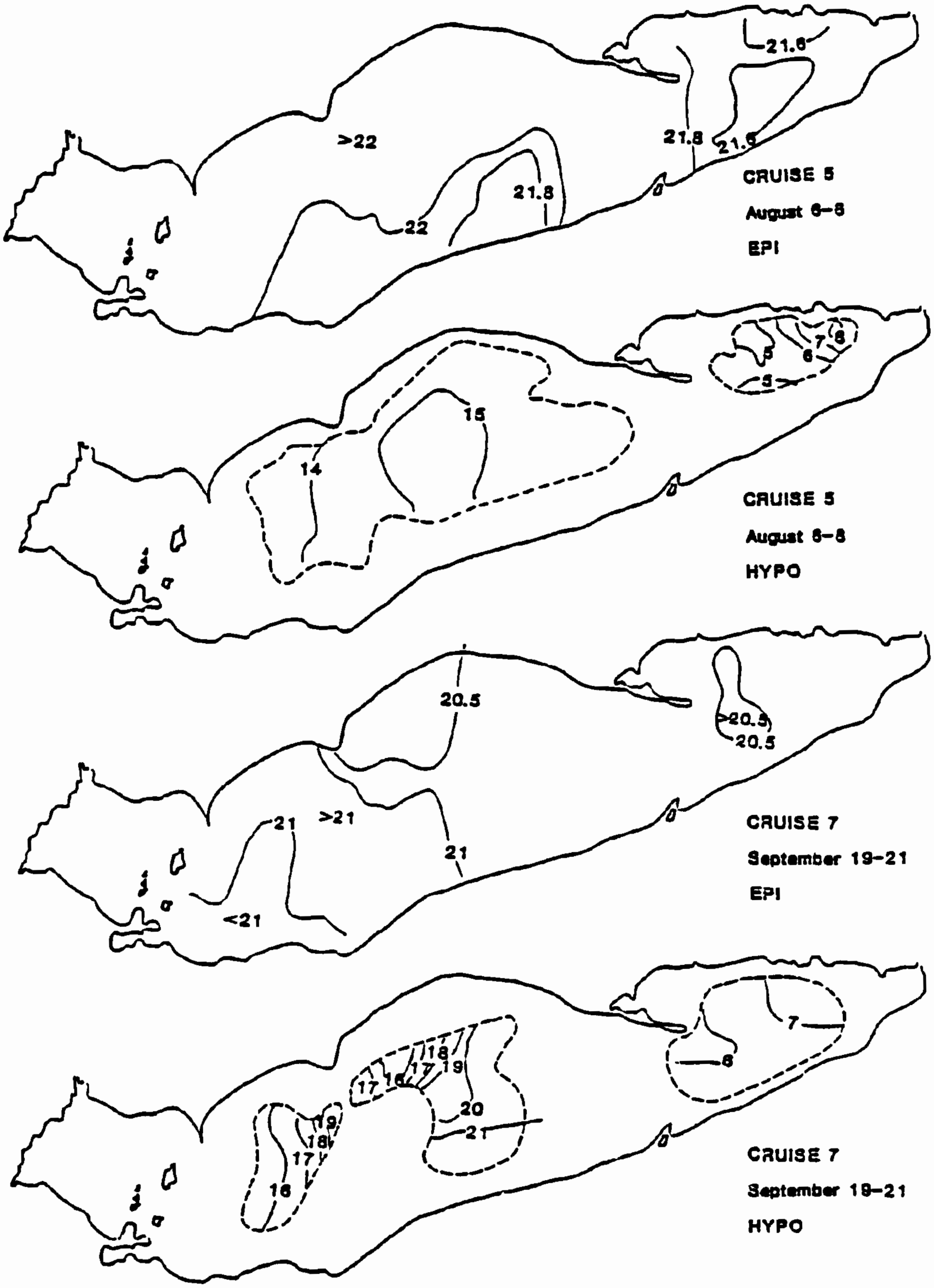
THE SEASONAL EPILIMNION AND HYPOLIMNION TOTAL PHOSPHORUS (ug/l) DISTRIBUTION PATTERNS FOR THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



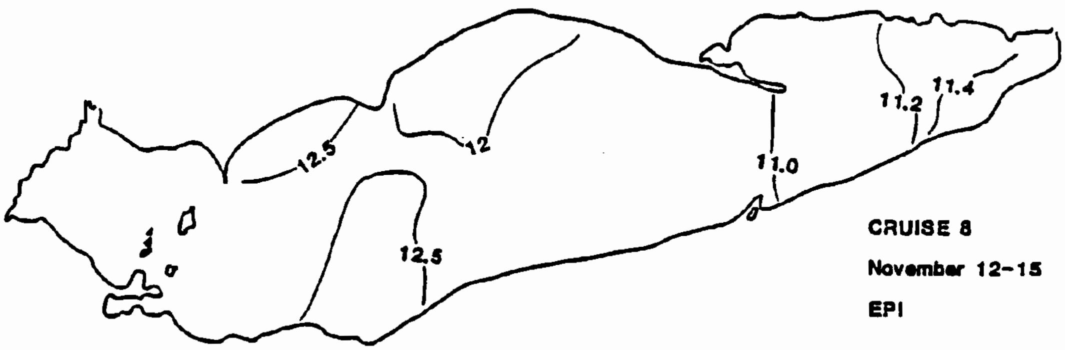
THE SEASONAL EPILIMNION AND HYPOLIMNION TOTAL PHOSPHORUS (ug/l) DISTRIBUTION PATTERNS FOR THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



THE SEASONAL EPILIMNION AND HYPOLIMNION TEMPERATURE (^{O}C) PATTERNS FOR THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



THE SEASONAL EPILIMNION AND HYPOLIMNION TEMPERATURE (^{o}C) PATTERNS FOR THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.



THE SEASONAL EPILIMNION AND HYPOLIMNION TEMPERATURE (°C) PATTERNS FOR THE CENTRAL AND EASTERN BASINS OF LAKE ERIE DURING 1986.

APPENDIX D

Appendix D contains the BMDP statistical computer outputs for the quality control data. The data in the BMDP outputs were generated through a CLEAR computer program (CALDIF) containing the following options.

OPTION 1

Option 1 calculates the absolute difference (ABS) between splits (X11, X12, X21, X22) using the following formula:

ABS(X11 - X12) AND ABS(X21 - X22)

Option 1 was used on all parameters having split measurements.

OPTION 2

Option 2 calculates the absolute difference (ABS) between replicates (X1, X2) using the following formula.

ABS(X1 - X2)

Option 2 was used on all parameters which had replicates but no splits.

See the quality control section for the explanation for the terms split and replicate.

```
OPTION 2 NUTRIENTS

 ************
 * TEMP     *
 ************
                                            MAXIMUM        0.1000000
VARIABLE NUMBER . . . . . .        2        MINIMUM        0.0000000
NUMBER OF DISTINCT VALUES .        2        RANGE          0.1000000
NUMBER OF VALUES COUNTED. .        8        VARIANCE       0.0021429                                   EACH 'H
NUMBER OF VALUES NOT COUNTED      12        ST.DEV.        0.0462910                  H               REPRESENTS
                                            (Q3-Q1)/2      0.0250000                  H                    1
                                                                                      H                COUNT(S)
LOCATION ESTIMATES                               ST.ERROR                             H
                      MEAN           0.0250000   0.0163663                            H       H
                      MEDIAN         0.0000000   0.0288675                            H       H
                      MODE           0.0000000                                        L-------------U

                                                                              EACH '-' ABOVE =     0.0100
                                                                                            L=     0.0000
                                                                                            U=     0.1300

                                                                                                 Q1=    0.0000000
                                                                           VALUE   VALUE/S.E.    Q3=    0.0500000
                                                              SKEWNESS      1.08         1.25    S-=   -0.0212910
                                                              KURTOSIS     -0.96        -0.55    S+=    0.0712910

                                                                              EACH '.' BELOW =     0.0010
  S               Q                                           Q            S
  -               M                       M                   3            +                            M
  ................I.......................E.............................................................A
                  N                       A                                                             X
                                          N

               PERCENTS                        PERCENTS
 VALUE    COUNT  CELL   CUM     VALUE    COUNT  CELL   CUM
 0.00000      6  75.0  75.0     0.10000      2  25.0 100.0
------------------------------------------------------------------------------------------------------------
```

```
OPTION 2 NUTRIENTS

  ************
  * SECCHI   *
  ************
                                                 MAXIMUM          0.2000000
VARIABLE NUMBER . . . . . . .         3          MINIMUM          0.1000000
NUMBER OF DISTINCT VALUES .           2          RANGE            0.1000000
NUMBER OF VALUES COUNTED. .           4          VARIANCE         0.0025000                                            EACH 'H'
NUMBER OF VALUES NOT COUNTED         16          ST.DEV.          0.0500000                                           REPRESENTS
                                                 (Q3-Q1)/2        0.0250000                                               1
                                                                                                                       COUNT(S)
LOCATION ESTIMATES                                    ST.ERROR                                        H
                   MEAN               0.1250000     0.0250000                                         H
                   MEDIAN             0.1000000     0.0288675                                         H     H
                   MODE               0.1000000                                                      L-------------U

                                                                                      EACH '-' ABOVE =       0.0100
                                                                                                    L=       0.0900
                                                                                                    U=       0.2200

                                                                                                        Q1=     0.1000000
                                                                                VALUE   VALUE/S.E.      Q3=     0.1500000
                                                                 SKEWNESS        1.00         0.82      S-=     0.0750000
                                                                 KURTOSIS       -1.25        -0.51      S+=     0.1750000

                                                                                      EACH '.' BELOW =       0.0010
S                      Q                      M                      Q                      S                   M
-                      M                      M                      3                      +                   M
.......................I......................E...........................................................................A
                       M                      A                                                                 X
                                              N

                   PERCENTS                        PERCENTS
   VALUE    COUNT  CELL    CUM      VALUE    COUNT  CELL    CUM
  0.10000      3   75.0   75.0     0.20000      1   25.0  100.0
-----------------------------------------------------------------------------------------------------------------
```

OPTION 2 NUTRIENTS

```
************
* DO       *
************
                                             MAXIMUM          0.4000000
VARIABLE NUMBER . . . . . .           4      MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .           5      RANGE            0.4000000
NUMBER OF VALUES COUNTED. .          15      VARIANCE         0.0174286                              EACH 'H'
NUMBER OF VALUES NOT COUNTED          5      ST.DEV.          0.1320173            H                 REPRESENTS
                                             (Q3-Q1)/2        0.1000000            H                     1
                                                                                   HH                 COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                           HH
               MEAN              0.1200000      0.0340867                          HH H H
               MEDIAN            0.1000000      0.0577351                          HH H H H
               MODE              0.0000000                                         L-------------U

                                                                      EACH '-' ABOVE =      0.0500
                                                                                   L=       0.0000
                                                                                   U=       0.6500

                                                                                        Q1=     0.000000
                                                                 VALUE   VALUE/S.E.     Q3=     0.200000
                                                      SKEWNESS    0.75         1.19     S-=    -0.012017
                                                      KURTOSIS   -0.75        -0.39     S+=     0.252017

                                                                 EACH '.' BELOW =       0.0050
               S Q                         Q     S
               - M           M  M          3     +                                   M
               ...I...........E...E..............................................A
                  N          D  A                                                X
                             I  N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.00000	6	40.0	40.0	0.20000	2	13.3	80.0	0.40000	1	6.7	100.0				
0.10000	4	26.7	66.7	0.30000	2	13.3	93.3								

OPTION 1 NUTRIENTS

```
*************
* TP        *
*************
```

VARIABLE NUMBER	2	MAXIMUM	1.6000000
NUMBER OF DISTINCT VALUES .	9	MINIMUM	0.0000000
NUMBER OF VALUES COUNTED. .	35	RANGE	1.6000000
NUMBER OF VALUES NOT COUNTED	5	VARIANCE	0.1053445
		ST.DEV.	0.3245682
		(Q3-Q1)/2	0.2000000

LOCATION ESTIMATES

		ST.ERROR
MEAN	0.3228571	0.0548620
MEDIAN	0.2000000	0.0288675
MODE	0.1000000	

```
H                          EACH 'H'
H                          REPRESENTS
HH                             2
HH                         COUNT(S)
HH
HH   HH
HH HHHH H       H
L---------------U
```

EACH '-' ABOVE = 0.1000
L= 0.0000
U= 1.6000

	VALUE	VALUE/S.E.		
			Q1=	0.1000000
			Q3=	0.5000000
SKEWNESS	1.99	4.82	S-=	-0.0017111
KURTOSIS	4.68	5.65	S+=	0.6474254

EACH '.' BELOW = 0.0150

```
S     Q                           Q       S
M     M      M       M            3       +                                                        M
I.....Q......E.......E..................................................................................A
N     D      D       A                                                                              X
      E      I       N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.00000	1	2.9	2.9	0.40000	2	5.7	71.4	0.70000	3	8.6	94.3				
0.10000	13	37.1	40.0	0.50000	2	5.7	77.1	0.90000	1	2.9	97.1				
0.20000	9	25.7	65.7	0.60000	3	8.6	85.7	1.60000	1	2.9	100.0				

OPTION 1 NUTRIENTS

```
 ************
 * TFP      *
 ************
                                              MAXIMUM        2.5000000
VARIABLE NUMBER . . . . . .        3          MINIMUM        0.0000000
NUMBER OF DISTINCT VALUES .       12          RANGE          2.5000000
NUMBER OF VALUES COUNTED. .       34          VARIANCE       0.2769341
NUMBER OF VALUES NOT COUNTED       6          ST.DEV.        0.5262453
                                              (Q3-Q1)/2      0.1500000

LOCATION ESTIMATES                                ST.ERROR
                 MEAN            0.4058824      0.0902503
                 MEDIAN          0.2000000      0.0288675
                 MODE            0.2000000
```

```
 H                         EACH 'H'
 H                        REPRESENTS
 H                            3
 H                         COUNT(S)
 H
 HH
 HHHHH  HH   H
L----------------U

EACH '-' ABOVE =        0.2000
             L=         0.0000
             U=         3.2000

                                          Q1=    0.1000000
                 VALUE    VALUE/S.E.      Q3=    0.4000000
SKEWNESS          2.58         6.13       S-=   -0.1203629
KURTOSIS          6.35         7.56       S+=    0.9321277

EACH '.' BELOW =        0.0250
```

```
S     Q       Q                S
-   M 1  M    M                +                                                          M
....I....E....E...........................................................................A
    N    D    A                                                                           X
         I    N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.00000	1	2.9	2.9	0.30000	2	5.9	67.6	0.60000	1	2.9	85.3	1.50000	1	2.9	94.1
0.10000	9	26.5	29.4	0.40000	3	8.8	76.5	0.70000	1	2.9	88.2	1.70000	1	2.9	97.1
0.20000	11	32.4	61.8	0.50000	2	5.9	82.4	0.90000	1	2.9	91.2	2.50000	1	2.9	100.0

```
OPTION 1 NUTRIENTS


 ************
 * SRP      *
 ************
                                            MAXIMUM         4.6999998
VARIABLE NUMBER . . . . . . .     4         MINIMUM         0.0000000                    H
NUMBER OF DISTINCT VALUES .       8         RANGE           4.6999998                    H
NUMBER OF VALUES COUNTED. .      35         VARIANCE        0.6367563                    H                   EACH 'H'
NUMBER OF VALUES NOT COUNTED      5         ST.DEV.         0.7979701                    H                  REPRESENTS
                                            (Q3-Q1)/2       0.1000000                    H                      3
                                                                                         H                  COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                                 H
                 MEAN          0.2828571     0.1348816                                   HH
                 MEDIAN        0.1000000     0.0288675                                   HHH           H
                 MODE          0.0000000                                                L----------------U

                                                                                    EACH '-' ABOVE =    0.3000
                                                                                                 L=     0.0000
                                                                                                 U=     4.8000

                                                                                                       Q1=    0.0000000
                                                                                VALUE   VALUE/S.E.     Q3=    0.2000000
                                                                  SKEWNESS       4.98        12.02     S-=   -0.5151129
                                                                  KURTOSIS      24.63        29.74     S+=    1.0808272

                                                                                    EACH '.' BELOW =    0.0500
          S         Q  Q                S
          -         M M 3M              +                                                              M
          ..........I.E..E......................................................................................A
                    N D  A                                                                             X
                      I  N

                    PERCENTS                          PERCENTS                          PERCENTS                          PERCENTS
   VALUE     COUNT  CELL   CUM     VALUE     COUNT  CELL   CUM     VALUE     COUNT  CELL   CUM     VALUE     COUNT  CELL   CUM
   0.00000     16   45.7  45.7     0.20000     3    8.6  77.1     0.50000     4   11.4  91.4     0.80000     1    2.9  97.1
   0.10000      8   22.9  68.6     0.40000     1    2.9  80.0     0.60000     1    2.9  94.3     4.70000     1    2.9 100.0
------------------------------------------------------------------------------------------------------------------------------
```

OPTION 1 NUTRIENTS

```
  ************
  * NITNIT   *
  ************
                                                MAXIMUM          7.0000000
VARIABLE NUMBER . . . . . .       5             MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .       5             RANGE            7.0000000
NUMBER OF VALUES COUNTED. .      33             VARIANCE         2.0643940                                          EACH 'H'
NUMBER OF VALUES NOT COUNTED      7             ST.DEV.          1.4367999                    HH                   REPRESENTS
                                                (Q3-Q1)/2        1.0000000                    HH                       2
                                                                                              HH                    COUNT(S)
LOCATION ESTIMATES                                   ST.ERROR                                 HH H
                    MEAN          1.2424242       0.2501148                                   HH H H
                    MEDIAN        1.0000000       0.0000000                                   HH H H       H
                    MODE          1.0000000                                                  L-----------------U

                                                                                    EACH '-' ABOVE =       0.5000
                                                                                                 L=        0.0000
                                                                                                 U=        8.0000

                                                                                                       Q1=    0.0000000
                                                                              VALUE    VALUE/S.E.      Q3=    2.0000000
                                                       SKEWNESS                2.04          4.78      S-=   -0.1943756
                                                       KURTOSIS                5.54          6.50      S+=    2.6792243

                                                                                    EACH '.' BELOW =       0.0750
                    S Q                  Q        S
                    - M      M   M       3        +                                                  M
                    ..I......E...E.......................................................................A
                      N      D   A                                                                   X
                             I   N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.	11	33.3	33.3	2.	5	15.2	84.8	7.	1	3.0	100.0				
1.	12	36.4	69.7	3.	4	12.1	97.0								

OPTION 1 NUTRIENTS

```
  *************
  * NH3       *
  *************
                                                 MAXIMUM          9.6999998
VARIABLE NUMBER . . . . . .          6           MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .         17           RANGE            9.6999998                  H
NUMBER OF VALUES COUNTED. .         33           VARIANCE         3.2107456                  H                    EACH 'H'
NUMBER OF VALUES NOT COUNTED         7           ST.DEV.          1.7918553                  H                   REPRESENTS
                                                 (Q3-Q1)/2        0.4450000                  H                       3
                                                                                             H                    COUNT(S)
LOCATION ESTIMATES                                      ST.ERROR                             H
                    MEAN             0.8427274    0.3119220                                  HH
                    MEDIAN           0.7000000    0.1154701                                  HHHHH        H
                    MODE             0.0000000                                              L----------------U

                                                                                  EACH '-' ABOVE =       0.7500
                                                                                               L=        0.0000
                                                                                               U=       12.0000

                                                                                                     Q1=     0.0100000
                                                                               VALUE   VALUE/S.E.    Q3=     0.9000000
                                                                   SKEWNESS     3.86         9.06    S-=    -0.7491280
                                                                   KURTOSIS    15.86        18.60    S+=     2.6345829

                                                                                  EACH '.' BELOW =       0.1000

            S        Q      Q               S
            -        M M    N3              +                                                                       M
  ..........I.E.....E...............................................................................................A
             N D    A                                                                                               X
              I     N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.000000	8	24.2	24.2	0.400000	1	3.0	63.6	1.000000	1	3.0	78.8	3.500000	1	3.0	97.0
0.010000	1	3.0	27.3	0.500000	1	3.0	66.7	1.400000	1	3.0	81.8	9.700000	1	3.0	100.0
0.100000	6	18.2	45.5	0.600000	1	3.0	69.7	1.500000	2	6.1	87.9				
0.200000	4	12.1	57.6	0.700000	1	3.0	72.7	1.900000	1	3.0	90.9				
0.300000	1	3.0	60.6	0.900000	1	3.0	75.8	2.600000	1	3.0	93.9				

```
OPTION 1 NUTRIENTS

 ************
 * SRS      *
 ************
                                                  MAXIMUM         50.0000000
VARIABLE NUMBER . . . . . .          7            MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .         17            RANGE           50.0000000
NUMBER OF VALUES COUNTED. .         36            VARIANCE       126.9872894
NUMBER OF VALUES NOT COUNTED         4            ST.DEV.         11.2688637
                                                  (Q3-Q1)/2        5.7500000

LOCATION ESTIMATES                                    ST.ERROR
                 MEAN                12.3888893       1.8781439
                 MEDIAN              10.0000000       2.8867528
                 MODE                 0.0000000

                                                                   H                  EACH 'H'
                                                                   H                 REPRESENTS
                                                                   H                     2
                                                                   HH                 COUNT(S)
                                                                   HHH
                                                                   HHHHH
                                                                   HHHHHHH  H
                                                                  L----------------U

                                                            EACH '-' ABOVE =     5.0000
                                                                          L=     0.0000
                                                                          U=    80.0000

                                                                          Q1=     5.000000
                                                          VALUE  VALUE/S.E.   Q3=    16.500000
                                            SKEWNESS       1.23       3.01    S-=     1.120025
                                            KURTOSIS       1.63       1.99    S+=    23.657753

                                                            EACH '.' BELOW =     0.5000

          S     Q               Q     S
        M -     1      M  M     3     +                                                  M
        I...............E...E..............................................................A
        N              D  A                                                              X
                       I  N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.	7	19.4	19.4	11.	1	2.8	58.3	20.	1	2.8	80.6	34.	1	2.8	97.2
5.	6	16.7	36.1	12.	1	2.8	61.1	24.	2	5.6	86.1	50.	1	2.8	100.0
6.	1	2.8	38.9	15.	3	8.3	69.4	25.	1	2.8	88.9				
9.	1	2.8	41.7	16.	2	5.6	75.0	27.	1	2.8	91.7				
10.	5	13.9	55.6	17.	1	2.8	77.8	30.	1	2.8	94.4				

OPTION 2 NUTRIENTS

```
************
* CHLACORR *
************
                                           MAXIMUM          1.6000000
VARIABLE NUMBER . . . . . .       5        MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .      15        RANGE            1.6000000
NUMBER OF VALUES COUNTED. .      17        VARIANCE         0.1803934
NUMBER OF VALUES NOT COUNTED      3        ST.DEV.          0.4247274
                                           (Q3-Q1)/2        0.2750000

LOCATION ESTIMATES                            ST.ERROR
            MEAN              0.3994118     0.1030115
            MEDIAN            0.2200000     0.1587714
            MODE             NOT UNIQUE
```

```
H                 EACH 'H'
H                REPRESENTS
H                    1
HH                COUNT(S)
HHH HH
HHHHHH    H
L-------------U

EACH '-' ABOVE =     0.1500
             L=      0.0000
             U=      1.9500

                                              Q1=    0.100000
                      VALUE    VALUE/S.E.     Q3=    0.650000
SKEWNESS              1.38          2.32      S-=   -0.025315
KURTOSIS              1.37          1.16      S+=    0.824139

                    EACH '.' BELOW =     0.0150
```

```
S    Q                       Q        S
- M  1    M      M           3        +                                   M
..I.......E......E....................................................A
  N       D      A                                                    X
          I      N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.00000	2	11.8	11.8	0.12000	1	5.9	35.3	0.32000	1	5.9	64.7	0.85000	1	5.9	88.2
0.04000	1	5.9	17.6	0.20000	1	5.9	41.2	0.52000	1	5.9	70.6	0.86000	1	5.9	94.1
0.06000	1	5.9	23.5	0.22000	2	11.8	52.9	0.65000	1	5.9	76.5	1.60000	1	5.9	100.0
0.10000	1	5.9	29.4	0.31000	1	5.9	58.8	0.72000	1	5.9	82.4				

OPTION 2 NUTRIENTS

```
 ************
 * PHEO     *
 ************
                                            MAXIMUM         4.1199999
VARIABLE NUMBER . . . . . . .     6         MINIMUM         0.0000000
NUMBER OF DISTINCT VALUES .      15         RANGE           4.1199999
NUMBER OF VALUES COUNTED. .      17         VARIANCE        1.0776808
NUMBER OF VALUES NOT COUNTED      3         ST.DEV.         1.0381141
                                            (Q3-Q1)/2       0.3150000

LOCATION ESTIMATES                                 ST.ERROR
                   MEAN             0.6794118      0.2517796
                   MEDIAN           0.2200000      0.2049595
                   MODE             0.0900000
```

```
H
H
H
H                 EACH 'H'
H                 REPRESENTS
H                    1
H                 COUNT(S)
HH
HH H
HHHH    H
L------------U

EACH '-' ABOVE =     0.5000
            L=       0.0000
            U=       6.5000

                                                    Q1=    0.080000[illegible]
                            VALUE    VALUE/S.E.     Q3=    0.790000[illegible]
           SKEWNESS          2.25         3.79      S-=   -0.3587[illegible]
           KURTOSIS          4.68         3.94      S+=    1.7175[illegible]

                             EACH '.' BELOW =     0.0500

S     Q          Q         S
-    MIM M     M 3         +                                          M
......I.O.E.......E.........................................................A
      N D D    A                                                        X
       E I     N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.000000	1	5.9	5.9	0.080000	1	5.9	29.4	0.520000	1	5.9	64.7	1.540000	1	5.9	88.2
0.010000	1	5.9	11.8	0.090000	3	17.6	47.1	0.590000	1	5.9	70.6	1.590000	1	5.9	94.1
0.050000	1	5.9	17.6	0.220000	1	5.9	52.9	0.790000	1	5.9	76.5	4.120000	1	5.9	100.0
0.070000	1	5.9	23.5	0.390000	1	5.9	58.8	1.320000	1	5.9	82.4				

OPTION 2 NUTRIENTS

```
 ************
 * TSS      *
 ************
                                              MAXIMUM         0.6400000
VARIABLE NUMBER . . . . . .       7           MINIMUM         0.0100000
NUMBER OF DISTINCT VALUES .      13           RANGE           0.6300000
NUMBER OF VALUES COUNTED. .      15           VARIANCE        0.0355638
NUMBER OF VALUES NOT COUNTED      5           ST.DEV.         0.1885837
                                              (Q3-Q1)/2       0.0700000

LOCATION ESTIMATES                                ST.ERROR
                 MEAN            0.1626667        0.0486921
                 MEDIAN          0.1300000        0.0344410
                 MODE           NOT UNIQUE
```

```
                                                   EACH 'H'
        H                                         REPRESENTS
        H                                             1
        H                                          COUNT(S)
        H H
        H HH
        HHHHH      H H
       L--------------U

  EACH '-' ABOVE =      0.0?00
              L=        0.0000
              U=        0.6500

                                  Q1=    0.040000
        VALUE   VALUE/S.E.        Q3=    0.180000
SKEWNESS   1.57       2.48        S-=   -0.025917
KURTOSIS   1.20       0.95        S+=    0.351250

  EACH '.' BELOW =      0.0075
```

```
S         Q                   Q                     S
-    M    1           M   M   3                     +                           M
.....I................E...E.........................................................A
     N                D   A                                                         X
                      I   N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.010000	2	13.3	13.3	0.060000	1	6.7	46.7	0.170000	1	6.7	73.3	0.640000	1	6.7	100.0
0.020000	1	6.7	20.0	0.130000	1	6.7	53.3	0.180000	1	6.7	80.0				
0.040000	1	6.7	26.7	0.140000	1	6.7	60.0	0.250000	1	6.7	86.7				
0.050000	2	13.3	40.0	0.150000	1	6.7	66.7	0.540000	1	6.7	93.3				

OPTION 2 NUTRIENTS

```
 ************
 * V8       *
 ************
                                                 MAXIMUM          0.4100000
VARIABLE NUMBER . . . . . . .         9          MINIMUM          0.0300000
NUMBER OF DISTINCT VALUES .          12          RANGE            0.3800000
NUMBER OF VALUES COUNTED. .          15          VARIANCE         0.0141924                          EACH 'H'
NUMBER OF VALUES NOT COUNTED          5          ST.DEV.          0.1191318                          REPRESENTS
                                                 (Q3-Q1)/2        0.0900000           H                  1
                                                                                      H              COUNT(S)
LOCATION ESTIMATES                                    ST.ERROR                        H
                    MEAN             0.1576667       0.0307597                        H H      H
                    MEDIAN           0.1100000       0.0461880                        HHHHHHH  H  H
                    MODE            NOT UNIQUE                                       L-------------U

                                                                          EACH '-' ABOVE =     0.0300
                                                                                      L=       0.0300
                                                                                      U=       0.4200

                                                                                           Q1=    0.050000
                                                                      VALUE   VALUE/S.E.   Q3=    0.230000
                                                         SKEWNESS      0.75         1.19   S-=    0.073534
                                                         KURTOSIS     -0.70        -0.55   S+=    0.271799

                                                                          EACH '.' BELOW =     0.0030
 S   Q                                                  Q         S
M-   1                  M          M                    3         +                                      M
I.......................E..........E.............................................................A
N                       D          A                                                                     X
                        I          N
```

		PERCENTS				PERCENTS				PERCENTS				PERCENTS	
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
0.03000	1	6.7	6.7	0.07000	1	6.7	40.0	0.15000	1	6.7	60.0	0.23000	1	6.7	80.0
0.04000	2	13.3	20.0	0.10000	1	6.7	46.7	0.18000	1	6.7	66.7	0.31000	2	13.3	93.3
0.05000	2	13.3	33.3	0.11000	1	6.7	53.3	0.21000	1	6.7	73.3	0.41000	1	6.7	100.0

OPTION 2 NUTRIENTS

```
 ************
 * RS       *
 ************
                                                  MAXIMUM          0.6900000
VARIABLE NUMBER . . . . . .          8            MINIMUM          0.0100000
NUMBER OF DISTINCT VALUES .         13            RANGE            0.6800000
NUMBER OF VALUES COUNTED. .         15            VARIANCE         0.0540114
NUMBER OF VALUES NOT COUNTED         5            ST.DEV.          0.2324036
                                                  (Q3-Q1)/2        0.1450000

LOCATION ESTIMATES                                   ST.ERROR
               MEAN              0.2060000           0.0600064
               MEDIAN            0.0700000           0.0548483
               MODE             NOT UNIQUE
```

```
                  H
                  H                    EACH 'H'
                  H                   REPRESENTS
                  H                       1
                  H                    COUNT(S)
                  H
                  H  H     H
                  H HHHH   H
                 L-------------U

      EACH '-' ABOVE =        0.0750
                  L=          0.0000
                  U=          0.9750

                                     Q1=     0.030000
         VALUE    VALUE/S.E.         Q3=     0.320000
SKEWNESS  1.11         1.76          S-=    -0.026403
KURTOSIS -0.18        -0.14          S+=     0.438403

      EACH '.' BELOW =        0.0075
```

```
S  Q                            Q          S
-  M 1   M            M         3          +                                  M
.....1.......E..............,..E...............................................A
     N   D            A                                                       X
         I            N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.010000	1	6.7	6.7	0.060000	1	6.7	46.7	0.240000	1	6.7	73.3	0.690000	1	6.7	100.0
0.020000	2	13.3	20.0	0.070000	1	6.7	53.3	0.320000	1	6.7	80.0				
0.030000	1	6.7	26.7	0.180000	1	6.7	60.0	0.440000	1	6.7	86.7				
0.050000	2	13.3	40.0	0.230000	1	6.7	66.7	0.480000	1	6.7	93.3				

OPTION 1 NUTRIENTS

```
 ************
 * TURBID   *
 ************
                                              MAXIMUM          2.0000000
VARIABLE NUMBER . . . . . . .       8         MINIMUM          0.0000000             H
NUMBER OF DISTINCT VALUES .         6         RANGE            2.0000000             H
NUMBER OF VALUES COUNTED. .        24         VARIANCE         0.1640380             H                  EACH 'H'
NUMBER OF VALUES NOT COUNTED       16         ST.DEV.          0.4050407             H                 REPRESENTS
                                              (Q3-Q1)/2        0.1000000             H                     2
                                                                                     H                  COUNT(S)
LOCATION ESTIMATES                                ST.ERROR                           HH
               MEAN                0.1833333    0.0826786                            HH
               MEDIAN              0.1000000    0.0288675                            HH H           H
               MODE                0.0000000                                        L----------------U

                                                                              EACH '-' ABOVE =      0.1500
                                                                                            L=      0.0000
                                                                                            U=      2.4000

                                                                                                 Q1=    0.0000000
                                                                             VALUE   VALUE/S.E.  Q3=    0.2000000
                                                              SKEWNESS        3.91        7.81   S-=   -0.22172
                                                              KURTOSIS       14.63       14.63   S+=    0.58837

                                                                              EACH '.' BELOW =      0.0200
      S          Q     Q                   S
      -          M   M M3                  +                                                          M
      ...........I....E...E.......................................................................A
                 N    D   A                                                                            X
                      I   N

                  PERCENTS                        PERCENTS                        PERCENTS                        PERCENTS
  VALUE    COUNT  CELL   CUM     VALUE    COUNT  CELL   CUM     VALUE    COUNT  CELL   CUM     VALUE    COUNT  CELL   CUM
  0.00000     9   37.5   37.5    0.20000     4   16.7   87.5    0.50000     1    4.2   95.8
  0.10000     8   33.3   70.8    0.30000     1    4.2   91.7    2.00000     1    4.2  100.0
--------------------------------------------------------------------------------------------------------------------
```

```
 OPTION 1 NUTRIENTS

  ************
  * CONDCORR *
  ************
                                                  MAXIMUM          5.0000000
VARIABLE NUMBER . . . . . . .         9           MINIMUM          0.0000000
NUMBER OF DISTINCT VALUES .           6           RANGE            5.0000000
NUMBER OF VALUES COUNTED. .          19           VARIANCE         2.5847960                                        EACH 'H'
NUMBER OF VALUES NOT COUNTED         21           ST.DEV.          1.6077300                                       REPRESENTS
                                                  (Q3-Q1)/2        1.5000000                  H                        1
                                                                                              HH H                   COUNT(S)
LOCATION ESTIMATES                                   ST.ERROR                                 HH H   H
                  MEAN               1.8421053     0.3688395                                  HH H H H
                  MEDIAN             2.0000000     0.3773506                                  HH H H H H
                  MODE               0.0000000                                               L---------------U

                                                                                       EACH '-' ABOVE =     0.5000
                                                                                                    L=      0.0000
                                                                                                    U=      8.0000

                                                                                                        Q1=     0.0000000
                                                                                    VALUE   VALUE/S.E.  Q3=     3.0000000
                                                                     SKEWNESS        0.42        0.74   S-=     0.234375
                                                                     KURTOSIS       -1.11       -0.98   S+=     3.449835

                                                                                       EACH '.' BELOW =     0.0500
             Q  S                                                    Q      S
             M  -                          M  M                      3      +                           M
             I.............................E..E.................................................................A
             N                             A  D                                                         X
                                           N  I

                      PERCENTS                          PERCENTS                          PERCENTS                          PERCENTS
   VALUE    COUNT  CELL   CUM      VALUE    COUNT  CELL   CUM      VALUE    COUNT  CELL   CUM      VALUE    COUNT  CELL   CUM
      0.        5  26.3  26.3         2.        4  21.1  68.4         4.        3  15.8  94.7
      1.        4  21.1  47.4         3.        2  10.5  78.9         5.        1   5.3 100.0
-----------------------------------------------------------------------------------------------------------------------------------
```

```
OPTION 1 NUTRIENTS

 ************
 * CL       *
 ************
                                                 MAXIMUM         0.5000000
VARIABLE NUMBER . . . . . . .        10          MINIMUM         0.0000000
NUMBER OF DISTINCT VALUES .           5          RANGE           0.5000000              H                          EACH 'H
NUMBER OF VALUES COUNTED. .          36          VARIANCE        0.0183492              H                          REPRESENTS
NUMBER OF VALUES NOT COUNTED          4          ST.DEV.         0.1354592              H                               3
                                                 (Q3-Q1)/2       0.0500000              HH                         COUNT(S)
LOCATION ESTIMATES                                   ST.ERROR                           HH
                 MEAN             0.0777778         0.0225765                           HH
                 MEDIAN           0.0000000         0.0288675                           HH   H H H
                 MODE             0.0000000                                            L---------------U

                                                                          EACH '-' ABOVE =        0.0500
                                                                                       L=        0.0000
                                                                                       U=        0.8000

                                                                                              Q1=    0.000000
                                                                    VALUE   VALUE/S.E.        Q3=    0.100000
                                                      SKEWNESS       2.13         5.21        S-=   -0.057681
                                                      KURTOSIS       3.58         4.39        S+=    0.21323

                                                                          EACH '.' BELOW =        0.0050
       S        Q                Q                      S
       -        M              M 3                      +                                                          M
       .........I..............E......................................................................A
                N              A                                                                                   X
                               N

                  PERCENTS                      PERCENTS                        PERCENTS                        PERCENTS
 VALUE    COUNT  CELL   CUM      VALUE   COUNT  CELL   CUM      VALUE   COUNT  CELL   CUM      VALUE   COUNT  CELL   CUM
 0.00000     21  58.3  58.3    0.30000       1   2.8  91.7    0.50000       2   5.6 100.0
 0.10000     11  30.6  88.9    0.40000       1   2.8  94.4
-------------------------------------------------------------------------------------------------------------------------
```

```
OPTION 2 NUTRIENTS

 ************
 * ALKTOT   *
 ************
                                          MAXIMUM        5.3000002                    H
VARIABLE NUMBER . . . . . . .   2         MINIMUM        0.0000000                    H
NUMBER OF DISTINCT VALUES .     7         RANGE          5.3000002                    H
NUMBER OF VALUES COUNTED. .    18         VARIANCE       1.4033989                    H          EACH 'H'
NUMBER OF VALUES NOT COUNTED    2         ST.DEV.        1.1846314                    H         REPRESENTS
                                          (Q3-Q1)/2      0.1000000                    H              1
                                                                                     HH          COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                             HH
                MEAN            1.1111112        0.2792250                           HH H
                MEDIAN          1.0000000        0.0288675                           HHHH     H
                MODE            1.0000000                                           L------------U

                                                                         EACH '-' ABOVE =     0.5000
                                                                                     L=       0.0000
                                                                                     U=       4.5000

                                                                                          Q1=    0.8000000
                                                                         VALUE  VALUE/S.E. Q3=   1.0000000
                                                          SKEWNESS        2.43      4.21   S-=  -0.0735402
                                                          KURTOSIS        6.39      5.54   S+=   2.2957625

                                                                         EACH '.' BELOW =     0.0500
      S                Q  Q                S
     -M                1  M M              +                                                       M
     .I..................F.E.....................................................................A
      N                   D A                                                                      X
                          I N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.0000	4	22.2	22.2	0.9000	2	11.1	38.9	1.5000	1	5.6	83.3	5.3000	1	5.6	100.0
0.8000	1	5.6	27.8	1.0000	7	38.9	77.8	1.8000	2	11.1	94.4				

OPTION 2 NUTRIENTS

```
 ************
 * ALKPH    *
 ************
                                              MAXIMUM         2.5999999          H
VARIABLE NUMBER . . . . . .        2          MINIMUM         0.0000000          H
NUMBER OF DISTINCT VALUES .        8          RANGE           2.5999999          H
NUMBER OF VALUES COUNTED. .       18          VARIANCE        0.6754575          H              EACH 'H'
NUMBER OF VALUES NOT COUNTED       2          ST.DEV.         0.8218622          H             REPRESENTS
                                              (Q3-Q1)/2       0.5000000          H                 1
                                                                                 H              COUNT(S)
LOCATION ESTIMATES                              ST.ERROR                         H   H
                 MEAN          0.5611112      0.1937148                          H   H
                 MEDIAN        0.0000000      0.2598077                          HHH H   HH  H
                 MODE          0.0000000                                        L-------------U

                                                                   EACH '-' ABOVE =        0.2000
                                                                                L=        0.0000
                                                                                U=        2.6000

                                                                                     Q1=    0.0000000
                                                                 VALUE   VALUE/S.E.  Q3=    1.0000000
                                                  SKEWNESS       1.25         2.16   S-=   -0.2607511
                                                  KURTOSIS       0.22         0.19   S+=    1.3829733

                                                                   EACH '.' BELOW =        0.0250
   S          Q                   M                   Q              S
   -          M                   E                   3              +                                              M
   ...........I...................E..............................................................................A
              N                   A                                                                                 X
                                  N
```

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0.0000	10	55.6	55.6	0.5000	1	5.6	66.7	1.0000	2	11.1	83.3	2.0000	1	5.6	94.4
0.3000	1	5.6	61.1	0.9000	1	5.6	72.2	1.8000	1	5.6	88.9	2.6000	1	5.6	100.0

OPTION 1 NUTRIENTS

```
 ************
 * PH       *
 ************
                                          MAXIMUM         0.0800000
VARIABLE NUMBER . . . . . .      2        MINIMUM         0.0000000
NUMBER OF DISTINCT VALUES .      6        RANGE           0.0800000
NUMBER OF VALUES COUNTED. .     27        VARIANCE        0.0005103
NUMBER OF VALUES NOT COUNTED    13        ST.DEV.         0.0225889
                                          (Q3-Q1)/2       0.0200000

LOCATION ESTIMATES                              ST.ERROR
               MEAN           0.0211111        0.0043472
               MEDIAN         0.0100000        0.0057735
               MODE           0.0000000
```

```
H
H                 EACH 'H'
HH                REPRESENTS
HH    H               1
HH    H           COUNT(S)
HH H H H
HH H H H     H
HH H H H     H
L-----------------U
```

```
EACH '-' ABOVE =      0.0050
            L=        0.0000
            U=        0.0800

                                              Q1=    0.00000
                         VALUE   VALUE/S.E.   Q3=    0.04000
SKEWNESS                  1.20      2.55      S-=   -0.001477
KURTOSIS                  0.90      0.95      S+=    0.043700

EACH '.' BELOW =      0.0008
```

```
S Q                                     Q   S
- M           M           M             3   +                                      M
..I...........E...........E.........................................................A
  N           D           A                                                         X
              I           N
```

VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM	VALUE	COUNT	PERCENTS CELL	PERCENTS CUM
0.000000	8	29.6	29.6	0.020000	3	11.1	63.0	0.040000	5	18.5	92.6				
0.010000	6	22.2	51.9	0.030000	3	11.1	74.1	0.080000	2	7.4	100.0				