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PREIMPOUNDMENT WATER QUALITY STUDY

SAYLORVILLE RESERVOIR, DES MOINES RIVER, IOWA

Contract DACW25-72-6-0008
Department of the Army
Rock Island District
Corps of Engineers

Project 993-S

ENGINEERING RESEARCH INSTITUTE
IOWA STATE UNIVERSITY
AMES, IOWA 50010 USA

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ANNUAL REPORT

**PREIMPOUNDMENT WATER
QUALITY STUDY**

**SAYLORVILLE RESERVOIR,
DES MOINES RIVER, IOWA**

E. Robert Baumann
Professor, Civil Engineering
Jon DeBoer
Research Assistant

Aug. 1, 1971 – July 31, 1972

Submitted to:
Department of the Army
Rock Island District
Corps of Engineers
Clock Tower Building
Rock Island, Illinois 61201

Contract DACW25-72-6-0008

ISU – ERI – AMES – 72262
Project 993-S



**SANITARY ENGINEERING SECTION
ENGINEERING RESEARCH INSTITUTE
IOWA STATE UNIVERSITY AMES**

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16. Abstract The Saylorville Dam and Reservoir, presently under construction will be located in the Reach of the Des Moines River between Boone and Saylorville, Iowa. The object of this study is to determine the existing water quality and its variations in the Saylorville Reservoir area under natural river conditions before completing construction and impounding water in the conservation storage pool.			
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INTRODUCTION

Construction of dams and reservoirs can cause some of the most serious changes in the aquatic environment. The impact of these changes needs to be studied to determine the future uses of our natural resources. In Iowa, the Rock Island District of the US Army Corps of Engineers is involved with three major river impoundments. The Coralville Dam and Reservoir on the Iowa River near Iowa City and the Red Rock Dam and Reservoir on the Des Moines River southeast of Des Moines have both been completed and are in full operation. The third reservoir, the Saylorville Dam and Reservoir on the Des Moines River northwest of Des Moines is presently under construction. The water quality changes that occur in these large impoundments and in their discharges are of interest for the effects they may have on fish and wildlife, recreation, water supply, and water quality. The object of this study is to determine the existing water quality and its variations in the Des Moines River prior to the completion of the Saylorville Dam and Reservoir and the impounding of water in the reservoir.

The Corps of Engineers has contracted with the Engineering Research Institute at Iowa State University to conduct the preimpoundment study.

PROJECT SCOPE

The major part of the study is the weekly sampling program conducted on the Des Moines River from Boone, Iowa, to Des Moines, Iowa. This program includes taking grab samples at four locations along the river and analyzing these samples for selected chemical, physical, and biological constituents. In addition, a fifth location was sampled regularly. This station, directly below the Red Rock Dam, was included as a special study to yield some insight into the expected water quality changes that will occur upon completion of the Saylorville Dam and Reservoir. The data are reported monthly and summarized in this annual report. Errors occurring in the monthly reports have been corrected in this report. Other data on precipitation and discharge have been obtained from the US Geological Survey and the US Weather Bureau for the Boone, Des Moines, and Lake Red Rock areas.

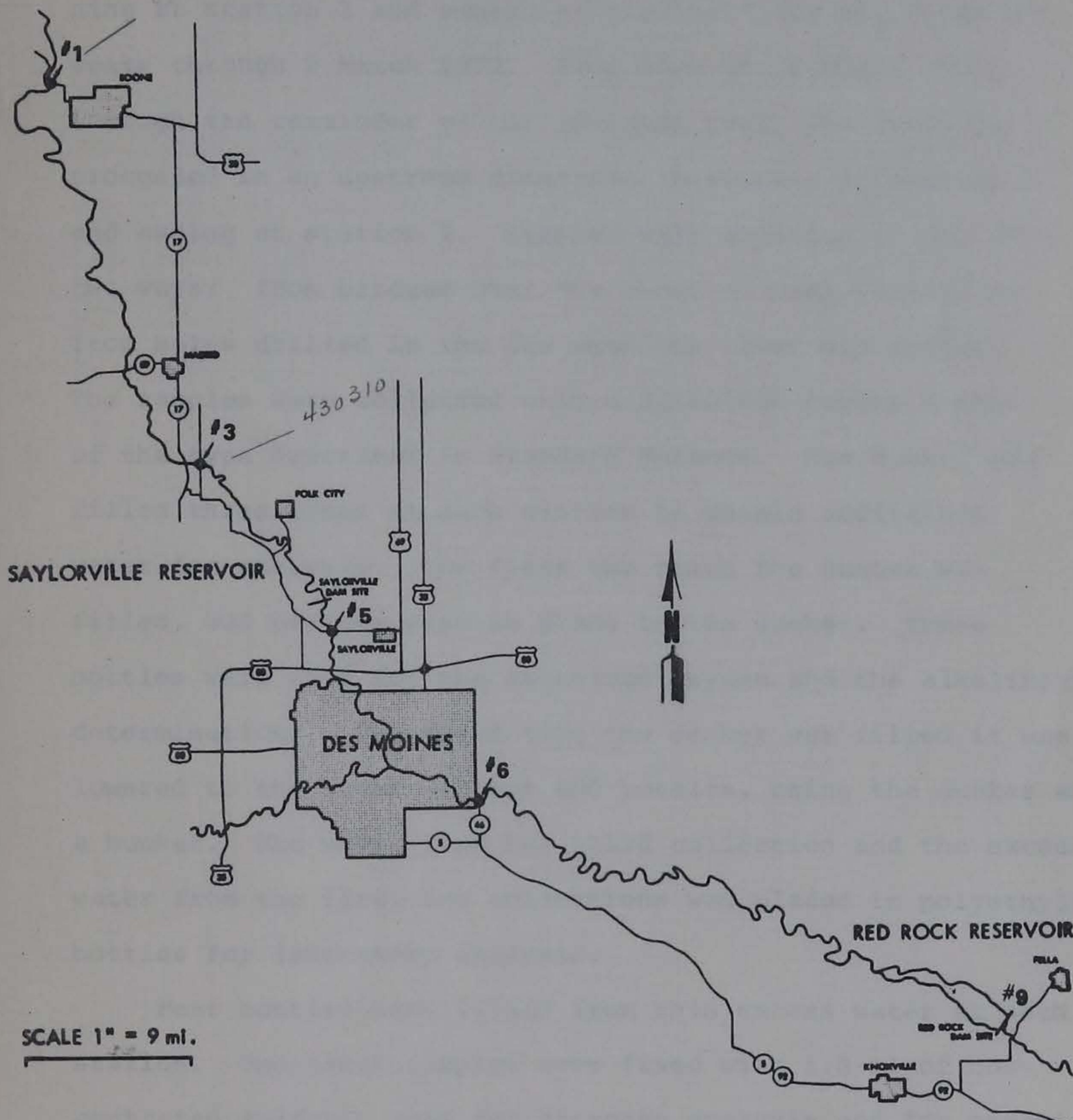
FIELD OPERATIONS

The four sampling stations specified in the original contract and the additional station below Red Rock are described in Table 1. Figure 1 shows the location of each sampling station.

Since the beginning of this series of contracts, some of the stations have been added or dropped from the regular sampling program. To facilitate easier reporting of the data, permanent station numbers have been assigned to each location. The station numbers used in this report are the original numbers assigned to the locations and do not correspond to the numbers in the original contract document where the stations are numbered 1 through 4.

Table 1. Description of sampling stations.

Station	Description
1430380	2 mi northwest of Boone, Iowa, County Road H, Boone Co.
3430310	5 mi southeast of Madrid, Iowa, County Road X, Polk Co.
5 430070	2 mi east of Camp Dodge below Saylorville Dam, 66th St. Bridge, Polk Co.
6 420780	State Route 46 bridge, 2 mi north of State Route 5, Des Moines, Iowa
9 420150	1/2 mi southeast of Red Rock Dam, County Road T15, Marion Co.



LOCATION MAP FOR SAMPLE POINTS ON DES MOINES RIVER

Figure 1

SAMPLING METHODS

Sampling proceeded in the downstream direction beginning at station 1 and ending at station 9 for the first 33 weeks through 2 March 1972. From week 34 (8 March 1972) through the remainder of the contract year, the sampling proceeded in an upstream direction, beginning at station 9 and ending at station 1. Samples were obtained in one of two ways: from bridges over the river at each station or from holes drilled in the ice when the river was frozen. The samples were collected with a dissolved oxygen dunker of the type described in Standard Methods. The dunker was filled three times at each station to obtain sufficient water for analysis. The first two times the dunker was filled, BOD bottles were in place in the dunker.. These bottles were used for the dissolved oxygen and the alkalinity determinations. The third time the dunker was filled it was lowered to the water without EOD bottles, using the dunker as a bucket. The water from the third collection and the excess water from the first two collections was placed in polyethylene bottles for laboratory analysis.

Four bottles were filled from this excess water at each station. One-liter samples were fixed with 1.0 ml of concentrated sulfuric acid for nitrogen analysis and for organic carbon analysis. Five hundred milliliter samples were taken for plankton counting, and 50.0 ml samples were taken in sterile, glass bottles for bacteriological examination.

Four-liter samples were taken for the remainder of the analyses.

Field Analyses

Certain parameters may change if the sample is held for several hours before analysis. For this reason, the van used for sampling has been equipped with chemical testing equipment. The parameters that are analyzed in the field are temperature, pH, carbon dioxide, alkalinity, dissolved oxygen and calcium and total hardness.

LABORATORY ANALYSES

Analytical Methods

Table 2 lists the source and method of analysis for each parameter analyzed. Changes were made in the tests for organic and ammonia nitrogen on 26 April 1972 and for nitrate nitrogen on 3 May 1972. The changes were made to include the use of a Technicon Auto-analyzer in the analysis. Precision and accuracy of the tests are discussed in the reference source.

Laboratories Used

The Analytical Services Laboratory of the Engineering Research Institute performed all of the laboratory analyses except the plankton analyses which were performed at the Water Quality Laboratory at the University of Iowa Water Plant. These samples were sent by overnight parcel shipment.

Table 2. Methods of analysis of water quality parameters,
Saylorville Reservoir preimpoundment studies.

Parameter	Method	Reference
1. Temperature	Mercury-filled centigrade ther- mometer, - 20 to + 110°C	SMEWW ¹ , p.348
2. Turbidity	Hach turbidimeter	Hach Chem.Co.
3. pH	Electrometrically	SMEWW, p.276
4. Dissolved oxygen	Winkler, azide modification	SMEWW, p.474
5. Carbon dioxide	Titrimetric	SMEWW, p.86
6. Chemical oxy- gen demand	Dichromate reflux	SMEWW, p.495
7. Organic nitrogen	Kjeldahl, Phenate Method automated	MCAWW ² , p.157
8. Ammonia nitrogen	Phenate Method automated	SMEWW, p.232 MCAWW, p.141
9. Nitrite nitrogen	1-naphthylamine- sulfanilic acid method, automated	Hach Chem.Co. Catalog 10 ³ , p.42
10. Nitrate nitrogen	Cadmium reduction method with 1- naphthylamine-sul- fanilic acid, auto- mated	Hach Chem.Co. Catalog 10, p.41
11. Orthophosphate	Ascorbic acid, Molydate	SMEWW, p.532 AAII-94/70
12. Biochemical oxygen demand	Incubation, 20 °C, 5 days	SMEWW, p.489
13. Phytoplankton	Centrifugation, Whipple micrometer and Sedgwick-Rafter cell	SMEWW, p.726

Table 2. (Continued)

Parameter	Method	Reference
14. Fecal coliform	Membrane filter	SMEWW, p.684
15. Total solids	Evaporation and weighing	SMEWW, p.287
16. Volatile solids	Ignition and weighing	SMEWW, p.538
17. Phenolphthalein alkalinity	Electrometric titration	SMEWW, p.52
18. Total alkalinity	Electrometric titration using a pH meter	SMEWW, p.52
19. Total carbon	Addition of inorganic and organic carbon	
20. Inorganic carbon	Alkalinity computations	SMEWW, p.52
21. Total organic carbon	Combustion-Infrared	SMEWW, p.257
22. Chlorides	ASTM designation: D 512-67	ASTM ⁴ (1967 Ed.) p.25 Method C
23. Total hardness	EDTA titration	Diehl ⁵ ,p.13
24. Calcium hardness	EDTA titration	Diehl, p.24-25
25. Iron	1, 10-phenanthroline colorimetric method	Hach Chem.Co. Catalog 10, p.36
26. Silica	Molybdate colorimetric method	SMEWW, p.303
27. Total phosphorus	Perchloric acid digestion vanadomolydate complex	SMEWW, p.527

DISCUSSION OF DATA

A summary of certain water quality parameters is included here. Since station 6 is directly downstream from Des Moines and station 9 is directly downstream from the Red Rock Reservoir, the data from these stations often vary widely from the data of the three upstream stations.

Water Temperature

The water temperature ranged from 1.0 °C on 5 January and 26 January 1972 to 38.0 °C on 24 August 1971 at station 6. For the other four stations the range was from 0°C at station 3 on 26 January 1972 to 27.0 °C at several stations during several weeks in June, July, and August. Station 6 is located downstream from Des Moines and directly downstream from the Iowa Power and Light Company plant. The high temperatures recorded at this station show the influence these have on the river water temperature.

Turbidity

Turbidity ranged from 2 JTU's (Jackson Turbidimeter Units) to 80 JTU's. The turbidity was highest during the periods of high flow and the peaks in the turbidity correspond on a one-to-one basis with the increases in discharge. Station 9 generally had lower turbidities because of its location directly below the Red Rock Reservoir. ✓

Dissolved Oxygen

The dissolved oxygen concentration of a stream is

influenced by three main factors: the temperature of the water, which determines the solubility of dissolved oxygen; the algal productivity, which determines oxygen through photosynthesis; and the oxygen demand, which reduces the oxygen concentration of the water. The dissolved oxygen ranged from a low of 3.5 on 24 August 1971 to a high of 19.5 on 26 January 1972. The lowest reading coincides with the warmest water temperature recorded, but it was also taken at 7:30 A.M. CST on 24 August 1971. Except for that one low value, the dissolved oxygen concentration at the time of sampling remained above 5.35 mg/l throughout the year. The highest value recorded was found at station 9, below Red Rock, on 26 January 1972. The water temperature at that point was 1.5 °C. The warm weather average was about 9.0 mg/l, and the cold weather average was about 13.0 mg/l dissolved oxygen. Since the relative time at which each sample was taken was changed at week 33, the relative amounts of dissolved oxygen at each station were also changed. The greatest change can be seen in stations 1 and 9.

Carbon Dioxide and pH

The pH and the carbon dioxide present in the water are influenced by the algal activity, among other factors. The carbon dioxide is determined by titration with a standardized base. The highest concentration of carbon dioxide was 46.7 mg/l, found on 3 May, 1972 during a high

water period. The pH varied from 6.65 to 8.99 pH units. The low value of pH coincided with the high value of carbon dioxide.

Chemical Oxygen Demand

The chemical oxygen demand varied from a low of 9.4 mg/l on 24 February 1972 to a high of 116.3 on 7 June 1972. During high flow periods, the chemical oxygen demand rose but was found to be above 60.0 mg/l only 15 times out of 254 samples, or 6% of the time.

Organic Nitrogen

Organic nitrogen was found as high as 2.18 mg/l as N during the spring snow melt. Later spring wet periods with high flows had very low organic nitrogen. This indicates the organic nitrogen contributed from surface runoff was a large factor during the initial snow melt when the ground was still frozen, but later high flows did not contain this large contribution from surface runoff.

Ammonia Nitrogen

The ammonia nitrogen varied from 0 to 2.88 mg/l as N. With the exception of station 6, the ammonia nitrogen levels stayed below 0.9 mg/l as N from July through January and from April through July. During the months of February and March the level rose to about 1.5 mg/l as N. After the spring thaw the concentration fell back to approximately 0.5 mg/l. Station 6 concentrations were much higher than the other

stations from July through February. Station 6 had four consecutive weeks with an ammonia concentration above 20 mg/l. 2.0 mg/l. The other four stations had only one sample above 2.0 mg/l. The high levels came during February when ice cover prevented the escape of ammonia to the atmosphere and biological activity was at its lowest.

Nitrite Nitrogen

In water containing oxygen, nitrite nitrogen is readily converted to nitrate nitrogen. Therefore, it is seldom present in more than minute quantities. An exception to this is observed in the lower levels of lakes and reservoirs where there is very little oxygen present. Below the Red Rock Reservoir the nitrite concentration reached a high of 0.59 mg/l as N and was above 0.1 mg/l for at least four weeks in July and August 1971 and for two weeks in July 1972.

Nitrate Nitrogen

Nitrate is one of the major nutrients of algae. It is also associated with an infant toxemia when present in high concentrations (greater than 10 mg/l as N). The nitrate concentration ranged between 0 and 13.3 mg/l as N. As the algal activity increases, much of the nitrate is removed from the water and the levels are low. During the winter, when algae are suppressed, the nitrate concentration rises above 10 mg/l.

Orthophosphates

The orthophosphate concentration ranged from 0 to 3.9 mg/l as $\text{PO}_4^{=}$. The levels of orthophosphate were usually below 1.0 mg/l. Orthophosphates are removed from the water by algal production, and are lower during periods of high productivity. Station 6, below Des Moines, is an exception, and the concentration of orthophosphate at this point varied widely. The variations in concentration did not correspond to the temperature or flow rate (two factors which influence algal activity) nor did they correspond to the algae population at that point.

Total Phosphorous

Total phosphorous reacted in a way similar to the orthophosphorous levels. The highest value recorded was 5.2 mg/l as $\text{PO}_4^{=}$. Station 6, below Des Moines, was higher than the other stations for most of the sampling dates.

Biochemical Oxygen Demand

The BOD ranged from 1.2 mg/l to 29.3 mg/l. On 8 March 1972, however, stations 1, 3, and 6 reported 29.0 mg/l BOD, and stations 5 and 9 reported 29.3 and 28.9 mg/l, respectively. The BOD test bottles were completely devoid of oxygen after 5 days at 20 °C, for stations 1, 3, and 6, and there was almost no oxygen in the bottles for stations 5 and 9; the reported value is at least 28.9 mg/l. The actual values were not determinable, but the data were left in this report because they are the highest concentrations found

during the entire year. This period is also during spring flood from snow melt. With the exception of that week, the highest concentration found was 20.7 mg/l BOD.

Fecal Coliforms

The fecal coliform counts ranged from 0 to 84,000 organisms/100 ml. Stations 1, 3, 5, and 9 generally ranged from 0 to 500 organisms/100 ml, with a few samples between 500 and 2500 organisms/100 ml. On 19 April 1972, station 3 reached a high for these four stations of 9300 organisms/100 ml. Station 6 was generally higher than the other four stations with very large differences in the summer and fall of 1971. The variation from week to week was great at this point but the trend shows the influence of Des Moines on the river. The highest value recorded was found at station 6.

Solids

The concentration of total, fixed, and volatile solids is dependent upon the organic constituents of the water and on the suspended and dissolved minerals in the water. The organic or volatile portion is variable from week to week, but does not show the high peaks that fixed solids have. During high flow periods, large quantities of suspended solids are washed into the river, giving very high solids concentrations. These high levels correspond to the peak turbidities during these high flow periods. The highest concentration of solids found was 1527 mg/l total solids on 14 June 1972.

Alkalinity

The alkalinity of water is a measurement of the carbonate and bicarbonate ions in the water. At the pH's found in the Des Moines River, the majority of the alkalinity is in the bicarbonate state. The total alkalinity ranged from 102 mg/l to 368 mg/l as CaCO_3 . The low values were found during spring snow melt and summer rainy periods, and the higher values were found when the principal flow was base flow.

Total Carbon

Total carbon is made up of two fractions, organic carbon and inorganic carbon. Since these two fractions vary independently, the variation in total carbon is complex. The range of total carbon results is from 35.0 to 93.0 mg/l as C.

Inorganic Carbon

The inorganic carbon is the carbon present as carbonates and bicarbonates and is calculated from the alkalinity measurements. Therefore, when the alkalinity is high, the inorganic carbon is also high. The inorganic carbon varied from 24.0 to 88.0 mg/l as C.

Organic Carbon

The organic carbon is influenced by the amount of organic material dumped or washed into the stream and by the amount of organic production occurring in the stream. The highest concentrations of organic carbon came during the high

flow periods and is associated with surface runoff. The highest value reported was 44.0 mg/l as C on 8 March 1972, and on 7 June 1972. This corresponds with the high values for chemical oxygen demand, a similar measurement.

Phytoplankton

Plankton populations are influenced by a number of factors. Flow rate, water temperature, amount of sunlight present, and the amounts of essential nutrients are some of these factors. The way the plankton will respond to a change in any one factor will depend upon the conditions of the other factors. But in general cold weather conditions will cause the plankton population to decline because growth is suppressed under these conditions.

The algal populations varied from 100 organisms/ml in the winter to a springtime high of 212,400 organisms/ml. Other summer peaks ranged up to 160,000 organisms/ml. Green algae and diatoms were the predominant divisions throughout the year. Blue-green algae were present in significantly large numbers from mid July to the end of August 1971 and from mid June to mid July 1972. Flagelate organisms were more variable throughout the year with the highest concentration on 19 April 1972 with 11,000 organisms/ml present.

During the winter months, diatoms were the only division of organisms that were present in large quantities, with the green algae absent or in very small numbers, as were the blue-green algae and the flagelate organisms.

ACKNOWLEDGMENTS

The authors wish to express their appreciation to the Rock Island District Corps of Engineers, for supporting this work under contract with the Engineering Research Institute. The cooperation of Colonel James E. Bunch, District Engineer of the Rock Island District Corps of Engineers, was especially helpful during the course of the water quality study.

The field and laboratory studies were made by Engineering Research Institute personnel under the supervision of the principal investigator. The following personnel contributed significantly to the successful development of the investigations: Dr. C.S. Oulman (Associate Professor of Civil Engineering), Robert Schuler (Supervisor, Analytical Laboratory, Engineering Research Institute), Dr. Donald B. Mc Donald (Associate Professor of Civil Engineering, University of Iowa), and many chemical technicians employed on a part time basis.

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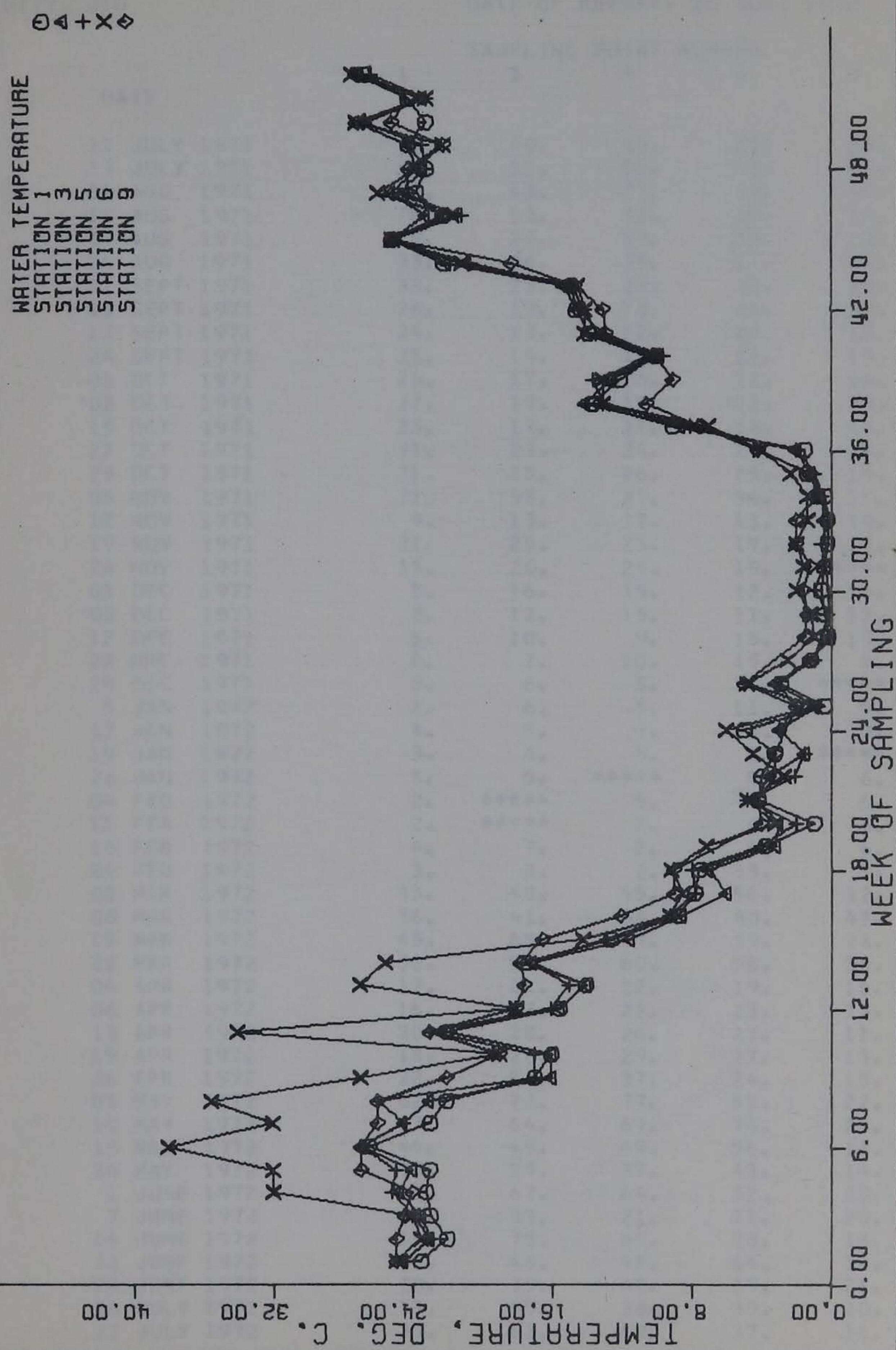
APPENDIX A. TABLES AND PLOTS, REQUIRED ANALYSES

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

TEMPERATURE, DEG. CENTIGRADE

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	23.5	24.5	24.5	25.0	25.0
2	27 JULY 1971	22.0	23.0	23.0	23.5	25.0
3	04 AUG 1971	23.0	23.5	24.0	24.0	24.5
4	11 AUG 1971	23.2	24.8	25.2	32.0	24.0
5	17 AUG 1971	23.0	24.0	25.0	32.0	27.0
6	24 AUG 1971	26.5	27.0	27.0	38.0	27.0
7	01 SEPT 1971	23.0	24.5	24.5	32.0	26.0
8	10 SEPT 1971	22.0	23.0	26.0	35.5	26.0
9	17 SEPT 1971	17.0	16.0	17.0	27.0	22.0
10	24 SEPT 1971	16.0	16.0	17.0	19.0	19.0
11	01 OCT 1971	22.0	22.0	23.0	34.0	23.0
12	08 OCT 1971	15.5	15.5	16.0	18.0	18.0
13	15 OCT 1971	14.0	14.0	15.0	27.0	17.5
14	22 OCT 1971	17.5	17.1	17.2	25.5	17.8
15	29 OCT 1971	12.6	11.5	12.8	14.2	16.5
16	05 NOV 1971	8.7	8.5	9.2	9.2	12.0
17	12 NOV 1971	7.8	6.0	7.8	8.5	9.0
18	19 NOV 1971	7.5	7.0	7.9	9.1	9.0
19	24 NOV 1971	3.8	3.2	4.0	7.1	*****
20	01 DEC 1971	1.0	3.0	2.0	3.2	4.0
21	08 DEC 1971	4.2	4.4	4.8	4.8	4.2
22	12 DEC 1971	4.0	3.5	2.1	2.7	3.2
23	22 DEC 1971	3.2	1.5	1.5	4.5	3.2
24	29 DEC 1971	5.0	3.0	3.0	6.0	*****
25	5 JAN 1972	0.4	0.9	2.0	1.0	2.0
26	12 JAN 1972	2.9	3.2	3.2	4.8	5.0
27	19 JAN 1972	1.2	1.2	1.0	2.5	*****
28	26 JAN 1972	0.2	0.0	*****	1.0	1.5
29	04 FEB 1972	0.4	*****	0.2	1.2	1.4
30	11 FEB 1972	0.6	*****	1.0	2.0	1.6
31	16 FEB 1972	0.4	0.3	0.4	1.6	1.2
32	24 FEB 1972	0.2	*****	0.6	2.0	2.0
33	02 MAR 1972	0.2	0.4	0.2	1.4	2.0
34	08 MAR 1972	0.4	0.6	0.6	1.4	0.8
35	15 MAR 1972	1.4	1.2	1.0	2.3	1.2
36	22 MAR 1972	1.5	2.0	2.0	4.0	4.2
37	04 APR 1972	9.0	8.5	8.0	7.0	7.5
38	06 APR 1972	13.5	14.0	13.0	13.0	10.5
39	13 APR 1972	12.0	12.5	13.5	13.0	9.0
40	19 APR 1972	10.0	10.0	9.5	10.5	10.0
41	26 APR 1972	13.8	13.0	13.4	14.0	12.8
42	03 MAY 1972	14.5	14.5	14.0	14.0	13.0
43	10 MAY 1972	14.8	15.2	14.8	14.4	14.6
44	16 MAY 1972	22.0	21.8	20.5	21.0	18.2
45	26 MAY 1972	25.0	25.0	25.0	25.0	25.0
46	1 JUNE 1972	22.0	23.0	21.0	21.5	22.0
47	7 JUNE 1972	23.5	25.0	24.6	25.8	24.0
48	14 JUNE 1972	23.0	23.5	23.0	23.5	24.0
49	22 JUNF 1972	24.0	24.0	23.2	22.0	22.0
50	28 JUNE 1972	23.0	27.0	26.5	27.0	25.0
51	06 JULY 1972	24.0	23.2	23.0	23.0	24.0
52	12 JULY 1972	26.5	26.8	26.2	27.2	27.0



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

TURBIDITY, JTU

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	32.	40.	45.	21.	25.
2	27 JULY 1971	40.	52.	56.	43.	35.
3	04 AUG 1971	45.	43.	27.	43.	47.
4	11 AUG 1971	29.	33.	32.	38.	18.
5	17 AUG 1971	29.	27.	27.	32.	12.
6	24 AUG 1971	33.	26.	25.	27.	12.
7	01 SEPT 1971	33.	23.	22.	23.	10.
8	10 SEPT 1971	26.	19.	18.	24.	13.
9	17 SEPT 1971	24.	13.	12.	20.	15.
10	24 SEPT 1971	25.	14.	17.	22.	15.
11	01 OCT 1971	25.	17.	16.	22.	14.
12	08 OCT 1971	27.	19.	19.	22.	19.
13	15 OCT 1971	23.	17.	21.	18.	15.
14	22 OCT 1971	31.	23.	24.	27.	11.
15	29 OCT 1971	21.	25.	26.	25.	19.
16	05 NOV 1971	21.	33.	37.	34.	11.
17	12 NOV 1971	9.	13.	12.	13.	10.
18	19 NOV 1971	21.	25.	25.	19.	18.
19	24 NOV 1971	13.	20.	24.	19.	*****
20	01 DEC 1971	8.	16.	15.	12.	16.
21	08 DEC 1971	8.	12.	15.	11.	13.
22	12 DEC 1971	5.	10.	9.	15.	15.
23	22 DEC 1971	8.	7.	10.	15.	8.
24	29 DEC 1971	8.	6.	5.	11.	*****
25	5 JAN 1972	2.	6.	5.	11.	9.
26	12 JAN 1972	3.	5.	7.	8.	9.
27	19 JAN 1972	3.	4.	5.	6.	*****
28	26 JAN 1972	3.	5.	*****	9.	6.
29	04 FEB 1972	2.	*****	5.	9.	6.
30	11 FEB 1972	2.	*****	2.	6.	5.
31	16 FEB 1972	4.	7.	2.	6.	6.
32	24 FEB 1972	3.	2.	2.	33.	5.
33	02 MAR 1972	33.	40.	45.	56.	12.
34	08 MAR 1972	36.	41.	54.	80.	43.
35	15 MAR 1972	45.	68.	77.	59.	28.
36	22 MAR 1972	52.	58.	60.	58.	38.
37	04 APR 1972	17.	21.	22.	19.	16.
38	06 APR 1972	16.	22.	22.	23.	13.
39	13 APR 1972	20.	28.	26.	27.	11.
40	19 APR 1972	18.	28.	29.	27.	13.
41	26 APR 1972	22.	33.	37.	24.	15.
42	03 MAY 1972	62.	72.	77.	55.	22.
43	10 MAY 1972	57.	64.	69.	74.	25.
44	16 MAY 1972	44.	45.	49.	56.	12.
45	26 MAY 1972	38.	39.	37.	43.	14.
46	1 JUNE 1972	65.	67.	64.	52.	20.
47	7 JUNE 1972	59.	33.	21.	71.	20.
48	14 JUNE 1972	59.	75.	69.	28.	16.
49	22 JUNF 1972	40.	46.	48.	64.	34.
50	28 JUNF 1972	28.	39.	40.	39.	21.
51	06 JULY 1972	33.	40.	38.	39.	20.
52	12 JULY 1972	57.	62.	69.	37.	16.

□▲+X◊

RIVER TURBIDITY
STATION 1
STATION 3
STATION 5
STATION 6
STATION 8

TURBIDITY, JTU
($\times 10^3$)

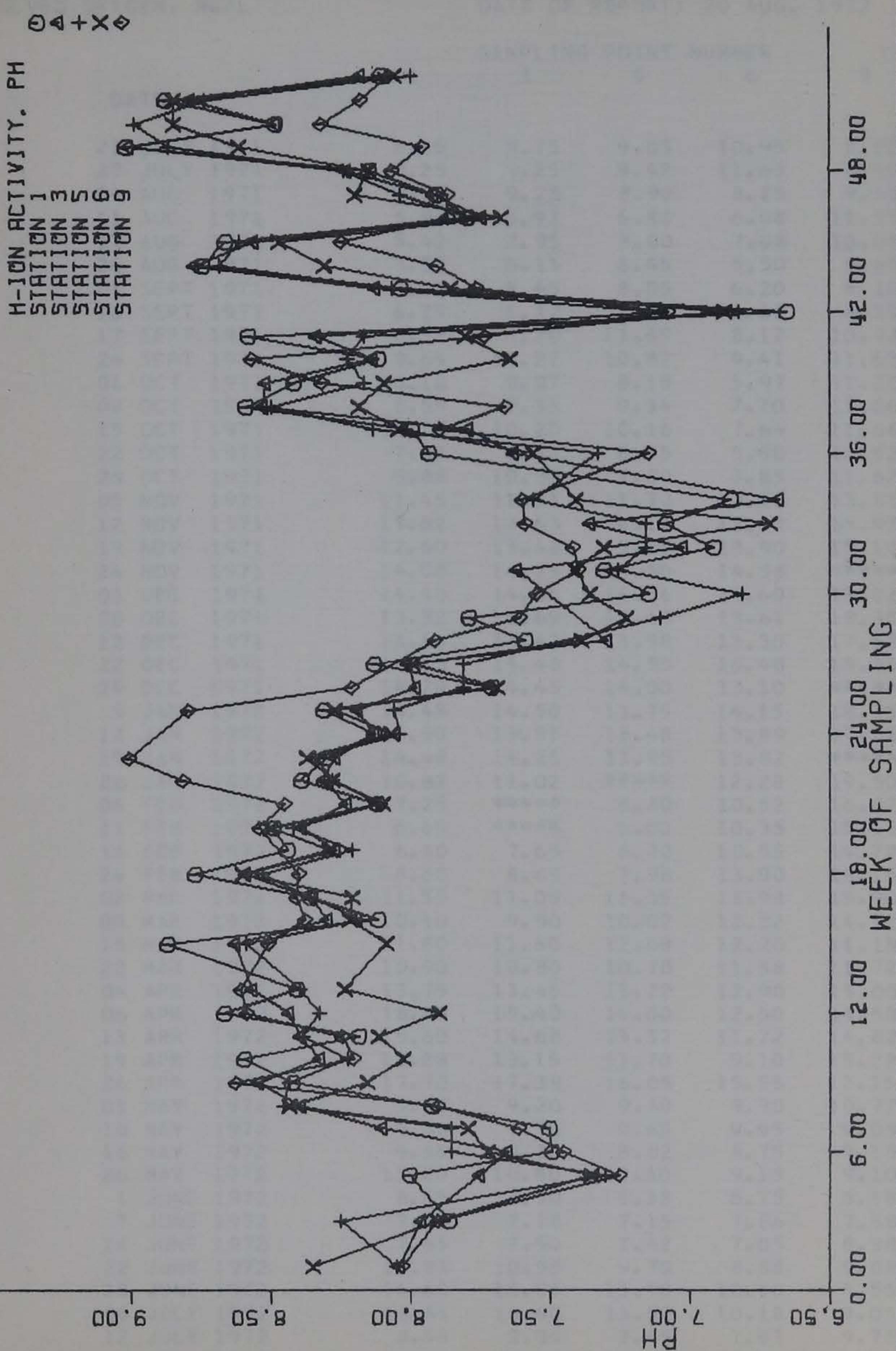
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DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

PH

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	*****	8.04	8.05	8.35	8.03
2	27 JULY 1971	*****	*****	*****	*****	*****
3	04 AUG 1971	7.86	7.96	8.25	7.90	7.90
4	11 AUG 1971	*****	*****	*****	*****	*****
5	17 AUG 1971	8.00	7.75	7.30	7.35	7.25
6	24 AUG 1971	7.49	7.65	7.85	7.72	7.45
7	01 SEPT 1971	7.50	8.10	7.85	7.79	7.61
8	10 SEPT 1971	7.92	8.39	8.45	8.43	7.90
9	17 SEPT 1971	8.42	8.54	8.43	8.15	8.62
10	24 SEPT 1971	8.59	8.32	8.22	8.02	8.20
11	01 OCT 1971	8.18	8.39	8.38	8.11	8.24
12	08 OCT 1971	8.66	8.43	8.32	7.89	8.58
13	15 OCT 1971	8.40	8.56	8.39	8.23	8.60
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	8.86	8.62	8.58	8.08	8.50
16	05 NOV 1971	8.11	8.29	8.17	8.21	8.37
17	12 NOV 1971	8.35	8.35	8.35	8.20	8.40
18	19 NOV 1971	8.76	8.58	8.52	8.59	8.39
19	24 NOV 1971	8.43	8.26	8.20	8.28	*****
20	01 DEC 1971	8.48	8.38	8.41	8.49	8.53
21	08 DEC 1971	8.11	8.22	8.10	8.09	8.44
22	12 DEC 1971	8.38	8.30	8.27	8.27	8.80
23	22 DEC 1971	8.29	8.26	8.33	8.36	8.99
24	29 DEC 1971	8.12	8.12	8.03	8.06	*****
25	5 JAN 1972	8.30	8.18	8.05	8.26	8.78
26	12 JAN 1972	7.70	7.97	7.80	7.68	8.20
27	19 JAN 1972	8.12	8.00	7.80	7.98	*****
28	26 JAN 1972	7.58	7.29	*****	7.38	7.90
29	04 FEB 1972	7.78	*****	7.10	7.22	7.60
30	11 FEB 1972	7.14	*****	6.81	7.35	7.54
31	16 FEB 1972	7.30	7.61	7.25	7.40	7.39
32	24 FEB 1972	6.91	7.02	7.15	7.30	7.41
33	02 MAR 1972	7.08	7.35	7.15	6.71	7.58
34	08 MAR 1972	6.85	6.68	7.55	7.40	7.59
35	15 MAR 1972	*****	*****	*****	*****	*****
36	22 MAR 1972	7.92	7.62	7.32	7.55	7.14
37	04 APR 1972	7.98	7.78	8.12	8.03	7.88
38	06 APR 1972	8.57	8.51	8.48	8.17	7.65
39	13 APR 1972	8.40	8.50	8.15	8.08	8.30
40	19 APR 1972	8.10	8.12	8.21	7.63	8.55
41	26 APR 1972	8.56	8.32	8.15	7.79	7.72
42	03 MAY 1972	6.65	7.09	6.82	6.87	7.07
43	10 MAY 1972	8.02	8.11	8.05	7.84	7.75
44	16 MAY 1972	8.72	8.75	8.66	8.29	7.89
45	26 MAY 1972	8.64	8.54	8.59	8.45	8.23
46	1 JUNE 1972	7.78	7.73	7.76	7.66	7.85
47	7 JUNE 1972	7.89	7.90	8.02	8.18	7.85
48	14 JUNE 1972	8.13	8.21	8.22	8.13	8.05
49	22 JUNE 1972	8.99	8.98	8.84	8.59	7.94
50	28 JUNE 1972	8.46	8.46	8.96	8.82	8.30
51	06 JULY 1972	8.85	8.76	8.71	8.82	8.16
52	12 JULY 1972	8.09	8.16	7.98	8.04	8.06



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

DISSOLVED OXYGEN, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	8.15	8.75	9.05	10.95	8.00
2	27 JULY 1971	8.25	9.25	9.42	11.65	8.40
3	04 AUG 1971	9.90	9.25	8.90	8.25	9.55
4	11 AUG 1971	5.90	6.92	6.88	6.08	11.35
5	17 AUG 1971	5.42	7.95	8.00	7.08	10.08
6	24 AUG 1971	3.50	6.15	6.45	5.50	8.65
7	01 SEPT 1971	5.35	8.45	8.05	6.20	8.10
8	10 SEPT 1971	6.79	8.12	8.75	6.60	8.35
9	17 SEPT 1971	8.33	9.70	11.69	8.12	10.72
10	24 SEPT 1971	9.64	10.27	10.82	9.41	11.63
11	01 OCT 1971	6.10	8.07	8.18	5.97	11.20
12	08 OCT 1971	8.59	9.33	9.34	7.70	11.86
13	15 OCT 1971	11.25	10.20	10.16	7.64	11.66
14	22 OCT 1971	7.92	8.85	8.75	5.90	10.52
15	29 OCT 1971	9.88	10.30	9.80	7.85	11.62
16	05 NOV 1971	11.45	11.51	11.72	12.12	13.81
17	12 NOV 1971	13.62	13.63	14.11	13.60	15.95
18	19 NOV 1971	12.60	13.48	13.85	13.90	15.10
19	24 NOV 1971	14.08	14.25	14.50	14.58	*****
20	01 DEC 1971	14.40	14.46	14.56	14.60	18.02
21	08 DEC 1971	13.32	13.69	13.63	13.61	18.35
22	12 DEC 1971	13.68	13.42	13.58	13.30	17.68
23	22 DEC 1971	14.15	14.48	14.85	14.48	18.95
24	29 DEC 1971	14.28	14.45	14.00	13.10	*****
25	5 JAN 1972	14.48	14.50	13.75	14.15	18.75
26	12 JAN 1972	13.90	13.85	13.48	13.89	17.52
27	19 JAN 1972	14.48	14.25	13.95	13.82	*****
28	26 JAN 1972	10.82	11.02	*****	12.28	19.50
29	04 FEB 1972	7.25	*****	5.80	10.52	16.02
30	11 FEB 1972	6.65	*****	6.00	10.35	15.18
31	16 FEB 1972	6.30	7.65	6.22	10.55	14.72
32	24 FEB 1972	8.60	8.65	7.98	13.00	18.15
33	02 MAR 1972	11.55	11.05	11.35	11.98	15.90
34	08 MAR 1972	10.10	9.90	10.02	12.32	14.12
35	15 MAR 1972	11.80	11.60	12.08	12.20	11.15
36	22 MAR 1972	10.90	10.80	10.70	11.38	11.72
37	04 APR 1972	13.75	13.45	13.22	12.90	15.00
38	06 APR 1972	16.65	15.40	14.00	12.50	14.58
39	13 APR 1972	15.60	14.68	13.32	11.72	14.82
40	19 APR 1972	13.28	13.15	11.70	9.10	15.22
41	26 APR 1972	17.70	17.38	16.05	15.35	12.15
42	03 MAY 1972	9.30	9.20	9.30	9.30	10.72
43	10 MAY 1972	9.80	9.70	9.65	9.95	9.05
44	16 MAY 1972	9.55	9.30	8.82	8.75	9.15
45	26 MAY 1972	11.20	10.80	10.60	9.15	9.10
46	1 JUNE 1972	8.65	8.50	8.38	8.75	8.18
47	7 JUNE 1972	7.69	7.18	7.15	7.86	7.58
48	14 JUNE 1972	7.45	7.50	7.42	7.05	8.38
49	22 JUNE 1972	10.82	10.55	9.70	8.88	9.08
50	28 JUNE 1972	16.60	15.95	13.98	10.50	8.55
51	06 JULY 1972	13.85	14.60	13.52	10.18	9.05
52	12 JULY 1972	8.55	8.30	7.45	7.82	9.78

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DISSOLVED OXYGEN

STATION 1
STATION 3
STATION 5
STATION 6
STATION 9

D.O., MG/L

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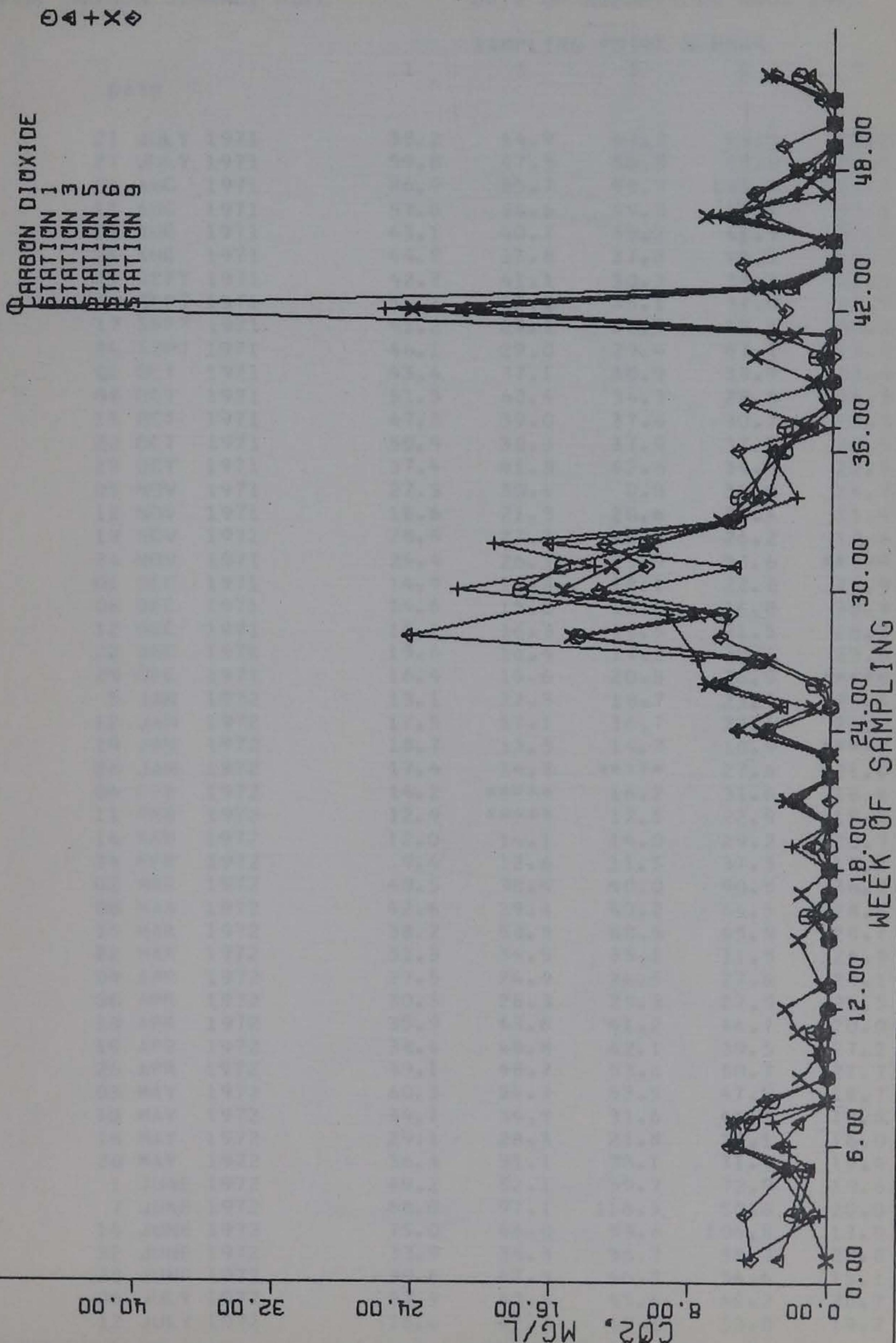
STATION 1, STATION 3, STATION 5, STATION 6, STATION 9

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

CARBON DIOXIDE, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	*****	2.7	4.7	0.0	4.3
2	27 JULY 1971	*****	*****	*****	*****	*****
3	04 AUG 1971	2.0	1.6	0.4	1.1	4.7
4	11 AUG 1971	*****	*****	*****	*****	*****
5	17 AUG 1971	1.3	0.9	2.2	2.7	2.2
6	24 AUG 1971	5.2	2.7	2.2	5.2	5.6
7	01 SEPT 1971	4.3	1.6	3.1	5.4	5.4
8	10 SEPT 1971	3.1	0.0	0.0	0.0	3.6
9	17 SEPT 1971	0.0	0.0	0.0	1.6	0.0
10	24 SEPT 1971	0.0	0.0	0.7	0.3	0.4
11	01 OCT 1971	0.8	0.0	0.0	1.8	0.4
12	08 OCT 1971	0.0	0.0	0.0	2.5	0.0
13	15 OCT 1971	0.0	0.0	0.0	0.4	0.0
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	0.0	0.0	0.0	1.8	0.0
16	05 NOV 1971	1.3	0.0	0.9	0.4	0.0
17	12 NOV 1971	0.0	0.0	0.0	1.6	0.0
18	19 NOV 1971	0.0	0.0	0.0	0.0	0.0
19	24 NOV 1971	0.0	1.1	2.2	0.4	*****
20	01 DEC 1971	0.0	0.0	0.0	0.0	0.0
21	08 DEC 1971	2.0	1.8	2.7	2.5	0.0
22	12 DEC 1971	0.0	0.0	0.0	0.0	0.0
23	22 DEC 1971	0.2	0.4	0.0	0.0	0.0
24	29 DEC 1971	3.6	5.4	5.4	4.0	*****
25	05 JAN 1972	0.0	2.7	2.9	1.0	0.0
26	12 JAN 1972	1.0	6.1	7.2	7.0	0.4
27	19 JAN 1972	4.0	4.5	7.6	3.6	*****
28	26 JAN 1972	14.5	24.2	*****	14.8	6.3
29	04 FEB 1972	6.3	*****	9.4	7.6	5.8
30	11 FEB 1972	17.8	*****	21.4	15.4	13.3
31	16 FEB 1972	15.4	5.4	13.5	12.6	10.6
32	24 FEB 1972	10.6	16.1	19.3	10.3	13.0
33	02 MAR 1972	5.4	6.1	5.8	6.3	5.6
34	08 MAR 1972	5.4	4.7	2.0	3.6	4.0
35	15 MAR 1972	*****	*****	*****	*****	*****
36	22 MAR 1972	2.7	3.4	3.6	2.9	5.4
37	04 APR 1972	2.7	1.1	0.0	1.8	0.9
38	06 APR 1972	0.0	0.0	0.0	0.4	4.9
39	13 APR 1972	0.0	0.0	0.7	1.1	0.0
40	19 APR 1972	1.0	0.4	0.4	4.5	0.0
41	26 APR 1972	0.0	0.0	0.2	2.2	3.4
42	03 MAY 1972	46.7	21.1	25.6	24.0	2.7
43	10 MAY 1972	2.5	2.2	3.1	3.8	4.5
44	16 MAY 1972	0.0	0.0	0.0	0.0	5.2
45	26 MAY 1972	0.0	0.0	0.0	0.0	0.7
46	01 JUNE 1972	5.6	5.7	6.5	7.3	4.0
47	07 JUNE 1972	4.3	2.2	2.2	0.4	4.6
48	14 JUNE 1972	1.5	0.4	0.8	2.2	2.1
49	22 JUNE 1972	0.0	0.0	0.0	0.0	2.9
50	28 JUNE 1972	0.0	0.0	0.0	0.0	0.0
51	06 JULY 1972	0.0	0.0	0.0	0.0	0.7
52	12 JULY 1972	2.0	1.3	3.6	3.8	3.4



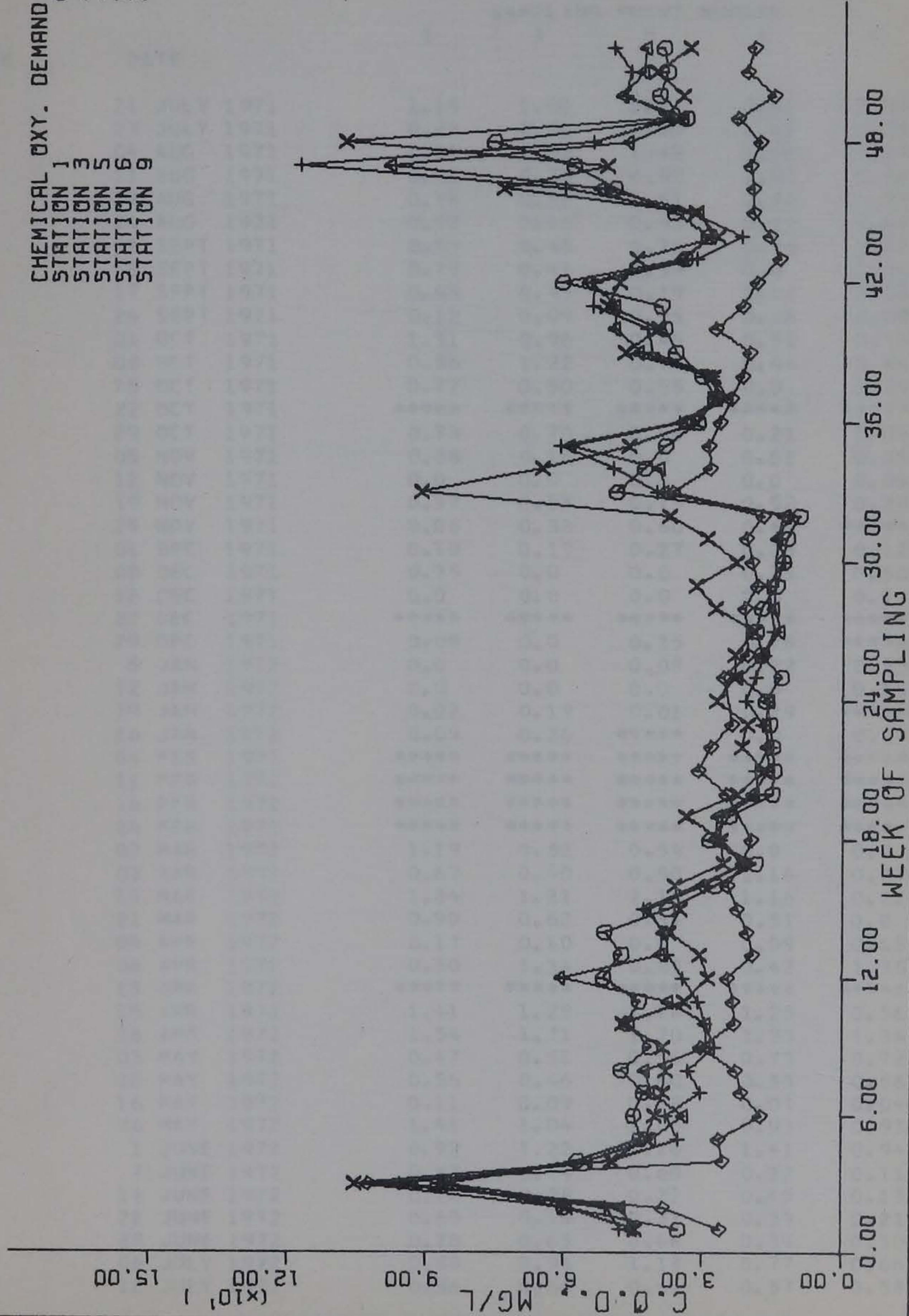
DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

CHEMICAL OXYGEN DEMAND, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	35.2	44.9	47.7	44.5	26.2
2	27 JULY 1971	59.8	47.3	50.8	59.4	38.3
3	04 AUG 1971	86.9	85.7	95.5	105.3	102.2
4	11 AUG 1971	57.0	54.6	49.8	49.4	25.5
5	17 AUG 1971	43.1	40.7	35.2	41.9	26.5
6	24 AUG 1971	44.8	33.8	37.8	40.1	17.5
7	01 SEPT 1971	42.7	41.1	30.3	38.3	21.5
8	10 SEPT 1971	47.3	42.2	33.1	37.9	22.9
9	17 SEPT 1971	41.2	29.1	27.4	38.4	30.2
10	24 SEPT 1971	46.1	29.0	29.4	47.1	23.0
11	01 OCT 1971	43.4	37.1	30.9	33.9	23.4
12	08 OCT 1971	51.3	60.4	34.3	28.8	24.5
13	15 OCT 1971	47.3	39.0	37.4	30.7	19.3
14	22 OCT 1971	50.9	38.3	37.9	37.3	20.4
15	29 OCT 1971	37.4	41.8	42.6	34.9	22.5
16	05 NOV 1971	27.3	30.1	0.0	35.9	24.7
17	12 NOV 1971	18.6	21.3	20.6	25.4	21.4
18	19 NOV 1971	28.5	27.3	26.2	26.2	19.6
19	24 NOV 1971	24.4	26.7	25.9	33.6	*****
20	01 DEC 1971	14.9	19.3	18.1	22.6	24.9
21	08 DEC 1971	14.6	15.8	18.6	16.8	30.9
22	12 DEC 1971	15.1	16.3	15.5	21.5	28.3
23	22 DEC 1971	15.6	16.4	17.2	20.4	23.6
24	29 DEC 1971	16.4	15.6	20.8	26.9	*****
25	05 JAN 1972	13.1	22.3	18.7	23.1	25.4
26	12 JAN 1972	17.5	17.1	16.7	23.1	20.3
27	19 JAN 1972	18.7	13.5	14.7	18.9	*****
28	26 JAN 1972	17.4	14.7	*****	27.4	21.0
29	04 FEB 1972	14.2	*****	16.2	31.6	18.4
30	11 FEB 1972	12.9	*****	12.5	22.9	19.5
31	16 FEB 1972	12.0	14.1	14.0	29.2	20.7
32	24 FEB 1972	9.4	12.6	11.5	37.3	17.2
33	02 MAR 1972	48.5	38.4	40.0	90.5	36.7
34	08 MAR 1972	42.6	39.3	49.2	64.5	28.5
35	15 MAR 1972	38.2	58.5	60.5	45.9	28.7
36	22 MAR 1972	31.3	34.5	35.1	31.5	26.3
37	04 APR 1972	27.5	24.9	26.5	27.6	24.1
38	06 APR 1972	30.3	28.3	28.3	27.9	21.5
39	13 APR 1972	35.9	43.6	41.2	46.7	20.0
40	19 APR 1972	38.4	48.8	42.1	39.5	27.2
41	26 APR 1972	39.1	48.7	53.6	50.7	21.7
42	03 MAY 1972	60.3	54.7	53.5	47.9	18.7
43	10 MAY 1972	34.1	34.5	31.6	44.3	13.8
44	16 MAY 1972	29.1	28.3	21.8	27.1	16.0
45	26 MAY 1972	36.4	31.1	33.1	31.9	19.4
46	01 JUNE 1972	49.2	52.1	59.7	72.9	19.6
47	07 JUNE 1972	58.0	97.1	116.3	50.6	20.0
48	14 JUNE 1972	75.0	46.0	53.8	106.8	17.9
49	22 JUNE 1972	33.9	34.3	36.7	38.3	22.8
50	28 JUNE 1972	39.6	47.3	46.8	34.6	15.1
51	06 JULY 1972	37.9	42.8	45.6	40.2	20.7
52	12 JULY 1972	38.6	42.2	49.1	33.0	19.2

CHEMICAL OXY. DEMAND
STATION 1 \ominus
STATION 3 Δ
STATION 5 $+$
STATION 6 \times
STATION 9 \diamond

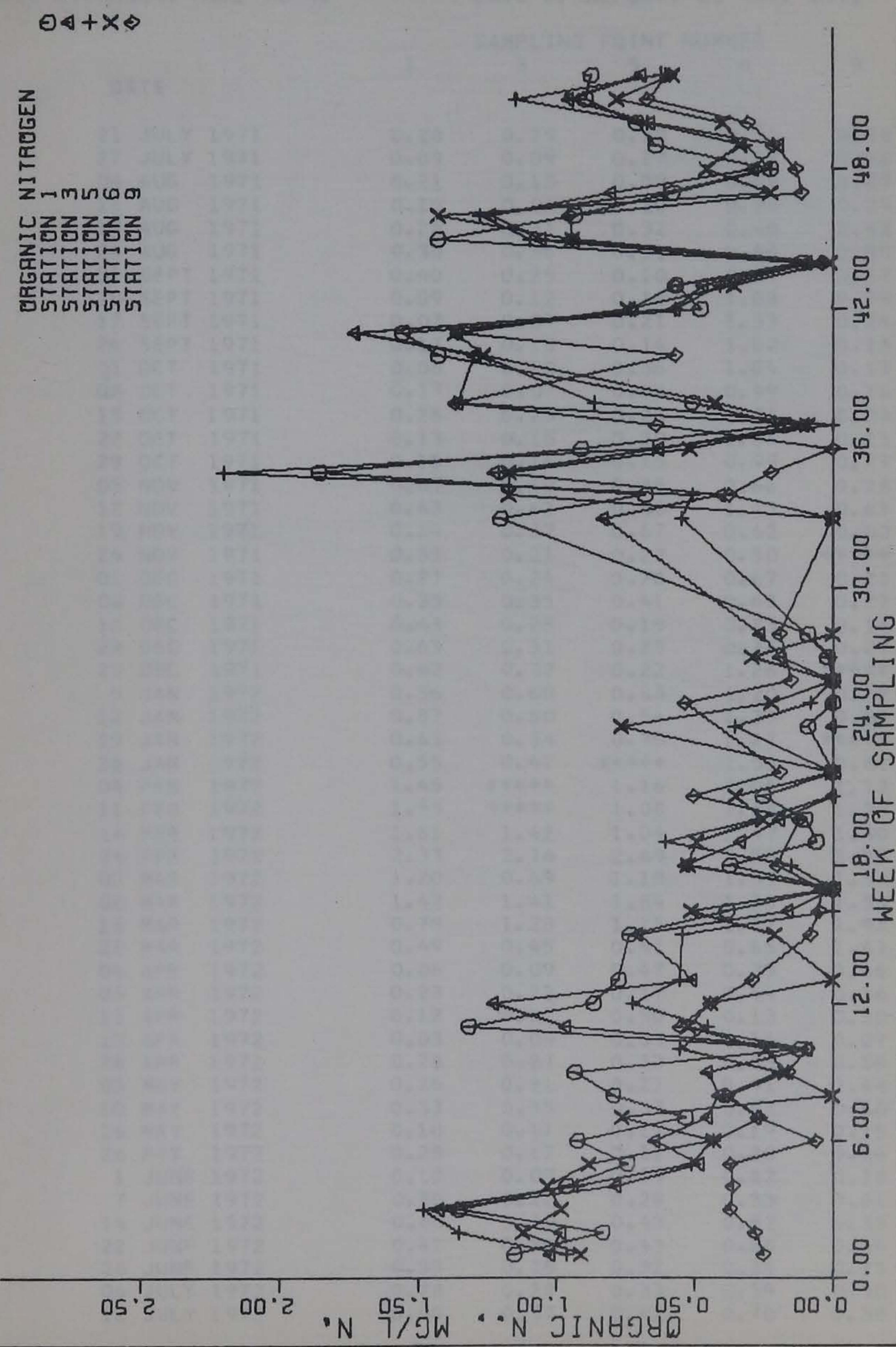


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

ORGANIC NITROGEN, MG/L AS N.

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	1.15	1.02	0.96	0.91	0.25
2	27 JULY 1971	0.83	0.98	1.35	1.12	0.28
3	04 AUG 1971	1.35	1.42	1.48	0.98	0.37
4	11 AUG 1971	0.96	0.78	0.92	1.03	0.36
5	17 AUG 1971	0.74	0.48	0.51	0.88	0.37
6	24 AUG 1971	0.92	0.64	0.43	0.43	0.06
7	01 SEPT 1971	0.53	0.45	0.26	0.76	0.27
8	10 SEPT 1971	0.79	0.41	0.39	0.0	0.38
9	17 SEPT 1971	0.93	0.45	0.19	0.17	0.16
10	24 SEPT 1971	0.12	0.09	0.55	0.24	0.09
11	01 OCT 1971	1.31	0.96	0.45	0.52	0.55
12	08 OCT 1971	0.86	1.22	0.72	0.44	0.44
13	15 OCT 1971	0.77	0.50	0.55	0.0	0.29
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	0.73	0.70	0.54	0.21	0.08
16	05 NOV 1971	0.38	0.16	0.0	0.51	0.05
17	12 NOV 1971	0.0	0.0	0.0	0.0	0.04
18	19 NOV 1971	0.37	0.53	0.15	0.52	0.20
19	24 NOV 1971	0.06	0.33	0.60	0.49	*****
20	01 DEC 1971	0.10	0.19	0.27	0.25	0.12
21	08 DEC 1971	0.25	0.0	0.0	0.35	0.50
22	12 DEC 1971	0.0	0.0	0.0	0.0	0.19
23	22 DEC 1971	*****	*****	*****	*****	*****
24	29 DEC 1971	0.09	0.0	0.35	0.76	*****
25	05 JAN 1972	0.0	0.0	0.08	0.22	0.53
26	12 JAN 1972	0.0	0.0	0.0	0.0	0.15
27	19 JAN 1972	0.02	0.19	0.01	0.29	*****
28	26 JAN 1972	0.09	0.26	*****	0.0	0.19
29	04 FEB 1972	*****	*****	*****	*****	*****
30	11 FEB 1972	*****	*****	*****	*****	*****
31	16 FEB 1972	*****	*****	*****	*****	*****
32	24 FEB 1972	*****	*****	*****	*****	*****
33	02 MAR 1972	1.19	0.82	0.54	0.0	0.0
34	08 MAR 1972	0.67	0.40	0.50	1.16	0.37
35	15 MAR 1972	1.84	1.21	2.18	1.16	0.22
36	22 MAR 1972	0.90	0.62	0.64	0.51	0.0
37	04 APR 1972	0.17	0.10	0.0	0.09	0.63
38	06 APR 1972	0.50	1.34	0.85	0.42	1.35
39	13 APR 1972	*****	*****	*****	*****	*****
40	19 APR 1972	1.41	1.28	1.26	1.25	0.56
41	26 APR 1972	1.54	1.71	1.70	1.35	1.34
42	03 MAY 1972	0.47	0.56	0.56	0.73	0.72
43	10 MAY 1972	0.56	0.46	0.40	0.35	0.56
44	16 MAY 1972	0.11	0.09	0.08	0.01	0.04
45	26 MAY 1972	1.41	1.04	1.08	0.93	0.93
46	01 JUNE 1972	0.92	1.22	1.26	1.41	0.94
47	07 JUNE 1972	0.57	0.79	0.60	0.22	0.11
48	14 JUNE 1972	0.22	0.28	0.22	0.45	0.13
49	22 JUNE 1972	0.63	0.19	0.31	0.33	0.21
50	28 JUNE 1972	0.70	0.65	0.66	0.39	0.30
51	06 JULY 1972	0.88	0.94	1.13	0.77	0.66
52	12 JULY 1972	0.86	0.68	0.61	0.57	0.58



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

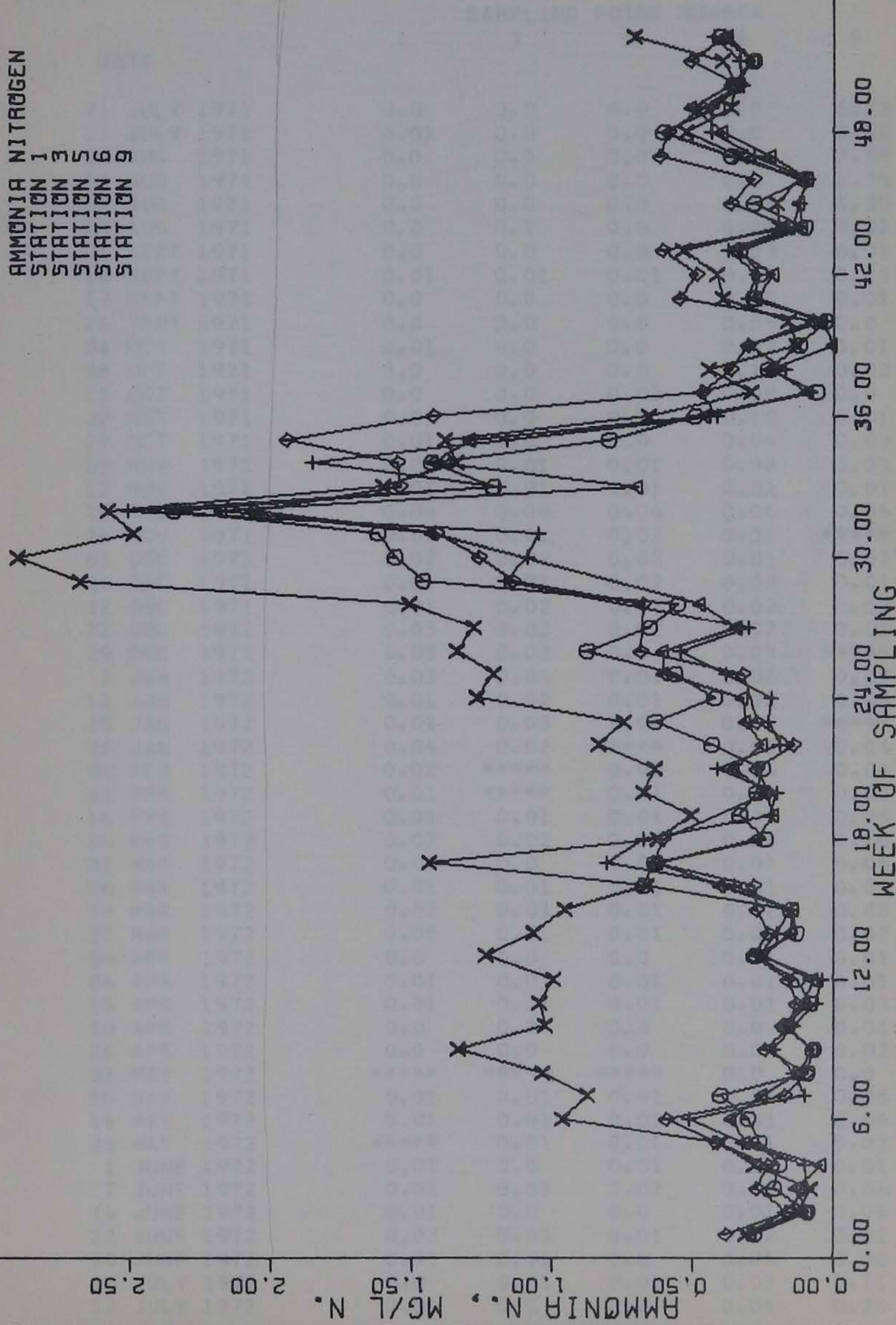
AMMONIA NITROGEN, MG/L AS N.

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	0.28	0.29	0.30	0.31	0.38
2	27 JULY 1971	0.09	0.09	0.17	0.12	0.16
3	04 AUG 1971	0.21	0.13	0.09	0.08	0.27
4	11 AUG 1971	0.19	0.04	0.10	0.28	0.23
5	17 AUG 1971	0.26	0.31	0.32	0.40	0.41
6	24 AUG 1971	0.30	0.36	0.51	0.96	0.59
7	01 SEPT 1971	0.40	0.25	0.10	0.87	0.17
8	10 SEPT 1971	0.09	0.12	0.14	1.03	0.09
9	17 SEPT 1971	0.07	0.07	0.21	1.33	0.24
10	24 SEPT 1971	0.17	0.18	0.14	1.02	0.15
11	01 OCT 1971	0.08	0.10	0.06	1.04	0.13
12	08 OCT 1971	0.13	0.07	0.04	0.99	0.16
13	15 OCT 1971	0.28	0.25	0.26	1.23	0.28
14	22 OCT 1971	0.13	0.15	0.20	1.06	0.23
15	29 OCT 1971	0.15	0.14	0.15	0.95	0.27
16	05 NOV 1971	0.67	0.40	0.35	0.66	0.28
17	12 NOV 1971	0.63	0.62	0.80	1.43	0.63
18	19 NOV 1971	0.24	0.27	0.67	0.62	0.60
19	24 NOV 1971	0.33	0.21	0.22	0.50	*****
20	01 DEC 1971	0.27	0.24	0.20	0.67	0.23
21	08 DEC 1971	0.25	0.35	0.41	0.63	0.27
22	12 DEC 1971	0.43	0.25	0.19	0.83	0.14
23	22 DEC 1971	0.63	0.31	0.23	0.74	0.27
24	29 DEC 1971	0.42	0.32	0.22	1.26	*****
25	5 JAN 1972	0.56	0.60	0.38	1.20	0.32
26	12 JAN 1972	0.87	0.60	0.54	1.33	0.68
27	19 JAN 1972	0.65	0.34	0.30	1.27	*****
28	26 JAN 1972	0.55	0.47	*****	1.50	0.67
29	04 FEB 1972	1.45	*****	1.16	2.66	1.13
30	11 FEB 1972	1.55	*****	1.08	2.88	1.25
31	16 FEB 1972	1.61	1.42	1.04	2.47	1.40
32	24 FEB 1972	2.33	2.16	2.49	2.56	2.05
33	02 MAR 1972	1.20	0.69	1.18	1.59	1.53
34	08 MAR 1972	1.42	1.41	1.84	1.33	1.54
35	15 MAR 1972	0.79	1.28	1.15	1.37	1.93
36	22 MAR 1972	0.49	0.45	0.41	0.65	1.41
37	04 APR 1972	0.06	0.09	0.47	0.29	0.46
38	06 APR 1972	0.23	0.22	0.17	0.44	0.36
39	13 APR 1972	0.12	0.0	0.30	0.13	0.30
40	19 APR 1972	0.03	0.04	0.03	0.16	0.07
41	26 APR 1972	0.28	0.27	0.30	0.39	0.54
42	03 MAY 1972	0.26	0.21	0.27	0.41	0.48
43	10 MAY 1972	0.33	0.35	0.37	0.53	0.60
44	16 MAY 1972	0.10	0.11	0.14	0.19	0.15
45	26 MAY 1972	0.28	0.12	0.12	0.20	0.36
46	1 JUNE 1972	0.10	0.09	0.09	0.12	0.28
47	7 JUNE 1972	0.36	0.22	0.28	0.33	0.61
48	14 JUNE 1972	0.60	0.39	0.43	0.52	0.58
49	22 JUNE 1972	0.41	0.50	0.43	0.36	0.46
50	28 JUNF 1972	0.35	0.36	0.32	0.34	0.33
51	06 JULY 1972	0.28	0.28	0.33	0.39	0.50
52	12 JULY 1972	0.40	0.37	0.42	0.70	0.38

Θ □ + X ◊

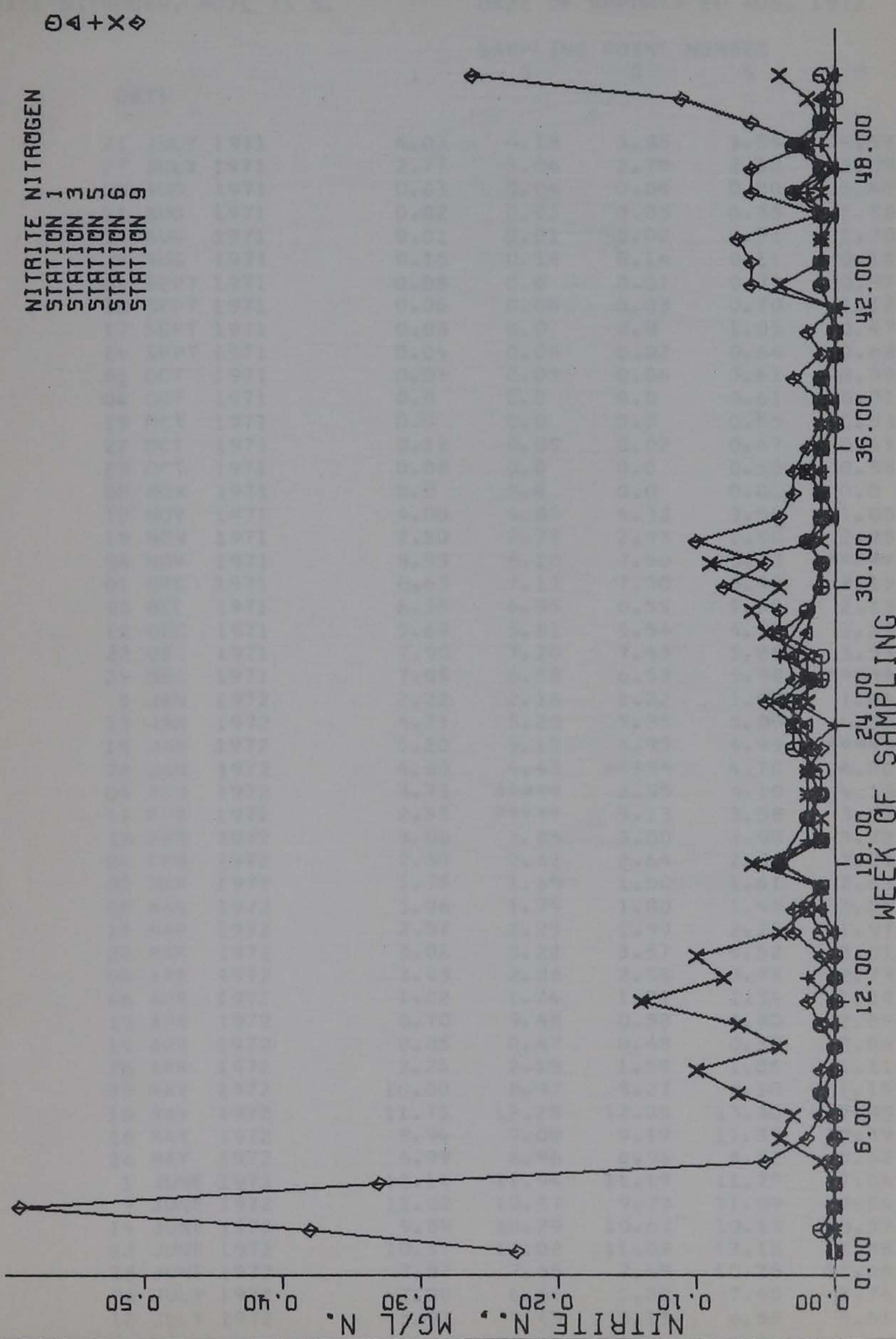
AMMONIA NITROGEN
STATION 1
STATION 3
STATION 5
STATION 6
STATION 8



50
 DES MOINES RIVER WATER QUALITY NETWORK
 PROVISIONAL DATA - SUBJECT TO REVISION
 NITRITE NITROGEN, MG/L AS N.

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	0.0	0.0	0.0	0.0	0.23
2	27 JULY 1971	0.01	0.0	0.0	0.0	0.38
3	04 AUG 1971	0.0	0.0	0.0	0.0	0.59
4	11 AUG 1971	0.0	0.0	0.0	0.0	0.33
5	17 AUG 1971	0.0	0.0	0.0	0.01	0.05
6	24 AUG 1971	0.0	0.0	0.0	0.04	0.02
7	01 SEPT 1971	0.0	0.0	0.0	0.03	0.01
8	10 SEPT 1971	0.01	0.01	0.01	0.07	0.01
9	17 SEPT 1971	0.0	0.0	0.0	0.10	0.01
10	24 SEPT 1971	0.0	0.0	0.0	0.04	0.0
11	01 OCT 1971	0.01	0.0	0.0	0.07	0.01
12	08 OCT 1971	0.0	0.0	0.0	0.14	0.02
13	15 OCT 1971	0.0	0.0	0.02	0.08	0.0
14	22 OCT 1971	0.0	0.0	0.0	0.10	0.01
15	29 OCT 1971	0.01	0.0	0.0	0.04	0.03
16	05 NOV 1971	0.02	0.01	0.01	0.02	0.03
17	12 NOV 1971	0.01	0.01	0.01	0.01	0.01
18	19 NOV 1971	0.04	0.04	0.04	0.06	0.04
19	24 NOV 1971	0.01	0.01	0.02	0.01	*****
20	01 DEC 1971	0.02	0.02	0.02	0.01	0.02
21	08 DEC 1971	0.01	0.01	0.02	0.02	0.01
22	12 DEC 1971	0.01	0.02	0.02	0.02	0.02
23	22 DEC 1971	0.03	0.02	0.02	0.02	0.01
24	29 DEC 1971	0.03	0.02	0.0	0.03	*****
25	5 JAN 1972	0.03	0.04	0.03	0.02	0.05
26	12 JAN 1972	0.01	0.02	0.01	0.02	0.03
27	19 JAN 1972	0.01	0.03	0.04	0.02	*****
28	26 JAN 1972	0.04	0.02	*****	0.05	0.04
29	04 FEB 1972	0.02	*****	0.02	0.06	0.04
30	11 FEB 1972	0.01	*****	0.01	0.04	0.08
31	16 FEB 1972	0.01	0.01	0.01	0.09	0.05
32	24 FEB 1972	0.02	0.02	0.02	0.01	0.10
33	02 MAR 1972	0.01	0.0	0.01	0.01	0.04
34	08 MAR 1972	0.01	0.01	0.01	0.01	0.03
35	15 MAR 1972	0.02	0.01	0.01	0.02	0.03
36	22 MAR 1972	0.01	0.01	0.01	0.01	0.02
37	04 APR 1972	0.0	0.0	0.0	0.01	0.01
38	06 APR 1972	0.01	0.0	0.01	0.01	0.01
39	13 APR 1972	0.01	0.01	0.01	0.01	0.03
40	19 APR 1972	0.0	0.0	0.0	0.0	0.01
41	26 APR 1972	0.0	0.0	0.0	0.0	0.02
42	03 MAY 1972	*****	*****	*****	0.0	0.0
43	10 MAY 1972	0.01	0.01	0.01	0.04	0.06
44	16 MAY 1972	0.01	0.01	0.01	0.01	0.06
45	26 MAY 1972	*****	0.01	0.01	0.01	0.07
46	1 JUNE 1972	0.01	0.0	0.01	0.01	0.01
47	7 JUNE 1972	0.03	0.03	0.02	0.01	0.06
48	14 JUNE 1972	0.01	0.0	0.0	0.01	0.06
49	22 JUNE 1972	0.03	0.03	0.01	0.02	0.02
50	28 JUNE 1972	0.01	0.01	0.0	0.01	0.06
51	06 JULY 1972	0.0	0.01	0.01	0.02	0.11
52	12 JULY 1972	0.01	0.0	0.0	0.04	0.26



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION
NITRATE NITROGEN, MG/L AS N.

DATE OF REPORT: 20 AUG. 1972

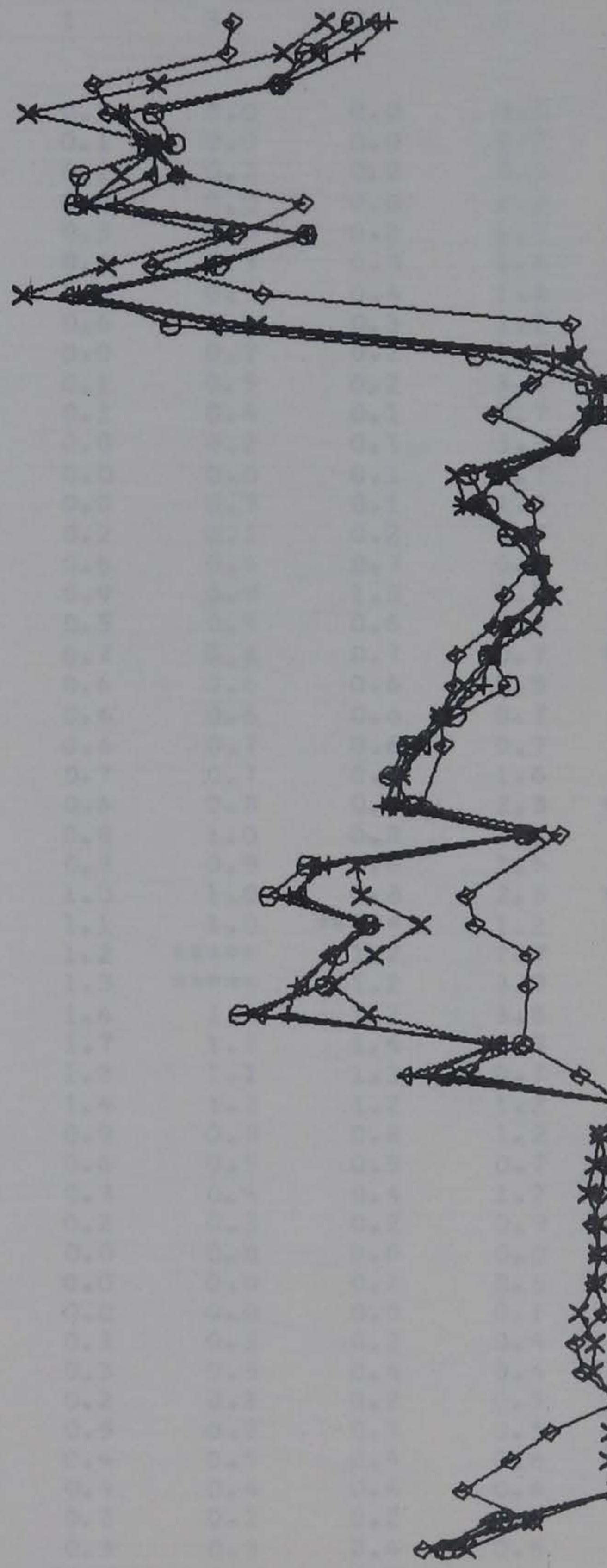
WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	4.03	4.18	3.85	3.55	4.53
2	27 JULY 1971	2.77	3.04	2.79	2.10	2.09
3	04 AUG 1971	0.03	0.04	0.04	0.20	3.65
4	11 AUG 1971	0.02	0.03	0.05	0.35	2.58
5	17 AUG 1971	0.01	0.01	0.02	0.31	1.70
6	24 AUG 1971	0.15	0.14	0.14	0.11	0.18
7	01 SEPT 1971	0.08	0.0	0.01	0.73	0.97
8	10 SEPT 1971	0.06	0.06	0.03	0.70	1.12
9	17 SEPT 1971	0.03	0.0	0.0	1.05	0.47
10	24 SEPT 1971	0.04	0.05	0.02	0.64	0.68
11	01 OCT 1971	0.05	0.03	0.06	0.61	0.59
12	08 OCT 1971	0.0	0.0	0.0	0.61	0.71
13	15 OCT 1971	0.0	0.0	0.0	0.85	0.53
14	22 OCT 1971	0.12	0.09	0.02	0.67	0.43
15	29 OCT 1971	0.08	0.0	0.0	0.55	0.58
16	05 NOV 1971	0.0	0.0	0.0	0.0	0.0
17	12 NOV 1971	4.00	4.85	4.38	3.50	1.00
18	19 NOV 1971	2.30	2.73	2.98	2.98	2.25
19	24 NOV 1971	8.55	8.10	7.50	5.73	*****
20	01 DEC 1971	6.63	7.13	7.30	6.48	2.15
21	08 DEC 1971	6.38	6.55	6.55	5.55	2.13
22	12 DEC 1971	5.69	5.81	5.56	4.53	3.33
23	22 DEC 1971	7.90	7.20	7.43	5.85	3.53
24	29 DEC 1971	7.05	6.88	6.58	5.98	*****
25	5 JAN 1972	2.22	2.18	2.22	1.95	1.46
26	12 JAN 1972	4.73	5.20	5.35	5.00	4.50
27	19 JAN 1972	5.20	5.15	4.95	4.95	*****
28	26 JAN 1972	4.80	4.43	*****	4.78	4.00
29	04 FEB 1972	3.73	*****	3.95	4.10	4.10
30	11 FEB 1972	2.55	*****	3.13	3.58	3.78
31	16 FEB 1972	3.00	2.85	3.00	2.98	3.72
32	24 FEB 1972	2.50	2.62	2.64	2.06	2.89
33	02 MAR 1972	1.75	1.69	1.80	1.61	2.63
34	08 MAR 1972	1.96	1.79	1.80	1.93	2.08
35	15 MAR 1972	2.57	2.23	1.99	2.25	1.97
36	22 MAR 1972	3.02	3.22	3.57	3.52	2.01
37	04 APR 1972	3.43	2.86	2.55	3.73	2.73
38	06 APR 1972	1.22	1.24	1.21	1.54	1.38
39	13 APR 1972	0.70	0.48	0.58	0.80	2.89
40	19 APR 1972	0.85	0.47	0.48	0.50	2.06
41	26 APR 1972	3.26	2.19	1.58	1.06	1.11
42	03 MAY 1972	10.00	8.97	8.27	8.10	1.15
43	10 MAY 1972	11.75	12.25	12.05	13.30	7.95
44	16 MAY 1972	8.94	9.09	9.19	11.39	10.39
45	26 MAY 1972	6.99	6.96	6.96	8.82	8.52
46	1 JUNE 1972	12.14	11.94	11.19	11.79	7.04
47	7 JUNE 1972	12.02	10.37	9.73	11.09	9.84
48	14 JUNE 1972	9.89	10.29	10.67	10.13	10.37
49	22 JUNE 1972	10.37	11.02	11.09	13.18	11.38
50	28 JUNE 1972	7.57	7.65	7.49	10.28	11.68
51	06 JULY 1972	7.00	6.64	5.89	7.48	8.74
52	12 JULY 1972	5.97	5.45	5.15	6.58	8.61

④+X+G

NITRATE NITROGEN
STATION 1 3 5 6
STATION 2 4 7 8
STATION 9

20.00 16.00 12.00 8.00 4.00 0.00
NITRATE N., MG/L N.

0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00
WEEK OF SAMPLING

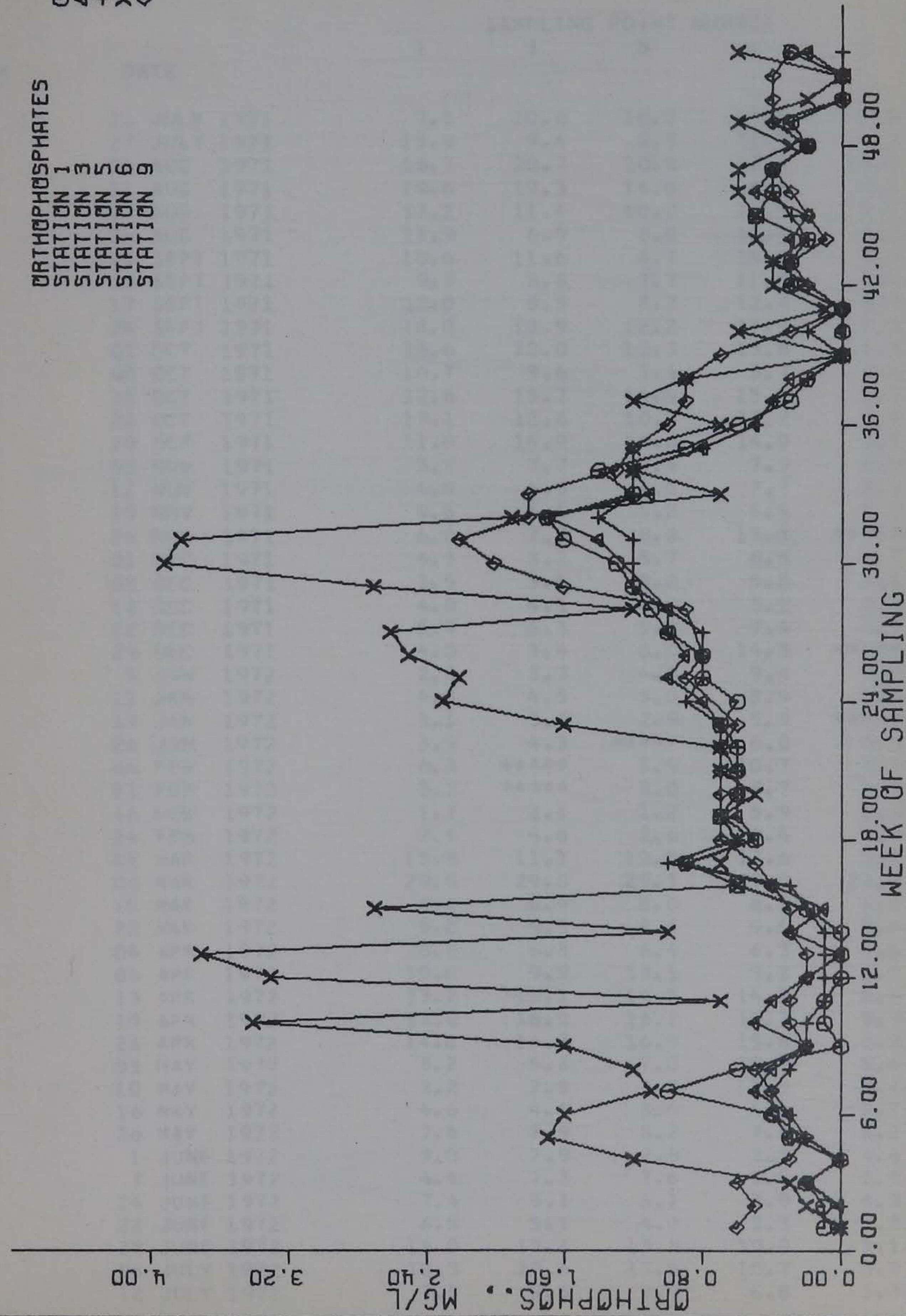


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION
ORTHOPHOSPHATE, MG/L AS PO₄ DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	0.1	0.0	0.0	0.0	0.6
2	27 JULY 1971	0.1	0.0	0.0	0.2	0.5
3	04 AUG 1971	0.2	0.2	0.2	0.3	0.6
4	11 AUG 1971	0.0	0.0	0.0	1.2	0.3
5	17 AUG 1971	0.3	0.3	0.2	1.7	0.2
6	24 AUG 1971	0.4	0.3	0.3	1.6	0.4
7	01 SEPT 1971	1.0	0.5	0.4	1.1	0.4
8	10 SEPT 1971	0.6	0.4	0.3	1.2	0.5
9	17 SEPT 1971	0.0	0.2	0.2	1.6	0.2
10	24 SEPT 1971	0.1	0.5	0.2	3.4	0.3
11	01 OCT 1971	0.1	0.4	0.1	0.7	0.3
12	08 OCT 1971	0.0	0.2	0.1	3.3	0.2
13	15 OCT 1971	0.0	0.0	0.1	3.7	0.2
14	22 OCT 1971	0.0	0.3	0.1	1.0	0.3
15	29 OCT 1971	0.2	0.1	0.2	2.7	0.3
16	05 NOV 1971	0.6	0.4	0.3	0.6	0.4
17	12 NOV 1971	0.9	0.9	1.0	0.7	0.5
18	19 NOV 1971	0.5	0.5	0.6	0.6	0.7
19	24 NOV 1971	0.7	0.6	0.7	0.7	*****
20	01 DEC 1971	0.6	0.6	0.6	0.5	0.7
21	08 DEC 1971	0.6	0.6	0.6	0.7	0.7
22	12 DEC 1971	0.6	0.7	0.6	0.7	0.7
23	22 DEC 1971	0.7	0.7	0.7	1.6	0.6
24	29 DEC 1971	0.6	0.8	0.9	2.3	*****
25	5 JAN 1972	0.8	1.0	0.8	2.2	0.9
26	12 JAN 1972	0.8	0.9	0.8	2.5	0.8
27	19 JAN 1972	1.0	1.0	0.8	2.6	*****
28	26 JAN 1972	1.1	1.0	*****	1.2	0.9
29	04 FEB 1972	1.2	*****	1.2	2.7	1.6
30	11 FEB 1972	1.3	*****	1.2	3.9	2.0
31	16 FEB 1972	1.6	1.4	1.2	3.8	2.2
32	24 FEB 1972	1.7	1.7	1.4	1.9	1.8
33	02 MAR 1972	1.2	1.1	1.2	0.7	1.8
34	08 MAR 1972	1.4	1.2	1.2	1.2	1.3
35	15 MAR 1972	0.9	0.8	0.8	1.2	1.2
36	22 MAR 1972	0.6	0.5	0.5	0.7	1.0
37	04 APR 1972	0.3	0.4	0.4	1.2	0.9
38	06 APR 1972	0.2	0.3	0.2	0.9	0.9
39	13 APR 1972	0.0	0.0	0.0	0.0	0.7
40	19 APR 1972	0.0	0.0	0.2	0.6	0.3
41	26 APR 1972	0.0	0.0	0.0	0.1	0.0
42	03 MAY 1972	0.3	0.3	0.2	0.4	0.2
43	10 MAY 1972	0.3	0.3	0.4	0.4	0.3
44	16 MAY 1972	0.2	0.3	0.2	0.5	0.1
45	26 MAY 1972	0.5	0.2	0.3	0.5	0.2
46	1 JUNE 1972	0.4	0.5	0.4	0.6	0.3
47	7 JUNE 1972	0.4	0.4	0.4	0.6	0.4
48	14 JUNE 1972	0.2	0.2	0.2	0.3	0.2
49	22 JUNE 1972	0.3	0.3	0.4	0.6	0.4
50	28 JUNE 1972	0.0	0.0	0.0	0.2	0.4
51	06 JULY 1972	0.0	0.0	0.0	0.0	0.4
52	12 JULY 1972	0.3	0.2	0.0	0.6	0.3

ORTHOPHOSPHATES
STATION 1
STATION 3
STATION 5
STATION 6
STATION 9

Θ ▲ + X ◊

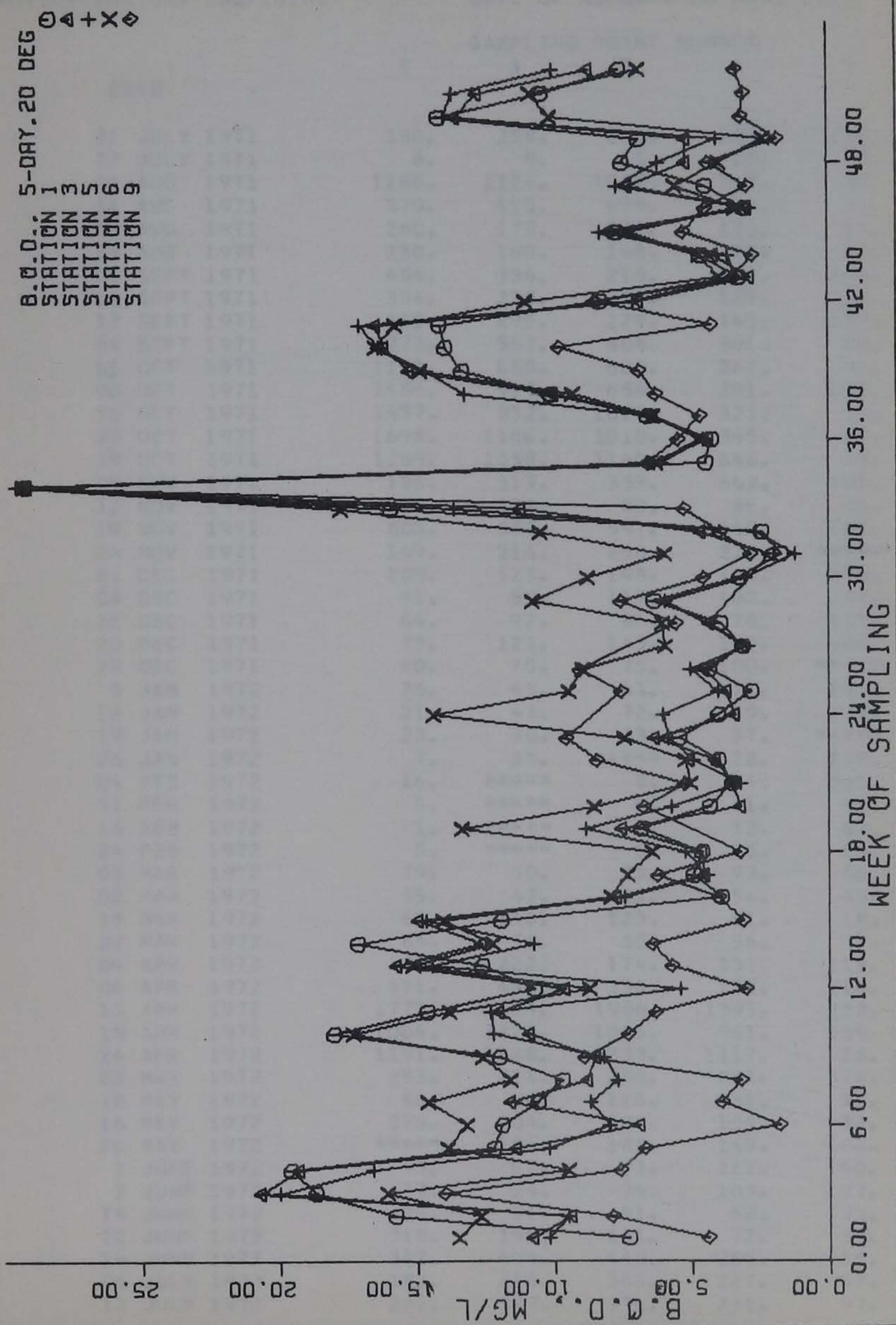


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

BIOCHEMICAL OXY. DEMAND, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	7.3	10.8	10.2	13.5	4.4
2	27 JULY 1971	15.8	9.4	9.5	12.7	7.9
3	04 AUG 1971	18.7	20.7	20.0	16.1	14.0
4	11 AUG 1971	19.6	19.3	16.6	9.5	7.6
5	17 AUG 1971	12.2	11.4	10.2	13.9	6.7
6	24 AUG 1971	11.9	6.9	8.0	13.2	1.8
7	01 SEPT 1971	10.6	11.6	8.7	14.6	3.9
8	10 SEPT 1971	9.7	8.8	7.7	11.6	3.2
9	17 SEPT 1971	12.0	8.5	8.2	12.6	8.9
10	24 SEPT 1971	18.0	10.9	12.2	17.3	7.3
11	01 OCT 1971	14.6	12.0	12.3	13.8	6.3
12	08 OCT 1971	10.7	9.6	5.4	8.7	3.0
13	15 OCT 1971	12.6	15.7	14.4	15.1	5.7
14	22 OCT 1971	17.1	12.6	10.7	12.2	6.4
15	29 OCT 1971	11.9	14.9	14.6	14.0	3.1
16	05 NOV 1971	3.9	7.7	7.4	7.9	4.0
17	12 NOV 1971	4.9	4.5	4.4	7.3	6.2
18	19 NOV 1971	4.6	4.6	5.2	6.4	3.2
19	24 NOV 1971	6.8	7.5	8.8	13.3	*****
20	01 DEC 1971	4.3	3.2	5.7	8.5	6.7
21	08 DEC 1971	3.5	3.5	3.2	5.0	5.2
22	12 DEC 1971	4.0	4.1	4.9	5.2	8.4
23	22 DEC 1971	5.4	6.3	5.8	7.4	9.5
24	29 DEC 1971	4.0	3.4	6.0	14.3	*****
25	5 JAN 1972	2.8	3.7	4.0	9.4	7.5
26	12 JAN 1972	4.3	4.5	5.0	8.9	9.0
27	19 JAN 1972	3.1	3.1	2.9	5.9	*****
28	26 JAN 1972	3.9	4.3	*****	6.0	5.5
29	04 FEB 1972	6.3	*****	5.9	10.7	7.5
30	11 FEB 1972	3.2	*****	3.0	8.7	4.5
31	16 FEB 1972	1.7	2.1	1.2	5.9	2.8
32	24 FEB 1972	2.4	4.6	2.6	10.4	3.9
33	02 MAR 1972	15.8	11.1	13.5	17.6	5.2
34	08 MAR 1972	29.0	29.0	29.3	29.0	28.9
35	15 MAR 1972	4.4	6.4	6.0	6.2	6.5
36	22 MAR 1972	4.2	4.3	4.5	4.6	5.4
37	04 APR 1972	6.5	6.3	6.4	6.3	4.6
38	06 APR 1972	10.0	9.9	13.1	9.2	6.2
39	13 APR 1972	13.2	15.1	14.5	14.7	6.8
40	19 APR 1972	13.8	16.0	16.2	16.3	9.7
41	26 APR 1972	14.0	16.3	16.9	15.6	4.2
42	03 MAY 1972	8.2	6.8	7.0	10.9	8.4
43	10 MAY 1972	3.2	2.8	3.3	3.9	3.4
44	16 MAY 1972	4.6	4.1	3.6	4.6	2.7
45	26 MAY 1972	7.6	7.9	8.2	7.2	5.2
46	1 JUNE 1972	3.0	2.9	2.8	3.3	4.4
47	7 JUNE 1972	4.4	7.2	7.6	5.5	2.9
48	14 JUNE 1972	7.4	5.1	6.1	3.9	4.3
49	22 JUNE 1972	6.8	5.1	4.0	2.3	1.8
50	28 JUNE 1972	14.0	13.4	13.8	10.0	3.1
51	06 JULY 1972	10.3	12.6	13.5	10.7	3.0
52	12 JULY 1972	7.5	8.6	9.9	6.8	3.3

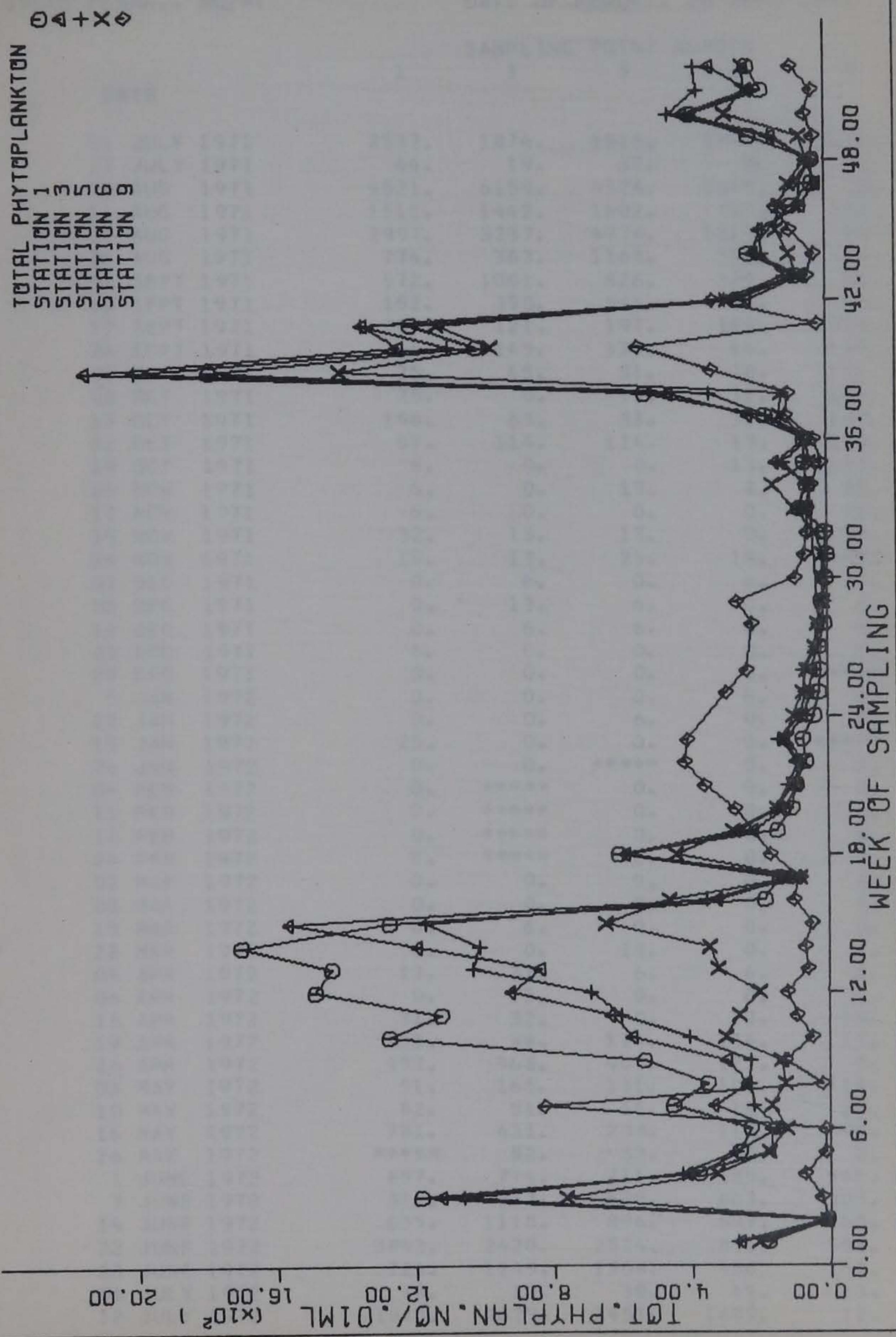


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

TOT. PHYTOPLANKTON, NO/.01ML

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	180.	258.	270.	207.	184.
2	27 JULY 1971	6.	9.	11.	10.	7.
3	04 AUG 1971	1186.	1124.	1062.	763.	23.
4	11 AUG 1971	379.	410.	429.	328.	71.
5	17 AUG 1971	260.	170.	271.	175.	14.
6	24 AUG 1971	230.	168.	148.	125.	12.
7	01 SEPT 1971	454.	334.	219.	167.	826.
8	10 SEPT 1971	354.	238.	232.	129.	22.
9	17 SEPT 1971	535.	295.	229.	141.	129.
10	24 SEPT 1971	1273.	567.	404.	301.	49.
11	01 OCT 1971	1122.	630.	600.	261.	91.
12	08 OCT 1971	1486.	917.	688.	201.	120.
13	15 OCT 1971	1437.	832.	1028.	321.	60.
14	22 OCT 1971	1695.	1186.	1010.	345.	67.
15	29 OCT 1971	1269.	1558.	1165.	646.	49.
16	05 NOV 1971	186.	317.	353.	462.	101.
17	12 NOV 1971	142.	124.	80.	86.	83.
18	19 NOV 1971	605.	582.	591.	440.	169.
19	24 NOV 1971	149.	214.	258.	277.	*****
20	01 DEC 1971	105.	123.	148.	147.	270.
21	08 DEC 1971	91.	89.	117.	102.	358.
22	12 DEC 1971	64.	92.	86.	74.	411.
23	22 DEC 1971	73.	121.	145.	120.	405.
24	29 DEC 1971	40.	70.	75.	100.	*****
25	05 JAN 1972	26.	49.	63.	71.	294.
26	12 JAN 1972	21.	43.	72.	59.	232.
27	19 JAN 1972	23.	30.	33.	37.	*****
28	26 JAN 1972	7.	25.	*****	28.	218.
29	04 FEB 1972	16.	*****	8.	14.	260.
30	11 FEB 1972	5.	*****	6.	11.	91.
31	16 FEB 1972	1.	*****	3.	12.	63.
32	24 FEB 1972	5.	*****	5.	35.	56.
33	02 MAR 1972	79.	50.	75.	93.	56.
34	08 MAR 1972	55.	47.	62.	156.	45.
35	15 MAR 1972	63.	146.	123.	51.	18.
36	22 MAR 1972	65.	58.	50.	56.	37.
37	04 APR 1972	178.	222.	174.	131.	118.
38	06 APR 1972	521.	451.	336.	130.	110.
39	13 APR 1972	1772.	2124.	1986.	1395.	328.
40	19 APR 1972	1004.	1223.	1086.	961.	539.
41	26 APR 1972	1191.	1328.	1333.	1117.	26.
42	03 MAY 1972	253.	221.	288.	281.	324.
43	10 MAY 1972	86.	68.	118.	81.	53.
44	16 MAY 1972	220.	204.	180.	104.	32.
45	26 MAY 1972	*****	186.	188.	140.	102.
46	01 JUNE 1972	95.	67.	73.	127.	140.
47	07 JUNE 1972	37.	24.	74.	105.	87.
48	14 JUNE 1972	35.	51.	41.	52.	38.
49	22 JUNE 1972	215.	150.	161.	72.	34.
50	28 JUNE 1972	387.	404.	448.	285.	55.
51	06 JULY 1972	182.	214.	365.	227.	37.
52	12 JULY 1972	222.	327.	374.	231.	97.



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

BLUE GREEN PLANK., NO/ML

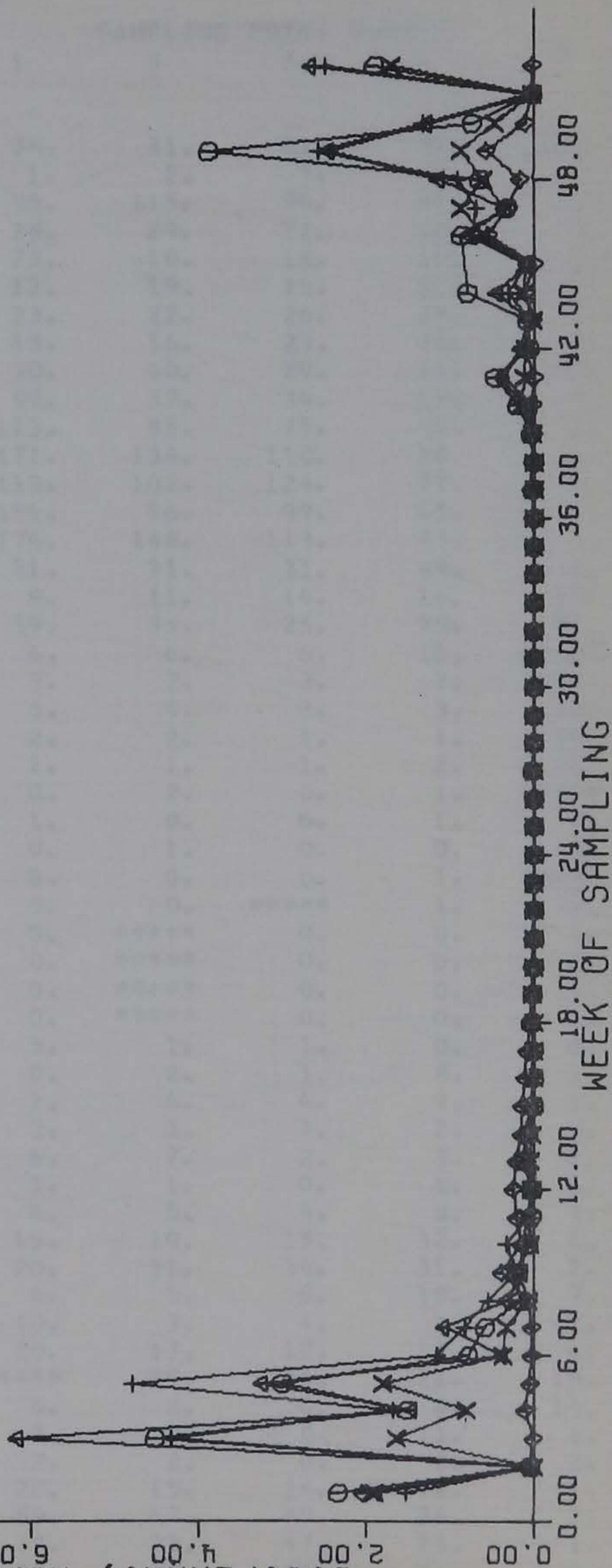
DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	2337.	1874.	1518.	1899.	2032.
2	27 JULY 1971	44.	19.	32.	0.	32.
3	04 AUG 1971	4521.	6159.	4324.	1645.	0.
4	11 AUG 1971	1511.	1442.	1682.	793.	108.
5	17 AUG 1971	2997.	3237.	4774.	1810.	38.
6	24 AUG 1971	774.	363.	1168.	355.	13.
7	01 SEPT 1971	572.	1061.	826.	329.	26.
8	10 SEPT 1971	152.	330.	546.	56.	63.
9	17 SEPT 1971	209.	121.	197.	184.	374.
10	24 SEPT 1971	64.	145.	330.	44.	139.
11	01 OCT 1971	25.	45.	51.	70.	191.
12	08 OCT 1971	25.	0.	19.	12.	241.
13	15 OCT 1971	146.	63.	83.	38.	197.
14	22 OCT 1971	57.	114.	114.	13.	133.
15	29 OCT 1971	6.	0.	0.	13.	133.
16	05 NOV 1971	6.	0.	19.	8.	95.
17	12 NOV 1971	6.	0.	0.	0.	76.
18	19 NOV 1971	32.	13.	13.	0.	38.
19	24 NOV 1971	19.	13.	25.	19.	*****
20	01 DEC 1971	0.	6.	0.	6.	13.
21	08 DEC 1971	0.	13.	6.	0.	6.
22	12 DEC 1971	0.	6.	6.	0.	6.
23	22 DEC 1971	6.	0.	0.	0.	6.
24	29 DEC 1971	0.	0.	0.	0.	*****
25	05 JAN 1972	0.	0.	0.	6.	0.
26	12 JAN 1972	0.	0.	6.	0.	0.
27	19 JAN 1972	25.	0.	0.	0.	*****
28	26 JAN 1972	0.	0.	*****	0.	0.
29	04 FEB 1972	0.	*****	0.	0.	0.
30	11 FEB 1972	0.	*****	0.	0.	0.
31	16 FEB 1972	0.	*****	0.	0.	0.
32	24 FEB 1972	0.	*****	0.	0.	0.
33	02 MAR 1972	0.	0.	0.	0.	0.
34	08 MAR 1972	0.	0.	0.	0.	0.
35	15 MAR 1972	0.	6.	0.	0.	0.
36	22 MAR 1972	0.	0.	13.	0.	0.
37	04 APR 1972	13.	31.	6.	6.	0.
38	06 APR 1972	0.	13.	0.	0.	0.
39	13 APR 1972	31.	32.	0.	13.	19.
40	19 APR 1972	203.	38.	114.	134.	13.
41	26 APR 1972	457.	368.	400.	127.	0.
42	03 MAY 1972	51.	165.	131.	101.	114.
43	10 MAY 1972	82.	51.	64.	19.	25.
44	16 MAY 1972	781.	431.	298.	114.	95.
45	26 MAY 1972	*****	82.	83.	95.	0.
46	01 JUNE 1972	857.	774.	711.	585.	546.
47	07 JUNE 1972	317.	337.	679.	863.	305.
48	14 JUNE 1972	635.	1118.	896.	597.	165.
49	22 JUNE 1972	3842.	2420.	2534.	851.	558.
50	28 JUNE 1972	724.	1245.	1308.	456.	102.
51	06 JULY 1972	13.	13.	38.	19.	13.
52	12 JULY 1972	1873.	2629.	2451.	1689.	12.

47

◆ X + ◇
BLUE GREEN PLANKTON
STATION 1
STATION 3
STATION 5
STATION 6
STATION 8

B.G. PLANK., NO./ML (x10³)
2.00 4.00 6.00 8.00 10.00

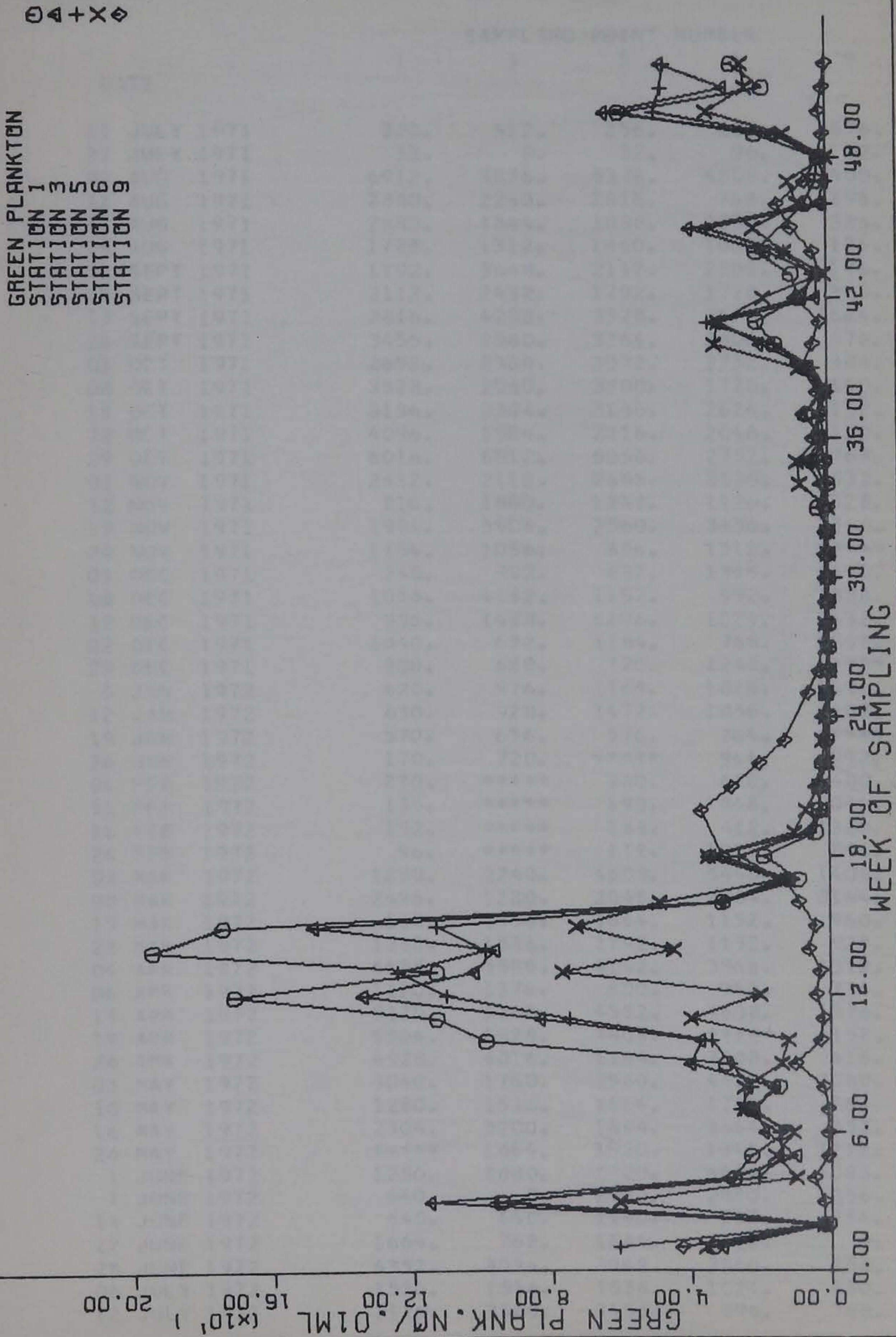


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

GREEN PLANK., NO. 01ML

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	34.	31.	61.	36.	43.
2	27 JULY 1971	1.	2.	3.	2.	2.
3	04 AUG 1971	95.	115.	96.	61.	2.
4	11 AUG 1971	28.	29.	21.	10.	5.
5	17 AUG 1971	23.	10.	14.	16.	1.
6	24 AUG 1971	13.	19.	15.	11.	1.
7	01 SEPT 1971	23.	22.	26.	25.	1.
8	10 SEPT 1971	15.	16.	23.	25.	2.
9	17 SEPT 1971	30.	40.	29.	14.	10.
10	24 SEPT 1971	99.	37.	34.	12.	3.
11	01 OCT 1971	113.	83.	75.	40.	2.
12	08 OCT 1971	171.	134.	110.	20.	4.
13	15 OCT 1971	113.	102.	124.	77.	3.
14	22 OCT 1971	194.	96.	99.	45.	6.
15	29 OCT 1971	174.	148.	113.	73.	4.
16	05 NOV 1971	31.	31.	31.	49.	9.
17	12 NOV 1971	9.	11.	14.	14.	13.
18	19 NOV 1971	19.	35.	26.	35.	31.
19	24 NOV 1971	4.	6.	6.	10.	*****
20	01 DEC 1971	3.	2.	3.	7.	37.
21	08 DEC 1971	3.	4.	3.	3.	28.
22	12 DEC 1971	2.	2.	1.	1.	20.
23	22 DEC 1971	1.	1.	1.	2.	13.
24	29 DEC 1971	0.	2.	0.	1.	*****
25	05 JAN 1972	1.	0.	0.	1.	6.
26	12 JAN 1972	0.	1.	0.	0.	3.
27	19 JAN 1972	0.	0.	0.	1.	*****
28	26 JAN 1972	0.	0.	*****	1.	1.
29	04 FEB 1972	0.	*****	0.	0.	1.
30	11 FEB 1972	0.	*****	0.	0.	1.
31	16 FEB 1972	0.	*****	0.	0.	1.
32	24 FEB 1972	0.	*****	0.	0.	1.
33	02 MAR 1972	3.	1.	1.	0.	0.
34	08 MAR 1972	0.	2.	1.	8.	1.
35	15 MAR 1972	1.	6.	4.	9.	1.
36	22 MAR 1972	2.	1.	1.	2.	4.
37	04 APR 1972	6.	7.	2.	3.	2.
38	06 APR 1972	1.	1.	0.	1.	3.
39	13 APR 1972	6.	5.	4.	8.	7.
40	19 APR 1972	15.	19.	15.	32.	4.
41	26 APR 1972	20.	31.	34.	31.	2.
42	03 MAY 1972	8.	3.	6.	18.	9.
43	10 MAY 1972	10.	3.	4.	1.	2.
44	16 MAY 1972	20.	17.	12.	12.	4.
45	26 MAY 1972	*****	39.	34.	21.	10.
46	01 JUNE 1972	6.	2.	0.	8.	14.
47	07 JUNE 1972	3.	0.	0.	11.	6.
48	14 JUNE 1972	2.	2.	0.	0.	2.
49	22 JUNE 1972	20.	15.	14.	12.	1.
50	28 JUNE 1972	59.	63.	49.	34.	2.
51	06 JULY 1972	18.	29.	47.	23.	1.
52	12 JULY 1972	27.	47.	46.	24.	0.

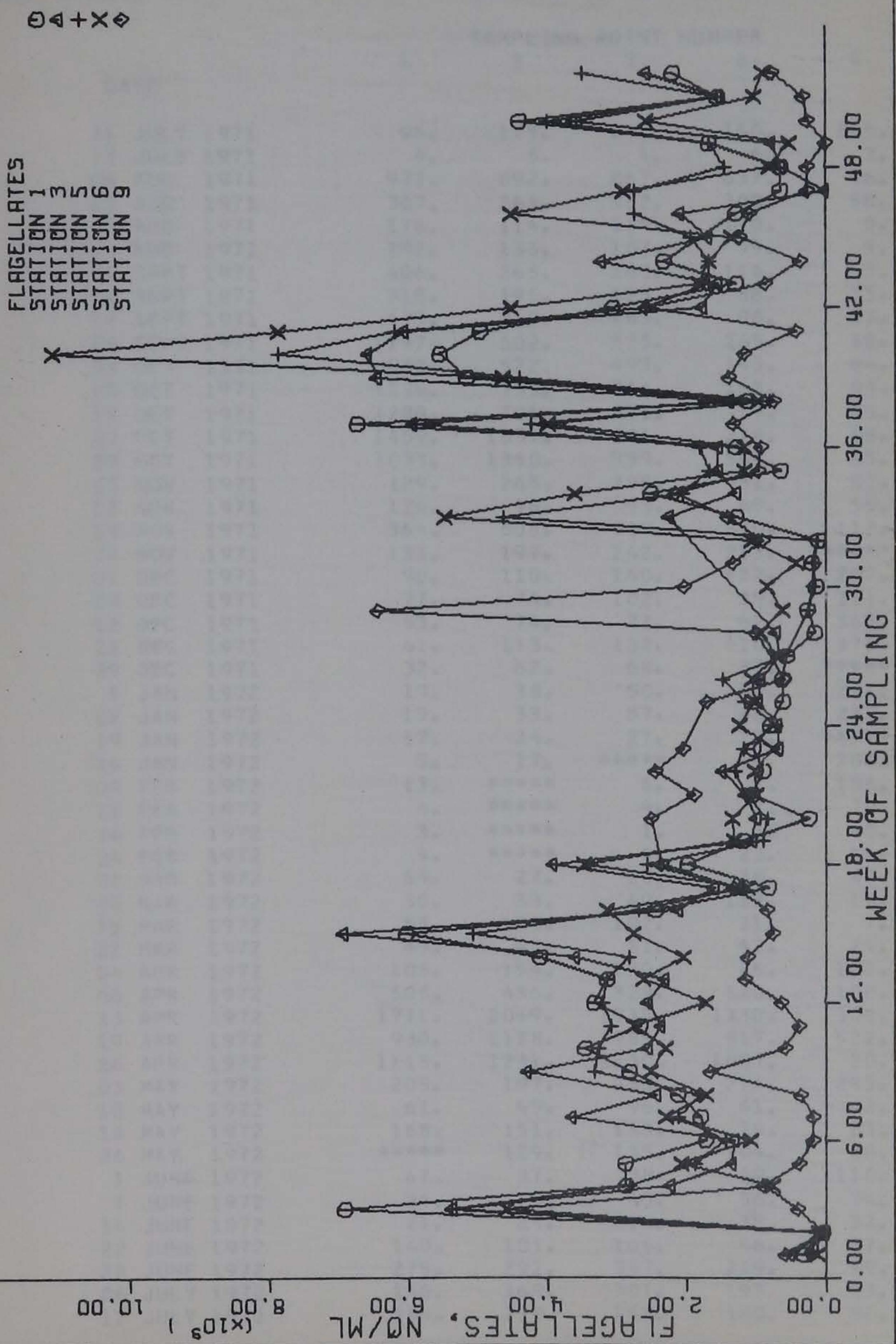


FLAGELLATES, NO/ML

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	320.	512.	256.	128.	576.
2	27 JULY 1971	32.	0.	32.	96.	32.
3	04 AUG 1971	6912.	5376.	5376.	4608.	400.
4	11 AUG 1971	2880.	2240.	2816.	768.	896.
5	17 AUG 1971	2880.	1344.	1888.	2080.	384.
6	24 AUG 1971	1728.	1312.	1440.	1088.	176.
7	01 SEPT 1971	1792.	3648.	2112.	2304.	176.
8	10 SEPT 1971	2112.	2432.	1792.	1728.	368.
9	17 SEPT 1971	2816.	4288.	3328.	2528.	1664.
10	24 SEPT 1971	3456.	2560.	3264.	2304.	576.
11	01 OCT 1971	2652.	2368.	3072.	2752.	384.
12	08 OCT 1971	3328.	2560.	3200.	1728.	640.
13	15 OCT 1971	3136.	2304.	3136.	2624.	1152.
14	22 OCT 1971	4096.	3584.	2816.	2048.	1120.
15	29 OCT 1971	6016.	6912.	5056.	2752.	768.
16	05 NOV 1971	2432.	2112.	2688.	3136.	832.
17	12 NOV 1971	816.	1600.	1248.	1120.	1328.
18	19 NOV 1971	1984.	3904.	2560.	3456.	2368.
19	24 NOV 1971	1184.	1056.	896.	1312.	*****
20	01 DEC 1971	248.	992.	832.	1344.	2496.
21	08 DEC 1971	1056.	1152.	1152.	992.	1888.
22	12 DEC 1971	896.	1488.	1296.	1024.	2432.
23	22 DEC 1971	1040.	672.	1184.	768.	2048.
24	29 DEC 1971	800.	688.	720.	1248.	*****
25	05 JAN 1972	620.	976.	1164.	1024.	1696.
26	12 JAN 1972	630.	928.	1472.	1056.	608.
27	19 JAN 1972	570.	656.	576.	704.	*****
28	26 JAN 1972	170.	720.	*****	944.	992.
29	04 FEB 1972	270.	*****	240.	630.	6400.
30	11 FEB 1972	135.	*****	190.	848.	2016.
31	16 FEB 1972	192.	*****	168.	412.	1328.
32	24 FEB 1972	96.	*****	112.	1056.	896.
33	02 MAR 1972	1280.	2240.	4608.	5440.	1408.
34	08 MAR 1972	2496.	1280.	2048.	3584.	2144.
35	15 MAR 1972	640.	1536.	1664.	1152.	960.
36	22 MAR 1972	1280.	1536.	1792.	1152.	928.
37	04 APR 1972	6688.	5888.	4192.	3968.	1312.
38	06 APR 1972	1120.	1376.	800.	960.	736.
39	13 APR 1972	5120.	6400.	4352.	4608.	1376.
40	19 APR 1972	5504.	6528.	7808.	*****	1152.
41	26 APR 1972	4928.	6016.	6144.	7808.	416.
42	03 MAY 1972	3040.	1760.	2560.	4480.	2560.
43	10 MAY 1972	1280.	1536.	1664.	1792.	864.
44	16 MAY 1972	2304.	3200.	1664.	1664.	352.
45	26 MAY 1972	*****	1664.	1920.	1344.	1216.
46	01 JUNE 1972	1280.	2080.	2720.	4480.	1088.
47	07 JUNE 1972	640.	0.	2720.	2880.	256.
48	14 JUNE 1972	640.	640.	1440.	800.	256.
49	22 JUNE 1972	1664.	768.	1664.	512.	0.
50	28 JUNE 1972	4352.	3584.	3968.	2560.	256.
51	06 JULY 1972	1536.	1536.	1536.	1024.	320.
52	12 JULY 1972	2176.	2560.	3456.	896.	768.

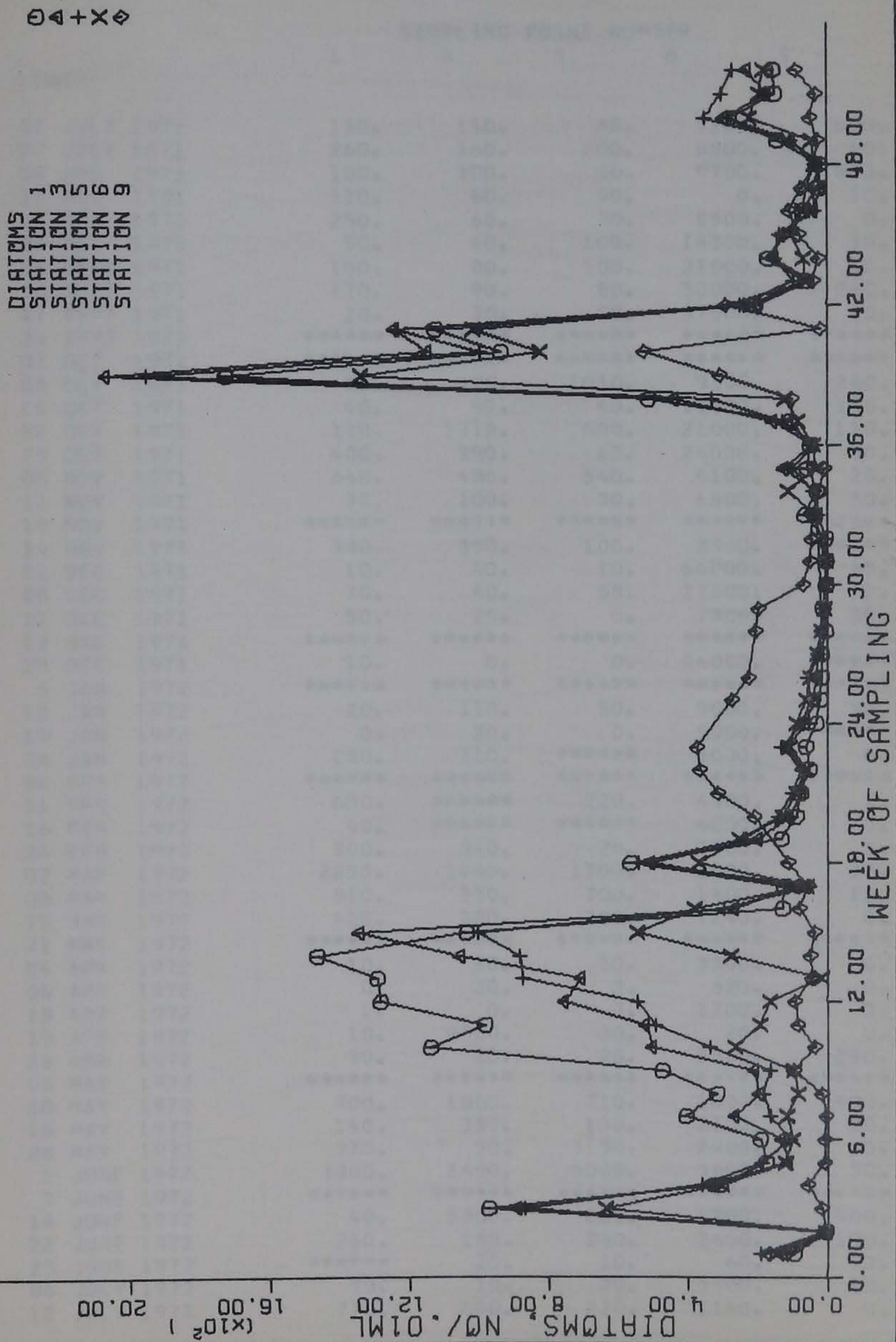


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

DIATOMS, NO./.01 ML

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	96.	175.	191.	150.	115.
2	27 JULY 1971	3.	5.	4.	6.	3.
3	04 AUG 1971	973.	892.	867.	637.	16.
4	11 AUG 1971	307.	344.	362.	303.	56.
5	17 AUG 1971	178.	114.	189.	120.	8.
6	24 AUG 1971	192.	133.	107.	99.	9.
7	01 SEPT 1971	406.	265.	163.	116.	5.
8	10 SEPT 1971	315.	195.	185.	86.	15.
9	17 SEPT 1971	473.	210.	163.	98.	97.
10	24 SEPT 1971	1137.	502.	335.	265.	38.
11	01 OCT 1971	980.	522.	493.	193.	84.
12	08 OCT 1971	1279.	753.	544.	163.	93.
13	15 OCT 1971	1289.	706.	871.	17.	43.
14	22 OCT 1971	1459.	1051.	881.	278.	48.
15	29 OCT 1971	1033.	1340.	999.	544.	35.
16	05 NOV 1971	129.	265.	295.	381.	82.
17	12 NOV 1971	124.	96.	53.	60.	55.
18	19 NOV 1971	564.	508.	539.	370.	112.
19	24 NOV 1971	133.	197.	242.	253.	*****
20	01 DEC 1971	90.	110.	140.	127.	207.
21	08 DEC 1971	77.	74.	102.	89.	311.
22	12 DEC 1971	53.	74.	72.	62.	365.
23	22 DEC 1971	61.	113.	132.	110.	371.
24	29 DEC 1971	32.	62.	68.	87.	*****
25	05 JAN 1972	19.	38.	50.	59.	271.
26	12 JAN 1972	15.	33.	57.	48.	223.
27	19 JAN 1972	17.	24.	27.	29.	*****
28	26 JAN 1972	5.	17.	*****	18.	206.
29	04 FEB 1972	13.	*****	6.	7.	196.
30	11 FEB 1972	4.	*****	4.	2.	70.
31	16 FEB 1972	3.	*****	1.	3.	48.
32	24 FEB 1972	4.	*****	4.	23.	46.
33	02 MAR 1972	64.	27.	28.	38.	42.
34	08 MAR 1972	30.	33.	40.	113.	19.
35	15 MAR 1972	55.	124.	102.	31.	7.
36	22 MAR 1972	49.	42.	31.	42.	24.
37	04 APR 1972	105.	154.	130.	86.	102.
38	06 APR 1972	508.	436.	328.	120.	100.
39	13 APR 1972	1711.	2049.	1938.	1330.	306.
40	19 APR 1972	930.	1138.	989.	817.	522.
41	26 APR 1972	1115.	1231.	1230.	1007.	20.
42	03 MAY 1972	205.	197.	250.	216.	288.
43	10 MAY 1972	61.	49.	96.	61.	42.
44	16 MAY 1972	168.	151.	148.	70.	23.
45	26 MAY 1972	*****	129.	135.	104.	80.
46	01 JUNE 1972	67.	37.	38.	69.	110.
47	07 JUNE 1972	24.	18.	40.	56.	74.
48	14 JUNE 1972	21.	29.	18.	38.	32.
49	22 JUNE 1972	140.	101.	104.	46.	27.
50	28 JUNE 1972	275.	292.	347.	219.	49.
51	06 JULY 1972	148.	169.	301.	193.	33.
52	12 JULY 1972	154.	228.	268.	180.	90.



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

FECAL COLIFORM ORG. NO/100ML

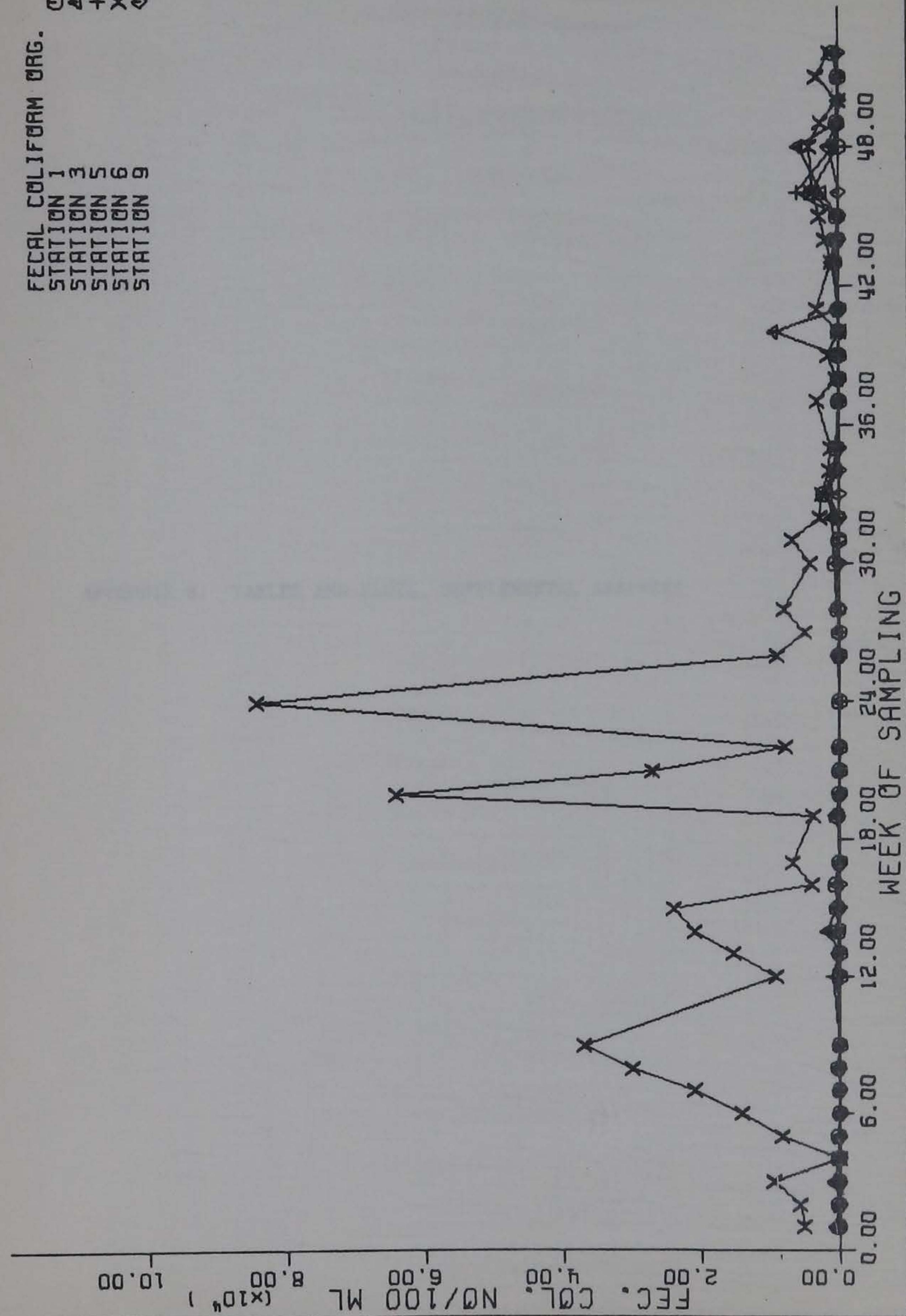
DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	150.	110.	80.	5200.	600.
2	27 JULY 1971	260.	160.	200.	5800.	10.
3	04 AUG 1971	100.	100.	50.	9700.	820.
4	11 AUG 1971	120.	60.	50.	0.	10.
5	17 AUG 1971	250.	60.	30.	8500.	0.
6	24 AUG 1971	50.	40.	100.	14300.	30.
7	01 SEPT 1971	100.	80.	100.	21000.	40.
8	10 SEPT 1971	170.	90.	80.	30000.	240.
9	17 SEPT 1971	20.	30.	50.	37000.	0.
10	24 SEPT 1971	*****	*****	*****	*****	*****
11	01 OCT 1971	*****	*****	*****	*****	*****
12	08 OCT 1971	80.	400.	1010.	9300.	240.
13	15 OCT 1971	40.	90.	40.	15400.	150.
14	22 OCT 1971	130.	1710.	400.	21000.	110.
15	29 OCT 1971	400.	390.	60.	24000.	80.
16	05 NOV 1971	640.	480.	540.	4100.	20.
17	12 NOV 1971	30.	100.	30.	6800.	30.
18	19 NOV 1971	*****	*****	*****	*****	*****
19	24 NOV 1971	380.	350.	100.	3900.	*****
20	01 DEC 1971	10.	40.	10.	64000.	40.
21	08 DEC 1971	70.	40.	50.	27000.	30.
22	12 DEC 1971	50.	20.	0.	7800.	50.
23	22 DEC 1971	*****	*****	*****	*****	*****
24	29 DEC 1971	10.	0.	0.	84000.	*****
25	05 JAN 1972	*****	*****	*****	*****	*****
26	12 JAN 1972	20.	110.	50.	9000.	30.
27	19 JAN 1972	0.	20.	0.	5000.	*****
28	26 JAN 1972	280.	310.	*****	8000.	0.
29	04 FEB 1972	*****	*****	*****	*****	*****
30	11 FEB 1972	630.	*****	220.	4300.	0.
31	16 FEB 1972	40.	*****	*****	6800.	0.
32	24 FEB 1972	300.	940.	20.	2800.	0.
33	02 MAR 1972	2250.	1440.	1700.	2500.	30.
34	08 MAR 1972	510.	330.	700.	1400.	10.
35	15 MAR 1972	420.	380.	250.	1240.	0.
36	22 MAR 1972	*****	*****	*****	*****	*****
37	04 APR 1972	10.	30.	10.	3300.	0.
38	06 APR 1972	0.	20.	0.	320.	0.
39	13 APR 1972	0.	0.	0.	1700.	0.
40	19 APR 1972	10.	9300.	30.	20.	0.
41	26 APR 1972	30.	20.	20.	3300.	290.
42	03 MAY 1972	*****	*****	*****	*****	*****
43	10 MAY 1972	700.	1000.	710.	1000.	590.
44	16 MAY 1972	140.	350.	130.	2100.	20.
45	26 MAY 1972	270.	50.	50.	2900.	0.
46	01 JUNE 1972	3800.	2400.	6000.	3800.	80.
47	07 JUNE 1972	*****	*****	*****	*****	*****
48	14 JUNE 1972	40.	5800.	600.	4200.	1500.
49	22 JUNE 1972	260.	180.	240.	2600.	190.
50	28 JUNE 1972	*****	20.	10.	60.	50.
51	06 JULY 1972	70.	10.	20.	3300.	10.
52	12 JULY 1972	770.	640.	220.	1160.	0.

FECAL COLIFORM ORG.
STATION 1
STATION 3
STATION 5
STATION 6
STATION 9

Θ □ + X ◊

CC

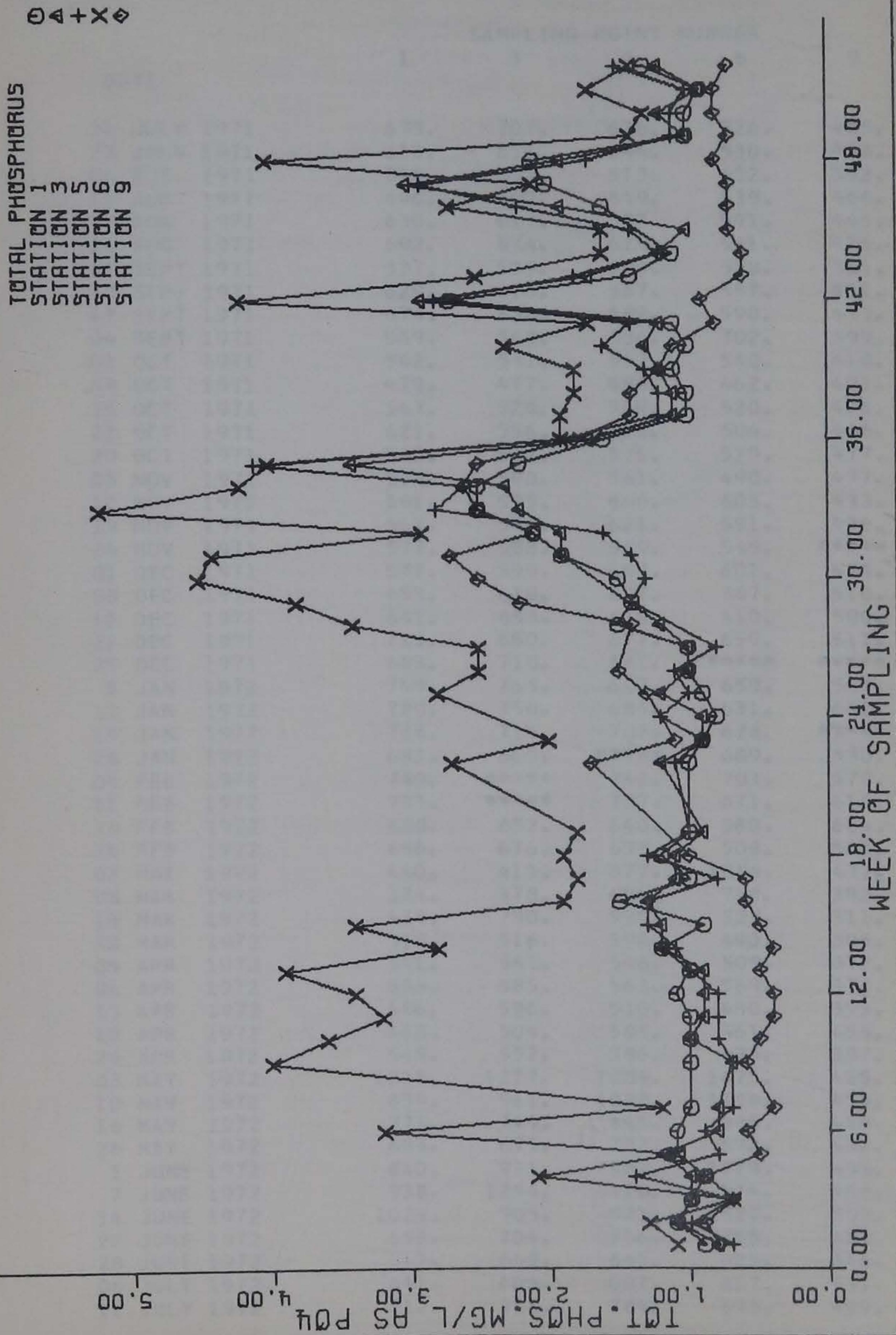


APPENDIX B. TABLES AND PLOTS, SUPPLEMENTAL ANALYSES

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISIONTOTAL PHOSPHORUS MG/L AS PO₄

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	0.9	0.8	0.7	1.1	0.8
2	27 JULY 1971	1.1	1.1	1.0	1.3	0.9
3	04 AUG 1971	1.0	1.0	0.7	0.7	0.7
4	11 AUG 1971	0.9	1.0	1.4	2.1	0.9
5	17 AUG 1971	1.1	1.2	0.8	1.1	0.5
6	24 AUG 1971	1.1	0.8	0.9	3.2	0.6
7	01 SEPT 1971	1.0	0.8	0.7	1.2	0.4
8	10 SEPT 1971	*****	*****	*****	*****	*****
9	17 SEPT 1971	1.0	0.7	0.7	4.0	0.6
10	24 SEPT 1971	1.0	1.0	0.8	3.6	0.5
11	01 OCT 1971	1.0	0.9	0.8	3.2	0.4
12	08 OCT 1971	1.1	0.9	0.8	3.4	0.4
13	15 OCT 1971	1.0	0.9	1.0	3.9	0.5
14	22 OCT 1971	1.2	1.2	1.1	2.8	0.4
15	29 OCT 1971	0.9	1.2	1.3	3.4	0.5
16	05 NOV 1971	1.5	1.3	1.3	1.9	0.6
17	12 NOV 1971	1.0	1.1	0.8	1.8	0.6
18	19 NOV 1971	1.2	1.1	1.3	1.9	1.0
19	24 NOV 1971	1.0	0.9	1.0	1.8	*****
20	01 DEC 1971	*****	*****	*****	*****	*****
21	08 DEC 1971	*****	*****	*****	*****	*****
22	12 DEC 1971	1.0	1.2	1.1	2.7	1.7
23	22 DEC 1971	0.9	0.9	0.9	2.0	1.1
24	29 DEC 1971	0.8	0.9	1.2	*****	*****
25	05 JAN 1972	0.9	1.2	1.0	2.8	1.3
26	12 JAN 1972	1.0	1.0	1.1	2.5	1.5
27	19 JAN 1972	1.0	1.0	0.8	2.5	*****
28	26 JAN 1972	1.5	1.2	*****	3.4	1.4
29	04 FEB 1972	1.4	*****	1.4	3.8	2.2
30	11 FEB 1972	1.5	*****	1.3	4.5	2.5
31	16 FEB 1972	1.9	1.9	1.4	4.4	2.7
32	24 FEB 1972	2.1	1.9	1.6	2.9	2.1
33	02 MAR 1972	2.5	2.2	2.8	5.2	2.5
34	08 MAR 1972	2.5	2.3	2.6	4.2	2.6
35	15 MAR 1972	2.2	3.4	4.1	4.0	2.5
36	22 MAR 1972	1.6	1.7	1.9	1.9	1.8
37	04 APR 1972	1.0	1.1	1.2	1.9	1.4
38	06 APR 1972	1.0	1.1	1.2	1.8	1.4
39	13 APR 1972	1.1	1.2	1.3	1.8	1.2
40	19 APR 1972	1.0	1.3	1.6	2.3	1.1
41	26 APR 1972	1.1	1.2	1.4	1.7	0.8
42	03 MAY 1972	2.7	2.9	2.8	4.2	0.9
43	10 MAY 1972	1.4	1.7	1.8	2.5	0.6
44	16 MAY 1972	1.1	1.2	1.2	1.6	0.6
45	26 MAY 1972	*****	1.0	1.4	1.6	0.7
46	01 JUNE 1972	1.6	1.9	2.2	2.7	0.7
47	07 JUNE 1972	2.0	3.0	2.9	2.1	0.7
48	14 JUNE 1972	2.1	1.9	1.7	4.0	0.8
49	22 JUNE 1972	1.0	1.0	1.1	1.4	0.7
50	28 JUNE 1972	1.0	1.2	1.1	1.3	0.8
51	06 JULY 1972	0.9	0.9	1.0	1.7	0.8
52	12 JULY 1972	1.3	1.2	1.5	1.4	0.7



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

TOTAL SOLIDS, MG/L

DATE OF REPORT: 20 AUG. 1972

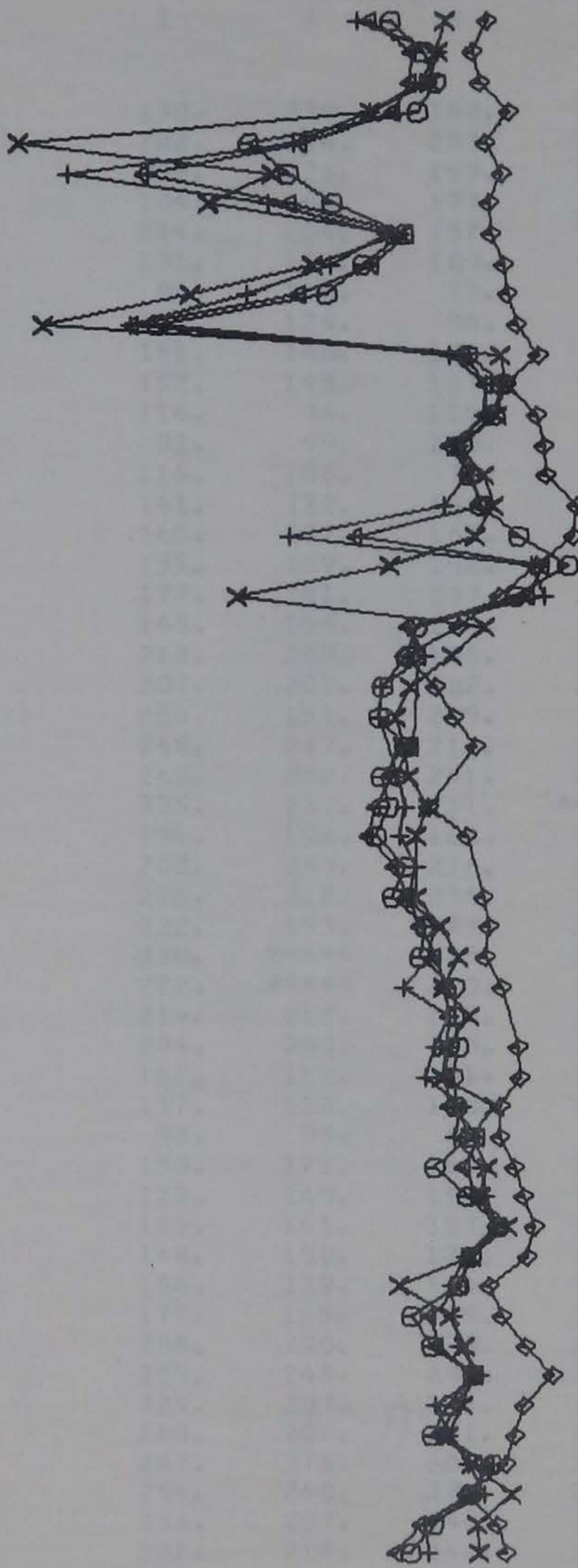
WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	675.	707.	636.	526.	465.
2	27 JULY 1971	623.	654.	644.	530.	486.
3	04 AUG 1971	546.	543.	513.	452.	552.
4	11 AUG 1971	496.	502.	549.	539.	466.
5	17 AUG 1971	630.	613.	592.	591.	445.
6	24 AUG 1971	592.	574.	619.	561.	426.
7	01 SEPT 1971	537.	535.	520.	538.	361.
8	10 SEPT 1971	629.	616.	567.	557.	421.
9	17 SEPT 1971	674.	630.	582.	590.	473.
10	24 SEPT 1971	569.	563.	586.	702.	499.
11	01 OCT 1971	542.	541.	552.	540.	418.
12	08 OCT 1971	479.	477.	484.	462.	401.
13	15 OCT 1971	547.	528.	510.	520.	426.
14	22 OCT 1971	621.	556.	518.	504.	446.
15	29 OCT 1971	543.	522.	575.	539.	477.
16	05 NOV 1971	574.	590.	561.	490.	477.
17	12 NOV 1971	581.	595.	640.	605.	433.
18	19 NOV 1971	567.	594.	621.	591.	436.
19	24 NOV 1971	577.	588.	589.	545.	*****
20	01 DEC 1971	577.	599.	687.	601.	474.
21	08 DEC 1971	653.	618.	632.	567.	510.
22	12 DEC 1971	641.	653.	619.	610.	500.
23	22 DEC 1971	713.	680.	677.	659.	511.
24	29 DEC 1971	683.	710.	661.	*****	*****
25	5 JAN 1972	749.	765.	697.	659.	547.
26	12 JAN 1972	720.	750.	684.	631.	632.
27	19 JAN 1972	738.	714.	702.	678.	*****
28	26 JAN 1972	683.	665.	*****	689.	530.
29	04 FEB 1972	740.	*****	742.	703.	578.
30	11 FEB 1972	733.	*****	737.	671.	616.
31	16 FEB 1972	680.	652.	640.	580.	684.
32	24 FEB 1972	656.	676.	675.	508.	565.
33	02 MAR 1972	440.	411.	377.	1054.	477.
34	08 MAR 1972	324.	378.	404.	718.	392.
35	15 MAR 1972	434.	790.	935.	527.	311.
36	22 MAR 1972	515.	516.	598.	490.	305.
37	04 APR 1972	541.	541.	546.	509.	372.
38	06 APR 1972	558.	585.	563.	569.	378.
39	13 APR 1972	486.	506.	510.	480.	393.
40	19 APR 1972	468.	504.	505.	461.	459.
41	26 APR 1972	545.	552.	586.	473.	387.
42	03 MAY 1972	1225.	1277.	1284.	1475.	435.
43	10 MAY 1972	854.	911.	1028.	1154.	455.
44	16 MAY 1972	773.	749.	845.	885.	465.
45	26 MAY 1972	683.	675.	722.	692.	492.
46	1 JUNE 1972	840.	931.	982.	1113.	498.
47	7 JUNE 1972	938.	1254.	1421.	974.	468.
48	14 JUNE 1972	1024.	905.	925.	1527.	503.
49	22 JUNE 1972	653.	704.	756.	755.	453.
50	28 JUNE 1972	613.	668.	645.	623.	516.
51	06 JULY 1972	641.	666.	607.	607.	531.
52	12 JULY 1972	712.	756.	784.	593.	499.

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TOTAL SOLIDS
STATION 1
STATION 3
STATION 5
STATION 6
STATION 8
STATION 9

TOTAL SOLIDS, MG/L ($\times 10^2$)
0.00 4.00 8.00 12.00 16.00 20.00

12.00 16.00 24.00 30.00 36.00 42.00 48.00
WEEK OF SAMPLING



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

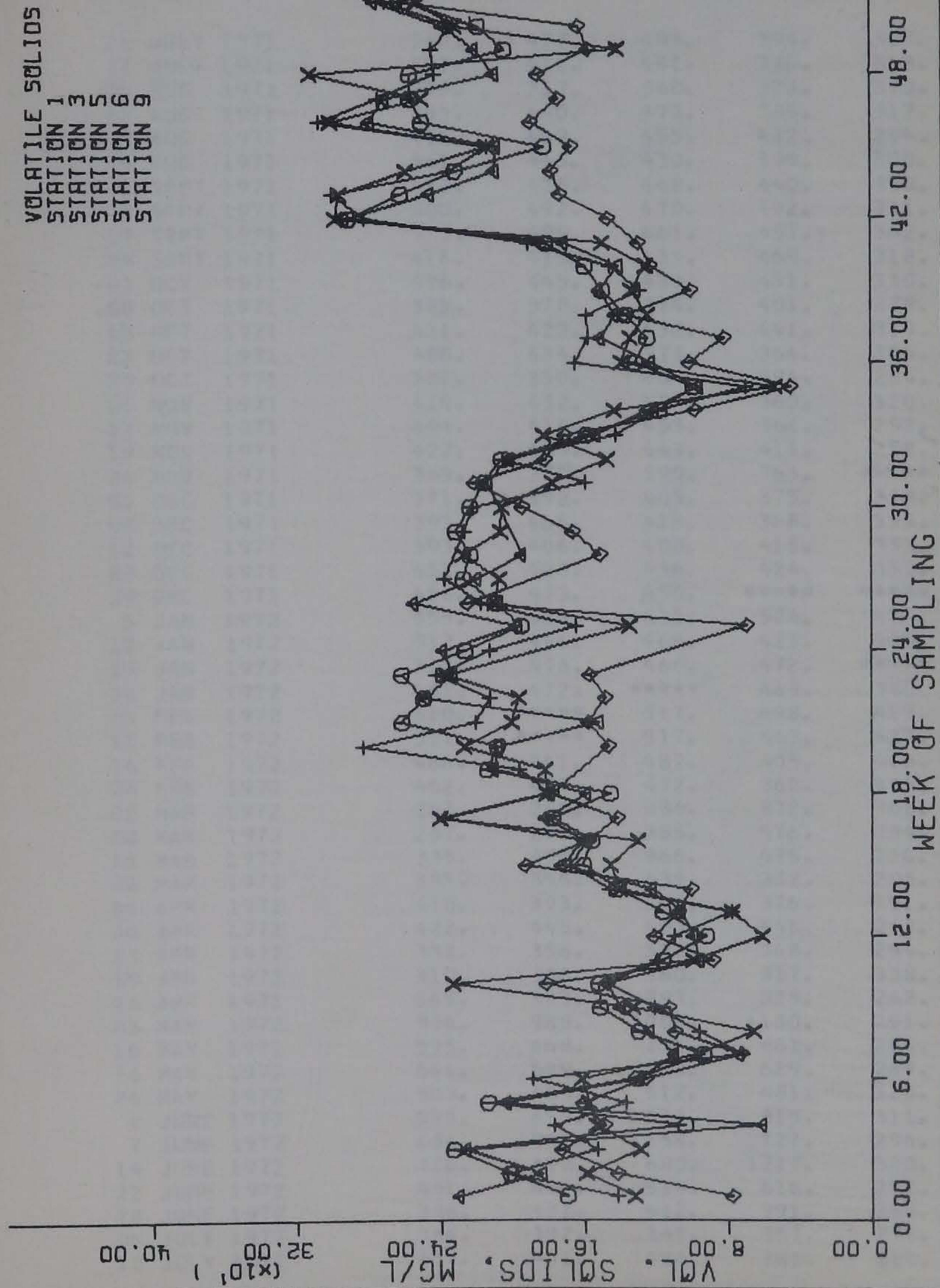
VOLATILE SOLIDS, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	170.	230.	142.	132.	78.
2	27 JULY 1971	202.	184.	203.	159.	142.
3	04 AUG 1971	233.	226.	153.	129.	173.
4	11 AUG 1971	104.	61.	177.	154.	149.
5	17 AUG 1971	214.	204.	137.	158.	161.
6	24 AUG 1971	131.	129.	189.	162.	126.
7	01 SEPT 1971	94.	110.	72.	97.	73.
8	10 SEPT 1971	130.	124.	96.	66.	110.
9	17 SEPT 1971	151.	140.	121.	133.	113.
10	24 SEPT 1971	152.	148.	147.	233.	181.
11	01 OCT 1971	116.	96.	119.	99.	88.
12	08 OCT 1971	92.	99.	110.	61.	121.
13	15 OCT 1971	116.	106.	78.	78.	107.
14	22 OCT 1971	141.	122.	146.	140.	100.
15	29 OCT 1971	160.	172.	167.	145.	192.
16	05 NOV 1971	155.	159.	158.	130.	157.
17	12 NOV 1971	177.	181.	237.	239.	141.
18	19 NOV 1971	145.	158.	179.	180.	178.
19	24 NOV 1971	213.	209.	195.	181.	*****
20	01 DEC 1971	207.	207.	282.	226.	146.
21	08 DEC 1971	260.	151.	219.	199.	157.
22	12 DEC 1971	248.	247.	211.	195.	147.
23	22 DEC 1971	260.	232.	241.	235.	156.
24	29 DEC 1971	225.	237.	211.	*****	*****
25	5 JAN 1972	194.	196.	163.	134.	69.
26	12 JAN 1972	208.	253.	216.	208.	223.
27	19 JAN 1972	226.	218.	236.	206.	*****
28	26 JAN 1972	222.	193.	*****	226.	150.
29	04 FEB 1972	230.	*****	225.	205.	165.
30	11 FEB 1972	222.	*****	220.	204.	193.
31	16 FEB 1972	214.	212.	158.	176.	219.
32	24 FEB 1972	204.	200.	203.	146.	180.
33	02 MAR 1972	157.	152.	141.	181.	169.
34	08 MAR 1972	117.	123.	118.	142.	97.
35	15 MAR 1972	98.	95.	69.	53.	44.
36	22 MAR 1972	130.	121.	163.	138.	100.
37	04 APR 1972	123.	149.	156.	133.	81.
38	06 APR 1972	135.	141.	157.	123.	135.
39	13 APR 1972	148.	150.	127.	132.	99.
40	19 APR 1972	158.	139.	144.	124.	122.
41	26 APR 1972	179.	169.	189.	148.	128.
42	03 MAY 1972	288.	290.	279.	295.	145.
43	10 MAY 1972	259.	243.	297.	293.	171.
44	16 MAY 1972	229.	207.	232.	256.	176.
45	26 MAY 1972	180.	206.	211.	211.	165.
46	1 JUNE 1972	247.	276.	304.	298.	187.
47	7 JUNE 1972	254.	268.	271.	247.	172.
48	14 JUNE 1972	254.	207.	240.	309.	183.
49	22 JUNE 1972	202.	218.	242.	139.	155.
50	28 JUNE 1972	216.	235.	230.	229.	161.
51	06 JULY 1972	255.	273.	267.	250.	260.
52	12 JULY 1972	254.	315.	300.	212.	180.

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VOLATILE SOLIDS
STATION 1
STATION 3
STATION 5
STATION 6
STATION 8



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

FIXED SOLIDS, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	560.	477.	495.	394.	387.
2	27 JULY 1971	421.	471.	441.	370.	343.
3	04 AUG 1971	313.	317.	360.	323.	379.
4	11 AUG 1971	393.	440.	372.	385.	317.
5	17 AUG 1971	416.	409.	455.	432.	284.
6	24 AUG 1971	461.	445.	430.	399.	300.
7	01 SEPT 1971	443.	425.	448.	440.	298.
8	10 SEPT 1971	500.	492.	470.	492.	311.
9	17 SEPT 1971	523.	490.	461.	457.	362.
10	24 SEPT 1971	416.	415.	439.	469.	318.
11	01 OCT 1971	426.	445.	433.	431.	330.
12	08 OCT 1971	388.	378.	374.	401.	279.
13	15 OCT 1971	431.	422.	432.	441.	319.
14	22 OCT 1971	480.	434.	371.	364.	346.
15	29 OCT 1971	382.	350.	408.	394.	284.
16	05 NOV 1971	419.	432.	404.	360.	320.
17	12 NOV 1971	404.	414.	403.	366.	292.
18	19 NOV 1971	422.	435.	443.	411.	258.
19	24 NOV 1971	363.	379.	395.	363.	*****
20	01 DEC 1971	371.	392.	405.	375.	328.
21	08 DEC 1971	393.	466.	413.	368.	353.
22	12 DEC 1971	393.	406.	408.	415.	353.
23	22 DEC 1971	452.	448.	436.	424.	355.
24	29 DEC 1971	458.	473.	450.	*****	*****
25	05 JAN 1972	555.	569.	535.	524.	474.
26	12 JAN 1972	512.	496.	468.	423.	409.
27	19 JAN 1972	513.	496.	466.	472.	*****
28	26 JAN 1972	461.	472.	*****	463.	380.
29	04 FEB 1972	510.	*****	517.	498.	413.
30	11 FEB 1972	511.	*****	517.	463.	423.
31	16 FEB 1972	466.	441.	482.	405.	466.
32	24 FEB 1972	452.	477.	472.	362.	385.
33	02 MAR 1972	283.	258.	236.	872.	308.
34	08 MAR 1972	207.	255.	285.	576.	294.
35	15 MAR 1972	335.	695.	866.	475.	266.
36	22 MAR 1972	385.	395.	435.	352.	205.
37	04 APR 1972	418.	393.	390.	376.	291.
38	06 APR 1972	422.	445.	405.	446.	243.
39	13 APR 1972	338.	356.	383.	348.	294.
40	19 APR 1972	310.	366.	360.	337.	338.
41	26 APR 1972	365.	383.	397.	325.	262.
42	03 MAY 1972	936.	988.	1005.	1180.	291.
43	10 MAY 1972	595.	668.	731.	861.	284.
44	16 MAY 1972	544.	539.	613.	629.	289.
45	26 MAY 1972	503.	469.	512.	481.	328.
46	01 JUNE 1972	593.	655.	678.	815.	311.
47	07 JUNE 1972	684.	987.	1150.	727.	296.
48	14 JUNE 1972	770.	698.	685.	1217.	320.
49	22 JUNE 1972	451.	486.	514.	616.	298.
50	28 JUNE 1972	396.	431.	412.	391.	350.
51	06 JULY 1972	386.	392.	345.	357.	271.
52	12 JULY 1972	458.	441.	484.	381.	319.

DATA

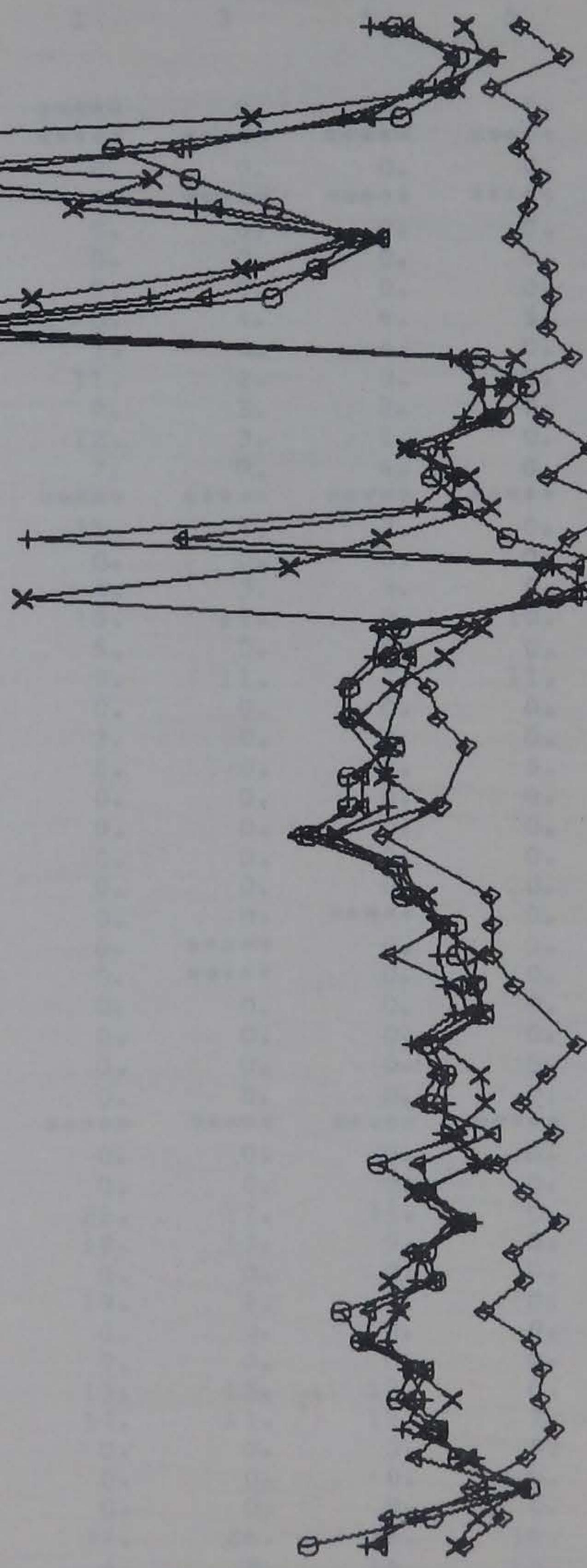
FIXED SOLIDS

STATION 1
STATION 3
STATION 5
STATION 6
STATION 9

4.00 6.00 8.00 10.00 (x10²) 12.00

4.00 6.00 8.00 10.00 (x10²) 12.00

0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00
WEEK OF SAMPLING

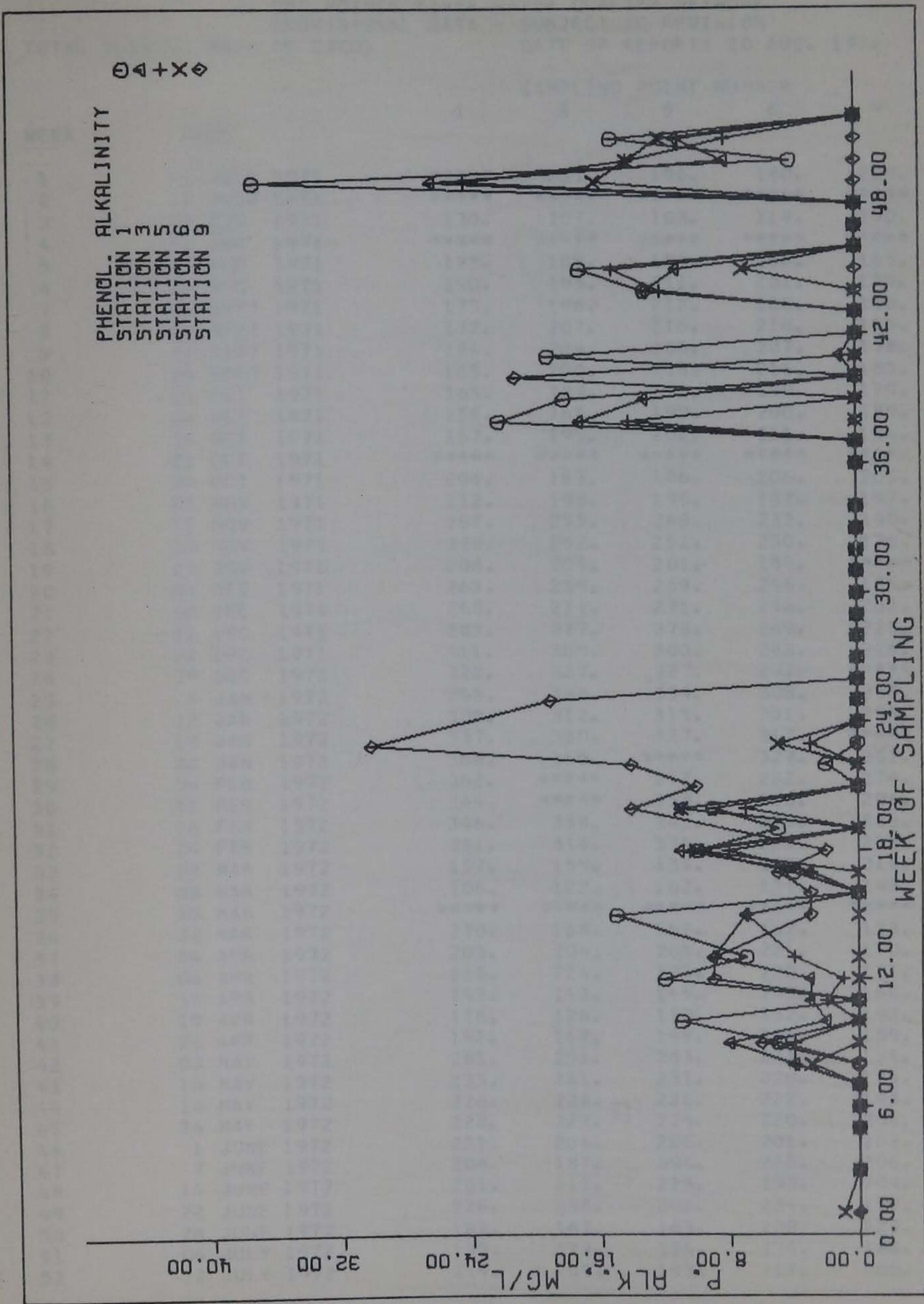


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

PHENOL ALKAL., MG/L AS CACO₃

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	*****	0.	0.	1.	0.
2	27 JULY 1971	*****	*****	*****	*****	*****
3	04 AUG 1971	0.	0.	0.	0.	0.
4	11 AUG 1971	*****	*****	*****	*****	*****
5	17 AUG 1971	0.	0.	0.	0.	0.
6	24 AUG 1971	0.	0.	0.	0.	0.
7	01 SEPT 1971	0.	0.	0.	0.	0.
8	10 SEPT 1971	0.	4.	4.	3.	0.
9	17 SEPT 1971	5.	8.	4.	0.	6.
10	24 SEPT 1971	11.	2.	0.	0.	0.
11	01 OCT 1971	0.	3.	2.	0.	0.
12	08 OCT 1971	12.	3.	1.	0.	9.
13	15 OCT 1971	7.	9.	4.	0.	9.
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	15.	7.	7.	0.	3.
16	05 NOV 1971	0.	0.	0.	0.	3.
17	12 NOV 1971	4.	3.	3.	0.	5.
18	19 NOV 1971	10.	11.	8.	10.	2.
19	24 NOV 1971	5.	0.	0.	0.	*****
20	01 DEC 1971	9.	11.	7.	11.	14.
21	08 DEC 1971	0.	0.	0.	0.	10.
22	12 DEC 1971	2.	0.	0.	0.	14.
23	22 DEC 1971	0.	0.	3.	5.	30.
24	29 DEC 1971	0.	0.	0.	0.	*****
25	5 JAN 1972	0.	0.	0.	0.	19.
26	12 JAN 1972	0.	0.	0.	0.	0.
27	19 JAN 1972	0.	0.	0.	0.	*****
28	26 JAN 1972	0.	0.	*****	0.	0.
29	04 FEB 1972	0.	*****	0.	0.	0.
30	11 FEB 1972	0.	*****	0.	0.	0.
31	16 FEB 1972	0.	0.	0.	0.	0.
32	24 FEB 1972	0.	0.	0.	0.	0.
33	02 MAR 1972	0.	0.	0.	0.	0.
34	08 MAR 1972	0.	0.	0.	0.	0.
35	15 MAR 1972	*****	*****	*****	*****	*****
36	22 MAR 1972	0.	0.	0.	0.	0.
37	04 APR 1972	0.	0.	0.	0.	0.
38	06 APR 1972	22.	17.	14.	0.	0.
39	13 APR 1972	18.	13.	0.	0.	0.
40	19 APR 1972	0.	0.	0.	0.	21.
41	26 APR 1972	19.	1.	0.	0.	0.
42	03 MAY 1972	0.	0.	0.	0.	0.
43	10 MAY 1972	0.	0.	0.	0.	0.
44	16 MAY 1972	13.	13.	12.	0.	0.
45	26 MAY 1972	17.	11.	15.	7.	0.
46	1 JUNE 1972	0.	0.	0.	0.	0.
47	7 JUNE 1972	0.	0.	0.	0.	0.
48	14 JUNE 1972	0.	0.	0.	0.	0.
49	22 JUNE 1972	37.	26.	24.	16.	0.
50	28 JUNE 1972	4.	8.	14.	14.	0.
51	06 JULY 1972	15.	11.	8.	12.	0.
52	12 JULY 1972	0.	0.	0.	0.	0.



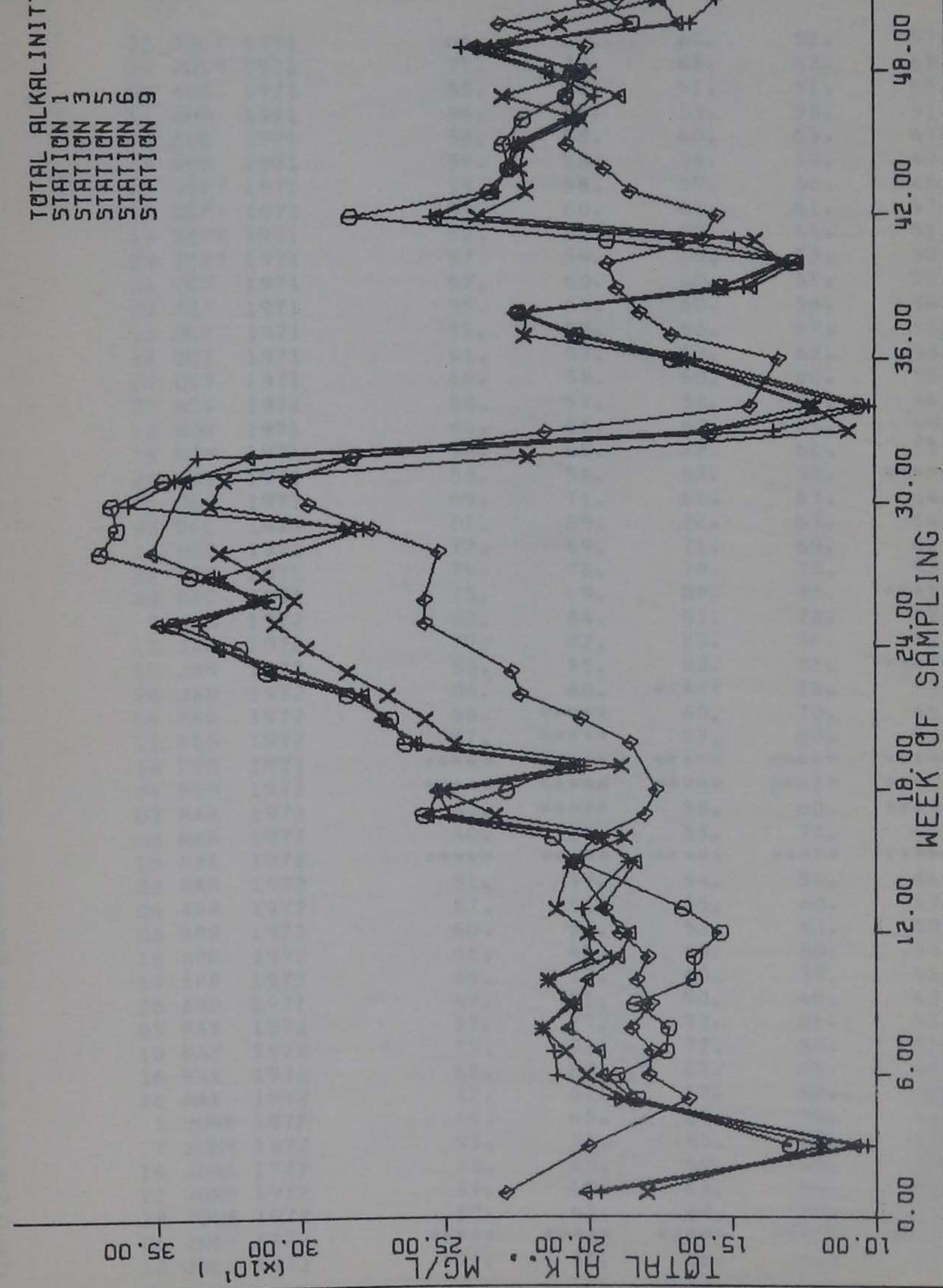
TOTAL ALKAL., MG/L AS CACO₃DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	*****	201.	196.	180.	229.
2	27 JULY 1971	*****	*****	*****	*****	*****
3	04 AUG 1971	130.	107.	103.	118.	200.
4	11 AUG 1971	*****	*****	*****	*****	*****
5	17 AUG 1971	183.	185.	191.	188.	165.
6	24 AUG 1971	190.	195.	211.	201.	179.
7	01 SEPT 1971	173.	196.	212.	208.	178.
8	10 SEPT 1971	172.	207.	216.	216.	185.
9	17 SEPT 1971	184.	204.	205.	207.	178.
10	24 SEPT 1971	163.	200.	214.	214.	183.
11	01 OCT 1971	163.	189.	192.	199.	179.
12	08 OCT 1971	154.	185.	199.	200.	189.
13	15 OCT 1971	167.	195.	202.	211.	194.
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	204.	183.	186.	206.	205.
16	05 NOV 1971	212.	198.	195.	187.	197.
17	12 NOV 1971	257.	255.	248.	232.	180.
18	19 NOV 1971	228.	252.	252.	250.	176.
19	24 NOV 1971	208.	204.	201.	188.	*****
20	01 DEC 1971	263.	259.	259.	246.	185.
21	08 DEC 1971	268.	271.	271.	256.	202.
22	12 DEC 1971	283.	277.	278.	269.	223.
23	22 DEC 1971	311.	309.	300.	283.	226.
24	29 DEC 1971	320.	327.	327.	297.	*****
25	5 JAN 1972	343.	348.	334.	308.	256.
26	12 JAN 1972	308.	312.	315.	301.	256.
27	19 JAN 1972	337.	330.	327.	312.	*****
28	26 JAN 1972	368.	350.	*****	327.	251.
29	04 FEB 1972	362.	*****	277.	282.	274.
30	11 FEB 1972	364.	*****	358.	330.	296.
31	16 FEB 1972	346.	338.	342.	325.	303.
32	24 FEB 1972	281.	316.	334.	220.	280.
33	02 MAR 1972	157.	159.	135.	109.	214.
34	08 MAR 1972	106.	122.	102.	121.	143.
35	15 MAR 1972	*****	*****	*****	*****	*****
36	22 MAR 1972	170.	168.	162.	167.	133.
37	04 APR 1972	203.	204.	201.	221.	170.
38	06 APR 1972	223.	224.	223.	220.	181.
39	13 APR 1972	153.	142.	145.	153.	189.
40	19 APR 1972	128.	126.	130.	132.	192.
41	26 APR 1972	192.	167.	148.	141.	159.
42	03 MAY 1972	281.	251.	253.	237.	154.
43	10 MAY 1972	233.	231.	231.	220.	184.
44	16 MAY 1972	226.	226.	226.	222.	193.
45	26 MAY 1972	228.	222.	224.	220.	206.
46	1 JUNE 1972	221.	204.	206.	201.	202.
47	7 JUNE 1972	206.	187.	196.	228.	206.
48	14 JUNE 1972	201.	212.	213.	198.	204.
49	22 JUNE 1972	228.	238.	242.	234.	199.
50	28 JUNE 1972	183.	167.	163.	208.	229.
51	06 JULY 1972	199.	173.	154.	174.	188.
52	12 JULY 1972	214.	204.	193.	217.	200.

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TOTAL ALKALINITY
STATION 1 35.00
STATION 2 35.00
STATION 3 35.00
STATION 4 35.00

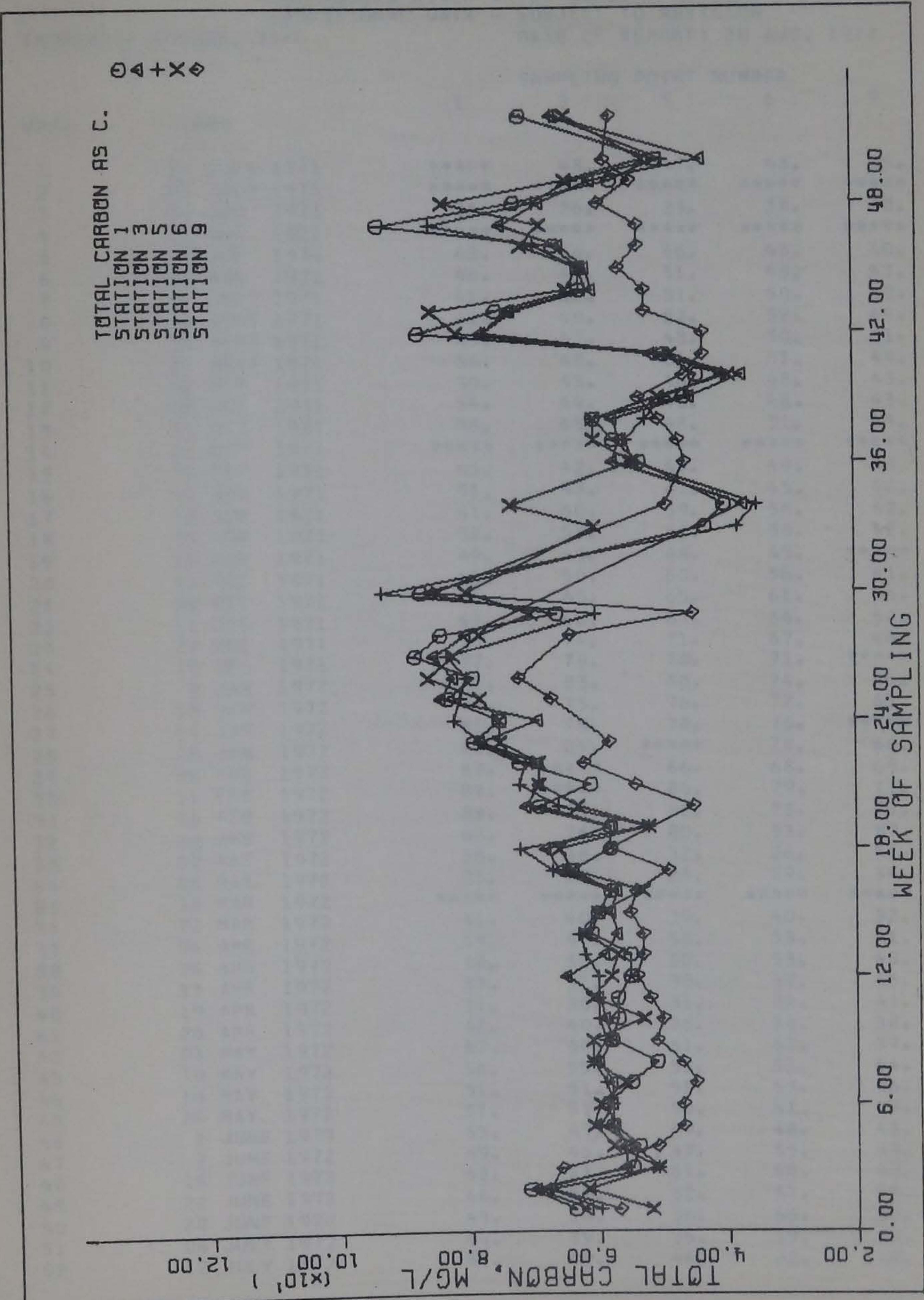


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

TOTAL CARBON, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	64.	62.	60.	52.	57.
2	27 JULY 1971	71.	70.	68.	62.	68.
3	04 AUG 1971	55.	56.	51.	51.	66.
4	11 AUG 1971	54.	56.	55.	58.	51.
5	17 AUG 1971	58.	58.	60.	61.	47.
6	24 AUG 1971	59.	58.	58.	60.	47.
7	01 SEPT 1971	55.	58.	59.	56.	45.
8	10 SEPT 1971	51.	60.	61.	61.	47.
9	17 SEPT 1971	58.	58.	59.	61.	51.
10	24 SEPT 1971	57.	59.	60.	53.	50.
11	01 OCT 1971	57.	60.	60.	61.	52.
12	08 OCT 1971	55.	65.	60.	58.	54.
13	15 OCT 1971	55.	59.	62.	57.	53.
14	22 OCT 1971	61.	57.	63.	62.	53.
15	29 OCT 1971	60.	58.	60.	60.	55.
16	05 NOV 1971	58.	57.	58.	53.	54.
17	12 NOV 1971	64.	66.	67.	64.	49.
18	19 NOV 1971	58.	68.	72.	66.	58.
19	24 NOV 1971	58.	58.	52.	52.	*****
20	01 DEC 1971	69.	71.	66.	63.	45.
21	08 DEC 1971	61.	69.	72.	69.	54.
22	12 DEC 1971	72.	69.	71.	69.	62.
23	22 DEC 1971	79.	78.	78.	75.	58.
24	29 DEC 1971	75.	69.	82.	75.	*****
25	5 JAN 1972	83.	84.	81.	78.	67.
26	12 JAN 1972	79.	82.	80.	86.	72.
27	19 JAN 1972	88.	85.	83.	82.	*****
28	26 JAN 1972	84.	80.	*****	78.	64.
29	04 FEB 1972	66.	*****	60.	70.	45.
30	11 FEB 1972	87.	*****	93.	80.	85.
31	16 FEB 1972	*****	*****	*****	*****	*****
32	24 FEB 1972	*****	*****	*****	*****	*****
33	02 MAR 1972	43.	*****	38.	60.	*****
34	08 MAR 1972	40.	37.	35.	73.	49.
35	15 MAR 1972	*****	*****	*****	*****	*****
36	22 MAR 1972	53.	57.	54.	54.	46.
37	04 APR 1972	57.	56.	55.	60.	47.
38	06 APR 1972	60.	57.	52.	60.	50.
39	13 APR 1972	46.	45.	49.	50.	53.
40	19 APR 1972	44.	37.	40.	39.	46.
41	26 APR 1972	49.	51.	50.	48.	43.
42	03 MAY 1972	87.	77.	77.	81.	43.
43	10 MAY 1972	75.	73.	72.	85.	52.
44	16 MAY 1972	62.	60.	61.	64.	52.
45	26 MAY 1972	62.	61.	62.	62.	56.
46	1 JUNE 1972	66.	65.	69.	71.	53.
47	7 JUNE 1972	93.	74.	85.	68.	53.
48	14 JUNE 1972	72.	68.	69.	83.	59.
49	22 JUNE 1972	57.	60.	63.	64.	54.
50	28 JUNE 1972	50.	43.	49.	52.	58.
51	06 JULY 1972	*****	*****	*****	*****	*****
52	12 JULY 1972	71.	66.	66.	64.	57.

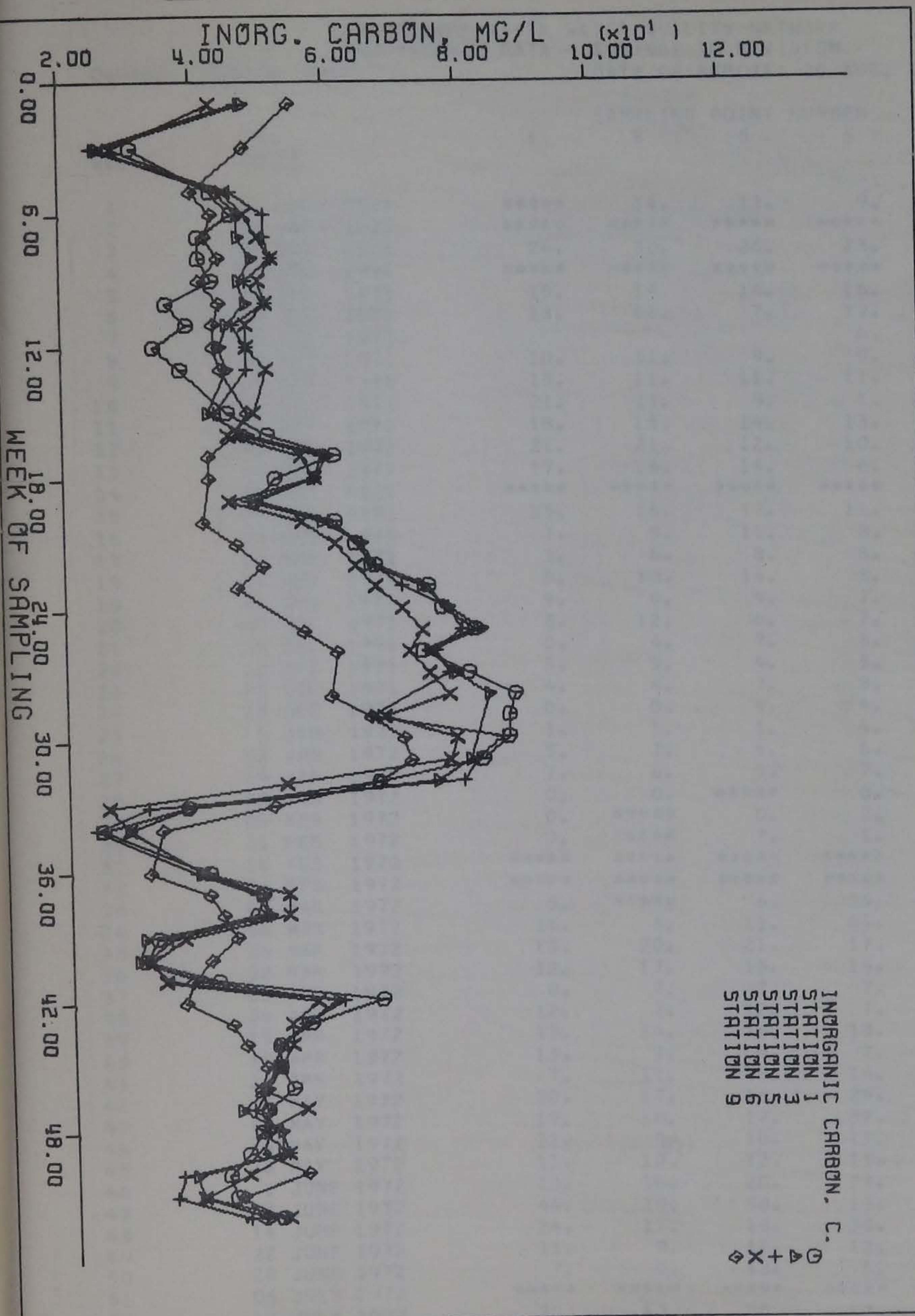


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

INORGANIC CARBON, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	*****	48.	47.	43.	55.
2	27 JULY 1971	*****	*****	*****	*****	*****
3	04 AUG 1971	31.	26.	25.	28.	48.
4	11 AUG 1971	*****	*****	*****	*****	*****
5	17 AUG 1971	43.	44.	46.	45.	40.
6	24 AUG 1971	46.	47.	51.	48.	43.
7	01 SEPT 1971	41.	47.	51.	50.	42.
8	10 SEPT 1971	41.	49.	52.	52.	44.
9	17 SEPT 1971	43.	47.	48.	50.	41.
10	24 SEPT 1971	36.	48.	51.	51.	44.
11	01 OCT 1971	39.	45.	46.	48.	43.
12	08 OCT 1971	34.	44.	48.	48.	43.
13	15 OCT 1971	38.	45.	48.	51.	44.
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	45.	42.	43.	49.	48.
16	05 NOV 1971	51.	48.	47.	45.	46.
17	12 NOV 1971	61.	60.	59.	56.	42.
18	19 NOV 1971	52.	58.	58.	58.	42.
19	24 NOV 1971	49.	49.	48.	45.	*****
20	01 DEC 1971	61.	59.	60.	56.	41.
21	08 DEC 1971	64.	65.	65.	61.	46.
22	12 DEC 1971	67.	66.	67.	64.	50.
23	22 DEC 1971	75.	74.	71.	67.	46.
24	29 DEC 1971	77.	78.	78.	71.	*****
25	5 JAN 1972	82.	83.	80.	74.	56.
26	12 JAN 1972	74.	75.	76.	72.	61.
27	19 JAN 1972	81.	79.	78.	75.	*****
28	26 JAN 1972	88.	84.	*****	78.	60.
29	04 FEB 1972	87.	*****	66.	68.	66.
30	11 FEB 1972	87.	*****	86.	79.	71.
31	16 FEB 1972	83.	81.	82.	78.	72.
32	24 FEB 1972	67.	76.	80.	53.	67.
33	02 MAR 1972	38.	38.	32.	26.	51.
34	08 MAR 1972	25.	29.	24.	29.	34.
35	15 MAR 1972	*****	*****	*****	*****	*****
36	22 MAR 1972	41.	40.	39.	40.	32.
37	04 APR 1972	49.	49.	48.	53.	41.
38	06 APR 1972	48.	50.	50.	53.	43.
39	13 APR 1972	33.	31.	35.	37.	45.
40	19 APR 1972	31.	30.	31.	32.	41.
41	26 APR 1972	42.	40.	35.	34.	38.
42	03 MAY 1972	67.	60.	61.	57.	37.
43	10 MAY 1972	56.	55.	55.	53.	44.
44	16 MAY 1972	51.	51.	51.	53.	46.
45	26 MAY 1972	51.	51.	50.	51.	49.
46	1 JUNE 1972	53.	49.	49.	48.	48.
47	7 JUNE 1972	49.	45.	47.	55.	49.
48	14 JUNE 1972	48.	51.	51.	48.	49.
49	22 JUNE 1972	46.	51.	52.	52.	48.
50	28 JUNE 1972	43.	38.	36.	46.	55.
51	06 JULY 1972	44.	39.	35.	39.	45.
52	12 JULY 1972	51.	49.	46.	52.	48.

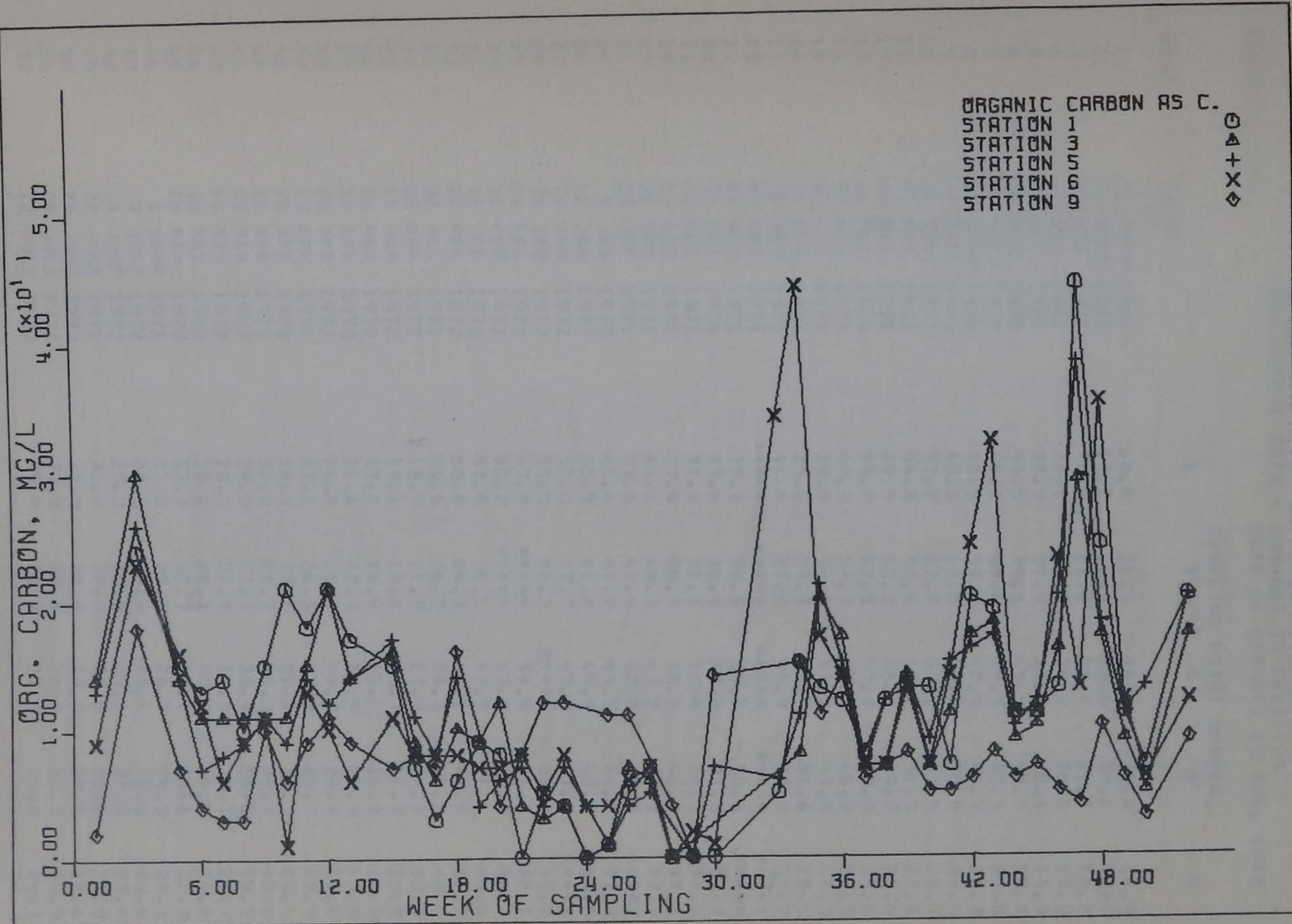


DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

ORGANIC CARBON, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	*****	14.	13.	9.	2.
2	27 JULY 1971	*****	*****	*****	*****	*****
3	04 AUG 1971	24.	30.	26.	23.	18.
4	11 AUG 1971	*****	*****	*****	*****	*****
5	17 AUG 1971	15.	14.	14.	16.	7.
6	24 AUG 1971	13.	11.	7.	12.	4.
7	01 SEPT 1971					6.
8	10 SEPT 1971	10.	11.	9.	9.	3.
9	17 SEPT 1971	15.	11.	11.	11.	10.
10	24 SEPT 1971	21.	11.	9.	1.	6.
11	01 OCT 1971	18.	15.	14.	13.	9.
12	08 OCT 1971	21.	21.	12.	10.	11.
13	15 OCT 1971	17.	14.	14.	6.	9.
14	22 OCT 1971	*****	*****	*****	*****	*****
15	29 OCT 1971	15.	16.	17.	11.	7.
16	05 NOV 1971	7.	9.	11.	8.	8.
17	12 NOV 1971	3.	6.	8.	8.	7.
18	19 NOV 1971	6.	10.	14.	8.	16.
19	24 NOV 1971	9.	9.	4.	7.	*****
20	01 DEC 1971	8.	12.	6.	7.	4.
21	08 DEC 1971	0.	4.	7.	8.	8.
22	12 DEC 1971	5.	3.	4.	5.	12.
23	22 DEC 1971	4.	4.	7.	8.	12.
24	29 DEC 1971	0.	0.	4.	4.	*****
25	5 JAN 1972	1.	1.	1.	4.	11.
26	12 JAN 1972	5.	7.	4.	6.	11.
27	19 JAN 1972	7.	6.	5.	7.	*****
28	26 JAN 1972	0.	0.	*****	0.	4.
29	04 FEB 1972	0.	*****	0.	2.	0.
30	11 FEB 1972	0.	*****	7.	1.	14.
31	16 FEB 1972	*****	*****	*****	*****	*****
32	24 FEB 1972	*****	*****	*****	*****	*****
33	02 MAR 1972	5.	*****	6.	34.	*****
34	08 MAR 1972	15.	8.	11.	44.	15.
35	15 MAR 1972	13.	20.	21.	17.	11.
36	22 MAR 1972	12.	17.	15.	14.	14.
37	04 APR 1972	8.	7.	7.	7.	6.
38	06 APR 1972	12.	7.	12.	7.	7.
39	13 APR 1972	13.	14.	14.	13.	8.
40	19 APR 1972	13.	7.	9.	7.	5.
41	26 APR 1972	7.	11.	15.	14.	5.
42	03 MAY 1972	20.	17.	16.	24.	6.
43	10 MAY 1972	19.	18.	17.	32.	8.
44	16 MAY 1972	11.	9.	10.	11.	6.
45	26 MAY 1972	11.	10.	12.	11.	7.
46	1 JUNE 1972	13.	16.	20.	23.	5.
47	7 JUNE 1972	44.	29.	38.	13.	4.
48	14 JUNE 1972	24.	17.	18.	35.	10.
49	22 JUNE 1972	11.	9.	11.	12.	6.
50	28 JUNE 1972	7.	5.	13.	6.	3.
51	06 JULY 1972	*****	*****	*****	*****	*****
52	12 JULY 1972	20.	17.	20.	12.	9.



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

CHLORIDE, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	20.9	21.3	20.2	21.4	18.9
2	27 JULY 1971	18.2	19.4	18.6	20.6	19.6
3	04 AUG 1971	21.3	21.9	23.1	21.1	18.2
4	11 AUG 1971	25.1	26.3	26.7	26.6	15.0
5	17 AUG 1971	32.9	37.5	28.8	28.4	14.9
6	24 AUG 1971	44.5	29.3	45.5	40.5	18.8
7	01 SEPT 1971	45.1	39.6	37.5	43.3	25.8
8	10 SEPT 1971	38.5	39.3	42.9	46.7	28.8
9	17 SEPT 1971	60.0	60.0	50.0	50.8	29.6
10	24 SEPT 1971	57.2	62.7	65.1	37.5	28.7
11	01 OCT 1971	54.3	50.4	50.2	31.3	27.7
12	08 OCT 1971	49.8	50.0	45.4	49.3	28.4
13	15 OCT 1971	58.7	57.5	57.9	50.0	29.8
14	22 OCT 1971	67.9	58.7	47.7	46.2	32.8
15	29 OCT 1971	29.6	36.6	43.1	43.9	28.5
16	05 NOV 1971	25.0	27.5	25.7	31.6	23.5
17	12 NOV 1971	41.5	37.9	36.9	39.9	32.7
18	19 NOV 1971	*****	*****	*****	*****	*****
19	24 NOV 1971	35.2	34.5	34.5	38.6	*****
20	01 DEC 1971	35.6	36.4	37.8	37.5	37.8
21	08 DEC 1971	31.4	33.1	38.4	34.3	37.1
22	12 DEC 1971	37.4	40.5	36.1	46.5	37.7
23	22 DEC 1971	44.2	48.3	47.2	42.7	37.7
24	29 DEC 1971	39.6	43.9	42.0	45.5	*****
25	05 JAN 1972	41.4	47.2	44.2	44.7	37.9
26	12 JAN 1972	60.9	61.2	45.8	40.7	38.6
27	19 JAN 1972	50.0	47.7	43.8	47.7	*****
28	26 JAN 1972	50.0	52.3	*****	50.2	45.2
29	04 FEB 1972	47.2	*****	53.5	51.5	42.1
30	11 FEB 1972	50.2	*****	63.2	60.2	48.2
31	16 FEB 1972	57.9	55.1	47.7	71.1	49.6
32	24 FEB 1972	60.8	64.3	64.1	47.5	51.9
33	02 MAR 1972	29.6	26.2	24.3	13.2	40.0
34	08 MAR 1972	18.9	21.1	17.8	18.6	30.2
35	15 MAR 1972	19.2	13.6	13.7	14.7	18.3
36	22 MAR 1972	17.7	16.9	15.6	16.9	18.9
37	04 APR 1972	21.6	22.3	21.5	21.9	15.9
38	06 APR 1972	24.6	25.9	22.5	23.8	16.4
39	13 APR 1972	27.1	26.5	27.2	25.7	18.9
40	19 APR 1972	34.5	30.7	31.1	35.9	25.4
41	26 APR 1972	32.2	31.7	34.0	34.2	30.0
42	03 MAY 1972	28.0	27.7	26.4	24.0	28.7
43	10 MAY 1972	28.0	27.7	28.3	26.7	24.7
44	16 MAY 1972	30.0	28.3	30.0	29.1	24.8
45	26 MAY 1972	32.2	33.7	33.1	35.6	28.8
46	01 JUNE 1972	31.0	25.8	26.7	24.5	27.5
47	07 JUNE 1972	28.6	23.4	25.4	31.0	30.4
48	14 JUNE 1972	25.0	29.5	29.1	27.0	27.6
49	22 JUNE 1972	31.6	32.0	33.5	31.6	23.0
50	28 JUNF 1972	29.8	28.9	27.6	29.1	23.6
51	06 JULY 1972	29.3	28.6	26.9	28.8	24.9
52	12 JULY 1972	25.6	28.2	27.9	25.8	24.7

④+X♦

CHLORIDES
STATION 1
STATION 3
STATION 5
STATION 6
STATION 8

CHLORIDES, MG/L (x10¹)

12.00

16.00

20.00

0.00

48.00

36.00

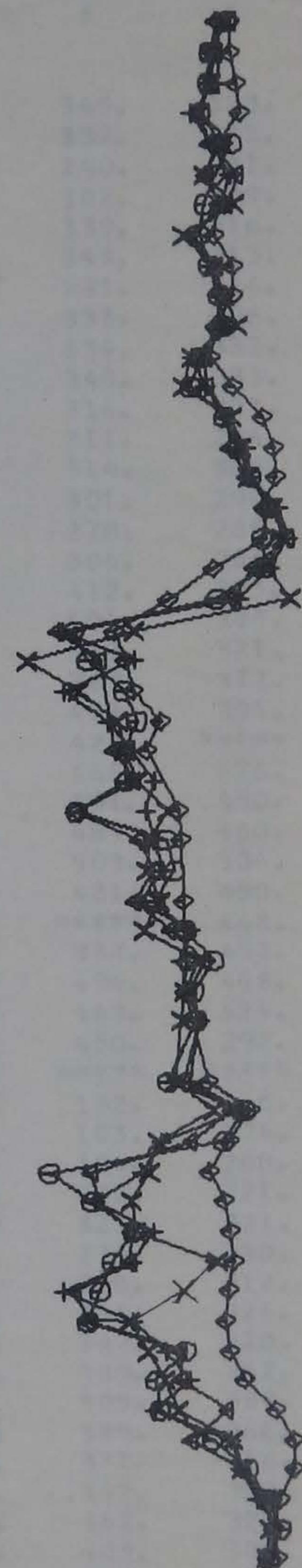
30.00

WEEK OF SAMPLING

18.00

6.00

0.00



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

TOTAL HARDNESS, MG/L AS CACO₃

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER			
		1	3	5	6
1	21 JULY 1971	370.	367.	345.	320.
2	27 JULY 1971	370.	351.	332.	323.
3	04 AUG 1971	273.	244.	240.	231.
4	11 AUG 1971	295.	290.	302.	289.
5	17 AUG 1971	336.	341.	339.	316.
6	24 AUG 1971	313.	327.	343.	313.
7	01 SEPT 1971	296.	326.	331.	314.
8	10 SEPT 1971	296.	326.	333.	306.
9	17 SEPT 1971	312.	338.	334.	332.
10	24 SEPT 1971	297.	313.	340.	333.
11	01 OCT 1971	281.	309.	316.	303.
12	08 OCT 1971	260.	295.	311.	294.
13	15 OCT 1971	281.	300.	314.	305.
14	22 OCT 1971	278.	291.	301.	290.
15	29 OCT 1971	296.	271.	278.	285.
16	05 NOV 1971	324.	312.	306.	286.
17	12 NOV 1971	400.	402.	412.	375.
18	19 NOV 1971	390.	401.	404.	388.
19	24 NOV 1971	359.	350.	352.	321.
20	01 DEC 1971	367.	370.	367.	372.
21	08 DEC 1971	411.	422.	423.	394.
22	12 DEC 1971	443.	430.	422.	*****
23	22 DEC 1971	483.	476.	466.	426.
24	29 DEC 1971	474.	488.	481.	450.
25	5 JAN 1972	506.	503.	489.	460.
26	12 JAN 1972	489.	519.	503.	504.
27	19 JAN 1972	502.	496.	481.	450.
28	26 JAN 1972	490.	492.	*****	448.
29	04 FEB 1972	507.	*****	537.	458.
30	11 FEB 1972	484.	*****	494.	448.
31	16 FEB 1972	462.	465.	468.	424.
32	24 FEB 1972	442.	436.	450.	292.
33	02 MAR 1972	243.	*****	*****	*****
34	08 MAR 1972	150.	172.	152.	166.
35	15 MAR 1972	190.	185.	183.	174.
36	22 MAR 1972	238.	202.	194.	200.
37	04 APR 1972	164.	215.	222.	221.
38	06 APR 1972	*****	*****	325.	321.
39	13 APR 1972	245.	236.	235.	230.
40	19 APR 1972	213.	214.	210.	212.
41	26 APR 1972	292.	270.	244.	224.
42	03 MAY 1972	358.	349.	342.	320.
43	10 MAY 1972	401.	392.	389.	362.
44	16 MAY 1972	404.	406.	405.	387.
45	26 MAY 1972	392.	388.	389.	366.
46	1 JUNE 1972	362.	343.	331.	318.
47	7 JUNE 1972	335.	311.	342.	382.
48	14 JUNE 1972	336.	356.	362.	325.
49	22 JUNF 1972	418.	416.	408.	380.
50	28 JUNE 1972	333.	315.	309.	316.
51	06 JULY 1972	355.	324.	298.	308.
52	12 JULY 1972	332.	324.	315.	328.

◆+X+◊

TOTAL HARNESS
STATION 1
STATION 3
STATION 5
STATION 7
STATION 9

HARDNESS MG/L CaCO₃ (x10⁻¹)

48.00
42.00
36.00
30.00
24.00
18.00
12.00
6.00
0.00

WEEK OF SAMPLING

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

CALCIUM, MG/L AS CACO₃

DATE OF REPORT: 20 AUG. 1972

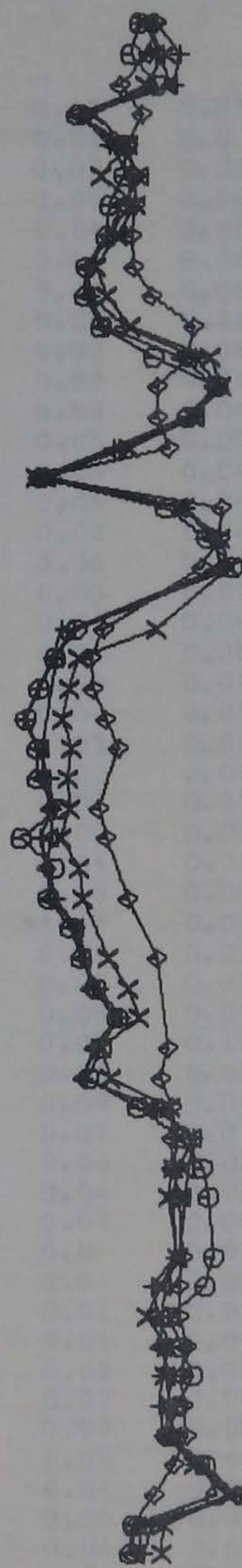
WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	216.	205.	201.	181.	213.
2	27 JULY 1971	213.	204.	191.	178.	213.
3	04 AUG 1971	120.	97.	99.	107.	189.
4	11 AUG 1971	133.	134.	143.	145.	167.
5	17 AUG 1971	174.	176.	178.	168.	153.
6	24 AUG 1971	162.	172.	183.	171.	156.
7	01 SEPT 1971	146.	171.	181.	176.	158.
8	10 SEPT 1971	159.	182.	171.	174.	153.
9	17 SEPT 1971	172.	178.	184.	196.	160.
10	24 SEPT 1971	132.	176.	190.	180.	161.
11	01 OCT 1971	123.	160.	164.	163.	157.
12	08 OCT 1971	*****	*****	*****	*****	*****
13	15 OCT 1971	128.	153.	166.	172.	160.
14	22 OCT 1971	135.	150.	161.	167.	169.
15	29 OCT 1971	159.	141.	145.	161.	169.
16	05 NOV 1971	206.	189.	188.	170.	169.
17	12 NOV 1971	260.	267.	266.	237.	180.
18	19 NOV 1971	246.	255.	252.	246.	172.
19	24 NOV 1971	229.	229.	224.	204.	*****
20	01 DEC 1971	252.	259.	249.	216.	*****
21	08 DEC 1971	268.	264.	268.	239.	185.
22	12 DEC 1971	280.	272.	275.	*****	*****
23	22 DEC 1971	304.	302.	296.	267.	216.
24	29 DEC 1971	298.	307.	306.	271.	*****
25	05 JAN 1972	335.	300.	313.	290.	240.
26	12 JAN 1972	293.	302.	301.	280.	248.
27	19 JAN 1972	316.	311.	302.	282.	*****
28	26 JAN 1972	316.	310.	*****	278.	227.
29	04 FEB 1972	328.	*****	331.	288.	240.
30	11 FEB 1972	314.	*****	314.	281.	254.
31	16 FEB 1972	297.	294.	298.	270.	256.
32	24 FEB 1972	273.	279.	288.	185.	242.
33	02 MAR 1972	*****	*****	*****	*****	*****
34	08 MAR 1972	100.	112.	96.	104.	134.
35	15 MAR 1972	128.	122.	124.	115.	115.
36	22 MAR 1972	174.	155.	152.	155.	112.
37	04 APR 1972	312.	302.	308.	316.	314.
38	06 APR 1972	*****	*****	230.	214.	170.
39	13 APR 1972	150.	138.	144.	142.	182.
40	19 APR 1972	117.	120.	117.	112.	183.
41	26 APR 1972	187.	156.	141.	124.	148.
42	03 MAY 1972	245.	241.	218.	213.	142.
43	10 MAY 1972	262.	258.	256.	239.	188.
44	16 MAY 1972	260.	259.	260.	250.	208.
45	26 MAY 1972	238.	235.	237.	226.	210.
46	01 JUNE 1972	235.	222.	213.	206.	206.
47	07 JUNE 1972	218.	197.	212.	244.	209.
48	14 JUNF 1972	216.	228.	234.	215.	214.
49	22 JUNE 1972	270.	270.	267.	252.	199.
50	28 JUNF 1972	182.	166.	163.	194.	222.
51	06 JULY 1972	211.	180.	157.	172.	191.
52	12 JULY 1972	201.	192.	183.	197.	182.

○ ▲ + X ◆

CALCIUM HARDNESS
STATION 1 3 5 6 9
STATION 2 4 7 8

2.00 4.00 6.00 8.00 10.00
CALCIUM MG/L $\text{CaCO}_3 \times 10^2$

0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00
WEEK OF SAMPLING



DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

DATE OF REPORT: 20 AUG. 1972

IRON, MG/L

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	0.07	0.05	0.09	0.03	0.11
2	27 JULY 1971	0.01	0.02	0.01	0.0	0.10
3	04 AUG 1971	0.02	0.03	0.02	0.02	0.01
4	11 AUG 1971	0.01	0.03	0.05	0.04	0.08
5	17 AUG 1971	0.07	0.23	0.04	0.05	0.07
6	24 AUG 1971	0.04	0.02	0.04	0.04	0.07
7	01 SEPT 1971	0.03	0.05	0.03	0.06	0.12
8	10 SEPT 1971	0.04	0.05	0.05	0.11	0.15
9	17 SEPT 1971	0.02	0.01	0.02	0.06	0.05
10	24 SEPT 1971	0.02	0.04	0.02	0.06	0.13
11	01 OCT 1971	0.06	0.02	0.03	0.04	0.04
12	08 OCT 1971	0.04	0.05	0.05	0.09	0.08
13	15 OCT 1971	0.03	0.02	0.04	0.04	0.06
14	22 OCT 1971	0.05	0.13	0.04	0.04	0.08
15	29 OCT 1971	0.14	0.03	0.02	0.06	0.04
16	05 NOV 1971	0.07	0.05	0.06	0.04	0.06
17	12 NOV 1971	0.04	0.05	0.05	0.07	0.06
18	19 NOV 1971	0.76	0.04	0.04	0.04	0.05
19	24 NOV 1971	0.04	0.03	0.04	0.05	*****
20	01 DEC 1971	0.03	0.02	0.03	0.04	0.04
21	08 DEC 1971	0.02	0.02	0.02	0.05	0.04
22	12 DEC 1971	0.05	0.04	0.03	0.06	0.08
23	22 DEC 1971	0.06	0.04	0.02	0.05	0.02
24	29 DEC 1971	0.04	0.03	0.04	0.05	*****
25	5 JAN 1972	0.04	0.06	0.05	0.04	0.03
26	12 JAN 1972	0.04	0.04	0.04	0.05	0.02
27	19 JAN 1972	0.05	0.06	0.06	0.06	*****
28	26 JAN 1972	0.04	0.08	*****	0.08	0.04
29	04 FEB 1972	0.02	*****	0.03	0.05	0.03
30	11 FEB 1972	0.05	*****	0.05	0.08	0.03
31	16 FEB 1972	0.03	0.06	0.05	0.09	0.06
32	24 FEB 1972	0.03	0.05	0.08	0.15	0.04
33	02 MAR 1972	0.06	0.05	0.08	0.05	0.05
34	08 MAR 1972	0.08	0.05	0.09	0.05	0.05
35	15 MAR 1972	0.09	0.06	0.07	0.07	0.08
36	22 MAR 1972	0.04	0.02	0.04	0.03	0.04
37	04 APR 1972	0.09	0.06	0.04	0.06	0.40
38	06 APR 1972	0.06	0.06	0.07	0.04	0.04
39	13 APR 1972	0.0	0.04	0.0	0.02	0.01
40	19 APR 1972	0.02	0.02	0.0	0.02	0.02
41	26 APR 1972	0.03	0.02	0.01	0.03	0.10
42	03 MAY 1972	0.04	0.02	0.04	0.09	0.08
43	10 MAY 1972	0.03	0.05	0.02	0.05	0.13
44	16 MAY 1972	0.06	0.11	0.07	0.07	0.17
45	26 MAY 1972	0.04	0.04	0.08	0.05	0.05
46	1 JUNE 1972	0.04	0.09	0.08	0.08	0.08
47	7 JUNE 1972	0.07	0.05	0.04	0.02	0.03
48	14 JUNE 1972	0.02	0.03	0.05	0.04	0.08
49	22 JUNF 1972	0.04	0.05	0.04	0.06	0.06
50	28 JUNE 1972	0.03	0.02	0.04	0.03	0.10
51	06 JULY 1972	0.05	0.06	0.03	0.03	0.05
52	12 JULY 1972	0.06	0.07	0.08	0.07	0.07

♦X+♦G

IRON
STATION 1
STATION 2
STATION 3
STATION 4
STATION 5
STATION 6
STATION 7
STATION 8
STATION 9

1.00
0.80
0.60
0.40
0.20 IRON, MG/L
0.00

48.00

42.00

36.00

30.00

WEEK OF SAMPLING

12.00

6.00

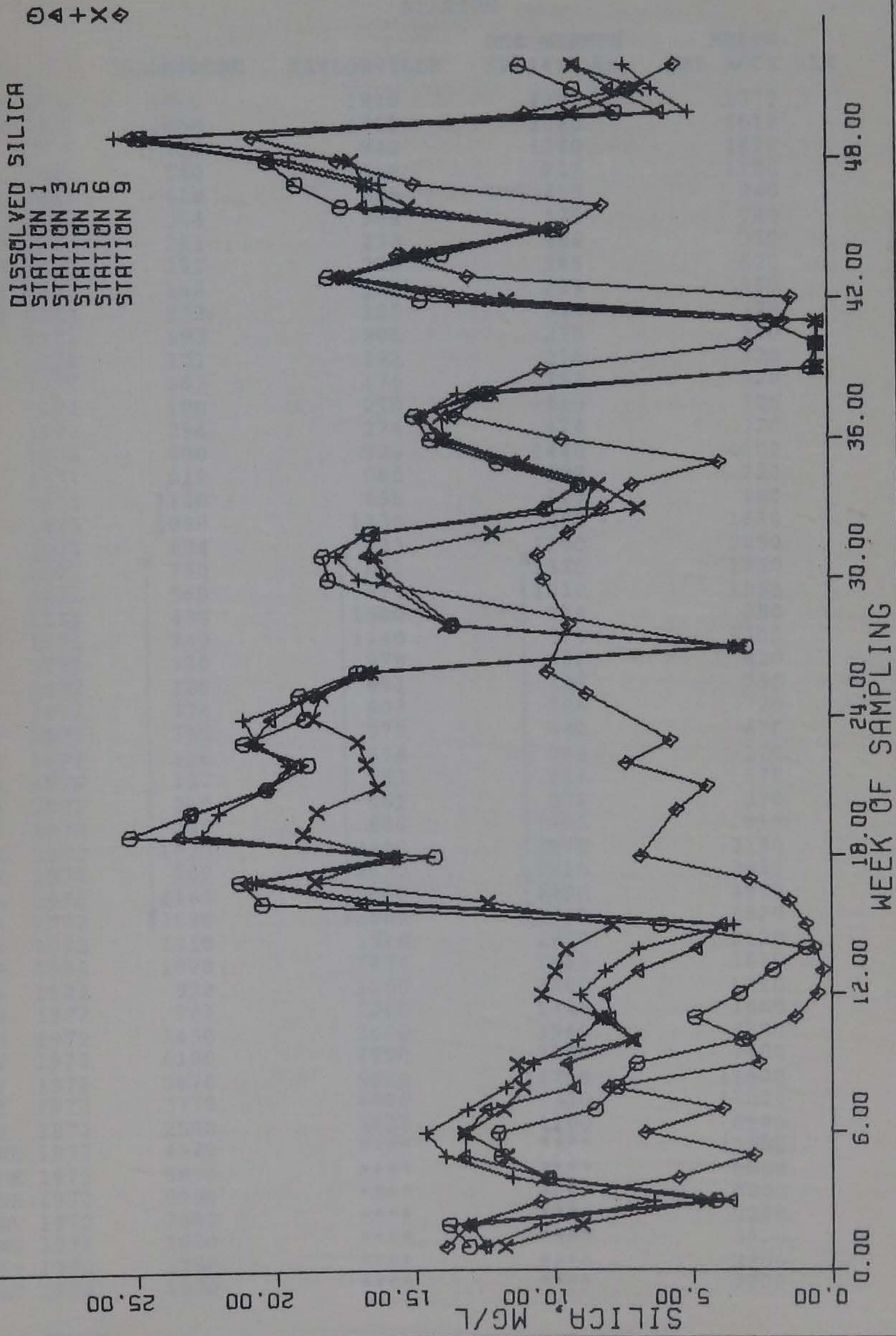
0.00

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

SILICA, MG/L

DATE OF REPORT: 20 AUG. 1972

WEEK	DATE	SAMPLING POINT NUMBER				
		1	3	5	6	9
1	21 JULY 1971	13.1	12.5	12.5	11.8	13.9
2	27 JULY 1971	13.8	13.0	10.5	9.0	13.1
3	04 AUG 1971	4.2	3.6	6.4	4.5	10.5
4	11 AUG 1971	10.2	10.2	11.5	10.4	5.5
5	17 AUG 1971	11.9	13.2	13.9	11.7	2.8
6	24 AUG 1971	12.0	13.2	14.6	13.2	6.7
7	01 SEPT 1971	8.5	12.4	13.1	11.8	3.9
8	10 SEPT 1971	7.7	9.2	11.7	11.1	8.0
9	17 SEPT 1971	7.0	9.5	10.7	11.3	2.6
10	24 SEPT 1971	3.2	7.1	9.1	7.1	3.0
11	01 OCT 1971	4.9	7.9	8.2	8.3	1.3
12	08 OCT 1971	3.3	8.1	9.0	10.4	0.5
13	15 OCT 1971	2.1	6.9	8.1	9.9	0.3
14	22 OCT 1971	0.9	4.8	6.9	9.5	0.6
15	29 OCT 1971	6.1	3.9	3.5	7.8	0.9
16	05 NOV 1971	20.4	16.8	15.9	12.3	1.5
17	12 NOV 1971	21.2	20.9	20.6	18.5	2.9
18	19 NOV 1971	14.2	15.6	15.6	15.9	6.8
19	24 NOV 1971	25.1	23.3	22.5	18.9	*****
20	01 DEC 1971	22.9	22.9	21.9	18.4	5.5
21	08 DFC 1971	20.2	20.2	20.1	16.2	4.4
22	12 DEC 1971	18.7	19.1	19.4	16.6	7.3
23	22 DFC 1971	21.0	20.7	20.5	16.9	5.7
24	29 DEC 1971	18.8	20.0	21.0	18.5	*****
25	5 JAN 1972	19.0	18.6	18.3	18.2	8.7
26	12 JAN 1972	16.9	16.5	16.9	16.4	10.1
27	19 JAN 1972	3.0	3.5	3.6	3.2	*****
28	26 JAN 1972	13.5	13.5	*****	13.7	9.3
29	04 FEB 1972	*****	*****	*****	*****	*****
30	11 FEB 1972	17.9	*****	16.8	15.9	10.2
31	16 FEB 1972	18.1	16.5	17.6	16.2	10.4
32	24 FEB 1972	16.4	16.2	16.6	12.0	9.3
33	02 MAR 1972	10.1	10.2	8.6	6.8	8.1
34	08 MAR 1972	8.9	8.9	8.4	8.2	7.0
35	15 MAR 1972	11.8	11.3	11.0	10.9	3.9
36	22 MAR 1972	14.2	13.8	13.6	13.7	9.5
37	04 APR 1972	14.8	14.5	14.5	13.8	13.3
38	06 APR 1972	12.1	12.6	13.2	12.0	12.3
39	13 APR 1972	0.6	0.4	0.4	0.4	10.2
40	19 APR 1972	0.4	0.4	0.4	0.4	2.9
41	26 APR 1972	2.2	0.3	0.4	0.4	1.6
42	03 MAY 1972	14.5	12.3	13.3	11.4	1.3
43	10 MAY 1972	17.8	17.5	17.2	17.1	12.8
44	16 MAY 1972	13.7	14.6	14.2	14.9	15.3
45	26 MAY 1972	9.7	10.0	10.2	9.7	9.4
46	1 JUNE 1972	17.3	16.5	15.8	14.9	8.0
47	7 JUNE 1972	18.9	16.5	15.9	16.4	14.7
48	14 JUNE 1972	19.9	19.8	19.1	16.9	17.4
49	22 JUNE 1972	24.4	24.8	25.3	24.4	20.4
50	28 JUNE 1972	7.5	5.9	4.9	9.1	10.7
51	06 JULY 1972	9.0	7.7	6.2	6.7	7.1
52	12 JULY 1972	10.9	8.9	7.2	9.0	5.4



DISCHARGE, CFS

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION
DATE OF REPORT: 20 AUG. 1972

STATION

DATE	STRATFORD	SAYLORVILLE	DES MOINES SE 14th St.	BELOW RED ROCK DAM
21 JULY 1971	1620	1810	2380	2370
27 JULY 1971	1450	1680	2080	2610
04 AUG 1971	750	942	1240	1490
11 AUG 1971	540	568	717	1180
17 AUG 1971	418	385	485	740
24 AUG 1971	364	308	370	740
01 SEPT 1971	241	233	306	370
10 SEPT 1971	172	222	285	570
17 SEPT 1971	148	180	229	350
24 SEPT 1971	173	185	239	320
01 OCT 1971	193	201	278	320
08 OCT 1971	171	191	276	320
15 OCT 1971	103	176	252	320
22 OCT 1971	190	210	313	320
29 OCT 1971	296	274	474	320
05 NOV 1971	800	926	1440	4000
12 NOV 1971	512	565	692	720
19 NOV 1971	1230	558	827	960
24 NOV 1971	1080	1130	1480	1630
01 DEC 1971	834	a 833	1200	2050
08 DEC 1971	a 760	a 871	a 1320	1850
12 DEC 1971	560	671	1010	1850
22 DEC 1971	430	1500	898	880
29 DEC 1971	740	1140	575	1300
05 JAN 1972	330	878	806	820
12 JAN 1972	320	691	589	750
19 JAN 1972	274	603	766	720
26 JAN 1972	238	579	890	470
04 FEB 1972	216	574	798	370
11 FEB 1972	192	593	854	370
16 FEB 1972	210	651	878	370
24 FEB 1972	208	600	1600	810
02 MAR 1972	1020	2480	3870	3190
08 MAR 1972	960	2420	3810	3890
15 MAR 1972	2160	2800	4480	4850
22 MAR 1972	2680	2860	3690	5820
04 APR 1972	1210	1510	1940	2120
06 APR 1972	1070	1430	1810	1610
13 APR 1972	932	1200	1500	1610
19 APR 1972	981	1260	1740	1860
26 APR 1972	1450	1600	1960	4300
03 MAY 1972	6180	4990	7500	7400
10 MAY 1972	5670	6680	11700	11500
16 MAY 1972	3770	4500	7300	11000
26 MAY 1972	2560	3000	4200	8500
01 JUNE 1972	4520	*****	*****	11500
07 JUNE 1972	5890	*****	*****	6000
14 JUNE 1972	6050	*****	*****	8800
22 JUNE 1972	2380	*****	*****	9200
28 JUNE 1972	1600	*****	*****	3920
06 JULY 1972	1250	*****	*****	3200
12 JULY 1972	1630	*****	*****	2800

a - Ice Cover

* - No Data Available

DES MOINES RIVER WATER QUALITY NETWORK
PROVISIONAL DATA - SUBJECT TO REVISION

DATE OF REPORT: 20 AUG. 1972

		BOONE	DES MOINES	KNOXVILLE
JULY	1971	3.36	2.17	3.48
AUGUST	1971	0.50	1.21	1.64
SEPTEMBER	1971	1.20	1.92	2.44
OCTOBER	1971	4.19	3.84	4.05
NOVEMBER	1971	3.15	2.73	3.49
DECEMBER	1971	0.97	1.18	E 1.63
JANUARY	1972	0.61	0.41	0.21
FEBRUARY	1972	1.00	0.73	0.36
MARCH	1972	0.73	1.03	0.76
APRIL	1972	3.06	3.00	3.43
MAY	1972	5.14	2.76	5.01
JUNE	1972	<u>5.18</u>	<u>2.35</u>	<u>3.53</u>
TOTAL		29.09	23.33	30.03
TOTAL DEFICIT FROM AVERAGE		-3.35	-7.73	-1.85