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MHD COAL-FIRED FLOW FACILITY BASELINE WATER QUALITY STUDY

Woods Reservoir

Topical Report for the Period May 1979—April 1980

By
J. Cooper

December 1980

Work Performed Under Contract No. AC02-79ET10815

The University of Tennessee Space Institute
Energy Conversion Division
Tullahoma, Tennessee

U. S. DEPARTMENT OF ENERGY

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**MHD COAL-FIRED FLOW
FACILITY BASELINE
WATER QUALITY STUDY**

WOODS RESERVOIR

MAY 1979 — APRIL 1980

TOPICAL REPORT

Prepared by:

J. Cooper

**The University of Tennessee Space Institute
Energy Conversion Division
Tullahoma, Tennessee 37388**

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SUMMARY

The Department of Energy (DOE) Magnetohydrodynamics (MHD) Coal-Fired Flow Facility (CFFF) is located on Woods Reservoir at The University of Tennessee Space Institute (UTSI). Part of the role of UTSI, as participants in the DOE program, is to document environmental aspects of coal-fired MHD. In early 1979, prior to operation of the CFFF, a water quality program was initiated to establish baseline conditions for the reservoir. The study was designed to provide an accurate assessment of water quality which could be used as a basis for comparison to evaluate the impact, if any, of the plant operation on the aquatic environment. Results of a one year baseline study of water quality on Woods Reservoir are presented in this report.

The key findings are that this Reservoir is a eutrophic lake. Its predominant ions are calcium and bicarbonate and its pH is circumneutral.

I. INTRODUCTION

A. MORPHOMETRY OF WOODS RESERVOIR

The Elk River is impounded north of Estill Springs, Tennessee, to form Woods Reservoir. The river meanders through the northwestern part of Franklin County, which lies in the physiogeographic province of the Highland Rim. The Elk River is a tributary of the Tennessee River; it rises in Grundy and Coffee counties, flows through Franklin, Lincoln and Giles and enters the Tennessee River in Limestone County, Alabama.

Woods Reservoir is a 3,700 acre impoundment with a maximum depth of 65 feet and a mean depth of approximately 20 feet. The reservoir has a rather stable water level with a fluctuation level of about four feet per year and mean hydraulic retention time of 85 days. The impoundment has a 70 mile shoreline in Franklin County, Tennessee (Tennessee Game and Fish Commission 1967). The reservoir differs from other large reservoirs in Tennessee in that it was constructed by the USAF for the Arnold Engineering Development Center (AEDC) as a source of water to cool wind tunnels rather than for flood control, navigation, or power.

B. LIMNOLOGICAL HISTORY

A biological study was conducted on Woods Reservoir by H. Yeatman in the early fifties during the inception of the lake. Yeatman found an abundance of individuals with little species diversity among the plankton population, which is typical of a eutrophic lake (Yeatman 1956). He also noted that during stratification the volume of the epilimnion is greater than that of the hypolimnion. He further characterized the reservoir as having low transparency, slightly alkaline conditions, and a high calcium content.

Species and abundance of phytoplankton of Woods Reservoir have been measured using Nygaard's Trophic State Indices (U.S. EPA 1978). Based on the results of this survey and a National Eutrophication Survey (U.S. EPA 1976), Woods Reservoir is classified as a eutrophic lake. Survey data (1976) showed a depletion of dissolved oxygen below 25 feet in the summer with a detection of hydrogen sulfide production during summer and fall. Secchi disc visibility was reported as quite low. It was concluded that the annual phosphorous loading for the reservoir was high for a lake of its size and retention time, greater than Vollenweider's proposed eutrophic loading (U.S. EPA 1976).

C. DESCRIPTION OF MONITORING PROGRAM

The environmental program of the magnetohydrodynamics (MHD) Coal-Fired Flow Facility (CFFF) includes water quality monitoring of Woods Reservoir adjacent to the facility. Expansion of the existing MHD program at The University of Tennessee Space Institute (UTSI) initiated the construction of the CFFF, which will have a point source discharge to Rollins Creek, a tributary of Woods Reservoir. Several point source discharges of domestic and industrial wastes are known to impact Rollins Creek (Tennessee Department of Public Health 1978). In early 1979, prior to operation of the CFFF, a water quality program was developed to establish baseline conditions for the stream.

Stream use classification of Rollins Creek includes domestic and industrial water supply, recreation, irrigation, fish and aquatic life, livestock watering and wildlife use. An overall objective of the MHD aquatic environmental monitoring program has been to maintain existing stream conditions and assure water quality standards applicable to stream usage (see Appendix A).

Phase I of the MHD aquatic environmental study was implemented to measure water quality in the segment of the stream which might be influenced by effluent from the facility. Three stations along this stream (Figure 1) were sampled intensively from May 1979 to April 1980. Measurements were made at the MHD discharge site (station #4728G1, 35° 19'18" x 86° 06'18") and compared with measurements from a station upstream (station #4728G3, 35° 20'30" x 86° 05'32") and a station within the stream unaffected by the MHD effluent (station #4728G2, 35° 19'15" x 86° 06'26"). Samples were collected from each site and analyzed for dissolved O₂, specific conductance, hardness, alkalinity, pH, temperature, ammonia, total solids, sulfate, phosphate, chloride, calcium, iron, potassium, sodium and magnesium. Based on the results of these studies, a limited monitoring program was then initiated in late summer 1980 and will continue for the duration of the CFFF operation. This program consists of expanding the number of sampling sites, reducing sampling frequency, and including field analyses in the water quality assessment data base. The program has been designed to ensure monitoring any potential impact the effluent from the CFFF might have on the embayment.

II. EXPERIMENTAL PROCEDURE

Water samples were analyzed in the Chemistry and Environmental Science Laboratory, Energy Conversion Division, UTSI, for the following physical and chemical parameters in accordance with the methodology outlined by the American Public Health Association, et. al. (1976), and the Environmental Protection Agency (1979). A brief description of the methodology follows:

- 1 pH - Orion pH meter Model 901 with glass combination electrode.
Calibration with buffer solutions.

Figure 1. CFFF Aquatic Environmental Monitoring Sites

- 2 Specific conductance - YSI Model 31 conductivity bridge with range from 1 to 100 K micromho per cm. Calibration with KCl solution.
- 3 Total Hardness - Titration with standardized EDTA solution and Eriochrome indicator. Backup test for Mg and Ca by AA method.
- 4 Total Alkalinity - Titration with standard acid to methyl orange end point (pH = 4.4). p-Alkalinity determined by titration to phenolphthalein end point (pH = 8.3).
- 5 Chloride - Argentometric method. Titration with standardized AgNO_3 , and K_2CrO_4 indicator.
- 6 Total Solids - Evaporative gravimetric technique including dissolved and filterable solids.
- 7 Dissolved Oxygen - Specific ion electrode, Orion Model 97-08 oxygen electrode. Backup test by Winkler Method.
- 8 Temperature - Thermometric method. In situ measurements made with mercury filled centigrade thermometer.
- 9 Ammonia - Phenate method. Absorption at 630 nm. B & L spectrophotometer.
- 10 Total Phosphate - Ascorbic acid method with persulfate digestion. Absorption at 880 nm.
- 11 Total Sulfate - Turbidimetric method with absorption at 420 nm.

Elemental analyses for magnesium, potassium, calcium, sodium and iron were determined using an I. L. 251 atomic absorption spectrophotometer. Calibration with known standards was conducted for each element. All samples were collected and preserved according to the procedure outlined in U.S. EPA (1979)(see Appendix B). A Reverse Osmosis Barnstead deionizer with a Nanopure filtration system was used for Class III water. All glassware was washed in warm (hot) phosphate-free detergent solution, rinsed in hot water, then twice in deionized water. Glassware was rinsed again in deionized water before use.

III. DISCUSSION OF RESULTS

Results obtained from a one year baseline study of water analysis of Woods Reservoir are presented in full in Appendix D and are summarized in Tables, I, II, and III.

Results of the physicochemical characteristics for May 1979 to April 1980 are summarized as follows.

TABLE I

Minimum-Maximum (Mean) Water Quality 1979-80
 Station 4728G1, Latitude 35D 19M 18S, Longitude 86D 06M 18S
 Rollins Creek at CFFF Discharge Site, Tullahoma, Tennessee

Date	pH	Specific Conductance	Total Hardness	Total Alkalinity	Alkalinity M.O.	Calcium
M Y	pH Units	UMHO/CM	MG/L	MG/L	MG/L	MG/L
M 79	8.0-8.5 (8.2)	114-132 (124)	66-77 (71)	60-79 (68)	60-79 (67)	19-26 (22)
J 79	8.1-9.3 (8.6)	106-128 (119)	68-82 (77)	65-80 (73)	65-80 (68)	18-34 (25)
J 79	7.9-8.4 (8.1)	118-124 (121)	77-87 (81)	70-85 (80)	70-80 (78)	19-26 (23)
A 79	8.0-8.7 (8.4)	118-158 (121)	80-122 (93)	85-110 (96)	80-100 (96)	21-26 (23)
S 79	7.6-8.3 (8.0)	138-169 (162)	72-92 (83)	82-106 (94)	78-106 (91)	24-27 (26)
O 79	7.3-8.1 (7.6)	136-159 (151)	40-102 (62)	78-121 (90)	78-121 (90)	22-27 (25)
N 79	6.6-7.8 (7.1)	94-159 (129)	36-102 (66)	62-110 (80)	62-110 (80)	15-31 (22)
D 79	6.6-7.5 (7.0)	109-142 (120)	72-87 (63)	65-95 (84)	75-95 (84)	15-33 (25)
J 80	6.6-7.9 (6.9)	132-174 (142)	35-98 (68)	75-95 (83)	75-95 (83)	26-52 (38)
F 80	6.1-8.3 (7.5)	98-165 (128)	48-98 (63)	55-95 (77)	55-90 (75)	17-25 (23)
M 80	6.5-8.0 (7.2)	116-230 (160)	62-130 (88)	68-140 (91)	68-140 (90)	15-34 (24)
A 80	6.8-7.9 (7.5)	105-124 (115)	30-60 (50)	46-120 (81)	46-120 (81)	14-16 (15)

TABLE I (continued)

Date	Iron	Potassium	Magnesium	Sodium	Chloride	Phosphate Total
M Y	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
M 79	0.00-1.50 (0.25)	0.53-1.32 (0.87)	2.5-3.0 (2.8)	0.0-2.5 (1.2)	3.5-5.0 (4.3)	0.01-0.08 (0.02)
J 79	0.00-0.91 (0.13)	0.73-1.15 (0.87)	3.0-3.8 (3.2)	1.3-4.7 (2.3)	2.9-5.9 (4.7)	0.01-0.05 (0.02)
J 79	0.00-0.59 (0.13)	0.81-1.18 (0.95)	2.8-3.3 (3.01)	1.4-1.7 (1.5)	2.7-3.9 (3.6)	0.00-0.07 (0.02)
A 79	0.05-0.29 (0.11)	0.82-1.05 (0.94)	2.7-3.6 (3.2)	1.5-1.9 (1.7)	2.6-7.9 (4.6)	0.00-0.06 (0.03)
S 79	0.00-0.26 (0.06)	0.97-1.09 (1.05)	3.3-3.6 (3.4)	1.7-2.0 (1.9)	4.1-4.6 (4.4)	0.00-0.02 (0.01)
O 79	0.05-2.06 (0.47)	0.95-1.32 (1.15)	3.4-4.2 (3.8)	1.2-1.6 (1.4)	3.9-5.7 (4.4)	0.00-0.05 (0.02)
N 79	0.29-2.10 (1.00)	1.0-1.60 (1.10)	2.6-4.5 (3.4)	1.2-1.4 (1.3)	3.9-13.7 (5.9)	0.01-0.11 (0.01)
D 79	0.59-3.01 (1.16)	0.60-1.34 (1.06)	2.7-3.0 (2.8)	1.2-2.0 (1.5)	4.1-6.2 (4.9)	0.00-0.00 (0.00)
J 80	0.17-3.18 (0.87)	0.67-1.74 (1.11)	2.7-3.6 (2.8)	0.3-1.6 (1.1)	3.9-6.7 (5.2)	0.00-0.01 (0.01)
F 80	0.17-1.75 (0.48)	0.98-1.74 (1.49)	2.0-4.1 (3.1)	0.4-1.6 (1.0)	3.6-7.3 (5.10)	0.01-0.04 (0.02)
M 80	0.00-3.90 (1.51)	0.86-3.43 (1.63)	2.2-5.9 (3.3)	1.0-1.9 (1.4)	2.1-8.0 (4.9)	0.04-0.10 (0.07)
A 80	0.18-1.77 (0.87)	0.97-1.31 (1.09)	2.2-2.6 (2.4)	1.4-1.7 (1.5)	3.3-4.9 (3.9)	0.02-0.04 (0.03)

TABLE I (Continued)

Date	Sulfate	Solids Total	Dissolved Oxygen	Nitrogen-NH ₃	Temperature Water
M Y	MG/L	MG/L	MG/L	MG/L	Deg. C.
M 79	6.4-11.8 (7.3)	84-290 (125.7)	6.2-7.9 (6.7)	NA*	NA
J 79	6.7-10.2 (7.8)	101-209 (135.8)	6.3-8.4 (7.0)	NA	NA
J 79	7.5-10.9 (8.3)	42-267 (109.6)	7.1-8.9 (7.8)	NA	NA
A 79	7.5-8.7 (8.0)	123-175 (139.0)	7.6-8.8 (7.9)	0.08-0.36 (0.19)	25.6-29.1 (26.8)
S 79	7.2-9.0 (8.1)	103-142 (122.0)	7.0-8.3 (7.7)	0.10-0.40 (0.30)	21.8-25.8 (24.0)
O 79	7.5-19.2 (9.9)	82-332 (143.1)	5.0-9.3 (7.7)	0.02-1.44 (0.51)	16.4-21.8 (18.3)
N 79	9.4-18.5 (11.9)	89-298 (132.6)	7.0-10.0 (8.2)	0.16-0.73 (.36)	12.0-16.6 (13.7)
D 79	8.7-14.4 (10.5)	103-187 (136.4)	10.0-12.6 (11.2)	0.02-0.13 (0.06)	6.4-10.8 (7.8)
J 80	8.4-14.5 (12.4)	97-324 (143.1)	8.2-12.4 (10.2)	0.07-0.24 (0.14)	6.4-11.2 (8.3)
F 80	8.1-18.0 (10.9)	121-250 (162.6)	10.0-12.0 (10.9)	0.00-0.13 (.08)	0.8-6.0 (3.8)
M 80	7.5-51.3 (23.9)	113-400 (222.1)	8.7-11.2 (9.9)	0.09-0.37 (0.23)	3.2-13.6 (9.2)
A 80	4.3-10.2 (5.9)	56-142 (102.5)	8.8-11.4 (10.0)	0.01-0.08 (0.05)	13.5-18.5 (15.9)

* No data available

TABLE II

Minimum-Maximum (Mean) Water Quality 1979-80
 Station 4728G2, Latitude 35D 19M 15S, Longitude 86D 06M 26S
 Rollins Creek at Causeway, Tullahoma, Tennessee

Date	pH	Specific Conductance	Total Hardness	Total Alkalinity	Alkalinity M.O.	Calcium
M Y	pH Units	UMHO/CM	MG/L	MG/L	MG/L	MG/L
M 79	7.6-8.5 (8.2)	115-157 (132)	65-76 (71)	52-71 (63)	51-69 (63)	11-25 (21)
J 79	8.0-8.9 (8.4)	114-140 (125)	74-82 (78)	64-85 (73)	62-75 (69)	18-30 (24)
J 79	7.5-8.8 (7.9)	114-145 (125)	79-96 (85)	75-114 (82)	75-106 (81)	19-27 (24)
A 79	7.7-8.4 (8.1)	134-158 (146)	84-132 (102)	75-114 (96)	92-114 (94)	22-27 (23)
S 79	7.5-8.2 (7.8)	138-175 (160)	63-124 (86)	88-116 (98)	92-116 (98)	22-28 (26)
O 79	7.7-8.0 (7.8)	142-159 (147)	47-74 (58)	67-82 (79)	67-82 (79)	23-25 (24)
N 79	7.3-7.9 (7.6)	102-154 (134)	50-96 (69)	60-98 (79)	60-98 (79)	14-26 (22)
D 79	7.5-7.9 (7.8)	96-149 (130)	46-62 (55)	78-98 (85)	78-98 (85)	15-32 (27)
J 80	7.6-8.1 (7.8)	98-148 (118)	32-80 (52)	70-85 (77)	70-85 (77)	18-43 (33)
F 80	7.0-8.1 (7.7)	103-170 (139)	46-84 (69)	80-110 (89)	80-110 (89)	23-28 (24)
M 80	7.3-8.0 (7.7)	73-140 (109)	50-82 (68)	60-90 (79)	60-90 (79)	8-28 (19)
A 80	7.2-8.9 (7.9)	87-154 (115)	42-65 (52)	61-102 (76)	61-102 (75)	16-18 (17)

TABLE II (continued)

Date	Iron	Potassium	Magnesium	Sodium	Chloride	Phosphate Total
M Y	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
M 79	0.00-0.41 (0.19)	0.79-1.32 (0.96)	1.6-3.1 (2.7)	0.1-3.2 (1.4)	3.8-7.8 (5.3)	0.01-0.06 (0.02)
J 79	0.00-0.26 (0.12)	0.74-1.09 (0.89)	3.1-4.0 (3.4)	1.5-2.7 (1.9)	4.8-7.4 (5.8)	0.01-0.05 (0.02)
J 79	0.00-0.30 (0.09)	0.95-1.08 (1.01)	3.0-3.5 (3.2)	1.4-2.0 (1.7)	3.9-5.7 (4.3)	0.02-0.05 (0.02)
A 79	0.00-0.42 (0.13)	0.87-1.10 (1.00)	3.2-3.9 (3.5)	1.7-2.4 (1.9)	4.2-6.5 (5.0)	0.01-0.04 (0.03)
S 79	0.00-0.13 (0.07)	0.97-1.10 (1.00)	3.3-3.6 (3.4)	1.8-2.2 (1.9)	2.6-6.5 (4.9)	0.00-0.05 (0.02)
O 79	0.00-0.35 (0.14)	1.00-1.19 (1.10)	3.1-4.6 (3.8)	1.5-2.1 (1.8)	4.4-6.2 (5.4)	0.01-0.10 (0.03)
N 79	0.06-0.68 (0.28)	1.00-1.41 (1.10)	2.5-4.8 (3.5)	1.2-1.7 (1.4)	4.2-5.7 (5.0)	0.01-0.12 (0.05)
D 79	0.18-0.64 (0.43)	0.94-1.27 (1.12)	2.6-3.1 (3.0)	1.3-2.3 (1.7)	4.2-6.9 (5.2)	0.01-0.07 (0.04)
J 80	0.09-0.67 (0.34)	0.76-1.52 (1.07)	2.5-3.7 (3.3)	0.4-1.9 (1.1)	3.2-5.7 (4.3)	0.05-0.09 (0.07)
F 80	0.10-1.00 (0.40)	0.80-1.74 (1.27)	2.9-3.8 (3.3)	0.4-1.6 (1.2)	4.1-6.3 (5.5)	0.06-0.38 (0.18)
M 80	0.20-1.90 (0.80)	0.39-1.00 (0.85)	1.7-3.5 (2.6)	1.3-3.8 (2.5)	3.3-14.8 (8.3)	0.04-0.10 (0.07)
A 80	0.36-0.88 (0.66)	0.79-1.10 (0.94)	2.6-2.8 (2.7)	1.4-1.7 (1.6)	3.7-6.8 (5.6)	0.02-0.04 (0.03)

TABLE II (Continued)

Date	Sulfate	Total Solids	Dissolved Oxygen	Nitrogen-NH ₃	Temperature Water
M Y	MG/L	MG/L	MG/L	MG/L	Deg. C.
M 79	6.1-8.3 (7.0)	98-129 (113)	5.5-6.9 (6.4)	NA*	NA
J 79	6.6-9.7 (8.4)	89-144 (126)	6.1-7.3 (6.7)	NA	NA
J 79	7.4-9.4 (8.4)	51-199 (110)	7.1-9.4 (7.8)	NA	NA
A 79	7.2-8.9 (8.2)	132-180 (152)	6.2-8.2 (7.3)	0.07-0.10 (0.06)	24.2-30.2 (27.3)
S 79	7.1-10.2 (8.5)	111-161 (119)	6.4-8.7 (7.3)	0.26-0.28 (0.27)	20.9-26.6 (24.3)
O 79	8.2-9.3 (8.7)	94-114 (105)	7.5-8.7 (8.1)	0.01-0.27 (0.10)	15.4-23.8 (19.1)
N 79	7.3-11.2 (9.1)	99-165 (119)	5.8-10.4 (9.3)	0.18-0.25 (0.21)	11.0-17.6 (13.9)
D 79	7.2-8.5 (7.9)	98-166 (122)	10.0-12.0 (10.8)	0.05-0.19 (0.13)	5.8-14.6 (09.3)
J 80	8.2-13.2 (9.7)	72-216 (134)	9.6-11.0 (10.3)	0.07-0.23 (0.12)	6.4-10.6 (08.0)
F 80	8.3-13.3 (10.0)	79-242 (143)	10.0-12.0 (11.3)	0.08-0.11 (0.10)	0.4-9.0 (05.3)
M 80	8.1-12.9 (9.5)	130-170 (149)	10.1-12.0 (11.0)	0.04-0.09 (0.06)	4.6-14.4 (09.6)
A 80	4.1-6.7 (5.4)	58-136 (91)	8.8-13.5 (10.9)	0.05-0.12 (0.06)	15.2-24.2 (18.2)

* No data available

TABLE III

Minimum-Maximum (Mean) Water Quality 1979-80
 Station 4728G3, Latitude 35D 20M 30S, Longitude 86D 05M 32S
 Rollins Creek at UTSI Highway Bridge, Tullahoma, Tennessee

Date	pH	Specific Conductance	Total Hardness	Total Alkalinity	Alkalinity M.O.	Calcium
M Y	pH Units	UMHO/CM	MG/L	MG/L	MG/L	MG/L
M 79	NA*	NA	NA	NA	NA	NA
J 79	8.2-8.4 (8.3)	82-128 (95)	72-82 (76)	65-80 (71)	65-80 (71)	20.0-27.2 (24.6)
J 79	7.7-7.9 (7.8)	126-132 (131)	79-93 (86)	70-80 (75)	70-80 (75)	21.7-28 (24.1)
A 79	7.8-8.0 (7.9)	NA	86-124 (105)	78-99 (90)	78-99 (90)	22.6-23.3 (22.9)
S 79	7.6-8.0 (7.9)	143-179 (168)	66-92 (73)	72-88 (83)	72-88 (83)	24.5-28.0 (26.2)
O 79	7.6-8.3 (8.0)	149-166 (158)	53-78 (72)	75-89 (83)	75-89 (81)	23.5-25 (24.2)
N 79	6.7-8.0 (7.6)	114-157 (136)	30-83 (61)	80-90 (84)	80-90 (84)	16.1-34.1 (25.4)
D 79	7.8-8.0 (7.9)	116-128 (121)	54-74 (58)	88-92 (90)	88-92 (90)	28.3-31.6 (30.0)
J 80	7.4-7.9 (7.7)	106-145 (124)	55-80 (63)	73-85 (76)	73-85 (76)	22.5-42.3 (36.2)
F 80	7.6-7.9 (7.8)	114-169 (142)	52-92 (72)	75-90 (82)	75-90 (82)	22.9-27.7 (24.8)
M 80	7.3-8.1 (7.6)	66-146 (106)	54-96 (80)	82-89 (85)	82-90 (85)	7.4-24.7 (15.6)
A 80	NA	NA	NA	NA	NA	NA

* No data available

TABLE III (continued)

Date	Iron	Potassium	Magnesium	Sodium	Chloride	Phosphate Total
M Y	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
M 79	NA	NA	NA	NA	NA	NA
J 79	0.25-0.30 (0.28)	0.96-1.00 (0.96)	3.8-4.2 (4.0)	1.7-3.5 (2.4)	3.6-5.4 (4.8)	0.06-0.12 (0.08)
J 79	0.00-0.23 (0.12)	0.53-1.08 (0.91)	3.1-3.5 (3.2)	1.3-2.1 (1.6)	3.6-5.0 (4.2)	0.01-0.09 (0.04)
A 79	0.11-0.80 (0.43)	0.89-1.20 (1.00)	3.2-3.7 (3.5)	1.5-2.0 (1.8)	4.5-4.7 (4.6)	0.01-0.03 (0.02)
S 79	0.03-0.21 (0.10)	1.02-1.16 (1.08)	3.3-3.6 (3.5)	1.8-2.3 (1.9)	3.6-5.2 (4.8)	0.00-0.03 (0.01)
O 79	0.00-0.06 (0.08)	1.09-1.17 (1.33)	3.3-4.5 (4.0)	1.5-1.8 (1.7)	4.4-5.2 (4.9)	0.02-0.05 (0.03)
N 79	0.00-0.59 (0.21)	0.93-1.44 (1.75)	2.8-5.0 (3.9)	1.2-1.5 (1.4)	3.6-4.7 (4.3)	0.00-0.18 (0.07)
D 79	0.18-0.27 (0.24)	0.88-1.24 (1.06)	3.0-3.2 (3.0)	1.5-2.2 (1.8)	4.7-5.4 (5.0)	0.00-0.12 (0.06)
J 80	0.17-3.39 (1.16)	0.97-1.45 (1.18)	2.7-3.6 (3.1)	0.7-1.7 (1.4)	3.6-6.2 (4.9)	0.04-0.74 (0.28)
F 80	0.00-0.25 (0.17)	0.77-1.52 (1.01)	3.2-3.8 (3.4)	0.5-1.6 (1.2)	4.6-5.7 (5.2)	0.05-0.22 (0.11)
M 80	0.2-1.41 (0.79)	0.74-1.17 (0.93)	1.6-3.4 (2.4)	1.1-2.5 (2.0)	2.3-7.0 (3.6)	0.05-0.08 (0.07)
A 80	NA	NA	NA	NA	NA	NA

TABLE III (Continued)

Date	Sulfate	Total Solids	Dissolved Oxygen	Nitrogen-NH ₃	Temperature Water
M Y	MG/L	MG/L	MG/L	MG/L	MG/L
M 79	NA	NA	NA	NA	NA
J 79	8.2-10.3 (9.5)	70-173 (120)	5.6-7.6 (6.8)	NA	NA
J 79	7.9-9.1 (8.4)	74-127 (101)	6.6-7.6 (7.3)	NA	NA
A 79	7.9-13.1 (9.3)	126-180 (153)	6.4-7.6 (7.0)	0.06-0.16 (0.10)	26.3-30.3 (28.5)
S 79	7.9-11.7 (9.1)	116-132 (124)	6.6-7.6 (7.3)	0.18-0.38 (0.28)	25.6-28.6 (26.5)
O 79	8.0-9.3 (8.6)	84-134 (108)	8.2-8.6 (8.4)	0.00-0.18 (0.07)	21.4-23.6 (22.1)
N 79	7.6-10.8 (8.8)	114-191 (143)	8.6-10.00 (9.0)	0.12-0.20 (0.16)	11.6-20.5 (16.1)
D 79	7.6-8.0 (7.8)	107-224 (164)	10.0-11.0 (10.6)	0.04-0.32 (0.20)	10.4-15.8 (12.3)
J 80	7.9-27.3 (15.2)	75-253 (136)	9.6-10.6 (10.1)	0.09-0.46 (0.23)	8.4-14.0 (11.9)
F 80	8.0-12.9 (9.8)	128-168 (145)	10.0-12.0 (10.9)	0.00-0.15 (0.06)	3.4-11.0 (7.7)
M 80	8.5-17.5 (11.0)	122-264 (168)	9.4-11.5 (10.2)	0.05-0.11 (0.08)	12.1-13.8 (12.8)
A 80	NA	NA	NA	NA	NA

Temperature. There was a marked difference in the temperature measured at different stations. Measurement of the surface water temperature covered an observation period from August 1979 to April 1980. Water temperature during the sampling period was consistently higher at station 4728G3 (Table IV). Cooler water occurring at stations 4728G1 (G1) and 4728G2 (G2) was probably due in part from winter stratification inasmuch as these sites are within the reservoir proper. During winter stratification, cooler temperatures occur in the epilimnetic layer of a lake. In contrast, station 4728G3 (G3) is a lotic stream and would exhibit homothermal temperatures from surface to the bottom of the stream on an annual basis. Close proximity of this site to the effluent from AEDC facilities might also be a contributing factor for higher temperatures at this sampling station.

pH, Carbonates, and Bicarbonates. Seasonal variations were detected among these parameters as illustrated in Figure 2. In summer, removal of free carbon dioxide and the subsequent precipitation of carbonates can be attributed to phytoplankton activity. Carbonates reached a peak in the summer months as illustrated in Figure 2, by the rise in phenolphthalein alkalinity. Precipitation of carbonates resulted in a reduction of total alkalinity and an increase in pH during warm months (Figure 2). During winter, the reverse of this relationship is depicted. The epilimnial content showed a steady increase in total alkalinity with the bicarbonates at peak levels and carbonates essentially nil during this period. Figure 3 gives the pH measurements at three sampling sites along Rollins Creek. The pH of the water ranged from a low of 6.1 in February to a high of 9.3 in June. However, during the entire observation period the monthly means consistently fell within the limits of the standards set for the sensitive biota.

Dissolved Oxygen. The dissolved oxygen concentration of the water was marked by seasonal variation (Figure 2). The surface water approached saturation levels during the winter and dropped during the summer (Figure 4). However, according to previous documentation (U.S. EPA 1976), during summer months the dissolved oxygen concentration of the epilimnion greatly exceeds that of the hypolimnion. This is a characteristic phenomenon of dimictic lakes. Oxygen deficiency in the hypolimnion is indicative of tropholytic activity of that zone.

Hardness. Hardness of the water from Woods Reservoir, as in most natural waters, can be attributed to carbonates of the alkaline earths, calcium and magnesium. Based on the data for calcium there seems to be an abundance of calcium salts entering the reservoir. The annual mean calcium content of the lake at all three stations exceeds the mean calcium content for World rivers (Table V). Water from Woods Reservoir could be classified as moderately hard based on Hammer's classification. According to Hammer (1975), waters greater than 50 mg/l are considered moderately hard.

Major Inorganic Ions. The surface water was abundant in iron during the observation period. Peak levels were reached during rainy periods, especially during spring rains (Figure 5). Lentic iron concentrations increased during autumnal overturn as depicted in Figure 2 at stations G1 and G2. Hypolimnetic zones of eutrophic lakes typically contain iron in solution during later stages of summer stagnation which is brought to the surface during overturn (Reid 1961).

TABLE IV

Temperature (°C) of Surface Waters Recorded
at Three Stations in Woods Reservoir
from August 1979 - April 1980

		4728G1			4728G2			4728G3		
		Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
1979	A	26	29	27	24	30	27	26	30	29
	S	22	26	24	21	27	24	26	29	27
	O	16	21	18	15	24	19	21	24	22
	N	12	17	14	11	18	14	12	21	16
	D	6	11	8	6	15	9	10	16	12
1980	J	6	11	8	6	11	8	8	14	12
	F	0.8	6	4	0.4	9	5	3	11	8
	M	3	14	9	5	14	10	12	14	13
	A	14	19	16	15	24	18	NA*	NA	NA

* No data available

Figure 2. Seasonal Variation in pH, Alkalinity, Dissolved Oxygen in Woods Reservoir (Tullahoma, Tennessee) During 12 Months in 1979-1980

Figure 3. pH Measurements at Three Stations Along Rollins Creek, Tributary of Woods Reservoir

Figure 4. Dissolved Oxygen Measurements at Three Stations Along Rollins Creek, Tributary of Woods Reservoir

Figure 5. Total Iron Content of Surface Water at Three Stations During May 1979 - April 1980

TABLE V

Comparison of Water Analysis at each Site with World-Average River Water and Drinking Water Standards

	4728G1 (mg/l)	4728G2 (mg/l)	4728G3 (mg/l)	World-Average Rivers ^a (mg/l)	Drinking Water ^b (mg/l)
Calcium	23.9	23.6	25.4	15	75
Sodium	1.5	1.5	1.7	6.3	NRC ^c
Magnesium	3.1	3.2	3.4	4.1	30
Potassium	1.1	1.0	1.1	2.3	NR
Iron	0.6	0.3	0.4	NRC ^c	<.3
Sulfate	10.4	8.4	9.8	11.2	<250
Chloride	4.7	5.4	4.2	7.8	<250

^a Data from Vallentyne 1974.

^b Taken from Appendix A.

^c Standard not reported.

Phosphates were present in appreciable amounts during the sampling period and showed seasonal trends as illustrated in Figure 6. Vallentyne

Figure 6. Seasonal Change in Mean Monthly Values for Total Phosphate at Station G2 During a One-Year Sampling Period

(1974) has previously shown a seasonal relationship between phosphate concentrations and phytoplankton abundance in the epilimnion of Lake Washington. Phosphate content accumulates in winter and diminishes in summer (Figure 6) with the onset of algal growth. Monthly mean concentrations of phosphate at station G3 were consistently higher than those reported for stations G1 and G2 (Tables I, II, III). Flowing surface waters are typically richer in phosphates than are surface waters of open lakes (Reid 1961), due mainly to less biological demand in proportion to water volume. Phosphate levels are also influenced by high rainfall (Reid 1961) as evidenced by peak values reported for the spring rainy season (Figure 6).

Chlorides. The chloride content of the surface water was low at all three sites, ranging from 2.1 (site G1) to 14.8 (G3). There was no seasonal variation observed in the chloride content of the water.

Sodium and potassium. Sodium and potassium ions were present in small amounts with reported monthly means less than 3 mg/l at all sites during the observation period. For a comparison of ionic composition of water from Woods Reservoir with other fresh water lakes, see Table VI.

Ammonia. The ammonia content of the upper lighted zone of the lake was rather high from August to December (Figure 7). This was probably brought about by autumnal circulation of hypolimnetic ammonia accumulated during summer stagnation. The bottom strata becomes enriched with ammonia from decomposition and oxidative degradation of nitrogenous compounds by trophogenic activity in the tropholytic zone. Similarly, another seasonally high concentration of the compound produced during winter stagnation should be observed during vernal overturn.

Sulfates. The sulfate content of the water had an annual mean of 10.4 mg/l, 8.4 mg/l and 9.8 mg/l at stations G1, G2, and G3 respectively. Some idea of the range sulfate concentration in natural waters can be gained from Table VI.

Figure 7. Mean Monthly Concentrations of Ammonia at Station G1 During August 1979 - April 1980

TABLE VI

Comparison of Ionic Composition of Water from Several Sources
with Water Analysis from Woods Reservoir

Ion	Woods Reservoir, ^b		Silver Springs, ^a Florida	Lake Erie ^a (1958)	Soap Lake, ^a Washington	Bunny Lake, ^a California	Rainwater ^a
	Tennessee Station 1						
Cl (mg/l)	4.6		7.8	6.6	5467.0	0.2	0.5
SO ₄ (mg/l)	10.4		34.0	9.3	6240.0	1.3	2.0
Na + K (mg/l)	2.6		5.1	4.9	13002.0	0.9	0.43
Mg (mg/l)	3.1		9.6	5.7	8.2	0.9	0.10
Ca (mg/l)	23.9		58.0	23.4	20.6	0.7	0.1 to 10
N.NH ₃ (mg/l)	0.21		NR ^c	NR	NR	0.03	0.5
HCO ₃ (mg/l)	80.5		201.0	NR	5209.0	6.0	0.0
pH	7.6		7.8	8.2	9.4 to 10	5.8 to 6.3	4.5

a Data from Reid and Wood, 1976

b Values are annual means for May 1979-April 1980

c Data not reported

IV. CONCLUSIONS

The predominant ions of the water of Woods Reservoir were found to be calcium and bicarbonate ions. Next in abundance in decreasing order were sulfate, chloride, and magnesium ions. Sodium and potassium cations were present in minimal amounts. The lake could be classified as a moderately hard-water lake with measurable quantities of calcium present. The lake falls into a class in which the pH is circumneutral with a tendency toward slightly alkaline conditions.

The water is characterized by warm temperatures and seasonally low dissolved oxygen values. Survey data plus the review of nutrient studies by others warrant the assignment of Woods Reservoir as a eutrophic lake.

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APPENDIX A

TABLE A-1

EPA NUMERICAL WATER QUALITY CRITERIA*
FOR FRESHWATER AQUATIC LIFE

<u>Parameter</u>	<u>μg/l (unless otherwise specified)</u>
Alkalinity	≥ 20 mg/l as CaCO ₃
Ammonia	20 as un-ionized
Beryllium	11-soft water; 1, 100-hard water
Cadmium	0.4 (soft); 1.2 (hard)-cladocerans and salmonid
Chlorine (total residual)	2-salmonid; 10-other
Chromium	100
Color	10% change in compensation point
Copper	0.01 LC 50 (96 hr)
Cyanides	.005 mg/l
DO	5.0 mg/l
Fecal Coliform	≤ 14 MPN/100 ml; no more than 10% ≥ 43 MPN/100 ml; shell fish harvesting 1.0 mg/l
Iron	1.0 mg/l
Lead	0.01 LC 50 (96 hour)
Mercury	0.05
Nickel	0.01 LC 50 (96 hour)
Oils	Non-visible on surface 0.01 LC 50
pH	6.5 - 9.0
Selenium	0.01 LC 50 (96 hour)
Silver	0.01 LC 50 (96 hour)
Sulfides	2 as undissociated H ₂ S
Suspended and Settable Solids	Should not reduce depth and compensation point for photosynthetic activity by more than 10% from seasonably estimated norms
Turbidity and Light Penetration	
Zinc	0.01 LC 50 (96 hour)

* Taken from Golden et al. 1979 A-1

TABLE A-2

EPA NUMERICAL WATER QUALITY CRITERIA FOR
PUBLIC WATER SUPPLY INTAKE *

<u>Parameter</u>	<u>µg/l. (unless other- wise specified)</u>	<u>Crop Irrigation</u>
Arsenic	50	100
Barium	1 mg/l	
Beryllium		100 µg/l: or 500 µg/l for neutral to alkaline fine- textured soils
Boron		750 mg/l-sensitive crop
Cadmium	10	
Chromium	50	
Copper	1,000	
Iron	0.3 mg/l	
Lead	50	
Mangenesese	50	
Mercury	2	
Nitrate nitrogen (N)	10 mg/l	
pH	5.9	
phenols	1.0	
Selenium	10	
Silver	50	
Solids (dissolved, salinity)	250 mg/l for Chlorides and Sulfates	
Zinc	5,000	

* Taken from Golden et al. 1979

TABLE A-3

STATE OF TENNESSEE WATER POLLUTION STANDARDS *

ABS, mg/l	0.5
Arsenic, mg/l	0.01
Bacteria-Fecal #/100 ml	1,000
Chlorides, mg/l	250
Color, color units	15
Copper, mg/l	1.0
CCE, mg/l	0.2
Cyanide, mg/l	0.01
Fluorides, mg/l	1.3
Hardness, mg/l	150
Iron, mg/l	0.3
Manganese, mg/l	0.05
Nitrate, mg/l	35
pH	6.0-9.0
Phenols, mg/l	0.001
Sulfates, mg/l	250
Temperature, °C	Maximum of 30.5°C or 3°C increase
Total Dissolved Solids, mg/l	500
Turbidity, JTU	12

* Taken from Golden et al. 1979

TABLE A-4.

WORLD HEALTH ORGANIZATION
DRINKING WATER STANDARD

Characteristic	Highest desirable level	Maximum permissible level
Total solids	500	1500
Colour ($^{\circ}$ H)	5	50
Taste	unobjectionable	--
Odour	unobjectionable	--
Turbidity (Formazin units)	5	25
Chloride	200	600
Iron	0.1	1
Manganese	0.05	0.5
Copper	0.05	1.5
Zinc	5	15
Calcium	75	200
Magnesium	30	150
Sulphate	200	400
Total hardness (as CaCO_3)	100	500
Nitrate (as NO_3)	45	--
Phenol	0.001	0.002
Anionic detergent	0.02	1.0
Fluoride	0.9-1.7 (mean temp. 12°C) 0.6-0.8 (mean temp. 32°C)	
pH (units)	7-9	min. 6.5 max. 9.2
Arsenic	--	0.05
Cadmium	--	0.01
Chromium (6+)	--	0.05
Cyanide	--	0.05
Lead	--	0.10
Mercury	--	0.001
Selenium	--	0.01
Polynuclear aromatic hydrocarbons	--	0.0002
Gross alpha radioactivity (p C/l)	--	3
Gross beta radioactivity (p C/l)	--	30

Concentration in mg/l except where noted.

Bacteriological standard for water in the distribution system:

- (i) In 95% of samples examined throughout a year coliform bacteria should be absent in 100 ml.

- (ii) No sample should contain E. coli in 100 ml.
- (iii) No sample should contain more than 10 coliform organisms per 100 ml.
- (iv) Coliform organisms should not be detectable in 100 ml of any two consecutive samples.

* Taken from Tebbut, 1977.

APPENDIX B

TABLE B-I

Sample Collection and Preservation for Chemical Analyses

<u>Measurement</u>	<u>Container</u>	<u>Preservative</u>	<u>Holding Time</u> (max.)
<u>Physical Properties</u>			
Conductivity	P,G*	Cool, 4°C	24 hours
Hardness	P,G	Cool, 4°C HNO ₃ to pH<2	6 months
pH	P,G	Det. on site	6 hours
Residue - Total	P,G	Cool, 4°C	7 days
Temperature	P,G	Det. on site	No Holding
<u>Metals</u>			
Total	P,G	HNO ₃ to pH<2	6 months
<u>Inorganics, Non-Metallics</u>			
Alkalinity	P,G	Cool, 4°C	24 hours
Chloride	P,G	None	7 days
Ammonia (Nitrogen)	P,G	Cool, 4°C H ₂ SO ₄ to pH<2	24 hours
D. O. Probe	G only	Det. on site	No holding
Winkler	G only	Fix on site	4-8 hours
Phosphorus (total)	P,G	Cool, 4°C H ₂ SO ₄ to pH 2	24 hours
Sulfate	P,G	Cool, 4°C	7 days

* Plastic, Glass

APPENDIX C

FLOW DATA

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Tennessee District

A-413 Federal Bldg.
U.S. Courthouse
Nashville, TN 37203
May 7, 1980

Ms. Judy Cooper
University of Tennessee Space Institute
Chemistry and Environmental Sciences
Tullahoma, TN 37388

Dear Ms. Cooper:

In response to your request, enclosed is a computer printout showing the mean daily discharges for Elk River near Estill Springs for the first quarter of calendar year 1980.

If you have any questions or additional data needs, please contact us.

Sincerely yours,

FOR THE DISTRICT CHIEF

Joseph B. Largen
Hydrologic Data Section

Enclosure

TABLE C-1

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

PROCESS DATE IS 04

STATION NUMBER
LATITUDE 35170903579100 ELK RIVER NEAR ESTILL SPRINGS, TENN.
LONGITUDE 0860620 DRAINAGE AREA 275.00STREAM SOURCE AGENCY USGS
886.43 STATE 47 COUNTY 051DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

PROVISIONAL DATA

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	830	656	629	430	595	426	982					
2	797	1200	623	419	548	357	628					
3	489	1250	382	419	433	236	668					
4	678	1060	381	758	299	115	927					
5	550	510	381	547	299	277	782					
6	447	297	381	614	417	742	716					
7	446	296	381	650	383	2120	509					
8	437	295	343	596	354	4510	433					
9	427	577	315	595	358	1970	670					
10	430	1880	292	593	356	1730	---					
11	421	1450	254	599	484	863	---					
12	415	1060	254	597	247	860	---					
13	411	701	377	595	287	442	---					
14	403	644	360	524	354	658	---					
15	389	585	252	348	361	614	---					
16	380	423	425	355	698	612	---					
17	415	423	271	518	1160	1480	---					
18	334	421	219	1150	910	1650	---					
19	112	419	109	1980	517	1630	---					
20	111	419	203	1240	597	5210	---					
21	111	294	252	957	600	14600	---					
22	114	283	252	1030	600	4620	---					
23	197	1250	539	2010	598	2130	---					
24	387	2700	610	1140	595	2010	---					
25	469	2470	1450	1060	478	1440	---					
26	462	2160	1070	994	338	1020	---					
27	458	2280	867	680	297	949	---					
28	454	1240	604	530	296	3250	---					
29	456	696	420	423	416	1750	---					
30	422	835	359	425	---	1180	---					
31	374	---	579	585	---	1650	---					
TOTAL	12826	28774	13834	23361	13930	61101	---	---	---	---	---	---
MEAN	414	959	446	754	480	1971	---	---	---	---	---	---
MAX	830	2700	1450	2010	1160	14600	---	---	---	---	---	---
MIN	111	283	109	348	247	115	---	---	---	---	---	---
CFSM	1.51	3.49	1.62	2.74	1.75	7.17	---	---	---	---	---	---
IN.	1.74	3.89	1.87	3.16	1.88	8.27	---	---	---	---	---	---

CAL YR 1979 TOTAL 232518 MEAN 637 MAX 5560 MIN 29 CFSM 2.32 IN 31.45

Figure D-1

TOT. SOLIDS CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-2

CONDUCTIVITY OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-3

TOT. ALKALINITY OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-4

TOT. HARDNESS WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-5

DISSOLVED O₂ OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-6

SULFATE CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-7.

PHOSPHATE CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-8

CHLORIDE CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-9

POTASSIUM CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-10

IRON CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-11

PH OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

PH

DAY OF MO., SAMPLE STATION 2....EPA STANDARD >6.5, <9.0

Figure D-12

TOT. SOLIDS CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

DAY OF MO., SAMPLE STATION 2...TENN STANDARD <500 PPM

Figure D-13

CONDUCTIVITY OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-14

TOT. ALKALINITY OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-15

TOT HARDNESS OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-16

DISSOLVED O₂ OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-17

SULFATE CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

D-18

Figure D-18

PHOSPHATE CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-19

CHLORIDE CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

D-20

Figure D-20

POTASSIUM CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

D-21

Figure D-21

IRON CONTENT OF WOODS RESERVOIR AT ROLLINS CREEK COVE MAY 1979

Figure D-22.

TOT SOLIDS CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-23

CONDUCTIVITY OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-24

TOT. ALKALINITY OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-25

TOT HARDNESS OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-26

DISSOLVED O₂ OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-27

SULFATE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-28

PHOSPHATE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-29

CHLORIDE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-30

POTASSIUM CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-31

IRON CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-32

TOT. SOLIDS CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-33

CONDUCTIVITY OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-34

TOT. ALKALINITY OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-35

TOT HARDNESS CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

DAY OF MO., SAMPLE STA. 2....TENN. STANDARD < 150 PPM.

Figure D-36

DISSOLVED O₂ OF WOODS RESERVIOR AT ROLLINS CREEK COVE, JUNE 1979

Figure D-37

SULFATE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-38

PHOSPHATE CONTENT OF WOODS RESERVIOR AT ROLLING CREEK COVE JUNE 1979

Figure D-39

CHLORIDE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-40

POTASSIUM CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-41

IRON CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK COVE JUNE 1979

Figure D-42

TOT. SOLIDS CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-43

CONDUCTIVITY OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-44

TOT. ALKALINITY OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-45

TOT HARDNESS OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-46

DISSOLVED O₂ OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-47

SULFATE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-48

D-48

PHOSPHATE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-49

CHLORIDE CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-50

POTASSIUM CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-51

IRON CONTENT OF WOODS RESERVIOR AT ROLLINS CREEK BRIDGE JUNE 1979

Figure D-52

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
DATA TAKEN AT STATION 1			

Table D-I

D-53

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
JULY 3 1979	7.9000	120.0000	77.0000	70.0000	70.0000	22.6000	0.2200	1.0500
JULY 9 1979	8.2000	120.0000	78.0000	75.0000	70.0000	22.3000	0.0700	0.9800
JULY 11 1979	8.1800	120.0000	80.0000	80.0000	80.0000	22.3000	0.5900	0.8800
JULY 16 1979	7.7500	120.0000	77.0000	80.0000	80.0000	24.6200	0.0700	0.8100
JULY 18 1979	8.0300	124.0000	77.0000	80.0000	80.0000	19.4000	0.0800	0.9000
JULY 23 1979	8.3300	118.0000	83.0000	85.0000	80.0000	22.6000	0.0550	0.9000
JULY 25 1979	8.4000	120.0000	87.0000	82.0000	80.0000	24.0000	0.0000	0.9000
JULY 30 1979	8.0000	124.0000	83.0000	85.0000	80.0000	26.0000	0.0000	1.1800
AVERAGE VALUE	8.1488	120.7500	80.2500	79.6250	77.5000	22.9775	0.1356	0.9500

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
JULY 3 1979	3.0800	1.5000	0.0000	2.7650	0.0700	8.7700	168.0000	8.3000
JULY 9 1979	3.1600	1.5000	0.0000	4.6100	0.0100	7.7800	116.0000	7.1000
JULY 11 1979	3.1600	1.4400	0.0000	3.6900	0.1080	10.9200	267.0000	7.1000
JULY 16 1979	3.2300	1.4400	0.0000	3.6900	0.0050	7.8000	64.0000	7.9000
JULY 18 1979	3.3700	1.7400	0.0000	3.4600	0.0000	7.9200	67.0000	8.3000
JULY 23 1979	2.9700	1.4970	0.0000	3.9200	0.0130	8.1400	80.0000	7.8000
JULY 25 1979	2.8000	1.4000	0.0000	3.4600	0.0100	7.5500	73.0000	7.6000
JULY 30 1979	2.8000	1.4000	0.0000	3.7800	0.0050	7.9200	42.0000	8.9000
AVERAGE VALUE	3.0712	1.4896	0.0000	3.6719	0.0276	8.3500	109.6250	7.8750

JULY 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COLE CHLORIDE CONTENT OF WOODS RESERVIOR

Figure D-53

JULY 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE SILICON CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE ALKALINITY (NO) OF WOODS RESERVIOR

Figure D-54

JULY 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVIOR

Figure D-55

JULY 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE TOT. PHOSPHATE CONTENT WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVIOR

Figure D-56

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	

DATA TAKEN AT STATION 2

Table D-II

D-58

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
JULY 2 1979	8.0300	119.0000	80.0000	75.0000	75.0000	21.9000	0.0700	0.9800
JULY 5 1979	7.8300	124.0000	86.0000	75.0000	75.0000	22.7000	0.0700	0.9500
JULY 10 1979	7.8400	114.0000	82.0000	75.0000	75.0000	23.5000	0.3000	1.0500
JULY 12 1979	7.8500	119.0000	82.0000	75.0000	75.0000	22.7000	0.1500	0.9500
JULY 17 1979	7.8800	121.0000	79.0000	80.0000	80.0000	19.4000	0.0800	1.0000
JULY 19 1979	8.1500	132.0000	82.0000	80.0000	80.0000	21.7000	0.0000	1.0800
JULY 24 1979	7.8300	127.0000	84.0000	80.0000	80.0000	26.0000	0.0000	0.9800
JULY 26 1979	7.8800	124.0000	90.0000	80.0000	80.0000	27.3000	0.2000	1.0500
JULY 31 1979	8.8600	145.0000	96.0000	114.0000	106.0000	27.3000	0.0000	1.0500
AVERAGE VALUE	7.8722	125.0000	84.5556	81.5556	80.6667	23.6111	0.0967	1.0100

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
JULY 2 1979	3.2800	1.8100	0.0000	4.1500	0.0400	7.5800	110.0000	9.4000
JULY 5 1979	3.2500	1.5600	0.0000	4.1500	0.0500	7.8800	93.0000	8.1000
JULY 10 1979	3.1700	1.8800	0.0000	4.3800	0.0400	8.9200	199.0000	7.2000
JULY 12 1979	3.2000	1.4400	0.0000	4.1500	0.0340	9.4700	171.0000	7.1000
JULY 17 1979	3.1700	2.0000	0.0000	5.7600	0.0240	8.7300	120.0000	7.8000
JULY 19 1979	3.5400	2.0000	0.0000	4.3800	0.0290	8.1600	83.0000	8.2000
JULY 24 1979	3.1000	1.7000	0.0000	3.9200	0.0030	7.4700	98.0000	7.0000
JULY 26 1979	3.0000	1.4000	0.0000	4.1500	0.0350	8.4700	71.0000	7.3000
JULY 31 1979	3.0000	1.9000	0.0000	4.2900	0.0040	9.3300	51.0000	8.8000
AVERAGE VALUE	3.2344	1.7433	0.0000	4.3700	0.0288	8.4456	110.6667	7.8778

JULY 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERUIOR

JULY 1979 ROLLINS CREEK COVE TOT. PHOSPHATE CONTENT WOODS RESERUIOR

JULY 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERUIOR

JULY 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERUIOR

Figure D-57

JULY 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVIOR

Figure D-58

JULY 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE SILICON CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE ALKALINITY (NO) OF WOODS RESERVIOR

Figure D-60

JULY 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVIOR

Figure D-60

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
DATA TAKEN AT STATION 3			

Table D-III

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
JULY 6 1979	7.9700	132.0000	79.0000	70.0000	70.0000	23.4600	0.0000	1.0500
JULY 13 1979	7.7100	126.0000	89.0000	70.0000	70.0000	23.5000	0.0700	0.5300
JULY 20 1979	7.8200	136.0000	84.0000	80.0000	80.0000	21.7000	0.2300	1.0000
JULY 27 1979	7.8000	129.0000	93.0000	80.0000	80.0000	28.0000	0.2000	1.0800
AVERAGE VALUE	7.8250	130.7500	86.2500	75.0000	75.0000	24.1650	0.1250	0.9150
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
JULY 6 1979	3.1100	2.1900	0.0000	5.0300	0.0900	8.1600	127.0000	7.6000
JULY 13 1979	3.2300	1.3800	0.0000	4.1500	0.0630	7.9200	122.0000	7.4800
JULY 20 1979	3.5000	1.7400	5.1900	4.1500	0.0120	8.5300	81.0000	7.6000
JULY 27 1979	3.2000	1.4000	0.0000	3.6900	0.0110	9.1400	74.0000	6.6000
AVERAGE VALUE	3.2600	1.6775	1.2975	4.2550	0.0440	8.4375	101.0000	7.3200

JULY 1979 ROLLINS CREEK BRIDGE DISSOLVED OXYGEN IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE TOT. PHOSPHATE CONTENT WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE TOTAL SOLIDS IN WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE SULFATE CONTENT OF WOODS RESERVIOR

Figure D-61

JULY 1979 ROLLINS CREEK BRIDGE CONDUCTIVITY OF WOODS RESERUIOR

JULY 1979 ROLLINS CREEK BRIDGE PH OF WATER IN WOODS RESERUIOR

JULY 1979 ROLLINS CREEK BRIDGE HARDNESS OF WATER IN WOODS RESERUIOR

JULY 1979 ROLLINS CREEK BRIDGE CALCIUM CONTENT OF WOODS RESERUIOR

Figure D-62

JULY 1970 ROLLINS CREEK BRIDGE IRON CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE SILICON CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE TOTAL ALKALINITY OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE ALKALINITY (NO) OF WOODS RESERVIOR

Figure D-63

JULY 1979 ROLLINS CREEK BRIDGE MAGNESIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE SODIUM CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE CHLORIDE CONTENT OF WOODS RESERVIOR

JULY 1979 ROLLINS CREEK BRIDGE POTASSIUM CONTENT OF WOODS RESERVIOR

Figure D-64

PH	PPH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPH	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPH	EPA STD >20. PPM	
ALKALINITY (40)	PPH	NONE	
CALCIUM	PPH	NONE	
IRON	PPH	TENN STD	<.3 PPM
POTASSIUM	PPH	NONE	
MAGNESIUM	PPH	NONE	
SODIUM	PPH	NONE	
SILICON	PPH	NONE	
CHLORIDE	PPH	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPH	NONE	
SULFATE	PPH	TENN STD	<250 PPM
TOTAL SOLIDS	PPH	TENN STD	<500 PPM
DISSOLVED O2	PPH	EPA STD >5. PPM	
AMMONIA	PPH	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C

DATA TAKEN AT STATION 1

Table D-IV

D-68

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY 40	CALCIUM	IRON	POTASSIUM
AUG 1 1979	8.5200	118.0000	82.4000	95.0000	90.0000	26.0000	0.0500	0.9000
AUG 6 1979	8.7800	124.0000	84.6000	110.0000	100.0000	22.0000	0.0000	1.0300
AUG 8 1979	8.0200	*****	60.0000	98.0000	98.0000	21.3300	0.1700	1.0500
AUG 13 1979	8.2600	*****	102.0000	87.0000	85.0000	22.0000	0.2900	1.0300
AUG 15 1979	8.5500	*****	100.0000	103.0000	95.0000	20.6700	0.0600	0.9000
AUG 20 1979	8.6500	*****	122.0000	106.0000	98.0000	21.3300	0.1200	1.0000
AUG 22 1979	8.2400	*****	83.0000	87.0000	82.0000	22.6700	0.1100	0.8700
AUG 27 1979	8.2700	*****	82.0000	93.0000	88.0000	23.3300	0.1100	0.8700
AUG 29 1979	8.3700	*****	98.0000	85.0000	80.0000	23.3300	0.1100	0.8200
AVERAGE VALUE	8.4067	121.0000	92.6667	96.0000	90.6667	22.5178	0.1133	0.9411

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
AUG 1 1979	2.7000	1.7000	0.0000	2.6300	0.0090	7.6300	135.0000	8.8000
AUG 6 1979	3.1700	1.5200	0.0000	4.3600	*****	7.8000	123.0000	8.0000
AUG 8 1979	3.1700	1.7100	0.0000	4.2400	0.0410	8.4700	136.0000	7.8000
AUG 13 1979	3.2400	1.5700	0.0000	2.8600	*****	8.7400	132.0000	8.0000
AUG 15 1979	3.3300	1.5700	0.0000	5.1600	0.0290	7.5400	132.0000	7.8000
AUG 20 1979	3.2400	1.5700	0.0000	7.5300	*****	8.1600	123.0000	8.0000
AUG 22 1979	3.4000	2.2000	0.0000	5.3900	*****	7.9400	168.0000	7.6400
AUG 27 1979	3.6500	1.9400	*****	4.7000	*****	8.4200	175.0000	7.6000
AUG 29 1979	3.6200	1.9400	*****	4.8300	0.0630	7.6300	127.0000	7.6000
AVERAGE VALUE	3.2844	1.7467	0.0000	4.6778	0.0355	8.0433	139.0000	7.9156

	AMMONIA	TEMPERATURE
AUG 1 1979	0.3640	27.2000
AUG 6 1979	*****	27.7000
AUG 8 1979	*****	29.1000
AUG 13 1979	*****	27.0000
AUG 15 1979	0.1240	25.6000
AUG 20 1979	*****	26.3000
AUG 22 1979	*****	26.7000
AUG 27 1979	*****	25.8000
AUG 29 1979	0.0870	25.8000
AVERAGE VALUE	0.1917	26.8000

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AUG 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE AMMONIA IN WATER OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

Figure D-65

AUG 1979 POLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

AUG 1979 POLLINS CREEK COVE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

AUG 1979 POLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

AUG 1979 POLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

Figure D-66

AUG 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

Figure D-67

AUG 1979 ROLLINS CREEK COVE ALKALINITY (MG) OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

Figure D-68

Table D-V

		PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MU	CALCIUM	IRON	POTASSIUM
D-73	AUG 2 1979	7.9500	134.0000	88.2000	95.0000	95.0000	22.6700	0.0000	1.0000
	AUG 7 1979	8.4200	158.0000	91.6000	92.0000	90.0000	22.0000	0.0000	1.1800
	AUG 9 1979	8.3600	*****	83.6000	97.0000	92.0000	23.3300	0.1200	1.0000
	AUG 14 1979	8.0000	*****	92.4000	85.0000	85.0000	24.0000	0.0600	1.0200
	AUG 16 1979	7.9100	*****	112.0000	100.0000	100.0000	22.6700	0.4000	1.0600
	AUG 21 1979	8.3600	*****	107.4000	105.0000	100.0000	23.3300	0.1200	0.9300
	AUG 23 1979	7.9200	*****	98.6000	75.0000	75.0000	26.6000	0.1100	0.8700
	AUG 28 1979	7.7800	*****	132.0000	114.0000	114.0000	23.3300	0.4200	1.0800
	AUG 30 1979	8.3200	*****	110.0000	97.0000	93.0000	23.3300	0.0000	1.0000
	AVERAGE VALUE	8.1133	146.0000	101.7556	95.5556	93.7778	23.4733	0.1367	1.0156
		MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED 02
D-73	AUG 2 1979	3.4900	1.7600	0.0000	4.7000	0.0110	7.2900	180.0000	7.4000
	AUG 7 1979	3.2100	2.1400	0.0000	5.3900	*****	8.2500	139.0000	7.6000
	AUG 9 1979	3.7700	1.5200	0.0000	4.9300	0.0630	8.6700	154.0000	8.0000
	AUG 14 1979	3.6500	2.0000	0.0000	4.2400	*****	8.9200	161.0000	7.0000
	AUG 16 1979	3.6800	2.4300	0.0000	5.1600	0.0250	8.8800	151.0000	7.3800
	AUG 21 1979	3.6200	1.9100	0.0000	4.9300	*****	7.3900	154.0000	8.2000
	AUG 23 1979	3.9200	2.0600	0.0000	6.5400	*****	7.6500	132.0000	7.2000
	AUG 28 1979	3.6200	1.8200	*****	4.8300	*****	8.7100	150.0000	6.2000
	AUG 30 1979	3.5500	2.1800	*****	5.0600	0.0420	8.2400	147.0000	7.0000
	AVERAGE VALUE	3.5567	1.9800	0.0000	5.0867	0.0353	8.2222	152.0000	7.3311
		AMMONIA	TEMPERATURE						
D-73	AUG 2 1979	0.0780	27.4000						
	AUG 7 1979	0.0000	28.8000						
	AUG 9 1979	*****	30.2000						
	AUG 14 1979	*****	26.1000						
	AUG 16 1979	0.1080	24.2000						
	AUG 21 1979	*****	27.2000						
	AUG 23 1979	*****	27.0000						
	AUG 28 1979	*****	28.8000						
	AUG 30 1979	0.0920	26.0000						
	AVERAGE VALUE	0.0695	27.3000						

AUG 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE AMMONIA IN WATER OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

Figure D-69

AUG. 1979 ROLLINS CREEK COVE. SULFATE CONTENT OF WOODS RESERVOIR

AUG. 1979 ROLLINS CREEK COVE. TOT. PHOSPHATE CONTENT WOODS RESERVOIR

AUG. 1979 ROLLINS CREEK COVE. CHLORIDE CONTENT OF WOODS RESERVOIR

AUG. 1979 ROLLINS CREEK COVE. SODIUM CONTENT OF WOODS RESERVOIR

Figure D-70

AUG 1979 FOLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

AUG 1979 FOLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

AUG 1979 FOLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

AUG 1979 FOLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

Figure D-71

AUG 1979 ROLLINS CREEK COVE ALKALINITY (MG) OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

AUG 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

Figure D-72

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C

DATA TAKEN AT STATION 3

Table D-VI

D-78

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
AUG 3 1979	7.8700	122.0000	86.0000	90.0000	90.0000	22.6700	0.8000	1.2100
AUG 10 1979	7.9800	*****	121.0000	99.0000	99.0000	23.3300	0.2900	0.9900
AUG 17 1979	8.0200	*****	124.0000	85.0000	85.0000	22.6700	0.3400	1.0800
AUG 24 1979	7.9100	*****	91.2000	78.0000	78.0000	23.3300	0.1100	0.8900
AUG 31 1979	7.9600	*****	102.0000	98.0000	98.0000	22.6700	0.6300	1.0000
AVERAGE VALUE	7.9480	122.0000	104.9600	90.0000	90.0000	22.9340	0.4340	1.0340

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
AUG 3 1979	3.2700	1.8600	4.2500	4.5300	0.0350	13.1600	180.0000	7.1000
AUG 10 1979	3.6800	1.5200	0.0000	4.5600	0.0130	8.2900	161.0000	7.1000
AUG 17 1979	3.6500	1.7600	0.0000	4.7000	0.0060	8.6500	126.0000	7.6600
AUG 24 1979	3.7700	2.0600	*****	4.7000	*****	8.6700	148.0000	6.4000
AUG 31 1979	3.4000	2.0600	*****	4.6900	0.0260	7.9800	148.0000	6.8000
AVERAGE VALUE	3.5540	1.8520	1.4167	4.6360	0.0200	9.3500	152.6000	7.0120

	AMMONIA	TEMPERATURE
AUG 3 1979	0.0990	26.3000
AUG 10 1979	*****	30.3000
AUG 17 1979	0.1630	27.2000
AUG 24 1979	*****	29.2000
AUG 31 1979	0.0640	29.6000
AVERAGE VALUE	0.1087	28.5200

Figure D-73

AUG 1979 FOLLINS CREEK BRIDGE SULFATE CONTENT OF WOODS RESERVOIR

AUG 1979 FOLLINS CREEK BRIDGE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

AUG 1979 FOLLINS CREEK BRIDGE CHLORIDE CONTENT OF WOODS RESERVOIR

AUG 1979 FOLLINS CREEK BRIDGE NITRUM CONTENT OF WOODS RESERVOIR

Figure D-74

AUG 1979 ROLLINS CREEK BRIDGE MAGNESIUM CONTENT OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK BRIDGE POTASSIUM CONTENT OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK BRIDGE IRON CONTENT OF WOODS RESERVOIR

AUG 1979 ROLLINS CREEK BRIDGE CALCIUM CONTENT OF WOODS RESERVOIR

Figure D-75

AUG 1973 ROLLINS CREEK BRIDGE ALKALINITY (MG) OF WOODS RESERVOIR

AUG 1973 ROLLINS CREEK BRIDGE TOTAL ALKALINITY OF WOODS RESERVOIR

AUG 1973 ROLLINS CREEK BRIDGE PH OF WATER IN WOODS RESERVOIR

AUG 1973 ROLLINS CREEK BRIDGE HARDNESS OF WATER IN WOODS RESERVOIR

Figure D-76

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHU	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (NO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C
DATA TAKEN AT STATION 1			

Table D-VII

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY NO	CALCIUM	IRON	POTASSIUM
SEPT 5 1979	8.3300	169.0000	84.0000	82.0000	78.0000	24.0000	0.0000	0.9700
SEPT 10 1979	8.3300	152.0000	84.0000	86.0000	83.0000	25.0000	0.2600	1.1300
SEPT 12 1979	8.4800	162.0000	80.0000	104.0000	87.0000	27.0000	0.0000	1.0000
SEPT 17 1979	7.9800	165.0000	82.0000	88.0000	88.0000	27.0000	0.0400	1.0400
SEPT 19 1979	7.6600	161.0000	72.0000	88.0000	88.0000	26.8000	0.0600	1.0300
SEPT 24 1979	7.7500	156.0000	92.0000	106.0000	106.0000	27.3000	0.0000	1.0900
SEPT 26 1979	7.7900	169.0000	84.0000	106.0000	106.0000	26.6000	0.0900	1.0900
AVERAGE VALUE	8.0486	162.0000	82.5714	94.2857	90.8571	26.2143	0.0643	1.0500
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
SEPT 5 1979	3.2900	1.8700*****		4.6900	0.0170	7.9200	103.0000	7.8000
SEPT 10 1979	3.4100	1.7300*****		4.1700*****		9.3900	143.0000	8.3000
SEPT 12 1979	3.5300	1.9300*****		4.4300	0.0000	7.8800	117.0000	8.0000
SEPT 17 1979	3.5600	2.0000*****		4.1700*****		7.8200	142.0000	7.5000
SEPT 19 1979	3.5700	2.0600*****		4.4300*****		7.2400	114.0000	7.0000
SEPT 24 1979	3.3400	1.8600*****		4.6900*****		7.4900	107.0000	7.8000
SEPT 26 1979	3.5700	1.9300*****		4.6900	0.0200	9.0000	130.0000	7.8000
AVERAGE VALUE	3.4671	1.9114	0.0000	4.4671	0.0123	8.1057	122.2857	7.7429
	AMMONIA	TEMPERATURE						
SEPT 5 1979	0.1900	25.9000						
SEPT 10 1979	*****	24.8000						
SEPT 12 1979	0.4100	25.8000						
SEPT 17 1979	*****	23.2000						
SEPT 19 1979	*****	21.8000						
SEPT 24 1979	*****	22.2000						
SEPT 26 1979	*****	24.8000						
AVERAGE VALUE	0.3000	24.0429						

SEPT 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE TOT. PHOSPHA. CONTENT WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE ALKALINITY (NO) OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

Figure D-78

SEPT. 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

Figure D-79

SEPT 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

Figure D-80

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHU	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MU)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
EMPERATURE	DEG	TENN STD	<30.5 C
DATA TAKEN AT STATION 2			

Table D-VIII

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MU	CALCIUM	IRON	POTASSIUM
SEPT 4 1979	8.2000	151.0000	90.0000	99.0000	95.0000	22.0000	0.0000	0.9700
SEPT 6 1979	7.8100	165.5000	124.0000	110.0000	110.0000	25.0000	0.1300	1.1700
SEPT 11 1979	8.1600	175.0000	90.0000	88.0000	88.0000	28.0000	0.0400	1.0600
SEPT 13 1979	7.7400	154.0000	79.0000	88.0000	88.0000	26.0000	0.0400	1.0700
SEPT 16 1979	7.8500	167.0000	76.0000	90.0000	90.0000	27.0000	0.1300	1.0700
SEPT 20 1979	7.0000	169.0000	83.0000	92.0000	92.0000	25.4600	0.1200	1.1300
SEPT 25 1979	7.8600	161.0000	80.0000	102.0000	102.0000	26.4600	0.0300	1.1300
SEPT 27 1979	7.6100	138.0000	88.0000	116.0000	116.0000	27.3300	0.1300	1.0300
AVERAGE VALUE	7.8038	160.0625	86.2500	96.1250	97.6250	26.1563	0.0775	1.0768

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
SEPT 4 1979	3.3300	1.8700*****		2.6100*****		6.3300	111.0000	6.7000
SEPT 6 1979	3.3300	2.2000*****		4.6900	0.0000	7.1400	127.0000	7.1000
SEPT 11 1979	3.5600	2.2000*****		6.2500*****		8.9000*****		7.9000
SEPT 13 1979	3.6800	1.9300*****		3.6500	0.0100	7.4300	125.0000	6.4000
SEPT 16 1979	3.5300	1.9300*****		5.2100*****		6.1200	74.0000	6.6000
SEPT 20 1979	3.4500	1.8600*****		6.5200*****		9.1400	126.0000	6.6000
SEPT 25 1979	3.3400	2.0600*****		5.7300*****		8.8000	112.0000	7.7000
SEPT 27 1979	3.5700	1.9300*****		4.6900	0.0500	10.2700	161.0000	7.4000
AVERAGE VALUE	3.4738	1.9975	3.0000	4.9188	0.0220	8.5163	119.4266	7.3250

	AMMONIA	TEMPERATURE
SEPT 4 1979	*****	26.6000
SEPT 6 1979	*****	0.2600
SEPT 11 1979	*****	24.4000
SEPT 13 1979	*****	0.2800
SEPT 16 1979	*****	24.0000
SEPT 20 1979	*****	24.6000
SEPT 25 1979	*****	22.2000
SEPT 27 1979	*****	23.9000
AVERAGE VALUE	0.2700	24.3375

SEPT 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVOIR

Figure D-81

SEPT 1979 ROLLINS CREEK COVE ALKALINITY (MO) OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

Figure D-82

SEPT 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE

TOTAL SOLIDS IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

Figure D-83

D-91

SEPT 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

Figure D-84

CONDUCTIVITY	MICROMHO	NONE
HARDNESS	PPM	TENN STD <150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM
ALKALINITY (NO)	PPM	NONE
CALCIUM	PPM	NONE
IRON	PPM	TENN STD <.3 PPM
POTASSIUM	PPM	NONE
MAGNESIUM	PPM	NONE
SODIUM	PPM	NONE
SILICON	PPM	NONE
CHLORIDE	PPM	TENN STD <250 PPM
PHOSPHATE (TOTAL)	PPM	NONE
SULFATE	PPM	TENN STD <250 PPM
TOTAL SOLIDS	PPM	TENN STD <500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM
AMMONIA	PPM	STD *
TEMPERATURE	DEG	TENN STD <30.5 C

DATA TAKEN AT STATION 3

Table D-IX

D-93

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY NO	CALCIUM	IRON	POTASSIUM
SEPT 7 1979	7.9200	173.0000	92.0000	88.0000	88.0000	28.0000	0.2100	1.1600
SEPT 14 1979	8.0500	179.0000	66.0000	82.0000	82.0000	27.0000	0.0400	1.0200
SEPT 21 1979	8.0000	178.0000	66.0000	88.0000	88.0000	25.4600	0.0300	1.0300
SEPT 28 1979	7.6800	143.8000	66.0000	72.0000	72.0000	24.5000	0.1300	1.1300
AVERAGE VALUE	7.9125	168.4500	73.0000	82.5000	82.5000	26.2400	0.1025	1.0850
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
SEPT 7 1979	3.5600	2.3300	*****	3.6500	0.0140	8.5900	126.0000	6.6000
SEPT 14 1979	3.6100	1.8700	*****	5.2100	0.0000	7.9600	120.0000	7.4000
SEPT 21 1979	3.5700	1.9300	*****	5.2100	*****	8.2800	132.0000	7.6000
SEPT 28 1979	3.3400	1.8600	*****	5.2100	0.0300	11.7100	116.0000	7.6000
AVERAGE VALUE	3.5200	1.9975	0.0000	4.8200	0.0147	9.1350	123.5000	7.3000
	AMMONIA	TEMPERATURE						
SEPT 7 1979	0.3800	28.6000						
SEPT 14 1979	0.1800	25.6000						
SEPT 21 1979	*****	26.4000						
SEPT 28 1979	*****	25.7000						
AVERAGE VALUE	0.2800	26.5750						

SEPT 1979 ROLLINS CREEK BRIDGE CONDUCTIVITY OF WOODS RESERVOIR

SEP 1979 ROLLINS CREEK BRIDGE PH OF WATER IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE CALCIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE ALKALINITY (MO) OF WOODS RESERVOIR

Figure D-85

SEPT 1979 ROLLINS CREEK BRIDGE TOTAL SOLIDS IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE DISSOLVED OXYGEN IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE SULFATE CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

Figure D-86

SEPT 1979 ROLLINS CREEK BRIDGE TEMPERATURE OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE CHLORIDE CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE SODIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE MAGNESIUM CONTENT OF WOODS RESERVOIR

Figure D-87

SEPT 1979 ROLLINS CREEK BRIDGE TOTAL ALKALINITY OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE HARDNESS OF WATER IN WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE POTASSIUM CONTENT OF WOODS RESERVOIR

SEPT 1979 ROLLINS CREEK BRIDGE IRON CONTENT OF WOODS RESERVOIR

Figure D-88

PH	PH	EPA STD >8.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MU)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C

DATA TAKEN AT STATION 1

Table D-X

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MU	CALCIUM	IRON	POTASSIUM
OCT 1 1979	7.6500	150.0000	58.0000	121.0000	121.0000	26.1100	0.0500	0.9500
OCT 3 1979	7.5500	150.0000	60.1000	90.0000	90.0000	26.6700	0.0500	1.2500
OCT 6 1979	7.6700	155.0000	42.0000	61.0000	61.0000	26.1100	0.0500	1.1000
OCT 10 1979	7.6700	143.5000	57.4000	85.0000	85.0000	25.5600	0.1500	1.0000
OCT 15 1979	7.8500	159.0000	60.0000	81.0000	81.0000	26.6700	0.3500	1.1100
OCT 17 1979	7.3800	155.7000	72.0000	65.0000	65.0000	26.6700	0.3500	1.0900
OCT 22 1979	6.1200	152.0000	102.0000	114.0000	114.0000	22.1400	1.0000	1.3200
OCT 24 1979	7.5700	135.0000	60.0000	80.0000	80.0000	22.8000	0.0000	1.1600
OCT 29 1979	7.4500	155.0000	60.0000	78.0000	78.0000	23.5700	0.1200	1.0200
OCT 31 1979	7.6700	149.0000	40.0000	82.0000	82.0000	22.8000	2.0600	1.4600
AVERAGE VALUE	7.6700	150.5000	61.8100	89.7000	89.7000	24.9220	0.4780	1.1580

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
OCT 1 1979	3.4600	1.4200	*****	4.3300	0.0100	7.0900	120.0000	7.4000
OCT 3 1979	3.5500	1.4600	*****	3.9600	0.0500	10.6200	160.0000	6.4000
OCT 6 1979	3.5300	1.3300	*****	4.0100	0.0100	7.5900	161.0000	8.2600
OCT 10 1979	3.4600	1.2500	*****	4.3600	0.0000	7.7400	89.0000	6.6000
OCT 15 1979	3.6100	1.3300	*****	4.5300	*****	6.9000	114.0000	9.3400
OCT 17 1979	3.6800	1.4200	*****	4.7400	0.0100	6.6800	122.0000	7.6000
OCT 22 1979	4.2500	1.6800	*****	4.1700	*****	11.1600	207.0000	6.0000
OCT 24 1979	4.2000	1.5300	*****	3.6500	*****	7.8000	82.0000	6.6000
OCT 29 1979	4.0700	1.3700	*****	4.6900	*****	9.5500	104.0000	6.2000
OCT 31 1979	4.2500	1.5300	*****	5.7300	0.0500	19.2300	312.0000	5.0000
AVERAGE VALUE	3.8076	1.4320	0.0000	4.4190	0.0217	9.9160	143.1600	7.7600

	AMMONIA	TEMPERATURE
OCT 1 1979	*****	21.8000
OCT 3 1979	0.0900	19.6000
OCT 6 1979	*****	19.0000
OCT 10 1979	*****	18.0000
OCT 15 1979	*****	16.8000
OCT 17 1979	0.0200	18.0000
OCT 22 1979	*****	19.8000
OCT 24 1979	*****	16.4000
OCT 29 1979	*****	16.0000
OCT 31 1979	1.4400	17.4000
AVERAGE VALUE	0.5167	16.3600

OCT 1979 ROLLINS CREEK COVE FLORIDA SEVENTH WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

Figure D-89

OCT 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE ALKALINITY (MO) OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

Figure D-90

OCT 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

Figure D-91

OCT 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

Figure D-92

PH	PM	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C

Table D-XI

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
OCT 2 1979	7.7600	147.0000	47.0000	79.0000	79.0000	24.4500	0.1500	1.0000
OCT 4 1979	7.8200	143.5000	47.0000	67.0000	67.0000	23.3400	0.3500	1.1900
OCT 9 1979	7.7800	152.0000	46.0000	82.0000	82.0000	25.0000	0.1500	1.0600
OCT 11 1979	7.7100	149.0000	57.0000	82.0000	82.0000	25.0000	0.3000	1.1500
OCT 16 1979	7.8700	145.8000	60.0000	80.0000	80.0000	25.0000	0.2500	1.0900
OCT 18 1979	6.0500	159.0000	67.0000	80.0000	80.0000	22.8600	0.0000	1.1400
OCT 23 1979	7.9100	142.5000	62.0000	82.0000	82.0000	23.5700	0.0600	1.1400
OCT 25 1979	7.8900	144.0000	66.0000	80.0000	80.0000	22.8600	0.0000	1.0700
OCT 30 1979	7.7700	144.5000	74.0000	80.0000	80.0000	23.5700	0.0600	1.0900
AVERAGE VALUE	7.8400	147.4778	58.4444	79.1111	79.1111	23.9611	0.1467	1.1033

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
OCT 2 1979	3.3400	1.7900	*****	4.6400	0.0200	8.5300	114.0000	8.7000
OCT 4 1979	3.1100	1.5600	*****	4.5300	0.0100	9.3700	95.0000	8.3600
OCT 9 1979	3.4800	1.5400	*****	5.7300	0.0100	9.0600	95.0000	8.5600
OCT 11 1979	3.5300	1.9600	*****	6.2000	*****	8.5100	100.0000	8.2600
OCT 16 1979	3.6300	1.9600	*****	5.8400	*****	8.2700	107.0000	7.5000
OCT 18 1979	4.3900	1.9000	*****	5.6300	0.0200	7.9800	112.0000	7.8000
OCT 23 1979	4.2500	2.1100	*****	6.2000	*****	9.2100	125.0000	8.5600
OCT 25 1979	4.3200	1.9000	*****	5.2100	*****	8.7200	94.0000	7.8000
OCT 30 1979	4.6300	1.6800	*****	4.4300	0.1000	9.3500	99.0000	8.2000
AVERAGE VALUE	3.8533	1.8244	0.0000	5.3769	0.0320	8.7778	104.5556	8.1867

	AMMONIA	TEMPERATURE
OCT 2 1979	*****	23.8000
OCT 4 1979	0.0100	22.2000
OCT 9 1979	*****	18.8000
OCT 11 1979	*****	17.8000
OCT 16 1979	*****	17.4000
OCT 18 1979	0.0400	19.6000
OCT 23 1979	*****	18.8000
OCT 25 1979	*****	15.4000
OCT 30 1979	0.2700	18.4000
AVERAGE VALUE	0.1067	19.1333

D-103

PH	PH	EPA STD >5.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<.50 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C

DATA TAKEN AT STATION 2

Table D-XII

D-104

		PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
OCT	2 1979	7.7600	147.0000	47.0000	79.0000	79.0000	24.4500	0.1500	1.0000
OCT	4 1979	7.8200	143.5000	47.0000	67.0000	67.0000	23.3400	0.3500	1.1900
OCT	9 1979	7.7800	152.0000	46.0000	82.0000	82.0000	25.0000	0.1500	1.0600
OCT	11 1979	7.7100	149.0000	57.0000	82.0000	82.0000	25.0000	0.3000	1.1500
OCT	16 1979	7.8700	145.8000	60.0000	80.0000	80.0000	25.0000	0.2500	1.0900
OCT	18 1979	6.0500	159.0000	67.0000	80.0000	80.0000	22.8600	0.0000	1.1400
OCT	23 1979	7.9100	142.5000	62.0000	82.0000	82.0000	23.5700	0.0600	1.1400
OCT	25 1979	7.8900	144.0000	66.0000	80.0000	80.0000	22.8600	0.0000	1.0700
OCT	30 1979	7.7700	144.5000	74.0000	80.0000	80.0000	23.5700	0.0600	1.0900
	AVERAGE VALUE	7.8400	147.4778	58.4444	79.1111	79.1111	23.9611	0.1467	1.1033
		MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
OCT	2 1979	3.3400	1.7900	*****	4.6400	0.0200	8.5300	114.0000	8.7000
OCT	4 1979	3.1100	1.5800	*****	4.5300	0.0100	9.3700	95.0000	8.3600
OCT	9 1979	3.4800	1.5400	*****	5.7300	0.0100	9.0600	95.0000	8.5000
OCT	11 1979	3.5300	1.9600	*****	6.2000	*****	8.5100	100.0000	8.2600
OCT	16 1979	3.6300	1.9600	*****	5.8400	*****	8.2700	107.0000	7.5000
OCT	18 1979	4.3900	1.9000	*****	5.6300	0.0200	7.9800	112.0000	7.8000
OCT	23 1979	4.2500	2.1100	*****	6.2000	*****	9.2100	125.0000	8.5600
OCT	25 1979	4.3200	1.9000	*****	5.2100	*****	8.7200	94.0000	7.8000
OCT	30 1979	4.6300	1.6800	*****	4.4300	0.1000	9.3500	99.0000	8.2000
	AVERAGE VALUE	3.8533	1.8244	0.0000	5.3769	0.0320	8.7778	104.5556	8.1867
		AMMONIA	TEMPERATURE						
OCT	2 1979	*****	23.8000						
OCT	4 1979	0.0100	22.2000						
OCT	9 1979	*****	18.8000						
OCT	11 1979	*****	17.8000						
OCT	16 1979	*****	17.4000						
OCT	18 1979	0.0400	19.6000						
OCT	23 1979	*****	18.8000						
OCT	25 1979	*****	15.4000						
OCT	30 1979	0.2700	18.4000						

OCT 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

Figure D-93

OCT 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE ALKALINITY (MO) OF WOODS RESERVOIR

Figure D-94

D-107

OCT 1979 ROLLINS CREEK COVE TOT PHOSPHATE CONTENT WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

Figure D-95

OCT 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

Figure D-96

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C
DATA TAKEN AT STATION 3			

Table XIII

D-109

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
OCT 5 1979	7.6800	149.0000	53.2000	75.0000	75.0000	25.0000	0.2000	1.1700
OCT 9 1979	8.0300	166.0000	86.0000	89.0000	89.0000	24.2900	0.0600	1.1400
OCT 26 1979	8.3300	159.5000	78.0000	85.0000	80.0000	23.5700	0.0000	1.0900
AVERAGE VALUE	8.0133	158.1667	72.4000	83.0000	81.3333	24.2867	0.0867	1.1333
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
OCT 5 1979	3.3800	1.5800*****		4.4800	0.0200	9.3100	107.0000	8.4800
OCT 9 1979	4.5600	1.6800*****		5.2100	0.0200	8.6300	134.0000	8.2000
OCT 26 1979	4.3200	1.8400*****		5.2100	0.0500	8.0800	84.0000	8.6000
AVERAGE VALUE	4.0867	1.7000	0.0000	4.9667	0.0300	8.6733	108.3333	8.4267
	AMMONIA	TEMPERATURE						
OCT 5 1979	0.0000	23.6000						
OCT 9 1979	0.0500	21.4000						
OCT 26 1979	0.1800	21.4000						
AVERAGE VALUE	0.0767	22.1333						

OCT 1979 ROLLINS CREEK BRIDGE IRON CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE CALCIUM CONTENT OF WOODS RESERVOIR

D-110

OCT 1979 ROLLINS CREEK BRIDGE ALKALINITY (NO) OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE TOTAL ALKALINITY OF WOODS RESERVOIR

Figure D-97

OCT 1979 ROLLINS CREEK BRIDGE TEMPERATURE OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE DISSOLVED OXYGEN IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE TOTAL SOLIDS IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

Figure D-28

OCT 1979 ROLLINS CREEK BRIDGE CHLORIDE CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE SODIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE MAGNESIUM CONTENT OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE POTASSIUM CONTENT OF WOODS RESERVOIR

Figure D-99

D-112

OCT 1979 ROLLINS CREEK BRIDGE CONDUCTIVITY OF WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE HARDNESS OF WATER IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE PH OF WATER IN WOODS RESERVOIR

OCT 1979 ROLLINS CREEK BRIDGE SULFATE CONTENT OF WOODS RESERVOIR

Figure D-100

PH EPA STD >6.5 7.0
 CONDUCTIVITY MICROMHO NONE
 HARDNESS PPM TENN STD <150 PPM
 ALKALINITY (TOTAL) PPM EPA STD >20. PPM
 ALKALINITY (MO) PPM NONE
 CALCIUM PPM NONE
 IRON PPM TENN STD <.3 PPM
 POTASSIUM PPM NONE
 MAGNESIUM PPM NONE
 SODIUM PPM NONE
 SILICON PPM NONE
 CHLORIDE PPM TENN STD <250 PPM
 PHOSPHATE (TOTAL) PPM NONE
 SULFATE PPM TENN STD <250 PPM
 TOTAL SOLIDS PPM TENN STD <500 PPM
 DISSOLVED O2 PPM EPA STD >5. PPM
 AMMONIA PPM STD *
 TEMPERATURE DEG TENN STD <30.5 C
 DATA TAKEN AT STATION 1

Table XIV

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
NOV 5 1979	7.8200	140.0000	64.0000	80.0000	80.0000	25.0000	1.8100	1.6600
NOV 7 1979	7.1500	136.0000	70.0000	80.0000	80.0000	27.5000	0.2900	1.0300
NOV 12 1979	7.1600	135.6000	102.0000	110.0000	110.0000	30.8300	0.6700	1.0800
NOV 14 1979	6.6100	159.0000	56.0000	70.0000	70.0000	23.4800	1.2300	1.1200
NOV 19 1979	6.8500	108.0000	54.0000	78.0000	78.0000	23.0400	0.5400	1.0600
NOV 21 1979	7.2600	124.0000	36.0000	62.0000	62.0000	28.2600	2.1500	1.1200
NOV 26 1979	7.4100	94.0000	62.0000	65.0000	65.0000	25.3900	0.3900	1.0900
NOV 28 1979	6.8900	137.0000	84.0000	95.0000	95.0000	15.3900	1.2700	1.1900
AVERAGE VALUE	7.1438	129.2000	66.0000	80.0000	80.0000	22.3612	1.0438	1.1713

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
NOV 5 1979	4.4500	1.3300	*****	5.4900	0.1070	18.5900	298.0000	8.4200
NOV 7 1979	4.4200	1.2300	*****	3.9900	*****	9.5300	127.0000	8.8000
NOV 12 1979	4.5300	1.3300	*****	4.4900	*****	9.5900	120.0000	7.7000
NOV 14 1979	2.8100	1.3200	*****	4.0400	0.0050	9.3100	100.0000	8.2000
NOV 19 1979	3.0000	1.2000	*****	13.7500	*****	10.7400	107.0000	6.5000
NOV 21 1979	2.6300	1.2800	*****	5.1600	*****	14.9800	96.0000	9.0000
NOV 26 1979	2.7100	1.3900	*****	5.0600	*****	10.7800	124.0000	10.0000
NOV 28 1979	2.6500	1.4500	*****	5.3200	0.0500	11.6200	89.0000	7.0000
AVERAGE VALUE	3.4000	1.3163	0.0000	5.9125	0.0540	11.9425	132.6250	8.2025

	AMMONIA	TEMPERATURE
NOV 5 1979	0.7300	16.6000
NOV 7 1979	*****	15.5000
NOV 12 1979	*****	14.0000
NOV 14 1979	0.1600	12.0000
NOV 19 1979	*****	14.0000
NOV 21 1979	*****	13.4000
NOV 26 1979	*****	12.4000
NOV 28 1979	0.2100	12.0000
AVERAGE VALUE	0.3667	13.7375

NOV 1979 ROLLINS CREEK COVE 101. PHOSPHATE CONTENT WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

Figure D-101

NOV 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE ALKALINITY (NO) OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

Figure D-102

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NOV 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

Figure D-103

D-117

NOV - 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVOIR

Figure D-104

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
EMPERATURE	DEG	TENN STD	<30.5 C

Table XV

D-119

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
NOV 1 1979	7.4300	149.0000	96.0000	90.0000	90.0000	22.8600	0.0600	1.0500
NOV 6 1979	7.8900	154.0000	52.0000	65.0000	65.0000	25.8300	0.1000	1.0000
NOV 8 1979	7.9200	148.0000	66.0000	84.0000	84.0000	26.6700	0.1000	1.2300
NOV 13 1979	7.7500	118.0000	72.0000	75.0000	75.0000	21.7400	0.4600	0.9700
NOV 15 1979	7.7700	121.0000	60.0000	70.0000	70.0000	25.2200	0.3100	1.0900
NOV 20 1979	7.3300	140.0000	82.0000	98.0000	98.0000	24.3500	0.2300	1.0900
NOV 27 1979	7.6200	102.0000	50.0000	60.0000	60.0000	13.8500	0.3400	1.0000
NOV 29 1979	7.8800	136.0000	76.0000	86.0000	88.0000	15.3900	0.6800	1.4100
AVERAGE VALUE	7.6988	133.5000	69.2500	78.7500	78.7500	21.9888	0.2850	1.1050

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
NOV 1 1979	4.3200	1.7900	*****	4.6900	0.0270	7.3500	111.0000	5.8000
NOV 6 1979	4.8300	1.5900	*****	5.7400	*****	8.1000	137.0000	9.0000
NOV 8 1979	4.7900	1.5400	*****	4.2400	*****	8.4900	125.0000	9.9000
NOV 13 1979	2.8800	1.2800	*****	4.9900	*****	9.7800	104.0000	10.4000
NOV 15 1979	3.4200	1.2800	*****	4.4900	0.0120	10.0200	111.0000	10.1000
NOV 20 1979	3.2400	1.4000	*****	5.7300	*****	8.3500	103.0000	10.0000
NOV 27 1979	2.5200	1.4200	*****	5.6300	*****	10.0200	99.0000	9.5000
NOV 29 1979	2.6700	1.4500	*****	4.5300	0.1200	11.2100	165.0000	10.0000
AVERAGE VALUE	3.5838	1.4688	0.0000	5.0050	0.0530	9.1650	119.3750	9.3375

	AMMONIA	TEMPERATURE
NOV 1 1979	0.2500	17.6000
NOV 6 1979	*****	14.0000
NOV 8 1979	*****	16.0000
NOV 13 1979	*****	12.0000
NOV 15 1979	0.1800	12.4000
NOV 20 1979	*****	16.0000
NOV 27 1979	*****	12.4000
NOV 29 1979	0.2200	11.0000
AVERAGE VALUE	0.2167	13.9250

NOV 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE CONDUCTIVITY OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE PH OF WATER IN WOODS RESERVOIR

Figure D-105

NOV 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE CALCIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE ALKALINITY (MO) OF WOODS RESERVOIR

Figure D-106

NOV 1979 ROLLINS CREEK COVE TOT PHOSPHATE CONTENT WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE MAGNESIUM CONTENT OF WOODS RESERVOIR

Figure D-107

D-123

NOV 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK COVE SULFATE CONTENT OF WOODS RESERVOIR

Figure D-102

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TENN STD	<30.5 C
DATA TAKEN AT STATION 3			

Table XVI

D-124

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
NOV 2 1979	7.5900	134.0000	68.0000	90.0000	90.0000	26.6700	0.0000	0.9300
NOV 9 1979	8.0700	157.0000	83.0000	87.0000	87.0000	34.1700	0.1000	1.1500
NOV 16 1979	6.7900	137.0000	62.0000	80.0000	80.0000	24.7800	0.1500	1.1800
NOV 30 1979	7.5000	114.0000	30.0000	80.0000	80.0000	16.1500	0.5900	1.4400
AVERAGE VALUE	7.6875	135.5000	60.7500	84.2500	84.2500	25.4425	0.2100	1.1750
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
NOV 2 1979	4.5300	1.3900	*****	3.6500	0.0050	7.6200	114.0000	8.6000
NOV 9 1979	5.0900	1.5400	*****	4.4900	*****	8.4900	191.0000	8.6000
NOV 16 1979	3.3700	1.2440	*****	4.7400	0.0300	8.3300	117.0000	10.0000
NOV 30 1979	2.8100	1.4800	*****	4.3800	0.1800	10.8000	150.0000	9.0000
AVERAGE VALUE	3.9500	1.4135	0.0000	4.3150	0.0717	6.8100	143.0000	9.0500
	AMMONIA	TEMPERATURE						
NOV 2 1979	0.1800	18.2000						
NOV 9 1979	*****	20.5000						
NOV 16 1979	0.1200	14.4000						
NOV 30 1979	0.2000	11.6000						
AVERAGE VALUE	0.1667	16.1750						

NOV 1979 ROLLINS CREEK BRIDGE TOTAL ALKALINITY OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE HARDNESS OF WATER IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE CONDUCTIVITY OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE PH OF WATER IN WOODS RESERVOIR

Figure D-100

NOV 1979 ROLLINS CREEK BRIDGE POTASSIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE IRON CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE CALCIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE ALKALINITY (MO) OF WOODS RESERVOIR

Figure D-110

NOV 1979 ROLLINS CREEK BRIDGE TOT. PHOSPHATE CONTENT WOODS RESERVOIR.

NOV 1979 ROLLINS CREEK BRIDGE CHLORIDE CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE SODIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE MAGNESIUM CONTENT OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE TEMPERATURE OF WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE DISSOLVED OXYGEN IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE TOTAL SOLIDS IN WOODS RESERVOIR

NOV 1979 ROLLINS CREEK BRIDGE SULFATE CONTENT OF WOODS RESERVOIR

Figure D-112

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O ₂	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD*	
TEMPERATURE	DEG	TENN STD	<30.5 C

DATA TAKEN AT STATION 1

Table XVII

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
DEC 3 1979	7.4000	112.0000	72.0000	95.0000	95.0000	16.9300	1.6600	1.3400
DEC 5 1979	6.6100	118.0000	42.0000	90.0000	90.0000	15.3900	0.5900	1.1300
DEC 10 1979	7.1000	114.0000	68.0000	65.0000	65.0000	26.6700	0.3600	1.1200
DEC 12 1979	7.0900	116.0000	56.0000	85.0000	85.0000	27.5000	0.7300	1.1000
DEC 17 1979	6.8600	129.0000	56.0000	75.0000	75.0000	27.5000	1.1800	1.0800
DEC 19 1979	7.5700	109.0000	87.0000	90.0000	90.0000	30.0000	0.5500	1.0400
DEC 31 1979	6.7200	142.0000	62.0000	85.0000	85.0000	33.3300	3.0100	0.6000
AVERAGE VALUE	7.0300	120.0000	63.2000	83.5000	83.5000	25.3000	1.1600	1.0600

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE TOTAL	SULFATE	TOTAL SOLIDS	DISSOLVED O ₂
DEC 3 1979	2.8500	1.2600	*****	4.1200	*****	9.1600	103.0000	10.0000
DEC 5 1979	2.7500	1.2900	*****	5.0600	.0000	11.2900	117.0000	10.0000
DEC 10 1979	3.0700	2.0800	*****	4.4800	*****	9.2700	105.0000	10.0000
DEC 12 1979	3.0000	1.4300	*****	4.6900	.0000	8.7600	112.0000	12.0000
DEC 17 1979	2.7600	1.6300	*****	4.9500	*****	11.5700	186.0000	12.0000
DEC 19 1979	3.0500	1.4700	*****	5.2100	.0000	9.5900	145.0000	12.6000
DEC 31 1979	2.8100	1.4300	*****	6.2500	*****	14.4900	187.0000	12.3000
AVERAGE VALUE	2.8900	1.5100	*****	4.9600	.0000	10.5900	136.4000	11.2000

	AMMONIA	TEMPERATURE
DEC 3 1979	*****	6.8000
DEC 5 1979	*****	8.0000
DEC 10 1979	*****	8.4000
DEC 12 1979	0.0300	10.8000
DEC 17 1979	*****	7.2000
DEC 19 1979	0.1300	6.4000
DEC 31 1979	*****	7.4000
AVERAGE VALUE	0.0600	7.8000

Dec. 1979 Rollins Creek Cove Hardness of water in Woods Reservoir

Dec. 1979 Rollins Creek Cove Total Alkalinity Woods Reservoir

Dec. 1979 ROLLINS CREEK COVE

PH OF WATER IN WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE

CONDUCTIVITY OF WOODS RESERVOIR

FIGURE D-113

Dec '79 Rollins Creek Cove Dissolved O_2 in Woods Reservoir

Dec '79 Rollins Creek Cove Sulfate content Woods Reservoir

DEC 1979 ROLLINS CREEK COVE TOTAL SOLIDS IN WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

FIGURE D-114

Dec. '79 Rollins Creek Cove Alkalinity (MO) Woods Reservoir

Dec. 79 Rollins Creek Cove Calcium Content Woods Reservoir

DEC 1979 ROLLINS CREEK COVE

IRON CONTENT OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

FIGURE D-115

Dec. 1979 ROLLINS CREEK COVE SODIUM CONTENT OF WOODS RESERVOIR

Dec. 79 Rollins Creek Cove Magnesium Content Woods Reservoir

DEC 1979 ROLLINS CREEK COVE OT. PHOSPHATE CONTENT WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

FIGURE D-116

DEC 1979 ROLLINS CREEK COVE AMMONIA CONTENT OF WOODS RESERVOIR

FIGURE C-117

PH	PPH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TEHN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (NO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TEHN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TEHN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TEHN STD	<250 PPM
TOTAL SOLIDS	PPM	TEHN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE	DEG	TEHN STD	<30.5 C

DATA TAKEN AT STATION 2

Table XVIII

D-135

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY NO	CALCIUM	IRON	POTASSIUM
DEC 4 1979	7.9000	96.0000	46.0000	98.0000	98.0000	15.3900	0.3900	1.2700
DEC 6 1979	7.8600	149.0000	62.0000	87.0000	87.0000	25.8300	0.6400	1.2400
DEC 11 1979	7.5000	140.0000	46.0000	78.0000	78.0000	28.3300	0.5500	1.1200
DEC 13 1979	7.8000	136.0000	52.4000	82.0000	82.0000	30.0000	0.5500	1.1400
DEC 18 1979	7.9100	124.0000	61.0000	80.0000	80.0000	29.1700	0.1800	1.0200
DEC 20 1979	7.8500	126.0000	56.0000	85.0000	85.0000	31.6700	0.2700	0.9400
AVERAGE VALUE	7.6033	129.5000	54.5667	85.0000	85.0000	26.7317	0.4300	1.1217

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
DEC 4 1979	2.6500	1.3900	*****	6.9300	*****	7.2100	127.0000	12.0000
DEC 6 1979	3.1000	1.8000	*****	5.0600	0.0190	7.5500	109.0000	10.0000
DEC 11 1979	3.0700	1.8000	*****	4.5500	*****	8.5300	98.0000	11.0000
DEC 13 1979	3.1200	2.3700	*****	4.5300	0.0360	7.6100	101.0000	10.0000
DEC 18 1979	3.1000	1.6700	*****	4.2700	*****	7.9600	129.0000	11.0000
DEC 20 1979	3.1700	1.6700	*****	5.9900	0.0720	8.5500	166.0000	11.0000
AVERAGE VALUE	3.0350	1.7833	0.0000	5.2283	0.0423	7.9017	121.6667	10.8333

	AMMONIA	TEMPERATURE
DEC 4 1979	*****	8.2000
DEC 6 1979	0.1700	10.8000
DEC 11 1979	*****	9.4000
DEC 13 1979	0.1900	14.6000
DEC 18 1979	*****	5.6000
DEC 20 1979	0.0300	7.4000
AVERAGE VALUE	0.1300	9.3667

Dec. 79 Rollins Creek Cove PH of water in woods Reservoir

PH

D-736

Dec. 79 Rollins Creek Cove Conductivity Woods Reservoir

SIGMA
MICROMHO

DAY OF MONTH; NO STANDARD; SAMPLED AT STATION 2

DEC 1979 ROLLINS CREEK COVE HARDNESS OF WATER IN WOODS RESERVOIR

Hardness
(PPM)

DAY OF MONTH; TENN STANDARD <150; SAMPLED STATION 2

DEC 1979 ROLLINS CREEK COVE TOTAL ALKALINITY OF WOODS RESERVOIR

ALKALINITY
(TOTAL)
(PPM)

DAY OF MONTH; EPA STANDARD >20; SAMPLED AT STATION 2

FIGURE D-118

DEC 1979 ROLLINS CREEK COVE IRON CONTENT OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE POTASSIUM CONTENT OF WOODS RESERVOIR

FIGURE D-119

Dec. 79 Rollins Creek Cove Magnesium Content Woods Reservoir

Dec. 79 Rollins Creek Cove Sodium Content Woods Reservoir

DEC 1979 ROLLINS CREEK COVE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE CHLORIDE CONTENT OF WOODS RESERVOIR

FIGURE D-120

Dec. 79 Rollins Creek Cove Sulfate Content Woods Reservoir

Dec. 79 Rollins Creek Cove Total Solids Woods Reservoir

DEC 1979 ROLLINS CREEK COVE DISSOLVED OXYGEN IN WOODS RESERVOIR

DEC 1979 ROLLINS CREEK COVE TEMPERATURE OF WOODS RESERVOIR

FIGURE D-121

Dec.
1979 ROLLINS CREEK COVE AMMONIA CONTENT OF WOODS RESERVOIR

FIGURE D-122

PH	PH	EPA STD >1.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE WATER	DEG	TENN STD	<30.5 C
TEMPERATURE AIR	DEG	NONE	
BOD	PPM	STD DETERMINED BY RESERVOIR LOADING	

TABLE DXIX

STATION 3			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
12	7	1979	7.9400	118.0000	64.0000	92.0000	92.0000	28.3000	0.2700	1.2400
12	14	1979	8.0200	128.0000	54.0000	88.0000	88.0000	30.0000	0.1800	1.0300
12	21	1979	7.8300	116.0000	57.0000	89.0000	89.0000	31.6000	0.2700	0.8300
MINIMUM VALUE			7.8300	116.0000	54.0000	88.0000	88.0000	28.3000	0.1800	0.8300
MAXIMUM VALUE			8.0200	128.0000	64.0000	92.0000	92.0000	31.6000	0.2700	1.2400
AVERAGE VALUE			7.9297	120.0000	58.0000	89.0000	89.0000	29.9657	0.2400	1.0666
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
12	7	1979	3.0200	2.2000	*****	4.9000	0.0020	7.9800	107.0000	11.0000
12	14	1979	3.0200	1.8300	*****	4.7900	0.1220	8.0200	224.0000	10.0000
12	21	1979	3.2400	1.5900	*****	5.4700	0.0630	7.6700	162.0000	10.8000
MINIMUM VALUE			3.0200	1.5900	*****	4.7900	0.0020	7.6700	107.0000	10.0000
MAXIMUM VALUE			3.2400	2.2000	*****	5.4700	0.1220	8.0200	224.0000	11.0000
AVERAGE VALUE			3.0932	1.8399	*****	5.0532	0.0623	7.8897	164.3279	10.5996
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD	SECCHI DISK			
12	7	1979	0.0400	10.8000	*****	*****	*****			
12	14	1979	0.2600	15.8000	*****	*****	*****			
12	21	1979	0.3200	10.4000	*****	*****	*****			
MINIMUM VALUE			0.0400	10.4000	*****	*****	*****			
MAXIMUM VALUE			0.3200	15.8000	*****	*****	*****			
AVERAGE VALUE			0.2067	12.3329	*****	*****	*****			

Dec. 79 Rollins Creek Bridge Dissolved Oxygen Woods Reservoir

Dec. 79 Rollins Creek Bridge Total Solids in Woods Reservoir

DEC 1979 ROLLINS CREEK BRIDGE TOT. PHOSPHATE CONTENT WOODS RESERVOIR

FIGURE D-123

DEC 1979 ROLLINS CREEK BRIDGE SULFATE CONTENT OF WOODS RESERVOIR

Dec. 79 Rollins Creek Bridge Chloride content of Woods Reservoir

Dec. 79 Rollins Creek Bridge Silicon content Woods Reservoir

DEC 1979 ROLLINS CREEK BRIDGE SODIUM CONTENT OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK BRIDGE MAGNESIUM CONTENT OF WOODS RESERVOIR

FIGURE D-124

DEC 1979 ROLLINS CREEK BRIDGE IRON CONTENT OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK BRIDGE CALCIUM CONTENT OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK BRIDGE ALKALINITY (MO) OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK BRIDGE POTASSIUM CONTENT OF WOODS RESERVOIR

FIGURE D-125

Dec. 79 Rollins Creek Bridge PH of Water in Woods Reservoir

Dec. 79 Rollins Creek Bridge Conductivity of Woods Reservoir

DEC 1979 ROLLINS CREEK BRIDGE HARDNESS OF WATER IN WOODS RESERVOIR

DEC 1979 ROLLINS CREEK BRIDGE TOTAL ALKALINITY OF WOODS RESERVOIR

FIGURE D-126

DEC 1979 ROLLINS CREEK BRIDGE TEMPERATURE OF WOODS RESERVOIR

DEC 1979 ROLLINS CREEK BRIDGE

AMMONIA IN WATER OF WOODS RESERVOIR

FIGURE D-127

PH	PH	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE		
HARDNESS	PPM	TENN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20.	PPM
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 PPM
TOTAL SOLIDS	PPM	TENN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5.	PPM
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
MOD	PPM	STD *		

Table D-XX

			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
D-147	1	2	1980	6.6800	137.0000	56.0000	80.0000	33.3300	3.1800	0.6700
	1	7	1980	6.6300	132.0000	52.0000	75.0000	39.2300	0.9600	1.1400
	1	9	1980	6.6500	174.0000	98.0000	90.0000	51.5400	0.2600	1.2100
	1	14	1980	7.9600	138.0000	50.0000	75.0000	44.6200	0.1700	0.7900
	1	16	1980	7.2700	142.0000	35.0000	80.0000	38.4600	0.7800	0.9700
	1	21	1980	6.5900	135.0000	90.0000	95.0000	42.3100	0.8700	0.8600
	1	23	1980	6.8900	133.0000	80.0000	80.0000	26.2500	0.5000	1.7400
	1	28	1980	6.7900	149.0000	90.0000	95.0000	27.5000	0.2500	1.5200
	MINIMUM VALUE			6.5900	132.0000	35.0000	75.0000	26.2500	0.1700	0.6700
	MAXIMUM VALUE			7.9600	174.0000	98.0000	95.0000	51.5400	3.1800	1.7400
	AVERAGE VALUE			6.9324	142.0000	68.0000	83.0000	37.9045	0.8712	1.1125
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
	1	2	1980	2.7100	1.1400*****	5.9900	0.0000	14.5300	147.0000	11.8
	1	7	1980	2.7900	1.4000*****	5.2100	*****	12.8400	107.0000	9.8
	1	9	1980	2.6300	1.6300*****	4.9500	*****	15.5300	124.0000	9.2
	1	14	1980	3.6500	1.4000*****	3.9100	*****	8.4300	99.0000	10.2
	1	16	1980	3.4600	1.4400*****	4.1700	0.0060	10.6300	324.0000	12.4
	1	21	1980	2.7000	1.2100*****	6.2500	*****	11.4700	125.0000	12.4
	1	23	1980	2.7000	0.3600*****	4.6900	*****	12.3900	97.0000	9.2
	1	28	1980	2.4600	0.4600*****	6.7700	0.0020	13.3900	122.0000	10.7
	MINIMUM VALUE			2.4600	0.3600	999.0000	0.0000	8.4300	97.0000	9.5
	MAXIMUM VALUE			3.6500	1.6300	0.0000	0.0060	15.5300	324.0000	12.4
	AVERAGE VALUE			2.8675	1.1300	0.0000	0.0027	12.4011	143.1232	10.2
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	MOD				
	1	2	1980	0.2400	7.1000	*****	*****			
	1	7	1980	*****	7.4600	*****	*****			
	1	9	1980	*****	11.2000	*****	*****			
	1	14	1980	*****	7.0000	*****	*****			
	1	16	1980	0.1300	9.2000	*****	*****			
	1	21	1980	*****	9.3000	*****	*****			
	1	23	1980	*****	6.4000	*****	*****			
	1	28								
	MINIMUM VALUE			0.0700	6.4000					
	MAXIMUM VALUE			0.2400	11.2000					
	AVERAGE VALUE			0.1467	8.3324					

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 JAN. 1980

Figure D-128

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 JAN. 1980

Figure D-129

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 JAN. 1980

Figure D-130

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1

STATION #1 JAN. 1980

Figure D-131

D-131

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1

STATION #1

JAN. 1980

Figure D-132

PH	PPM	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE		
HARDNESS	PPM	TENN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 PPM
TOTAL SOLIDS	PPM	TENN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
ROD	PPM	STD *		

DATA TAKEN AT STATION 2

Table D-XXI

			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY	CALCIUM	IRON	POTASSIUM
							70.0			
1	3	1980	7.9800	102.0000	32.0000	70.0000	80.00	37.6900	0.0900	1.0700
1	6	1980	7.6900	136.0000	72.0000	80.0000	70.00	39.2300	0.2600	1.0000
1	10	1980	7.8100	120.0000	52.0000	72.0000	70.00	35.3800	0.1700	0.8600
1	15	1980	7.7900	114.0000	32.0000	78.0000	70.00	43.0800	0.3500	0.7600
1	17	1980	7.8400	128.0000	33.0000	80.0000	80.00	43.0800	0.2800	0.7900
1	22	1980	7.6800	148.0000	80.0000	85.0000	850.00	22.5000	0.4200	1.3000
1	24	1980	7.9200	98.0000	60.0000	75.0000	750.00	18.3300	0.5000	1.5200
1	29	1980	8.1000	104.0000	60.0000	78.0000	780.00	22.0800	0.6700	1.3000
			7.6800	98.0000	32.0000	70.0000	70.00	18.3300	0.0900	0.7600
MINIMUM VALUE			8.1000	148.0000	80.0000	85.0000	850.00	43.0800	0.6700	1.5200
MAXIMUM VALUE			7.8512	118.0000	52.0000	77.0000	70.00	32.6700	0.3400	1.0750
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
1	3	1980	3.6800	1.4900	*****	3.3900	0.0560	9.9200	124.0000	10.4000
1	6	1980	3.5900	1.4400	*****	3.7500	*****	9.2200	90.0000	10.7500
1	10	1980	3.4900	1.5400	*****	4.4300	*****	8.2700	113.0000	10.9000
1	15	1980	3.7100	1.2600	*****	4.1700	*****	8.7600	216.0000	9.6000
1	17	1980	3.4900	1.9100	*****	4.6900	0.0870	13.2200	137.0000	10.0000
1	22	1980	3.0500	0.3600	*****	5.4700	*****	9.4500	180.0000	9.6000
1	24	1980	2.5200	0.6700	*****	5.7300	*****	9.8000	72.0000	10.6000
1	29	1980	3.0200	0.4600	*****	3.2100	0.0520	9.6500	140.0000	11.0000
MINIMUM VALUE			2.5200	0.3600		3.2100	0.0520	8.2700	72.0000	9.6000
MAXIMUM VALUE			3.7100	1.9100		5.7300	0.0870	13.2200	216.0000	11.0000
AVERAGE VALUE			3.3187	1.1412		4.3549	0.0650	9.7861	133.9983	10.3561
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	ROD				
1	3	1980	0.0700	8.4000	*****	****				
1	6	1980	*****	8.6000	*****	****				
1	10	1980	*****	8.3000	*****	****				
1	15	1980	*****	7.0000	*****	****				
1	17	1980	0.0700	10.6000	*****	****				
1	22	1980	*****	8.6000	*****	****				
1	24	1980	*****	6.4000	*****	****				
1	29									

1980	0.2300	6.8000
MINIMUM VALUE	0.0700	6.4000
MAXIMUM VALUE	0.2300	10.6000
AVERAGE VALUE	0.1233	8.0874

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2

STATION #2 JAN. 1980

TOTAL
SOLIDS

ALKALINITY
(M. O.)
PPM

Figure D-133

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2 STATION #2 JAN. 1980

D-155

Figure D-134

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2

STATION #2 JAN. 1980

Figure D-135

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2 STATION #2 JAN. 1980

AMMONIA
PPM

SULFATE
PPM

PHOSPHATE
(TOTAL)
PPM

CHLORIDE
PPM

Figure D-136

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2 STATION #2 JAN. 1980

Figure D-137

PH	PPH	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHU	NONE		
HARDNESS	PPM	TENN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 PPM
TOTAL SOLIDS	PPM	TENN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
BOD	PPM	STD *		

DATA TAKEN AT STATION 3

Table D-XXII

D-159

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
1 4 1980	7.9900	145.0000	60.0000	85.0000	85.0000	40.0000	0.1700	0.9700
1 11 1980	7.9200	138.0000	55.0000	75.0000	75.0000	42.3100	0.7800	1.0300
1 18 1980	7.7300	106.0000	80.0000	75.0000	75.0000	40.0000	3.3900	1.4500
1 25 1980	7.4500	108.0000	60.0000	73.0000	73.0000	22.5000	0.3300	1.3000
MINIMUM VALUE	7.4500	106.0000	55.0000	73.0000	73.0000	22.5000	0.1700	0.9700
MAXIMUM VALUE	7.9900	145.0000	80.0000	85.0000	85.0000	42.3100	3.3900	1.4500
AVERAGE VALUE	7.7723	124.0000	63.0000	76.0000	76.0000	36.2016	1.1675	1.1675

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
1 4 1980	3.6200	1.4900	*****	3.6500	0.0470	7.9600	106.0000	10.2000
1 11 1980	3.5200	1.7700	*****	4.1700	*****	13.7600	111.0000	9.6200
1 18 1980	2.7300	1.7200	*****	5.7300	0.0630	27.3100	253.0000	10.3000
1 25 1980	2.9200	0.7200	*****	6.2500	0.7400	11.7800	75.0000	10.6000
MINIMUM VALUE	2.7300	0.7200	999.0000	3.6500	0.0470	7.9600	75.0000	9.6200
MAXIMUM VALUE	3.6200	1.7700	0.0000	6.2500	0.7400	27.3100	253.0000	10.6000
AVERAGE VALUE	3.1974	1.4250	0.0000	4.9499	0.2833	15.2021	136.2466	10.1797

	AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD
1 4 1980	0.1600	14.0000	*****	*****
1 11 1980	*****	14.0000	*****	*****
1 18 1980	0.4600	11.4000	*****	*****
1 25 1980	0.0900	8.4000	*****	*****
MINIMUM VALUE	0.0900	8.4000		
MAXIMUM VALUE	0.4600	14.0000		
AVERAGE VALUE	0.2367	11.9497		

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G3 STATION #3 JAN. 1980

Figure D-138

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G3

STATION #3

JAN. 1980

DAY OF THE MONTH

EPA STANDARD GREATER THAN 5 PPM

DAY OF THE MONTH

NO STANDARD

DAY OF THE MONTH

TENNESSEE STANDARD LESS THAN 30.5 C

DAY OF THE MONTH

STANDARD DETERMINED BY RESERVOIR LOADING

Figure D-139

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G3

STATION #3

JAN. 1980

DAY OF THE MONTH
NO STANDARD

DAY OF THE MONTH
EPA STANDARD >20 PPM

DAY OF THE MONTH
NO STANDARD

DAY OF THE MONTH
TENNESSEE STANDARD LESS THAN 150 PPM

Figure D-140

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G3

STATION #3

JAN. 1980

AMMONIA
PPM

SULFATE
PPM

PHOSPHATE
(TOTAL)
PPM

CHLORIDE
PPM

Figure D-141

WATER QUALITY ANALYSIS FOR WOCDs RESERVOIR

ROLLINS CREEK STORET #4728G3 STATION #3 JAN. 1980

Figure D-142

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICRONMHU	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3. PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE WATER	DEG	TENN STD	<30.5 C
TEMPERATURE AIR	DEG	NONE	
ROD	PPM	STD *	
DATA TAKEN AT STATION 1			

Table D-XXIII

D-165

			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
2	4	1980	6.1300	98.0000	50.0000	55.0000	55.0000	16.6700	1.7500	1.7400
2	6	1980	6.7400	123.0000	60.0000	72.0000	72.0000	22.5000	0.1700	1.3000
2	11	1980	8.2200	109.0000	60.0000	75.0000	70.0000	23.3300	0.2500	1.7400
2	13	1980	7.9900	165.0000	54.0000	85.0000	85.0000	23.7500	0.1700	1.7400
2	18	1980	6.8200	138.0000	48.0000	75.0000	75.0000	23.7500	0.4000	1.7400
2	20	1980	7.9400	160.0000	70.0000	70.0000	70.0000	23.7500	0.5200	1.7400
2	25	1980	7.9900	126.0000	72.0000	40.0000	90.0000	25.3100	0.3000	1.0000
2	27	1980	8.3400	113.0000	98.0000	95.0000	90.0000	25.3100	0.3000	0.9800
MINIMUM VALUE			6.1300	98.0000	48.0000	55.0000	55.0000	16.6700	0.1700	0.9800
MAXIMUM VALUE			8.3400	165.0000	98.0000	95.0000	90.0000	25.3100	1.7500	1.7400
AVERAGE VALUE			7.5212	128.0000	63.0000	77.0000	75.0000	23.0460	0.4825	1.4975
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
2	4	1980	2.0500	0.6700	3.6100	7.3000	0.0080	18.0200	121.0000	11.0000
2	6	1980	2.5500	0.4600	3.0800	5.0100	*****	10.9400	136.0000	11.0000
2	11	1980	3.2600	1.1800	0.3400	5.6800	*****	11.6300	176.0000	12.0000
2	13	1980	3.1100	1.1500	0.3500	5.3500	*****	8.1400	250.0000	10.0000
2	18	1980	3.2000	1.2500	1.3000	4.6900	0.0200	10.2200	168.0000	10.0000
2	20	1980	3.4000	1.0800	2.0000	5.7300	*****	9.9600	148.0000	11.9000
2	25	1980	3.0000	1.2100	2.1000	3.6500	*****	9.0400	140.0000	12.0000
2	27	1980	3.1000	1.6300	1.0900	3.6500	0.0400	9.4300	162.0000	10.0000
MINIMUM VALUE			2.0500	0.4600	0.3400	3.6500	0.0080	8.1400	121.0000	10.0000
MAXIMUM VALUE			4.1000	1.6300	3.6100	7.3000	0.0400	18.0200	250.0000	12.0000
AVERAGE VALUE			3.1275	1.0737	1.7337	5.1324	0.0227	10.9224	162.6230	10.9874
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
2	4	1980	0.1300	4.8000	*****	*****				
2	6	1980	*****	3.6000	*****	*****				
2	11	1980	*****	1.8000	*****	*****				
2	13	1980	*****	4.5000	*****	*****				
2	18	1980	0.0000	0.8000	*****	*****				
2	20	1980	*****	5.0000	*****	*****				
2	25	1980	*****	6.0000	*****	*****				
2	27									
1980			0.1200	4.6000	*****	*****				
MINIMUM VALUE			0.0000	0.8000		999.0000				
MAXIMUM VALUE			0.1300	6.0000		0.0000				
AVERAGE VALUE			0.0833	3.8875		0.0000				

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STCRET #4728G1

STATION #1

FEB. 1980

TOTAL
SOLIDS

DAY OF THE MONTH

EPA STANDARD: >6.5 <9.0

DAY OF THE MONTH

TENNESSEE STANDARD LESS THAN 520 PPM

ALKALINITY
(M. O.)
PPM

DAY OF THE MONTH

NO STANDARD

DAY OF THE MONTH

NO STANDARD

Figure D-143

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1

STATION #1

FEB. 1980

EPA STANDARD GREATER THAN 5 PPM

TEMPERATURE (AIR) °C

DAY OF THE MONTH
NO STANDARD

DAY OF THE MONTH
TENNESSEE STANDARD LESS THAN 30.5 °C

BOD PPM

DAY OF THE MONTH
STANDARD DETERMINED BY RESERVOIR LOADING

D-167

Figure D-144

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1

STATION #1

FEB. 1980

Figure D-145

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 FEB. 1980

Figure D-146

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 FEB. 1980

Figure D-147

PH	PPH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE	
HARDNESS	PPH	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPH	EPA STD >20. PPM	
ALKALINITY (MO)	PPH	NONE	
CALCIUM	PPH	NONE	
IRON	PPH	TENN STD	<.3 PPM
POTASSIUM	PPH	NONE	
MAGNESIUM	PPH	NONE	
SODIUM	PPH	NONE	
SILICON	PPH	NONE	
CHLORIDE	PPH	TENN STD	<250. PPM
PHOSPHATE (TOTAL)	PPH	NONE	
SULFATE	PPH	TENN STD	<250 PPM
TOTAL SOLIDS	PPH	TENN STD	<500 PPM
DISSOLVED O2	PPH	EPA STD >5. PPM	
AMMONIA	PPH	STD *	
TEMPERATURE WATER	DEG	TENN STD	<30.5 C
TEMPERATURE AIR	DEG	NONE	
BOD	PPH	STD *	

Table D-XXIV

DATA TAKEN AT STATION 2

			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
D-171	2	5	1980	7.7900	124.0000	80.0000	90.0000	22.5000	0.2500	1.74 0000
	2	7	1980	7.9100	103.0000	80.0000	80.0000	22.9200	1.0000	1.30 0000
	2	12	1980	7.0900	111.0000	70.0000	85.0000	22.9200	0.6700	1.30 0000
	2	14	1980	7.5800	170.0000	46.0000	87.0000	22.5000	0.1700	1.30 0000
	2	19	1980	7.7300	157.0000	52.0000	83.0000	24.1700	0.4600	1.52 0000
	2	21	1980	7.8300	160.0000	68.0000	110.0000	24.4900	0.1000	1.52 0000
	2	26	1980	8.0400	155.0000	74.0000	90.0000	27.7100	0.4000	1.52 0000
	2	28	1980	8.1100	136.0000	84.0000	95.0000	26.1200	0.2000	1.52 0000
	MINIMUM VALUE			7.0900	103.0000	46.0000	80.0000	22.5000	0.1000	1.30 0000
	MAXIMUM VALUE			8.1100	170.0000	84.0000	110.0000	27.7100	1.0000	1.52 0000
AVERAGE VALUE			7.7549	139.0000	69.0000	89.0000	24.1659	0.4062	1.37 0000	
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS DISSOLVED O2	
2	5	1980	2.9500	0.9700	3.2600	5.3500	0.3600	9.1600	79.0000	12.0000
2	7	1980	3.0500	0.6200	2.3500	6.3500	*****	13.3500	124.0000	10.0000
2	12	1980	3.0600	1.5900	3.0100	6.0100	*****	11.7300	130.0000	11.0000
2	14	1980	3.1700	0.4100	3.7500	5.0100	0.1100	9.6100	242.0000	12.0000
2	19	1980	3.2300	1.4400	3.5700	6.2500	*****	9.1800	108.0000	11.3000
2	21	1980	3.6000	1.6300	3.7100	5.9900	*****	8.3700	145.0000	11.7000
2	26	1980	3.6000	1.6300	3.0100	5.2100	*****	9.6700	165.0000	12.0000
2	28	1980	3.8000	1.4700	3.5000	4.1700	0.0600	9.6100	150.0000	11.0000
MINIMUM VALUE			2.9500	0.4100	2.3500	4.1700	0.0600	8.3700	79.0000	10.0000
MAXIMUM VALUE			3.8000	1.6300	3.7500	6.3500	0.3800	13.3500	242.0000	12.0000
AVERAGE VALUE			3.3100	1.2200	3.2700	5.5424	0.1833	10.0849	142.8732	11.3749
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
2	5	1980	0.1100	4.6000	0.0000	*****				
2	7	1980	*****	3.8000	0.0000	*****				
2	12	1980	*****	0.4000	0.0000	*****				
2	14	1980	0.1100	5.2000	0.0000	*****				
2	19	1980	*****	5.4000	0.0000	*****				
2	21	1980	*****	9.0000	0.0000	*****				
2	26	1980	*****	5.4000	0.0000	*****				
2	28									
1980			0.0800	8.8000	0.0000					
MINIMUM VALUE			0.0800	0.4000						
MAXIMUM VALUE			0.1100	9.0000						
AVERAGE VALUE			0.1000	5.3249						

PH	PH	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE		
HARDNESS	PPM	TENN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 PPM
TOTAL SOLIDS	PPM	TENN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
BOD	PPM	STD *		

Table D-XXV

DATA TAKEN AT STATION 3

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			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
2	1	1980	7.6400	114.0000	70.0000	75.0000	75.0000	24.0800	0.0000	0.8900
2	8	1980	7.9700	134.0000	80.0000	85.0000	85.0000	22.9200	0.2500	1.0900
2	15	1980	7.7700	169.0000	52.0000	90.0000	90.0000	24.1700	0.2500	1.5200
2	22	1980	7.9700	155.0000	64.0000	85.0000	85.0000	25.3100	0.1500	0.8200
2	29	1980	7.4200	143.0000	42.0000	80.0000	80.0000	27.7100	0.2000	0.7700
MINIMUM VALUE			7.6400	114.0000	52.0000	75.0000	75.0000	22.9200	0.0000	0.7700
MAXIMUM VALUE			7.9700	169.0000	92.0000	90.0000	90.0000	27.7100	0.2500	1.5200
AVERAGE VALUE			7.8538	142.0000	72.0000	82.0000	82.0000	24.8375	0.1700	1.0180
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
2	1	1980	3.4000	1.3200	3.8900	5.7300	0.0620	10.8200	153.0000	12.0000
2	8	1980	3.2000	0.5100	3.6100	5.0100	*****	8.0400	168.0000	10.0000
2	15	1980	3.2000	1.2300	3.9600	4.6900	0.2200	9.2700	130.0000	11.0000
2	22	1980	3.7000	1.5800	3.1500	5.4700	*****	8.3900	128.0000	11.0000
2	29	1980	3.8000	1.4700	3.4300	5.2100	0.0500	12.9600	144.0000	11.0000
MINIMUM VALUE			3.2000	0.5100	3.1500	4.6900	0.0500	8.0400	128.0000	10.0000
MAXIMUM VALUE			3.8000	1.5800	3.9600	5.7300	0.2200	12.9600	168.0000	12.0000
AVERAGE VALUE			3.4719	1.2220	3.6079	5.2219	0.1107	9.8958	144.5971	10.9998
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
2	1	1980	0.1500	3.6000	*****	*****				
2	8	1980	*****	3.4000	*****	*****				
2	15	1980	0.0300	11.0000	*****	*****				
2	22	1980	*****	10.4000	*****	*****				
2	29	1980	0.0000	10.4000	*****	*****				
MINIMUM VALUE			0.0000	3.4000						
MAXIMUM VALUE			0.1500	11.0000						
AVERAGE VALUE			0.0600	7.7598						

PH EPA STD >6.5 <9.0
 CONDUCTIVITY NONE
 HARDNESS 1000 STD <150 PPM
 ALKALINITY (TOTAL) EPA STD >20. PPM
 ALKALINITY (MG) NONE
 CALCIUM NONE
 IRON 1000 STD <.3 PPM
 POTASSIUM NONE
 MAGNESIUM NONE
 SODIUM NONE
 SILICON NONE
 CHLORIDE 1000 STD <250 PPM
 PHOSPHATE (TOTAL) NONE
 SULFATE 1000 STD <250 PPM
 TOTAL SOLIDS 1000 STD <500 PPM
 DISSOLVED O2 EPA STD >5. PPM
 AMMONIA STD *
 TEMPERATURE WATER DEG 1000 STD <30.5 C
 TEMPERATURE AIR DEG
 BOD PPM STD *
 DATA TAKEN AT STATION 1

Table D-XXVI

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MG	CALCIUM	IRON	POTASSIUM
3 3 1980	8.0000	155.0000	88.0000	107.0000	94.0000	27.1000	0.1000	0.8600
3 5 1980	6.5000	192.0000	92.0000	85.0000	85.0000	31.5400	3.1000	3.4300
3 10 1980	7.8000	148.0000	70.0000	80.0000	80.0000	22.6900	0.0000	0.8700
3 12 1980	6.8200	152.0000	72.0000	78.0000	78.0000	28.8500	3.9000	2.4000
3 17 1980	7.0200	230.0000	130.0000	92.0000	92.0000	34.2300	3.8000	3.1500
3 19 1980	7.6200	116.0000	84.0000	80.0000	80.0000	21.1500	0.7000	0.9600
3 24 1980	6.8100	108.0000	114.0000	88.0000	88.0000	18.5200	0.5200	1.1100
3 26 1980	7.4600	138.0000	62.0000	95.0000	95.0000	15.9300	0.4500	0.8400
3 27 1980	7.1900	143.0000	87.0000	140.0000	140.0000	15.1900	1.0400	0.9700
MINIMUM VALUE	6.5000	116.0000	62.0000	80.0000	80.0000	15.1900	0.0000	0.8600
MAXIMUM VALUE	8.0000	230.0000	130.0000	140.0000	140.0000	34.2300	3.9000	3.4300
AVERAGE VALUE	7.2466	160.0000	88.0000	91.0000	90.0000	23.9108	1.5122	1.6333
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
3 3 1980	3.7000	1.1600	2.1200	4.1700	*****	7.5300	119.0000	11.0000
3 5 1980	4.0000	1.6400	2.4000	7.8200	0.1000	49.5900	293.0000	10.0000
3 10 1980	3.2100	1.6400	2.5100	7.0400	*****	8.1400	140.0000	11.2000
3 12 1980	2.9300	1.8200	1.5200	8.0800	0.0630	22.1000	400.0000	11.7000
3 17 1980	5.8100	1.5500	2.8300	4.4300	*****	51.3300	348.0000	8.7000
3 19 1980	2.9600	1.9100	2.7900	3.0200	*****	8.0800	144.0000	10.5000
3 24 1980	3.2300	1.0800	4.7700	3.0200	*****	38.8800	297.0000	9.0000
3 26 1980	2.2500	1.3600	3.7400	4.7500	0.0670	14.7800	113.0000	9.0000
3 27 1980	2.2600	1.1400	4.0000	2.1400	0.0400	15.2700	145.0000	8.7000
MINIMUM VALUE	2.2500	1.0800	1.5200	2.1400	0.0400	7.5300	113.0000	8.7000
MAXIMUM VALUE	5.8100	1.9100	4.7700	8.0800	0.1000	51.3300	400.0000	11.7000
AVERAGE VALUE	3.3677	1.4711	2.9411	4.9411	0.0675	23.9664	222.1080	9.9666
	AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
3 3 1980	*****	3.2000	*****	*****				
3 5 1980	0.3600	7.3000	9.2000	*****				
3 10 1980	*****	9.0000	17.0000	*****				
3 12 1980	0.3700	5.8000	3.4000	*****				
3 17 1980	*****	11.9000	13.9000	*****				
3 19								
1980	***	9.2000	11.8000					
3 24 1980	*****	12.0000	13.2000	*****				
3 26 1980	0.1300	11.2000	9.2000	*****				
3 27 1980	0.0500	13.6000	19.2000	*****				
MINIMUM VALUE	0.0500	3.2000	3.4000					
MAXIMUM VALUE	0.3700	13.6000	19.2000					
AVERAGE VALUE	0.2375	9.2443	12.1123					

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PH	PH	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE		
HARDNESS	PPM	TENN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 PPM
TOTAL SOLIDS	PPM	TENN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
BOD	PPM	STD *		
DATA TAKEN AT STATION 2				

Table D-XXVII

D-174

			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
3	4	1980	8.0500	139.0000	80.0000	82.0000	80.0000	27.7100	0.2000	0.9300
3	6	1980	8.0500	140.0000	82.0000	80.0000	80.0000	22.6900	0.5000	0.3900
3	11	1980	7.6500	89.0000	51.0000	60.0000	60.0000	15.7700	0.7000	0.9100
3	13	1980	7.6500	114.0000	72.0000	82.0000	82.0000	20.0000	0.7000	0.9000
3	18	1980	7.6500	104.0000	74.0000	90.0000	90.0000	17.3100	1.2000	1.0000
3	25	1980	7.3000	73.0000	50.0000	85.0000	85.0000	8.1500	1.9300	0.9300
MINIMUM VALUE			7.3000	73.0000	50.0000	80.0000	80.0000	8.1500	0.2000	0.3900
MAXIMUM VALUE			8.0500	140.0000	82.0000	90.0000	90.0000	27.7100	1.9300	1.0000
AVERAGE VALUE			7.7249	109.0000	58.0000	79.0000	79.0000	18.6047	0.8717	0.8533
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
3	4	1980	3.5000	3.5800	9.3500	11.4700	*****	8.1400	136.0000	12.0000
3	6	1980	3.1200	3.8200	3.1400	14.8500	0.1070	9.6300	130.0000	12.0000
3	11	1980	2.1900	2.3600	3.4200	6.5100	*****	8.4300	148.0000	11.0000
3	13	1980	2.8800	2.0000	3.6400	7.5000	0.0420	8.5300	161.0000	11.0000
3	18	1980	2.3300	2.4500	3.9500	6.5200	*****	9.6100	170.0000	10.1000
3	25	1980	1.7200	1.3500	3.6000	3.3900	*****	12.9400	152.0000	10.2000
MINIMUM VALUE			1.7200	1.3500	3.1400	3.3900	0.0420	8.1400	130.0000	10.1000
MAXIMUM VALUE			3.5000	3.8200	9.3500	14.8500	0.1070	12.9400	170.0000	12.0000
AVERAGE VALUE			2.6233	2.5933	4.5166	8.3832	0.0745	9.5465	149.4975	11.0498
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
3	4	1980	*****	4.6000	3.8000					
3	6	1980	*****	0.0000	9.2000	8.4000				
3	11	1980	*****	10.2000	3.4000					
3	13	1980	0.0400	9.2000	6.4000					
3	18	1980	*****	14.4000	6.8000					
3	25	1980	*****	10.6000	7.4000					
MINIMUM VALUE			0.0400	4.6000	3.4000					
MAXIMUM VALUE			0.0400	14.4000	8.4000					
AVERAGE VALUE			0.0050	9.6998	6.0332					

PH	PH	EPA STD >6.5	<9.0
CONDUCTIVITY	MICROMHU	NONE	
HARDNESS	PPM	TENN STD	<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD >20. PPM	
ALKALINITY (MO)	PPM	NONE	
CALCIUM	PPM	NONE	
IRON	PPM	TENN STD	<.3 PPM
POTASSIUM	PPM	NONE	
MAGNESIUM	PPM	NONE	
SODIUM	PPM	NONE	
SILICON	PPM	NONE	
CHLORIDE	PPM	TENN STD	<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE	
SULFATE	PPM	TENN STD	<250 PPM
TOTAL SOLIDS	PPM	TENN STD	<500 PPM
DISSOLVED O2	PPM	EPA STD >5. PPM	
AMMONIA	PPM	STD *	
TEMPERATURE WATER	DEG	TENN STD	<30.5 C
TEMPERATURE AIR	DEG	NONE	
BOD	PPM	STD *	

DATA TAKEN AT STATION 3

Table D-XXVIII

D-175

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
3 7 1980	8.1500	146.0000	96.0000	85.0000	85.0000	24.7300	0.2000	1.0400
3 14 1980	7.7800	128.0000	90.0000	85.0000	85.0000	21.1500	0.9000	1.1700
3 21 1980	7.4200	87.0000	54.0000	82.0000	82.0000	9.2800	0.6700	0.7700
3 28 1980	7.3200	66.0000	52.0000	90.0000	90.0000	7.4100	1.4100	0.7400
MINIMUM VALUE	7.3200	66.0000	54.0000	82.0000	82.0000	7.4100	0.2000	0.7400
MAXIMUM VALUE	8.1500	146.0000	96.0000	90.0000	90.0000	24.7300	1.4100	1.1700
AVERAGE VALUE	7.6673	106.0000	80.0000	85.0000	85.0000	15.6371	0.7950	0.9300
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
3 7 1980	3.4000	2.5500	3.2800	7.0400	0.0800	8.5100	122.0000	11.5000
3 14 1980	2.9800	2.2700	3.6700	2.8700	0.0540	9.3900	160.0000	10.2000
3 21 1980	2.0000	2.1600	3.9500	2.3500	*****	8.6100	127.0000	9.4000
3 28 1980	1.5800	1.1400	3.7400	2.4500	0.0860	17.5900	264.0000	9.8000
MINIMUM VALUE	1.5800	1.1400	3.2800	2.3500	0.0540	8.5100	122.0000	9.4000
MAXIMUM VALUE	3.4000	2.5500	3.9500	7.0400	0.0860	17.5900	264.0000	11.5000
AVERAGE VALUE	2.4099	2.0299	3.6599	3.6774	0.0733	11.0247	168.2458	10.2247
	AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
3 7 1980	0.0500	12.1000	11.8000	*****				
3 14 1980	0.0900	12.4000	2.4000	*****				
3 21 1980	*****	13.8000	8.4000	*****				
3 28 1980	0.1100	13.2000	12.2000	*****				
MINIMUM VALUE	0.0500	12.1000	2.4000					
MAXIMUM VALUE	0.1100	13.8000	12.2000					
AVERAGE VALUE	0.0833	12.8747	8.6998					

PH	PPM	EPA STD	>6.5	<9.0
CONDUCTIVITY	NICKOMFU	NONE		
HARDNESS	PPM	TEHN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TEHN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TEHN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TEHN STD		<250 PPM
TOTAL SOLIDS	PPM	TEHN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TEHN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
BOD	PPM	STD *		

DATA TAKEN AT STATION 1

Table D-XXIX

D-176

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
4 1 1980	6.8000	113.0000	52.0000	120.0000	120.0000	15.6300	1.7700	1.31 1000
4 7 1980	7.6500	120.0000	55.0000	120.0000	120.0000	13.9600	1.1800	1.10 600
4 16 1980	7.5800	105.0000	60.0000	46.0000	46.0000	13.9600	0.7700	1.07 1000
4 21 1980	7.9000	124.0000	54.0000	69.0000	69.0000	16.2500	0.4700	1.00 1000
4 30 1980	7.7500	118.0000	50.0000	52.0000	52.0000	16.0900	0.1800	1.07 1000
MINIMUM VALUE	6.8000	105.0000	50.0000	46.0000	46.0000	13.9600	0.1800	1.07 1000
MAXIMUM VALUE	7.9000	124.0000	60.0000	120.0000	120.0000	16.2500	1.7700	1.31 1000
AVERAGE VALUE	7.5358	115.0000	50.0000	81.0000	81.0000	15.1777	0.8740	1.09 1000
	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
4 1 1980	2.5900	1.6500	4.1300	3.3900	0.0400	4.3400	139.0000	8.8000
4 7 1980	2.2600	1.5900	3.7400	3.5400	0.0200	10.2100	142.0000	10.2000
4 16 1980	2.3500	1.7600	4.8400	4.9500	0.0300	4.4500	86.0000	9.8000
4 21 1980	2.6900	1.5900	5.0500	4.6900	0.0200	4.9900	90.0000	11.4000
4 30 1980	2.4100	1.4000	4.5600	3.3900	0.0200	5.8500	56.0000	9.9000
MINIMUM VALUE	2.2600	1.4000	3.7400	3.3900	0.0200	4.3400	56.0000	8.8000
MAXIMUM VALUE	2.6900	1.7600	5.0500	4.9500	0.0400	10.2100	142.0000	11.4000
AVERAGE VALUE	2.4600	1.5980	4.4639	3.9919	0.0260	5.9679	102.5979	10.0198
	AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
4 1 1980	0.0600	16.2000	14.6000	*****				
4 7 1980	0.0600	16.4000	20.3000	*****				
4 16 1980	0.0700	13.5000	14.2000	*****				
4 21 1980	0.0600	15.4000	26.2000	*****				
4 30 1980	0.0100	18.5000	19.2000	*****				
MINIMUM VALUE	0.0100	13.5000	14.2000					
MAXIMUM VALUE	0.0800	18.5000	26.2000					
AVERAGE VALUE	0.0560	15.9997	18.8996					

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 APR. 1980

DAY OF THE MONTH
EPA STANDARD >6.5 <9.0

TOTAL
SOLIDS

DAY OF THE MONTH
TENNESSEE STANDARD LESS THAN 500 PPM

DAY OF THE MONTH
NO STANDARD

ALKALINITY
(M. O.)
PPM

DAY OF THE MONTH
NO STANDARD

Figure D-148

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 APR. 1980

D-178

Figure D-149

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 APR. 1980

DAY OF THE MONTH
NO STANDARD

ALKALINITY (TOTAL) (PPM)

DAY OF THE MONTH
EPA STANDARD >20 PPM

DAY OF THE MONTH
NO STANDARD

HARDNESS PPM

DAY OF THE MONTH
TENNESSEE STANDARD LESS THAN 150 PPM

Figure D-150

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G1 STATION #1 APR. 1980

AMMONIA
PPM

SULFATE
PPM

PHOSPHATE
(TOTAL)
PPM

CHLORIDE
PPM

Figure D-151

D-180

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G

STATION #1 APR. 1980

Figure D-152

PH	PH	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE		
HARDNESS	PPM	TENN STD		<150 PPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 PPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 PPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 PPM
TOTAL SOLIDS	PPM	TENN STD		<500 PPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
BOD	PPM	STD *		

DATA TAKEN AT STATION 2

Table D-XXX

D-182

	PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
4 1 1980	7.2000	87.0000	46.0000	90.0000	90.0000	18.1300	0.8800	0.7900
4 7 1980	7.3200	119.0000	54.0000	102.0000	102.0000	16.4600	0.8200	0.9700
4 16 1980	8.0500	108.0000	65.0000	61.0000	61.0000	17.0800	0.7100	1.1000
4 21 1980	8.9600	130.0000	55.0000	68.0000	61.0000	17.2900	0.5300	0.9000
4 30 1980	8.1000	134.0000	42.0000	62.0000	62.0000	17.8300	0.3600	0.9400
MINIMUM VALUE	7.2000	87.0000	42.0000	61.0000	61.0000	16.4600	0.3600	0.7900
MAXIMUM VALUE	8.9600	134.0000	65.0000	102.0000	102.0000	18.1300	0.8800	1.1000
AVERAGE VALUE	7.9248	115.0000	52.0000	76.0000	75.0000	17.3577	0.6600	0.9400

	MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
4 1 1980	2.8900	1.7600	3.2100	6.4100	0.0300	5.7700	93.0000	10.2000
4 7 1980	2.6900	1.5500	3.7400	5.2100	0.0200	6.7900	103.0000	8.8000
4 16 1980	2.8900	1.7600	5.2900	5.8400	0.0400	4.9100	58.0000	11.6000
4 21 1980	2.7100	1.5500	4.2400	6.8300	0.0400	4.1300	136.0000	13.5000
4 30 1980	2.6700	1.4900	4.9800	3.7500	0.0300	5.7500	67.0000	10.7000
MINIMUM VALUE	2.6700	1.4900	3.2100	3.7500	0.0200	4.1300	58.0000	8.8000
MAXIMUM VALUE	2.8900	1.7600	5.2900	6.8300	0.0400	6.7900	136.0000	13.5000
AVERAGE VALUE	2.7699	1.6220	4.2919	5.6079	0.0320	5.4699	91.3982	10.9598

	AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD
4 1 1980	0.0500	15.2000	14.6000	*****
4 7 1980	0.0500	16.4000	20.3000	*****
4 16 1980	0.0500	15.5000	14.4000	*****
4 21 1980	0.0500	24.2000	26.2000	*****
4 30 1980	0.1200	20.2000	19.2000	*****
MINIMUM VALUE	0.0500	15.2000	14.4000	
MAXIMUM VALUE	0.1200	24.2000	26.2000	
AVERAGE VALUE	0.0640	18.2996	18.9396	

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2

STATION #2

APR. 1980

DAY OF THE MONTH
EPA STANDARD >6.5 <9.0

TOTAL
SOLIDS

DAY OF THE MONTH
TENNESSEE STANDARD LESS THAN 500 PPM

DAY OF THE MONTH
NO STANDARD

ALKALINITY
(M. O.)
PPM

DAY OF THE MONTH
NO STANDARD

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Figure D-153

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2 STATION #2 APR. 1980

Figure D-154

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2

STATION #2

APR. 1980

DAY OF THE MONTH
NO STANDARD

ALKALINITY
(TOTAL)
(PPM)

DAY OF THE MONTH
EPA STANDARD >20 PPM

DAY OF THE MONTH
NO STANDARD

HARDNESS
PPM

DAY OF THE MONTH
TENNESSEE STANDARD LESS THAN 150 PPM

Figure D-155

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2

STATION #2

APR. 1980

AMMONIA
PPM

SULFATE
PPM

PHOSPHATE
(TOTAL)
PPM

CHLORIDE
PPM

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Figure D-156

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G2 STATION #2 APR. 1980

Figure D-157

PH	PH	EPA STD	>6.5	<9.0
CONDUCTIVITY	MICROMHO	NONE		
HARDNESS	PPM	TENN STD		<150 FPM
ALKALINITY (TOTAL)	PPM	EPA STD	>20. PPM	
ALKALINITY (MO)	PPM	NONE		
CALCIUM	PPM	NONE		
IRON	PPM	TENN STD		<.3 FPM
POTASSIUM	PPM	NONE		
MAGNESIUM	PPM	NONE		
SODIUM	PPM	NONE		
SILICON	PPM	NONE		
CHLORIDE	PPM	TENN STD		<250 FPM
PHOSPHATE (TOTAL)	PPM	NONE		
SULFATE	PPM	TENN STD		<250 FPM
TOTAL SOLIDS	PPM	TENN STD		<500 FPM
DISSOLVED O2	PPM	EPA STD	>5. PPM	
AMMONIA	PPM	STD *		
TEMPERATURE WATER	DEG	TENN STD		<30.5 C
TEMPERATURE AIR	DEG	NONE		
BOD	PPM	STD *		

DATA TAKEN AT STATION 4

Table D-XXXI

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			PH	CONDUCTIVITY	HARDNESS	ALKALINITY TOTAL	ALKALINITY MO	CALCIUM	IRON	POTASSIUM
4	1	1980	7.3500	107.0000	48.0000	70.0000	70.0000	15.6300	0.8200	0.9000
4	7	1980	7.6200	123.0000	50.0000	115.0000	115.0000	15.6300	1.0600	1.0300
4	16	1980	7.7500	113.0000	50.0000	55.0000	55.0000	16.4600	0.5300	0.9300
4	21	1980	7.6200	146.0000	65.0000	85.0000	85.0000	19.7900	0.5900	1.1700
4	30	1980	7.6500	126.0000	40.0000	51.0000	57.0000	18.2600	0.2400	0.9200
MINIMUM VALUE			7.3500	107.0000	40.0000	51.0000	55.0000	15.6300	0.2400	0.9000
MAXIMUM VALUE			7.7500	146.0000	65.0000	115.0000	115.0000	19.7900	1.0600	1.1700
AVERAGE VALUE			7.5978	122.0000	50.0000	76.0000	76.0000	17.1537	0.6480	0.9900
			MAGNESIUM	SODIUM	SILICON	CHLORIDE	PHOSPHATE	SULFATE	TOTAL SOLIDS	DISSOLVED O2
4	1	1980	2.7800	1.6200	3.4200	4.1700	0.0300	4.5100	63.0000	9.4000
4	7	1980	2.6900	1.7600	4.5500	4.7900	0.0300	8.2200	124.0000	9.5000
4	16	1980	2.7300	1.6200	4.6200	4.1700	0.0300	4.7600	91.0000	9.4000
4	21	1980	3.0800	3.2100	5.0500	5.2100	0.0400	6.6100	100.0000	9.8000
4	30	1980	2.6400	1.6300	5.3800	4.1700	0.0300	5.7500	68.0000	10.0000
MINIMUM VALUE			2.6400	1.6200	3.4200	4.1700	0.0300	4.5100	63.0000	9.4000
MAXIMUM VALUE			3.0800	3.2100	5.3800	5.2100	0.0400	8.2200	124.0000	10.0000
AVERAGE VALUE			2.7839	1.9680	4.6039	4.5019	0.0320	5.9699	89.1962	9.6196
			AMMONIA	TEMPERATURE WATER	TEMPERATURE AIR	BOD				
4	1	1980	0.0400	19.7000	15.6000	0.0000				
4	7	1980	0.0400	17.6000	20.0000	0.0000				
4	16	1980	0.0400	18.8000	15.3000	0.0000				
4	21	1980	0.0500	18.6000	27.5000	0.0000				
4	30	1980	0.0100	20.2000	19.2000	0.0000				
MINIMUM VALUE			0.0100	17.6000	15.3000	0.0000				
MAXIMUM VALUE			0.0500	20.2000	27.5000	0.0000				
AVERAGE VALUE			0.0360	18.9796	19.5196	0.0000				

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G4 STATION #4 APR. 1980

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Figure D-158

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G4 STATION #4 APR. 1980

Figure D-159

STATION #4 APR. 1980

Figure D-160

WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G4 STATION #4 APR. 1980

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Figure D-161

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WATER QUALITY ANALYSIS FOR WOODS RESERVOIR

ROLLINS CREEK STORET #4728G4

STATION #4

APR. 1980

Figure D-162