ECOLOGICAL STUDIES OF THE CONNECTICUT RIVER VERNON/VERMONT

REPORT X

JANUARY 1980 – DECEMBER 1980

PREPARED FOR
VERMONT YANKEE NUCLEAR POWER CORPORATION
BY
AQUATEC, INC.
SOUTH BURLINGTON, VERMONT
1981

ECOLOGICAL STUDIES OF THE CONNECTICUT RIVER

REPORT X

VERMONT YANKEE NUCLEAR POWER CORPORATION

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1. INTRODUCTION AND SUMMARY

An extended shutdown of Vermont Yankee's operation in 1980 (from September 27 through December 27) for refueling, repairs, and maintenance reduced plant availability to 71.5%, the lowest level since 1973 when generation occurred only 61% of the time. The open cycle mode of condenser cooling was used on 137 days of operation in 1980; closed cycle cooling was used on 133 days.

The plant operated at an average power level of 93.8% during the 6280 hours of generation in 1980. But the prolonged shutdown reduced the average capacity for the year to 67.0%. Figure 1.1 is a graph of the plant's record of power production in 1980.

This is the tenth report in a series (Webster-Martin 1971, Aquatec 1973-78, 1979a, 1980) that have presented the results of environmental studies conducted under the conditions of Vermont Yankee's discharge permits, from the States of Vermont and New Hampshire, and the Appendix B Technical Specifications of Vermont Yankee's operating license. In amendment No. 56 to the operating license, dated February 22, 1980, the Appendix B Technical Specifications were deleted. Some studies mandated by the Tech Specs, but not required under Vermont Yankee's NPDES discharge permit, were continued until early July and are reported here.

Eight sampling stations in the Connecticut River near Vernon, Vermont were used in earlier studies. The approximate locations of these stations are shown in Figure 1.2. Collections were made at only six of these stations in the 1980 studies. The locations of these six in river miles north and south of Vernon Dam are shown below.

VERMONT YANKEE
POWER LEVEL HISTOGRAM
1980

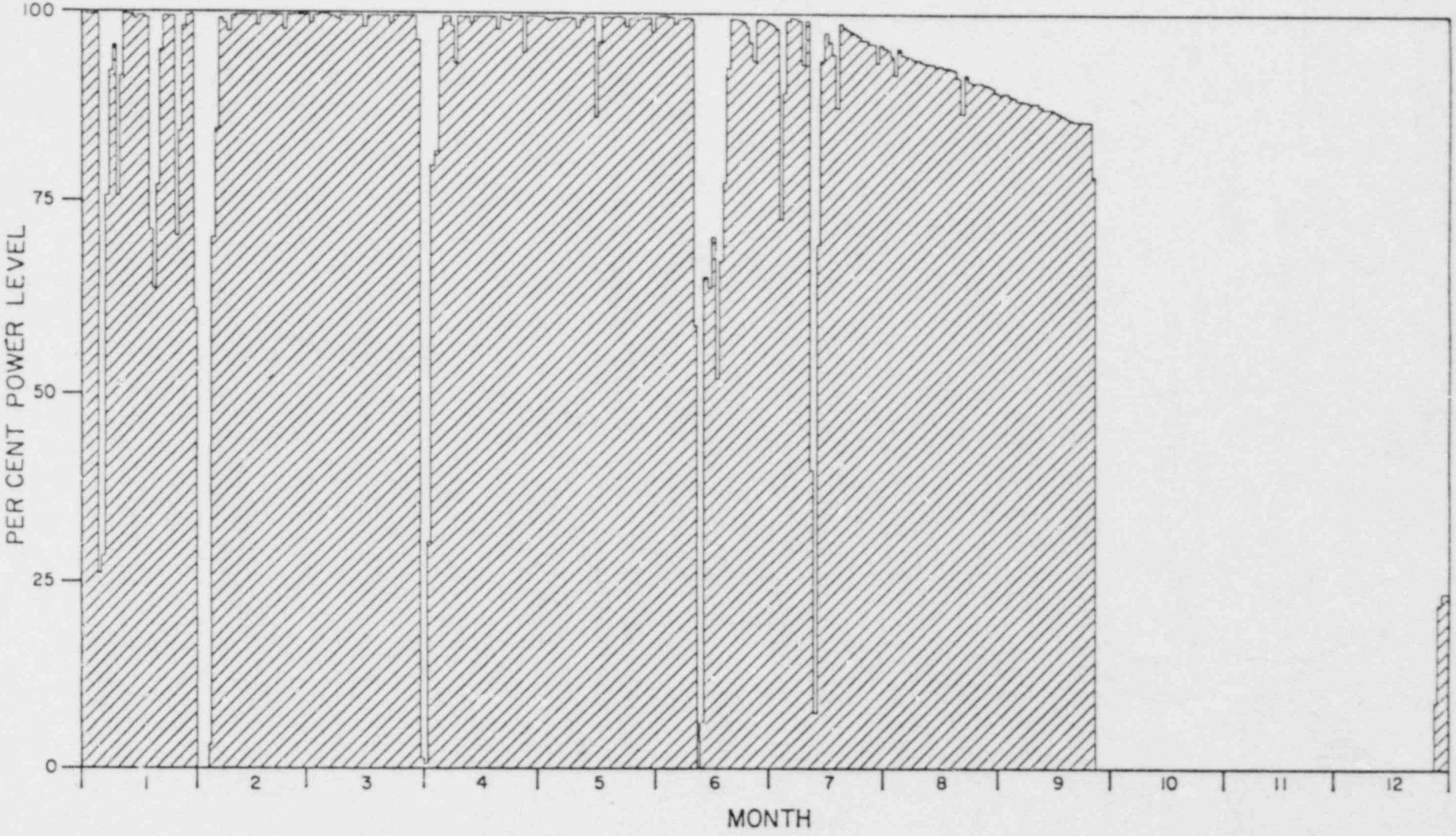


FIGURE 1.1

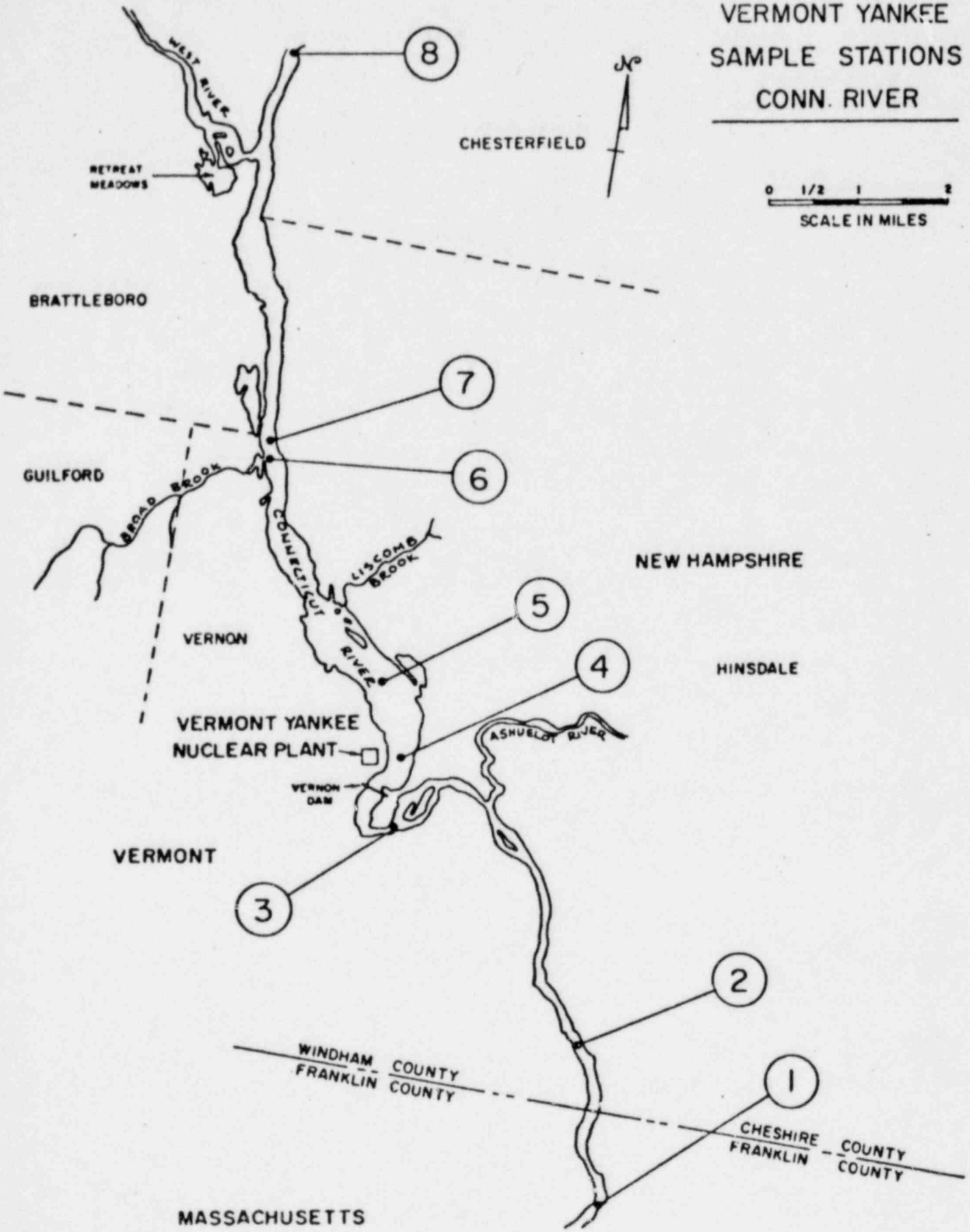

VERMONT YANKEE
SAMPLE STATIONS
CONN. RIVER
0 1/2 1 2
SCALE IN MILES
CHESTERFIELD
WEST RIVER
RETREAT MEADOWS
BRATTLEBORO
GUILFORD
BROAD BROOK
CONNECTICUT RIVER
LISCOMB BROOK
NEW HAMPSHIRE
VERNON
HINSDALE
VERMONT YANKEE NUCLEAR PLANT
ASHUELOT RIVER
VERNON DAM
VERMONT
WINDHAM COUNTY
FRANKLIN COUNTY
CHESHIRE COUNTY
FRANKLIN COUNTY
MASSACHUSETTS
1
2
3
4
5
6
7
8

FIGURE 1.2

Station No.	Location Relative to Vernon Dam
2	4.70 miles south
3	0.65 miles south
4	0.55 miles north
5	1.25 miles north
7	4.25 miles north
8	8.70 miles north

SUMMARY OF RESULTS

Water Quality Studies

The annual peak river flows of spring run-off occurred at Vernon in April, as is usually the case. But the mean discharges in April and in all other months of 1980 were less than the 16 year average discharges for the corresponding months in the period October 1964 through 1979.

The relatively low river flow rates in 1980 resulted in mean monthly temperatures at Station 3, downstream of Vermont Yankee, that were higher in the first nine months of 1980 than the mean river temperature for those months in the years 1968-1979. The maximum hourly temperature observed at Monitor 3 in February, 41.8°F, was greater than the previous maximum for that month, 41.5°F in 1977. All other maximum and all minimum temperatures observed at Station 3 were within previously recorded extremes.

At Station 7, upstream, mean monthly temperatures were higher than 1970-1979 means in April, May, July, August, and September. No record maximum or minimum hourly temperatures occurred at Station 7 in 1980.

Vermont Yankee operated in 1980 within the three thermal criteria imposed upon such operation by its NPDES permit. These conditions require that Vermont Yankee's discharge not effect a temperature at Monitor 3 greater than 65°F; the maximum hourly mean temperature observed there during open cycle operation was 57.0°F on May 6. The maximum allowable rate of temperature change between successive hourly average temperatures at Monitor 3 is

5°F per hour; the maximum observed was 2.9°F per hour in February and March. The maximum allowable increase in river temperature effected by Vermont Yankee's discharge is 13.4°F; the maximum difference observed between downstream Monitor 3 temperature and upstream Monitor 7 temperature was 10.4°F on March 2.

No record monthly maximum or minimum dissolved oxygen concentrations were observed in 1980 at either Station 3 or 7. The pH maximum of 7.7 at Station 3 in January was 0.2 pH units greater than the January maximum previously observed there, but all monthly minima were greater than those previously recorded.

Grab samples at Stations 3 and 7 were collected on four dates in 1980 – two during open cycle operation, one during closed cycle cooling, and one when Vermont Yankee was not operating – and analyzed for sixteen water quality parameters. The concentrations of all parameters were found to be within ranges observed in earlier years.

Biological Studies

Diatoms predominated, as in earlier study years, in the phytoplankton samples of 1980. Of these, the more commonly observed species were again Asterionella formosa, Fragilaria capucina and F. crotonensis, Melosira italica and M. varians, and Tabellaria fenestrata. Also, as in prior years, the more commonly observed flagellates were Dinobryon spp., the more common green algae were Pediastrum spp., and the more common blue-greens were Oscillatoria spp.

Algal concentrations in the phytoplankton samples of 1980 were generally low relative to concentrations observed in the years 1970-1974. Only the January counts at Stations 3 and 7 were greater than the mean counts for the years 1970-1974. These January counts were within two standard deviations of the mean January counts observed in 1970-1974. The September 17 phytoplankton concentration at Station 3 was greater, however, than that predicted by application of a statistical analysis of the 1970-1974 data to the September Station 7 count.

No zooplankton concentration observed at downstream Station 3 in 1980 was outside the 95% confidence limits for a concentration predicted from upstream counts by statistical analysis of 1970-1974 zooplankton data. However, zooplankton concentrations observed in February and April at Station 7 and in March at Station 3 were more than two standard deviations greater than the corresponding mean concentrations in the years 1970-1974.

Protozoans, particularly Campanella sp. and Vorticella sp., were the predominant organisms in the samples of late fall and winter. In the samples of the warmer months of the year, rotifers predominated. The more commonly observed rotifers were, as in earlier years, Keratella cochlearis, Philodina sp., Polyarthra sp., and Synchaeta sp. Copepods, adults and nauplii, were found in all seasons.

Eighty-six genera of benthic fauna were observed in the thirty-eight samples of benthos collected in 1980, twenty-eight by Ekman dredge and ten by Henson trap. The number of genera found in Ekman dredge samples from Stations 2, 3, and 4, locations which might be affected by Vermont Yankee's heated discharge, were greater than had been found in earlier years when a comparable sampling effort had been made. Chironomid and caddis fly larvae were found, as has been observed in earlier years, to be the predominant forms in the spring and summer samples. Planarians, fingernail clams, and oligochaetes were dominant in fall samples.

All fish impinged on the traveling screens at Vermont Yankee's intake structure during open cycle operation in January through May 1980 were collected, identified, weighed, and measured. Fifty-nine percent of the fish impinged in 1980 were spottail shiners. Nineteen different species were impinged, but all had been observed in earlier Vermont Yankee studies. The daily mean numbers and weights of fish impinged in each month of open cycle operation in 1980 were all within two standard deviations of the daily means observed for those months in the five phases of open cycle testing in 1974-1978.

Ninety-six collections of finfish were made in the 1980 survey. Sixty-eight collections were made by trap net, twenty-seven by gill net, and one by seine haul. The collections were made at Vermont Yankee Stations 3, 4, 5, and 8 and 1602 fish were captured. Nineteen species of fish were collected in 1980, fourteen in collections north of Vernon Dam and sixteen in collections south of the dam. All species, except northern pike, had been found in earlier surveys. One specimen of northern pike was collected near Vermont Yankee Station 3 on 16 September 1980.

The percentage by number of white perch in the 1980 survey was greater than the percentage of this species in any prior survey. This increase is due primarily to the capture in 1980 of relatively fewer pumpkinseed and bluegill than in earlier surveys. The percentage by weight of "all other species" in 1980 was also larger than in prior surveys. This is attributable to the relatively large biomass of walleye taken in the 1980 survey, 7.7% of the total weight of all fish captured.

The age-growth data of 1980 for yellow perch, white perch, and smallmouth bass were not significantly different from the 1969-1973 data for these species. However, again in 1980, as in the years 1977-1979, the age-growth data for walleye indicate an enhanced growth rate relative to the data of 1969-1973.

In conclusion, the 1980 studies do not indicate that Vermont Yankee's operation has had a significant adverse effect on the water quality or aquatic biota of the Connecticut River.

2. CONNECTICUT RIVER DISCHARGE

Connecticut River discharge in 1980 at Vernon, Vermont, computed from the records of the Vernon Hydroelectric Station at Vernon Dam, is summarized in Figure 2.1. The mean flow rate, the maximum daily average flow rate, and the minimum daily average flow rate are shown for each month.

The annual maximum discharge rate in 1980 occurred, as is usually the case at Vernon, in April. Mean discharge for that month was 20,380 cfs. The maximum mean daily discharge was 50,480 cfs on 11 April and the maximum hourly discharge, 52,090 cfs, occurred at 1600 on that date.

Connecticut river flow rates have been reported for the years 1967-1979 in previous volumes of this series of reports. Flow rates throughout 1980 were low relative to the discharges that occurred in those years. Mean flows for all twelve months of 1980 were smaller than the corresponding 16 year means for 1964-1979. However, in no month of 1980 was the mean flow rate smaller than the record mean minimum for that month in one of the previous 16 years.

Also, the maximum daily average flow rates for all twelve months were less than maxima that had been observed previously in the years 1964-1979 and the minimum daily discharges for the months April and May 1980 were smaller than had been recorded for those months in the preceding 16 years. The April 1980 minimum was 7350 cfs; the smallest daily mean observed in 1964-1979 was 7780 cfs in 1971. The May 1980 minimum daily discharge of 1360 cfs was less than the record low for that month of the previous 16 years, 1880 cfs in 1977.

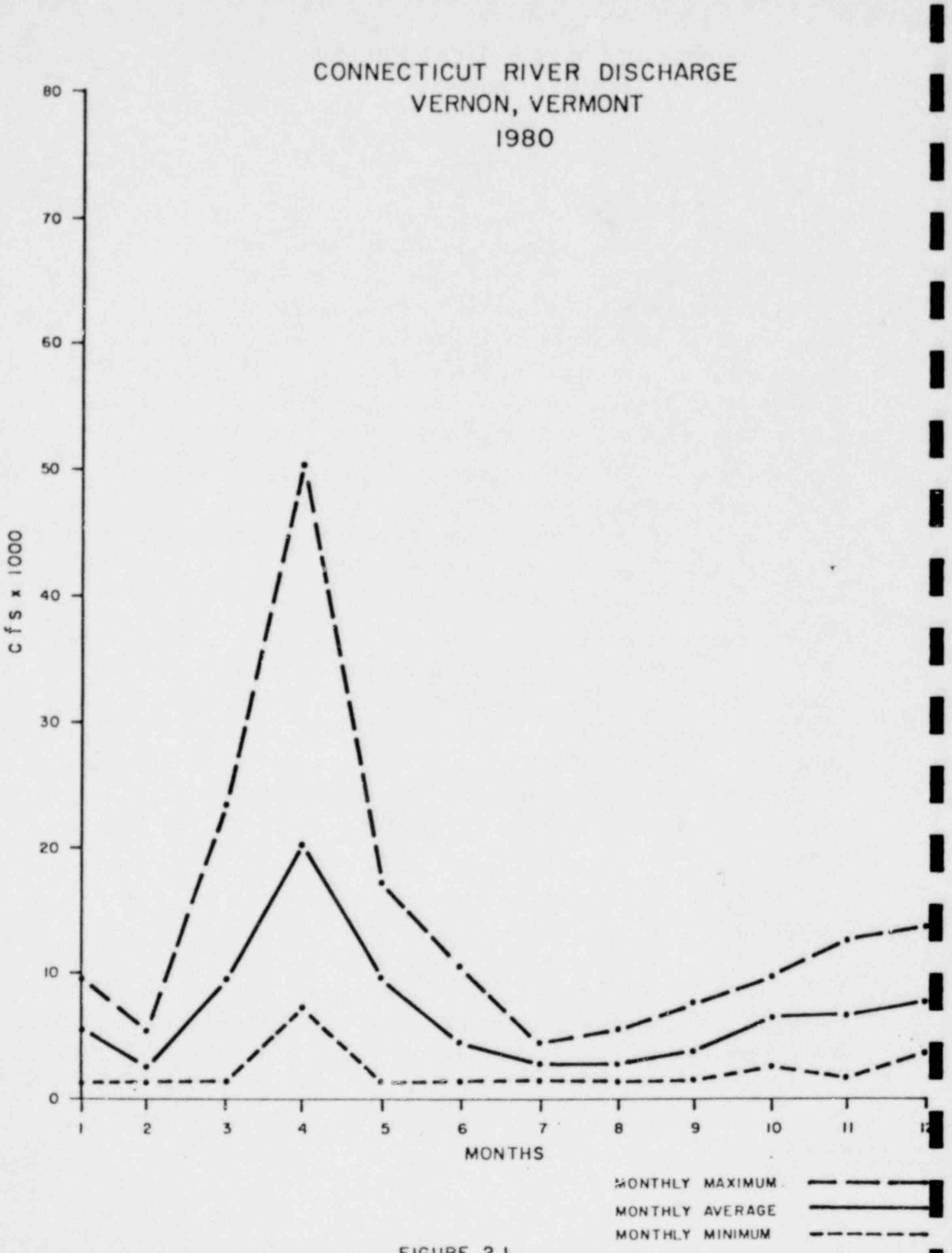

CONNECTICUT RIVER DISCHARGE
VERNON, VERMONT
1980
80
70
60
50
40
30
20
10
0
cfs x 1000
1
2
3
4
5
6
7
8
9
10
11
12
MONTHS
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 2.1

When river flow rates are less then 10,000 cfs the Vernon Hydroelectric Station is operated as a peak load facility. Often at such times, only one hydroelectric unit is utilized during off-peak hours. Operation of this one unit meets a condition of the operating license issued by the Federal Energy Regulatory Commission on June 25, 1979 to the Vernon Hydroelectric Station. This license requires the maintenance of a continuous minimum flow of 1,250 cfs in the river. The requirement that Vermont Yankee be responsible for providing a sustained minimum flow of 1,200 cfs when operating, set forth in the Appendix B Tech Specs of its operating license, was deleted in February 1980.

Periods of minimum flow occurred in all months of 1980, even in April when 7 hours of minimum discharge occurred on April 22. Minimum discharge occurred during more than 50% of the hours of the months February, June, July, August, and September.

On 108 days of the first six months of 1980, 124 periods of minimum flow occurred in a total of 1386 hours, 31.9% of the time. The duration of the minimum flow periods in these months ranged from 1 hour to 62 hours; the mean duration was 11.2 hours.

In the latter six months of 1980, minimum flows were recorded during 2103 hours, 46.7% of the time. There were 189 periods of minimum discharge on 161 days, with durations ranging from 1 hour to 52 hours. The average duration was 11.1 hours.

3. RIVER TEMPERATURE

Temperatures of Connecticut River water are measured continuously by two automatic water quality monitoring systems, installed in buildings on the Vermont shore of the river at Sample Station 7, upstream of Vermont Yankee, and at Station 3, downstream of the plant. The temperature data of 1980, reduced to hourly, daily, and monthly means, are shown in Tables 3.1, for Station No. 3, and 3.2, for Station No. 7, at the end of this section of the report. These data are summarized graphically in Figures 3.1 and 3.2. The maxima and minima in those figures are hourly means.

Temperature data have been collected continuously since 1968 at Station 3 and since 1970 at Station 7. Figures 3.1 and 3.2 also show, in shaded areas, the maximum and minimum hourly mean temperature that has been observed for that month in any of the previous years of study. The shaded area is divided by a line that connects the points of mean monthly temperatures computed from the data of all previous years for that month.

Monthly mean temperatures observed at the downstream location, Station 3, for the first nine months of 1980 were greater than the 1968-1979 monthly means. The February mean temperature, 37.1°F, was higher than the previous record February mean of 36.2°F, which occurred in 1977. The record March mean, 35.9° in 1977, was also exceeded by the 1980 mean of 37.1°F. The maximum hourly temperature in February, 41.8°F, was greater than the previous maximum for that month, 41.5°F in 1977. All other monthly maximum temperatures and all monthly miminum temperatures at Station 3 in 1980 were within extremes previously recorded.

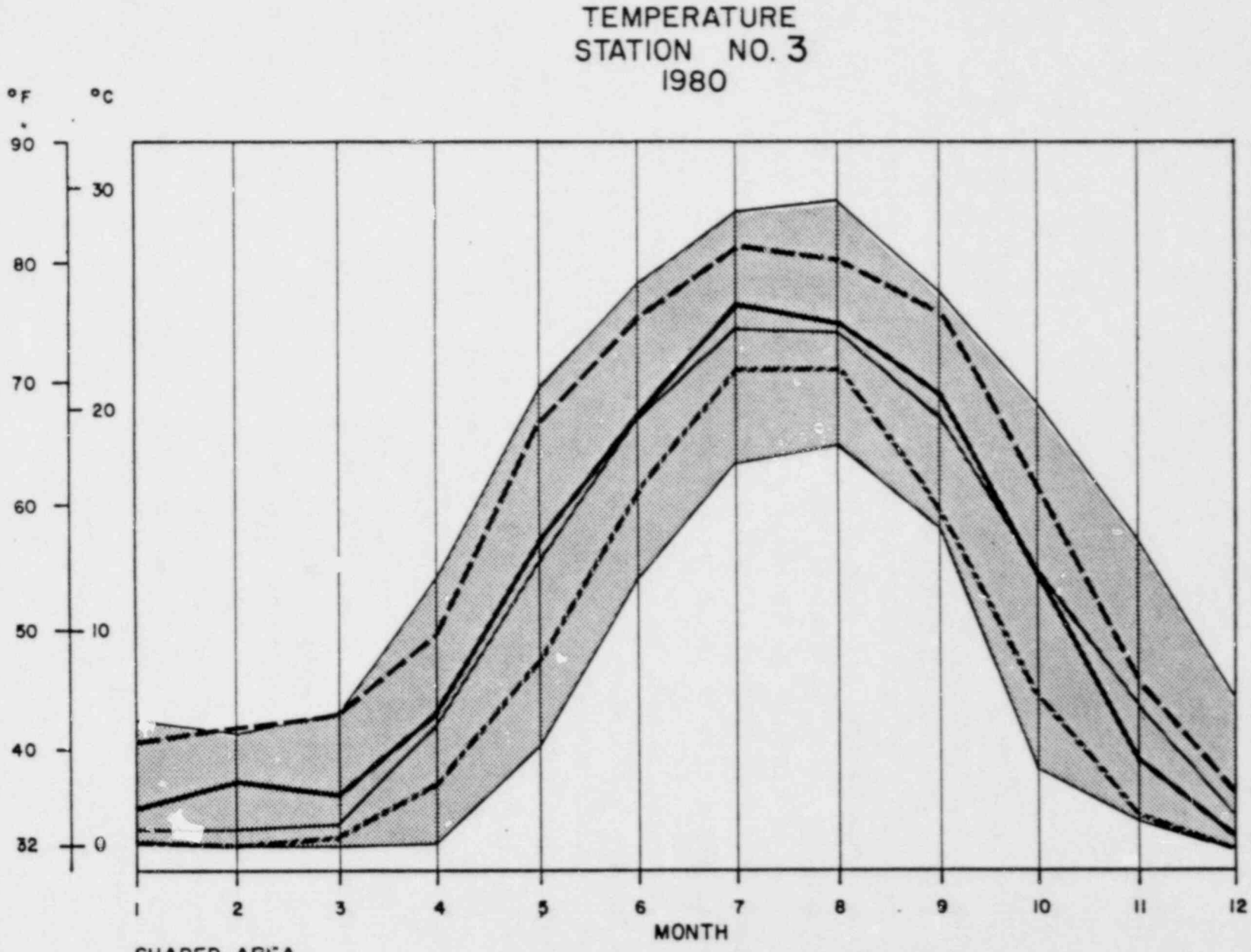

TEMPERATURE
STATION NO. 3
1980
°F
°C
90
80
70
60
50
40
32
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
MONTH
SHADED AREA
Maxima, means and minima
observed in 1968 - 1979.
See text.
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 3.1

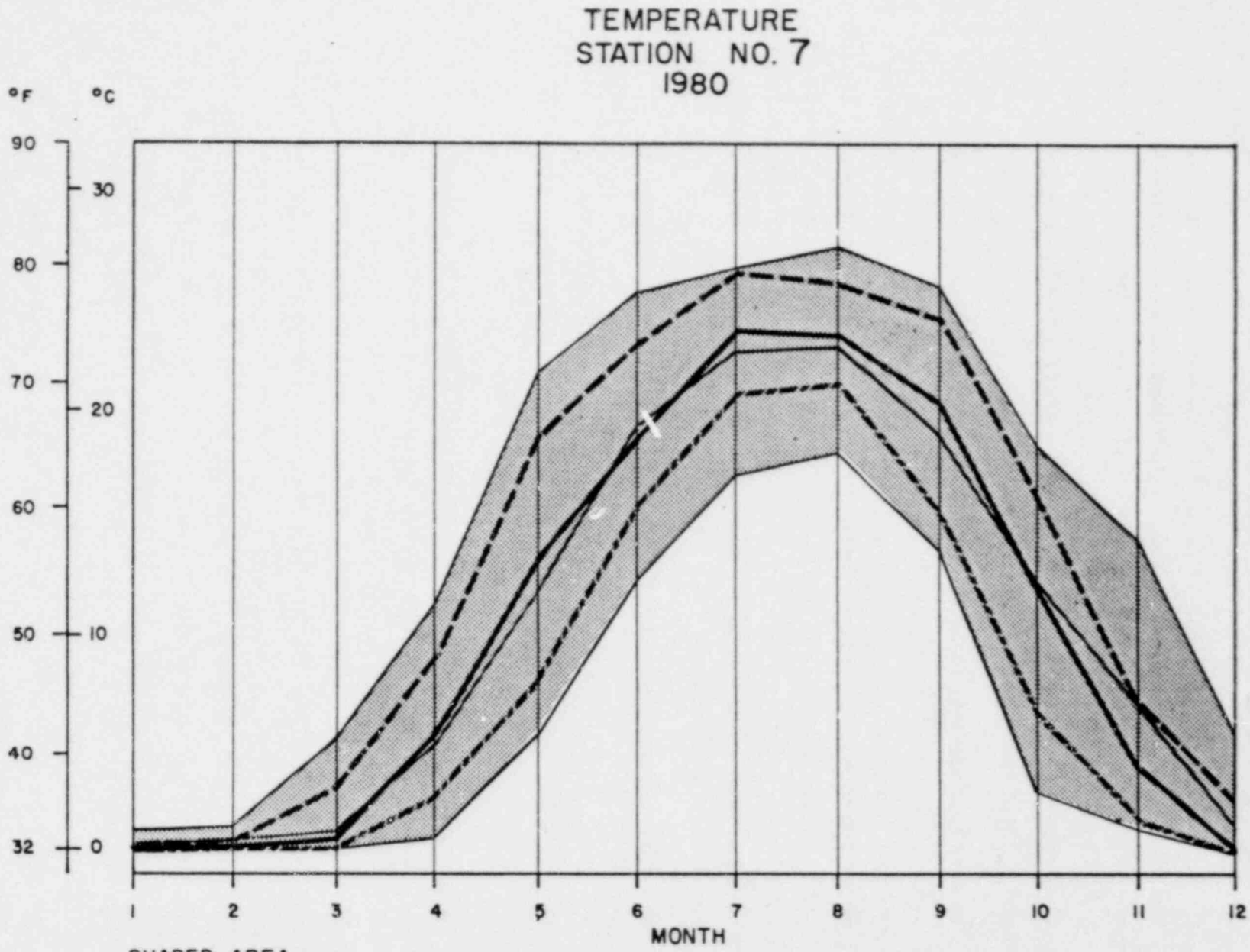

TEMPERATURE
STATION NO. 7
1980
°F
°C
90
80
70
60
50
40
32
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
MONTH
SHADED AREA
Maxima, means and minima
observed in 1970 - 1979
See text.
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 3.2

Monthly mean temperatures in 1980 at the upstream location, Station 7, were higher than the means for the years 1970-1979 during five months – April, May, July, August, and September. All Station 7 monthly means were within extremes of previous years except the December mean of 32.5°F. The lowest previous December mean was 33.3°F in 1972. The hourly maximum and minimum temperatures observed at Station 7 in 1980 were all within extremes recorded in earlier years.

In 1980, Vermont Yankee operated in the open cycle mode of condenser cooling in the periods January 1 through May 15 and December 28 through December 31. Such operation is permitted in the period October 15 through May 15 under thermal effluent limitations set forth in Vermont Yankee's NPDES permit and the revised Technical Specifications of its operating license. These criteria, which define the maximum allowable thermal impact on the Connecticut River, are as follow:

A. The temperature at Monitor 3 during open cycle operaton shall not exceed 65°F;

B. The rate of change of temperature at Monitor 3 shall not exceed 5°F per hour; and

C. The increase in temperature above ambient at Monitor 3 shall not exceed 13.4°F.

The temperature records at Stations 7 and 3 show that these thermal limitations were not exceeded during open cycle operation in 1980. The maximum hourly average temperature observed at Monitor 3 was 57.0°F on May 6. The maximum rate of change of temperature at Monitor 3, the difference between successive hourly average temperatures there, was -2.9°F/hour, observed once in February and once in March. The greatest rate of temperature increase was +2.6°F/hour in January. Tabulations of the hourly rates of change in Monitor 3 temperatures during the months of open cycle operation are given in Table 3.3. These data are summarized, for the dates of open cycle operation, as a frequency distribution in Table 3.4. For the rate of temperature change data during open cycle operation in 1980, three measures of central tendency, the mode, median, and mean, were all 0.0°F.

TABLE 3.4

FREQUENCY DISTRIBUTION OF
RATE OF CHANGE OF TEMPERATURE
AT MONITOR 3 DURING
OPEN CYCLE OPERATION
1980

Rate of Temperature Change °F/hr	JAN	4-29 FEB	MAR	APR	1-15 MAY	28-31 DEC	TOTALS
-2.9		1	1				2
-2.8							
-2.7							
-2.6							
-2.5							
-2.4							
-2.3							
-2.2		1					1
-2.1			1				1
-2.0		2	2				4
-1.9		3	3				6
-1.8		3	2				5
-1.7		1	2				3
-1.6		3	5				8
-1.5	2	3	3				8
-1.4	7	3	2				12
-1.3	2	1	4				7
-1.2	2	5	1				8
-1.1	6	4	3				13
-1.0	6	3	5				14
-0.9	3	5	3				11
-0.8	11	6	4				21
-0.7	9	11	7		1		28
-0.6	18	10	9				37
-0.5	15	20	10	2	1		48
-0.4	16	28	19	1	3		67
-0.3	27	36	15	7	9	1	95
-0.2	79	50	43	31	17	1	221
-0.1	172	76	115	149	75	9	596
0.0	148	83	193	277	130	30	861
+0.1	66	44	89	149	70	10	428
+0.2	35	42	49	53	28	3	210
+0.3	25	43	45	20	14		147
+0.4	18	34	28	5	6	2	93
+0.5	15	24	17		3		59
+0.6	5	16	20		1		42
+0.7	5	18	7		1		31
+0.8	8	13	12				33
+0.9	3	8	4		1		16
+1.0	5	4	8				17
+1.1	3	6	5				14
+1.2	8	4	3				15
+1.3	6	2					8
+1.4	2	1	1				4
+1.5	4	1					5
+1.6	1	1	1				3
+1.7	2		1				3
+1.8	2	1					3
+1.9			1				1
+2.0	1	1					2
+2.1	2	1					3
+2.2	1	1					2
+2.3	2						2
+2.4	1	1					2
+2.5			1				1
+2.6	1						1

The hourly mean Monitor 3 temperatures (Table 3.1) minus the corresponding Monitor 7 temperatures (Table 3.2) are shown for the months of 1980 open cycle operation in Table 3.5. These data are reduced to a frequency distribution of temperature differences, for the dates of open cycle operation, in Table 3.6. The greatest difference observed during 1980 open cycle operation was +10.4°F on March 2 at 1700 and 1800. The mode of these data was +1.6°F, the median was +1.8°F, and the mean increase in temperature above ambient at Station 3 was +2.8°F during open cycle operation in 1980.

TABLE 3.6

FREQUENCY DISTRIBUTION OF DIFFERENCES
IN HOURLY MEAN TEMPERATURES
BETWEEN MONITOR 3 AND MONITOR 7
DURING OPEN CYCLE OPERATION
1980

Hourly Mean ΔT(°F)	JAN	4-29 FEB	MAR	APR	1-15 MAY	28-31 DEC	TOTALS
-1.0 – -0.6			1	2			3
-0.5 – -0.1		2	8	12			22
0.0	10	3	3	7		2	25
+0.1 – +0.5	21	28	52	41	17	29	288
+0.6 – +1.0	14		107	167	117	18	423
+1.1 – +1.5	87	4	128	202	137	8	566
+1.6 – +2.0	199	27	76	131	62		495
+2.1 – +2.5	144	44	49	33	17		287
+2.6 – +3.0	70	30	31		5		136
+3.1 – +3.5	49	29	29		3		110
+3.6 – +4.0	33	33	33		2		101
+4.1 – +4.5	25	32	25				82
+4.6 – +5.0	22	29	18				69
+5.1 – +5.5	21	31	18				70
+5.6 – +6.0	20	34	18				72
+6.1 – +6.5	8	44	14				66
+6.6 – +7.0	10	52	14				76
+7.1 – +7.5	8	46	16				70
+7.6 – +8.0	3	51	21				75
+8.1 – +8.5		42	12				54
+8.6 – +9.0		26	30				56
+9.1 – +9.5		25	16				41
+9.6 – +10.0		12	13				25
+10.1 – +10.5			12				12

TABLE 3.1-1

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JANUARY 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	33.8	33.8	33.9	34.1	34.1	34.0	33.9	34.4	36.2	37.0	35.6	34.8	34.5	34.3	34.4	34.5	34.4	35.9	35.7	34.7	34.3	34.0	33.8	33.7	34.6
2	33.7	33.6	33.6	33.5	33.4	33.3	33.4	34.6	35.2	36.4	37.1	36.3	35.8	35.6	35.5	35.4	35.2	35.1	35.0	35.1	34.5	34.2	34.0	33.9	34.7
3	33.9	33.8	33.7	33.5	33.5	33.9	35.1	37.7	38.5	37.1	36.0	35.5	35.3	35.3	35.2	35.0	34.9	34.8	34.7	34.6	34.4	34.1	33.9	33.7	34.9
4	33.7	33.7	33.6	33.5	33.4	33.3	34.0	36.3	37.5	36.7	35.7	35.1	34.8	34.7	34.6	34.6	34.5	34.4	34.2	34.0	33.9	33.8	33.8	33.8	34.5
5	33.8	33.8	33.8	34.3	34.5	34.4	34.5	34.4	34.4	34.0	33.2	33.0	32.8	32.7	32.5	32.5	32.4	32.5	32.3	32.3	32.2	32.2	32.1	32.1	33.2
6	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.3	32.4	32.5	32.5	32.5	32.7	34.2	34.7	34.2	34.0	33.8	33.5	32.6
7	33.4	33.5	33.6	33.8	34.2	34.7	36.0	37.7	38.0	36.6	35.4	34.8	34.5	34.4	34.5	34.5	34.4	34.3	34.1	33.8	33.6	33.5	33.4	33.5	34.6
8	33.5	33.4	33.3	33.4	33.5	33.8	34.8	37.1	37.8	36.4	35.5	35.0	34.8	34.8	34.7	34.8	34.8	34.7	34.8	34.7	34.7	34.4	34.3	34.3	34.7
9	34.2	34.3	34.4	34.7	35.0	35.5	36.1	37.1	38.4	39.4	39.3	38.7	38.0	37.4	37.0	36.7	36.4	36.2	36.0	35.8	35.7	35.6	35.4	35.3	36.4
10	35.4	35.3	35.2	35.2	35.3	35.6	35.9	36.5	37.4	38.2	37.9	36.8	35.9	35.5	35.1	34.9	34.7	34.6	34.5	34.4	34.3	34.2	34.2	34.1	35.5
11	34.1	34.0	33.9	34.0	34.2	34.6	35.1	36.6	38.6	39.0	38.5	37.1	36.2	35.5	34.7	34.5	34.4	34.3	34.1	33.9	33.8	33.8	33.8	33.8	35.1
12	33.9	33.9	33.9	33.8	34.0	33.8	33.7	33.6	33.6	33.7	33.8	33.9	34.0	34.0	34.1	34.1	34.1	34.0	34.0	33.9	33.8	33.8	33.7	33.7	33.9
13	33.7	33.7	33.6	33.5	33.4	33.4	33.4	33.5	34.3	36.4	36.9	35.5	34.8	34.3	34.2	34.1	33.9	33.8	33.8	33.7	33.6	33.6	33.6	33.6	34.1
14	33.6	33.6	33.5	33.4	33.4	33.5	34.1	35.9	36.5	36.0	35.4	35.0	34.8	34.6	34.5	34.5	34.4	34.3	34.3	34.1	34.0	33.8	33.9	33.8	34.4
15	33.7	33.7	33.7	33.7	33.7	34.0	34.5	35.4	37.1	38.4	37.4	35.9	35.3	34.9	34.6	34.6	34.5	34.2	34.2	34.2	33.9	33.8	33.7	33.6	34.7
16	33.6	33.6	33.7	33.8	33.8	33.9	33.8	34.0	33.8	33.7	34.5	34.9	34.6	34.4	34.4	34.5	34.6	34.4	34.4	34.4	34.4	34.4	34.3	34.2	34.2
17	34.1	34.1	33.9	33.7	33.6	33.7	33.6	33.5	33.5	33.7	34.0	34.1	34.3	34.4	34.6	34.5	34.4	34.4	34.5	34.5	34.3	34.0	33.8	33.7	34.0
18	33.7	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.5	33.7	34.0	34.1	34.2	34.3	34.3	34.3	34.3	34.3	34.2	34.1	33.9	33.9	33.8	33.8	33.9
19	33.7	33.5	33.4	33.2	33.2	33.2	33.2	33.2	33.2	33.3	33.3	33.2	33.3	33.3	33.4	33.4	33.4	33.4	33.5	33.4	33.3	33.3	33.3	33.3	33.3
20	33.4	33.3	33.3	33.4	33.7	34.0	34.4	34.8	35.6	36.9	38.1	37.7	36.4	35.3	34.6	34.2	34.0	33.8	34.2	33.8	33.6	33.5	33.4	33.2	34.5
21	33.2	33.1	33.0	32.8	32.7	32.8	33.1	34.3	36.5	36.4	35.3	34.7	34.5	34.4	34.2	34.1	34.1	34.0	33.9	33.8	33.6	33.5	33.4	33.4	34.0
22	33.3	33.3	33.3	33.3	33.2	33.4	33.6	34.5	36.9	37.0	35.7	34.9	34.4	34.2	34.1	34.0	34.0	34.0	34.0	33.9	33.9	33.9	33.8	33.8	34.2
23	33.8	33.8	34.0	34.2	34.5	34.8	35.2	36.5	37.9	38.0	36.9	35.9	35.1	34.8	34.6	34.4	34.3	34.2	34.1	34.1	34.0	33.8	33.8	33.7	34.8
24	33.5	33.4	33.6	34.1	35.2	36.5	36.7	36.1	35.6	35.1	34.5	34.3	34.2	34.2	34.2	34.4	34.6	34.5	34.6	34.4	34.0	33.9	33.9	33.8	34.6
25	33.7	33.7	33.6	33.7	34.0	34.4	34.9	36.0	37.5	37.7	36.9	36.1	35.5	35.3	35.2	35.0	34.9	34.9	34.9	34.7	34.4	34.3	34.2	34.0	35.0
26	34.1	33.9	33.9	34.2	34.4	34.8	35.2	35.5	35.8	36.2	36.5	36.9	37.3	37.5	37.8	37.8	37.9	38.2	39.0	38.8	37.3	36.2	35.2	34.8	36.2
27	34.6	34.5	34.4	34.2	34.2	34.3	34.5	34.7	35.1	35.6	36.1	36.8	37.5	38.0	38.5	38.7	38.7	38.8	39.0	39.2	39.3	39.4	39.4	39.5	36.9
28	39.7	39.9	40.1	40.1	39.3	38.8	38.3	38.2	37.7	37.5	37.2	36.6	36.0	35.5	35.2	35.0	34.7	34.6	34.4	34.3	34.2	34.2	34.0	33.9	36.6
29	33.8	33.8	33.8	33.8	33.9	34.1	34.5	35.7	37.3	38.1	37.4	36.7	36.1	35.5	35.2	35.2	35.2	35.5	35.8	36.3	35.6	35.0	34.5	34.3	35.3
30	34.1	33.9	33.8	33.8	33.9	34.0	34.2	35.2	36.2	37.6	38.0	37.3	36.9	36.8	36.4	35.8	37.0	37.0	35.6	34.7	34.2	33.9	33.8	33.7	35.3
31	33.6	33.5	33.4	33.5	33.8	34.1	34.3	35.4	37.5	37.2	36.0	35.2	34.9	34.8	34.7	34.7	34.5	33.8	33.2	32.9	32.5	32.4	32.3	32.2	34.2
																								MONTHLY AVERAGE	34.7

TABLE 3.1-2

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

FEBRUARY 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	32.1	32.1	32.0	32.3	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.3	32.3	32.4	32.7	32.6	32.6	32.6	32.4	32.4	32.3	32.3	32.3	32.3	32.3
2	32.2	32.5	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.4	32.6	32.8	32.9	32.8	32.8	32.7	32.8	32.6	32.5	32.5	32.5	32.5	32.5
3	32.5	32.5	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.7	32.5	32.7	32.9	33.1	33.1	33.1	33.0	32.9	32.8	32.8	32.8	32.8	32.8	32.8	32.7
4	32.7	32.7	32.7	32.6	32.6	32.6	32.6	32.6	32.7	32.7	32.7	32.8	32.8	32.8	32.8	32.8	32.7	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.6
5	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.6	34.2	35.5	35.1	34.9	34.8	34.7	34.6	34.6	35.5	37.6	36.5	35.7	35.2	34.9	34.6	34.1
6	34.3	34.4	34.6	35.1	35.4	35.7	36.1	36.9	38.3	37.9	36.3	35.3	35.1	35.3	35.4	35.2	35.0	34.9	35.1	35.4	35.7	36.1	36.5	36.9	35.7
7	37.4	37.8	38.3	38.6	38.8	39.0	39.4	39.6	39.9	40.5	39.4	37.9	37.1	36.9	36.6	37.7	35.7	35.8	35.9	35.0	34.5	34.4	34.2	34.2	37.3
8	33.8	33.6	33.5	33.9	34.4	34.9	35.3	35.8	37.3	39.3	37.4	36.4	36.3	35.8	35.8	35.8	35.6	36.0	38.1	37.2	35.4	34.8	34.6	34.5	35.6
9	34.4	34.4	34.3	34.4	34.7	35.4	35.5	35.8	36.4	37.0	38.1	39.0	39.8	40.3	40.7	41.2	41.3	41.5	41.7	39.5	38.8	38.6	38.0	37.6	37.8
10	37.0	36.7	36.6	36.8	37.0	37.5	38.1	38.4	38.5	39.1	40.0	40.3	40.8	41.2	41.5	41.7	41.8	42.0	41.9	39.0	37.1	36.9	36.6	36.6	38.9
11	35.5	35.0	34.7	34.6	34.7	34.6	35.1	35.3	35.6	36.8	37.4	38.5	39.7	40.1	40.5	40.5	40.4	40.2	40.0	39.3	37.4	35.6	34.9	34.5	37.1
12	34.4	34.3	34.2	34.1	34.0	34.1	34.3	34.5	36.9	38.1	39.1	39.7	40.0	40.0	40.1	40.1	40.2	40.0	39.5	38.0	36.3	35.5	35.1	35.0	37.0
13	34.9	34.7	34.5	34.5	34.5	34.7	35.1	36.0	36.8	38.1	39.2	39.5	40.0	40.3	40.5	40.5	40.4	40.1	39.8	39.7	39.1	37.9	37.0	36.5	37.7
14	36.2	36.0	35.8	35.7	35.7	36.0	36.3	36.7	37.6	38.4	39.0	39.7	40.4	40.8	40.8	40.8	40.6	40.4	40.2	40.0	39.2	38.5	37.9	37.4	38.3
15	36.9	36.5	36.3	36.3	36.4	36.7	37.0	37.7	38.4	39.2	39.9	40.5	40.9	41.2	41.4	41.4	41.2	40.8	40.5	40.2	39.9	39.7	39.5	39.3	39.1
16	39.3	39.4	39.4	39.7	39.8	40.0	40.2	40.2	40.4	40.4	40.6	40.8	41.1	41.1	41.2	41.2	41.1	41.0	40.6	40.7	40.8	40.8	40.7	40.4	40.5
17	40.0	39.7	39.2	39.1	39.1	39.0	39.2	39.3	39.4	39.7	40.0	40.4	40.9	41.4	41.6	41.8	41.7	41.4	41.1	41.0	41.2	41.2	40.8	40.4	40.4
18	40.2	39.5	39.3	39.0	38.8	38.4	38.4	38.5	38.8	39.2	39.9	40.6	41.2	41.5	41.5	41.4	41.1	40.7	40.3	40.3	40.5	40.4	40.2	40.0	40.0
19	39.7	39.3	39.1	38.9	38.9	38.9	39.2	39.3	39.5	39.9	40.2	40.7	41.3	41.9	42.0	41.4	39.5	37.9	36.5	35.3	34.6	34.2	34.0	33.9	38.6
20	33.8	33.7	33.7	33.6	33.6	33.6	34.1	35.3	36.0	36.3	36.4	36.7	37.1	37.8	38.3	38.6	38.7	37.5	36.1	34.7	34.1	33.8	33.7	33.6	35.4
21	33.6	33.6	33.4	33.4	33.7	34.0	34.5	35.2	36.0	37.0	38.1	39.0	39.8	40.7	41.1	41.4	41.6	41.8	41.8	41.7	41.6	41.1	40.4	39.9	38.1
22	39.5	39.0	39.0	38.6	38.2	38.1	37.9	37.8	37.8	38.1	38.2	38.2	38.2	38.2	38.3	38.4	38.4	38.5	38.5	38.4	38.1	38.0	38.0	38.1	38.3
23	38.2	38.3	38.5	38.8	38.9	38.9	38.9	38.9	38.9	38.8	38.7	38.8	38.8	38.0	37.3	36.9	36.7	36.4	36.2	37.1	37.8	37.9	37.8	37.6	38.0
24	37.3	36.9	36.8	36.9	37.1	37.4	37.8	38.2	38.6	39.0	39.5	40.0	40.4	40.8	41.1	41.5	41.6	41.5	41.3	41.4	41.7	40.8	40.2	39.7	39.5
25	39.3	39.2	38.9	38.4	38.1	38.0	38.5	39.1	39.8	40.2	40.5	40.4	40.4	40.5	40.4	39.8	39.3	39.2	39.1	39.0	38.5	37.3	36.1	35.7	39.0
26	35.6	35.6	35.4	35.2	35.1	35.1	35.4	36.0	36.8	37.9	38.9	39.5	39.9	40.1	40.0	39.8	39.6	39.3	39.3	39.7	39.8	38.8	37.7	37.0	37.8
27	36.5	36.1	35.9	35.9	36.0	36.2	36.5	37.0	37.7	38.5	39.4	39.8	40.0	40.0	39.9	39.4	39.1	38.6	38.0	37.3	36.0	35.2	34.8	34.6	37.4
28	34.5	34.4	34.2	34.2	34.2	34.4	34.7	35.7	37.5	38.3	38.0	37.6	37.3	37.5	37.7	37.9	37.8	37.4	37.1	37.3	38.1	38.3	38.1	37.6	36.7
29	37.1	36.8	36.5	36.2	36.0	35.9	35.8	35.8	35.8	36.3	36.8	37.4	38.1	38.8	39.6	40.3	41.0	39.4	37.4	35.9	35.0	34.6	34.3	34.2	36.9
																						MONTHLY AVERAGE			37.1

TABLE 3.1-3

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

MARCH 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	34.0	33.9	33.8	33.8	33.7	33.9	34.3	34.7	35.2	35.7	36.5	37.7	38.9	39.3	39.6	39.9	39.8	39.4	39.1	39.0	39.0	39.2	39.2	39.5	37.0
2	39.7	39.8	39.9	40.0	40.0	40.0	40.1	40.1	40.0	40.0	40.4	40.7	41.1	41.5	41.9	42.2	42.4	42.4	42.3	42.2	42.1	41.9	41.7	41.5	41.0
3	41.3	41.1	40.9	40.8	40.7	40.7	40.7	40.7	41.0	41.3	41.7	42.1	42.4	42.4	42.0	41.6	41.2	40.6	39.6	37.9	36.3	35.3	34.7	34.3	40.1
4	34.1	34.0	33.9	33.9	33.9	34.1	34.5	35.0	36.0	36.9	38.0	39.0	39.4	39.7	39.7	39.5	39.5	39.4	38.7	37.5	35.8	35.1	34.9	34.7	36.6
5	34.7	34.6	34.6	34.9	35.4	35.9	36.4	37.0	38.1	38.9	39.7	39.9	38.0	36.4	35.3	35.1	35.2	35.6	35.4	34.6	34.1	33.9	33.9	33.9	35.9
6	33.8	33.8	33.9	34.2	34.5	34.9	35.5	36.3	37.1	38.1	38.9	39.6	40.8	41.1	41.1	41.1	40.9	40.5	40.3	40.5	38.7	37.8	37.4	37.0	37.8
7	36.4	35.9	35.6	35.6	35.7	36.0	36.5	37.0	37.6	38.2	38.9	39.4	40.3	41.0	41.6	42.0	42.3	42.3	42.4	41.7	38.8	36.8	35.4	34.6	38.4
8	34.3	34.2	34.3	34.3	34.2	34.1	34.1	34.4	34.8	35.9	38.3	38.6	38.1	37.7	37.3	36.7	36.1	35.9	36.3	38.2	39.0	38.3	37.0	35.9	36.2
9	35.4	35.2	35.1	35.1	34.9	34.8	34.8	35.0	35.4	35.9	36.6	37.3	38.0	38.6	39.2	40.0	40.6	41.0	41.3	41.8	39.9	38.4	37.4	36.8	37.4
10	36.5	36.1	35.8	35.6	35.5	35.5	35.7	36.2	37.2	38.3	39.3	40.1	40.7	40.9	41.1	41.1	40.7	39.9	38.1	36.0	34.9	34.4	34.3	34.2	37.4
11	34.1	34.0	33.9	34.3	35.0	36.0	36.7	37.6	36.6	35.1	34.6	34.3	34.2	34.6	35.3	36.3	37.5	38.2	36.7	35.1	34.3	34.0	33.8	33.7	35.2
12	33.7	33.6	33.4	33.4	33.7	34.3	34.8	35.4	35.9	36.2	36.5	36.9	37.1	37.5	37.7	38.0	38.6	38.9	39.1	38.4	36.5	35.1	34.5	34.1	36.0
13	34.0	33.9	34.0	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.3	34.6	35.2	35.6	36.6	37.4	38.0	38.3	38.3	37.9	36.6	35.3	34.6	34.2	35.3
14	34.0	33.9	33.8	33.9	34.8	35.1	35.5	35.8	35.8	35.7	35.7	36.0	36.3	36.4	36.7	37.0	37.3	37.3	37.4	36.9	35.6	34.7	34.4	34.3	35.6
15	34.1	34.0	34.0	33.9	33.8	33.7	33.9	34.2	34.8	36.5	37.9	37.6	36.6	36.1	36.1	36.0	35.7	35.5	35.7	37.3	37.0	36.4	36.0	35.6	35.5
16	35.1	34.7	34.4	34.4	34.7	35.3	35.7	35.9	36.2	36.7	37.1	37.7	38.2	38.8	39.2	39.8	40.2	40.5	40.8	40.9	41.0	41.1	41.2	41.2	38.0
17	41.2	41.0	40.9	40.9	40.9	40.9	40.9	41.0	41.2	41.5	41.7	42.0	42.1	42.1	42.0	41.7	41.0	39.4	37.4	35.8	34.9	34.4	34.2	34.1	39.7
18	34.1	34.1	34.2	34.7	35.0	35.2	34.8	34.3	34.0	33.8	33.8	33.8	33.8	33.9	34.1	34.1	33.9	33.8	33.5	33.4	33.2	33.1	33.1	33.1	34.0
19	33.0	33.0	33.0	33.0	33.0	32.9	32.9	33.0	33.0	33.0	33.1	33.3	33.4	33.5	33.6	33.6	33.5	33.4	33.3	33.3	33.2	33.2	33.2	33.1	33.2
20	33.1	33.1	33.1	33.1	33.1	33.0	33.1	33.2	33.4	33.6	33.7	33.8	34.0	34.0	34.1	34.2	34.2	34.0	33.9	33.7	33.6	33.5	33.5	33.5	33.6
21	33.4	33.3	33.2	33.2	33.2	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.2	33.2	33.2	33.1	33.0	32.9	32.8	32.6	32.5	33.2
22	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.6	32.7	32.8	33.0	33.1	33.1	33.0	33.0	33.0	33.0	33.1	33.1	33.2	32.8
23	33.2	33.2	33.2	33.2	33.3	33.3	33.4	33.4	33.4	33.5	33.7	33.8	34.0	34.0	34.0	34.2	34.3	34.2	34.2	34.1	33.9	33.9	33.9	34.1	33.7
24	34.2	34.2	34.3	34.3	34.4	34.4	34.5	34.5	34.4	34.5	34.7	34.9	35.2	35.3	35.5	35.5	35.4	35.4	35.2	35.1	34.9	35.0	35.0	35.0	34.8
25	35.0	35.1	35.1	35.0	34.9	34.8	34.8	34.8	34.9	35.1	35.3	35.5	35.5	35.5	35.4	35.2	35.0	34.8	34.7	34.6	34.5	34.5	34.6	34.5	35.0
26	34.5	34.4	34.3	34.2	34.2	34.1	34.1	34.1	34.0	34.1	34.2	34.4	34.5	34.5	34.6	34.7	34.6	34.6	34.7	34.8	34.9	35.0	35.1	35.1	34.5
27	35.1	35.1	35.0	35.0	34.9	34.8	34.8	34.8	34.7	34.8	34.8	35.0	35.1	35.3	35.4	35.7	35.6	35.6	35.7	35.6	35.6	35.6	35.6	35.6	35.2
28	35.6	35.7	35.7	35.7	35.8	35.9	35.9	35.9	36.0	36.1	36.3	36.6	36.9	37.1	37.2	37.3	37.3	37.3	37.3	37.2	37.1	37.0	36.9	36.9	36.5
29	36.8	36.8	36.7	36.8	36.8	36.7	36.6	36.6	36.5	36.5	36.5	36.6	36.6	36.5	36.4	36.2	36.1	36.0	36.0	36.2	36.5	36.7	36.9	37.1	36.5
30	37.2	37.3	37.3	37.4	37.4	37.4	37.4	37.3	37.3	37.3	37.5	37.6	37.7	37.9	37.9	37.9	37.8	37.7	37.5	37.6	37.5	37.4	37.3	37.1	37.5
31	36.8	36.7	36.7	36.6	36.6	36.5	36.5	36.5	36.5	36.6	36.6	36.7	36.9	37.0	37.1	37.1	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	36.9
																								MONTHLY AVERAGE	36.1

TABLE 3.1-4

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

APRIL 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	37.2	37.2	37.2	37.2	37.1	37.0	36.9	36.9	36.9	37.0	37.2	37.4	37.6	37.7	37.9	38.0	38.1	38.1	38.0	37.9	37.9	37.9	37.9	38.0	37.5
2	38.1	38.2	38.3	38.4	38.4	38.4	38.3	38.3	38.4	38.4	38.5	38.6	38.7	38.9	39.0	39.0	39.2	39.3	39.4	39.4	39.3	39.3	39.2	39.2	38.8
3	39.2	39.1	39.1	39.2	39.2	39.1	39.1	39.1	39.1	39.1	39.2	39.4	39.6	39.9	40.1	40.4	40.5	40.5	40.5	40.4	40.4	40.4	40.4	40.4	39.7
4	40.3	40.5	40.6	40.7	40.8	40.9	40.9	40.9	40.9	40.8	40.8	40.9	40.8	40.8	40.8	41.2	40.7	40.7	40.5	40.4	40.1	39.8	39.6	39.5	40.6
5	39.5	39.4	39.3	39.2	39.2	39.2	39.1	39.1	39.0	39.0	39.0	39.1	39.1	39.1	39.3	39.4	39.6	39.7	39.7	39.7	39.6	39.5	39.4	39.2	39.3
6	39.1	38.9	38.9	38.7	38.7	38.6	38.5	38.4	38.4	38.4	38.5	38.7	38.9	39.0	39.2	39.3	39.4	39.5	39.6	39.6	39.5	39.5	39.6	39.6	39.0
7	39.7	39.7	39.8	39.8	39.8	39.9	39.9	39.9	39.9	40.1	40.2	40.5	40.8	41.1	41.2	41.2	41.3	41.3	41.2	41.2	41.1	41.1	41.0	41.0	40.5
8	41.0	41.0	41.1	41.2	41.2	41.3	41.3	41.4	41.8	41.5	41.6	41.6	41.6	41.6	41.7	41.7	41.7	41.8	42.1	41.8	41.7	41.8	41.7	41.6	41.5
9	41.5	41.5	41.4	41.3	41.3	41.2	41.0	41.0	40.9	40.9	41.0	41.0	41.1	41.3	41.4	41.5	41.6	41.7	41.7	41.8	41.7	41.7	41.7	41.7	41.4
10	41.6	41.5	41.3	41.2	41.3	41.3	41.3	41.1	40.6	40.5	40.3	40.4	40.4	40.5	40.5	40.4	40.3	40.2	40.0	39.9	39.7	39.5	39.4	39.3	40.5
11	39.4	39.5	39.5	39.5	39.4	39.4	39.5	39.5	39.5	39.5	39.6	39.7	39.8	39.9	40.0	40.0	40.0	40.0	40.1	40.1	40.2	40.2	40.3	40.3	39.8
12	40.3	40.4	40.4	40.5	40.5	40.5	40.5	40.5	40.4	40.4	40.4	40.5	40.3	40.2	40.2	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.3	40.3	40.4
13	40.2	40.1	40.1	40.1	40.1	40.1	40.0	40.0	40.1	40.2	40.4	40.6	40.8	40.9	41.1	41.3	41.3	41.7	41.4	41.4	41.3	41.3	41.2	41.2	40.7
14	41.2	41.1	41.1	41.0	41.0	41.0	41.0	41.0	41.0	41.2	41.1	41.0	41.0	40.9	40.9	41.0	40.9	40.9	40.9	40.9	40.9	40.9	41.0	40.8	41.0
15	40.8	40.9	40.9	40.8	40.8	40.7	40.7	40.7	40.7	40.8	40.9	41.2	41.5	41.8	41.9	42.0	42.3	42.5	42.6	42.5	42.5	42.5	42.5	42.5	41.5
16	42.5	42.4	42.4	42.3	42.3	42.2	42.1	42.1	42.0	42.0	42.1	42.3	42.3	42.4	42.4	42.6	42.6	42.5	42.4	42.3	42.2	42.2	42.1	42.1	42.3
17	41.9	41.8	41.8	41.7	41.5	41.3	41.2	41.0	41.0	41.0	41.2	41.2	41.4	41.5	41.7	41.8	41.9	41.9	41.9	41.9	41.9	41.9	41.8	41.8	41.6
18	41.7	41.7	41.7	41.8	41.9	41.9	41.9	41.9	41.8	41.8	41.8	41.8	41.7	41.6	41.6	41.7	41.8	41.8	41.8	41.8	41.8	41.9	41.9	41.8	41.8
19	41.9	41.9	41.9	42.0	42.0	42.0	42.1	42.1	42.2	42.3	42.5	42.6	42.7	42.8	42.9	43.0	43.0	43.0	42.9	43.0	42.9	42.9	42.9	42.8	42.5
20	42.8	42.8	42.8	42.7	42.8	42.9	43.0	43.1	43.3	43.6	43.8	44.2	44.4	44.7	44.8	44.8	44.8	44.7	44.6	44.6	44.4	44.5	44.4	44.4	43.9
21	44.5	44.5	44.5	44.5	44.5	44.4	44.4	44.4	44.4	44.6	44.9	45.2	45.5	45.9	46.1	46.3	46.4	46.3	46.2	45.9	45.7	45.6	45.6	45.7	45.2
22	SYSTEM INOPERATIVE																								
23	46.6	46.7	46.7	46.8	46.7	46.7	46.8	46.7	46.3	46.0	46.0	46.0	46.1	46.3	46.6	46.9	47.1	47.3	47.3	47.4	47.2	47.1	47.0	46.9	46.7
24	46.8	46.7	46.6	46.5	46.4	46.4	46.4	46.5	46.6	46.7	46.9	47.0	47.3	47.6	47.9	48.1	48.3	48.3	48.3	48.1	48.0	47.9	47.8	47.8	47.3
25	47.7	47.7	47.8	47.9	47.9	47.8	47.7	47.5	47.4	47.3	47.2	47.2	47.2	47.3	47.3	47.5	47.6	47.6	47.7	47.7	47.7	47.6	47.5	47.5	47.6
26	47.5	47.5	47.5	47.4	47.4	47.4	47.4	47.3	47.3	47.4	47.5	47.7	47.9	48.2	48.4	48.6	48.6	48.7	48.6	48.6	48.6	48.6	48.6	48.6	48.0
27	48.7	48.7		48.8	48.7	48.8	48.8	48.8	48.7	48.8	48.9	49.0	49.1	49.2	49.2	49.3	49.4	49.4	49.4	49.4	49.2	49.1	49.0	49.0	49.0
28	48.9	48.8	48.8	48.7	48.6	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.6	48.5	48.4	48.3	48.1	48.0	47.9	47.7	47.5	48.5
29	47.3	47.1	47.0	46.8	46.7	46.7	46.6	46.5	46.6	46.6	46.7	46.7	46.7	46.7	46.7	46.7	46.6	46.6	46.6	46.5	46.4	46.3	46.3	46.2	46.6
30	46.1	46.1	46.1	46.0	46.0	46.0	46.1	46.0	46.0	46.1	46.1	46.2	46.3	46.5	46.7	46.9	47.0	47.1	47.2	47.1	47.0	47.0	47.0	47.0	46.5
																							MONTHLY AVERAGE		42.7

TABLE 3.1-5

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YA[illegible] SAMPLE STATION NO [illegible]

MAY 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	47.9	47.8	47.7	47.6	47.6	47.7	47.7	47.4
2	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.6	47.6	47.8	48.0	48.3	48.6	48.8	49.2	49.4	49.6	49.8	49.8	49.9	49.8	49.5	49.5	49.5	48.6
3	49.5	49.6	49.6	49.6	49.6	49.5	49.3	49.3	49.3	49.4	49.7	50.0	50.4	50.8	51.1	51.5	51.6	51.7	51.7	51.9	51.9	51.6	51.6	51.5	50.5
4	51.3	51.4	51.4	51.4	51.5	51.5	51.6	51.6	51.6	51.7	51.9	52.0	52.1	52.4	52.7	52.6	52.6	52.7	52.7	52.6	52.6	52.6	52.6	52.6	52.1
5	52.5	52.5	52.4	52.5	52.5	52.6	52.6	52.8	53.2	53.3	53.8	54.4	55.3	55.5	56.0	56.2	55.9	55.2	54.8	54.6	54.1	54.0	54.0	54.0	53.9
6	54.1	54.1	54.2	54.3	54.2	54.3	54.5	54.6	54.7	55.4	55.9	56.3	56.6	56.7	57.0	56.8	56.5	56.1	55.8	55.7	55.7	55.6	55.7	55.9	55.4
7	56.1	56.3	56.2	56.1	55.8	55.7	55.5	55.6	55.8	55.9	56.0	55.9	55.9	55.9	56.1	56.3	56.4	56.6	56.8	56.9	56.9	56.9	56.8	56.7	56.2
8	56.4	56.2	56.0	55.9	55.7	55.4	55.2	55.0	55.0	55.0	55.1	55.2	55.3	55.3	55.3	55.3	55.3	55.3	55.2	55.1	55.0	55.0	55.0	55.0	55.3
9	55.1	55.1	55.1	55.1	55.1	54.9	54.9	54.5	54.4	54.4	54.4	54.3	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.0	53.9	53.8	53.7	53.6	54.4
10	53.5	53.4	53.4	53.3	53.2	53.2	53.2	53.2	53.2	53.3	53.4	53.6	53.8	54.1	54.2	54.3	54.3	54.2	54.1	54.0	53.8	53.5	53.3	53.2	53.6
11	53.0	52.9	52.8	52.6	52.5	52.5	52.4	52.4	52.4	52.4	52.6	52.8	52.9	53.0	53.0	52.9	52.9	52.8	52.8	52.8	52.7	52.6	52.5	52.4	52.7
12	52.4	52.3	52.3	52.2	52.2	52.1	52.1	52.1	52.0	52.2	52.3	52.6	52.8	53.2	53.4	53.5	53.8	53.9	53.9	53.8	53.8	53.9	53.9	53.8	52.9
13	53.8	53.8	53.8	53.8	53.9	53.9	54.0	54.0	54.0	54.0	54.0	54.1	54.1	54.2	54.2	54.2	54.2	54.3	54.4	54.5	54.6	54.5	54.4	54.3	54.1
14	54.1	54.0	53.9	53.9	53.8	53.8	53.7	53.7	53.7	53.8	53.8	53.9	54.0	54.1	54.3	54.4	54.4	54.4	54.5	54.5	54.6	54.6	54.6	54.5	54.1
15	54.4	54.4	54.4	54.4	54.3	54.3	54.2	54.3	54.3	54.4	54.6	54.7	54.7	54.6	54.6	54.6	54.6	54.5	54.4	54.3	54.2	54.1	54.0	53.9	54.4
16	53.8	53.7	53.6	53.6	53.5	53.4	53.4	53.3	53.4	53.4	53.6	53.8	54.1	54.4	54.6	54.8	55.0	55.1	55.1	54.9	54.8	54.7	54.5	54.6	54.1
17	54.4	54.4	54.3	54.3	54.3	54.2	54.2	54.1	54.1	54.2	54.4	54.7	55.0	55.3	55.7	55.9	56.2	56.4	56.4	56.3	56.1	56.0	56.0	56.1	55.1
18	56.1	56.3	56.4	56.3	56.3	56.3	56.3	56.4	56.5	56.5	56.4	56.2	56.3	56.3	56.4	56.4	56.4	56.4	56.4	56.4	56.3	56.3	56.2	56.0	56.3
19	55.9	56.1	56.3	56.3	56.3	56.3	56.4	56.3	56.0	56.1	56.2	56.3	56.3	56.3	56.4	56.6	56.8	57.0	57.2	57.3	57.2	57.1	57.0	56.9	56.5
20	56.6	56.4	56.3	56.2	56.2	56.2	56.2	56.2	56.3	56.4	56.6	56.8	57.1	57.4	57.7	57.9	58.1	58.3	58.4	58.4	58.2	58.1	58.0	57.8	57.2
21	57.7	57.6	57.6	57.7	57.7	57.8	57.8	57.8	57.9	57.9	57.9	57.9	57.9	57.9	57.8	57.8	57.8	57.8	57.9	57.9	58.0	58.0	58.1	58.2	57.8
22	58.3	58.3	58.2	58.6	58.7	58.8	58.3	58.0	57.8	57.8	57.8	57.9	58.2	58.4	58.7	58.9	59.1	59.3	59.4	59.4	59.3	59.2	59.1	59.1	58.6
23	59.0	59.0	58.9	58.9	58.8	58.8	58.8	58.8	58.8	59.0	59.2	59.6	60.0	60.3	60.7	61.1	61.4	61.5	61.6	61.7	61.7	61.6	61.6	61.5	60.1
24	61.3	61.3	61.2	61.2	61.2	61.1	61.0	60.9	60.8	60.8	60.9	61.1	61.3	61.6	61.8	62.1	62.3	62.5	62.7	62.7	62.7	62.8	62.9	63.2	61.7
25	63.3	63.4	63.4	63.4	63.5	63.5	63.7	63.9	64.2	64.0	63.8	63.9	64.2	65.2	65.7	66.0	66.1	66.1	66.0	65.4	64.9	64.6	64.3	64.5	64.5
26	64.8	64.8	64.6	64.6	64.7	64.7	64.6	64.4	64.4	64.7	65.0	64.8	64.9	65.5	65.8	65.8	65.9	65.9	65.9	65.8	65.3	64.5	64.5	64.8	65.0
27	64.8	64.6	64.4	64.5	64.6	64.5	64.3	63.7	63.5	63.5	63.6	63.7	63.9	64.2	64.5	64.9	65.6	65.7	65.5	65.2	65.0	64.9	64.7	64.6	64.5
28	64.8	64.8	64.7	64.3	64.3	64.4	64.3	64.1	64.0	63.9	63.8	64.0	64.2	64.5	64.7	65.0	65.2	65.6	65.7	65.6	65.4	65.2	65.2	65.4	64.7
29	65.4	65.2	65.1	65.0	65.0	64.9	64.8	64.7	64.6	64.5	64.2	64.2	64.4	64.7	64.9	65.2	65.5	65.9	66.3	66.4	66.3	65.8	65.6	65.9	65.2
30	65.8	65.4	65.5	65.6	65.7	65.7	65.9	65.5	65.0	64.9	64.9	64.8	64.9	65.1	65.1	65.3	65.2	65.1	65.2	65.8	66.0	66.0	66.1	66.1	65.4
31	65.9	65.7	65.5	65.5	65.6	65.6	65.6	66.0	66.1	65.9	65.6	65.4	65.5	66.0	66.4	66.8	67.0	67.1	67.0	67.0	66.7	66.5	66.5	66.5	66.1
																								MONTHLY AVERAGE	57.1

TABLE 3.1-6

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 5

JUNE 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	66.5	66.4	66.3	66.3	66.3	66.4	66.7	66.8	66.8	67.1	67.2	67.4	68.0	68.6	68.9	69.1	69.3	69.2	69.0	68.8	68.6	68.5	68.6	68.7	67.7
2	68.5	68.2	68.0	68.3	68.5	68.4	68.5	68.3	67.8	67.3	67.1	67.0	66.8	66.6	66.5	66.4	66.4	66.3	66.2	66.0	65.9	65.8	65.8	65.9	67.1
3	66.5	66.7	66.8	66.8	66.9	67.0	67.4	66.9	66.0	65.8	65.8	65.9	66.0	66.0	66.0	66.1	66.1	65.9	65.8	65.8	65.9	65.7	65.9	66.7	66.3
4	66.2	65.7	65.7	65.7	65.8	65.8	65.8	65.9	66.0	66.1	66.3	66.6	66.9	67.1	67.1	67.1	67.0	67.0	66.8	66.6	66.5	66.4	66.3	66.3	66.4
5	66.2	66.1	66.0	65.9	65.8	65.7	65.6	65.5	65.5	65.5	65.6	65.7	65.8	66.0	66.1	66.3	66.5	66.5	66.5	66.4	66.3	66.2	66.1	66.0	66.0
6	65.9	65.9	65.8	65.6	65.5	65.3	65.2	65.2	65.1	65.0	65.0	65.1	65.3	65.4	65.5	65.6	65.6	65.6	65.5	65.4	65.2	65.1	65.0	64.9	65.4
7	64.9	65.5	66.3	66.3	66.1	66.2	66.4	66.5	66.6	65.3	64.6	64.6	64.7	64.7	64.6	64.7	64.9	65.4	65.8	65.7	65.2	64.9	65.0	65.6	65.4
8	65.6	65.5	65.5	65.6	65.6	65.7	65.8	65.8	65.6	64.8	64.7	64.6	64.5	64.4	64.7	64.7	64.8	64.9	64.9	64.8	64.4	64.2	64.0	63.8	65.0
9	63.6	63.5	64.1	64.3	64.7	65.0	65.1	64.7	63.2	62.7	62.7	62.7	62.9	63.0	63.1	63.3	63.4	63.5	63.6	63.5	63.4	63.2	63.2	63.1	63.6
10	63.1	63.2	64.0	64.5	64.6	64.7	64.9	65.0	63.6	63.0	63.0	62.9	63.0	63.0	63.0	63.0	63.1	62.9	62.8	62.7	62.5	62.4	62.3	62.2	63.3
11	62.2	63.4	64.2	64.3	64.3	64.3	64.4	62.9	61.7	61.4	61.4	61.4	61.5	61.6	61.6	61.7	61.8	61.9	62.0	62.1	61.8	61.7	61.6	61.4	62.4
12	61.5	62.5	63.1	63.2	63.3	63.3	61.7	61.0	61.1	61.2	61.4	61.6	61.8	62.1	62.3	62.6	62.7	62.9	63.5	63.7	63.7	63.8	64.0	64.3	62.6
13	64.9	65.1	65.1	65.1	65.1	65.1	65.2	65.2	63.2	62.2	62.2	62.3	62.4	62.6	62.6	62.6	62.6	62.6	63.1	64.0	64.2	64.0	63.7	63.5	63.7
14	63.3	63.1	63.1	63.2	63.1	63.1	63.2	63.2	63.4	63.4	63.2	63.5	64.0	64.9	65.4	65.5	65.4	65.3	65.2	64.9	64.7	64.5	64.3	64.1	64.0
15	63.9	63.7	63.4	63.3	63.4	63.4	63.6	64.0	64.5	65.3	65.9	65.8	66.3	66.5	66.6	66.4	66.5	66.2	65.8	65.4	65.5	65.5	65.6	65.9	65.1
16	66.4	66.7	67.0	67.1	67.3	67.8	66.9	66.3	66.1	66.1	65.8	65.3	65.1	64.9	64.8	64.8	65.0	65.1	65.2	65.0	64.8	64.7	64.6	64.5	65.7
17	64.3	64.5	65.6	66.1	66.2	66.3	66.5	66.6	64.7	64.1	64.2	64.4	64.6	64.9	65.2	65.4	65.7	65.9	65.9	66.2	65.7	65.3	65.4	66.0	65.4
18	66.0	65.9	65.9	66.0	65.9	65.9	66.0	65.9	65.4	65.2	65.4	65.7	65.9	66.0	66.1	66.0	65.8	65.8	65.9	66.0	66.0	66.1	66.3	66.9	65.9
19	66.9	66.8	66.8	66.8	66.9	67.0	67.1	67.4	66.6	66.4	66.7	66.9	67.3	67.5	67.8	68.0	68.7	69.1	69.0	68.8	68.1	67.4	67.2	67.3	67.4
20	67.3	67.2	67.1	67.1	67.2	67.3	67.5	67.6	66.9	66.6	66.6	66.7	66.6	66.6	66.6	66.9	67.4	67.4	67.3	67.3	67.3	67.2	67.1	67.2	67.1
21	67.3	67.2	67.2	67.2	67.2	67.2	67.3	67.5	67.6	67.7	67.2	66.9	67.1	67.8	68.3	68.5	68.4	68.5	68.4	68.3	68.2	68.1	68.0	67.9	67.7
22	67.8	67.8	67.7	67.8	68.0	68.1	68.3	68.8	69.3	69.8	70.4	70.9	71.2	71.3	71.6	71.7	72.0	71.4	71.0	70.7	69.9	69.0	69.1	69.7	69.7
23	69.8	69.9	69.9	69.9	69.8	69.8	70.0	70.2	69.2	68.5	68.6	69.0	69.4	69.7	69.5	70.1	71.3	71.2	70.2	69.9	70.1	70.1	70.1	69.9	69.8
24	69.8	69.6	69.5	69.5	69.6	69.7	70.0	70.3	70.4	70.3	70.4	70.5	70.5	70.6	70.6	71.0	71.8	72.3	72.5	72.4	72.2	72.1	71.9	71.7	70.8
25	71.5	71.4	71.3	71.2	71.1	71.0	71.0	71.1	71.3	72.0	71.6	71.5	71.9	72.0	71.9	71.6	71.5	71.8	72.3	72.4	72.2	72.0	71.9	71.8	71.6
26	71.7	71.6	71.5	71.5	71.5	71.4	71.4	71.5	71.6	71.8	71.3	71.1	71.5	71.8	72.2	72.6	72.8	72.9	72.8	72.7	72.6	72.7	72.7	72.6	72.0
27	72.5	72.3	72.2	72.1	72.0	71.9	71.9	72.0	72.2	72.0	72.2	72.7	73.0	73.3	73.9	74.4	74.7	74.9	75.1	75.0	74.8	74.7	74.6	74.6	73.3
28	74.4	74.4	74.2	74.1	73.9	73.8	73.7	73.7	73.7	74.1	74.5	74.8	75.0	75.2	75.3	75.4	75.5	75.1	74.7	74.3	74.0	73.8	73.7	73.7	74.4
29	73.7	73.7	73.7	73.7	73.9	74.0	74.0	74.1	74.2	74.3	74.1	74.1	74.1	74.1	74.3	74.1	74.0	73.7	73.6	73.4	72.9	72.4	72.3	72.2	73.7
30	72.2	72.1	72.1	72.0	71.9	71.9	71.8	71.7	71.7	71.6	71.6	71.6	71.7	71.6	71.7	71.8	71.8	71.9	72.1	72.7	73.1	72.7	72.6	72.5	72.0
																								MONTHLY AVERAGE	67.4

TABLE 3.1-7

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JULY 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	72.5	72.6	72.4	72.4	72.4	72.5	72.7	72.7	72.8	73.1	72.8	72.1	72.3	72.6	72.9	73.1	73.3	73.4	73.4	73.0	72.6	72.2	72.2	72.6	72.7
2	72.6	72.5	72.5	72.4	72.5	72.3	72.3	72.2	71.8	71.4	71.3	71.1	71.2	71.4	71.4	71.4	71.4	71.4	71.4	71.6	72.0	71.9	71.9	71.8	71.8
3	71.8	71.7	71.7	71.6	72.0	71.6	71.6	71.6	71.6	71.5	71.4	71.6	71.9	72.2	72.5	72.6	72.6	72.6	72.8	72.8	72.6	72.4	72.2	71.9	72.0
4	71.9	71.7	71.6	71.5	71.6	71.7	71.7	71.9	72.2	72.5	72.8	72.8	73.0	73.4	74.1	74.9	75.3	75.2	75.0	74.6	73.8	73.6	74.4	75.0	73.2
5	75.0	74.9	74.8	74.8	74.7	74.5	74.4	74.4	74.5	74.4	74.1	74.6	75.0	74.9	74.8	75.3	75.4	74.6	73.6	74.3	74.1	73.9	73.9	74.0	74.5
6	74.4	74.3	74.2	74.3	74.2	74.2	74.0	73.9	74.0	74.1	74.4	74.7	74.8	75.2	75.5	75.4	75.5	75.4	75.1	74.7	74.1	73.5	73.5	73.6	74.5
7	73.8	73.5	73.5	73.5	73.5	73.6	73.5	73.6	73.7	73.3	72.8	72.9	73.1	73.3	73.6	74.1	75.0	75.3	75.2	74.8	74.6	74.2	74.3	74.4	73.9
8	74.3	74.4	74.4	74.7	74.6	74.7	74.7	74.8	74.9	74.7	74.3	74.1	74.1	73.9	73.5	73.4	73.2	73.3	73.6	74.0	73.9	73.6	73.6	73.5	74.1
9	73.4	73.5	73.6	73.6	73.6	73.7	73.7	73.9	74.0	73.9	73.8	73.6	73.6	73.7	74.0	74.2	74.5	74.7	74.9	74.8	74.7	74.8	74.7	74.6	74.1
10	74.5	74.4	74.4	74.3	74.3	74.2	74.2	74.2	74.0	74.0	74.2	74.2	74.3	74.5	74.5	74.7	74.6	74.3	74.4	74.6	74.5	74.5	74.4	74.2	74.4
11	73.9	73.7	73.6	73.6	73.6	73.5	73.6	73.6	73.6	73.5	73.6	73.9	74.3	74.4	74.4	74.5	74.6	74.8	75.0	75.1	75.2	75.1	75.0	74.9	74.2
12	74.7	74.6	74.4	74.4	74.2	74.2	74.1	74.2	74.4	75.0	75.2	75.4	75.5	75.9	76.0	75.8	75.6	75.9	76.1	76.1	76.0	75.8	75.7	75.6	75.2
13	75.4	75.2	75.2	75.0	75.0	75.0	75.0	75.2	75.4	75.8	76.0	76.4	76.7	77.0	77.2	77.2	76.9	76.3	76.1	76.2	76.1	76.2	76.2	76.1	76.0
14	76.0	75.9	75.8	75.8	75.8	75.8	75.8	75.7	75.9	75.6	75.5	75.5	75.5	75.6	75.7	75.9	76.1	76.0	75.7	75.5	75.3	75.4	75.8	76.1	75.7
15	76.0	75.9	75.7	75.6	75.7	75.7	75.7	75.8	76.0	76.4	76.0	75.4	75.4	75.8	75.8	75.8	76.0	76.1	76.1	76.2	76.5	76.9	76.9	76.7	76.0
16	76.4	76.3	76.2	76.1	76.1	76.1	76.0	76.1	75.8	75.6	75.8	76.2	76.5	76.6	76.4	76.6	77.1	77.7	78.2	78.3	78.1	78.0	78.1	78.1	76.8
17	78.1	78.2	78.2	78.3	78.3	77.9	78.4	78.5	78.8	78.1	77.8	77.9	78.1	78.1	78.1	78.1	78.6	79.1	79.0	78.9	78.7	78.5	78.3	78.2	78.3
18	78.1	78.2	78.3	78.4	78.4	78.4	78.4	78.3	78.3	78.6	78.4	78.2	78.5	78.6	78.7	78.7	78.9	79.1	79.2	79.1	79.0	78.9	78.8	78.8	78.6
19	78.8	78.7	78.6	78.5	78.5	78.4	78.4	78.4	78.6	78.8	79.1	78.6	78.0	78.1	78.4	78.8	78.9	78.8	78.6	78.3	77.9	77.6	77.4	77.3	78.4
20	77.2	77.2	77.1	77.1	77.0	77.0	77.1	77.2	77.2	77.5	77.8	78.0	78.0	78.3	78.5	78.4	78.2	78.0	77.8	77.7	77.7	77.6	77.6	77.7	77.6
21	77.6	77.7	77.7	77.8	77.8	77.9	78.0	78.1	78.1	78.5	78.9	78.9	79.0	78.9	78.5	78.4	78.6	79.0	79.6	79.8	79.8	79.9	80.1	80.0	78.7
22	79.8	79.7	79.6	79.5	79.3	79.2	79.2	79.3	79.4	79.4	79.4	78.8	78.8	78.9	79.0	79.1	79.1	79.0	79.1	79.3	79.3	79.2	79.1	79.0	79.2
23	79.0	79.0	79.0	79.2	79.2	79.3	79.5	79.5	79.6	79.6	79.1	78.9	78.9	79.0	79.1	79.2	79.2	79.4	79.9	80.0	79.8	79.7	79.6	79.7	79.4
24	79.6	79.6	79.6	79.6	79.6	79.5	79.5	79.5	79.4	79.4	79.3	79.1	79.0	79.0	79.2	79.3	79.5	79.5	79.6	79.7	79.8	79.8	79.6	79.6	79.5
25	79.5	79.4	79.3	79.3	79.2	79.2	79.2	79.1	78.9	78.9	78.9	79.1	79.4	79.8	80.0	80.2	80.4	80.6	80.7	80.7	80.7	80.6	80.5	80.3	79.7
26	80.2	80.1	80.0	79.9	79.9	79.8	79.8	79.8	79.8	80.0	80.1	79.9	79.8	79.8	79.6	79.6	79.5	79.5	79.7	79.8	79.8	79.8	79.8	79.7	79.8
27	79.7	79.6	79.5	79.4	79.3	79.4	79.4	79.5	79.6	79.8	80.2	80.5	80.8	80.9	81.2	81.3	80.8	80.1	79.9	79.7	79.1	79.1	79.4	79.5	79.9
28	79.6	79.6	79.5	79.5	79.6	79.6	79.8	79.8	79.5	79.2	79.2	79.3	79.4	79.6	79.7	79.9	79.9	79.9	79.8	79.8	79.9	80.2	80.0	79.9	79.7
29	79.9	79.8	79.8	79.9	79.9	79.9	79.9	79.9	79.9	79.4	79.0	79.0	78.9	78.9	78.8	78.8	78.8	78.8	78.8	79.0	79.2	79.1	79.2	79.3	79.3
30	79.3	79.4	79.3	79.3	79.2	79.1	79.1	79.1	78.8	78.5	78.4	78.5	78.6	78.9	79.0	79.2	79.4	79.6	79.6	79.7	79.7	79.7	79.6	79.5	79.2
31	79.4	79.2	79.1	79.0	79.0	78.9	78.9	78.9	78.8	78.7	78.7	78.7	78.8	78.9	79.0	79.1	79.3	79.5	79.6	79.9	79.8	79.6	79.5	79.4	79.2
																								MONTHLY AVERAGE	76.6

TABLE 3.1-8

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

AUGUST 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	79.3	79.3	79.2	79.2	79.2	79.2	79.3	79.4	79.6	79.3	79.0	78.7	78.6	78.6	78.4	78.4	78.2	78.2	78.4	78.5	78.5	78.5	78.4	78.3	78.8
2	78.3	78.3	78.2	78.2	78.2	78.1	78.1	78.1	78.2	78.1	78.0	78.0	78.1	78.3	78.4	78.5	78.6	78.7	78.8	78.8	78.7	78.5	78.4	78.3	78.3
3	78.3	78.4	78.3	78.3	78.3	78.3	78.3	78.4	78.5	78.3	78.0	78.1	78.0	78.2	78.6	78.9	79.2	79.2	79.2						78.5
4												SYSTEM INOPERATIVE												
5												SYSTEM INOPERATIVE												
6												SYSTEM INOPERATIVE												
7												SYSTEM INOPERATIVE												
8												SYSTEM INOPERATIVE								80.4	80.4	80.3	80.3	80.2	
9	80.2	80.1	80.1	80.0	79.8	79.6	79.6	79.5	79.4	79.7	79.8	79.9	80.0	80.0	80.0	80.1	80.1	80.0	79.9	79.7	79.6	79.6	79.7	79.7	79.8
10	79.7	79.7	79.5	79.5	79.5	79.6	79.6	79.5	79.5	79.5	79.6	79.7	79.8	79.8	79.9	79.8	79.8	79.7	79.5	79.4	79.3	79.4	79.4	79.3	79.6
11	79.3	79.2	79.1	79.0	79.0	78.9	78.8	78.8	78.7	78.6	78.5	78.2	78.3	77.8	77.7	77.5	77.4	77.3	77.4	77.4	77.4	77.4	77.5	77.5	78.2
12	77.5	77.5	77.5	77.4	77.4	77.4	77.3	77.0	77.0	76.9	76.9	76.9	77.0	77.0	77.0	77.1	77.2	77.4	77.5	77.6	77.6	77.6	77.6	77.5	77.3
13	77.5	77.4	77.4	77.4	77.4	77.4	77.3	77.3	77.1	77.2	77.3	77.3	77.4	77.4	77.5	77.6	77.7	77.7	77.6	77.4	77.2	77.1	77.0	76.8	77.4
14	76.8	76.7	76.7	76.6	76.4	76.4	76.3	76.3	76.4	76.5	76.6	76.6	76.6	76.6	76.5	76.4	76.4	76.4	76.4	76.6	76.3	76.3	76.6	76.5	76.5
15	76.4	76.4	76.3	76.1	76.1	76.1	76.0	75.9	75.9	75.9	75.8	75.9	76.1	76.1	76.1	76.3	76.6	76.8	76.8	76.6	76.4	76.2	76.2	76.1	76.2
16	76.0	76.0	75.8	75.7	75.6	75.6	75.4	75.4	75.3	75.3	75.1	74.9	75.0	75.2	75.3	75.3	75.2	75.0	75.0	74.7	74.4	74.2	74.1		75.2
17												SYSTEM INOPERATIVE													
18												SYSTEM INOPERATIVE													
19	73.7	73.7	73.7	73.6	73.6	73.6	73.6	73.6	73.4	73.4	73.4	73.5	73.5	73.7	73.7	73.6	73.6	73.5	73.4	73.2	73.3	73.2	73.3	73.3	73.5
20	73.3	73.2	73.2	73.2	73.3	73.3	73.2	73.2	73.3	73.3	73.3	73.3	73.3	73.2	73.2	73.2	73.2	73.1	73.1	73.1	73.0	73.1	73.1	73.0	73.2
21	72.9	72.9	72.8	72.7	72.7	72.6	72.6	72.5	72.5	72.4	72.4	72.3	72.2	72.2	72.2	72.2	72.3	72.3	72.3	72.3	72.4	72.4	72.3	72.3	72.4
22	72.2	72.2	72.2	72.2	72.1	72.1	72.1	72.0	72.0	72.0	71.9	71.9	71.9	71.8	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.8	71.8	71.7	72.0
23	71.7	71.6	71.6	71.6	71.5	71.4	71.4	71.4	71.4	71.5	71.7	71.9	72.0	72.3	72.7	73.0	73.0	73.0	73.1	73.0	73.0	72.9	73.0	73.0	72.2
24	72.9	72.9	72.9	72.8	72.8	72.8	72.7	72.7	72.7	72.8	73.2	73.6	73.9	74.1	74.2	74.5	74.7	74.9	74.8	74.6	74.5	74.5	74.6	74.6	73.7
25	74.5	74.4	74.3	74.1	74.0	73.9	73.8	73.7	73.6	73.7	73.6	73.8	74.0	73.9	73.7	73.6	73.6	73.7	73.8	74.0	74.2	74.2	74.1	74.0	73.9
26	73.8	73.7	73.6	73.5	73.5	73.4	73.4	73.3	73.3	73.2	73.2	73.3	73.4	73.4	73.4	73.4	73.4	73.5	73.6	73.7	73.7	73.6	73.4	73.2	73.5
27	73.1	73.2	73.2	73.1	73.0	72.9	72.8	72.8	72.7	72.7	72.6	72.5	72.6	72.7	72.7	72.7	72.8	73.0	73.1	73.0	72.9	72.9	72.8	72.8	72.9
28	72.8	72.8	72.8	72.7	72.7	72.7	72.7	72.7	72.6	72.6	72.5	72.6	72.7	72.7	72.6	72.6	72.6	72.6	72.6	72.5	72.4	72.3	72.3	72.2	72.6
29	72.2	72.2	72.2	72.1	72.1	72.1	72.1	72.1	72.1	72.0	72.0	72.0	72.0	72.0	72.1	72.1	72.3	72.4	72.6	72.3	72.2	72.2	72.1	72.1	72.2
30	72.1	72.1	72.1	72.0	72.0	72.0	72.0	72.0	72.0	72.1	72.2	72.4	72.8	73.1	73.3	73.3	73.3	73.1	72.9	72.8	72.7	72.5	72.4	72.4	72.5
31	72.3	72.3	72.4	72.4	72.4	72.5	72.5	72.6	72.7	72.7	72.9	73.2	73.6	73.7	73.7	73.6	73.5	73.2	73.3	73.5	73.6	73.6	73.6	73.7	73.1
																								MONTHLY AVERAGE	75.2

TABLE 3.1-9

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

SEPTEMBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	73.7	73.7	73.7	73.8	73.8	74.0	74.1	74.4	74.6	74.8	75.1	74.7	74.9	75.2	75.5	75.3	74.7	75.3	76.1	75.3	74.7	74.8	75.2	75.6	74.7
2	75.8	75.7	75.8	75.7	75.6	75.7	75.5	75.5	75.4	75.2	74.3	74.4	74.7	74.9	74.9	74.9	75.0	75.1	75.0	74.8	74.7	74.7	74.6	74.4	75.1
3	74.3	74.1	74.1	74.0	73.9	73.9	73.8	73.8	73.8	73.9	74.4	74.7	74.9	75.0	75.1	75.2	75.3	75.4	75.3	75.2	75.1	74.9	74.8	74.6	74.6
4	74.3	74.1	74.1	73.9	73.9	73.9	74.0	74.0	74.0	74.1	74.1	74.3	74.5	74.8	75.2	75.5	75.7	75.8	75.8	75.7	75.6	75.7	75.7	75.6	74.8
5	75.5	75.5	75.4	75.4	75.4	75.3	75.3	75.3	75.2	75.3	75.2	75.1	75.1	75.1	75.1	75.1	75.1	75.2	75.3	75.2	75.2	75.1	75.0	74.9	75.2
6	74.9	74.9	74.8	74.7	74.6	74.5	74.4	74.3	74.2	74.2	74.4	74.6	74.8	75.0	75.3	75.5	75.5	75.5	75.4	75.3	75.3	75.2	75.2	75.3	74.9
7	75.3	75.3	75.2	75.1	75.1	75.0	74.9	74.8	74.7	74.7	74.9	75.2	75.5	75.7	75.8	75.8	75.8	75.7	75.6	75.3	75.1	74.9	74.7	74.5	75.2
8	74.4	74.3	74.2	74.0	73.9	73.7	73.6	73.4	73.5	73.5	73.7	73.9	74.0	74.2	74.3	74.4	74.5	74.4	74.2	74.0	73.8	73.6	73.4	73.3	73.9
9	73.2	73.1	73.0	72.8	72.7	72.7	72.8	72.5	72.5	72.5	72.9	73.0	73.4	73.5	73.8	73.9	74.2	74.6	74.5	74.2	74.0	73.8	73.7	73.6	73.4
10	73.6	73.6	73.6	73.9	73.9	73.8	73.7	73.7	73.6	73.2	73.3	73.3	73.4	73.4	73.5	73.6	73.8	73.7	73.8	73.9	73.8	73.7	73.5	73.5	73.6
11	73.4	73.4	73.3	73.2	73.1	73.0	72.9	72.8	72.4	72.3	72.4	72.6	72.8	72.9	73.0	73.2	73.5	73.5	73.4	73.3	73.1	73.0	72.9	72.9	73.0
12	72.8	72.9	72.9	72.8	72.9	72.9	72.8	72.7	72.6	72.8	72.7	73.1	73.4	73.5	73.2	73.3	73.3	73.4	73.2	73.1	73.0	72.9	72.8	72.7	73.0
13	72.8	72.7	72.7	72.5	72.5	72.4	72.4	72.3	72.2	72.2	72.1	71.8	71.8	72.0	72.0	71.9	71.9	71.9	71.8	71.6	71.5	71.4	71.4	71.3	72.0
14	71.2	71.1	71.1	71.1	71.0	70.9	71.0	71.0	71.1	71.0	71.0	71.0	71.0	71.2	71.4	71.5	71.4	71.3	71.2	71.2	71.1	71.1	71.0	71.0	71.1
15	71.0	70.9	70.9	70.9	71.0	71.0	71.0	71.0	70.5	70.2	70.0	69.9	70.0	69.9	69.7	69.6	69.5	69.8	70.3	70.4	70.2	70.1	70.1	69.9	70.3
16	69.8	69.8	69.8	69.7	69.8	69.7	69.7	69.7	69.2	69.0	68.7	68.5	68.6	68.8	68.9	69.0	69.2	69.5	69.7	69.6	69.5	69.4	69.3	69.2	69.3
17	69.2	69.2	69.2	69.1	68.9	68.8	68.8	68.7	68.5	68.4	67.8	67.6	67.6	67.6	67.7	67.8	67.8	67.9	67.9	67.8	67.7	67.6	67.6	67.6	68.2
18	67.6	67.6	67.6	67.6	67.6	67.5	67.5	67.4	67.4	67.5	67.5	67.6	67.6	67.6	67.6	67.6	67.7	67.7	67.7	67.6	67.4	67.2	67.0	66.9	67.5
19	66.8	66.7	66.6	66.5	66.4	66.3	66.1	66.0	65.9	66.0	66.0	66.0	66.1	66.2	66.4	66.5	66.7	66.8	66.8	66.7	66.5	66.4	66.3	66.2	66.4
20	66.1	66.1	66.0	66.0	66.0	65.9	65.8	65.8	65.7	65.7	65.8	65.7	65.7	65.8	66.0	66.2	66.2	66.1	65.9	65.8	65.8	65.8	65.7	65.7	65.9
21	65.6	65.6	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.6	65.9	66.5	57.1	67.8	68.1	68.1	68.2	67.8	67.2	66.3	66.2	66.3	66.6	66.6	66.4
22	66.7	66.7	66.6	66.6	66.6	66.6	66.5	66.4	66.3	66.1	66.2	66.4	66.6	66.8	67.0	67.5	67.8	68.0	67.8	67.6	67.5	67.3	67.3	67.3	66.9
23	67.3	67.2	67.2	67.2	67.1	67.0	67.0	67.0	66.9	66.9	66.9	67.1	67.2	67.1	67.1	67.2	67.2	67.2	67.2	67.0	66.9	66.9	66.8	66.8	67.1
24	66.6	66.6	66.5	66.3	66.2	66.1	65.9	65.7	65.8	65.9	65.9	65.9	66.0	66.1	66.3	66.5	66.7	66.9	66.9	66.9	66.8	66.6	66.4	66.2	66.3
25	66.0	65.7	65.5	65.4	65.3	65.2	65.1	65.0	65.1	65.2	65.2	65.2	65.4	65.5	65.6	65.7	65.7	65.7	65.6	65.6	65.5	65.5	65.5	65.6	65.4
26	65.5	65.4	65.2	65.1	65.0	64.9	64.8	64.8	64.7	64.7	64.6	64.7	64.8	64.9	64.9	65.0	65.1	65.1	65.2	65.2	65.2	65.2	65.2	65.1	65.0
27	64.9	64.7	64.5	64.3	64.1	64.0	63.7	63.6	63.4	63.2	63.1	63.0	63.0	63.0	63.0	63.1	63.2	63.2	63.2	63.1	63.0	62.8	62.7	62.5	63.4
28	62.3	62.2	62.0	61.8	61.7	61.5	61.3	61.2	61.1	61.1	61.3	61.5	61.6	61.8	62.1	62.3	62.4	62.3	62.1	61.8	61.8	61.8	61.7	61.5	61.8
29	61.3	61.1	61.0	60.9	60.8	60.6	60.5	60.4	60.4	60.5	60.7	60.8	61.0	61.2	61.4	61.5	61.5	61.5	61.4	61.3	61.2	61.1	61.0	60.9	61.0
30	60.8	60.7	60.6	60.6	60.5	60.4	60.2	60.2	60.1	60.2	60.3	60.4	60.6	60.8	61.0	61.1	61.2	61.4	61.5	61.5	61.4	61.3	61.2	61.0	60.8
																								MONTHLY AVERAGE	69.5

TABLE 3.1-10

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

OCTOBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	61.0	60.9	60.9	60.8	60.8	60.8	60.7	60.7	60.7	60.7	60.8	60.8	60.9	61.0	61.1	61.3	61.4	61.5	61.6	61.7	61.7	61.7	61.7	61.6	61.1
2	61.6	61.5	61.5	61.5	61.4	61.4	61.4	61.3	61.3	61.3	61.3	61.3	61.3	61.4	61.6	61.8	61.9	62.0	62.0	62.0	62.0	61.9	62.1	62.1	61.6
3	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	61.8	61.6	61.6	61.7	61.7	61.7	61.9	61.9	62.0	61.8	61.8	61.7	61.6	61.5	61.4	61.3	61.8
4	61.2	61.1	61.0	61.1	61.2	61.2	61.2	61.2	61.2	61.3	61.3	61.4	61.4	61.5	61.4	61.3	61.3	61.2	61.2	61.2	61.1	61.1	61.0	60.9	61.2
5	60.9	60.9	60.8	60.8	60.7	60.6	60.6	60.5	60.5	60.5	60.5	60.7	60.9	61.0	61.0	61.1	61.2	61.3	61.3	61.2	61.3	61.2	61.1	61.1	60.9
6	61.0	61.0	60.9	60.7	60.6	60.5	60.6	60.5	60.6	60.5	60.6	60.7	60.8	60.9	61.0	61.1	61.2	61.3	61.2	61.3	61.2	61.1	60.9	60.8	60.9
7	60.7	60.6	60.7	61.1	61.3	61.3	61.3	60.6	60.2	60.2	60.1	60.1	60.2	60.4	60.5	60.6	60.6	60.5	60.4	60.2	60.0	59.8	59.8	60.1	60.5
8	60.3	60.3	60.3	60.1	60.0	59.8	59.8	59.8	59.3	59.1	59.0	59.0	59.1	59.2	59.3	59.4	59.5	59.5	59.4	59.2	59.0	58.9	58.7	58.6	59.4
9	58.8	59.2	59.2	59.2	59.3	59.3	58.7	58.2	58.4	58.4	58.4	58.5	58.8	58.9	59.0	59.1	59.0	58.9	58.8	58.8	58.7	58.6	58.4	58.3	58.8
10	58.2	58.1	57.9	57.8	57.7	57.6	57.4	57.3	57.3	57.2	57.4	57.6	57.9	58.0	58.1	58.1	58.0	58.0	57.7	57.6	57.6	57.5	57.6	57.5	57.7
11	57.5	57.5	57.5	57.6	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.4	57.4	57.3	57.4	57.5	57.6	57.5	57.5	57.5	57.5	57.5	57.5	57.5
12	57.6	57.6	57.6	57.6	57.6	57.5	57.4	57.3	57.2	57.4	57.5	57.6	57.7	57.9	57.8	57.7	57.6	57.6	57.6	57.5	57.4	57.2	57.0	56.8	57.5
13	56.6	56.6	56.5	56.4	56.4	56.5	56.6	56.7	56.7	56.8	56.8	56.9	57.0	57.3	56.8	56.5	56.4	56.4	56.6	56.0	55.8	56.1	56.2	56.1	56.5
14	56.0	55.9	55.9	55.8	55.7	55.7	55.8	55.7	55.1	54.8	54.6	54.7	54.7	54.7	54.7	54.9	55.5	55.1	54.6	54.5	54.4	54.4	54.5	54.9	55.1
15	55.0	54.9	54.8	54.7	54.6	54.6	54.6	54.4	53.9	53.6	53.6	53.6	53.7	54.0	54.1	54.4	55.1	54.9	54.4	54.3	54.2	54.3	54.7	54.7	54.4
16	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.6	54.1	53.8	53.8	53.7	53.7	53.8	53.9	54.2	54.3	54.0	53.8	53.8	53.7	53.6	54.0	54.3	54.2
17	54.3	54.3	54.3	54.3	54.2	54.2	54.2	54.2	53.7	53.4	53.4	53.4	53.5	53.6	53.8	53.9	54.2	54.2	54.2	54.1	54.1	54.2	54.4	54.5	54.0
18	54.5	54.5	54.5	54.6	54.6	54.7	54.7	54.7	54.5	54.3	54.3	54.2	54.2	54.2	54.4	54.6	54.8	54.6	54.4	54.4	54.4	54.4	54.7	54.9	54.5
19	54.8	54.9	54.9	54.8	54.8	54.9	54.9	54.9	54.9	54.9	55.0	55.2	55.2	55.4	55.6	55.8	55.7	55.2	54.9	54.9	54.9	54.7	54.8	55.0	55.0
20	55.0	55.0	55.0	55.0	55.0	55.0	55.0	54.7	54.3	54.0	53.9	53.9	54.0	53.9	54.0	54.0	53.9	53.8	53.7	53.8	53.7	53.6	53.5	53.5	54.2
21	53.3	53.3	53.2	53.1	53.0	52.9	53.0	53.1	53.2	53.3	53.3	53.4	53.4	53.5	53.5	53.5	53.6	53.5	53.4	53.3	53.3	53.3	53.6	53.7	53.3
22	53.6	53.6	53.6	53.6	53.5	53.4	53.4	53.2	52.8	52.6	52.6	52.5	52.5	52.6	52.9	52.7	52.7	52.6	52.5	52.4	52.3	52.2	52.1	52.1	52.8
23	52.2	52.2	52.1	52.2	52.1	52.1	52.1	52.1	52.0	51.8	51.7	51.7	51.8	51.7	51.6	51.6	51.6	51.5	51.4	51.3	51.2	51.0	51.0	50.9	51.7
24	50.9	51.0	51.0	51.0	50.9	50.9	50.9	50.9	50.9	50.8	50.8	50.9	50.7	50.6	50.6	50.7	50.6	50.6	50.5	50.4	50.3	50.2	50.1	49.9	50.7
25	49.7	49.6	49.6	49.5	49.4	49.3	49.2	49.0	48.9	48.7	48.6	48.6	48.6	48.5	48.5	48.6	48.5	48.5	48.4	48.4	48.4	48.4	48.3	48.3	48.8
26	48.3	48.3	48.4	48.4	48.4	48.4	48.4	48.4	48.3	48.2	48.2	48.3	48.4	48.5	48.6	48.6	48.6	48.5	48.4	48.3	48.2	48.1	48.1	48.0	48.3
27	47.9	48.0	48.0	48.2	48.4	48.4	48.5	47.8	47.4	47.4	47.5	47.5	47.7	47.8	48.0	48.1	48.1	48.1	48.1	48.1	47.9	47.8	47.5	47.5	47.9
28	47.5	47.5	47.6	47.6	47.6	47.6	47.6	47.5	47.3	47.2	47.1	47.1	47.0	47.0	47.0	47.0	46.9	46.9	46.8	46.6	46.5	46.3	46.1	46.0	47.1
29	46.0	46.0	46.0	46.1	46.0	46.0	46.0	46.0	46.0	45.9	46.0	46.0	46.1	46.2	46.3	46.3	46.3	46.2	46.1	46.0	45.9	45.8	45.7	45.7	46.0
30	45.7	45.6	45.7	45.6	45.6	45.6	45.5	45.4	45.4	45.3	45.3	45.4	45.4	45.4	45.4	45.3	45.2	45.0	44.9	44.9	44.8	44.7	44.6	44.8	45.3
31	44.6	44.6	44.7	44.7	44.7	44.8	44.6	44.5	44.4	44.5	44.5	44.6	44.8	44.9	45.0	45.0	45.0	44.9	44.9	44.8	44.9	45.0	45.0	45.1	44.8
																								MONTHLY AVERAGE	54.6

TABLE 3.1-11

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

NOVEMBER 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	45.2	45.3	45.3	45.4	45.5	45.5	45.5	45.3	45.3	45.2	45.2	45.2	45.2	45.5	45.7	45.7	45.5	45.2	45.1	45.1	45.0	45.3	45.3	45.3	45.3
2	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.4	45.5	45.6	45.7	45.9	45.9	46.0	45.7	45.3	45.1	45.2	45.2	45.3	45.0	44.6	45.4
3	44.5	44.5	44.8	44.9	44.9	44.8	44.8	44.7	44.7	44.7	44.4	44.2	44.2	44.3	44.4	44.4	44.4	44.3	44.2	44.1	44.0	43.8	43.7	43.7	44.4
4	44.1	44.3	44.3	44.3	44.3	44.4	44.4	44.3	43.9	43.6	43.6	43.7	43.8	43.9	44.1	44.1	44.1	43.9	43.9	43.9	43.8	43.8	43.7	43.7	44.0
5	43.7	43.6	43.6	43.5	43.4	43.5	43.4	43.5	43.6	43.8	43.7	43.7	43.8	43.9	44.0	44.1	44.0	43.9	43.9	43.8	43.7	43.7	43.8	44.0	43.7
6	44.1	44.0	43.9	43.9	43.9	43.8	43.9	43.9	43.6	43.5	43.5	43.5	43.6	43.7	43.8	44.3	44.2	44.0	44.0	44.0	44.2	44.3	44.2	44.1	43.9
7	44.1	44.1	44.0	44.1	44.1	44.0	44.1	44.0	44.0	44.0	44.0	44.1	44.2	44.3	44.4	..	44.5	44.4	44.2	43.9	43.7	43.6	43.6	43.6	44.1
8	43.6	43.7	43.7	43.7	43.7	43.7	43.7	43.7	43.8	43.8	43.8	43.8	43.9	43.8	44.0	43.9	43.7	43.5	43.4	43.3	43.0	43.0	42.9	42.9	43.6
9	42.8	42.8	42.7	42.7	42.6	42.7	42.6	42.6	42.7	42.8	42.9	43.0	43.1	43.3	43.3	43.3	43.4	43.5	43.6	43.7	43.6	43.5	43.5	43.4	43.1
10	43.4	43.4	43.4	43.4	43.3	43.3	43.2	43.2	43.3	43.3	43.3	43.4	43.5	43.5	43.5	43.5	43.4	43.2	43.0	42.7	42.6	42.5	42.3	42.0	43.2
11	42.0	42.0	42.0	42.0	42.0	41.9	41.9	41.9	41.8	41.8	41.7	41.7	41.7	41.8	42.0	42.0	41.9	41.8	41.7	41.7	41.6	41.4	41.3	41.2	41.8
12	41.0	41.0	41.0	40.9	40.8	40.7	40.5	40.5	40.5	40.7	40.8	40.7	40.6	40.6	40.7	40.7	40.8	40.7	40.7	40.5	40.4	40.2	40.0	39.8	40.6
13	39.8	39.7	39.6	39.5	39.4	39.3	39.1	39.0	39.1	39.3	39.3	39.5	39.6	39.6	39.7	39.8	39.8	39.7	39.7	39.6	39.6	39.5	39.5	39.5	39.5
14	39.4	39.5	39.5	39.4	39.5	39.5	39.4	39.3	39.4	39.4	39.6	39.9	40.1	40.2	40.3	40.3	40.2	40.3	40.4	40.3	40.3	40.1	40.0	40.0	39.8
15	40.0	40.0	40.0	40.0	39.9	39.8	39.8	39.9	39.8	40.0	40.2	40.4	40.4	40.5	40.5	40.3	40.1	40.0	40.0	39.9	39.9	39.8	39.8	39.7	40.0
16	39.6	39.6	39.6	39.5	39.4	39.3	39.3	39.3	39.3	39.5	39.6	39.7	39.8	39.8	39.8	39.7	39.5	39.4	39.2	39.3	39.1	38.8	38.7	38.5	39.4
17	38.5	38.5	38.5	38.5	38.4	38.1	37.9	38.0	37.9	37.9	38.2	38.5	38.4	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.4	38.4	38.4	38.1	38.3
18	38.0	38.0	38.0	37.9	37.7	37.5	37.5	37.5	37.5	37.5	37.4	37.4	37.5	37.5	37.6	37.5	37.3	37.3	37.4	37.4	37.4	37.3	37.1	37.0	37.5
19	36.8	36.7	36.5	36.4	36.2	36.0	35.8	35.8	35.8	36.0	36.3	36.6	36.8	37.0	37.2	37.0	36.7	36.4	36.3	36.3	36.2	36.0	36.0	36.0	36.4
20	36.0	36.0	36.0	35.8	35.7	35.6	35.5	35.6	35.6	35.6	35.8	36.3	36.5	36.6	36.7	36.6	36.5	36.3	36.2	36.0	35.9	35.6	35.4	35.3	36.0
21	35.4	35.6	35.7	35.7	35.6	35.6	35.7	35.9	36.0	36.1	36.1	36.2	36.4	36.6	36.6	36.6	36.4	36.3	36.1	35.9	35.7	35.6	35.4	35.3	35.9
22	35.2	35.2	35.1	35.1	35.0	34.8	34.8	34.7	34.7	34.8	34.7	34.8	35.0	35.3	35.5	35.6	35.5	35.4	35.3	35.3	35.2	35.0	35.0	34.9	35.1
23	34.8	34.9	34.9	34.8	34.7	34.7	34.7	34.7	34.7	34.7	34.8	35.0	35.3	35.4	35.5	35.5	35.4	35.4	35.3	35.3	35.3	35.4	35.4	35.4	35.1
24	35.5	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.5	35.4	35.4	35.4	35.5	35.6	35.7	35.5	35.6	35.5	35.6	35.5	35.4	35.4	35.3	35.3	35.5
25	35.3	35.4	35.5	35.6	35.6	35.6	35.7	35.7	35.8	35.9	35.9	36.1	36.3	36.4	36.5	36.5	36.5	36.5	36.5	36.6	36.6	36.6	36.6	36.6	36.1
26	36.7	36.7	36.7	36.8	36.7	36.8	36.7	36.7	36.5	36.4	36.5	36.7	36.8	37.0	37.1	37.0	36.8	36.7	36.5	36.3	36.0	35.8	35.7	35.7	36.6
27	35.7	35.6	35.5	35.4	35.3	35.2	35.0	34.9	34.8	34.8	34.9	35.2	35.3	35.4	35.5	35.5	35.5	35.5	35.4	35.4	35.3	35.2	35.2	35.2	35.3
28	35.2	35.2	35.2	35.1	35.0	35.0	35.0	35.1	35.0	34.9	35.0	35.0	35.1	35.2	35.3	35.3	35.4	35.4	35.4	35.4	35.5	35.5	35.5	35.5	35.2
29	35.5	35.5	35.5	35.5	35.5	35.4	35.4	35.4	35.4	35.4	35.4	35.6	36.0	36.1	36.0	35.9	35.8	35.7	35.7	35.7	35.6	35.6	35.5	35.5	35.6
30	35.5	35.5	35.6	35.7	35.6	35.7	35.7	35.7	35.6	35.6	35.5	35.7	35.8	35.9	36.0	35.9	35.7	35.6	35.6	35.5	35.5	35.4	35.3	35.3	35.6
																								MONTHLY AVERAGE	39.5

TABLE 3.1-12

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

DECEMBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	35.4	35.4	35.4	35.5	35.5	35.5	35.5	35.6	35.6	35.6	35.7	35.9	36.2	36.4	36.5	36.6	36.6	36.5	36.4	36.4	36.4	36.3	36.2	36.0	36.0
2	35.8	35.8	35.7	35.7	35.7	35.8	35.8	35.8	35.8	35.7	35.9	36.0	36.2	36.2	36.3	36.2	36.0	36.0	35.9	35.8	35.8	35.8	35.8	35.8	35.9
3	35.8	36.0	36.0	36.0	36.0	35.9	35.8	35.8	35.7	35.6	35.7	35.7	35.8	36.0	36.2	35.9	35.8	35.7	35.6	35.5	35.5	35.5	35.4	35.3	35.8
4	35.3	35.3	35.2	35.2	35.2	35.1	35.1	35.0	35.0	34.9	35.0	35.0	35.0	35.1	35.0	35.0	34.9	34.9	34.8	34.7	34.5	34.4	34.4	34.3	34.9
5	34.2	34.1	33.9	33.8	33.6	33.5	33.4	33.2	33.2	33.1	33.0	33.1	33.1	33.1	33.2	33.2	33.2	33.1	33.1	32.9	32.9	32.8	32.7	32.7	33.3
6	32.6	32.6	32.5	32.4	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.4	32.5	32.6	32.6	32.6	32.6	32.6	32.6	32.5	32.5	32.5	32.5	32.5	32.5
7	32.5	32.5	32.4	32.4	32.4	32.4	32.3	32.4	32.3	32.4	33.0	32.8	32.7	32.7	32.7	32.7	32.7	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6
8	32.5	32.5	32.5	32.5	32.6	32.7	32.6	32.5	32.6	32.5	32.6	32.5	32.5	32.5	32.5	32.6	32.6	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
9	32.5	32.7	32.7	32.6	32.6	32.5	32.5	32.5	32.6	32.8	33.0	33.2	33.4	33.3	33.2	33.0	32.9	32.9	32.8	32.8	32.8	32.8	32.8	32.7	32.8
10	32.7	32.7	32.8	32.8	32.8	32.8	32.7	32.7	32.7	32.6	32.7	33.1	33.2	33.0	33.0	32.9	32.9	32.8	32.9	32.8	32.9	32.9	32.8	32.7	32.8
11	32.8	32.8	32.9	32.9	32.7	32.5	32.3	32.3	32.2	32.1	32.1	32.3	32.5	32.6	32.7	32.5	32.4	32.2	32.2	32.1	32.0	32.0	32.0	32.0	32.4
12	32.1	32.1	32.2	32.3	32.3	32.2	32.3	32.4	32.4	32.5	32.6	32.6	32.5	32.6	32.6	32.6	33.1	33.1	32.8	32.7	32.6	32.5	32.5	32.5	32.5
13	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.4	32.9	32.8	32.6	32.5	33.3	33.0	32.7	32.6	32.5	32.5	32.5	32.5	32.4	32.4	32.3	32.6
14	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.9	32.7	32.5	32.5	32.5	32.6	32.6	32.6	33.3	33.0	32.7	32.6	32.5	32.5	32.4	32.4	32.5
15	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.5	33.0	32.8	32.7	32.6	32.6	32.6	32.6	32.6	32.8	33.2	32.9	32.7	32.7	32.6	32.5	32.5	32.6
16	32.5	32.4	32.7	32.4	32.4	32.4	32.4	33.0	33.0	33.1	32.9	32.7	32.5	32.5	32.5	32.5	32.6	32.6	32.5	32.5	32.4	32.4	32.4	32.3	32.6
17	32.3	32.3	32.4	32.4	32.3	32.3	32.3	32.9	32.9	32.7	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.4	32.3	32.5
18	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.4	33.2	33.0	32.8	32.6	32.5	32.5	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.3	32.5
19	32.3	32.3	32.4	32.4	32.4	32.4	32.4	32.4	33.3	33.2	32.9	32.7	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.3	32.3	32.5
20	32.3	32.5	32.3	32.3	32.3	32.3	32.3	32.3	32.9	33.1	33.0	32.9	32.6	32.5	32.4	32.4	32.5	33.3	33.0	32.7	32.6	32.4	32.4	32.4	32.6
21	32.3	32.3	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.8	33.0	32.7	32.6	32.6	32.6	33.3	33.2	32.9	32.7	32.6	32.4	32.4	32.6
22	32.4	32.5	32.5	32.4	32.4	32.4	32.4	32.4	33.2	33.1	32.9	32.7	32.6	32.4	32.4	32.5	32.5	33.1	33.0	32.7	32.6	32.5	32.5	32.4	32.6
23	32.3	32.3	32.3	32.4	32.4	32.4	32.3	32.7	33.3	33.1	32.9	32.7	32.6	32.4	32.4	32.4	32.4	33.3	33.1	32.8	32.6	32.6	32.5	32.4	32.6
24	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.4	33.3	33.0	32.7	32.6	32.6	32.6	32.5	32.7	32.4	33.3	33.0	32.8	32.6	32.5	32.5	32.4	32.6
25	32.3	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.6	32.6	32.6	32.7	32.6	32.5	32.5	32.4	32.4	32.4	32.3	32.2	32.2	32.4
26	32.1	32.1	32.0	32.1	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.2	32.3	32.4	32.4	32.3	32.3	32.2	32.2	32.2	32.2	32.3	32.2	32.2	32.2
27	32.2	32.2	32.1	32.2	32.1	32.2	32.2	32.1	32.1	32.2	32.3	32.4	32.5	32.5	32.6	32.5	32.4	32.3	32.2	32.2	32.1	32.1	32.0	32.0	32.2
28	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.3	32.3	32.4	32.5	32.5	32.5	32.6	32.6	32.6	32.6	32.5	32.6	32.5	32.6	32.5	32.5	32.5	32.4
29	SYSTEM INOPERATIVE																								
30	SYSTEM INOPERATIVE															32.7	32.7	32.6	32.6	32.6	32.5	32.5	32.4	32.3	
31	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.4	32.8	33.2	33.4	33.1	33.0	33.0	33.0	33.1	32.9	32.9	33.0	33.2	33.2	33.2	33.2	32.8
																						MONTHLY AVERAGE			33.0

TABLE 3.2-1

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JANUARY 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
2	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
3	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
4	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
5	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
6	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
7	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
8	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
9	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
10	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
11	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.0
12	32.1	32.1	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.0	32.1
13	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1
14	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
15	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.0	32.0	32.0	32.0
16	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1
17	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
18	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
19	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.3	32.2	32.2	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.2
20	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.2	32.3	32.3	32.2	32.2	32.3	32.3	32.2	32.2	32.1	32.1
21	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.3	32.3	32.3	32.2	32.2	32.2	32.1	32.2	32.1	32.1	32.1	32.2
22	32.1	32.0	32.0	32.0	32.0	32.3	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
23	32.0	32.0	[illegible].0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
24	32.0	32.0	.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
25	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.3	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1
26	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.3	32.2	32.2	32.2	32.1
27	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.2	32.2	32.1	32.1	32.1	32.2	32.0	32.2	32.1	32.1	32.1
28	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.2	32.2	32.3	32.4	32.3	32.4	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.2	32.1	32.3
29	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.2	32.3	32.2	32.2	32.1	32.1
30	32.1	32.0	32.2	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.1	32.2	32.2	32.2	32.0	32.2	32.1	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.1
31	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.2	32.2	32.2	32.1	32.1	32.0	32.1
																						MONTHLY AVERAGE			32.1

TABLE 3.2-2

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

FEBRUARY 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.1
2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.3	32.2	32.2
3	32.3	32.3	32.3	32.6	32.3	32.4	32.3	32.3	32.3	32.3	32.3	32.4	32.4	32.4	32.5	32.4	32.4	32.4	32.3	32.3	32.3	32.3	32.4	32.3	32.4
4	32.4	32.4	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.5	32.5	32.5	32.6	32.5	32.5	32.5	32.5	32.5	32.5	32.8	32.3	32.3	32.2	32.2	32.4
5	32.2	32.5	32.2	32.2	32.1	32.1	32.2	32.2	32.2	32.3	32.3	32.2	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
6	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
7	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.2	32.2	32.2	32.2
8	32.1	32.1	32.2	32.2	32.1	32.1	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.1	32.1	32.2	32.2	32.2	32.3	32.1	32.2	32.2	32.2	32.1	32.2
9	32.2	32.2	32.2	32.1	32.2	32.2	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
10	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.2	32.2	32.3	32.3	32.2	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.3	32.2
11	32.3	32.3	32.3	32.3	32.4	32.3	32.4	32.4	32.4	32.4	32.3	32.3	32.4	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.6	32.6	32.5	32.4
12	32.3	32.2	32.2	32.1	32.1	32.4	32.1	32.1	32.2	32.2	32.3	32.4	32.4	32.3	32.4	32.4	32.4	32.3	32.4	32.4	32.4	32.3	32.3	32.2	32.3
13	32.2	32.2	32.3	32.3	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.3	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.4	32.4	32.4	32.3
14	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.3	32.3	32.3	32.3	32.4	32.3	32.3	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.4	32.3
15	32.4	32.4	32.4	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.4	32.4	32.5	32.4	32.5	32.5	32.5	32.4	32.4	32.4	32.7	32.4	32.4	32.5	32.4
16	32.5	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.4
17	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
18	32.1	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.0	32.1	32.1	32.4	32.1	32.1
19	32.1	32.2	32.0	32.0	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.3	32.3	32.2	32.1
20	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0
21	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.2	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
22	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
23	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
24	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
25	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
26	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
27	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.0	32.0
28	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
29	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.2	32.1	32.1	32.1	32.0
																								MONTHLY AVERAGE	32.2

TABLE 3.2-3

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

MARCH 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
2	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.0
3	32.1	32.0	32.1	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.1
4	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.1	32.4	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.0	32.0	32.1
5	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.3	32.0	32.0	32.0	32.3	32.0	32.0	32.0	32.0	32.0
6	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.1	32.2	32.1
7	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.3	32.2	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
8	32.1	32.1	32.0	32.0	32.0	32.1	32.2	32.0	32.0	32.0	32.0	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
9	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.3	32.3	32.3	32.3	32.1
10	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.4	32.4	32.4	32.3	32.2	32.3
11	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.2	32.3	32.2	32.2	32.2	32.2
12	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.2	32.2	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.1	32.2
13	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.3	32.3	32.3	32.2	32.2	32.2	32.3	32.3	32.2	32.2	32.1	32.1	32.1	32.1
14	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
15	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
16	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
17	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.0	32.0	32.0
18	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.1	32.0	32.0	32.0
19	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.1	32.2	32.1	32.0	32.0	32.0	32.0	32.0	32.0
20	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.0	32.0	32.0	32.1
21	32.0	32.0	32.0	32.0	32.0	32.0	32.2	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.4	32.7	32.6	32.6	32.6	32.0	32.0	32.1
22	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.0	32.0	32.1	32.1	32.1	32.2	32.3	32.4	32.4	32.5	32.5	32.6	32.6	32.6	32.6	32.6	32.3
23	32.5	32.5	32.5	32.5	32.5	32.5	32.4	32.4	32.5	32.5	32.5	32.6	32.6	32.8	32.9	33.1	33.2	33.3	33.4	33.5	33.5	33.6	33.7	33.8	32.9
24	33.9	33.8	33.7	33.5	33.4	33.3	33.2	33.2	33.3	33.5	33.5	33.6	33.7	33.8	33.9	34.0	34.1	34.2	34.3	34.4	34.3	34.4	34.4	34.3	33.8
25	34.2	34.2	34.2	34.3	33.6	33.4	33.9	33.5	33.5	33.6	33.5	33.3	33.4	33.3	33.1	33.2	33.4	33.6	33.7	33.6	33.4	33.4	33.2	33.3	33.6
26	33.2	33.1	33.2	33.1	33.2	33.1	33.2	33.2	33.3	33.4	33.5	33.9	33.9	33.9	34.0	34.2	34.1	33.9	33.9	34.0	33.9	33.9	33.8	33.7	33.6
27	33.6	33.6	33.6	33.6	33.5	33.5	33.6	33.7	34.0	34.8	34.9	35.3	35.8	35.5	35.1	34.6	34.7	34.6	34.4	34.5	34.7	34.6	34.6	34.6	34.4
28	34.6	34.5	34.4	34.4	34.5	34.5	34.5	34.6	34.8	35.2	35.6	35.8	36.1	35.9	35.8	35.7	35.6	35.6	35.7	35.8	36.1	36.3	36.4	36.3	35.4
29	36.1	36.1	36.0	35.9	35.8	35.7	35.7	35.6	35.5	35.4	35.3	35.2	35.2	35.5	35.7	36.0	36.2	36.3	36.4	36.5	36.5	36.5	36.5	36.5	35.9
30	36.4	36.4	36.3	36.3	36.3	36.3	36.4	36.5	36.5	36.5	36.6	36.6	36.5	36.5	36.4	36.4	36.3	36.2	36.2	36.1	36.0	36.0	36.0	36.0	36.3
31	36.0	36.0	36.0	36.0	35.9	35.9	35.9	36.1	36.3	36.6	36.7	36.6	36.8	36.8	36.9	36.9	36.9	36.9	36.9	37.0	37.1	37.1	36.9	36.8	36.5
																								MONTHLY AVERAGE	32.8

TABLE 3.2-4

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

APRIL 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	36.7	36.6	36.5	36.4	36.4	36.3	36.3	36.3	36.4	36.8	37.0	37.2	37.5	37.9	37.9	38.0	37.9	38.0	38.0	38.3	38.4	38.5	38.5	38.4	37.3
2	38.3	38.2	38.2	38.2	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.0	38.0	37.9	37.8	37.8	37.8	37.8	37.8	37.9	37.9	37.9	37.9	37.9	38.0
3	37.8	37.7	37.7	37.6	37.5	37.5	37.5	37.6	37.9	38.4	39.0	39.4	39.6	39.7	39.8	39.6	39.5	39.5	39.6	39.8	40.0	40.1	40.2	40.1	38.9
4	40.1	40.1	40.0	39.9	39.8	39.6	39.5	39.4	39.4	39.3	39.3	39.2	39.2	39.0	38.9	38.8	38.6	38.5	38.4	38.4	38.2	38.2	38.2	38.1	39.1
5	38.0	37.9	37.8	37.7	37.6	37.6	37.6	37.5	37.6	37.7	38.1	38.2	38.4	38.4	38.6	38.7	38.6	38.4	38.2	37.9	37.8	37.7	37.6	37.4	38.0
6	37.1	37.3	37.2	37.1	37.0	36.9	36.9	36.9	36.9	37.2	37.5	37.7	37.7	37.9	38.5	38.9	38.8	38.7	38.8	38.9	39.0	39.1	39.1	39.2	37.9
7	39.1	38.9	38.8	38.7	38.5	38.3	38.3	38.5	38.8	39.1	39.4	39.8	39.5	39.5	39.4	39.5	39.5	39.5	39.5	39.6	39.7	39.8	39.9	40.0	39.2
8	40.0	40.0	39.9	39.9	40.0	40.0	40.0	40.1	40.2	40.2	40.3	40.3	40.4	40.3	40.2	40.1	40.1	40.0	39.9	39.9	39.8	39.8	39.7	39.6	40.0
9	39.5	39.5	39.5	39.5	39.5	39.5	39.6	39.6	39.7	39.8	39.9	40.0	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	39.9
10	40.3	40.4	40.5	40.4	40.2	39.9	39.7	39.5	39.4	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.2	39.1	39.1	39.1	39.1	39.1	39.5
11	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.1	39.2	39.3	39.5	39.5	39.8	40.0	40.2	40.2	40.2	40.3	40.3	40.2	40.2	39.5
12	40.2	40.2	40.2	40.2	40.1	40.0	40.0	39.9	39.8	39.7	39.6	39.5	39.4	39.4	39.5	39.7	39.8	39.9	40.0	40.1	40.0	40.0	39.9	39.9	39.9
13	39.9	39.9	39.8	39.6	39.6	39.6	39.5	39.6	39.7	39.7	39.9	40.1	40.4	40.7	41.0	41.2	41.4	41.4	41.3	41.0	40.9	40.8	40.8	40.7	40.4
14	40.7	40.7	40.6	40.5	40.4	40.3	40.2	40.2	40.2	40.3	40.4	40.5	40.5	40.6	40.5	40.6	40.6	40.6	40.6	40.5	40.5	40.5	40.4	40.4	40.5
15	40.3	40.2	40.2	40.1	40.1	40.1	40.1	40.2	40.2	40.3	40.8	40.9	41.2	41.4	41.8	42.1	42.2	42.2	42.2	42.1	41.9	41.8	41.7	41.8	41.1
16	41.7	41.6	41.5	41.4	41.3	41.2	41.1	41.1	41.1	41.3	41.3	41.5	41.7	41.8	41.8	41.9	42.0	41.9	41.8	41.6	41.4	41.2	41.0	40.9	41.5
17	40.7	40.5	40.4	40.2	40.0	39.9	39.8	39.9	40.0	40.1	40.4	40.6	40.8	40.9	41.1	41.2	41.2	41.1	41.0	40.9	41.0	41.0	41.1	41.2	40.6
18	41.3	41.4	41.4	41.3	41.1	40.9	40.7	40.5	40.5	40.6	40.6	40.5	40.4	40.6	41.1	41.3	41.3	41.2	41.2	41.1	41.2	41.3	41.4	41.5	41.0
19	41.5	41.5	41.4	41.4	41.3	41.1	41.0	41.0	41.2	41.5	41.6	41.7	42.0	42.1	42.2	42.3	42.5	42.5	42.4	42.3	42.3	42.3	42.3	42.3	41.8
20	42.3	42.3	42.3	42.3	42.2	42.5	42.3	42.5	42.8	43.1	43.2	42.9	43.2	42.8	42.7	42.7	42.7	42.7	42.7	42.7	42.6	42.6	42.6	42.6	42.6
21	42.7	42.7	42.7	42.7	42.7	42.6	42.7	42.9	43.1	43.5	43.7	44.0	44.1	44.2	44.3	44.4	44.4	44.3	44.2	44.1	44.0	44.0	43.9	43.6	43.6
22	SYSTEM INOPERATIVE																								
23	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.4	44.5	44.6	44.7	44.8	44.9	45.1	45.2	45.3	45.3	45.3	45.2	45.1	45.1	45.1	45.2	45.2	44.8
24	45.2	45.3	45.4	45.4	45.5	45.6	45.7	45.7	45.7	45.7	45.8	45.8	45.9	46.1	46.2	46.4	46.4	46.3	46.4	46.6	46.6	46.6	46.5	46.4	46.0
25	46.3	45.9	45.7	45.5	45.4	45.3	45.3	45.3	45.4	45.5	45.7	45.8	45.9	45.9	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	45.9	45.8
26	45.9	45.9	46.0	46.0	46.1	46.1	46.1	46.1	46.1	46.1	46.3	46.4	46.7	46.9	47.2	47.3	47.4	47.6	47.7	47.7	47.7	47.7	47.7	47.6	46.8
27	47.6	47.5		47.4	47.4	47.3	47.3	47.3	47.4	47.6	47.7	47.8	47.8	47.9	47.9	47.8	47.8	47.7	47.7	47.7	47.7	47.6	47.6	47.6	47.6
28	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.6	47.6	47.5	47.4	47.3	47.1	47.0	46.8	46.6	46.4	46.2	46.0	45.9	45.8	45.6	45.5	45.5	46.9
29	45.5	45.5	45.4	45.5	45.5	45.5	45.5	45.5	45.4	45.3	45.2	45.2	45.1	45.0	45.0	45.0	45.0	44.9	44.9	44.9	44.9	44.9	44.8	44.9	45.2
30	44.9	45.0	45.0	45.0	44.9	44.9	44.8	44.8	44.7	44.7	44.7	44.7	45.0	45.3	45.6	45.8	45.8	45.9	46.0	46.0	46.1	46.1	46.1	46.0	45.3
																								MONTHLY AVERAGE	41.7

TABLE 3.2-5

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

MAY 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	46.0	46.0	46.1	46.2	46.3	46.4	46.4	46.4	46.4	46.4	46.2	46.2	46.0	46.0	46.1	46.3	46.5	46.6	46.7	46.7	46.6	46.5	46.6	46.5	46.3
2	46.6	46.6	46.6	46.6	46.6	46.5	46.5	46.7	46.7	46.7	47.0	47.2	47.3	47.5	47.7	48.0	48.2	48.4	48.5	48.5	48.5	48.5	48.5	48.5	47.4
3	48.4	48.3	48.3	48.3	48.4	48.5	48.8	49.0	49.0	49.1	49.3	49.3	49.2	49.3	49.3	49.6	49.8	50.0	50.4	50.5	50.5	50.5	50.6	50.6	49.4
4	50.7	50.7	50.6	50.7	50.6	50.5	50.5	50.5	50.5	50.7	50.9	51.1	51.2	51.2	51.3	51.4	51.5	51.6	51.8	52.1	52.1	52.0	52.0	52.0	51.2
5	52.0	52.0	51.9	52.0	51.9	51.8	51.7	51.7	51.7	51.8	51.8	51.8	52.0	52.1	52.3	52.5	52.8	53.2	53.6	53.7	53.5	53.5	53.5	53.5	52.4
6	53.5	53.4	53.4	53.4	53.3	53.3	53.4	53.4	53.5	53.6	53.8	54.0	54.3	54.4	54.5	54.8	55.1	55.3	55.3	55.2	55.0	54.9	54.8	54.7	54.2
7	54.6	54.6	54.6	54.5	54.5	54.6	54.8	54.9	55.1	55.4	55.4	55.3	55.3	55.3	55.2	55.1	54.9	54.8	54.6	54.5	54.3	54.1	54.0	54.0	54.8
8	54.0	53.9	53.9	53.9	53.8	53.8	53.7	53.6	53.5	53.5	53.5	53.5	53.5	53.6	53.7	53.8	54.0	54.2	54.0	54.1	54.1	54.1	54.1	54.1	53.8
9	54.0	53.8	53.6	53.3	53.2	53.0	52.9	52.8	52.8	52.8	52.9	52.9	52.8	52.7	52.6	52.7	52.7	52.8	52.6	52.6	52.7	52.4	52.4	52.3	52.9
10	52.3	52.3	52.3	52.3	52.3	52.3	52.2	52.2	52.3	52.2	52.1	52.1	52.0	52.0	52.1	52.1	52.1	52.0	52.0	51.9	51.9	51.9	51.7	51.6	52.1
11	51.5	51.5	51.5	51.4	51.5	51.5	51.5	51.5	51.5	51.6	51.6	51.5	51.4	51.4	51.4	51.3	51.3	51.2	51.1	51.1	51.0	51.0	51.0	50.9	51.3
12	50.9	50.9	50.9	51.0	51.0	51.0	51.1	51.1	51.1	51.1	51.1	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.2	52.3	52.4	52.4	52.4	52.4	51.6
13	52.5	52.6	52.4	52.4	52.3	52.3	52.4	52.4	52.4	52.6	52.7	52.8	52.9	52.9	52.9	52.9	52.9	52.8	52.8	52.8	52.7	52.7	52.6	52.6	52.6
14	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.8	52.9	53.0	53.0	53.0	53.1	53.3	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.2
15	53.7	53.7	53.6	53.6	53.5	53.4	53.3	53.3	53.4	53.4	53.5	53.5	53.6	53.6	53.5	53.5	53.5	53.5	53.4	53.5	53.6	53.4	53.3	53.3	53.5
16	53.2	53.1	52.9	52.8	52.7	52.7	52.7	52.7	52.9	53.0	53.1	53.3	53.7	54.0	54.0	54.0	54.1	54.2	54.2	54.1	54.1	54.1	54.1	54.1	53.5
17	54.0	54.0	53.9	53.8	53.8	53.7	53.6	53.7	53.9	54.1	54.4	54.7	54.9	55.3	55.6	55.8	55.9	56.1	56.0	56.0	55.9	55.8	55.8	55.7	54.8
18	55.5	55.4	55.4	55.3	55.3	55.3	55.2	55.4	55.4	55.4	55.5	55.5	55.5	55.5	55.5	55.4	55.4	55.6	55.7	55.7	55.5	55.5	55.4	55.4	55.4
19	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.6	55.7	55.8	56.0	56.2	56.2	56.2	56.3	56.2	56.1	55.9	55.9	55.8	55.8	55.9	55.9	55.9	55.8
20	55.9	55.9	55.9	55.9	55.8	55.6	55.6	55.6	55.7	55.9	56.1	56.2	56.4	56.7	56.9	57.0	57.1	57.3	57.4	57.5	57.5	57.5	57.5	57.5	56.5
21	57.5	57.4	57.4	57.3	57.3	57.1	57.0	57.0	56.9	56.9	57.0	57.1	57.3	57.5	57.7	57.9	58.0	57.9	57.8	57.7	57.5	57.4	57.3	57.2	57.4
22	57.1	57.0	57.0	56.9	56.9	56.8	56.8	56.8	56.9	57.0	57.1	57.3	57.5	57.8	58.3	58.5	58.4	58.4	58.3	58.4	58.3	58.3	58.3	58.3	57.6
23	58.3	58.4	58.5	58.6	58.6	58.7	58.8	58.9	59.1	59.3	59.5	59.6	59.8	60.1	60.3	60.3	60.5	60.4	60.3	60.3	60.4	60.3	60.2	60.0	59.6
24	59.9	59.9	59.9	60.0	60.0	60.0	60.0	60.1	60.3	60.5	60.8	61.1	61.4	61.8	62.0	62.1	62.2	62.3	62.3	62.3	62.2	62.2	62.2	62.2	61.2
25	62.1	62.1	62.0	61.9	61.9	62.0	62.1	62.2	62.4	62.8	63.2	63.5	63.7	63.7	63.7	63.7	63.6	63.5	63.3	63.1	63.0	63.1	63.2	63.1	62.9
26	63.0	62.9	62.9	62.9	62.8	62.7	62.6	62.6	62.9	63.3	63.6	63.9	64.1	64.1	64.2	64.2	64.0	64.0	63.8	63.5	63.3	63.3	63.4	63.5	63.4
27	63.5	63.4	63.4	63.3	63.3	63.2	63.2	63.3	63.5	63.6	63.8	63.9	64.3	64.5	64.4	64.6	64.7	64.7	64.6	64.1	63.8	63.7	63.9	63.9	63.9
28	63.7	63.7	63.7	63.7	63.5	63.4	63.5	63.7	64.1	64.5	64.5	64.4	64.8	64.5	64.1	64.3	64.3	64.3	64.4	64.3	64.1	63.8	63.7	63.6	64.0
29	63.6	63.4	63.3	63.2	63.2	63.2	63.1	63.0	63.2	63.6	63.6	63.7	64.0	64.4	64.7	64.7	64.7	64.6	64.4	64.3	64.1	64.0	63.8	63.8	63.8
30	63.7	63.7	63.6	63.6	63.5	63.5	63.5	63.6	64.0	64.0	64.0	64.3	65.1	65.3	65.5	65.7	66.0	65.9	65.6	65.4	65.1	65.0	64.9	64.5	64.5
31	64.8	64.6	64.5	64.6	64.4	64.4	64.3	64.4	64.4	64.5	64.5	64.5	64.5	64.4	64.3	64.2	64.3	64.3	64.3	64.4	64.5	64.6	64.6	64.6	64.5
																								MONTHLY AVERAGE	56.0

TABLE 3.2-6

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JUNE 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	64.6	64.6	64.7	64.7	64.7	64.7	64.8	65.0	65.2	65.5	65.5	65.8	66.1	66.3	67.0	67.6	67.6	67.5	67.4	67.2	67.1	66.9	66.7	66.7	66.0
2	66.3	66.1	66.0	65.8	65.7	65.6	65.6	65.5	65.6	65.6	65.6	65.4	65.3	65.4	65.4	65.4	65.6	65.9	65.9	65.9	65.7	65.4	65.3	65.1	65.6
3	65.1	65.0	64.9	64.9	65.0	64.9	65.0	64.9	65.0	65.1	65.2	65.2	65.5	65.7	66.1	66.4	66.3	66.3	66.2	66.3	66.3	66.3	66.2	66.2	65.6
4	66.1	66.1	65.9	65.7	65.5	65.3	65.2	65.3	65.5	65.7	65.8	65.9	65.9	66.0	66.2	66.1	66.2	66.1	66.0	66.0	66.0	65.8	65.6	65.5	65.8
5	65.4	65.3	65.3	65.4	65.4	65.3	65.3	65.4	65.5	65.6	65.8	65.9	65.9	65.8	65.8	65.7	65.7	65.7	65.6	65.3	65.2	65.0	64.8	64.5	65.4
6	64.3	64.1	63.9	63.7	63.6	63.4	63.4	63.4	63.6	63.7	63.8	63.6	63.8	63.9	64.1	64.2	64.5	64.8	64.9	65.0	65.0	65.0	65.0	65.1	64.2
7	65.0	64.9	64.8	64.8	64.7	64.7	64.7	64.7	64.5	64.6	64.7	64.7	64.7	64.4	64.1	64.0	63.9	63.9	63.7	63.6	63.5	63.4	63.4	63.4	64.3
8	63.4	63.3	63.3	63.2	63.2	63.2	63.2	63.2	63.2	63.1	63.2	63.3	63.3	63.3	63.3	63.2	63.5	63.6	63.5	63.4	63.4	63.6	63.7	63.8	63.4
9	63.7	63.4	63.4	63.1	62.9	62.8	62.9	62.8	62.9	63.0	63.2	63.3	63.3	63.3	63.3	63.2	62.8	62.6	62.5	62.4	62.2	62.2	62.0	62.0	62.9
10	61.9	61.8	61.5	61.6	61.5	61.8	61.6	61.6	61.8	61.9	61.9	61.7	61.6	61.7	61.8	61.8	61.7	61.7	61.5	61.6	61.8	61.8	61.7	61.6	61.7
11	61.3	61.3	61.2	61.0	61.1	61.0	60.9	61.0	61.1	61.2	61.3	61.3	61.4	61.5	61.6	61.6	61.5	61.7	61.8	61.6	61.4	61.3	61.1	60.8	61.3
12	60.8	60.6	60.6	60.6	60.5	60.4	60.4	60.5	60.8	60.9	60.9	61.2	61.5	61.6	61.1	60.9	60.9	61.1	61.0	60.9	60.7	60.5	60.4	60.3	60.8
13	60.2	60.2	60.0	60.0	60.0	60.0	59.9	60.0	60.2	60.4	60.4	60.5	60.7	60.8	61.0	61.2	61.5	61.9	61.9	61.8	61.8	61.7	61.9	61.7	60.8
14	61.6	61.5	61.2	61.3	61.2	61.2	61.2	61.4	61.4	61.5	61.5	61.4	61.4	61.4	61.5	61.6	61.6	62.0	62.1	62.1	62.3	62.8	62.8	62.7	61.7
15	62.6	62.4	62.1	61.9	61.9	62.3	62.8	63.0	63.1	63.4	63.6	64.0	64.2	64.2	64.0	63.8	63.8	63.9	63.7	63.5	63.9	63.9	63.8	63.8	63.3
16	63.9	64.1	64.0	64.2	64.3	64.3	64.3	64.2	64.0	63.5	63.7	63.6	63.7	63.8	63.8	63.7	63.8	64.0	64.1	64.3	64.5	64.4	64.2	63.9	64.0
17	63.4	63.1	63.3	63.4	63.3	63.2	63.3	63.3	63.4	63.6	63.7	63.9	64.2	64.5	64.8	65.3	65.5	65.4	65.1	65.3	65.2	65.5	65.6	65.3	64.3
18	65.5	65.4	65.3	65.3	65.3	65.3	65.2	65.2	65.2	65.2	65.3	65.2	65.1	65.3	65.6	66.0	66.2	66.6	66.7	66.7	66.7	66.7	66.7	66.7	65.8
19	66.6	66.6	66.5	66.5	66.5	66.4	66.4	66.3	66.4	66.4	66.4	66.4	66.4	66.6	66.7	66.8	66.9	67.0	66.9	66.8	67.0	67.3	67.3	67.3	66.7
20											SYSTEM INOPERATIVE														
21											SYSTEM INOPERATIVE														
22											SYSTEM INOPERATIVE														
23											SYSTEM INOPERATIVE														
24											SYSTEM INOPERATIVE														
25						SYSTEM INOPERATIVE									69.8	70.1	70.3	70.6	70.3	70.0	69.9	70.0	69.9	69.5	
26	69.5	69.6	69.8	69.6	69.3	69.3	69.4	69.4	69.2	69.4	69.4	70.2	70.5	70.8	70.8	71.3	71.7	72.0	72.4	72.5	72.6	72.2	72.1	72.1	70.6
27	72.6	72.0	71.8	72.0	72.3	72.5	72.6	72.5	72.2	72.5	72.5	72.4	72.4	72.4	72.5	72.9	73.3	73.6	73.2	73.4	73.2	73.1	73.1	73.0	72.7
28	72.8	72.8	72.7	72.7	72.7	72.6	72.6	72.6	72.6	72.6	72.8	72.5	72.5	72.5	72.5	72.4	72.4	72.4	72.4	72.3	72.2	72.2	72.2	72.2	72.5
29	72.2	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.2	72.2	72.2	72.1	72.0	72.0	72.0	72.0	71.9	71.9	72.1
30	71.8	71.7	71.4	71.0	70.8	70.5	69.9	69.8	70.0	69.3	69.8	70.2	69.9	70.0	70.0	70.1	70.5	71.0	70.7	70.3	69.7	70.1	70.3	69.9	70.4
																						MONTHLY AVERAGE			65.6

TABLE 3.2-7

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JULY 1980

DAY	HOUR																							DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	69.5	69.6	69.8	69.9	69.9	69.9	70.0	70.2	70.1	70.0	70.0	70.1	70.1	70.0	70.0	70.0	70.1	70.1	70.0	70.1	70.0	69.9	70.0	70.0	70.0
2	69.9	69.9	69.8	69.7	69.8	69.9	70.0	70.1	70.1	70.1	70.1	70.1	70.5	70.6	70.6	70.7	70.8	70.8	71.0	71.2	71.2	71.2	71.2	71.2	70.4
3	71.1	71.1	71.1	71.1	71.0	71.0	71.1	71.1	71.1	71.2	71.3	71.3	71.3	71.2	71.1	71.1	71.2	71.3	71.2	71.2	71.2	71.1	71.1	71.1	71.2
4	71.1	71.2	71.2	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.1	71.3	71.4	71.6	71.3	71.1	71.1	71.2	71.1	71.2	71.3	71.2	71.1	71.1
5	71.3	71.4	71.5	71.3	71.1	71.0	71.1	71.1	71.1	71.2	71.1	71.6	71.9	72.2	72.1	72.2	72.3	72.3	72.8	73.2	73.2	73.9	73.9	73.7	72.0
6	73.6	73.6	73.5	73.4	73.3	73.2	73.1	73.0	72.9	72.9	72.9	73.0	73.1	73.1	73.2	73.4	73.4	73.4	73.4	73.2	73.2	73.1	73.0	72.9	73.2
7	73.0	72.9	72.8	72.8	72.7	72.6	72.6	72.7	72.7	72.7	72.7	72.7	72.7	73.1	72.9	72.8	72.7	72.6	72.7	72.7	72.6	72.6	72.6	72.6	72.7
8	72.7	72.6	72.7	72.7	72.8	72.7	72.7	72.7	72.6	72.6	72.7	72.7	72.6	72.8	72.9	73.0	72.8	72.8	72.9	72.9	72.8	72.8	72.7	72.7	72.7
9	72.8	72.5	72.5	72.4	72.4	72.4	72.3	72.3	72.4	72.4	72.4	72.4	72.4	72.3	72.3	72.2	72.7	72.9	73.1	73.0	72.9	72.5	72.3	72.2	72.5
10	72.3	72.2	72.3	72.2	72.3	72.3	72.1	72.2	72.2	72.3	72.2	72.0	72.1	72.0	72.0	2.1	72.3	72.5	72.7	72.7	72.6	72.3	72.4	72.5	72.3
11	72.4	72.5	72.4	72.4	72.4	72.5	72.4	72.3	72.4	72.6	72.7	72.7	72.7	72.7	72.7	72.9	73.1	73.2	73.4	73.2	73.2	73.1	73.2	73.4	72.8
12	73.2	73.2	73.1	73.2	73.3	73.3	73.3	73.2	73.3	73.2	73.1	73.1	73.1	73.2	73.1	72.9	72.9	72.8	72.6	72.7	72.9	73.0	73.1	73.0	73.1
13	72.9	73.0	73.2	73.1	73.0	72.9	72.9	72.9	72.9	72.8	72.8	72.7	72.7	72.7	72.7	72.7	72.8	72.9	73.0	73.0	73.3	73.2	72.7	72.4	72.9
14	72.4	72.5	72.6	72.6	72.7	72.8	72.8	72.7	72.8	72.6	72.6	72.7	72.8	72.9	73.3	73.4	73.6	73.6	73.5	73.5	73.5	73.5	73.4	73.3	73.0
15	73.3	73.2	73.4	73.3	73.3	73.4	73.4	73.4	73.3	73.2	73.1	73.5	74.0	74.0	74.1	74.1	74.2	74.5	74.7	75.0	74.9	74.4	74.4	74.4	73.9
16	74.5	74.1	74.1	74.3	74.6	74.7	74.6	74.6	74.8	75.0	75.0	75.0	74.8	74.8	74.8	74.8	75.0	75.2	74.9	74.7	74.7	74.7	74.6	74.6	74.7
17	74.7	74.6	74.7	74.8	74.6	74.5	74.5	74.6	74.5	74.4	74.7	75.0	75.0	75.4	75.6	75.7	75.6	75.3	75.0	75.0	74.9	74.8	74.8	74.8	74.9
18	74.9	74.9	74.9	74.8	74.8	74.9	74.8	74.7	74.7	74.7	74.6	74.7	75.0	75.1	75.1	75.0	75.2	75.1	75.0	74.9	75.0	75.0	74.9	74.9	74.9
19	75.1	75.1	74.9	74.9	75.0	74.9	74.9	75.0	75.0	75.1	75.2	75.3	75.4	75.4	75.3	75.2	75.2	75.3	75.4	75.5	75.6	75.7	75.6	75.8	75.2
20	76.0	76.0	76.1	76.3	76.4	76.4	76.4	76.4	76.5	76.4	76.3	76.2	76.3	76.3	76.4	76.3	76.4	76.4	76.3	76.3	76.5	76.4	76.3	76.4	76.3
21	76.3	76.2	76.4	76.4	76.3	76.5	76.5	76.4	76.3	76.3	76.4	76.5	76.5	76.8	77.0	77.1	77.3	78.1	78.4	78.5	78.6	78.8	78.8	78.7	77.1
22	78.7	78.6	78.5	78.5	78.4	78.3	78.3	78.3	78.2	78.2	78.2	78.2	78.3	78.4	78.3	78.2	78.3	78.5	78.6	78.7	78.7	78.6	78.7	78.7	78.4
23	78.7	78.6	78.6	78.6	78.5	78.6	78.5	78.5	78.5	78.5	78.5	78.6	78.6	78.5	78.4	78.5	78.8	78.9	78.9	78.8	78.7	78.6	78.6	78.7	78.6
24	79.1	79.1	79.0	78.9	78.9	78.8	78.8	78.8	78.8	78.8	78.9	78.9	78.8	78.6	78.6	78.6	78.6	78.8	78.9	79.0	79.1	79.0	79.0	78.9	78.9
25	78.9	78.8	78.8	78.7	78.6	78.6	78.5	78.4	78.5	78.5	78.5	78.2	78.0	78.1	78.2	78.2	78.1	78.1	78.1	78.0	78.0	78.0	78.0	78.0	78.3
26	78.0	78.1	78.1	78.1	78.2	78.2	78.3	78.3	78.4	78.3	78.3	78.4	78.4	78.3	78.2	78.2	78.1	78.0	78.1	78.0	77.9	77.9	77.9	77.9	78.2
27	77.9	78.0	78.0	78.0	78.0	78.0	78.0	78.0	77.9	77.9	77.9	78.0	78.0	78.1	78.2	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.4	78.4	78.1
28	78.5	78.5	78.5	78.7	78.8	78.8	78.7	78.7	78.7	78.9	79.0	78.9	78.8	78.8	78.8	78.8	79.1	79.5	79.6	79.5	79.2	79.1	79.1	79.0	78.9
29	78.9	78.8	78.7	78.6	78.6	78.6	78.5	78.5	78.5	78.5	78.5	78.4	78.4	78.5	78.7	78.8	78.8	78.7	78.5	78.4	78.3	78.2	78.1	78.0	78.5
30	77.9	77.8	77.8	77.8	77.8	77.7	77.6	77.6	77.6	77.6	77.6	77.6	77.5	77.7	77.7	78.1	78.3	78.3	78.1	78.1	78.1	78.0	78.0	77.9	77.8
31	77.8	77.8	77.7	77.6	77.6	77.5	77.4	77.4	77.4	77.4	77.4	77.4	77.3	77.3	77.5	77.7	77.9	78.1	78.0	78.0	78.0	78.0	77.9	77.9	77.7
																								MONTHLY AVERAGE	74.9

TABLE 3.2-8

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

AUGUST 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	77.8	77.7	77.7	77.6	77.5	77.4	77.3	77.3	77.3	77.3	77.2	77.2	77.1	76.9	77.2	77.4	77.6	77.7	77.9	77.9	77.8	77.8	77.8	77.7	77.5
2	77.6	77.6	77.6	77.5	77.4	77.3	77.3	77.3	77.3	77.3	77.3	77.2	77.1	77.2	77.3	77.7	78.0	78.2	78.3	78.3	78.2	78.1	77.9	77.8	77.6
3	77.6	77.5	77.4	77.4	77.4	77.3	77.3	77.3	77.3	77.4	77.4	77.5	77.6	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.9	78.0	78.1	78.0	77.6
4	78.0	78.0	78.0	77.9	77.8	77.8	77.8	77.7	77.6	77.7	77.6	77.5	77.4	77.5	77.6	77.8	78.1	78.3	78.1	78.1	78.2	78.0	77.9	77.8	77.8
5	77.9	77.7	77.7	77.7	77.8	77.7	77.5	77.5	77.4	77.3	77.3	77.3	77.2	77.3	77.5	77.8	77.9	78.1	78.3	78.3	78.2	78.2	78.1	78.0	77.7
6	77.9	77.8	77.7	77.7	77.7	77.7	77.7	77.6	77.5	77.5	77.5	77.6	77.7	77.8	77.9	77.9	78.2	78.3	78.4	78.5	78.5	78.4	78.3	78.3	77.9
7	78.3	78.3	78.2	78.2	78.2	78.1	78.1	78.1	78.0	78.0	78.0	78.0	77.9	77.8	78.0	78.1	78.3	78.5	78.5	78.3	78.4	78.2	78.2	78.0	78.2
8	78.0	78.0	78.0	78.0	78.0	77.7	77.6	77.7	77.7	77.8	77.8	77.8	77.8	77.8	77.8	77.7	77.8	78.0	78.2	78.2	78.1	77.7	77.8	77.7	77.9
9	77.8	77.8	77.8	77.7	77.8	77.8	77.8	77.9	77.5	77.6	78.0	78.1	78.3	78.2	78.3	78.0	78.0	78.2	78.8	78.8	78.9	78.8	78.7	78.7	78.1
10	78.6	78.5	78.5	78.4	78.4	78.3	78.2	78.2	78.3	78.3	78.2	78.3	78.3	78.3	78.3	78.3	78.2	78.0	78.1	78.0	78.1	78.1	78.1	78.0	78.2
11	78.0	77.9	77.7	77.9	78.0	78.3	78.2	78.0	78.0	78.0	78.0	77.5	77.5	77.2	77.0	76.8	76.9	77.2	77.3	77.4	77.4	77.4	77.4	77.4	77.6
12	77.3	77.3	77.2	77.0	77.0	77.0	76.9	76.8	76.7	76.6	76.5	76.4	76.4	76.3	76.3	76.3	76.4	76.4	76.4	76.5	76.4	76.4	76.3	76.2	76.6
13	76.2	76.2	76.2	76.2	76.1	76.1	76.0	76.0	76.0	76.0	75.8	75.8	75.9	76.0	76.0	76.0	76.1	76.2	76.3	76.2	76.2	76.2	76.2	76.2	76.1
14	76.1	76.1	76.0	75.9	75.8	75.7	75.7	75.7	75.7	75.7	75.6	75.3	75.1	74.9	74.9	75.1	75.1	75.2	75.2	75.2	75.1	75.2	75.1	75.1	75.4
15	74.9	75.1	75.0	75.0	74.9	75.0	75.0	75.0	75.0	75.0	75.0	75.0	74.9	74.8	74.7	74.8	74.9	74.9	75.0	74.8	74.7	74.7	74.9	75.1	74.9
16	75.1	75.1	75.0	75.0	75.0	74.9	74.8	74.9	74.9	74.8	74.9	74.9	74.8	74.8	74.8	74.7	74.7	74.6	74.5	74.3	74.3	74.2	74.2	74.1	74.7
17	73.9	73.9	73.9	73.8	73.7	73.7	73.7	73.6	73.7	73.7	73.6	[illegible]	73.6	73.5	73.1	73.4	73.4	73.4	73.3	73.3	73.4	73.3	73.2	73.2	73.5
18	73.2	73.3	73.3	73.5	73.5	73.5	73.5	73.5	73.4	73.4	73.5	73.6	73.5	73.5	73.4	73.3	73.3	73.3	73.2	73.3	73.1	73.3	73.2	73.2	73.4
19	73.2	73.1	73.1	73.1	73.1	73.0	73.3	73.2	73.1	73.2	73.4	73.4	73.3	73.1	72.9	72.8	72.9	73.0	73.0	73.1	73.1	73.1	72.9	73.1	73.1
20	73.2	73.2	73.3	73.1	73.1	73.0	73.0	73.0	72.9	72.9	73.0	73.1	73.1	72.9	72.7	72.5	72.4	72.4	72.3	72.3	71.9	72.1	72.1	72.0	72.7
21	72.1	72.0	71.9	71.9	71.8	71.8	71.7	71.6	71.7	71.7	71.7	71.7	71.6	71.3	71.1	71.0	71.0	71.1	71.1	71.1	71.0	71.0	70.9	70.9	71.4
22	70.9	70.8	70.9	70.8	70.8	70.8	70.8	70.7	70.8	70.8	70.9	70.9	71.0	71.1	71.0	70.9	70.9	70.8	70.9	70.9	71.0	70.8	70.7	71.0	70.9
23	71.0	71.0	71.0	70.9	70.9	70.9	70.8	70.7	70.8	70.9	70.9	70.8	70.9	70.9	70.9	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.8	70.8	70.8
24	70.7	70.7	70.8	70.7	70.7	70.8	70.7	70.7	70.8	71.0	70.8	70.8	70.7	70.7	70.6	70.5	70.5	70.7	70.6	70.5	70.7	70.8	70.7	70.7	70.7
25	70.6	70.6	70.6	70.6	70.6	70.7	70.8	71.1	71.1	71.1	70.9	70.8	70.9	70.8	70.8	70.9	70.8	70.7	70.7	70.6	70.7	70.8	70.7	70.7	70.8
26	70.8	70.8	70.6	70.7	70.7	70.8	70.7	70.7	70.8	70.8	71.0	71.1	71.2	71.2	71.2	71.4	71.6	71.9	72.0	72.2	72.2	72.2	72.2	72.1	71.3
27	72.0	72.0	72.0	72.0	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	72.0	72.0	72.1	72.1	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.0
28	72.2	72.1	72.2	72.3	72.2	72.3	72.2	72.2	72.3	72.3	72.2	72.3	72.4	72.4	72.4	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.2	72.3
29	72.2	72.3	72.3	72.4	72.3	72.3	72.2	72.2	72.3	72.3	72.3	72.4	72.5	72.5	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4
30	72.4	72.4	72.3	72.3	72.3	72.3	72.3	72.2	72.2	72.3	72.3	72.3	72.6	72.3	72.3	72.2	72.1	72.1	72.0	72.0	72.0	72.0	72.0	72.0	72.2
31	72.1	72.2	72.2	72.2	72.1	72.2	72.3	72.3	72.3	72.3	72.4	72.4	72.4	72.6	72.5	72.5	72.5	72.7	72.6	72.6	72.5	72.5	72.4	72.5	72.4
																								MONTHLY AVERAGE	74.6

TABLE 3.2-9

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

SEPTEMBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	72.6	72.6	72.6	72.5	72.6	72.6	72.5	72.6	72.6	72.6	72.6	72.7	72.6	72.6	72.5	72.6	72.7	72.5	72.5	72.6	72.6	72.6	72.8	72.7	72.6
2	72.5	72.4	72.6	72.9	72.7	72.5	72.4	72.6	72.6	72.8	73.0	72.9	73.0	73.3	73.5	73.9	74.2	74.5	74.6	74.6	74.5	74.6	74.5	74.5	73.4
3	74.4	74.4	74.3	74.2	74.1	74.1	74.0	74.0	74.1	74.1	74.1	74.1	73.9	74.0	74.3	74.5	74.9	75.4	75.5	75.5	75.5	75.5	75.5	75.5	74.6
4	75.5	75.5	75.4	75.3	75.3	75.4	75.4	75.5	75.4	75.5	75.5	75.5	75.4	75.5	75.6	75.7	75.8	76.0	76.0	75.9	75.9	75.8	75.6	75.6	75.6
5	75.4	75.4	75.4	75.4	75.3	75.2	75.2	75.1	75.1	75.0	74.9	74.8	74.7	74.7	74.8	74.8	74.9	74.9	74.8	74.8	74.6	74.5	74.5	74.4	74.9
6	74.4	74.4	74.3	74.3	74.2	74.1	74.1	74.1	74.1	74.2	74.2	74.2	74.2	74.2	74.1	74.1	74.1	74.0	74.0	73.9	73.9	73.9	73.9	73.9	74.1
7	73.9	73.9	73.9	73.9	73.9	74.0	74.2	74.1	74.0	74.0	73.9	73.9	73.9	73.8	73.8	73.8	74.0	74.0	74.3	74.2	74.5	74.4	74.3	74.3	74.0
8	74.1	74.0	74.0	74.0	74.0	73.9	73.8	73.8	73.8	73.8	73.8	73.8	74.0	73.9	74.2	74.4	74.4	74.4	74.3	74.2	74.1	74.1	74.0	73.9	74.0
9	73.8	73.8	73.6	73.6	73.5	73.5	73.4	73.4	73.4	73.4	73.5	73.5	73.3	72.9	72.7	72.5	72.4	72.3	72.4	72.4	72.4	72.4	72.5	72.4	73.0
10	72.4	72.4	72.4	72.5	72.6	72.5	72.4	72.4	72.4	72.5	72.5	72.8	72.6	72.5	72.2	72.2	72.3	72.1	72.1	72.0	72.0	71.8	71.8	71.7	72.3
11	71.6	71.6	71.5	71.4	71.4	71.4	71.3	71.3	71.3	71.4	71.5	71.6	71.4	71.4	71.2	71.2	71.2	71.2	71.1	71.1	71.2	71.2	71.2	71.2	71.3
12	71.2	71.3	71.3	71.3	71.4	71.3	71.2	71.1	71.1	71.2	71.2	71.1	71.1	71.1	71.2	71.1	70.9	70.9	70.9	70.8	70.9	70.9	70.8	70.8	71.1
13	70.8	70.8	70.8	70.8	70.9	70.8	70.7	70.7	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.5	70.2	70.1	69.9	69.9	69.9	69.8	69.8	69.9	70.4
14	69.9	69.8	69.9	69.9	69.9	69.8	69.8	69.8	69.8	69.7	69.7	69.7	69.7	69.8	69.7	69.7	69.8	69.8	69.8	69.7	69.7	69.7	69.7	69.8	69.8
15	69.7	69.8	69.8	69.7	69.6	69.5	69.5	69.5	69.5	69.5	69.6	69.4	69.1	69.1	69.1	69.0	69.1	69.0	68.9	68.9	68.9	68.8	68.7	68.7	69.3
16	68.7	68.7	68.6	68.5	68.5	68.5	68.4	68.4	68.4	68.5	68.6	68.4	68.0	67.8	67.9	68.1	68.2	68.2	68.1	68.1	68.1	68.0	68.0	67.9	68.3
17	67.9	67.8	67.8	67.8	67.8	67.8	67.7	67.7	67.8	67.8	67.8	67.8	67.5	67.3	67.2	67.1	67.1	67.2	67.2	67.2	67.2	67.2	67.1	67.1	67.5
18	67.1	67.1	67.1	67.0	67.0	67.0	66.9	66.9	66.8	66.7	66.6	66.6	66.6	66.5	66.6	66.6	66.6	66.7	66.6	66.5	66.2	66.0	65.9	65.7	66.6
19	65.6	65.4	65.4	65.3	65.3	65.1	65.1	65.1	65.1	65.2	65.3	65.3	65.1	65.2	65.3	65.4	65.5	65.4	65.4	65.5	65.4	65.4	65.3	65.3	65.3
20	65.3	65.3	65.2	65.2	65.2	65.2	65.1	65.1	65.1	65.1	65.1	65.0	65.0	64.9	64.8	64.8	64.8	64.9	65.0	65.0	65.0	65.0	65.1	65.1	65.1
21	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.0	65.0	65.0	64.9	64.9	64.9	64.9	64.8	64.7	64.7	64.6	64.6	64.6	64.6	64.8	64.8	64.7	64.9
22	64.7	64.7	64.7	64.8	64.9	64.7	64.8	64.8	64.9	64.9	65.0	65.0	65.1	65.4	65.8	66.2	66.5	66.5	66.5	66.3	66.1	66.0	66.1	66.1	65.4
23	66.1	66.1	66.1	66.1	66.2	66.2	66.2	66.2	66.3	66.4	66.5	66.5	66.6	66.6	66.7	66.9	67.1	67.2	67.1	67.1	66.7	66.8	66.8	66.9	66.6
24	66.9	66.8	66.8	66.6	66.5	66.4	66.4	66.3	66.3	66.2	65.9	65.7	65.6	65.8	66.0	66.3	66.5	66.5	66.5	66.3	66.2	66.0	66.0	65.9	66.3
25	65.9	65.9	65.9	65.8	65.8	65.7	65.7	65.6	65.7	65.7	65.7	65.5	65.3	65.3	65.3	65.4	65.4	65.3	65.3	65.1	65.0	64.9	64.8	64.7	65.4
26	64.8	64.9	65.1	65.3	65.4	65.6	65.7	65.7	65.7	65.7	65.6	65.5	65.5	65.3	65.2	65.1	64.9	64.8	64.5	64.2	63.9	63.8	63.7	63.5	65.0
27	63.5	63.4	63.3	63.3	63.2	63.1	63.0	63.0	62.8	62.6	62.4	62.4	62.4	62.4	62.4	62.3	62.3	62.3	62.2	62.1	61.9	61.8	61.8	61.9	62.6
28	61.8	61.8	61.7	61.7	61.6	61.7	61.5	61.5	61.6	61.6	61.5	61.6	61.5	61.4	61.4	61.3	61.3	61.3	61.3	61.4	61.4	61.3	61.3	61.1	61.5
29	61.0	60.9	60.7	60.7	60.7	60.5	60.5	60.4	60.4	60.5	60.4	60.3	59.9	60.0	60.2	60.6	60.9	61.2	61.1	61.0	61.0	60.9	60.8	60.6	60.6
30	60.5	60.5	60.4	60.3	60.3	60.2	60.2	60.1	60.1	60.2	60.3	60.5	60.4	60.4	60.6	60.7	60.8	60.9	61.0	61.2	61.3	61.3	61.3	61.2	60.6
																								MONTHLY AVERAGE	68.7

TABLE 3.2-10

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

OCTOBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	61.2	61.2	61.0	61.0	61.0	60.9	60.9	60.9	60.9	60.9	60.8	60.8	60.6	60.5	60.5	60.7	60.9	61.1	61.2	61.3	61.3	61.2	61.0	60.9	60.9
2	60.8	60.8	60.7	60.7	60.6	60.6	60.6	60.5	60.6	60.6	60.5	60.4	60.3	60.4	60.5	60.6	60.8	60.8	60.8	60.8	60.7	60.6	60.5	60.5	60.6
3	60.5	60.5	60.4	60.4	60.4	60.4	60.3	60.3	60.3	60.3	60.4	60.3	60.1	60.1	60.1	60.1	60.3	60.4	60.4	60.4	60.3	60.3	60.2	60.2	60.3
4	60.1	59.9	59.9	59.8	59.7	59.7	59.7	59.7	59.7	59.7	59.6	59.7	59.7	59.8	59.9	60.0	60.1	60.2	60.4	60.5	60.5	60.5	60.5	60.4	60.0
5	60.2	60.2	60.1	60.1	60.1	60.1	60.1	60.0	60.0	60.0	60.1	60.2	60.3	60.4	60.6	60.8	60.9	60.9	60.9	60.9	60.8	60.6	60.4	60.2	60.4
6	60.3	60.4	60.4	60.4	60.3	60.3	60.3	60.3	60.2	60.1	60.1	60.1	60.2	60.1	60.1	60.2	60.3	60.3	60.2	60.0	59.9	59.9	59.8	59.8	60.2
7	59.7	59.7	59.5	59.4	59.3	59.2	59.2	59.2	59.2	59.1	59.0	58.9	58.9	59.0	58.9	58.9	58.9	58.8	58.7	58.6	58.6	58.6	58.6	58.6	59.0
8	58.6	58.5	58.5	58.4	58.4	58.3	58.3	58.2	58.1	58.0	57.8	57.8	57.9	58.0	58.1	58.1	58.2	58.1	58.2	58.2	58.2	58.3	58.4	58.3	58.2
9	58.3	58.3	58.3	58.2	58.2	58.1	58.1	58.0	58.0	57.9	57.8	57.8	57.8	57.9	57.9	57.9	57.9	57.9	57.9	57.6	57.5	57.5	57.5	57.5	57.9
10	57.6	57.7	57.6	57.5	57.5	57.5	57.4	57.3	57.4	57.5	57.5	57.5	57.5	57.6	57.7	57.7	57.7	57.6	57.5	57.4	57.2	57.1	57.0	57.0	57.5
11	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	56.9	56.8	56.8	56.7	56.6	56.4	56.5	56.4	56.4	56.3	56.3	56.1	56.8
12	56.1	56.1	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.1	56.2	56.2	56.2	56.2	56.2	56.1	56.0	56.0	55.9	55.8	55.6	56.0
13	55.6	55.4	55.3	55.2	55.1	54.9	54.8	54.7	54.7	54.6	54.5	54.5	54.5	54.5	54.4	54.4	54.4	54.4	54.3	54.4	54.4	54.3	54.3	54.3	54.7
14	54.2	54.1	54.0	54.0	53.9	53.8	53.7	53.7	53.7	53.6	53.6	53.6	53.6	53.6	53.7	53.9	54.0	53.9	53.9	53.9	53.9	53.8	53.7	53.5	53.8
15	53.5	53.5	53.4	53.3	53.3	53.2	53.2	53.1	53.0	53.0	53.0	52.9	53.0	53.0	53.1	53.2	53.2	53.2	53.0	52.9	52.9	52.9	52.9	52.9	53.1
16	52.8	52.7	52.7	52.6	52.5	52.5	52.5	52.4	52.4	52.4	52.3	52.2	52.3	52.6	52.7	52.7	52.6	52.6	52.6	52.7	52.7	52.8	52.9	52.9	52.6
17	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.8	52.8	52.7	52.6	52.5	52.6	52.7	52.8	52.8	52.9	53.0	53.0	53.0	52.8
18	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.1	53.1	53.2	53.4	53.5	53.4	53.4	53.4	53.3	53.3	53.2	53.2	53.1	53.1	53.0	53.2
19	53.0	53.0	52.9	52.9	52.9	52.9	52.9	52.8	52.8	52.8	52.8	52.8	52.8	53.3	53.3	53.2	53.4	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.1
20	53.3	53.2	53.2	53.1	53.0	53.0	53.0	52.9	53.0	53.1	53.3	53.3	53.3	53.4	53.5	53.4	53.3	53.2	53.1	53.0	52.9	52.9	52.8	52.8	53.1
21	52.8	52.7	52.7	52.6	52.6	52.6	52.6	52.5	52.6	52.6	52.6	52.6	52.6	52.6	52.7	52.7	52.7	52.6	52.5	52.4	52.3	52.3	52.2	52.2	52.6
22	52.1	52.1	52.0	51.9	51.9	51.8	51.8	51.7	51.8	51.8	51.8	51.8	51.8	52.0	52.1	51.9	51.9	51.8	51.7	51.6	51.4	51.3	51.2	51.0	51.8
23	50.9	50.9	50.9	50.8	50.7	50.7	50.7	50.6	50.6	50.7	50.7	50.8	50.9	50.9	50.8	50.9	51.0	50.8	50.7	50.6	50.4	50.1	50.0	49.8	50.7
24	49.7	49.7	49.4	49.4	49.5	49.5	49.5	49.5	49.3	49.4	49.5	49.7	49.6	49.3	49.3	49.3	49.3	49.1	49.0	48.9	48.7	48.5	48.4	48.3	49.2
25	48.3	48.3	48.3	48.3	48.3	48.2	48.1	48.0	47.9	47.8	47.7	47.6	47.6	47.6	47.5	47.5	47.5	47.6	47.7	47.9	48.0	48.1	48.2	48.2	47.9
26	48.2	48.1	48.0	47.9	47.8	47.8	47.7	47.7	47.6	47.6	47.6	47.7	47.7	47.8	47.8	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.8
27	47.6	47.5	47.5	47.5	47.3	47.3	47.4	47.3	47.3	47.2	47.2	47.3	47.4	46.9	46.9	47.1	47.2	47.2	47.1	47.0	46.9	46.8	46.7	46.7	47.2
28	46.6	46.6	46.5	46.5	46.4	46.3	46.3	46.2	46.1	46.1	46.0	45.9	45.8	45.7	45.4	45.5	45.6	45.7	45.7	45.7	45.7	45.7	45.7	45.7	46.0
29	45.6	45.5	45.5	45.4	45.3	45.3	45.3	45.3	45.4	45.4	45.4	45.4	45.3	45.4	45.4	45.5	45.5	45.4	45.4	45.3	45.2	45.1	45.0	44.9	45.3
30	44.7	44.6	44.4	44.3	44.2	44.1	44.0	43.8	43.7	43.8	43.9	44.0	44.1	44.2	44.3	44.4	44.4	44.4	44.4	44.3	44.3	44.3	44.2	44.2	44.2
31	44.1	44.0	43.9	43.9	43.8	43.7	43.7	43.7	43.7	43.8	44.1	44.4	44.6	44.7	44.8	45.0	45.1	45.1	45.0	44.9	44.9	44.8	44.8	44.7	44.4
																								MONTHLY AVERAGE	53.6

TABLE 3.2-11

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

NOVEMBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	44.6	44.6	44.5	44.6	44.5	44.5	44.4	44.5	44.5	44.5	44.6	44.6	44.7	44.7	44.7	44.7	44.7	44.6	44.6	44.6	44.5	44.5	44.4	44.4	44.6
2	44.3	44.3	44.2	44.2	44.1	44.1	44.0	44.0	44.1	44.1	44.1	44.2	44.3	44.3	44.3	44.4	44.3	44.2	44.1	44.0	43.9	43.8	43.8	43.8	44.1
3	43.7	43.6	43.5	43.5	43.4	43.3	43.2	43.2	43.0	43.1	43.0	43.0	43.1	43.2	43.3	43.3	43.2	43.2	43.2	43.1	43.0	42.9	42.8	42.7	43.2
4	42.7	42.7	42.7	42.7	42.6	42.6	42.6	42.6	42.6	42.7	42.8	42.9	42.9	42.9	42.8	42.6	42.5	42.5	42.6	42.6	42.7	42.7	42.7	42.7	42.7
5	42.7	42.7	42.7	42.7	42.6	42.6	42.6	42.6	42.6	42.7	42.8	42.9	43.0	43.1	43.2	43.3	43.4	43.4	43.4	43.4	43.3	43.3	43.3	43.2	43.0
6	43.2	43.1	43.0	43.0	42.9	42.9	42.8	42.8	42.7	42.8	42.9	42.9	42.9	42.8	42.9	43.0	43.0	43.0	43.0	42.9	42.8	42.7	42.7	42.6	42.9
7	42.6	42.6	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.5	42.6	42.7	42.8	42.9	43.0	42.9	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.7	42.7
8	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.8	42.8	42.9	42.9	43.0	43.2	43.3	43.5	43.6	43.6	43.5	43.5	43.5	43.6	43.6	43.7	43.7	43.2
9	43.7	43.7	43.7	43.6	43.6	43.6	43.5	43.5	43.5	43.5	43.4	43.3	43.3	43.2	43.2	43.0	42.9	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3
10	42.9	42.9	42.9	42.9	42.8	42.7	42.7	42.7	42.6	42.6	42.6	42.5	42.5	42.5	42.5	42.4	42.3	42.2	42.2	42.2	42.2	42.1	42.0	42.0	42.5
11	42.0	41.9	41.9	41.8	41.8	41.8	41.7	41.7	41.7	41.6	41.5	41.5	41.5	41.5	41.4	41.3	41.3	41.2	41.2	41.1	41.0	41.0	40.9	40.7	41.5
12	40.6	40.4	40.3	40.3	40.2	40.2	40.2	40.1	40.0	40.0	40.0	39.8	39.7	39.6	39.6	39.5	39.4	39.3	39.3	39.3	39.2	39.2	39.1	39.1	39.8
13	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.1	39.2	39.3	39.3	39.4	39.5	39.5	39.5	39.5	39.5	39.6	39.7	39.2
14	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.6	39.7
15	39.7	39.7	39.7	39.7	39.6	39.5	39.4	39.4	39.4	39.5	39.5	39.5	39.6	39.6	39.5	39.5	39.5	39.5	39.5	39.4	39.3	39.3	39.3	39.2	39.5
16	39.3	39.2	39.3	39.3	39.2	39.1	39.0	39.0	39.0	39.1	39.2	39.2	39.3	39.4	39.4	39.4	39.3	39.4	39.4	39.3	39.1	38.9	38.9	38.8	39.2
17	38.7	38.7	38.6	38.5	38.4	38.3	38.3	38.3	38.3	38.2	38.3	38.4	38.4	38.3	38.3	38.4	38.3	38.3	38.2	38.4	38.4	38.4	38.3	38.1	38.4
18	38.0	37.8	37.7	37.7	37.6	37.4	37.4	37.4	37.4	37.4	37.4	37.3	37.2	37.2	37.1	37.0	36.9	36.9	37.0	37.0	37.0	36.9	36.8	36.6	37.3
19	36.5	36.4	36.5	36.5	36.5	36.4	36.4	36.2	36.0	36.1	36.2	36.2	36.3	36.5	36.5	36.5	36.5	36.4	36.3	36.3	36.2	36.0	35.8	35.6	36.3
20	35.5	35.5	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.7	35.9	36.0	36.1	36.2	36.2	36.2	36.1	36.0	36.0	36.0	35.9	35.8	35.7	35.8
21	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.6	35.5	35.4	35.3	35.3	35.3	35.3	35.2	35.2	35.1	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.3
22	35.1	35.1	35.1	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.1	35.3	35.4	35.4	35.4	35.3	35.3	35.3	35.2	35.1	35.0	35.0	35.0	35.1
23	35.0	35.0	35.0	35.0	35.0	35.0	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9
24	34.9	34.9	34.9	34.9	35.0	35.0	35.0	35.0	35.0	35.0	35.1	35.2	35.2	35.3	35.3	35.4	35.5	35.5	35.6	35.7	35.7	35.7	35.7	35.7	35.3
25	35.7	35.8	35.9	36.0	36.0	36.0	35.9	35.9	35.9	36.0	36.0	36.1	36.2	36.3	36.3	36.4	36.5	36.5	36.5	36.5	36.5	36.6	36.6	36.5	36.2
26	36.5	36.4	36.4	36.4	36.3	36.2	36.0	35.9	35.8	35.8	35.8	35.8	35.8	35.8	35.7	35.7	35.7	35.6	35.6	35.5	35.5	35.4	35.4	35.3	35.8
27	35.3	35.2	35.1	35.0	34.9	35.0	34.9	34.9	34.9	34.9	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	34.9	34.9	34.9	34.9	35.0
28	34.9	34.9	34.9	34.9	34.9	34.9	35.0	35.0	35.0	35.0	35.0	35.0	35.1	35.2	35.2	35.1	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.3	35.1
29	35.3	35.3	35.3	35.3	35.3	35.3	35.2	35.3	35.3	35.3	35.3	35.3	35.3	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.5	35.5	35.6	35.6	35.4
30	35.6	35.6	35.5	35.5	35.5	35.4	35.4	35.4	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.4	35.5	35.5	35.5	35.5	35.4
																						MONTHLY AVERAGE			39.1

TABLE 3.2-12

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

DECEMBER 1980

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.6	35.6	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.8	35.8	35.8	35.8	35.8	35.6
2	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.8	35.8	35.9	35.9	36.0	36.0	35.8	35.7	35.7	35.7	35.8	35.8	35.8	35.9	35.8
3	35.9	35.9	36.0	36.0	36.0	36.0	36.0	36.1	36.2	36.2	36.3	36.3	36.3	36.4	36.4	36.4	36.4	36.3	36.2	36.1	36.0	35.9	35.7	35.5	36.1
4	35.4	35.3	35.2	35.0	34.8	34.7	34.5	34.4	34.3	34.3	34.3	34.2	34.2	34.2	34.1	34.1	34.0	33.9	33.8	33.6	33.5	33.4	33.2	33.1	34.2
5	33.1	32.9	32.8	32.8	32.7	32.5	32.5	32.4	32.3	32.3	32.3	32.3	32.4	32.5	32.4	32.4	32.3	32.2	32.1	32.1	32.0	32.0	32.0	32.0	32.4
6	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
7	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
8	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
9	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
10	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
11	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
12	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
13	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
14	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
15	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
16	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
17	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
18	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
19	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
20	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
21	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
22	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
23	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
24	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
25	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
26	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
27	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
28	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
29	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
30	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
31	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
																								MONTHLY AVERAGE	32.5

TABLE 3.3-1

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

JANUARY 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.1	0.0	0.1	0.2	0.0	-0.1	-0.1	0.5	1.8	0.8	-1.4	-0.8	-0.3	-0.2	0.1	0.1	-0.1	1.5	-0.2	-1.0	-0.4	-0.3	-0.2	-0.1
2	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.1	1.2	0.6	1.2	0.7	-0.8	-0.5	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	0.1	-0.6	-0.3	-0.2	-0.1
3	0.0	-0.1	-0.1	-0.2	0.0	0.4	1.2	2.6	0.8	-1.4	-1.1	-0.5	-0.2	0.0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	-0.2
4	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.7	2.3	1.2	-0.8	-1.0	-0.6	-0.3	-0.1	-0.1	0.0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0.0	0.0
5	0.0	0.0	0.0	0.5	0.2	-0.1	0.1	-0.1	0.0	-0.4	-0.8	-0.2	-0.2	-0.1	-0.2	0.0	-0.1	0.1	-0.2	0.0	-0.1	0.0	-0.1	0.0
6	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.2	1.5	0.5	-0.5	-0.2	-0.2	-0.3
7	-0.1	0.1	0.1	0.2	0.4	0.5	1.3	1.7	0.3	-1.4	-1.2	-0.6	-0.3	-0.1	0.1	0.0	-0.1	-0.1	-0.2	-0.3	-0.2	-0.1	-0.1	0.1
8	0.0	-0.1	-0.1	0.1	0.1	0.3	1.0	2.3	0.7	-1.4	-1.0	-0.4	-0.2	0.0	-0.1	0.1	0.0	-0.1	0.1	-0.1	0.0	-0.3	-0.1	0.0
9	-0.1	0.1	0.1	0.3	0.3	0.5	0.6	1.0	1.3	1.0	-0.1	-0.6	-0.7	-0.6	-0.4	-0.3	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.1
10	0.1	-0.1	-0.1	0.0	0.1	0.3	0.3	0.6	0.9	0.8	-0.3	-1.1	-0.9	-0.4	-0.4	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1
11	0.0	-0.1	-0.1	0.1	0.2	0.4	0.5	1.5	2.0	0.4	-0.5	-1.4	-0.9	-0.7	-0.8	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	0.0	0.0	0.0
12	0.1	0.0	0.0	-0.1	0.2	-0.2	-0.1	-0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	-0.1	0.0
13	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.8	2.1	0.5	-1.4	-0.7	-0.5	-0.1	-0.1	-0.2	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0
14	0.0	0.0	-0.1	-0.1	0.0	0.1	0.6	1.8	0.6	-0.5	-0.6	-0.4	-0.2	-0.2	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	-0.2	0.1	-0.1
15	-0.1	0.0	0.0	0.0	0.0	0.3	0.5	0.9	1.7	1.3	-1.0	-1.5	-0.6	-0.4	-0.3	0.0	-0.1	-0.3	0.0	0.0	-0.3	-0.1	-0.1	-0.1
16	0.0	0.0	0.1	0.1	0.0	0.1	-0.1	0.2	-0.2	-0.1	0.8	0.4	-0.3	-0.2	0.0	0.1	0.1	-0.2	0.0	0.0	0.0	0.0	-0.1	-0.1
17	-0.1	0.0	-0.2	-0.2	-0.1	0.1	-0.1	-0.1	0.0	0.2	0.3	0.1	0.2	0.1	0.2	-0.1	-0.1	0.0	0.1	0.0	-0.2	-0.3	-0.2	-0.1
18	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	0.0	-0.1	0.0
19	-0.1	-0.2	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	-0.1	-0.1	0.0	0.0	0.0
20	0.1	-0.1	-0.1	0.2	0.3	0.3	0.4	0.4	0.8	1.3	1.2	-0.4	-1.3	-1.1	-0.7	-0.4	-0.2	-0.2	0.4	-0.4	-0.2	-0.1	-0.1	-0.2
21	0.0	-0.1	-0.1	-0.2	-0.1	0.1	0.3	1.2	2.2	-0.1	-1.1	-0.6	-0.2	-0.1	-0.2	-0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	0.0
22	-0.1	0.0	0.0	0.0	-0.1	0.2	0.2	0.9	2.4	0.1	-1.3	-0.8	-0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0
23	0.0	0.0	0.2	0.2	0.3	0.3	0.4	1.3	1.4	0.1	-1.1	-1.0	-0.8	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	-0.2	0.0	-0.1
24	-0.2	-0.1	0.2	0.5	1.1	1.3	0.2	-0.6	-0.5	-0.6	-0.5	-0.2	-0.1	0.0	0.0	0.2	0.2	-0.1	0.1	-0.2	-0.4	-0.1	0.0	-0.1
25	-0.1	0.0	-0.1	0.1	0.3	0.4	0.5	1.1	1.5	0.2	-0.8	-0.8	-0.6	-0.2	-0.1	-0.2	-0.1	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.2
26	0.1	-0.2	0.0	0.3	0.2	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.4	0.2	0.3	0.0	0.1	0.3	0.8	-0.2	-1.5	-1.1	-1.0	-0.4
27	-0.2	-0.1	-0.1	-0.2	0.0	0.1	0.2	0.2	0.4	0.5	0.5	0.7	0.7	0.5	0.5	0.2	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.1
28	0.2	0.2	0.2	0.0	-0.8	-0.5	-0.5	-0.1	-0.5	-0.2	-0.3	-0.6	-0.6	-0.5	-0.3	-0.2	-0.3	-0.1	-0.2	-0.1	-0.1	0.0	-0.2	-0.1
29	-0.1	0.0	0.0	0.0	0.1	0.2	0.4	1.2	1.6	0.8	-0.7	-0.7	-0.6	-0.6	-0.3	0.0	0.0	0.3	0.3	0.5	-0.7	-0.6	-0.5	-0.2
30	-0.2	-0.2	-0.1	0.0	0.1	0.1	0.2	1.0	1.0	1.4	0.4	-0.7	-0.4	-0.1	-0.4	-0.6	1.2	0.0	-1.4	-0.9	-0.5	-0.3	-0.1	-0.1
31	-0.1	-0.1	-0.1	0.1	0.3	0.3	0.2	1.1	2.1	-0.3	-1.2	-0.8	-0.3	-0.1	-0.1	0.0	-0.2	-0.7	-0.6	-0.3	-0.4	-0.1	-0.1	-0.1

TABLE 3.3-2

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

FEBRUARY 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-0.1	0.0	-0.1	0.3	-0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.3	-0.1	0.0	0.0	-0.2	0.0	-0.1	0.0	0.0	0.0
2	-0.1	0.3	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	-0.1	0.0	-0.1	0.1	-0.2	-0.1	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.3	-0.2	0.2	0.2	0.2	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
4	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1	0.0
5	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.4	1.6	1.3	-0.4	-0.2	-0.1	-0.1	-0.1	0.0	0.8	2.2	-1.1	-0.8	-0.5	-0.3	-0.3
6	-0.3	0.1	0.2	0.5	0.3	0.3	0.4	0.8	1.4	-0.4	-1.6	-1.0	-0.2	0.2	0.1	-0.2	-0.2	-0.1	0.2	0.3	0.3	0.4	0.4	0.4
7	0.5	0.4	0.5	0.3	0.2	0.2	0.4	0.2	0.3	0.6	-1.1	-1.5	-0.8	-0.2	-0.3	1.1	-2.0	0.1	0.1	-0.9	-0.5	-0.1	-0.2	0.0
8	-0.4	-0.2	-0.1	0.4	0.5	0.5	0.4	0.5	1.5	2.0	-1.9	-1.0	-0.1	-0.5	0.0	0.0	-0.2	0.4	2.1	-0.9	-1.8	-0.6	-0.2	-0.1
9	-0.1	0.0	-0.1	0.1	0.3	0.7	0.1	0.3	0.6	0.6	1.1	0.9	0.8	0.5	0.4	0.5	0.1	0.2	0.2	-2.2	-0.7	-0.2	-0.6	-0.4
10	-0.6	-0.3	-0.1	0.2	0.2	0.5	0.6	0.3	0.1	0.6	0.9	0.3	0.5	0.4	0.3	0.2	0.1	0.2	-0.1	-2.9	-1.9	-0.2	-0.3	0.0
11	-1.1	-0.5	-0.3	-0.1	0.1	-0.1	0.5	0.2	0.3	1.2	0.6	1.1	1.2	0.4	0.4	0.0	-0.1	-0.2	-0.2	-0.7	-1.9	-1.8	-0.7	-0.4
12	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	0.2	0.2	2.4	1.2	1.0	0.6	0.3	0.0	0.1	0.0	0.1	-0.2	-0.5	-1.5	-1.7	-0.8	-0.4	-0.1
13	-0.1	-0.2	-0.2	0.0	0.0	0.2	0.4	0.9	0.8	1.3	1.1	0.3	0.5	0.3	0.2	0.0	-0.1	-0.3	-0.3	-0.1	-0.6	-1.2	-0.9	-0.5
14	-0.3	-0.2	-0.2	-0.1	0.0	0.3	0.3	0.4	0.9	0.8	0.6	0.7	0.7	0.4	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.8	-0.7	-0.6	-0.5
15	-0.5	-0.4	-0.2	0.0	0.1	0.3	0.3	0.7	0.7	0.8	0.7	0.6	0.4	0.3	0.2	0.0	-0.2	-0.4	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
16	0.0	0.1	0.0	0.3	0.1	0.2	0.2	0.0	0.2	0.0	0.2	0.2	0.3	0.0	0.1	0.0	-0.1	-0.1	-0.4	0.1	0.1	0.0	-0.1	-0.3
17	-0.4	-0.3	-0.5	-0.1	0.0	-0.1	0.2	0.1	0.1	0.3	0.3	0.4	0.5	0.5	0.2	0.2	-0.1	-0.3	-0.3	-0.1	0.2	0.0	-0.4	-0.4
18	-0.2	-0.7	-0.2	-0.3	-0.2	-0.4	0.0	0.1	0.3	0.4	0.7	0.7	0.6	0.3	0.0	-0.1	-0.3	-0.4	-0.4	0.0	0.2	-0.1	-0.2	-0.2
19	-0.3	-0.4	-0.2	-0.2	0.0	0.0	0.3	0.1	0.2	0.4	0.3	0.5	0.6	0.6	0.1	-0.7	-1.8	-1.6	-1.4	-1.2	-0.7	-0.4	-0.2	-0.1
20	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.5	1.2	0.7	0.3	0.1	0.3	0.4	0.7	0.5	0.3	0.1	-1.2	-1.4	-1.4	-0.6	-0.3	-0.1	-0.1
21	0.0	0.0	-0.2	0.0	0.3	0.3	0.5	0.7	0.8	1.0	1.1	0.9	0.8	0.9	0.4	0.3	0.2	0.2	0.0	-0.1	-0.1	-0.5	-0.7	-0.6
22	-0.3	-0.5	0.0	-0.4	-0.4	-0.1	-0.2	-0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	-0.1	-0.3	-0.1	0.0	0.1
23	0.1	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.1	0.0	-0.8	-0.7	-0.4	-0.2	-0.3	-0.2	0.9	0.7	0.1	-0.1	-0.2
24	-0.3	-0.4	-0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.4	0.1	-0.1	-0.2	0.1	0.3	-0.9	-0.6	-0.5
25	-0.4	-0.1	-0.3	-0.5	-0.3	-0.1	0.5	0.6	0.7	0.4	0.3	-0.1	0.0	0.1	-0.1	-0.6	-0.5	-0.1	-0.1	-0.1	-0.5	-1.2	-1.2	-0.4
26	-0.1	0.0	-0.2	-0.2	-0.1	0.0	0.3	0.6	0.8	1.1	1.0	0.6	0.4	0.2	-0.1	-0.2	-0.2	-0.3	0.0	0.4	0.1	-1.0	-1.1	-0.7
27	-0.5	-0.4	-0.2	0.0	0.1	0.2	0.3	0.5	0.7	0.8	0.9	0.4	0.2	0.0	-0.1	-0.5	-0.3	-0.5	-0.6	-0.7	-1.3	-0.8	-0.4	-0.2
28	-0.1	-0.1	-0.2	0.0	0.0	0.2	0.3	1.0	1.8	0.8	-0.3	-0.4	-0.3	0.2	0.2	0.2	-0.1	-0.4	-0.3	0.2	0.8	0.2	-0.2	-0.5
29	-0.5	-0.3	-0.3	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.5	0.5	0.6	0.7	0.7	0.8	0.7	0.7	-1.6	-2.0	-1.5	-0.9	-0.4	-0.3	-0.1

TABLE 3.3-3

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

MARCH 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-0.2	-0.1	-0.1	0.0	-0.1	0.2	0.4	0.4	0.5	0.5	0.8	1.2	1.2	0.4	0.3	0.3	-0.1	-0.4	-0.3	-0.1	0.0	0.2	0.0	0.3
2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	-0.1	0.0	0.4	0.3	0.4	0.4	0.4	0.3	0.2	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
3	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.3	0.3	0.4	0.4	0.3	0.0	-0.4	-0.4	-0.4	-0.6	-1.0	-1.7	-1.6	-1.0	-0.6	-0.4
4	-0.2	-0.1	-0.1	0.0	0.0	0.2	0.4	0.5	1.0	0.9	1.1	1.0	0.4	0.3	0.0	-0.2	0.0	-0.1	-0.[illegible]	-1.2	-1.7	-0.7	-0.2	-0.2
5	0.0	-0.1	0.0	0.3	0.5	0.5	0.5	0.6	1.1	0.8	0.8	0.2	-1.9	-1.6	-1.1	-0.2	0.1	0.4	-0.2	-0.8	-0.5	-0.2	0.0	0.0
6	-0.1	0.0	0.1	0.3	0.3	0.4	0.6	0.8	0.8	1.0	0.8	0.7	1.2	0.3	0.0	0.0	-0.2	-0.4	-0.2	0.2	-1.8	-0.9	-0.4	-0.4
7	-0.6	-0.6	-0.2	0.0	0.1	0.3	0.5	0.5	0.6	0.6	0.7	0.5	0.9	0.7	0.6	0.4	0.3	0.0	0.1	-0.7	-2.9	-2.0	-1.4	-0.8
8	-0.3	-0.1	0.1	0.0	-0.1	-0.1	0.0	0.3	0.4	1.1	2.4	0.3	-0.5	-0.4	-0.4	-0.6	-0.6	-0.2	0.4	1.9	0.8	-0.7	-1.3	-1.1
9	-0.5	-0.2	-0.1	0.0	-0.2	-0.1	0.0	0.2	0.4	0.5	0.6	0.8	0.7	0.6	0.6	0.8	0.6	0.4	0.3	0.5	-1.9	-1.5	-1.0	-0.6
10	-0.3	-0.4	-0.3	-0.2	-0.1	0.0	0.2	0.5	1.0	1.1	1.0	0.8	0.6	0.2	0.2	0.0	-0.4	-0.8	-1.8	-2.1	-1.1	-0.5	-0.1	-0.1
11	-0.1	-0.1	-0.1	0.4	0.7	1.0	0.7	0.9	-1.0	-1.5	-0.5	-0.3	-0.1	0.4	0.7	1.0	1.1	0.8	-1.5	-1.6	-0.8	-0.3	-0.2	-0.1
12	0.0	-0.1	-0.2	0.0	0.3	0.6	0.5	0.6	0.5	0.3	0.3	0.4	0.2	0.4	0.2	0.3	0.6	0.3	0.2	-0.7	-1.9	-1.4	-0.6	-0.4
13	-0.1	-0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.6	0.4	1.0	0.8	0.6	0.3	0.0	-0.4	-1.3	-1.3	-0.7	-0.4
14	-0.2	-0.1	-0.1	0.1	0.9	0.3	0.4	0.3	0.0	-0.1	0.0	0.3	0.3	0.1	0.3	0.3	0.3	0.0	0.1	-0.5	-1.3	-0.9	-0.3	-0.1
15	-0.2	-0.1	0.0	-0.1	-0.1	-0.1	0.2	0.3	0.6	1.7	1.4	-0.3	-1.0	-0.5	0.0	-0.1	-0.3	-0.2	0.2	1.6	-0.3	-0.6	-0.4	-0.4
16	-0.5	-0.4	-0.3	0.0	0.3	0.6	0.4	0.2	0.3	0.5	0.4	0.6	0.5	0.6	0.4	0.6	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
17	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.3	0.1	0.0	-0.1	-0.3	-0.7	-1.6	-2.0	-1.6	-0.9	-0.5	-0.2	-0.1
18	0.0	0.0	0.1	0.5	0.3	0.2	-0.4	-0.5	-0.3	-0.2	0.0	0.0	0.0	0.1	0.2	0.0	-0.2	-0.1	-0.3	-0.1	-0.2	-0.1	0.0	0.0
19	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	-0.1
20	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	-0.2	-0.1	-0.2	-0.1	-0.1	0.0	-0.1
21	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	0.1
23	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.2	0.1	-0.1	0.0	-0.1	-0.2	0.0	0.0	0.2
24	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	-0.1	0.1	0.2	0.2	0.3	0.1	0.2	0.0	-0.1	0.0	-0.2	-0.1	-0.2	0.1	0.0	0.0
25	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.1	-0.1
26	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	-0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
27	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.1	0.0	0.2	0.1	0.2	0.1	0.3	-0.1	0.0	0.1	-0.1	0.0	0.0	0.0	0.0
28	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0
29	-0.1	0.0	-0.1	0.1	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.1	0.0	-0.1	-0.1	-0.2	-0.1	-0.1	0.0	0.2	0.3	0.2	0.2	0.2
30	0.1	0.1	0.0	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.2	0.1	0.1	0.2	0.0	0.0	-0.1	-0.1	-0.2	0.1	-0.1	-0.1	-0.1	-0.2
31	-0.3	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE 3.3-4

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

APRIL 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1
2	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.0	-0.1	0.0	-0.1	0.0
3	0.0	-0.1	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
4	-0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	0.0	0.1	-0.1	0.0	0.0	0.4	-0.5	0.0	-0.2	-0.1	-0.3	-0.3	-0.2	-0.1
5	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.1	0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.2	0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.2
6	-0.1	-0.2	-0.1	-0.1	0.0	-0.2	0.0	-0.1	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0
7	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.3	0.3	0.3	0.1	0.0	0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0
8	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.4	-0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3	-0.3	-0.1	0.1	-0.1	-0.1
9	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.2	0.0	-0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	0.0	0.0	0.0
10	-0.1	-0.1	-0.2	-0.1	0.1	0.0	0.0	-0.2	-0.5	-0.1	-0.2	0.1	0.0	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.1	-0.1
11	0.1	0.1	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
12	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	-0.2	-0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
13	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.4	-0.3	0.0	-0.1	0.0	-0.1	0.0
14	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.2	-0.1	-0.1	0.0	-0.1	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	-0.2
15	0.0	0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.3	0.1	0.1	0.3	0.2	0.1	-0.1	0.0	0.0	0.0	0.0
16	0.0	-0.1	0.0	-0.1	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.1	0.2	0.0	0.1	0.0	0.2	0.0	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0
17	-0.2	-0.1	0.0	-0.1	-0.2	-0.2	-0.1	-0.2	0.0	0.0	0.2	0.0	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
18	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-0.1
19	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	0.1	-0.1	0.0	0.0	-0.1
20	0.0	0.0	0.0	-0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.4	0.2	0.3	0.1	0.0	0.0	-0.1	-0.1	0.0	-0.2	0.1	-0.1	0.0
21	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.4	0.2	0.2	0.1	-0.1	-0.1	-0.3	-0.2	-0.1	0.0	0.1
22	SYSTEM INOPERATIVE																							
23		0.1	0.0	0.1	-0.1	0.0	0.1	-0.1	-0.4	-0.3	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.2	0.0	0.1	-0.2	-0.1	-0.1	-0.2
24	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.3	0.2	0.2	0.0	0.0	-0.2	-0.1	-0.1	-0.1	0.0
25	-0.1	0.0	0.1	0.1	0.0	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.0	-0.1	-0.1	0.0
26	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0
27	0.1	0.0		0.1	-0.1	0.1	0.0	0.0	-0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	0.0
28	-0.1	-0.1	0.0	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2
29	-0.2	-0.2	-0.1	-0.2	-0.1	0.0	-0.1	-0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.1	-0.1	0.0	-0.1
30	-0.1	0.0	-0.1	0.0	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	-0.1	-0.1	0.0	0.0	0.0

TABLE 3.3-5

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

MAY 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-0.1	-0.1	-0.1	0.0	0.1	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.0	0.1	-0.1	-0.3	0.0	0.0
3	0.0	0.1	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.1	0.3	0.3	0.4	0.4	0.3	0.4	0.1	0.1	0.0	0.2	0.0	-0.3	0.0	-0.1
4	-0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.3	0.3	-0.1	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0
5	-0.1	0.0	-0.1	0.1	0.0	0.1	0.0	0.2	0.4	0.1	0.5	0.6	0.9	0.2	0.5	0.2	-0.3	-0.7	-0.4	-0.2	-0.5	-0.1	0.0	0.0
6	0.1	0.0	0.1	0.1	-0.1	0.1	0.2	0.1	0.1	0.7	0.5	0.4	0.3	0.1	0.3	-0.2	-0.3	-0.4	-0.3	-0.1	0.0	-0.1	0.1	0.2
7	0.2	0.2	-0.1	-0.1	-0.3	-0.1	-0.2	0.1	0.2	0.1	0.1	-0.1	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.1	0.0	0.0	-0.1	-0.1
8	-0.3	-0.2	-0.2	-0.1	-0.2	-0.3	-0.2	-0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
9	0.1	0.0	0.0	0.0	0.0	-0.2	0.0	-0.4	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.1	-0.1
10	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2	-0.1
11	-0.2	-0.1	-0.1	-0.2	-0.1	0.0	-0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1
12	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	-0.1	0.2	0.1	0.3	0.2	0.4	0.2	0.1	0.3	0.1	0.0	-0.1	0.0	0.1	0.0	-0.1
13	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	-0.1	-0.1	-0.1
14	-0.2	-0.1	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	-0.1
15	-0.1	0.0	0.0	0.0	-0.1	0.0	-0.1	0.1	0.0	0.1	0.1	0.2	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
16	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1	0.1	0.0	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.0	-0.2	-0.1	-0.1	-0.2	0.1
17	-0.2	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.0	0.1	0.2	0.3	0.3	0.3	0.4	0.2	0.3	0.2	0.0	-0.1	-0.2	-0.1	0.0	0.1
18	0.0	0.2	0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	-0.1	-0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.2
19	-0.1	0.2	0.2	0.0	0.0	0.0	0.1	-0.1	-0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	-0.1	-0.1	-0.1	-0.1
20	-0.3	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.0	-0.2	-0.1	-0.1	-0.2
21	-0.1	-0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1
22	0.1	0.0	-0.1	0.4	0.1	0.1	-0.5	-0.3	-0.2	0.0	0.0	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.0	-0.1	-0.1	-0.1	0.0
23	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.5	0.3	0.4	0.4	0.3	0.1	0.1	0.1	0.0	-0.1	0.0	-0.1
24	-0.2	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.1	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.1	0.1	0.3
25	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.2	0.3	-0.2	-0.2	0.1	0.3	1.0	0.5	0.3	0.1	0.0	-0.1	-0.6	-0.5	-0.3	-0.3	0.2
26	0.3	0.0	-0.2	0.0	0.1	0.0	-0.2	-0.1	0.0	0.3	0.3	-0.2	0.1	0.6	0.3	0.0	0.1	0.0	0.0	-0.1	-0.5	-0.8	0.0	0.3
27	-0.1	-0.1	-0.2	0.1	0.1	-0.1	-0.2	-0.6	-0.2	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.7	0.1	-0.2	-0.3	-0.2	-0.1	-0.2	-0.1
28	0.2	0.0	-0.1	-0.4	0.0	0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0.2	0.2	0.3	0.2	0.3	0.2	0.4	0.1	-0.1	-0.2	-0.2	0.0	0.2
29	0.0	-0.2	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	0.0	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.1	-0.1	-0.5	-0.2	0.3
30	-0.1	-0.4	0.1	0.1	0.1	0.0	0.2	-0.4	-0.5	-0.1	0.0	-0.1	0.1	0.2	0.1	0.0	0.0	-0.1	0.1	0.6	0.2	0.0	0.1	0.0
31	-0.2	-0.2	-0.2	0.0	0.1	0.0	0.0	0.4	0.0	-0.1	-0.3	-0.2	0.1	0.5	0.4	0.4	0.2	0.1	-0.1	0.0	-0.3	-0.2	0.0	0.0

TABLE 3.3-6

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

DECEMBER 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.0	-0.1	-0.1	0.0	0.0	-0.1	-0.1	-0.2
2	-0.2	0.0	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	0.2	0.1	0.2	0.0	0.1	-0.1	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
3	0.0	0.2	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.1	0.0	0.1	0.2	0.2	-0.3	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1
4	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.1	0.0	0.0	0.1	-0.1	0.0	-0.1	0.0	-0.1	-0.1	-0.2	-0.1	0.0	-0.1
5	-0.1	-0.1	-0.2	-0.1	-0.2	-0.1	-0.1	-0.2	0.0	-0.1	-0.1	0.1	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	-0.2	0.0	-0.1	-0.1	0.0
6	-0.1	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
7	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.1	-0.1	0.1	0.6	-0.2	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
8	-0.1	0.0	0.0	0.0	0.1	0.1	-0.1	-0.1	0.1	-0.1	0.1	-0.1	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.2	0.0	-0.1	0.0	-0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.2	-0.1	-0.1	-0.2	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1
10	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	0.1	0.4	0.1	-0.2	0.0	-0.1	0.0	-0.1	0.1	-0.1	0.1	0.0	-0.1	-0.1
11	0.1	0.0	0.1	0.0	-0.2	-0.2	-0.2	0.0	-0.1	-0.1	0.0	0.2	0.2	0.1	0.1	-0.2	-0.1	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0
12	0.1	0.0	0.1	0.1	0.0	-0.1	0.1	0.1	0.0	0.1	0.1	0.0	-0.1	0.1	0.0	0.0	0.5	0.0	-0.3	-0.1	-0.1	-0.1	0.0	0.0
13	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.5	-0.1	-0.2	-0.1	0.3	-0.3	-0.3	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	-0.1
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	-0.2	-0.2	0.0	0.0	0.1	0.0	0.0	0.7	-0.3	-0.3	-0.1	-0.1	0.0	-0.1	0.0
15	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.2	0.4	-0.3	-0.2	0.0	-0.1	-0.1	0.0
16	0.0	-0.1	0.3	-0.3	0.0	0.0	0.0	0.6	0.0	0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	-0.1
17	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.6	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	-0.2	-0.2	-0.2	-0.1	0.0	-0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
19	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.9	-0.1	-0.3	-0.2	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
20	0.0	0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.6	0.2	-0.1	-0.1	-0.3	-0.1	-0.1	0.0	0.1	0.8	-0.3	-0.3	-0.1	-0.2	0.0	0.0
21	-0.1	0.0	0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	-0.3	-0.1	0.0	0.0	0.7	-0.1	-0.3	-0.2	-0.1	-0.2	0.0
22	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.8	-0.1	-0.2	-0.2	-0.1	-0.2	0.0	0.1	0.0	0.6	-0.1	-0.3	-0.1	-0.1	0.0	-0.1
23	-0.1	0.0	0.0	0.1	0.0	0.0	-0.1	0.4	0.6	-0.2	-0.2	-0.2	-0.1	-0.2	0.0	0.0	0.0	0.9	-0.2	-0.3	-0.2	0.0	-0.1	-0.1
24	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.9	-0.3	-0.3	-0.1	0.0	0.0	-0.1	0.2	-0.3	0.9	-0.3	-0.2	-0.2	-0.1	0.0	-0.1
25	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0
26	-0.1	0.0	-0.1	0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.1	-0.1	0.0
27	0.0	0.0	-0.1	0.1	-0.1	0.1	0.0	-0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	0.0
28	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	0.1	-0.1	0.1	-0.1	0.0	0.0
29	SYSTEM INOPERATIVE																							
30	SYSTEM INOPERATIVE																0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.1
31	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.2	-0.3	-0.1	0.0	0.0	0.1	-0.2	0.0	0.1	0.2	0.0	0.0	0.0

TABLE 3.5-1

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

JANUARY 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1.8	1.8	1.9	2.1	2.1	2.0	1.9	2.4	4.2	5.0	3.6	2.8	2.5	2.3	2.4	2.5	2.4	3.9	3.7	2.7	2.3	2.0	1.8	1.7
2	1.7	1.6	1.6	1.5	1.4	1.3	1.4	2.6	3.2	4.4	5.1	4.3	3.8	3.6	3.5	3.4	3.2	3.1	3.0	3.1	2.5	2.2	2.0	1.9
3	1.9	1.8	1.7	1.5	1.5	1.9	3.1	5.7	6.5	5.1	4.0	3.5	3.3	3.3	3.2	3.0	2.9	2.8	2.7	2.6	2.4	2.1	1.9	1.7
4	1.7	1.7	1.6	1.5	1.4	1.3	2.0	4.3	5.5	4.7	3.7	3.1	2.8	2.7	2.6	2.6	2.5	2.4	2.2	2.0	1.9	1.8	1.8	1.8
5	1.8	1.8	1.8	2.3	2.5	2.4	2.5	2.4	2.4	2.0	1.2	1.0	0.8	0.7	0.5	0.5	0.4	0.5	0.3	0.3	0.2	0.2	0.1	0.1
6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	0.5	0.7	2.2	2.7	2.2	2.0	1.8	1.5
7	1.4	1.5	1.6	1.8	2.2	2.7	4.0	5.7	6.0	4.6	3.4	2.8	2.5	2.4	2.5	2.5	2.4	2.3	2.1	1.8	1.6	1.5	1.4	1.5
8	1.5	1.4	1.3	1.4	1.5	1.8	2.8	5.1	5.8	4.4	3.4	3.0	2.8	2.8	2.7	2.8	2.8	2.7	2.8	2.7	2.7	2.4	2.3	2.3
9	2.2	2.3	2.4	2.7	3.0	3.5	4.1	5.1	6.4	7.4	7.3	6.7	6.0	5.4	5.0	4.7	4.4	4.2	4.0	3.8	3.7	3.6	3.4	3.3
10	3.4	3.3	3.2	3.2	3.3	3.6	3.9	4.5	5.4	6.2	5.9	4.8	3.9	3.5	3.1	2.9	2.7	2.6	2.5	2.4	2.3	2.2	2.2	2.1
11	2.1	2.0	1.9	2.0	2.2	2.6	3.1	4.6	6.6	7.0	6.5	5.1	4.2	3.5	2.6	2.4	2.3	2.2	2.0	1.8	1.7	1.7	1.7	1.8
12	1.8	1.8	1.9	1.8	1.9	1.7	1.6	1.6	1.6	1.7	1.8	1.8	1.9	1.8	1.9	1.9	1.9	1.8	1.9	1.8	1.7	1.7	1.6	1.7
13	1.7	1.7	1.6	1.5	1.4	1.4	1.4	1.5	2.3	4.4	4.9	3.4	2.7	2.1	2.0	1.9	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5
14	1.5	1.5	1.5	1.4	1.4	1.5	2.1	3.9	4.5	4.0	3.4	3.0	2.8	2.6	2.5	2.5	2.4	2.3	2.3	2.1	2.0	1.8	1.9	1.8
15	1.7	1.7	1.7	1.7	1.7	2.0	2.5	3.4	5.1	6.4	5.4	3.9	3.3	2.9	2.6	2.6	2.5	2.2	2.2	2.1	1.9	1.8	1.7	1.6
16	1.6	1.6	1.7	1.8	1.8	1.9	1.8	2.0	1.8	1.7	2.5	2.8	2.5	2.2	2.2	2.3	2.4	2.2	2.3	2.3	2.3	2.3	2.2	2.1
17	2.0	2.1	1.9	1.7	1.6	1.7	1.6	1.5	1.5	1.7	2.0	2.1	2.2	2.3	2.5	2.4	2.3	2.3	2.4	2.4	2.2	1.9	1.7	1.6
18	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4	1.6	1.9	2.0	2.1	2.2	2.1	2.1	2.1	2.2	2.1	2.0	1.8	1.8	1.7	1.7
19	1.7	1.5	1.3	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.0	1.0	1.1	1.2	1.1	1.1	1.2	1.3	1.2	1.1	1.1	1.2	1.2
20	1.3	1.2	1.1	1.4	1.7	2.0	2.4	2.8	3.6	4.9	6.0	5.6	4.3	3.1	2.4	1.9	1.7	1.6	2.0	1.5	1.3	1.3	1.2	1.1
21	1.2	1.0	0.9	0.7	0.6	0.7	1.0	2.2	4.4	4.3	3.1	2.5	2.3	2.1	1.9	1.8	1.9	1.8	1.7	1.7	1.4	1.4	1.3	1.3
22	1.2	1.3	1.3	1.3	1.2	1.1	1.6	2.5	4.5	5.0	3.7	2.9	2.4	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8
23	1.8	1.8	2.0	2.2	2.5	2.8	3.2	4.5	5.9	6.0	4.9	3.9	3.1	2.8	2.6	2.4	2.3	2.2	2.1	2.1	2.0	1.8	1.8	1.7
24	1.5	1.4	1.6	2.1	3.2	4.5	4.7	4.1	3.6	3.0	2.5	2.3	2.2	2.2	2.2	2.4	2.6	2.5	2.6	2.4	2.0	1.9	1.9	1.8
25	1.7	1.7	1.6	1.7	2.0	2.4	2.9	4.0	5.5	5.7	4.6	4.0	3.4	3.2	3.1	2.9	2.8	2.8	2.8	2.6	2.3	2.2	2.1	2.0
26	2.1	1.9	1.9	2.2	2.4	2.8	3.2	3.5	3.8	4.2	4.5	4.8	5.2	5.4	5.7	5.7	5.8	6.1	6.9	6.6	5.0	4.0	3.0	2.6
27	2.5	2.4	2.3	2.2	2.1	2.2	2.4	2.6	3.0	3.5	4.0	4.7	5.3	5.9	6.3	6.5	6.6	6.7	6.9	7.0	7.3	7.2	7.3	7.4
28	7.5	7.7	7.9	7.9	7.1	6.6	6.0	6.0	5.5	5.2	4.8	4.3	3.6	3.1	2.8	2.7	2.4	2.3	2.1	2.0	1.9	2.0	1.8	1.8
29	1.8	1.7	1.7	1.7	1.8	2.0	2.4	3.7	5.2	6.0	5.2	4.5	3.9	3.3	3.0	3.0	3.1	3.4	3.7	4.1	3.3	2.8	2.3	2.2
30	2.0	1.9	1.6	1.8	1.9	2.0	2.2	3.2	4.1	5.6	5.9	5.1	4.7	4.6	4.4	3.6	4.9	4.7	3.3	2.4	2.0	1.7	1.6	1.5
31	1.5	1.4	1.3	1.4	1.7	2.0	2.2	3.3	5.4	5.1	3.8	3.0	2.7	2.6	2.5	2.6	2.4	1.7	1.0	0.7	0.3	0.3	0.2	0.2

TABLE 3.5-2

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

FEBRUARY 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.5	0.4	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.1
2	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.6	0.6	0.5	0.5	0.4	0.6	0.4	0.3	0.3	0.2	0.3
3	0.2	0.2	0.2	-0.1	0.2	0.1	0.1	0.1	0.1	0.4	0.2	0.3	0.5	0.7	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.5
4	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.1	0.1	-0.3	0.1	0.1	0.1	0.1
5	0.1	-0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.4	1.9	3.2	2.9	2.5	2.4	2.4	2.3	2.3	3.1	5.3	4.2	3.4	2.9	2.6	2.3
6	2.0	2.1	2.3	2.9	3.2	3.5	3.9	4.7	6.1	5.7	4.1	3.0	2.8	2.9	3.0	2.9	2.7	2.6	2.8	3.1	3.4	3.8	4.2	4.6
7	5.1	5.5	6.0	6.3	6.5	6.7	7.1	7.4	7.7	8.3	7.2	5.7	4.9	4.7	4.4	5.5	3.5	3.6	3.7	2.7	2.2	2.2	2.0	2.0
8	1.7	1.5	1.3	1.7	2.3	2.8	3.0	3.5	5.0	7.0	5.2	4.2	4.1	3.7	3.7	3.6	3.4	3.8	5.8	5.1	3.2	2.6	2.4	2.4
9	2.2	2.2	2.1	2.3	2.5	3.2	3.2	3.5	4.2	4.8	5.9	6.8	7.6	8.1	8.6	9.1	9.2	9.3	9.5	7.3	6.6	6.4	5.8	5.4
10	4.8	4.5	4.4	4.6	4.8	5.3	5.9	6.1	6.3	6.9	7.7	8.0	8.6	8.9	9.3	9.5	9.6	9.8	9.7	6.8	4.9	4.6	4.3	4.3
11	3.2	2.7	2.4	2.3	2.3	2.3	2.7	2.9	3.2	4.4	5.1	6.2	7.3	7.6	8.0	8.0	7.9	7.7	7.5	6.8	4.9	3.0	2.3	2.0
12	2.1	2.1	2.0	2.0	1.9	1.7	2.2	2.4	4.7	5.9	6.8	7.3	7.6	7.7	7.7	7.7	7.8	7.7	7.1	5.6	3.9	3.2	2.8	2.8
13	2.7	2.5	2.2	2.2	2.4	2.6	3.0	3.9	4.7	5.9	7.0	7.2	7.6	7.9	8.1	8.1	8.0	7.7	7.4	7.3	6.6	5.5	4.6	4.1
14	3.9	3.7	3.5	3.4	3.4	3.7	4.1	4.5	5.4	6.1	6.7	7.4	8.1	8.4	8.5	8.5	8.3	8.1	7.9	7.6	6.8	6.1	5.5	5.0
15	4.5	4.1	3.9	3.9	4.0	4.4	4.7	5.4	6.1	6.9	7.5	8.1	8.4	8.8	8.9	8.9	8.7	8.4	8.1	7.8	7.2	7.3	7.1	6.8
16	6.8	6.9	6.9	7.2	7.3	7.6	7.8	7.8	8.0	8.0	8.2	8.4	8.7	8.7	8.8	8.9	8.8	8.7	8.3	8.4	8.5	8.5	8.4	8.2
17	7.8	7.5	7.0	6.9	6.9	6.8	7.0	7.1	7.2	7.5	7.8	8.2	8.7	9.2	9.4	9.6	9.5	9.2	8.9	8.8	9.0	9.0	8.6	8.2
18	8.1	7.3	7.2	6.9	6.7	6.3	6.3	6.4	6.7	7.1	7.8	8.5	9.1	9.4	9.4	9.3	9.0	8.7	8.2	8.3	8.4	8.3	7.8	7.9
19	7.6	7.1	7.1	6.9	6.8	6.8	7.2	7.3	7.5	7.9	8.2	8.7	9.3	9.9	10.0	9.3	7.5	5.9	4.4	3.2	2.4	1.9	1.7	1.7
20	1.7	1.6	1.7	1.6	1.6	1.6	2.1	3.3	4.0	4.3	4.4	4.7	5.1	5.8	6.3	6.6	6.7	5.4	4.1	2.7	2.1	1.8	1.7	1.6
21	1.6	1.6	1.4	1.4	1.7	2.0	2.5	3.2	4.0	5.0	6.1	7.0	7.8	8.7	9.1	9.4	9.4	9.8	9.8	9.7	9.6	9.1	8.4	7.8
22	7.5	7.0	7.0	6.6	6.2	6.1	5.9	5.8	5.8	6.1	6.2	6.2	6.2	6.2	6.3	6.4	6.4	6.5	6.5	6.4	6.1	6.0	6.0	6.1
23	6.2	6.3	6.5	6.8	6.9	6.9	6.9	6.9	6.9	6.8	6.7	6.8	6.8	6.0	5.3	4.9	4.7	4.4	4.2	5.1	5.8	5.9	5.8	5.6
24	5.3	4.9	4.8	4.9	5.1	5.4	5.8	6.2	6.6	7.0	7.5	8.0	8.4	8.8	9.1	9.5	9.6	9.5	9.3	9.4	9.7	8.8	8.2	7.7
25	7.3	7.2	6.9	6.4	6.1	6.0	6.5	7.1	7.8	8.2	8.5	8.4	8.4	8.5	8.4	7.8	7.3	7.2	7.1	7.0	6.5	5.3	4.1	3.7
26	3.6	3.6	3.4	3.2	3.1	3.1	3.4	4.0	4.8	5.9	6.9	7.5	7.9	8.1	8.0	7.8	7.6	7.3	7.3	7.7	7.8	6.8	5.7	5.0
27	4.5	4.1	3.9	3.9	4.0	4.2	4.5	5.0	5.7	6.5	7.4	7.8	8.0	8.0	7.9	7.4	7.1	6.6	6.0	5.3	3.9	3.1	2.7	2.6
28	2.5	2.4	2.2	2.2	2.2	2.4	2.7	3.7	5.5	6.3	6.0	5.6	5.3	5.5	5.7	5.9	5.8	5.4	5.1	5.3	6.1	6.3	6.1	5.6
29	5.1	4.8	4.5	4.2	4.0	3.9	3.8	3.8	3.8	4.3	4.8	5.4	6.1	6.8	7.6	8.3	9.0	7.4	5.4	3.9	2.8	2.5	2.2	2.1

TABLE 3.5-3

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

MARCH 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2.0	1.9	1.8	1.8	1.7	1.9	2.3	2.7	3.2	3.7	4.5	5.7	6.9	7.3	7.6	7.9	7.8	7.4	7.1	7.0	7.0	7.2	7.2	7.5
2	7.7	7.8	7.9	8.0	8.0	8.0	8.1	8.1	8.0	8.0	8.4	8.6	9.0	9.4	9.9	10.2	10.4	10.4	10.3	10.1	10.0	9.8	9.7	9.5
3	9.2	9.1	8.8	8.8	8.7	8.6	8.6	8.6	9.0	9.3	9.6	10.0	10.3	10.3	9.9	9.5	9.1	8.5	7.5	6.8	4.2	3.2	2.5	2.1
4	2.0	1.9	1.9	1.9	1.9	2.1	2.5	3.0	4.0	4.9	5.9	7.0	7.3	7.4	7.6	7.4	7.4	7.3	6.7	5.4	3.7	3.0	2.9	2.7
5	2.7	2.6	2.6	2.9	3.4	3.9	4.4	5.0	6.1	6.9	7.7	7.8	5.9	4.3	3.2	2.8	3.2	3.6	3.4	2.3	2.1	1.9	1.9	1.9
6	1.8	1.8	1.9	2.2	2.5	2.9	3.5	4.3	5.1	6.1	6.9	7.6	8.7	9.0	9.0	9.0	8.8	8.4	8.2	8.4	6.5	5.6	5.3	4.8
7	4.2	3.6	3.4	3.4	3.6	3.9	4.4	4.9	5.5	6.0	6.7	7.2	8.0	8.8	9.3	9.8	10.1	10.1	10.2	9.5	6.6	4.6	3.2	2.4
8	2.2	2.1	2.3	2.3	2.2	2.0	1.9	2.4	2.8	3.9	6.3	6.5	6.0	5.7	5.3	4.7	4.1	3.9	4.3	6.2	7.0	6.3	5.0	3.9
9	3.4	3.2	3.1	3.1	2.9	2.8	2.8	3.0	3.4	3.9	4.5	5.2	5.9	6.4	7.0	7.8	8.4	8.8	9.1	9.7	7.6	6.1	5.1	4.5
10	4.2	3.9	3.6	3.4	3.3	3.3	3.5	4.0	5.0	6.1	7.1	7.8	8.4	8.6	8.8	8.8	8.4	7.6	5.8	3.6	2.5	2.0	2.0	2.0
11	2.0	1.9	1.8	2.2	2.9	3.9	4.6	5.5	4.4	2.9	2.5	2.2	2.0	2.4	3.1	4.1	5.2	6.1	4.6	2.9	2.0	1.8	1.6	1.5
12	1.6	1.6	1.4	1.4	1.7	2.3	2.8	3.4	3.8	4.0	4.3	4.6	4.8	5.2	5.4	5.7	6.3	6.6	6.8	6.1	4.3	2.8	2.3	2.0
13	1.9	1.8	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.2	2.3	2.9	3.3	4.4	5.2	5.8	6.0	6.0	5.7	4.4	3.2	2.5	2.1
14	1.9	1.8	1.8	1.9	2.8	3.1	3.5	3.8	3.8	3.7	3.7	4.0	4.3	4.4	4.7	5.0	5.3	5.3	5.4	4.9	3.6	2.7	2.4	2.3
15	2.1	2.0	2.0	1.9	1.8	1.7	1.9	2.2	2.8	4.5	5.9	5.6	4.6	4.1	4.1	4.0	3.7	3.5	3.7	5.3	5.0	4.4	4.0	3.6
16	3.1	2.7	2.4	2.4	2.7	3.3	3.7	3.9	4.2	4.7	5.1	5.7	6.2	6.8	7.2	7.8	8.2	8.5	8.8	8.9	9.0	9.1	9.2	9.2
17	9.2	9.0	8.9	8.9	8.9	8.9	8.9	9.0	9.2	9.5	9.7	10.0	10.1	10.1	10.0	9.7	9.0	7.4	5.4	3.8	2.8	2.3	2.2	2.1
18	2.1	2.1	2.2	2.7	3.0	3.2	2.7	2.2	1.9	1.8	1.8	1.8	1.7	1.8	2.0	2.0	1.8	1.7	1.4	1.4	1.2	1.0	1.1	1.1
19	1.0	1.0	1.0	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.2	1.2	1.3	1.2	1.2	1.2	1.1
20	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.2	1.4	1.6	1.7	1.8	1.9	1.9	1.9	2.0	2.0	1.8	1.7	1.5	1.5	1.5	1.5	1.4
21	1.4	1.3	1.2	1.2	1.2	1.2	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	0.8	0.4	0.4	0.3	0.2	0.6	0.5
22	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.5	0.5	0.4	0.4	0.5	0.5	0.6
23	0.7	0.7	0.7	0.7	0.8	0.8	1.0	1.0	0.9	1.0	1.1	1.2	1.4	1.2	1.1	1.1	1.1	0.9	0.8	0.6	0.4	0.3	0.2	0.3
24	0.3	0.4	0.6	0.8	1.0	1.1	1.3	1.3	1.1	1.0	1.2	1.3	1.5	1.5	1.6	1.5	1.3	1.2	0.9	0.7	0.6	0.6	0.6	0.7
25	0.8	0.9	0.9	0.7	1.3	1.4	0.9	1.2	1.4	1.5	1.8	2.2	2.1	2.2	2.3	2.0	1.6	1.2	1.0	1.0	1.1	1.1	1.4	1.2
26	1.3	1.3	1.1	1.1	1.0	1.0	0.9	0.9	0.7	0.7	0.7	0.5	0.6	0.6	0.6	0.5	0.5	0.7	0.8	0.8	1.0	1.1	1.3	1.4
27	1.5	1.5	1.4	1.4	1.4	1.3	1.2	1.1	0.7	0.0	-0.1	-0.3	-0.7	-0.2	0.3	1.1	0.9	1.0	1.3	1.1	0.9	1.0	1.0	1.0
28	1.0	1.2	1.3	1.3	1.3	1.4	1.4	1.3	1.2	0.9	0.7	0.8	0.8	1.2	1.4	1.6	1.7	1.7	1.6	1.4	1.0	0.7	0.5	0.6
29	0.7	0.7	0.7	0.9	1.0	1.0	0.9	1.0	1.0	1.1	1.2	1.4	1.4	1.0	0.7	0.2	-0.1	-0.3	-0.4	-0.3	0.0	0.2	0.4	0.6
30	0.8	0.9	1.0	1.1	1.1	1.1	1.0	0.8	0.8	0.8	0.9	1.0	1.2	1.4	1.5	1.5	1.5	1.5	1.3	1.5	1.5	1.4	1.3	1.1
31	0.8	0.7	0.7	0.6	0.7	0.6	0.6	0.4	0.2	0.0	-0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.3	0.4

TABLE 3.5-4

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

APRIL 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.5	0.6	0.7	0.8	0.7	0.7	0.6	0.6	0.5	0.2	0.2	0.2	0.1	-0.2	0.0	0.0	0.2	0.1	0.0	-0.4	-0.5	-0.6	-0.6	-0.4
2	-0.2	0.0	0.1	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.6	0.7	1.0	1.1	1.2	1.4	1.5	1.6	1.5	1.4	1.4	1.3	1.3
3	1.4	1.4	1.4	1.6	1.7	1.6	1.6	1.5	1.2	0.7	0.2	0.0	0.0	0.2	0.3	0.7	1.0	1.0	0.9	0.6	0.4	0.3	0.2	0.3
4	0.2	0.4	0.6	0.8	1.0	1.3	1.4	1.5	1.5	1.5	1.5	1.7	1.6	1.8	1.9	2.4	2.1	2.2	2.1	2.0	1.9	1.6	1.4	1.4
5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.6	1.4	1.3	0.9	0.9	0.7	0.7	0.7	0.7	1.0	1.3	1.5	1.8	1.8	1.8	1.8	1.8
6	2.0	1.6	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.2	1.0	1.0	1.2	1.1	0.7	0.4	0.6	0.8	0.8	0.7	0.5	0.4	0.5	0.4
7	0.6	0.8	1.0	1.1	1.3	1.6	1.6	1.4	1.2	1.0	0.8	0.7	1.3	1.6	1.8	1.7	1.8	1.8	1.7	1.6	1.4	1.3	1.1	1.0
8	1.0	1.0	1.2	1.3	1.2	1.3	1.3	1.3	1.6	1.3	1.3	1.3	1.2	1.3	1.5	1.6	1.6	1.8	2.2	1.9	1.9	2.0	2.0	2.0
9	2.0	2.0	1.9	1.8	1.8	1.7	1.4	1.4	1.2	1.1	1.1	1.0	1.0	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.6	1.6	1.6	1.6
10	1.4	1.1	0.8	0.8	1.1	1.4	1.6	1.6	1.2	1.2	1.0	1.1	1.1	1.2	1.2	1.1	1.0	0.9	0.8	0.8	0.6	0.4	0.3	0.2
11	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.2	0.0	-0.2	-0.1	-0.1	-0.1	-0.1	0.1	0.1
12	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	1.0	0.9	0.8	0.7	0.7	0.6	0.5	0.4	0.3	0.4	0.4	0.4	0.4
13	0.3	0.2	0.3	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.2	0.1	0.1	-0.1	0.3	0.1	0.4	0.4	0.5	0.4	0.5
14	0.5	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.8	0.9	0.7	0.5	0.5	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.6	0.4
15	0.5	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.1	0.3	0.3	0.4	0.1	-0.1	0.1	0.3	0.4	0.4	0.6	0.7	0.8	0.7
16	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.0	0.9	0.7	0.8	0.8	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.8	1.0	1.1	1.2
17	1.2	1.3	1.4	1.5	1.5	1.4	1.4	1.1	1.0	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.9	1.0	0.9	0.9	0.7	0.6
18	0.4	0.3	0.3	0.5	0.8	1.0	1.2	1.4	1.3	1.2	1.2	1.3	1.3	1.0	0.5	0.4	0.5	0.6	0.6	0.7	0.6	0.6	0.5	0.3
19	0.4	0.4	0.5	0.6	0.7	0.9	1.1	1.1	1.0	0.8	0.9	0.9	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.7	0.6	0.6	0.6	0.5
20	0.5	0.5	0.5	0.4	0.6	0.4	0.7	0.6	0.5	0.5	0.6	1.3	1.2	1.9	2.1	2.1	2.1	2.0	1.9	1.9	1.8	1.9	1.8	1.8
21	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.3	1.2	1.2	1.2	1.4	1.7	1.8	1.9	2.0	2.0	2.0	1.8	1.7	1.6	1.7	2.1
22	SYSTEM INOPERATIVE																							
23	2.3	2.4	2.4	2.5	2.4	2.4	2.5	2.3	1.8	1.4	1.3	1.2	1.2	1.2	1.4	1.6	1.8	2.0	2.1	2.3	2.1	2.0	1.8	1.6
24	1.6	1.4	1.2	1.1	0.9	0.8	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.7	1.7	1.9	2.0	1.9	1.5	1.4	1.3	1.3	1.4
25	1.4	1.8	2.1	2.4	2.5	2.5	2.4	2.2	2.0	1.8	1.6	1.4	1.4	1.4	1.3	1.5	1.6	1.6	1.7	1.7	1.7	1.6	1.5	1.6
26	1.6	1.6	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.3	1.2	1.3	1.2	1.3	1.2	1.3	1.2	1.1	0.9	0.9	0.9	0.9	0.9	1.0
27	1.1	1.2		1.4	1.3	1.5	1.5	1.5	1.3	1.2	1.2	1.2	1.3	1.2	1.3	1.5	1.6	1.7	1.7	1.7	1.5	1.5	1.4	1.4
28	1.2	1.1	1.1	1.0	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.2	2.2	2.3	2.2	2.0
29	1.8	1.6	1.6	1.3	1.2	1.2	1.1	1.1	1.2	1.3	1.5	1.5	1.6	1.7	1.7	1.7	1.6	1.7	1.6	1.6	1.5	1.4	1.5	1.3
30	1.2	1.1	1.0	1.0	1.1	1.2	1.3	1.2	1.3	1.4	1.4	1.5	1.3	1.2	1.1	1.1	1.2	1.2	1.2	1.1	0.9	0.9	0.9	1.0

TABLE 3.5-5

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

MAY 1980

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1.0	1.0	1.0	0.8	0.7	0.6	0.6	0.6	0.7	0.8	1.1	1.2	1.5	1.6	1.6	1.5	1.4	1.3	1.1	1.0	1.0	1.1	1.1	1.2
2	1.1	1.1	1.1	1.2	1.1	1.2	1.2	0.9	0.9	1.1	1.0	1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.3	1.4	1.3	1.0	1.0	1.0
3	1.1	1.3	1.3	1.3	1.2	1.0	0.5	0.3	0.3	0.3	0.4	0.7	1.2	1.5	1.8	1.9	1.8	1.7	1.3	1.4	1.4	1.1	1.0	0.9
4	0.6	0.7	0.8	0.7	0.9	1.0	1.1	1.1	1.1	1.0	1.0	0.9	0.9	1.2	1.4	1.2	1.1	1.1	0.9	0.5	0.5	0.6	0.6	0.6
5	0.5	0.5	0.5	0.5	0.6	0.8	0.9	1.1	1.5	1.5	2.0	2.6	3.3	3.4	3.7	3.7	3.1	2.0	1.2	0.9	0.6	0.5	0.5	0.5
6	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.2	1.8	2.1	2.3	2.3	2.3	2.5	2.0	1.4	0.8	0.5	0.5	0.7	0.7	0.9	1.2
7	1.5	1.7	1.6	1.6	1.3	1.1	0.7	0.7	0.7	0.5	0.6	0.6	0.6	0.6	0.9	1.2	1.5	1.8	2.2	2.4	2.6	2.8	2.8	2.7
8	2.4	2.3	2.1	2.0	1.9	1.6	1.5	1.4	1.5	1.5	1.6	1.7	1.8	1.7	1.6	1.5	1.3	1.1	1.2	1.0	0.9	0.9	0.9	0.9
9	1.1	1.3	1.5	1.8	1.9	1.9	2.0	1.7	1.6	1.6	1.5	1.4	1.4	1.5	1.6	1.5	1.5	1.4	1.6	1.4	1.2	1.4	1.3	1.3
10	1.2	1.1	1.1	1.0	0.9	0.9	1.0	1.0	0.9	1.1	1.3	1.5	1.8	2.1	2.1	2.2	2.2	2.2	2.1	2.1	1.9	1.6	1.6	1.6
11	1.5	1.4	1.3	1.2	1.0	1.0	0.9	0.9	0.9	0.8	1.0	1.3	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.5	1.5
12	1.5	1.4	1.4	1.2	1.2	1.1	1.0	1.0	0.9	1.1	1.2	1.3	1.3	1.6	1.6	1.6	1.7	1.7	1.7	1.5	1.4	1.5	1.5	1.4
13	1.3	1.2	1.4	1.4	1.6	1.6	1.6	1.6	1.6	1.4	1.3	1.3	1.2	1.3	1.3	1.3	1.3	1.5	1.6	1.7	1.9	1.8	1.8	1.7
14	1.5	1.4	1.2	1.2	1.1	1.1	1.0	0.9	0.8	0.8	0.8	0.9	0.9	0.8	0.6	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.8
15	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	0.9	1.0	1.0	1.2	1.1	1.0	1.1	1.1	1.1	1.0	1.0	0.8	0.6	0.7	0.7	0.6
16	0.6	0.6	0.7	0.8	0.8	0.7	0.7	0.6	0.5	0.4	0.5	0.5	0.4	0.4	0.6	0.8	0.9	0.9	0.9	0.8	0.7	0.6	0.4	0.5
17	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.4	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.4
18	0.6	0.9	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.1	0.9	0.7	0.8	0.8	0.9	1.0	1.0	0.8	0.7	0.7	0.8	0.7	0.8	0.6
19	0.4	0.6	0.8	0.8	0.8	0.8	0.9	0.7	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.4	0.7	1.1	1.3	1.5	1.4	1.2	1.1	1.0
20	0.7	0.5	0.4	0.3	0.4	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.7	0.7	0.7	0.9	1.0	1.0	1.0	0.9	0.7	0.6	0.5	0.3
21	0.2	0.2	0.2	0.4	0.4	0.7	0.8	0.8	1.0	1.0	0.9	0.8	0.6	0.4	0.1	-0.1	-0.2	-0.1	0.1	0.2	0.5	0.6	0.8	1.0
22	1.2	1.3	1.2	1.7	1.8	2.0	1.5	1.2	0.9	0.8	0.7	0.6	0.7	0.6	0.4	0.4	0.7	0.9	1.1	1.0	1.0	0.9	0.8	0.8
23	0.7	0.6	0.4	0.3	0.2	0.1	0.0	-0.1	-0.3	-0.3	-0.3	-0.1	0.2	0.2	0.4	0.8	0.9	1.1	1.3	1.4	1.3	1.3	1.4	1.5
24	1.4	1.4	1.3	1.2	1.2	1.1	1.0	0.8	0.5	0.3	0.1	0.0	-0.1	-0.2	-0.2	0.0	0.1	0.2	0.4	0.4	0.5	0.6	0.7	1.0
25	1.2	1.3	1.4	1.5	1.6	1.5	1.6	1.7	1.8	1.2	0.6	0.4	0.5	1.5	2.0	2.3	2.5	2.6	2.7	2.3	1.9	1.5	1.1	1.4
26	1.8	1.9	1.7	1.7	1.9	2.0	1.9	1.8	1.5	1.4	1.4	0.9	0.8	1.4	1.7	1.6	1.9	1.9	2.1	2.3	2.0	1.2	1.1	1.3
27	1.2	1.2	1.0	1.2	1.3	1.3	1.1	0.4	0.0	-0.1	-0.2	-0.2	-0.4	-0.3	0.1	0.3	0.9	1.0	0.9	1.1	1.2	1.2	0.8	0.7
28	1.1	1.1	1.0	0.6	0.8	1.0	0.8	0.4	-0.1	-0.6	-0.7	-0.4	-0.6	0.0	0.6	0.7	0.9	1.3	1.3	1.3	1.3	1.4	1.5	1.8
29	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.4	0.9	0.6	0.5	0.4	0.3	0.2	0.5	0.8	1.3	1.9	2.1	2.2	1.8	1.8	2.1
30	2.1	1.7	1.9	2.0	2.2	2.2	2.4	1.9	1.0	0.9	0.9	0.5	-0.2	-0.2	-0.3	-0.5	-0.8	-0.8	-0.4	0.4	0.9	1.0	1.2	1.6
31	1.1	1.1	1.0	0.9	1.2	1.2	1.3	1.6	1.6	1.4	1.1	0.9	1.0	1.6	2.1	2.6	2.7	2.8	2.7	2.6	2.2	1.9	1.9	1.9

TABLE 3.5-6

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

DECEMBER 1980

DAY	HOUR																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.5	0.7	0.8	0.9	0.9	0.8	0.7	0.6	0.6	0.5	0.4	0.2
2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.0	0.0	0.0	-0.1
3	-0.1	0.1	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.5	-0.6	-0.6	-0.6	-0.5	-0.4	-0.2	-0.5	-0.6	-0.6	-0.6	-0.6	-0.5	-0.4	-0.3	-0.2
4	-0.1	0.0	0.0	0.2	0.4	0.4	0.6	0.6	0.7	0.6	0.7	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.0	1.0	1.2	1.2
5	1.1	1.2	1.1	1.0	0.9	1.0	0.9	0.8	0.9	0.8	0.7	0.8	0.7	0.6	0.8	0.8	0.9	0.9	1.0	0.8	0.9	0.8	0.7	0.7
6	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
7	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	1.0	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
8	0.5	0.5	0.5	0.5	0.6	0.7	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
9	0.5	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.8	1.0	1.2	1.4	1.3	1.2	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7
10	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.7	1.1	1.2	1.0	1.0	0.9	0.9	0.8	0.9	0.8	0.9	0.9	0.8	0.7
11	0.8	0.8	0.9	0.9	0.7	0.5	0.3	0.3	0.2	0.1	0.1	0.3	0.5	0.6	0.7	0.5	0.4	0.2	0.2	0.1	0.0	0.0	0.0	0.0
12	0.1	0.1	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.5	0.6	0.6	0.5	0.6	0.6	0.6	1.1	1.1	0.8	0.7	0.6	0.5	0.5	0.5
13	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.9	0.8	0.6	0.5	1.3	1.0	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3
14	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.9	0.7	0.5	0.5	0.5	0.6	0.6	0.6	1.3	1.0	0.7	0.6	0.5	0.5	0.4	0.4
15	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	1.0	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.8	1.2	0.9	0.7	0.7	0.6	0.5	0.5
16	0.5	0.4	0.7	0.4	0.4	0.4	0.4	1.0	1.0	1.1	0.9	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3
17	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.9	0.9	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3
18	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8	1.2	1.0	0.8	0.6	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
19	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	1.3	1.2	0.9	0.7	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
20	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.9	1.1	1.0	0.9	0.6	0.5	0.4	0.4	0.5	1.3	1.0	0.7	0.6	0.4	0.4	0.4
21	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	1.0	0.7	0.6	0.6	0.6	1.3	1.2	0.9	0.7	0.6	0.4	0.4
22	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	1.2	1.1	0.9	0.7	0.6	0.4	0.4	0.5	0.5	1.1	1.0	0.7	0.6	0.5	0.5	0.4
23	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.7	1.3	1.1	0.9	0.7	0.6	0.4	0.4	0.4	0.4	1.3	1.1	0.8	0.6	0.6	0.5	0.4
24	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	1.3	1.0	0.7	0.6	0.6	0.6	0.5	0.7	0.4	1.3	1.0	0.8	0.6	0.5	0.5	0.4
25	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.2	0.2
26	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2
27	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.0
28	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.5
29	SYSTEM INOPERATIVE																							
30	SYSTEM INOPERATIVE															0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.3
31	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.8	1.2	1.4	1.1	1.0	1.0	1.0	1.1	0.9	0.9	1.0	1.2	1.2	1.2	1.2

4. WATER QUALITY STUDIES

Four water quality parameters, in addition to temperature, have been monitored continuously by Honeywell W-20 Water Quality Data Collection Systems since 1968 at Station 3, downstream of Vermont Yankee, and since 1970 at Station 7, upstream of the plant. Summaries of the dissolved oxygen and pH data collected in 1980 are shown in Table 4.1 for Station 3 and 4.2 for Station 7. The dissolved oxygen data are reduced to daily means and daily maxima and minima with times of occurrence; the pH data are shown as daily maxima and minima.

The amendment of Vermont Yankee's Appendix B Technical Specifications in February 1980 deleted the requirement that conductivity and turbidity be monitored continuously. To complete the record on these parameters, data collected in January and February 1980 are summarized in Table 4.3.

The tabulated dissolved oxygen and pH data of Tables 3.1 and 3.2 are presented graphically in Figures 4.1 through 4.4. The shaded areas in those figures show the largest maximum and smallest minimum observed in that month in any one of the years of record prior to 1980. The shaded areas in the dissolved oxygen graphs are divided by lines connecting the mean DO observed for each month in all the previous years of observations.

The maximum hourly average DO observed at Station 7 in June, 9.9 mg/l, was equal to the maximum previously observed there in 1973. All other monthly DO maxima and minima at both stations in 1980 were within the ranges previously observed for each month. Monthly average DO concentrations in 1980 were also within extremes of the earlier years. Station 3 monthly means in January through March and October through December were higher than the means for

those months computed from the data of all prior years of observations. For Station 7, the January through March, June, November, and December means were greater than the means in those months for the years 1970-1979.

The pH maximum of 7.7 observed at Station 3 in January 1980 exceeded the previous record there of 7.5 observed in 1975 and 1979. All other pH maxima and minima of 1980 were within the pH extremes that have been previously observed.

Grab samples of water quality analysis were collected once each quarter in 1980 at the two monitor stations and from Vermont Yankee's cooling water discharge to the river on the three sample dates on which the plant was operating. These samples were analyzed for sixteen parameters by the procedures of Standard Methods for the Examination of Water and Wastewater, 14th edition (APHA et al. 1976). The analytical results are shown in Table 4.4. Concentrations observed in 1980 at both Station 3 and 7 for all parameters were well within extremes that had been observed in earlier study years.

On occasion Vermont Yankee adds the following chemicals to its cooling water discharge to the Connecticut River: sodium sulfate, as demineralizer regenerant; sodium hypochlorite, to control biological fouling of the condenser cooling system; and sulfuric acid, for pH control. The amounts of these chemicals discharged to the river are relatively small and not likely to significantly alter the river's water quality. However, to provide a quantitative basis for assessing the impact of Vermont Yankee's operation on Connecticut River water quality, data on the concentrations of sodium ion, chloride ion, sulfate ion, and alkalinity concentrations were subjected to statistical analysis.

The statistical methods used with these four parameters have been detailed in Reports IV and V of this series (Aquatec 1975, 1976). Data collected for these four parameters at Stations 3 and 7 before Vermont Yankee began operation and during the times of closed cycle operation through 1974 were combined and subjected to

linear regression analysis. These analyses, using Station 7 concentrations as the independent variable, resulted in the statistics summarized in Table 4.5.

TABLE 4.5

SUMMARY OF STATISTICS FROM
LINEAR REGRESSION ANALYSIS OF
PREOPERATIONAL AND CLOSED CYCLE DATA
AT STATIONS 7 AND 3 FOR FOUR PARAMETERS

	PARAMETER			
	Sodium	Sulfate	Chloride	Alkalinity
Sample size	70	72	79	80
Intercept	0.23	0.96	1.1	4.9
Regression coefficient	0.925	0.927	0.795	0.844
Standard error of regression coefficient	0.041	0.054	0.053	0.049
Correlation coefficient	0.941	0.899	0.861	0.890
Standard error of estimate	0.348	0.987	0.841	2.95

The regression lines generated by these analyses are plotted as solid lines in Figure 4.5 for sodium ion, Figure 4.6 for sulfate ion, Figure 4.7 for chloride ion, and Figure 4.8 for alkalinity. Each figure also shows, as dashed lines, the 95% confidence limits for Station 3 concentrations predicted by the regression equation from new observations at Station 7. These confidence limits were drawn from limits calculated for the minimum, mean, and maximum Station 7 concentrations used for each parameter in the regression analyses. The applicable range of Station 7 concentrations for each regression equation is indicated on the figure by the vertical dashed lines at the minimum and maximum value of Station 7 concentrations used to develop the equation.

On each of the figures, points for the data from samples collected in September, during closed cycle operation, and December, when Vermont Yankee was not operating, are plotted as filled circles. Points for the data of February and May, when Vermont Yankee was

using open cycle cooling, are plotted as open circles. The plotted points for all four parameters are well within the 95% confidence limits for Station 3 concentrations predicted by the regression equations.

DISSOLVED OXYGEN
STATION NO. 3
1980

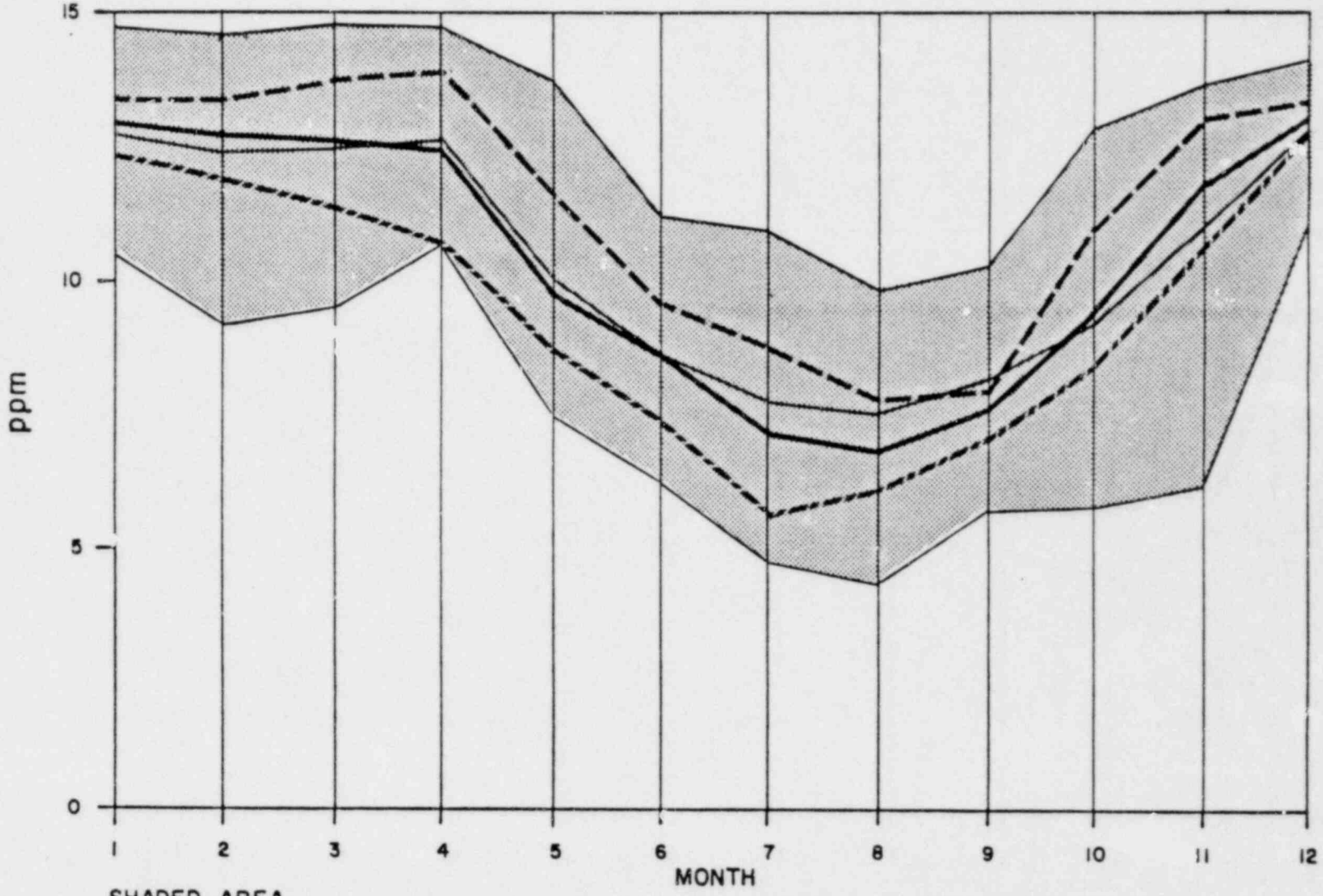
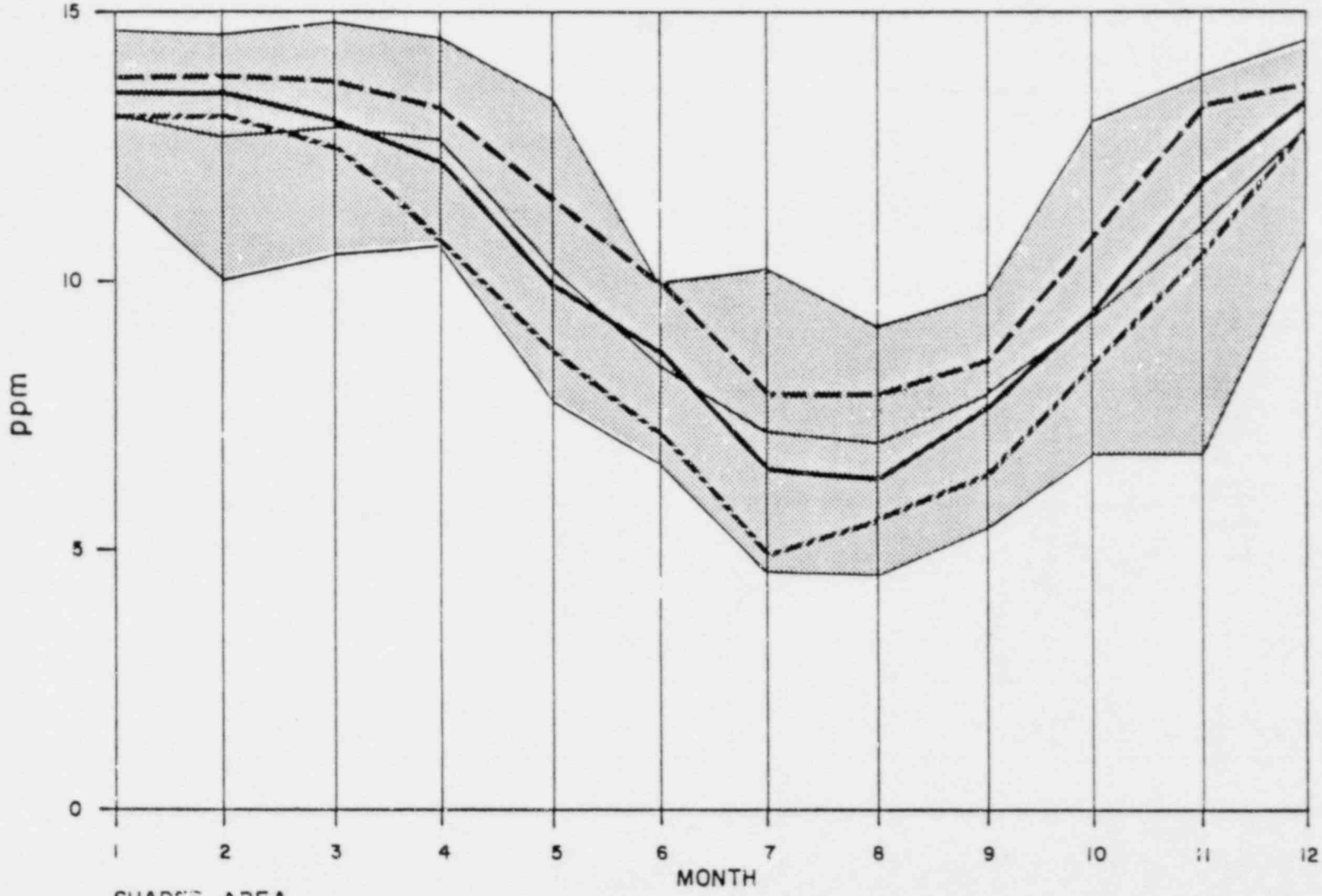


FIGURE 4.1

DISSOLVED OXYGEN
STATION NO. 7
1980

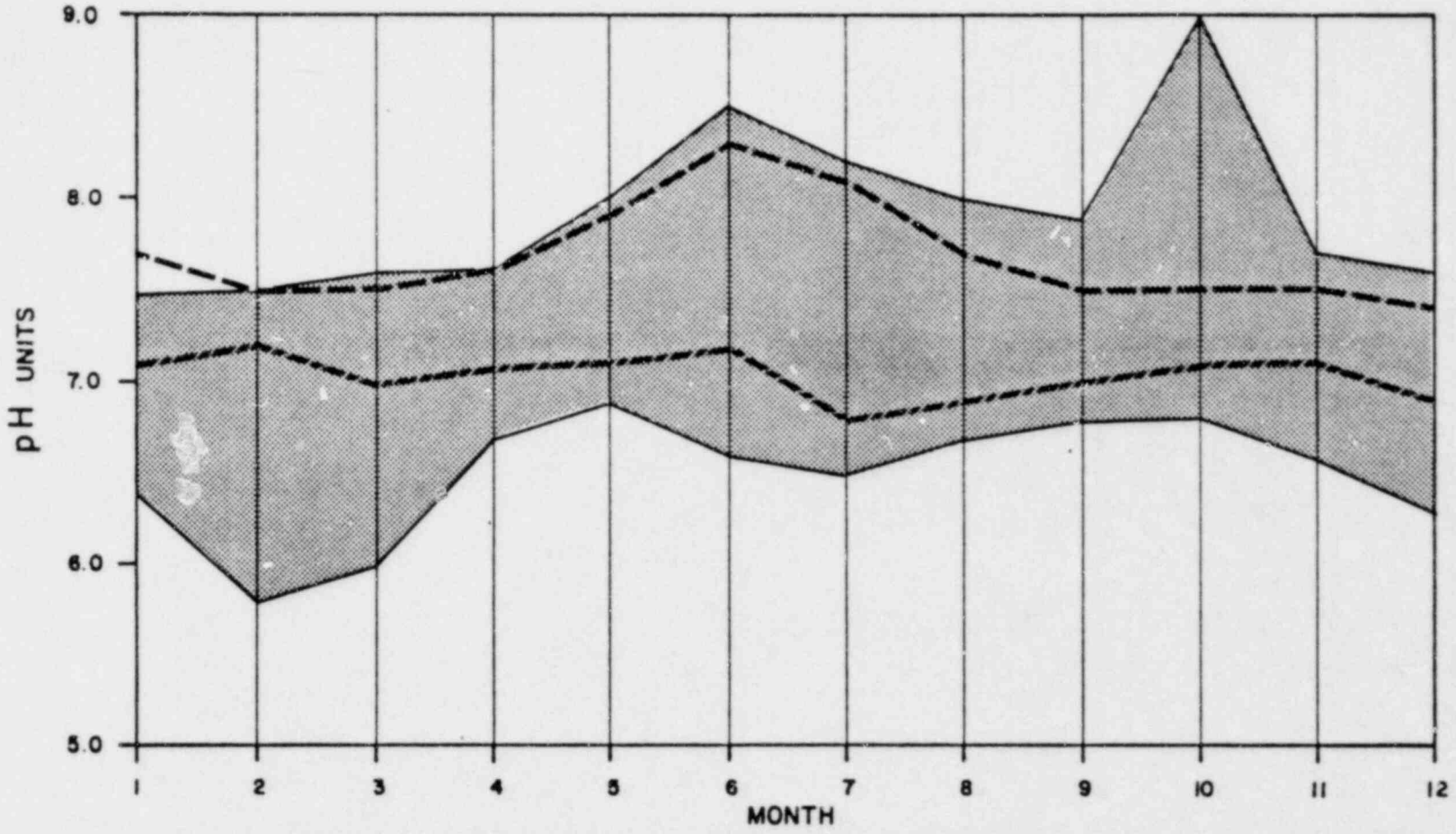


SHADED AREA
Maxima, means and minima observed in 1970 - 1979.
See text.

MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 4.2

pH
STATION NO. 3
1980

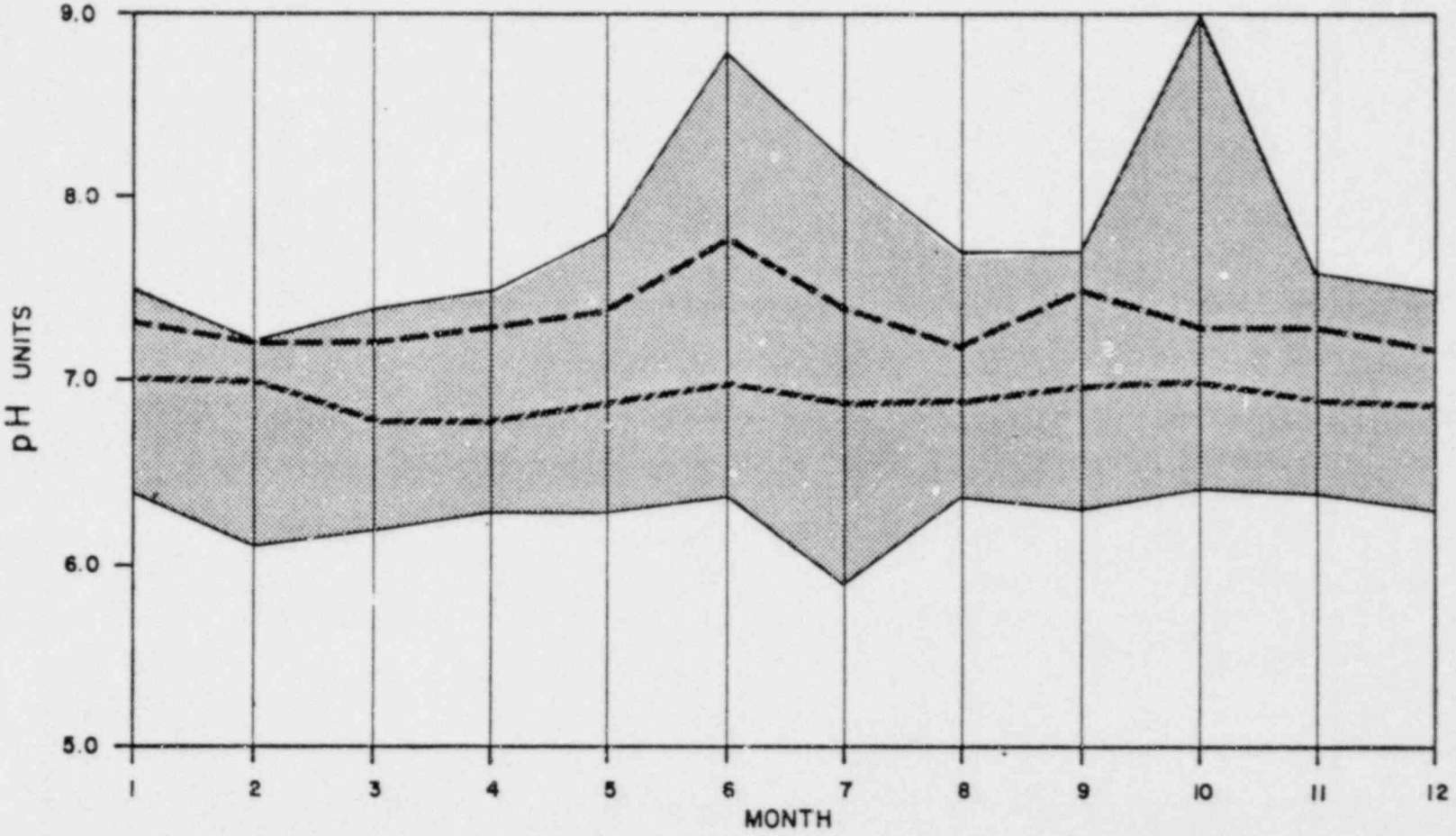


SHADED AREA
Maxima and minima
observed in 1968 - 1979.
See text.

MONTHLY MAXIMUM
MONTHLY MINIMUM

FIGURE 4.3

pH
STATION NO. 7
1980



SHADED AREA
Maxima and minima
observed in 1970 - 1979.
See text.

MONTHLY MAXIMUM
MONTHLY MINIMUM

FIGURE 4.4

COMPARISON OF OBSERVED STATION 3 SODIUM ION CONCENTRATIONS WITH STATION 3 CONCENTRATIONS PREDICTED FROM PREOPERATIONAL / CLOSED CYCLE DATA, STATIONS 7 AND 3, 1969 - 74

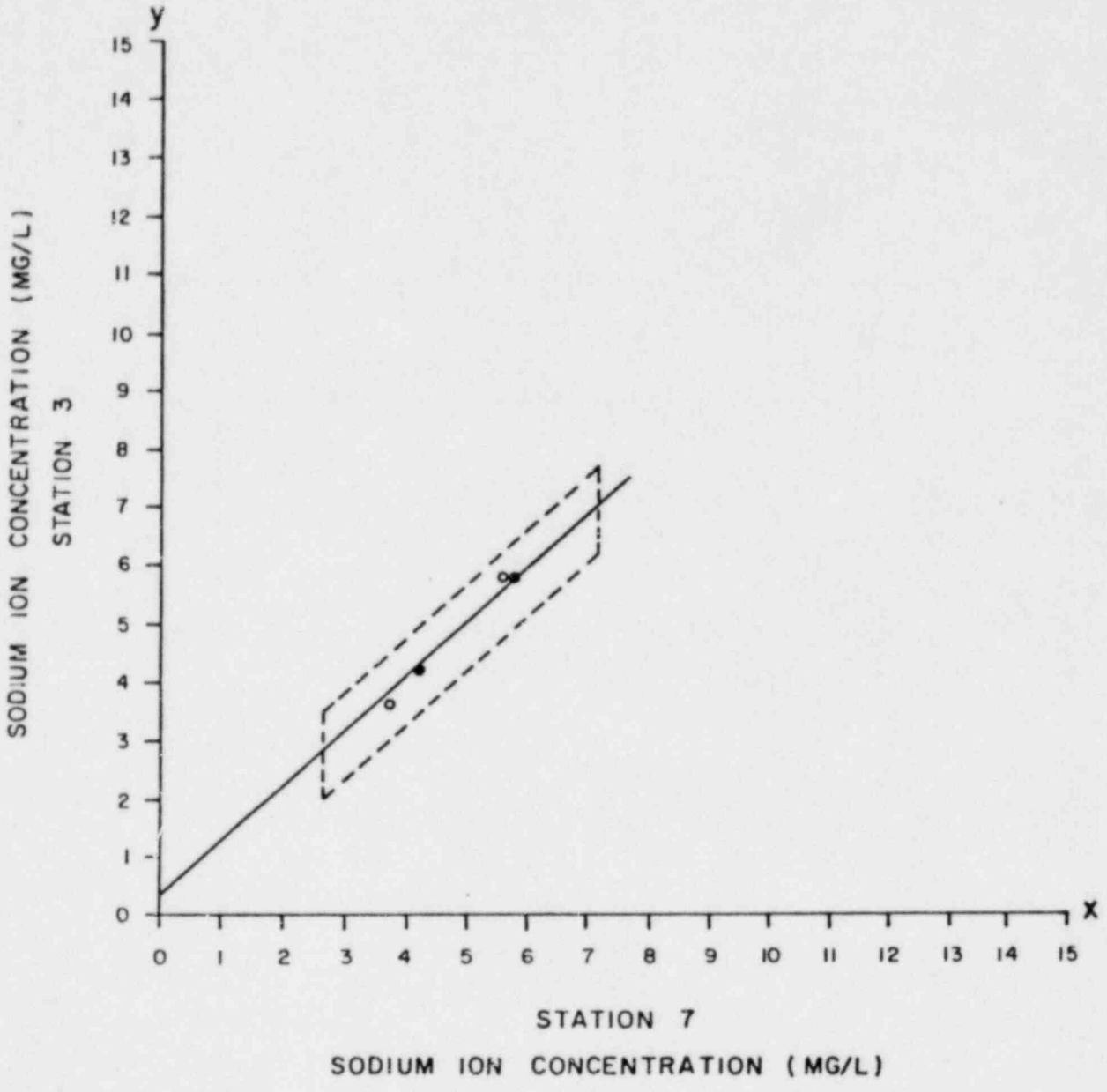


FIGURE 4.5

COMPARISON OF OBSERVED STATION 3 SULFATE ION CONCENTRATIONS WITH STATION 3 CONCENTRATIONS PREDICTED FROM PREOPERATIONAL/CLOSED CYCLE DATA, STATIONS 7 AND 3, 1969 - 74

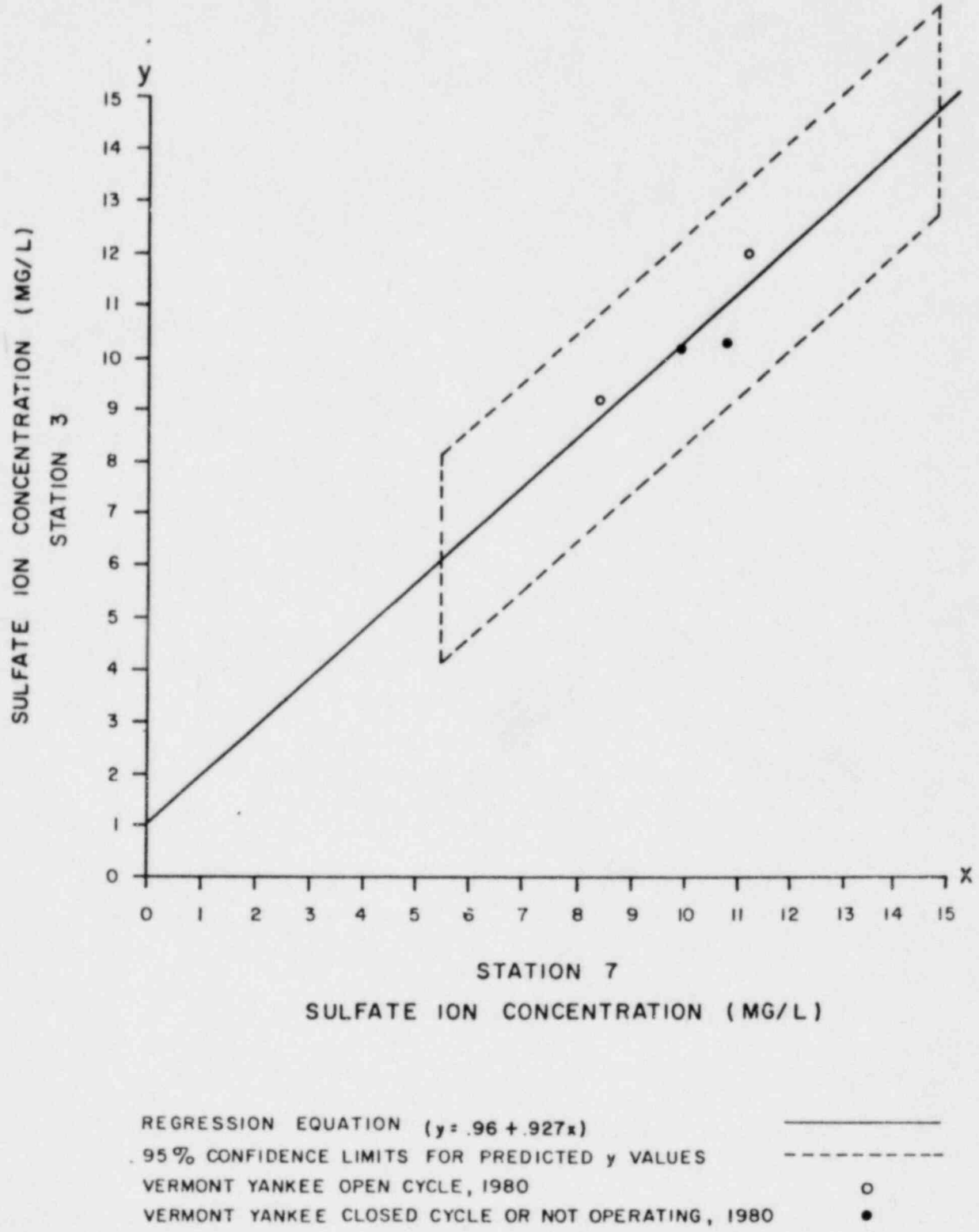


FIGURE 4.6

COMPARISON OF OBSERVED STATION 3 CHLORIDE ION CONCENTRATIONS WITH STATION 3 CONCENTRATIONS PREDICTED FROM PREOPERATIONAL/CLOSED CYCLE DATA, STATIONS 7 AND 3, 1967 - 74

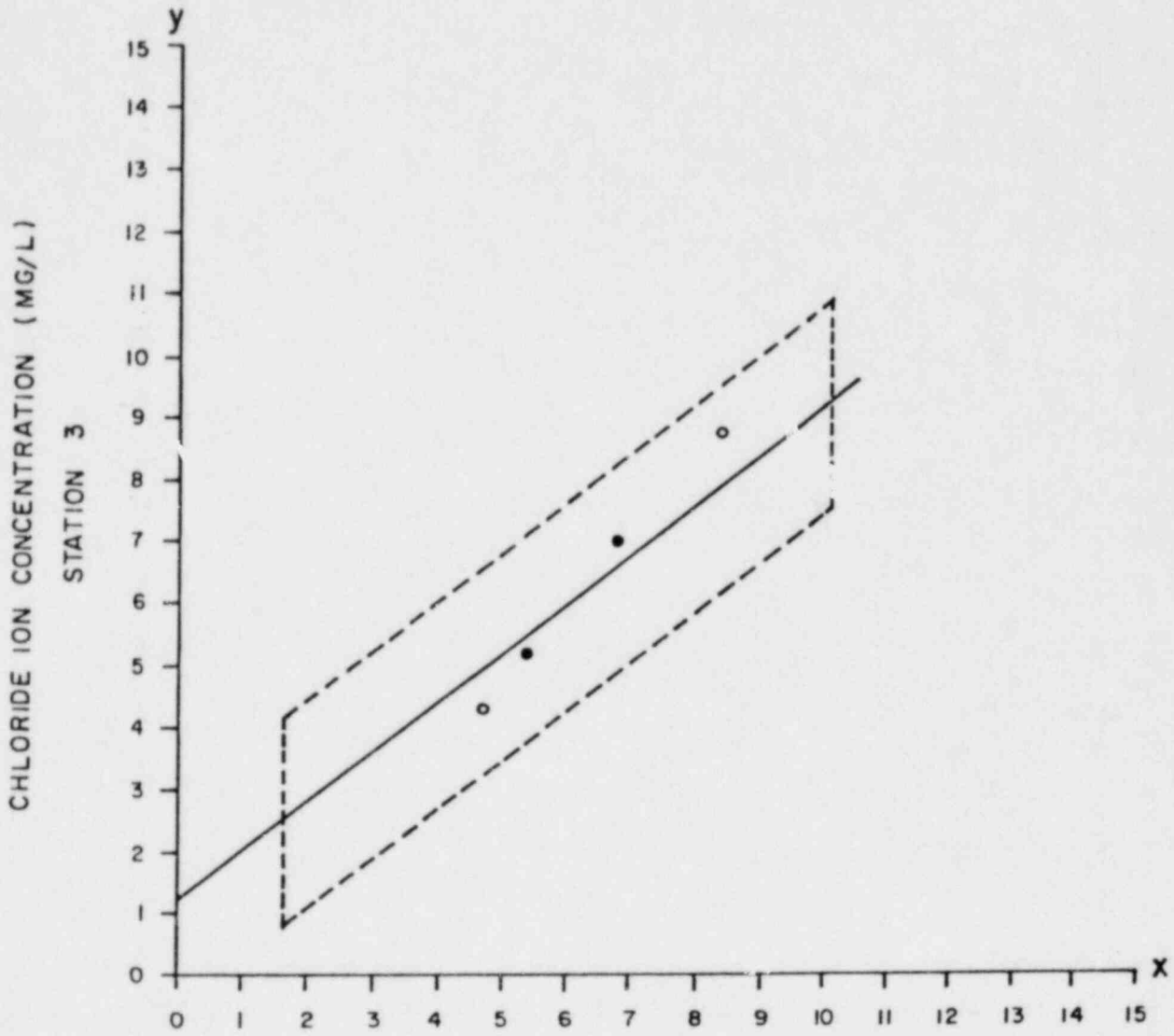


FIGURE 4.7

COMPARISON OF OBSERVED STATION 3 ALKALINITY CONCENTRATIONS WITH STATION 3 CONCENTRATIONS PREDICTED FROM PREOPERATIONAL / CLOSED CYCLE DATA, STATIONS 7 AND 3, 1967 - 74

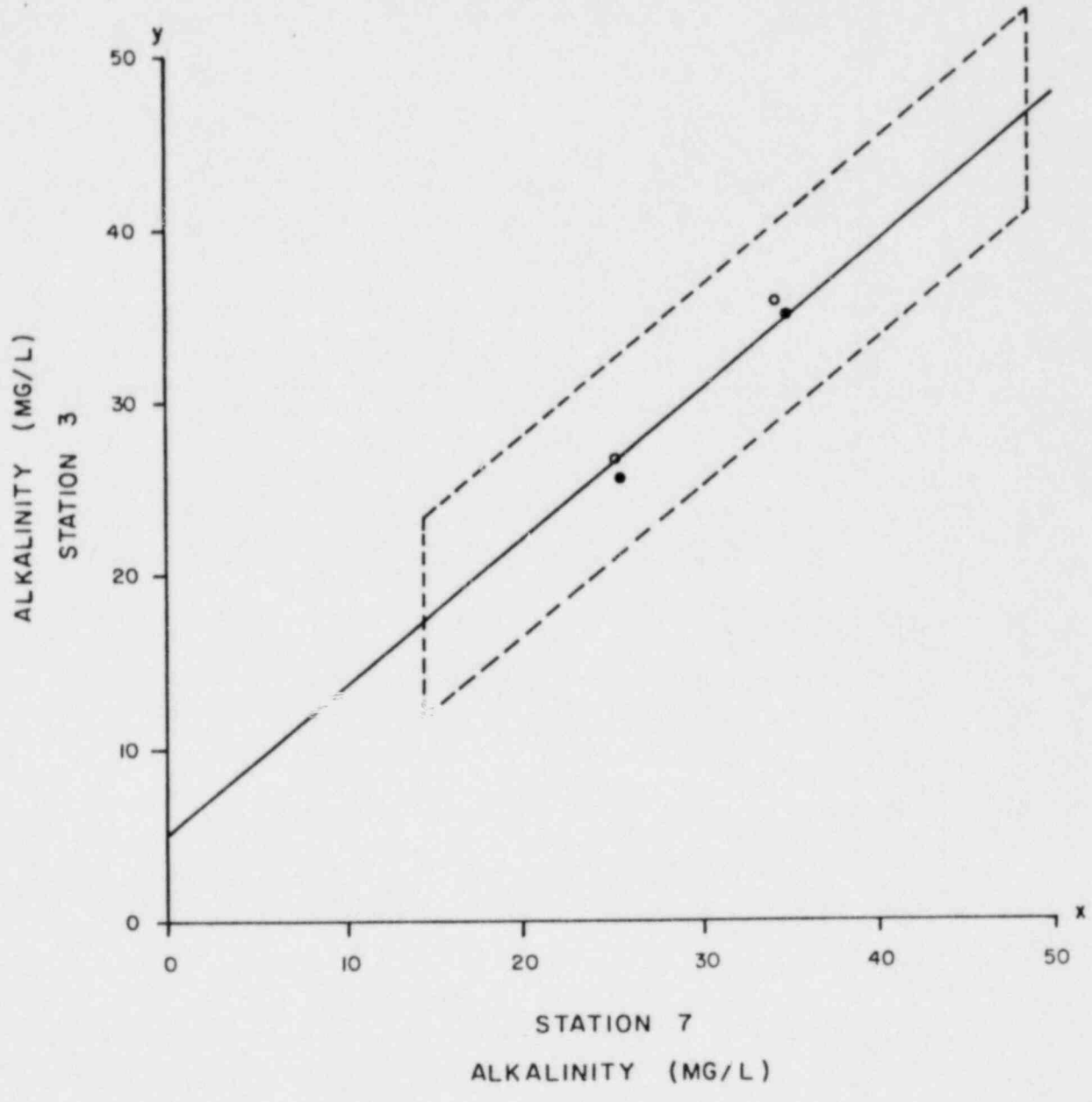


FIGURE 4.8

TABLE 4.1-1

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

JANUARY 1980

	DISSOLVED OXYGEN (MG/L)					pH	
Day	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.1	0000	12.5	0900	12.9	7.6	7.3
2	13.1	2130	12.5	0900	12.9	7.6	7.3
3	13.2	2300	12.5	0800	13.0	7.7	7.4
4	13.2	0000	12.8	0800	13.1	7.7	7.4
5	13.3	0600	13.0	0530	13.2	7.6	7.4
6	13.4	0130	12.9	1900	13.2	7.6	7.3
7	13.4	2030	12.6	0730	13.2	7.6	7.5
8	13.4	0000	12.8	0800	13.2	7.7	7.4
9	13.2	0000	12.6	0930	13.1	7.7	7.5
10	13.1	1030	12.6	0930	12.9	7.6	7.3
11	13.0	1630	12.4	0830	12.8	7.5	7.3
12	13.1	2300	12.8	0400	13.0	7.5	7.3
13	13.2	0000	12.7	0930	13.0	7.6	7.4
14	13.3	2130	12.8	0800	13.1	7.6	7.5
15	13.3	1700	12.8	0900	13.1	7.5	7.4
16	13.2	0100	12.8	2330	13.0	7.6	7.3
17	13.0	2400	12.8	1730	12.9	7.6	7.3
18	13.2	0730	13.0	2230	13.1	7.5	7.2
19	13.2	0300	13.0	2400	13.1	7.6	7.4
20	13.2	1730	12.5	1030	13.0	7.5	7.4
21	13.2	0200	12.6	0830	13.0	7.6	7.3
22	13.1	0000	12.6	0830	12.9	7.7	7.5
23	12.8	1700	12.3	0830	12.6	Sensor Inoperative	
24	12.8	1930	12.4	0600	12.6	"	"
25	12.8	2300	12.4	0830	12.6	7.6	7.5
26	12.8	2200	12.3	1830	12.6	7.5	7.2
27	12.8	0300	12.3	2400	12.6	7.5	7.1
28	13.0	1830	12.4	0230	12.7	7.5	7.3
29	13.0	1300	12.5	0900	12.8	Sensor Inoperative	
30	13.2	2100	12.5	0930	12.9	"	"
31	13.3	0130	12.8	0800	13.1	"	"

TABLE 4.1-2

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

FEBRUARY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.3	1230	13.1	2400	13.2	Sensor Inoperative	
2	13.1	1930	13.0	0900	13.1	"	"
3	13.3	1430	13.1	0200	13.2	"	"
4	13.3	1830	13.1	0700	13.2	"	"
5	13.2	0400	12.7	1830	13.1	"	"
6	13.1	1600	12.6	0830	12.9	"	"
7	13.3	2030	12.4	0800	12.9	"	"
8	13.3	0200	12.5	0930	13.0	7.4	7.2
9	12.9	0130	12.3	1730	12.6	7.4	7.2
10	12.9	2200	12.3	1730	12.6	7.4	7.2
11	13.0	2000	12.4	1030	12.7	7.5	7.2
12	13.1	2100	12.4	1130	12.7	7.5	7.2
13	13.0	0130	12.6	1130	12.8	7.5	7.3
14	13.1	0430	12.6	1300	12.8	7.5	7.3
15	13.0	0200	12.6	1500	12.7	7.4	7.2
16	12.7	0000	12.4	2400	12.5	7.4	7.3
17	12.5	0300	12.1	2100	12.3	7.5	7.3
18	12.4	0500	12.2	2200	12.3	7.5	7.2
19	13.0	2100	12.2	1300	12.5	7.4	7.2
20	13.1	2130	12.5	1600	12.8	7.5	7.3
21	13.0	0200	12.2	1730	12.6	7.5	7.3
22	12.6	0630	12.4	0100	12.5	7.4	7.3
23	12.6	1730	12.2	2130	12.4	7.4	7.3
24	12.3	0200	11.9	2030	12.1	7.4	7.3
25	12.4	2200	12.0	0900	12.2	7.4	7.2
26	12.4	0300	12.0	1100	12.2	7.4	7.3
27	12.7	2300	12.0	1100	12.3	7.5	7.3
28	12.6	0000	12.3	0900	12.5	7.5	7.3
29	12.9	2230	12.2	1600	12.6	7.5	7.2

TABLE 4.1-3

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

MARCH 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	12.9	0000	12.2	2400	12.5	7.5	7.2
2	12.2	1300	12.0	2100	12.1	7.3	7.1
3	12.7	2300	12.0	0700	12.2	7.4	7.1
4	12.8	2300	12.3	1200	12.5	7.4	7.2
5	12.8	0100	12.2	1100	12.6	7.4	7.3
6	12.7	0130	12.1	1130	12.4	7.4	7.2
7	12.8	0200	12.2	1900	12.5	7.4	7.2
9	12.6	0000	11.9	2000	12.3	7.3	7.2
9	12.3	0200	11.7	1930	12.1	7.4	7.2
10	12.5	2300	11.7	1530	12.1	7.4	7.1
11	12.5	0200	12.0	1700	12.3	7.4	7.3
12	12.5	2300	11.8	1730	12.2	7.3	7.1
13	12.5	0000	11.8	1730	12.2	7.4	7.1
14	12.3	2230	11.8	1530	12.1	7.3	7.2
15	12.2	0230	11.8	1930	12.0	7.4	7.2
16	12.0	0230	11.4	2300	11.7	7.5	7.2
17	12.2	2400	11.4	0530	11.7	7.3	7.2
18	13.3	2100	12.2	0830	12.6	7.3	7.2
19	13.2	0930	12.8	1900	13.0	7.3	7.0
20	13.3	0403	12.8	1700	13.0	7.4	7.1
21	13.4	2400	12.8	0830	13.0	7.3	7.2
22	13.7	1830	13.4	2400	13.5	7.3	7.1
23	13.4	1030	12.9	2400	13.2	7.3	7.1
24	13.2	0930	12.9	0600	13.0	7.3	7.1
25	13.3	1530	13.0	0300	13.1	7.4	7.2
26	13.5	0130	12.9	1930	13.2	7.4	7.3
27	13.3	1430	12.5	2300	12.9	7.5	7.3
28	13.1	1400	12.5	2200	12.7	7.5	7.3
29	13.0	1500	12.6	0000	12.8	7.5	7.3
30	13.2	1300	13.0	0500	13.1	7.5	7.4
31	13.3	0130	12.9	1630	13.1	7.5	7.4

TABLE 4.1-4

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

APRIL 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.3	0000	12.7	1630	13.0	7.6	7.3
2	13.1	0000	12.7	2400	12.9	7.5	7.3
3	13.1	0630	12.7	2330	12.9	7.4	7.2
4	12.9	2300	12.6	0800	12.7	7.4	7.3
5	13.1	1830	12.9	0200	13.0	7.6	7.4
6	13.2	0200	12.8	2400	13.0	7.6	7.3
7	12.8	0000	12.4	2300	12.6	7.5	7.3
8	12.4	0000	12.1	2130	12.2	7.4	7.3
9	12.4	1430	12.1	2400	12.3	7.4	7.3
10	13.7	2400	12.1	0000	13.0	7.4	7.2
11	13.9	2000	13.7	0000	13.8	7.5	7.3
12	13.9	1200	13.7	0530	13.8	7.6	7.3
13	13.8	0100	13.6	1900	13.7	7.5	7.3
14	13.7	0130	13.4	2100	13.5	7.6	7.3
15	13.3	0030	12.8	2300	13.0	7.4	7.2
16	12.9	1100	12.7	2200	12.8	7.4	7.3
17	12.9	0800	12.7	1500	12.8	7.4	7.3
18	12.9	0130	12.7	2000	12.8	7.4	7.2
19	12.7	0000	12.4	2100	12.4	7.4	7.2
20	12.4	0000	12.0	2400	12.2	7.4	7.2
21	12.0	0000	11.8	1300	11.9	7.3	7.1
22	11.9	0000	10.8	1900	11.4	7.3	7.1
23	11.4	2030	11.2	0600	11.3	7.3	7.2
24	11.4	0100	11.1	2300	11.2	7.4	7.2
25	11.4	1230	11.1	0330	11.2	7.4	7.2
26	11.3	0900	11.1	2400	11.2	7.3	7.2
27	11.1	2400	10.8	1200	10.9	7.4	7.2
28	11.5	2400	11.0	0600	11.2	7.5	7.3
29	11.7	2400	11.4	0900	11.5	7.4	7.3
30	11.7	0200	11.5	0800	11.6	7.4	7.2

TABLE 4.1-5

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

MAY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	11.7	0000	11.4	2300	11.5	7.4	7.2
2	11.4	0630	11.0	2400	11.2	7.4	7.2
3	11.1	0630	10.6	2000	10.8	7.4	7.2
4	10.7	0000	10.2	2400	10.4	7.3	7.1
5	10.2	0000	9.9	0930	10.1	7.3	7.1
6	10.1	0000	9.7	1600	9.9	7.4	7.2
7	9.8	0000	9.5	2400	9.6	7.3	7.2
8	10.0	2400	9.5	0000	9.8	7.3	7.2
9	10.3	1630	10.0	0000	10.1	7.4	7.3
10	10.3	2100	10.1	1030	10.2	7.5	7.3
11	10.4	0900	10.2	2200	10.3	7.4	7.3
12	10.3	0400	10.1	1300	10.2	7.6	7.3
13	10.1	0300	9.9	1900	10.0	7.5	7.4
14	10.0	0100	9.7	1200	9.8	7.4	7.3
15	10.0	1800	9.7	1100	9.9	7.4	7.3
16	10.0	2230	9.8	0130	9.9	7.5	7.3
17	10.0	0130	9.8	2230	9.9	7.5	7.2
18	9.9	1430	9.6	2400	9.8	7.4	7.2
19	9.8	1700	9.5	0600	9.6	7.5	7.3
20	9.7	1630	9.5	0430	9.6	7.6	7.2
21	9.6	0000	9.4	1300	9.5	7.5	7.3
22	9.8	2100	9.3	0500	9.6	7.8	7.4
23	9.7	0000	9.3	0800	9.5	7.9	7.4
24	9.5	2000	9.2	0930	9.3	7.8	7.4
25	9.5	1600	9.1	0700	9.3	7.8	7.4
26	9.3	1600	9.0	2400	9.1	7.7	7.5
27	9.3	2100	8.9	0600	9.1	7.7	7.4
28	9.3	2130	8.9	0600	9.1	7.7	7.4
29	9.4	1600	8.9	0600	9.2	7.8	7.4
30	9.1	1300	8.8	2400	9.0	7.7	7.4
31	9.0	1730	8.7	2400	8.9	7.7	7.3

TABLE 4.1-6

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

JUNE 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	9.1	1700	8.7	0530	8.9	7.9	7.5
2	9.6	1630	8.9	0600	9.3	8.3	7.7
3	9.3	1500	8.8	2400	9.1	7.9	7.5
4	9.0	1300	8.5	2400	8.8	7.7	7.4
5	8.9	1900	8.4	0800	8.6	7.8	7.4
6	8.8	0000	8.4	2400	8.6	7.6	7.4
7	8.4	0000	8.1	2230	8.2	7.4	7.2
8	8.2	0000	7.9	1300	8.0	7.4	7.2
9	8.4	1630	7.8	0630	8.1	7.4	7.2
10	8.3	2100	7.9	0500	8.1	7.4	7.2
11	8.5	1900	8.1	0430	8.3	7.4	7.3
12	8.8	1630	8.3	0500	8.6	7.6	7.2
13	9.1	1930	8.7	0500	8.9	7.8	7.3
14	9.5	2030	8.9	0500	9.2	8.1	7.4
15	9.6	0000	9.4	2400	9.5	7.9	7.6
16	9.4	0000	9.0	2400	9.2	8.1	7.7
17	9.1	1700	8.8	1230	8.9	8.0	7.6
18	8.9	0000	8.5	2400	8.7	7.8	7.5
19	8.9	1830	8.3	0500	8.6	7.9	7.4
20	8.8	1800	8.4	0730	8.6	7.5	7.3
21	8.6	1630	8.3	2300	8.4	7.5	7.3
22	8.5	2230	8.0	0730	8.3	7.6	7.2
23	8.8	1930	8.3	0330	8.6	7.7	7.3
24			No Valid Data			7.9	7.3
25			" " "			8.0	7.4
26			" " "			7.9	7.5
27	8.6	1630	7.8	0900	8.2	8.0	7.6
28	8.5	1530	7.9	0700	8.3	7.9	7.5
29	8.1	0000	7.9	2000	8.0	7.6	7.4
30	8.0	0000	7.4	1100	7.6	7.5	7.3

TABLE 4.1-7

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

JULY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	7.7	1830	7.0	0630	7.4	7.6	7.3
2	7.7	1800	7.0	0800	7.4	7.5	7.2
3	8.0	1900	7.3	0700	7.7	7.7	7.3
4	8.6	2200	7.5	2230	8.1	8.0	7.4
5	8.4	1600	8.1	2400	8.2	7.9	7.6
6	8.5	1500	7.7	0700	8.2	7.8	7.4
7	8.8	1900	7.8	0630	8.3	8.1	7.4
8	8.5	0000	7.9	2400	8.2	7.8	7.5
9	8.4	1900	7.6	0700	8.0	7.8	7.4
10	8.3	1600	7.7	2400	8.0	7.7	7.4
11	7.8	1830	7.4	0600	7.6	7.7	7.3
12	7.9	1830	7.1	0600	7.5	7.6	7.2
13	7.8	1700	7.4	0700	7.6	7.6	7.4
14	8.0	1900	7.2	0700	7.6	7.8	7.3
15	7.7	0000	7.1	2400	7.4	7.6	7.3
16	7.9	1930	6.5	0730	7.2	7.9	7.2
17	7.8	1830	7.2	0730	7.5	7.8	7.4
18	8.1	1830	7.2	0700	7.6	7.8	7.3
19	8.0	1630	7.3	2400	7.7	7.6	7.3
20	7.3	0000	6.9	0730	7.0	7.5	7.2
21	7.8	1930	6.7	0730	7.3	7.7	7.2
22	7.5	0000	6.3	2400	6.6	7.5	7.1
23	6.4	1330	6.1	2400	6.2	7.2	7.0
24	6.4	1800	5.9	0600	6.2	7.2	6.9
25	6.4	1900	5.9	0600	6.2	7.2	6.8
26	6.8	1930	6.2	0630	6.5	7.2	6.9
27	6.9	1530	6.2	2030	6.5	7.3	6.9
28	6.5	1600	6.0	2400	6.3	7.3	7.0
29	6.1	1530	5.7	0730	5.9	7.1	7.0
30	6.2	1800	5.7	0500	5.9	7.3	7.0
31	6.6	1830	5.9	0700	6.2	7.3	7.0

TABLE 4.1-8

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

AUGUST 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	6.6	1330	6.2	2400	6.4	7.3	7.0
2	6.8	1730	6.1	0730	6.5	7.3	7.0
3	6.9	2400	6.2	0730	6.5	7.2	7.0
4			Pump Inoperative			Pump Inoperative	
5			" "			" "	
6			" "			" "	
7			" "			" "	
8			" "			" "	
9	7.5	1700	6.9	0700	7.2	7.4	7.1
10	7.4	2130	7.0	0600	7.2	7.2	7.0
11	7.1	0000	6.6	2400	6.9	7.1	6.9
12	6.8	1900	6.5	0600	6.6	7.1	6.9
13	6.8	1400	6.4	0730	6.6	7.1	6.9
14	6.8	2400	6.5	1300	6.6	7.1	7.0
15	7.4	1830	6.8	0000	7.1	7.3	6.9
16	7.1	0000	6.8	0800	7.0	7.1	6.9
17			Pump Inoperative			Pump Inoperative	
			" "			" "	
19	7.3	1200	6.6	2400	7.0	7.3	7.0
20	6.6	1730	6.2	0830	6.4	7.2	7.0
21	6.6	1800	6.2	0600	6.4	7.2	7.0
22	6.7	1800	6.2	0800	6.4	7.3	7.0
23	6.9	2230	6.3	0530	6.6	7.5	7.0
24	7.4	2100	6.8	0300	7.1	7.7	7.1
25	7.4	1700	6.8	0730	7.1	7.6	7.1
26	7.5	1800	6.9	0730	7.2	7.5	7.1
27	7.0	0000	6.5	0900	6.7	7.4	7.0
28	7.2	1630	6.7	0830	7.0	7.2	7.0
29	7.4	1730	6.8	0830	7.1	7.2	7.0
30	7.8	1630	7.0	0630	7.4	7.4	7.0
31	7.7	1730	7.4	0630	7.6	7.4	7.1

TABLE 4.1-9

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

SEPTEMBER 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	8.0	1430	7.5	0630	7.7	7.5	7.2
2		Pump Inoperative				Pump Inoperative	
3		"	"			"	"
4		"	"			"	"
5		"	"			"	"
6		"	"			"	"
7		"	"			"	"
8		"	"			"	"
9		"	"			"	"
10	8.0	1230	7.6	0600	7.8	7.4	7.0
11	7.9	1500	7.4	2400	7.7	7.4	7.0
12	7.9	0000	7.6	2400	7.8	7.5	7.2
13	7.6	0000	7.5	2230	7.6	7.3	7.2
14	7.5	0000	7.3	2400	7.4	7.4	7.2
15	7.7	1630	7.1	0530	7.4	7.2	7.1
16	7.9	1630	7.4	0700	7.6	7.4	7.1
17		Pump Inoperative				Pump Inoperative	
18		"	"			"	"
19		"	"			"	"
20		"	"			"	"
21		"	"			"	"
22		"	"			"	"
23		"	"			"	"
24		"	"			"	"
25		"	"			"	"
26		"	"			"	"
27		"	"			"	"
28		"	"			"	"
29		"	"			"	"
30		"	"			"	"

TABLE 4.1-10

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

OCTOBER 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1			Pump Inoperative			Pump Inoperative	
2			"	"		"	"
3	9.2	1430	8.8	2400	9.0	7.5	7.2
4	9.1	1830	8.7	0400	8.9	7.5	7.3
5	9.2	1600	8.8	0630	9.0	7.4	7.2
6	9.0	0000	8.7	2400	8.9	7.4	7.2
7	9.0	1600	8.4	0600	8.7	7.4	7.2
8	9.2	1130	8.8	0230	9.0	7.4	7.2
9	9.1	1630	8.7	0500	8.9	7.4	7.2
10	8.9	1800	8.7	0600	8.8	7.4	7.3
11	8.8	0100	8.6	1900	8.7	7.4	7.2
12	8.9	1900	8.6	0700	8.8	7.4	7.2
13	9.0	2000	8.7	0600	8.8	7.4	7.3
14	9.2	1900	8.8	0600	9.0	7.4	7.3
15	9.1	0300	8.9	1300	9.0	7.4	7.3
16	9.2	1100	9.1	0530	9.1	7.4	7.3
17	9.4	1430	9.2	0100	9.3	7.4	7.2
18	9.4	1330	9.2	0730	9.3	7.3	7.2
19	9.4	1900	9.2	0700	9.3	7.3	7.2
20	9.6	1900	9.3	0530	9.4	7.4	7.3
21	9.6	1900	9.5	0500	9.6	7.3	7.1
22	9.8	1730	9.4	0500	9.6	7.2	7.1
23	10.0	1530	9.6	0600	9.8	7.2	7.1
24	10.1	2400	9.8	0700	9.9	7.4	7.1
25	10.3	1730	10.1	0200	10.2	7.4	7.2
26	10.4	1500	10.1	0630	10.2	7.3	7.2
27	10.4	1500	10.2	0400	10.3	7.2	7.1
28	10.5	2400	10.2	0100	10.3	7.3	7.2
29	10.6	2400	10.4	1500	10.5	7.3	7.1
30	10.9	2400	10.5	0500	10.7	7.4	7.2
31	10.9	0000	10.7	1600	10.8	7.3	7.1

TABLE 4.1-11

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

NOVEMBER 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	10.8	0130	10.6	2230	10.7	7.3	7.2
2	10.9	2400	10.6	0530	10.8	7.3	7.1
3	10.9	0000	10.7	1600	10.8	7.3	7.1
4	11.2	2400	10.9	0830	11.0	7.3	7.1
5	11.2	1500	11.1	0600	11.2	7.3	7.2
6	11.2	1100	11.0	2400	11.1	7.3	7.1
7	11.0	0000	10.9	1600	11.0	7.3	7.1
8	11.3	2000	11.0	0100	11.1	7.4	7.2
9	11.2	0000	10.9	2400	11.1	7.4	7.2
10	11.1	2300	10.9	0700	11.0	7.3	7.2
11	11.4	2330	11.1	0300	11.2	7.4	7.2
12	11.7	1400	11.4	0300	11.5	7.5	7.3
13	11.8	1900	11.6	0230	11.7	7.5	7.4
14	11.7	0000	11.6	1300	11.7	7.5	7.3
15	11.9	2000	11.6	0700	11.7	7.4	7.3
16	11.9	0200	11.7	1230	11.8	7.5	7.3
17	12.0	1130	11.9	2230	12.0	7.5	7.3
18	12.3	2400	11.9	0000	12.1	7.5	7.3
19	12.5	0400	12.3	2400	12.4	7.5	7.3
20	12.4	1430	12.3	0730	12.3	7.4	7.2
21	12.7	2230	12.3	0230	12.5	7.3	7.1
22	12.8	1530	12.6	0430	12.7	7.4	7.2
23	12.9	1400	12.7	0100	12.8	7.4	7.3
24	12.8	0000	12.5	1900	12.7	7.3	7.2
25	12.8	2000	12.4	0900	12.6	7.3	7.2
26	12.8	2400	12.5	0800	12.6	7.3	7.1
27	13.0	1100	12.8	2200	12.9	7.5	7.3
28	12.9	0300	12.7	1530	12.8	7.4	7.3
29	12.9	0130	12.7	1230	12.8	7.4	7.2
30	13.0	2100	12.8	1000	12.9	7.3	7.2

TABLE 4.1-12

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3

DECEMBER 1980

	DISSOLVED OXYGEN (MG/L)					pH	
Day	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.0	1430	12.7	0330	12.8	7.3	7.1
2	13.0	1300	12.8	2400	12.9	7.4	7.1
3	12.9	1000	12.7	2400	12.8	7.2	7.0
4	13.1	1400	12.7	0000	12.9	7.2	7.0
5	13.3	1300	12.9	0000	13.1	7.2	7.1
6	13.3	1430	13.1	0330	13.2	7.2	7.1
7	13.2	0000	13.0	1800	13.1	7.2	7.0
8	13.1	0130	12.9	1300	13.0	7.1	7.0
9	13.1	0830	12.9	1600	13.0	7.2	7.0
10	13.2	2300	13.0	1030	13.1	7.2	7.0
11	13.2	0100	13.1	2300	13.1	7.3	7.1
12	13.2	2200	13.0	5030	13.1	7.3	7.1
13	13.2	0200	13.0	1230	13.1	7.2	7.1
14	13.2	1000	13.0	2330	13.1	7.2	7.0
15	13.2	1500	13.0	0900	13.1	7.2	7.0
16	13.2	2200	13.0	1500	13.1	7.2	7.1
17	13.2	0800	12.9	2330	13.1	7.2	7.0
18	13.0	2130	12.8	1100	12.9	7.2	7.0
19	13.2	2300	12.8	0500	13.0	7.2	7.0
20	13.2	1030	12.9	2330	13.1	7.3	7.0
21	13.0	2100	12.9	0630	13.0	7.2	6.9
22	13.1	2400	13.0	0600	13.0	7.2	7.0
23	13.2	0930	12.9	2400	13.1	7.0	6.9
24	13.0	1400	12.9	0600	12.9	7.1	6.9
25	13.1	2330	12.9	0700	13.0	7.1	6.9
26	13.1	1400	13.0	0600	13.1	7.1	7.0
27	13.2	2400	13.0	9000	13.1	7.0	6.9
28	13.3	1400	13.1	0100	13.2	7.0	6.9
29			Pump Inoperative			Pump Inoperative	
30			"	"		"	"
31			"	"		"	"

TABLE 4.2-1

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

JANUARY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.3	2130	13.1	0430	13.2	7.2	7.1
2	13.4	1630	13.2	0030	13.3	7.3	7.2
3	13.5	0230	13.4	2100	13.4	7.3	7.2
4	13.5	1630	13.3	1400	13.4	7.3	7.2
5	13.4	0000	13.3	1300	13.4	7.2	7.1
6	13.5	2200	13.4	0600	13.5	7.2	7.2
7	13.7	1200	13.5	2200	13.6	7.3	7.2
8	13.8	1930	13.6	0200	13.7	7.3	7.1
9	13.7	0000	13.6	2400	13.7	7.2	7.1
10	13.7	1330	13.6	0400	13.6	7.2	7.1
11	13.6	0900	13.5	1530	13.6	7.2	7.1
12	13.7	0900	13.5	2400	13.7	7.2	7.1
13	13.7	2400	13.4	0930	13.6	7.3	7.2
14	13.7	1530	13.6	0630	13.7	7.3	7.2
15	13.7	0000	13.5	2400	13.6	7.2	7.1
16	13.5	0000	13.3	1600	13.4	7.2	7.1
17	13.7	2400	13.3	0000	13.5	7.2	7.0
18	13.7	2000	13.6	0400	13.6	7.2	7.1
19	13.6	1900	13.5	0500	13.6	7.2	7.1
20	13.5	0000	13.3	1930	13.4	7.2	7.1
21	13.5	2400	13.3	1900	13.4	7.3	7.1
22	13.6	0530	13.4	1700	13.5	7.2	7.1
23	13.4	0000	13.2	2030	13.3	7.2	7.1
24	13.3	1230	13.1	1900	13.2	7.2	7.1
25	13.5	2400	13.2	0100	13.4	7.3	7.1
26	13.6	1830	13.5	0400	13.5	7.2	7.1
27	13.6	0000	13.4	2400	13.5	7.2	7.1
28	13.5	0200	13.0	2400	13.3	7.2	7.1
29	13.5	1630	13.3	0900	13.4	7.1	7.0
30	13.6	0500	13.3	2300	13.5	7.1	7.0
31	13.5	2030	13.3	1000	13.4	7.1	7.0

TABLE 4.2-2

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

FEBRUARY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.7	1900	13.4	0300	13.5	7.1	7.0
2	13.6	2400	13.5	0700	13.6	7.1	7.0
3	13.7	0600	13.6	2400	13.6	7.2	7.1
4	13.7	1630	13.5	0400	13.6	7.2	7.1
5	13.8	2100	13.5	0930	13.6	7.2	7.1
6	13.8	1330	13.6	2230	13.7	7.1	7.1
7	13.7	0100	13.3	1900	13.5	7.1	7.0
8	13.6	2100	13.3	0830	13.5	7.1	7.0
9	13.6	0000	13.3	1000	13.4	7.1	7.0
10	13.4	1230	13.3	2400	13.3	7.1	7.0
11	13.5	2200	13.1	0900	13.3	7.1	7.1
12	13.7	1800	13.5	1000	13.6	7.2	7.1
13	13.7	1800	13.5	0800	13.6	7.2	7.1
14	13.7	0600	13.5	2400	13.6	7.2	7.1
15	13.5	2400	13.4	1000	13.5	7.2	7.1
16	13.5	1000	13.3	2400	13.4	7.1	7.1
17	13.4	2300	13.2	1130	13.3	7.1	7.0
18	13.4	2300	13.2	0330	13.3	7.1	7.0
19	13.5	1530	13.2	0300	13.3	7.1	7.0
20	13.6	2400	13.3	0000	13.5	7.1	7.0
21	13.7	1300	13.5	2400	13.6	7.1	7.0
22	13.5	0000	13.3	2000	13.4	7.1	7.0
23	13.5	0600	13.3	2230	13.4	7.1	7.0
24	13.5	2400	13.3	0000	13.4	7.1	7.0
25	13.7	0900	13.3	2000	13.5	7.1	7.0
26	13.5	0000	13.3	2400	13.4	7.1	7.0
27	13.4	1530	13.3	2130	13.4	7.1	7.0
28	13.4	1500	13.3	2400	13.4	7.1	7.0
29	13.3	0000	13.1	2200	13.2	7.0	7.0

TABLE 4.2-3

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

MARCH 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.2	0400	13.0	2400	13.1	7.0	7.0
2	13.1	1730	13.0	0830	13.0	7.1	7.0
3	13.1	2400	12.9	0600	13.0	7.1	7.0
4	13.2	0200	13.0	2000	13.1	7.2	7.1
5	13.4	2200	13.0	0000	13.2	7.1	7.0
6	13.4	0000	12.8	2400	13.1	7.1	7.0
7	12.9	1330	12.6	2330	12.8	7.0	6.9
8	12.8	0600	12.5	2230	12.7	7.0	7.0
9	12.7	1030	12.5	0000	12.6	7.0	7.0
10			No Valid Data			7.1	7.0
11			" " "			7.0	6.9
12			" " "			7.0	6.9
13	13.0	1200	12.8	0700	12.9	7.0	6.9
14	13.0	0200	12.8	2400	12.9	7.1	7.0
15	12.9	0800	12.8	2400	12.9	7.1	7.0
16	12.8	0000	12.7	2400	12.8	7.1	7.0
17	13.0	2400	12.8	1300	12.9	7.1	6.9
18	13.3	1600	13.0	0300	13.1	7.0	6.9
19	13.3	2100	12.9	1200	13.1	7.1	6.9
20	13.3	0900	12.9	2400	13.1	7.0	7.0
21	13.4	1900	13.1	0900	13.3	7.0	6.8
22	13.7	1130	13.4	0000	13.6	6.9	6.8
23	13.7	0500	13.1	2400	13.4	7.0	6.9
24	13.4	1530	13.1	0000	13.3	7.0	6.9
25	13.3	2200	13.1	0700	13.2	7.0	6.9
26	13.0	2000	12.8	0800	12.9	7.0	6.9
27	13.1	2300	12.9	1030	13.0	7.1	7.0
28	13.0	0000	12.6	2400	12.8	7.1	7.0
29	12.8	2400	12.6	0000	12.7	7.1	7.0
30	13.0	2300	12.8	1600	12.9	7.1	7.0
31	13.1	0500	12.7	2400	12.9	7.1	7.0

TABLE 4.2-4

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

APRIL 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	12.9	2400	12.7	0000	12.8	7.1	7.0
2	12.9	1530	12.8	0800	12.9	7.1	7.0
3	12.8	0000	12.3	2230	12.6	7.0	7.0
4	12.6	2400	12.2	0430	12.4	7.0	6.9
5	12.9	2400	12.6	1100	12.8	7.1	6.9
6	13.1	0930	12.6	2400	12.9	7.1	7.0
7	12.8	1600	12.4	2400	12.6	7.1	7.0
8	12.5	1630	12.3	0900	12.4	7.0	6.9
9	12.4	0000	12.3	2400	12.4	7.1	7.0
10	13.0	2400	12.2	0200	12.7	7.0	6.8
11	13.2	0900	12.9	2200	13.0	7.0	6.9
12	12.9	0000	12.5	2400	12.7	7.0	6.9
13	12.8	0900	12.6	0000	12.7	7.0	6.9
14	12.7	0730	12.5	2400	12.6	7.0	6.9
15	12.6	0230	12.1	1630	12.4	7.0	6.9
16	12.5	2400	12.2	1130	12.3	7.1	6.9
17	12.8	1400	12.5	0000	12.7	7.1	7.0
18	12.8	0900	12.5	2400	12.6	7.1	7.0
19	12.6	0830	12.2	2400	12.4	7.1	7.0
20	12.2	0100	11.8	2400	12.0	7.1	7.0
21	12.1	0930	11.4	2400	11.7	7.1	6.9
22	11.6	0600	11.4	2400	11.5	7.1	6.9
23	11.5	1030	11.2	2230	11.3	7.2	7.1
24	11.2	0000	11.0	2300	11.1	7.2	7.1
25	11.2	0600	10.9	1800	11.1	7.2	7.1
26	11.1	0000	10.8	2400	11.0	7.2	7.0
27	10.9	0100	10.7	1500	10.8	7.2	7.1
28	11.4	2400	10.8	0400	11.1	7.3	7.1
29	11.6	1700	11.4	0500	11.6	7.2	7.0
30	11.6	1100	11.4	2200	11.5	7.1	7.0

TABLE 4.2-5

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

MAY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	11.5	0000	11.2	2400	11.3	7.1	7.0
2	11.3	0400	10.8	1830	11.0	7.0	6.9
3	10.8	0130	10.5	2400	10.6	7.0	6.9
4	10.5	0000	10.1	2400	10.3	7.0	6.9
5	10.3	1100	10.1	2400	10.2	7.0	6.9
6	10.1	0000	9.8	2400	9.9	7.1	7.0
7	9.8	0000	9.6	1800	9.7	7.1	7.0
8	10.0	2100	9.7	0100	9.8	7.1	7.0
9	10.3	1830	9.9	0000	10.1	7.1	7.0
10	10.5	2400	10.3	0000	10.4	7.2	7.0
11	10.7	0600	10.6	2400	10.6	7.1	7.0
12	10.6	0000	10.4	2400	10.5	7.2	7.0
13	10.5	1200	10.3	2400	10.4	7.1	7.0
14	10.3	0000	10.0	2400	10.1	7.1	7.0
15	10.1	2200	9.9	1700	10.0	7.1	7.0
16	10.1	0000	9.9	2400	10.0	7.1	7.0
17	9.9	1000	9.7	2400	9.8	7.1	7.0
18	9.8	2400	9.5	1400	9.7	7.1	7.0
19	9.8	0000	9.5	1800	9.7	7.1	7.0
20	9.7	0000	9.4	2100	9.5	7.2	7.0
21	9.7	1430	9.4	0400	9.5	7.2	7.0
22	9.9	1200	9.5	0000	9.7	7.2	7.1
23	9.6	1130	9.4	2400	9.5	7.3	7.1
24	9.6	1200	9.3	2400	9.4	7.3	7.2
25	9.5	1530	9.0	0900	9.2	7.4	7.1
26	9.5	2100	9.3	0000	9.4	7.4	7.2
27	9.4	0000	9.0	1100	9.2	7.4	7.2
28	9.3	1930	9.0	1130	9.2	7.4	7.2
29	9.2	0000	8.8	2100	9.0	7.4	7.2
30	9.6	2400	8.8	0500	9.1	No Valid Data	
31	9.7	2400	9.3	1130	9.5	" "	"

TABLE 4.2-6

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

JUNE 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	No Valid Data					No Valid Data	
2	9.5	1630	9.1	1200	9.3	"	"
3	9.2	0200	8.9	1700	9.0	7.5	7.4
4	9.0	0000	8.4	2400	8.6	7.4	7.2
5	8.7	1700	8.4	2400	8.6	7.4	7.2
6	8.7	2200	8.2	0630	8.4	7.3	7.0
7	8.7	1000	8.4	2400	8.6	7.3	7.1
8	8.8	1930	8.3	0700	8.5	7.3	7.1
9	8.7	0700	8.4	2400	8.5	7.3	7.1
10	8.8	2100	8.4	0000	8.6	7.2	7.1
11	9.0	1300	8.6	0130	8.8	7.5	7.2
12	9.4	2400	8.9	0500	9.1	7.5	7.2
13	9.8	1730	9.4	0300	9.6	7.7	7.3
14	9.6	0100	9.2	2330	9.4	7.8	7.6
15	9.6	0400	9.1	2030	9.4	7.8	7.5
16	9.9	2230	9.4	0200	9.6	7.7	7.4
17	9.8	0130	9.4	1700	9.6	7.6	7.4
18	9.5	0100	9.1	2400	9.3	7.5	7.4
19	9.1	0000	8.4	2030	8.8	No Valid Data	
20	Pump Inoperative					Pump Inoperative	
21	"		"			"	"
22	"		"			"	"
23	"		"			"	"
24	"		"			"	"
25	"		"			"	"
26	No Valid Data					7.5	7.2
27	8.2	1730	7.8	2400	8.0	7.5	7.3
28	7.8	0000	7.2	2400	7.5	7.4	7.2
29	7.7	0000	7.4	1400	7.5	7.3	7.2
30	7.7	2300	7.4	0830	7.5	7.3	7.2

TABLE 4.2-7

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

JULY 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	7.8	2330	7.3	1300	7.6	7.3	7.1
2	7.8	1930	7.3	1130	7.6	7.4	7.2
3	7.8	1730	7.2	1230	7.5	7.4	7.3
4	7.6	0130	7.2	1130	7.4	7.3	7.2
5			Pump Inoperative			Pump Inoperative	
6			" "			" "	
7			" "			" "	
8			" "			" "	
9	7.9	1800	7.3	1300	7.6	7.4	7.1
10	7.4	1900	7.0	1030	7.2	7.3	7.2
11	7.6	1600	6.9	0900	7.2	7.3	7.1
12	7.3	2400	6.7	1830	7.1	7.2	7.0
13	7.5	1830	6.8	1230	7.2	7.3	7.1
14	7.0	2200	6.5	1300	6.8	7.2	6.9
15	6.9	2030	6.0	1030	6.4	7.3	7.0
16	7.0	1730	6.4	0800	6.7	7.3	7.1
17			No Valid Data			7.3	7.0
18			" " "			7.2	6.9
19			" " "			7.2	6.9
20			" " "			7.2	7.0
21			" " "			7.2	7.0
22	6.2	0000	5.6	1400	6.0	7.1	7.0
23	6.0	0000	5.3	2230	5.7	7.1	6.9
24	6.2	2000	5.4	1330	5.8	7.0	6.9
25	5.7	0000	5.1	1230	5.4	7.0	6.9
26	5.6	0830	4.9	2100	5.3	7.0	6.9
27	5.6	1730	4.9	0100	5.3	7.0	6.9
28	6.2	1430	5.2	0730	5.7	7.1	6.9
29	6.1	1300	5.7	2400	5.9	7.1	7.0
30	6.2	1830	5.6	1000	5.9	7.0	6.9
31	6.1	0000	5.9	1930	6.0	7.1	6.9

TABLE 4.2-8

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

AUGUST 1980

	DISSOLVED OXYGEN (MG/L)					pH	
Day	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	6.4	1700	5.9	1330	6.2	7.1	7.0
2	6.1	1900	5.6	1100	5.8	7.0	6.9
3	6.1	1300	5.5	1930	5.8	7.0	6.9
4	6.4	1700	5.8	0630	6.1	7.0	6.9
5	6.4	1530	5.8	0930	6.1	7.0	6.9
6	6.5	1700	5.9	0330	6.1	7.0	6.9
7	6.6	1830	6.1	1300	6.4	7.0	6.9
8	6.8	1830	6.3	1030	6.6	7.1	6.9
9	6.2	2030	5.6	0830	5.9	7.1	6.9
10	6.0	0200	5.5	2400	5.8	7.0	6.9
11	6.1	1800	5.5	0000	5.8	7.0	6.9
12	6.0	2100	5.5	1030	5.8	7.1	7.0
13	6.4	2230	5.9	0230	6.1	7.0	7.0
14	6.6	1530	6.2	2400	6.4	7.0	6.9
15	6.2	0000	5.7	1430	5.9	7.0	6.9
16	6.3	2000	6.0	2030	6.2	7.0	6.9
17	6.3	0000	5.8	2300	6.1	7.0	6.9
18	6.7	1330	5.8	0200	6.4	7.0	6.9
19	7.0	2000	6.3	0130	6.7	7.1	6.9
20	7.1	2100	6.7	0900	6.9	7.1	7.0
21	7.6	1900	6.9	0330	7.2	7.2	7.0
22	7.9	2330	7.3	0630	7.6	7.2	7.1
23	7.8	0000	7.0	2400	7.4	7.2	7.1
24	7.1	1000	5.6	2230	6.8	7.1	7.0
25		Recorder Inoperative				Recorder	Inoperative
26		"	"			"	"
27		"	"			"	"
28		"	"			"	"
29		"	"			"	"
30		"	"			"	"
31		"	"			"	"

TABLE 4.2-9

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

SEPTEMBER 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	Monitor Inoperative					Monitor Inoperative	
2	"		"			"	"
3	"		"			"	"
4	"		"			"	"
5	"		"			"	"
6	"		"			"	"
7	"		"			"	"
8	"		"			"	"
9	6.6	0000	6.4	1800	6.5	7.1	7.0
10	7.0	1830	6.6	0030	6.8	7.2	7.0
11	7.0	1000	6.7	0530	6.8	7.1	7.0
12	7.3	1700	6.8	0300	7.0	7.1	7.0
13	7.5	1930	7.0	0330	7.2	7.1	7.0
14	7.6	0630	7.1	2300	7.4	7.1	7.0
15	7.7	1900	7.1	0030	7.4	7.2	7.0
16	7.9	2400	7.5	1100	7.7	7.2	7.1
17	8.1	2400	7.6	1200	7.8	7.2	7.1
18	8.2	1500	7.9	0630	8.0	7.2	7.1
19	8.5	2030	8.1	0000	8.3	7.3	7.1
20	8.5	0200	8.2	1800	8.3	7.4	7.2
21	8.5	2300	8.1	1600	8.3	7.3	7.2
22	No Valid Data					7.5	7.3
23	8.4	0000	8.2	1200	8.3	7.4	7.3
24	8.5	0300	8.2	2300	8.4	7.3	7.2
25	8.3	1930	8.1	0800	8.2	7.3	7.2
26	8.3	2130	7.9	0830	8.1	7.3	7.2
27	Pump Inoperative					Pump Inoperative	
28	"		"			"	"
29	"		"			"	"
30	"		"			"	"

TABLE 4.2-10

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

OCTOBER 1980

Day	DISSOLVED OXYGEN (MG/L) Maximum	Time	Minimum	Time	Mean	pH Maximum	Minimum
1			Pump Inoperative				Pump Inoperative
2			"	"		"	"
3	9.0	1900	8.7	0200	8.8	7.3	7.2
4	9.1	1900	8.7	0700	8.9	7.2	7.1
5	9.0	1700	8.6	2330	8.8	7.2	7.1
6	9.0	2230	8.6	1130	8.8	7.2	7.1
7	8.9	0000	8.5	1400	8.7	7.2	7.1
8	9.0	2200	8.7	1530	8.9	7.2	7.0
9	8.9	0000	8.5	1230	8.7	7.2	7.1
10	8.7	0000	8.4	2400	8.5	7.2	7.1
11			Sensor Inoperative			7.2	7.1
12			"	"		7.2	7.1
13			"	"		7.2	7.1
14			"	"		7.2	7.1
15	9.2	1930	9.0	1530	9.1	7.2	7.1
16	9.4	2400	9.1	0000	9.2	7.1	7.0
17			No Valid Data			7.1	7.0
18			" "	"		7.2	7.1
19			" "	"		7.2	7.1
20			" "	"		7.1	7.0
21	9.5	1200	9.3	2300	9.4	7.1	7.0
22	9.4	0000	9.2	2400	9.3	7.1	7.0
23	9.4	0130	9.2	1400	9.3	7.1	7.0
24	9.5	0100	9.3	1200	9.4	7.2	7.1
25	9.7	1030	9.5	2200	9.6	7.1	7.0
26	9.8	0200	9.5	2300	9.7	7.1	7.0
27	9.7	0100	9.5	1030	9.6	7.1	7.0
28	10.1	2030	9.8	0830	10.0	7.1	7.0
29	10.2	1900	9.9	0930	10.1	7.1	7.0
30	10.7	1900	10.2	0200	10.5	7.2	7.0
31	10.7	0200	10.5	2100	10.6	7.1	7.0

TABLE 4.2-11

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

NOVEMBER 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	10.7	0300	10.5	1800	10.6	7.1	7.0
2	10.7	0300	10.4	1300	10.5	7.0	6.9
3	11.2	2400	10.6	0000	10.9	7.1	6.9
4	11.3	1600	11.9	0430	11.2	7.2	7.1
5	11.2	0400	11.0	1230	11.1	7.1	7.0
6	11.2	0230	10.8	1800	11.0	7.1	7.0
7	11.4	1130	10.9	0000	11.2	7.1	7.0
8	11.3	0000	11.0	1800	11.1	7.1	7.0
9	11.1	0000	10.9	0930	11.0	7.1	7.0
10	11.4	2030	10.9	0830	11.2	7.1	7.0
11	11.4	2400	11.0	0400	11.2	7.2	7.1
12	11.8	2300	11.3	0930	11.5	7.3	7.1
13	12.0	2400	11.6	1200	11.8	7.3	7.2
14	12.0	0600	11.7	1930	11.9	7.2	7.1
15	12.2	2230	11.9	0230	12.0	7.2	7.1
16	12.5	2400	12.0	0130	12.2	7.2	7.1
17	12.6	2230	12.3	1630	12.4	7.2	7.1
18	12.8	1630	12.4	0300	12.6	7.3	7.2
19	12.6	0230	12.4	1530	12.5	7.3	7.1
20	12.6	2400	12.3	1100	12.5	7.1	7.0
21	13.0	2100	12.5	1030	12.7	7.1	7.0
22	13.1	0500	12.9	1700	13.0	7.1	7.0
23	13.1	1200	12.9	2300	13.0	7.1	7.0
24	13.2	1300	12.7	2230	13.0	7.1	7.0
25	13.1	1030	12.8	0000	13.0	7.1	7.0
26	Sensor Inoperative					7.1	7.0
27	"		"			7.2	7.1
28	"		"			7.2	7.1
29	"		"			7.1	7.0
30	"		"			7.1	6.9

TABLE 4.2-12

DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7

DECEMBER 1980

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1			Sensor Inoperative			7.1	6.9
2			"	"		7.1	7.0
3			"	"		7.1	7.0
4			"	"		7.2	7.0
5	13.2	2330	12.9	0130	13.1	7.2	7.1
6	13.2	0500	13.0	2300	13.1	7.2	7.1
7	13.2	0000	13.0	2330	13.1	7.2	7.0
8	13.0	0000	12.9	2400	13.0	7.1	7.0
9	13.1	0000	12.9	2400	13.0	7.1	7.0
10	13.0	0030	12.8	2400	12.9	7.2	7.1
11	12.9	0100	12.7	1400	12.8	7.2	7.1
12	13.2	2400	12.9	0130	13.1	7.2	7.1
13	13.3	1300	13.1	2130	13.2	7.2	7.1
14	13.4	1200	13.2	2230	13.3	7.2	7.1
15	13.4	1200	13.3	0800	13.3	7.2	7.1
16	13.6	1500	13.3	0100	13.4	7.2	7.1
17	13.5	0200	13.2	2030	13.4	7.1	7.0
18	13.6	2400	13.4	0000	13.5	7.2	7.1
19	13.6	0600	13.3	2400	13.5	7.2	7.0
20	13.3	0000	13.2	1200	13.2	7.1	7.0
21	13.3	0000	13.2	1330	13.3	7.1	7.0
22	13.4	1430	13.3	0600	13.4	7.1	7.0
23	13.5	1400	13.3	0000	13.4	7.1	7.0
24			Recorder Inoperative			Recorder	Inoperative
25			"	"		"	"
26			"	"		"	"
27			"	"		"	"
28			"	"		"	"
29			"	"		"	"
30	13.4	1430	13.3	2230	13.4	7.0	7.0
31	13.4	0400	13.2	1700	13.3	7.0	7.0

TABLE 4.3-1

CONDUCTIVITY AND TURBIDITY DATA
JANUARY 1980

	STATION NO. 3		STATION NO. 7	
	Daily Average		Daily Average	
Day	Conductivity	Turbidity	Conductivity	Turbidity
1	89	3	93	3
2	97	2	100	3
3	103	2	102	3
4	103	1	99	2
5	96	1	93	2
6	93	1	96	2
7	95	1	100	2
8	100	1	100	2
9	101	2	97	1
10	100	2	94	1
11	96	2	95	1
12	102	2	105	3
13	108	3	104	2
14	108	2	104	2
15	108	2	102	2
16	104	3	101	4
17	96	5	90	4
18	95	3	96	3
19	99	3	98	3
20	100	2	101	3
21	102	2	101	3
22	101	2	102	2
23	107	3	116	3
24	114	3	106	2
25	108	2	110	2
26	109	1	112	2
27	112	1	108	2
28	111	2	108	2
29	105	2	103	2
30	104	2	99	2
31	101	1	101	1

TABLE 4.3-2

CONDUCTIVITY AND TURBIDITY DATA
FEBRUARY 1980

	STATION NO. 3		STATION NO. 7	
	Daily Average		Daily Average	
Day	Conductivity	Turbidity	Conductivity	Turbidity
1	104	1	107	1
2	107	2	110	2
3	108	2	119	2
4	114	2	123	2
5	121	2	112	2
6	114	2	111	2
7	112	2	109	2
8	109	2	107	2
9	106	2	110	2
10	107	2	112	2
11	110	3	120	2
12	116	3	124	2
13	123	3	121	2
14	121	2	121	2
15	119	2	116	2
16	119	3	113	2
17	117	3	111	2
18	115	3	111	2
19	113	2	113	2
20	118	1	116	2
21	120	1	111	2
22	115	1	111	2
23	113	2	116	2
24	113	2	122	2
25	118	2	123	2
26	121	2	127	2
27	123	1	124	1
28	126	1	110	1
29	118	1	107	1

TABLE 4.4-1

VERMONT YANKEE ECOLOGICAL STUDIES
CONNECTICUT RIVER, VERNON, VERMONT
WATER QUALITY ANALYSIS

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	2/20/80	2/20/80	2/20/80
Dissolved Oxygen	12.80	13.40	11.70
Turbidity (Formazin Units)	1.0	0.92	1.1
pH (pH Units)	7.29	7.28	7.29
Alkalinity (as $CaCO_3$)	35.9	34.4	36.9
Total Hardness (as $CaCO_3$)	43.6	43.8	44.9
Calcium Hardness (as $CaCO_3$)	36.2	36.2	37.5
Chloride	8.8	8.4	8.8
Sulfate	12.0	11.3	12.0
Total Phosphate (as P)	0.020	0.020	0.015
Total Solids	108	95	104
Suspended Solids	1	1	2
Chromium (Total)	<0.002	<0.002	<0.002
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.14	0.16	0.14
Sodium	5.8	5.6	5.9
Zinc	<0.02	<0.02	<0.02

All Results in mg/l Unless Otherwise Noted

TABLE 4.4-2

VERMONT YANKEE ECOLOGICAL STUDIES
CONNECTICUT RIVER, VERNON, VERMONT
WATER QUALITY ANALYSIS

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	5/15/80	5/15/80	5/15/80
Dissolved Oxygen	9.85	10.00	7.80
Turbidity (Formazin Units)	0.75	1.2	1.2
pH (pH Units)	7.55	7.45	7.80
Alkalinity (as $CaCO_3$)	26.8	25.2	27.2
Total Hardness (as $CaCO_3$)	37.9	37.0	40.8
Calcium Hardness (as $CaCO_3$)	33.0	32.0	35.5
Chloride	4.3	4.7	4.5
Sulfate	9.2	8.5	9.7
Total Phosphate (as P)	0.015	0.020	0.045
Total Solids	61	61	99
Suspended Solids	5	8	37
Chromium (Total)	<0.002	<0.002	<0.002
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.06	0.30	0.08
Sodium	3.6	3.7	3.8
Zinc	0.02	0.04	0.03

All Results in mg/l Unless Otherwise Noted

TABLE 4.4-3

VERMONT YANKEE ECOLOGICAL STUDIES
CONNECTICUT RIVER, VERNON, VERMONT
WATER QUALITY ANALYSIS

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	9/2/80	9/2/80	9/2/80
Dissolved Oxygen	7.80	6.75	6.90
Turbidity (Formazin Units)	1.2	1.2	2.4
pH (pH Units)	7.58	7.46	8.03
Alkalinity (as $CaCO_3$)	35.0	35.0	48.9
Total Hardness (as $CaCO_3$)	41.8	41.8	70.9
Calcium Hardness (as $CaCO_3$)	35.2	35.2	59.4
Chloride	7.0	6.3	12.1
Sulfate	10.2	10.0	21.4
Total Phosphate (as P)	0.030	0.020	0.020
Total Solids	59	60	117
Suspended Solids	3	3	5
Chromium (Total)	0.013	0.013	0.016
Copper	<0.02	<0.02	0.15
Iron (Total)	0.12	0.16	0.21
Sodium	5.8	5.8	9.4
Zinc	<0.02	<0.02	0.05

All Results in mg/l Unless Otherwise Noted

TABLE 4.4-4

VERMONT YANKEE ECOLOGICAL STUDIES
CONNECTICUT RIVER, VERNON, VERMONT
WATER QUALITY ANALYSIS

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	12/15/80	12/15/80	
Dissolved Oxygen	13.10	13.30	
Turbidity (Formazin Units)	2.4	1.9	
pH (pH Units)	7.4	7.1	
Alkalinity (as $CaCO_3$)	25.6	25.6	
Total Hardness (as $CaCO_3$)	34.9	34.4	
Calcium Hardness (as $CaCO_3$)	29.2	28.7	
Chloride	5.2	5.4	
Sulfate	10.3	10.9	
Total Phosphate (as P)	0.020	0.015	
Total Solids	65	62	
Suspended Solids	7	4	
Chromium (Total)	<0.002	<0.002	
Copper	<0.02	<0.02	
Iron (Total)	0.20	0.20	
Sodium	4.2	4.2	
Zinc	0.02	0.02	

All Results in mg/l Unless Otherwise Noted

5. PLANKTON STUDIES

Plankton samples were collected once each month in 1980 at Station 3, downstream of Vermont Yankee and at Station 7, upstream of the plant (Figure 5.1). All samples were collected via the water quality pumping systems at those locations except the September and December samples at Station 3. On the sample collection dates in those months the water quality monitor pumps were inoperative, so the samples were collected by bucket from the Vermont shore of the river. Subsurface samples from the river at Vermont Yankee's condenser cooling water intake structure were collected also on the thirteen dates in 1980 on which entrainment studies were conducted.

Samples were collected with a No. 20 mesh Wisconsin plankton net and preserved in 5% formalin. Subsequently an aliquot of the sample was examined in a Sedgewick-Rafter counting cell. Plankton were identified to the lowest feasible taxonomic level and were counted as their normally occurring unit, i.e., phytoplankters as cells, colonies, or filaments and zooplankters as individuals or colonies. The results of these analyses are presented below.

5.1 Phytoplankton Studies

A summary of the counting results of the analysis of the 1980 phytoplankton samples is given in Table 5.1. This table shows for each sample the dominant species observed, when one taxon was found in greater numbers than any other one, the concentration in units per liter of that dominant organism, and the total count in units per liter of all algae in the sample.

The concentrations of phytoplankters found in the 1980 monitor samples are also shown graphically in Figures 5.2 and 5.3. To permit ready comparison of the 1980 monitor sample data with that

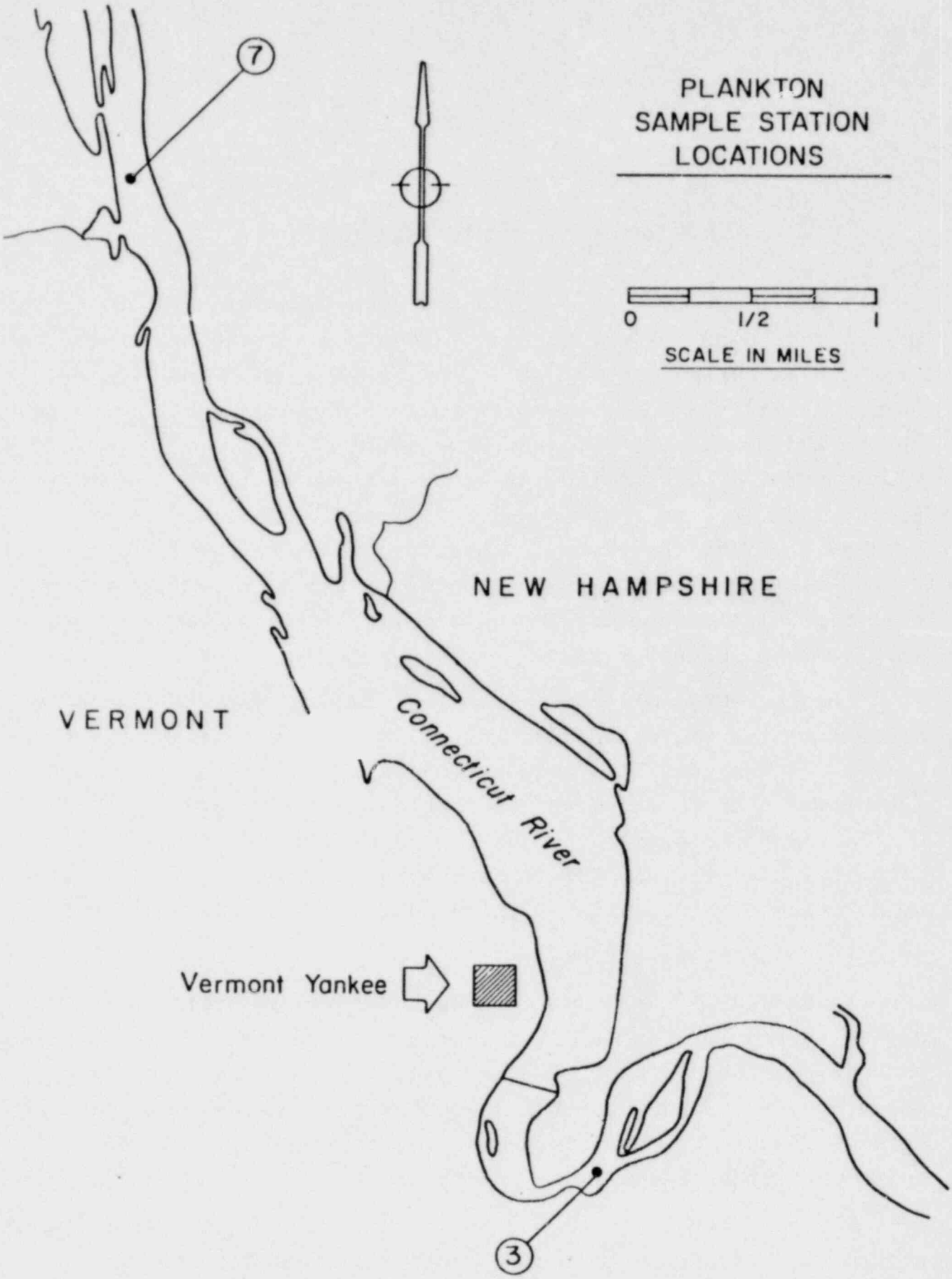

PLANKTON
SAMPLE STATION
LOCATIONS
0
1/2
1
SCALE IN MILES
7
NEW HAMPSHIRE
VERMONT
Connecticut River
Vermont Yankee
3

FIGURE 5.1

TABLE 5.1

DOMINANT PHYTOPLANKTON SPECIES
(Dominant Species Count/Total Count in Units Per Liter)
1980

	SAMPLE LOCATION		
Date	Monitor 7	River at VY Intake	Monitor 3
1/3		Asterionella formosa (39/182)	
1/16		Asterionella formosa (32/62)	
1/21	Fragilaria capucina (4/38)		Fragilaria capucina (8/36)
2/7		Asterionella formosa (90/180)	
2/19	Melosira italica (4/43)		Fragilaria spp. (8/55)
2/22		Asterionella formosa (55/111)	
3/6		Asterionella formosa (63/134)	
3/19	Oscillatoria sp. (31/280)		Cymbella sp. (20/249)
3/25		Asterionella formosa (21/231)	
4/10		Oscillatoria sp. (135/974)	
4/16	Ulothrix sp. (8/81)		Ulothrix sp. (10/103)
4/24		Melosira italica (171/402)	
5/6		Melosira italica (635/2190)	
5/20	Asterionella formosa (22/78)		Asterionella formosa (31/95)
5/21		Asterionella formosa (1688/3046)	
6/5		Melosira italica (1202/2596)	
6/17	Asterionella formosa (135/381)		Melosira italica (139/333)
6/20		Melosira italica (636/1574)	
7/8		Asterionella formosa (2820/8874)	
7/14	Tabellaria fenestrata (164/793)		Fragilaria crotonensis (171/679)
8/13	Pediastrum simplex (184/292)		Melosira italica (67/162)
9/17	Melosira italica (33/85)		Melosira italica (276/577)
10/15	Melosira italica (200/495)		Melosira italica (112/304)
11/19	Melosira italica (12/70)		Fragilaria crotonensis (4/40)
12/30	Melosira italica (6/71)		None (-/34)

SEASONAL PHYTOPLANKTON DISTRIBUTION

STATION NO. 7 - MONITOR

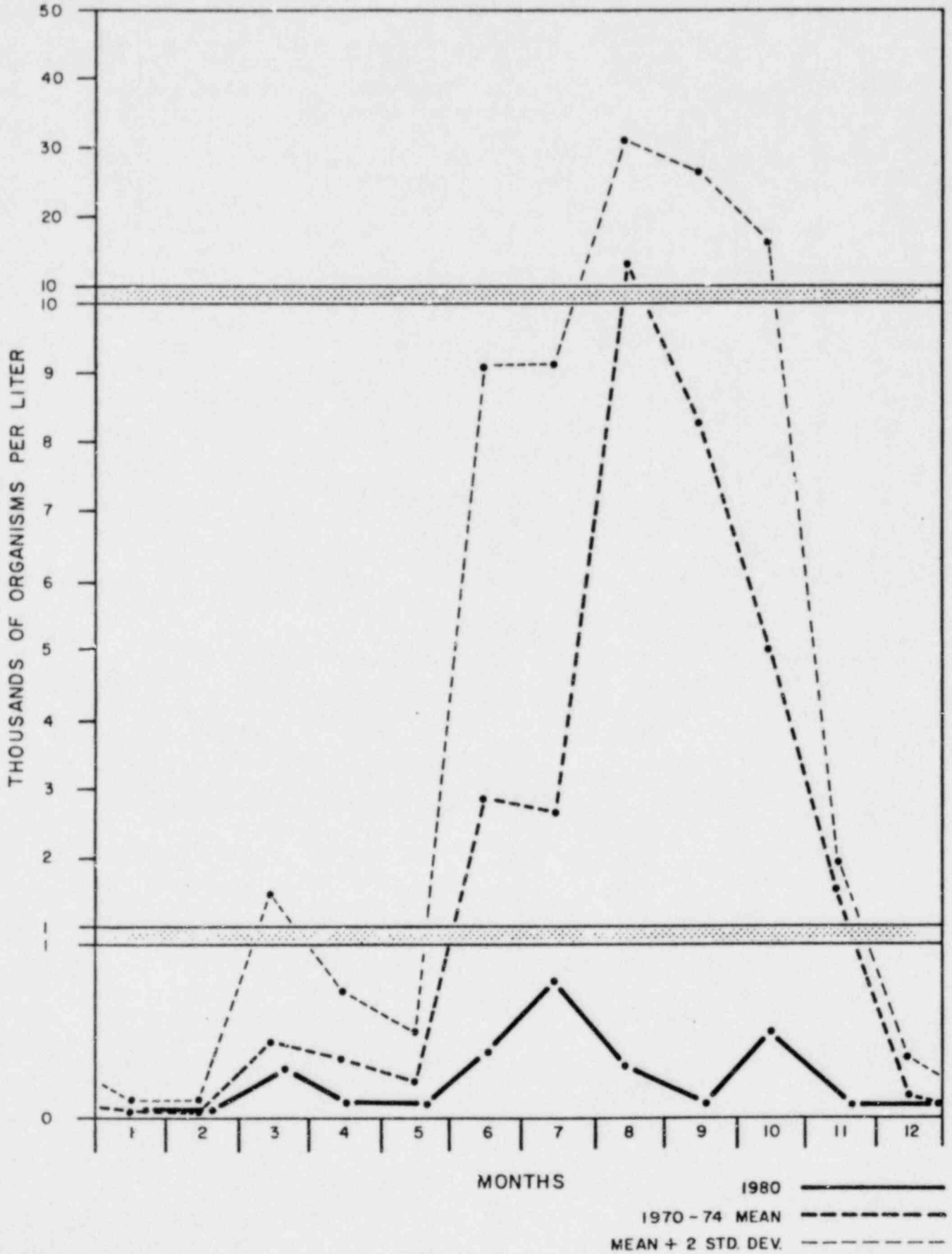


FIGURE 5.2

SEASONAL PHYTOPLANKTON DISTRIBUTION

STATION NO. 3 - MONITOR

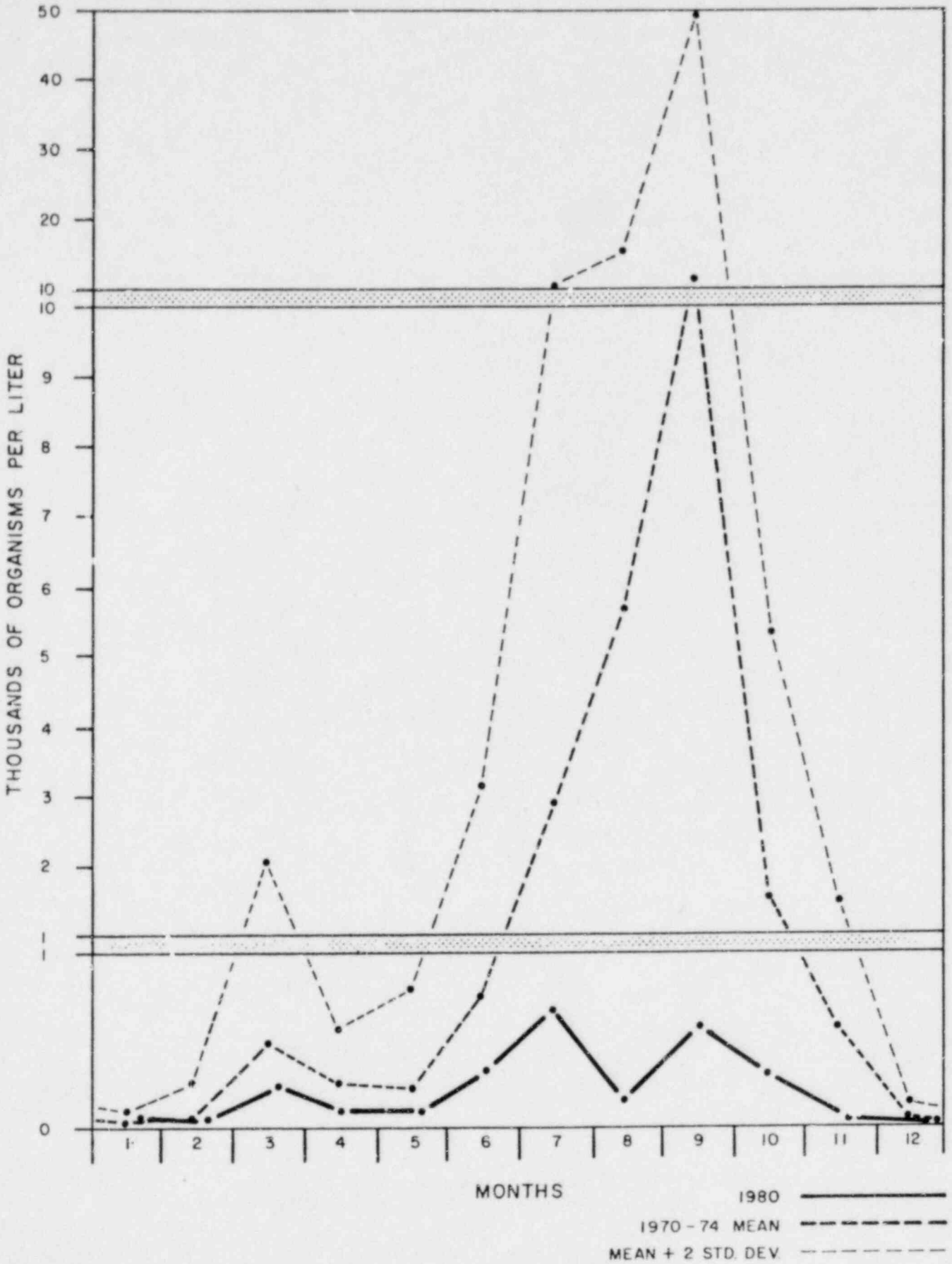


FIGURE 5.3

of earlier years, Figures 5.2 and 5.3 also carry plots of the monthly mean phytoplankton counts observed in the years 1970-1974, excluding data collected in 1974 during Vermont Yankee's open cycle testing. Variability of algal concentrations about these means is indicated on the graphs by points which are two standard deviations greater than each monthly mean.

Algal concentrations in all the Station 3 and 7 samples except those of January were less than the mean concentrations observed in the years 1970-1974. The January counts at both locations were just two algal units per liter above the 1970-1974 means. Phytoplankton counts observed in all the late summer and early fall samples were small relative to mean concentrations observed for the corresponding months in 1970-1974.

In earlier reports of this series (Aquatec 1975, 1976), a statistical analysis of the phytoplankton data collected prior to Vermont Yankee's operation and during closed cycle operation at the two monitor stations was presented. This analysis developed linear regression equations which predicted Monitor 3 counts from three ranges of observed Monitor 7 counts. All Monitor 7 counts observed in 1980, except the 793 found in July, lie within the low range, 0-772 units per liter, for which the regression equation has an intercept of 29.3, a regression coefficient of 0.802, and a standard error of estimate of 193. A comparison of the phytoplankton counts observed at Monitor 3 in 1980 with counts predicted by this regression equation from counts observed at Monitor 7 is shown in Table 5.2.

The data of Table 5.2 are shown graphically in Figure 5.4, in which the regression equation is plotted as a solid line and the 95% confidence limits for Monitor 3 counts predicted by this equation are shown as dashed lines. These confidence limits were calculated for minimum, mean, and maximum Monitor 7 counts used in the regression analysis. Vermont Yankee was utilizing closed cycle cooling at the time of collection of the May through September samples and was not operating when the October and November samples

TABLE 5.2

COMPARISON OF OBSERVED MONITOR 3 PHYTOPLANKTON COUNT WITH MONITOR 3 COUNT PREDICTED BY REGRESSION ANALYSIS OF LOW RANGE PREOPERATIONAL/CLOSED CYCLE MONITOR DATA, 1970-1974

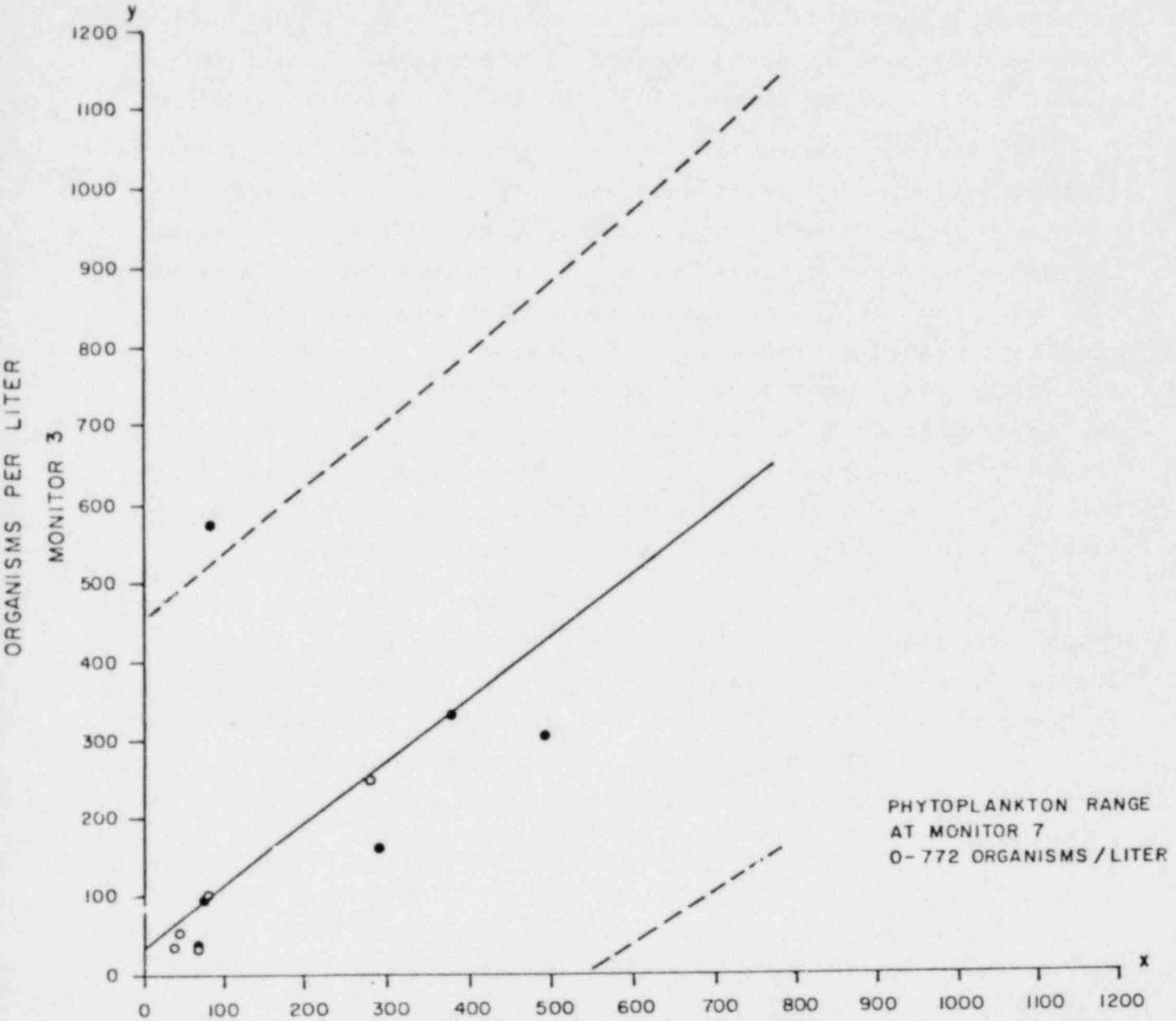
Date	Monitor 7 Count Observed	Monitor 3 Count Observed-Predicted=Difference		
1/21/80	38	36	60	-24
2/19/80	43	55	64	-9
3/19/80	280	249	254	-5
4/16/80	81	103	94	+9
5/20/80	78	95	92	+3
6/17/80	381	333	335	-2
8/12/80	292	162	263	-101
9/17/80	85	577	97	+480
10/15/80	495	304	426	-122
11/19/80	70	40	85	-45
12/30/80	71	34	86	-52

were collected. The data for these dates are plotted in Figure 5.4 as filled circles; data of the other dates, when Vermont Yankee was operating in the open cycle cooling mode, are plotted as open circles.

All points in Figure 5.4 except that of the 17 September sample fall within the 95% confidence limits for a Monitor 3 count predicted from an observed upstream count at Monitor 7. The September sample at Station 3 was collected by bucket from the river's surface, because the monitor pump was inoperative on the sample date. Data reported in earlier volumes of this series have shown that algal concentrations near the surface at Station 3 are usually greater than in samples collected via the monitor pump from near the river bottom.

The phytoplankton concentration observed at Monitor 7 in July fell within the middle range of counts used in the statistical analysis of preoperational and closed cycle data. The linear regression equation developed for this middle range, Monitor 7 counts of 772-7283, has an intercept of -483 and a regression

COMPARISON OF OBSERVED MONITOR 3 PHYTOPLANKTON COUNT WITH MONITOR 3 COUNT PREDICTED FROM PREOPERATIONAL / CLOSED CYCLE MONITOR DATA OF 1970-74



MONITOR 7
ORGANISMS PER LITER

REGRESSION EQUATION (y = 29.3 + .802x) ——————

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES - - - - - - - - -

VERMONT YANKEE OPEN CYCLE, 1980 o

VERMONT YANKEE CLOSED CYCLE OR NOT OPERATING, 1980 •

FIGURE 5.4

coefficient of 0.912. For the Monitor 7 count of 793 observed on 14 July, the Monitor 3 concentration calculated from this equation is 240; the observed concentration was 679. The difference between the predicted and observed concentrations is much less than the standard error of estimate (2443) for the regression equation.

Thirty-four species of phytoplankton were identified in the samples collected at Stations 3 and 7 in 1980. Seventeen additional taxa were found in small numbers in the samples of river water collected at Vermont Yankee's intake structure during entrainment studies. A checklist of the phytoplankton identified in these samples is shown in Table 5.3. Following the name of each taxon in the list are three numbers in parenthesis. The first is the number of Station 3 samples in which the alga was observed; the second is the number of Station 7 samples in which it was found; the third is the number of entrainment sample dates on which the taxon was found in a river intake sample.

The average number of identified species found in the twelve downstream Station 3 samples of 1980 was 7.7; in the upstream Station 7 samples, it was 7.3. The number per sample at Station 3 ranged from a minimum of two identified species, in February and December, to a maximum of 17 in the September sample. At Station 7, a minimum of three was observed in February and a maximum of 12 in July.

In 1980, as in all prior years of Vermont Yankee phytoplankton studies, species of diatoms again predominated in most samples. Diatoms constituted less than half the algae observed in only one Monitor 7 sample and in three of the Station 3 samples. More than fifty percent of the phytoplankters observed in all the entrainment intake samples were diatoms. A summary of the percentages of diatoms, flagellates, green, and blue-green algae found in the 1980 phytoplankton samples is given in Table 5.4.

TABLE 5.4

MEAN PERCENTAGES AND PERCENTAGE RANGES
DIATOMS, FLAGELLATES, GREEN AND BLUE-GREEN ALGAE
1980

Sample Location	Diatoms		Flagellates		Greens		Blue-Greens	
	Percentage		Percentage		Percentage		Percentage	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Monitor 7	34-91	71	0-2.4	0.4	0-64	14	0-23	3.5
VY Intake	64-98	87	0-3.9	0.8	0-3.7	1.2	0-14	3.6
Monitor 3	40-93	71	0-6.9	1.1	0-30	7.2	0-45	7.1

The most commonly observed species of diatoms were, as in earlier years, Asterionella formosa, Fragilaria capucina and F. crotonensis, Melosira italica and M. varians, and Tabellaria fenestrata. Also as in earlier studies, the most common flagellates were Dinobryon spp., the most frequently observed green algae were Pediastrum spp., and the most commonly encountered blue-green species were Oscillatoria spp. Asterionella formosa and Melosira italica were found in all thirteen of the intake entrainment samples.

TABLE 5.3-1

CHECKLIST OF THE PHYTOPLANKTON
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1980

A listing by genus only that follows named species of the same genus represents species other than the preceding ones. The numbers in parenthesis after each listed taxon are: (the number of Station 3 samples of 12 - the number of Station 7 samples of 12/the number of entrainment intake sample sets of 13 in which the taxon was observed).

BACILLARIOPHYCEAE
- Asterionella formosa (8-6/13)
- Cyclotella sp. (0-0/4)
- Cymbella sp. (1-0/0)
- Diatoma sp. (1-1/0)
- Gomphonema sp. (0-1/0)
- Fragilaria capucina (8-11/12)
- Fragilaria crotonensis (7-6/9)
- Fragilaria sp. (0-0/2)
- Melosira granulata (1-0/0)
- Melosira granulata var. angustissima (0-0/1)
- Melosira italica (10-11/13)
- Melosira varians (6-4/9)
- Melosira sp. (1-0/0)
- Nitzschia sp. (0-0/1)
- Surirella sp. (1-0/6)
- Synedra acus (0-0/5)
- Synedra spp. (7-4/9)
- Tabellaria fenestrata (7-9/10)

CHRYSOPHYCEAE
- Dinobryon spp. (2-1/11)
- Synura sp. (0-0/3)
- Uroglenopsis americana (0-1/4)

PYRRHOPHYCEAE
- Ceratium hirundinella (3-2/2)

TABLE 5.3-2

CRYPTOPHYCEAE
- Cryptomonas sp. (0-0/2)

CHLOROPHYCEAE
- Actinastrum sp. (1-0/0)
- Chlamydomonas sp. (0-0/1)
- Closterium sp. (1-2/4)
- Eudorina sp. (0-0/1)
- Mougeotia sp. (0-0/1)
- Oedogonium sp. (1-1/0)
- Paulschulzia sp. (0-0/1)
- Pediastrum boryanum (1-3/2)
- Pediastrum duplex (2-1/3)
- Pediastrum simplex (7-6/11)
- Pediastrum simplex var. duodenarium (0-1/0)
- Scenedesmus quadricauda (0-0/1)
- Scenedesmus spp. (3-1/2)
- Schroederia sp. (0-1/1)
- Spirogyra sp. (2-2/5)
- Staurastrum sp. (0-1/0)
- Stigeoclonium sp. (1-2/3)
- Tetraedron sp. (0-1/0)
- Ulothrix zonata (0-0/3)
- Ulothrix spp. (1-3/3)

RHODOPHYCEAE
- Audouinella sp. (0-0/2)

CYANOPHYCEAE
- Anabaena sp. (1-0/0)
- Aphanocapsa sp. (0-0/1)
- Calothrix (0-0/1)
- Gomphosphaeria naegeliana (0-0/1)
- Merismopedia sp. (0-1/1)
- Microcystis aeruginosa (1-0/0)
- Microcystis sp. (1-0/0)
- Oscillatoria spp. (6-5/11)

5.2 Zooplankton Studies

The results of the analysis of zooplankton samples in 1980 are summarized in Table 5.5 and in Figures 5.5 and 5.6. Table 5.5 shows the concentration, in units per liter, of zooplankters observed in each sample and the name and concentration of the predominant taxon in the sample, when one taxon was observed in greater concentration than any other. In the figures, total zooplankton counts observed in 1980 at the two monitor stations are plotted, along with monthly mean counts observed at these stations in the years 1970-1974, excluding times of open cycle testing. To show variability about the means, the figures also carry plots of the means plus two standard deviations.

Zooplankton concentrations observed in the latter half of 1980 were generally small relative to counts in those months in the years 1970-1974. But in February and April at Station 7 and in March at Station 3, zooplankton counts more than two standard deviations greater than the 1970-1974 means were observed. The concentration observed in June at Station 7 was also greater than the 1970-1974 mean, but was within two standard deviations of that mean.

Statistical analysis of zooplankton data collected at the two monitor stations in the years 1970-1974, prior to Vermont Yankee's operation and during closed cycle operation, has provided a basis for comparison of zooplankton counts observed at Monitor 3, downstream of Vermont Yankee, with counts predicted from the zooplankton concentrations observed at Monitor 7 upstream. This analysis, analogous to that used for phytoplankton, resulted in a linear regression equation relating Monitor 3 count, as dependent variable, to the observed Monitor 7 count. For Monitor 7 counts ranging from 0.5 to 418.5, the equation has a regression coefficient of 0.918, an intercept of 15.7, and a standard error of estimate of 83.8. A comparison of the zooplankton concentrations observed in 1980 at Monitor 3 with those predicted by this equation is given in Table 5.6.

TABLE 5.5

DOMINANT ZOOPLANKTON TAXA
(Dominant Taxon Count/Total Count in Units Per Liter)
1980

	SAMPLE LOCATION		
Date	Monitor 7	River at VY Intake	Monitor 3
1/3		None (-/1.5)	
1/16		Campanella sp. (2.0/3.5)	
1/21	Campanella sp. (9.5/11.0)		Campanella sp. (3.5/6.0)
2/7		Campanella sp. (3.0/5.8)	
2/19	Vorticella sp. (35.0/70.5)		Campanella sp. (1.5/3.0)
2/22		None (-/2.8)	
3/6		Synchaeta sp. (13.0/17.5)	
3/19	Vorticella sp. (3.5/8.5)		Vorticella sp. (10.5/17.0)
3/25		Campanella sp. (1.5/7.2)	
4/10		Nematoda (9.5/13.5)	
4/16	Vorticella sp. (17.0/27.5)		Philodina sp. (1.0/3.5)
4/24		Notholca sp. (5.2/15.5)	
5/6		Vorticella sp. (7.7/13.8)	
5/20	Vorticella sp. (3.5/5.0)		Campanella sp. (2.5/5.0)
5/21		Vorticella sp. (2.2/7.8)	
6/5		Synchaeta sp. (77.2/116.5)	
6/17	Synchaeta sp. (13.0/36.5)		Philodina sp. (98.0/139.5)
6/20		Synchaeta sp. (49.8/83.2)	
7/8		Ploesoma sp. (118.2/231.5)	
7/14	Ploesoma sp. (7.0/12.5)		Ploesoma sp. (46.5/56.5)
8/13	Trichocerca sp. (3.0/8.5)		Polyarthra sp. (1.5/6.0)
9/17	None (-/9.0)		Copepoda Nauplii (2.0/13.0)
10/15	Keratella cochlearis (2.5/5.5)		Copepoda Nauplii (2.0/4.5)
11/19	Vorticella sp. (4.0/6.0)		None (-/2.0)
12/30	None (-/4.0)		Keratella cochlearis (1.0/1.0)

SEASONAL ZOOPLANKTON DISTRIBUTION

STATION NO. 7 - MONITOR

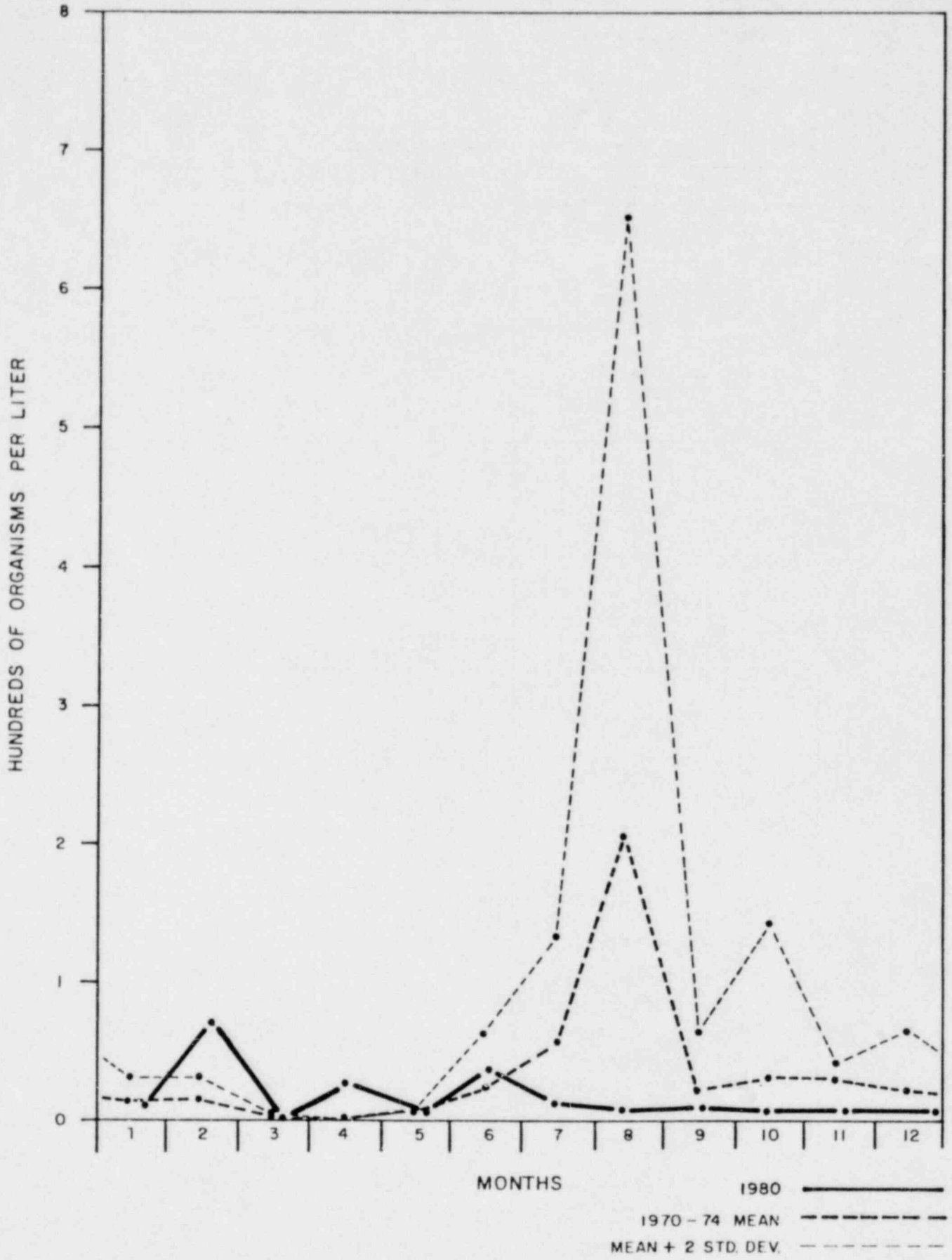


FIGURE 5.5

SEASONAL ZOOPLANKTON DISTRIBUTION

STATION NO. 3 - MONITOR

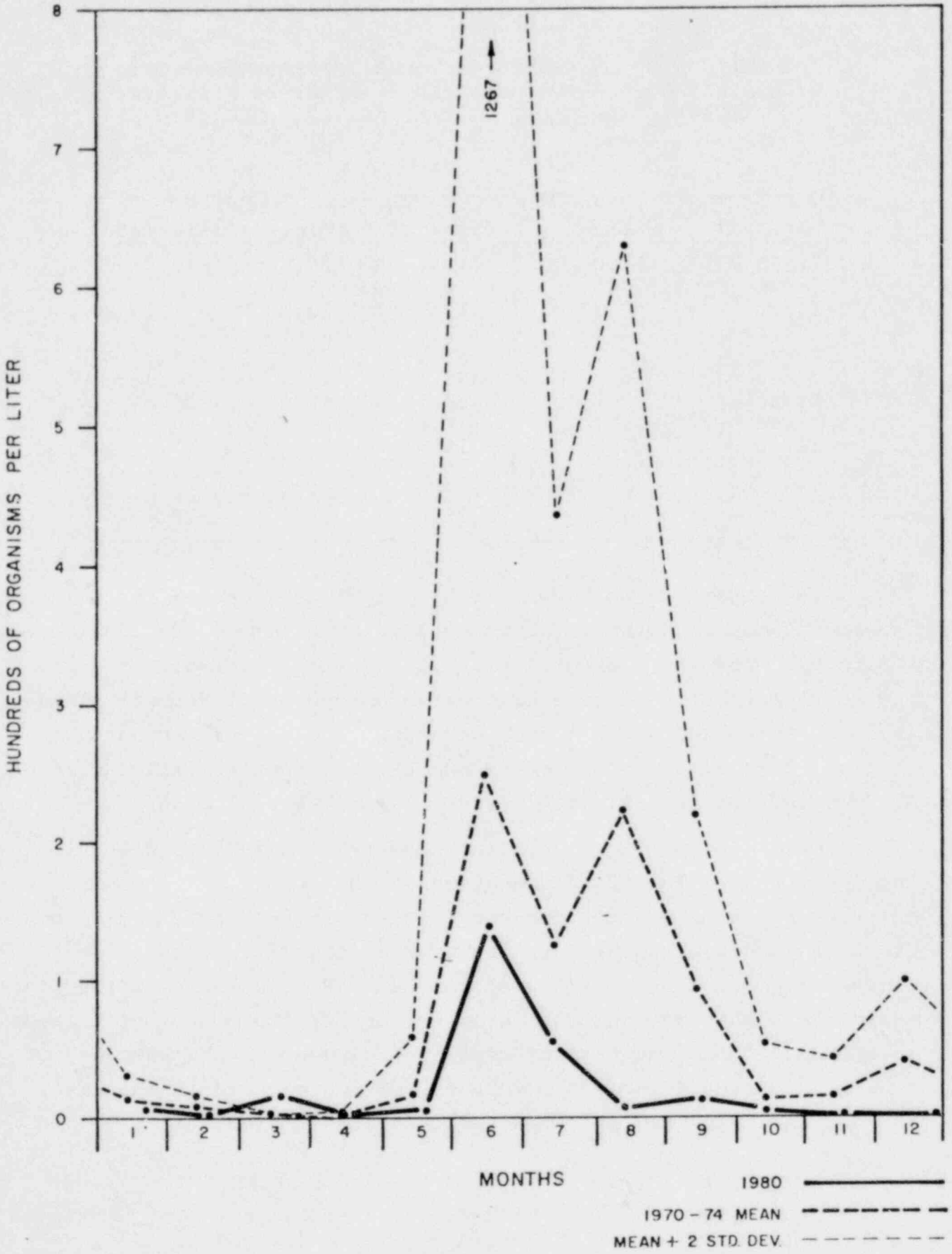


FIGURE 5.6

TABLE 5.6

COMPARISON OF OBSERVED MONITOR 3 ZOOPLANKTON COUNT WITH MONITOR 3 COUNT PREDICTED BY REGRESSION ANALYSIS OF PREOPERATIONAL/CLOSED CYCLE MONITOR DATA, 1970-1974

Date	Monitor 7 Count Observed	Monitor 3 Count Observed	Predicted	Difference
1/21/80	11.0	6.0	25.8	-19.8
2/19/80	70.5	3.0	80.4	-77.4
3/19/80	8.5	17.0	23.5	-6.5
4/16/80	27.5	3.5	40.9	-37.4
5/20/80	5.0	5.0	20.3	-15.3
6/17/80	36.5	139.5	49.2	+90.3
7/14/80	12.5	56.5	27.2	+29.3
8/13/80	8.5	6.0	23.5	-17.5
9/17/80	9.0	13.0	24.0	-11.0
10/15/80	5.5	4.5	20.7	-16.2
11/19/80	6.0	2.0	21.2	-19.2
12/30/80	4.0	1.0	19.4	-18.4

This comparison is shown graphically in Figure 5.7, in which the regression equation is shown as a solid line and 95% confidence limits are shown as dashed lines. Zooplankton data collected at the monitor stations during open cycle operation of Vermont Yankee, in January through April and in December, are plotted as open circles; data collected in other months are shown as filled circles. All plotted points fall within the 95% confidence limits.

A checklist of the zooplankton observed in 1980 is given in Table 5.7 at the end of this section of the report. Organisms observed in entrainment samples collected from the river at Vermont Yankee's intake structure are included in the list. The three numbers in parenthesis following the name of each taxon in the list are: the number of Station 3 samples, of 12; the number of Station 7 samples, of 12; and the number of entrainment intake samples, of 13, in which the taxon was observed. Of the 49 taxa in the list, 13 were observed only in entrainment intake samples.

COMPARISON OF OBSERVED MONITOR 3 ZOOPLANKTON COUNT WITH MONITOR 3 COUNT PREDICTED FROM PREOPERATIONAL / CLOSED CYCLE MONITOR DATA OF 1970 - 74

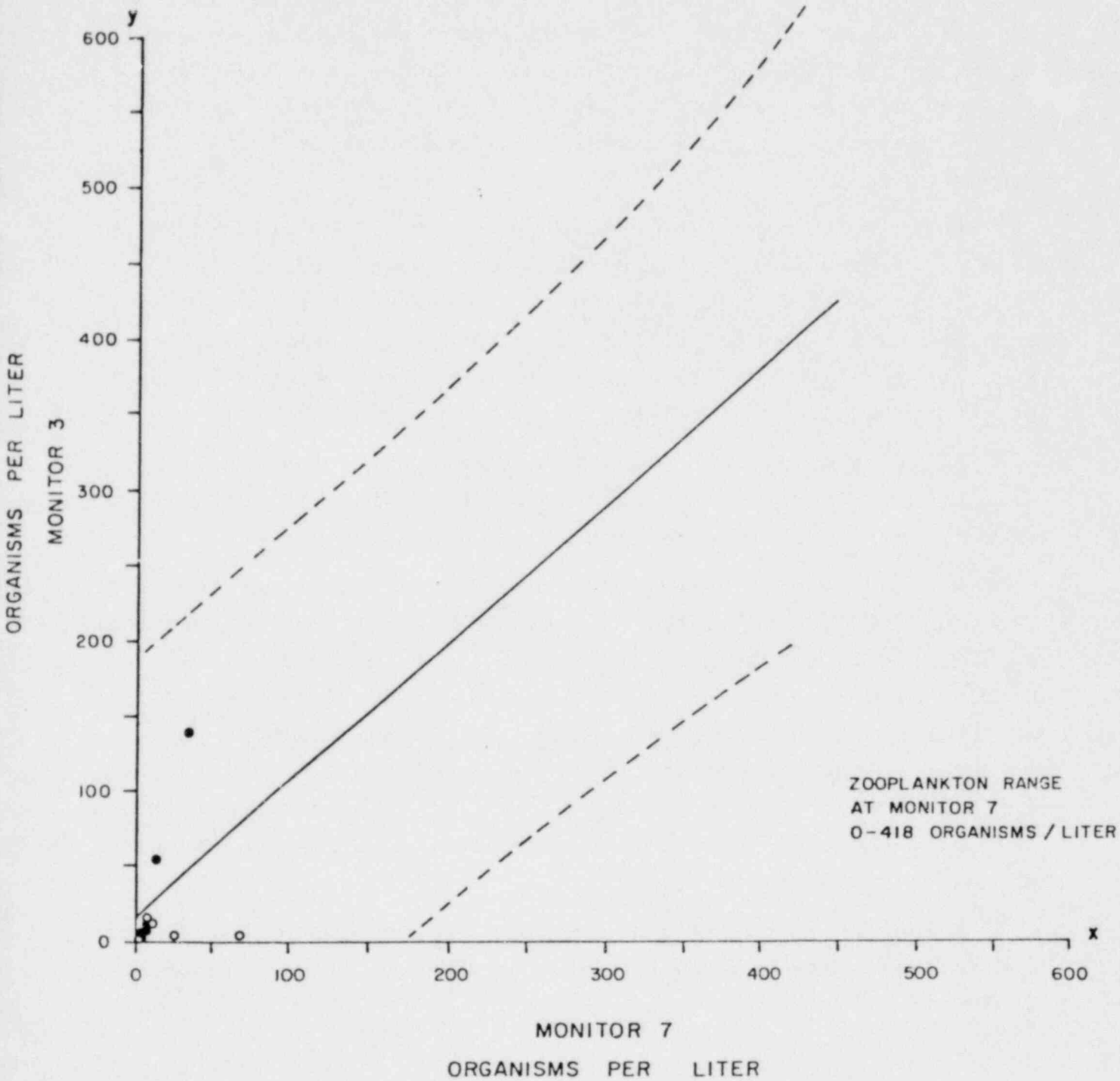


FIGURE 5.7

The average number of taxa observed in the twelve Station 7 samples was 7.2, in the Station 3 samples the mean was 6.7. The smallest number of taxa per Station 7 sample was 4 in January and November; the largest number there was 16 taxa in the June sample. At Station 3, only one organism, Keratella cochlearis was found in the December sample; a maximum of 14 taxa was observed in the September sample.

Relatively large percentages of the organisms present in the samples of late fall and winter were protozoans, particularly Campanella sp. and Vorticella sp. More than half the organisms observed in the January through March and the November samples at Stations 3 and 7 were protozoa. They predominated also in the Station 7 samples of April and May.

Adult copepods were found in all seasons of the year. Nauplii were present in 81% of the samples collected in 1980 and were found in some samples all twelve months of the year.

Rotifers were the dominant organisms in the warmer months of the year. They constituted at least 50% of the zooplankters found in 6 of the 13 entrainment samples, in 6 of the 12 Station 7 samples, and in 5 of the 12 Station 3 samples. The more commonly observed rotifers were Keratella cochlearis and Philodina sp., which were found in at least half the samples collected at each location, Polyarthra sp., and Synchaeta sp. These four organisms were also the most prevalent rotifers in the zooplankton samples of the previous two years.

A summary of the percentages of protozoa, copepoda, cladocera, and rotatoria observed in the 1980 zooplankton samples is given in Table 5.8.

TABLE 5.8

MEAN PERCENTAGES AND PERCENTAGE RANGES
PROTOZOA, COPEPODA, CLADOCERA, AND ROTATORIA
1980

Sample Location	Protozoa		Copepoda		Cladocera		Rotatoria	
	Percentages		Percentages		Percentages		Percentages	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Monitor 7	0-100	46	0-18	6.9	0-12	3.8	0-78	41
VY Intake	0-58	23	0-33	12	0-12	2.5	15-92	53
Monitor 3	0-82	29	0-50	14	0-33	8.6	0-100	45

TABLE 5.7-1

CHECKLIST OF THE ZOOPLANKTON
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1980

Zooplankters are listed in the lowest taxonomic level to which identification was made. A listing by genus only that follows named species of the same genus represents species other than those previously listed. The numbers in parenthesis after each listed taxon are: (the number of Station 3 samples of 12 – the number of Station 7 samples of 12/the number of entrainment intake sample sets of 13 in which the taxon was observed).

PROTOZOA
- Acineta sp. (1-1/0)
- Campanella sp. (6-6/11)
- Carchesium sp. (0-2/1)
- Vorticella sp. (6-7/8)
- Zoothamnium sp. (1-1/1)

NEMATODA
- Indet. (2-2/6)

ROTATORIA
- Ascomorpha sp. (0-0/1)
- Asplanchna sp. (1-0/1)
- Brachionus quadridentata (0-0/1)
- Brachionus sp. (1-0/0)
- Cephalodella sp. (0-0/1)
- Conochiloides sp. (0-0/1)
- Conochilus unicornis (0-0/5)
- Conochilus sp. (0-1/2)
- Euchlanis sp. (1-1/1)
- Filinia sp. (0-1/1)
- Gastropus sp. (0-0/1)
- Kellicottia bostoniensis (2-3/5)
- Kellicottia longispina (1-3/6)
- Keratella cochlearis (6-8/8)
- Keratella quadrata (0-1/1)
- Keratella sp. (0-0/1)

TABLE 5.7-2

ROTATORIA (cont'd)
- Notholca acuminata (1-0/0)
- Notholca striata (1-1/1)
- Notholca sp. (0-0/3)
- Philodina sp. (6-7/10)
- Ploesoma sp. (2-3/2)
- Polyarthra sp. (7-4/7)
- Synchaeta sp. (3-3/11)
- Trichocerca sp. (1-1/2)

TARDIGRADA
- Indet. (1-0/6)

ANNELIDA
- Aeolosoma sp. (3-2/1)

ARTHROPODA
- Crustaceae
  - Cladocera
    - Alona guttata (0-1/0)
    - Alona sp. (0-1/0)
    - Bosmina coregoni (1-2/3)
    - Bosmina longirostris (2-0/0)
    - Bosmina sp. (2-2/1)
    - Ceriodaphnia acanthina (0-0/1)
    - Chydorus sphaericus (2-1/0)
    - Chydorus sp. (0-0/5)
    - Daphnia sp. (0-1/0)
    - Diaphanosoma sp. (1-0/0)
    - Leptodora sp. (1-1/1)
    - Polyphemus sp. (0-0/1)
  - Ostracoda
    - Indet. (0-0/1)
  - Copepoda
    - Cyclops sp. (0-1/0)
    - Indet. Adults (4-3/8)
    - Indet. Nauplii (9-8/13)
- Insecta
  - Diptera
    - Chironomidae
      - Indet. (0-0/2)

6. ENTRAINMENT STUDIES

6.1 Phytoplankton and Zooplankton Entrainment

Amendment No. 56 to Vermont Yankee's operating license, dated February 22, 1980, deleted its Appendix B Technical Specifications, which required Vermont Yankee to conduct entrainment studies twice a month while the plant was operating, in either open or closed cycle cooling modes. Vermont Yankee's commitment to entrainment studies was thus reduced to the once monthly requirement during open cycle operation specified in its NPDES discharge permit. However, Aquatec was not notified of this change until July 1980, so entrainment studies were conducted under the old schedule until July 8, 1980.

On 13 dates in 1980, samples of Connecticut River water at Vermont Yankee's cooling water intake structure and of the plant's cooling water discharge to the river were taken to assess the impact on phytoplankton and zooplankton due to entrainment. Duplicate samples were collected at approximately two week intervals. Entrainment studies were not conducted during closed cycle operation after July 8, 1980. The plant resumed open cycle operation at low power levels the last four days of December. Entrainment samples were not collected in that period.

For each sample, 40 liters of water, collected by bucket, were poured through a No. 20 mesh plankton net. A portion of the fresh sample concentrate was examined within the hour to determine the identity and relative numbers of living and dead organisms. Zooplankters were tabulated as living if they were observed to move or showed internal movement within one minute. Phytoplankters were listed as living if they had normal pigmentation and no signs of plasmolysis. The remaining portion of each sample was preserved with formalin for subsequent identification and enumeration of the organisms present.

The taxa of phytoplankton and zooplankton found in the entrainment intake samples are indicated in the two checklists, Tables 5.3 and 5.7, of the previous section of this report. In those lists, the third number in parenthesis after each taxon is the number of sample staes, of a total of 13, on which the taxon was observed in an intake sample. In general, the same taxa were observed in discharge samples as were found in river intake samples. However, eight algal species were found in small numbers in 1980 discharge samples that were not observed in intake entrainment samples. These were Diatoma sp., Tabellaria flocculosa, Closterium acutum, Oedogonium sp., Scenedesmus dimorphus, Staurastrum sp., Treubaria sp., and Lyngbya sp. Four zooplankton species - Euchlanis alata, Monostyla sp., Chydorus bicornutus, and Daphnia pulex - were observed in discharge samples, but not in the intake samples.

The counting results of the analysis of the fresh and the preserved entrainment samples were summarized in Table 6.1. The data of Table 6.1 have been used to calculate the percent changes in live plankton concentrations between intake and discharge samples shown in Table 6.2.

In all previous years of Vermont Yankee entrainment studies, greater plankton concentrations have been observed in some discharge samples than were present in the river samples collected at the intake structure. This is attributable to the sloughing off into the circulating cooling water of aufwuchs, algal growth attached to the walls of the cooling water system that supports a community of microinvertebrates. Greater concentrations of live organisms in discharge samples than in intake samples were observed for phytoplankton on 6 and for zooplankton on 3 of the 13 sample dates.

The impact of Vermont Yankee's entrainment of plankton on the river's concentration of live plankton is dependent upon the proportion of river flow, Q_R, which is utilized as condenser cooling water. Calculations of the percent changes in river plankton concentrations due to entrainment on the 13 study dates of 1980 are

shown in Table 6.3. These calculations assume uniform distribution of river plankton at the intake structure and complete mixing of plant discharge into the river.

During open cycle operation, plant discharge flow rate, Q_D, equals the rate of intake from the river, thus percent change of plankton concentration in the mixed river is the percent change through the plant, Table 6.2, multiplied by the ratio of Q_D to Q_R. During closed cycle operation, some water withdrawn from the river is lost by evaporation in the cooling towers. The closed cycle calculations in Table 6.3 have assumed a concentration factor of 2 due to evaporation, which would reduce river flow by an amount equal to plant blowdown discharge, estimated conservatively at 15 cfs. Percent change in river plankton concentration is calculated, then, by multiplying percent change through the plant by the ratio of 15 cfs to (Q_R-15 cfs).

The largest calculated decrease in live phytoplankton concentration in the river was -8.8% in the samples of 6 May; that for live zooplankton concentration was -15% in the samples of 6 March. Percentage decreases in live plankton concentration on other open cycle dates were much smaller and, as noted above, calculated increases occurred on 6 dates for phytoplankton and 3 for zooplankton.

Calculated changes during closed cycle operation are very low because such a small portion of total river flow is used then as condenser cooling water. It is because the entrainment impact of Vermont Yankee's closed cycle operation is so minimal that the requirement to conduct entrainment studies at such times has been deleted from their environmental monitoring requirements.

TABLE 6.1

SUMMARY OF RESULTS
VERMONT YANKEE ENTRAINMENT STUDIES
1980

Date	Power Level (%)	Condenser Δ (°F)	Sample Location	Sample Temp.(°F)	Percent Living Organisms (Fresh Sample) Phytoplankton	Percent Living Organisms (Fresh Sample) Zooplankton	Number Organisms/Liter (Preserved Sample) Phytoplankton	Number Organisms/Liter (Preserved Sample) Zooplankton
1/3	99.6	27.5	Intake	32.5	72	70	182	1.5
			Discharge	65.5	76	56	489	3.5
1/16	99.5	27.5	Intake	32.7	77	96	62	3.5
			Discharge	62.6	74	73	100	4.2
2/7	99.5	26.5	Intake	32.9	85	94	180	5.8
			Discharge	69.8	86	48	178	9.8
2/22	99.4	27.0	Intake	32.0	90	87	111	2.8
			Discharge	65.7	96	53	1764	7.0
3/6	99.9	27.1	Intake	32.9	75	93	134	17.5
			Discharge	63.5	93	58	127	9.0
3/25	99.6	27.1	Intake	35.1	58	75	231	7.2
			Discharge	62.2	80	55	1051	7.0
4/10	99.6	26.9	Intake	41.0	66	93	974	13.5
			Discharge	67.1	53	94	12613	24.0
4/24	99.5	21.5	Intake	47.3	88	76	402	15.5
			Discharge	67.6	71	78	275	4.2
5/6	99.5	21.4	Intake	53.9	90	94	2190	13.8
			Discharge	75.3	90	88	435	7.8
5/21	99.9	21.9	Intake	57.7	89	92	3046	7.8
			Discharge	73.0	32	4	195	4.5
6/5	99.7	22.0	Intake	66.0	97	99	2596	116.5
			Discharge	70.3	19	7	291	17.5
6/20	91.4	20.2	Intake	68.2	90	95	1574	83.2
			Discharge	71.2	16	2	253	22.8
7/8	99.6	21.5	Intake	74.5	94	87	8874	231.5
			Discharge	75.2	13	2	12309	197.8

TABLE 6.2

PERCENT CHANGES IN LIVE PLANKTON CONCENTRATIONS
BETWEEN ENTRAINMENT INTAKE AND DISCHARGE SAMPLES

Date	Parameter	Living Organisms Per Liter Discharge	- Intake	= Difference	% Change thru Plant
1/3/80	Phytoplankton	372	131	+241	+180
	Zooplankton	1.96	1.05	+0.91	+87
1/16/80	Phytoplankton	74	48	+26	+54
	Zooplankton	3.1	3.4	-0.3	-8.8
2/7/80	Phytoplankton	153	153	0	0
	Zooplankton	4.7	5.4	-0.7	-13
2/22/80	Phytoplankton	1693	100	+1593	+1600
	Zooplankton	3.7	2.4	+1.3	+54
3/6/80	Phytoplankton	118	100	+18	+18
	Zooplankton	5.2	16.3	-11.1	-68
3/25/80	Phytoplankton	841	134	+707	+530
	Zooplankton	3.8	5.4	-1.6	-30
4/10/80	Phytoplankton	6685	643	+6042	+940
	Zooplankton	22.6	12.6	+10.0	+79
4/24/80	Phytoplankton	195	354	-159	-45
	Zooplankton	3.3	11.8	-8.5	-72
5/6/80	Phytoplankton	392	1971	-1579	-80
	Zooplankton	6.9	13.0	-6.1	-47
5/21/80	Phytoplankton	62	2711	-2649	-98
	Zooplankton	0.2	7.2	-7.0	-97
6/5/80	Phytoplankton	55	2518	-2463	-98
	Zooplankton	1.2	115.3	-114.1	-99
6/20/80	Phytoplankton	40	1417	-1377	-97
	Zooplankton	0.5	79.0	-78.5	-99
7/8/80	Phytoplankton	1600	8342	-6742	-81
	Zooplankton	4.0	201.4	-197.4	-98

TABLE 6.3

CALCULATED PERCENT CHANGES IN LIVE PLANKTON
CONCENTRATIONS OF RIVER EFFECTED BY ENTRAINMENT

Date	Cooling Cycle	Percent Recirculation	Plant Discharge Q_D (cfs)	River Flow Q_R (cfs)	Percent Change in Live Plankton Concentrations in Mixed River	
					Phytoplankton	Zooplankton
1/3/80	Open	19	468	6290	+13	+6.5
1/16/80	Open	18	499	7960	+3.4	-0.55
2/7/80	Open	22	472	7600	0	-0.81
2/22/80	Open	21	465	2750	+270	+9.1
3/6/80	Open	17	493	2240	+4.0	-15
3/25/80	Open	0	590	17570	+180	-1.0
4/10/80	Open	0	594	35960	+16.0	+1.3
4/24/80	Open	0	742	12880	-2.6	-4.1
5/6/80	Open	0	746	6750	-8.8	-5.2
5/21/80	Closed	98*	15*	10790	-0.14	-0.14
6/5/80	Closed	98*	15*	10610	-0.14	-0.14
6/20/80	Closed	98*	15*	7790	-0.19	-0.19
7/8/80	Closed	98*	15*	3910	-0.31	-0.38

*Estimated

6.2 Ichthyoplankton Entrainment

Previous studies, in the years 1977-1979, of the entrainment of larval fishes in Vermont Yankee's cooling water have been conducted in tne months March, April, and May. No ichthyoplankters were collected in those three years during March or April, so the 1980 study was limited to the 15 days of open cycle operation in May.

Once each day a sample was collected with a 0.5 meter diameter plankton net with a T.S.K. flowmeter positioned in the net's mouth. The net was mounted in an aluminum frame and lowered by ropes to collect intake bay samples.

The results of the 1980 studies are summarized in Table 6.4, in which the data have been reduced to the number of larvae entrained per hour. The table also shows, as a measure of the impact on river larval populations, the percentage of river flow being utilized as cooling water at the time of sampling.

Ichthyoplankters were first observed in the sample of 5 May, when a single larva was collected, and river temperature was 51.8°F. In all four years of study the first collection of ichthyoplankton has been observed at river temperatures of about 51°F. First observation in 1977 was on 2 May at a temperature of 51.2°F; in 1978 on 15 May at 50.8°F; and in 1979 on 5 May at a temperature of 51.2°F.

Rates of entrainment of ichthyoplankton observed in 1980 were comparable to those found in the previous three years. Few larvae were collected and relatively small proportions of river flow were being used for cooling water.

In late May, river flows usually decrease and river concentrations of larval fish increase. But Vermont Yankee's reversion to closed cycle cooling mode on May 15 serves to minimize the plant's impact on ichthyoplankton.

TABLE 6.4

VERMONT YANKEE
ICHTHYOPLANKTON ENTRAINMENT STUDIES

1980 Date	Time	River Temperature Station 7 (°F)	Number of Larvae Collected	Sample Volume (m^3)	Larvae per m^3	VY Intake Flow Rate (cfs)	Rate of Entrainment Larvae/Hour	River Flow Rate (cfs)	Intake Flow as % of River Flow
5/1	1545	46.3	0	34.5	0	748	0	16,400	4.6
5/2	1400	47.5	0	44.8	0	754	0	11,500	6.6
5/3	1105	49.3	0	52.3	0	745	0	13,200	5.6
5/4	1618	51.4	0	38.3	0	757	0	13,400	5.6
5/5	1020	51.8	1	40.2	0.025	750	1.9×10^3	4,400	17.0
5/6	1100	53.8	0	50.9	0	746	0	6,700	11.1
5/7	1407	55.3	0	37.0	0	750	0	10,700	7.0
5/8	1055	53.5	4	61.1	0.065	758	5.1×10^3	16,100	4.7
5/9	1805	52.8	0	47.3	0	762	0	17,600	4.3
5/10	1210	52.1	1	51.1	0.020	757	1.5×10^3	16,500	4.6
5/11	0903	51.5	6	42.1	0.14	764	11×10^3	15,000	5.1
5/12	1134	51.3	4	55.4	0.072	756	5.6×10^3	11,500	6.6
5/13	0935	52.6	4	49.3	0.081	769	6.4×10^3	12,200	6.3
5/14	0845	52.9	8	50.2	0.16	736	12×10^3	12,000	6.1
5/15	1019	53.4	0	5.4	0	346	0	8.800	3.9

7. BENTHIC FAUNA STUDIES

Samples of Connecticut River benthic fauna were collected in 1980 at the four Vermont Yankee sample station locations shown in Figure 7.1 Samples were collected monthly, from May through November, with a 9" Ekman dredge from each of the four stations. Each sample consisted of organisms collected in 30 dredge hauls, 10 from each river quarter point. Henson traps, wire cages filled with 2 to 3 inch diameter rocks, were set at each location in May, July, and September and left in place for 8 to 10 weeks before retrieval. The traps set at Station 2 in May and June were lost or vandalized before the retrieval date.

The material collected by either sample method was washed through a set of standard sieves and organisms retained by a No. 25 mesh sieve were preserved in 70% alcohol for subsequent analysis. Identification was made to the lowest practicable taxonomic level, usually to genus.

Ninety-six taxa of bottom fauna were identified in the 1980 samples. A checklist of these macroinvertebrates, Table 7.1, appears at the end of this section of the report. The number of samples in which a listed taxon was found is shown in the table for each sampling technique at each sample station.

Of the total of 86 genera observed in the 1980 samples, 72 genera were found in the 28 Ekman dredge samples and 40 were found in the 10 samples collected by Henson trap. Twenty-six genera were found in samples collected by both methods, 14 were found only in Henson trap samples, and 46 were observed only in Ekman dredge collections.

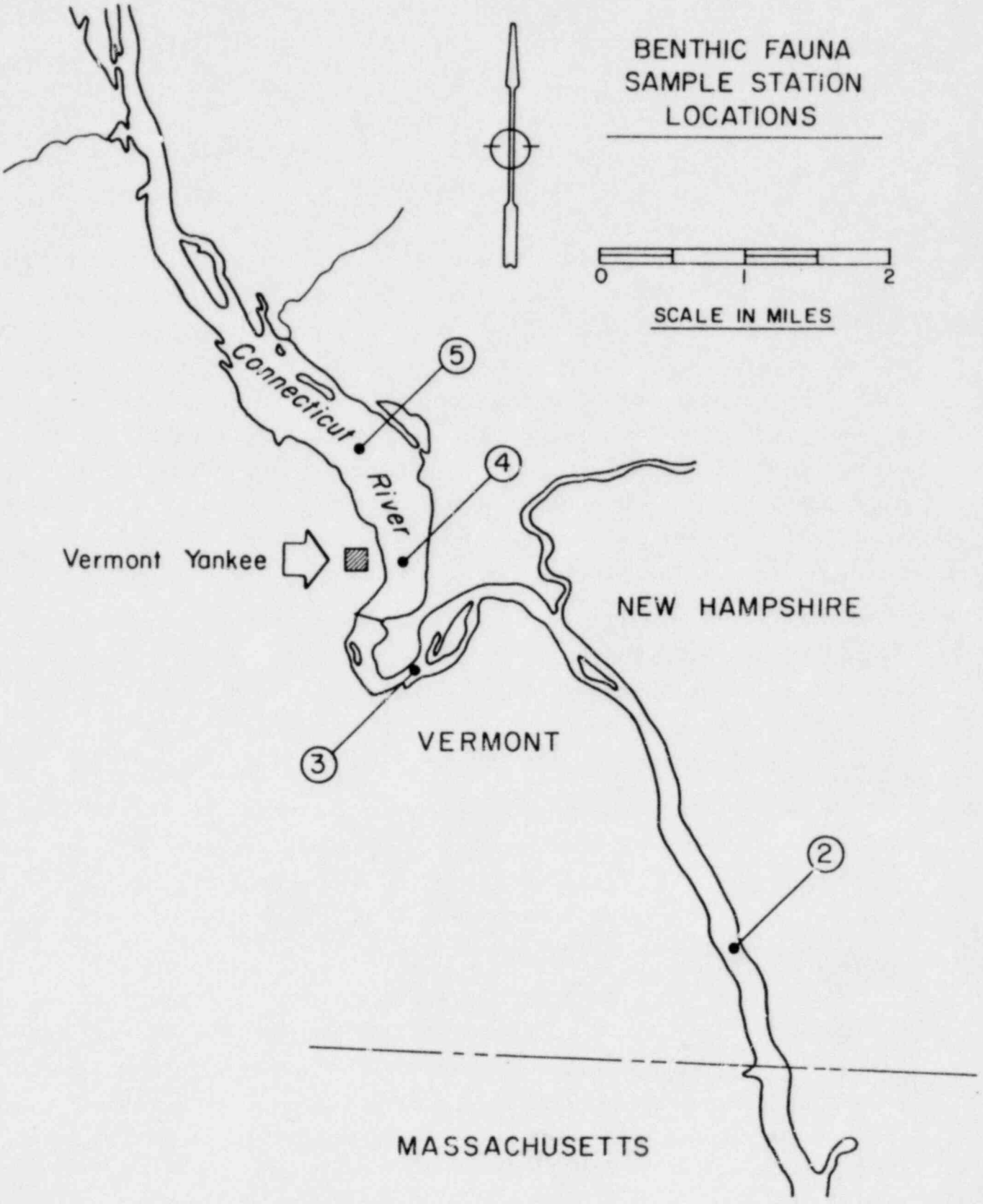

BENTHIC FAUNA
SAMPLE STATION
LOCATIONS
0
1
2
SCALE IN MILES
Connecticut
River
5
4
3
2
Vermont Yankee
NEW HAMPSHIRE
VERMONT
MASSACHUSETTS

FIGURE 7.1

The number of samples collected by Ekman dredge in 1980 was comparable to the numbers collected at Stations 2 through 5 in the years 1969 and 1977-1979. A comparison of the number of genera collected by Ekman dredge in these years with the results of the 1980 collections is shown in Table 7.2.

TABLE 7.2

COMPARISON OF NUMBER OF SAMPLES AND NUMBER OF GENERA OF BENTHOS COLLECTED BY EKMAN DREDGE

Station Number	Number of Samples/Number of Genera				
	1969	1977	1978	1979	1980
2	6/33	8/20	8/22	7/27	7/36
3	6/24	8/25	8/13	7/26	7/39
4	7/16	8/19	8/17	7/26	7/30
5	8/18	8/20	6/14	7/28	7/25

The numbers of genera found in samples from Stations 2, 3, and 4 were greater than in earlier years; the number at Station 5 was greater than in all prior years except 1979. More dredge hauls were used in the collection of the 1979 and 1980 samples (30 hauls/sample for all collections except May 1979) than in the previous years. That this increased effort disclosed greater numbers of genera indicates that Vermont Yankee's operation has not adversely affected the river's benthos diversity.

Another measure of diversity is shown in Table 7.3, a summary of the results of the analysis of the 1980 benthic fauna samples. The summary shows for each sample the number of organisms and taxa observed and lists the predominant type of benthos in the sample and the percentage of that form in the sample. A diversity index is also tabulated for each sample. The index was calculated with the following equation:

$$\bar{d} = \frac{C}{N} \left(N \log_{10} N - \Sigma\, n_i \log_{10} n_i\right)$$

where C is a constant which converts logarithms from base 10 to base 2; N is the number of organisms; and n_i is the number of organisms in the i^{th} taxon.

In general, diversity indices are larger for samples collected by Ekman dredge than for the Henson trap samples. In all the Ekman dredge sample sets, except that collected in October, the diversity index at one or more of the sample stations (2, 3, or 4) which might have been affected by Vermont Yankee's discharge was greater than at Station 5, upstream of Vermont Yankee. This was the case also for the July and September Henson trap collections. The number of taxa and the number of organisms per sample were also usually greater at one of the downstream locations than at upstream Station 5.

As has been found in earlier years, caddis fly and chironomid larvae were the predominant organisms in most of the spring and summer samples. Fall samples showed a greater variety of dominant forms – fingernail clams, planarians, oligochaetes. Chironomids and caddis flies were again dominant in the November Henson trap samples. The very low Station 2 and 3 diversity indices in that sample set were attributable to large percentages of a single chironomid species, Tanytarsus sp., which accounted for 90% of the Station 2 sample and 94% of the Station 3 sample. Large percentages of the chironomid, Glyptotendipes sp., in all three Henson trap samples of July and the Station 5 sample of September are evidenced in the relatively low diversity indices of those samples.

TABLE 7.3-1

SUMMARY OF RESULTS OF ANALYSIS
BENTHIC FAUNA SAMPLES
1980

Date	Sample Method HT (# Days) ED (# Hauls)	Sample Station	Number of Benthic Organisms	Number of Taxa	Diversity Index $\bar{d}$	Predominant Form(s) Name(s)	Predominant Form(s) % of Total
5/22	ED (30 hauls)	2	21	11	2.70	Caddis flies	57
	ED (30 hauls)	3	35	10	2.59	Caddis flies	89
5/21	ED (30 hauls)	4	69	18	3.53	Chironomids	59
	ED (30 hauls)	5	31	14	3.43	Chironomids	48
6/19	ED (30 hauls)	2	56	15	3.47	Caddis flies	32
	ED (30 hauls)	3	68	21	3.82	Caddis flies	57
6/20	ED (30 hauls)	4	51	16	3.64	Fingernail clams	33
	ED (30 hauls)	5	52	16	3.52	Tubificids	29
7/22	ED (30 hauls)	2	102	17	2.96	Fingernail clams	34
	ED (30 hauls)	3	307	13	2.17	Chironomids	51
7/23	ED (30 hauls)	4	166	18	3.32	Chironomids	54
7/24	ED (30 hauls)	5	134	16	2.67	Chironomids	68
7/22	HT (60 days)	3	174	10	1.80	Chironomids	61
7/25	HT (62 days)	4	1331	13	0.60	Chironomids	92
	HT (62 days)	5	200	6	0.71	Chironomids	90
8/15	ED (30 hauls)	2	88	26	3.92	Oligochaetes	31
	ED (30 hauls)	3	202	17	2.43	Caddis flies	47
	ED (30 hauls)	4	84	18	3.32	Chironomids	38
8/14	ED (30 hauls)	5	106	18	3.30	Chironomids	44

TABLE 7.3-2

SUMMARY OF RESULTS OF ANALYSIS
BENTHIC FAUNA SAMPLES
1980

Date	Sample Method HT (# Days) ED (# Hauls)	Sample Station	Number of Benthic Organisms	Number of Taxa	Diversity Index $\bar{d}$	Predominant Form(s)	
						Name(s)	% of Total
9/16	ED (30 hauls)	2	129	17	2.94	Oligochaetes	29
9/19	ED (30 hauls)	3	29	12	3.28	Chironomids	31
9/18	ED (30 hauls)	4	50	12	2.98	Fingernail clams	46
	ED (30 hauls)	5	39	11	2.76	Fingernail clams	51
9/19	HT (59 days)	3	177	9	1.77	Cladocerans	58
9/18	HT (55 days)	4	101	13	2.56	Planarians	44
	HT (55 days)	5	1394	8	1.62	Chironomids	56
10/28	ED (30 hauls)	2	7	3	1.45	Fingernail clams	57
	ED (30 hauls)	3	162	13	2.25	Planarians	41
	ED (30 hauls)	4	20	8	2.68	Oligochaetes	45
	ED (30 hauls)	5	20	9	2.81	Chironomids	40
11/20	ED (30 hauls)	2	25	4	1.24	Fingernail clams	72
	ED (30 hauls)	3	21	6	1.66	Fingernail clams	67
11/19	ED (30 hauls)	4	28	12	3.20	Oligochaetes	46
	ED (30 hauls)	5	32	9	2.83	Chironomids	34
11/20	HT (65 days)	2	110	6	0.66	Chironomids	90
	HT (62 days)	3	1595	11	0.44	Chironomids	98
11/19	HT (62 days)	4	148	12	2.04	Caddis flies	60
	HT (62 days)	5	75	13	2.40	Planarians	51

TABLE 7.1-1

CHECKLIST OF THE BENTHIC FAUNA
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1980

Number of samples in which a taxon was observed at each sample location
in collections made by Henson trap and Ekman dredge

	Sample Station Number / Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(1)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)
PORIFERA (Sponges)								
Demospongia								
Indet. Spongillidae	0	2	0	1	0	0	0	0
COELENTERATA (Hydroids, Jellyfish)								
Hydrozoa								
Indet. polyp	0	0	2	1	0	0	2	0
PLATYHELMINTHES								
Turbellaria (Flatworms)								
Dugesia tigrina	0	2	0	0	0	0	1	0
Dugesia sp.	1	5	2	6	3	1	2	0
BRYOZOA (Moss Animacules)								
Gymnolaemata								
Paludicella articulata	0	1	0	1	0	0	0	0
Phylactolaemata								
Fredericella sp.	0	0	0	1	0	0	0	0
Pectinatella magnifica	0	2	0	2	0	0	0	0
Pectinatella sp.	0	0	0	1	0	0	0	0
Plumatella sp.	0	0	0	1	0	0	0	0

TABLE 7.1-2

	Sample Station Number / Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(1)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)
ANNELIDA								
Oligochaeta (Aquatic Earthworms)								
Aeolosoma sp.	0	1	0	0	0	0	0	0
Branchiura sowerbyi	0	0	0	0	0	3	0	6
Limnodrilus sp.	0	0	0	0	2	7	0	6
Lumbriculus sp.	0	5	0	1	0	5	0	1
Pristina sp.	0	2	0	0	0	0	0	0
Stylaria fossularis	0	1	0	1	0	0	0	0
Tubifex tubifex	0	0	0	0	0	2	0	5
Hirudinea (Leeches)								
Glossiphonia complanata	0	1	0	0	0	0	0	0
Helobdella fusca	1	0	0	0	1	0	0	0
Helobdella sp.	0	2	0	0	1	0	0	2
ARTHROPODA								
Crustacea								
Cladocera (Water Fleas)								
Daphnia pulex	0	0	0	0	1	0	0	0
Daphnia sp.	0	0	1	1	0	0	1	0
Moina recterostris	0	0	0	1	0	0	0	0
Indet.	0	1	1	0	0	0	0	0
Isopoda (Aquatic Sow Bugs)								
Asellus intermedius	0	0	0	0	0	0	0	1
Asellus militaris	0	0	0	0	0	1	0	0
Asellus sp.	0	0	0	0	0	1	0	0
Amphipoda (Scuds)								
Crangonyx sp.	0	0	0	0	1	0	0	0
Hyalella azteca	0	0	0	0	1	0	1	0
Synurella sp.	0	0	0	0	0	0	1	0

TABLE 7.1-3

	Sample Station Number / Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(1)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)
ARTHROPODA (cont'd)								
Crustacea								
Decapoda (Crayfishes)								
Orconectes limosus	1	0	0	0	0	0	0	0
Orconectes obscurus	0	1	0	0	2	0	1	0
Arachnoidea								
Indet. Hydracarina (Water Mites)	0	0	0	0	1	0	0	0
Insecta								
Plecoptera (Stoneflies)								
Indet.	0	0	0	0	1	0	0	0
Ephemeroptera (Mayflies)								
Caenis sp.	0	1	0	0	0	0	0	0
Ephemerella sp.	0	1	0	1	0	0	0	0
Ephoron sp.	0	0	0	0	0	1	0	0
Heptagenia sp.	0	1	0	1	0	0	0	0
Hexagenia sp.	0	0	0	0	0	5	0	6
Isonychia sp.	0	0	0	1	0	0	0	0
Rhithrogena sp.	0	0	0	1	0	0	0	0
Stenonema sp.	0	1	0	1	0	0	0	0
Tricorythodes sp.	0	1	0	0	0	0	0	0
Odonata (Dragonflies, Damselflies)								
Anomalagrion sp.	0	0	0	0	1	0	0	0
Dromogomphus sp.	0	0	0	0	0	0	1	1
Enallagma sp.	0	0	1	0	0	0	1	1
Epicordulia sp.	0	0	1	0	0	0	2	0
Gomphus sp.	0	0	0	0	1	0	0	0
Ischnura sp.	0	0	0	1	0	0	0	0
Lestes sp.	0	0	1	0	0	0	0	0
Macromia sp.	0	0	0	1	1	1	0	0
Neurocordulia sp.	0	0	2	0	0	0	0	0
Ophiogomphus sp.	0	0	0	1	1	0	0	0
Tetragoneuria sp.	0	0	1	0	0	0	0	0

TABLE 7.1-4

	Sample Station Number / Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(1)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)
ARTHROPODA (cont'd)								
Insecta								
Megaloptera (Alderflies, Dobsonflies, Fishflies)								
Sialis sp.	0	1	0	0	2	2	0	1
Neuroptera (Spongilla Flies)								
Sisyra vicaria	0	0	0	1	0	0	0	0
Trichoptera (Caddis Flies)								
Athripsodes sp.	0	0	0	1	0	0	0	0
Cheumatopsyche sp.	0	6	2	6	0	0	0	0
Cheumatopsyche sp. (pupa)	0	0	0	1	0	0	0	0
Chimarra sp.	0	0	0	1	0	0	0	0
Hydropsyche sp.	0	2	0	5	0	0	0	0
Leptocella sp.	0	2	0	1	0	1	0	0
Macronemum sp.	0	1	0	2	0	0	0	0
Neureclipsis sp.	1	0	0	1	0	1	0	1
Oecetis sp.	0	1	0	0	3	4	0	2
Phylocentropus sp.	0	0	0	0	1	0	0	0
Polycentropus sp.	0	4	0	1	1	0	2	0
Coleoptera (Beetles)								
Indet. larva	0	0	0	0	0	0	0	1
Diptera (Flies, Mosquitoes, Midges)								
Ceratopogonidae (Biting Midges)								
Palpomyia tibialis	0	0	0	0	0	3	0	2
Chironomidae (Midges)								
Chironomus sp.	0	0	0	1	0	4	0	5
Corynoneura sp.	0	0	0	1	0	0	0	0
Cricotopus sp.	0	1	0	0	0	0	0	0
Cryptochironomus sp.	0	1	0	0	2	6	0	7
Diamesa sp.	0	0	1	0	0	0	0	0
Endochironomus sp.	0	0	0	0	0	2	0	0

TABLE 7.1-5

	Sample Station Number / Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(1)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)
ARTHROPODA (cont'd)								
Insecta								
Diptera (Flies, Mosquitoes, Midges)								
Chironomidae (Midges)								
Eukiefferiella sp.	0	0	0	0	0	1	0	1
Glyptotendipes senilis	0	0	0	1	1	1	2	0
Glyptotendipes sp.	0	3	3	3	3	3	2	3
Orthocladius sp.	0	0	0	1	0	0	0	0
Parachironomus sp.	0	1	1	3	0	0	0	0
Paracladopelma sp.	0	0	0	0	0	1	0	0
Pentaneura sp.	0	1	0	0	1	0	1	3
Phaenopsectra sp.	0	0	0	0	0	1	0	0
Polypedilum sp.	0	1	1	1	0	4	0	1
Procladius sp.	0	1	0	0	2	2	0	2
Psectrocladius sp.	0	0	0	0	0	0	1	0
Stictochironomus sp.	0	0	0	0	0	1	0	0
Tanytarsus sp.	1	0	1	2	0	1	2	0
Tribelos sp.	0	0	0	0	0	2	1	2
Trichocladius sp.	0	0	0	0	0	4	0	3
Culicidae (Mosquitoes, Phantom Midges)								
Chaoborus sp.	0	0	0	0	0	1	0	0
MOLLUSCA								
Gastropoda (Snails, Limpets)								
Amnicola sp.	1	4	3	4	0	0	0	0
Gyraulus sp.	0	2	0	0	0	0	0	0
Helisoma sp.	0	5	2	3	0	0	0	0
Physa sp.	0	0	0	1	0	0	0	0
Pelecypoda (Clams, Mussels)								
Pisidium sp.	0	3	0	2	0	5	0	6
Sphaerium sp.	0	7	0	5	0	6	0	6
Indet.	0	2	0	1	0	1	0	3

8. FISH STUDIES

8.1 Fish Impingement Studies

During all five phases of the special open cycle testing conducted in the years 1974-1978, fish impinged on Vermont Yankee's traveling screens at the intake structure were collected each day and identified, counted, weighed, and measured. The results of these studies, summarized in the Phase V report (Aquatec 1979b), provided the basis for the schedule of impingement studies, set forth in Vermont Yankee's current NPDES permit, to be conducted during open cycle operation. However, the Appendix B Technical Specifications to Vermont Yankee's operating license, which required that all impinged fish be collected, was not amended until February 1980. This amendment (No. 56) deleted the requirement that impingement studies, other than by the NPDES schedule, be done. However, Aquatec was not aware of this change until midsummer, so all fish impinged during open cycle operation through May 1980 were collected.

A summary of the weight extremes and the extremes in total length of the fish species impinged during open cycle operation in January-May 1980 is given in Table 8.1. In Table 8.2, the numbers and total weight in grams of each impinged species are shown for each of these months. The fish species are listed in order of the decreasing number of the species collected.

The table also shows, for each month and for the period January-May, the mean number and mean weight of fish impinged per day of open cycle operation in 1980. At the bottom of the table are listed the daily means and standard deviations, for both number and weight of fish impinged, that were observed for those months in the five phase open cycle test program.

TABLE 8.1

SUMMARY OF WEIGHT AND TOTAL LENGTH EXTREMES OF FISH SPECIES
IMPINGED DURING OPEN CYCLE OPERATION
1980

Species	Weight(g)	Total Length (mm)
Salmo trutta Linnaeus Brown Trout	3.9	68
Osmerus mordax (Mitchill) Rainbow Smelt	6.7-38	113-195
Catostomus commersoni (Lacépède) White Sucker	1.9-58	61-173
Notemigonus crysoleucas (Mitchill) Golden Shiner	0.8-97	52-204
Notropis cornutus (Mitchill) Common Shiner	3.5	81
Notropis hudsonius (Clinton) Spottail Shiner	0.3-16	42-127
Hybognathus nuchalis Agassiz Silvery Minnow	1.2-16	58-115
Ictalurus nebulosus (LeSueur) Brown Bullhead	5.4-39	80-154
Ictalurus natalis (LeSueur) Yellow Bullhead	5.4	80
Fundulus diaphanus (LeSueur) Banded Killifish	1.4-6.0	58-82
Morone americana (Gmelin) White Perch	2.5-419	60-287
Perca flavescens (Mitchill) Yellow Perch	5.6-340	83-280
Etheostoma olmstedi Storer Tessellated Darter	1.2-4.2	51-76
Micropterus dolomieui Lacépède Smallmouth Bass	2.4-322	57-295
Micropterus salmoides (Lacépède) Largemouth Bass	5.6-213	78-250
Lepomis gibbosus (Linnaeus) Pumpkinseed	1.3-60	51-143
Lepomis macrochirus Rafinesque Bluegill	1.3-228	51-215
Juvenile Lepomis	0.3-2.7	33-50
Ambloplites rupestris (Rafinesque) Rock Bass	0.5-44	30-125
Cottus cognatus Richardson Slimy Sculpin	2.3	59

TABLE 8.2

SUMMARY BY MONTH OF NUMBER AND WEIGHT OF
FISH SPECIES IMPINGED DURING OPEN CYCLE OPERATION
1980

Species	JAN	FEB	MAR	APR	MAY	TOTALS
	No.-Wgt.(g)	No.-Wgt.(g)	No.-Wgt.(g)	No.-Wgt.(g)	No.-Wgt.(g)	No.-Wgt.(g)
Spottail Shiner	16-44.6	9-33.3	1271-4156.1	725-2547.0	88-271.1	2109-7052.1
Juvenile Lepomis	4-8.3		5-7.7	330-488.2	47-84.8	386-589.0
Rock Bass	1-24.0	1-4.2	20-135.5	145-460.1	123-232.9	290-856.7
Pumpkinseed	4-43.0	6-188.8	29-424.0	183-711.9	21-101.5	243-1469.2
White Perch	7-711.7	5-778.6	73-1472.5	49-1714.2	13-165.2	147-4842.2
Silvery Minnow			17-64.4	68-317.5	2-14.9	87-396.8
Yellow Perch	1-12.5	1-9.0	14-413.5	60-1892.5	7-265.1	83-2592.6
Smallmouth Bass	3-41.8	3-45.8	12-70.2	33-278.3	25-891.0	76-1327.1
Golden Shiner			2-169.0	57-402.5	7-107.5	66-679.0
Bluegill	1-3.0		3-7.0	15-451.8	1-52.0	20-513.8
Tessellated Darter			4-9.6	5-10.8	4-11.5	13-31.9
Brown Bullhead				10-191.9	1-13.0	11-204.9
Rainbow Smelt				7-151.8	3-78.7	10-230.5
White Sucker			1-1.9	6-78.9		7-80.8
Banded Killifish		1-1.8		4-14.1	2-5.1	7-21.0
Largemouth Bass	1-26.0			3-228.4	1-16.0	5-270.4
Yellow Bullhead				1-5.4		1-5.4
Brown Trout					1-3.9	1-3.9
Common Shiner				1-3.5		1-3.5
Slimy Sculpin					1-2.3	1-2.3
TOTALS	38-914.9	26-1061.5	1451-6931.4	1702-9948.8	347-2316.5	3564-21173.1
No. Days of Open Cycle Operation	31	26	31	30	15	133
Daily Means	1.2-29.5	1.0-40.8	46.8-223.6	56.7-331.6	23.1-154.4	26.8-159.2
Daily Means(Phases I-V)	1.0-66.3	1.2-15.3	23.6-248.0	71.9-692.3	8.9-113.5	23.8-250.3
Stnd. Dev. (Phases I-V)	1.6-432.9	1.9-42.0	112.4-710.1	102.8-959.0	10.1-215.7	78.0-655.3

All daily means, both number and weight, observed in each open cycle month of 1980 were within the two standard deviations of the Phases I-V daily means for the corresponding months. In fact, only the mean number of fish impinged in May, 23.1 per day, exceeded the corresponding Phases I-V mean plus one standard deviation, 19.0 per day. Both the daily mean number and weight of fish impinged during 133 days of open cycle operation were less than the daily means plus one standard deviation for corresponding months during the Phases I-V studies.

8.2 Resident Finfish Studies

In 1980, 1602 fish were collected at Vermont Yankee Sample Stations 3, 4, 5, and 8. The locations of the sample stations are shown in Figure 8.1. The fish were taken in 96 collections by three capture methods – trap net, gill net, and seine haul. A summary by sample station and capture method of the fishing effort made and the numbers and weight of fish collected is shown in Table 8.3.

All fish collected were identified and their weight and total length were measured and recorded. Of the nineteen species observed in 1980 collections, eleven were captured both upstream and downstream of Vernon Dam. Three species – spottail shiner, silvery minnow, and American eel – were observed only in collections north of the dam; five species – fallfish, brown bullhead, yellow bullhead, northern pike, and chain pickerel – were found only in the collections south of Vernon Dam. Northern pike is a species that has not been collected previously in Vermont Yankee fish studies, which were begun in 1968. A single specimen, weighing 400 grams with a total length of 400 mm, was taken on 16 September 1980 in an experimental gill net set near Stebbin Island, about 1.25 miles downstream from Vernon Dam.

The data of the 1980 fish collections are summarized by species in Tables 8.4, 8.5, and 8.6. Table 8.4 shows for all collections the number, the total weight, and the extremes in weight and total length observed for each species. Tables 8.5

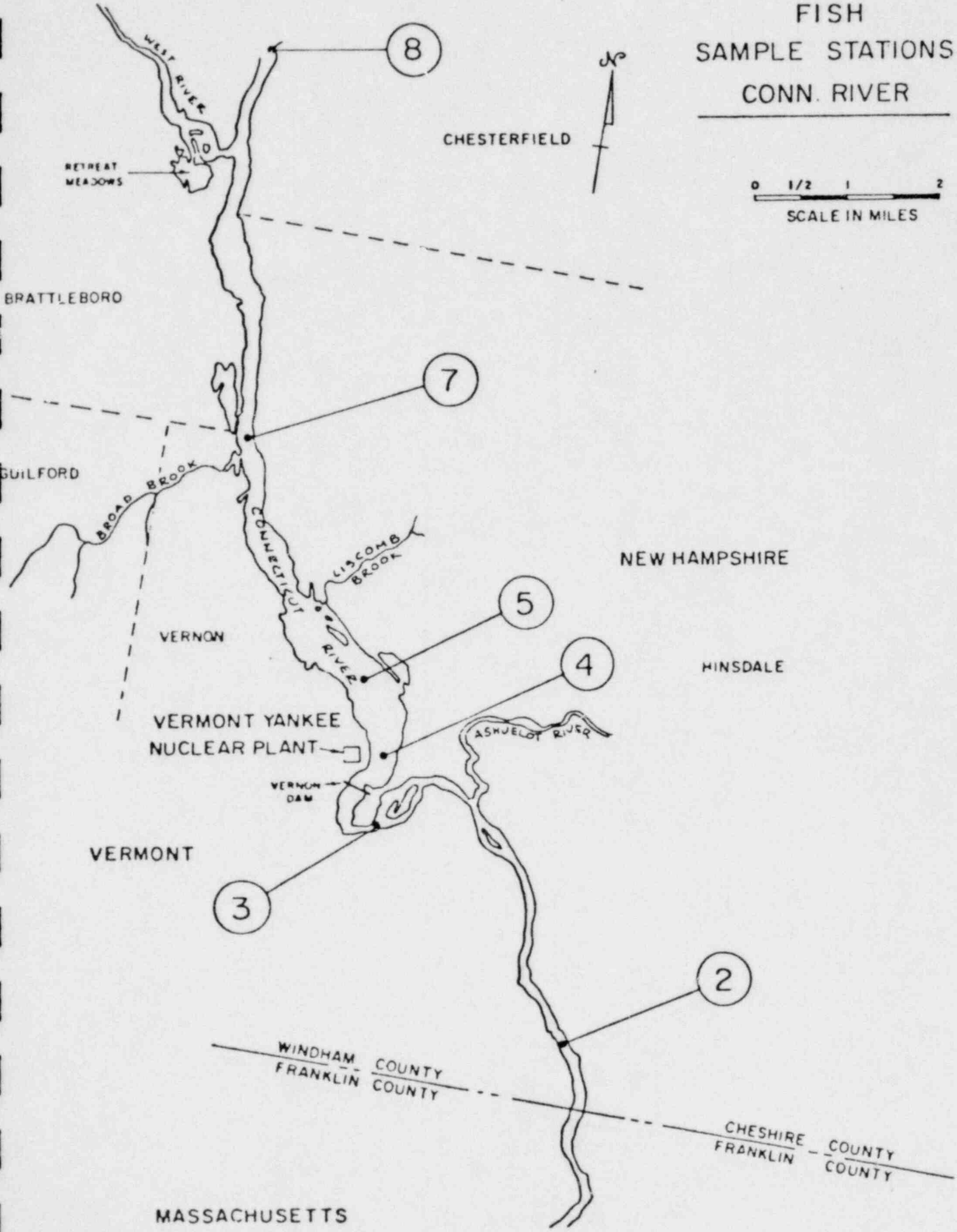

FISH
SAMPLE STATIONS
CONN. RIVER
0 1/2 1 2
SCALE IN MILES
8
7
5
4
3
2
WEST RIVER
RETREAT MEADOWS
CHESTERFIELD
BRATTLEBORO
GUILFORD
BROAD BROOK
CONNECTICUT RIVER
LISCOMB BROOK
NEW HAMPSHIRE
VERNON
HINSDALE
VERMONT YANKEE NUCLEAR PLANT
ASHUELOT RIVER
VERNON DAM
VERMONT
WINDHAM COUNTY
FRANKLIN COUNTY
CHESHIRE COUNTY
FRANKLIN COUNTY
MASSACHUSETTS

FIGURE 8.1

TABLE 8.3

SUMMARY OF FISHING EFFORT AND RESULTS
1980

SAMPLE LOCATION	CAPTURE METHOD: TRAP NET No. Fish	TRAP NET Weight (g)	TRAP NET No. Net Sets	TRAP NET No. Set Hours	GILL NET No. Fish	GILL NET Weight (g)	GILL NET No. Net Sets	GILL NET No. Set Hours	SEINE HAUL No. Fish	SEINE HAUL Weight (g)	SEINE HAUL No. Hauls	TOTALS No. Fish	TOTALS Weight (g)
South of Vernon Dam Station 3	355	137444	32	729	68	53594	10	226	148	215	3	571	191253
North of Vernon Dam Station 4	464	63610	16	364	130	50257	5	109	0	0	0	594	113867
Station 5	305	37764	9	204	68	35524	5	108	0	0	0	373	73288
Station 8	46	10893	11	256	18	5686	7	164	0	0	0	64	16579
Totals - North of Vernon Dam	815	112267	36	824	216	91467	17	381	0	0	0	1031	203734
Totals - All Locations	1170	249711	68	1553	284	145061	27	607	148	215	3	1602	394987

and 8.6 summarize – by sample station, capture method, and number of collections in which the species was taken – the numbers and total weights of the species captured north and south of Vernon Dam. Frequency distributions by total length for nine species are shown in Table 8.7.

The species compositions, by weight and by number, of the 1980 collections are graphed in Figures 8.2 and 8.3. These compositions are reduced to a percentage basis and shown in Figures 8.4 and 8.5, along with percentage compositions of earlier surveys to permit comparison with previous studies.

The percentage by number of white perch in the 1980 collections (30.8%) was greater than the previous maximum for this species (29.0%) in 1974. This increase is attributable chiefly to the relatively low numbers of pumpkinseed and bluegill captured in 1980. The percentage by weight of Lepomis spp. in the 1980 survey (4.0%) was smaller than for any prior survey except that of 1976 when these species constituted 3.4% of the weight of all fish taken.

The percentages by weight that are shown in Figure 8.4 for 1980 are all within ranges that had been observed in earlier surveys except the percentage by weight for "all other species." The 12.2% by weight for "all other species" results from relatively greater weights of brown bullhead, chain pickerel, and walleye captured in 1980. In particular, the biomass of walleye in the 1980 survey was significantly greater than in earlier years. The 48 walleye collected in 1980 weighed 30,522 grams, 7.7% of the weight of all fish taken. The previous maximum percentage by weight of "all other species" was 9.4% in 1978. This was due also to walleye, which constituted 6.7% of the weight of all fish in that year's survey.

Scale samples for age determination were taken from all white perch, yellow perch, walleye, and smallmouth bass collected in 1980 that had a total length of more than 50 mm. The results of the reading of these scales, along with the age-growth data

collected in years prior to Vermont Yankee's operation with open cycle cooling, are shown in Tables 8.8 through 8.11. The data on number of annuli and mean total length from these tables are shown graphically in Figures 8.6 through 8.9.

The age-growth data for white perch, yellow perch, and smallmouth bass in 1980 are not significantly different from the data of the years 1969-1973. Small differences are found when few specimens in an annulus group were captured.

The age-growth curves for walleye in each of the years 1977 through 1979 had indicated an increased growth rate relative to the 1969-1973 curve. To confirm this, the scale samples from walleye collected in 1969-1973 were reread. Based on this re-examination, revised age-growth data for the years 1969-1973 are shown in Table 8.10. The plots of these revised 1969-1973 data and that of 1980 (Figure 8.8) also indicate an enhanced walleye growth rate in 1980 relative to the years 1969-1973.

TABLE 8.4

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
ALL COLLECTIONS
1980

Species	Total Number Captured	Total Weight In Grams	Weight Extremes In Grams	Length Extremes In Millimeters
Catostomus commersoni (Lacépède) White Sucker	190	129514	0.5-1408	33-507
Cyprinus carpio Linnaeus Carp	19	91765	138-8500	195-740
Semotilus corporalis (Mitchill) Fallfish	1	473	473	332
Notemigonus crysoleucas (Mitchill) Golden Shiner	12	913	35-170	137-225
Notropis hudsonius (Clinton) Spottail Shiner	195	2062	7-15	73-128
Hybognathus nuchalis Agassiz Silvery Minnow	1	16	16	112
Juvenile Cyprinidae	133	208	0.05-2.6	17-68
Ictalurus nebulosus (LeSueur) Brown Bullhead	20	6500	32-733	140-375
Ictalurus natalis (LeSueur) Yellow Bullhead	1	76	76	180
Esox lucius Linnaeus Northern Pike	1	400	400	400
Esox niger LeSueur Chain Pickerel	12	5818	162-846	282-508
Anguilla rostrata (LeSueur) American Eel	1	1360	1360	750
Morone americana (Gmelin) White Perch	494	58551	4-410	64-308
Perca flavescens (Mitchill) Yellow Perch	229	25338	7-350	90-290
Stizostedion vitreum (Mitchill) Walleye	48	30522	51-1156	185-490
Micropterus dolomieui Lacépède Smallmouth Bass	70	16693	4-1470	70-490
Micropterus salmoides (Lacépède) Largemouth Bass	8	3457	23-2040	110-507
Lepomis gibbosus (Linnaeus) Pumpkinseed	48	4490	2.7-843	57-420
Lepomis macrochirus Rafinesque Bluegill	16	3585	3-383	56-240
Ambloplites rupestris (Rafinesque) Rock Bass	103	13246	2.1-302	51-250
TOTALS	1602	394987		

TABLE 8.5

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
ALL COLLECTIONS NORTH OF VERNON DAM
1980

Species	Station No.	Capture Method	No. of Coll.	No. Fish	Weight Grams	Species Totals No.	Species Totals Weight
White Sucker	4	Trap Net	8	13	6439		
		Gill Net	4	19	11417		
	5	Trap Net	4	12	8717		
		Gill Net	2	3	1856		
	8	Trap Net	1	1	845		
		Gill Net	4	6	3584	54	32858
Carp	4	Trap Net	4	4	13387		
		Gill Net	1	3	16220		
	5	Trap Net	1	1	5220		
		Gill Net	1	3	18930	11	53757
Golden Shiner	4	Trap Net	3	3	213		
	5	Trap Net	1	6	338	9	551
Spottail Shiner	4	Trap Net	7	193	2042		
	5	Trap Net	1	2	20	195	2062
Silvery Minnow	4	Trap Net	1	1	16	1	16
American Eel	4	Trap Net	1	1	1360	1	1360
White Perch	4	Trap Net	13	134	16678		
		Gill Net	4	59	11558		
	5	Trap Net	5	234	17353		
		Gill Net	2	20	2986		
	8	Trap Net	1	19	3803		
		Gill Net	2	3	687	469	53065
Yellow Perch	4	Trap Net	13	73	7336		
		Gill Net	2	28	2754		
	5	Trap Net	4	29	2454		
		Gill Net	2	24	2877		
	8	Trap Net	2	18	197		
		Gill Net	4	6	474	178	16092
Walleye	4	Trap Net	7	15	10265		
		Gill Net	4	12	7100		
	5	Trap Net	1	1	51		
		Gill Net	2	13	8464		
	8	Trap Net	1	1	1022		
		Gill Net	1	1	746	43	27648
Smallmouth Bass	4	Trap Net	6	8	1348		
		Gill Net	3	3	529		
	5	Trap Net	4	10	2400		
		Gill Net	2	5	411		
	8	Trap Net	2	6	4840		
		Gill Net	2	2	195	34	9723
Largemouth Bass	4	Trap Net	5	7	3432	7	3432
Pumpkinseed	4	Trap Net	6	8	488		
		Gill Net	3	6	679		
	5	Trap Net	2	4	340	18	1507
Bluegill	4	Trap Net	3	4	606		
	5	Trap Net	1	1	231	5	837
Rock Bass	5	Trap Net	3	5	640		
	8	Trap Net	1	1	186	6	826
					TOTALS NORTH OF VERNON DAM	1031	203734

TABLE 8.6

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
ALL COLLECTIONS SOUTH OF VERNON DAM
1980

Species	Station No.	Capture Method	No. of Coll.	No. Fish	Weight Grams	Species No.	Totals Weight
White Sucker	3	Trap Net	18	107	85837		
		Gill Net	4	14	10812		
		Seine	1	15	7	136	96656
Carp	3	Trap Net	1	1	6120		
		Gill Net	4	7	31888	8	38008
Fallfish	3	Gill Net	1	1	473	1	473
Golden Shiner	3	Trap Net	3	3	362	3	362
Juvenile Cyprinidae	3	Seine	1	133	208	133	208
Brown Bullnead	3	Trap Net	6	19	6191		
		Gill Net	1	1	309	20	6500
Yellow Bullhead	3	Gill Net	1	1	76	1	76
Northern Pike	3	Gill Net	1	1	400	1	400
Chain Pickerel	3	Trap Net	3	3	1462		
		Gill Net	6	9	4356	12	5818
White Perch	3	Trap Net	14	24	5220		
		Gill Net	1	1	266	25	5486
Yellow Perch	3	Trap Net	5	46	8266		
		Gill Net	1	5	980	51	9246
Walleye	3	Trap Net	5	5	2874	5	2874
Smallmouth Bass	3	Trap Net	13	29	5224		
		Gill Net	4	7	1746	36	6970
Largemouth Bass	3	Trap Net	1	1	25	1	25
Pumpkinseed	3	Trap Net	10	22	2563		
		Gill Net	4	8	420	30	2983
Bluegill	3	Trap Net	5	10	2632		
		Gill Net	1	1	116	11	2748
Rock Bass	3	Trap Net	19	85	10668		
		Gill Net	4	12	1752	97	12420
					TOTALS SOUTH OF VERNON DAM	571	191253

TABLE 8.7-1

FREQUENCY DISTRIBUTION OF FISH SPECIES
BY TOTAL LENGTH
1980

Total Length (mm)	WHITE PERCH		YELLOW PERCH		SMALLMOUTH BASS		PUMPKINSEED		BLUEGILL		ROCK BASS	
	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)
0-20												
21-40												
41-60							3	11	1	3	5	21
61-80	132	1063			2	10	2	7			1	11
81-100	57	588	25	231	5	48					1	25
101-120	3	66	3	46	3	55	10	522			6	186
121-140	2	55	1	36			15	985			14	724
141-160	8	454	15	716	2	77	8	835	1	116	3	244
161-180	32	2534	31	1940	10	659	8	1114	1	144	24	2772
181-200	31	3317	42	3835	9	883	1	173	2	357	20	2985
201-220	37	5075	43	5490	8	975			6	1302	22	4447
221-240	78	15487	35	5713	4	712			5	1663	6	1529
241-260	93	23093	29	6091	7	1584					1	302
261-280	18	5699	4	890	3	955						
281-300	2	710	1	350	5	1662						
301-320	1	410			3	1176						
321-340					1	500						
341-360					3	2046						
361-380					2	1344						
381-400												
401-420							1	843				
421-440					1	1070						
441-460					1	1467						
461-480												
481-500					1	1470						
TOTALS	494	58551	229	25338	70	16693	48	4490	16	3585	103	13246

TABLE 8.7-2

FREQUENCY DISTRIBUTION OF FISH SPECIES
BY TOTAL LENGTH
1980

Total Length (mm)	WHITE SUCKER		CARP		WALLEYE	
	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)
0-20						
21-40	15	7				
41-60						
61-80						
81-100						
101-120	3	37				
121-140	1	15				
141-160						
161-180	1	54				
181-200			1	138	1	51
201-220	1	131				
221-240			1	237		
241-260	2	386				
261-280	3	703				
281-300	3	954				
301-320	7	2633				
321-340	9	3958			4	1379
341-460	16	8091			3	1059
361-380	16	10147			5	2401
381-400	20	14067			8	4224
401-420	28	22151			7	4502
421-440	28	25091			11	7843
441-460	15	15505			3	2704
461-480	13	14555			5	5209
481-500	7	8384			1	1150
501-520	2	2645				
521-540						
541-560						
561-580						
581-600			1	2950		
601-620						
621-640						
641-660			3	14960		
661-680			1	4880		
681-700			6	30960		
701-720			2	11110		
721-740			4	26530		
TOTALS	190	129514	19	91765	48	30522

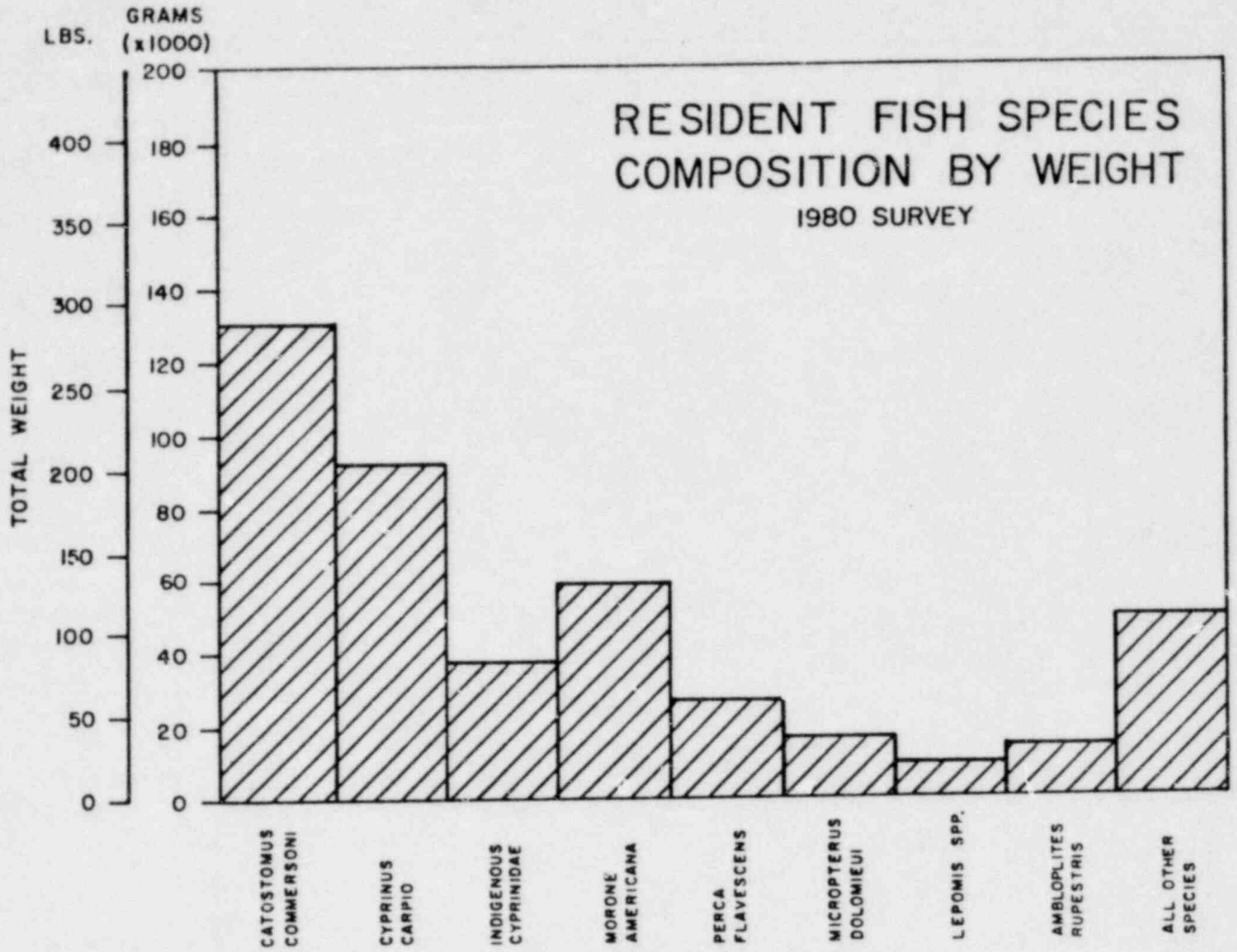


FIGURE 8.2

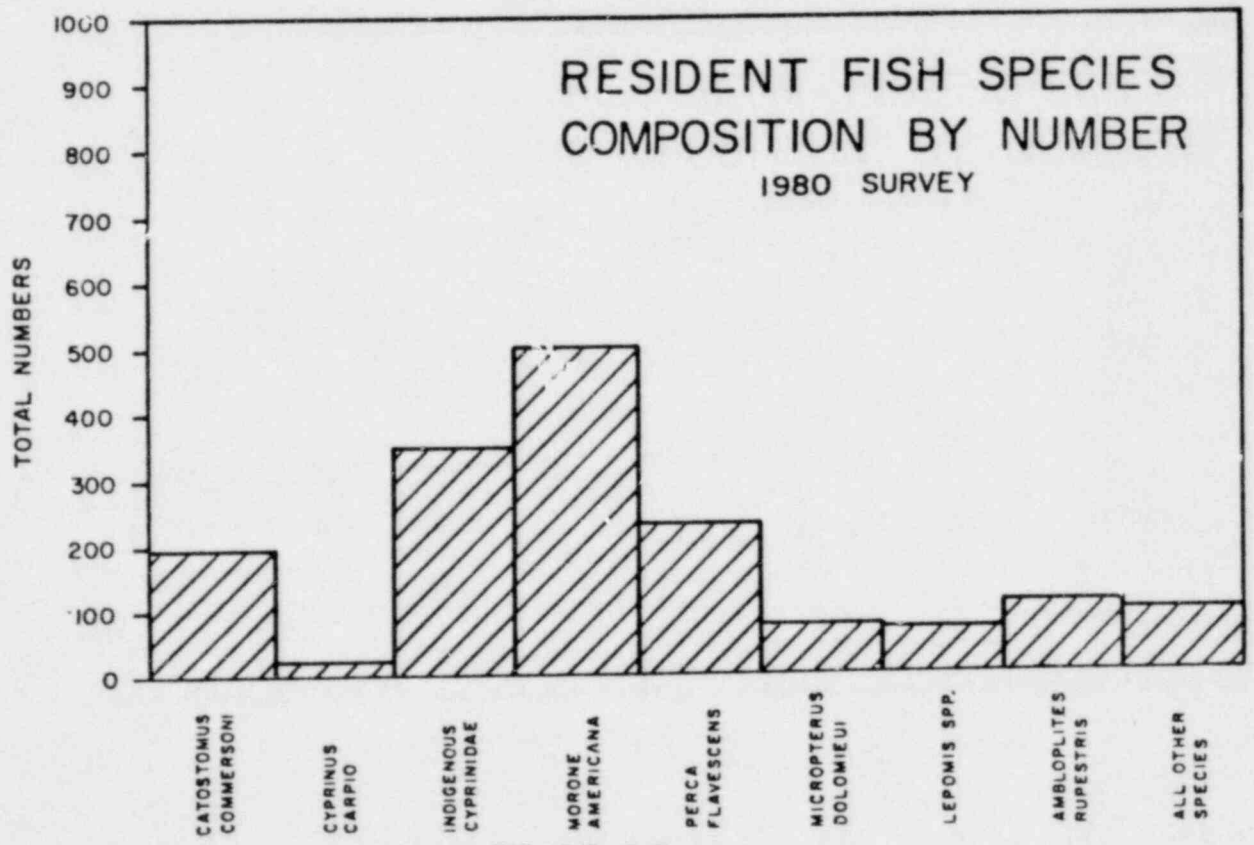


FIGURE 8.3

RESIDENT FISH SPECIES

PERCENTAGE COMPOSITION BY WEIGHT

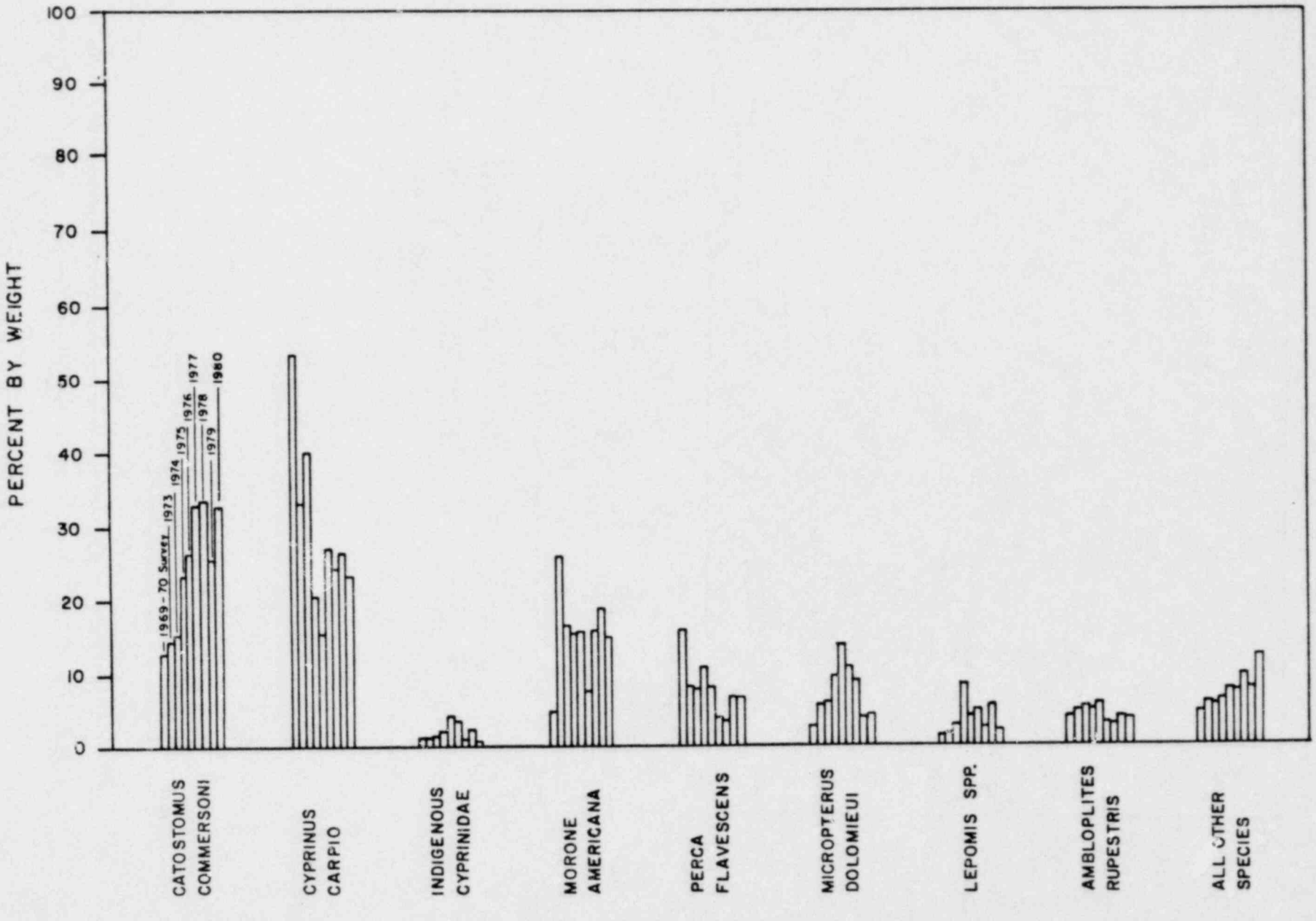
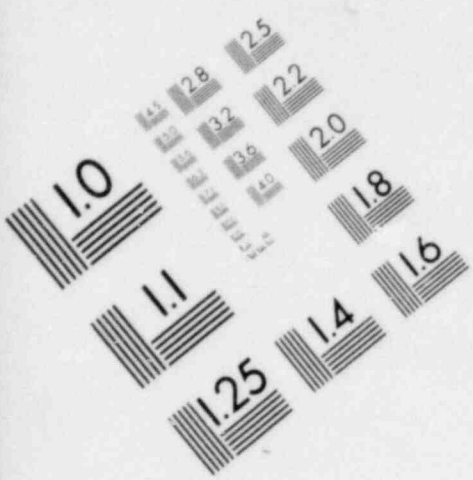


FIGURE 8.4



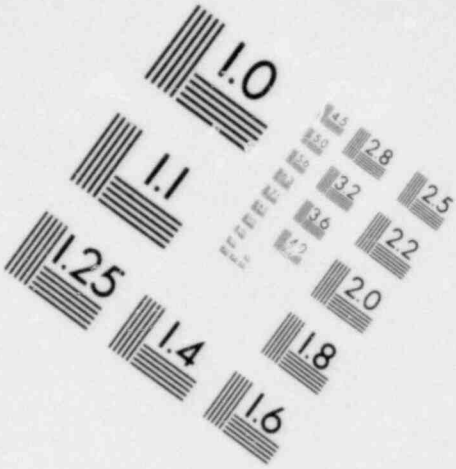
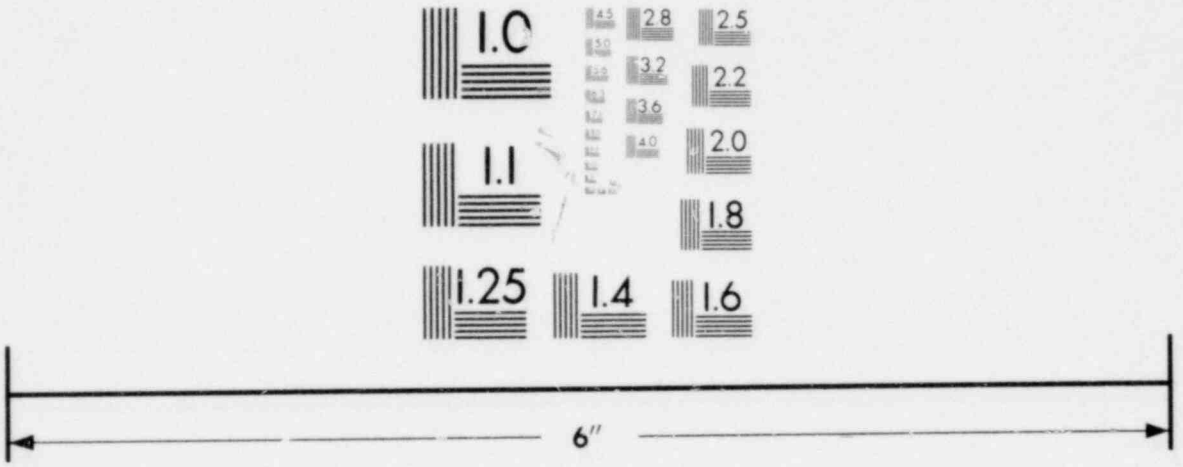
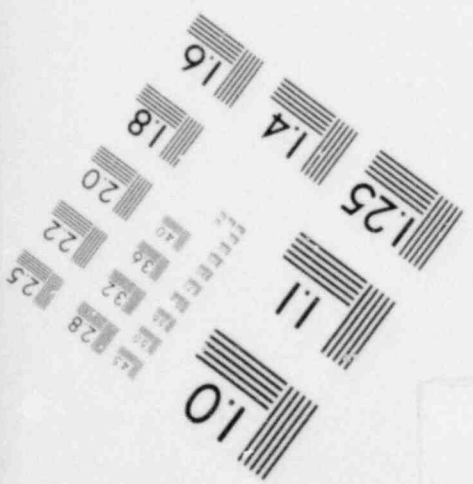
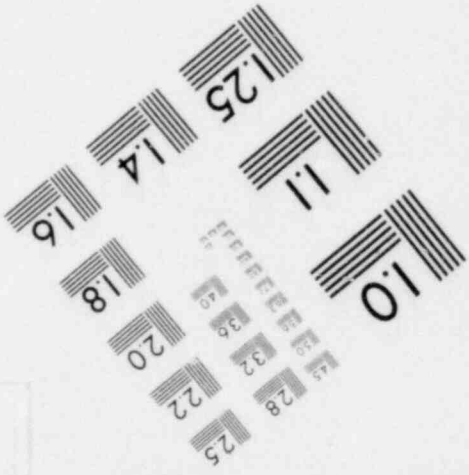
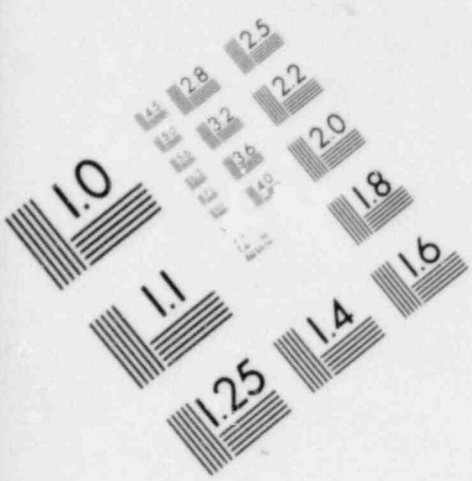


IMAGE EVALUATION TEST TARGET (MT-3)









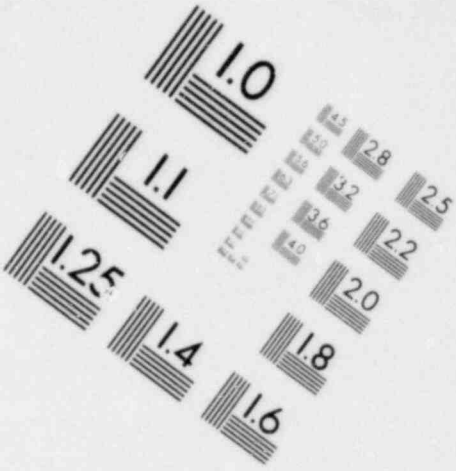
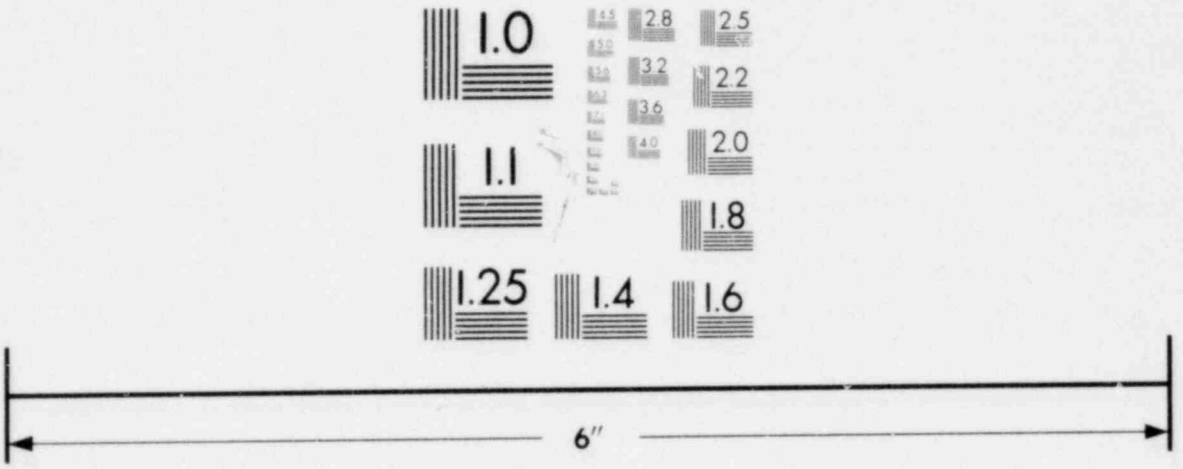
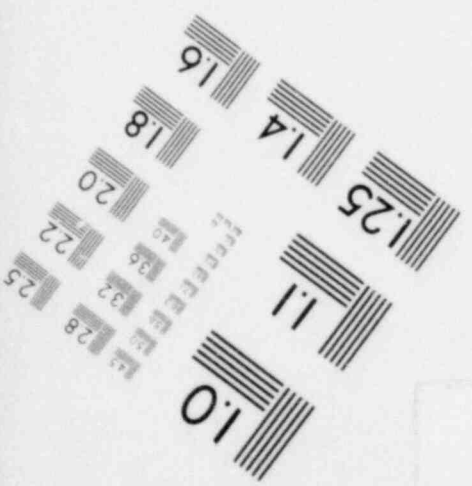
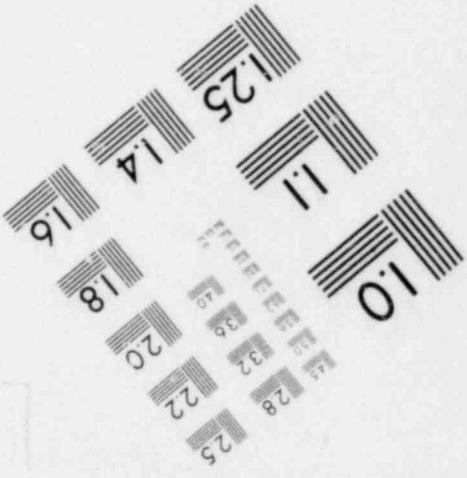


IMAGE EVALUATION
TEST TARGET (MT-3)







RESIDENT FISH SPECIES

PERCENTAGE COMPOSITION BY NUMBER

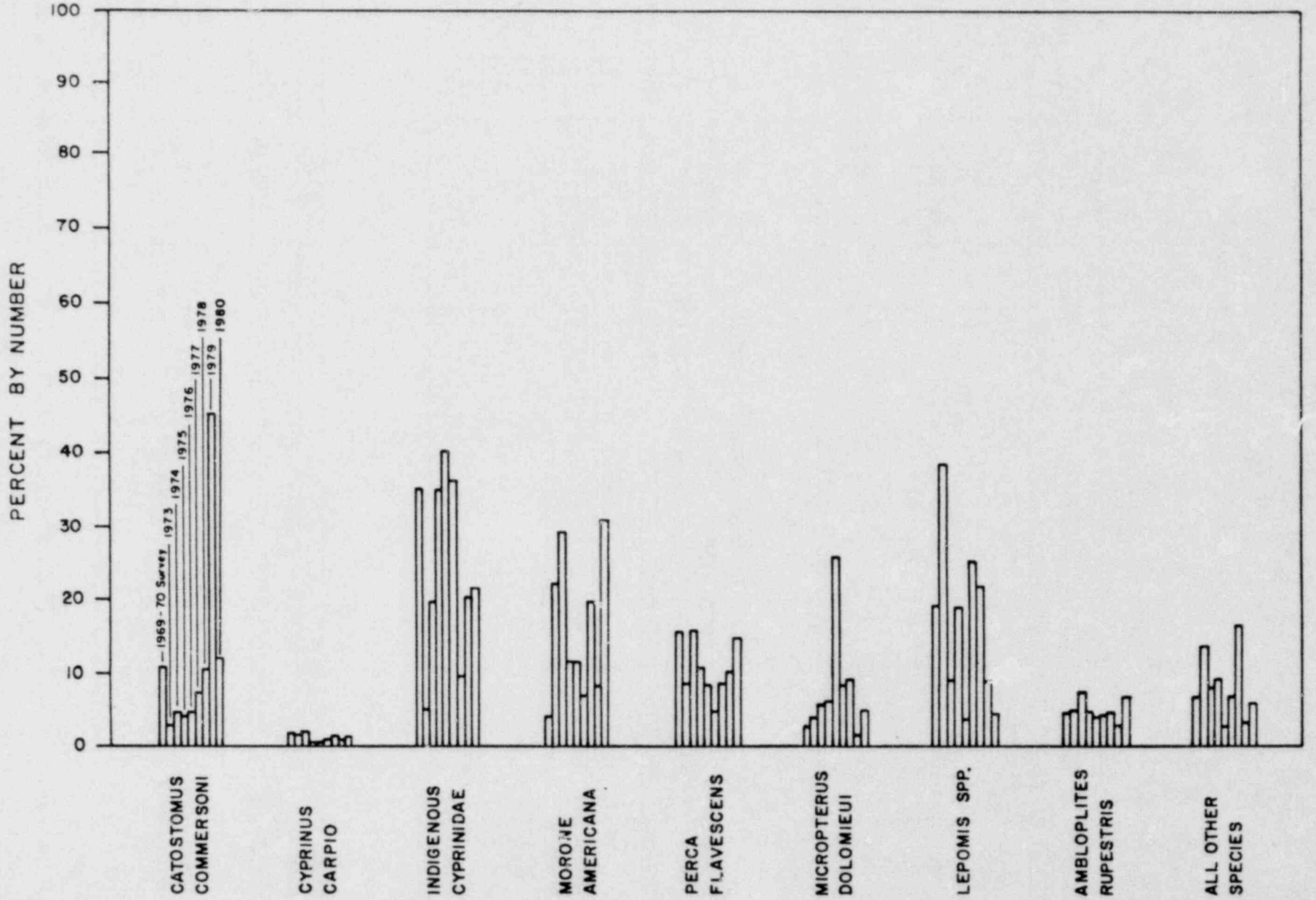


FIGURE 8.5

TABLE 8.8

AGE-GROWTH DATA - WHITE PERCH

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	47	91	62-130	31	91	64-106
1	8	178	169-194	44	180	125-225
2	94	202	155-245	54	211	157-245
3	253	231	175-276	68	226	160-273
4	112	244	204-303	47	234	195-260
5	18	267	239-311	62	250	210-281
6	5	284	270-308	23	260	237-308
7	0	-	-	3	254	242-270

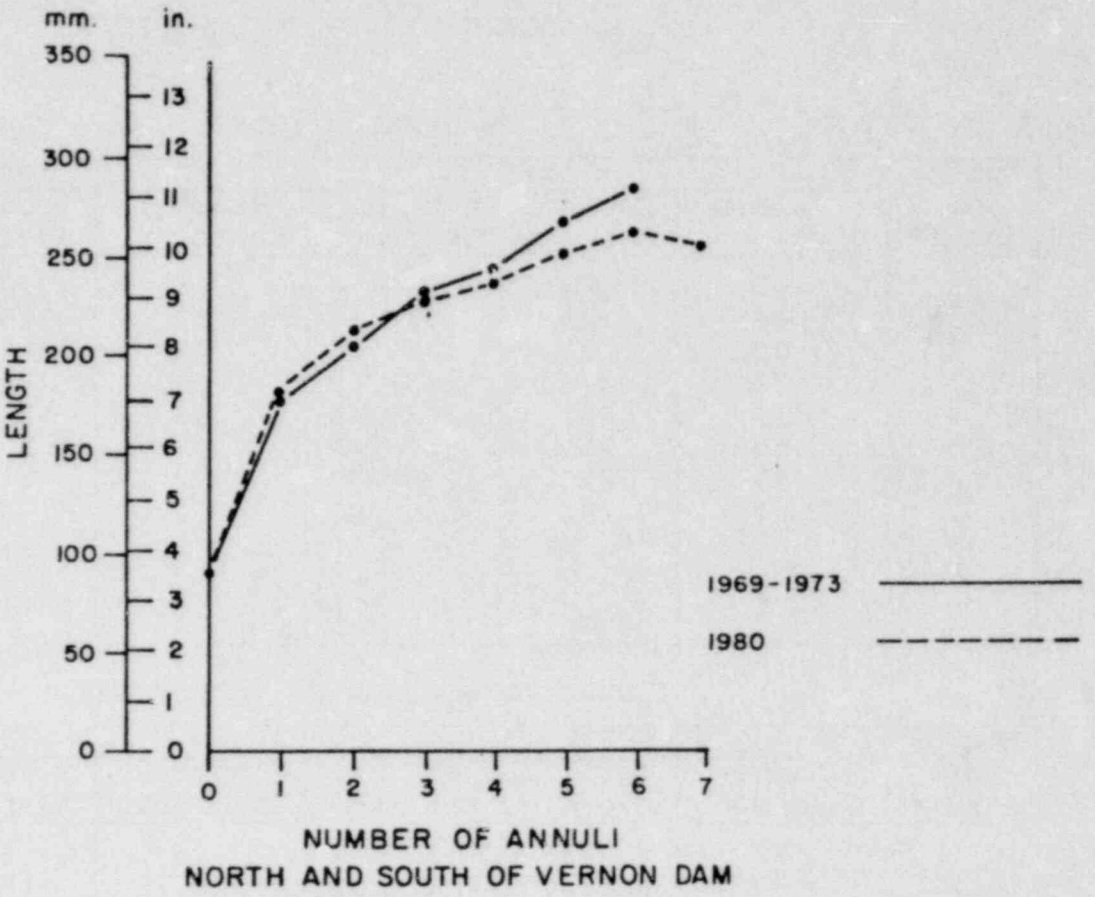
COLLECTIONS NORTH OF VERNON DAM

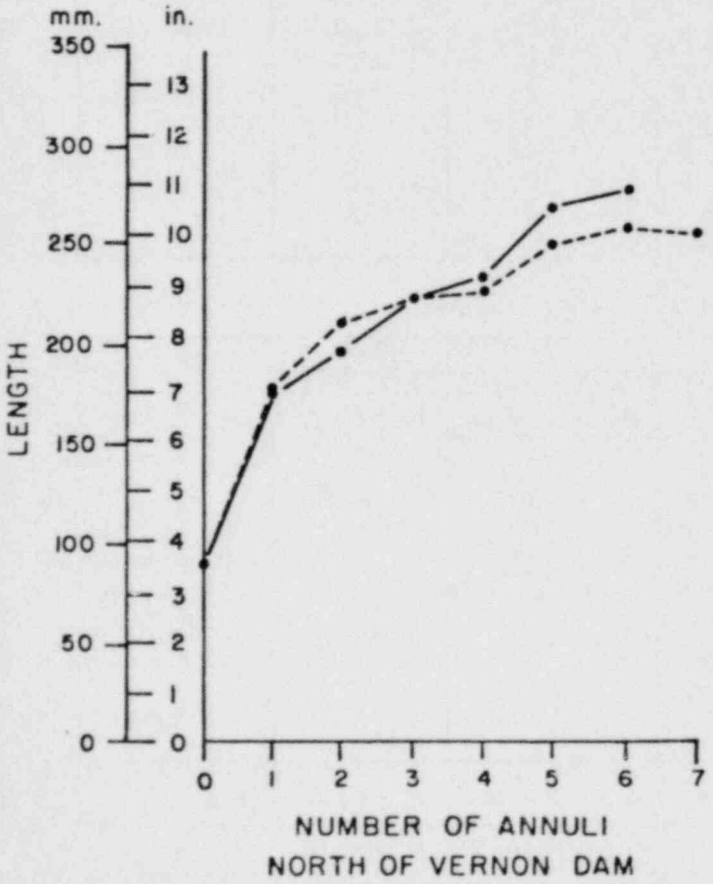
Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	43	90	62-130	30	91	64-106
1	7	176	169-180	42	178	125-210
2	64	198	155-235	51	211	157-245
3	118	224	175-276	60	224	160-260
4	48	239	204-285	45	234	195-260
5	12	269	247-311	56	250	214-281
6	4	278	270-296	21	258	237-285
7	0	-	-	3	254	242-270

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	4	92	68-110	1	96	-
1	1	194	-	2	213	201-225
2	30	210	178-245	3	220	208-242
3	135	235	186-270	8	242	205-273
4	64	247	213-303	2	248	242-253
5	6	263	239-285	6	255	210-280
6	1	308	-	2	281	254-308
7	0	-	-	0	-	-

AGE-GROWTH GRAPHS — WHITE PERCH





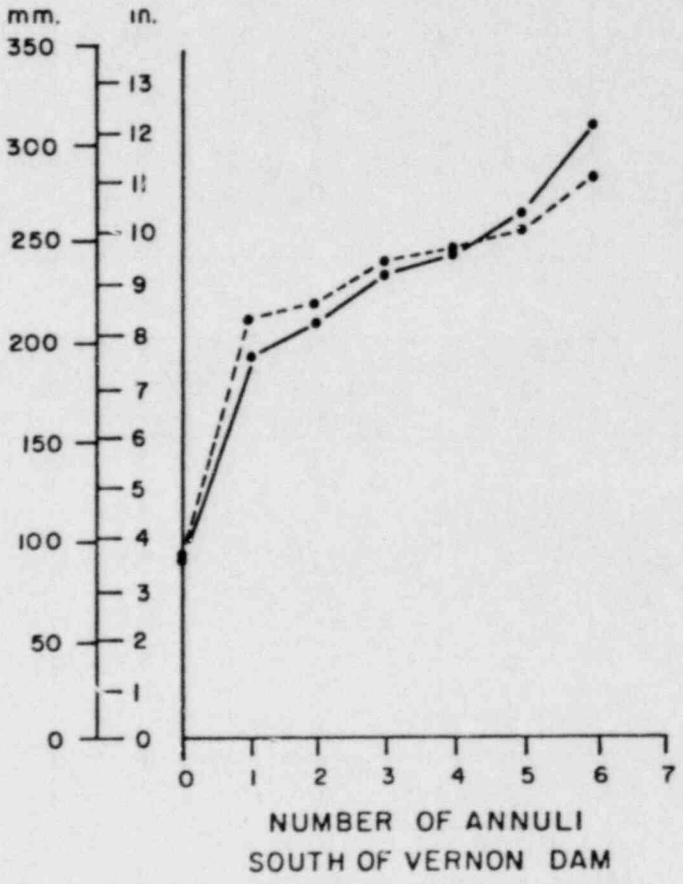


FIGURE 8.6

TABLE 8.9

AGE-GROWTH DATA - YELLOW PERCH

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	45	81	45-118	18	96	90-110
1	44	122	67-183	11	156	138-170
2	80	192	156-235	87	189	148-226
3	71	216	158-249	64	223	190-257
4	74	234	208-266	18	238	205-290
5	50	251	217-280	13	252	230-275
6	23	270	225-295	2	246	235-256
7	9	281	265-302	0	-	-
8	2	285	-	0	-	-
9	0	-	-	0	-	-
10	1	305	-	0	-	-

COLLECTIONS NORTH OF VERNON DAM

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	22	83	45-118	18	96	90-110
1	30	126	67-183	11	156	138-170
2	73	190	156-235	73	187	152-226
3	49	218	170-249	35	213	190-250
4	37	232	208-266	12	230	205-260
5	22	251	217-271	11	250	230-275
6	4	271	261-282	2	246	235-256
7	2	269	265-272	0	-	-
8	2	285	-	0	-	-
9	0	-	-	0	-	-
10	1	305	-	0	-	-

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	23	80	47-101	0	-	-
1	14	115	101-156	0	-	-
2	7	209	174-230	14	201	148-223
3	22	212	158-241	29	235	207-257
4	37	237	211-262	6	252	228-290
5	28	250	230-280	2	262	250-275
6	19	270	225-295	0	-	-
7	7	285	267-302	0	-	-
8	0	-	-	0	-	-
9	0	-	-	0	-	-
10	0	-	-	0	-	-

AGE-GROWTH GRAPHS — YELLOW PERCH

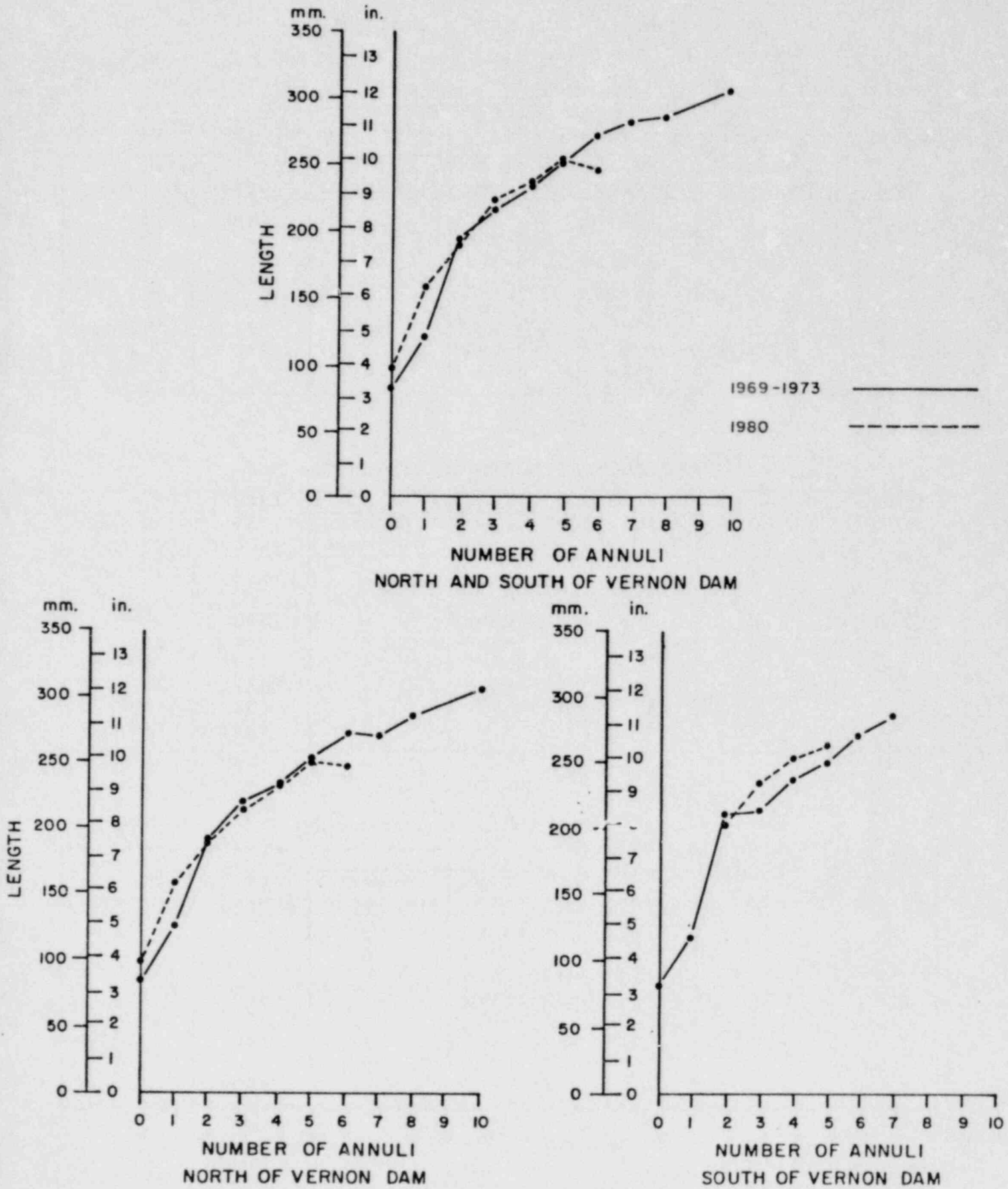


FIGURE 8.7

TABLE 8.10

AGE-GROWTH DATA - WALLEYE

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	4	158	129-180	1	185	-
1	8	216	163-275	0	-	-
2	16	306	246-362	1	335	-
3	28	343	242-392	8	369	337-395
4	29	368	321-407	12	406	335-452
5	15	377	303-425	17	421	352-480
6	6	436	390-480	5	438	400-470
7	3	484	425-527	4	467	425-512

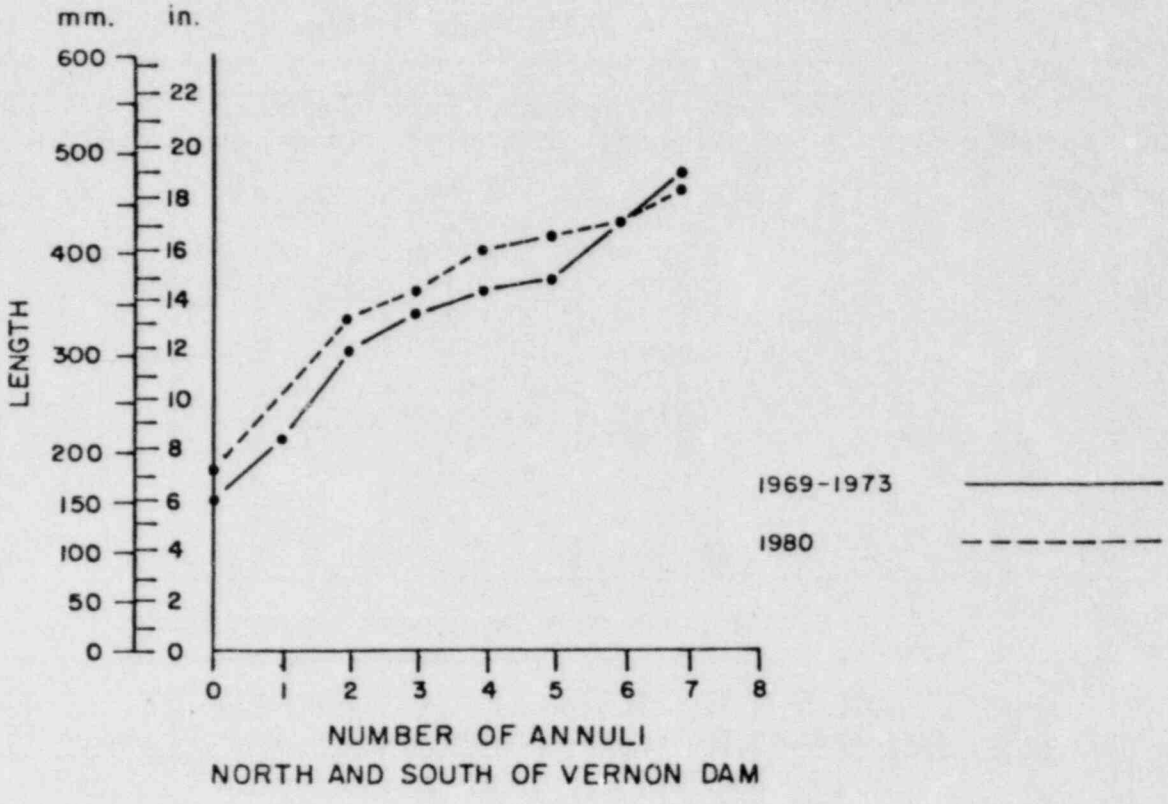
COLLECTIONS NORTH OF VERNON DAM

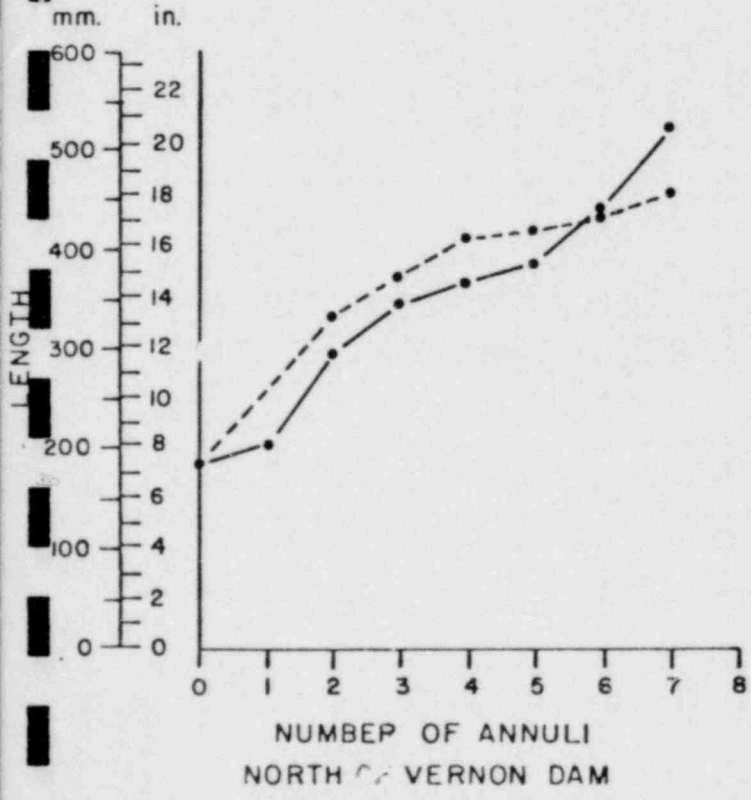
Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	1	186	-	1	185	-
1	5	205	163-260	0	-	-
2	12	299	246-362	1	335	-
3	16	346	291-392	7	374	337-395
4	18	370	321-407	10	415	380-452
5	11	388	364-425	16	422	352-480
6	5	446	409-480	5	438	400-470
7	1	527	-	3	459	425-512

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	3	149	129-180	0	-	-
1	3	234	176-275	0	-	-
2	4	326	303-337	0	-	-
3	12	338	242-380	1	340	-
4	11	367	331-402	2	360	335-385
5	4	347	303-383	1	400	-
6	1	390	-	0	-	-
7	2	463	425-501	1	490	-

AGE-GROWTH GRAPHS — WALLEYE





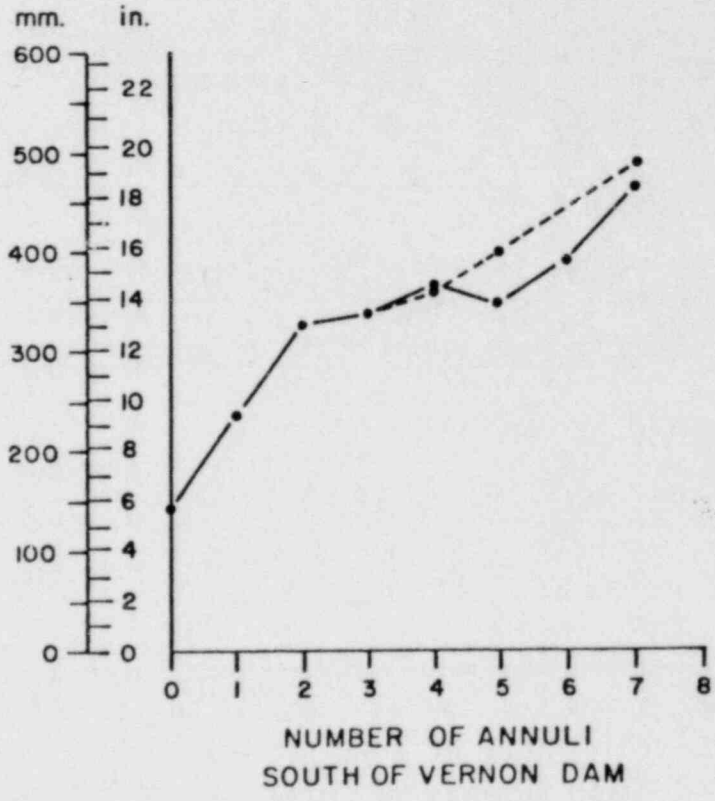


FIGURE 8.8

TABLE 8.11

AGE-GROWTH DATA - SMALLMOUTH BASS

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	16	68	45-102	6	82	70-95
1	25	164	108-213	14	153	94-194
2	31	206	161-255	14	195	150-218
3	59	239	197-293	12	253	212-290
4	50	275	220-315	9	270	200-310
5	36	305	262-350	7	326	278-360
6	16	346	305-376	0	-	-
7	4	370	343-406	2	374	372-375
8	1	357	-	0	-	-
9	2	412	398-425	2	461	432-490
10	0	-	-	0	-	-
11	1	411	-	0	-	-

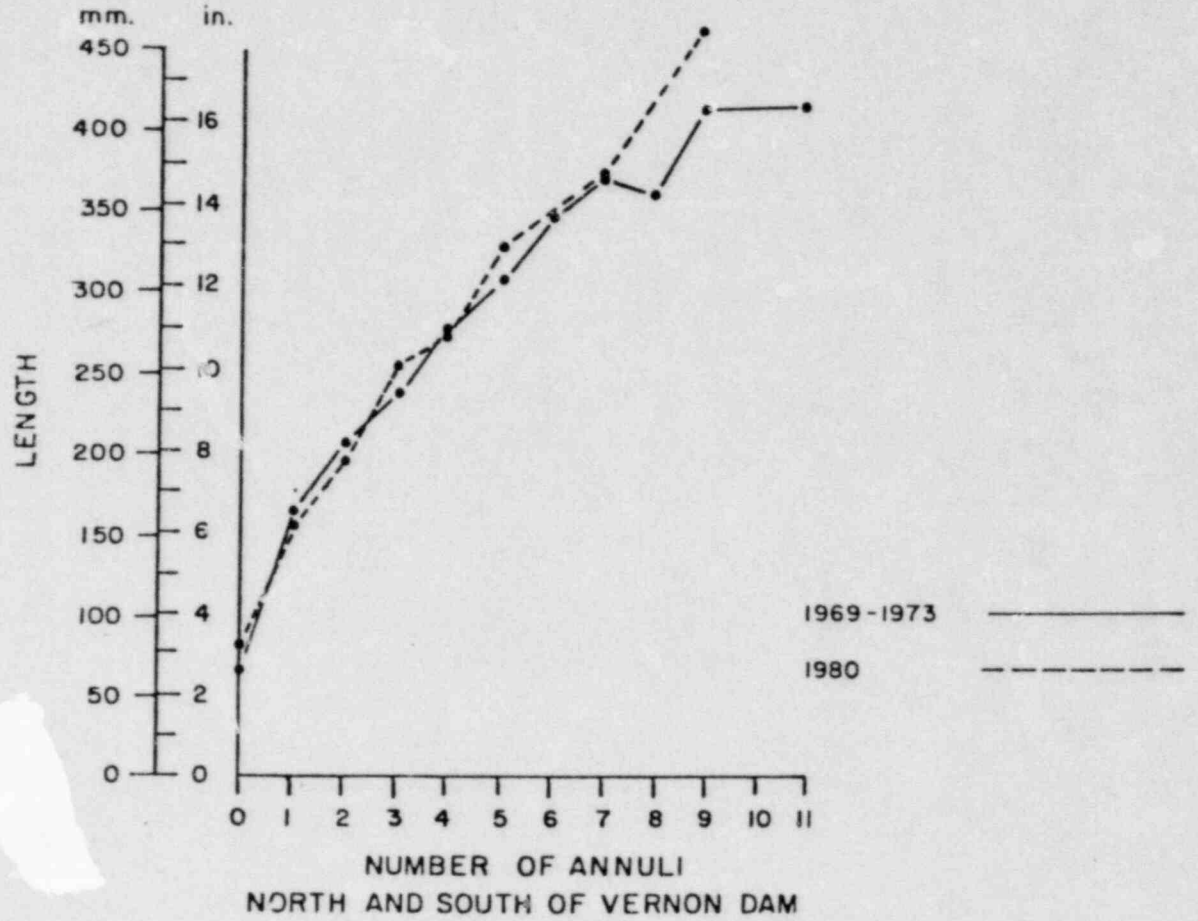
COLLECTIONS NORTH OF VERNON DAM

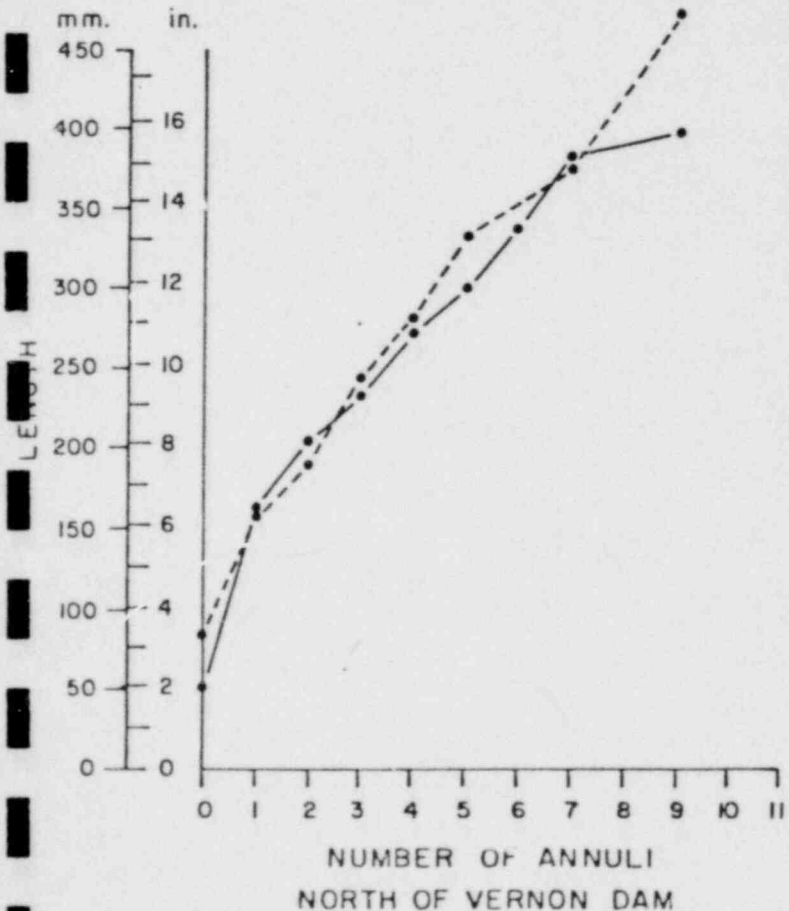
Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	5	50	45-57	2	85	-
1	21	161	108-213	5	156	145-188
2	29	205	161-255	9	190	150-218
3	44	235	197-293	3	246	220-290
4	23	272	220-315	6	281	200-310
5	23	300	262-339	3	335	315-360
6	12	339	305-362	0	-	-
7	2	386	365-406	2	374	372-375
8	0	-	-	0	-	-
9	1	398	-	2	475	460-490
10	0	-	-	0	-	-
11	0	-	-	0	-	-

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1980		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	11	76	51-102	4	81	70-95
1	4	173	150-207	9	151	94-194
2	2	225	211-238	5	204	195-212
3	15	252	232-274	9	256	212-290
4	27	279	245-305	3	248	240-260
5	13	312	290-350	4	320	278-360
6	4	346	352-376	0	-	-
7	2	354	343-364	0	-	-
8	1	357	-	0	-	-
9	1	425	-	1	432	-
10	0	-	-	0	-	-
11	1	411	-	0	-	-

AGE-GROWTH GRAPHS — SMALLMOUTH BASS





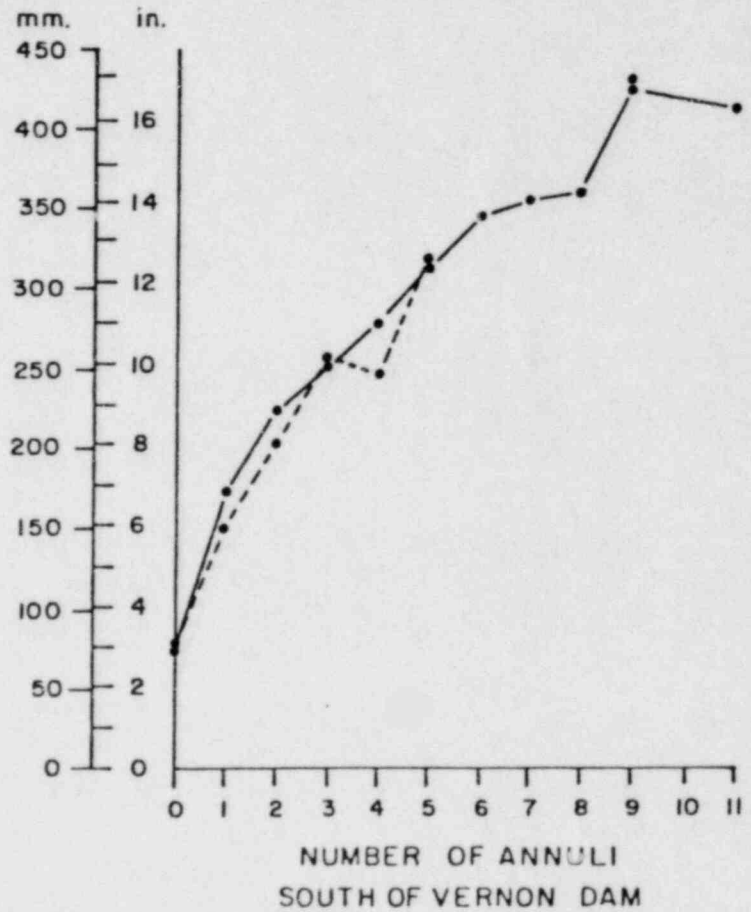


FIGURE 8.9

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