ECOLOGICAL STUDIES OF THE CONNECTICUT RIVER VERNON/VERMONT

REPORT IX

JANUARY 1979 – DECEMBER 1979

PREPARED FOR
VERMONT YANKEE NUCLEAR POWER CORPORATION
BY
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ECOLOGICAL STUDIES OF THE CONNECTICUT RIVER

REPORT IX

VERMONT YANKEE NUCLEAR POWER CORPORATION

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SECTION 1

INTRODUCTION AND SUMMARY

1. INTRODUCTION AND SUMMARY

Vermont Yankee Nuclear Power Corporation's generating station operated at an average capacity factor of 77.7% in 1979. Power production was interrupted for two weeks in March to replace some faulty fuel rods and six weeks in late September to early November for annual refueling. Power was generated during 7195 hours of the year (82.1%) on 307 days. The open cycle mode of condenser cooling was used during 177 days of operation; cooling towers were used in closed cycle cooling on 130 days of operation. The average power level during these 307 days of operation was 94.6%. Figure 1.1 is a graph of the plant's record of power production in 1979.

In 1978, Vermont Yankee's NPDES permit, issued by the Vermont State Agency of Environmental Conservation, the State of New Hampshire's discharge permit, and the Technical Specifications of Vermont Yankee's operating license were all amended to permit open cycle operation, with certain thermal limitations, in the period October 15 through May 15. Vermont Yankee operated in 1979 for the first full year under these amended conditions. This is the ninth report in a series (Webster-Martin 1971, Aquatec 1973, 1974, 1975, 1976, 1977a, 1978, 1979a) that have reported the environmental studies conducted under the conditions of Vermont Yankee's discharge permits and the non-radiological Technical Specifications.

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 1979 studies. The locations of these six in river miles north and south of Vernon Dam are shown below.

VERMONT YANKEE
POWER LEVEL HISTOGRAM
1979

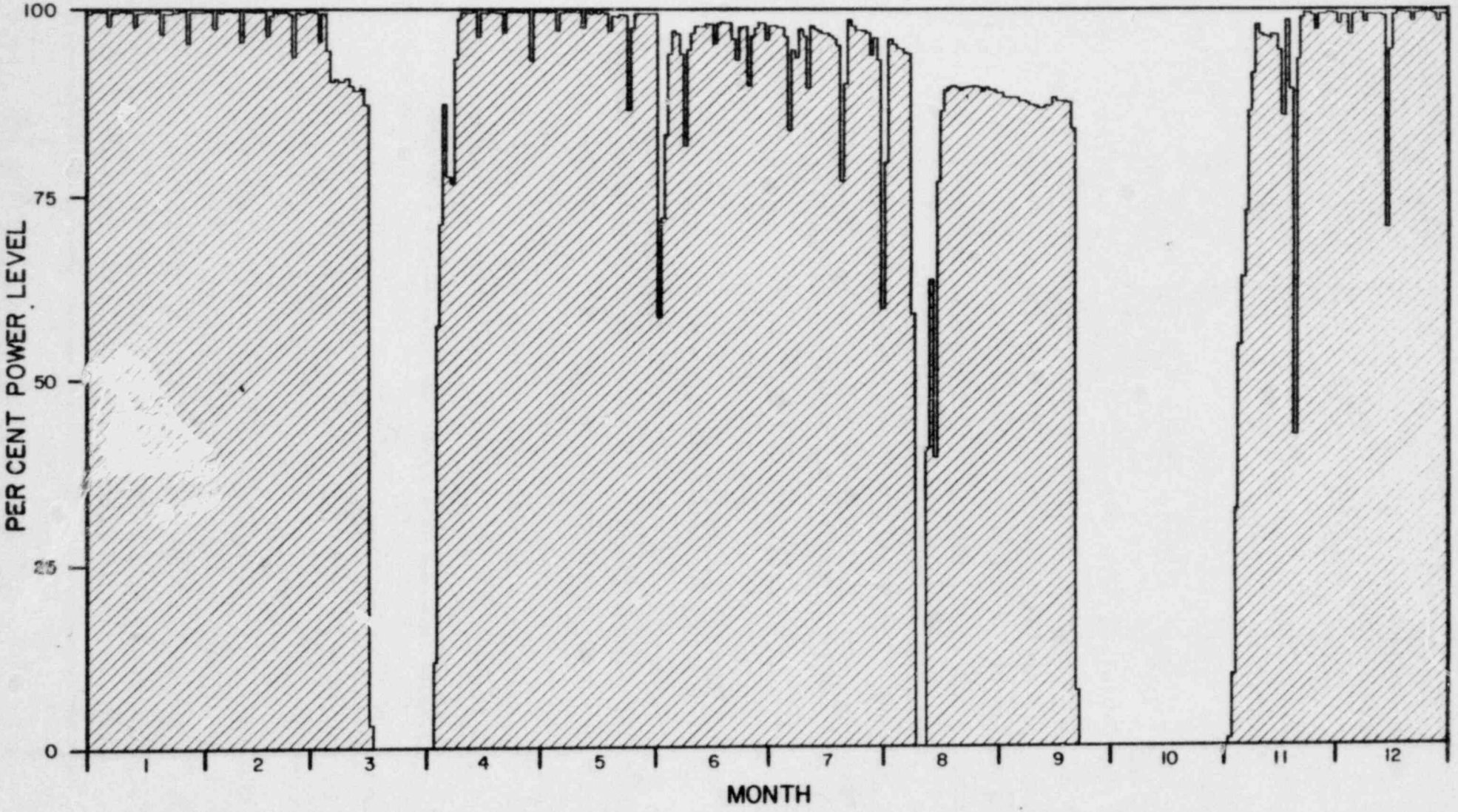


FIGURE 1.1

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

In 1979, the annual peak river flows of spring run-off occurred in March, earlier than is usually the case. Mean Connecticut River discharge in March was more than double the March mean discharge observed in the years 1965-1978. River flow rates diminished rapidly after the March maximum. Mean flow rates for all subsequent months of the year were below monthly averages of the period October 1964 through 1978.

The relatively low river flows of the last eight months of the year resulted in some monthly temperature records that exceeded those observed in earlier years of temperature monitoring. The May mean temperature at the upstream monitoring site was greater than the previous maximum in 1975. Because of this unusually rapid warming of the river, Vermont Yankee reverted to closed cycle cooling at 0145 on 13 May, two days before the date required by discharge permits and the operating license.

Record maximum hourly temperatures occurred both upstream and downstream of Vermont Yankee in August, at the downstream monitor location in January, and at Monitor 7, upstream, in December.

Vermont Yankee's operation in 1979 in the open cycle mode of condenser cooling was within the three thermal criteria imposed upon such operation. 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

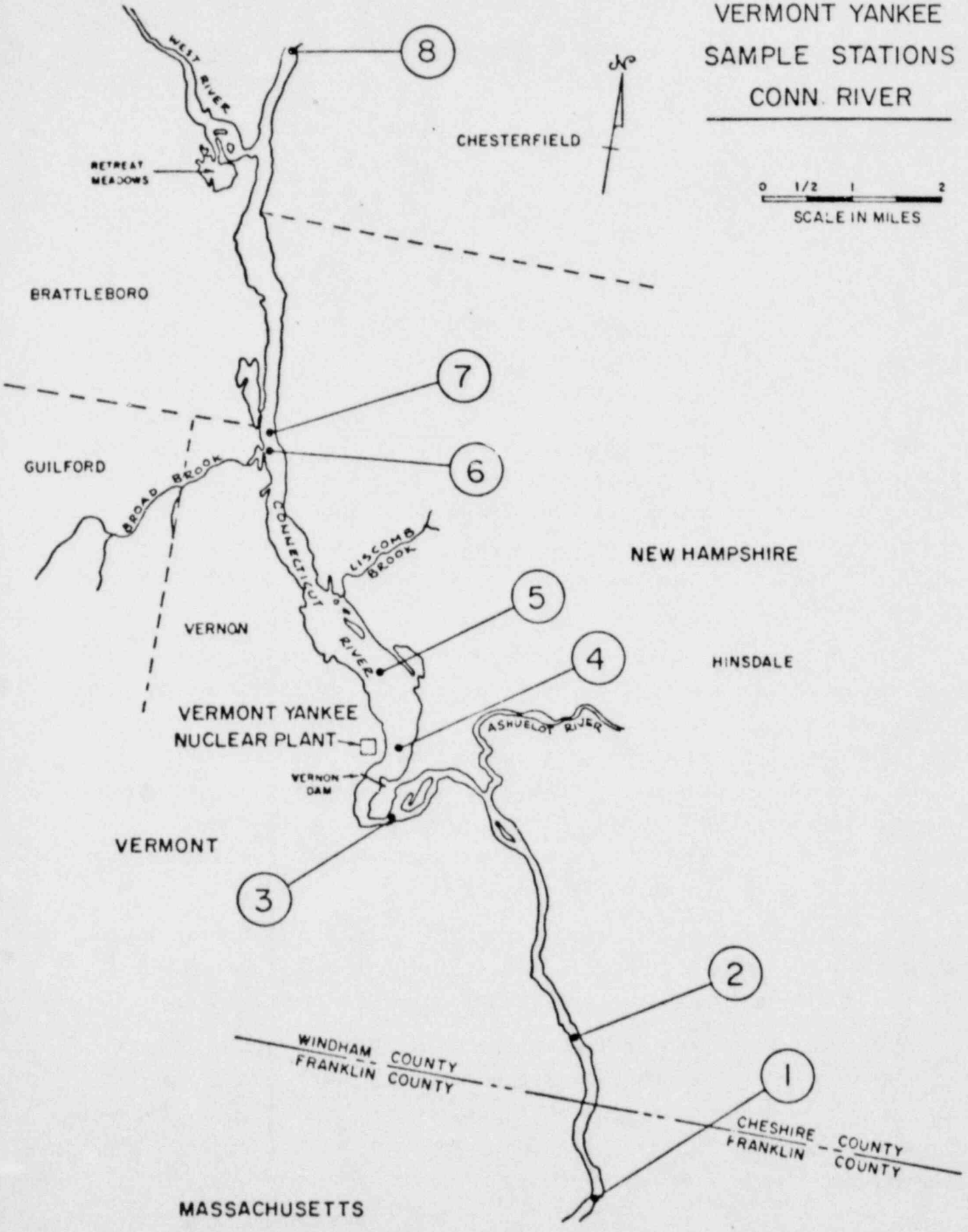

VERMONT YANKEE
SAMPLE STATIONS
CONN. RIVER
0 1/2 1 2
SCALE IN MILES
N
8
7
6
5
4
3
2
1
WEST RIVER
RETREAT MEADOWS
CHESTERFIELD
BRATTLEBORO
GUILFORD
BROAD BROOK
CONNECTICUT RIVER
LISCOMB BROOK
NEW HAMPSHIRE
VERNON
HINSDALE
VERMONT YANKEE
NUCLEAR PLANT
VERNON DAM
ASHUELOT RIVER
VERMONT
WINDHAM COUNTY
FRANKLIN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

FIGURE 1.2

operation was 63.0°F on May 12. The maximum allowable rate of temperature change between successive hourly average temperatures at Monitor 3 is 5°F per hour; the maximum observed was 2.7°F per hour in February and December. 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 10.2°F on January 1.

Some new record monthly maximum, mean, or minimum values for dissolved oxygen, conductivity, turbidity, and pH were observed also in 1979, but all exceeded those previously observed by small absolute amounts.

Grab samples, collected once each quarter in 1979 at the two monitor stations and from Vermont Yankee's cooling water discharge, were analyzed for sixteen water quality parameters. The concentrations of all parameters were found to be within previously observed ranges except two. The chloride ion concentrations at Station 3 in February and at both river locations in August were higher than in prior years of study. The total phosphate ion concentration in the May sample at Monitor 3, downstream of Vermont Yankee, was much higher than had been found in river samples since studies were begun in 1967. High solids concentrations and turbidity, relative to either the plant discharge or the Monitor 7 samples, were found also. The high concentrations of these parameters were undoubtedly caused by the work on construction of a fish ladder at Vernon Dam that was begun in early May.

Biological Studies

Diatoms were again predominant, as in all prior years of study, in the phytoplankton samples of 1979. Also, as in former years, the more commonly observed species of diatoms were Asterionella formosa, Fragilaria spp., Melosira italica, and Tabellaria fenestrata; of flagellates were Dinobryon spp.; of green algae were Pediastrum spp.; and of blue-greens were Oscillatoria spp. Small numbers of three species that had not been found in earlier Vermont Yankee studies were observed in 1979.

Concentrations of phytoplankters in the late summer and early fall samples at both the upstream and downstream monitor stations were low relative to mean counts observed in the years 1970-1974. At the downstream station, Monitor 3, phytoplankton counts were above the 1970-1974 means of January through April, June, July and December. For all these months, though, the counts were within two standard deviations of those means. The July count at Monitor 3 was greater, however, than that predicted by application of a statistical analysis of 1970-1974 data to the July upstream count.

One downstream zooplankton concentration observed in 1979 was also greater than that predicted by a statistical analysis of 1970-1974 zooplankton monitor data. This was the Monitor 3 zooplankton count of the March sample, collected during Vermont Yankee's shutdown for replacement of faulty fuel. Higher counts than the means of 1970-1974 were also found in May at Monitor 7, in February at Monitor 3, and at both stations in March and October. Zooplankton concentrations in summer months were low relative to former years.

Rotifers constituted at least fifty percent of the majority of the zooplankton samples collected in 1979. Those most commonly observed were Polyarthra sp., Synchaeta sp., Keratella cochlearis, and Philodina sp. Protozoa, particularly Vorticella sp., were present commonly in the samples of winter and fall months. Copepods were present in samples of all months of the year.

Seventy-one genera of macroinvertebrates were found in the thirty-eight benthic fauna samples collected in 1979, twenty-eight collected by Ekman dredge and ten by Henson trap. The number of genera found in Ekman dredge collections at three of the four sample stations used was greater than in earlier years when a similar number of samples had been collected there. Caddis fly and chironomid larvae were predominant in most of the spring and summer samples; planarians were the more commonly observed organisms in some fall samples. These three forms have been observed to constitute the major portion of samples in past years.

All fish impinged during open cycle operation in 1979 on Vermont Yankee's traveling screens at the intake structure were collected, identified, weighed, and measured. Over 50% of the fish impinged in 1979 were of three species – pumpkinseed, spottail shiner, and rock bass. No species were impinged that had not been observed in earlier Vermont Yankee studies. The daily mean numbers and weight of fish impinged in each month of open cycle operation in 1979 were all within two standard deviations of the daily means observed for those months in the five phases of special open cycle testing in 1974-1978.

In 1979, 2461 fish were taken in 66 collections made by trap net, gill net, and seine haul. Seventeen fish species were collected, of which sixteen were found in collections north of Vernon Dam and twelve were found in samples taken south of the dam.

The collection of over a thousand juvenile white suckers in seine hauls in 1979 increased the percentage by number of this species in the 1979 catch to a much larger percent than had been observed in surveys of prior years. A concomitant decrease in number percentages of other species resulted in record lows for smallmouth bass and rock bass. However, all species compositions by weight in the 1979 collections were within percentage ranges of earlier surveys.

The age-growth data of 1979 for yellow perch, white perch, and smallmouth bass show rates of growth for these species similar to those observed in 1969-1973, before Vermont Yankee began operation. For walleye, however, the 1979 data indicate, as did the data of 1977 and 1978, an enhanced growth rate relative to the 1969-1973 data. But this indication is tenuous, for the sample size in 1979 was small, as it also was in 1977 and 1978.

In conclusion, the 1979 studies have not developed any evidence that Vermont Yankee's discharge of heated condenser cooling water into the Connecticut River has effected any adverse impacts on either the water quality or the aquatic biota of the river.

SECTION 2

CONNECTICUT RIVER DISCHARGE

2. CONNECTICUT RIVER DISCHARGE

Connecticut River discharge in 1979 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.

Annual maximum discharge at Vernon usually occurs in April. In 1979, however, maximum spring run-off flow rates occurred in March. Mean discharge in that month was 33,590 cfs, more than two times the March mean observed in the years 1965-1978. The maximum daily mean discharge in 1979 was 69,060 cfs on 26 March; the maximum hourly discharge of 70,840 cfs occurred on 25 and 26 March.

River flow rates decreased rapidly after the peak flows of March. Mean discharges for all months after March were smaller than the monthly means for the period October 1964 through 1978 – the period for which river flow data have been given in previous reports of this series. In July and August, the mean flow rates of 1979 were 52% and 48% smaller than the means for those months in 1965-1978. The only month, other than March, in which the 1979 mean flow was greater than the mean of 1965-1978 was January.

The extremes of monthly flow rates observed in 1979 were not as great as have been observed in the years 1964-1978. The maximum daily average flow of each month of 1979 was smaller than a previously observed maximum for that month, and the minimum daily average flow was larger than a minimum observed previously in 1964-1978.

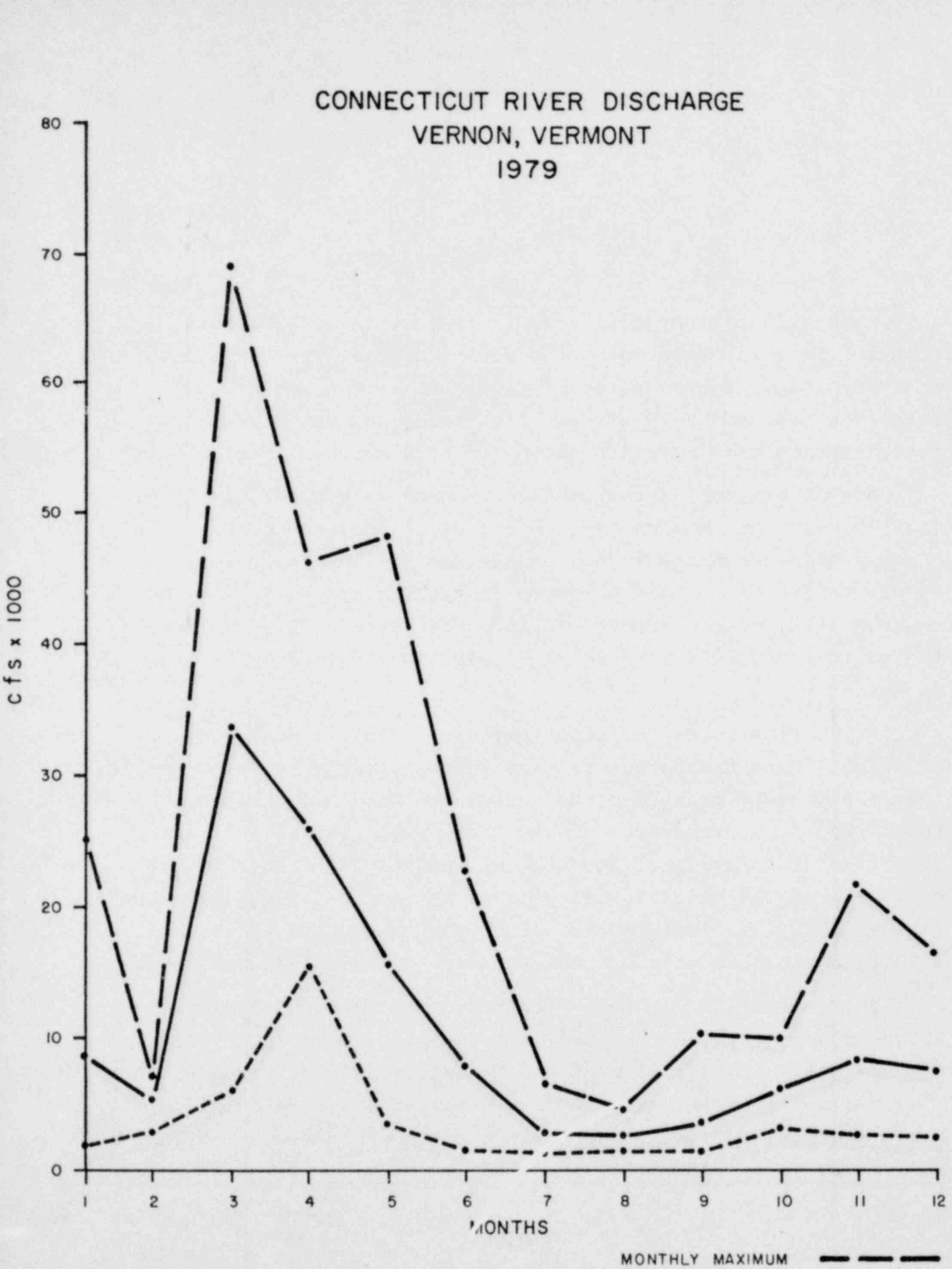

CONNECTICUT RIVER DISCHARGE
VERNON, VERMONT
1979
80
70
60
50
40
30
20
10
0
cfs x 1000
1
2
3
4
5
6
7
8
9
10
11
12
MONTHS
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 2.1

When river flow rates are less than 10,000 cfs the Vernon Hydroeletric Station is operated as a peak load facility. Often at such times, only one hydroeletric unit is utilized during off-peak hours. Operation of this one unit meets a condition of the operating licenses of the Vernon Station and of Vermont Yankee – that a sustained minimum discharge of at least 1200 cfs be provided.

Periods of minimum flow occurred in all months of 1979 except April and on all days of the months February, July, and August. On 80 days of the first six months of the year, 85 periods of minimum flow occurred in a total of 788 hours, 18.1% of the time. The duration of the minimum flow periods in these months ranged between 1 hour and 34 hours; the mean duration was 9.3 hours.

In the latter half of 1979, minimum flows were recorded during 2061 hours, 46.7% of the time, of 155 days. Minimum flow periods occurred 167 times with durations ranging from 1 to 65 hours about a mean of 12.3 hours.

SECTION 3

RIVER TEMPERATURE

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 1979, 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.

Monthly mean temperatures observed in 1979 at the downstream location, Station 3, were all within the extremes that had been previously recorded since monitoring began there in 1968. At the upstream location, Station 7, the mean May temperature, 57.5°F, was higher than any mean observed in that month since temperature data collection began there in 1970. The previous high for May at Station 7 was 57.2°F in 1975.

Record maximum hourly temperatures were observed at both sample stations. At Station 3, the January maximum of 42.2°F was greater than the previous January maximum of 41.7°F observed in 1977 and the August maximum of 84.9°F exceeded the previous August high of 81.5°F in 1973. The August maximum at Station 7, 81.7°F, was also higher than the previously observed August maximum there —79.7°F in 1975. A new high, 41.7°F, occurred also in December at Station 7. The previous December Station 7 high was 41.0°F in 1975.

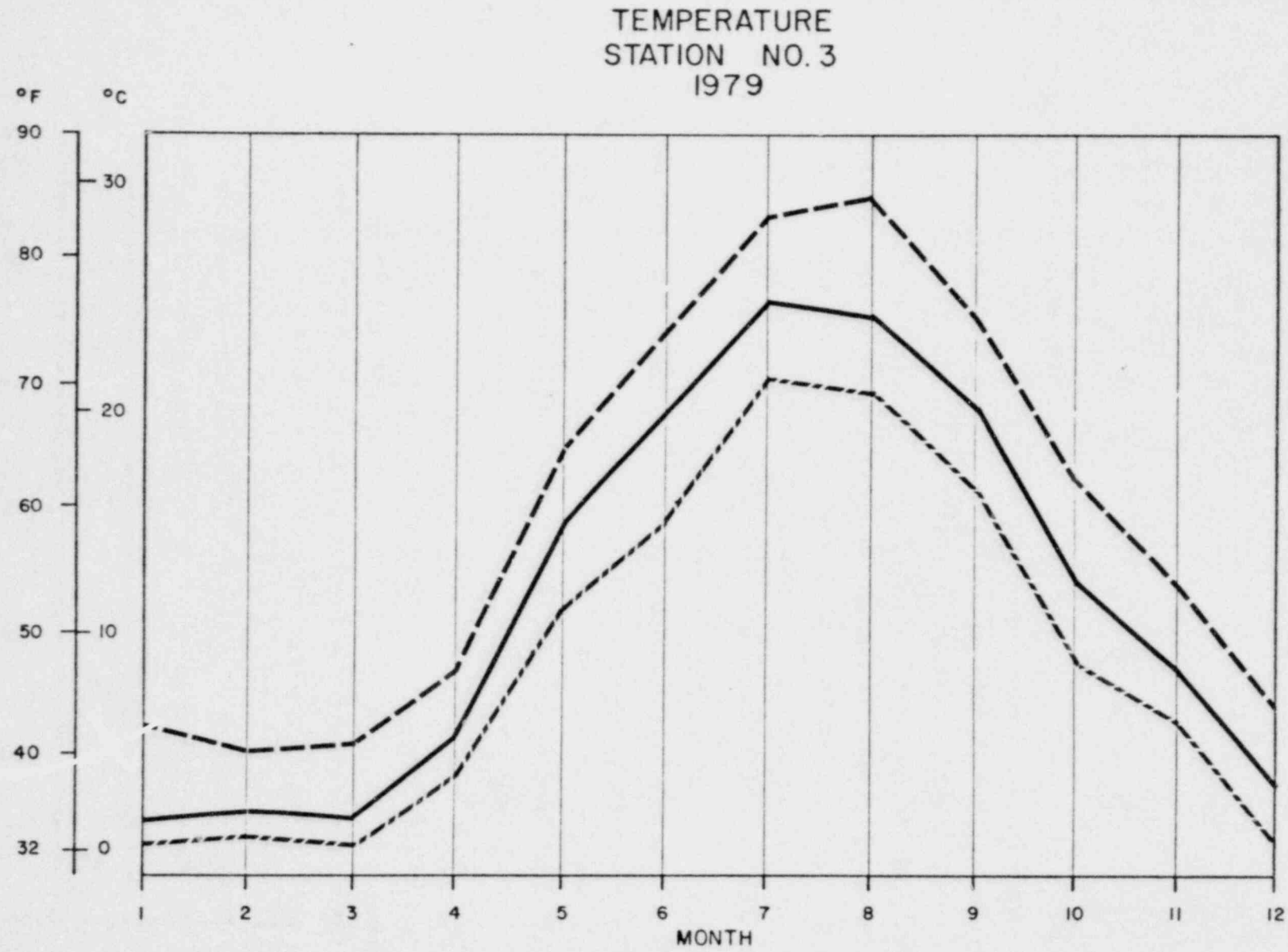

TEMPERATURE
STATION NO. 3
1979
°F
°C
90
80
70
60
50
40
32
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
MONTH
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 3.1

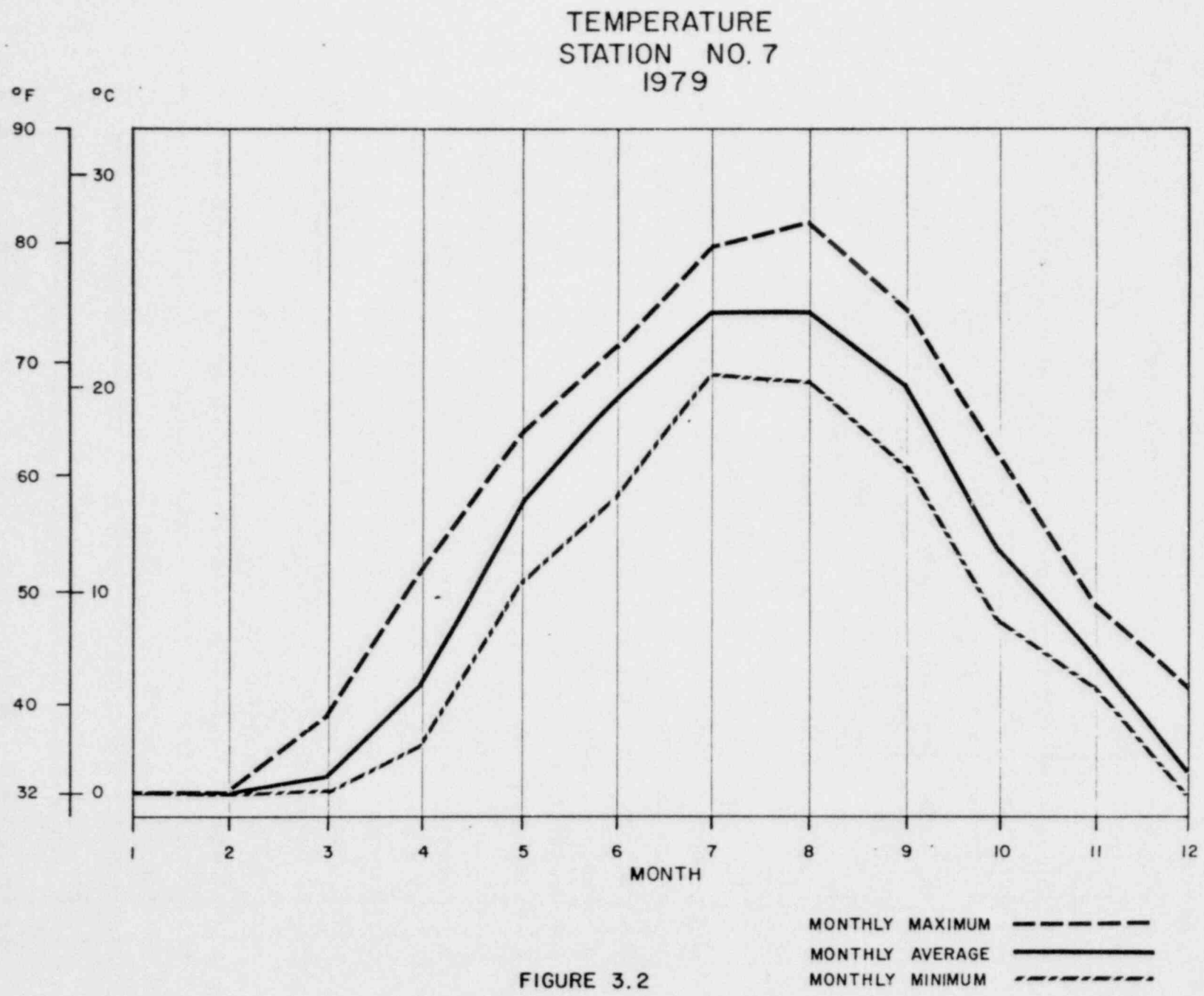

TEMPERATURE
STATION NO. 7
1979
°F
°C
90
80
70
60
50
40
32
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
MONTH
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 3.2

In 1979, Vermont Yankee operated in the open cycle mode of condenser cooling in the periods January 1 through May 13 and November 2 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 amended NPDES permit and the amended 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 operation 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 showed that these thermal limitations were not exceeded during open cycle operation in 1979. The maximum hourly average temperature observed at Monitor 3 was 63.0°F on May 12. The maximum rate of change of temperature at Monitor 3, the difference between successive hourly average temperatures there, was 2.7°F/hour. A -2.7°F/hour was recorded in February; a +2.7°F/hour in December. 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. The modal, median, and mean rate of temperature change during open cycle operation in 1979 was 0.0°F.

The hourly mean Monitor 3 temperatures (Table 3.1) minus the corresponding Monitor 7 temperatures (Table 3.2) are shown for the months of 1979 open cycle operation in Table 3.5. These data are reduced to a frequency distribution of the temperature differences, for the dates of open cycle operation, in Table 3.6. The greatest difference observed during 1979 open cycle operation was +10.2°F on January 1 from 1700 through 2000. The modal and median range of differences during open cycle operation was +1.6

TABLE 3.4

FREQUENCY DISTRIBUTION OF
RATE OF CHANGE OF TEMPERATURE
AT MONITOR 3 DURING
OPEN CYCLE OPERATION
1979

Rate of Temperature Change °F/hr	JAN	FEB	1-17 MAR	3-30 APR	1-13 MAY	2-30 NOV	DEC	TOTALS
-2.7		1						1
-2.6		2						2
-2.5	1	3					1	5
-2.4								
-2.3		3						3
-2.2	2	4				1		7
-2.1	2	2				1		5
-2.0								
-1.9	2	2				2	1	7
-1.8	1	3					2	6
-1.7	1	5	1					7
-1.6	4	1						5
-1.5	5	3	1			1	1	11
-1.4	2	3	1				1	7
-1.3	3	1	1			1	3	9
-1.2	3	8	2			1	2	16
-1.1	5	7	2			1	3	18
-1.0	8	2	1			2	3	16
-0.9	5	7	1	1		4	4	22
-0.8	7	6				5	5	23
-0.7	7	8	1			10	6	32
-0.6	5	13	1		1	3	7	30
-0.5	7	9	1	1		7	7	32
-0.4	12	15	6	1	2	17	30	83
-0.3	18	21	5	7	1	16	35	103
-0.2	32	60	5	17	17	61	87	279
-0.1	101	104	87	97	63	153	150	755
0.0	275	105	199	210	95	155	182	1221
+0.1	87	41	55	134	69	80	83	549
+0.2	30	33	14	31	26	45	24	203
+0.3	22	24	3	11	14	25	22	121
+0.4	20	31	7	4	3	26	20	111
+0.5	16	48	2	1	2	17	10	96
+0.6	19	27	5		1	9	12	73
+0.7	9	12	1			8	9	39
+0.8	8	13	1			1	5	28
+0.9	5	13				2	6	26
+1.0		7				2	2	11
+1.1		3	1			2	7	13
+1.2	4	2				1	1	8
+1.3	5	2					3	10
+1.4	1	2					1	4
+1.5	2	2				3	2	9
+1.6	1	5	1				2	9
+1.7		3	1				1	5
+1.8	2	1				1	3	7
+1.9	1	1						2
+2.0	2							2
+2.1	1	3	1					5
+2.2			1					1
+2.3		1						1
+2.4	1							1
+2.5								
+2.6								
+2.7							1	1

– +2.0°F and the mean difference was in the +2.1 – +2.5°F range.

The mitigatory effect of high river flows on the impact of Vermont Yankee's discharge on Connecticut River temperature is evident in the statistics of both frequency distribution tables. The ranges of rate of temperature change (Table 3.4) and of the ΔT effected in the river (Table 3.6) by Vermont Yankee's discharge are much smaller during the months of spring run-off than in the months of lower river flows.

TABLE 3.6

FREQUENCY DISTRIBUTION OF DIFFERENCES
IN HOURLY MEAN TEMPERATURES
BETWEEN MONITOR 3 AND MONITOR 7
DURING OPEN CYCLE OPERATION
1979

Hourly Mean ΔT(°F)	JAN	FEB	1-17 MAR	3-30 APR	1-13 MAY	2-20 NOV	DEC	TOTALS
-0.5 – -0.1						7		7
0.0						2		2
+0.1 – +0.5			156	10	13	18	1	198
+0.6 – +1.0	57		120	65	111	44	39	436
+1.1 – +1.5	124	29	4	141	110	73	87	568
+1.6 – +2.0	229	177	58	219	50	156	108	997
+2.1 – +2.5	126	140	24	71	11	107	129	608
+2.6 – +3.0	33	79	19	9		78	139	357
+3.1 – +3.5	36	62	8			56	75	237
+3.6 – +4.0	24	52	4			28	47	155
+4.1 – +4.5	23	35	5			23	32	118
+4.6 – +5.0	19	30	3			17	19	88
+5.1 – +5.5	13	20	2			15	15	65
+5.6 – +6.0	11	20	4			12	11	58
+6.1 – +6.5	6	17	1			13	10	47
+6.6 – +7.0	8	6				6	13	33
+7.1 – +7.5	2	3				1	10	16
+7.6 – +8.0		2				4	3	9
+8.1 – +8.5	5					3	3	11
+8.6 – +9.0	5						3	8
+9.1 – +9.5	11							11
+9.6 – +10.0	7							7
+10.1 – +10.5	5							5

TABLE 3.1-1

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JANUARY 1979

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	41.2	41.2	41.3	41.5	41.6	41.7	41.6	41.6	41.5	41.5	41.5	41.4	41.5	41.7	41.9	42.1	42.2	42.2	42.2	42.2	41.9	41.5	41.2	40.8	41.6
2	40.7	40.7	40.5	40.2	40.3	40.4	40.6	40.8	40.4	39.3	37.2	35.6	34.6	34.2	34.0	33.9	33.8	33.6	33.4	33.2	33.1	33.0	32.9	32.8	36.6
3	32.8	32.8	32.8	32.8	32.7	32.6	32.9	32.6	32.6	32.6	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.6	32.6	32.6	32.6	32.7
4	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.7	32.8	32.8	32.9	33.0	33.0	33.1	33.1	33.1	32.9	32.9	32.9	32.9	32.9	32.9	32.8
5	32.9	32.9	32.9	32.9	32.9	32.9	32.9	33.0	33.0	33.1	33.2	33.3	33.3	33.4	33.4	33.4	33.4	33.3	33.2	33.2	33.2	33.2	33.2	33.2	33.1
6	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.3	33.4	33.5	33.5	33.5	33.5	33.4	33.4	33.3	33.2	33.2	33.2	33.2	33.2	33.3
7	33.2	33.2	33.3	33.3	33.3	33.1	33.3	33.3	33.3	33.4	33.4	33.4	33.4	33.4	33.4	33.3	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.5	33.3
8	33.4	33.3	33.3	33.3	33.4	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.4	33.5	33.5	33.5	33.4	33.4	33.3	33.2	33.2	33.3	33.2	33.4
9	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.3	33.5	33.5	33.6	33.6	33.6	33.6	33.5	33.5	33.4	33.4	33.4	33.4	33.4	33.4	33.4
10	33.4	33.3	33.3	33.3	33.4	33.4	33.4	34.3	34.5	33.8	33.7	33.7	33.8	33.8	33.8	33.8	33.7	33.7	33.7	33.6	33.7	33.6	33.7	33.7	33.7
11	33.8	34.4	34.3	34.2	34.2	34.0	34.1	35.6	36.9	35.2	34.4	34.1	33.9	33.9	33.9	33.9	33.8	33.8	33.8	33.7	34.0	33.7	33.6	33.7	34.2
12	34.0	33.7	33.6	33.5	33.6	33.9	34.7	36.8	36.5	35.1	34.3	34.0	34.0	34.0	34.0	34.0	34.0	33.9	33.8	33.8	33.8	33.8	33.8	33.8	34.2
13	33.8	33.8	33.7	34.2	34.8	35.4	36.0	36.5	36.9	37.3	38.5	37.5	35.4	34.4	34.0	33.8	33.7	33.6	33.6	33.6	33.6	33.6	33.7	33.7	34.8
14	33.6	33.5	33.4	33.7	34.3	35.0	35.7	36.3	36.9	37.4	37.7	38.2	39.0	38.9	37.6	36.9	36.3	35.6	36.5	35.4	34.6	34.4	34.1	34.0	35.8
15	34.1	34.1	34.3	34.8	35.3	35.7	36.2	36.8	37.7	38.9	36.7	35.1	34.5	34.2	34.1	33.9	33.9	33.8	33.8	33.7	33.7	33.7	33.7	33.6	34.8
16	33.7	33.8	34.1	34.5	35.1	35.8	36.4	36.8	37.5	38.8	37.6	36.0	35.1	34.6	34.4	34.4	34.3	34.2	34.0	33.9	33.9	33.9	33.9	33.9	35.0
17	33.9	34.0	33.7	33.7	33.7	34.0	35.8	37.0	36.3	35.3	34.6	34.3	34.2	34.1	33.9	34.0	33.9	33.9	33.8	33.9	33.9	33.9	33.9	33.9	34.3
18	33.9	33.9	33.9	33.9	33.8	33.9	34.2	35.1	37.1	37.1	35.7	34.7	34.3	34.2	34.1	33.9	33.9	33.8	33.8	33.8	33.7	33.8	33.8	33.8	34.3
19	33.8	33.9	33.8	33.8	34.0	34.2	34.4	34.9	36.2	37.8	36.3	35.1	34.5	34.3	34.3	34.2	34.1	34.0	33.9	33.9	33.8	33.8	33.9	33.8	34.4
20	33.8	33.7	33.8	33.9	34.3	34.8	35.3	35.7	36.3	37.0	38.3	38.9	37.9	37.0	36.2	35.8	35.6	35.9	36.0	35.2	34.8	34.8	34.8	34.6	35.6
21	34.6	34.8	35.2	35.6	36.2	36.2	36.5	36.7	37.0	37.8	38.6	36.1	34.8	34.3	34.3	34.4	34.4	35.8	34.7	34.1	34.0	33.9	33.9	33.8	35.3
22	33.9	33.9	33.9	33.9	33.8	34.1	34.6	35.5	37.5	37.1	35.2	34.4	34.2	34.3	34.3	34.3	34.4	36.3	35.2	34.3	34.0	33.9	33.9	33.9	34.6
23	33.7	33.9	34.7	35.5	35.8	36.0	36.3	36.4	36.9	35.3	34.4	34.2	34.2	34.1	34.4	34.5	34.5	34.3	34.0	33.8	33.8	33.8	33.7	33.8	34.7
24	33.9	34.2	34.3	34.4	34.4	34.9	35.3	35.5	35.5	35.6	34.6	34.1	34.1	34.1	34.0	34.4	35.1	35.5	35.6	34.5	34.0	33.8	33.8	33.8	34.6
25	33.8	33.9	33.8	33.9	33.8	33.8	33.7	33.8	33.7	33.8	33.8	33.8	33.8	33.8	34.3	33.8	33.8	33.8	33.8	33.7	33.7	33.8	33.9	33.8	33.8
26	33.9	34.1	34.7	35.3	35.9	36.5	37.1	37.4	37.8	38.2	38.5	38.9	37.0	35.5	34.7	34.3	34.1	33.9	33.9	33.9	33.8	33.8	33.8	33.8	35.4
27	33.8	33.8	33.7	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.9	34.0	34.1	34.1	34.5	35.1	35.3	35.4	34.4	34.1	34.1	34.1	34.0	34.1
28	34.1	34.2	34.5	34.9	35.4	35.8	36.2	36.6	36.9	37.6	38.9	39.1	36.9	35.4	34.7	34.3	34.1	34.0	33.9	33.9	33.9	33.9	34.1	34.3	35.3
29	34.3	34.4	34.3	34.5	34.5	4.7	35.5	37.9	36.4	34.9	34.4	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.2	34.0	34.1	34.3	34.3	34.3	34.6
30	34.4	34.3	34.2	34.4	34.4	34.6	35.1	36.3	38.1	37.2	35.4	34.7	34.4	34.4	34.3	34.5	34.7	34.5	34.1	33.9	33.9	33.9	33.8	33.8	34.7
31	33.9	34.0	34.3	35.0	35.8	37.3	38.0	36.7	35.5	35.0	34.4	34.2	34.1	34.1	34.0	34.0	34.0	34.0	33.9	33.8	33.8	33.9	33.9	33.9	34.6
																								MONTHLY AVERAGE	34.6

TABLE 3.1-2

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

FEBRUARY 1979

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	33.6	33.8	34.2	34.7	35.4	36.2	37.2	38.4	36.1	34.9	34.3	34.3	34.1	34.1	34.0	33.9	33.9	33.8	33.8	33.8	33.8	33.7	33.9	34.6
2	33.9	33.8	33.7	33.6	33.8	34.2	34.6	35.1	36.3	38.0	35.8	34.7	34.3	34.1	34.1	34.0	34.4	34.5	33.8	33.7	33.7	33.7	33.7	33.8	34.4
3	33.7	33.6	33.4	33.5	34.1	34.7	35.5	36.1	37.0	37.9	35.6	34.5	34.2	34.1	34.0	34.2	34.3	34.7	34.2	33.8	33.7	33.6	33.7	33.7	34.5
4	33.6	33.4	33.3	33.5	33.8	34.4	34.9	35.4	35.9	36.6	38.2	38.5	37.4	36.7	36.1	36.0	36.1	36.0	35.6	34.4	34.0	33.7	33.7	33.6	35.2
5	33.7	33.6	33.6	33.5	33.3	33.3	33.6	34.1	34.6	35.3	36.6	38.3	36.7	35.5	34.8	34.3	34.1	33.9	33.8	33.8	34.0	33.7	33.7	33.6	34.4
6	33.6	33.3	33.1	33.3	33.7	34.3	34.8	36.1	38.2	36.0	34.8	34.4	34.3	34.2	34.4	34.7	34.7	34.8	34.7	34.1	33.9	33.9	33.9	33.9	34.5
7	33.7	33.8	33.8	34.0	34.4	34.8	35.4	36.1	37.8	38.0	36.3	35.1	34.7	34.5	34.4	34.2	34.2	34.1	34.0	34.0	34.0	34.0	33.9	34.0	34.7
8	34.0	33.9	33.9	33.8	34.1	34.7	35.3	36.1	37.7	37.5	35.6	34.8	34.6	34.4	34.3	34.2	34.1	34.0	33.9	33.9	33.9	33.9	33.8	33.8	34.6
9	33.8	33.7	34.2	34.2	34.6	35.1	35.6	36.1	36.9	38.9	37.8	35.6	35.1	34.7	34.5	34.4	34.2	34.0	33.9	33.9	33.9	33.8	33.8	33.8	34.9
10	33.7	33.6	33.8	34.3	34.8	35.4	35.9	36.4	37.0	38.4	36.7	34.9	34.2	33.9	33.9	34.1	34.1	34.5	35.4	34.5	34.0	33.9	33.8	33.8	34.8
11	33.7	33.6	33.8	34.4	34.8	35.1	35.4	35.8	36.2	36.6	36.9	37.8	38.7	38.6	38.4	38.0	37.4	37.1	37.9	37.1	35.9	35.2	34.9	34.7	36.2
12	34.6	34.7	34.5	34.4	34.6	35.1	35.4	36.1	38.2	37.2	35.4	34.6	34.2	34.1	34.3	34.5	34.5	34.3	34.0	33.8	33.7	33.6	33.6	33.7	34.7
13	33.7	33.9	33.9	34.0	34.0	34.2	34.5	35.4	37.7	36.0	34.5	34.2	33.9	33.8	34.0	34.5	34.7	34.5	33.9	33.7	33.9	34.1	34.3	34.2	34.4
14	34.1	34.2	34.2	34.6	35.3	35.7	36.2	36.5	37.1	38.0	37.3	35.5	34.6	34.2	34.0	33.8	33.7	33.7	33.7	33.7	33.6	33.7	33.5	33.4	34.8
15	33.5	33.8	34.4	35.0	35.5	36.0	36.5	36.9	37.8	38.3	35.7	34.6	34.2	34.1	33.9	33.9	33.8	33.7	33.6	33.6	33.6	33.6	33.6	33.7	34.7
16	33.7	33.5	33.3	33.2	33.7	34.5	35.2	35.8	37.4	37.3	35.2	34.4	34.2	34.1	34.1	34.0	33.8	33.7	33.6	33.6	33.6	33.5	33.6	33.5	34.3
17	33.3	33.2	33.1	33.6	34.3	34.8	35.3	35.4	35.9	36.9	37.7	36.6	35.7	35.6	35.7	35.5	35.5	36.2	36.7	35.0	34.4	34.0	33.8	33.9	35.1
18	33.9	34.0	34.4	34.7	35.6	35.9	36.7	36.7	35.8	35.5	35.4	35.3	35.1	35.3	35.6	36.5	36.9	37.3	37.6	38.6	38.5	37.1	36.5	36.1	36.0
19	35.9	35.7	35.6	35.5	35.5	35.6	35.8	36.2	36.8	37.9	38.2	37.3	36.7	36.4	36.0	35.8	35.7	35.6	35.4	34.5	34.3	34.3	34.0	33.8	35.8
20	33.8	34.3	34.4	34.6	35.1	35.6	35.8	36.4	37.2	38.1	36.8	35.6	35.1	35.2	35.3	35.4	35.3	35.2	35.4	37.1	37.4	36.6	36.1	35.6	35.7
21	35.1	34.8	34.8	35.1	35.4	36.0	36.6	37.1	38.1	40.0	37.7	35.8	34.9	34.7	34.6	34.6	34.7	35.1	36.6	35.1	34.6	34.4	34.2	34.2	35.6
22	34.2	34.2	34.4	34.8	35.4	35.8	36.3	36.9	37.9	39.7	37.7	35.9	35.2	34.9	34.7	34.5	34.3	34.1	34.0	33.9	33.9	33.8	33.8	33.7	35.2
23	33.8	33.9	34.4	35.0	35.7	36.1	36.6	37.1	38.2	39.3	36.8	35.3	34.7	34.4	34.3	34.3	34.6	34.8	34.9	34.7	34.7	34.7	34.7	34.7	35.3
24	34.8	34.7	34.7	34.8	34.9	35.2	35.6	36.2	37.6	39.1	36.5	35.1	34.5	34.4	34.4	34.4	35.1	35.1	34.3	34.0	33.9	33.9	33.9	33.9	35.0
25	34.0	34.1	34.3	34.7	35.2	35.8	36.3	36.8	37.3	38.0	38.9	39.4	36.7	35.3	34.7	34.4	34.2	34.1	34.2	34.0	34.0	34.0	33.9	34.0	35.3
26	34.0	33.9	33.7	34.0	34.5	35.1	36.0	36.8	37.8	38.6	36.1	34.9	34.5	34.4	34.5	34.6	34.6	34.6	34.6	34.4	34.2	34.2	34.2	34.5	34.9
27	34.2	34.3	34.2	34.4	34.8	35.5	35.9	36.7	38.3	38.1	35.6	34.6	34.3	34.1	34.1	34.4	34.4	34.6	34.6	34.5	34.5	34.5	34.4	34.4	35.0
28	34.4	34.7	34.7	35.1	35.6	36.1	36.6	37.4	38.4	36.2	35.1	34.5	34.4	34.6	34.6	35.1	35.7	35.5	34.9	34.2	33.9	33.9	33.8	33.8	35.1
																								MONTHLY AVERAGE	35.0

TABLE 3.1-3

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

MARCH 1979

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	33.7	33.8	33.9	34.1	34.6	35.2	35.8	37.4	37.8	36.3	35.1	34.7	34.6	34.5	34.6	34.6	34.6	34.5	34.2	33.9	33.8	33.8	33.8	33.8	34.7
2	33.9	34.0	34.1	34.3	34.7	35.1	35.7	36.3	38.0	38.2	36.5	35.4	34.8	34.4	34.3	34.2	34.1	34.0	34.0	33.9	34.0	34.0	33.9	33.9	34.8
3	33.9	33.9	34.1	34.5	34.8	34.8	34.8	34.9	34.9	34.8	34.1	33.9	33.8	33.9	34.0	34.1	34.1	34.5	36.6	35.5	34.3	34.0	33.9	33.9	34.4
4	33.8	33.9	33.9	34.1	34.4	34.9	35.6	36.2	37.0	37.4	37.6	36.6	35.7	35.2	35.1	34.8	34.8	34.7	34.4	34.0	33.9	33.8	33.8	33.8	35.0
5	33.8	33.9	33.8	33.8	33.9	34.1	34.3	35.4	37.6	36.3	34.9	34.5	34.1	34.0	34.0	34.1	34.0	33.9	33.8	33.8	33.7	33.7	33.7	33.6	34.3
6	33.7	33.9	34.0	33.9	34.0	33.9	33.7	33.6	33.6	33.5	33.3	33.1	33.0	32.9	32.8	32.8	32.7	32.6	32.7	32.6	32.5	32.5	32.5	32.5	33.2
7	32.5	32.4	32.4	32.5	32.5	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3
8	32.3	32.3	32.2	32.2	32.5	32.3	32.3	32.3	32.3	32.4	32.5	32.5	32.6	32.5	32.5	32.5	32.6	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.4
9	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.5	32.5	32.6	32.6	32.6	32.6	32.5	32.5	32.5	32.4	32.5	32.5	32.4	32.3	32.5
10	32.4	32.3	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.6	32.5	32.5	32.5	32.5	32.5
11	32.5	32.9	32.5	32.5	32.5	32.5	32.5	32.6	32.5	32.6	32.5	32.6	32.5	32.6	32.6	32.6	32.6	32.6	32.5	32.4	32.4	32.4	32.4	32.4	32.5
12	32.4	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.5	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	32.6	32.6	32.5
13	32.6	32.5	32.6	32.6	32.6	32.6	32.5	32.5	32.6	32.6	32.7	32.6	32.6	32.7	32.8	32.8	32.8	32.7	32.7	32.7	32.6	32.6	32.7	32.7	32.6
14	32.7	32.7	32.7	32.7	32.7	32.8	32.8	32.8	32.8	33.0	33.0	32.9	32.9	32.9	32.9	32.9	32.9	32.8	32.8	32.8	32.8	32.7	32.7	32.7	32.8
15	32.7	32.7	32.7	32.6	32.6	32.7	32.7	32.6	32.7	32.7	32.8	32.8	32.9	32.9	32.9	32.8	32.8	32.7	32.7	32.7	32.7	32.6	32.5	32.6	32.7
16	32.6	32.6	32.6	32.6	32.6	32.5	32.7	32.7	32.6	32.7	32.7	32.7	32.9	33.0	33.0	32.9	32.9	32.8	32.8	32.8	32.8	32.8	32.7	32.6	32.7
17	32.5	32.5	32.4	32.3	32.2	32.1	32.1	32.1	32.1	32.3	32.3	32.4	32.4	32.5	32.5	32.4	32.4	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.3
18	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.0	32.1	32.1	32.2	32.3	32.4	32.4	32.4	32.4	32.3	32.3	32.2	32.2	32.2	32.2	32.1	32.1	32.2
19	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.3	32.4	32.5	32.5	32.5	32.4	32.4	32.4	32.3	32.2	32.2	32.2	32.2	32.2	32.1	32.2
20	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.3	32.3	32.3	32.4	32.5	32.5	32.5	32.5	32.4	32.3	32.3	32.3	32.2	32.2	32.2	32.2
21	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.5	32.7	32.7	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.4
22	32.6	33.3	33.2	33.0	32.9	32.9	32.8	33.0	32.9	32.7	32.8	32.8	33.0	33.3	33.5	33.5	33.5	33.4	33.7	33.7	33.8	33.7	33.9	34.2	33.3
23	34.4	34.5	34.6	34.7	34.7	34.7	34.6	34.5	34.6	34.8	35.0	35.6	36.4	37.1	38.6	39.2	39.4	39.7	39.8	39.8	39.9	39.9	40.0	39.9	36.9
24	39.8	39.7	39.2	39.4	39.2	39.2	39.2	39.2	39.3	39.5	39.6	39.7	39.8	39.9	40.0	40.1	40.2	40.2	40.3	40.3	40.3	40.2	40.2	40.1	39.8
25	40.2	40.2	40.3	40.3	40.4	40.3	40.3	40.0	39.7	39.8	39.8	39.9	40.0	39.9	39.7	39.8	39.6	39.5	39.4	39.5	39.5	39.7	39.9	40.2	39.9
26	40.5	40.6	40.5	40.5	40.3	40.1	40.0	39.9	40.0	39.6	39.8	40.0	40.1	40.2	40.2	40.2	40.3	40.2	40.1	40.0	40.0	39.8	39.6	39.5	40.1
27	39.4	39.3	39.1	39.0	38.8	38.6	38.5	38.4	38.2	38.2	38.3	38.3	38.4	38.5	38.5	38.6	38.5	38.6	38.3	38.2	38.2	38.1	38.0	37.9	38.5
28	37.9	37.8	37.8	37.7	37.5	37.5	37.4	37.2	37.3	37.2	37.3	37.4	37.7	37.9	38.1	38.1	38.0	38.1	38.0	38.0	38.0	37.9	37.8	37.7	37.7
29	37.7	37.7	37.7	37.5	37.5	37.6	37.5	37.5	37.5	37.6	37.6	37.6	37.7	37.7	37.7	37.7	37.7	37.7	37.6	37.7	37.7	37.6	37.7	37.7	37.6
30	37.7	37.7	37.6	37.6	37.6	37.5	37.6	37.6	37.7	37.8	37.8	37.8	37.9	37.9	38.0	38.1	38.1	38.0	38.0	38.0	38.1	38.0	38.0	38.0	37.8
31	38.1	38.0	38.1	38.1	38.1	38.1	38.0	38.1	38.1	38.2	38.2	38.3	38.5	38.5	38.6	38.7	38.8	38.8	38.9	38.9	39.0	39.0	39.0	39.1	38.5
																								MONTHLY AVERAGE	34.6

TABLE 3.1-4

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

APRIL 1979

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	39.1	39.1	39.1	39.2	39.2	39.1	39.0	39.2	39.2	39.3	39.4	39.3	39.5	39.7	39.8	39.9	39.9	39.9	39.9	40.0	40.0	40.1	40.0	40.0	39.5
2	40.0	40.0	40.0	40.0	40.0	39.9	39.9	39.9	39.7	39.0	39.0	39.1	39.2	39.2	39.3	39.4	39.4	38.9	38.9	38.8	38.8	38.8	38.8	38.7	39.4
3	38.7	38.7	38.8	39.0	39.3	39.1	39.1	39.1	39.2	39.3	39.4	39.4	39.4	39.4	39.5	39.6	39.7	39.5	39.4	39.4	39.4	39.4	39.2	39.3	39.3
4	39.3	39.2	39.1	39.2	39.2	39.2	39.1	39.1	39.1	39.1	38.2	38.1	38.1	38.2	38.3	38.4	38.4	38.4	38.4	38.4	38.4	38.3	38.3	38.3	38.7
5	38.3	38.3	38.4	38.5	38.5	38.5	38.6	38.6	38.7	38.7	38.3	38.3	38.4	38.4	38.5	38.6	38.6	38.6	38.7	38.6	38.6	38.5	38.5	38.5	38.5
6	38.4	38.4	38.2	38.3	38.3	38.4	38.4	38.4	38.4	38.4	38.3	38.4	38.5	38.6	38.8	39.0	38.9	39.0	39.0	39.0	39.0	39.0	38.9	38.8	38.6
7	38.7	38.7	38.7	38.6	38.6	38.4	38.5	38.4	38.4	38.3	38.3	38.4	38.1	38.3	38.3	38.5	38.6	38.6	38.6	38.5	38.5	38.5	38.5	38.5	38.5
8	38.6	38.6	38.6	38.7	38.7	38.6	38.6	38.5	38.6	38.6	38.8	38.9	39.1	39.2	39.3	39.0	39.5	39.5	39.6	39.7	39.8	39.9	39.9	40.0	39.1
9	40.0	40.1	40.1	40.1	40.2	40.2	40.3	40.4	40.3	40.4	40.3	40.0	39.7	39.6	39.5	39.4	39.2	39.1	39.0	38.8	38.7	38.6	38.5	38.4	39.6
10	38.3	38.2	38.2	38.1	38.1	38.2	37.9	38.3	38.4	38.5	38.6	38.7	38.9	39.0	39.1	39.3	39.3	39.5	39.3	39.4	39.3	39.2	39.1	39.1	38.8
11	39.0	38.9	38.7	38.7	38.6	38.6	38.5	38.6	38.6	38.8	39.0	39.3	39.5	39.6	39.7	39.9	39.9	40.0	40.0	40.1	40.1	40.2	40.2	40.1	39.4
12	40.1	40.1	40.0	40.0	40.1	40.1	40.1	40.1	40.1	40.2	40.3	40.5	40.8	41.0	41.2	41.5	41.8	42.0	42.0	42.1	42.0	42.1	42.1	42.4	40.9
13	42.6	42.3	42.3	42.3	42.2	42.1	42.0	42.0	42.0	42.3	42.6	42.9	43.2	43.6	43.8	43.6	43.5	43.3	43.0	42.9	42.9	42.9	42.9	42.9	42.8
14	42.9	42.8	42.8	42.8	42.8	42.7	42.7	42.8	42.8	42.8	42.9	42.9	42.8	42.8	42.8	42.7	42.7	42.6	42.5	42.3	42.2	42.1	41.9	41.8	42.6
15	41.8	41.6	41.5	41.4	41.4	41.5	41.6	41.6	41.7	41.8	41.8	41.8	42.0	42.1	42.1	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.1	42.1	41.9
16	42.1	42.1	42.0	41.9	41.9	41.8	41.9	41.9	42.0	42.1	42.2	42.3	42.4	42.4	42.5	42.6	42.6	42.6	42.5	42.6	42.5	42.5	42.5	42.5	42.3
17	42.5	42.5	42.4	42.4	42.4	42.3	42.4	42.5	42.6	42.6	42.9	43.3	43.1	43.2	43.2	43.2	43.2	43.2	43.1	43.1	43.0	42.9	42.8	42.7	42.8
18	42.7	42.7	42.7	42.6	43.0	42.5	42.5	42.5	42.5	42.7	42.9	43.0	43.2	43.3	43.4	43.5	43.6	43.6	43.7	43.7	43.6	43.6	43.6	43.6	43.1
19	43.8	43.6	43.5	43.5	43.4	43.3	43.3	43.2	43.2	43.2	43.2	43.3	43.4	43.6	43.8	43.9	44.0	44.0	44.1	44.1	44.1	44.2	44.2	44.2	43.7
20	44.2	44.2	44.3	44.2	44.2	44.1	44.1	44.0	44.0	44.1	44.1	44.2	44.3	44.5	44.6	44.7	44.8	44.9	44.8	44.8	44.8	44.8	44.8	44.8	44.4
21	44.8	44.9	44.8	44.8	44.8	44.7	44.6	44.5	44.5	44.5	44.6	44.6	44.7	44.8	45.0	45.1	45.2	45.3	45.3	45.3	45.3	45.4	45.5	45.5	44.9
22	45.6	45.6	45.6	45.7	45.7	45.8	45.7	45.7	45.6	45.5	45.5	45.4	45.3	45.2	45.2	45.4	45.5	45.6	45.5	45.5	45.5	45.6	45.7	45.8	45.6
23	45.8	45.9	45.9	46.0	46.0	46.0	46.1	46.0	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.6	46.7	46.7	46.7	46.7	46.7	46.7	46.8	46.9	46.3
24	46.9	46.9	46.9	46.9	46.8	46.8	46.7	46.6	46.6	46.7	46.7	SYSTEM INOPERATIVE													
25	SYSTEM INOPERATIVE																								
26	SYSTEM INOPERATIVE																								
27	SYSTEM INOPERATIVE																								
28	SYSTEM INOPERATIVE																								
29	SYSTEM INOPERATIVE																								
30	SYSTEM INOPERATIVE																								
MONTHLY AVERAGE																									41.4

TABLE 3.1-5

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

MAY 1979

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	SYSTEM INOPERATIVE																	53.1	53.1	53.1	52.9	52.8	52.6	52.5	
2	52.5	52.5	52.5	52.4	52.4	52.4	52.3	52.3	52.4	52.4	52.5	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.6	52.5	52.5	52.4	52.5	52.6	52.5
3	52.5	52.6	52.5	52.6	52.7	52.7	52.8	52.8	52.9	53.0	53.1	53.2	53.3	53.3	53.2	53.1	52.9	52.7	52.5	52.4	52.2	52.2	52.1	52.0	52.7
4	52.0	52.0	52.0	51.9	52.0	52.0	52.0	52.1	52.2	52.4	52.5	52.8	53.0	53.2	53.4	53.5	53.6	53.5	53.5	53.4	53.3	53.3	53.3	53.3	52.8
5	53.2	53.2	53.0	52.9	52.8	52.6	52.4	52.3	52.3	52.3	52.4	52.5	52.7	52.8	53.0	53.1	53.2	53.2	53.2	53.1	53.1	53.1	53.0	53.0	52.8
6	53.0	53.0	52.9	52.8	52.8	52.8	52.7	52.6	52.6	52.6	52.8	53.0	53.2	53.3	53.3	53.3	53.1	53.0	52.9	52.8	52.8	52.7	52.8	52.8	52.9
7	52.7	52.7	52.6	52.6	52.6	52.6	52.6	52.7	52.8	52.9	53.2	53.4	53.6	53.8	54.0	54.1	54.2	54.3	54.4	54.4	54.4	54.3	54.4	54.5	53.5
8	54.5	54.6	54.6	54.5	54.5	54.4	54.3	54.2	54.1	54.2	54.3	54.5	54.8	55.1	55.4	55.6	55.8	56.1	56.0	56.1	56.0	56.0	55.9	56.0	55.1
9	56.1	56.2	56.3	56.4	56.5	56.5	56.5	56.5	56.6	56.5	56.6	56.9	57.1	57.4	57.6	57.8	58.0	58.1	58.2	58.1	57.9	57.9	57.9	57.9	57.1
10	57.9	58.0	58.1	58.2	58.2	58.1	58.5	58.6	58.6	58.8	59.1	59.4	59.8	60.2	60.7	60.9	61.1	61.1	61.0	60.9	60.8	60.8	60.7	60.6	59.6
11	60.4	60.4	60.4	60.5	60.6	60.7	60.9	61.5	62.0	62.1	61.5	61.5	61.7	62.0	62.3	62.6	62.8	62.8	62.9	62.8	62.9	62.6	62.6	62.5	61.8
12	62.5	62.5	62.4	62.3	62.3	62.3	62.2	62.2	62.2	62.3	62.4	62.4	62.6	62.7	62.8	62.9	63.0	63.0	62.8	62.7	62.7	62.6	62.6	62.4	62.5
13	62.3	62.2	62.2	62.2	61.8	61.4	61.2	61.2	61.1	61.1	61.1	61.2	61.2	61.3	61.3	61.3	61.3	61.2	61.1	61.1	60.9	61.0	60.9	60.8	61.4
14	60.9	60.9	60.9	60.9	60.8	60.8	60.8	60.7	60.8	60.9	60.9	60.8	60.7	60.5	60.5	60.5	60.4	60.4	60.4	60.4	60.3	60.2	60.2	60.2	60.6
15	60.2	60.2	60.2	60.2	60.3	60.2	60.2	60.2	60.3	60.3	60.3	60.4	60.4	60.5	60.7	60.7	60.9	60.9	60.9	60.9	60.8	60.8	60.8	60.8	60.5
16	60.8	60.8	60.8	60.8	60.9	60.8	60.8	60.9	60.9	61.0	61.1	61.3	61.5	61.8	62.0	62.2	62.3	62.4	62.4	62.5	62.1	62.0	61.9	61.8	61.5
17	61.6	61.6	61.6	61.5	61.5	61.4	61.4	61.3	61.3	61.4	61.6	61.8	62.0	62.3	62.4	62.8	62.6	62.6	62.6	62.6	62.5	62.3	62.2	62.1	62.0
18	62.0	61.9	61.8	61.8	61.7	61.7	61.6	61.6	61.6	61.5	61.4	61.4	61.5	61.6	61.8	62.0	62.2	62.3	62.4	62.5	62.4	62.4	62.4	62.4	61.9
19	62.4	62.3	62.3	62.2	62.2	62.2	62.2	62.1	62.1	61.9	61.7	61.7	61.7	61.8	62.0	62.5	62.4	62.8	62.2	62.1	62.0	61.9	61.9	61.9	62.1
20	62.0	61.9	61.9	61.9	61.9	61.8	61.8	61.9	61.9	62.0	61.9	61.9	62.0	62.2	62.4	62.5	62.5	62.5	62.3	62.3	62.3	62.3	62.3	62.3	62.1
21	62.4	62.4	62.3	62.3	62.3	62.2	62.2	62.2	62.1	62.3	62.1	62.0	62.1	62.2	62.4	62.5	62.7	62.9	62.9	63.0	63.0	63.0	63.0	63.0	62.5
22	63.1	63.1	63.0	63.0	63.0	63.0	62.9	63.0	63.0	63.0	63.1	63.3	63.9	63.8	64.1	64.4	64.6	64.7	64.7	64.6	64.4	64.1	64.0	63.8	63.6
23	63.6	63.6	63.6	63.5	63.4	63.4	63.3	63.2	63.2	63.3	63.4	63.4	63.5	63.6	63.8	64.0	64.0	64.1	64.2	64.1	64.1	63.9	63.7	63.6	63.6
24	63.5	63.5	63.4	63.3	63.2	63.0	62.9	62.8	63.1	62.9	63.0	63.1	63.2	63.3	63.3	63.3	63.3	63.1	63.0	62.7	62.4	62.1	61.9	61.7	63.0
25	61.1	60.3	59.7	59.3	59.2	59.1	59.0	58.8	58.6	58.5	58.4	58.2	58.1	57.8	57.4	57.2	57.0	56.7	56.4	56.2	56.0	56.0	55.9	55.8	57.9
26	55.7	55.7	55.8	55.7	55.7	55.7	55.7	55.8	55.9	55.8	55.7	55.6	55.5	55.5	55.5	55.6	55.8	55.9	56.1	56.2	56.2	56.1	56.0	55.8	55.8
27	55.6	55.5	55.3	55.2	55.0	54.9	54.8	54.9	54.6	54.7	54.7	54.8	54.9	54.9	54.9	54.9	55.1	55.1	55.0	55.0	55.0	55.0	54.9	54.9	55.0
28	55.0	55.0	54.9	54.9	54.8	54.8	54.7	54.7	54.8	54.7	54.7	54.7	54.8	54.9	55.0	55.1	55.3	55.4	55.6	55.6	55.7	55.8	55.9	56.0	55.1
29	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.3	56.3	56.4	56.4	56.6	56.7	56.8	56.9	56.8	56.7	56.7	56.7	56.8	56.7	56.4
30	56.6	56.6	56.5	56.6	56.6	56.7	56.8	56.8	56.9	56.9	56.9	57.0	57.1	57.2	57.2	57.3	57.5	57.6	57.7	57.8	57.8	57.7	57.7	57.7	57.1
31	57.7	57.8	57.8	57.8	57.8	57.8	57.8	57.7	57.7	57.7	57.8	57.9	58.0	58.1	58.2	58.3	58.5	58.5	58.4	58.5	58.5	58.6	58.7	58.7	58.1
																							MONTHLY AVERAGE		58.4

TABLE 3.1-6

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JUNE 1979

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	58.7	58.8	58.8	58.9	58.9	58.9	58.9	58.9	58.8	58.9	59.0	59.2	59.3	59.5	59.6	59.7	59.8	60.1	60.1	60.3	60.3	60.4	60.4	60.4	59.4
2	60.4	60.4	60.5	60.5	60.6	60.6	60.6	60.6	60.7	60.7	60.8	60.9	61.0	61.0	61.1	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.3	61.2	60.9
3	61.3	61.4	61.3	61.4	61.5	61.5	61.6	61.7	61.8	61.9	62.0	62.0	62.1	62.1	62.1	62.1	62.1	61.9	61.9	61.8	61.7	61.7	61.7	61.7	61.8
4	61.6	61.7	61.7	61.7	61.8	61.8	61.9	61.9	62.0	62.0	62.2	62.4	62.6	62.8	63.0	63.2	63.2	63.2	63.1	63.0	63.0	62.9	62.8	62.8	62.4
5	62.7	62.7	62.7	62.7	62.6	62.6	62.5	62.4	62.4	62.5	62.6	62.9	63.1	63.4	63.7	64.0	64.1	64.1	64.1	64.0	63.9	63.9	63.8	63.9	63.2
6	63.9	63.8	63.9	63.9	63.9	63.9	63.9	63.9	64.0	64.2	64.5	64.9	65.5	65.6	66.1	66.4	66.7	66.9	67.1	66.9	66.7	66.4	66.1	65.9	65.2
7	65.7	65.6	65.5	65.5	65.5	65.4	65.4	65.4	65.4	65.5	65.6	65.8	66.1	66.3	66.6	66.8	66.9	67.0	67.0	66.9	66.8	66.7	66.6	66.5	66.1
8	66.4	66.3	66.2	66.1	66.0	66.0	65.9	65.8	65.9	65.9	66.0	66.0	66.1	66.1	66.3	66.5	66.5	66.7	66.7	66.8	66.8	66.8	66.9	66.9	66.3
9	66.8	66.8	66.8	66.7	66.6	66.5	66.4	66.3	66.2	66.2	66.2	66.3	66.4	66.5	66.6	66.7	66.8	66.9	66.9	67.0	67.0	67.0	67.1	67.1	66.7
10	67.1	67.1	67.1	67.1	67.2	67.2	67.2	67.2	67.2	67.3	67.4	67.4	67.5	67.6	67.8	68.1	68.5	68.9	68.9	68.6	68.4	68.5	68.5	68.4	67.8
11	68.3	68.5	68.5	68.3	68.3	68.2	68.1	67.9	67.8	68.0	68.2	68.2	68.3	68.4	68.6	68.8	68.9	68.9	68.8	68.8	68.7	68.6	68.4	68.3	68.4
12	68.2	67.9	67.7	67.5	67.3	67.1	67.0	66.9	66.9	67.0	67.0	67.1	67.3	67.4	67.6	67.5	67.4	67.4	67.2	67.0	66.8	66.5	66.4	66.3	67.2
13	66.2	66.2	66.1	66.1	66.1	66.0	65.9	65.8	65.9	66.0	66.1	66.2	66.3	66.2	66.2	66.1	66.1	66.1	66.1	66.0	66.0	66.0	66.0	66.0	66.1
14	66.0	66.0	66.0	65.9	65.9	65.7	65.6	65.4	65.3	65.3	65.3	65.4	65.5	65.7	65.8	66.0	65.9	66.0	65.9	65.9	66.0	65.9	65.9	65.9	65.8
15	65.8	65.8	65.8	65.6	65.6	65.4	65.3	65.3	65.2	65.2	65.3	65.4	65.6	65.8	65.9	66.1	66.3	66.5	66.6	66.7	66.8	66.8	66.8	66.8	65.9
16	66.8	66.9	66.9	66.9	66.9	66.9	66.9	66.9	67.0	67.1	67.3	67.4	67.6	67.7	67.9	68.1	68.2	68.3	68.3	68.4	68.3	68.3	68.4	68.4	67.6
17	68.4	68.4	68.3	68.3	68.3	68.3	68.3	68.4	68.6	69.0	68.9	68.7	68.7	69.1	69.5	69.7	69.8	69.5	69.5	69.8	69.7	69.9	70.2	70.3	69.1
18	70.4	70.4	70.5	70.7	70.6	70.6	70.5	70.6	70.0	70.0	70.2	70.5	70.6	70.8	70.9	70.7	70.6	70.5	70.4	70.3	70.3	70.3	70.4	70.4	70.5
19	70.5	70.6	70.6	70.7	70.8	70.6	70.4	70.2	70.0	70.0	70.0	70.1	70.3	70.4	70.6	70.9	71.1	71.4	71.5	71.6	71.6	71.5	71.4	71.2	70.8
20	71.3	71.6	71.6	71.5	71.4	71.3	71.1	71.2	71.3	71.7	71.1	70.8	71.1	71.2	71.4	71.7	71.8	72.0	72.1	72.1	72.0	71.8	71.9	72.1	71.5
21	71.9	71.7	71.6	71.4	71.3	71.1	71.0	70.9	71.0	70.9	70.9	70.9	71.1	71.3	71.5	71.5	71.5	71.2	71.2	71.5	72.0	72.2	72.3	72.2	71.4
22	72.0	71.9	71.9	71.7	71.6	71.6	71.5	71.5	72.4	71.6	71.7	71.9	72.0	72.0	72.0	72.0	72.0	72.3	72.5	72.6	72.5	72.3	72.3	72.1	72.0
23	72.1	72.0	72.0	71.9	71.9	71.9	71.9	71.8	71.7	71.7	71.8	71.7	71.8	72.1	72.4	72.7	72.7	72.6	72.5	72.3	72.1	72.1	72.0	71.8	72.1
24	71.7	71.5	71.3	71.1	71.0	70.7	70.6	70.6	70.6	70.7	70.9	71.0	71.0	71.0	71.0	71.1	71.0	71.0	70.9	70.8	70.6	70.5	70.4	70.2	70.9
25	70.1	70.0	69.8	69.6	69.5	69.4	69.4	69.3	69.5	69.6	69.4	69.6	69.7	69.7	69.7	69.7	69.7	69.7	69.6	69.9	71.7	70.8	70.1	69.8	69.8
26	69.4	69.2	69.0	68.7	68.5	68.5	68.2	68.2	68.2	68.5	68.5	68.6	68.8	68.9	69.2	69.3	69.5	69.7	69.7	69.6	69.4	69.1	68.9	68.6	68.9
27	68.4	68.4	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.7	68.7	68.8	69.1	69.2	69.3	69.4	69.3	69.3	69.3	69.4	69.3	69.4	69.4	69.4	68.9
28	69.6	69.6	69.6	69.6	69.6	69.6	69.5	69.5	69.4	69.4	69.5	69.6	69.9	70.1	70.1	70.2	70.3	70.2	70.2	69.9	69.7	69.6	69.6	69.7	69.8
29	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.9	70.0	70.0	70.1	70.4	70.5	70.8	71.7	71.5	71.3	71.2	71.1	71.1	70.6	70.6	70.4
30	70.5	70.6	70.5	70.5	70.5	70.4	70.3	70.6	70.6	70.7	70.6	70.7	70.7	71.1	71.7	73.4	74.5	73.8	74.0	73.6	73.6	71.5	71.5	71.1	71.5
																								MONTHLY AVERAGE	67.6

TABLE 3.1-7

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JULY 1979

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	71.0	71.0	70.9	70.7	70.6	70.6	70.4	70.5	70.5	70.8	70.7	70.9	71.1	71.9	71.9	71.7	71.6	71.5	71.2	71.3	71.2	71.0	71.1	71.1	71.0
2	71.0	71.1	71.1	71.0	71.1	71.1	71.2	71.3	71.3	71.5	71.8	71.4	71.7	72.4	72.1	72.5	72.7	72.9	72.4	72.8	72.8	72.4	72.4	72.2	71.8
3	71.8	72.3	71.7	71.7	71.9	71.6	71.9	71.7	72.1	71.8	71.8	72.2	72.4	72.4	72.7	72.8	72.7	72.9	72.9	72.9	72.5	72.9	72.6	72.4	72.3
4	72.3	72.2	72.1	72.1	72.0	71.9	71.8	71.9	71.7	71.6	71.7	71.5	71.5	71.7	72.1	72.8	74.5	75.0	75.3	75.1	74.7	74.3	74.5	74.5	72.9
5	74.2	74.1	74.0	73.8	73.6	73.5	73.1	72.8	72.5	72.3	72.0	71.9	71.9	72.0	72.0	72.1	72.1	72.6	72.4	72.4	72.3	72.3	72.3	72.2	72.7
6	72.2	72.2	72.2	72.4	71.9	71.9	71.7	71.8	71.7	71.7	71.9	72.0	72.1	72.2	72.3	72.7	72.7	72.8	72.8	72.7	72.6	72.5	72.5	72.4	72.2
7	72.3	72.2	72.1	72.0	71.9	71.8	71.8	71.7	71.8	72.0	72.3	72.6	72.9	73.4	73.6	73.8	74.1	74.3	74.4	74.4	74.2	74.3	74.3	74.2	73.0
8	74.1	74.0	73.8	73.8	73.6	73.5	73.4	73.3	73.3	73.4	73.7	74.0	74.0	74.1	74.4	74.6	74.6	74.3	74.1	73.5	73.5	73.1	73.2	73.2	73.8
9	73.2	73.0	72.8	72.6	72.5	72.4	72.3	72.4	72.4	72.6	73.1	73.7	73.9	73.7	73.5	73.3	72.9	72.8	72.6	72.5	72.4	72.2	72.1	72.3	72.8
10	72.3	72.3	72.2	72.1	72.1	72.0	72.0	71.9	71.6	71.4	71.6	71.8	72.0	72.0	72.3	72.3	72.4	72.6	72.8	73.1	73.1	73.0	72.9	72.8	72.3
11	72.8	72.8	72.6	72.3	72.3	72.3	72.3	72.5	72.3	72.3	72.4	72.7	72.9	73.1	73.2	73.2	73.4	73.5	73.4	73.2	73.2	73.0	72.9	72.9	72.8
12	72.9	72.9	72.9	72.9	72.9	73.0	73.1	73.2	73.3	73.2	73.2	73.3	73.5	73.7	74.0	74.5	75.0	75.5	75.7	75.8	75.8	75.7	75.9	75.9	74.1
13	75.9	75.9	75.7	75.6	75.5	75.5	75.3	75.3	75.1	75.0	75.2	75.1	75.1	75.2	75.2	75.4	75.5	75.6	75.8	75.8	75.7	75.6	75.8	75.9	75.5
14	75.8	75.8	75.8	75.7	75.6	75.6	75.7	75.7	75.7	76.0	76.4	76.8	77.2	77.7	77.6	77.6	77.4	77.1	76.9	76.8	76.5	76.2	76.2	76.1	76.4
15	76.0	76.0	75.9	75.9	75.9	75.9	75.9	76.1	76.3	76.5	76.6	76.8	77.0	77.2	77.2	77.1	77.1	77.1	77.1	77.0	76.8	76.6	76.4	76.4	76.5
16	76.3	76.1	76.2	76.1	76.2	76.2	76.3	76.4	76.2	76.1	76.0	76.0	76.4	76.7	76.7	76.9	77.1	77.5	77.6	78.0	78.1	78.0	78.0	78.0	76.8
17	77.9	77.9	77.9	77.8	77.9	77.9	77.8	77.9	77.9	78.1	78.1	78.4	78.6	78.6	78.1	78.1	78.2	78.2	78.4	78.4	78.4	78.2	78.3	78.4	78.1
18	78.4	78.2	78.1	78.0	78.0	78.0	78.0	78.1	78.1	77.6	77.3	77.2	77.2	77.1	77.1	77.1	77.0	76.9	76.8	77.0	77.3	77.3	77.1	77.0	77.5
19	77.0	77.0	76.9	76.8	76.8	76.7	76.6	76.6	76.6	76.6	76.9	76.9	76.8	77.0	77.4	77.8	77.9	77.9	77.7	77.5	77.2	77.1	76.9	76.7	77.1
20	76.6	76.5	76.5	76.4	76.5	76.4	76.4	76.5	76.5	76.8	77.1	77.2	77.3	77.3	77.6	77.7	77.7	77.6	77.3	77.2	77.0	77.1	77.4	77.5	77.0
21	77.6	77.6	77.6	77.5	77.5	77.4	77.4	77.3	77.4	77.5	77.7	77.9	78.2	78.6	78.9	78.8	78.3	78.1	78.1	78.0	77.8	77.6	77.6	77.6	77.8
22	77.6	77.6	77.5	77.5	77.5	77.5	77.5	77.6	77.6	77.5	77.8	78.2	78.4	78.7	79.0	79.1	79.2	79.0	78.8	78.6	78.5	78.2	78.1	78.0	78.1
23	78.0	78.1	78.0	78.0	77.5	77.4	77.9	78.2	78.4	78.4	78.4	78.3	77.9	78.2	78.5	78.8	78.9	79.0	79.0	79.2	79.2	79.3	79.6	79.9	78.5
24	79.8	79.8	79.6	79.4	79.3	79.2	79.2	79.3	79.5	79.5	79.6	79.8	79.7	79.7	79.6	79.6	79.6	79.6	79.5	79.3	79.2	78.9	78.9	79.2	79.4
25	79.3	79.3	79.2	79.0	79.0	79.0	79.0	79.0	78.9	78.9	78.9	79.1	79.2	78.9	79.1	79.5	79.6	79.5	79.5	79.9	79.8	79.7	79.5	79.4	79.3
26	79.2	79.1	79.1	79.1	79.1	79.1	79.2	79.2	79.3	79.4	79.5	79.4	79.3	79.4	79.7	80.0	80.0	80.2	80.1	80.0	79.9	79.9	80.1	80.2	79.6
27	80.3	80.4	80.3	80.3	80.4	80.4	80.4	80.5	80.5	80.5	80.6	80.6	80.8	80.9	81.0	81.0	81.2	81.0	81.1	81.5	81.7	81.9	81.9	82.1	80.9
28	82.1	82.2	82.2	82.1	82.1	82.1	82.1	82.1	82.1	82.0	81.9	82.0	82.3	82.4	82.2	82.1	82.0	82.0	82.0	81.7	81.5	81.4	81.4	81.3	82.0
29	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.1	81.3	81.5	81.7	81.8	81.8	81.7	81.5	81.5	81.6	81.5	81.4	81.3	81.1	81.1	81.0	81.3
30	81.0	81.0	80.9	80.9	81.1	81.0	81.0	81.0	81.0	81.1	81.4	81.9	82.3	82.6	82.7	83.0	82.9	82.7	82.6	82.4	82.1	82.0	81.8	81.6	81.8
31	81.5	81.4	81.3	81.2	81.1	81.1	81.1	81.0	81.0	81.1	81.5	81.6	81.6	81.8	82.0	82.1	82.1	81.9	81.7	81.4	81.1	80.9	80.8	80.6	81.4
																								MONTHLY AVERAGE	76.3

TABLE 3.1-8

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

AUGUST 1979

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	80.6	80.7	80.7	80.7	80.8	80.9	80.9	80.8	80.9	81.0	81.0	81.2	81.3	81.4	81.5	81.5	81.6	81.6	81.5	81.3	81.2	81.1	81.0	80.9	81.1
2	81.0	81.0	81.0	81.0	81.1	81.2	81.2	81.4	81.3	81.3	81.2	81.2	81.3	81.5	81.8	82.1	82.3	82.2	81.9	81.6	81.2	81.0	81.0	81.0	81.4
3	81.0	81.2	81.2	81.2	81.2	81.2	81.2	81.3	81.4	81.4	81.7	81.8	81.9	82.0	82.2	82.2	82.4	82.7	82.8	82.8	82.5	82.3	82.1	81.9	81.8
4	81.8	81.8	81.7	81.6	81.6	81.5	81.5	81.5	81.6	81.7	82.0	82.1	82.4	82.8	83.3	83.6	83.9	84.0	84.0	84.0	84.0	83.8	83.7	83.6	82.6
5	83.4	83.4	83.4	83.4	83.4	83.4	83.3	83.4	83.4	83.6	84.0	84.2	84.5	84.7	84.9	84.9	84.7	84.4	84.1	83.6	83.1	83.2	83.4	83.7	83.8
6	83.7	83.6	83.5	83.4	83.4	83.4	83.4	83.4	83.4	83.6	83.4	83.4	83.4	83.5	83.4	83.5	83.5	83.4	83.3	83.3	83.3	83.2	83.1	82.9	83.4
7	82.8	82.7	82.6	82.4	82.3	82.2	82.0	81.9	81.8	82.0	82.3	82.6	82.8	82.7	82.1	81.8	81.6	81.5	81.6	81.6	81.4	81.3	81.2	81.1	82.0
8	81.1	81.0	80.9	80.9	80.9	80.8	80.7	80.7	80.6	80.5	80.7	80.6	80.5	80.5	80.4	80.4	80.5	80.5	80.5	80.5	80.4	80.2	80.2	80.1	80.6
9	80.1	80.0	80.0	80.0	79.9	79.9	79.8	79.8	79.8	79.9	80.0	80.1	80.2	80.2	80.1	80.2	80.4	80.5	80.7	80.5	80.4	80.2	80.1	80.0	80.1
10	80.0	79.9	79.8	79.8	79.7	79.6	79.3	79.4	79.1	79.2	79.1	79.1	78.9	79.0	78.9	78.7	78.7	78.6	78.5	78.4	78.2	78.2	78.1	78.1	79.0
11	78.1	78.0	77.9	77.9	77.8	77.8	77.8	77.7	77.7	77.7	77.6	77.5	77.4	77.5	77.7	77.9	77.9	77.8	77.7	77.6	77.6	77.5	77.4	77.4	77.7
12	77.3	77.1	77.1	77.0	77.0	77.0	76.9	76.9	76.9	76.8	76.8	76.7	76.3	76.2	76.5	76.3	76.0	76.2	76.1	75.9	75.5	75.3	75.2	75.5	76.4
13	75.5	75.4	75.3	74.7	74.4	74.1	74.0	73.6	73.5	73.5	73.5	73.7	74.0	74.3	74.5	74.5	74.7	74.8	75.5	75.5	75.4	75.3	75.3	75.3	74.6
14	75.2	75.1	75.1	75.0	74.9	74.8	74.8	74.8	74.7	74.6	74.2	73.5	73.7	73.7	73.7	73.8	74.3	74.8	74.1	73.4	73.2	73.3	73.3	73.2	74.2
15	73.4	73.8	73.7	73.5	73.4	73.4	73.2	73.2	73.0	72.8	72.6	72.5	72.5	72.4	72.4	72.4	72.4	72.4	72.6	73.1	73.1	73.0	73.0	73.0	73.0
16	72.8	72.8	72.9	72.5	72.4	72.4	72.3	72.3	72.1	71.6	71.5	71.5	71.6	71.9	72.0	72.1	72.1	72.0	72.1	72.6	72.1	71.9	72.3	72.4	72.2
17	72.3	72.2	72.1	72.0	71.9	71.8	71.7	71.7	71.7	71.2	71.3	71.3	71.5	71.7	71.8	72.0	72.1	72.1	72.1	72.3	72.4	72.4	72.5	72.5	71.9
18	72.3	72.2	72.0	72.0	72.0	72.1	72.1	72.1	72.0	72.0	72.1	71.5	71.3	71.7	71.8	71.8	71.8	71.7	71.4	71.3	71.2	71.1	71.1	71.1	71.7
19	70.9	70.9	70.8	70.8	70.8	70.8	70.8	70.7	70.6	70.6	70.6	70.7	70.9	71.0	71.1	71.0	71.1	71.1	70.9	70.8	70.1	69.9	70.4	70.5	70.7
20	70.4	70.3	70.3	70.3	70.4	70.5	70.5	70.4	69.4	69.2	69.5	69.5	69.9	70.1	70.3	70.6	70.9	71.0	71.1	71.4	71.3	71.3	71.5	71.5	70.5
21	71.4	71.3	71.4	71.4	71.4	71.4	71.4	71.5	71.4	70.9	70.5	70.4	70.5	70.7	70.9	71.1	71.3	71.3	72.0	71.8	71.5	71.3	71.3	71.3	71.2
22	71.2	71.1	71.1	71.0	70.9	70.7	70.7	70.7	70.7	70.9	70.8	71.0	71.0	71.2	71.5	71.6	71.9	72.2	72.4	72.4	72.2	72.1	72.1	72.0	71.4
23	71.8	71.7	71.6	71.5	71.5	71.5	71.6	71.6	71.6	71.6	71.3	71.2	71.2	71.3	71.4	71.4	71.2	71.1	71.3	71.5	71.3	71.2	71.2	71.1	71.4
24	71.0	71.0	71.0	70.9	71.0	71.0	70.9	70.9	70.8	70.7	70.5	70.4	70.2	70.1	70.1	70.1	70.0	70.0	70.0	70.0	70.1	70.1	70.1	70.0	70.5
25	70.1	70.0	70.0	70.1	70.1	70.0	70.1	70.1	70.1	70.2	70.2	70.4	71.0	71.3	71.3	71.3	71.3	71.2	71.1	71.0	70.9	70.8	70.8	70.7	70.6
26	70.7	70.6	70.6	70.6	70.6	70.6	70.7	70.7	70.7	70.9	71.6	71.7	71.9	72.1	72.3	72.3	72.2	72.2	71.9	71.6	71.3	71.0	71.0	71.4	71.3
27	71.1	71.1	71.0	71.0	71.0	71.0	71.0	71.1	71.1	71.2	71.0	71.0	71.2	71.4	71.5	71.7	71.9	72.0	72.1	72.4	72.6	72.8	72.8	72.8	71.6
28	72.6	72.6	72.5	72.6	72.5	72.5	72.6	72.7	72.8	73.0	72.9	73.0	73.1	73.1	73.2	73.3	73.5	73.6	73.5	73.4	73.6	73.6	73.5	73.3	73.0
29	73.2	73.0	73.0	73.0	73.0	73.0	72.9	73.0	72.9	72.5	72.4	72.6	72.9	73.0	73.0	73.0	73.1	73.2	73.2	73.2	73.2	73.2	73.2	73.1	73.0
30	72.9	73.0	73.0	73.1	73.0	73.0	72.9	72.9	72.9	72.9	72.9	72.9	73.0	73.0	72.9	72.9	72.9	73.0	73.1	73.3	73.5	73.8	74.0	74.0	73.1
31	73.9	73.8	73.5	73.6	73.5	73.5	73.5	73.5	73.5	73.7	74.0	74.1	74.0	73.9	73.7	73.7	73.7	73.7	73.8	73.9	74.0	74.0	74.0	74.0	73.8
																								MONTHLY AVERAGE	75.5

TABLE 3.1-9

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

SEPTEMBER 1979

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	74.0	73.8	73.7	73.7	73.6	73.5	73.5	73.5	73.5	73.5	73.5	73.6	73.7	73.7	73.8	73.5	73.5	73.4	73.4	73.1	72.8	73.0	73.1	73.2	73.5
2	73.2	73.2	73.2	73.3	73.3	73.2	73.2	73.1	73.1	73.3	73.5	73.5	73.5	73.5	73.6	73.2	73.2	73.2	73.2	73.3	73.3	73.3	73.3	73.3	73.3
3	73.3	73.3	73.3	73.3	73.3	73.5	73.4	73.5	73.5	73.5	73.8	73.9	74.0	74.3	74.4	74.3	74.2	74.0	73.9	73.9	74.0	74.0	74.0	74.0	73.8
4	74.1	74.1	74.3	74.3	74.3	74.3	74.1	74.1	74.2	74.4	74.5	74.8	74.9	75.1	75.2	75.3	75.4	75.3	75.2	75.4	75.5	75.6	75.5	75.5	74.8
5	75.5	75.5	75.5	75.4	75.3	75.2	75.1	75.0	75.0	75.0	74.9	75.0	75.0	74.9	74.8	74.8	74.8	74.8	74.9	74.8	74.8	74.8	74.7	74.7	75.0
6	74.7	74.7	74.7	74.8	74.8	74.8	74.8	74.7	74.6	74.6	74.5	74.5	74.4	74.4	74.4	74.4	74.4	74.4	74.3	74.2	74.1	74.0	73.9	73.8	74.5
7	73.8	73.8	73.8	73.8	73.8	73.7	73.7	73.7	73.5	73.6	73.6	73.7	73.8	74.0	74.2	74.3	74.5	74.4	74.3	74.1	73.9	73.6	73.2	72.8	73.8
8	72.5	72.2	71.8	71.4	71.1	71.0	70.9	71.0	71.1	71.4	71.7	71.9	72.0	72.1	72.2	72.2	72.2	72.2	72.1	71.9	71.7	71.6	71.4	71.3	71.7
9	71.1	71.0	70.9	70.7	70.6	70.4	70.3	70.1	70.0	70.1	70.2	70.3	70.5	71.0	71.4	71.6	71.8	71.7	71.3	71.4	71.4	71.6	71.4	71.2	70.9
10	71.2	71.1	71.1	71.1	71.1	70.9	70.9	71.1	70.5	70.4	70.4	70.5	70.7	70.9	71.0	71.0	71.0	71.0	71.0	70.9	70.9	70.8	70.7	70.8	70.9
11	70.7	70.7	70.6	70.4	70.7	70.2	70.1	70.0	69.9	69.9	70.1	69.9	69.6	69.6	69.7	69.7	70.0	70.0	70.0	69.9	69.9	69.8	69.8	69.5	70.0
12	69.6	69.4	69.3	69.2	69.1	69.1	68.9	68.9	68.8	68.8	69.0	69.1	69.1	69.3	69.4	69.7	69.9	70.0	70.0	69.9	69.8	69.8	69.6	69.6	69.4
13	69.5	69.4	69.4	69.4	69.3	69.2	69.2	69.2	69.1	69.1	69.2	69.2	69.0	69.2	69.0	69.2	69.2	69.2	69.2	69.2	69.2	69.1	69.1	69.0	69.2
14	69.0	68.9	68.9	68.8	68.7	68.7	68.6	68.6	68.7	68.7	68.9	69.0	69.1	69.2	69.1	69.3	69.2	69.3	69.2	69.2	69.1	69.1	69.1	69.0	69.0
15	68.9	68.9	69.0	69.0	68.9	68.8	68.7	68.5	68.6	68.5	68.4	68.5	68.4	68.5	68.7	68.9	69.1	69.0	68.8	68.9	69.0	69.0	68.9	68.9	68.8
16	68.7	68.6	68.5	68.3	68.3	68.2	68.2	67.6	68.2	68.3	68.7	69.2	69.3	69.4	69.5	69.5	69.7	69.4	68.9	68.4	68.3	68.3	68.3	68.3	68.7
17	68.3	68.2	68.2	68.0	68.0	67.8	67.8	67.7	67.7	67.7	67.8	68.2	67.8	67.5	67.6	67.6	67.7	67.9	67.9	67.8	67.7	67.5	67.3	67.2	67.8
18	67.1	67.2	67.2	67.1	67.0	66.9	66.9	67.0	67.1	67.1	67.3	67.6	67.4	67.2	67.3	67.4	67.4	67.5	67.6	67.7	67.7	67.7	67.6	67.6	67.3
19	67.7	67.7	67.6	67.5	67.5	67.4	67.4	67.4	67.3	67.3	67.2	67.2	67.1	67.1	67.1	67.1	67.1	67.0	66.9	66.8	66.6	66.5	66.5	66.3	67.1
20	66.2	66.0	65.9	65.8	65.7	65.5	65.4	65.3	65.3	65.3	65.4	65.6	65.7	65.5	65.5	65.7	65.9	65.8	65.6	65.3	65.2	65.2	65.1	65.0	65.5
21	64.9	64.8	64.8	64.7	64.7	64.6	64.6	64.6	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.6	64.6	64.6	64.7	64.9	64.6
22	65.0	65.0	65.0	64.9	64.9	64.9	64.9	64.9	64.7	64.7	64.7	64.7	64.7	65.0	65.1	65.2	65.2	65.1	65.0	64.9	64.8	64.7	64.6	64.5	64.9
23	64.5	64.4	64.3	64.2	64.1	63.9	63.7	63.5	63.4	63.5	63.7	64.0	64.1	64.2	64.3	64.3	64.2	64.2	64.1	64.0	63.9	63.7	63.5	63.5	64.0
24	63.4	63.3	63.4	63.4	63.3	63.3	63.2	63.2	63.2	63.1	63.1	63.2	63.2	63.2	63.4	63.6	63.8	63.9	63.7	63.4	63.1	63.0	62.9	62.8	63.3
25	62.7	62.6	62.6	62.5	62.5	62.4	62.4	62.4	62.4	62.4	62.5	62.7	62.9	63.0	62.7	62.7	62.7	62.7	62.7	62.6	62.6	62.4	62.4	62.2	62.6
26	62.1	62.0	62.0	62.0	61.9	61.9	61.9	61.9	62.0	62.0	62.0	62.0	62.1	62.1	62.2	62.4	62.6	62.8	62.5	62.4	62.4	62.5	62.5	62.5	62.2
27	62.4	62.4	62.3	62.3	62.2	62.2	62.1	62.1	62.1	62.1	62.1	62.1	62.2	62.4	62.5	62.7	62.9	63.0	62.8	62.6	62.4	62.2	62.0	62.0	62.3
28	61.8	61.8	61.8	61.7	61.7	61.7	61.7	61.7	61.8	61.8	62.0	62.1	62.0	62.0	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.2	62.4	62.4	62.0
29	62.5	62.4	62.4	62.5	62.5	62.5	62.5	62.4	62.5	62.6	62.4	62.4	62.5	62.5	62.6	62.7	62.7	62.8	62.9	62.9	62.8	62.9	63.0	63.0	62.6
30	63.0	63.0	63.0	62.9	62.9	63.0	62.9	62.9	62.9	62.9	63.0	62.8	62.5	62.5	62.7	62.9	62.8	62.7	62.5	62.3	62.2	62.1	62.3	62.5	62.7
																								MONTHLY AVERAGE	68.2

TABLE 3.1-10

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

OCTOBER 1979

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	62.4	62.4	62.4	62.3	62.3	62.3	62.4	62.3	62.3	62.1	61.8	61.9	61.8	61.9	61.9	61.8	61.8	61.8	61.8	61.8	61.7	61.7	61.7	61.9	62.0
2	62.1	62.3	62.1	62.2	62.1	62.1	61.8	61.5	61.5	61.5	61.5	61.5	61.5	61.6	61.7	61.8	62.0	62.0	62.0	62.0	61.9	61.8	61.7	61.6	61.8
3	61.5	61.5	61.5	61.4	61.3	61.2	61.2	61.3	61.1	60.9	60.9	60.8	60.8	60.9	60.9	61.0	60.9	60.9	61.0	61.1	61.2	61.3	61.4	61.4	61.1
4	61.4	61.4	61.4	61.4	61.3	61.2	61.1	61.0	60.9	60.8	60.9	61.0	61.1	61.2	61.3	61.4	61.5	61.5	61.5	61.3	61.2	61.1	61.0	60.9	61.2
5	60.8	60.9	60.9	61.0	61.0	61.1	61.2	61.3	61.4	61.4	61.6	61.7	61.8	61.8	61.9	61.9	61.8	61.8	61.7	61.6	61.6	61.6	61.5	61.5	61.4
6	61.5	61.4	61.3	61.3	61.2	61.2	61.1	61.0	61.0	61.0	61.0	61.1	61.2	61.5	61.7	61.9	62.0	61.9	61.8	61.7	61.6	61.4	61.4	61.4	61.4
7	61.3	61.3	61.3	61.3	61.1	60.9	60.8	60.9	61.0	61.1	61.3	60.9	60.8	60.6	60.5	60.4	60.3	60.3	60.1	60.0	59.9	59.8	59.[illegible]	59.5	60.6
8	59.2	58.9	58.7	58.5	58.4	58.3	58.2	58.1	58.0	57.9	58.0	58.0	58.2	58.5	58.7	59.0	59.1	59.1	59.0	59.0	58.9	58.7	58.6	58.4	58.6
9	58.4	58.4	58.3	58.1	58.2	58.1	58.0	58.1	57.7	57.4	57.2	57.0	57.0	57.0	57.2	57.2	57.3	57.4	57.3	57.3	57.1	57.0	56.8	56.8	57.5
10	56.7	56.7	56.6	56.6	56.6	56.5	56.5	56.6	56.0	55.7	55.5	55.2	55.0	54.9	54.8	54.9	55.1	55.0	55.0	55.0	55.0	55.1	55.1	55.0	55.6
11	54.8	54.8	54.8	54.9	54.8	54.7	54.6	54.5	54.2	54.0	53.8	53.7	53.7	53.6	53.6	53.6	53.5	53.2	52.8	52.6	52.5	52.6	52.7	52.7	53.8
12	52.7	52.7	52.7	52.7	52.7	52.5	52.6	52.5	52.5	52.5	52.3	52.1	51.9	51.7	51.5	51.4	51.3	51.3	51.5	51.7	51.8	51.8	51.8	51.7	52.1
13	51.7	51.7	51.8	51.9	52.0	51.9	51.9	51.9	52.0	52.1	52.5	52.7	52.7	52.7	52.7	52.5	52.2	51.8	51.6	51.4	51.5	51.5	51.4	51.4	52.0
14	51.3	51.3	51.2	51.2	51.0	50.6	50.0	49.8	49.7	49.7	50.0	50.3	50.6	50.8	50.8	51.0	51.1	50.9	50.5	50.5	50.5	50.5	50.5	50.3	50.6
15	50.3	50.3	50.3	50.3	50.1	50.0	50.0	49.9	49.7	49.7	49.6	49.5	49.5	49.6	49.7	50.0	50.0	50.0	49.9	49.7	49.7	49.7	49.7	49.5	49.9
16	49.3	49.1	49.0	49.1	49.1	49.0	49.0	49.0	49.2	49.3	49.8	49.9	50.0	49.9	49.7	49.6	49.5	49.4	49.4	49.3	49.2	49.1	49.0	48.8	49.3
17	48.5	48.6	48.6	49.2	49.1	49.1	48.2	48.2	48.1	48.1	48.9	48.1	48.1	48.3	48.4	48.5	48.6	48.6	48.5	48.7	48.5	48.8	48.8	48.9	48.6
18	49.4	49.9	50.0	50.0	50.1	50.0	49.9	49.1	48.9	48.9	49.0	49.0	49.1	49.0	49.3	49.2	49.5	49.5	49.6	49.6	49.6	49.5	49.6	49.6	49.5
19	49.9	50.3	50.4	50.4	50.3	49.9	49.9	49.5	49.4	49.5	49.5	49.5	49.5	49.7	49.8	49.9	50.0	50.0	49.9	49.8	49.7	49.6	49.6	50.0	49.8
20	49.6	50.0	50.5	50.5	50.6	50.4	50.4	49.8	49.5	49.4	49.5	49.6	49.7	49.8	50.0	50.2	50.3	50.3	50.4	50.4	50.4	50.4	50.5	50.5	50.1
21	50.5	50.8	50.9	50.9	51.0	51.1	51.2	51.5	51.8	51.2	50.8	50.8	50.9	51.1	51.4	51.4	51.5	51.5	51.6	51.7	51.7	51.8	51.9	52.0	51.3
22	52.3	52.6	52.8	53.0	53.1	53.2	53.3	53.1	52.2	52.0	52.0	52.1	52.3	52.5	52.6	52.8	52.9	52.9	52.8	52.8	52.8	52.7	52.7	52.7	52.7
23	52.8	53.0	53.0	53.0	53.2	53.3	53.6	53.6	53.1	52.8	52.8	52.8	53.0	53.2	53.3	53.5	53.5	53.5	53.7	53.4	53.3	53.3	53.3	53.3	53.2
24	53.6	53.9	53.9	54.0	54.1	54.0	54.0	53.8	53.7	53.7	53.7	53.7	53.7	53.9	54.1	54.3	54.4	54.4	54.3	54.2	54.1	54.1	54.0	53.9	54.0
25	53.9	54.0	54.0	53.8	53.6	53.6	53.5	53.4	53.4	53.3	53.3	53.4	53.5	53.5	53.6	53.6	53.8	53.8	53.9	53.9	53.8	53.7	53.7	53.6	53.6
26	53.6	53.5	53.5	53.4	53.4	53.2	53.1	53.0	52.9	52.9	52.9	53.0	53.0	53.1	53.1	53.1	53.1	53.0	52.9	52.8	52.7	52.7	52.7	52.7	53.1
27	52.7	52.7	52.7	52.6	52.5	52.5	52.4	52.1	52.3	52.3	52.3	52.2	52.3	52.4	52.5	52.6	52.6	52.5	52.4	52.3	52.2	52.1	52.1	52.0	52.4
28	51.9	52.0	52.0	51.9	51.8	51.7	51.6	51.5	51.3	51.2	51.1	51.0	50.9	50.9	50.9	50.8	50.8	50.8	50.8	50.7	50.6	50.4	50.4	50.4	51.2
29	50.3	50.3	50.2	50.2	50.1	50.0	49.9	49.8	49.7	49.7	49.7	49.6	49.8	49.8	49.9	50.0	49.9	49.9	49.8	49.6	49.3	49.4	49.4	49.3	49.8
30	49.2	49.2	49.1	49.0	48.9	48.8	48.7	48.7	48.8	48.7	48.5	48.5	48.5	48.6	48.6	48.7	48.6	48.6	48.5	48.3	48.2	48.2	48.1	48.0	48.6
31	48.0	47.9	47.8	47.8	47.7	47.7	47.6	47.6	47.7	47.8	47.9	48.0	48.1	48.2	48.2	48.4	48.3	48.3	48.2	48.1	48.0	47.9	47.8	47.7	47.9
																								MONTHLY AVERAGE	54.0

TABLE 3.1-11

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

NOVEMBER 1979

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	47.7	47.6	47.5	47.5	47.4	47.4	47.4	47.3	47.4	47.4	47.4	47.5	47.7	47.9	48.0	48.3	48.7	50.2	49.8	49.5	50.0	49.4	49.4	49.3	48.2
2	49.2	49.5	49.6	49.8	50.2	50.6	51.2	49.3	48.6	48.2	47.8	47.9	48.1	48.2	48.3	48.3	48.3	48.2	48.2	48.2	48.0	48.2	48.2	48.3	48.8
3	48.4	48.4	48.3	48.5	48.5	48.4	48.4	48.5	48.4	48.4	48.3	48.1	48.2	48.1	48.2	48.4	48.5	48.5	48.5	48.3	48.2	48.1	48.1	48.2	48.3
4	48.2	48.2	48.3	48.4	48.5	48.6	48.7	48.7	48.7	48.6	48.8	48.9	49.1	49.2	49.0	49.1	48.9	48.8	48.8	48.7	48.7	48.6	48.6	48.6	48.7
5	48.5	48.3	48.3	48.2	48.1	48.0	47.9	47.9	48.9	49.1	48.8	48.5	48.5	48.5	48.4	48.3	48.1	48.2	48.1	48.0	48.0	47.9	47.9	47.9	48.3
6	47.8	47.7	47.7	47.6	47.6	47.5	47.5	47.4	47.4	47.4	47.5	47.6	47.7	47.7	47.7	47.7	47.5	47.3	47.1	47.0	47.0	46.9	46.8	46.7	47.4
7	46.5	46.4	46.2	46.1	46.0	45.9	45.9	45.8	45.8	46.0	46.1	46.1	46.1	46.1	46.1	46.2	46.1	46.0	46.0	46.0	46.0	45.9	45.9	46.0	46.0
8	46.0	46.0	45.9	45.8	45.7	45.6	45.8	46.4	47.9	48.4	47.6	46.9	46.7	46.6	46.6	46.5	46.3	46.4	45.9	45.7	45.6	45.5	45.4	45.5	46.3
9	45.6	45.5	45.4	45.3	45.2	45.5	47.3	47.9	47.5	46.8	46.6	46.5	46.6	46.4	46.2	46.1	46.0	46.3	45.9	45.6	45.5	45.6	45.8	46.0	46.1
10	46.1	46.2	46.4	46.6	46.8	46.9	47.0	47.7	49.2	50.4	51.0	51.2	51.5	51.6	52.2	52.2	52.4	52.7	53.1	53.1	53.4	53.6	53.9	53.9	50.4
11	51.8	51.8	50.9	49.8	48.8	48.4	48.0	47.9	47.6	SYSTEM INOPERATIVE															
12																			47.5	47.4	47.5	47.5	47.5	47.4	
13	47.3	47.2	47.7	47.7	47.9	48.0	48.5	48.6	49.0	47.1	47.3	47.4	47.5	47.5	47.6	47.6	47.5	47.1	46.7	46.6	46.6	46.7	46.7	46.7	47.4
14	46.6	46.6	46.6	46.6	46.8	47.2	47.6	48.5	49.0	48.4	47.9	47.5	47.3	47.2	47.2	47.2	47.1	47.0	46.8	46.7	46.7	46.7	46.6	46.5	47.2
15	46.5	46.5	46.4	46.5	46.8	47.2	47.7	48.2	47.9	47.5	47.5	47.5	47.5	47.3	47.3	47.4	47.3	47.3	47.3	47.2	47.0	46.8	46.7	46.7	47.2
16	46.5	46.3	46.3	46.2	46.2	46.2	46.1	46.8	47.5	47.3	46.9	46.8	46.6	46.4	46.1	46.0	45.8	45.7	45.5	45.1	45.1	45.0	45.0	44.9	46.1
17	44.9	44.9	44.9	45.0	45.2	45.2	45.1	45.0	45.0	46.1	45.8	44.9	44.7	44.6	44.7	44.7	44.7	45.0	46.0	45.6	44.9	44.8	44.8	44.7	45.0
18	44.8	44.7	44.7	45.1	45.5	45.8	46.1	46.2	46.4	46.5	46.7	47.0	47.3	47.8	48.1	48.5	48.6	48.8	50.3	49.5	47.3	46.4	46.2	46.1	46.8
19	46.1	46.1	46.3	46.7	47.0	47.1	47.2	47.2	48.0	48.0	47.3	46.8	45.8	45.5	45.4	45.4	45.2	45.1	44.6	44.3	44.2	44.2	44.2	44.2	45.9
20	44.2	44.2	44.1	43.9	43.8	43.6	43.4	43.2	42.9	42.9	42.9	42.8	42.7	42.8	43.0	43.2	43.4	44.0	44.7	44.5	44.3	44.3	44.2	44.1	43.6
21	44.1	44.1	44.1	44.2	44.2	44.3	44.5	44.6	44.8	45.0	45.3	45.3	45.2	45.1	45.1	45.0	44.9	44.8	44.3	44.3	43.9	43.9	43.9	43.8	44.5
22	43.8	43.8	43.9	44.0	44.1	44.2	44.9	45.4	46.1	46.2	46.8	45.8	45.1	44.9	44.8	44.8	44.9	45.3	46.2	46.1	45.4	44.9	44.7	44.7	45.1
23	44.7	44.8	44.7	44.8	45.2	45.8	46.3	46.7	47.1	47.6	48.3	48.0	47.1	46.4	45.8	45.5	45.3	45.1	44.7	44.3	44.2	44.2	44.3	44.5	45.6
24	44.6	44.9	45.4	46.1	46.6	47.0	47.4	47.9	48.3	48.9	49.3	48.5	47.3	46.5	46.2	46.2	46.6	46.8	46.4	46.2	46.0	45.9	45.8	45.8	46.7
25	45.9	46.0	46.2	46.5	47.1	47.3	47.7	48.2	48.6	48.9	49.2	49.4	49.7	50.1	50.4	50.6	50.8	50.9	49.6	48.1	47.4	47.3	47.2	47.5	48.4
26	47.7	48.0	48.3	48.7	49.1	49.3	49.8	50.0	50.5	50.5	50.0	49.5	48.9	48.6	48.6	48.5	48.6	48.8	48.7	48.5	48.4	48.2	48.0	48.1	48.9
27	48.1	48.2	48.2	48.3	48.2	48.4	48.4	48.4	48.5	48.8	49.2	49.6	49.7	49.6	49.6	49.3	49.1	48.9	48.8	48.7	48.6	48.6	48.5	48.3	48.8
28	48.2	48.0	47.9	47.9	47.9	47.9	47.9	47.8	47.8	47.7	47.6	47.6	47.6	47.7	47.6	47.5	47.4	47.3	47.1	47.0	46.8	46.6	46.5	46.3	47.5
29	46.1	46.0	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.8	45.8	45.8	45.7	45.6	45.6	45.5	45.3	45.2	45.1	45.1	45.0	45.0	44.9	44.9	45.6
30	44.8	44.7	44.6	44.5	44.5	44.3	44.3	44.3	44.3	44.4	44.5	44.6	44.7	44.7	44.8	44.8	44.7	44.5	44.3	44.2	44.0	43.9	43.9	43.8	44.4
																								MONTHLY AVERAGE	46.9

TABLE 3.1-12

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

DECEMBER 1979

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	43.8	43.7	43.6	43.5	43.5	43.4	43.3	43.3	43.3	43.5	43.7	43.7	43.8	43.8	43.7	43.6	43.5	43.3	43.2	43.1	43.0	42.6	43.0	42.9	43.4
2	42.9	42.8	42.6	42.7	42.8	42.9	43.0	43.3	43.8	43.9	43.5	43.4	43.2	42.8	42.6	42.5	42.5	42.3	42.2	42.2	42.0	41.9	41.7	41.5	42.7
3	41.4	41.3	41.1	40.9	40.8	40.7	41.0	42.5	42.7	43.0	42.6	42.2	42.0	42.1	42.0	41.9	41.8	41.8	41.6	41.3	40.9	40.7	40.5	40.3	41.5
4	40.0	39.7	39.7	39.9	40.0	40.2	39.9	39.8	39.7	39.9	40.0	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.0	39.8	39.4	39.1	38.9	38.8	39.8
5	38.8	38.7	38.7	38.7	39.0	39.1	39.2	39.1	39.1	38.9	38.9	39.1	39.2	39.2	39.1	39.2	39.3	39.3	39.2	39.3	39.0	39.0	39.0	39.0	39.0
6	38.9	38.9	38.8	38.7	38.8	38.7	38.7	38.5	39.4	39.9	40.1	39.9	39.6	39.5	39.5	39.5	39.2	39.3	39.2	39.1	38.9	38.5	38.3	38.2	39.1
7	38.1	38.0	37.8	37.8	37.7	37.7	37.8	37.8	37.9	38.4	38.8	38.9	39.1	39.2	39.4	39.6	39.5	39.8	39.6	39.4	39.3	39.7	39.1	39.1	38.7
8	38.9	39.0	39.3	39.2	41.0	39.1	38.7	38.6	38.5	38.4	38.2	39.0	40.6	40.9	40.6	40.3	39.7	39.5	39.2	38.8	38.4	38.3	38.1	37.8	39.2
9	37.6	37.5	37.4	37.3	37.1	36.9	36.9	37.2	37.9	38.7	39.3	40.2	41.0	41.7	41.9	42.0	41.6	42.3	41.9	40.1	39.0	38.6	38.2	37.9	39.2
10	37.9	37.8	37.7	37.5	37.3	37.4	37.7	38.6	39.9	41.2	40.6	39.3	39.1	38.7	38.5	38.1	37.9	37.7	37.4	37.2	37.0	36.9	37.0	37.0	38.1
11	37.0	36.9	36.9	36.9	36.9	36.7	36.6	36.5	38.2	39.3	39.4	39.0	38.7	38.5	38.4	38.3	38.2	38.2	38.2	38.0	38.0	38.0	37.9	37.9	37.9
12	37.8	37.6	37.5	37.7	38.3	38.9	39.3	39.9	41.0	41.6	40.7	40.1	39.4	39.0	38.9	38.7	38.6	38.4	38.3	38.3	38.1	37.9	37.8	37.8	38.8
13	37.8	37.8	37.8	37.8	37.8	37.7	37.8	39.3	40.4	40.2	39.4	39.0	38.8	38.7	38.5	38.4	38.3	38.1	38.0	37.9	37.7	37.3	37.2	37.1	38.3
14	37.0	37.0	36.9	36.8	36.8	36.9	36.9	36.9	36.8	36.7	36.9	37.0	37.0	37.1	37.0	37.1	37.2	37.2	37.4	37.2	36.9	36.6	36.4	36.2	36.9
15	36.1	36.0	35.9	35.7	35.5	35.4	35.2	35.2	35.9	36.9	37.2	37.3	37.0	36.8	36.6	36.4	36.4	36.5	36.5	36.2	36.0	35.8	35.8	35.8	36.2
16	35.7	35.5	35.4	35.3	35.4	35.6	36.3	37.2	38.0	38.6	39.3	40.4	41.0	41.4	41.8	42.0	42.1	42.5	41.8	39.3	38.3	37.5	36.9	36.9	38.5
17	37.0	36.9	36.7	36.6	36.5	36.6	37.0	37.9	39.0	40.6	40.6	39.1	37.9	37.4	36.9	36.5	36.3	35.9	36.0	35.8	35.2	34.9	34.8	34.8	37.0
18	34.8	34.7	34.6	34.5	34.3	34.1	34.1	34.8	37.5	38.2	37.5	36.8	36.3	36.1	35.9	35.8	35.7	35.6	35.5	35.5	35.2	34.9	34.7	34.5	35.5
19	34.4	34.6	35.0	35.4	35.9	36.3	36.6	36.4	35.7	35.1	34.9	34.7	34.7	34.7	34.7	35.0	35.4	35.5	35.3	34.9	34.5	34.4	34.3	34.2	35.1
20	34.1	34.1	34.0	34.1	34.0	34.0	34.0	34.0	34.0	34.0	33.9	34.0	34.2	34.2	34.2	34.3	34.3	34.2	34.1	34.1	34.0	34.0	33.9	33.8	34.1
21	33.7	33.7	33.7	33.8	34.2	34.6	35.1	35.7	37.5	39.3	38.2	36.8	36.0	35.6	35.2	34.9	34.8	34.6	34.6	34.6	34.5	34.6	34.5	34.5	35.2
22	34.5	34.5	34.4	34.5	34.8	35.2	35.7	36.2	36.8	38.2	39.2	39.3	38.9	38.6	38.4	38.2	37.7	37.4	38.2	38.9	38.4	38.0	37.6	37.3	37.1
23	37.3	37.0	36.7	36.7	37.0	37.4	37.8	38.1	38.7	39.2	39.4	39.7	40.0	40.3	40.4	40.6	40.9	41.0	39.2	38.0	36.7	35.9	35.4	35.2	38.3
24	35.2	35.3	35.4	35.4	35.6	36.0	36.4	36.9	37.8	39.0	39.5	38.8	37.7	36.8	36.4	36.1	36.0	36.6	36.7	35.7	34.9	34.6	34.5	34.3	36.3
25	34.6	35.2	35.5	35.6	35.7	35.9	36.0	36.0	36.1	36.1	35.2	34.3	33.9	33.7	33.6	33.6	33.6	33.5	33.5	33.5	33.5	33.4	33.3	33.3	34.5
26	33.2	33.2	33.1	33.0	32.9	32.8	32.8	32.8	32.8	32.8	32.9	32.9	33.0	33.0	33.0	33.1	33.1	33.2	33.2	33.2	33.3	33.3	33.3	33.2	33.0
27	33.2	33.2	33.1	33.0	32.9	32.9	32.8	32.9	32.9	32.9	32.9	33.0	33.1	33.1	33.1	33.1	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.1
28	33.2	33.2	33.1	33.1	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.1	33.1	33.2	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.1
29	33.3	33.3	33.1	33.2	33.2	33.1	33.0	33.0	33.1	33.1	33.2	33.3	33.4	33.4	33.6	33.7	33.7	33.7	33.7	33.7	33.8	33.8	33.8	33.8	33.4
30	33.8	33.8	33.7	33.6	33.7	33.9	35.0	36.3	37.4	37.2	36.3	35.0	34.5	34.3	34.2	34.3	34.2	34.1	34.1	34.0	34.0	34.0	34.0	34.0	34.6
31	34.0	34.0	34.0	34.0	33.9	34.3	34.4	34.4	34.5	34.6	34.6	34.7	34.7	34.8	34.9	34.9	34.8	34.8	34.5	34.2	34.0	33.9	33.8	33.7	34.4
																					MONTHLY AVERAGE				37.2

TABLE 3.2-1

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JANUARY 1979

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	32.2	32.1	32.1	32.1	32.1	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	[illegible]	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	32.0	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	32.0	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	32.1	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
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	32.0

TABLE 3.2-2

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

FEBRUARY 1979

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	32.1	32.1	32.0	32.0	32.0	32.1	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	32.1	32.1	32.1	32.0	32.0
12	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	32.0	32.1	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	32.1	32.1	32.0	32.1	32.0	32.1	32.0	32.1	32.0	32.0	32.0	32.0	32.0
14	32.0	32.0	32.3	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.0	32.1	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	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.0	32.1	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	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.0	32.0	32.0	32.0	32.0
17	32.0	32.0	32.0	32.3	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
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	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.0
21	32.0	32.0	32.0	32.0	32.0	32.0	32.2	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	32.0	32.0	32.0	32.0	32.1
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	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.0
23	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	32.1	32.1	32.0	32.1	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	32.3	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
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
																								MONTHLY AVERAGE	32.0

TABLE 3.2-3

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

MARCH 1979

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	[illegible]	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	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	3[illegible]	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	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.[illegible]	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	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	32.1	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	32.1	32.0	32.0	32.0	32.0	32.0	32.1	32.3	32.1	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	32.1	32.1	32.1	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	32.0	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	32.1	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	32.1	32.1	32.2	32.2	32.2	32.1	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	32.3	32.1	32.2	32.2	32.3	32.2	32.2	32.1	32.1	32.0	32.0	32.0	32.0	32.1
19	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.2	32.3	32.4	32.4	32.7	32.4	32.3	32.3	32.2	32.2	32.1	32.1	32.1	32.2
20	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.1	32.2	32.3	32.4	32.5	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.2	32.2	32.2
21	32.2	32.2	32.2	32.2	32.3	32.2	32.2	32.2	32.2	32.3	32.4	32.6	32.7	32.9	32.9	33.0	33.0	32.9	32.9	32.9	32.8	32.8	32.7	32.6	32.6
22	32.7	32.7	32.6	32.7	32.6	32.6	32.6	32.5	32.6	32.7	32.9	33.0	33.1	33.2	33.7	33.9	33.9	34.0	34.3	34.5	34.6	34.7	34.8	34.8	33.4
23	34.8	34.6	34.5	34.4	34.2	34.1	34.3	34.5	34.9	35.4	35.9	36.3	36.7	37.2	37.6	38.0	38.3	38.5	38.6	38.6	38.6	38.4	38.2	37.9	36.4
24	37.7	37.6	37.4	37.4	37.5	37.6	37.6	37.6	37.8	38.0	38.0	38.0	38.2	38.4	38.5	38.6	38.7	38.7	38.7	38.7	38.6	38.7	38.7	38.7	38.1
25	38.8	38.9	38.9	38.7	38.5	38.0	37.7	37.8	37.8	37.9	38.0	38.1	38.1	38.1	38.1	38.1	38.2	38.3	38.3	38.5	38.6	38.6	38.7	38.8	38.3
26	38.7	38.8	38.6	38.5	38.4	38.3	38.2	38.1	37.7	38.1	38.2	38.4	38.4	38.5	38.7	38.6	38.6	38.6	38.6	38.5	38.4	38.2	38.1	37.9	38.4
27	38.0	37.6	37.5	38.1	37.0	36.9	36.8	36.7	36.7	36.7	36.7	36.7	36.8	36.9	36.9	37.0	37.0	37.0	37.0	36.9	36.8	36.7	36.5	36.3	37.0
28	36.2	36.2	36.0	35.9	35.8	35.6	35.4	35.4	35.4	35.6	35.7	36.0	36.2	36.4	36.7	36.9	36.9	36.9	36.9	36.8	36.6	36.4	36.3	36.0	36.2
29	36.1	35.9	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	36.1	36.2	36.3	36.4	36.3	36.3	36.3	36.2	36.3	36.0
30	36.1	36.1	36.1	36.0	36.1	36.1	36.1	36.2	36.2	36.2	36.3	36.3	36.4	36.4	36.5	36.5	36.5	36.6	36.5	36.5	36.5	36.6	36.6	36.6	36.3
31	36.6	36.6	36.6	36.7	36.7	36.7	36.7	36.8	36.8	36.9	36.9	37.1	37.2	37.3	37.4	37.4	37.5	37.5	37.5	37.6	37.6	37.7	37.7	37.7	37.1
																								MONTHLY AVERAGE	33.6

TABLE 3.2-4

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

APRIL 1979

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	37.7	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.7	37.9	37.9	38.1	38.1	38.2	38.3	38.4	38.4	38.4	38.4	38.2	38.4	38.4	38.4	38.4	38.0
2	38.3	38.3	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.1	38.0	38.0	37.9	37.8	37.8	37.8	37.7	37.7	37.6	37.5	38.0
3	37.5	37.5	37.5	37.5	37.5	37.5	37.4	37.4	37.4	37.2	37.4	37.4	37.5	37.5	37.5	37.6	37.6	37.7	37.6	37.5	37.5	37.5	37.4	37.3	37.5
4	37.3	37.2	37.1	37.0	36.9	36.8	36.7	36.6	36.7	36.7	36.8	36.9	37.2	37.3	37.3	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.2
5	37.5	37.4	37.4	37.3	37.2	37.2	37.1	37.1	37.0	37.0	37.0	37.0	37.1	37.1	37.2	37.2	37.4	37.4	37.3	37.3	37.2	37.2	37.1	37.1	37.2
6	37.1	37.0	36.9	36.9	36.8	36.7	36.6	36.7	36.6	36.6	36.7	36.9	37.1	37.3	37.6	37.8	37.9	37.8	37.8	37.7	37.6	37.5	37.4	37.3	37.2
7	37.2	37.2	37.1	36.9	36.8	36.7	36.6	36.4	36.4	36.4	36.6	36.9	37.1	37.1	37.1	37.2	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.0
8	37.3	37.2	37.1	37.0	36.9	36.8	36.6	36.5	36.4	36.4	36.6	36.8	37.1	37.5	37.9	38.1	38.3	38.4	38.4	38.4	38.4	38.3	38.5	38.5	37.5
9	38.5	38.6	38.6	38.5	38.4	38.2	38.2	38.0	37.8	37.7	37.6	37.5	37.4	37.0	36.5	37.0	36.9	36.7	36.6	36.4	36.3	36.2	36.2	36.1	37.4
10	36.2	36.2	36.2	36.3	36.3	36.4	36.5	36.5	36.6	36.7	36.8	36.9	37.0	37.1	37.2	37.3	37.4	37.4	37.4	37.3	37.2	37.2	37.1	37.0	36.8
11	37.0	37.0	36.9	36.8	36.7	36.6	36.6	36.6	36.6	36.7	36.9	37.2	37.5	37.9	38.2	38.5	38.8	38.9	39.0	38.9	38.9	38.9	38.8	38.8	37.7
12	38.8	38.8	38.7	38.6	38.4	38.1	37.8	37.7	37.7	37.9	38.2	38.4	38.9	39.3	39.7	39.9	40.2	40.3	40.4	40.6	40.7	40.8	41.2	40.7	39.2
13	40.6	40.5	40.4	40.4	40.4	40.3	40.2	40.2	40.4	40.2	40.3	40.4	40.7	40.8	41.0	41.1	41.2	41.3	41.3	41.2	41.2	41.2	41.2	41.2	40.7
14	41.1	41.2	41.7	41.2	41.2	41.1	41.1	41.1	40.9	40.9	40.8	40.7	40.6	40.5	40.4	40.2	40.1	40.0	39.8	39.8	39.8	39.7	39.7	39.7	40.6
15	39.7	39.5	39.5	39.8	39.8	39.8	39.8	39.6	39.8	39.9	39.9	39.8	39.9	40.0	40.1	40.1	40.1	40.2	40.2	40.3	40.3	40.3	40.3	40.2	40.0
16	40.2	40.2	40.2	40.2	40.2	40.2	40.1	40.1	40.1	40.1	40.1	40.2	40.3	40.4	40.5	40.7	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.7	40.4
17	40.7	40.6	40.6	40.6	40.6	40.6	40.5	40.5	40.6	40.6	40.8	40.9	41.1	41.2	41.4	41.5	41.5	41.5	41.5	41.5	41.5	41.4	41.4	41.4	41.0
18	41.3	41.3	41.2	41.1	41.0	40.9	40.9	40.8	40.8	41.0	41.1	41.4	41.7	41.9	42.2	42.4	42.5	42.6	42.6	42.6	42.6	43.0	42.5	42.4	41.7
19	42.4	42.2	42.1	41.9	41.7	41.5	41.4	41.3	41.3	41.4	41.6	41.9	42.5	42.6	42.9	43.0	43.1	43.2	43.3	43.3	43.3	43.3	43.3	43.2	42.4
20	43.2	43.1	42.9	42.7	42.5	42.4	42.2	42.1	42.1	42.2	42.3	42.6	42.8	43.1	43.4	43.6	43.8	43.9	44.0	44.0	44.0	44.1	44.0	43.9	43.1
21	43.8	43.7	43.5	43.3	43.1	42.8	42.6	42.4	42.4	42.5	42.7	42.9	43.2	43.5	43.8	44.1	44.3	44.5	44.7	45.0	44.9	44.9	45.0	45.0	43.7
22	44.9	44.8	44.7	44.5	44.3	44.1	43.9	43.7	43.6	43.6	43.7	43.6	43.7	43.8	44.0	44.1	44.3	44.6	44.6	44.7	44.8	44.9	44.9	45.0	44.3
23	45.0	44.9	44.8	44.7	44.6	44.4	44.2	44.0	44.0	44.1	44.2	44.4	44.7	45.0	45.3	45.6	45.8	46.0	46.3	46.3	46.4	46.4	46.3	46.1	45.1
24	46.0	45.8	45.6	45.5	45.3	45.2	45.1	45.0	45.0	45.2	45.4	45.8	46.2	46.4	46.7	46.9	47.1	47.3	47.2	47.3	47.2	47.2	47.1	47.0	46.2
25	46.9	46.8	46.7	46.6	46.4	46.2	46.0	45.9	46.0	46.1	46.1	46.1	46.3	46.5	46.6	46.8	47.0	47.1	47.2	47.4	47.5	47.5	47.6	47.5	46.7
26	47.4	47.3	47.1	46.9	46.6	46.5	46.4	46.3	46.3	46.5	46.7	47.0	47.2	47.8	48.0	48.3	48.4	48.6	48.7	48.9	49.0	49.1	49.1	48.8	47.6
27	49.1	49.0	48.9	48.8	48.7	48.6	48.6	48.6	48.6	48.7	48.7	48.7	49.0	49.1	49.2	49.5	49.6	49.7	49.8	49.8	49.9	49.8	49.9	49.8	49.2
28	49.7	49.5	49.4	49.2	49.1	49.0	48.9	48.9	48.9	49.0	49.1	49.4	49.6	50.2	50.3	50.6	50.7	50.8	50.8	50.7	50.7	50.7	50.8	50.8	49.9
29	50.9	51.0	49.4	51.1	51.1	50.9	50.8	50.7	50.6	50.6	50.7	50.9	51.0	51.3	51.5	51.6	51.7	51.7	51.7	51.8	51.8	51.9	51.8	51.6	51.2
30	51.8	51.4	51.2	51.0	50.9	50.7	50.6	50.4	50.3	50.3	50.5	50.5	50.8	51.0	51.2	51.4	51.6	51.8	51.9	52.0	52.0	52.0	52.0	51.9	51.2
																								MONTHLY AVERAGE	41.8

TABLE 3.2-5

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

MAY 1979

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	51.8	51.7	51.5	51.4	51.3	51.2	51.1	51.0	51.0	50.9	50.8	50.9	51.1	51.3	51.4	51.5	51.7	51.9	51.9	51.9	52.0	51.9	51.9	51.8	51.5
2	51.8	51.8	51.8	51.7	51.5	51.2	51.1	50.9	50.7	50.6	50.6	50.7	50.8	51.0	51.2	51.4	51.5	51.8	51.8	52.0	52.0	52.0	52.1	52.2	51.4
3	52.3	52.3	52.4	52.3	52.2	52.1	52.0	51.8	51.7	51.6	51.4	51.3	51.2	51.3	51.2	51.2	51.0	51.0	51.0	51.0	51.0	51.1	51.1	51.1	51.5
4	51.1	51.2	51.3	51.3	51.4	51.4	51.4	51.4	51.4	51.4	51.5	51.6	51.8	51.9	52.0	52.2	52.4	52.5	52.6	52.5	52.4	52.3	52.2	52.1	51.8
5	51.9	51.7	51.6	51.5	51.5	51.3	51.2	51.2	51.1	51.1	51.1	51.2	51.3	51.6	51.8	52.0	52.2	52.4	52.5	52.5	52.5	52.4	52.3	52.3	51.8
6	52.1	52.0	51.8	51.7	51.6	51.4	51.3	51.2	51.1	51.0	51.1	51.2	51.2	51.5	51.6	51.7	51.9	52.0	52.0	52.0	51.9	51.9	51.8	51.8	51.6
7	51.9	51.9	51.9	52.0	51.9	51.9	51.7	51.6	51.6	51.7	51.8	52.0	52.1	52.3	52.4	52.8	53.2	53.4	53.6	53.6	53.6	53.5	53.4	52.5	
8	53.3	53.3	53.1	53.0	52.9	52.9	52.9	52.9	53.0	53.1	53.4	53.3	53.3	53.7	53.8	54.2	54.4	54.6	54.8	54.9	55.1	55.2	55.2	55.3	53.8
9	55.3	55.4	55.4	55.4	55.4	55.3	55.3	55.4	55.4	55.4	55.4	55.5	55.5	55.7	55.8	56.0	56.3	56.6	56.7	56.9	57.1	57.2	57.3	57.4	56.0
10	57.4	57.4	57.5	57.5	57.5	57.6	57.6	57.6	57.7	57.7	57.9	58.1	58.1	58.3	58.3	58.5	58.7	58.8	58.9	59.0	59.1	59.3	59.4	59.6	58.2
11	59.6	59.7	59.6	59.7	59.7	59.6	59.6	59.5	59.7	59.7	59.7	59.9	60.2	60.5	60.7	61.0	61.1	61.2	61.1	61.1	61.1	61.0	61.0	61.0	60.3
12	61.1	61.1	61.1	61.1	61.1	61.2	61.3	61.4	61.4	61.5	61.5	61.5	61.5	61.4	61.3	61.1	61.0	60.9	60.7	60.7	60.6	60.7	60.7	60.8	61.1
13	60.8	60.8	60.8	60.7	60.5	60.4	60.4	60.3	60.3	60.4	60.3	60.3	60.3	60.3	60.3	60.2	60.2	60.2	60.2	60.2	60.1	60.0	60.0	59.9	60.3
14	59.8	59.7	59.8	59.8	59.8	59.6	59.6	59.7	59.7	59.7	59.7	59.7	59.8	59.8	59.9	60.0	60.1	60.2	60.2	60.2	60.2	60.2	60.1	60.1	59.9
15	60.0	60.0	59.9	59.7	59.7	59.6	59.5	59.5	59.4	59.4	59.5	59.7	59.8	60.0	60.3	60.5	60.7	60.8	60.9	60.9	60.9	60.8	60.8	60.8	60.1
16	60.7	60.7	60.7	60.7	60.6	60.6	60.6	60.6	60.5	60.5	60.4	60.4	60.9	61.2	61.3	61.5	61.7	61.8	61.8	61.9	62.0	62.0	61.9	61.8	61.1
17	61.6	61.5	61.3	61.2	61.1	61.0	60.9	60.8	60.8	60.7	60.6	60.7	61.0	61.2	61.5	61.8	62.1	62.3	62.5	62.5	62.5	62.6	62.5	62.5	61.6
18	62.4	62.3	62.3	62.2	62.2	62.1	62.1	62.1	62.1	61.9	61.8	61.5	61.4	61.3	61.5	61.5	61.3	61.2	61.1	61.0	60.9	60.9	60.9	60.9	61.6
19	60.8	60.9	60.9	60.9	60.9	60.9	60.9	60.9	61.0	61.1	61.3	61.4	61.5	61.6	61.6	61.6	61.5	61.7	61.8	61.9	62.2	61.8	61.7	61.5	61.3
20	61.4	61.4	61.3	61.3	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.3	61.4	61.4	61.4	61.5	61.8	61.6	61.6	61.8	61.9	61.9	61.8	61.4
21	61.9	61.8	61.8	61.8	62.0	61.8	61.8	61.9	61.9	62.0	62.2	62.3	62.6	62.7	62.8	62.7	62.9	63.0	63.1	63.1	63.0	63.0	63.0	62.9	62.4
22	62.9	62.9	62.8	62.8	62.7	62.6	62.6	62.6	62.5	62.3	62.3	62.6	62.9	62.9	63.0	63.3	63.5	63.7	63.8	63.8	63.8	63.8	63.9	63.9	63.1
23	63.9	63.9	63.9	63.8	63.7	63.7	63.7	63.7	63.7	63.7	63.5	63.3	63.2	63.4	63.4	63.1	62.9	62.9	62.8	62.8	62.9	63.1	63.2	63.3	63.4
24	63.4	63.4	63.5	63.4	63.4	63.4	63.3	63.2	63.1	63.0	62.8	62.6	62.5	62.4	62.2	62.1	62.1	62.1	62.0	61.8	61.2	60.3	59.3	59.1	62.3
25	58.9	58.7	58.6	58.4	58.1	58.0	57.8	57.6	57.5	57.3	56.9	56.6	56.2	56.1	56.0	55.8	55.6	55.6	55.6	55.5	55.2	55.2	55.1	55.3	56.7
26	55.1	55.2	55.2	55.2	55.3	55.3	55.2	55.1	55.0	54.9	54.9	54.9	55.0	55.2	55.4	55.6	55.9	56.0	55.8	55.7	55.5	55.3	55.2	55.0	55.3
27	54.9	54.7	54.7	54.5	54.4	54.3	54.2	54.2	54.2	54.2	54.2	54.4	54.5	54.8	54.9	54.9	55.0	55.0	54.9	54.9	54.8	54.7	54.7	54.7	54.6
28	54.7	54.6	54.5	54.4	54.3	54.3	54.2	54.2	54.2	54.4	54.4	54.5	54.7	54.8	54.9	55.3	55.6	55.8	56.0	56.1	56.3	56.3	56.4	56.4	55.1
29	56.3	56.2	56.2	56.1	55.9	55.7	55.5	55.4	55.4	55.5	55.6	55.9	56.1	56.1	56.2	56.4	56.5	56.7	56.7	56.7	56.5	56.4	56.4	56.4	56.1
30	56.5	56.5	56.6	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.9	57.0	57.1	57.1	57.3	57.5	57.5	57.5	57.6	57.7	57.7	57.7	57.8	57.1
31	57.7	57.7	57.6	57.5	57.3	57.2	57.1	57.0	56.9	57.0	57.1	57.3	57.5	57.6	57.8	58.1	58.2	58.3	58.7	58.8	58.8	58.9	58.9	59.0	57.8
																								MONTHLY AVERAGE	57.5

TABLE 3.2-6

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JUNE 1979

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	59.1	59.1	59.0	58.9	58.7	58.6	58.4	58.4	58.3	58.2	58.6	58.7	59.0	59.4	59.6	59.9	60.2	60.3	60.4	60.4	60.5	60.6	60.7	61.1	59.4
2	60.8	60.8	60.8	60.8	60.7	60.6	60.5	60.4	60.3	60.2	60.1	60.2	60.3	60.5	60.7	61.0	61.1	61.3	61.3	61.4	61.6	61.5	61.6	61.7	60.8
3	61.8	61.9	61.9	61.9	61.9	61.8	61.7	61.6	61.5	61.4	61.3	61.2	61.2	61.2	61.3	61.4	61.5	61.5	61.6	61.7	61.8	61.8	61.9	62.0	61.6
4	62.0	62.1	62.1	62.1	62.1	62.1	62.1	62.0	62.0	61.9	61.9	62.0	62.1	62.2	62.3	62.5	62.5	62.5	62.6	62.7	62.7	62.6	62.6	62.5	62.3
5	62.4	62.3	62.3	62.2	62.2	62.2	62.2	62.2	62.3	62.4	62.6	62.7	62.9	63.1	63.3	63.5	63.7	63.8	63.8	63.9	63.9	63.9	64.0	64.0	63.0
6	64.0	64.0	64.1	64.2	64.3	64.4	64.5	64.7	64.8	64.8	64.9	64.8	64.8	64.9	65.0	65.2	65.4	65.6	65.7	65.8	65.8	65.8	65.8	65.7	65.0
7	65.7	65.7	65.6	65.5	65.4	65.2	65.1	65.1	65.1	65.2	65.4	65.5	65.5	65.6	65.7	65.7	65.8	65.8	65.8	65.8	65.7	65.7	65.7	65.7	65.5
8	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.8	66.0	66.1	66.2	66.3	66.4	66.5	66.3	66.3	66.3	66.3	66.1	66.0	65.9	65.9	66.0
9	65.8	65.8	65.8	65.8	65.9	65.9	66.0	66.1	66.1	66.2	66.3	66.4	66.5	66.6	66.7	66.8	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.4
10	66.8	66.8	66.8	66.7	66.7	66.7	66.8	66.8	66.9	66.9	67.0	67.0	67.1	67.3	67.4	67.7	67.8	67.9	68.1	68.1	68.3	68.4	68.4	68.6	67.4
11	68.5	68.5	68.4	68.3	68.2	68.2	68.2	68.1	68.2	68.3	68.3	68.2	68.1	68.1	68.1	68.0	67.9	67.7	67.5	67.3	67.2	67.1	67.2	67.3	68.0
12	67.4	67.5	67.4	67.3	67.2	67.0	66.7	66.5	66.2	66.1	66.1	66.1	66.1	66.3	66.4	66.5	66.5	66.5	66.5	66.4	66.3	66.2	66.1	66.1	66.6
13	65.9	65.8	65.6	65.4	65.2	65.0	64.8	64.7	64.7	64.9	65.1	65.2	65.4	65.6	65.8	65.9	66.0	66.1	66.1	66.0	65.8	65.6	65.3	65.0	65.5
14	64.8	64.6	64.4	64.2	64.0	63.8	63.8	63.7	63.8	63.9	64.1	64.3	64.4	64.7	64.9	65.1	65.2	65.3	65.4	65.3	65.1	65.0	64.9	64.7	64.6
15	64.6	64.5	64.3	64.2	64.2	64.2	64.2	64.2	64.2	64.3	64.5	64.7	64.9	65.2	65.5	65.9	66.1	66.3	66.4	66.5	66.4	66.4	66.2	66.1	65.2
16	65.9	65.8	65.8	65.7	65.6	65.5	65.5	65.4	65.4	65.3	65.4	65.6	65.9	66.3	67.0	67.4	67.9	68.2	68.4	68.4	68.5	68.5	68.4	68.4	66.7
17	68.3	68.3	68.3	68.3	68.3	68.3	68.2	68.2	68.2	68.2	68.2	68.1	68.0	67.8	67.8	67.9	67.9	67.9	67.9	68.0	68.3	68.6	68.9	69.0	68.2
18	69.0	69.0	68.9	68.8	68.7	68.7	68.7	68.7	68.7	68.9	69.0	69.1	69.2	69.7	70.4	70.3	70.2	70.1	70.0	69.9	69.8	69.7	69.6	69.5	69.4
19	69.4	69.2	69.1	69.2	69.3	69.4	69.5	69.6	69.8	69.8	69.8	69.6	69.6	69.7	69.8	69.9	70.0	70.2	70.2	70.2	70.1	70.0	69.8	69.7	69.7
20	69.5	69.1	69.3	69.2	69.1	69.0	69.0	68.8	68.8	68.8	68.7	68.7	68.5	69.0	69.2	69.3	69.7	69.7	69.8	70.0	70.0	70.1	70.1	70.2	69.3
21	70.2	70.3	70.3	70.3	70.3	70.3	70.3	70.4	70.4	70.5	70.5	70.5	70.5	70.4	70.3	70.3	70.3	70.4	70.5	70.7	70.9	70.7	70.8	70.9	70.5
22	70.9	70.9	71.0	70.9	70.9	70.8	70.6	70.6	70.6	70.6	70.4	70.2	70.2	70.2	70.2	70.5	70.8	71.1	71.2	71.3	71.3	71.3	71.2	71.2	70.8
23	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.1	71.0	70.9	70.9	70.5	70.8	70.7	70.7	70.7	70.6	70.7	70.7	70.6	71.0
24	70.5	70.4	70.3	70.2	70.0	69.9	69.9	69.9	69.9	69.8	69.9	69.7	69.9	69.8	69.9	69.6	69.6	69.5	69.4	69.3	69.1	69.0	68.9	68.8	69.7
25	68.7	68.6	68.6	68.5	68.4	68.4	68.3	68.3	68.3	68.3	68.2	68.2	68.4	68.6	68.9	69.2	69.0	69.0	69.0	69.0	68.8	68.4	68.1	68.0	68.6
26	68.0	68.0	68.0	67.9	67.9	67.8	67.8	67.8	68.0	68.2	68.0	67.9	67.9	68.0	68.2	68.2	67.8	68.3	68.2	68.2	68.2	68.3	68.4	68.3	68.1
27	68.2	68.3	68.3	68.2	68.2	68.3	68.2	68.2	68.2	68.2	68.1	68.1	67.8	67.6	67.7	67.9	67.9	68.0	68.1	68.2	68.3	68.3	68.5	68.6	68.1
28	68.6	68.6	68.7	68.8	68.8	68.8	68.8	68.9	68.9	69.1	69.1	69.1	69.0	68.8	68.8	68.9	68.9	69.0	68.9	68.9	68.8	68.8	68.8	68.8	68.9
29	69.0	69.2	69.2	69.1	69.1	69.0	69.0	68.9	68.9	68.9	68.8	68.8	68.6	68.5	68.6	68.7	68.8	68.8	68.7	69.0	69.2	69.3	69.4	69.4	69.0
30	69.4	69.4	69.6	69.5	69.5	69.6	69.6	69.6	69.7	69.6	69.6	69.6	69.7	69.7	69.7	69.7	69.7	69.7	69.6	69.7	69.8	69.8	69.9	69.9	69.6
																								MONTHLY AVERAGE	66.8

TABLE 3.2-7

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JULY 1979

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	69.9	69.9	69.9	69.9	69.9	70.0	70.0	70.0	69.9	70.0	70.0	69.9	70.0	70.0	70.0	69.9	69.7	69.8	69.8	69.8	69.7	69.8	70.0	69.9	69.9
2	69.7	69.7	69.9	69.9	69.9	70.0	70.0	70.1	70.2	70.3	70.1	70.1	70.1	70.1	70.3	70.4	70.4	71.1	70.6	70.6	70.7	70.7	70.7	70.6	70.3
3	70.5	70.4	70.2	70.0	69.8	69.7	69.7	69.7	69.7	69.7	69.7	70.1	70.1	70.7	70.5	70.6	71.2	70.9	71.0	71.3	71.4	71.3	71.2	71.1	70.4
4	70.9	70.8	70.7	70.6	70.6	70.5	70.5	70.5	70.5	70.6	70.6	70.7	70.8	70.9	70.9	70.9	70.9	70.7	70.7	70.7	70.7	70.9	71.5	71.4	70.8
5	71.2	71.0	70.9	70.9	70.9	70.8	70.7	70.6	70.5	70.6	70.5	70.2	70.0	70.0	70.3	70.4	70.6	70.6	70.8	70.8	70.7	70.7	70.6	70.5	70.6
6	70.5	70.5	70.4	70.4	70.3	70.3	70.3	70.7	70.4	70.4	70.5	70.8	71.1	70.7	70.7	70.7	70.9	70.9	70.9	70.7	70.8	70.7	70.6	70.5	70.6
7	70.4	70.4	70.3	70.1	70.0	69.9	69.8	69.8	69.7	69.6	69.5	69.4	69.2	69.1	69.1	69.0	69.1	69.0	69.0	69.0	69.1	69.1	69.1	69.1	69.5
8	68.9	69.1	69.0	69.1	69.1	69.2	69.1	69.2	69.1	69.2	69.3	69.4	69.2	69.2	69.1	69.0	69.1	69.1	69.1	69.0	69.2	69.3	69.4	69.5	69.2
9	69.4	69.3	69.1	69.1	69.3	69.4	69.3	69.3	69.3	69.4	69.7	69.9	70.2	70.3	70.5	70.5	70.9	71.2	71.3	71.3	71.5	71.5	71.5	71.4	70.2
10	71.6	71.1	71.1	71.0	71.0	70.9	70.9	70.9	70.9	71.0	71.0	71.0	71.1	71.3	71.3	71.5	71.8	72.0	72.2	72.1	72.2	72.2	72.3	72.2	71.4
11	72.2	72.1	72.1	72.1	72.1	72.4	72.1	72.2	72.3	72.3	72.3	72.2	72.2	72.1	72.1	72.1	72.3	72.3	72.5	72.5	72.6	72.6	72.9	72.9	72.3
12	72.8	72.9	73.0	73.0	73.0	73.0	73.0	72.9	72.9	72.9	72.9	73.0	73.2	73.1	73.2	73.3	73.6	73.7	73.9	74.0	73.9	73.9	74.0	73.9	73.3
13	73.9	73.9	73.9	73.8	73.8	73.7	73.7	73.7	73.7	73.7	73.5	73.4	73.3	73.5	73.7	73.8	74.4	74.3	74.3	74.5	74.7	74.7	74.6	74.5	74.0
14	74.6	74.7	74.7	74.7	74.6	74.6	74.5	74.5	74.5	74.5	74.5	74.4	74.4	74.3	74.2	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.4
15	74.1	74.2	74.4	74.3	74.3	74.5	74.5	74.6	74.6	74.6	74.5	74.5	74.5	74.4	74.4	74.5	74.5	74.4	74.5	74.5	74.5	74.5	74.9	74.5	74.5
16	74.6	74.6	74.7	74.6	74.6	74.6	74.7	74.8	74.9	75.0	75.0	75.4	75.1	75.4	75.6	75.7	75.9	76.2	76.4	76.3	76.5	76.4	76.3	76.5	75.4
17	76.3	76.5	76.4	76.2	76.3	76.3	76.2	76.2	76.3	76.3	76.3	76.1	75.7	75.4	76.0	76.2	76.5	76.7	77.0	76.9	77.0	76.9	76.8	76.8	76.4
18	76.7	76.7	76.7	76.6	76.7	76.7	76.6	76.7	76.6	76.7	76.7	76.8	76.9	77.0	77.0	77.0	77.1	77.0	77.0	77.0	77.0	76.9	76.9	76.8	76.8
19	76.8	76.6	76.6	76.5	76.4	76.4	76.3	76.3	76.3	76.2	76.2	76.2	76.1	76.0	76.0	75.8	75.8	75.8	75.9	76.0	75.9	75.9	75.9	75.9	76.2
20	75.9	75.9	76.0	76.0	76.0	75.9	75.9	75.9	75.8	75.8	75.8	75.8	75.9	76.0	76.0	76.1	76.2	75.9	76.0	76.0	76.3	76.2	76.2	76.3	76.0
21	76.2	76.1	76.2	76.2	76.1	76.2	76.2	76.2	76.2	76.1	76.2	76.2	76.1	76.1	76.2	76.1	76.2	76.0	75.9	76.0	76.1	76.2	76.2	76.1	76.1
22	76.2	76.3	76.3	76.1	76.0	76.0	76.1	76.1	76.1	76.1	76.2	76.3	76.4	76.5	76.5	76.3	76.4	76.3	76.3	76.4	76.4	76.4	76.4	76.4	76.3
23	76.3	76.3	76.4	76.3	76.3	76.6	76.4	76.2	76.1	76.1	76.2	76.0	76.2	76.4	76.5	76.8	76.9	76.9	77.2	77.0	77.3	77.9	77.1	77.1	76.6
24	77.4	77.4	77.4	77.5	77.4	77.5	77.7	77.7	77.6	77.6	77.5	77.5	77.5	77.7	77.7	77.8	77.7	77.6	77.8	77.9	78.1	78.3	78.4	78.1	77.7
25	78.0	77.9	78.0	78.1	78.1	78.0	78.2	78.2	78.1	78.0	78.0	78.1	78.1	78.0	77.9	77.9	77.9	77.9	77.9	77.9	77.9	78.0	78.0	78.0	78.0
26	78.1	78.0	78.1	78.3	78.3	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.1	78.4	78.4	78.3	78.3	78.4	78.4	78.4	78.6	78.7	78.6	78.5	78.4
27	78.5	78.6	78.7	78.7	78.7	78.8	78.7	78.7	78.7	78.6	78.6	78.6	78.6	78.5	78.6	78.5	78.6	78.5	78.5	78.4	78.4	78.5	78.4	78.3	78.6
28	78.2	78.3	78.0	78.2	78.3	78.5	78.6	78.7	78.7	78.8	78.8	78.5	78.4	78.5	78.5	78.5	78.5	78.5	78.	78.5	78.5	78.5	78.4	78.4	78.5
29	78.4	78.3	78.3	78.4	78.4	78.5	78.5	78.5	78.5	78.5	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.3	78.4	78.3	78.3	78.3	78.3	78.4
30	78.3	78.3	78.3	78.2	78.1	78.1	78.2	78.2	78.1	78.2	78.4	78.3	78.1	77.9	77.7	77.8	78.0	78.2	78.2	78.3	78.5	78.4	78.5	78.4	78.2
31	78.3	78.5	78.5	78.5	78.5	78.5	78.6	78.5	78.6	78.6	78.5	78.6	78.7	78.8	78.9	79.0	79.1	79.2	79.2	79.2	79.4	79.5	79.4	79.4	78.8
																								MONTHLY AVERAGE	74.4

TABLE 3.2-8

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

AUGUST 1979

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	79.5	79.4	79.3	79.3	79.3	79.2	79.2	79.4	79.4	79.4	79.5	79.5	79.6	79.6	79.8	79.9	79.9	80.0	80.0	80.1	79.9	80.0	80.0	80.0	79.6
2	79.8	79.9	79.9	80.0	80.0	80.1	80.0	79.9	80.0	80.0	79.9	80.1	80.1	80.0	79.8	79.9	80.0	80.1	80.0	80.0	79.9	80.0	80.0	80.1	80.0
3	80.1	80.3	80.5	80.6	80.7	80.6	80.6	80.6	80.6	80.5	80.5	80.4	80.4	80.6	80.7	80.8	80.6	80.8	80.9	81.0	80.9	80.7	80.8	80.8	80.6
4	81.0	81.1	81.1	81.2	81.3	81.4	81.5	81.4	81.3	81.4	81.3	81.4	80.8	80.5	80.5	80.4	80.5	80.5	80.6	80.7	80.9	81.0	80.9	80.9	81.0
5	80.8	80.9	81.0	81.0	80.9	81.0	80.9	80.8	80.6	80.6	80.6	80.5	80.6	80.6	80.5	80.6	80.5	80.4	80.3	80.2	80.1	80.1	80.2	80.3	80.6
6	80.3	80.4	80.3	80.4	80.6	80.7	80.6	80.7	80.6	80.5	80.4	80.5	80.7	80.8	80.9	81.1	81.3	81.3	81.4	81.5	81.6	81.7	81.6	81.7	80.9
7	81.6	81.5	81.4	81.3	81.3	81.3	81.2	81.2	81.3	81.2	81.1	81.0	80.9	80.9	80.8	80.8	80.7	80.7	80.7	80.6	80.6	80.7	80.7	80.7	81.0
8	80.7	80.8	80.9	80.9	80.9	80.8	80.8	80.7	80.8	80.7	80.5	80.5	80.3	80.2	80.2	80.2	80.5	80.4	80.5	80.2	80.0	80.2	80.6	80.6	80.5
9	80.6	80.6	80.5	80.5	80.4	80.4	80.3	80.2	80.2	80.2	80.2	80.3	80.4	80.2	80.4	80.4	80.6	80.2	80.1	80.2	80.3	80.5	80.4	80.3	80.4
10	80.2	80.0	80.0	79.9	79.8	79.8	79.6	79.6	79.5	79.4	79.4	79.3	79.1	79.3	79.3	79.2	79.0	79.1	79.1	78.9	78.8	78.8	78.7	78.6	79.4
11	78.4	78.3	78.2	78.2	78.2	78.1	78.0	78.0	78.0	78.0	78.0	78.0	78.1	78.0	77.5	77.7	77.5	77.5	77.5	77.4	77.3	77.3	77.2	77.2	77.8
12	77.1	77.0	76.9	76.8	76.5	76.7	76.6	76.5	76.1	76.4	76.3	76.2	76.1	76.1	76.1	76.0	75.8	75.8	75.6	75.5	75.4	75.2	74.6	74.8	76.1
13	74.6	74.5	74.3	74.2	74.1	73.9	73.8	73.8	72.8	73.0	72.9	73.3	73.4	73.4	73.5	73.4	73.4	73.5	73.2	73.3	73.4	73.4	73.3	73.2	73.6
14	73.2	73.1	73.1	73.0	73.0	73.0	72.9	72.8	72.8	72.8	72.8	72.8	72.8	72.7	72.6	72.5	72.3	72.1	71.9	71.9	71.9	72.0	71.7	71.9	72.6
15	72.1	71.9	72.0	71.9	71.9	71.8	71.7	71.6	71.6	71.6	71.4	71.4	71.3	71.2	71.1	71.1	71.1	71.0	70.9	70.8	70.8	70.6	71.2	70.5	71.4
16	70.5	70.5	70.4	70.4	70.4	70.4	70.4	70.3	70.4	70.5	70.6	70.7	70.7	70.9	70.9	71.0	71.1	71.1	71.1	71.0	71.0	70.9	70.9	70.8	70.7
17	70.8	70.8	70.7	70.7	70.7	70.7	70.6	70.6	70.5	70.6	70.6	70.5	70.6	70.4	70.3	70.1	70.2	70.3	70.3	70.2	70.1	70.0	70.2	70.1	70.4
18	70.1	70.1	70.3	70.2	70.1	70.0	70.0	70.0	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.8	69.7	69.7	69.4	69.6	69.6	69.5	69.5	69.3	69.8
19	69.3	69.2	69.2	69.0	69.1	69.0	69.0	69.0	69.0	69.0	69.0	69.1	69.1	69.1	69.0	68.9	69.0	68.9	68.9	68.9	68.8	68.8	68.8	68.7	69.0
20	68.8	68.8	68.9	68.9	68.9	68.9	68.9	68.8	68.9	68.8	68.8	68.8	68.8	68.7	68.5	68.5	68.5	68.7	68.8	68.7	68.5	68.5	68.4	68.4	68.7
21	68.5	68.5	68.5	68.6	68.6	68.6	68.6	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.7	68.7	69.1	69.1	69.0	68.6	68.6	68.7	68.8	68.8	68.6
22	68.8	68.8	68.9	69.1	69.0	69.3	69.3	69.2	69.2	69.4	69.4	69.4	69.3	69.3	69.2	69.2	69.1	69.1	68.9	68.8	68.9	69.1	69.0	69.1	69.1
23	68.9	69.0	69.0	69.1	69.1	69.0	69.1	69.2	69.2	69.2	69.4	69.4	69.4	69.2	69.1	69.2	69.2	69.3	69.3	69.3	69.3	69.3	69.4	69.3	69.2
24	69.5	69.3	69.5	69.4	69.5	69.6	69.5	69.4	69.5	69.6	69.6	69.5	69.5	69.4	69.4	69.3	69.3	69.4	69.4	69.4	69.5	69.5	69.5	69.6	69.5
25	69.7	69.7	69.7	69.7	69.6	69.6	69.8	69.8	69.9	69.9	69.8	69.9	69.9	69.9	70.0	70.0	70.0	69.9	70.0	70.0	69.9	69.9	70.0	70.1	69.9
26	70.1	70.1	70.1	70.2	70.1	70.1	70.2	70.1	70.1	70.1	70.1	70.1	70.2	70.5	70.3	70.3	70.2	70.2	70.2	70.2	70.2	70.3	70.4	70.2	70.2
27	70.1	70.2	70.4	70.2	70.2	70.2	70.4	70.4	70.4	70.4	70.5	70.6	70.4	70.4	70.7	71.1	71.3	71.6	72.0	72.1	71.9	71.4	71.4	71.5	70.8
28	71.6	71.6	71.5	71.5	71.5	71.6	71.6	71.7	71.7	71.8	71.8	71.8	71.8	71.7	71.7	71.9	72.2	72.4	72.3	72.3	72.1	71.8	71.9	72.0	71.8
29	72.1	72.0	72.0	71.9	71.9	71.9	71.9	72.0	72.0	72.0	72.1	72.1	72.1	72.0	72.1	72.1	72.1	72.2	72.3	72.3	72.4	72.5	72.7	72.8	72.1
30	72.9	72.9	72.9	72.8	72.9	72.8	72.9	72.9	72.8	72.8	72.8	72.9	73.0	73.0	72.9	72.9	73.0	73.2	73.3	73.3	73.2	73.3	73.4	73.3	73.0
31	73.2	73.0	73.0	73.2	73.3	73.2	73.2	73.2	73.1	73.2	73.1	73.3	73.3	73.4	73.3	73.4	73.5	73.6	73.8	73.7	73.8	73.8	73.8	73.8	73.4
																								MONTHLY AVERAGE	74.2

TABLE 3.2-9

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

SEPTEMBER 1979

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	73.6	73.6	73.5	73.6	73.5	73.5	73.5	73.5	73.4	73.3	73.3	73.2	73.1	73.0	73.0	73.1	73.0	73.1	73.0	73.0	73.0	73.3
2	73.0	73.0	73.1	73.1	73.1	73.0	73.1	73.0	73.0	72.9	73.0	73.0	73.0	73.1	73.0	73.1	73.1	73.0	73.0	73.1	73.2	73.2	73.1	73.2	73.1
3	73.1	73.1	73.2	73.3	73.2	73.2	73.3	73.2	73.2	73.3	73.3	73.4	73.3	73.4	73.4	73.5	73.5	73.6	73.6	73.6	73.7	73.6	73.6	73.6	73.4
4	73.5	73.6	73.6	73.6	73.7	73.6	73.7	73.7	73.7	73.8	73.7	73.8	73.9	74.1	74.2	74.3	73.8	73.6	73.6	73.7	73.9	73.9	74.3	74.2	73.8
5	73.8	73.9	74.0	74.3	74.3	74.2	74.3	74.2	74.2	74.2	74.2	74.1	74.2	74.1	74.2	74.3	74.5	74.7	74.8	74.8	74.7	74.6	74.4	74.4	74.3
6	74.4	74.4	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.2	74.1	74.0	74.1	74.1	74.1	74.0	74.0	74.0	74.0	74.0	74.0	73.8	73.6	74.1
7	73.3	73.0	72.8	72.8	72.7	72.6	72.5	72.5	72.4	72.3	72.0	71.7	71.6	71.5	71.4	70.8	70.7	71.1	71.2	71.4	71.9	72.3	72.5	72.6	1
8	72.6	72.5	72.3	72.2	72.0	71.9	71.6	71.5	71.4	71.3	71.3	71.3	71.4	71.5	71.6	71.6	71.6	71.7	71.6	71.6	71.7	71.8	72.0	72.2	.8
9	72.1	72.1	72.1	72.0	71.9	71.9	71.7	71.6	71.5	71.5	71.6	71.6	71.4	71.3	71.2	71.1	71.0	70.9	70.8	70.9	71.2	71.0	70.9	70.8	71.4
10	70.7	70.5	70.4	70.3	70.1	70.0	70.0	69.9	69.7	69.4	69.1	68.9	68.7	69.0	69.2	69.8	70.3	70.4	70.4	70.3	70.2	70.0	69.9	69.9	69.9
11	69.8	69.8	69.7	69.6	69.5	69.4	69.4	69.3	69.3	69.4	69.5	69.4	69.6	69.7	69.7	69.5	69.7	69.9	69.9	69.8	69.8	69.7	69.6	69.4	69.6
12	69.3	69.2	69.1	69.1	68.9	68.9	68.7	68.8	68.7	68.7	68.8	68.8	68.6	68.2	68.2	68.5	68.9	69.1	69.2	69.4	69.4	69.1	69.2	69.2	68.9
13	69.1	69.0	69.0	69.0	68.9	68.9	68.8	68.8	68.7	68.8	68.8	68.7	68.4	68.3	68.5	68.6	69.0	69.3	69.5	69.3	69.3	69.1	69.0	68.8	68.9
14	68.4	68.3	68.2	68.1	68.2	68.3	68.4	68.4	68.4	68.4	68.3	68.1	67.9	67.8	67.8	67.9	68.0	68.2	68.4	68.6	68.7	68.6	68.5	68.3	68.3
15	68.1	68.0	67.9	67.8	67.7	67.6	67.6	67.5	67.6	67.6	67.8	68.0	67.9	67.9	67.9	67.9	68.0	68.0	68.0	67.9	67.8	67.8	67.8	67.7	67.8
16	67.6	67.5	67.5	67.4	67.3	67.2	67.2	67.1	67.1	67.0	67.0	67.0	66.9	66.8	66.7	66.6	66.5	66.5	66.4	66.5	66.6	67.0	67.3	67.0	67.0
17	66.8	66.6	66.5	66.8	66.7	66.7	66.6	66.6	66.5	66.5	66.5	66.5	66.5	66.2	66.2	66.3	66.7	67.1	67.4	67.4	67.4	67.2	67.2	67.2	66.8
18	67.0	67.0	66.9	66.8	66.8	66.7	66.7	66.6	66.6	66.7	66.7	66.8	66.7	66.8	66.7	66.9	67.0	67.2	67.4	67.6	67.4	67.3	67.3	67.1	66.9
19	67.0	66.9	66.9	66.9	66.7	66.7	66.6	66.6	66.5	66.5	66.6	66.6	66.7	66.9	66.9	66.9	67.0	67.0	66.9	66.8	66.7	66.7	66.6	66.5	66.8
20	66.5	66.4	66.3	66.2	66.2	66.1	66.1	66.0	66.0	66.0	66.0	66.0	65.9	65.9	65.8	65.7	65.8	65.8	65.8	65.8	65.7	65.7	65.8	65.7	66.0
21	65.7	65.7	65.7	65.6	65.6	65.5	65.5	65.5	65.4	65.3	65.2	64.9	64.7	64.5	64.5	64.1	63.9	63.7	63.7	63.7	63.8	63.8	63.8	63.8	64.7
22	63.8	63.8	63.8	63.8	63.8	63.8	63.9	63.9	64.0	64.0	64.0	64.1	64.0	64.0	64.0	64.1	64.1	64.0	64.0	63.9	63.8	63.7	63.5	63.9	63.9
23	63.4	63.4	63.3	63.2	63.1	63.0	62.8	62.7	62.8	62.9	62.8	62.8	62.8	62.7	62.8	62.8	62.7	62.7	62.7	62.7	62.6	62.6	62.7	62.6	62.9
24	62.6	62.6	62.6	62.5	62.5	62.4	62.4	62.3	62.3	62.2	62.1	62.0	61.9	61.7	61.3	61.1	61.0	60.9	60.9	61.0	61.0	61.0	61.1	61.1	61.8
25	61.0	60.9	60.9	61.0	61.0	61.1	61.1	61.1	61.0	61.0	61.0	61.0	60.9	61.0	61.0	60.8	61.0	61.0	61.0	61.0	61.1	61.1	61.1	61.2	61.0
26	61.2	61.2	61.2	61.2	61.3	61.3	61.3	61.2	61.2	61.3	61.3	61.3	61.3	61.2	61.3	61.4	61.3	61.3	61.2	61.4	61.3	61.2	61.6	61.5	61.3
27	61.5	61.5	61.6	61.7	61.6	61.6	61.6	61.6	61.6	61.6	61.7	61.8	61.7	61.6	61.6	61.7	61.7	61.7	61.7	61.8	61.9	61.9	62.0	62.0	61.7
28	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.1	62.1	62.1	62.1	62.1	62.1	62.0	61.9	61.9	61.8	61.8	61.8	61.7	61.7	61.7	61.8	61.9
29	61.8	61.7	61.7	61.7	61.7	61.7	61.6	61.6	61.6	61.7	61.7	61.7	61.7	61.8	61.9	61.9	62.0	62.1	62.1	62.0	62.1	62.1	62.1	62.0	61.8
30	62.0	62.0	62.0	62.0	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.8	61.8	61.8	61.7	61.7	61.6	61.6	61.6	61.6	61.6	61.6	61.5	61.5	61.8
																								MONTHLY AVERAGE	67.6

TABLE 3.2-10

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

OCTOBER 1979

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	61.5	61.4	61.4	61.4	61.4	61.4	61.4	61.3	61.4	61.3	61.4	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.4	61.4	61.4	61.3	61.4
2	61.2	61.1	61.1	61.1	61.0	61.0	61.0	61.0	61.0	60.9	60.9	61.0	61.0	60.7	60.5	60.2	60.0	60.2	60.6	60.7	60.8	60.9	60.9	60.9	60.8
3	60.9	61.0	61.2	61.3	61.3	61.4	61.4	61.5	61.5	61.9	61.6	61.7	61.6	61.4	61.3	61.2	61.1	60.9	60.9	60.9	60.7	60.9	60.9	60.9	61.2
4	60.9	60.8	60.8	60.9	60.9	60.9	60.8	60.6	60.5	60.3	60.2	60.2	60.2	60.3	60.4	60.7	60.9	61.1	61.1	61.3	61.4	61.4	61.4	61.5	60.8
5	61.5	61.5	61.5	61.5	61.4	61.2	61.2	61.1	61.0	61.0	60.9	61.1	61.1	61.1	61.2	61.2	61.1	61.1	61.2	61.2	61.3	61.4	61.4	61.4	61.2
6	61.3	61.2	61.0	60.9	60.9	60.7	60.6	60.4	60.3	60.3	60.2	60.1	59.9	59.6	59.7	59.7	59.8	59.6	59.8	59.8	59.7	59.7	59.8	59.7	60.2
7	59.6	59.6	59.8	59.8	59.7	59.8	59.7	59.5	59.4	59.5	59.5	59.3	59.0	58.8	58.5	58.5	58.6	58.7	58.6	59.1	59.7	60.1	60.2	60.2	59.4
8	60.0	59.9	59.7	59.6	59.5	59.5	59.4	59.3	59.2	59.1	58.9	58.8	58.7	58.3	58.5	58.2	58.0	58.0	58.1	58.3	58.2	58.1	58.1	58.1	58.8
9	58.0	58.0	57.9	57.9	57.9	57.8	57.8	57.8	57.6	57.4	57.2	57.0	56.8	56.7	56.7	55.8	55.3	55.7	56.1	56.2	56.1	55.9	55.7	55.5	56.9
10	55.4	55.3	55.2	55.2	55.1	55.1	55.0	55.0	54.9	54.9	54.7	54.7	54.6	54.7	54.3	53.9	53.4	53.1	52.6	52.6	52.7	52.8	52.9	53.0	54.2
11	53.1	53.2	53.1	53.2	53.3	53.3	53.1	53.2	53.2	53.1	53.2	52.5	52.4	52.3	52.0	51.8	51.3	50.8	50.8	51.2	51.7	52.1	52.3	52.4	52.4
12	52.4	52.4	52.4	52.4	52.4	52.3	52.3	52.2	52.1	52.0	52.0	51.9	51.6	51.5	51.3	51.1	50.6	50.1	50.4	50.6	50.6	50.7	50.6	50.6	51.5
13	50.6	50.6	50.6	50.6	50.5	50.5	50.5	50.6	50.5	50.5	50.4	50.3	50.3	50.2	50.0	49.1	48.8	48.2	48.8	49.4	49.6	49.9	49.9	49.9	50.0
14	50.0	50.1	50.0	50.0	50.0	50.1	50.0	50.0	49.9	49.9	49.8	49.7	49.7	49.5	49.6	49.5	49.3	49.3	49.2	49.1	49.0	49.0	48.9	49.0	49.6
15	49.2	49.3	49.3	49.2	49.1	49.1	49.1	49.0	48.9	49.0	49.0	49.0	48.8	48.7	48.9	49.0	49.0	49.0	48.9	48.7	48.7	48.7	48.6	48.6	49.0
16	48.6	48.6	48.5	48.5	48.5	48.4	48.3	48.5	48.5	48.5	48.6	48.5	48.5	48.4	48.5	48.5	48.5	48.5	48.5	48.4	48.3	48.2	48.0	47.9	48.4
17	47.9	47.9	47.9	48.0	48.1	48.2	48.2	48.2	48.2	48.1	48.3	48.3	48.3	48.4	48.5	48.6	48.6	48.7	48.9	49.0	49.0	49.0	49.0	49.1	48.4
18	49.1	49.0	49.1	49.1	49.1	49.2	49.1	49.2	49.2	49.3	49.4	49.4	49.6	49.6	49.6	49.4	49.5	49.6	49.5	49.7	49.6	49.5	49.0	49.3	49.3
19	49.1	49.1	49.0	48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.7	48.7	48.7	48.6	48.7	48.8	49.0	49.0	49.1	49.2	49.3	49.2	49.3	49.4	48.9
20	49.4	49.4	49.3	49.4	49.4	49.3	49.4	49.4	49.5	49.5	49.7	49.7	49.9	50.0	50.1	50.3	50.3	50.3	50.3	50.2	50.2	50.3	50.5	50.5	49.8
21	50.5	50.5	50.5	50.6	50.5	50.5	50.5	50.6	50.6	50.6	50.7	50.8	50.7	50.7	50.8	50.8	50.8	50.9	51.0	51.2	51.5	51.6	51.5	51.3	50.8
22	51.3	51.3	51.2	51.1	51.0	51.0	51.1	51.3	51.5	51.7	51.8	51.8	51.8	51.9	52.0	52.5	52.6	52.7	52.6	52.3	52.2	52.1	52.1	52.1	51.8
23	52.1	52.0	52.0	52.0	52.0	52.1	52.1	52.1	52.1	52.2	52.3	52.4	52.4	52.5	52.7	52.9	53.1	53.3	53.5	53.5	53.3	53.2	53.2	53.3	52.6
24	53.3	53.3	53.3	53.4	53.4	53.4	53.4	53.5	53.6	53.7	53.8	53.8	53.9	53.9	53.9	54.3	54.4	54.4	54.3	54.2	54.2	54.1	54.1	54.1	53.8
25	54.1	54.0	54.0	54.0	53.9	53.9	53.9	53.9	53.9	53.9	53.8	53.9	53.7	53.7	53.7	53.9	54.0	53.9	53.8	53.8	53.7	53.6	53.6	53.4	53.8
26	53.4	53.3	53.2	53.2	53.2	53.2	53.2	53.1	53.1	53.1	53.1	53.1	53.2	53.3	53.3	53.1	53.1	53.0	52.9	52.8	52.6	52.6	52.5	52.5	53.0
27	52.4	52.4	52.4	52.4	52.3	52.3	52.3	52.3	52.2	52.2	52.1	52.2	52.4	52.7	52.8	52.7	52.6	52.5	52.3	52.1	51.9	51.7	51.6	51.5	52.3
28	51.4	51.4	51.3	51.3	51.2	51.2	51.2	51.1	50.9	50.8	50.7	50.4	50.2	50.0	49.7	49.8	49.8	49.8	49.6	49.5	49.4	49.3	49.3	49.3	50.4
29	49.2	49.2	49.1	49.1	49.0	49.1	49.1	49.1	49.1	49.0	49.0	48.9	48.9	49.0	49.1	48.6	48.0	48.0	48.2	48.3	48.3	48.2	48.2	48.2	48.7
30	48.1	48.1	48.0	48.0	48.0	47.9	47.9	47.9	48.0	48.1	48.2	48.2	48.2	48.3	48.4	48.3	47.9	47.9	48.0	48.0	47.9	47.8	47.7	47.7	48.0
31	47.6	47.6	47.5	47.5	47.5	47.4	47.4	47.4	47.5	47.5	47.6	47.6	47.7	47.7	47.7	47.3	47.1	47.2	47.3	47.4	47.4	47.3	47.2	47.1	47.4
																								MONTHLY AVERAGE	53.4

TABLE 3.2-11

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

NOVEMBER 1979

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	46.9	46.9	46.8	46.7	46.6	46.6	46.6	46.7	46.6	46.7	46.7	46.8	46.9	47.0	46.9	46.7	46.5	46.4	46.5	46.4	46.5	46.6	46.7	46.7
2	46.7	46.9	46.8	46.9	46.9	46.9	46.9	46.8	46.8	46.8	46.9	47.1	47.4	47.7	47.7	47.7	47.5	47.3	47.3	47.3	47.4	47.5	47.5	47.6	47.2
3	47.6	47.6	47.6	47.6	47.6	47.7	47.7	47.7	47.6	47.7	47.7	47.7	47.7	47.7	47.7	47.8	47.9	48.1	48.2	48.3	48.3	48.3	48.2	48.1	47.8
4	48.1	48.1	48.0	48.0	48.0	47.9	47.7	47.7	47.6	47.5	47.5	47.5	47.5	47.6	47.5	47.5	47.4	47.3	47.2	47.2	47.2	47.2	47.1	47.0	47.6
5	46.9	46.8	46.8	46.6	46.5	46.4	46.4	46.3	46.3	46.4	46.6	46.8	46.9	46.8	46.9	46.9	46.8	46.8	46.7	46.7	46.6	46.5	46.4	46.4	46.6
6	46.3	46.2	46.1	46.0	45.9	45.8	45.7	45.7	45.6	45.5	45.6	45.6	45.7	45.8	45.7	45.5	45.4	45.2	45.0	44.9	44.8	44.7	44.7	44.6	45.5
7	44.5	44.5	44.5	44.5	44.5	44.4	44.4	44.4	44.4	44.4	44.4	44.5	44.5	44.5	44.5	44.5	44.5	44.4	44.3	44.2	44.2	44.1	44.1	44.0	44.4
8	44.2	44.0	43.9	44.0	43.9	43.8	43.9	43.8	43.9	44.0	44.0	44.0	44.1	43.9	43.8	44.0	44.1	44.2	44.3	44.3	44.3	44.4	44.4	44.4	44.1
9	44.3	44.3	44.2	44.2	44.1	44.0	44.0	44.0	44.0	44.0	44.0	44.1	44.1	43.9	44.0	44.2	44.4	44.4	44.5	44.5	44.6	44.6	44.6	44.6	44.2
10	44.5	44.5	44.5	44.6	44.6	44.7	44.7	44.9	44.9	45.0	45.1	45.3	45.4	45.4	45.5	45.4	45.4	45.4	45.4	45.4	45.5	45.5	45.6	45.6	45.1
11	45.6	45.6	45.5	45.4	45.6	45.5	45.4	45.3	45.3	45.3	45.2	45.2	45.1	45.1	45.1	45.0	45.0	45.0	45.1	45.1	45.1	45.2	45.2	45.2	45.3
12	45.2	45.2	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.2	45.1	45.0	44.9	44.8	44.8	44.9	44.9	44.9	44.9	44.8	44.8	44.8	45.1
13	44.8	44.7	44.7	44.7	44.7	44.7	44.9	44.7	44.7	44.8	44.8	44.8	44.9	44.8	44.6	44.4	44.4	44.6	44.7	44.8	44.8	44.8	44.8	44.8	44.7
14	44.8	44.9	44.8	44.8	44.8	44.8	45.0	44.9	44.9	45.0	45.0	45.0	45.1	45.0	44.9	45.0	45.1	45.1	45.1	45.1	45.0	44.9	44.9	44.8	44.9
15	44.7	44.7	44.6	44.6	44.5	44.5	44.5	44.4	44.4	44.4	44.4	44.5	44.4	44.3	44.1	44.0	44.0	44.1	44.2	44.1	44.0	43.9	43.9	43.8	44.3
16	43.8	43.9	43.8	43.8	43.8	43.8	43.8	43.8	43.7	43.7	43.7	43.6	43.5	43.4	43.2	43.0	42.9	42.9	43.0	42.9	42.9	42.8	42.8	42.7	43.4
17	42.7	42.6	42.6	42.5	42.4	42.4	42.3	42.3	42.3	42.4	42.4	42.4	42.3	41.9	41.3	41.0	41.0	41.2	41.7	42.0	42.1	42.1	42.1	42.2	42.1
18	42.2	42.5	42.2	42.2	42.2	42.1	42.0	41.9	41.9	41.9	42.0	42.2	42.8	42.6	42.6	42.6	42.5	42.6	42.5	42.6	42.7	42.5	42.3	42.1	42.3
19	42.0	41.9	41.9	41.8	41.7	41.6	41.6	41.6	41.8	41.9	42.1	42.1	42.2	42.3	42.0	42.0	42.0	42.0	42.0	41.9	41.9	41.9	42.0	42.0	41.9
20	42.0	42.0	42.1	42.1	42.0	42.1	42.1	42.2	42.2	42.2	42.2	42.3	42.3	42.3	42.0	42.0	42.1	42.1	42.1	42.1	42.0	41.9	41.9	41.8	42.1
21	41.8	41.8	41.8	41.8	41.8	41.9	41.9	41.9	42.0	42.0	42.1	42.1	42.1	42.2	42.2	42.2	42.1	42.1	42.1	42.0	41.9	41.9	41.8	41.8	42.0
22	41.7	42.0	41.7	42.0	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.5	41.5	41.5	41.5	41.5	41.6	41.6	41.6
23	41.5	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.7	41.7	41.9	42.1	42.2	42.4	42.4	42.4	42.5	42.5	42.4	42.4	42.3	42.3	42.3	42.0
24	42.2	42.3	42.3	42.3	42.3	42.4	42.4	42.5	42.5	42.6	42.7	42.8	42.9	43.0	43.1	43.4	43.6	43.8	43.8	43.8	43.8	43.8	43.9	44.0	43.0
25	44.0	44.1	44.1	44.2	44.1	44.2	44.2	44.2	44.1	44.1	44.1	44.1	44.1	44.2	44.3	44.4	44.6	44.9	45.0	45.1	45.2	45.4	45.5	45.5	44.5
26	45.5	45.4	45.3	45.3	45.2	45.2	45.2	45.1	45.1	45.1	45.0	45.0	45.1	45.5	45.9	46.2	46.4	46.5	46.5	46.7	46.8	46.9	47.0	47.1	45.8
27	47.3	47.6	48.1	48.4	48.6	48.7	48.7	48.4	48.3	48.1	48.0	47.9	47.9	47.9	47.9	47.9	48.0	47.9	47.8	47.6	47.4	47.2	47.1	47.0	47.9
28	46.9	46.9	46.8	46.7	46.6	46.3	46.1	46.0	45.9	45.8	45.8	45.8	45.9	45.8	45.7	45.6	45.5	45.4	45.4	45.2	45.0	44.9	44.8	44.8	45.8
29	44.8	44.8	44.8	44.7	44.6	44.4	44.2	44.0	43.9	43.8	43.8	43.7	43.7	43.7	43.6	43.6	43.6	43.5	43.5	43.4	43.2	43.1	42.9	42.8	43.8
30	42.8	42.8	42.8	42.8	42.9	42.8	42.7	42.7	42.6	42.5	42.4	42.4	42.5	42.4	42.4	42.4	42.3	42.3	42.3	42.2	42.0	42.0	41.8	41.7	42.4
																								MONTHLY AVERAGE	44.5

TABLE 3.2-12

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

DECEMBER 1979

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	41.7	41.6	41.4	41.4	41.3	41.3	41.2	41.1	41.0	41.1	41.1	41.1	41.2	41.3	41.3	41.3	41.1	41.0	40.9	40.9	40.9	40.9	40.8	40.6	41.1
2	40.6	40.5	40.4	40.4	40.4	40.4	40.3	40.3	40.2	40.2	40.3	40.1	40.0	39.8	39.7	39.5	39.3	39.1	39.1	39.1	39.1	39.1	38.9	38.8	39.8
3	38.8	38.8	38.8	38.9	38.9	38.9	38.8	38.6	38.5	38.5	38.4	38.5	38.5	38.0	37.5	37.6	37.8	38.0	38.1	38.2	38.0	37.9	37.7	37.7	38.3
4	37.7	37.7	37.6	37.5	37.4	37.3	37.2	37.2	37.2	37.1	36.9	36.7	36.6	36.6	36.7	36.7	36.8	36.8	36.9	36.7	36.8	36.7	36.6	36.5	37.0
5	36.5	36.4	36.4	36.4	36.4	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.3	36.3	36.2	36.1	36.3
6	36.0	35.9	35.7	35.6	35.5	35.5	35.5	35.4	35.4	35.4	35.5	35.5	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.7	35.8	35.9	35.9	35.6
7	36.1	36.2	36.2	36.3	36.3	36.3	36.4	36.3	36.4	36.4	36.5	36.6	36.6	36.7	36.8	36.9	36.9	36.9	36.9	36.9	36.9	36.9	36.8	36.9	36.6
8	36.9	36.8	36.7	36.6	36.5	36.5	36.4	36.4	36.4	36.4	36.4	36.4	36.5	36.7	36.5	36.5	36.5	36.5	36.4	36.2	36.2	36.1	36.1	36.1	36.4
9	36.1	36.1	36.1	36.1	36.1	36.1	36.1	35.9	35.8	35.9	35.8	35.8	35.8	35.9	35.9	35.8	35.7	35.4	35.3	35.2	35.0	34.6	34.4	34.3	35.6
10	34.2	34.2	34.2	34.3	34.4	34.4	34.4	34.4	34.5	34.6	34.9	35.0	35.0	35.1	35.0	34.8	34.9	35.1	35.2	35.2	35.1	35.1	35.1	35.0	34.8
11	35.0	34.9	34.9	34.9	34.9	34.8	34.9	34.9	34.8	34.8	34.9	34.9	34.9	34.9	35.0	35.1	35.1	35.1	35.2	35.2	35.2	35.3	35.3	35.3	35.0
12	35.3	35.3	35.3	35.3	35.3	35.4	35.4	35.4	35.5	35.5	35.5	35.7	35.9	36.0	36.1	36.1	36.1	36.0	35.9	35.9	35.9	35.9	35.9	35.9	35.7
13	35.9	35.9	35.9	35.9	35.8	35.8	35.8	35.7	35.6	35.6	35.6	35.6	35.6	35.7	35.6	35.5	35.4	35.2	35.1	34.9	34.9	34.9	35.0	34.9	35.5
14	34.9	34.8	34.7	34.7	34.6	34.5	34.4	34.3	34.2	34.2	34.2	34.2	34.2	34.3	34.3	34.3	34.2	34.2	34.3	34.3	34.3	34.4	34.5	34.5	34.4
15	34.6	34.6	34.6	34.7	34.7	34.6	34.7	34.6	34.6	34.5	34.4	34.4	34.5	34.4	34.4	34.3	34.2	34.2	34.4	34.4	34.3	34.3	34.3	34.2	34.5
16	34.2	34.1	34.1	34.1	34.2	34.1	34.2	34.2	34.2	34.2	34.2	34.2	34.3	34.4	34.4	34.5	34.5	34.4	34.5	34.5	34.5	34.5	34.1	34.0	34.3
17	33.9	33.8	33.8	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	34.0	34.0	33.9	33.6	33.3	33.2	33.3	33.4	33.4	33.2	33.2	33.1	32.9	33.6
18	32.9	32.8	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.8	32.8	32.7	32.8	32.8	32.8	32.7	32.6	32.7	32.7	32.6	32.5	32.4	32.3	32.1	32.7
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	32.1	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	32.1	32.2	32.2	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.0	32.1
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	34.3

TABLE 3.3-1

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

JANUARY 1979

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

TABLE 3.3-2

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

FEBRUARY 1979

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

TABLE 3.3-3

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

MARCH 1979

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

TABLE 3.3-4

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

APRIL 1979

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

TABLE 3.3-5

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

MAY 1979

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

TABLE 3.3-6

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

NOVEMBER 1979

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

TABLE 3.3-7

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

AT MONITOR 3

DECEMBER 1979

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	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.2	0.2	0.0	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.4	0.4	-0.1
2	0.0	-0.1	-0.2	0.1	0.1	0.1	0.1	0.3	0.5	0.1	-0.4	-0.1	-0.2	-0.4	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	-0.2	-0.2
3	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0.3	1.5	0.2	0.3	-0.4	-0.4	-0.2	0.1	-0.1	-0.1	-0.1	0.0	-0.2	-0.3	-0.4	-0.2	-0.2	-0.3
4	-0.2	-0.3	0.0	0.2	0.1	0.2	-0.3	-0.1	-0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.4	-0.3	-0.2	-0.1
5	0.0	-0.1	0.0	0.0	0.3	0.1	0.1	-0.1	0.0	-0.2	0.0	0.2	0.0	0.1	-0.1	0.1	0.1	0.0	-0.1	0.1	-0.3	0.0	0.0	0.0
6	-0.1	0.0	-0.1	-0.1	0.1	-0.1	0.0	-0.2	0.9	0.5	0.2	-0.2	-0.3	-0.1	0.0	0.0	-0.3	0.1	-0.1	-0.1	-0.2	-0.4	-0.2	-0.1
7	-0.1	-0.1	-0.2	0.0	-0.1	0.0	0.1	0.0	0.1	0.5	0.4	0.1	0.2	0.0	0.2	0.3	-0.1	0.3	-0.2	-0.2	-0.1	0.4	-0.6	0.0
8	-0.2	0.1	0.3	-0.1	1.8	-1.9	-0.4	-0.1	-0.1	-0.1	-0.2	0.8	1.6	0.3	-0.3	-0.3	-0.6	-0.2	-0.3	-0.4	-0.4	-0.2	-0.1	-0.3
9	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	0.0	0.3	0.7	0.8	0.6	0.9	0.8	0.7	0.2	0.1	-0.4	0.7	-0.4	-1.8	-1.1	-0.4	-0.4	-0.3
10	0.0	-0.1	-0.1	-0.2	-0.2	0.1	0.3	0.9	1.3	1.3	-0.6	-1.3	-0.3	-0.3	-0.2	-0.4	-0.2	-0.2	-0.3	-0.2	-0.2	-0.1	0.1	0.0
11	0.0	-0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	1.7	1.1	0.1	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.0	-0.1	0.0
12	-0.1	-0.2	-0.1	0.2	0.6	0.6	0.4	0.6	1.1	0.6	-0.9	-0.6	-0.7	-0.4	-0.1	-0.2	-0.1	-0.2	-0.1	0.0	-0.2	-0.2	-0.1	0.0
13	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	1.5	1.1	-0.2	-0.8	-0.4	-0.2	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.4	-0.1	-0.1
14	-0.1	0.0	-0.1	-0.1	0.0	0.1	0.0	0.0	-0.1	-0.1	0.2	0.1	0.0	0.1	-0.1	0.1	0.1	0.0	0.2	-0.2	-0.3	-0.3	-0.2	-0.2
15	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	0.0	0.7	1.0	0.3	0.1	-0.3	-0.2	-0.2	-0.2	0.0	0.1	0.0	-0.3	-0.2	-0.2	0.0	0.0
16	-0.1	-0.2	-0.1	-0.1	0.1	0.2	0.7	0.9	0.8	0.6	0.7	1.1	0.6	0.4	0.4	0.2	0.1	0.4	-0.7	-2.5	-1.0	-0.8	-0.6	0.0
17	0.1	-0.1	-0.2	-0.1	-0.1	0.1	0.4	0.9	1.1	1.6	0.0	-1.5	-1.2	-0.5	-0.5	-0.4	-0.2	-0.4	0.1	-0.2	-0.6	-0.3	-0.1	0.0
18	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	0.0	0.7	2.7	0.7	-0.7	-0.7	-0.5	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	-0.3	-0.3	-0.2	-0.2
19	-0.1	0.2	0.4	0.4	0.5	0.4	0.3	-0.2	-0.7	-0.6	-0.2	-0.2	0.0	0.0	0.0	0.3	0.4	0.1	-0.2	-0.4	-0.4	-0.1	-0.1	-0.1
20	-0.1	0.0	-0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.2	0.0	0.0	0.1	0.0	-0.1	-0.1	0.0	-0.1	0.0	-0.1	-0.1
21	-0.1	0.0	0.0	0.1	0.4	0.4	0.5	0.6	1.8	1.8	-1.1	-1.4	-0.8	-0.4	-0.4	-0.3	-0.1	-0.2	0.0	0.0	-0.1	0.1	-0.1	0.0
22	0.0	0.0	-0.1	0.1	0.3	0.4	0.5	0.5	0.6	1.4	1.0	0.1	-0.4	-0.3	-0.2	-0.2	-0.5	-0.3	0.8	0.7	-0.5	-0.4	-0.4	-0.3
23	0.0	-0.3	-0.3	0.0	0.3	0.4	0.4	0.3	0.6	0.5	0.2	0.3	0.3	0.3	0.1	0.2	0.3	0.1	-1.8	-1.2	-1.3	-0.8	-0.5	-0.2
24	0.0	0.1	0.1	0.0	0.2	0.4	0.4	0.5	0.9	1.2	0.5	-0.7	-1.1	-0.9	-0.4	-0.3	-0.1	0.6	0.1	-1.0	-0.8	-0.3	-0.1	-0.2
25	0.3	0.6	0.3	0.1	0.1	0.2	0.1	0.0	0.1	0.0	-0.9	-1.0	-0.3	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.0
26	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.1
27	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.1	0.0	0.0	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
28	0.0	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	-0.2	0.1	0.0	-0.1	-0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
30	0.0	0.0	-0.1	-0.1	0.1	0.2	1.1	1.3	1.1	-0.2	-0.9	-1.3	-0.5	-0.2	-0.1	0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	-0.1	0.4	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	-0.1	0.0	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1

TABLE 3.5-1

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

JANUARY 1979

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	9.2	9.2	9.3	9.5	9.6	9.7	9.6	9.6	9.5	9.5	9.5	9.4	9.5	9.7	9.9	10.1	10.2	10.2	10.2	10.2	9.9	9.5	9.2	8.8
2	8.7	8.7	8.5	8.2	8.3	8.4	8.6	8.8	8.4	7.3	5.2	3.6	2.4	2.1	1.9	1.8	1.7	1.6	1.4	1.2	1.1	1.0	0.9	0.8
3	0.8	0.8	0.8	0.8	0.7	0.6	0.9	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6
4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.1	0.9	0.9	0.9	0.9	0.9	0.9
5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.2
6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.2	1.2	1.2	1.2
7	1.2	1.2	1.3	1.3	1.3	1.1	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
8	1.4	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.2	1.3	1.2
9	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
10	1.4	1.3	1.3	1.3	1.4	1.4	1.4	2.3	2.5	1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.7	1.6	1.7	1.7
11	1.8	2.4	2.3	2.2	2.2	2.0	2.1	3.6	4.9	3.2	2.4	2.1	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7	2.0	1.7	1.6	1.7
12	2.0	1.7	1.6	1.5	1.6	1.9	2.7	4.8	4.5	3.1	2.3	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8
13	1.8	1.8	1.7	2.2	2.8	3.4	4.0	4.5	4.9	5.3	6.5	5.5	3.4	2.4	2.0	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.7
14	1.6	1.5	1.4	1.7	2.3	3.0	3.7	4.3	4.9	5.4	5.7	6.2	7.0	6.9	5.6	4.9	4.3	3.6	4.5	3.4	2.6	2.4	2.1	2.0
15	2.1	2.1	2.3	2.8	3.3	3.7	4.2	4.8	5.7	6.9	4.7	3.1	2.5	2.2	2.1	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6
16	1.7	1.8	2.1	2.5	3.1	3.8	4.4	4.8	5.5	6.8	5.6	4.0	3.1	2.6	2.4	2.4	2.3	2.2	2.0	1.9	1.9	1.9	1.9	1.9
17	1.9	2.0	1.7	1.7	1.7	2.0	3.8	5.0	4.3	3.3	2.6	2.3	2.2	2.1	1.9	2.0	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9
18	1.9	1.9	1.9	1.9	1.8	1.9	2.2	3.1	5.1	5.1	3.7	2.7	2.3	2.2	2.1	1.9	1.9	1.8	1.8	1.8	1.7	1.8	1.8	1.8
19	1.8	1.9	1.8	1.8	2.0	2.2	2.4	2.9	4.2	5.8	4.2	3.1	2.5	2.3	2.3	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.9	1.8
20	1.8	1.7	1.8	1.9	2.3	2.8	3.3	3.7	4.3	5.0	6.3	6.9	5.9	5.0	4.2	3.8	3.6	3.9	4.0	3.2	2.8	2.8	2.8	2.6
21	2.6	2.8	3.2	3.6	4.2	4.2	4.5	4.7	5.0	5.8	6.6	4.1	2.8	2.3	2.3	2.4	2.4	3.8	2.7	2.1	2.0	1.9	1.9	1.8
22	1.9	1.9	1.9	1.9	1.8	2.1	2.6	3.5	5.5	5.1	3.2	2.4	2.2	2.3	2.3	2.3	2.4	4.3	3.2	2.3	2.0	1.9	1.9	1.9
23	1.7	1.9	2.7	3.5	3.8	4.0	4.3	4.4	4.9	3.3	2.4	2.2	2.2	2.1	2.4	2.5	2.5	2.3	2.0	1.8	1.8	1.8	1.7	1.8
24	1.9	2.2	2.3	2.4	2.4	2.9	3.3	3.5	3.5	3.6	2.6	2.1	2.1	2.1	2.0	2.4	3.1	3.5	3.6	2.5	2.0	1.8	1.8	1.8
25	1.8	1.9	1.8	1.9	1.8	1.8	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	2.3	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.9	1.8
26	1.9	2.1	2.7	3.3	3.9	4.5	5.1	5.4	5.8	6.2	6.5	6.9	5.0	3.5	2.7	2.3	2.1	1.9	1.9	1.9	1.8	1.8	1.8	1.8
27	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.1	2.1	2.5	3.1	3.3	3.4	2.4	2.1	2.1	2.1	2.0
28	2.1	2.2	2.5	2.9	3.4	3.8	4.2	4.6	4.9	5.6	6.9	7.1	4.9	3.4	2.7	2.3	2.1	2.0	1.9	1.9	1.9	1.9	2.1	2.3
29	2.3	2.4	2.3	2.5	2.5	2.7	3.5	5.9	4.4	2.9	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0	2.1	2.3	2.3	2.3
30	2.4	2.3	2.2	2.4	2.4	2.6	3.1	4.3	6.1	5.2	3.4	2.7	2.4	2.4	2.3	2.5	2.7	2.5	2.1	1.9	1.9	1.9	1.8	1.8
31	1.9	2.0	2.3	3.0	3.8	5.3	6.0	4.7	3.5	3.0	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.9	1.9	1.9

TABLE 3.5-2

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

FEBRUARY 1979

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

TABLE 3.5-3

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

MARCH 1979

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	1.7	1.8	1.9	2.1	2.6	3.2	3.8	5.4	5.8	4.3	3.1	2.7	2.6	2.5	2.6	2.6	2.6	2.5	2.2	1.9	1.8	1.8	1.8	1.8
2	1.9	2.0	2.1	2.3	2.7	3.1	3.7	4.3	6.0	6.2	4.5	3.4	2.8	2.4	2.3	2.2	2.1	2.0	2.0	1.9	2.0	2.0	1.9	1.9
3	1.9	1.9	2.1	2.5	2.8	2.8	2.8	2.9	2.9	2.8	2.1	1.9	1.8	1.9	2.0	2.1	2.1	2.5	4.6	3.5	2.3	2.0	1.9	1.9
4	1.8	1.9	1.9	2.1	2.4	2.9	3.6	4.2	5.0	5.4	5.6	4.6	3.7	3.2	3.1	2.8	2.8	2.7	2.4	2.0	1.9	1.7	1.8	1.8
5	1.8	1.9	1.8	1.8	1.9	2.1	2.3	3.4	5.6	4.3	2.9	2.5	2.0	2.0	2.0	2.1	2.0	1.9	1.7	1.5	1.6	1.7	1.7	1.6
6	1.7	1.9	2.0	1.9	2.0	1.9	1.7	1.6	1.6	1.5	1.3	1.1	1.0	0.9	0.8	0.8	0.7	0.6	0.7	0.6	0.5	0.5	0.5	0.5
7	0.5	0.4	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
8	0.3	0.3	0.2	0.2	0.5	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4
9	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.3
10	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5
11	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4
12	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
13	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.7	0.6	0.6	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.7	0.7
14	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7
15	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.5	0.6
16	0.6	0.6	0.6	0.6	0.6	0.5	0.7	0.7	0.6	0.7	0.7	0.7	0.9	1.0	1.0	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.6
17	0.5	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2
18	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	
19	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.1	0.0	-0.3	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0
20	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	0.0	0.0
21	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-0.3	-0.3	-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	0.0
22	-0.1	0.6	0.6	0.3	0.3	0.3	0.2	0.5	0.3	0.0	-0.1	-0.2	-0.1	0.1	-0.2	-0.4	-0.4	-0.6	-0.6	-0.8	-0.8	-1.0	-0.9	-0.6
23	-0.4	-0.1	0.1	0.3	0.5	0.6	0.3	0.0	-0.3	-0.6	-0.9	-0.7	-0.3	-0.1	1.0	1.2	1.1	1.2	1.2	1.2	1.3	1.5	1.8	2.0
24	2.1	2.1	1.8	2.0	1.7	1.6	1.6	1.6	1.5	1.5	1.6	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.7	1.5	1.5	1.4
25	1.4	1.3	1.4	1.6	1.9	2.3	2.6	2.2	1.9	1.9	1.8	1.8	1.9	1.8	1.6	1.7	1.4	1.2	1.1	1.0	0.9	1.1	1.2	1.4
26	1.8	1.8	1.9	2.0	1.9	1.8	1.8	1.8	2.3	1.5	1.6	1.6	1.7	1.7	1.5	1.6	1.7	1.6	1.5	1.5	1.6	1.6	1.5	1.6
27	1.4	1.7	1.6	0.9	1.8	1.7	1.7	1.7	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.3	1.3	1.4	1.4	1.5	1.6
28	1.7	1.6	1.8	1.8	1.7	1.9	2.0	1.8	1.9	1.6	1.6	1.4	1.5	1.5	1.4	1.2	1.1	1.2	1.1	1.2	1.4	1.5	1.5	1.7
29	1.6	1.8	2.0	1.8	1.8	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.4	1.2	1.4	1.4	1.3	1.5	1.4
30	1.6	1.6	1.5	1.6	1.5	1.4	1.5	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.4	1.5	1.5	1.6	1.4	1.4	1.4
31	1.5	1.4	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.3	1.2	1.2	1.3	1.3	1.3	1.4	1.3	1.4	1.3	1.3	1.4

TABLE 3.5-4

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

APRIL 1979

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	1.4	1.5	1.5	1.6	1.6	1.5	1.4	1.6	1.5	1.4	1.5	1.2	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.8	1.6	1.7	1.6	1.6
2	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.5	0.8	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.1	1.1	1.0	1.1	1.1	1.2	1.2
3	1.2	1.2	1.3	1.5	1.8	1.6	1.7	1.7	1.8	2.1	2.0	2.0	1.9	1.9	2.0	2.0	2.1	1.8	1.8	1.9	1.9	1.9	1.8	2.0
4	2.0	2.0	2.0	2.2	2.3	2.4	2.4	2.5	2.4	2.4	1.4	1.2	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
5	0.8	0.9	1.0	1.2	1.3	1.3	1.5	1.5	1.7	1.7	1.3	1.3	1.3	1.3	1.3	1.4	1.2	1.2	1.4	1.3	1.4	1.3	1.4	1.4
6	1.3	1.4	1.3	1.4	1.5	1.7	1.8	1.7	1.8	1.8	1.6	1.5	1.4	1.3	1.2	1.2	1.0	1.2	1.2	1.3	1.4	1.5	1.5	1.5
7	1.5	1.5	1.6	1.7	1.8	1.7	1.9	2.0	2.0	1.9	1.7	1.5	1.0	1.2	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1
8	1.3	1.4	1.5	1.7	1.8	1.8	2.0	2.0	2.2	2.2	2.2	2.1	2.0	1.7	1.4	0.9	1.2	1.1	1.2	1.3	1.4	1.6	1.4	1.5
9	1.5	1.5	1.5	1.6	1.8	2.0	2.1	2.4	2.5	2.7	2.7	2.5	2.3	2.6	3.0	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3
10	2.1	2.0	2.0	1.8	1.8	1.8	1.4	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	1.9	2.1	1.9	2.1	2.1	2.0	2.0	2.1
11	2.0	1.9	1.8	1.9	1.9	2.0	1.9	2.0	2.0	2.1	2.1	2.1	2.0	1.7	1.5	1.4	1.1	1.1	1.0	1.2	1.2	1.3	1.4	1.3
12	1.3	1.3	1.3	1.4	1.7	2.0	2.3	2.4	2.4	2.3	2.1	2.1	1.9	1.7	1.5	1.6	1.6	1.7	1.6	1.5	1.3	1.3	0.9	1.7
13	2.0	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.6	2.1	2.3	2.5	2.5	2.8	2.8	2.5	2.3	2.0	1.7	1.7	1.7	1.7	1.7	1.7
14	1.8	1.6	1.1	1.6	1.6	1.6	1.6	1.7	1.9	1.9	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.6	2.7	2.5	2.4	2.4	2.2	2.1
15	2.1	2.1	2.0	1.6	1.6	1.7	1.8	2.0	1.9	1.9	1.9	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.9
16	1.9	1.9	1.8	1.7	1.7	1.6	1.8	1.8	1.9	2.0	2.1	2.1	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.8
17	1.8	1.9	1.8	1.8	1.8	1.7	1.9	2.0	2.0	2.0	2.1	2.4	2.0	2.0	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.3
18	1.4	1.4	1.5	1.5	2.0	1.6	1.6	1.7	1.7	1.7	1.8	1.6	1.5	1.4	1.2	1.1	1.1	1.0	1.1	1.1	1.0	0.6	1.1	1.2
19	1.4	1.4	1.4	1.6	1.7	1.8	1.9	1.9	1.9	1.8	1.6	1.4	0.9	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.9	0.9	1.0
20	1.0	1.1	1.4	1.5	1.7	1.7	1.9	1.9	1.9	1.9	1.8	1.6	1.5	1.4	1.2	1.1	1.0	1.0	0.8	0.8	0.8	0.7	0.8	0.9
21	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.1	2.1	2.0	1.9	1.7	1.5	1.3	1.2	1.0	0.9	0.8	0.6	0.3	0.4	0.5	0.5	0.5
22	0.7	0.8	0.9	1.2	1.4	1.7	1.8	2.0	2.0	1.9	1.8	1.8	1.6	1.4	1.2	1.3	1.2	1.0	0.9	0.8	0.7	0.7	0.8	0.8
23	0.8	1.0	1.1	1.3	1.4	1.6	1.9	2.0	2.0	2.0	2.0	1.9	1.7	1.5	1.3	1.0	0.9	0.7	0.4	0.4	0.3	0.3	0.5	0.8
24	0.9	1.1	1.3	1.4	1.5	1.6	1.6	1.6	1.6	1.5	1.3					SYSTEM INOPERATIVE								
25									SYSTEM INOPERATIVE															
26									SYSTEM INOPERATIVE															
27									SYSTEM INOPERATIVE															
28									SYSTEM INOPERATIVE															
29									SYSTEM INOPERATIVE															
30									SYSTEM INOPERATIVE															

TABLE 3.5-5

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

MAY 1979

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

TABLE 3.5-6

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

NOVEMBER 1979

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	0.7	0.7	0.6	0.7	0.7	0.8	0.8	0.7	0.7	0.8	0.7	0.8	0.9	1.0	1.0	1.4	2.0	3.7	3.4	3.0	3.6	2.9	2.8	2.6
2	2.5	2.6	2.8	2.9	3.3	3.7	4.3	2.5	1.8	1.4	0.9	0.8	0.7	0.5	0.6	0.6	0.8	0.9	0.9	0.9	0.6	0.7	0.7	0.7
3	0.8	0.8	0.7	0.9	0.9	0.7	0.7	0.8	0.8	0.7	0.6	0.4	0.5	0.4	0.5	0.6	0.6	0.4	0.3	0.0	-0.1	-0.2	-0.1	0.1
4	0.1	0.1	0.3	0.4	0.5	0.7	1.0	1.0	1.1	1.1	1.3	1.4	1.6	1.6	1.5	1.6	1.5	1.5	1.6	1.5	1.5	1.4	1.5	1.6
5	1.6	1.5	1.5	1.6	1.6	1.6	1.5	1.6	2.6	2.7	2.2	1.7	1.6	1.7	1.5	1.4	1.3	1.4	1.4	1.3	1.4	1.4	1.5	1.5
6	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.7	1.8	1.9	1.9	2.0	2.0	1.9	2.0	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1
7	2.0	1.9	1.7	1.6	1.5	1.5	1.5	1.4	1.4	1.6	1.7	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.7	1.8	1.8	1.8	1.8	2.0
8	2.0	2.0	2.0	1.8	1.8	1.8	1.9	2.6	4.0	4.4	3.6	2.9	2.6	2.7	2.8	2.5	2.2	2.2	1.6	1.4	1.3	1.1	1.0	1.1
9	1.3	1.2	1.2	1.1	1.1	1.5	3.3	3.9	3.5	2.8	2.6	2.4	2.5	2.5	2.2	1.9	1.6	1.9	1.4	1.1	0.9	1.0	1.2	1.4
10	1.6	1.7	1.9	2.0	2.2	2.2	2.3	2.9	4.3	5.4	5.9	5.9	6.1	6.2	6.7	6.8	7.0	7.3	7.7	7.7	7.9	8.1	8.3	8.3
11	6.2	6.2	5.4	4.4	3.2	2.9	2.6	2.6	2.3					SYSTEM INOPERATIVE										
12																			2.6	2.5	2.6	2.7	2.7	2.6
13	2.5	2.5	3.0	3.0	3.2	3.3	3.6	3.9	4.3	2.3	2.5	2.6	2.6	2.7	3.0	3.2	3.1	2.5	2.0	1.8	1.8	1.9	1.9	1.9
14	1.8	1.7	1.8	1.8	2.0	2.4	2.6	3.6	4.1	3.4	2.9	2.5	2.2	2.2	2.3	2.2	2.0	1.9	1.7	1.6	1.7	1.8	1.7	1.7
15	1.8	1.8	1.8	1.9	2.3	2.7	3.2	3.8	3.5	3.1	3.1	3.0	3.1	3.0	3.2	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8	2.9
16	2.7	2.4	2.5	2.4	2.4	2.4	2.3	3.0	3.8	3.6	3.2	3.2	3.1	3.0	2.9	3.0	2.9	2.8	2.5	2.2	2.2	2.2	2.2	2.2
17	2.2	2.3	2.3	2.5	2.8	2.8	2.8	2.7	2.7	3.7	3.4	2.5	2.4	2.7	3.4	3.7	3.7	3.8	4.3	3.6	2.8	2.7	2.7	2.5
18	2.6	2.2	2.5	2.9	3.3	3.7	4.1	4.3	4.5	4.6	4.7	4.8	4.5	5.2	5.5	5.9	6.1	6.2	7.8	6.9	4.6	3.9	3.9	4.0
19	4.1	4.2	4.4	4.9	5.3	5.5	5.6	5.6	6.2	6.1	5.2	4.4	3.6	3.2	3.4	3.4	3.2	3.1	2.6	2.4	2.3	2.3	2.2	2.2
20	2.2	2.2	2.0	1.8	1.8	1.5	1.3	1.0	0.7	0.7	0.7	0.5	0.4	0.5	1.0	1.2	1.3	1.9	2.6	2.4	2.3	2.4	2.3	2.3
21	2.3	2.3	2.3	2.4	2.4	2.4	2.6	2.7	2.8	3.0	3.2	3.2	3.1	2.9	2.9	2.8	2.8	2.7	2.2	2.3	2.0	2.0	2.1	2.0
22	2.1	1.8	2.2	2.0	2.5	2.6	3.3	3.8	4.5	5.6	5.2	4.2	3.5	3.3	3.2	3.2	3.3	3.7	4.7	4.6	3.9	3.4	3.1	3.1
23	3.2	3.2	3.1	3.2	3.6	4.2	4.7	5.1	5.5	5.9	6.6	6.1	5.0	4.2	3.4	3.1	2.9	2.6	2.2	1.9	1.8	1.9	2.0	2.2
24	2.4	2.6	3.1	3.8	4.3	4.6	5.0	5.4	5.8	6.3	6.6	5.7	4.4	3.5	3.1	2.8	3.0	3.0	2.6	2.4	2.2	2.1	1.9	1.8
25	1.9	1.9	2.1	2.3	3.0	3.1	3.5	4.0	4.5	4.8	5.1	5.3	5.6	5.9	6.1	[illegible]	6.2	6.0	4.6	3.0	2.2	1.9	1.7	2.0
26	2.2	2.6	3.0	3.4	3.9	4.1	4.6	4.9	5.4	5.4	5.0	4.5	3.8	3.1	2.7	[illegible]	2.2	2.3	2.2	1.8	1.6	1.3	1.0	1.0
27	0.8	0.6	0.1	-0.1	-0.4	-0.3	-0.3	0.0	0.2	0.7	1.2	1.7	1.8	1.7	1.7	[illegible]	1.1	1.0	1.0	1.1	1.2	1.4	1.4	1.3
28	1.3	1.1	1.1	1.2	1.3	1.6	1.8	1.8	1.9	1.9	1.8	1.8	1.7	1.9	1.9	1.9	1.9	1.9	1.7	1.8	1.8	1.7	1.7	1.5
29	1.3	1.2	1.1	1.2	1.3	1.5	1.7	1.9	2.0	2.0	2.0	2.1	2.0	1.9	2.0	1.9	1.7	1.7	1.6	1.7	1.8	1.9	2.0	2.1
30	2.0	1.9	1.8	1.7	1.6	1.5	1.6	1.6	1.7	1.9	2.1	2.2	2.2	2.3	2.4	2.4	2.4	2.2	2.0	2.0	2.0	1.9	2.1	2.1

TABLE 3.5-7

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

DECEMBER 1979

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	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.3	2.4	2.6	2.6	2.6	2.5	2.4	2.3	2.4	2.3	2.3	2.2	2.1	1.7	2.2	2.3
2	2.3	2.3	2.2	2.3	2.4	2.5	2.7	3.0	3.6	3.7	3.2	3.3	3.2	3.0	2.9	3.0	3.2	3.2	3.1	3.1	2.9	2.8	2.8	2.7
3	2.6	2.5	2.3	2.0	1.9	1.8	2.2	3.9	4.2	4.5	4.2	3.7	3.5	4.1	4.5	4.3	4.0	3.8	3.5	3.1	2.9	2.8	2.8	2.6
4	2.3	2.0	2.1	2.4	2.6	2.9	2.7	2.6	2.5	2.8	3.1	3.4	3.5	3.5	3.4	3.4	3.3	3.3	3.1	3.1	2.6	2.4	2.3	2.3
5	2.3	2.3	2.3	2.3	2.6	2.8	2.9	2.8	2.8	2.6	2.6	2.8	2.9	2.8	2.7	2.8	2.9	2.9	2.8	2.9	2.7	2.7	2.8	2.9
6	2.9	3.0	3.1	3.1	3.3	3.2	3.2	3.1	4.0	4.5	4.6	4.4	4.0	3.9	3.9	3.9	3.6	3.7	3.6	3.5	3.2	2.7	2.4	2.3
7	2.0	1.8	1.6	1.5	1.4	1.4	1.4	1.5	1.5	2.0	2.3	2.3	2.5	2.5	2.6	2.7	2.6	2.9	2.7	2.5	2.4	2.8	2.3	2.2
8	2.0	2.2	2.6	2.6	4.5	2.6	2.3	2.2	2.1	2.0	1.8	2.6	4.1	4.2	4.1	3.8	3.2	3.0	2.8	2.6	2.2	2.2	2.0	1.7
9	1.5	1.4	1.3	1.2	1.0	0.8	0.8	1.3	2.1	2.8	3.5	4.4	5.2	5.8	6.0	6.2	5.9	6.9	6.6	4.9	4.0	4.0	3.8	3.6
10	3.7	3.6	3.5	3.2	2.9	3.0	3.3	4.2	5.4	6.6	5.7	4.3	4.1	3.6	3.5	3.3	3.0	2.6	2.2	2.0	1.9	1.8	1.9	2.0
11	2.0	2.0	2.0	2.0	2.0	1.9	1.7	1.6	3.4	4.5	4.5	4.1	3.8	3.6	3.4	3.2	3.1	3.1	3.0	2.8	2.8	2.7	2.6	2.6
12	2.5	2.3	2.2	2.4	3.0	3.5	3.9	4.5	5.5	6.1	5.2	4.4	3.5	3.0	2.8	2.6	2.5	2.4	2.4	2.4	2.2	2.0	1.9	1.9
13	1.9	1.9	1.9	1.9	2.0	1.9	2.0	3.6	4.8	4.6	3.8	3.4	3.2	3.0	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.4	2.2	2.2
14	2.1	2.2	2.2	2.1	2.2	2.4	2.5	2.6	2.6	2.5	2.7	2.8	2.8	2.8	2.7	2.8	3.0	3.0	3.1	2.9	2.6	2.2	1.9	1.7
15	1.5	1.4	1.3	1.0	0.8	0.8	0.5	0.6	1.3	2.4	2.8	2.9	2.5	2.4	2.2	2.1	2.2	2.3	2.1	1.8	1.7	1.5	1.5	1.6
16	1.5	1.4	1.3	1.2	1.2	1.5	2.1	3.8	3.8	4.4	5.1	6.2	6.7	7.0	7.4	7.5	7.6	8.1	7.3	4.8	3.8	3.0	2.8	2.9
17	3.1	3.1	2.9	2.7	2.6	2.7	3.1	4.0	5.1	6.7	6.7	5.1	3.9	3.5	3.3	3.2	3.1	2.6	2.6	2.4	2.0	1.7	1.7	1.9
18	1.9	1.9	1.7	1.6	1.4	1.2	1.2	1.9	4.6	5.4	4.7	4.1	3.5	3.3	3.1	3.1	2.9	2.8	2.9	2.7	2.5	2.4	2.4	
19	2.4	2.6	3.0	3.4	3.9	4.3	4.6	4.4	3.7	3.1	2.9	2.7	2.7	2.7	2.7	3.0	3.4	3.5	3.3	2.9	2.5	2.4	2.3	2.2
20	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.2	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.0	2.0	1.9	1.8
21	1.7	1.7	1.7	1.8	2.2	2.6	3.1	3.7	5.5	7.3	6.2	4.8	4.0	3.5	3.2	2.9	2.8	2.6	2.6	2.6	2.5	2.6	2.5	2.5
22	2.5	2.5	2.4	2.5	2.8	3.2	3.7	4.2	4.8	6.2	7.2	7.3	6.9	6.6	6.4	6.2	5.7	5.4	6.2	6.9	6.4	6.0	5.6	5.3
23	5.3	5.0	4.7	4.7	5.0	5.4	5.8	6.1	6.7	7.2	7.4	7.7	8.0	8.3	8.4	8.6	8.9	9.0	7.2	6.0	4.7	3.9	3.4	3.2
24	3.2	3.3	3.4	3.4	3.6	4.0	4.4	4.9	5.8	7.0	7.5	6.8	5.7	4.8	4.4	4.1	4.0	4.6	4.7	3.7	2.9	2.6	2.5	2.3
25	2.6	3.2	3.5	3.6	3.7	3.9	4.0	4.0	4.1	4.1	3.2	2.3	1.9	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.4	1.3	1.3
26	1.2	1.2	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.2
27	1.2	1.2	1.1	1.0	0.9	0.9	0.8	0.9	0.9	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
28	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3
29	1.3	1.3	1.1	1.2	1.2	1.1	1.0	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8
30	1.8	1.8	1.7	1.6	1.7	1.9	3.0	4.3	5.4	5.2	4.3	3.0	2.4	2.1	2.0	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.9	2.0
31	2.0	2.0	2.0	2.0	1.9	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.7	2.8	2.9	2.9	2.8	2.8	2.5	2.2	2.0	1.9	1.8	1.7

SECTION 4

WATER QUALITY STUDIES

4. WATER QUALITY STUDIES

Four water quality parameters, in addition to temperature, are monitored continuously by the Honeywell W-20 Water Quality Data Collection Systems located on the Vermont shore at Station 7, upstream of Vermont Yankee, and at Station 3, downstream of the plant. Summaries of the data collected in 1979 for the four parameters – dissolved oxygen, conductivity, turbidity, and pH – are shown in Tables 4.1 through 4.4 at the end of this section of the report. The dissolved oxygen data, reduced to daily means and daily maxima and minima with times of occurrence, and the conductivity data, as daily means are presented in Table 4.1 for Monitor 3 and Table 4.2 for Monitor 7 Turbidity data, as daily means and pH data, as daily maxima, minima and range, are shown in Tables 4.3 and 4.4 for Monitors 3 and 7, respectively. Those tabulated data are summarized in the graphs of Figures 4.1 through 4.8.

The monthly maximum dissolved oxygen concentrations observed in 1979 at Monitor 3 in March and at Monitor 7 in April were each 0.1 mg/l greater than maxima observed in those months in prior years. The monthly mean at Monitor 7 (13.9 mg/l) was 0.2 mg/l greater than the previous high observed in 1975. The only record monthly minimum D.O. observed was that of 11.1 mg/l at Station 3 in December, 0.1 mg/l less than the minimum of December 1971.

Low river flows in July and August resulted in slightly greater ($\sim$5 µmhos) mean conductivity records at both locations. Maximum conductivity observed at Station 3 was also greater in those months than in prior years. The Station 3 maximum in May and the minimum in January were new records also.

All turbidity values – maxima, means, and minima – observed in 1979 were within one turbidity unit of those found in earlier years.

No record pH minima were established in 1979 but maxima greater by 0.1-0.2 pH units than found in earlier years were observed at Monitor 3 in February, March, April, and September and at Monitor 7 in February and August.

Grab samples for water quality analysis were collected once each quarter in 1979 at the two monitor stations and from Vermont Yankee's cooling water discharge to the river. 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 4.5.

Construction of a fish ladder at Vernon Dam was begun in May 1979. The effects of this work on river water quality are evident in the data of the May sample at Monitor 3. The high solids concentrations and turbidity, relative to the upstream samples, were accompanied by the highest total phosphate concentration observed in the river since studies were begun in 1967. The only parameter, other than phosphate, for which higher concentrations were found in 1979 than had been observed in former years was chloride. The chloride ion concentrations at Station 3 in February and at both stations in August were higher in 1979 than in previous years of study.

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 on 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 4.6.

TABLE 4.6

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 4.9 for sodium ion, Figure 4.10 for sulfate ion, Figure 4.11 for chloride ion, and Figure 4.12 for alkalinity. Each figure also show, 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, the data collected in May and August, when Vermont Yankee was operating in the closed cycle mode of condenser cooling, are plotted as filled circles. The data of February and November were collected while Vermont Yankee was operating in the open cycle mode. Data of these dates are plotted in the figures as open circles.

The twelve plotted points on the sodium ion, sulfate ion, and alkalinity figures are all within the range of Station 7 concentrations used to calculate the regression equations and within the 95% confidence limits associated with the regression lines. The Station 7 chloride ion concentration in August (10.8 mg/l) is greater than the maximum concentration (10.2 mg/l) used in the regression analysis, but the plotted print for the August data would fall within the 95% confidence limits of an extrapolated regression line. However, the plotted point for the February chloride concentrations indicates that the observed Monitor 3 concentration is clearly greater than the 95% confidence limit for a Station 3 concentration predicted from that observed at Station 7.

DISSOLVED OXYGEN
STATION NO. 3
1979

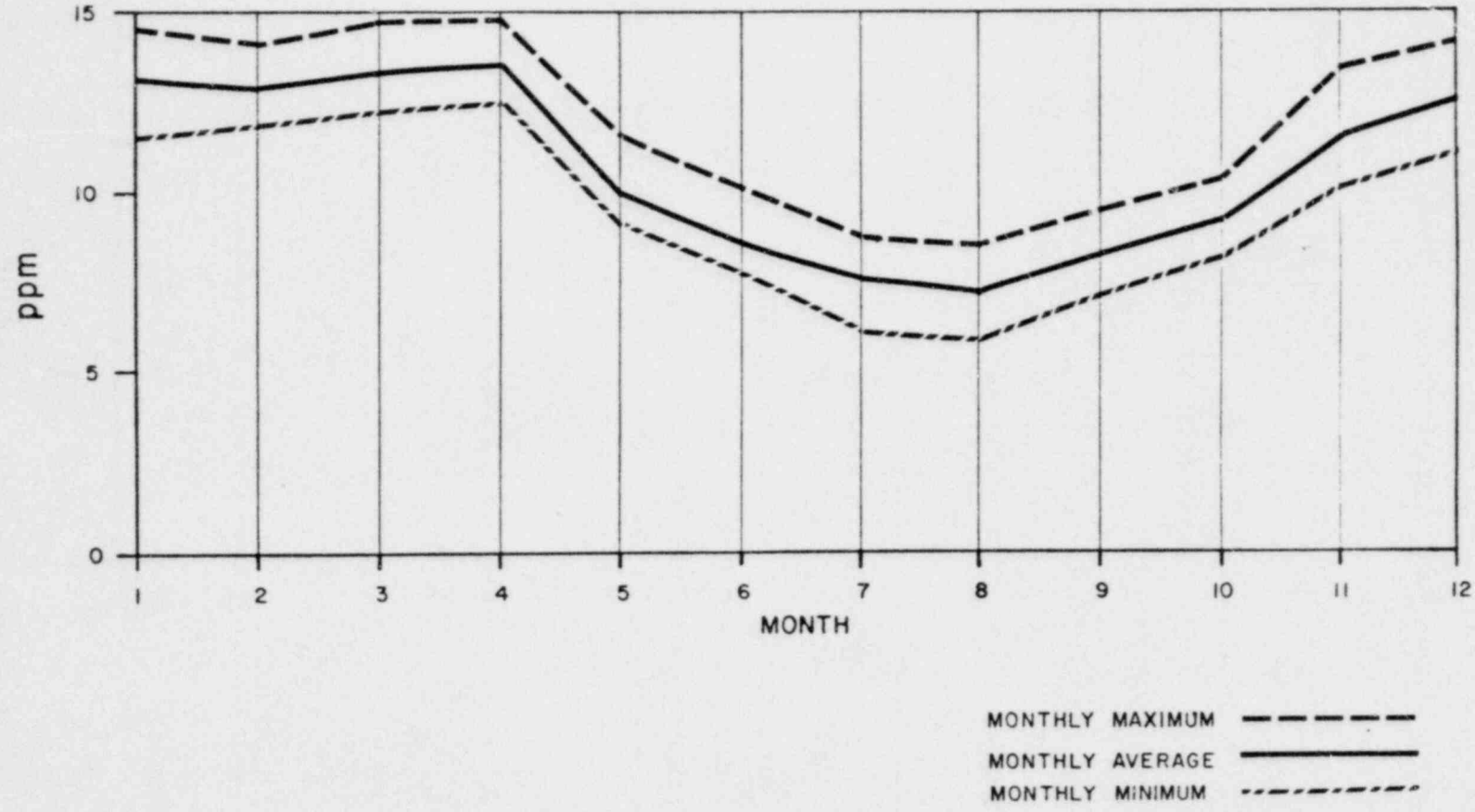


FIGURE 4.1

DISSOLVED OXYGEN
STATION NO. 7
1979

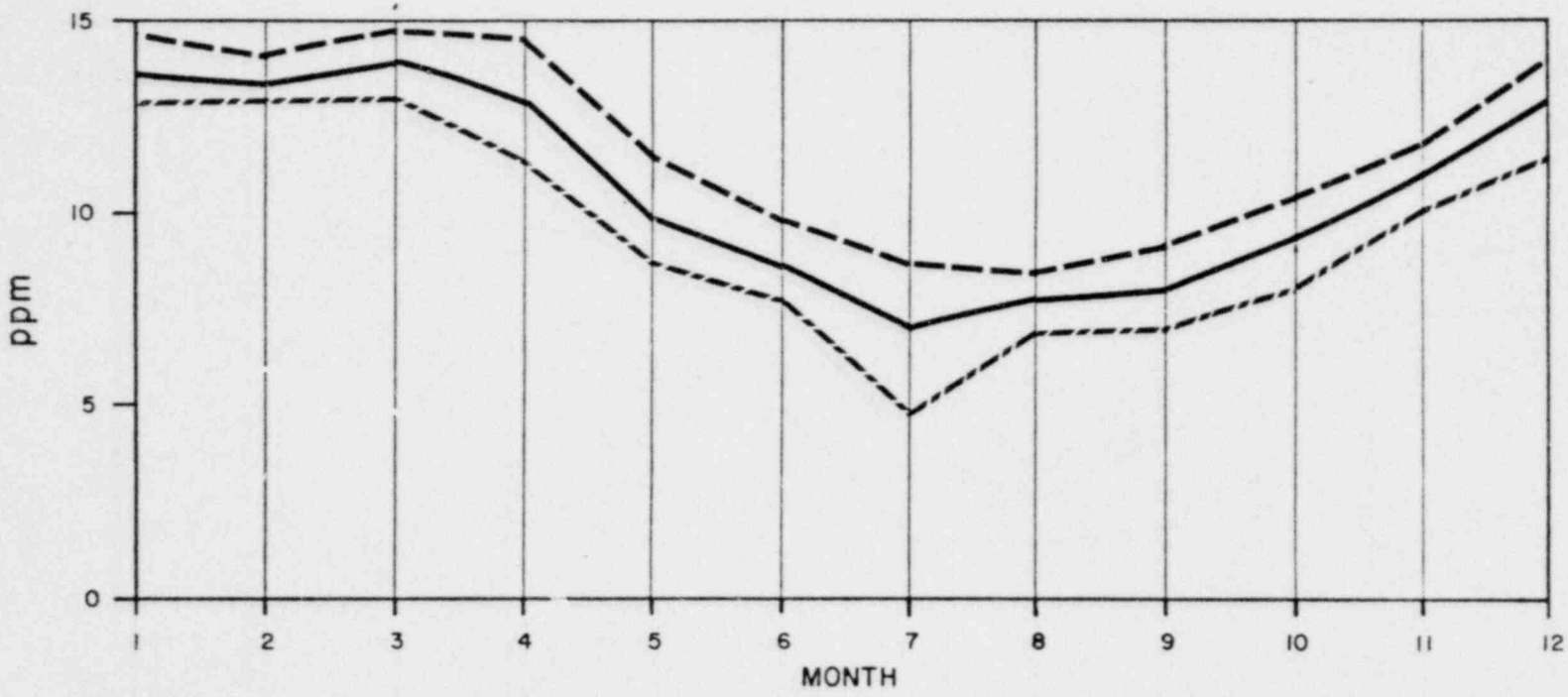


FIGURE 4.2

CONDUCTIVITY
STATION NO.3
1979

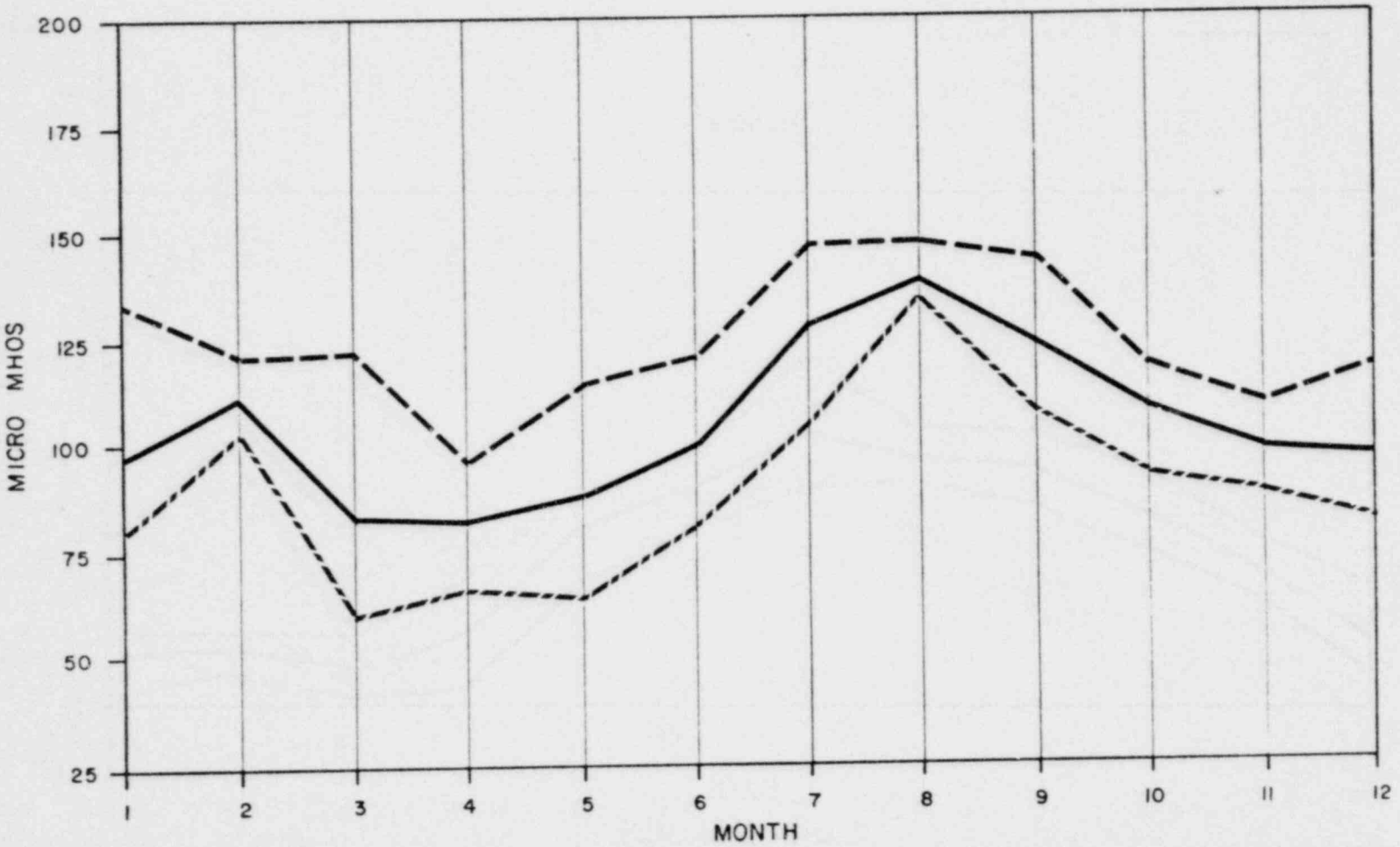


FIGURE 4.3

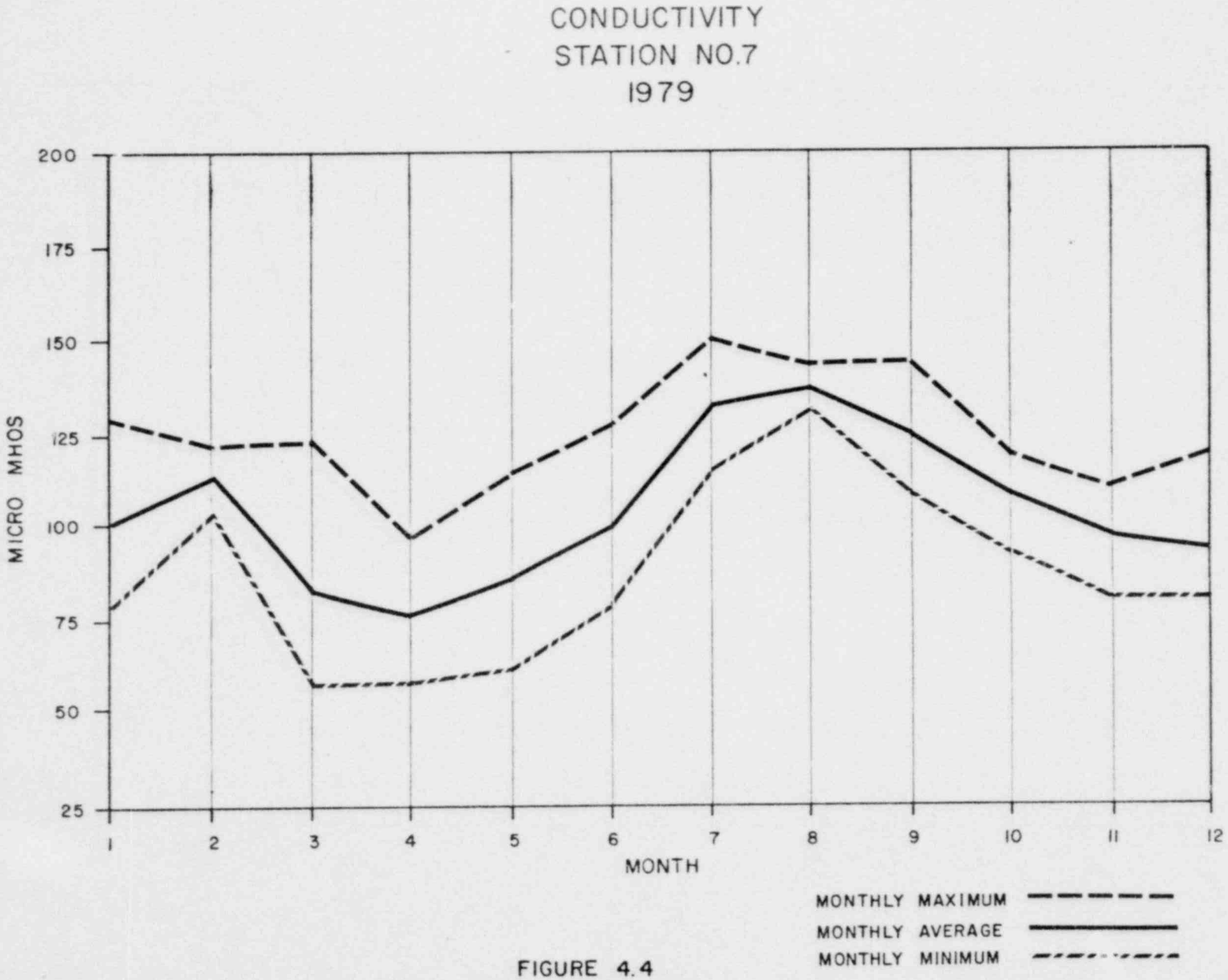

CONDUCTIVITY
STATION NO.7
1979
MICRO MHOS
200
175
150
125
100
75
50
25
1
2
3
4
5
6
7
8
9
10
11
12
MONTH
MONTHLY MAXIMUM
MONTHLY AVERAGE
MONTHLY MINIMUM

FIGURE 4.4

TURBIDITY
STATION NO. 3
1979

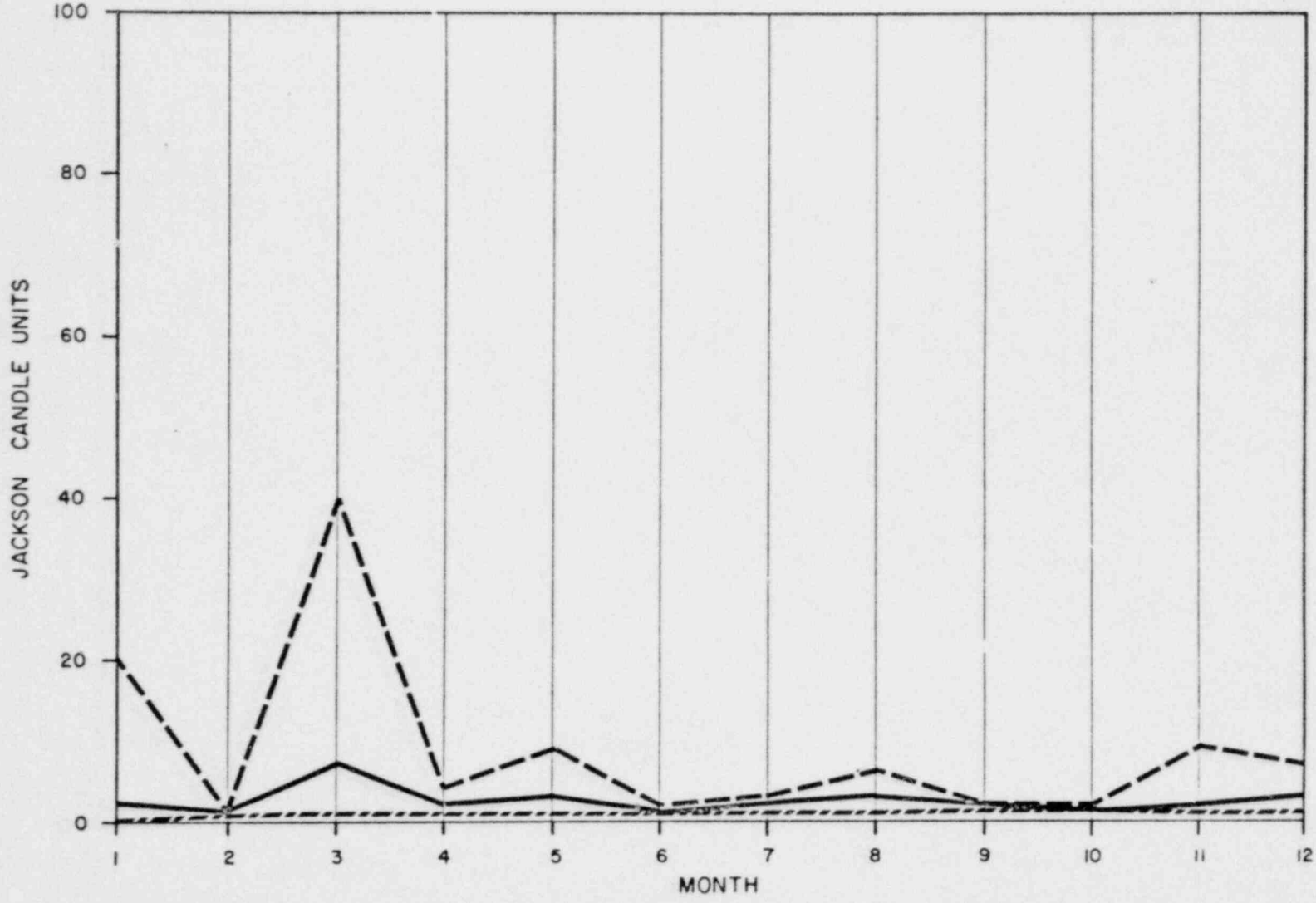


FIGURE 4.5

TURBIDITY
STATION NO. 7
1979

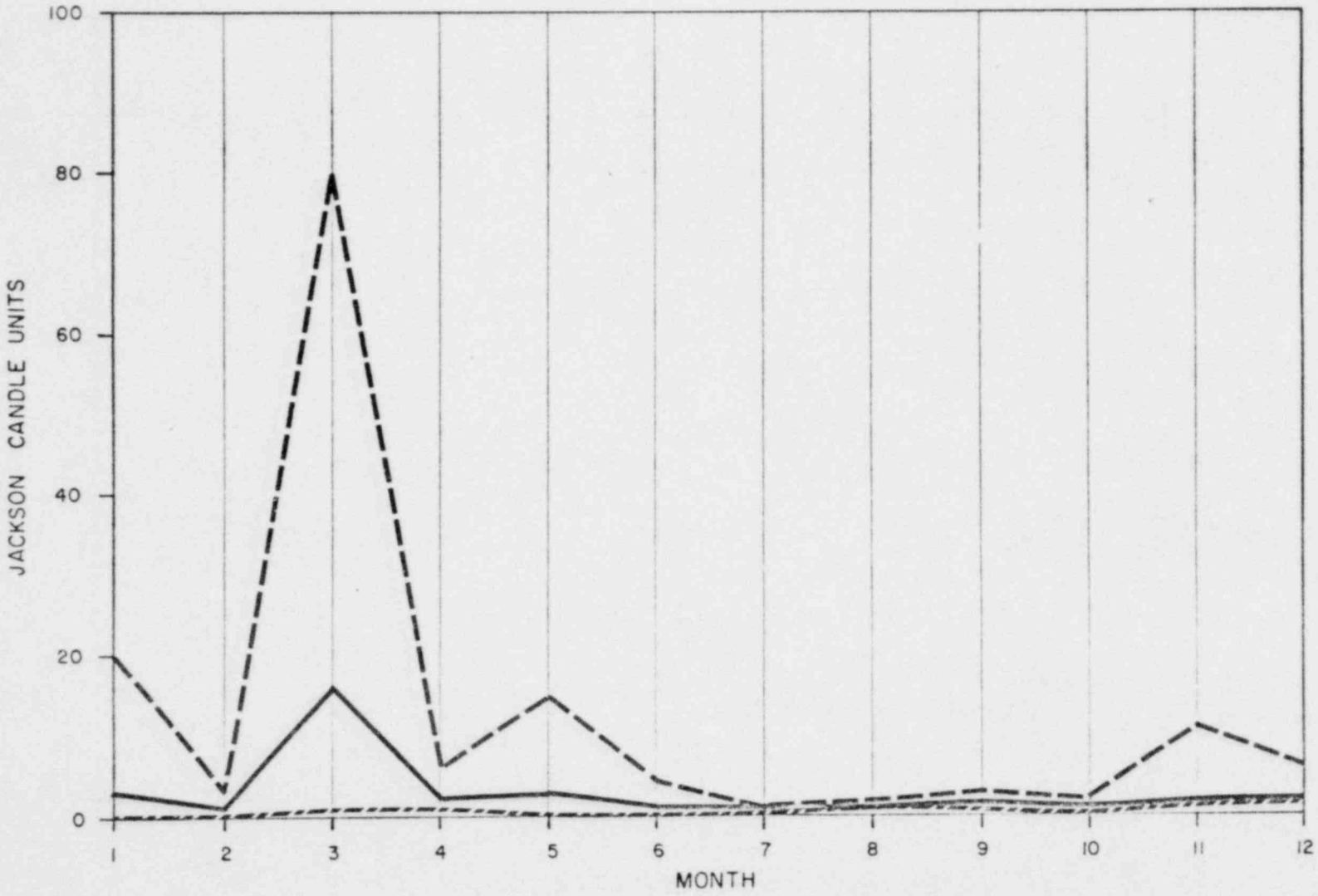


FIGURE 4.6

pH
STATION NO. 3
1979

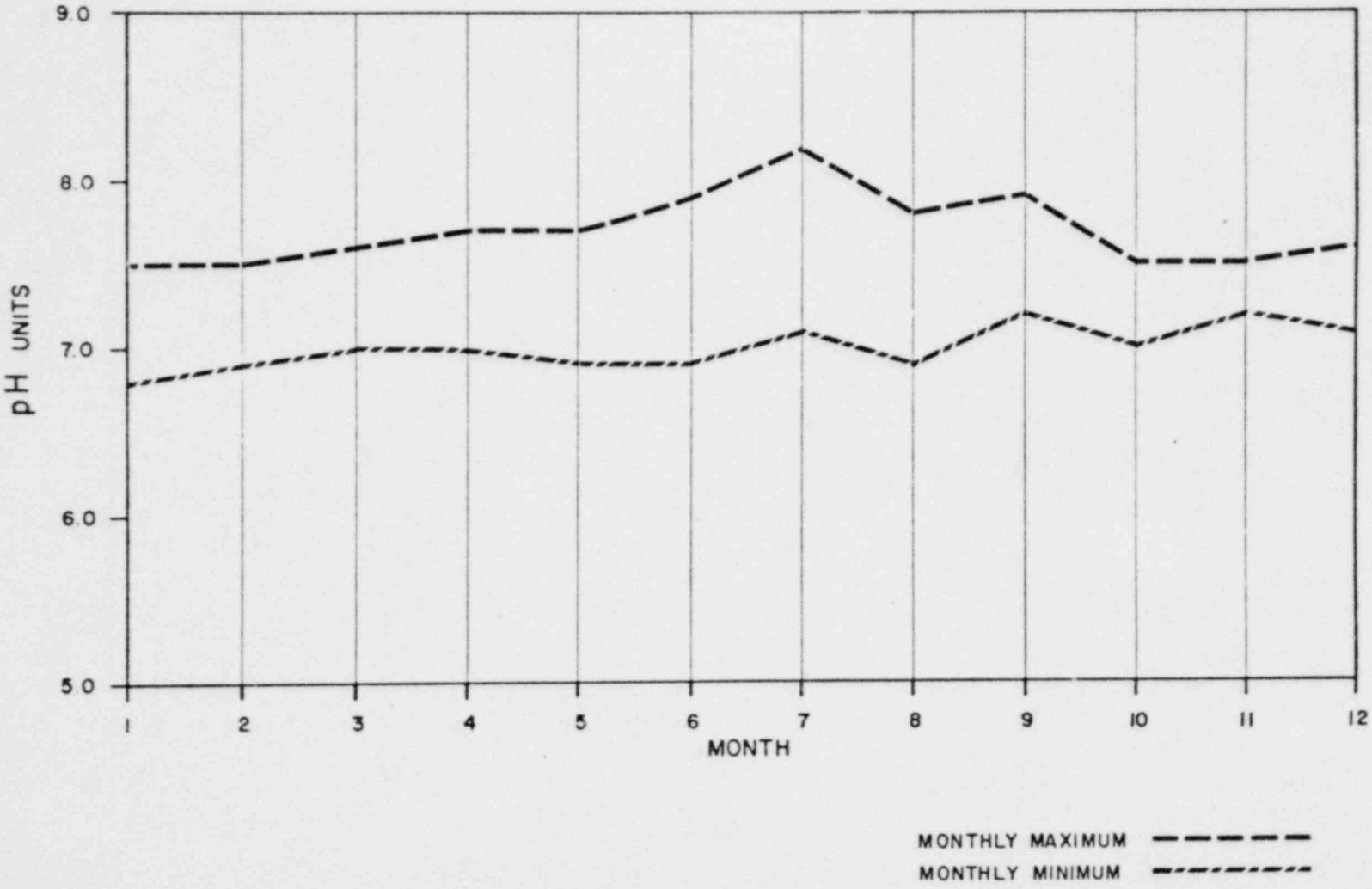


FIGURE 4.7

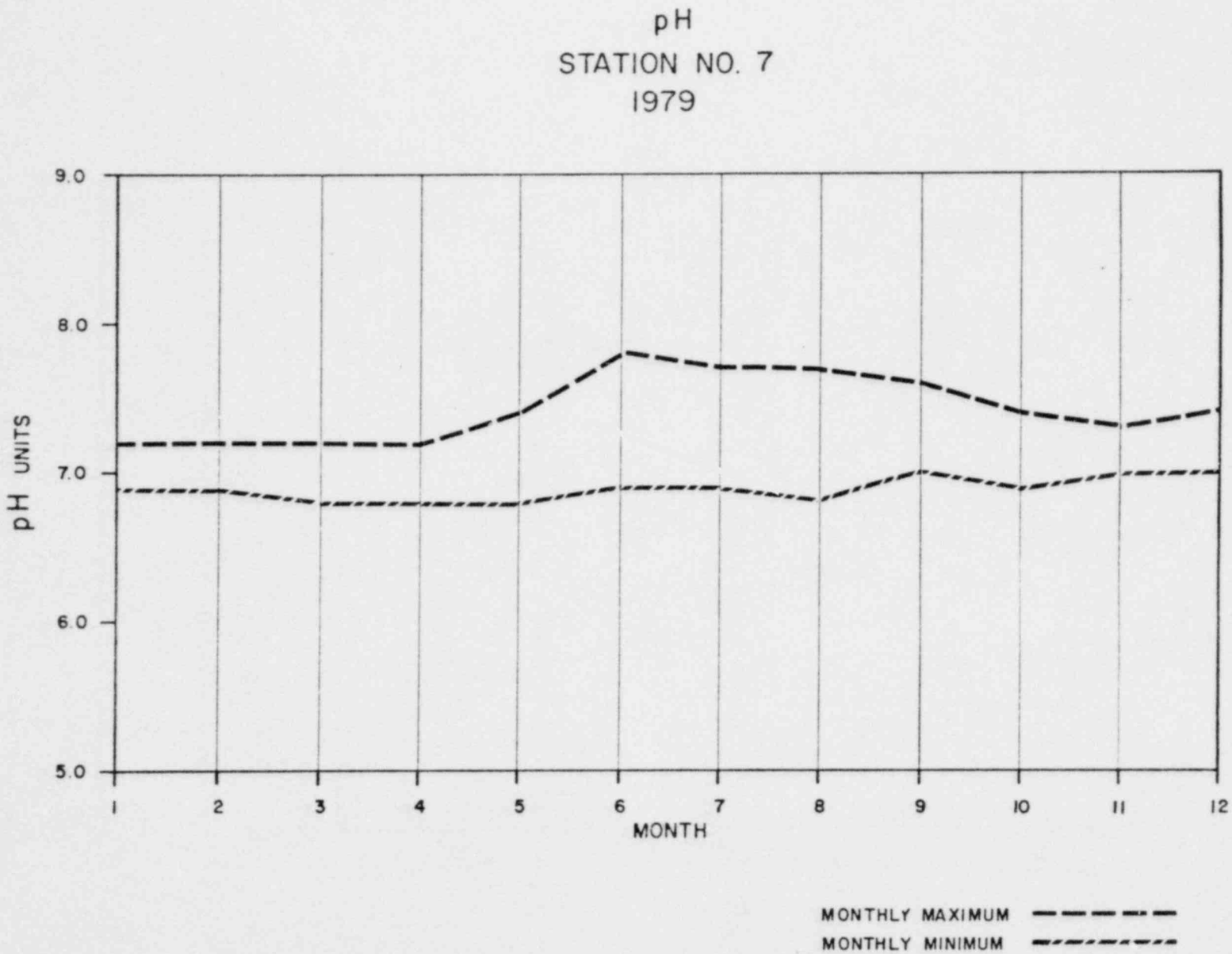

pH
STATION NO. 7
1979
9.0
8.0
7.0
6.0
5.0
pH UNITS
1
2
3
4
5
6
7
8
9
10
11
12
MONTH
MONTHLY MAXIMUM
MONTHLY MINIMUM

FIGURE 4.8

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

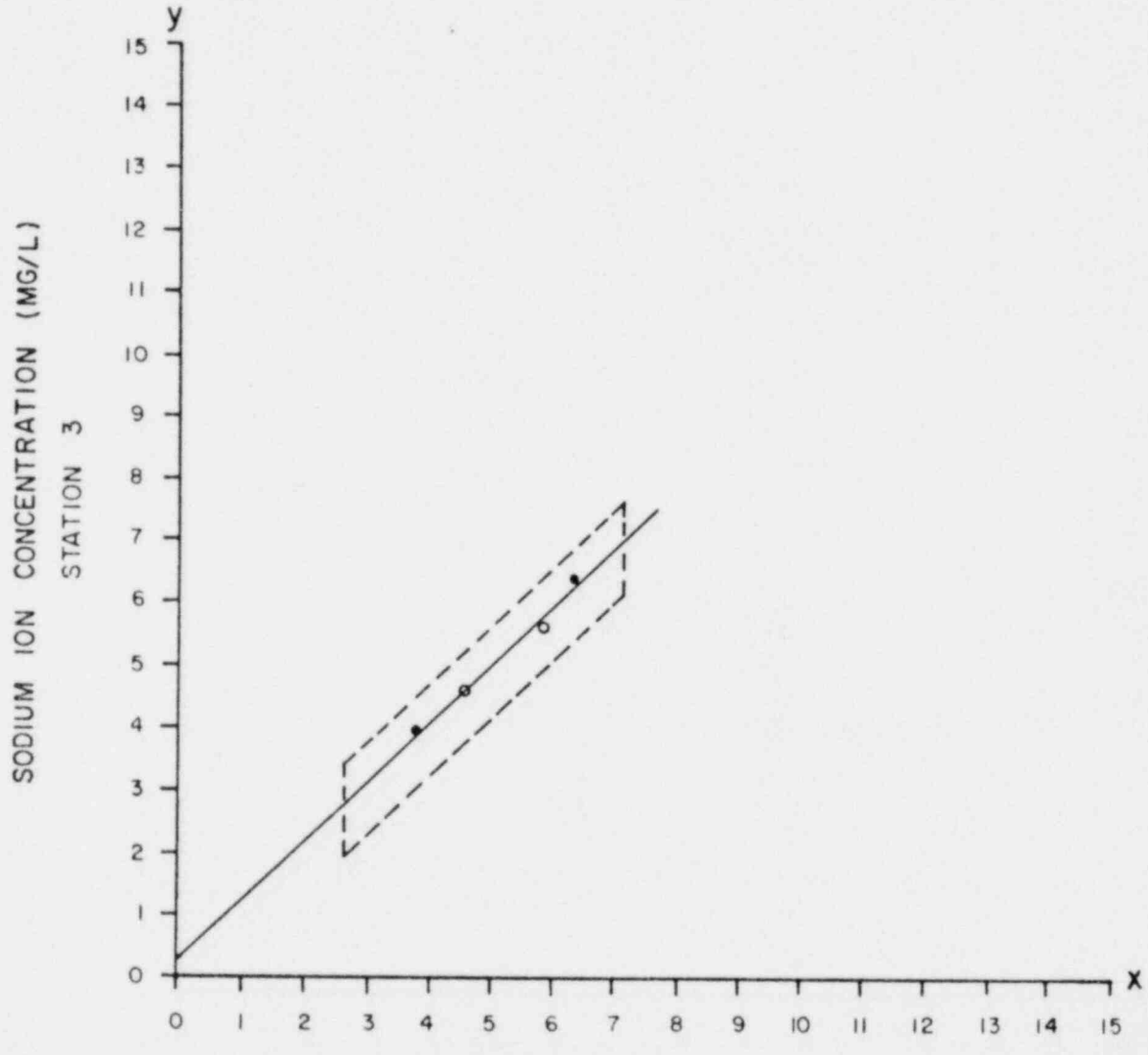
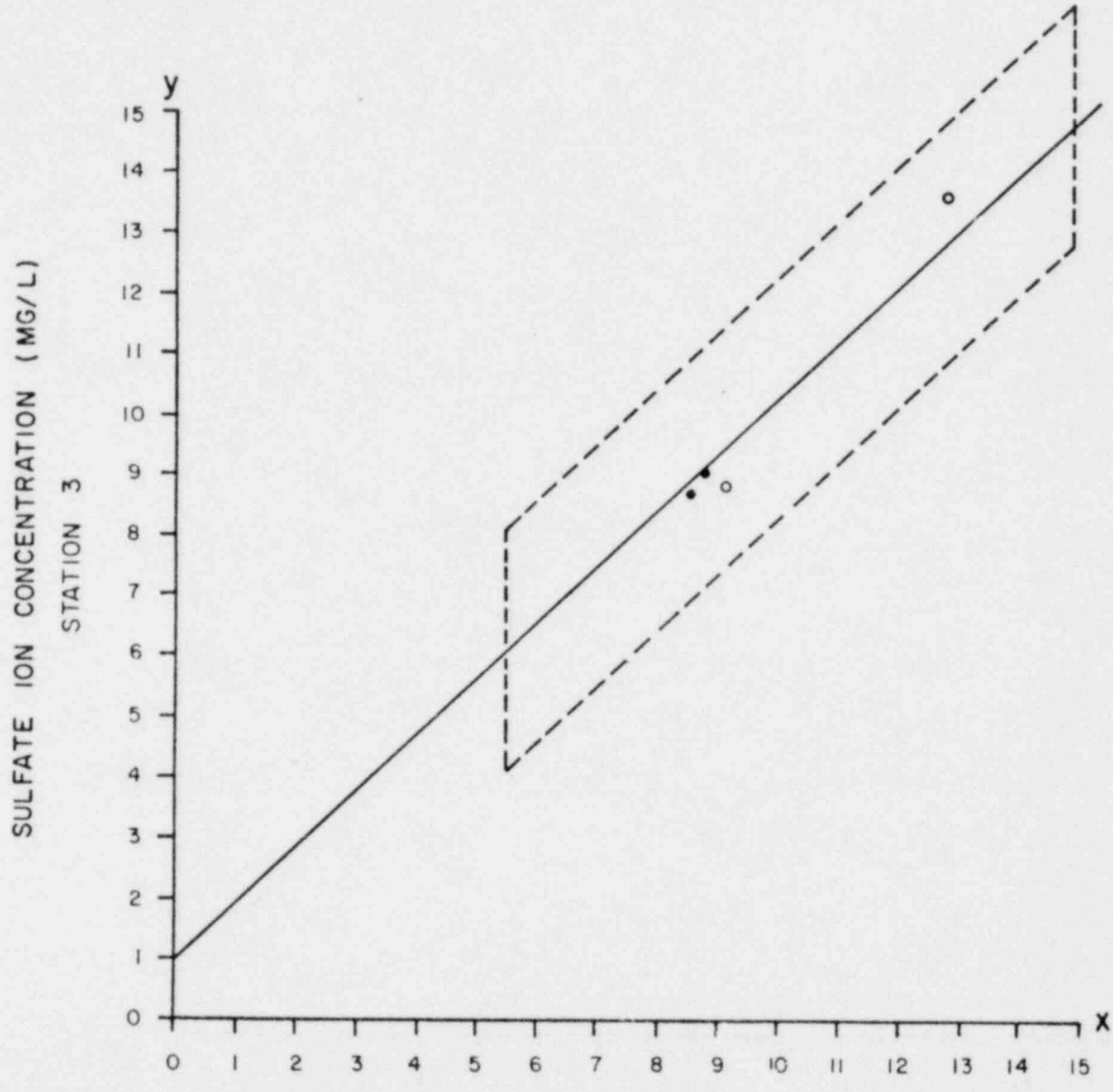


FIGURE 4.9

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



REGRESSION EQUATION (y = .96 + .927x) ——————

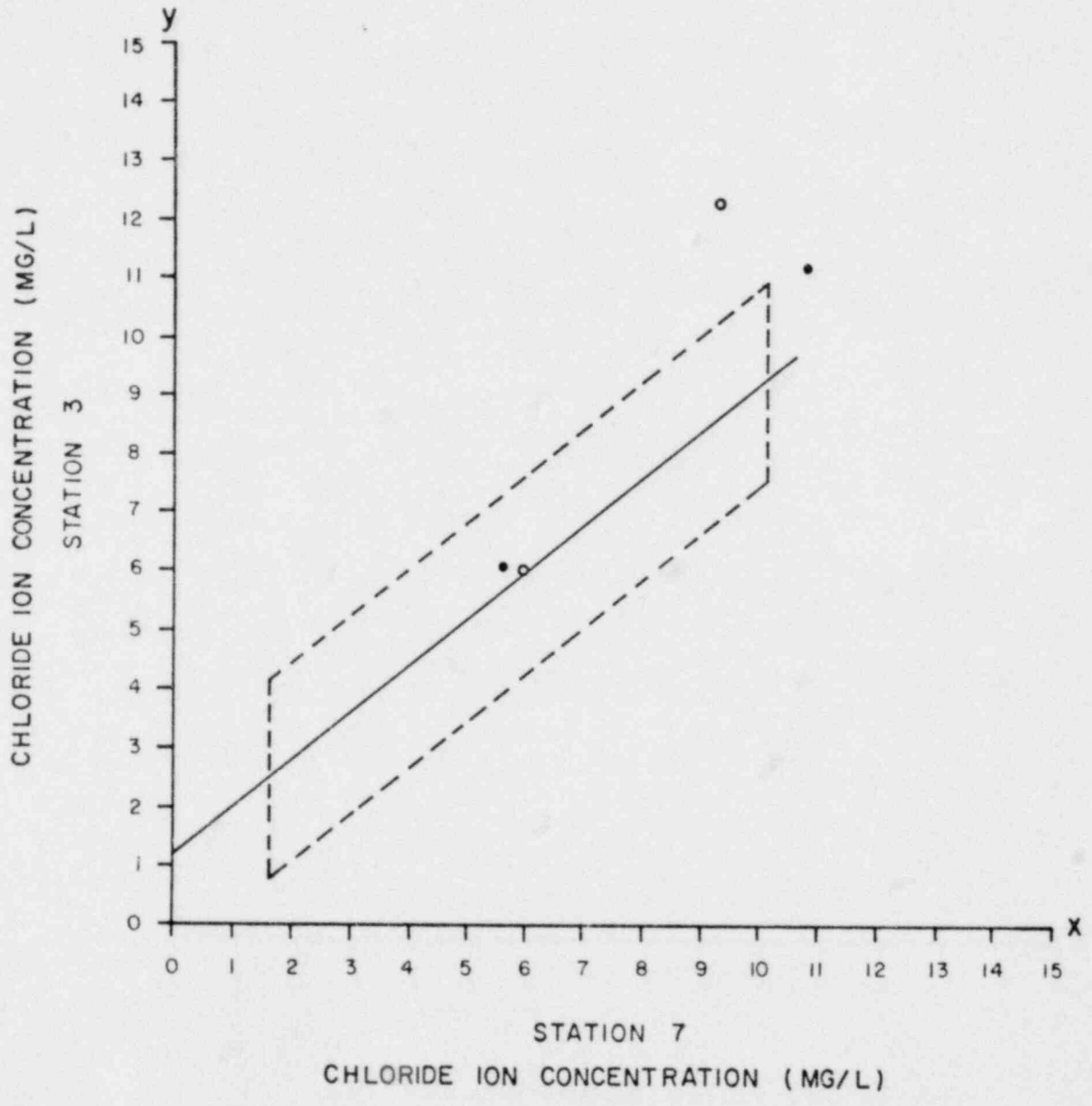
95% CONFIDENCE LIMITS FOR PREDICTED y VALUES - - - - - - - - -

VERMONT YANKEE OPEN CYCLE, 1979 o

VERMONT YANKEE CLOSED CYCLE, 1979 •

FIGURE 4.10

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



REGRESSION EQUATION ($y = 1.1 + .795x$)

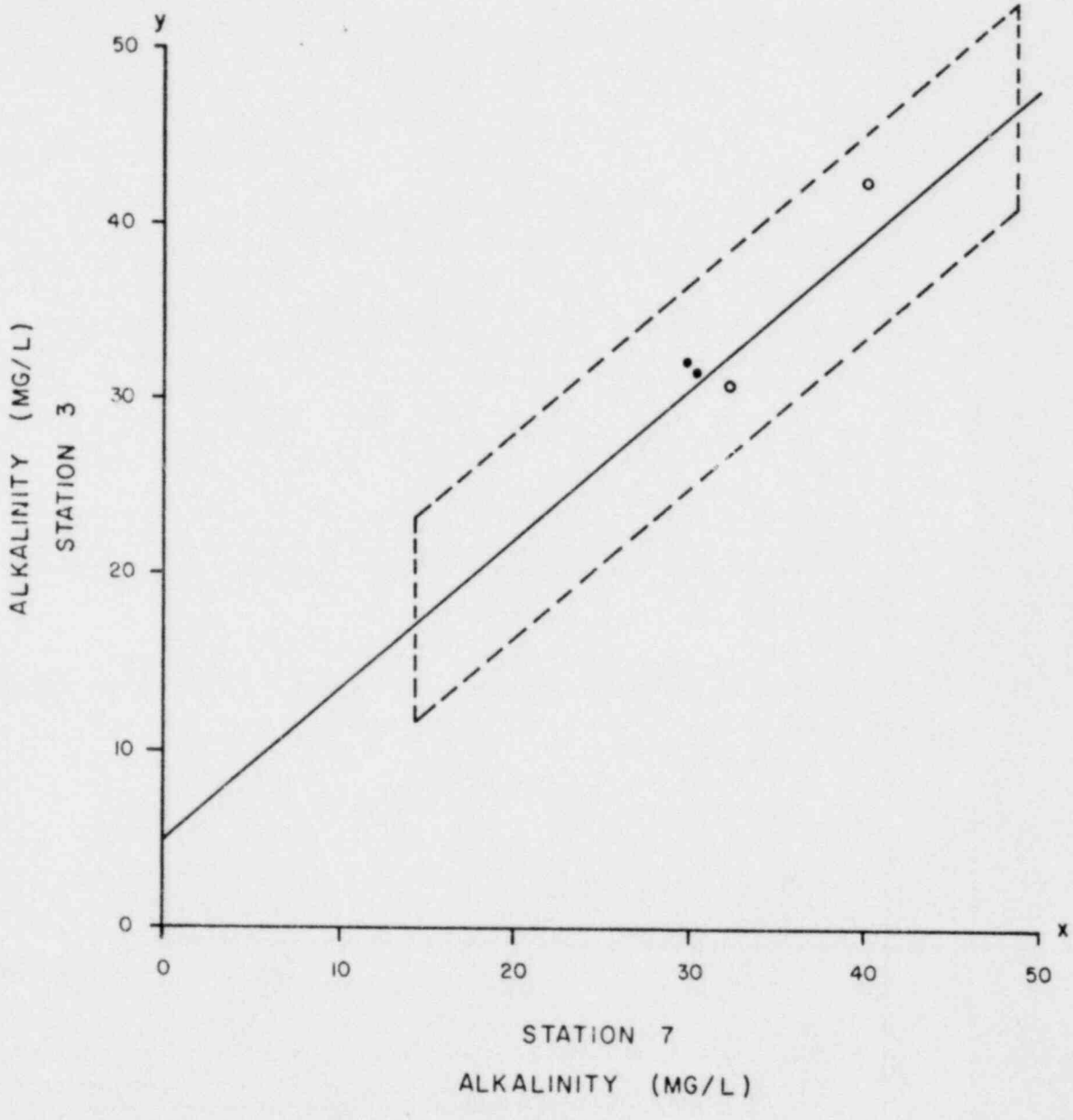
95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1979

VERMONT YANKEE CLOSED CYCLE, 1979

FIGURE 4.11

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



REGRESSION EQUATION (y = 4.9 + .844x)

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1979

VERMONT YANKEE CLOSED CYCLE, 1979

FIGURE 4.12

TABLE 4.1-1

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JANUARY 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	13.1	1200	12.6	1830	12.8	129
2	14.0	2400	12.6	0700	13.5	134
3	14.2	2400	13.7	1330	13.9	103
4	14.4	1900	14.1	0200	14.3	90
5	14.4	1300	14.1	0930	14.3	80
6	14.3	0000	14.1	1800	14.2	91
7	14.5	1530	13.9	0400	14.3	94
8	14.5	0200	14.1	2400	14.3	92
9	14.1	0000	13.7	2400	13.8	90
10	13.7	0000	13.4	0730	13.6	85
11	13.8	0000	13.1	0830	13.6	84
12	13.8	0000	12.9	0730	13.5	85
13	13.6	1600	12.5	1100	13.4	88
14	13.6	2230	12.4	1230	13.1	91
15	13.4	0000	12.4	0930	13.2	94
16	13.3	2330	12.3	0930	13.0	95
17	13.3	1830	12.6	0730	13.2	95
18	13.3	0000	12.4	0830	13.0	95
19	13.0	1930	12.1	0930	12.8	97
20	13.0	0000	12.0	1100	12.6	104
21	12.9	1330	11.9	1030	12.6	100
22	13.0	2400	11.9	0830	12.5	98
23	13.0	0100	12.3	0830	12.8	101
24	12.9	2400	12.4	0730	12.7	103
25	13.0	0600	12.8	2400	12.9	105
26	13.0	2330	11.7	1130	12.5	108
27	13.3	0500	12.8	1800	13.1	106
28	13.3	1800	12.2	1100	13.0	106
29	13.2	0000	12.2	0730	13.0	100
30	12.8	0100	12.0	0800	12.5	10?
31	12.5	0000	11.6	0600	12.2	108

TABLE 4.1-2

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

FEBRUARY 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	12.8	0000	11.8	0830	12.6	104
2	12.9	2400	12.2	0830	12.6	115
3	13.0	1230	11.9	0900	12.7	115
4	13.0	0100	11.9	1100	12.6	117
5	13.0	0430	12.0	1130	12.8	115
6	13.7	2400	12.1	0830	12.9	112
7	14.1	2000	12.9	0900	13.8	110
8	14.1	0100	13.1	0900	13.8	109
9	13.5	0000	12.0	0930	12.9	116
10	13.1	0000	12.0	0930	12.7	121
11	13.3	0100	12.3	1230	12.8	114
12	13.5	2400	12.6	0830	13.3	111
13	13.3	0000	12.2	0830	13.1	108
14	13.4	1800	12.5	0930	13.2	108
15	13.5	1530	12.4	0900	13.3	110
16	13.4	1600	12.4	0900	13.2	114
17	13.3	0100	12.8	1030	13.1	108
18	13.3	1330	12.9	0630	13.1	106
19	13.2	2000	12.9	1030	13.1	105
20	13.4	1530	12.8	0930	13.1	103
21	13.2	2000	12.5	0930	13.0	105
22	13.1	1400	12.5	0930	12.9	106
23	13.0	1400	12.5	0930	12.8	109
24	12.8	0000	12.2	0930	12.6	114
25	12.7	1600	12.1	1030	12.4	120
26	12.6	0000	12.1	0930	12.4	110
27	12.7	1600	12.2	0900	12.5	110
28	12.9	1400	12.3	0800	12.7	111

TABLE 4.1-3

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

MARCH 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	12.8	1400	12.4	0800	12.7	110
2	12.8	1530	12.3	0900	12.6	120
3	12.8	1200	12.4	1830	12.7	122
4	12.7	1430	12.3	0830	12.5	121
5	13.0	2200	12.5	0830	12.8	119
6	13.8	1930	12.7	0330	13.3	110
7			No Valid Data			87
8			No Valid Data			73
9			No Valid Data			70
10			No Valid Data			71
11			No Valid Data			71
12			No Valid Data			73
13			No Valid Data			73
14			No Valid Data			77
15			No Valid Data			80
16			No Valid Data			80
17			No Valid Data			79
18			No Valid Data			81
19	14.8	1400	14.6	2400	14.7	83
20	14.6	0000	14.2	1030	14.4	82
21	14.4	0930	14.2	0430	14.3	84
22	14.5	2330	14.0	2400	14.2	83
23	14.0	0000	13.0	2400	13.5	82
24	14.0	0000	13.4	2230	13.7	77
25			No Valid Data			66
26			No Valid Data			62
27			No Valid Data			60
28	13.6	0900	13.4	2400	13.5	61
29	13.5	0000	13.2	1600	13.3	64
30	13.8	0100	13.3	2330	13.6	68
31	13.8	0030	13.3	1600	13.5	72

TABLE 4.1-4

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

APRIL 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	13.8	1430	13.4	0200	13.7	73
2	14.2	2300	13.6	1400	14.0	79
3	14.5	0030	13.6	1630	13.9	66
4	14.8	1300	14.5	0000	14.6	67
5	14.7	0000	14.4	2300	14.6	67
6	14.6	0000	14.4	2400	14.5	71
7	14.4	0000	14.3	2330	14.3	75
8	14.3	0000	13.7	2400	14.0	79
9	13.7	0000	13.4	1830	13.5	84
10	13.5	0400	13.2	2330	13.4	83
11	13.5	2400	13.1	0330	13.3	88
12	13.5	0000	12.9	2400	13.2	94
13	13.3	2400	12.6	1300	13.1	92
14	13.5	2400	13.2	1230	13.3	96
15	13.5	0000	13.1	2330	13.5	91
16	13.2	0530	12.7	1400	13.0	90
17	13.0	0030	12.7	1930	12.9	88
18	13.2	1000	13.0	2030	13.1	90
19	13.2	0930	13.0	2400	13.1	89
20	13.0	0000	12.8	1200	12.9	84
21	13.0	0630	12.8	1330	12.9	78
22	Pump Inoperative					Pump Inoperative
23	Pump Inoperative					Pump Inoperative
24	Pump Inoperative					Pump Inoperative
25	Pump Inoperative					Pump Inoperative
26	Pump Inoperative					Pump Inoperative
27	Pump Inoperative					Pump Inoperative
28	Pump Inoperative					Pump Inoperative
29	Pump Inoperative					Pump Inoperative
30	Pump Inoperative					Pump Inoperative

TABLE 4.1-5

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
MAY 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1			Pump Inoperative			Pump Inoperative
2			Sensor Inoperative			69
3	11.5	2400	11.1	0900	11.3	63
4	11.5	0000	11.2	1700	11.4	80
5	11.4	0900	11.2	2100	11.3	80
6	11.4	2000	11.2	1330	11.3	84
7	11.4	0300	11.0	2400	11.2	88
8	11.0	0000	10.6	2400	10.8	88
9	10.7	0100	10.2	1830	10.4	86
10	10.4	0000	9.8	1800	10.1	92
11	9.9	0100	9.5	0830	9.7	95
12	9.7	0830	9.5	1530	9.6	98
13	9.7	2400	9.5	0300	9.6	98
14	9.7	0000	9.5	2400	9.6	93
15	9.5	0000	9.3	2330	9.4	95
16	9.4	1000	9.2	2400	9.3	96
17	9.3	1400	9.1	0500	9.2	97
18	9.5	1700	9.3	2400	9.4	96
19	9.5	2000	9.2	0700	9.3	91
20	9.9	2100	9.4	0700	9.6	90
21	9.7	0000	9.6	2400	9.6	93
22	9.8	1730	9.5	0400	9.6	106
23	9.7	1400	9.3	2400	9.5	108
24	10.0	2330	9.2	0630	9.4	114
25	10.4	2030	9.7	0730	10.1	82
26			Sensor Inoperative			72
27			Sensor Inoperative			72
28			Sensor Inoperative			71
29			Sensor Inoperative			74
30	10.2	1100	10.0	1830	10.1	73
31	10.3	0730	10.0	2230	10.1	80

TABLE 4.1-6

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
JUNE 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	10.2	0130	9.8	2400	10.0	80	
2	9.8	0000	9.6	2400	9.7	83	
3	9.6	0000	9.3	2400	9.4	80	
4	9.3	0000	8.9	1630	9.1	80	
5	9.0	0030	8.5	2100	8.8	81	
6	8.7	0530	8.2	1130	8.4	87	
7	8.4	1900	8.2	0700	8.3	89	
8	8.5	2000	8.2	0700	8.4	88	
9	8.4	0000	8.2	1000	8.3	91	
10	8.3	0100	8.2	1530	8.3	92	
11	8.6	1800	8.3	0600	8.4	100	
12	8.6	1600	8.2	0600	8.4	101	
13	8.7	2000	8.3	0600	8.5	97	
14	8.8	1930	8.4	0700	8.6	107	
15	9.0	1800	8.7	0800	8.8	100	
16	8.9	1800	8.6	0630	8.7	100	
17	8.9	1500	8.5	0600	8.7	102	
18	8.9	1330	8.6	0700	8.7	101	
19	8.9	1830	8.3	0700	8.6	110	
20	9.1	1630	8.4	0600	8.8	110	
21	9.0	1830	8.5	0700	8.7	106	
22	8.8	1200	8.3	2400	8.6	112	
23	8.3	0000	8.1	1200	8.2	116	
24	8.2	0000	7.9	0900	8.0	120	
25	8.8	2100	7.9	0700	8.3	120	
26	8.6	0000	8.4	2400	8.5	102	
27	8.4	0000	8.2	2400	8.3	103	
28	8.6	1730	7.9	0830	8.3	104	
29	8.4	0000	8.2	2400	8.3	104	
30	8.2	0000	7.8	2400	8.0	104	

TABLE 4.1-7

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JULY 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	7.9	1430	7.7	2400	7.8	105
2	8.2	1630	7.8	1700	8.0	110
3	8.3	1730	8.0	0700	8.2	125
4	8.4	1700	8.1	0600	8.2	128
5	8.4	0000	8.0	2400	8.2	118
6	8.4	1800	8.0	0700	8.2	117
7	8.4	1830	8.0	0700	8.2	119
8	8.5	1600	8.1	0730	8.3	121
9	8.6	2130	7.8	0900	8.2	124
10	8.7	1930	8.3	0700	8.5	123
11	8.4	1100	8.0	2300	8.2	119
12	8.6	1700	7.9	0500	8.3	118
13	8.2	0000	7.6	2400	7.9	124
14	7.6	0000	7.3	2400	7.4	129
15			NO VALID DATA			132
16	8.2	1800	7.7	1100	8.0	131
17	8.1	1330	7.6	2400	7.9	130
18	7.6	0000	6.8	2400	7.1	133
19	7.3	1830	6.4	0700	6.9	130
20	7.6	1630	6.8	0630	7.3	132
21	7.9	1800	7.2	0730	7.6	132
22	7.7	1500	6.9	2300	7.4	131
23	7.8	1800	6.8	0400	7.3	130
24	7.2	1330	6.7	2400	6.9	131
25	7.4	1800	6.4	0730	6.9	135
26	6.7	0000	6.3	2100	6.5	137
27	7.2	1800	6.4	0100	6.8	141
28	7.4	1730	7.0	0700	7.2	143
29	7.3	1430	6.9	0800	7.1	146
30	7.8	1730	6.8	0600	7.4	145
31	7.4	0000	6.1	2400	6.9	146

TABLE 4.1-8

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

AUGUST 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	6.8	1930	6.0	0800	6.4	147
2	7.0	1630	6.3	2100	6.6	145
3	7.1	1800	6.2	0700	6.6	142
4	7.4	1830	6.1	0700	6.9	142
5	7.2	1500	6.9	0800	7.1	141
6	7.2	1800	6.6	0630	6.9	142
7	6.9	1330	6.2	2400	6.6	141
8	6.4	1100	6.0	2400	6.2	140
9	6.8	1830	6.0	0000	6.4	138
10	6.6	0000	6.3	2400	6.5	137
11	6.3	0000	6.0	2400	6.2	135
12	6.4	1600	5.9	0600	6.2	134
13	6.7	1900	6.2	0000	6.4	137
14	7.0	1630	6.5	0700	6.8	140
15	7.3	1500	6.8	0400	7.0	139
16	7.8	1700	7.1	0600	7.5	137
17	8.0	1600	7.5	0800	7.7	134
18	7.9	0100	7.5	2400	7.7	135
19	7.7	1330	7.3	0800	7.4	135
20	7.7	1700	7.4	0930	7.5	137
21	8.0	1730	7.5	0700	7.7	138
22	8.4	1600	7.6	0730	8.0	138
23	8.3	1430	7.9	2400	8.1	137
24	8.3	1430	7.7	0900	8.0	136
25	8.3	1700	8.0	0200	8.1	134
26	8.5	1800	8.0	0500	8.2	135
27	8.4	0000	8.1	2400	8.3	138
28	8.3	1700	7.9	2400	8.1	140
29	7.9	0030	7.6	2400	7.8	140
30	8.0	2300	7.5	0930	7.7	141
31	8.2	1130	7.7	0600	8.0	140

TABLE 4.1-9

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

SEPTEMBER 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	8.3	1630	7.8	0730	8.1	140	
2	8.2	1500	7.8	0800	8.0	138	
3	8.1	1400	7.6	0700	7.8	137	
4	8.3	2000	7.7	0700	8.0	140	
5	8.2	0000	7.5	2200	7.8	143	
6	7.7	0500	7.4	2400	7.6	141	
7	7.7	1830	7.2	0730	7.4	138	
8	7.8	2130	7.4	0900	7.6	116	
9	8.5	2000	7.6	0630	8.0	123	
10	8.3	0000	7.7	2400	8.0	124	
11	8.1	1530	7.6	0730	7.9	117	
12	8.3	1800	7.8	0730	8.1	118	
13	8.4	1700	7.9	0900	8.1	124	
14	8.1	0000	7.8	2400	8.0	130	
15	8.4	2100	7.8	0730	8.1	118	
16	8.7	2130	8.2	0730	8.4	116	
17	8.8	2100	8.3	0700	8.5	116	
18	8.9	1900	8.4	0630	8.7	120	
19	9.1	1730	8.5	0700	8.7	122	
20	9.2	1630	8.7	0530	8.9	124	
21	8.7	0230	8.3	2330	8.5	123	
22	8.3	1630	7.9	2300	8.1	115	
23	8.5	1800	7.9	0600	8.2	109	
24	8.9	1730	8.4	0630	8.6	107	
25	9.1	1730	8.5	0630	8.8	109	
26	9.3	1730	8.8	0600	9.0	112	
27	9.5	1700	9.1	0730	9.3	118	
28	9.3	1630	8.9	0700	9.1	123	
29	9.1	1600	8.8	0800	9.0	122	
30	8.8	0000	8.5	2400	8.6	120	

TABLE 4.1-10

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
QUATEC, INC.

OCTOBER 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	8.6	1230	8.4	2400	8.5	118
2	8.7	1700	8.3	0600	8.5	114
3	8.6	0000	8.4	0530	8.5	108
4	8.7	1400	8.4	2400	8.6	112
5	8.5	0000	8.1	2400	8.3	107
6	8.5	1630	8.1	0130	8.3	111
7	8.6	2400	8.3	0730	8.4	108
8	8.8	1030	8.6	2400	8.7	92
9	8.6	1000	8.4	1900	8.5	98
10	8.8	1400	8.4	0300	8.6	102
11	9.0	1930	8.5	0600	8.7	103
12	9.2	1630	8.8	0400	9.0	100
13	9.3	1730	8.9	0500	9.1	108
14	9.5	0900	9.2	0100	9.3	110
15	9.5	1500	9.2	0430	9.4	108
16	9.8	2400	9.6	1200	9.7	106
17	10.1	1630	9.9	0600	10.0	112
18	10.2	0900	9.9	2400	10.1	114
19	10.2	1400	9.9	0630	10.1	115
20	10.3	1630	10.1	0530	10.2	115
21	10.4	1430	9.9	0800	10.2	106
22	10.1	0100	9.9	1000	10.0	100
23	10.0	1600	9.8	0800	9.9	102
24	10.0	1100	9.8	0500	9.9	109
25	10.0	1900	9.7	0600	9.9	110
26	9.9	0130	9.6	2330	9.8	106
27	9.8	1600	9.6	0600	9.7	109
28	9.7	0230	9.5	1300	9.6	107
29	9.8	2200	9.5	0530	9.7	111
30	10.1	2030	9.8	0430	9.9	114
31	10.1	2030	10.0	0400	10.0	108

TABLE 4.1-11

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
NOVEMBER 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1			PUMP INOPERATIVE			PUMP INOPERATIVE
2	10.9	2230	10.3	1100	10.6	109
3	10.9	1400	10.6	0700	10.7	106
4	11.2	1030	10.5	0500	10.8	103
5	10.8	2400	10.6	0700	10.7	104
6	11.0	1900	10.6	0700	10.8	102
7	11.0	0700	10.8	0000	10.9	98
8	11.1	1500	10.8	0830	11.0	97
9	11.1	1300	10.7	0630	10.9	96
10			PUMP INOPERATIVE			PUMP INOPERATIVE
11			PUMP INOPERATIVE			PUMP INOPERATIVE
12			PUMP INOPERATIVE			PUMP INOPERATIVE
13			PUMP INOPERATIVE			PUMP INOPERATIVE
14	13.1	1400	12.7	0800	13.0	88
15	13.1	2400	12.6	0730	12.9	88
16	13.5	1930	12.9	0730	13.2	92
17	13.4	0000	12.4	1830	12.9	92
18	12.7	0130	11.6	1830	12.2	92
19	12.6	2030	11.8	0830	12.2	94
20	12.6	0930	12.3	1800	12.4	97
21	12.7	2200	11.9	0730	12.3	96
22	12.6	0000	11.9	0930	12.3	98
23	12.4	2100	11.8	1030	12.2	102
24	12.2	1500	11.6	1000	12.0	105
25	11.9	0000	11.1	1700	11.5	108
26	11.4	0030	10.8	0830	11.1	102
27	11.4	2400	10.9	1100	11.1	90
28	11.4	2330	11.0	1230	11.2	98
29	11.4	0000	11.1	2400	11.2	103
30	11.3	2400	11.1	1000	11.2	99

TABLE 4.1-12

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

DECEMBER 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	11.5	1630	11.1	0900	11.3	95
2	11.7	2400	11.2	0900	11.4	90
3	11.8	2400	11.4	0800	11.6	81
4	12.1	2400	11.7	0530	11.9	87
5	12.2	0330	11.9	1830	12.1	92
6	12.3	2230	11.8	0900	12.0	90
7	12.4	0500	12.0	0430	12.2	91
8			PUMP INOPERATIVE			PUMP INOPERATIVE
9			PUMP INOPERATIVE			PUMP INOPERATIVE
10			PUMP INOPERATIVE			PUMP INOPERATIVE
11			PUMP INOPERATIVE			PUMP INOPERATIVE
12			PUMP INOPERATIVE			PUMP INOPERATIVE
13			PUMP INOPERATIVE			PUMP INOPERATIVE
14			PUMP INOPERATIVE			PUMP INOPERATIVE
15			PUMP INOPERATIVE			PUMP INOPERATIVE
16			PUMP INOPERATIVE			PUMP INOPERATIVE
17			PUMP INOPERATIVE			PUMP INOPERATIVE
18	13.1	2400	12.8	1130	12.9	98
19	13.3	1100	12.8	0600	13.0	96
20	13.4	0900	13.1	1800	13.2	99
21	13.2	0030	12.2	0930	12.7	105
22	12.6	0000	12.1	1030	12.3	112
23	12.6	2130	12.0	1730	12.3	117
24	12.6	2300	12.1	1000	12.4	115
25	12.5	0000	12.2	0930	12.4	104
26	13.1	2400	12.7	1730	12.9	104
27	13.6	0930	13.1	0100	13.4	97
28	14.1	1230	13.4	0100	13.7	87
29	14.0	0700	13.6	2200	13.8	81
30	13.7	0300	13.0	0830	13.5	84
31	13.6	0200	13.0	1700	13.3	87

TABLE 4.2-1

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JANUARY 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	13.6	2000	13.4	0000	13.5	128	
2	13.7	2130	13.1	1130	13.5	112	
3	14.1	2230	13.4	0900	13.7	95	
4	14.3	1530	13.9	0300	14.1	78	
5	14.5	1530	14.3	0700	14.4	82	
6	14.4	1500	14.2	2400	14.3	97	
7	14.3	0500	14.0	2400	14.2	97	
8	14.1	0800	14.0	0300	14.0	106	
9	14.2	2400	13.9	0800	14.0	92	
10	14.2	0800	14.0	2300	14.1	90	
11	14.1	0130	13.8	2330	13.9	No Valid Data	
12	13.9	2230	13.7	1400	13.8	91	
13	13.9	2030	13.7	1300	13.8	93	
14	13.8	0000	13.6	1530	13.7	97	
15	13.8	0600	13.5	2000	13.6	98	
16	13.8	1400	13.5	0500	13.7	97	
17	13.8	0400	13.5	2130	13.7	97	
18	13.5	0000	13.2	1300	13.4	97	
19	13.4	0400	13.2	2200	13.3	106	
20	13.4	0300	13.3	1830	13.4	98	
21	13.4	1630	13.1	1130	13.3	96	
22	13.4	1400	13.1	0200	13.3	106	
23	13.4	0330	13.0	1900	13.2	104	
24	13.2	2200	13.1	0230	13.2	103	
25	13.2	0030	13.0	1700	13.1	112	
26	13.1	1630	13.0	0300	13.1	110	
27	13.3	1630	13.1	0000	13.2	108	
28	13.3	0730	13.1	0200	13.2	103	
29	13.2	0000	12.9	1830	13.0	103	
30	13.2	1930	13.0	0900	13.1	107	
31	13.1	0000	12.9	2230	13.0	105	

TABLE 4.2-2

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

FEBRUARY 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	13.1	1000	12.9	0030	13.0	120
2	13.0	2400	12.9	1130	12.9	118
3	13.1	2400	13.0	0400	13.0	119
4	13.2	1630	13.0	2330	13.1	119
5	13.2	0900	13.0	2300	13.1	117
6	13.1	2400	12.9	1930	13.0	114
7	13.2	0600	12.9	1800	13.1	114
8	13.0	0130	12.9	1700	13.0	116
9	13.1	2400	13.0	1000	13.0	119
10	13.2	2400	13.1	0000	13.1	115
11	13.3	0200	13.2	1100	13.2	110
12	13.6	1400	13.1	0830	13.4	110
13	13.7	2030	13.4	0100	13.6	108
14	13.6	0000	13.4	1700	13.5	108
15	13.5	2400	13.4	1500	13.4	113
16	13.6	0530	13.0	2130	13.4	112
17	13.9	0330	13.5	1700	13.7	115
18	13.8	0000	13.0	2400	13.4	113
19	14.0	0000	13.3	2400	13.7	113
20	13.8	0000	13.5	1130	13.7	103
21	13.9	0130	13.6	2400	13.7	05
22	13.6	0000	13.3	2230	13.4	110
23	13.4	0200	12.9	1930	13.2	101
24	13.3	0130	13.0	1330	13.2	121
25	13.3	0000	13.0	2130	13.2	113
26	13.2	0000	13.0	2100	13.1	111
27	13.4	2000	13.1	0100	13.3	110
28	13.3	0000	13.1	1100	13.2	110

TABLE 4.2-3

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

MARCH 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	13.2	0000	13.0	2000	13.1	117	
2	13.3	0000	13.1	2000	13.2	122	
3	13.5	0100	13.3	1330	13.4	119	
4	13.6	0100	13.4	2400	13.5	120	
5	13.6	0000	13.5	2400	13.6	118	
6	13.7	2400	13.4	1630	13.5	100	
7	13.8	0200	13.3	1430	13.6	80	
8	14.0	0930	13.6	2400	13.8	72	
9	14.2	2230	13.9	0400	14.0	69	
10	14.5	0130	13.9	2030	14.1	70	
11	14.3	0400	14.1	1630	14.2	68	
12	14.5	0830	14.0	1800	14.3	69	
13	14.5	0230	14.0	2400	14.3	68	
14	Recorder Inoperative					Recorder Inoperative	
15	Recorder Inoperative					Recorder Inoperative	
16	Recorder Inoperative					Recorder Inoperative	
17	Recorder Inoperative					Recorder Inoperative	
18	14.7	0000	14.6	2100	14.7	79	
19	14.7	0000	14.5	2400	14.6	81	
20	14.5	1030	14.3	2400	14.4	80	
21	14.3	0030	14.2	1900	14.2	83	
22	14.4	1530	14.1	0130	14.2	81	
23	14.3	0400	13.6	2130	13.9	78	
24	No Valid Data					72	
25	No Valid Data					58	
26	No Valid Data					60	
27	14.0	1100	13.8	2030	13.9	57	
28	14.0	0830	13.8	2030	13.9	58	
29	Pump Inoperative					Pump Inoperative	
30	Pump Inoperative					Pump Inoperative	
31	Pump Inoperative					Pump Inoperative	

TABLE 4.2-4

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

APRIL 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1			Pump Inoperative			Pump Inoperative
2			Pump Inoperative			Pump Inoperative
3			Pump Inoperative			Pump Inoperative
4	14.5	0830	13.7	2400	14.2	62
5	14.2	0100	14.1	2400	14.2	63
6	14.1	0000	13.5	2230	13.8	68
7	13.9	0800	13.5	2400	13.7	73
8	13.9	0900	13.6	2400	13.7	77
9	13.8	2400	13.7	0400	13.8	79
10	13.9	0030	13.6	1800	13.7	78
11	13.7	0330	13.4	2400	13.6	85
12	13.6	1000	12.9	2330	13.3	95
13	13.1	1930	12.9	0630	13.0	93
14	13.2	2000	12.9	0330	13.0	96
15	13.2	0000	12.9	2400	13.1	92
16	12.9	0000	12.7	2400	12.8	89
17	13.0	1930	12.7	0000	12.9	88
18	13.2	0830	12.8	2300	13.0	85
19	13.2	0800	12.8	2400	13.0	85
20	13.0	1200	12.7	2400	12.8	80
21	12.9	1000	12.4	2400	12.7	72
22	12.5	1000	12.2	2400	12.4	69
23	12.3	1000	11.8	2100	12.1	67
24	12.0	0800	11.4	2400	11.7	63
25			No Valid Data			60
26			No Valid Data			No Valid Data
27	11.7	0930	11.5	2400	11.6	57
28	11.7	0900	11.4	2400	11.6	58
29	11.5	0900	11.3	2130	11.4	58
30	11.7	0900	11.3	2400	11.5	58

TABLE 4.2-5

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
MAY 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	11.5	0030	11.2	2400	11.4	63	
2	11.4	1030	11.1	2400	11.2	69	
3	11.2	1200	11.0	0330	11.1	74	
4	11.2	0030	10.8	1930	11.0	80	
5	11.0	0900	10.7	2400	10.9	79	
6	11.1	1000	10.8	0200	11.0	84	
7	11.1	0930	10.9	2400	11.0	87	
8	10.9	0600	10.6	2400	10.7	90	
9	10.6	0000	10.0	2400	10.3	87	
10	10.0	0000	9.3	2400	9.6	93	
11	9.3	0000	8.9	2400	9.1	95	
12	8.9	0000	8.7	2330	8.8	96	
13	9.5	1800	8.7	0000	9.2	95	
14	9.6	2400	9.4	0730	9.5	90	
15	9.6	0000	9.4	2400	9.5	94	
16	9.3	2100	9.2	0930	9.3	94	
17	9.2	0000	9.0	1400	9.1	98	
18	9.1	0000	8.9	1530	9.0	92	
19	9.4	1800	9.1	0100	9.2	90	
20	9.7	2000	9.2	1200	9.4	91	
21	9.6	1330	9.2	0700	9.3	102	
22	9.6	1530	9.4	0930	9.5	93	
23	9.5	0000	9.3	1430	9.4	107	
24	9.4	0000	9.0	1200	9.2	114	
25	10.3	2230	9.4	0000	9.8	70	
26	10.6	2400	10.2	0000	10.4	65	
27	10.8	0730	10.4	2400	10.6	61	
28	10.4	0000	9.6	2230	10.0	64	
29	9.8	1030	9.4	1830	9.6	62	
30	9.8	1000	9.5	1830	9.7	70	
31	10.0	1500	9.5	0130	9.8	75	

TABLE 4.2-6

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JUNE 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	9.8	1130	9.5	2400	9.7	80
2	9.5	0000	9.4	2400	9.4	81
3	9.4	0000	9.2	2400	9.3	78
4	9.2	0000	8.7	2400	9.0	80
5	8.8	0800	8.4	2400	8.6	82
6	8.4	0000	8.2	2400	8.3	91
7	8.4	1130	8.1	0200	8.3	88
8	8.4	1030	8.2	2400	8.3	88
9	8.2	0000	8.0	0930	8.1	91
10	8.4	2100	8.0	1330	8.2	99
11	8.3	0930	8.1	2000	8.2	101
12	8.5	1900	8.2	0800	8.4	97
13	8.7	1930	8.4	0300	8.6	102
14	8.9	2000	8.6	0000	8.8	98
15	9.1	1900	8.9	0100	9.0	101
16	9.2	1500	8.8	0700	9.0	100
17	9.0	0000	8.6	1500	8.8	98
18	9.0	1430	8.7	0600	8.9	104
19	9.2	2100	8.6	0600	8.9	112
20	9.2	2230	8.6	1300	8.9	104
21	9.2	0000	8.7	1530	9.0	104
22	9.1	1930	8.6	1200	8.8	118
23	8.9	0000	8.4	1730	8.7	127
24	8.8	0030	8.3	1100	8.6	118
25	9.0	1300	8.4	0700	8.6	106
26	8.7	0000	8.3	2200	8.5	105
27	8.6	2300	8.1	1030	8.4	102
28	8.6	0000	8.0	2330	8.2	102
29	8.2	2300	7.7	1100	8.0	103
30	8.3	0830	8.0	1530	8.1	108

TABLE 4.2-7

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JULY 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	8.3	2330	7.9	1200	8.1	122
2	8.5	1530	8.1	0830	8.3	124
3	8.6	1630	8.2	0130	8.4	125
4	8.3	1530	7.9	2100	8.2	115
5	8.4	1930	7.8	0830	8.1	117
6	8.5	1630	8.1	0630	8.3	119
7			PUMP INOPERATIVE			PUMP INOPERATIVE
8			PUMP INOPERATIVE			PUMP INOPERATIVE
9			PUMP INOPERATIVE			PUMP INOPERATIVE
10			PUMP INOPERATIVE			PUMP INOPERATIVE
11			PUMP INOPERATIVE			PUMP INOPERATIVE
12			PUMP INOPERATIVE			PUMP INOPERATIVE
13	8.5	1700	7.9	1130	8.2	130
14	8.4	0200	7.8	2100	8.0	129
15	8.4	0430	7.8	2400	8.1	131
16	7.7	1830	7.2	1030	7.4	133
17	7.4	0000	6.7	1430	7.1	134
18	7.2	0130	6.8	2400	7.0	130
19	6.9	0100	6.4	1730	6.7	131
20	7.1	2030	6.4	1130	6.8	131
21	7.1	0000	6.4	1900	6.6	131
22	6.8	0100	6.0	2330	6.4	131
23	7.0	2030	6.1	0230	6.6	133
24	6.6	2100	6.1	1600	6.3	138
25	6.5	1430	6.1	0000	6.3	142
26	6.6	0330	5.6	1900	6.1	150
27	6.3	0130	5.6	0900	6.0	148
28	6.4	1100	5.5	2300	6.0	142
29	5.8	0500	5.0	1730	5.4	140
30	5.5	1300	4.8	1730	5.1	142
31	5.4	0230	4.9	1130	5.2	140

TABLE 4.2-8

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

AUGUST 1979

Day	DISSOLVED OXYGEN					CONDUCTIVITY
	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	RECORDER INOPERATIVE					RECORDER INOPERATIVE
2	NO VALID DATA					140
3	NO VALID DATA					141
4	NO VALID DATA					141
5	NO VALID DATA					143
6	NO VALID DATA					140
7	NO VALID DATA					134
8	NO VALID DATA					131
9	NO VALID DATA					131
10	NO VALID DATA					132
11	NO VALID DATA					137
12	NO VALID DATA					141
13	PUMP INOPERATIVE					PUMP INOPERATIVE
14	PUMP INOPERATIVE					PUMP INOPERATIVE
15	7.3	0030	6.9	1600	7.1	132
16	7.7	1630	7.0	0500	7.3	133
17	7.7	1830	7.2	0630	7.4	135
18	7.8	1600	7.2	0730	7.6	139
19	7.9	2030	7.6	0600	7.7	139
20	8.0	1830	7.6	1100	7.8	138
21	8.1	1730	7.5	1030	7.8	139
22	8.1	1600	7.5	1030	7.7	137
23	8.3	1930	7.3	0530	7.8	137
24	8.4	2100	8.0	0400	8.2	138
25	8.5	1600	8.1	2400	8.3	140
26	8.3	0000	7.8	0800	8.0	141
27	8.2	1900	7.8	1330	8.0	139
28	8.3	1630	7.8	0800	8.0	140
29	8.2	0000	7.8	1100	8.0	140
30	8.5	1800	7.9	1000	8.2	142
31	8.0	0300	7.5	2400	7.8	135

TABLE 4.2-9

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

SEPTEMBER 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	7.8	1800	7.3	0800	7.6	133
2	7.5	2130	7.2	0900	7.4	137
3	7.7	1630	7.3	0730	7.5	139
4	8.2	1530	7.0	0830	7.6	142
5	7.9	1900	7.3	0300	7.6	144
6	7.7	0000	7.3	1800	7.5	140
7	8.0	1900	7.2	1000	7.6	118
8	7.9	1900	7.5	0600	7.7	125
9	7.7	0000	7.1	1830	7.4	128
10	7.9	1630	7.3	0830	7.6	115
11	8.0	1800	7.5	1200	7.8	125
12	7.9	1930	7.4	1130	7.7	130
13	7.8	1500	7.5	0600	7.7	135
14	7.9	2200	7.6	0100	7.7	122
15	8.1	1830	7.8	0700	7.9	119
16	8.1	2230	7.6	1200	7.8	122
17	8.0	1900	7.7	0230	7.9	124
18	8.2	1830	7.7	0700	8.0	126
19	8.2	1800	8.0	0900	8.1	127
20	8.4	1830	8.0	1300	8.2	122
21	8.5	2030	8.1	0630	8.3	110
22	8.6	1730	8.4	1000	8.5	108
23	8.6	1430	8.4	0500	8.5	110
24	9.0	1300	8.4	0730	8.7	114
25	9.1	1700	8.8	0630	8.9	118
26	9.2	1530	8.9	2400	9.1	127
27	9.0	0200	8.8	2400	8.9	125
28			NO VALID DATA			120
29			NO VALID DATA			118
30	9.2	0600	8.8	1830	9.0	117

TABLE 4.2-10

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

OCTOBER 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	8.8	0100	8.5	1300	8.7	115	
2	9.3	1730	8.5	0630	8.9	110	
3	9.2	0000	8.5	2130	8.8	114	
4	8.6	1730	8.3	0830	8.5	104	
5	8.3	0000	8.1	1430	8.2	108	
6	8.5	2000	8.1	0630	8.3	106	
7	8.7	1900	8.1	0600	8.4	92	
8	8.5	1600	8.1	2400	8.3	97	
9	8.8	1630	8.0	0130	8.4	100	
10	9.1	1630	8.4	0730	8.7	99	
11	9.2	1730	8.4	0900	8.7	100	
12	9.3	1730	8.6	0830	8.8	104	
13	9.8	1800	8.9	0430	9.3	109	
14	9.6	2100	8.1	0030	9.4	108	
15	9.8	1500	9.4	0100	9.6	105	
16	9.9	1130	9.5	0000	9.7	109	
17	10.0	0600	9.5	2400	9.8	111	
18	9.9	1700	9.7	0130	9.8	113	
19	10.4	1330	10.1	0200	10.2	112	
20	10.3	1330	10.0	2400	10.2	106	
21	10.0	1930	9.8	1030	9.9	101	
22	10.0	2400	9.9	1630	10.0	104	
23	10.0	0000	9.7	1900	9.9	112	
24	9.7	0900	9.4	2300	9.6	115	
25	9.6	2300	9.3	1630	9.5	110	
26	9.8	2000	9.6	1030	9.7	112	
27	9.8	1500	9.6	2300	9.7	113	
28	9.9	2400	9.6	0000	9.8	113	
29	10.2	1700	9.9	0800	10.0	119	
30	10.1	1800	9.9	0000	10.0	112	
31	10.3	1700	10.1	0000	10.2	110	

TABLE 4.2-11

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

NOVEMBER 1979

	DISSOLVED OXYGEN					CONDUCTIVITY	
Day	Maximum	Time	Minimum	Time	Average	Observed	Daily Average
1	10.7	1900	10.1	0000	10.4	110	
2	10.6	0000	10.2	1600	10.4	110	
3	10.4	0100	10.2	2300	10.3	108	
4	10.5	2400	10.2	0800	10.3	106	
5	10.6	1530	10.4	0200	10.5	106	
6	11.2	2400	10.5	0000	10.9	102	
7	11.4	1030	11.2	1630	11.3	107	
8	11.3	0000	10.9	2300	11.1	98	
9	11.0	1700	10.8	2400	10.9	98	
10	10.9	1100	10.7	2400	10.8	97	
11	10.7	2400	10.5	0800	10.6	88	
12	10.8	2400	10.6	1100	10.7	89	
13	10.8	1530	10.5	2400	10.7	87	
14	10.6	0000	10.4	0930	10.5	86	
15	11.0	2400	10.6	1000	10.7	90	
16	11.3	1500	11.0	1100	11.2	94	
17	11.8	1600	11.3	0000	11.5	93	
18	11.5	2400	11.2	1930	11.4	97	
19	11.7	0630	11.4	2000	11.5	94	
20	11.5	0000	11.2	1300	11.4	96	
21	11.6	2330	11.4	2000	11.5	97	
22	11.6	0000	11.5	1200	11.5	101	
23	11.6	0800	11.4	1730	11.5	105	
24	11.5	0000	11.1	2400	11.3	107	
25	11.1	0000	10.7	2230	10.9	101	
26	11.1	0830	10.6	2400	10.9	101	
27	10.9	0000	10.4	0600	10.6	80	
28	11.6	2330	10.6	0000	11.3	83	
29	11.6	2400	11.4	0400	11.5	84	
30	11.5	1000	11.4	1800	11.5	86	

TABLE 4.2-12

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

DECEMBER 1979

	DISSOLVED OXYGEN					CONDUCTIVITY
Day	Maximum	Time	Minimum	Time	Average	Observed Daily Average
1	11.6	1830	11.4	0000	11.5	88
2	11.9	2330	11.5	0800	11.7	80
3	12.1	1530	11.7	0500	11.9	83
4	12.3	2230	12.0	0800	12.1	84
5	12.4	2400	12.2	1000	12.3	89
6	12.6	2030	12.4	0000	12.5	93
7	12.5	0000	12.1	1600	12.3	86
8	12.5	2400	12.2	0600	12.3	88
9	12.9	2400	12.5	0130	12.6	89
10	12.9	0100	12.6	1400	12.7	84
11	13.0	1700	12.8	1000	12.9	87
12	12.9	0000	12.6	2400	12.7	92
13	12.7	1300	12.5	0700	12.6	102
14	12.8	1430	12.7	0000	12.8	103
15	12.7	2400	12.5	1230	12.6	96
16	12.9	0500	12.7	2030	12.8	100
17	13.0	1730	12.8	1130	12.9	96
18	13.2	1830	13.0	0430	13.1	98
19	13.4	2400	13.2	0200	13.3	95
20	13.7	2200	13.4	0000	13.6	100
21	13.7	0000	13.6	1500	13.6	113
22	13.7	0030	13.6	2200	13.6	119
23	13.6	0000	13.4	2030	13.5	114
24	13.5	0000	13.4	1700	13.5	106
25			NO VALID DATA			NO VALID DATA
26	13.7	1930	13.3	0200	13.5	86
27	13.8	0500	13.6	1130	13.7	89
28	14.0	2100	13.8	1200	13.9	81
29	13.9	0200	13.7	2400	13.8	81
30	13.7	0030	13.2	2400	13.4	85
31	13.3	0000	13.1	2400	13.2	86

TABLE 4.3-1

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JANUARY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.5	7.4	0.1
2	2	7.5	7.3	0.2
3	20	7.5	7.3	0.2
4	16	7.5	7.2	0.3
5	11	7.4	7.2	0.2
6	3	7.5	7.3	0.2
7	1	7.5	7.3	0.2
8	3	7.4	7.3	0.1
9	2	7.4	7.2	0.2
10	1	7.4	7.1	0.3
11	1	7.3	7.1	0.2
12	1	7.2	7.0	0.2
13	1	7.2	7.0	0.2
14	1	7.2	7.0	0.2
15	1	7.2	7.0	0.2
16	1	7.2	7.0	0.2
17	1	7.2	7.1	0.1
18	1	7.2	6.9	0.3
19	0	7.2	6.9	0.3
20	0	7.2	7.0	0.2
21	0	7.2	7.0	0.2
22	1	7.1	6.9	0.2
23	1	7.1	6.8	0.3
24	0	7.1	7.0	0.1
25	0	7.1	7.0	0.1
26	1	7.2	7.0	0.2
27	1	7.1	7.0	0.1
28	1	7.1	7.0	0.1
29	1	7.1	6.9	0.2
30	1	7.1	6.9	0.2
31	1	7.1	6.9	0.2

TABLE 4.3-2

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

FEBRUARY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.1	7.0	0.1
2	1	7.1	6.9	0.2
3	1	7.2	6.9	0.3
4	1	7.3	6.9	0.4
5	1	7.2	7.0	0.2
6	1	7.2	6.9	0.3
7	1	7.3	7.0	0.3
8	1	7.2	6.9	0.3
9	1	7.5	7.0	0.5
10	1	7.5	7.2	0.3
11	1	7.5	7.1	0.4
12	1	7.5	7.1	0.4
13	1	7.4	7.2	0.2
14	1	7.5	7.1	0.4
15	1	7.5	7.2	0.3
16	1	7.3	7.2	0.1
17	1	7.3	7.1	0.2
18	1	7.3	7.0	0.3
19	1	7.3	7.1	0.2
20	1	7.3	7.0	0.3
21	1	7.2	7.0	0.2
22	1	7.2	7.0	0.2
23	1	7.2	7.1	0.1
24	1	7.3	7.1	0.2
25	1	7.2	7.1	0.1
26	1	7.2	7.1	0.1
27	1	7.3	7.1	0.2
28	1	7.3	7.0	0.3

TABLE 4.3-3

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

MARCH 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.2	7.0	0.2
2	1	7.3	7.1	0.2
3	1	7.3	7.2	0.1
4	1	7.3	7.2	0.1
5	1	7.3	7.2	0.1
6	2	7.3	7.2	0.1
7	2	7.3	7.0	0.3
8	4		No Valid Data	
9	40		No Valid Data	
10	20		No Valid Data	
11	8		No Valid Data	
12	4		No Valid Data	
13	4	7.3	7.0	0.3
14	30	7.3	7.1	0.2
15	22	7.4	7.2	0.2
16	6	7.4	7.2	0.2
17	4	7.4	7.1	0.3
18	2	7.5	7.2	0.3
19	1	7.4	7.1	0.3
20	Sensor Inoperative	7.5	7.2	0.3
21	8	7.5	7.3	0.2
22	9	7.5	7.2	0.3
23	6	7.5	7.3	0.2
24	4	7.5	7.1	0.4
25	4	7.4	7.0	0.4
26	5	7.4	7.0	0.4
27	3	7.5	7.3	0.2
28	3	7.6	7.4	0.2
29	8	7.6	7.5	0.1
30	6	7.6	7.5	0.1
31	4	7.6	7.5	0.1

TABLE 4.3-4

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
APRIL 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	3	7.7	7.5	0.2
2	3	7.7	7.4	0.3
3	No Valid Data	7.5	7.4	0.1
4	2	7.5	7.1	0.4
5	4	7.3	7.1	0.2
6	4	7.3	7.0	0.3
7	2	7.3	7.1	0.2
8	3	7.3	7.1	0.2
9	2	7.3	7.2	0.1
10	2	7.3	7.1	0.2
11	1	7.4	7.1	0.3
12	2	7.4	7.1	0.3
13	2	7.3	7.1	0.2
14	3	7.4	7.2	0.2
15	3	7.4	7.3	0.1
16	3	7.4	7.2	0.2
17	4	7.4	7.2	0.2
18	3	7.4	7.3	0.1
19	2	7.6	7.4	0.2
20	1	7.7	7.4	0.3
21	1	7.7	7.4	0.3
22	Pump Inoperative		Pump Inoperative	
23	Pump Inoperative		Pump Inoperative	
24	Pump Inoperative		Pump Inoperative	
25	Pump Inoperative		Pump Inoperative	
26	Pump Inoperative		Pump Inoperative	
27	Pump Inoperative		Pump Inoperative	
28	Pump Inoperative		Pump Inoperative	
29	Pump Inoperative		Pump Inoperative	
30	Pump Inoperative		Pump Inoperative	

TABLE 4.3-5

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
MAY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	Pump Inoperative		Pump Inoperative	
2	2	7.1	7.0	0.1
3	2	7.1	6.9	0.2
4	2	7.2	7.0	0.2
5	3	7.2	7.0	0.2
6	3	7.2	7.0	0.2
7	2	7.4	7.0	0.4
8	2	7.4	7.0	0.4
9	1	7.4	7.0	0.4
10	2	7.3	7.0	0.3
11	1	7.4	7.0	0.4
12	1	7.2	7.0	0.2
13	1	7.3	7.0	0.3
14	2	7.3	7.1	0.2
15	2	7.4	7.1	0.3
16	1	7.7	7.4	0.3
17	2	7.7	7.3	0.4
18	3	7.6	7.4	0.2
19	2	7.6	7.3	0.3
20	3	7.5	7.3	0.2
21	3	7.5	7.3	0.2
22	3	7.5	7.0	0.5
23	5	7.5	7.3	0.2
24	6	7.5	7.3	0.2
25	7	7.5	7.2	0.3
26	9	7.2	7.0	0.2
27	8	7.3	7.0	0.3
28	6	7.4	7.3	0.1
29	5	7.5	7.3	0.2
30	5	7.3	7.0	0.3
31	4	7.2	7.0	0.2

TABLE 4.3-6

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JUNE 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	2	7.3	6.9	0.4
2	1	7.4	7.0	0.4
3	1	7.3	7.0	0.3
4	1	7.2	7.0	0.2
5	1	7.2	6.9	0.3
6	1	7.2	6.9	0.3
7	1	7.3	6.9	0.4
8	1	7.4	7.1	0.3
9	1	7.4	7.1	0.3
10	1	7.4	7.1	0.3
11	1	7.5	7.2	0.3
12	1	7.3	7.1	0.2
13	1	7.4	7.0	0.4
14	1	7.5	7.2	0.3
15	1	7.7	7.1	0.6
16	1	7.7	7.2	0.5
17	1	7.7	7.3	0.4
18	1	7.6	7.2	0.4
19	1	7.7	7.2	0.5
20	1	7.9	7.2	0.7
21	1	7.8	7.2	0.6
22	1	7.7	7.3	0.4
23	1	7.6	7.3	0.3
24	1	7.6	7.3	0.3
25	1	7.7	7.3	0.4
26	1	7.[illegible]	7.3	0.3
27	1	7.7	7.3	0.4
28	1	7.6	7.4	0.2
29	2	7.6	7.3	0.3
30	2	7.4	7.2	0.2

TABLE 4.3-7

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
JULY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.5	7.3	0.2
2	2	7.4	7.1	0.3
3	1	7.5	7.2	0.3
4	1	7.5	7.2	0.3
5	1	7.5	7.2	0.3
6	1	7.6	7.2	0.4
7	0	7.7	7.3	0.4
8	0	7.8	7.4	0.4
9	1	7.6	7.3	0.3
10	2		SENSOR INOPERATIVE	
11	2	8.0	7.7	0.3
12	2	8.2	7.7	0.5
13	2	8.0	7.8	0.2
14	2	8.0	7.6	0.4
15	2	7.9	7.6	0.3
16	2	7.8	7.5	0.3
17	1	7.8	7.6	0.2
18	2	7.6	7.3	0.3
19	3	7.5	7.2	0.3
20	2	7.6	7.2	0.4
21	2	7.7	7.4	0.3
22	2	7.6	7.3	0.3
23	2	7.7	7.3	0.4
24	2	7.5	7.3	0.2
25	1	7.6	7.2	0.4
26	2	7.4	7.2	0.2
27	3	7.5	7.3	0.2
28	2	7.7	7.4	0.3
29	2	7.5	7.4	0.1
30	2	7.7	7.3	0.4
31	2	7.5	7.2	0.3

TABLE 4.3-8

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

AUGUST 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.2	7.0	0.2
2	4	7.2	7.0	0.2
3	2	7.2	6.9	0.3
4	2	7.3	6.9	0.4
5	2	7.2	7.0	0.2
6	2	7.2	7.0	0.2
7	2	7.1	6.9	0.2
8	2	7.3	7.0	0.3
9	3	7.4	7.1	0.3
10	3	7.3	7.1	0.2
11	3	7.2	7.0	0.2
12	3	7.1	7.0	0.1
13	2	7.4	7.1	0.3
14	4	7.3	7.1	0.2
15	3	7.3	7.2	0.1
16	4	7.5	7.2	0.3
17	4	7.6	7.2	0.4
18	5	7.4	7.3	0.1
19	4	7.4	7.2	0.2
20	2	7.5	7.3	0.2
21	1	7.6	7.4	0.2
22	1	7.6	7.3	0.3
23	2	7.6	7.3	0.3
24	2	7.5	7.3	0.2
25	3	7.6	7.4	0.2
26	3	7.7	7.3	0.4
27	3	7.7	7.4	0.3
28	6	7.8	7.5	0.3
29	2	7.6	7.5	0.1
30	2	7.5	7.3	0.2
31	3	7.5	7.3	0.2

TABLE 4.3-9

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

SEPTEMBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	2	7.6	7.3	0.3
2	2	7.7	7.3	0.4
3	1	7.6	7.4	0.2
4	1	7.8	7.4	0.4
5	2	7.9	7.5	0.4
6	2	7.6	7.5	0.1
7	2	7.6	7.4	0.2
8	1	7.5	7.2	0.3
9	2	7.7	7.2	0.5
10	2	7.8	7.4	0.4
11	1	7.7	7.4	0.3
12	1	7.8	7.4	0.4
13	1	7.7	7.5	0.2
14	1	7.7	7.5	0.2
15	1	7.6	7.4	0.2
16	1	7.6	7.4	0.2
17	1	7.7	7.4	0.3
18	1	7.8	7.4	0.4
19	2	7.8	7.5	0.3
20	2	7.8	7.6	0.2
21	2	7.7	7.5	0.2
22	2	7.6	7.4	0.2
23	2	7.6	7.3	0.3
24	2	7.7	7.4	0.3
25	2	7.7	7.4	0.3
26	2	7.8	7.4	0.4
27	1	7.8	7.5	0.3
28	1	7.7	7.5	0.2
29	1	7.8	7.6	0.2
30	1	7.6	7.4	0.2

TABLE 4.3-10

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

OCTOBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	2	7.5	7.4	0.1
2	2	7.5	7.3	0.2
3	1	7.4	7.3	0.1
4	2	7.5	7.2	0.3
5	2	7.4	7.2	0.2
6	2	7.3	7.1	0.2
7	2	7.3	7.0	0.3
8	1	7.3	7.0	0.3
9	1	7.2	7.1	0.1
10	1	7.2	7.1	0.1
11	1	7.4	7.1	0.3
12	1	7.4	7.2	0.2
13	1	7.4	7.2	0.2
14	2	7.5	7.2	0.3
15	1	7.5	7.3	0.2
16	1	7.5	7.2	0.3
17	1	7.5	7.3	0.2
18	1	7.5	7.3	0.2
19	1	7.5	7.3	0.2
20	2	7.4	7.2	0.2
21	2	7.4	7.2	0.2
22	2	7.3	7.0	0.3
23	1	7.3	7.0	0.3
24	2	7.3	7.1	0.2
25	1	7.4	7.1	0.3
26	1	7.3	7.2	0.1
27	1	7.3	7.2	0.1
28	1	7.4	7.2	0.2
29	1	7.3	7.2	0.1
30	1	7.4	7.2	0.2
31	1	7.4	7.2	0.2

TABLE 4.3-11

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

NOVEMBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	PUMP INOPERATIVE		PUMP INOPERATIVE	
2	1	7.4	7.3	0.1
3	1	7.4	7.3	0.1
4	1	7.4	7.3	0.1
5	1	7.5	7.3	0.2
6	1	7.5	7.3	0.2
7	1	7.5	7.4	0.1
8	1	7.5	7.4	0.1
9	2	7.4	7.3	0.1
10	PUMP INOPERATIVE		PUMP INOPERATIVE	
11	PUMP INOPERATIVE		PUMP INOPERATIVE	
12	PUMP INOPERATIVE		PUMP INOPERATIVE	
13	PUMP INOPERATIVE		PUMP INOPERATIVE	
14	1	7.4	7.2	0.2
15	1	7.4	7.2	0.2
16	1	7.5	7.3	0.2
17	1	7.5	7.3	0.2
18	1	7.4	7.3	0.1
19	1	7.5	7.3	0.2
20	1	7.5	7.3	0.2
21	1	7.5	7.3	0.2
22	1	7.5	7.3	0.2
23	2	7.4	7.3	0.1
24	1	7.5	7.3	0.2
25	1	7.5	7.4	0.1
26	1	7.5	7.3	0.2
27	8	7.4	7.2	0.2
28	9	7.4	7.3	0.1
29	8	7.4	7.3	0.1
30	6	7.5	7.3	0.2

TABLE 4.3-12

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 3 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

DECEMBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	3	7.5	7.3	0.2
2	3	7.5	7.3	0.2
3	3	7.4	7.1	0.3
4	2	7.4	7.3	0.1
5	2	7.5	7.4	0.1
6	2	7.5	7.3	0.2
7	2	7.5	7.3	0.2
8	PUMP INOPERATIVE		PUMP INOPERATIVE	
9	PUMP INOPERATIVE		PUMP INOPERATIVE	
10	PUMP INOPERATIVE		PUMP INOPERATIVE	
11	PUMP INOPERATIVE		PUMP INOPERATIVE	
12	PUMP INOPERATIVE		PUMP INOPERATIVE	
13	PUMP INOPERATIVE		PUMP INOPERATIVE	
14	PUMP INOPERATIVE		PUMP INOPERATIVE	
15	PUMP INOPERATIVE		PUMP INOPERATIVE	
16	PUMP INOPERATIVE		PUMP INOPERATIVE	
17	PUMP INOPERATIVE		PUMP INOPERATIVE	
18	1	7.5	7.4	0.1
19	1	7.5	7.4	0.1
20	2	7.6	7.3	0.3
21	1	7.6	7.4	0.2
22	1	7.6	7.5	0.1
23	1	7.6	7.5	0.1
24	1	7.6	7.5	0.1
25	2	7.5	7.4	0.1
26	6	7.5	7.3	0.2
27	5	7.6	7.4	0.2
28	6	7.6	7.5	0.1
29	7	7.5	7.2	0.3
30	5	7.6	7.3	0.3
31	3	7.6	7.2	0.4

TABLE 4.4-1

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

JANUARY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.2	7.0	0.2
2	7	7.2	6.9	0.3
3	20	7.1	6.9	0.2
4	20	7.2	7.0	0.2
5	8	7.2	7.0	0.2
6	3	7.2	7.1	0.1
7	2	7.2	7.1	0.1
8	3	7.1	7.0	0.1
9	2	7.1	6.9	0.2
10	1	7.0	6.9	0.1
11	No Valid Data	7.0	6.9	0.1
12	1	7.0	6.9	0.1
13	1	7.0	6.9	0.1
14	1	7.0	6.9	0.1
15	1	7.0	6.9	0.1
16	1	7.1	7.0	0.1
17	0	7.1	7.0	0.1
18	1	7.0	6.9	0.1
19	1	7.1	7.0	0.1
20	1	7.1	7.0	0.1
21	1	7.1	6.9	0.2
22	1	7.0	6.9	0.1
23	1	7.0	6.9	0.1
24	1	7.0	6.9	0.1
25	1	7.1	7.0	0.1
26	1	7.1	7.0	0.1
27	1	7.1	7.0	0.1
28	1	7.1	7.0	0.1
29	1	7.0	6.9	0.1
30	1	7.0	6.9	0.1
31	1	7.1	7.0	0.1

TABLE 4.4-2

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

FEBRUARY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.1	7.0	0.1
2	1	7.1	7.0	0.1
3	1	7.1	7.0	0.1
4	1	7.1	7.0	0.1
5	1	7.1	7.0	0.1
6	1	7.1	7.0	0.1
7	1	7.1	7.0	0.1
8	1	7.0	6.9	0.1
9	1	7.1	7.0	0.1
10	1	7.2	7.0	0.2
11	1	7.1	7.0	0.1
12	2	7.1	7.0	0.1
13	2	7.0	7.0	0.0
14	2	7.1	7.0	0.1
15	2	7.1	7.0	0.1
16	1	7.1	6.9	0.2
17	1	7.1	7.0	0.1
18	0	7.0	7.0	0.0
19	1	7.0	6.9	0.1
20	1	7.0	6.9	0.1
21	1	7.0	6.9	0.1
22	1	7.0	6.9	0.1
23	2	7.0	6.9	0.1
24	2	7.0	6.9	0.1
25	3	7.0	6.9	0.1
26	2	7.0	6.9	0.1
27	2	7.0	6.9	0.1
28	3	7.0	6.9	0.1

TABLE 4.4-3

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

MARCH 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	2	7.1	6.9	0.2
2	2	7.1	7.0	0.1
3	1	7.1	7.0	0.1
4	1	7.2	7.1	0.1
5	2	7.1	7.0	0.1
6	16	7.0	7.0	0.0
7	14	7.0	6.8	0.2
8	50	7.0	6.8	0.2
9	80	6.9	6.8	0.1
10	34	6.9	6.8	0.1
11	6	6.9	6.8	0.1
12	4	6.9	6.9	0.0
13	5	7.0	6.9	0.1
14	Recorder Inoperative		Recorder Inoperative	
15	Recorder Inoperative		Recorder Inoperative	
16	Recorder Inoperative		Recorder Inoperative	
17	Recorder Inoperative		Recorder Inoperative	
18	4	7.0	7.0	0.0
19	4	7.0	6.9	0.1
20	4	7.0	6.9	0.1
21	5	7.0	6.9	0.1
22	8	7.0	6.9	0.1
23	14	7.0	6.9	0.1
24	30	7.0	6.9	0.1
25	No Valid Data	7.0	6.8	0.2
26	No Valid Data		No Valid Data	
27	40	7.0	6.9	0.1
28	28	7.0	6.9	0.1
29	Pump Inoperative		Pump Inoperative	
30	Pump Inoperative		Pump Inoperative	
31	Pump Inoperative		Pump Inoperative	

TABLE 4.4-4

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
APRIL 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	Pump Inoperative		Pump Inoperative	
2	Pump Inoperative		Pump Inoperative	
3	Pump Inoperative		Pump Inoperative	
4	4	7.0	6.8	0.2
5	3	7.0	6.9	0.1
6	4	7.0	6.9	0.1
7	4	7.1	7.0	0.1
8	3	7.1	7.0	0.1
9	3	7.1	7.0	0.1
10	2	7.2	7.1	0.1
11	2	7.2	7.1	0.1
12	3	7.2	7.0	0.2
13	2	7.2	7.0	0.2
14	2	7.2	7.1	0.1
15	2	7.2	7.1	0.1
16	1	7.2	7.1	0.1
17	1	7.2	7.1	0.1
18	2	7.2	7.1	0.1
19	1	7.2	7.1	0.1
20	1	7.2	7.0	0.2
21	1	7.1	7.0	0.1
22	1	7.1	7.0	0.1
23	1	7.0	7.0	0.0
24	2	7.0	7.0	0.0
25	2	7.2	7.0	0.2
26	No Valid Data		No Valid Data	
27	5	7.0	6.9	0.1
28	6	7.0	6.9	0.1
29	3	7.0	6.8	0.2
30	4	7.0	6.8	0.2

TABLE 4.4-5

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
MAY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	4	7.0	6.9	0.1
2	2	7.0	6.9	0.1
3	2	7.1	7.0	0.1
4	1	7.1	7.0	0.1
5	1	7.1	7.0	0.1
6	1	7.1	7.0	0.1
7	1	7.1	7.1	0.0
8	1	7.1	7.1	0.0
9	1	7.2	7.0	0.2
10	1	7.2	7.0	0.2
11	0	7.2	7.1	0.1
12	0	7.2	7.1	0.1
13	1	7.2	7.1	0.1
14	1	7.2	7.0	0.2
15	1	7.2	7.1	0.1
16	1	7.2	7.0	0.2
17	1	7.3	7.1	0.2
18	1	7.2	7.1	0.1
19	1	7.3	7.1	0.2
20	1	7.3	7.1	0.2
21	1	7.4	7.2	0.2
22	1	7.4	7.2	0.2
23	1	7.4	7.3	0.1
24	2	7.4	7.1	0.3
25	15	7.1	6.9	0.2
26	13	7.0	6.8	0.2
27	8	7.0	6.9	0.1
28	4	7.1	7.0	0.1
29	8	7.1	6.9	0.2
30	5	7.1	6.9	0.2
31	2	7.1	7.0	0.1

TABLE 4.4-6

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
JUNE 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	4	7.1	7.0	0.1
2	1	7.1	7.0	0.1
3	1	7.1	7.0	0.1
4	1	7.0	6.9	0.1
5	1	7.0	6.9	0.1
6	1	7.0	6.9	0.1
7	1	7.1	7.0	0.1
8	1	7.1	7.1	0.0
9	1	7.2	7.0	0.2
10	1	7.3	7.1	0.2
11	1	7.3	7.1	0.2
12	1	7.3	7.0	0.3
13	0	7.4	7.2	0.2
14	1	7.3	7.2	0.1
15	1	7.4	7.2	0.2
16	0		Sensor Inoperative	
17	0		Sensor Inoperative	
18	1	7.5	7.4	0.1
19	1	7.6	7.4	0.2
20	1	7.6	7.3	0.3
21	1	7.7	7.5	0.2
22	1	7.8	7.5	0.3
23	1	7.7	7.5	0.2
24	1	7.7	7.5	0.2
25	Sensor Inoperative	7.5	7.3	0.2
26	Sensor Inoperative	7.3	7.2	0.1
27	Sensor Inoperative	7.4	7.2	0.2
28	1	7.4	7.2	0.2
29	1	7.3	7.1	0.2
30	1	7.3	7.1	0.2

TABLE 4.4-7

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.
JULY 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.3	7.2	0.1
2	1	7.4	7.2	0.2
3	1	7.5	7.3	0.2
4	1	7.5	7.3	0.2
5	1	7.5	7.3	0.2
6	1	7.5	7.3	0.2
7	PUMP INOPERATIVE		PUMP INOPERATIVE	
8	PUMP INOPERATIVE		PUMP INOPERATIVE	
9	PUMP INOPERATIVE		PUMP INOPERATIVE	
10	PUMP INOPERATIVE		PUMP INOPERATIVE	
11	PUMP INOPERATIVE		PUMP INOPERATIVE	
12	PUMP INOPERATIVE		PUMP INOPERATIVE	
13	1	7.7	7.5	0.2
14	1	7.7	7.4	0.3
15	1	7.6	7.3	0.3
16	1	7.3	7.2	0.1
17	1	7.3	7.1	0.2
18	1	7.3	7.2	0.1
19	1	7.2	7.1	0.1
20	0	7.2	7.0	0.2
21	0	7.1	7.0	0.1
22	0	7.1	7.0	0.1
23	0	7.2	6.9	0.3
24	0	7.2	7.1	0.1
25	0	7.2	7.1	0.1
26	1	7.2	7.0	0.2
27	1	7.2	7.0	0.2
28	0	7.1	7.0	0.1
29	1	7.1	7.0	0.1
30	0	7.0	6.9	0.1
31	1	7.0	6.9	0.1

TABLE 4.4-8

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

AUGUST 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	RECORDER INOPERATIVE		RECORDER INOPERATIVE	
2	1	7.1	6.9	0.2
3	2	7.1	7.0	0.1
4	2	7.1	6.9	0.2
5	NO VALID DATA	7.0	6.9	0.1
6	NO VALID DATA	7.1	6.8	0.3
7	NO VALID DATA	7.1	7.0	0.1
8	NO VALID DATA	7.2	7.0	0.2
9	NO VALID DATA	7.2	7.0	0.2
10	NO VALID DATA	7.2	7.1	0.1
11	NO VALID DATA	7.2	7.1	0.1
12	NO VALID DATA	7.2	7.1	0.1
13	PUMP INOPERATIVE		PUMP INOPERATIVE	
14	PUMP INOPERATIVE		PUMP INOPERATIVE	
15	1	7.2	7.1	0.1
16	1	7.3	7.2	0.1
17	1	7.3	7.2	0.1
18	1	7.3	7.2	0.1
19	1	7.3	7.2	0.1
20	1	7.4	7.2	0.2
21	1	7.5	7.3	0.2
22	1	7.4	7.3	0.1
23	1	7.5	7.3	0.2
24	1	7.6	7.5	0.1
25	1	7.6	7.5	0.1
26	1	7.6	7.5	0.1
27	1	7.6	7.4	0.2
28	1	7.7	7.5	0.2
29	1	7.6	7.5	0.1
30	1	7.7	7.5	0.2
31	1	7.6	7.5	0.1

TABLE 4.4-9

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

SEPTEMBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	1	7.5	7.5	0.0
2	1	7.5	7.4	0.1
3	1	7.5	7.4	0.1
4	1	7.4	7.3	0.1
5	1	7.5	7.3	0.2
6	1	7.5	7.3	0.2
7	2	7.4	7.0	0.4
8	1	7.4	7.2	0.2
9	2	7.4	7.2	0.2
10	2	7.3	7.1	0.2
11	3	7.4	7.2	0.2
12	3	7.4	7.2	0.2
13	3	7.4	7.2	0.2
14	3	7.3	7.2	0.1
15	3	7.3	7.2	0.1
16	2	7.4	7.2	0.2
17	2	7.4	7.2	0.2
18	2	7.5	7.3	0.2
19	2	7.5	7.3	0.2
20	2	7.5	7.3	0.2
21	2	7.4	7.2	0.2
22	1	7.3	7.2	0.1
23	1	7.3	7.2	0.1
24	1	7.4	7.2	0.2
25	1	7.5	7.3	0.2
26	1	7.6	7.5	0.1
27	1	7.5	7.4	0.1
28	1	7.5	7.3	0.2
29	1	7.4	7.3	0.1
30	1	7.4	7.2	0.2

TABLE 4.4-10

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

OCTOBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	2	7.3	7.2	0.1
2	2	7.3	7.1	0.2
3	1	7.3	7.2	0.1
4	2	7.2	7.0	0.2
5	2	7.1	7.0	0.1
6	1	7.1	7.0	0.1
7	1	7.1	6.9	0.2
8	1	7.1	7.0	0.1
9	1	7.1	6.9	0.2
10	0	7.1	7.0	0.1
11	0	7.2	7.1	0.1
12	1	7.2	7.1	0.1
13	1	7.2	7.1	0.1
14	1	7.2	7.2	0.0
15	1	7.2	7.2	0.0
16	1	7.3	7.2	0.1
17	1	7.3	7.2	0.1
18	1	7.4	7.2	0.2
19	1	7.4	7.3	0.1
20	2	7.3	7.2	0.1
21	2	7.2	7.1	0.1
22	1	7.2	7.1	0.1
23	2	7.3	7.2	0.1
24	2	7.3	7.2	0.1
25	2	7.2	7.2	0.0
26	1	7.2	7.1	0.1
27	1	7.3	7.2	0.1
28	1	7.3	7.1	0.2
29	1	7.3	7.2	0.1
30	1	7.2	7.1	0.1
31	2	7.2	7.2	0.0

TABLE 4.4-11

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

NOVEMBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	2	7.2	7.1	0.1
2	1	7.2	7.1	0.1
3	2	7.2	7.1	0.1
4	1	7.2	7.1	0.1
5	1	7.2	7.1	0.1
6	1	7.2	7.1	0.1
7	2	7.2	7.2	0.0
8	2	7.2	7.1	0.1
9	1	7.2	7.1	0.1
10	1	7.2	7.1	0.1
11	1	7.2	7.0	0.2
12	1	7.2	7.1	0.1
13	1	7.2	7.1	0.1
14	1	7.2	7.1	0.1
15	1	7.2	7.1	0.1
16	1	7.3	7.2	0.1
17	1	7.3	7.2	0.1
18	1	7.3	7.2	0.1
19	2	7.3	7.2	0.1
20	3	7.3	7.2	0.1
21	4	7.3	7.2	0.1
22	3	7.3	7.2	0.1
23	3	7.3	7.2	0.1
24	1	7.3	7.2	0.1
25	1	7.2	7.1	0.1
26	2	7.3	7.1	0.2
27	11	7.2	7.0	0.2
28	7	7.2	7.1	0.1
29	5	7.2	7.1	0.1
30	4	7.2	7.2	0.0

TABLE 4.4-12

VERMONT YANKEE NUCLEAR POWER CORPORATION
SAMPLE STATION NO. 7 (W-20 MONITOR)
WATER QUALITY DATA BY
AQUATEC, INC.

DECEMBER 1979

Day	TURBIDITY	pH		
	Observed Daily Average	Maximum	Minimum	Range
1	3	7.3	7.2	0.1
2	3	7.2	7.1	0.1
3	2	7.2	7.1	0.1
4	2	7.2	7.1	0.1
5	2	7.2	7.1	0.1
6	2	7.3	7.2	0.1
7	2	7.2	7.1	0.1
8	2	7.3	7.2	0.1
9	1	7.3	7.2	0.1
10	2	7.3	7.2	0.1
11	2	7.3	7.2	0.1
12	2	7.3	7.2	0.1
13	2	7.4	7.2	0.2
14	1	7.4	7.3	0.1
15	1	7.4	7.3	0.1
16	1	7.4	7.3	0.1
17	1	7.4	7.3	0.1
18	2	7.4	7.2	0.2
19	1	7.3	7.2	0.1
20	1	7.3	7.2	0.1
21	1	7.3	7.2	0.1
22	1	7.3	7.3	0.0
23	1	7.3	7.2	0.1
24	1	7.3	7.2	0.1
25	NO VALID DATA	7.2	7.1	0.1
26	5	7.2	7.1	0.1
27	4	7.3	7.2	0.1
28	6	7.2	7.0	0.2
29	4	7.2	7.1	0.1
30	4	7.2	7.1	0.1
31	3	7.2	7.1	0.1

TABLE 4.5-1

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	2/12/79	2/12/79	2/12/79
Dissolved Oxygen	13.25	13.35	11.90
Turbidity (Formazin Units)	1.9	1.0	1.0
pH (pH Units)	7.17	7.23	7.03
Alkalinity (as $CaCO_3$)	30.7	32.3	29.9
Total Hardness (as $CaCO_3$)	38.7	38.0	39.7
Calcium Hardness (as $CaCO_3$)	32.0	31.2	32.9
Chloride	12.3	9.3	12.9
Sulfate	13.6	12.8	13.1
Total Phosphate (as P)	0.030	0.025	0.025
Total Solids	90	83	81
Suspended Solids	11	2	2
Chromium (Total)	<0.002	<0.002	<0.002
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.20	0.14	0.14
Sodium	5.6	5.9	5.8
Zinc	<0.02	0.02	0.02

All Results in mg/l Unless Otherwise Noted

TABLE 4.5-2

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	5/13/79	5/13/79	5/13/79
Dissolved Oxygen	9.20	9.35	9.70
Turbidity (Formazin Units)	8.2	1.6	1.1
pH (pH Units)	7.20	7.40	7.60
Alkalinity (as $CaCO_3$)	32.0	30.0	35.5
Total Hardness (as $CaCO_3$)	36.3	34.5	40.2
Calcium Hardness (as $CaCO_3$)	31.2	29.7	34.5
Chloride	6.1	5.6	7.7
Sulfate	9.1	8.8	10.8
Total Phosphate (as P)	0.175	0.060	0.035
Total Solids	368	72	87
Suspended Solids	156	[illegible]	14
Chromium (Total)	0.008	<0.002	<0.002
Copper	0.06	<0.02	0.03
Iron (Total)	0.18	0.20	0.34
Sodium	4.0	3.8	4.8
Zinc	0.02	<0.02	<0.02

All Results in mg/l Unless Otherwise Noted

TABLE 4.5-3

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	8/24/79	8/24/79	8/24/79
Dissolved Oxygen	7.70	8.10	7.60
Turbidity (Formazin Units)	0.63	0.65	1.4
pH (pH Units)	7.54	7.76	7.71
Alkalinity (as $CaCO_3$)	42.2	40.2	24.1
Total Hardness (as $CaCO_3$)	52.3	49.8	93.5
Calcium Hardness (as $CaCO_3$)	44.9	42.4	79.9
Chloride	11.2	10.8	19.4
Sulfate	8.7	8.6	59
Total Phosphate (as P)	<0.005	<0.005	0.010
Total Solids	50	69	195
Suspended Solids	2	2	4
Chromium (Total)	<0.002	<0.002	<0.002
Copper	<0.02	<0.02	0.14
Iron (Total)	0.10	0.08	0.20
Sodium	6.4	6.4	11.6
Zinc	<0.02	0.02	0.07

All Results in mg/l Unless Otherwise Noted

TABLE 4.5-4

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	11/16/79	11/16/79	11/16/79
Dissolved Oxygen	10.95	11.10	10.55
Turbidity (Formazin Units)	0.68	1.1	2.0
pH (pH Units)	7.28	7.24	7.28
Alkalinity (as $CaCO_3$)	31.4	30.5	29.9
Total Hardness (as $CaCO_3$)	32.6	33.3	33.8
Calcium Hardness (as $CaCO_3$)	26.7	27.2	27.5
Chloride	6.0	6.0	6.2
Sulfate	8.8	9.2	9.2
Total Phosphate (as P)	0.010	0.010	0.030
Total Solids	63	60	80
Suspended Solids	3	4	20
Chromium (Total)	<0.002	<0.002	<0.002
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.23	0.22	0.53
Sodium	4.6	4.6	4.6
Zinc	<0.02	<0.02	<0.02

All Results in mg/l Unless Otherwise Noted

SECTION 5

PLANKTON STUDIES

5. PLANKTON STUDIES

Plankton samples were collected by pump once each month in 1979 at the downstream and upstream water quality monitors, Stations 3 and 7 (Figure 5.1). In addition, samples of river plankton were collected on twenty dates in the 1979 entrainment studies. These latter collections were made by bucket from the river at Vermont Yankee's condenser cooling water intake structure.

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 1979 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 1979 monitor samples are also shown graphically in Figures 5.2 and 5.3. To permit ready comparison of the 1979 monitor sample data with that 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.

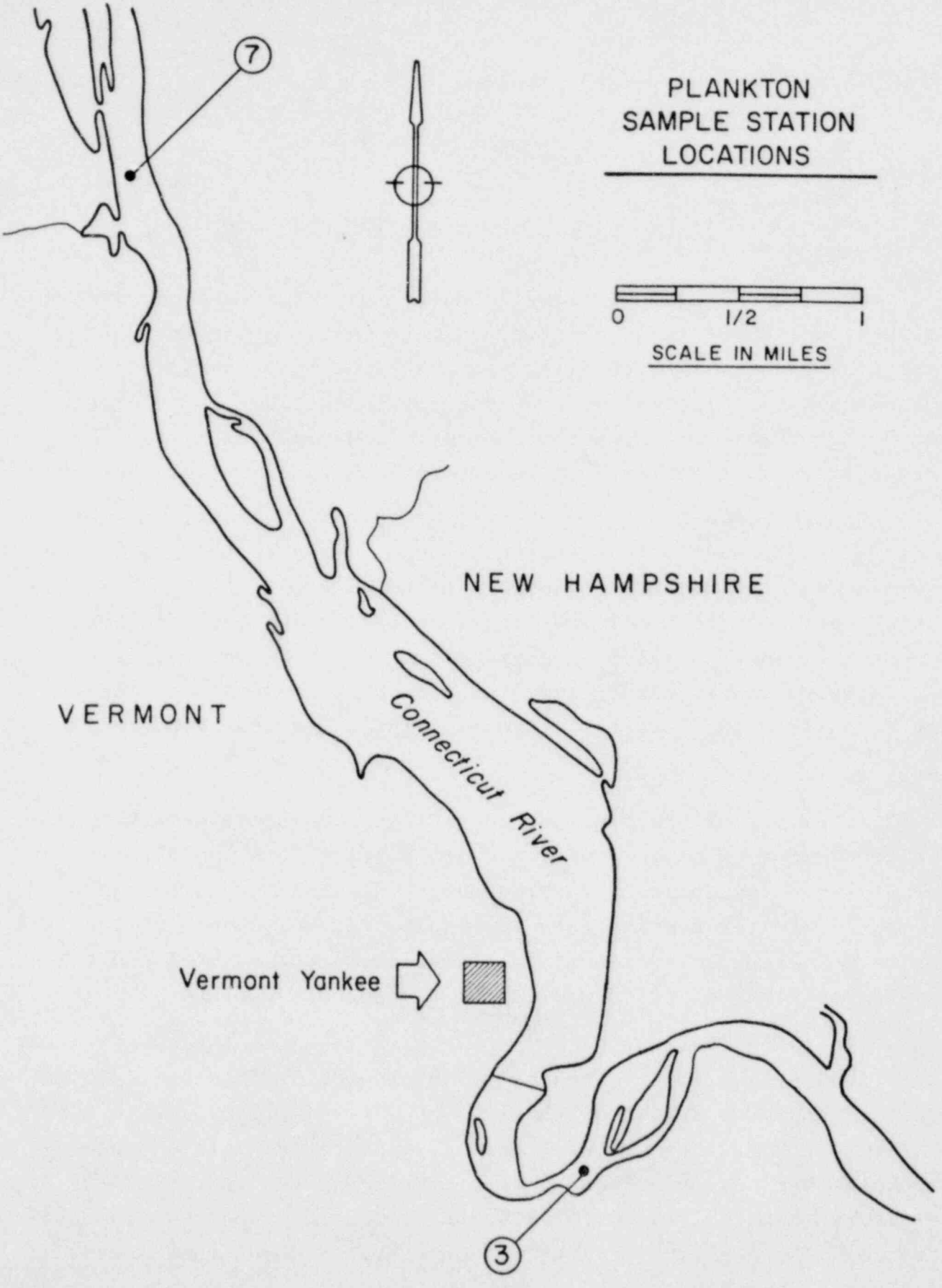

PLANKTON
SAMPLE STATION
LOCATIONS
0
1/2
1
SCALE IN MILES
7
NEW HAMPSHIRE
VERMONT
Connecticut River
Vermont Yankee
3

FIGURE 5.1

Algal concentrations observed in the Monitor 7 samples of January, February, and May were greater than the 1970-1974 means; that of February was more than two standard deviations greater. At Monitor 3, phytoplankton counts greater than the 1970-1974 means there were found in the samples of January through April, in June and July, and in December. All Monitor 3 counts, however, were within two standard deviations of the 1970-1974 means. Concentrations of phytoplankters in the late summer and early fall samples at both monitor stations were low relative to the mean counts observed in 1970-1974.

An exceptionally high concentration of algal units was found in the entrainment intake sample of 12 July 1979. This sample had a total count of 94,492 units per liter. Eighty-five percent of the organisms present were two diatom species – Asterionella formosa and Tabellaria fenestrata.

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 1979, except the 1349 found in June, 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 1979 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, except that of the July sample, 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.

TABLE 5.1-1

DOMINANT PHYTOPLANKTON SPECIES
(Dominant Species Count/Total Count in Units Per Liter)
1979

	SAMPLE LOCATION		
Date	Monitor 7	River at VY Intake	Monitor 3
1/11		Asterionella formosa (20/112)	
1/15	Asterionella formosa (10/96)		Fragilaria capucina (14/92)
1/26		Fragilaria capucina (3/24)	
2/12		Fragilaria capucina (14/63)	
2/21	Fragilaria capucina (6/108)		Fragilaria capucina (12/120)
2/26		Oscillatoria sp. (17/540)	
3/13		Melosira spp. (4/238)	
3/20	Melosira spp. (14/304)		Melosira spp. (55/600)
4/12		Asterionella formosa (9/105)	
4/20	Fragilaria capucina (6/180)		Meridion circulare (12/374)
4/25		Melosira italica (19/171)	
5/11		Asterionella formosa (33/1302)	
5/16	Melosira italica (46/392)		Melosira italica (52/220)
5/29		Melosira italica (18/157)	

TABLE 5.1-2

	SAMPLE LOCATION		
Date	Monitor 7	River at VY Intake	Monitor 3
6/14 6/25 6/27	Tabellaria fenestrata (376/1349)	Asterionella formosa (41/563) Tabellaria fenestrata (312/1039)	Tabellaria fenestrata (297/818)
7/12 7/17 7/27	Tabellaria fenestrata (180/446)	Asterionella formosa (50712/94492) Tabellaria fenestrata (160/1051)	Tabellaria fenestrata (2142/4514)
8/16 8/20 8/30	Pediastrum simplex (61/215)	Melosira italica (91/386) Asterionella formosa (128/632)	Melosira italica (145/267)
9/13 9/19	Pediastrum simplex (336/658)	Rhizosolenia eriensis (248/1330)	Asterionella formosa (145/1009)
10/26	Melosira italica (70/249)		Melosira italica (67/244)
11/10 11/21	Melosira italica (102/232)	Melosira italica (76/250) Asterionella formosa (87/274)	Asterionella formosa (36/142)
12/8 12/19 12/22	Tabellaria fenestrata (12/66)	Asterionella formosa (37/165) None (-/139)	Melosira italica (14/94)

SEASONAL PHYTOPLANKTON DISTRIBUTION

STATION NO. 7 - MONITOR

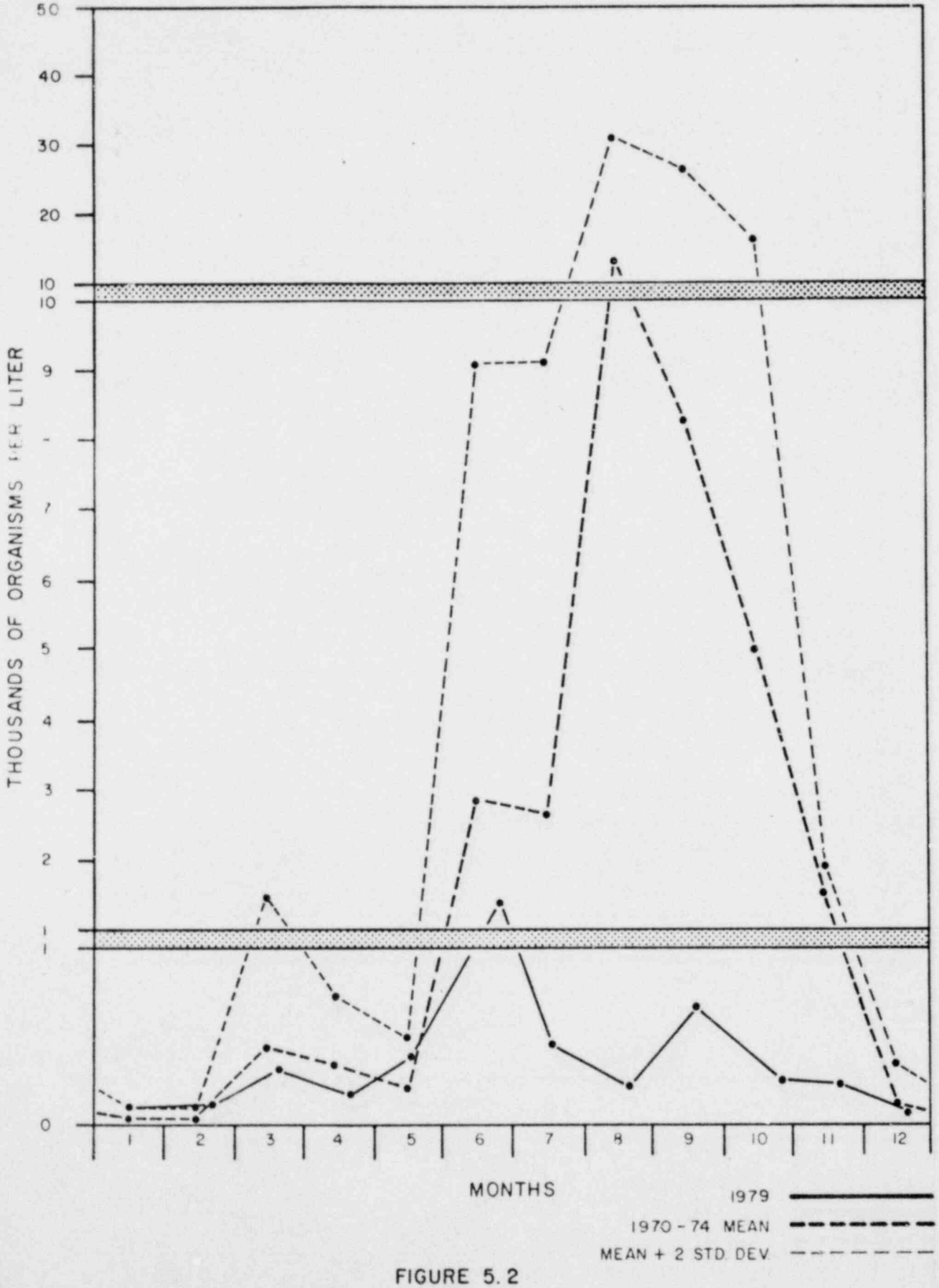


FIGURE 5.2

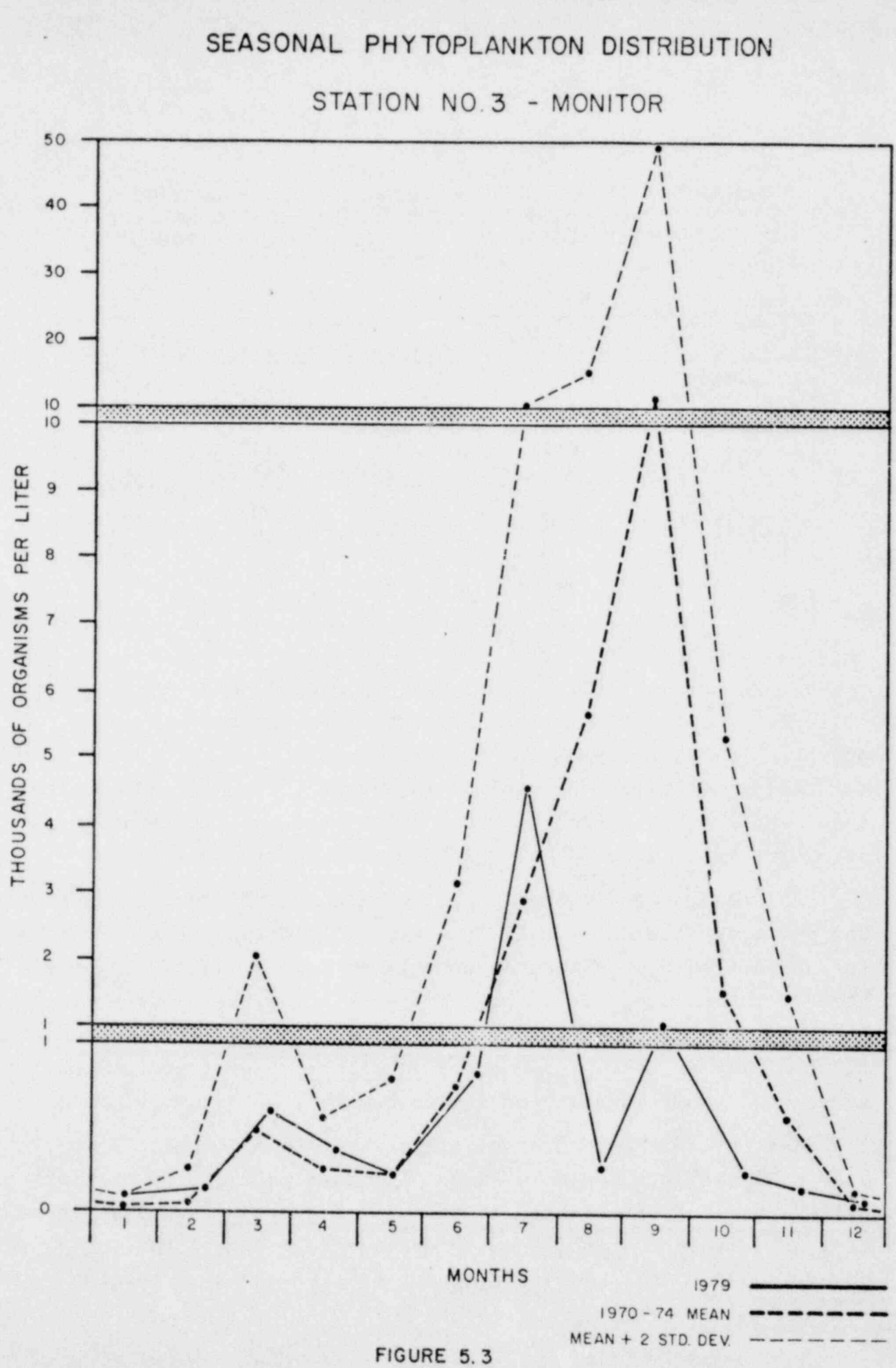

SEASONAL PHYTOPLANKTON DISTRIBUTION
STATION NO. 3 - MONITOR
THOUSANDS OF ORGANISMS PER LITER
50
40
30
20
10
10
9
8
7
6
5
4
3
2
1
1
0
1
2
3
4
5
6
7
8
9
10
11
12
MONTHS
1979
1970 - 74 MEAN
MEAN + 2 STD. DEV.

FIGURE 5.3

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

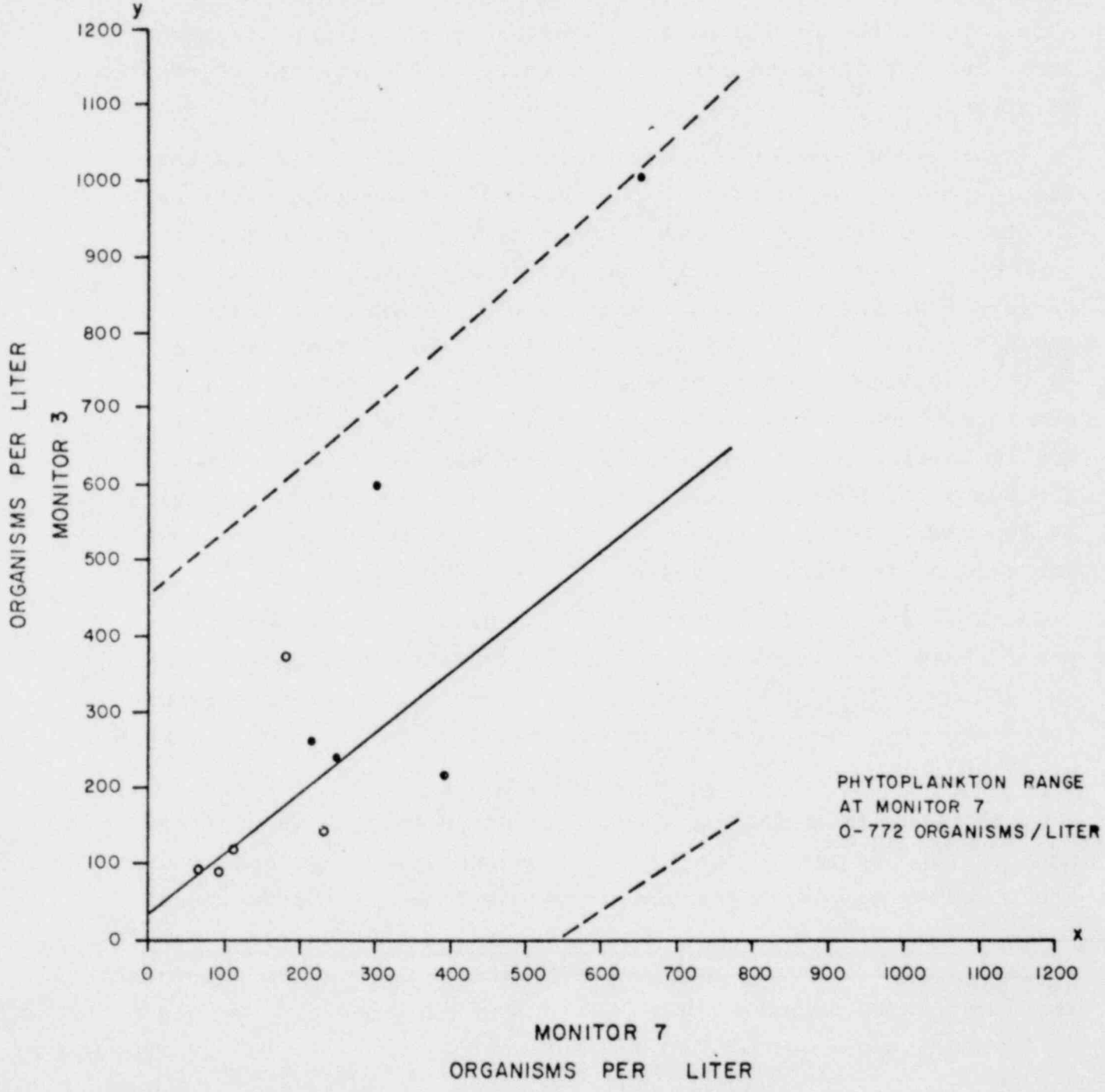
Date	Monitor 7 Count Observed	Monitor 3 Count Observed-Predicted=Difference		
1/15/79	96	92	106	-14
2/21/79	108	120	116	+4
3/20/79	304	600	273	+327
4/20/79	180	374	174	+200
5/16/79	392	220	344	-124
7/17/79	446	4514	387	+4127
8/20/79	215	267	202	+65
9/19/79	658	1009	557	+452
10/26/79	249	244	229	+15
11/21/79	232	142	215	-73
12/19/79	66	94	82	+12

Vermont Yankee was utilizing closed cycle cooling at the time of collection of the May through September samples and was not operating when the March and October samples were collected. The data for these dates are plotted in Figure 5.4 as filled circles; that 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 fall within the 95% confidence limits. The point for the data of 17 July was not plotted because it is so far above the upper 95% confidence limit that it is off the scale used in the figure. This sample was collected just 5 days after the intake entrainment sample that showed the very high concentrations of Asterionella formosa and Tabelleria fenestrata. These same two diatoms constituted 76% of the Monitor 3 sample.

The phytoplankton concentration observed at Monitor 7 in June 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



REGRESSION EQUATION (y = 29.3 + .802x)

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1979

VERMONT YANKEE CLOSED CYCLE OR NOT OPERATING, 1979

FIGURE 5.4

coefficient of 0.912. For the Monitor 7 count of 1349 observed on June 25, the Monitor 3 concentration calculated from this equation is 747; the observed concentration was 818. The difference between the predicted and observed concentrations is much less than the standard error of estimate (2443) for the regression equation.

Forty-six species of phytoplankton were identified in the samples collected in 1979 at the two monitor sampling stations. Thirty-one additional taxa were observed in small numbers in the samples of river water collected at Vermont Yankee's intake structure during entrainment studies. A checklist of these seventy-seven phytoplankters is shown in Table 5.3 at the end of this section. Following the name of each taxon in the list are three numbers in parenthesis. The first is the number of Monitor 3 samples in which the alga was observed; the second is the number of Monitor 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.

Three species listed in Table 5.3 have not been observed in prior years of Vermont Yankee studies. Single units of Gymnodinium sp. and Arthrodesmus sp. were found in entrainment intake samples. The green alga, Netrium digitus, was found in the Monitor 7 sample of 19 September.

The average number of species found in the twelve upstream monitor samples was 10.5. The minimum number, 6, was observed in the December sample; a maximum of 14 was found in the March and May samples. The minimum number observed in the Monitor 3 sample was also 6, in February and December; the maximum of 19 was found in the September sample. The mean number in the twelve samples at this downstream location was 11.1 species.

In all prior years of Vermont Yankee phytoplankton studies, diatoms have been found to be the predominant type of organisms. This was the case in 1979 also. The most commonly observed species were Tabellaria fenestrata, Fragilaria capucina, Asterionella

formosa, and Melosira italica. The latter two were present in all twenty entrainment intake samples. More than fifty percent of the algal counts in all 20 entrainment intake samples and in 11 of each of the 12 monitor samples were diatoms.

The most commonly observed flagellates were again Dinobryon spp., the most frequently observed green algae were Pediastrum spp., particularly P. simplex, and the most common blue-greens were Oscillatoria spp.

A summary of the percentages of diatoms, flagellates, green and blue-green algae found in the 1979 phytoplankton samples is given in Table 5.4.

TABLE 5.4

MEAN PERCENTAGES AND PERCENTAGE RANGES
DIATOMS, FLAGELLATES, GREEN AND BLUE-GREEN ALGAE
1979

Sample Location	Diatoms		Flagellates		Greens		Blue-Greens	
	Percentage		Percentage		Percentage		Percentage	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Monitor 7	41-100	83	0-5.2	0.7	0-52	13	0-3.3	0.9
VY Intake	54-97	86	0-18	2.9	0-15	3.9	0-15	2.2
Monitor 3	41-98	85	0-6.4	1.2	0-22	5.5	0-2.4	0.9

TABLE 5.3-1

CHECKLIST OF THE PHYTOPLANKTON
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1979

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 Monitor 3 samples of 12 – the number of Monitor 7 samples of 12/the number of entrainment intake sample sets of 20 in which the taxon was observed).

BACILLARIOPHYCEAE
- Asterionella formosa (10-10/20)
- Attheya zachariasi (1-0/3)
- Cyclotella spp. (5-7/14)
- Diatoma vulgare (3-2/2)
- Diatoma spp. (2-4/7)
- Fragilaria capucina (10-10/18)
- Fragilaria crotonensis (5-6/13)
- Fragilaria spp. (1-1/3)
- Melosira granulata (3-2/2)
- Melosira granulata var. angustissima (0-0/7)
- Melosira italica (11-11/20)
- Melosira varians (8-8/19)
- Melosira sp. (0-0/1)
- Meridion circulare (1-1/3)
- Nitzschia sp. (0-0/1)
- Rhizosolenia eriensis (2-1/7)
- Rhizosolenia longiseta (0-0/3)
- Surirella spp. (1-3/10)
- Synedra acus (3-2/5)
- Synedra spp. (7-5/18)
- Tabellaria fenestrata (8-10/17)
- Tabellaria flocculosa (1-0/2)

CHRYSOPHYCEAE
- Dinobryon bavaricum (0-0/1)
- Dinobryon spp. (5-3/13)
- Mallomonas sp. (0-0/5)
- Synura sp. (1-0/4)

TABLE 5.3-2

PYRRHOPHYCEAE
- Ceratium hirundinella (3-2/5)
- Gymnodinium sp. (0-0/1)

CRYPTOPHYCEAE
- Cryptomonas sp. (0-0/5)

CHLOROPHYCEAE
- Acanthosphaera sp. (0-0/3)
- Ankistrodesmus sp. (2-1/8)
- Arthrodesmus sp. (0-0/1)
- Chlamydomonas sp. (0-0/1)
- Closterium acerosum (0-0/1)
- Closterium acutum (0-0/1)
- Closterium gracile (1-0/0)
- Closterium spp. (2-1/1)
- Crucigenia sp. (0-0/2)
- Dictyosphaerium ehrenbergianum (1-0/2)
- Elakatothrix sp. (0-0/1)
- Eudorina sp. (0-0/1)
- Gemellicystis sp. (0-0/1)
- Golenkinia sp. (1-0/1)
- Gonium sp. (0-0/1)
- Micractinium sp. (2-0/6)
- Mougeotia sp. (0-0/1)
- Netrium digitus (0-1/0)
- Oedogonium sp. (1-0/0)
- Paulschulzia sp. (0-0/3)
- Pediastrum boryanum (1-1/2)
- Pediastrum duplex (3-2/6)
- Pediastrum duplex var. gracilimum (0-0/1)
- Pediastrum simplex (7-12/14)
- Pediastrum tetras (0-0/2)
- Quadrigula closteriodes (1-0/0)
- Scenedesmus quadricauda (0-2/6)
- Scenedesmus spp. (2-1/7)
- Schroederia sp. (1-2/1)
- Selenastrum sp. (0-0/1)
- Sphaerocystis sp. (0-0/1)
- Spirogyra sp. (1-3/4)
- Spondylosium sp. (0-0/1)
- Staurastrum sp. (1-1/5)
- Staurodesmus sp. (1-0/2)
- Stigeoclonium sp. (0-0/1)
- Treubaria sp. (0-0/1)
- Ulothrix zonata (1-2/5)
- Ulothrix spp. (0-0/2)

TABLE 5.3-3

RHODOPHYCEAE
Audouinella sp. (2-2/5)

CYANOPHYCEAE
Anabaena flos-aquae (0-0/2)
Anabaena solitaria (1-2/2)
Anabaena spp. (0-1/3)
Gomphosphaeria naegeliana (2-2/5)
Lyngbya spp. (3-2/6)
Merismopedia sp. (1-0/2)
Microcystis wesenbergii (0-0/1)
Oscillatoria spp. (3-1/16)

5.2 Zooplankton Studies

The counting results of the analysis of zooplankton samples in 1979 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 1979 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 summer samples of 1979 were generally low relative to counts in that season in earlier years. Zooplankton counts greater than the corresponding 1970-1974 monthly means were observed, however, in March, May, and October at Monitor 7 and in February, March, and October at Monitor 3. The October concentrations at both locations were within two standard deviations of the 1970-1974 means, but the other four counts were more than two standard deviations greater than the 1970-1974 means. Only the March Monitor 3 count was greatly in excess of the 1970-1974 mean. The count there in 1979 was 283 organisms per liter; the mean count observed in the years 1970-1974 was 6.6 with a standard deviation of 1.7.

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

TABLE 5.5-1

DOMINANT ZOOPLANKTON SPECIES
(Dominant Species Count/Total Count in Units Per Liter)
1979

	SAMPLE LOCATION		
Date	Monitor 7	River at VY Intake	Monitor 3
1/11		Polyarthra sp. (1.0/3.5)	
1/15	Vorticella sp. (7.0/13.5)		Philodina sp. (4.0/11.0)
1/26		Kellicottia bostoniensis (0.5/0.5)	
2/12		Vorticella sp. (1.2/2.5)	
2/21	Vorticella sp. (6.5/8.0)		Philodina sp. (15.5/27.5)
2/26		Copepoda Nauplii (0.5/1.8)	
3/13		Nematoda (1.0/3.2)	
3/20	Philodina sp. (14.5/20.0)		Philodina sp. (273.0/283.0)
4/12		None (-/0.8)	
4/20	None (-/1.0)		Philodina sp. (1.0/2.5)
4/25		None (-/1.5)	
5/11		Vorticella sp. (0.5/2.2)	
5/16	Vorticella sp. (3.0/12.5)		None (-/4.5)
5/29		Copepoda Nauplii (0.8/2.0)	

TABLE 5.5-2

	SAMPLE LOCATION		
Date	Monitor 7	River at VY Intake	Monitor 3
6/14		Philodina sp. (0.5/2.2)	
6/25	Philodina sp. (4.5/19.0)		Philodina sp. (26.0/72.0)
6/27		Synchaeta sp. (12.2/23.8)	
7/12		Polyarthra sp. (164.4/363.0)	
7/17	Keratella cochlearis (8.0/28.5)		Keratella cochlearis (35.5/111.0)
7/27		Scapholeberis sp. (9.2/37.0)	
8/16		Bosmina coregoni (5.0/12.5)	
8/20	Bosmina sp. (3.5/9.0)		Keratella cochlearis (2.0/8.5)
8/30		Synchaeta sp. (3.2/15.8)	
9/13		Polyarthra sp. (2.8/11.0)	
9/19	Philodina sp. (3.5/13.0)		Philodina sp. (8.5/23.5)
10/26	Vorticella sp. (27.5/49.0)		Philodina sp. (9.0/19.0)
11/10		None (-/0.8)	
11/21	Vorticella sp. (4.5/8.5)	Vorticella sp. (0.5/0.8)	Polyarthra sp. (1.5/4.5)
12/8		None (-/1.8)	
12/19	Zoothamnium sp. (1.5/6.0)		Copepoda Nauplii (1.0/2.5)
12/22		Campanella sp. (0.8/2.0)	

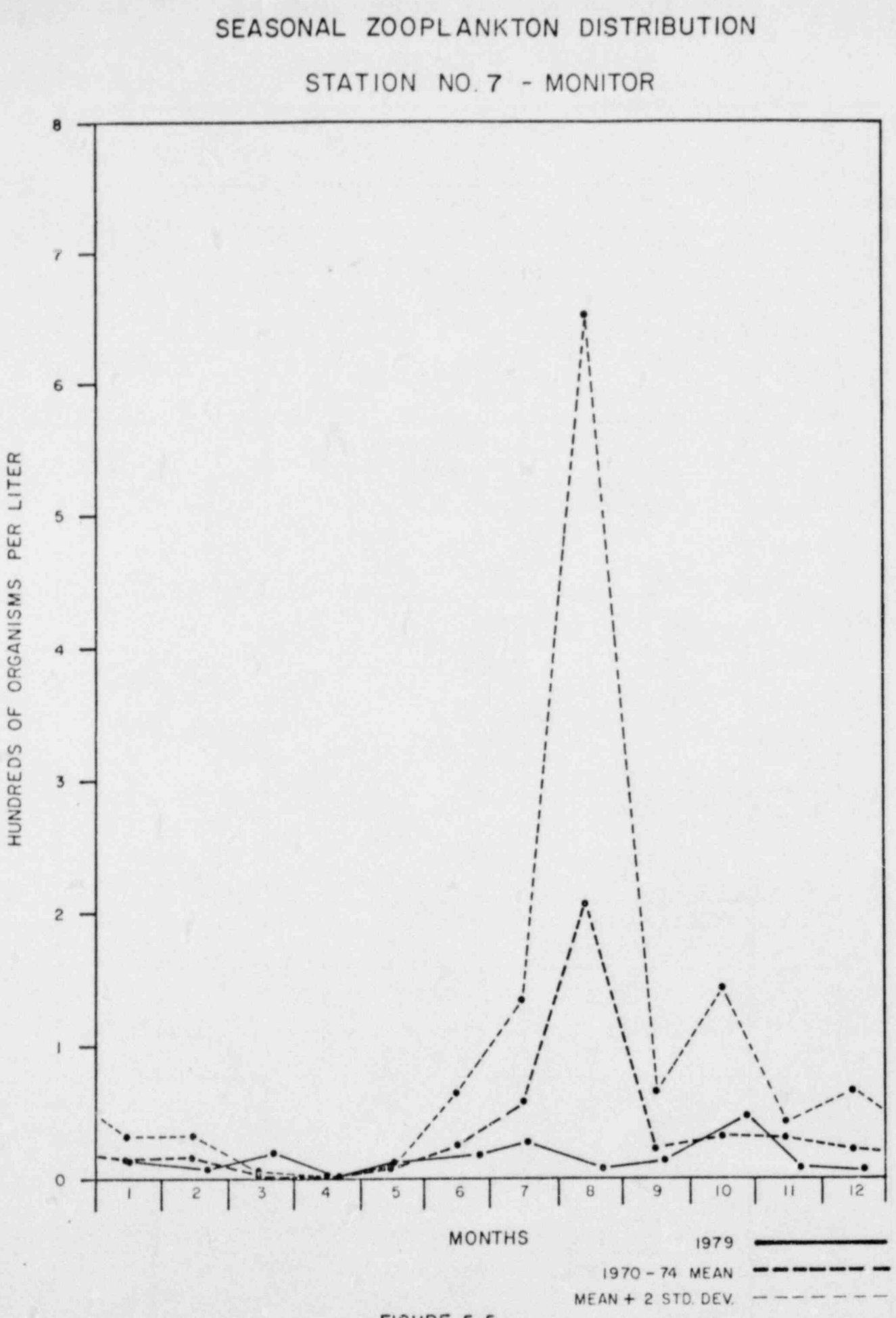

SEASONAL ZOOPLANKTON DISTRIBUTION
STATION NO. 7 - MONITOR
HUNDREDS OF ORGANISMS PER LITER
0
1
2
3
4
5
6
7
8
1
2
3
4
5
6
7
8
9
10
11
12
MONTHS
1979
1970 - 74 MEAN
MEAN + 2 STD. DEV.

FIGURE 5.5

SEASONAL ZOOPLANKTON DISTRIBUTION

STATION NO. 3 - MONITOR

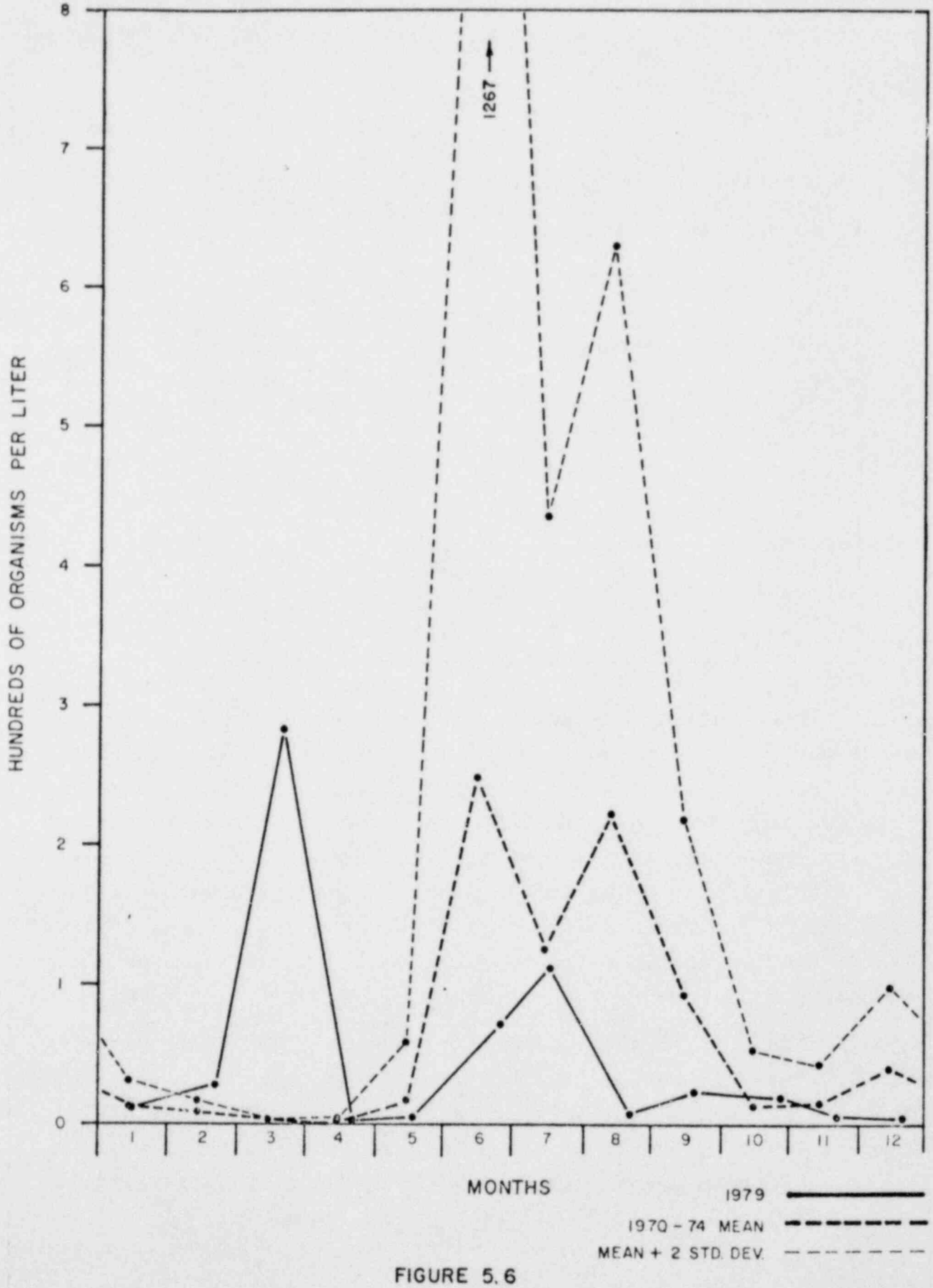


FIGURE 5.6

estimate of 83.8. A comparison of the zooplankton concentrations observed in 1979 at Monitor 3 with those predicted by this equation is given in Table 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
1/15/79	13.5	11.0	28.1	-17.1
2/21/79	8.0	27.5	23.0	+4.5
3/20/79	20.0	283.0	34.1	+248.9
4/20/79	1.0	2.5	16.6	-14.1
5/16/79	12.5	4.5	27.2	-22.7
6/25/79	19.0	72.0	33.1	+38.9
7/17/79	28.5	111.0	41.9	+69.1
8/20/79	9.0	8.5	24.0	-15.5
9/19/79	13.0	23.5	27.6	-4.1
10/26/79	49.0	19.0	60.7	-41.7
11/21/79	8.5	4.5	23.5	-19.0
12/19/79	6.0	2.5	21.2	-18.7

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 monitor data collected during open cycle operation of Vermont Yankee, in January, February, April, November and December, are plotted as open circles; that collected in other months are shown as filled circles. All plotted points fall within the 95% confidence limits except that of the 20 March samples, collected during a period of shutdown at Vermont Yankee.

A checklist of the zooplankton observed in 1979 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 parenthsis following the name of each taxon in

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

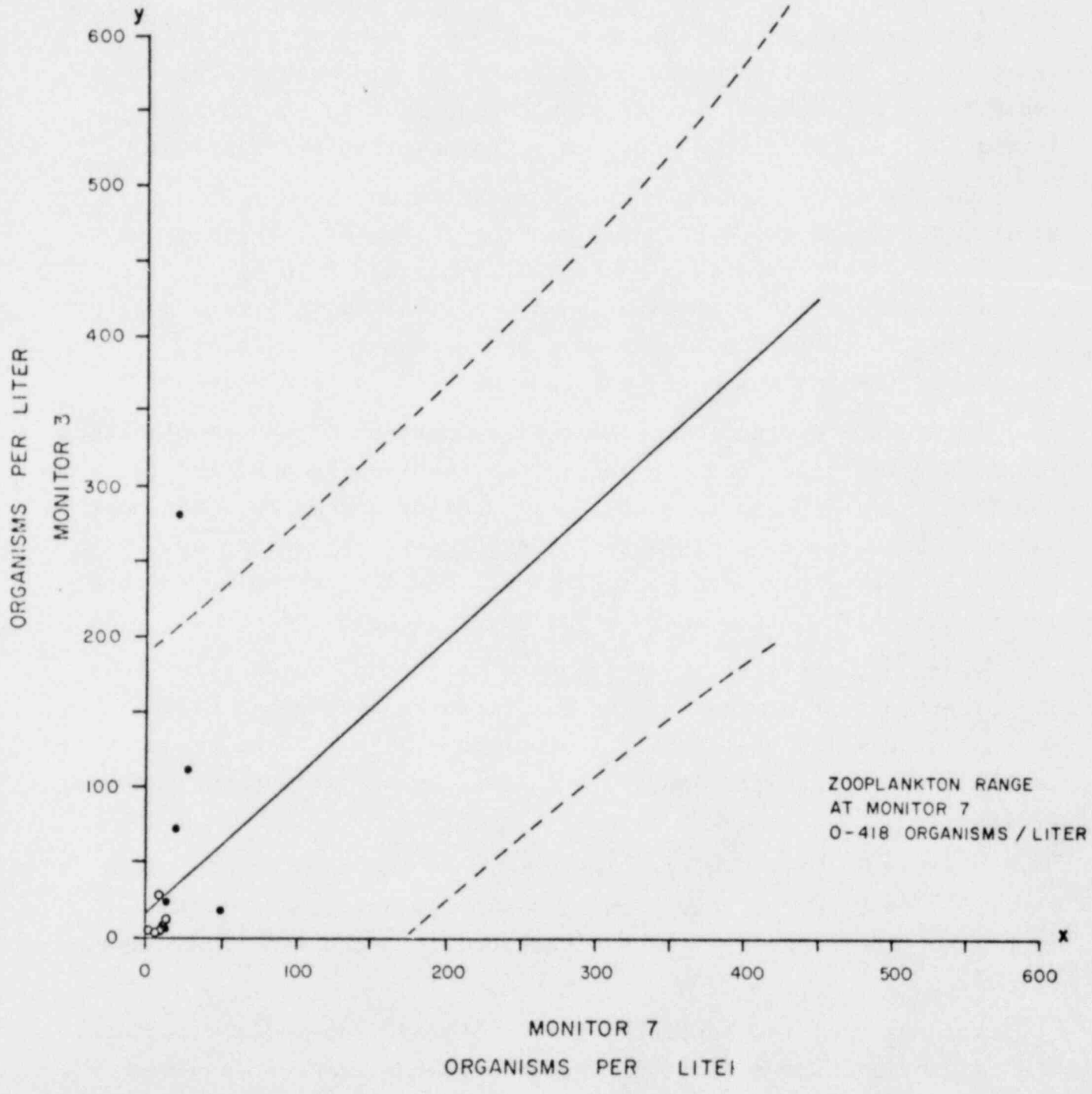


FIGURE 5.7

the list are: the number of Monitor 3 samples, of 12; the number of Monitor 7 samples, of 12; and the number of entrainment intake samples, of 20, in which the taxon was observed.

All taxa listed in Table 5.7 have been observed in earlier years except the cladoceran, Moina sp. A single organism was found in an entrainment intake sample in July. Of the 52 taxa in the list, 13 were found only in entrainment intake samples.

The number of taxa observed in a sample averaged 7.8 in the Monitor 7 samples and 7.3 in the Monitor 3 samples. The minimum number of taxa observed in a Monitor 7 sample was 2 in April, the maximum number of 14 was found in May. A minimum of 4 taxa per sample was found in the April, May, and December samples at Monitor 3; the maximum of 13 was observed in June and July.

Rotifers constituted at least fifty percent of the zooplankters found in 9 of the 20 entrainment intake samples, in 5 of the 12 Monitor 7 samples, and in 9 of the 12 Monitor 3 samples. The most commonly observed rotifers were Polyarthra sp., Synchaeta sp., Keratella cochlearis, and Philodina sp. The latter two were found in at least half of the samples collected at each location.

Protozoa, particularly Vorticella sp., constituted relatively large percentages of the samples collected in winter and fall months, especially the samples at Monitor 7. Protozoans predominated in the samples there in January and February and in October through December.

Copepod nauplii were present in 82% of the samples collected in 1979. They were observed in some samples all twelve months of the year. Adult copepods were found in all months except May and October.

A summary of the percentages of protozoa, copepoda, cladocera, and rotatoria observed in the 1979 zooplankton samples is given in Table 5.8.

TABLE 5.8

MEAN PERCENTAGES AND PERCENTAGE RANGES
PROTOZOA, COPEPODA, CLADOCERA, AND ROTATORIA
1979

Sample Location	Protozoa		Copepoda		Cladocera		Rotatoria	
	Percentages		Percentages		Percentages		Percentages	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Monitor 7	0-81	31	0-50	15	0-39	8.2	6.2-80	44
VY Intake	0-67	13	0-67	23	0-70	10	0-100	45
Monitor 3	0-37	14	0-40	12	0-12	2.8	20-97	65

TABLE 5.7-1

CHECKLIST OF THE ZOOPLANKTON
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1979

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 Monitor 3 samples of 12 – the number of Monitor 7 samples of 12/the number of entrainment intake sample sets of 20 in which the taxon was observed).

PROTOZOA
- Acineta sp. (1-0/0)
- Campanella sp. (3-3/2)
- Carchesium sp. (2-1/2)
- Vorticella sp. (6-7/9)
- Zoothamnium sp. (0-2/0)

PORIFERA
- Indet. (0-0/1)

GASTROTRICHA
- Indet. (1-0/0)

NEMATODA
- Indet. (3-3/9)

ROTATORIA
- Asplanchna sp. (1-1/2)
- Brachionus calyciflorus (0-1/0)
- Brachionus quadridentata (1-0/1)
- Brachionus sp. (1-3/2)
- Cephalodella sp. (1-2/1)
- Conochilus unicornis (2-2/4)
- Filinia sp. (1-0/0)
- Kellicottia bostoniensis (3-2/5)
- Kellicottia longispina (2-4/4)
- Keratella cochlearis (9-6/10)
- Keratella quadrata (1-0/2)
- Lecane sp. (0-1/0)
- Lepadella sp. (0-0/1)

TABLE 5.7-2

ROTATORIA (cont'd)
- Monostyla sp. (0-0/1)
- Notholca striata (0-0/1)
- Philodina sp. (9-10/11)
- Ploesoma sp. (2-1/5)
- Polyarthra sp. (5-5/7)
- Synchaeta sp. (4-6/9)
- Tetramastix opoliensis (0-0/1)
- Trichocerca sp. (0-0/3)
- Trichotria sp. (2-2/0)

TARDIGRADA
- Indet. (2-0/4)

ANNELIDA
- Aeolosoma sp. (4-2/1)

ARTHROPODA
- Crustacea
  - Cladocera
    - Alona sp. (1-0/1)
    - Alonella sp. (0-1/1)
    - Bosmina coregoni (2-2/4)
    - Bosmina longirostris (0-0/3)
    - Bosmina sp. (2-3/0)
    - Chydorus sphaericus (2-2/3)
    - Chydorus sp. (1-2/0)
    - Daphnia sp. (0-0/2)
    - Leptodora kindti (0-1/2)
    - Leptodora sp. (1-1/0)
    - Moina sp. (0-0/1)
    - Polyphemus pediculus (1-0/3)
    - Scapholeberis sp. (0-0/2)
    - Sida crystallina (0-0/2)
  - Ostracoda
    - Indet. (1-1/3)
  - Copepoda
    - Cyclops sp. (1-1/3)
    - Indet. Adults (3-6/11)
    - Indet. Nauplii (7-10/19)
- Arachnoidea
  - Hydracarina
    - Indet. (0-0/2)
- Insecta
  - Diptera
    - Chironomidae
      - Indet. (0-0/2)

SECTION 6

ENTRAINMENT STUDIES

6. ENTRAINMENT STUDIES

6.1 Phytoplankton and Zooplankton Entrainment

On 20 dates in 1979, 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 during times when Vermont Yankee was operating.

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 dates, of a total of 20, 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, five species of phytoplankton were found in 1979 discharge samples that were not observed in plankton samples or entrainment samples collected from the river. Four of these were green algae – Coelastrum mircroporum, Cosmarium sp., Crucigenia tetrapedia, and

Tetraedron sp.- that were observed in small numbers on one occasion each. The fifth, Calothrix sp. - a filamentous blue-green - was found in three samples of late summer. Lecane luna, a rotifer, was the only zooplankter found only in discharge samples in 1979. A single organism was found in a sample of 13 September.

The counting results of the analysis of the fresh and the preserved entrainment samples are 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. Greater concentrations of live organisms in discharge samples than in intake samples were observed for phytoplankton on 10 of the 20 sample dates; for zooplankton on 3 dates.

Increases in living and in total plankton concentrations in discharge samples over those in river intake samples have been observed in all years of entrainment studies at Vermont Yankee. They are greater, on a percentage basis, at times when the river temperature is low and ambient plankton concentrations are small. During open cycle operation when river temperature is below 50°F, Vermont Yankee often recirculates a portion of its cooling water to optimize the efficiency of electrical generation. The warmer recirculated water promotes algal growth on the walls of the cooling water system and this attached growth supports a community of microinvertebrates. This aufwuchs often sloughs off into the circulating water system and becomes planktonic.

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 20 study dates of 1979 are shown in Table 6.3. These claculations 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 plant by the ratio of 15 cfs to (Q_R-15 cfs).

The largest calculated decrease in live plankton concentration in the river is -6.9% for phytoplankton and -8.9% for zooplankton, both based on the data of the 22 December samples. The river concentrations (the intake samples) on that date were low — 128 algal units per liter and 2.0 zooplankters per liter. The calculated percentage decreases would reduce river concentrations to 119 and 1.8 units per liter respectively. This is not a significant impact on river plankton concentrations.

In general, river plankton concentrations are so small in the colder months of the year, when Vermont Yankee is operating in open cycle, that the plant's impact on river biota is not significant, regardless of the effects of entrainment on viability of phytoplankton and zooplankton. In the warmer months, when plankton populations are greater, the impact of Vermont Yankee's closed cycle operation is minimal because such a small portion of total river flow is used as condenser cooling water.

TABLE 6.1-1

SUMMARY OF RESULTS
VERMONT YANKEE ENTRAINMENT STUDIES
1979

Date	Power Level (%)	Condenser ΔT (°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
1/11	99.8	27.0	Intake	32.0	70	50	112	3.5
			Discharge	71.6	62	67	138	2.5
1/26	99.8	26.8	Intake	32.0	50	62	24	0.5
			Discharge	68.2	69	43	41	2.0
2/12	99.8	27.3	Intake	32.0	42	88	63	2.5
			Discharge	68.9	83	50	1025	1.5
2/26	99.5	27.0	Intake	32.9	66	100	540	1.8
			Discharge	70.2	62	33	1699	2.2
3/13	89.3	24.0	Intake	32.2	33	100	238	3.2
			Discharge	71.4	46	64	2758	1.2
4/12	99.7	27.1	Intake	41.9	63	67	105	0.8
			Discharge	73.4	54	0	228	1.2
4/25	99.7	27.3	Intake	46.8	75	100	171	1.5
			Discharge	73.9	63	100	620	1.8
5/11	99.6	21.1	Intake	59.4	84	33	1302	2.2
			Discharge	80.2	80	33	254	1.2
5/29	99.5	21.9	Intake	58.1	83	100	157	2.0
			Discharge	72.5	20	50	345	4.0
6/14	97.7	21.7	Intake	67.3	97	42	563	2.2
			Discharge	73.2	34	14	495	2.2

TABLE 6.1-2

SUMMARY OF RESULTS
VERMONT YANKEE ENTRAINMENT STUDIES
1979

Date	Power Level (%)	Condenser ΔT (°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
6/27	97.2	21.8	Intake	71.1	93	92	1039	23.8
			Discharge	72.7	31	44	1114	9.2
7/12	96.2	21.5	Intake	76.6	89	63	94492	363.0
			Discharge	80.6	57	5	1715	74.5
7/27	97.0	21.7	Intake	81.3	86	76	1051	37.0
			Discharge	85.5	38	7	3039	43.8
8/16	78.3	16.9	Intake	71.2	98	100	386	12.5
			Discharge	68.4	18	21	871	6.0
8/30	89.2	19.6	Intake	74.7	83	84	632	15.8
			Discharge	84.0	18	11	2336	10.5
9/13	86.4	19.0	Intake	70.9	85	72	1330	11.0
			Discharge	72.7	31	20	1375	7.0
11/10	98.9	27.0	Intake	46.4	92	100	250	0.8
			Discharge	75.9	78	50	407	1.5
11/21	90.8	24.6	Intake	47.3	93	100	274	0.8
			Discharge	77.0	89	60	220	1.2
12/8	99.6	27.2	Intake	37.3	92	86	165	1.8
			Discharge	74.3	95	100	393	2.0
12/22	99.6	27.3	Intake	32.7	92	100	139	2.0
			Discharge	68.9	67	100	80	0.5

TABLE 6.2-1

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

Date	Parameter	Living Organisms per Liter Discharge	-	Intake	=	Difference	% Change thru Plant
1/11/79	Phytoplankton	86		78		+8	+10
	Zooplankton	1.7		1.8		-0.1	-5.6
1/26/79	Phytoplankton	28		12		+16	+130
	Zooplankton	0.9		0.3		+0.6	+200
2/12/79	Phytoplankton	851		26		+825	+3200
	Zooplankton	0.8		2.2		-1.4	-64
2/26/79	Phytoplankton	1053		356		+697	+200
	Zooplankton	0.7		1.8		-1.1	-61
3/13/79	Phytoplankton	1269		79		+1190	+1500
	Zooplankton	0.8		3.2		-2.4	-75
4/12/79	Phytoplankton	123		66		+57	+86
	Zooplankton	0		0.5		-0.5	-100
4/25/79	Phytoplankton	391		128		+263	+200
	Zooplankton	1.8		1.5		+0.3	+20
5/11/79	Phytoplankton	203		1094		-891	-81
	Zooplankton	0.4		0.7		-0.3	-43
5/29/79	Phytoplankton	69		130		-61	-47
	Zooplankton	2.0		2.0		0	0
6/14/79	Phytoplankton	168		546		-378	-69
	Zooplankton	0.3		0.9		-0.6	-67

TABLE 6.2-2

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

Date	Parameter	Living Organisms per Liter Discharge	- Intake	= Difference	% Change thru Plant
6/27/79	Phytoplankton	345	966	-621	-64
	Zooplankton	4.0	21.9	-17.9	-82
7/12/79	Phytoplankton	978	84098	-83120	-99
	Zooplankton	3.7	228.7	-225.0	-98
7/27/79	Phytoplankton	1155	904	+251	+28
	Zooplankton	3.1	28.1	-25.0	-89
8/16/79	Phytoplankton	157	378	-221	-58
	Zooplankton	1.3	12.5	-11.2	-90
8/30/79	Phytoplankton	420	525	-105	-20
	Zooplankton	1.2	13.3	-12.1	-91
9/13/79	Phytoplankton	426	1130	-704	-62
	Zooplankton	1.4	7.9	-6.5	-82
11/10/79	Phytoplankton	317	230	+87	+38
	Zooplankton	0.8	0.8	0	0
11/21/79	Phytoplankton	196	255	-59	-23
	Zooplankton	0.7	0.8	-0.1	-12
12/8/79	Phytoplankton	378	152	+226	+150
	Zooplankton	2.0	1.5	+0.5	+33
12/22/79	Phytoplankton	54	128	-74	-58
	Zooplankton	0.5	2.0	-1.5	-75

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 Concentration in Mixed River	
					Phytoplankton	Zooplankton
1/11/79	Open	26	436	9550	+0.46	-0.26
1/26/79	Open	20	481	9010	+6.9	+11
2/12/79	Open	19	476	10480	+140	-2.9
2/26/79	Open	31	408	9360	+8.7	-2.7
3/13/79	Open	34	391	35340	+17	-0.83
4/12/79	Open	24	445	17520	+2.2	-2.5
4/25/79	Open	0	590	25820	+4.6	+0.46
5/11/79	Open	0	758	11110	-5.5	-2.9
5/29/79	Closed	98*	15*	27320	-0.03	0
6/14/79	Closed	98*	15*	10220	-0.10	-0.10
6/27/79	Closed	98*	15*	6990	-0.14	-0.18
7/12/79	Closed	98*	15*	9150	-0.16	-0.16
7/27/79	Closed	98*	15*	1460	+0.29	-0.92
8/16/79	Closed	98*	15*	4870	-0.18	-0.28
8/30/79	Closed	98*	15*	5860	-0.05	-0.23
9/13/79	Closed	98*	15*	1720	-0.55	-0.72
11/10/79	Open	0	590	1300	+17	0
11/21/79	Open	32	400	7200	-1.3	-0.67
12/8/79	Open	16	492	7520	+9.8	+2.2
12/22/79	Open	20	468	3960	-6.9	-8.9

*Estimated

6.2 Ichthyoplankton Entrainment

Studies on the entrainment of larval fishes conducted in 1977 and 1978 have been reported earlier (Aquatec 1977b, 1979b). Such studies were conducted in 1979 also. Samples were collected daily behind the trash racks in Vermont Yankee's intake bay from 3 April through the last date of open cycle operation, 12 May. Sampling was continued in the river near Vermont Yankee's intake structure through the end of June.

The samples were 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 net was towed by boat to collect the river samples.

The results of the studies in the intake bay are summarized in Table 6.4; those of the tows in the river are shown in Table 6.5. Intake bay data have been reduced to show the number of larvae entrained per hour and the intake flow expressed as a percentage of the river flow (measured as discharge at Vernon Dam).

Ichthyoplankters were first observed in the sample of 5 May and were found in all subsequent open cycle samples except that of 9 May. The first ichthyoplankter was observed on an earlier date, 2 May, in 1977, but more organisms were collected before 15 May in the samples of 1979. This is probably attributable to the more rapid warming of the river in 1979 than in 1977. Mean daily temperature observed at Monitor 7 on 15 May in 1977 was 54.8°F, in 1979 was 60.1°F. In the colder spring of 1978, the average temperature at Monitor 7 on 15 May was 51.6°F. No ichthyoplankters were collected until that date in 1978.

TABLE 6.4-1

VERMONT YANKEE
ICHTHYOPLANKTON ENTRAINMENT STUDIES

1979 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
4/3	1420	37.5	0	47.8	0	306	0	40,500	0.8
4/4	1420	37.3	0	60.8	0	220	0	37,800	0.6
4/5	1405	37.1	0	61.2	0	260	0	34,300	0.8
4/6	1307	37.1	0	48.6	0	329	0	29,400	1.1
4/7	0925	36.6	0	48.7	0	406	0	23,700	1.7
4/8	0755	36.5	0	61.9	0	284	0	19,900	1.4
4/9	1530	36.7	0	46.1	0	411	0	17,100	2.4
4/10	1725	38.8	0	44.9	0	452	0	18,900	2.4
4/11	1130	37.0	0	51.2	0	427	0	18,400	2.3
4/12	1220	38.6	0	49.0	0	441	0	17,000	2.6
4/13	1045	40.8	0	49.7	0	462	0	17,000	2.7
4/14	0920	40.9	0	53.7	0	487	0	18,100	2.7
4/15	1430	40.1	0	50.2	0	431	0	18,600	2.3
4/16	1545	40.7	0	51.2	0	476	0	17,000	2.8
4/17	1547	41.5	0	56.3	0	488	0	19,500	2.5
4/18	1300	41.7	0	52.4	0	480	0	22,000	2.2
4/19	1310	42.5	0	52.1	0	516	0	23,500	2.2
4/20	1320	42.8	0	51.5	0	511	0	22,000	2.3
4/21	1225	42.9	0	53.1	0	509	0	21,500	2.4
4/22	1425	43.8	0	51.0	0	512	0	22,000	2.3

TABLE 6.4-2

VERMONT YANKEE
ICHTHYOPLANKTON ENTRAINMENT STUDIES

1979 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
4/23	1255	44.7	0	71.3	0	549	0	20,300	2.7
4/24	455	46.7	0	55.3	0	559	0	26,900	2.1
4/25	1020	46.1	0	62.5	0	581	0	25,800	2.3
4/26	1410	47.8	0	61.5	0	565	0	23,500	2.4
4/27	1355	49.1	0	53.6	0	587	0	27,500	2.1
4/28	1255	49.6	0	53.4	0	601	0	43,100	1.4
4/29	1100	50.9	0	44.4	0	605	0	46,000	1.3
4/30	1255	50.8	0	31.2	0	605	0	40,000	1.5
5/1	1140	50.8	0	38.4	0	608	0	24,500	2.5
5/2	1300	50.8	0	47.9	0	592	0	20,400	2.9
5/3	1335	51.3	0	41.9	0	561	0	18,500	3.0
5/4	1330	51.9	0	72.7	0	794	0	17,000	4.7
5/5	0750	51.2	5	86.9	0.058	788	4.6×10^3	17,300	4.6
5/6	0820	51.2	17	86.6	0.20	790	16×10^3	16,500	4.8
5/7	1315	52.1	3	85.1	0.035	768	2.8×10^3	15,900	4.8
5/8	0925	53.0	3	90.6	0.033	776	2.6×10^3	12,900	6.0
5/9	1000	55.4	0	108.6	0	779	0	14,800	5.3
5/10	1003	57.7	13	70.0	0.19	729	14×10^3	10,900	6.7
5/11	0815	59.5	3	59.3	0.51	758	3.9×10^3	9,200	8.2
5/12	0945	61.5	18	86.8	0.21	765	16×10^3	9,300	8.2

TABLE 6.5

VERMONT YANKEE ICHTHYOPLANKTON STUDIES

Larval Concentrations in Connecticut River
Near Vermont Yankee Intake Structure

1979 Date	Time	River Temperature Station 7 (°F)	Number of Larvae Collected	Sample Volume (m^3)	Larvae per m^3	River Flow Rate (cfs)
5/13	1225	60.3	2	88.0	0.023	9,300
5/14	1145	59.7	7	67.0	0.10	9,200
5/15	1340	60.0	9	78.6	0.11	9,100
5/16	1300	60.9	61	87.6	0.70	8,800
5/17	1430	61.2	28	74.8	0.37	8,100
5/18	1300	61.4	9	68.8	0.13	8,100
5/19	1430	61.6	23	63.3	0.36	8,300
5/20	1400	61.4	74	86.4	0.86	1,300
5/22	1600	63.3	33	57.7	0.57	8,400
5/23	1300	63.2	61	61.0	1.00	8,100
5/24	1600	62.1	12	53.2	0.23	9,700
5/25	1300	56.2	6	92.2	0.065	28,800
5/26	1000	54.9	2	25.7	0.078	49,800
5/27	1105	54.2	7	81.6	0.086	40,500
5/29	1025	55.5	0	72.8	0	27,800
5/31	1007	57.0	2	92.6	0.022	23,600
6/1	1245	59.0	0	91.6	0	22,600
6/3	0930	61.5	24	86.1	0.28	19,000
6/5	1320	62.9	34	90.7	0.37	11,900
6/7	1030	65.2	22	71.0	0.31	9,400
6/9	0800	66.1	9	65.0	0.14	9,000
6/11	1207	68.2	94	71.3	1.32	7,400
6/13	1340	65.6	151	81.4	1.86	9,600
6/15	1035	64.4	42	78.6	0.53	8,900
6/17	0840	68.2	172	67.5	2.55	1,300
6/19	1340	69.7	145	92.8	1.56	9,300
6/21	0920	70.4	26	76.4	0.34	1,300
6/23	0940	71.2	25	62.6	0.40	1,300
6/25	1735	69.0	26	72.6	0.36	7,40
6/27	0955	68.2	27	61.8	0.44	1,300
6/29	1215	68.8	18	70.6	0.25	5,700

SECTION 7

BENTHIC FAUNA STUDIES

7. BENTHIC FAUNA STUDIES

Thirty-eight samples of Connecticut River benthos were collected at the four Vermont Yankee sample station locations shown in Figure 7.1. Twenty-eight samples, in seven sample sets, were collected with a 9" Ekman dredge and ten were collected by use of Henson traps, wire cages filled with 2 to 3 inch diameter rocks that were left on the river bottom for 6 to 10 weeks before retrieval. The Ekman dredge samples of the May set consisted of the organisms collected in 5 dredge hauls at each river quarter point. The remainder of the collections were made by 10 dredge hauls at each quarter point in the river. Henson traps set at Stations 2 and 5 in September were vandalized before the November 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.

Seventy-eight taxa of bottom fauna were identified in the 1979 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.

The number of genera observed in the 1979 samples was 71, of which 35 were found only in Ekman dredge samples, 11 were found only in Henson trap samples, and 25 were collected by both sample methods. The number of samples collected by Ekman dredge in 1979 was comparable to the numbers collected at Stations 2 through 5 in the years 1969, 1977, and 1978. A comparison of the numbers of genera collected by Ekman dredge at these stations in these years with the results of the 1979 collections is shown in Table 7.2

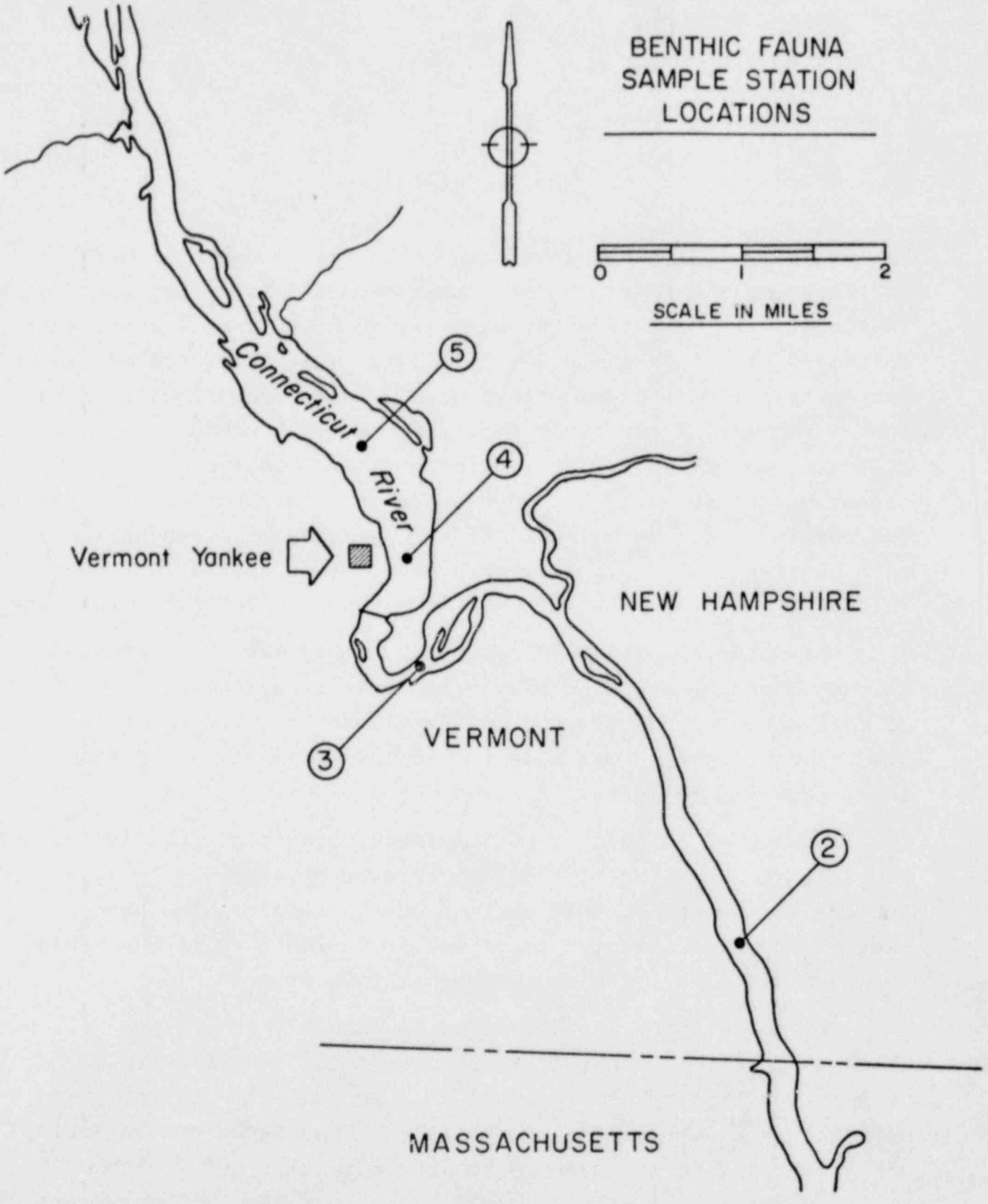

BENTHIC FAUNA
SAMPLE STATION
LOCATIONS
0
1
2
SCALE IN MILES
Connecticut
River
5
4
3
2
Vermont Yankee
NEW HAMPSHIRE
VERMONT
MASSACHUSETTS

FIGURE 7.1

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
2	6/33	8/20	8/22	7/27
3	6/24	8/25	8/13	7/26
4	7/16	8/19	8/17	7/26
5	8/18	8/20	6/14	7/28

More dredge hauls were used in the collection of most of the 1979 samples than were used in the previous years, but this increased sampling effort was not unproductive. More genera were found in 1979 at Stations 3, 4, and 5 than in earlier years, and the number observed at Station 3 was exceeded only by the number found in the 1969 collections.

The results of the analysis of the 1979 benthic fauna samples are summarized in Table 7.3. 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 $i^{\underline{th}}$ taxon.

Caddis fly and chironomid larvae were present in the largest numbers in most of the spring and summer samples; planarians were the dominant type of organisms in some fall samples. These three forms have been observed to constitute the major portion of samples in past years. Tubificids, which have been the predominant organisms in some samples of earlier years, were not observed, however, to be the major constituent of any 1979 sample.

TABLE 7.3-1

SUMMARY OF RESULTS OF ANALYSIS
BENTHIC FAUNA SAMPLES
1979

Date	Sample Method HT (# Days) ED (# Hauls)	Sample Station	Number of Benthic Organisms	Number of Taxa	Diversity Index $\bar{d}$	Predominant Form	
						Name	% of Total
5/10	ED (15 hauls)	2	8	5	2.0	Amnicolid snails	50
	ED (15 hauls)	3	4	2	0.8	Caddis flies	100
5/11	ED (15 hauls)	4	6	6	2.6	Chironomids	50
	ED (15 hauls)	5	53	16	2.8	Chironomids	85
6/22	ED (30 hauls)	2	40	14	2.9	Caddis flies	42
6/21	ED (30 hauls)	3	29	10	2.6	Caddis flies	52
	ED (30 hauls)	4	35	11	2.8	Chironomids	49
	ED (30 hauls)	5	18	9	2.9	Chironomids	39
7/11	ED (30 hauls)	2	50	15	2.5	Caddis flies	68
	ED (30 hauls)	3	47	13	2.5	Caddis flies	62
7/13	ED (30 hauls)	4	33	14	3.2	Chironomids	36
	ED (30 hauls)	5	45	11	2.8	Chironomids	62
8/1	HT (40 days)	2	221	11	2.1	Caddis flies	66
7/11	HT (53 days)	3	237	10	1.8	Caddis flies	69
7/13	HT (56 days)	4	85	8	1.1	Chironomids	89
7/13	HT (56 days)	5	51	17	3.1	Chironomids	59
8/15	ED (30 hauls)	2	45	15	3.4	Fingernail clams	27
	ED (30 hauls)	3	129	12	2.7	Chironomids	40
8/17	ED (30 hauls)	4	47	12	3.1	Chironomids	32
8/15	ED (30 hauls)	5	81	17	3.1	Chironomids	65

TABLE 7.3-2

SUMMARY OF RESULTS OF ANALYSIS
BENTHIC FAUNA SAMPLES
1979

Date	Sample Method HT (# Days) ED (# Hauls)	Sample Station	Number of Benthic Organisms	Number of Taxa	Diversity Index $\bar{d}$	Predominant Form	
						Name	% of Total
9/19	ED (30 hauls)	2	119	10	2.4	Planarians	39
	ED (30 hauls)	3	31	10	2.9	Planarians	32
9/18	ED (30 hauls)	4	33	12	2.6	Chironomids	33
	ED (30 hauls)	5	40	9	3.0	Chironomids	42
9/19	HT (70 days)	2	674	10	0.7	Caddis flies	90
	HT (70 days)	3	64	5	1.9	Caddis flies	50
9/18	HT (67 days)	4	61	8	2.1	Planarians	49
	HT (67 days)	5	55	8	2.2	Chironomids	44
10/30	ED (30 hauls)	2	111	11	2.5	Caddis flies	39
	ED (30 hauls)	3	100	9	2.1	Planarians	38
10/29	ED (30 hauls)	4	85	14	3.1	Chironomids	76
	ED (30 hauls)	5	39	8	2.6	Chironomids	72
11/15	ED (30 hauls)	2	80	9	2.2	Planarians	42
	ED (30 hauls)	3	20	3	1.3	Caddis flies	55
11/14	ED (30 hauls)	4	38	11	3.0	Chironomids	53
	ED (30 hauls)	5	24	12	3.2	Chironomids	62
11/15	HT (57 days)	3	236	12	1.5	Amnicolid snails	66
11/14	HT (57 days)	4	57	4	1.4	Planarians	54

TABLE 7.1-1

CHECKLIST OF THE BENTHIC FAUNA
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1979

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(2)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
PLATYHELMINTHES								
Turbellaria (Flatworms)								
Dugesia sp.	2	6	2	6	2	1	1	0
BRYOZOA (Moss Animalcules)								
Paludicella articulata	0	0	0	2	0	0	0	0
Pectinatella magnifica	0	3	0	2	0	0	1	0
ANNELIDA								
Oligochaeta (Aquatic Earthworms)								
Branchiura sowerbyi	0	0	0	0	0	3	0	3
Limnodrilus sp.	0	6	0	1	1	6	1	6
Hirudinea (Leeches)								
Erpobdella punctata	0	0	0	0	0	0	1	0
Helobdella stagnalis	0	0	0	1	0	1	0	0
ARTHROPODA								
Crustacea								
Cladocera (Water Fleas)								
Daphnia pulex	1	0	1	0	0	0	0	0
Daphnia 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(2)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
ARTHROPODA (cont'd)								
Crustacea								
Isopoda (Aquatic Sow Bugs)								
Asellus militaris	0	0	0	0	0	0	1	0
Asellus sp.	0	0	0	0	0	1	0	0
Amphipoda (Scuds)								
Gammarus sp.	0	0	0	1	0	0	0	0
Decopoda (Crayfishes)								
Orconectes limosus	2	0	0	0	1	0	1	0
Orconectes sp.	0	0	0	0	2	0	1	0
Insecta								
Plecoptera (Stoneflies)								
Acroneuria sp.	0	0	2	0	0	0	0	0
Ephemeroptera (Mayflies)								
Ameletus sp.	0	0	0	1	0	0	0	0
Caenis sp.	0	1	0	0	0	0	0	0
Ephemera guttulata	0	0	0	0	0	1	0	1
Ephemerella sp.	0	1	0	0	0	0	0	0
Ephoron leukon	0	0	0	0	0	0	0	1
Heptagenia spp.	0	2	0	1	0	0	0	0
Hexagenia limbata	0	0	0	0	1	3	1	4
Hexagenia recurvata	0	0	0	1	0	1	0	1
Hexagenia sp.	0	0	0	0	0	0	0	2
Neocloeon sp.	0	1	0	0	0	0	0	0
Potomanthus sp.	0	0	0	1	0	0	0	0
Stenonema tripunctatum	0	1	0	0	0	0	0	0
Stenonema sp.	0	2	1	2	0	1	1	0
Tricorythodes 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(2)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
ARTHROPODA (cont'd)								
Insecta								
Odonata (Dragonflies, Damselflies)								
Boyeria sp.	0	0	1	0	0	0	0	0
Dromogomphus sp.	0	0	0	0	0	0	0	1
Enallagma sp.	0	0	0	0	0	0	1	0
Gomphus sp.	0	0	0	0	1	2	1	1
Neocordulia sp.	1	0	0	0	0	0	0	0
Ophiogomphus sp.	0	0	0	0	0	0	0	1
Megaloptera (Alderflies, Dobsonflies, Fishflies)								
Sialis sp.	0	0	0	0	1	3	2	3
Trichoptera (Caddis Flies)								
Athripsodes sp.	0	3	1	3	1	0	0	0
Cheumatopsyche sp.	2	6	3	7	1	0	0	1
Hydropsyche sp.	1	5	0	5	0	0	0	0
Macronemum sp.	2	2	0	0	0	0	0	0
Molanna sp.	0	0	0	0	0	0	0	2
Neureclipsis sp.	1	0	1	1	0	0	0	0
Oecetis sp.	0	1	0	0	1	1	0	3
Phylocentropus sp.	0	0	0	0	0	0	1	0
Polycentropus sp.	0	1	0	0	1	1	2	0
Coleoptera (Beetles)								
Cylloepus sp.	0	0	0	1	0	0	0	0
Gyrinus sp.	0	0	0	0	0	0	1	0
Psephenus herricki	0	1	0	0	0	0	0	0
Diptera (Flies, Mosquitoes, Midges)								
Brillia sp.	0	0	0	0	0	0	0	1
Calopsectra sp.	0	1	1	0	0	0	1	0
Chaoborus sp.	0	0	0	0	0	1	0	1
Chironomus tentans	0	0	0	0	0	0	0	1
Chironomus sp.	0	0	0	0	0	5	0	5

TABLE 7.1-4

	Sample Station Number / Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(2)	ED(7)	HT(3)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
ARTHROPODA (cont'd)								
Insecta								
Diptera (Flies, Mosquitoes, Midges)								
Coelotanypus sp.	0	1	0	0	0	0	0	0
Cryptochironomus sp.	1	0	0	1	0	6	0	6
Diamesa sp.	0	0	0	0	0	0	0	1
Eukiefferiella sp.	0	0	0	0	0	4	0	2
Glyptotendipes sp.	2	0	2	3	3	4	2	1
Harnischia sp.	0	0	1	0	0	3	1	1
Metriocnemus sp.	0	0	0	0	0	1	0	3
Palpomyia sp.	0	0	0	0	0	0	0	4
Parachironomus sp.	0	0	0	0	0	0	1	0
Paralauterborniella sp.	0	1	0	0	0	0	0	0
Pentaneura sp.	1	3	2	1	0	3	1	0
Phaenopsectra sp.	0	0	0	0	0	0	0	1
Polypedilum sp.	0	0	0	0	0	1	0	3
Potthastia sp.	0	0	0	0	0	0	0	1
Procladius sp.	0	1	0	0	0	3	0	2
Simulium sp.	0	0	0	1	0	0	0	0
Tipula sp.	0	0	0	0	1	0	0	0
Tribelos sp.	0	0	0	0	0	1	0	0
MOLLUSCA								
Gastropoda (Snails, Limpets)								
Amnicola sp.	2	7	3	3	0	1	0	0
Gyraulus sp.	1	3	1	1	0	0	0	0
Helisoma sp.	0	2	0	0	0	0	0	0
Physa sp.	0	1	2	1	0	0	0	0
Pelecypoda (Clams, Mussels)								
Elliptio sp.	0	2	0	0	0	0	0	0
Margaritifera sp.	0	4	1	1	0	1	0	1
Sphaerium sp.	0	6	0	4	0	6	0	4

SECTION 8

FISH STUDIES

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 amended NPDES permit, to be conducted during open cycle operation. However, the Technical Specifications of the operating license, which require that all fish impinged be collected, have not been amended. Therefore, all fish impinged during open cycle operation in 1979 were collected.

A summary of the weight extremes and the extremes in total length of the fish species impinged in 1979 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 month of open cycle operation. The fish species are listed in order of the decreasing number of the species collected throughout open cycle operation in 1979.

The table also shows, for each month and for the year, the mean number and mean weight of fish impinged per day of open cycle operation in 1979. 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.

All daily means, both number and weight, observed in each open cycle month of 1979 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 February, 3.1 per day, exceeded

TABLE 8.1

SUMMARY OF WEIGHT AND TOTAL LENGTH EXTREMES OF FISH SPECIES
IMPINGED DURING OPEN CYCLE OPERATION
1979

Species	Extremes	
	Weight(g)	Total Length (mm)
Catostomus commersoni (Lacépède)		
White Sucker	1.7-17	59-123
Catostomus catostomus (Forster)		
Longnose Sucker	54	182
Cyprinus carpio Linnaeus		
Carp	23-28	114-122
Semotilus corporalis (Mitchill)		
Fallfish	51	173
Semotilus atromaculatus (Mitchill)		
Creek Chub	1.4-3.7	56-72
Notemigonus crysoleucas (Mitchill)		
Golden Shiner	2.3-87	63-202
Notropis hudsonius (Clinton)		
Spottail Shiner	1.0-14	51-115
Hybognathus nuchalis Agassiz		
Silvery Minnow	2.2-15	61-114
Juvenile Cyprinidae	0.1-2.2	25-61
Ictalurus nebulosus (LeSueur)		
Brown Bullhead	2.0-24	55-132
Ictalurus natalis (LeSueur)		
Yellow Bullhead	4.2-23	70-130
Anguilla rostrata (LeSueur)		
American Eel	478	670
Fundulus diaphanus (LeSueur)		
Banded Killifish	0.8-9.0	49-97
Morone americana (Gmelin)		
White Perch	2.5-45	60-155
Perca flavescens (Mitchill)		
Yellow Perch	2.2-158	60-253
Etheostoma olmstedi Storer		
Tessellated Darter	0.6-4.0	46-75
Micropterus dolomieui Lacépède		
Smallmouth Bass	2.0-357	53-300
Micropterus salmoides (Lacépède)		
Largemouth Bass	3.8-308	67-279
Lepomis gibbosus (Linnaeus)		
Pumpkinseed	1.7-67	51-145
Lepomis macrochirus Rafinesque		
Bluegill	1.4-218	51-207
Juvenile Lepomis	0.1-8.4	25-75
Ambloplites rupestris (Rafinesque)		
Rock Bass	0.5-134	32-192

TABLE 8.2

SUMMARY BY MONTH OF NUMBER AND WEIGHT OF
FISH SPECIES IMPINGED DURING OPEN CYCLE OPERATION
1979

Species	JAN No.-Wgt.(g)	FEB No.-Wgt.(g)	MAR No.-Wgt.(g)	APR No.-Wgt.(g)	MAY No.-Wgt.(g)	NOV No.-Wgt.(g)	DEC No.-Wgt.(g)	TOTAL No.-Wgt.(g)
Pumpkinseed	12-89.0	18-178.1	84-473.6	424-2147.8	17-70.8	68-739.4	22-105.2	645-3803.9
Spottail Shiner	1-2.2	2-6.5	22-81.8	551-2611.6	16-75.3	2-5.2	8-43.5	602-2826.1
Rock Bass		1-1.0	17-40.0	387-1334.2	114-299.7	10-92.3	6-49.4	535-1816.6
Yellow Perch		3-27.5	19-578.0	413-2961.6	6-197.1	2-14.3	2-18.0	445-3796.5
Juvenile Lepomis	33-121.6	48-188.5	48-89.7	73-110.8	5-8.7	70-100.7	16-23.2	293-643.2
White Perch	16-100.4	9-63.0	25-187.0	83-623.8	17-109.4	7-45.5	1-7.4	158-1136.5
Golden Shiner		1-3.0		98-681.9	6-18.8			105-703.7
Silvery Minnow				100-711.6	3-19.1			103-730.7
Bluegill		2-14.7	15-60.0	29-465.2	4-12.4	36-354.6	6-15.0	92-921.9
Smallmouth Bass	1-28.0		4-238.0	20-497.5	9-47.4	23-721.4	3-109.3	60-1641.6
Tessellated Darter		3-5.3	2-2.8	16-37.7	10-19.9			31-65.7
Largemouth Bass		1-15.0	4-87.6	3-587.0		17-775.3	2-47.0	27-1511.9
Brown Bullhead			1-6.0	12-140.3	12-113.5			25-259.8
Banded Killifish				21-92.0		2-6.4		23-98.4
White Sucker				17-134.3	1-17.0			18-151.3
Juvenile Cyprinidae				7-6.8	1-0.1			8-6.9
Creek Chub				3-6.9				3-6.9
Carp			1-28.0	1-23.0				2-51.0
Yellow Bullhead				2-27.2				2-27.2
American Eel				1-478.0				1-478.0
Longnose Sucker				1-54.0				1-54.0
Fallfish					1-51.0			1-51.0
TOTALS	63-341.2	88-502.6	242-1872.5	2262-13733.2	222-1060.2	237-2855.1	66-418.0	3180-20782.8
No. Days of Open Cycle Operation	31	28	17	28	13	29	31	177
Daily Means	2.0-11.0	3.1-18.0	14.2-110.1	80.8-490.5	17.1-81.6	8.2-98.4	2.1-13.5	18.0-117.4
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	7.7-140.8	2.3-46.0	19.3-212.7
Stnd. Dev. (Phases I-V)	1.6-432.9	1.8-42.0	112.4-710.1	102.8-959.0	10.1-215.7	15.7-542.5	5.7-109.6	68.9-605.6

the corresponding Phases I-V mean plus one standard deviation, 3.0 per day. Both the daily mean number and weight of fish impinged during 177 days of open cycle operation in 1979 were below the Phases I-V daily means for corresponding months.

8.2 Resident Finfish Studies

In 1979, 1232 fish were collected at Vermont Yankee Sample Stations 2 and 3, downstream of Vernon Dam, and 1229 fish were collected at Stations 4, 5, and 8, upstream of the dam. The locations of the sample stations are shown in Figure 8.1. The fish were taken in 66 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 seventeen species observed in 1979 collections, eleven were collected both upstream and downstream of Vernon Dam. Five species – carp, spottail shiner, silvery minnow, American eel, and largemouth bass – were observed only in collections north of the dam; chain pickerel was found only in the collections downstream of Vernon Dam. No species were collected in 1979 that had not been captured in surveys of previous years.

The data of the 1979 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 and 8.6 summarize the number and total weights of the species captured north and south of Vernon Dam. In addition, frequency distributions by total length are shown in Table 8.7 for nine of the species.

The species compositions, by weight and by number, of the 1979 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.

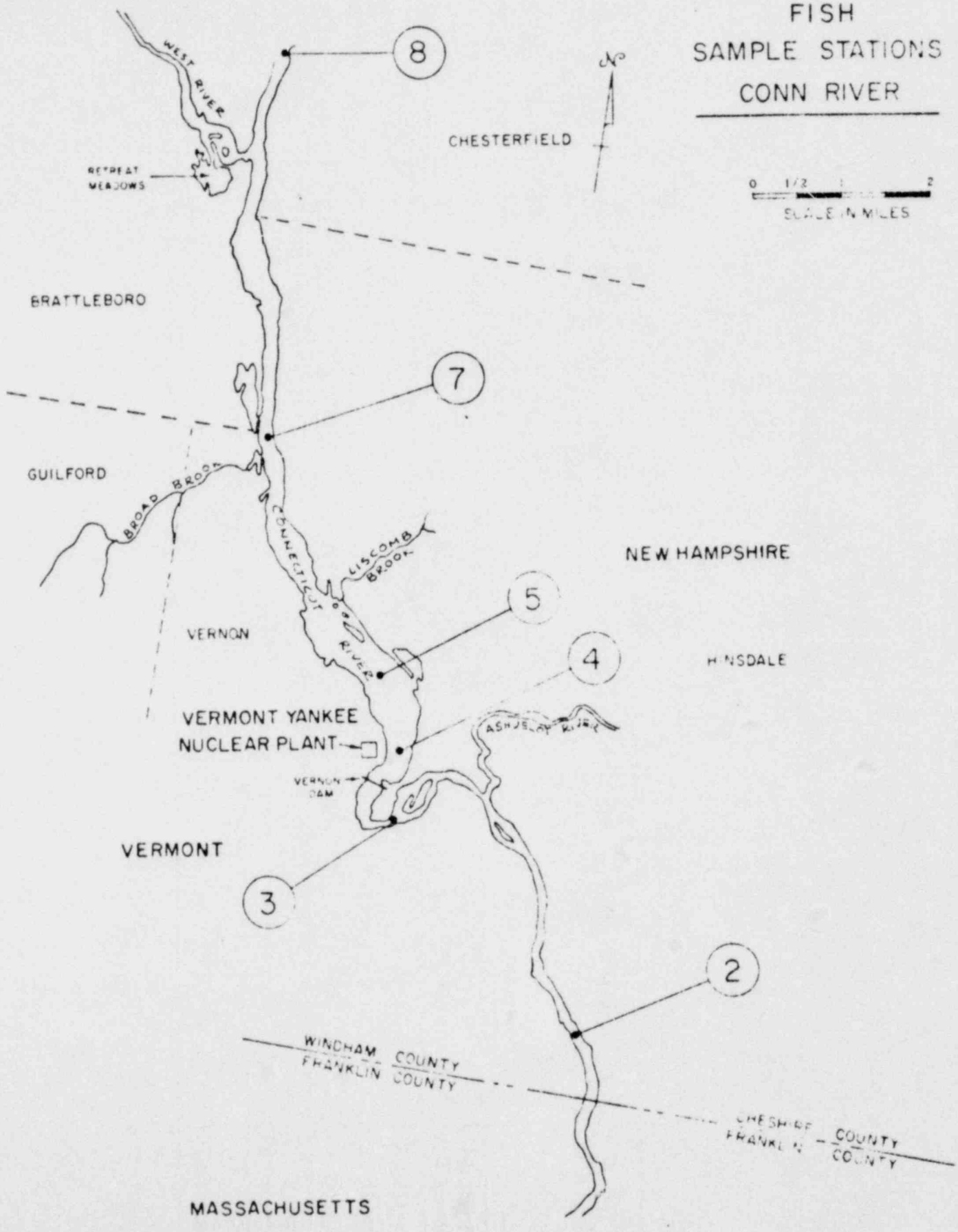

FISH
SAMPLE STATIONS
CONN RIVER
N
0 1/2 1 2
SCALE IN MILES
8
7
5
4
3
2
WEST RIVER
RETREAT MEADOWS
CHESTERFIELD
BRATTLEBORO
GUILFORD
BROAD BROOK
CONNECTICUT RIVER
LISCOMB BROOK
NEW HAMPSHIRE
VERNON
HINSDALE
VERMONT YANKEE NUCLEAR PLANT
ASHUELOT RIVER
VERNON DAM
VERMONT
WINDHAM COUNTY
FRANKLIN COUNTY
CHESHIRE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

FIGURE 8.1

TABLE 8.3

SUMMARY OF FISHING EFFORT AND RESULTS
1979

SAMPLE LOCATIONS	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. Seine Hauls	TOTALS No. Fish	TOTALS Weight (g)
Station 2	24	11187	5	117	0	0	0	0	0	0	0	24	11187
Station 3	209	49270	17	388	23	11342	5	118	976	159	4	1208	60771
South of Vernon Dam	233	[illegible]457	22	505	23	11342	5	118	976	159	4	1232	71958
Station 4	179	43392	7	171	100	36173	6	140	809	5639	5	1088	85204
Station 5	2	929	2	47	80	50591	8	191	0	0	0	82	51520
Station 8	59	14509	7	161	0	0	0	0	0	0	0	59	14509
North of Vernon Dam	240	58830	16	379	180	86764	14	331	809	5639	5	1229	151233
All Locations	473	119287	38	884	203	98106	19	449	1785	5798	9	2461	223191

The percentages by weight in the 1979 study were all within the ranges that had been observed in earlier surveys, including the weight percentage of white sucker. But the number of white sucker taken in the 1979 collections represented a much greater percentage of the year's catch than in prior studies. This is attributable to the capture in seine hauls on 22 June 1979 of 1030 juvenile white suckers; 969 near Stebbin Island, south of Vernon Dam, and 61 along the New Hampshire shore of the river at Station 4. This great increase in the relative numbers of white sucker captured resulted in a smaller percentage by number for smallmouth bass and rock bass than had been found in earlier surveys.

Scale samples for age determination were taken from all white perch, yellow perch, walleye, and smallmouth bass collected in 1979 that had a total length more than 50 millimeters. 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 points of difference that are found between the 1979 and the 1969-1973 age-growth curves for white perch, yellow perch, and smallmouth bass occur when few specimens in an annulus class were captured. For walleye, however, the age-growth data of 1979 again indicate, as did the data of 1977 and 1978, an enhanced growth rate compared to the statistics of the years 1969-1973. The number of walleye, though, in the sample of each of the three years has been small – 28 in 1977, 39 in 1978, and 23 in this year.

TABLE 8.4

FISHES OF THE CONNECTICUT RIVER IN
THE VICINITY OF VERNON, VERMONT
ALL COLLECTIONS
1979

Species	Total Number Captured	Total Weight In Grams	Weight Extremes In Grams	Length Extremes In Millimeters
Catostomus commersoni (Lacépède)				
White Sucker	1112	57637	<0.1-1308	12-499
Cyprinus carpio Linnaeus				
Carp	15	58622	2270-5560	535-685
Notemigonus crysoleucas (Mitchill)				
Golden Shiner	299	3809	2.9-152	69-255
Notropis hudsonius (Clinton)				
Spottail Shiner	46	309	3.1-15	67-120
Hybognathus nuchalis Agassiz				
Silvery Minnow	30	212	3.8-14	71-115
Juvenile Cyprinidae	125	74	0.1-0.7	28-47
Ictalurus nebulosus (LeSueur)				
Brown Bullhead	8	1868	10-442	86-320
Esox niger LeSueur				
Chain Pickerel	2	641	285-356	360-402
Anguilla rostrata (LeSueur)				
American Eel	1	1362	1362	800
Fundulus diaphanus (LeSueur)				
Banded Killifish	40	124	0.7-7.3	41-82
Morone americana (Gmelin)				
White Perch	196	42056	17-407	110-297
Perca flavescens (Mitchill)				
Yellow Perch	246	14714	5-252	91-275
Stizostedion vitreum (Mitchill)				
Walleye	23	12715	149-1560	272-550
Micropterus dolomieui Lacépède				
Smallmouth Bass	36	8629	9-860	86-404
Micropterus salmoides (Lacépède)				
Largemouth Bass	1	705	705	345
Lepomis gibbosus (Linnaeus)				
Pumpkinseed	177	4957	3.5-195	58-207
Lepomis macrochirus Rafinesque				
Bluegill	34	6595	113-392	175-240
Ambloplites rupestris (Rafinesque)				
Rock Bass	70	8162	1.5-256	45-239
TOTALS	2461	223191		

TABLE 8.5

FISHES OF THE CONNECTICUT RIVER IN
THE VICINITY OF VERNON, VERMONT
ALL COLLECTIONS NORTH OF VERNON DAM
1979

Species	Total Number Captured	Total Weight In Grams
Catostomus commersoni (Lacépède) White Sucker	107	30970
Cyprinus carpio Linnaeus Carp	15	58622
Notemigonus crysoleucas (Mitchill) Golden Shiner	295	3302
Notropis hudsonius (Clinton) Spottail Shiner	46	309
Hybognathus nuchalis Agassiz Silvery Minnow	30	212
Juvenile Cyprinidae	125	74
Ictalurus nebulosus (LeSueur) Brown Bullhead	3	35
Anguilla rostrata (LeSueur) American Eel	1	1362
Fundulus diaphanus (LeSueur) Banded Killifish	33	114
Morone americana (Gmelin) White Perch	127	23284
Perca flavescens (Mitchill) Yellow Perch	235	14168
Stizostedion vitreum (Mitchill) Walleye	13	8512
Micropterus dolomieui Lacépède Smallmouth Bass	16	3938
Micropterus salmoides (Lacépède) Largemouth Bass	1	705
Lepomis gibbosus (Linnaeus) Pumpkinseed	160	3488
Lepomis macrochirus Rafinesque Bluegill	2	307
Ambloplites rupestris (Rafinesque) Rock Bass	20	1831
TOTALS	1229	151233

TABLE 8.6

FISHES OF THE CONNECTICUT RIVER IN
THE VICINITY OF VERNON, VERMONT
ALL COLLECTIONS SOUTH OF VERNON DAM
1979

Species	Total Number Captured	Total Weight In Grams
Catostomus commersoni (Lacépède) White Sucker	1005	26667
Notemigonus crysoleucas (Mitchill) Golden Shiner	4	507
Ictalurus nebulosus (LeSueur) Brown Bullhead	5	1833
Esox niger LeSueur Chain Pickerel	2	641
Fundulus diaphanus (LeSueur) Banded Killifish	7	10
Morone americana (Gmelin) White Perch	69	18772
Perca flavescens (Mitchill) Yellow Perch	11	546
Stizostedion vitreum (Mitchill) Walleye	10	4203
Micropterus dolomieui Lacépède Smallmouth Bass	20	4691
Lepomis gibbosus (Linnaeus) Pumpkinseed	17	1469
Lepomis macrochirus Rafinesque Bluegill	32	6288
Ambloplites rupestris (Rafinesque) Rock Bass	50	6331
TOTALS	1232	71958

TABLE 8.7-1

FREQUENCY DISTRIBUTION OF FISH SPECIES
BY TOTAL LENGTH
1979

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							1	4			3	8
61-80							133	1035			2	10
81-100			16	138	3	31	4	50			1	20
101-120	6	193	110	1434	4	67	2	55			5	143
121-140			3	80	1	14	10	515			3	127
141-160	1	68	20	834	5	207	9	696			5	367
161-180	13	1032	9	460	5	299	9	1105	3	357	18	1915
181-200	17	1902	21	2089	2	164	8	1302	14	2278	23	3444
201-220	26	4114	39	5096			1	195	13	2619	7	1383
221-240	49	9988	16	2495	1	168			4	1341	3	745
241-260	44	11203	11	1966	2	432						
261-280	32	10504	1	122								
281-300	8	3052			1	317						
301-320					3	1265						
321-340					2	983						
341-360					4	2384						
361-380					2	1438						
381-400												
401-420					1	860						
TOTALS	196	42056	246	14714	36	8629	177	4957	34	6595	70	8162

TABLE 8.7-2

FREQUENCY DISTRIBUTION OF FISH SPECIES
BY TOTAL LENGTH
1979

Total Length (mm)	WHITE SUCKER		CARP		WALLEYE	
	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)
0-20	3	<0.1				
21-40	1027	169				
41-60						
61-80						
81-100						
101-120						
121-140						
141-160						
161-180						
181-200						
201-220						
221-240	6	868				
241-260						
261-280	1	212			2	313
281-300	2	512			2	430
301-320	4	1435			1	258
321-340	6	2468				
341-360	4	1771	1	693	1	342
361-380	6	3504			5	2157
381-400	6	4011			4	1983
401-420	13	9856			2	1126
421-440	19	16535			2	1315
441-460	8	7977			1	754
461-480	5	5794				
481-500	2	2525			1	972
501-520						
521-540			1	2270	1	1505
541-560			1	2665	1	1560
561-580			1	3460		
581-600						
601-620			1	3064		
621-640			1	4170		
641-660			3	13040		
661-680			5	23700		
681-700			1	5560		
TOTALS	1112	57637	15	58622	23	12715

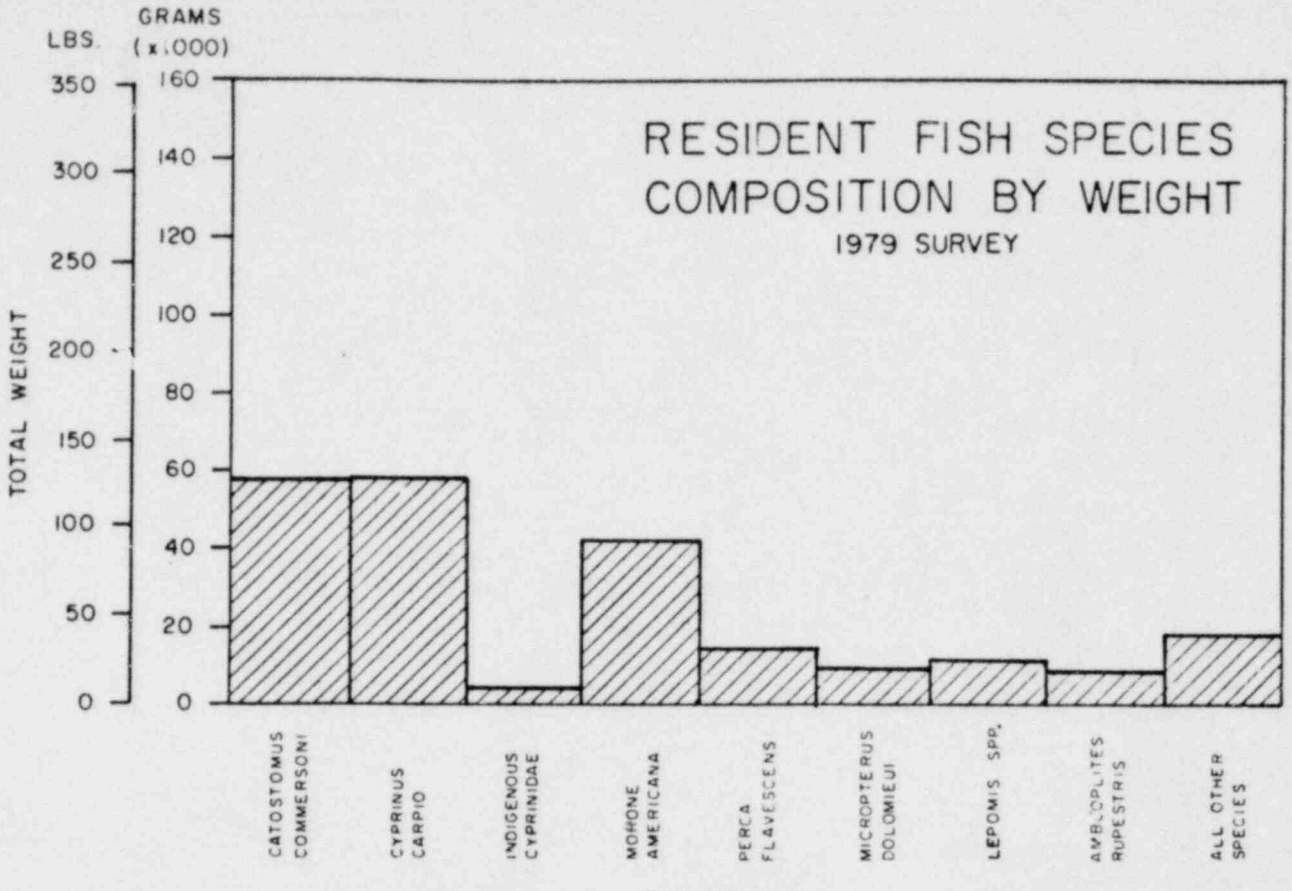


FIGURE 8.2

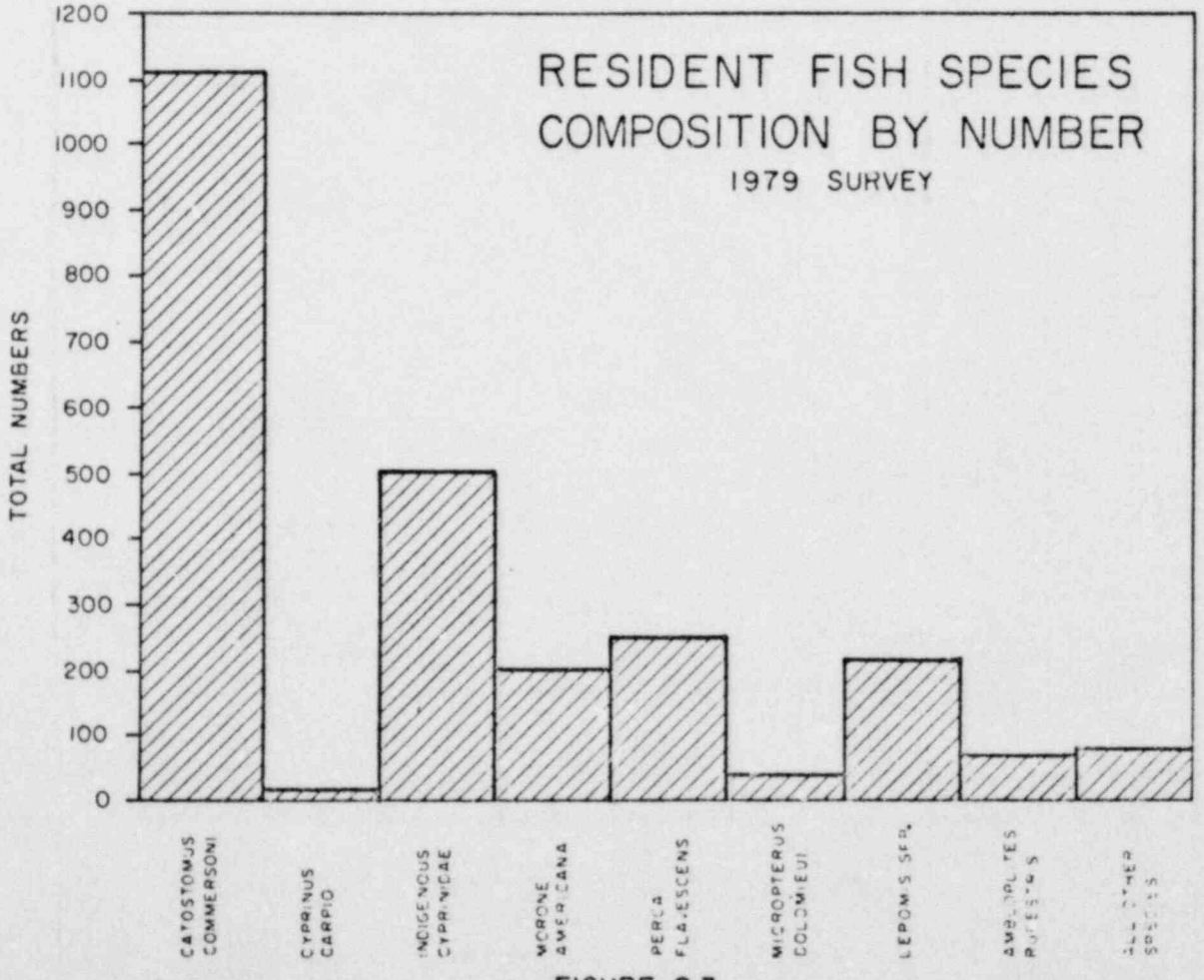


FIGURE 8.3

FIGURE 8.4

RESIDENT FISH SPECIES

PERCENTAGE COMPOSITION BY WEIGHT

PERCENTAGE COMPOSITION BY NUMBER

RESIDENT FISH SPECIES

FIGURE 8.5

TABLE 8.8

AGE-GROWTH DATA - WHITE PERCH

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	47	91	62-130	1	116	-
1	8	178	169-194	31	174	113-206
2	94	202	155-245	30	222	178-257
3	253	231	175-276	57	236	165-270
4	112	244	204-303	44	252	216-297
5	18	267	239-311	16	256	218-295
6	5	284	270-308	9	267	238-293
7	0	-	-	3	264	251-287

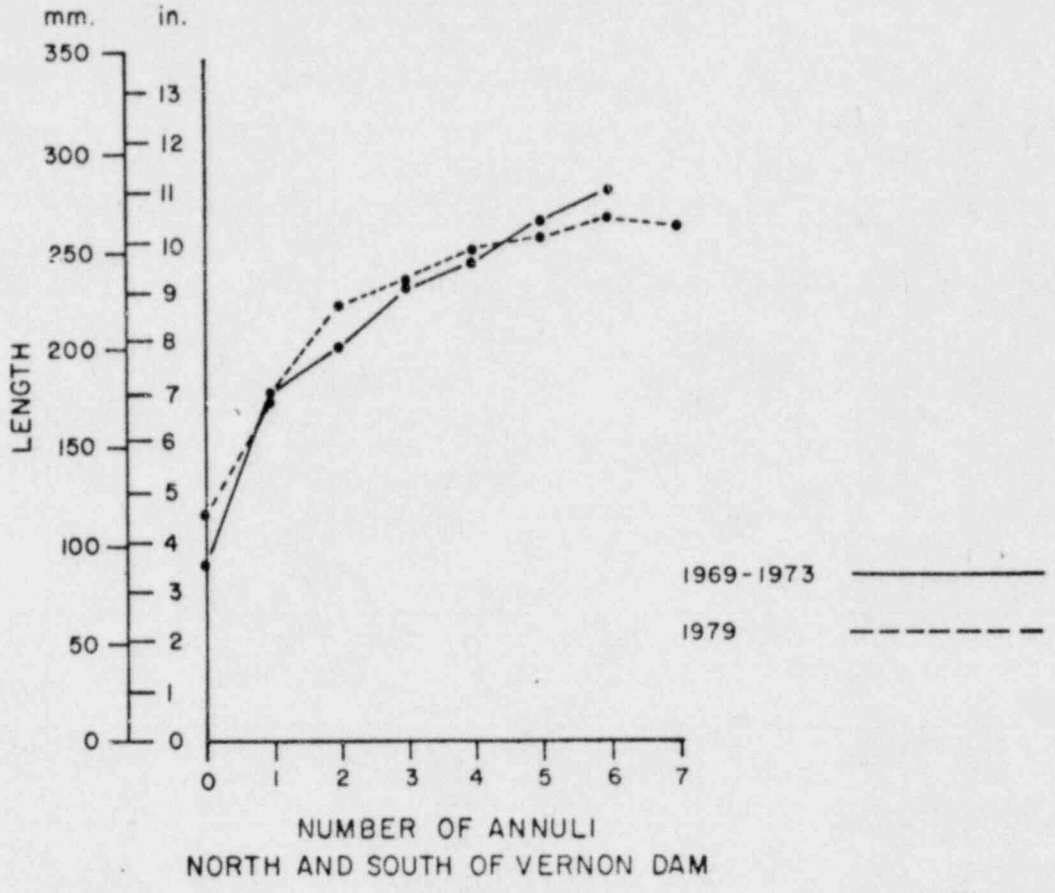
COLLECTIONS NORTH OF VERNON DAM

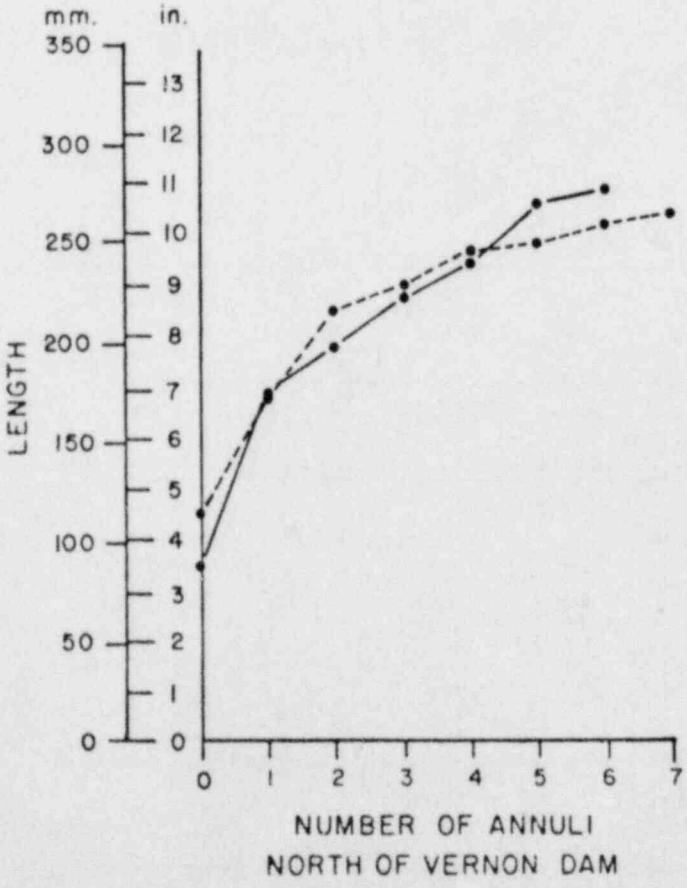
Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	43	90	62-130	1	116	-
1	7	176	169-180	29	173	113-206
2	64	198	155-235	19	216	178-234
3	118	224	175-276	30	230	165-262
4	48	239	204-285	25	244	221-297
5	12	269	247-311	9	248	218-270
6	4	278	270-296	6	259	238-283
7	0	-	-	3	264	251-287

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	4	92	68-110	0	-	-
1	1	194	-	2	186	184-188
2	30	210	178-245	11	232	207-257
3	135	235	186-270	27	242	200-270
4	64	247	213-303	19	263	216-290
5	6	263	239-285	7	267	240-295
6	1	308	-	3	283	272-293
7	0	-	-	0	-	-

AGE-GROWTH GRAPHS — WHITE PERCH





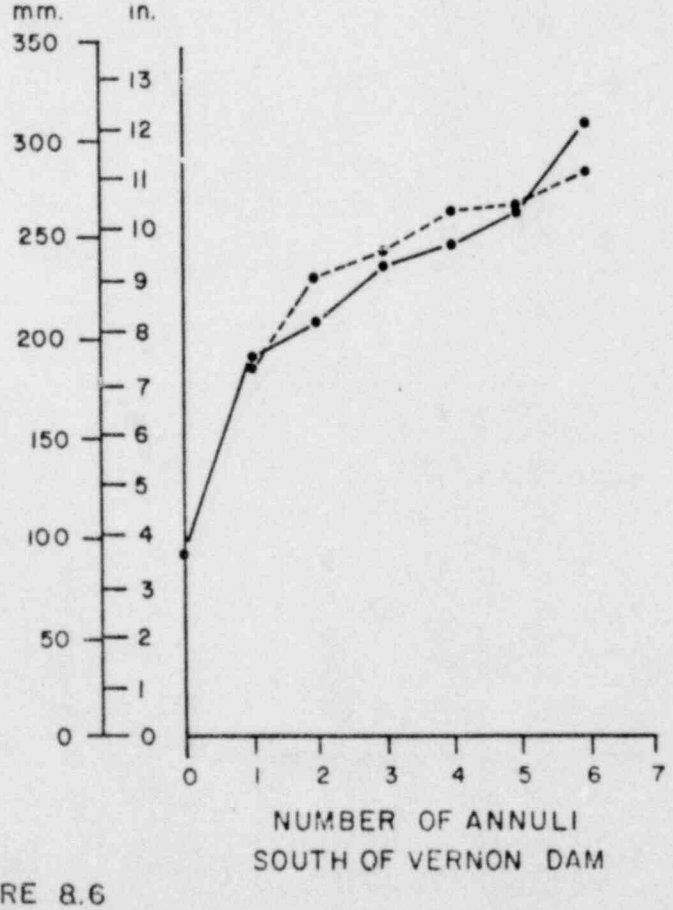


FIGURE 8.6

TABLE 8.9

AGE-GROWTH DATA - YELLOW PERCH

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	45	81	45-118	9	99	91-113
1	44	122	67-183	30	135	93-175
2	80	192	156-235	35	196	160-220
3	71	216	158-249	23	219	192-252
4	74	234	208-266	19	233	205-255
5	50	251	217-280	5	235	219-256
6	23	270	225-295	0	-	-
7	9	281	265-302	0	-	-
8	2	285	-	0	-	-
9	0	-	-	0	-	-
10	1	305	-	0	-	-

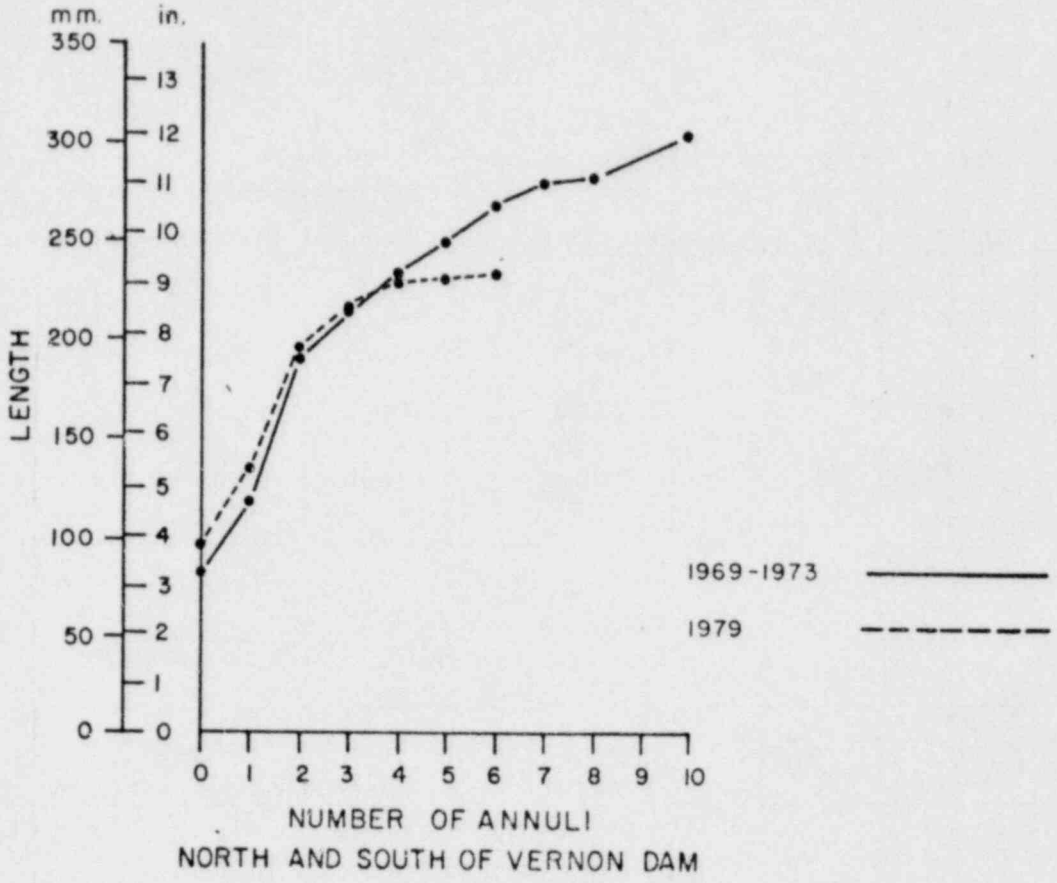
COLLECTIONS NORTH OF VERNON DAM

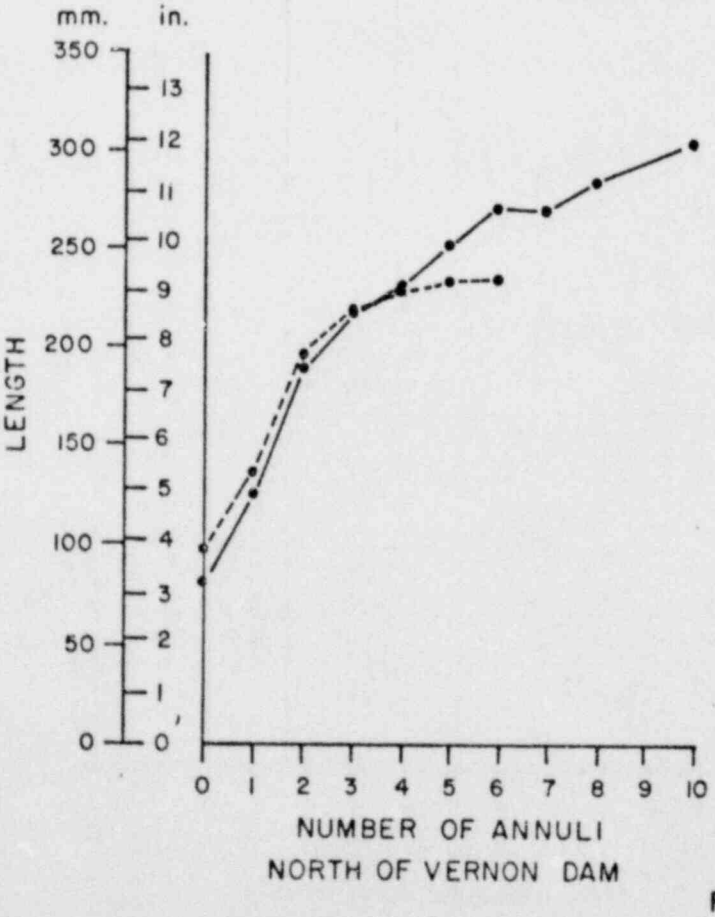
Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	22	83	45-118	6	96	91-105
1	30	126	67-183	27	135	93-175
2	73	190	156-235	32	196	160-220
3	49	218	170-249	23	219	192-252
4	37	232	208-266	18	233	205-255
5	22	251	217-271	5	235	219-256
6	4	271	261-282	0	-	-
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			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	23	80	47-101	3	105	97-113
1	14	115	101-156	3	129	106-145
2	7	209	174-230	3	192	175-203
3	22	212	158-241	0	-	-
4	37	237	211-262	1	247	-
5	28	250	230-280	0	-	-
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





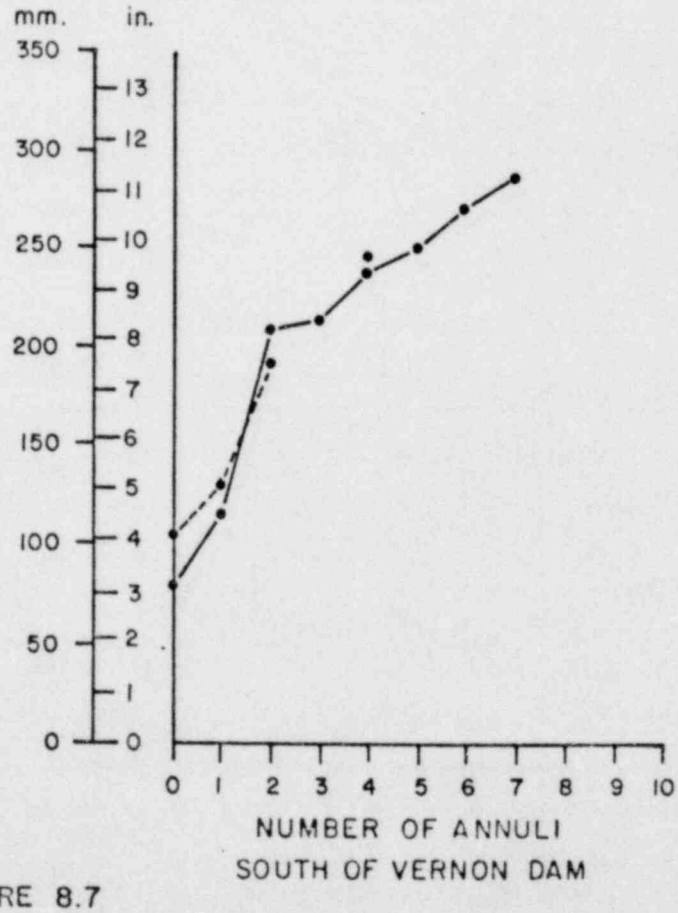
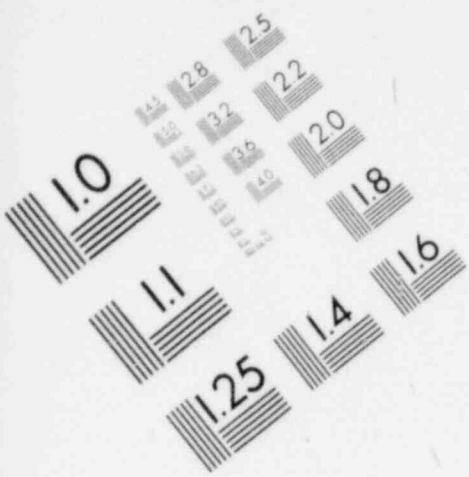


FIGURE 8.7



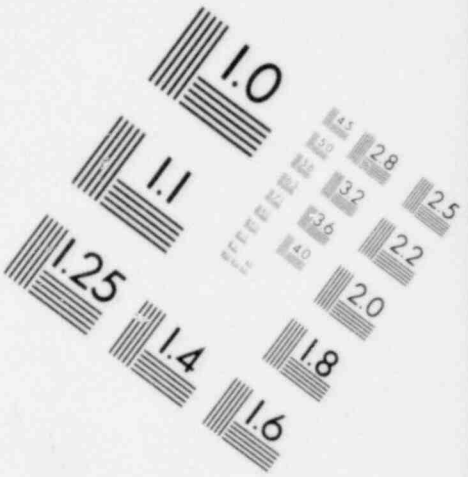
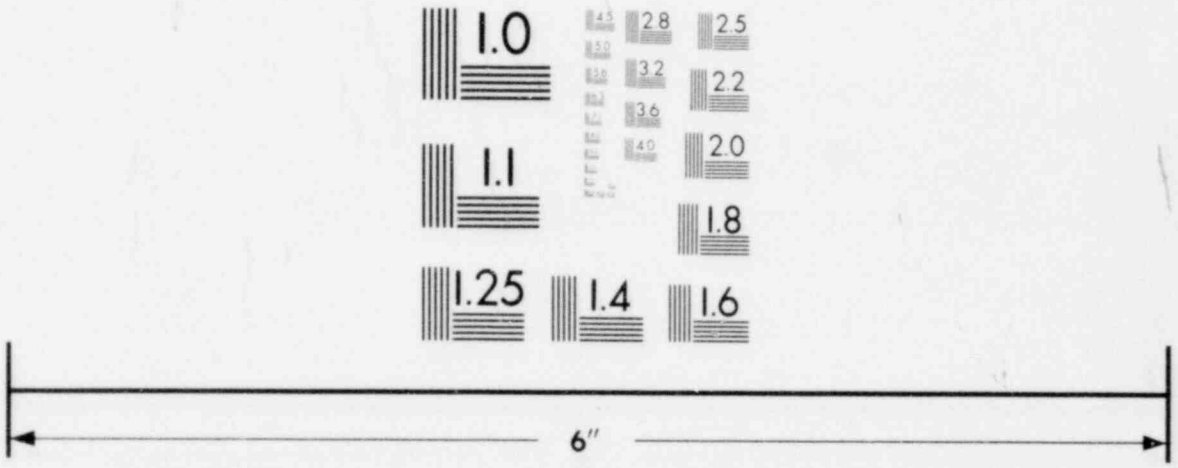
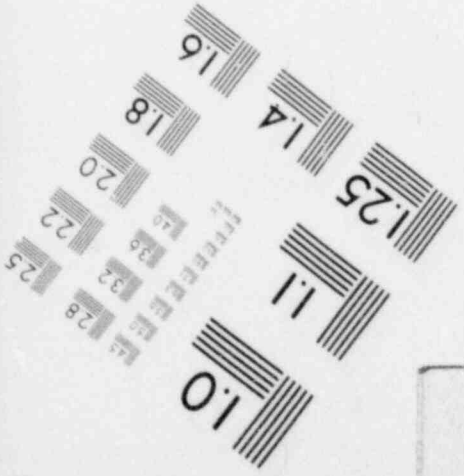


IMAGE EVALUATION
TEST TARGET (MT-3)



MICROCOPY RESOLUTION TEST CHART



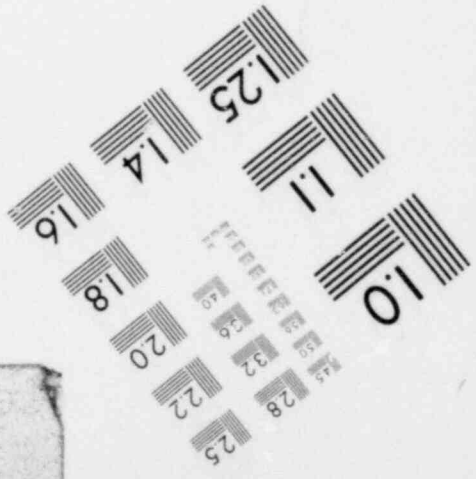


TABLE 8.10

AGE-GROWTH DATA - WALLEYE

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	4	136	119-151	0	-	-
1	6	188	163-211	4	281	272-295
2	13	286	242-337	2	360	355-365
3	18	337	275-380	7	369	306-390
4	22	344	291-381	6	420	380-485
5	32	375	303-407	1	427	-
6	8	396	321-435	1	437	-
7	6	473	425-527	2	544	538-550

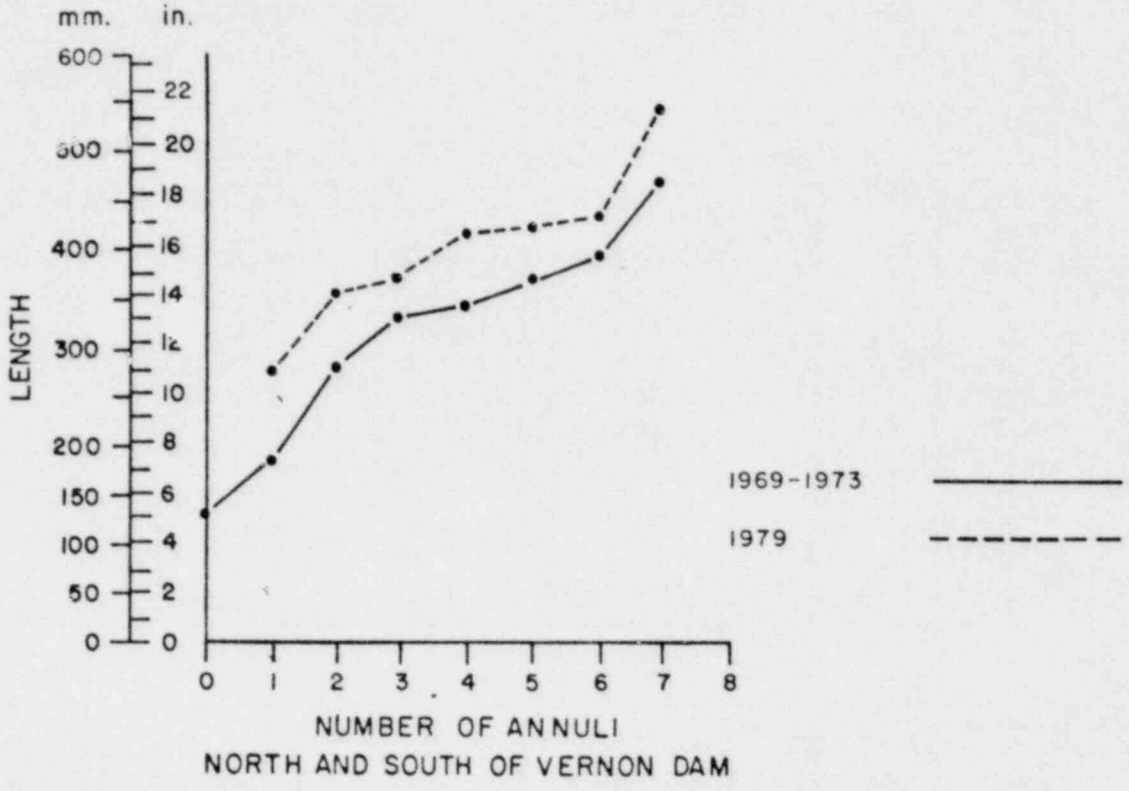
COLLECTIONS NORTH OF VERNON DAM

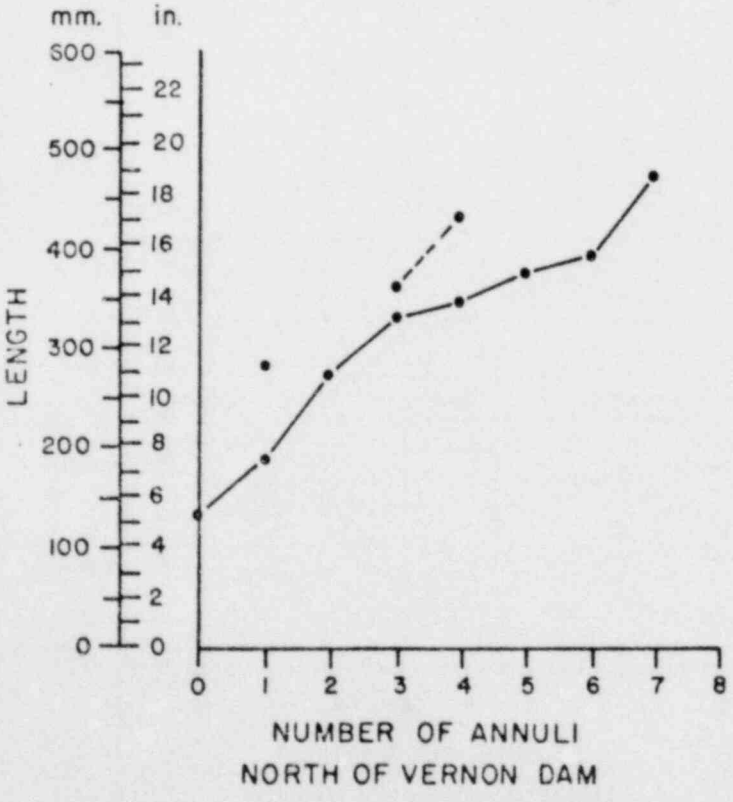
Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	3	134	119-151	0	-	-
1	5	190	163-211	2	288	282-295
2	6	274	246-320	0	-	-
3	12	331	275-377	5	363	306-390
4	12	344	291-381	4	438	405-485
5	22	375	337-407	0	-	-
6	8	396	321-435	0	-	-
7	4	478	433-527	2	544	538-550

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	1	141	-	0	-	-
1	1	180	-	2	274	272-276
2	7	296	242-337	2	360	355-365
3	6	350	318-380	2	384	380-387
4	10	345	313-360	2	384	380-387
5	10	373	303-402	1	427	-
6	0	-	-	1	437	-
7	2	463	425-501	0	-	-

AGE-GROWTH GRAPHS — WALLEYE





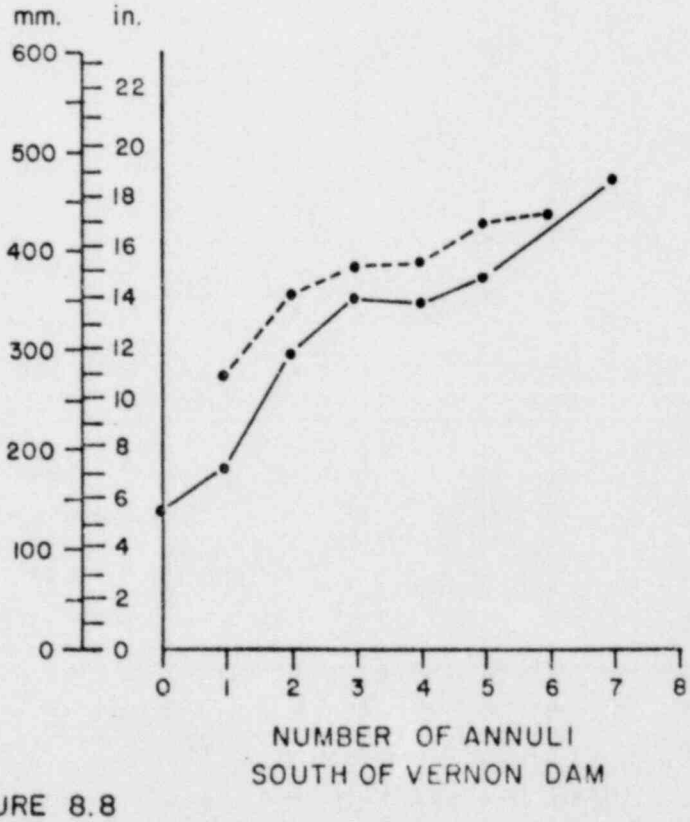


FIGURE 8.8

TABLE 8.11

AGE-GROWTH DATA - SMALLMOUTH BASS

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	16	68	45-102	8	118	86-153
1	25	164	108-213	8	160	102-184
2	31	206	161-255	2	180	172-188
3	59	239	197-293	3	254	225-294
4	50	275	220-315	4	306	246-337
5	36	305	262-350	4	342	310-360
6	16	346	305-376	3	366	356-378
7	4	370	343-406	1	404	-
8	1	357	-	0	-	-
9	2	412	398-425	0	-	-
10	0	-	-	0	-	-
11	1	411	-	0	-	-

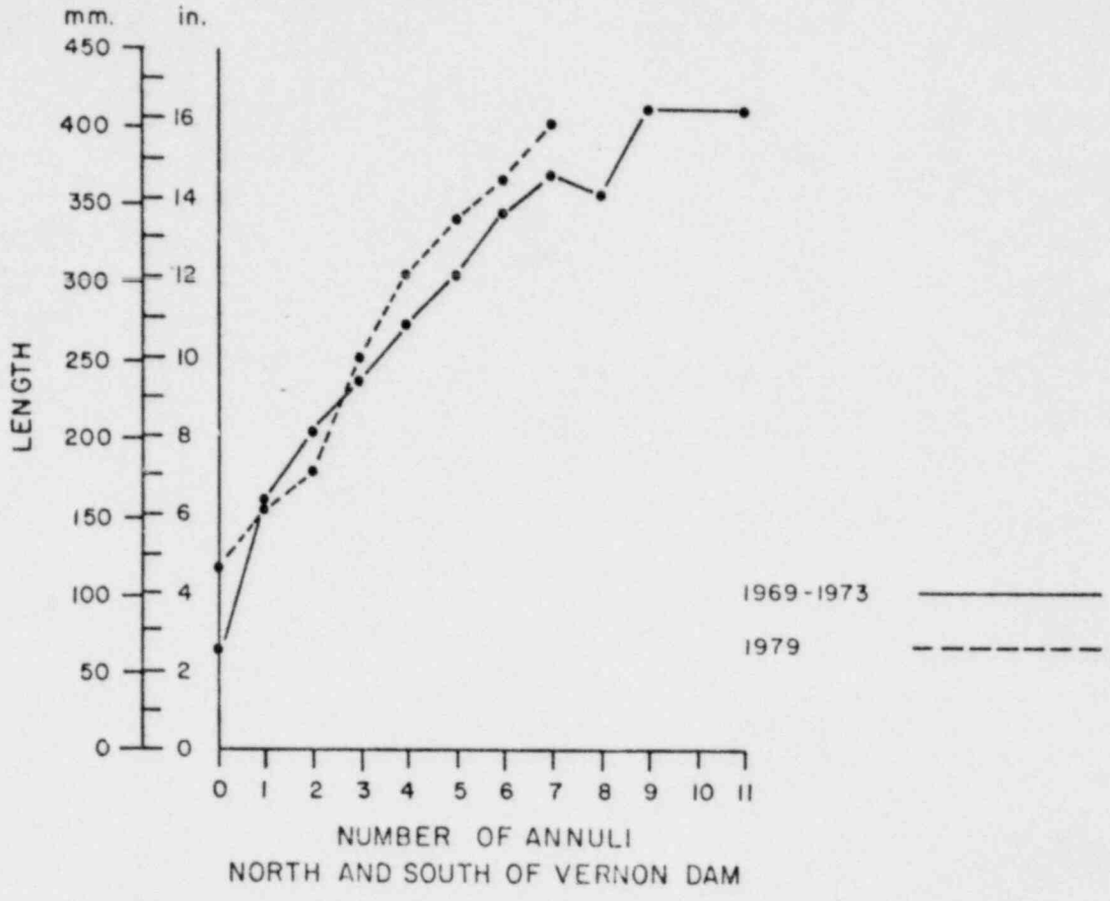
COLLECTIONS NORTH OF VERNON DAM

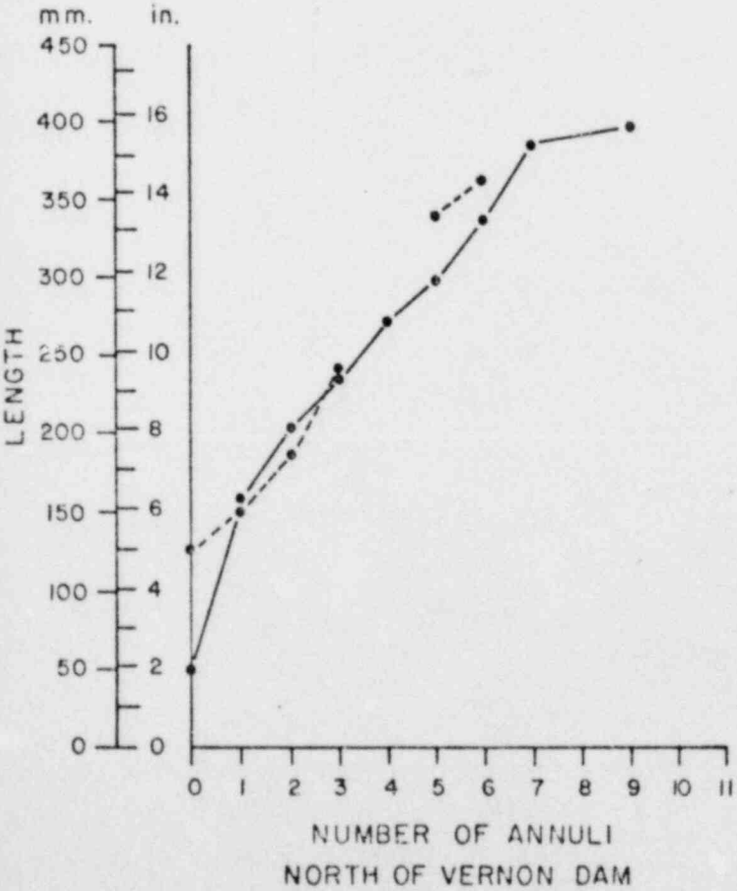
Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	5	50	45-57	3	128	86-153
1	21	161	108-213	4	152	102-184
2	29	205	161-255	1	188	-
3	44	235	197-293	1	244	-
4	23	272	220-315	0	-	-
5	23	300	262-339	4	342	310-360
6	12	339	305-362	1	364	-
7	2	386	365-406	0	-	-
8	0	-	-	0	-	-
9	1	398	-	0	-	-
10	0	-	-	0	-	-
11	0	-	-	0	-	-

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1979		
	Number Specimens	Total Length (mm) Average	Extremes	Number Specimens	Total Length (mm) Average	Extremes
0	11	76	51-102	5	111	96-133
1	4	173	150-207	4	166	154-171
2	2	225	211-238	1	172	-
3	15	252	232-274	2	260	225-294
4	27	279	245-305	4	306	246-337
5	13	312	290-350	0	-	-
6	4	346	352-376	2	367	356-378
7	2	354	343-364	1	404	-
8	1	357	-	0	-	-
9	1	425	-	0	-	-
10	0	-	-	0	-	-
11	1	411	-	0	-	-

AGE-GROWTH GRAPHS — SMALLMOUTH BASS





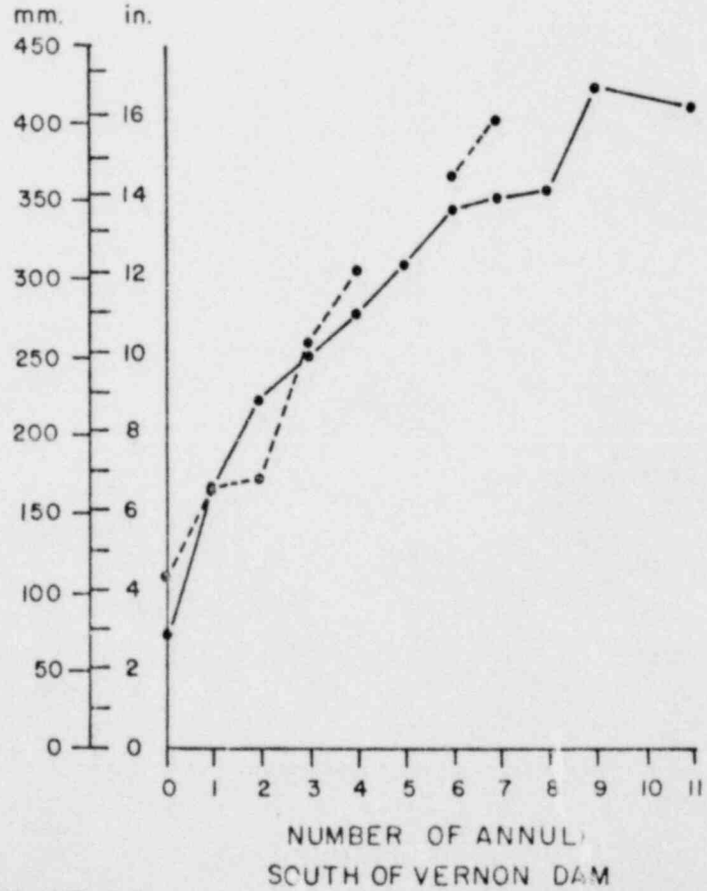


FIGURE 8.9

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