

ECOLOGICAL STUDIES OF THE
CONNECTICUT RIVER
VERNON/VERMONT

REPORT XII

JANUARY 1982 — DECEMBER 1982

PREPARED FOR
VERMONT YANKEE NUCLEAR POWER CORPORATION
BY
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SOUTH BURLINGTON, VERMONT
1983

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REPORT XII

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SECTION 1

INTRODUCTION AND SUMMARY

1. INTRODUCTION AND SUMMARY

Vermont Yankee Nuclear Power Corporation's generating station in Vernon, Vermont, established four operating records in 1982. Its thermal capacity factor for 1982 was 94.0%, the best production record for all boiling water reactors in the world in 1982. The highest capacity factor achieved by Vermont Yankee in prior years was 81.1% in 1981. Power was generated during 8409 hours of 1982, 96.0% of the time. During the hours of power generation, the average power level was 98.0%. Figure 1.1 is a graph of the plant's record of power production in 1982.

Environmental studies of the Connecticut River near Vernon, Vermont, were conducted in 1982 in accordance with a schedule of such studies detailed in Vermont Yankee's NPDES permit. Additional studies were conducted in 1982 under the study program, approved by the states of Vermont and New Hampshire, for Project SAVE. That project has been undertaken to ascertain whether some operation in the period mid-May to mid-October in open or hybrid cycle modes of condenser cooling could be utilized in order to increase energy production without adversely affecting the Connecticut River ecosystem.

Under the conditions established for this test program, Vermont Yankee utilized hybrid/open cycle cooling for the last two weeks in May and from mid-September to mid-October. Special biological studies, augmenting the routine NPDES studies, were conducted throughout the five months, May 16 to October 14, when Vermont Yankee's NPDES permit mandates closed cycle condenser cooling. The results of these special studies have been reported separately (Binkerd et al. 1983). This report, the twelfth in a series, details the studies conducted in 1982 to

VERMONT YANKEE
POWER LEVEL HISTOGRAM
1982

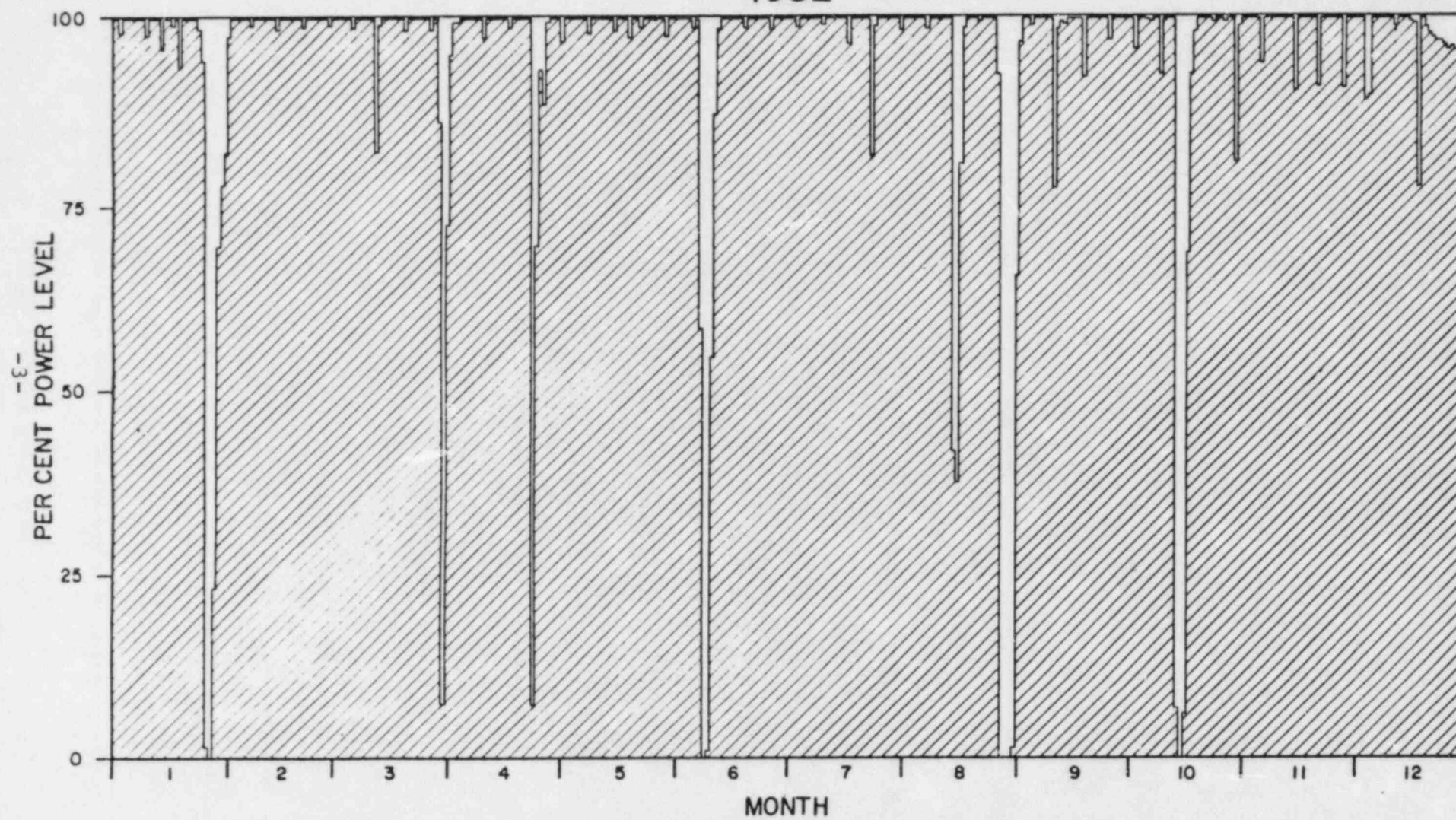


FIGURE I.1

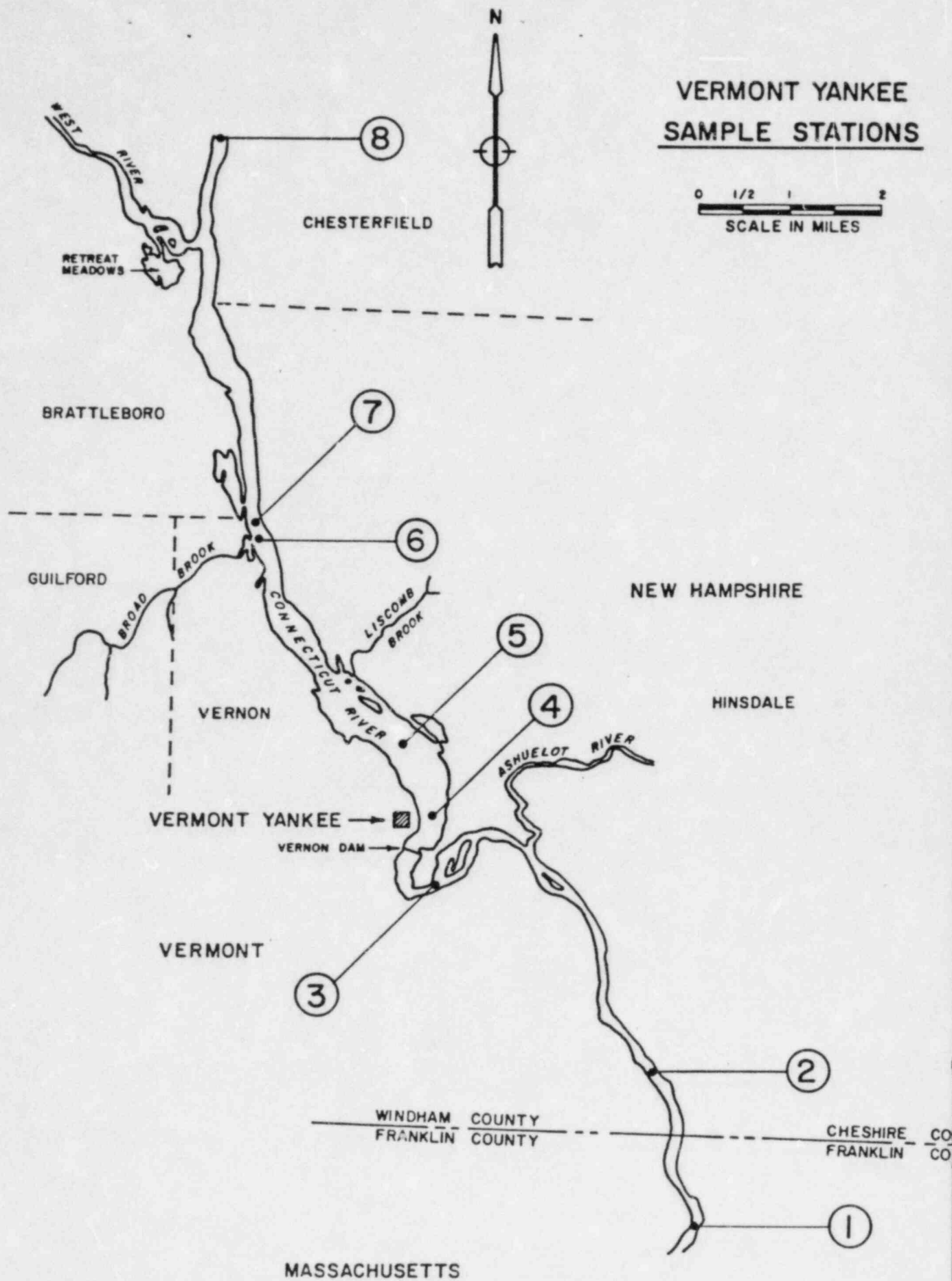


FIGURE I. 2

conform with the conditions of Vermont Yankee's NPDES permit.

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 1982 studies. The locations of these six in river miles north and south of Vernon Dam are shown below.

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

SUMMARY OF RESULTS

Water Quality Studies

The maximum Connecticut River discharge of spring runoff occurred in 1982, as is usually the case at Vernon, in April. Mean discharge for that month was 39,503 cfs, a greater April flow rate than the April average for the previous 17 years. The maximum daily discharge was 70,889 cfs on April 19 and the maximum hourly discharge, 74,695 cfs, occurred on April 18 and 19. River flow rates in the other months of 1982 were generally low relative to those observed in the previous 17 years. Flows were particularly low in September and October, when the maximum daily discharge was smaller than had occurred in the previous 17 years.

Despite the relatively low river flow rates in September and October, no new record temperatures of the river were observed then, either upstream or downstream of Vermont Yankee.

However, in December record hourly temperature maxima, relative to previous years of study, were observed at both Monitor 7, upstream of Vermont Yankee, and at Monitor 3, downstream of the plant. At Monitor 3, a record monthly maximum occurred in November also. The monthly mean temperatures in November and December were also greater than had been recorded in the previous 14 years of temperature data.

Vermont Yankee operated in 1982, during the period of open cycle operation allowed under its NPDES permit, within the three thermal criteria imposed upon such operation by the permit. These conditions require that Vermont Yankee's discharge not effect a temperature at Monitor 3 greater than 65°F; the maximum hourly mean temperature observed there during NPDES open cycle operation was 58.5°F on October 25. The maximum allowable rate of temperature change between successive hourly average temperatures at Monitor 3 is 5°F per hour; the maximum observed was 3.2°F per hour on March 8. 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 9.1°F on October 29.

The average dissolved oxygen concentrations for the months of April and June at Monitor 7 were greater in 1982 than had been observed in the prior 12 years. The monthly maximum D.O. at that upstream station was also larger for those two months than in earlier years. At the downstream monitoring station, mean D.O. concentrations for April and June were also greater than in former years. And record maximum D.O. concentrations were observed there in March and April. With one exception, all pH maxima and minima recorded in 1982 were within extremes noted in earlier years. The May minimum of 6.8 at Monitor 3 was 0.1 pH unit lower than the previous minimum observed there in May.

Grab samples were collected at Stations 3 and 7 on four dates in 1982 and analyzed for sixteen water quality parameters. With two minor exceptions, the concentrations of all parameters were found to be within ranges observed in former years. The total iron concentration in the September sample from Monitor 3 was 0.02 mg/l less than the earlier minimum there and the chloride ion concentration in the March sample at Monitor 7 was 0.5 mg/l greater than the prior maximum there.

Biological Studies

Diatoms predominated, as in earlier study years, in the net phytoplankton samples collected via the monitor pumps at Stations 3 and 7. Diatoms constituted 50% or more of all the Monitor 7 samples and all the Monitor 3 samples except that of January. In general, the species composition of the 1982 samples was similar to that of earlier years.

Algal concentrations in the net collections of 1982 were less than the mean concentrations observed in the years 1970-74 in all months but January and February at Station 7 and in all months but July at Station 3. Only the 119 algal units per liter observed at Monitor 7 in January was more than two standard deviations greater than the monthly means of 1970-74. The concentrations of phytoplankters observed in the July sample at Monitor 3 exceeded the mean count of the years 1970-74 by less than two standard deviations. However, this July Monitor 3 count was greater than that predicted by the application of a statistical analysis of the 1970-74 data to the July count observed at upstream Station 7 in July.

Zooplankton concentrations in the monitor samples of 1982 were generally low. All zooplankton counts in 1982 were less than the mean counts observed for the corresponding month in the years 1970-1974. All Monitor 3 concentrations in 1982 were within the 95% confidence limits for a concentration predicted from upstream counts by a statistical analysis of 1970-74 zooplankton data.

Rotifers, as in prior years, were the predominant zooplankters in the 1982 samples. They constituted at least 50% of the organisms found in 11 of the 12 Station 3 samples and in 8 of the Station 7 samples. The most commonly occurring rotifer was Philodina sp., which was found in 18 of the 24 monitor samples. Relatively large percentages of protozoans, particularly Vorticella sp., were found in the fall and winter samples.

A total of 145 taxa were observed in the 1982 benthos collections by Ekman dredge and Henson trap. Fifty-six taxa were found in Station 2 samples, 57 in Station 3 samples, 77 in Station 4 samples, and 85 in samples collected at Station 5. Of the 120 genera found in the 1982 samples, 73 genera were observed in the ten Henson trap collections and 99 genera were found in the samples collected by Ekman dredge. The number of genera observed in 1982 at Stations 3, 4, and 5 was larger than in earlier years. The number found in Station 2 samples, 39 genera, was only one less than was found there in 1981. Chironomid larvae were the predominant organisms in 15 of the 19 samples collected upstream of Vernon Dam. In the downstream samples, caddis fly larvae were dominant in early summer samples. A variety of forms predominated in late summer and fall—cladocerans, planarians, and amnicolid snails.

Studies of the extent of fish impingement of Vermont Yankee's traveling screens were conducted during both open/hybrid cycle and closed cycle operations in 1982. The mean number of fish impinged per test day during open/hybrid cycle operation was 25; the mean weight per test day was 192 grams. The greatest impingement rate was observed in September, 102 fish and 295 grams per test day. The average number of fish impinged per closed cycle test day in 1982 was 0.2 fish, the average weight per closed cycle test day was 3.8 grams (0.13 ounces).

More than 8,000 fish, weighing approximately 2 tons, were captured in 1982 in 35 collections made by trap net, gill net, seine haul, and electrofishing. Twenty-six species were

collected at all locations. Twenty-two species were identified in the collections upstream of Vernon Dam; twenty-one in the collections south of Vernon Dam. All species observed in 1982 have been collected in the studies of prior years. Blueback herring and American shad, first observed in 1981, were captured in 1982 also. These species were introduced into the Vernon reach of the Connecticut River in releases of shad conducted in the program of anadromous fish restoration to the river. One specimen of Atlantic salmon was taken in a trap net south of Vernon Dam in May, and two salmon were observed to have been impinged, in May also, on Vermont Yankee's circulating water traveling screens.

Comparison of the species composition by number and weight, reduced to a percentage basis, of the fish populations collected in 1982 with such percentages of earlier surveys shows that only the percentage in 1982 of yellow perch by number is outside the extremes observed in prior years. Yellow perch constituted 22.5% by number of the fishes captured in 1982. The previous maximum for this species was 17.6% in 1981.

The age-growth data of 1982 for white perch and yellow perch collected north of Vernon Dam are not significantly different from that of the years 1969-73. However, the data for these species collected south of the dam, and for walleye and small-mouth bass, both north and south of the dam, appear to indicate an increased growth rate relative to the 1969-73 data.

The possibility that Vermont Yankee's discharge of warm condenser cooling water to the river may have contributed to an apparent change in growth rate of some fish species will be investigated further in 1983. No significantly adverse impact of this discharge on the river's ecosystem was discerned by the 1982 ecological studies.

SECTION 2

CONNECTICUT RIVER DISCHARGE

2. CONNECTICUT RIVER DISCHARGE

Connecticut River discharge in 1982 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 plotted for each month of the year. These data are also shown in Tables 2.1 and 2.2, along with summary data for the years 1965-81, years for which data have been reported in previous volumes of this series of reports.

Annual maximum discharge rate in 1982 occurred, as is usually the case at Vernon, in April. Mean discharge for that month was 39,503 cfs, a flow rate more than one standard deviation greater than the average April discharge recorded in the previous 17 years, 29,200 cfs (Table 2.2). The maximum mean daily discharge in 1982 was 70,889 cfs on April 19 and the maximum hourly discharge, 74,695 cfs, was observed from 2200 on April 18 to 0400 on April 19.

Mean discharge for all months in 1982 was within the extremes observed for the corresponding month in the prior 17 years, but the 1982 means were lower in all months except April, as noted above, and June than the 1965-81 means for each of the months (Table 2.2).

The minimum daily average discharge observed in each month of 1982 was within extremes that had occurred in the previous 17 years. But the maximum daily flow rate in two months, September and October, was smaller than had been observed in those months in the years 1965-81 (Table 2.1).

CONNECTICUT RIVER DISCHARGE VERNON, VERMONT 1982

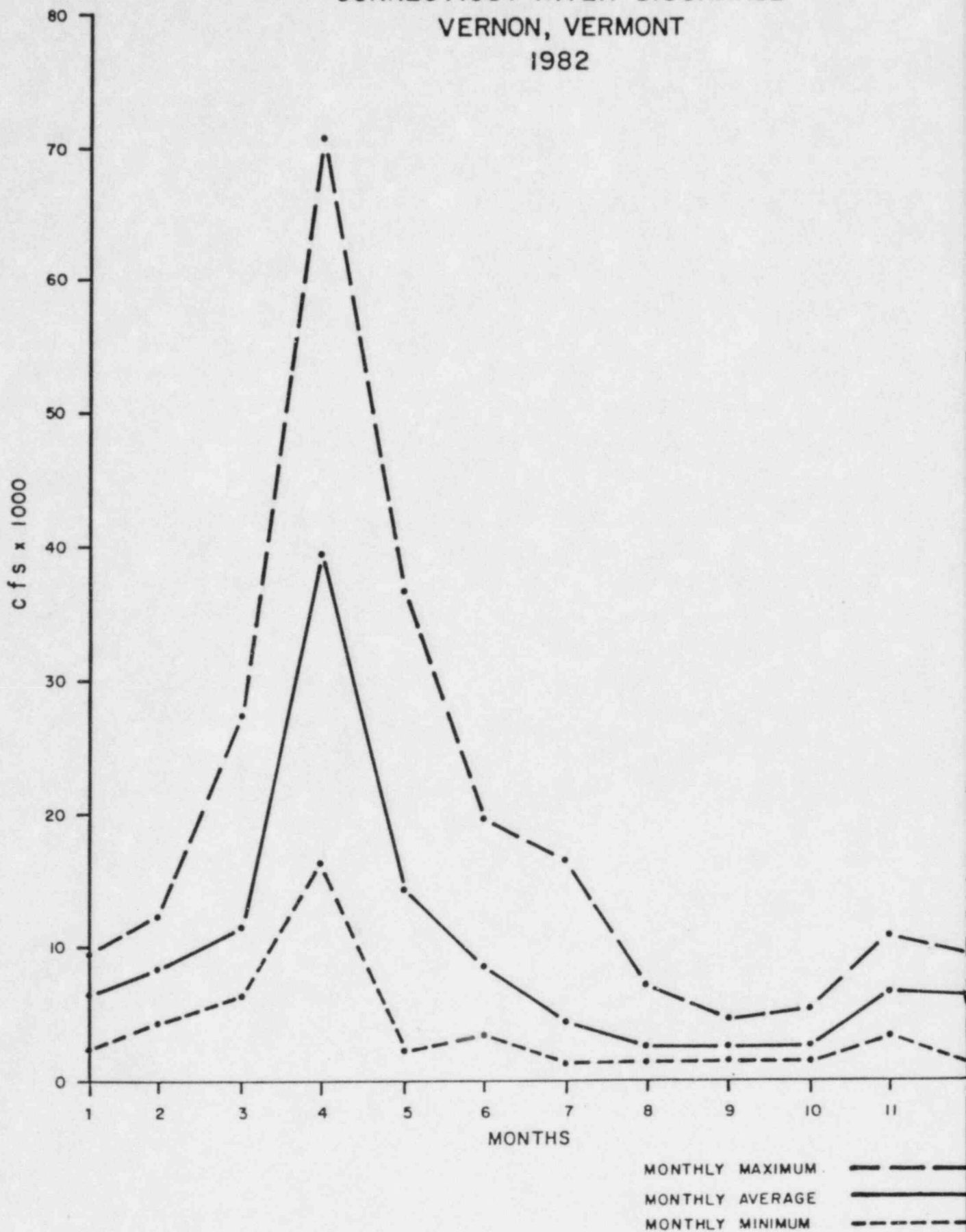


FIGURE 2.1

TABLE 2.1

CONNECTICUT RIVER DISCHARGE
VERNON, VERMONT
SUMMARY OF DAILY MEANS
1965-1982

MONTH	MAXIMA(cfs)		MINIMA(cfs)	
	1965-81 EXTREMES(YEAR)	1982	1965-81 EXTREMES(YEAR)	1982
JAN	40,567(1973)-5,500(1971)	9,749	7,729(1973)-200(1967)	2,207
FEB	63,883(1981)-5,481(1980)	12,393	10,123(1976)-550(1967)	4,330
MAR	79,300(1968)-14,000(1971)	27,364	12,726(1976)-215(1967)	6,243
APR	81,853(1976)-29,685(1981)	70,889	22,771(1974)-7,348(1980)	16,339
MAY	75,900(1972)-16,341(1977)	36,993	16,000(1967)-1,362(1980)	2,204
JUN	39,075(1973)-9,410(1971)	19,631	8,150(1973)-186(1966)	3,419
JUL	80,217(1973)-4,532(1980)	16,514	3,454(1973)-174(1966)	1,331
AUG	38,390(1976)-4,190(1970)	7,013	3,916(1976)-125(1966)	1,340
SEP	25,718(1975)-4,713(1978)	4,697	3,504(1974)-125(1966)	1,345
OCT	60,665(1975)-5,990(1968)	5,308	6,432(1977)-200(1966-68)	1,337
NOV	40,700(1969)-5,930(1971)	10,985	7,835(1977)-128(1965)	3,144
DEC	70,550(1973)-6,128(1978)	9,737	8,608(1973)-240(1967)	1,378

TABLE 2.2

CONNECTICUT RIVER DISCHARGE
VERNON, VERMONT
SUMMARY OF MONTHLY MEANS
1965-1982

MONTH	1965-81 EXTREMES(YEAR)	1965-81 MEANS(STND. DEV.)	1982
JAN	17,532(1973)-2,750(1981)	7,299(4,414)	6,622
FEB	23,999(1981)-2,865(1980)	8,565(6,147)	8,354
MAR	33,588(1979)-5,086(1967)	15,580(8,974)	11,768
APR	51,213(1969)-16,300(1965)	29,200(8,727)	39,503
MAY	42,540(1972)-8,425(1977)	19,900(9,162)	14,339
JUN	15,533(1973)-4,421(1980)	8,288(3,304)	8,582
JUL	21,832(1973)-1,800(1965)	5,331(4,794)	4,468
AUG	13,612(1976)-1,759(1970)	4,499(2,999)	2,836
SEP	7,495(1981)-1,846(1978)	4,351(1,953)	2,471
OCT	19,386(1977)-2,388(1968)	7,714(5,354)	2,702
NOV	17,710(1969)-3,138(1971)	9,228(4,243)	6,860
DEC	23,774(1973)-2,990(1978)	9,249(4,884)	6,586

These relatively low flow rates of the late summer and fall of 1982 are evident, also, in the number of hours during which the Vernon Station passed a minimum flow rate of 1,250 cfs to comply with a condition of its operating license. A summary by month of the occurrence of minimum flow at Vernon in 1982 is shown in Table 2.3.

For the year, 248 periods of minimum flow occurred on 234 days. Minimum flow was passed during 2,899 hours, 33.1% of the time. More than 50% of these hours of minimum flow in 1982 occurred in the months August, September, and October when a minimum discharge occurred during 1,496 hours, 67.8% of the time. By contrast, in 1981 minimum flow was passed only 28.5% of the hours in these three months.

The duration of the minimum flow periods ranged from one hour to 94 hours; the average duration was 11.7 hours. By comparison, the longest period of minimum flow was 47 hours in 1981, 62 hours in 1980, and 65 hours in 1979. In September 1978, however, a minimum discharge occurred for 179 hours, more than 1 week. Mean flow in September 1982 was greater than the mean discharge of September 1978 (Table 2.2); but, as noted above, the maximum daily September discharge in 1982 was less than that observed in 1978 (Table 2.1).

TABLE 2.3
OCCURRENCE OF CONNECTICUT RIVER MINIMUM FLOW
VERNON, VERMONT
1982

<u>MONTH</u>	<u>NO. HOURS</u>	<u>% OF HOURS</u>	<u>NO. DAYS</u>	<u>NO. PERIODS</u>	<u>LONGEST DURATION(HRS)</u>
JAN	236	31.7	25	29	20
FEB	108	16.1	15	21	11
MAR	77	10.3	11	12	9
APR	0	0	0	0	0
MAY	69	9.3	8	10	22
JUN	122	16.9	16	16	17
JUL	410	55.1	26	24	94
AUG	481	64.7	31	31	71
SEP	480	66.7	30	25	92
OCT	535	71.9	31	33	85
NOV	202	28.1	23	28	13
DEC	179	24.1	18	19	34

SECTION 3

RIVER TEMPERATURE

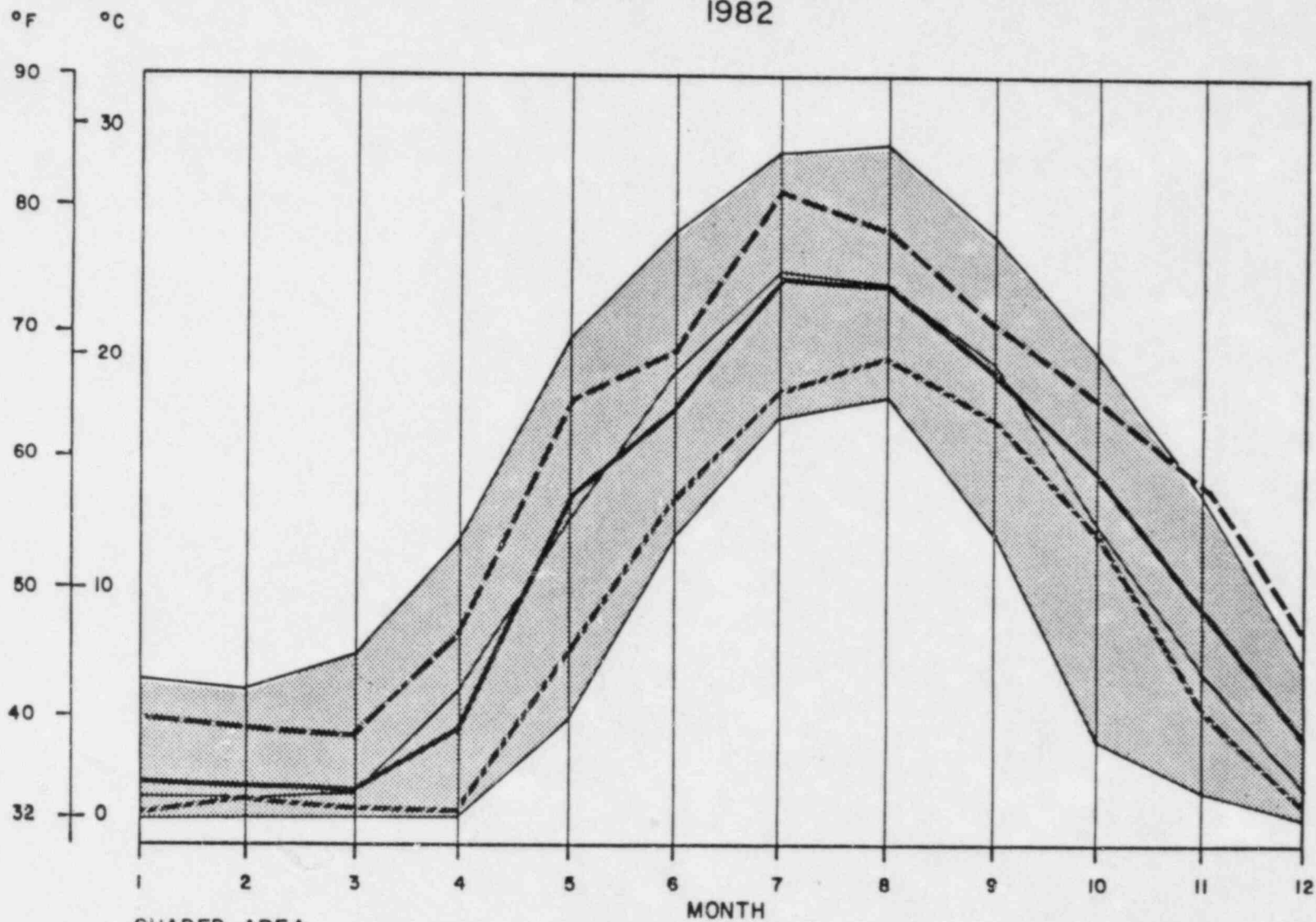
3. RIVER TEMPERATURE

Temperatures of Connecticut River water are measured continuously by temperature 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 1982, reduced to hourly, daily, and monthly means, are shown in Tables 3.1 for Station 3, and in 3.2, for Station 7, at the end of this section of the report. These data are summarized graphically in Figures 3.1 and 3.2. The maxima and minima in those figures are hourly means.

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

Monthly mean temperatures observed at the downstream location, Station 3, were greater in January through March, May, and October through December than the 14 year mean for those months in the years 1968-1981. The November and December means exceeded the highest mean that had been observed in any one of the previous 14 years. The November 1982 mean was 48.8°F; the prior record mean for that month was 48.7°F, in 1978. The highest December mean of the years 1968-1981, 38.2°F, was also observed in 1978; the 1982 mean for December was 38.4°F.

TEMPERATURE
STATION NO. 3
1982

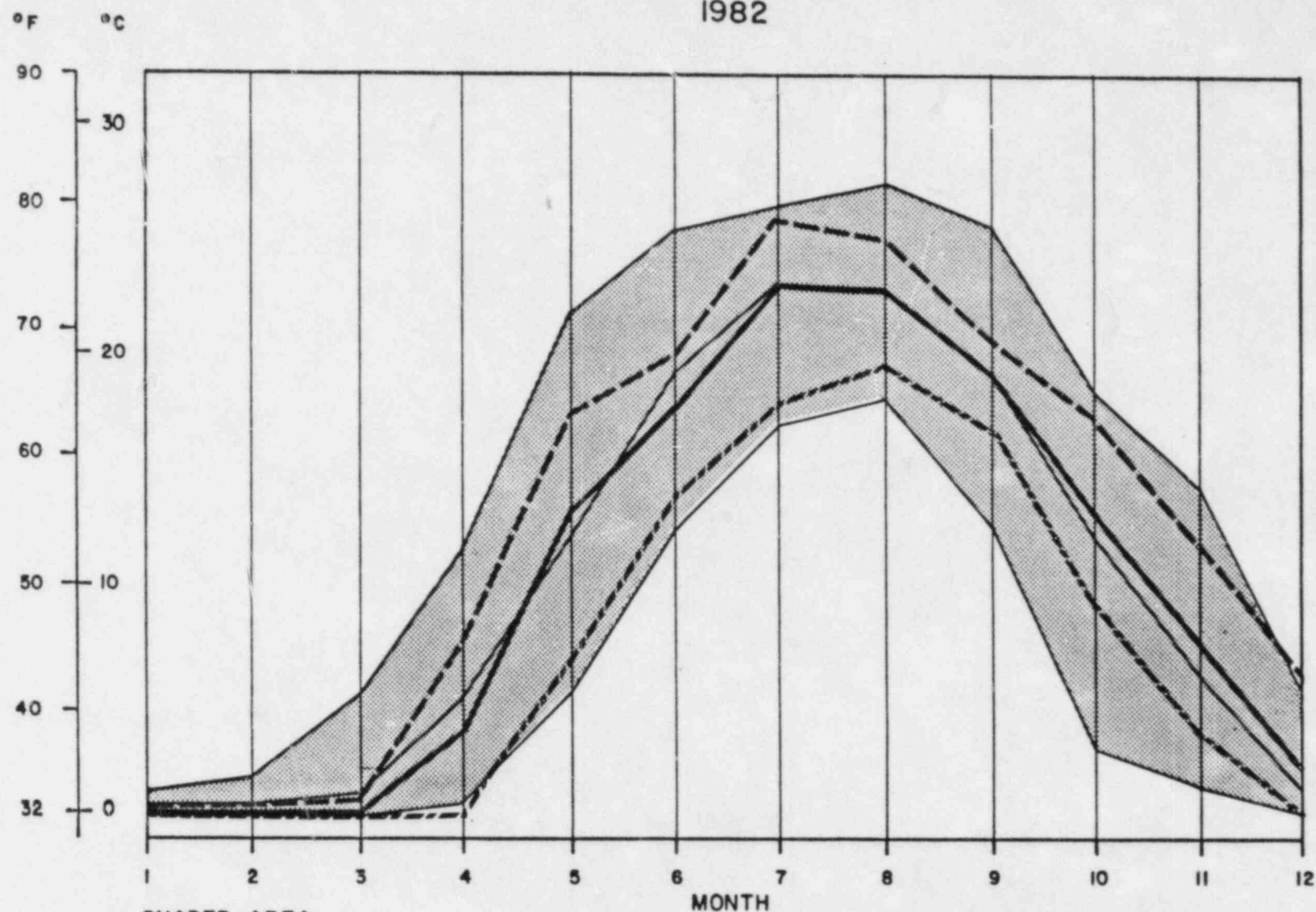


SHADED AREA
Maxima, means, and minima, 1968-1981
See text.

MONTHLY MAXIMUM ---
MONTHLY AVERAGE ———
MONTHLY MINIMUM - - -

FIGURE 3.1

TEMPERATURE STATION NO. 7 1982



SHADED AREA
Maxima, means, and minima, 1970-1981
See text.

MONTHLY MAXIMUM - - - - -
MONTHLY AVERAGE —————
MONTHLY MINIMUM - . - . -

FIGURE 3.2

The maximum hourly means observed in November and December were greater also than the hourly maxima previously observed then. The November maximum of 58.2°F exceeded that of 57.5°F in 1971 and the December maximum of 46.8°F was higher than the prior record for that month, 44.5°F in 1978. No record hourly minima were observed at Station 3 in 1982.

At the upstream monitor location, Station 7, monthly mean temperatures were higher than the 12 year means of the years 1970-1981 in May and October through December. The March and June means were lower than the monthly mean in any prior year of record. The March 1982 mean was 32.2°F; the previous low monthly mean was 32.6°F in 1971. The June 1982 mean of 63.8°F was lower than the earlier record, 64.1°F in 1972.

Two record hourly mean temperatures were observed at Station 7 in 1982. The 32.0°F minimum in April was lower than the prior record of 33.0°F, observed in 1978. The 42.4°F December 1982 maximum exceeded the highest hourly mean temperature previously observed at Station 7, 41.7°F in 1979.

In 1982, Vermont Yankee operated under the conditions of its NPDES permit in the open cycle modes of condenser cooling from January 1 through May 15 and October 16 through December 31. Operation in this mode is permitted in the period October 15 through May 15 under thermal effluent limitations set forth in the permit. These criteria, which define the maximum allowable impact on the Connecticut River of Vermont Yankee's discharge of heated condenser cooling water, 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 Station 7 and 3 show that these thermal limitations were not exceeded in 1982. The maximum hourly average temperature observed at Monitor 3 in the period January 1 to May 15 and October 16 to December 31 was 58.5°F on October 25. The maximum rate of change of temperature at Monitor 3, the difference between successive hourly average temperatures there, was +3.2°F/hour, on March 8. The largest rate of temperature decrease was -2.9°F/hour, on December 13. Tabulations of the hourly rates of change in Monitor 3 temperatures during the periods of NPDES open cycle operation are given in Table 3.3. These data are summarized as a frequency distribution in Table 3.4. The mode, the median, and the mean of these data were all 0.0°F.

No direct measure of ambient temperature at Monitor 3 can be made at times when Vermont Yankee is discharging heated cooling water into the river upstream of the monitoring station. But calculations of temperature differences between Monitor 3, downstream of Vermont Yankee, and Monitor 7, upstream of the plant, give an indication of the impact of Vermont Yankee's discharge of Connecticut River temperature. Tabulations of these differences for the period of Vermont Yankee's open cycle operation under NPDES strictures in 1982 are shown in Table 3.5. These data are reduced to a frequency distribution of temperature differences in Table 3.6. The largest temperature difference in the 1982 data was +9.1°F at 1900 on October 29. The mode and median of these data were each +1.9°F and the mean difference in temperature between Station 3 and Station 7 was +2.4°F.

TABLE 3.4
Frequency Distribution of
Rate of Change of Temperature
at Monitor 3
1982

Rate of Temperature Change °F/hr	JAN	FEB	MAR	APR	1-15 MAY	16-31 OCT	NOV	DEC	TOTALS
-2.9								1	1
-2.8									
-2.7									
-2.6									
-2.5									
-2.4									
-2.3									
-2.2									
-2.1								1	1
-2.0	1								1
-1.9							1	1	2
-1.8	1	1						1	3
-1.7	2	1	2				1	3	9
-1.6	6	4	3					1	14
-1.5	5	2	5				2	1	15
-1.4	5	5	1					2	13
-1.3	9	5	1				1	3	19
-1.2	10	4	2				1	4	21
-1.1	8	3	5				8	2	26
-1.0	5	4	8				2	5	24
-0.9	8	5	5				9	6	33
-0.8	6	4	4		1		8	4	27
-0.7	6	10	2	1			5	5	29
-0.6	7	7	2			3	5	11	35
-0.5	9	9	5	1	1	1	15	14	55
-0.4	11	12	8	5		7	18	9	70
-0.3	18	18	12	10	3	14	27	24	126
-0.2	38	29	31	41	12	44	66	42	303
-0.1	119	119	141	137	70	85	137	136	944
0.0	221	208	316	267	125	106	163	200	1606
0.1	74	88	98	150	73	55	78	104	720
0.2	25	34	30	76	50	30	46	41	332
0.3	23	20	18	25	11	17	25	31	170
0.4	17	11	5	5	4	15	22	24	103
0.5	11	6	7			5	19	15	63
0.6	6	6	6			2	7	16	43
0.7	9	7	3	1	1		7	9	37
0.8	5	5	5				7	11	33
0.9	5	2			1		3	7	18
1.0	6	2	1				3	2	14
1.1	1	2	1				3	4	11
1.2	8	1	2				3	1	15
1.3	4	1	2					1	8
1.4		5	1				2	1	9
1.5	2	1	1				1		5
1.6	1								1
1.7	1								1
1.8	1	2	1				1		5
1.9	4	2	1						7
2.0	1								1
2.1			2						4
2.2	2								2
2.3	1	1	1					1	7
2.4	4	1	2						3
2.5		2	1						3
2.6			1						1
2.7									5
2.8	3	2							1
2.9	1								4
3.0	1	2	1						1
3.1	1								1
3.2			1						1

TABLE 3.6
Frequency Distribution of Differences
in Hourly Mean Temperatures
Between Monitor 3 and Monitor 7
1982

Hourly Mean $\Delta T(^{\circ}\text{F})$	JAN	FEB	MAR	APR	1-15 MAY	16-31 OCT	NOV	DEC	Totals
-0.5 - -0.1			7	26					33
0.0	2		11	13	1				27
0.1 - 0.5	50		10	136	46	16			258
0.6 - 1.0	14		64	312	141	14	10	7	562
1.1 - 1.5	38	11	65	208	116	5	25	85	553
1.6 - 2.0	310	342	313	24	47	7	121	213	1377
2.1 - 2.5	110	136	159		2	16	124	173	720
2.6 - 3.0	43	59	35			34	97	80	348
3.1 - 3.5	16	35	12			31	79	41	214
3.6 - 4.0	16	15	13			22	63	31	160
4.1 - 4.5	17	11	5			20	32	26	111
4.6 - 5.0	12	13	6			18	33	14	96
5.1 - 5.5	15	13	12			22	31	18	111
5.6 - 6.0	31	10	20			26	25	13	125
6.1 - 6.5	24	5	11			26	26	8	100
6.6 - 7.0	8	4	1			19	15	7	54
7.1 - 7.5	4	1				27	15	10	57
7.6 - 8.0	2					32		2	36
8.1 - 8.5						30	1	6	37
8.6 - 9.0						18		10	28
9.1 - 9.5						1			1

TABLE 3.1-1

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JANUARY 1982

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	33.6	33.7	33.9	34.6	35.2	36.0	37.9	38.1	38.4	38.7	39.0	39.3	39.9	38.7	37.4	36.0	34.8	34.3	34.1	34.0	34.0	33.9	34.0	34.0	36.0
2	33.8	33.5	33.6	34.0	34.7	35.5	37.1	38.1	39.0	38.2	36.8	35.5	34.8	34.5	34.3	34.2	34.0	34.0	34.2	34.2	34.2	34.3	34.1	34.0	35.0
3	34.0	34.0	36.4	37.7	37.8	37.8	37.9	38.1	38.1	38.2	38.3	39.3	39.0	37.8	37.7	37.7	37.7	37.6	38.1	38.1	36.8	35.3	34.5	34.1	37.2
4	34.0	34.0	33.9	33.9	34.0	33.8	33.6	33.9	36.3	37.6	36.3	35.0	34.4	34.2	34.1	34.3	34.4	35.6	34.6	34.2	34.1	34.1	34.0	34.0	34.5
5	33.9	34.0	34.4	34.6	34.0	33.8	33.5	34.4	34.4	34.3	34.3	34.3	34.2	34.2	34.1	34.2	34.1	34.0	34.0	33.9	33.9	33.9	33.9	33.9	34.1
6	34.0	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.8	33.9	34.0	34.0	33.9	33.9	33.9	34.0	34.0	34.0	33.9	34.0	33.9	33.9	33.9	33.9	33.9
7	33.9	34.0	33.9	33.9	34.0	34.0	34.0	34.0	34.0	33.9	33.9	33.9	33.9	33.9	33.9	34.0	34.0	33.9	33.9	33.9	33.9	33.8	33.9	33.9	33.9
8	33.8	33.9	33.8	33.8	33.7	33.7	33.7	33.7	33.7	33.6	33.7	33.8	33.9	34.2	34.4	34.5	34.5	34.3	34.0	33.9	34.0	33.7	33.7	33.7	33.9
9	33.7	33.8	33.9	34.0	34.1	34.1	34.2	34.2	34.2	34.2	33.9	33.9	34.2	34.4	34.5	34.6	34.6	34.6	34.4	34.0	33.9	33.8	33.8	33.8	34.1
10	33.8	33.8	33.9	33.7	34.1	34.3	34.2	34.2	34.2	34.2	34.6	34.9	34.9	35.0	35.0	35.1	36.3	35.3	34.4	34.0	33.8	33.8	33.8	33.7	34.4
11	33.5	33.4	33.4	33.4	33.7	33.9	34.3	37.4	38.2	37.5	35.9	34.9	34.4	34.2	34.1	34.0	34.0	33.9	33.9	33.9	33.9	33.9	33.9	33.8	34.5
12	33.9	33.7	33.6	33.7	33.9	34.4	37.4	38.1	36.6	35.0	34.3	34.1	34.1	34.1	34.1	34.1	34.1	34.0	33.9	33.9	33.9	33.9	33.8	33.7	34.4
13	33.6	33.5	33.8	34.8	35.7	36.2	37.5	38.4	38.6	37.4	36.0	34.9	34.5	34.3	34.2	34.1	34.0	34.0	33.9	33.9	33.9	33.9	33.9	33.8	35.0
14	34.0	34.1	34.1	34.2	35.9	37.9	37.9	37.6	36.1	34.9	34.3	34.2	34.0	33.7	33.5	33.5	33.9	34.0	33.9	33.9	33.9	33.9	33.9	33.9	34.6
15	34.2	34.3	34.4	34.4	34.5	35.0	35.1	37.0	35.8	34.7	34.2	34.1	34.1	34.1	34.0	34.1	34.0	33.9	33.9	33.9	33.9	33.9	33.8	33.9	34.4
16	34.1	34.5	34.6	34.6	34.5	34.5	34.6	34.7	37.6	37.9	37.9	36.8	35.4	34.5	34.3	34.2	36.4	35.7	34.8	34.2	34.1	34.0	33.9	33.9	35.1
17	33.9	33.9	33.8	33.7	33.8	33.9	34.0	34.2	36.0	37.9	38.2	37.9	37.7	36.9	36.4	36.1	37.2	35.9	34.8	34.3	34.0	33.9	33.9	33.8	35.3
18	33.8	33.7	33.7	33.8	34.0	34.2	35.4	37.8	37.8	36.3	35.0	34.3	34.1	34.1	34.0	34.0	34.0	33.9	33.9	33.8	33.8	33.8	33.9	33.8	34.5
19	33.8	33.8	33.7	33.7	34.0	34.4	35.1	37.9	38.3	37.1	35.5	34.6	34.2	33.9	33.7	33.7	33.6	33.6	33.5	33.6	33.9	33.9	33.9	33.9	34.5
20	33.9	33.9	33.7	33.8	34.1	34.5	36.8	38.3	37.7	36.1	34.8	34.3	34.1	34.1	34.0	34.0	34.0	33.9	33.9	33.9	33.9	33.9	33.9	33.8	34.6
21	33.9	33.8	33.7	33.7	33.8	34.1	36.9	38.1	37.5	35.9	35.0	34.4	34.2	34.1	34.0	34.0	34.0	35.2	35.9	35.1	34.4	34.1	33.9	33.9	34.7
22	33.8	33.8	33.6	33.6	33.6	33.7	34.2	37.0	38.2	37.7	36.2	35.1	34.5	34.2	34.1	34.1	34.0	34.0	34.0	33.9	33.9	33.8	33.8	33.9	34.5
23	33.9	33.9	33.9	34.0	34.2	34.5	35.0	36.2	37.7	38.0	38.3	38.1	37.1	35.5	34.6	34.2	34.1	34.0	34.0	33.9	34.0	34.0	33.9	33.9	35.0
24	33.9	33.9	33.8	33.8	34.4	35.1	35.7	36.3	37.3	38.1	38.0	38.3	38.7	38.9	39.0	39.3	39.3	39.8	38.6	37.5	36.2	35.0	34.6	34.4	36.7
25	34.3	34.3	34.5	35.2	35.6	36.5	37.5	38.3	38.5	37.4	36.1	35.1	34.7	34.5	34.3	34.2	34.1	34.0	34.0	33.9	33.9	33.9	33.9	33.8	35.1
26	33.6	33.5	33.4	33.4	33.5	33.7	35.6	33.6	32.8	32.5	32.5	32.4	32.4	32.5	32.4	32.4	32.4	32.4	32.6	32.3	32.3	32.3	32.2	32.3	32.9
27	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	33.6	32.7	32.5	32.4	32.4	32.4	32.4	32.4	32.4	32.6	32.3	32.3	32.2	32.2	32.3	32.4
28	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	33.5	32.6	32.5	32.4	32.6	32.7	32.7	32.7	33.2	32.9	32.8	32.8	32.8	32.8	32.8	32.7	32.6
29	32.7	32.8	33.2	33.6	34.1	34.5	35.0	37.4	36.9	35.2	34.0	33.6	33.5	33.5	33.6	33.7	34.7	35.1	34.0	33.6	33.5	33.4	33.4	33.2	34.1
30	33.1	33.1	33.4	33.8	34.3	34.9	35.6	36.3	38.5	38.5	36.8	35.0	34.2	34.0	33.9	34.0	SYSTEM INOPERATIVE						35.0		
31	SYSTEM INOPERATIVE																								
MONTHLY AVERAGE																									34.6

TABLE 3.1-2

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

FEBRUARY 1982

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																									
2	33.6	33.6	33.7	33.9	34.3	34.6	35.0	38.0	38.9	37.1	35.4	34.7	34.4	34.4	34.4	34.5	36.3	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.7	35.0
3	34.0	33.9	34.1	34.6	36.9	38.0	38.8	38.6	37.9	36.7	35.4	34.6	34.3	34.2	34.1	34.1	34.0	34.0	34.1	34.1	34.1	34.1	34.1	34.1	34.1	35.1
4	34.2	34.2	34.2	34.1	34.1	36.0	36.8	35.2	34.3	34.0	33.9	33.9	34.0	34.0	33.9	34.0	35.0	34.7	34.2	33.9	33.8	33.8	33.8	33.8	33.8	34.3
5	33.7	33.8	34.1	34.3	34.4	34.2	33.9	33.8	33.7	33.8	33.8	33.8	33.9	33.8	33.9	33.9	33.8	33.8	33.8	33.7	33.8	33.8	33.7	33.8	33.8	33.9
6	33.8	33.7	33.7	33.7	33.7	33.7	33.6	33.6	33.6	33.6	33.6	33.6	33.7	33.7	33.7	33.8	33.7	33.6	33.6	33.5	33.6	33.6	33.5	33.5	33.5	33.6
7	33.6	33.6	33.7	33.5	33.5	33.5	33.8	33.9	33.9	34.0	33.8	33.8	33.8	33.8	33.9	33.9	33.8	33.8	33.7	33.7	33.6	33.6	33.6	33.6	33.7	33.7
8	33.6	33.7	33.9	33.9	34.0	34.0	34.1	34.0	33.8	33.7	33.8	33.9	34.0	34.0	34.0	34.0	33.9	34.0	34.7	34.7	34.1	33.8	33.7	33.7	33.9	34.0
9	33.7	33.7	33.9	34.2	34.6	34.6	34.1	33.7	33.6	33.7	33.6	33.6	33.6	33.6	33.6	33.6	33.7	33.6	33.6	33.7	33.7	33.7	33.7	33.7	33.6	33.8
10	33.7	33.8	33.7	33.7	33.7	33.8	33.8	33.7	33.7	33.6	33.8	33.9	33.9	33.9	33.9	33.9	33.8	33.8	33.8	33.8	33.7	33.7	33.7	33.7	33.7	33.8
11	33.7	33.7	33.8	33.9	34.0	34.0	34.0	34.0	33.9	33.8	33.8	33.8	33.8	33.9	33.9	33.9	33.8	33.7	33.8	33.7	33.7	33.7	33.7	33.7	33.7	33.8
12	33.7	33.7	33.8	33.8	34.0	34.6	34.5	34.0	33.8	33.8	33.8	33.8	33.8	33.9	33.9	33.9	33.8	33.7	33.8	33.7	33.7	33.7	33.7	33.7	33.7	33.8
13	33.8	33.9	33.9	34.2	34.3	34.4	34.5	34.5	34.7	34.5	34.1	34.0	33.9	34.0	34.0	34.0	33.9	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.9
14	33.8	34.1	34.4	34.5	34.6	34.7	34.8	34.8	34.8	35.0	35.2	35.2	35.3	35.1	35.0	35.0	35.1	34.5	34.1	34.0	33.9	33.9	33.8	33.8	33.8	34.1
15	34.1	34.3	34.5	34.9	35.1	35.2	35.3	35.3	35.4	35.7	34.9	34.3	34.1	34.1	34.5	34.9	35.1	35.4	34.7	34.2	34.0	34.0	34.3	34.8	34.7	34.6
16	35.1	35.2	35.2	35.3	35.3	35.3	35.3	35.5	35.3	35.3	34.6	34.3	34.2	34.2	34.2	34.3	34.4	34.6	34.5	34.3	34.1	34.0	34.0	34.0	34.3	34.6
17	34.5	34.8	35.0	35.0	35.1	35.2	35.2	35.6	35.2	34.5	34.2	34.1	34.1	34.2	34.2	34.3	34.4	34.6	34.5	34.3	34.1	34.0	34.0	34.0	34.3	34.6
18	33.8	33.8	33.7	33.9	34.2	34.4	34.9	36.3	38.2	36.8	35.3	34.7	34.4	34.3	34.3	34.2	34.1	34.0	33.9	33.9	33.9	33.9	33.9	33.9	33.9	34.5
19	33.9	33.9	33.8	34.0	34.2	34.5	37.0	37.3	36.4	35.2	34.5	34.1	34.1	34.1	34.0	34.1	34.0	34.0	33.9	33.9	33.9	33.9	33.9	33.9	33.9	34.5
20	34.0	34.0	34.0	34.0	33.9	34.0	34.2	34.7	37.3	37.3	35.9	34.9	34.5	34.4	34.3	34.3	34.2	34.1	34.2	34.1	34.0	34.1	34.0	34.0	34.0	34.4
21	34.0	34.0	34.0	33.9	33.7	33.8	34.4	35.0	35.6	36.1	37.9	38.5	38.5	37.1	35.7	35.1	34.7	34.3	34.2	34.1	34.0	34.1	34.1	34.1	34.1	34.5
22	34.1	34.1	34.0	33.9	33.7	33.9	34.6	37.5	38.3	36.7	35.4	34.7	34.5	34.5	34.7	34.9	35.0	35.5	35.9	37.3	35.8	34.7	34.3	34.2	35.0	
23	34.2	34.1	34.0	33.8	33.7	34.0	34.4	37.0	37.7	36.6	35.3	34.6	34.3	34.2	34.2	34.1	34.1	34.0	34.1	34.2	34.1	34.1	34.1	34.1	34.1	34.5
24	34.0	34.0	33.8	33.6	33.7	34.1	34.8	37.8	37.7	36.1	35.0	34.5	34.3	34.3	34.3	34.3	34.5	34.5	34.5	35.9	36.2	35.4	34.9	34.7	34.9	
25	34.4	34.5	35.7	36.5	36.7	36.4	36.4	37.4	37.3	35.7	34.7	34.4	34.2	34.2	34.1	34.2	34.1	34.8	34.6	34.2	34.0	33.9	33.9	33.9	33.9	35.0
26	33.9	33.7	33.6	33.6	33.5	33.8	34.6	37.0	37.6	36.4	35.2	34.4	34.5	34.4	34.3	34.3	34.2	34.2	34.2	34.2	35.6	34.6	35.9	37.3	36.4	34.9
27	35.7	35.2	34.9	34.9	34.8	34.7	34.7	34.7	35.4	34.7	34.2	34.2	34.3	34.4	34.6	34.7	34.5	36.0	36.7	35.4	34.5	34.2	34.0	34.0	34.8	
28	34.1	34.0	33.9	33.9	34.0	34.2	34.6	37.4	37.6	37.8	38.0	38.2	39.3	38.9	38.1	37.6	36.7	36.4	35.1	34.5	34.2	34.1	34.0	33.9	35.9	
MONTHLY AVERAGE																									34.5	

TABLE 3.1-3

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

MARCH 1982

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

TABLE 3.1-4

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

APRIL 1982

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	33.1	33.1	33.2	33.2	33.2	33.2	33.2	33.3	33.4	33.5	33.8	33.9	34.0	34.0	34.4	34.6	34.6	34.8	34.9	35.0	35.1	35.4	35.5	35.4	34.1
2	35.0	34.7	34.7	34.5	34.3	34.1	33.8	33.7	33.6	33.7	33.7	33.8	33.9	34.1	34.2	34.3	34.5	34.5	34.6	34.6	34.7	34.8	34.8	34.9	34.3
3	34.9	34.9	34.9	34.8	34.8	34.9	35.1	35.3	35.7	35.9	36.2	36.3	36.3	36.4	36.5	36.6	36.7	36.7	36.7	36.8	36.8	36.8	36.8	36.8	36.0
4	36.8	36.7	36.6	36.5	36.4	36.3	36.2	36.2	36.2	36.1	36.1	36.2	36.3	36.4	36.4	36.4	36.5	36.5	36.4	36.3	36.2	36.2	36.1	36.1	36.4
5	35.9	35.7	35.6	35.5	35.4	35.3	35.3	35.2	35.1	35.2	35.4	35.5	35.8	36.0	36.2	36.2	36.2	36.3	36.3	36.3	36.3	36.3	36.3	36.2	35.8
6	36.1	36.1	36.0	35.9	35.9	35.8	35.6	35.5	35.5	35.3	35.2	35.1	34.9	34.7	34.4	34.3	34.2	33.9	33.6	33.5	33.4	33.4	33.4	33.2	34.8
7	33.2	33.0	33.0	33.0	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	33.1	32.9	32.8	33.0	33.0	33.0	33.0	33.0	33.1	33.0	33.0
8	33.3	33.4	33.4	33.4	33.5	33.5	33.5	33.5	33.4	33.5	33.7	33.7	33.8	33.8	33.8	33.6	33.6	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7
9	33.6	33.7	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.7	33.7	33.7	33.7	33.8	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7	33.7
10	33.7	33.8	33.7	33.8	33.7	33.8	33.9	34.0	34.2	34.3	34.5	34.7	34.9	34.8	34.8	34.8	34.8	34.8	34.9	34.9	34.9	34.8	34.9	34.9	34.4
11	35.0	35.0	34.9	34.9	34.9	34.9	35.0	35.0	35.2	35.3	35.5	35.8	36.0	36.1	36.2	36.2	36.1	36.1	36.0	36.1	36.1	36.3	36.5	36.6	35.7
12	36.7	36.7	36.8	36.7	36.7	36.6	36.6	36.7	37.0	37.2	37.5	37.8	38.1	38.3	38.4	38.4	38.4	38.3	38.2	38.2	38.1	38.1	38.0	38.0	37.6
13	38.0	37.9	37.9	37.8	37.8	37.7	37.8	37.8	37.9	38.0	38.0	38.2	38.2	38.2	38.2	38.2	38.3	38.3	38.3	38.3	38.3	38.2	38.1	38.0	38.1
14	38.0	38.0	37.9	37.9	37.8	37.7	37.7	37.7	37.9	38.1	38.4	38.6	38.8	39.0	39.1	39.2	39.3	39.4	39.4	39.4	39.4	39.5	39.6	39.6	38.6
15	39.6	39.5	39.5	39.4	39.3	39.2	39.3	39.4	39.5	39.7	39.9	40.1	40.2	40.2	40.3	40.3	40.4	40.4	40.4	40.4	40.4	40.5	40.6	40.7	40.0
16	40.8	40.8	40.9	40.9	41.0	41.0	41.0	40.9	40.9	40.9	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.6	41.6	41.8	41.8	42.0	42.1	42.1	41.3
17	42.1	42.2	42.1	42.1	42.0	41.9	41.8	41.7	41.6	41.5	41.5	41.5	41.5	41.4	41.4	41.4	41.4	41.3	41.2	41.2	41.2	41.2	41.3	41.3	41.2
18	42.2	42.1	41.9	41.9	41.7	41.7	41.7	41.6	41.5	41.5	41.5	41.5	41.4	41.4	41.4	41.4	41.3	41.2	41.2	41.2	41.2	41.3	41.3	41.2	41.5
19	41.1	41.0	40.7	40.5	40.3	40.0	39.8	39.6	39.5	39.5	39.6	39.7	40.0	40.2	40.2	40.3	40.4	40.4	40.3	40.3	40.3	40.3	40.4	40.4	40.2
20	40.4	40.4	40.4	40.3	40.1	40.0	39.9	39.9	39.9	40.1	40.1	40.4	40.5	40.7	40.8	41.1	41.1	41.0	41.2	41.3	41.4	41.5	41.6	41.4	40.6
21	41.4	41.4	41.5	41.5	41.5	41.6	41.6	41.5	41.5	41.5	41.6	41.5	41.7	41.8	42.0	42.2	42.3	42.3	42.4	42.2	42.0	42.0	42.0	41.9	41.8
22	41.8	41.8	41.9	41.8	41.6	41.5	41.5	41.4	41.4	41.3	41.3	41.5	41.7	41.7	41.4	41.4	41.4	41.5	41.2	41.2	41.2	41.2	41.3	41.1	41.5
23	41.1	40.9	40.5	40.3	40.1	40.0	39.8	39.8	39.9	40.0	40.1	40.3	40.3	40.5	40.5	40.7	40.7	40.5	40.5	40.4	40.3	40.3	40.5	40.6	40.4
24	40.6	40.3	40.1	40.0	39.8	39.8	39.9	39.9	40.0	40.1	40.3	40.6	40.8	41.1	41.3	41.6	41.8	41.9	42.0	41.9	41.7	41.7	41.7	41.7	40.9
25	41.6	41.6		41.6	41.8	41.8	41.8	42.1	42.5	42.6	42.5	42.8	43.0	43.7	44.0	44.3	44.4	44.4	44.5	44.6	44.6	44.5	44.5	44.0	43.2
26	43.9	44.1	44.1	44.2	44.2	44.2	44.2	44.3	44.6	45.0	45.0	45.0	45.2	45.2	45.1	45.2	45.4	45.7	45.6	45.5	45.5	45.7	45.3	45.4	44.9
27	45.6	45.7	45.6	45.6	45.7	45.8	45.8	46.0	45.9	46.0	46.0	46.2	46.2	46.0	46.4	46.5	46.5	46.4	46.4	46.3	46.1	45.7	45.7	45.5	46.0
28	45.4	45.3	45.2	45.1	45.2	45.2	45.2	45.0	44.9	44.9	45.0	45.0	45.0	44.9	44.9	45.1	45.3	45.6	45.5	45.5	45.1	45.0	45.0	45.0	45.1
29	44.9	44.7	44.6	44.5	44.6	44.5	44.4	44.5	44.6	44.5	44.5	44.7	45.0	45.2	45.4	45.3	45.5	45.6	45.7	45.7	45.6	45.5	45.4	45.3	45.0
30	45.3	45.2	45.2	45.1	44.9	44.8	44.9	44.9	44.9	45.0	44.3	44.4	44.6	44.9	45.1	45.3	45.5	45.5	45.6	45.5	45.5	45.5	45.4	45.4	45.1
MONTHLY AVERAGE																									39.2

TABLE 3.1-5

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

MAY 1982

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	45.4	45.4	45.3	45.3	45.2	45.2	45.1	45.1	45.2	45.2	45.3	45.5	45.7	45.7	45.9	46.1	46.3	46.4	46.4	46.5	46.5	46.6	46.7	46.9	45.8
2	46.9	46.9	46.8	46.7	46.6	46.5	46.4	46.4	46.3	46.3	46.3	46.4	46.6	46.8	46.8	46.9	47.1	47.1	47.1	47.1	47.3	47.5	47.6	47.7	46.8
3	47.7	47.8	47.9	47.9	47.8	47.8	47.9	48.0	48.0	47.9	47.9	48.1	48.3	48.4	48.5	48.5	48.5	48.4	48.4	48.3	48.3	48.3	48.2	48.3	48.1
4	48.3	48.4	48.5	48.5	48.5	48.5	48.4	48.5	48.6	48.8	49.0	49.2	49.3	49.4	49.5	49.6	49.5	49.6	49.6	49.5	49.5	49.4	49.4	49.4	49.0
5	49.3	49.4	49.4	49.4	49.3	49.2	49.1	49.1	49.1	48.9	48.9	49.6	49.7	49.9	50.1	50.3	50.4	50.4	50.4	50.4	50.5	50.5	50.4	50.4	49.8
6	50.4	50.4	50.3	50.3	50.2	50.2	50.1	50.0	50.0	50.0	49.7	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.8	50.9	51.0	51.2	51.3	50.4
7	51.3	51.4	51.5	51.5	51.4	51.4	51.5	51.4	51.4	51.6	51.7	51.9	52.2	52.2	52.3	52.4	52.5	52.4	52.3	52.1	52.0	52.0	52.0	52.1	51.9
8	52.0	52.0	52.0	52.1	52.1	52.2	52.3	52.4	52.6	52.7	53.0	53.2	53.4	53.6	53.7	53.7	53.7	53.7	53.7	53.6	53.7	53.7	53.7	53.7	53.0
9	53.7	53.7	53.6	53.6	53.7	53.7	53.7	53.7	53.7	53.9	54.3	54.5	54.6	54.8	54.8	54.7	54.8	54.8	54.8	54.9	54.7	54.6	54.5	54.4	54.3
10	54.3	54.2	54.1	54.1	54.0	54.0	54.0	54.0	54.0	54.2	54.4	54.6	54.8	55.0	55.1	55.2	55.2	55.1	54.8	54.6	54.3	54.2	54.1	54.0	54.4
11	54.0	53.9	53.9	53.9	53.9	54.0	54.0	54.1	54.2	54.3	54.5	54.7	54.8	55.0	55.0	55.1	55.1	55.1	55.1	55.0	55.0	55.0	54.9	54.9	54.5
12	54.9	54.9	54.9	55.0	55.0	55.1	55.1	55.1	55.1	55.1	55.2	SYSTEM INOPERATIVE							55.2	54.7	54.7	54.7	54.6	54.6	54.9
13	54.5	54.5	54.4	54.4	54.4	54.4	54.5	54.6	54.6	54.8	55.0	55.2	55.4	55.6	55.6	55.7	55.7	55.5	55.3	55.2	55.0	54.9	54.7	54.6	54.9
14	54.4	54.3	54.2	54.2	54.2	54.3	54.6	54.6	54.8	55.0	55.3	55.6	55.9	56.2	56.4	56.7	55.9	56.8	56.9	56.9	56.7	56.6	56.5	56.4	55.6
15	56.2	56.2	56.1	56.1	56.0	55.9	55.8	55.7	55.7	55.7	56.1	56.4	56.8	57.1	57.5	57.8	58.0	58.2	58.1	58.0	57.8	57.7	57.6	57.6	56.8
16	57.6	57.5	57.4	57.3	57.3	57.4	57.4	57.5	57.8	59.2	59.7	59.6	59.5	59.6	59.6	59.5	59.4	59.3	59.4	59.3	59.3	59.2	59.1	59.0	58.7
17	58.4	58.0	57.9	57.9	57.8	57.7	57.6	57.6	57.9	58.5	58.7	58.9	59.1	59.5	59.9	60.2	60.4	60.6	60.8	60.8	60.5	59.7	59.2	58.8	59.0
18	58.8	58.8	58.8	58.8	58.7	58.4	58.7	58.7	58.8	59.3	59.7	59.7	59.9	60.1	60.4	60.7	60.9	60.9	60.8	60.7	60.7	60.6	60.7	60.8	59.8
19	60.9	61.1	61.3	61.6	61.9	62.1	61.4	60.8	61.2	61.3	61.3	61.3	61.5	61.6	61.7	61.7	61.6	61.6	61.6	61.6	61.6	61.8	62.0	62.3	61.5
20	62.3	62.2	62.1	62.1	62.0	62.1	62.1	62.4	62.5	62.9	62.9	62.8	62.8	63.0	63.0	63.0	62.9	62.9	62.8	62.7	62.6	62.5	62.6	62.8	62.6
21	62.8	63.0	63.0	63.2	63.3	63.3	63.2	63.2	63.2	63.3	63.4	63.7	63.9	64.1	64.3	64.5	64.5	64.6	64.9	64.4	64.2	64.2	64.2	64.2	63.8
22	64.2	64.1	64.0	63.8	63.5	63.2	63.0	62.8	62.8	62.7	62.8	62.9	63.1	63.5	63.7	64.0	64.2	64.3	64.4	64.4	64.4	64.3	64.2	64.0	63.7
23	63.9	63.7	63.5	63.3	63.2	63.1	63.1	62.9	62.6	62.8	62.8	62.8	62.8	62.9	62.9	62.9	62.9	62.8	62.7	62.6	62.5	62.4	62.3	62.3	62.9
24	62.2	61.9	61.5	61.3	61.1	60.7	60.6	60.4	60.7	60.9	60.8	60.7	60.7	60.7	60.7	60.9	61.3	61.3	61.0	60.9	60.8	60.7	60.6	60.3	60.9
25	60.1	60.0	59.9	59.8	59.7	59.6	59.6	59.6	59.4	59.4	59.4	59.5	59.8	59.9	60.1	60.2	60.3	60.5	60.5	60.4	60.3	60.2	60.1	60.1	59.9
26	60.1	60.1	60.0	59.9	59.9	59.7	59.6	59.5	59.5	59.4	59.6	59.9	60.2	60.5	60.7	60.8	61.0	61.2	61.3	61.2	61.1	60.9	60.8	60.7	60.3
27	60.7	60.7	60.8	60.8	60.8	60.7	60.7	60.7	60.7	60.8	61.0	61.4	61.9	62.1	62.2	62.3	62.3	62.3	62.2	62.1	62.0	61.7	61.5	61.5	61.4
28	61.3	61.3	61.5	61.7	61.9	62.0	62.2	62.4	62.5	62.4	62.1	62.2	62.4	62.7	62.9	63.1	63.4	63.4	63.3	63.2	63.2	63.2	63.2	62.9	62.5
29	62.8	62.6	62.4	62.3	62.2	62.3	62.3	62.4	62.5	62.8	63.8	63.8	63.4	63.3	63.3	63.4	63.5	63.7	63.5	63.6	63.6	63.4	63.6	63.7	63.1
30	63.6	63.6	63.6	63.6	63.5	63.4	63.4	63.4	63.4	63.5	63.4	63.6	63.9	63.9	63.9	64.1	64.4	64.0	63.7	64.3	64.3	64.2	64.2	64.3	63.8
31	64.3	64.3	64.2	64.0	63.9	63.7	63.6	63.6	63.6	63.6	63.9	64.1	64.3	64.5	64.7	64.7	64.7	64.7	64.7	64.3	63.8	64.0	64.2	64.4	64.2
MONTHLY AVERAGE																									57.1

TABLE 3.1-6

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JUNE 1982

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	64.4	64.4	64.2	64.1	64.1	64.0	64.0	63.9	63.5	63.4	63.4	63.3	63.3	63.3	63.4	63.5	63.6	63.6	63.5	63.5	63.4	63.3	63.4	63.5	63.7
2	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.4	63.3	63.4	63.5	63.5	63.8	64.2	64.5	64.7	64.9	65.0	64.9	64.7	64.5	64.4	64.2	64.1	64.0
3	64.1	64.1	64.1	64.1	64.2	64.2	64.2	64.2	64.2	64.2	64.5	64.7	64.9	65.1	65.2	65.2	65.1	64.9	64.7	64.5	64.4	64.2	64.1	64.1	64.5
4	64.1	64.1	64.1	64.0	64.0	63.9	63.8	63.7	63.6	63.5	63.6	63.8	64.1	64.3	64.5	64.8	64.8	64.8	64.8	64.8	64.8	64.7	64.7	64.7	64.2
5	64.6	64.5	64.4	64.3	64.2	64.1	64.0	63.9	63.8	63.8	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.6	63.6	63.6	63.6	63.6	63.4	63.9
6	63.2	62.9	62.6	62.3	62.1	61.9	61.8	61.6	61.3	61.0	60.6	60.3	60.2	60.1	60.0	59.9	59.9	59.7	59.5	59.6	59.5	59.4	59.2	59.0	60.7
7	58.9	58.9	58.9	58.9	58.9	58.9	58.8	58.7	58.6	58.5	58.5	58.4	58.4	58.3	58.3	58.3	58.3	58.6	58.7	58.7	58.7	58.4	58.5	58.4	58.0
8	57.9	57.8	57.7	57.5	57.4	57.3	57.3	57.3	57.3	57.4	57.5	57.6	57.9	58.1	58.3	58.5	58.6	58.7	58.7	58.7	58.4	58.5	58.5	58.4	58.0
9	58.5	58.5	58.6	58.6	58.5	58.4	58.3	58.2	58.1	58.1	58.4	58.7	59.0	59.3	59.7	60.0	60.2	60.3	60.4	60.4	60.2	59.9	59.9	59.9	59.2
10	60.0	60.1	60.2	60.3	60.3	60.4	60.4	60.4	60.5	60.6	60.8	60.9	61.2	61.5	61.7	62.0	62.1	62.3	62.2	62.0	61.9	61.8	61.7	61.7	61.1
11	61.7	61.7	61.6	61.6	61.6	61.5	61.5	61.6	61.7	61.9	62.2	62.5	62.6	62.7	62.9	63.0	63.1	63.1	63.2	63.1	63.0	63.0	63.0	62.9	62.4
12	62.7	62.6	62.6	62.5	62.4	62.4	62.3	62.3	62.2	62.1	62.1	62.2	62.3	62.6	63.0	63.3	63.6	63.8	63.9	63.9	63.9	63.8	63.8	63.7	62.9
13	63.7	63.6	63.5	63.5	63.4	63.3	63.3	63.3	63.2	63.2	63.1	62.9	62.7	62.5	62.5	62.5	62.4	62.3	62.2	62.2	62.0	61.9	61.8	61.8	62.8
14	61.9	61.9	61.8	61.7	61.7	61.6	61.6	61.6	61.6	61.5	61.5	61.5	61.5	61.6	61.7	61.8	61.9	62.1	62.0	61.9	61.9	62.0	62.0	62.0	61.8
15	61.7	61.5	61.3	61.2	61.1	61.1	61.0	60.9	61.0	61.2	61.6	62.0	62.3	62.6	62.9	63.1	63.1	63.0	62.7	62.5	62.3	62.2	62.0	61.9	61.9
16	61.8	61.8	61.8	61.8	61.8	61.8	61.9	62.0	62.3	62.5	62.7	62.8	63.0	63.3	63.6	63.9	64.3	64.6	64.7	64.8	64.8	64.6	64.4	64.2	63.8
17	63.4	63.5	63.4	63.4	63.4	63.4	63.4	63.3	63.2	63.1	63.1	63.1	63.2	63.3	63.6	63.9	64.3	64.5	64.7	64.5	64.5	64.3	64.2	64.1	63.9
18	64.1	63.9	63.8	63.7	63.5	63.4	63.3	63.2	63.2	63.3	63.4	63.6	63.8	64.1	64.4	64.5	64.5	64.7	64.5	64.5	64.3	64.2	64.2	64.1	63.9
19	64.1	64.1	64.1	64.1	64.0	64.0	64.0	64.0	64.1	64.4	64.7	65.1	65.4	65.8	66.1	66.4	66.6	66.7	66.8	66.8	66.7	66.6	66.5	66.4	65.3
20	66.3	66.3	66.2	66.1	65.9	65.8	65.8	65.6	65.5	65.5	65.5	65.6	65.9	66.2	66.6	67.1	67.3	67.6	67.7	67.8	67.8	67.7	67.5	67.3	66.5
21	67.1	67.0	66.9	66.8	66.7	66.6	66.5	66.3	66.1	65.8	65.7	65.9	66.2	66.5	66.8	67.0	67.2	67.3	67.3	67.4	67.4	67.5	67.5	67.5	66.8
22	67.4	67.4	67.3	67.2	67.2	67.1	67.0	66.9	66.9	66.7	66.7	66.9	67.2	67.4	67.7	67.8	67.9	68.0	68.1	68.2	68.1	68.0	68.1	68.1	67.5
23	68.0	68.0	68.0	67.9	67.9	67.8	67.9	67.7	67.6	67.6	67.5	67.5	67.6	67.8	68.0	68.1	68.2	68.2	68.2	68.1	68.0	67.9	67.8	67.8	67.9
24	67.6	67.4	67.2	67.1	66.9	66.8	66.6	66.5	66.5	66.6	66.8	66.9	67.2	67.3	67.5	67.6	67.8	67.9	68.0	68.0	68.0	67.9	67.8	67.6	67.2
25	66.7	66.4	66.3	66.2	66.1	66.1	66.1	66.1	66.2	66.4	66.5	66.7	66.9	67.1	67.3	67.5	67.6	67.8	67.9	67.7	67.6	67.4	67.4	67.3	66.9
26	67.2	67.1	67.0	66.8	66.7	66.7	66.8	66.9	67.0	67.1	67.2	67.3	67.4	67.5	67.6	67.8	67.9	68.0	68.0	68.0	67.9	67.8	67.8	67.6	67.4
27	67.4	67.2	67.1	66.9	66.8	66.6	66.6	66.5	66.6	66.7	66.9	67.1	67.2	67.5	67.9	68.1	68.4	68.5	68.7	68.7	68.6	68.6	68.5	68.5	67.3
28	67.6	67.5	67.4	67.4	67.4	67.4	67.3	67.2	67.0	67.0	67.0	67.0	67.2	67.5	67.8	68.1	68.2	68.2	68.1	68.0	67.8	67.6	67.5	67.5	67.8
29	68.5	68.5	68.4	68.4	68.4	68.3	68.3	68.1	68.1	68.1	68.2	68.2	68.4	68.5	68.6	68.7	68.7	68.6	68.4	68.3	68.1	68.1	68.1	68.0	68.4
30	68.0	68.1	68.1	68.2	68.3	68.2	68.1	67.9	67.7	67.5	67.3	67.2	67.2	67.4	67.6	67.8	68.1	68.2	68.2	68.1	68.0	67.9	67.7	67.6	67.8
MONTHLY AVERAGE																									64.2

TABLE 3.1-7

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

JULY 1982

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	67.5	67.3	67.2	67.1	66.8	66.6	66.4	65.9	65.8	65.8	65.8	65.8	65.9	66.0	66.1	66.2	66.2	66.2	66.2	66.1	66.0	65.8	65.8	65.7	66.3
2	65.6	65.6	65.6	65.5	65.5	65.4	65.4	65.4	65.5	65.7	65.9	66.2	66.4	66.7	66.9	67.0	67.1	67.1	67.0	66.9	66.8	66.6	66.5	66.4	66.2
3	66.3	66.2	66.1	66.1	66.1	66.1	66.0	65.9	65.9	66.0	66.0	66.1	66.3	66.4	66.6	66.6	66.8	66.7	66.7	66.7	66.7	66.6	66.5	66.5	66.3
4	66.3	66.2	66.0	65.8	65.7	65.6	65.6	65.4	65.4	65.4	65.4	65.6	65.7	65.9	66.1	66.4	66.5	66.6	66.7	66.7	66.6	66.5	66.3	66.2	66.0
5	66.1	66.1	66.1	65.9	65.8	65.7	65.7	65.7	65.7	65.9	66.1	66.2	66.2	66.5	66.9	67.2	67.4	67.3	66.9	66.5	66.1	65.9	65.9	66.3	66.3
6	66.6	66.8	66.8	66.7	66.7	66.7	66.7	66.7	66.7	66.8	67.0	67.2	67.3	67.5	67.5	67.6	67.8	68.0	68.1	67.9	68.2	68.2	68.0	67.9	67.3
7	67.9	68.0	68.1	68.1	68.1	68.0	67.7	67.5	67.6	67.8	68.0	68.3	68.6	68.9	69.1	69.3	69.5	69.7	69.8	69.8	69.8	69.8	69.8	69.6	68.7
8	69.6	69.6	69.6	69.6	69.6	69.5	69.4	69.1	69.2	69.6	70.0	70.3	70.4	70.8	71.2	71.8	72.0	72.2	72.2	72.2	72.1	72.0	71.9	72.0	70.7
9	71.9	71.7	71.7	71.6	71.5	71.3	71.2	71.0	71.0	71.0	71.1	71.2	71.4	71.7	72.2	72.4	72.5	72.5	72.6	72.7	72.7	72.6	72.5	72.3	71.8
10	72.4	72.4	72.3	72.3	72.3	72.3	72.3	72.4	72.1	72.0	72.2	72.3	72.6	72.9	73.2	73.6	74.4	74.8	74.8	74.6	74.4	74.2	74.1	73.9	73.1
11	73.7	73.6	73.5	73.5	73.5	73.6	74.0	74.3	74.1	74.3	74.6	74.4	74.3	74.2	74.3	74.3	74.4	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.1
12	74.3	74.6	74.7	74.7	74.7	74.8	74.8	75.2	75.2	75.1	74.4	74.0	74.0	74.1	74.2	74.4	74.5	74.7	74.7	74.6	74.5	74.4	74.3	74.3	74.6
13	74.3	74.3	74.3	74.3	74.2	74.1	74.0	73.9	74.2	74.4	74.7	74.8	74.8	75.0	75.0	75.3	75.7	75.9	76.0	76.0	75.9	75.7	75.9	75.7	74.9
14	75.6	75.6	75.5	75.4	75.3	75.2	75.1	75.1	75.1	75.4	75.7	75.8	75.9	76.0	SYSTEM INOPERATIVE										75.5
15	SYSTEM INOPERATIVE																	77.1	77.0	77.0	77.0	77.0	77.0	77.0	
16	76.9	76.7	76.6	76.4	76.3	76.2	76.1	76.1	76.2	76.1	76.4	76.6	76.6	76.7	77.0	77.2	77.4	77.4	77.5	77.7	77.7	77.8	77.6	77.4	76.9
17	77.2	77.0	76.9	76.8	76.8	76.8	76.7	76.8	76.9	77.1	77.5	77.9	78.5	79.0	79.1	79.9	79.4	79.3	78.4	77.7	77.3	77.0	76.9	76.8	77.7
18	76.8	77.0	77.1	77.3	77.3	77.3	77.4	77.5	77.7	78.0	78.5	78.9	79.4	79.3	79.8	79.6	79.6	79.2	78.6	78.6	79.4	80.1	80.5	80.7	78.6
19	80.7	80.2	79.9	79.6	79.4	79.1	79.0	78.9	78.7	79.1	79.9	80.2	80.2	80.4	80.8	81.1	81.3	81.3	81.3	81.2	81.2	81.1	80.9	80.6	80.3
20	80.5	80.4	80.4	80.3	80.2	80.1	80.0	79.8	79.5	79.7	80.0	80.0	79.6	79.3	79.1	79.0	79.0	78.9	78.7	78.6	78.5	78.3	78.1	78.0	79.4
21	78.0	77.9	77.7	77.5	77.4	77.2	77.1	77.0	76.9	77.1	77.1	77.0	77.0	77.2	77.3	77.6	77.9	78.3	78.2	78.5	78.4	78.3	78.2	78.1	77.6
22	78.1	78.1	78.0	78.0	77.7	77.8	77.6	77.7	77.7	77.6	77.6	77.5	77.5	77.8	78.0	78.4	78.5	78.5	78.4	78.3	78.1	77.9	77.8	77.7	77.9
23	77.6	77.5	77.5	77.3	77.3	77.2	77.1	77.2	77.3	77.4	77.4	77.5	77.7	78.0	78.2	78.4	78.7	78.9	78.9	78.7	78.5	78.4	78.4	78.3	77.9
24	78.1	78.0	77.9	77.8	77.7	77.5	77.4	77.3	77.3	77.4	77.7	78.0	78.3	78.4	78.8	79.0	79.3	79.5	79.6	79.5	79.3	79.1	78.9	78.8	78.4
25	78.6	78.6	78.5	78.5	78.4	78.3	78.2	78.2	78.2	78.4	79.0	79.3	79.7	80.1	80.5	80.5	79.7	79.1	78.8	78.5	78.2	78.1	77.9	77.8	78.8
26	77.7	77.7	77.6	77.6	77.6	77.6	77.6	77.6	77.8	78.1	78.7	79.1	79.3	79.3	79.2	79.0	78.6	78.6	78.5	78.4	78.3	78.2	78.2	78.2	78.3
27	78.3	78.3	78.4	78.3	78.3	78.3	78.3	78.3	78.4	78.8	79.3	79.6	80.0	80.0	79.9	80.2	80.3	80.3	80.1	79.9	79.8	79.7	79.6	79.5	79.2
28	79.5	79.5	79.4	79.4	79.3	79.2	79.0	78.9	78.8	78.7	78.4	78.4	78.2	78.1	78.0	77.8	77.7	77.7	77.7	77.6	77.5	77.3	77.2	77.2	78.4
29	77.1	77.0	76.9	76.8	76.6	76.5	76.4	76.3	76.3	76.2	76.1	76.4	76.4	76.3	76.4	76.5	76.5	76.5	76.5	76.4	76.5	76.5	76.5	76.5	76.5
30	76.5	76.5	76.4	76.4	76.3	76.1	76.1	76.1	76.1	76.2	76.4	76.5	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.7	76.6	76.5	76.4	76.2	76.4
31	76.1	76.3	76.2	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.3	76.5	76.6	76.7	76.7	76.8	76.9	76.3	76.4	76.6	76.7	76.6	76.7	76.7	76.4
MONTHLY AVERAGE																									74.4

TABLE 3.1-8

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

AUGUST 1982

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	76.8	76.9	76.8	76.7	76.6	76.6	76.6	76.6	76.6	76.6	76.7	76.9	77.2	77.2	77.3	77.5	77.6	77.6	77.7	77.8	78.1	78.3	78.4	78.4	77.2
2	78.4	78.2	78.0	77.8	77.6	77.6	77.6	77.5	77.4	77.4	77.3	77.1	77.0	76.9	76.9	77.0	77.1	77.1	76.8	76.8	76.6	76.6	76.6	76.7	77.2
3	76.8	76.8	76.8	76.7	76.6	76.6	76.6	76.6	76.5	76.4	76.4	76.4	76.4	76.4	76.3	76.4	76.6	76.6	76.7	76.8	76.6	76.5	76.3	76.2	76.5
4	76.2	76.2	76.2	76.1	76.1	76.1	76.0	76.1	76.1	76.1	76.2	76.4	76.5	76.7	76.8	76.8	76.8	76.7	76.8	76.7	76.5	76.3	76.2	76.1	76.4
5	76.0	76.1	76.0	75.9	75.9	75.9	75.9	76.0	76.0	76.1	76.7	76.9	76.9	77.0	77.2	77.2	77.4	77.5	77.5	77.5	77.4	77.2	77.1	77.1	76.7
6	77.1	77.0	76.9	76.8	76.9	76.8	76.7	76.8	76.8	76.9	77.1	77.4	77.7	77.7	77.4	77.5	77.6	77.7	77.8	77.7	77.7	77.8	77.9	77.8	77.3
7	77.7	77.5	77.4	77.2	77.3	77.2	77.1	77.0	76.9	76.9	77.0	77.1	77.2	77.3	77.3	77.3	77.4	77.4	77.4	77.3	77.3	77.3	77.3	77.4	77.3
8	77.4	77.4	77.3	77.2	77.1	77.0	77.0	76.9	76.9	77.0	77.2	77.4	77.6	77.8	77.8	77.8	77.7	77.6	77.4	77.1	77.0	77.0	77.0	77.0	77.3
9	77.0	77.1	77.2	77.1	77.0	76.9	76.8	76.7	76.7	76.7	76.8	76.8	76.9	77.0	77.1	77.3	77.4	77.4	77.3	77.4	77.5	77.4	77.4	77.2	77.1
10	77.2	77.2	77.1	77.1	77.1	77.0	76.9	77.0	77.1	77.1	77.2	77.3	77.6	77.9	77.8	78.2	78.2	78.1	78.1	78.1	78.0	78.0	77.9	77.8	77.5
11	77.7	77.6	77.5	77.4	77.3	77.1	77.1	77.0	76.9	76.9	76.8	76.7	76.9	77.0	77.1	77.3	77.5	77.7	77.8	77.7	77.5	77.4	77.2	77.1	77.3
12	76.9	76.7	76.5	76.5	76.4	76.3	76.2	76.1	76.0	76.1	76.2	76.3	76.4	76.4	76.4	76.6	76.7	76.8	76.7	76.7	76.7	76.6	76.5	76.4	76.4
13	76.3	76.2	76.1	76.0	75.9	75.9	75.8	75.6	75.5	75.5	75.6	75.6	75.7	75.6	75.7	75.6	75.6	75.5	75.5	75.5	75.4	75.3	75.2	75.1	75.7
14	74.9	74.9	74.8	74.7	74.6	74.5	74.4	74.4	74.3	74.3	74.5	74.5	74.6	74.8	74.7	74.6	74.5	74.5	74.5	74.5	74.6	74.6	74.7	74.8	74.6
15	74.9	74.8	74.8	74.8	74.7	74.5	74.5	74.4	74.4	74.4	74.3	74.4	74.5	74.5	74.8	74.9	74.7	74.5	74.4	74.3	74.3	74.5	74.5	75.2	74.6
16	75.2	75.3	75.3	75.3	75.3	75.3	75.3	75.2	75.1	75.2	75.3	75.3	75.2	75.2	75.2	75.2	75.2	75.2	75.1	75.0	74.7	74.6	74.6	74.9	75.1
17	75.2	75.2	75.2	75.2	75.0	74.7	74.7	74.5	74.5	74.5	74.5	74.6	74.8	74.8	74.6	74.5	74.5	74.6	74.7	74.8	74.7	74.7	74.7	74.7	74.7
18	74.8	74.8	74.7	74.6	74.5	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.3	74.4	74.6	74.8	75.1	75.2	75.3	75.4	75.3	75.2	75.1	75.0	74.9
19	74.8	74.7	74.7	74.6	74.5	74.5	74.6	74.6	74.5	74.2	74.3	74.2	74.3	74.4	74.4	74.5	74.7	74.9	74.9	74.9	74.7	74.7	74.7	74.8	74.6
20	74.6	74.6	74.5	74.5	74.5	74.3	74.2	74.2	74.2	74.2	74.2	74.3	74.2	74.2	74.2	74.1	74.1	74.2	74.1	74.0	73.9	73.8	73.8	73.8	74.2
21	73.7	73.6	73.6	73.6	73.5	73.4	73.3	73.2	73.0	73.0	72.9	72.9	73.0	73.2	73.3	73.3	73.2	73.1	72.9	72.6	72.5	72.3	72.2	73.1	71.7
22	72.1	71.9	71.8	71.6	71.5	71.5	71.4	71.2	71.2	71.3	71.7	71.9	72.1	72.2	72.1	72.1	72.1	72.0	71.9	71.8	71.7	71.6	71.4	71.3	71.4
23	71.1	71.1	71.2	71.1	71.1	71.1	71.0	71.0	71.1	71.2	71.4	71.4	71.5	71.7	71.8	71.9	72.0	71.9	71.8	71.7	71.6	71.4	71.4	71.4	71.4
24	71.3	71.3	71.3	71.3	71.2	71.2	71.1	71.1	71.2	71.4	71.7	71.9	72.1	72.1	72.1	72.3	72.3	72.3	72.4	72.3	72.2	72.2	72.1	72.1	71.8
25	72.0	72.0	71.8	71.6	71.2	71.1	71.0	70.9	70.9	70.9	70.9	70.8	70.8	70.9	71.0	71.1	71.2	71.2	71.2	71.2	71.1	71.0	70.8	70.7	71.1
26	70.5	70.4	70.3	70.2	70.0	69.8	69.7	69.6	69.6	69.7	70.2	70.2	70.2	70.4	70.7	70.9	71.0	71.1	71.2	71.3	71.2	71.2	71.2	71.2	70.5
27	71.2	71.1	71.1	71.0	70.9	70.9	70.8	70.7	70.6	70.6	70.6	70.8	71.1	71.3	71.5	71.7	71.7	71.6	71.4	71.1	70.9	70.6	70.5	70.4	71.0
28	71.2	71.2	71.1	71.0	70.9	70.8	70.7	70.6	70.5	70.5	70.8	71.1	71.3	71.5	71.7	71.7	71.6	71.4	71.1	70.9	70.6	70.5	70.4	70.3	71.0
29	70.3	70.2	70.1	70.0	69.8	69.6	69.4	69.4	69.3	69.3	69.7	70.0	70.1	70.2	70.4	70.4	70.5	70.5	70.2	69.9	69.7	69.5	69.4	69.2	69.9
30	69.1	69.0	68.9	68.8	68.7	68.6	68.5	68.6	68.5	68.2	68.6	68.7	68.9	69.1	69.3	69.3	69.3	69.2	69.1	69.0	68.9	68.8	68.7	68.7	68.9
31	68.6	68.5	68.5	68.4	68.4	68.4	68.4	68.4	68.2	68.2	68.2	68.3	68.3	68.5	68.6	68.7	68.7	68.8	68.8	68.9	68.9	69.0	69.2	69.2	68.6

MONTHLY AVERAGE 74.2

TABLE 3.1-9

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

SEPTEMBER 1982

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	69.3	69.3	69.3	69.3	69.2	69.2	69.1	69.1	69.0	68.9	68.8	68.8	68.7	68.6	68.6	68.7	68.7	68.7	68.7	68.6	68.5	68.4	68.4	68.3	68.8			
2	68.4	68.5				SYSTEM INOPERATIVE						68.0	69.5	69.1	69.1	69.1	69.1	68.8	68.4	68.2	68.2	68.1	68.1	68.1	68.1	68.6		
3	68.1	68.0	68.3	68.3	68.2	68.2	68.2	68.1	68.1	68.1	68.2	68.5	68.7	68.8	68.9	69.1	69.2	69.2	69.2	69.1	68.9	68.9	68.8	68.7	68.6			
4	68.6	68.5	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.7	67.9	68.3	68.7	69.0	69.3	69.5	69.8	69.7	69.4	69.0	68.7	68.4	68.2	68.1	68.4	
5	68.0	68.0	67.9	67.9	67.9	67.9	67.8	67.7	67.7	67.7	67.9	68.3	68.7	69.0	69.3	69.5	69.8	69.7	69.4	69.0	68.7	68.4	68.2	68.1	68.4			
6	67.9	67.9	67.9	68.0	68.0	68.0	68.0	68.0	68.0	68.1	68.2	68.5	69.0	69.4	69.7	70.0	70.1	70.2	69.9	69.5	69.2	68.9	68.7	68.5	68.7			
7	68.3	68.2	68.2	68.1	68.1	68.0	68.0	67.8	67.7	67.8	67.9	68.0	68.2	68.4	68.6	68.8	69.0	69.1	69.1	69.2	69.1	69.1	69.0	69.0	68.4			
8	69.0											SYSTEM INOPERATIVE																
9												SYSTEM INOPERATIVE																
10												SYSTEM INOPERATIVE																
11												SYSTEM INOPERATIVE																
12												SYSTEM INOPERATIVE																
13								SYSTEM INOPERATIVE													70.1	70.1	70.2	70.2	70.1	70.0	69.9	
14	69.8	69.8	69.7	69.6	69.5	69.4	69.3	69.2	69.2	69.2	69.1	69.2	69.4	69.6	69.9	70.1	70.2	70.1	70.0	69.9	69.7	69.5	69.3	69.2	69.6			
15	69.2	69.1	69.1	69.2	69.2	69.3	69.3	69.4	69.5	69.5	69.6	69.7	69.9	70.0	70.2	70.3	70.3	70.2	70.4	70.5	70.6	70.8	70.8	70.8	69.9			
16	70.8	70.7	70.7	70.6	70.5	70.4	70.3	70.2	70.1	70.0	69.9	69.8	69.8	69.8	69.8	69.7	69.6	69.6	69.6	69.6	69.5	69.4	69.2	69.3	70.0			
17	69.2	69.1	69.0	69.0	68.9	68.9	68.7	68.6	68.5	68.5	68.3	68.1	68.0	67.9	67.8	67.8	67.6	67.4	67.2	67.2	67.1	67.0	67.0	66.9	68.1			
18	66.8	66.8	66.7	66.7	66.6	66.5	66.4	66.3	66.2	66.0	66.2	66.3	66.4	66.4	66.5	66.5	66.6	66.8	66.9	66.9	66.9	66.8	66.7	66.6	66.6			
19	66.6	66.6	66.5	66.4	66.3	66.2	66.0	66.0	65.8	65.8	65.9	65.9	65.9	67.9	68.1	68.3	68.5	68.5	68.5	68.5	68.4	68.3	68.1	67.9	67.1			
20	67.7	67.6	67.5	67.2	67.1	67.0	66.8	66.6	66.5	66.5	66.5	66.5	66.5	66.6	66.6	66.6	66.5	66.4	66.4	66.3	66.2	66.1	66.1	66.1	66.7			
21	66.1	66.1	66.1	66.1	66.0	66.0	66.0	66.0	65.9	66.0	66.1	66.1	66.1	66.1	66.2	66.2	66.2	66.2	66.2	66.1	66.0	66.0	65.9	65.9	66.1			
22	65.9	65.9	65.9	65.9	65.9	65.9	65.8	65.8	65.7	65.6	65.7	65.7	65.6	65.6	65.7	65.7	65.6	65.6	65.5	65.5	65.4	65.4	65.3	65.2	65.7			
23	65.2	65.2	65.2	65.2	65.2	65.1	65.1	65.0	64.9	64.9	64.9	65.0	65.1	65.1	65.2	65.5	65.6	65.6	65.6	65.5	65.3	65.1	65.0	64.9	65.2			
24	64.8	64.8	64.7	64.6	64.6	64.6	64.5	64.5	64.5	64.6	64.8	65.1	65.4	65.7	65.9	65.8	65.8	65.8	65.7	65.7	65.7	65.7	65.7	65.8	65.2			
25	65.8	65.7	65.6	65.5	65.5	65.4	65.4	65.3	65.2	65.2	65.3	65.4	65.5	65.6	65.7	65.9	66.0	66.0	66.0	65.9	65.8	65.7	65.6	65.5	65.1	65.4		
26	65.0	65.0	64.9	64.9	65.0	65.1	65.2	65.2	65.3	65.4	65.5	65.6	65.7	65.9	66.0	66.0	66.0	66.0	65.9	65.8	65.7	65.6	65.5	65.3	65.1	65.4		
27	65.0	64.8	64.6	64.6	64.6	64.6	64.5	64.6	64.6	64.5	64.5	64.5	64.6	64.7	64.8	64.7	64.7	64.8	64.8	64.7	64.7	64.7	64.7	64.6	64.7			
28	64.6	64.5	64.5	64.4	64.3	64.1	64.0	63.8	63.8	63.8	64.0	64.1	64.4	64.5	64.6	64.6	64.7	64.7	64.7	64.6	64.7	64.7	64.7	64.6	64.4			
29	64.6	64.6	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.6	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.6	64.6	64.5	64.4	64.3	64.1	64.6			
30	64.0	63.8	63.7	63.9	63.6	63.6	63.6	63.6	63.6	63.5	63.6	63.8	64.3	64.4	64.3	64.4	64.5	64.5	64.6	64.4	64.3	64.1	64.0	63.8	64.0			
	MONTHLY AVERAGE																								67.0			

TABLE 3.1-10

AVERAGE HOURLY TEMPERATURE IN *F

VERMONT YANKEE SAMPLE STATION NO. 3

OCTOBER 1982

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	63.7	63.7	63.6	63.6	63.6	63.5	63.5	63.6	63.6	63.7	63.9	64.4	64.6	64.8	64.9	65.0	65.1	65.1	65.1	65.1	65.1	65.0	65.0	64.7	64.3
2	64.5	64.6	64.8	64.7	64.6	64.5	64.3	64.0	63.8	63.7	63.7	63.7	63.9	64.0	64.1	64.1	64.1	64.0	63.8	63.6	63.5	63.4	63.3	63.3	64.0
3	63.2	63.1	63.1	63.0	62.9	62.8	62.8	62.7	62.6	62.6	62.6	62.9	62.9	63.0	63.2	63.4	63.3	63.2	63.0	62.8	62.6	62.4	62.3	62.3	62.9
4	62.3	62.3	62.3	62.3	62.2	62.2	62.2	62.2	62.2	62.2	62.4	63.0	63.7	64.3	64.5	64.6	64.5	64.4	64.4	64.3	64.2	64.1	64.0	63.9	63.4
5	63.9	63.7	63.6	63.4	63.5	63.1	62.9	62.8	62.7	62.7	62.9	63.0	63.1	63.2	63.3	63.5	63.4	63.2	63.0	62.7	62.5	62.3	62.2		63.1
6	62.2	62.2	62.2	62.2	62.2	62.2	62.3	62.3	62.5	62.7	63.2	63.5	63.7	63.8	64.0	64.1	64.3	64.3	64.3	64.3	64.1	64.0	63.8	63.7	63.3
7	63.6	63.6	63.5	63.4	63.4	63.3	63.3	63.2	63.2	63.2	63.4	63.6	63.8	64.1	64.3	64.5	64.6	64.5	64.4	64.2	63.9	63.7	63.5	63.3	63.7
8	63.1	63.0	63.0	62.9	62.9	62.9	62.8	62.7	62.7	62.7	62.8	62.9	63.4	63.9	64.0	63.9	63.8	63.7	63.7	63.7	63.5	63.4	63.5	63.4	63.3
9	63.3	63.2	63.0	62.8	62.6	62.4	62.3	62.2	62.1	62.1	62.2	62.9	63.3	63.1	63.0	63.0	62.9	62.9	62.8	62.7	62.4	62.2	62.1	61.9	62.6
10	61.7	61.7	61.6	61.5	61.3	61.1	61.0	60.8	60.7	60.6	60.8	61.1	61.5	61.8	61.9	61.9	61.7	61.4	61.3	61.4	61.7	61.7	61.6		61.4
11	61.4	61.3	61.1	61.0	60.8	60.6	60.4	60.2	60.2	60.1	60.2	60.3	60.6	61.0	61.5	61.8	61.9	61.8	61.4	60.9	61.0	61.2	61.2	61.2	61.0
12	61.1	61.1	61.0	60.8	60.6	60.4	60.2	60.0	59.9	59.9	59.9	60.3	60.9	61.3	61.6	61.6	61.5	61.2	60.7	60.9	61.1	61.2	61.2	61.1	60.8
13	61.1	60.7	60.3	59.9	59.6	59.3	59.1	59.0	59.0	59.0	59.1	59.2	59.1	59.0	59.0	58.9	58.9	58.8	58.7	58.6	58.5	58.5	58.5		59.2
14	58.5	58.4	58.4	58.3	58.3	58.2	58.1	58.1	58.2	58.6	58.7	58.6	58.4	58.4	58.4	58.5	58.5	58.5	58.4	58.4	58.3	58.2	58.1	58.0	58.4
15	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.1	58.2	58.2	58.2	58.2	58.2	58.1	58.0	57.9	57.9	57.8	57.7	57.7	57.6	58.0
16	57.5	57.5	57.4	57.4	57.3	57.3	57.2	57.1	57.0	57.0	56.9	57.0	57.0	57.0	57.1	57.0	56.9	56.9	56.7	56.7	56.6	56.6	56.7	56.8	57.0
17	56.8	56.8	56.8	56.8	56.9	56.9	56.7	56.6	56.6	56.6	56.7	57.0	57.2	57.3	57.3	57.4	57.5	57.5	57.3	57.2	57.1	57.1	57.1	57.0	57.0
18	57.0	56.9	56.9	56.8	56.7	56.5	56.5	56.4	56.3	56.3	56.4	56.5	56.7	56.9	57.0	57.1	57.2	57.1	56.9	57.1	57.2	57.2	57.0	56.9	56.8
19	56.8	56.7	56.7	56.8	56.9	57.0	57.0	57.4	57.7	57.5	57.1	56.8	56.5	56.5	56.5	56.6	56.7	56.7	56.5	56.5	56.8	56.7	56.6	56.6	56.8
20	56.4	56.3	56.3	56.5	56.6	56.8	57.0	57.1	57.3	57.8	58.2	58.2	57.9	57.7	57.4	57.3	57.3	57.1	57.2	57.5	57.8	57.6	57.2	57.0	57.2
21	56.8	56.8	56.7	56.6	56.6	56.7	56.8	57.0	57.1	57.3	57.4	57.5	57.8	57.9	57.6	56.8	57.0	56.9	56.6	56.8	57.3	57.5	57.4	57.3	57.2
22	57.1	57.1	57.1	57.1	57.2	57.2	57.3	57.4	57.5	57.8	57.9	57.6	57.0	56.4	55.9	55.6	55.5	55.5	55.6	55.9	56.1	55.9	55.7	55.5	56.6
23	55.4	55.3	55.3	55.1	55.1	55.1	55.1	55.2	55.2	55.4	55.7	56.1	56.5	56.6	56.8	57.0	57.0	57.1	57.1	56.9	56.9	56.9	56.9	56.9	56.1
24	56.8	56.8	56.8	56.7	56.7	56.7	56.6	56.6	56.6	56.6	56.8	56.9	57.2	57.5	57.8	58.0	58.0	57.9	57.7	57.6	57.6	57.5	57.4	57.3	57.2
25	57.3	57.2	57.2	57.1	57.0	56.9	56.8	56.7	56.8	57.1	57.6	58.1	58.3	58.5	58.5	58.3	58.1	57.9	57.7	57.4	57.2	57.0	56.7	56.4	57.4
26	56.2	56.1	56.1	56.0	55.9	55.7	55.7	55.7	55.7	56.1	56.5	56.3	55.9	55.6	55.2	55.0	54.8	54.7	55.0	55.2	55.2	55.0	54.9	54.8	55.6
27	54.6	54.5	54.5	54.5	54.5	54.6	54.7	54.9	55.1	55.2	55.6	56.0	56.0	56.4	56.8	56.9	56.7	56.3	55.9	55.7	55.6	55.5	55.3		55.5
28	55.2	55.2	55.2	55.2	55.6	55.7	55.6	55.4	55.3	55.7	56.1	56.2	56.6	56.9	57.0	57.1	57.0	56.9	56.7	56.5	56.4	56.3	56.2	56.1	56.1
29	56.1	56.0	56.0	56.0	55.9	55.9	55.9	55.9	56.0	56.0	56.5	56.8	57.0	57.2	57.8	57.9	58.0	57.9	57.8	57.6	57.4	57.4	57.3	57.2	56.8
30	57.2	57.0	57.0	56.9	56.9	56.9	56.8	56.8	56.7	56.7	56.8	56.8	57.0	57.3	57.6	57.7	57.7	57.6	57.4	57.2	57.1	57.0	57.0	57.0	57.1
31	57.0	57.0	57.0	57.1	57.2	57.2	57.3	57.4	57.4	57.3	57.5	57.7	57.9	58.0	58.2	58.2	58.1	58.0	57.8	57.9	57.3	57.2	57.2	57.3	57.5
MONTHLY AVERAGE																									59.3

TABLE 3.1-11

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

NOVEMBER 1982

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	57.3	57.3	57.3	57.3	57.3	57.3	57.2	57.3	57.3	58.1	57.3	57.2	56.9	56.9	57.0	56.8	56.6	56.6	57.1	57.1	57.1	57.0	56.9	56.8	57.1
2	56.7	56.6	56.5	56.5	56.5	56.5	56.6	56.6	56.8	57.1	57.2	57.3	57.4	57.5	57.3	57.0	56.7	56.5	56.1	55.7	55.6	55.6	55.6	55.6	56.6
3	55.8	55.9	56.1	56.2	56.4	56.6	56.8	57.0	57.1	57.6	57.8	57.8	57.5	57.6	57.8	57.7	57.0	56.5	56.1	55.7	55.0	54.8	54.8	54.8	56.5
4	55.1	55.5	55.8	56.1	56.3	56.5	56.6	56.7	57.1	57.3	57.2	56.0	55.1	54.6	54.6	54.6	54.5	54.5	54.6	54.6	54.6	54.7	54.8	54.9	55.5
5	54.9	54.6	54.5	54.7	54.9	55.3	55.8	56.8	58.2	57.7	56.6	56.1	55.8	55.7	55.5	55.4	55.2	55.0	54.9	54.9	55.0	55.0	54.9	54.8	55.5
6	54.7	54.7	54.6	54.5	54.2	54.0	54.0	54.1	54.1	54.2	54.2	54.3	54.5	54.6	54.7	54.9	54.7	54.6	54.6	54.5	54.4	54.4	54.3	54.3	54.4
7	54.2	54.1	54.1	54.0	54.0	53.9	53.8	53.7	53.7	53.6	53.6	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.4	53.3	53.1	53.6
8	53.0	52.8	52.6	52.4	52.2	52.0	51.8	51.5	51.4	51.3	51.2	51.1	51.1	51.1	51.0	51.0	51.0	51.0	50.8	50.7	50.6	50.6	50.5	50.5	51.4
9	50.4	50.4	50.4	50.3	50.1	50.3	50.3	50.3	50.3	50.3	50.3	50.4	50.6	50.7	50.8	50.8	50.8	50.7	50.7	50.6	50.6	50.5	50.5	50.5	50.5
10	50.5	50.5	50.4	50.4	50.5	50.5	50.8	51.2	52.0	53.1	52.4	51.5	50.8	50.7	50.7	50.7	51.0	51.2	51.2	50.7	50.4	50.2	50.0	49.8	50.9
11	49.7	49.8	50.2	50.8	51.4	51.7	51.9	52.1	52.3	53.5	53.4	53.2	51.9	50.9	50.6	50.5	50.5	51.3	51.2	50.4	50.0	49.8	49.7	49.7	51.1
12	49.7	49.9	50.4	51.0	51.4	51.6	51.8	52.1	52.3	52.8	53.0	52.1	51.0	50.2	49.6	49.4	49.4	49.4	49.4	49.6	49.6	49.7	49.8	49.9	50.6
13	49.9	49.8	49.8	49.9	49.9	49.7	49.6	50.5	52.0	51.1	50.7	49.8	49.5	49.0	48.9	48.7	48.5	48.5	48.4	48.3	48.2	48.0	48.0	48.0	49.4
14	47.9	47.7	47.6	47.5	48.2	48.5	48.7	48.7	48.2	47.8	48.1	48.3	48.5	48.4	48.3	48.2	48.0	47.8	47.7	47.5	47.3	47.1	47.1	47.1	47.9
15	47.2	47.1	46.8	46.7	46.5	46.6	46.7	46.7	46.8	46.8	46.9	47.0	47.0	47.1	47.2	47.2	48.0	49.8	47.9	47.4	47.2	47.2	47.2	47.2	47.2
16	47.2	47.1	46.9	47.0	47.0	47.4	48.0	49.1	50.0	49.1	48.4	47.8	47.8	47.5	47.5	47.3	47.4	47.3	46.7	46.4	46.1	45.8	45.7	45.6	47.3
17	45.7	45.7	46.0	46.3	46.5	47.1	47.4	47.9	48.4	47.9	SYSTEM INOPERATIVE														
18	SYSTEM INOPERATIVE									46.5	45.6	45.5	45.4	45.3	45.6	45.8	45.8	45.4	45.1	44.9	45.0	45.0	45.4	45.6	45.5
19	45.8	45.9	45.9	45.8	46.1	46.5	46.6	47.0	47.4	47.3	46.2	45.7	45.3	45.2	45.6	45.5	45.6	45.1	44.6	44.5	44.4	44.4	44.6	45.0	45.7
20	45.3	45.4	45.2	45.2	45.5	45.7	46.4	46.9	47.3	47.4	47.5	47.4	47.4	47.2	46.8	46.5	46.5	46.6	45.5	44.9	44.5	44.3	44.5	45.0	46.0
21	45.2	45.3	45.4	45.5	45.9	46.4	46.7	46.8	46.8	47.0	47.2	47.5	48.2	47.9	47.8	47.6	47.5	47.7	47.3	46.8	46.0	45.8	45.9	46.0	46.7
22	46.4	46.3	46.2	46.0	46.0	46.1	46.3	46.8	47.2	47.0	46.6	46.0	45.8	45.6	45.5	45.4	45.5	45.5	45.5	45.5	45.4	45.4	45.5	45.5	46.0
23	45.5	45.5	45.6	45.9	46.1	46.2	46.3	46.4	46.5	46.3	46.1	46.0	46.0	45.9	45.6	45.5	45.4	45.4	45.4	45.3	45.3	45.2	45.2	45.2	45.7
24	45.2	45.2	45.3	45.4	45.7	46.3	46.8	47.3	47.8	48.5	47.7	46.6	46.1	45.9	45.8	45.5	45.5	45.4	45.3	45.2	45.1	45.0	44.8	44.7	45.9
25	44.7	44.7	44.5	44.4	44.2	44.3	44.6	45.1	46.2	47.2	46.1	45.3	45.0	44.9	44.7	44.7	44.6	44.5	44.5	44.3	44.2	44.2	44.2	44.2	44.8
26	44.2	44.3	44.2	44.3	44.4	44.4	45.6	46.1	47.1	46.0	45.0	44.5	44.3	44.4	44.0	43.9	43.8	43.8	43.7	43.5	43.4	43.3	43.4	43.4	44.5
27	43.4	43.4	43.4	43.2	43.3	43.3	43.8	44.6	45.8	47.2	45.7	44.6	43.8	43.6	43.4	43.3	43.0	42.8	42.7	42.6	42.4	42.1	42.0	42.0	43.6
28	42.1	42.0	42.0	42.0	41.9	41.9	42.1	42.6	43.0	43.4	44.2	45.1	44.3	42.8	42.0	41.7	41.5	41.5	41.4	41.3	41.2	41.1	41.0	40.9	42.2
29	40.8	40.7	40.6	41.0	41.2	41.0	41.2	41.3	41.0	40.7	40.6	40.6	40.7	40.7	40.7	40.7	41.0	41.6	41.2	40.8	40.7	40.6	40.6	41.0	40.9
30	41.0	41.3	42.0	42.7	43.4	43.9	44.2	44.6	45.4	45.4	45.0	43.3	42.4	42.4	42.0	41.8	41.7	41.7	41.6	41.6	41.5	41.5	41.6	41.5	42.6
MONTHLY AVERAGE																									48.8

TABLE 3.1-12

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 3

DECEMBER 1982

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	41.6	41.6	41.6	41.8	42.7	43.5	44.1	44.4	44.7	45.1	44.3	43.4	42.1	42.0	41.9	41.8	41.8	41.7	41.7	41.6	41.6	41.5	41.5	41.4	42.5
2	41.5	41.3	41.4	41.7	42.2	42.8	43.5	43.8	44.5	45.3	44.4	42.7	42.0	41.8	41.7	41.8	41.8	41.7	41.7	41.6	41.5	41.4	41.3	41.3	42.3
3	41.3	41.4	41.6	41.8	41.9	42.3	42.9	43.7	44.3	43.9	42.7	42.3	42.2	42.1	42.2	42.2	42.2	42.2	42.2	42.1	42.2	42.2	42.2	42.2	42.3
4	42.3	42.3	42.6	42.9	43.0	42.9	42.8	42.6	42.5	42.5	42.5	42.5	42.5	42.7	42.6	42.6	42.6	42.5	42.5	42.4	42.5	42.5	42.6	42.6	42.6
5	42.7	42.7	42.7	42.7	42.7	42.6	42.7	43.2	44.4	45.1	44.2	43.6	43.3	43.1	43.0	42.9	42.9	42.9	42.8	42.7	42.7	42.7	42.7	42.7	43.1
6	42.7	42.6	42.6	42.8	43.2	44.1	45.0	45.7	46.1	45.5	44.4	43.9	43.7	43.7	43.6	43.6	43.6	43.4	43.4	43.3	43.2	43.2	43.2	43.2	43.7
7	43.3	43.2	43.2	43.3	43.3	43.5	44.3	45.0	45.8	46.8	45.8	44.4	43.8	43.8	43.9	44.0	44.0	43.9	43.9	43.8	43.7	43.6	43.6	43.6	44.1
8	43.7	43.7	43.6	43.7	43.6	44.1	44.7	45.6	46.7	45.7	44.5	44.1	44.3	44.3	44.4	44.6	44.5	44.6	43.7	43.4	43.3	43.1	42.9	42.9	44.1
9	42.9	43.0	43.4	43.6	44.5	45.0	45.5	45.6	46.1	46.6	45.6	44.3	43.5	43.2	42.9	43.2	43.5	43.1	42.1	41.8	41.7	41.5	41.4	41.2	43.6
10	41.2	41.2	41.7	41.8	41.5	42.0	42.5	43.4	43.8	42.5	40.8	40.5	40.7	40.8	40.9	40.7	40.8	41.6	41.1	40.8	40.5	40.5	40.5	40.4	41.3
11	40.3	40.2	40.3	40.4	40.9	42.2	42.6	42.9	43.2	43.5	43.9	44.2	44.8	44.9	45.0	45.0	44.9	44.7	44.6	43.2	41.5	40.8	40.6	40.4	42.8
12	40.4	40.4	40.2	40.3	40.9	40.7	41.4	41.9	42.1	42.2	42.4	42.7	42.9	43.2	43.6	43.8	43.9	44.2	44.5	44.6	44.6	44.6	44.6	44.6	42.6
13	44.5	44.4	44.2	44.3	44.3	43.9	43.9	44.2	43.6	40.7	38.5	38.0	37.9	37.9	37.8	37.5	37.2	37.1	37.1	37.0	36.7	36.5	36.5	36.5	40.0
14	36.6	36.8	36.7	36.8	36.8	36.8	38.5	39.3	40.4	39.7	38.2	38.0	37.5	37.2	37.2	37.6	37.8	38.6	38.8	37.7	37.4	37.1	37.0	36.9	37.8
15	37.1	37.1	37.2	37.2	37.2	37.2	38.7	39.0	39.6	40.7	40.9	40.7	40.2	39.6	39.0	38.9	39.3	39.4	37.5	36.6	36.2	36.0	35.9	35.6	38.3
16	35.4	35.5	35.4	35.4	35.5	35.5	36.1	36.6	37.7	38.4	37.5	36.9	36.5	36.3	36.3	36.2	36.1	35.8	35.7	35.7	35.5	35.5	35.5	35.4	36.1
17	35.3	35.3	35.3	35.4	35.4	35.4	35.3	35.2	35.2	35.3	35.4	35.5	35.5	35.6	35.6	35.6	35.6	35.4	35.3	35.1	35.0	34.8	34.7	34.7	35.3
18	34.6	34.5	34.4	34.3	34.2	33.8	33.7	33.4	33.3	33.5	33.7	33.8	34.0	34.1	34.1	33.8	33.5	33.3	33.3	33.3	33.2	33.2	33.3	33.3	33.7
19	33.5	33.8	33.9	34.5	34.8	34.9	34.9	35.0	35.4	35.2	34.7	34.3	34.2	34.2	34.2	34.2	34.2	34.1	34.2	34.1	34.1	34.1	34.1	34.1	34.4
20	34.2	34.2	34.5	34.9	35.1	35.0	35.0	35.1	34.9	34.4	34.2	34.1	34.2	34.2	34.4	34.6	34.5	34.4	34.2	34.1	34.0	34.1	34.0	34.1	34.4
21	34.2	34.4	34.6	34.9	35.0	35.0	35.0	35.1	35.1	35.0	34.5	34.3	34.3	34.4	34.5	34.6	34.7	34.7	34.4	34.3	34.2	34.2	34.1	34.1	34.6
22	34.2	34.3	34.6	34.9	35.0	34.9	35.0	35.1	35.1	35.1	34.6	34.4	34.4	34.4	34.4	34.3	34.3	34.3	34.2	34.2	34.1	34.0	34.0	34.0	34.5
23	33.9	33.9	33.8	33.9	34.1	34.3	35.2	37.6	38.2	36.4	35.2	34.7	34.4	34.4	34.3	34.3	34.6	35.6	34.8	34.3	34.1	34.1	34.1	34.0	34.8
24	33.9	34.0	34.2	34.6	35.2	35.8	36.5	37.1	37.9	39.2	38.6	37.0	35.8	35.1	34.9	35.2	35.4	34.9	34.4	34.3	34.2	34.2	34.2	34.3	35.5
25	34.4	34.3	34.5	34.7	35.1	35.6	36.0	36.4	36.8	37.4	38.8	39.2	38.5	37.5	36.7	36.1	35.8	35.4	35.2	34.7	34.4	34.2	34.1	34.2	35.8
26	34.4	34.5	34.6	34.7	35.0	35.3	35.7	36.0	36.5	36.9	36.7	36.1	35.5	35.2	35.0	35.0	34.9	34.8	34.7	34.6	34.5	34.5	34.6	34.6	35.2
27	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.6	34.5	34.4	34.4	34.5	34.5	34.5	34.5	34.5	34.4	34.3	34.3	34.3	34.2	34.2	34.2	34.4
28	34.3	34.3	34.3	34.4	34.5	34.5	34.6	34.6	34.6	34.7	34.9	34.8	34.9	34.9	35.0	35.0	35.0	35.0	34.9	34.9	35.0	35.0	35.1	35.2	34.8
29	35.3	35.4	35.8	35.9	36.0	36.1	36.1	36.1	36.0	35.9	35.9	36.0	36.1	36.1	36.1	36.0	36.0	35.9	35.9	35.8	35.7	35.7	35.7	35.7	35.9
30	35.7	35.6	35.6	35.7	35.6	35.6	35.6	35.6	35.6	35.6	35.6	35.7	35.8	35.8	35.8	35.8	35.7	35.6	35.5	35.4	35.3	35.1	35.1	35.1	35.6
31	35.1	35.1	35.1	35.1	35.3	35.4	35.4	35.4	35.3	35.2	35.2	35.3	35.3	35.4	35.5	35.6	35.6	35.6	35.7	35.8	35.9	35.9	35.9	36.0	35.5

MONTHLY AVERAGE 38.4

TABLE 3.2-1

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JANUARY 1982

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	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	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	32.1	32.0
4	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.1	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	32.2	32.0	32.1	32.0	32.0	32.1	32.0
10	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
11	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.1
12	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.2	32.2	32.2	32.1	32.1	32.1	32.1
13	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
14	32.1	32.1	32.0	32.0	32.0	32.1	32.1	32.1	32.0	32.0	32.0	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.0
15	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
16	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.1	32.1	32.0	32.0	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1
17	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0
18	32.1	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	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1
19	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
20	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
21	32.1	32.1	32.1	32.0	32.1	32.0	32.0	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1
22	32.1	32.1	32.1	32.1	32.0	32.0	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.1
23	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1	32.1
24	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
25	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
26	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
27	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.1
28	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
29	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1	32.2	32.2	32.1	32.1	32.1	32.1	32.1
30	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
31	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.0	32.1
MONTHLY AVERAGE																									32.1

TABLE 3.2-2

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

FEBRUARY 1982

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	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
2	32.1	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	32.1	32.1	32.1	32.1	32.1	32.0	32.0
3	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.0	32.1	32.0	32.1	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	32.1	32.1	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	32.1	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
11	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
12	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.2	32.2	32.1	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1
13	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
14	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
15	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
16	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
17	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
18	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
19	32.1	32.1	32.1	32.0	32.0	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
20	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.0	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
21	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
22	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
23	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
24	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
25	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1
26	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1
27	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.2	32.1	32.1	32.2	32.1	32.2	32.1	32.1	32.1
28	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.2	32.1	32.1	32.1	32.1
MONTHLY AVERAGE																									32.1

TABLE 3.2-3

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

MARCH 1982

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
2	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
3	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
4	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
5	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
6	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.0	32.0	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
7	32.1	32.1	32.1	32.0	32.0	32.0	32.0	32.1	32.1	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
8	32.1	32.1	32.1	32.1	32.1	32.0	32.0	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
9	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
10	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.0	32.1	32.1
11	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.0	32.1	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1
12	32.1	32.1	32.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
13	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.1	32.1	32.1	32.1	32.1	32.1
14	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.1
15	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.3	32.2	32.2	32.2	32.2
16	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
17	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
18	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
19	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.1
20	32.1	32.1	32.1	32.2	32.2	32.1	32.1	32.2	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.2
21	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.1	32.2	32.1	32.2	32.1	32.1	32.1	32.1
22	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.2
23	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.2	32.2
24	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.3	32.3	32.3	32.3	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.2
25	32.2	32.2	32.2	32.1	32.1	32.1	32.1	32.2	32.2	32.3	32.3	32.2	32.3	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.3	32.3	32.2	32.2	32.3
26	32.2	32.2	32.2	32.3	32.2	32.2	32.2	32.2	32.1	32.2	32.3	32.3	32.3	32.3	32.3	32.3	32.4	32.4	32.2	32.2	32.2	32.2	32.1	32.1	32.1
27	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.1	32.1	32.1
28	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.2	32.2	32.2	32.2	32.3	32.3	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1
29	32.1	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.1	32.1	32.2	32.3	32.4	32.4	32.4	32.4	32.4	32.5	32.6	32.6	32.6	32.6	32.6	32.5
30	32.4	32.4	32.3	32.3	32.2	32.1	32.1	32.1	32.2	32.2	32.4	32.5	32.7	32.8	32.9	33.0	33.0	33.0	33.0	33.0	33.1	33.1	33.2	33.1	32.6
31	33.0	33.0	32.9	32.9	32.8	32.7	32.7	32.7	32.7	32.7	32.7	32.6	32.7	32.8	32.8	32.8	32.8	32.9	32.8	32.9	33.0	33.1	33.1	33.0	32.8
	MONTHLY AVERAGE																								32.2

TABLE 3.2-4

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

APRIL 1987

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	32.9	32.9	32.9	32.9	32.9	33.0	32.8	32.9	33.1	33.3	33.5	33.8	34.1	34.4	34.7	34.9	35.1	35.2	35.1	34.9	34.7	34.6	34.5	34.4	33.9
2	34.2	33.9	33.6	33.4	33.2	33.0	32.9	32.8	32.8	33.0	33.0	33.3	33.6	33.8	34.1	34.4	34.6	34.6	34.7	34.7	34.7	34.7	34.7	34.6	33.8
3	34.5	34.4	34.4	34.6	34.8	34.9	35.0	35.0	35.1	35.3	35.4	35.4	35.5	35.6	35.7	35.8	35.8	35.9	35.9	36.1	36.1	36.0	35.9	35.8	35.4
4	35.7	35.5	35.4	35.3	35.3	35.3	35.3	35.3	35.3	35.4	35.5	35.6	35.8	35.8	35.8	35.9	35.9	35.9	35.8	35.7	35.6	35.4	35.2	35.0	35.5
5	34.8	34.7	34.6	34.5	34.3	34.2	34.2	34.1	34.0	34.1	34.3	34.5	34.8	35.0	35.2	35.5	35.5	35.6	35.6	35.5	35.4	35.3	35.2	35.0	34.8
6	34.9	34.8	34.7	34.6	34.6	34.4	34.3	34.2	34.1	33.9	33.7	33.6	33.4	33.3	33.2	33.1	32.9	32.8	32.7	32.6	32.5	32.5	32.4	32.4	33.6
7	32.4	32.3	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.2	32.2	32.2	32.3	32.2	32.2	32.1	32.1	32.1	32.1	32.0	32.1	32.2
8	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.1	32.2	32.3	32.4	32.5	32.5	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.3	32.3	32.3	32.2
9	32.3	32.3	32.3	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.3	32.5	32.6	32.8	32.9	33.0	33.1	33.1	33.1	33.1	33.0	33.1	33.1	33.2	32.7
10	33.3	33.3	33.4	33.4	33.4	33.4	33.3	33.2	33.0	32.9	32.9	33.0	33.2	33.3	33.4	33.5	33.7	33.8	33.9	34.0	34.0	33.9	33.9	33.8	33.5
11	33.9	34.0	34.1	34.0	33.9	33.8	33.6	33.5	33.5	33.5	33.7	33.8	34.0	34.3	34.7	35.0	35.4	35.6	35.8	35.9	35.8	35.8	35.7	35.7	34.5
12	35.7	35.7	35.8	35.9	36.0	35.9	36.0	36.0	36.0	35.9	36.0	36.2	36.4	36.4	36.6	36.8	36.9	37.1	37.1	37.0	36.9	36.8	36.7	36.7	36.4
13	36.6	36.7	36.7	36.7	36.7	36.7	36.6	36.6	36.5	36.5	36.6	36.7	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.7	36.6	36.5	36.7
14	36.5	36.5	36.6	36.7	36.7	36.7	36.6	36.6	36.7	36.8	37.0	37.2	37.5	37.8	38.1	38.5	38.7	38.9	39.0	38.9	38.9	38.9	38.8	38.7	37.6
15	38.6	38.6	38.5	38.5	38.4	38.2	38.0	37.9	37.9	37.9	38.1	38.3	38.5	38.8	39.1	39.4	39.6	39.9	40.1	40.3	40.4	40.5	40.4	40.5	39.0
16	40.4	40.3	40.2	40.0	39.8	39.6	39.4	39.2	39.2	39.2	39.4	39.6	39.9	40.2	40.5	40.8	41.1	41.3	41.6	41.8	42.0	42.1	42.0	41.8	40.5
17	41.6	41.3	41.1	40.8	40.7	40.5	40.4	40.3	40.3	40.3	40.4	40.5	40.6	40.8	41.0	41.1	41.3	41.5	41.6	41.5	41.4	41.3	41.2	41.2	40.9
18	41.2	41.1	41.1	41.1	40.9	40.8	40.6	40.5	40.5	40.5	40.5	40.5	40.5	40.6	40.7	40.8	40.9	40.9	41.0	41.0	40.9	40.8	40.7	40.5	40.8
19	40.3	40.0	39.7	39.4	39.2	39.0	38.9	38.8	38.8	38.9	39.1	39.3	39.4	39.6	39.7	39.8	39.9	40.0	40.1	40.2	40.3	40.4	40.5	40.4	39.7
20	40.2	40.1	39.9	39.7	39.5	39.4	39.3	39.2	39.2	39.3	39.5	39.6	39.9	40.1	40.3	40.6	40.9	41.0	41.2	41.3	41.2	41.2	41.2	41.2	40.2
21	41.1	41.0	41.0	41.0	41.0	41.0	40.9	40.9	40.9	40.9	41.0	41.2	41.3	41.4	41.6	41.7	41.7	41.8	41.7	41.6	41.5	41.4	41.2	41.2	41.2
22	41.1	41.0	40.8	40.6	40.5	40.4	40.3	40.3	40.3	40.5	40.6	40.7	40.8	40.8	40.9	40.9	40.9	40.9	40.8	40.7	40.6	40.4	40.3	40.1	40.6
23	39.9	39.7	39.5	39.4	39.2	39.1	39.1	38.9	38.9	39.0	39.1	39.3	39.5	39.7	39.9	40.2	40.3	40.3	40.3	40.1	40.0	39.9	39.8	39.7	39.6
24	39.6	39.6	39.5	39.4	39.4	39.4	39.4	39.5	39.6	39.8	40.2	40.6	40.9	41.4	41.7	42.0	42.1	42.1	42.1	42.0	41.8	41.8	41.6	41.4	40.7
25	41.3	41.2		41.1	41.1	41.0	41.0	41.1	41.3	41.6	41.9	42.3	42.6	43.0	43.4	43.7	43.8	43.9	43.9	43.8	43.7	43.5	43.3	43.2	42.5
26	43.1	43.1	43.1	43.0	43.1	43.1	43.1	43.3	43.4	43.6	43.8	44.0	44.2	44.4	44.5	44.6	44.6	44.5	44.5	44.5	44.5	44.6	44.7	44.8	43.9
27	44.8	44.9	44.9	44.8	44.8	44.8	44.7	44.7	44.7	44.8	44.9	45.0	45.2	45.3	45.4	45.4	45.4	45.4	45.3	45.2	45.1	45.0	44.9	44.8	45.0
28	44.7	44.6	44.5	44.5	44.4	44.3	44.3	44.3	44.2	44.2	44.1	44.1	44.1	44.2	44.4	44.5	44.6	44.7	44.6	44.5	44.4	44.2	44.1	44.0	44.4
29	43.9	43.8	43.7	43.6	43.6	43.5	43.4	43.4	43.4	43.5	43.6	43.7	43.9	44.2	44.4	44.6	44.7	44.8	44.8	44.7	44.6	44.4	44.3	44.3	44.0
30	44.0	43.9	43.8	43.7	43.6	43.5	43.5	43.5	43.5	43.6	43.7	43.9	44.1	44.4	44.6	44.8	44.9	44.9	44.9	45.0	45.0	45.0	45.0	44.9	44.2
MONTHLY AVERAGE																									38.3

TABLE 3.2-5

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

MAY 1982

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	44.9	44.8	44.7	44.7	44.6	44.5	44.3	44.2	44.2	44.2	44.4	44.5	44.7	44.9	45.3	45.6	45.8	46.0	46.3	46.4	46.4	46.5	46.4	46.4	45.2
2	46.3	46.2	45.9	45.8	45.6	45.4	45.3	45.1	45.1	45.1	45.2	45.5	45.9	46.1	46.1	46.2	46.4	46.7	46.9	47.0	47.1	47.1	47.1	47.0	46.1
3	46.9	46.9	47.0	47.0	47.0	46.9	46.8	46.8	46.8	46.8	46.9	47.0	47.1	47.3	47.4	47.4	47.5	47.5	47.5	47.5	47.5	47.6	47.7	47.7	47.2
4	47.7	47.7	47.6	47.6	47.6	47.7	47.7	47.8	47.8	47.9	48.3	48.1	48.2	48.3	48.4	48.4	48.4	48.4	48.4	48.5	48.5	48.6	48.5	48.5	48.1
5	48.5	48.4	48.3	48.2	48.1	48.0	47.8	47.8	47.7	47.9	48.0	48.1	48.3	48.5	48.7	48.9	49.1	49.2	49.3	49.4	49.3	49.3	49.3	49.1	48.6
6	49.1	49.0	48.9	48.8	48.6	48.5	48.3	48.2	48.1	48.1	48.1	48.3	48.6	48.9	49.2	49.6	49.8	50.1	50.2	50.4	50.4	50.5	50.5	50.5	49.2
7	50.5	50.5	50.4	50.3	50.3	50.3	50.2	50.1	50.0	50.0	50.0	50.0	50.2	50.2	50.4	50.6	50.8	51.0	51.0	51.1	51.1	51.2	51.3	51.4	50.5
8	51.4	51.5	51.6	51.7	51.7	51.7	51.6	51.6	51.5	51.5	51.5	51.6	51.8	52.0	52.2	52.3	52.4	52.6	52.6	52.7	52.7	52.7	52.7	52.8	52.0
9	52.8	52.9	53.0	53.0	53.1	53.1	53.0	53.1	53.2	53.3	53.3	53.4	53.4	53.5	53.6	53.7	53.8	53.7	53.6	53.6	53.5	53.5	53.5	53.5	53.3
10	53.5	53.5	53.4	53.4	53.4	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.2	53.2	53.3	53.2	53.2	53.3	53.3	53.3	53.2	53.3
11	53.3	53.4	53.3	53.3	53.2	53.2	53.0	52.9	52.8	52.8	52.9	53.0	53.2	53.4	53.6	53.8	54.1	54.1	54.1	54.1	54.2	54.2	54.3	54.4	53.5
12	54.5	54.5	54.4	54.3	54.2	54.0	53.6	53.4	53.1	53.0	53.0	52.9	53.0	53.2	53.5	53.7	53.9	54.0	54.0	54.0	53.9	54.1	53.9	54.0	53.8
13	54.1	54.1	54.2	54.2	54.3	54.2	54.2	54.2	54.1	54.0	53.8	53.8	53.8	53.8	53.8	53.9	54.1	54.3	54.2	54.1	54.0	54.0	53.9	53.8	54.0
14	53.9	54.0	54.1	54.2	54.1	54.0	53.9	54.0	53.8	53.9	54.0	54.2	54.3	54.5	54.7	55.0	55.1	55.2	55.2	55.1	55.1	55.0	55.0	54.9	54.5
15	54.8	54.7	54.7	54.6	54.5	54.5	54.5	54.6	54.7	54.9	54.9	55.0	55.2	55.4	55.6	55.8	56.0	56.2	56.3	56.3	56.3	56.3	56.3	56.4	55.4
16	56.4	56.4	56.3	56.3	56.3	56.2	56.1	56.2	56.2	56.3	56.3	56.5	56.8	57.2	57.5	57.5	57.5	57.5	57.4	57.4	57.4	57.3	57.3	57.2	56.8
17	57.1	57.0	56.9	56.9	56.8	56.8	56.8	56.8	56.9	57.2	57.6	57.8	58.2	58.7	58.8	58.8	58.9	58.9	58.9	58.8	58.8	58.7	58.5	58.2	57.9
18	57.9	57.8	57.7	57.7	57.7	57.6	57.6	57.5	57.6	57.7	57.9	58.2	58.5	59.1	59.4	60.0	60.5	60.7	60.8	60.8	60.6	60.5	60.2	59.9	58.9
19	59.6	59.3	59.1	59.0	58.9	58.7	58.6	58.6	58.7	58.7	59.0	59.3	59.7	60.2	60.6	60.7	60.8	60.9	60.8	60.7	60.6	60.4	60.3	60.3	59.7
20	60.2	60.1	60.0	59.8	59.7	59.6	59.5	59.5	59.6	59.7	59.8	59.9	59.9	60.1	60.3	60.4	60.9	62.3	62.6	62.8	62.8	62.8	62.6	62.4	60.7
21	62.2	62.2	62.0	61.9	61.8	61.7	61.6	61.6	61.7	61.9	62.1	62.5	62.7	62.9	63.1	63.4	63.6	63.6	63.4	63.1	62.8	62.5	62.4	62.3	62.5
22	62.2	62.1	62.0	61.9	61.8	61.8	61.9	62.2	62.3	62.5	62.7	62.8	62.8	62.9	63.0	63.0	63.0	62.8	62.6	62.4	62.3	62.2	62.2	62.1	62.4
23	62.1	62.0	62.0	62.0	61.9	61.9	61.8	61.8	61.8	61.8	61.7	61.7	61.7	61.8	61.7	61.6	61.5	61.3	61.2	61.0	60.8	60.6	60.5	60.3	61.5
24	60.2	60.1	60.0	60.0	59.9	59.8	59.8	59.8	59.7	59.6	59.6	59.5	59.3	59.1	59.1	59.1	59.1	59.1	59.0	58.8	58.7	58.6	58.4	58.3	59.4
25	58.3	58.2	58.2	58.1	58.1	58.1	58.1	58.2	58.2	58.2	58.3	58.3	58.1	58.6	58.7	58.8	58.9	58.9	58.9	58.9	58.7	58.5	58.4	58.2	58.4
26	58.2	58.1	58.1	58.0	57.9	57.8	57.7	57.7	57.7	57.7	57.8	58.0	58.1	58.3	58.6	59.0	59.3	59.3	59.3	59.7	59.8	59.7	59.8	59.5	58.6
27	59.4	59.3	59.1	59.0	58.9	58.8	58.8	58.8	58.8	58.9	59.0	59.0	59.2	59.5	59.7	59.9	60.1	60.2	60.4	60.5	60.5	60.5	60.4	60.2	59.5
28	60.1	60.0	60.0	60.0	60.0	59.9	60.0	60.0	60.0	60.1	60.2	60.5	60.8	61.1	61.3	61.6	61.9	62.1	62.2	62.3	62.3	62.2	62.1	62.1	61.0
29	62.1	62.1	62.1	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	61.9	61.7	61.8	62.0	62.1	61.9	61.8	61.8	61.7	61.7	61.8	61.8	61.8	61.9
30	61.8	61.8	61.8	61.8	61.8	61.8	61.9	61.9	62.0	62.0	62.2	62.3	62.4	62.6	62.7	62.7	62.6	62.5	62.4	62.6	62.7	62.7	62.6	62.4	62.2
31	62.4	62.5	62.5	62.5	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.3	62.3	62.2	62.2	62.2	62.1	62.2	62.3	62.3	62.4	62.4
MONTHLY AVERAGE																									55.8

TABLE 3.2-6

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JUNE 1982

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	62.6	62.6	62.6	62.5	62.5	62.6	62.6	62.6	62.6	62.7	62.8	62.8	62.8	62.9	63.1	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	62.9
2	63.1	63.2	63.1	63.1	63.1	63.1	63.1	63.0	63.1	63.1	63.1	63.1	63.1	63.2	63.7	64.0	64.4	64.6	64.7	64.6	64.5	64.5	64.4	64.3	63.6
3	64.3	64.2	64.1	64.0	63.8	63.7	63.5	63.5	63.4	63.4	63.4	63.5	63.6	63.8	63.9	64.1	64.1	64.1	64.2	64.1	64.1	64.0	63.9	63.8	63.9
4	63.7	63.6	63.5	63.5	63.4	63.4	63.4	63.6	63.7	63.9	64.1	64.2	64.4	64.5	64.5	64.4	64.3	64.2	64.1	64.0	63.9	63.9	63.8	63.9	63.9
5	63.8	63.8	63.8	63.8	63.8	63.7	63.7	63.7	63.6	63.7	63.7	63.7	63.7	63.7	63.5	63.4	63.2	63.0	62.8	62.6	62.5	62.3	62.2	62.1	63.3
6	62.1	62.0	61.8	61.5	61.2	60.9	60.4	60.2	60.1	60.0	59.9	59.8	59.8	59.7	59.7	59.5	59.3	59.1	59.0	58.9	58.9	59.0	59.0	59.0	60.0
7	58.9	58.8	58.7	58.5	58.5	58.4	58.3	58.3	58.3	58.3	58.3	58.2	58.2	58.1	58.0	58.1	58.1	58.1	57.9	57.8	57.7	57.6	57.5	57.4	58.2
8	57.4	57.4	57.4	57.3	57.3	57.2	57.1	57.1	57.0	57.0	57.0	57.1	57.3	57.5	57.8	58.0	58.1	58.3	58.5	58.5	58.5	58.5	58.4	58.3	57.7
9	58.1	57.9	57.8	57.8	57.8	57.9	58.0	58.1	58.2	58.3	58.4	58.5	58.6	58.7	59.0	59.7	60.1	60.3	60.4	60.5	60.6	60.7	60.7	60.6	59.0
10	60.6	60.5	60.4	60.2	59.9	59.9	59.8	60.0	60.0	60.0	60.2	60.3	60.4	60.7	60.9	61.6	62.1	62.5	62.7	62.7	62.7	62.6	62.5	62.4	61.1
11	62.2	62.1	62.0	62.0	61.9	61.8	61.7	61.7	61.7	61.7	61.6	61.6	61.7	61.8	61.5	61.4	61.9	62.3	62.5	62.6	62.7	62.8	62.9	62.8	62.0
12	62.9	62.9	62.9	62.9	62.9	62.9	62.9	63.0	63.0	63.1	63.0	62.9	62.9	62.8	62.6	62.5	62.9	63.1	63.1	63.1	63.0	62.9	62.9	62.8	62.9
13	62.7	62.7	62.7	62.6	62.6	62.5	62.4	62.4	62.4	62.3	62.3	62.3	62.2	62.0	61.9	61.8	61.7	61.7	61.6	61.6	61.5	61.4	61.4	61.2	62.1
14	61.2	61.3	61.3	61.4	61.4	61.5	61.5	61.1	60.9	60.9	61.2	61.5	61.5	61.3	61.2	61.4	61.5	61.8	62.1	62.3	62.2	62.1	62.0	61.9	61.5
15	61.7	61.7	61.6	61.4	61.4	61.4	61.2	61.2	61.1	60.9	60.9	60.9	60.8	60.8	60.8	61.4	61.9	62.3	62.4	62.4	62.4	62.5	62.7	62.8	61.6
16	62.9	62.9	62.9	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.7	62.8	63.0	62.9	62.8	62.8	63.0	63.0	63.0	63.2	63.4	63.6	63.7	63.0
17	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.8	63.8	63.7	63.6	63.4	63.2	62.9	62.9	63.0	63.1	63.1	63.1	62.9	62.8	62.7	62.6	63.3
18	62.6	62.5	62.5	62.4	62.4	62.3	62.3	62.2	62.2	62.1	62.2	62.4	62.6	63.0	63.2	63.6	63.9	64.4	64.7	64.9	65.0	65.2	65.3	65.4	63.3
19	65.4	65.3	65.3	65.2	65.2	65.2	65.1	65.1	65.1	65.1	64.9	64.9	64.8	64.5	64.4	65.0	65.5	65.7	65.8	66.0	66.1	66.1	66.2	66.3	65.3
20	66.4	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.6	66.7	66.7	66.6	66.5	66.5	66.3	66.1	65.9	66.4	66.7	66.9	66.8	66.4	66.4	66.4
21	66.4	66.3	66.3	66.3	66.2	66.2	66.2	66.3	66.4	66.4	66.4	66.3	66.5	66.7	66.7	66.1	65.9	66.4	66.7	66.9	66.9	66.8	66.8	66.8	66.7
22	66.7	66.7	66.6	66.6	66.6	66.6	66.6	66.7	66.9	66.9	66.8	66.9	66.9	66.9	67.0	66.7	66.7	67.1	67.3	67.3	67.3	67.3	67.3	67.2	66.9
23	67.1	67.1	67.1	67.1	67.0	67.0	67.0	67.1	67.2	67.3	67.4	67.5	67.6	67.6	67.3	67.1	67.1	67.1	67.0	66.8	66.6	66.5	66.3	66.3	67.0
24	66.3	66.4	66.5	66.5	66.4	66.4	66.3	66.2	66.2	66.2	66.1	65.9	65.9	65.8	65.5	65.7	66.1	66.4	66.4	66.4	66.4	66.4	66.3	66.3	66.2
25	66.2	66.1	66.0	65.9	65.8	65.7	65.7	65.7	65.6	65.7	65.7	65.7	65.8	65.8	65.8	65.8	66.2	66.5	66.7	66.9	67.0	67.0	67.0	66.9	66.1
26	66.9	67.0	67.1	67.1	67.1	67.0	66.9	66.7	66.5	66.4	66.3	66.2	66.2	66.2	66.2	66.3	66.3	66.3	66.4	66.5	66.6	66.5	66.5	66.5	66.6
27	66.2	66.2	66.3	66.3	66.2	66.2	66.1	66.0	65.9	65.8	65.7	65.7	65.7	65.7	65.8	66.0	66.1	66.2	66.5	66.6	66.8	66.9	66.9	66.9	66.2
28	66.8	66.9	66.9	67.0	67.0	67.0	67.0	67.0	67.1	67.1	67.1	67.1	67.0	67.1	67.3	67.5	67.5	67.7	67.8	67.8	67.8	67.8	67.8	67.9	67.3
29	68.0	68.1	68.1	68.1	68.0	67.8	67.7	67.5	67.5	67.4	67.4	67.5	67.5	67.5	67.5	67.6	67.6	67.7	67.8	67.7	67.6	67.5	67.4	67.2	67.7
30	67.0	66.8	66.6	66.5	66.3	66.3	66.2	66.3	66.4	66.5	66.7	66.9	67.1	67.2	67.3	67.5	67.6	67.5	67.6	67.5	67.6	67.2	67.0	66.9	66.9
MONTHLY AVERAGE																									63.8

TABLE 3.2-7

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

JULY 1982

DAY	HOUR																								DAILY AVERAGE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	66.6	66.4	66.1	65.9	65.7	65.4	65.2	65.4	65.3	65.2	65.1	65.0	64.9	65.0	65.1	65.2	65.4	65.5	65.6	65.6	65.6	65.5	65.5	65.5	65.5
2	65.5	65.4	65.4	65.4	65.4	65.4	65.3	65.3	65.2	65.2	65.3	65.4	65.5	65.6	65.7	65.8	65.9	65.9	65.9	66.0	65.9	65.9	65.8	65.7	65.6
3	65.6	65.5	65.5	65.4	65.4	65.4	65.4	65.4	65.5	65.6	65.7	65.8	65.8	65.9	65.9	65.9	65.8	65.8	65.7	65.7	65.6	65.5	65.4	65.3	65.6
4	65.1	65.0	65.0	64.6	64.4	64.4	64.3	64.2	64.2	64.2	64.3	64.3	64.5	64.6	64.9	64.8	65.1	65.3	65.4	65.3	65.1	65.3	65.4	65.4	64.8
5	65.3	65.2	65.1	65.0	65.0	64.9	64.9	65.0	65.0	65.1	65.1	65.2	65.2	65.1	65.1	65.2	65.3	65.4	65.5	65.5	65.6	65.8	65.9	65.2	65.2
6	66.1	66.2	66.1	66.0	66.0	65.9	65.9	65.8	65.8	65.9	66.0	66.1	66.1	66.3	66.6	67.0	67.4	67.7	67.9	68.0	68.0	68.1	68.1	68.1	66.7
7	68.0	67.8	67.7	67.7	67.6	67.6	67.5	67.5	67.4	67.3	67.1	67.1	67.2	67.5	67.8	68.2	68.5	68.7	69.0	69.2	69.2	69.1	69.0	69.1	68.0
8	69.1	69.0	68.9	68.9	68.9	68.9	68.9	68.9	69.1	69.2	69.5	69.7	69.9	70.0	69.9	70.2	70.2	70.3	70.3	70.3	70.3	70.4	70.3	70.3	69.6
9	70.2	70.1	70.1	70.0	69.9	69.9	70.0	70.0	70.1	70.2	70.3	70.5	70.7	70.8	71.4	72.2	71.9	72.0	72.1	72.3	72.3	72.2	72.1	71.9	71.0
10	71.8	71.8	71.7	71.7	71.6	71.6	71.5	71.6	71.6	71.7	71.8	71.9	72.0	72.3	72.4	73.0	72.9	72.4	72.2	72.4	72.4	72.5	72.6	72.6	72.1
11	72.7	72.5	72.4	72.5	72.8	73.0	72.9	72.9	73.0	73.2	73.1	73.1	73.1	73.3	73.4	73.6	73.9	74.1	74.3	74.5	74.5	74.5	74.4	74.3	73.4
12	74.2	74.1	74.0	73.9	73.9	73.9	74.0	74.1	74.1	74.1	74.1	74.0	73.9	73.8	73.7	73.6	73.7	73.7	73.7	73.7	73.7	73.7	73.7	73.7	73.9
13	73.7	73.7	73.7	73.9	73.9	73.9	73.9	73.8	73.8	73.8	73.8	73.8	73.8	73.9	74.0	74.1	73.7	73.6	73.7	73.6	73.7	73.9	73.7	73.7	73.8
14	73.8	73.8	73.7	73.7	74.1	74.3	74.3	74.2	74.2	74.4	74.2	74.3	74.3	74.1	74.1	74.3	74.5	74.5	74.5	74.5	74.5	74.6	74.8	74.7	74.3
15	74.7	74.9	74.9	74.9	74.8	74.9	74.9	74.9	74.9	74.7	74.6	74.8	75.0	74.8	74.9	74.8	74.8	74.8	75.1	75.1	75.1	75.3	75.3	75.0	74.9
16	75.1	75.2	75.2	75.3	75.3	75.3	75.3	75.3	75.3	75.2	75.3	75.2	75.3	75.4	75.6	75.8	75.9	76.3	76.5	76.2	76.2	76.0	76.2	76.2	75.6
17	76.2	76.2	76.1	76.3	76.5	76.5	76.5	76.5	76.6	76.6	76.6	76.5	76.5	76.5	76.4	76.4	76.4	76.5	76.5	76.6	76.6	76.6	76.6	76.7	76.5
18	76.5	76.4	76.5	76.4	76.5	76.5	76.5	76.5	76.5	76.5	76.6	76.7	76.7	76.6	76.7	76.6	76.7	76.7	76.7	76.7	76.8	76.8	77.3	77.5	76.7
19	76.8	77.2	77.1	76.8	76.9	77.0	77.1	77.2	77.3	77.4	77.5	77.6	77.8	78.1	78.2	78.6	78.5	78.7	78.5	78.5	78.2	78.2	78.1	78.2	77.7
20	78.2	78.2	78.3	78.4	78.2	78.3	78.2	78.4	78.4	78.8	78.8	78.8	78.8	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.8	78.7	78.7	78.4	78.6
21	78.5	78.4	78.4	78.3	78.2	78.2	78.2	78.1	78.1	78.2	78.1	77.9	77.6	77.7	78.3	78.6	78.9	78.9	78.8	78.4	78.5	78.4	78.4	78.3	78.3
22	78.2	78.1	78.0	78.0	77.9	77.8	77.7	77.7	77.6	77.4	77.3	77.2	77.2	77.4	77.4	77.4	77.8	77.9	77.9	78.0	78.1	78.1	78.1	78.1	77.8
23	78.1	78.1	78.0	78.0	77.8	77.7	77.6	77.4	77.3	77.3	77.6	77.7	77.4	77.2	77.1	77.2	77.9	78.1	78.1	78.2	78.1	78.0	77.9	77.7	77.7
24	77.8	77.7	77.6	77.5	77.4	77.4	77.2	77.1	77.1	77.0	76.9	76.9	76.9	77.0	77.0	77.0	77.0	76.9	76.7	76.7	76.7	76.6	76.6	76.6	77.1
25	76.5	76.6	76.6	76.6	76.7	76.7	76.6	76.7	76.7	76.6	76.7	76.8	76.7	76.6	76.6	76.6	76.7	76.6	76.7	76.8	76.7	76.6	76.7	76.8	76.7
26	76.6	76.7	76.6	76.6	76.7	76.7	76.7	76.8	76.7	76.6	76.6	76.6	76.5	76.6	76.6	76.6	76.5	76.6	76.8	76.7	76.6	76.6	76.6	76.6	76.6
27	76.7	76.6	76.5	76.6	76.6	76.7	76.5	76.6	76.6	76.6	76.7	76.5	76.5	76.5	76.5	76.1	76.3	76.3	76.4	76.6	76.3	76.3	76.4	76.5	76.5
28	76.6	76.6	76.4	76.5	76.6	76.5	76.4	76.3	76.2	76.3	76.2	76.3	76.4	76.3	76.3	76.6	76.5	76.3	76.1	76.3	76.3	76.2	76.0	75.9	76.3
29	75.9	76.0	75.9	75.9	75.9	75.8	75.8	75.8	75.9	75.9	75.9	75.8	75.7	75.6	75.6	75.7	75.8	75.8	76.0	76.2	76.1	76.0	76.1	76.1	75.9
30	76.0	76.0	75.9	75.8	75.8	75.9	75.6	75.6	75.6	75.5	75.2	75.2	75.1	75.1	75.2	75.3	75.2	75.2	75.2	75.2	75.5	75.6	75.6	75.6	75.5
31	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.5	75.4	75.3	75.3	75.3	75.3	75.1	74.9	74.8	74.7	74.6	74.8	75.0	75.1	75.6	75.7	75.7	75.3
MONTHLY AVERAGE																									73.3

TABLE 3.2-8

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

AUGUST 1982

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	75.6	75.6	75.6	75.5	75.4	75.4	75.3	75.3	75.3	75.2	75.2	75.2	75.2	75.2	75.1	74.9	74.9	74.9	74.9	74.8	74.8	74.8	74.8	74.9	75.2
2	74.7	74.9	74.8	74.8	74.8	74.8	74.9	74.9	74.9	74.9	75.0	75.1	75.1	75.3	75.4	75.6	75.5	75.6	75.8	75.7	75.7	76.2	76.3	76.1	75.3
3	76.0	76.0	75.9	75.9	75.8	75.8	75.7	75.7	75.6	75.6	75.6	75.6	75.4	75.4	75.3	75.1	75.1	75.1	75.1	75.1	75.0	75.0	75.1	75.3	75.5
4	75.1	75.0	75.1	75.2	75.3	75.5	75.4	75.4	75.3	75.4	75.3	75.4	75.5	75.4	75.3	75.2	75.2	75.2	75.4	75.4	75.4	75.3	75.4	75.6	75.3
5	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.6	75.7	75.7	75.8	75.8	75.9	76.0	76.0	76.0	76.1	76.2	76.4	76.3	76.3	76.3	76.3	76.2	75.9
6	76.2	76.2	76.1	76.1	76.1	76.1	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	75.9	75.8	75.8	75.7	75.7	75.7	75.8	75.7	75.7	75.9
7	75.6	75.8	75.8	75.8	75.8	75.9	75.8	75.8	75.8	75.9	75.8	76.0	76.0	76.0	76.0	75.9	75.8	75.8	75.9	76.1	76.3	76.3	76.3	76.3	76.0
8	76.1	76.1	76.3	76.4	76.5	76.5	76.5	76.5	76.5	76.4	76.4	76.4	76.3	76.1	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.2
9	76.1	76.1	76.1	76.2	76.3	76.3	76.4	76.4	76.5	76.5	76.6	76.5	76.5	76.5	76.5	76.4	76.5	76.5	76.5	76.6	76.7	77.0	77.1	77.1	76.5
10	77.0	76.8	76.6	76.5	76.5	76.6	76.5	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.8	76.9	76.9	77.1	77.2	77.4	77.3	77.2	77.0	76.9	76.8
11	76.7	76.5	76.4	76.3	76.2	76.0	75.9	75.9	75.8	75.7	75.8	75.7	75.6	75.5	75.5	75.5	75.5	75.4	75.6	75.7	75.9	75.9	75.7	75.6	75.9
12	75.5	75.4	75.3	75.3	75.2	75.1	75.0	74.9	74.9	74.8	74.7	74.5	74.2	74.0	74.0	74.1	74.3	74.3	74.4	74.4	74.3	74.5	74.2	74.3	74.6
13	74.4	74.4	74.3	74.2	74.1	74.1	74.0	74.0	73.9	73.8	73.7	73.6	73.5	73.7	74.1	74.0	74.2	74.3	74.4	74.3	74.3	74.2	74.1	74.0	74.1
14	73.9	73.8	73.8	73.6	73.5	73.6	73.3	73.2	73.1	73.0	73.0	72.9	72.9	72.9	72.8	72.8	72.7	72.8	72.7	72.7	72.7	72.8	72.7	72.7	73.1
15	72.8	72.8	72.8	72.8	72.8	72.9	72.8	72.8	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.9	72.8	72.7	72.7	72.7	72.6	72.6	72.7	72.8
16	72.7	72.7	72.7	72.6	72.5	72.6	72.6	72.6	72.7	72.7	72.7	72.7	72.8	72.8	72.8	72.9	72.8	72.7	72.7	72.7	72.9	72.8	72.7	72.9	72.7
17	73.1	73.0	73.2	73.1	73.3	73.3	73.3	73.3	73.3	73.3	73.4	73.5	73.6	73.5	73.5	73.5	73.7	73.7	73.5	73.5	73.7	73.6	73.7	73.9	73.4
18	74.0	73.9	73.9	73.8	73.8	73.7	73.7	73.7	73.6	73.6	73.7	73.6	73.5	73.4	73.3	73.4	73.5	73.3	73.3	73.2	73.3	73.4	73.5	73.5	73.6
19	73.4	73.6	73.7	73.6	73.5	73.5	73.4	73.4	73.2	73.4	73.4	73.3	73.1	73.1	73.1	73.1	73.2	73.1	73.2	73.4	73.4	73.5	73.5	73.6	73.4
20	73.8	73.8	73.9	73.9	73.9	73.9	73.8	73.8	73.8	73.8	73.8	73.7	73.6	73.6	73.6	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.4	73.4	73.7
21	73.5	73.4	73.4	73.3	73.2	73.1	73.0	73.0	72.9	72.8	72.8	72.7	72.6	72.5	72.5	72.5	72.5	72.4	72.4	72.3	72.1	72.1	72.0	72.0	72.7
22	71.9	71.8	71.7	71.7	71.7	71.6	71.6	71.5	71.5	71.6	71.6	71.7	71.7	71.8	71.7	71.6	71.4	71.3	71.2	71.3	71.3	71.4	71.4	71.4	71.6
23	71.5	71.4	71.3	71.2	71.1	71.1	71.0	71.0	71.0	71.1	71.1	71.0	70.9	70.8	70.6	70.4	70.2	70.1	69.9	69.8	69.6	69.5	69.5	69.5	70.6
24	69.6	69.6	69.5	69.5	69.4	69.5	69.5	69.6	69.5	69.6	69.7	69.7	69.5	69.8	70.1	70.3	70.7	70.9	70.9	70.8	71.0	70.9	70.7	70.7	70.0
25	71.0	71.1	71.1	71.1	71.1	70.9	70.8	70.7	70.6	70.5	70.3	70.3	70.2	70.1	70.1	70.1	70.1	70.1	70.1	70.0	70.0	69.9	69.9	69.8	70.5
26	69.8	69.8	69.8	69.8	69.7	69.6	69.5	69.5	69.5	69.4	69.3	69.3	69.3	69.5	70.0	70.0	70.2	70.2	70.3	70.2	70.1	70.2	70.3	70.5	69.8
27	70.4	70.6	70.6	70.5	70.4	70.2	70.1	69.9	69.8	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.8	69.9	70.0	70.3	70.2	70.1	70.2	70.0
28	70.1	70.1	70.0	69.9	69.9	69.9	69.8	69.8	69.7	69.7	69.7	69.6	69.6	69.5	69.2	69.1	69.1	69.1	69.1	69.1	69.0	69.3	69.4	69.5	69.6
29	69.4	69.3	69.2	69.0	69.0	68.8	68.8	68.7	68.7	68.6	68.6	68.7	68.7	68.8	68.7	68.5	68.7	68.8	68.8	68.7	68.9	69.0	69.0	68.9	68.8
30	68.8	68.8	68.7	68.6	68.6	68.5	68.4	68.4	68.4	68.4	68.4	68.5	68.6	68.6	68.5	68.4	68.3	68.4	68.4	68.3	68.4	68.4	68.5	68.5	68.5
31	68.5	68.5	68.4	68.4	68.3	68.3	68.2	68.3	68.2	68.1	67.9	67.7	67.6	67.5	67.5	67.4	67.3	67.3	67.3	67.3	67.5	67.7	68.1	68.0	67.9
MONTHLY AVERAGE																									73.1

TABLE 3.2-9

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

SEPTEMBER 1982

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	67.9	68.0	68.0	68.0	68.0	68.0	68.0	67.9	67.9	67.9	67.9	67.9	67.8	67.8	67.7	67.5	67.5	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.7
2	67.3	67.3	67.3	67.3	67.2	67.1	67.1	67.1	67.0	66.9	66.7	66.5	66.5	66.6	66.6	66.6	66.7	66.8	66.8	66.9	66.9	67.0	67.0	67.0	66.9
3	67.0	67.0	67.0	67.0	67.1	67.0	67.0	67.1	67.0	67.0	67.1	67.0	66.9	67.1	67.4	67.4	67.7	68.3	68.3	68.5	68.4	68.2	68.2	68.2	67.5
4	68.1	68.1	68.0	68.0	67.9	67.9	67.9	67.8	67.9	67.9	67.9	67.9	67.9	68.0	68.0	68.1	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.1	68.0
5	68.0	68.0	67.9	67.9	67.8	67.8	67.7	67.6	67.6	67.5	67.5	67.4	67.4	67.4	67.3	67.2	67.1	67.0	67.1	67.1	67.1	67.1	67.2	67.4	67.5
6	67.4	67.3	67.4	67.5	67.6	67.7	67.6	67.7	67.8	67.8	67.6	67.8	67.9	68.0	67.9	67.9	67.9	67.9	67.9	67.9	67.9	68.0	68.0	67.9	67.8
7	67.9	67.8	67.6	67.8	68.2	68.2	68.1	68.1	68.0	68.1	68.1	68.0	67.9	67.8	67.8	67.6	67.5	67.8	67.9	67.8	67.6	67.5	67.7	67.7	67.9
8	67.7	67.8	67.8	67.7	67.7	67.7	67.8	67.7	67.6	67.5	67.4	67.4	67.3	67.1	66.9	66.9	66.9	66.9	67.1	67.0	66.9	66.9	66.9	67.0	67.4
9	67.0	67.0	67.1	67.0	67.0	67.0	66.9	66.9	66.9	67.0	66.9	66.9	66.8	66.8	66.8	66.8	66.9	66.9	66.9	66.9	66.9	66.9	67.0	67.0	66.9
10	67.2	67.1	67.1	67.1	67.3	67.3	67.3	67.3	67.5	67.5	67.5	67.5	67.4	67.3	67.3	67.2	67.2	67.3	67.3	67.5	67.5	67.3	67.5	67.3	67.0
11	67.5	67.6	67.5	67.6	67.6	67.6	67.8	67.8	67.8	67.7	67.7	67.8	67.7	67.7	67.7	67.6	67.5	67.4	67.4	67.3	67.3	67.3	67.3	67.3	67.6
12	67.3	67.3	67.2	67.3	67.3	67.2	67.3	67.3	67.3	67.2	67.3	67.3	67.2	67.3	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.3
13	67.3	67.3	67.4	67.4	67.4	67.4	67.4	67.4	67.5	67.5	67.5	67.6	67.6	67.9	67.8	67.8	67.9	67.9	68.0	68.2	68.3	68.5	68.7	68.8	67.8
14	68.6	68.3	68.5	68.8	68.9	68.9	68.9	68.9	68.9	68.9	68.9	69.0	69.0	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.2	69.2	69.2	69.2	69.0
15	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.3	69.3	69.3	69.3	69.2	69.2	69.2	69.2	69.2	69.1	69.1	69.2	69.2	69.2	69.2	69.2
16	69.3	69.3	69.4	69.3	69.3	69.2	69.2	69.2	69.2	69.1	69.2	69.1	69.1	69.1	69.1	69.1	69.0	69.1	69.0	69.0	69.0	69.0	68.9	68.9	69.1
17	68.9	68.9	68.8	68.9	68.8	68.8	68.8	68.7	68.7	68.8	68.8	68.9	69.1	69.2	69.4	69.5	69.5	69.5	69.4	69.3	69.2	69.2	69.1	69.1	69.1
18	69.0	69.0	68.9	68.8	68.7	68.6	68.6	68.5	68.5	68.4	68.4	68.3	68.1	68.0	67.9	68.0	68.1	68.1	68.0	67.9	67.7	67.5	67.3	67.0	68.2
19	66.9	66.8	66.7	66.5	66.4	66.3	66.2	66.2	66.3	66.3	66.4	66.5	66.6	66.6	66.6	66.6	66.6	66.8	66.9	67.1	67.1	67.1	67.0	66.7	66.6
20	66.6	66.5	66.4	66.3	66.1	65.9	65.7	65.6	65.5	65.6	65.6	65.7	65.6	65.5	65.6	65.5	65.6	65.7	65.8	65.7	65.9	65.8	65.8	65.8	65.8
21	65.8	65.7	65.7	65.7	65.6	65.6	65.5	65.5	65.5	65.6	65.6	65.5	65.4	65.4	65.2	65.2	65.0	64.9	65.0	65.0	65.0	64.9	65.0	65.1	65.4
22	65.1	65.1	65.0	65.0	65.0	65.0	65.0	65.0	65.0	64.9	64.9	64.9	64.8	64.7	64.6	64.5	64.4	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.8
23	64.5	64.5	64.5	64.5	64.5	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.3	64.2	64.2	64.1	64.0	64.0	64.0	64.1	64.0	64.0	64.0	64.0	64.3
24	63.9	63.9	63.8	63.8	63.8	63.7	63.8	63.7	63.7	63.7	63.7	63.6	63.5	63.4	63.4	63.4	63.4	63.3	63.3	63.2	63.2	63.4	63.6	63.7	63.6
25	63.7	63.6	63.6	63.5	63.5	63.4	63.4	63.4	63.3	63.3	63.4	63.4	63.5	63.4	63.4	63.4	63.4	63.4	63.3	63.3	63.2	63.2	63.2	63.2	63.4
26	63.2	63.2	63.2	63.2	63.2	63.4	63.4	63.4	63.4	63.3	63.4	63.4	63.4	63.4	63.3	63.3	63.3	63.2	63.2	63.2	63.1	63.1	63.1	63.0	63.3
27	63.1	63.1	63.1	63.1	63.2	63.2	63.2	63.3	63.3	63.2	63.1	63.1	63.1	63.1	63.0	62.8	62.7	62.7	62.7	62.8	62.8	62.9	62.9	62.9	63.0
28	62.9	62.9	62.9	62.9	62.9	62.8	62.8	62.8	62.8	62.9	62.9	62.9	62.8	62.8	62.9	63.0	63.1	63.1	63.1	63.0	63.0	62.9	62.8	62.8	62.9
29	62.7	62.6	62.6	62.6	62.5	62.5	62.5	62.4	62.5	62.5	62.5	62.6	62.6	62.7	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.7	62.7
30	62.7	62.7	62.6	62.6	62.6	62.6	62.5	62.5	62.5	62.4	62.4	62.3	62.3	62.3	62.3	62.4	62.5	62.6	62.6	62.7	62.7	62.7	62.7	62.7	62.5
MONTHLY AVERAGE																									66.3

TABLE 3.2-10

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

OCTOBER 1982

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	62.7	62.7	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.5	62.5	62.4	62.5	62.5	62.6	62.9	63.1	63.2	63.2	63.2	63.3	63.2	63.1	63.1	62.8
2	62.9	62.9	62.8	62.8	62.7	62.6	62.5	62.4	62.3	62.3	62.4	62.4	62.4	62.6	62.6	62.6	62.6	62.5	62.5	62.4	62.4	62.3	62.3	62.3	62.5
3	62.3	62.2	62.2	62.1	62.2	62.2	62.1	62.1	62.1	62.1	62.1	62.1	62.2	62.1	62.1	62.1	62.1	62.1	62.0	62.1	62.1	62.1	62.1	62.1	62.1
4	62.1	62.2	62.3	62.2	62.2	62.2	62.2	62.1	62.1	62.1	62.0	62.0	61.8	62.0	62.1	62.5	62.6	62.5	62.5	62.6	62.7	62.7	62.7	62.7	62.3
5	62.7	62.6	62.6	62.5	62.5	62.4	62.3	62.3	62.3	62.3	62.4	62.4	62.3	62.1	62.2	62.3	62.3	62.4	62.4	62.5	62.5	62.5	62.5	62.4	62.4
6	62.5	62.6	62.7	62.7	62.8	62.7	62.6	62.7	62.7	62.7	62.6	62.6	62.4	62.2	62.1	62.1	62.1	62.1	62.0	62.0	62.0	62.1	62.1	62.1	62.4
7	62.2	62.2	62.2	62.1	62.1	62.0	62.0	62.0	61.9	61.9	62.1	62.1	62.2	62.1	62.0	61.9	61.8	61.7	61.9	61.7	61.7	61.7	61.6	61.6	61.9
8	61.7	61.8	61.7	61.7	61.8	61.8	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.6	61.5	61.5	61.6	61.6	61.6	61.6	61.6	61.5	61.3	61.1	61.6
9	61.0	60.9	60.9	61.0	61.1	61.1	61.0	61.0	60.9	60.9	61.0	61.1	61.1	61.1	61.1	61.0	60.9	60.9	60.9	60.8	60.7	60.5	60.4	60.4	60.9
10	60.3	60.3	60.2	60.2	60.2	60.2	60.1	60.0	60.0	60.0	60.1	60.1	60.1	60.2	60.2	60.2	60.1	59.9	59.9	60.0	59.9	59.7	59.7	59.6	60.0
11	59.6	59.5	59.4	59.2	59.2	59.1	59.0	59.0	58.9	58.9	58.9	58.9	58.7	58.6	58.5	58.1	58.1	58.0	58.1	58.3	58.6	58.4	58.4	58.4	58.7
12	58.4	58.3	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.1	58.0	57.9	57.7	57.7	57.8	57.9	58.0	58.1	58.1	58.1	57.9	57.9	57.8	58.1
13	57.8	57.8	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.8	57.7	57.6	57.5	57.5	57.7	57.8	57.8	57.5	57.5	57.6	57.6	57.6	57.7
14	57.6	57.6	57.6	57.6	57.5	57.5	57.5	57.5	57.5	57.4	57.5	57.4	57.3	57.3	57.3	57.4	57.5	57.5	57.5	57.5	57.5	57.4	57.4	57.4	57.5
15	57.3	57.3	57.4	57.4	57.3	57.3	57.4	57.4	57.4	57.3	57.4	57.3	57.3	57.2	57.2	57.1	57.0	56.9	56.8	56.8	56.8	56.8	56.8	56.9	57.2
16	56.8	56.7	56.7	56.8	56.7	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.5	56.5	56.6	56.6	56.4	56.4	56.3	56.3	56.2	56.6
17	56.2	56.2	56.1	56.0	55.9	55.7	55.5	55.5	55.6	55.5	55.4	55.4	55.3	55.3	55.4	55.3	55.2	55.1	55.0	54.9	54.7	54.6	54.6	54.4	55.4
18	54.4	54.4	54.3	54.3	54.3	54.3	54.4	54.4	54.3	54.3	54.3	54.1	54.0	53.9	53.9	54.0	54.1	54.0	54.1	54.1	54.1	53.9	53.9	53.8	54.2
19	53.8	53.8	53.7	53.6	53.6	53.5	53.5	53.6	53.6	53.6	53.7	53.7	53.6	53.9	54.1	54.0	53.9	53.8	53.7	53.6	53.5	53.5	53.5	53.5	53.7
20	53.4	53.5	53.4	53.3	53.3	53.3	53.3	53.3	53.2	53.2	53.1	52.9	52.8	52.7	52.8	52.9	53.0	53.1	53.2	53.1	53.0	52.9	53.0	52.9	53.1
21	52.9	52.9	52.9	52.8	52.8	52.8	52.8	52.8	52.7	52.7	52.8	52.8	52.9	53.1	53.3	53.5	53.6	53.6	53.5	53.5	53.4	53.4	53.3	53.2	53.1
22	53.1	53.1	53.0	53.0	52.9	52.9	52.8	52.8	52.7	52.7	52.5	52.4	52.4	52.4	52.4	52.6	52.7	52.8	52.8	52.8	52.8	52.7	52.7	52.6	52.7
23	52.6	52.6	52.5	52.4	52.2	52.1	52.1	52.1	52.0	52.0	52.1	52.0	52.1	52.3	52.3	52.3	52.2	52.1	52.0	52.0	51.9	51.9	51.9	51.8	52.1
24	51.8	51.7	51.7	51.6	51.5	51.5	51.4	51.4	51.4	51.5	51.5	51.6	51.6	51.8	51.6	51.6	51.6	51.6	51.6	51.6	51.5	51.5	51.4	51.4	51.6
25	51.3	51.2	51.2	51.1	51.0	50.9	50.8	50.8	50.7	50.7	50.7	50.8	50.7	50.6	50.5	50.3	50.3	50.2	50.1	50.1	50.0	49.9	49.8	49.8	50.6
26	49.8	49.7	49.7	49.6	49.6	49.6	49.5	49.5	49.5	49.3	49.3	49.3	49.2	49.0	49.0	49.0	49.1	49.2	49.0	49.0	49.0	49.0	48.9	48.9	49.3
27	48.8	48.8	48.7	48.6	48.6	48.5	48.5	48.5	48.4	48.5	48.7	48.8	48.9	49.0	48.9	48.8	48.8	48.7	48.7	48.7	48.8	48.8	48.7	48.6	48.7
28	48.7	48.7	48.8	48.8	48.7	48.6	48.6	48.6	48.6	48.6	48.6	48.8	48.8	48.8	48.8	48.7	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.7	48.7
29	48.7	48.7	48.7	48.7	48.6	48.7	48.8	48.8	48.9	48.9	48.8	48.8	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.8	48.7	48.7	48.6	48.8	48.8
30	48.7	48.7	48.7	48.7	48.7	48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	48.9	49.0	49.2	49.1	48.9
31	49.1	49.2	49.1	49.1	49.1	49.0	49.1	49.1	49.2	49.3	49.4	49.4	49.3	49.3	49.3	49.3	49.3	49.3	49.4	49.5	49.6	49.7	49.8	49.8	49.3
MONTHLY AVERAGE																									55.9

TABLE 3.2-11

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

NOVEMBER 1982

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	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.8	49.9	50.0	50.0	50.1	50.1	50.4	50.3	50.3	50.4	50.6	50.6	50.6	50.6	50.6	50.1
2	50.6	50.5	50.6	50.6	50.6	50.6	50.5	50.5	50.5	50.5	50.4	50.3	50.3	50.3	50.3	50.4	50.5	50.7	50.9	50.9	51.0	51.0	51.0	51.0	50.6
3	50.9	50.9	50.9	50.9	50.9	50.9	50.8	50.7	50.7	50.6	50.6	50.7	50.9	50.9	50.8	50.8	50.8	50.9	51.0	51.2	51.3	51.2	51.2	51.1	50.9
4	51.0	51.0	51.0	50.9	50.9	50.9	50.9	50.9	50.9	51.0	51.0	51.1	51.3	51.5	51.6	51.8	51.9	52.0	52.1	52.3	52.4	52.5	52.7	52.7	51.5
5	52.9	52.9	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.1	53.0	52.9	52.9	53.0	53.2	53.2	53.3	53.3	53.2	53.2	53.0	53.0	53.0	52.9	53.0
6	52.8	52.7	52.7	52.7	52.6	52.5	52.6	52.6	52.6	52.6	52.5	52.5	52.6	52.6	52.6	52.6	52.6	52.6	52.5	52.4	52.4	52.4	52.3	52.2	52.6
7	52.0	51.9	51.9	51.8	51.6	51.5	51.4	51.4	51.5	51.6	51.7	51.8	51.8	51.7	51.6	51.4	51.1	50.9	50.7	50.6	50.4	50.1	49.9	51.3	51.3
8	49.6	49.2	49.2	48.9	48.7	48.5	48.4	48.3	48.3	48.3	48.4	48.5	48.5	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.7	48.7	48.6
9	48.7	48.7	48.7	48.7	48.7	48.7	48.6	48.6	48.6	48.6	48.6	48.8	48.9	49.1	49.1	49.2	49.1	49.0	48.9	48.9	48.8	48.8	48.8	48.8	48.8
10	48.8	48.8	48.7	48.6	48.6	48.5	48.5	48.4	48.4	48.5	48.4	48.5	48.7	48.8	48.9	48.9	48.8	48.7	48.5	48.3	48.2	48.1	48.1	48.0	48.5
11	48.0	47.9	47.8	47.7	47.7	47.6	47.6	47.5	47.5	47.5	47.4	47.1	47.0	47.0	47.0	47.0	47.0	46.9	46.7	46.6	46.5	46.5	46.6	46.7	47.2
12	46.7	46.8	46.8	46.7	46.7	46.7	46.8	46.7	46.8	46.8	46.8	46.9	47.0	47.1	47.2	47.1	47.0	46.9	46.9	46.9	46.9	46.8	46.8	46.8	46.9
13	46.8	46.8	46.8	46.8	46.8	46.8	46.8	46.8	46.9	46.9	47.0	47.0	47.0	47.0	47.0	46.9	46.9	46.8	46.8	46.8	46.8	46.8	46.8	46.8	46.9
14	46.8	46.7	46.6	46.5	46.4	46.3	46.2	46.1	46.0	46.0	46.0	46.0	46.0	46.0	46.0	45.9	45.8	45.7	45.6	45.6	45.5	45.4	45.4	45.3	46.0
15	45.3	45.3	45.2	45.3	45.3	45.4	45.5	45.5	45.7	45.9	46.0	46.2	46.3	46.4	46.4	46.4	46.4	46.3	46.2	46.1	45.9	45.8	45.8	45.6	45.8
16	45.4	45.3	45.1	45.1	44.9	44.9	44.8	44.7	44.5	44.4	44.1	44.0	44.1	44.0	43.9	43.9	43.8	43.8	43.7	43.7	43.5	43.6	43.4	43.3	44.2
17	43.3	43.2	43.2	43.2	43.2	43.1	43.0	42.9	42.8	42.8	42.6	42.7	42.8	42.8	42.9	42.8	42.7	42.7	42.6	42.6	42.6	42.8	42.8	42.8	42.9
18	42.8	42.7	42.6	42.6	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.7	42.7	42.7	42.6	42.5	42.5	42.3	42.2	42.1	41.9	42.0	41.9	41.9	42.5
19	41.9	41.9	41.9	41.9	41.9	41.8	41.8	41.8	41.8	41.9	41.9	42.0	42.2	42.3	42.4	42.3	42.1	41.9	41.9	41.9	41.8	41.8	41.8	41.8	42.0
20	41.8	41.8	41.8	41.8	41.8	41.8	41.9	41.9	41.9	42.0	42.1	42.2	42.3	42.3	42.3	42.4	42.4	42.4	42.4	42.2	42.1	42.0	41.9	41.9	42.1
21	41.9	41.9	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.8	41.9	41.9	42.0	42.0	42.1	42.2	42.3	42.3	42.4	42.3	42.4	42.0
22	42.4	42.4	42.4	42.4	42.4	42.4	42.5	42.5	42.5	42.5	42.6	42.6	42.7	42.7	42.7	42.8	42.6	42.3	42.3	42.4	42.4	42.4	42.4	42.4	42.5
23	42.3	42.4	42.3	42.3	42.3	42.3	42.4	42.3	42.3	42.3	42.3	42.4	42.4	42.4	42.4	42.4	42.3	42.3	42.4	42.4	42.4	42.4	42.5	42.5	42.4
24	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.4	42.4	42.4	42.4	42.4	42.5	42.5	42.6	42.6	42.6	42.6	42.7	42.7	42.7	42.7	42.6	42.6	42.5
25	42.7	42.8	43.0	42.9	42.9	42.8	42.7	42.7	42.7	42.6	42.6	42.7	42.8	42.9	43.0	43.0	43.0	42.8	42.7	42.5	42.4	42.3	42.3	42.2	42.7
26	42.1	42.1	42.0	41.9	41.9	41.8	41.8	41.7	41.6	41.5	41.5	41.4	41.5	41.6	41.6	41.5	41.4	41.4	41.5	41.5	41.5	41.5	41.5	41.5	41.6
27	41.4	41.3	41.3	41.3	41.2	41.1	41.1	40.8	40.8	40.5	40.4	40.3	40.4	40.6	40.6	40.6	40.6	40.4	40.2	40.1	40.0	39.9	39.8	39.7	40.6
28	39.6	39.6	39.5	39.3	39.3	39.4	39.2	39.2	39.1	39.2	39.2	39.2	39.1	39.0	38.9	38.9	38.6	38.4	38.5	38.4	38.4	38.3	38.3	38.3	39.0
29	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.4	38.4	38.4	38.5	38.5	38.6	38.7	38.8	38.8	38.8	38.8	38.4
30	38.8	38.9	38.9	38.9	38.9	38.9	38.9	38.9	39.0	39.0	39.1	39.2	39.2	39.3	39.4	39.4	39.3	39.3	39.3	39.3	39.4	39.5	39.5	39.5	39.2
MONTHLY AVERAGE																									45.4

TABLE 3.2-12

AVERAGE HOURLY TEMPERATURE IN °F

VERMONT YANKEE SAMPLE STATION NO. 7

DECEMBER 1982

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	39.5	39.6	39.5	39.6	39.5	39.5	39.6	39.5	39.5	39.5	39.5	39.4	39.4	39.3	39.2	39.2	39.1	39.1	39.1	39.2	39.2	39.3	39.3	39.4	39.4
2	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.3	39.3	39.4	39.4	39.5	39.6	39.6	39.7	39.7	39.8	39.8	39.9	40.0	40.1	40.1	39.6
3	40.1	40.1	40.1	40.1	40.1	40.0	40.0	40.0	39.9	40.0	39.9	40.0	40.0	40.0	40.1	40.2	40.2	40.3	40.4	40.4	40.5	40.5	40.5	40.6	40.2
4	40.6	40.6	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.6	40.7	40.9	41.0	41.1	41.2	41.3	41.4	41.4	41.4	41.5	41.5	41.5	41.5	40.9
5	41.4	41.3	41.2	41.1	41.0	41.0	41.0	40.9	40.9	40.9	40.9	40.8	40.8	40.7	40.8	40.8	40.9	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
6	41.0	41.0	40.9	40.9	40.9	40.9	40.8	40.9	41.0	41.0	41.1	41.2	41.3	41.5	41.5	41.6	41.7	41.8	41.8	41.9	42.0	42.0	42.1	42.1	41.3
7	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.0	42.0	42.0	42.0	42.1	42.2	42.2	42.2	42.3	42.3	42.4	42.4	42.4	42.4	42.4	42.3	42.3	42.2
8	42.2	42.1	42.1	42.0	42.0	41.9	41.7	41.6	41.4	41.4	41.3	41.3	41.3	41.3	41.3	41.3	41.3	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.5
9	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.0	40.9	40.9	40.8	40.7	40.6	40.6	40.5	40.3	40.1	40.0	39.9	39.8	39.9	40.0	39.9	40.6
10	39.9	39.8	39.8	39.6	39.5	39.6	39.7	39.6	39.3	39.1	39.0	39.0	38.9	38.9	38.8	38.7	38.7	38.7	38.6	38.4	38.3	38.2	38.2	38.1	39.0
11	38.1	38.1	38.1	38.0	38.0	38.0	38.1	38.0	38.0	37.9	37.9	37.8	37.8	37.8	37.8	37.7	37.7	37.6	37.5	37.4	37.3	37.3	37.2	37.2	37.8
12	37.1	37.2	37.1	36.9	37.0	36.9	36.8	36.7	36.6	36.4	36.3	36.3	36.2	36.2	36.1	36.0	36.0	36.0	36.0	35.9	35.9	35.9	35.8	35.8	36.4
13	35.8	35.6	35.6	35.6	35.5	35.4	35.3	35.3	35.2	35.2	35.1	35.0	34.9	34.9	34.9	35.0	35.0	35.1	35.1	35.2	35.0	34.9	34.8	34.7	35.2
14	34.6	34.5	34.3	34.3	34.2	34.3	34.3	34.2	34.2	34.2	34.2	34.1	34.1	34.0	34.0	33.9	33.9	33.9	33.8	33.7	33.6	33.5	33.6	33.5	34.0
15	33.5	33.4	33.5	33.5	33.5	33.5	33.6	33.5	33.6	33.6	33.6	33.5	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.1	33.1	33.0	33.0	33.4
16	32.9	32.9	32.9	32.9	32.8	32.9	32.9	33.0	33.0	32.9	33.0	33.1	33.1	33.2	33.2	33.3	33.3	33.3	33.3	33.3	33.3	33.4	33.4	33.5	33.1
17	33.6	33.6	33.7	33.7	33.7	33.6	33.6	33.5	33.5	33.5	33.4	33.4	33.5	33.5	33.5	33.5	33.4	33.4	33.3	33.2	32.9	32.8	32.6	32.5	33.4
18	32.4	32.3	32.2	32.2	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.2	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.2	32.3	32.2	32.2	32.2	32.2
19	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
20	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
21	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
22	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.3	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.3	32.3	32.3	32.3	32.3
23	32.3	32.3	32.2	32.3	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.3	32.2	32.2	32.2	32.2	32.2	32.2
24	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
25	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
26	32.3	32.3	32.3	32.3	32.2	32.3	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.5	32.6	32.7	32.7	32.7	32.7	32.6	32.6	32.6	32.5	32.5	32.5
27	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.5	32.5	32.5	32.6	32.7	32.8	32.8	32.9	32.8	32.8	32.9	32.8	32.9	32.9	32.9	32.9	32.9	32.7
28	33.0	33.0	32.9	32.9	32.7	32.7	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.7	32.7	32.9	33.0	33.1	33.2	33.3	33.4	33.5	33.5	33.7	32.9
29	33.7	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.5	33.4	33.5	33.5	33.7	33.7	33.8	33.8	33.8	33.9	33.9	33.9	33.9	34.0	34.1	34.1	33.8
30	34.2	34.1	34.1	34.0	33.8	33.7	33.6	33.5	33.4	33.4	33.4	33.4	33.5	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.7
31	33.7	33.6	33.6	33.5	33.5	33.5	33.5	33.6	33.6	33.7	33.8	34.0	34.1	34.2	34.3	34.4	34.4	34.4	34.4	34.4	34.3	34.4	34.4	34.4	34.0

MONTHLY AVERAGE 35.7

TABLE 3.3-1

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

JANUARY 1982

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	0.2	0.7	0.6	0.8	1.9	0.2	0.3	0.3	0.3	0.3	0.6	-1.2	-1.3	-1.4	-1.2	-0.5	-0.2	-0.1	0.0	-0.1	0.1	0.0
2	-0.2	-0.3	0.1	0.4	0.7	0.8	1.6	1.0	0.9	-0.8	-1.4	-1.3	-0.7	-0.3	-0.2	-0.1	-0.2	0.0	0.2	0.0	0.0	0.1	-0.2	-0.1
3	0.0	0.0	2.4	1.3	0.1	0.0	0.1	0.2	0.0	0.1	0.1	1.0	-0.3	-1.2	-0.1	0.0	0.0	-0.1	0.5	0.0	-1.3	-1.5	-0.8	-0.4
4	-0.1	0.0	-0.1	0.0	0.1	-0.2	-0.2	0.3	2.4	1.3	-1.3	-1.4	-0.5	-0.2	-0.1	0.2	0.1	1.2	-1.0	-0.4	-0.1	0.0	-0.1	0.0
5	-0.1	0.1	0.4	0.2	-0.6	-0.2	-0.3	0.9	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0
6	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	-0.1	0.0	0.0	0.1	0.0	-0.1	0.0	0.1	-0.1	0.0	0.0	0.0
7	0.0	0.1	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	-0.1	0.1	-0.1
8	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	-0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.0	-0.2	-0.3	-0.1	0.1	-0.3	0.0	0.0
9	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	-0.3	0.0	0.3	0.2	0.1	0.1	0.0	0.0	-0.2	-0.4	-0.1	-0.1	0.0	0.0
10	0.0	0.0	0.1	-0.2	0.4	0.2	-0.1	0.0	0.0	0.4	0.3	0.0	0.0	0.1	0.0	0.1	1.2	-1.0	-0.9	-0.4	-0.2	0.0	0.0	-0.2
11	-0.1	-0.1	0.0	0.0	0.3	0.2	0.4	3.1	0.8	-0.7	-1.6	-1.0	-0.5	-0.2	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
12	0.1	-0.2	-0.1	0.1	0.2	0.5	3.0	0.7	-1.5	-1.6	-0.7	-0.2	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1
13	-0.1	-0.1	0.3	1.0	0.9	0.5	1.3	0.9	0.2	-1.2	-1.4	-1.1	-0.4	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
14	0.2	0.1	0.0	0.1	1.7	2.0	0.0	-0.3	-1.5	-1.2	-0.6	-0.1	-0.2	-0.3	-0.2	0.0	0.4	0.1	-0.1	0.0	-0.1	0.1	0.0	0.0
15	0.3	0.1	0.1	0.0	0.1	0.5	0.1	1.9	-1.2	-1.1	-0.5	-0.1	0.0	0.0	-0.1	0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1
16	0.2	0.4	0.1	0.0	-0.1	0.0	0.0	0.2	2.9	0.3	0.0	-1.1	-1.4	-0.9	-0.2	-0.1	2.2	-0.7	-0.9	-0.6	-0.1	-0.1	-0.1	0.0
17	0.0	0.0	-0.1	-0.1	0.1	0.1	0.1	0.2	1.8	1.9	0.3	-0.3	-0.2	-0.8	-0.5	-0.3	1.1	-1.3	-1.1	-0.5	-0.3	-0.1	0.0	-0.1
18	0.0	-0.1	0.0	0.1	0.2	0.2	1.2	2.4	0.0	-1.5	-1.3	-0.7	-0.2	0.0	-0.1	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.1	-0.1
19	0.0	0.0	-0.1	0.0	0.3	0.4	0.7	2.8	0.4	-1.2	-1.6	-0.9	-0.4	-0.3	-0.2	0.0	-0.1	-0.1	0.0	0.1	0.3	0.0	0.0	0.0
20	0.0	0.0	-0.2	0.1	0.3	0.4	2.3	1.5	-0.6	-1.6	-1.3	-0.5	-0.2	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1
21	0.1	-0.1	-0.1	0.0	0.1	0.3	2.8	1.2	-0.6	-1.6	-0.9	-0.6	-0.2	-0.1	-0.1	0.0	0.0	1.2	0.7	-0.8	-0.7	-0.3	-0.2	0.0
22	-0.1	0.0	-0.2	0.0	0.0	0.1	0.5	2.8	1.2	-0.5	-1.5	-1.1	-0.6	-0.3	-0.1	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0
23	0.1	0.0	0.0	0.1	0.2	0.3	0.5	1.2	1.5	0.3	0.3	-0.2	-1.0	-1.6	-0.9	-0.4	-0.1	-0.1	0.0	-0.1	0.1	0.0	0.0	0.0
24	0.0	0.0	-0.1	0.0	0.6	0.7	0.6	0.6	1.0	0.8	-0.1	0.3	0.4	0.2	0.1	0.3	0.0	0.5	-1.2	-1.1	-1.3	-1.2	-0.4	-0.2
25	-0.1	0.0	0.2	0.7	0.4	0.9	1.0	0.8	0.2	-1.1	-1.3	-1.0	-0.4	-0.2	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	-0.1
26	-0.2	-0.1	-0.1	0.0	0.1	0.2	1.9	-2.0	-0.8	-0.3	0.0	-0.1	0.0	0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.1
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	-0.9	-0.2	-0.1	0.0	0.0	0.0	0.0	0.5	0.0	0.2	0.2	0.0	0.0	0.1	0.1
28	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	-0.9	-0.1	-0.1	0.2	0.1	0.0	0.0	0.5	-0.3	-0.1	0.0	0.0	0.0	0.0	-0.1
29	0.0	0.1	0.4	0.4	0.5	0.4	0.5	2.4	-0.5	-1.7	-1.2	-0.4	-0.1	0.0	0.1	0.1	1.0	0.4	-1.1	-0.4	-0.2	0.0	0.0	-0.2
30	-0.1	0.0	0.3	0.4	0.5	0.6	0.7	0.7	2.2	0.0	-1.7	-1.8	-0.8	-0.2	-0.1	0.1	0.1	0.5	-0.3	-0.1	0.0	0.0	0.0	0.0
31																								

SYSTEM INOPERATIVE

SYSTEM INOPERATIVE

TABLE 3.3-2

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

FEBRUARY 1982

LAYER

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	0.4	0.3	0.4	3.0	0.9	-1.8	-1.7	-0.7	-0.3	0.0	0.0	0.1	1.8	0.8	0.0	0.0	0.0	0.0	0.0	-0.1
2	-0.1	-0.1	0.2	0.5	2.3	1.1	0.8	-0.2	-0.7	-1.2	-1.3	-0.8	-0.3	-0.1	-0.1	0.0	-0.1	0.0	-1.4	-1.0	-0.4	-0.1	0.0	-0.1
3	0.1	0.0	0.0	-0.1	0.0	1.9	0.8	-1.6	-0.9	-0.3	-0.1	0.0	0.1	0.0	-0.1	0.1	1.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
4	-0.1	0.1	0.3	0.2	0.1	-0.2	-0.3	-0.1	-0.1	0.1	0.0	0.0	0.1	-0.1	0.1	0.0	-0.1	0.0	-0.5	-0.3	-0.1	0.0	0.0	0.0
5	0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1	0.1	0.0	-0.1	0.0
6	0.1	0.0	0.1	-0.2	0.0	0.0	0.3	0.1	0.0	0.1	-0.2	0.0	0.0	0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.1	0.0	-0.1	0.0
7	0.0	0.1	0.1	0.1	0.1	0.0	0.1	-0.1	-0.2	-0.1	0.1	0.1	0.1	0.0	0.0	-0.1	0.0	0.1	0.0	-0.1	0.0	0.0	-0.1	0.0
8	-0.2	0.0	0.2	0.3	0.4	0.0	-0.5	-0.4	-0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	-0.6	-0.3	-0.1	0.0	0.0
9	0.1	0.1	-0.1	0.0	0.0	0.1	0.0	-0.1	0.0	-0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1
10	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
11	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.1	-0.1	0.1	-0.1	0.0	0.1	-0.1	0.0	0.0	0.0	0.0
12	0.0	0.0	0.1	0.0	0.2	0.6	-0.1	-0.5	-0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.1	0.0	0.3	0.1	0.1	0.1	0.0	0.2	-0.2	-0.4	-0.1	-0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.2	-0.2	-0.4	-0.1	0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	0.1	0.1	-0.1	0.0
15	0.3	0.2	0.2	0.4	0.2	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.1	-0.2	-0.1	0.0	0.1	-0.6	-0.4	-0.1	-0.1	0.1	-0.1	0.0
16	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.2	-0.2	-0.7	-0.3	-0.1	0.0	0.0	0.4	0.4	0.2	0.3	-0.7	-0.5	-0.2	0.0	0.3	0.5
17	0.2	0.3	0.2	0.0	0.1	0.1	0.0	0.0	0.0	-0.4	-0.7	-0.3	0.0	0.1	0.1	0.1	0.2	-0.1	-0.2	-0.2	-0.1	0.0	0.0	0.3
18	0.0	0.0	-0.1	0.2	0.3	0.2	0.5	1.4	1.9	-1.4	-1.5	-0.6	-0.3	-0.1	0.0	0.1	-0.2	-0.1	0.0	0.0	0.0	-0.1	0.0	-0.1
19	0.0	0.0	-0.1	0.2	0.2	0.3	2.5	0.3	-0.9	-1.2	-0.7	-0.4	0.0	0.0	-0.1	0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.1	0.0
20	0.0	0.0	0.0	0.0	-0.1	0.1	0.2	0.5	2.6	0.0	-1.4	-1.0	-0.4	-0.1	-0.1	0.0	-0.1	-0.1	0.1	-0.1	-0.1	-0.1	0.1	0.0
21	0.0	0.0	0.0	-0.1	-0.2	0.1	0.6	0.6	0.6	0.5	1.8	0.6	0.0	-1.4	-1.4	-0.6	-0.4	-0.4	-0.1	-0.1	-0.1	0.1	-0.1	0.0
22	0.0	0.0	-0.1	-0.1	-0.2	0.2	0.7	2.8	0.9	-1.6	-1.3	-0.7	-0.2	0.0	0.2	0.2	0.1	0.5	0.4	-0.1	-0.1	0.1	0.0	0.0
23	0.0	-0.1	-0.1	-0.2	-0.1	0.3	0.4	2.6	0.7	-1.1	-1.3	-0.7	-0.3	-0.1	0.0	-0.1	0.0	-0.1	0.1	-0.1	-1.1	-0.4	0.0	0.0
24	-0.1	0.0	-0.2	-0.2	0.1	0.4	0.7	3.0	-0.1	-1.6	-1.1	-0.5	-0.2	0.0	0.0	0.0	0.2	0.0	0.0	1.4	0.3	-0.8	-0.5	-0.2
25	-0.3	0.1	1.2	0.8	0.2	-0.3	0.0	1.0	-0.1	-1.6	-1.0	-0.3	-0.2	0.0	-0.1	0.1	-0.1	0.7	-0.2	0.4	-0.2	-0.1	0.0	0.0
26	0.0	-0.2	-0.1	0.0	-0.1	0.3	0.8	2.4	0.6	-1.2	-1.2	-0.6	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	-0.4	-0.2	1.3	1.4	0.0
27	-0.7	-0.5	-0.3	0.0	-0.1	-0.1	0.0	0.0	0.7	-0.7	-0.5	0.0	0.1	0.1	0.2	0.1	-0.2	1.5	0.7	-1.3	-0.9	-0.3	-0.2	0.0
28	0.1	-0.1	-0.1	0.0	0.1	0.2	0.4	2.8	0.2	0.2	0.2	0.2	1.1	-0.4	-0.8	-0.5	-0.9	-0.3	-1.3	-0.6	-0.3	-0.1	-0.1	-0.1

TABLE 3.3-3

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

MARCH 1982

DAY	HOUR																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	0.5	-0.3	0.3	2.4	1.0	0.2	0.2	0.2	-1.0	-1.5	-1.1	-0.5	-0.1	-0.2	-0.1	0.0	-0.1	0.1	-0.1	0.0	0.0	-0.1	0.1	
2	0.0	-0.2	-0.1	0.2	0.8	2.2	0.5	0.3	-0.7	-1.6	-0.9	-0.3	-0.2	-0.2	0.0	0.1	0.2	1.9	-0.8	-1.1	-0.4	-0.1	-0.2	
3	0.0	-0.1	0.0	0.1	1.1	3.0	0.1	0.4	-1.0	-1.5	-1.0	-0.4	-0.1	0.0	0.0	0.3	0.0	-0.3	-0.2	-0.2	-0.1	0.1	0.1	
4	0.0	-0.1	-0.2	0.0	0.2	1.4	2.7	-0.1	0.4	-1.5	-0.8	-0.3	-0.2	-0.1	0.0	0.3	0.2	-0.3	-0.2	-0.1	0.1	0.0	0.2	
5	0.0	0.3	0.3	0.2	0.1	-0.1	0.3	0.5	-1.0	-0.5	-0.1	0.0	0.3	0.3	1.2	0.1	1.2	-1.6	-0.9	-0.5	-0.1	0.3	-0.1	
6	0.1	0.7	2.6	0.3	-0.2	0.2	0.0	0.3	0.0	-0.5	-1.5	-0.6	-0.2	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	
7	0.0	0.0	-0.1	-0.1	0.1	0.3	0.3	0.5	2.2	0.4	0.3	0.7	-0.9	-1.7	-1.2	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	
8	-0.1	-0.1	-0.2	0.1	0.2	0.5	3.2	0.6	-0.3	-1.7	-1.1	-0.4	-0.1	-0.1	-0.1	0.0	0.6	0.6	-0.1	-1.0	-0.2	-0.1	0.2	
9	0.1	-0.1	-0.1	-0.1	0.4	2.5	0.0	0.8	-1.1	-1.2	-0.7	-0.2	-0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	-0.1	0.0	-0.1	
10	0.0	0.0	-0.2	0.0	0.1	1.8	1.3	0.8	-1.0	-1.5	-0.3	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.2	0.1	-0.1	
11	0.0	-0.1	-0.2	0.1	0.1	0.5	2.5	0.8	-0.9	-1.5	-1.0	-0.3	-0.2	0.0	0.0	1.3	0.3	-0.9	-0.6	-0.2	0.0	-0.1	0.0	
12	0.1	-0.1	0.2	0.8	0.6	0.3	1.5	-0.4	-1.3	-1.0	-0.4	0.0	0.0	-0.1	0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	
13	0.0	-0.1	0.2	0.6	-0.4	-0.3	0.0	0.6	0.7	-0.8	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.1	0.0	
14	0.1	-0.3	0.3	0.0	0.1	0.1	0.2	0.2	-0.1	-0.1	0.1	0.1	0.1	-0.1	0.0	-0.2	0.0	-0.2	0.0	-0.1	0.0	0.0	0.0	
15	0.0	0.0	-0.1	0.1	0.0	-0.1	0.0	0.1	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.2	-0.4	-0.1	-0.2	0.0	-0.1	0.0	0.0	
16	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	
17	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	
18	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	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	
19	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	
20	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	0.0	-0.1	0.1	0.0	-0.1	
21	0.1	0.0	-0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	-0.1	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	-0.1	0.1	0.0	-0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1	-0.2	0.0	-0.1	0.0	0.0	0.0	
24	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	0.0	0.0	0.1	0.1	0.1	0.1	-0.1	0.0	0.0	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	
25	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	0.0	0.0	0.0	
26	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	
27	0.0	-0.1	0.1	-0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	
28	0.0	0.0	-0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	
29	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	
30	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.4	-0.2	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	
31	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	-0.1	

TABLE 3.3-4

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

APRIL 1982

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

TABLE 3.3-5

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

MAY 1982

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	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.1	0.0	0.1	0.2	0.2	0.0	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.2
2	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.1	0.2	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.2	0.2	0.1	0.1
3	0.0	0.1	0.1	0.0	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	-0.1	0.0	-0.1	0.0	0.0	-0.1	0.1
4	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	-0.1	0.1	0.0	-0.1	0.0	-0.1	0.0	0.0
5	-0.1	0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.2	0.0	0.7	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	-0.1	0.0
6	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.1	-0.1	0.0	0.0	-0.3	0.0	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1
7	0.0	0.1	0.1	-0.1	0.0	0.0	0.1	-0.1	0.0	0.2	0.1	0.2	0.3	0.0	0.1	0.1	0.1	-0.1	-0.1	0.1	-0.1	0.0	0.0	0.1
8	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0
9	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.2	0.0	-0.1	0.1	0.0	0.0	0.1	-0.2	-0.1	-0.1	0.0
10	-0.1	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	-0.1	-0.3	-0.2	-0.3	-0.1	-0.1	-0.1
11	0.0	-0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.0	0.1	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1
12	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0
13	-0.1	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.3	0.3	0.3	0.2	0.0	0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1
14	-0.2	-0.1	-0.1	0.0	0.0	0.1	0.3	0.0	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	-0.8	0.9	0.1	0.0	-0.2	-0.1	-0.1	-0.1
15	-0.2	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.4	0.3	0.4	0.3	0.4	0.3	0.2	0.2	-0.1	-0.1	-0.2	-0.1	-0.1	0.0

TABLE 3.3-6

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

OCTOBER 1982

DAY

HOUR

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

TABLE 3.3-7

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

NOVEMBER 1982

DAY

HOUR

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

SYSTEM INOPERATIVE

TABLE 3.3-8

DIFFERENCES IN SUCCESSIVE

HOURLY MEAN TEMPERATURES IN °F AT MONITOR NO. 3

DECEMBER 1982

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	0.2	0.9	0.8	0.6	0.3	0.3	0.4	-0.8	-0.9	-1.3	-0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1
2	0.1	-0.2	0.1	0.3	0.5	0.6	0.7	0.3	0.7	0.8	-0.9	-1.7	-0.7	-0.2	-0.1	0.1	0.0	-0.1	0.0	-0.1	-0.1	0.0	-0.1	0.0
3	0.0	0.1	0.2	0.2	0.1	0.4	0.6	0.6	0.6	-0.4	-1.2	-0.4	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
4	0.1	0.0	0.3	0.3	0.1	-0.1	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.2	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.1	0.0	0.1	0.0
5	0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.5	1.2	0.7	-0.9	-0.6	-0.3	-0.2	-0.1	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0
6	0.0	-0.1	0.0	0.2	0.4	0.9	0.9	0.7	0.4	-0.6	-1.1	-0.5	-0.2	0.0	-0.1	0.0	0.0	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0
7	0.1	-0.1	0.0	0.1	0.0	0.2	0.8	0.7	0.8	1.0	-1.0	-1.4	-0.6	0.0	0.1	0.1	0.0	-0.1	0.0	-0.1	-0.1	0.0	0.0	0.0
8	0.1	0.0	-0.1	0.1	-0.1	0.5	0.6	0.9	1.1	-1.0	-1.2	-0.4	0.0	0.2	0.1	0.2	-0.1	0.1	-0.9	-0.3	-0.1	-0.2	-0.2	0.0
9	0.0	0.1	0.4	0.5	0.6	0.5	0.5	0.1	0.5	0.3	-1.7	-1.3	-0.8	-0.3	0.1	0.3	0.3	-0.4	-0.0	-0.3	-0.1	-0.2	0.0	0.0
10	0.0	0.0	-0.1	0.0	0.4	0.5	0.5	0.9	0.4	-0.3	1.7	0.3	0.2	0.1	0.1	-0.2	0.1	0.8	-0.5	-0.3	-0.3	0.0	0.0	-0.1
11	-0.1	-0.1	0.1	0.7	0.9	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.6	0.1	0.1	0.0	-0.1	-0.2	-0.1	-1.4	-1.7	-0.7	-0.2	-0.2
12	0.0	0.0	-0.2	-0.1	-0.2	0.8	0.7	0.5	0.2	0.1	0.2	0.3	0.2	0.3	0.4	0.2	0.1	0.3	0.3	0.1	0.0	0.0	0.0	0.0
13	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	0.3	-0.6	-2.9	-2.2	-0.5	-0.1	0.0	-0.1	-0.3	-0.3	-0.1	0.0	-0.1	-0.3	-0.2	0.0	0.0
14	0.1	0.2	-0.1	0.0	0.4	0.8	0.6	0.8	1.1	-0.7	-1.5	-0.2	-0.5	-0.3	0.0	0.4	0.2	0.8	0.2	-1.1	-0.3	-0.3	-0.1	-0.1
15	0.2	0.0	0.1	0.5	0.2	0.2	0.6	0.3	0.6	1.1	0.2	-0.2	-0.5	-0.6	-0.6	-0.1	0.4	0.1	-1.9	-0.9	-0.4	-0.2	-0.1	-0.3
16	-0.2	0.1	-0.1	0.0	0.3	0.2	0.2	0.5	1.1	0.7	-0.9	-0.6	-0.4	-0.2	0.0	0.0	-0.1	-0.3	-0.1	0.0	-0.2	0.0	0.0	-0.1
17	-0.1	0.0	0.0	0.1	-0.1	0.0	0.0	-0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	-0.2	-0.1	-0.2	-0.1	-0.2	-0.1	0.0
18	-0.1	-0.1	-0.1	-0.1	-0.1	-0.4	-0.1	-0.3	-0.1	0.2	0.2	0.1	0.2	0.1	0.0	-0.3	-0.3	-0.2	0.0	0.0	-0.1	0.0	0.1	0.0
19	0.2	0.3	0.1	0.6	0.3	0.1	0.0	0.1	0.4	-0.2	-0.5	-0.4	-0.1	0.0	0.0	0.0	0.0	-0.1	0.1	-0.1	0.0	0.0	0.0	0.0
20	0.1	0.0	0.3	0.4	0.2	-0.1	0.0	0.1	-0.2	-0.5	-0.5	-0.2	0.0	0.1	0.1	0.2	-0.1	-0.1	-0.2	-0.1	-0.1	0.1	0.1	0.0
21	0.1	0.2	0.2	0.3	0.1	0.0	0.1	0.0	0.1	0.0	-0.5	-0.2	0.0	0.0	0.1	0.1	0.1	0.0	-0.3	-0.1	-0.1	0.0	-0.1	0.0
22	0.1	0.1	0.3	0.3	0.1	-0.1	0.1	0.1	0.0	-0.1	-0.5	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
23	-0.1	0.0	-0.1	0.1	0.2	0.2	0.9	2.4	0.6	-1.8	-1.2	-0.5	-0.3	0.0	-0.1	0.0	0.3	1.0	-0.8	-0.5	-0.2	0.0	0.0	-0.1
24	-0.2	0.2	0.2	0.4	0.6	0.6	0.7	0.6	0.8	1.3	-0.6	-1.6	-1.2	-0.7	-0.2	0.0	0.3	0.2	-0.5	-0.5	-0.3	-0.2	-0.1	0.1
25	0.1	-0.1	0.2	0.2	0.4	0.5	0.4	0.4	0.6	0.6	1.4	0.4	-0.7	-1.0	-0.8	-0.6	-0.3	-0.4	-0.2	-0.5	-0.3	-0.2	-0.1	0.1
26	0.2	0.1	0.1	0.1	0.3	0.3	0.4	0.3	0.5	0.4	-0.2	-0.6	-0.6	-0.3	-0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.1	0.0
27	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.0	0.0
28	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.2	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0
29	0.1	0.1	0.4	0.1	0.1	0.1	0.0	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	-0.1	-0.1	0.0	0.0
30	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	0.0	0.0
31	0.0	0.0	0.0	0.0	0.2	0.1	0.0	-0.1	0.0	-0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

JANUARY 1982

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	1.6	1.7	1.9	2.6	3.2	4.0	5.9	6.1	6.4	6.7	7.0	7.3	7.9	6.7	5.4	4.0	2.8	2.3	2.1	2.0	2.0	1.9	2.0	2.0
2	1.8	1.5	1.6	2.0	2.7	3.5	5.1	6.1	7.0	6.2	4.8	3.5	2.8	2.4	2.3	2.1	1.9	1.9	2.1	2.1	2.1	2.2	2.0	2.1
3	2.0	2.0	4.4	5.7	5.8	5.8	5.9	6.1	6.1	6.2	6.3	7.3	7.0	5.8	5.7	5.7	5.7	5.6	6.1	6.1	4.8	3.3	2.5	2.0
4	1.9	2.0	1.9	1.9	2.0	1.8	1.6	1.9	4.3	5.6	4.3	2.9	2.4	2.1	2.1	2.2	2.4	3.6	2.6	2.2	2.1	2.1	2.0	2.0
5	1.9	2.0	2.4	2.6	2.0	1.8	1.5	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9
6	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9
7	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.9	1.8
8	1.8	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.8	1.9	2.2	2.4	2.5	2.5	2.3	2.0	1.9	2.0	1.7	1.7	1.7
9	1.7	1.8	1.9	2.0	2.1	2.1	2.2	2.2	2.2	2.2	1.9	1.9	2.2	2.4	2.5	2.6	2.6	2.6	2.2	2.0	1.8	1.8	1.8	1.7
10	1.8	1.8	1.9	1.7	2.1	2.3	2.1	2.1	2.2	2.6	2.9	2.8	2.8	2.9	2.8	3.0	4.2	3.2	2.3	1.9	1.7	1.7	1.7	1.5
11	1.4	1.3	1.4	1.4	1.7	1.9	2.3	5.4	6.1	5.3	3.7	2.7	2.2	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6
12	1.8	1.6	1.5	1.6	1.8	2.3	5.3	6.0	4.5	2.9	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.7	1.7	1.8	1.7	1.6
13	1.5	1.4	1.7	2.7	3.6	4.1	5.4	6.3	6.5	5.3	3.9	2.8	2.4	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.1
14	1.9	2.0	2.1	2.2	3.9	5.8	5.8	5.5	4.1	2.9	2.3	2.1	2.0	1.7	1.5	1.5	1.9	2.0	1.8	1.8	1.7	1.8	1.8	1.8
15	2.2	2.3	2.4	2.4	2.5	3.0	3.1	5.0	3.8	2.7	2.1	2.0	2.0	2.0	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.8
16	2.0	2.4	2.5	2.5	2.4	2.5	2.5	2.7	5.6	5.9	5.9	4.7	3.4	2.4	2.2	2.2	4.4	3.6	2.8	2.1	2.0	1.9	1.8	1.8
17	1.8	1.9	1.8	1.7	1.8	1.9	2.0	2.2	4.0	5.9	6.2	5.9	5.6	4.9	4.4	4.1	5.2	3.8	2.7	2.2	1.9	1.8	1.8	1.7
18	1.7	1.7	1.7	1.8	2.0	2.2	3.4	5.8	5.7	4.2	2.9	2.2	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.8	1.7
19	1.7	1.7	1.6	1.6	1.9	2.3	3.0	5.8	6.2	5.0	3.4	2.5	2.1	1.8	1.6	1.6	1.5	1.4	1.4	1.5	1.8	1.8	1.8	1.8
20	1.8	1.8	1.6	1.7	2.0	2.4	4.7	6.2	5.6	4.0	2.7	2.2	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7
21	1.8	1.7	1.6	1.7	1.7	2.1	4.9	6.0	5.5	3.8	2.9	2.3	2.1	2.0	1.9	1.9	1.9	3.2	3.8	3.0	2.3	2.0	1.8	1.8
22	1.7	1.7	1.5	1.5	1.6	1.7	2.1	4.9	6.2	5.6	4.1	3.0	2.4	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.7	1.6	1.7	1.7
23	1.8	1.8	1.8	1.9	2.1	2.4	2.9	4.1	5.6	5.9	6.2	6.0	5.0	3.4	2.5	2.1	2.0	1.9	1.8	1.8	1.9	1.9	1.8	1.8
24	1.8	1.8	1.7	1.7	2.3	3.1	3.7	4.2	5.2	6.0	5.9	6.2	6.7	6.8	6.9	7.2	7.2	7.7	6.5	5.4	4.1	2.9	2.5	2.3
25	2.2	2.2	2.4	3.1	3.5	4.4	5.5	6.2	6.4	5.3	4.0	3.0	2.6	2.4	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.7
26	1.5	1.4	1.3	1.3	1.4	1.6	3.5	1.5	0.7	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
27	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.5	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.1	0.1	0.0	0.1	0.0
28	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.3	0.4	0.3	0.2	0.4	0.5	0.5	0.5	1.0	0.7	0.6	0.6	0.6	0.6	0.6	0.6
29	0.6	0.7	1.1	1.5	1.9	2.3	2.8	5.2	4.8	3.0	1.8	1.4	1.3	1.3	1.5	1.6	2.6	2.9	1.9	1.4	1.3	1.3	1.3	1.1
30	1.0	1.0	1.3	1.7	2.2	2.8	3.5	4.2	6.4	6.4	4.7	2.9	2.1	1.9	1.8	1.9	SYSTEM INOPERATIVE							
31	SYSTEM INOPERATIVE																							

TABLE 3.5-2

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

FEBRUARY 1982

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	SYSTEM INOPERATIVE																	1.7	1.7	1.7	1.7	1.7	1.7	1.6
2	1.5	1.6	1.7	1.9	2.3	2.6	3.0	6.0	6.9	5.0	3.3	2.6	2.3	2.3	2.3	2.4	4.3	5.1	3.6	2.6	2.2	2.1	2.2	2.1
3	2.0	1.9	2.1	2.6	4.9	6.0	6.8	6.6	5.9	4.6	3.4	2.5	2.2	2.1	2.1	2.0	1.9	1.9	2.1	2.0	2.1	2.0	2.1	2.1
4	2.2	2.2	2.2	2.1	2.1	4.0	4.8	3.2	2.3	2.0	1.9	1.9	2.0	2.0	1.8	1.9	3.0	2.7	2.2	1.9	1.8	1.8	1.8	1.8
5	1.7	1.8	2.1	2.3	2.4	2.2	1.9	1.8	1.7	1.8	1.8	1.8	1.9	1.8	1.9	1.9	1.8	1.8	1.8	1.7	1.8	1.8	1.7	1.7
6	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.7	1.7	1.6	1.6	1.5	1.6	1.6	1.5	1.5
7	1.6	1.6	1.7	1.5	1.5	1.5	1.8	1.9	1.9	2.0	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6
8	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.0	1.8	1.7	1.8	1.9	2.0	2.0	2.0	1.9	2.0	2.7	2.7	2.1	1.8	1.7	1.7	1.9
9	1.7	1.7	1.9	2.2	2.6	2.6	2.1	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.6
10	1.7	1.8	1.7	1.7	1.7	1.8	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.6
11	1.7	1.6	1.7	1.8	1.9	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6
12	1.6	1.6	1.7	1.7	1.9	2.5	2.4	1.9	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.9	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7
13	1.7	1.8	1.8	2.1	2.2	2.3	2.4	2.4	2.6	2.4	2.0	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.7
14	1.7	2.0	2.3	2.4	2.5	2.6	2.7	2.7	2.7	2.9	3.1	3.1	3.2	3.0	2.9	2.9	3.0	2.4	2.0	1.9	1.8	1.8	1.7	1.7
15	2.0	2.2	2.4	2.8	3.0	3.1	3.2	3.2	3.3	3.6	2.8	2.2	2.0	2.0	2.4	2.8	3.0	3.3	2.6	2.1	1.9	1.9	2.2	2.7
16	3.0	3.1	3.1	3.2	3.2	3.2	3.2	3.4	3.2	2.5	2.2	2.1	2.1	2.1	2.2	2.3	2.5	2.4	2.2	2.0	1.9	1.9	1.9	2.2
17	2.4	2.7	2.9	2.9	3.0	3.1	3.1	3.5	3.1	2.4	2.1	2.0	2.0	2.1	2.1	2.2	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
18	1.7	1.7	1.6	1.8	2.1	2.3	2.8	4.2	6.1	4.7	3.2	2.6	2.3	2.2	2.2	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8	1.8
19	1.8	1.8	1.7	2.0	2.2	2.4	4.9	5.3	4.3	3.1	2.4	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.8	1.8	1.9	1.8	1.9	1.9
20	1.9	1.9	1.9	1.9	1.8	2.0	2.2	2.7	5.2	5.3	3.8	2.8	2.4	2.3	2.2	2.2	2.1	2.0	2.1	2.0	1.9	2.0	1.9	1.9
21	1.9	1.9	1.9	1.8	1.6	1.7	2.4	2.9	3.5	4.0	5.8	6.4	6.4	5.0	3.6	3.0	2.6	2.2	2.1	2.0	1.9	2.0	2.0	2.0
22	2.0	2.0	1.9	1.8	1.6	1.8	2.5	5.3	6.2	4.6	3.3	2.6	2.4	2.4	2.6	2.8	2.9	3.4	3.8	5.2	3.7	2.6	2.2	2.1
23	2.1	2.0	1.9	1.7	1.6	1.9	2.3	4.9	5.6	4.5	3.2	2.5	2.2	2.1	2.1	2.0	2.0	1.9	2.0	2.1	2.0	2.0	2.0	2.0
24	1.9	1.9	1.7	1.5	1.6	2.0	2.7	5.7	5.6	4.0	2.9	2.4	2.2	2.2	2.2	2.2	2.4	2.4	3.8	4.1	3.3	2.8	2.8	2.6
25	2.3	2.4	3.6	4.4	4.6	4.3	4.3	5.3	5.2	3.6	2.6	2.3	2.1	2.1	2.0	2.1	1.9	2.7	2.5	2.0	1.9	1.8	1.8	1.8
26	1.8	1.6	1.5	1.5	1.4	1.7	2.5	4.9	5.5	4.3	3.1	2.5	2.4	2.3	2.1	2.2	2.1	2.1	3.5	2.5	3.8	5.2	4.3	4.3
27	3.6	3.1	2.8	2.8	2.7	2.6	2.6	2.6	3.3	2.6	2.1	2.1	2.2	2.2	2.5	2.5	2.4	3.9	4.6	3.2	2.4	2.0	1.9	1.9
28	2.0	1.9	1.8	1.8	1.9	2.1	2.5	5.3	5.5	5.7	5.9	6.1	7.2	6.8	6.0	5.5	4.6	4.3	2.9	2.4	2.1	2.0	1.9	1.8

TABLE 3.5-3

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

MARCH 1982

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

TABLE 3.5-4

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

APRIL 1982

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

TABLE 3.5-5

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

MAY 1982

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

TABLE 3.5-6

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

OCTOBER 1982

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
16	0.7	0.8	0.7	0.6	0.6	0.7	0.6	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.6	0.5	0.3	0.3	0.2	0.3	0.3	0.4	0.5
17	0.6	0.6	0.7	0.8	1.0	1.2	1.2	1.1	1.0	1.1	1.3	1.6	1.9	2.0	1.9	2.1	2.3	2.4	2.3	2.3	2.4	2.5	2.5	2.6
18	2.6	2.5	2.6	2.5	2.3	2.2	2.1	2.0	2.0	2.0	2.1	2.4	2.7	3.0	3.1	3.1	3.1	3.1	2.8	3.0	3.1	3.3	3.1	3.1
19	3.0	2.9	3.0	3.2	3.3	3.5	3.5	3.8	4.1	3.9	3.4	3.1	2.9	2.6	2.4	2.6	2.8	2.9	2.8	2.9	3.3	3.2	3.1	3.1
20	3.0	2.8	2.9	3.2	3.3	3.5	3.7	3.8	4.1	4.6	5.2	5.3	5.1	5.0	4.6	4.4	4.3	4.0	4.0	4.4	4.8	4.7	4.2	4.0
21	3.9	3.9	3.8	3.8	3.8	3.9	4.0	4.2	4.4	5.0	5.3	5.4	5.0	4.5	3.9	3.5	3.3	3.0	3.3	3.8	4.1	4.0	4.0	4.1
22	4.0	4.0	4.1	4.1	4.3	4.3	4.5	4.6	4.8	5.1	5.4	5.2	4.6	4.0	3.5	3.0	2.8	2.7	2.8	3.1	3.3	3.2	3.0	2.9
23	2.8	2.7	2.8	2.7	2.9	3.0	3.0	3.1	3.2	3.4	3.6	4.1	4.4	4.3	4.5	4.7	4.8	5.0	5.1	4.9	5.0	5.0	5.0	5.1
24	5.0	5.1	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.1	5.3	5.3	5.6	5.7	6.2	6.4	6.4	6.3	6.1	6.0	6.0	6.0	5.9	5.9
25	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	6.1	6.4	6.9	7.3	7.6	7.9	8.0	8.0	7.8	7.7	7.6	7.3	7.2	7.1	6.9	6.6
26	6.4	6.4	6.4	6.4	6.3	6.1	6.2	6.2	6.2	6.8	7.2	7.0	6.7	6.6	6.2	6.0	5.7	5.5	6.0	6.2	6.2	6.0	6.0	5.9
27	5.8	5.7	5.8	5.9	5.9	6.1	6.2	6.4	6.7	6.7	6.9	7.2	7.1	7.4	7.9	8.1	7.9	7.6	7.2	7.0	6.8	6.7	6.8	6.7
28	6.5	6.5	6.4	6.4	6.9	7.1	7.0	6.8	6.7	7.1	7.5	7.4	7.8	8.1	8.2	8.4	8.4	8.3	8.1	7.9	7.8	7.7	7.6	7.4
29	7.4	7.3	7.3	7.3	7.3	7.2	7.1	7.1	7.1	7.1	7.7	8.0	8.1	8.3	8.9	9.0	9.0	9.0	9.1	8.8	8.7	8.7	8.7	8.4
30	8.5	8.3	8.3	8.2	8.2	8.0	8.0	8.1	7.9	7.9	8.0	8.0	8.1	8.4	8.7	8.8	8.8	8.7	8.5	8.3	8.2	8.0	7.8	7.9
31	7.9	7.8	7.9	8.0	8.1	8.2	8.2	8.3	8.2	8.0	8.1	8.3	8.6	8.7	8.9	8.9	8.8	8.7	8.4	7.4	7.7	7.5	7.4	7.5

TABLE 3.5-7

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

NOVEMBER 1982

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	7.4	7.4	7.4	7.4	7.4	7.4	7.3	7.4	7.4	8.3	7.3	7.2	6.9	6.8	6.9	6.4	6.3	6.3	6.7	6.5	6.5	6.4	6.3	6.2	
2	6.1	6.1	5.9	5.9	5.9	5.9	6.1	6.1	6.3	6.6	6.8	7.0	7.1	7.2	7.0	6.6	6.2	5.8	5.2	4.8	4.6	4.6	4.6	4.6	
3	4.9	5.0	5.2	5.3	5.5	5.7	6.0	6.2	6.4	7.0	7.2	7.1	6.6	6.7	7.0	6.9	6.2	5.6	5.1	4.5	3.7	3.6	3.6	3.7	
4	4.1	4.5	4.8	5.2	5.4	5.6	5.7	5.8	6.2	6.3	6.2	4.9	3.8	3.1	3.0	2.8	2.6	2.5	2.5	2.3	2.2	2.2	2.2	2.2	
5	2.0	1.7	1.5	1.7	1.9	2.3	2.8	3.8	5.2	4.6	3.6	3.2	2.9	2.7	2.3	2.2	1.9	1.7	1.7	1.7	2.0	2.0	1.9	1.9	
6	1.9	2.0	1.9	1.8	1.6	1.5	1.4	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.3	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	
7	2.2	2.2	2.2	2.2	2.4	2.4	2.4	2.3	2.2	2.0	1.9	1.7	1.7	1.7	1.8	1.9	2.1	2.4	2.6	2.8	2.9	3.1	3.2	3.2	
8	3.4	3.6	3.4	3.5	3.5	3.5	3.4	3.2	3.1	3.0	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.4	2.2	2.1	2.0	1.9	1.8	1.8	
9	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.6	1.7	1.6	1.7	1.7	1.8	1.7	1.8	1.7	1.7	1.7	
10	1.7	1.7	1.7	1.8	1.9	2.0	2.3	2.8	3.6	4.6	4.0	3.0	2.1	1.9	1.8	1.8	2.2	2.5	2.7	2.4	2.2	2.1	1.9	1.8	
11	1.7	1.9	2.4	3.1	3.7	4.1	4.3	4.6	4.8	6.0	6.0	6.1	4.9	3.9	3.6	3.5	3.5	4.4	4.5	3.8	3.5	3.3	3.1	3.0	
12	3.0	3.1	3.6	4.3	4.7	4.9	5.0	5.4	5.6	6.0	6.2	5.2	4.0	3.1	2.4	2.3	2.4	2.5	2.5	2.7	2.7	2.9	3.0	3.1	
13	3.1	3.0	3.0	3.1	3.1	2.9	2.8	3.7	5.1	4.2	3.7	2.8	2.5	2.0	2.0	1.7	1.6	1.6	1.6	1.5	1.4	1.2	1.2	1.2	
14	1.1	1.0	1.0	1.0	1.8	2.2	2.5	2.6	2.2	1.8	2.1	2.3	2.5	2.4	2.3	2.3	2.2	2.1	2.1	1.9	1.8	1.7	1.7	1.8	
15	1.9	1.8	1.6	1.4	1.2	1.2	1.2	1.2	1.1	0.9	0.9	0.8	0.7	0.7	0.9	0.8	1.6	3.5	1.7	1.3	1.3	1.4	1.4	1.6	
16	1.8	1.8	1.8	1.9	2.1	2.5	3.2	4.4	5.5	4.7	4.3	3.8	3.7	3.5	3.6	3.4	3.6	3.5	3.0	2.7	2.6	2.2	2.3	2.3	
17	2.4	2.5	2.8	3.1	3.3	4.0	4.4	5.0	5.6	5.1	SYSTEM INOPERATIVE														
18	SYSTEM INOPERATIVE										3.9	3.0	2.8	2.7	2.6	3.0	3.3	3.3	3.1	2.9	2.8	3.1	3.0	3.5	3.7
19	3.9	4.0	4.0	3.9	4.2	4.7	4.8	5.2	5.5	5.4	4.3	3.7	3.1	2.9	3.2	3.2	3.5	3.2	2.7	2.6	2.6	2.6	2.8	3.2	
20	3.5	3.6	3.4	3.4	3.7	3.9	4.5	5.0	5.4	5.4	5.4	5.2	5.1	4.9	4.5	4.1	4.1	4.2	3.1	2.7	2.4	2.3	2.6	3.1	
21	3.3	3.4	3.6	3.7	4.1	4.6	4.9	5.0	5.0	5.2	5.4	5.7	6.4	6.0	5.9	5.6	5.5	5.6	5.1	4.5	3.7	3.4	3.6	3.6	
22	4.0	3.9	3.8	3.6	3.6	3.7	3.8	4.3	4.7	4.5	4.0	3.4	3.1	2.9	2.8	2.6	2.9	3.2	3.2	3.1	3.0	3.0	3.1	3.1	
23	3.2	3.1	3.3	3.6	3.8	3.9	4.0	4.0	4.2	4.0	3.8	3.6	3.6	3.5	3.2	3.1	3.1	3.1	3.0	2.9	2.9	2.8	2.7	2.7	
24	2.7	2.7	2.8	2.9	3.2	3.8	4.3	4.9	5.4	6.1	5.3	4.2	3.6	3.4	3.2	2.9	2.9	2.8	2.6	2.5	2.4	2.3	2.2	2.1	
25	2.0	1.9	1.5	1.5	1.3	1.5	1.9	2.4	3.5	4.6	3.5	2.6	2.2	2.0	1.7	1.7	1.6	1.7	1.9	1.8	1.8	1.9	1.9	2.0	
26	2.1	2.2	2.2	2.4	2.5	2.6	3.8	4.4	5.5	5.6	4.5	3.6	3.0	2.7	2.8	2.5	2.5	2.4	2.3	2.2	2.0	1.9	1.8	1.9	
27	2.0	2.1	2.1	1.9	2.1	2.2	2.8	3.8	5.0	6.7	5.3	4.3	3.4	3.0	2.8	2.7	2.4	2.4	2.5	2.5	2.4	2.2	2.2	2.3	
28	2.5	2.4	2.5	2.7	2.6	2.5	2.9	3.4	3.9	4.2	5.0	5.9	5.2	3.8	3.1	2.8	2.9	3.1	2.9	2.9	2.8	2.8	2.7	2.6	
29	2.5	2.4	2.3	2.7	2.9	2.7	2.9	3.0	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.5	3.1	2.6	2.1	1.9	1.8	1.8	2.2	
30	2.2	2.4	3.1	3.8	4.5	5.0	5.3	5.7	6.4	6.4	5.9	4.1	3.2	3.1	2.6	2.4	2.4	2.4	2.3	2.3	2.1	2.1	2.1	2.0	

TABLE 3.5-8

DIFFERENCES IN HOURLY MEAN TEMPERATURES IN °F

BETWEEN MONITOR 3 AND MONITOR 7

DECEMBER 1982

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	2.0	2.1	2.2	3.2	4.0	4.5	4.9	5.2	5.6	4.8	4.0	2.7	2.7	2.7	2.6	2.7	2.6	2.6	2.4	2.4	2.2	2.2	2.0
2	2.1	1.9	2.0	2.3	2.8	3.4	4.1	4.4	5.1	6.0	5.1	3.3	2.6	2.3	2.1	2.2	2.1	2.0	1.9	1.8	1.6	1.4	1.2	1.2
3	1.2	1.3	1.5	1.7	1.8	2.3	2.9	3.7	4.4	3.9	2.8	2.3	2.2	2.1	2.1	2.0	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.6
4	1.7	1.7	2.1	2.4	2.5	2.4	2.3	2.1	2.0	2.0	1.9	1.8	1.6	1.7	1.5	1.4	1.3	1.1	1.1	1.0	1.0	1.0	1.1	1.1
5	1.3	1.4	1.5	1.6	1.7	1.6	1.7	2.3	3.5	4.2	3.3	2.7	2.5	2.3	2.3	2.1	2.1	2.0	1.8	1.7	1.7	1.7	1.7	1.7
6	1.7	1.6	1.7	1.9	2.3	3.2	4.2	4.8	5.1	4.5	3.4	2.8	2.5	2.4	2.1	2.1	2.0	1.7	1.6	1.5	1.3	1.2	1.2	1.1
7	1.2	1.1	1.1	1.2	1.2	1.4	2.2	3.0	3.8	4.8	3.8	2.4	1.7	1.6	1.7	1.7	1.7	1.5	1.5	1.4	1.3	1.2	1.3	1.3
8	1.5	1.6	1.5	1.7	1.6	2.2	3.0	4.0	5.3	4.3	3.2	2.8	2.8	3.0	3.1	3.3	3.2	3.4	2.5	2.2	2.1	1.9	1.7	1.7
9	1.8	1.9	2.3	2.8	3.4	3.9	4.4	4.5	5.1	5.7	4.7	3.6	2.8	2.6	2.3	2.7	3.2	3.0	2.1	1.9	1.9	1.6	1.4	1.3
10	1.3	1.4	1.3	1.5	2.0	2.4	2.8	3.8	4.5	3.4	1.8	1.5	1.8	1.9	2.1	2.0	2.1	2.9	2.5	2.4	2.2	2.3	2.3	2.3
11	2.2	2.1	2.2	3.0	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.4	7.0	7.1	7.2	7.3	7.2	7.1	7.1	5.8	4.2	3.5	3.4	3.2
12	3.3	3.2	3.1	3.2	2.9	3.8	4.6	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.5	7.8	7.9	8.2	8.5	8.6	8.7	8.7	8.7	8.8
13	8.7	8.8	8.6	8.5	8.5	8.5	8.6	8.9	8.4	5.5	3.4	3.0	3.0	3.0	2.9	2.5	2.2	2.0	2.0	1.8	1.7	1.6	1.7	1.8
14	2.0	2.3	2.4	2.4	2.9	3.6	4.2	5.1	6.2	5.5	4.0	3.9	3.4	3.2	3.2	3.7	3.9	4.7	5.0	4.0	3.8	3.6	3.4	3.4
15	3.6	3.7	3.7	4.2	4.4	4.6	5.1	5.5	6.0	7.1	7.3	7.2	6.7	6.1	5.6	5.6	6.0	6.2	4.4	3.5	3.1	2.9	2.9	2.6
16	2.5	2.6	2.5	2.5	2.9	3.0	3.2	3.6	4.7	5.5	4.5	3.8	3.4	3.1	3.1	2.9	2.8	2.5	2.4	2.4	2.2	2.1	2.1	1.9
17	1.7	1.7	1.6	1.7	1.6	1.7	1.7	1.7	1.7	1.8	2.0	2.1	2.0	2.1	2.1	2.1	2.2	2.0	2.0	1.9	2.1	2.0	2.1	2.2
18	2.2	2.2	2.2	2.1	2.1	1.7	1.7	1.3	1.2	1.4	1.6	1.6	1.7	1.8	1.8	1.5	1.2	1.0	1.0	1.1	0.9	1.0	1.1	1.1
19	1.3	1.6	1.7	2.3	2.6	2.7	2.7	2.8	3.2	3.0	2.5	2.1	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9
20	2.0	2.0	2.3	2.7	2.9	2.8	2.8	2.9	2.7	2.2	2.0	1.9	2.0	2.0	2.2	2.4	2.3	2.2	2.0	1.9	1.8	1.9	1.8	1.9
21	2.0	2.2	2.4	2.7	2.8	2.8	2.8	2.9	2.9	2.8	2.3	2.1	2.0	2.1	2.2	2.3	2.4	2.4	2.1	2.0	1.9	1.9	1.8	1.8
22	1.9	2.1	2.4	2.7	2.8	2.7	2.8	2.9	2.9	2.9	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7
23	1.6	1.6	1.6	1.6	1.9	2.1	3.0	5.4	6.0	4.2	3.0	2.5	2.2	2.2	2.1	2.1	2.4	3.4	2.5	2.1	1.9	1.9	1.9	1.8
24	1.6	1.8	2.0	2.4	3.0	3.6	4.3	4.9	5.7	7.0	6.4	4.8	3.6	2.9	2.7	2.7	3.0	3.2	2.7	2.2	2.1	2.0	2.0	2.1
25	2.2	2.1	2.3	2.5	2.9	3.4	3.8	4.2	4.6	5.2	6.6	7.0	6.3	5.2	4.4	3.8	3.5	3.1	2.9	2.4	2.1	1.9	1.8	1.9
26	2.1	2.2	2.3	2.4	2.8	3.0	3.4	3.7	4.2	4.5	4.3	3.7	3.0	2.6	2.3	2.3	2.2	2.1	2.0	2.0	1.9	1.9	2.1	2.1
27	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	1.8	1.7	1.7	1.7	1.6	1.7	1.7	1.5	1.5	1.4	1.4	1.3	1.3	1.3
28	1.3	1.3	1.4	1.6	1.8	1.8	2.0	2.0	2.0	2.1	2.3	2.2	2.3	2.2	2.3	2.1	2.0	1.9	1.7	1.6	1.6	1.5	1.6	1.6
29	1.6	1.6	2.0	2.1	2.3	2.4	2.5	2.6	2.5	2.5	2.4	2.5	2.3	2.4	2.3	2.3	2.2	2.1	2.0	2.0	1.9	1.7	1.6	1.6
30	1.5	1.5	1.5	1.6	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.3	2.2	2.2	2.2	2.1	2.0	1.9	1.8	1.7	1.5	1.5	1.5
31	1.4	1.5	1.5	1.6	1.8	1.9	1.9	1.7	1.7	1.5	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.6	1.5	1.5	1.6

SECTION 4

WATER QUALITY STUDIES

4. WATER QUALITY STUDIES

Dissolved oxygen concentration and pH, in addition to temperature, have been monitored continuously by Honeywell W-20 Water Quality Water Collection Systems since 1968 at Station 3, downstream of Vermont Yankee, and since 1970 at Station 7, upstream of the plant. Summaries of the dissolved oxygen and pH data collected in 1982 are shown in Table 4.1 for Station 3 and Table 4.2 for Station 7. The dissolved oxygen data are reduced to daily means and daily maxima and minima with times of occurrence; the pH data are shown as daily maxima and minima.

The tabulated dissolved oxygen and pH data of Tables 4.1 and 4.2 are presented graphically in Figures 4.1 through 4.4. The shaded areas in those figures show the largest maximum and smallest minimum observed in that month in any one of the years of record prior to 1982. The shaded areas in the dissolved oxygen graphs are divided by lines connecting the average D.O. for each month calculated from the monthly means in all the previous years of observation.

No record monthly minimum D.O. concentrations were observed in 1982, but maxima were recorded in March, April, and June that were greater than had been observed in earlier years of study. At upstream Station 7, the April maximum of 14.9 mg/l exceeded the earlier maximum of 14.5 mg/l in 1979, and the June 1982 maximum of 10.0 mg/l was greater than the previously observed June maximum, 9.9 mg/l in 1973. At Monitor 3, downstream of Vermont Yankee, the March and April

maximum of 14.9 mg/l in each month was 0.1 mg/l greater than the previous records in those months, 14.8 mg/l in 1979.

At both monitoring locations the mean monthly D.O. concentrations in November and December were lower than the average concentrations observed for those months in all the years of earlier studies. The mean August D.O. concentration at Station 3 was also lower than the 14 year mean of the earlier August data. The April and the June means at both locations were higher than the means observed in any single year of prior study. The Monitor 3 mean of 14.0 mg/l in April exceeded the highest April mean of 13.6 mg/l observed in former years and the June mean of 9.6 mg/l was 0.1 mg/l greater than the previously observed June maximum there. The Monitor 7 April mean was also 14.0 mg/l; the highest April mean observed there in prior years was 13.5 mg/l in 1978. The June mean of 9.0 mg/l was 0.1 mg/l greater than the highest mean June D.O. concentration previously at Monitor 7.

The pH minimum of 6.8 recorded at Monitor 3 in May was lower than the previous record minimum of 6.9, observed in 1978 and 1979. All other pH minima and all maxima of 1982 were within the pH extremes that have been previously observed.

Grab samples for water quality analysis were collected on 4 dates in 1982 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 4.3. With two exceptions, all concentrations observed for all parameters in 1982 at both Station 3 and Station 7 were within extremes that had been observed in samples of earlier years of study. The exceptions were the total iron concentration, 0.08 mg/l, in the Monitor 3 sample

of September 9 and the chloride concentration, 11.3 mg/l, in the Monitor 7 sample of March 11. The lowest concentration of iron observed at Monitor 3 in earlier years was 0.10 mg/l and the highest concentration of chloride found in earlier Monitor 7 samples was 10.8 mg/l.

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

The statistical methods used with these four parameters have been detailed in Reports IV and V of this series (Aquatec 1975, 1976). Data collected for these four parameters at Stations 3 and 7 before Vermont Yankee began operation and during the times of closed cycle operation through 1974 were combined and subjected to linear regression analysis. These analyses, using Station 7 concentrations as the independent variable, resulted in the statistics summarized in Table 4.4.

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

TABLE 4.4

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

	PARAMETER			
	<u>Sodium</u>	<u>Sulfate</u>	<u>Chloride</u>	<u>Alkalinity</u>
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

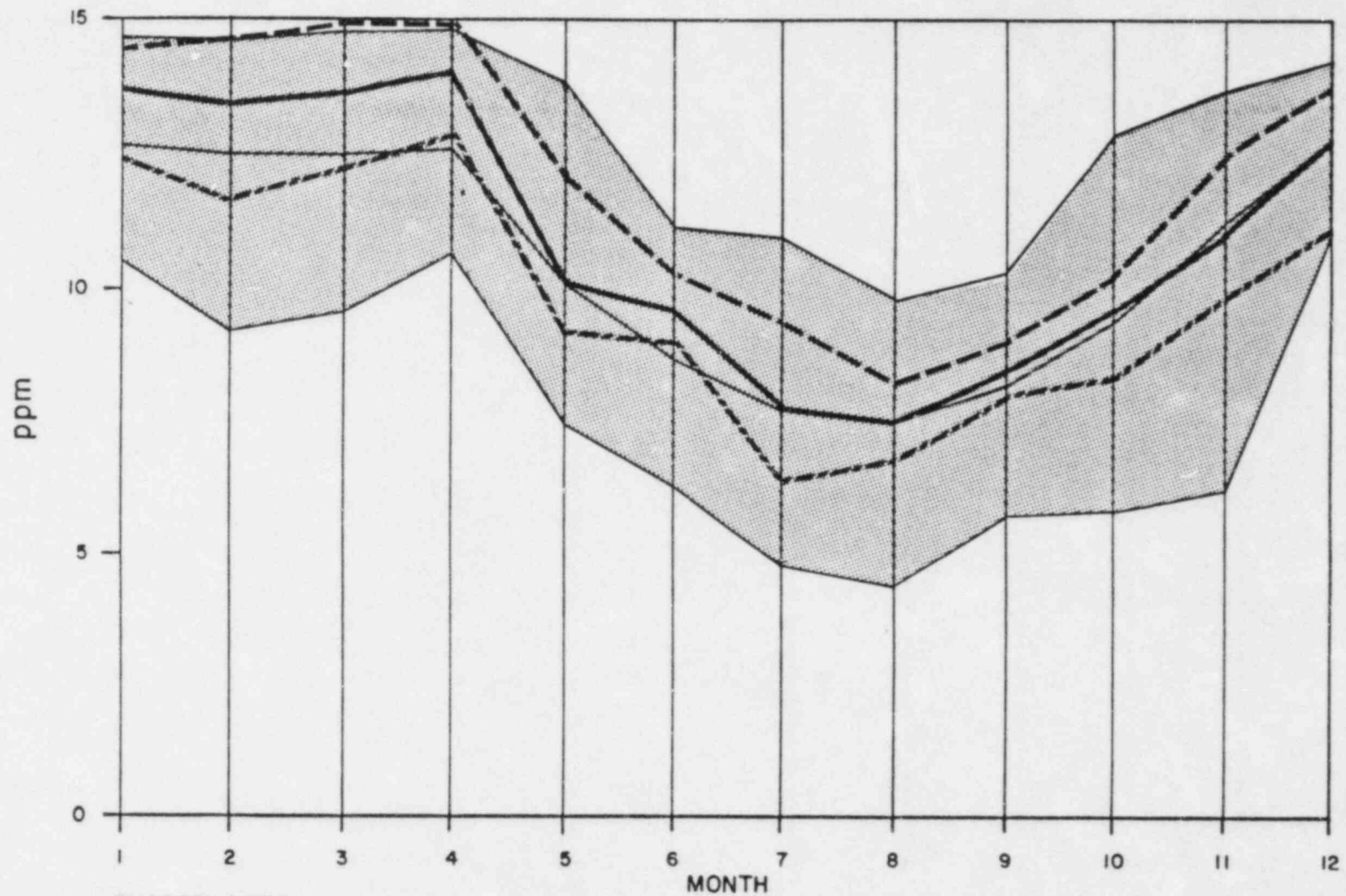
for each parameter in the regression analyses. The applicable range of Station 7 concentrations for each regression equation is indicated on the figure by the vertical dashed lines at the minimum and maximum value of Station 7 concentrations used to develop the equation.

On each of the figures, points for the data from samples collected in March, May, and November, when Vermont Yankee was using open cycle condenser cooling, are plotted as open circles. Points for the data of September, when Vermont Yankee was operating in the closed cycle cooling mode, are plotted in the figures as filled circles.

Fifteen of the plotted points lie within the applicable range of concentrations from which the regression lines were developed and are well within the 95% confidence limits for Station 3 concentrations predicted by the regression equations from the observed Station 7 concentrations. The Station 7 chloride concentration in March (11.3 mg/l) is greater than the maximum Station 7 concentration used in the regression analysis

(10.2 mg/l), but the plotted point for the March chloride data would fall within the 95% confidence limits of an extrapolated regression line.

DISSOLVED OXYGEN
STATION NO. 3
1982



SHADED AREA
Maxima, means, and minima, 1968 - 1981
See text.

MONTHLY MAXIMUM - - - - -
MONTHLY AVERAGE —————
MONTHLY MINIMUM - . - . -

FIGURE 4.1

DISSOLVED OXYGEN
STATION NO. 7
1982

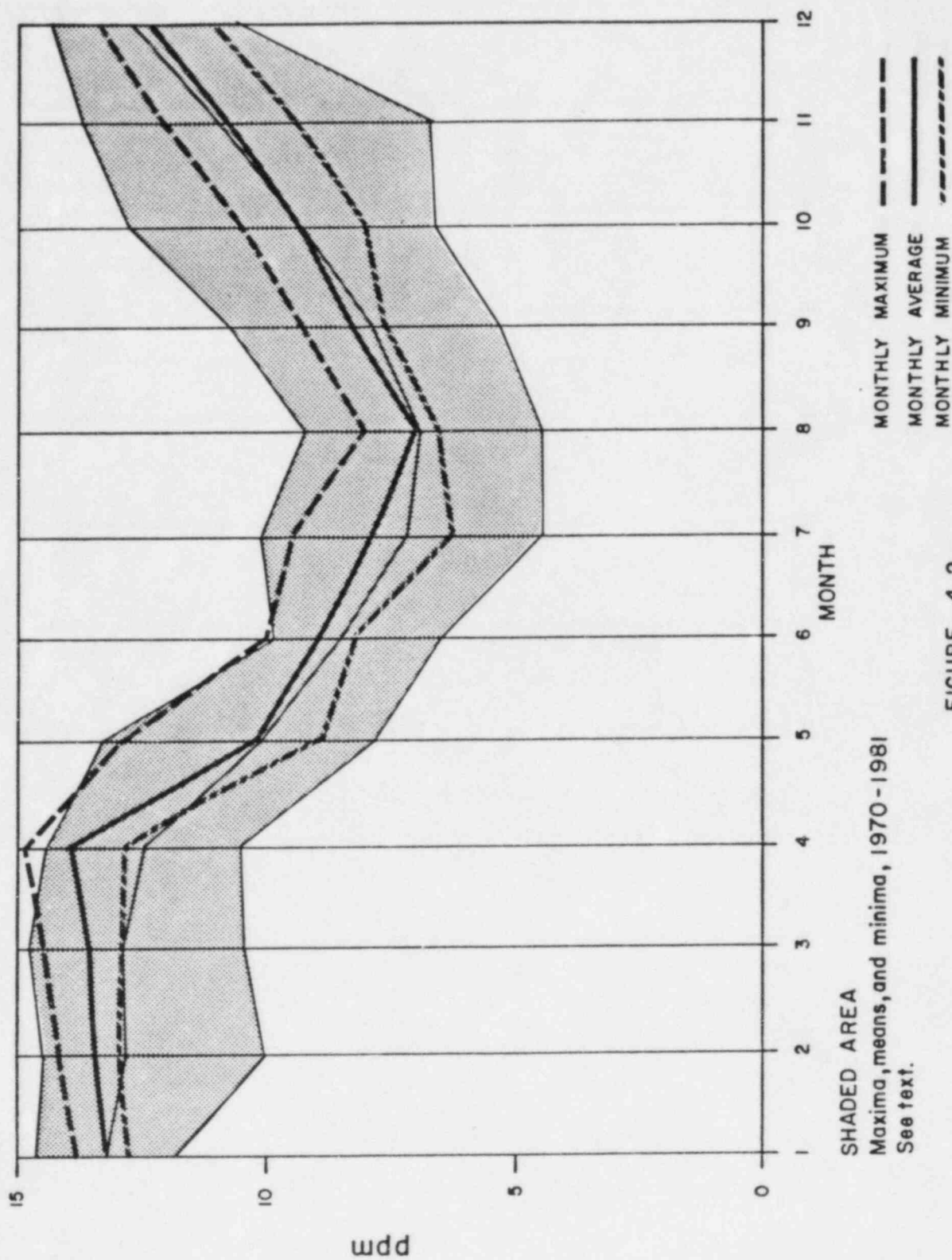
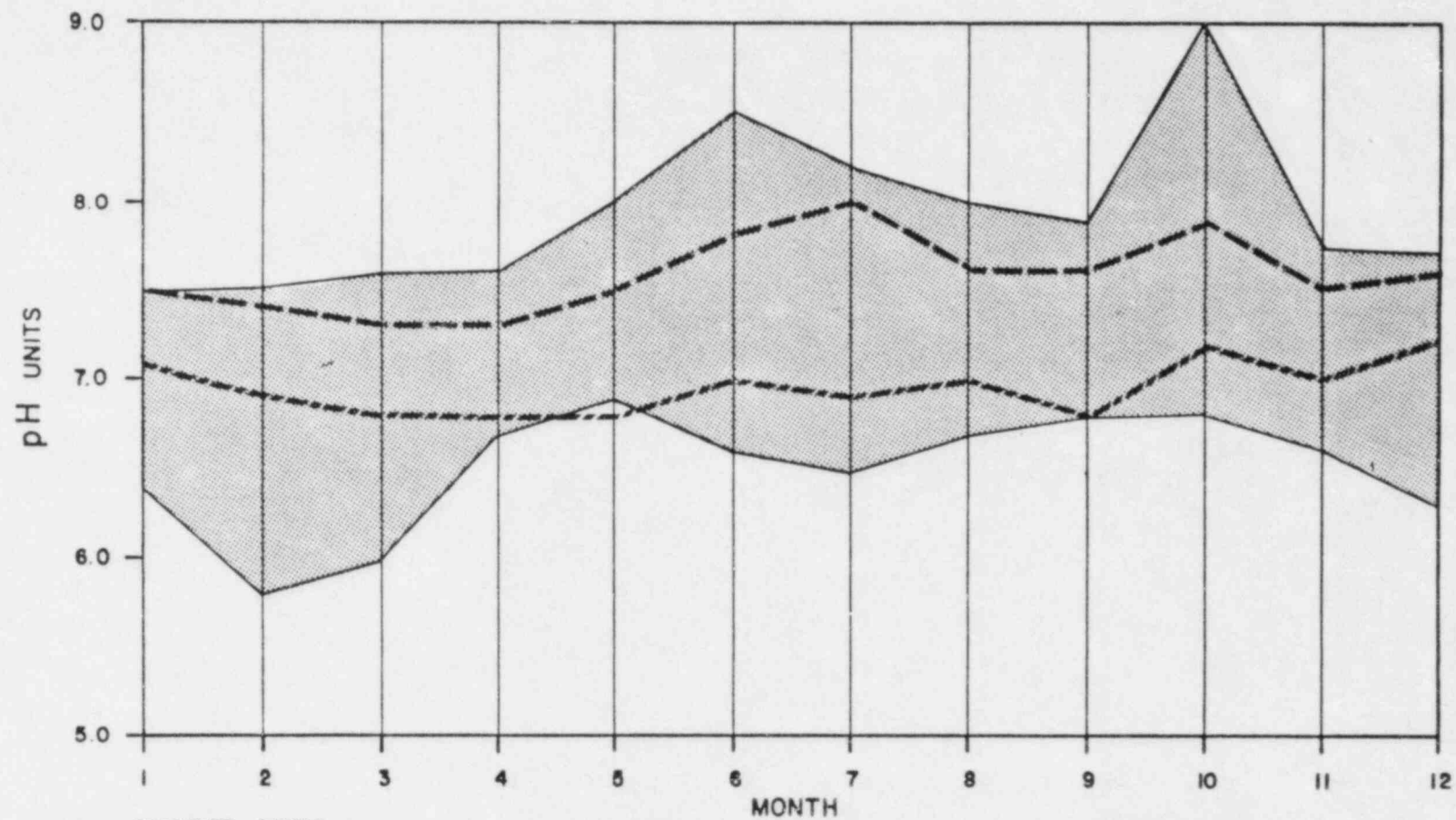


FIGURE 4.2

pH
STATION NO. 3
1982



SHADED AREA
Maxima and minima, 1968-1981
See text.

MONTHLY MAXIMUM -----
MONTHLY MINIMUM -----

FIGURE 4.3

pH
STATION NO. 7
1982

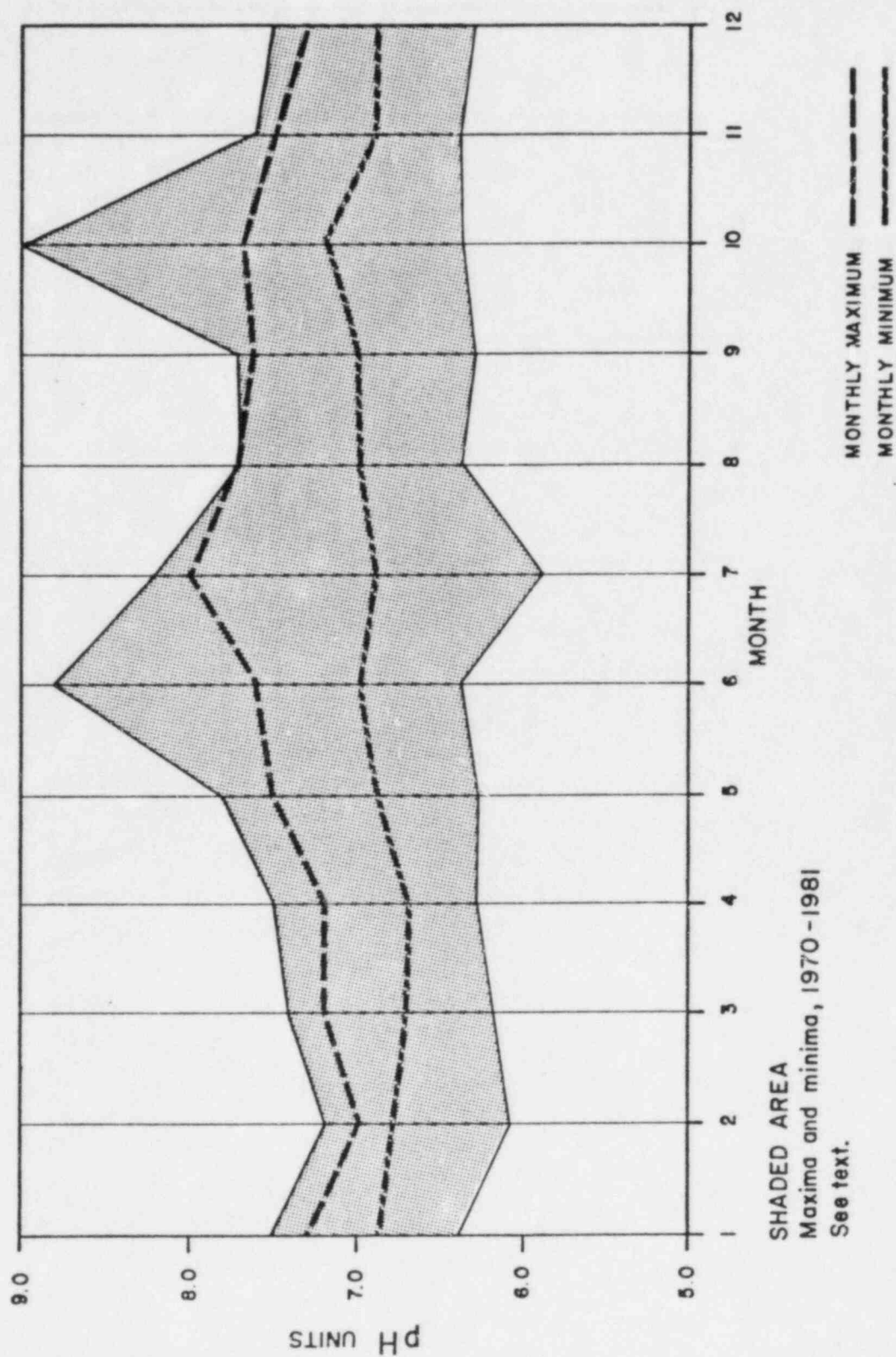
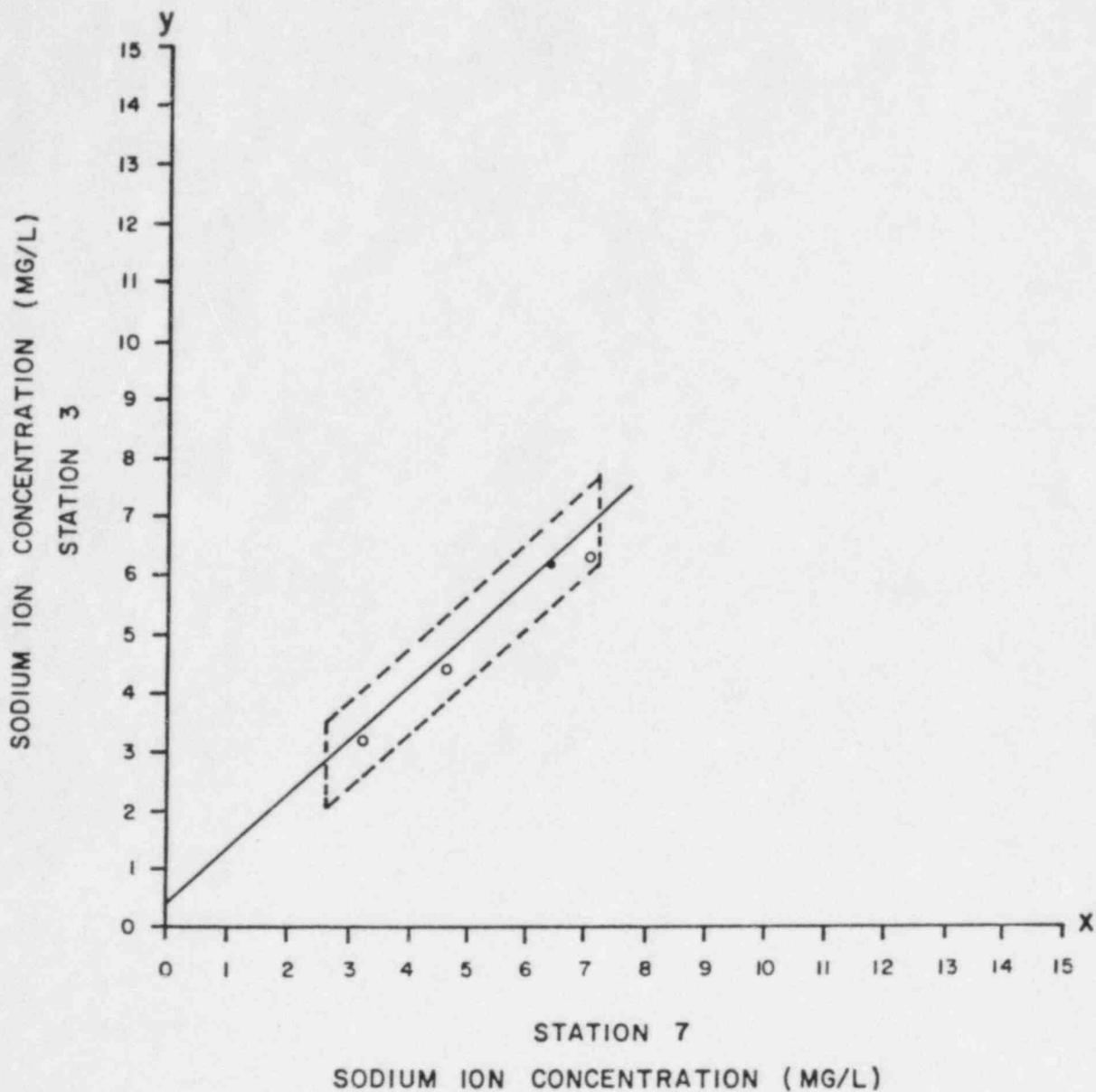


FIGURE 4.4

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



REGRESSION EQUATION ($y = .23 + .925x$)

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1982

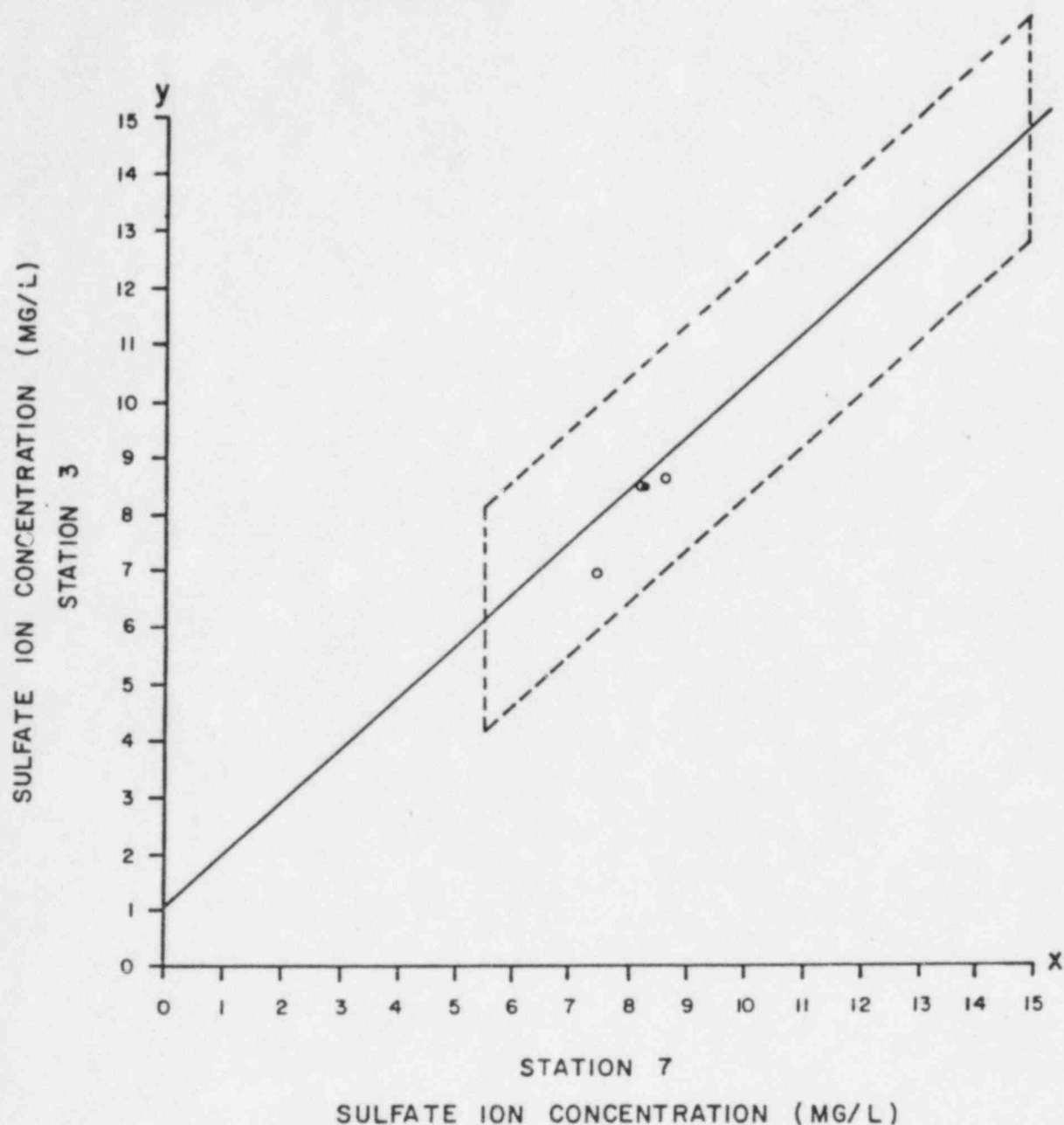
VERMONT YANKEE CLOSED CYCLE OR NOT OPERATING, 1982

○

●

FIGURE 4.5

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



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

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1982

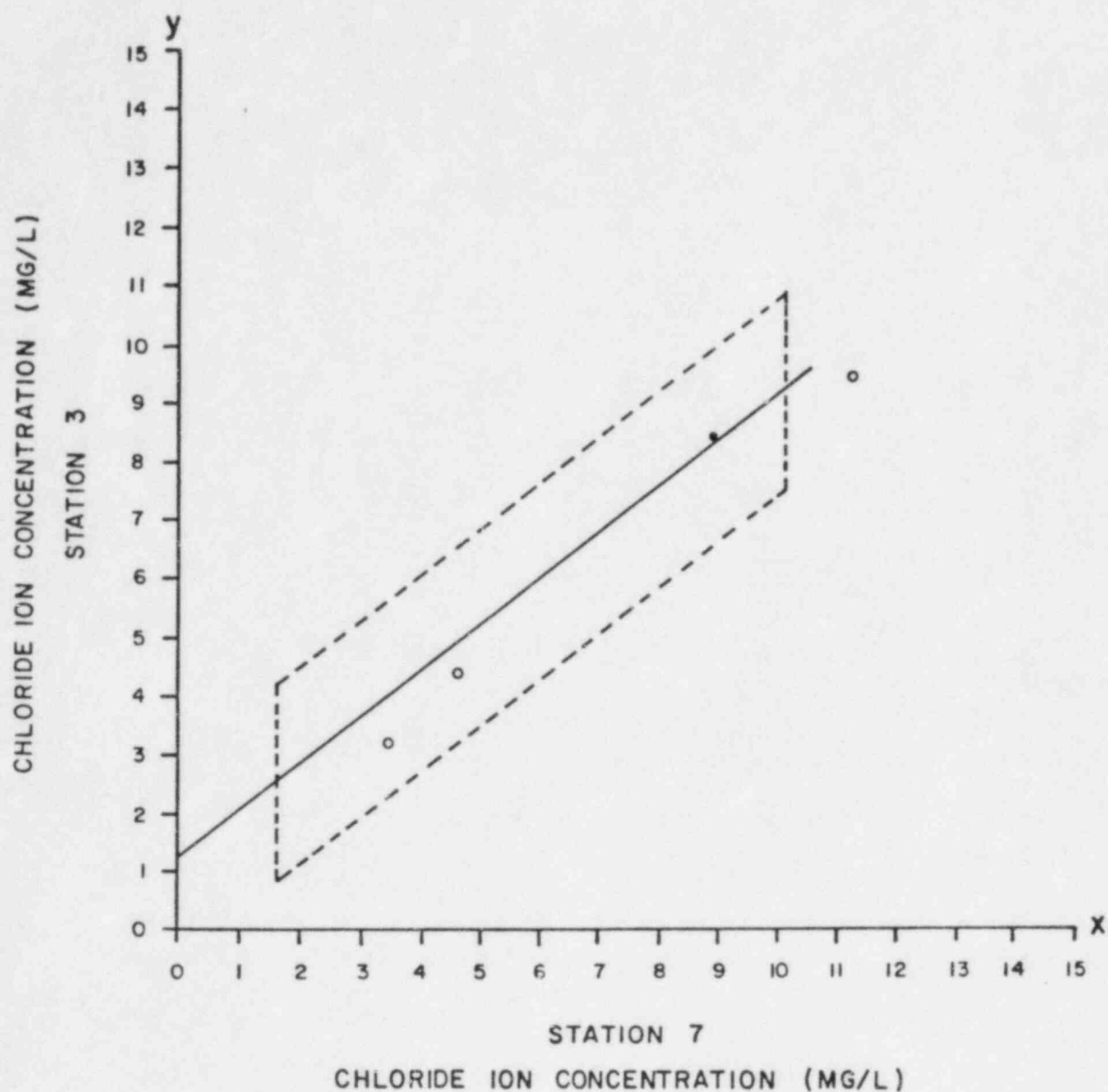
VERMONT YANKEE CLOSED CYCLE OR NOT OPERATING, 1982

○

●

FIGURE 4.6

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



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

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1982

VERMONT YANKEE CLOSED CYCLE OR NOT OPERATING, 1982

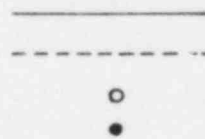
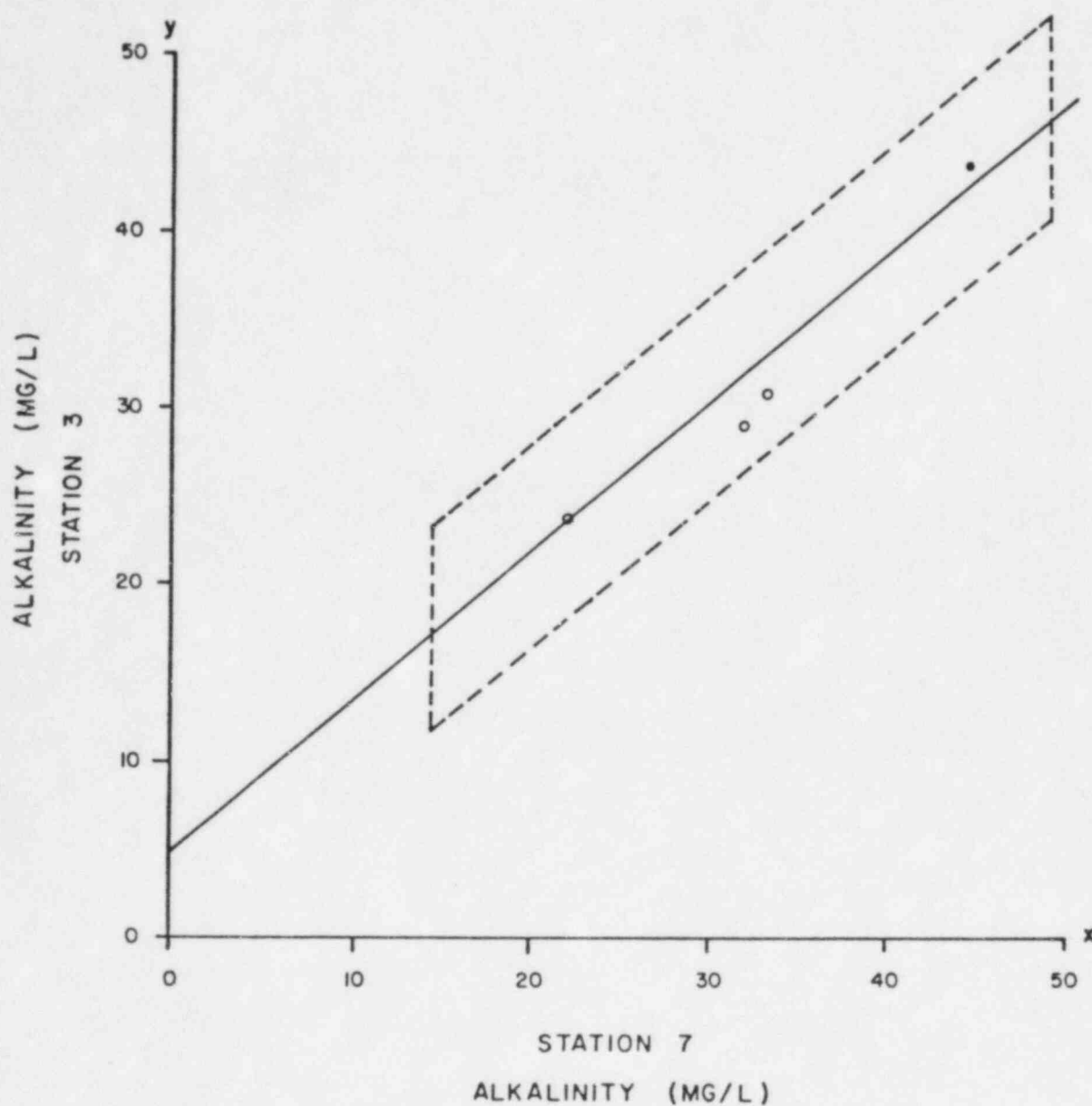


FIGURE 4.7

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



REGRESSION EQUATION ($y = 4.9 + .844x$)

95% CONFIDENCE LIMITS FOR PREDICTED y VALUES

VERMONT YANKEE OPEN CYCLE, 1982

VERMONT YANKEE CLOSED CYCLE OR NOT OPERATING, 1982

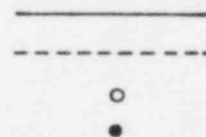


FIGURE 4.8

TABLE 4.1-1
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
JANUARY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	14.1	2000	12.6	1300	13.5	7.5	7.3
2	14.1	0100	12.7	0900	13.7	7.5	7.4
3	13.7	0130	12.4	1200	13.3	7.5	7.3
4	13.9	2200	12.6	1000	13.5	7.4	7.3
5	13.8	1330	13.5	0200	13.7	7.4	7.3
6	13.8	2030	13.6	1100	13.7	7.5	7.4
7	13.8	0500	13.6	1400	13.7	7.5	7.4
8	13.7	0230	13.4	1530	13.6	7.5	7.3
9	13.9	2330	13.5	1530	13.7	7.5	7.3
10	13.9	0330	13.5	1500	13.7	7.5	7.3
11	13.9	1800	12.6	0900	13.6	7.4	7.2
12	13.9	2000	12.7	0800	13.7	7.5	7.3
13	14.0	2300	12.8	0900	13.8	7.4	7.3
14	14.1	1600	13.1	0700	13.8	7.4	7.2
15	14.1	1800	13.8	0800	14.0	7.5	7.4
16	14.0	0000	13.1	1000	13.7	7.5	7.3
17	13.9	0200	13.0	1100	13.6	7.4	7.3
18	13.8	1900	13.0	0800	13.6	7.4	7.2
19	14.1	1400	12.7	0900	13.8	7.3	7.2
20	14.1	1700	13.1	0800	13.9	7.3	7.2
21	14.1	1600	13.3	0800	13.9	7.4	7.2
22	14.1	2030	13.3	0900	13.9	7.3	7.2
23	14.4	2400	13.1	1100	13.9	7.3	7.2
24	14.4	0300	13.0	1800	13.7	7.3	7.1
25	No Valid Data					No Valid Data	
26	" " "					" " "	
27	" " "					" " "	
28	" " "					" " "	
29	" " "					" " "	
30	13.7	1800	12.7	0930	13.4	7.3	7.2
31	No Valid Data					Sensor Inoperative	

TABLE 4.1-2
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
FEBRUARY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	No Valid Data					Sensor Inoperative	
2	12.9	0100	11.9	0900	12.6	"	"
3	12.6	0200	11.8	0700	12.4	"	"
4	12.4	0030	11.7	0700	12.2	"	"
5	Chart Drive Motor Inoperative					Chart Drive Motor Inoperative	
6	"	"	"	"		"	
7	"	"	"	"		"	
8	"	"	"	"		"	
9	"	"	"	"		"	
10	"	"	"	"		"	
11	14.4	1800	13.7	0200	14.0	7.4	7.2
12	14.6	1900	13.8	0530	14.3	7.4	7.1
13	14.5	0100	14.3	0830	14.4	7.3	7.1
14	14.6	1800	14.1	1000	14.3	7.3	7.1
15	14.5	1930	14.0	0730	14.2	7.3	7.1
16	14.4	1030	14.0	0330	14.2	7.2	7.0
17	14.1	1500	13.7	0800	14.0	7.2	7.0
18	14.1	1800	13.0	0830	13.8	7.2	7.0
19	13.9	1630	13.0	0730	13.7	7.1	6.9
20	13.9	0130	12.8	0900	13.7	7.1	6.9
21	13.8	0430	12.5	1200	13.5	7.1	6.9
22	13.6	0430	12.3	0800	13.3	7.0	6.9
23	13.3	0030	12.4	0830	13.1	7.0	6.9
24	13.2	0030	12.0	0800	12.8	7.0	6.9
25	13.0	0100	12.3	0430	12.6	7.1	6.9
26	13.1	2000	12.1	0800	12.8	7.1	6.9
27	13.3	2100	12.6	1800	13.1	7.1	6.9
28	13.4	0100	12.3	1230	13.0	7.0	6.9

TABLE 4.1-3
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
MARCH 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.5	0000	12.5	0830	13.2	7.1	6.9
2	13.8	0030	12.8	0830	13.4	7.0	6.8
3	13.9	1830	13.0	0830	13.7	7.1	6.9
4	13.6	1500	12.8	0830	13.4	7.2	7.0
5	13.6	0030	12.8	1630	13.3	7.2	7.0
6	13.3	0030	12.3	0830	13.0	7.1	7.0
7	13.3	1930	12.2	1130	13.0	7.1	7.0
8	13.4	0100	12.2	0800	13.1	7.1	6.9
9	13.3	0100	12.5	0730	13.1	7.1	6.9
10	13.3	0300	12.5	0730	13.2	7.2	6.9
11	13.5	2330	12.6	0730	13.3	7.3	7.2
12	13.3	2030	12.7	0730	13.1	7.3	7.2
13	13.4	2000	13.0	0830	13.3	7.3	7.2
14	13.5	2300	13.3	1400	13.4	7.3	7.2
15	13.5	2400	13.3	1500	13.4	7.2	7.1
16	13.8	1930	13.5	0030	13.7	7.2	7.0
17	14.0	1130	13.8	0000	13.9	7.3	7.1
18	13.9	0100	13.7	1200	13.8	7.2	7.1
19	14.0	1830	13.9	1300	14.0	7.3	7.1
20	14.0	1900	13.9	1100	14.0	7.3	7.2
21		No Valid Data				7.3	7.2
22		"	"	"		7.3	7.2
23	13.8	2330	13.6	0930	13.7	7.3	7.1
24	13.8	1800	13.7	0100	13.8	7.1	7.0
25	13.9	1930	13.7	0330	13.8	7.2	7.0
26		No Valid Data				7.2	7.0
27		"	"	"		7.2	7.0
28		"	"	"		7.2	7.0
29	14.9	-	14.9	-	14.9	7.1	7.0
30	14.9	-	14.9	-	14.9	7.2	7.0
31	14.9	-	14.9	-	14.9	7.2	7.1

TABLE 4.1-4

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

APRIL 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	14.9	-	14.9	-	14.9	7.3	7.1
2	14.9	-	14.9	-	14.9	7.3	7.1
3			No Valid Data			7.3	7.0
4			" " "			7.1	7.0
5	14.9	1400	14.6	2200	14.7	7.2	7.1
6	14.9	1200	14.6	0000	14.8	7.3	7.1
7			No Valid Data			7.4	7.2
8			" " "			7.2	7.0
9	14.1	0930	13.9	1600	14.0	7.2	7.0
10	14.0	0400	13.7	1730	13.8	7.2	7.1
11			No Valid Data			7.2	7.1
12			" " "			7.3	7.1
13	13.5	0430	13.3	1200	13.4	7.3	7.2
14	13.6	0800	13.4	2400	13.5	7.3	7.1
15	13.5	2000	13.3	1100	13.4	7.2	7.1
16	13.4	0000	13.2	1800	13.3	7.2	7.1
17	13.3	1500	12.9	2300	13.1	7.2	7.1
18			No Valid Data			7.2	7.0
19			" " "			7.1	7.0
20			" " "			7.1	7.0
21			" " "			7.2	7.0
22			" " "			7.2	7.0
23			" " "			7.2	6.9
24			" " "			7.1	6.9
25			Pump Inoperative			Pump Inoperative	
26			" " "			" "	
27			" " "			" "	
28			No Valid Data			7.0	6.8
29			" " "			6.9	6.8
30			" " "			6.9	6.8

TABLE 4.1-5
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
MAY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1			No Valid Data			7.0	6.8
2			" "	"		7.1	6.9
3			" "	"		7.1	7.0
4			" "	"		7.1	7.0
5			" "	"		7.1	6.9
6	12.0	1130	11.5	2400	11.8	7.2	7.0
7	12.2	0000	12.0	1130	12.1	7.2	7.0
8			No Valid Data			7.2	7.0
9			" "	"		7.1	7.0
10			" "	"		7.2	7.0
11			" "	"		7.2	7.0
12			" "	"		7.2	7.0
13	11.2	0330	10.5	1700	10.8	7.2	7.0
14	11.1	0430	10.5	1430	10.8	7.1	7.0
15	10.9	0900	10.5	1830	10.7	7.1	7.0
16	10.7	0330	10.2	1030	10.5	7.1	7.0
17	10.6	1100	10.0	1630	10.3	7.2	7.0
18	10.5	1200	10.2	2400	10.4	7.2	7.0
19	10.6	0730	9.8	1730	10.2	7.3	7.1
20	10.2	0730	9.7	2300	10.0	7.3	7.1
21	9.8	0830	9.6	1500	9.7	7.3	7.1
22	10.1	1130	9.7	0030	9.9	7.3	7.1
23	10.0	2200	9.7	0700	9.8	7.3	7.1
24	10.1	1530	9.8	1000	9.9	7.3	7.1
25	10.2	2000	10.0	0600	10.1	7.3	7.1
26	10.1	0030	9.8	1830	9.9	7.4	7.1
27	10.0	0000	9.6	1400	9.8	7.4	7.1
28	9.8	0000	9.4	0830	9.6	7.4	7.1
29	9.7	0300	9.4	1130	9.6	7.4	7.2
30	9.8	1830	9.3	0800	9.6	7.4	7.2
31	9.7	2030	9.3	0500	9.5	7.5	7.2

TABLE 4.1-6
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
JUNE 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	9.8	1600	9.4	0600	9.6	7.5	7.3
2	10.0	0000	9.5	2400	9.8	7.5	7.3
3	9.7	1730	9.4	0700	9.5	7.5	7.2
4	9.8	1900	9.5	1200	9.7	7.5	7.3
5	9.7	0000	9.4	1100	9.5	7.5	7.2
6	10.1	2130	9.5	0000	9.9	7.3	7.1
7	9.9	2400	9.7	0600	9.8	7.2	7.1
8	10.2	2300	9.9	0500	10.1	7.3	7.1
9	10.3	0430	9.9	1630	10.1	7.3	7.1
10	9.9	2230	9.7	1230	9.8	7.3	7.1
11	9.9	0100	9.5	2230	9.7	7.3	7.0
12	9.8	1630	9.5	0530	9.6	7.3	7.1
13	9.6	2030	9.4	0830	9.5	7.3	7.2
14	9.8	1930	9.4	0930	9.6	7.3	7.1
15	9.8	2030	9.6	1030	9.7	7.4	7.2
16	9.7	0030	9.5	0830	9.6	7.4	7.2
17	9.5	1630	9.2	0500	9.3	7.5	7.2
18	9.6	1400	9.1	0200	9.3	7.6	7.3
19	9.4	0000	9.2	2400	9.3	7.6	7.4
20	9.5	1830	9.0	0600	9.2	7.6	7.4
21	9.3	2230	9.0	0530	9.2	7.5	7.3
22	9.6	2000	9.1	0600	9.3	7.6	7.4
23	9.6	1800	9.3	0600	9.4	7.6	7.4
24	9.7	1800	9.3	0600	9.5	7.6	7.4
25	9.8	2200	9.4	0400	9.6	7.6	7.4
26	10.0	1800	9.8	0100	9.9	7.6	7.4
27	9.9	1900	9.6	0500	9.7	7.7	7.4
28	10.0	1930	9.3	0530	9.5	7.8	7.3
29	9.6	1500	9.2	2400	9.4	7.6	7.4
30	9.5	1500	9.2	0000	9.3	7.5	7.2

TABLE 4.1-7
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
JULY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1			No Valid Data			7.3	7.1
2			"	"	"	7.4	7.1
3	8.8	1830	8.4	1030	8.6	7.5	7.2
4	9.0	2100	8.3	0400	8.7	7.6	7.2
5	9.4	1900	8.6	0600	9.0	7.9	7.3
6	9.1	0000	8.2	2400	8.6	7.6	7.3
7	8.4	1930	7.9	0600	8.2	7.6	7.2
8	9.4	2030	8.0	0600	8.7	8.0	7.3
9	9.4	1630	8.7	0600	9.0	8.0	7.5
10			Pump Inoperative			Pump	Inoperative
11			"	"	"	"	"
12			"	"	"	"	"
13			"	"	"	"	"
14			"	"	"	"	"
15			"	"	"	"	"
16	8.8	1730	8.3	0700	8.5	7.4	7.0
17	8.8	1730	8.3	0630	8.5	7.4	7.0
18	8.6	2130	8.0	0630	8.3	7.4	7.1
19	8.7	1600	7.8	0600	8.3	7.6	7.1
20	7.9	0000	7.1	2400	7.5	7.3	6.9
21	7.2	1800	6.9	0700	7.0	7.1	6.9
22	7.4	1900	6.8	0730	7.1	7.2	7.0
23	7.5	1830	6.8	0530	7.1	7.3	7.0
24	7.5	1730	6.9	0700	7.2	7.4	7.0
25	7.4	1830	7.0	0630	7.2	7.3	7.1
26	7.1	1330	6.6	2230	6.9	7.3	7.0
27	8.0	1700	6.8	0200	7.4	7.5	7.1
28	7.9	0000	7.2	2400	7.5	7.3	7.1
29	7.2	0000	6.5	2400	6.9	7.2	7.1
30	7.0	1800	6.4	0600	6.7	7.2	7.1
31	7.5	2030	6.6	0600	7.1	7.3	7.1

TABLE 4.1-8
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
AUGUST 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	7.5	2200	6.8	0630	7.1	7.4	7.1
2	7.6	1630	7.2	2300	7.4	7.3	7.1
3	7.3	1500	7.0	2400	7.1	7.3	7.1
4	7.5	1630	7.0	0500	7.2	7.3	7.0
5	7.5	1800	6.9	0700	7.2	7.3	7.0
6	7.6	1930	7.2	0800	7.4	7.4	7.2
7	7.3	1500	7.1	0730	7.2	7.3	7.1
8	7.2	0000	6.8	0730	7.0	7.3	7.1
9			No Valid Data			7.4	7.1
10	7.5	1630	7.0	0700	7.2	7.3	7.1
11	7.5	1830	6.9	0630	7.2	7.3	7.1
12	7.7	2030	7.1	0430	7.4	7.3	7.2
13	7.6	0000	7.3	2400	7.5	7.3	7.1
14	7.4	1830	7.1	0800	7.2	7.2	7.1
15	7.6	1500	7.3	0600	7.4	7.3	7.1
16	8.1	1400	7.4	0600	7.7	7.4	7.1
17	8.0	1800	7.5	1100	7.7	7.4	7.1
18	7.7	1830	7.3	0600	7.5	7.3	7.1
19	7.6	1030	7.3	2400	7.5	7.3	7.1
20	7.5	1800	7.2	0630	7.3	7.2	7.1
21	7.9	1730	7.2	0700	7.5	7.3	7.1
22	8.2	1800	7.6	0700	7.9	7.5	7.3
23	8.2	1700	7.9	0000	8.1	7.5	7.3
24			No Valid Data			7.6	7.3
25			"	"	"	7.5	7.3
26			"	"	"	7.5	7.3
27			"	"	"	7.5	7.3
28			"	"	"	7.5	7.3
29			"	"	"	7.5	7.4
30			"	"	"	7.5	7.4
31			"	"	"	7.5	7.4

TABLE 4.1-9
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
SEPTEMBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	No Valid Data Pump Inoperative					7.5	7.3
2						Pump	Inoperative
3						"	"
4						"	"
5						"	"
6						"	"
7						"	"
8						"	"
9						"	"
10						"	"
11						"	"
12						"	"
13						"	"
14						"	"
15	9.0	1700	8.6	0600	8.8	7.6	7.2
16	8.8	0000	8.3	2400	8.5	7.5	7.2
17	8.5	1630	8.2	0530	8.4	7.3	7.1
18	8.4	1300	8.1	0700	8.3	7.3	7.1
19	8.6	2200	8.0	0600	8.3	7.2	7.1
20	8.6	1730	8.3	0600	8.4	7.2	7.0
21	8.6	1630	8.3	0700	8.5	7.1	6.9
22	8.5	1430	8.3	2330	8.4	7.1	6.9
23	8.3	0000	8.1	1230	8.2	7.0	6.8
24	8.4	1730	8.1	0600	8.3	7.1	6.9
25	8.6	1700	8.3	0230	8.5	7.2	7.1
26	8.7	1700	8.4	0730	8.6	7.3	7.2
27	8.7	1100	8.5	2400	8.6	7.3	7.2
28	8.7	2000	8.4	0500	8.5	7.3	7.2
29	8.7	1430	8.5	0630	8.6	7.4	7.3
30	8.7	1030	8.4	2230	8.6	7.4	7.2

TABLE 4.1-10
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 3
OCTOBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	9.0	1830	8.3	0730	8.7	7.5	7.3
2	9.3	1630	8.7	0530	9.0	7.6	7.3
3	9.2	1630	8.6	0600	8.9	7.6	7.4
4	9.1	1730	8.7	1100	8.9	7.6	7.4
5	9.4	1630	8.7	0700	9.0	7.7	7.4
6	9.5	1730	8.9	0730	9.2	7.7	7.4
7	9.9	1530	9.3	0800	9.5	7.9	7.6
8	9.7	2300	9.5	0900	9.6	7.6	7.5
9	9.8	2130	9.6	0730	9.7	7.5	7.4
10	9.9	1630	9.6	0830	9.7	7.6	7.4
11	9.9	2000	9.7	0800	9.8	7.6	7.4
12	9.8	0000	9.6	2400	9.7	7.5	7.4
13	9.8	2000	9.6	0730	9.7	7.5	7.3
14	9.9	1500	9.7	0600	9.8	7.6	7.4
15	9.8	1630	9.6	0630	9.7	7.6	7.4
16	9.8	1630	9.5	0700	9.6	7.6	7.4
17	9.6	1600	9.4	0830	9.5	7.7	7.4
18	9.7	1630	9.4	0630	9.5	7.6	7.4
19	9.7	1900	9.2	0830	9.4	7.4	7.3
20	9.7	1630	9.4	0930	9.5	7.5	7.3
21	10.0	1700	9.5	0800	9.7	7.5	7.4
22	10.2	1630	9.5	0730	9.8	7.4	7.3
23	10.1	0400	9.8	2400	9.9	7.5	7.3
24	9.8	1630	9.7	0730	9.7	7.4	7.3
25	9.9	2400	9.6	1200	9.7	7.4	7.2
26	10.2	1830	9.7	1000	9.9	7.4	7.3
27	10.2	2030	9.9	1030	10.0	7.4	7.2
28	10.1	0330	9.9	2400	10.0	7.5	7.3
29	10.0	1530	9.8	2400	9.9	7.5	7.3
30	10.0	1630	9.7	0500	9.8	7.5	7.3
31	9.9	1800	9.7	0700	9.8	7.4	7.3

TABLE 4.1-11

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

NOVEMBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	10.3	1600	9.8	0500	10.0	7.5	7.3
2	10.3	2030	9.9	0930	10.1	7.4	7.3
3	10.5	2230	9.8	0930	10.1	7.4	7.2
4	10.6	1600	10.0	0900	10.3	7.5	7.3
5	10.5	1700	9.8	0930	10.3	7.5	7.4
6	10.5	2000	10.3	0130	10.4	7.4	7.3
7	10.5	0200	10.4	0900	10.4	7.4	7.3
8	11.1	2400	10.5	0000	10.8	7.4	7.2
9	11.2	2000	11.1	1300	11.1	7.4	7.3
10	11.2	0000	10.6	0830	11.0	7.4	7.2
11	11.0	0000	10.4	1130	10.7	7.3	7.2
12	10.9	2400	10.2	1000	10.7	7.3	7.1
13	11.1	2400	10.4	0830	10.8	7.3	7.2
14	11.2	2400	10.9	0800	11.0	7.2	7.1
15	11.3	0600	10.6	1730	11.0	7.2	7.1
16	11.3	2200	10.6	0830	11.0	7.2	7.1
17	11.3	2200	10.8	0830	11.0	7.2	7.0
18	11.5	2000	11.0	0830	11.2	7.2	7.1
19	11.6	2000	10.9	0900	11.3	7.3	7.2
20	11.5	2100	11.0	1030	11.2	7.3	7.2
21	11.4	0000	10.9	1230	11.1	7.3	7.2
22	11.4	1530	11.0	0900	11.2	7.3	7.2
23	11.5	2400	11.2	0600	11.3	7.2	7.1
24	11.7	2330	10.8	0930	11.4	7.3	7.1
25	11.6	2100	11.1	0930	11.4	7.3	7.2
26	11.7	2000	11.0	0830	11.5	7.3	7.2
27	12.1	2230	11.1	0930	11.7	7.4	7.2
28	12.3	2400	11.5	1130	12.1	7.4	7.3
29	12.5	1200	12.2	1700	12.4	7.4	7.3
30	12.3	0000	11.3	1000	12.0	7.4	7.3

TABLE 4.1-12

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

DECEMBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	12.2	2200	11.5	0930	12.0	7.4	7.3
2	12.4	2000	11.5	0930	12.2	7.5	7.3
3	12.3	0000	11.7	0800	12.1	7.4	7.3
4	12.3	1030	12.0	0330	12.2	7.4	7.3
5	12.3	2300	11.7	0900	12.1	7.4	7.3
6	12.4	0130	11.6	0830	12.1	7.4	7.2
7	12.1	0200	11.3	0930	11.9	7.4	7.3
8	12.0	2230	11.2	0830	11.8	7.3	7.2
9	12.3	2300	11.3	0930	11.9	7.5	7.2
10	12.3	2300	11.6	0800	12.1	7.5	7.3
11	12.4	0100	11.4	1830	11.9	7.4	7.3
12	12.4	0430	11.5	2200	11.9	7.4	7.3
13	13.0	2300	11.6	0830	12.4	7.5	7.3
14	13.0	0000	12.0	0900	12.6	7.5	7.4
15	13.0	2400	12.0	1630	12.4	7.4	7.3
16	13.2	2330	12.6	0930	12.9	7.5	7.3
17	13.4	2330	13.1	1300	13.2	7.5	7.4
18	13.7	0730	13.4	1400	13.5	7.6	7.4
19	13.6	2130	13.2	0800	13.4	7.5	7.4
20	13.6	2200	13.4	0330	13.5	7.5	7.4
21	13.6	2030	13.4	0700	13.5	7.4	7.3
22	13.7	1830	13.4	0730	13.5	7.5	7.4
23	13.7	0230	12.6	0800	13.4	7.5	7.4
24	13.6	0030	12.5	0930	13.3	7.5	7.3
25	13.5	2230	12.5	1100	13.2	7.4	7.3
26	13.5	2000	12.9	0900	13.3	7.4	7.3
27	13.7	2200	13.5	0130	13.6	7.5	7.4
28	13.6	0130	13.5	2400	13.6	7.5	7.4
29	13.5	0000	13.3	1700	13.4	7.5	7.4
30	13.7	2330	13.3	1200	13.4	7.6	7.4
31	13.6	0100	13.4	1500	13.5	7.5	7.4

TABLE 4.2-1
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7
JANUARY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1			Pump Inoperative			Pump Inoperative	
2			"	"		"	"
3			"	"		"	"
4			"	"		"	"
5			"	"		"	"
6			Sensor Inoperative			7.3	7.2
7			"	"		7.3	7.1
8			"	"		7.3	7.2
9			"	"		7.3	7.2
10			Pump Inoperative			Pump Inoperative	
11			"	"		"	"
12			"	"		"	"
13			No Valid Data			7.2	7.1
14			"	"		7.3	7.2
15			"	"		7.3	7.1
16	13.9	0600	13.4	2400	13.7	7.2	7.1
17	13.7	0300	13.4	2400	13.6	7.2	7.1
18	13.4	0000	13.1	2400	13.3	7.1	7.0
19	13.3	0300	13.1	1600	13.2	7.1	7.0
20	13.3	0430	13.1	1500	13.2	7.1	7.0
21	13.3	0330	13.1	1300	13.2	7.1	7.0
22	13.4	0500	13.2	2200	13.3	7.1	6.9
23	13.3	0130	13.2	1930	13.3	7.1	7.0
24	13.4	0000	13.2	2130	13.4	7.0	6.9
25	13.5	0300	13.0	2400	13.3	7.0	6.9
26	13.3	1400	13.1	0000	13.2	7.0	6.9
27	13.3	0500	13.1	2100	13.2	7.0	6.9
28	13.3	0730	12.9	1900	13.1	7.0	6.9
29	13.3	1530	12.9	0100	13.1	7.0	6.9
30	13.1	1630	12.8	0730	13.0	7.0	6.9
31	13.4	0400	13.0	2000	13.2	7.0	6.9

TABLE 4.4-2

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

FEBRUARY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.7	0830	13.3	2000	13.5	7.0	6.8
2	13.5	0230	13.1	2130	13.3	7.0	6.9
3	13.5	2200	13.2	1000	13.3	7.0	6.9
4	13.6	2200	13.3	1100	13.4	6.9	6.8
5	13.6	0300	13.4	1400	13.5	6.9	6.8
6	14.0	2000	13.5	0000	13.7	6.9	6.8
7	14.0	0800	13.7	2300	13.8	7.0	6.8
8	13.9	0730	13.5	2400	13.7	7.0	6.8
9	13.8	2230	13.4	0600	13.6	6.9	6.8
10	14.0	2400	13.8	0900	13.9	7.0	6.9
11	14.1	0300	13.9	1300	14.0	7.0	6.9
12	14.2	0430	13.7	2400	13.9	7.0	6.9
13	13.9	0230	13.7	2400	13.8	7.0	6.9
14	13.7	0700	13.5	2300	13.6	7.0	6.9
15	13.6	0000	13.4	1930	13.5	7.0	6.8
16	13.6	0000	13.4	1600	13.5	6.9	6.8
17	13.5	0000	13.3	2200	13.4	6.9	6.8
18	13.6	2230	13.4	0000	13.5	6.9	6.8
19	13.8	2300	13.6	1100	13.7	6.9	6.8
20	13.8	2000	13.6	1200	13.7	6.9	6.8
21	13.8	0730	13.5	2130	13.7	6.9	6.8
22	13.7	0400	13.2	2200	13.5	6.9	6.8
23	13.4	1200	13.2	0000	13.3	7.0	6.8
24	13.4	0600	13.2	0130	13.3	7.0	6.9
25	13.3	0230	13.0	2300	13.2	7.0	6.9
26	13.2	2100	13.0	0000	13.1	7.0	6.9
27	13.2	1730	13.0	2200	13.1	7.0	6.9
28	13.2	0600	13.0	1900	13.1	7.0	6.9

TABLE 4.2-3
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7
MARCH 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.1	0400	12.9	1000	13.0	7.0	6.9
2	13.3	1900	13.1	1000	13.2	6.9	6.9
3	13.4	0430	13.2	1430	13.3	7.0	6.9
4	13.5	1600	13.2	0900	13.4	7.1	6.9
5	13.7	1400	13.4	0430	13.6	7.0	6.9
6	13.7	2330	13.5	0500	13.6	7.1	6.9
7	14.1	2300	13.7	0100	13.9	7.0	6.9
8	14.1	0400	13.5	2130	13.8	7.0	6.9
9	13.6	0600	13.3	2130	13.5	7.0	6.9
10	13.7	1930	13.4	0100	13.6	7.1	6.9
11	13.9	1700	13.5	0600	13.7	7.0	6.9
12	13.9	0230	13.7	2400	13.8	7.0	6.9
13	13.8	1530	13.6	0830	13.7	7.0	6.8
14	13.7	0200	13.3	2300	13.5	6.9	6.7
15	13.6	2230	13.2	0600	13.4	7.0	6.7
16	14.0	2400	13.5	0400	13.7	7.0	6.9
17	14.1	0800	13.6	2400	13.9	7.0	6.9
18	13.6	0000	13.2	2400	13.4	6.9	6.8
19	13.7	2400	13.3	0100	13.5	6.9	6.8
20	13.7	2330	13.6	0600	13.7	7.0	6.9
21	13.9	2400	13.7	0000	13.8	7.0	6.9
22	14.0	0600	13.7	2400	13.8	7.0	6.9
23	13.7	0000	13.3	2300	13.5	7.0	6.9
24	13.4	0700	13.2	2200	13.3	7.0	6.9
25	13.6	0530	13.2	2130	13.4	7.0	6.9
26	13.7	2400	13.1	0130	13.3	7.0	6.8
27	14.3	1200	13.7	0000	14.0	7.1	6.9
28	14.3	1300	14.0	0100	14.2	7.1	7.0
29	14.3	1500	14.1	0130	14.2	7.1	7.0
30	14.3	1600	14.0	2400	14.2	7.2	7.0
31	14.5	2330	13.9	0330	14.2	7.2	7.0

TABLE 4.2-4
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7
APRIL 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	14.9	2400	14.6	0100	14.8	7.2	7.0
2	14.9	-	14.9	-	14.9	7.1	6.9
3	14.9	1230	14.7	2000	14.8	7.0	6.9
4	14.9	0200	14.4	1900	14.7	7.0	6.9
5	14.7	1630	14.5	0100	14.6	7.1	6.9
6	14.6	0130	14.2	2100	14.4	7.1	7.0
7	14.4	2400	14.2	0500	14.3	7.2	7.0
8		No Valid Data				7.1	7.0
9	14.3	1530	14.0	1000	14.2	7.2	7.0
10	14.2	0000	13.8	2400	14.0	7.2	7.0
11	13.8	0000	13.5	2400	13.7	7.1	7.0
12	13.5	0000	13.3	2400	13.4	7.1	7.0
13	13.5	2030	13.2	0900	13.4	7.1	7.0
14	13.5	0230	13.3	2400	13.4	7.2	7.0
15	13.5	1500	13.1	2400	13.3	7.2	7.0
16	13.4	1530	13.1	0500	13.3	7.2	7.1
17		No Valid Data				7.2	7.0
18		"	"	"		7.2	6.9
19		"	"	"		7.1	6.9
20		"	"	"		7.0	6.9
21		"	"	"		7.0	6.9
22	14.8	2400	14.3	0100	14.5	7.0	6.8
23		No Valid Data				7.0	6.9
24	14.9	1030	14.6	1800	14.7	7.0	6.8
25	14.9	0800	14.2	1830	14.6	7.0	6.9
26	14.4	0400	13.7	2330	14.0	7.0	6.9
27	13.7	0000	13.4	2400	13.6	7.0	6.9
28	13.7	1130	13.4	2400	13.5	6.9	6.7
29	13.3	0100	13.0	1830	13.1	6.9	6.7
30	13.2	1530	12.9	0200	13.1	6.9	6.8

TABLE 4.2-5
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7
MAY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	13.0	1000	12.4	2400	12.7	7.0	6.9
2	12.4	0000	11.8	2330	12.1	7.0	6.9
3	12.0	0930	11.7	2400	11.8	7.0	6.9
4	11.7	0000	11.5	1830	11.6	7.1	6.9
5	11.6	0730	11.4	2230	11.5	7.1	6.9
6	11.6	1030	10.9	2400	11.3	7.1	6.9
7	10.9	0000	10.6	2400	10.8	7.0	6.9
8	10.6	0100	10.4	2130	10.5	7.1	7.0
9	10.6	0400	10.3	2400	10.4	7.1	7.0
10	10.5	0530	10.3	1300	10.4	7.1	7.0
11	10.6	0200	10.4	1300	10.5	7.1	7.0
12	10.7	1730	10.5	0330	10.6	7.1	7.0
13	10.7	0330	10.4	1600	10.5	7.1	7.0
14	10.5	1300	10.1	2300	10.3	7.1	7.0
15	10.1	1300	9.7	2400	9.9	7.1	6.9
16	10.0	2300	9.6	0630	9.8	7.1	7.0
17	10.2	2330	9.6	0500	9.9	7.2	7.0
18	10.2	0000	9.7	1500	9.9	7.3	7.0
19	9.9	0130	9.6	2400	9.7	7.3	7.1
20	9.9	2030	9.5	0900	9.7	7.4	7.2
21	9.7	0000	9.2	0800	9.4	7.5	7.2
22	9.5	0030	9.2	2400	9.3	7.4	7.2
23	9.2	0000	9.0	2300	9.1	7.4	7.3
24	9.4	2100	9.0	0130	9.2	7.3	7.2
25	9.8	1930	9.3	0100	9.5	7.3	7.2
26	10.0	1630	9.5	0400	9.7	7.3	7.2
27	10.0	1800	9.7	2300	9.8	7.3	7.2
28	10.0	2030	9.5	0700	9.7	7.4	7.3
29	10.1	2230	9.6	1600	9.8	7.4	7.2
30	10.6	1630	10.0	0000	10.3	7.4	7.2
31	10.4	0000	9.9	1700	10.2	7.3	7.2

TABLE 4.2-6

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

JUNE 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	10.0	0230	9.5	1130	9.8	7.4	7.2
2	9.9	2000	9.6	1130	9.7	7.4	7.2
3	9.6	0030	9.0	1200	9.3	7.4	7.2
4	9.4	1800	9.0	2400	9.2	7.6	7.3
5	9.0	0000	8.8	2200	8.9	7.4	7.3
6	9.0	0130	8.7	2200	8.9	7.4	7.1
7	8.9	0000	8.6	2400	8.8	7.2	7.1
8	8.8	0730	8.5	1500	8.7	7.1	7.0
9	8.8	0100	8.6	2300	8.7	7.1	7.0
10	8.9	1900	8.6	0800	8.8	7.1	7.0
11	8.9	1830	8.4	1000	8.7	7.1	7.0
12	8.7	1500	8.5	0430	8.6	7.2	7.0
13	8.8	2400	8.3	1230	8.5	7.1	7.0
14	9.2	2000	8.5	0000	8.8	7.2	7.0
15	9.3	2130	8.7	0700	9.0	7.2	7.0
16	9.4	2200	9.0	1400	9.2	7.3	7.2
17	9.3	2230	9.0	1200	9.1	7.3	7.2
18	9.2	0100	8.8	1100	9.0	7.3	7.1
19	9.2	2000	8.6	1030	8.9	7.3	7.1
20	9.1	0130	8.9	2230	9.0	7.4	7.2
21	9.2	1900	8.8	1030	9.0	7.4	7.1
22	9.2	2400	8.8	1500	9.0	7.5	7.2
23	9.2	0000	9.0	1630	9.1	7.4	7.3
24	9.2	0000	8.5	1200	8.8	7.4	7.2
25	9.5	2030	8.5	0730	9.0	7.6	7.2
26	9.3	0000	8.7	1000	9.0	7.5	7.3
27	9.3	2300	8.4	1100	8.8	7.6	7.2
28	9.4	2400	9.1	0400	9.2	7.5	7.4
29	9.5	0300	9.1	2400	9.3	7.5	7.3
30	9.1	0000	8.8	1800	8.9	7.4	7.1

TABLE 4.2-7

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

JULY 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	8.9	0600	8.4	2400	8.6	7.2	7.1
2	8.8	2200	8.2	0800	8.5	7.3	7.1
3	9.3	1500	8.7	0000	9.0	7.4	7.2
4	9.2	1830	8.8	0900	9.0	7.4	7.2
5	8.9	0030	8.1	1330	8.4	7.3	7.1
6	8.5	2400	7.8	1030	8.2	7.4	7.1
7	9.3	1930	8.3	0700	8.8	7.6	7.2
8	9.5	1300	9.0	0400	9.3	7.8	7.5
9	9.6	1700	9.1	0530	9.3	7.9	7.5
10	9.6	1530	9.1	2400	9.3	8.0	7.6
11	9.2	1600	8.8	1030	9.0	7.8	7.5
12	8.9	0030	8.2	2330	8.5	7.6	7.3
13	8.4	0430	7.8	1200	8.1	7.4	7.2
14	8.1	0100	7.6	1430	7.9	7.3	7.1
15	8.1	0130	7.4	1130	7.7	7.3	7.1
16	8.2	1800	7.6	1130	7.9	7.4	7.1
17	8.0	0900	7.3	2400	7.7	7.3	7.1
18	7.3	0100	6.7	2400	7.0	7.1	7.0
19			No Valid Data			7.2	7.0
20	6.7	1200	6.5	0230	6.6	7.1	7.0
21	7.4	1730	6.4	0900	6.9	7.4	7.0
22	7.4	1630	6.4	0830	6.9	7.4	7.1
23	7.3	0000	6.3	1600	6.8	7.4	7.1
24	7.0	0000	6.4	1800	6.7	7.3	7.1
25			No Valid Data			7.2	7.1
26			"	"	"	7.2	7.0
27			"	"	"	7.1	7.0
28			"	"	"	7.0	6.9
29	6.8	2000	6.3	1000	6.5	7.2	7.0
30			No Valid Data			7.1	7.0
31			"	"	"	7.2	6.9

TABLE 4.2-8
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7
AUGUST 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	7.3	0000	7.0	2400	7.2	7.2	7.0
2	7.5	1530	7.0	1000	7.2	7.2	7.0
3	7.2	0000	6.6	1300	6.9	7.2	7.0
4	7.6	2400	6.6	1330	7.2	7.2	7.1
5	7.7	1330	7.1	2400	7.3	7.4	7.1
6	7.1	0000	6.8	1300	7.0	7.3	7.2
7			No Valid Data			7.3	7.2
8	7.0	1700	6.8	0130	6.9	7.3	7.2
9	7.2	0330	6.6	1230	6.9	7.3	7.2
10	6.9	0100	6.7	2400	6.8	7.3	7.2
11			No Valid Data			7.3	7.1
12			"	"	"	7.2	7.0
13			"	"	"	7.2	7.0
14			"	"	"	7.1	7.0
15			"	"	"	7.1	7.0
16			"	"	"	7.2	7.0
17			"	"	"	7.2	7.1
18			"	"	"	7.2	7.1
19			"	"	"	7.3	7.1
20	7.3	2100	6.7	0000	7.0	7.2	7.1
21			No Valid Data			7.3	7.1
22	7.1	0300	6.9	0300	7.0	7.2	7.0
23	7.2	2100	6.7	0500	7.0	7.3	7.1
24	7.6	1630	7.0	0730	7.3	7.5	7.2
25			No Valid Data			7.5	7.4
26	7.5	1600	7.2	1100	7.3	7.5	7.4
27	7.2	0000	7.0	1000	7.1	7.5	7.3
28	7.4	2400	6.9	1630	7.1	7.4	7.3
29	7.7	2130	7.1	0900	7.3	7.5	7.3
30	7.6	2230	7.2	1030	7.4	7.5	7.2
31	8.1	2300	7.2	1000	7.5	7.7	7.3

TABLE 4.2-9
DISSOLVED OXYGEN AND pH DATA
VERMONT YANKEE SAMPLE STATION NO. 7
SEPTEMBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	8.2	2400	8.0	0130	8.1	7.6	7.4
2	8.3	1500	8.0	0900	8.2	7.5	7.4
3			No Valid Data			7.6	7.4
4	8.3	2130	8.1	1000	8.2	7.5	7.4
5	8.2	0000	7.7	1930	7.9	7.4	7.3
6	8.3	1830	7.9	0000	8.1	7.4	7.3
7	8.7	1830	8.0	0100	8.3	7.6	7.4
8	8.7	0130	8.3	1730	8.5	7.6	7.5
9	8.7	1730	8.4	0000	8.5	7.6	7.4
10	8.7	1930	8.4	1100	8.5	7.5	7.4
11	8.7	0130	8.4	2400	8.6	7.5	7.3
12			No Valid Data			7.4	7.2
13			"	"	"	7.6	7.2
14	9.1	2030	8.6	1030	8.8	7.6	7.4
15	9.4	0600	9.0	2200	9.2	7.5	7.3
16	9.3	1400	8.9	0900	9.1	7.4	7.3
17	9.0	0000	8.2	0930	8.6	7.4	7.2
18			No Valid Data			7.3	7.2
19	8.2	2330	7.8	0830	8.0	7.2	7.1
20	8.5	2100	7.9	0730	8.2	7.3	7.0
21	8.2	0000	7.8	1700	8.0	7.2	7.0
22	8.3	2100	7.9	1800	8.1	7.1	7.0
23	8.3	2000	7.9	0830	8.1	7.1	7.0
24	8.3	0000	7.8	1200	8.0	7.1	7.0
25	8.7	1230	8.1	2400	8.4	7.2	7.1
26	8.6	0730	8.1	1400	8.4	7.2	7.1
27	8.8	2230	8.3	0000	8.5	7.3	7.1
28	8.7	2300	8.3	1300	8.5	7.4	7.3
29	8.7	1600	8.4	0600	8.5	7.4	7.3
30	8.5	2030	8.1	1130	8.3	7.4	7.3

TABLE 4.2-10

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

OCTOBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	8.6	1630	8.1	0900	8.3	7.4	7.3
2	8.8	2100	8.4	0800	8.6	7.5	7.3
3	8.8	2400	8.6	0300	8.7	7.5	7.3
4	9.3	1500	8.7	0830	9.0	No Valid Data	
5	9.1	1830	8.8	0630	8.9	"	"
6	9.3	1800	9.0	1000	9.1	7.7	7.5
7	9.4	1230	9.0	0700	9.2	7.7	7.5
8	9.6	0100	9.2	1130	9.4	7.7	7.5
9	9.1	0000	8.8	2400	9.0	7.5	7.4
10	9.1	1100	8.7	1830	8.9	7.5	7.4
11	9.3	0100	9.0	1830	9.1	7.5	7.4
12	9.5	2200	8.9	0730	9.2	7.5	7.4
13	9.7	2330	9.3	0730	9.5	7.5	7.4
14	9.8	1900	9.3	1300	9.5	7.5	7.4
15	9.7	1000	9.3	2400	9.5	7.5	7.3
16	9.3	0200	9.0	2400	9.2	7.4	7.3
17	9.0	1030	8.8	0430	8.9	7.4	7.3
18	9.5	2030	8.9	0430	9.2	7.4	7.3
19	9.8	2030	9.3	1000	9.5	7.4	7.3
20	9.9	2130	9.6	1200	9.7	7.4	7.3
21	10.0	1730	9.7	0700	9.9	7.5	7.3
22	10.0	2000	9.7	0930	9.8	7.4	7.3
23	9.9	0000	9.7	0800	9.8	7.4	7.3
24	10.1	2330	9.7	0830	9.9	7.5	7.3
25	10.2	2330	8.9	0700	10.0	7.4	7.3
26	10.5	2100	10.2	0100	10.3	7.5	7.4
27	10.5	1230	10.3	1830	10.4	7.5	7.3
28	10.5	1300	10.2	0700	10.3	7.4	7.3
29	10.6	0430	10.2	1030	10.4	7.4	7.3
30	10.5	1900	10.3	1100	10.4	7.4	7.3
31	10.4	1600	10.2	2400	10.3	7.4	7.2

TABLE 4.2-11

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

NOVEMBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	10.4	2030	10.2	0000	10.3	7.4	7.2
2	10.7	2300	10.3	0530	10.5	7.5	7.3
3	11.2	2230	10.4	1030	10.7	7.5	7.4
4	11.1	0300	10.5	2100	10.8	7.5	7.4
5	10.7	0400	9.6	2400	10.4	7.5	7.3
6	9.9	0130	9.6	2400	9.7	7.4	7.3
7	10.0	2400	9.5	0700	9.7	7.3	7.1
8	10.6	1300	10.0	0000	10.3	7.3	7.1
9	10.5	0000	10.1	2330	10.3	7.2	7.1
10	10.2	0300	9.9	1730	10.1	7.2	7.0
11	10.3	2130	10.0	0600	10.2	7.1	7.0
12	10.7	1930	10.1	0900	10.4	7.2	7.1
13	10.8	0530	10.5	1800	10.6	7.1	7.0
14	11.2	2200	10.8	0500	11.0	7.1	6.9
15	11.2	1930	10.9	0800	11.1	7.1	7.0
16	11.2	0300	10.9	1600	11.0	7.1	7.0
17	11.2	2400	11.0	0430	11.1	7.1	7.0
18	11.5	1600	11.2	0000	11.3	7.1	7.0
19	11.7	1600	11.3	0730	11.5	7.1	7.0
20	11.6	1000	11.3	1700	11.5	7.1	7.0
21	11.6	0700	11.3	1730	11.5	7.1	7.0
22	11.5	0100	11.2	1230	11.3	7.1	6.9
23	11.4	0030	11.0	1000	11.2	7.0	6.9
24	11.4	0730	10.9	2000	11.2	7.1	7.0
25	11.1	2300	10.9	1300	11.0	7.1	7.0
26	11.3	2130	11.0	0900	11.1	7.2	7.0
27	11.6	2330	11.2	0930	11.4	7.2	7.1
28	12.1	2330	11.6	0930	11.9	7.3	7.2
29	12.2	0300	11.9	1830	12.1	7.2	7.1
30	12.1	0100	11.6	2200	11.8	7.2	7.1

TABLE 4.2-12

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

DECEMBER 1982

Day	DISSOLVED OXYGEN (MG/L)					pH	
	Maximum	Time	Minimum	Time	Mean	Maximum	Minimum
1	12.1	2330	11.7	0800	11.9	7.2	7.1
2	12.1	0200	11.7	2200	11.9	7.1	7.0
3	12.1	2400	11.7	1030	11.9	7.1	7.0
4	12.2	0200	11.8	2000	12.0	7.1	6.9
5	12.2	1530	11.7	0900	12.0	7.1	6.9
6	12.2	0630	11.7	2400	11.9	7.1	7.0
7	11.7	0000	11.3	1830	11.5	7.1	7.0
8	11.6	2300	11.2	1000	11.4	7.1	7.0
9	11.8	1230	11.6	0000	11.7	7.2	7.1
10	12.0	1500	11.7	0730	11.8	7.2	7.1
11	12.0	2330	11.8	1030	11.9	7.2	7.1
12	12.1	0500	12.0	0100	12.1	7.2	7.2
13	12.2	2400	11.9	0730	12.0	7.3	7.2
14	12.6	2300	12.1	0800	12.3	7.3	7.2
15	12.8	2030	12.6	0200	12.7	7.3	7.2
16	13.0	1700	12.7	2330	12.9	7.2	7.1
17	13.1	1700	12.7	0430	12.9	7.3	7.1
18	13.2	1700	12.8	0400	13.0	7.2	7.1
19	13.4	1530	13.2	0000	13.3	7.2	7.1
20	13.4	1230	13.1	0730	13.3	7.2	7.1
21	13.3	0230	13.2	1900	13.2	7.2	7.1
22	13.3	0100	13.0	2100	13.1	7.2	7.1
23	13.1	0100	12.7	2100	12.9	7.2	7.1
24	12.9	2330	12.8	1030	12.9	7.2	7.1
25	13.2	2400	12.9	1000	13.0	7.2	7.1
26	13.3	0130	13.1	2100	13.2	7.1	7.0
27	13.4	1900	13.1	0500	13.2	7.2	7.1
28	13.5	1730	13.3	0130	13.4	7.2	7.0
29	13.5	0030	12.9	2300	13.2	7.1	7.0
30	13.4	1300	12.9	0100	13.2	7.2	7.0
31	13.3	1400	13.0	0200	13.2	7.2	7.0

TABLE 4.3-1

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	3/11/82	3/11/82	3/11/82
Dissolved Oxygen	13.40	13.70	12.85
Turbidity (Formazin Units)	0.78	0.64	0.80
pH (pH Units)	7.32	7.35	7.55
Alkalinity (as Ca CO ₃)	30.7	33.3	32.0
Total Hardness (as Ca CO ₃)	37.1	39.3	37.1
Calcium Hardness (as Ca CO ₃)	30.7	32.5	30.7
Chloride	9.4	11.3	10.0
Sulfate	8.5	8.2	8.2
Total Phosphate (as P)	0.022	0.027	0.029
Total Solids	96	100	98
Suspended Solids	1.1	1.0	1.3
Chromium (Total)	<0.002	<0.002	<0.002
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.20	0.16	0.18
Sodium	6.3	7.1	6.6
Zinc	<0.02	<0.02	<0.02

All Results In mg/l Unless Otherwise Noted

TABLE 4.3-2

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	5/13/82	5/13/82	5/13/82
Dissolved Oxygen	8.90	10.70	10.55
Turbidity (Formazin Units)	2.3	2.9	2.4
pH (pH Units)	7.20	7.46	7.32
Alkalinity (as Ca CO ₃)	23.7	22.5	23.1
Total Hardness (as Ca CO ₃)	27.1	27.1	27.2
Calcium Hardness (as Ca CO ₃)	23.0	22.7	23.0
Chloride	3.2	3.4	3.2
Sulfate	8.6	8.6	10.1
Total Phosphate (as P)	0.016	0.023	0.017
Total Solids	72	78	68
Suspended Solids	9	12	10
Chromium (Total)	0.004	0.005	0.005
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.48	0.96	0.19
Sodium	3.2	3.2	3.4
Zinc	<0.02	<0.02	<0.02

All Results in mg/l Unless Otherwise Noted

TABLE 4.3-3

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	9/9/82	9/9/82	9/9/82
Dissolved Oxygen	9.80	8.60	7.80
Turbidity (Formazin Units)	1.7	1.5	2.6
pH (pH Units)	7.90	7.64	8.28
Alkalinity (as Ca CO ₃)	43.7	44.8	61.2
Total Hardness (as Ca CO ₃)	45.6	46.8	85.0
Calcium Hardness (as Ca CO ₃)	38.8	40.0	72.5
Chloride	8.4	9.0	17.0
Sulfate	8.5	8.2	26.5
Total Phosphate (as P)	0.023	0.028	0.038
Total Solids	140	130	204
Suspended Solids	3.6	4.0	6.0
Chromium (Total)	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	0.16
Iron (Total)	0.08	0.14	0.24
Sodium	6.2	6.4	14
Zinc	<0.02	<0.02	0.05

All Results In mg/l Unless Otherwise Noted

TABLE 4.3-4

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

SAMPLE LOCATION	Monitor 3	Monitor 7	Plant Discharge
Date	11/19/81	11/19/82	11/19/82
Dissolved Oxygen	11.40	11.30	
Turbidity (Formazin Units)	1.5	1.5	1.8
pH (pH Units)	7.40	7.38	7.30
Alkalinity (as Ca CO ₃)	29.0	32.0	29.0
Total Hardness (as Ca CO ₃)	30.6	29.5	29.5
Calcium Hardness (as Ca CO ₃)	25.0	23.7	23.7
Chloride	4.4	4.6	4.4
Sulfate	6.9	7.5	6.6
Total Phosphate (as P)	0.021	0.022	0.024
Total Solids	50	40	56
Suspended Solids	2.4	1.6	3.0
Chromium (Total)	<0.02	<0.02	<0.02
Copper	<0.02	<0.02	<0.02
Iron (Total)	0.10	0.08	0.13
Sodium	4.4	4.6	4.5
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, as required by Vermont Yankee's NPDES permit, once each month in 1982 at the downstream and upstream water quality monitors, Stations 3 and 7 (Figure 5.1). In addition, subsurface samples from the river at Vermont Yankee's condenser cooling water intake structure were collected on the nine dates in 1982 when entrainment studies were conducted.

The monitor samples, preserved in formalin, were collected by pumping river water through a No. 20 mesh Wisconsin plankton net. Subsequently the sample volume was adjusted to 20 ml and 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 1982 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 1982 monitor samples are also shown graphically in Figures 5.2 and 5.3. To permit ready comparison of the 1982 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

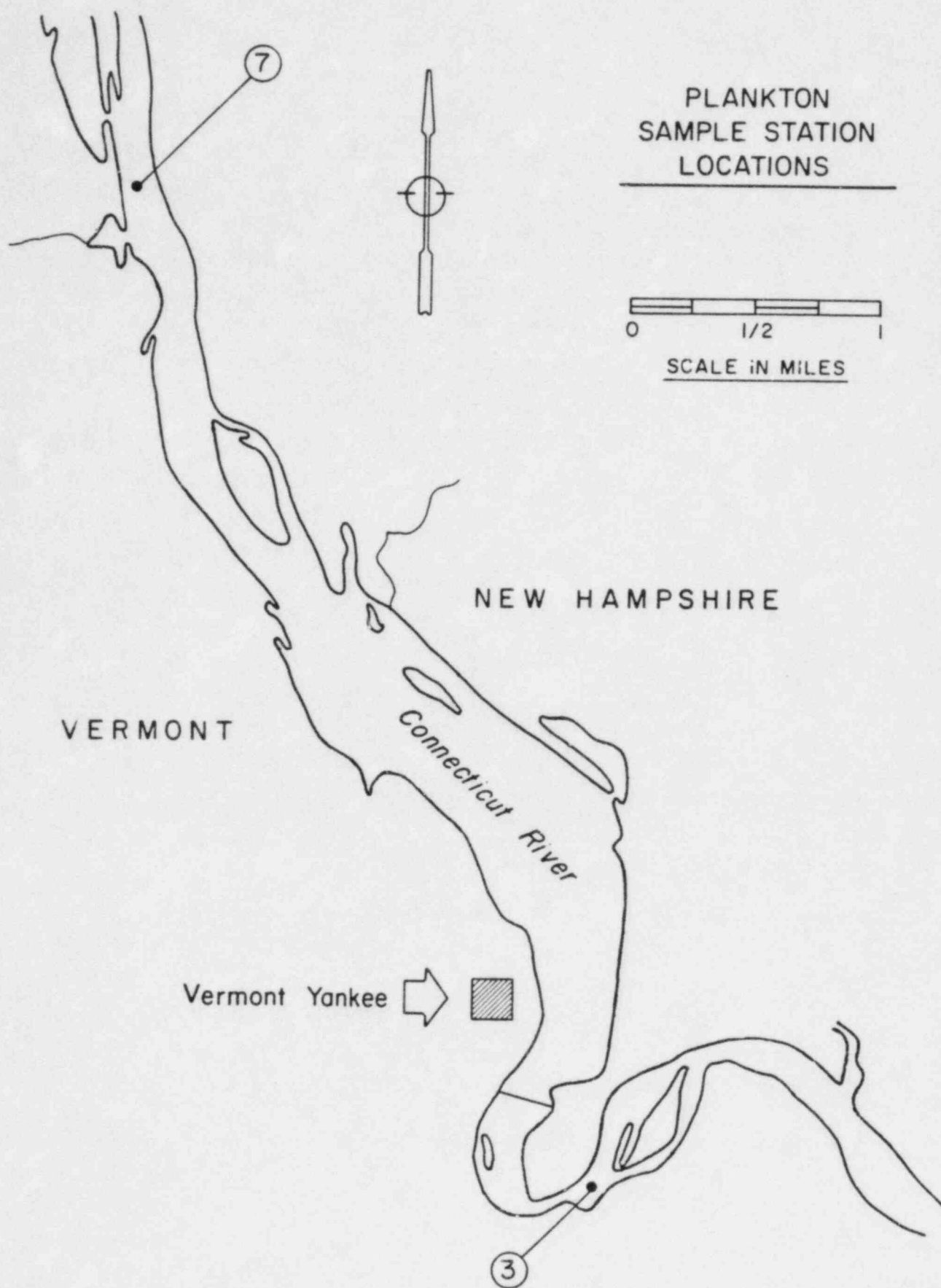


FIGURE 5.1

TABLE 5.1
DOMINANT PHYTOPLANKTON SPECIES
(Dominant Species Count/Total Count in Units per Liter)
1982

Date	SAMPLE LOCATION		
	Monitor 7	River at VY Intake	Monitor 3
1/5		<u>Tabellaria fenestrata</u> (6/32)	
1/19	<u>Melosira varians</u> (22/119)		<u>Oscillatoria</u> sp. (4/16)
2/17		<u>Tabellaria fenestrata</u> (6/27)	
2/18	<u>Oscillatoria</u> sp. (11/67)		None (-/46)
3/11	<u>Stigeoclonium</u> sp. (5/71)	<u>Diatoma</u> sp. (2/14)	<u>Diatoma</u> sp. (11/53)
4/8		<u>Melosira italica</u> (4/28)	
4/9	<u>Ulothrix</u> sp. (9/111)		<u>Ulothrix</u> sp. (9/51)
5/20	<u>Asterionella formosa</u> (49/136)	<u>Asterionella formosa</u> (466/822)	<u>Melosira italica</u> (52/220)
6/8	<u>Melosira italica</u> (14/209)		<u>Melosira italica</u> (64/137)
7/19	<u>Tabellaria fenestrata</u> (257/383)		<u>Tabellaria fenestrata</u> (4575/6406)
8/26	<u>Tabellaria fenestrata</u> (52/128)		<u>Tabellaria fenestrata</u> (110/223)
9/28	<u>Fragilaria crotonensis</u> (142/274)		<u>Fragilaria crotonensis</u> (162/409)
10/7		<u>Fragilaria crotonensis</u> (231/1160)	
10/26	<u>Melosira italica</u> (66/140)	<u>Melosira italica</u> (60/134)	<u>Fragilaria crotonensis</u> (29/164)
11/18	<u>Melosira italica</u> (38/188)	<u>Melosira italica</u> (46/190)	<u>Melosira italica</u> (49/207)
12/15	<u>Melosira italica</u> (12/30)	<u>Melosira italica</u> (56/162)	None (-/45)

SEASONAL PHYTOPLANKTON DISTRIBUTION

STATION NO.7 - MONITOR

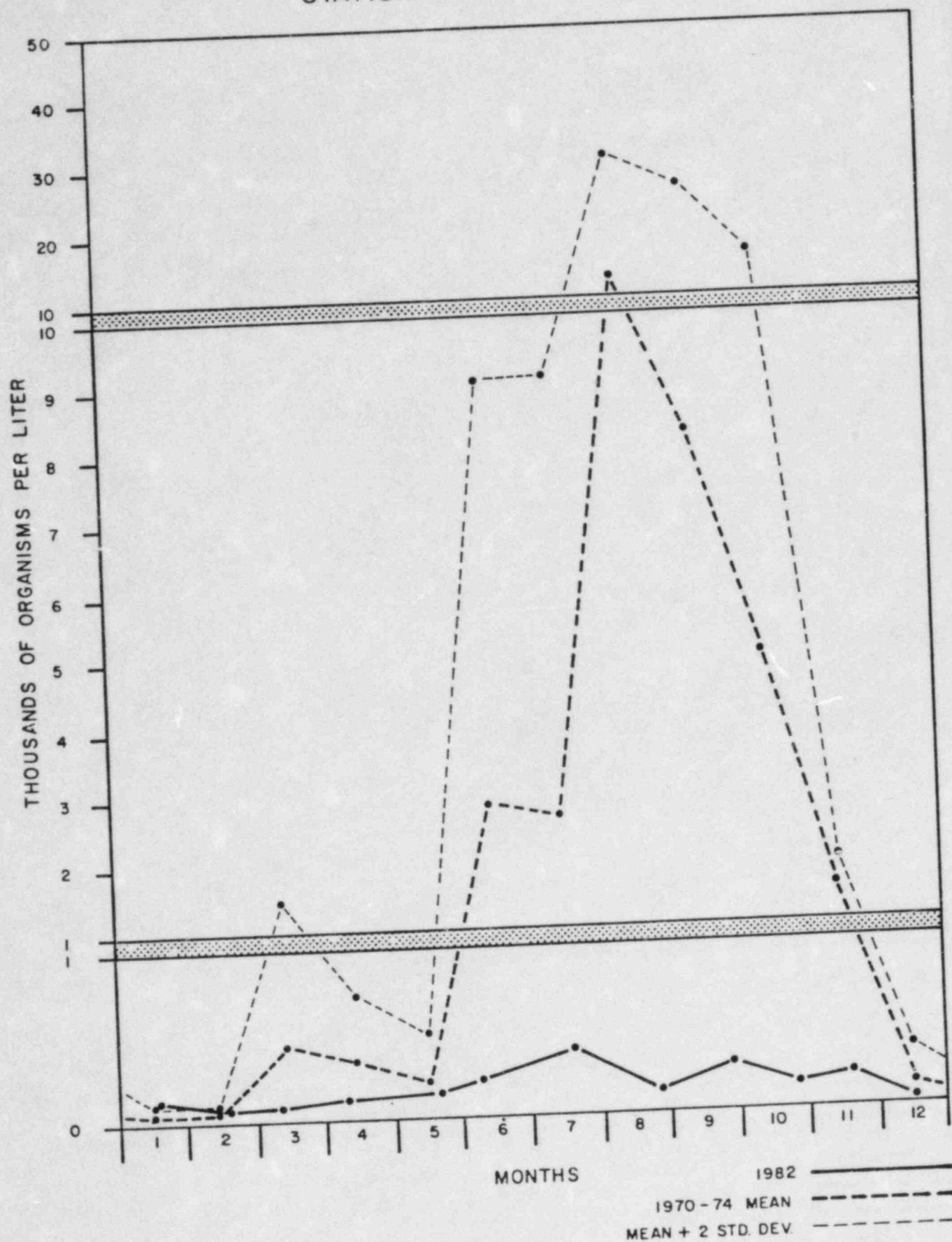


FIGURE 5.2
-110-

SEASONAL PHYTOPLANKTON DISTRIBUTION

STATION NO.3 - MONITOR

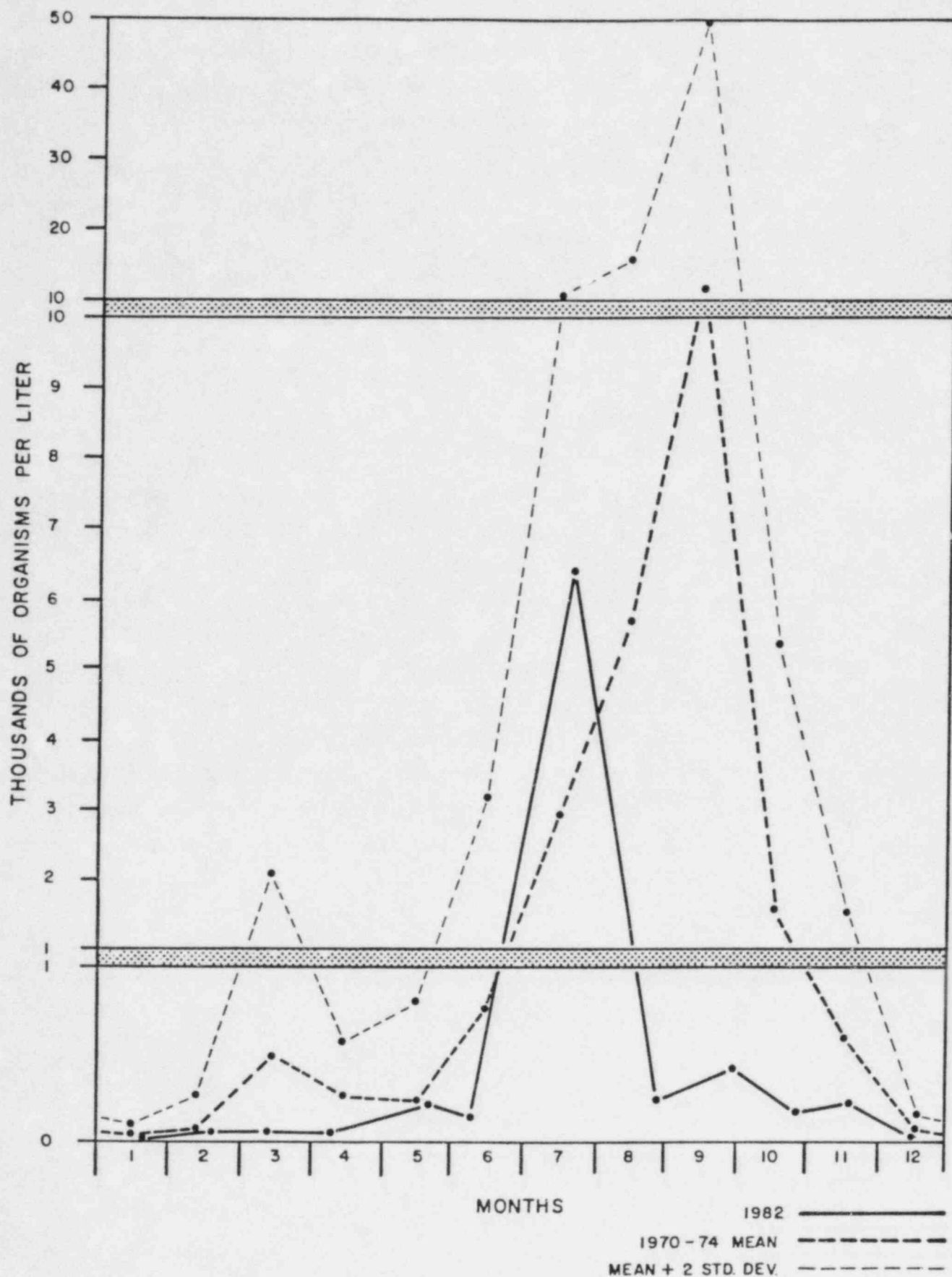


FIGURE 5.3

1970-74, excluding data collected in 1974 during Vermont Yankee's open cycle testing. Variability of algal concentrations about these means is indicated on the graphs by points which are two standard deviations greater than each monthly mean.

Algal concentrations in the net collections of 1982 were below the mean concentrations observed in 1970-74 in all months but July at Station 3. The concentration at Station 7 in January, 119 units/liter, was more than two standard deviations greater than the 1970-74 means for January at Station 7. The algal counts at Station 7 in February and at Station 3 in July exceeded the means of 1970-74, but by less than two standard deviations.

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. Monitor 7 counts observed on all twelve sample dates in 1982 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 1982 with counts predicted by this regression equation from counts observed at Monitor 7 is shown in Table 5.2. The only difference between the observed and the predicted concentrations for Station 3 that exceeds two standard errors of estimate is that calculated from the data of the July 19 samples. Vermont Yankee had operated in the closed cycle condenser cooling mode for seven weeks prior to July 19.

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 OF 1970-74

Date	Monitor 7 Count	Monitor 3 Count		
	Observed	Observed	Predicted	Difference
1/19/82	119	16	125	-109
2/18/82	67	46	83	-37
3/11/82	71	53	86	-33
4/9/82	111	51	118	-67
5/20/82	136	220	138	+82
6/8/82	209	137	197	-60
7/19/82	383	6406	336	+6070
8/26/82	128	223	132	+91
9/28/82	274	409	249	+160
10/26/82	140	164	142	+22
11/18/82	188	207	180	+27
12/15/82	30	45	53	-8

Forty-five species of phytoplankton were identified in the twelve net samples at Stations 3 and 7 in 1982. Small numbers of twelve additional species were observed in the samples of river water collected at Vermont Yankee's intake structure during entrainment studies. A checklist of the net phytoplankton identified in these samples is shown in Table 5.3. Following the name of each taxon in the list are three numbers in parenthesis. The first is the number of 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.

The average number of identified species found in the twelve upstream Station 7 samples of 1982 was 7.2; in the downstream Station 3 samples, the mean number was 8.3. The number per sample at Station 7 ranged from only 1 identified species in April to 15 in the November sample. At Station 3, the largest number of identified species was 15, in the samples of July and

September; the smallest number was 5, in the samples of January, February, and December.

In all earlier years of Vermont Yankee studies species of diatoms have been the predominant type of algae observed in the monitor samples collected by plankton net. This was the case in 1982 also. Diatoms constituted 50% or more of all the Monitor 7 samples, all the Monitor 3 samples except that of January, and all nine of the sets of entrainment intake samples. A summary of the percentages of diatoms, flagellates, green, and blue-green algae found in these 1982 net phytoplankton samples is given in Table 5.4.

TABLE 5.4
MEAN PERCENTAGES AND PERCENTAGE RANGES
DIATOMS, FLAGELLATES, GREEN, AND BLUE-GREEN ALGAE
1982

Sample Location	Diatoms		Flagellates		Greens		Blue-Greens	
	Percentage Range	Mean	Percentage Range	Mean	Percentage Range	Mean	Percentage Range	Mean
Monitor 7	50-94	78	0-3.2	0.4	0-28	8.2	0-30	7.7
VY Intake	63-100	84	0-9.0	1.5	0-22	4.8	0-16	6.0
Monitor 3	38-100	77	0-5.5	1.0	0-26	6.6	0-27	8.2

The more commonly observed species in 1982 were the same as those that have been found to predominate in the Monitor 3 and 7 samples of former years. Predominant diatoms were Asterionella formosa, Fragilaria capucina and Fragilaria crotonensis, Melosira italica and Melosira varians, and Tabellaria fenestrata. Melosira italica was found in all but 3 of the 24 monitor samples and in all 9 of the intake samples. The more common flagellates were again Dinobryon spp. and the more frequently observed green algae were Pediastrum spp., particularly Pediastrum simplex. Species of the blue-green algae Oscillatoria were found in 50% or more of the samples at all three locations.

TABLE 5.3-1

CHECKLIST OF NET PHYTOPLANKTON
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1982

The numbers in parenthesis after each listed taxon are: (the number of Station 3 Monitor samples of 12 - the number of Station 7 Monitor samples of 12/the number of entrainment intake sample sets of 9 in which the taxon was observed).

BACILLARIOPHYCEAE

Asterionella formosa (5-7/8)
Ceratoneis sp. (0-1/1)
Cyclotella sp. (0-0/1)
Diatoma sp. (1-1/3)
Fragilaria capucina (5-4/5)
Fragilaria crotonensis (9-8/9)
Melosira granulata (1-2/1)
Melosira italica (11-10/9)
Melosira varians (5-5/4)
Meridion sp. (0-1/0)
Nitzschia sp. (3-1/5)
Surirella sp. (1-0/2)
Synedra sp. (4-5/2)
Tabellaria fenestrata (5-4/5)
Tabellaria flocculosa (2-0/1)

CHRYSOPHYCEAE

Cladomonas fruticulosa (0-0/1)
Dinobryon sertularia (0-0/1)
Dinobryon sp. (3-2/5)
Hydrurus foetidus (1-0/0)
Mallomonas sp. (0-1/1)
Synura sp. (0-0/1)

PYRRHOPHYCEAE

Ceratium hirundinella (3-2/0)

TABLE 5.3-1

CHLOROPHYCEAE

<u>Ankistrodesmus</u> <u>falcatus</u> (0-1/0)
<u>Chodatella</u> sp. (0-0/1)
<u>Closterium</u> sp. (0-0/1)
<u>Cosmarium</u> sp. (1-1/1)
<u>Dictyosphaerium</u> <u>pulchellum</u> (1-1/0)
<u>Dictyosphaerium</u> sp. (0-1/1)
<u>Kirchneriella</u> sp. (0-0/1)
<u>Micratinium</u> <u>pusillum</u> (2-1/1)
<u>Pandorina</u> <u>morum</u> (1-0/0)
<u>Pandorina</u> sp. (0-0/1)
<u>Pediastrum</u> <u>duplex</u> (1-0/0)
<u>Pediastrum</u> <u>simplex</u> (1-3/8)
<u>Pediastrum</u> <u>simplex</u> var. <u>duodenarium</u> (3-7/3)
<u>Pediastrum</u> <u>tetras</u> (1-0/0)
<u>Scenedesmus</u> <u>quadricauda</u> (4-2/5)
<u>Scenedesmus</u> <u>quadricauda</u> var. <u>westii</u> (1-2/2)
<u>Scenedesmus</u> sp. (1-0/4)
<u>Schroederia</u> sp. (1-0/0)
<u>Sphaerocystis</u> <u>schroeteri</u> (1-0/0)
<u>Spirogyra</u> sp. (0-2/2)
<u>Staurastrum</u> sp. (1-1/0)
<u>Staurodesmus</u> sp. (1-0/0)
<u>Stigeoclonium</u> sp. (2-1/2)
<u>Tetraedron</u> sp. (0-0/1)
<u>Tetrastrum</u> sp. (0-0/1)
<u>Ulothrix</u> <u>zonata</u> (1-1/1)
<u>Ulothrix</u> sp. (2-1/1)

CYANOPHYCEAE

<u>Anabaena</u> sp. (1-0/0)
<u>Aphanizomenon</u> <u>gracile</u> (2-0/0)
<u>Aphanocapsa</u> sp. (0-0/1)
<u>Gomphosphaeria</u> sp. (2-1/3)
<u>Merismopedia</u> <u>elegans</u> (1-0/0)
<u>Microcystis</u> <u>aeruginosa</u> (0-0/3)
<u>Oscillatoria</u> <u>splendida</u> (1-0/0)
<u>Oscillatoria</u> sp. (8-6/5)

5.2 Zooplankton Studies

The results of the analysis of zooplankton samples collected in 1982 at the two monitor stations and at Vermont Yankee's intake structure are summarized in Table 5.5 and in Figures 5.4 and 5.5. 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 1982 at the two monitor stations are plotted, along with monthly mean counts observed at these stations in the years 1970-74, 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 in the monitor samples were relatively low throughout the year 1982. In all months at both monitor stations the zooplankton counts were less than the 1970-74 means for the corresponding months.

Statistical analysis of zooplankton data collected at the two monitor stations in the years 1970-74, prior to Vermont Yankee's operation and during closed cycle operation, has provided a basis for comparison of zooplankton counts observed at Monitor 3, downstream of Vermont Yankee, with counts predicted from the zooplankton concentrations observed at Monitor 7 upstream. This analysis, analogous to that used for phytoplankton, resulted in a linear regression equation relating Monitor 3 count, as dependent variable, to the observed Monitor 7 count. For Monitor 7 counts ranging from 0.5 to 418.5, the equation has a regression coefficient of 0.918, an intercept of 15.7, and a standard error of estimate of 83.8. A comparison of the zooplankton concentrations observed in 1982 at Monitor 3 with those predicted by this equation is given in Table 5.6. All differences between the observed and the predicted concentrations for Station 3 are less than two standard errors of estimate (167.6).

TABLE 5.5

DOMINANT ZOOPLANKTON TAXA
(Dominant Taxon Count/Total Count in Units Per Liter)
1982

Date	SAMPLE LOCATION		
	Monitor 7	River at VY Intake	Monitor 3
1/5		None (-/0.8)	
1/19	<u>Philodina sp.</u> (1.5/3.5)		None (-/1.0)
2/17		<u>Ascomorpha sp.</u> (1.2/3.2)	
2/18	<u>Keratella cochlearis</u> (0.5/0.7)		None (-/4.0)
3/11	<u>Philodina sp.</u> (1.0/1.5)	None (-/0.8)	None (-/3.5)
4/8		Indet. Nematoda (0.1/0.1)	
4/9	None (-/1.0)		<u>Philodina sp.</u> (1.0/1.0)
5/20	<u>Vorticella sp.</u> (4.0/6.5)	<u>Conochilus unicornis</u> (4.0/6.0)	<u>Ploesoma sp.</u> (1.5/3.5)
6/8	<u>Bosmina longirostris</u> (6.0/9.0)		<u>Philodina sp.</u> (1.5/5.5)
7/19	<u>Ploesoma sp.</u> (2.5/5.0)		<u>Ploesoma sp.</u> (14.0/40.5)
8/26	<u>Philodina sp.</u> (29.0/32.5)		None (-/8.5)
9/28	<u>Synchaeta sp.</u> (4.5/7.0)		<u>Synchaeta sp.</u> (9.0/14.0)
10/7		<u>Synchaeta sp.</u> (6.2/10.0)	
10/26	<u>Philodina sp.</u> (9.5/21.5)	<u>Synchaeta sp.</u> (0.8/1.8)	None (-/2.0)
11/18	<u>Philodina sp.</u> (26.5/29.0)	<u>Campanella sp.</u> (1.0/2.0)	None (-/2.0)
12/15	<u>Vorticella sp.</u> (12.0/19.5)	<u>Campanella sp.</u> (1.0/2.5)	<u>Vorticella sp.</u> (9.0/10.0)

SEASONAL ZOOPLANKTON DISTRIBUTION

STATION NO.7 - MONITOR

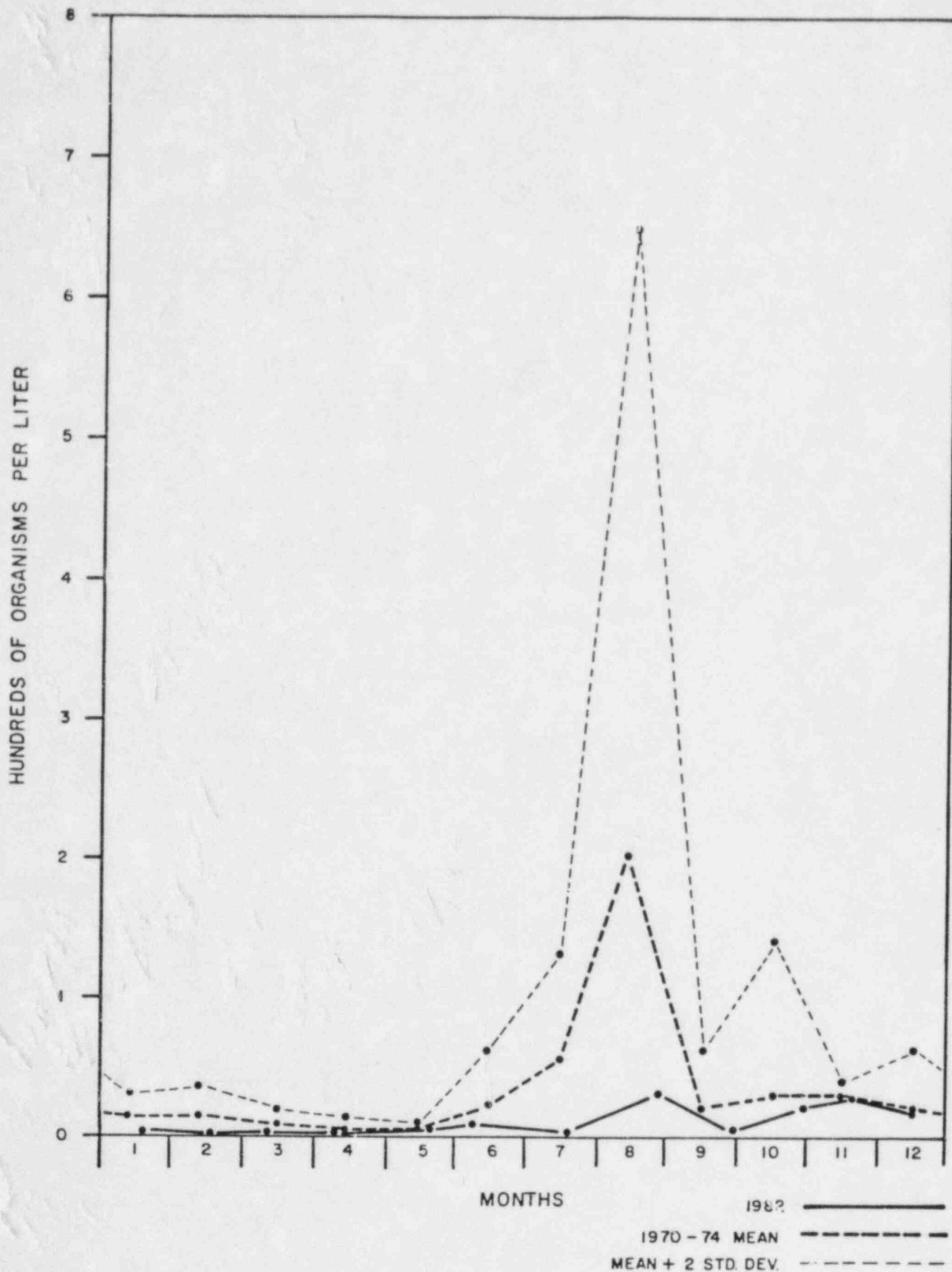


FIGURE 5.4

SEASONAL ZOOPLANKTON DISTRIBUTION

STATION NO.3 - MONITOR

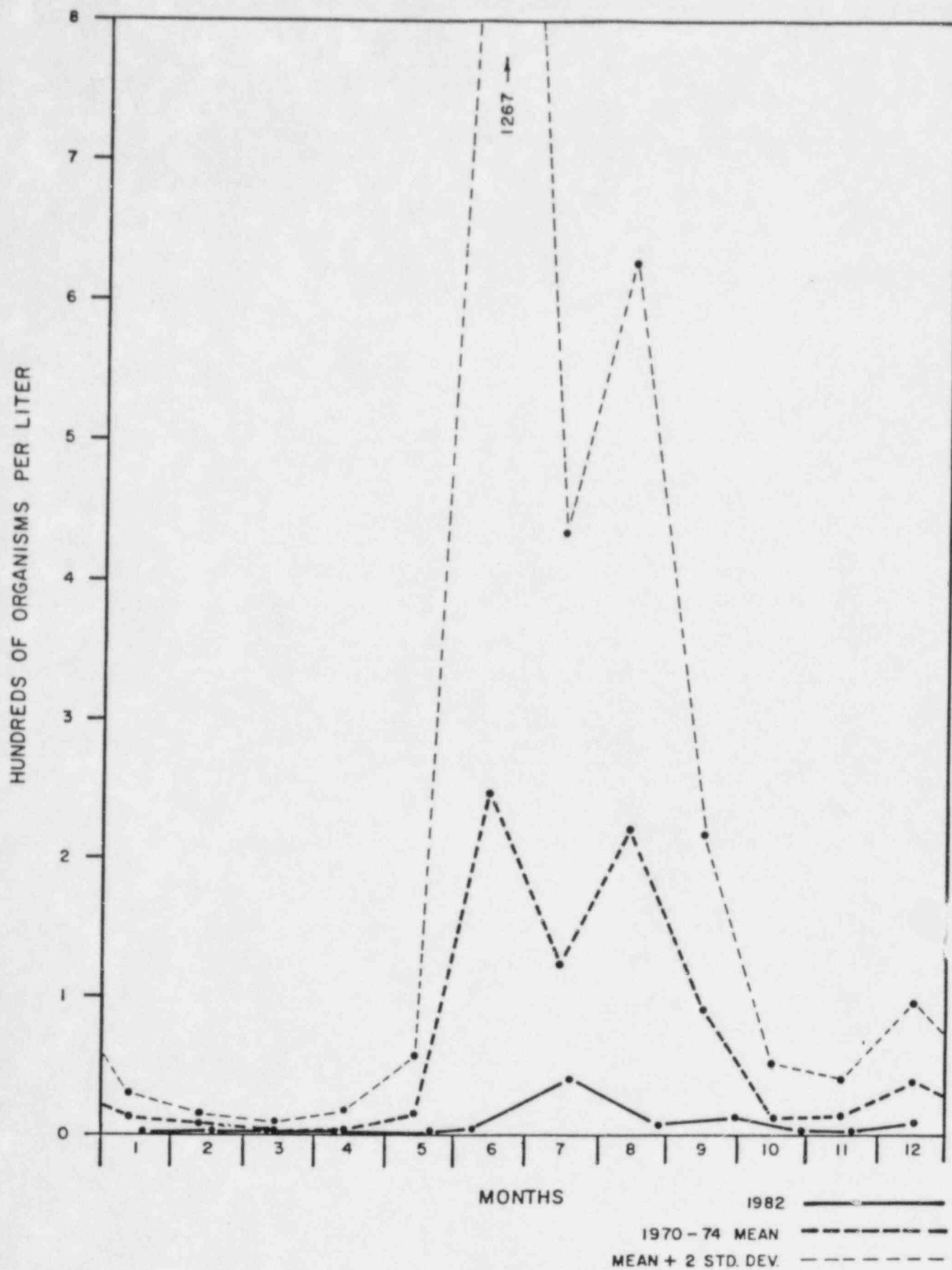


FIGURE 5.5

TABLE 5.6

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

Date	Monitor 7 Count	Monitor 3 Count		
	Observed	Observed-Predicted=Difference		
1/19/82	3.5	1.0	18.9	-17.9
2/18/82	0.7	4.0	16.3	-12.3
3/11/82	1.5	3.5	17.1	-13.6
4/9/82	1.0	1.0	16.6	-15.6
5/20/82	6.5	3.5	21.7	-18.2
6/8/82	9.0	5.5	24.0	-18.5
7/19/82	5.0	40.5	20.3	+20.2
8/26/82	32.5	8.5	45.5	-37.0
9/28/82	7.0	14.0	22.1	-8.1
10/26/82	21.5	2.0	35.4	-33.4
11/18/82	29.0	2.0	42.3	-40.3
12/15/82	19.5	10.0	33.6	-23.6

A checklist of the zooplankton observed in the 1982 monitor samples 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, also. The three numbers in parenthesis following the name of each taxon in the list are: the number of Station 3 Monitor samples, of 12; the number of Station 7 Monitor samples, of 12; and the number of entrainment intake samples, of 9, in which the taxon was observed. Of the 46 taxa listed, 11 were observed only in entrainment intake samples, 6 only in Monitor 3 samples, and 8 taxa were found only in the Monitor 7 samples.

The number of taxa observed in the Monitor 3 samples ranged from 1 in April to 9 in July; the average number of taxa in the twelve samples was 4.4. The mean number of taxa found in the twelve Monitor 7 samples was 4.7. The largest number found was 10 in the October sample; the smallest number, 2, was observed in the samples of February through April.

Relatively large percentages of the organisms observed in samples of fall and winter were protozoans; particularly

Vorticella sp. Copepods were less commonly observed than in some prior years, but were found in monitor samples of May through December and in 6 of the 9 intake samples collected during entrainment studies.

As has been found in all earlier years of zooplankton studies, rotifers were the dominant group of organisms in the majority of the samples. They constituted at least 50% of the zooplankters found in 11 of the Station 3 samples, 8 of the Station 7 samples, and 7 of the 9 entrainment samples. The more commonly observed rotifers were Keratella cochlearis, Ploesoma sp., Synchaeta sp., and Philodina sp., which was found in 18 of the 24 monitor samples.

A summary of the percentages of protozoa, copepoda, cladocera, and rotatoria found in the monitor and intake entrainment samples of 1982 is given in Table 5.8.

TABLE 5.8

MEAN PERCENTAGES AND PERCENTAGE RANGES
PROTOZOA, COPEPODA, CLADOCERA, AND ROTATORIA
1982

Sample Location	Protozoa		Copepoda		Cladocera		Rotatoria	
	Percentage Range	Mean	Percentage Range	Mean	Percentage Range	Mean	Percentage Range	Mean
Monitor 7	0-72	23	0-23	4.7	0-100	15	0-100	57
VY Intake	0-50	12	0-29	8.4	0-7.5	0.8	0-100	68
Monitor 3	0-90	14	0-50	8.8	0-25	5.5	5-100	71

TABLE 5.7-1

CHECKLIST OF ZOOPLANKTON
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1982

The numbers in parenthesis after each listed taxon are:
(the number of Station 3 Monitor samples of 12 - the number
of Station 7 Monitor samples of 12/the number of entrainment
intake sample sets of 9 in which the taxon was observed).

PROTOZA

Acineta sp. (0-1/0)
Campanella sp. (0-3/2)
Carchesium sp. (0-0/1)
Vorticella sp. (4-4/2)
Indet. (0-1/2)

NEMATODA

Indet. (1-0/1)

ROTATORIA

Ascomorpha prob. ovalis (0-0/1)
Ascomorpha sp. (1-0/3)
Asplanchna sp. (2-1/2)
Cephalodella auriculata (1-0/0)
Cephalodella prob. gibba (0-0/1)
Cephalodella sp. (0-1/0)
Conochilus unicornis (0-0/3)
Euchlanis calpidia (1-0/0)
Euchlanis dilatata (0-1/0)
Euchlanis sp. (1-1/1)
Filinia sp. (2-1/0)
Kellicottia bostoniensis (0-0/1)
Kellicottia longispina (0-1/0)
Keratella cochlearis (6-3/4)
Keratella quadrata (1-0/1)
Keratella sp. (1-0/1)
Lecane luna (0-0/1)
Monostyla bullae (1-0/0)
Notholca sp. (0-0/1)
Philodina sp. (8-10/0)
Ploesoma sp. (3-5/1)

TABLE 5.7-1

ROTATORIA (continued)

Polyarthra remata (1-0/0)
Polyarthra vulgaris (1-0/1)
Polyarthra sp. (0-0/1)
Synchaeta sp. (5-1/5)
Trichotria tetractis (0-1/0)
Indet. (1-2/7)

TARDIGRADA

Indet. (0-1/1)

ANNELIDA

Indet. Aeolosomatidae (0-1/0)

ARTHROPODA

Crustacea

Cladocera

Alona gutatta (0-0/1)
Alona sp. (1-1/0)
Bosmina longirostris (2-1/0)
Bosmina sp. (1-1/0)
Ceriodaphnia (1-0/0)
Chydorus sphaericus (0-1/1)
Chydorus sp. (0-0/1)
Daphnia pulex (0-1/0)
Daphnia sp. (1-0/0)
Pleuroxus striatus (0-1/0)
Indet. (0-1/1)

Copepoda

Indet. Adults (3-2/2)
Indet. Nauplii (3-5/6)

Insecta

Diptera

Chironomidae

Indet. larvae (0-0/1)

SECTION 6

ENTRAINMENT STUDIES

6. ENTRAINMENT STUDIES

To assess the impact of entrainment on phytoplankton and zooplankton in Vermont Yankee's condenser cooling water, nine sets of condenser cooling water intake and discharge samples were collected in 1982 at times when Vermont Yankee was utilizing open cycle condenser cooling. Eight were collected during times of Vermont Yankee's open cycle operation under the conditions of its NPDES permit. The sample of October 7 was collected during the September 15 to October 15 operation in hybrid/open cycle operation during the special study program termed Project SAVE.

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 in 1982 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 9, 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 samples. Twelve algal genera, however, were observed in discharge samples in 1982 that were not found in the intake

samples. Of these twelve, three were diatoms, two were flagellates, five were green algae, and two were blue-greens. Two genera of zooplankton, Conochiloides and Bosmina, were found in discharge samples, but not in intake samples.

The counting results of the analysis of the fresh and 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.

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. 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 . Calculations of the percent changes in river plankton concentrations due to entrainment on the 9 study dates of 1982 are shown in Table 6.3. These calculations assume uniform distribution of river plankton at the intake structure and complete mixing of plant discharge into the river.

All calculated percentage decreases in river plankton concentrations were less than 10%. Higher concentrations of living organisms in discharge samples than in intake samples were found on 6 of the 9 dates for phytoplankton and on 4 of the 9 dates for zooplankton. Such increases in live plankton concentration, which have been observed in all prior years of study, are attributable to the sloughing off into Vermont Yankee's circulating cooling water of algal growth attached to the walls of the cooling water system, growth that supports a community of microinvertebrates.

TABLE 6.1

SUMMARY OF RESULTS
VERMONT YANKEE ENTRAINMENT STUDIES
1982

<u>Date</u>	<u>Power Level (%)</u>	<u>Condenser $\Delta T(^{\circ}F)$</u>	<u>Sample Location</u>	<u>Percent Living Organisms (Fresh Sample)</u>		<u>Number Organisms/Liter (Preserved Sample)</u>	
				<u>Phytoplankton</u>	<u>Zooplankton</u>	<u>Phytoplankton</u>	<u>Zooplankton</u>
1/15	99.7	27.1	Intake	59	100	32	0.8
			Discharge	93	25	566	2.2
2/17	99.8	22.0	Intake	83	100	27	3.2
			Discharge	78	77	694	6.8
3/11	99.6	22.0	Intake	69	100	14	0.8
			Discharge	98	50	934	0.8
4/8	99.9	21.5	Intake	53	100	28	0.1
			Discharge	78	83	515	1.5
5/20	96.2	21.5	Intake	91	88	822	6.0
			Discharge	85	40	192	0.8
10/7	99.7	22.0	Intake	98	39	1160	10.0
			Discharge	99	35	436	5.8
10/26	99.2	20.5	Intake	99	42	134	1.8
			Discharge	96	57	234	5.5
11/18	99.7	21.6	Intake	98	80	190	2.0
			Discharge	97	75	138	0.5
12/15	99.6	26.9	Intake	94	75	162	2.5
			Discharge	99	80	853	4.5

TABLE 6.2

PERCENT CHANGES IN LIVE PLANKTON CONCENTRATIONS
BETWEEN ENTRAINMENT INTAKE AND DISCHARGE SAMPLES
1982

<u>Date</u>	<u>Parameter</u>	Living Organisms per Liter			<u>% Change</u>
		<u>Discharge</u>	- <u>Intake</u>	= <u>Difference</u>	<u>Thru Plant</u>
1/15	Phytoplankton	526	19	+507	+2700
	Zooplankton	0.6	0.8	-0.2	-25
2/17	Phytoplankton	541	22	+519	+2400
	Zooplankton	5.2	3.2	+2.0	+62
3/11	Phytoplankton	915	10	+905	+9000
	Zooplankton	0.4	0.8	-0.4	-50
4/8	Phytoplankton	402	15	+387	+2600
	Zooplankton	1.2	0.1	+1.1	+1100
5/20	Phytoplankton	163	748	-585	-78
	Zooplankton	0.3	5.3	-5.0	-94
10/7	Phytoplankton	432	1137	-705	-62
	Zooplankton	2.0	3.9	-1.9	-49
10/26	Phytoplankton	225	133	+92	+69
	Zooplankton	3.1	0.8	+2.3	+290
11/18	Phytoplankton	134	186	-52	-28
	Zooplankton	0.4	1.6	-1.2	-75
12/15	Phytoplankton	844	152	+692	+460
	Zooplankton	3.6	1.9	+1.7	+89

TABLE 6.3

CALCULATED PERCENT CHANGES IN LIVE PLANKTON
CONCENTRATIONS OF RIVER EFFECTED BY ENTRAINMENT
1982

<u>Date</u>	<u>Percent Recirculation</u>	<u>Discharge Q_D (cfs)</u>	<u>River Flow Q_R (cfs)</u>	<u>Percent Change in Live Plankton Concentrations in Mixed River</u>	
				<u>Phytoplankton</u>	<u>Zooplankton</u>
1/15	0	590	10140	+160	-1.5
2/17	18	595	10790	+130	+3.4
3/11	0	726	11060	+590	-3.3
4/8	20	593	15670	+98	+42
5/20	0	720	7720	-7.3	-8.8
10/7	20	620	4060	-9.5	-7.5
10/26	0	776	5740	+9.3	+39
11/18	0	741	10680	-1.9	-5.2
12/15	0	594	5640	+48	+9.4

SECTION 7

BENTHIC FAUNA STUDIES

7. BENTHIC FAUNA STUDIES

In compliance with the conditions of Vermont Yankee's NPDES permit, samples of Connecticut River benthos were collected by Ekman dredge and Henson trap at four sample stations shown in Figure 7.1. Ekman dredge samples were collected monthly, from May through November, at each of the four stations. Each Ekman dredge sample consisted of the organisms collected in 30 dredge hauls, 10 from each quarter point of the river, except that high river flows in May precluded collection of the 10 mid-river hauls at Station 3. Henson traps, wire cages filled with 2 to 3 inch diameter rocks, were set at each location in May, July, and September and left in place for 7 to 11 weeks. The traps set at Station 3 in May and at Station 5 in July were vandalized before retrieval.

The material collected by either sample method was washed through a set of standard sieves and organisms and debris retained by a No. 30 mesh sieve were preserved in 70% alcohol for subsequent analysis. Identification was made to the lowest practicable taxonomic level, usually to genus.

A list of the benthic fauna found in these 1982 samples is given in Table 7.1 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 station.

Excluding the organisms listed as indeterminate that are not known positively to be different from other identified taxa, 145 taxa were found in the 1982 samples. Fifty-six taxa were observed in the Station 2 samples, 57 in the Station 3 samples, 77 in the Station 4 samples, and 85 taxa were found in the samples at Station 5. Of the 120 genera found in the 1982 samples, 73 were observed in the 10 Henson trap samples, and 99 were found in the

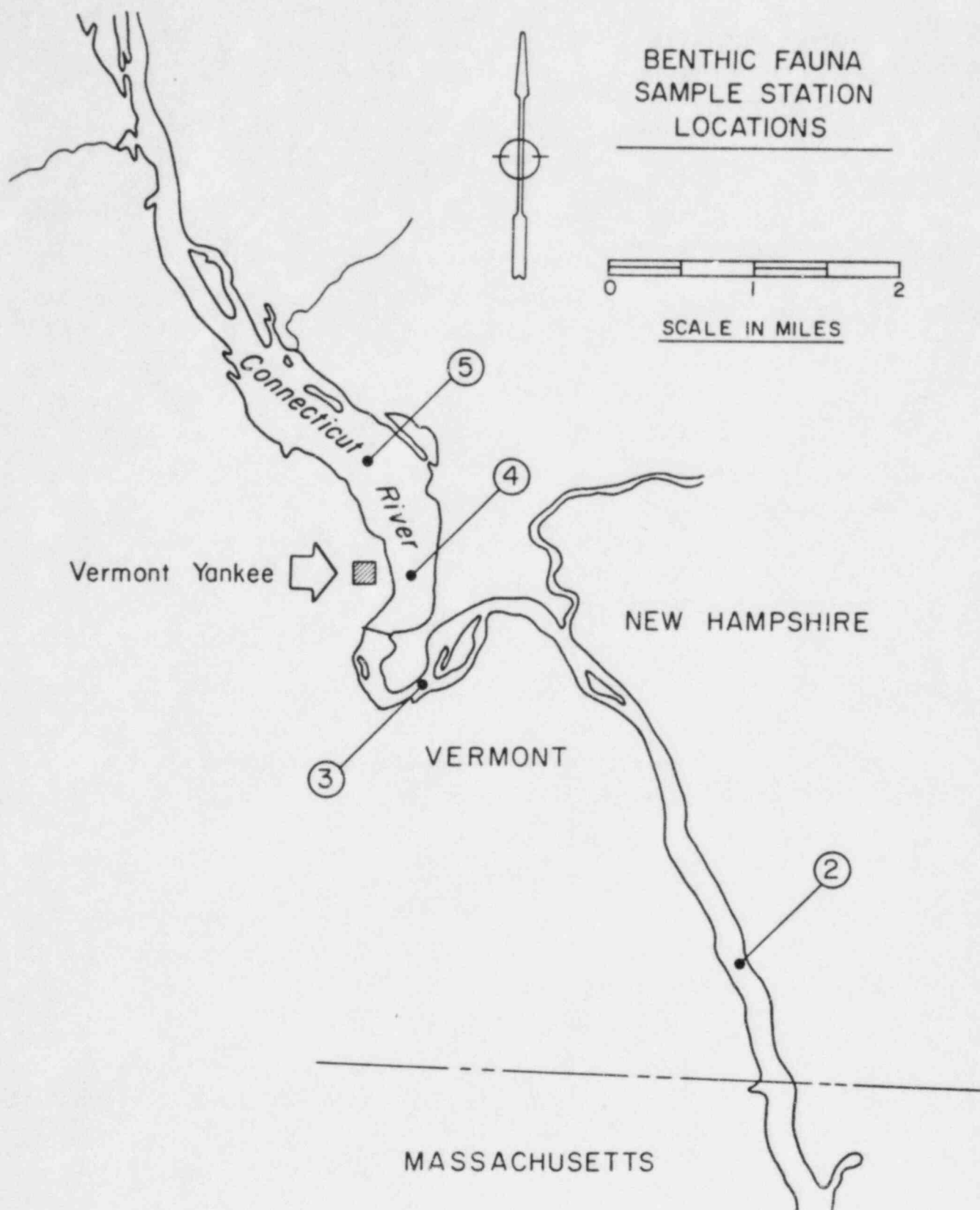


FIGURE 7.1

28 samples collected by Ekman dredge. Fifty-two genera were collected by both sampling techniques, 21 were observed only in the Henson trap collections, and 47 were found only in the Ekman dredge samples.

The number of samples collected by Ekman dredge in 1982 was comparable to the numbers collected at Stations 2 through 5 in the years 1969 and 1977-81. A comparison of the number of genera collected by Ekman dredge in these years with the results of the 1982 collections is shown in Table 7.2.

TABLE 7.2

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

Station Number	Number of Samples/Number of Genera						
	1969	1977	1978	1979	1980	1981	1982
2	6/23	8/20	8/22	7/27	7/36	7/40	7/39
3	6/24	8/25	8/13	7/26	7/39	6/41	7/43
4	7/16	8/19	8/17	7/26	7/30	7/35	7/54
5	8/18	8/20	6/14	7/28	7/25	7/44	7/56

The number of genera observed in 1982 was greater at Stations 3, 4, and 5 than in earlier years. The number observed in 1982 at Station 2 was only one less than the 40 genera observed there in the 1981 samples.

The results of the analysis of the 1982 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:

$$\bar{d} = \frac{C}{N} (N \log_{10} N - \sum n_i \log_{10} n_i)$$

where C is a constant which converts logarithms from base 10 to

base 2; N is the number of organisms; and n_i is the number of organisms in the i^{th} taxon.

Chironomid larvae were the predominant organisms in 18 of the 38 samples. They were relatively more numerous in the samples collected upstream of Vernon Dam than in the samples of Stations 2 and 3, downstream of the dam. At Station 5, chironomids were the predominant form observed in 8 of the 9 samples collected; at Station 4, in 7 of the 10 samples. Caddis fly larvae were the more numerous forms in 6 downstream samples, but in only one upstream sample, the Henson trap collection at Station 4 in November. Cladocerans predominated in downstream samples of August and September and planarians and amnicolid snails appeared as the dominant forms in some fall samples at all stations.

TABLE 7.3-1

SUMMARY OF RESULTS OF ANALYSIS
BENTHIC FAUNA SAMPLES
1982

Date	Sample Method HT (# Days) ED (# Hauls)	Sample Station	Number of Benthic Organisms	Number of Organisms per m ²	Number of Taxa	Diversity Index \bar{d}	Predominant Form(s)	
							Names	% of Total
5/21	Ed (30 hauls)	2	22	14	9	2.99	Caddis flies	36
	ED (20 hauls)	3	42	40	18	3.81	Chironomids	62
5/11	ED (30 hauls)	4	4	3	2	0.81	Clams	100
	ED (30 hauls)	5	20	13	13	3.45	Chironomids	30
6/11	ED (30 hauls)	2	28	18	7	1.91	Caddis flies	21
	ED (30 hauls)	3	43	27	12	3.01	Caddis flies	56
6/7	ED (30 hauls)	4	9	6	7	2.64	Chironomids	67
	ED (30 hauls)	5	90	57	15	3.58	Chironomids	69
7/28	HT (78 days)	2	14	-	5	1.99	Alderflies	43
7/29	HT (79 days)	4	87	-	14	2.94	Chironomids	70
	HT (79 days)	5	587	-	20	2.26	Chironomids	62
7/29	ED (30 hauls)	2	66	42	18	3.62	Caddis flies	39
	ED (30 hauls)	3	20	13	12	3.48	Chironomids	50
	ED (30 hauls)	4	128	82	21	3.77	Chironomids	43
	ED (30 hauls)	5	63	40	13	3.09	Chironomids	44
8/24	ED (30 hauls)	2	402	256	27	3.55	Cladocerans	25
	ED (30 hauls)	3	124	79	9	2.15	Cladocerans	52
	ED (30 hauls)	4	244	156	30	3.93	Chironomids	36
	ED (30 hauls)	5	170	108	27	3.84	Chironomids	39

TABLE 7.3-2

SUMMARY OF RESULTS OF ANALYSIS
BENTHIC FAUNA SAMPLES
1982

Date	Sample Method HT (# Days) ED (# Hauls)	Sample Station	Number of Benthic Organisms	Number of Organisms per m ²	Number of Taxa	Diversity Index \bar{d}	Predominant Form(s)	
							Names	% of Total
9/29	HT (63 days)	2	503	-	16	2.45	Cladocerans	45
	HT (63 days)	3	400	-	17	1.84	Caddis flies	55
9/28	HT (61 days)	4	196	-	23	3.29	Planarians	28
9/29	ED (30 hauls)	2	184	117	14	2.32	Planarians	54
	ED (30 hauls)	3	29	18	10	3.25	Caddis flies	21
							Bryozoans	21
9/28	ED (30 hauls)	4	145	92	19	3.24	Chironomids	35
	ED (30 hauls)	5	212	135	27	3.68	Chironomids	50
10/28	ED (30 hauls)	2	60	38	9	1.94	Amnicolid snails	50
	ED (30 hauls)	3	22	14	8	2.55	Amnicolid snails	32
10/27	ED (30 hauls)	4	58	37	14	3.04	Chironomids	29
	ED (30 hauls)	5	243	155	18	2.42	Chironomids	70
11/16	HT (48 days)	2	28	-	13	3.14	Chironomids	36
11/17	HT (49 days)	3	106	-	6	1.01	Amnicolid snails	78
	HT (50 days)	4	472	-	26	3.23	Caddis flies	30
	HT (50 days)	5	243	-	22	3.23	Planarians	35
11/16	ED (30 hauls)	2	77	49	8	1.03	Planarians	84
11/17	ED (30 hauls)	3	45	29	11	2.66	Caddis flies	38
	ED (30 hauls)	4	134	85	22	3.53	Chironomids	37
	ED (30 hauls)	5	159	101	19	3.56	Chironomids	39

TABLE 7.1-1

CHECKLIST OF THE BENTHIC FAUNA
OF THE CONNECTICUT RIVER
NEAR VERNON, VERMONT
1982

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(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
PORIFERA (Sponges)									
	Demospongea								
	Spongillidae								
	Indet.	1	0	0	0	0	0	0	0
COELENTERATA (Hydroids, Jellyfish)									
	Hydrozoa								
	Hydroidea								
	Hydridae								
	Indet. polyp	2	1	1	1	2	0	2	0
PLATYHELMINTHES									
	Turbellaria (Flatworms)								
	Tricladida								
	Planariidae								
	<u>Dugesia tigrina</u>	2	4	2	5	3	3	2	2
BRYOZOA (Moss Animacules)									
	Gymnolaemata								
	<u>Paludicella articulata</u>	1	0	0	0	0	0	0	0
	<u>Paludicella</u> sp.	1	0	0	3	0	0	0	0
	Phylactolaemata								
	<u>Cristatella</u> sp.	1	1	0	0	0	0	0	0
	<u>Fredericella sultana</u>	0	0	1	0	0	0	0	0
	<u>Fredericella</u> 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(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
BRYOZOA (continued)									
	<u>Hyalinella punctata</u>	0	0	1	0	0	0	0	0
	<u>Lophopodella</u> sp.	0	1	0	0	0	0	0	0
	<u>Pectinatella magnifica</u>	0	1	0	0	0	0	0	0
	<u>Pectinatella</u> sp.	1	0	0	0	0	0	0	0
	<u>Plumatella repens</u>	0	0	0	1	0	0	0	0
	<u>Plumatella</u> sp.	0	0	0	2	0	0	0	0
	Indet.	0	0	1	1	0	0	0	0
	Indet. BRYOZOA	0	2	0	1	0	1	0	0
ANNELIDA									
Oligochaeta (Aquatic Earthworms)									
Plesiopora									
Naididae									
	<u>Pristina</u> sp.	1	2	1	2	1	2	0	2
	<u>Stylaria</u> sp.	0	0	0	0	0	1	0	0
	Indet.	0	0	0	0	0	1	0	0
Tubificidae									
	<u>Branchiura sowerbyi</u>	0	0	0	1	0	2	0	1
	<u>Limnodrilus</u> sp.	1	4	0	3	2	6	1	4
	<u>Tubifex</u> sp.	1	0	0	0	0	1	0	1
	Indet.	0	0	0	0	0	1	0	0
Prosopora									
Lumbriculidae									
	<u>Lumbriculus inconstans</u>	0	1	0	0	0	0	0	0
	<u>Lumbriculus</u> sp.	0	1	0	1	1	1	0	2
	Indet. Oligochaeta	0	1	0	1	0	0	0	1
Hirudinea (Leeches)									
Rhynchobdellida									
Glossiphonidae									
	<u>Helobdella stagnalis</u>	0	0	0	0	0	1	0	0
	<u>Helobdella</u> sp.	0	0	0	0	0	2	0	1
	<u>Placobdella</u> sp.	0	0	0	0	0	0	1	1

TABLE 7.1-3

	Sample Station Number							
	Collection Method (No. Samples Collected)							
	² HT(3)	² ED(7)	³ HT(2)	³ ED(7)	⁴ HT(3)	⁴ ED(7)	⁵ HT(2)	⁵ ED(7)
ANNELIDA (continued)								
Hirudinea (Leeches)								
Rhynchobdellida								
Piscicolidae								
<u>Piscicola</u> sp.	0	0	0	1	0	0	0	0
ARTHROPODA								
Arachnoidea								
Hydracarina (Water Mites)								
Hydrachnidae								
<u>Hydrachna</u> sp.	0	0	0	0	0	0	0	1
Indet. Hydracarina	0	0	0	0	1	3	0	3
Crustacea								
Cladocera (Water Fleas)								
Daphnidae								
Indet.	2	2	2	2	2	4	2	4
Indet. Cladocera	0	0	0	0	1	0	0	0
Isopoda (Aquatic Sow Bugs)								
Asellidae								
<u>Asellus</u> sp.	0	0	0	1	3	1	0	2
Amphipoda (Scuds)								
Taltridae								
<u>Hyalella azteca</u>	0	0	0	0	0	1	0	0
Indet. Amphipoda	1	0	0	0	2	0	1	0
Decapoda (Crayfish)								
Astacidae								
<u>Orconectes limosus</u>	0	0	0	0	1	0	1	0
Cambaridae								
Indet.	2	0	0	0	1	0	0	0
Insecta								
Plecoptera (Stoneflies)								
Perlidae								
<u>Neophasganophora</u> sp.	0	0	0	0	0	0	1	0

TABLE 7.1-4

	Sample Station Number							
	Collection Method (No. Samples Collected)							
	2	3	4	5				
	HT(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
ARTHROPODA (continued)								
Insecta								
Ephemeroptera (Mayflies)								
Baetidae								
<u>Baetis</u> sp.	0	1	0	1	0	0	0	0
Caenidae								
<u>Brachycercus</u> sp.	0	1	0	0	0	1	0	1
<u>Caenis</u> sp.	0	2	0	1	0	2	1	1
Ephemerellidae								
<u>Ephemerella</u> sp.	0	2	0	1	0	0	0	1
Ephemeridae								
<u>Ephemera</u> sp.	0	0	0	0	0	0	0	1
<u>Hexagenia limbata</u>	0	0	0	0	0	0	0	1
<u>Hexagenia</u> sp.	0	1	0	0	0	4	1	4
Heptageniidae								
<u>Stenonema</u> sp.	0	1	0	1	0	0	1	2
Indet.	0	1	0	0	0	0	0	0
Polymitarcidae								
<u>Ephoron</u> sp.	0	0	0	0	0	1	0	1
Potamanthidae								
<u>Potamanthus</u> sp.	0	0	0	0	0	1	0	0
Tricorythidae								
<u>Tricorythodes</u> sp.	0	1	0	0	0	0	1	0
Indet. Ephemeroptera	0	0	0	1	0	0	0	0
Odonata (Dragonflies, Damselflies)								
Aeschnidae								
<u>Boyeria</u> sp.	0	0	0	0	1	0	0	0
Coenagrionidae								
<u>Enallagma</u> sp.	0	0	1	0	0	0	1	0
<u>Ischnura</u> sp.	1	0	1	0	1	0	1	0

TABLE 7.1-5

		Sample Station Number							
		Collection Method (No. Samples Collected)							
		2		3		4		5	
		HT(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)

ARTHROPODA (continued)

Insecta

Odonata (Dragonflies, Damselflies)

Gomphidae

Dromogomphus sp.

0 0 0 0 0 0 2 1

Gomphus sp.

0 0 0 0 0 1 0 0

Libellulidae

Libellula sp.

0 0 1 0 0 0 0 0

Pantala sp.

0 0 1 0 0 0 0 0

Macromiidae

Macromia sp.

0 0 1 1 0 0 0 0

Megaloptera (Alderflies, Dobsonflies,

Corydalidae Fishflies)

Chauliodes sp.

0 1 0 0 0 0 1 0

Sialidae

Sialis sp.

2 2 0 0 1 2 1 0

Trichoptera (Caddis Flies)

Brachycentridae

Micrasema sp.

0 0 0 1 0 0 0 0

Hydropsychidae

Cheumatopsyche sp.

1 7 2 6 0 0 0 0

Hydropsyche sp.

1 5 0 4 0 0 0 0

Macronema sp.

0 2 1 0 0 0 0 0

Indet.

0 2 0 0 0 0 0 0

Hydroptilidae

Agraylea sp.

0 0 0 0 0 0 0 1

Hydroptila sp.

0 0 0 0 1 0 1 0

Leptoceridae

Ceraclea sp.

0 1 0 2 0 0 1 0

Mystacides sp.

0 0 0 0 2 0 1 0

Nectopsyche sp.

0 0 0 0 1 1 0 2

TABLE 7.1-6

	Sample Station Number							
	Collection Method (No. Samples Collected)							
	2	3	4	5				
	HT(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
ARTHROPODA (continued)								
Insecta								
Trichoptera (Caddis Flies)								
Leptoceridae								
<u>Oecetis</u> sp.	0	4	0	0	2	4	2	5
<u>Triaenodes</u> sp.	0	0	0	0	1	0	0	0
Indet.	0	1	0	0	0	1	0	1
Molannidae								
<u>Molanna</u> sp.	0	1	0	0	0	0	0	0
Polycentropodidae								
<u>Phylocentropus</u> sp.	0	0	0	0	2	0	0	2
<u>Polycentropus</u> sp.	0	0	0	1	2	1	2	2
Sericostomatidae								
<u>Agarodes</u> sp.	0	0	0	0	1	0	0	0
Indet. Trichoptera	0	1	0	1	0	1	1	0
Coleoptera (Beetles)								
Elmidae								
<u>Dubiraphia</u> sp.	0	1	0	1	0	1	0	1
<u>Optioservus</u> sp.	0	0	0	0	0	0	0	1
<u>Rhizelmis</u> sp.	0	0	0	1	0	0	0	2
<u>Stenelmis</u> sp.	1	0	0	0	0	0	0	0
Hydrophilidae								
<u>Berosus</u> sp.	0	0	1	0	0	0	0	0
Diptera (Flies, Mosquitoes, Midges)								
Chironomidae (Midges)								
Tanypodinae								
<u>Ablabesmyia mallochi</u>	1	2	0	0	0	0	0	0
<u>Clinotanypus</u> sp.	0	0	0	1	0	0	0	0
<u>Natarsia</u> sp.	0	0	0	0	0	1	0	1
<u>Pentaneura</u> sp.	0	0	0	0	0	0	1	3
<u>Procladius</u> sp.	0	0	0	0	1	6	0	5

TABLE 7.1-7

Sample Station Number
Collection Method (No. Samples Collected)

²
 HT(3) ED(7) ³
 HT(2) ED(7) ⁴
 HT(3) ED(7) ⁵
 HT(2) ED(7)

ARTHROPODA (continued)

Insecta

Diptera

Chironomidae (Midges)

Tanypodinae

Tanypus sp.

0 0 0 0 0 1 0 0

Thienemannimyia group

0 2 0 0 0 1 0 0

Indet.

0 0 0 0 0 2 0 1

Diamesinae

Diamesa sp.

0 0 0 0 0 0 0 1

Monodiamesa sp.

0 0 0 0 0 3 0 1

Potthastia sp.

0 0 0 0 0 1 1 2

Orthoclaadiinae

Brillia sp.

0 0 0 0 0 0 0 1

Cricotopus tremulus

0 0 0 0 0 0 1 0

Cricotopus sp.

0 0 0 0 0 0 0 1

Eukiefferiella discoloripes

0 0 0 0 1 0 0 0

Eukiefferiella sp.

0 0 0 0 0 1 0 0

Heterotrissocladius sp.

0 0 0 0 0 1 0 0

Nanocladius sp.

0 0 0 0 0 0 1 0

Orthocladius sp.

0 0 1 0 0 0 0 1

Parakiefferiella sp.

0 0 0 0 0 0 0 1

Psectrocladius sp.

0 0 0 0 0 1 0 0

Rheocricotopus sp.

0 0 0 0 0 1 0 2

Indet.

0 0 0 1 0 0 1 0

Chironominae—Chironomini

Chironomus riparius group

0 0 0 0 0 0 0 1

Chironomus sp.

0 0 0 0 0 2 0 3

Cryptochironomus fulvus group

0 0 0 0 0 0 0 1

Cryptochironomus sp.

0 0 0 0 1 5 0 4

Dicrotendipes neomodestus

1 1 0 0 3 4 2 4

Dicrotendipes nervosus

0 0 0 1 1 0 0 0

TABLE 7.1-8

Sample Station Number							
Collection Method (No. Samples Collected)							
2		3		4		5	
HT(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)

ARTHROPODA (continued)

Insecta

Diptera

Chironomidae (Midges)

Chironominae—Chironomini

Endochironomus nigricans

0 0 0 0 2 0 0 0

Glyptotendipes lobiferus

1 1 0 3 3 1 2 1

Glyptotendipes sp.

1 0 1 1 3 1 0 1

Harnischia sp.

0 0 0 0 0 2 0 0

Parachironomus abortivus

0 2 0 2 2 0 1 0

Parachironomus frequens

0 1 0 1 0 0 0 1

Parachironomus sp.

1 1 0 0 0 0 0 1

Paralauterborniella sp.

0 0 0 0 0 0 0 1

Paratendipes sp.

0 0 0 1 0 1 0 0

Phaenopsectra sp.

0 0 0 1 0 0 0 0

Polypedilum convictum

0 0 0 0 0 0 0 1

Polypedilum fallax

0 0 0 1 0 0 0 0

Polypedilum illinoense

0 1 0 1 0 2 0 3

Polypedilum sp.

0 0 0 1 0 0 0 2

Pseudochironomus sp.

0 0 0 0 2 2 1 2

Tribelos jucundus

0 0 0 0 0 1 0 0

Tribelos sp.

0 0 0 1 1 0 0 1

Xenochironomus xenolabis

1 0 0 0 0 0 0 0

Xenochironomus sp.

1 0 0 0 0 0 0 0

Indet.

0 0 0 0 0 0 0 1

Chironominae—Tanytarsini

Cladotanytarsus sp.

0 0 0 0 0 2 0 0

Micropsectra sp.

0 0 0 0 0 1 1 0

Paratanytarsus sp.

0 0 0 1 0 0 1 0

Rheotanytarsus distinctissimus

1 0 0 1 1 0 1 0

Rheotanytarsus sp.

0 1 0 0 0 1 0 0

Tanytarsus coffmani

0 0 0 0 0 0 0 1

Tanytarsus glabrescens

0 1 0 0 0 1 0 0

Tanytarsus guerlus

0 0 0 0 0 2 0 2

Tanytarsus sp.

0 1 0 0 0 1 0 1

TABLE 7.1-9

Sample Station Number
Collection Method (No. Samples Collected)

	2		3		4		5	
	HT(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
ARTHROPODA (continued)								
Insecta								
Diptera								
Chironomidae (Midges)								
Chironominae—Tanytarsini								
Zavrelia group	0	0	0	0	0	0	0	1
Indet.	0	0	0	0	1	0	0	1
Indet. Chironomidae	1	1	0	3	1	4	1	3
Culicidae (Mosquitoes, Phantom Midges)								
Chaoborus sp.	0	0	0	0	0	1	0	0
Indet.	0	0	0	0	0	0	0	2
Rhagionidae (Snipe Flies)								
Indet.	0	0	1	0	0	0	0	0
Heleidae (Biting Midges)								
Palpomyia tibialis	0	0	0	0	1	1	0	4
Palpomyia sp.	0	0	0	0	0	2	0	3
Indet.	0	0	0	0	0	1	0	0
Simuliidae (Black Flies)								
Indet.	0	0	0	0	1	0	0	0
Tipulidae (Crane Flies)								
Tipula sp.	0	0	0	1	0	0	0	0
Indet. Diptera	0	1	0	1	0	0	1	0
Hemiptera (Bugs)								
Indet.	0	0	0	0	0	0	0	1
MOLLUSCA								
Gastropoda (Snails, Limpets)								
Bassomatophora								
Ancylidae (Limpets)								
Ferrissia sp.	0	0	0	1	0	0	0	0
Physidae (Pouch Snails)								
Physa sp.	1	2	0	1	1	1	0	0

TABLE 7.1-10

	Sample Station Number							
	Collection Method (No. Samples Collected)							
	2		3		4		5	
	HT(3)	ED(7)	HT(2)	ED(7)	HT(3)	ED(7)	HT(2)	ED(7)
MOLLUSCA (continued)								
Gastropoda								
Bassomatophora								
Planorbidae (Orb Snails)								
Gyraulus sp.	0	0	0	0	1	0	0	2
Helisoma sp.	0	3	1	2	0	0	0	0
Megagastropoda								
Hydrobiidae								
Amnicola sp.	2	5	2	4	0	0	1	0
Indet.	0	1	0	0	0	0	0	0
Pelecypoda (Clams, Mussels)								
Prionodesmacea								
Sphaeriidae (Fingernail Clams)								
Musculium sp.	0	0	0	0	0	1	0	0
Pisidium sp.	0	2	0	1	0	5	0	6
Sphaerium sp.	0	6	0	5	0	5	0	4
Unionidae (Freshwater Mussels)								
Elliptio sp.	0	0	0	1	0	0	0	1
Indet.	0	1	0	0	0	2	0	3
Indet. Pelecypoda	0	0	0	0	0	1	0	0

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 1979), provided the basis for the schedule of impingement studies, set forth in Vermont Yankee's current NPDES permit, to be conducted during open cycle operation. This schedule requires a 24 hour sample 3 times per week in October and the period April 16 through May 15, one time a week in November and from March 1 through April 15, and one 24 hour sample per month in December, January, and February. Impingement studies during Vermont Yankee's 1982 open cycle operation under the conditions of the NPDES permit were conducted in accordance with this schedule. Additional impingement collections were made in the other five months of 1982 as a part of the special Project SAVE program of studies.

A summary of the weight extremes and the extremes in total length of the fish species observed in all the impingement studies in 1982, during both open and closed cycle operation, 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 the year. The fish species are listed in order of the decreasing number of the species impinged in all months of 1982.

Table 8.2 also shows for each month the mean number of fish impinged per test day in 1982. At the bottom of the table are listed, for the months January through May and October

TABLE 8.1

SUMMARY OF WEIGHT AND TOTAL LENGTH EXTREMES OF FISH SPECIES
COLLECTED IN 1982 IMPINGEMENT STUDIES

<u>Species</u>	<u>Weight (g)</u>	<u>Total Length (mm)</u>
<i>Alosa aestivalis</i> (Mitchill)		
Blueback herring	3.0-8.0	77-100
<i>Alosa sapidissima</i> (Wilson)		
American shad	16	126
<i>Salmo salar</i> Linnaeus		
Atlantic salmon	87	213
<i>Osmerus mordax</i> (Mitchill)		
Rainbow smelt	1.9-37	75-200
<i>Catostomus commersoni</i> (Lacépède)		
White sucker	3.7-679	73-398
<i>Notemigonus crysoleucas</i> (Mitchill)		
Golden shiner	1.9-91	58-188
<i>Notropis cornutus</i> (Mitchill)		
Common shiner	1.0-2.3	60-75
<i>Notropis hudsonius</i> (Clinton)		
Spottail shiner	1.2-12.6	51-117
<i>Hybognathus nuchalis</i> Agassiz		
Silvery minnow	2.7-12.0	70-105
<i>Ictalurus nebulosus</i> (LeSueur)		
Brown bullhead	3.4-92	60-187
<i>Ictalurus natalis</i> (LeSueur)		
Yellow bullhead	7.0	82
<i>Morone americana</i> (Gmelin)		
White perch	2.5-258	59-235
<i>Perca flavescens</i> (Mitchill)		
Yellow perch	3.5-245	55-264
<i>Stizostedion vitreum</i> (Mitchill)		
Walleye	96	230
<i>Etheostoma olmstedi</i> Storer		
Tessellated darter	0.9-3.2	40-67
<i>Micropterus dolomieu</i> Lacépède		
Smallmouth bass	3.0-64	62-175
<i>Micropterus salmoides</i> (Lacépède)		
Largemouth bass	6.5-48	79-150
<i>Lepomis gibbosus</i> (Linnaeus)		
Pumpkinseed	1.6-137	42-172
<i>Lepomis macrochirus</i> Rafinesque		
Bluegill	0.8-102	45-170
Juvenile <i>Lepomis</i> spp.	0.4-5.5	32-69
<i>Ambloplites rupestris</i> (Rafinesque)		
Rock bass	0.5-82	25-165

TABLE 8.2-1

SUMMARY BY MONTH OF NUMBER AND WEIGHT IN GRAMS
OF FISH SPECIES COLLECTED IN IMPINGEMENT STUDIES
1982

Species	JAN No.-Wgt.	FEB No.-Wgt.	MAR No.-Wgt.	APR No.-Wgt.	MAY No.-Wgt.	JUN No.-Wgt.
Pumpkinseed		1-3.0	3-11.5	10-63.8	13-346.6	
Juvenile <u>Lepomis</u> spp.				5-13.8	38-63.6	
Bluegill			1-3.0	3-107.4	11-58.0	
Yellow perch			4-30.5	80-2570.6	26-424.5	
Spottail shiner			4-14.7	81-309.3	35-117.3	
Rock bass				11-284.4	34-202.8	1-4.8
White perch				11-367.1	18-752.5	
Rainbow smelt					33-252.9	
Golden shiner				5-61.5	26-318.7	
Silvery minnow				16-80.5	11-41.6	
Smallmouth bass				5-29.2	10-176.2	
Tessellated darter			1-2.3	1-1.6	2-5.0	
Brown bullhead				4-90.2	5-180.2	2-48
Blueback herring						
White sucker				4-19.9	4-693.1	
Largemouth bass						
Common shiner					3-5.3	
Walleye				1-96.1		
Atlantic salmon					1-87	
American shad						
Yellow bullhead			1-7.0			
TOTALS	0-0	1-3.0	14-69.0	237-4095.4	270-3725.3	3-52.8
Number of test days	1	1	4	11	18	15
Daily means	0-0	1.0-3.0	3.5-17.2	21.5-372.3	15.0-207.0	0.2-3.5
Phases I-V						
Daily means	1.0-66.3	1.2-15.3	23.6-248.0	71.9-692.3	8.9-113.5	
Standard Dev.	1.6-432.9	1.9-42.0	112.4-710.1	102.8-959.0	10.1-215.7	

TABLE 8.2-2

SUMMARY BY MONTH OF NUMBER AND WEIGHT IN GRAMS
OF FISH SPECIES COLLECTED IN IMPINGEMENT STUDIES
1982

Species	JUL No.-Wgt.	AUG No.-Wgt.	SEP No.-Wgt.	OCT No.-Wgt.	NOV No.-Wgt.	DEC No.-Wgt.	TOTAL No.-Wgt.
Pumpkinseed			331-1115	1-3.5	23-136.3		382-1679.7
Juvenile <i>Lepomis</i> spp.			288-478.5		26-42.6		357-598.5
Bluegill		1-2.1	242-710.9	4-12.4	20-58.6		282-952.4
Yellow perch	1-51		17-214.2		9-468.3	2-136	139-3895.1
Spottail shiner					13-53.6	3-11.9	136-506.8
Rock bass	1-14	1-2.0	30-89.7		3-10.6		81-608.3
White perch				3-385	33-232.3	1-7.3	66-1744.2
Rainbow smelt							33-252.9
Golden shiner					1-2.7		32-382.9
Silvery minnow							27-122.1
Smallmouth bass			1-6.5		4-27.1		20-239.0
Tessellated darter			8-15.5				12-24.4
Brown bullhead							11-318.4
Blueback herring				11-48.1			11-48.1
White sucker							8-713.0
Largemouth bass			2-26.8		6-105.3		8-132.1
Common shiner							3-5.3
Walleye							1-96.1
Atlantic salmon							1-87
American shad				1-16			1-16
Yellow bullhead							1-7.0
TOTALS	2-65	2-4.1	919-2657.1	20-465.0	138-1137.4	6-155.2	1612-12429.3
Number of test days	11	6	9	15	4	1	
Daily means	0.2-5.9	0.3-0.7	102.1-295.2	1.3-31.0	34.5-284.4	6.0-155.2	
Phases I-V							
Daily means				83.2-662.2	7.7-140.8	2.3-46.0	
Standard Dev.				148.8-1019.3	15.7-542.5	5.7-109.6	

through December, the daily means and standard deviations, for both number and weight of fish impinged, that were observed in those months in the five phases of the open cycle test program conducted in the years 1974-78. The mean number and weight impinged per test day in these months of 1982 were all within two standard deviations of the means observed in 1974-78.

A brief study of impingement was conducted in September 1976, during the Phase IV open cycle testing. The mean daily impingement rates observed in 17 days of testing then were 7.1 fish and 35.2 grams, with standard deviations of 7.0 fish and 29.3 grams. The impingement rate in September 1982 was much greater than this. But, as already noted, the existing data base for September is limited to 17 days of testing in a single year. Data for the months January through May and October through December were collected in 1974-78 in 3 to 5 different years and 66 to 150 days.

During June, July, and August, 1982, when Vermont Yankee was operating in the closed cycle mode of condenser cooling, 7 fish weighing 121.9 grams were impinged on 32 test days; the daily means were 0.2 fish and 3.8 grams. During the other nine months, when condenser cooling was open or hybrid mode, the impinged means per test day were 25 fish and 192 grams. The means for the five phases of open cycle testing in 1974-78 were 23 fish and 240 grams.

One Atlantic salmon was impinged in May during one of the test days. An additional salmon (36 grams, T.L.=170 mm) was found on the traveling screens on 5 May 1982 when the screens were being backwashed in preparation for the collection of a 24 hour sample. One American shad was impinged in October.

8.2 Resident Finfish Studies

A total of 8519 fish were collected in 1982 at Vermont Yankee Sample Stations 2, 3, 4, 5, and 8. The locations of these stations are shown in Figure 8.1. The fish were taken in 350 collections by four capture methods—trap net, gill net,

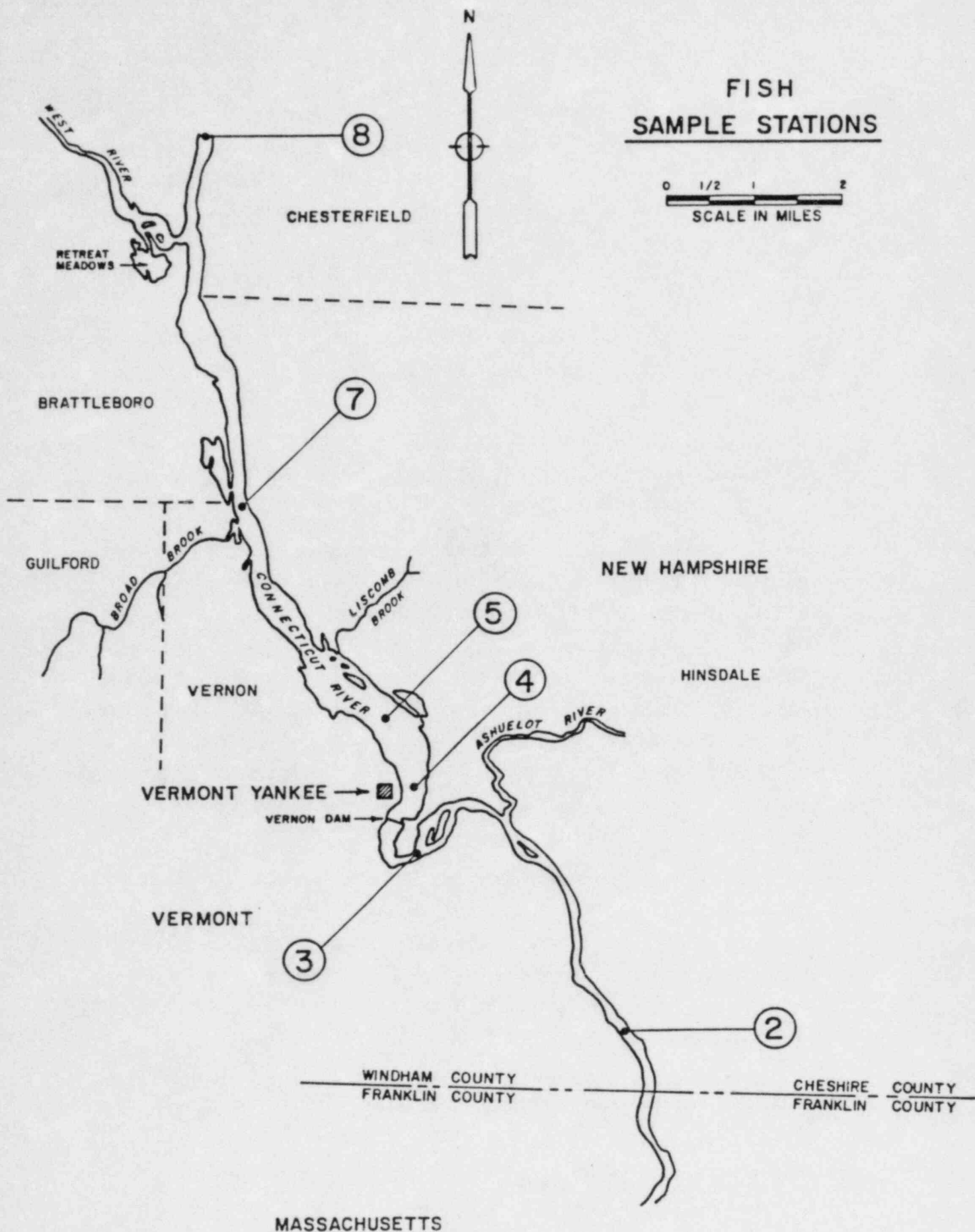


FIGURE 8.1

seine haul, and electrofishing. The collected fish were identified and their weight and total length were usually measured and recorded. In some instances, however, complete and reliable statistics on weight and length were not obtained for each specimen. Occasionally a fish escaped before being weighed or measured. Some white perch captured for the Project SAVE survival studies were not weighed and measured, in order to minimize trauma to the fish before placing them in holding cages. The statistics presented in the following tables include only the fish for which weight and length data were collected.

A summary, by station and capture method, of the fishing effort and the numbers and weight of fish collected in 1982 is shown in Table 8.3.

The data of the 1982 fish collections are summarized by species in Tables 8.4, 8.5, and 8.6. Table 8.4 shows for all collections in 1982 the number, the total weight, and the extremes in weight and total length observed for each species. Table 8.5 summarizes—by sample station, capture method, and number of collections in which the species was taken—the numbers and total weights of the species captured north of Vernon Dam. Table 8.6 summarizes these data for the fish collected south of Vernon Dam. Frequency distributions by total length for nine species are shown in Table 8.7.

Twenty-six species of fish were collected in 1982. Four species—northern pike, Atlantic salmon, fallfish, and black crappie—were found only in the collections south of Vernon Dam; three species—common shiner, silvery minnow, and tessellated darter—were captured only in collections north of the dam.

Only one specimen of northern pike has been captured in prior years of Vermont Yankee fish studies. That fish, weighing 400 grams with a total length of 400 mm, was collected in September 1980 in an experimental gill net set near Stebbin

Island, about 1.25 miles downstream from Vernon Dam. Blueback herring and American shad, first collected in the Vermont Yankee fish studies in 1981, were observed in 1982 also. These species were introduced into the Vernon area in releases there of American shad conducted as part of the continuing effort to restore breeding populations of anadromous fish to the Connecticut River. One Atlantic salmon was captured in May in a trap net set south of Vernon Dam.

The species compositions, by weight and by number, of the 1982 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.

All percentages by weight in the 1982 study were within extremes that had been observed in earlier surveys, and the percentages by number were within extremes previously observed, with the exception of that of yellow perch. The number of yellow perch captured in 1982 constituted 22.5% of the total catch. This exceeded the previous maximum of 17.6% in 1981.

In the collections downstream of Vernon Dam, rock bass were 23.5% of the total number of fish and white sucker 45.3% of the total weight in the 1982 catch. Upstream of Vernon Dam, yellow perch constituted the largest percentage by number, 26.1%, and the greatest proportion of the biomass was made up of carp, 25.7% of the total weight of the catch.

Scale samples for age determination were taken from white perch, yellow perch, walleye, and smallmouth bass collected in 1982 that had a total length of more than 50 mm. The results of the reading of these scales, along with the age-growth data collected in years prior to Vermont Yankee's operation with open cycle cooling, are shown in Tables 8.8 through 8.11. The data on number of annuli and mean total length from these tables are shown graphically in Figures 8.6 through 8.9.

For white perch and yellow perch, the age-growth curves of the specimens collected north of Vernon Dam do not differ greatly from those of the years 1969-73. However, the data for these species collected south of the dam appear to indicate an enhanced growth rate relative to that observed in the 1969-73 survey.

An increase in growth rate is suggested also in the walleye and smallmouth bass data of 1982, both north and south of Vernon Dam. This indication of an increase in growth rate for these species was observed also in the walleye data of the previous five years and in the smallmouth bass data of 1981. The possibility that the rate of growth of some fish species has changed significantly in recent years will be investigated further in 1983.

Scale samples were collected also from 128 largemouth bass in 1982. The number of this species captured in the years 1969-73 was small so no age-growth data from those years is available for comparison with that of 1982. The results of the counting of annuli on the scales collected in 1982 are shown in Table 8.12.

TABLE 8.12
AGE-GROWTH DATA—LARGEMOUTH BASS
1982

Number of Annuli	North of Vernon Dam			South of Vernon Dam		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	30	103 65-165		37	116 72-170	
1	7	151 105-173		0	- -	
2	13	288 224-350		0	- -	
3	11	345 280-395		0	- -	
4	14	386 303-435		0	- -	
5	5	409 375-450		0	- -	
6	6	464 420-490		0	- -	
7	3	485 480-490		0	- -	
8	0	- -		0	- -	
9	1	467 -		0	- -	
10	1	520 -		0	- -	

TABLE 8.3

SUMMARY OF FISHING EFFORT AND RESULTS
1982

	CAPTURE METHOD														TOTALS	
SAMPLE LOCATION	TRAP NET				GILL NET				SEINE HAUL			ELECTROFISHING				
	No. Fish	Weight (g)	No. Net Sets	No. Set Hours	No. Fish	Weight (g)	No. Net Sets	No. Set Hours	No. Fish	Weight (g)	No. Coll.	No. Fish	Weight (g)	No. Coll.	No. Fish	Weight (g)
Station 2	378	90573	44	1004	3	2337	3	68	0	0	0	11	6407	1	392	99317
Station 3	1160	286677	81	1856	16	5872	7	165	257	137	3	194	95529	6	1627	388215
Totals - South of Vernon Dam	1538	377250	125	2860	19	8209	10	233	257	137	3	205	101936	7	2019	487532
Station 4	2697	548865	113	2641	7	35220	3	72	80	294	2	1669	234946	15	4453	819325
Station 5	1809	501603	65	1501	0	0	0	0	7	9	1	82	24827	1	1898	526439
Station 8	36	3843	4	82	0	0	0	0	0	0	0	12	2611	1	48	6454
Totals - North of Vernon Dam	4542	1054311	182	4224	7	35220	3	72	87	303	3	1763	262384	17	6399	1352218
Totals - All Locations	6080	1431561	307	7084	26	43429	13	305	344	440	6	1968	364320	24	8418	1839750

TABLE 8.4

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
1982

<u>Species</u>	<u>Total Number</u>	<u>Total Weight In Grams</u>	<u>Weight Extremes In Grams</u>	<u>Length Extremes in Millimeters</u>
Alosa aestivalis (Mitchill)	246	1012.2	1.9-8.5	60-102
Blueback herring				
Alosa sapidissima (Wilson)	26	305.4	5.6-14	87-123
American shad	255	2419.2	3-1191	57-520
Alosa spp.				
Salmo salar Linnaeus	1	162	162	273
Atlantic salmon				
Catostomus commersoni (Lacépède)	604	465289	7-1467	83-533
White sucker				
Cyprinus carpio Linnaeus	89	368785	53-9750	150-780
Carp				
Semotilus corporalis (Mitchill)	3	1272	213-717	277-406
Fallfish				
Notemigonus crysoleucas (Mitchill)	188	15852.5	2-182	54-245
Golden shiner				
Notropis cornutus (Mitchill)	67	783	7-42	81-123
Common shiner				
Notropis hudsonius (Clinton)	347	2006.6	0.9-26	45-130
Spottail shiner				
Hybognathus nuchalis Agassiz	33	335	10-20	95-110
Silvery minnow	81	382	-	50-125
Juvenile Cyprinidae				
Ictalurus nebulosus (LeSueur)	29	11794	106-705	198-362
Brown bullhead				
Ictalurus natalis (LeSueur)	2	547	55-492	163-318
Yellow bullhead				
Esox lucius Linnaeus	2	4930	2380-2550	705-736
Northern pike				
Esox niger LeSueur	4	3159	497-915	427-545
Chain pickerel				
Anguilla rostrata (LeSueur)	42	21196	8.0-1700	170-1020
American eel				
Fundulus diaphanus (LeSueur)	2	2.2	0.2-2	27-51
Banded killifish				
Morone americana (Gmelin)	1691	308503.4	4.7-528	71-323
White perch				
Perca flavescens (Mitchill)	1892	161578.7	2-375	70-305
Yellow perch				
Stizostedion vitreum (Mitchill)	111	82448	34-3630	158-715
Walleye				
Etheostoma olmstedii Storer	4	4.1	0.8-1.6	32-47
Tessellated darter				
Micropterus dolomieu Lacépède	735	162820.9	2.1-1640	49-480
Smallmouth bass				
Micropterus salmoides (Lacépède)	141	50330.8	3-2180	65-520
Largemouth bass				
Lepomis gibbosus (Linnaeus)	637	59339	2-265	48-225
Pumpkinseed				
Lepomis macrochirus Rafinesque	163	21436	1-375	45-238
Bluegill	282	209	0.1-3.2	18-50
Lepomis spp.				
Ambloplites rupestris (Rafinesque)	740	92833	4-378	57-265
Rock bass				
Pomoxis nigromaculatus (LeSueur)	1	15	15	105
Black crappie				
TOTALS	8418	1839750		

TABLE 8.5-1

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
COLLECTIONS NORTH OF VERNON DAM
1982

<u>Species</u>	<u>Station No.</u>	<u>Capture Method*</u>	<u>No. of Coll.</u>	<u>No. Fish</u>	<u>Weight Grams</u>	<u>Species No.</u>	<u>Totals Weight</u>
Blueback herring	4	TN	3	142	572.1	246	1012.2
		SH	1	42	164.3		
		EF	2	26	129		
	5	TN	1	36	146.8		
American shad	4	TN	2	24	282.4	26	305.4
		EF	1	2	23		
<u>Alosa</u> spp.	4	TN	2	6	37	253	1225.2
		EF	6	245	1177.2		
	5	TN	1	2	11		
White sucker	4	TN	56	145	103690	336	244379
		EF	7	55	26839		
	5	TN	38	136	113850		
Carp	4	TN	16	24	100110	84	347670
		GN	3	7	35220		
		EF	20	20	82250		
	5	TN	17	32	128500		
		EF	1	1	1590		
Golden shiner	4	TN	23	46	4427	176	15044.5
		EF	8	32	1858.5		
	5	TN	9	89	8277		
		EF	1	9	482		
Common shiner	4	TN	2	5	69	67	783
		EF	1	1	7		
	5	TN	3	61	707		
Spottail shiner	4	TN	6	24	357.4	329	1946.9
		EF	7	290	1404.5		
	5	TN	3	15	185		
Silvery minnow	4	TN	1	1	10	33	335
		EF	2	31	305		
	5	TN	1	1	20		
Juvenile Cyprinidae	4	EF	2	81	382	81	382
Brown bullhead	4	TN	2	2	489	6	1754
	5	TN	4	4	1265		

TABLE 8.5-2

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
COLLECTIONS NORTH OF VERNON DAM
1982

<u>Species</u>	<u>Station No.</u>	<u>Capture Method*</u>	<u>No. of Coll.</u>	<u>No. Fish</u>	<u>Weight Grams</u>	<u>Species Totals No.</u>	<u>Weight</u>
Yellow bullhead	5	TN	1	1	55	1	55
Chain pickerel	4	TN	1	1	497	3	2244
	5	TN	2	2	1747		
American eel	4	TN	3	2	1954	15	10531
		EF	6	10	5650		
	5	TN	4	3	2927		
Banded killifish	4	EF	1	1	2	1	2
White perch	4	TN	91	730	135878.9	1607	286603.4
		EF	13	257	28648.5		
	5	TN	45	585	115266		
		EF	1	26	4931		
	8	TN	3	7	1579		
		EF	1	2	380		
Yellow perch	4	TN	71	831	72773.9	1670	138341.7
		SH	1	1	5.8		
		EF	15	394	22095		
	5	TN	35	425	42371		
		EF	1	11	713		
	8	TN	3	8	383		
Walleye	4	TN	29	58	40365	93	71127
		EF	6	18	9557		
	5	TN	14	15	18136		
		EF	1	2	3069		
Tessellated darter	4	SH	1	3	3.2	4	4.1
	5	SH	1	1	0.9		
Smallmouth bass	4	TN	59	158	36097	412	95378.1
		SH	2	28	105.1		
		EF	14	96	22693		
	5	TN	31	112	32846		
		EF	1	7	1175		
	8	TN	2	4	692		
		EF	1	7	1770		

TABLE 8.5-3

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
COLLECTIONS NORTH OF VERNON DAM
1982

<u>Species</u>	<u>Station No.</u>	<u>Capture Method*</u>	<u>No. of Coll.</u>	<u>No. Fish</u>	<u>Weight Grams</u>	<u>Species No.</u>	<u>Totals Weight</u>
Largemouth bass	4	TN	5	6	2558	103	49480.8
		SH	1	1	4.8		
		EF	11	55	30948		
	5	TN	5	24	4245		
		EF	1	17	11725		
Pumpkinseed	4	TN	46	348	35261	529	52156
		EF	8	49	1370		
	5	TN	29	127	15056		
		EF	1	5	469		
Bluegill	4	TN	8	16	1332.5	42	2438.5
		EF	4	7	208		
	5	TN	4	15	225		
		EF	1	4	673		
<u>Lepomis</u> spp.	4	SH	1	5	10.6	16	25.1
		EF	2	5	6.5		
	5	SH	1	6	8.0		
Rock bass	4	TN	38	122	11497	266	28914
	5	TN	26	124	15767		
	8	TN	3	17	1189		
		EF	1	3	461		
TOTALS NORTH OF VERNON DAM						6399	1352217.9

* TN—Trap net, GN—Gill net, SH—Seine haul, EF—Electrofishing.

TABLE 8.6-1

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
COLLECTIONS SOUTH OF VERNON DAM
1982

<u>Species</u>	<u>Station No.</u>	<u>Capture Method*</u>	<u>No. of Coll.</u>	<u>No. Fish</u>	<u>Weight Grams</u>	<u>Species Totals</u>	
						<u>No.</u>	<u>Weight</u>
<u>Alosa</u> spp.	2	GN	1	1	1191		
	3	TN	1	1	3	2	1194
Atlantic salmon	3	TN	1	1	162	1	162
White sucker	2	TN	19	39	33453		
		GN	1	1	903		
		EF	1	5	4620		
	3	TN	41	169	136240		
		GN	3	3	3137		
		EF	5	51	42557	268	220910
Carp	3	TN	1	1	53		
		EF	2	4	21062	5	21115
Fallfish	3	TN	2	2	555		
		GN	1	1	717	3	1272
Golden shiner	2	TN	1	1	107		
	3	TN	5	7	257		
		GN	2	3	314		
		EF	1	1	130	12	808
Spottail shiner	2	TN	1	1	10		
	3	TN	3	3	28		
		SH	1	14	21.7	18	59.7
Brown bullhead	2	TN	4	5	1933		
	3	TN	9	17	7459		
		GN	1	1	648	23	10040
Yellow bullhead	3	TN	1	1	492	1	492
Northern pike	3	TN	1	1	2550		
		EF	1	1	2380	2	4930
Chain pickerel	2	TN	1	1	915	1	915
American eel	2	TN	5	5	2839		
		EF	1	2	907		
	3	EF	5	20	6919	27	10665
Banded killifish	3	SH	1	1	0.2	1	0.2
White perch	2	TN	8	25	6469		
	3	TN	23	50	12532		
		EF	2	9	2819	84	21820

TABLE 8.6-2

FISHES OF THE CONNECTICUT RIVER
IN THE VICINITY OF VERNON, VERMONT
COLLECTIONS SOUTH OF VERNON DAM
1982

<u>Species</u>	<u>Station No.</u>	<u>Capture Method*</u>	<u>No. of Coll.</u>	<u>No. Fish</u>	<u>Weight Grams</u>	<u>Species No.</u>	<u>Totals Weight</u>
Yellow perch	2	TN	16	55	6477	222	23237
		GN	1	1	243		
	3	TN	35	151	14645		
		GN	1	3	285		
		EF	4	12	1587		
Walleye	2	TN	1	2	1218	18	11321
	3	TN	11	12	8928		
		GN	1	1	268		
		EF	2	3	907		
Smallmouth bass	2	TN	21	85	17175	323	67442.8
		EF	1	4	880		
	3	TN	45	162	35077		
		SH	1	3	16.8		
		EF	6	69	14294		
Largemouth bass	2	TN	1	1	39	38	850
	3	TN	12	37	811		
Pumpkinseed	2	TN	4	11	326	108	7183
	3	TN	30	92	6466		
		GN	1	1	152		
		SH	1	1	2		
		EF	2	3	237		
Bluegill	2	TN	6	8	1252.5	121	18997.5
	3	TN	33	101	16276		
		EF	2	12	1469		
<u>Lepomis</u> spp.	2	TN	1	6	10	266	183.9
	3	TN	4	22	78		
		SH	3	238	95.9		
Rock bass	2	TN	26	133	18350	474	63919
	3	TN	50	329	44050		
		GN	2	3	351		
		EF	4	9	1168		
Black crappie	3	TN	1	1	15	1	15

TOTALS SOUTH OF VERNON DAM 2019 487532.1

* TN—Trap net, GN—Gill net, SH—Seine haul, EF—Electrofishing.

TABLE 8.7-1

FREQUENCY DISTRIBUTION OF FISH SPECIES
BY TOTAL LENGTH
1982

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					4	11	3	9	10	21	1	4
61-80	4	22	9	51	9	44	16	106	14	62		
81-100	10	96	43	348	11	120	10	159	1	17	7	117
101-120	16	229	24	324	5	89	25	695			26	736
121-140	1	35	33	928	4	134	65	3180	2	91	44	2011
141-160	24	1331	170	6291	21	1071	35	2871	2	137	91	6559
161-180	57	4088	110	6045	41	2679	152	17682	20	2272	181	17855
181-200	153	14841	211	16383	50	4419	97	15332	42	6473	210	29437
201-220	171	23350	220	23321	52	6294	9	1699	40	8474	118	21970
221-240	336	61381	166	23399	120	18294	2	524	12	3810	37	8765
241-260	337	78072	100	17985	85	16151					11	3215
261-280	156	44465	48	11001	71	17228					4	1433
281-300	64	22664	9	2369	68	20459						
301-320	12	5164	1	375	43	16707						
321-340	2	1051			29	12919						
341-360					12	6582						
361-380					9	5742						
381-400					9	7002						
401-420					8	6400						
421-440					5	5203						
441-460					1	1130						
461-480					3	4153						
481-500												
TOTALS	1343	256789	1144	108830	660	152831	414	42257	143	21357	730	92102

TABLE 8.7-2
FREQUENCY DISTRIBUTION OF FISH SPECIES
BY TOTAL LENGTH
1982

Total Length (mm)	WHITE SUCKER		CARP		WALLEYE	
	No.	Wgt.(g)	No.	Wgt.(g)	No.	Wgt.(g)
0-20						
21-40						
41-60						
61-80						
81-100	1	7				
101-120	1	11				
121-140	7	152				
141-160	2	71	1	53	1	34
161-180					1	48
181-200	1	66			2	140
201-220	1	123			4	301
221-240	1	129			3	269
241-260	1	157				
261-280	3	665				
281-300	8	2163			3	562
301-320	7	2319			5	1306
321-340	7	2922			7	2115
341-360	6	2763			10	3555
361-380	28	15524			6	2517
381-400	37	23130			6	3009
401-420	68	49198			9	5013
421-440	77	62385			10	6826
441-460	67	60960	1	1590	7	5217
461-480	39	39334	1	992	9	8159
481-500	28	30090	2	4790	6	6050
501-520	8	9757			4	4380
521-540	1	1467			2	2608
541-560					2	3217
561-580			4	12080	5	7800
581-600			7	22740	4	7042
601-620			10	35230	1	2040
621-640			8	32050	2	4230
641-660			14	59420	1	2380
661-680			11	47380		
681-700			6	27710		
701-720			5	25830	1	3630
721-740			3	16620		
741-760			4	26200		
761-780			1	9750		
781-800						
TOTALS	399	303393	78	322435	111	82448

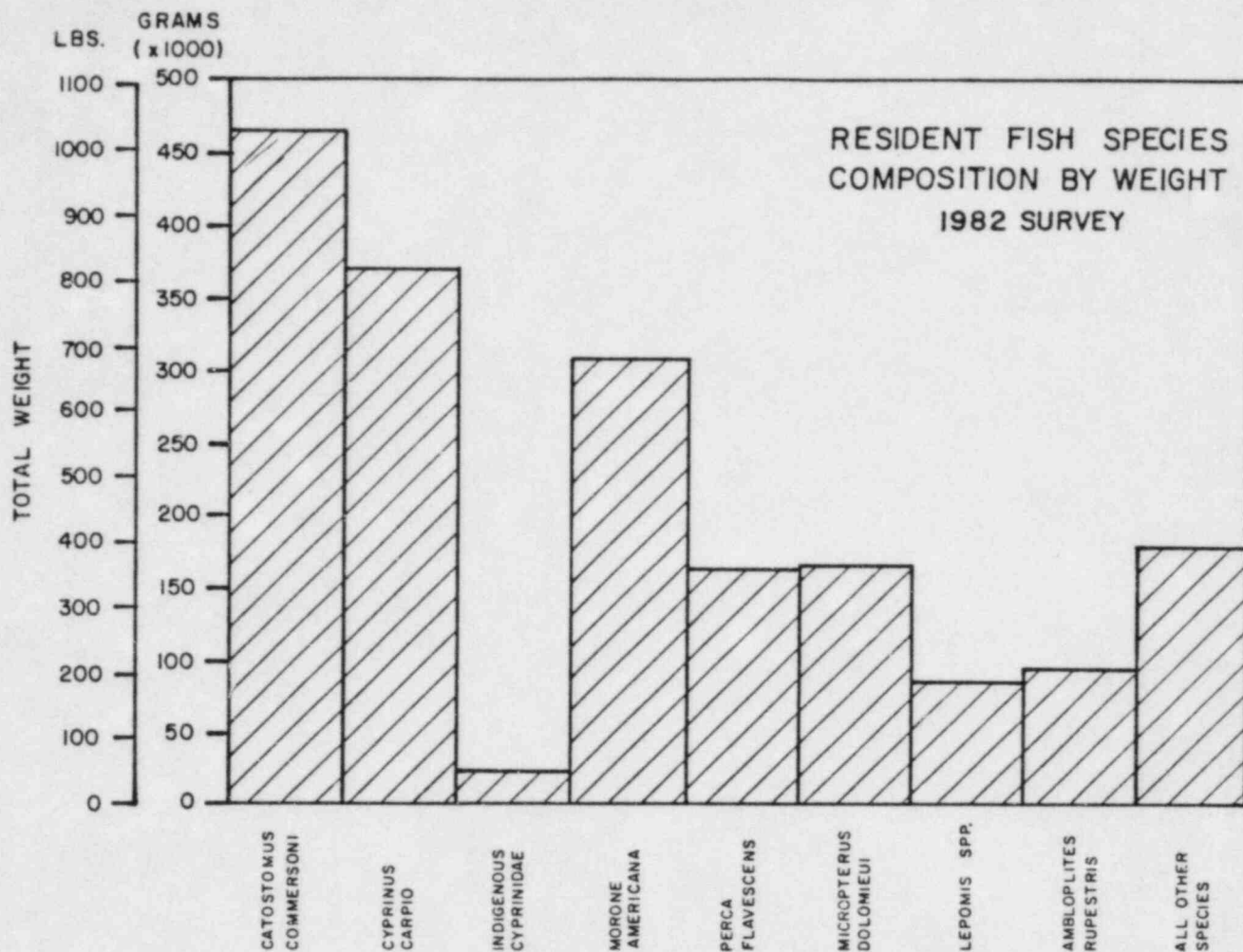


FIGURE 8.2

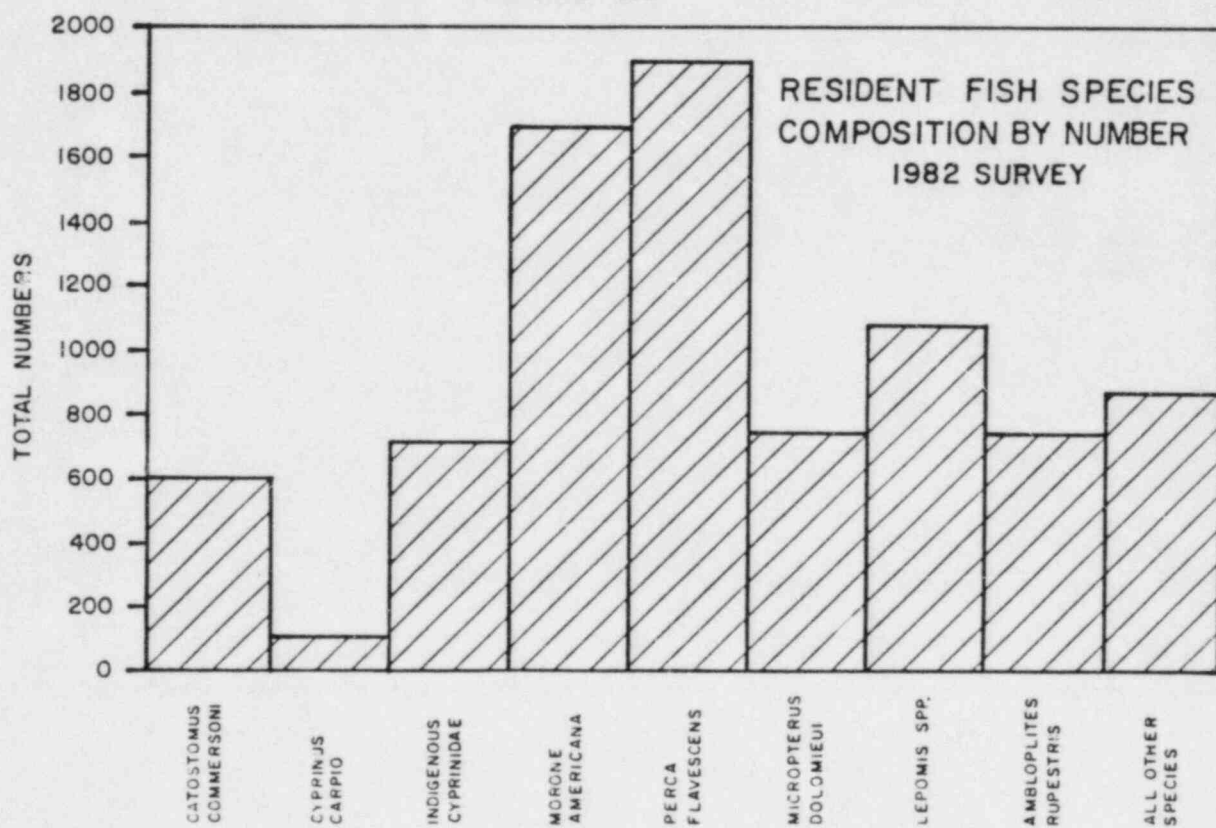


FIGURE 8.3

RESIDENT FISH SPECIES PERCENTAGE COMPOSITION BY WEIGHT

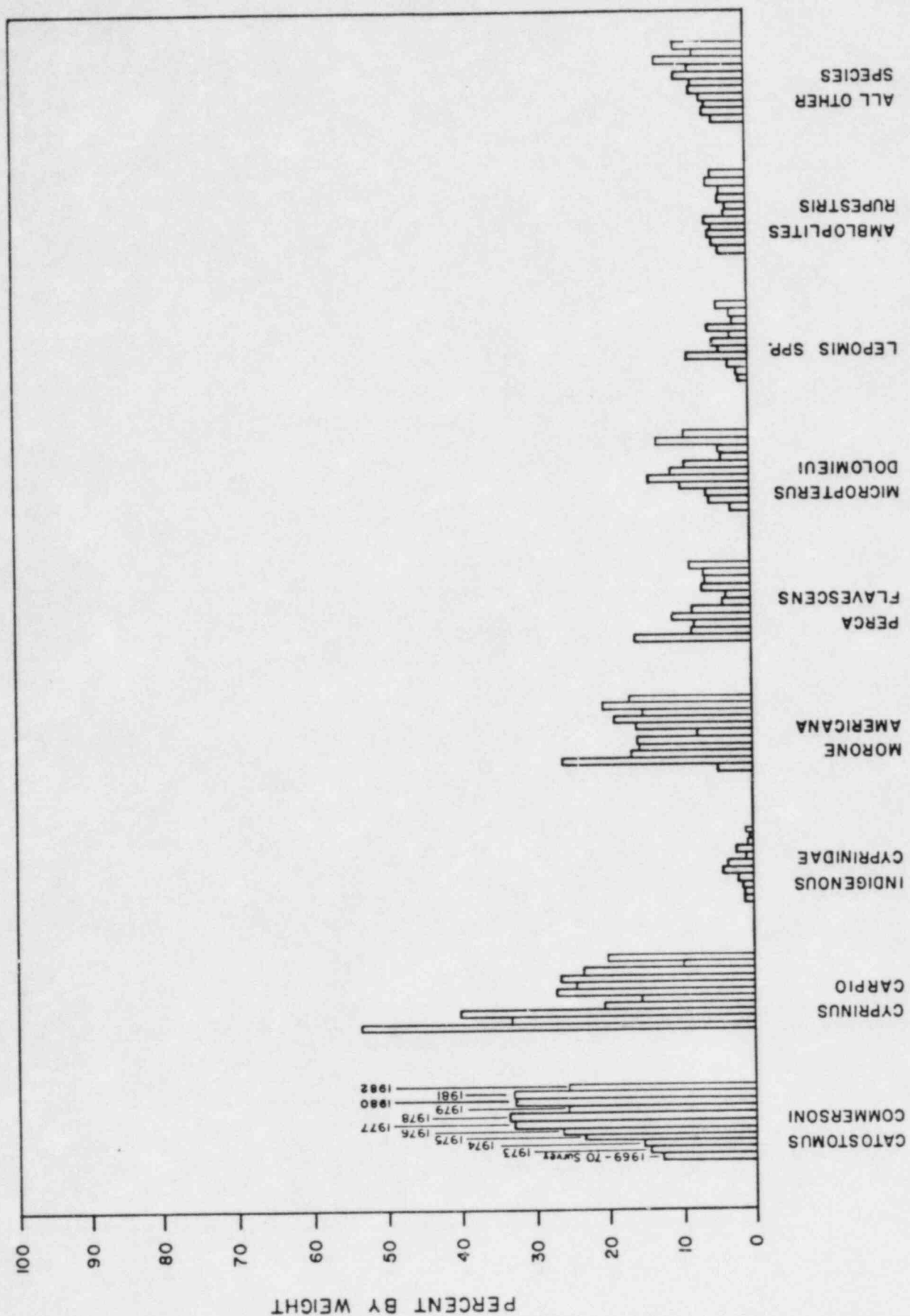


FIGURE 8.4

RESIDENT FISH SPECIES PERCENTAGE COMPOSITION BY NUMBER

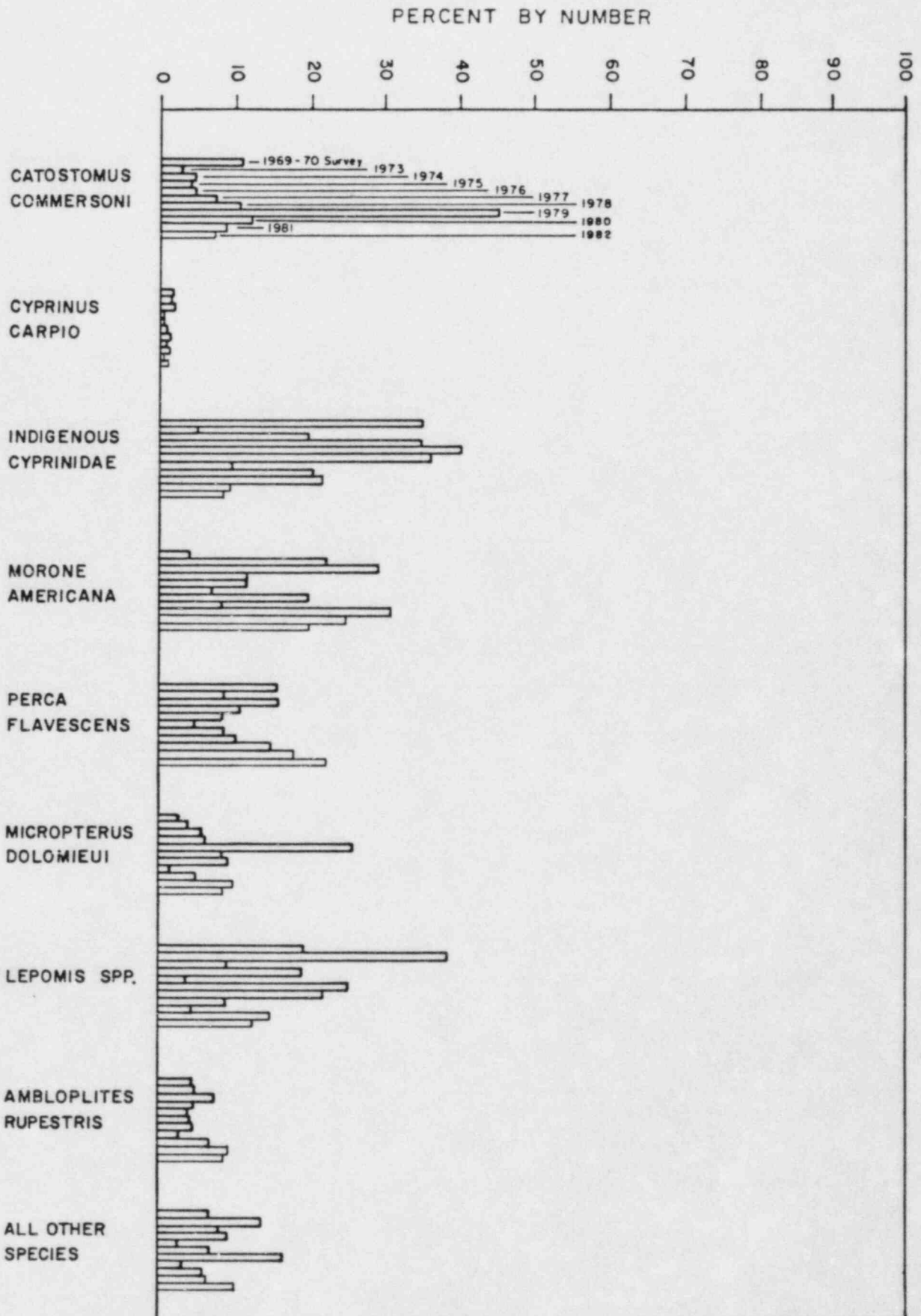


FIGURE 8.5

TABLE 8.8
AGE-GROWTH DATA — WHITE PERCH
ALL COLLECTIONS

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm)		Number Specimens	Total Length (mm)	
		Average	Extremes		Average	Extremes
0	47	91	62-130	27	105	71-189
1	8	178	169-194	66	180	96-222
2	94	202	155-245	434	215	147-263
3	253	231	175-276	308	234	105-293
4	112	244	204-303	212	249	156-305
5	18	267	239-311	153	260	210-310
6	5	284	270-308	76	267	200-305
7	0	-	-	32	271	230-310

COLLECTIONS NORTH OF VERNON DAM

Number of Annuli	1969-1973			1982		
	Number Specimens	Total Length (mm)		Number Specimens	Total Length (mm)	
		Average	Extremes		Average	Extremes
0	43	90	62-130	26	105	71-189
1	7	176	169-180	63	180	96-222
2	64	198	155-235	405	213	147-263
3	118	224	175-276	288	233	105-293
4	48	239	204-285	202	248	156-291
5	12	269	247-311	147	260	210-300
6	4	278	270-296	76	267	200-305
7	0	-	-	29	269	230-310

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969-1973			1982		
	Number Specimens	Total Length (mm)		Number Specimens	Total Length (mm)	
		Average	Extremes		Average	Extremes
0	4	94	68-110	1	109	-
1	1	194	-	3	184	175-200
2	30	210	178-245	29	239	203-263
3	135	235	186-270	20	257	220-281
4	64	247	213-303	10	272	228-305
5	6	263	239-285	6	274	256-310
6	1	308	-	0	-	-
7	0	-	-	3	294	280-302

AGE-GROWTH GRAPHS — WHITE PERCH

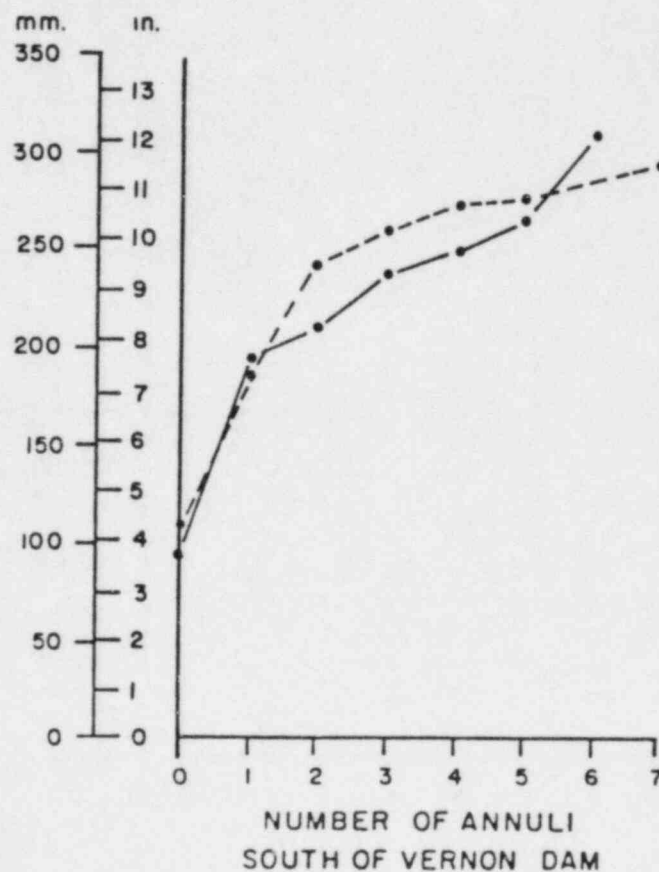
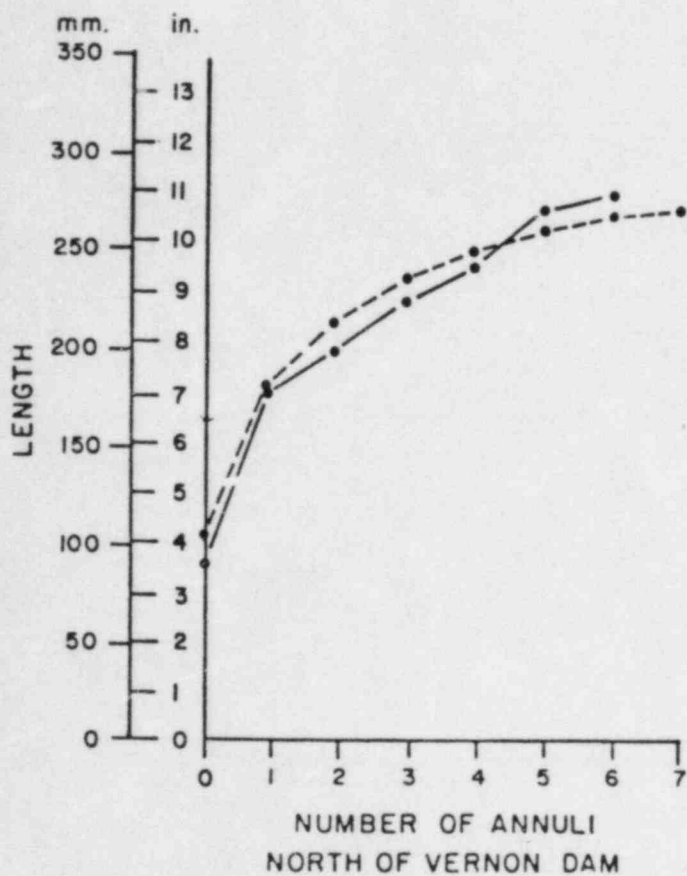
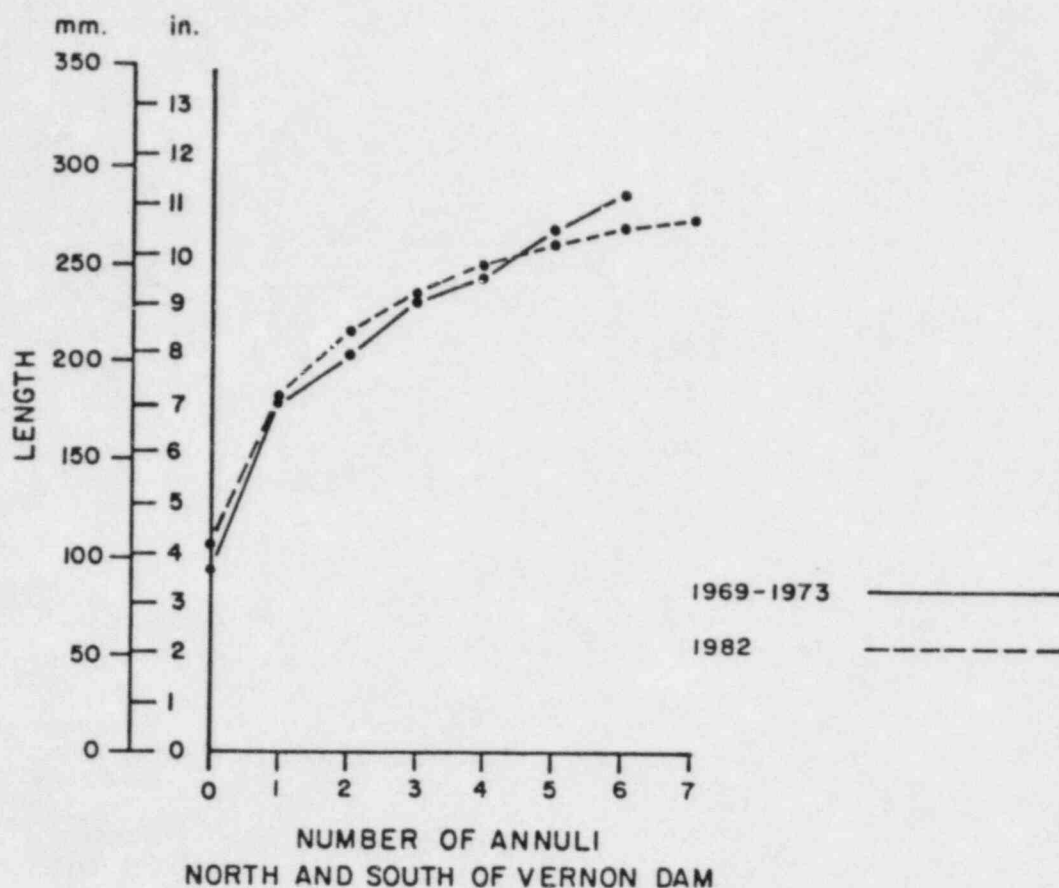


FIGURE 8.6

TABLE 8.9

AGE-GROWTH DATA — YELLOW PERCH

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	45	81	45-118	51	101	70-207
1	44	122	67-183	223	150	90-223
2	80	192	156-235	370	191	143-288
3	71	216	158-249	288	220	158-276
4	74	234	208-266	120	240	184-287
5	50	251	217-280	34	255	190-295
6	23	270	225-295	9	262	232-280
7	9	281	265-302	6	256	236-267
8	2	285	-	1	267	-
9	0	-	-	0	-	-
10	1	305	-	0	-	-

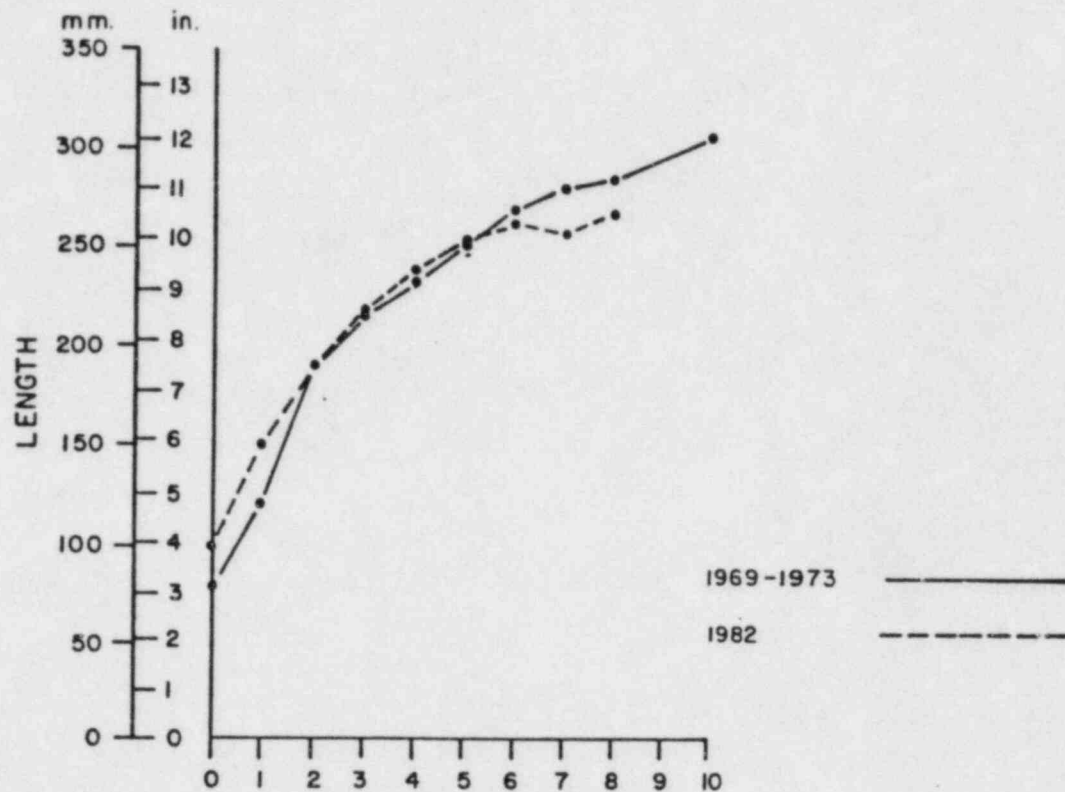
COLLECTIONS NORTH OF VERNON DAM

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	22	83	45-118	36	100	70-207
1	30	126	67-183	194	149	90-223
2	73	190	156-235	326	189	143-288
3	49	218	170-249	261	219	158-276
4	37	232	208-266	90	236	184-278
5	22	251	217-271	29	253	190-295
6	4	271	261-282	7	269	248-280
7	2	269	265-272	4	254	236-267
8	2	285	-	1	267	-
9	0	-	-	0	-	-
10	1	305	-	0	-	-

COLLECTIONS SOUTH OF VERNON

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	23	80	47-101	15	103	80-117
1	14	115	101-156	29	156	99-218
2	7	209	174-230	44	210	160-269
3	22	212	158-241	27	235	201-267
4	37	237	211-262	30	253	225-287
5	28	250	230-280	5	270	233-295
6	19	270	225-295	2	237	232-241
7	7	285	267-302	2	259	255-263
8	0	-	-	0	-	-
9	0	-	-	0	-	-
10	0	-	-	0	-	-

AGE-GROWTH GRAPHS — YELLOW PERCH



NORTH AND SOUTH OF VERNON DAM

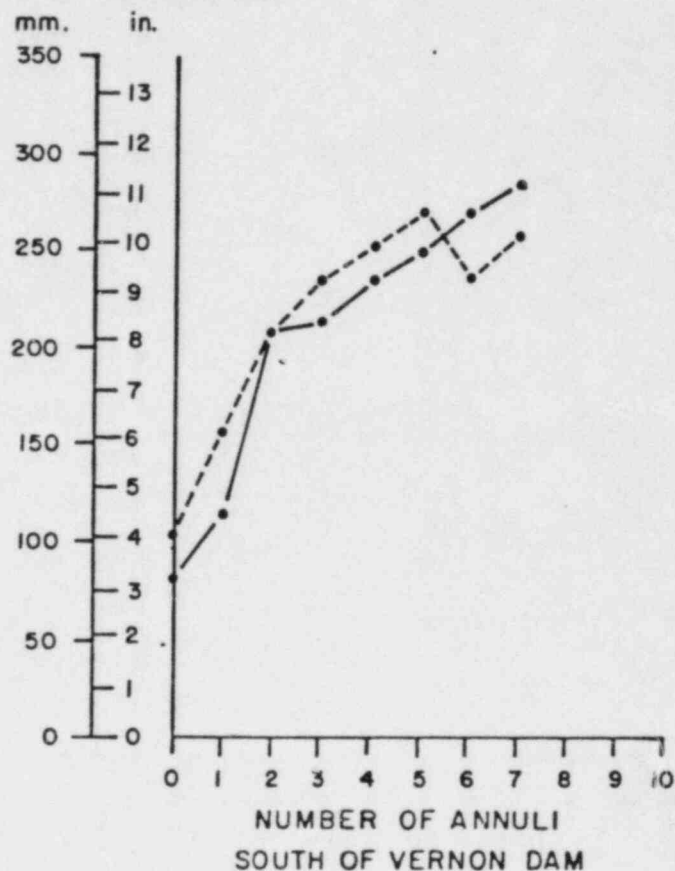
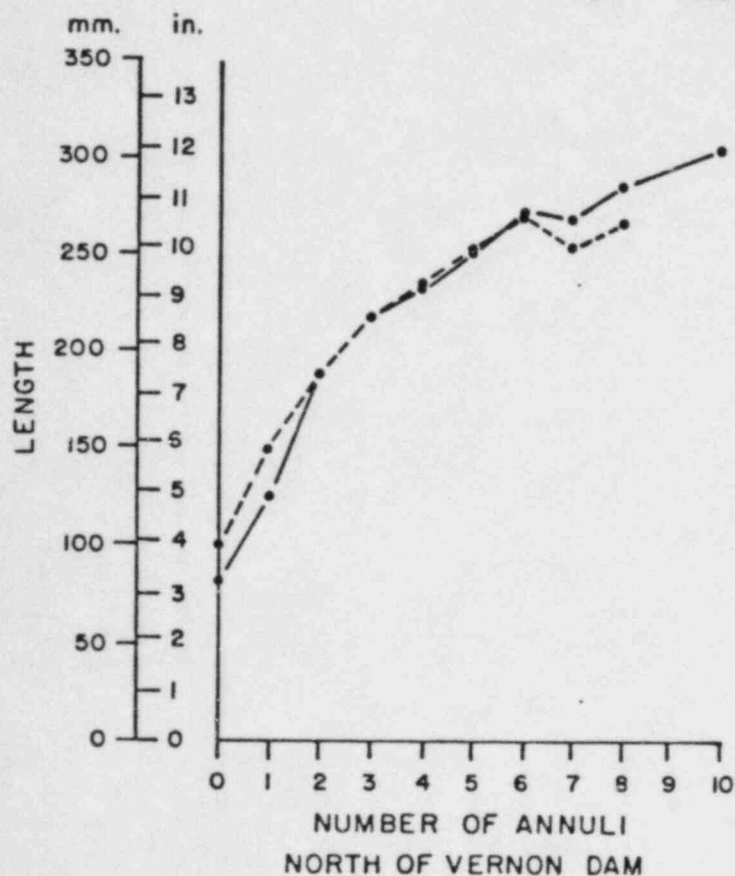


FIGURE 8.7

TABLE 8.10
AGE-GROWTH DATA — WALLEYE

ALL COLLECTIONS

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	4	158	129-186	6	191	158-208
1	8	216	163-275	17	311	200-420
2	16	306	246-362	26	367	318-418
3	28	343	242-392	16	431	330-535
4	29	368	321-407	12	448	418-492
5	15	377	303-425	16	503	465-520
6	6	436	390-480	9	569	490-610
7	3	484	425-527	6	633	568-715

COLLECTIONS NORTH OF VERNON DAM

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	1	186	-	6	191	158-208
1	5	205	163-260	16	308	200-420
2	12	299	246-362	23	369	320-418
3	16	346	291-392	10	449	407-535
4	18	370	321-407	10	450	418-492
5	11	388	364-425	14	504	465-520
6	5	446	409-480	7	576	490-610
7	1	527	-	6	633	568-715

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm) Average Extremes		Number Specimens	Total Length (mm) Average Extremes	
0	3	149	129-180	0	-	-
1	3	234	176-275	1	362	-
2	4	326	303-337	3	354	318-387
3	12	338	242-380	6	402	330-435
4	11	367	331-402	2	438	432-443
5	4	347	303-383	2	500	480-520
6	1	390	-	2	545	530-560
7	2	463	425-501	0	-	-

AGE-GROWTH GRAPHS — WALLEYE

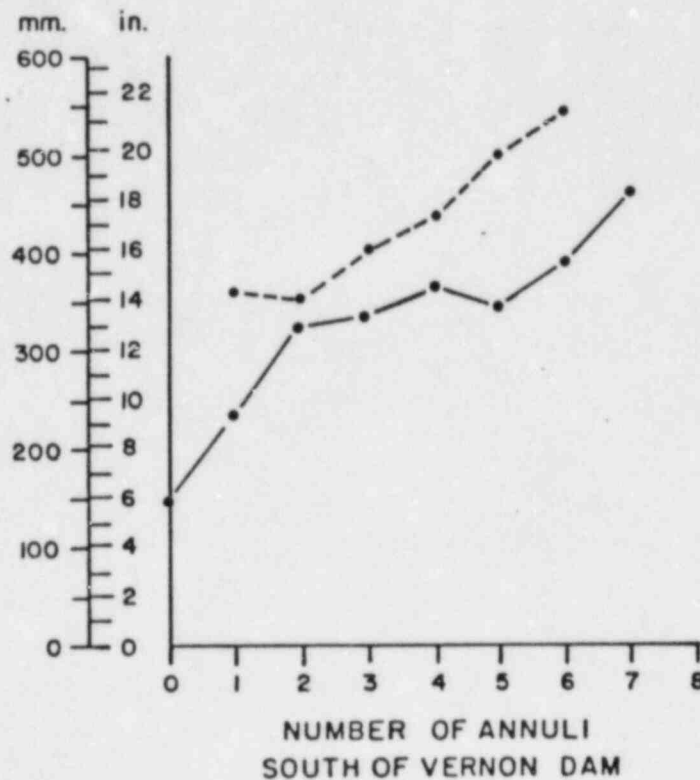
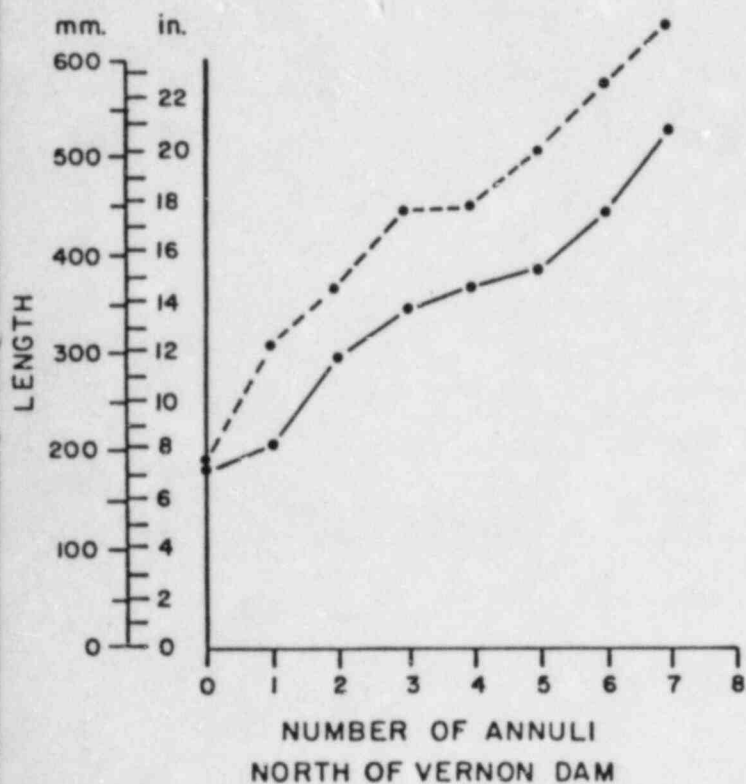
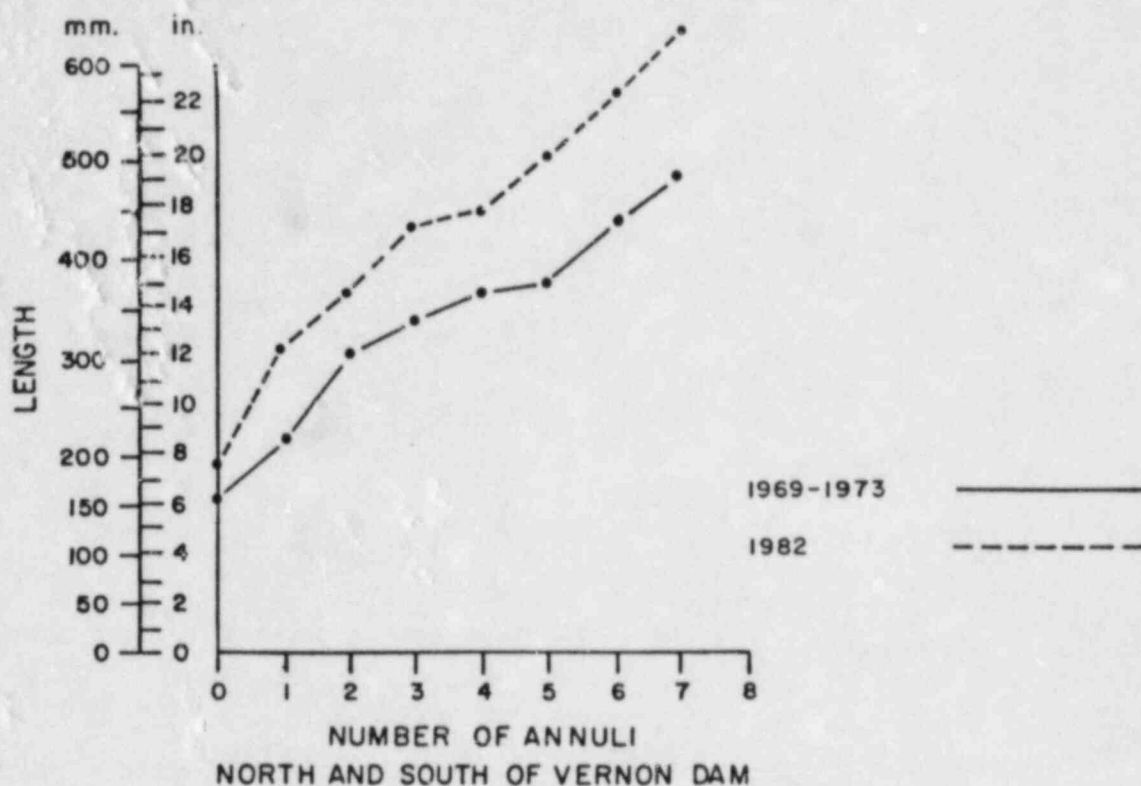


FIGURE 8.8

TABLE 8.11
AGE-GROWTH DATA — SMALLMOUTH BASS
ALL COLLECTIONS

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm)		Number Specimens	Total Length (mm)	
		Average	Extremes		Average	Extremes
0	16	68	45-102	13	123	86-245
1	25	164	108-213	81	178	100-266
2	31	206	161-255	195	225	152-284
3	59	239	197-293	199	265	192-334
4	50	275	220-315	71	308	221-395
5	36	305	262-350	22	342	265-412
6	16	346	305-376	14	393	335-465
7	4	370	343-406	5	382	352-422
8	1	357	-	6	427	410-445
9	2	412	398-425	0	-	-
10	0	-	-	0	-	-
11	1	411	-	0	-	-

COLLECTIONS NORTH OF VERNON DAM

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm)		Number Specimens	Total Length (mm)	
		Average	Extremes		Average	Extremes
0	5	50	45-57	5	136	88-245
1	21	161	108-213	50	179	100-266
2	29	205	161-255	80	228	162-282
3	44	235	197-293	99	270	193-334
4	23	272	220-315	41	310	257-395
5	23	300	262-339	13	348	265-412
6	12	339	305-362	10	391	345-465
7	2	386	365-406	4	372	352-398
8	0	-	-	5	425	410-445
9	1	398	-	0	-	-
10	0	-	-	0	-	-
11	0	-	-	0	-	-

COLLECTIONS SOUTH OF VERNON DAM

Number of Annuli	1969 - 1973			1982		
	Number Specimens	Total Length (mm)		Number Specimens	Total Length (mm)	
		Average	Extremes		Average	Extremes
0	11	76	51-102	8	116	86-177
1	4	173	150-207	31	176	104-223
2	2	225	211-238	115	223	152-284
3	15	252	232-274	100	261	192-322
4	27	279	245-305	30	305	221-363
5	13	312	290-350	9	332	291-383
6	4	346	352-376	4	399	335-440
7	2	354	343-364	1	422	-
8	1	357	-	1	435	-
9	1	425	-	0	-	-
10	0	-	-	0	-	-
11	1	411	-	0	-	-

AGE-GROWTH GRAPHS — SMALLMOUTH BASS

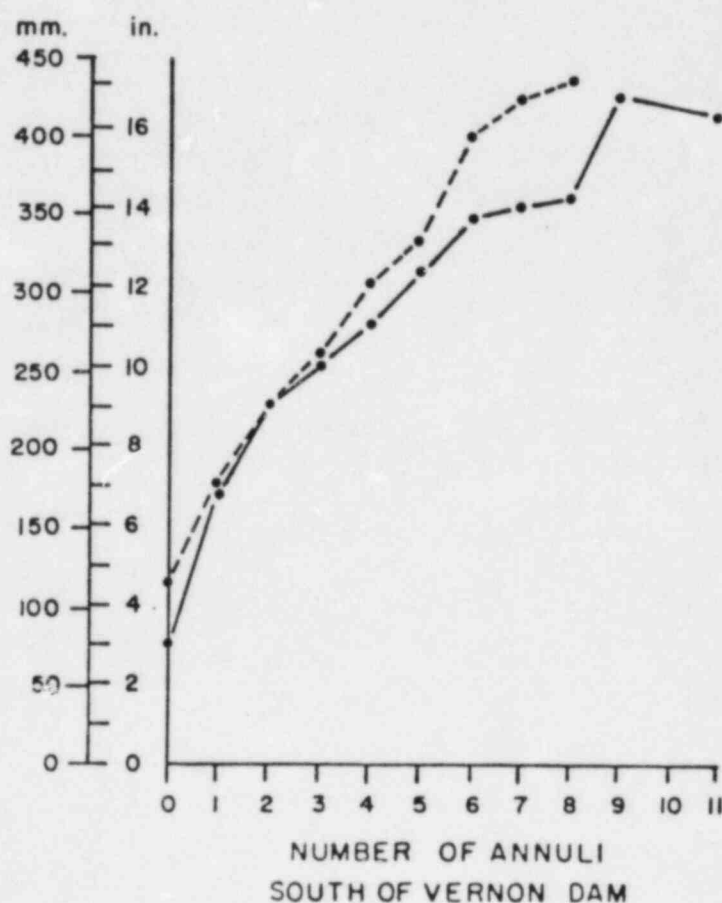
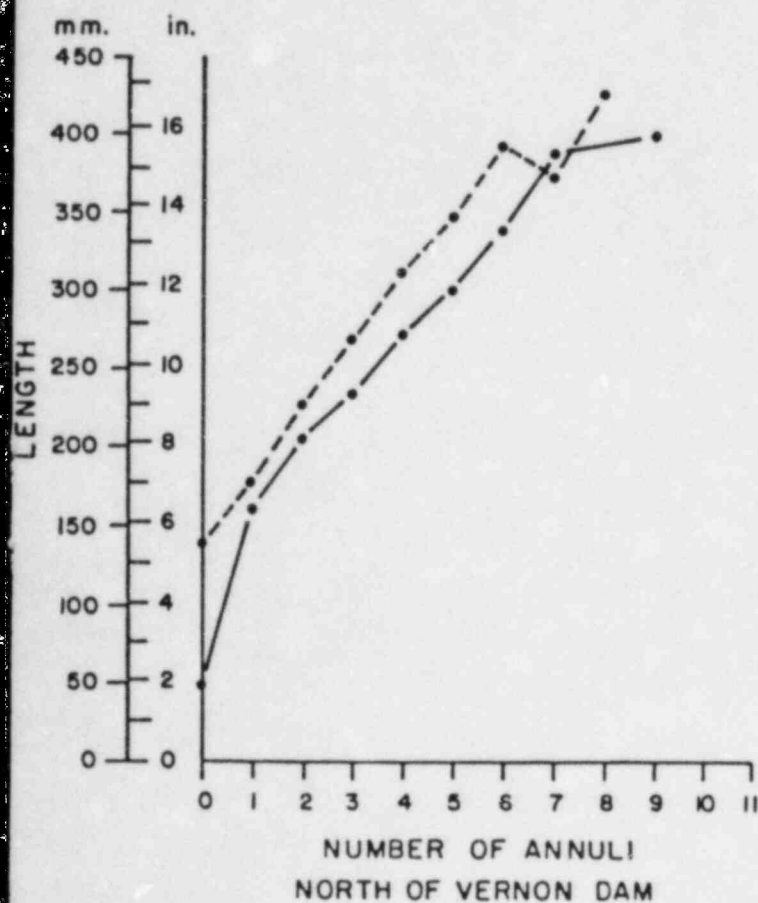
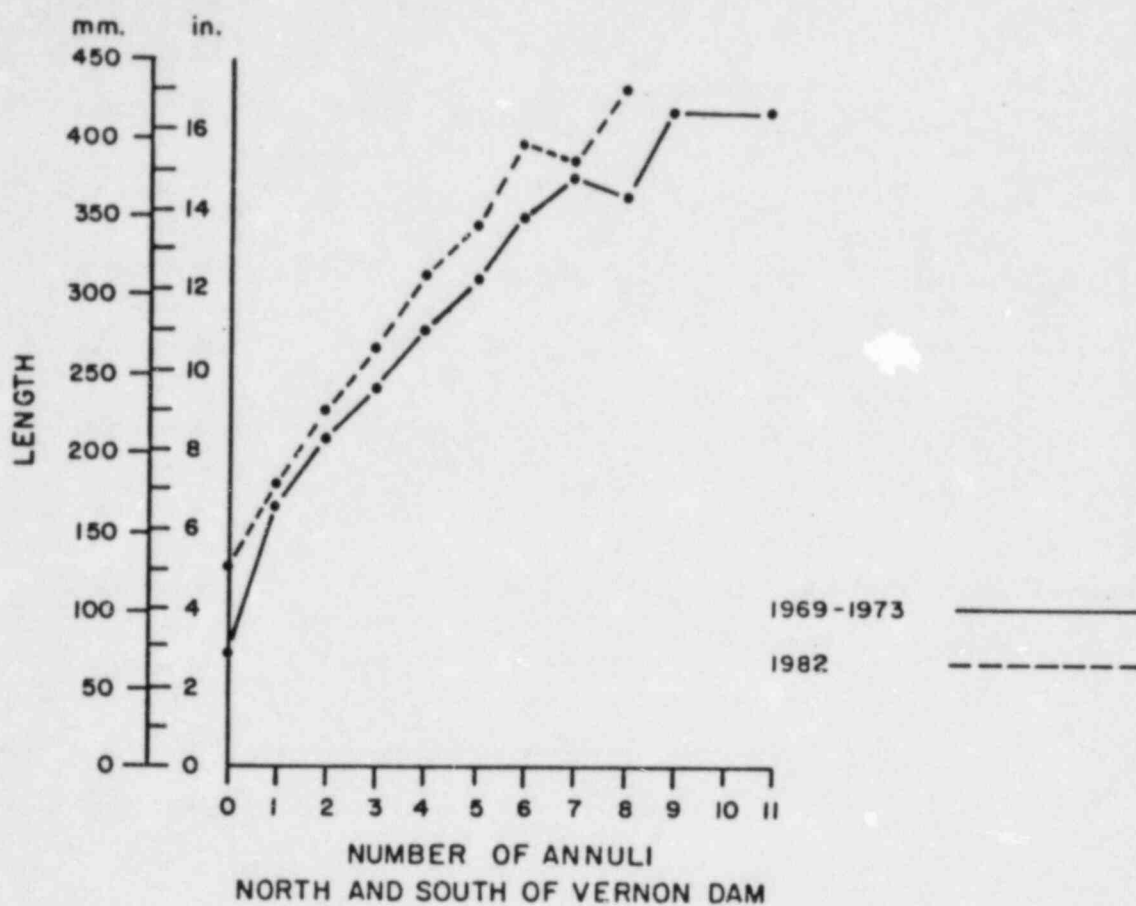


FIGURE 8.9

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