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November 1976

Ecological Research Series

# THE TRANSPORT OF OXIDANT BEYOND URBAN AREAS

## Compilation of Data for the New England Study, 1975

Environmental Sciences Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency
Research Triangle Park, North Carolina 27711

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# THE TRANSPORT OF OXIDANT BEYOND URBAN AREAS
## Compilation of Data for the New England Study, 1975

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ABSTRACT

A study of oxidant transport was conducted in New England over a 6-week period, from July 15 to August 22, 1975. A well equipped mobile laboratory was set up at a rural Connecticut airport, and a long-range, twin-engine airplane was outfitted for wide area and vertical aerial sampling. The mobile laboratory was equipped to continuously monitor $O_3$, NO, $NO_2$, $NO_x$, $CH_4$, $C_2H_2$, $C_2H_4$, $C_2H_6$, non-methane hydrocarbon (NMHC), fluorocarbon 11 (F-11), $CCl_4$, CO, temperature, solar intensity, relative humidity, wind speed, wind direction, and barometric pressure. The airplane was outfitted to continuously monitor ozone, nitric oxide, and temperature and to collect air samples in Tedlar bags. The bag samples were analyzed for fluorocarbon 11 (F-11), $CH_4$, NMHC, CO, $C_2H_2$, $C_2H_4$, $C_2H_6$, and $CCl_4$. Forty-four monitoring flights were conducted during the field study; each flight averaged approximately 3 hours and cover between 400-500 miles. Flights were also made to Ohio, Canada, and 250 miles out over the ocean. The experimental methods used during the study are described and the compiled data are presented.

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# SECTION I

## INTRODUCTION

In recent years elevated ozone concentrations have been observed in many rural areas which were previously thought to be relatively immune from the symptoms of photochemical smog. The finding of ozone in rural atmospheres, far from the generally accepted sources of photochemical smog precursors (i.e., urban areas), has very important implications in terms of the strategies devised to control smog formation. Since certain strategies for the control of ozone can have rather harsh economic consequences, it is important that the strategies be conceived with a thorough understanding of the origins of both rural and urban ozone.

In order to improve our understanding of the formation and movement of ozone in the lower atmosphere, Battelle-Columbus has been conducting research in urban and rural environments under the auspices of the U.S. Environmental Protection Agency. The first year of our studies dealt with the formation and transport of ozone in the Ohio Valley. A comprehensive final report[1] is available on that program. This current report concerns the second year of our studies in which ozone formation and transport were investigated in the New England area. Since several contractors and agencies were involved in the New England Oxidant Transport Study and all wish to make use of the data as rapidly as possible, this initial report will convey the data from our 1975 studies, with only minimal interpretation and comment, to those who have an immediate need for the data. We expect that a final report which discusses the interpretation of these data will be available in several months.

## SECTION II

## PROGRAM SCOPE

The 1975 New England Oxidant Transport Study involved several research groups situated throughout New England. Battelle-Columbus' base of operations was located at a small rural airport near Simsbury, Connecticut. The study was conducted over nearly a 6-week period, from July 15 to August 22, 1975.

In order to investigate oxidant formation and movement in the New England area a heavily instrumented mobile laboratory was set up at the Simsbury, Connecticut, airport and a fairly long-range twin engine aircraft was outfitted for vertical sampling.

The Battelle-Columbus mobile laboratory was equipped to continuously monitor $O_3$, NO, $NO_2$, $NO_x$, $CH_4$, $C_2H_6$, $C_2H_4$, $C_2H_2$, NMHC, Fluorocarbon 11 (F-11), $CCl_4$, CO, temperature, solar intensity, relative humidity, wind speed, wind direction, and barometric pressure.

The aircraft was outfitted for continuous ozone, nitric oxide, and temperature monitoring. However, electrical problems permitted us to make continuous nitric oxide measurements only on selected flights. The aircraft was also set up for collection of air samples in Teflon bags. The bag samples were returned to the mobile laboratory after each aircraft flight and immediately analyzed for Fluorocarbon-11 (F-11), $CH_4$, NMHC, CO, $C_2H_4$, $C_2H_2$, $C_2H_6$, and $CCl_4$. Forty-four monitoring flights were conducted during the field study, each flight averaging approximately 3 hours and covering between 400-500 miles. Besides covering New England, flights were also made to Canada, Ohio, and 250 miles out over the ocean.

The large volume of data collected during the field study is assembled here. The data from the mobile laboratory are presented in time-dependent profile form, while the horizontal aircraft data are mapped and the vertical aircraft data are profiled. Subsequent reports will discuss the analysis and interpretation of these data in statistical, graphical, chemical, and meteorological terms.

## SECTION III

## SITING

The general location selected for this study was the southern New England region shown in Figure 1. The topography of southern New England is shown in the relief map in Figure 2. The Battelle-Columbus base of operations was located at a small rural airport near Simsbury, Connecticut. Our Simsbury site was approximately 23 kilometers northwest of Hartford, Connecticut, and about the same distance southwest of Springfield, Massachusetts. Both Hartford and Springfield are located within the Connecticut River Valley, a broad flat plain 400-600 feet below the surrounding countryside. Our Simsbury site was located in a shallow valley adjacent to the Connecticut River Valley and separated from it by hills 200-300 feet above the valley floors. Due to the prevailing southwesterly and westerly wind direction, the Simsbury location was rather well isolated from the Hartford and Springfield urban plumes. The area to the southwest, west, and northwest of the Simsbury site is quite rural in character. The elevation of the Simsbury airport is 210 feet MSL (above mean sea level).

The Battelle-Columbus mobile laboratory was located on Simsbury airport property approximately 50 feet from the runway. As mentioned earlier, the airport is small and is maintained almost exclusively for light private planes. The aircraft traffic at the airport was consequently very light. The airport is surrounded by woods, fields, and tobacco fields. There are several tobacco curing barns within a few miles radius of the airport.

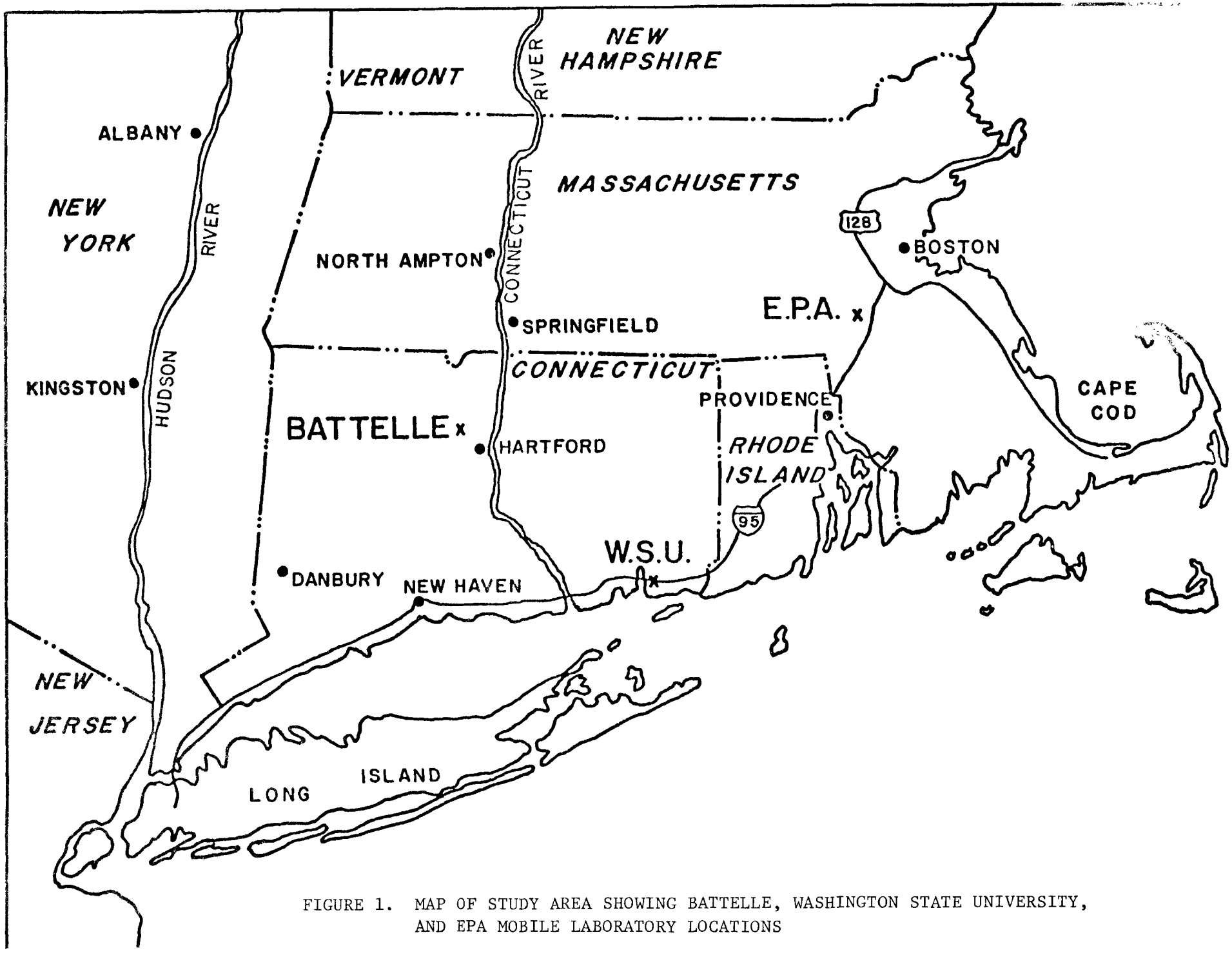



FIGURE 1. MAP OF STUDY AREA SHOWING BATTELLE, WASHINGTON STATE UNIVERSITY, AND EPA MOBILE LABORATORY LOCATIONS

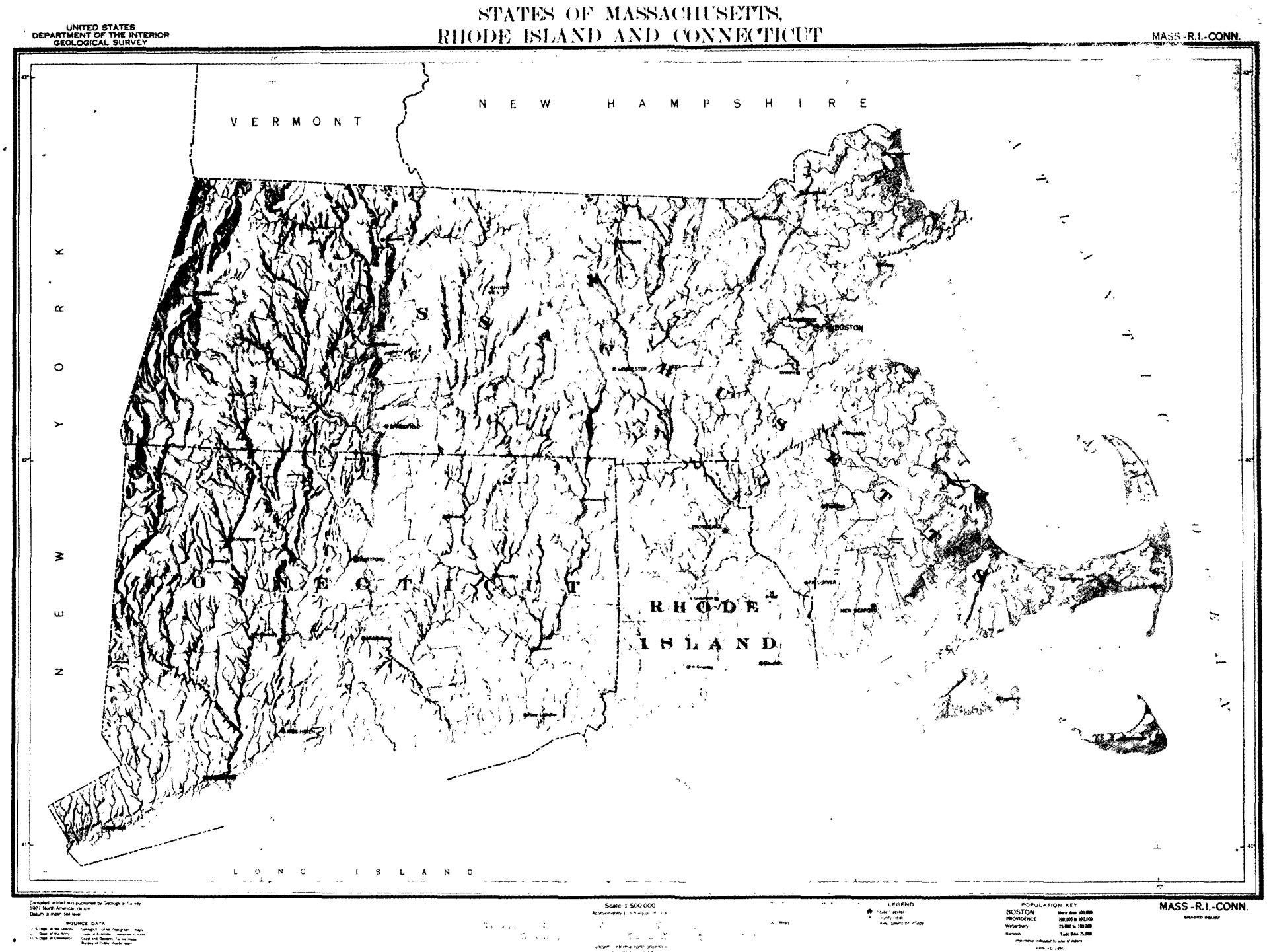



FIGURE 2. TOPOGRAPHICAL MAP OF THE STUDY AREA

SECTION IV

## EXPERIMENTAL METHODS

The Battelle-Columbus mobile laboratory used for this study is pictured in Figures 3a and b. It was employed as our base of operations in Simsbury, Connecticut, and contained instrumentation for monitoring meteorological conditions, solar irradiation intensity, and gas-phase composition. The instrument outputs (except the gas chromatographs) were recorded on a multipoint recorder and also on magnetic tape cartridges after conditioning by a Westinghouse data acquisition system. The magnetic tapes were sent to Westinghouse for conversion to engineering units and transfer to a computer-compatible 7-track tape. This tape was read into Battelle's CDC-6400 computer, where the data were further processed and permanently stored on magnetic tape. The gas chromatographic outputs were manually deduced and fed into the computer on cards. These data were also conditioned, integrated with main data set, and permanently stored on magnetic tape.

A computer program was used to average all analyses and plot the results as 24-hour profiles.

The chemical and meteorological variables which were determined within the mobile laboratory during this study are discussed in the next sections.

### Meteorological Measurements

The Battelle-Columbus mobile laboratory makes use of an automated MRI, Inc., Model 1071 Weather Station for monitoring temperature, relative humidity, wind speed, and wind direction. The laboratory also employs an Eppley Laboratory, Inc., 180° pyrheliometer to determine global radiation (total sun and sky). A recently calibrated aneroid barometer was used to determine atmospheric pressure. The various meteorological instruments are listed in Table 1.

Laboratory and newspaper records were kept of general weather conditions. National Weather Service and NOAA maps were obtained to document regional precipitation, temperature, and frontal activity.

FIGURE 3a. INTERIOR OF AIR QUALITY LABORATORY

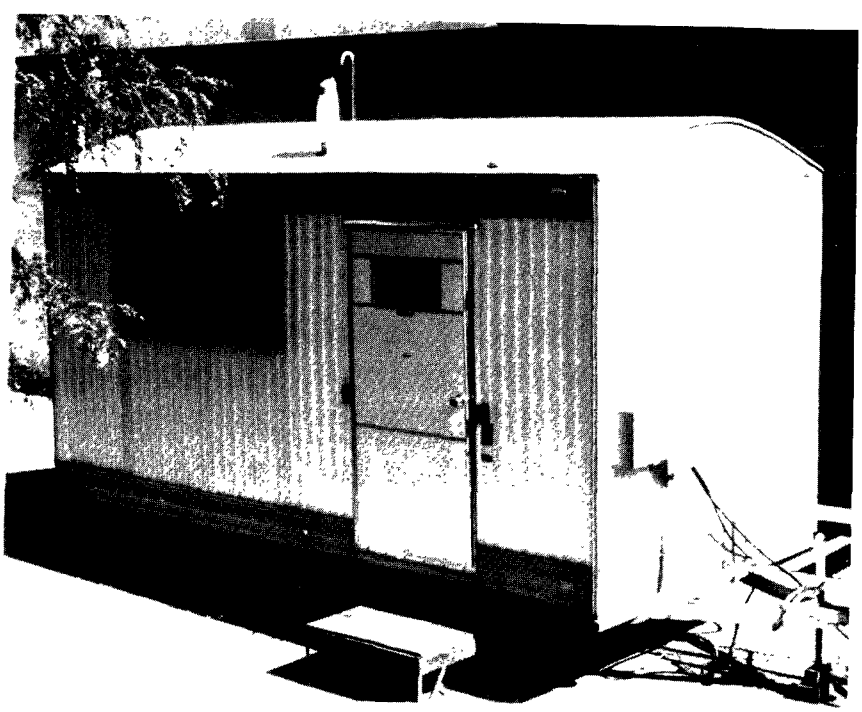


FIGURE 3b. MOBILE AIR QUALITY LABORATORY

TABLE 1. METEOROLOGICAL MEASUREMENTS

| Analysis | Instrument |
|---|---|
| Wind Speed and Direction | MRI, Model 1074-2 sensor |
| Temperature | MRI, Model 802 sensor |
| Relative Humidity | MRI, Model 907 sensor |
| Solar Radiation Intensity | Eppley Lab, 180° pyrheliometer |

## Air Quality Measurements

The instruments used for air quality monitoring are listed in Table 2. Air samples were pulled into the mobile laboratory by a high capacity blower through a Pyrex manifold which extended above the sampling station. Short lengths of Teflon tubing connected the instruments to the sampling manifold.

A discussion of the procedures used in this program for monitoring the various gas-phase species follows.

TABLE 2. AIR MONITORING INSTRUMENTATION

| Specie | Instrument |
|---|---|
| $O_3$ | REM, Model 612 Chemiluminescence Monitor |
| NO<br>$NO_x$<br>$NO_2$ (by difference) | Bendix, Model 8101-B Chemiluminescence Monitor |
| $CH_4$<br>NMHC<br>CO | Union Carbide, Model 3020 Automated FID gas chromatograph |
| $C_2H_2$<br>$C_2H_4$<br>$C_2H_6$ | Varian Series 1200 gas chromatograph with flame ionization detection |
| $CCl_3F$ (Fluorocarbon-11)<br>$CCl_4$ | Varian Series 1200 gas chromatograph with electron capture detection |

## Ozone

Ozone determination is based on the detection of the chemiluminescence from the reaction of $O_3$ with excess ethylene. Peak intensity from this reaction is in the 4000-4500 A region. The technique is thought to be free from major interferences. The sensitivity of the instrument used for this study is about 0.001 ppm. A heated Hopcalite catalyst bed was used to destroy the ethylene effluent from this instrument. The instrument was zeroed several times each day and was calibrated frequently during the study. Dynamic calibrations were performed with two McMillan Electronics Corporation ozone generators which were themselves calibrated by the neutral buffered KI procedure at the beginning and end of the field study. Two ozone generators were employed to crosscheck one another to assure us that ozone generator drift was not occurring. The calibration of our ozone monitor was also checked several times during the study by a quality control team from Region I EPA. The agreement between the Battelle-Columbus and Region I EPA calibrations was excellent. These calibration checks will be the subject of a separate report[2].

## $NO-NO_2-NO_x$

The instrument used for nitrogen oxide determination employs the reaction of nitric oxide with excess ozone for the generation of infrared (1.2 μ peak) chemiluminescence. The infrared radiation passes through a filter and is detected by a sensitive photomultiplier tube. Noise from the photomultiplier tube is reduced by cooling the tube to subambient temperatures. The instrument used here has a sensitivity of 0.005-0.010 ppm and is linear over a range of 0.005-5.00 ppm. Activated carbon is used to remove ozone from the instrument's exhaust gas.

The chemiluminescent technique works quite well for nitric oxide, with no interferences having been documented. The determination of nitrogen dioxide by chemiluminescence requires initially a reduction of $NO_2$ to NO with subsequent NO determination as described above. A carbon catalyst

operated at 260 C has been employed during this study to reduce $NO_2$ to NO. The efficiency of this converter is excellent--i.e., greater than 99 percent as measured before and after the field program.

The chemiluminescent instrument was zeroed and calibrated frequently during the field study. A National Bureau of Standards permeation tube was employed for $NO_2$ calibration while a cylinder of NO in $N_2$ (certified by $O_3$ titration) was used for NO calibration.

Methane, Nonmethane Hydrocarbon, Carbon Monoxide

An automated flame ionization gas chromatographic procedure was used to monitor $CH_4$, THC (and NMHC by difference), and CO. The air sample is split into two parts within the instrument, with one half proceeding directly to the flame ionization detector for total hydrocarbon determination, and the second half proceeding to a stripping column. The stripping column passes only $CH_4$ and CO (the remaining hydrocarbons are adsorbed and later backflushed) which are then separated on a chromatographic column. The $CH_4$ and CO then pass through a N reduction catalyst which converts CO to $CH_4$. Both $CH_4$ and CO (as $CH_4$) are then determined by the flame ionization detector. One complete sample is automatically analyzed every 5 minutes. Calibrations were carried out with a certified cylinder of $CH_4$ and CO in nitrogen. The hydrocarbon standard was verified by crosschecking it against a National Bureau of Standards primary standard "propane in air" mixture.

Acetylene, Ethylene, Ethane

A flame ionization gas chromatograph equipped with a Porapak Q/ Porapak N packed column was used to separate and quantitate the $C_2$ hydrocarbons and propane. The instrument was operated isothermally at 50 C using high-purity nitrogen and hydrogen and ultra-high purity air. The sample volume was 5 ml. Span gases prepared from the actual $C_2$ hydrocarbons and referenced to a NBS hydrocarbon standard were employed for daily calibration. An analysis was run every 15 minutes with the data being quantitated and averaged manually on site.

Only minimal gas chromatographic hydrocarbon data are available during the first 2 weeks of the study due to a sudden power outage which occurred 2 hours before the start of the experimental program on July 15, 1975, and which caused irreparable damage to one of the gas chromatographic

instruments. A replacement instrument was obtained from Battelle's Columbus Laboratories and used throughout the remainder of the study. On 2 days during the field study an 18-foot Durapak column was installed in the gas chromatograph (at 0° C) to enable us to determine the $C_4$ hydrocarbon concentration.

### $CCl_3F$ (Fluorocarbon-11) and $CCl_4$

F-11 and $CCl_4$ were monitored during the program by a gas chromatograph equipped with an electron capture detector. A 6' x 1/8" stainless steel column packed with Porapak Q and operating at 140 C was employed for separation. The detector was maintained at 150 C. A carrier gas flow rate of 25 cc/min of filtered $O_2$-free nitrogen was used. Sample volume was 1 cc. Fluorocarbon-11 and $CCl_4$ are separated from other atmospheric constituents under these conditions. Chloroform was occasionally observed in the chromatogram during the field study, however, the chloroform concentrations were always very low and were not quantitated.

F-11 and $CCl_4$ calibration standards were obtained from Dr. Hal Westberg of Washington State University. The calibration standard consisted of a stainless steel cylinder of pressurized ambient air for which the F-11 and $CCl_4$ concentrations had been determined by a gas chromatographic-mass spectrometric technique.

## Aircraft Measurements

A Piper Aztec twin-engine aircraft and the full-time services of a pilot were rented for this study. The aircraft is pictured in front of the Battelle-Columbus mobile laboratory in Simsbury, Connecticut in Figure 4. Three of the rear seats of the six-passenger plane were removed and an instrument rack erected in there place. A fourth rear seat was reversed so that it faced the instrument rack. A picture of the instruments and rack positioned within the plane is shown in Figure 5.

Ram air was supplied to the instruments through a stainless steel sampling probe located approximately 1 foot past the nose of the aircraft (and well in front of the prop and engine backwash). The sampling probe, shown in Figure 6, was connected to an all-Teflon manifold on the instrument rack by flexible Teflon tubing. The residence time within the sample tubing was less than 6 seconds. Most of the ram air was exhausted from the manifold through a vent at the rear of the plane. A small fraction of the flow was

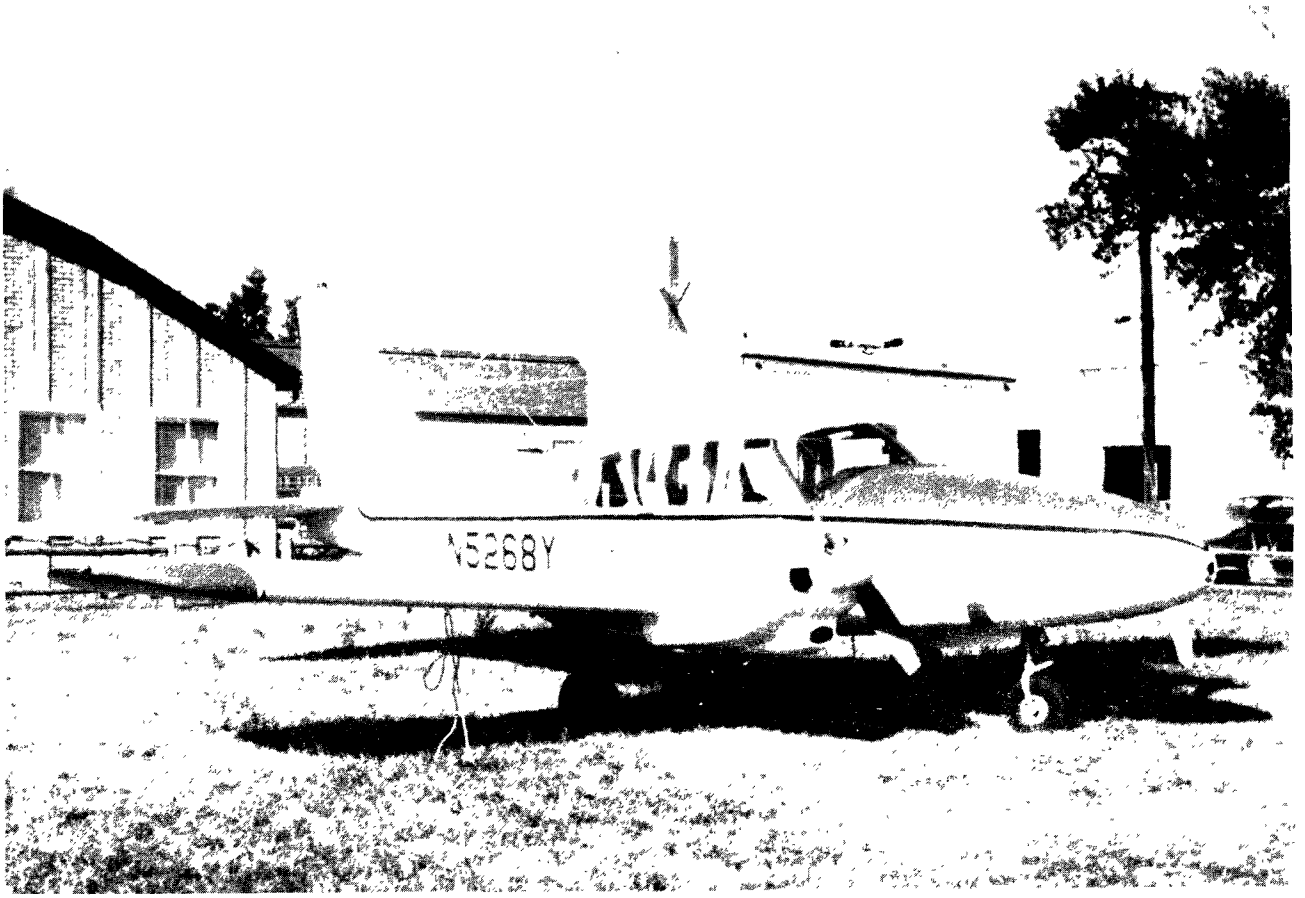



FIGURE 4. AIRCRAFT AND MOBILE LABORATORY AT SIMSBURY, CONNECTICUT

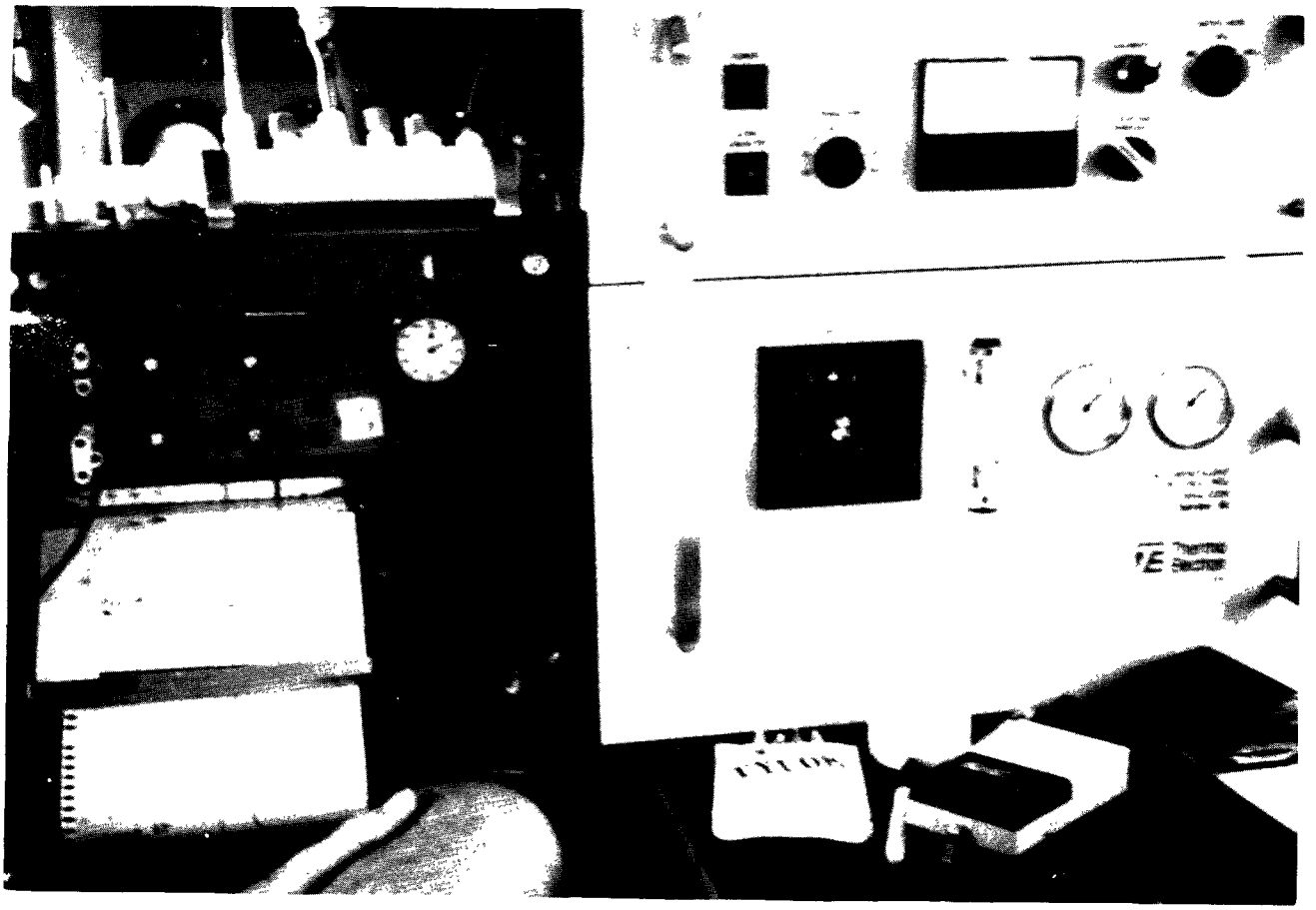


FIGURE 5. PARTIAL VIEW OF MONITORING INSTRUMENTS WITHIN AIRCRAFT

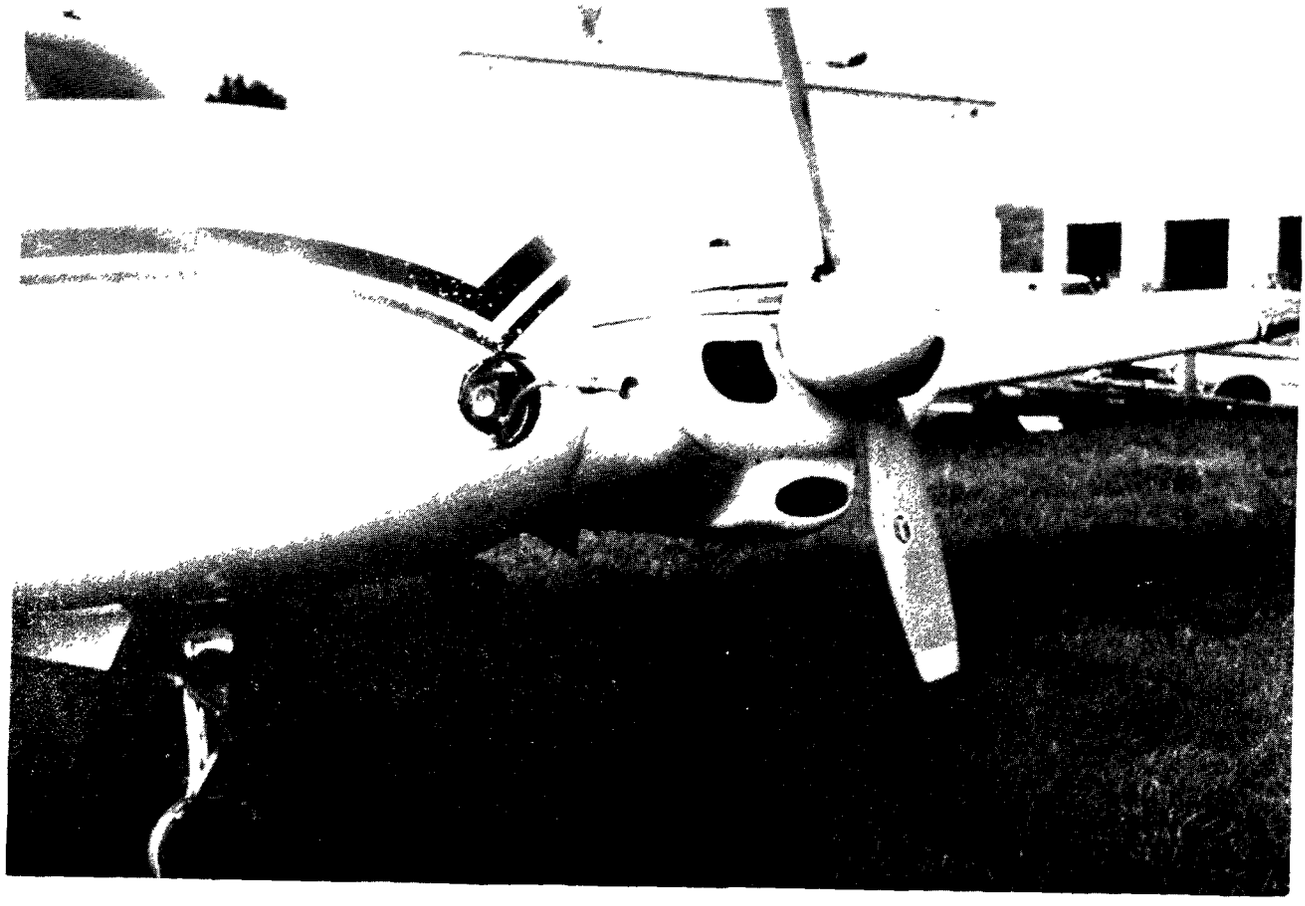


FIGURE 6. AIRCRAFT SAMPLING PROBE

provided to a REM, Inc. chemiluminescent ozone monitor and a TECO chemiluminescent nitrogen oxides monitor. The manifold could also be connected through Teflon tubing and stainless steel quick-connect fittings to Teflon or Tedlar air sampling bags. Once filled, these bags were stored in the dark in the luggage compartment of the plane. The bag samples were transferred to the mobile laboratory and analyzed immediately upon the landing of the aircraft. Even after extended use, Tedlar bags used throughout most of the study showed no contamination with respect to the species we monitored, as determined by pumping "zero" air into the bags and analyzing the samples thus collected. After each bag was analyzed it was exhausted through a diaphragm pump, backfilled with "zero" nitrogen, exhausted again, backfilled again, and finally exhausted and sealed for future use. We were able to detect no bag carryover from sample to sample of any of the substances we were monitoring during the study.

The Teflon bags utilized during the first week of the study appeared to show some contamination with respect to F-11 and $CCl_4$. Their use was discontinued and Tedlar bags were employed throughout the remainder of the study.

Temperature was recorded continuously throughout each aircraft flight using a thermocouple positioned next to the air sampling probe at the nose of the plane, and reference temperature-compensating circuitry.

The monitoring instruments used in the aircraft were frequently calibrated during the study using the same procedures described earlier for the mobile laboratory instruments. The ozone calibration was also checked by the Region I EPA quality control team.

An inverter was used to supply power to two dual-pen recorders along with the two chemiluminescence instruments and their associated pumps. The inverter drew its power from the aircraft battery which in turn was supplied by the two 50 amp generators on the aircraft engines. Although sufficient power was generated by the system to operate the aircraft and all of our monitoring equipment, the charging capacity of the battery was so low that it could not accept current from the generators as fast as the plane and monitoring instruments withdraw it. Thus the battery discharged and we lost radio and navigational power very early into the flights.

Unfortunately FAA regulations prohibited the installation of a larger battery on the aircraft. These problems were circumvented to some extent by only using the heavy current-drawing nitrogen oxides instrument for short periods of time at the start of selected flights (the instrument could not be turned off and on in flight since the pumps cause a power surge which would burn out the inverter). Two batteries were also used so that one was always charging on the ground while the other was in flight.

An electrical switch was arranged for instantaneously changing from aircraft to ground power (via an extension cord to the mobile laboratory) so that it was never necessary to shut down the instrumentation either at night or during takeoffs and landings. Records of time, location, visibility, etc. were kept on the strip chart and on a magnetic tape voice recorder. Flight patterns and other key data were tracked during each flight (using the plane's navigational aids) on a clear plastic overylay map of the study region. The actual flight path was then transferred to a permanent map at the end of each flight.

The vast majority of the aircraft monitoring was conducted at 1000 feet AGL (above ground level), with the exception of the vertical spirals and occasional flights over mountainous terrain.

SECTION V

# RESULTS

The purpose of this data report is to present the results of the 1975 field sampling program. Subsequent reports will discuss the interpretation of the data presented here.

All of the mobile laboratory data for the 38 days of sampling will be presented first, together with a summary weather map indicating each day's meteorological conditions. These summary weather maps were obtained from the National Oceanic and Atmospheric Administration. The aircraft flight data and vertical profile results will then be presented for each aircraft flight.

## Mobile Laboratory Results - Simsbury, Connecticut

The data from our mobile laboratory ground station in Simsbury, Connecticut, is presented in two tables and several graphs for each sampling day. One table lists the daily average of each variable monitored by the mobile laboratory, together with the number of hourly averages used to compute the daily average. The second table lists the hourly averages throughout the day for each specie monitored. Averages were calculated from hour to hour (e.g., the average concentration between 13:00 and 14:00 hours is the 14:00 hourly average) and are based on Eastern Daylight Time. Negative values in the tables indicate interpolated data. A negative one (-1.000) in the tables indicates no data available over that time interval.

In addition to the above tabulations each day's results are also presented in a series of computer-prepared graphs. The ordinate of each plot is a percentage scale relating to the units indicated for each variable in the graph legend (lower right-hand corner of each plot). The time of day is plotted on the abscissa.

As mentioned earlier, a summary weather map is included along with the mobile laboratory data for each sampling day in order to show frontal activity and other major meteorological phenomena. These weather maps are self-explanatory. The mobile laboratory data and daily weather maps are presented below in Tables 3 through 40 and Figures 7 through 44. (See page ii for comment on the daily weather maps.)

TABLE 3a. JULY 15, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.021 | 12 |
| 2--WIND SPEED (MPH) | 4.717 | 12 |
| 3--WIND DIRECTION (DEGREES) | 198.885 | 12 |
| 4--TEMPERATURE (CENTIGRADE) | 26.706 | 12 |
| 5--RELATIVE HUMIDITY (PERCENT) | 68.917 | 12 |
| 6--OZONE (PPM) | 0.040 | 12 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 12 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 12 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 12 |
| 19--FLUOROCARBON-11 (PPT) | 182. | 10 |

TABLE 3b.

SUBSTANCE HOUR AVERAGES FOR JULY 15, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 2--WIND SPEED (MPH) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 3--WIND DIRECTION (DEGREES) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. |
| 4--TEMPERATURE (CENTIGRADE) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. |
| 5--RELATIVE HUMIDITY (PERCENT) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. |
| 6--OZONE (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 7--NITRIC OXIDE (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 8--NITROGEN DIOXIDE (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 9--NITROGEN OXIDES (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 19--FLUOROCARBON-11 (PPT) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 3.650 | 4.725 | 3.400 | 3.375 | 3.875 | 2.850 | 1.875 | 0.475 | 0.025 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 6.800 | 6.400 | 4.500 | 5.000 | 4.800 | 6.200 | 4.700 | 4.500 | 3.500 | 4.900 | 3.000 | 2.300 |
| 3--WIND DIRECTION (DEGREES) | 201. | 214. | 228. | 217. | 215. | 198. | 188. | 188. | 185. | 193. | 180. | 178. |
| 4--TEMPERATURE (CENTIGRADE) | 27. | 28. | 28. | 29. | 30. | 29. | 28. | 27. | 25. | 24. | 23. | 22. |
| 5--RELATIVE HUMIDITY (PERCENT) | 74. | 64. | 60. | 57. | 54. | 55. | 59. | 66. | 77. | 81. | 88. | 92. |
| 6--OZONE (PPM) | 0.038 | 0.043 | 0.045 | 0.047 | 0.051 | 0.056 | 0.054 | 0.050 | 0.038 | 0.030 | 0.017 | 0.012 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.002 | 0.004 | 0.001 | 0.001 | 0.001 | .000 | .000 | 0.001 | 0.002 | 0.005 | 0.009 |
| 8--NITROGEN DIOXIDE (PPM) | 0.009 | 0.008 | 0.006 | 0.004 | 0.005 | 0.003 | 0.000 | .000 | 0.003 | 0.004 | 0.009 | 0.016 |
| 9--NITROGEN OXIDES (PPM) | 0.011 | 0.010 | 0.009 | 0.006 | 0.006 | 0.003 | 0.000 | .000 | 0.004 | 0.006 | 0.014 | 0.025 |
| 19--FLUOROCARBON-11 (PPT) | -1. | 121. | 106. | 108. | 122. | 174. | 210. | -191. | 173. | 294. | 302. | 207. |

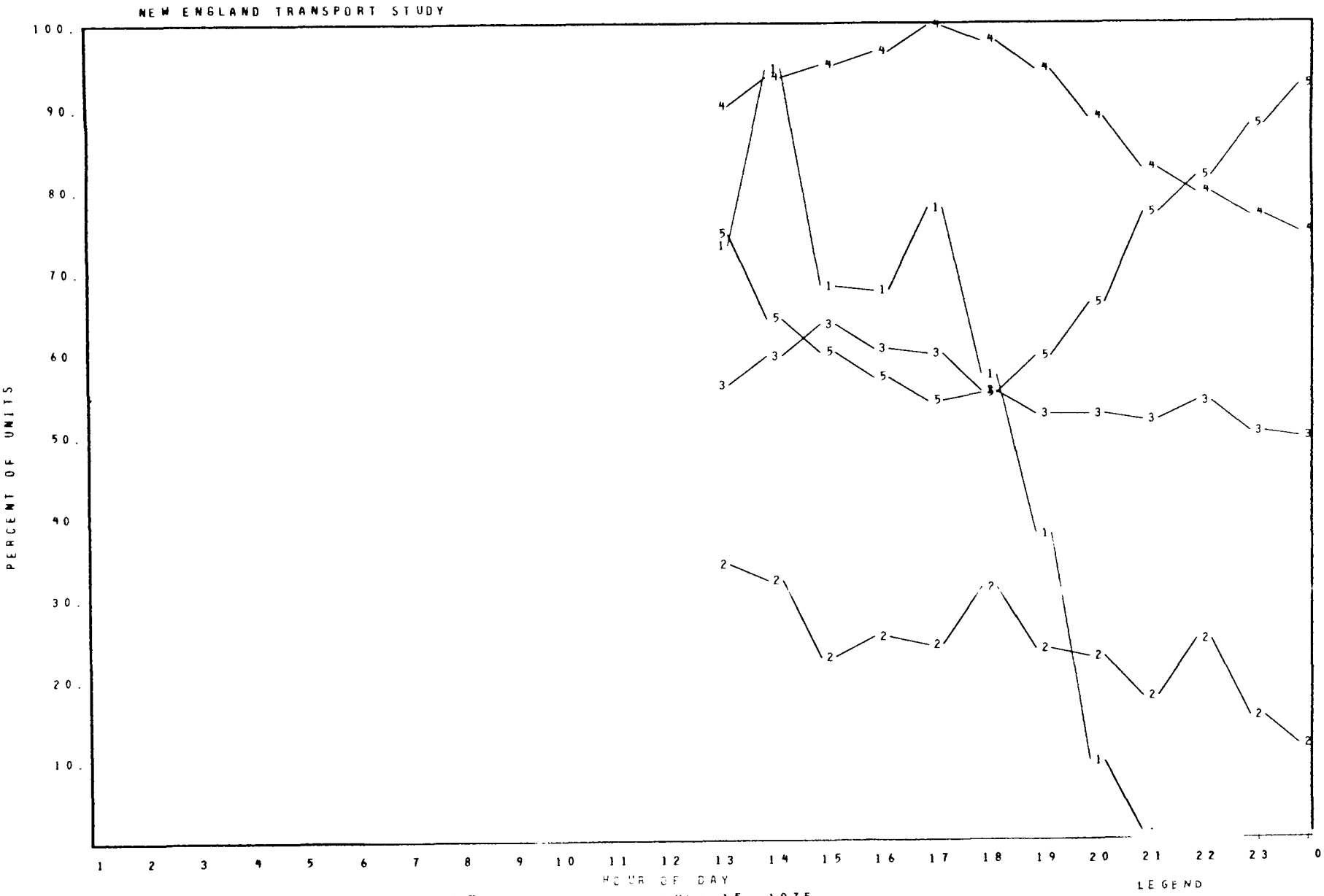



FIGURE 7a.

JULY 15, 1975

LEGEND

1--GLOBAL IRRADIANCE 5.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

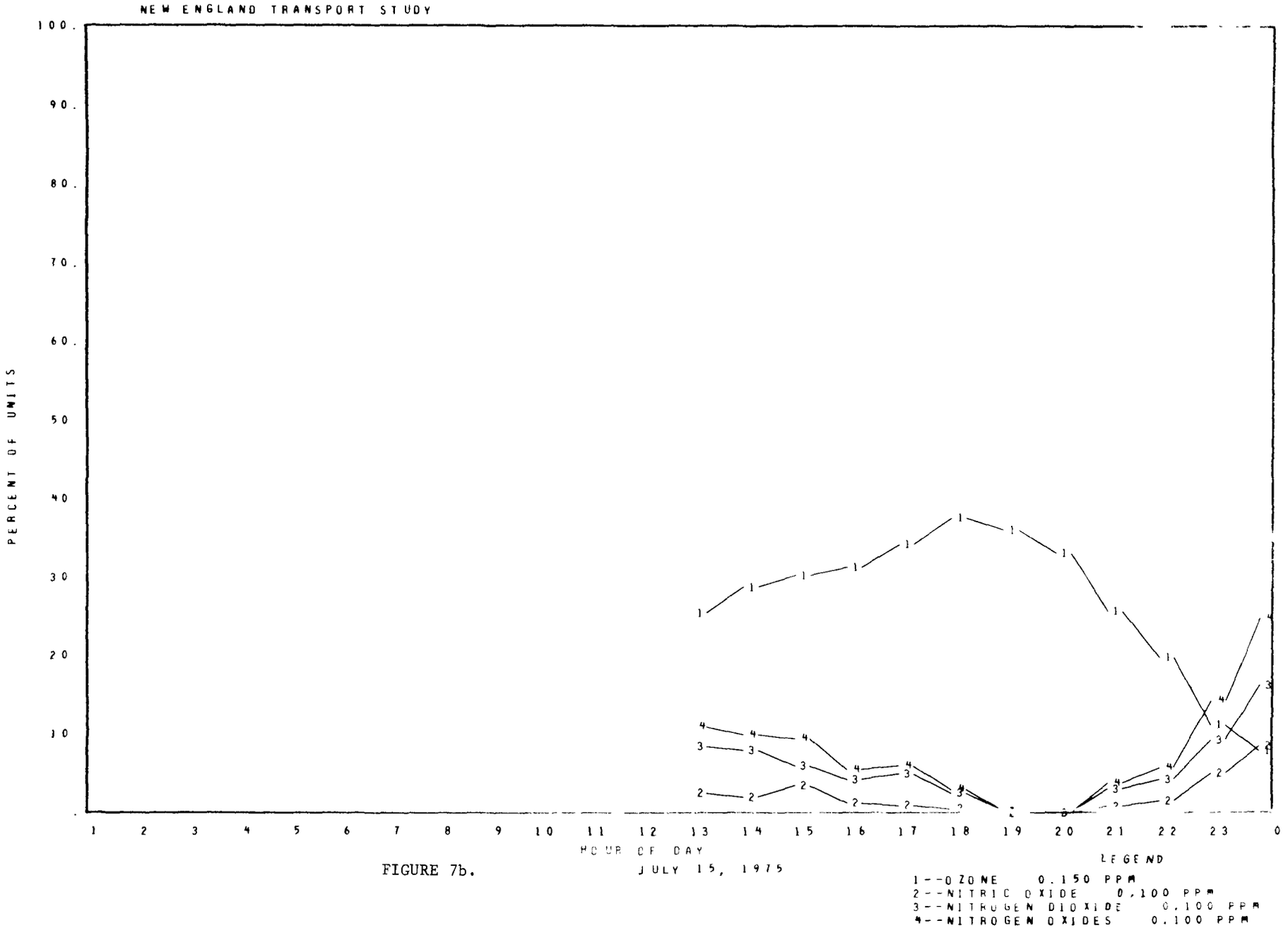

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50
40
30
20
10
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 15, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 7b.

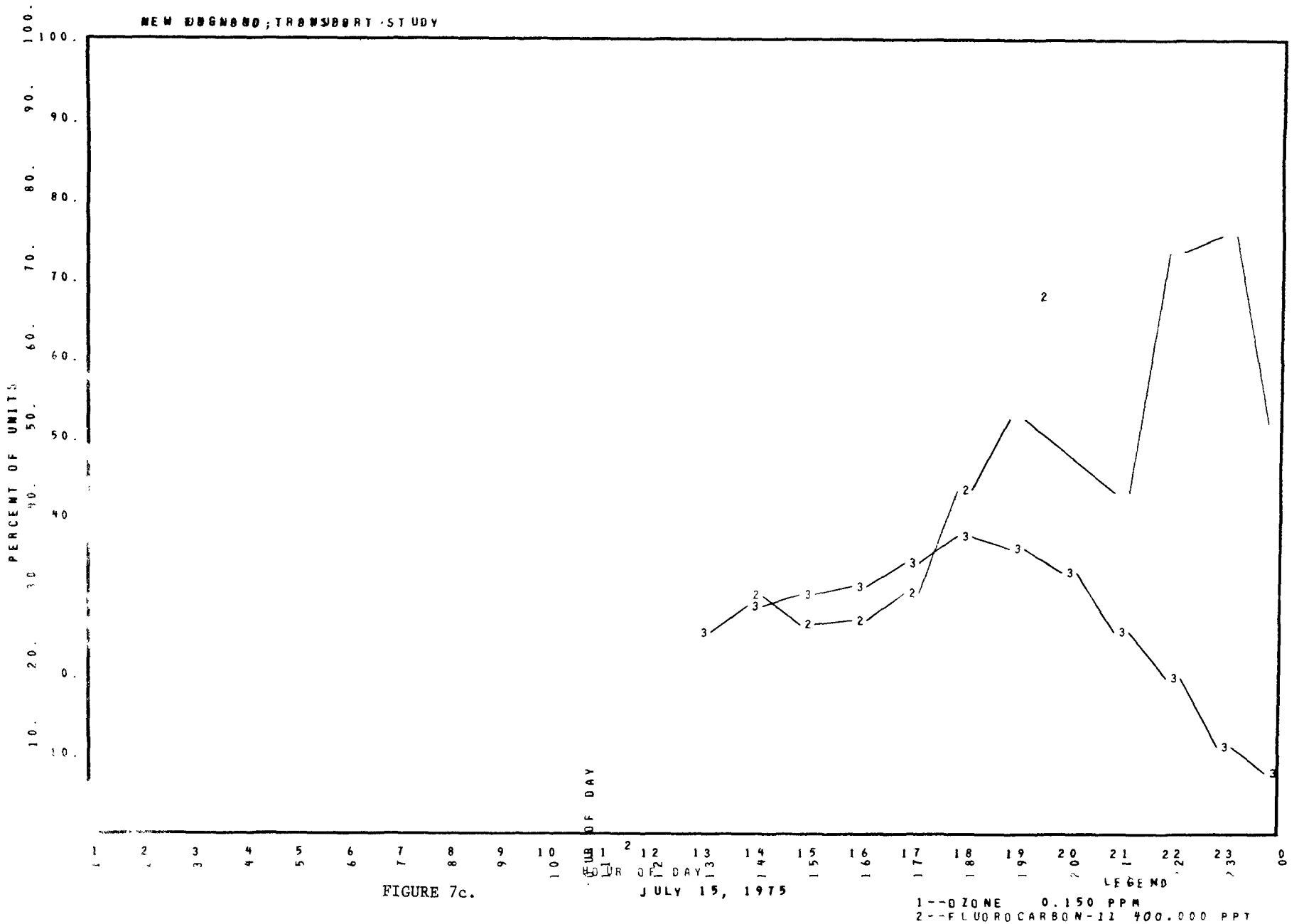



FIGURE 7c.

JULY 15, 1975

FIGURE 7d. TUESDAY, JULY 15, 1975

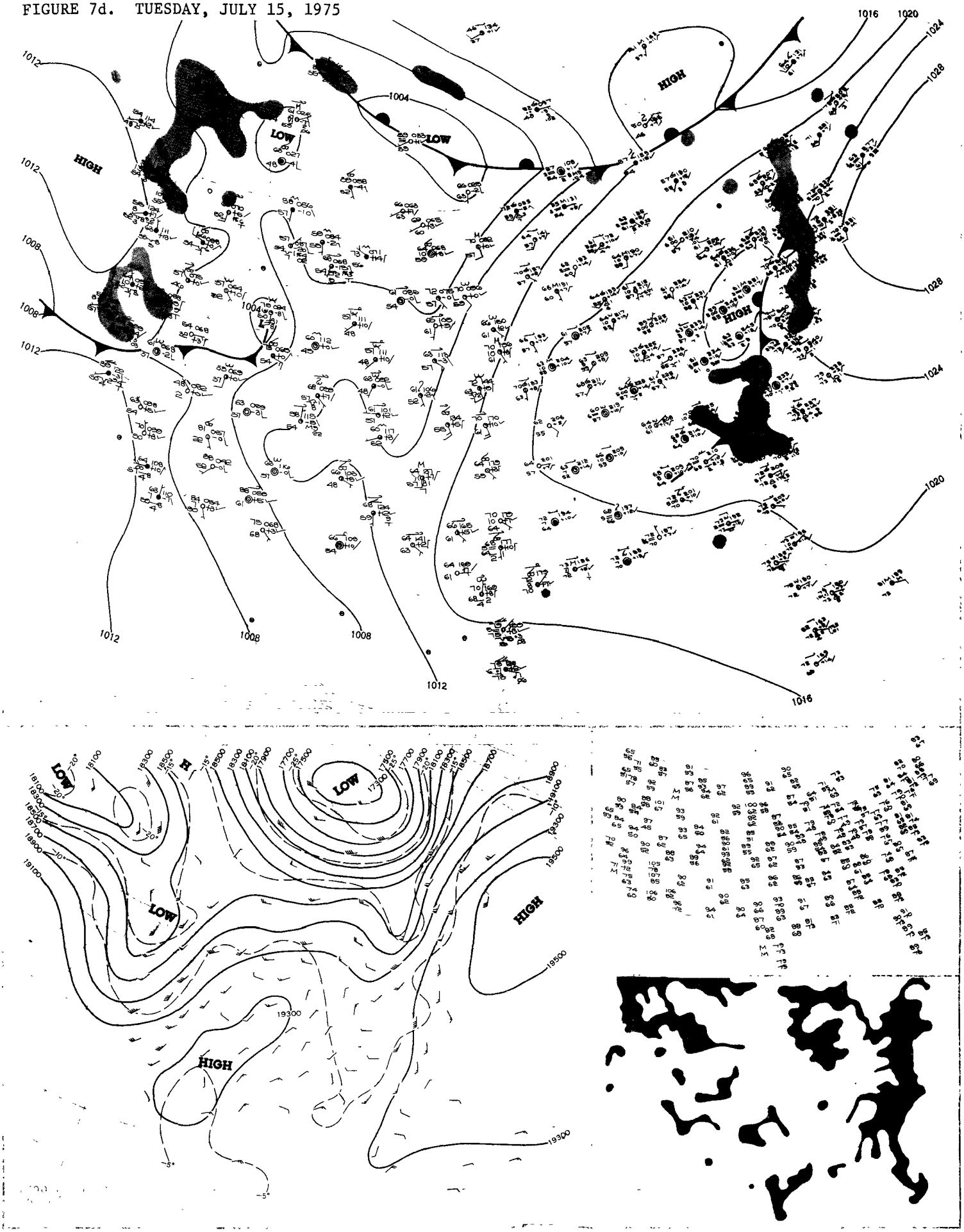


TABLE 4a. JULY 16, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.915 | 24 |
| 2--WIND SPEED (MPH) | 5.554 | 24 |
| 3--WIND DIRECTION (DEGREES) | 186.112 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 26.121 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 72.633 | 24 |
| 6--OZONE (PPM) | 0.025 | 23 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.009 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.014 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 193. | 13 |
| 20--CARBON TETRACHLORIDE (PPT) | 178. | 9 |

TABLE 4b.

SUBSTANCE — HOUR AVERAGES FOR JULY 16, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | 0.025 | 0.350 | 0.775 | 2.200 | 2.650 | 3.875 | 4.200 | 6.375 |
| 2--WIND SPEED (MPH) | 2.900 | 2.200 | 2.000 | 2.700 | 2.000 | 4.100 | 2.700 | 3.300 | 5.700 | 7.100 | 7.100 | 6.300 |
| 3--WIND DIRECTION (DEGREES) | 150. | 182. | 176. | 188. | 182. | 175. | 198. | 185. | 188. | 184. | 185. | 186. |
| 4--TEMPERATURE (CENTIGRADE) | 23. | 23. | 23. | 23. | 22. | 23. | 23. | 24. | 26. | 27. | 28. | 29. |
| 5--RELATIVE HUMIDITY (PERCENT) | 94. | 93. | 94. | 94. | 95. | 95. | 94. | 89. | 79. | 73. | 67. | 61. |
| 6--OZONE (PPM) | 0.013 | 0.016 | 0.017 | 0.016 | 0.015 | 0.014 | 0.013 | 0.012 | -0.012 | 0.011 | 0.011 | 0.023 |
| 7--NITRIC OXIDE (PPM) | 0.011 | 0.011 | 0.011 | 0.010 | 0.009 | 0.008 | 0.009 | 0.009 | 0.006 | 0.002 | 0.002 | 0.003 |
| 8--NITROGEN DIOXIDE (PPM) | 0.021 | 0.023 | 0.019 | 0.015 | 0.012 | 0.010 | 0.008 | 0.007 | 0.005 | 0.005 | 0.005 | 0.006 |
| 9--NITROGEN OXIDES (PPM) | 0.033 | 0.033 | 0.029 | 0.025 | 0.021 | 0.018 | 0.017 | 0.015 | 0.011 | 0.007 | 0.007 | 0.009 |
| 19--FLUOROCARBON-11 (PPT) | 218. | -213. | -209. | -204. | -200. | -195. | -191. | -186. | 182. | 178. | -175. | 172. |
| 20--CARBON TETRACHLORIDE (PPT) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | 195. | -214. | -232. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.450 | 5.575 | 4.725 | 3.975 | 2.700 | 1.625 | 0.425 | 0.025 | .000 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 7.100 | 8.200 | 8.900 | 8.500 | 8.800 | 9.000 | 8.700 | 5.100 | 5.200 | 5.500 | 4.900 | 4.300 |
| 3--WIND DIRECTION (DEGREES) | 185. | 191. | 191. | 188. | 192. | 192. | 195. | 191. | 186. | 195. | 192. | 191. |
| 4--TEMPERATURE (CENTIGRADE) | 31. | 31. | 31. | 31. | 31. | 30. | 28. | 26. | 25. | 24. | 23. | 23. |
| 5--RELATIVE HUMIDITY (PERCENT) | 52. | 48. | 47. | 46. | 47. | 51. | 55. | 62. | 70. | 75. | 80. | 82. |
| 6--OZONE (PPM) | 0.041 | 0.051 | 0.046 | 0.058 | 0.068 | 0.061 | 0.043 | 0.024 | 0.006 | 0.000 | 0.002 | 0.000 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.003 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 | 0.004 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 0.006 | 0.006 | 0.005 | 0.006 | 0.007 | 0.007 | 0.007 | 0.007 | 0.008 | 0.008 | 0.008 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 0.008 | 0.009 | 0.007 | 0.008 | 0.009 | 0.010 | 0.010 | 0.009 | 0.010 | 0.011 | 0.012 |
| 19--FLUOROCARBON-11 (PPT) | 169. | 163. | 167. | 172. | 182. | 202. | 193. | -206. | -219. | 232. | 274. | -1. |
| 20--CARBON TETRACHLORIDE (PPT) | -251. | 270. | 120. | 135. | 150. | 150. | 105. | -115. | -125. | 135. | 345. | -1. |

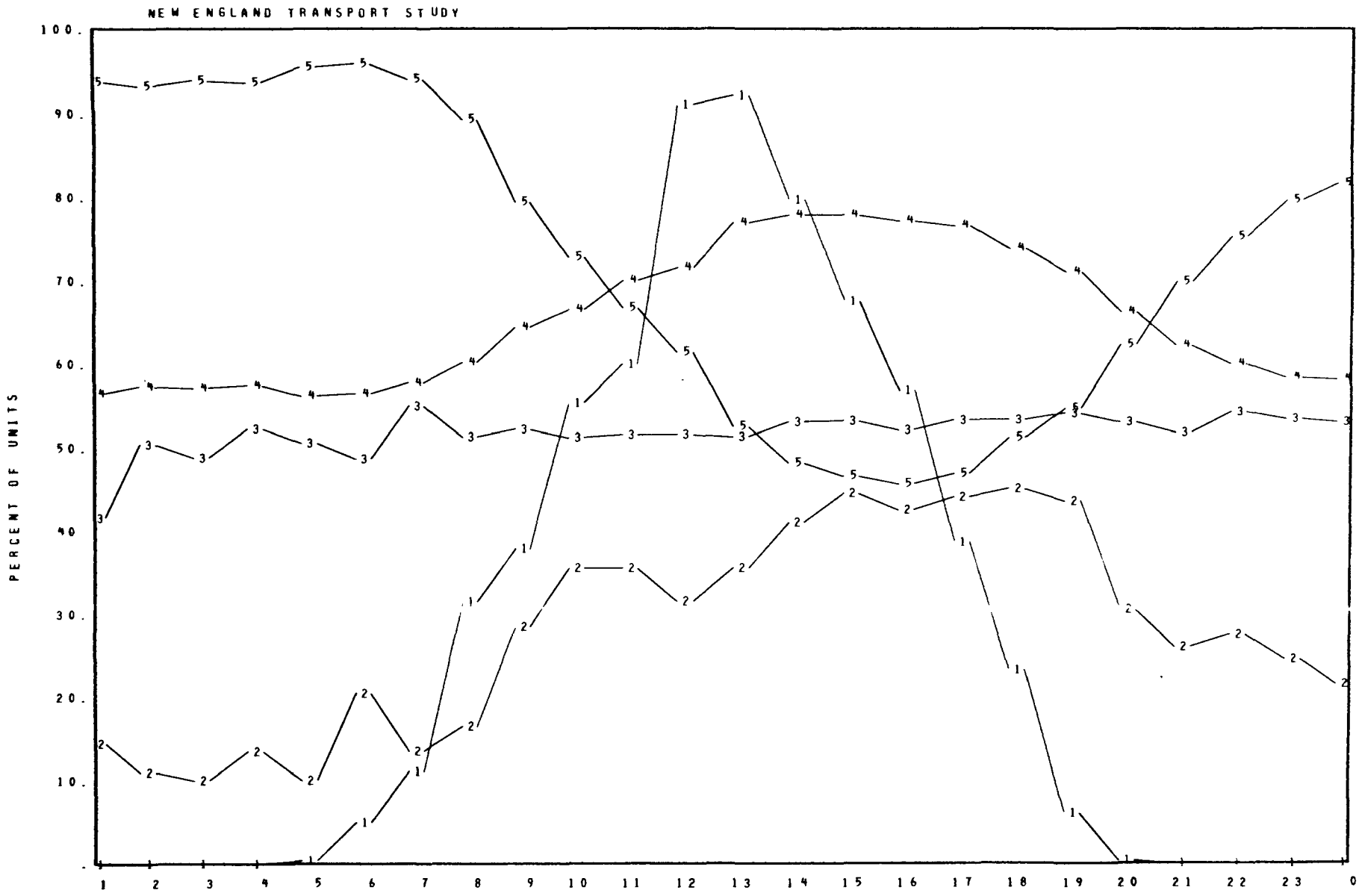



FIGURE 8a. JULY 16, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

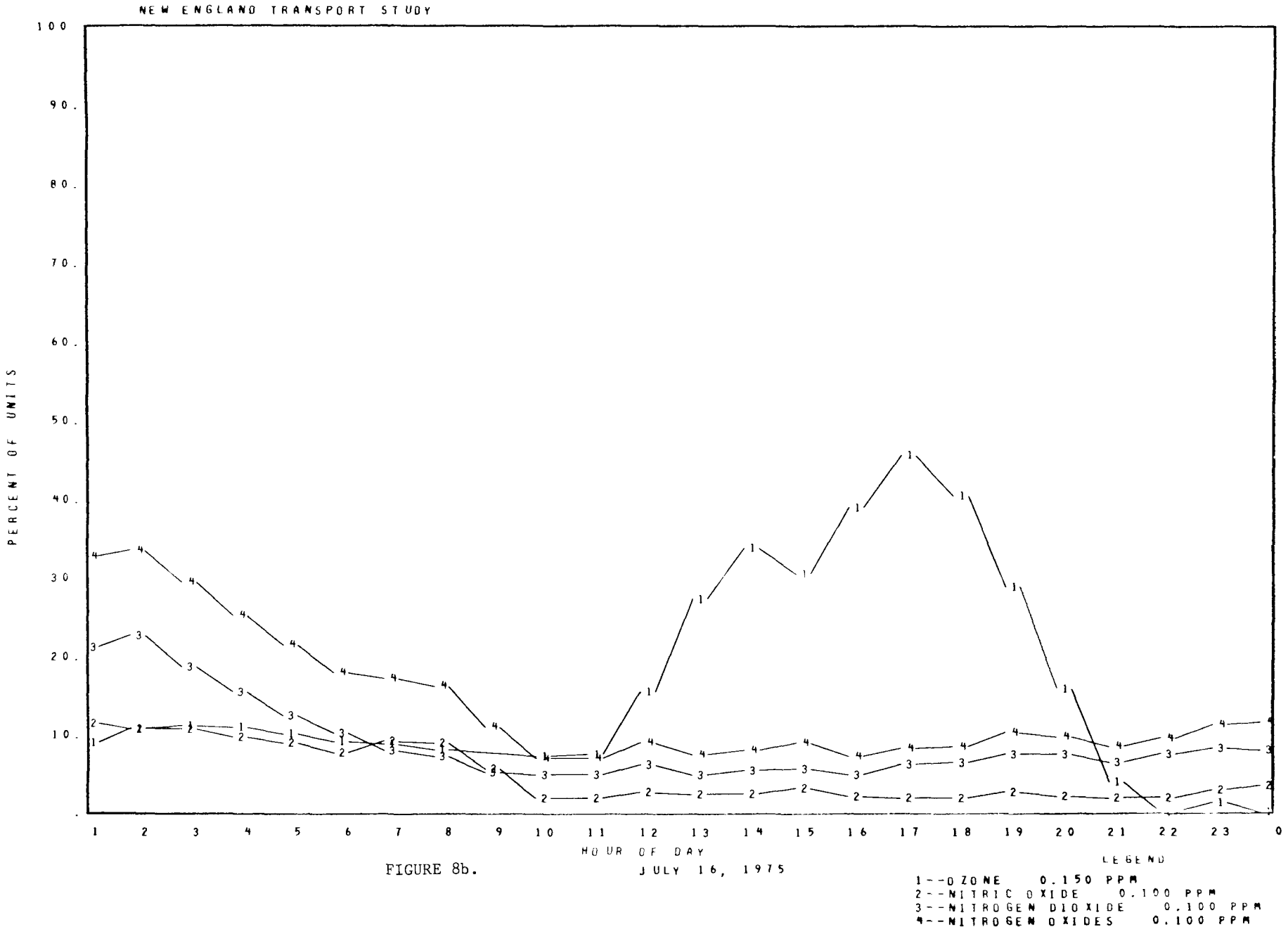

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90.
80.
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 16, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 8b.

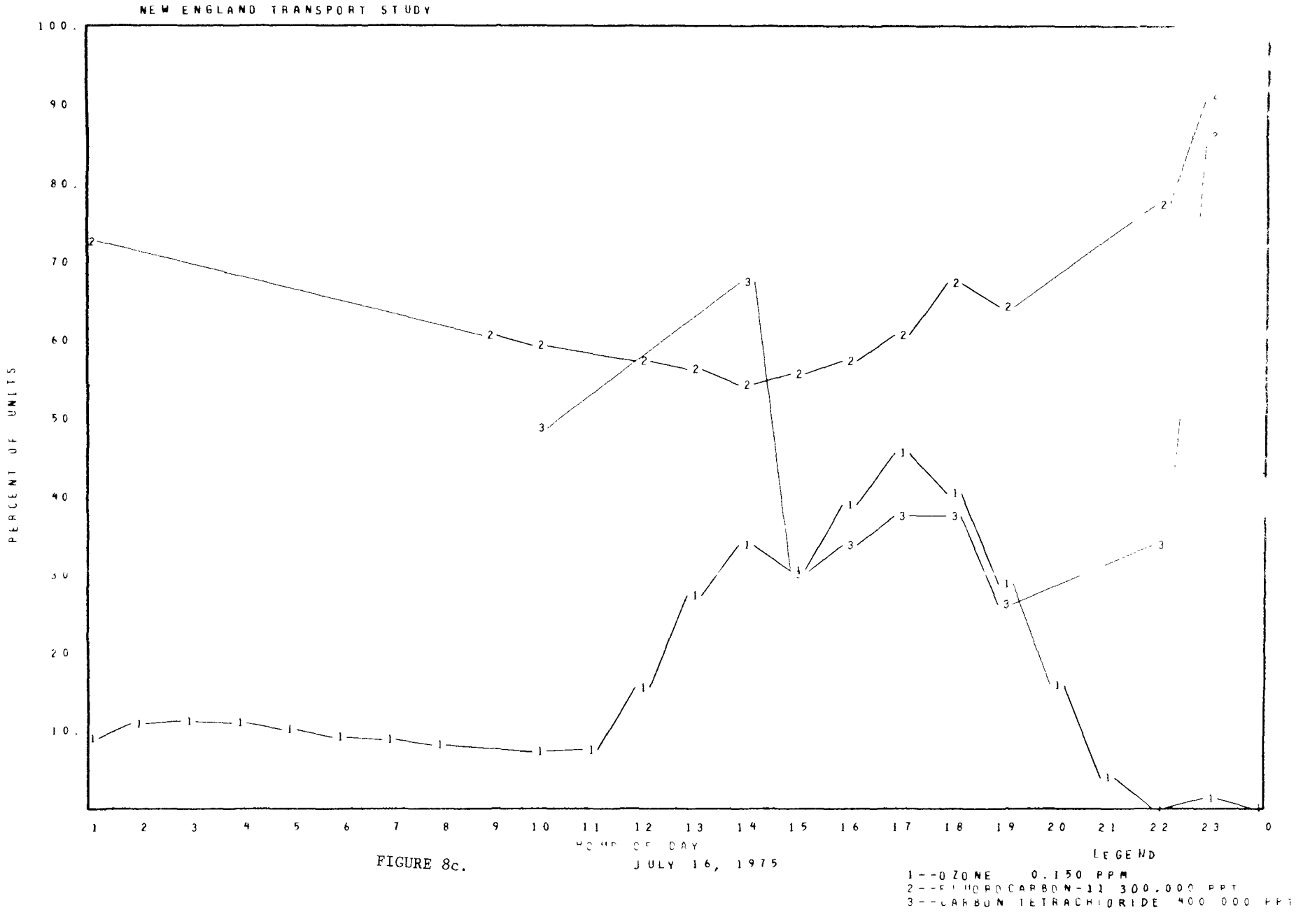
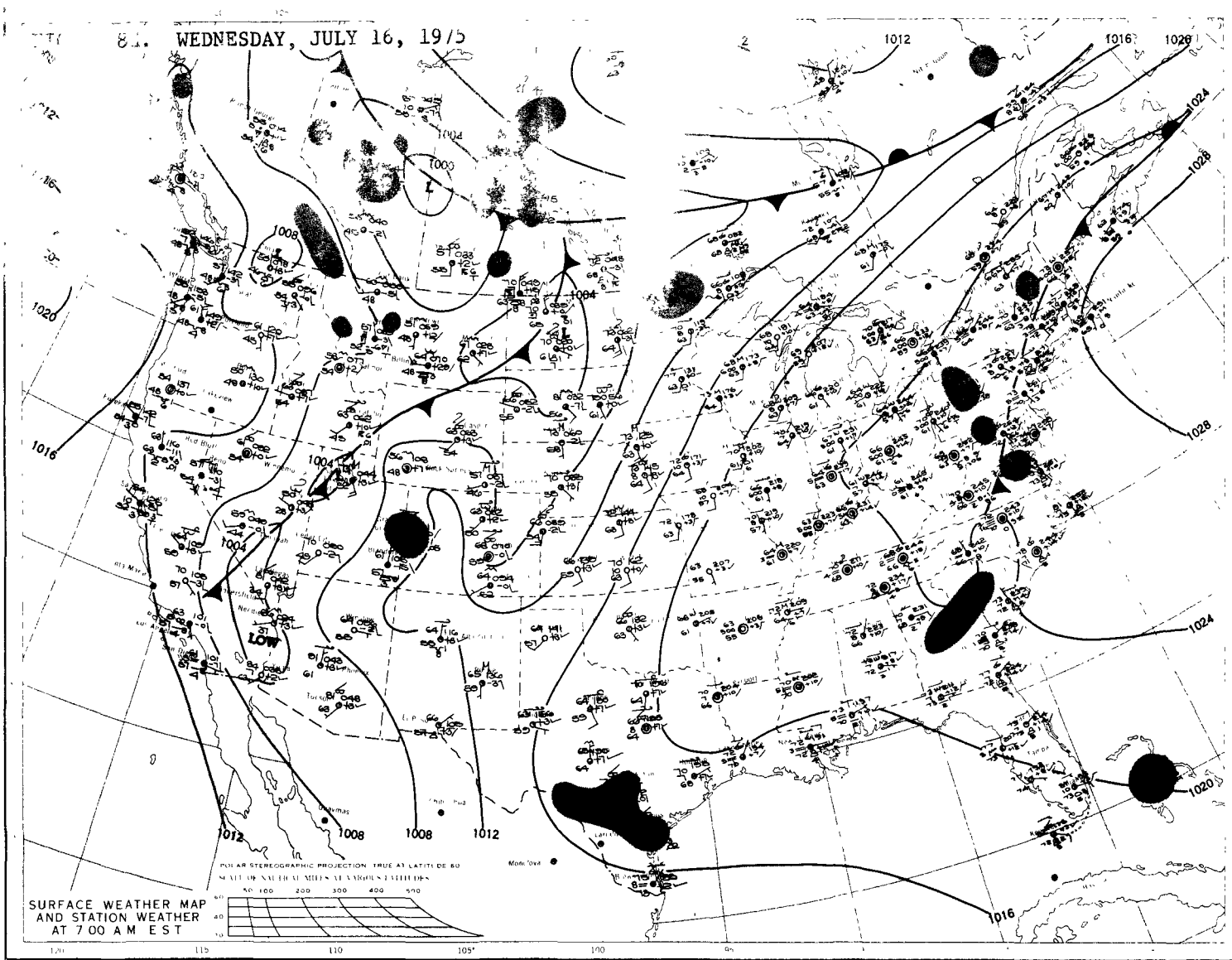
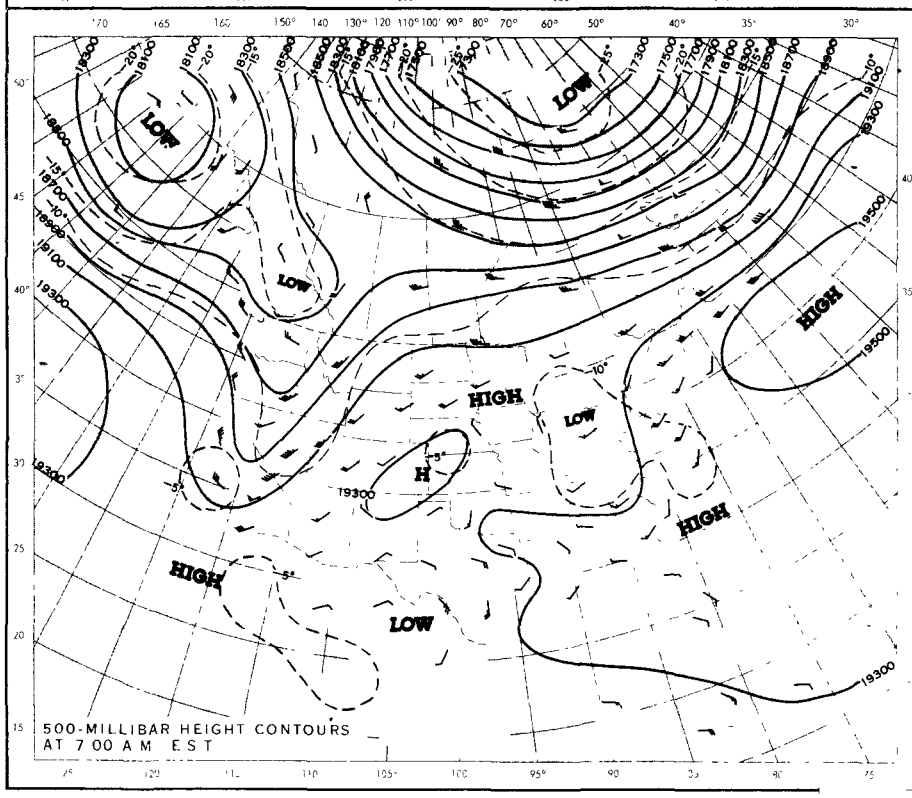
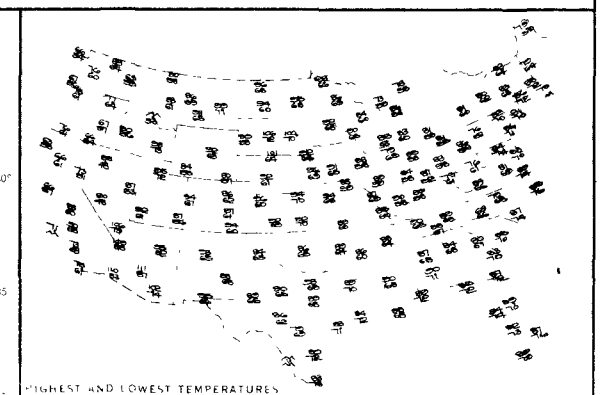

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80.
70
60
50
40
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 16, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 400 000 PPT

FIGURE 8c.


WEDNESDAY, JULY 16, 1975
SURFACE WEATHER MAP
AND STATION WEATHER
AT 7 00 A M E S T
POLAR STEREOGRAPHIC PROJECTION TRUE AT LATITUDE 60
LOW
1012
1016
1020
1024
1028
1008
1004


500-MILLIBAR HEIGHT CONTOURS
AT 7 00 A M E S T
LOW
HIGH
H
19300
19500


HIGHEST AND LOWEST TEMPERATURES

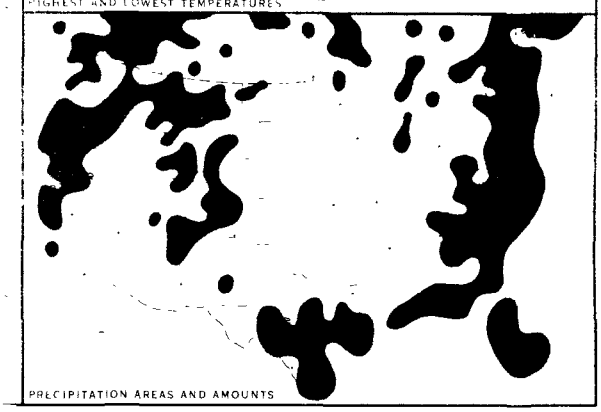

PRECIPITATION AREAS AND AMOUNTS

TABLE 5a. JULY 17. 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.141 | 24 |
| 2--WIND SPEED (MPH) | 5.308 | 24 |
| 3--WIND DIRECTION (DEGREES) | 195.656 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 26.617 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 71.121 | 24 |
| 6--OZONE (PPM) | 0.038 | 22 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 216. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 217. | 24 |

TABLE 5b.

| SUBSTANCE | HOUR AVERAGES FOR JULY 17, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.500 | 1.500 | 3.275 | 4.075 | 4.450 | 6.000 |
| 2--WIND SPEED (MPH) | 4.400 | 3.600 | 3.100 | 3.900 | 2.700 | 1.500 | 2.400 | 4.300 | 5.300 | 5.500 | 5.000 | 5.100 |
| 3--WIND DIRECTION (DEGREES) | 187. | 186. | 187. | 197. | 185. | 231. | 239. | 194. | 199. | 218. | 219. | 212. |
| 4--TEMPERATURE (CENTIGRADE) | 23. | 23. | 23. | 22. | 22. | 22. | 23. | 25. | 28. | 29. | 29. | 30. |
| 5--RELATIVE HUMIDITY (PERCENT) | 83. | 86. | 89. | 91. | 93. | 95. | 93. | 86. | 70. | 60. | 56. | 53. |
| 6--OZONE (PPM) | 0.001 | 0.001 | 0.004 | 0.003 | 0.003 | 0.002 | 0.005 | 0.007 | 0.014 | 0.020 | 0.028 | 0.043 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.005 | 0.008 | 0.009 | 0.007 | 0.005 | 0.004 | 0.004 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 0.006 | 0.005 | 0.004 | 0.005 | 0.004 | 0.003 | 0.004 | 0.003 | 0.002 | 0.000 | .000 |
| 9--NITROGEN OXIDES (PPM) | 0.011 | 0.009 | 0.008 | 0.007 | 0.008 | 0.009 | 0.011 | 0.013 | 0.010 | 0.006 | 0.004 | 0.004 |
| 19--FLUOROCARBON-11 (PPT) | 240. | 246. | 193. | 172. | 176. | 165. | 172. | 197. | 210. | 214. | 208. | 204. |
| 20--CARBON TETRACHLORIDE (PPT) | 255. | 150. | 195. | 180. | 195. | 150. | 360. | 180. | 240. | 255. | 240. | 210. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.250 | 6.625 | 4.000 | 5.750 | 4.625 | 3.175 | 1.700 | 0.425 | 0.025 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 6.200 | 8.800 | 8.900 | 9.300 | 8.800 | 9.400 | 7.200 | 6.600 | 5.600 | 3.900 | 2.900 | 3.000 |
| 3--WIND DIRECTION (DEGREES) | 205. | 161. | 170. | 192. | 182. | 195. | 189. | 191. | 191. | 186. | 187. | 191. |
| 4--TEMPERATURE (CENTIGRADE) | 31. | 33. | 31. | 31. | 31. | 30. | 29. | 27. | 26. | 25. | 24. | 23. |
| 5--RELATIVE HUMIDITY (PERCENT) | 50. | 47. | 50. | 50. | 52. | 56. | 60. | 67. | 72. | 77. | 83. | 87. |
| 6--OZONE (PPM) | 0.057 | 0.063 | 0.075 | -0.093 | -0.111 | 0.130 | 0.130 | 0.116 | 0.082 | 0.037 | 0.011 | 0.004 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.004 | 0.004 | 0.005 | 0.007 | 0.007 | 0.006 | 0.006 | 0.004 | 0.003 | 0.003 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | .000 | .000 | 0.000 | .000 | 0.002 | 0.005 | 0.005 | 0.007 | 0.008 | 0.010 | 0.009 | 0.008 |
| 9--NITROGEN OXIDES (PPM) | 0.003 | 0.004 | 0.005 | 0.005 | 0.009 | 0.012 | 0.012 | 0.012 | 0.012 | 0.013 | 0.012 | 0.010 |
| 19--FLUOROCARBON-11 (PPT) | 167. | 189. | 210. | 210. | 251. | 236. | 266. | 313. | 257. | 238. | 182. | 257. |
| 20--CARBON TETRACHLORIDE (PPT) | 210. | 300. | 195. | 150. | 225. | 210. | 180. | 255. | 240. | 330. | 150. | 150. |

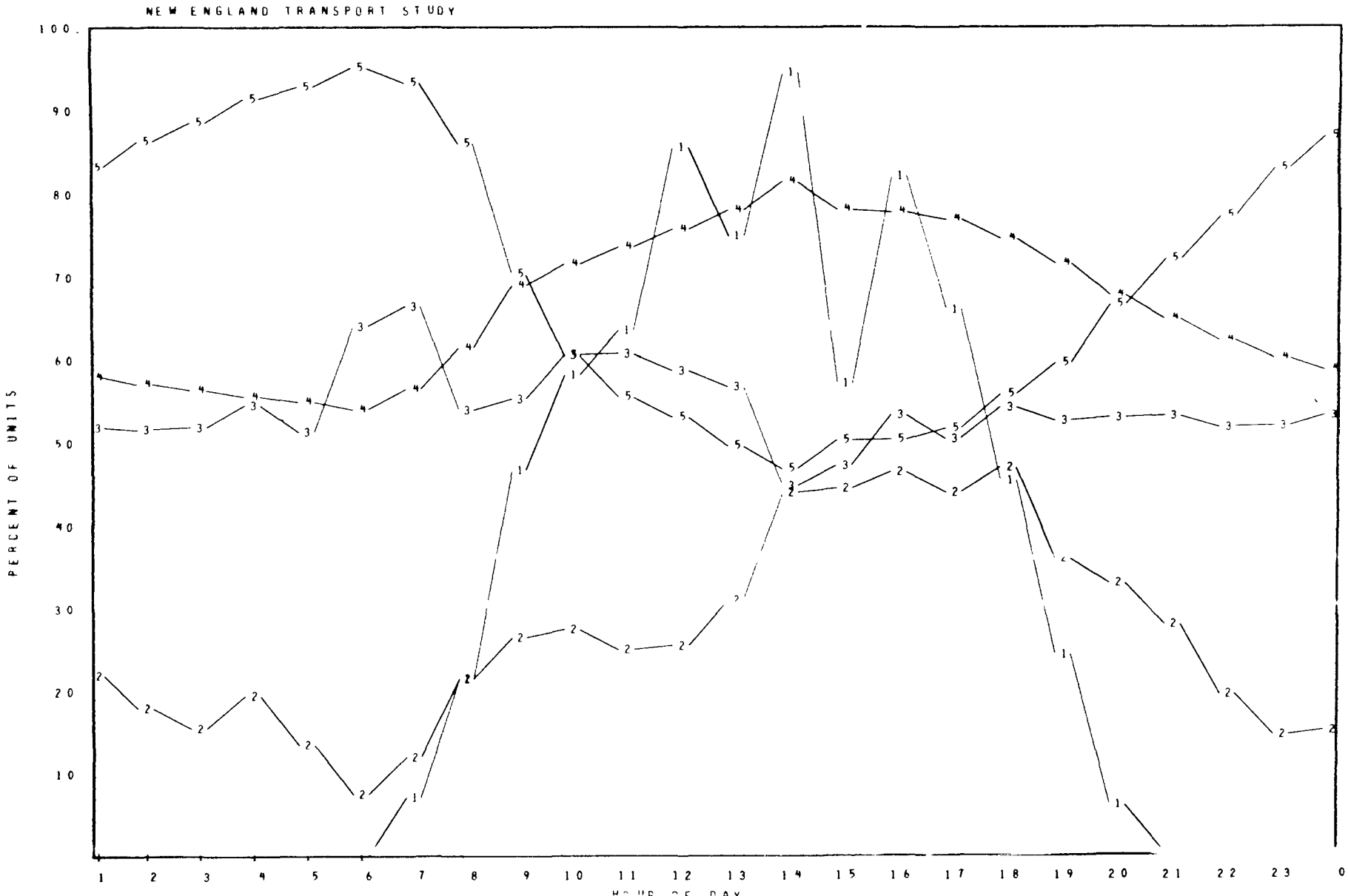



FIGURE 9a. JULY 17, 1975

LEGEND
1--GLOBAL IRRADIANCE 7.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH CM/MIN
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40 000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

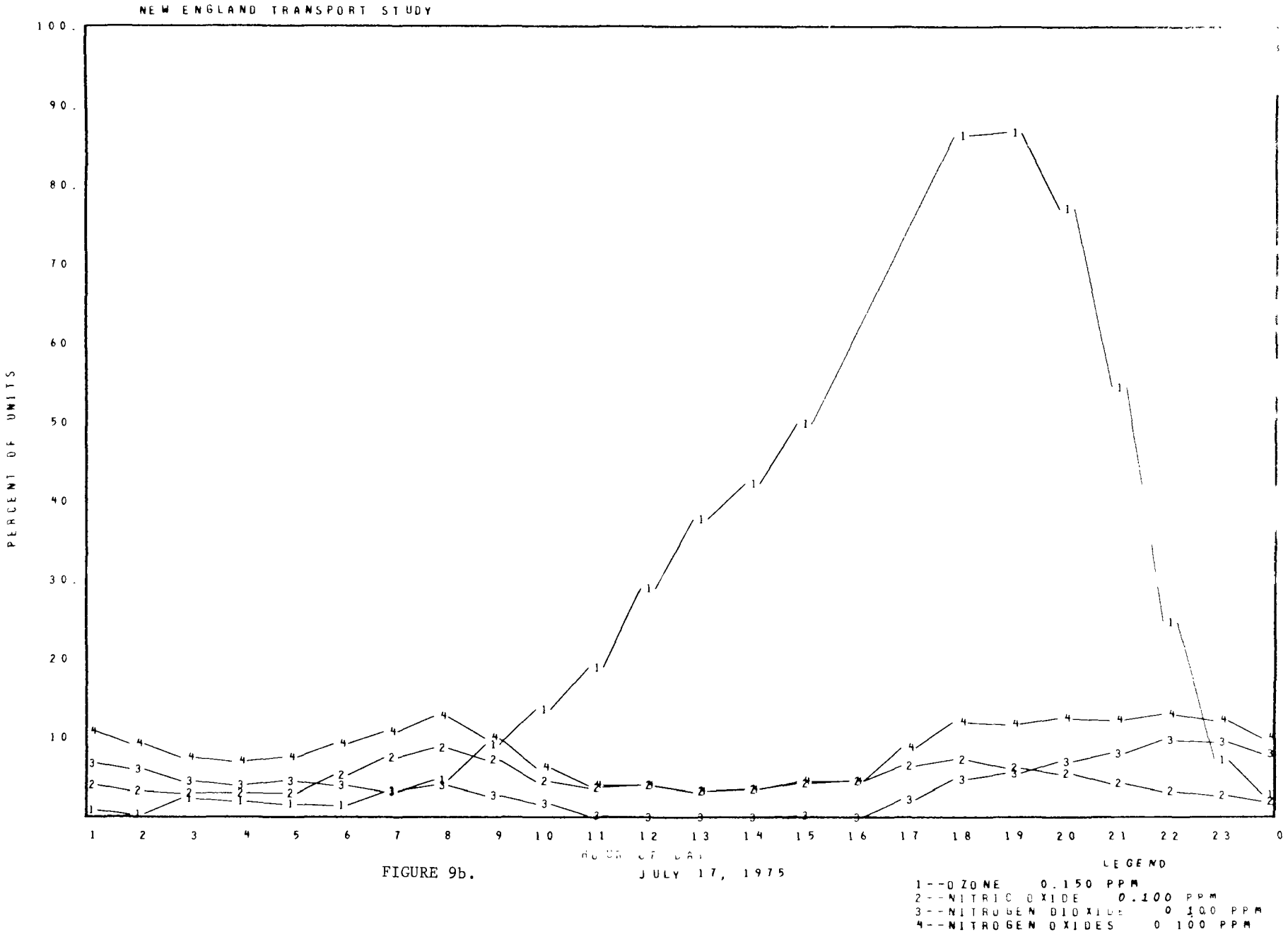

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70
60
50
40
30.
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 17, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 9b.

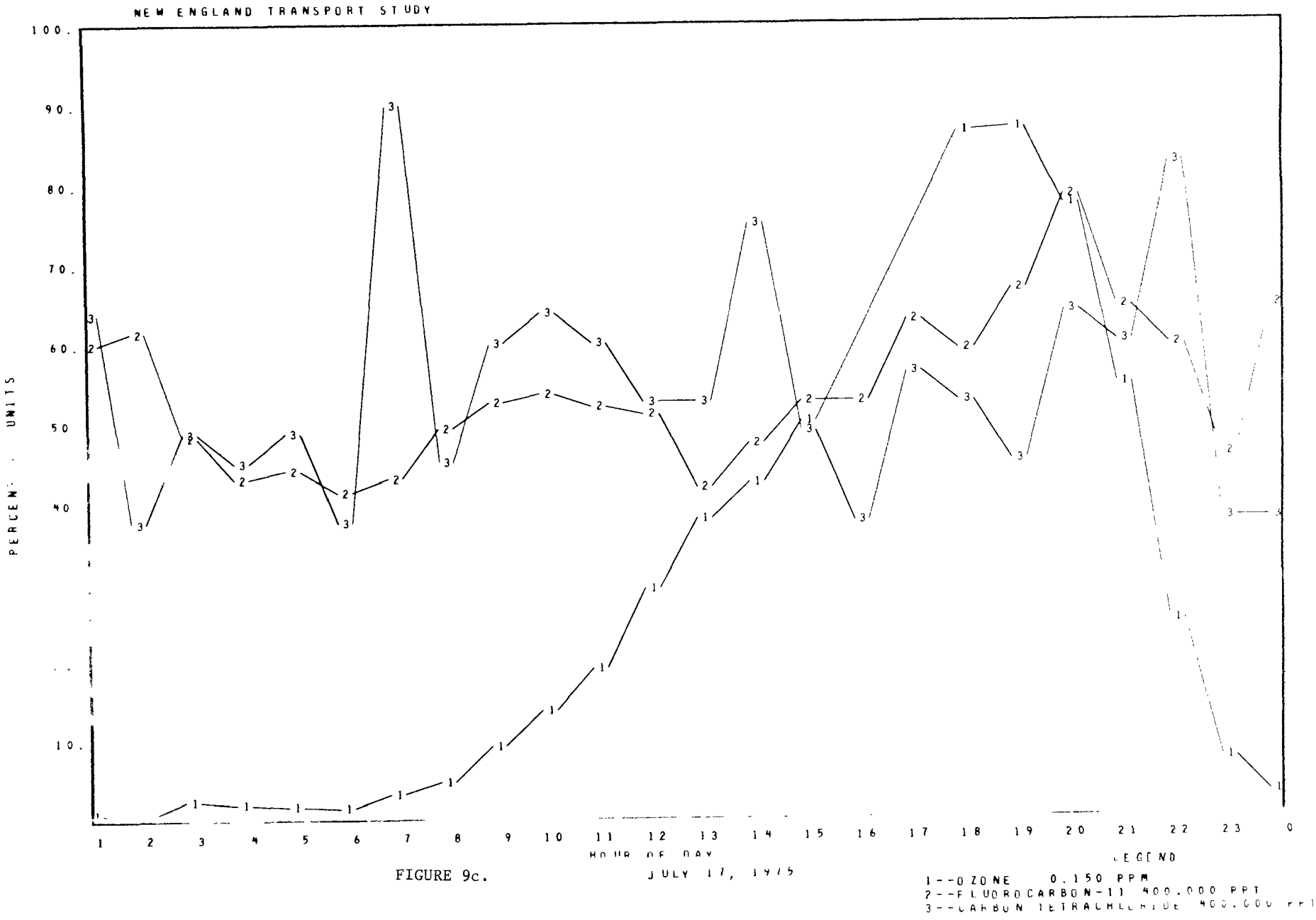
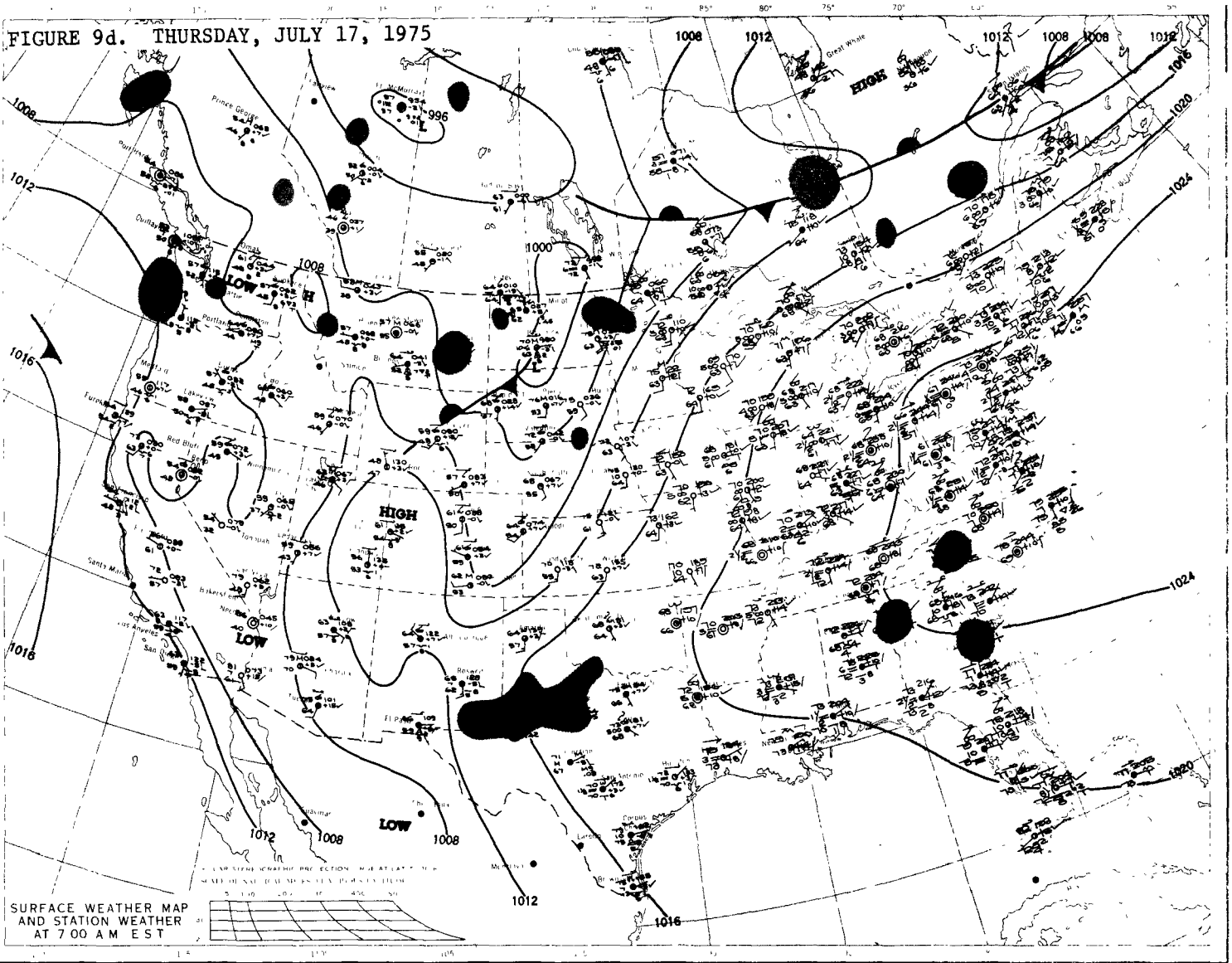
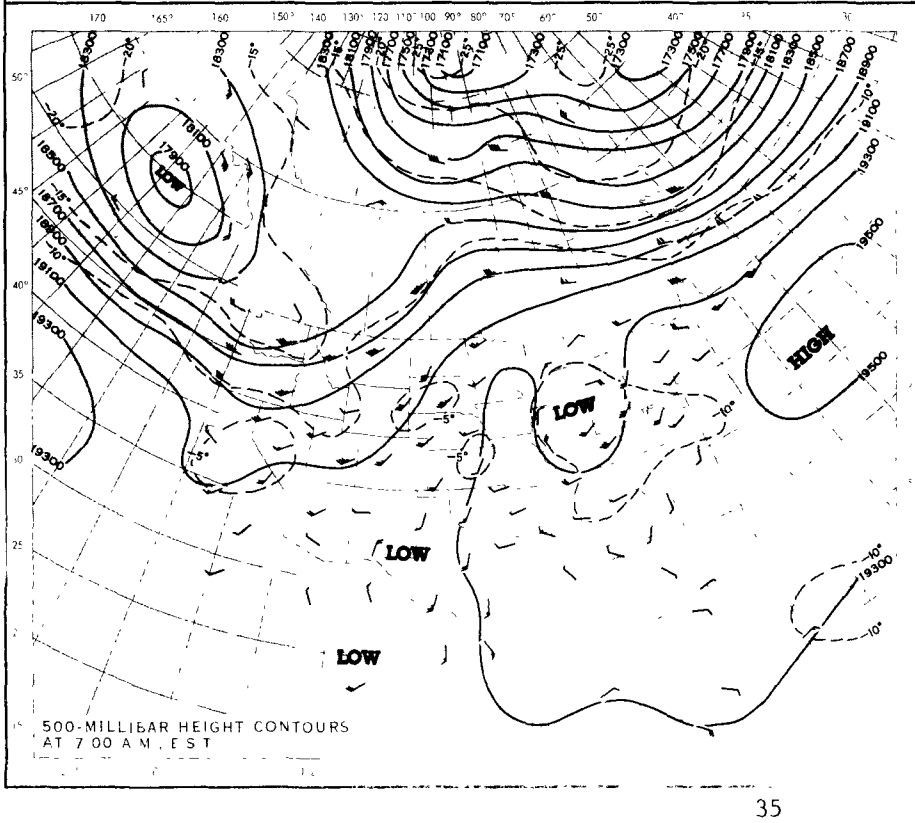

NEW ENGLAND TRANSPORT STUDY
PERCENT . UNITS
100.
90.
80.
70.
60.
50
40
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 17, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 400.000 PPT
3--CARBON TETRACHLORIDE 400.000 PPT

FIGURE 9c.

FIGURE 9d. THURSDAY, JULY 17, 1975




SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST

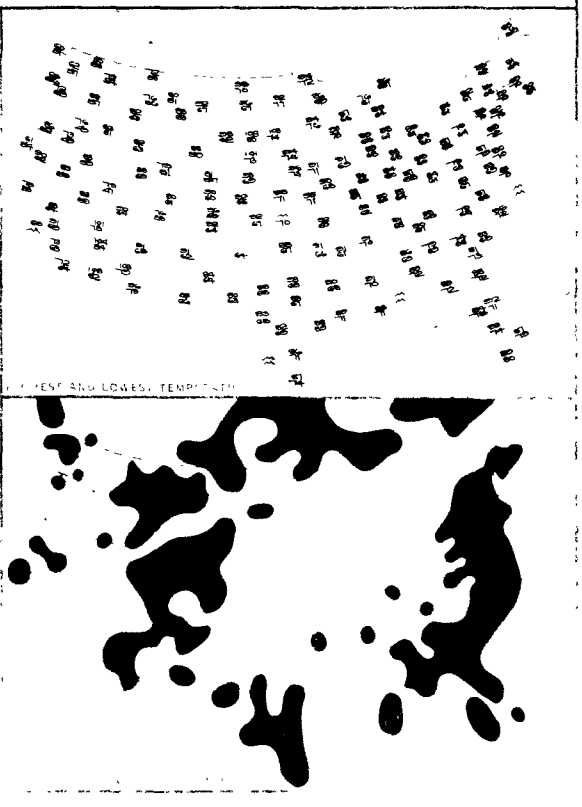


TABLE 6a. [illegible]

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.241 | 24 |
| 2--WIND SPEED (MPH) | 4.267 | 24 |
| 3--WIND DIRECTION (DEGREES) | 187.459 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 27.902 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 68.991 | 24 |
| 6--OZONE (PPM) | 0.051 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.008 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.012 | 24 |
| 10--METHANE (PPMC) | 2.127 | 12 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.579 | 12 |
| 19--FLUOROCARBON-11 (PPT) | 224. | 19 |
| 20--CARBON TETRACHLORIDE (PPT) | 166. | 19 |

TABLE 6b.

SUBSTANCE — HOUR AVERAGES FOR JULY 18, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.575 | 1.800 | 3.225 | 4.500 | 5.175 | 4.400 |
| 2--WIND SPEED (MPH) | 2.500 | 2.100 | 2.200 | 2.600 | 3.000 | 4.200 | 3.500 | 3.800 | 4.000 | 2.800 | [illegible] | 5.400 |
| 3--WIND DIRECTION (DEGREES) | 177. | 182. | 145. | 189. | 194. | 190. | 190. | 189. | 211. | 204. | [illegible] | 139. |
| 4--TEMPERATURE (CENTIGRADE) | 23. | 23. | 22. | 22. | 22. | 22. | 23. | 25. | 28. | 30. | [illegible] | 32. |
| 5--RELATIVE HUMIDITY (PERCENT) | 90. | 93. | 95. | 99. | 100. | 100. | 97. | 87. | 72. | 57. | [illegible] | 63. |
| 6--OZONE (PPM) | 0.005 | 0.001 | .000 | .000 | .000 | .000 | .000 | 0.008 | 0.042 | 0.060 | [illegible] | [illegible] |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.007 | [illegible] | [illegible] |
| 8--NITROGEN DIOXIDE (PPM) | 0.008 | 0.009 | 0.008 | 0.008 | 0.008 | 0.010 | 0.007 | 0.007 | 0.007 | 0.008 | [illegible] | [illegible] |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.011 | 0.010 | 0.009 | 0.009 | 0.011 | 0.010 | 0.011 | 0.012 | 0.014 | 0.010 | [illegible] |
| 10--METHANE (PPMC) | 1.890 | 1.930 | 1.780 | 2.960 | 2.640 | 2.120 | 2.140 | 2.200 | 1.960 | 2.000 | 1.950 | [illegible] |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.596 | 0.601 | 0.596 | 0.601 | 0.599 | 0.604 | 0.600 | 0.603 | 0.596 | 0.596 | [illegible] | [illegible] |
| 19--FLUOROCARBON-11 (PPT) | 210. | 216. | 186. | 199. | 300. | 210. | 81. | 86. | -143. | -200. | [illegible] | 232 |
| 20--CARBON TETRACHLORIDE (PPT) | 225. | 180. | 210. | 225. | 300. | 150. | 60. | . | -55. | [illegible] | [illegible] | [illegible] |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.925 | 6.425 | 6.400 | 5.575 | 4.500 | 3.100 | 1.550 | 0.425 | 0.175 | .000 | .000 | [illegible] |
| 2--WIND SPEED (MPH) | 7.400 | 6.600 | 6.300 | 5.700 | 7.400 | 5.000 | 4.900 | 4.100 | 3.50 | | [illegible] | |
| 3--WIND DIRECTION (DEGREES) | 148. | 186. | 214. | 218. | 212. | 222. | 210. | 198. | 197. | | | |
| 4--TEMPERATURE (CENTIGRADE) | 34. | 34. | 34. | 34. | 33. | 33. | 31. | 29. | 27. | [illegible] | [illegible] | |
| 5--RELATIVE HUMIDITY (PERCENT) | 46. | 45. | 43. | 42. | 41. | 42. | 46. | 55. | 67. | 75. | 77. | |
| 6--OZONE (PPM) | 0.087 | 0.074 | 0.069 | 0.078 | 0.080 | 0.076 | 0.074 | 0.099 | 0.132 | 0.093 | 0.051 | 0 |
| 7--NITRIC OXIDE (PPM) | 0.007 | 0.005 | 0.002 | 0.002 | 0.002 | 0.002 | .000 | 0.025 | 0.008 | 0.006 | 0.004 | |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.003 | 0.004 | 0.005 | 0.006 | 0.005 | 0.005 | 0.007 | 0.014 | 0.016 | 0.015 | |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.008 | 0.006 | 0.007 | 0.007 | 0.006 | 0.005 | 0.031 | 0.023 | 0.022 | 0.019 | [illegible] |
| 10--METHANE (PPMC) | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | -1.950 | [illegible] |
| 11--NON-METHANE HYDROCARBON (PPMC) | -0.560 | -0.541 | -0.522 | -0.502 | -0.483 | -0.464 | -0.445 | -0.426 | -0.407 | -0.388 | -0.369 | 0.230 |
| 19--FLUOROCARBON-11 (PPT) | -213. | -194. | -175. | 156. | 139. | 150. | 165. | 242. | 412. | 347. | 354. | 311. |
| 20--CARBON TETRACHLORIDE (PPT) | -142. | -135. | -127. | 120. | 120. | 75. | 120. | 150. | 180. | 195. | 300. | 225. |

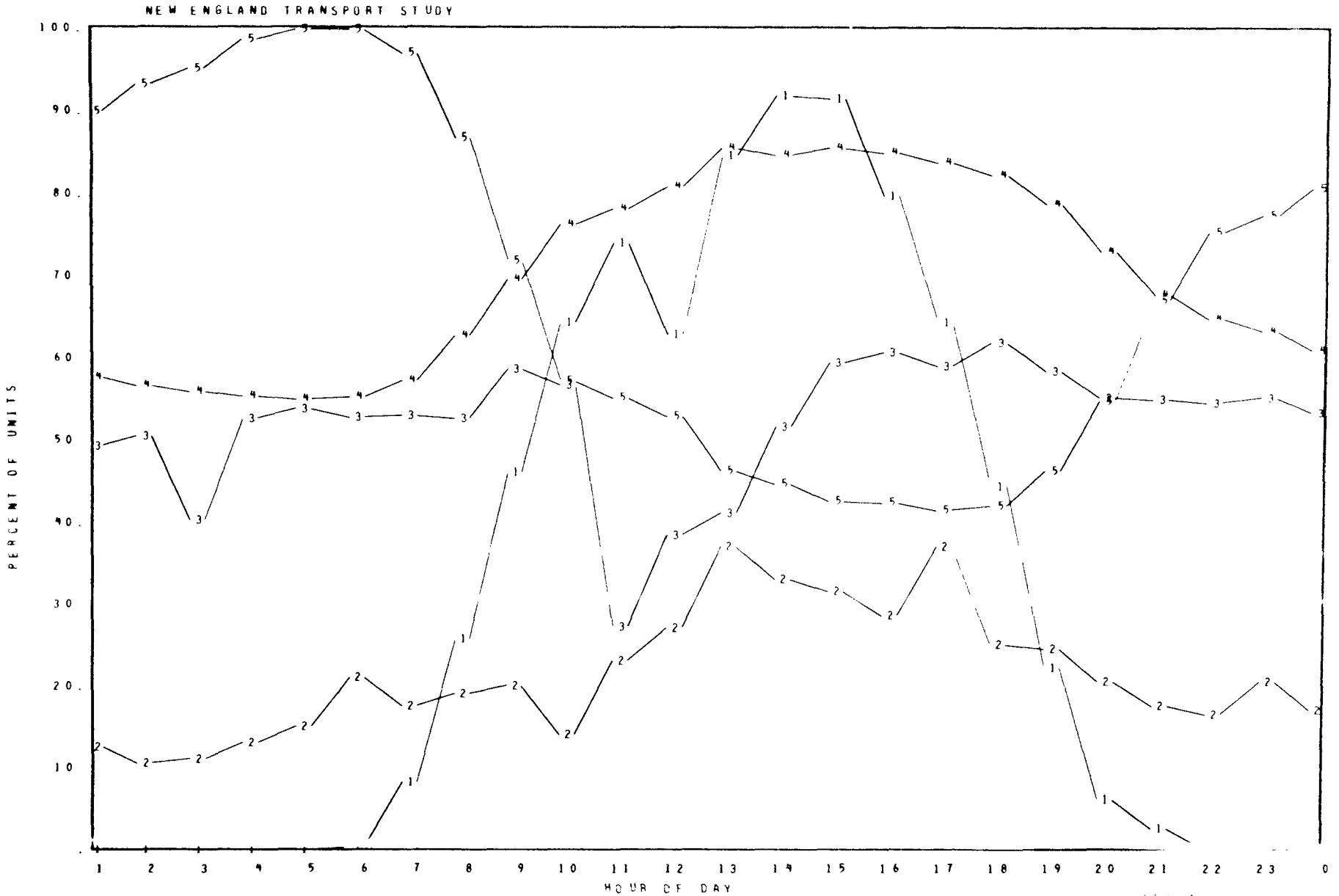



FIGURE 10a. JULY 18, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

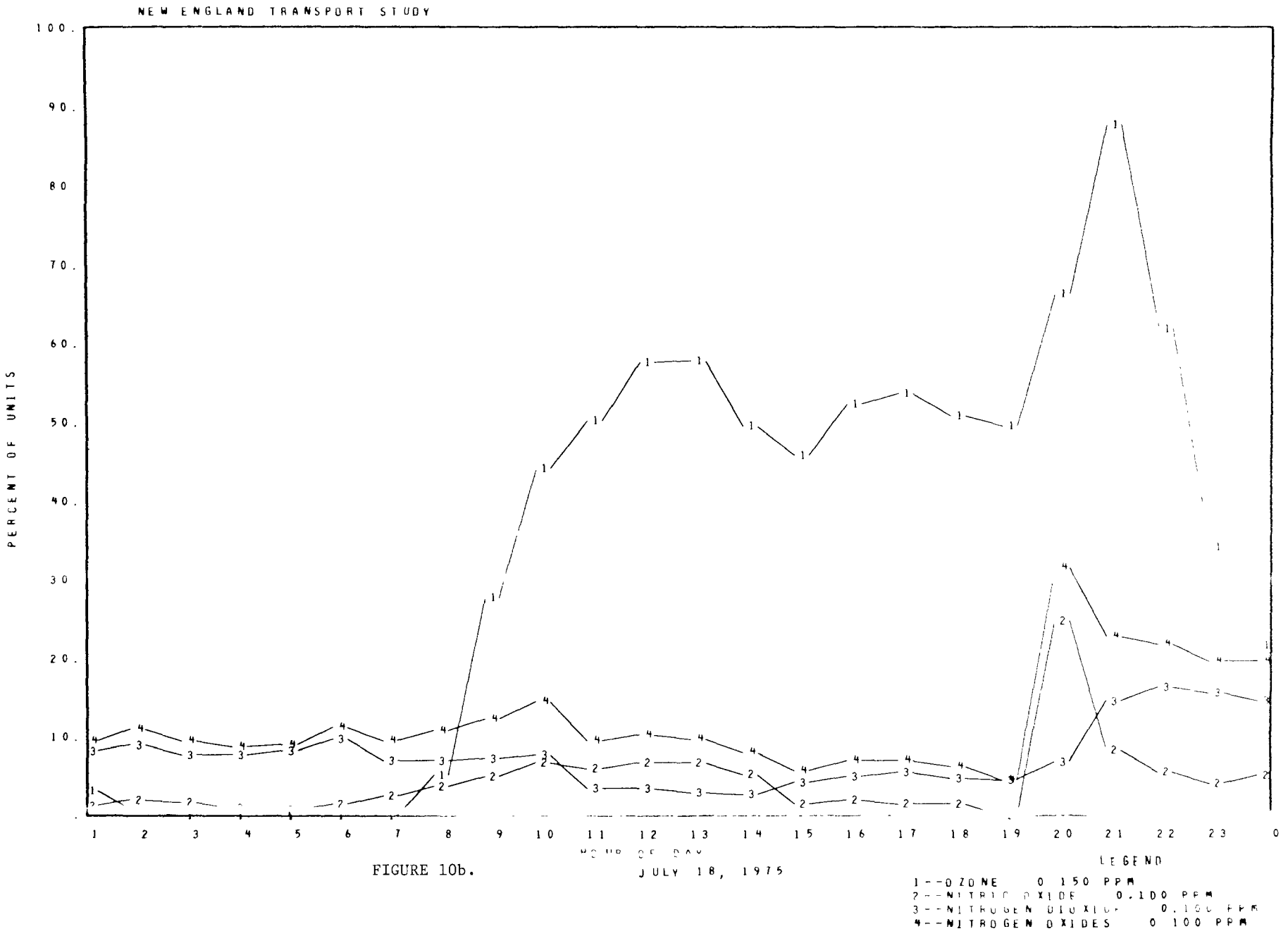

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
JULY 18, 1975
LEGEND
1--OZONE 0 150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0 100 PPM

FIGURE 10b.

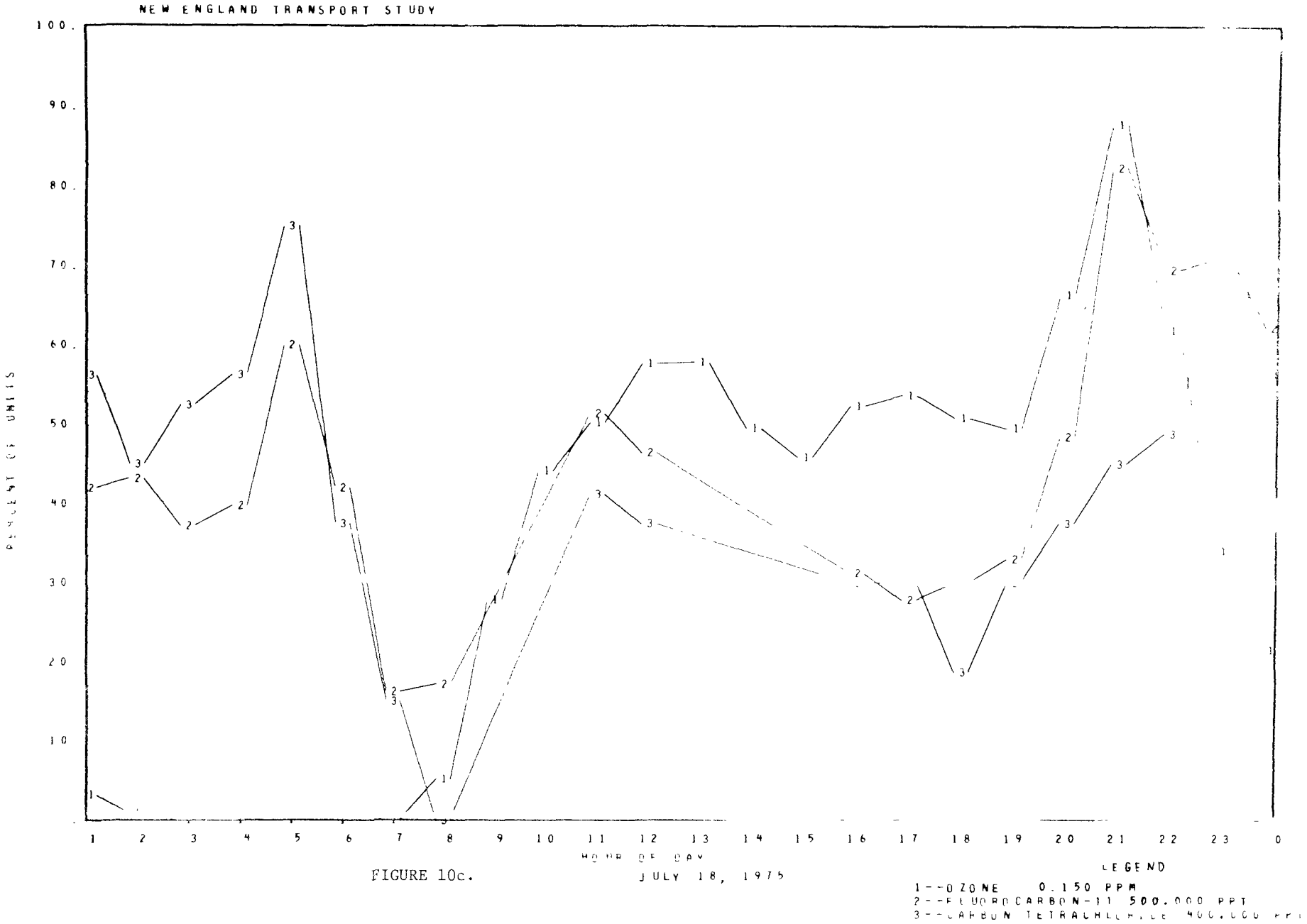
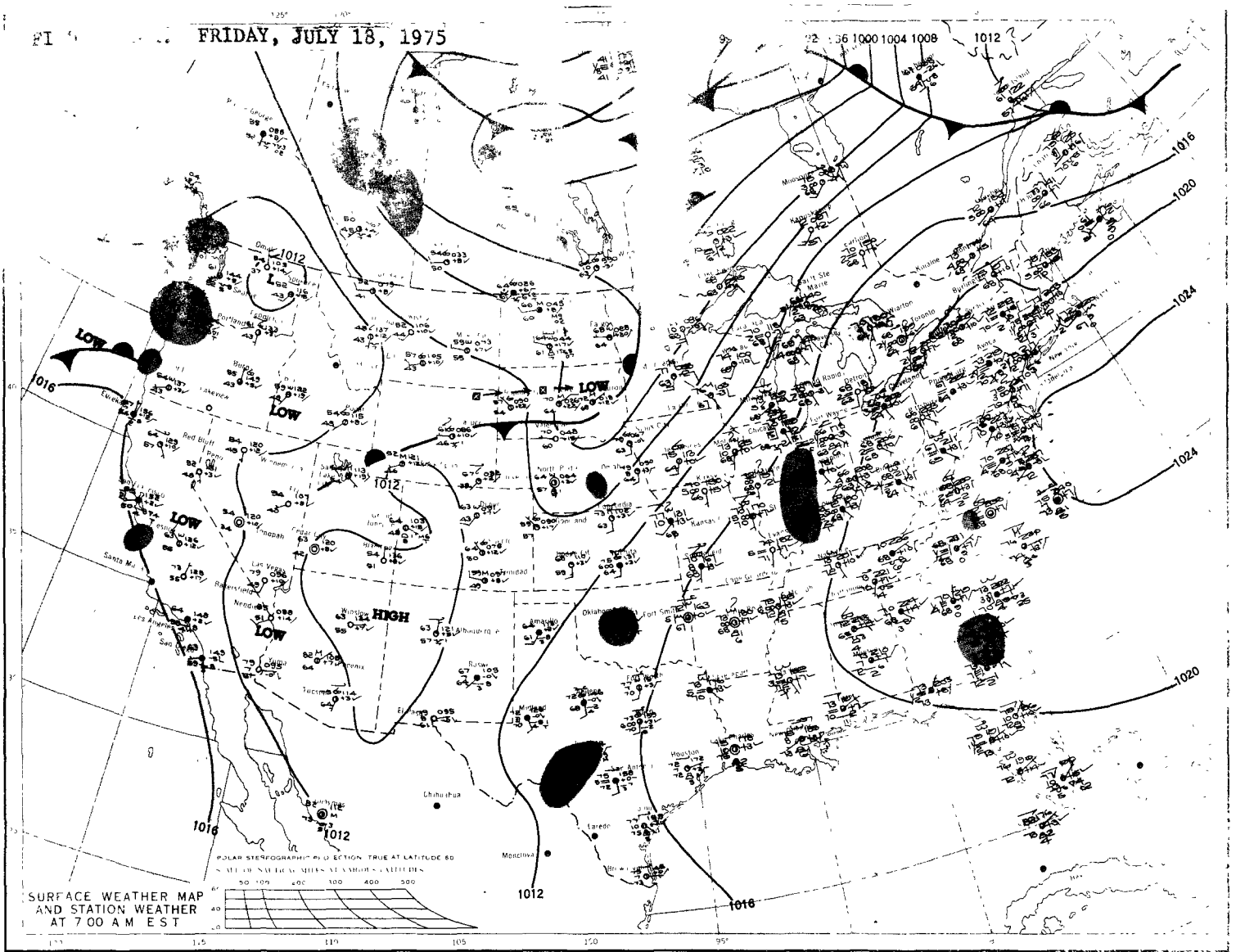
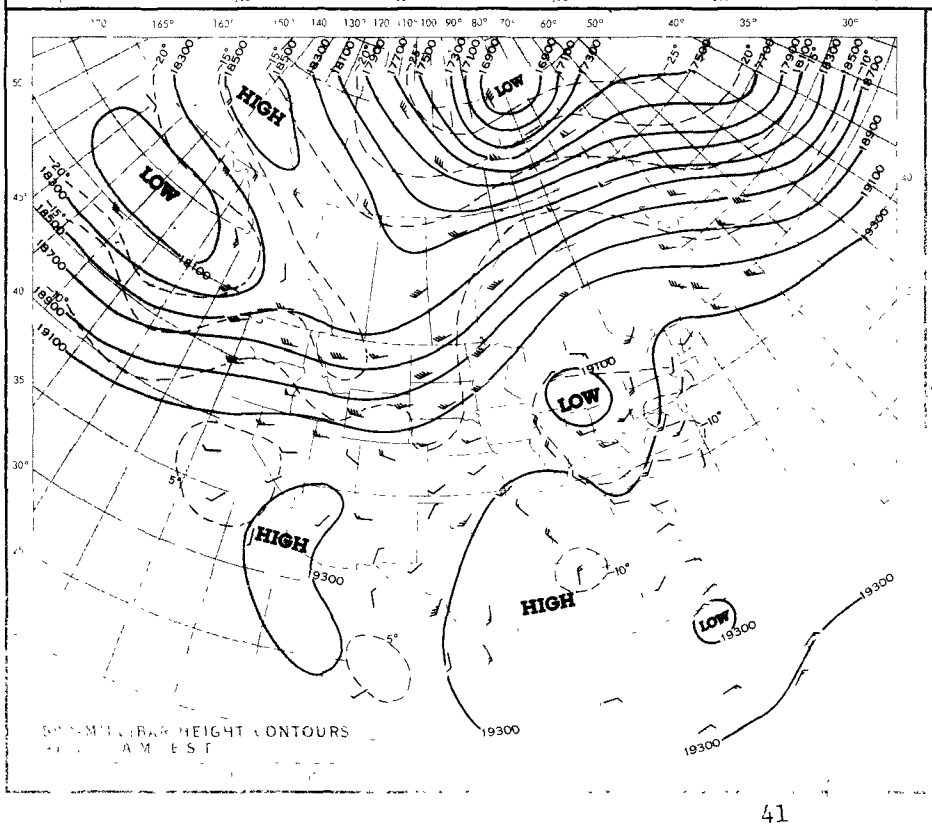



FIGURE 10c. JULY 18, 1975

FRIDAY, JULY 18, 1975




SURFACE WEATHER MAP
AND STATION WEATHER
AT 7:00 AM EST



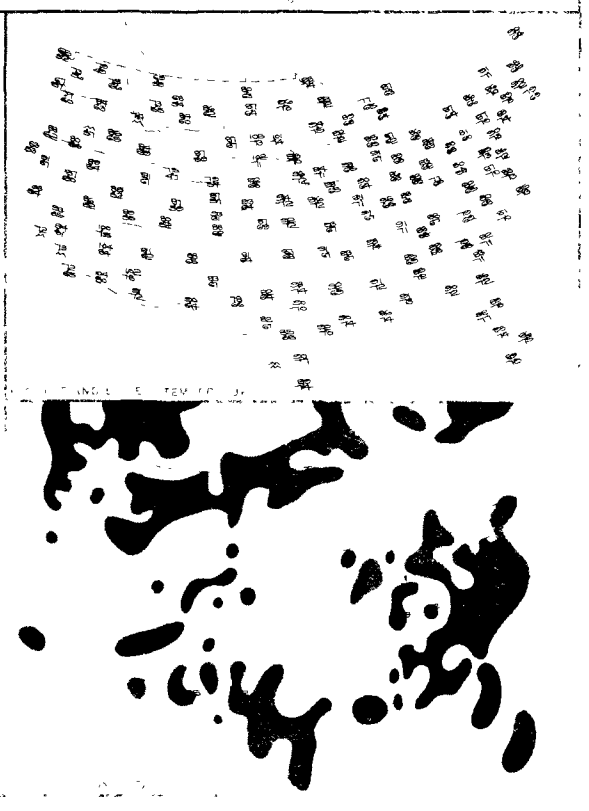



TABLE 7a. JULY 19, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.976 | 24 |
| 2--WIND SPEED (MPH) | 6.062 | 24 |
| 3--WIND DIRECTION (DEGREES) | 195.937 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 26.917 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 69.175 | 24 |
| 6--OZONE (PPM) | 0.053 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.010 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.012 | 24 |
| 10--METHANE (PPMC) | 2.094 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.315 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 228. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 245. | 22 |

SUBSTANCE TABLE 7b. HOUR AVERAGES FOR JULY 19, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.750 | 1.050 | 3.025 | 3.050 | 5.075 | 4.975 |
| 2--WIND SPEED (MPH) | 3.100 | 2.800 | 2.800 | 2.400 | 2.600 | 3.100 | 4.100 | 4.600 | 5.800 | 8.000 | 8.000 | 7.500 |
| 3--WIND DIRECTION (DEGREES) | 188. | 182. | 177. | 167. | 188. | 187. | 198. | 184. | 193. | 201. | 209. | 212. |
| 4--TEMPERATURE (CENTIGRADE) | 24. | 23. | 22. | 22. | 22. | 22. | 23. | 24. | 27. | 28. | 29. | 30. |
| 5--RELATIVE HUMIDITY (PERCENT) | 84. | 86. | 90. | 93. | 94. | 93. | 90. | 88. | 75. | 67. | 61. | 56. |
| 6--OZONE (PPM) | 0.026 | 0.021 | 0.015 | 0.011 | 0.009 | 0.006 | 0.009 | 0.010 | 0.025 | 0.043 | 0.053 | 0.073 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.005 | 0.005 | 0.004 | 0.003 | 0.004 | 0.007 | 0.006 | 0.003 | 0.001 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.014 | 0.015 | 0.015 | 0.015 | 0.014 | 0.019 | 0.017 | 0.015 | 0.011 | 0.007 | 0.007 | 0.007 |
| 9--NITROGEN OXIDES (PPM) | 0.019 | 0.020 | 0.020 | 0.019 | 0.018 | 0.023 | 0.024 | 0.021 | 0.014 | 0.008 | 0.008 | 0.009 |
| 10--METHANE (PPMC) | 2.500 | 2.350 | 2.350 | 2.100 | 2.750 | 2.450 | 2.400 | 2.250 | 2.150 | 2.050 | 2.000 | 2.000 |
| 12--CARBON MONOXIDE (PPM) | 0.487 | 0.537 | 0.612 | 0.725 | 0.800 | 0.887 | 0.787 | 0.662 | 0.275 | 0.062 | 0.037 | 0.050 |
| 19--FLUOROCARBON-11 (PPT) | 279. | 279. | 253. | 244. | 289. | 283. | 285. | 268. | 246. | 203. | 208. | 203. |
| 20--CARBON TETRACHLORIDE (PPT) | 300. | 300. | 150. | 405. | 300. | 315. | 225. | 255. | 150. | 105. | 180. | 240. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.500 | 6.000 | 6.350 | 5.450 | 3.100 | 2.100 | 0.725 | 0.225 | 0.025 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 7.800 | 9.600 | 10.400 | 9.900 | 9.300 | 8.000 | 5.500 | 6.000 | 5.900 | 5.900 | 5.600 | 6.800 |
| 3--WIND DIRECTION (DEGREES) | 217. | 212. | 217. | 215. | 211. | 204. | 193. | 190. | 187. | 193. | 189. | 188. |
| 4--TEMPERATURE (CENTIGRADE) | 31. | 32. | 33. | 33. | 32. | 31. | 29. | 28. | 27. | 26. | 26. | 25. |
| 5--RELATIVE HUMIDITY (PERCENT) | 53. | 49. | 45. | 44. | 45. | 49. | 56. | 63. | 68. | 69. | 71. | 74. |
| 6--OZONE (PPM) | 0.077 | 0.085 | 0.090 | 0.096 | 0.099 | 0.097 | 0.113 | 0.110 | 0.086 | 0.060 | 0.037 | 0.024 |
| 7--NITRIC OXIDE (PPM) | 0.001 | .000 | 0.000 | .000 | 0.000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.004 | 0.009 | 0.010 | 0.012 | 0.010 | 0.012 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.003 | 0.003 | 0.003 | 0.004 | 0.003 | 0.004 | 0.009 | 0.010 | 0.012 | 0.010 | 0.012 |
| 10--METHANE (PPMC) | 1.950 | 1.950 | 1.800 | 1.850 | 1.850 | 1.900 | 1.950 | 1.950 | 1.900 | 1.950 | 1.900 | 1.950 |
| 12--CARBON MONOXIDE (PPM) | 0.025 | 0.025 | 0.100 | 0.087 | 0.025 | 0.013 | 0.138 | 0.138 | 0.225 | 0.250 | 0.300 | 0.300 |
| 19--FLUOROCARBON-11 (PPT) | 176. | 182. | 184. | 193. | 180. | 193. | 225. | 208. | 210. | 231. | 231. | 227. |
| 20--CARBON TETRACHLORIDE (PPT) | 225. | 150. | 165. | 195. | -255. | -315. | 375. | 225. | 405. | 255. | 285. | 180. |

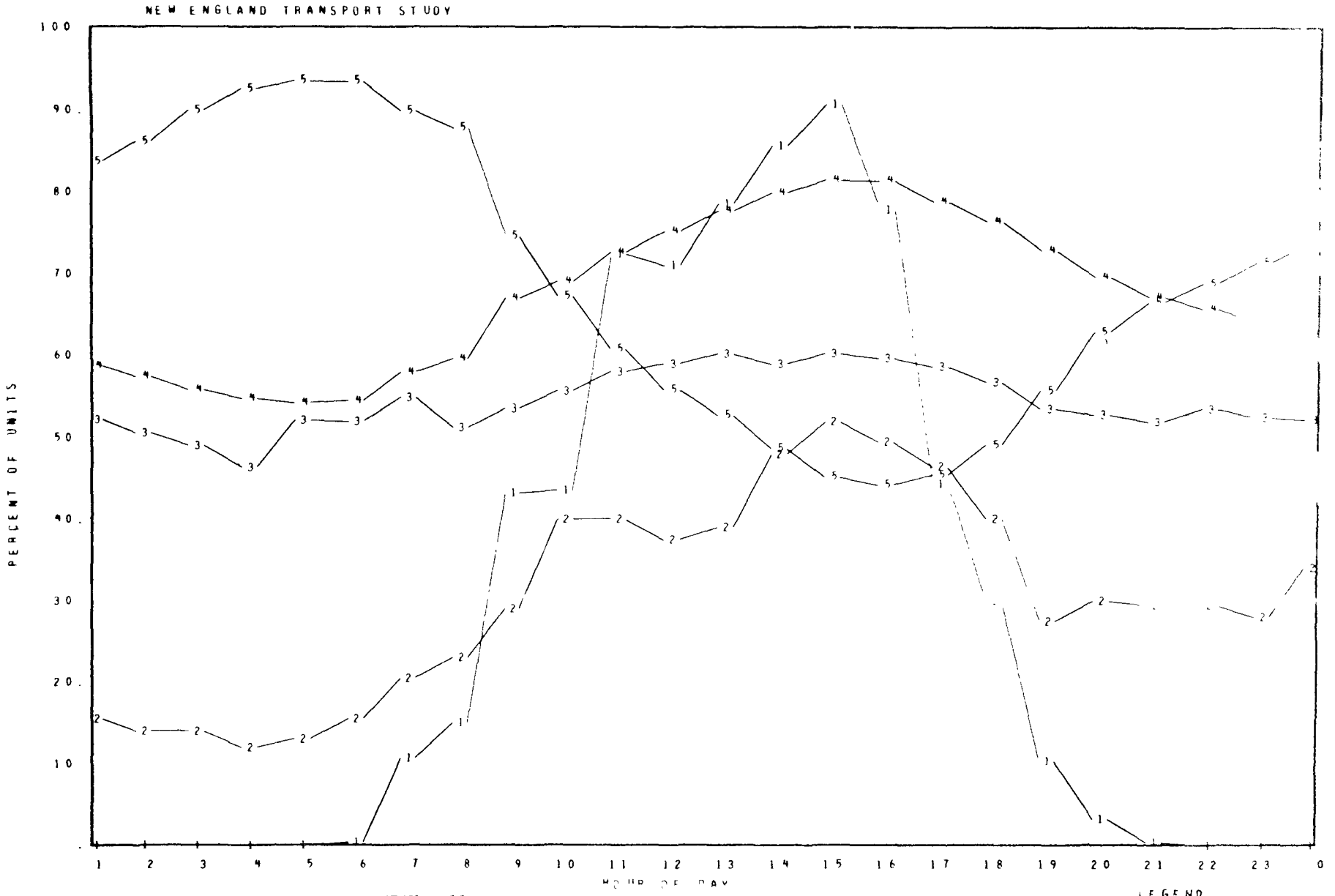



FIGURE 11a.

JULY 19, 1975

LEGEND

1--GLOBAL IRRADIANCE 7 000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION [illegible] DEGREES
4--TEMPERATURE 40 000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

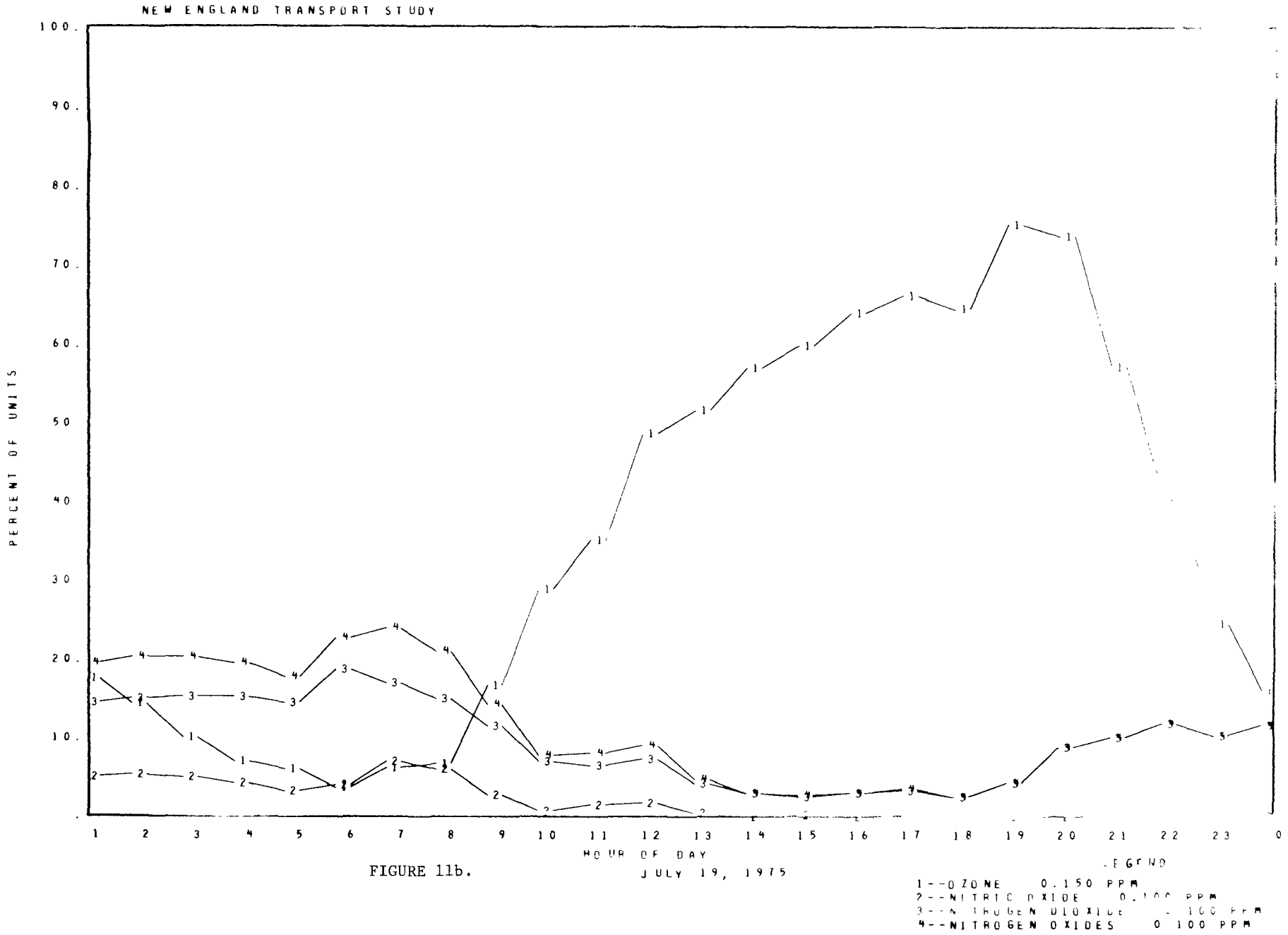

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 19, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE
3--NITROGEN DIOXIDE
4--NITROGEN OXIDES 0 100 PPM

FIGURE 11b.

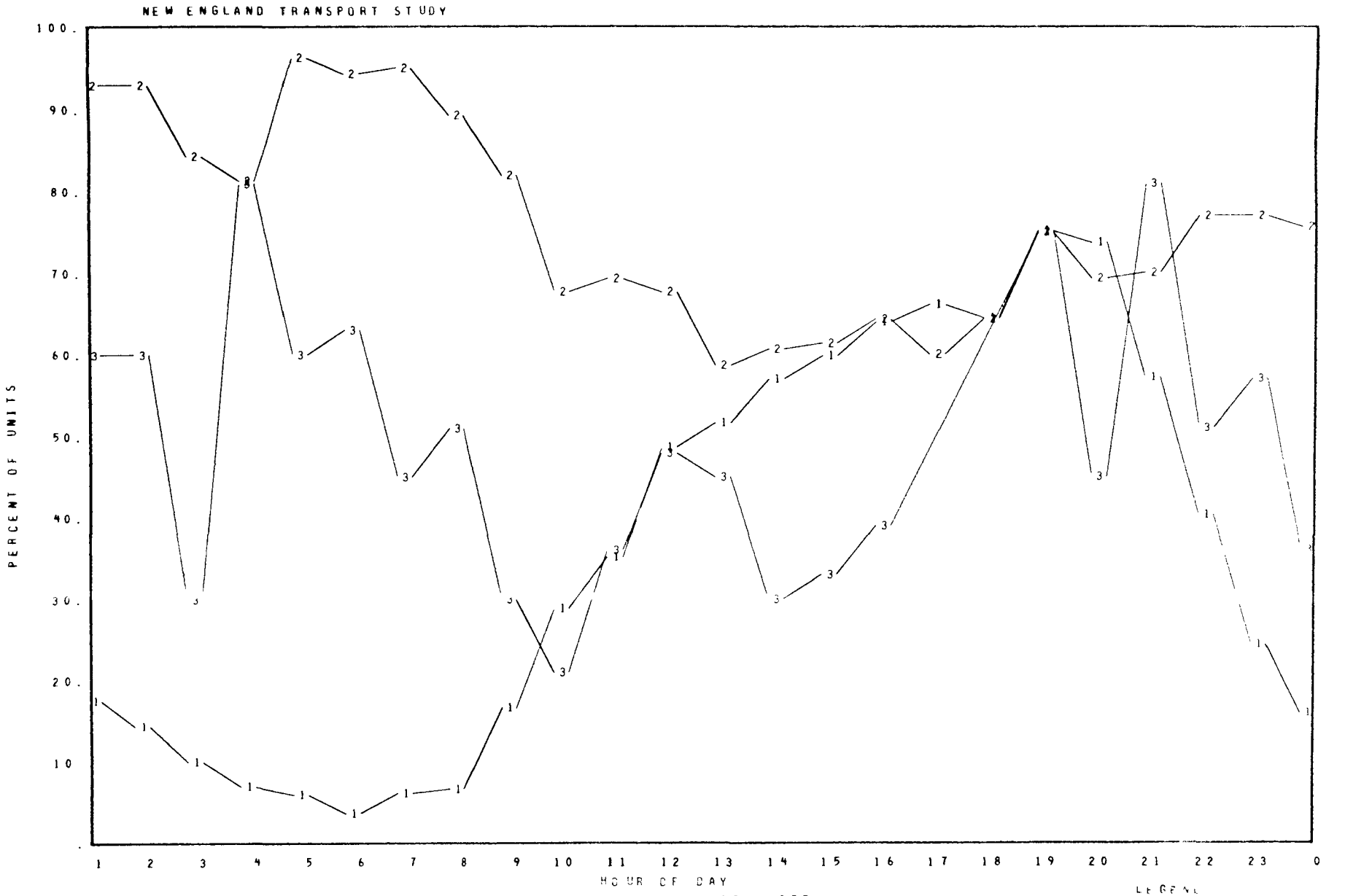

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 19, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 500.000 PPT

FIGURE 11c.

TABLE 8b.

SUBSTANCE — HOUR AVERAGES FOR JULY 20, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.175 | 0.600 | 1.150 | 1.875 | 2.725 | 1.475 |
| 2--WIND SPEED (MPH) | 5.400 | 4.600 | 3.000 | 4.100 | 2.900 | 3.300 | 2.100 | 2.800 | 2.700 | 3.700 | 5.700 | 3.900 |
| 3--WIND DIRECTION (DEGREES) | 189. | 191. | 187. | 241. | 216. | 181. | 212. | 186. | 195. | 189. | 200. | 195. |
| 4--TEMPERATURE (CENTIGRADE) | 25. | 24. | 24. | 24. | 21. | 21. | 21. | 22. | 23. | 25. | 27. | 27. |
| 5--RELATIVE HUMIDITY (PERCENT) | 77. | 80. | 81. | 75. | 91. | 91. | 93. | 92. | 88. | 84. | 73. | 72. |
| 6--OZONE (PPM) | 0.014 | 0.010 | 0.008 | 0.032 | 0.052 | 0.041 | 0.032 | 0.027 | 0.028 | 0.028 | 0.040 | 0.040 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.004 | 0.002 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.012 | 0.012 | 0.012 | 0.006 | .000 | .000 | .000 | .000 | 0.002 | 0.003 | 0.000 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.012 | 0.012 | 0.012 | 0.006 | .000 | .000 | .000 | .000 | 0.003 | 0.007 | 0.002 | 0.002 |
| 10--METHANE (PPMC) | 2.000 | 2.100 | 2.200 | 1.850 | 1.900 | 2.250 | 2.350 | 2.250 | 2.250 | 2.250 | 2.050 | 2.100 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.077 | 0.160 | 0.137 | 0.015 | -0.072 | -0.128 | 0.185 | -0.218 | 0.250 | 0.278 | 0.250 | 0.381 |
| 12--CARBON MONOXIDE (PPM) | 0.367 | 0.350 | 0.350 | -0.312 | -0.274 | -0.236 | -0.198 | -0.160 | -0.121 | 0.083 | 0.062 | 0.050 |
| 19--FLUOROCARBON-11 (PPT) | 242. | 253. | 178. | 182. | 152. | 180. | 165. | 167. | 195. | 189. | 180. | 242. |
| 20--CARBON TETRACHLORIDE (PPT) | 255. | 330. | 180. | 240. | 225. | 315. | 285. | 300. | 630. | 225. | 120. | 390. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.900 | 3.275 | 5.000 | 4.450 | 2.275 | 0.300 | 0.050 | .000 | .000 | [illegible] | [illegible] | [illegible] |
| 2--WIND SPEED (MPH) | 3.400 | 6.300 | 8.600 | 9.100 | 7.900 | 6.700 | 6.700 | 3.400 | 2.700 | [illegible] | [illegible] | [illegible] |
| 3--WIND DIRECTION (DEGREES) | 184. | 188. | 180. | 190. | 187. | 188. | 214. | 222. | 179. | 179. | 181. | [illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 28. | 29. | 31. | 31. | 29. | 28. | 25. | 21. | 21. | 21. | 21. | [illegible] |
| 5--RELATIVE HUMIDITY (PERCENT) | 73. | 69. | 61. | 60. | 63. | 68. | 81. | 100. | 100. | 100. | 100. | 100. |
| 6--OZONE (PPM) | 0.048 | 0.076 | 0.111 | 0.118 | 0.116 | 0.105 | 0.078 | 0.065 | 0.059 | 0.042 | 0.028 | [illegible] |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.004 | 0.004 | 0.004 | 0.004 | 0.003 | 0.002 | 0.000 | .000 | .000 | 0.001 | [illegible] |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.004 | 0.004 | 0.003 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.004 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.008 | 0.008 | 0.007 | 0.006 | 0.005 | 0.004 | 0.001 | 0.001 | 0.002 | 0.004 | [illegible] |
| 10--METHANE (PPMC) | 2.100 | 2.100 | 1.950 | 1.900 | 1.950 | 1.900 | 1.900 | 2.050 | 2.350 | 2.450 | 2.350 | 2.350 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.408 | 0.468 | 0.476 | 0.498 | 0.476 | 0.399 | 0.264 | 0.133 | 0.023 | 0.039 | 0.003 | -0.016 |
| 12--CARBON MONOXIDE (PPM) | 0.037 | 0.075 | 0.050 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 |
| 19--FLUOROCARBON-11 (PPT) | 236. | 330. | 262. | 206. | 195. | 154. | 150. | 150. | 150. | 148. | 165. | 176. |
| 20--CARBON TETRACHLORIDE (PPT) | 240. | 495. | 870. | 165. | 150. | 120. | 165. | 180. | 360. | 180. | 150. | 150. |

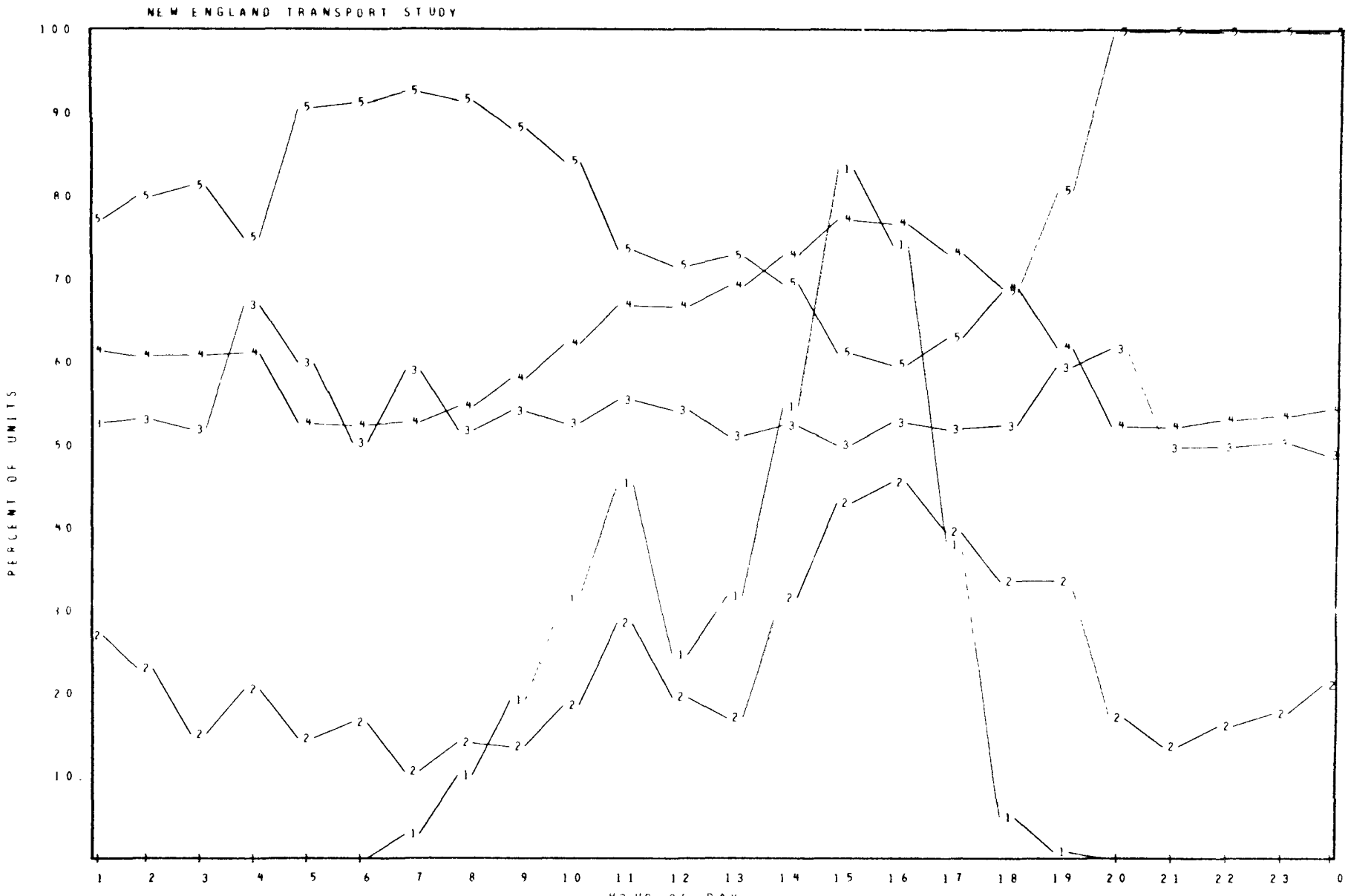



FIGURE 12a.

LEGEND

1--GLOBAL IRRADIANCE 6 000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40 000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

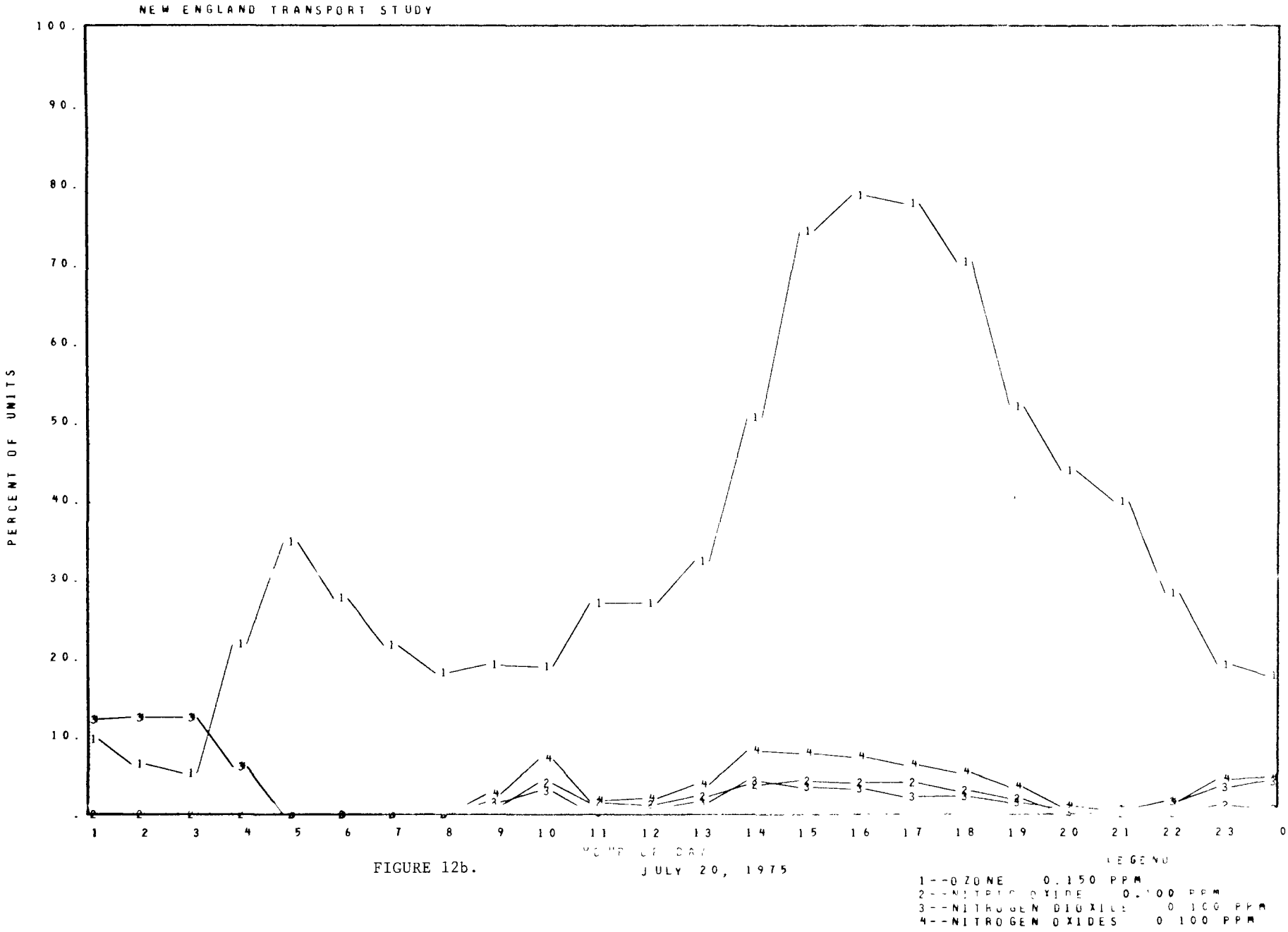

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
JULY 20, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 12b.

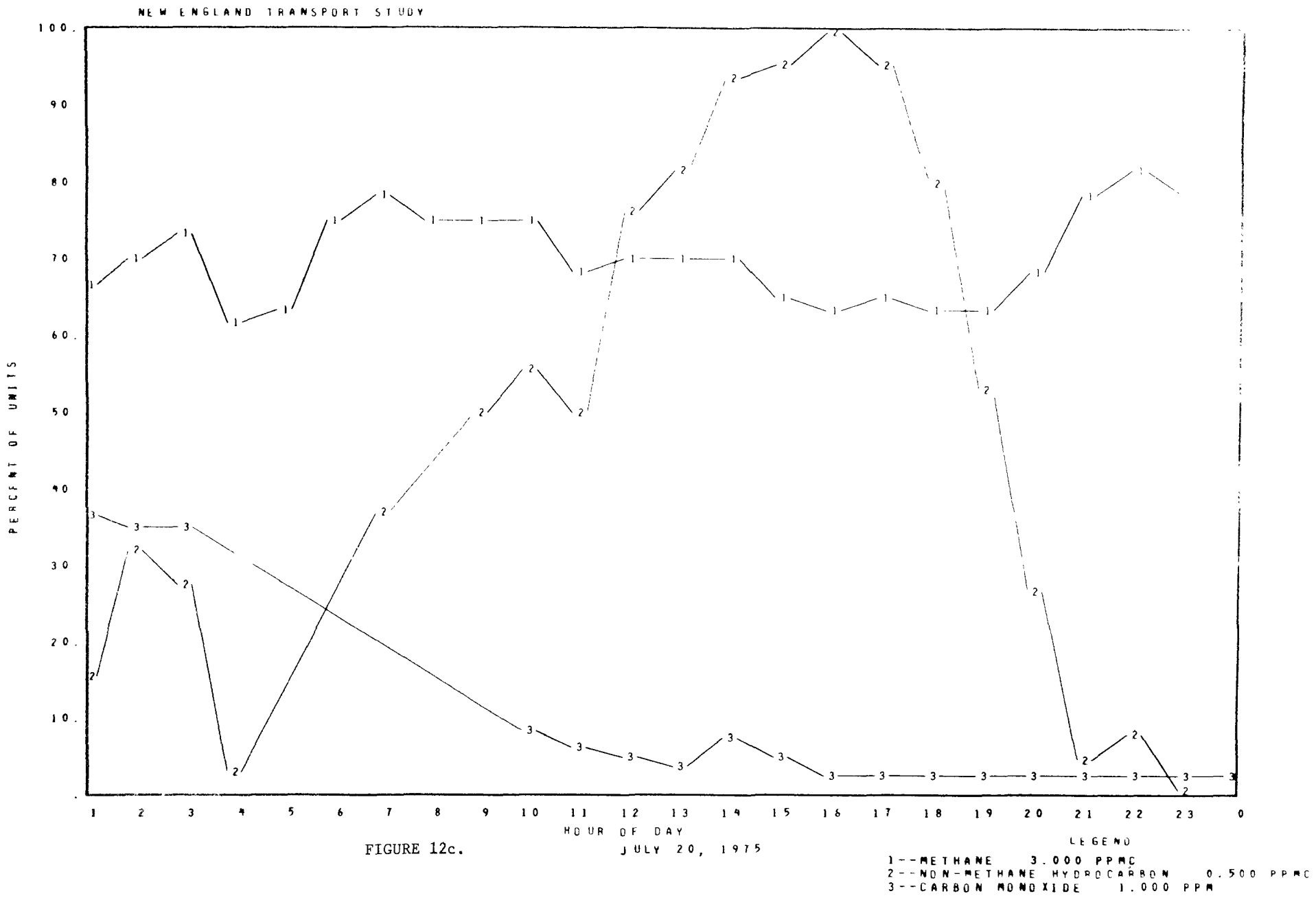



FIGURE 12c. JULY 20, 1975

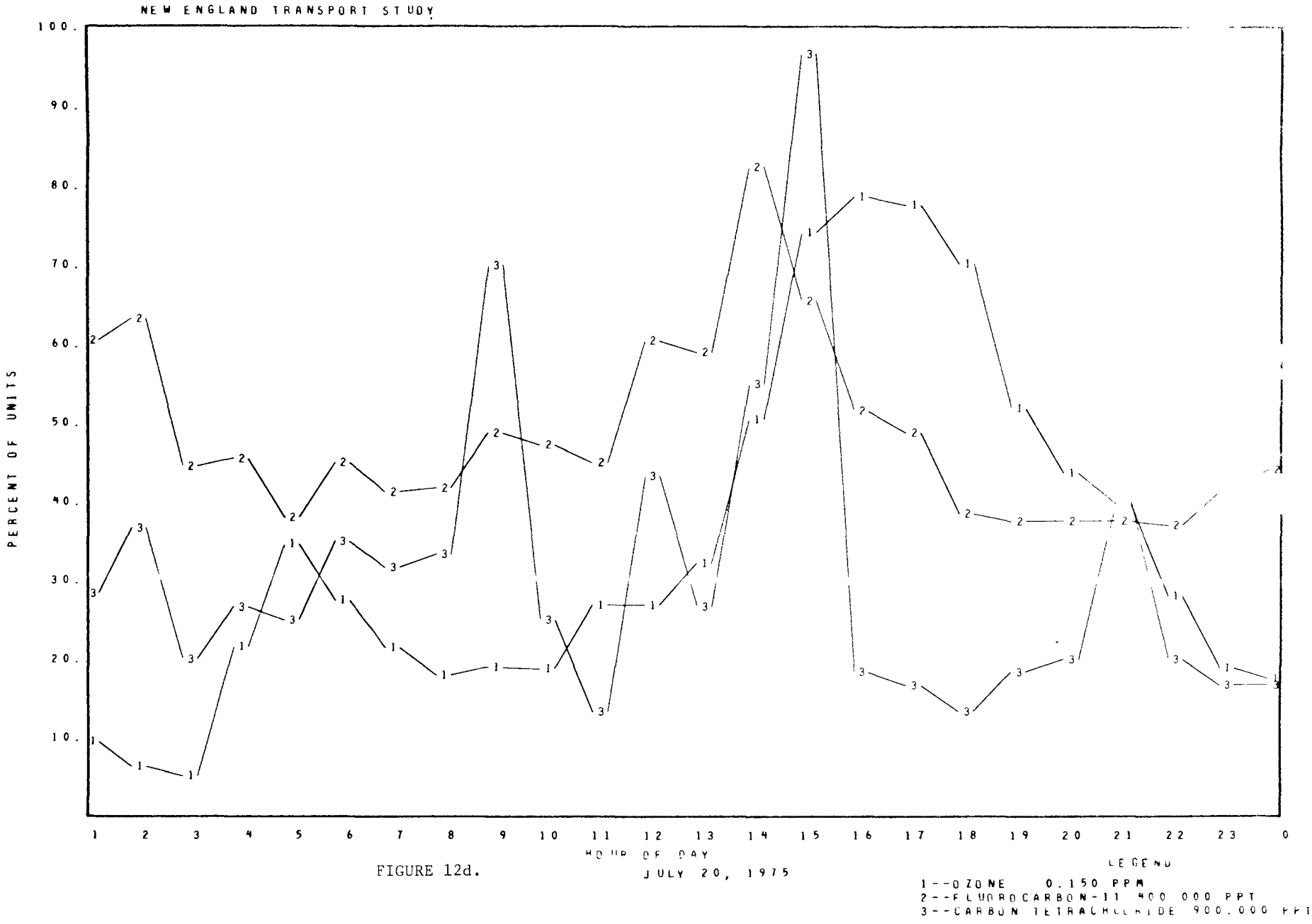
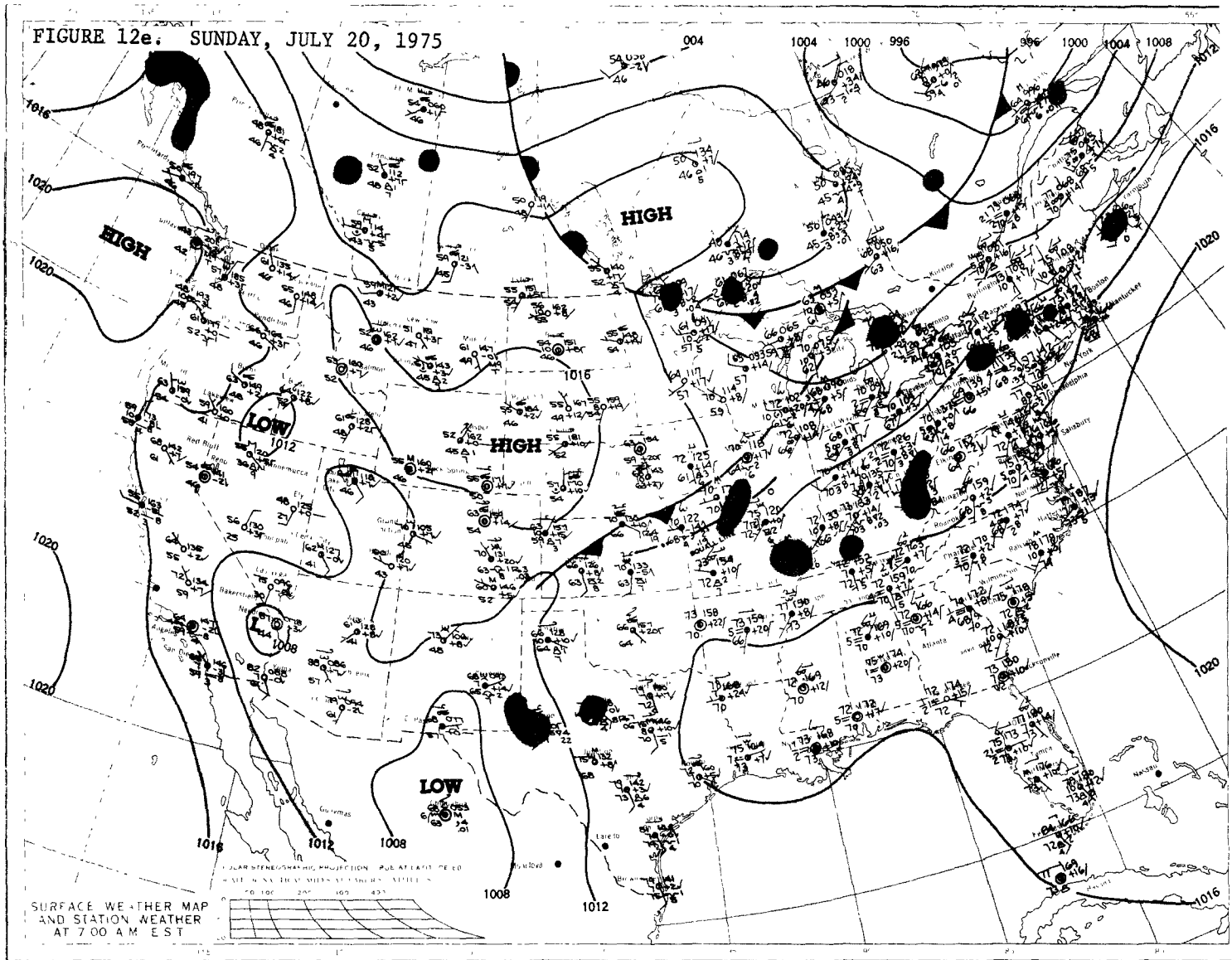
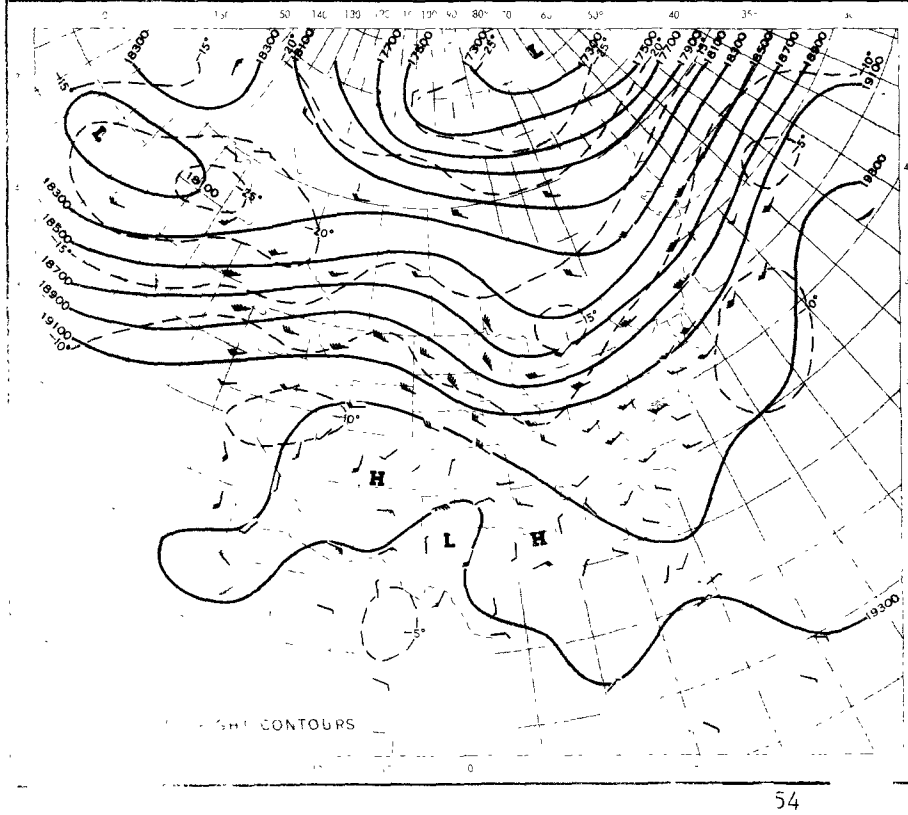

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 20, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 400 000 PPT
3--CARBON TETRACHLORIDE 900.000 PPT

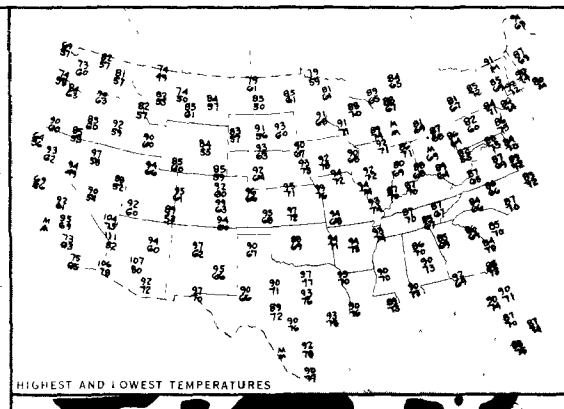
FIGURE 12d.

FIGURE 12e. SUNDAY, JULY 20, 1975

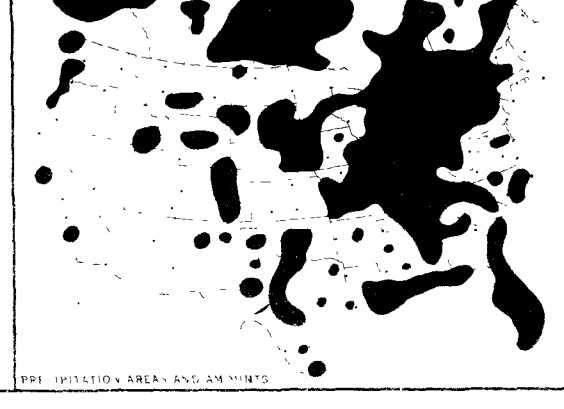



CONTOURS



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 9a. JULY 21. 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.438 | 23 |
| 2--WIND SPEED (MPH) | 3.321 | 24 |
| 3--WIND DIRECTION (DEGREES) | 227.857 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 25.461 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 72.121 | 24 |
| 6--OZONE (PPM) | 0.031 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 2.326 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.265 | 17 |
| 12--CARBON MONOXIDE (PPM) | 0.099 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 140. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 141. | 24 |

TABLE 9b.

SUBSTANCE — HOUR AVERAGES FOR JULY 21, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | -1.100 | 2.200 | 3.325 | 4.675 | 5.825 | 6.550 |
| 2--WIND SPEED (MPH) | 5.000 | 4.100 | 3.600 | 4.800 | 7.000 | 1.900 | 2.400 | 2.000 | 2.800 | 4.500 | 4.100 | 4.000 |
| 3--WIND DIRECTION (DEGREES) | 194. | 199. | 167. | 172. | 217. | 290. | 191. | 232. | 235. | 222. | 233. | 261. |
| 4--TEMPERATURE (CENTIGRADE) | 22. | 22. | 22. | 22. | 22. | 20. | 21. | 22. | 23. | 25. | 27. | 28. |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 92. | 58. | 46. |
| 6--OZONE (PPM) | 0.022 | 0.014 | 0.016 | 0.020 | 0.028 | 0.039 | 0.026 | 0.027 | 0.036 | 0.043 | 0.041 | 0.041 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | .000 | 0.003 | 0.003 | 0.003 | 0.002 | 0.002 | 0.003 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 0.005 | 0.004 | 0.002 | 0.001 | .000 | 0.002 | 0.004 | 0.002 | 0.000 | 0.001 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.006 | 0.005 | 0.003 | 0.001 | .000 | 0.005 | 0.007 | 0.005 | 0.002 | 0.003 | 0.004 |
| 10--METHANE (PPMC) | 2.450 | 2.540 | 2.400 | 2.120 | 2.210 | 2.100 | 2.470 | 2.160 | 2.070 | 2.170 | 2.090 | 1.900 |
| 11--NON-METHANE HYDROCARBON (PPMC) | -0.004 | -0.000 | -0.052 | 0.001 | -0.003 | -0.004 | 0.005 | 0.005 | -0.038 | -0.071 | 0.104 | 0.343 |
| 12--CARBON MONOXIDE (PPM) | 0.100 | 0.100 | 0.100 | 0.063 | 0.037 | 0.050 | 0.162 | 0.225 | 0.050 | 0.100 | 0.037 | .000 |
| 19--FLUOROCARBON-11 (PPT) | 167. | 167. | 163. | 150. | 148. | 128. | 130. | 141. | 118. | 128. | 128. | 141. |
| 20--CARBON TETRACHLORIDE (PPT) | 135. | 150. | 210. | 165. | 165. | 120. | 120. | 105. | 150. | 90. | 330. | 150. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.500 | 6.675 | 6.125 | 4.525 | 4.550 | 3.275 | 1.425 | 0.375 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.200 | 4.300 | 4.500 | 2.400 | 3.600 | 3.700 | 3.500 | 1.900 | 0.800 | 1.500 | 1.500 | 1.600 |
| 3--WIND DIRECTION (DEGREES) | 260. | 255. | 241. | 263. | 259. | 230. | 231. | 229. | 215. | 196. | 177. | 300. |
| 4--TEMPERATURE (CENTIGRADE) | 29. | 31. | 31. | 31. | 32. | 32. | 30. | 27. | 24. | 23. | 22. | 22. |
| 5--RELATIVE HUMIDITY (PERCENT) | 41. | 37. | 35. | 36. | 36. | 37. | 42. | 49. | 70. | 81. | 85. | 88. |
| 6--OZONE (PPM) | 0.044 | 0.050 | 0.054 | 0.042 | 0.037 | 0.040 | 0.048 | 0.040 | 0.013 | 0.007 | 0.004 | 0.002 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.004 | 0.004 | 0.003 | 0.005 | 0.004 | 0.003 | 0.002 | 0.001 | 0.003 | 0.003 | 0.005 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.002 | 0.003 | 0.003 | 0.000 | 0.002 | 0.002 | 0.003 | 0.004 | 0.007 | 0.012 | 0.009 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.005 | 0.006 | 0.006 | 0.005 | 0.006 | 0.005 | 0.005 | 0.005 | 0.011 | 0.015 | 0.014 |
| 10--METHANE (PPMC) | 1.750 | 1.900 | 1.750 | 1.740 | 1.750 | 1.900 | 1.900 | 2.000 | 3.200 | 3.490 | 4.170 | 3.590 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.626 | 0.466 | 0.431 | 0.413 | 0.571 | 0.564 | 0.430 | 0.331 | 0.051 | 0.048 | 0.053 | 0.051 |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.050 | 0.025 | 0.050 | 0.063 | 0.062 | .000 | 0.025 | 0.100 | 0.250 | 0.325 | 0.350 |
| 19--FLUOROCARBON-11 (PPT) | 124. | 130. | 122. | 111. | 120. | 124. | 116. | 130. | 130. | 139. | 193. | 205. |
| 20--CARBON TETRACHLORIDE (PPT) | 105. | 165. | . | 120. | 105. | 165. | 120. | 105. | 105. | 165. | 150. | 180. |

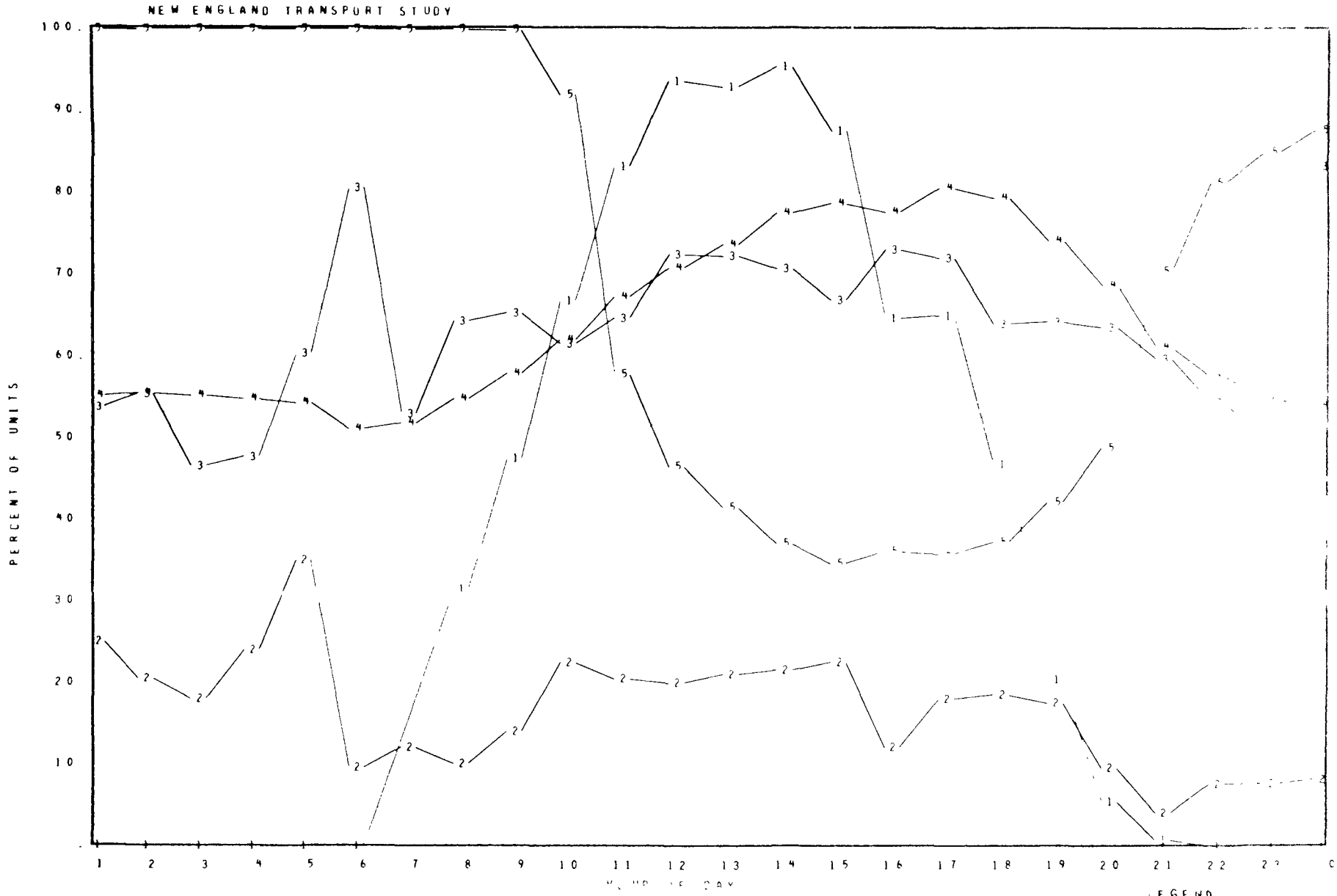

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70
60.
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
JULY 21, 1975
LEGEND
1--GLOBAL IRRADIANCE 7 000
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360 000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

FIGURE 13a.

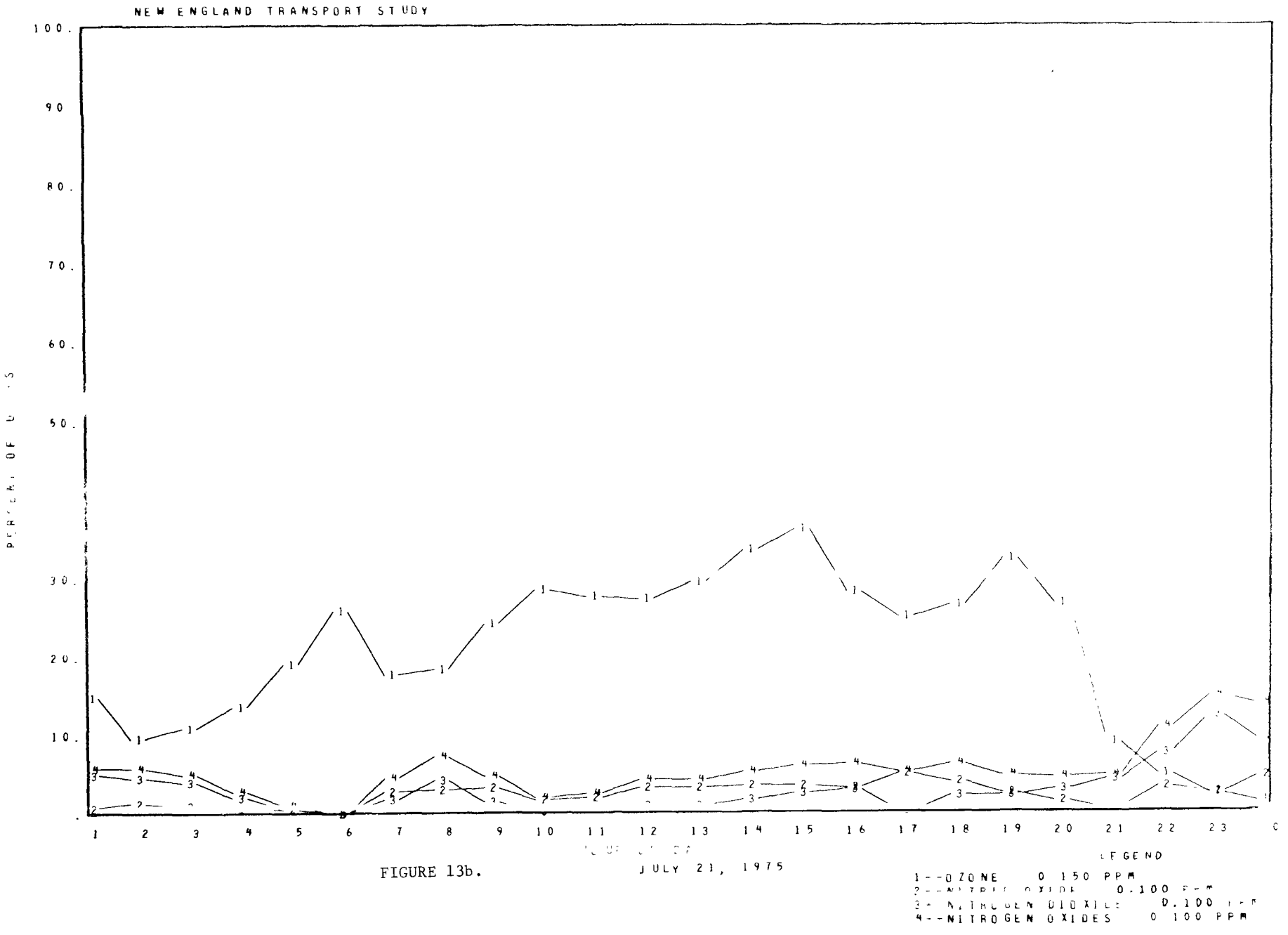

NEW ENGLAND TRANSPORT STUDY
100.
90
80.
70.
60.
50.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
JULY 21, 1975
LEGEND
1--OZONE 0 150 PPM
4--NITROGEN OXIDES 0 100 PPM

FIGURE 13b.

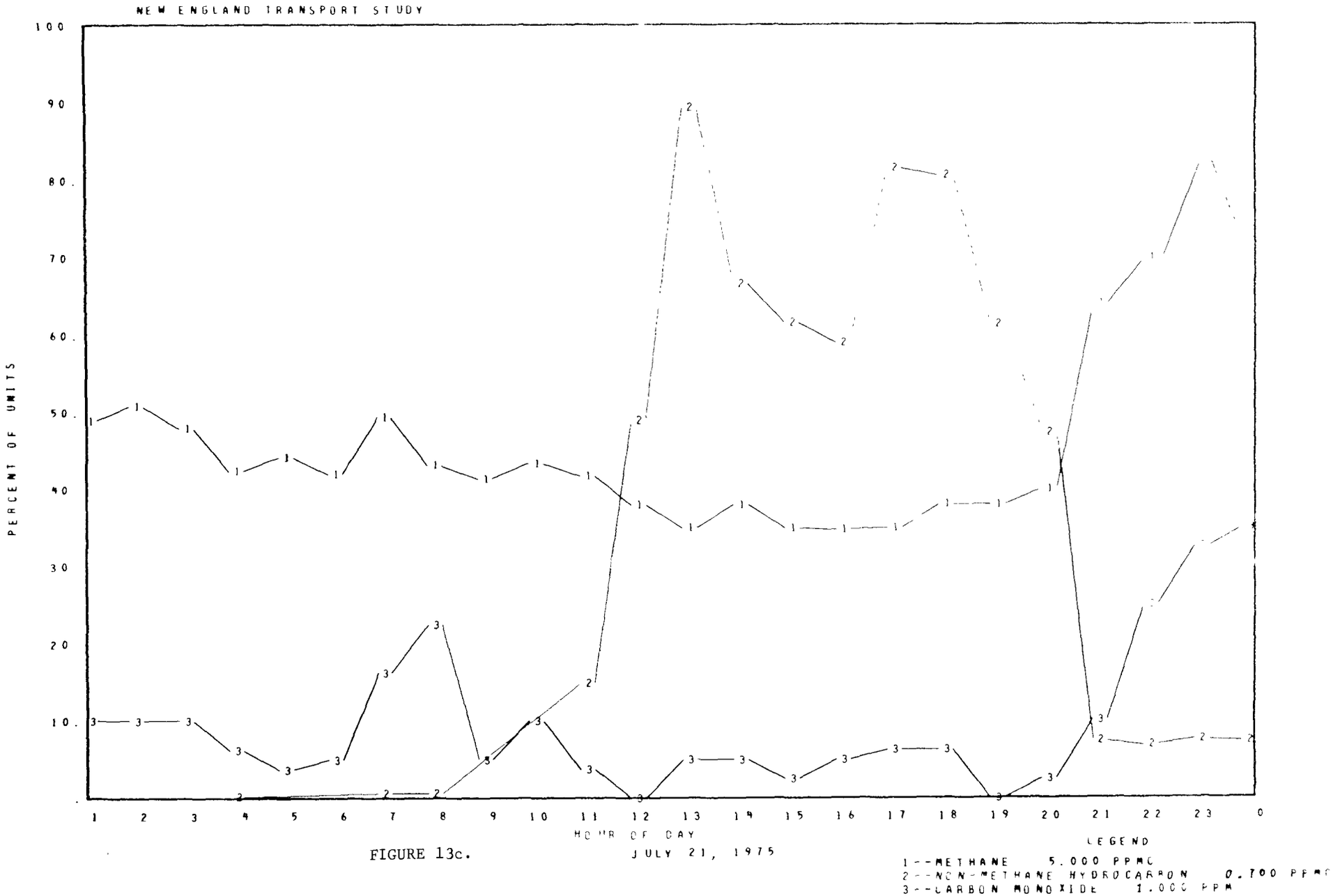

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 21, 1975
LEGEND
1--METHANE 5.000 PPMC
2--NON-METHANE HYDROCARBON 0.700 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 13c.

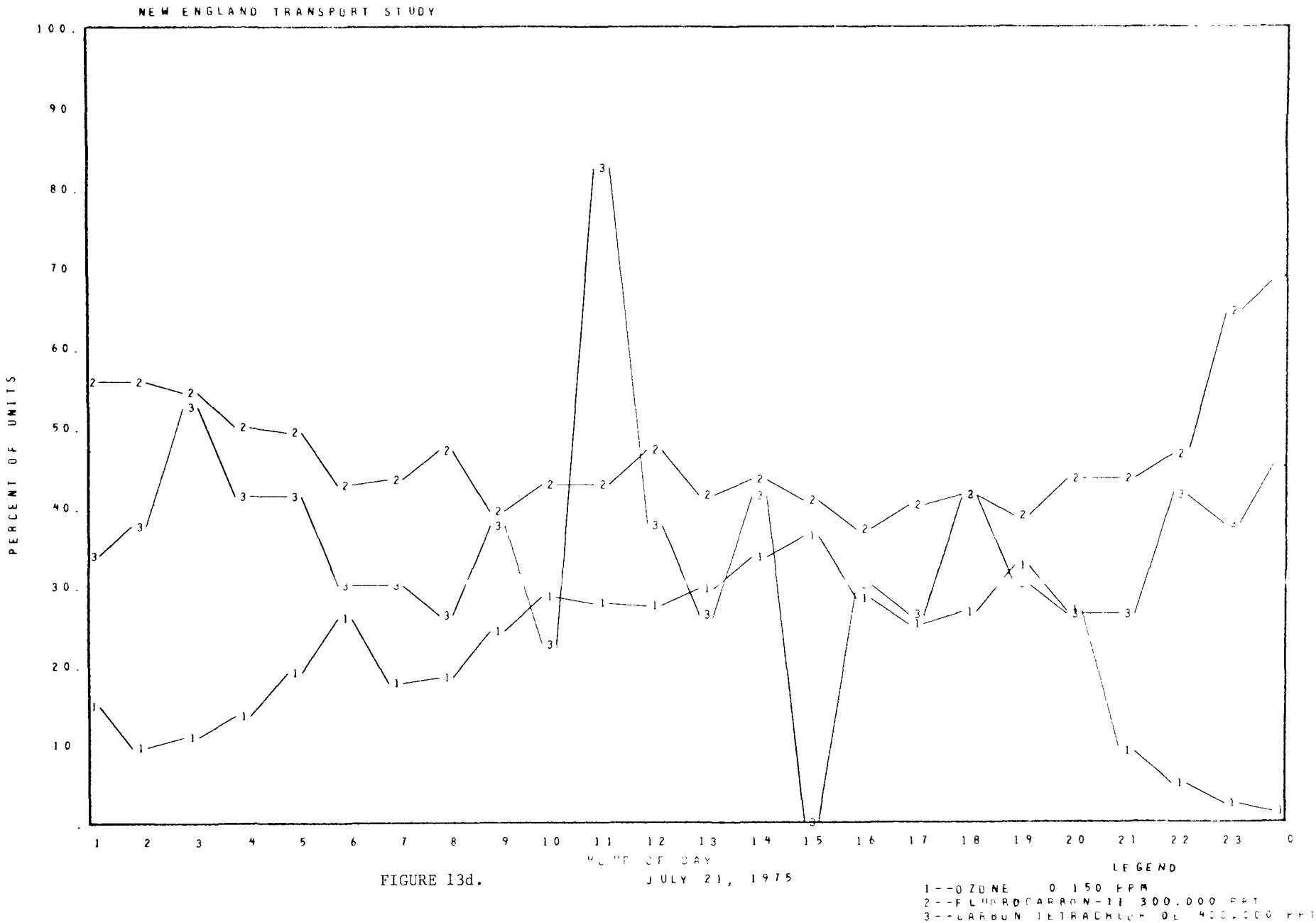
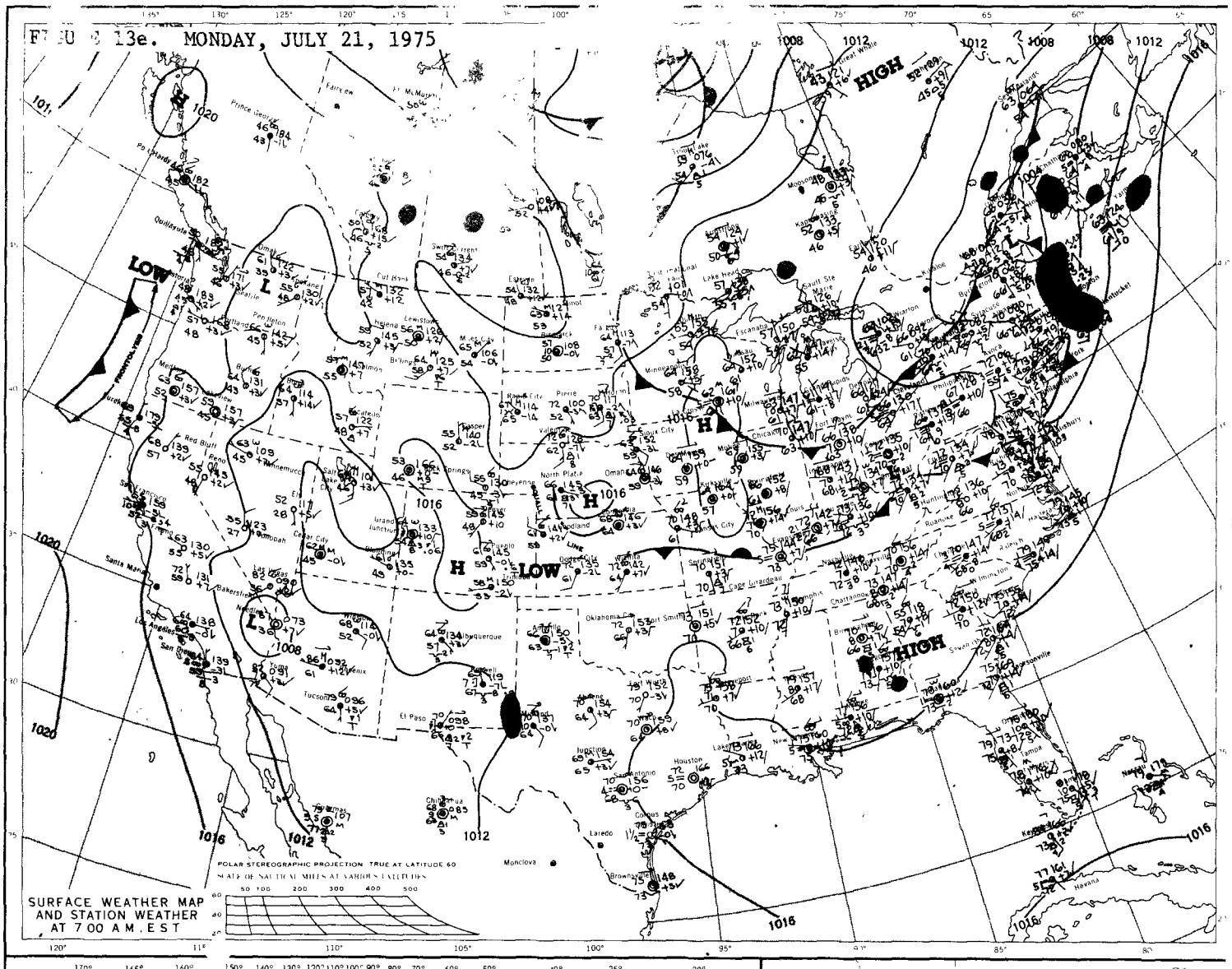
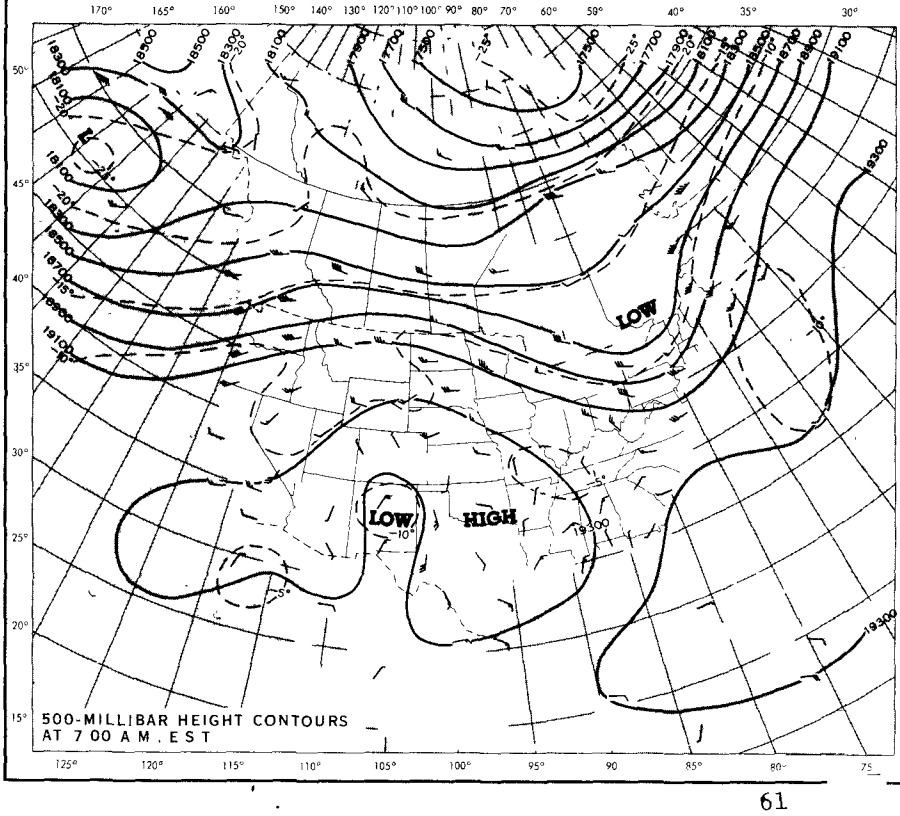

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80.
70
60.
50.
40.
30.
20.
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
JULY 21, 1975
LEGEND
1--OZONE 0 150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE

FIGURE 13d.

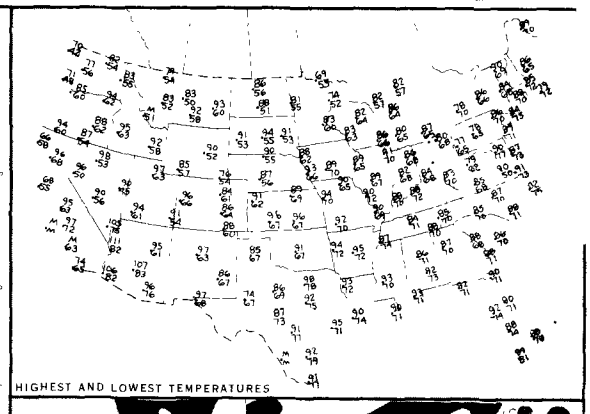
FIGURE 13e. MONDAY, JULY 21, 1975




SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A.M. EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES

PRECIPITATION AREAS AND AMOUNTS

TABLE 10a. JULY 22. 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.376 | 24 |
| 2--WIND SPEED (MPH) | 3.196 | 24 |
| 3--WIND DIRECTION (DEGREES) | 273.446 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 25.321 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 59.694 | 24 |
| 6--OZONE (PPM) | 0.029 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 24 |
| 10--METHANE (PPMC) | 2.088 | 17 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.464 | 17 |
| 12--CARBON MONOXIDE (PPM) | 0.096 | 17 |
| 19--FLUOROCARBON-11 (PPT) | 137. | 23 |
| 20--CARBON TETRACHLORIDE (PPT) | 80. | 22 |

TABLE 10b.

SUBSTANCE — HOUR AVERAGES FOR JULY 22, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.675 | 2.025 | 3.550 | 4.975 | 5.725 | 6.300 |
| 2--WIND SPEED (MPH) | 2.300 | 1.800 | 1.900 | 1.400 | 2.000 | 2.500 | 2.000 | 3.000 | 4.100 | 5.700 | 6.200 | 7.500 |
| 3--WIND DIRECTION (DEGREES) | 299. | 219. | 255. | 244. | 215. | 167. | 224. | 298. | 342. | 300. | 308. | 313. |
| 4--TEMPERATURE (CENTIGRADE) | 21. | 21. | 21. | 20. | 20. | 20. | 21. | 24. | 26. | 28. | 29. | 30. |
| 5--RELATIVE HUMIDITY (PERCENT) | 87. | 87. | 86. | 83. | 82. | 78. | 77. | 64. | 54. | 47. | 42. | 39. |
| 6--OZONE (PPM) | 0.011 | 0.010 | 0.022 | 0.028 | 0.031 | 0.034 | 0.025 | 0.034 | 0.044 | 0.037 | 0.043 | 0.042 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.002 | 0.003 | 0.002 | 0.001 | .000 | 0.002 | 0.001 | 0.003 | 0.001 | 0.002 | 0.003 |
| 8--NITROGEN DIOXIDE (PPM) | 0.008 | 0.005 | 0.003 | 0.001 | .000 | .000 | .000 | 0.001 | .000 | 0.003 | .000 | .000 |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.007 | 0.005 | 0.002 | 0.001 | .000 | 0.002 | 0.001 | 0.003 | 0.003 | 0.002 | 0.003 |
| 10--METHANE (PPMC) | 2.441 | 2.581 | 3.147 | 2.581 | 3.071 | 1.818 | 1.891 | 1.900 | 1.923 | 1.885 | 1.785 | 1.778 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.499 | 0.425 | 0.559 | 0.655 | 0.163 | 0.351 | 0.248 | 0.208 | 0.285 | 0.415 | 0.475 | 0.722 |
| 12--CARBON MONOXIDE (PPM) | 0.300 | 0.250 | 0.200 | 0.075 | 0.100 | 0.050 | 0.063 | 0.063 | 0.150 | 0.112 | 0.033 | 0.083 |
| 19--FLUOROCARBON-11 (PPT) | 200. | 206. | 143. | 143. | 112. | 130. | 124. | 123. | -125. | 128. | 105. | 105. |
| 20--CARBON TETRACHLORIDE (PPT) | 135. | 165. | 125. | 110. | 60. | 90. | 50. | 70. | -70. | 70. | 70. | 70. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.500 | 5.000 | 6.150 | 5.925 | 4.625 | 3.400 | 1.750 | 0.350 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 6.700 | 3.800 | 5.700 | 4.300 | 3.900 | 3.200 | 2.400 | 1.300 | 1.300 | 1.200 | 1.600 | 0.900 |
| 3--WIND DIRECTION (DEGREES) | 316. | 297. | 296. | 262. | 272. | 278. | 278. | 267. | 300. | 259. | 277. | 277. |
| 4--TEMPERATURE (CENTIGRADE) | 30. | 31. | 32. | 31. | 31. | 31. | 29. | 26. | 23. | 21. | 20. | 20. |
| 5--RELATIVE HUMIDITY (PERCENT) | 36. | 35. | 31. | 32. | 33. | 34. | 37. | 48. | 69. | 82. | 84. | 85. |
| 6--OZONE (PPM) | 0.037 | 0.038 | 0.044 | 0.039 | 0.043 | 0.044 | 0.041 | 0.029 | 0.010 | 0.001 | 0.005 | 0.006 |
| 7--NITRIC OXIDE (PPM) | .000 | 0.004 | 0.001 | 0.004 | 0.003 | 0.003 | 0.002 | 0.004 | 0.003 | 0.007 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | .000 | 0.003 | .000 | 0.003 | .000 | 0.002 | 0.002 | 0.006 | 0.006 | 0.005 | 0.004 |
| 9--NITROGEN OXIDES (PPM) | 0.003 | 0.004 | 0.004 | 0.004 | 0.005 | 0.003 | 0.004 | 0.007 | 0.008 | 0.012 | 0.007 | 0.006 |
| 10--METHANE (PPMC) | 1.780 | 1.786 | 1.711 | 1.751 | 1.669 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.497 | 0.493 | 0.582 | 0.665 | 0.642 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 12--CARBON MONOXIDE (PPM) | .000 | 0.025 | .000 | 0.100 | 0.025 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 19--FLUOROCARBON-11 (PPT) | 193. | 103. | 111. | 193. | 117. | 124. | 125. | 118. | 201. | 145. | 145. | 145. |
| 20--CARBON TETRACHLORIDE (PPT) | 10. | 10. | 90. | -45. | . | 60. | 80. | 68. | 127. | 120. | 120. | 60. |

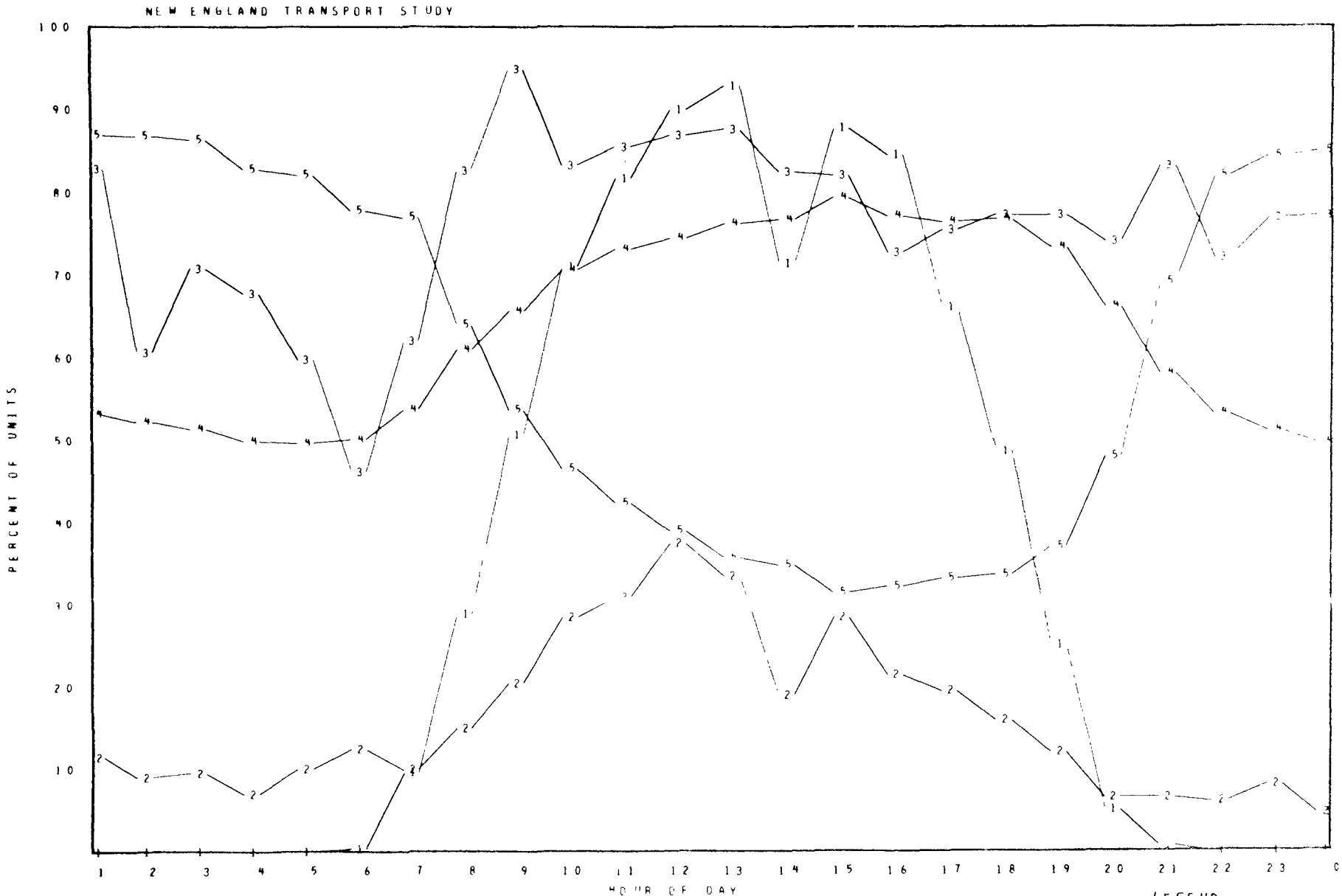



FIGURE 14a.

LEGEND

1--GLOBAL IRRADIANCE 7 000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40 000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

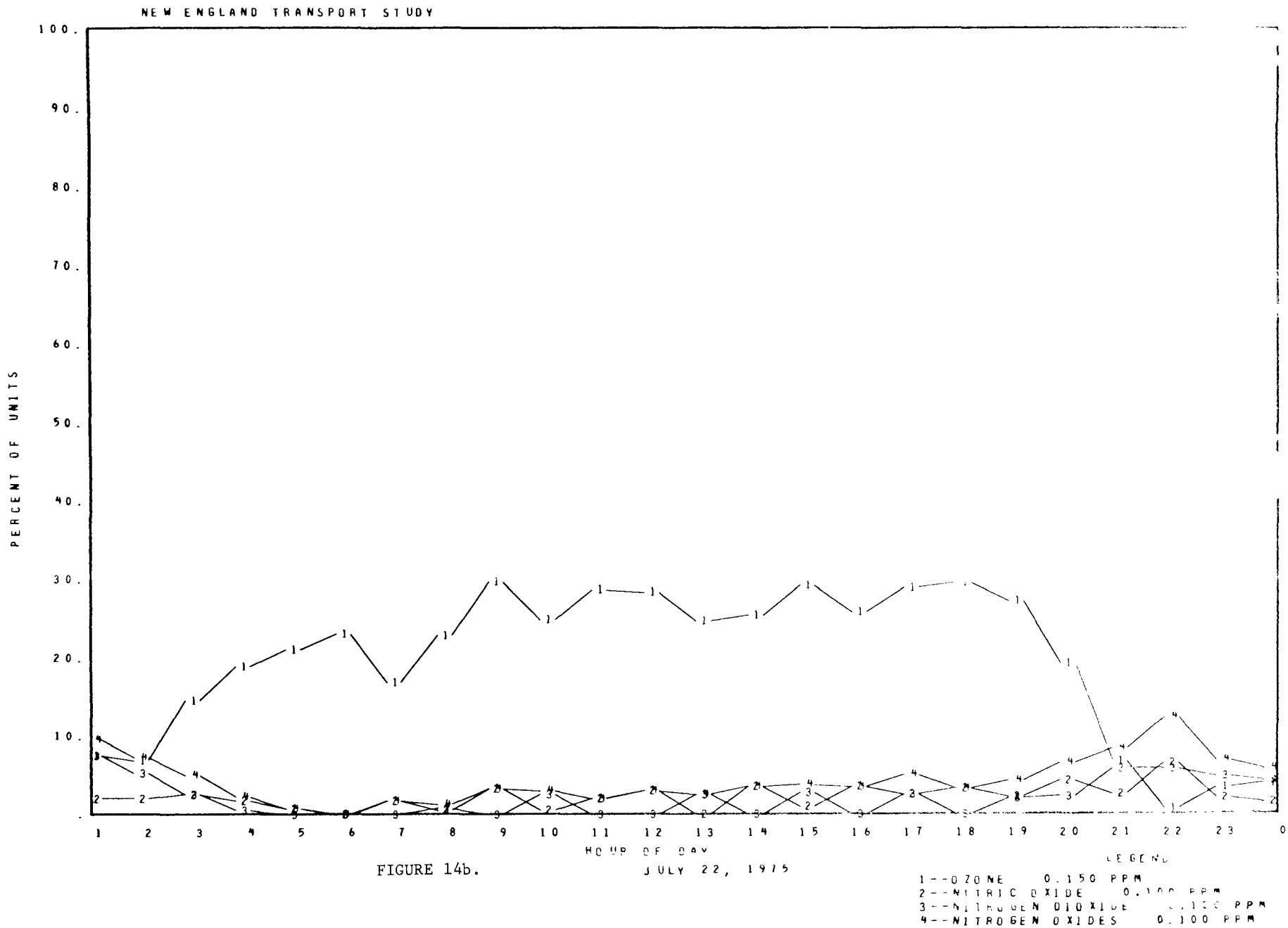



FIGURE 14b. JULY 22, 1975

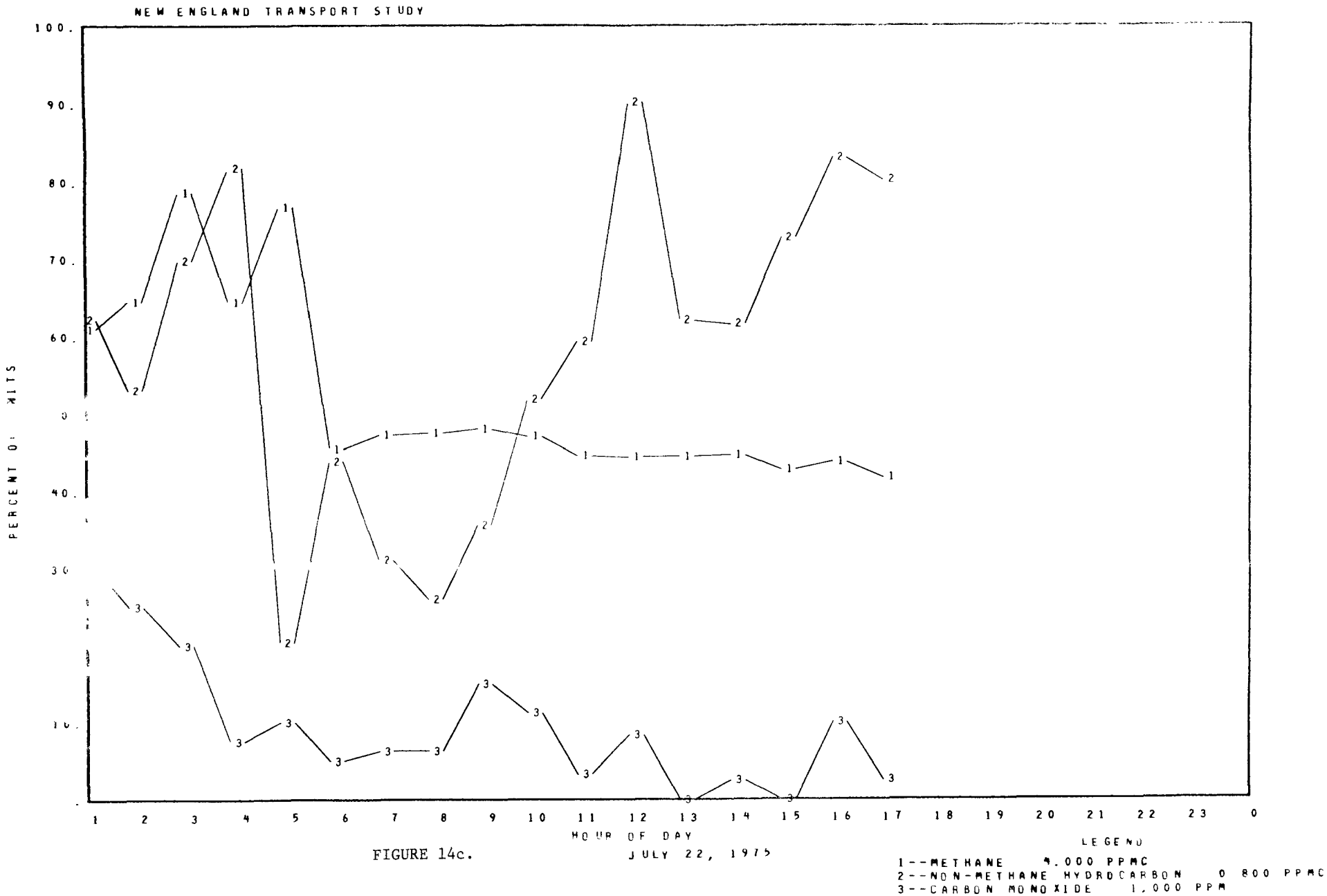



FIGURE 14c. JULY 22, 1975

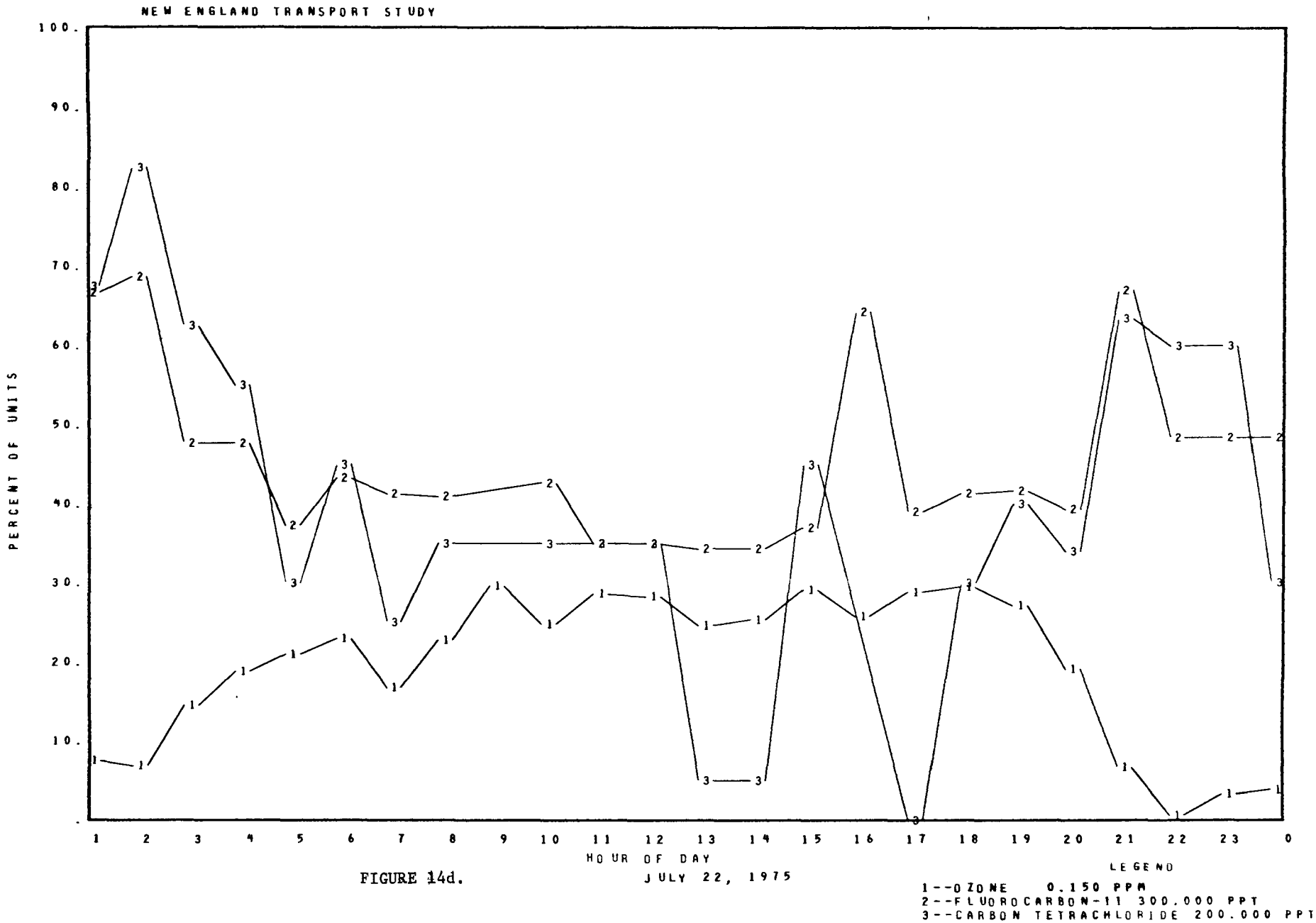
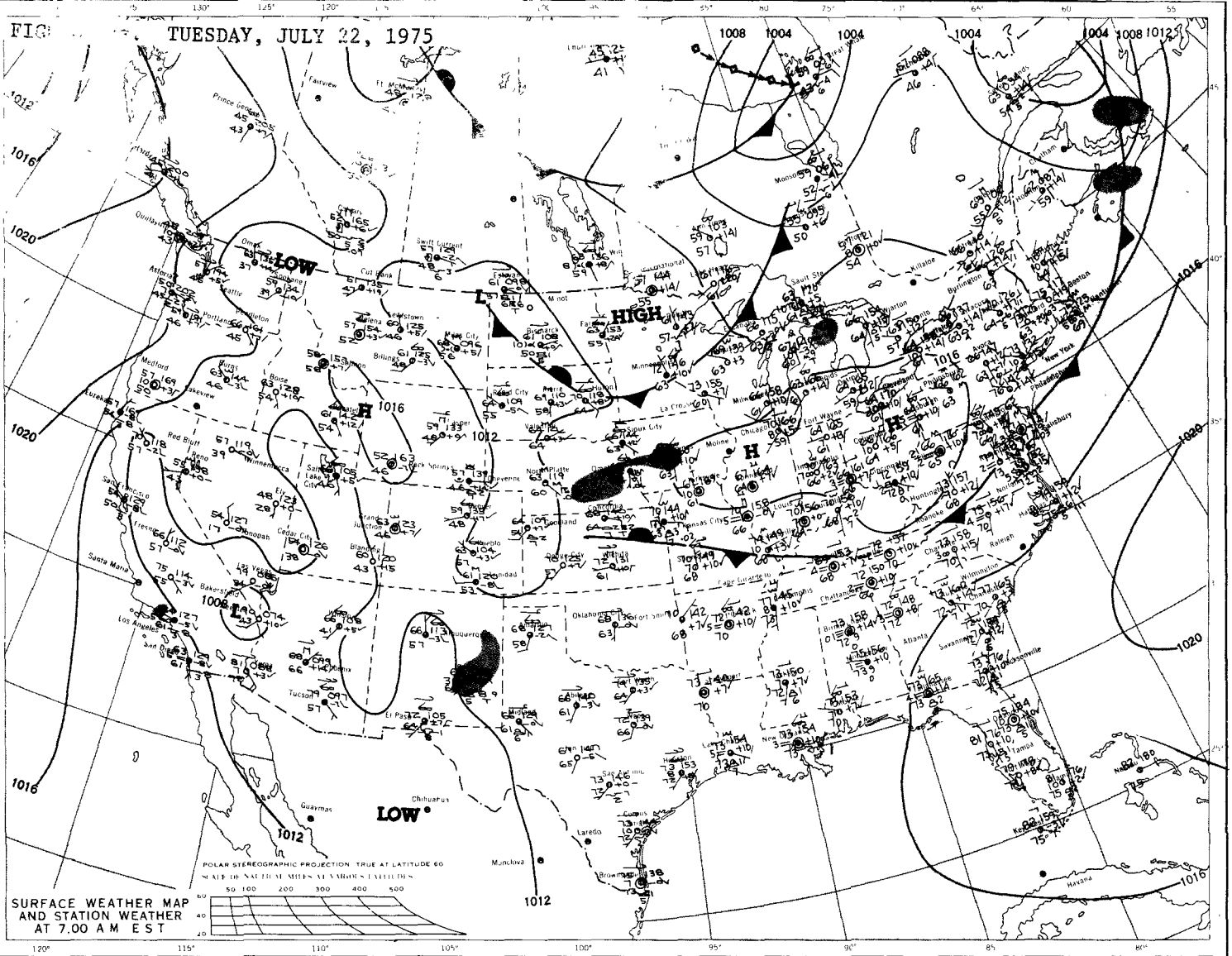

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 22, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

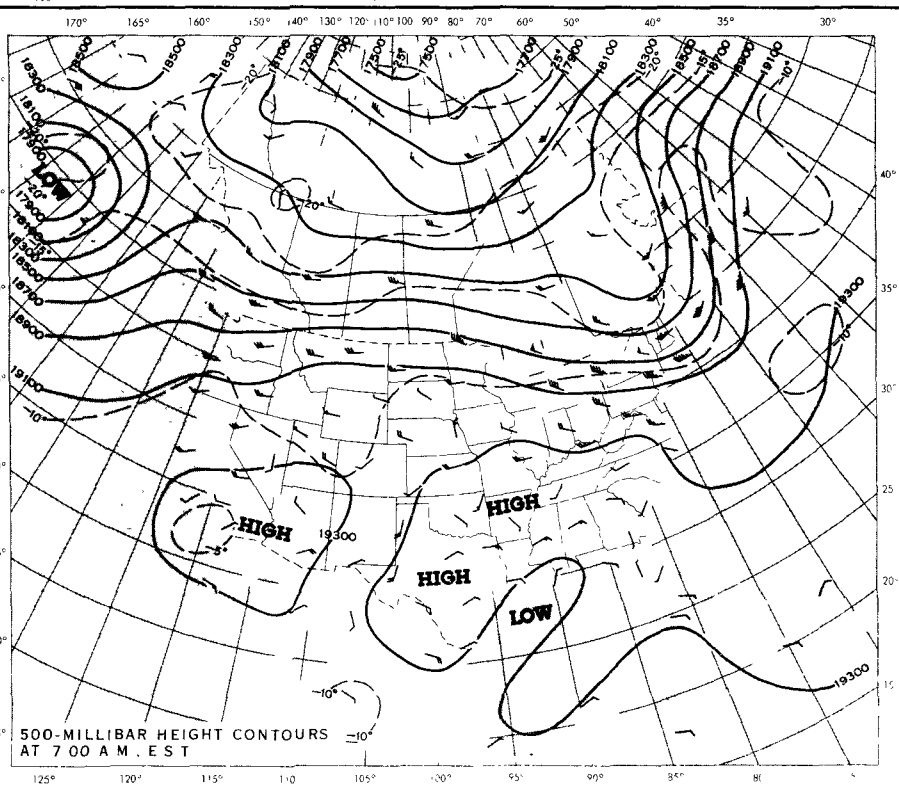
FIGURE 14d.

FIG

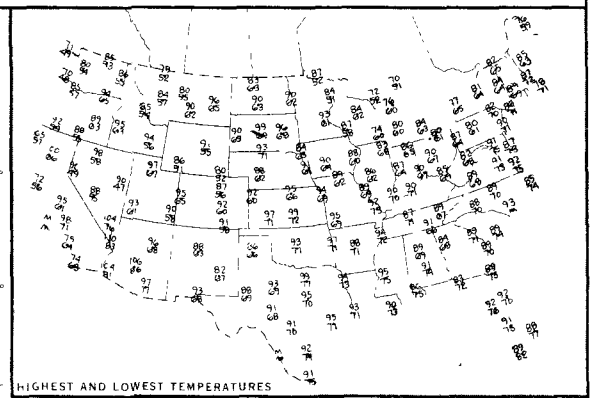
TUESDAY, JULY 22, 1975



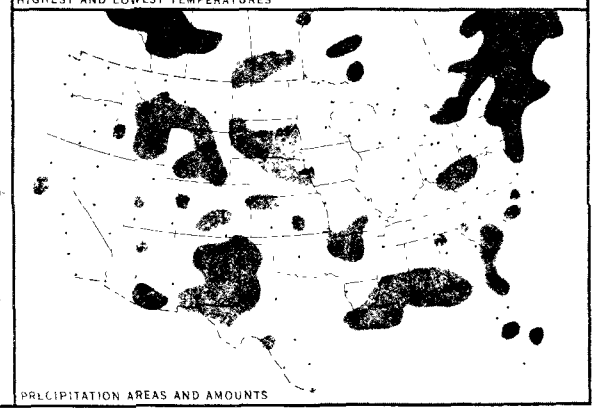

SURFACE WEATHER MAP AND STATION WEATHER AT 7.00 A.M. EST




500-MILLIBAR HEIGHT CONTOURS AT 7.00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 11a. JULY 23, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1 --GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.425 | 24 |
| 2 --WIND SPEED (MPH) | 2.642 | 24 |
| 3 --WIND DIRECTION (DEGREES) | 230.336 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 25.271 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 65.939 | 24 |
| 6--OZONE (PPM) | 0.033 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 24 |
| 10--METHANE (PPMC) | 1.411 | 10 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.896 | 10 |
| 12--CARBON MONOXIDE (PPM) | 0.175 | 11 |
| 19--FLUOROCARBON-11 (PPT) | 166. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 126. | 24 |

TABLE 11b.

SUBSTANCE HOUR AVERAGES FOR JULY 23, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.750 | 2.175 | 3.575 | 4.800 | 5.825 | 6.450 |
| 2--WIND SPEED (MPH) | 1.000 | 0.700 | 1.000 | 1.000 | 1.100 | 0.800 | 1.500 | 1.600 | 3.000 | 4.200 | 4.300 | 4.900 |
| 3--WIND DIRECTION (DEGREES) | 270. | 257. | 273. | 331. | 318. | 310. | 320. | 226. | 192. | 231. | 200. | 195. |
| 4--TEMPERATURE (CENTIGRADE) | 19. | 18. | 17. | 16. | 16. | 16. | 18. | 22. | 25. | 27. | 29. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 90. | 94. | 96. | 100. | 100. | 99. | 86. | 71. | 63. | 49. | 43. | 38. |
| 6--OZONE (PPM) | 0.001 | 0.000 | .000 | .000 | .000 | 0.001 | .000 | 0.006 | 0.016 | 0.033 | 0.050 | 0.063 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.002 | 0.002 | 0.000 | 0.001 | 0.001 | 0.006 | 0.004 | 0.002 | 0.002 | 0.002 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 0.005 | 0.004 | 0.002 | .000 | .000 | 0.000 | 0.002 | 0.003 | 0.004 | 0.002 | 0.002 |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.007 | 0.006 | 0.003 | 0.001 | 0.001 | 0.007 | 0.005 | 0.005 | 0.006 | 0.003 | 0.003 |
| 10--METHANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 1.267 | 1.516 | 1.391 |
| 11--NON-METHANE HYDROCARBON (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.897 | 0.818 | 0.940 |
| 12--CARBON MONOXIDE (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | .000 | 0.037 | .000 |
| 19--FLUOROCARBON-11 (PPT) | 436. | 144. | 142. | 133. | 129. | 129. | 183. | 150. | 138. | 107. | 129. | 114. |
| 20--CARBON TETRACHLORIDE (PPT) | 145. | 225. | 170. | 140. | 172. | 120. | 90. | 75. | 75. | 45. | 55. | 35. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.750 | 6.775 | 6.225 | 5.600 | 4.300 | 2.975 | 1.500 | 0.425 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.800 | 6.500 | 5.800 | 6.000 | 5.000 | 3.500 | 2.100 | 0.800 | 0.600 | 0.600 | 1.000 | 1.600 |
| 3--WIND DIRECTION (DEGREES) | 214. | 207. | 215. | 216. | 228. | 229. | 218. | 220. | 258. | 12. | 206. | 183. |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 32. | 33. | 33. | 33. | 33. | 31. | 29. | 26. | 24. | 23. | 23. |
| 5--RELATIVE HUMIDITY (PERCENT) | 35. | 35. | 36. | 36. | 38. | 40. | 42. | 53. | 72. | 87. | 90. | 90. |
| 6--OZONE (PPM) | 0.064 | 0.068 | 0.070 | 0.066 | 0.076 | 0.079 | 0.071 | 0.056 | 0.029 | 0.015 | 0.015 | 0.022 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.002 | 0.002 | 0.002 | 0.003 | 0.003 | 0.002 | 0.003 | 0.019 | 0.007 | .000 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.002 | 0.002 | 0.006 | 0.006 | 0.007 | 0.006 | 0.008 | 0.011 | 0.009 | 0.012 | 0.009 |
| 9--NITROGEN OXIDES (PPM) | 0.003 | 0.003 | 0.004 | 0.008 | 0.009 | 0.010 | 0.008 | 0.010 | 0.030 | 0.016 | 0.012 | 0.009 |
| 10--METHANE (PPMC) | 1.410 | 1.503 | 1.495 | 1.475 | 1.374 | 1.423 | 1.254 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.790 | 0.803 | 0.805 | 0.955 | 0.932 | 0.876 | 1.141 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 12--CARBON MONOXIDE (PPM) | 0.033 | .000 | 0.067 | 0.062 | 0.062 | 0.050 | -0.187 | -0.323 | -0.460 | -0.597 | 0.733 | 0.883 |
| 19--FLUOROCARBON-11 (PPT) | 112. | 109. | 129. | 135. | 134. | 134. | 150. | 305. | 209. | 209. | 228. | 206. |
| 20--CARBON TETRACHLORIDE (PPT) | 35. | 30. | 75. | 90. | 120. | 156. | 120. | 165. | 300. | 215. | 158. | 205. |

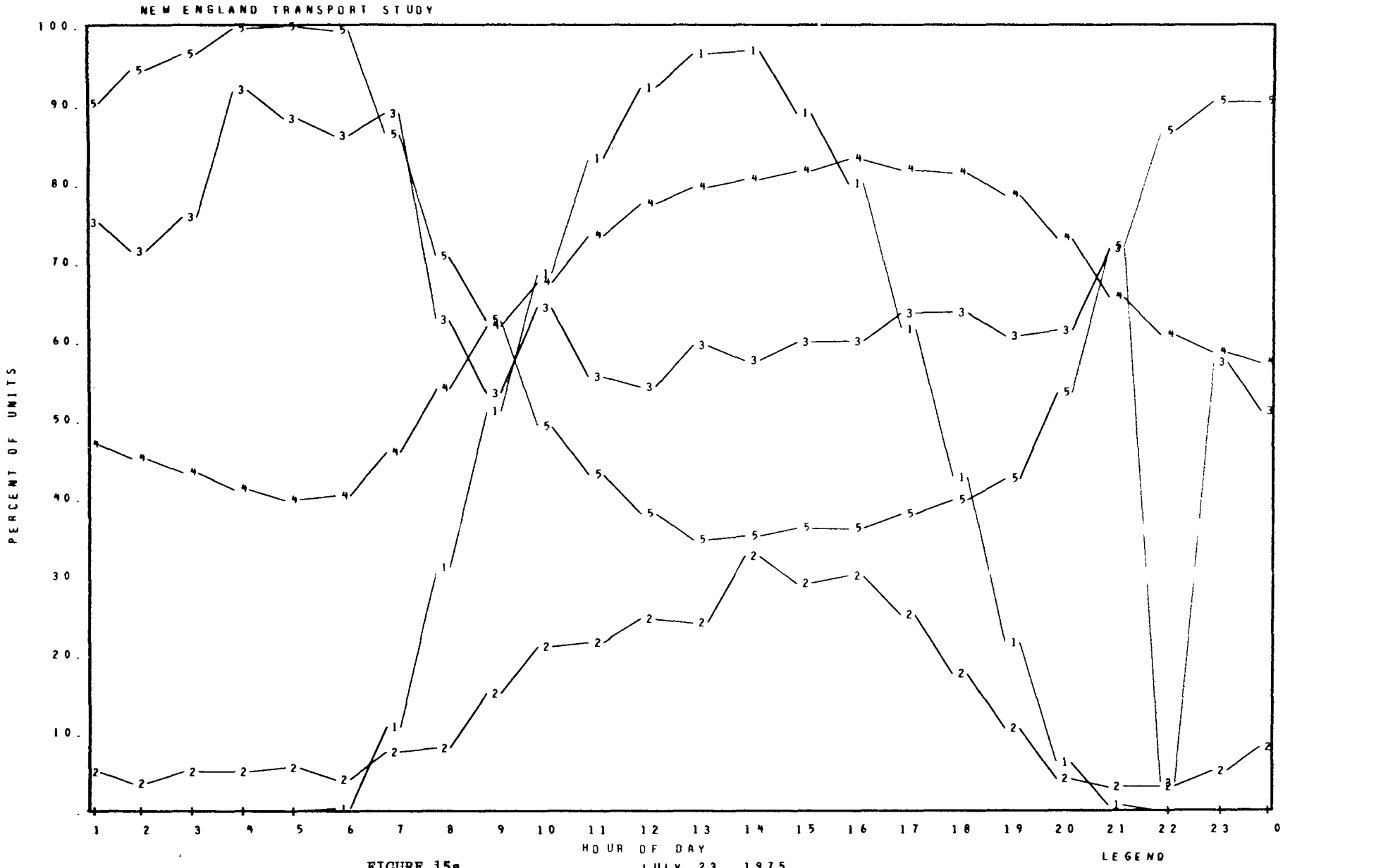

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 23, 1975
LEGEND
1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

FIGURE 15a.

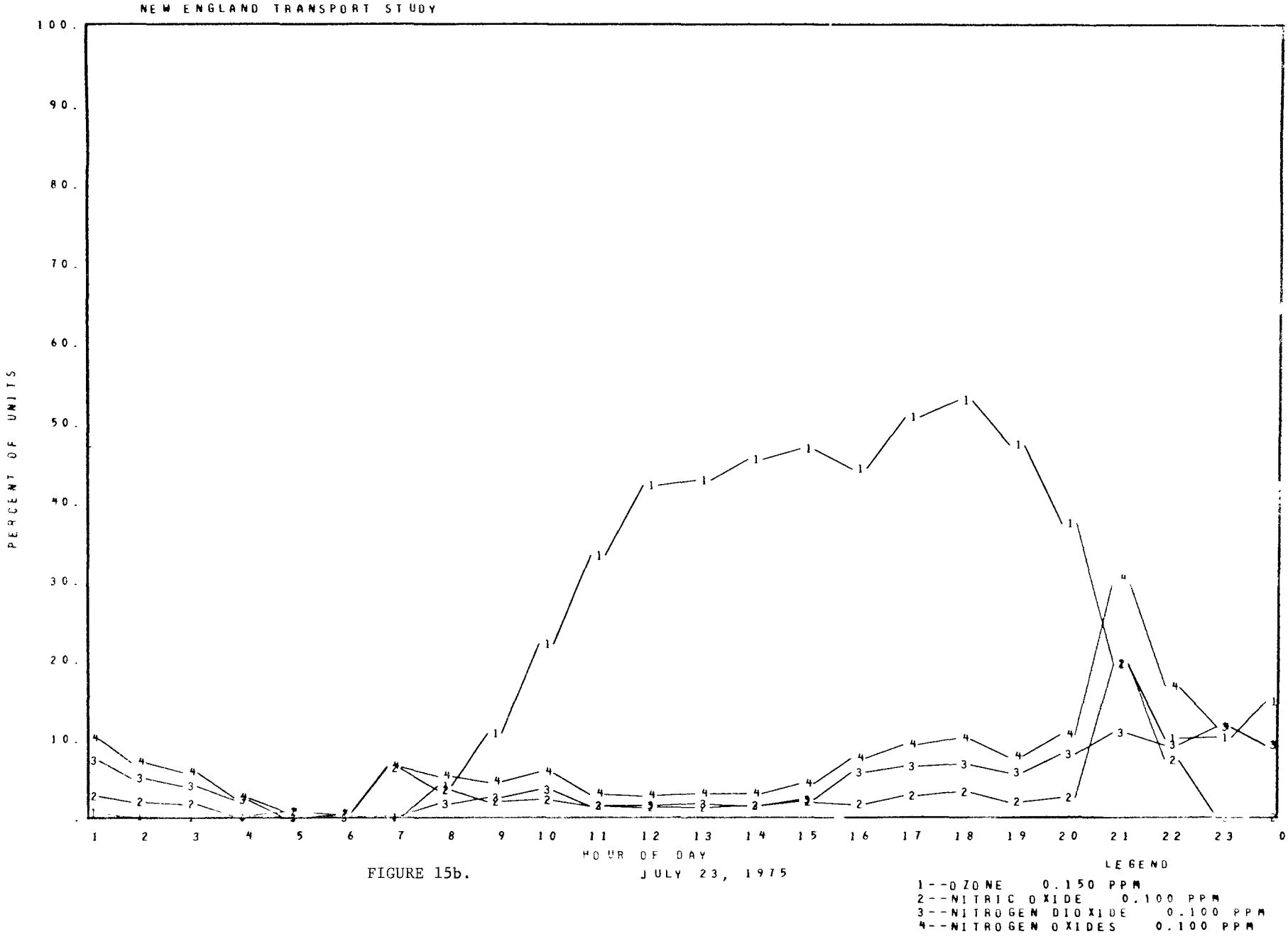

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 23, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 15b.

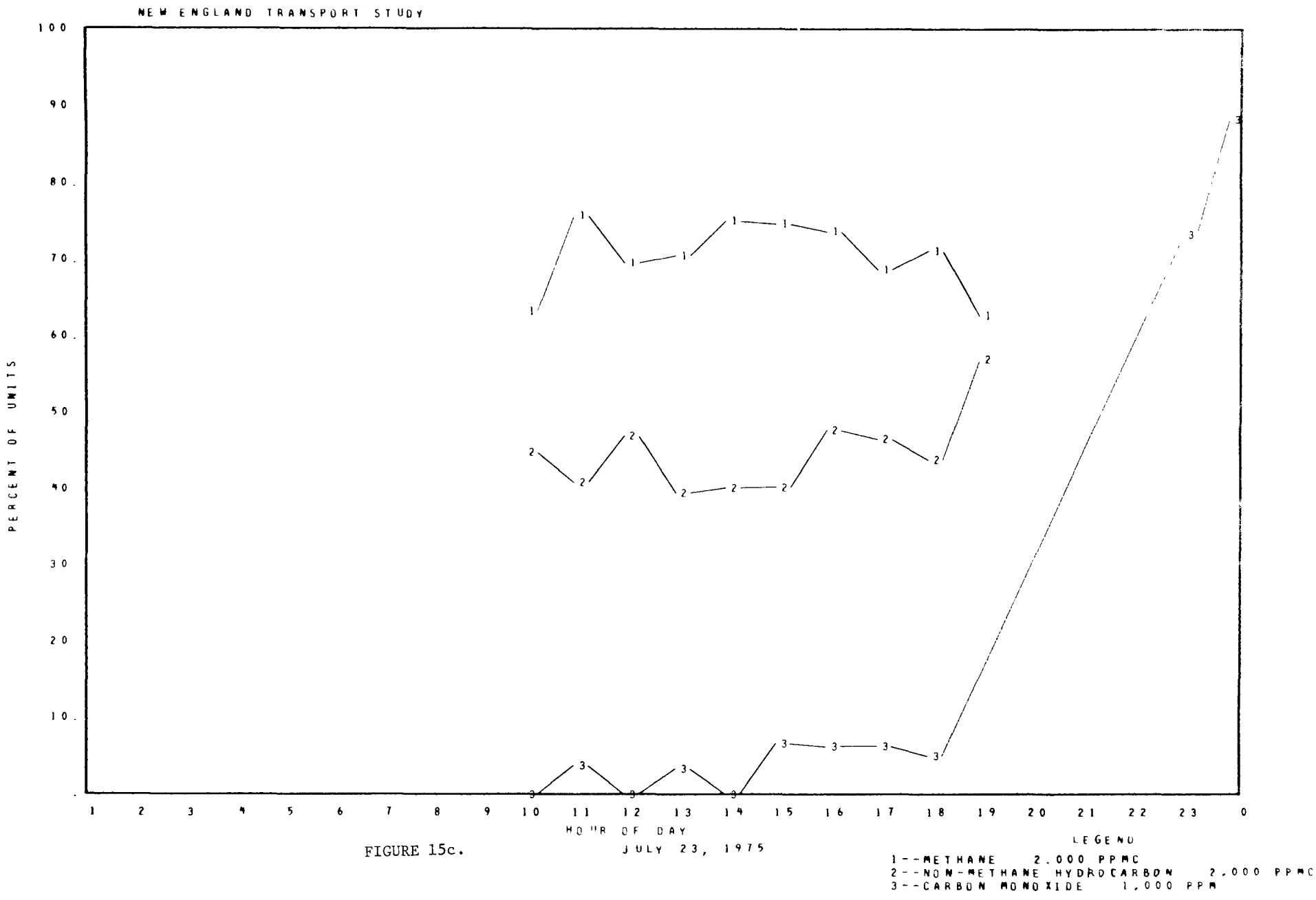

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 23, 1975
LEGEND
1--METHANE 2.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 15c.

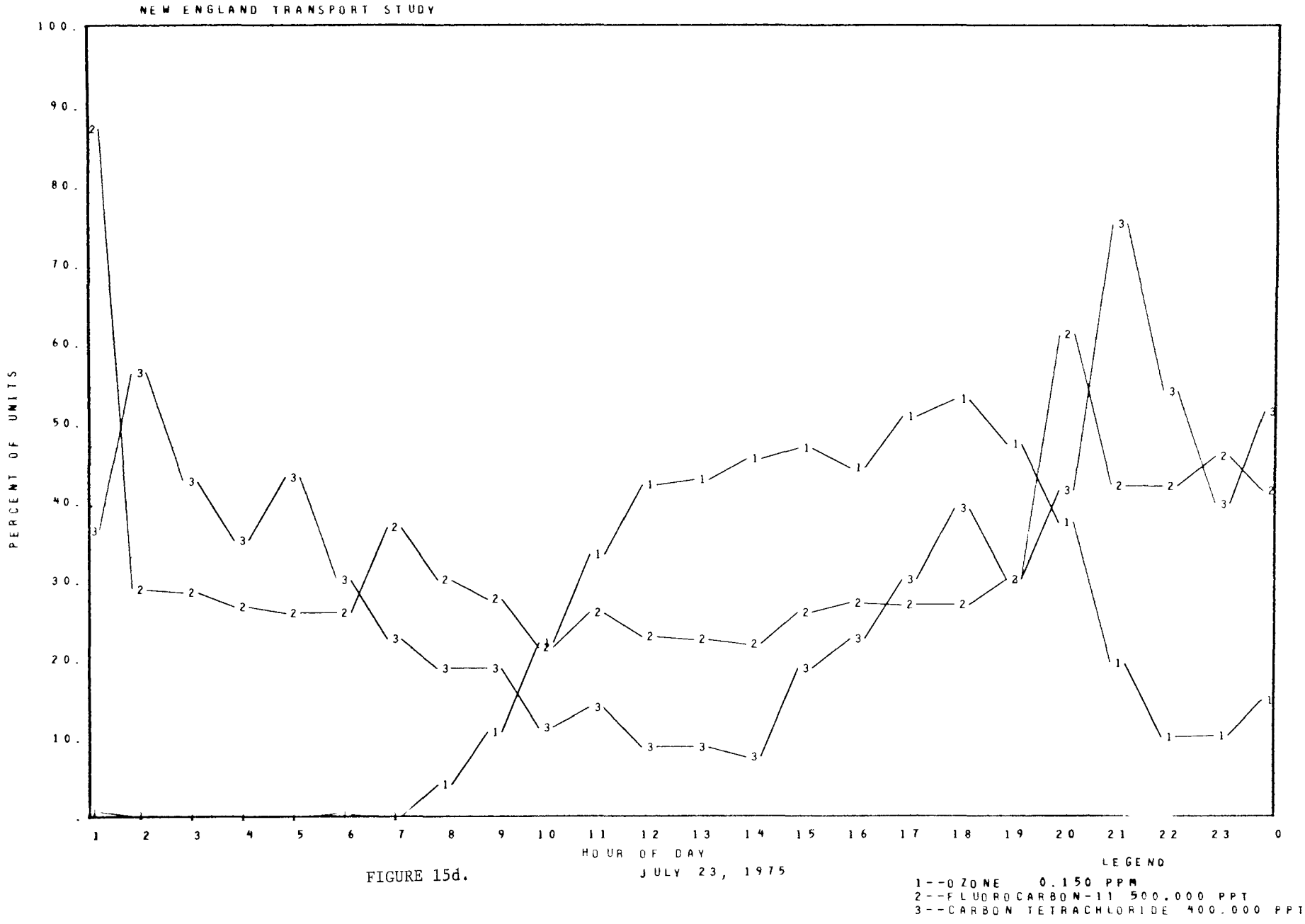
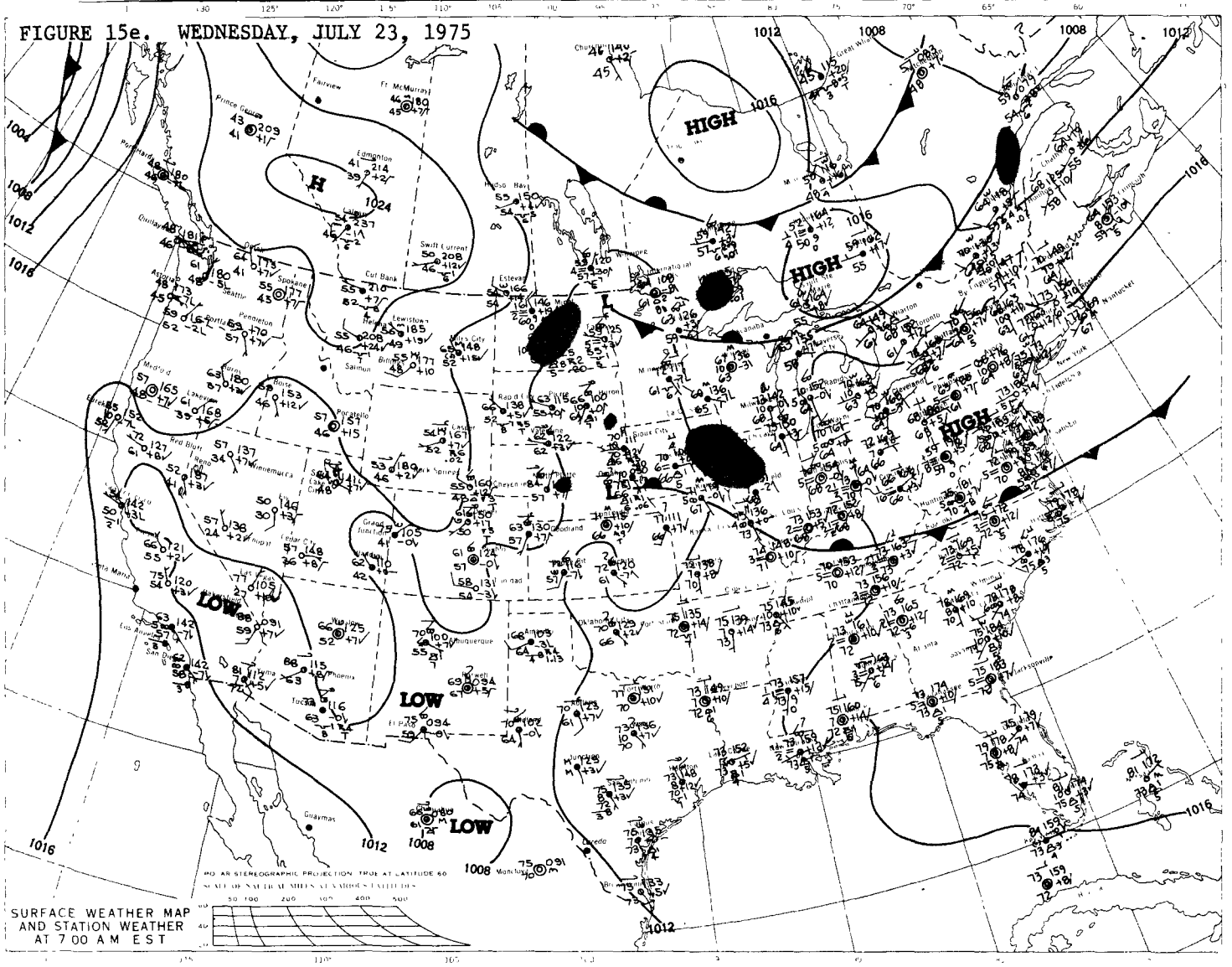
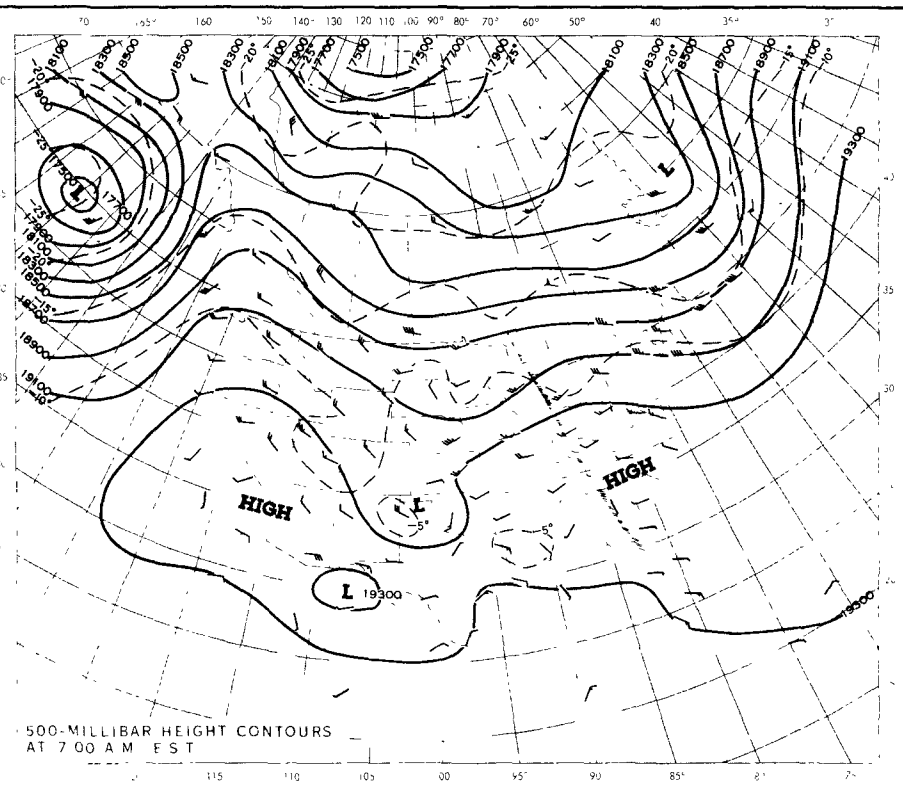
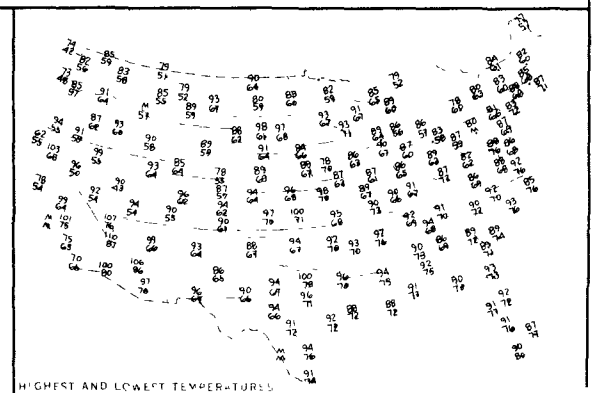

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 23, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 500.000 PPT
3--CARBON TETRACHLORIDE 400.000 PPT

FIGURE 15d.

FIGURE 15e. WEDNESDAY, JULY 23, 1975



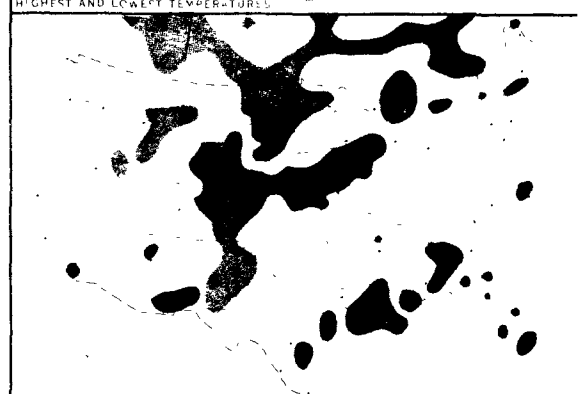



TABLE 11a. JULY 24, 1975

| [illegible] | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.166 | 24 |
| 2--WIND SPEED (MPH) | 6.679 | 24 |
| 3--WIND DIRECTION (DEGREES) | 187.571 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 26.937 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 65.822 | 24 |
| 6--OZONE (PPM) | 0.062 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.000 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 24 |
| 10--METHANE (PPMC) | 1.625 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 1.142 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.190 | 16 |
| 19--FLUOROCARBON-11 (PPT) | 216. | 22 |
| 20--CARBON TETRACHLORIDE (PPT) | 194. | 22 |

TABLE 12b.

SUBSTANCE — HOUR AVERAGES FOR JULY 24, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.650 | 1.775 | 2.950 | 4.300 | 4.875 | 4.750 |
| 2--WIND SPEED (MPH) | 1.600 | 1.000 | 2.700 | 2.800 | 2.800 | 3.100 | 2.900 | 4.400 | 5.500 | 6.100 | 5.800 | 8.300 |
| 3--WIND DIRECTION (DEGREES) | 166. | 290. | 190. | 162. | 185. | 153. | 154. | 171. | 183. | 179. | 195. | 200. |
| 4--TEMPERATURE (CENTIGRADE) | 22. | 22. | 22. | 22. | 22. | 22. | 23. | 25. | 27. | 29. | 30. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 89. | 91. | 89. | 89. | 89. | 89. | 84. | 77. | 68. | 59. | 51. | 47. |
| 6--OZONE (PPM) | 0.024 | 0.026 | 0.036 | 0.041 | 0.040 | 0.031 | 0.025 | 0.037 | 0.051 | 0.068 | 0.086 | 0.089 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.007 | 0.002 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.010 | 0.008 | 0.006 | 0.004 | 0.002 | 0.004 | 0.007 | 0.007 | 0.007 | 0.011 | 0.007 | 0.005 |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.008 | 0.006 | 0.004 | 0.002 | 0.004 | 0.007 | 0.007 | 0.007 | 0.014 | 0.009 | 0.005 |
| 10--METHANE (PPMC) | 2.390 | 1.590 | 2.580 | 1.810 | 2.910 | 1.910 | 1.650 | 1.750 | 1.800 | 1.750 | 1.550 | 1.500 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.881 | 1.095 | 1.124 | 0.948 | 1.013 | 0.943 | 1.063 | 1.064 | 1.038 | 1.161 | 1.126 | 1.150 |
| 12--CARBON MONOXIDE (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 1.000 | 0.925 | 0.662 | 0.100 | 0.050 |
| 19--FLUOROCARBON-11 (PPT) | 266. | 248. | 306. | 268. | 294. | 249. | 256. | 279. | 292. | 265. | -239. | -212. |
| 20--CARBON TETRACHLORIDE (PPT) | 255. | 300. | 240. | 300. | 274. | 285. | 326. | 187. | 214. | 176. | -162. | -149. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | [illegible] | [illegible] | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.075 | 6.350 | 6.200 | 5.400 | 4.225 | 2.850 | 1.150 | 0.275 | 0.100 | 0.025 | .000 | .000 |
| 2--WIND SPEED (MPH) | 9.200 | 9.200 | 9.300 | 10.200 | 10.500 | 10.400 | 9.600 | 9.100 | 10.100 | 9.200 | 8.200 | 7.300 |
| 3--WIND DIRECTION (DEGREES) | 195. | 185. | 188. | 189. | 185. | 191. | 191. | 186. | 190. | 190. | 190. | 19[illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 32. | 33. | 32. | 31. | 30. | 28. | 27. | 26. | 26. | 26. | 25. |
| 5--RELATIVE HUMIDITY (PERCENT) | 45. | 43. | 39. | 38. | 42. | 51. | 58. | 61. | 66. | 69. | 71. | 74. |
| 6--OZONE (PPM) | 0.102 | 0.128 | 0.129 | 0.117 | 0.122 | 0.108 | 0.082 | 0.067 | 0.037 | 0.022 | 0.012 | 0.009 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | 0.000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.003 | 0.001 | .000 | 0.000 | 0.002 | 0.002 | 0.002 | .000 | .000 | 0.002 | 0.002 |
| 9--NITROGEN OXIDES (PPM) | 0.002 | 0.003 | 0.002 | .000 | 0.000 | 0.002 | 0.002 | 0.002 | .000 | .000 | 0.002 | 0.002 |
| 10--METHANE (PPMC) | 1.450 | 1.450 | 1.450 | 1.350 | 1.300 | 1.300 | 1.250 | 1.250 | 1.250 | 1.250 | 1.250 | 1.250 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 1.135 | 1.063 | 1.054 | 1.061 | 1.066 | 1.028 | 4.006 | 1.710 | 0.698 | 0.606 | 0.664 | 0.714 |
| 12--CARBON MONOXIDE (PPM) | .000 | 0.013 | 0.013 | .000 | .000 | 0.013 | -0.019 | 0.025 | 0.013 | 0.025 | 0.100 | 0.100 |
| 19--FLUOROCARBON-11 (PPT) | 186. | 213. | 196. | 199. | 174. | 182. | 163. | 167. | 142. | 134. | 139. | 134. |
| 20--CARBON TETRACHLORIDE (PPT) | 135. | 135. | 120. | 240. | 120. | 140. | 112. | 120. | 115. | 170. | 150. | 150. |

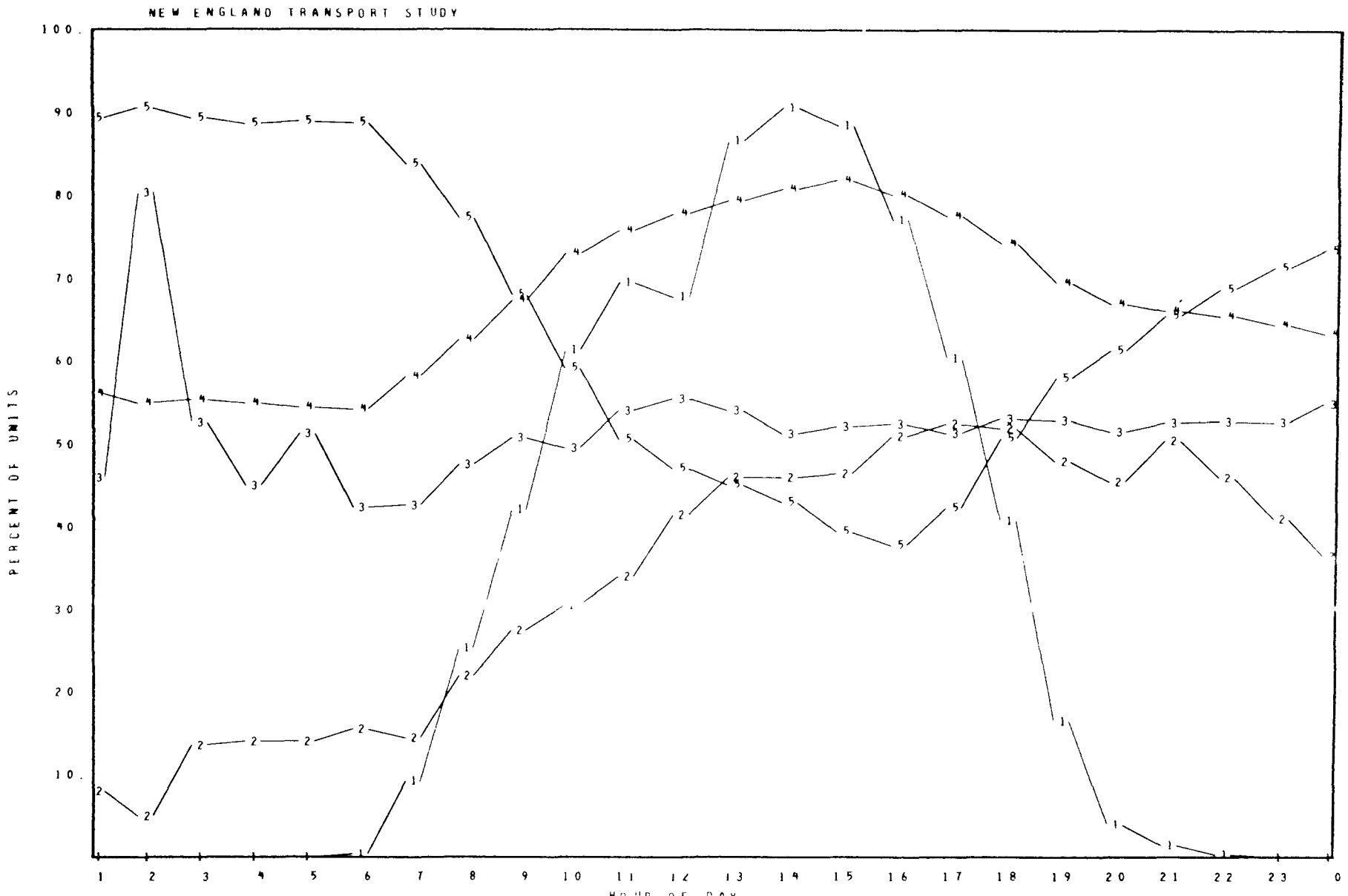

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 24, 1975
LEGEND
1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

FIGURE 16a.

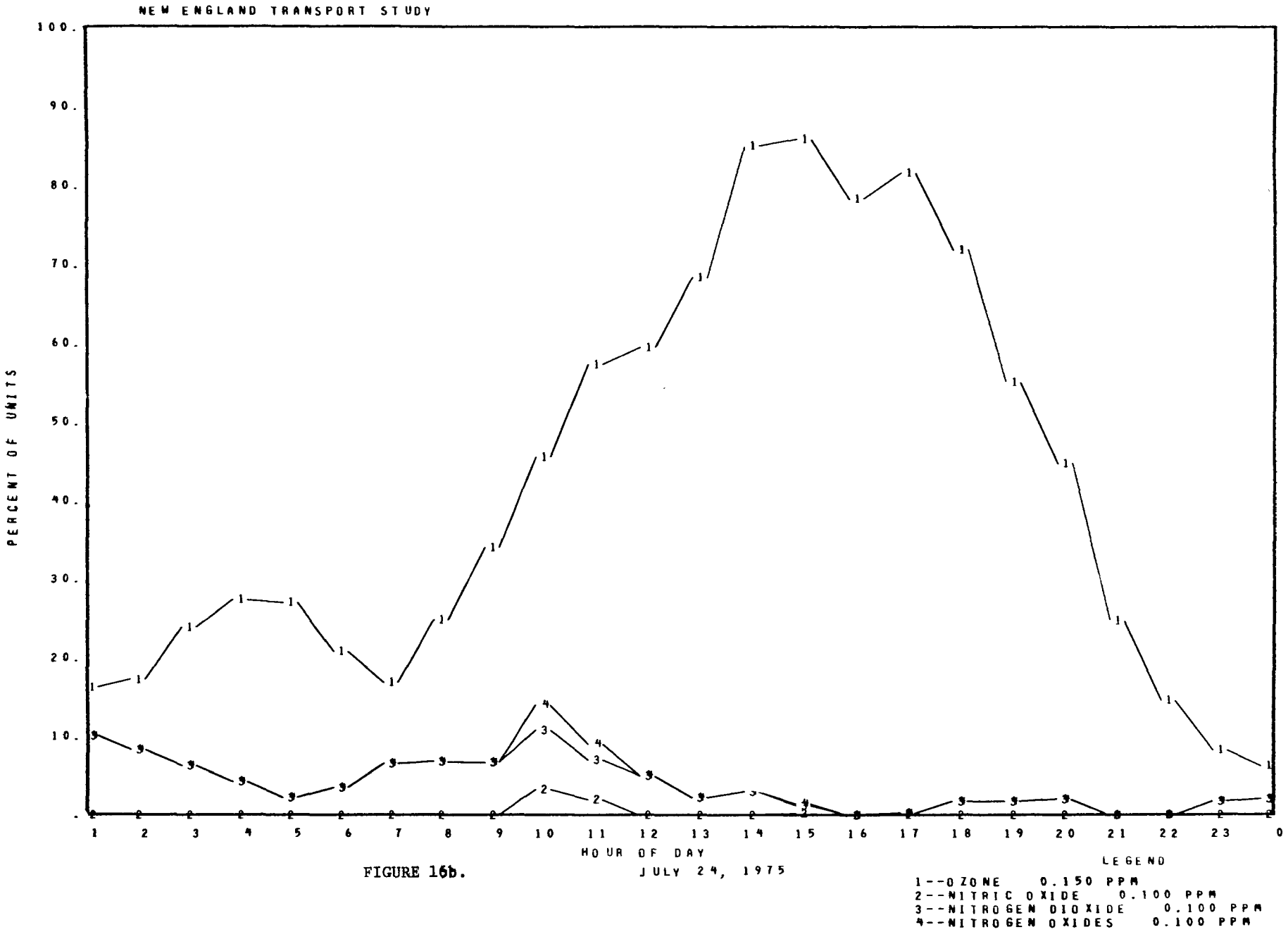

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 24, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 16b.

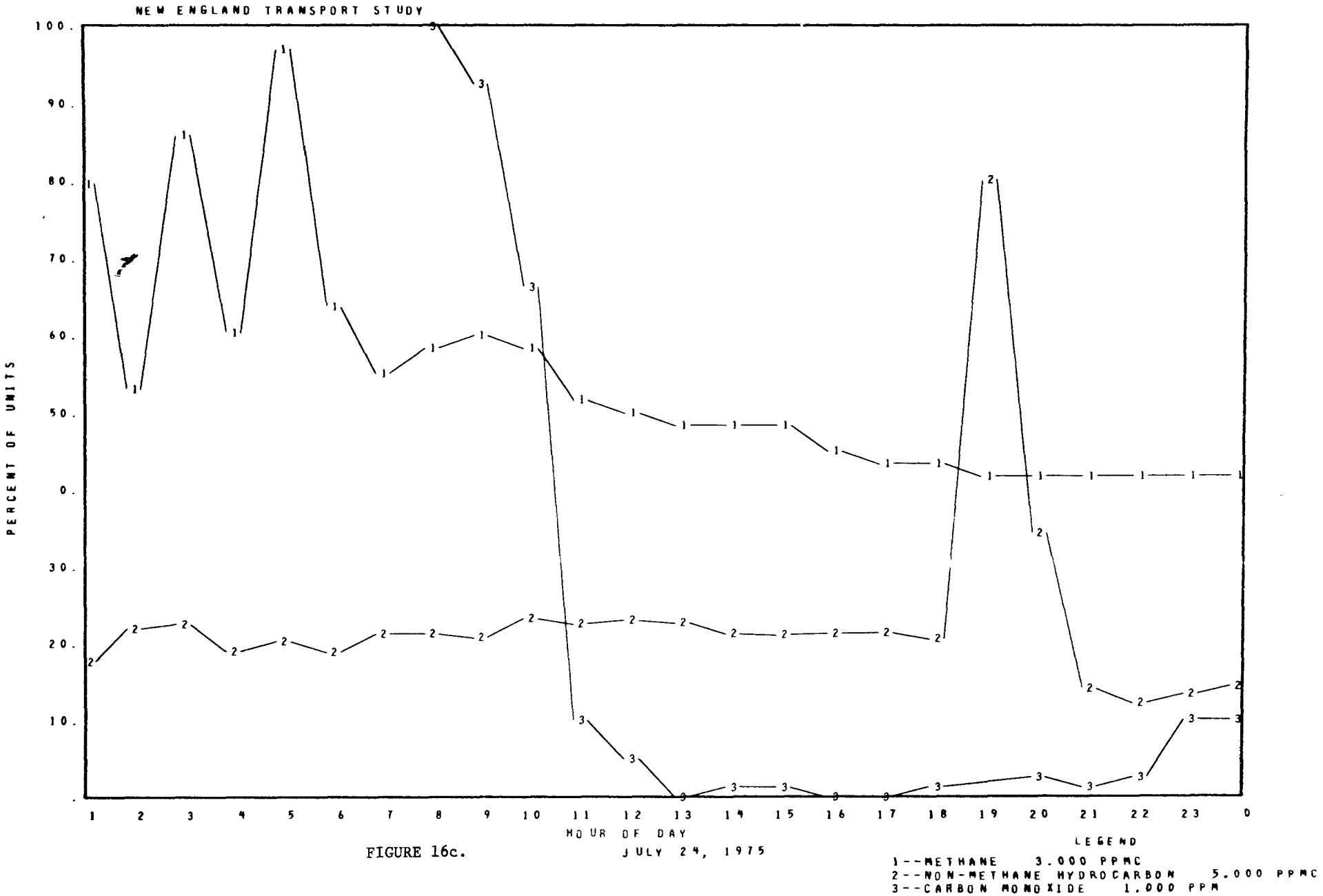

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
0.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 24, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 5.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 16c.

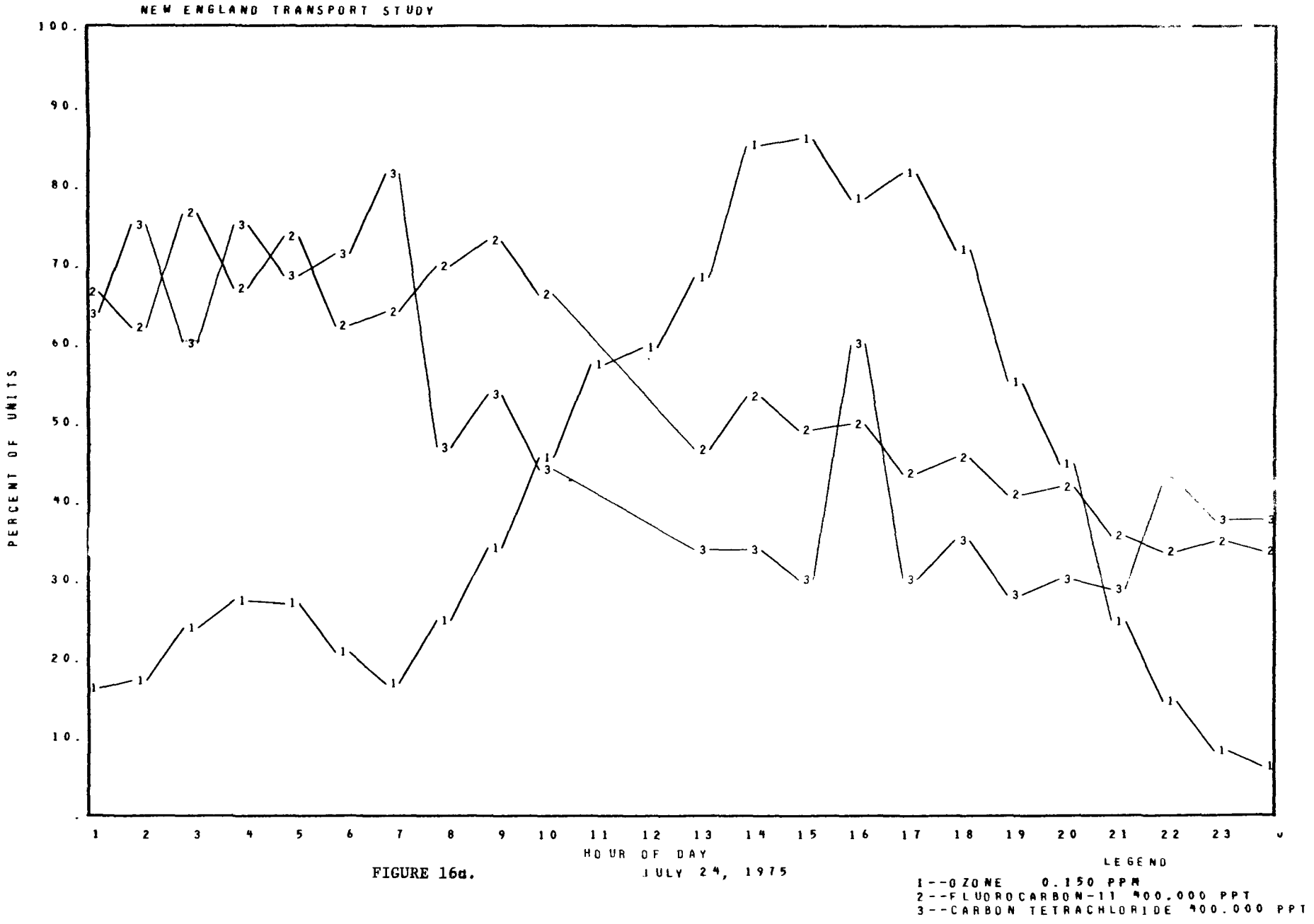
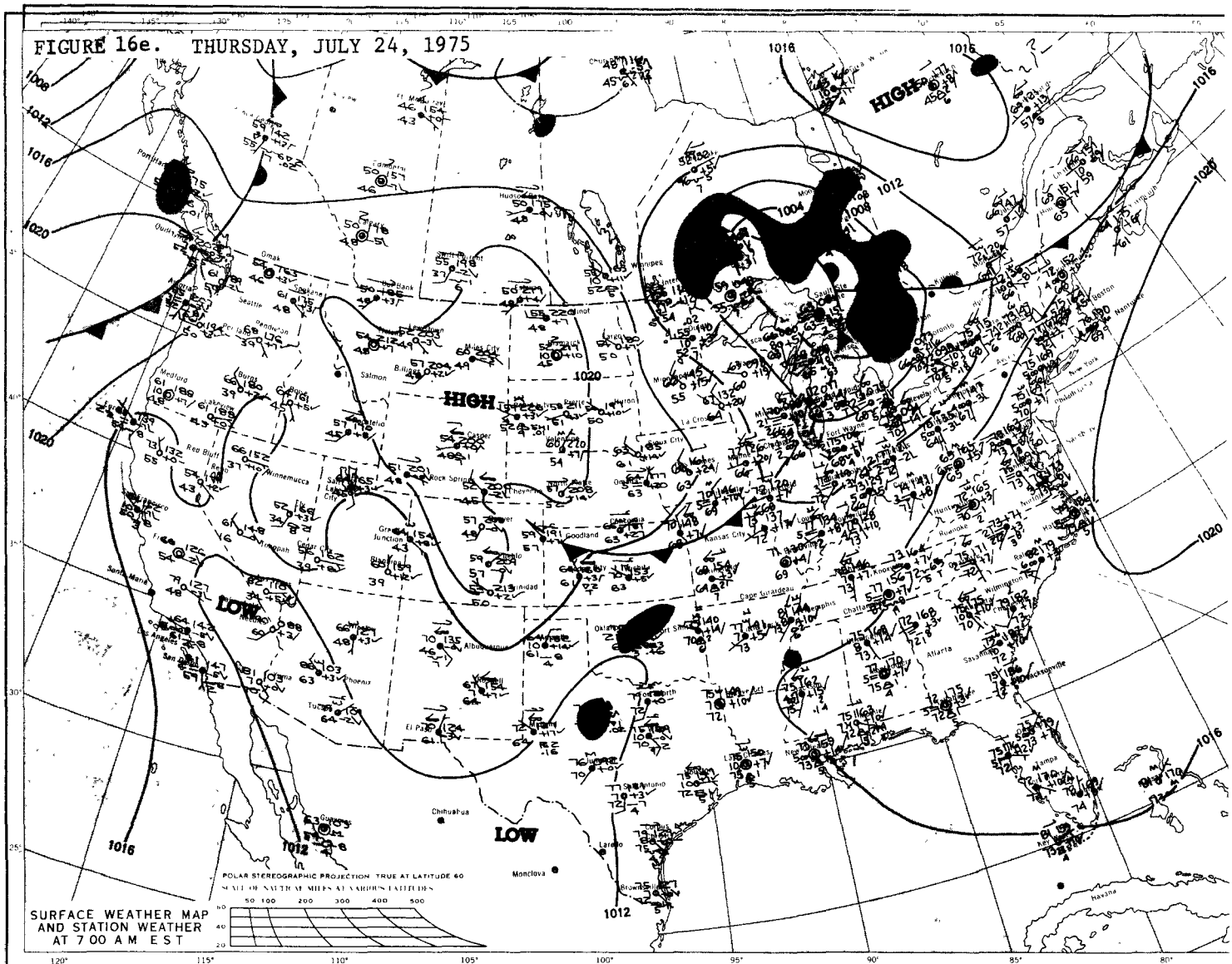
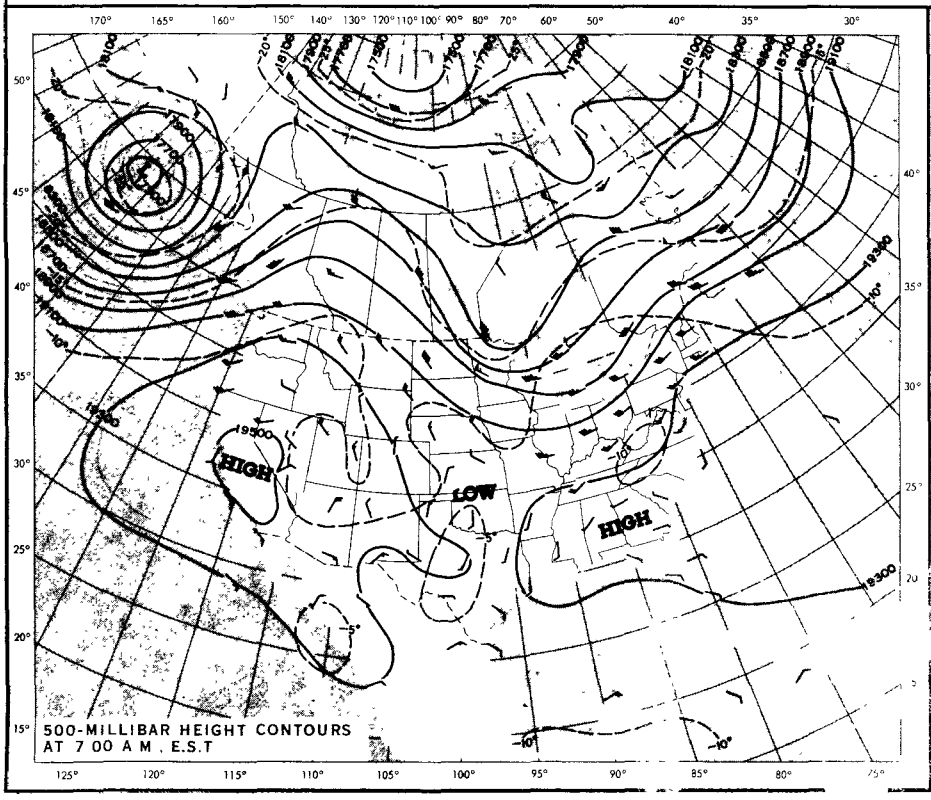

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
HOUR OF DAY
JULY 24, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 400.000 PPT
3--CARBON TETRACHLORIDE 400.000 PPT

FIGURE 16a.

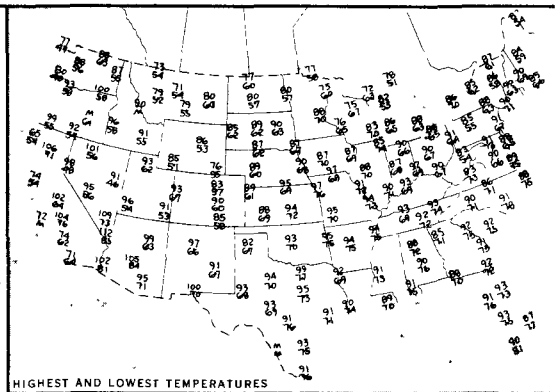
FIGURE 16e. THURSDAY, JULY 24, 1975



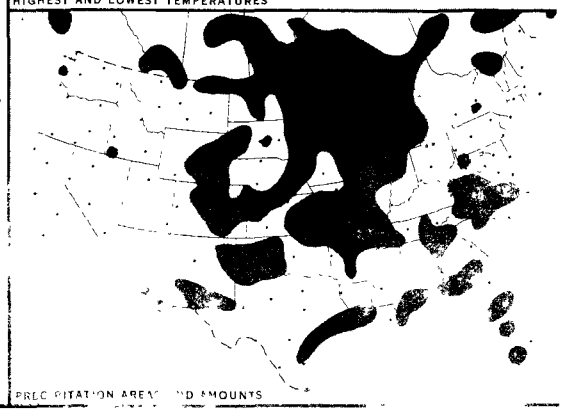

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M . E.S.T



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 13a. JULY 25, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.755 | 24 |
| 2--WIND SPEED (MPH) | 4.175 | 24 |
| 3--WIND DIRECTION (DEGREES) | 220.417 | 24 |
| 4--TEMPERATURE (CENTIGRADE). | 22.810 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 87.477 | 24 |
| 6--OZONE (PPM) | 0.035 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 1.340 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.673 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.134 | 21 |
| 19--FLUOROCARBON-11 (PPT) | 160. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 160. | 24 |

TABLE 13b.

SUBSTANCE — HOUR AVERAGES FOR JULY 25, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.075 | 0.550 | 1.100 | 0.800 | [illegible] | 1.[illegible] |
| 2--WIND SPEED (MPH) | 2.700 | 2.800 | 4.700 | 4.300 | 5.400 | 4.800 | 5.000 | 4.600 | 5.600 | 5.000 | [illegible] | 5.300 |
| 3--WIND DIRECTION (DEGREES) | 252. | 188. | 189. | 181. | 195. | 184. | 190. | 209. | 206. | 209. | [illegible] | 200 |
| 4--TEMPERATURE (CENTIGRADE) | 22. | 21. | 21. | 21. | 21. | 21. | 21. | 21. | 22. | 23. | [illegible] | 2[illegible] |
| 5--RELATIVE HUMIDITY (PERCENT) | 93. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. |
| 6--OZONE (PPM) | 0.030 | 0.033 | 0.040 | 0.047 | 0.045 | 0.044 | 0.041 | 0.034 | 0.034 | 0.035 | 0.032 | 0.03[illegible] |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.000 | 0.001 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.003 | 0.002 | 0.003 | 0.006 | 0.007 |
| 9--NITROGEN OXIDES (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.003 | 0.002 | 0.004 | 0.007 | 0.01[illegible] |
| 10--METHANE (PPMC) | 1.150 | 1.450 | 1.450 | 1.250 | 1.450 | 1.450 | 1.450 | 1.400 | 1.450 | 1.300 | 1.350 | 1.350 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.709 | 0.544 | 0.526 | 0.613 | 0.621 | 0.541 | 0.616 | 0.718 | 0.653 | 0.646 | 0.650 | 0.650 |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.050 | 0.162 | 0.125 | 0.150 | -0.125 | -0.100 |
| 19--FLUOROCARBON-11 (PPT) | 134. | 127. | 123. | 120. | 113. | 123. | 122. | 129. | 152. | 146. | 150. | 154. |
| 20--CARBON TETRACHLORIDE (PPT) | 180. | 120. | 155. | 105. | 110. | 120. | 120. | 150. | 175. | 120. | 120. | 135. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.075 | 1.800 | 2.075 | 2.425 | 2.150 | 1.025 | 1.250 | 0.350 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.900 | 5.500 | 5.300 | 6.300 | 6.000 | 3.100 | 3.900 | 3.600 | 1.800 | 1.400 | 1.100 | 2.000 |
| 3--WIND DIRECTION (DEGREES) | 195. | 194. | 194. | 198. | 195. | 254. | 229. | 253. | 278. | 300. | 277. | 321. |
| 4--TEMPERATURE (CENTIGRADE) | 25. | 25. | 26. | 26. | 27. | 26. | 26. | 24. | 23. | 21. | 19. | 19. |
| 5--RELATIVE HUMIDITY (PERCENT) | 95. | 84. | 81. | 76. | 74. | 74. | 68. | 69. | 64. | 67. | 77. | 79. |
| 6--OZONE (PPM) | 0.034 | 0.040 | 0.044 | 0.052 | 0.056 | 0.042 | 0.045 | 0.039 | 0.021 | 0.011 | 0.004 | 0.008 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.000 | 0.001 | 0.002 | 0.003 | 0.007 | 0.004 | 0.002 | 0.002 | 0.003 | 0.001 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 0.006 | 0.008 | 0.008 | 0.009 | 0.009 | 0.006 | 0.008 | 0.006 | 0.005 | 0.005 | 0.004 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 0.006 | 0.008 | 0.013 | 0.012 | 0.016 | 0.010 | 0.010 | 0.008 | 0.008 | 0.006 | 0.005 |
| 10--METHANE (PPMC) | 1.350 | 1.350 | 1.350 | 1.370 | 1.420 | 1.330 | 1.190 | 1.150 | 1.150 | 1.150 | 1.600 | 1.240 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.750 | 0.750 | 0.850 | 0.918 | 0.853 | 0.820 | 0.771 | 0.651 | 0.503 | 0.598 | 0.676 | 0.513 |
| 12--CARBON MONOXIDE (PPM) | -0.075 | 0.050 | 0.100 | 0.275 | 0.262 | 0.500 | 0.200 | 0.162 | 0.175 | 0.075 | 0.100 | 0.125 |
| 19--FLUOROCARBON-11 (PPT) | 166. | 206. | 231. | 231. | 220. | 179. | 183. | 153. | 130. | 140. | 228. | 176. |
| 20--CARBON TETRACHLORIDE (PPT) | 105. | 195. | 260. | 260. | 180. | 90. | 135. | 112. | 40. | 75. | 574. | 210. |

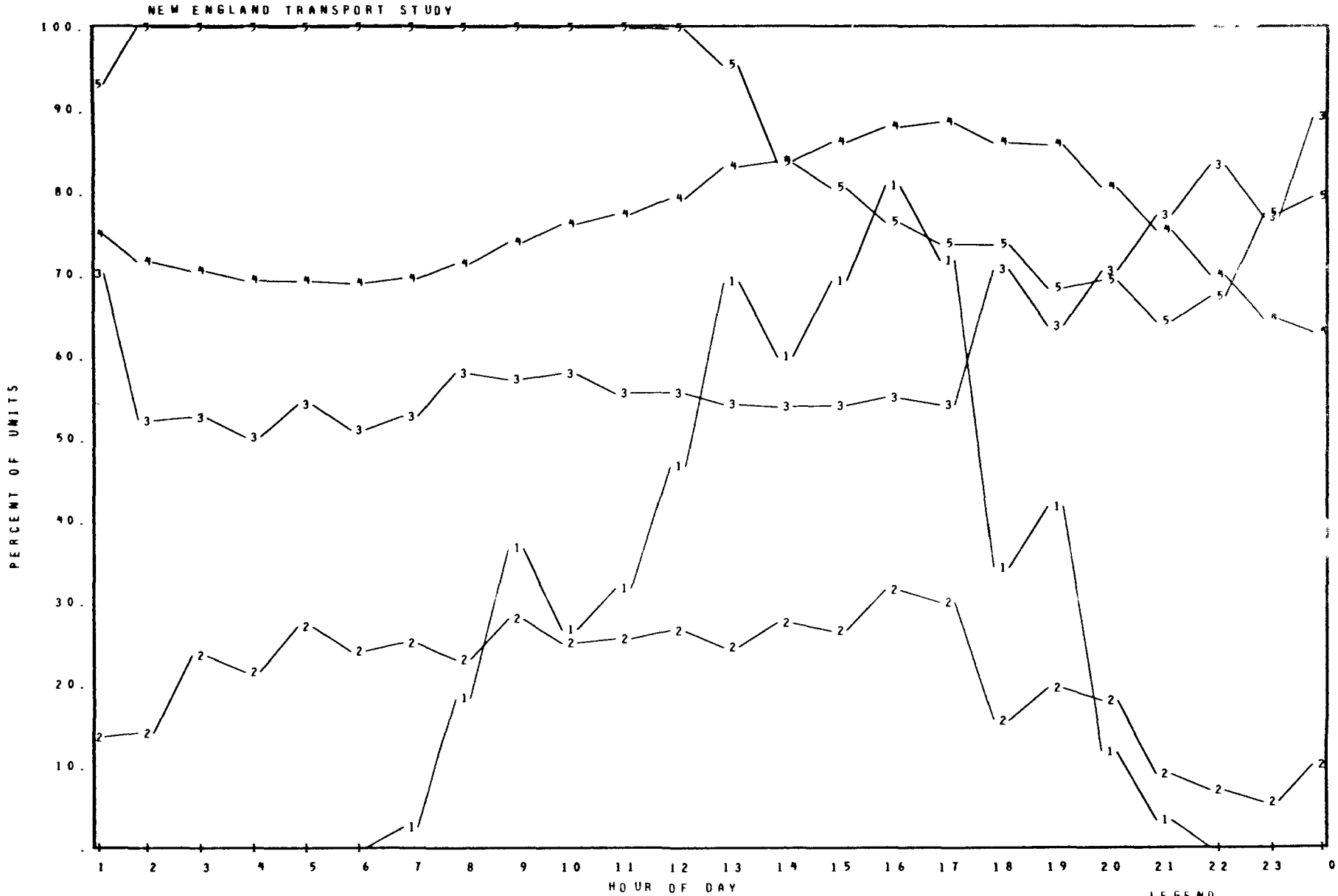



FIGURE 17a.

LEGEND

1--GLOBAL IRRADIANCE 3.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

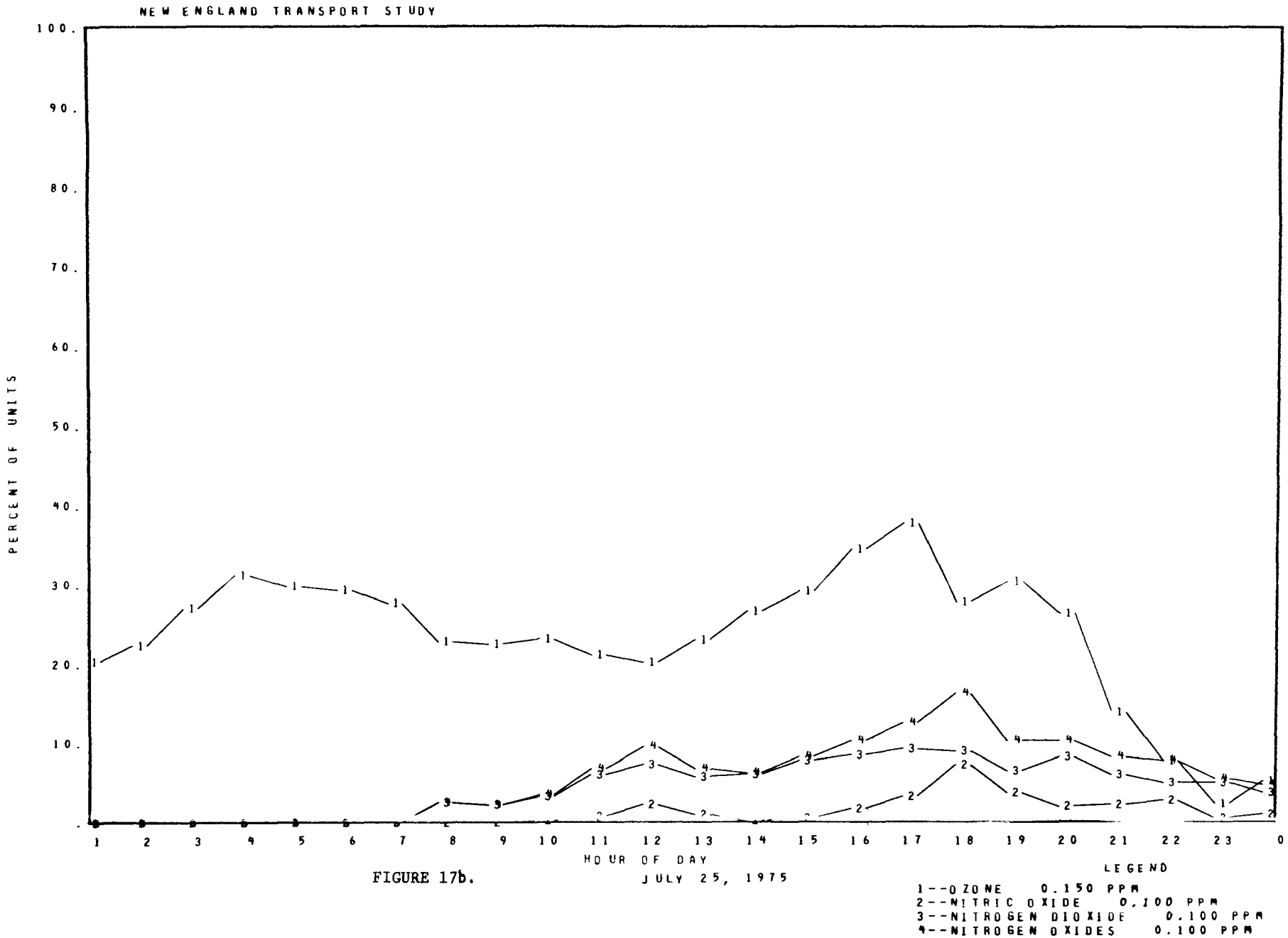

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 25, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 17b.

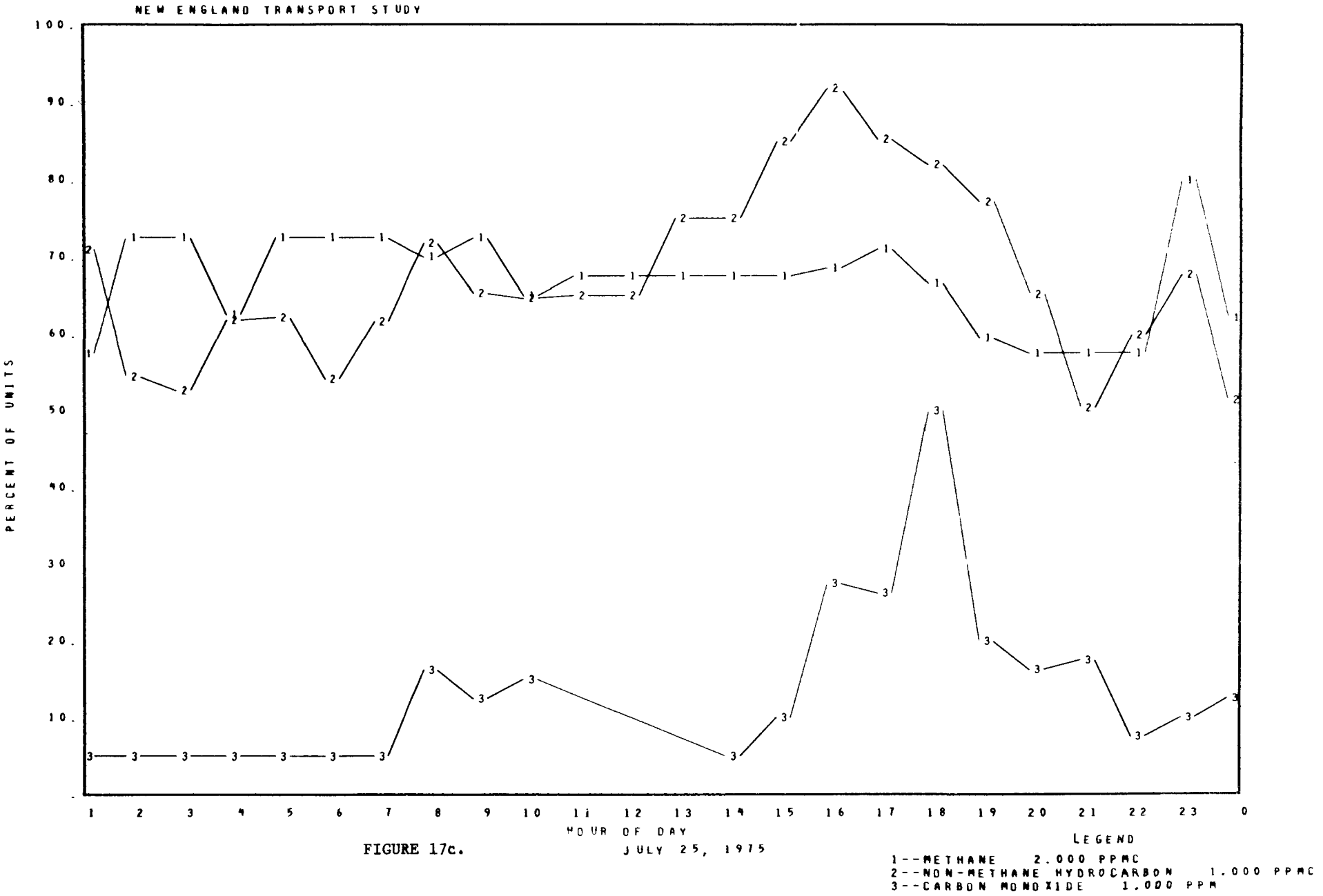

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 25, 1975
LEGEND
1--METHANE 2.000 PPMC
2--NON-METHANE HYDROCARBON 1.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 17c.

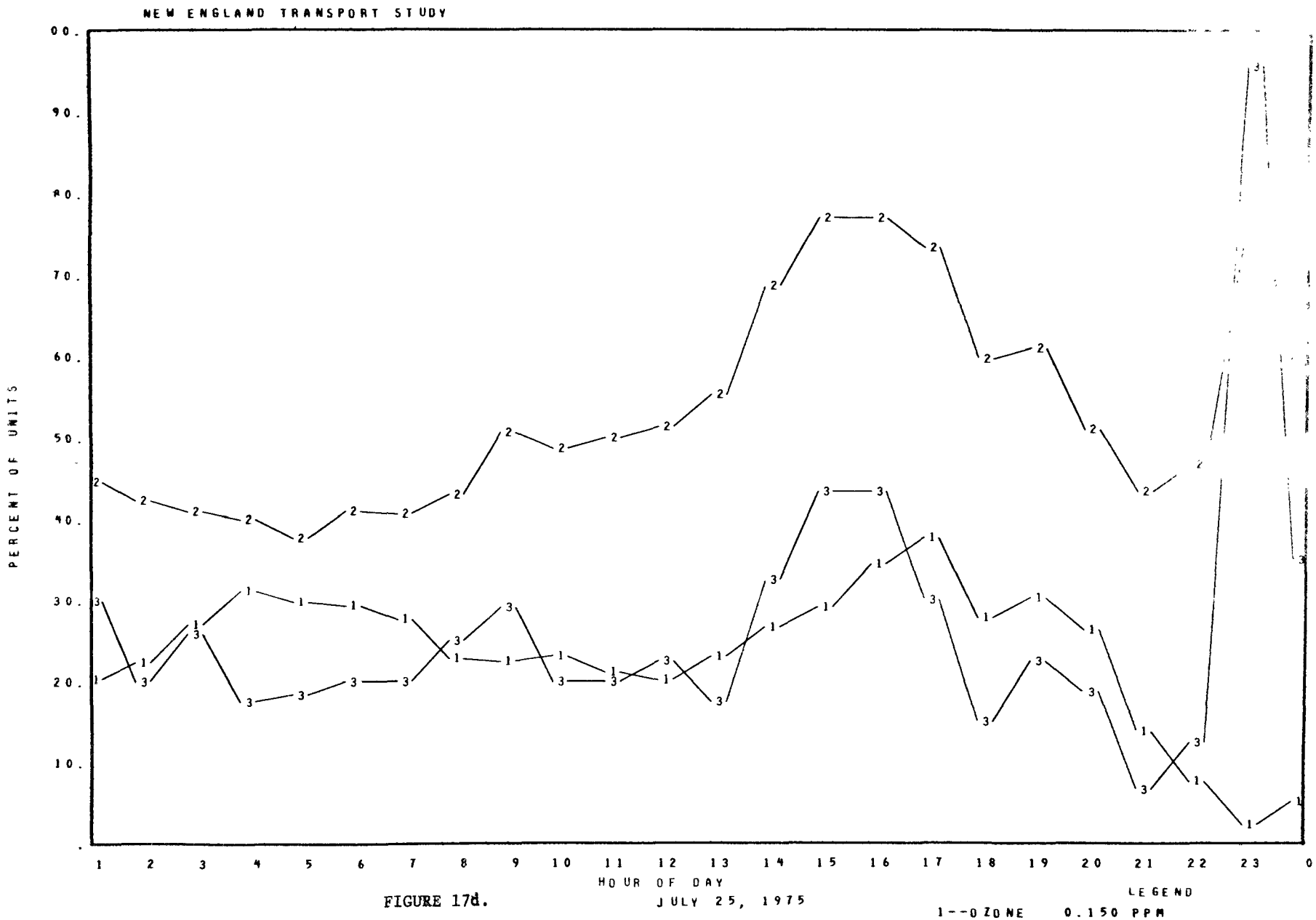
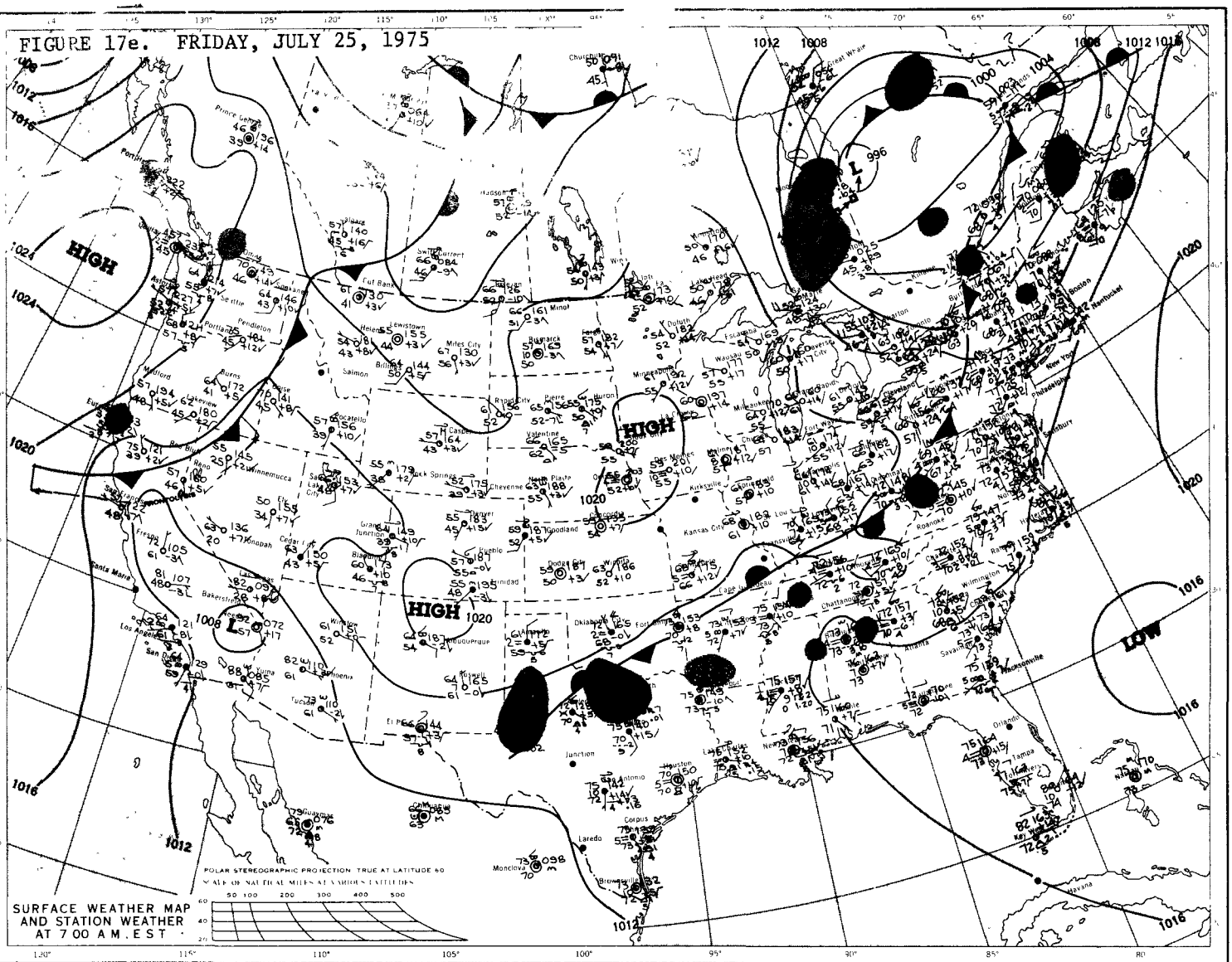
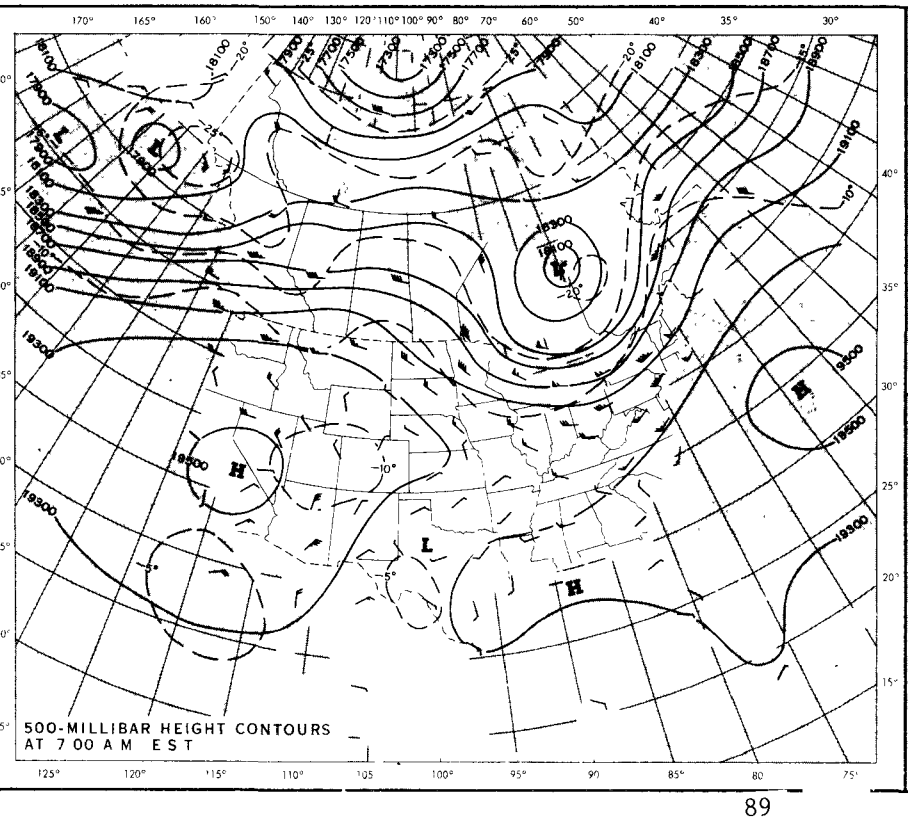

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 25, 1975
LEGEND
1--OZONE 0.150 PPM

FIGURE 17d.

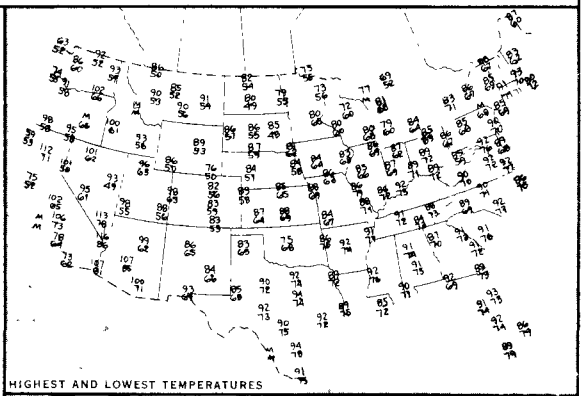
FIGURE 17e. FRIDAY, JULY 25, 1975



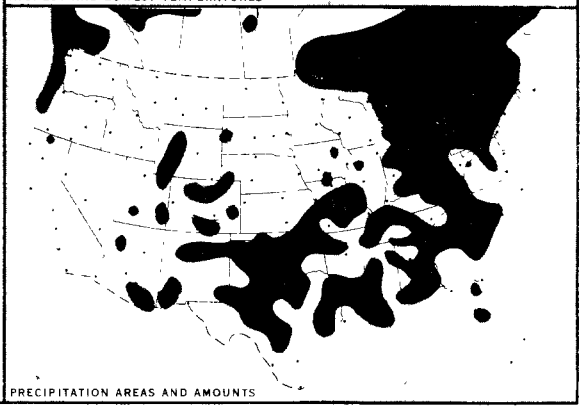

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A.M. EST



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 14a. JULY 26. 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.647 | 24 |
| 2--WIND SPEED (MPH) | 5.458 | 24 |
| 3--WIND DIRECTION (DEGREES) | 310.957 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 20.340 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 52.538 | 24 |
| 6--OZONE (PPM) | 0.026 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 24 |
| 10--METHANE (PPMC) | 1.363 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.397 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.087 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 135. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 147. | 24 |

TABLE 14b.

| SUBSTANCE | HOUR AVERAGES FOR JULY 26, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.925 | 2.375 | 3.900 | 5.325 | 5.150 | 7.150 |
| 2--WIND SPEED (MPH) | 7.300 | 5.900 | 5.500 | 6.100 | 2.300 | 1.200 | 1.800 | 2.400 | 5.300 | 10.600 | 8.500 | 9.200 |
| 3--WIND DIRECTION (DEGREES) | 323. | 325. | 324. | 319. | 327. | 228. | 333. | 355. | 298. | 322. | 316. | 323. |
| 4--TEMPERATURE (CENTIGRADE) | 19. | 18. | 18. | 17. | 15. | 14. | 17. | 20. | 21. | 22. | 22. | 24. |
| 5--RELATIVE HUMIDITY (PERCENT) | 70. | 62. | 59. | 59. | 66. | 73. | 71. | 57. | 47. | 43. | 41. | 37. |
| 6--OZONE (PPM) | 0.026 | 0.030 | 0.027 | 0.024 | 0.018 | 0.011 | 0.003 | 0.004 | 0.013 | 0.022 | 0.019 | 0.022 |
| 7--NITRIC OXIDE (PPM) | 0.000 | .000 | .000 | .000 | .000 | 0.000 | .000 | 0.000 | 0.001 | 0.002 | 0.003 | 0.003 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.000 | .000 | .000 | .000 | 0.000 | 0.001 | .000 | 0.002 | .000 | .000 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.002 | 0.000 | .000 | .000 | .000 | 0.001 | 0.001 | 0.000 | 0.003 | 0.002 | 0.003 | 0.005 |
| 10--METHANE (PPMC) | 1.208 | 1.205 | 1.183 | 1.196 | 1.189 | 1.715 | 1.635 | 1.396 | 1.273 | 1.271 | 1.228 | 1.208 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.330 | 0.298 | 0.312 | 0.300 | 0.357 | 0.358 | 0.420 | 0.258 | 0.325 | 0.322 | 0.372 | 0.419 |
| 12--CARBON MONOXIDE (PPM) | 0.062 | 0.050 | 0.063 | 0.050 | 0.050 | 0.050 | 0.175 | 0.062 | 0.067 | 0.075 | 0.112 | 0.050 |
| 19--FLUOROCARBON-11 (PPT) | 174. | 167. | 156. | 145. | 150. | 195. | 168. | 142. | 142. | 108. | 107. | 107. |
| 20--CARBON TETRACHLORIDE (PPT) | 210. | 225. | 225. | 210. | 180. | 210. | 202. | 277. | 277. | 190. | 120. | 60. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.375 | 7.225 | 6.825 | 6.175 | 5.150 | 3.750 | 1.750 | 0.375 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 8.000 | 9.300 | 8.200 | 7.400 | 6.500 | 7.700 | 7.600 | 4.100 | 1.700 | 1.500 | 1.700 | 1.200 |
| 3--WIND DIRECTION (DEGREES) | 340. | 341. | 325. | 313. | 312. | 310. | 315. | 315. | 267. | 303. | 248. | 281. |
| 4--TEMPERATURE (CENTIGRADE) | 24. | 25. | 26. | 26. | 27. | 27. | 24. | 22. | 18. | 15. | 14. | 13. |
| 5--RELATIVE HUMIDITY (PERCENT) | 34. | 32. | 30. | 28. | 27. | 28. | 31. | 39. | 61. | 84. | 89. | 93. |
| 6--OZONE (PPM) | 0.033 | 0.041 | 0.045 | 0.046 | 0.048 | 0.053 | 0.055 | 0.045 | 0.023 | 0.004 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.003 | 0.005 | 0.011 | 0.012 |
| 8--NITROGEN DIOXIDE (PPM) | .000 | 0.002 | .000 | 0.001 | .000 | 0.001 | 0.001 | 0.002 | 0.006 | 0.010 | 0.012 | 0.008 |
| 9--NITROGEN OXIDES (PPM) | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.004 | 0.009 | 0.015 | 0.023 | 0.019 |
| 10--METHANE (PPMC) | 1.188 | 1.188 | 1.190 | 1.135 | 1.178 | 1.156 | 1.188 | 1.211 | 1.798 | 1.749 | 2.193 | 1.840 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.425 | 0.413 | 0.443 | 0.518 | 0.540 | 0.394 | 0.392 | 0.375 | 0.442 | 0.367 | 0.595 | 0.558 |
| 12--CARBON MONOXIDE (PPM) | 0.025 | 0.050 | 0.050 | 0.025 | 0.067 | .000 | 0.013 | .000 | 0.050 | 0.188 | 0.275 | 0.475 |
| 19--FLUOROCARBON-11 (PPT) | 100. | 96. | 97. | 107. | 100. | 115. | 124. | 113. | 122. | 178. | 139. | 182. |
| 20--CARBON TETRACHLORIDE (PPT) | 55. | 105. | 25. | 225. | 75. | 90. | 50. | 70. | 120. | 90. | 105. | 120. |

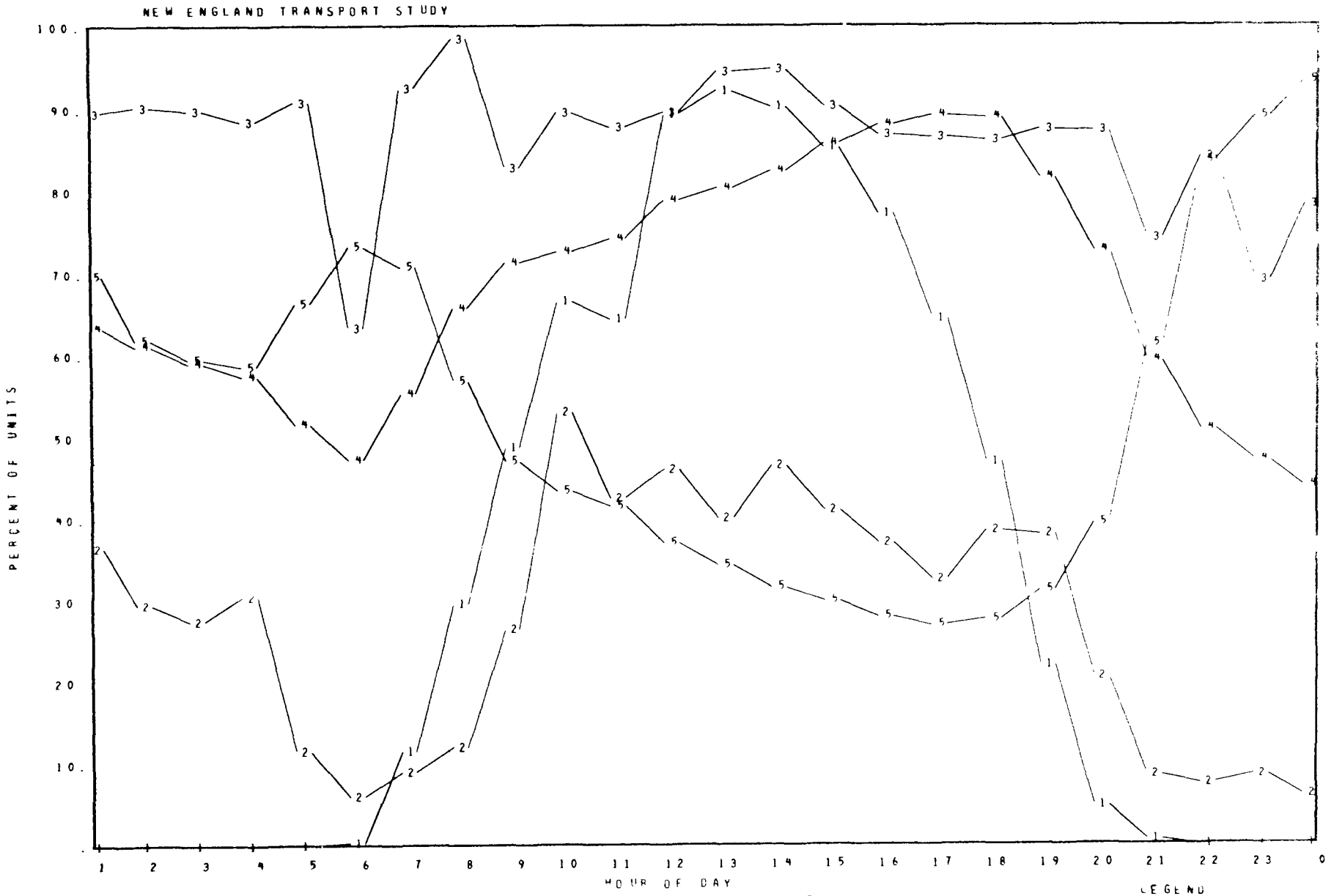



FIGURE 18a.

LEGEND

1--GLOBAL IRRADIANCE 8 000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

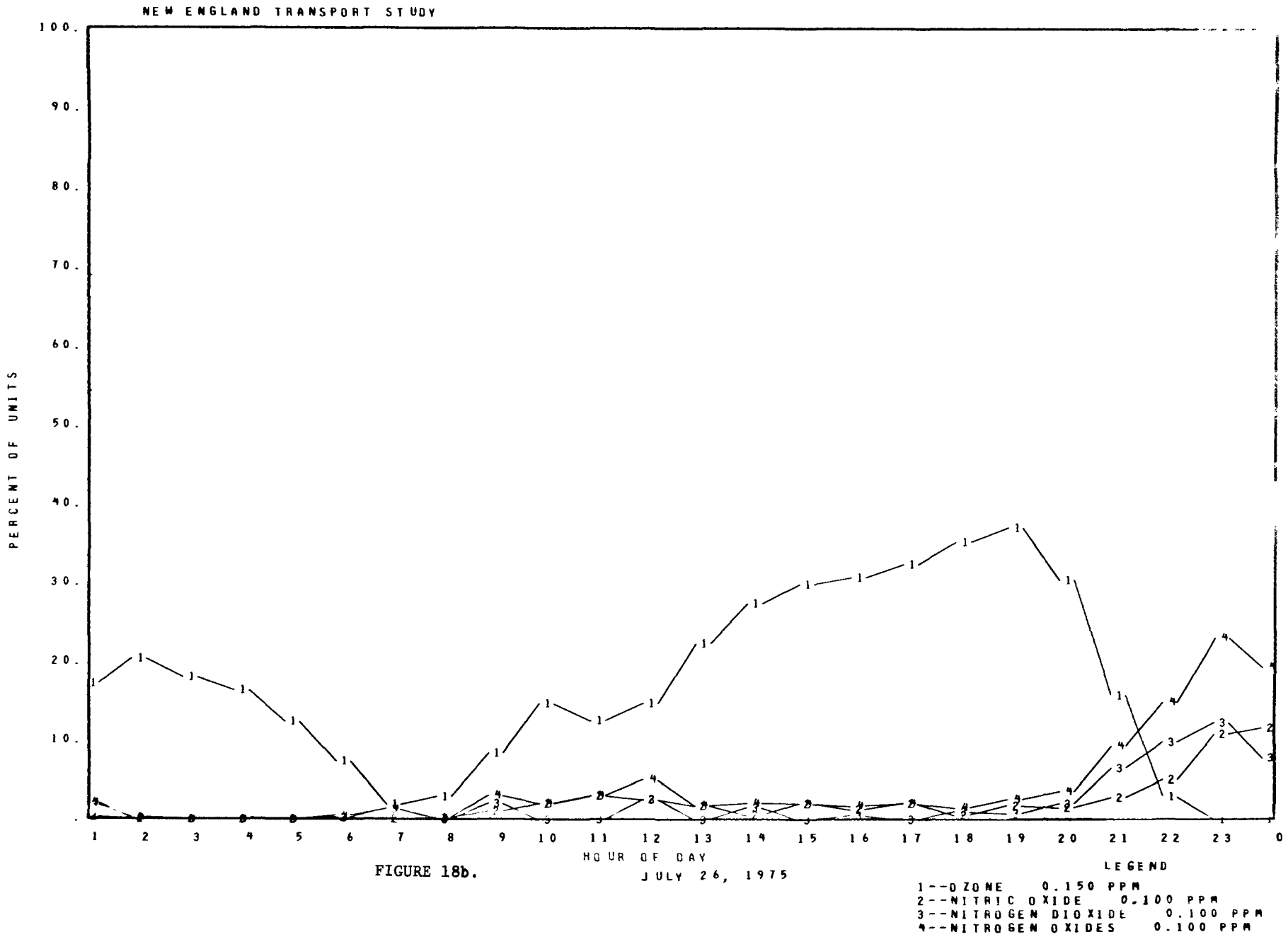

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 26, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 18b.

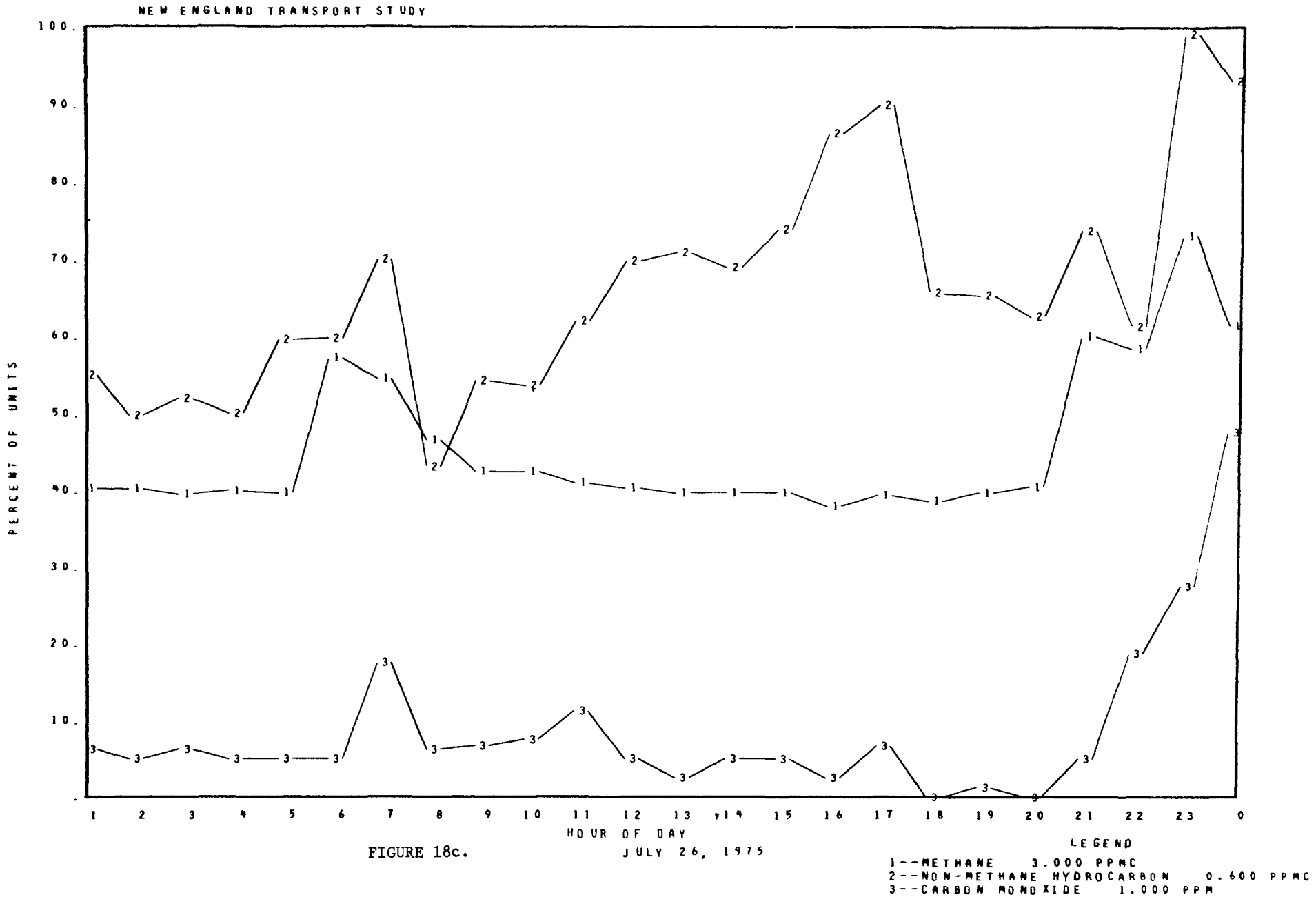



FIGURE 18c. JULY 26, 1975

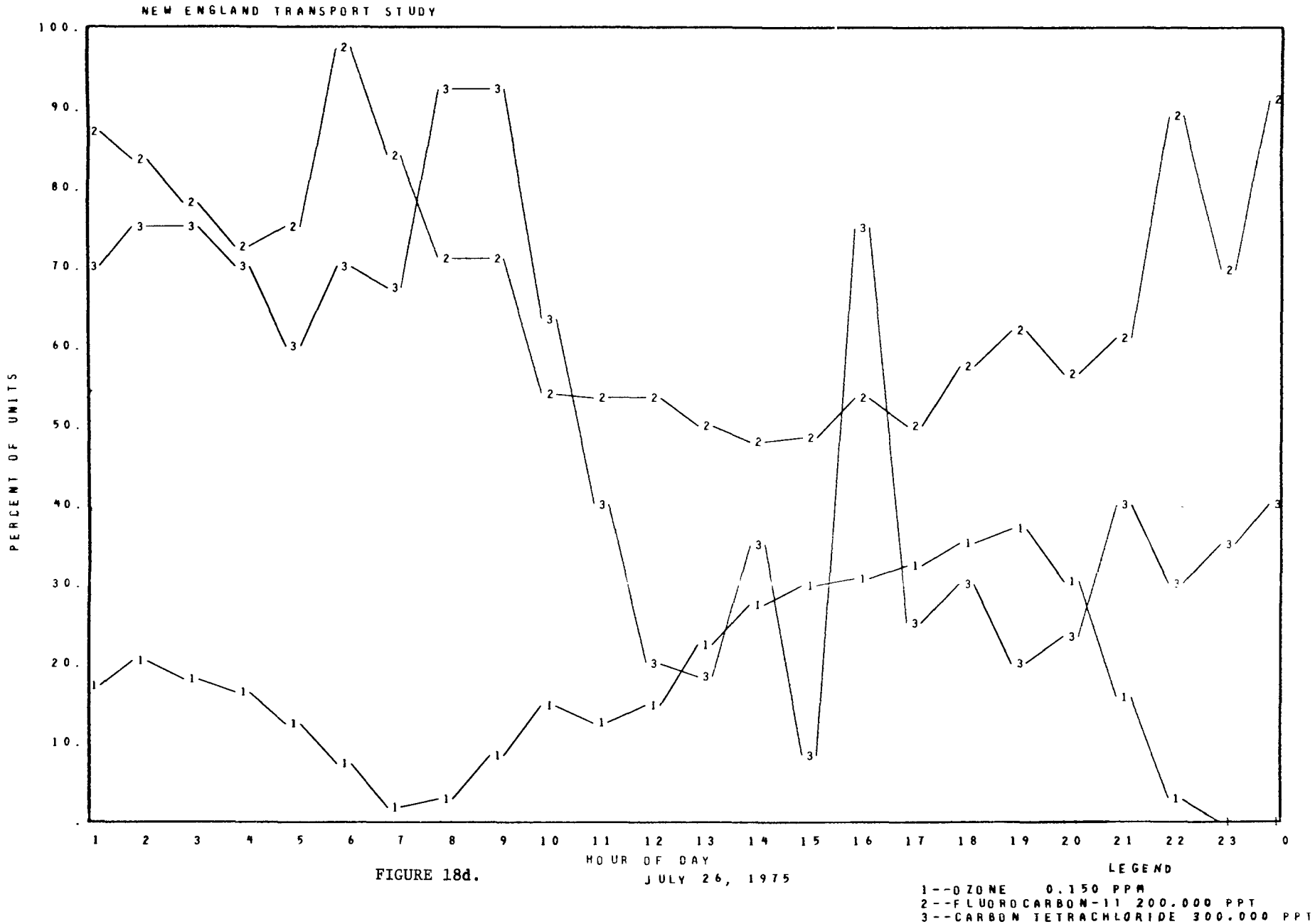
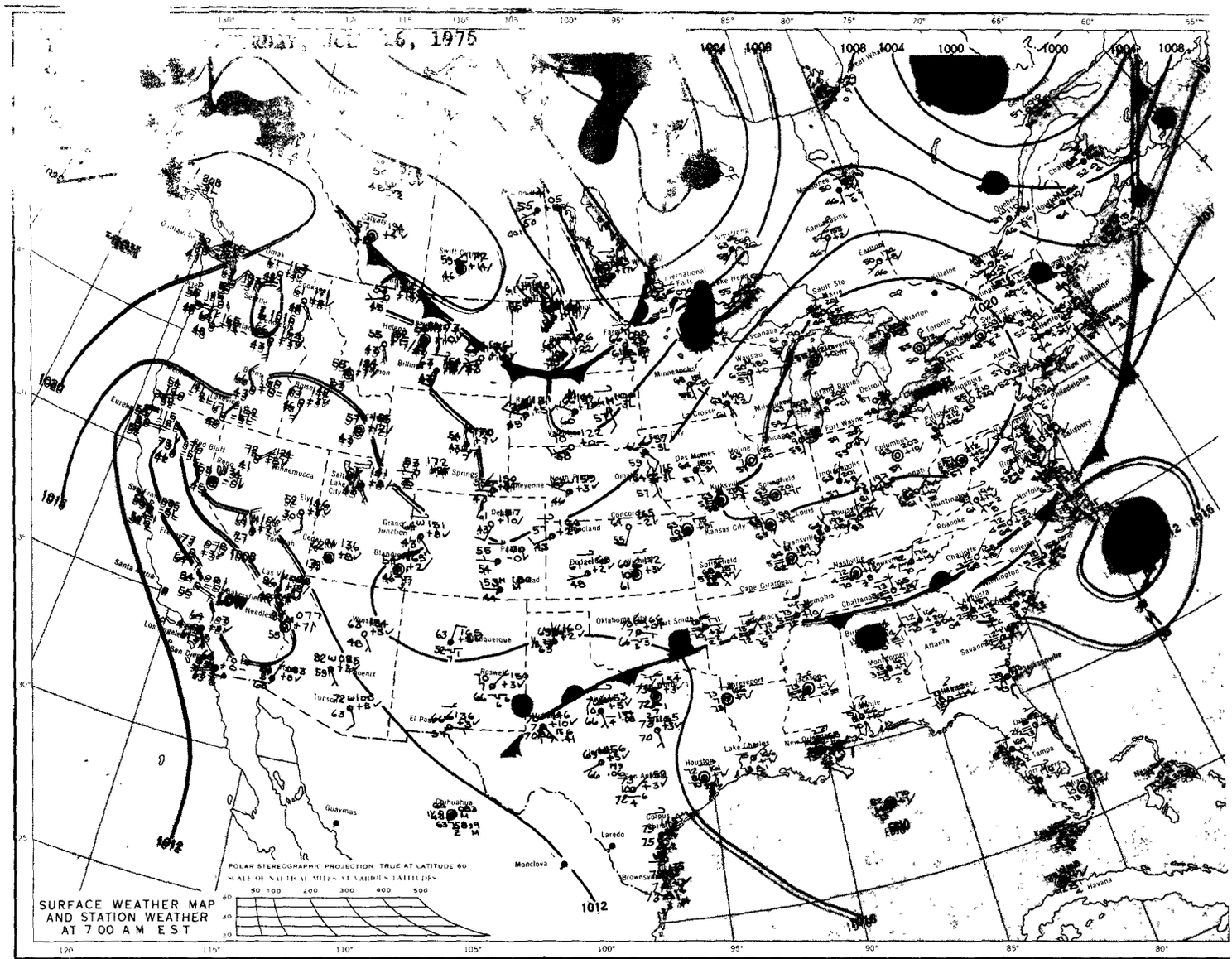
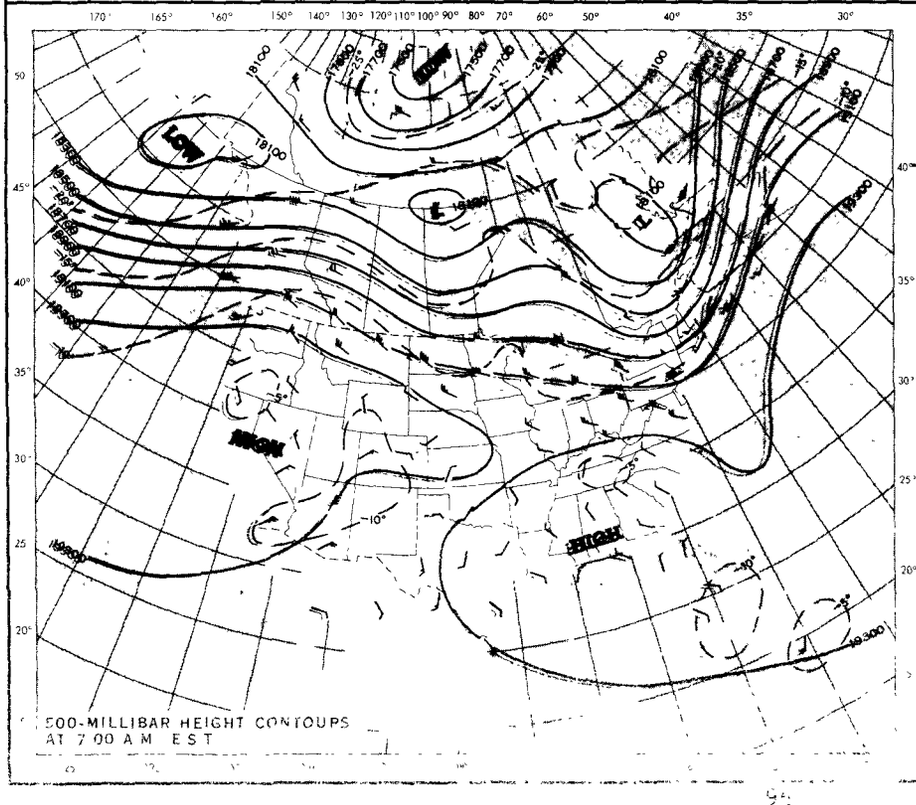

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 26, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 300.000 PPT

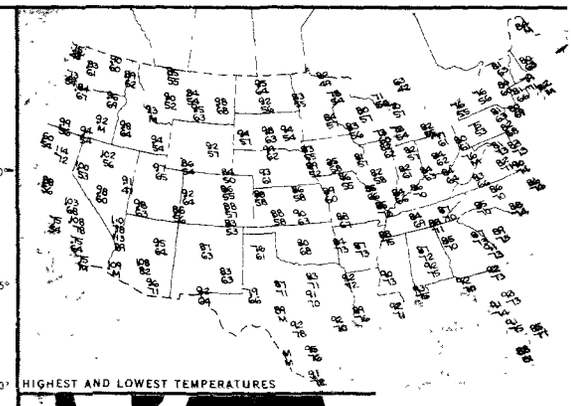
FIGURE 18d.




SURFACE WEATHER MAP
AND STATION WEATHER
AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS
AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES

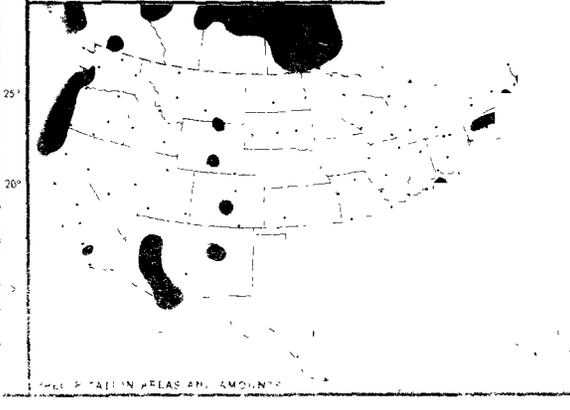


TABLE 15a. JULY 27. 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MI | 2.645 | 24 |
| 2--WIND SPEED (MPH) | 2.787 | 24 |
| 3--WIND DIRECTION (DEGREES) | 237.225 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 19.935 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 61.219 | 24 |
| 6--OZONE (PPM) | 0.037 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 1.424 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.524 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.114 | 23 |
| 13--ETHANE (PPMC) | 0.003 | 8 |
| 14--ETHYLENE (PPMC) | 0.011 | 9 |
| 16--ACETYLENE (PPMC) | 0.013 | 9 |
| 19--FLUOROCARBON-11 (PPT) | 139. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 98. | 24 |

TABLE 15b.

SUBSTANCE — HOUR AVERAGES FOR JULY 27, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.900 | 2.375 | 3.875 | 5.150 | 6.175 | 6.875 |
| 2--WIND SPEED (MPH) | 1.400 | 0.900 | 0.800 | 1.400 | 1.300 | 0.800 | 1.000 | 1.800 | 1.700 | 1.900 | 3.000 | 5.100 |
| 3--WIND DIRECTION (DEGREES) | 335. | 325. | 305. | 336. | 320. | 309. | 164. | 341. | 357. | 210. | 156. | 194. |
| 4--TEMPERATURE (CENTIGRADE) | 13. | 12. | 11. | 11. | 10. | 10. | 13. | 16. | 19. | 22. | 25. | 26. |
| 5--RELATIVE HUMIDITY (PERCENT) | 95. | 98. | 100. | 100. | 100. | 100. | 86. | 70. | 61. | 46. | 40. | 34. |
| 6--OZONE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.005 | 0.010 | 0.030 | 0.038 | 0.050 |
| 7--NITRIC OXIDE (PPM) | 0.010 | 0.005 | 0.003 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 0.002 | 0.000 | 0.000 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.008 | 0.004 | 0.004 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.003 | 0.003 | 0.002 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.018 | 0.009 | 0.007 | 0.003 | 0.002 | 0.002 | 0.001 | 0.001 | 0.004 | 0.003 | 0.003 | 0.001 |
| 10--METHANE (PPMC) | 1.650 | 1.190 | 1.190 | 1.190 | 1.190 | 1.200 | 2.550 | 1.550 | 1.280 | 1.190 | 1.150 | 1.150 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.488 | 0.573 | 0.471 | 0.484 | 0.375 | 0.363 | 0.609 | 0.416 | 0.405 | 0.400 | 0.466 | 0.485 |
| 12--CARBON MONOXIDE (PPM) | 0.325 | 0.212 | 0.225 | 0.162 | 0.100 | 0.062 | 0.100 | 0.087 | 0.075 | 0.075 | 0.062 | -0.031 |
| 13--ETHANE (PPMC) | 0.005 | -0.005 | 0.005 | 0.003 | 0.004 | -0.004 | -0.005 | -0.005 | -0.005 | -0.006 | 0.006 | -0.006 |
| 14--ETHYLENE (PPMC) | 0.014 | -0.012 | 0.010 | 0.004 | 0.004 | -0.008 | -0.013 | -0.017 | -0.022 | -0.026 | 0.031 | 0.013 |
| 15--ACETYLENE (PPMC) | 0.014 | -0.011 | 0.009 | 0.006 | 0.007 | -0.015 | -0.024 | -0.032 | -0.041 | -0.049 | 0.058 | 0.011 |
| 19--FLUOROCARBON-11 (PPT) | 157. | 135. | 150. | 139. | 121. | 126. | 203. | 118. | 118. | 110. | 118. | 106. |
| 20--CARBON TETRACHLORIDE (PPT) | 105. | 90. | 100. | 90. | 105. | 100. | 135. | 75. | 60. | 115. | 100. | 65. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.250 | 7.200 | 6.825 | 6.150 | 5.100 | 3.600 | 1.525 | 0.375 | 0.075 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.500 | 4.300 | 4.300 | 4.500 | 5.000 | 5.000 | 6.700 | 4.100 | 1.600 | 2.000 | 1.600 | 2.200 |
| 3--WIND DIRECTION (DEGREES) | 171. | 204. | 206. | 185. | 196. | 171. | 164. | 189. | 211. | 213. | 243. | 190. |
| 4--TEMPERATURE (CENTIGRADE) | 27. | 27. | 28. | 29. | 29. | 29. | 26. | 24. | 20. | 18. | 16. | 16. |
| 5--RELATIVE HUMIDITY (PERCENT) | 33. | 31. | 29. | 29. | 29. | 30. | 35. | 42. | 54. | 66. | 80. | 83. |
| 6--OZONE (PPM) | 0.064 | 0.081 | 0.089 | 0.092 | 0.088 | 0.076 | 0.078 | 0.079 | 0.056 | 0.028 | 0.017 | 0.016 |
| 7--NITRIC OXIDE (PPM) | 0.000 | 0.001 | 0.001 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.005 | 0.003 | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.009 | 0.014 | 0.014 | 0.014 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.006 | 0.003 | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.009 | 0.014 | 0.015 | 0.015 |
| 10--METHANE (PPMC) | 1.150 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.150 | 1.300 | 1.830 | 1.960 | 2.850 | 1.950 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.613 | 0.596 | 0.600 | 0.564 | 0.535 | 0.536 | 0.701 | 0.481 | 0.528 | 0.668 | 0.650 | 0.566 |
| 12--CARBON MONOXIDE (PPM) | .000 | .000 | .000 | 0.063 | 0.025 | 0.013 | 0.025 | 0.062 | 0.138 | 0.225 | 0.250 | 0.325 |
| 13--ETHANE (PPMC) | -0.005 | -0.005 | -0.005 | -0.004 | -0.004 | -0.003 | -0.003 | -0.003 | -0.002 | 0.002 | 0.001 | 0.002 |
| 14--ETHYLENE (PPMC) | -0.013 | -0.012 | -0.012 | -0.011 | -0.011 | -0.011 | -0.010 | -0.010 | -0.009 | 0.009 | 0.004 | 0.007 |
| 15--ACETYLENE (PPMC) | -0.010 | -0.010 | -0.009 | -0.008 | -0.007 | -0.007 | -0.006 | -0.005 | -0.005 | 0.004 | 0.006 | 0.006 |
| 19--FLUOROCARBON-11 (PPT) | 116. | 136. | 134. | 130. | 124. | 129. | 128. | 152. | 184. | 158. | 162. | 182. |
| 20--CARBON TETRACHLORIDE (PPT) | . | 135. | 95. | 130. | 80. | 105. | 105. | 115. | 135. | 105. | 120. | 95. |

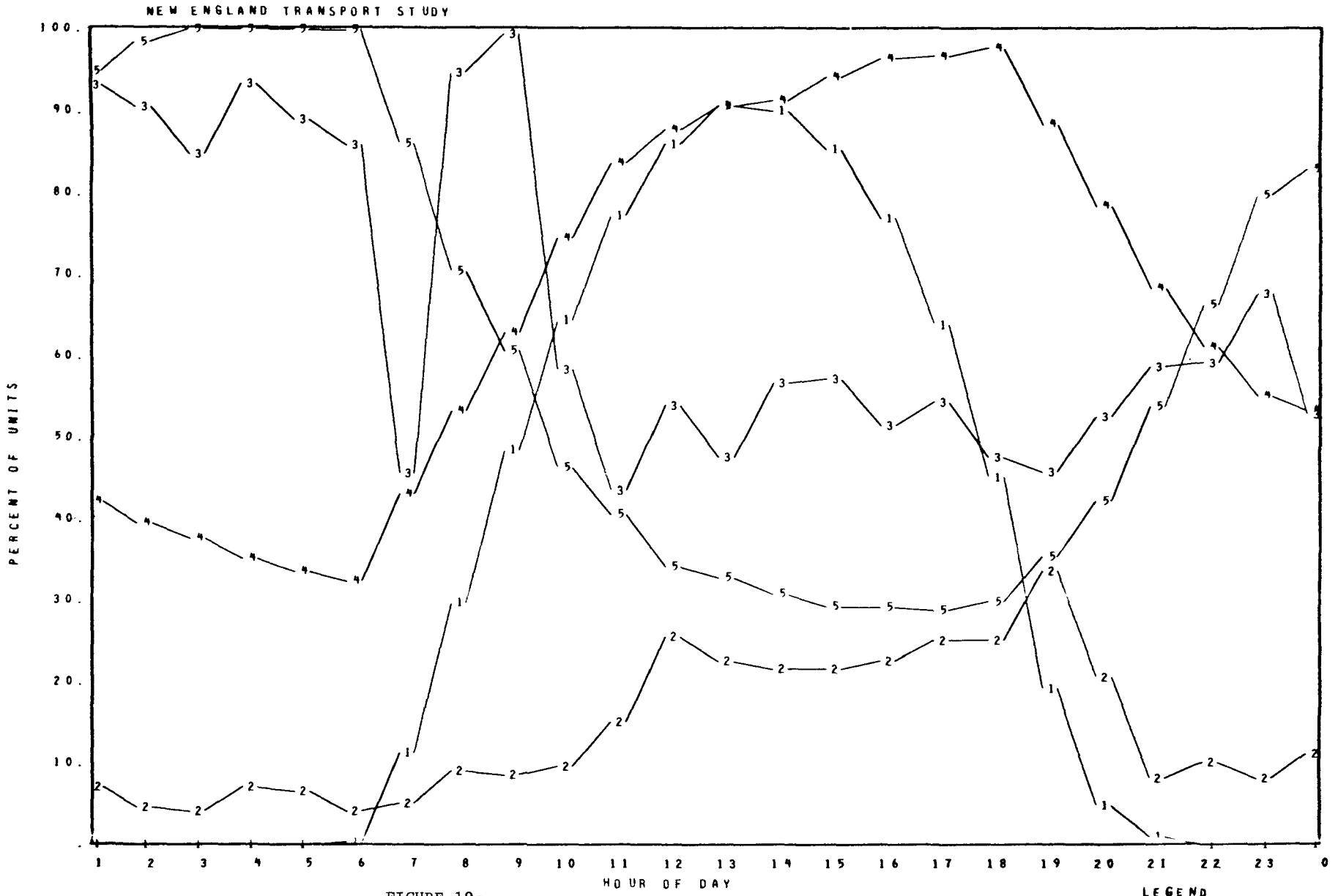



FIGURE 19a.

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

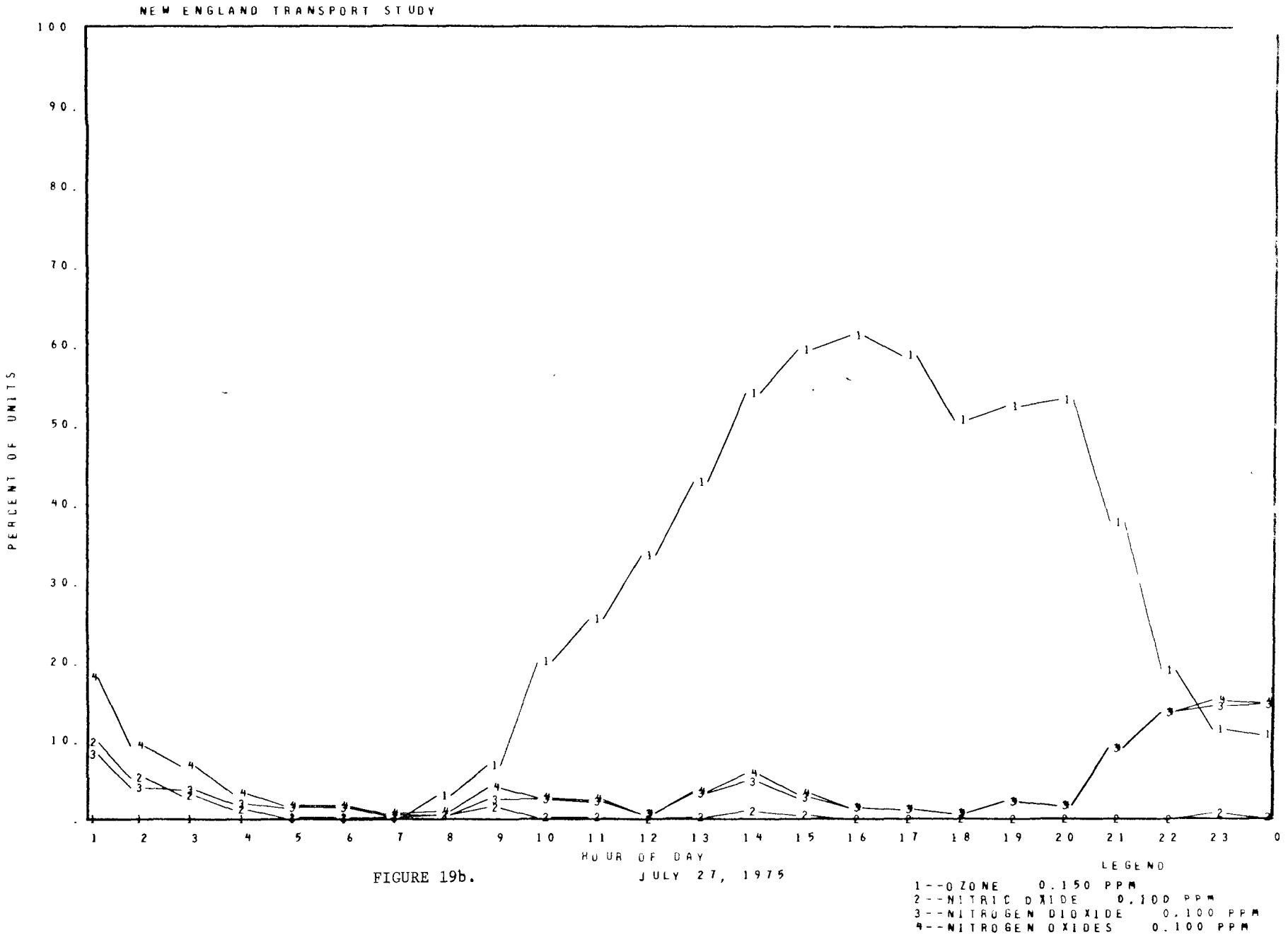

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 27, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 19b.

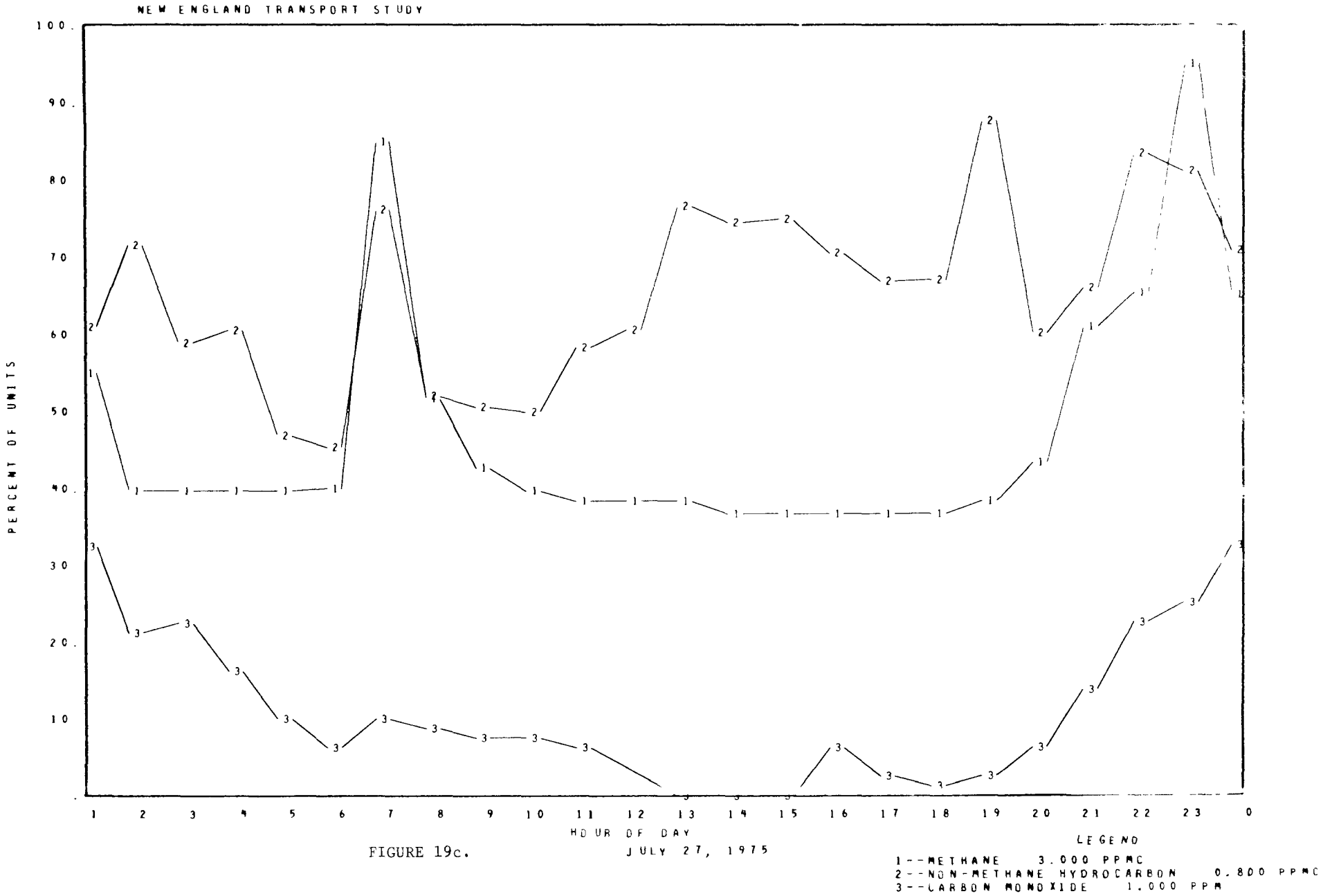

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70
60
50
40.
30
20.
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 27, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 0.800 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 19c.

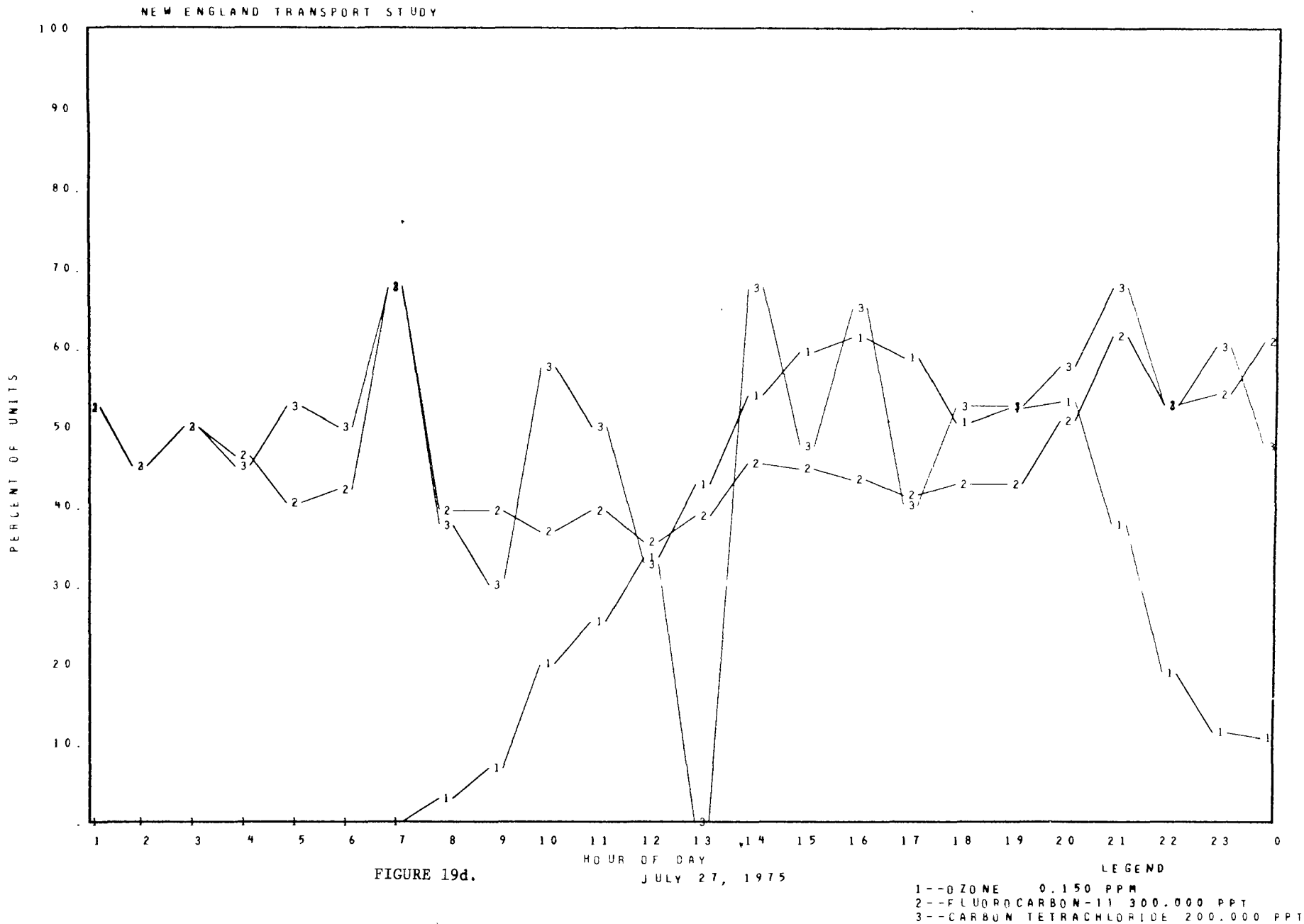
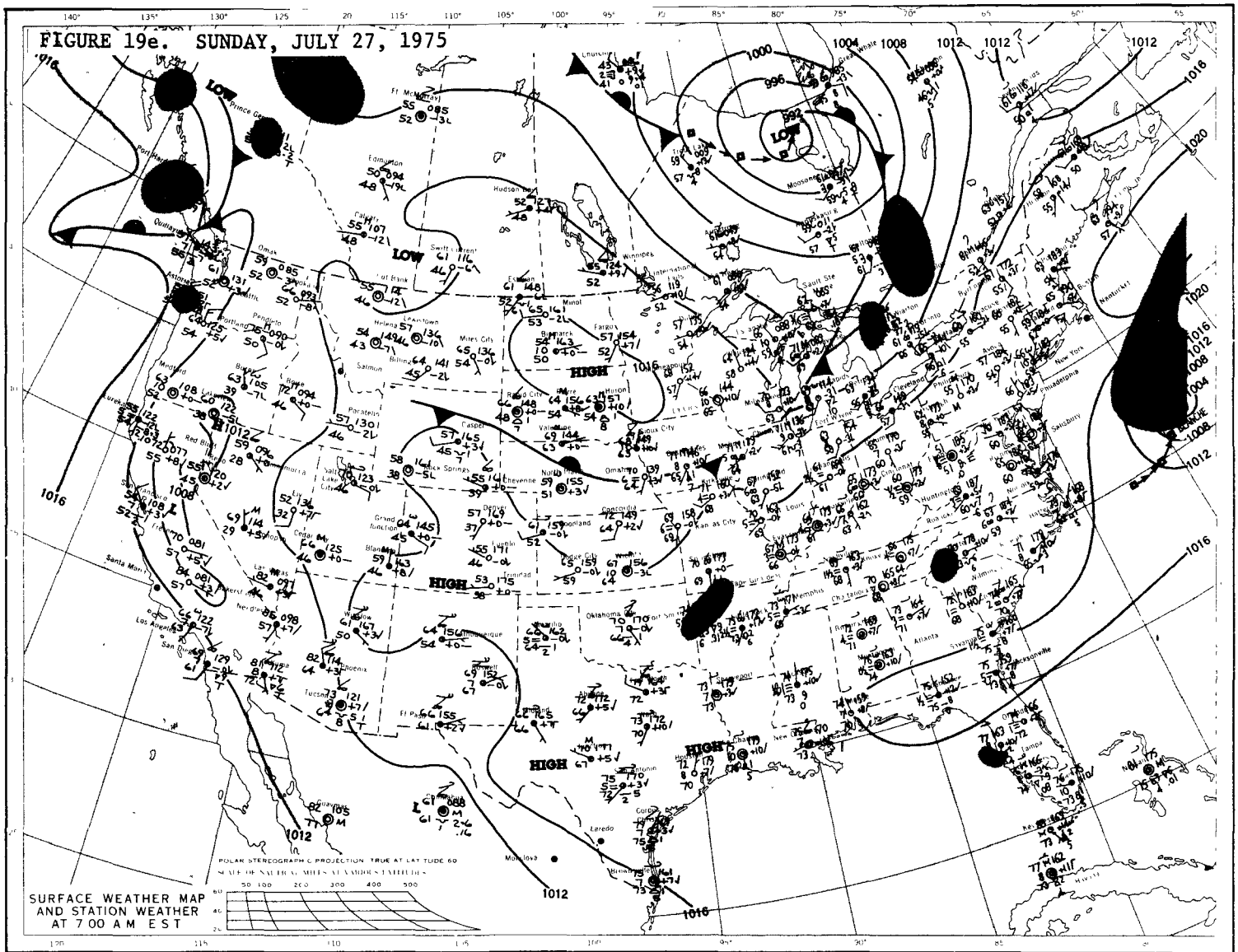
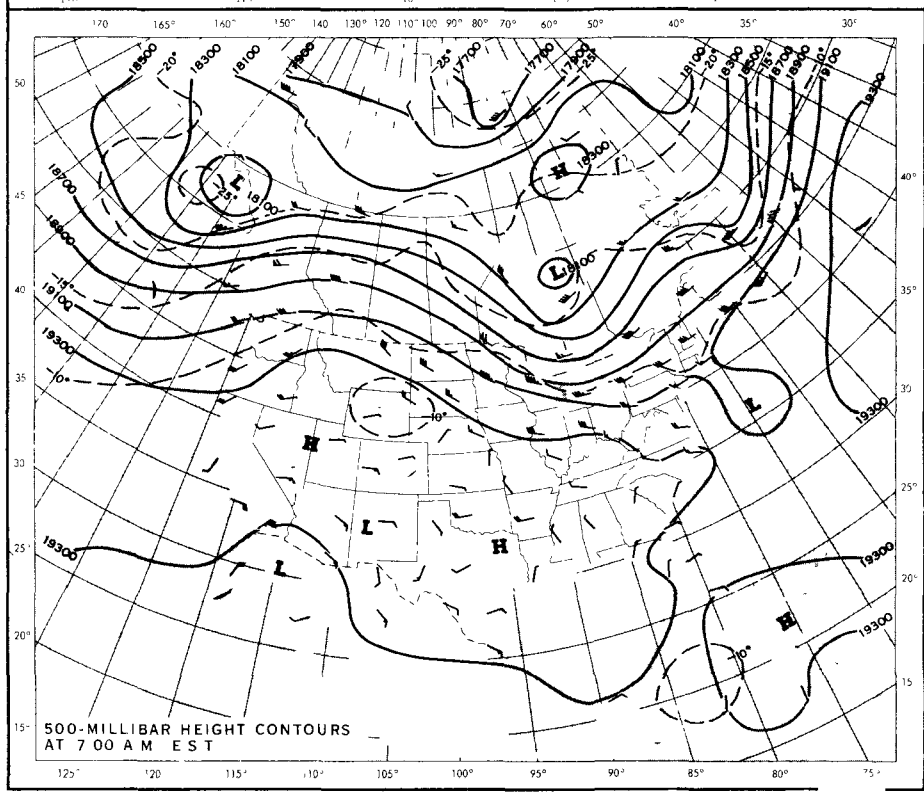

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 27, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 19d.

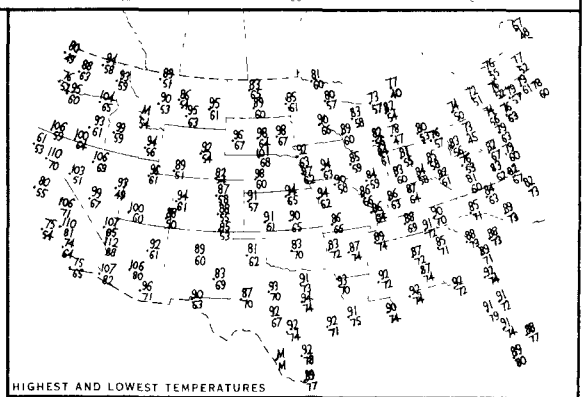
FIGURE 19e. SUNDAY, JULY 27, 1975



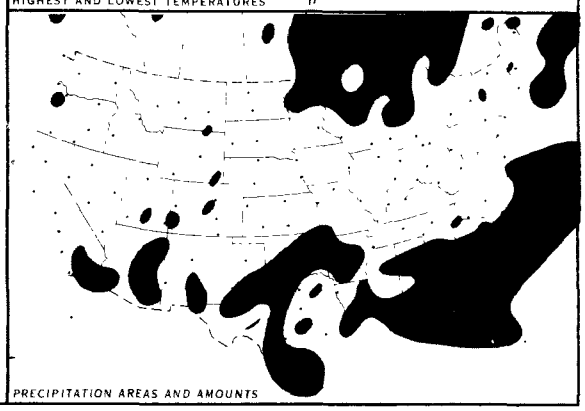

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 16a. JULY 28, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.157 | 24 |
| 2--WIND SPEED (MPH) | 3.000 | 24 |
| 3--WIND DIRECTION (DEGREES) | 215.100 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 22.863 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 61.863 | 24 |
| 6--OZONE (PPM) | 0.023 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.009 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.012 | 24 |
| 10--METHANE (PPMC) | 1.770 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.363 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.284 | 24 |
| 13--ETHANE (PPMC) | 0.003 | 15 |
| 14--ETHYLENE (PPMC) | 0.007 | 15 |
| 16--ACETYLENE (PPMC) | 0.007 | 15 |
| 19--FLUOROCARBON-11 (PPT) | 158. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 133. | 24 |

TABLE 16b.

SUBSTANCE HOUR AVERAGES FOR JULY 28, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.200 | 0.825 | 1.600 | 4.500 | 5.750 | 6.575 |
| 2--WIND SPEED (MPH) | 1.500 | 1.900 | 2.600 | 2.200 | 3.500 | 3.400 | 1.900 | 3.200 | 5.300 | 4.800 | 4.100 | 3.700 |
| 3--WIND DIRECTION (DEGREES) | 169. | 195. | 191. | 185. | 182. | 189. | 151. | 180. | 167. | 189. | 226. | 265. |
| 4--TEMPERATURE (CENTIGRADE) | 15. | 15. | 15. | 16. | 16. | 17. | 18. | 19. | 21. | 24. | 27. | 29. |
| 5--RELATIVE HUMIDITY (PERCENT) | 86. | 88. | 90. | 91. | 90. | 89. | 88. | 82. | 73. | 62. | 50. | 41. |
| 6--OZONE (PPM) | 0.009 | 0.006 | 0.002 | 0.000 | 0.002 | 0.002 | 0.010 | 0.014 | 0.020 | 0.038 | 0.064 | 0.062 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.001 | 0.003 | 0.004 | 0.003 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.015 | 0.014 | 0.014 | 0.016 | 0.017 | 0.015 | 0.013 | 0.013 | 0.015 | 0.012 | 0.008 | 0.004 |
| 9--NITROGEN OXIDES (PPM) | 0.015 | 0.014 | 0.014 | 0.016 | 0.017 | 0.015 | 0.013 | 0.014 | 0.018 | 0.016 | 0.010 | 0.006 |
| 10--METHANE (PPMC) | 2.876 | 3.121 | 2.403 | 2.033 | 1.846 | 1.933 | 1.925 | 1.646 | 1.626 | 1.705 | 1.610 | 1.441 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.467 | 0.501 | 0.518 | 0.272 | 0.210 | 0.220 | 0.235 | 0.215 | 0.282 | 0.388 | 0.236 | 0.273 |
| 12--CARBON MONOXIDE (PPM) | 0.437 | 0.400 | 0.475 | 0.550 | 0.550 | 0.500 | 0.412 | 0.375 | 0.525 | 0.562 | 0.287 | 0.050 |
| 13--ETHANE (PPMC) | 0.003 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.004 | 0.003 | 0.003 | 0.011 | 0.003 | -0.003 |
| 14--ETHYLENE (PPMC) | 0.006 | 0.005 | 0.006 | 0.008 | 0.007 | 0.005 | 0.005 | 0.005 | 0.005 | 0.008 | 0.004 | -0.004 |
| 16--ACETYLENE (PPMC) | 0.005 | 0.006 | 0.005 | 0.006 | 0.003 | 0.004 | 0.006 | 0.006 | 0.007 | 0.004 | 0.007 | -0.007 |
| 19--FLUOROCARBON-11 (PPT) | 212. | 204. | 185. | 190. | 182. | 186. | 163. | 196. | 221. | 184. | 143. | 119. |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 115. | 120. | 160. | 165. | 158. | 170. | 300. | 145. | 160. | 112. | 60. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.350 | 6.425 | 6.650 | 4.350 | 3.875 | 2.975 | 1.275 | 0.350 | 0.075 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.000 | 3.900 | 4.400 | 4.300 | 3.300 | 3.100 | 1.800 | 2.250 | 1.550 | 1.400 | 2.000 | 1.90 |
| 3--WIND DIRECTION (DEGREES) | 260. | 253. | 243. | 261. | 247. | 265. | 249. | 232. | 261. | 190. | 173. | 23[illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 30. | 31. | 31. | 30. | 30. | 30. | 28. | 26. | 23. | 20. | 18. | 1[illegible] |
| 5--RELATIVE HUMIDITY (PERCENT) | 35. | 34. | 31. | 30. | 33. | 32. | 35. | 41. | 50. | 69. | 81. | 83. |
| 6--OZONE (PPM) | 0.052 | 0.055 | 0.043 | 0.046 | 0.039 | 0.034 | 0.024 | 0.011 | 0.017 | 0.003 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.003 | 0.002 | 0.002 | 0.006 | 0.005 | 0.003 | 0.002 | 0.003 | 0.008 | 0.008 | 0.010 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.002 | 0.002 | 0.002 | 0.005 | 0.003 | 0.002 | 0.004 | 0.003 | 0.009 | 0.013 | 0.014 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.005 | 0.005 | 0.004 | 0.011 | 0.007 | 0.005 | 0.006 | 0.006 | 0.017 | 0.021 | 0.023 |
| 10--METHANE (PPMC) | 1.421 | 1.348 | 1.304 | 1.303 | 1.286 | 1.281 | 1.275 | 1.283 | 1.294 | 2.308 | 2.464 | 1.753 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.440 | 0.398 | 0.415 | 0.392 | 0.448 | 0.345 | 0.245 | 0.343 | 0.233 | 0.596 | 0.473 | 0.553 |
| 12--CARBON MONOXIDE (PPM) | 0.017 | 0.037 | 0.025 | 0.025 | 0.187 | 0.062 | 0.087 | 0.050 | 0.087 | 0.237 | 0.325 | 0.550 |
| 13--ETHANE (PPMC) | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | -0.003 | 0.003 | 0.003 | 0.004 | 0.005 |
| 14--ETHYLENE (PPMC) | -0.005 | -0.005 | -0.006 | -0.006 | -0.006 | -0.007 | -0.007 | -0.008 | 0.008 | 0.008 | 0.008 | 0.010 |
| 16--ACETYLENE (PPMC) | -0.007 | -0.008 | -0.008 | -0.008 | -0.008 | -0.008 | -0.009 | -0.009 | 0.009 | 0.009 | 0.012 | 0.011 |
| 19--FLUOROCARBON-11 (PPT) | 111. | 111. | 103. | 103. | 103. | 100. | 107. | 109. | 115. | 319. | 160. | 160. |
| 20--CARBON TETRACHLORIDE (PPT) | 135. | 135. | 90. | 97. | 120. | 175. | 65. | 67. | 150. | 75. | 135. | 165. |

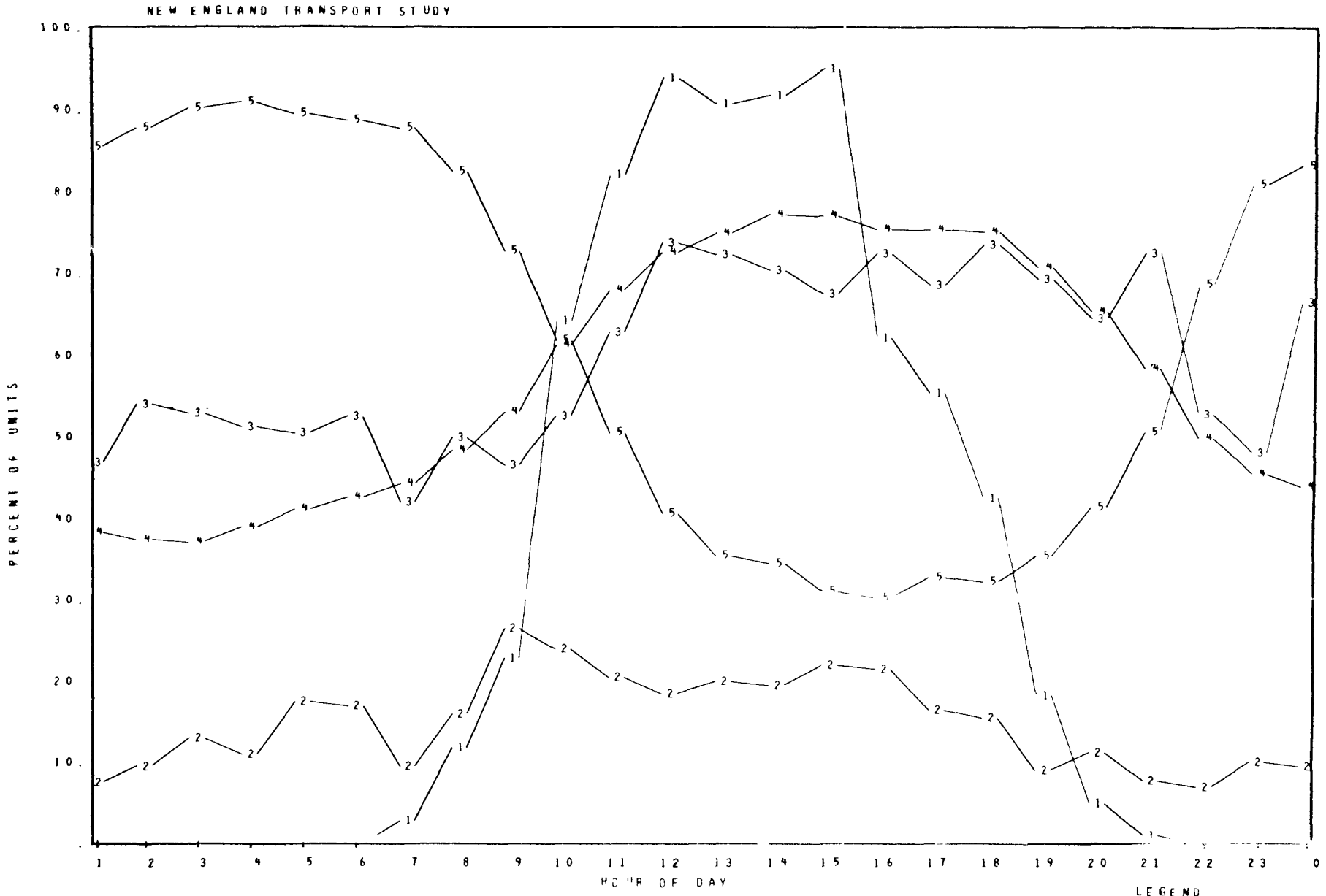



FIGURE 20a.

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

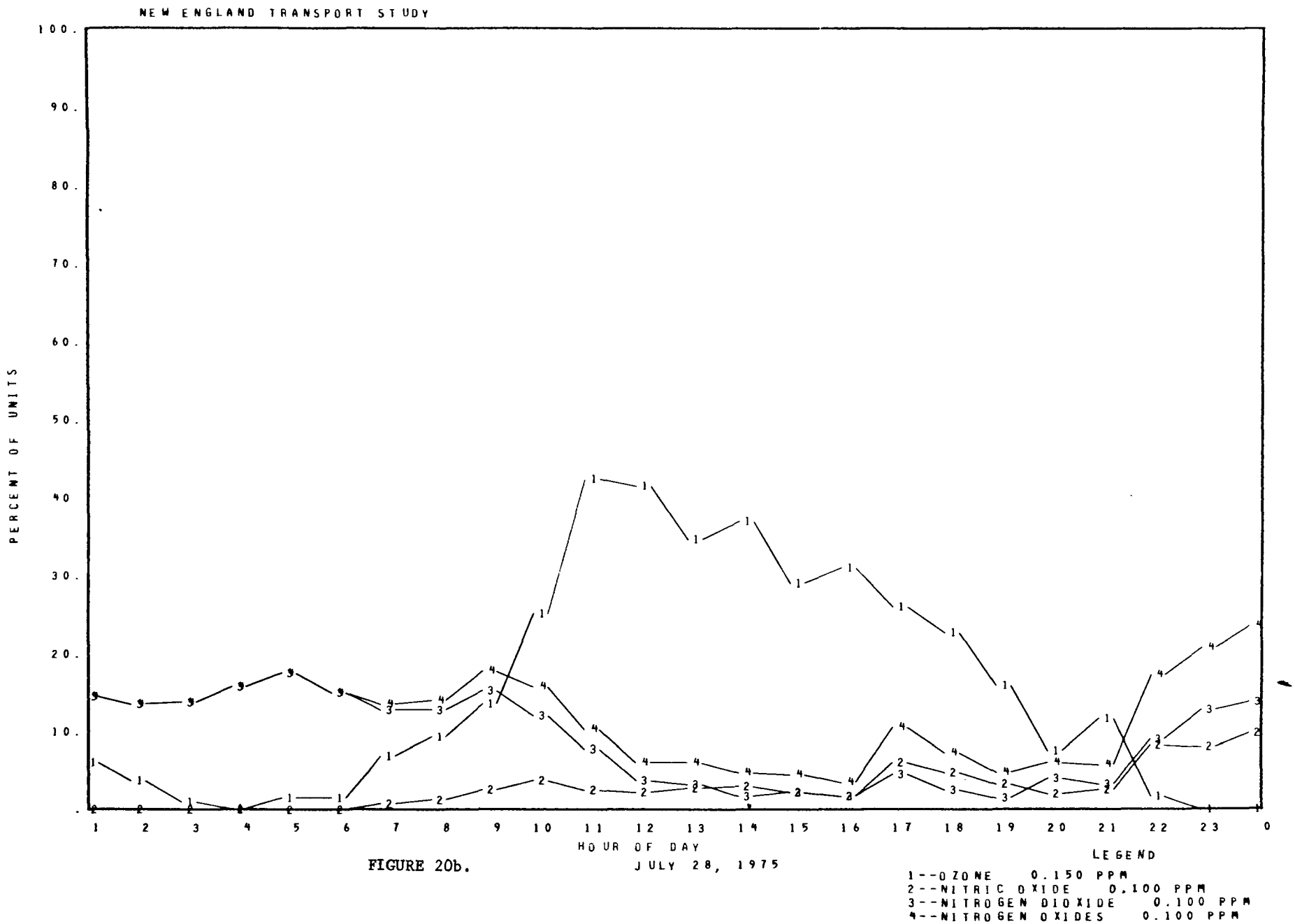



FIGURE 20b. JULY 28, 1975

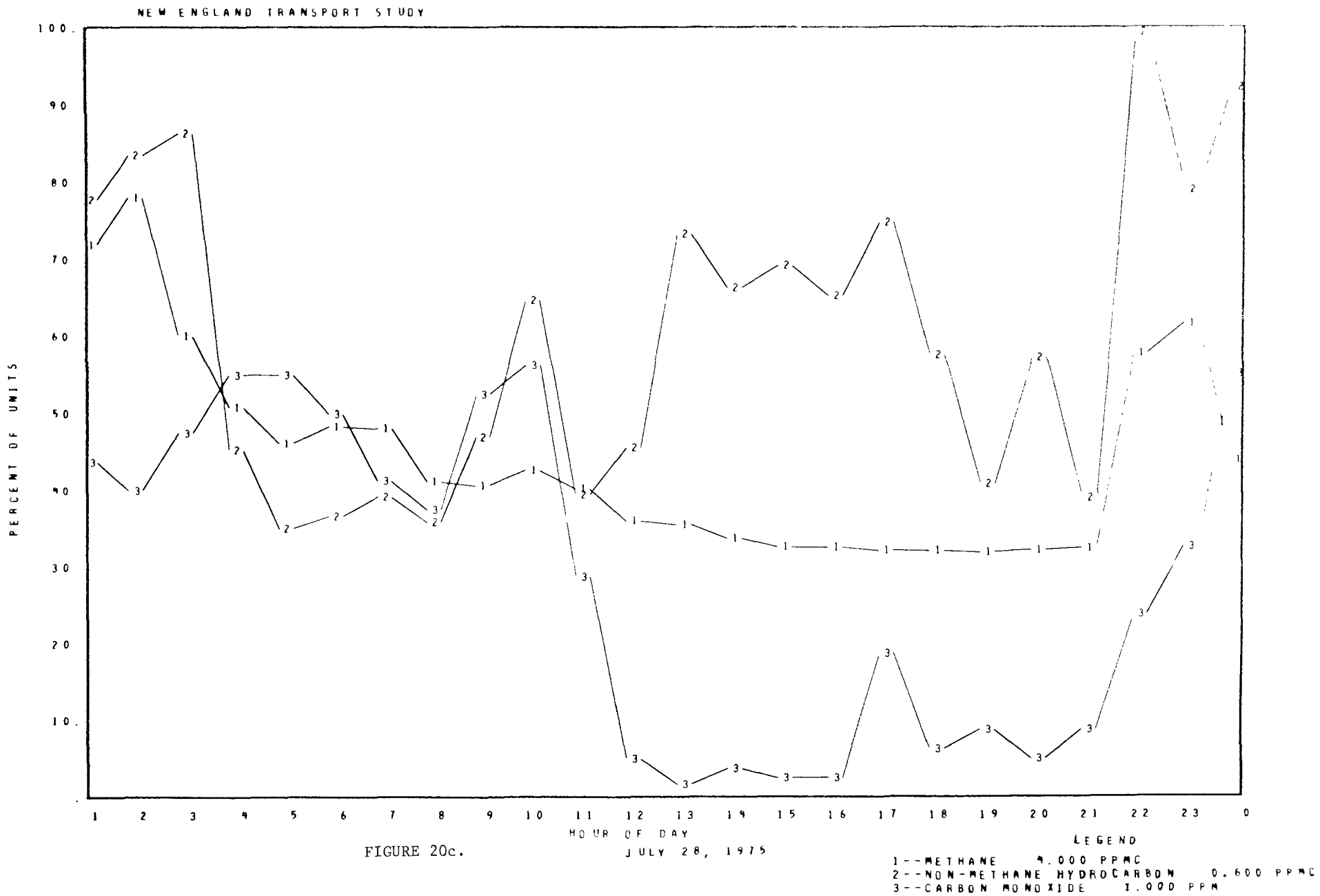

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80
70
60
50
40
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 28, 1975
LEGEND
1--METHANE 9.000 PPMC
2--NON-METHANE HYDROCARBON 0.600 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 20c.

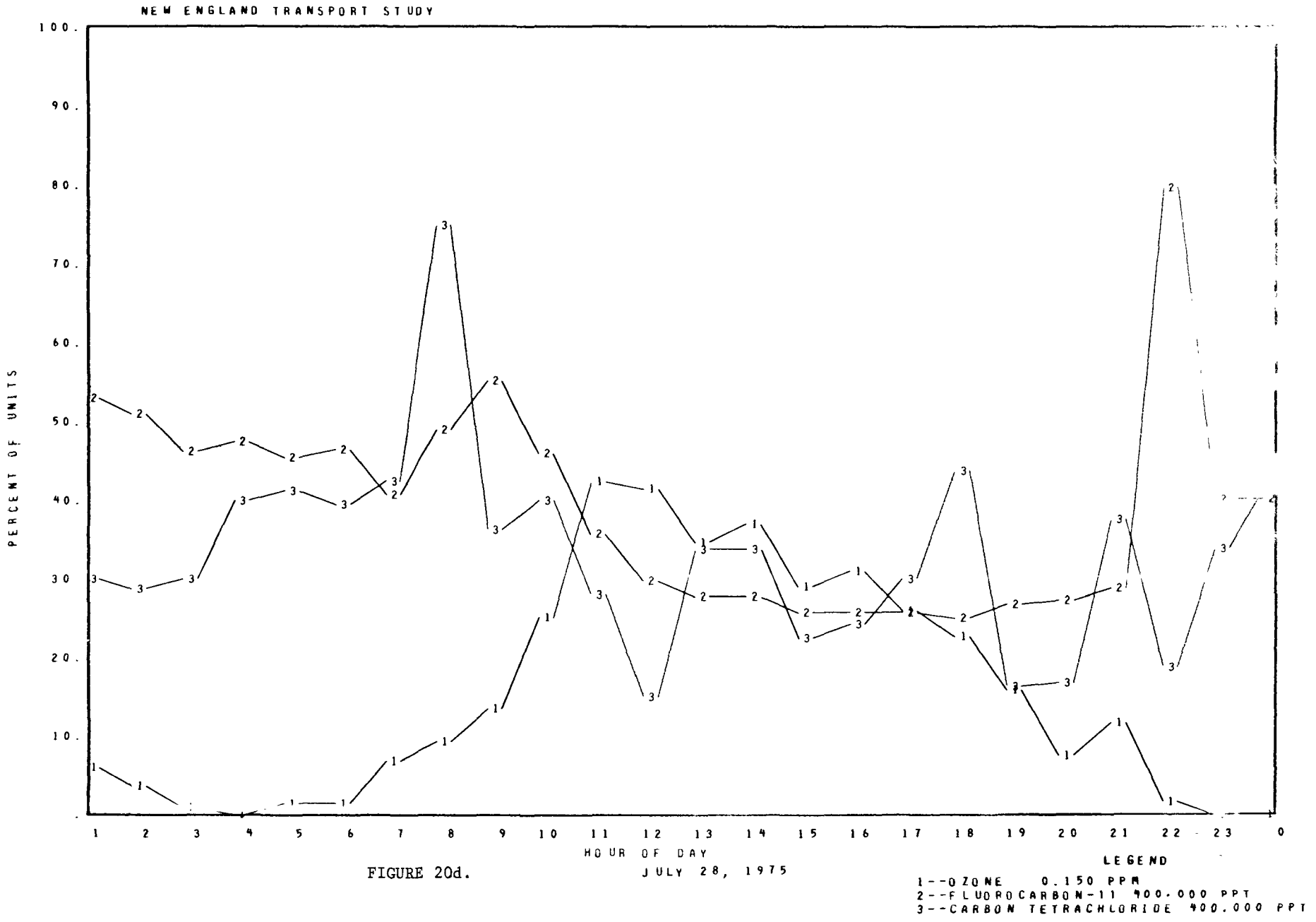
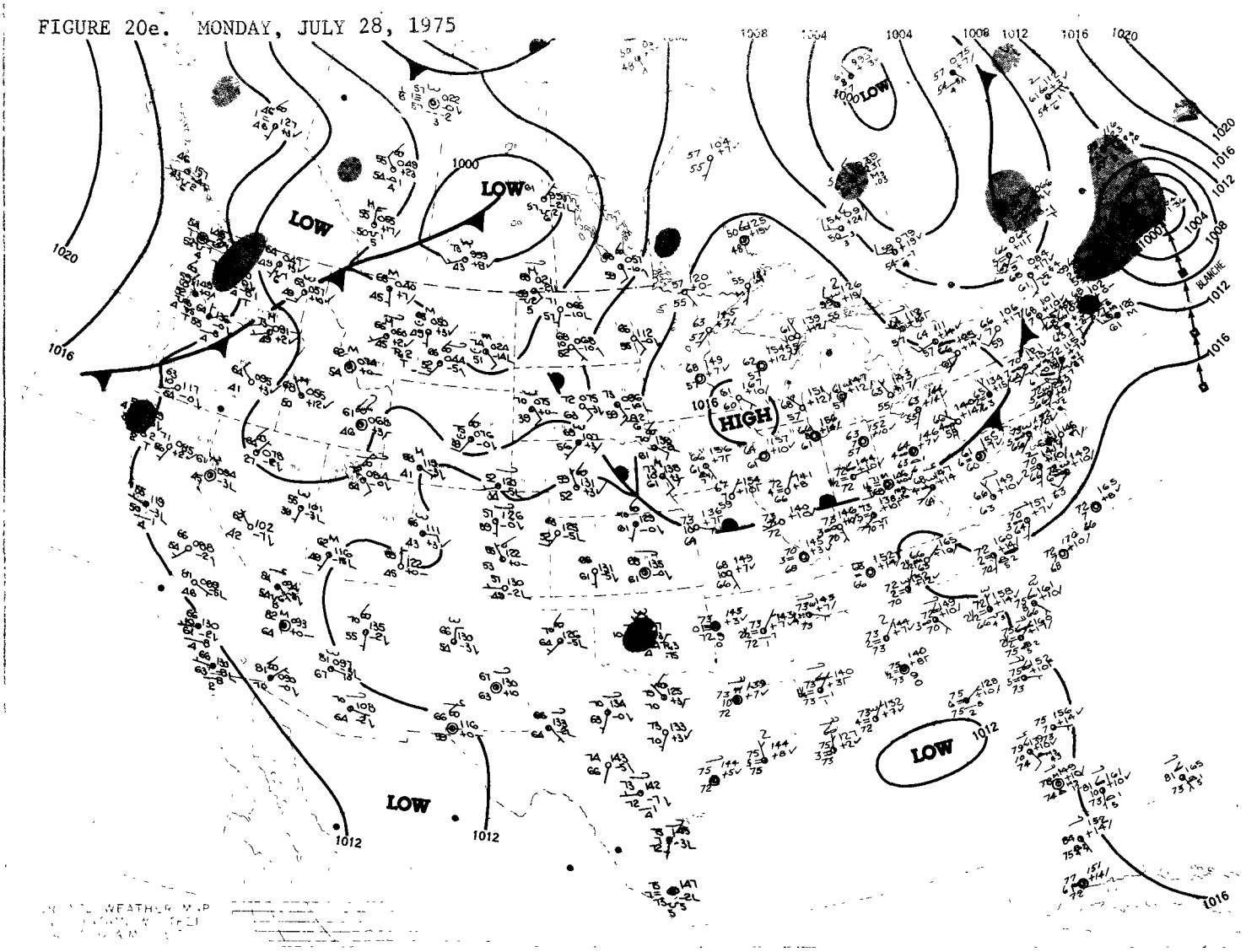
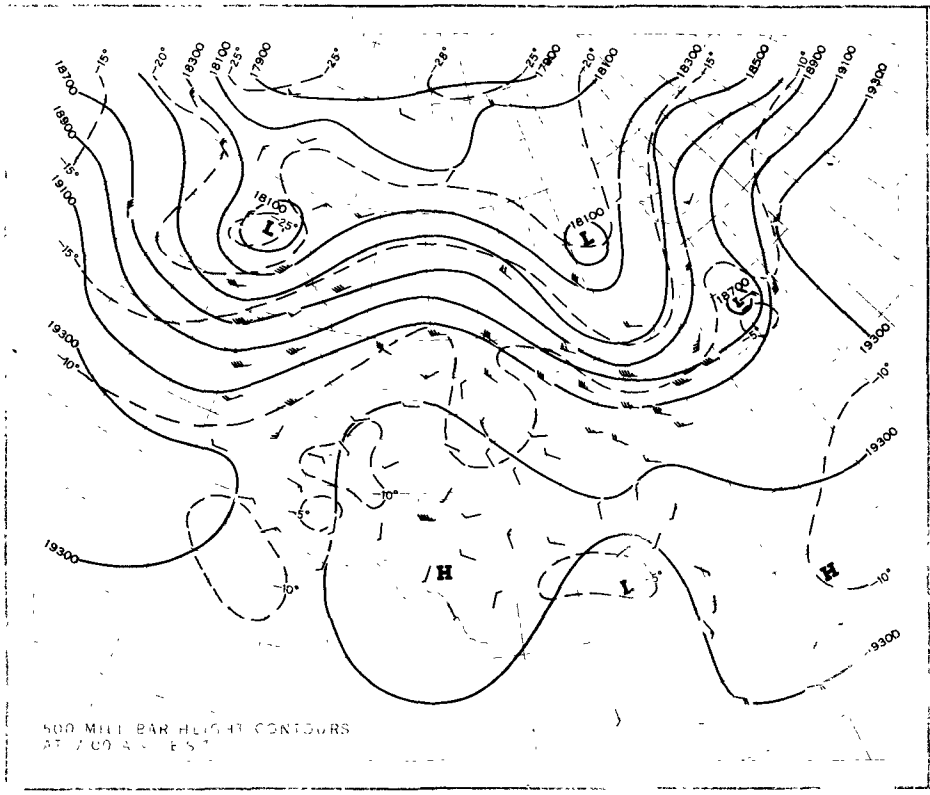

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 28, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 400.000 PPT
3--CARBON TETRACHLORIDE 400.000 PPT

FIGURE 20d.

FIGURE 20e. MONDAY, JULY 28, 1975



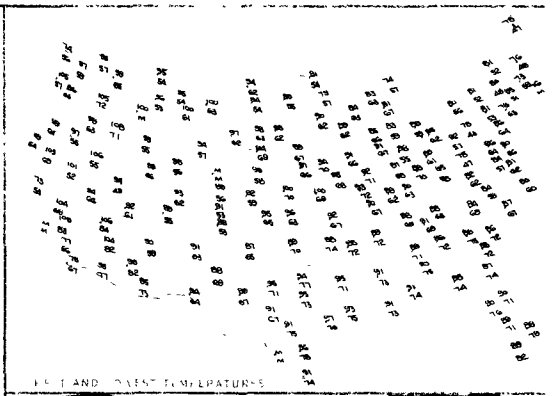



TABLE 17a. JULY 29, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.537 | 24 |
| 2--WIND SPEED (MPH) | 4.150 | 24 |
| 3--WIND DIRECTION (DEGREES) | 281.227 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 22.561 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 56.916 | 24 |
| 6--OZONE (PPM) | 0.020 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 24 |
| 10--METHANE (PPMC) | 1.387 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.495 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.162 | 24 |
| 13--ETHANE (PPMC) | 0.000 | 24 |
| 14--ETHYLENE (PPMC) | 0.007 | 9 |
| 16--ACETYLENE (PPMC) | 0.001 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 128. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 107. | 24 |

TABLE 17b.

SUBSTANCE — HOUR AVERAGES FOR JULY 29, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.650 | 2.225 | 3.750 | 5.050 | 6.125 | 6.875 |
| 2--WIND SPEED (MPH) | 2.100 | 3.000 | 1.900 | 1.100 | 0.800 | 1.900 | 2.000 | 4.200 | 4.900 | 6.500 | 7.100 | 7.000 |
| 3--WIND DIRECTION (DEGREES) | 185. | 246. | 275. | 258. | 246. | 215. | 165. | 256. | 311. | 309. | 292. | 295. |
| 4--TEMPERATURE (CENTIGRADE) | 17. | 17. | 17. | 16. | 16. | 15. | 17. | 22. | 26. | 27. | 27. | 28. |
| 5--RELATIVE HUMIDITY (PERCENT) | 83. | 84. | 83. | 85. | 90. | 92. | 87. | 62. | 43. | 35. | 29. | 29. |
| 6--OZONE (PPM) | 0.001 | 0.004 | 0.010 | 0.008 | 0.007 | 0.004 | 0.008 | 0.021 | 0.028 | 0.026 | 0.030 | 0.034 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.008 | 0.003 | 0.003 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.013 | 0.010 | 0.007 | 0.006 | 0.005 | 0.004 | 0.002 | 0.003 | 0.002 | 0.002 | 0.000 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.018 | 0.012 | 0.008 | 0.007 | 0.005 | 0.005 | 0.003 | 0.011 | 0.005 | 0.005 | 0.002 | 0.005 |
| 10--METHANE (PPMC) | 1.810 | 1.850 | 1.960 | 1.880 | 1.600 | 1.500 | 1.750 | 1.250 | 1.100 | 1.100 | 1.100 | 1.100 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.933 | 1.026 | 0.550 | 0.609 | 0.461 | 0.391 | 0.425 | 0.436 | 0.426 | 0.393 | 0.386 | 0.293 |
| 12--CARBON MONOXIDE (PPM) | 0.450 | 0.325 | 0.200 | 0.200 | 0.212 | 0.212 | 0.162 | 0.250 | 0.137 | 0.087 | 0.050 | 0.037 |
| 13--ETHANE (PPMC) | 0.001 | .000 | 0.001 | 0.001 | 0.002 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| 14--ETHYLENE (PPMC) | 0.006 | 0.013 | 0.001 | 0.001 | 0.008 | .000 | -0.001 | -0.001 | -0.002 | -0.002 | -0.003 | -0.004 |
| 16--ACETYLENE (PPMC) | 0.005 | 0.002 | 0.001 | 0.001 | 0.002 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| 19--FLUOROCARBON-11 (PPT) | 188. | 186. | 136. | 129. | 132. | 126. | 151. | 169. | 100. | 107. | 107. | 92. |
| 20--CARBON TETRACHLORIDE (PPT) | 176. | 180. | 135. | 120. | 125. | 105. | 95. | 127. | 135. | 85. | 85. | 70. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.950 | 7.200 | 6.850 | 5.375 | 5.025 | 3.025 | 1.325 | 0.400 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 7.400 | 7.800 | 7.700 | 7.800 | 5.800 | 6.300 | 4.600 | 1.700 | 2.500 | 2.400 | 1.200 | 1.900 |
| 3--WIND DIRECTION (DEGREES) | 312. | 328. | 327. | 323. | 297. | 330. | 341. | 297. | 310. | 247. | 301. | 285. |
| 4--TEMPERATURE (CENTIGRADE) | 29. | 29. | 30. | 29. | 30. | 28. | 26. | 24. | 21. | 19. | 17. | 16. |
| 5--RELATIVE HUMIDITY (PERCENT) | 30. | 30. | 29. | 29. | 28. | 30. | 36. | 46. | 64. | 72. | 81. | 87. |
| 6--OZONE (PPM) | 0.037 | 0.043 | 0.039 | 0.036 | 0.038 | 0.038 | 0.029 | 0.016 | 0.004 | 0.002 | 0.001 | 0.005 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.003 | 0.005 | 0.005 | 0.007 | 0.005 | 0.001 | 0.004 | 0.002 | 0.002 | 0.002 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | .000 | 0.001 | 0.001 | 0.004 | 0.003 | 0.002 | 0.001 | 0.005 | 0.005 | 0.009 | 0.009 | 0.009 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.004 | 0.005 | 0.009 | 0.010 | 0.007 | 0.002 | 0.010 | 0.007 | 0.011 | 0.012 | 0.009 |
| 10--METHANE (PPMC) | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.100 | 1.120 | 1.210 | 1.500 | 1.690 | 2.070 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.506 | 0.453 | 0.498 | 0.433 | 0.433 | 0.378 | 0.464 | 0.395 | 0.420 | 0.584 | 0.586 | 0.388 |
| 12--CARBON MONOXIDE (PPM) | 0.017 | 0.017 | 0.025 | 0.063 | 0.112 | 0.050 | 0.100 | 0.237 | 0.187 | 0.237 | 0.283 | 0.237 |
| 13--ETHANE (PPMC) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| 14--ETHYLENE (PPMC) | -0.004 | -0.005 | -0.006 | -0.006 | -0.007 | -0.007 | -0.008 | -0.009 | -0.009 | 0.010 | 0.010 | 0.010 |
| 16--ACETYLENE (PPMC) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.016 |
| 19--FLUOROCARBON-11 (PPT) | 92. | 94. | 85. | 83. | 98. | 94. | 102. | 107. | 127. | 172. | 239. | 144. |
| 20--CARBON TETRACHLORIDE (PPT) | 70. | 30. | 45. | 90. | 120. | 90. | 98. | 115. | 125. | 150. | 100. | 105. |

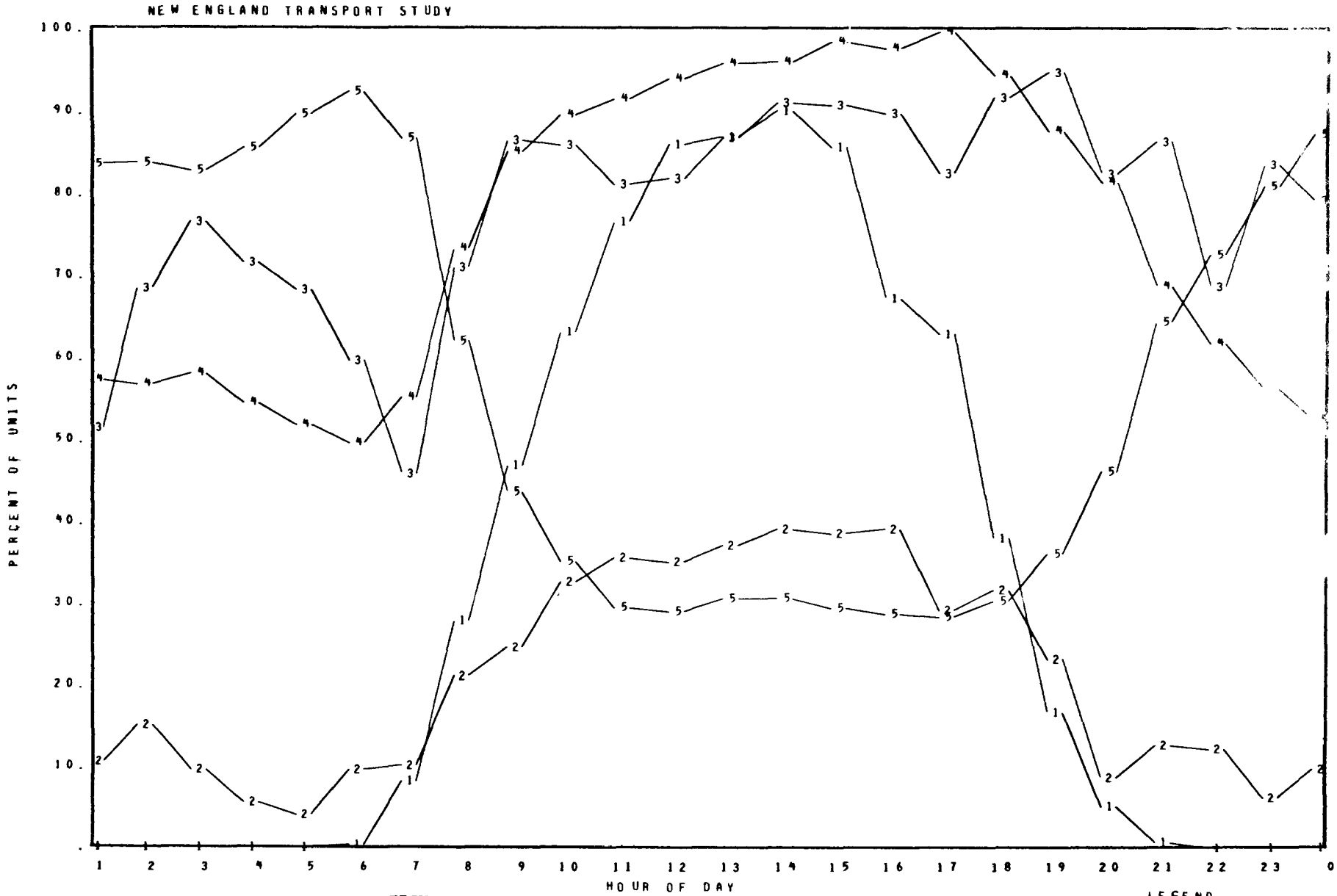



FIGURE 21a. GRAPH 1 FOR JULY 29, 1975

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

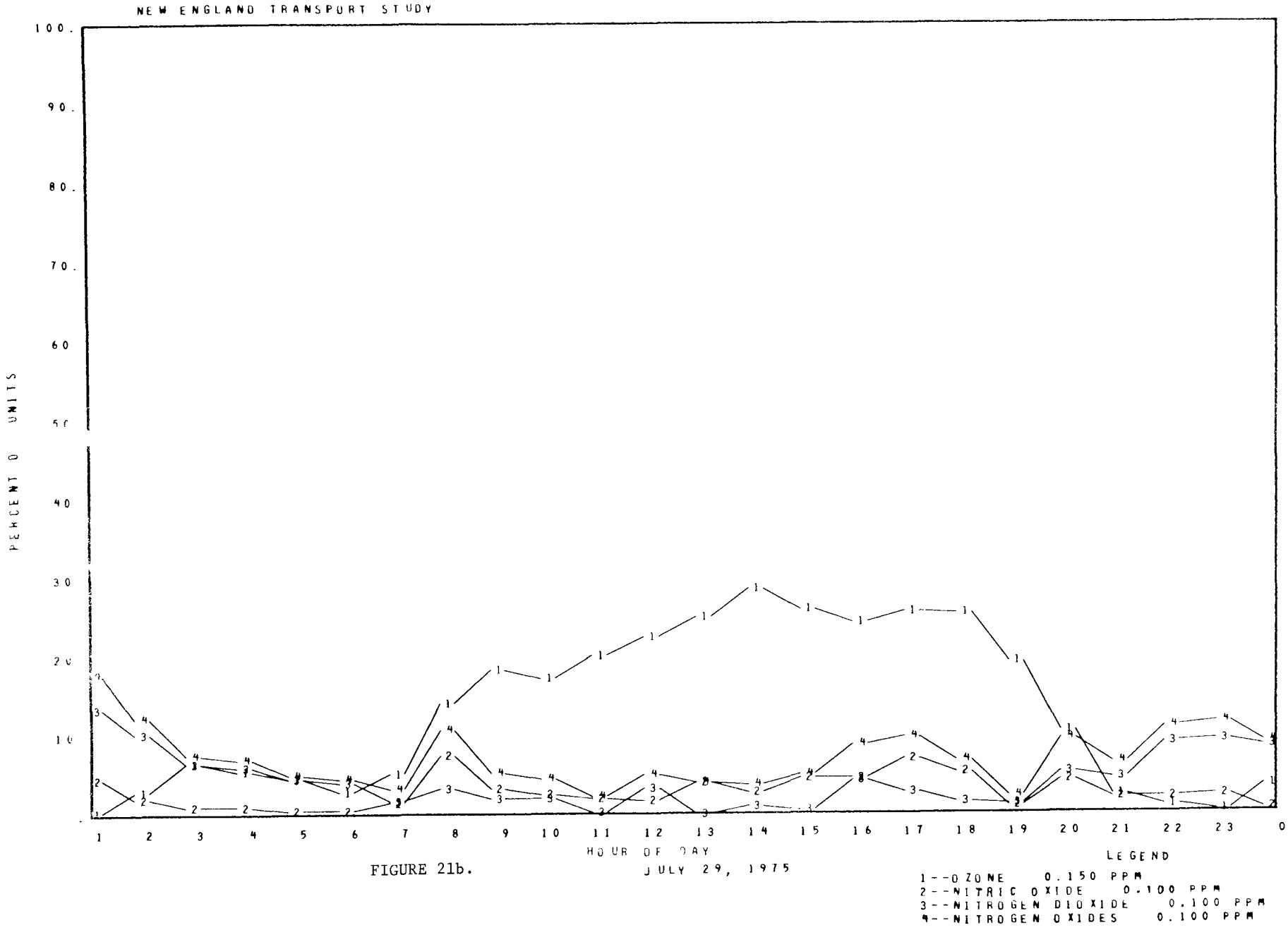

NEW ENGLAND TRANSPORT STUDY
PERCENT OF LIMITS
100.
90.
80.
70.
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 29, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 21b.

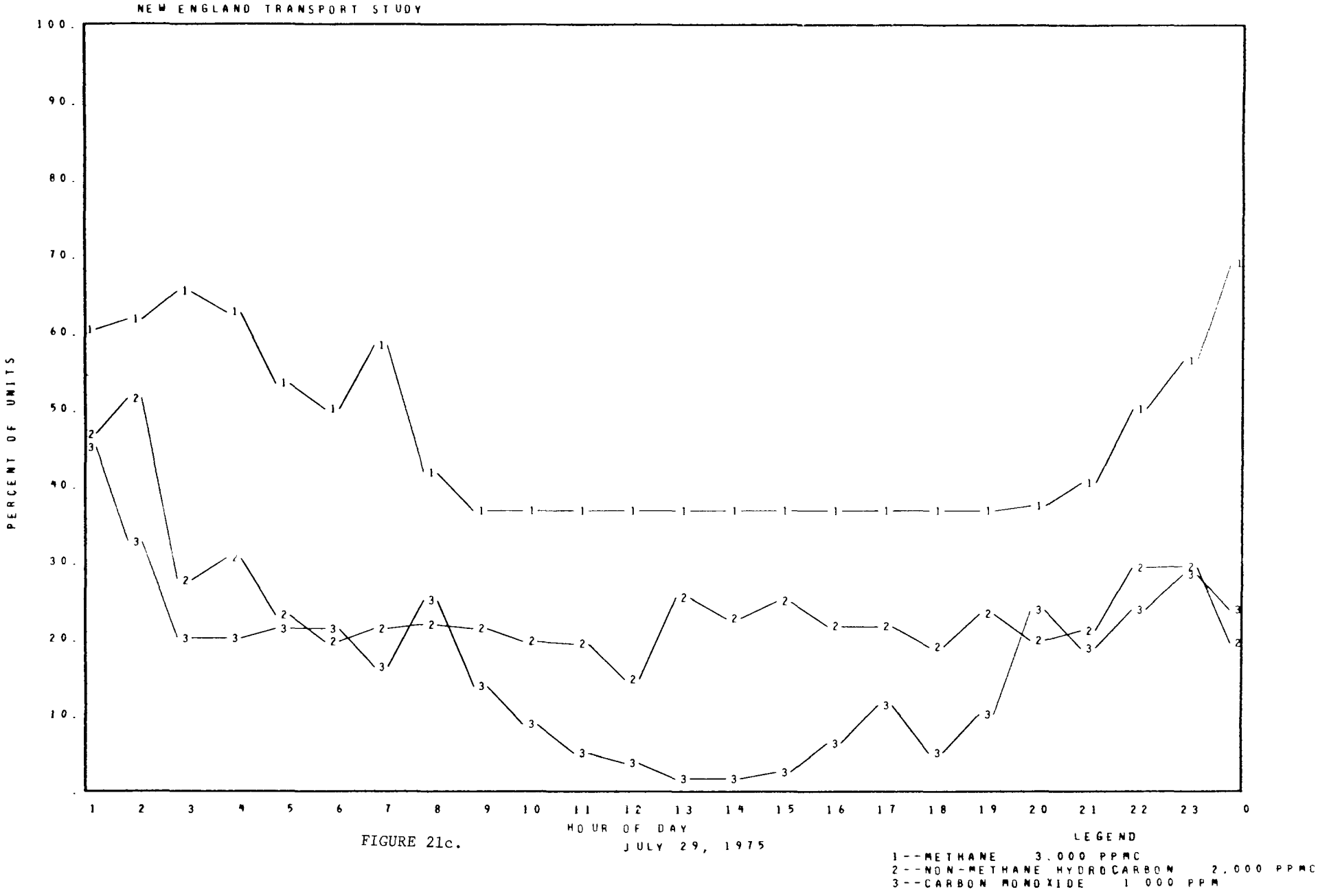

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 29, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1 000 PPM

FIGURE 21c.

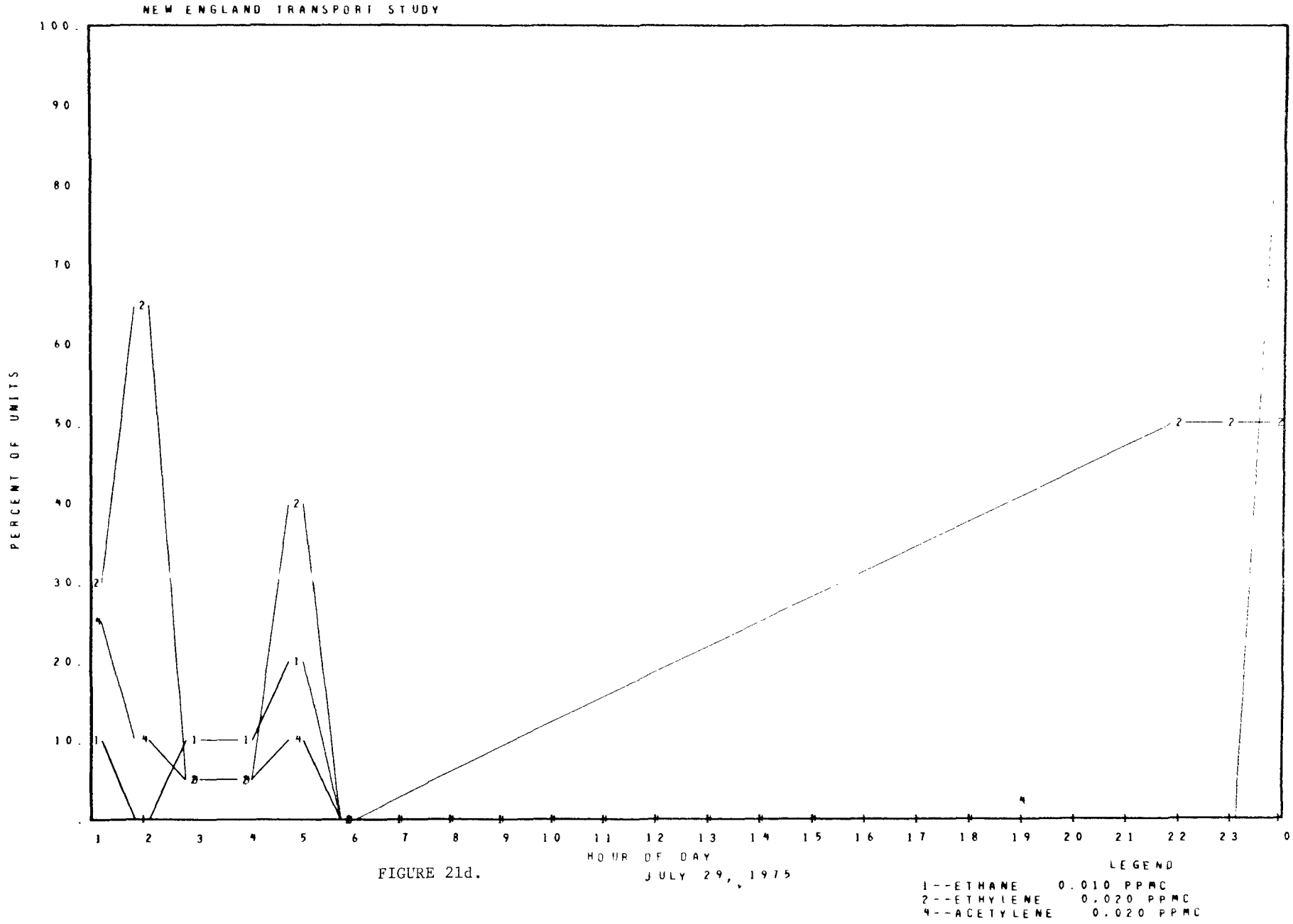
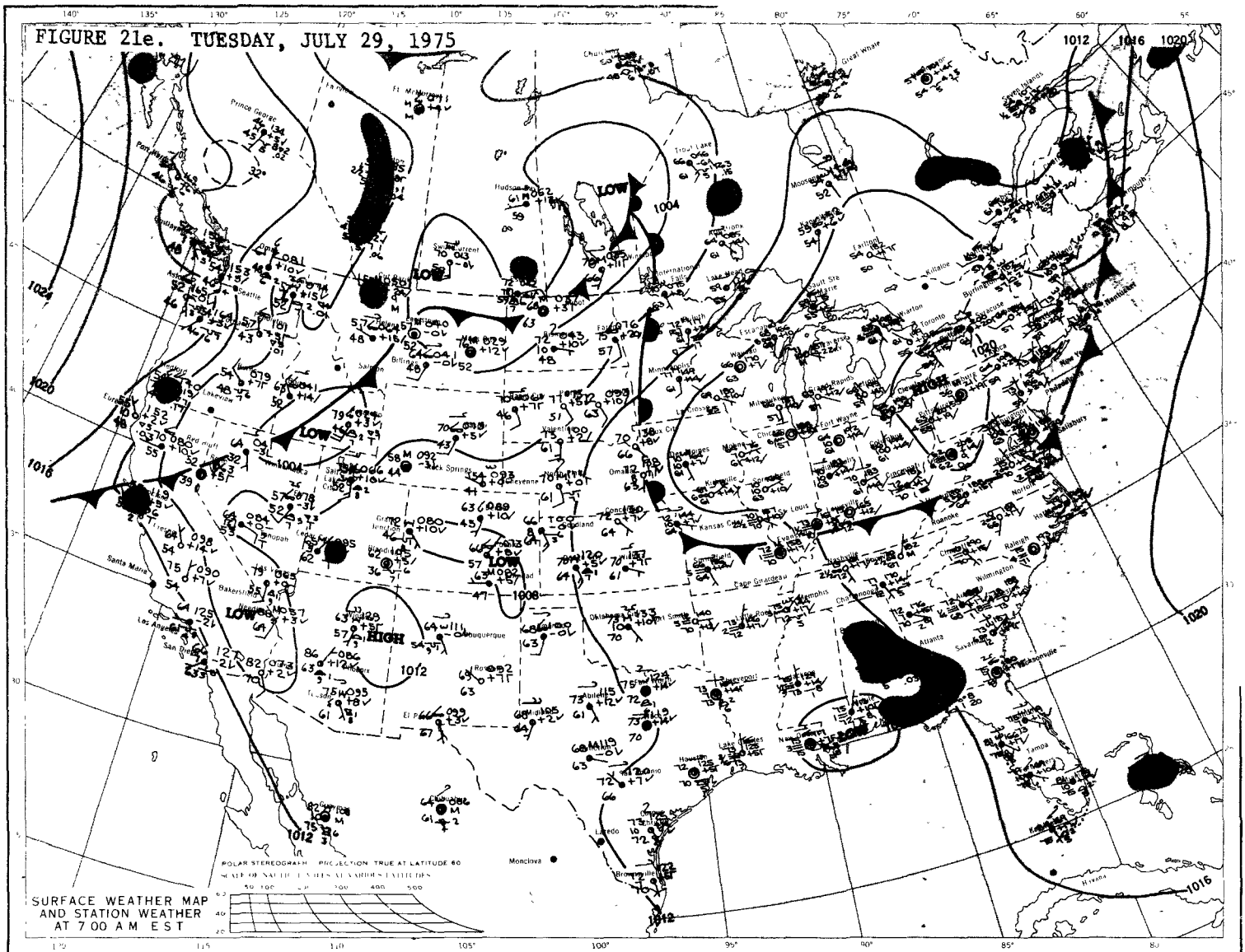

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80
70
60
50.
40
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 29, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 21d.

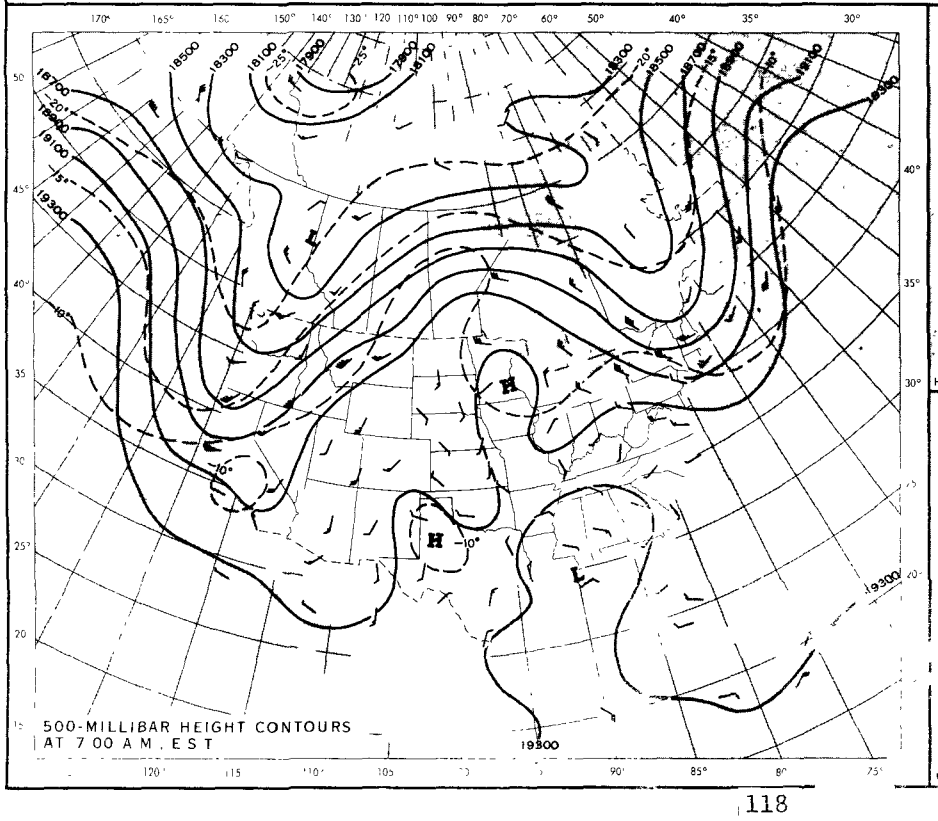
NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60
50
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 29, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 21e.

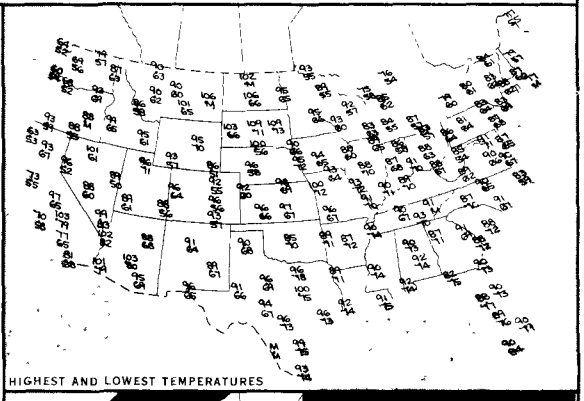
FIGURE 21e. TUESDAY, JULY 29, 1975



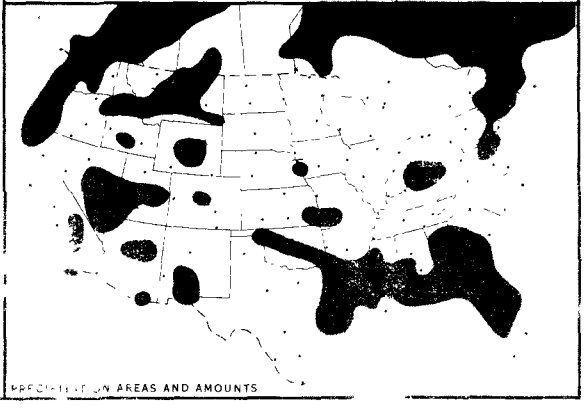

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 18a. JULY 30, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.514 | 24 |
| 2--WIND SPEED (MPH) | 2.508 | 24 |
| 3--WIND DIRECTION (DEGREES) | 229.324 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 23.307 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 59.747 | 24 |
| 6--OZONE (PPM) | 0.021 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 24 |
| 10--METHANE (PPMC) | 1.631 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.189 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.180 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 146. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 107. | 24 |

TABLE 18b.

SUBSTANCE — HOUR AVERAGES FOR JULY 30, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.850 | 2.250 | 3.675 | 4.925 | 5.875 | 6.575 |
| 2--WIND SPEED (MPH) | 2.000 | 2.700 | 1.200 | 1.500 | 2.000 | 1.500 | 1.200 | 1.000 | 1.500 | 2.300 | 3.000 | 3.900 |
| 3--WIND DIRECTION (DEGREES) | 217. | 202. | 289. | 211. | 321. | 339. | 295. | 343. | 266. | 155. | 157. | 145. |
| 4--TEMPERATURE (CENTIGRADE) | 15. | 15. | 14. | 14. | 13. | 12. | 15. | 19. | 22. | 26. | 29. | 33. |
| 5--RELATIVE HUMIDITY (PERCENT) | 90. | 91. | 93. | 93. | 94. | 95. | 84. | 68. | 58. | 46. | 41. | 37. |
| 6--OZONE (PPM) | 0.001 | .000 | .000 | 0.003 | 0.000 | .000 | .000 | 0.009 | 0.000 | 0.013 | 0.031 | 0.043 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.002 | .000 | .000 | .000 | 0.001 | 0.003 | 0.004 | 0.002 | 0.000 | 0.003 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.009 | 0.012 | 0.008 | 0.004 | 0.001 | 0.002 | 0.003 | 0.002 | 0.003 | 0.003 | 0.002 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.014 | 0.008 | 0.004 | 0.001 | 0.003 | 0.006 | 0.007 | 0.006 | 0.003 | 0.004 | 0.003 |
| 10--METHANE (PPMC) | 2.133 | 1.970 | 1.593 | 1.878 | 1.505 | 1.500 | 1.491 | 1.503 | 1.606 | 1.468 | 1.479 | 1.421 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.235 | 0.207 | 0.163 | 0.188 | 0.095 | 0.114 | 0.083 | 0.082 | 0.077 | 0.155 | 0.123 | 0.182 |
| 12--CARBON MONOXIDE (PPM) | 0.287 | 0.375 | 0.287 | 0.200 | 0.200 | 0.225 | 0.237 | 0.237 | 0.150 | 0.125 | 0.087 | 0.062 |
| 19--FLUOROCARBON-11 (PPT) | 187. | 138. | 140. | 148. | 134. | 135. | 145. | 125. | 119. | 122. | 155. | 144. |
| 20--CARBON TETRACHLORIDE (PPT) | 100. | 75. | 98. | 105. | 100. | 68. | 80. | 75. | 90. | 90. | 120. | 180. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.000 | 6.950 | 6.550 | 5.825 | 4.675 | 3.400 | 1.350 | 0.350 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 3.000 | 3.900 | 4.500 | 4.000 | 3.600 | 3.300 | 2.100 | 1.500 | 1.900 | 3.000 | 2.900 | 2.700 |
| 3--WIND DIRECTION (DEGREES) | 239. | 196. | 205. | 218. | 248. | 257. | 248. | 241. | 186. | 189. | 143. | 195. |
| 4--TEMPERATURE (CENTIGRADE) | 31. | 32. | 32. | 32. | 32. | 31. | 30. | 27. | 24. | 22. | 21. | 21. |
| 5--RELATIVE HUMIDITY (PERCENT) | 33. | 31. | 31. | 31. | 32. | 33. | 37. | 43. | 62. | 68. | 71. | 72. |
| 6--OZONE (PPM) | 0.038 | 0.040 | 0.037 | 0.041 | 0.045 | 0.039 | 0.036 | 0.038 | 0.009 | 0.020 | 0.025 | 0.029 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.001 | 0.003 | 0.005 | 0.007 | 0.005 | 0.005 | 0.004 | 0.003 | 0.002 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.001 | 0.002 | 0.002 | 0.005 | 0.002 | 0.004 | 0.006 | 0.013 | 0.013 | 0.010 | 0.010 |
| 9--NITROGEN OXIDES (PPM) | 0.003 | 0.002 | 0.004 | 0.007 | 0.012 | 0.007 | 0.009 | 0.011 | 0.016 | 0.016 | 0.012 | 0.012 |
| 10--METHANE (PPMC) | 1.398 | 1.395 | 1.393 | 1.361 | 1.355 | 1.356 | 1.380 | 1.381 | 2.311 | 2.510 | 1.565 | 2.179 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.182 | 0.197 | 0.396 | 0.349 | 0.237 | 0.195 | 0.150 | 0.158 | 0.172 | 0.330 | 0.185 | 0.272 |
| 12--CARBON MONOXIDE (PPM) | 0.025 | .000 | 0.013 | 0.137 | 0.087 | 0.075 | 0.100 | 0.125 | 0.237 | 0.362 | 0.350 | 0.337 |
| 19--FLUOROCARBON-11 (PPT) | 111. | 111. | 102. | 133. | 117. | 122. | 130. | 208. | 178. | 246. | 153. | 203. |
| 20--CARBON TETRACHLORIDE (PPT) | 100. | 90. | 105. | 75. | 80. | 95. | 135. | 165. | 155. | 143. | 108. | 142. |

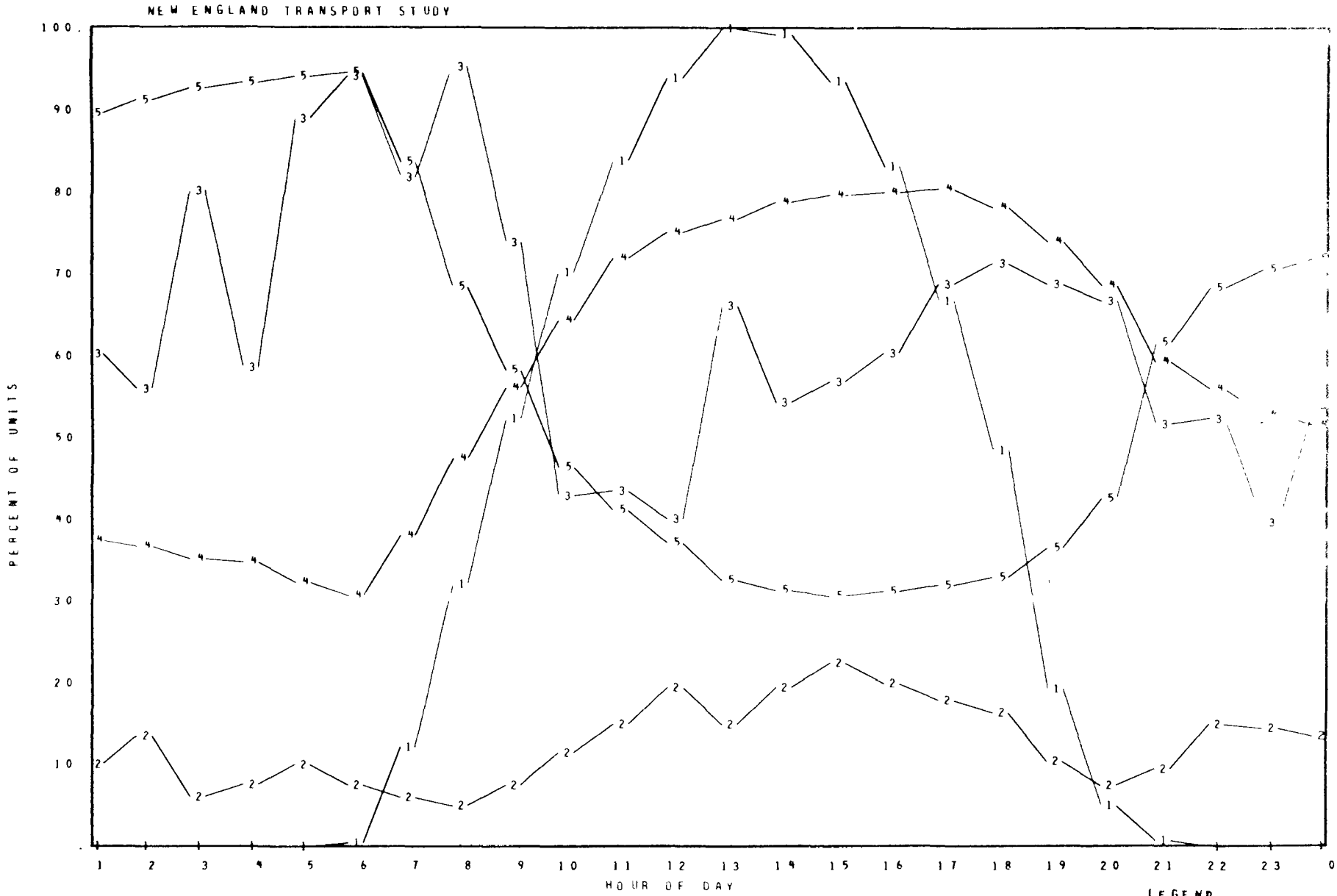



FIGURE 22a.

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

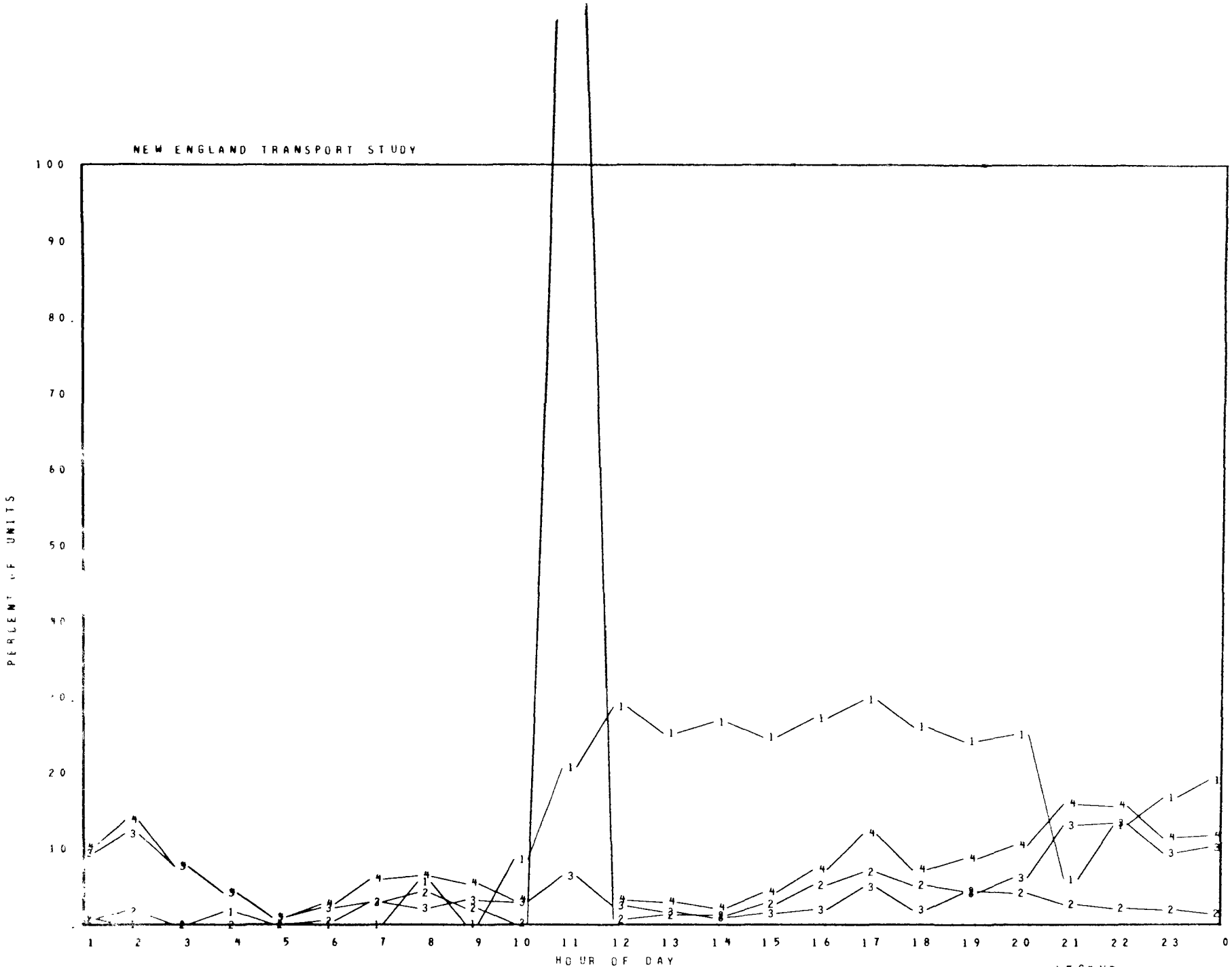

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 30, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 22b.

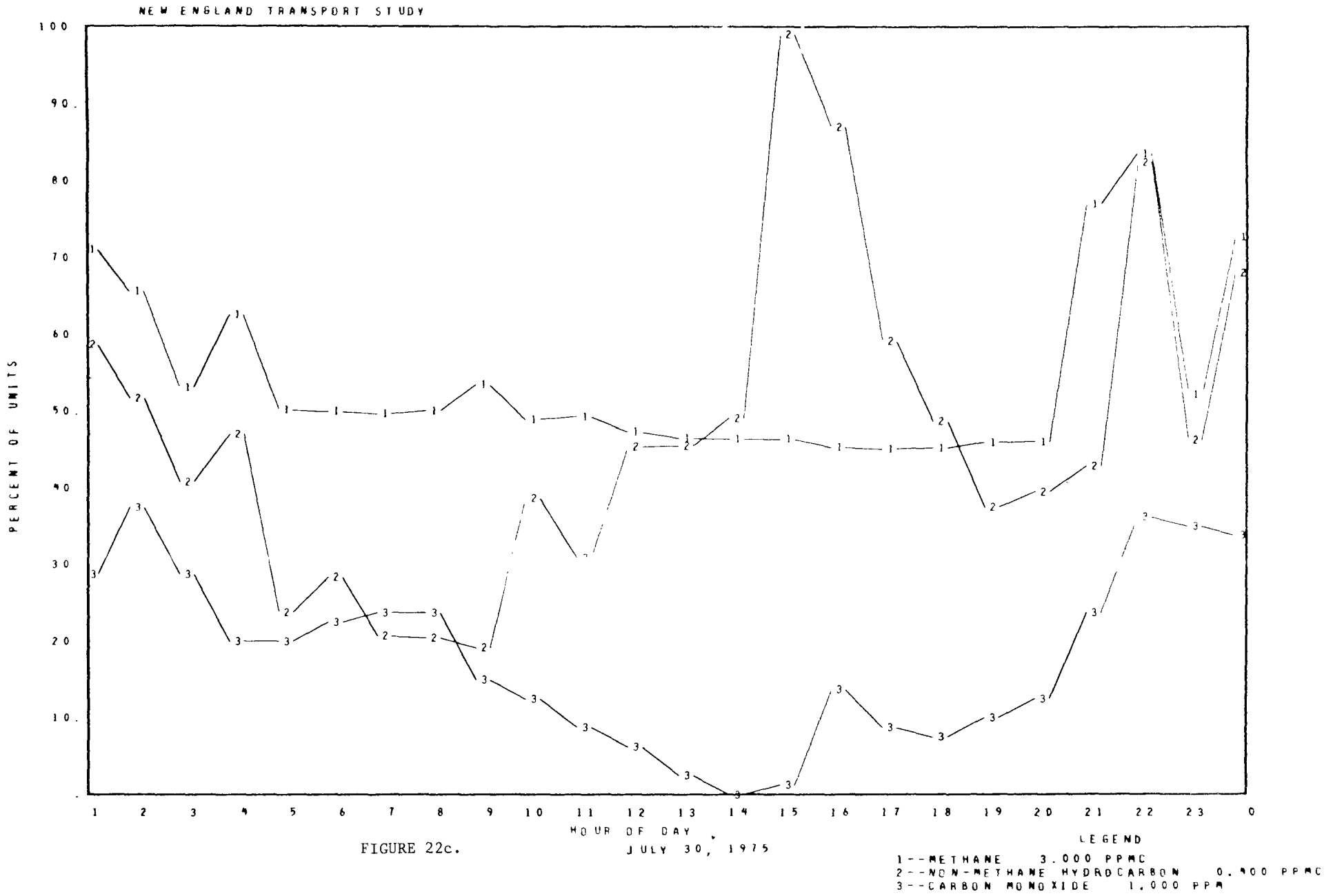

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90.
80
70
60
50.
40
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 30, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 0.900 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 22c.

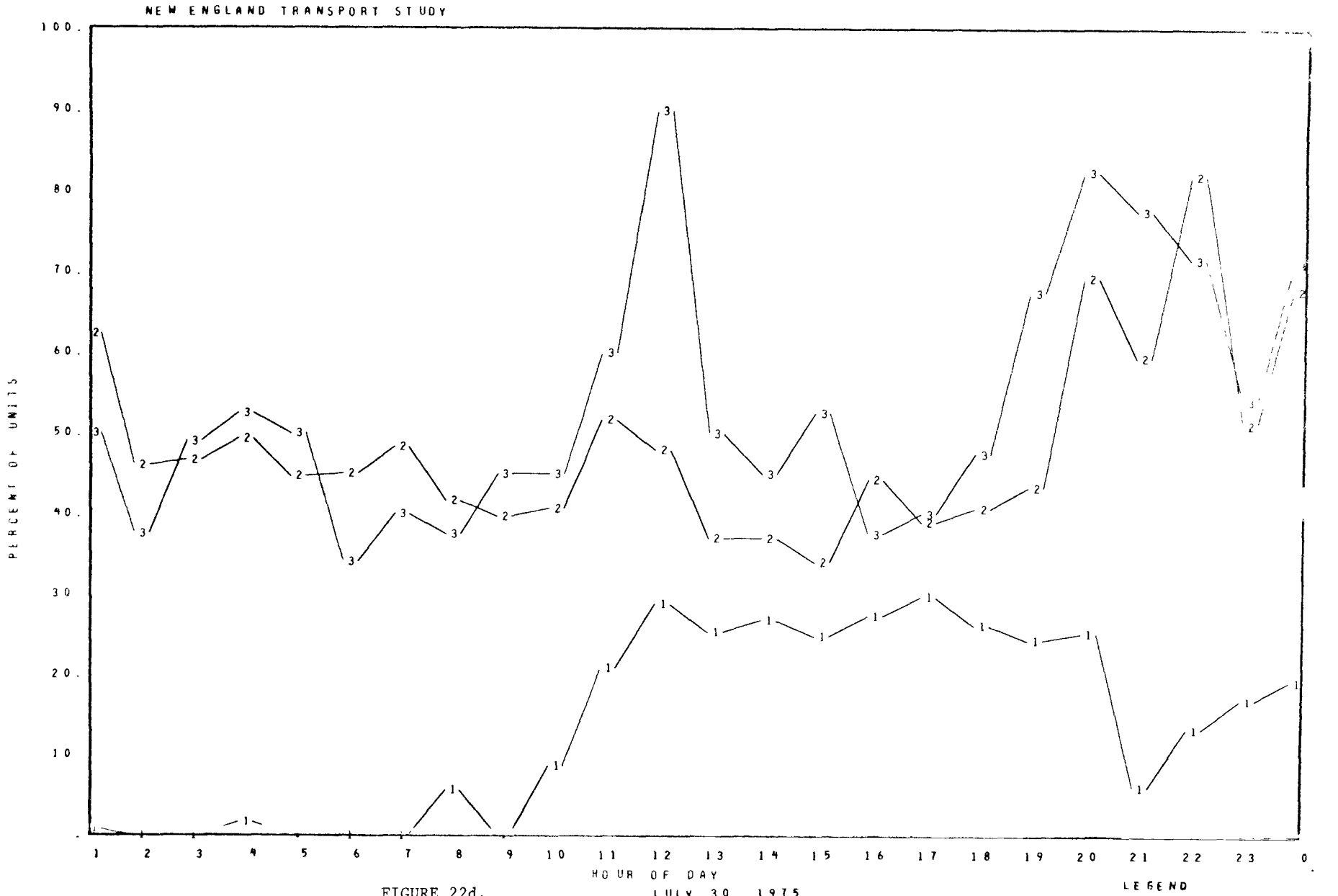
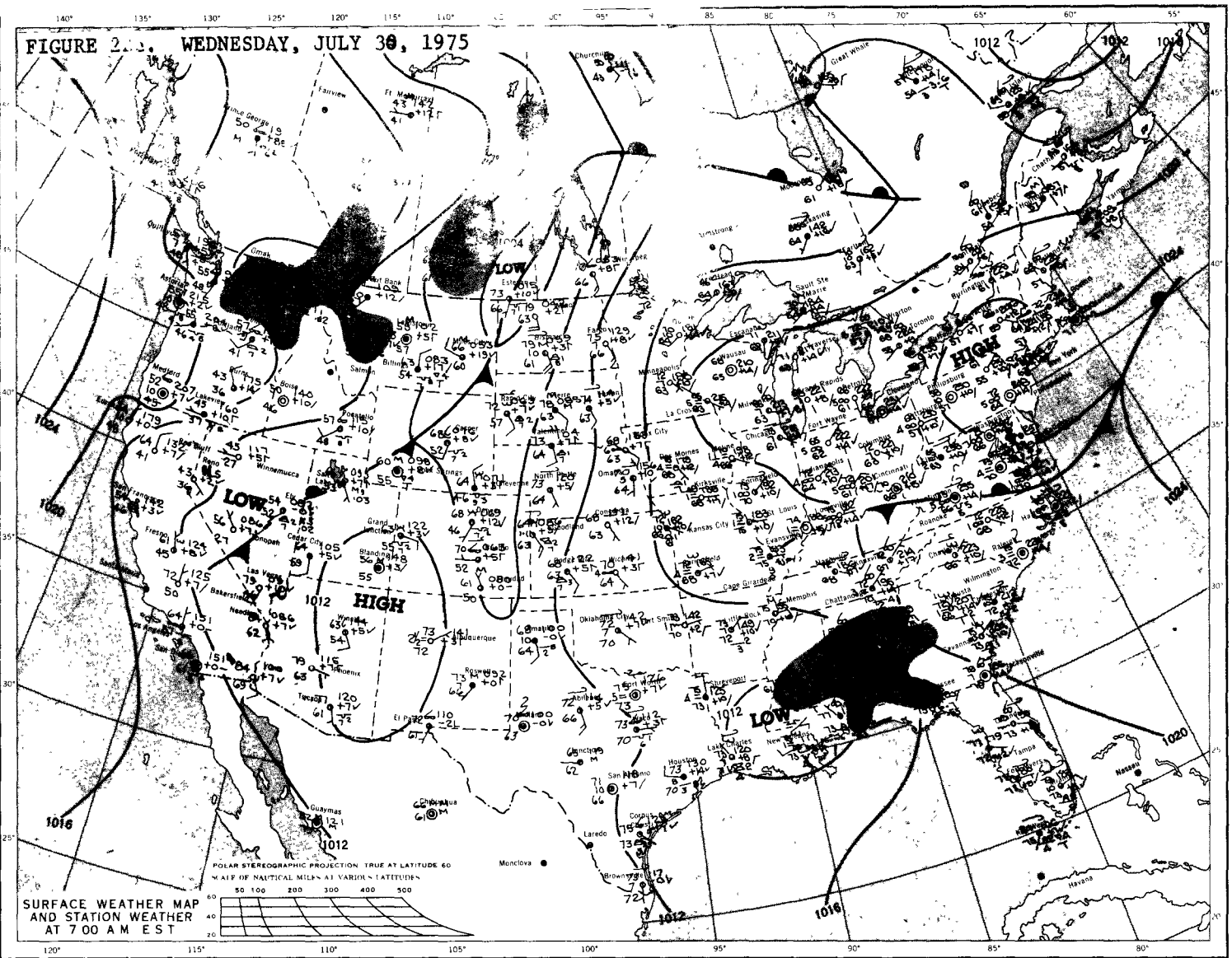
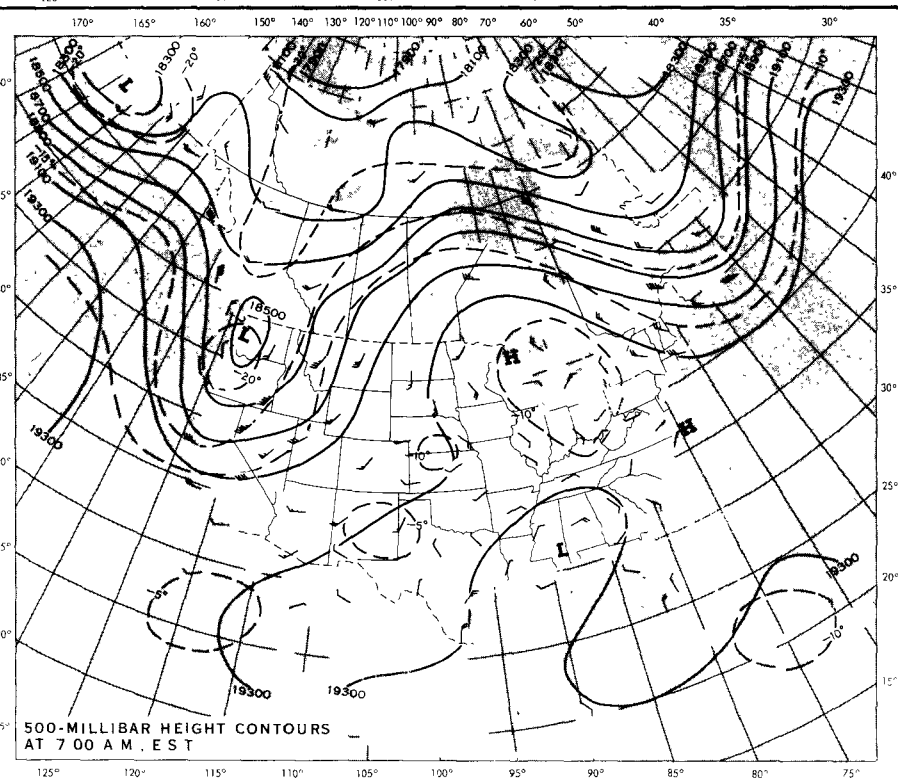

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70.
60.
50.
40.
30
20.
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 30, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 22d.

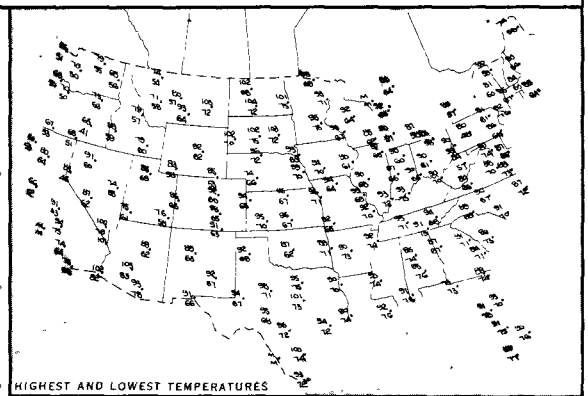
FIGURE 2.. WEDNESDAY, JULY 30, 1975



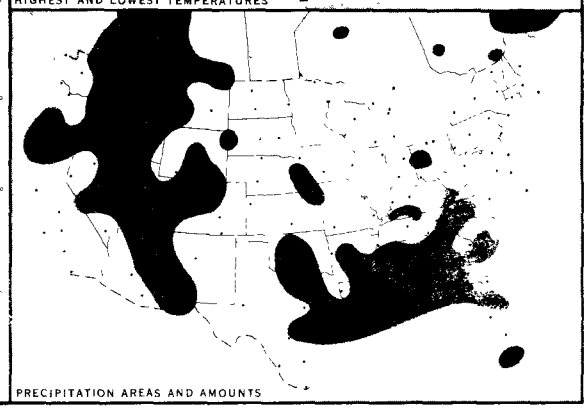

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M E S T



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M. E S T



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 19a. JULY 31, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.243 | 24 |
| 2--WIND SPEED (MPH) | 2.392 | 24 |
| 3--WIND DIRECTION (DEGREES) | 243.626 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 26.894 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 62.138 | 24 |
| 6--OZONE (PPM) | 0.041 | 18 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.012 | 24 |
| 10--METHANE (PPMC) | 1.748 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.267 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.331 | 22 |
| 13--ETHANE (PPMC) | 0.003 | 3 |
| 14--ETHYLENE (PPMC) | 0.008 | 4 |
| 16--ACETYLENE (PPMC) | 0.007 | 4 |
| 19--FLUOROCARBON-11 (PPT) | 166. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 126. | 24 |

TABLE 19b.

SUBSTANCE — HOUR AVERAGES FOR JULY 31, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.675 | 1.875 | 3.450 | 4.750 | 5.500 | 6.225 |
| 2--WIND SPEED (MPH) | 3.300 | 4.200 | 1.800 | 1.300 | 1.200 | 1.800 | 1.300 | 1.500 | 2.600 | 4.200 | 3.200 | 3.800 |
| 3--WIND DIRECTION (DEGREES) | 196. | 199. | 177. | 226. | 335. | 308. | 186. | 188. | 147. | 162. | 148. | 311. |
| 4--TEMPERATURE (CENTIGRADE) | 20. | 20. | 19. | 18. | 17. | 17. | 18. | 23. | 26. | 29. | 32. | 34. |
| 5--RELATIVE HUMIDITY (PERCENT) | 75. | 73. | 76. | 83. | 88. | 91. | 87. | 71. | 57. | 49. | 46. | 40. |
| 6--OZONE (PPM) | 0.017 | 0.016 | -0.016 | -0.017 | -0.017 | -0.018 | -0.018 | 0.018 | 0.032 | 0.051 | 0.073 | 0.074 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.003 | 0.010 | 0.005 | 0.005 | 0.005 | 0.006 |
| 8--NITROGEN DIOXIDE (PPM) | 0.011 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | 0.004 | 0.008 | 0.008 | 0.004 | 0.003 | 0.002 |
| 9--NITROGEN OXIDES (PPM) | 0.012 | 0.009 | 0.010 | 0.008 | 0.006 | 0.005 | 0.007 | 0.018 | 0.013 | 0.009 | 0.008 | 0.008 |
| 10--METHANE (PPMC) | 2.323 | 2.056 | 1.745 | 2.953 | 1.791 | 1.528 | 3.078 | 1.973 | 1.758 | 1.461 | 1.453 | 1.425 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.275 | 0.195 | 0.183 | 0.410 | 0.227 | 0.122 | 0.417 | 0.181 | 0.210 | 0.188 | 0.163 | 0.254 |
| 12--CARBON MONOXIDE (PPM) | 0.425 | 0.375 | 0.387 | 0.400 | 0.350 | 0.287 | 0.313 | 0.525 | 0.412 | 0.250 | 0.212 | -0.183 |
| 13--ETHANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 14--ETHYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 16--ACETYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 19--FLUOROCARBON-11 (PPT) | 225. | 194. | 161. | 256. | 165. | 140. | 178. | 176. | 169. | 150. | 144. | 137. |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 95. | 135. | 165. | 140. | 90. | 120. | 110. | 105. | 105. | 112. | 120. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.575 | 6.625 | 5.025 | 5.400 | 3.275 | 2.625 | 1.350 | 0.400 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.300 | 4.000 | 3.500 | 3.400 | 3.100 | 2.200 | 1.400 | 0.800 | 1.000 | 1.700 | 0.700 | 1.100 |
| 3--WIND DIRECTION (DEGREES) | 288. | 262. | 268. | 271. | 269. | 272. | 244. | 285. | 265. | 226. | 346. | 268. |
| 4--TEMPERATURE (CENTIGRADE) | 35. | 35. | 34. | 35. | 34. | 34. | 32. | 30. | 27. | 26. | 25. | 24. |
| 5--RELATIVE HUMIDITY (PERCENT) | 36. | 36. | 37. | 35. | 38. | 40. | 46. | 56. | 74. | 80. | 88. | 90. |
| 6--OZONE (PPM) | -0.073 | 0.073 | 0.075 | 0.071 | 0.066 | 0.063 | 0.061 | 0.038 | 0.005 | .000 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.003 | 0.005 | 0.006 | 0.007 | 0.010 | 0.007 | 0.008 | 0.009 | 0.009 | 0.010 | 0.013 |
| 8--NITROGEN DIOXIDE (PPM) | .000 | .000 | 0.005 | 0.004 | 0.006 | 0.005 | 0.004 | 0.007 | 0.013 | 0.017 | 0.013 | 0.014 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.003 | 0.010 | 0.009 | 0.013 | 0.014 | 0.012 | 0.015 | 0.022 | 0.027 | 0.023 | 0.027 |
| 10--METHANE (PPMC) | 1.328 | 1.336 | 1.338 | 1.336 | 1.320 | 1.335 | 1.341 | 1.396 | 1.744 | 2.526 | 1.761 | 1.646 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.322 | 0.306 | 0.323 | 0.262 | 0.323 | 0.244 | 0.202 | 0.222 | 0.354 | 0.390 | 0.340 | 0.296 |
| 12--CARBON MONOXIDE (PPM) | -0.154 | 0.125 | 0.137 | 0.137 | 0.125 | 0.225 | 0.100 | 0.337 | 0.462 | 0.600 | 0.525 | 0.575 |
| 13--ETHANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.002 | 0.003 | 0.004 | -1.000 | -1.000 |
| 14--ETHYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.012 | -0.007 | 0.002 | 0.008 | 0.009 | -1.000 | -1.000 |
| 16--ACETYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.006 | -0.004 | 0.002 | 0.010 | 0.009 | -1.000 | -1.000 |
| 19--FLUOROCARBON-11 (PPT) | 118. | 110. | 122. | 128. | 126. | 131. | 142. | 141. | 183. | 243. | 205. | 235. |
| 20--CARBON TETRACHLORIDE (PPT) | 110. | 120. | 120. | 182. | 90. | 105. | 120. | 120. | 190. | 140. | 172. | 135. |

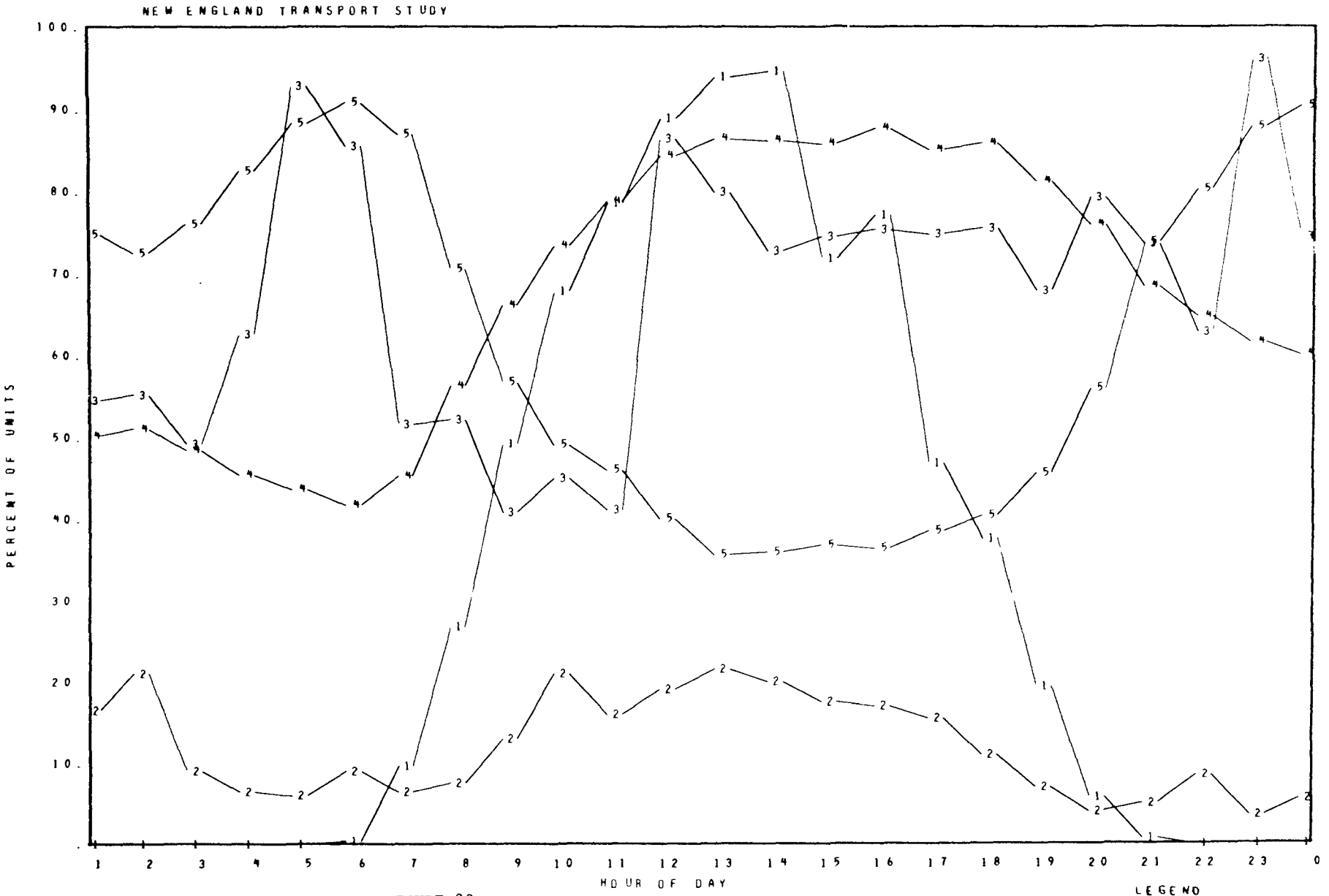

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 31, 1975
LEGEND
1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

FIGURE 23a.

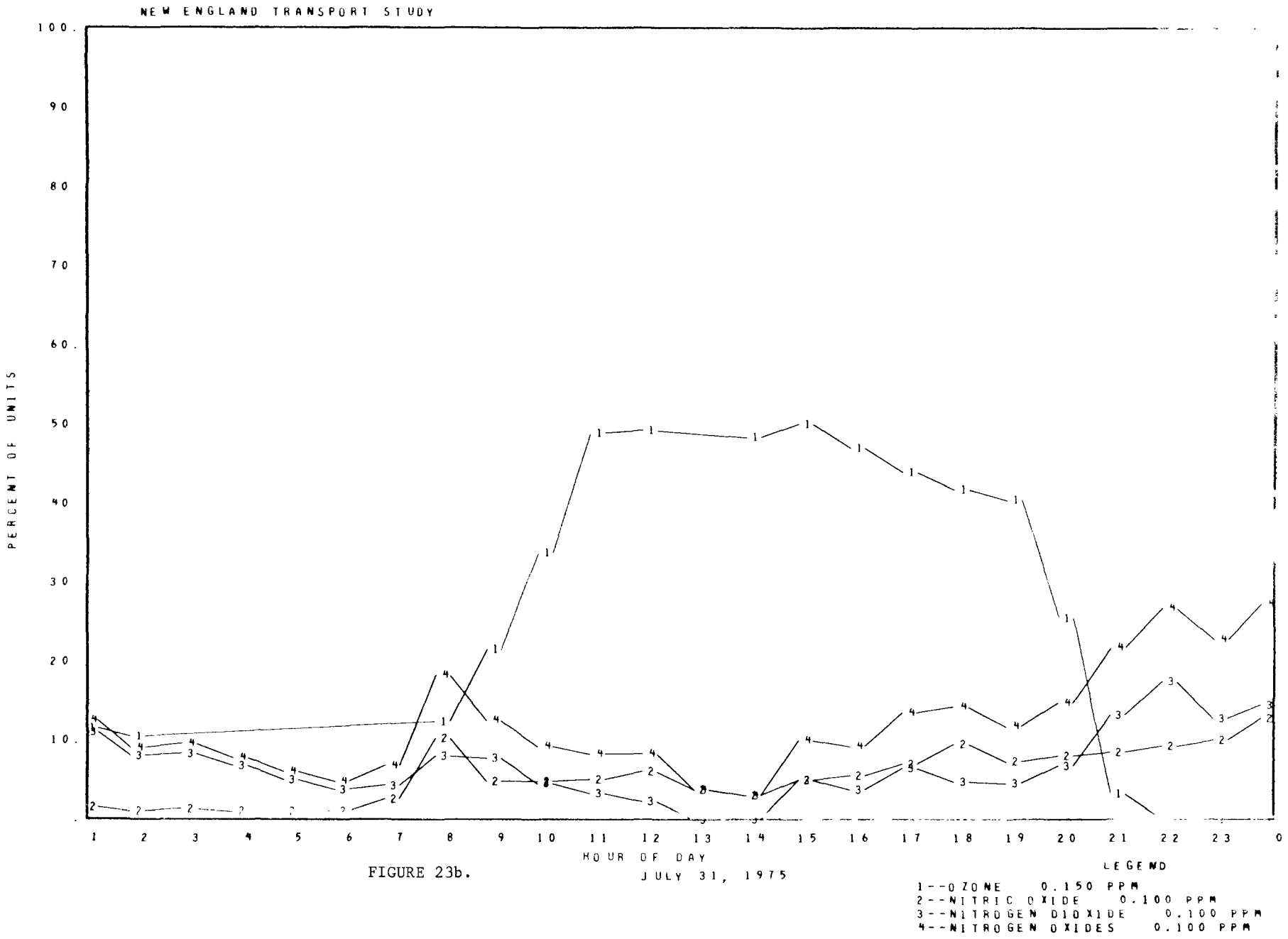

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80
70
60.
50
40
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 31, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 23b.

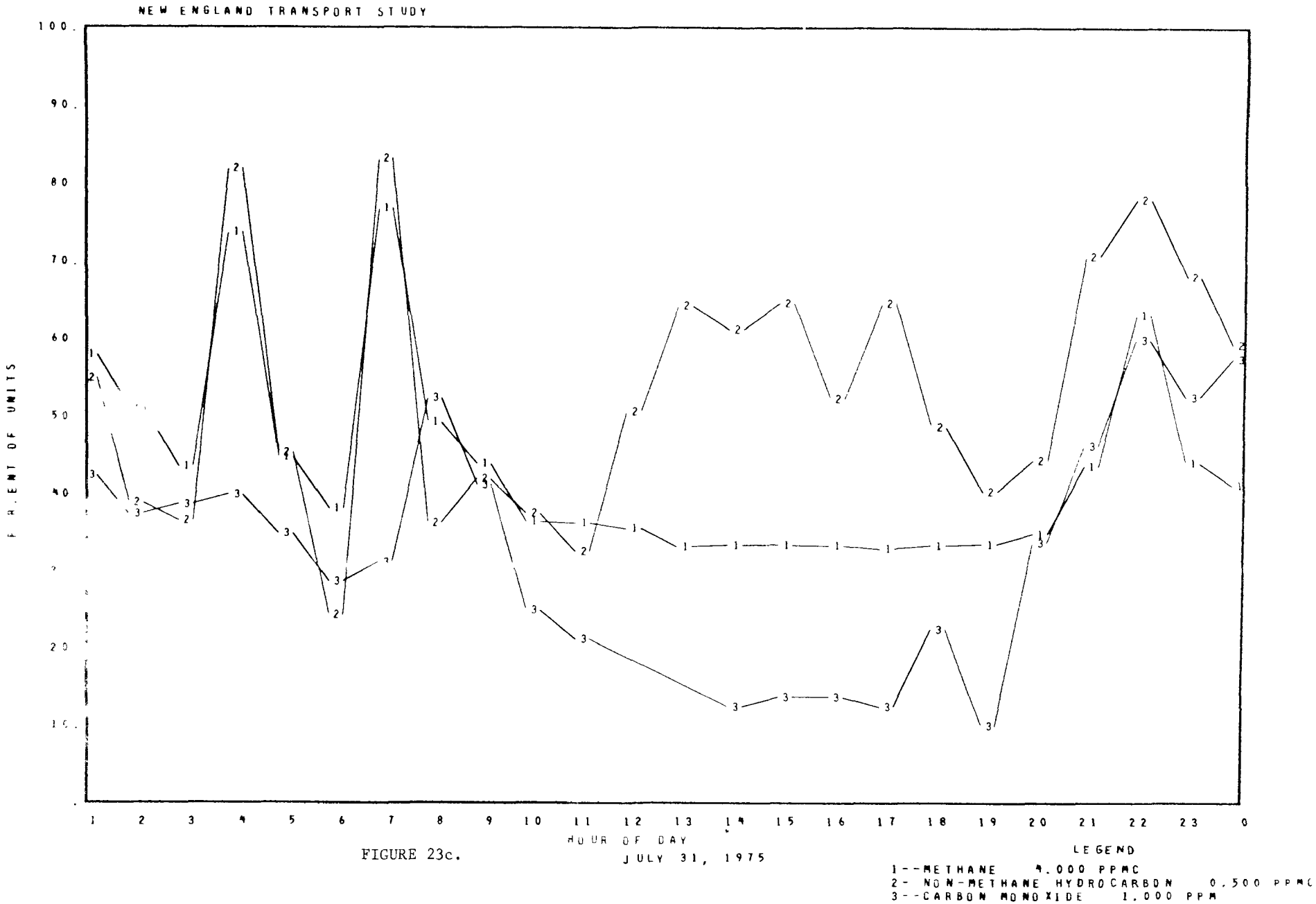

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
JULY 31, 1975
LEGEND
1--METHANE 9.000 PPMC
2- NON-METHANE HYDROCARBON 0.500 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 23c.

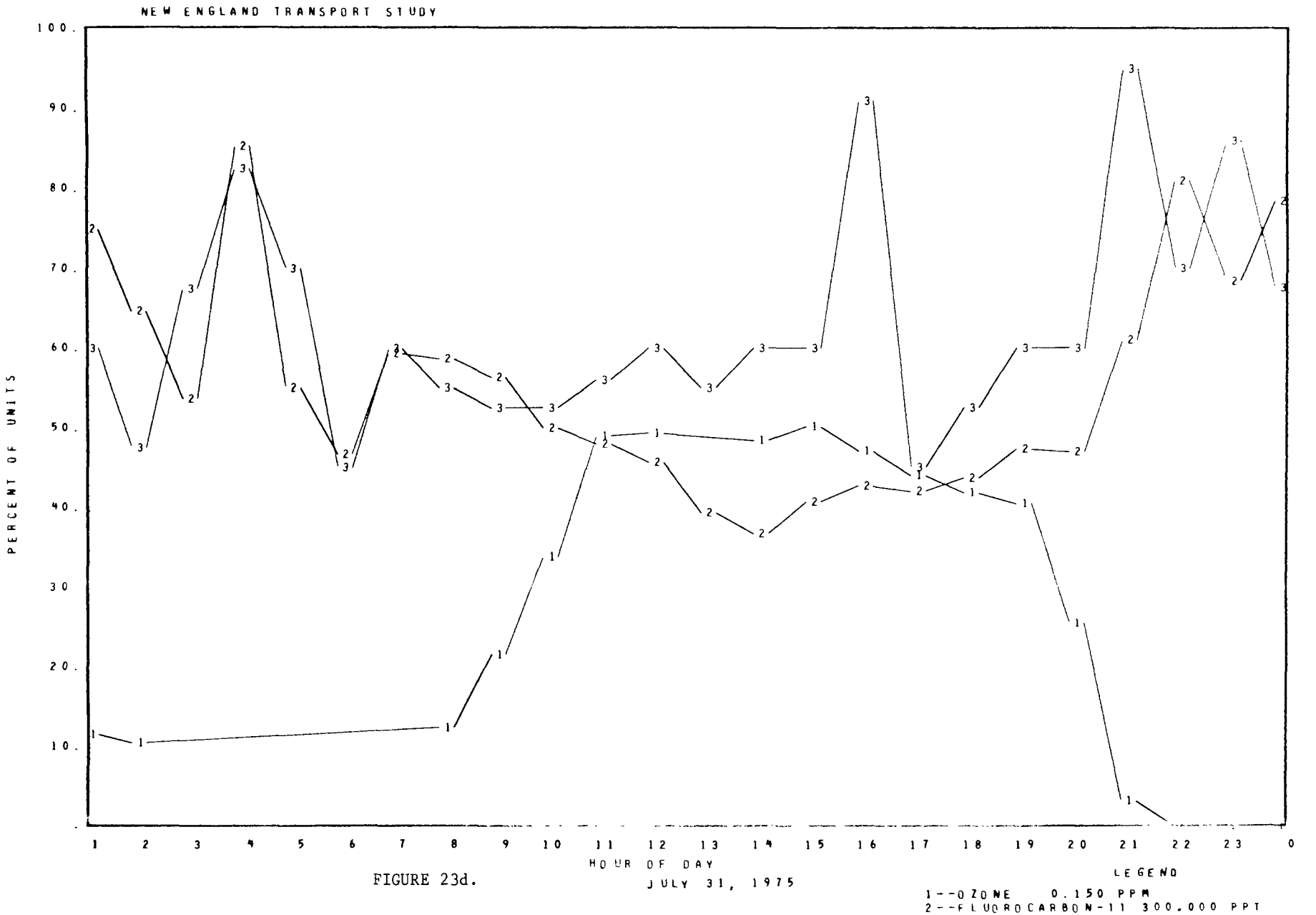
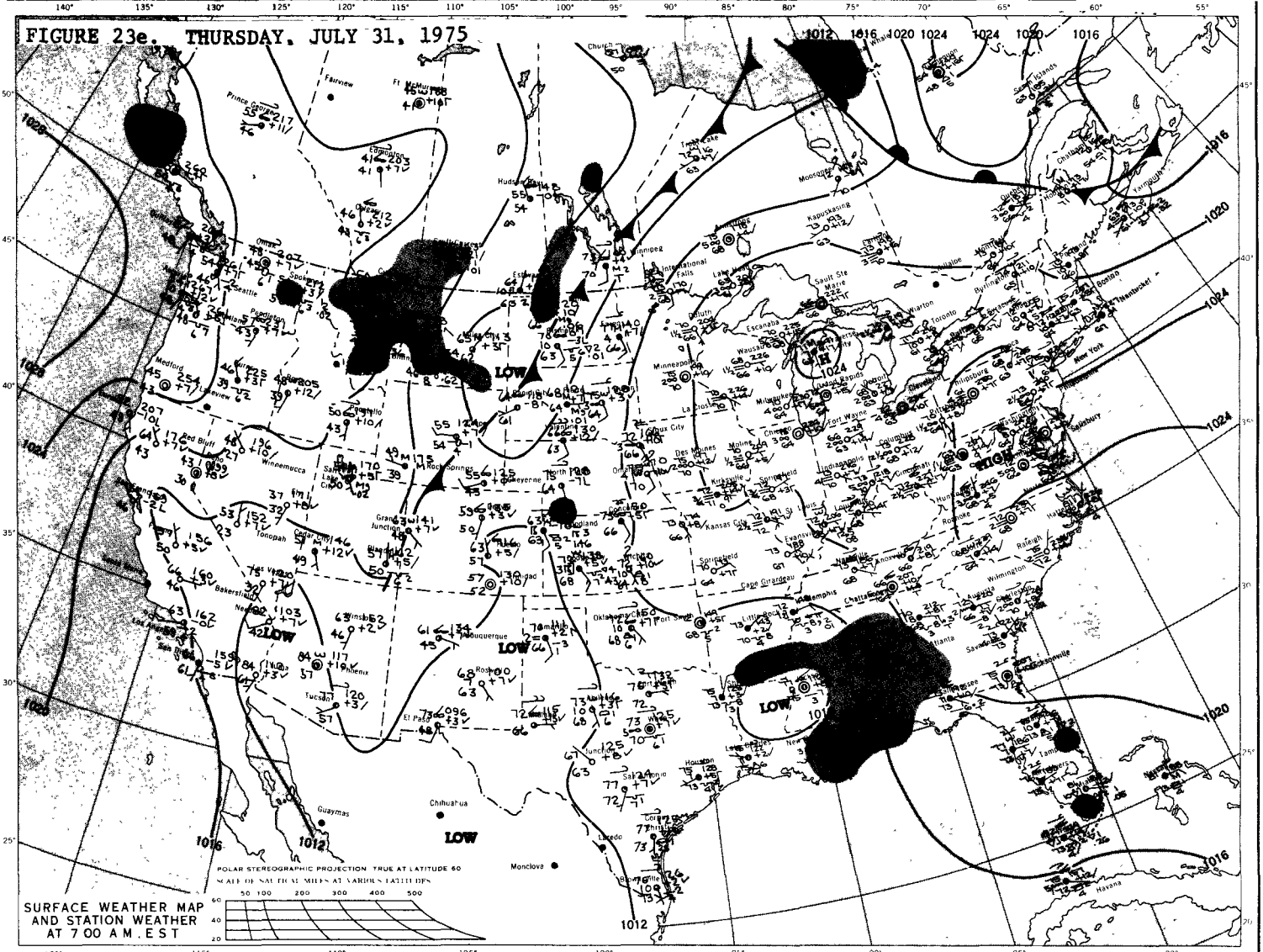
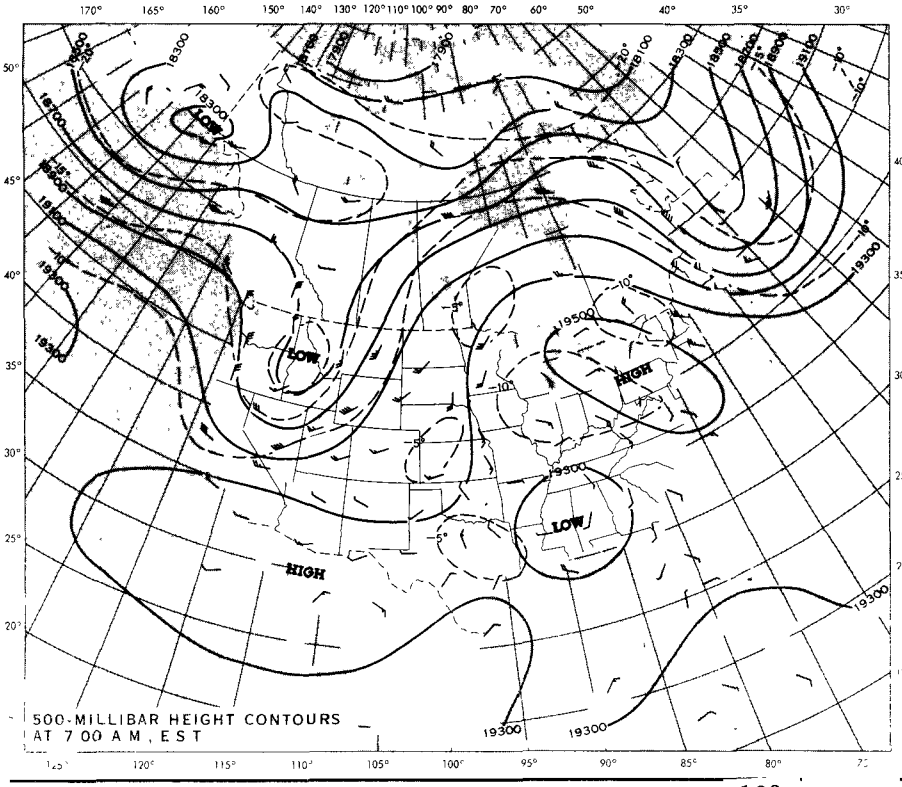

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
JULY 31, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 23d.

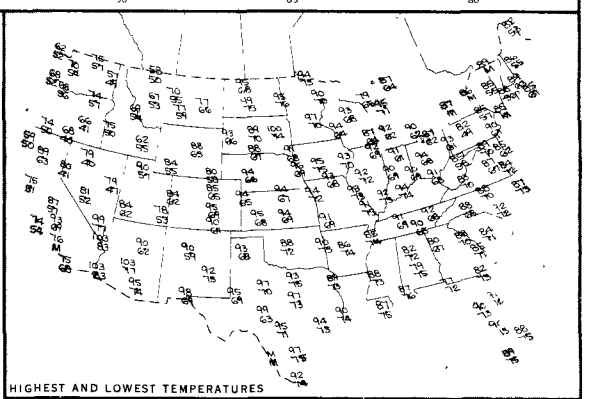
FIGURE 23e. THURSDAY, JULY 31, 1975



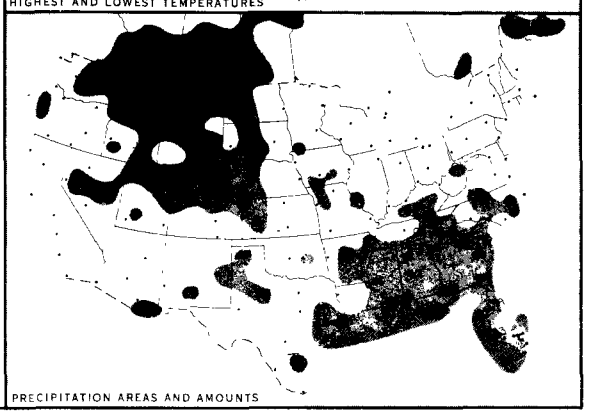

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A.M. EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 20a. AUGUST 1, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.205 | 24 |
| 2--WIND SPEED (MPH) | 1.992 | 24 |
| 3--WIND DIRECTION (DEGREES) | 264.862 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 28.997 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 68.029 | 24 |
| 6--OZONE (PPM) | 0.027 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.009 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.015 | 24 |
| 10--METHANE (PPMC) | 1.717 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.321 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.322 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 171. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 129. | 24 |

TABLE 20b.

| SUBSTANCE | HOUR AVERAGES FOR AUGUST 1, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.050 | 0.450 | 1.275 | 2.800 | 4.225 | 5.350 | 6.000 |
| 2--WIND SPEED (MPH) | 0.900 | 0.400 | 0.800 | 1.100 | 0.800 | 0.300 | 0.700 | 1.000 | 2.100 | 3.000 | 4.500 | 4.000 |
| 3--WIND DIRECTION (DEGREES) | 285. | 240. | 332. | 320. | 319. | 317. | 226. | 246. | 336. | 344. | 4. | 344. |
| 4--TEMPERATURE (CENTIGRADE) | 23. | 23. | 22. | 22. | 21. | 21. | 21. | 24. | 27. | 31. | 32. | 34. |
| 5--RELATIVE HUMIDITY (PERCENT) | 93. | 94. | 95. | 95. | 96. | 97. | 94. | 87. | 71. | 55. | 50. | 46. |
| 6--OZONE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.018 | 0.042 | 0.060 | 0.065 |
| 7--NITRIC OXIDE (PPM) | 0.012 | 0.011 | 0.012 | 0.009 | 0.008 | 0.008 | 0.012 | 0.019 | 0.007 | 0.007 | 0.004 | 0.005 |
| 8--NITROGEN DIOXIDE (PPM) | 0.010 | 0.007 | 0.006 | 0.006 | 0.005 | 0.004 | 0.003 | 0.008 | 0.008 | 0.005 | 0.003 | 0.002 |
| 9--NITROGEN OXIDES (PPM) | 0.022 | 0.018 | 0.018 | 0.014 | 0.012 | 0.012 | 0.015 | 0.027 | 0.015 | 0.012 | 0.007 | 0.007 |
| 10--METHANE (PPMC) | 1.584 | 2.129 | 2.106 | 1.581 | 1.596 | 1.778 | 3.859 | 2.235 | 1.506 | 1.446 | 1.438 | 1.395 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.335 | 0.537 | 0.244 | 0.254 | 0.443 | 0.340 | 0.552 | 0.305 | 0.180 | 0.157 | 0.132 | 0.140 |
| 12--CARBON MONOXIDE (PPM) | 0.462 | 0.487 | 0.475 | 0.437 | 0.387 | 0.350 | 0.425 | 0.650 | 0.525 | 0.275 | 0.150 | 0.125 |
| 19--FLUOROCARBON-11 (PPT) | 201. | 229. | 190. | 184. | 178. | 158. | 280. | 188. | 155. | 140. | 130. | 134. |
| 20--CARBON TETRACHLORIDE (PPT) | 130. | 115. | 128. | 120. | 90. | 110. | 120. | 135. | 130. | 125. | 150. | 140. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.550 | 6.700 | 6.050 | 5.325 | 3.475 | 2.850 | 1.400 | 0.375 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 3.400 | 3.500 | 3.400 | 3.700 | 1.700 | 1.800 | 2.900 | 0.700 | 0.900 | 1.000 | 2.900 | 2.300 |
| 3--WIND DIRECTION (DEGREES) | 350. | 316. | 346. | 24. | 308. | 271. | 308. | 271. | 251. | 195. | 196. | 208. |
| 4--TEMPERATURE (CENTIGRADE) | 35. | 37. | 38. | 37. | 38. | 37. | 35. | 32. | 28. | 27. | 25. | 25. |
| 5--RELATIVE HUMIDITY (PERCENT) | 42. | 37. | 35. | 35. | 36. | 37. | 45. | 59. | 79. | 84. | 87. | 86. |
| 6--OZONE (PPM) | 0.069 | 0.067 | 0.055 | 0.057 | 0.053 | 0.050 | 0.053 | 0.033 | 0.009 | .000 | 0.000 | 0.005 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.006 | 0.006 | 0.006 | 0.010 | 0.011 | 0.010 | 0.011 | 0.009 | 0.012 | 0.009 | 0.007 |
| 8--NITROGEN DIOXIDE (PPM) | 0.000 | 0.003 | 0.002 | 0.001 | 0.002 | 0.003 | 0.003 | 0.005 | 0.005 | 0.015 | 0.018 | 0.015 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.009 | 0.008 | 0.007 | 0.012 | 0.014 | 0.013 | 0.016 | 0.014 | 0.027 | 0.027 | 0.022 |
| 10--METHANE (PPMC) | 1.366 | 1.361 | 1.351 | 1.333 | 1.321 | 1.298 | 1.266 | 1.268 | 1.620 | 2.793 | 2.221 | 1.348 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.186 | 0.220 | 0.250 | 0.227 | 0.245 | 0.288 | 0.403 | 0.413 | 0.415 | 0.615 | 0.458 | 0.373 |
| 12--CARBON MONOXIDE (PPM) | 0.087 | 0.175 | 0.100 | 0.100 | 0.162 | 0.137 | 0.225 | 0.225 | 0.162 | 0.512 | 0.563 | 0.537 |
| 19--FLUOROCARBON-11 (PPT) | 133. | 136. | 130. | 126. | 133. | 138. | 144. | 151. | 153. | 262. | 246. | 194. |
| 20--CARBON TETRACHLORIDE (PPT) | 135. | 120. | 112. | 135. | 115. | 110. | 135. | 135. | 125. | 165. | 158. | 160. |

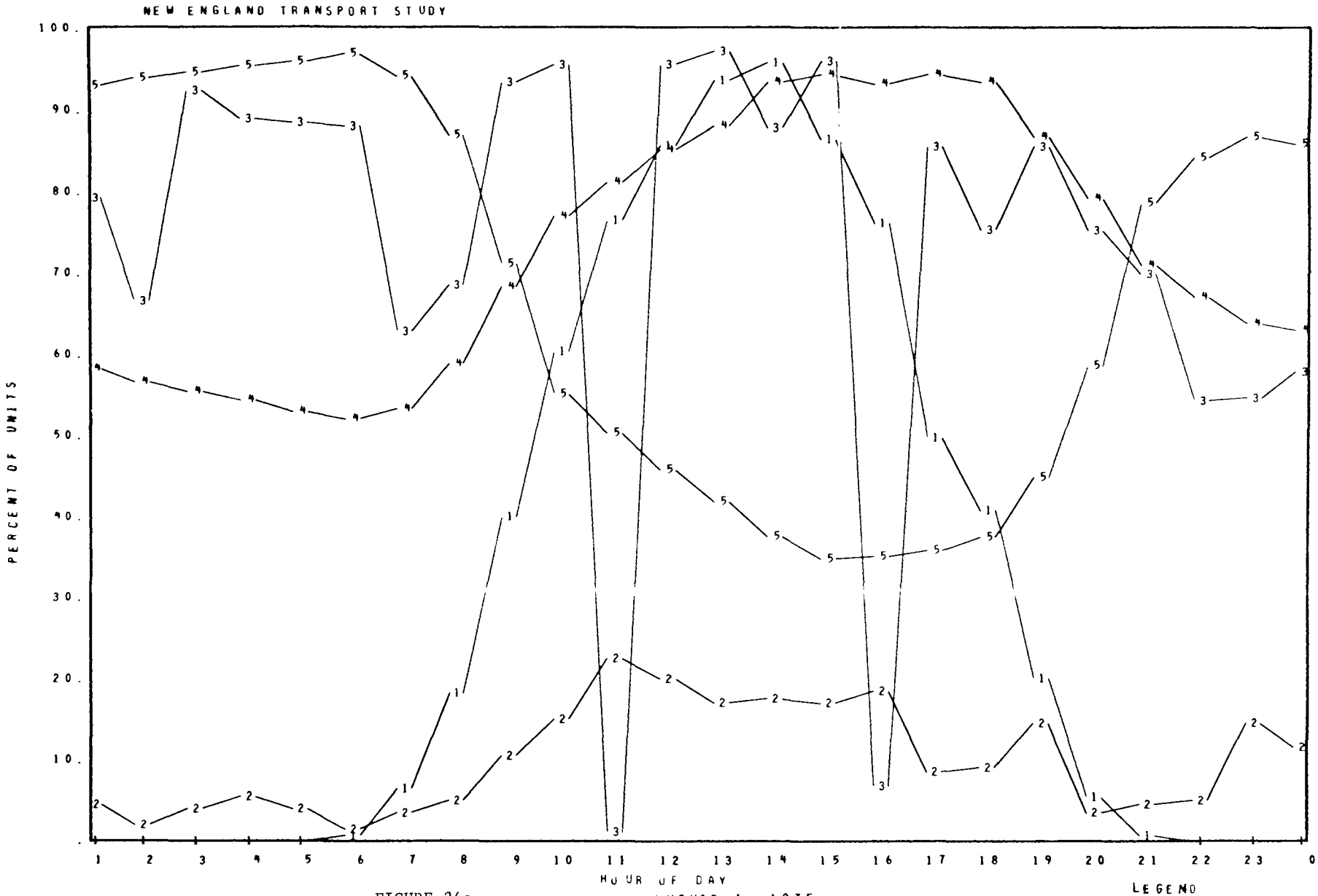



FIGURE 24a. AUGUST 1, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ CM/MIN
2 WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

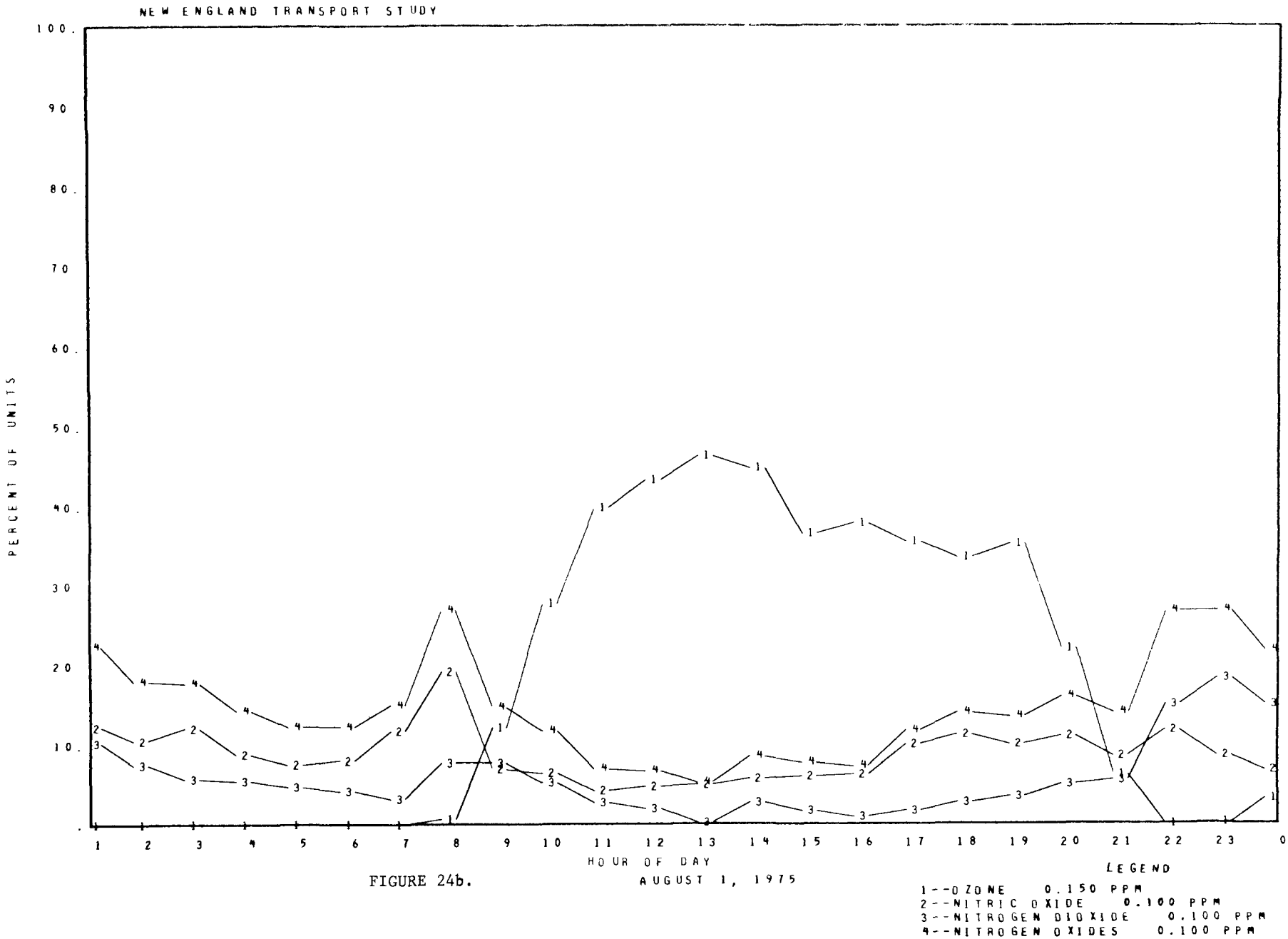

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80.
70
60.
50.
40.
30
20
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 1, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 24b.

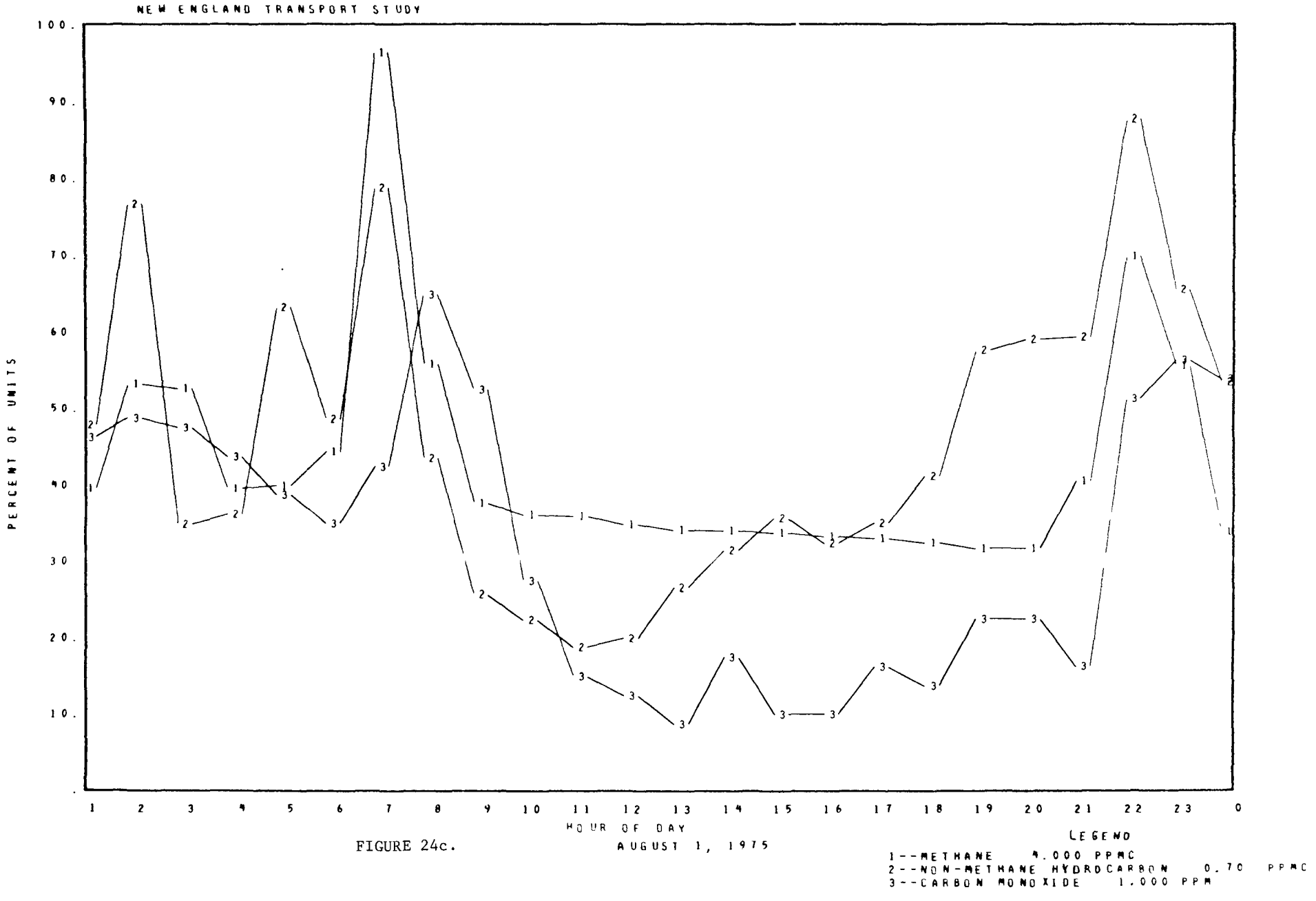



FIGURE 24c. AUGUST 1, 1975

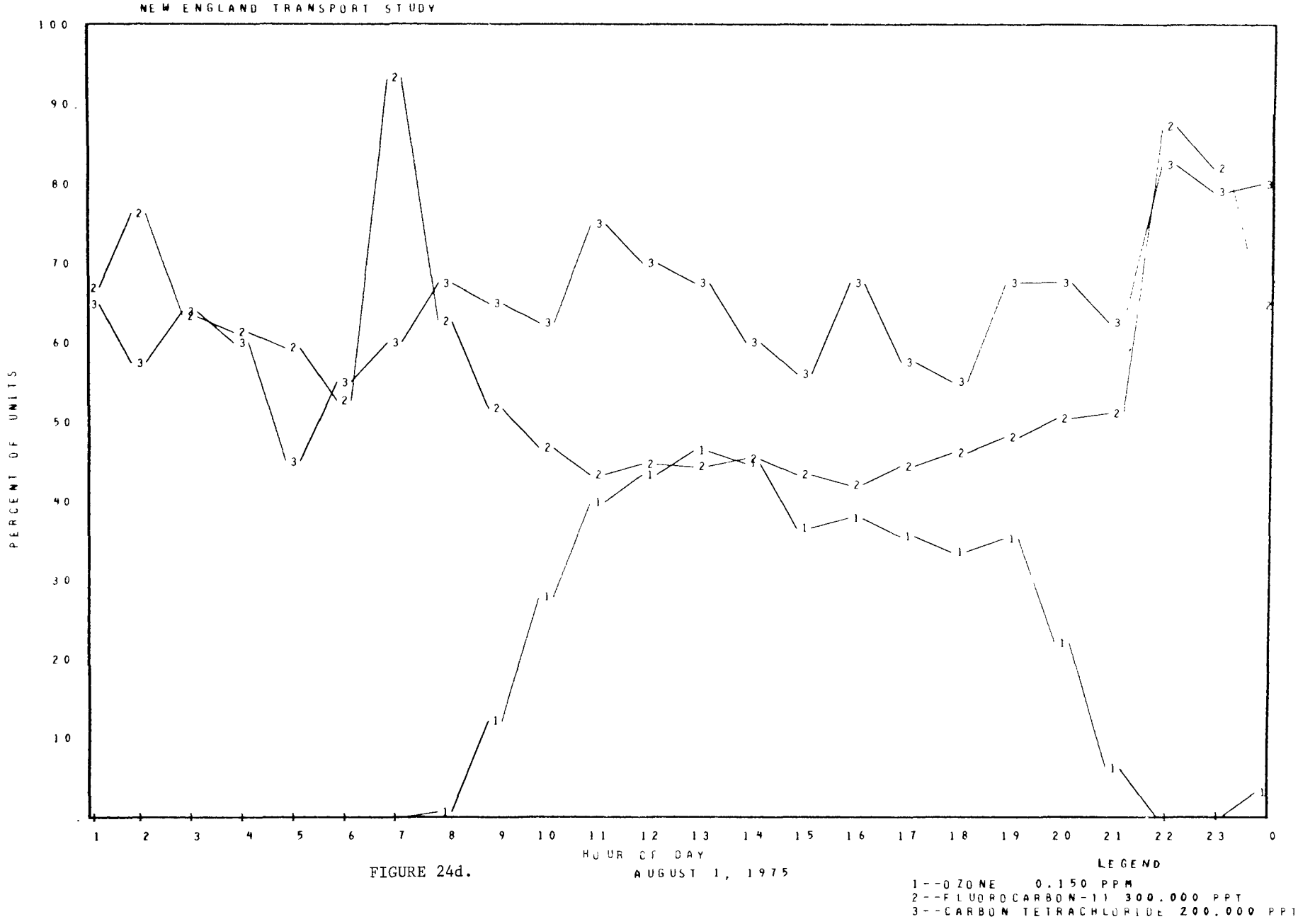
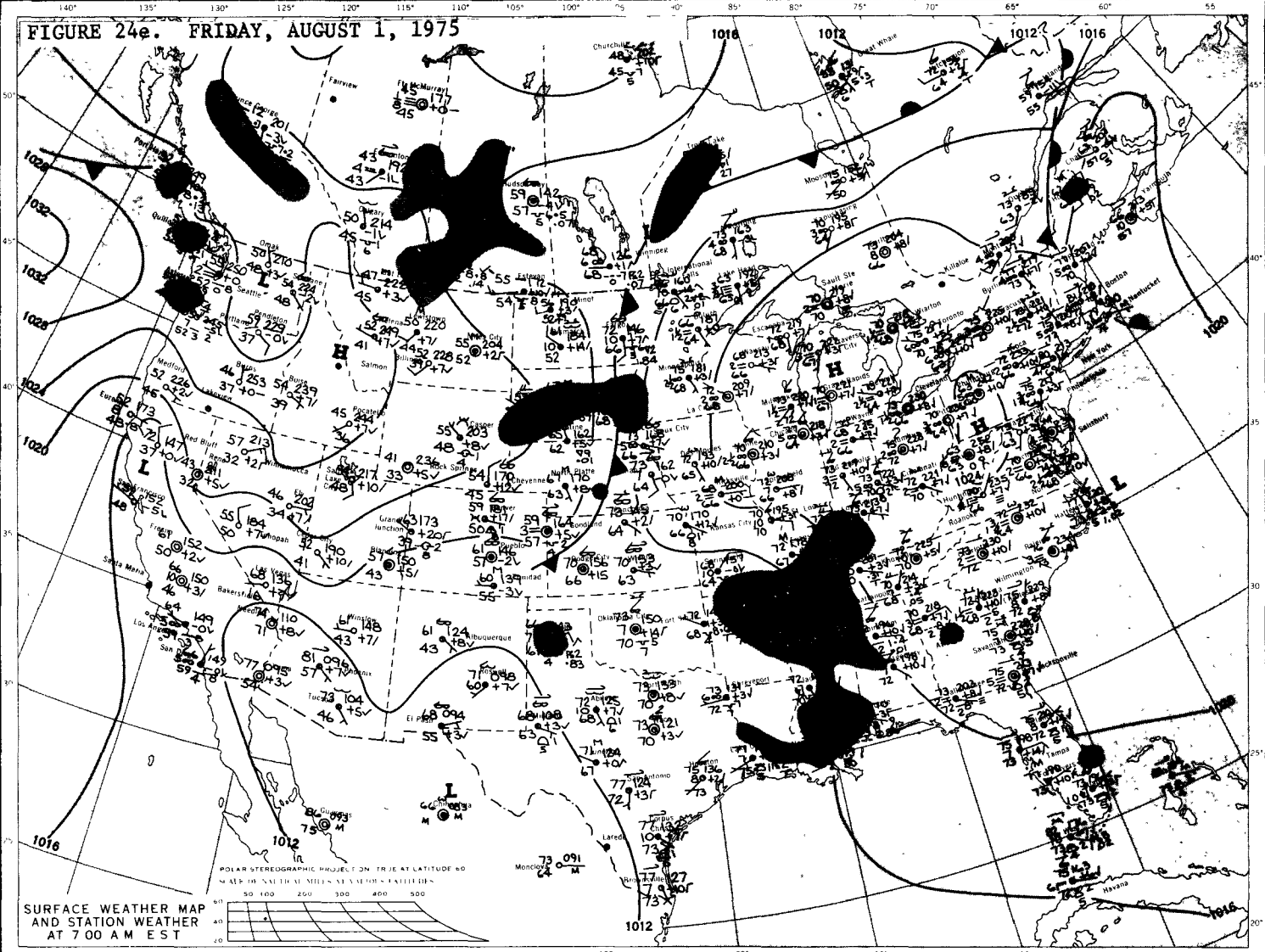
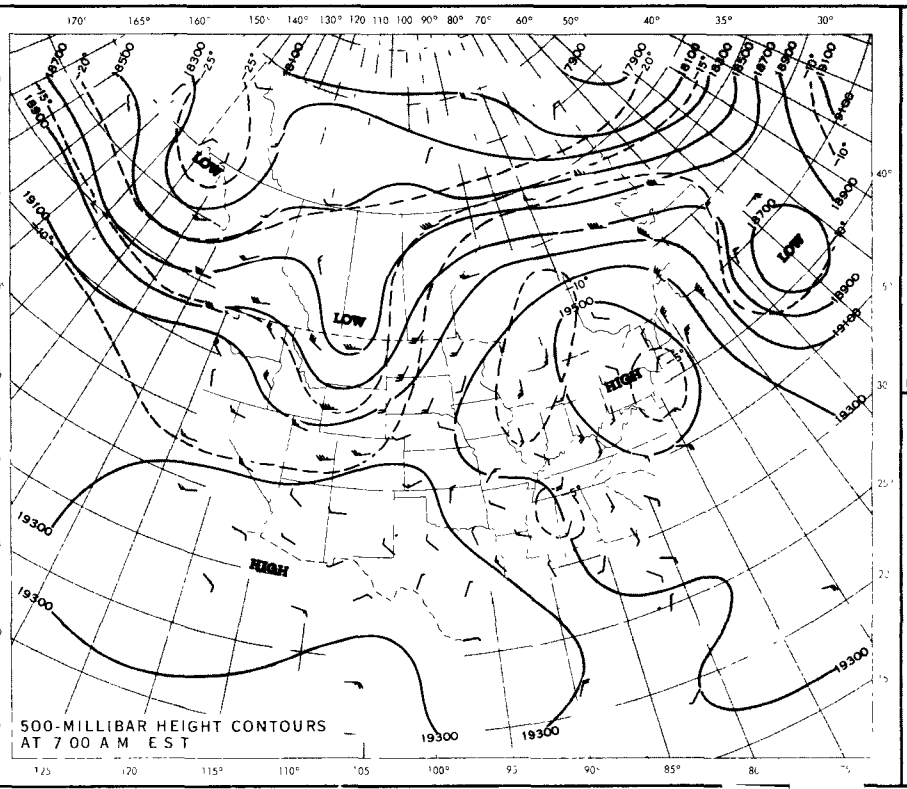

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 1, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 24d.

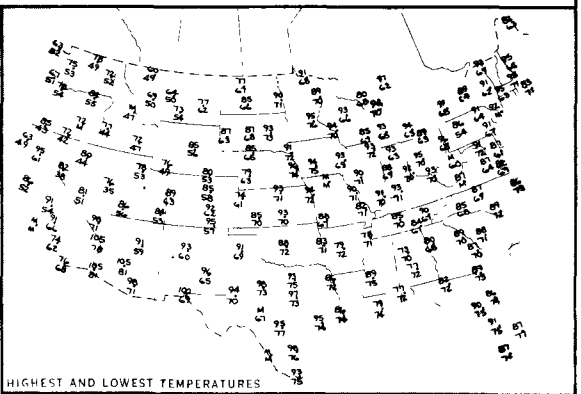
FIGURE 24e. FRIDAY, AUGUST 1, 1975



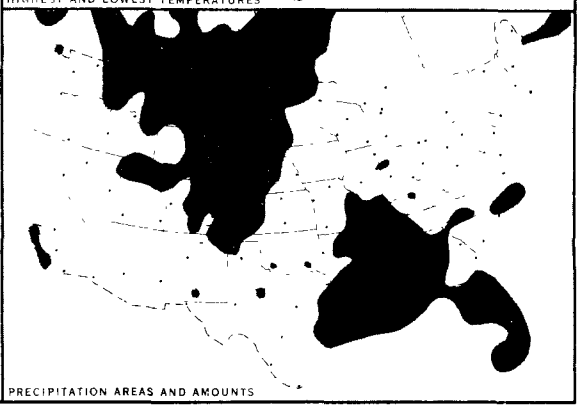

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 21a. AUGUST 2, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.376 | 24 |
| 2--WIND SPEED (MPH) | 2.079 | 24 |
| 3--WIND DIRECTION (DEGREES) | 271.095 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 29.743 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 65.862 | 24 |
| 6--OZONE (PPM) | 0.031 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.007 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.013 | 24 |
| 10--METHANE (PPMC) | 1.083 | 21 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.970 | 21 |
| 12--CARBON MONOXIDE (PPM) | 0.245 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 173. | 22 |
| 20--CARBON TETRACHLORIDE (PPT) | 131. | 22 |

TABLE 21b.

| SUBSTANCE | HOUR AVERAGES FOR AUGUST 2, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.100 | 0.675 | 2.000 | 3.350 | 4.600 | 5.600 | 6.350 |
| 2--WIND SPEED (MPH) | 1.400 | 0.600 | 1.100 | 0.800 | 0.300 | 0.900 | 0.800 | 1.000 | 2.600 | 4.100 | 3.100 | 5.500 |
| 3--WIND DIRECTION (DEGREES) | 239. | 315. | 264. | 254. | 245. | 333. | 326. | 223. | 337. | 358. | 350. | 358. |
| 4--TEMPERATURE (CENTIGRADE) | 24. | 23. | 23. | 22. | 22. | 21. | 22. | 26. | 30. | 32. | 34. | 36. |
| 5--RELATIVE HUMIDITY (PERCENT) | 89. | 92. | 94. | 95. | 95. | 95. | 89. | 73. | 59. | 54. | 49. | 44. |
| 6--OZONE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.008 | 0.028 | 0.041 | 0.054 | 0.053 |
| 7--NITRIC OXIDE (PPM) | 0.007 | 0.007 | 0.006 | 0.005 | 0.007 | 0.008 | 0.011 | 0.007 | 0.007 | 0.004 | 0.005 | 0.005 |
| 8--NITROGEN DIOXIDE (PPM) | 0.013 | 0.009 | 0.008 | 0.007 | 0.005 | 0.004 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.020 | 0.016 | 0.014 | 0.012 | 0.012 | 0.011 | 0.014 | 0.011 | 0.010 | 0.007 | 0.008 | 0.008 |
| 10--METHANE (PPMC) | 1.000 | 1.380 | 0.900 | 0.952 | 1.475 | 1.215 | 1.110 | 1.393 | 0.836 | 0.899 | 0.896 | 0.888 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.948 | 1.018 | 0.946 | 0.876 | 1.054 | 0.971 | 0.971 | 1.238 | 0.842 | 0.733 | 0.832 | 0.875 |
| 12--CARBON MONOXIDE (PPM) | 0.512 | 0.387 | 0.400 | 0.313 | 0.337 | 0.387 | 0.425 | 0.313 | 0.300 | 0.250 | 0.225 | 0.200 |
| 19--FLUOROCARBON-11 (PPT) | 191. | 193. | 182. | 183. | 179. | 173. | 198. | 195. | 136. | 132. | -139. | -147. |
| 20--CARBON TETRACHLORIDE (PPT) | 155. | 140. | 150. | 160. | 115. | 115. | 128. | 115. | 145. | 125. | -138. | -152. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.750 | 6.675 | 6.175 | 5.625 | 4.400 | 3.125 | 1.200 | 0.350 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.200 | 3.600 | 2.900 | 3.600 | 3.000 | 3.400 | 2.200 | 1.300 | 0.700 | 1.000 | 1.100 | 0.700 |
| 3--WIND DIRECTION (DEGREES) | 18. | 358. | 248. | 215. | 258. | 268. | 273. | 215. | 194. | 336. | 193. | 325. |
| 4--TEMPERATURE (CENTIGRADE) | 37. | 39. | 40. | 41. | 39. | 37. | 34. | 31. | 28. | 26. | 24. | 24. |
| 5--RELATIVE HUMIDITY (PERCENT) | 42. | 38. | 38. | 36. | 35. | 41. | 44. | 53. | 67. | 81. | 88. | 90. |
| 6--OZONE (PPM) | 0.056 | 0.067 | 0.067 | 0.062 | 0.064 | 0.077 | 0.077 | 0.056 | 0.030 | 0.005 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.006 | 0.007 | 0.009 | 0.010 | 0.009 | 0.010 | 0.010 | 0.008 | 0.008 | 0.006 | 0.009 | 0.012 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.003 | 0.002 | 0.004 | 0.006 | 0.009 | 0.010 | 0.011 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 0.008 | 0.012 | 0.011 | 0.011 | 0.013 | 0.012 | 0.012 | 0.014 | 0.015 | 0.019 | 0.024 |
| 10--METHANE (PPMC) | 0.820 | 0.785 | 0.805 | 0.773 | -0.782 | -0.791 | -0.800 | 0.810 | 0.913 | 0.980 | 1.991 | 1.915 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.873 | 0.870 | 0.983 | 1.020 | -0.978 | -0.937 | -0.895 | 0.853 | 0.923 | 0.903 | 1.267 | 1.370 |
| 12--CARBON MONOXIDE (PPM) | 0.087 | 0.087 | 0.137 | 0.112 | 0.062 | 0.050 | 0.075 | 0.087 | 0.150 | 0.188 | 0.350 | 0.450 |
| 19--FLUOROCARBON-11 (PPT) | 154. | 155. | 167. | 159. | 142. | 152. | 150. | 138. | 143. | 195. | 232. | 252. |
| 20--CARBON TETRACHLORIDE (PPT) | 165. | 155. | 150. | 130. | 100. | 120. | 90. | 105. | 115. | 145. | 120. | 145. |

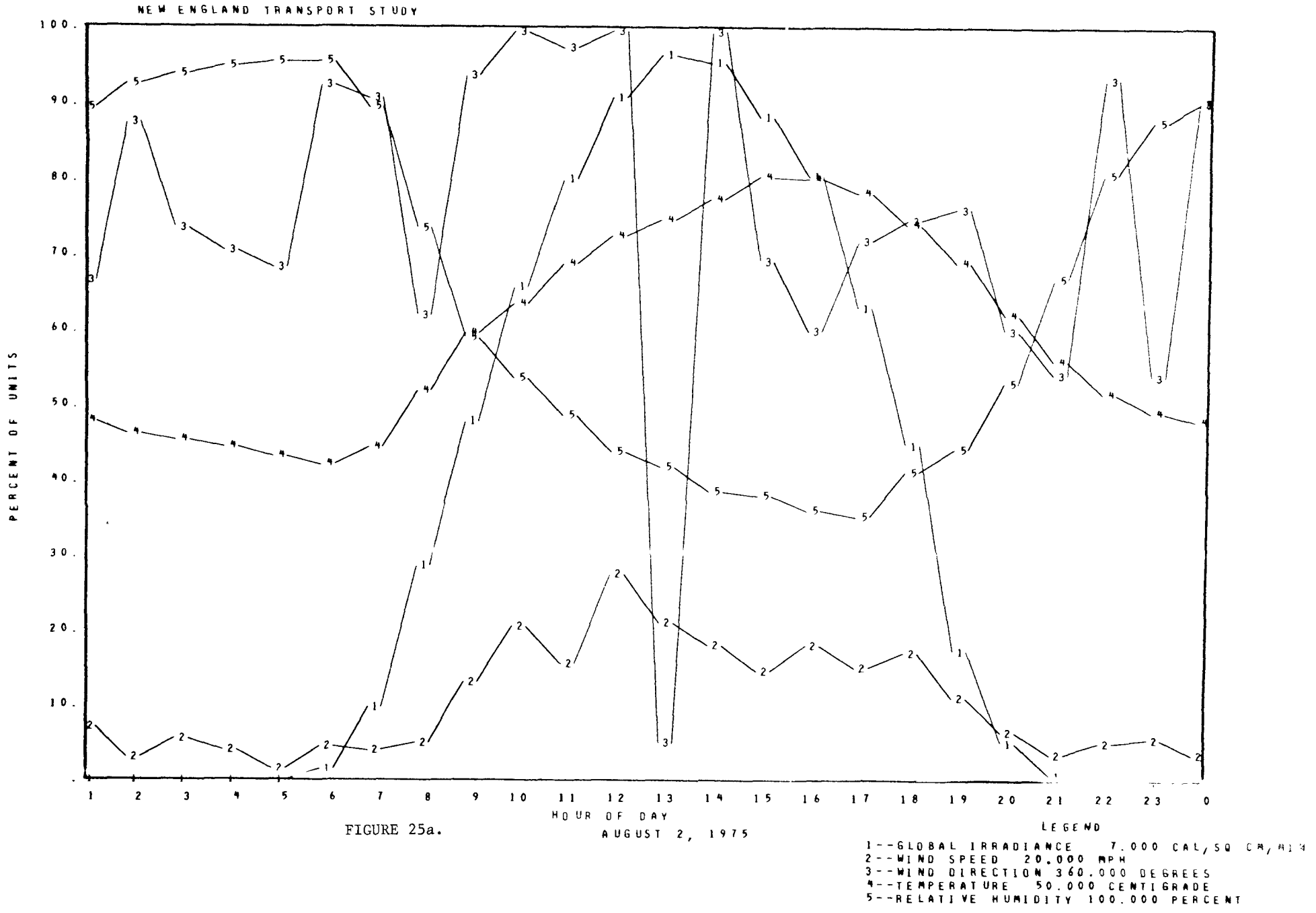

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 2, 1975
LEGEND
1--GLOBAL IRRADIANCE 7.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 50.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

FIGURE 25a.

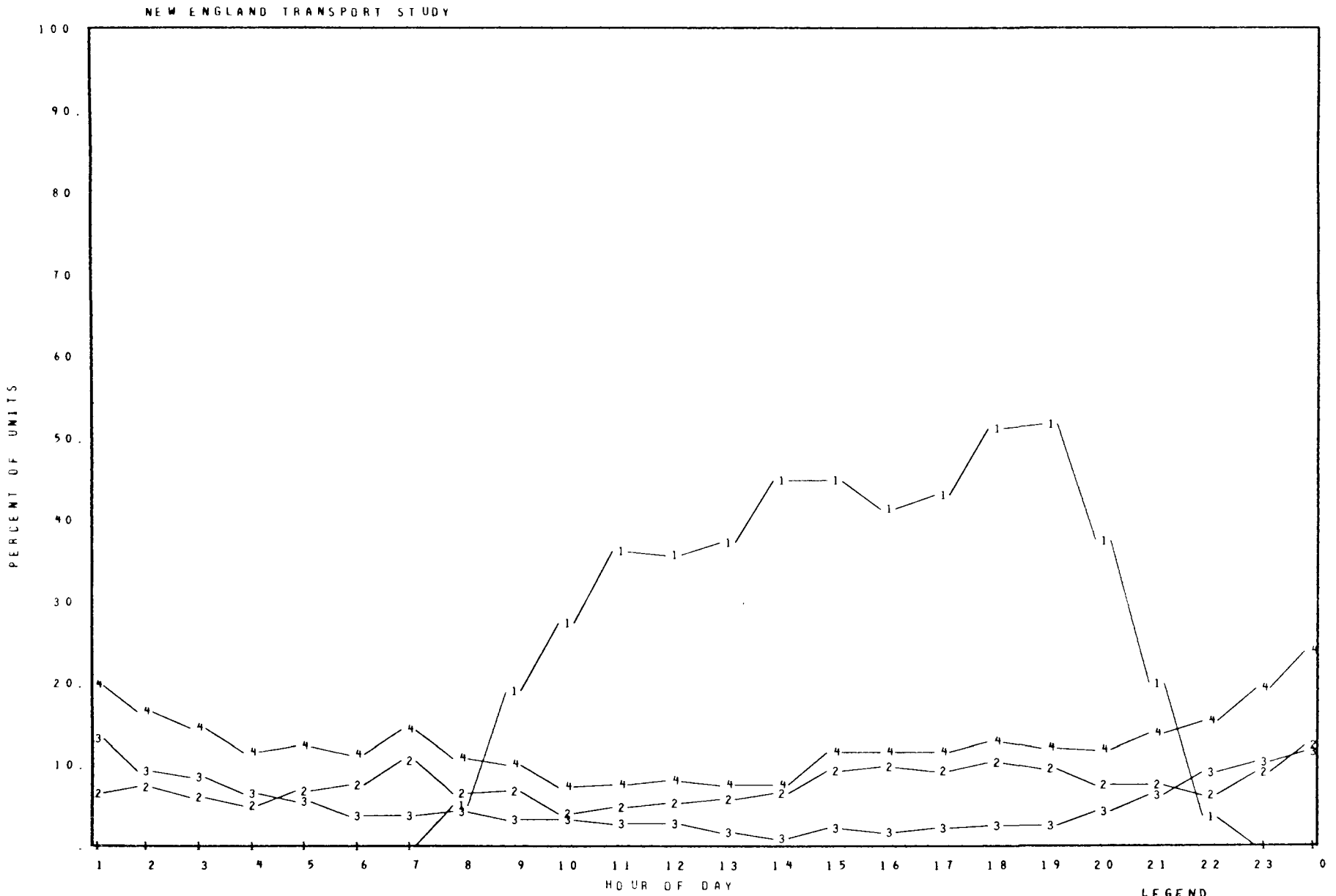

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90.
80
70
60
50.
40
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 2, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 25b.

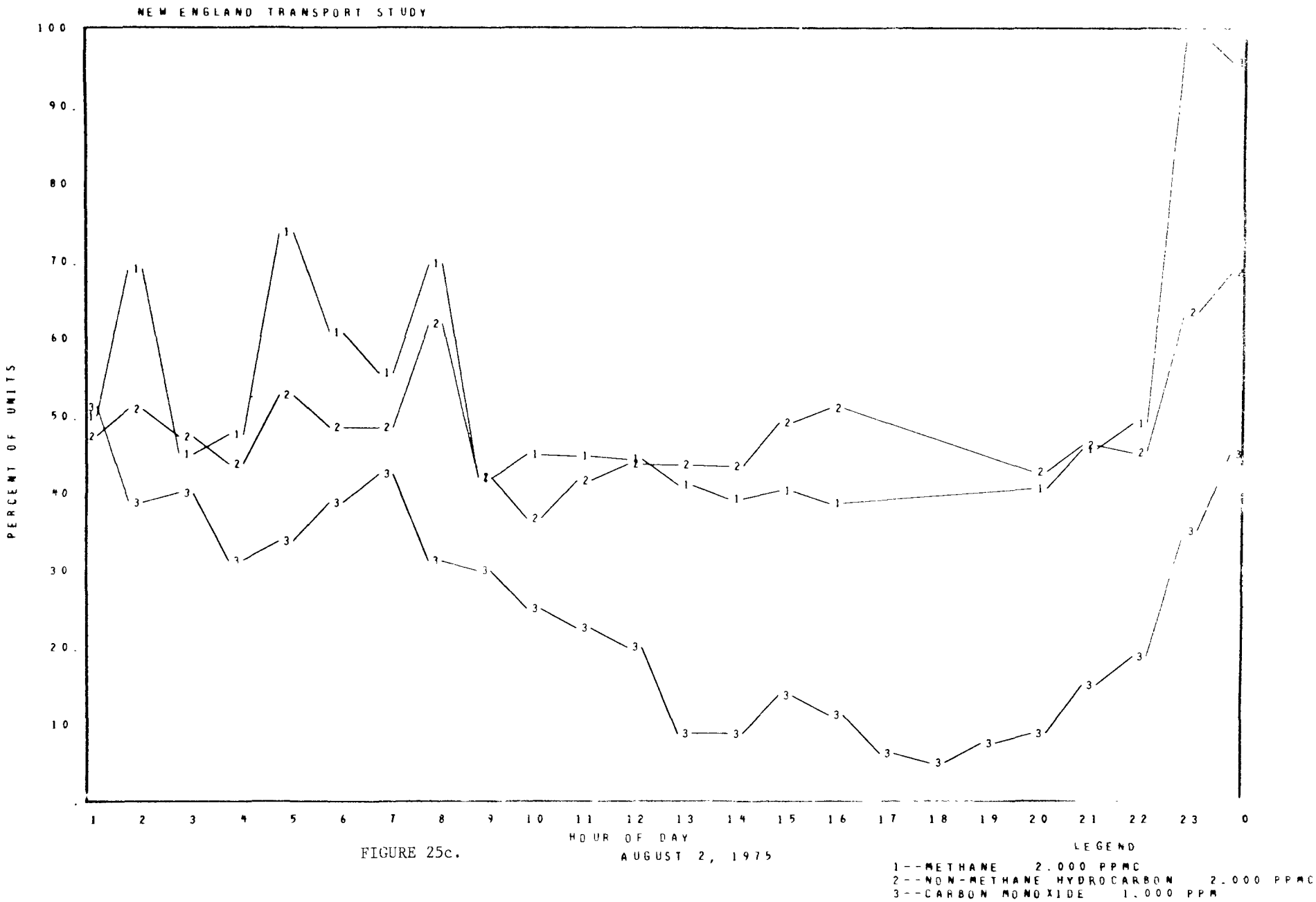

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 2, 1975
LEGEND
1--METHANE 2.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 25c.

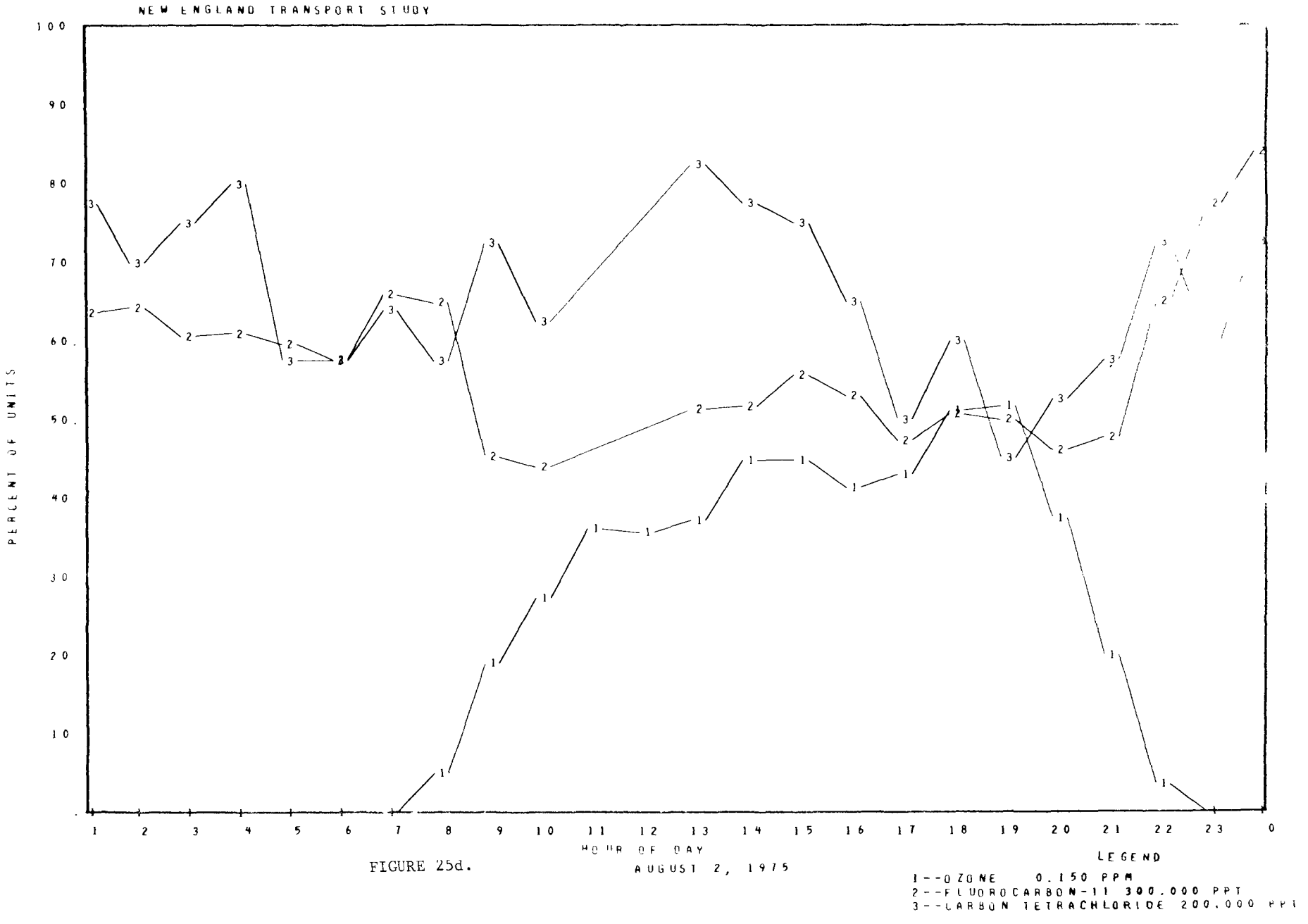
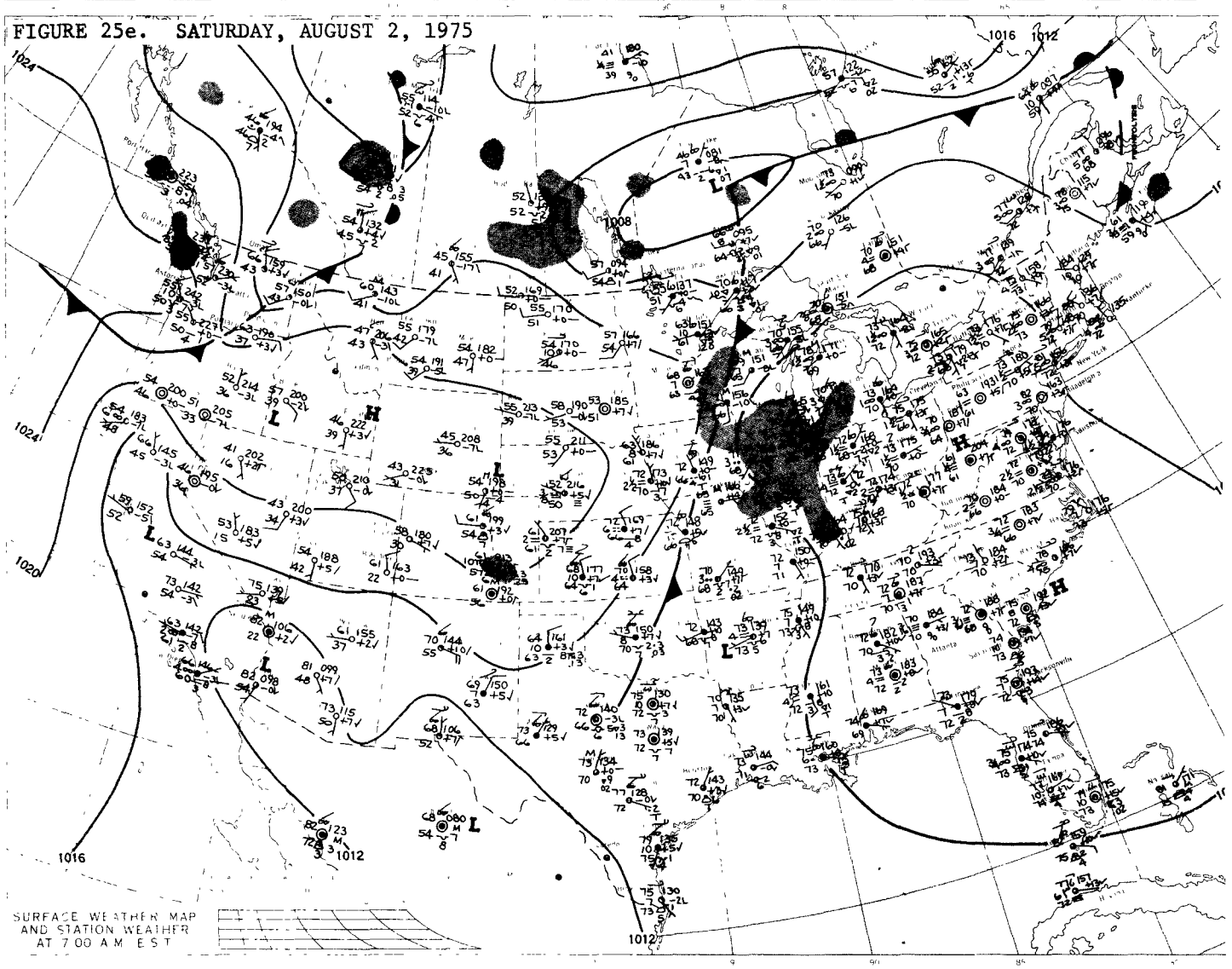
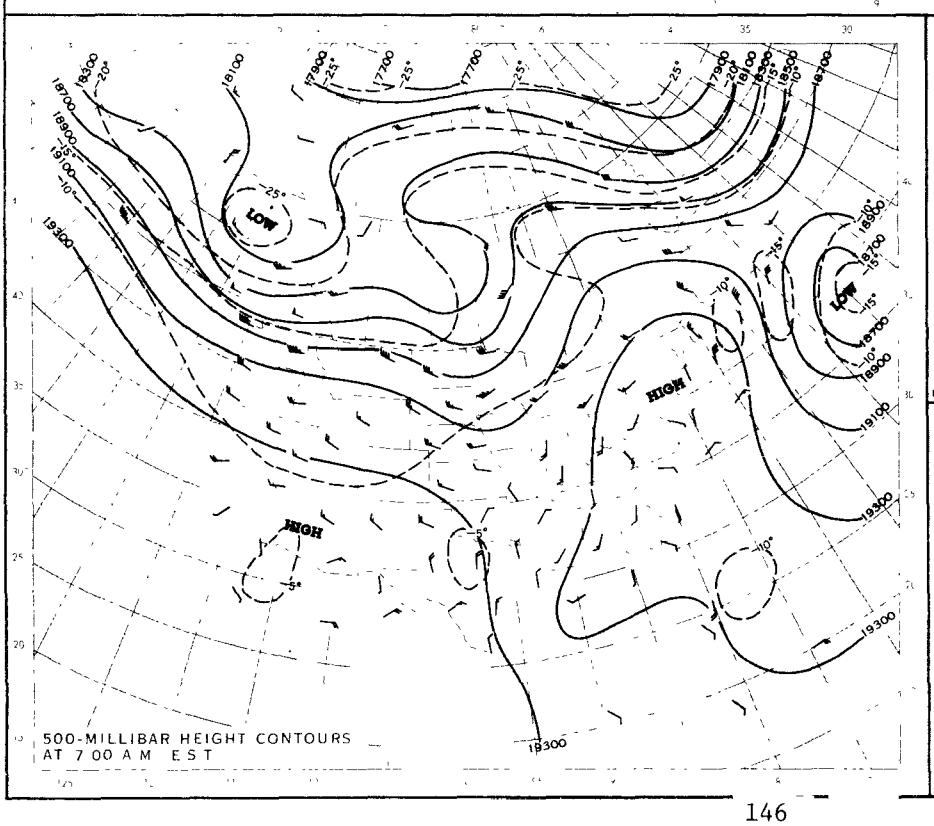
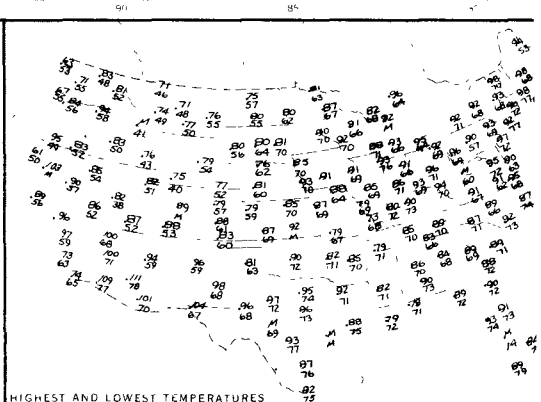

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 2, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 25d.

FIGURE 25e. SATURDAY, AUGUST 2, 1975



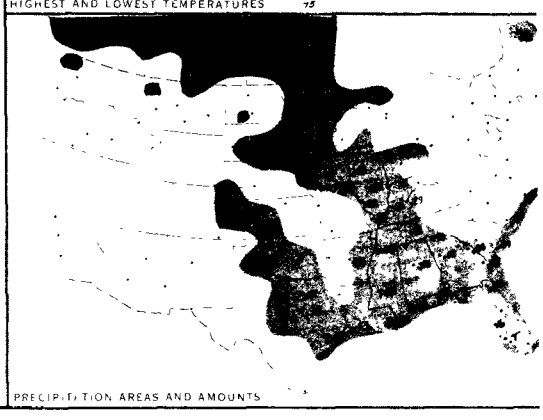



TABLE 22a. AUGUST 3, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.196 | 24 |
| 2--WIND SPEED (MPH) | 3.437 | 24 |
| 3--WIND DIRECTION (DEGREES) | 225.394 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 28.434 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 70.405 | 24 |
| 6--OZONE (PPM) | 0.036 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 1.108 | 23 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.867 | 23 |
| 12--CARBON MONOXIDE (PPM) | 0.149 | 10 |
| 19--FLUOROCARBON-11 (PPT) | 162. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 108. | 24 |

TABLE 22b.

| SUBSTANCE | HOUR AVERAGES FOR AUGUST 3, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.550 | 1.825 | 3.050 | 4.050 | 5.425 | 6.075 |
| 2--WIND SPEED (MPH) | 2.200 | 1.900 | 1.100 | 1.100 | 1.000 | 1.400 | 1.200 | 1.300 | 1.800 | 1.900 | 4.100 | 5.700 |
| 3--WIND DIRECTION (DEGREES) | 215. | 215. | 323. | 276. | 333. | 321. | 2. | 212. | 169. | 223. | 331. | 359. |
| 4--TEMPERATURE (CENTIGRADE) | 24. | 24. | 23. | 22. | 21. | 21. | 21. | 24. | 29. | 32. | 34. | 35. |
| 5--RELATIVE HUMIDITY (PERCENT) | 91. | 92. | 93. | 94. | 95. | 96. | 93. | 82. | 65. | 55. | 48. | 45. |
| 6--OZONE (PPM) | .000 | 0.000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.028 | 0.039 | 0.0[illegible]1 | 0.051 |
| 7--NITRIC OXIDE (PPM) | 0.017 | 0.009 | 0.008 | 0.006 | 0.007 | 0.005 | 0.009 | 0.005 | 0.003 | 0.002 | 0.003 | 0.003 |
| 8--NITROGEN DIOXIDE (PPM) | 0.013 | 0.013 | 0.010 | 0.008 | 0.006 | 0.005 | 0.004 | 0.003 | 0.001 | 0.002 | 0.001 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.030 | 0.022 | 0.018 | 0.014 | 0.013 | 0.010 | 0.013 | 0.007 | 0.004 | 0.004 | 0.004 | 0.00[illegible] |
| 10--METHANE (PPMC) | 2.046 | 1.863 | 1.315 | 1.410 | 1.196 | 1.184 | 1.150 | 1.198 | 1.198 | 1.068 | 1.026 | 0.911 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 1.205 | 1.223 | 1.133 | 0.963 | 0.998 | 0.848 | 1.067 | 0.795 | 0.690 | 0.582 | 0.6[illegible]7 | 0.74[illegible] |
| 12--CARBON MONOXIDE (PPM) | 0.525 | -0.497 | -0.468 | -0.440 | -0.412 | -0.383 | -0.355 | -0.327 | -0.298 | -0.270 | -0.242 | -0.21 |
| 19--FLUOROCARBON-11 (PPT) | 225. | 182. | 192. | 180. | 175. | 178. | 174. | 184. | 138. | 128. | 135. | 152. |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 128. | 110. | 95. | 100. | 82. | 95. | 145. | 105. | 105. | 105. | 100. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.250 | 6.425 | 6.025 | 5.275 | 3.425 | 2.025 | 1.675 | 0.525 | 0.075 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.800 | 4.200 | 4.200 | 3.200 | 2.900 | 4.500 | 3.300 | 6.300 | 10.400 | 5.100 | [illegible] | [illegible] |
| 3--WIND DIRECTION (DEGREES) | 15. | 8. | 55. | 274. | 356. | 204. | 86. | 80. | 343. | 340. | [illegible] | [illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 35. | 37. | 36. | 38. | 37. | 35. | 34. | 31. | 25. | 23. | [illegible] | 23. |
| 5--RELATIVE HUMIDITY (PERCENT) | 43. | 40. | 41. | 40. | 41. | 46. | 51. | 56. | 83. | 100. | [illegible] | 100. |
| 6--OZONE (PPM) | 0.058 | 0.060 | 0.061 | 0.060 | 0.062 | 0.089 | 0.067 | 0.075 | 0.068 | 0.041 | 0.029 | 0.032 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.004 | 0.005 | 0.003 | 0.002 | 0.002 | 0.002 | 0.001 | 0.000 | 0.000 | .000 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.001 | 0.000 | 0.002 | 0.001 | 0.003 | 0.002 | 0.004 | 0.003 | 0.002 | 0.003 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.005 | 0.006 | 0.005 | 0.003 | 0.005 | 0.004 | 0.005 | 0.003 | 0.002 | 0.003 | 0.004 |
| 10--METHANE (PPMC) | 0.787 | 0.781 | -0.785 | 0.790 | 0.860 | 0.936 | 0.954 | 0.931 | 1.025 | 0.945 | 0.929 | 0.978 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.861 | 0.872 | -0.941 | 1.010 | 0.913 | 0.770 | 0.702 | 0.794 | 0.720 | 0.913 | 0.823 | 0.707 |
| 12--CARBON MONOXIDE (PPM) | -0.185 | -0.157 | -0.128 | 0.100 | 0.087 | 0.112 | 0.125 | 0.138 | 0.087 | 0.075 | 0.075 | 0.162 |
| 19--FLUOROCARBON-11 (PPT) | 148. | 154. | 167. | 160. | 153. | 180. | 175. | 188. | 146. | 118. | 120. | 137. |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 105. | 130. | 110. | 120. | 120. | 115. | 125. | 65. | 90. | 90. | 120. |

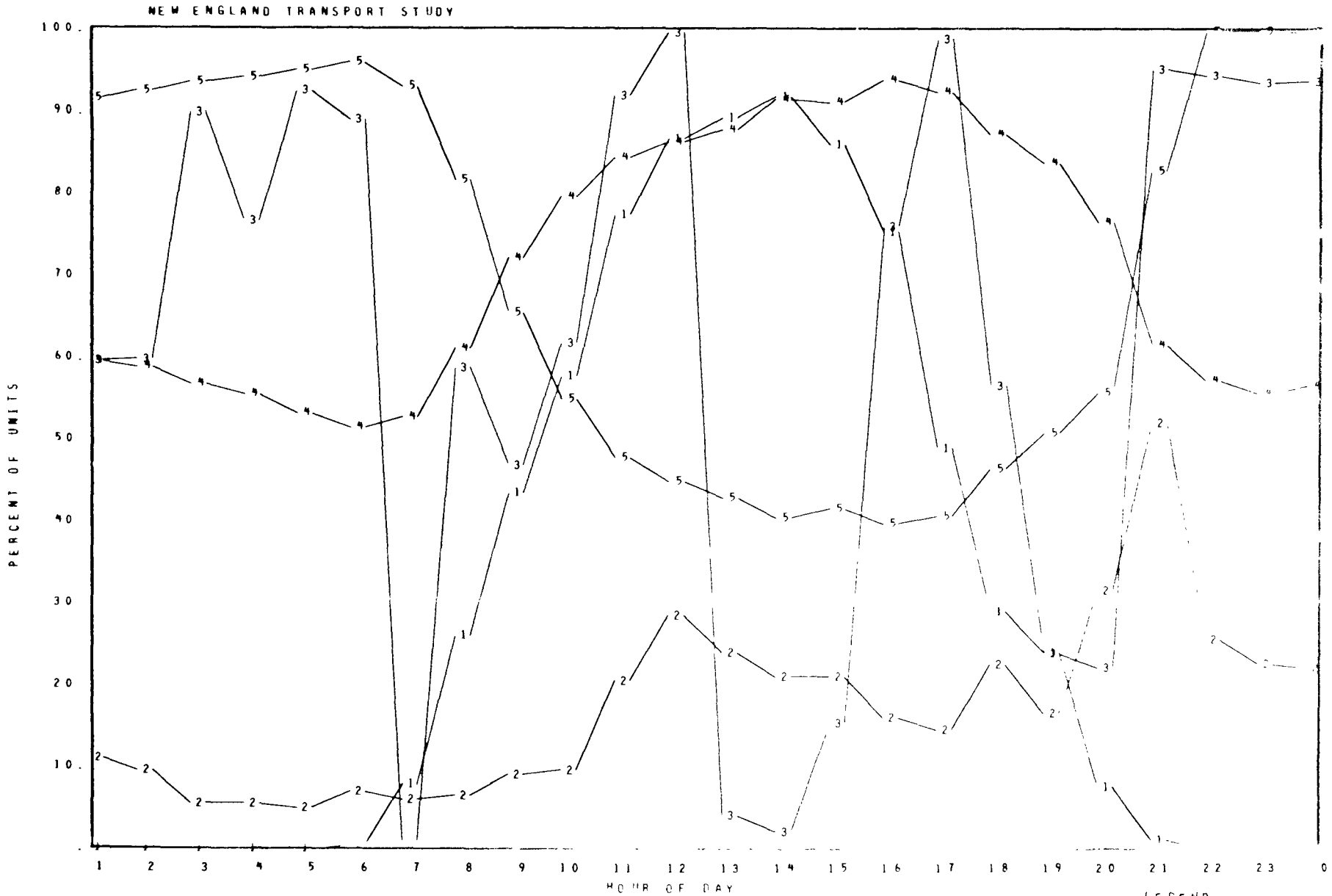

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70
60.
50
40
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 3, 1975
LEGEND
1--GLOBAL IRRADIANCE 7 000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40 000 CENTIGRADE
5--RELATIVE HUMIDITY 100 000 PERCENT

FIGURE 26a.

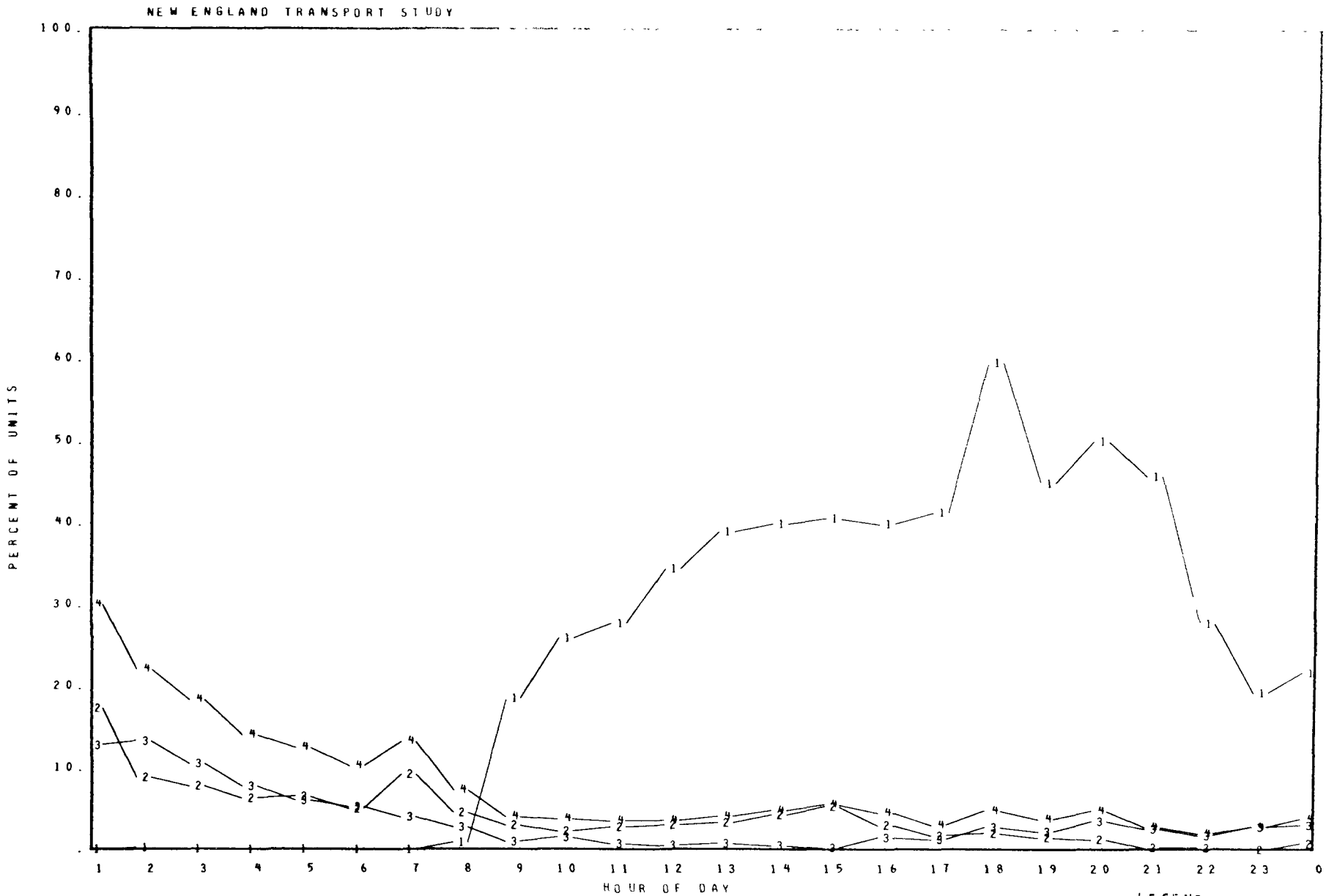

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 3, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 26b.

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90
80
70
60
50
40
30
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 3, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 26c.

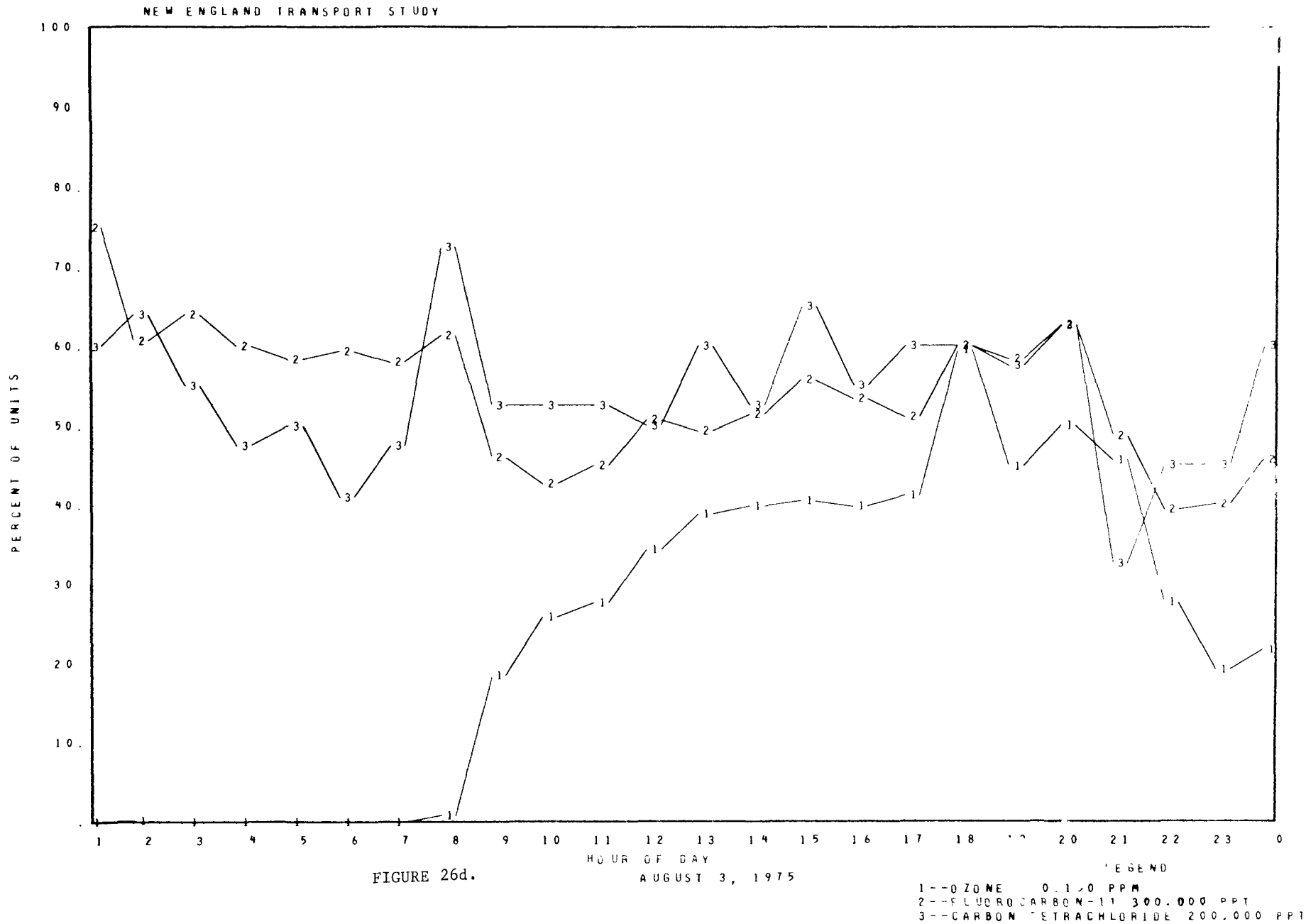
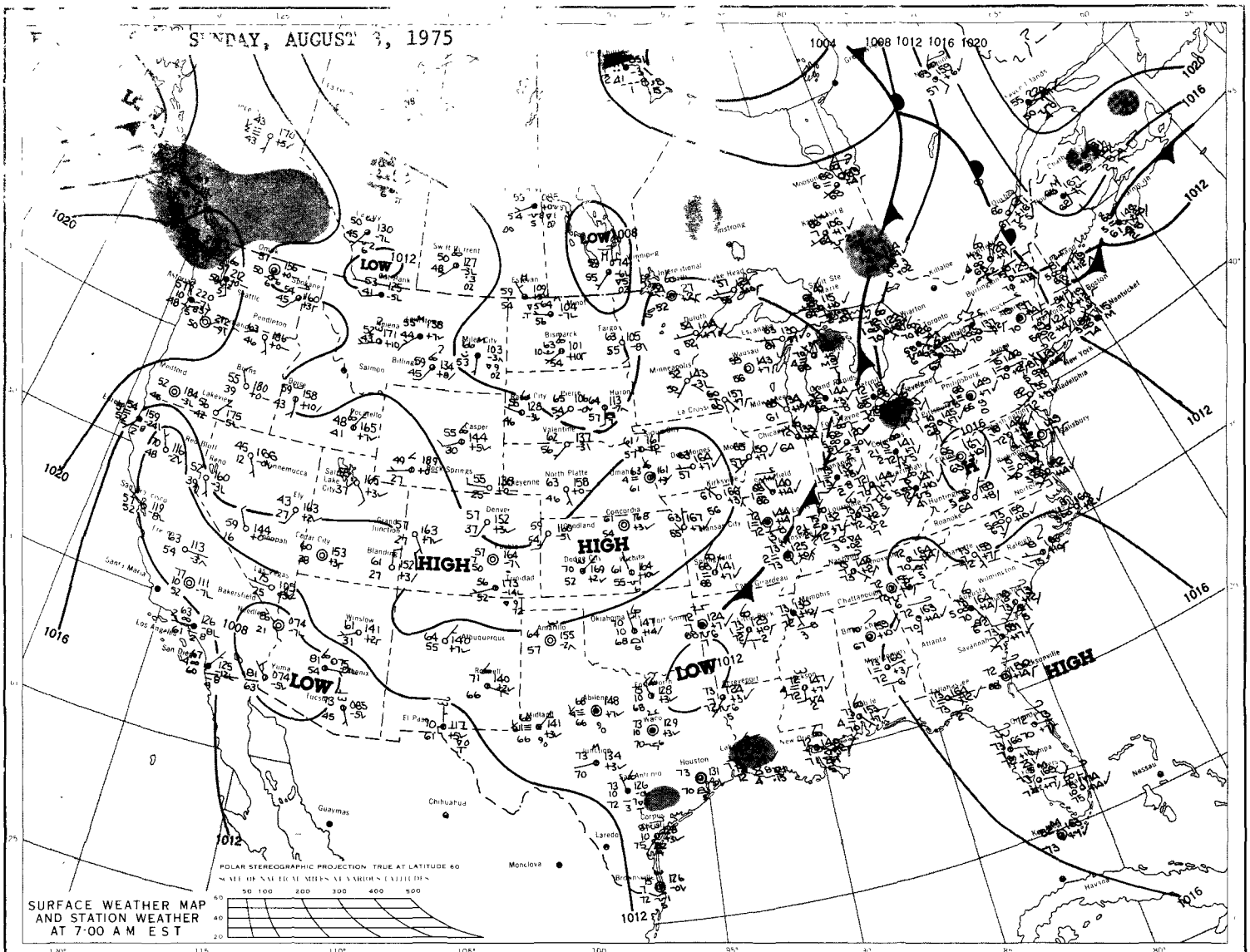
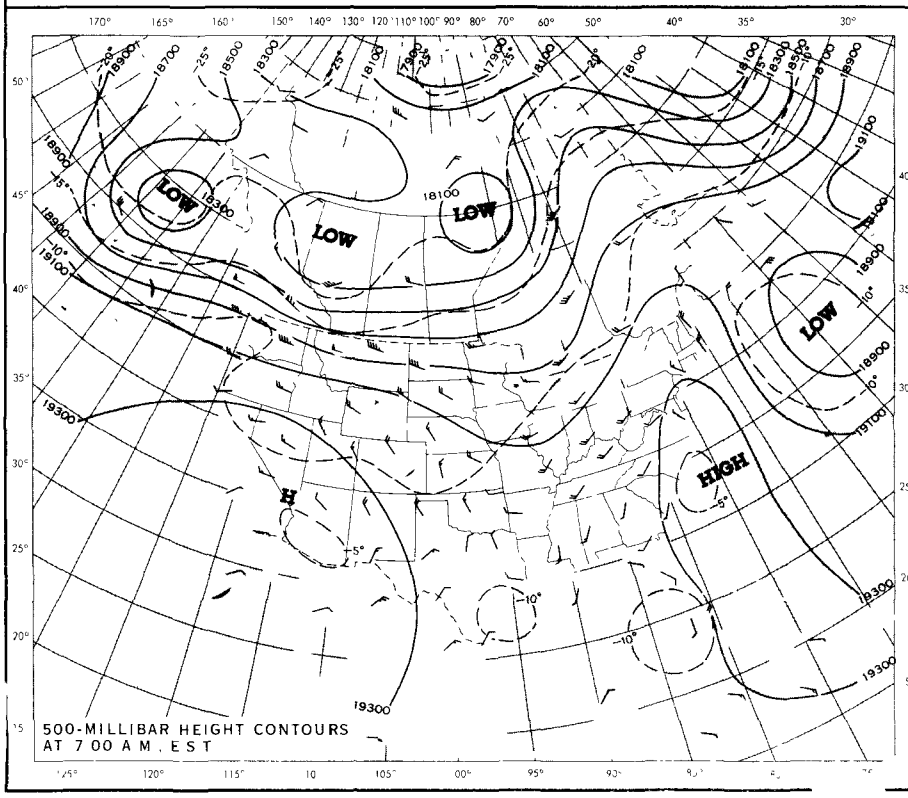

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 3, 1975
LEGEND
1--OZONE 0.120 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

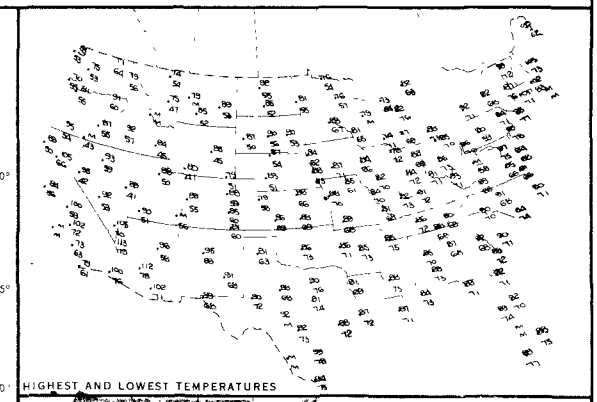
FIGURE 26d.



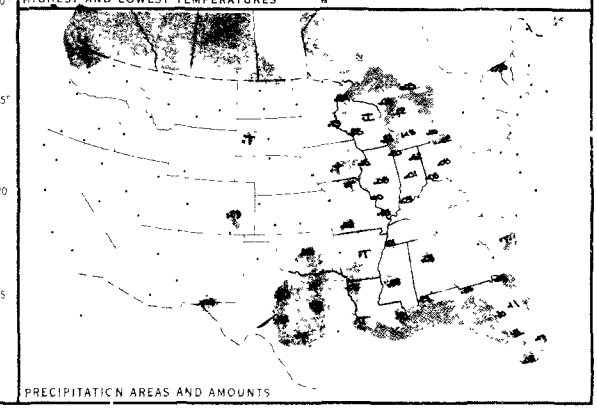

SURFACE WEATHER MAP AND STATION WEATHER AT 7:00 A.M. EST




500-MILLIBAR HEIGHT CONTOURS AT 7:00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 23a. AUGUST 4, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.334 | 24 |
| 2--WIND SPEED (MPH) | 3.208 | 24 |
| 3--WIND DIRECTION (DEGREES) | 134.880 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 22.702 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 92.025 | 24 |
| 6--OZONE (PPM) | 0.021 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 24 |
| 10--METHANE (PPMC) | 1.626 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.078 | 5 |
| 12--CARBON MONOXIDE (PPM) | 0.252 | 24 |
| 13--ETHANE (PPMC) | 0.001 | 17 |
| 14--ETHYLENE (PPMC) | 0.004 | 17 |
| 16--ACETYLENE (PPMC) | 0.008 | 17 |
| 19--FLUOROCARBON-11 (PPT) | 139. | 21 |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 20 |

TABLE 23b.

| SUBSTANCE | HOUR AVERAGES FOR AUGUST 4, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.100 | 0.275 | 0.550 | 0.450 | 0.825 | 0.800 |
| 2--WIND SPEED (MPH) | 3.800 | 3.400 | 3.900 | 4.300 | 3.300 | 3.400 | 3.450 | 3.050 | 2.300 | 1.000 | 2.600 | 4.300 |
| 3--WIND DIRECTION (DEGREES) | 351. | 11. | 17. | 21. | 346. | 12. | 12. | 11. | 19. | 311. | 96. | 98. |
| 4--TEMPERATURE (CENTIGRADE) | 22. | 22. | 22. | 22. | 22. | 22. | 22. | 22. | 23. | 23. | 22. | 22. |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 99. | 95. | 95. | 94. | 95. | 94. | 93. | 90. | 89. | 93. | 100. |
| 6--OZONE (PPM) | 0.045 | 0.043 | 0.045 | 0.043 | 0.036 | 0.029 | 0.022 | 0.015 | 0.015 | 0.015 | 0.019 | 0.019 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.004 | 0.005 | 0.005 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.000 | .000 | .000 | .000 | .000 | 0.004 | 0.006 | 0.007 | 0.007 | 0.006 | 0.004 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.000 | .000 | .000 | .000 | .000 | 0.005 | 0.010 | 0.012 | 0.012 | 0.008 | 0.006 |
| 10--METHANE (PPMC) | 1.652 | 1.605 | 1.625 | 1.647 | 1.640 | 1.647 | 1.600 | 1.583 | 1.524 | 1.506 | 1.473 | 1.583 |
| 11--NON-METHANE HYDROCARBON (PPMC) | -0.156 | -0.091 | -0.130 | -0.158 | -0.165 | -0.151 | -0.074 | -0.045 | 0.027 | 0.196 | 0.108 | -0.087 |
| 12--CARBON MONOXIDE (PPM) | 0.200 | 0.200 | 0.212 | 0.200 | 0.187 | 0.212 | 0.337 | 0.387 | 0.212 | 0.400 | 0.175 | 0.150 |
| 13--ETHANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| 14--ETHYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.004 | 0.006 | 0.002 | 0.002 | 0.002 |
| 16--ACETYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.006 | 0.008 | 0.003 | 0.005 | 0.003 |
| 19--FLUOROCARBON-11 (PPT) | 145. | 139. | -139. | -140. | -140. | 141. | 128. | 135. | 134. | 139. | 144. | 130. |
| 20--CARBON TETRACHLORIDE (PPT) | 100. | 105. | -109. | -113. | -116. | 120. | -124. | 128. | 95. | 105. | 68. | 135. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.700 | 0.850 | 0.950 | 0.950 | 0.700 | 0.400 | 0.225 | 0.125 | 0.100 | 0.025 | .000 | .000 |
| 2--WIND SPEED (MPH) | 3.200 | 4.400 | 2.900 | 3.400 | 3.200 | 2.100 | 3.300 | 2.800 | 3.300 | 3.900 | 3.000 | 2.700 |
| 3--WIND DIRECTION (DEGREES) | 105. | 126. | 146. | 137. | 156. | 176. | 175. | 190. | 188. | 174. | 184. | 175. |
| 4--TEMPERATURE (CENTIGRADE) | 23. | 23. | 24. | 24. | 24. | 24. | 24. | 23. | 23. | 23. | 22. | 22. |
| 5--RELATIVE HUMIDITY (PERCENT) | 94. | 91. | 87. | 83. | 82. | 83. | 86. | 92. | 92. | 92. | 93. | 96. |
| 6--OZONE (PPM) | 0.021 | 0.018 | 0.020 | 0.022 | 0.022 | 0.018 | 0.008 | 0.006 | 0.005 | 0.006 | 0.009 | 0.008 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.003 | 0.004 | 0.005 | 0.004 | 0.004 | 0.003 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 0.006 | 0.008 | 0.010 | 0.014 | 0.014 | 0.016 | 0.017 | 0.016 | 0.011 | 0.008 | 0.006 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.009 | 0.011 | 0.015 | 0.018 | 0.018 | 0.019 | 0.019 | 0.018 | 0.013 | 0.009 | 0.008 |
| 10--METHANE (PPMC) | 1.523 | 1.576 | 1.580 | 1.573 | 1.580 | 1.653 | 1.598 | 1.939 | 1.866 | 1.649 | 1.653 | 1.756 |
| 11--NON-METHANE HYDROCARBON (PPMC) | -0.067 | -0.046 | -0.026 | 0.005 | -0.028 | 0.051 | -0.086 | -0.170 | -0.153 | -0.173 | -0.125 | -0.265 |
| 12--CARBON MONOXIDE (PPM) | 0.100 | 0.150 | 0.162 | 0.487 | 0.387 | 0.387 | 0.225 | 0.350 | 0.262 | 0.225 | 0.200 | 0.225 |
| 13--ETHANE (PPMC) | 0.001 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.002 | 0.013 | 0.006 | 0.004 | 0.005 | 0.006 | 0.003 | 0.008 | 0.004 | 0.003 | 0.003 | 0.003 |
| 16--ACETYLENE (PPMC) | 0.003 | 0.019 | 0.004 | 0.008 | 0.009 | 0.010 | 0.003 | 0.027 | 0.008 | 0.006 | 0.006 | 0.005 |
| 19--FLUOROCARBON-11 (PPT) | 137. | 132. | 139. | 140. | 139. | 164. | 130. | 148. | 146. | 134. | 134. | 141. |
| 20--CARBON TETRACHLORIDE (PPT) | 110. | 128. | 122. | 170. | 120. | 155. | 82. | 130. | 165. | 135. | 115. | 112. |

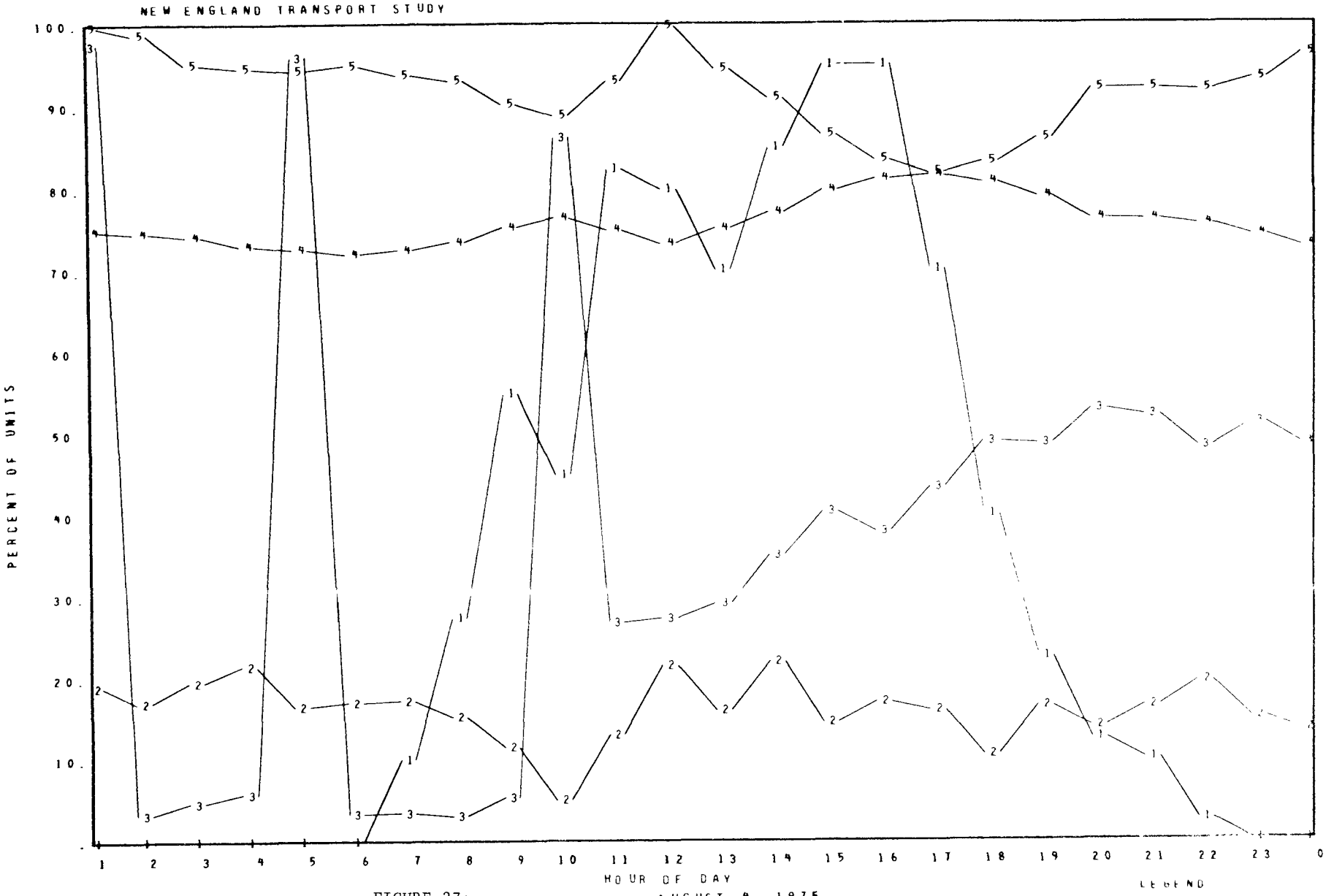



FIGURE 27a.

LEGEND

1--GLOBAL IRRADIANCE 1.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3- WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

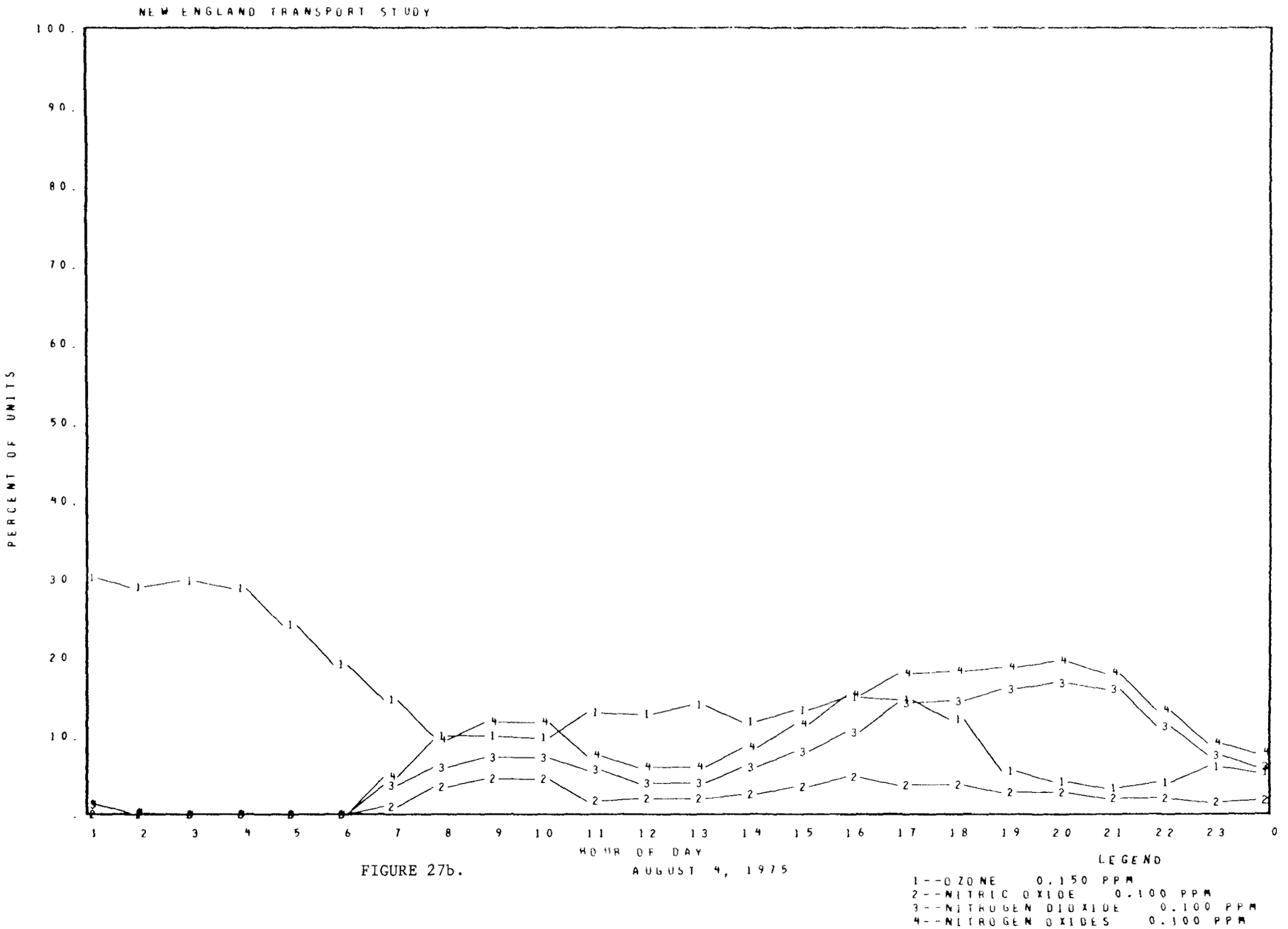

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 4, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 27b.

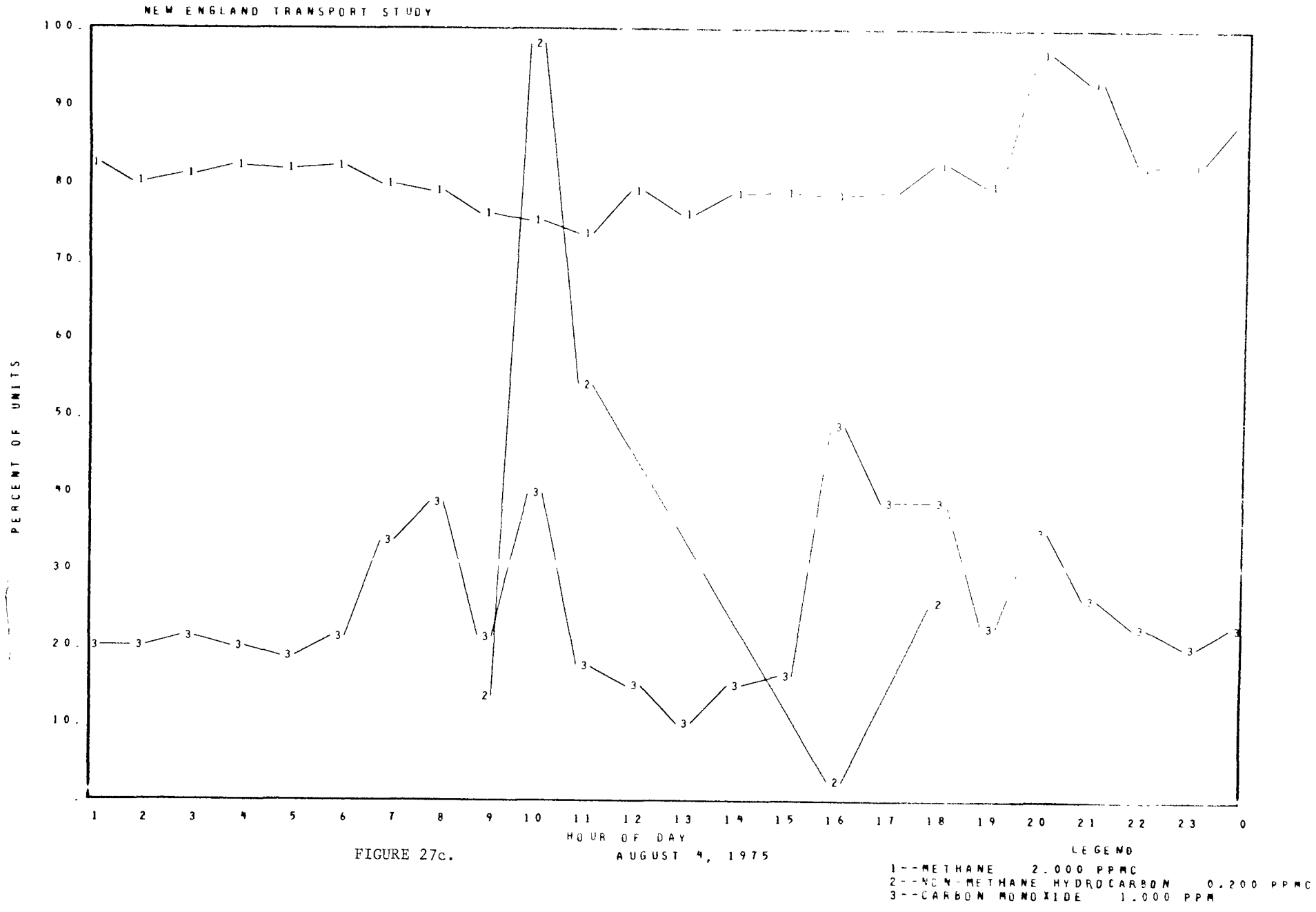

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90
80
70.
60
50.
40
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 4, 1975
LEGEND
1--METHANE 2.000 PPMC
2--NON-METHANE HYDROCARBON 0.200 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 27c.

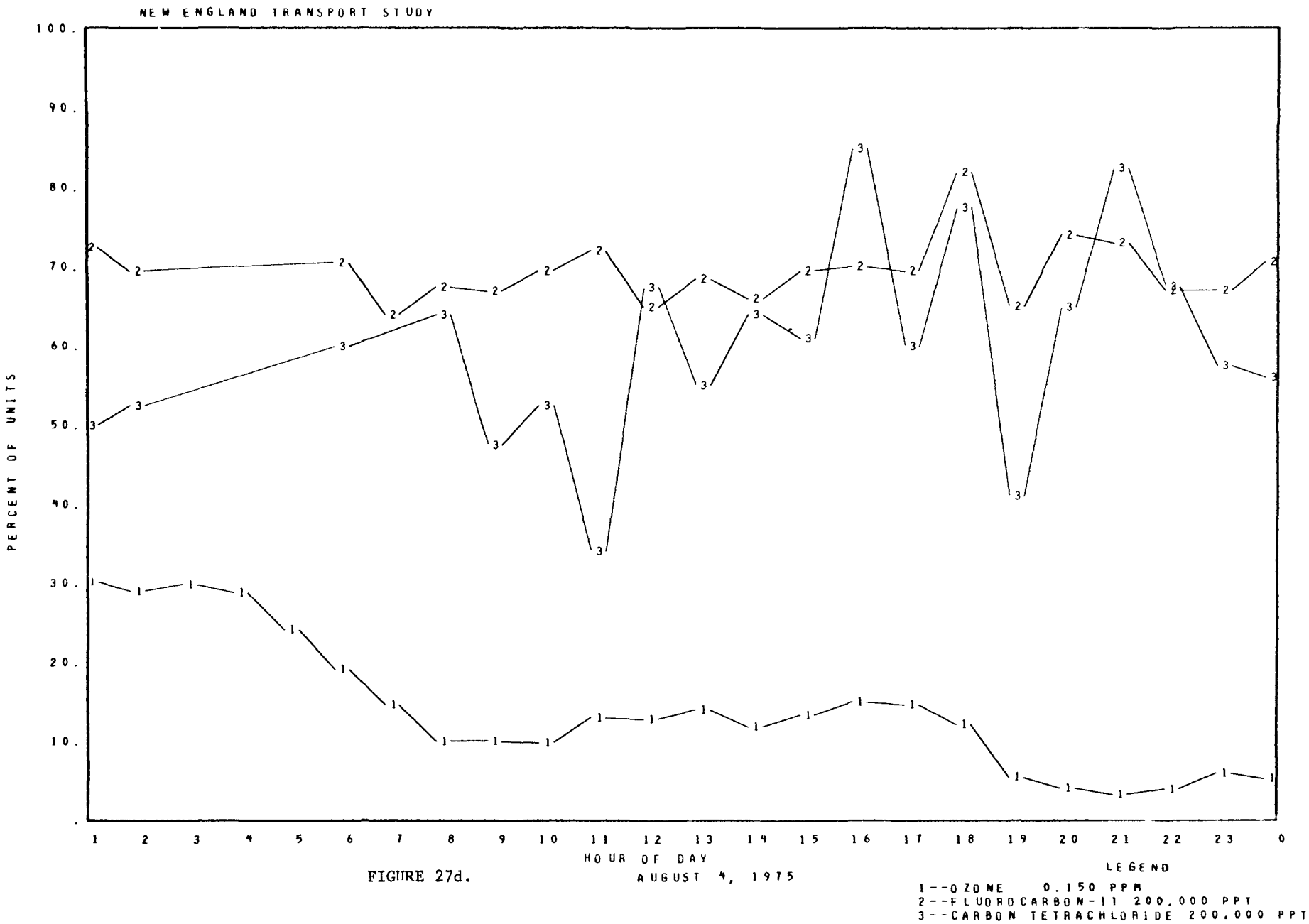
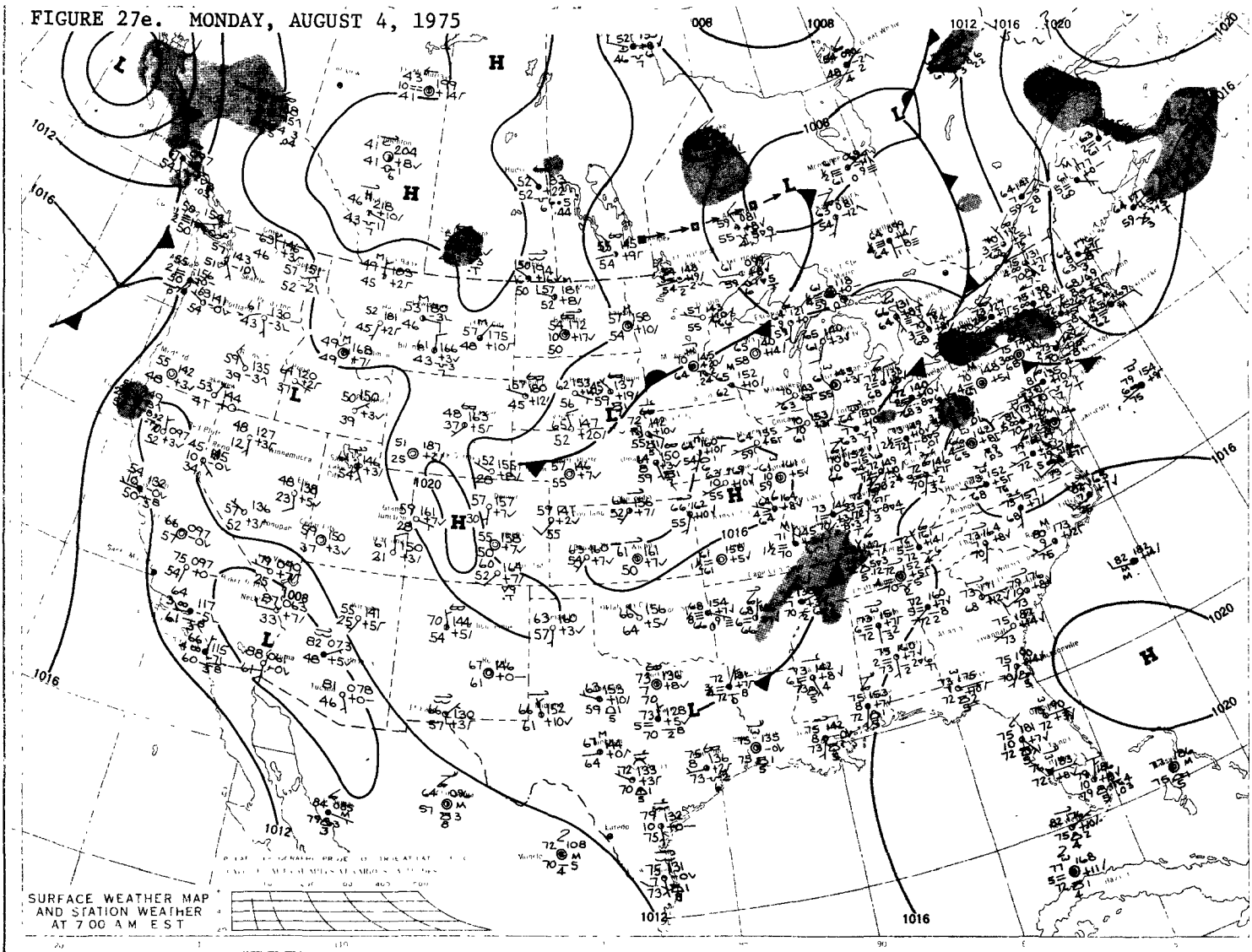
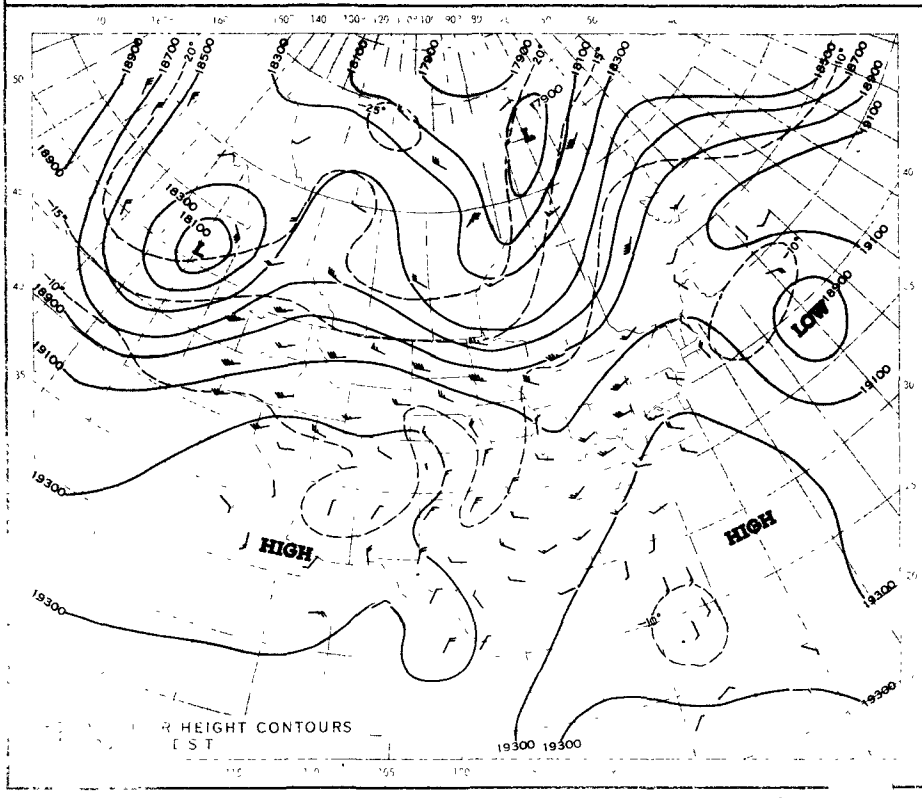



FIGURE 27d. AUGUST 4, 1975

FIGURE 27e. MONDAY, AUGUST 4, 1975



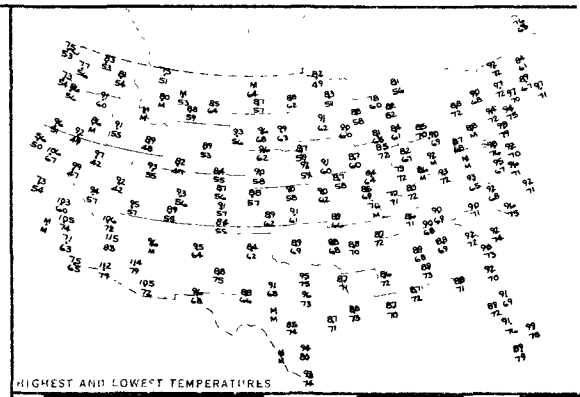



TABLE 24a. AUGUST 5, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.329 | 24 |
| 2--WIND SPEED (MPH) | 3.454 | 24 |
| 3--WIND DIRECTION (DEGREES) | 254.921 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 27.129 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 65.430 | 24 |
| 6--OZONE (PPM) | 0.031 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 1.844 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.098 | 6 |
| 12--CARBON MONOXIDE (PPM) | 0.198 | 24 |
| 13--ETHANE (PPMC) | 0.001 | 15 |
| 14--ETHYLENE (PPMC) | 0.005 | 18 |
| 15--PROPANE (PPMC) | 0.006 | 6 |
| 16--ACETYLENE (PPMC) | 0.006 | 23 |
| 17--ISO-BUTANE (PPMC) | 0.009 | 8 |
| 18--N-BUTANE (PPMC) | 0.021 | 8 |
| 19--FLUOROCARBON-11 (PPT) | 133. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 108. | 24 |

TABLE 24b.

SUBSTANCE HOUR AVERAGES FOR AUGUST 5, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.150 | 1.350 | 3.150 | 4.600 | 5.700 | 6.200 |
| 2--WIND SPEED (MPH) | 3.400 | 2.500 | 2.700 | 2.900 | 3.300 | 3.200 | 2.000 | 1.500 | 2.400 | 5.050 | 7.150 | 6.100 |
| 3--WIND DIRECTION (DEGREES) | 157. | 170. | 157. | 176. | 199. | 193. | 221. | 241. | 277. | 340. | 351. | 350. |
| 4--TEMPERATURE (CENTIGRADE) | 22. | 22. | 22. | 22. | 22. | 22. | 22. | 24. | 26. | 28. | 29. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 98. | 100. | 100. | 100. | 100. | 100. | 94. | 83. | 66. | 57. | 53. | 49. |
| 6--OZONE (PPM) | 0.005 | 0.005 | 0.007 | 0.004 | 0.007 | 0.003 | 0.013 | 0.019 | 0.026 | 0.035 | 0.043 | 0.051 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.004 | 0.011 | 0.006 | 0.004 | 0.003 | 0.003 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 0.006 | 0.005 | 0.005 | 0.005 | 0.005 | 0.006 | 0.006 | 0.004 | 0.003 | 0.004 | 0.002 |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 0.008 | 0.007 | 0.007 | 0.006 | 0.007 | 0.010 | 0.017 | 0.010 | 0.006 | 0.007 | 0.005 |
| 10--METHANE (PPMC) | 1.570 | 1.550 | 1.550 | 1.760 | 1.850 | 1.800 | 1.690 | 1.690 | 1.650 | 1.690 | 1.700 | 1.700 |
| 11--NON-METHANE HYDROCARBON (PPMC) | -0.109 | -0.069 | -0.032 | -0.155 | -0.050 | 0.110 | 0.011 | -0.027 | -0.042 | -0.058 | -0.073 | -0.089 |
| 12--CARBON MONOXIDE (PPM) | 0.200 | 0.187 | 0.138 | 0.188 | 0.188 | 0.200 | 0.275 | 0.575 | 0.287 | 0.250 | 0.175 | 0.100 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.003 | 0.001 | 0.002 | 0.001 | 0.002 |
| 14--ETHYLENE (PPMC) | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.007 | 0.015 | 0.002 | 0.003 | 0.001 | .000 |
| 15--PROPANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 16--ACETYLENE (PPMC) | 0.005 | 0.005 | 0.005 | 0.004 | 0.004 | 0.006 | 0.012 | 0.018 | 0.003 | 0.002 | 0.002 | 0.001 |
| 17--ISO-BUTANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 18--N-BUTANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 19--FLUOROCARBON-11 (PPT) | 130. | 128. | 126. | 132. | 147. | 183. | 176. | 132. | 162. | 121. | 114. | 121. |
| 20--CARBON TETRACHLORIDE (PPT) | 125. | 128. | 110. | 135. | 120. | 140. | 120. | 130. | 128. | 125. | 128. | 120. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.000 | 6.775 | 5.575 | 5.875 | 4.600 | 3.325 | 1.200 | 0.275 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 5.700 | 4.000 | 2.900 | 4.200 | 4.800 | 6.000 | 3.700 | 2.500 | 1.500 | 1.600 | 1.300 | 2.500 |
| 3--WIND DIRECTION (DEGREES) | 352. | 349. | 312. | 279. | 293. | 305. | 290. | 312. | 198. | 350. | 242. | 4. |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 34. | 35. | 35. | 35. | 35. | 31. | 29. | 25. | 24. | 22. | 23. |
| 5--RELATIVE HUMIDITY (PERCENT) | 44. | 39. | 36. | 35. | 33. | 33. | 38. | 43. | 62. | 70. | 74. | 65. |
| 6--OZONE (PPM) | 0.052 | 0.050 | 0.048 | 0.047 | 0.052 | 0.058 | 0.060 | 0.049 | 0.027 | 0.030 | 0.011 | 0.035 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.003 | 0.005 | 0.005 | 0.009 | 0.004 | 0.004 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.003 | 0.003 | 0.002 | 0.002 | 0.003 | 0.005 | 0.006 | 0.006 | 0.008 | 0.012 | 0.007 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.005 | 0.008 | 0.008 | 0.011 | 0.007 | 0.009 | 0.007 | 0.007 | 0.008 | 0.014 | 0.007 |
| 10--METHANE (PPMC) | 1.700 | 1.800 | 1.700 | 1.600 | 1.600 | 1.550 | 1.550 | 1.600 | 1.750 | 1.800 | 5.250 | 2.150 |
| 11--NON-METHANE HYDROCARBON (PPMC) | -0.105 | -0.120 | -0.136 | 0.151 | 0.031 | 0.013 | -0.064 | -0.116 | -0.167 | -0.218 | 0.270 | -0.280 |
| 12--CARBON MONOXIDE (PPM) | 0.112 | 0.087 | 0.112 | 0.187 | 0.212 | 0.162 | 0.137 | 0.125 | 0.175 | 0.175 | 0.350 | 0.162 |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.001 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 14--ETHYLENE (PPMC) | 0.011 | 0.004 | 0.001 | -0.004 | -0.007 | -0.010 | -0.014 | -0.017 | 0.020 | 0.001 | 0.001 | -1.000 |
| 15--PROPANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.003 | 0.003 | 0.005 | 0.010 | 0.008 | 0.007 |
| 16--ACETYLENE (PPMC) | 0.018 | 0.004 | 0.002 | -0.003 | 0.004 | 0.007 | 0.002 | 0.002 | 0.018 | 0.003 | 0.006 | 0.003 |
| 17--ISO-BUTANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | 0.007 | 0.008 | 0.011 | 0.015 | 0.011 | 0.008 | 0.007 | 0.003 |
| 18--N-BUTANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | 0.014 | 0.022 | 0.023 | 0.052 | 0.026 | 0.014 | 0.013 | 0.008 |
| 19--FLUOROCARBON-11 (PPT) | 119. | 120. | 117. | 111. | 123. | 113. | 121. | 107. | 115. | 114. | 238. | 118. |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 120. | 112. | 90. | 95. | 82. | 105. | 68. | 65. | 38. | 110. | 90. |

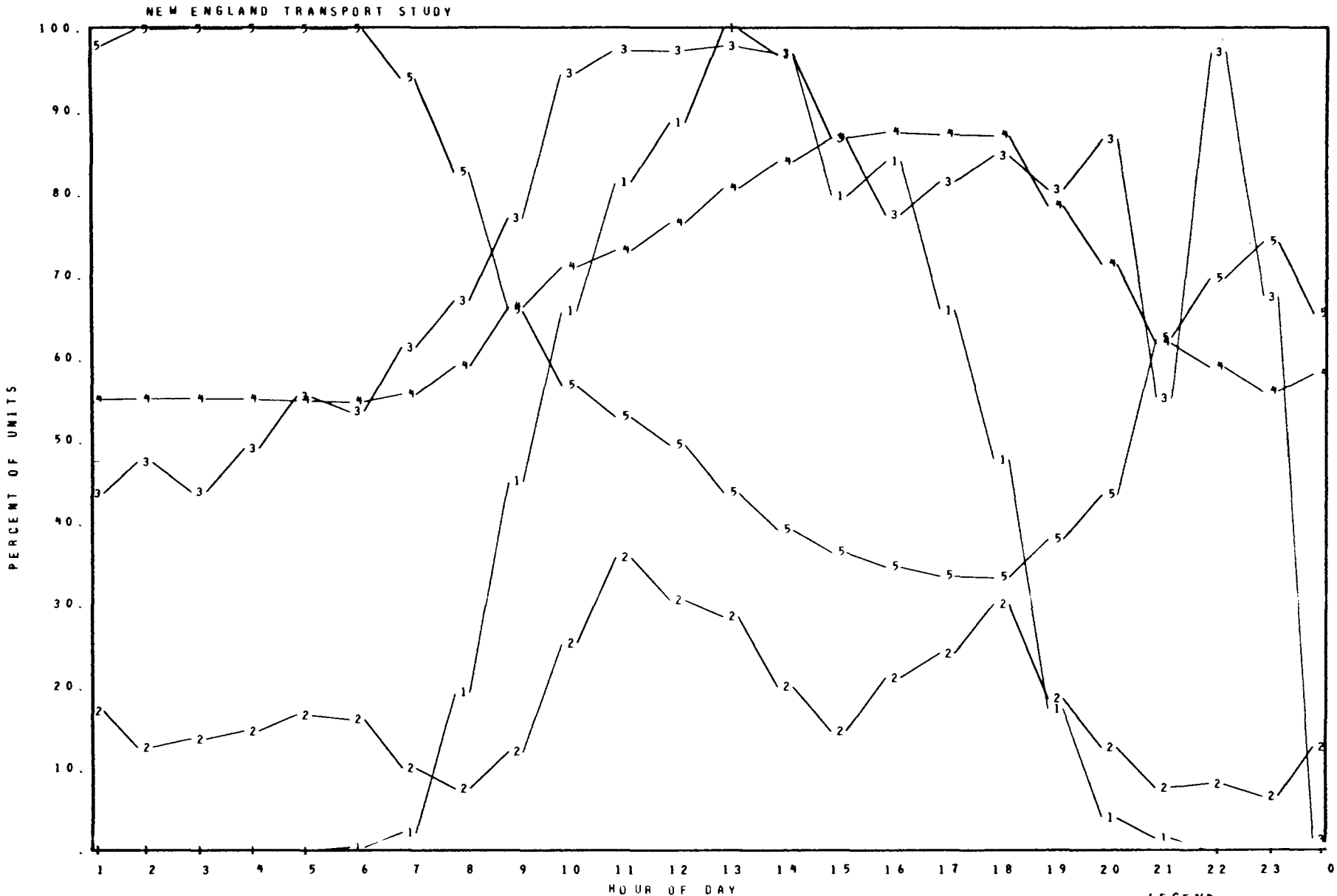



FIGURE 28a. GRAPH 1 FOR AUGUST 5, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

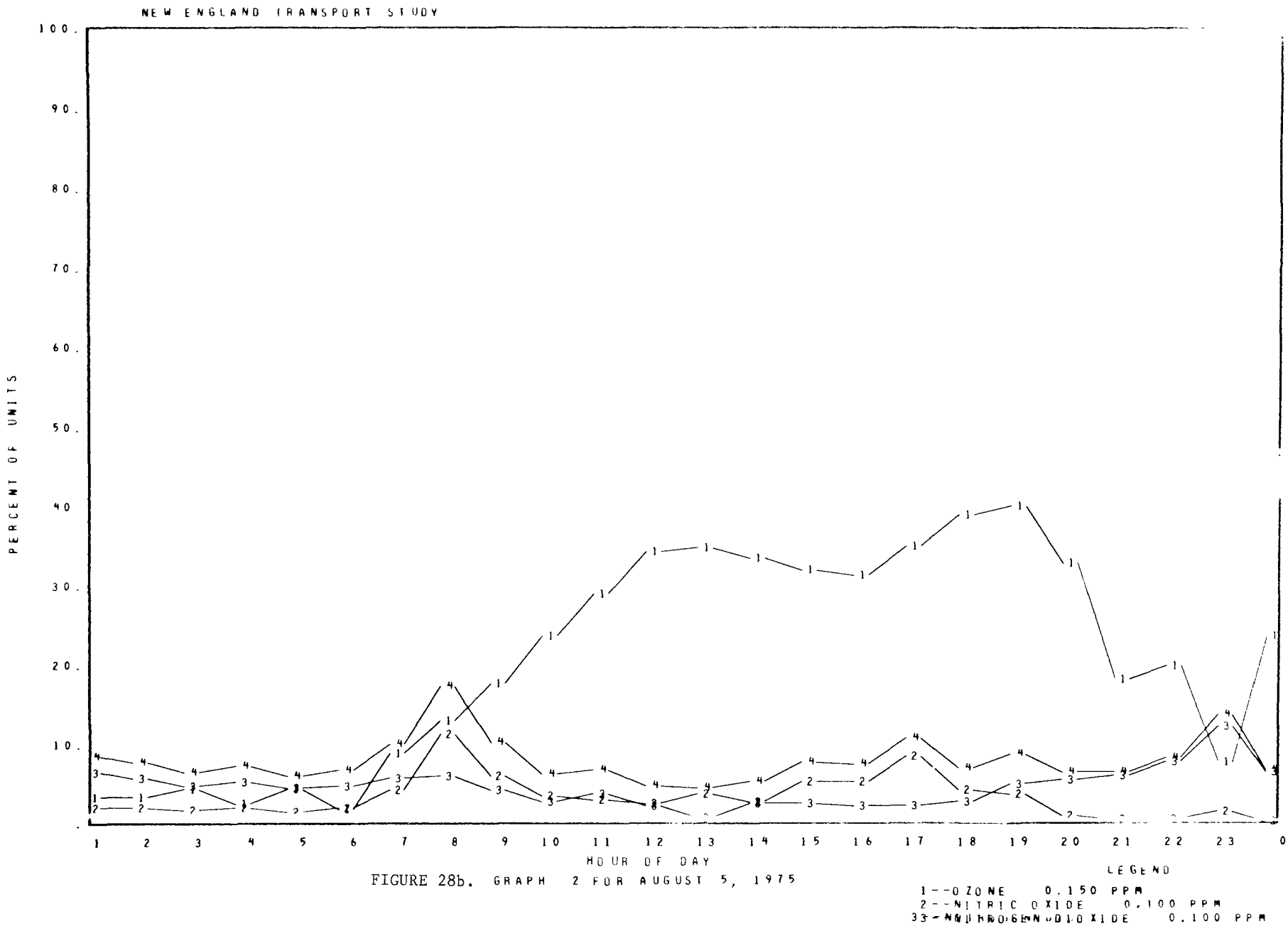



FIGURE 28b. GRAPH 2 FOR AUGUST 5, 1975

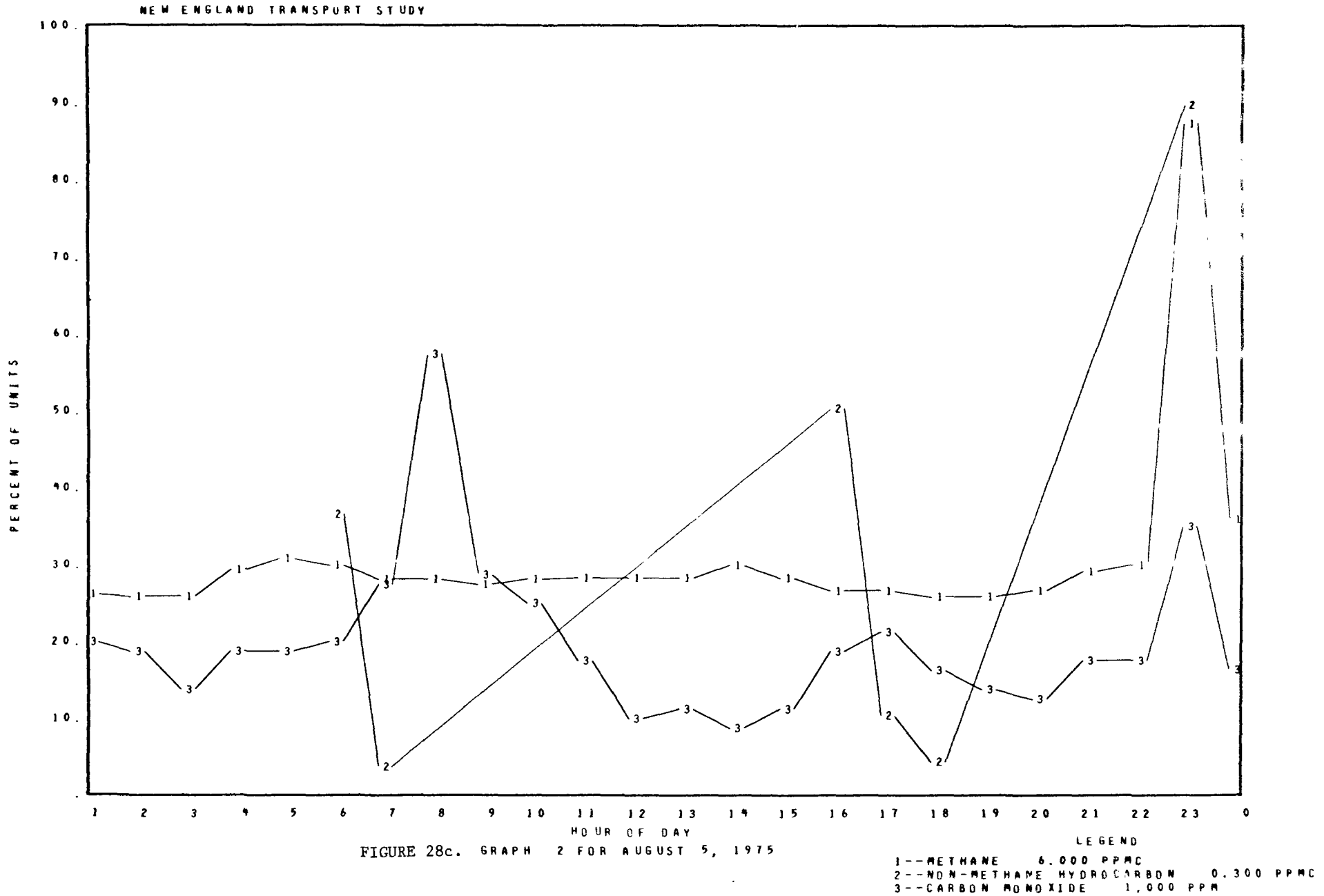



FIGURE 28c. GRAPH 2 FOR AUGUST 5, 1975

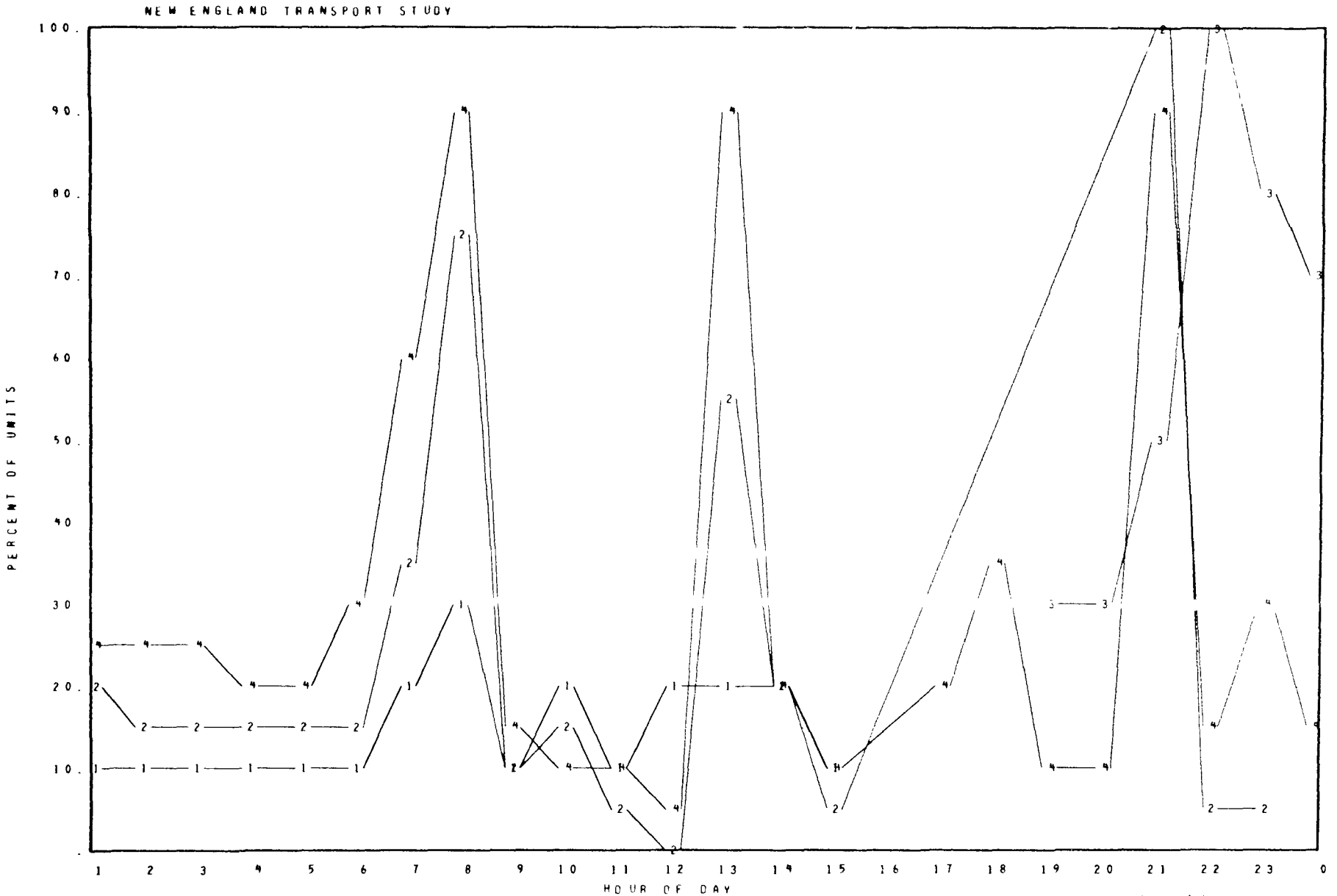



FIGURE 28d. GRAPH 3 FOR AUGUST 5, 1975

LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.010 PPMC
4--ACETYLENE 0.020 PPMC

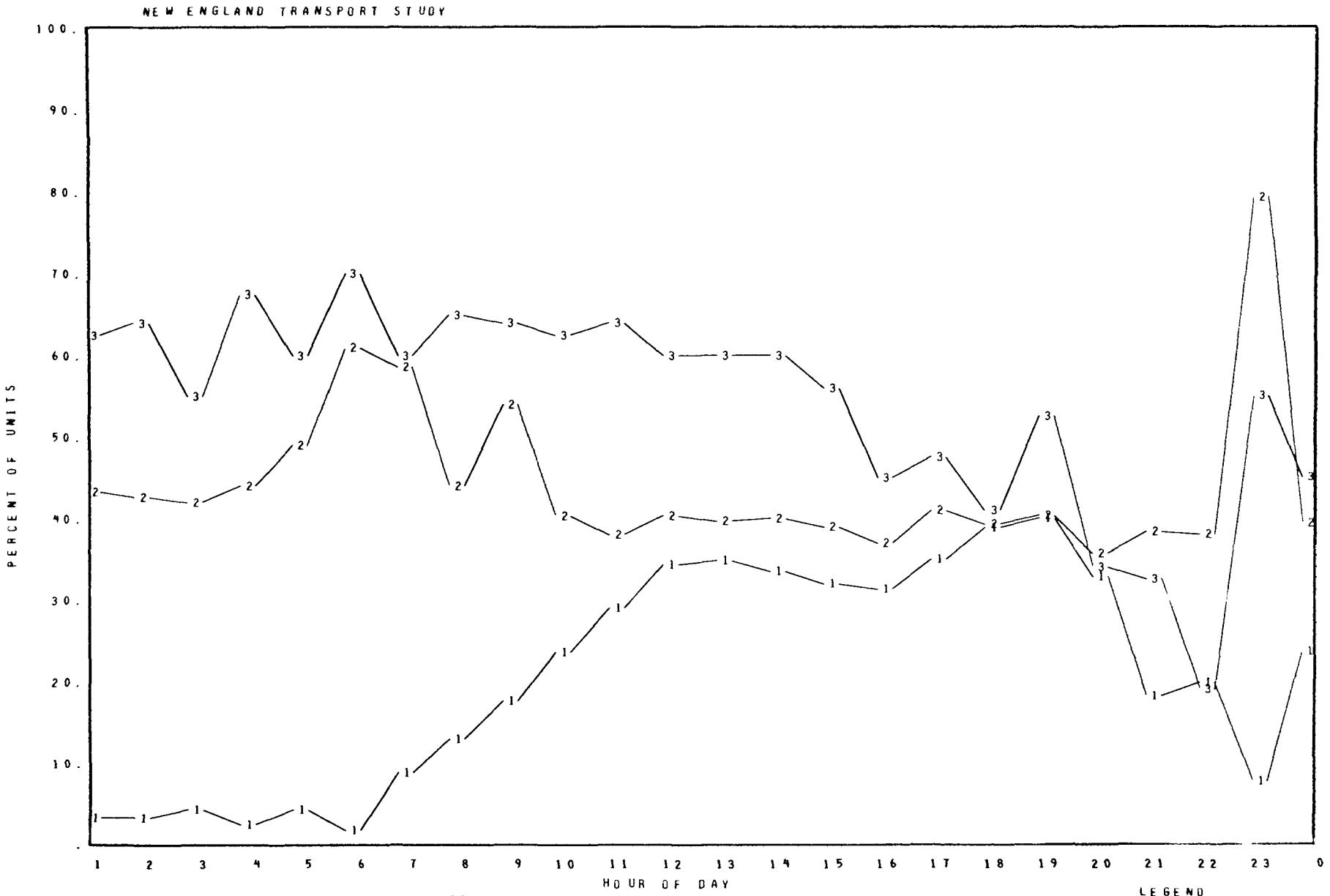



FIGURE 28e. GRAPH 5 FOR AUGUST 5, 1975

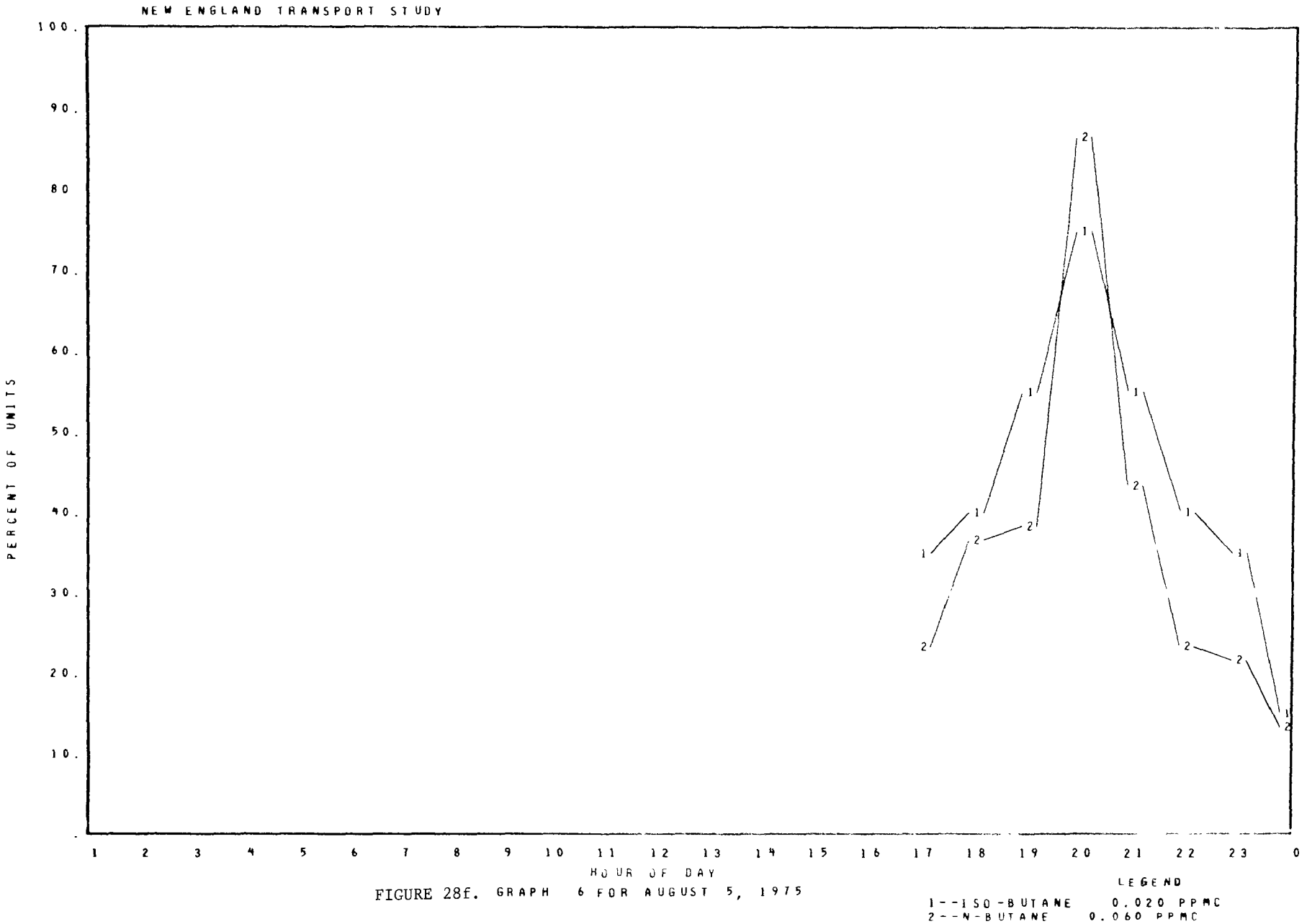
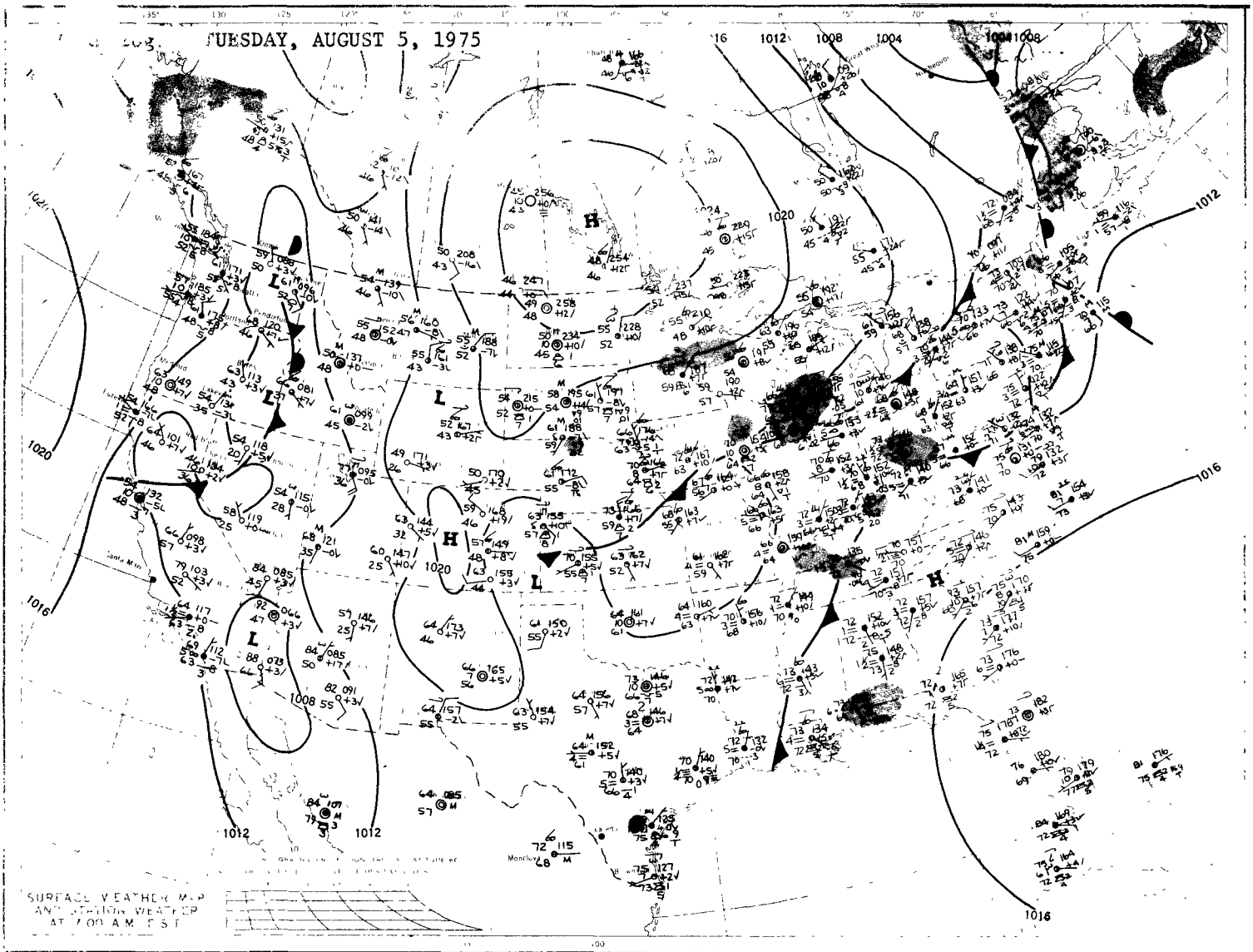
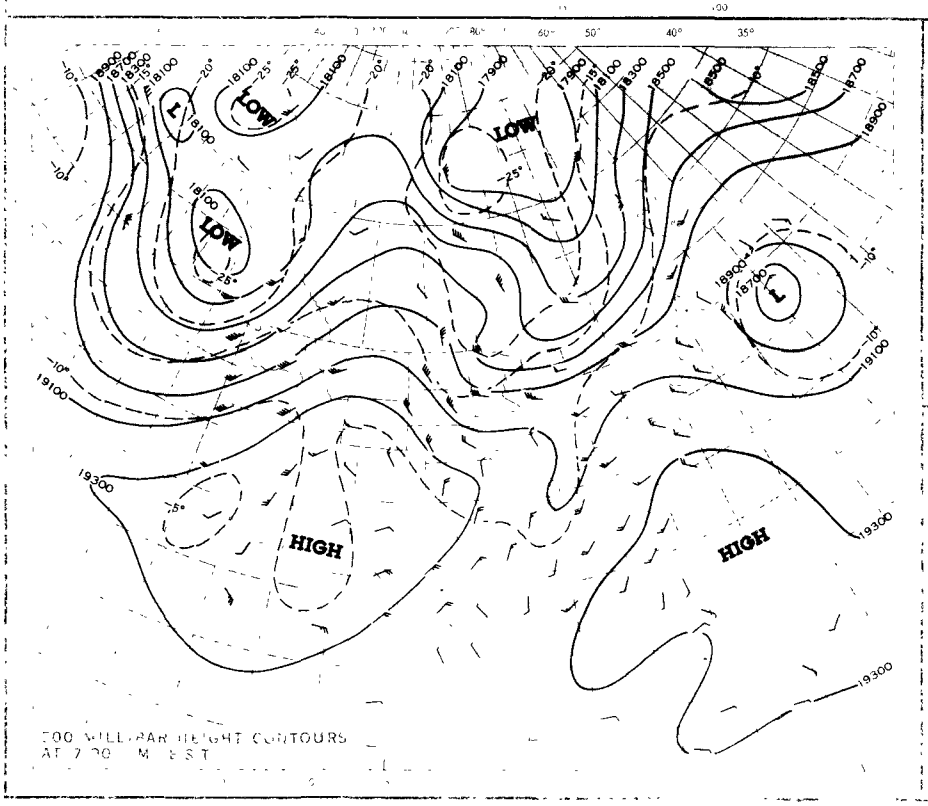



FIGURE 28f. GRAPH 6 FOR AUGUST 5, 1975


TUESDAY, AUGUST 5, 1975
SURFACE WEATHER MAP
AND STATION WEATHER
AT 7:00 AM EST


LOW
HIGH
500 MILLIBAR HEIGHT CONTOURS
AT 7:00 AM EST

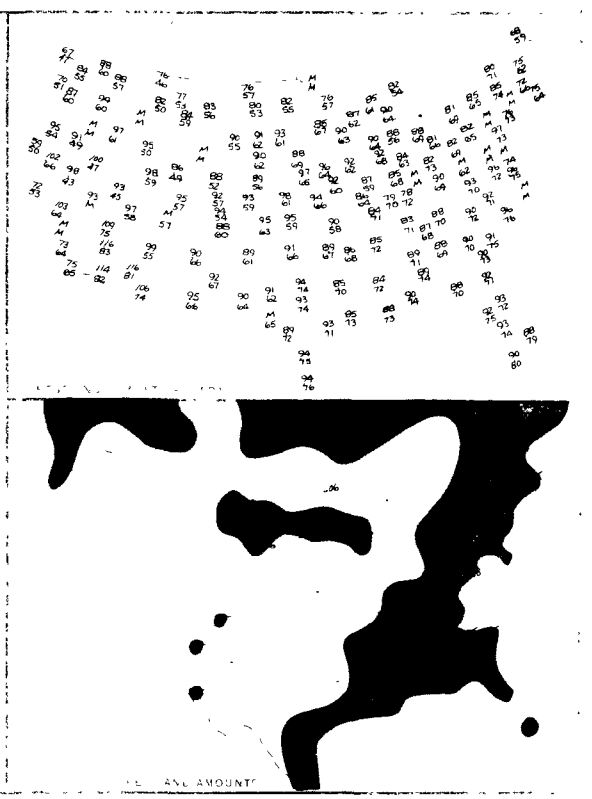


TABLE 25a. AUGUST 6, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.827 | 24 |
| 2--WIND SPEED (MPH) | 6.658 | 24 |
| 3--WIND DIRECTION (DEGREES) | 313.867 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 20.534 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 72.036 | 24 |
| 6--OZONE (PPM) | 0.019 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.146 | 24 |
| 14--ETHYLENE (PPMC) | 0.004 | 14 |
| 15--PROPANE (PPMC) | 0.004 | 19 |
| 16--ACETYLENE (PPMC) | 0.003 | 20 |
| 17--ISO-BUTANE (PPMC) | 0.003 | 20 |
| 18--N-BUTANE (PPMC) | 0.004 | 20 |
| 19--FLUOROCARBON-11 (PPT) | 115. | 23 |
| 20--CARBON TETRACHLORIDE (PPT) | 83. | 23 |

TABLE 25b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 5, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.250 | 0.700 | 1.800 | 4.275 | 3.175 | 3.500 |
| 2--WIND SPEED (MPH) | 0.900 | 1.500 | 1.100 | 2.300 | 3.600 | 4.000 | 3.800 | 6.900 | 7.100 | 8.900 | 8.300 | 8.300 |
| 3--WIND DIRECTION (DEGREES) | 273. | 304. | 300. | 330. | 1. | 2. | 352. | 350. | 357. | 357. | 353. | 355. |
| 4--TEMPERATURE (CENTIGRADE) | 22. | 21. | 20. | 20. | 21. | 21. | 21. | 22. | 22. | 24. | 24. | 25. |
| 5--RELATIVE HUMIDITY (PERCENT) | 70. | 76. | 79. | 80. | 74. | 70. | 70. | 63. | 61. | 53. | 52. | 51. |
| 6--OZONE (PPM) | 0.025 | 0.017 | 0.012 | 0.014 | 0.024 | 0.022 | 0.018 | 0.017 | 0.013 | 0.017 | 0.021 | 0.029 |
| 7--NITRIC OXIDE (PPM) | 0.000 | .000 | .000 | 0.000 | .000 | .000 | 0.002 | 0.002 | 0.003 | 0.002 | 0.005 | 0.004 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 0.007 | 0.006 | 0.004 | 0.002 | 0.002 | 0.003 | 0.004 | 0.002 | 0.002 | 0.001 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.007 | 0.006 | 0.005 | 0.002 | 0.002 | 0.005 | 0.005 | 0.005 | 0.005 | 0.007 | 0.005 |
| 12--CARBON MONOXIDE (PPM) | 0.162 | 0.200 | 0.187 | 0.150 | 0.100 | 0.125 | 0.188 | 0.212 | 0.162 | 0.133 | 0.175 | 0.162 |
| 14--ETHYLENE (PPMC) | 0.001 | 0.004 | 0.002 | -0.002 | -0.001 | -0.001 | 0.001 | 0.002 | -0.004 | -0.006 | -0.009 | -0.011 |
| 15--PROPANE (PPMC) | 0.005 | 0.018 | 0.004 | 0.021 | 0.007 | 0.003 | 0.002 | 0.005 | 0.001 | -0.001 | -0.001 | -0.002 |
| 16--ACETYLENE (PPMC) | 0.003 | 0.003 | 0.002 | 0.003 | 0.002 | 0.002 | 0.006 | 0.002 | 0.001 | -0.001 | -0.002 | 0.002 |
| 17--ISO-BUTANE (PPMC) | 0.006 | 0.005 | 0.003 | 0.006 | 0.006 | 0.004 | .000 | .000 | 0.004 | -0.005 | -0.005 | 0.006 |
| 18--N-BUTANE (PPMC) | 0.009 | 0.009 | 0.006 | 0.009 | .000 | 0.004 | .000 | .000 | 0.002 | -0.004 | -0.005 | 0.007 |
| 19--FLUOROCARBON-11 (PPT) | 169. | 136. | 216. | 178. | 102. | 96. | 100. | 105. | 108. | -108. | 109. | 108. |
| 20--CARBON TETRACHLORIDE (PPT) | 90. | 112. | 85. | 52. | 105. | 75. | 100. | 115. | 90. | -90. | 90. | 98. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.525 | 1.375 | 0.825 | 0.425 | 0.275 | 0.200 | 0.250 | 0.150 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 7.800 | 7.400 | 7.300 | 10.200 | 8.700 | 8.000 | 8.700 | 8.300 | 8.300 | 10.700 | 9.600 | 8.100 |
| 3--WIND DIRECTION (DEGREES) | 352. | 355. | 353. | 357. | 353. | 357. | 353. | 345. | 340. | 344. | 345. | 346. |
| 4--TEMPERATURE (CENTIGRADE) | 25. | 24. | 23. | 22. | 21. | 19. | 17. | 17. | 17. | 16. | 16. | 16. |
| 5--RELATIVE HUMIDITY (PERCENT) | 51. | 55. | 58. | 57. | 59. | 74. | 90. | 90. | 96. | 100. | 100. | 100. |
| 6--OZONE (PPM) | 0.035 | 0.033 | 0.023 | 0.019 | 0.015 | 0.016 | 0.017 | 0.013 | 0.012 | 0.014 | 0.014 | 0.012 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.005 | 0.003 | 0.002 | 0.004 | 0.005 | 0.003 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.002 | 0.001 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.007 | 0.007 | 0.005 | 0.008 | 0.009 | 0.006 | 0.004 | 0.004 | 0.003 | 0.002 | 0.001 |
| 12--CARBON MONOXIDE (PPM) | 0.087 | 0.212 | 0.125 | 0.162 | 0.138 | 0.187 | 0.112 | 0.112 | 0.125 | 0.100 | 0.087 | 0.087 |
| 14--ETHYLENE (PPMC) | -0.013 | -0.015 | -0.018 | 0.020 | 0.020 | 0.004 | 0.004 | .000 | 0.004 | .000 | .000 | .000 |
| 15--PROPANE (PPMC) | 0.002 | -0.002 | -0.001 | 0.001 | 0.001 | 0.001 | 0.001 | .000 | 0.007 | .000 | 0.004 | 0.001 |
| 16--ACETYLENE (PPMC) | 0.003 | -0.006 | -0.009 | 0.012 | 0.016 | 0.003 | 0.002 | .000 | 0.002 | .000 | .000 | .000 |
| 17--ISO-BUTANE (PPMC) | 0.003 | -0.005 | -0.006 | 0.008 | 0.004 | .000 | 0.004 | .000 | 0.005 | .000 | .000 | .000 |
| 18--N-BUTANE (PPMC) | 0.005 | -0.006 | -0.007 | 0.008 | 0.004 | 0.006 | 0.005 | .000 | .000 | .000 | .000 | .000 |
| 19--FLUOROCARBON-11 (PPT) | 111. | 102. | 107. | 104. | 100. | 100. | 96. | 99. | 104. | 95. | 95. | 94. |
| 20--CARBON TETRACHLORIDE (PPT) | 100. | 38. | 100. | 52. | 85. | 90. | 80. | 90. | 75. | 50. | 80. | 65. |

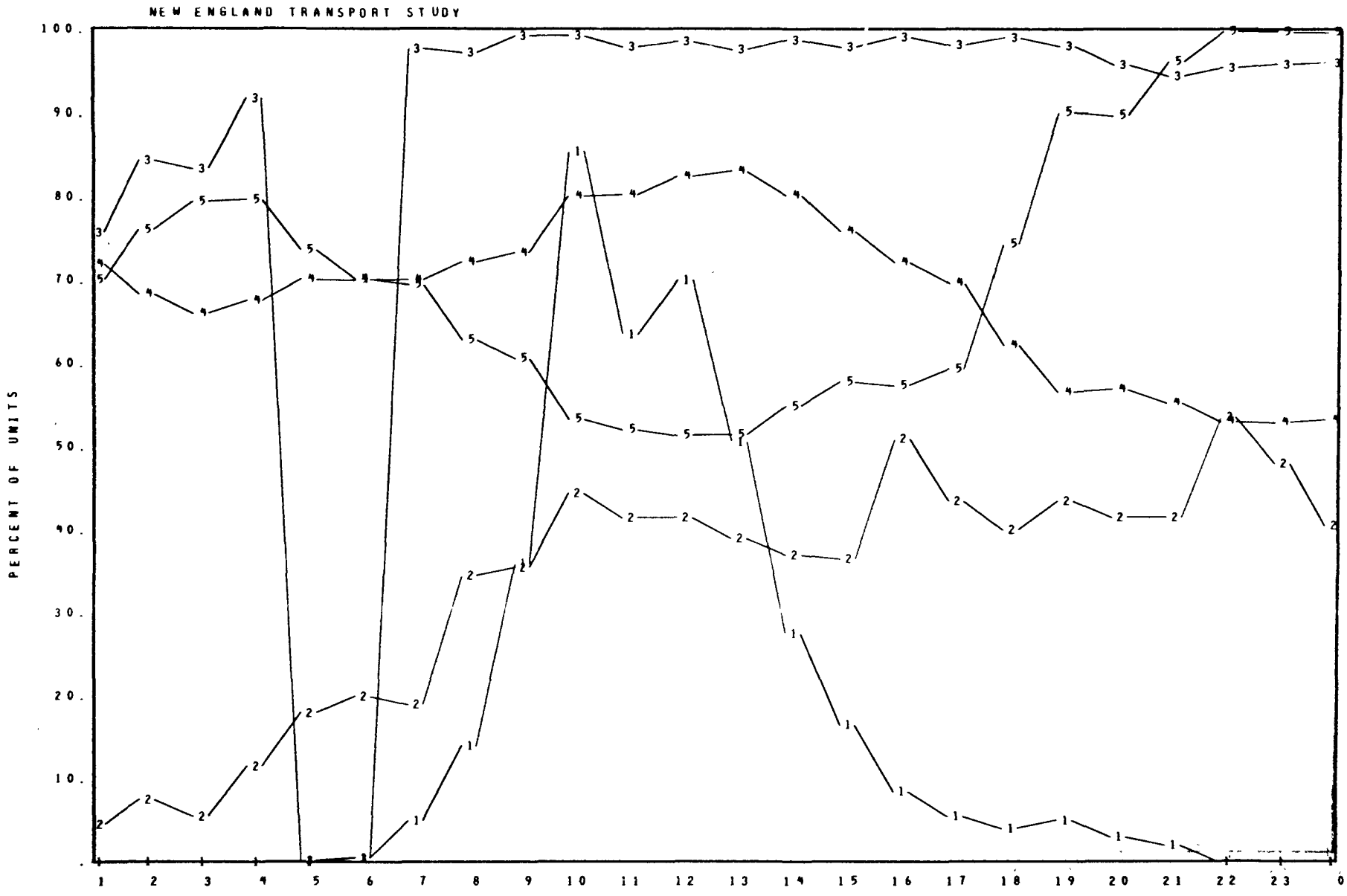



FIGURE 29a. AUGUST 6, 1975

LEGEND

1--GLOBAL IRRADIANCE 5.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

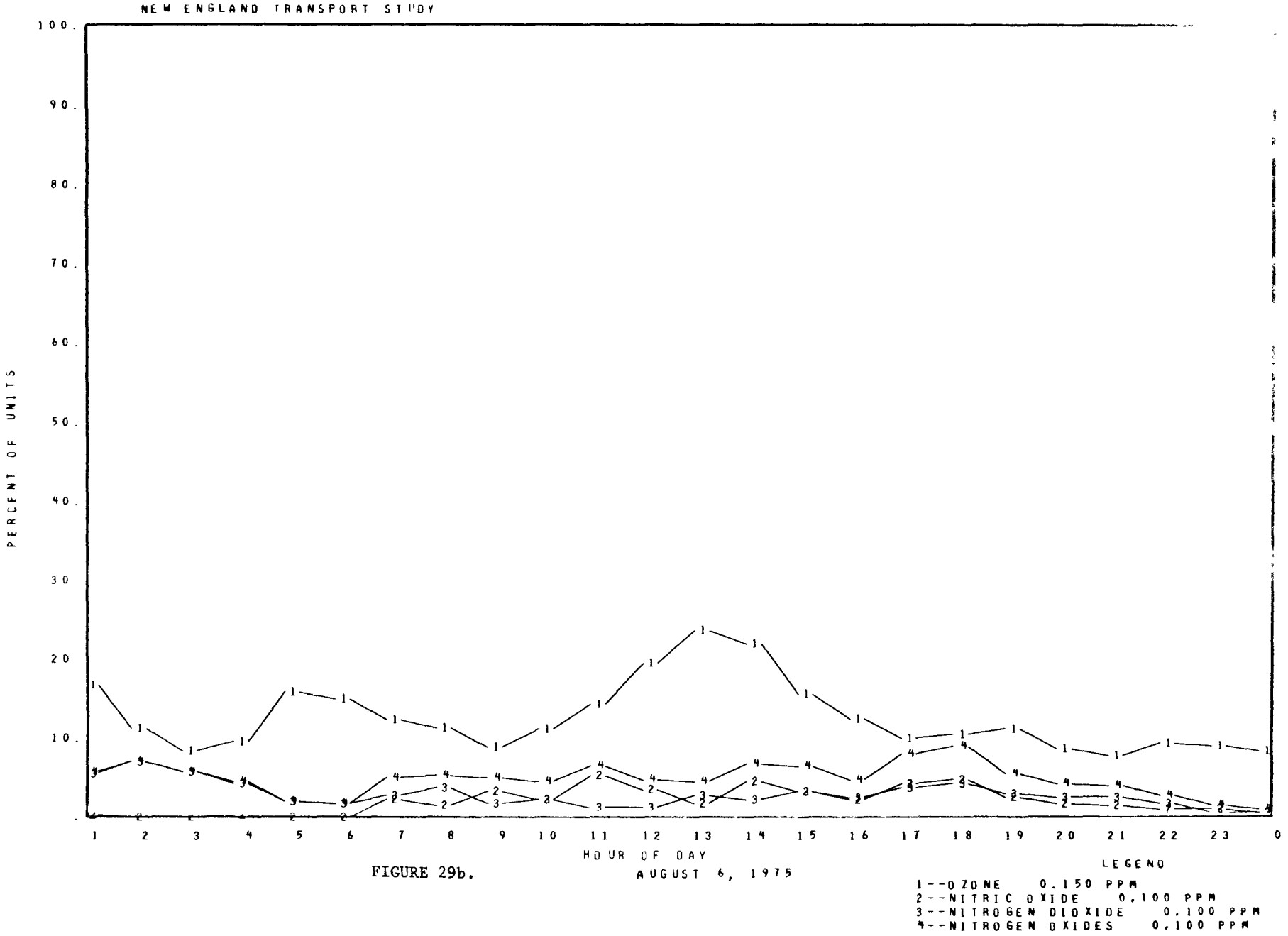

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 6, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 29b.

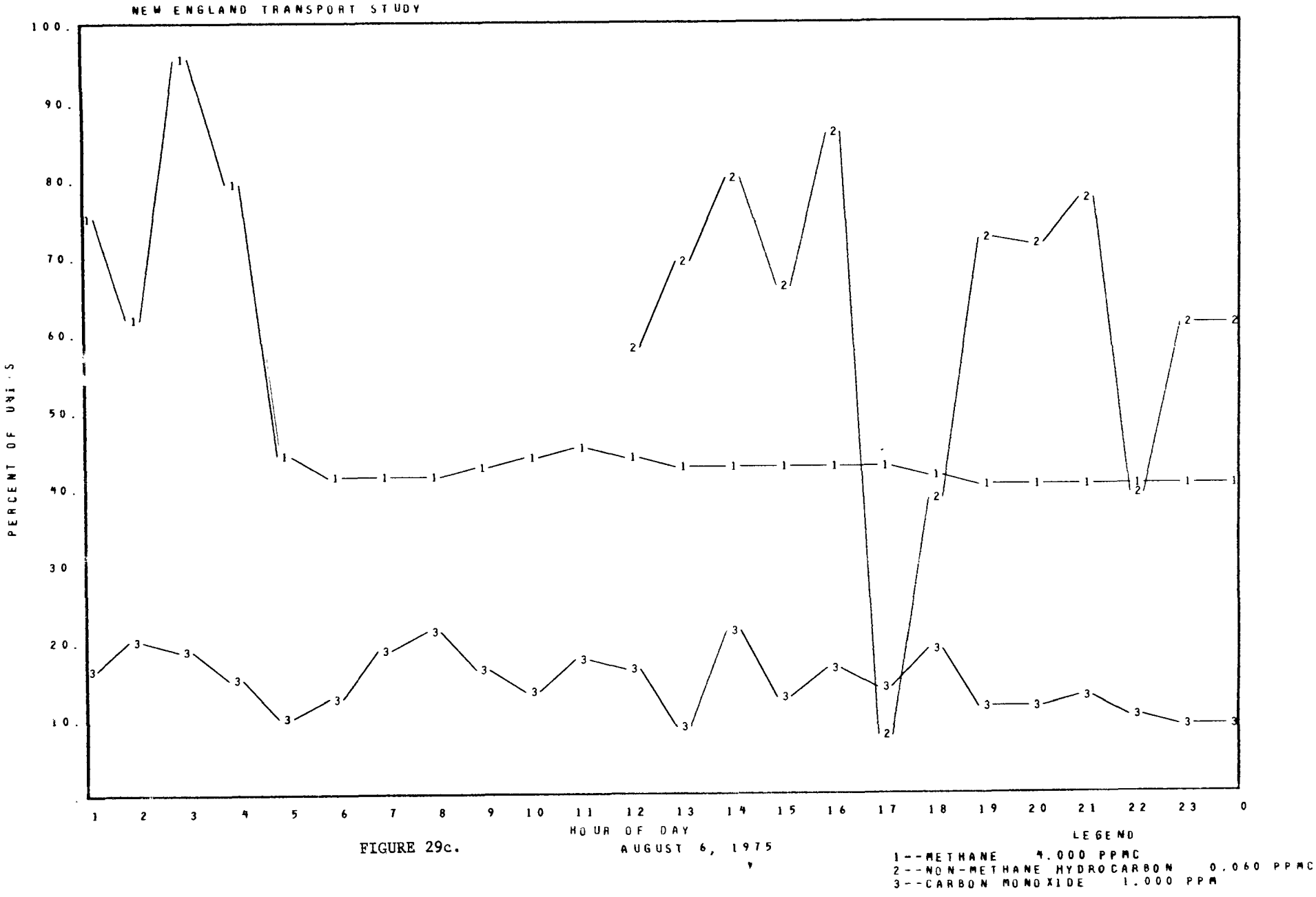

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 6, 1975
LEGEND
1--METHANE 4.000 PPMC
2--NON-METHANE HYDROCARBON 0.060 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 29c.

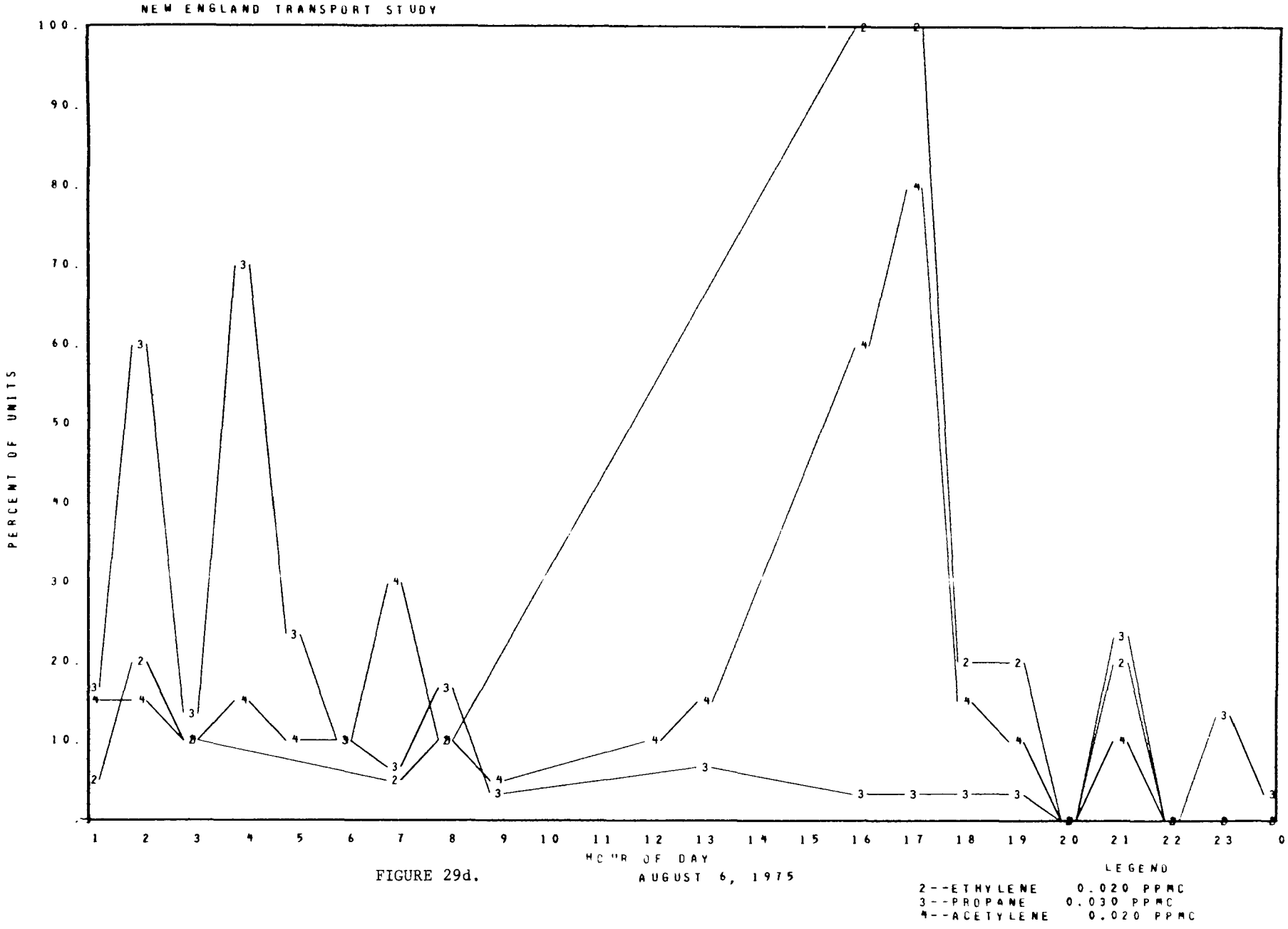

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50
40
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 6, 1975
LEGEND
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.030 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 29d.

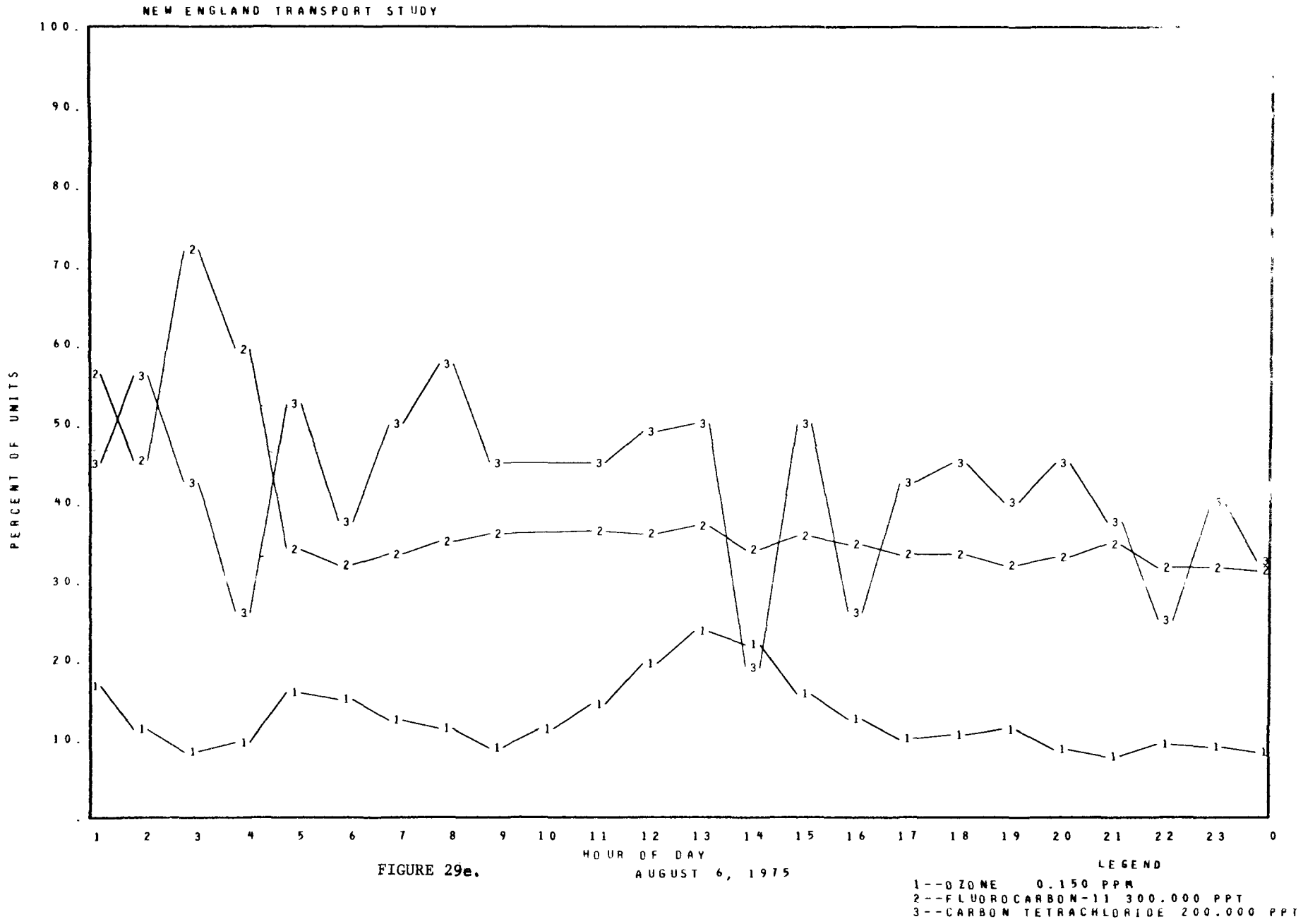

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 6, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 29e.

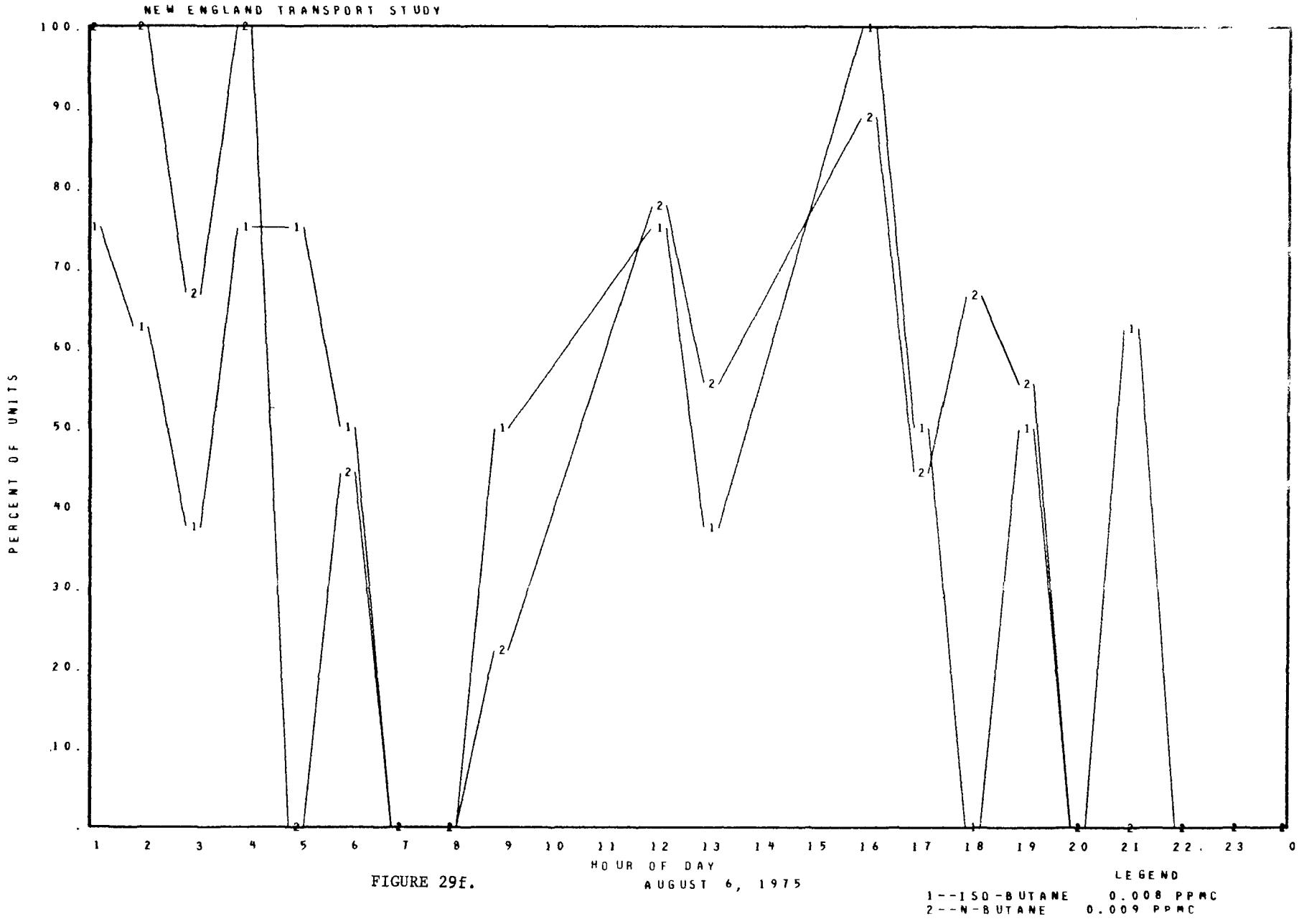
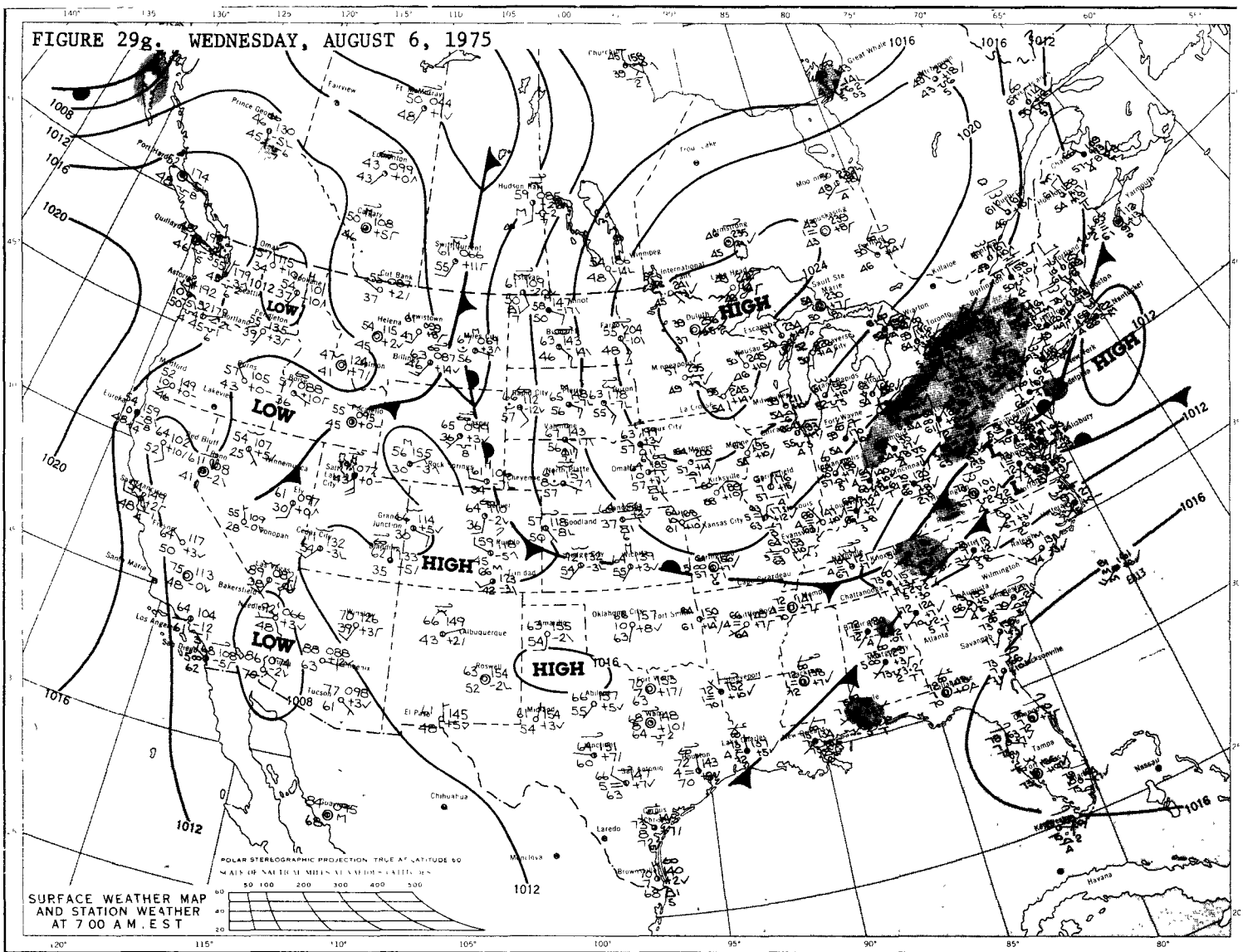
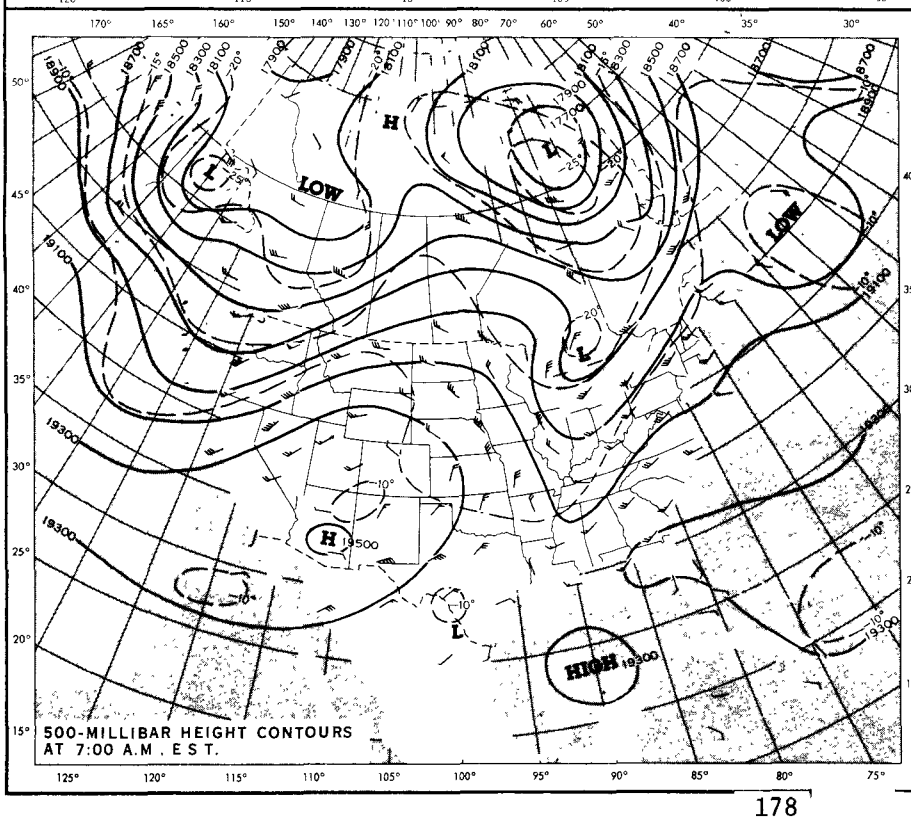

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22. 23 0
HOUR OF DAY
AUGUST 6, 1975
LEGEND
1--ISO-BUTANE 0.008 PPMC
2--N-BUTANE 0.009 PPMC

FIGURE 29f.

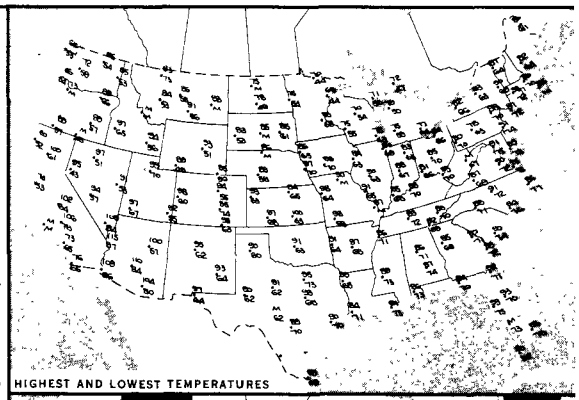
FIGURE 29g. WEDNESDAY, AUGUST 6, 1975



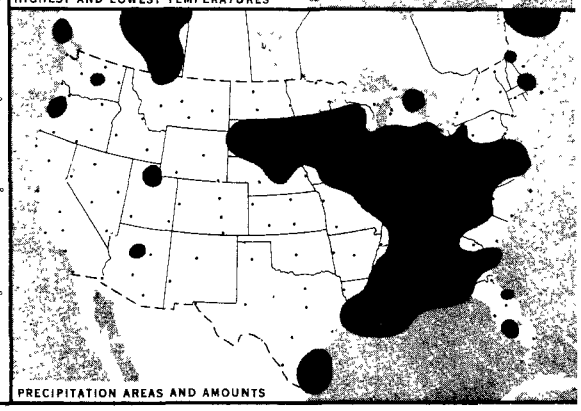

SURFACE WEATHER MAP AND STATION WEATHER AT 7:00 A.M. E.S.T.




500-MILLIBAR HEIGHT CONTOURS AT 7:00 A.M. E.S.T.



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 26a. AUGUST 7, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.348 | 24 |
| 2--WIND SPEED (MPH) | 8.033 | 24 |
| 3--WIND DIRECTION (DEGREES) | 343.496 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 15.819 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 99.784 | 24 |
| 6--OZONE (PPM) | 0.015 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.003 | 24 |
| 0--METHANE (PPMC) | 1.468 | 24 |
| 1--NON-METHANE HYDROCARBON (PPMC) | 0.163 | 24 |
| 2--CARBON MONOXIDE (PPM) | 0.111 | 24 |
| 3--ETHANE (PPMC) | 0.001 | 6 |
| 4--ETHYLENE (PPMC) | 0.001 | 6 |
| 5--PROPANE (PPMC) | 0.020 | 7 |
| 6--ACETYLENE (PPMC) | 0.002 | 7 |
| 9--FLUOROCARBON-11 (PPT) | 92. | 24 |
| 0--CARBON TETRACHLORIDE (PPT) | 79. | 24 |

TABLE 26b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 7, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.050 | 0.050 | 0.150 | 0.125 | 0.4[illegible] | [illegible] | [illegible] |
| 2--WIND SPEED (MPH) | 8.500 | 3.700 | 0.300 | 1.900 | 6.500 | 11.600 | 10.400 | 11.800 | 10.500 | 9.400 | 9.300 | 10.400 |
| 3--WIND DIRECTION (DEGREES) | 347. | 352. | 348. | 345. | 345. | 350. | 350. | 348. | 354. | 350. | 348. | 349. |
| 4--TEMPERATURE (CENTIGRADE) | 16. | 17. | 17. | 16. | 16. | 15. | 16. | 16. | 16. | 16. | 16. | 16. |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. |
| 6--OZONE (PPM) | 0.010 | 0.009 | 0.011 | 0.014 | 0.019 | 0.016 | 0.013 | 0.011 | 0.010 | 0.010 | 0.011 | 0.013 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | 0.000 | .000 | .000 | 0.001 | 0.002 | 0.002 | 0.004 | 0.003 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.002 | 0.002 | 0.000 | .000 | .000 | .000 | 0.001 | 0.001 | 0.002 | 0.003 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.002 | 0.002 | 0.001 | .000 | .000 | 0.001 | 0.003 | 0.003 | 0.006 | 0.006 | 0.005 |
| 10--METHANE (PPMC) | 1.474 | 1.476 | 1.476 | 1.465 | 1.448 | 1.471 | 1.476 | 1.484 | 1.529 | 1.510 | 1.501 | 1.538 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.154 | 0.160 | 0.158 | 0.150 | 0.153 | 0.133 | 0.133 | 0.140 | 0.127 | 0.125 | 0.130 | 0.115 |
| 12--CARBON MONOXIDE (PPM) | 0.100 | 0.100 | 0.100 | 0.075 | 0.050 | 0.050 | 0.075 | 0.125 | 0.150 | 0.127 | [illegible] | 0.25 |
| 13--ETHANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 14--ETHYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 15--PROPANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 16--ACETYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| 19--FLUOROCARBON-11 (PPT) | 92. | 91. | 91. | 87. | 84. | 96. | 89. | 93. | 96. | 97. | 102. | 100. |
| 20--CARBON TETRACHLORIDE (PPT) | 82. | 100. | 90. | 65. | 82. | 90. | 65. | 45. | 105. | 85. | 65. | 90 |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.050 | 1.150 | 0.900 | 0.725 | 0.675 | 0.700 | 0.300 | 0.125 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 10.500 | 9.300 | 9.100 | 9.500 | 10.200 | 8.700 | 9.100 | 7.500 | 6.000 | 6.600 | 5.200 | 6.800 |
| 3--WIND DIRECTION (DEGREES) | 349. | 348. | 345. | 341. | 334. | 337. | 333. | 336. | 345. | 337. | 325. | [illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 16. | 16. | 16. | 16. | 15. | 15. | 15. | 15. | 15. | 16 | [illegible] | [illegible] |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | [illegible] | 100. |
| 6--OZONE (PPM) | 0.014 | 0.015 | 0.015 | 0.019 | 0.021 | 0.019 | 0.017 | 0.017 | 0.016 | 0.015 | 0.014 | 0.017 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.003 | 0.004 | 0.003 | 0.003 | 0.002 | 0.001 | 0.002 | 0.002 | 0.000 | 0.001 | 0.000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.003 | 0.004 | 0.004 | 0.004 | 0.002 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.005 | 0.008 | 0.007 | 0.007 | 0.004 | 0.004 | 0.003 | 0.003 | 0.001 | 0.002 | 0.001 |
| 10--METHANE (PPMC) | 1.441 | 1.453 | 1.446 | 1.443 | 1.441 | 1.446 | 1.441 | 1.441 | 1.465 | 1.473 | 1.455 | 1.446 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.195 | 0.205 | 0.203 | 0.202 | 0.181 | 0.187 | 0.177 | 0.208 | 0.228 | 0.152 | 0.142 | 0.146 |
| 12--CARBON MONOXIDE (PPM) | 0.137 | 0.187 | 0.150 | 0.137 | 0.162 | 0.112 | 0.125 | 0.100 | 0.087 | 0.100 | 0.100 | 0.075 |
| 13--ETHANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.001 | -0.001 | 0.002 | 0.002 | .000 | .000 | .000 |
| 14--ETHYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.004 | -0.003 | 0.003 | 0.002 | .000 | .000 | .000 |
| 15--PROPANE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.006 | 0.051 | 0.027 | 0.048 | 0.006 | .000 | .000 |
| 16--ACETYLENE (PPMC) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.002 | 0.003 | 0.003 | 0.004 | .000 | .000 | .000 |
| 19--FLUOROCARBON-11 (PPT) | 96. | 92. | 96. | 91. | 92. | 89. | 95. | 90. | 91. | 84. | 88. | 84. |
| 20--CARBON TETRACHLORIDE (PPT) | 55. | 82. | 55. | 110. | 105. | 68. | 75. | 75. | 55. | 105. | 68. | 90. |

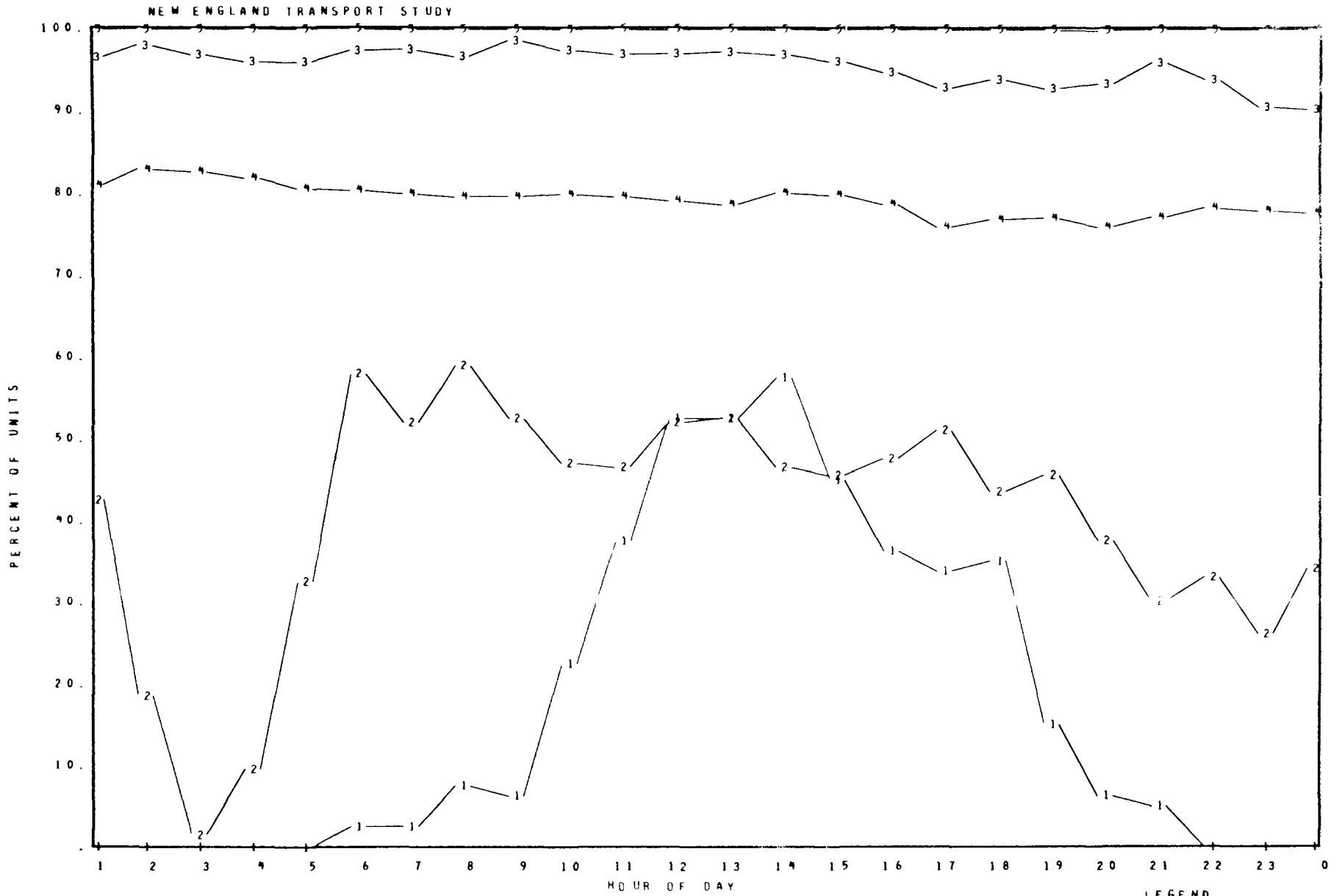



FIGURE 30a. AUGUST 7, 1975

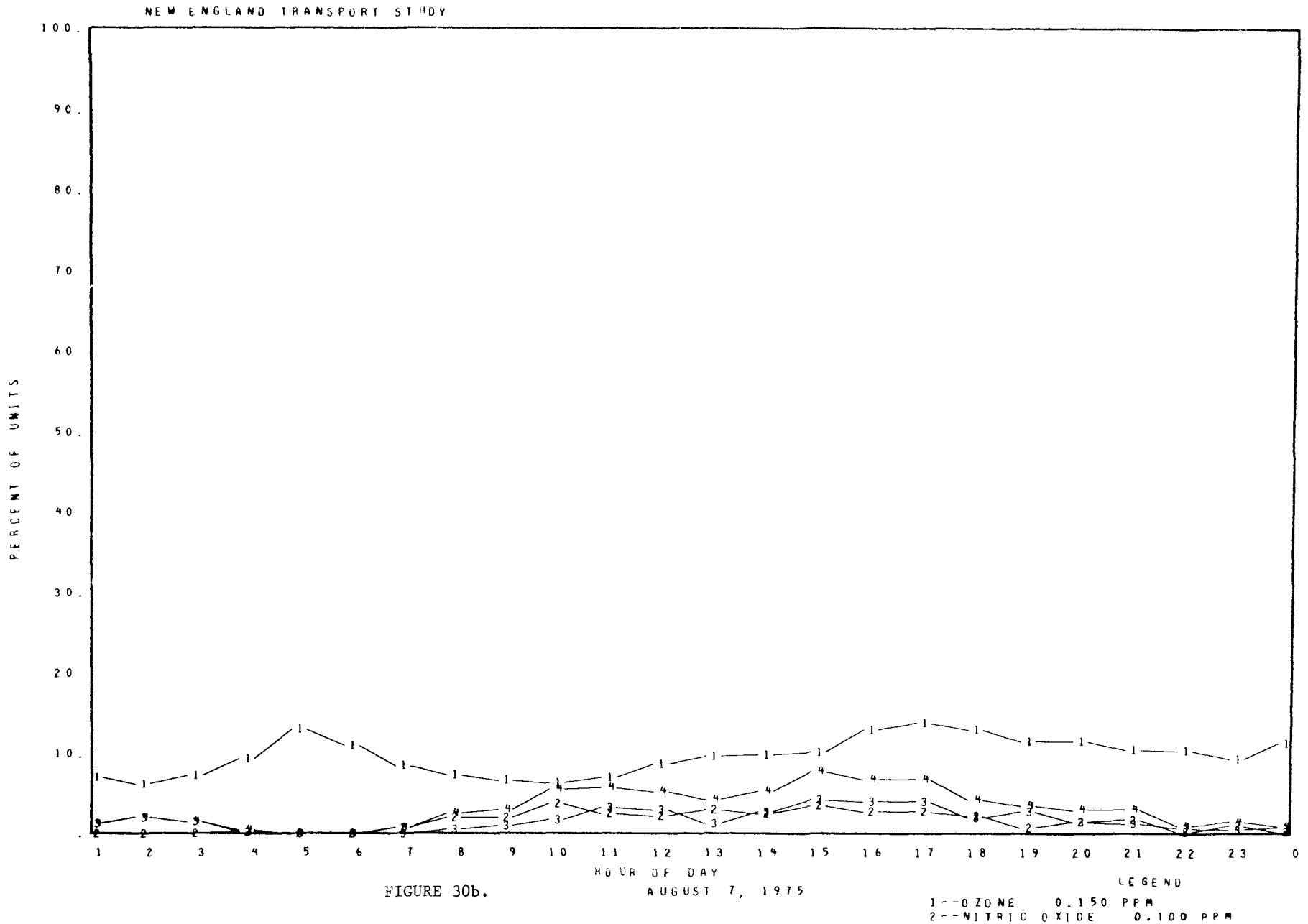

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70
60
50.
40
30.
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 7, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM

FIGURE 30b.

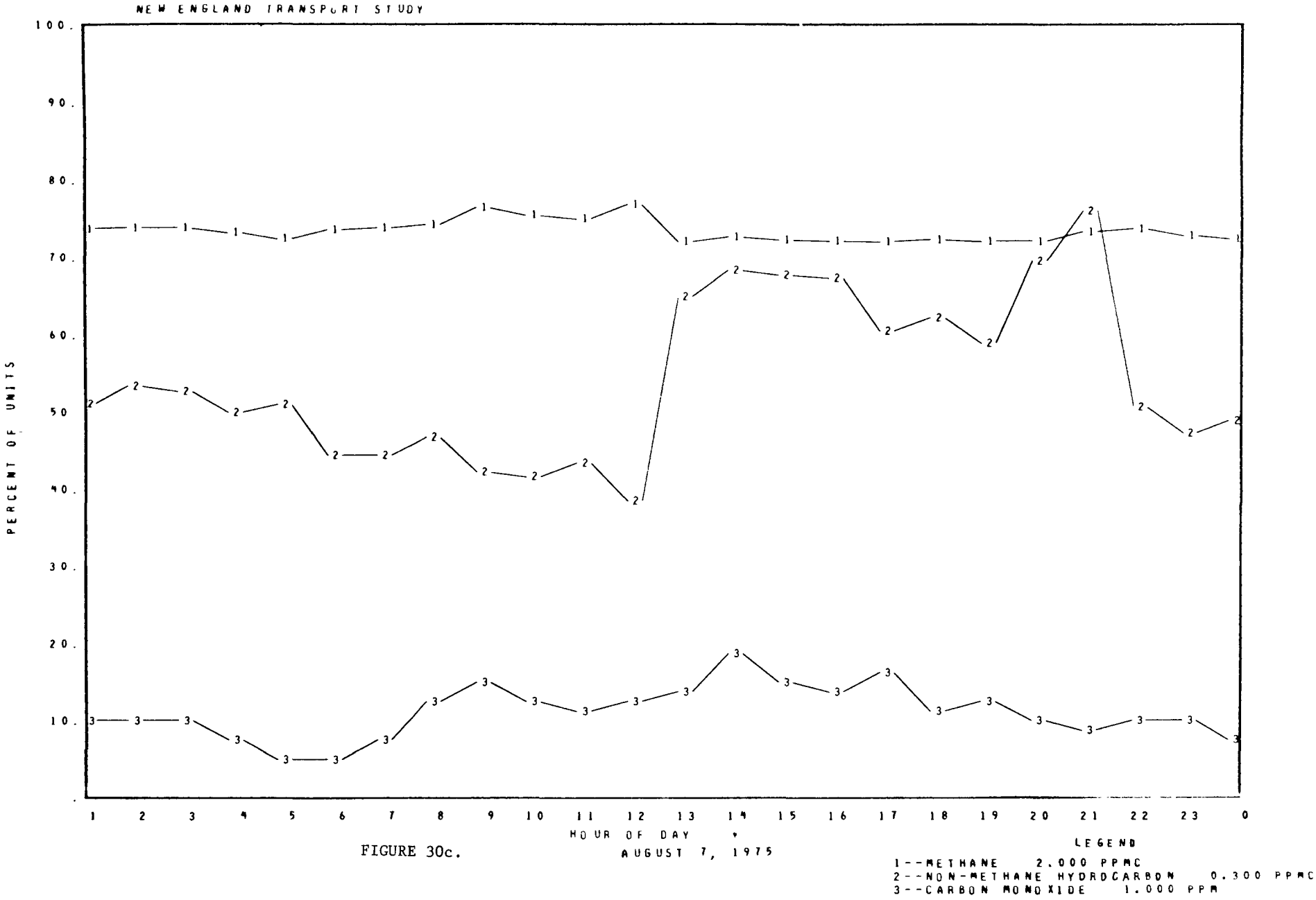

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 7, 1975
LEGEND
1--METHANE 2.000 PPMC
2--NON-METHANE HYDROCARBON 0.300 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 30c.

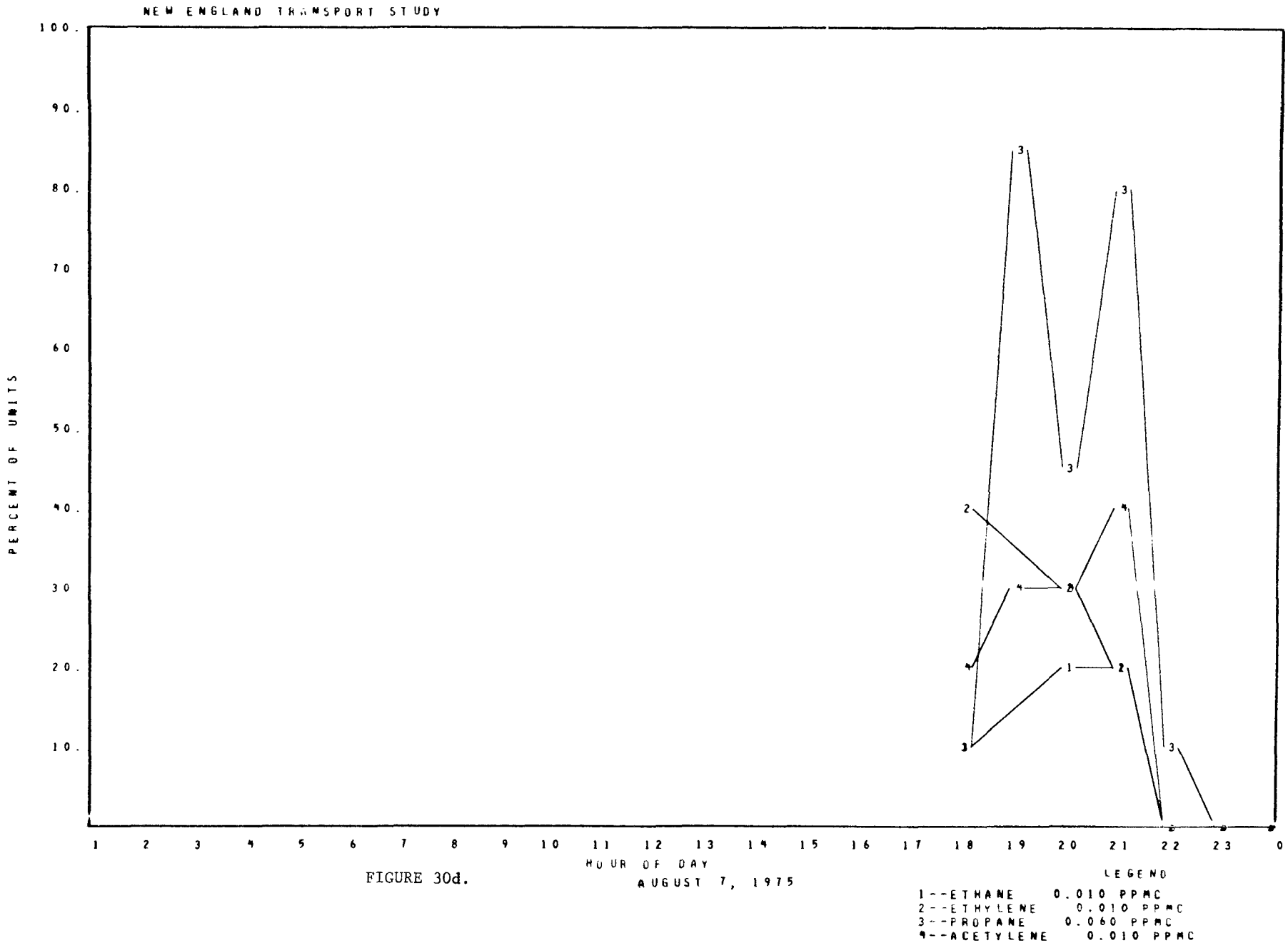

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70
60
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 7, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.060 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 30d.

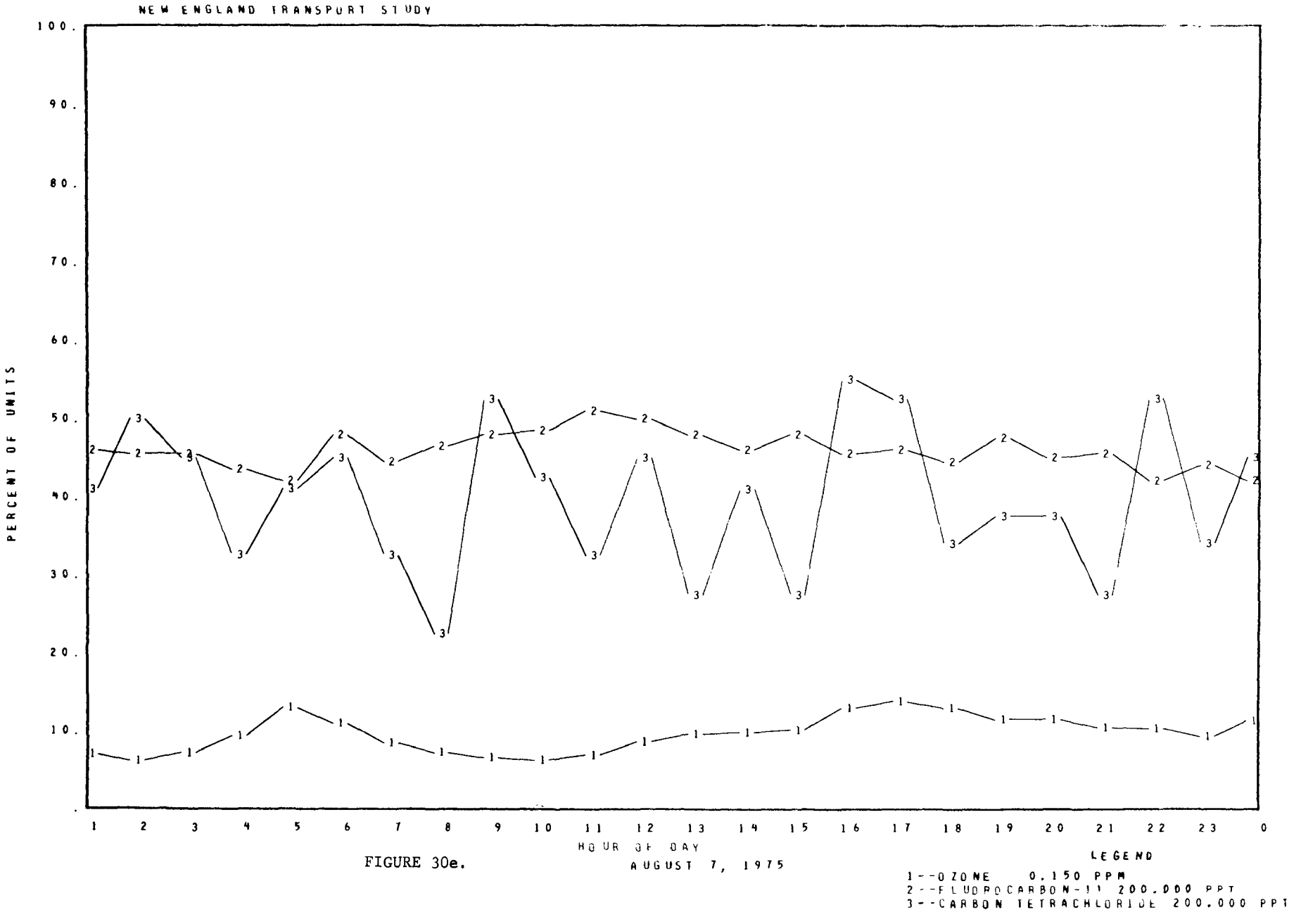
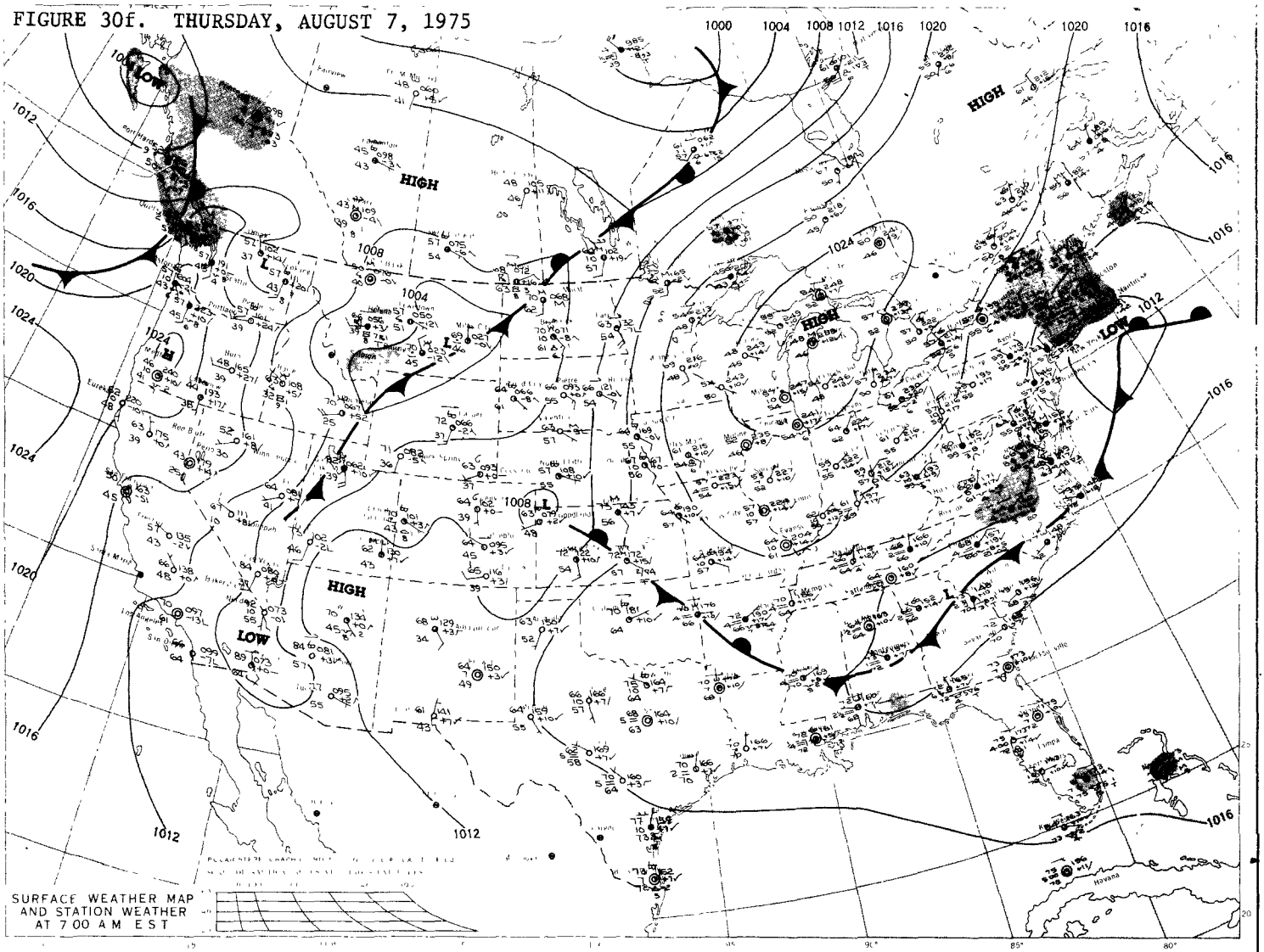
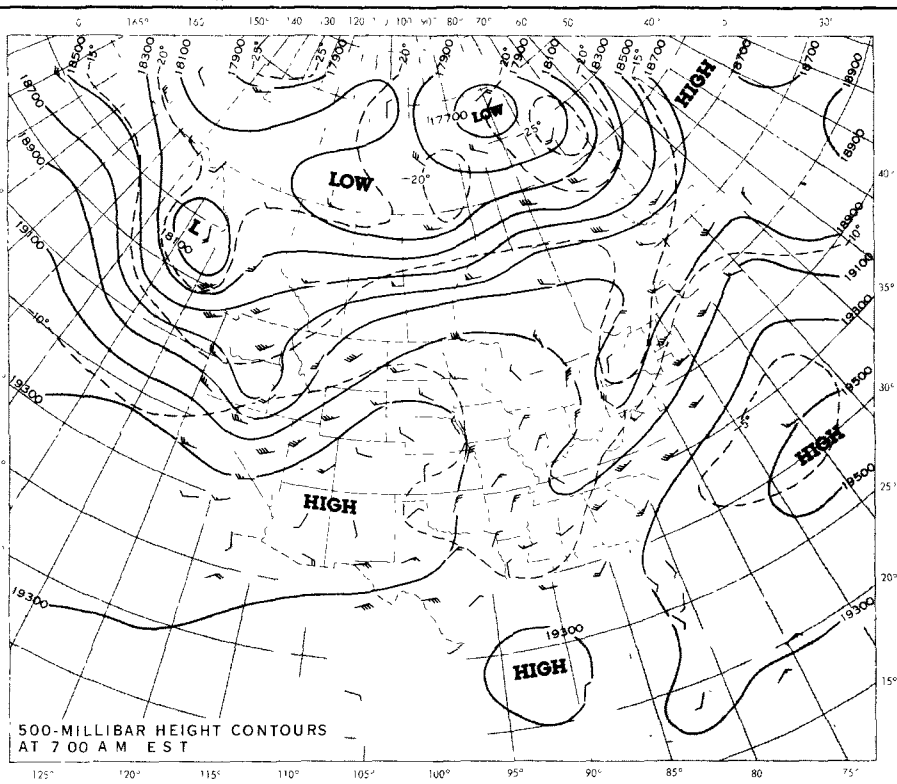

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 7, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 30e.

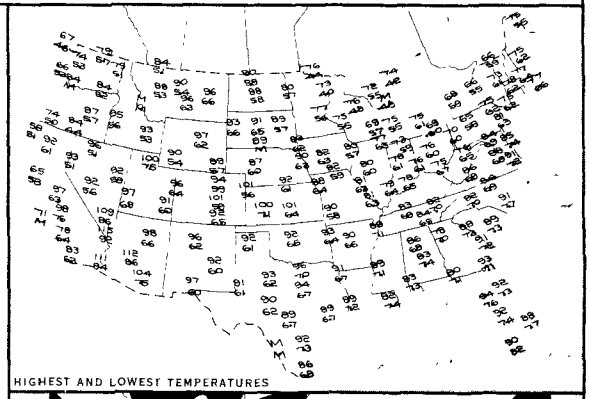
FIGURE 30f. THURSDAY, AUGUST 7, 1975



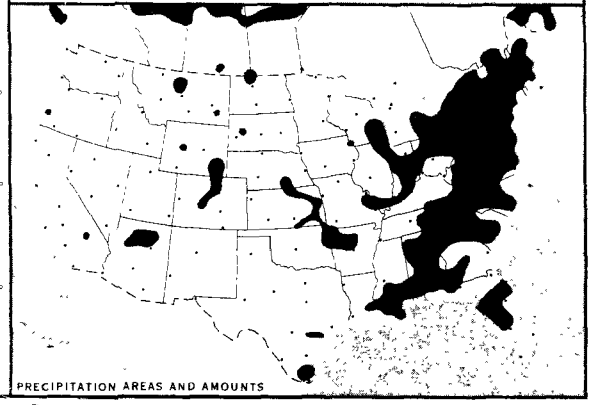

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 AM EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 27a. AUGUST 8, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.645 | 24 |
| 2--WIND SPEED (MPH) | 4.879 | 24 |
| 3--WIND DIRECTION (DEGREES) | 304.845 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 17.814 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 99.786 | 24 |
| 6--OZONE (PPM) | 0.011 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.006 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 24 |
| 10--METHANE (PPMC) | 1.860 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.117 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.240 | 23 |
| 13--ETHANE (PPMC) | 0.001 | 13 |
| 14--ETHYLENE (PPMC) | 0.004 | 12 |
| 15--PROPANE (PPMC) | 0.007 | 12 |
| 16--ACETYLENE (PPMC) | 0.004 | 13 |
| 19--FLUOROCARBON-11 (PPT) | 105. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 83. | 23 |

TABLE 27b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 8, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.250 | 0.200 | 0.650 | 0.725 | 0.375 | 0.85[illegible] |
| 2--WIND SPEED (MPH) | 4.300 | 3.600 | 3.400 | 5.100 | 6.300 | 5.100 | 5.400 | 5.400 | 7.200 | 7.900 | 6.200 | 200 |
| 3--WIND DIRECTION (DEGREES) | 306. | 305. | 303. | 312. | 322. | 332. | 338. | 333. | 329. | 331. | 326. | 325. |
| 4--TEMPERATURE (CENTIGRADE) | 16. | 16. | 16. | 16. | 16. | 16. | 16. | 17. | 17. | 17. | 17. | 17. |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. |
| 6--OZONE (PPM) | 0.019 | 0.019 | 0.016 | 0.015 | 0.017 | 0.018 | 0.015 | 0.011 | 0.011 | 0.014 | 0.012 | 0.013 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | 0.002 | 0.006 | 0.006 | 0.004 | 0.007 | 0.005 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | .000 | .000 | .000 | .000 | 0.000 | 0.002 | 0.003 | 0.003 | 0.002 | 0.001 | 0.006 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | .000 | .000 | .000 | .000 | 0.000 | 0.004 | 0.009 | 0.008 | 0.006 | 0.008 | 0.011 |
| 10--METHANE (PPMC) | 1.456 | 1.478 | 1.490 | 1.513 | 1.516 | 1.535 | 1.576 | 1.586 | 1.593 | 1.588 | [illegible] | 1.608 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.123 | 0.100 | 0.096 | 0.067 | 0.071 | 0.052 | 0.067 | 0.081 | 0.043 | 0.043 | 0.068 | 0.065 |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.087 | 0.063 | 0.075 | 0.050 | -0.087 | 0.125 | 0.375 | 0.200 | 0.175 | 0.187 | 0.15[illegible] |
| 13--ETHANE (PPMC) | 0.001 | .000 | .000 | .000 | .000 | .000 | 0.001 | .000 | -0.001 | -0.003 | -0.004 | 0.0[illegible] |
| 14--ETHYLENE (PPMC) | 0.001 | .000 | .000 | .000 | .000 | 0.001 | 0.010 | 0.002 | -0.002 | -0.001 | -0.001 | -0.00 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | .000 | .000 | 0.005 | 0.030 | 0.011 | -0.008 | -0.005 | 0.003 | .00 |
| 16--ACETYLENE (PPMC) | 0.002 | .000 | .000 | .000 | .000 | .000 | 0.018 | 0.002 | -0.003 | -0.003 | -0.004 | 0.00 |
| 19--FLUOROCARBON-11 (PPT) | 89. | 88. | 89. | 85. | 91. | 85. | 86. | 87. | 101. | 90. | 97. | 9[illegible]. |
| 20--CARBON TETRACHLORIDE (PPT) | 68. | 80. | 98. | 60. | 70. | 83. | 60. | 113. | 83. | 55. | 113. | 7[illegible]. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.625 | 0.425 | 1.075 | 4.775 | 3.100 | 1.325 | 0.675 | 0.275 | 0.100 | 0.050 | .000 | .000 |
| 2--WIND SPEED (MPH) | 6.600 | 7.000 | 5.500 | 8.900 | 8.900 | 3.400 | 1.900 | 1.400 | 1.600 | 1.500 | 1.3[illegible] | 0.000 |
| 3--WIND DIRECTION (DEGREES) | 327. | 329. | 342. | 347. | 344. | 317. | 346. | 219. | 211. | 228. | 245 | 201. |
| 4--TEMPERATURE (CENTIGRADE) | 17. | 18. | 18. | 21. | 22. | 21. | 21. | 20. | 19. | 18. | 17. | 17. |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. | 100. |
| 6--OZONE (PPM) | 0.012 | 0.011 | 0.010 | 0.017 | 0.018 | 0.011 | 0.007 | 0.004 | 0.000 | .000 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.007 | 0.008 | 0.004 | 0.003 | 0.008 | 0.006 | 0.007 | 0.015 | 0.026 | 0.017 | 0.018 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.003 | 0.002 | 0.002 | 0.003 | 0.002 | 0.004 | 0.005 | 0.007 | 0.006 | 0.005 | 0.006 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 0.009 | 0.010 | 0.006 | 0.006 | 0.011 | 0.010 | 0.011 | 0.022 | 0.032 | 0.022 | 0.024 |
| 10--METHANE (PPMC) | 1.603 | 1.598 | 1.610 | 1.586 | 1.611 | 1.598 | 1.556 | 2.400 | 2.845 | 3.990 | 2.696 | 2.864 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.037 | 0.045 | 0.063 | 0.063 | 0.052 | 0.093 | 0.057 | 0.218 | 0.370 | 0.230 | 0.465 | 0.244 |
| 12--CARBON MONOXIDE (PPM) | 0.175 | 0.283 | 0.187 | 0.150 | 0.175 | 0.262 | 0.162 | 0.237 | 0.587 | 0.662 | 0.450 | 0.637 |
| 13--ETHANE (PPMC) | .000 | -0.000 | -0.001 | -0.001 | -0.001 | -0.002 | -0.002 | -0.002 | -0.003 | 0.003 | 0.001 | 0.002 |
| 14--ETHYLENE (PPMC) | .000 | -0.002 | -0.003 | -0.005 | -0.006 | -0.008 | -0.009 | -0.011 | -0.012 | 0.014 | 0.007 | 0.008 |
| 15--PROPANE (PPMC) | .000 | -0.002 | -0.005 | -0.007 | -0.009 | -0.012 | -0.014 | -0.016 | -0.019 | 0.021 | -0.016 | 0.012 |
| 16--ACETYLENE (PPMC) | .000 | -0.001 | -0.003 | -0.004 | -0.005 | -0.007 | -0.008 | -0.009 | -0.011 | 0.012 | 0.005 | 0.007 |
| 19--FLUOROCARBON-11 (PPT) | 90. | 91. | 94. | 87. | 98. | 97. | 95. | 104. | 121. | 203. | 202. | 158. |
| 20--CARBON TETRACHLORIDE (PPT) | 135. | 75. | 110. | 98. | 80. | 75. | 45. | 55. | 98. | 85. | 98. | -1. |

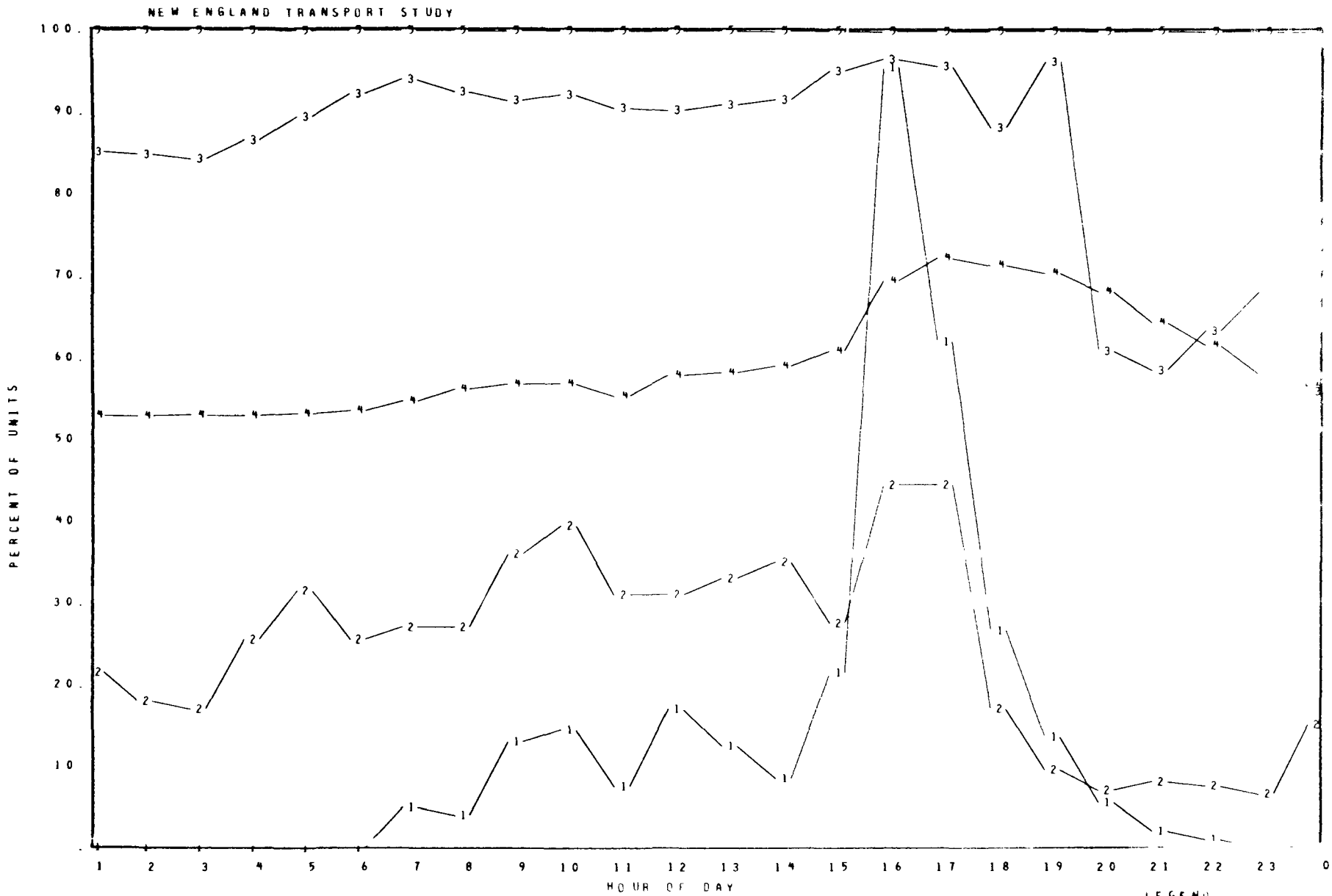

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 8, 1975
LEGEND
1--GLOBAL IRRADIANCE 5.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

FIGURE 31a.

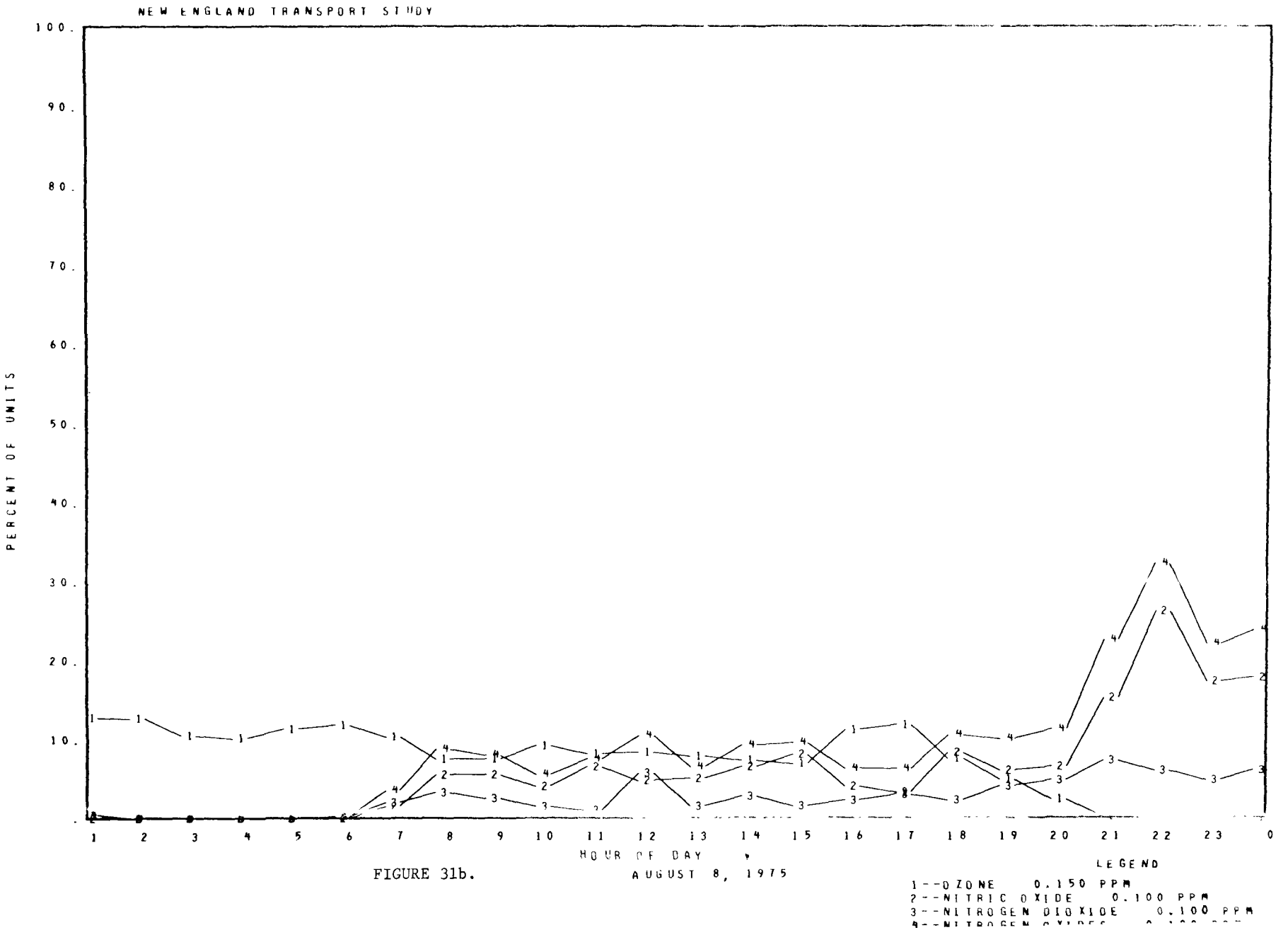

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 8, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM

FIGURE 31b.

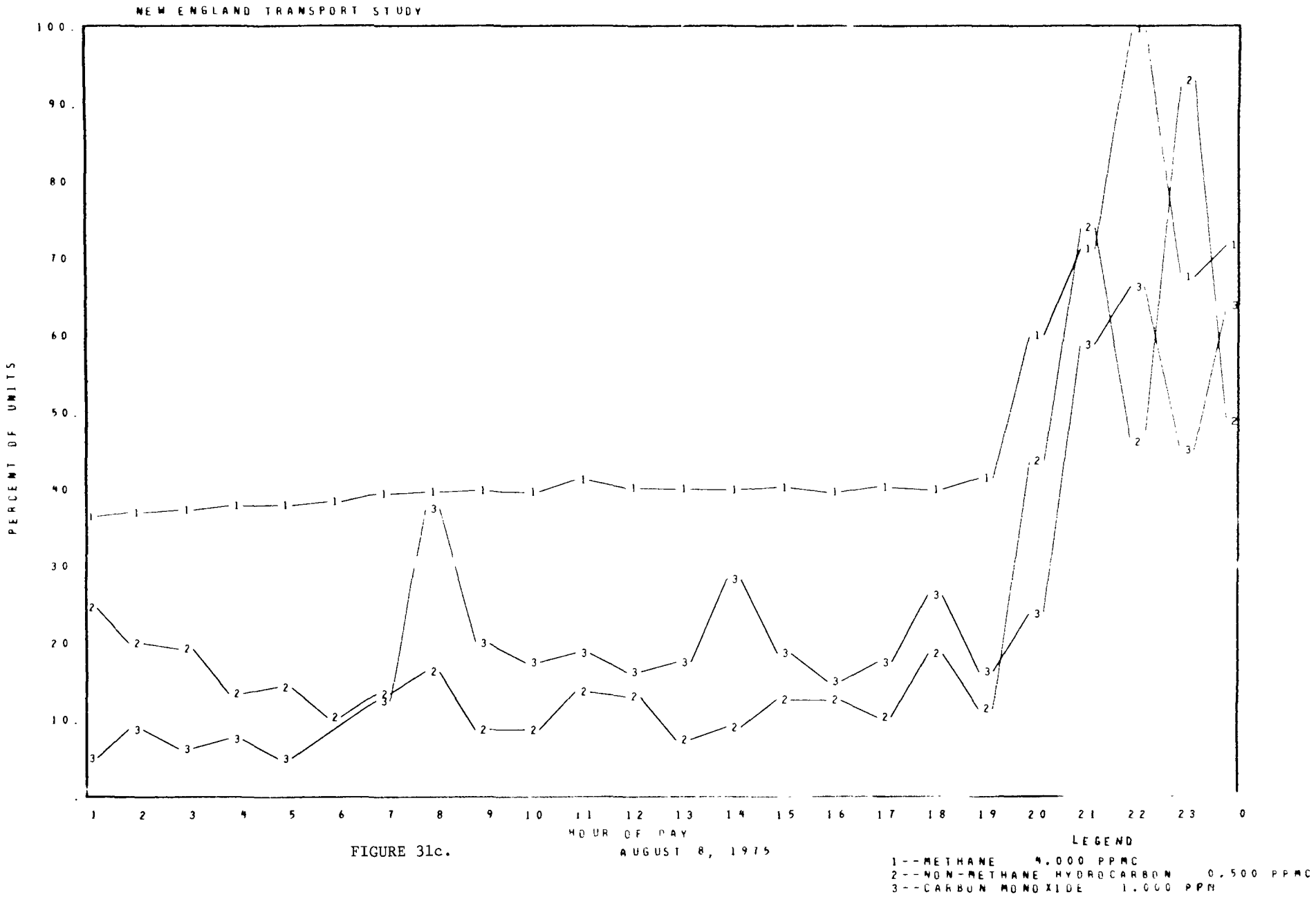

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70
60
50.
40
30
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 8, 1975
LEGEND
1--METHANE 4.000 PPMC
2--NON-METHANE HYDROCARBON 0.500 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 31c.

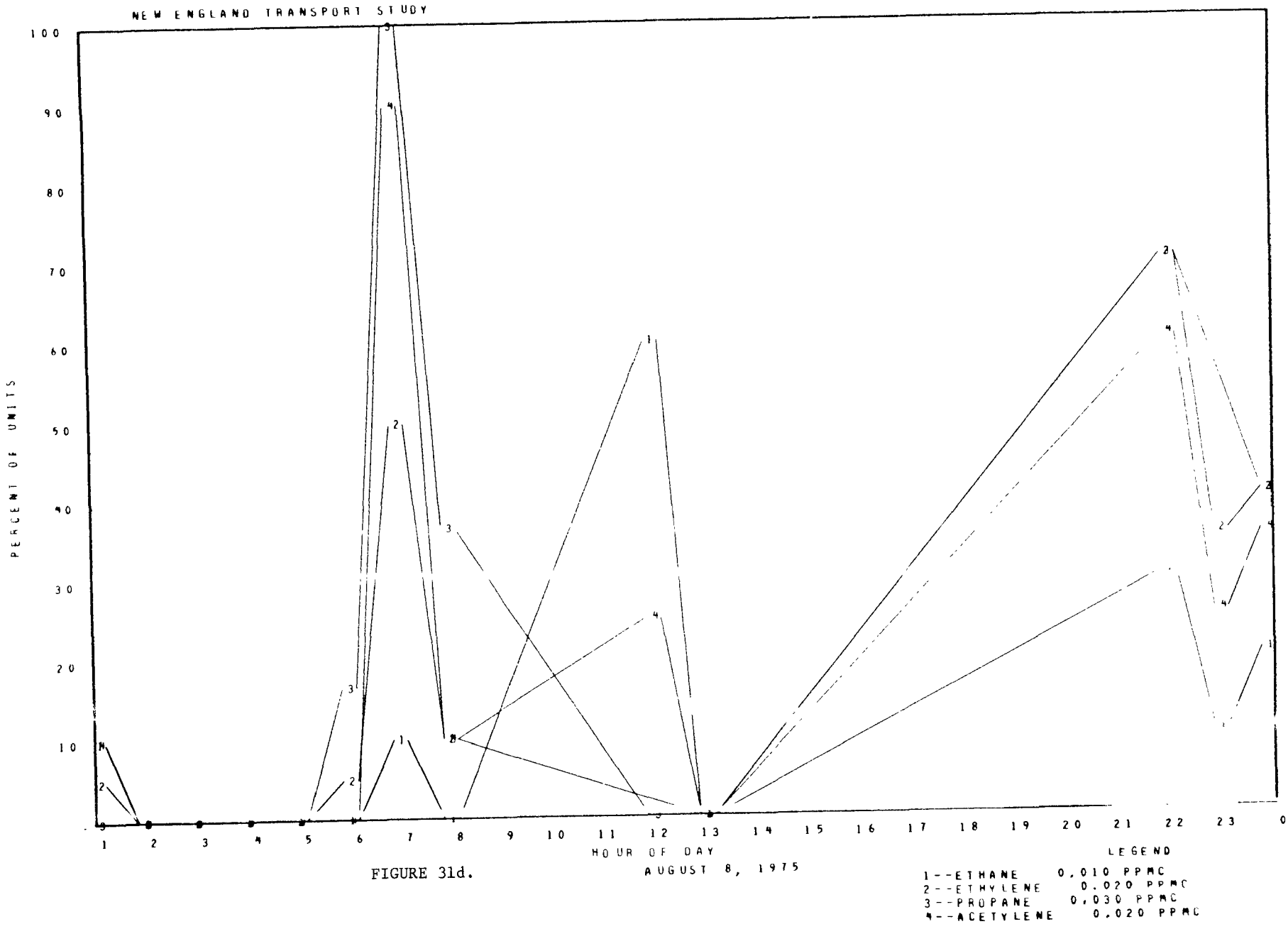

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 8, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.030 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 31d.

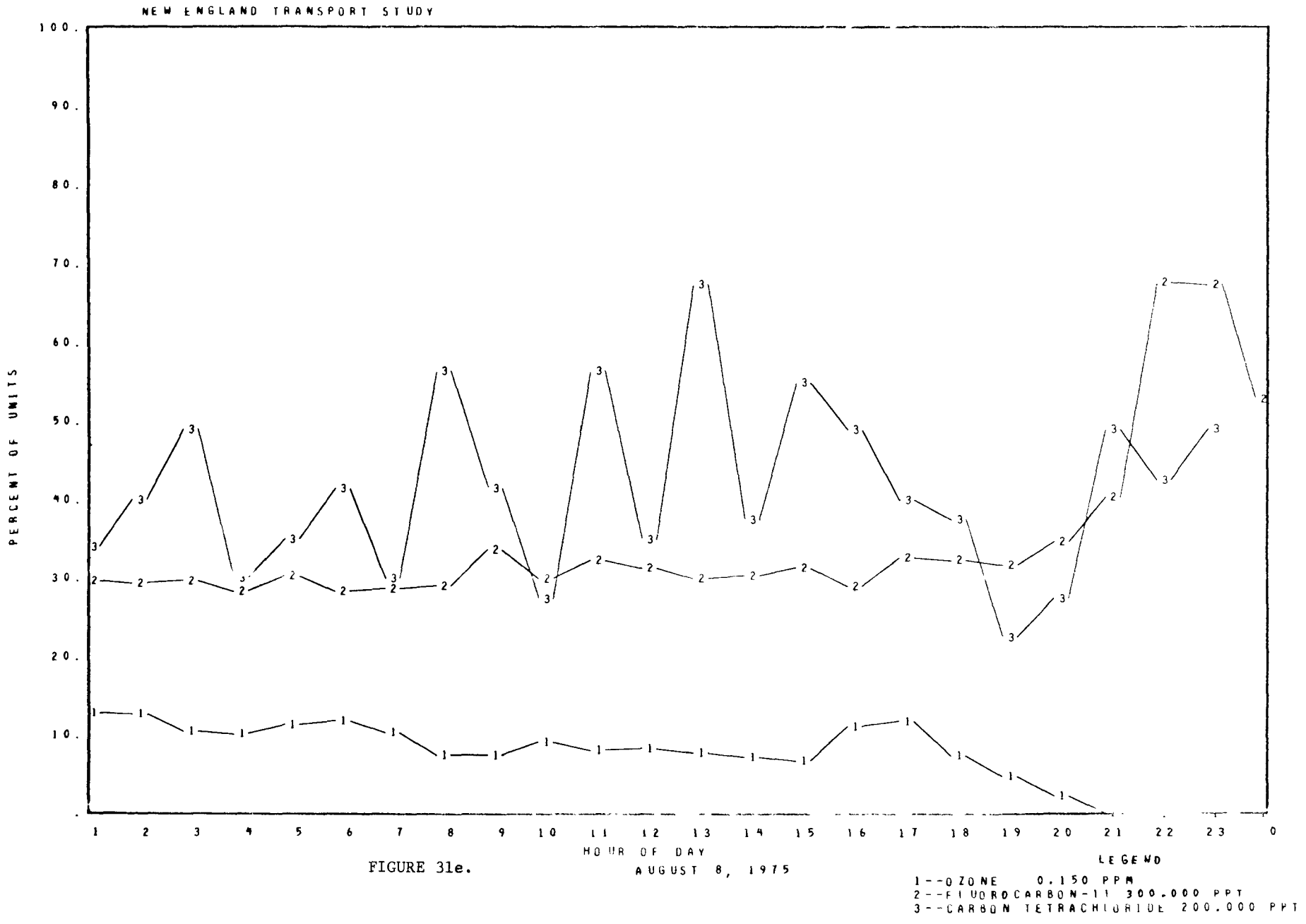
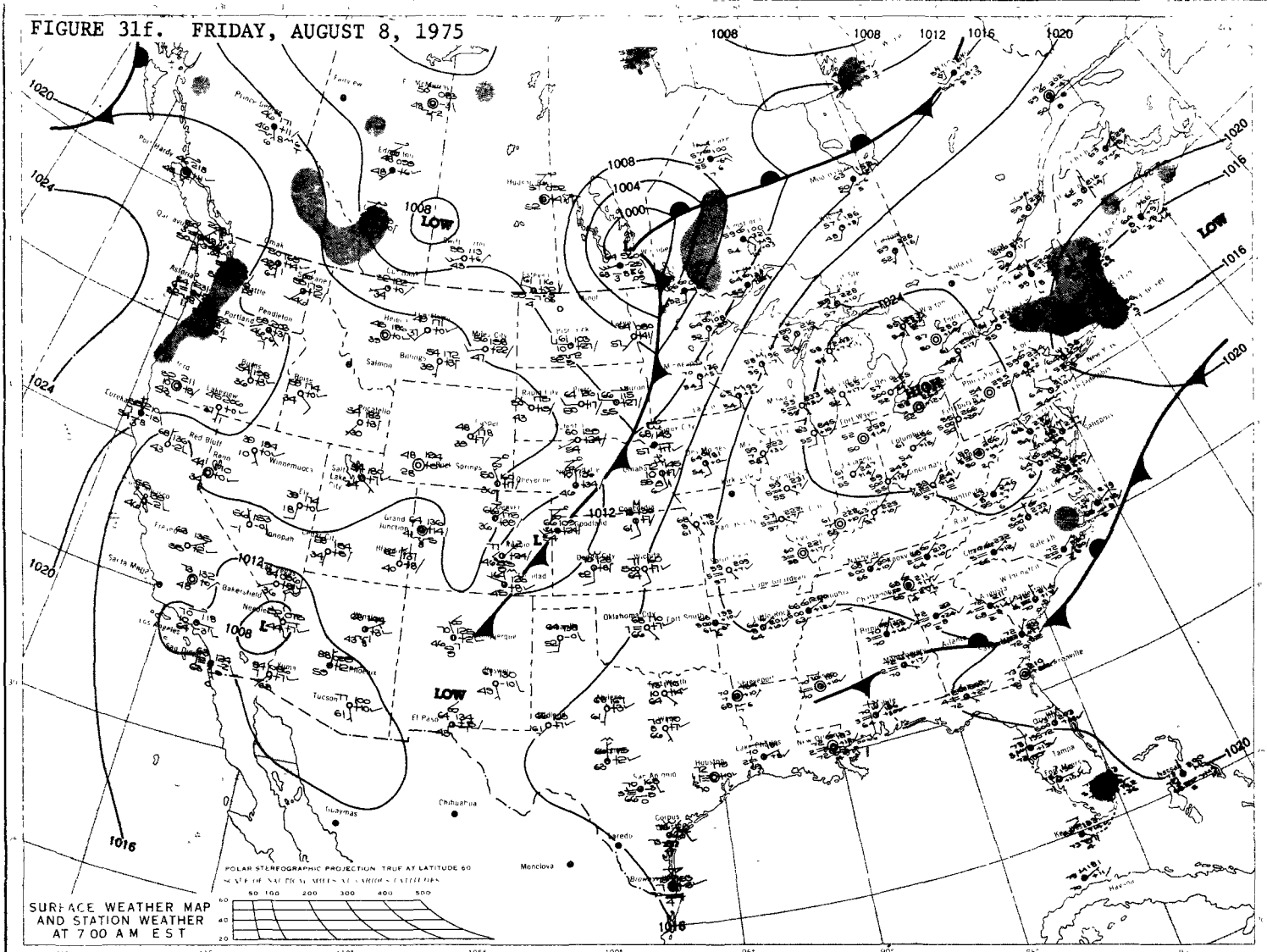
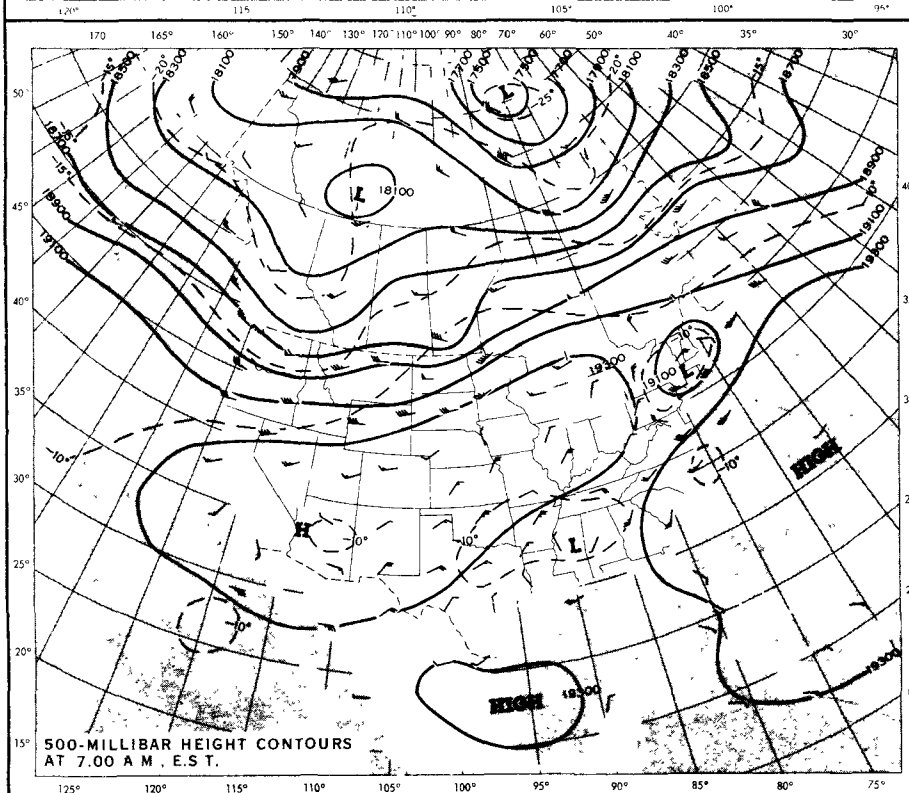
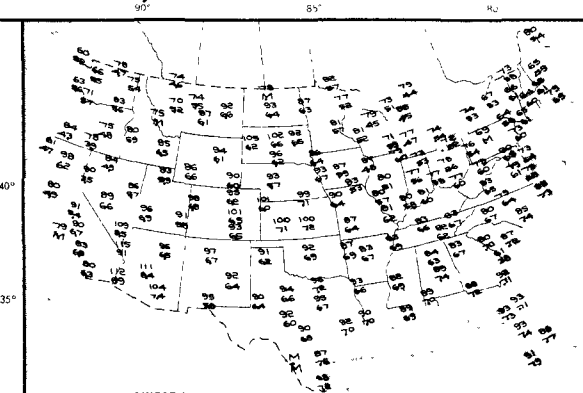

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 8, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUORDCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 31e.

FIGURE 31f. FRIDAY, AUGUST 8, 1975



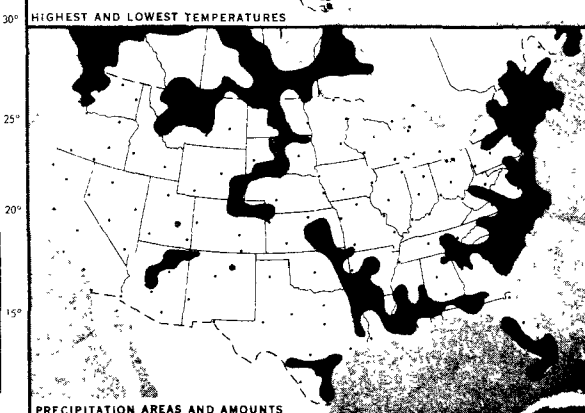



TABLE 28a. AUGUST 9, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.501 | 24 |
| 2--WIND SPEED (MPH) | 2.302 | 24 |
| 3--WIND DIRECTION (DEGREES) | 237.736 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 22.582 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 64.877 | 24 |
| 6--OZONE (PPM) | 0.022 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.006 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.011 | 24 |
| 10--METHANE (PPMC) | 2.120 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.256 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.340 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 15 |
| 14--ETHYLENE (PPMC) | 0.006 | 15 |
| 16--ACETYLENE (PPMC) | 0.005 | 15 |
| 19--FLUOROCARBON-11 (PPT) | 129. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 97. | 21 |

TABLE 28b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 9, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.375 | 2.175 | 3.675 | 4.900 | 5.925 | 6.750 |
| 2--WIND SPEED (MPH) | 2.600 | 1.800 | 2.300 | 1.900 | 0.800 | 0.600 | 0.800 | 1.200 | 1.500 | 2.400 | 3.400 | 4.500 |
| 3--WIND DIRECTION (DEGREES) | 207. | 206. | 223. | 237. | 237. | 330. | 241. | 163. | 171. | 23. | 4. | 341. |
| 4--TEMPERATURE (CENTIGRADE) | 17. | 16. | 16. | 15. | 14. | 13. | 15. | 18. | 22. | 24. | 26. | 29. |
| 5--RELATIVE HUMIDITY (PERCENT) | 100. | 100. | 100. | 100. | 100. | 100. | 97. | 80. | 60. | 50. | 44. | 33. |
| 6--OZONE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | 0.000 | 0.005 | 0.014 | 0.024 | 0.036 | 0.044 |
| 7--NITRIC OXIDE (PPM) | 0.018 | 0.007 | 0.006 | 0.003 | 0.003 | 0.007 | 0.008 | 0.002 | 0.001 | 0.001 | 0.003 | 0.005 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 0.007 | 0.006 | 0.006 | 0.005 | 0.003 | 0.003 | 0.002 | 0.003 | 0.003 | 0.007 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.025 | 0.014 | 0.013 | 0.009 | 0.009 | 0.010 | 0.011 | 0.004 | 0.003 | 0.004 | 0.008 | 0.005 |
| 10--METHANE (PPMC) | 2.096 | 2.286 | 1.845 | 1.736 | 2.531 | 2.044 | 4.405 | 3.674 | 2.058 | 1.693 | 1.659 | 1.611 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.228 | 0.170 | 0.178 | 0.149 | 0.280 | 0.269 | 0.558 | 0.117 | 0.015 | 0.193 | 0.172 | 0.17 |
| 12--CARBON MONOXIDE (PPM) | 0.662 | 0.412 | 0.437 | 0.362 | 0.375 | 0.487 | 0.412 | 0.350 | 0.187 | 0.625 | 0.137 | 0.11 |
| 13--ETHANE (PPMC) | 0.001 | 0.002 | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 | -0.002 | 0.002 | 0.002 | 0.002 | 0.00 |
| 14--ETHYLENE (PPMC) | 0.010 | 0.008 | -0.008 | -0.007 | -0.007 | -0.006 | -0.006 | -0.005 | 0.005 | 0.007 | 0.004 | 0.00 |
| 16--ACETYLENE (PPMC) | 0.009 | 0.009 | -0.008 | -0.008 | -0.007 | -0.007 | -0.006 | -0.006 | 0.005 | 0.007 | 0.004 | 0.00 |
| 19--FLUOROCARBON-11 (PPT) | 149. | 150. | 127. | 122. | 139. | 133. | 224. | 133. | 110. | 102. | 106. | 92. |
| 20--CARBON TETRACHLORIDE (PPT) | 143. | 113. | 120. | 120. | 128. | 95. | 120. | 90. | 60. | 68. | 120. | 98. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.150 | 6.950 | 6.625 | 5.950 | 4.575 | 3.350 | 1.275 | 0.275 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 2.900 | 3.450 | 3.450 | 5.900 | 4.400 | 3.050 | 1.700 | 1.200 | 0.600 | [illegible] | [illegible] | [illegible] |
| 3--WIND DIRECTION (DEGREES) | 338. | 350. | 280. | 299. | 286. | 267. | 271. | 237. | 199. | 304. | [illegible] | [illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 30. | 32. | 32. | 33. | 31. | 30. | 29. | 25. | 21. | 19. | [illegible] | 17. |
| 5--RELATIVE HUMIDITY (PERCENT) | 30. | 26. | 25. | 23. | 24. | 27. | 32. | 48. | 82. | 90. | 94. | 94. |
| 6--OZONE (PPM) | 0.049 | 0.046 | 0.051 | 0.055 | 0.057 | 0.059 | 0.053 | 0.029 | 0.005 | 0.003 | 0.000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.001 | 0.004 | 0.006 | 0.008 | 0.006 | 0.004 | 0.006 | 0.009 | 0.007 | 0.011 | 0.010 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.004 | 0.003 | 0.001 | 0.003 | 0.004 | 0.005 | 0.010 | 0.010 | 0.012 | 0.012 | 0.016 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.005 | 0.007 | 0.007 | 0.011 | 0.010 | 0.008 | 0.016 | 0.019 | 0.019 | 0.023 | 0.026 |
| 10--METHANE (PPMC) | 1.578 | 1.580 | 1.636 | 1.553 | 1.600 | 1.539 | 1.576 | 1.878 | 2.213 | 1.954 | 3.906 | 2.221 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.214 | 0.357 | 0.287 | 0.222 | 0.150 | 0.192 | 0.205 | 0.632 | 0.242 | 0.528 | 0.200 | 0.413 |
| 12--CARBON MONOXIDE (PPM) | 0.200 | 0.200 | 0.087 | 0.087 | 0.075 | 0.075 | 0.162 | 0.275 | 0.550 | 0.600 | 0.512 | 0.762 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.003 | -0.002 | 0.001 | -0.001 | -0.001 | 0.001 | 0.001 | 0.002 | 0.003 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.005 | 0.007 | 0.004 | -0.002 | 0.001 | -0.002 | -0.002 | 0.003 | 0.003 | 0.007 | 0.011 | 0.008 |
| 16--ACETYLENE (PPMC) | 0.003 | 0.007 | 0.004 | -0.002 | 0.001 | -0.002 | -0.003 | 0.004 | 0.004 | 0.007 | 0.008 | 0.008 |
| 19--FLUOROCARBON-11 (PPT) | 96. | 105. | 103. | 105. | 112. | 103. | 105. | 112. | 128. | 157. | 204. | 168. |
| 20--CARBON TETRACHLORIDE (PPT) | 50. | -55. | 60. | 83. | 113. | -101. | 90. | 90. | -86. | 83. | 120. | 83. |

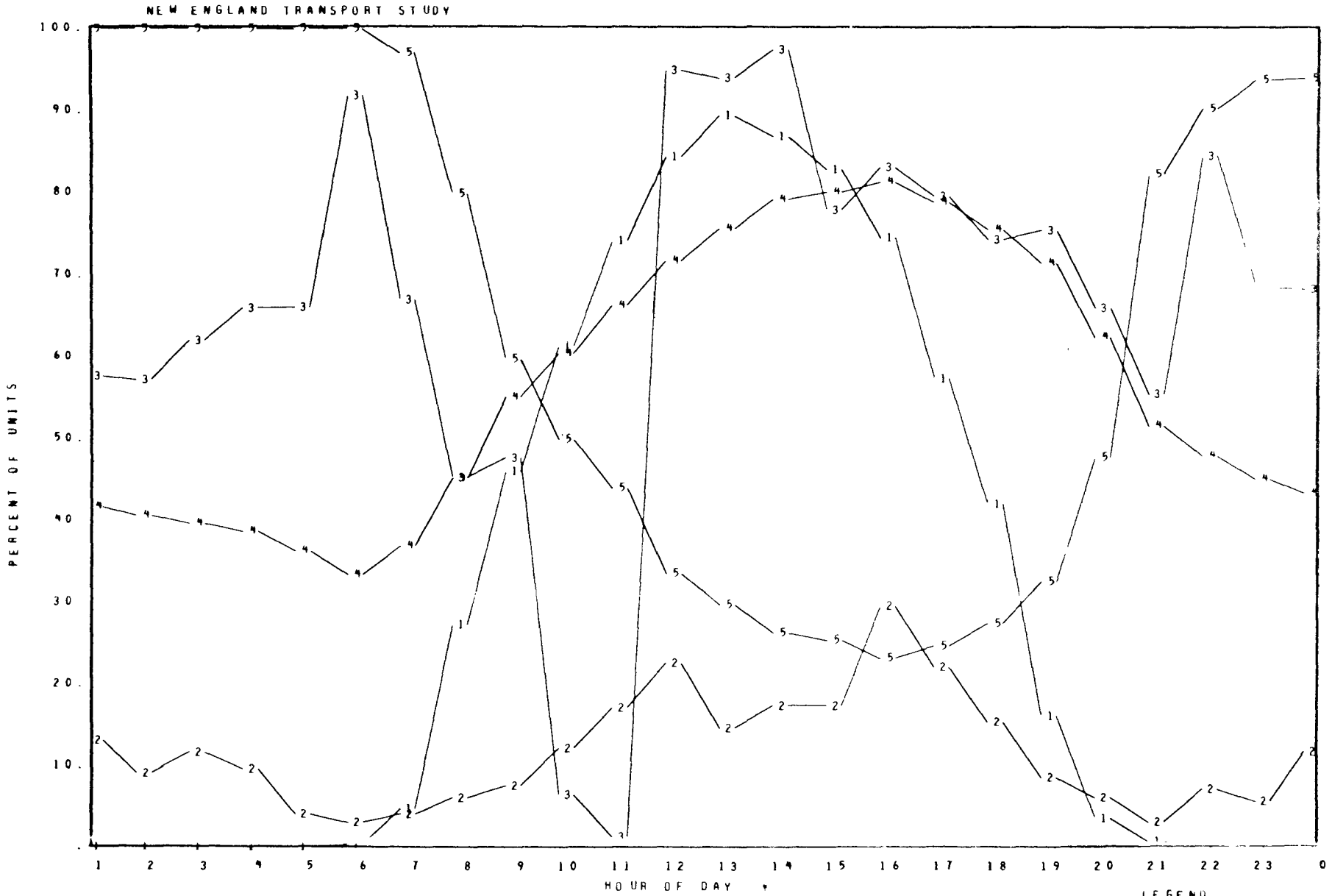



FIGURE 32a.

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/M:
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE

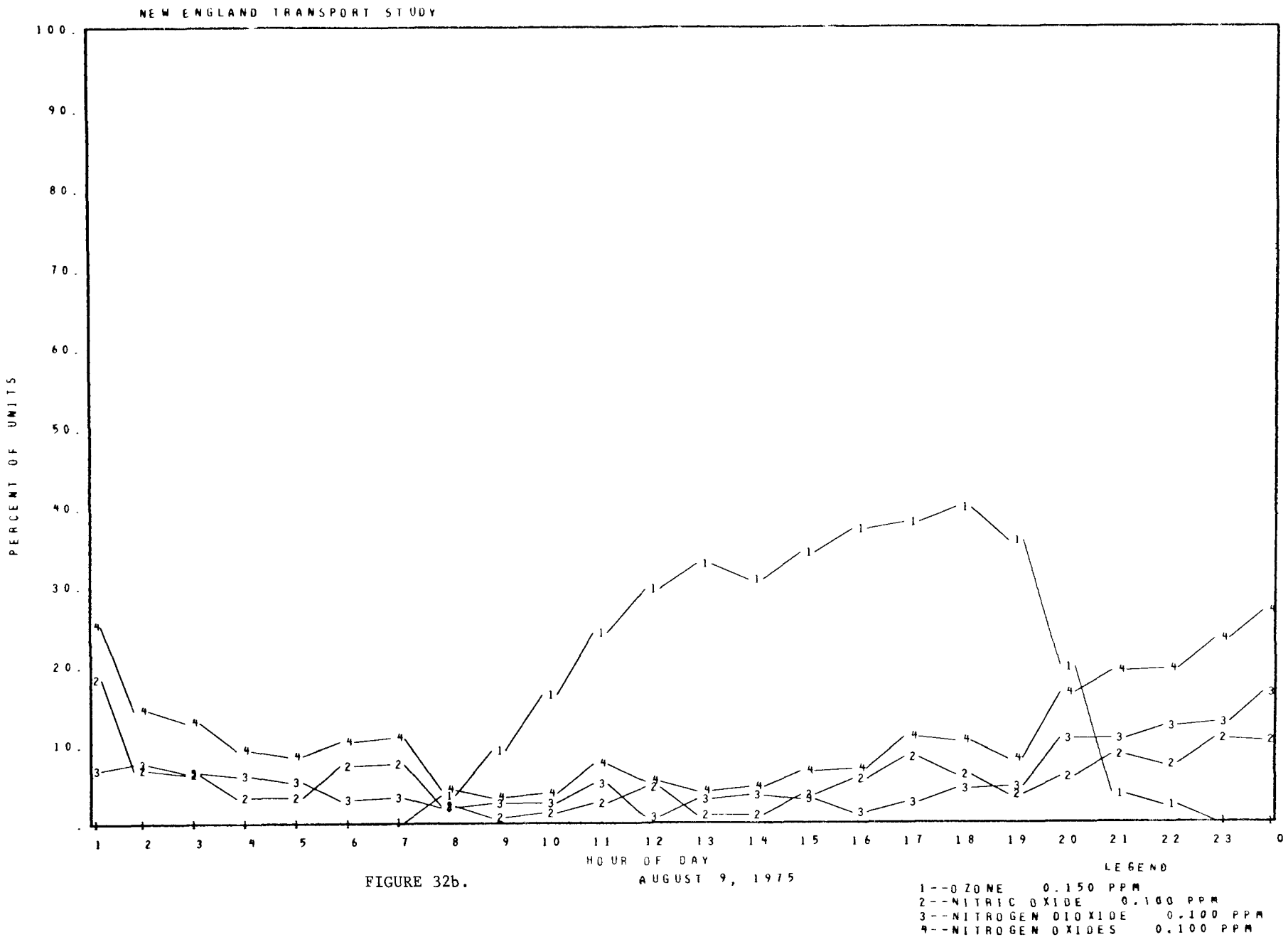

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 9, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 32b.

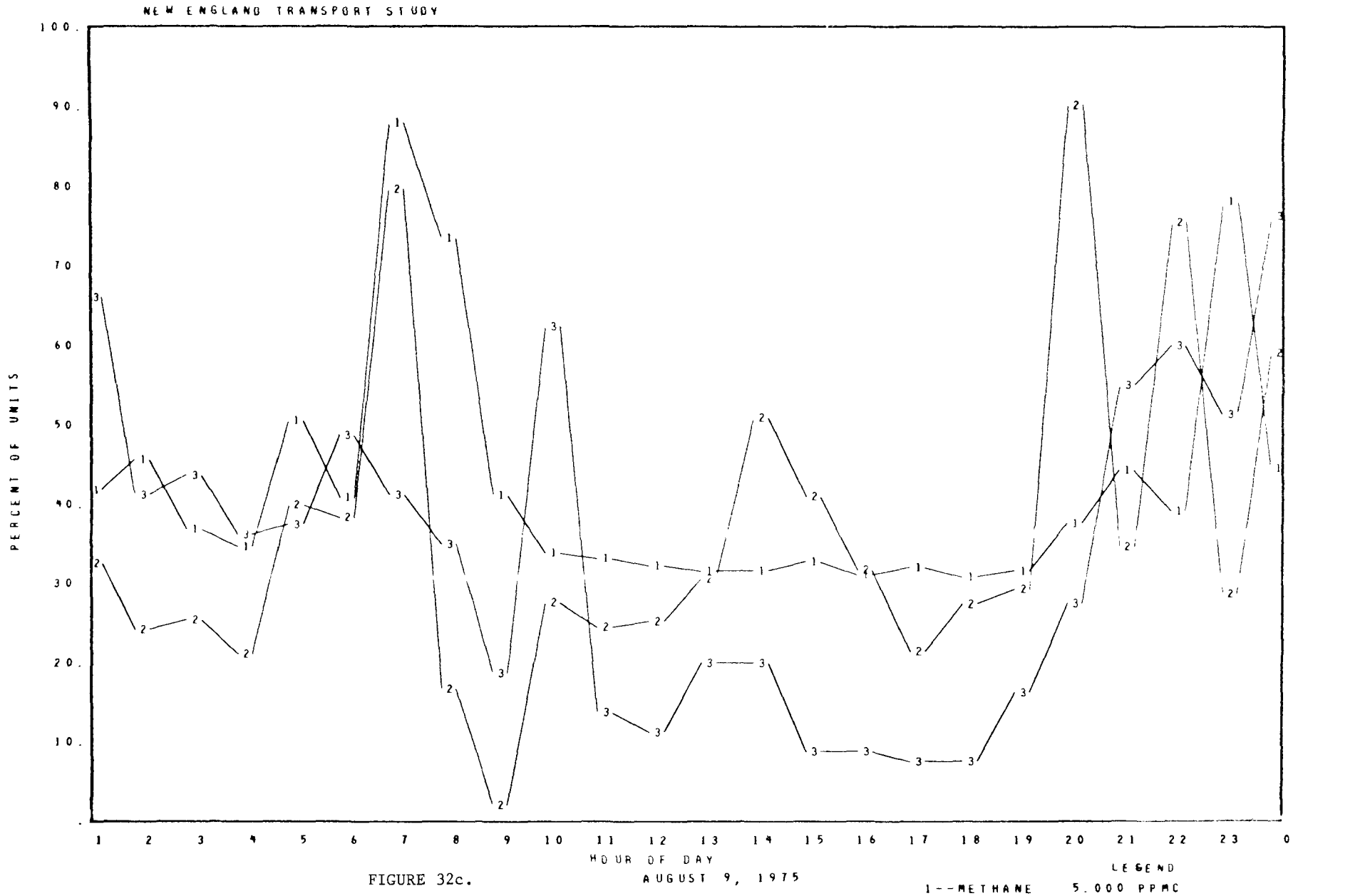

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70
60
50
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 9, 1975
LEGEND
1--METHANE 5.000 PPMC
2--NON-METHANE HYDROCARBON 0.700 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 32c.

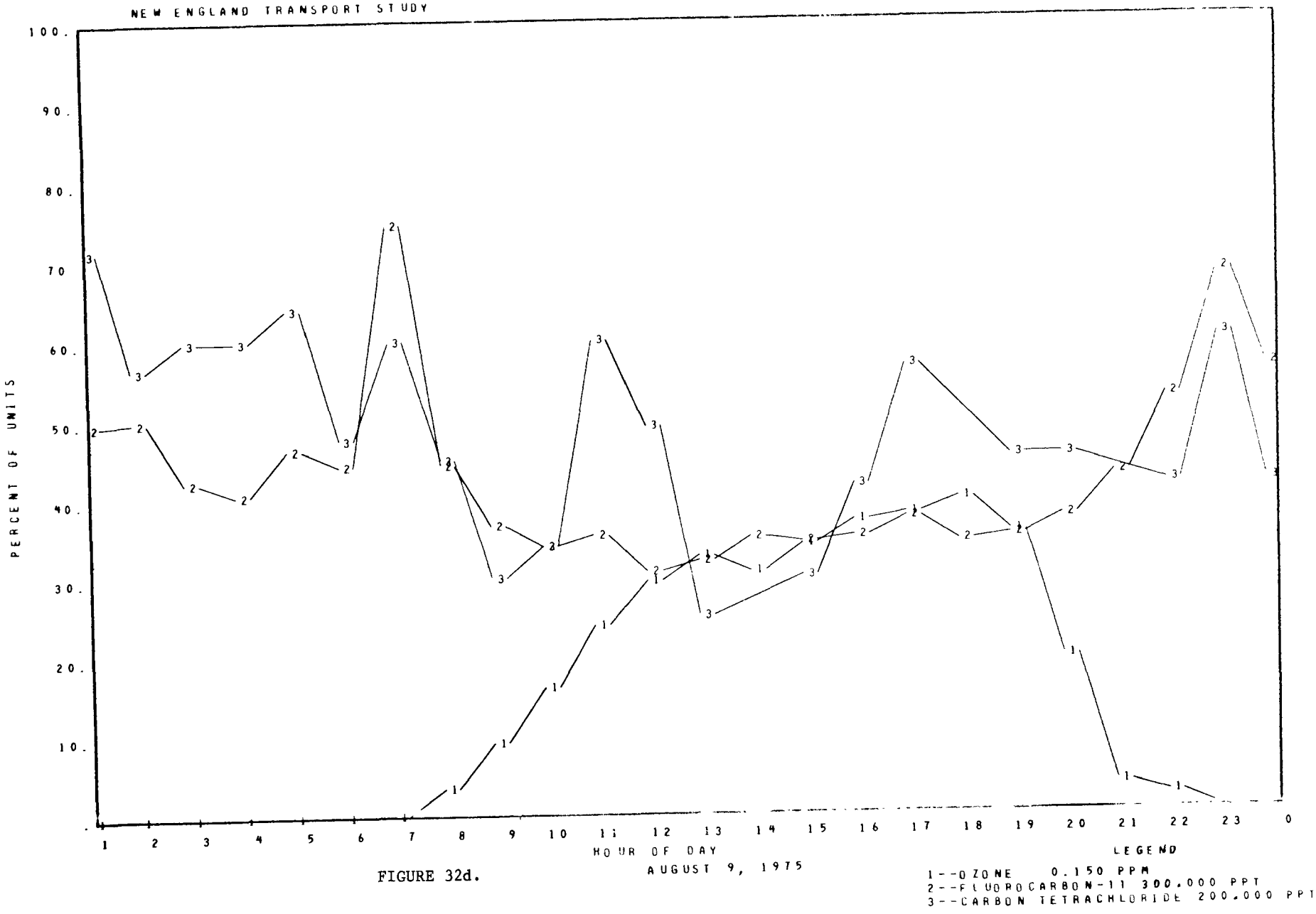
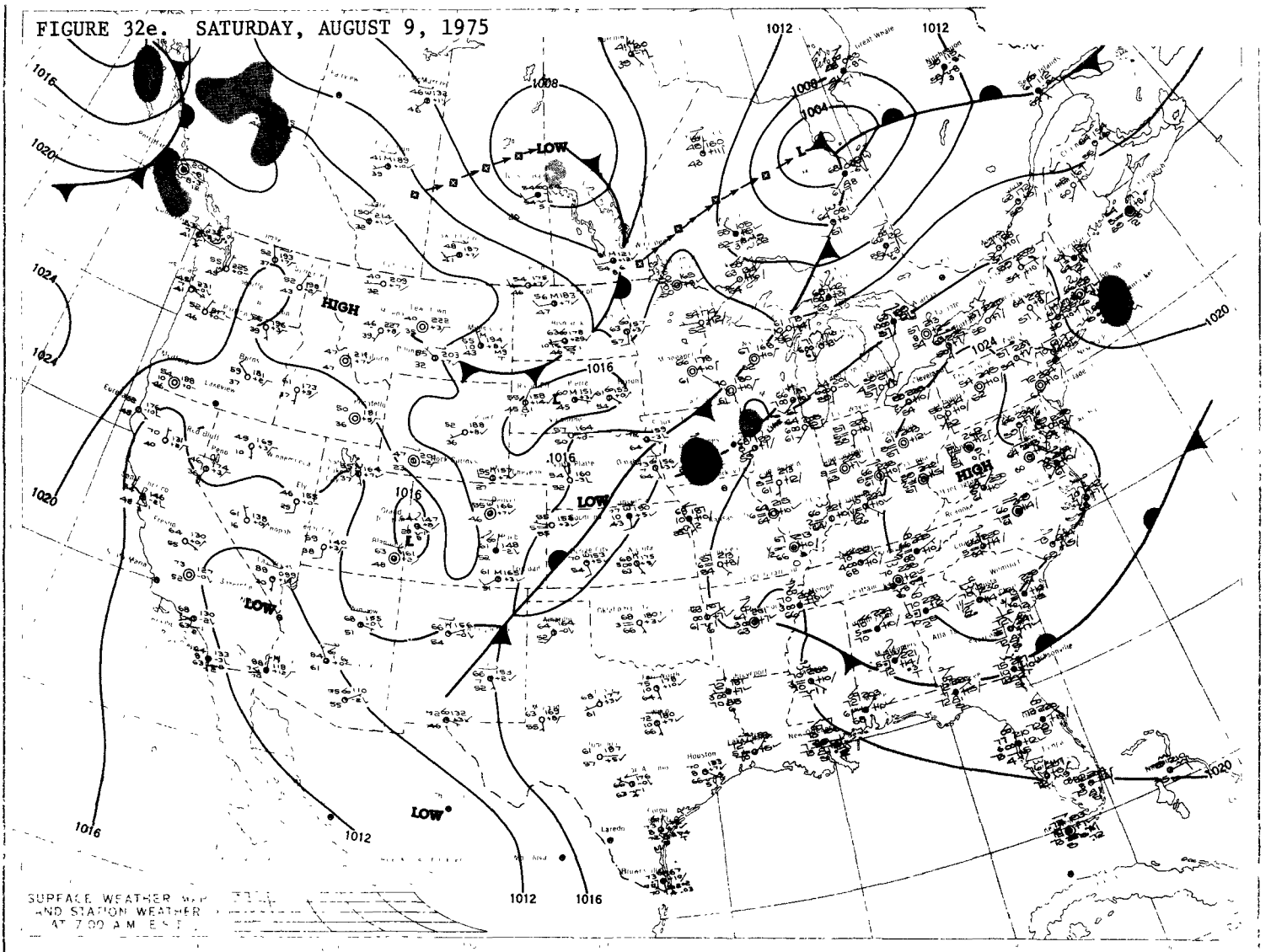
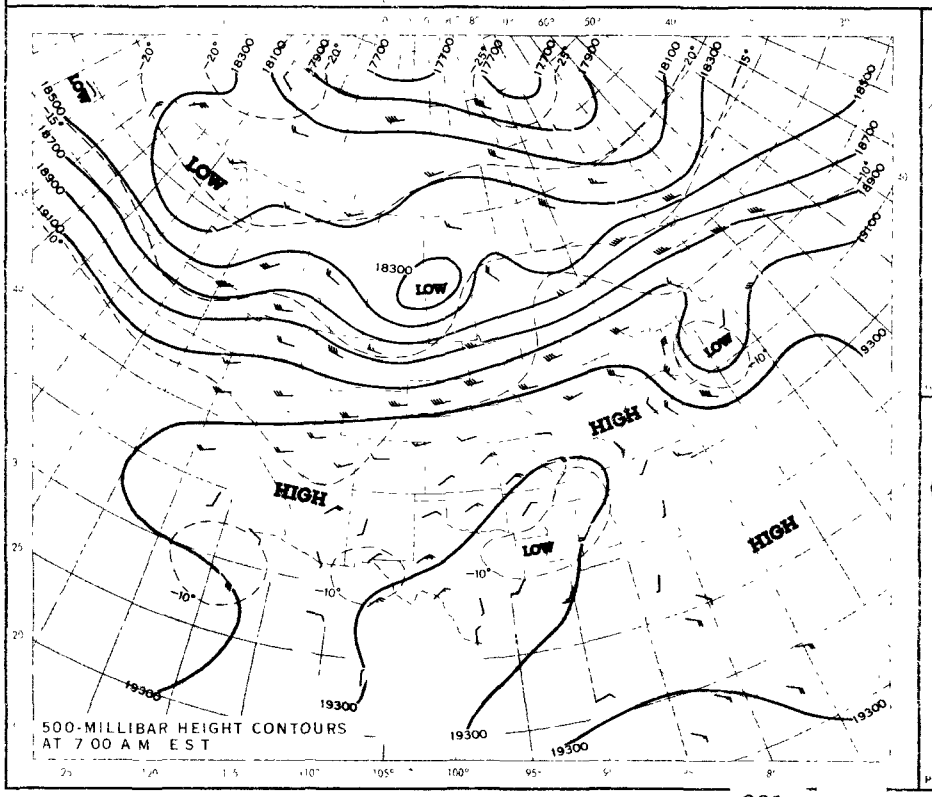
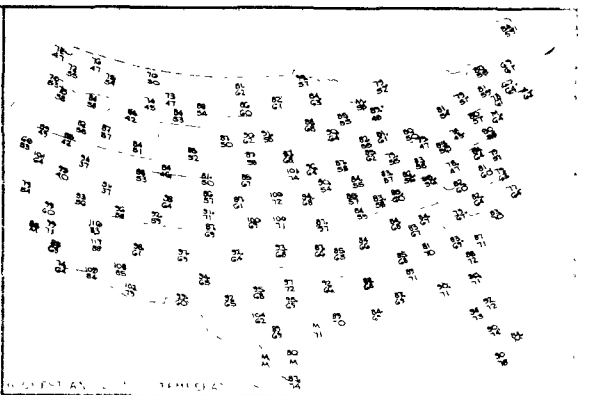

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 9, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 32d.

FIGURE 32e. SATURDAY, AUGUST 9, 1975



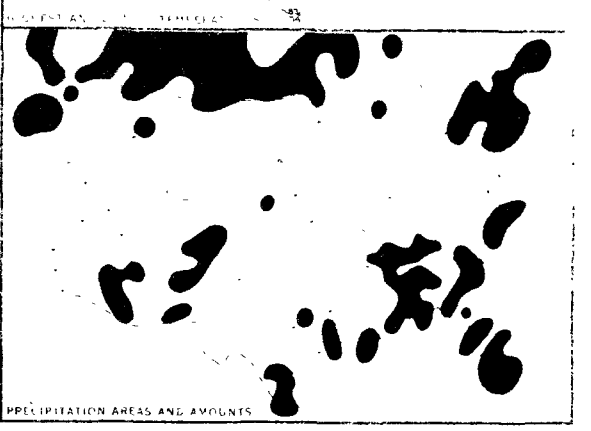


TABLE 29a. AUGUST 10, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.911 | 24 |
| 2--WIND SPEED (MPH) | 2.429 | 24 |
| 3--WIND DIRECTION (DEGREES) | 244.087 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 23.544 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 68.678 | 24 |
| 6--OZONE (PPM) | 0.033 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 1.959 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.298 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.254 | 23 |
| 13--ETHANE (PPMC) | 0.003 | 23 |
| 14--ETHYLENE (PPMC) | 0.005 | 23 |
| 15--PROPANE (PPMC) | 0.012 | 22 |
| 16--ACETYLENE (PPMC) | 0.004 | 23 |
| 19--FLUOROCARBON-11 (PPT) | 115. | 12 |
| 20--CARBON TETRACHLORIDE (PPT) | 76. | 12 |

TABLE 29b.

| SUBSTANCE | HOUR AVERAGES FOR AUGUST 10, 1975 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.225 | 1.500 | 2.800 | 3.850 | 5.375 | 6.300 |
| 2--WIND SPEED (MPH) | 2.400 | 2.200 | 1.800 | 1.500 | 0.900 | 1.100 | 1.700 | 2.700 | 4.200 | 3.600 | 4.100 | 5.100 |
| 3--WIND DIRECTION (DEGREES) | 229. | 197. | 287. | 327. | 346. | 287. | 246. | 199. | 195. | 186. | 175. | 154. |
| 4--TEMPERATURE (CENTIGRADE) | 17. | 16. | 15. | 14. | 14. | 14. | 15. | 18. | 21. | 25. | 28. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 92. | 93. | 94. | 95. | 96. | 97. | 93. | 85. | 72. | 57. | 46. | 41. |
| 6--OZONE (PPM) | 0.003 | 0.006 | 0.002 | .000 | .000 | .000 | 0.002 | 0.009 | 0.027 | 0.036 | 0.050 | 0.065 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.001 | 0.002 | 0.001 | 0.001 | .000 | 0.003 | 0.000 | .000 | .000 | 0.000 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.015 | 0.012 | 0.010 | 0.006 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.002 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.020 | 0.013 | 0.012 | 0.007 | 0.005 | 0.004 | 0.005 | 0.003 | 0.003 | 0.003 | 0.003 | 0.004 |
| 10--METHANE (PPMC) | 1.725 | 2.603 | 2.380 | 1.716 | 1.718 | 1.903 | 1.863 | 2.786 | 2.111 | 2.013 | 1.733 | 1.661 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.271 | 0.415 | 0.291 | 0.233 | 0.322 | 0.273 | 0.221 | 0.174 | 0.187 | 0.152 | 0.187 | 0.225 |
| 12--CARBON MONOXIDE (PPM) | 0.625 | 0.412 | 0.387 | 0.313 | 0.250 | 0.313 | 0.287 | 0.250 | 0.275 | 0.237 | 0.150 | 0.175 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | -0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 |
| 14--ETHYLENE (PPMC) | 0.018 | 0.006 | 0.005 | 0.006 | 0.008 | 0.002 | -0.003 | 0.005 | 0.003 | 0.003 | 0.004 | 0.002 |
| 15--PROPANE (PPMC) | 0.017 | 0.011 | 0.018 | 0.060 | 0.071 | -0.052 | -0.032 | 0.013 | 0.010 | 0.006 | 0.005 | 0.012 |
| 16--ACETYLENE (PPMC) | 0.013 | 0.005 | 0.005 | 0.004 | 0.002 | 0.004 | -0.003 | 0.003 | 0.004 | 0.004 | 0.002 | 0.004 |
| 19--FLUOROCARBON-11 (PPT) | 144. | 161. | 133. | 124. | -122. | -121. | -119. | -118. | 116. | 105. | 94. | 100. |
| 20--CARBON TETRACHLORIDE (PPT) | 113. | 110. | 129. | 90. | -87. | -84. | -81. | -78. | 75. | . | 83. | 30. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.425 | 5.450 | 3.900 | 5.125 | 2.050 | 1.425 | 0.975 | 0.375 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 3.700 | 4.100 | 3.200 | 3.400 | 2.100 | 2.200 | 2.200 | 1.700 | 1.000 | 1.400 | 1.300 | 0.700 |
| 3--WIND DIRECTION (DEGREES) | 258. | 269. | 255. | 261. | 267. | 239. | 238. | 239. | 251. | 296. | 191. | 265. |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 32. | 31. | 32. | 31. | 30. | 29. | 27. | 25. | 24. | 23. | 22. |
| 5--RELATIVE HUMIDITY (PERCENT) | 37. | 37. | 40. | 39. | 43. | 48. | 51. | 57. | 70. | 85. | 88. | 92. |
| 6--OZONE (PPM) | 0.086 | 0.090 | 0.082 | 0.074 | 0.064 | 0.058 | 0.053 | 0.052 | 0.026 | 0.009 | 0.003 | 0.000 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.002 | 0.001 | 0.003 | 0.005 | 0.004 | 0.004 | 0.005 | 0.004 | 0.004 | 0.004 | 0.006 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.002 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 | 0.007 | 0.010 | 0.008 | 0.011 | 0.008 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.004 | 0.002 | 0.005 | 0.008 | 0.008 | 0.008 | 0.011 | 0.014 | 0.012 | 0.015 | 0.014 |
| 10--METHANE (PPMC) | 1.600 | 1.659 | 1.603 | 1.589 | 1.587 | 1.608 | 1.623 | 1.601 | 2.801 | 2.163 | 2.693 | 2.271 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.275 | 0.273 | 0.245 | 0.282 | 0.329 | 0.285 | 0.313 | 0.312 | 0.445 | 0.542 | 0.480 | 0.420 |
| 12--CARBON MONOXIDE (PPM) | 0.125 | 0.137 | 0.075 | 0.087 | 0.117 | 0.237 | 0.112 | 0.150 | 0.275 | 0.350 | 0.500 | -1.000 |
| 13--ETHANE (PPMC) | 0.003 | 0.004 | 0.003 | 0.004 | 0.003 | 0.003 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.002 |
| 14--ETHYLENE (PPMC) | 0.002 | 0.002 | 0.004 | 0.003 | 0.003 | 0.001 | 0.003 | 0.003 | 0.007 | 0.007 | 0.008 | 0.009 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | .000 | .000 | .000 | 0.005 | 0.005 | .000 | 0.006 | 0.008 | 0.008 |
| 16--ACETYLENE (PPMC) | 0.002 | 0.004 | 0.002 | 0.006 | 0.004 | 0.002 | 0.003 | 0.003 | 0.005 | 0.007 | 0.008 | 0.005 |
| 19--FLUOROCARBON-11 (PPT) | 117. | 86. | 98. | 98. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. |
| 20--CARBON TETRACHLORIDE (PPT) | 75. | 90. | 30. | 90. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. |

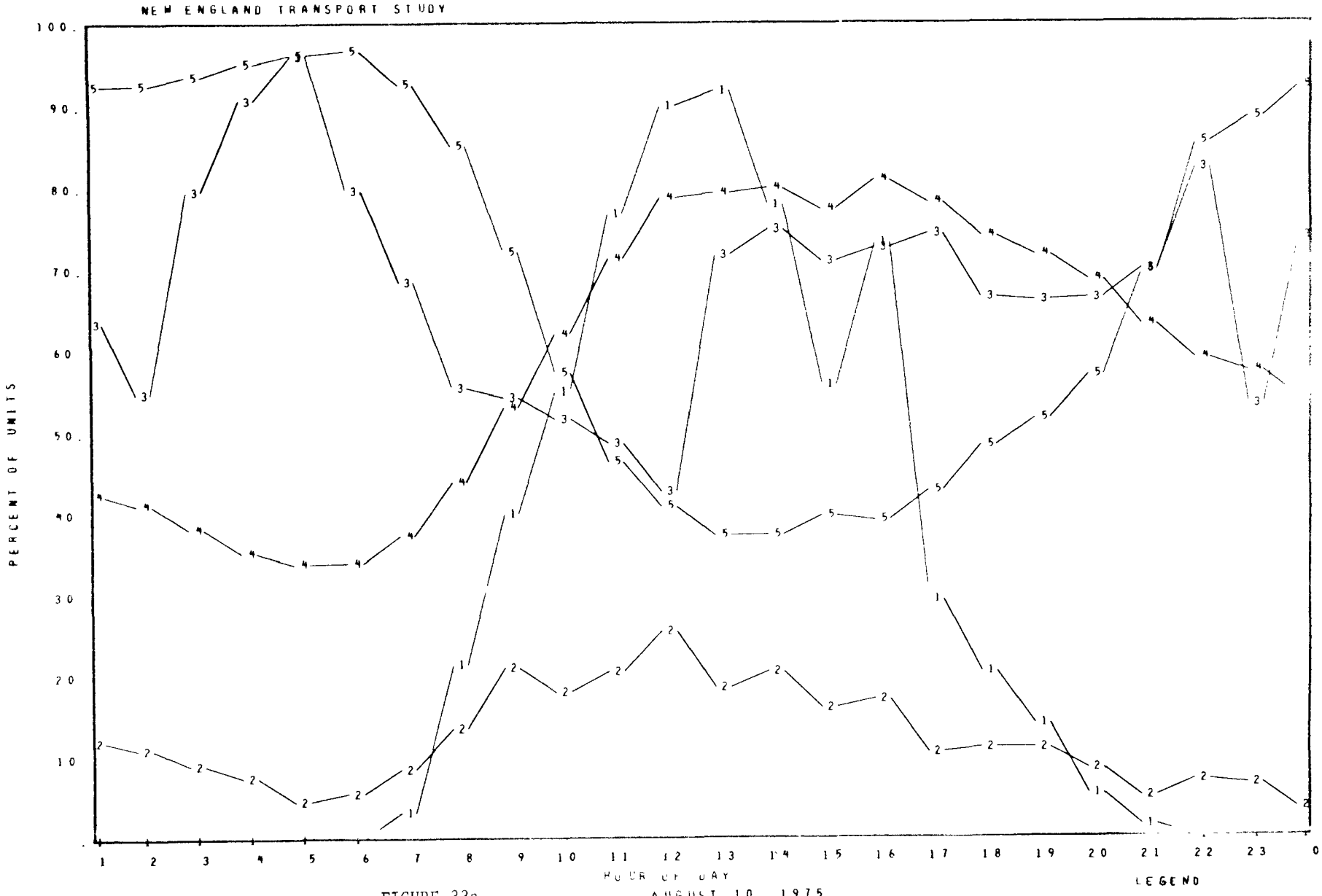



FIGURE 33a.

AUGUST 10, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ CM/MIN
2- WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

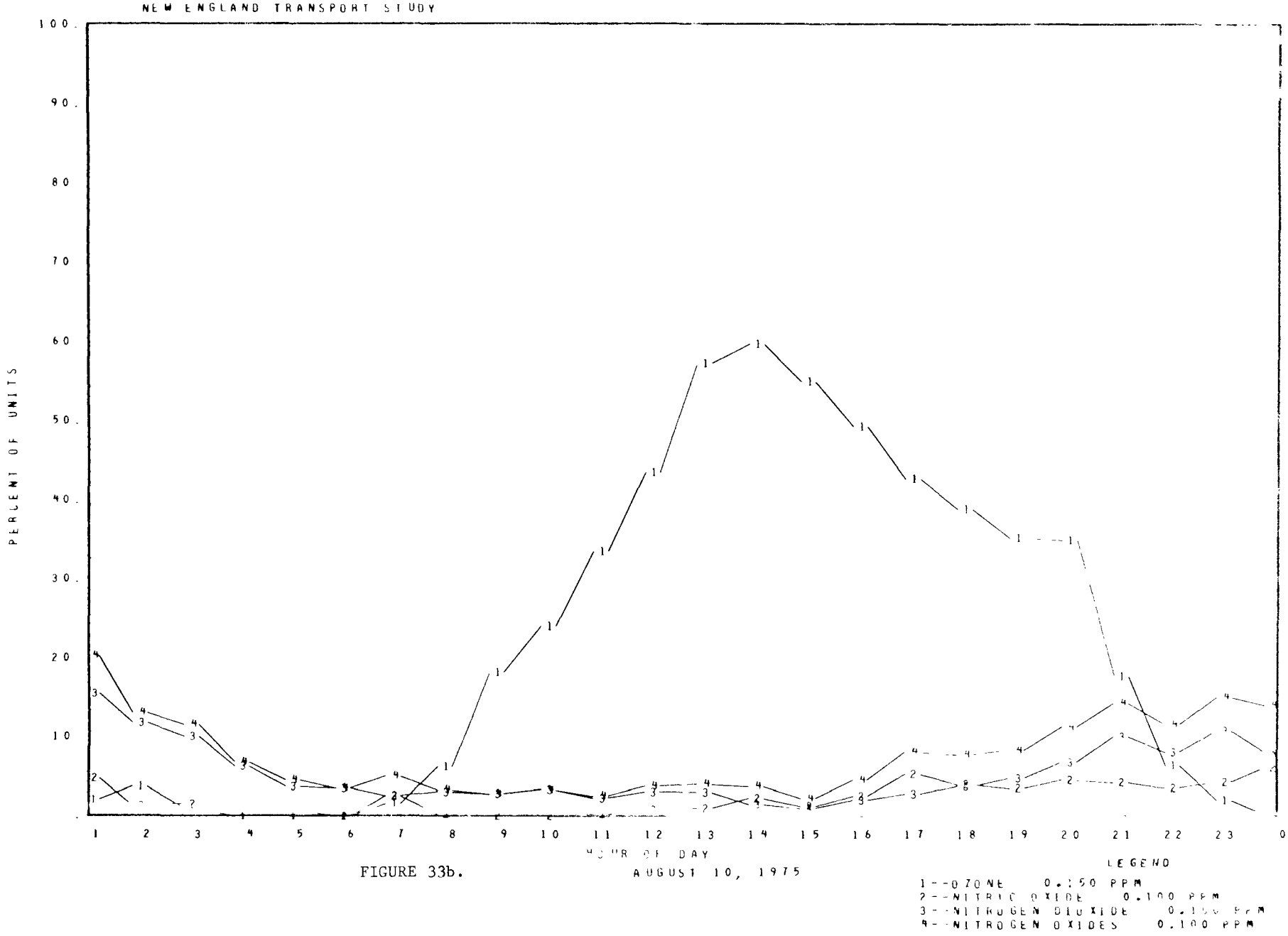

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70
60
50.
40.
30.
20
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 10, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE
4--NITROGEN OXIDES 0.100 PPM

FIGURE 33b.

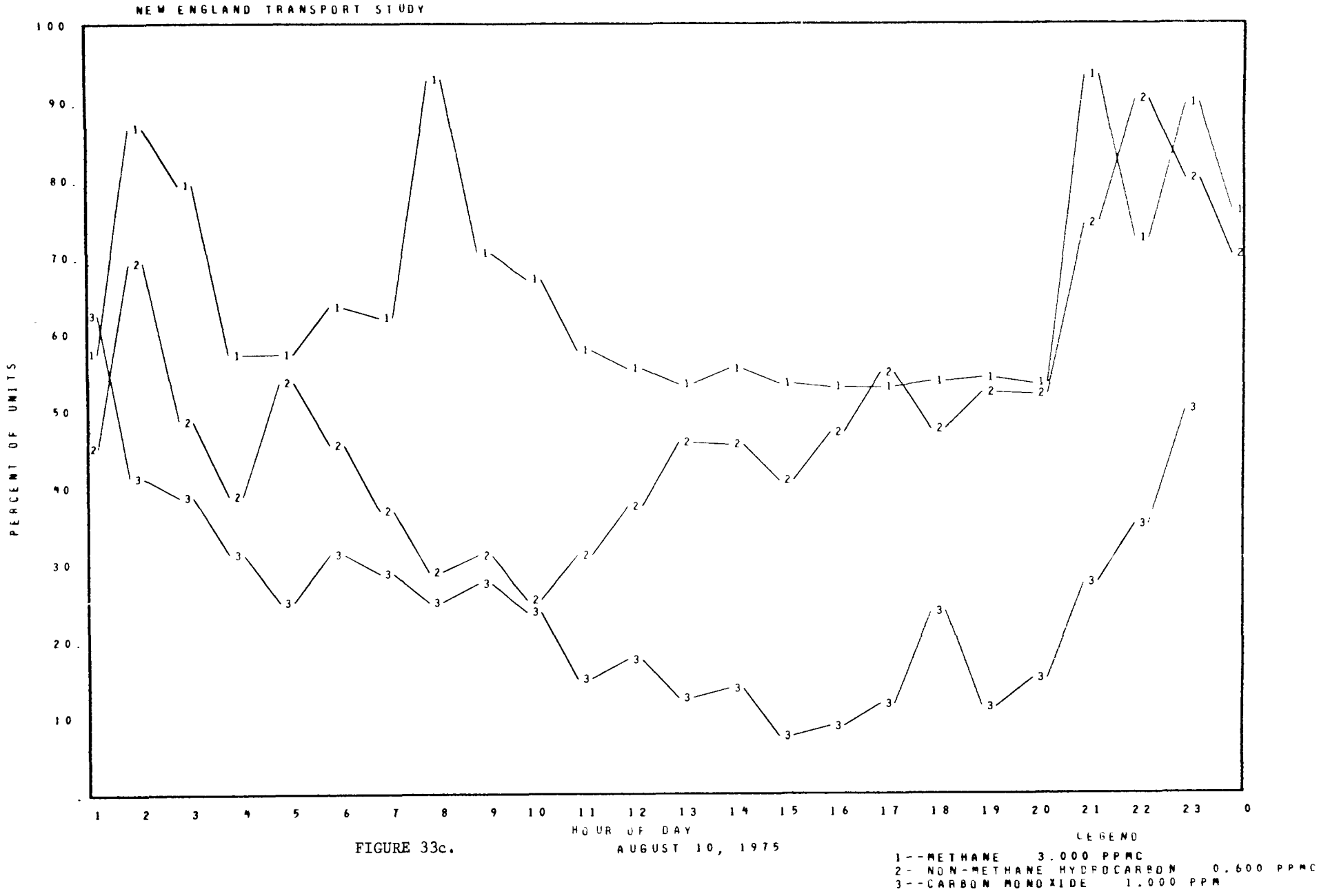

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90.
80.
70.
60
50
40
30
20.
10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 10, 1975
LEGEND
1--METHANE 3.000 PPMC
2- NON-METHANE HYDROCARBON 0.600 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 33c.

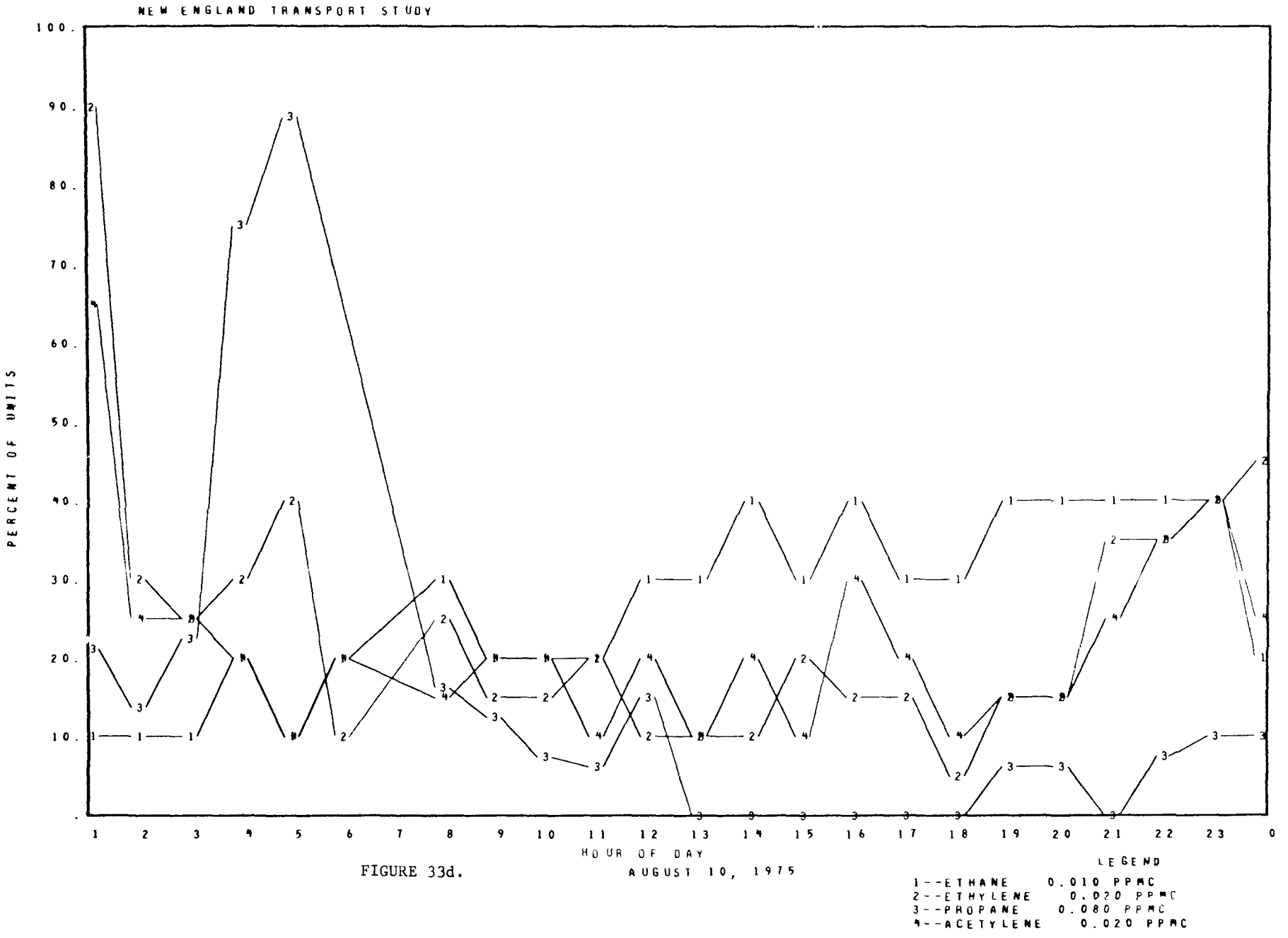

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 10, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.080 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 33d.

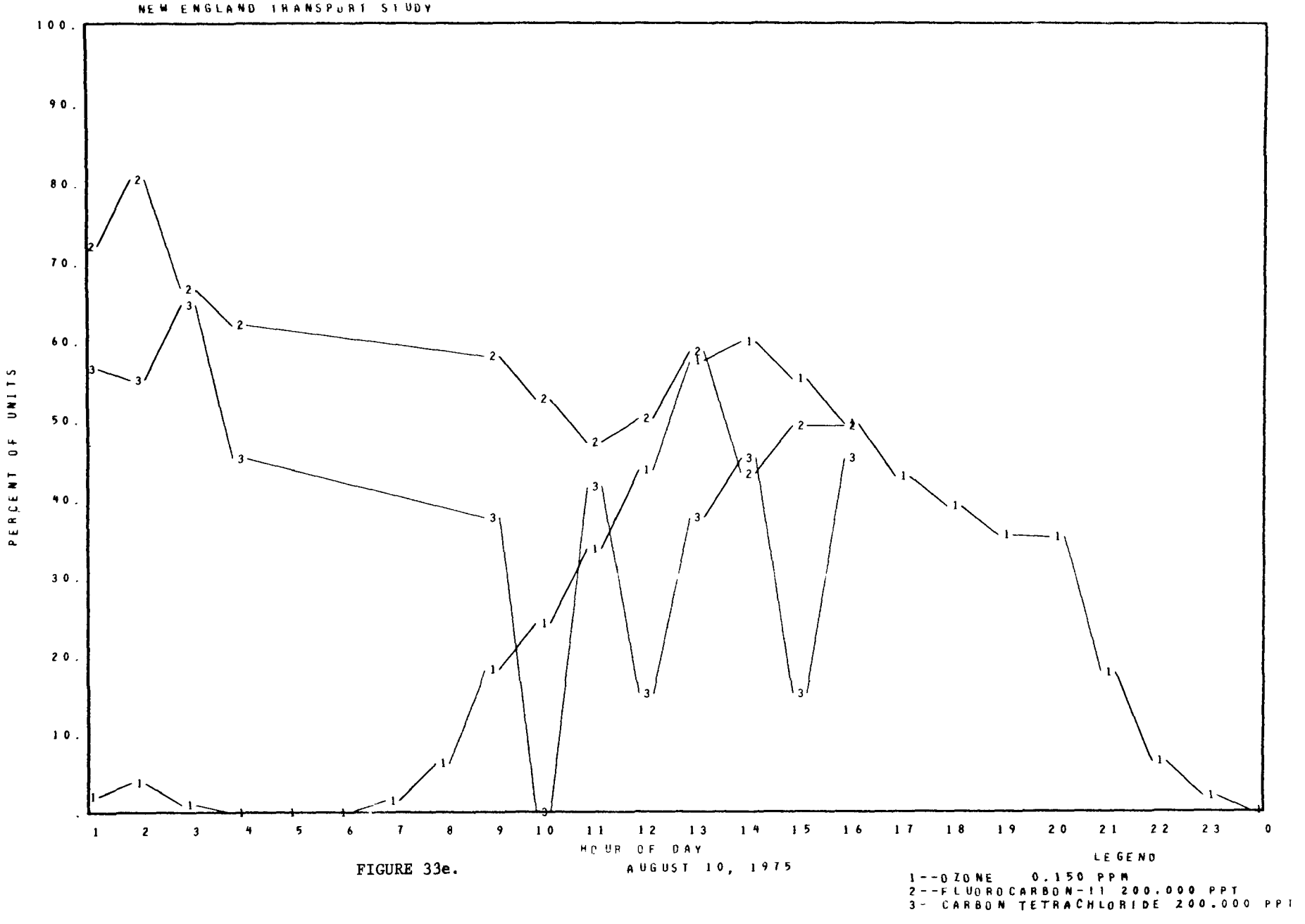
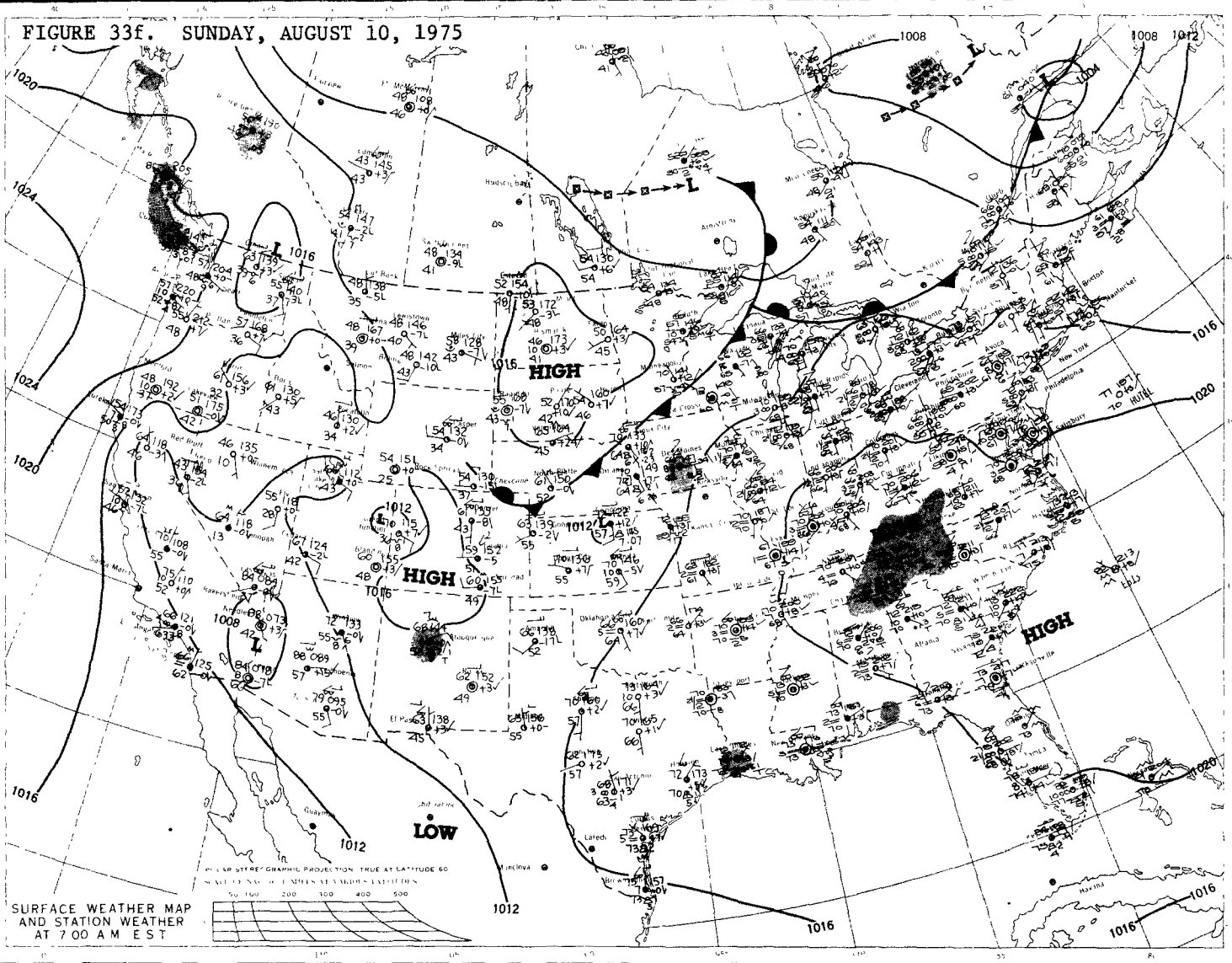
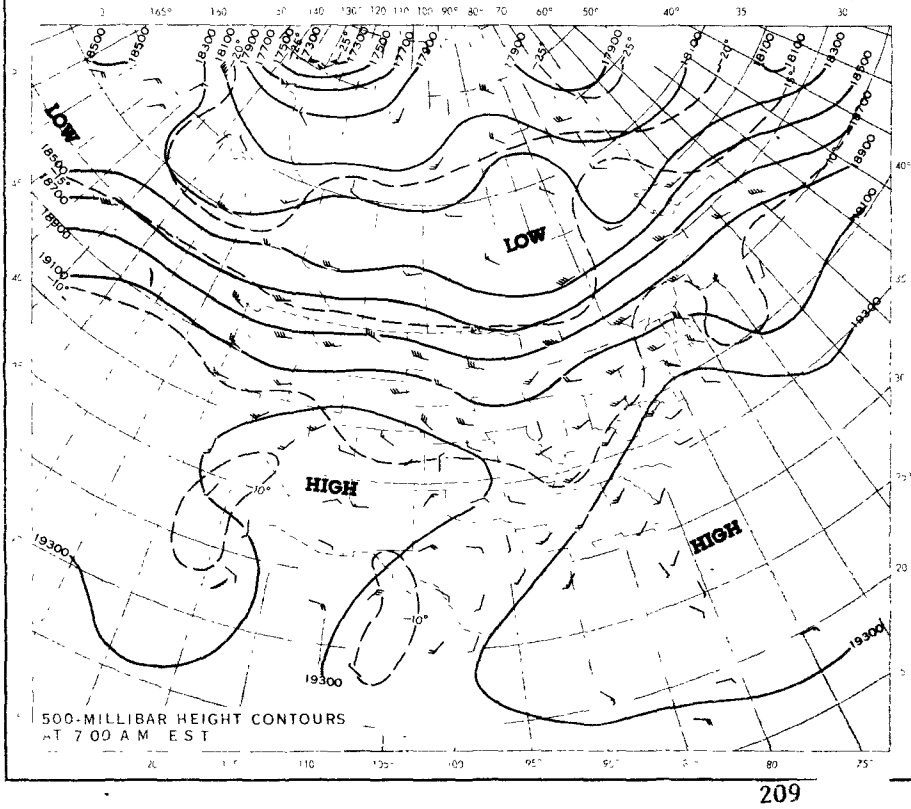

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 10, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3- CARBON TETRACHLORIDE 200.000 PPT

FIGURE 33e.

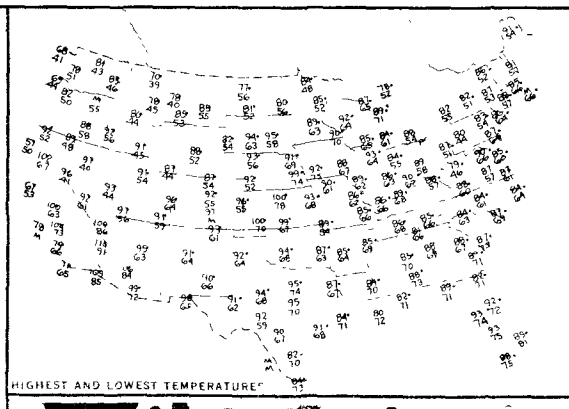
FIGURE 33f. SUNDAY, AUGUST 10, 1975




SURFACE WEATHER MAP AND STATION WEATHER AT 7:00 A.M. E.S.T.




500-MILLIBAR HEIGHT CONTOURS AT 7:00 A.M. E.S.T.



HIGHEST AND LOWEST TEMPERATURES

PRECIPITATION AREAS AND AMOUNTS

TABLE 30a. AUGUST 11, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.679 | 24 |
| 2--WIND SPEED (MPH) | 2.475 | 24 |
| 3--WIND DIRECTION (DEGREES) | 242.467 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 24.654 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 70.447 | 24 |
| 6--OZONE (PPM) | 0.035 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 2.011 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.513 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.251 | 17 |
| 13--ETHANE (PPMC) | 0.003 | 24 |
| 14--ETHYLENE (PPMC) | 0.005 | 24 |
| 15--PROPANE (PPMC) | 0.009 | 24 |
| 16--ACETYLENE (PPMC) | 0.006 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 140. | 18 |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 18 |

TABLE 30b.

SUBSTANCE HOUR AVERAGES FOR AUGUST 11, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.225 | 1.350 | 2.975 | 4.125 | 4.950 | 4.450 |
| 2--WIND SPEED (MPH) | 1.300 | 2.200 | 0.900 | 0.800 | 1.000 | 0.900 | 1.000 | 1.000 | 1.700 | 3.100 | 4.600 | 4.800 |
| 3--WIND DIRECTION (DEGREES) | 265. | 162. | 311. | 272. | 315. | 337. | 291. | 343. | 244. | 202. | 161. | 162. |
| 4--TEMPERATURE (CENTIGRADE) | 21. | 21. | 20. | 19. | 18. | 17. | 18. | 21. | 25. | 28. | 31. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 94. | 96. | 99. | 100. | 100. | 100. | 97. | 83. | 69. | 55. | 49. | 46. |
| 6--OZONE (PPM) | .000 | 0.001 | 0.001 | .000 | .000 | .000 | .000 | 0.003 | 0.021 | 0.045 | 0.058 | 0.073 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.003 | 0.003 | 0.002 | 0.002 | 0.005 | 0.011 | 0.006 | 0.003 | .000 | 0.001 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.009 | 0.009 | 0.006 | 0.004 | 0.003 | 0.002 | .000 | 0.005 | 0.007 | 0.005 | 0.005 | 0.005 |
| 9--NITROGEN OXIDES (PPM) | 0.013 | 0.012 | 0.008 | 0.006 | 0.005 | 0.007 | 0.011 | 0.011 | 0.009 | 0.005 | 0.005 | 0.006 |
| 10--METHANE (PPMC) | 2.436 | 3.208 | 2.208 | 2.265 | 1.876 | 1.903 | 1.875 | 2.268 | 3.178 | 1.695 | 1.621 | 1.586 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.695 | 0.567 | 0.529 | 0.477 | 0.378 | 0.325 | 0.410 | 0.633 | 0.405 | 0.351 | 0.329 | 0.645 |
| 12--CARBON MONOXIDE (PPM) | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | 0.600 | 0.350 | 0.200 | 0.162 | 0.200 |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.005 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| 14--ETHYLENE (PPMC) | 0.008 | 0.009 | 0.004 | 0.002 | 0.002 | 0.002 | 0.012 | 0.009 | 0.014 | 0.006 | 0.005 | 0.002 |
| 15--PROPANE (PPMC) | 0.027 | 0.017 | 0.012 | 0.006 | 0.007 | 0.015 | 0.051 | 0.023 | 0.020 | 0.007 | .000 | .000 |
| 16--ACETYLENE (PPMC) | 0.004 | 0.005 | 0.004 | 0.002 | 0.002 | 0.001 | 0.008 | 0.009 | 0.045 | 0.007 | 0.004 | 0.003 |
| 19--FLUOROCARBON-11 (PPT) | -1. | -1. | -1. | -1. | -1. | -1. | 165. | 188. | 162. | 127. | 135. | 126. |
| 20--CARBON TETRACHLORIDE (PPT) | -1. | -1. | -1. | -1. | -1. | -1. | 120. | 90. | 105. | 135. | 140. | 180. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.500 | 3.900 | 3.825 | 2.325 | 3.025 | 2.325 | 1.000 | 0.225 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 3.600 | 4.500 | 3.000 | 3.800 | 4.000 | 4.100 | 2.300 | 0.700 | 0.700 | 4.300 | 3.900 | 1.200 |
| 3--WIND DIRECTION (DEGREES) | 227. | 301. | 277. | 204. | 176. | 176. | 192. | 210. | 207. | 301. | 245. | 238. |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 32. | 32. | 29. | 29. | 30. | 28. | 25. | 24. | 23. | 20. | 19. |
| 5--RELATIVE HUMIDITY (PERCENT) | 41. | 38. | 38. | 43. | 47. | 49. | 53. | 68. | 82. | 73. | 84. | 88. |
| 6--OZONE (PPM) | 0.078 | 0.075 | 0.072 | 0.060 | 0.052 | 0.063 | 0.058 | 0.016 | 0.008 | 0.053 | 0.057 | 0.038 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.003 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.004 | 0.005 | 0.002 | .000 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 0.004 | 0.006 | 0.006 | 0.007 | 0.005 | 0.007 | 0.017 | 0.016 | 0.006 | 0.002 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.007 | 0.008 | 0.007 | 0.008 | 0.006 | 0.009 | 0.021 | 0.021 | 0.007 | 0.002 | 0.004 |
| 10--METHANE (PPMC) | 1.568 | 1.533 | 1.570 | 1.619 | 1.648 | 1.496 | 1.723 | 2.675 | 3.553 | 1.713 | 1.530 | 1.516 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.455 | 0.358 | 0.345 | 0.828 | 0.780 | 0.462 | 0.578 | 0.655 | 0.962 | 0.397 | 0.334 | 0.413 |
| 12--CARBON MONOXIDE (PPM) | 0.200 | 0.137 | 0.250 | 0.087 | 0.162 | 0.175 | 0.212 | 0.512 | 0.612 | 0.237 | 0.075 | 0.087 |
| 13--ETHANE (PPMC) | 0.003 | 0.003 | 0.004 | 0.002 | 0.003 | 0.004 | 0.004 | 0.003 | 0.004 | 0.001 | 0.001 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.001 | 0.003 | 0.010 | 0.004 | 0.003 | 0.003 | 0.004 | 0.007 | 0.011 | 0.007 | 0.002 | 0.002 |
| 15--PROPANE (PPMC) | .000 | .000 | 0.007 | .000 | 0.009 | .000 | .000 | .000 | 0.014 | .000 | .000 | .000 |
| 16--ACETYLENE (PPMC) | 0.001 | 0.003 | 0.006 | 0.004 | 0.003 | 0.004 | 0.004 | 0.008 | 0.008 | 0.002 | .000 | .000 |
| 19--FLUOROCARBON-11 (PPT) | 121. | 106. | 111. | 132. | 192. | 130. | 141. | 140. | 250. | 97. | 96. | 108. |
| 20--CARBON TETRACHLORIDE (PPT) | 128. | 120. | 113. | 120. | 105. | 120. | 120. | 135. | 125. | 113. | 90. | 105. |

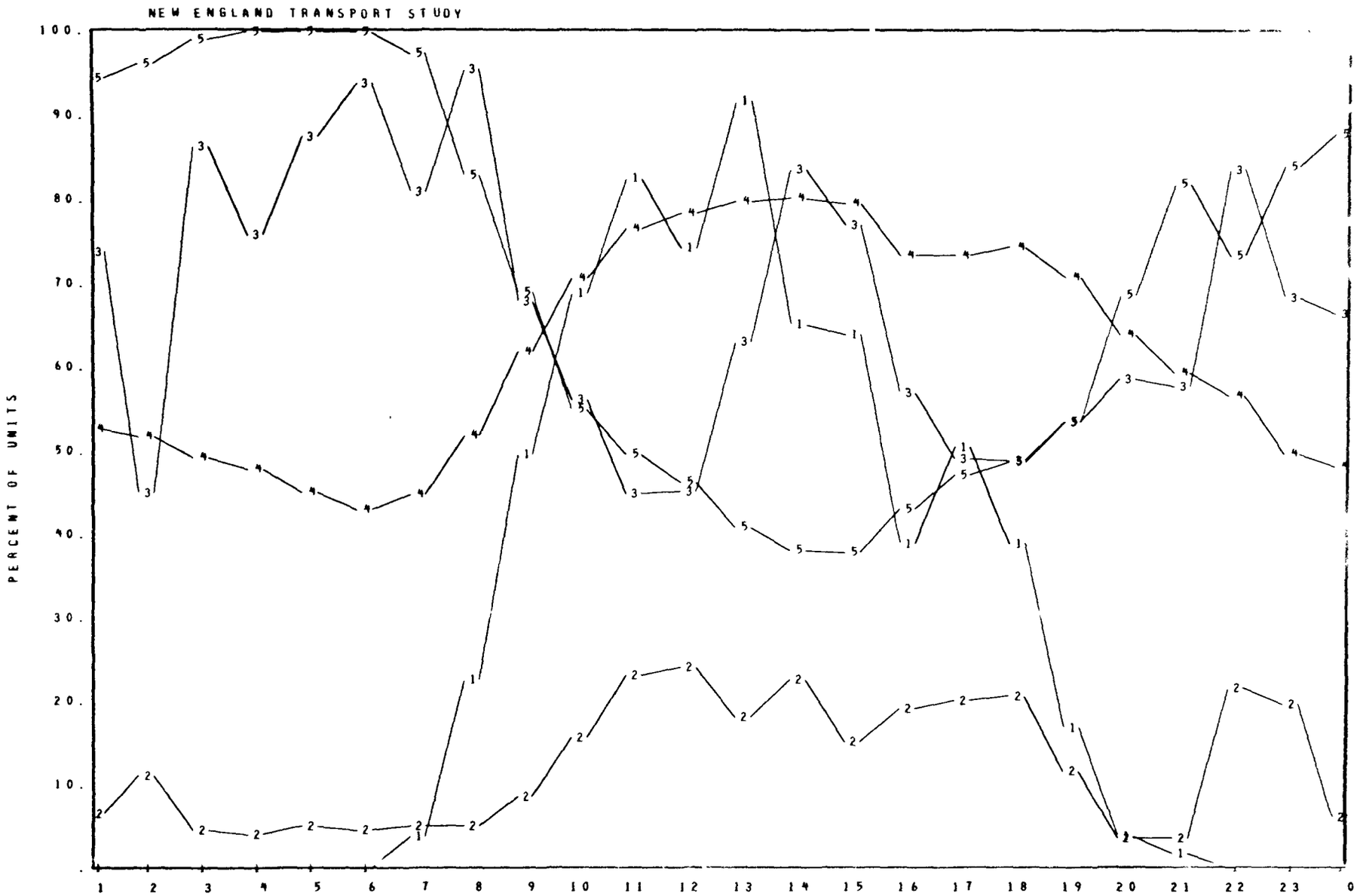



FIGURE 34a. AUGUST 11, 1975

LEGEND
1--GLOBAL IRRADIANCE 6.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

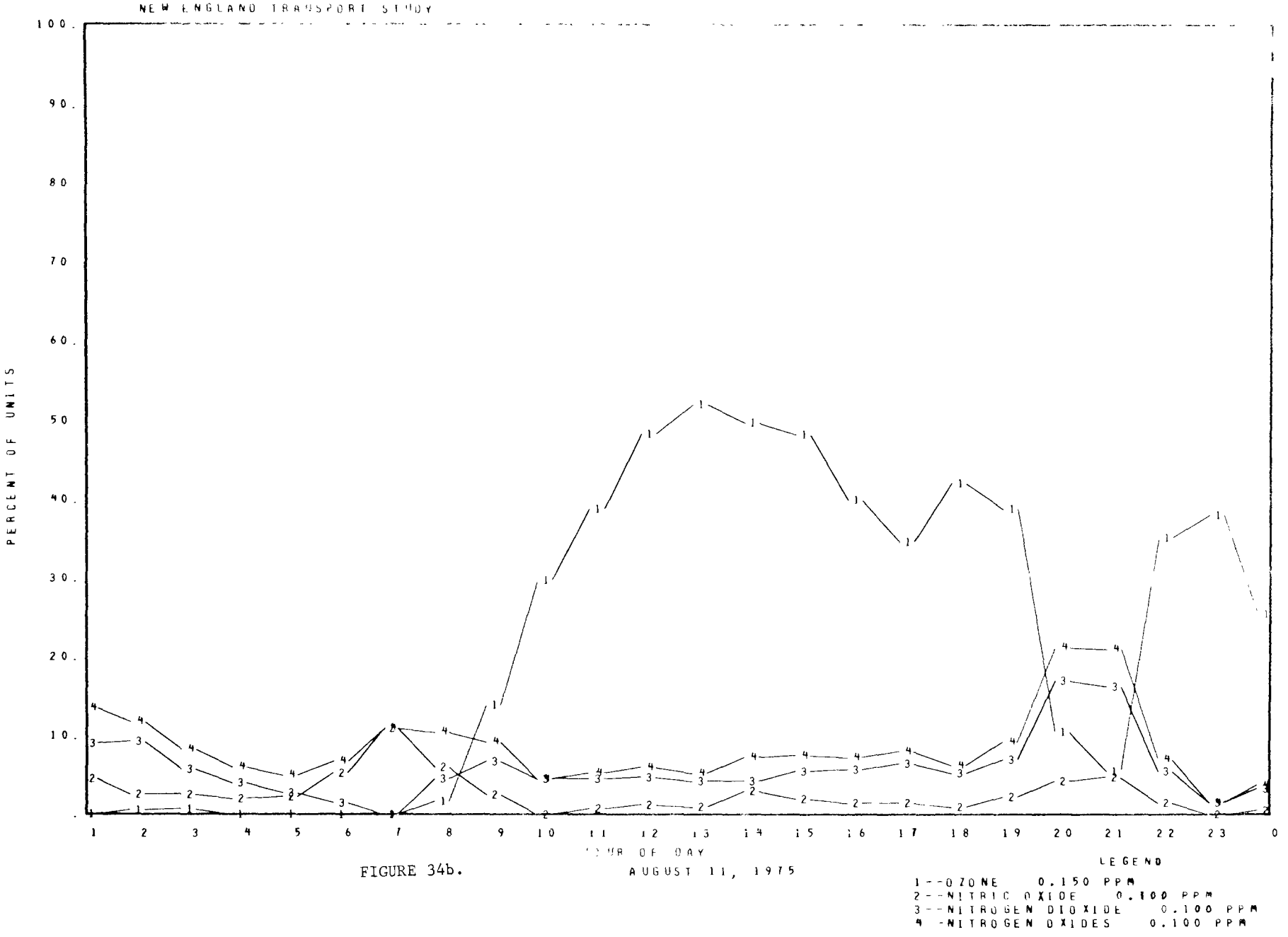

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 11, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4 -NITROGEN OXIDES 0.100 PPM

FIGURE 34b.

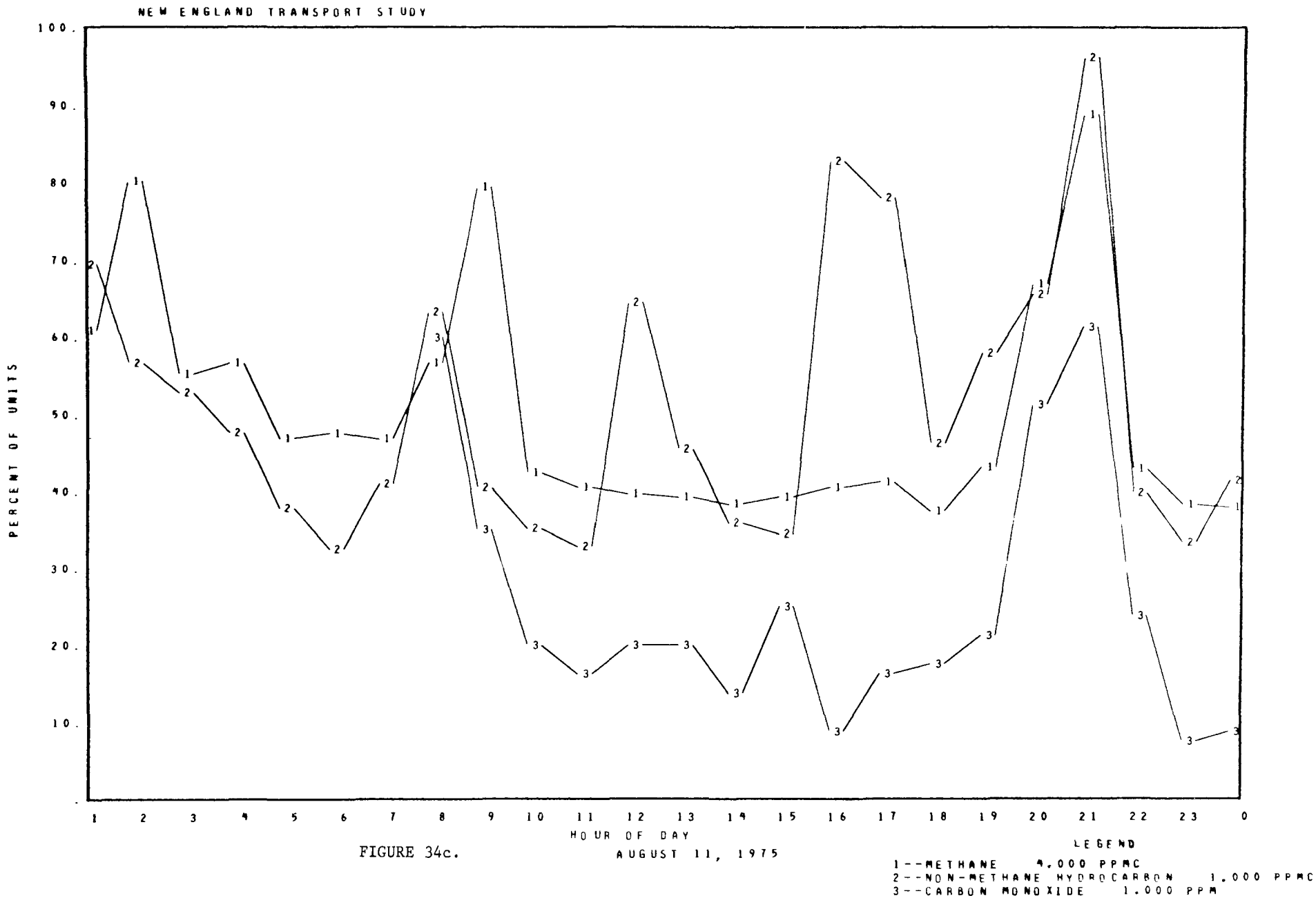



FIGURE 34c. AUGUST 11, 1975

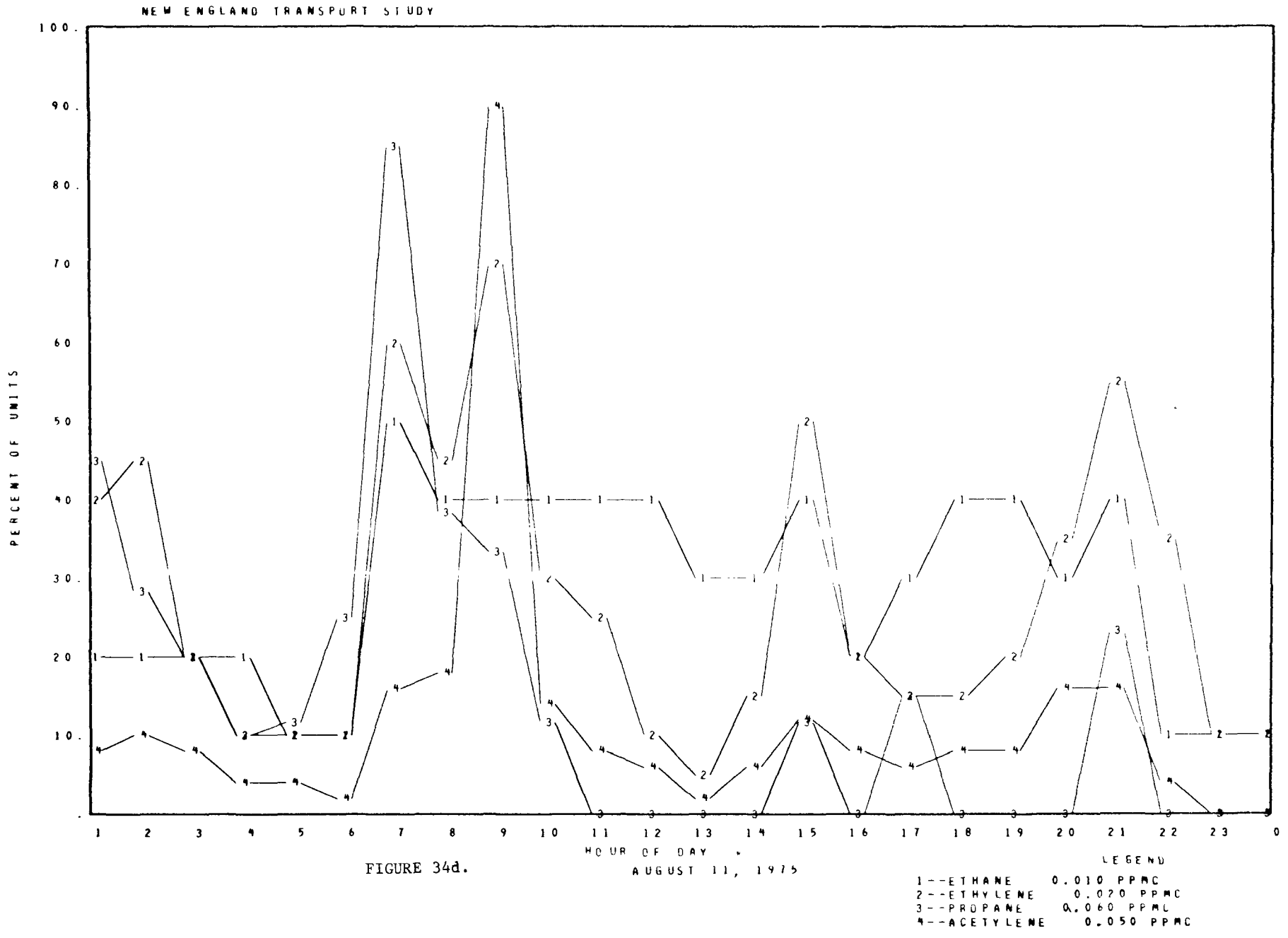

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70
60
50
40
30.
20
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 11, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.070 PPMC
3--PROPANE 0.060 PPMC
4--ACETYLENE 0.050 PPMC

FIGURE 34d.

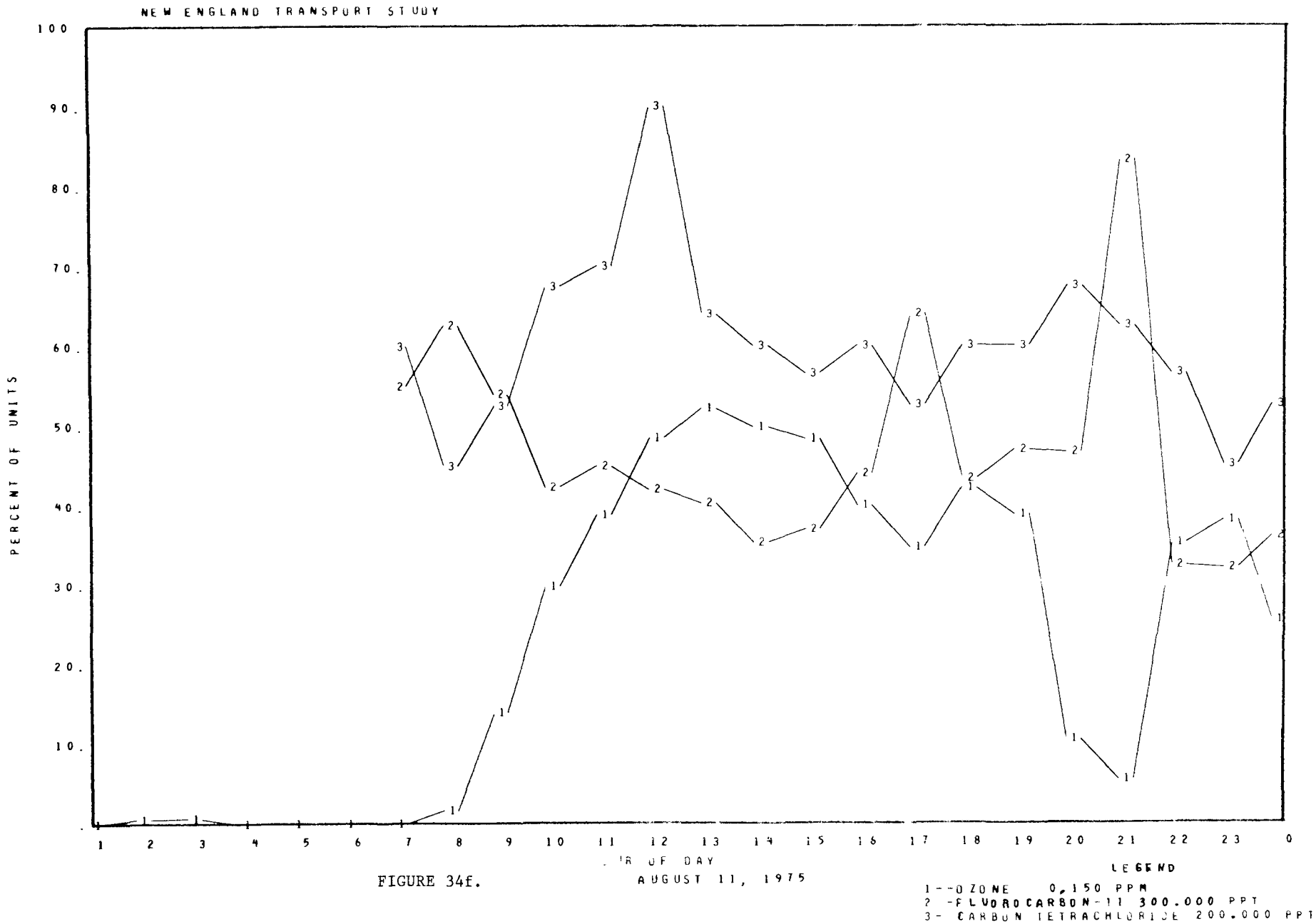

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 11, 1975
LEGEND
1--OZONE 0.150 PPM
2 -FLUOROCARBON-11 300.000 PPT
3- CARBON TETRACHLORIDE 200.000 PPT

FIGURE 34f.

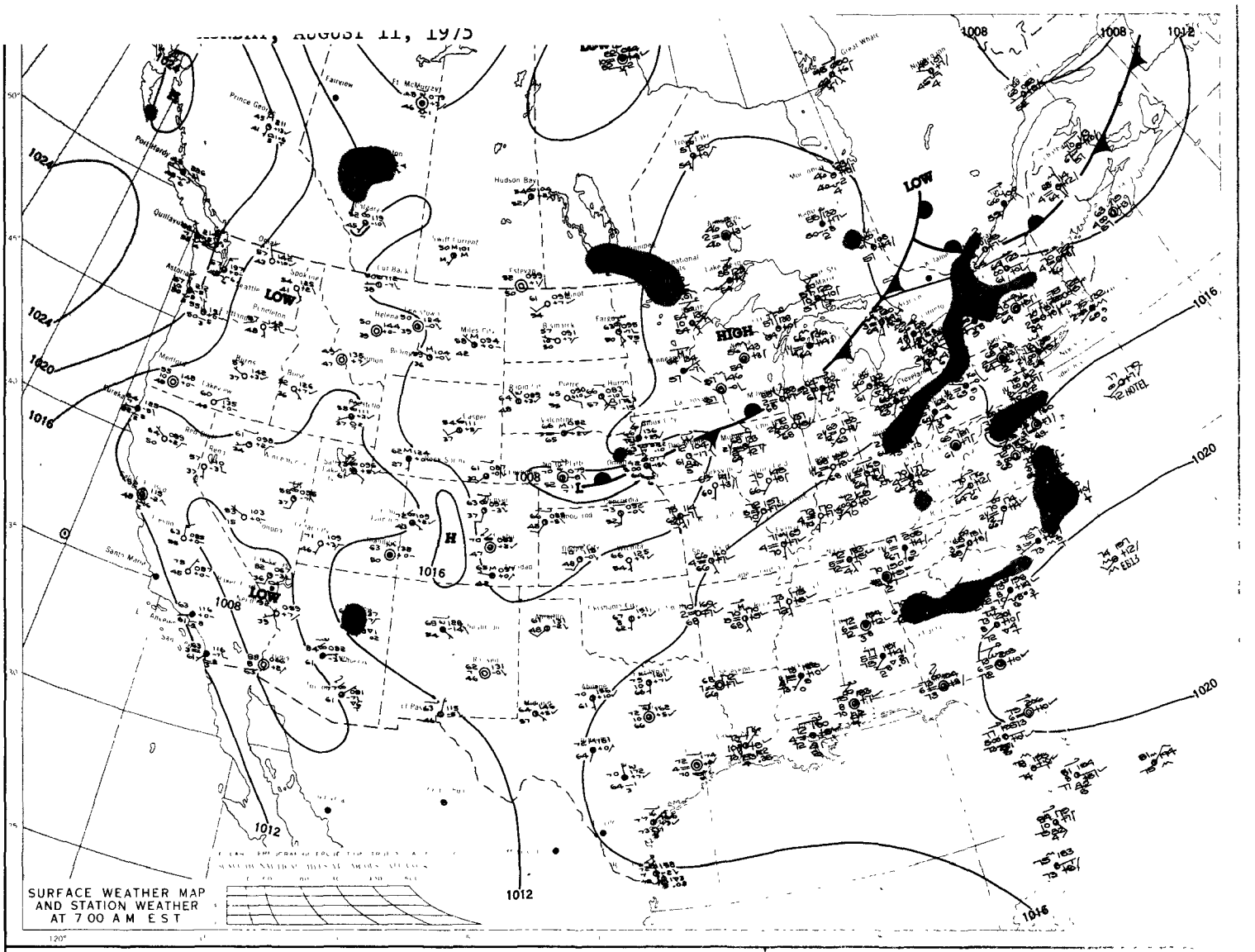

1024
1020
1016
1008
1012
LOW
HIGH
H
L
Hudson Bay
Great Whale
Fairview
Ft. McMurray
Prince George
Port Hardy
Quillayute
Astoria
Spokane
Pendleton
Helena
Miles City
Billings
Burns
Medford
Lakeview
Winnemucca
Reno
Elko
Salt Lake
Grand Junction
Denver
Pueblo
Santa Maria
Bakersfield
Las Vegas
Phoenix
Tucson
El Paso
Albuquerque
Roswell
Amarillo
Lubbock
Midland
Del Rio
Brownsville
Corpus Christi
Brownsville
Lake Charles
New Orleans
Mobile
Tallahassee
Jacksonville
Miami
Key West
Cleveland
Detroit
Toronto
Ottawa
Montreal
Quebec
Moncton
Halifax
Sydney
Goose Bay
Nome
Bethel
Kodiak
Yakutat
Juneau
Ketchikan
Sitka
Cordova
Anchorage
Fairbanks
Bismarck
Minot
Williston
Rapid City
Huron
Pierre
Lander
Casper
Cheyenne
Grand Island
Lincoln
Omaha
Des Moines
Dubuque
Chicago
Milwaukee
Indianapolis
Cincinnati
Columbus
Pittsburgh
Buffalo
Rochester
Albany
Boston
Portland
Bangor
Eastport
Caribou
Sault Ste. Marie
Thunder Bay
Winnipeg
Regina
Saskatoon
Edmonton
Calgary
Lethbridge
Prince Rupert
Vancouver
Victoria
Kamloops
Penticton
Fort Nelson
Fort Simpson
Yellowknife
Inuvik
Resolute
Frobisher Bay
Churchill
Thompson
Kenora
Moosonee
Sept-Iles
Schefferville
Goose Bay
Stephenville
Gander
Sydney
Halifax
Moncton
Yarmouth
Charlottetown
Fredericton
Quebec
Montreal
Ottawa
Toronto
Kingston
Hamilton
London
Windsor
Sarnia
Kitchener
Thunder Bay
Winnipeg
Brandon
Regina
Saskatoon
Prince Albert
Edmonton
Calgary
Lethbridge
Medicine Hat
Fort McMurray
Grande Prairie
Fort St. John
Prince George
Kamloops
Penticton
Vancouver
Victoria
Port Hardy
Prince Rupert

TABLE 31a. AUGUST 12, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.228 | 24 |
| 2--WIND SPEED (MPH) | 2.342 | 24 |
| 3--WIND DIRECTION (DEGREES) | 260.745 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 24.439 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 66.578 | 24 |
| 6--OZONE (PPM) | 0.039 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 24 |
| 10--METHANE (PPMC) | 1.775 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.464 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.181 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 18 |
| 14--ETHYLENE (PPMC) | 0.003 | 18 |
| 15--PROPANE (PPMC) | 0.004 | 21 |
| 16--ACETYLENE (PPMC) | 0.003 | 18 |
| 19--FLUOROCARBON-11 (PPT) | 121. | 22 |
| 20--CARBON TETRACHLORIDE (PPT) | 86. | 21 |

TABLE 31b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 12, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.225 | 1.475 | 3.100 | 4.450 | 5.500 | 6.450 |
| 2--WIND SPEED (MPH) | 0.600 | 0.700 | 1.000 | 0.900 | 0.900 | 1.500 | 1.000 | 1.700 | 2.300 | 4.400 | 3.500 | 2.600 |
| 3--WIND DIRECTION (DEGREES) | 318. | 224. | 192. | 191. | 185. | 217. | 315. | 199. | 344. | 12. | 356. | 327. |
| 4--TEMPERATURE (CENTIGRADE) | 18. | 18. | 18. | 18. | 17. | 17. | 18. | 20. | 24. | 26. | 29. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 92. | 93. | 93. | 93. | 94. | 95. | 92. | 83. | 68. | 56. | 49. | 44. |
| 6--OZONE (PPM) | 0.027 | 0.019 | 0.017 | 0.020 | 0.017 | 0.013 | 0.003 | 0.005 | 0.019 | 0.057 | 0.068 | 0.074 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | 0.000 | 0.009 | 0.007 | 0.006 | 0.001 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.001 | 0.001 | 0.001 | .000 | 0.001 | 0.000 | 0.004 | 0.007 | 0.003 | 0.001 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.001 | 0.001 | 0.001 | .000 | 0.001 | 0.009 | 0.011 | 0.013 | 0.004 | 0.003 | 0.002 |
| 10--METHANE (PPMC) | 1.451 | 2.273 | 2.098 | 1.915 | 2.728 | 2.543 | 1.508 | 2.010 | 2.018 | 1.463 | 1.433 | 1.441 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.395 | 0.570 | 0.475 | 0.426 | 0.565 | 0.443 | 0.461 | 0.475 | 0.365 | 0.294 | 0.312 | 0.342 |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.063 | 0.075 | 0.100 | 0.100 | 0.100 | 0.300 | 0.262 | 0.400 | 0.150 | 0.075 | 0.050 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.001 | -0.001 | -0.001 | -0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | -0.002 |
| 14--ETHYLENE (PPMC) | 0.001 | 0.001 | 0.001 | -0.001 | -0.002 | -0.002 | 0.003 | 0.003 | 0.002 | 0.001 | 0.001 | -0.000 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.011 | 0.006 | 0.006 | -0.008 |
| 16--ACETYLENE (PPMC) | 0.001 | 0.001 | .000 | -0.001 | -0.001 | -0.002 | 0.003 | 0.003 | 0.003 | 0.001 | 0.001 | -0.001 |
| 19--FLUOROCARBON-11 (PPT) | 111. | 127. | 113. | 123. | 121. | 124. | 111. | 167. | 136. | 106. | 108. | 108. |
| 20--CARBON TETRACHLORIDE (PPT) | 105. | 75. | 83. | 83. | 68. | 120. | 110. | 68. | 90. | 75. | 98. | 75. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.925 | 5.875 | 6.400 | 5.450 | 4.025 | 2.950 | 1.225 | 0.325 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 3.500 | 3.900 | 5.800 | 6.600 | 4.400 | 2.800 | 2.800 | 1.200 | 0.800 | 1.000 | 1.400 | 0.900 |
| 3--WIND DIRECTION (DEGREES) | 301. | 303. | 309. | 297. | 308. | 289. | 305. | 283. | 278. | 211. | 245. | 248. |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 32. | 33. | 33. | 33. | 32. | 29. | 26. | 22. | 21. | 20. | 20. |
| 5--RELATIVE HUMIDITY (PERCENT) | 39. | 37. | 35. | 33. | 33. | 34. | 40. | 53. | 73. | 88. | 89. | 91. |
| 6--OZONE (PPM) | 0.073 | 0.074 | 0.074 | 0.072 | 0.072 | 0.070 | 0.064 | 0.049 | 0.025 | 0.011 | 0.005 | 0.001 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.004 | 0.003 | 0.004 | 0.006 | 0.004 | 0.006 | 0.006 | 0.004 | 0.007 | 0.004 | 0.006 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.001 | 0.003 | 0.004 | 0.006 | 0.005 | 0.002 | 0.006 | 0.007 | 0.009 | 0.010 | 0.013 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.005 | 0.006 | 0.008 | 0.012 | 0.010 | 0.007 | 0.012 | 0.012 | 0.016 | 0.014 | 0.019 |
| 10--METHANE (PPMC) | 1.411 | 1.423 | 1.394 | 1.386 | 1.403 | 1.390 | 1.393 | 1.421 | 1.571 | 2.766 | 2.543 | 1.626 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.593 | 0.430 | 0.424 | 0.468 | 0.593 | 0.456 | 0.417 | 0.400 | 0.602 | 0.615 | 0.547 | 0.470 |
| 12--CARBON MONOXIDE (PPM) | 0.087 | 0.100 | 0.087 | 0.175 | 0.312 | 0.200 | 0.137 | 0.188 | 0.200 | 0.300 | 0.337 | 0.500 |
| 13--ETHANE (PPMC) | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.002 | 0.002 | -0.003 | -0.003 | 0.004 | 0.003 |
| 14--ETHYLENE (PPMC) | .000 | 0.001 | .000 | 0.007 | 0.003 | 0.011 | 0.003 | 0.005 | -0.006 | -0.006 | 0.007 | 0.010 |
| 15--PROPANE (PPMC) | 0.010 | 0.003 | 0.005 | 0.004 | 0.004 | 0.007 | .000 | 0.014 | -0.013 | -0.011 | 0.010 | 0.005 |
| 16--ACETYLENE (PPMC) | 0.002 | 0.002 | 0.001 | 0.006 | 0.002 | 0.014 | 0.001 | 0.003 | -0.005 | -0.006 | 0.008 | 0.009 |
| 19--FLUOROCARBON-11 (PPT) | 104. | 105. | 106. | 104. | 107. | 106. | 138. | 107. | -128. | -150. | 171. | 158. |
| 20--CARBON TETRACHLORIDE (PPT) | 98. | 83. | 75. | 83. | 68. | 75. | 90. | -90. | -90. | -90. | 90. | 128. |

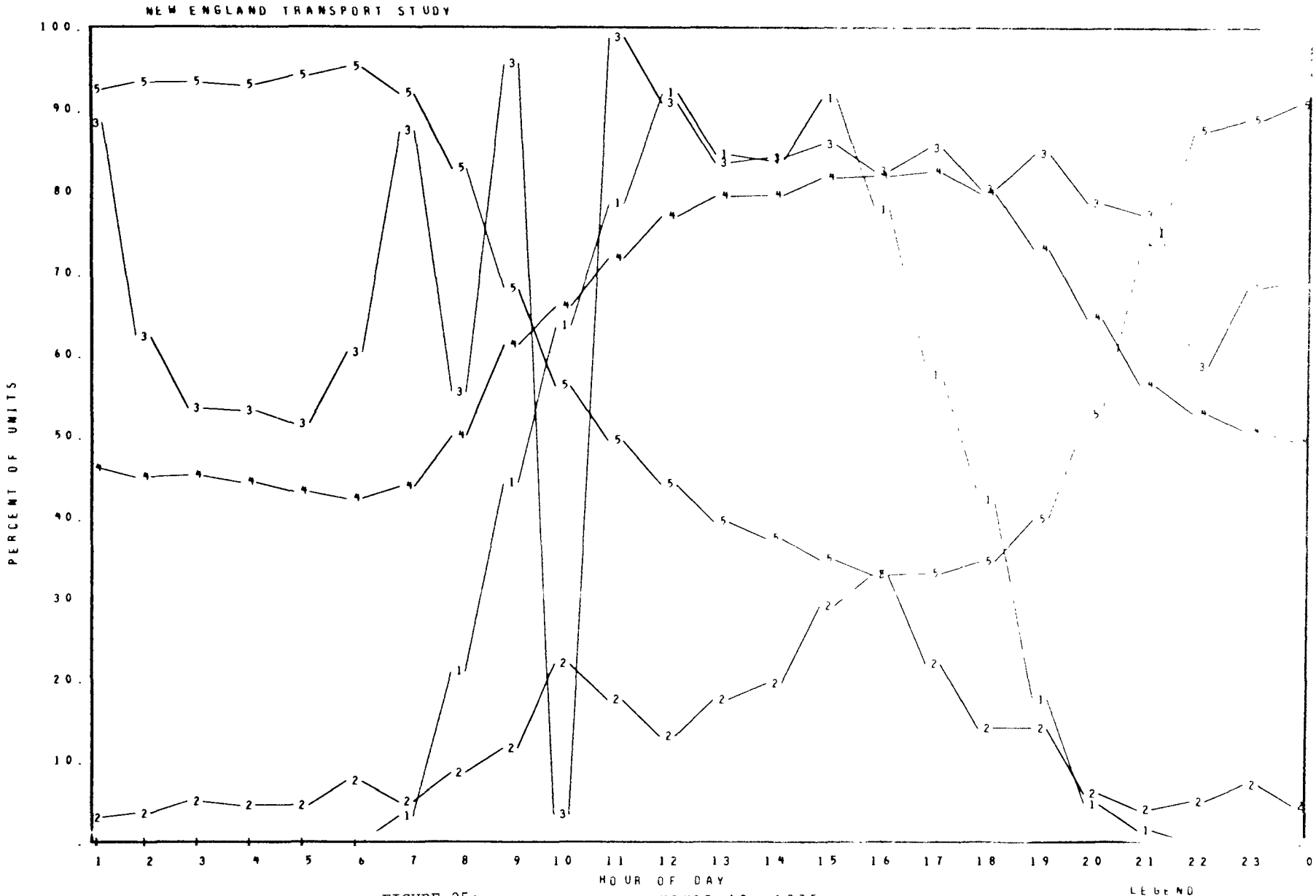



FIGURE 35a. AUGUST 12, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

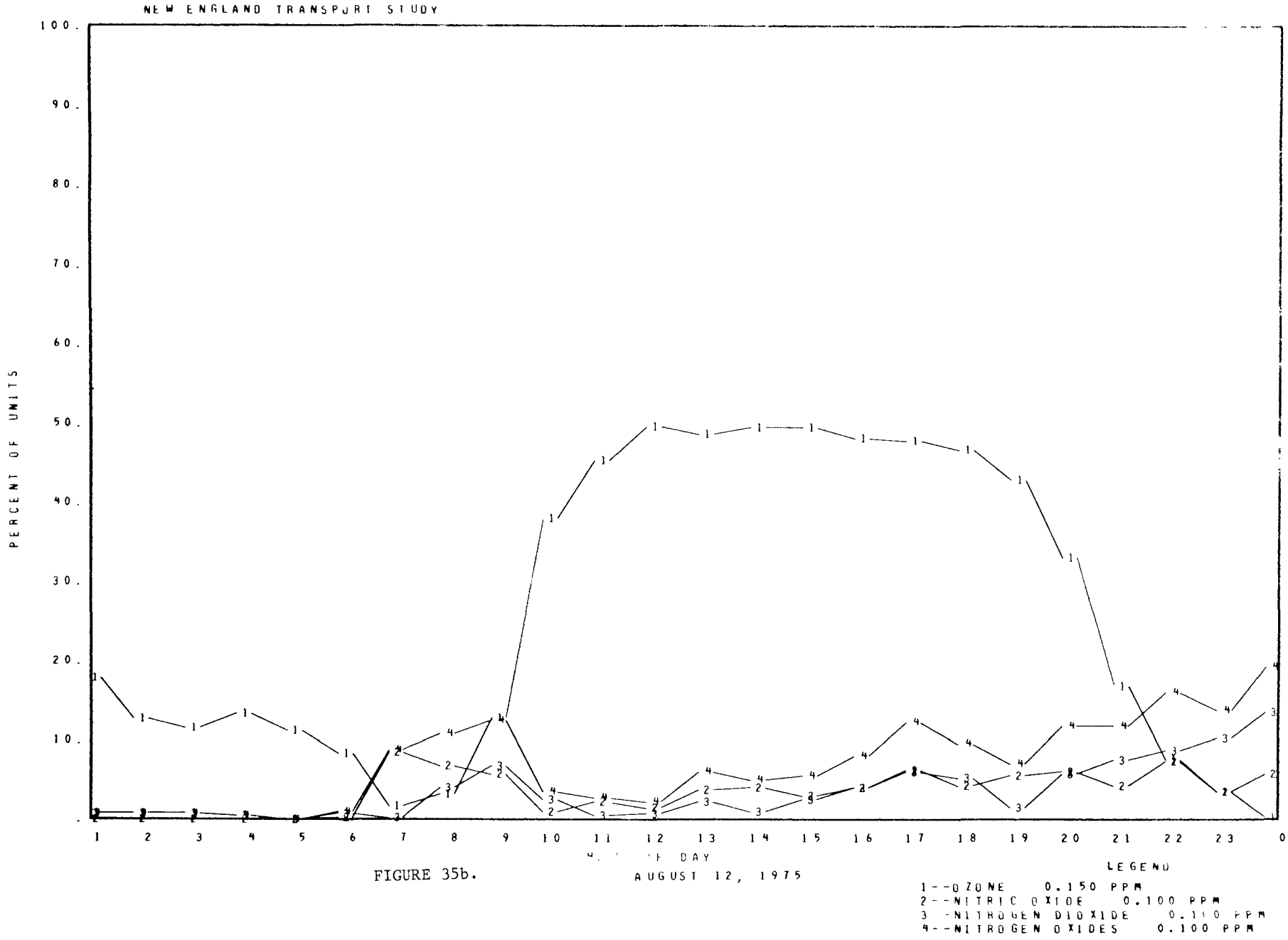

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
DAY
AUGUST 12, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.110 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 35b.

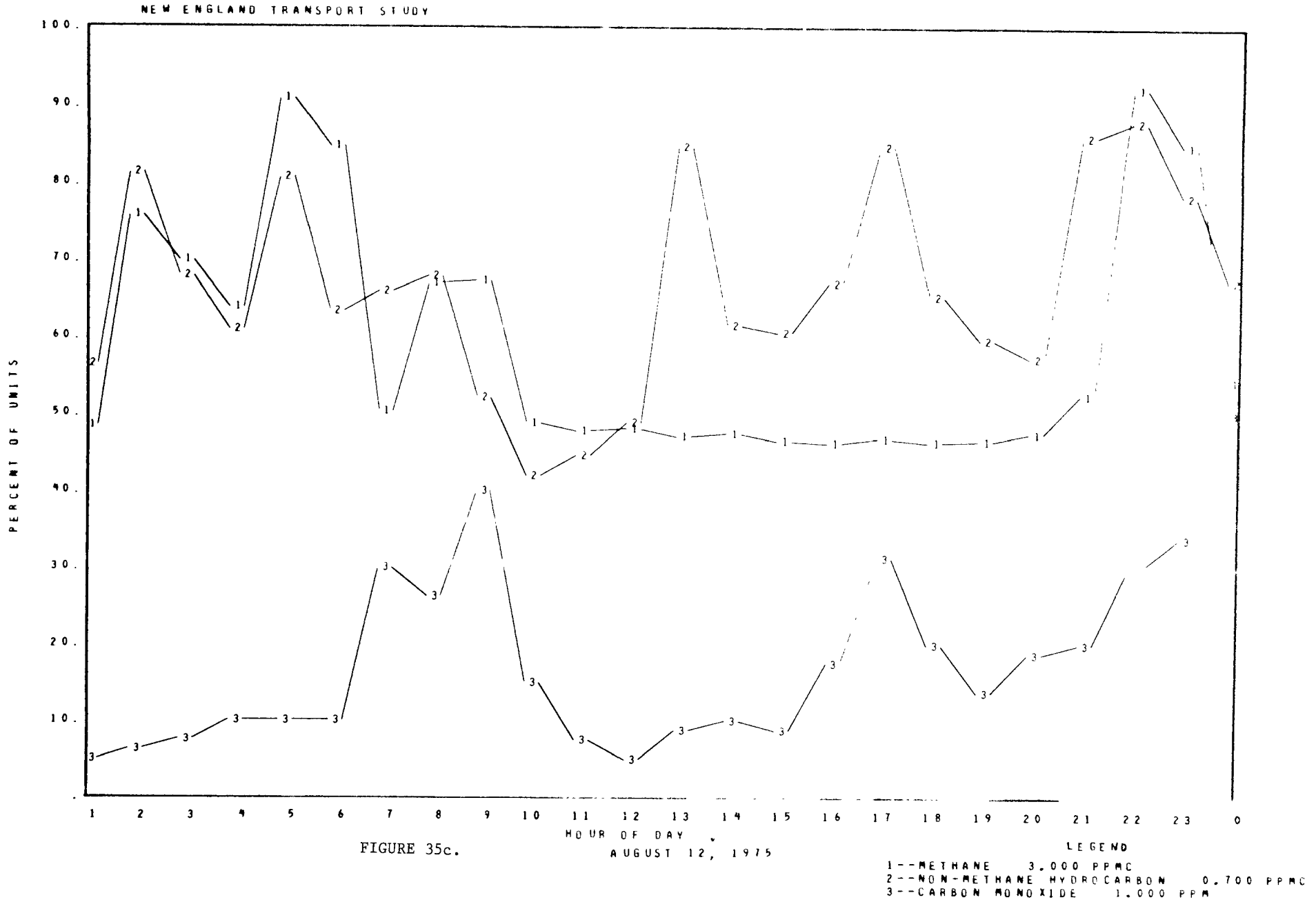

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 12, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 0.700 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 35c.

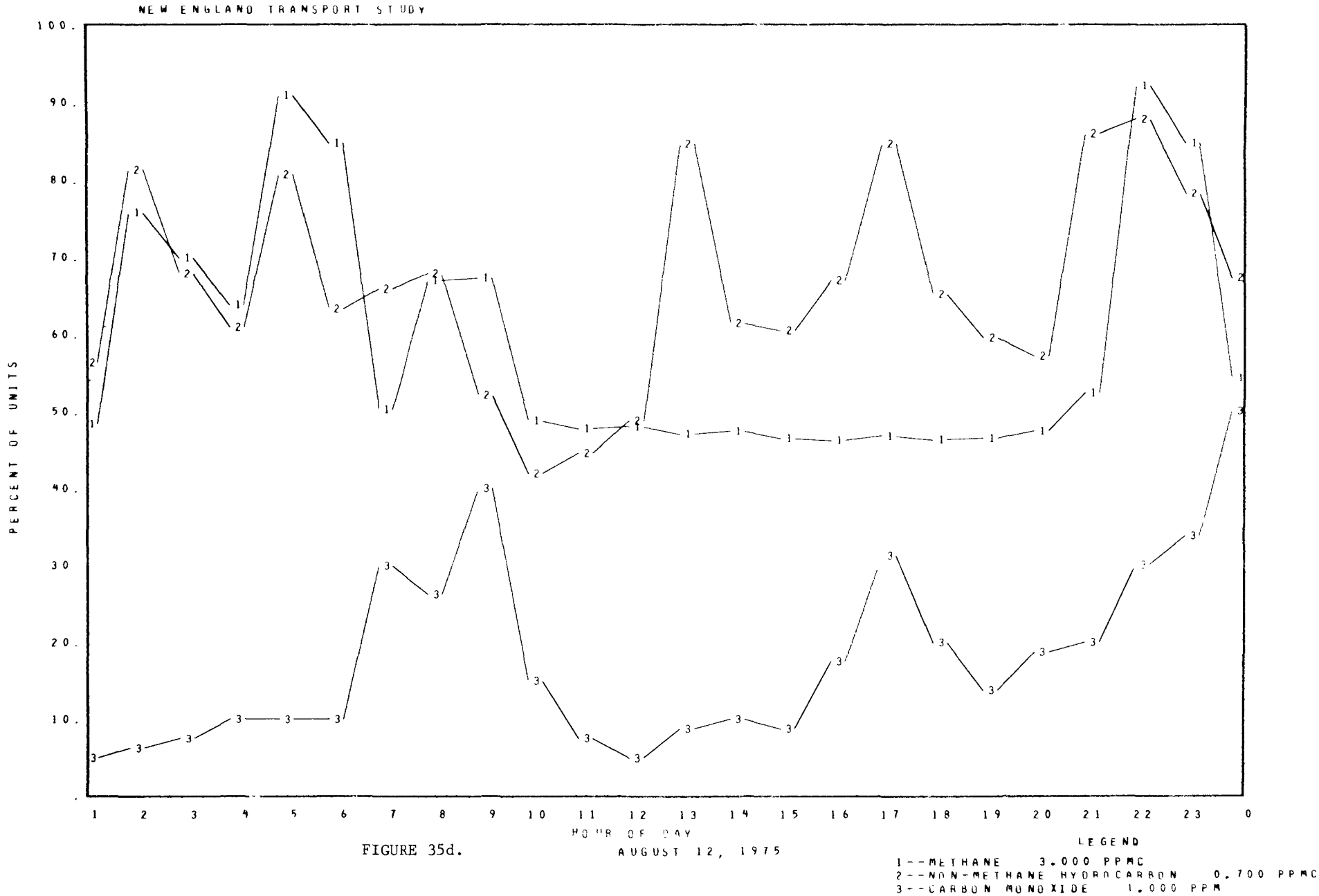

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 12, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 0.700 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 35d.

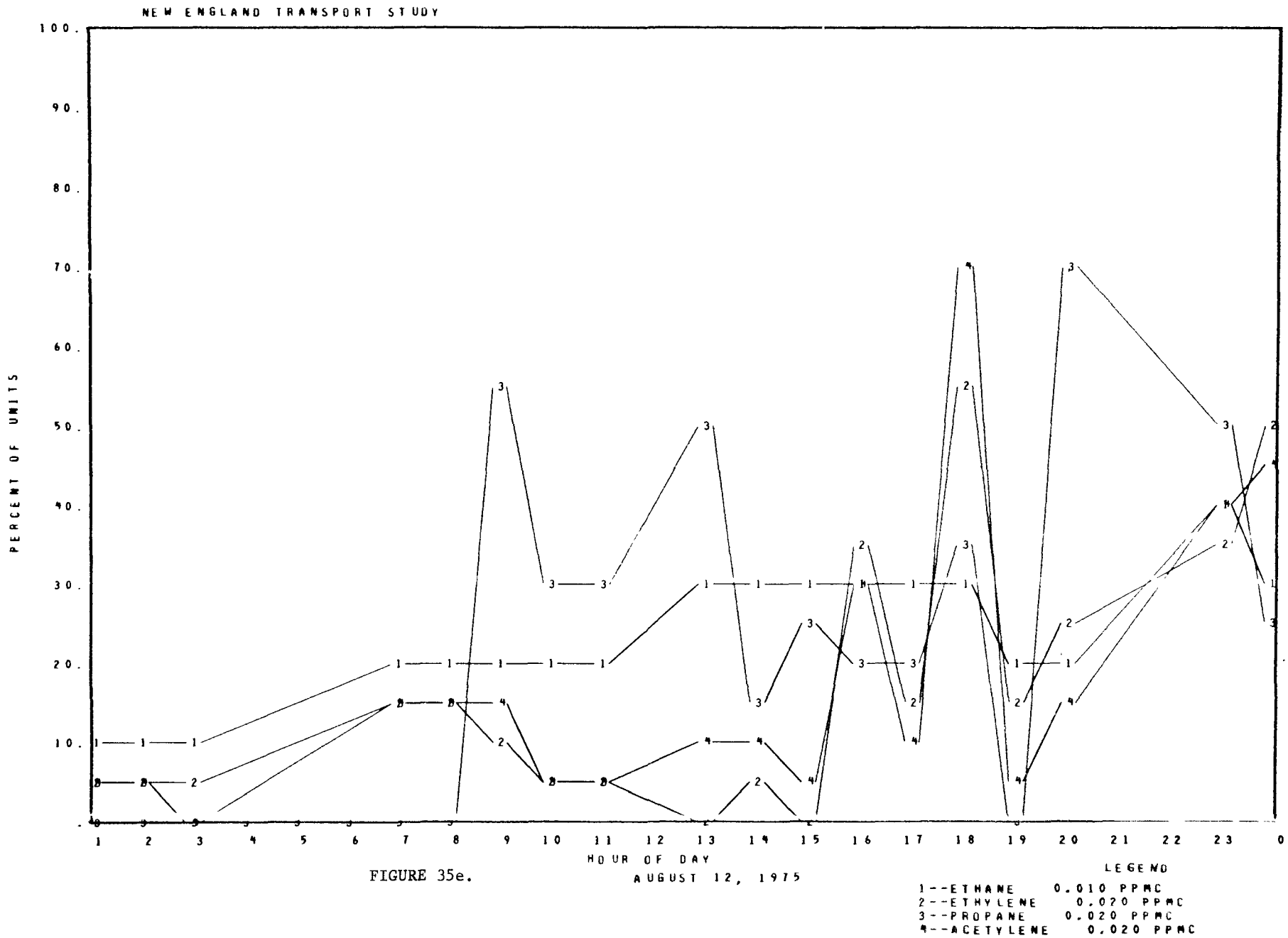

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 12, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.020 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 35e.

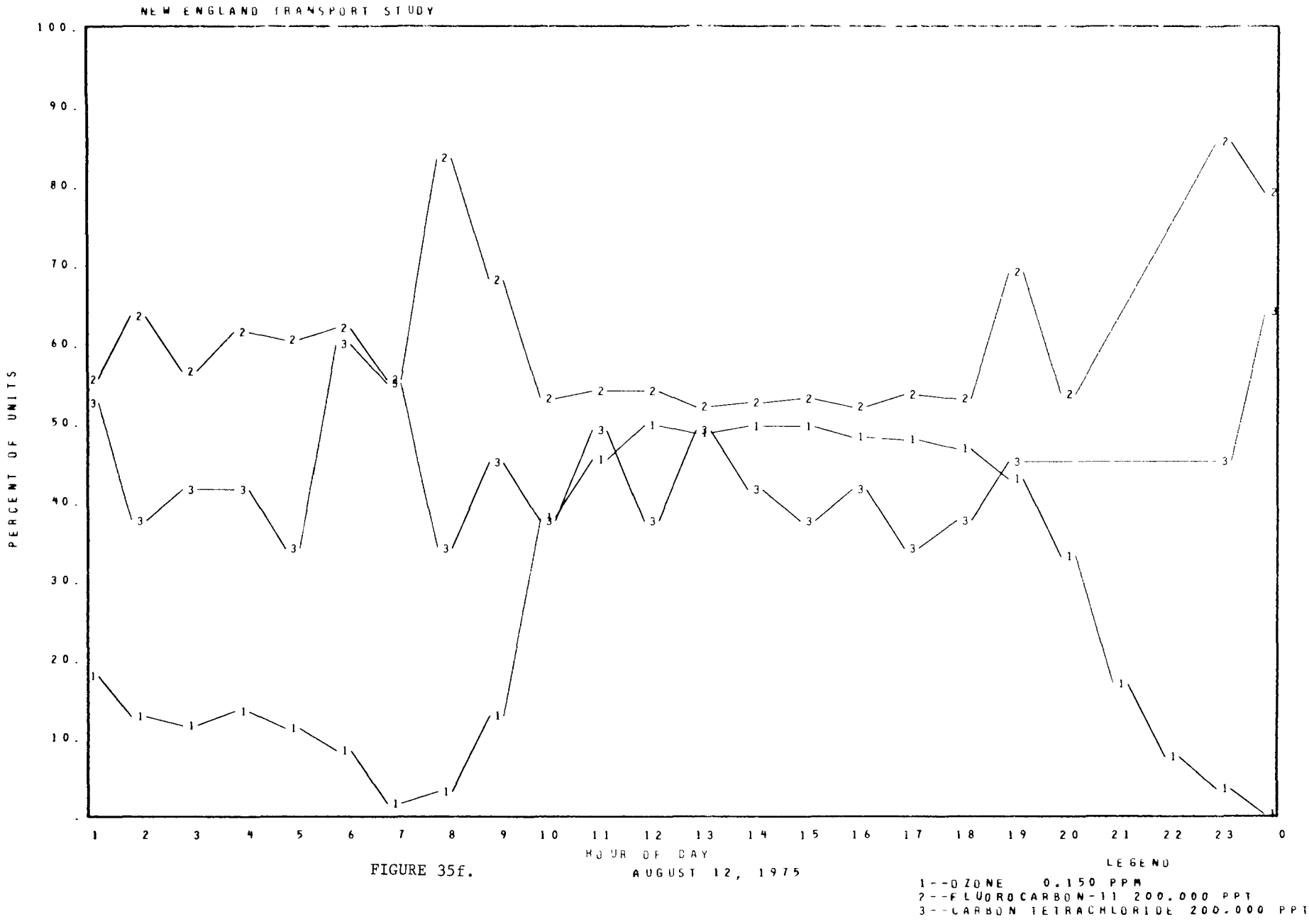

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 12, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 35f.

FIGURE 35g. TUESDAY, AUGUST 12, 1975

SURFACE WEATHER MAP AND STATION WEATHER AT 7:00 A.M. EST

500-MILLIBAR HEIGHT CONTOURS AT 7:00 A.M. EST

HIGHEST AND LOWEST TEMPERATURES

PRECIPITATION AREAS AND AMOUNTS

TABLE 32a. AUGUST 13, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.137 | 24 |
| 2--WIND SPEED (MPH) | 1.733 | 24 |
| 3--WIND DIRECTION (DEGREES) | 235.425 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 24.590 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 63.059 | 24 |
| 6--OZONE (PPM) | 0.040 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 1.936 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.484 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.297 | 24 |
| 13--ETHANE (PPMC) | 0.003 | 21 |
| 14--ETHYLENE (PPMC) | 0.004 | 21 |
| 15--PROPANE (PPMC) | 0.011 | 19 |
| 16--ACETYLENE (PPMC) | 0.004 | 21 |
| 19--FLUOROCARBON-11 (PPT) | 155. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 106. | 24 |

TABLE 32b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 13, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.225 | 1.575 | 3.275 | 4.625 | 5.725 | 6.475 |
| 2--WIND SPEED (MPH) | 0.700 | 0.300 | 0.600 | 0.400 | 0.100 | 0.500 | 0.700 | 0.900 | 0.800 | 1.700 | 2.400 | 3.100 |
| 3--WIND DIRECTION (DEGREES) | 293. | 318. | 276. | 328. | 336. | 335. | 221. | 329. | 341. | 357. | 42. | 193. |
| 4--TEMPERATURE (CENTIGRADE) | 19. | 18. | 18. | 17. | 16. | 16. | 16. | 19. | 24. | 27. | 29. | 31. |
| 5--RELATIVE HUMIDITY (PERCENT) | 93. | 94. | 95. | 95. | 96. | 96. | 95. | 80. | 61. | 48. | 42. | 37. |
| 6--OZONE (PPM) | .000 | 0.000 | 0.001 | 0.002 | .000 | .000 | .000 | 0.001 | 0.013 | 0.035 | 0.052 | 0.056 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.003 | 0.001 | 0.000 | 0.001 | 0.002 | 0.006 | 0.008 | 0.002 | 0.001 | 0.001 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.009 | 0.007 | 0.004 | 0.003 | 0.003 | 0.001 | 0.002 | 0.005 | 0.005 | 0.003 | 0.002 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.014 | 0.009 | 0.004 | 0.004 | 0.004 | 0.003 | 0.008 | 0.013 | 0.006 | 0.004 | 0.003 | 0.004 |
| 10--METHANE (PPMC) | 1.668 | 2.359 | 1.585 | 3.048 | 1.900 | 1.571 | 4.511 | 2.466 | 1.843 | 1.596 | 1.511 | 1.519 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.555 | 0.547 | 0.533 | 0.556 | 0.470 | 0.399 | 0.893 | 0.505 | 0.368 | 0.310 | 0.267 | 0.407 |
| 12--CARBON MONOXIDE (PPM) | 0.325 | 0.337 | 0.183 | 0.187 | 0.175 | 0.200 | 0.287 | 0.525 | 0.313 | 0.187 | 0.217 | 0.087 |
| 13--ETHANE (PPMC) | 0.003 | 0.003 | 0.003 | 0.002 | 0.003 | 0.004 | 0.003 | -0.003 | 0.003 | 0.002 | 0.002 | 0.003 |
| 14--ETHYLENE (PPMC) | 0.009 | 0.005 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | -0.003 | 0.003 | 0.002 | 0.001 | 0.001 |
| 15--PROPANE (PPMC) | 0.028 | 0.012 | 0.011 | 0.021 | 0.025 | 0.054 | -0.040 | -0.027 | 0.013 | 0.006 | .000 | 0.001 |
| 16--ACETYLENE (PPMC) | 0.007 | 0.005 | 0.002 | 0.003 | 0.001 | 0.002 | 0.003 | -0.004 | 0.006 | 0.003 | 0.003 | 0.007 |
| 19--FLUOROCARBON-11 (PPT) | 156. | 198. | 189. | 219. | 153. | 142. | 216. | 168. | 136. | 112. | 105. | 119. |
| 20--CARBON TETRACHLORIDE (PPT) | 113. | 120. | 128. | 135. | 83. | 115. | 113. | 98. | 90. | 65. | 75. | 90. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.075 | 6.850 | 5.350 | 3.750 | 3.300 | 2.075 | 0.650 | 0.200 | 0.100 | 0.025 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.600 | 4.400 | 4.500 | 4.300 | 2.800 | 2.200 | 2.500 | 0.700 | 0.500 | 0.500 | 1.100 | 1.300 |
| 3--WIND DIRECTION (DEGREES) | 170. | 185. | 197. | 210. | 213. | 214. | 196. | 200. | 166. | 179. | 188. | 165. |
| 4--TEMPERATURE (CENTIGRADE) | 32. | 32. | 32. | 31. | 31. | 30. | 28. | 26. | 25. | 24. | 24. | 24. |
| 5--RELATIVE HUMIDITY (PERCENT) | 34. | 33. | 32. | 36. | 39. | 42. | 47. | 55. | 61. | 66. | 67. | 69. |
| 6--OZONE (PPM) | 0.057 | 0.074 | 0.083 | 0.082 | 0.058 | 0.061 | 0.067 | 0.054 | 0.061 | 0.049 | 0.084 | 0.076 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.001 | 0.001 | 0.003 | 0.004 | 0.004 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.002 | 0.003 | 0.006 | 0.006 | 0.006 | 0.005 | 0.007 | 0.010 | 0.015 | 0.014 | 0.012 |
| 9--NITROGEN OXIDES (PPM) | 0.004 | 0.003 | 0.003 | 0.009 | 0.010 | 0.009 | 0.007 | 0.009 | 0.012 | 0.017 | 0.016 | 0.014 |
| 10--METHANE (PPMC) | 1.491 | 1.499 | 1.523 | 1.531 | 1.559 | 1.500 | 1.850 | 1.523 | 1.613 | 2.935 | 2.111 | 1.750 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.366 | 0.415 | 0.428 | 0.565 | 0.412 | 0.483 | 0.366 | 0.452 | 0.483 | 1.042 | 0.407 | 0.398 |
| 12--CARBON MONOXIDE (PPM) | 0.125 | 0.075 | 0.083 | 0.212 | 0.200 | 0.250 | 0.162 | 0.233 | 0.600 | 0.575 | 0.762 | 0.817 |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.002 | 0.002 | -0.002 | -0.002 | 0.002 | 0.003 | 0.002 | 0.002 | 0.003 | 0.003 |
| 14--ETHYLENE (PPMC) | 0.001 | 0.001 | 0.001 | 0.001 | -0.002 | -0.002 | 0.003 | 0.005 | 0.007 | 0.008 | 0.008 | 0.010 |
| 15--PROPANE (PPMC) | 0.011 | 0.011 | .000 | .000 | -0.002 | -0.005 | -0.007 | 0.010 | .000 | 0.010 | 0.003 | .000 |
| 16--ACETYLENE (PPMC) | 0.001 | 0.002 | 0.002 | 0.003 | -0.003 | -0.003 | 0.003 | 0.004 | 0.005 | 0.010 | 0.011 | 0.010 |
| 19--FLUOROCARBON-11 (PPT) | 105. | 154. | 119. | 141. | 112. | 112. | 139. | 135. | 138. | 173. | 249. | 241. |
| 20--CARBON TETRACHLORIDE (PPT) | 83. | 90. | 105. | 105. | 90. | 68. | 83. | 120. | 120. | 120. | 160. | 165. |

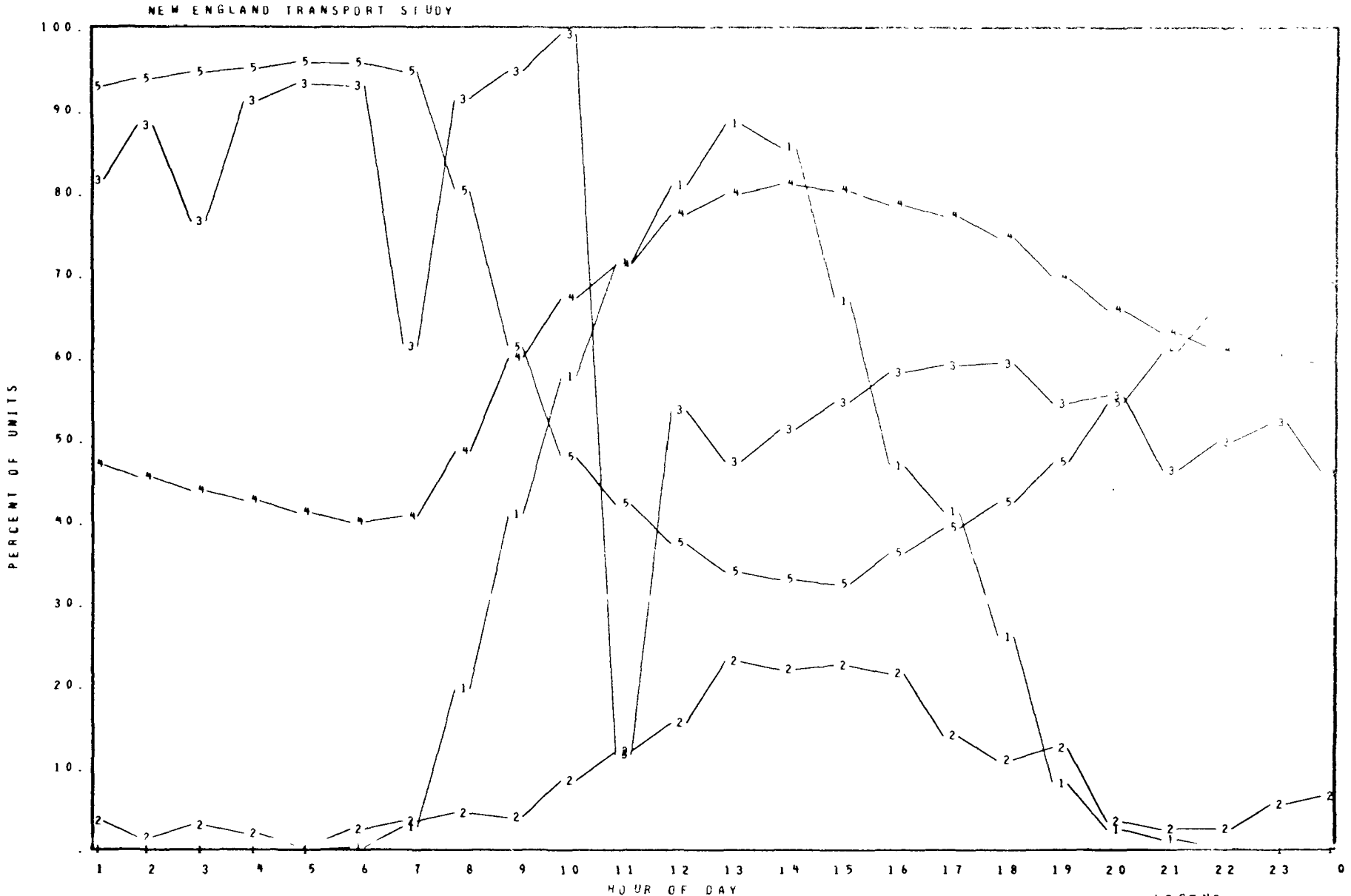



FIGURE 36a.

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

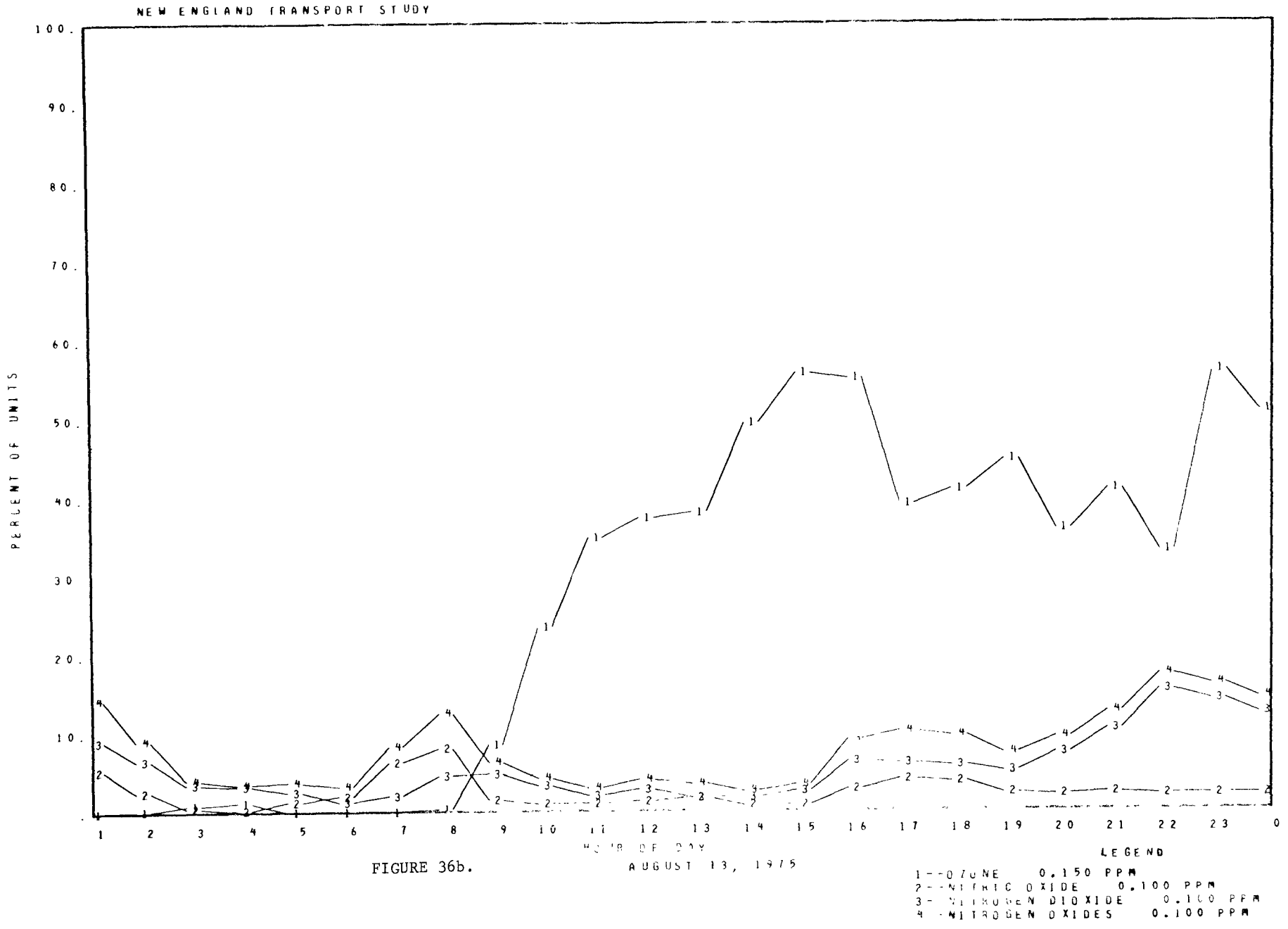

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 13, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 36b.

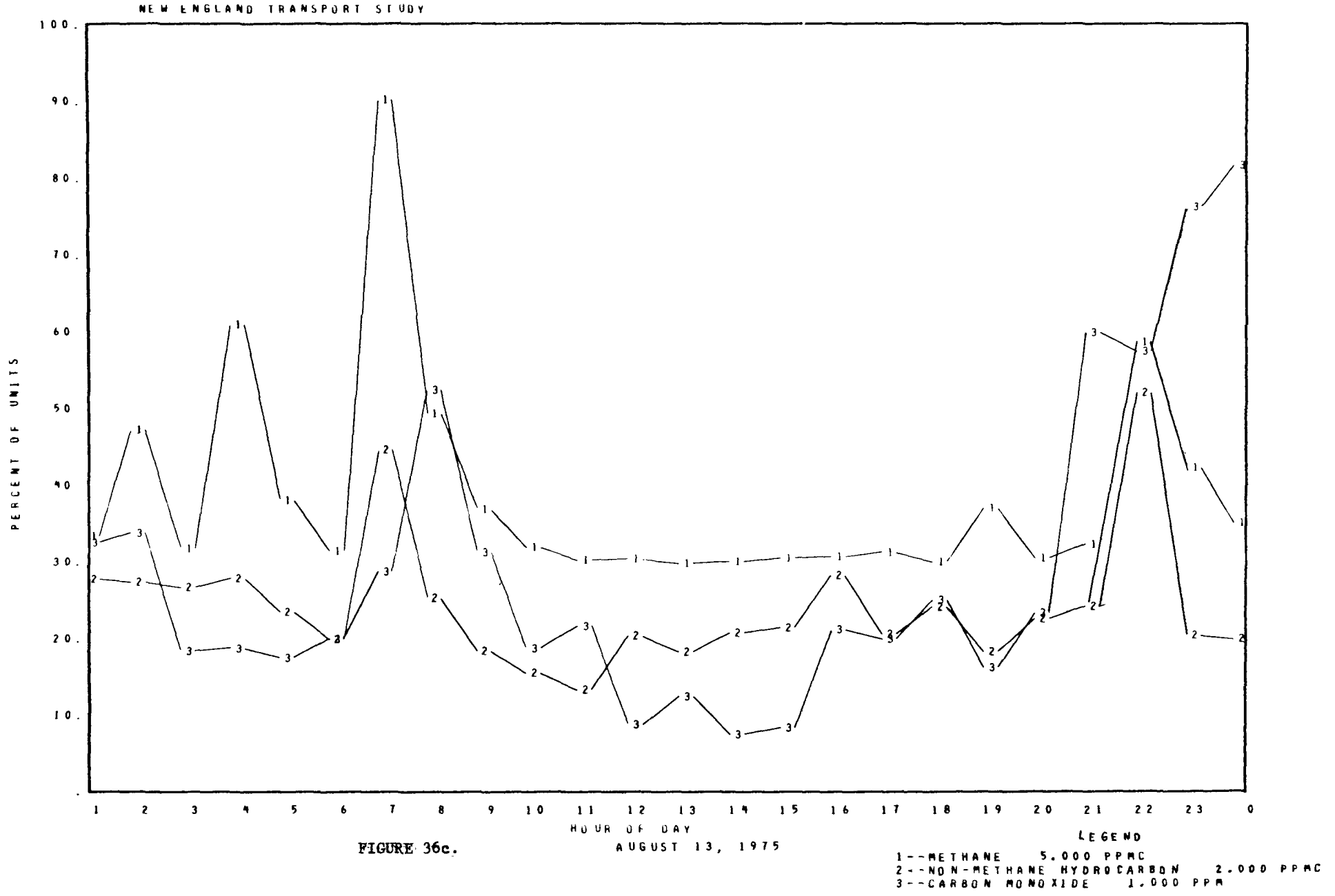

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60
50
40
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 13, 1975
LEGEND
1--METHANE 5.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 36c.

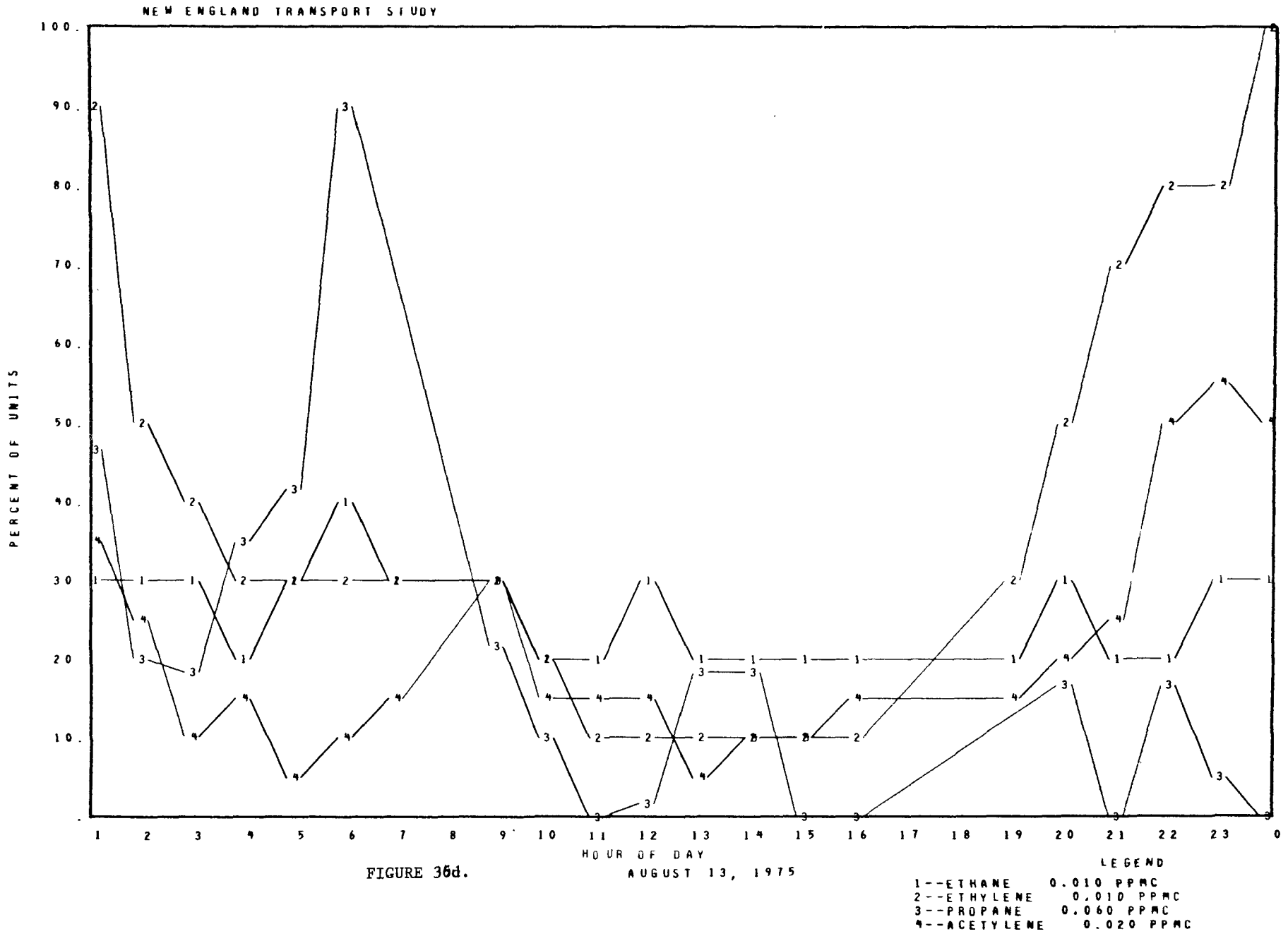

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 13, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.060 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 36d.

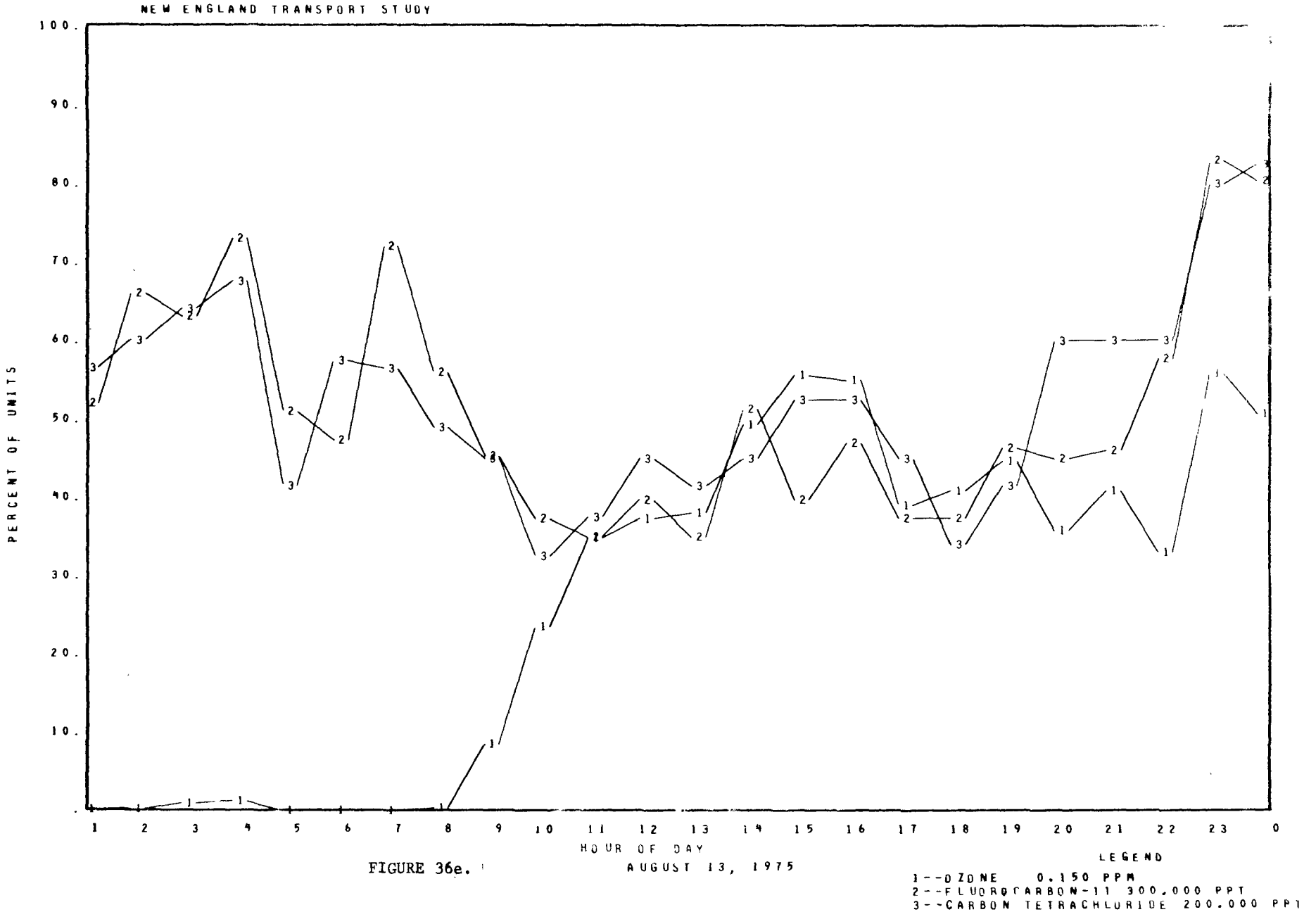
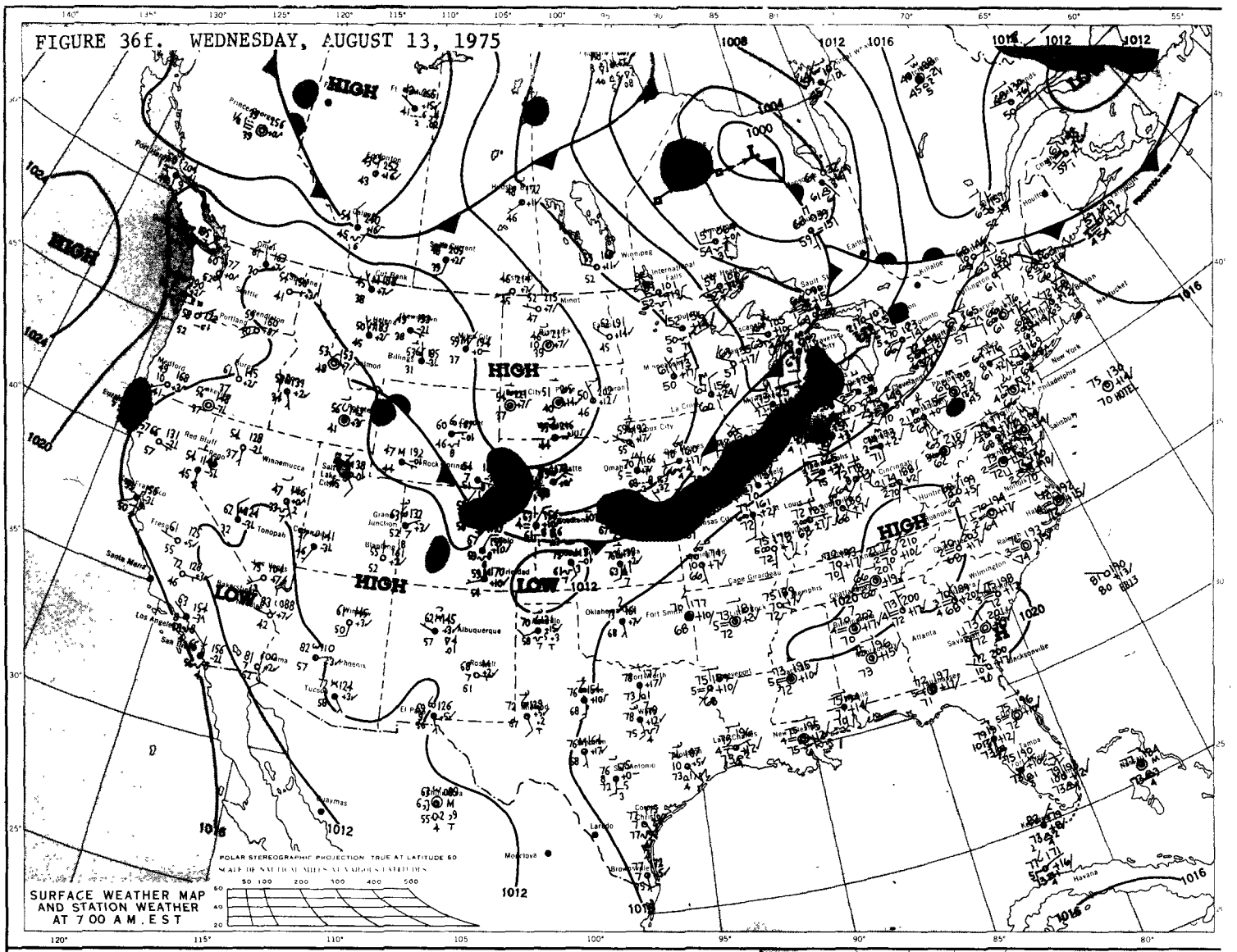
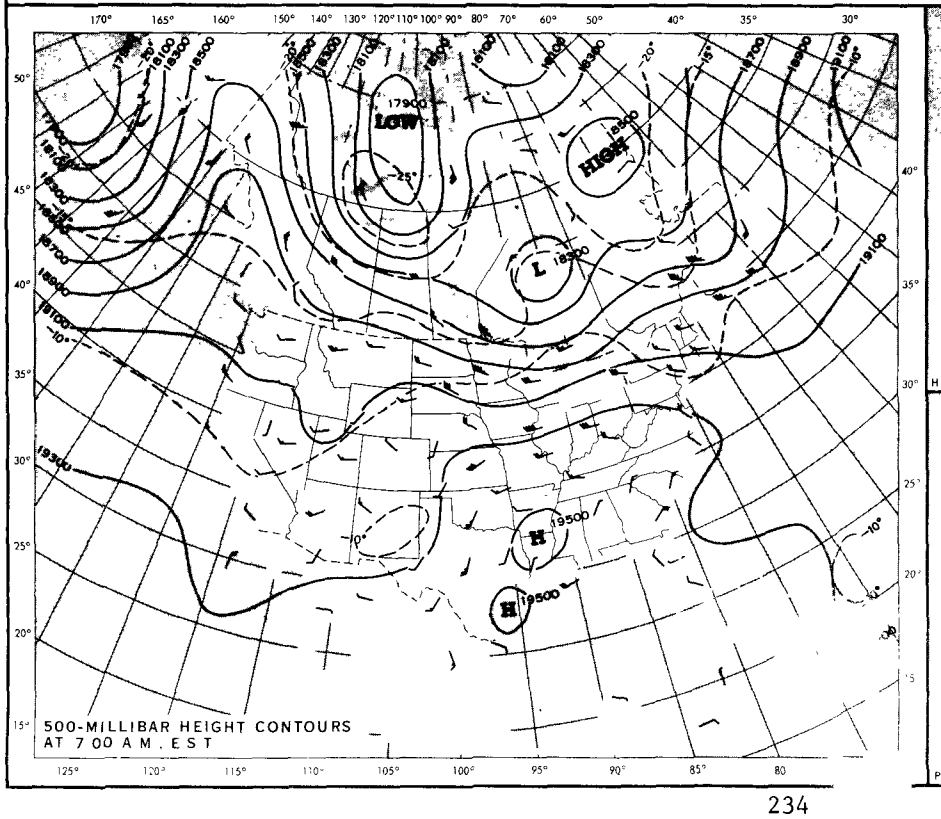

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 13, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300,000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 36e.

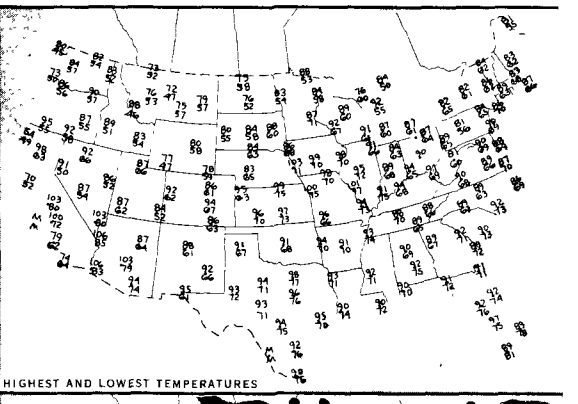
FIGURE 36f. WEDNESDAY, AUGUST 13, 1975



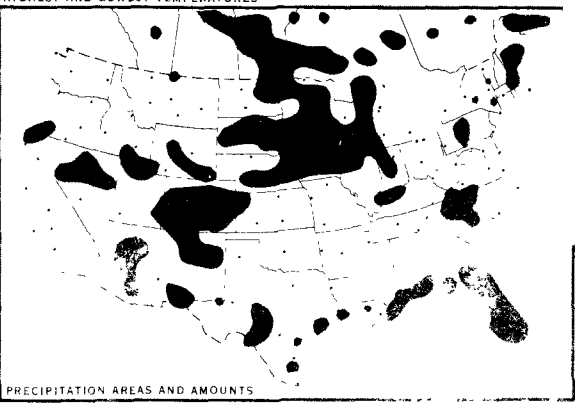

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A.M. E.S.T




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. E.S.T



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 33a. AUGUST 14, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.171 | 24 |
| 2--WIND SPEED (MPH) | 3.329 | 24 |
| 3--WIND DIRECTION (DEGREES) | 242.332 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 25.647 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 52.579 | 24 |
| 6--OZONE (PPM) | 0.041 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 1.567 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.478 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.126 | 22 |
| 13--ETHANE (PPMC) | 0.002 | 21 |
| 14--ETHYLENE (PPMC) | 0.002 | 21 |
| 15--PROPANE (PPMC) | 0.002 | 21 |
| 16--ACETYLENE (PPMC) | 0.002 | 21 |
| 19--FLUOROCARBON-11 (PPT) | 133. | 19 |
| 20--CARBON TETRACHLORIDE (PPT) | 66. | 20 |

TABLE 33b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 14, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.150 | 0.800 | 1.950 | 3.325 | [illegible] | [illegible] |
| 2--WIND SPEED (MPH) | 1.100 | 2.800 | 1.500 | 2.300 | 0.900 | 0.600 | 1.100 | 1.800 | 0.600 | 4.400 | [illegible] | [illegible] |
| 3--WIND DIRECTION (DEGREES) | 152. | 147. | 155. | 236. | 203. | 252. | 152. | 126. | 164. | 192. | [illegible] | 69. |
| 4--TEMPERATURE (CENTIGRADE) | 24. | 23. | 23. | 23. | 22. | 22. | 22. | 23. | 25. | 27. | 29. | 30. |
| 5--RELATIVE HUMIDITY (PERCENT) | 69. | 67. | 66. | 64. | 65. | 69. | 68. | 66. | 62. | 57. | 49. | 44. |
| 6--OZONE (PPM) | 0.065 | 0.058 | 0.051 | 0.048 | 0.044 | 0.033 | 0.032 | 0.018 | 0.027 | 0.039 | 0.053 | [illegible].058 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.001 | 0.000 | .000 | .000 | .000 | .000 | 0.002 | 0.002 | 0.002 | [illegible] | 001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.007 | 0.003 | 0.002 | 0.002 | 0.001 | 0.003 | 0.003 | 0.009 | 0.004 | 0.003 | [illegible] | [illegible] |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 0.004 | 0.003 | 0.002 | 0.001 | 0.003 | 0.003 | 0.011 | 0.006 | 0.005 | 0.007 | 0.004 |
| 10--METHANE (PPMC) | 1.500 | 1.600 | 1.970 | 1.600 | 1.630 | 2.240 | 1.570 | 1.500 | 1.500 | 1.450 | 1.500 | 1.500 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.451 | 0.306 | 0.330 | 0.351 | 0.645 | 0.626 | 0.411 | 0.308 | 0.355 | 0.376 | 0.356 | 0.400 |
| 12--CARBON MONOXIDE (PPM) | 0.525 | 0.250 | 0.150 | 0.087 | 0.050 | 0.050 | 0.100 | 0.237 | 0.188 | 0.162 | [illegible] 75 | 0.075 |
| 13--ETHANE (PPMC) | 0.003 | 0.003 | 0.003 | 0.002 | 0.002 | 0.002 | -0.002 | -0.003 | -0.003 | 0.004 | 0.005 | 0.006 |
| 14--ETHYLENE (PPMC) | 0.006 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | -0.002 | -0.001 | -0.001 | 0.001 | 0.003 | .000 |
| 15--PROPANE (PPMC) | 0.002 | 0.004 | 0.006 | 0.007 | .000 | .000 | -0.001 | -0.003 | -0.004 | 0.006 | 0.010 | .000 |
| 16--ACETYLENE (PPMC) | 0.005 | 0.003 | 0.001 | 0.002 | 0.001 | 0.003 | -0.003 | -0.002 | -0.002 | 0.002 | 0.002 | 0.001 |
| 19--FLUOROCARBON-11 (PPT) | 183. | 150. | 143. | 111. | 105. | 144. | 113. | 128. | 124. | 114. | 105. | 118. |
| 20--CARBON TETRACHLORIDE (PPT) | 143. | 120. | 100. | 90. | 90. | 98. | 110. | 75. | 120. | 128. | 105. | [illegible] |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.850 | 7.100 | 6.350 | 5.475 | 3.775 | 3.050 | 1.300 | 0.300 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 6.400 | 6.500 | 8.400 | 7.000 | 5.800 | 7.200 | 4.100 | 4.200 | 1.500 | 1.600 | 1.100 | 1.500 |
| 3--WIND DIRECTION (DEGREES) | 287. | 280. | 293. | 287. | 288. | 316. | 334. | 331. | 317. | 255. | 215. | 289. |
| 4--TEMPERATURE (CENTIGRADE) | 31. | 31. | 32. | 32. | 31. | 31. | 28. | 25. | 22. | 21. | 19. | 20. |
| 5--RELATIVE HUMIDITY (PERCENT) | 37. | 33. | 32. | 29. | 31. | 34. | 37. | 42. | 52. | 59. | 64. | 62. |
| 6--OZONE (PPM) | 0.059 | 0.062 | 0.062 | 0.046 | 0.037 | 0.043 | 0.040 | 0.032 | 0.016 | 0.015 | 0.011 | 0.020 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.001 | 0.002 | 0.001 | 0.004 | 0.002 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.001 | 0.001 | 0.003 | 0.005 | 0.003 | 0.003 | 0.002 | 0.007 | 0.010 | 0.006 | 0.004 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.002 | 0.003 | 0.004 | 0.009 | 0.004 | 0.003 | 0.004 | 0.008 | 0.011 | 0.008 | 0.005 |
| 10--METHANE (PPMC) | 1.450 | 1.350 | 1.350 | 1.300 | 1.300 | 1.300 | 1.300 | 1.500 | 1.500 | 2.060 | 2.000 | 1.650 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.359 | 0.446 | 0.471 | 0.526 | 0.447 | 0.460 | 0.463 | 1.960 | 0.446 | 0.340 | 0.395 | 0.243 |
| 12--CARBON MONOXIDE (PPM) | 0.033 | 0.037 | 0.037 | -0.056 | 0.075 | 0.025 | 0.017 | -0.058 | 0.100 | 0.125 | 0.175 | 0.087 |
| 13--ETHANE (PPMC) | 0.004 | 0.005 | 0.003 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | .000 | 0.001 |
| 14--ETHYLENE (PPMC) | .000 | 0.001 | 0.001 | 0.001 | 0.004 | 0.001 | 0.001 | 0.001 | 0.004 | 0.004 | 0.003 | 0.002 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | 0.004 | .000 | .000 | .000 | .000 | 0.006 | .000 | .000 | .000 |
| 16--ACETYLENE (PPMC) | 0.001 | 0.001 | .000 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.003 | 0.001 | 0.004 | 0.001 |
| 19--FLUOROCARBON-11 (PPT) | -117. | -117. | -116. | -116. | 115. | 150. | -140. | 130. | 110. | 150. | 200. | 140. |
| 20--CARBON TETRACHLORIDE (PPT) | -101. | -81. | -62. | -42. | 23. | . | . | . | . | . | . | . |

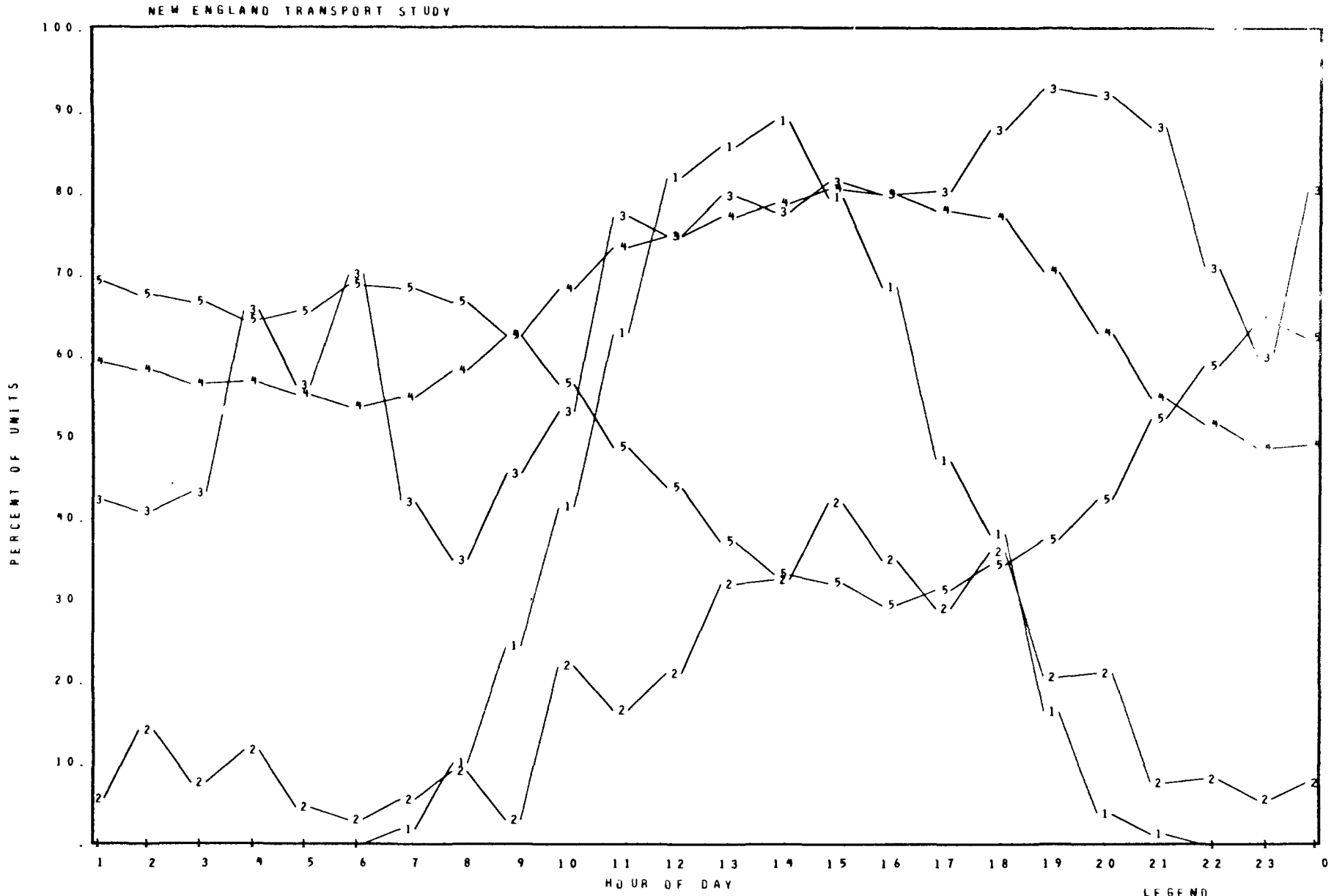



FIGURE 37a.

AUGUST 14, 1975

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MI
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

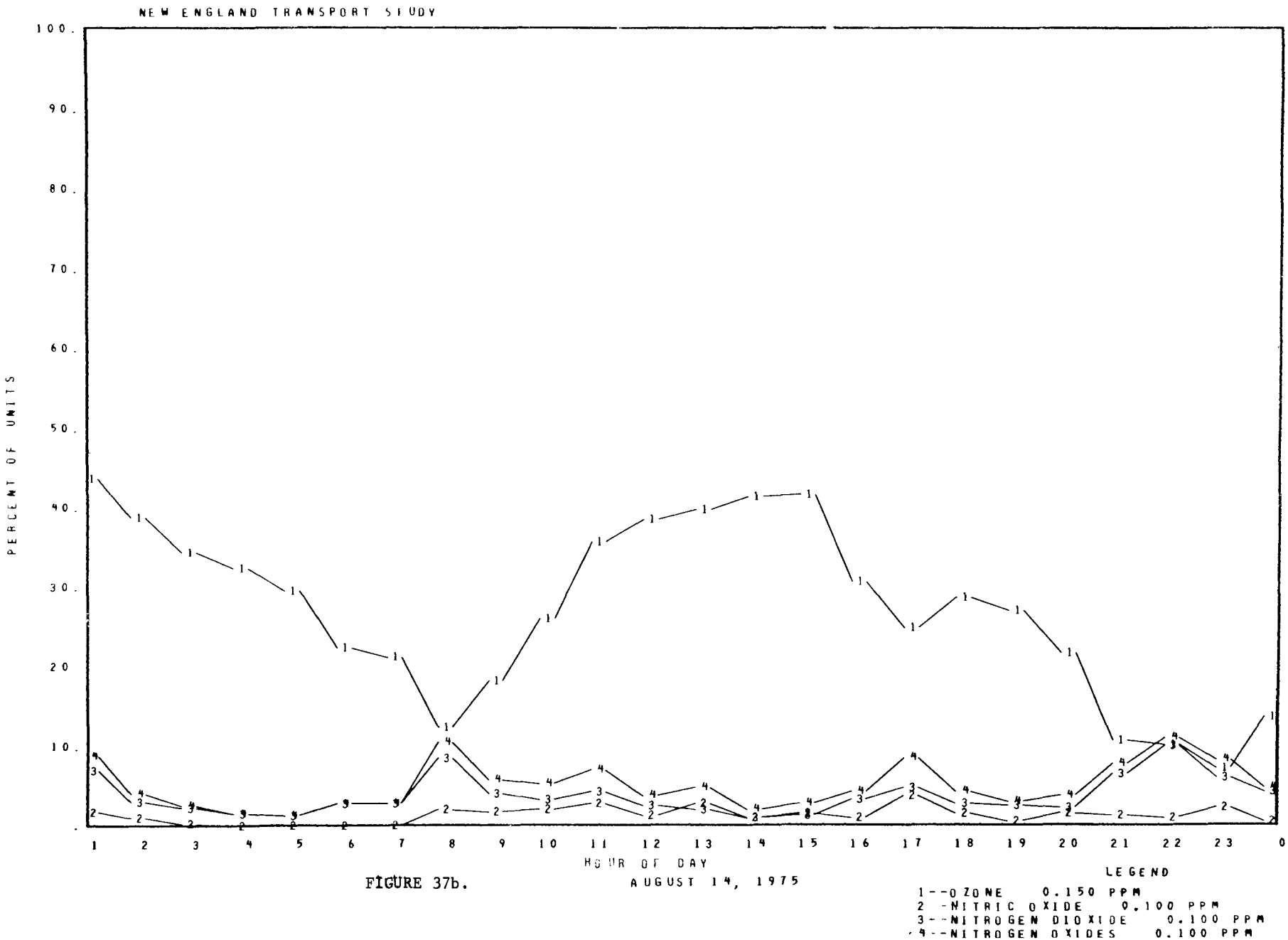

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 14, 1975
LEGEND
1--OZONE 0.150 PPM
2 -NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 37b.

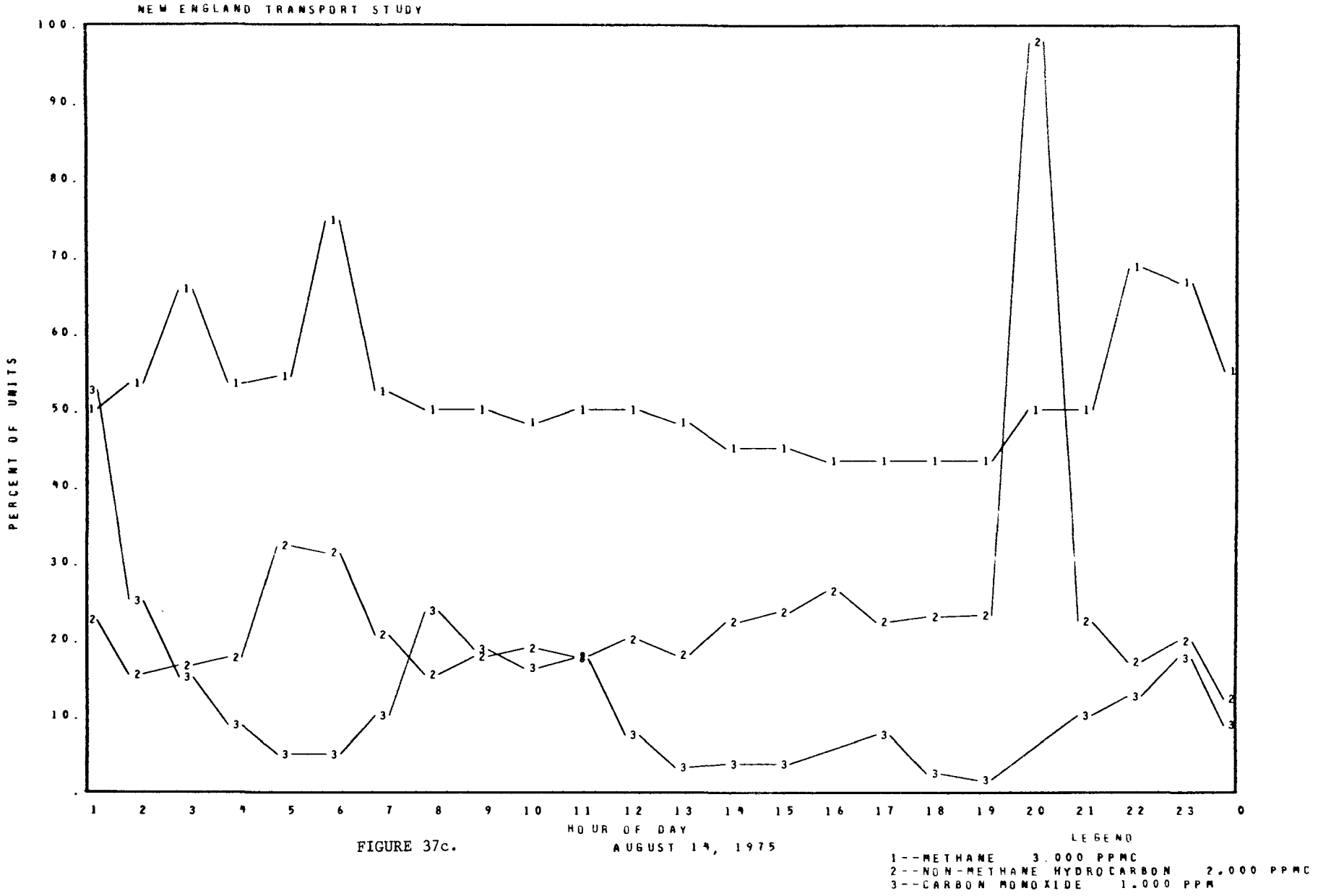

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 14, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 37c.

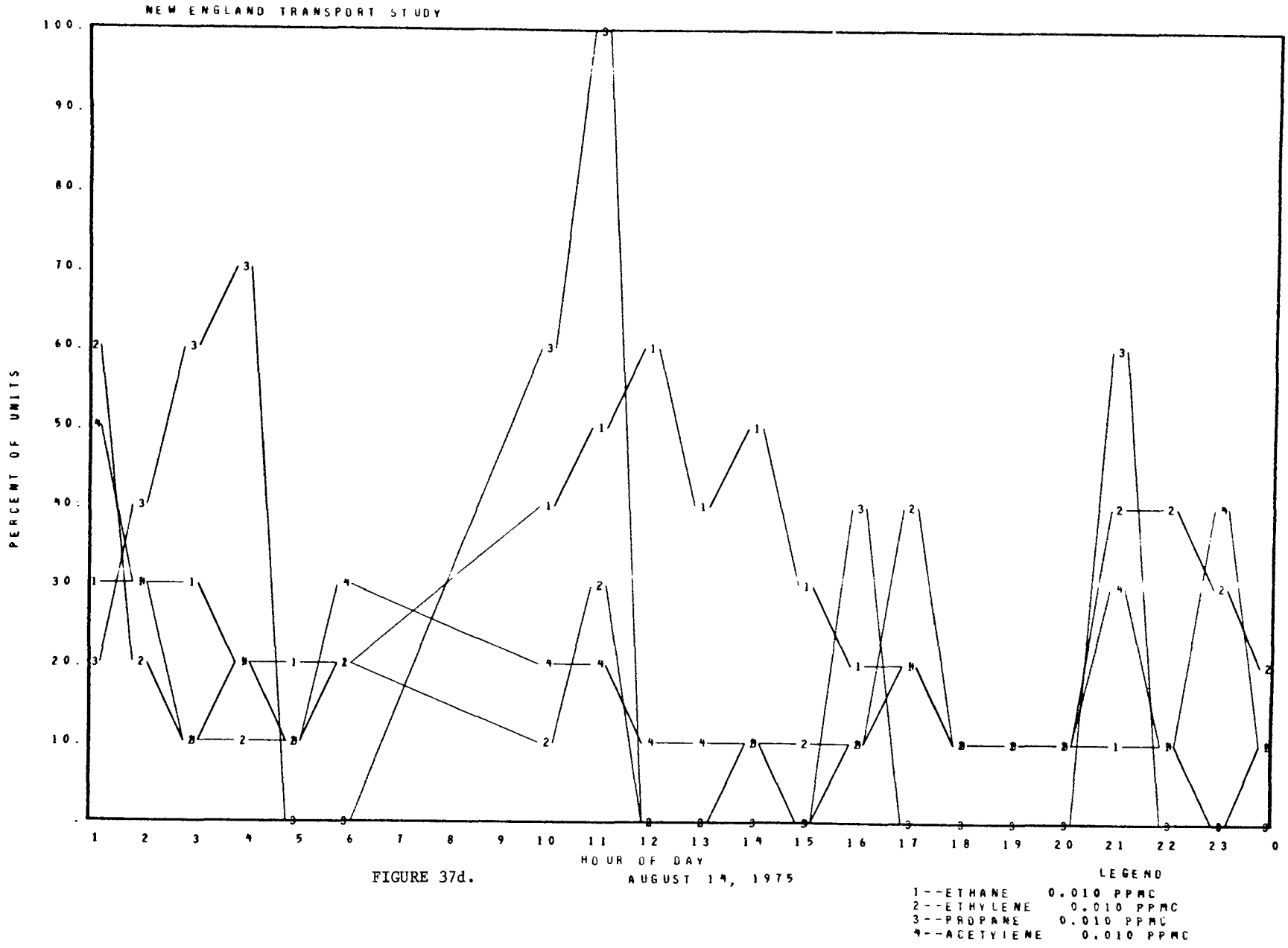

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 14, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.010 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 37d.

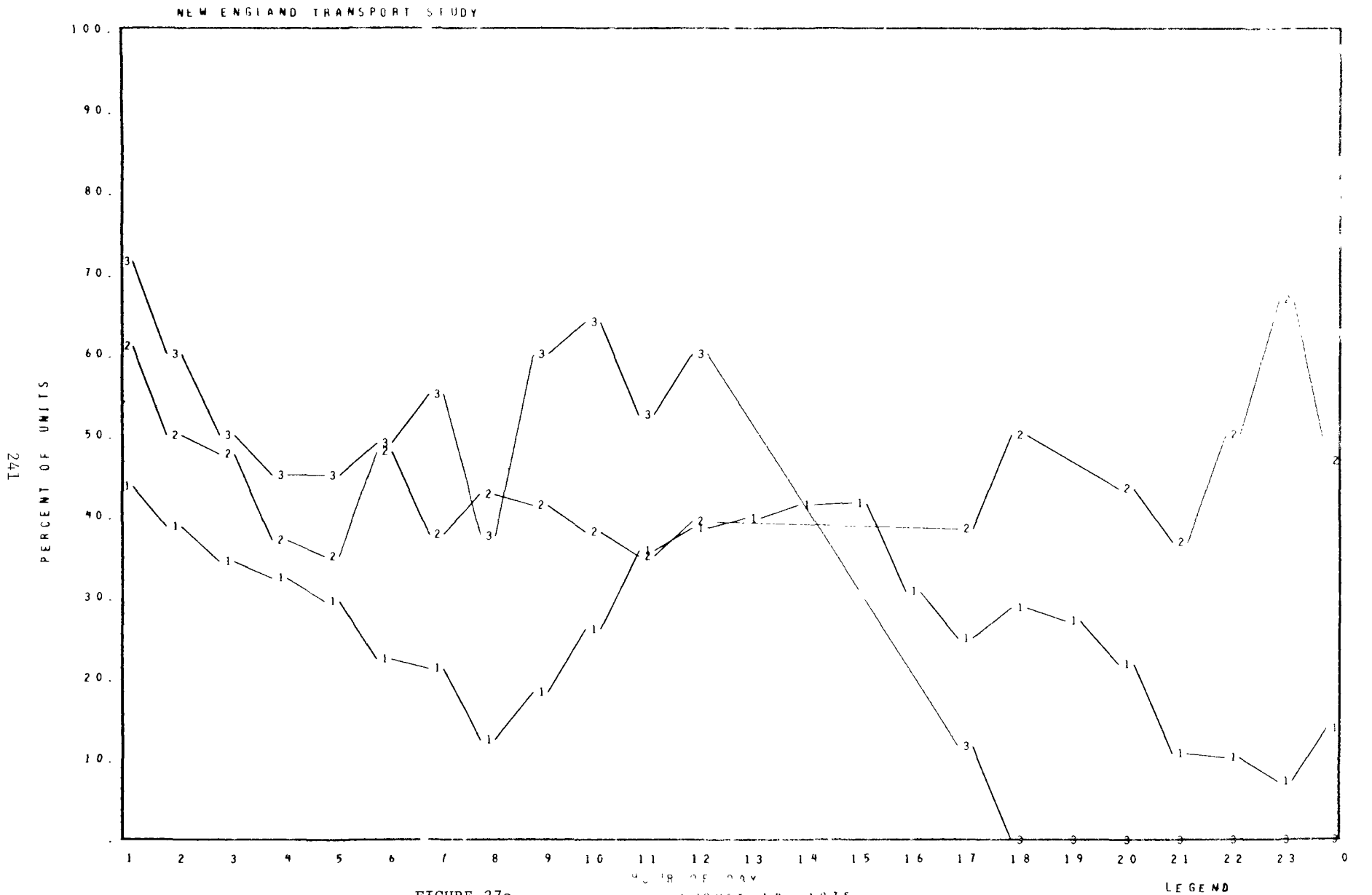
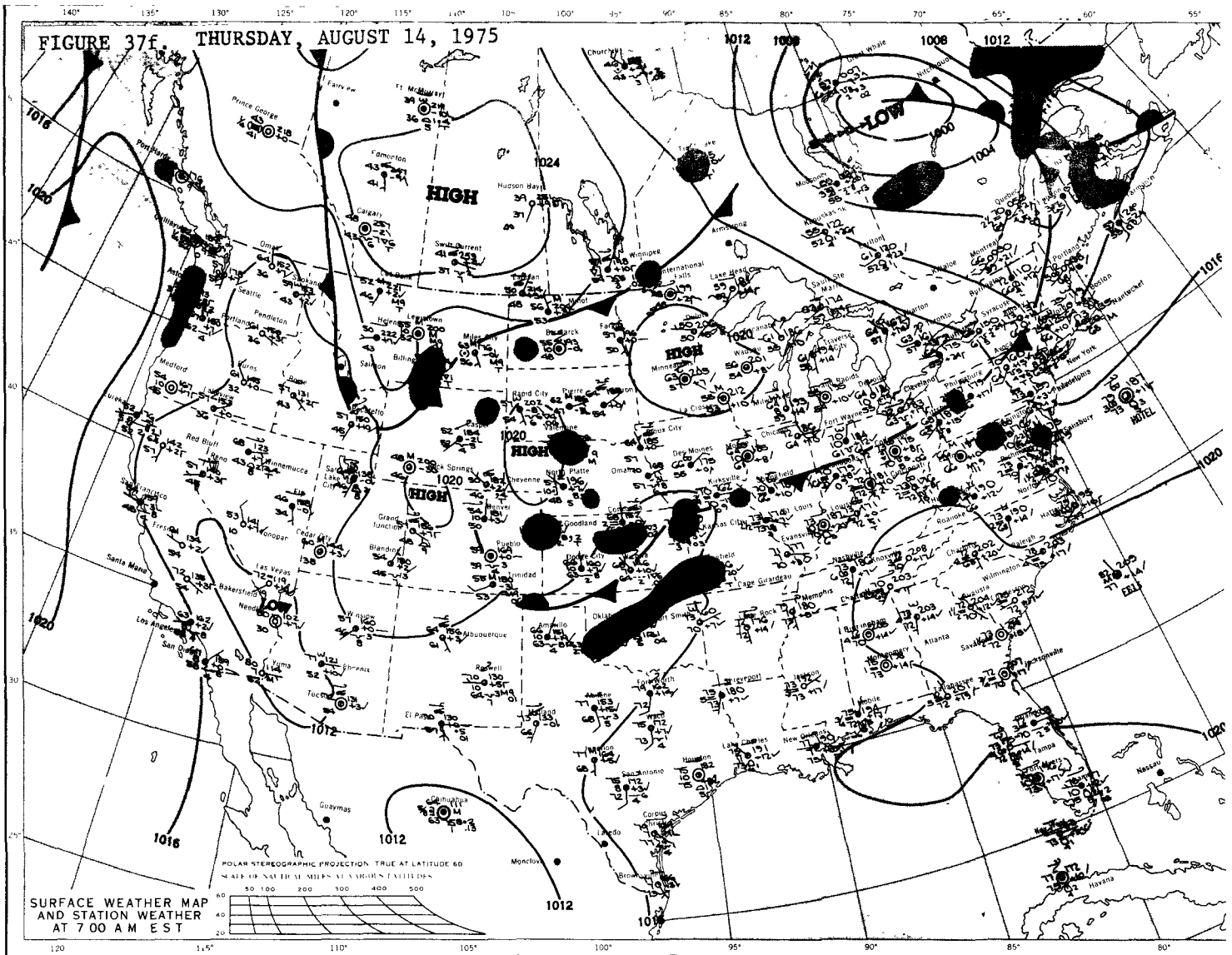
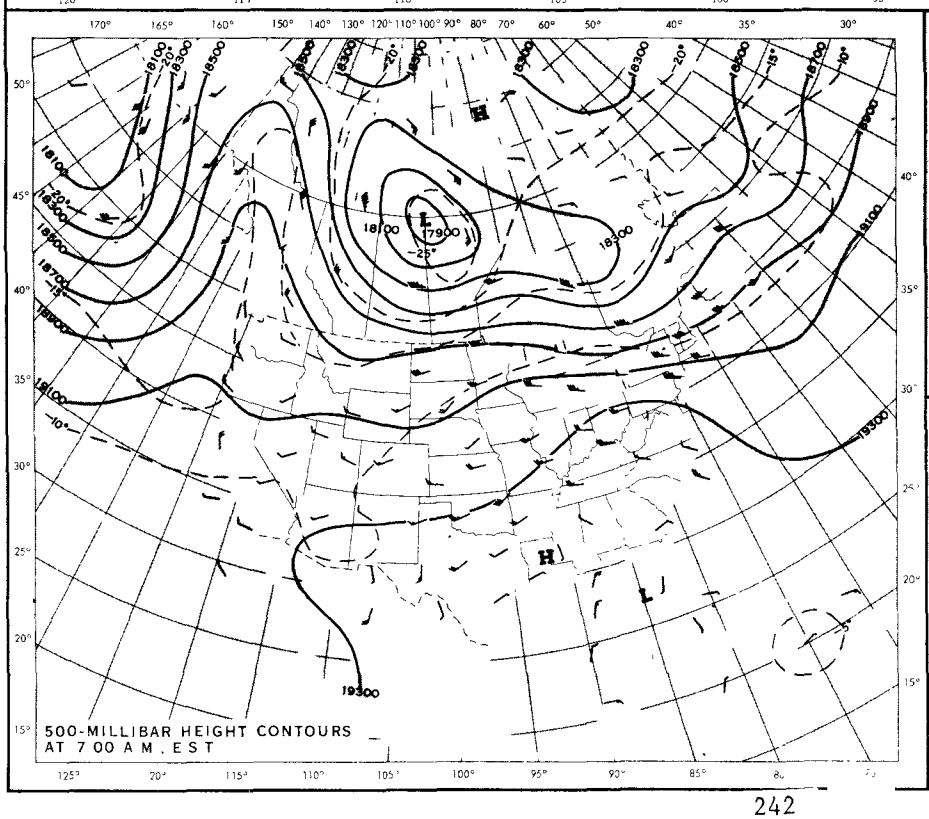

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
AUGUST 14, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 37e.

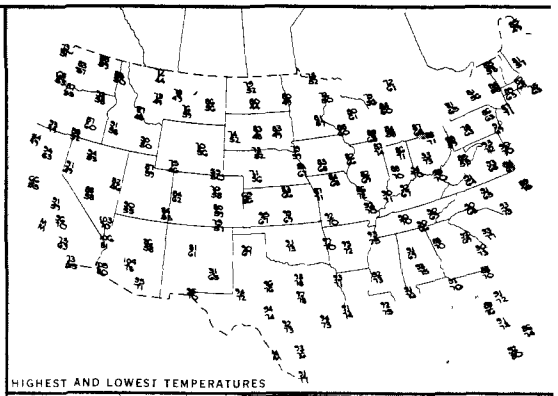
FIGURE 37f. THURSDAY, AUGUST 14, 1975



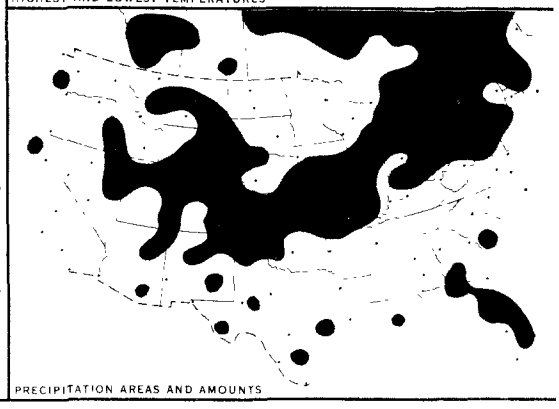

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 34a. AUGUST 15, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.178 | 24 |
| 2--WIND SPEED (MPH) | 3.004 | 24 |
| 3--WIND DIRECTION (DEGREES) | 242.719 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 22.731 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 56.036 | 24 |
| 6--OZONE (PPM) | 0.021 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 24 |
| 10--METHANE (PPMC) | 1.822 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.429 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.118 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 23 |
| 14--ETHYLENE (PPMC) | 0.003 | 23 |
| 15--PROPANE (PPMC) | 0.016 | 24 |
| 16--ACETYLENE (PPMC) | 0.002 | 23 |
| 19--FLUOROCARBON-11 (PPT) | 119. | 13 |
| 20--CARBON TETRACHLORIDE (PPT) | 64. | 13 |

TABLE 34b.

SUBSTANCE HOUR AVERAGES FOR AUGUST 15, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | 0.025 | 0.225 | 1.775 | 3.500 | 4.725 | 5.775 | 7.050 |
| 2--WIND SPEED (MPH) | 2.400 | 1.400 | 1.800 | 2.000 | 1.400 | 1.300 | 1.200 | 1.800 | 3.500 | 7.200 | 6.500 | 4.100 |
| 3--WIND DIRECTION (DEGREES) | 328. | 14. | 264. | 263. | 304. | 335. | 265. | 328. | 351. | 346. | 3. | 8. |
| 4--TEMPERATURE (CENTIGRADE) | 19. | 18. | 17. | 16. | 15. | 15. | 15. | 19. | 23. | 24. | 26. | 28. |
| 5--RELATIVE HUMIDITY (PERCENT) | 65. | 69. | 73. | 78. | 83. | 87. | 87. | 71. | 55. | 48. | 41. | 38. |
| 6--OZONE (PPM) | 0.018 | 0.014 | 0.011 | 0.008 | 0.005 | .000 | .000 | 0.001 | 0.023 | 0.038 | 0.044 | 0.051 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | 0.000 | 0.000 | 0.004 | 0.007 | 0.006 | 0.002 | 0.001 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.002 | 0.001 | 0.001 | 0.003 | 0.004 | 0.004 | 0.006 | 0.003 | 0.001 | 0.003 | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.002 | 0.002 | 0.001 | 0.001 | 0.003 | 0.004 | 0.008 | 0.013 | 0.009 | 0.003 | 0.005 | 0.003 |
| 10--METHANE (PPMC) | 1.475 | 1.520 | 1.986 | 3.645 | 2.806 | 2.411 | 4.731 | 2.105 | 1.471 | 1.445 | 1.373 | 1.341 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.320 | 0.298 | 0.396 | 0.335 | 0.316 | 0.468 | 0.672 | 0.505 | 0.320 | 0.275 | 0.368 | 0.369 |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.050 | 0.075 | 0.050 | 0.100 | 0.112 | 0.150 | 0.350 | 0.275 | 0.050 | 0.050 | 0.025 |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | -0.002 | 0.003 | 0.001 | 0.001 | 0.002 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.004 | 0.002 | 0.002 | 0.003 | 0.001 | 0.001 | -0.002 | 0.004 | 0.004 | 0.001 | 0.001 | 0.001 |
| 15--PROPANE (PPMC) | 0.012 | 0.004 | 0.008 | 0.006 | 0.004 | 0.021 | 0.115 | 0.036 | 0.051 | 0.012 | 0.004 | 0.002 |
| 16--ACETYLENE (PPMC) | 0.004 | 0.001 | .000 | 0.001 | 0.001 | 0.001 | -0.003 | 0.005 | 0.003 | 0.002 | 0.001 | 0.002 |
| 19--FLUOROCARBON-11 (PPT) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | 220. | 200. | 120. | 100. |
| 20--CARBON TETRACHLORIDE (PPT) | -1. | -1. | -1. | -1. | -1. | -1. | -1. | -1. | 30. | 15. | 30. | . |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.125 | 7.125 | 6.400 | 3.950 | 2.675 | 1.300 | 0.375 | 0.150 | 0.100 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.000 | 3.600 | 4.000 | 3.100 | 3.400 | 2.600 | 5.000 | 4.300 | 3.400 | 2.100 | 0.700 | 1.300 |
| 3--WIND DIRECTION (DEGREES) | 12. | 29. | 231. | 277. | 210. | 295. | 325. | 347. | 344. | 322. | 306. | 319. |
| 4--TEMPERATURE (CENTIGRADE) | 29. | 30. | 31. | 31. | 29. | 27. | 25. | 23. | 22. | 21. | 21. | 20. |
| 5--RELATIVE HUMIDITY (PERCENT) | 35. | 30. | 29. | 30. | 34. | 43. | 49. | 50. | 57. | 60. | 63. | 70. |
| 6--OZONE (PPM) | 0.058 | 0.048 | 0.046 | 0.051 | 0.038 | 0.019 | 0.017 | 0.012 | 0.003 | 0.000 | .000 | 0.001 |
| 7--NITRIC OXIDE (PPM) | 0.006 | .000 | .000 | .000 | 0.004 | 0.008 | 0.004 | 0.002 | 0.004 | 0.005 | 0.003 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | .000 | 0.001 | 0.000 | 0.001 | 0.004 | 0.006 | 0.005 | 0.006 | 0.009 | 0.006 | 0.007 | 0.008 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.001 | 0.000 | 0.001 | 0.008 | 0.015 | 0.009 | 0.008 | 0.013 | 0.011 | 0.010 | 0.010 |
| 10--METHANE (PPMC) | 1.329 | 1.365 | 1.328 | 1.338 | 1.380 | 1.411 | 1.419 | 1.378 | 1.380 | 1.398 | 1.430 | 2.253 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.458 | 0.693 | 0.562 | 0.498 | 0.515 | 0.434 | 0.392 | 0.373 | 0.403 | 0.382 | 0.377 | 0.579 |
| 12--CARBON MONOXIDE (PPM) | .000 | .000 | .000 | .000 | 0.125 | 0.325 | 0.262 | 0.100 | 0.200 | 0.175 | 0.162 | 0.150 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 |
| 14--ETHYLENE (PPMC) | 0.002 | .000 | 0.002 | .000 | 0.001 | 0.004 | 0.002 | 0.003 | 0.007 | 0.003 | 0.005 | 0.006 |
| 15--PROPANE (PPMC) | 0.004 | 0.004 | .000 | 0.004 | 0.006 | 0.002 | 0.008 | 0.008 | 0.012 | 0.011 | 0.009 | 0.033 |
| 16--ACETYLENE (PPMC) | 0.002 | .000 | 0.002 | 0.001 | 0.002 | 0.003 | 0.003 | 0.002 | 0.005 | 0.002 | 0.002 | 0.003 |
| 19--FLUOROCARBON-11 (PPT) | -97. | -94. | -91. | 88. | 85. | 86. | 83. | 88. | 96. | 86. | 90. | 200. |
| 20--CARBON TETRACHLORIDE (PPT) | -17. | -34. | -51. | 68. | 80. | 68. | 105. | 80. | 53. | 70. | 105. | 128. |

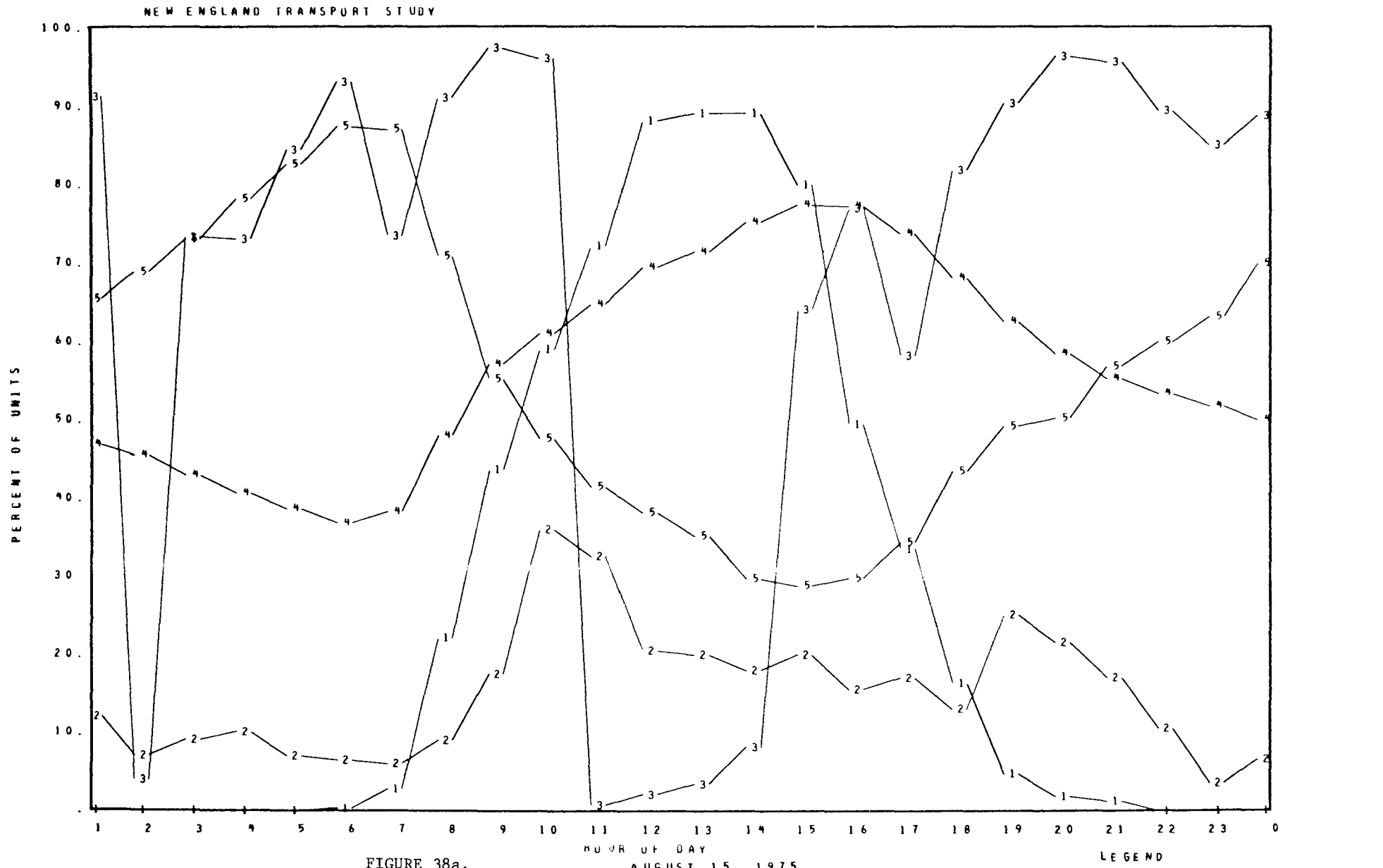



FIGURE 38a.

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 40.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

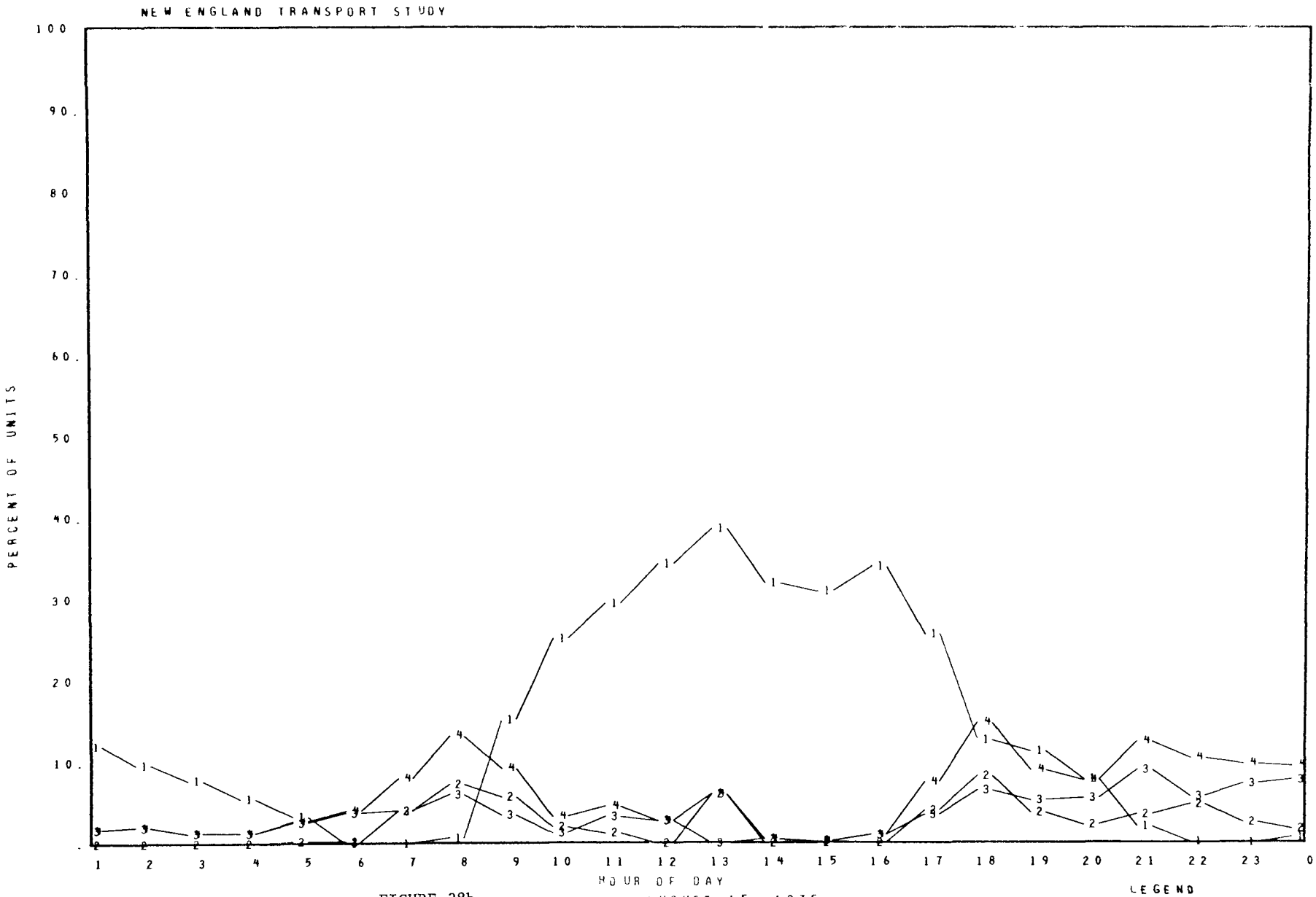



FIGURE 38b. AUGUST 15, 1975

LEGEND

1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3 NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

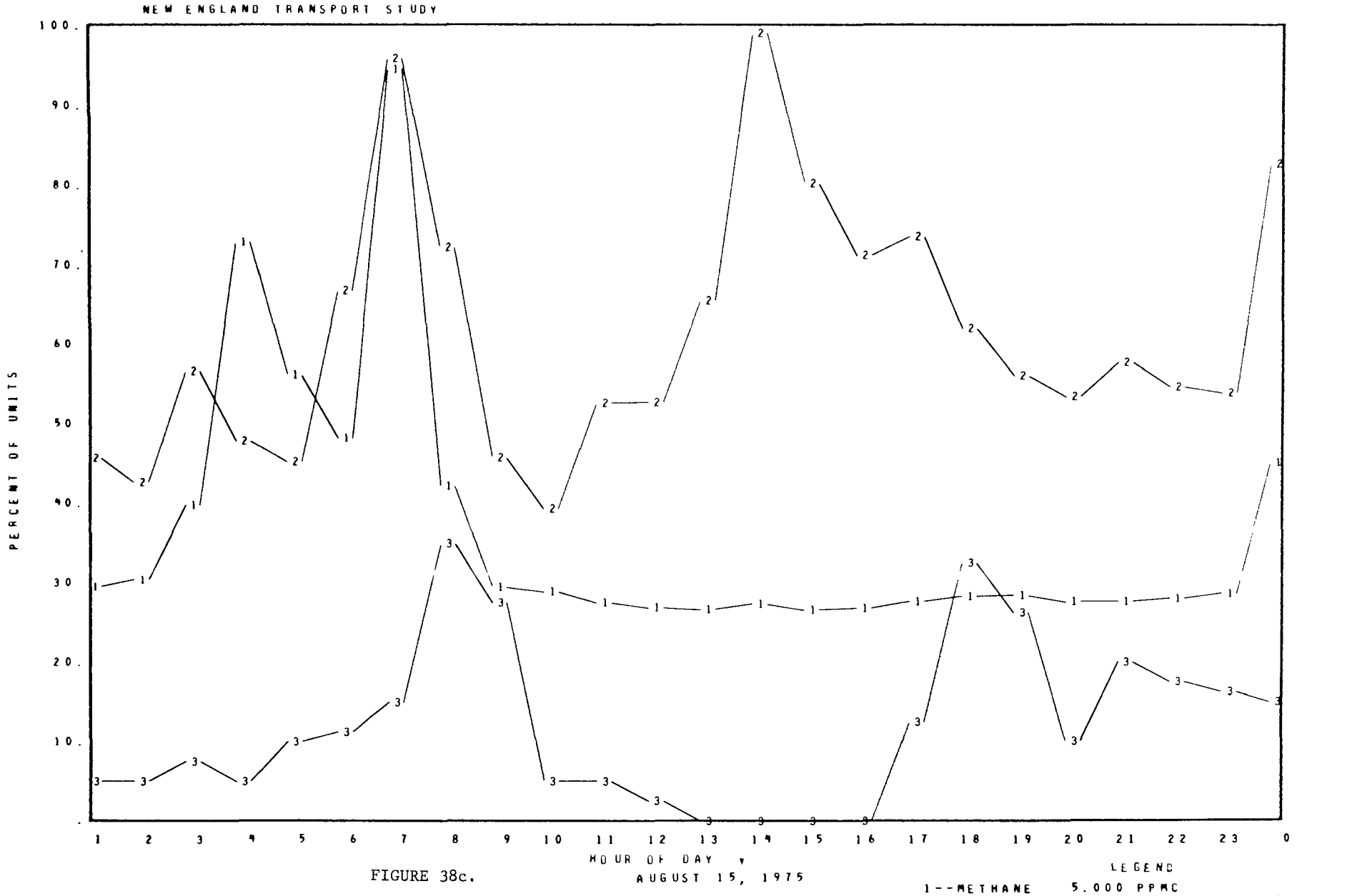

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60
50
40.
30
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 15, 1975
LEGEND
1--METHANE 5.000 PPMC
2--NON-METHANE HYDROCARBON 0 700 PPMC
3- CARBON MONOXIDE 1 000

FIGURE 38c.

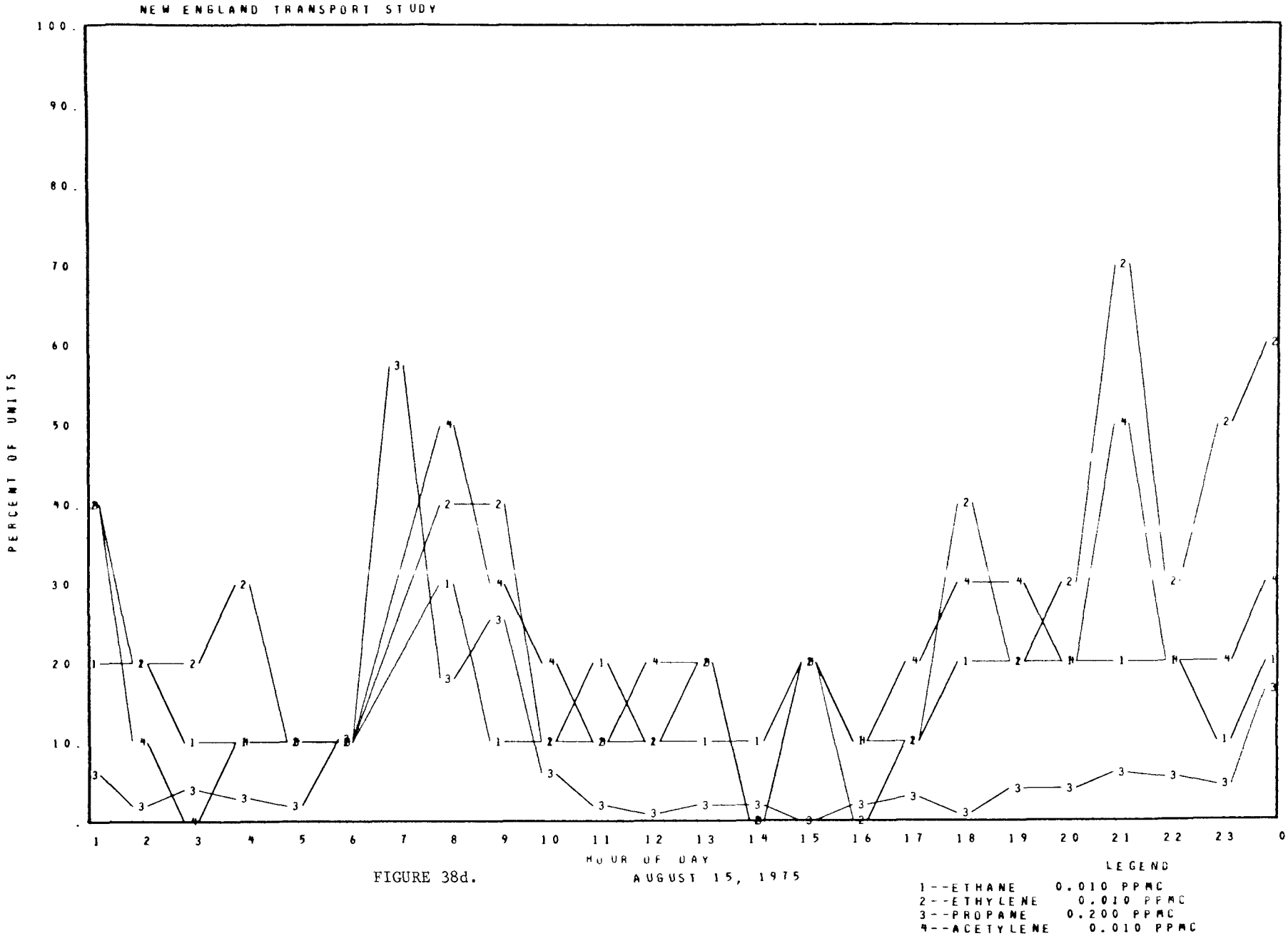



FIGURE 38d. AUGUST 15, 1975

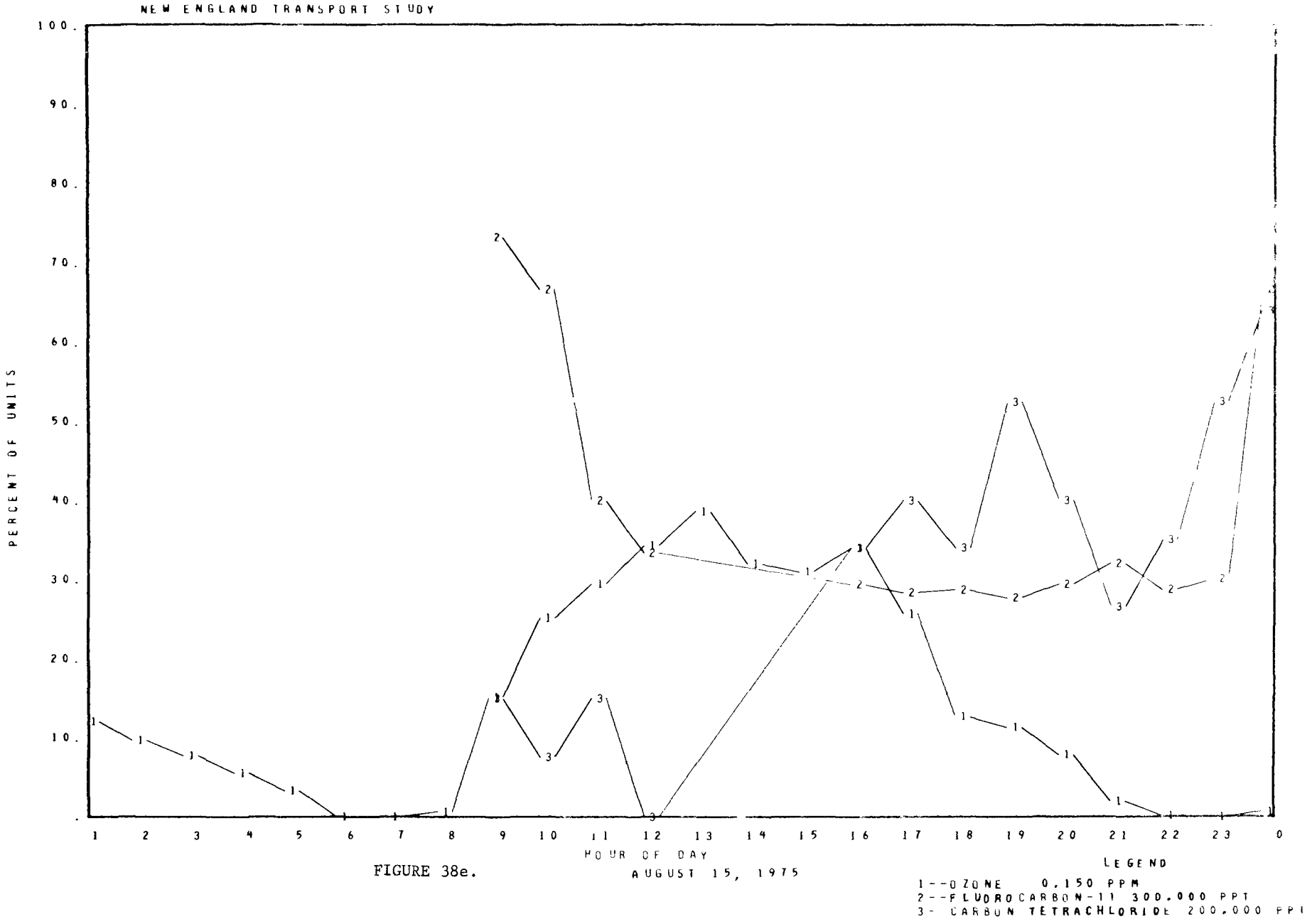
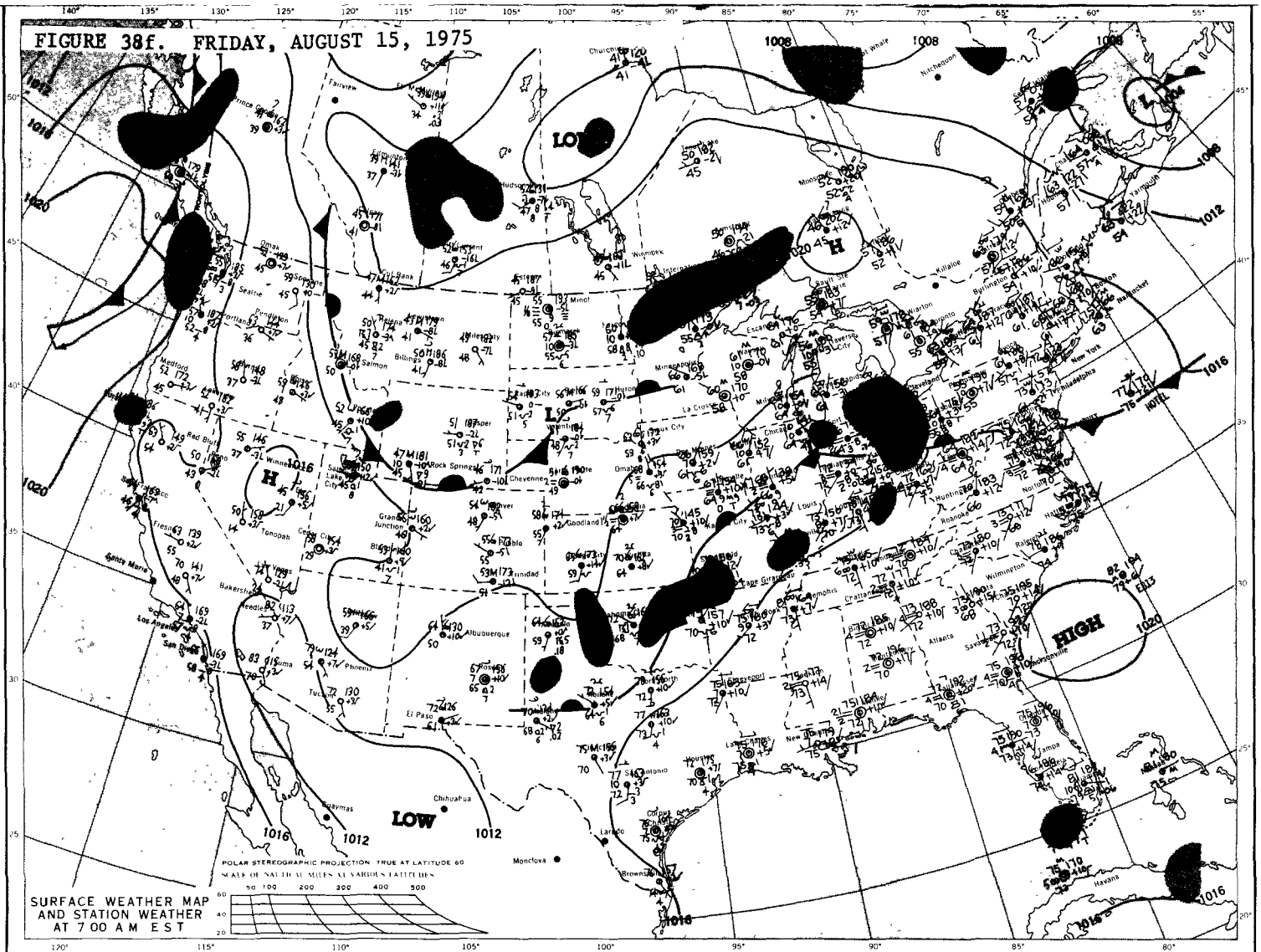
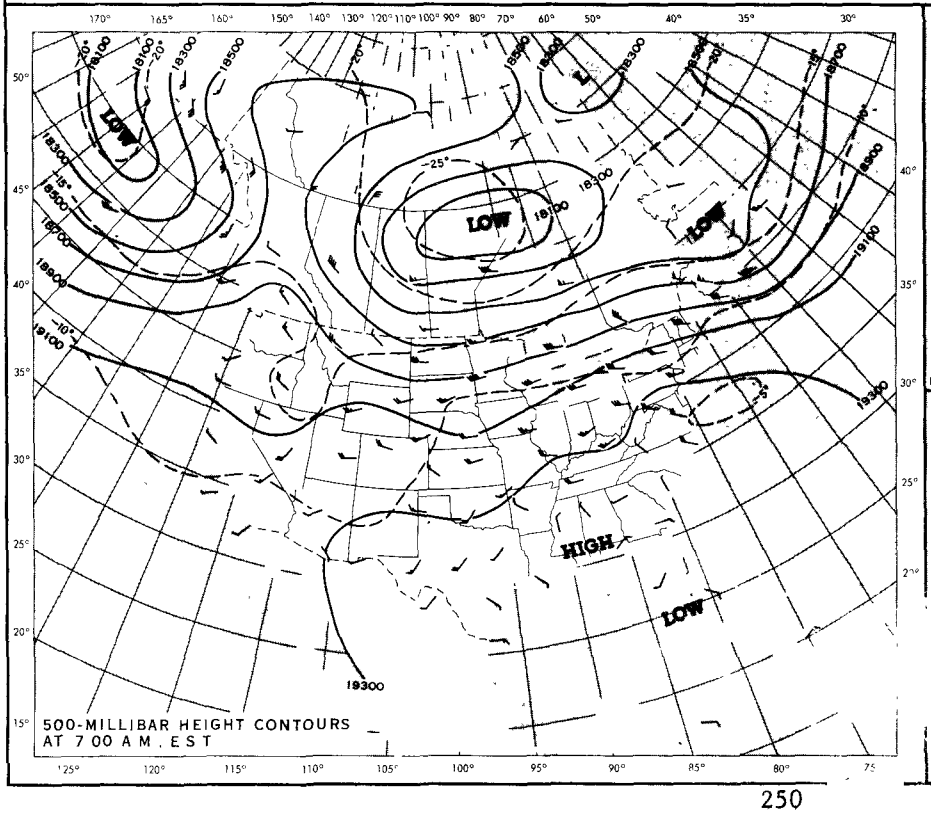

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 15, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 300.000 PPT
3- CARBON TETRACHLORIDE 200.000 PPT

FIGURE 38e.

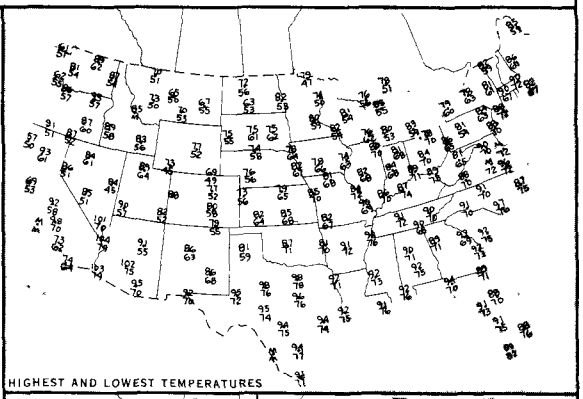
FIGURE 38f. FRIDAY, AUGUST 15, 1975



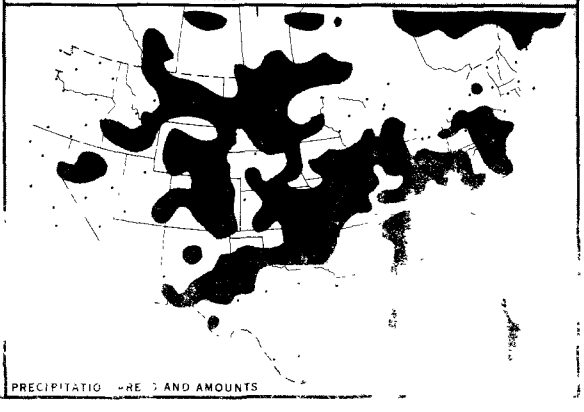

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATIO ~RE : AND AMOUNTS

TABLE 35a. AUGUST 16, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.719 | 24 |
| 2--WIND SPEED (MPH) | 2.721 | 24 |
| 3--WIND DIRECTION (DEGREES) | 247.436 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 19.508 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 76.530 | 24 |
| 6--OZONE (PPM) | 0.019 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 24 |
| 10--METHANE (PPMC) | 1.544 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.345 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.143 | 18 |
| 13--ETHANE (PPMC) | 0.001 | 24 |
| 14--ETHYLENE (PPMC) | 0.003 | 24 |
| 15--PROPANE (PPMC) | 0.008 | 24 |
| 16--ACETYLENE (PPMC) | 0.003 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 96. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 86. | 24 |

TABLE 35b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 16, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.100 | 0.150 | 0.400 | 0.700 | 1.000 | .100 |
| 2--WIND SPEED (MPH) | 1.800 | 2.500 | 3.200 | 2.500 | 2.800 | 2.500 | 2.300 | 1.200 | 3.600 | 4.900 | 3.500 | 2.100 |
| 3--WIND DIRECTION (DEGREES) | 323. | 341. | 335. | 339. | 349. | 350. | 266. | 236. | 351. | 343. | 1. | 225. |
| 4--TEMPERATURE (CENTIGRADE) | 19. | 19. | 19. | 18. | 18. | 18. | 18. | 17. | 18. | 18. | 19. | 19. |
| 5--RELATIVE HUMIDITY (PERCENT) | 73. | 73. | 74. | 74. | 73. | 72. | 75. | 86. | 97. | 91. | 88. | 86. |
| 6--OZONE (PPM) | 0.003 | 0.005 | 0.003 | 0.005 | 0.008 | 0.009 | 0.005 | 0.003 | 0.007 | 0.008 | [illegible] | [illegible] |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.001 | .000 | .000 | .000 | .000 | 0.002 | 0.003 | 0.004 | 0.004 | [illegible] | [illegible] |
| 8--NITROGEN DIOXIDE (PPM) | 0.008 | 0.006 | 0.007 | 0.005 | 0.003 | 0.002 | 0.004 | 0.005 | 0.004 | 0.005 | [illegible] | [illegible] |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 0.007 | 0.007 | 0.005 | 0.003 | 0.002 | 0.006 | 0.008 | 0.008 | 0.009 | [illegible] | [illegible] |
| 10--METHANE (PPMC) | 1.641 | 1.448 | 1.471 | 1.468 | 1.431 | 1.418 | 1.511 | 1.773 | 1.431 | 1.398 | [illegible] | [illegible] |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.307 | 0.302 | 0.357 | 0.282 | 0.273 | 0.265 | 0.305 | 0.423 | 0.297 | 0.318 | [illegible] | 0.3 |
| 12--CARBON MONOXIDE (PPM) | 0.150 | 0.100 | 0.112 | 0.075 | 0.050 | 0.050 | 0.112 | 0.125 | 0.125 | 0.138 | [illegible] | 0.1 |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 01 | 0.0 |
| 14--ETHYLENE (PPMC) | 0.005 | 0.003 | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.008 | 0.001 | [illegible] | 002 | 0.0 |
| 15--PROPANE (PPMC) | 0.032 | 0.043 | 0.025 | 0.017 | 0.010 | 0.014 | 0.006 | 0.016 | .000 | [illegible] | .005 | .00 |
| 16--ACETYLENE (PPMC) | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.003 | 0.002 | 0.003 | 0.001 | [illegible] | .002 | .0 |
| 19--FLUOROCARBON-11 (PPT) | 96. | 86. | 85. | 80. | 79. | 77. | 76. | 87. | 84. | 83. | 95. | [illegible] |
| 20--CARBON TETRACHLORIDE (PPT) | 100. | 85. | 75. | 70. | 70. | 60. | 80. | 110. | 65. | 68. | 90. | 80. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.775 | 4.300 | 3.800 | 1.875 | 1.075 | 0.600 | 0.225 | 0.100 | 0.050 | .000 | .000 | .000 |
| 2--WIND SPEED (MPH) | 2.000 | 2.300 | 4.300 | 3.700 | 3.100 | 2.700 | 2.400 | 2.300 | 3.500 | 1.800 | 2.400 | 1.900 |
| 3--WIND DIRECTION (DEGREES) | 267. | 196. | 192. | 197. | 176. | 202. | 193. | 198. | 200. | 235. | 206. | 216. |
| 4--TEMPERATURE (CENTIGRADE) | 20. | 23. | 23. | 22. | 22. | 21. | 21. | 20. | 19. | 19. | 19. | 19. |
| 5--RELATIVE HUMIDITY (PERCENT) | 82. | 62. | 60. | 64. | 65. | 70. | 74. | 77. | 79. | 81. | 81. | 82. |
| 6--OZONE (PPM) | 0.017 | 0.032 | 0.046 | 0.044 | 0.046 | 0.040 | 0.036 | 0.023 | 0.021 | 0.024 | 0.024 | 0.022 |
| 7--NITRIC OXIDE (PPM) | 0.005 | 0.001 | .000 | 0.000 | .000 | 0.001 | .000 | .000 | 0.000 | 0.001 | 0.001 | 0.000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 0.004 | 0.005 | 0.006 | 0.006 | 0.008 | 0.009 | 0.011 | 0.010 | 0.008 | 0.007 | 0.007 |
| 9--NITROGEN OXIDES (PPM) | 0.010 | 0.005 | 0.005 | 0.006 | 0.006 | 0.009 | 0.009 | 0.011 | 0.011 | 0.009 | 0.007 | 0.007 |
| 10--METHANE (PPMC) | 1.386 | 1.358 | 1.420 | 1.391 | 1.443 | 1.578 | 1.703 | 2.046 | 1.763 | 1.650 | 1.718 | 1.783 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.352 | 0.396 | 0.350 | 0.410 | 0.347 | 0.365 | 0.395 | 0.415 | 0.338 | 0.361 | 0.386 | 0.322 |
| 12--CARBON MONOXIDE (PPM) | 0.100 | -0.116 | -0.132 | -0.148 | -0.164 | -0.180 | -0.196 | 0.212 | 0.200 | 0.275 | 0.237 | 0.187 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.008 | 0.002 | 0.001 | 0.003 | 0.004 | 0.004 | 0.005 | 0.004 | 0.003 | 0.011 | 0.003 | 0.004 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | .000 | .000 | .000 | 0.002 | 0.001 | .000 | 0.005 | .000 | .000 |
| 16--ACETYLENE (PPMC) | 0.004 | 0.004 | 0.002 | 0.003 | 0.004 | 0.005 | 0.007 | 0.004 | 0.005 | 0.006 | 0.004 | 0.003 |
| 19--FLUOROCARBON-11 (PPT) | 97. | 88. | 98. | 100. | 104. | 118. | 117. | 116. | 110. | 117. | 106. | 116. |
| 20--CARBON TETRACHLORIDE (PPT) | 113. | 90. | 65. | 68. | 80. | 105. | 105. | 95. | 110. | 98. | 80. | 100. |

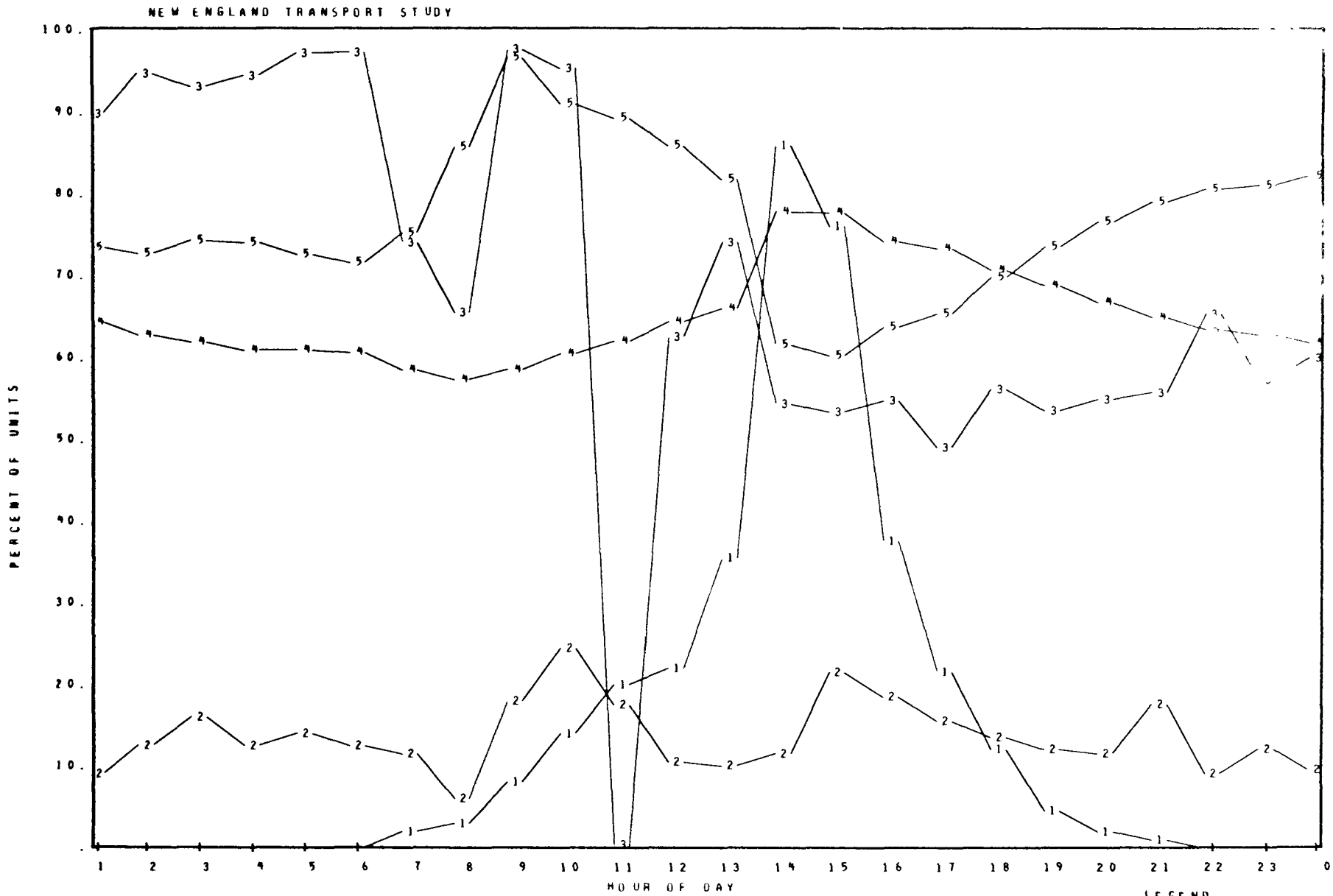

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 16, 1975
LEGEND
1--GLOBAL IRRADIANCE 5.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

FIGURE 39a

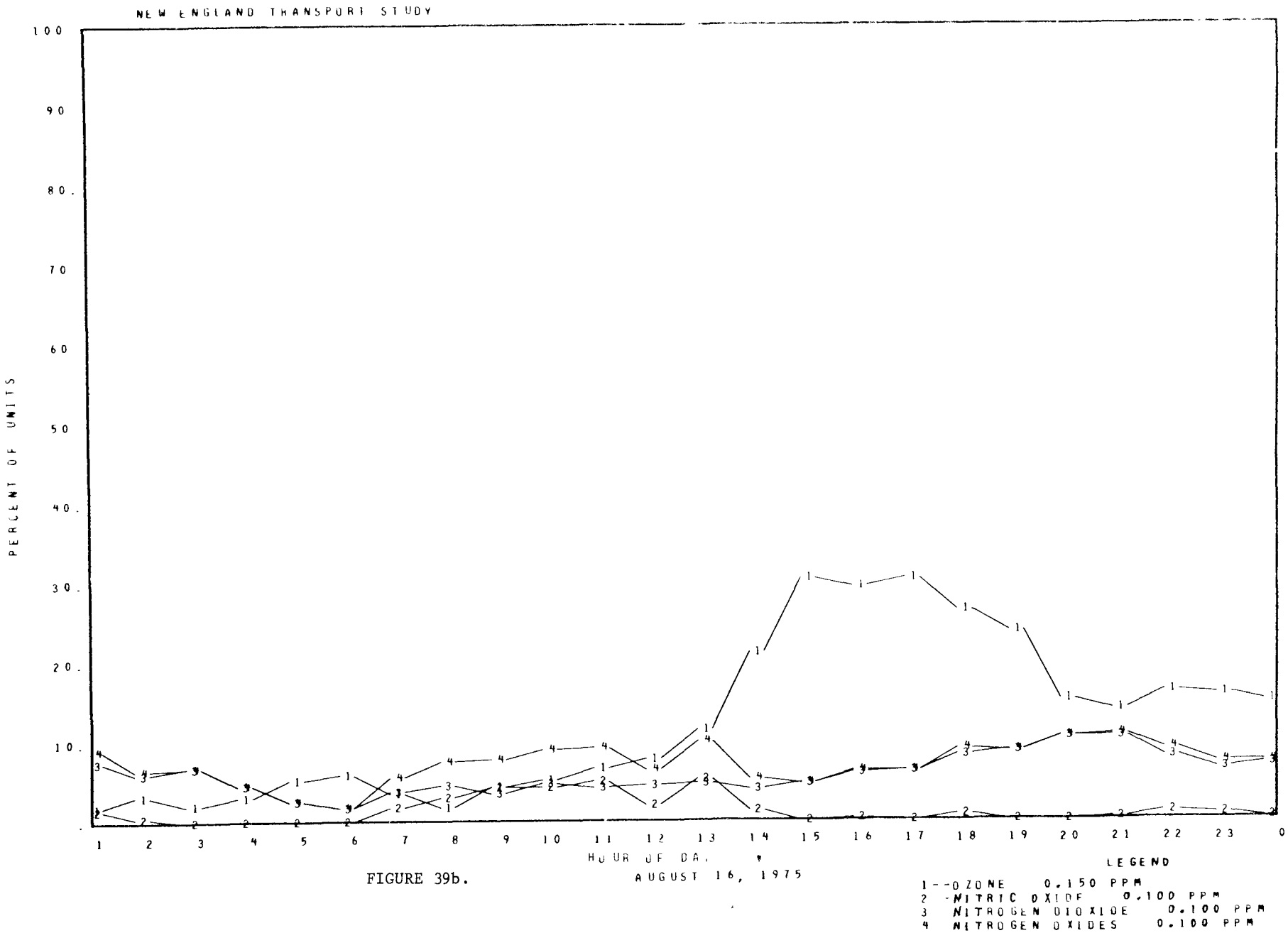

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100
90
80.
70
60
50
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 16, 1975
LEGEND
1 --OZONE 0.150 PPM
2 -NITRIC OXIDE 0.100 PPM
3 NITROGEN DIOXIDE 0.100 PPM
4 NITROGEN OXIDES 0.100 PPM

FIGURE 39b.

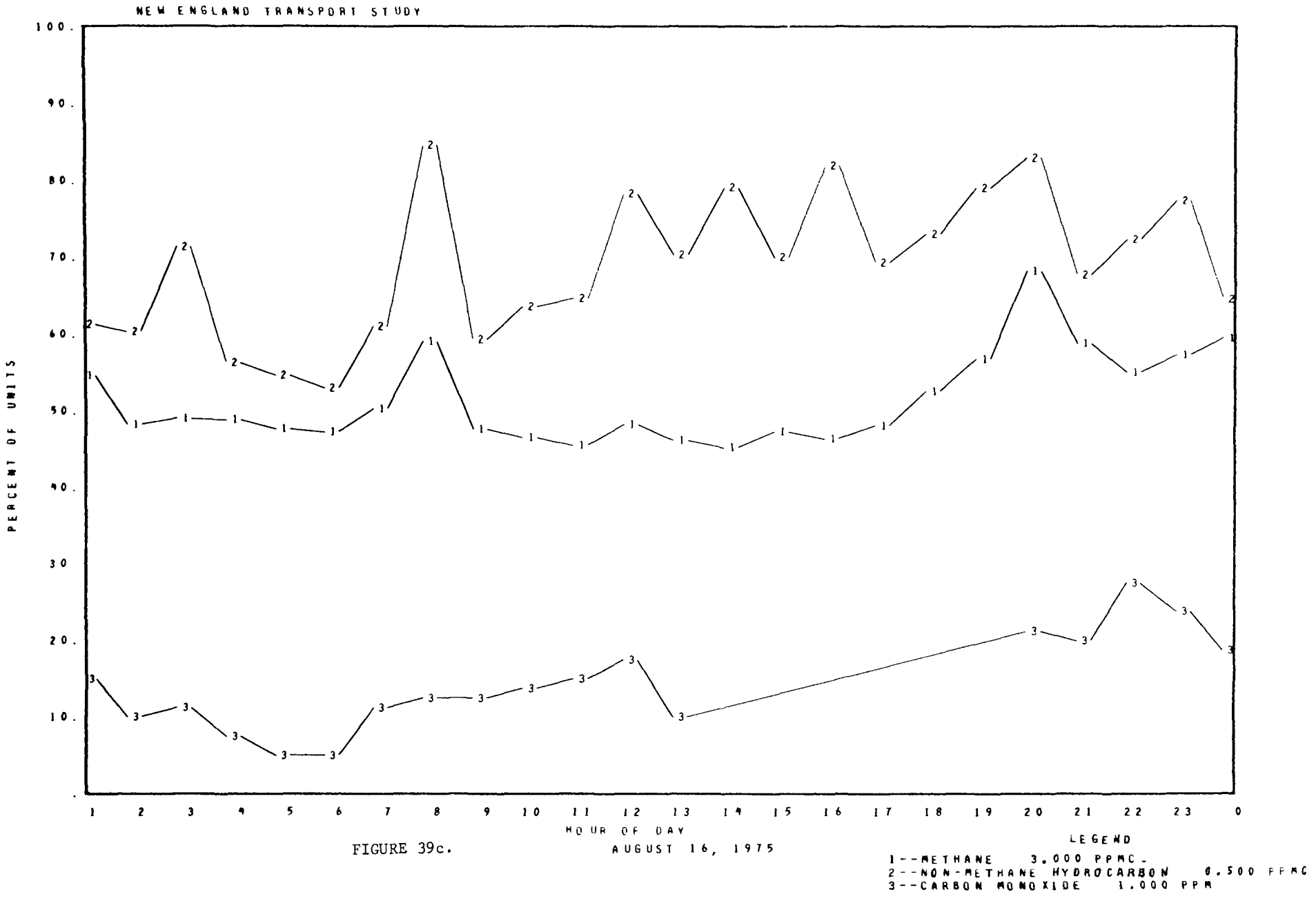



FIGURE 39c. AUGUST 16, 1975

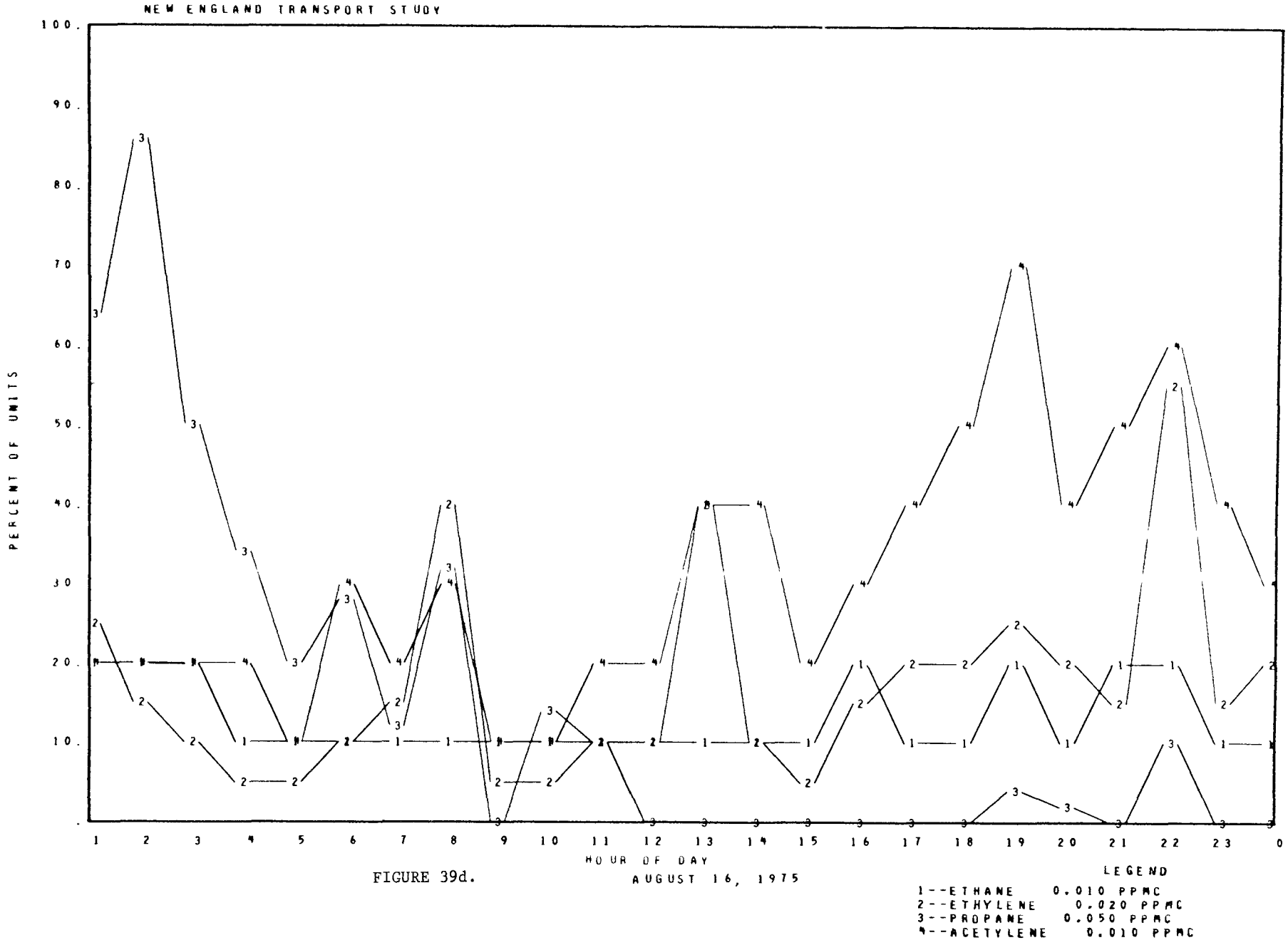

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70
60.
50.
40.
30
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 16, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.050 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 39d.

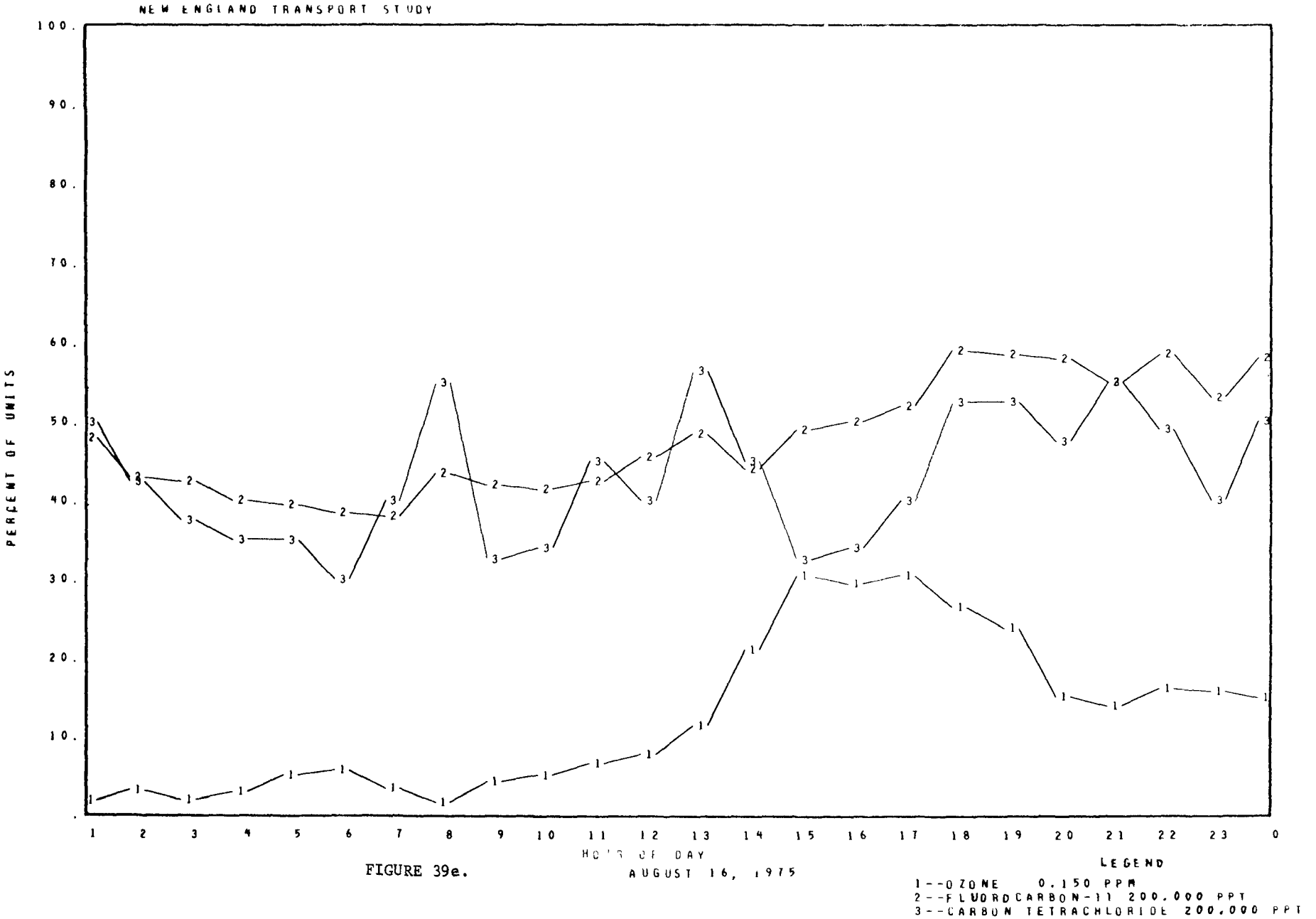
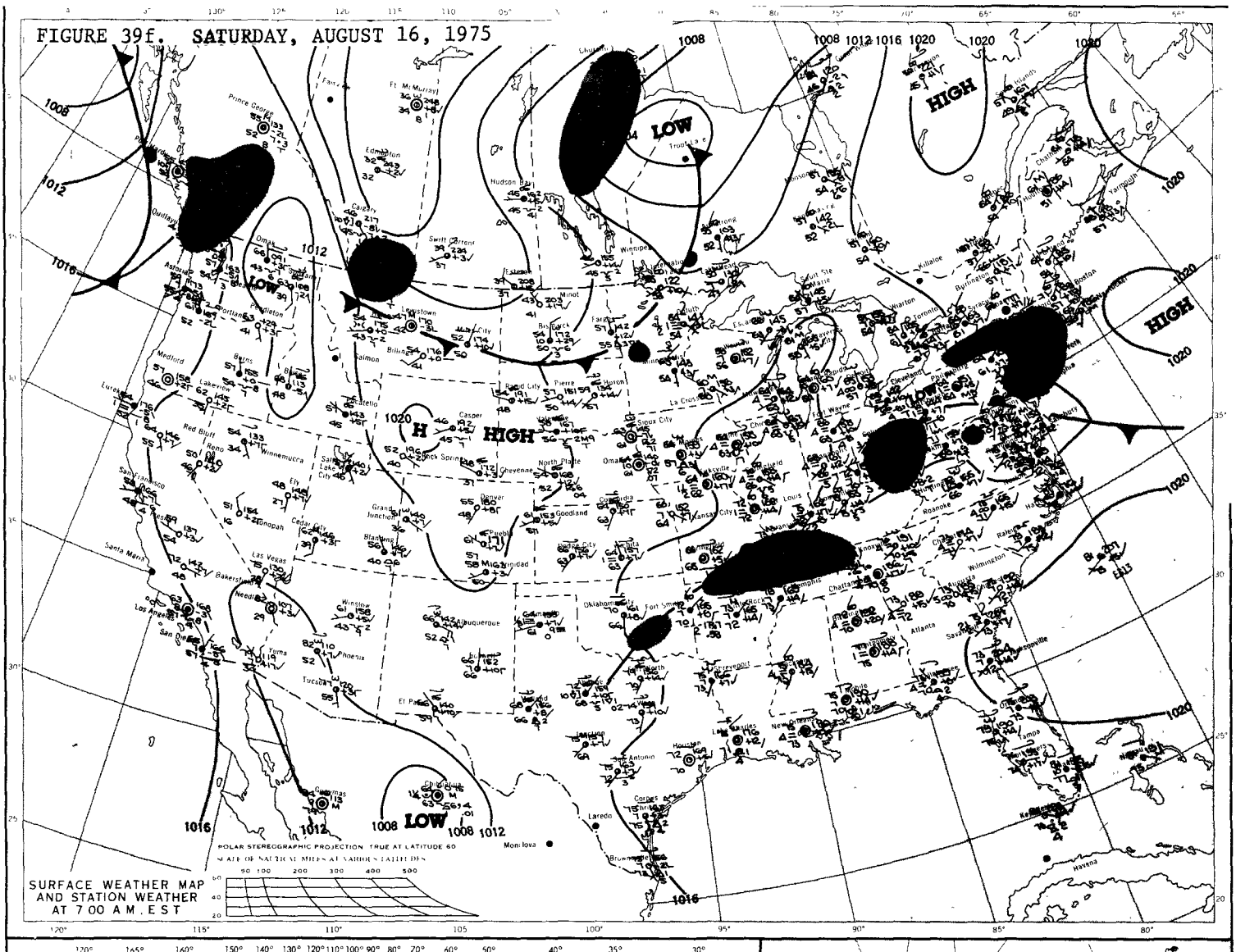
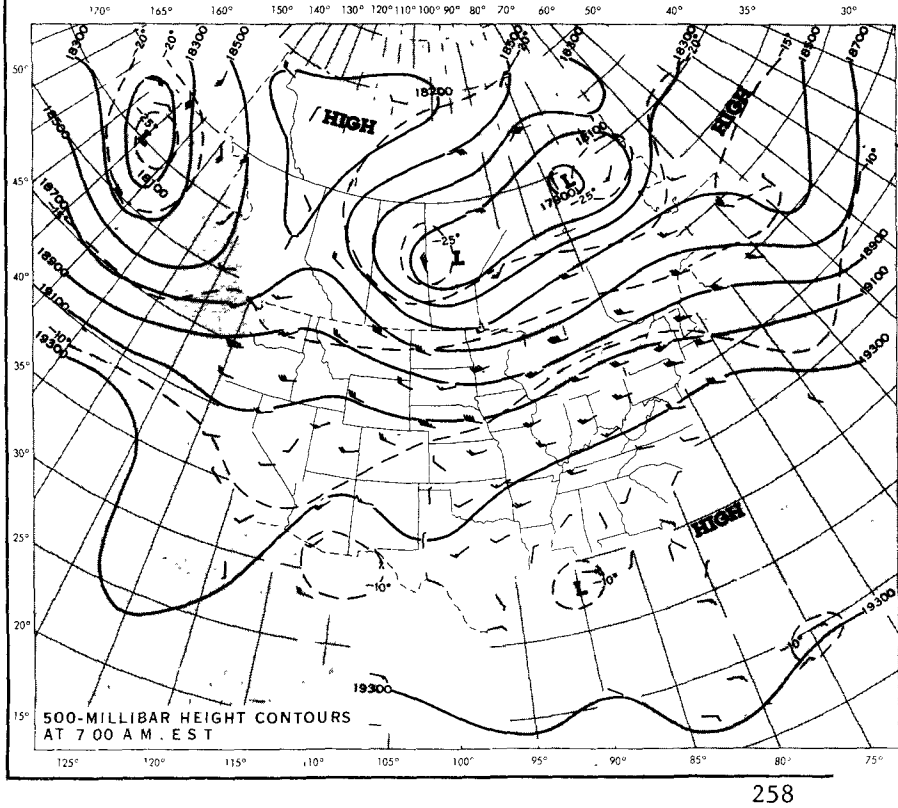

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 16, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUORDCARBON-11 200,000 PPT
3--CARBON TETRACHLORIDE 200,000 PPT

FIGURE 39e.

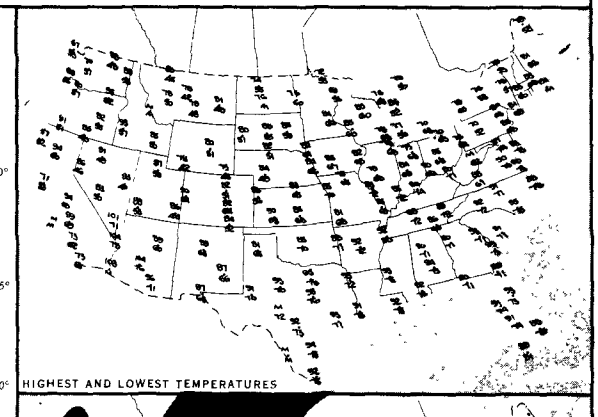
FIGURE 39f. SATURDAY, AUGUST 16, 1975



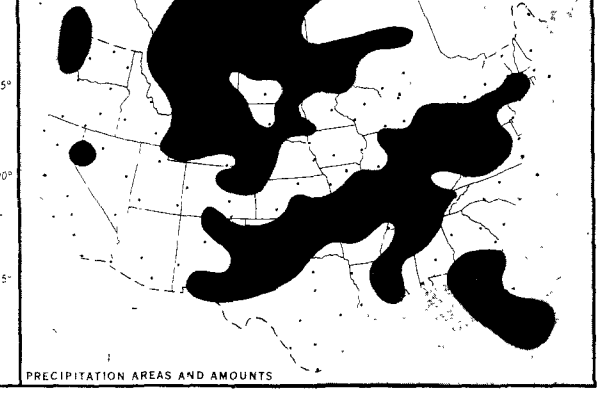

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A.M. EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 36a. AUGUST 17, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 0.558 | 24 |
| 2--WIND SPEED (MPH) | 1.631 | 24 |
| 3--WIND DIRECTION (DEGREES) | 220.586 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 20.368 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 78.067 | 24 |
| 6--OZONE (PPM) | 0.026 | 24 |
| 7--SULFUR DIOXIDE (PPM) | 0.001 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.004 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 1.444 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.340 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.141 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 24 |
| 14--ETHYLENE (PPMC) | 0.003 | 24 |
| 15--PROPANE (PPMC) | 0.007 | 24 |
| 16--ACETYLENE (PPMC) | 0.003 | 24 |
| 17--FLUOROCARBON-11 (PPT) | 94. | 24 |
| 18--CARBON TETRACHLORIDE (PPT) | 94. | 24 |

[illegible]

[illegible] HOUR AVERAGED FOR AUGUST 17, 1977

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.092 | 0.175 | 0.475 | 1.525 | 1.325 | 2.07 |
| 2--WIND SPEED (MPH) | 0.800 | 1.000 | 1.200 | 1.600 | 2.100 | 1.400 | 2.400 | 2.200 | 2.900 | 2.100 | 2.200 | 1.60 |
| 3--WIND DIRECTION (DEGREES) | 236. | 246. | 10. | 1. | 331. | 42. | 334. | 338. | 333. | 341. | 326. | 231 |
| 4--TEMPERATURE (CENTIGRADE) | 18. | 18. | 18. | 18. | 18. | 18. | 18. | 19. | 19. | 21. | 22. | 23 |
| 5--RELATIVE HUMIDITY (PERCENT) | 82. | 88. | 90. | 90. | 89. | 90. | 89. | 87. | 84. | 74. | 71. | 66 |
| 6--OZONE (PPM) | 0.026 | 0.026 | 0.027 | 0.023 | 0.019 | 0.016 | 0.011 | 0.015 | 0.021 | 0.029 | 0.030 | 0.03 |
| 7--NITRIC OXIDE (PPM) | 0.001 | .000 | .000 | .000 | .000 | .000 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | .00 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 0.005 | 0.003 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.00 |
| 9--NITROGEN OXIDES (PPM) | 0.006 | 0.005 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.003 | 0.004 | 0.00 |
| 10--METHANE (PPMC) | 1.414 | 1.566 | 1.491 | 1.425 | 1.383 | 1.400 | 1.410 | 1.438 | 1.396 | 1.364 | 1.401 | 1.39 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.268 | 0.303 | 0.390 | 0.328 | 0.274 | 0.333 | 0.270 | 0.264 | 0.340 | 0.335 | 0.303 | 0.35 |
| 12--CARBON MONOXIDE (PPM) | 0.162 | 0.138 | 0.150 | 0.112 | 0.100 | 0.138 | 0.137 | 0.138 | 0.162 | 0.125 | 0.125 | 0.07 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.003 | 0.002 | 0.002 | 0.002 | 0.00 |
| 14--ETHYLENE (PPMC) | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.005 | 0.005 | 0.00 |
| 15--PROPANE (PPMC) | .000 | .000 | 0.005 | 0.015 | 0.014 | 0.004 | 0.013 | 0.022 | 0.044 | 0.005 | 0.005 | 0.00 |
| 16--ACETYLENE (PPMC) | 0.004 | 0.002 | 0.003 | 0.002 | 0.001 | 0.002 | 0.002 | 0.003 | 0.003 | 0.006 | 0.002 | 0.00 |
| 19--FLUOROCARBON-11 (PPT) | 100. | 96. | 88. | 89. | 93. | 87. | [illegible] | 93. | 91. | 88. | 86. | 85 |
| 20--CARBON TETRACHLORIDE (PPT) | 120. | 95. | 85. | 90. | 95. | 85. | 90. | 70. | 95. | 105. | 100. | 100 |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.775 | 1.350 | 0.875 | 1.200 | 1.250 | 0.800 | 0.300 | 0.150 | 0.075 | .000 | .000 | .00 |
| 2--WIND SPEED (MPH) | 1.700 | 1.700 | 2.000 | 1.200 | 1.600 | 1.400 | [illegible] | 1.300 | 0.800 | 1.800 | 1.100 | 1.95 |
| 3--WIND DIRECTION (DEGREES) | 9. | 259. | 244. | 279. | 277. | [illegible] | [illegible] | [illegible] | 279. | 195. | 214. | 237 |
| 4--TEMPERATURE (CENTIGRADE) | 23. | 22. | 22. | 22. | 22. | 23. | [illegible] | [illegible] | 21. | 20. | 20. | 20 |
| 5--RELATIVE HUMIDITY (PERCENT) | 64. | 65. | 67. | 67. | 67. | 69. | [illegible] | 75. | 80. | 82. | 83. | 81 |
| 6--OZONE (PPM) | 0.039 | 0.041 | 0.040 | 0.041 | 0.042 | 0.035 | 0.035 | 0.027 | 0.011 | 0.002 | 0.005 | 0.01 |
| 7--NITRIC OXIDE (PPM) | .000 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 | [illegible] | 0.002 | 0.004 | 0.002 | 0.003 | 0.00 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.002 | 0.003 | 0.003 | 0.003 | 0.004 | 0.005 | 0.006 | 0.008 | 0.010 | 0.010 | 0.00 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.002 | 0.003 | 0.005 | 0.004 | 0.005 | 0.007 | 0.008 | 0.012 | 0.012 | 0.012 | 0.00 |
| 10--METHANE (PPMC) | 1.385 | 1.400 | 1.400 | 1.355 | 1.361 | 1.335 | 1.430 | 1.404 | 1.426 | 1.806 | 1.885 | 1.39 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.340 | 0.296 | 0.358 | 0.378 | 0.340 | 0.415 | 0.364 | 0.350 | 0.360 | 0.510 | 0.381 | 0.31 |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.063 | 0.087 | 0.075 | 0.062 | 0.087 | 0.325 | 0.125 | 0.250 | 0.262 | 0.275 | 0.15 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.00 |
| 14--ETHYLENE (PPMC) | 0.001 | 0.001 | 0.003 | 0.002 | 0.002 | 0.005 | 0.002 | 0.004 | 0.008 | 0.005 | 0.006 | 0.00 |
| 15--PROPANE (PPMC) | .000 | 0.003 | .000 | .000 | 0.002 | 0.005 | .000 | 0.004 | 0.008 | 0.006 | 0.002 | 0.00 |
| 16--ACETYLENE (PPMC) | 0.002 | 0.002 | 0.005 | 0.002 | 0.001 | 0.003 | 0.003 | 0.003 | 0.007 | 0.005 | 0.004 | 0.00 |
| 19--FLUOROCARBON-11 (PPT) | 86. | 87. | 92. | 85. | 86. | 84. | 84. | 93. | 96. | 153. | 128. | 103 |
| 20--CARBON TETRACHLORIDE (PPT) | 105. | 100. | 85. | 68. | 105. | 85. | 83. | 65. | 90. | 101. | 75. | 115 |

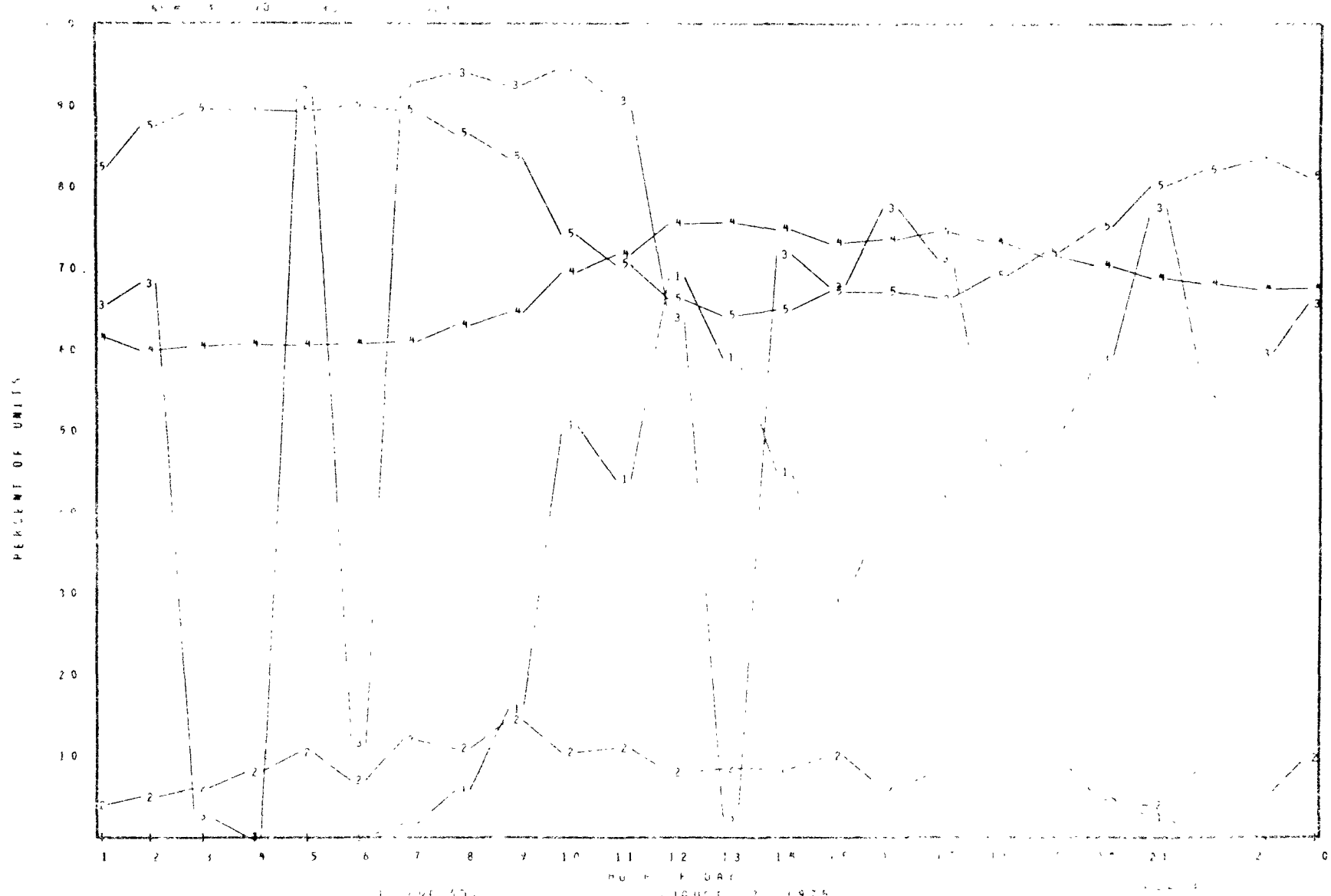



FIGURE 40a

AUGUST 27, 1975

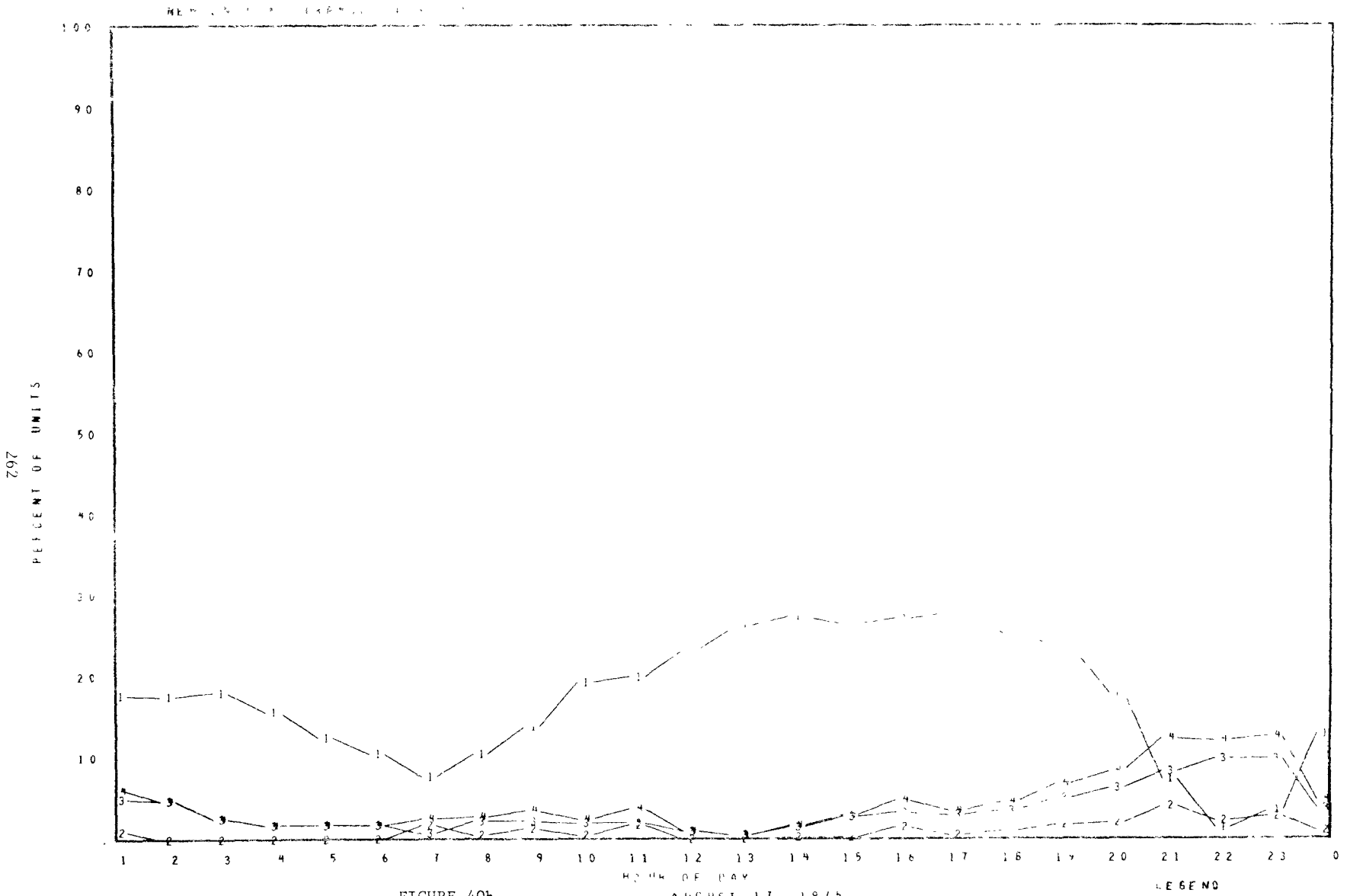



FIGURE 40b. AUGUST 17, 1975

LEGEND
1--OZONE 0.150 PPM
2- NITRIC OXIDE 0.100 PPM
3 NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

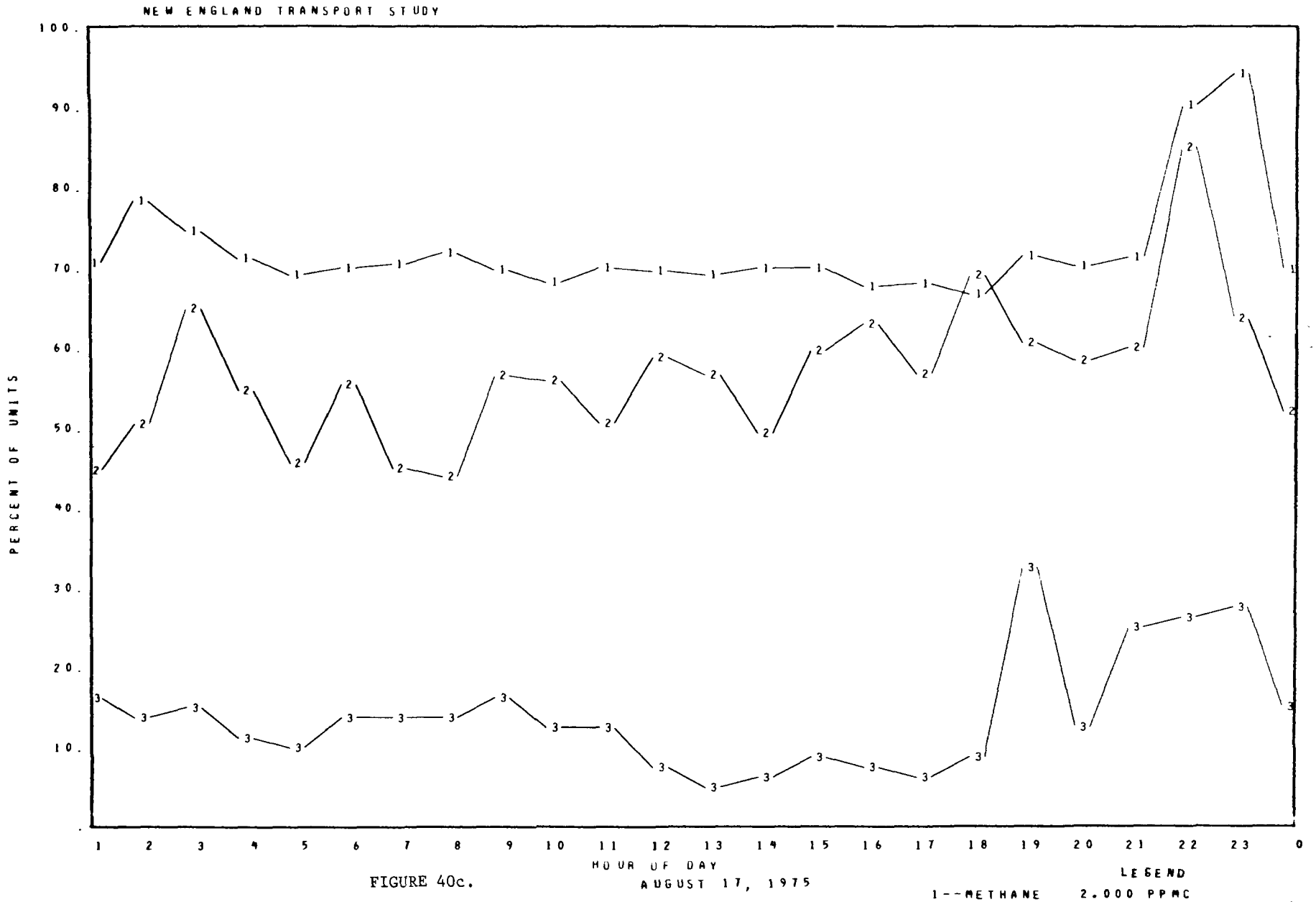

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 17, 1975
LEGEND
1--METHANE 2.000 PPMC
2--NON-METHANE HYDROCARBON 0.600 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 40c.

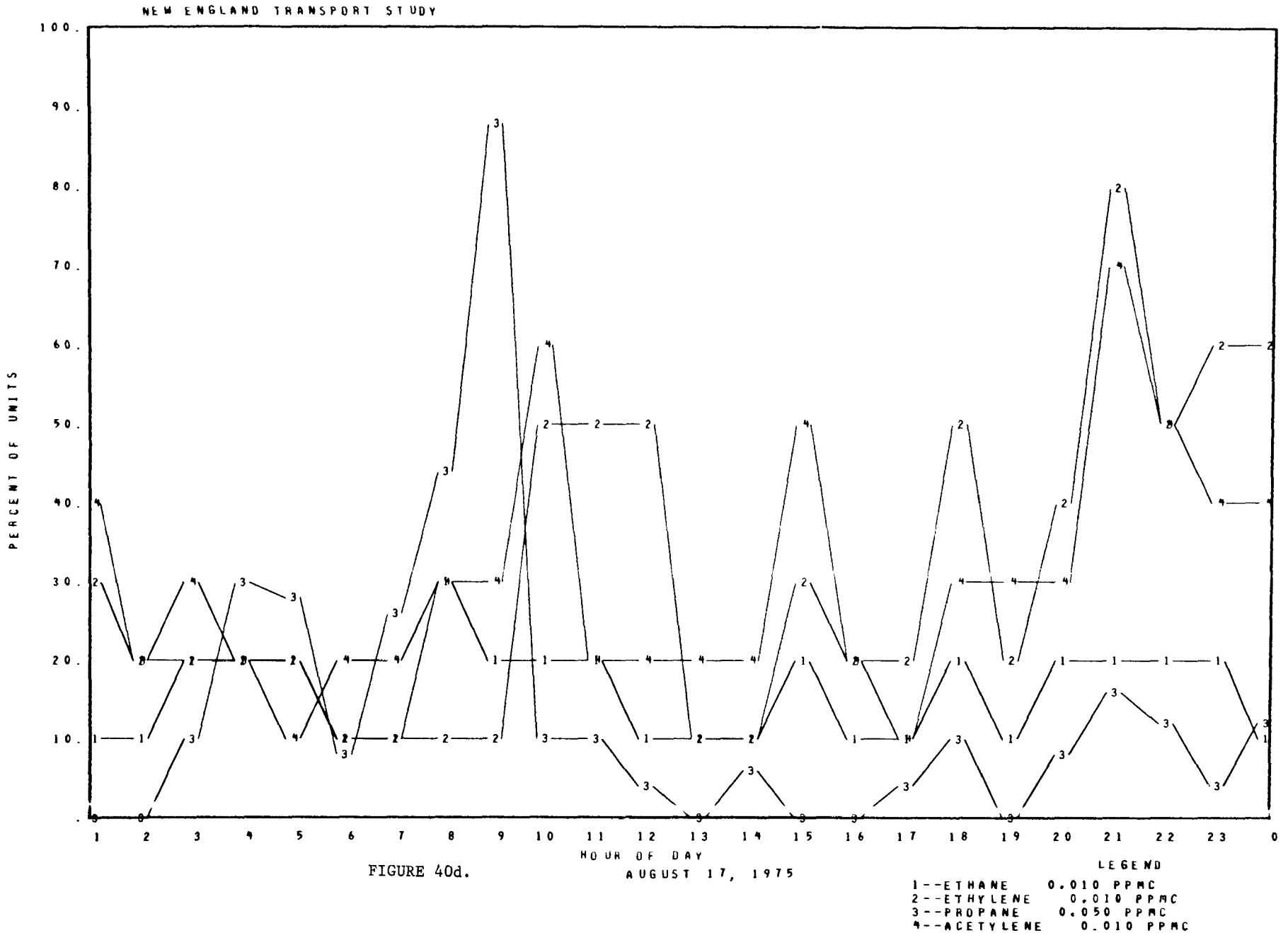

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 17, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.050 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 40d.

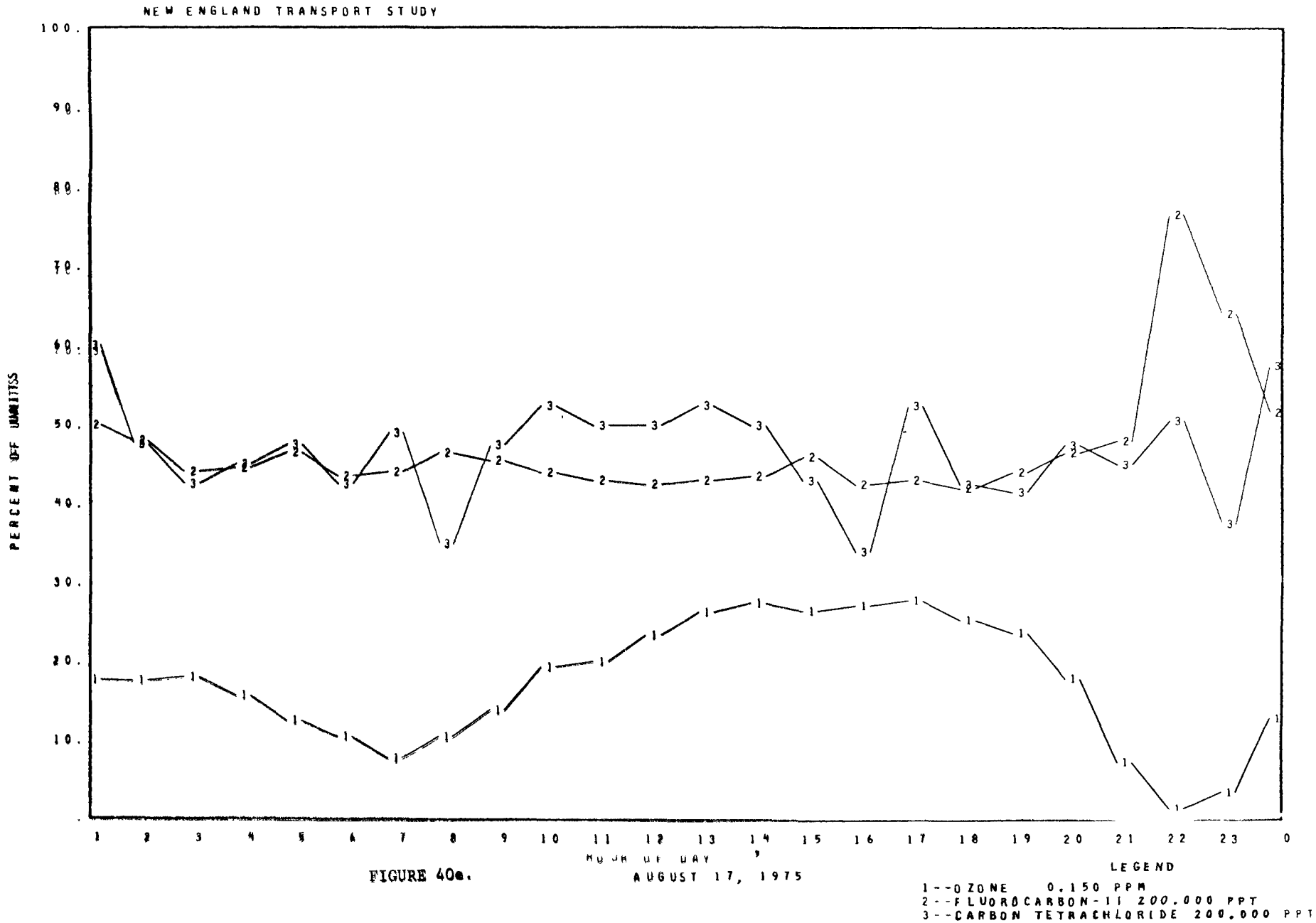
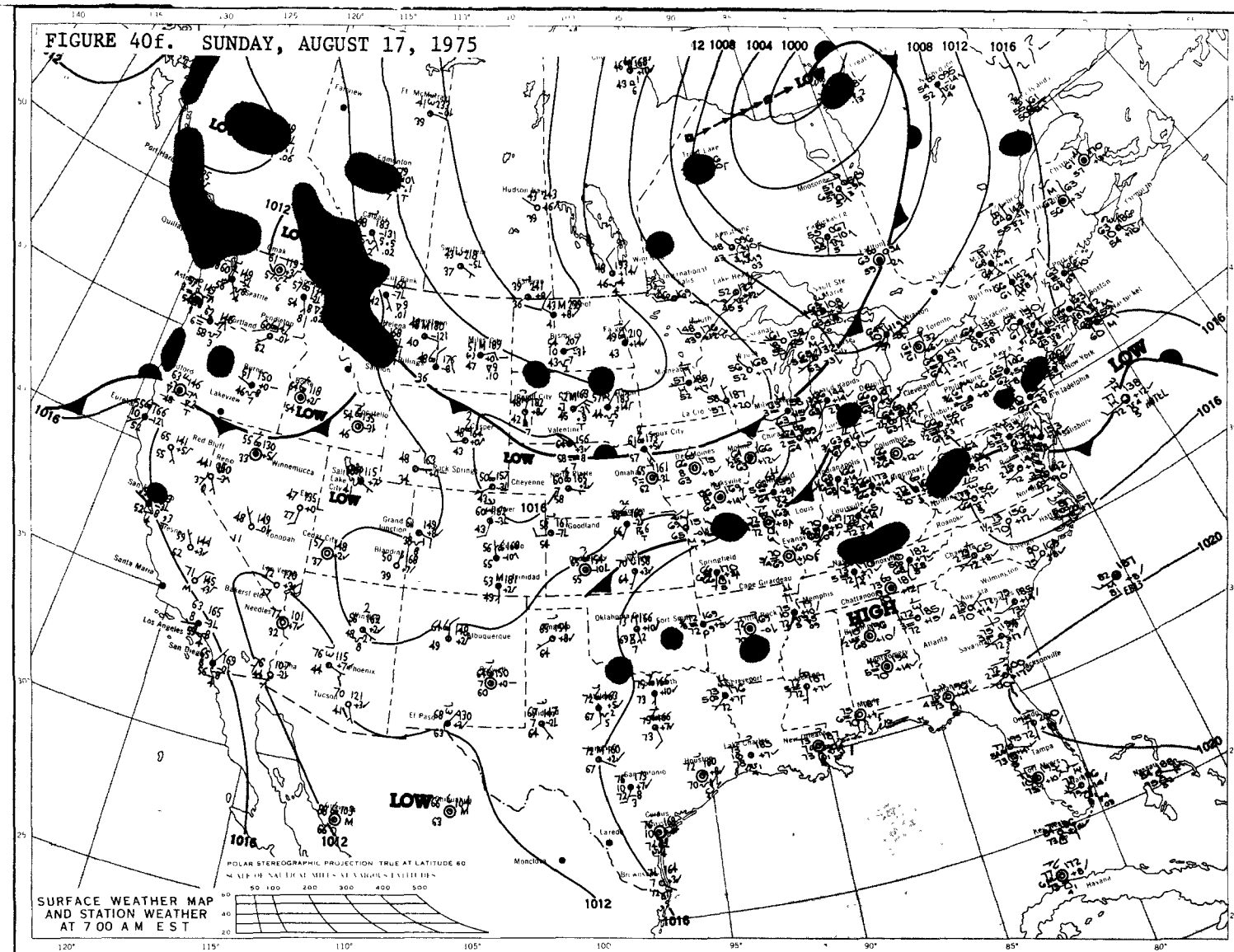
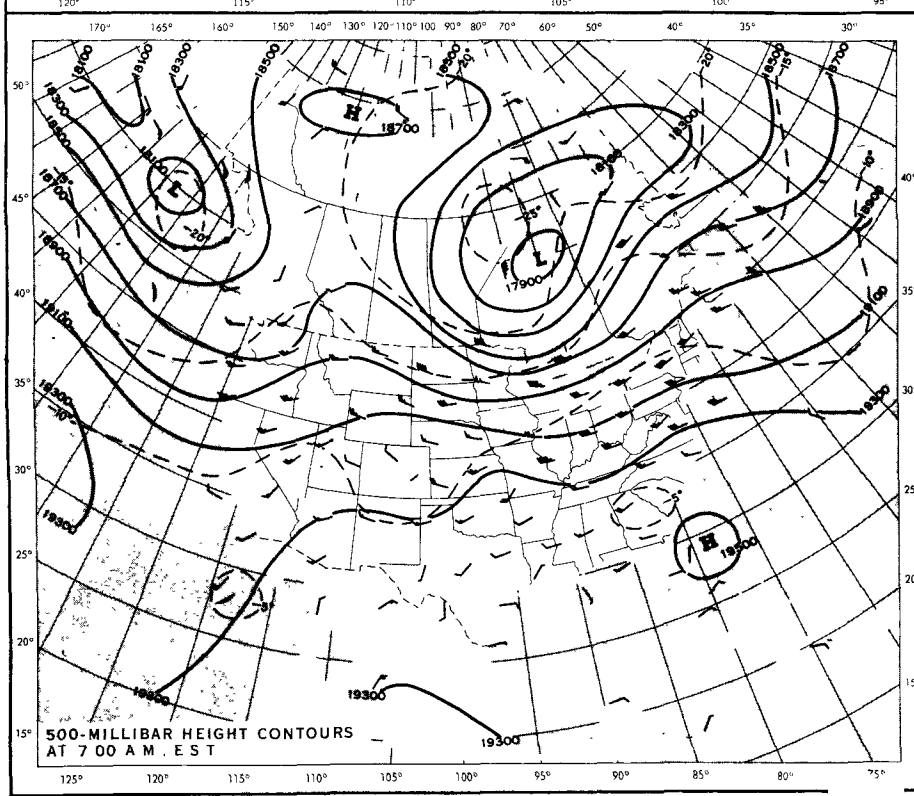

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 17, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 40a.

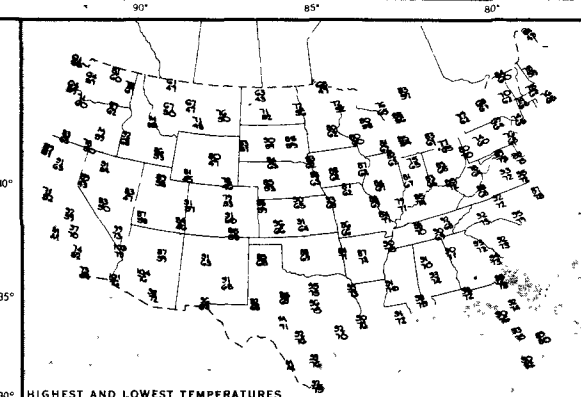
FIGURE 40f. SUNDAY, AUGUST 17, 1975



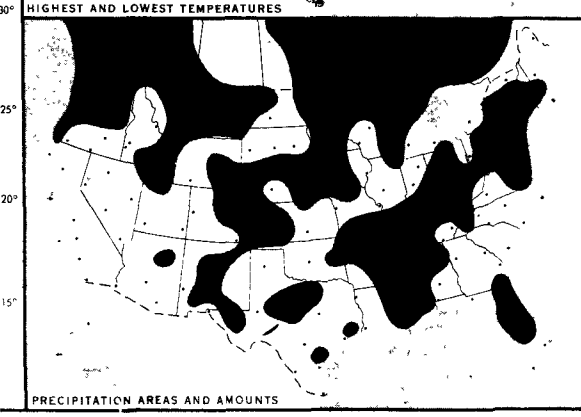

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 37a. AUGUST 18, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.095 | 24 |
| 2--WIND SPEED (MPH) | 3.523 | 24 |
| 3--WIND DIRECTION (DEGREES) | 258.364 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 23.998 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 56.778 | 24 |
| 6--OZONE (PPM) | 0.043 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 1.490 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.386 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.145 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 24 |
| 14--ETHYLENE (PPMC) | 0.004 | 24 |
| 15--PROPANE (PPMC) | 0.004 | 24 |
| 16--ACETYLENE (PPMC) | 0.003 | 23 |
| 19--FLUOROCARBON-11 (PPT) | 106. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 90. | 24 |

TABLE 37b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 18, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.200 | 1.300 | 3.025 | 4.250 | 4.400 | [illegible] |
| 2--WIND SPEED (MPH) | 1.350 | 1.550 | 1.750 | 1.800 | 1.900 | 1.900 | 0.800 | 1.200 | 2.000 | 3.500 | 5.500 | [illegible] |
| 3--WIND DIRECTION (DEGREES) | 253. | 193. | 177. | 178. | 172. | 184. | 298. | 70. | 260. | 258. | 314. | 321. |
| 4--TEMPERATURE (CENTIGRADE) | 20. | 20. | 20. | 20. | 20. | 20. | 19. | 22. | 26. | 28. | [illegible] | 29. |
| 5--RELATIVE HUMIDITY (PERCENT) | 79. | 80. | 82. | 82. | 83. | 84. | 86. | 76. | 62. | 53. | 48. | 44. |
| 6--OZONE (PPM) | 0.035 | 0.034 | 0.031 | 0.032 | 0.030 | 0.033 | 0.014 | 0.009 | 0.035 | 0.051 | 0.061 | 0.063 |
| 7--NITRIC OXIDE (PPM) | 0.000 | .000 | .000 | .000 | .000 | .000 | 0.007 | 0.006 | 0.001 | 0.002 | [illegible] | [illegible] |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.000 | .000 | 0.000 | .000 | 0.000 | 0.004 | 0.008 | 0.006 | 0.004 | [illegible] | 0.005 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.000 | .000 | 0.000 | .000 | 0.000 | 0.011 | 0.014 | 0.006 | 0.006 | [illegible] | [illegible] |
| 10--METHANE (PPMC) | 1.369 | 1.433 | 1.928 | 2.058 | 2.194 | 1.471 | 1.868 | 1.475 | 1.490 | 1.483 | [illegible] | [illegible] |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.295 | 0.297 | 0.401 | 0.337 | 0.407 | 0.328 | 0.653 | 0.451 | 0.468 | 0.394 | [illegible] | [illegible] |
| 12--CARBON MONOXIDE (PPM) | 0.050 | 0.050 | 0.062 | 0.100 | 0.125 | 0.150 | 0.188 | 0.412 | 0.337 | 0.187 | [illegible] | [illegible] |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.001 | 0.003 | 0.002 | 0.003 | 0.003 | 0.002 | 0.002 | [illegible] | [illegible] | [illegible] |
| 14--ETHYLENE (PPMC) | 0.005 | 0.003 | 0.006 | 0.003 | 0.002 | 0.001 | 0.005 | 0.009 | 0.006 | [illegible] | [illegible] | [illegible] |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | 0.004 | .000 | 0.006 | 0.030 | .000 | 0.001 | [illegible] | [illegible] | [illegible] |
| 16--ACETYLENE (PPMC) | 0.003 | 0.002 | 0.002 | 0.003 | 0.002 | 0.003 | 0.005 | 0.007 | 0.005 | 0.005 | [illegible] | [illegible] |
| 19--FLUOROCARBON-11 (PPT) | 99. | 97. | 141. | 151. | 120. | 106. | 116. | 118. | 131. | 113. | 103. | 98. |
| 20--CARBON TETRACHLORIDE (PPT) | 85. | 90. | 110. | 90. | 98. | 80. | 95. | 68. | 75. | 75. | 80. | 85. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.750 | 6.150 | 6.300 | 5.000 | 3.575 | 2.700 | 1.250 | 0.250 | 0.100 | 0.025 | .000 | .000 |
| 2--WIND SPEED (MPH) | 5.200 | 4.700 | 4.700 | 4.300 | 4.400 | 4.800 | 5.000 | 4.500 | 4.700 | 3.200 | 4.000 | 6.900 |
| 3--WIND DIRECTION (DEGREES) | 294. | 283. | 264. | 266. | 288. | 294. | 300. | 298. | 313. | 333. | 291. | 299. |
| 4--TEMPERATURE (CENTIGRADE) | 29. | 30. | 30. | 30. | 30. | 29. | 27. | 23. | 21. | 19. | 19. | 19. |
| 5--RELATIVE HUMIDITY (PERCENT) | 43. | 39. | 38. | 38. | 38. | 37. | 37. | 42. | 47. | 53. | 50. | 42. |
| 6--OZONE (PPM) | 0.060 | 0.058 | 0.059 | 0.059 | 0.060 | 0.053 | 0.047 | 0.051 | 0.045 | 0.038 | 0.040 | 0.041 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.002 | 0.004 | 0.003 | 0.005 | 0.002 | 0.001 | 0.000 | 0.002 | 0.001 | 0.000 | .000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 0.004 | 0.002 | 0.006 | 0.007 | 0.005 | 0.004 | 0.004 | 0.005 | 0.005 | 0.002 | 0.000 |
| 9--NITROGEN OXIDES (PPM) | 0.007 | 0.007 | 0.006 | 0.009 | 0.012 | 0.007 | 0.005 | 0.005 | 0.007 | 0.006 | 0.002 | 0.000 |
| 10--METHANE (PPMC) | 1.317 | 1.339 | 1.358 | 1.355 | 1.350 | 1.350 | 1.350 | 1.350 | 1.343 | 1.338 | 1.390 | 1.411 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.528 | 0.444 | 0.455 | 0.475 | 0.458 | 0.341 | 0.273 | 0.266 | 0.270 | 0.343 | 0.368 | 0.185 |
| 12--CARBON MONOXIDE (PPM) | 0.175 | 0.137 | 0.137 | 0.333 | 0.117 | 0.187 | 0.083 | 0.062 | 0.050 | 0.075 | 0.075 | 0.013 |
| 13--ETHANE (PPMC) | 0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.001 | .000 | 0.002 | 0.001 | 0.001 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.001 | .000 | 0.001 | 0.001 | 0.006 | 0.001 | 0.001 | 0.002 | 0.014 | 0.003 | 0.001 | .000 |
| 15--PROPANE (PPMC) | 0.001 | .000 | 0.004 | 0.007 | 0.002 | 0.021 | 0.006 | .000 | .000 | 0.004 | 0.011 | .000 |
| 16--ACETYLENE (PPMC) | 0.002 | 0.001 | 0.001 | 0.001 | 0.003 | 0.001 | 0.001 | 0.002 | 0.007 | 0.002 | -0.001 | 0.001 |
| 19--FLUOROCARBON-11 (PPT) | 105. | 103. | 97. | 101. | 106. | 89. | 89. | 88. | 96. | 84. | 98. | 98. |
| 20--CARBON TETRACHLORIDE (PPT) | 90. | 90. | 90. | 105. | 100. | 80. | 105. | 105. | 85. | 60. | 105. | 105. |

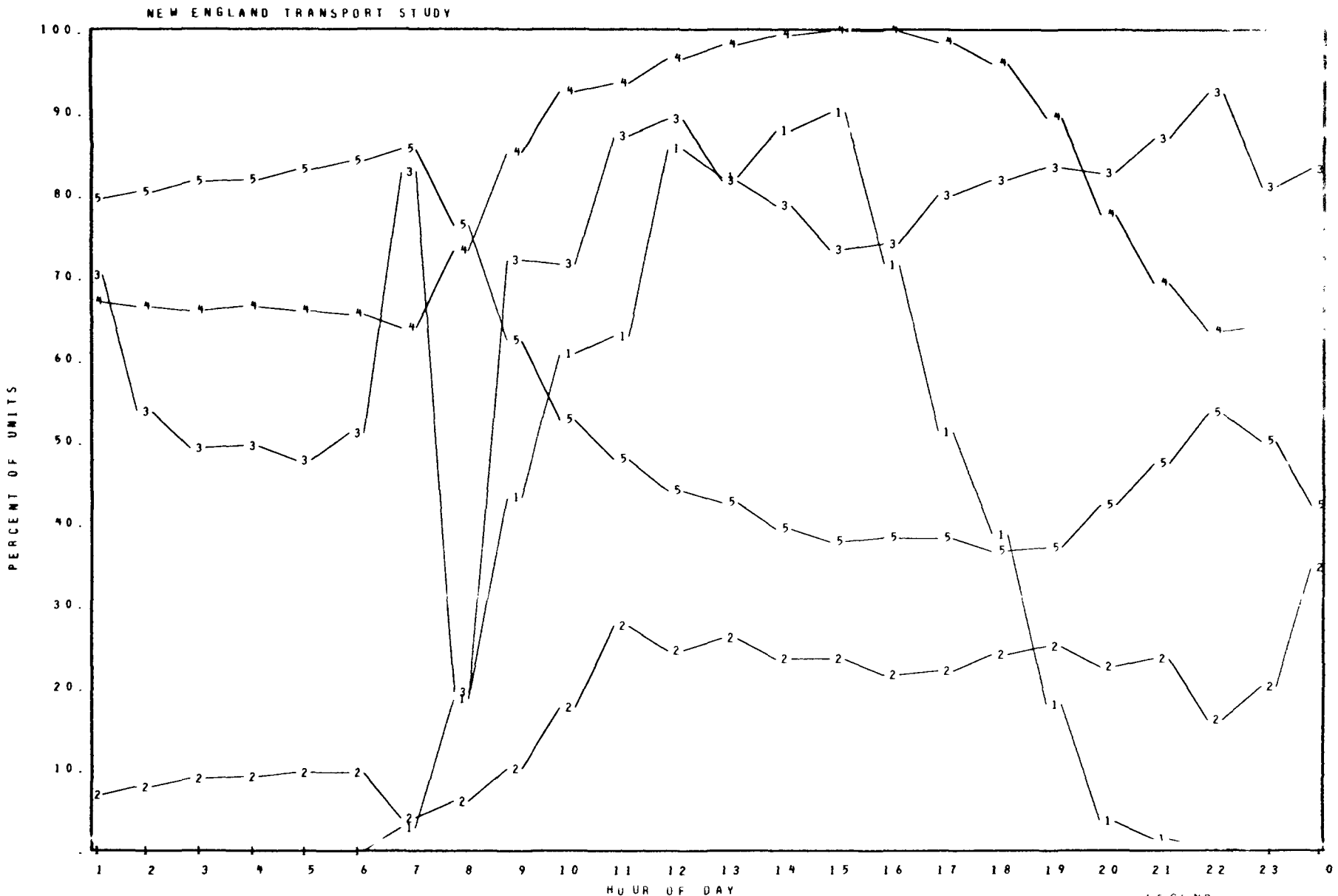



FIGURE 41a. ( AUGUST 18, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

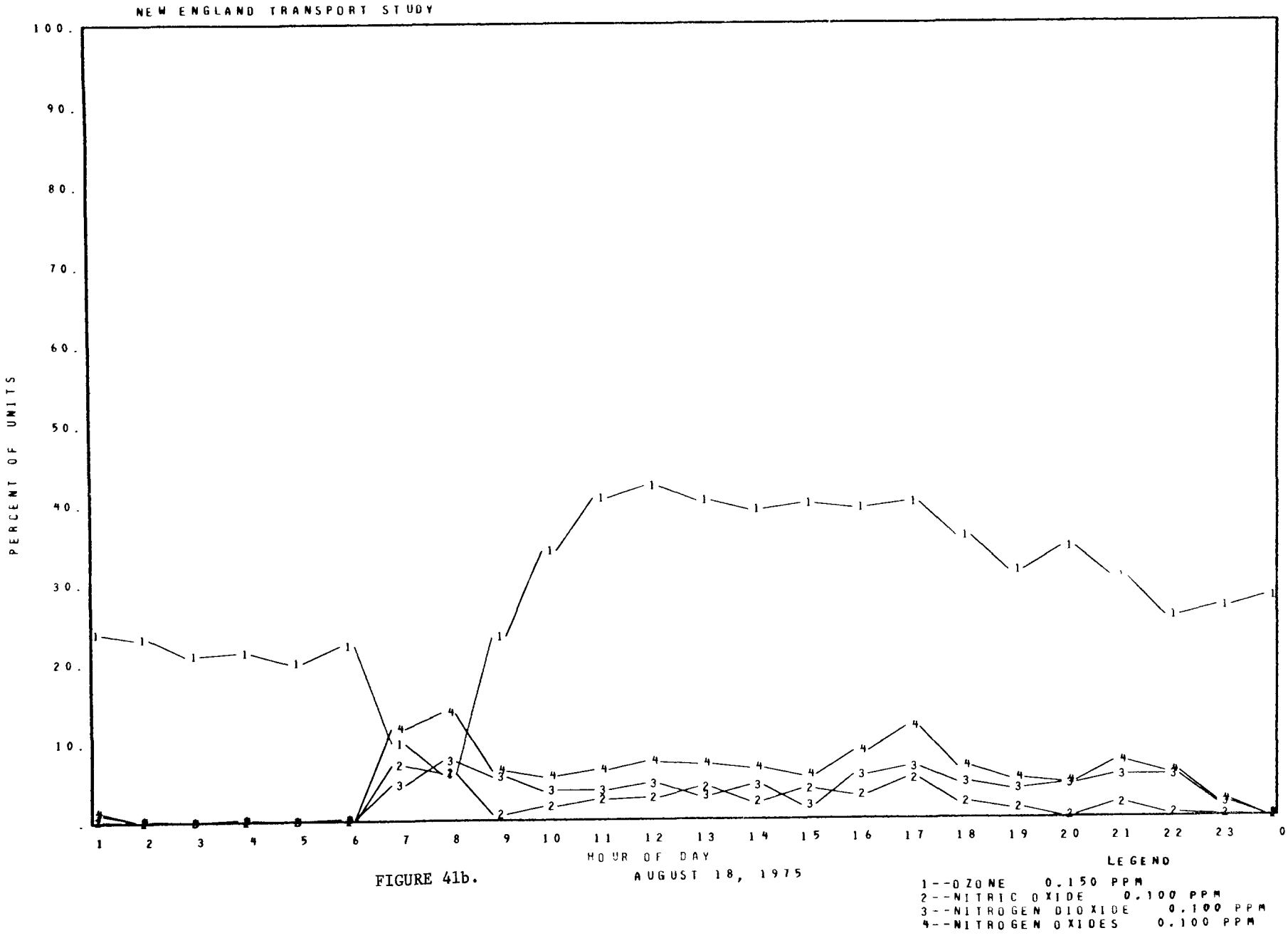

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 18, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 41b.

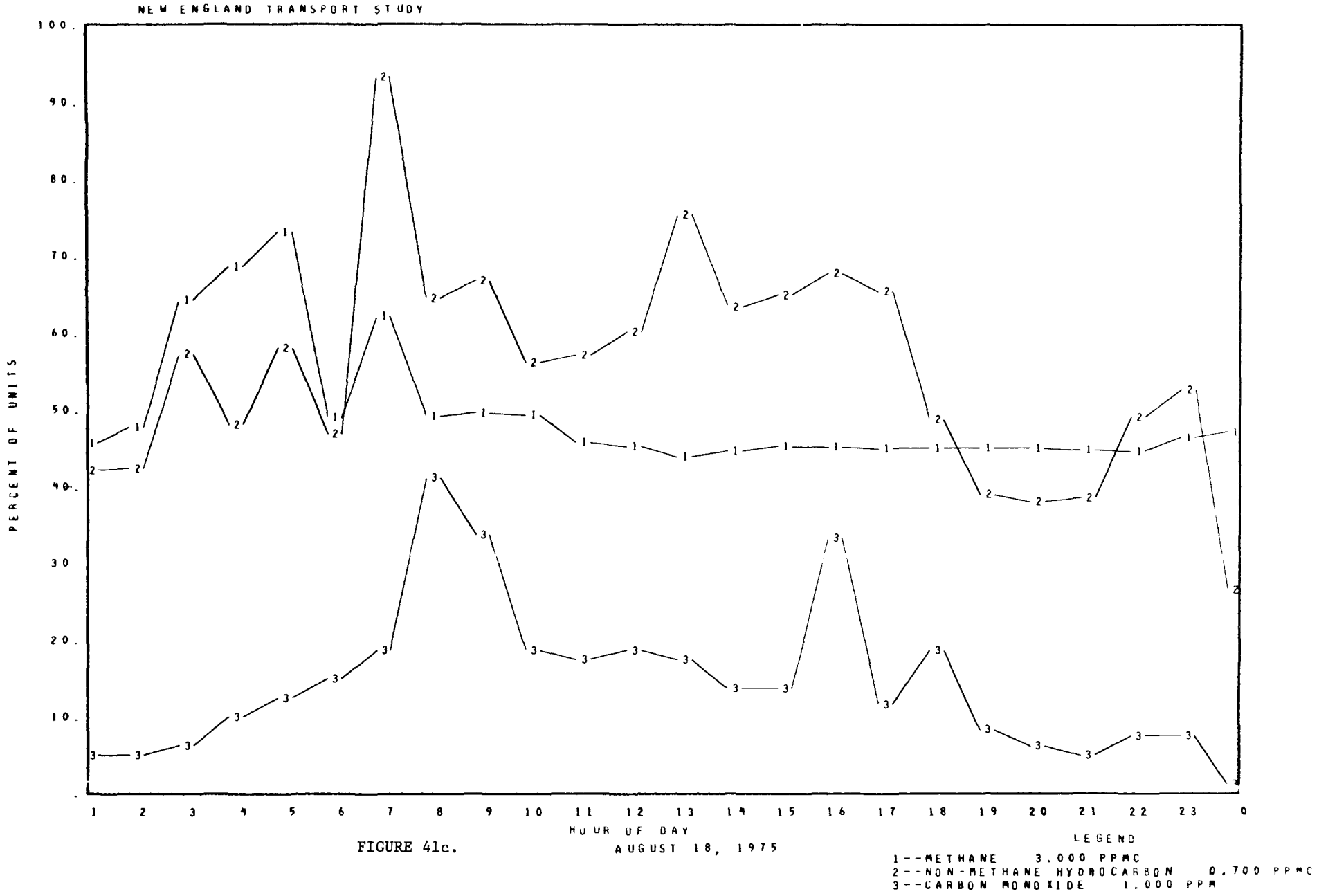



FIGURE 41c. AUGUST 18, 1975

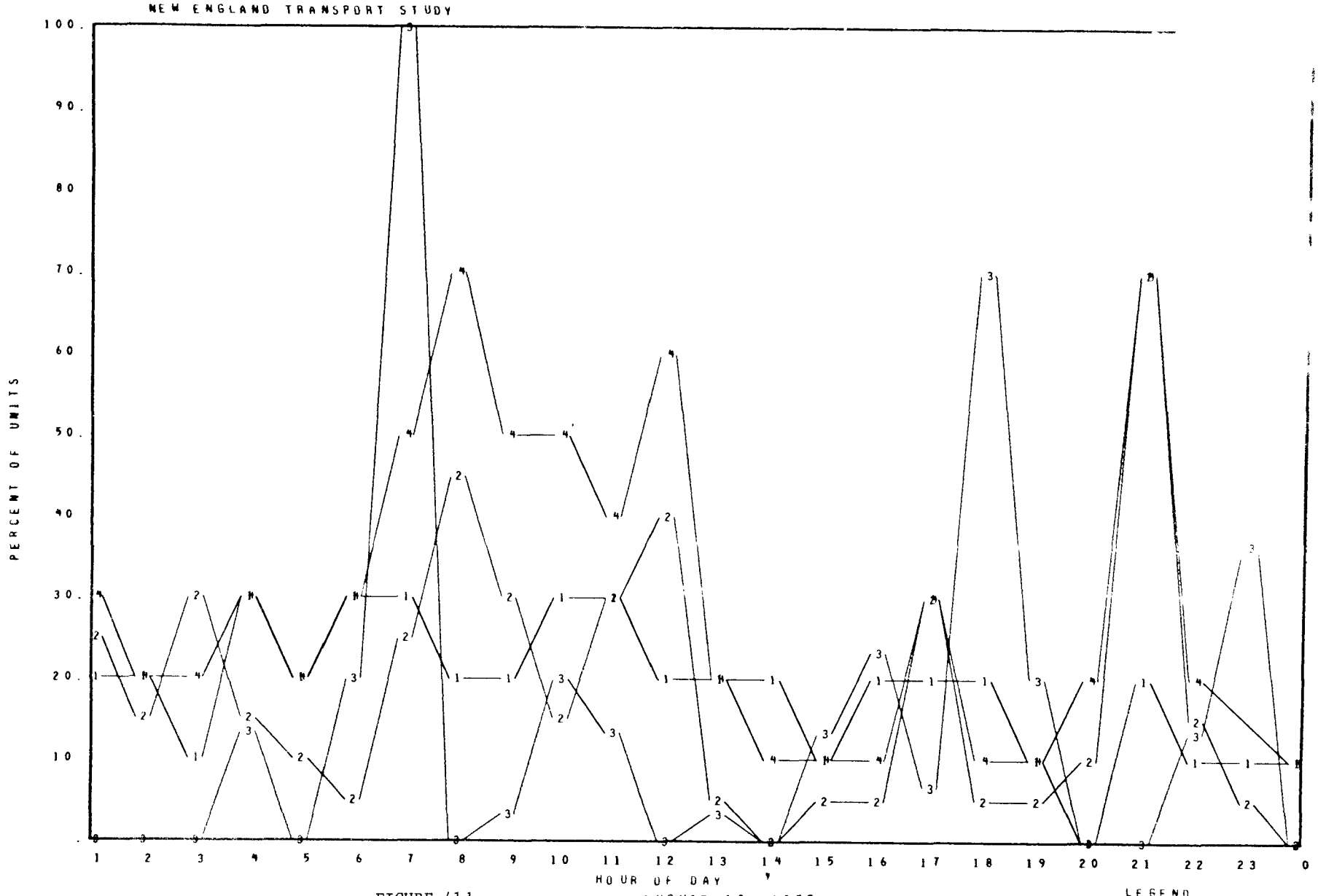

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80
70.
60
50.
40
30.
20.
10
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 18, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.020 PPMC
3--PROPANE 0.030 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 41d.

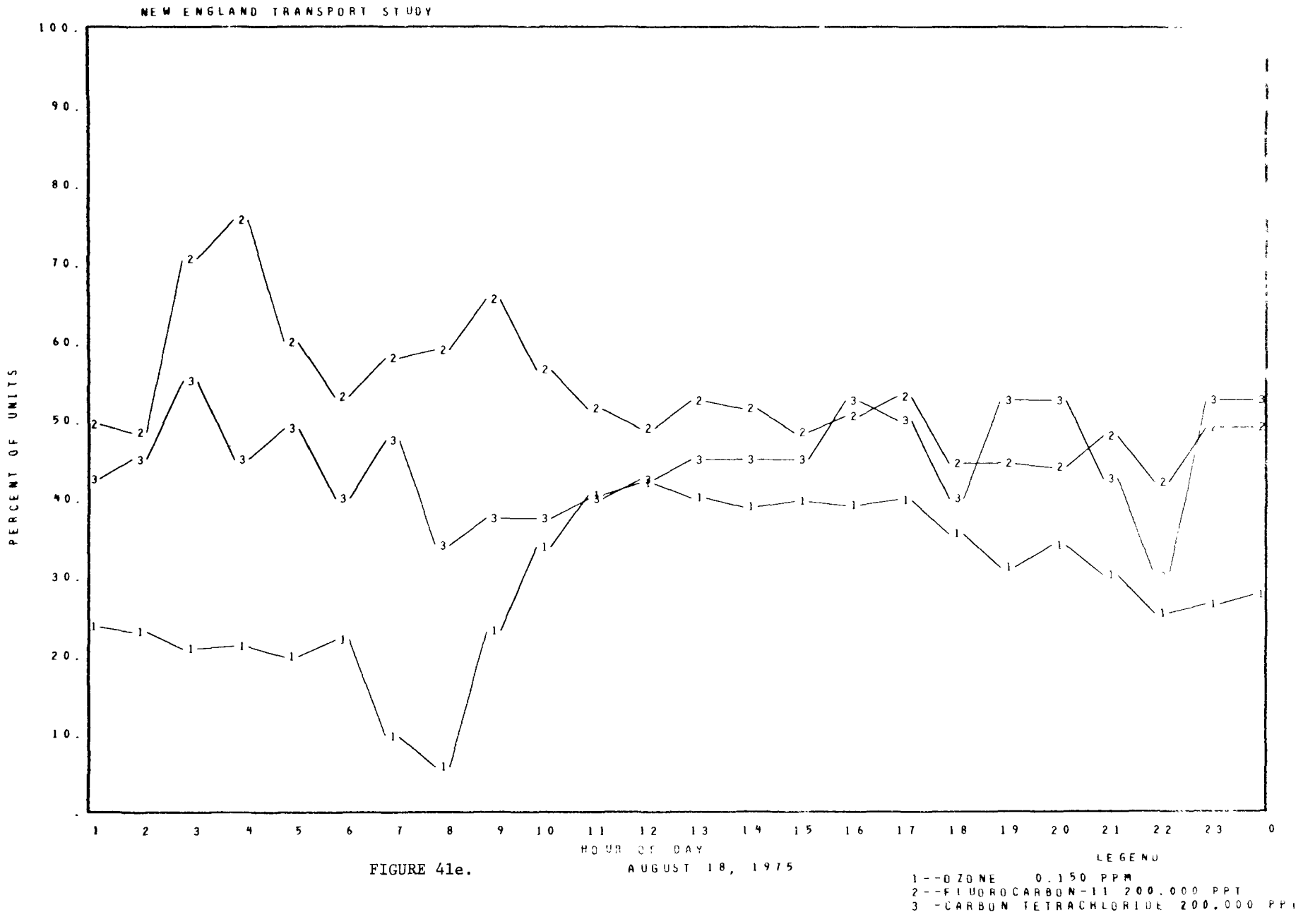
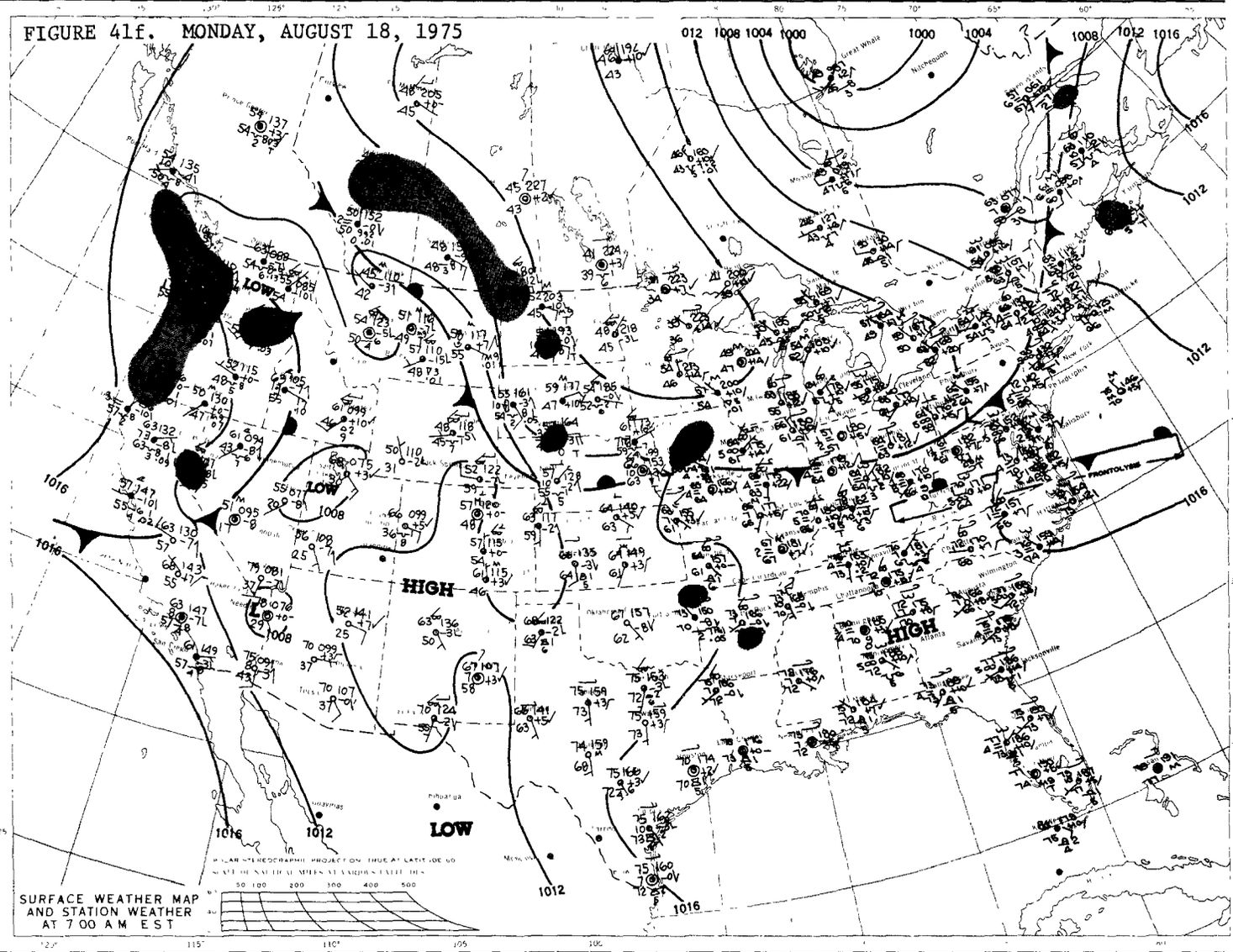
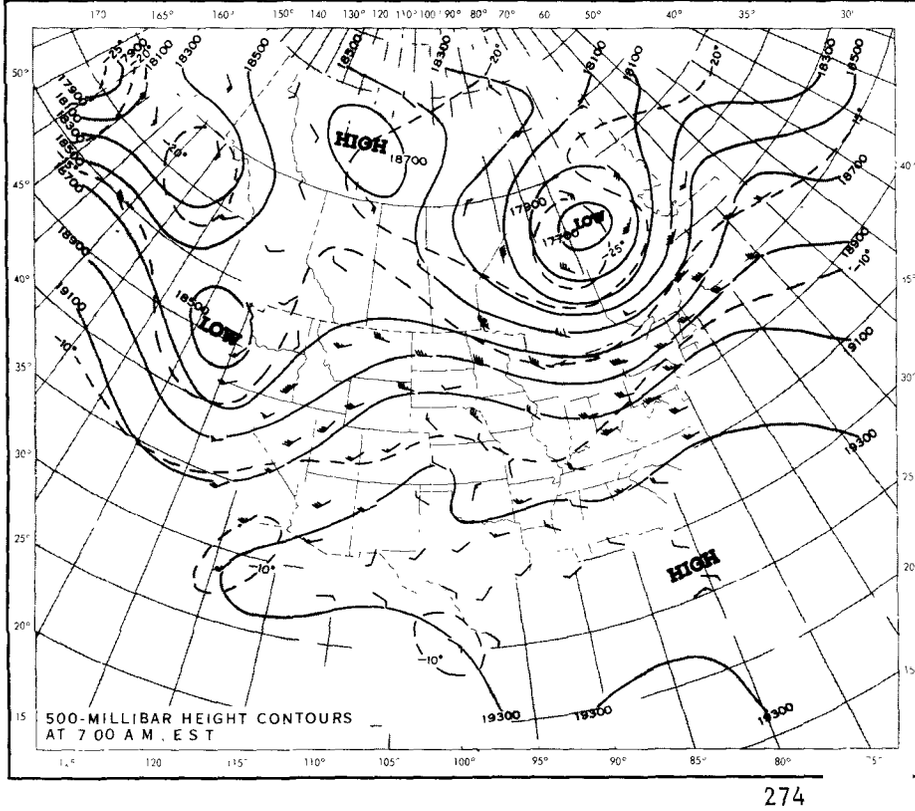

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 18, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3 -CARBON TETRACHLORIDE 200.000 PPT

FIGURE 41e.

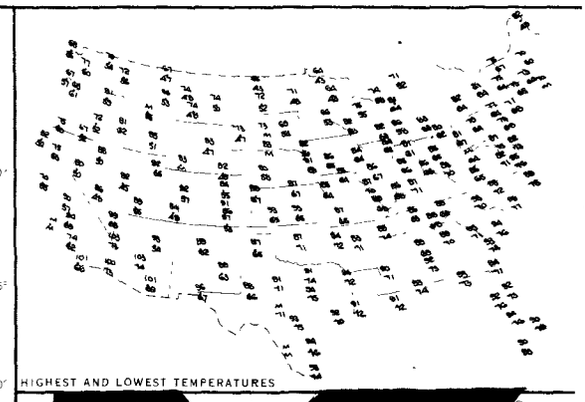
FIGURE 41f. MONDAY, AUGUST 18, 1975




SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES

PRECIPITATION AREAS AND AMOUNTS

TABLE 38a. AUGUST 19, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.436 | 24 |
| 2--WIND SPEED (MPH) | 3.500 | 24 |
| 3--WIND DIRECTION (DEGREES) | 276.097 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 19.849 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 48.765 | 24 |
| 6--OZONE (PPM) | 0.026 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.003 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 24 |
| 10--METHANE (PPMC) | 1.448 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.320 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.086 | 22 |
| 13--ETHANE (PPMC) | 0.001 | 23 |
| 14--ETHYLENE (PPMC) | 0.002 | 23 |
| 15--PROPANE (PPMC) | 0.005 | 24 |
| 16--ACETYLENE (PPMC) | 0.002 | 23 |
| 19--FLUOROCARBON-11 (PPT) | 93. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 79. | 23 |

TABLE 38b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 19, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.250 | 2.025 | 3.525 | 4.875 | [illegible] | [illegible] |
| 2--WIND SPEED (MPH) | 5.000 | 4.400 | 4.800 | 6.050 | 4.950 | 1.400 | 1.000 | 2.900 | 3.300 | 3.800 | 4.800 | 4.200 |
| 3--WIND DIRECTION (DEGREES) | 299. | 305. | 296. | 313. | 264. | 201. | 192. | 147. | 180. | 306. | [illegible] | [illegible] |
| 4--TEMPERATURE (CENTIGRADE) | 18. | 16. | 16. | 16. | 15. | 13. | 14. | 18. | 21. | 23. | 24. | 24. |
| 5--RELATIVE HUMIDITY (PERCENT) | 44. | 50. | 52. | 51. | 53. | 65. | 69. | 56. | 43. | 35. | 32. | 29. |
| 6--OZONE (PPM) | 0.038 | 0.035 | 0.033 | 0.030 | 0.027 | 0.021 | 0.013 | 0.012 | 0.023 | 0.026 | 0.032 | 0.036 |
| 7--NITRIC OXIDE (PPM) | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.001 | 0.002 | 0.007 | 0.001 | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.000 | .000 | .000 | .000 | .000 | 0.000 | 0.001 | 0.003 | 0.001 | 0.000 | [illegible] | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.000 | .000 | .000 | .000 | .000 | 0.000 | 0.001 | 0.004 | 0.002 | 0.008 | [illegible] | [illegible] |
| 10--METHANE (PPMC) | 1.400 | 1.400 | 1.400 | 1.400 | 1.450 | 1.740 | 1.750 | 1.500 | 1.450 | 1.400 | [illegible] | 1.400 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.180 | 0.181 | 0.218 | 0.194 | 0.155 | 0.224 | 0.363 | 0.228 | 0.390 | [illegible] | [illegible] | [illegible] |
| 12--CARBON MONOXIDE (PPM) | 0.037 | .000 | .000 | .000 | 0.025 | .000 | 0.125 | 0.187 | 0.075 | 0.112 | [illegible] | 0.037 |
| 13--ETHANE (PPMC) | 0.001 | 0.001 | .000 | .000 | 0.001 | .000 | .000 | 0.001 | 0.001 | 0.001 | [illegible] | 0.001 |
| 14--ETHYLENE (PPMC) | 0.001 | 0.001 | .000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.005 | [illegible] | [illegible] |
| 15--PROPANE (PPMC) | 0.004 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | 0.003 | .000 | [illegible] | [illegible] |
| 16--ACETYLENE (PPMC) | 0.001 | 0.001 | .000 | .000 | .000 | .000 | 0.001 | 0.002 | 0.002 | 0.005 | [illegible] | [illegible] |
| 19--FLUOROCARBON-11 (PPT) | 89. | 97. | 94. | 86. | 94. | 93. | 96. | 100. | 88. | 84. | 78. | 82 |
| 20--CARBON TETRACHLORIDE (PPT) | 105. | 90. | 85. | 80. | 83. | 85. | 75. | 68. | 70. | 80. | 90. | 90. |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.000 | 7.000 | 6.450 | 5.650 | 4.550 | 3.200 | 1.250 | 0.250 | 0.100 | 0.025 | .000 | .000 |
| 2--WIND SPEED (MPH) | 4.800 | 3.300 | 5.600 | 6.700 | 5.300 | 4.200 | 2.700 | 1.300 | 0.800 | 0.600 | 0.700 | 1.400 |
| 3--WIND DIRECTION (DEGREES) | 277. | 259. | 294. | 294. | 292. | 284. | 290. | 292. | 345. | 251. | 312. | 321. |
| 4--TEMPERATURE (CENTIGRADE) | 25. | 25. | 27. | 26. | 27. | 26. | 24. | 20. | 16. | 15. | 14. | 13. |
| 5--RELATIVE HUMIDITY (PERCENT) | 27. | 27. | 27. | 27. | 26. | 29. | 35. | 53. | 74. | 85. | 89. | 91. |
| 6--OZONE (PPM) | 0.039 | 0.039 | 0.039 | 0.039 | 0.036 | 0.037 | 0.034 | 0.020 | 0.006 | .000 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.001 | 0.001 | 0.001 | 0.004 | 0.006 | 0.005 | 0.007 | 0.005 | 0.010 | 0.011 | 0.005 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.002 | 0.005 | 0.002 | 0.004 | 0.003 | 0.005 | 0.006 | 0.008 | 0.008 | 0.007 | 0.005 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.003 | 0.005 | 0.003 | 0.007 | 0.008 | 0.010 | 0.012 | 0.013 | 0.018 | 0.017 | 0.010 |
| 10--METHANE (PPMC) | 1.400 | 1.400 | 1.400 | 1.350 | 1.350 | 1.350 | 1.350 | 1.400 | 1.400 | 1.550 | 1.520 | 1.600 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.256 | 0.271 | 0.253 | 0.266 | 0.521 | 0.303 | 0.300 | 0.428 | 0.788 | 0.400 | 0.400 | 0.571 |
| 12--CARBON MONOXIDE (PPM) | -0.031 | 0.025 | 0.037 | 0.013 | 0.050 | 0.083 | 0.100 | 0.138 | 0.225 | -0.262 | 0.300 | 0.225 |
| 13--ETHANE (PPMC) | .000 | -0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 |
| 14--ETHYLENE (PPMC) | 0.001 | -0.002 | 0.004 | .000 | .000 | 0.001 | 0.003 | 0.002 | 0.003 | 0.005 | 0.010 | 0.003 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | .000 | 0.004 | .000 | .000 | .000 | 0.007 | 0.011 | 0.043 | 0.058 |
| 16--ACETYLENE (PPMC) | .000 | -0.001 | 0.003 | .000 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.004 | 0.006 | 0.003 |
| 19--FLUOROCARBON-11 (PPT) | 83. | 128. | 78. | 78. | 82. | 81. | 86. | 89. | 108. | 116. | 116. | 105. |
| 20--CARBON TETRACHLORIDE (PPT) | -75. | 60. | 70. | 80. | 75. | 75. | 95. | 53. | 75. | 90. | 80. | 68. |

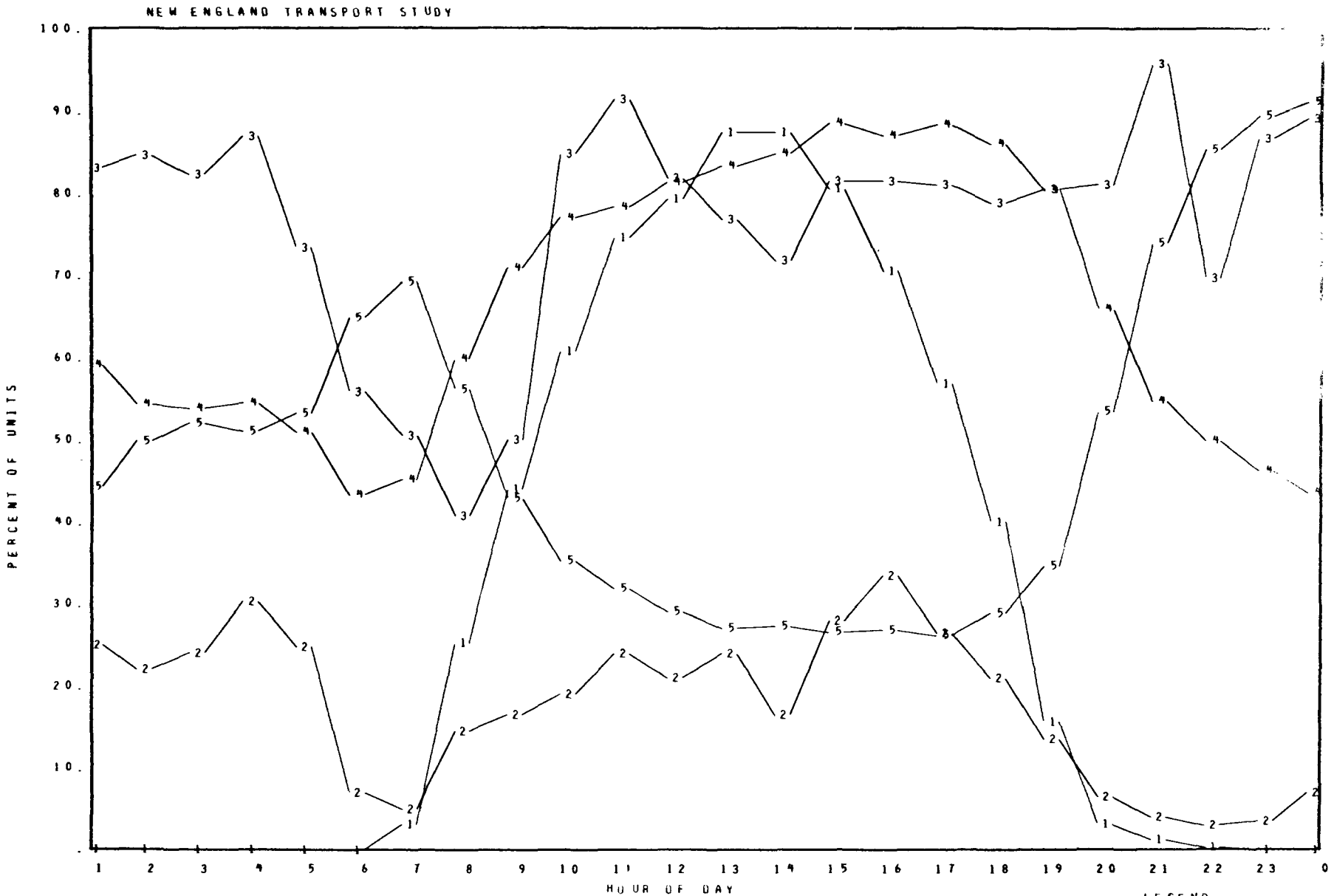



FIGURE 42a. AUGUST 19, 1975

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

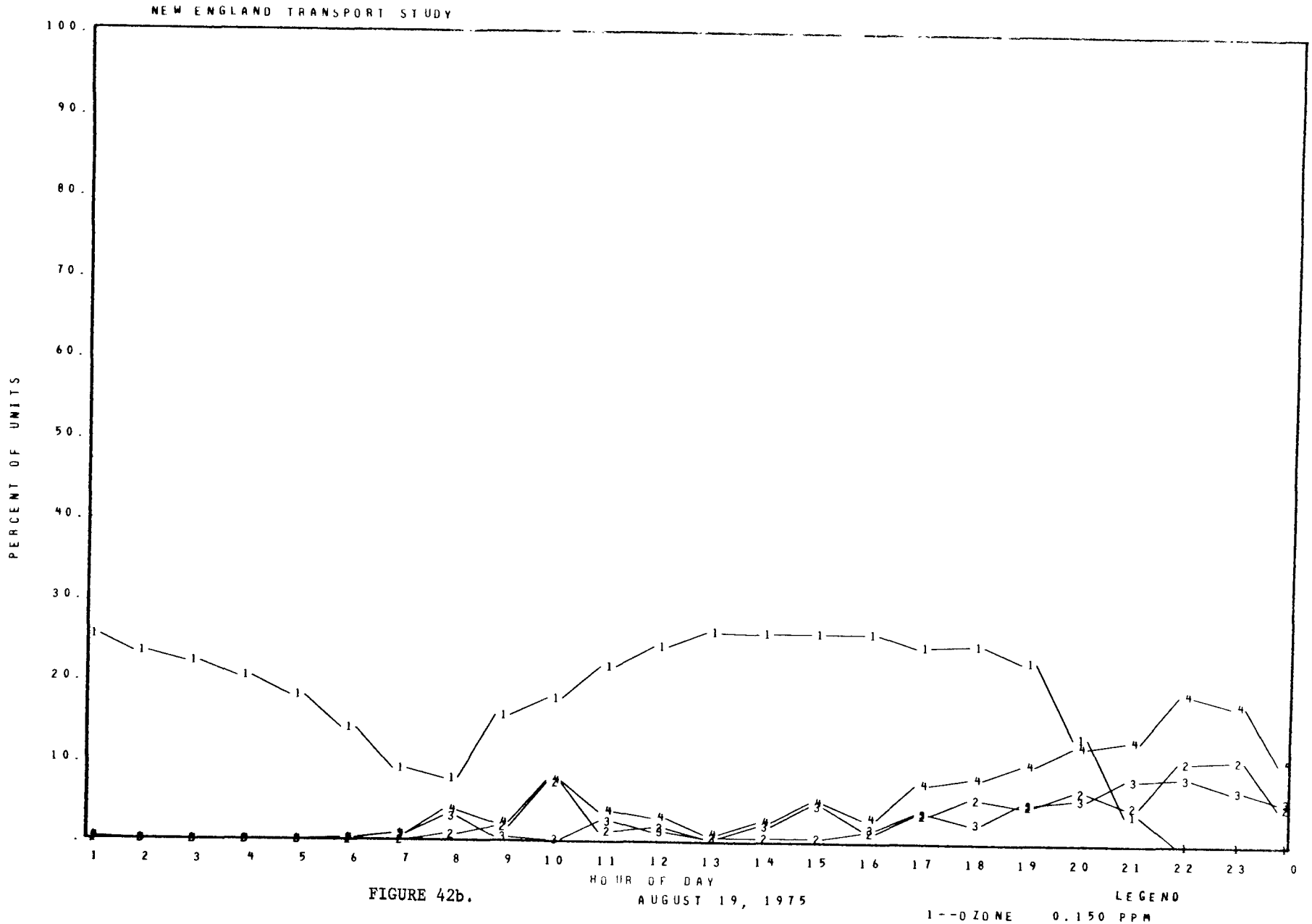

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 19, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 42b.

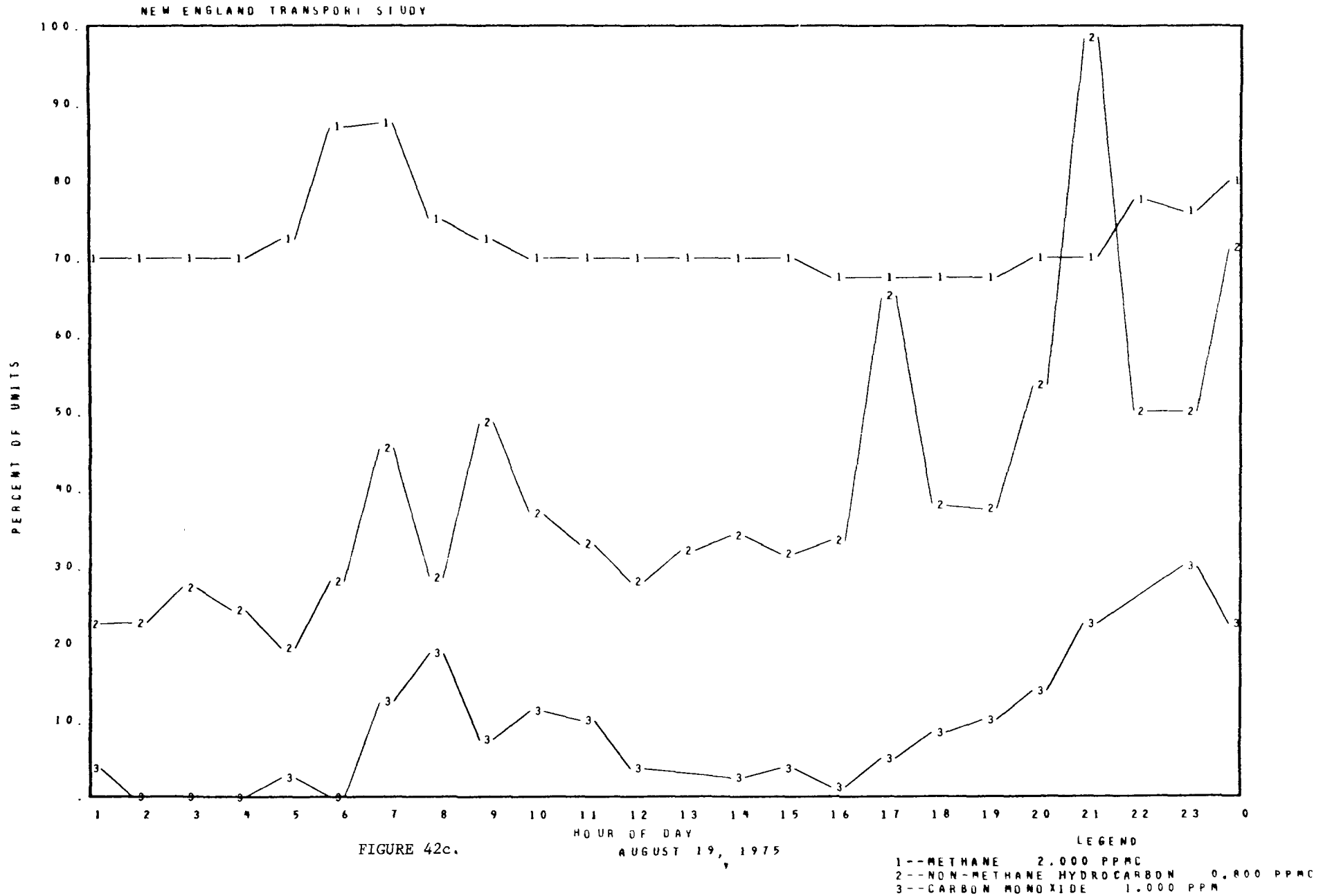



FIGURE 42c. AUGUST 19, 1975

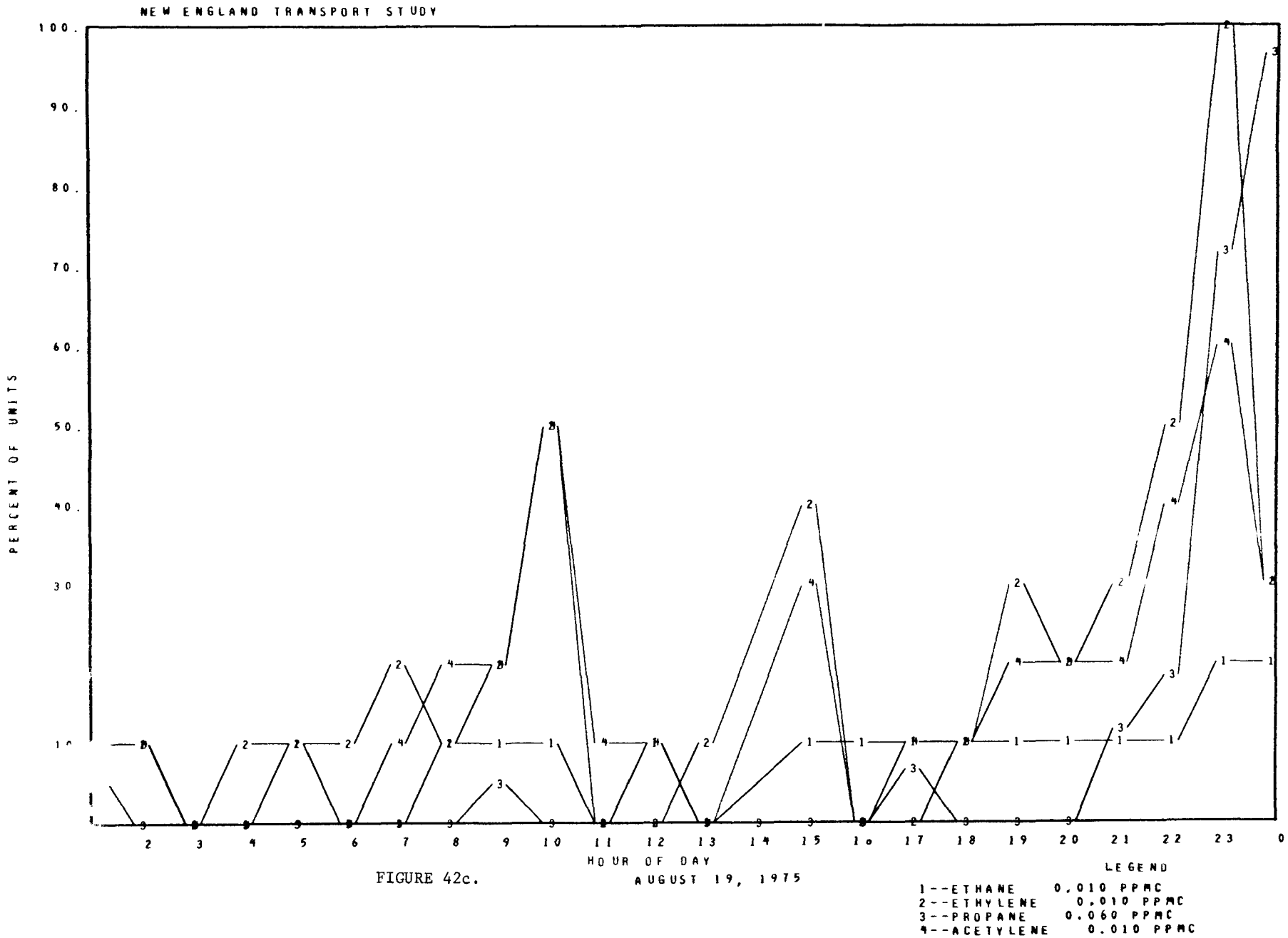

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 19, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.060 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 42c.

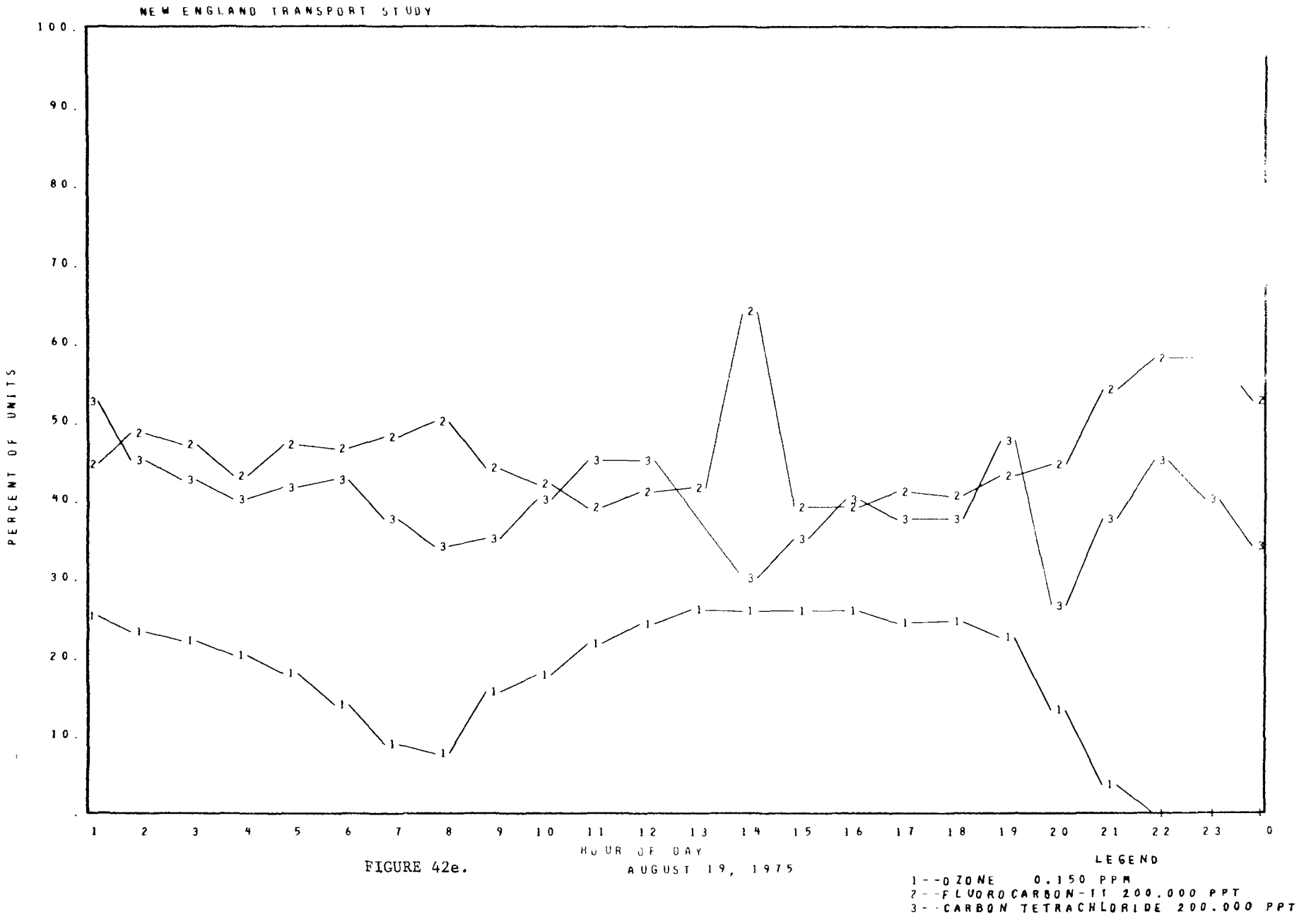
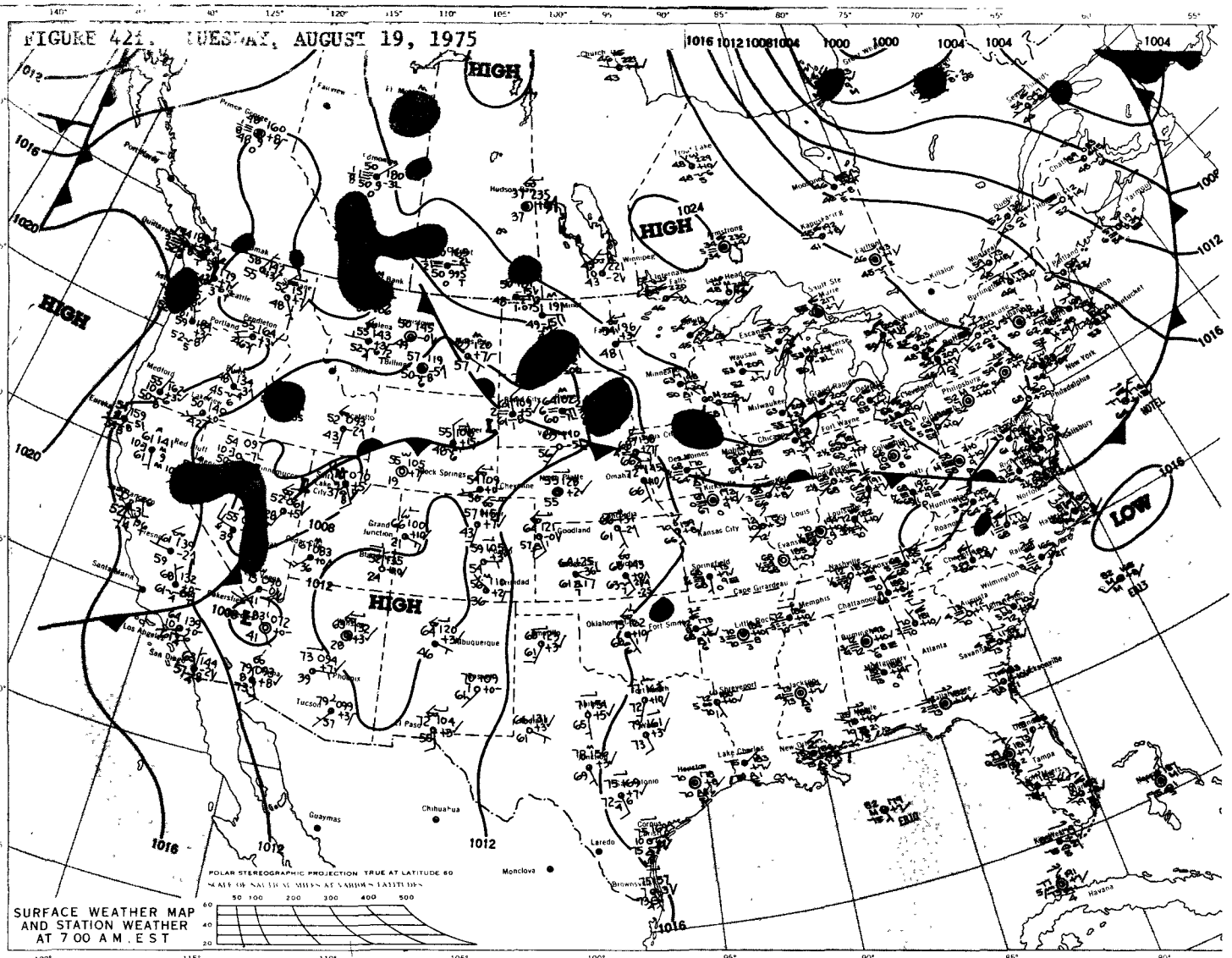
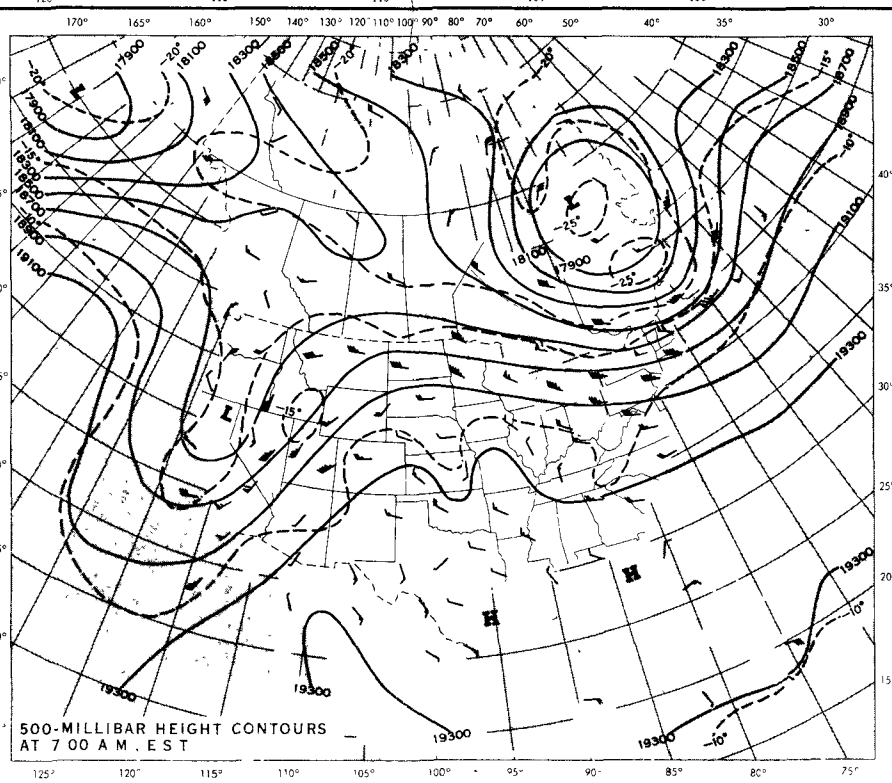

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 19, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 42e.

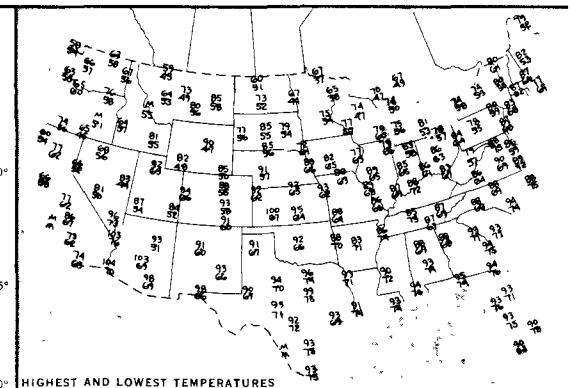
FIGURE 421. TUESDAY, AUGUST 19, 1975



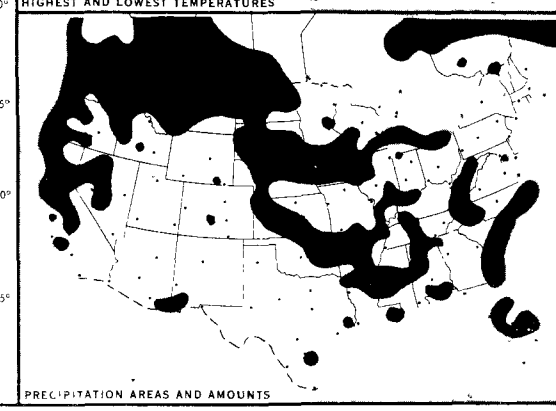

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A.M. EST



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A.M. EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 39a. AUGUST 20, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.308 | 24 |
| 2--WIND SPEED (MPH) | 3.242 | 24 |
| 3--WIND DIRECTION (DEGREES) | 283.639 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 18.765 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 59.536 | 24 |
| 6--OZONE (PPM) | 0.020 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 1.760 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.474 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.171 | 21 |
| 13--ETHANE (PPMC) | 0.001 | 23 |
| 14--ETHYLENE (PPMC) | 0.004 | 23 |
| 15--PROPANE (PPMC) | 0.011 | 23 |
| 16--ACETYLENE (PPMC) | 0.003 | 23 |
| 19--FLUOROCARBON-11 (PPT) | 118. | 23 |
| 20--CARBON TETRACHLORIDE (PPT) | 85. | 23 |

TABLE 39b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 20, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.300 | 1.700 | 3.450 | 4.825 | 6.025 | 6.850 |
| 2--WIND SPEED (MPH) | 1.500 | 1.000 | 1.900 | 1.400 | 2.000 | 1.200 | 1.700 | 1.600 | 1.200 | 2.500 | 4.800 | 8.500 |
| 3--WIND DIRECTION (DEGREES) | 254. | 316. | 340. | 303. | 319. | 256. | 252. | 158. | 208. | 322. | 287. | 326. |
| 4--TEMPERATURE (CENTIGRADE) | 12. | 13. | 13. | 13. | 12. | 11. | 12. | 16. | 21. | 22. | 24. | 25. |
| 5--RELATIVE HUMIDITY (PERCENT) | 91. | 91. | 92. | 91. | 92. | 94. | 92. | 76. | 51. | 45. | 40. | 29. |
| 6--OZONE (PPM) | .000 | .000 | .000 | 0.002 | 0.000 | .000 | .000 | 0.006 | 0.023 | 0.040 | 0.046 | 0.041 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 0.001 | 0.001 | .000 | .000 | .000 | 0.009 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 0.006 | 0.005 | 0.003 | 0.002 | 0.002 | 0.003 | 0.002 | 0.004 | 0.002 | 0.003 | 0.002 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 0.006 | 0.006 | 0.003 | 0.002 | 0.002 | 0.011 | 0.003 | 0.005 | 0.003 | 0.004 | 0.002 |
| 10--METHANE (PPMC) | 2.596 | 1.636 | 1.904 | 2.460 | 1.660 | 3.250 | 3.366 | 2.025 | 1.528 | 1.416 | 1.368 | 1.358 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.565 | 0.439 | 0.505 | 0.452 | 0.447 | 0.773 | 0.707 | 0.455 | 0.300 | 0.271 | 0.287 | 0.260 |
| 12--CARBON MONOXIDE (PPM) | 0.162 | 0.162 | 0.188 | 0.138 | 0.112 | 0.138 | 0.275 | 0.162 | 0.125 | 0.075 | 0.087 | 0.037 |
| 13--ETHANE (PPMC) | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | .000 | .000 | 0.001 | 0.001 | 0.001 | 0.003 |
| 14--ETHYLENE (PPMC) | 0.005 | 0.003 | 0.006 | 0.004 | 0.004 | 0.006 | 0.004 | 0.001 | 0.004 | 0.001 | 0.002 | 0.001 |
| 15--PROPANE (PPMC) | 0.020 | 0.039 | 0.015 | 0.015 | 0.040 | 0.015 | 0.017 | 0.011 | 0.006 | .000 | .000 | .000 |
| 16--ACETYLENE (PPMC) | 0.004 | 0.003 | 0.005 | 0.002 | 0.002 | 0.002 | 0.004 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 |
| 19--FLUOROCARBON-11 (PPT) | 282. | 119. | 128. | 127. | 118. | 163. | 167. | 132. | 102. | 101. | 90. | 77. |
| 20--CARBON TETRACHLORIDE (PPT) | 80. | 75. | 98. | 95. | 70. | 105. | 85. | 90. | 83. | 65. | 80. | 60. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 7.225 | 5.350 | 4.950 | 5.125 | 4.550 | 3.200 | 1.400 | 0.300 | 0.100 | 0.050 | .000 | .000 |
| 2--WIND SPEED (MPH) | 9.000 | 7.300 | 7.100 | 7.600 | 5.300 | 3.300 | 2.200 | 1.400 | 1.700 | 1.300 | 1.500 | 0.800 |
| 3--WIND DIRECTION (DEGREES) | 337. | 319. | 313. | 313. | 293. | 278. | 277. | 258. | 281. | 215. | 283. | 299. |
| 4--TEMPERATURE (CENTIGRADE) | 25. | 25. | 26. | 26. | 26. | 26. | 24. | 20. | 16. | 14. | 13. | 12. |
| 5--RELATIVE HUMIDITY (PERCENT) | 26. | 27. | 27. | 26. | 26. | 27. | 32. | 43. | 70. | 75. | 81. | 86. |
| 6--OZONE (PPM) | 0.043 | 0.049 | 0.043 | 0.042 | 0.047 | 0.042 | 0.034 | 0.025 | 0.008 | 0.002 | .000 | .000 |
| 7--NITRIC OXIDE (PPM) | 0.001 | 0.001 | 0.003 | 0.001 | 0.005 | 0.002 | 0.005 | 0.006 | 0.005 | 0.009 | 0.013 | 0.010 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.001 | 0.001 | 0.006 | 0.006 | 0.005 | 0.005 | 0.007 | 0.011 | 0.013 | 0.009 | 0.009 |
| 9--NITROGEN OXIDES (PPM) | 0.001 | 0.002 | 0.004 | 0.007 | 0.010 | 0.007 | 0.011 | 0.013 | 0.016 | 0.021 | 0.021 | 0.019 |
| 10--METHANE (PPMC) | 1.346 | 1.350 | 1.350 | 1.350 | 1.350 | 1.350 | 1.307 | 1.363 | 1.793 | 1.649 | 1.936 | 1.530 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.261 | 0.250 | 0.250 | 0.287 | 0.363 | 0.348 | 0.379 | 0.428 | 1.085 | 0.651 | 0.696 | 0.906 |
| 12--CARBON MONOXIDE (PPM) | 0.100 | -0.097 | -0.094 | -0.091 | 0.087 | 0.033 | 0.100 | 0.137 | 0.338 | 0.275 | 0.350 | 0.512 |
| 13--ETHANE (PPMC) | 0.001 | .000 | 0.003 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | -0.001 | 0.002 |
| 14--ETHYLENE (PPMC) | 0.002 | .000 | 0.004 | 0.002 | 0.002 | 0.003 | 0.003 | 0.006 | 0.006 | 0.006 | -0.007 | 0.008 |
| 15--PROPANE (PPMC) | 0.002 | 0.006 | .000 | .000 | .000 | .000 | .000 | 0.004 | 0.006 | 0.005 | -0.030 | 0.055 |
| 16--ACETYLENE (PPMC) | 0.001 | 0.002 | 0.006 | 0.001 | 0.002 | 0.003 | 0.001 | 0.004 | 0.004 | 0.006 | -0.006 | 0.006 |
| 19--FLUOROCARBON-11 (PPT) | 84. | 85. | 85. | 86. | 89. | 83. | 86. | 106. | 139. | 124. | -129. | 134. |
| 20--CARBON TETRACHLORIDE (PPT) | 110. | 75. | 83. | 80. | 68. | 90. | 65. | 100. | 98. | 95. | -104. | 113. |

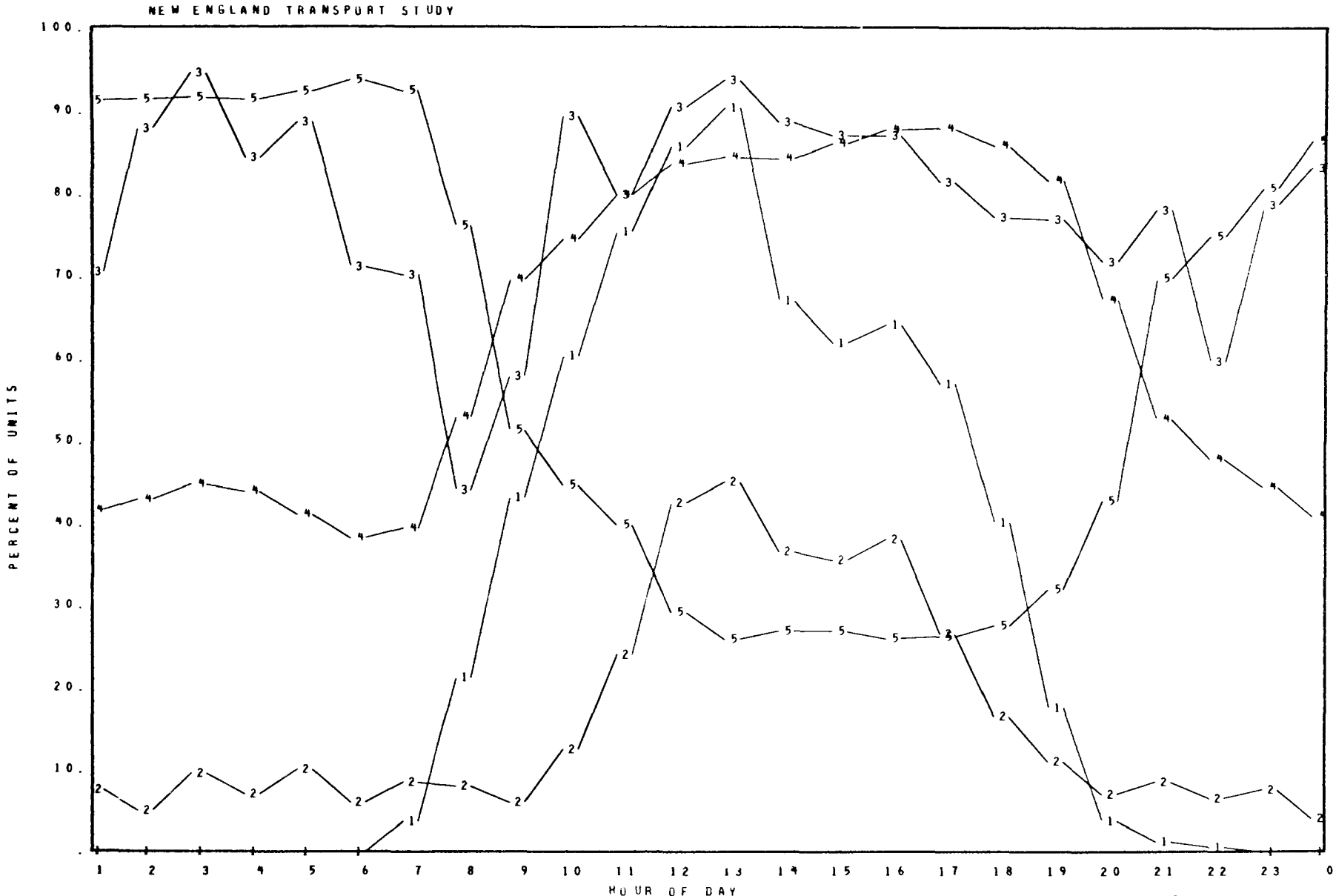



FIGURE 43a.

AUGUST 20, 1975

LEGEND

1--GLOBAL IRRADIANCE 8.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

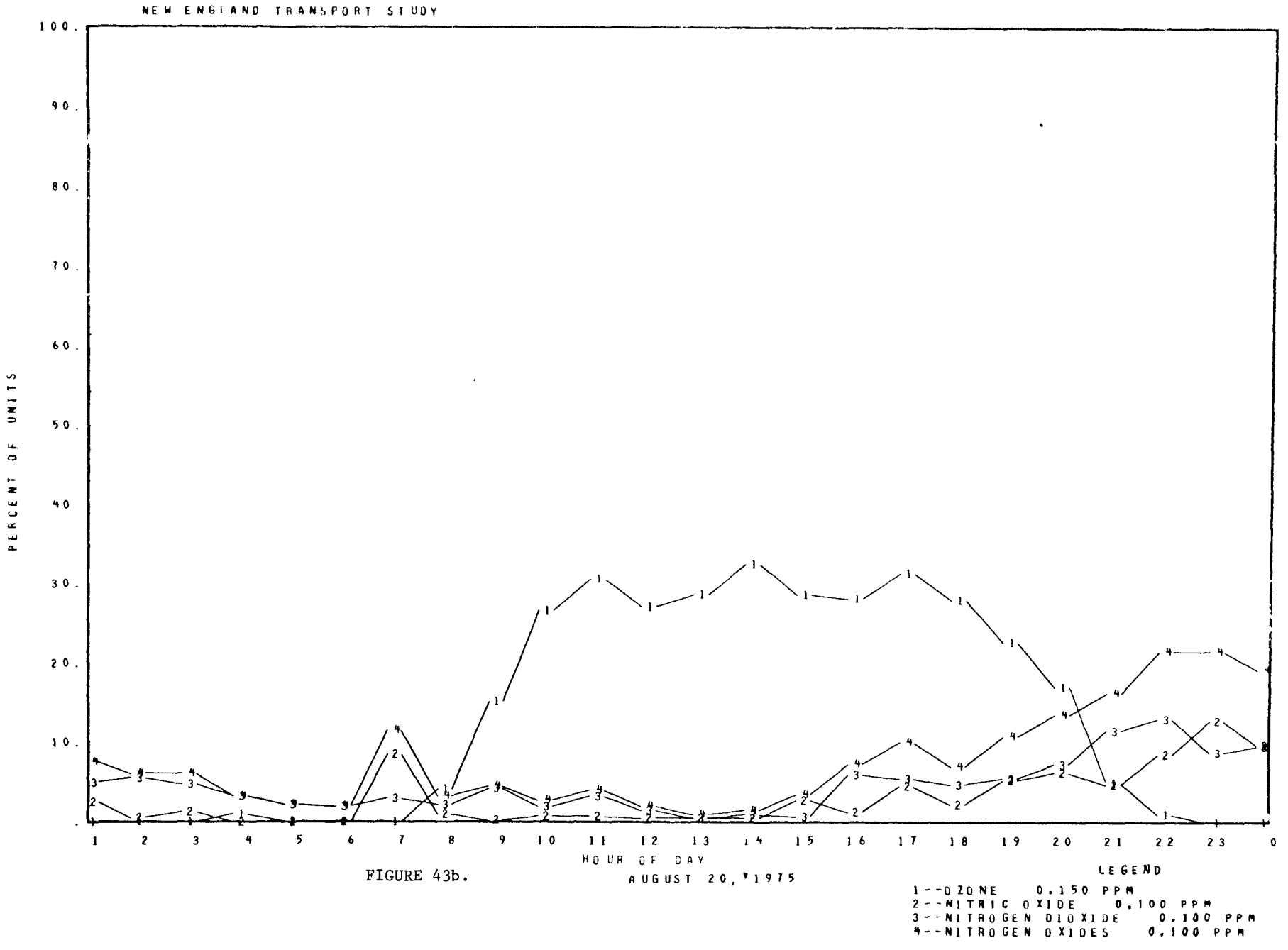

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 20, '1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 43b.

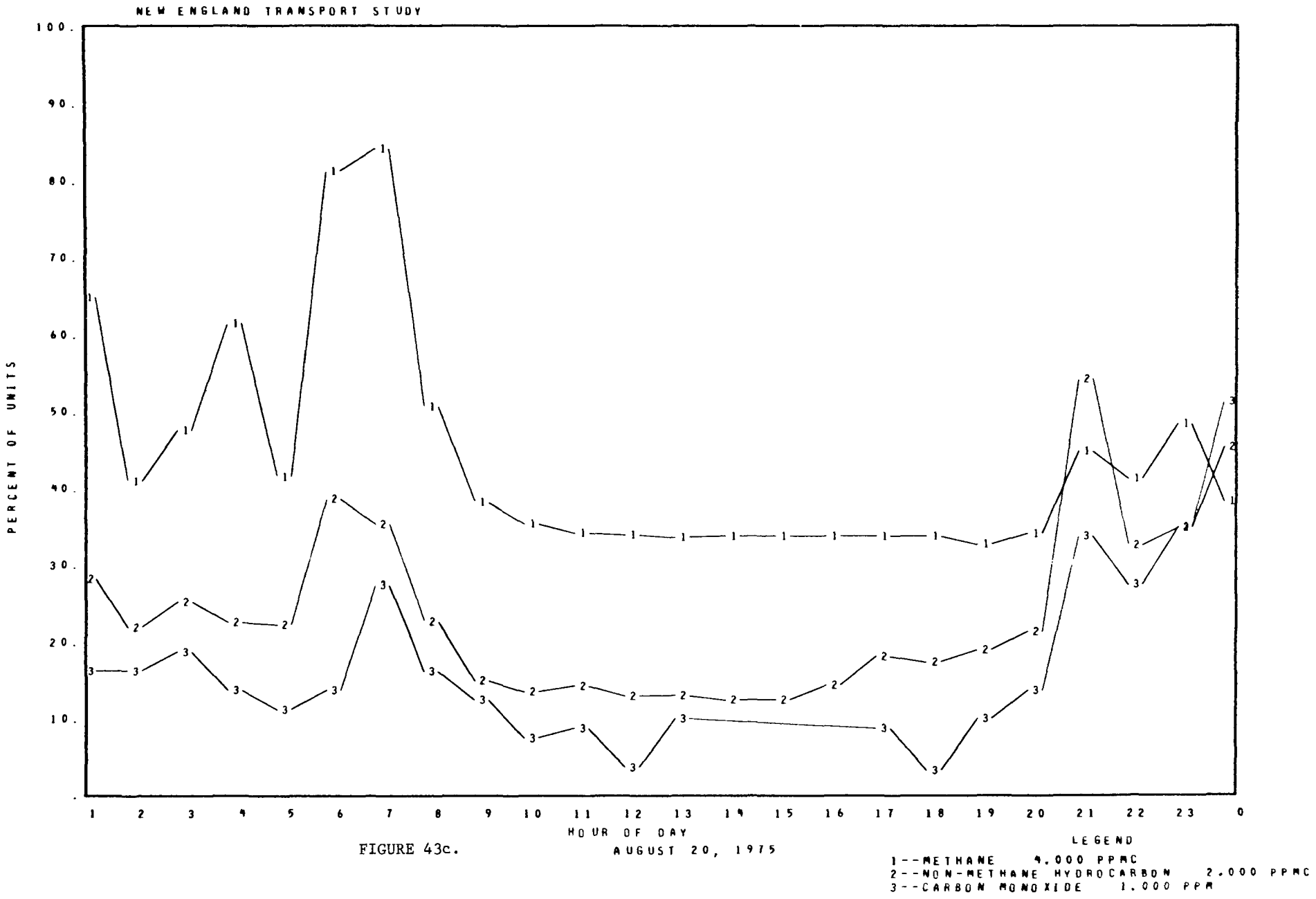

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 20, 1975
LEGEND
1--METHANE 4.000 PPMC
2--NON-METHANE HYDROCARBON 2.000 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 43c.

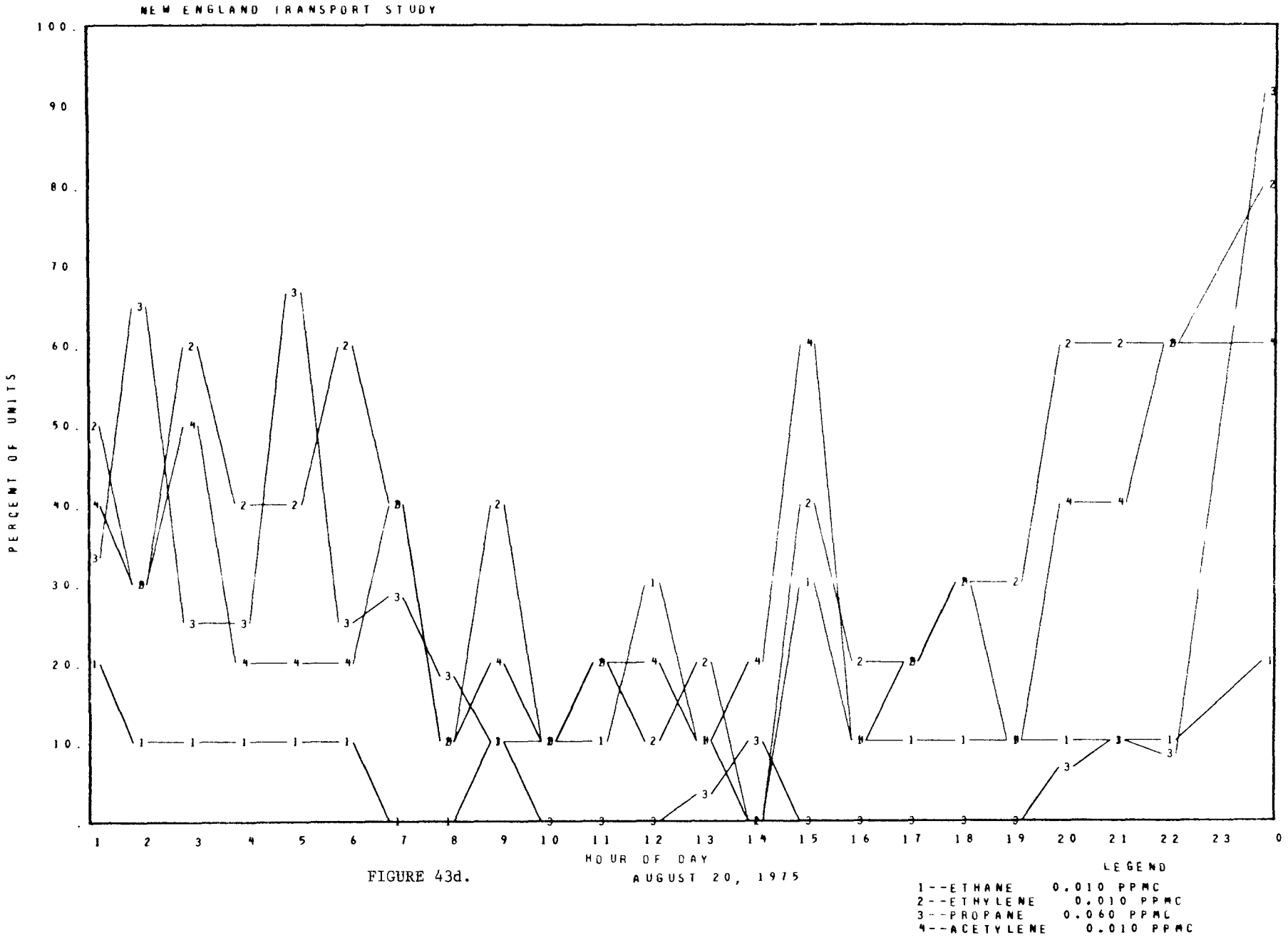

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 20, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.060 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 43d.

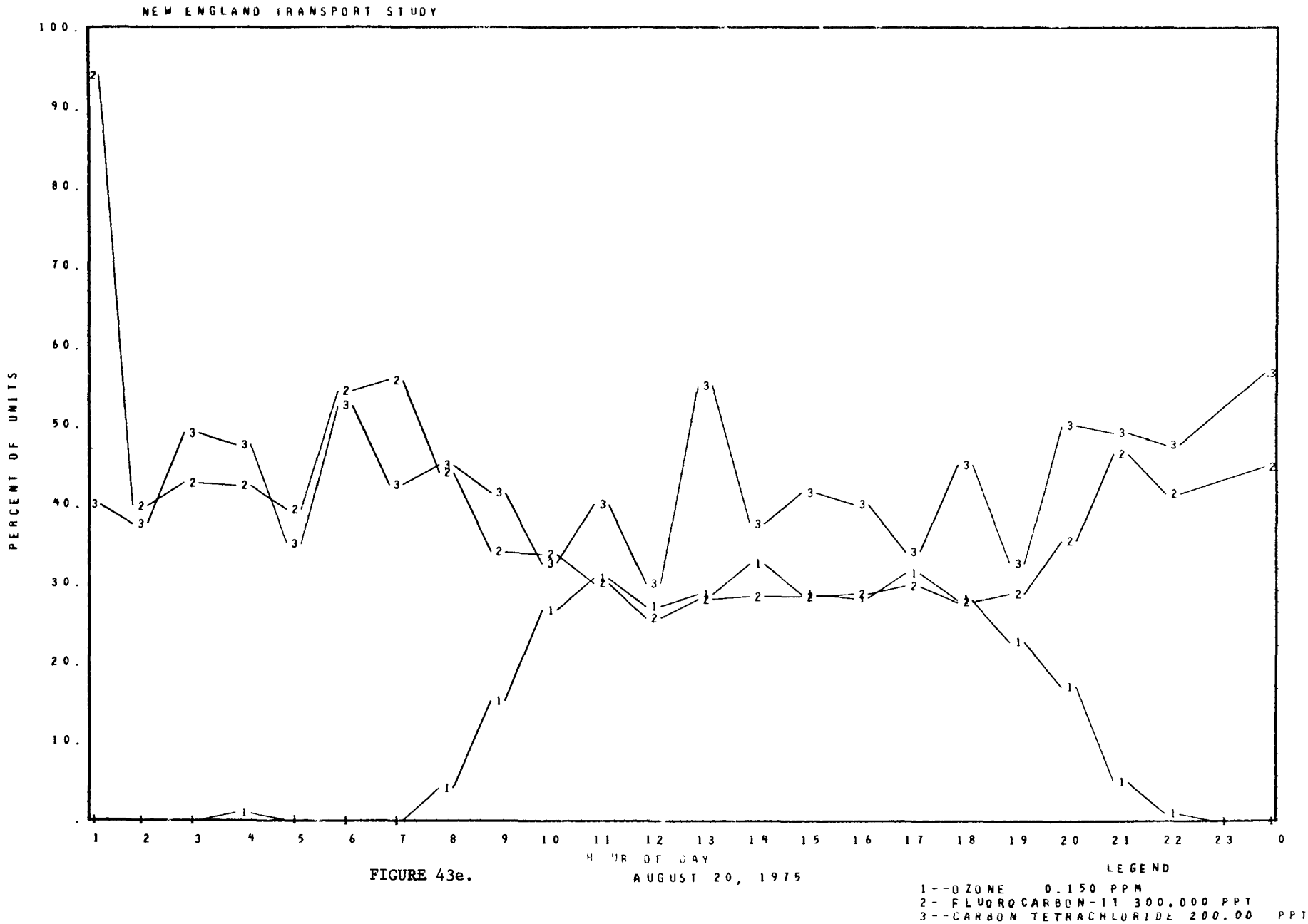
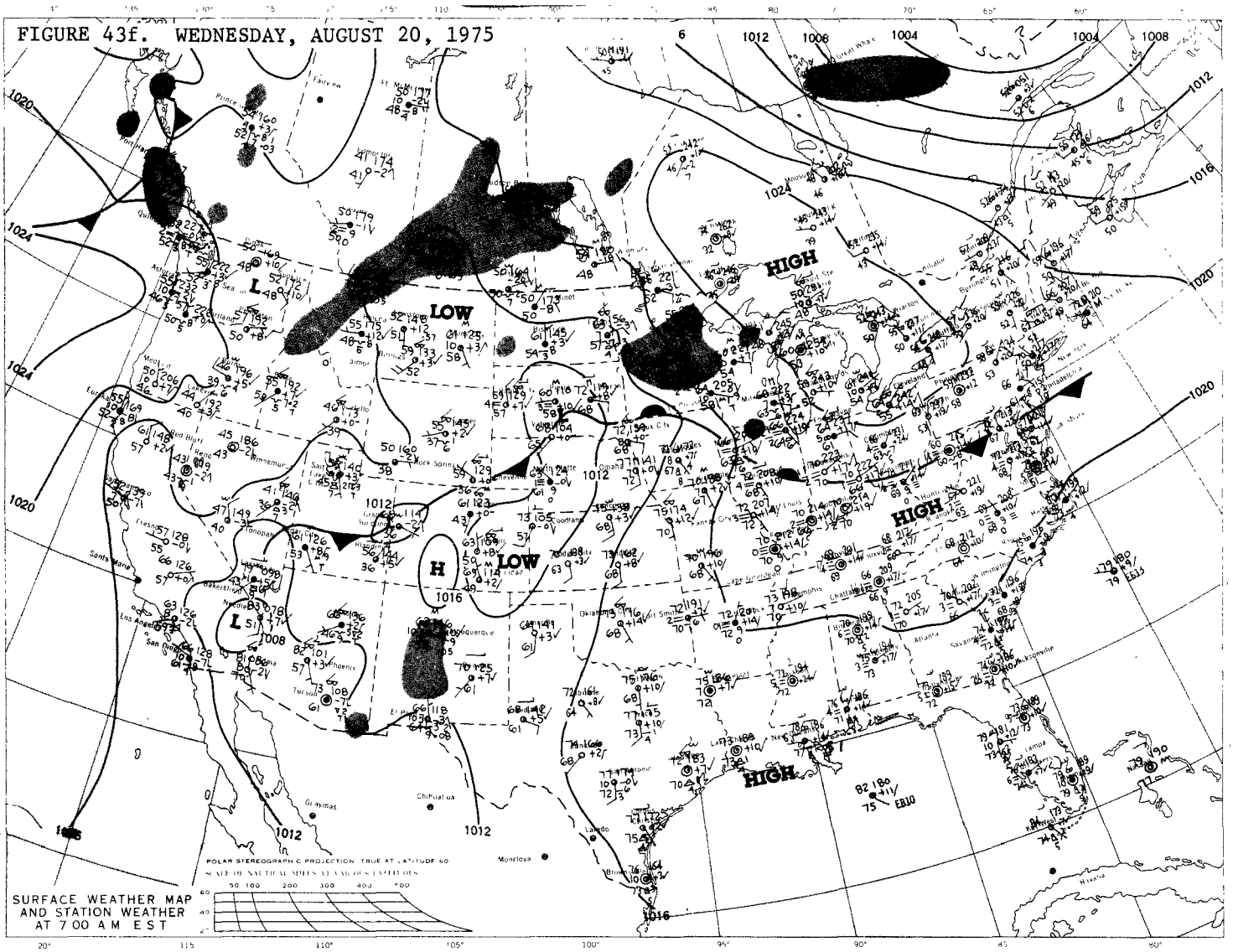
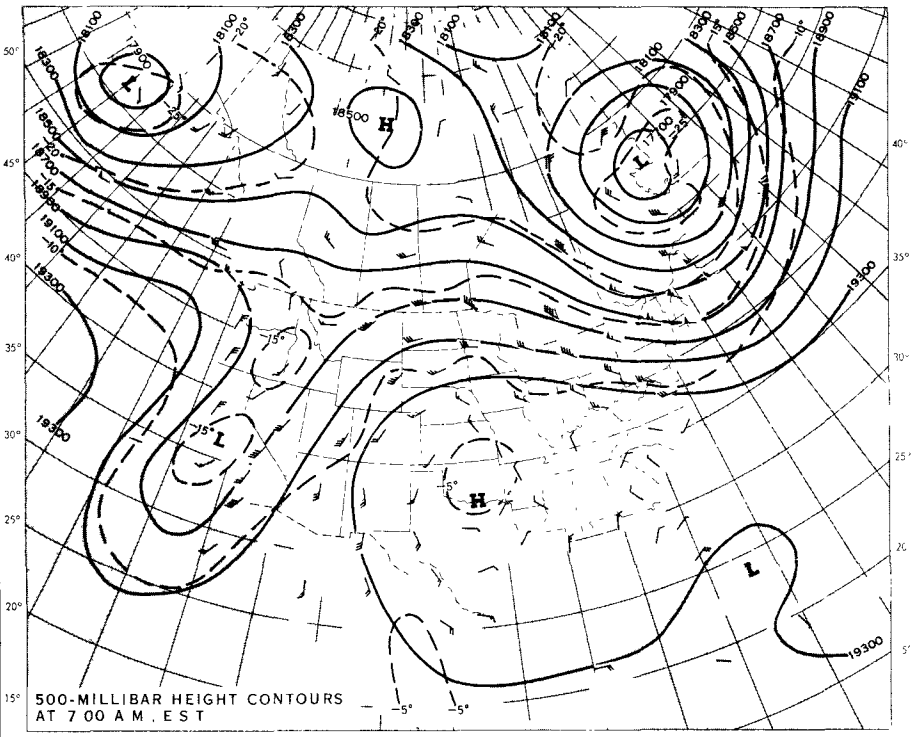

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 20, 1975
LEGEND
1--OZONE 0.150 PPM
2- FLUOROCARBON-11 300.000 PPT
3--CARBON TETRACHLORIDE 200.00 PPT

FIGURE 43e.

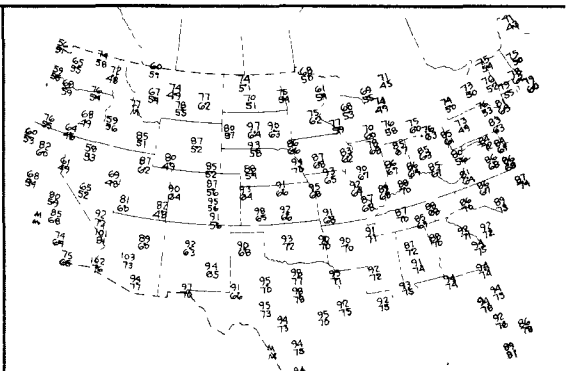
FIGURE 43f. WEDNESDAY, AUGUST 20, 1975



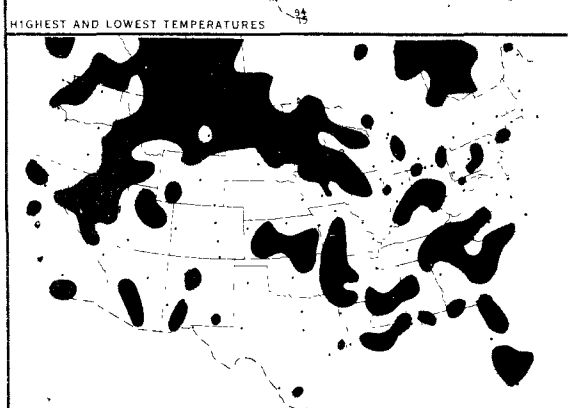

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M EST



500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M EST



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 40a. AUGUST 21, 1975

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 2.035 | 24 |
| 2--WIND SPEED (MPH) | 3.400 | 24 |
| 3--WIND DIRECTION (DEGREES) | 213.041 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 19.174 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 58.412 | 24 |
| 6--OZONE (PPM) | 0.026 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.006 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.009 | 24 |
| 10--METHANE (PPMC) | 1.633 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.541 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.288 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 24 |
| 14--ETHYLENE (PPMC) | 0.005 | 24 |
| 15--PROPANE (PPMC) | 0.014 | 24 |
| 16--ACETYLENE (PPMC) | 0.005 | 24 |
| 19--FLUOROCARBON-11 (PPT) | 111. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 94. | 22 |

TABLE 40b.

SUBSTANCE — HOUR AVERAGES FOR AUGUST 21, 1975

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | .000 | .000 | 0.300 | 1.875 | 3.500 | 4.850 | 5.925 | 6.650 |
| 2--WIND SPEED (MPH) | 1.600 | 1.900 | 2.600 | 1.400 | 1.100 | 1.200 | 0.800 | 1.500 | 2.300 | 2.500 | 2.300 | 5.600 |
| 3--WIND DIRECTION (DEGREES) | 241. | 216. | 186. | 201. | 287. | 331. | 326. | 336. | 166. | 171. | 193. | 169. |
| 4--TEMPERATURE (CENTIGRADE) | 12. | 12. | 11. | 11. | 9. | 8. | 10. | 14. | 19. | 22. | 25. | 26. |
| 5--RELATIVE HUMIDITY (PERCENT) | 87. | 88. | 89. | 89. | 90. | 92. | 88. | 72. | 58. | 45. | 37. | 30. |
| 6--OZONE (PPM) | .000 | 0.000 | 0.004 | 0.006 | 0.009 | .000 | .000 | 0.001 | 0.005 | 0.017 | 0.028 | 0.031 |
| 7--NITRIC OXIDE (PPM) | 0.008 | 0.002 | .000 | .000 | .000 | 0.002 | 0.014 | 0.009 | 0.007 | 0.002 | .000 | 0.000 |
| 8--NITROGEN DIOXIDE (PPM) | 0.011 | 0.010 | 0.004 | 0.002 | 0.002 | 0.002 | 0.002 | 0.004 | 0.005 | 0.003 | 0.002 | 0.001 |
| 9--NITROGEN OXIDES (PPM) | 0.019 | 0.012 | 0.004 | 0.002 | 0.002 | 0.004 | 0.016 | 0.012 | 0.012 | 0.004 | 0.002 | 0.001 |
| 10--METHANE (PPMC) | 1.450 | 2.030 | 2.380 | 2.280 | 1.550 | 1.500 | 1.500 | 2.100 | 1.700 | 1.500 | 1.450 | 1.300 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.599 | 0.611 | 0.614 | 0.576 | 0.684 | 0.559 | 0.609 | 0.704 | 0.544 | 0.394 | 0.400 | 0.568 |
| 12--CARBON MONOXIDE (PPM) | 0.375 | 0.313 | 0.200 | 0.112 | 0.138 | 0.162 | 0.300 | 0.300 | 0.300 | 0.325 | 0.112 | 0.150 |
| 13--ETHANE (PPMC) | 0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 0.003 | 0.004 | 0.002 | 0.002 | .000 | 0.001 | 0.001 |
| 14--ETHYLENE (PPMC) | 0.008 | 0.007 | 0.004 | 0.006 | 0.005 | 0.004 | 0.008 | 0.008 | 0.010 | .000 | 0.003 | 0.001 |
| 15--PROPANE (PPMC) | 0.022 | 0.010 | 0.011 | 0.014 | 0.029 | 0.095 | 0.106 | 0.018 | 0.011 | .000 | .000 | .000 |
| 16--ACETYLENE (PPMC) | 0.007 | 0.005 | 0.004 | 0.003 | 0.002 | 0.004 | 0.004 | 0.006 | 0.015 | .000 | 0.002 | 0.001 |
| 19--FLUOROCARBON-11 (PPT) | 117. | 111. | 114. | 136. | 103. | 93. | 102. | 121. | 111. | 81. | 83. | 83. |
| 20--CARBON TETRACHLORIDE (PPT) | 100. | 85. | 98. | 85. | 90. | 75. | 80. | 80. | 75. | 68. | 155. | -118. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 6.700 | 5.975 | 5.075 | 4.275 | 2.075 | 0.975 | 0.375 | 0.125 | 0.100 | 0.075 | .000 | .000 |
| 2--WIND SPEED (MPH) | 6.200 | 5.900 | 5.400 | 6.400 | 5.300 | 5.000 | 2.900 | 2.700 | 4.200 | 4.400 | 3.800 | 4.600 |
| 3--WIND DIRECTION (DEGREES) | 190. | 200. | 219. | 207. | 210. | 202. | 165. | 189. | 168. | 180. | 187. | 172. |
| 4--TEMPERATURE (CENTIGRADE) | 27. | 27. | 27. | 26. | 25. | 23. | 22. | 21. | 21. | 21. | 21. | 20. |
| 5--RELATIVE HUMIDITY (PERCENT) | 28. | 29. | 30. | 31. | 35. | 41. | 48. | 51. | 53. | 56. | 64. | 72. |
| 6--OZONE (PPM) | 0.038 | 0.040 | 0.036 | 0.034 | 0.037 | 0.044 | 0.037 | 0.033 | 0.043 | 0.057 | 0.055 | 0.055 |
| 7--NITRIC OXIDE (PPM) | 0.000 | 0.000 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.003 | 0.003 | 0.004 |
| 8--NITROGEN DIOXIDE (PPM) | 0.001 | 0.002 | 0.000 | .000 | 0.006 | 0.007 | 0.007 | 0.013 | 0.016 | 0.019 | 0.017 | 0.011 |
| 9--NITROGEN OXIDES (PPM) | 0.002 | 0.002 | 0.002 | 0.001 | 0.007 | 0.009 | 0.009 | 0.015 | 0.019 | 0.022 | 0.020 | 0.015 |
| 10--METHANE (PPMC) | 1.400 | 1.300 | 1.400 | 1.400 | 1.500 | 1.500 | 1.550 | 2.000 | 1.600 | 1.600 | 1.700 | 1.500 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.480 | 0.598 | 0.473 | 0.496 | 0.455 | 0.484 | 0.458 | 0.640 | 0.456 | 0.534 | 0.551 | 0.490 |
| 12--CARBON MONOXIDE (PPM) | 0.133 | 1.050 | 0.050 | .000 | 0.063 | 0.100 | 0.175 | 0.400 | 0.450 | 0.625 | 0.587 | 0.487 |
| 13--ETHANE (PPMC) | .000 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.004 | 0.003 | 0.003 |
| 14--ETHYLENE (PPMC) | 0.002 | 0.001 | 0.004 | 0.009 | 0.005 | 0.002 | 0.003 | 0.004 | 0.006 | 0.008 | 0.009 | 0.006 |
| 15--PROPANE (PPMC) | .000 | .000 | .000 | .000 | 0.005 | .000 | .000 | .000 | .000 | 0.003 | .000 | 0.003 |
| 16--ACETYLENE (PPMC) | .000 | 0.001 | 0.004 | 0.004 | 0.005 | 0.002 | 0.001 | 0.005 | 0.007 | 0.010 | 0.012 | 0.009 |
| 19--FLUOROCARBON-11 (PPT) | 77. | 77. | 73. | 78. | 87. | 87. | 96. | 145. | 149. | 187. | 188. | 156. |
| 20--CARBON TETRACHLORIDE (PPT) | -82. | 45. | 68. | 70. | 70. | 75. | 75. | 95. | 128. | 140. | 145. | 165. |

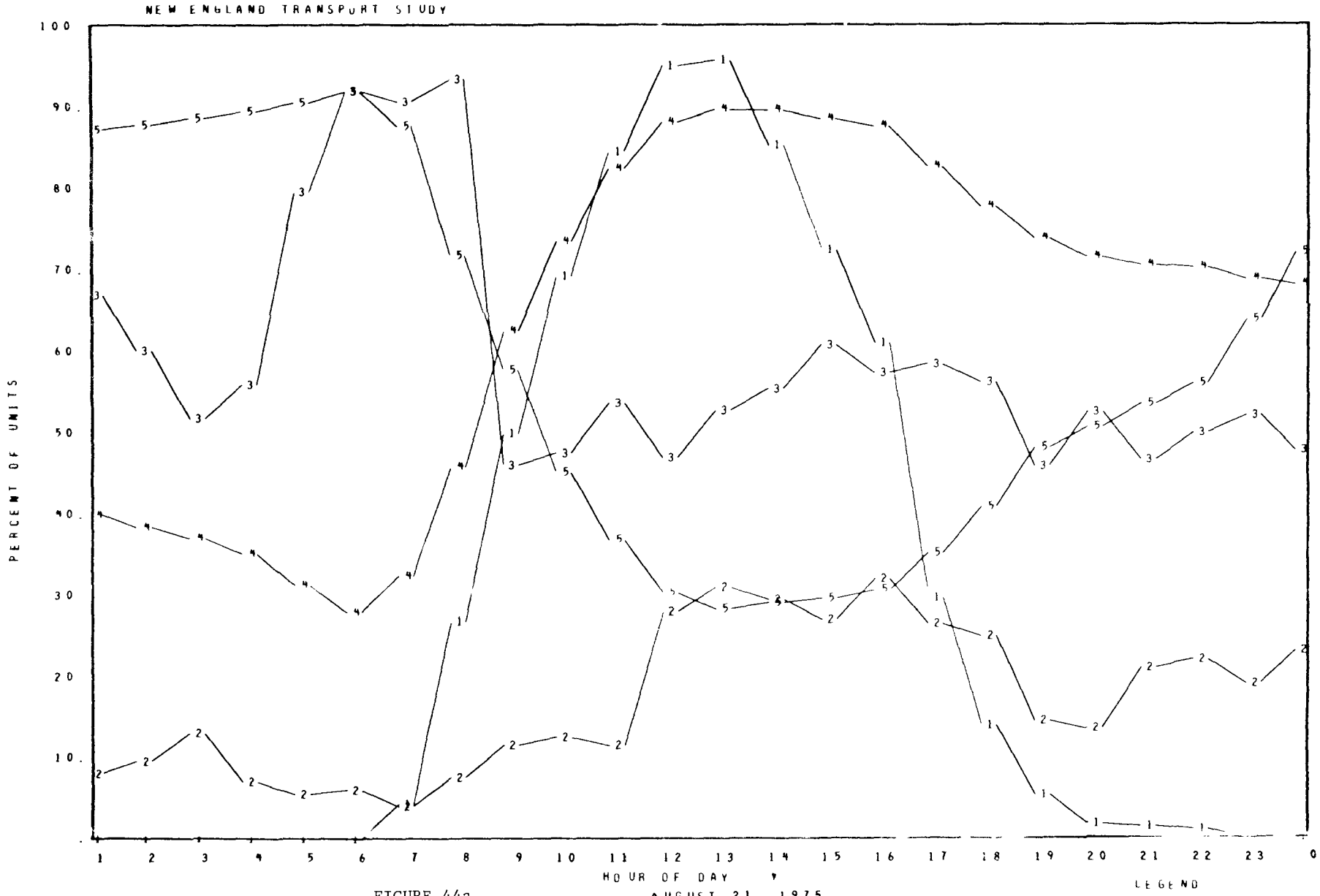



FIGURE 44a. AUGUST 21, 1975

LEGEND

1--GLOBAL IRRADIANCE 7.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3- WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

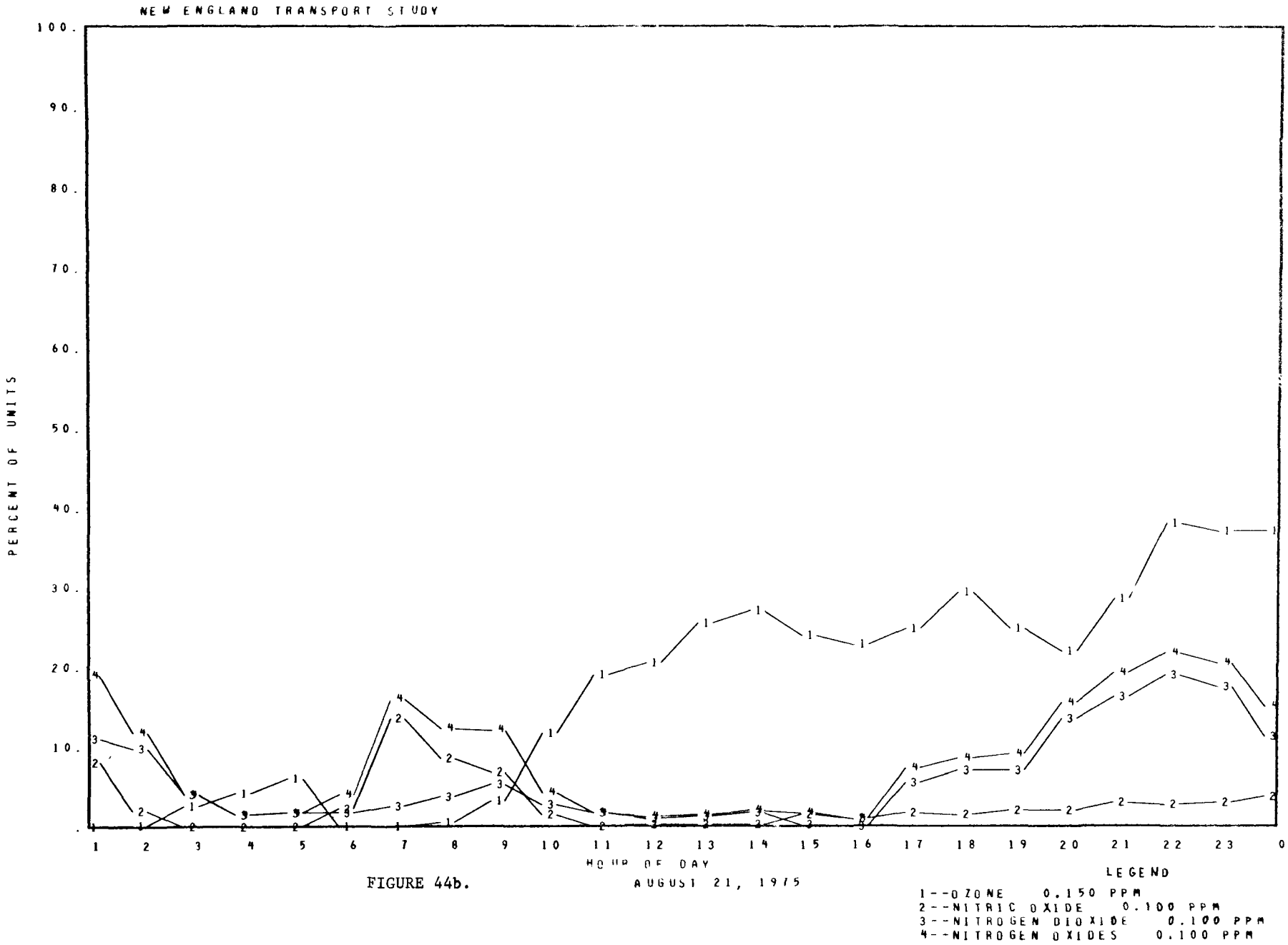

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 21, 1975
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 44b.

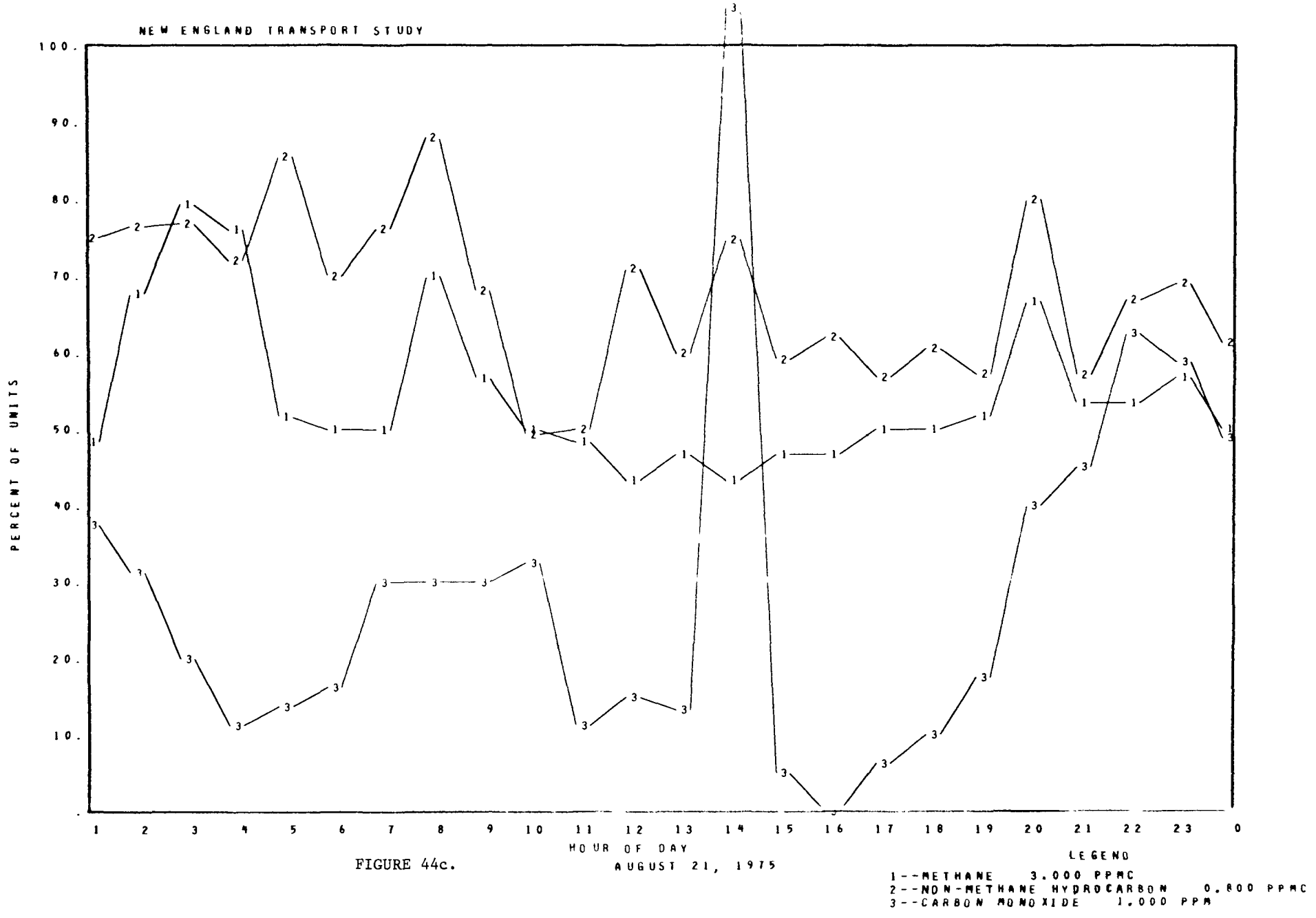

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
HOUR OF DAY
AUGUST 21, 1975
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 0.800 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 44c.

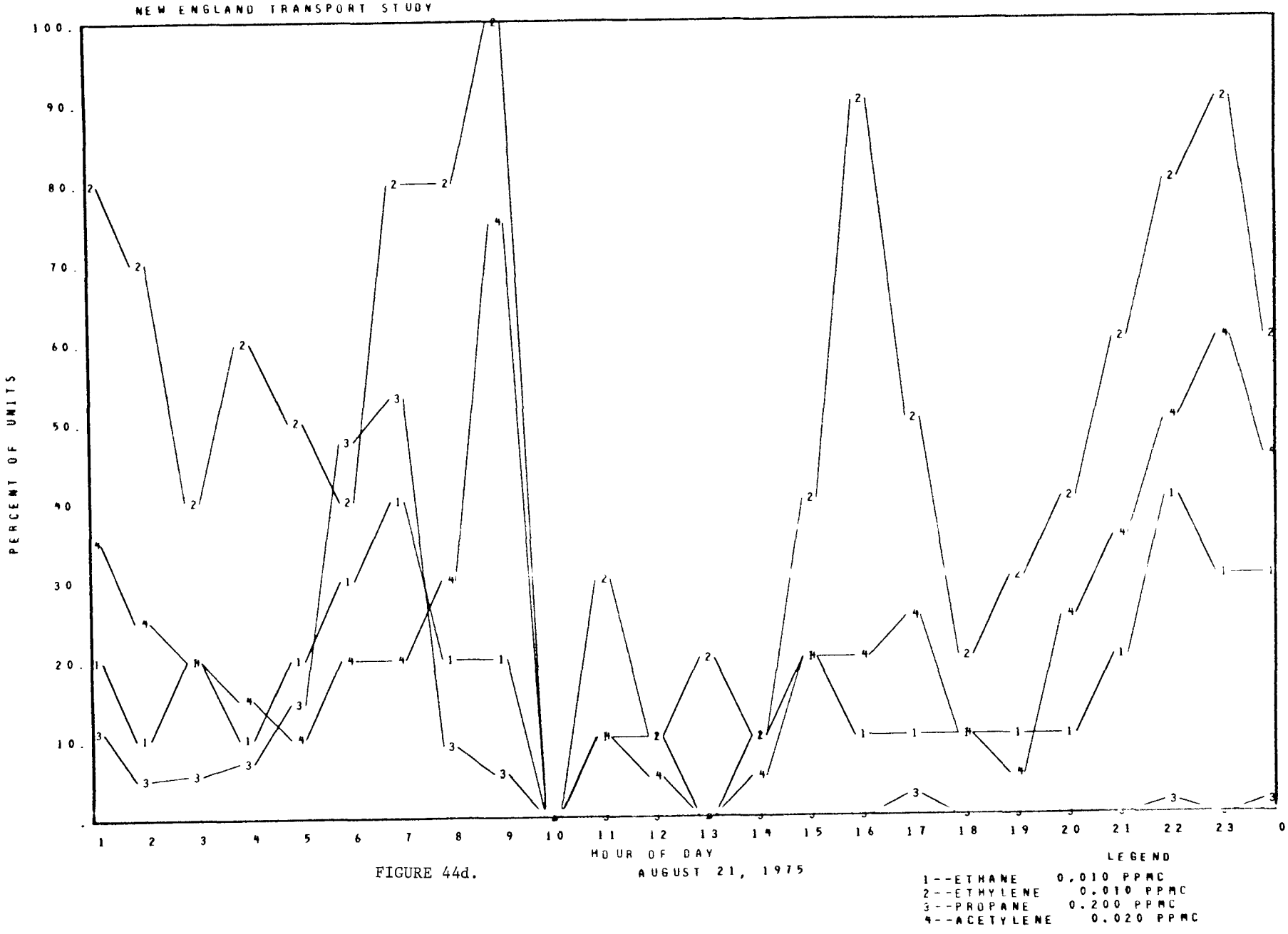

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40
30
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 21, 1975
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.200 PPMC
4--ACETYLENE 0.020 PPMC

FIGURE 44d.

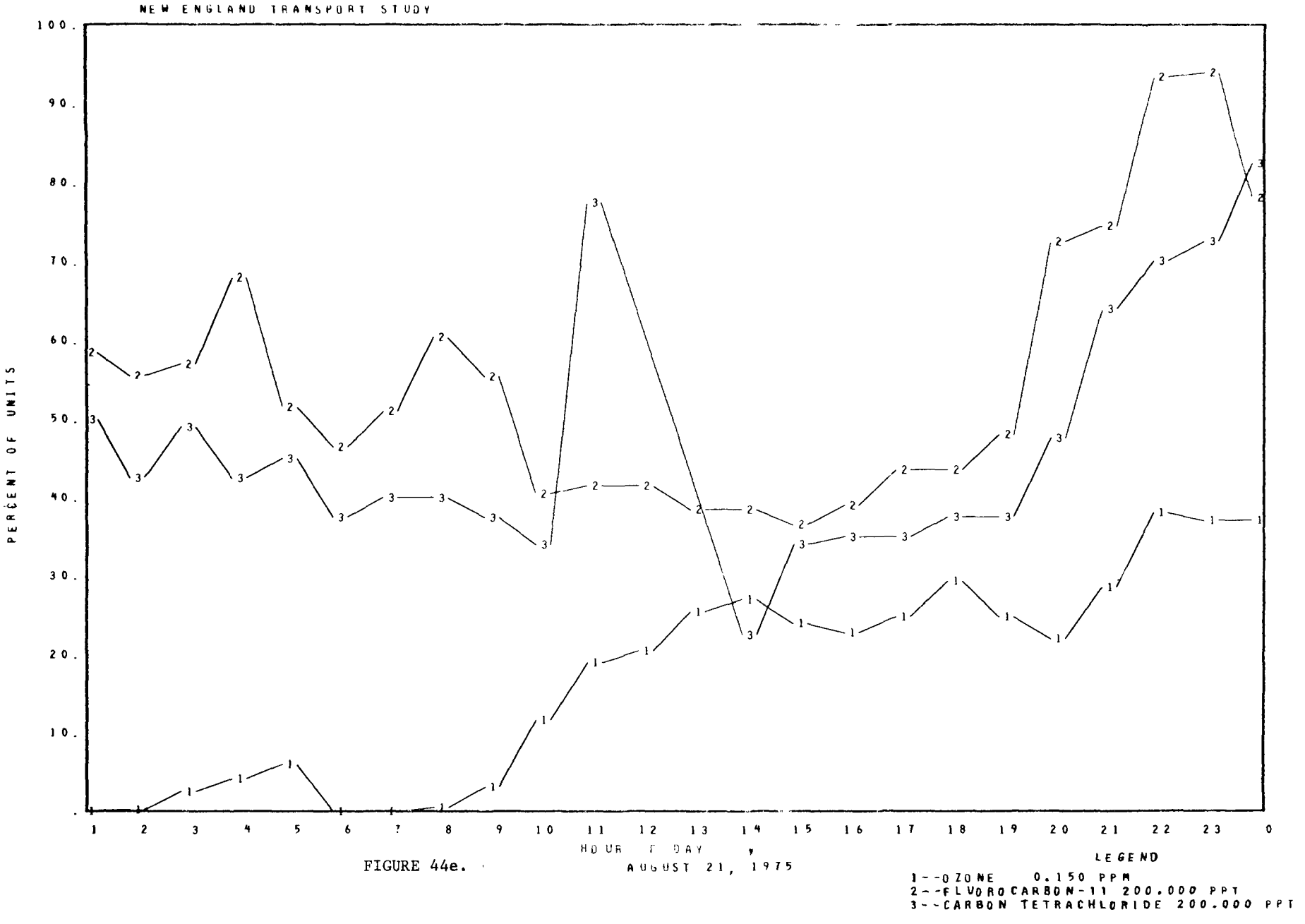
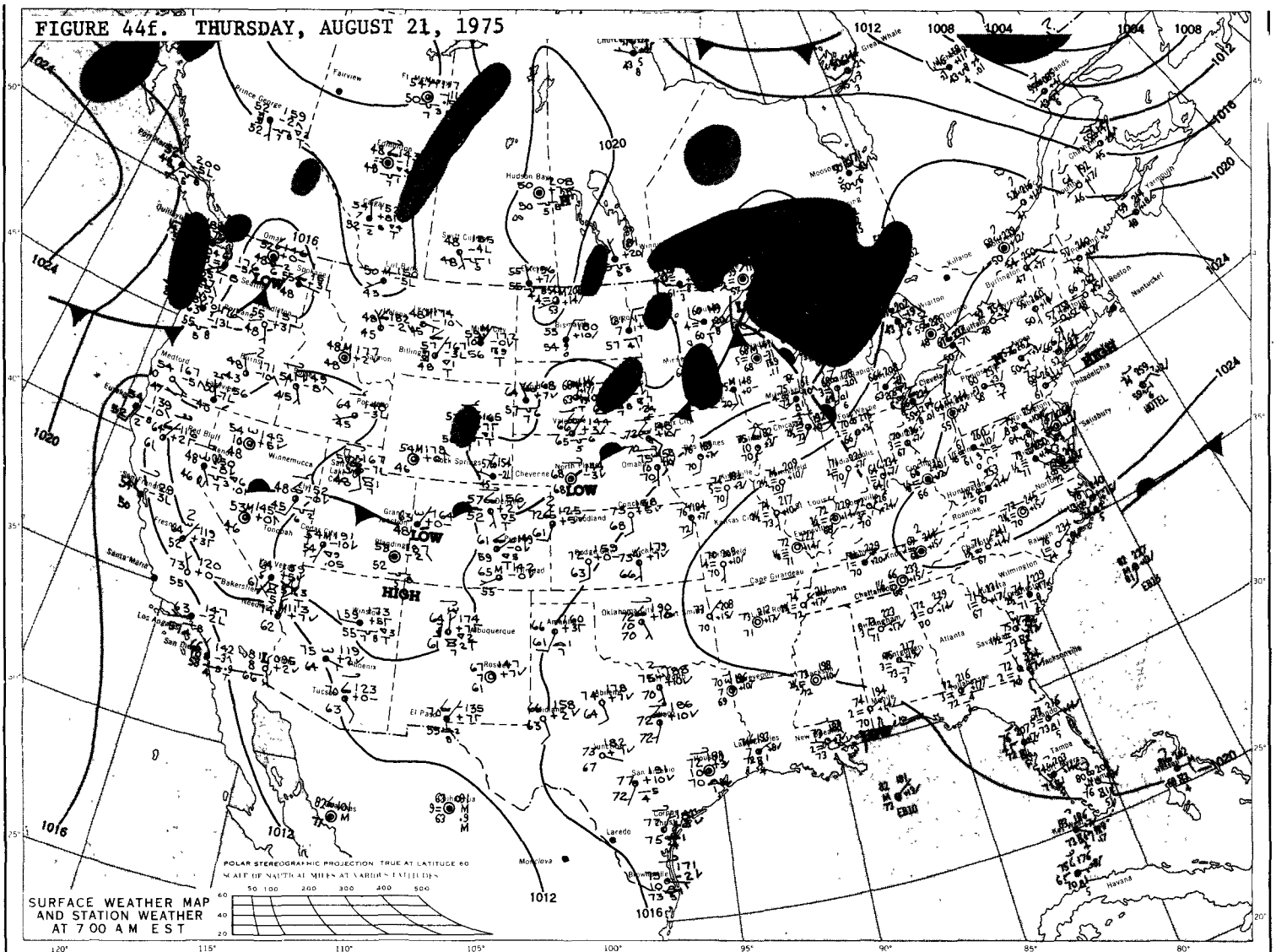
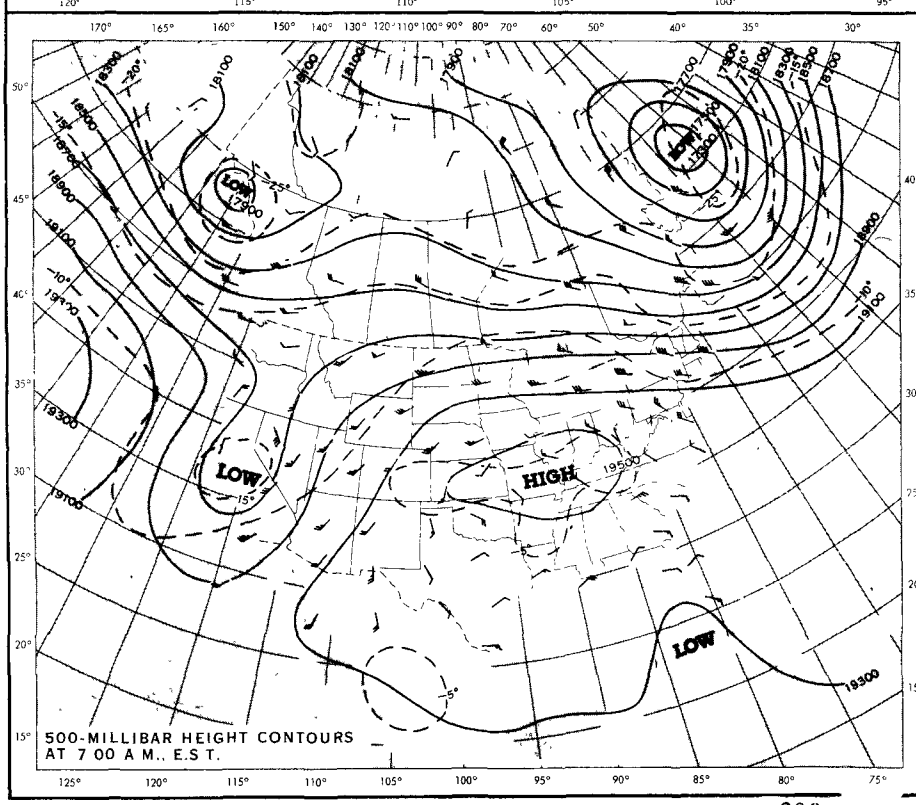

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
AUGUST 21, 1975
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 44e.

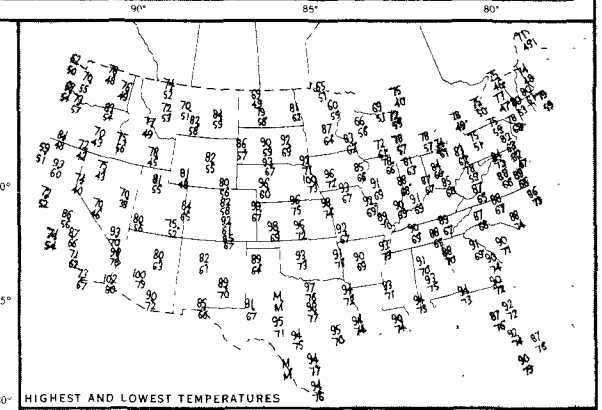
FIGURE 44f. THURSDAY, AUGUST 21, 1975



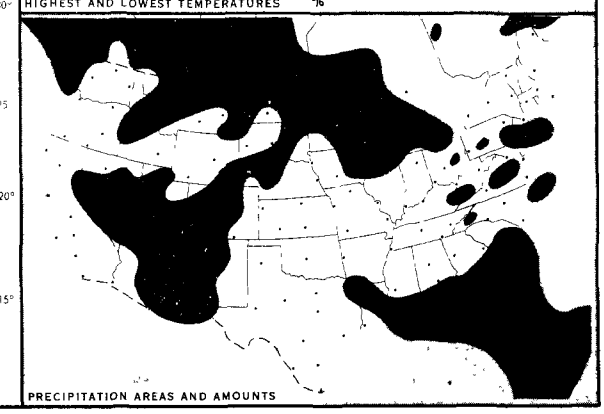

SURFACE WEATHER MAP AND STATION WEATHER AT 7 00 A M E S T




500-MILLIBAR HEIGHT CONTOURS AT 7 00 A M., E.S.T.



HIGHEST AND LOWEST TEMPERATURES



PRECIPITATION AREAS AND AMOUNTS

TABLE 41a. ALL DAYS*

| SUBSTANCE | AVERAGE | |
|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 1.898 | 24 |
| 2--WIND SPEED (MPH) | 3.668 | 24 |
| 3--WIND DIRECTION (DEGREES) | 240.870 | 24 |
| 4--TEMPERATURE (CENTIGRADE) | 23.653 | 24 |
| 5--RELATIVE HUMIDITY (PERCENT) | 68.334 | 24 |
| 6--OZONE (PPM) | 0.031 | 24 |
| 7--NITRIC OXIDE (PPM) | 0.003 | 24 |
| 8--NITROGEN DIOXIDE (PPM) | 0.005 | 24 |
| 9--NITROGEN OXIDES (PPM) | 0.008 | 24 |
| 10--METHANE (PPMC) | 1.695 | 24 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.445 | 24 |
| 12--CARBON MONOXIDE (PPM) | 0.193 | 24 |
| 13--ETHANE (PPMC) | 0.002 | 24 |
| 14--ETHYLENE (PPMC) | 0.004 | 24 |
| 15--PROPANE (PPMC) | 0.009 | 24 |
| 16--ACETYLENE (PPMC) | 0.004 | 24 |
| 17--ISO-BUTANE (PPMC) | 0.005 | 20 |
| 18--N-BUTANE (PPMC) | 0.008 | 20 |
| 19--FLUOROCARBON-11 (PPT) | 145. | 24 |
| 20--CARBON TETRACHLORIDE (PPT) | 122. | 24 |

TABLE 41b.

SUBSTANCE — HOUR AVERAGES FOR ALL DAYS*

| SUBSTANCE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | .000 | .000 | .000 | .000 | 0.001 | 0.026 | 0.401 | 1.445 | 2.681 | 3.811 | [illegible] | [illegible] |
| 2--WIND SPEED (MPH) | 2.623 | 2.315 | 2.177 | 2.369 | 2.393 | 2.322 | 2.218 | 2.761 | 3.559 | 4.601 | [illegible] | [illegible] |
| 3--WIND DIRECTION (DEGREES) | 245. | 226. | 233. | 239. | 259. | 242. | 233. | 234. | 248. | 247. | [illegible] | 49. |
| 4--TEMPERATURE (CENTIGRADE) | 20. | 19. | 19. | 19. | 18. | 18. | 19. | 21. | 23. | 25. | 27. | 28. |
| 5--RELATIVE HUMIDITY (PERCENT) | 86. | 88. | 88. | 89. | 90. | 91. | 89. | 80. | 69. | 61. | 55. | 51. |
| 6--OZONE (PPM) | 0.014 | 0.013 | 0.013 | 0.014 | 0.014 | 0.012 | 0.010 | 0.012 | 0.022 | 0.033 | 0.042 | 0.047 |
| 7--NITRIC OXIDE (PPM) | 0.004 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.004 | 0.004 | 0.003 | 0.003 | [illegible] | 0.002 |
| 8--NITROGEN DIOXIDE (PPM) | 0.008 | 0.007 | 0.005 | 0.004 | 0.003 | 0.003 | 0.003 | 0.004 | 0.004 | 0.004 | [illegible] | 0.003 |
| 9--NITROGEN OXIDES (PPM) | 0.011 | 0.009 | 0.007 | 0.006 | 0.005 | 0.005 | 0.008 | 0.009 | 0.007 | 0.006 | [illegible] | [illegible] |
| 10--METHANE (PPMC) | 1.813 | 1.902 | 1.851 | 1.914 | 1.868 | 1.803 | 2.155 | 1.864 | 1.675 | 1.544 | [illegible] | [illegible] |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.462 | 0.471 | 0.446 | 0.404 | 0.431 | 0.405 | 0.459 | 0.413 | 0.360 | 0.375 | [illegible] | [illegible] |
| 12--CARBON MONOXIDE (PPM) | 0.280 | 0.232 | 0.218 | 0.191 | 0.184 | 0.200 | 0.241 | 0.329 | 0.253 | 0.198 | [illegible] | [illegible] |
| 13--ETHANE (PPMC) | 0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | [illegible] | [illegible] |
| 14--ETHYLENE (PPMC) | 0.006 | 0.004 | 0.003 | 0.003 | 0.003 | 0.002 | 0.005 | 0.005 | 0.005 | 0.003 | [illegible] | [illegible] |
| 15--PROPANE (PPMC) | 0.012 | 0.011 | 0.008 | 0.013 | 0.015 | 0.018 | 0.034 | 0.013 | 0.014 | 0.005 | [illegible] | [illegible] |
| 16--ACETYLENE (PPMC) | 0.005 | 0.003 | 0.003 | 0.003 | 0.002 | 0.002 | 0.005 | 0.005 | 0.007 | [illegible] | [illegible] | [illegible] |
| 17--ISO-BUTANE (PPMC) | 0.006 | 0.005 | 0.003 | 0.006 | 0.006 | 0.004 | .000 | .000 | 0.004 | -1.000 | [illegible] | [illegible] |
| 18--N-BUTANE (PPMC) | 0.009 | 0.009 | 0.006 | 0.009 | .000 | 0.004 | .000 | .000 | 0.002 | -1.000 | [illegible] | [illegible] |
| 19--FLUOROCARBON-11 (PPT) | 180. | 161. | 153. | 152. | 146. | 145. | 154. | 148. | 144. | 131. | [illegible] | [illegible] |
| 20--CARBON TETRACHLORIDE (PPT) | 141. | 137. | 131. | 134. | 130. | 125. | 128. | 121. | 128. | 106. | [illegible] | 112. |

| SUBSTANCE | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1--GLOBAL IRRADIANCE (CAL/SQ.CM/MIN) | 5.416 | 5.384 | 4.980 | 4.470 | 3.399 | 2.314 | 1.066 | 0.285 | 0.074 | 0.008 | .000 | .000 |
| 2--WIND SPEED (MPH) | 5.355 | 5.459 | 5.538 | 5.758 | 5.226 | 4.717 | 4.100 | 3.151 | 2.846 | 2.879 | 2.645 | 2.780 |
| 3--WIND DIRECTION (DEGREES) | 231. | 245. | 248. | 244. | 252. | 248. | 245. | 241. | 244. | 238. | 234. | 239. |
| 4--TEMPERATURE (CENTIGRADE) | 29. | 29. | 30. | 30. | 29. | 29. | 27. | 25. | 23. | 21. | 21. | 20. |
| 5--RELATIVE HUMIDITY (PERCENT) | 48. | 46. | 44. | 44. | 45. | 48. | 52. | 60. | 71. | 78. | 82. | 84. |
| 6--OZONE (PPM) | 0.051 | 0.055 | 0.056 | 0.055 | 0.055 | 0.055 | 0.051 | 0.042 | 0.028 | 0.020 | 0.015 | 0.015 |
| 7--NITRIC OXIDE (PPM) | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.003 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| 8--NITROGEN DIOXIDE (PPM) | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.004 | 0.006 | 0.008 | 0.009 | 0.009 | 0.008 |
| 9--NITROGEN OXIDES (PPM) | 0.005 | 0.005 | 0.006 | 0.006 | 0.008 | 0.008 | 0.007 | 0.010 | 0.012 | 0.013 | 0.013 | 0.012 |
| 10--METHANE (PPMC) | 1.433 | 1.437 | 1.442 | 1.406 | 1.434 | 1.428 | 1.449 | 1.549 | 1.790 | 1.970 | 2.140 | 1.835 |
| 11--NON-METHANE HYDROCARBON (PPMC) | 0.459 | 0.462 | 0.458 | 0.482 | 0.473 | 0.407 | 0.536 | 0.521 | 0.463 | 0.489 | 0.454 | 0.458 |
| 12--CARBON MONOXIDE (PPM) | 0.078 | 0.117 | 0.081 | 0.115 | 0.118 | 0.134 | 0.127 | 0.164 | 0.231 | 0.271 | 0.307 | 0.331 |
| 13--ETHANE (PPMC) | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| 14--ETHYLENE (PPMC) | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.004 | 0.003 | 0.004 | 0.007 | 0.006 | 0.005 | 0.006 |
| 15--PROPANE (PPMC) | 0.002 | 0.002 | 0.001 | 0.002 | 0.003 | 0.003 | 0.005 | 0.005 | 0.008 | 0.007 | 0.007 | 0.012 |
| 16--ACETYLENE (PPMC) | 0.002 | 0.003 | 0.003 | 0.003 | 0.004 | 0.004 | 0.002 | 0.004 | 0.006 | 0.005 | 0.005 | 0.005 |
| 17--ISO-BUTANE (PPMC) | 0.003 | -1.000 | -1.000 | 0.008 | 0.005 | 0.004 | 0.007 | 0.007 | 0.008 | 0.004 | 0.003 | 0.001 |
| 18--N-BUTANE (PPMC) | 0.005 | -1.000 | -1.000 | 0.008 | 0.009 | 0.014 | 0.014 | 0.026 | 0.013 | 0.007 | 0.006 | 0.004 |
| 19--FLUOROCARBON-11 (PPT) | 122. | 129. | 127. | 129. | 129. | 130. | 135. | 143. | 153. | 173. | 181. | 168. |
| 20--CARBON TETRACHLORIDE (PPT) | 107. | 122. | 121. | 120. | 101., | 103. | 107. | 111. | 133. | 124. | 143. | 127. |

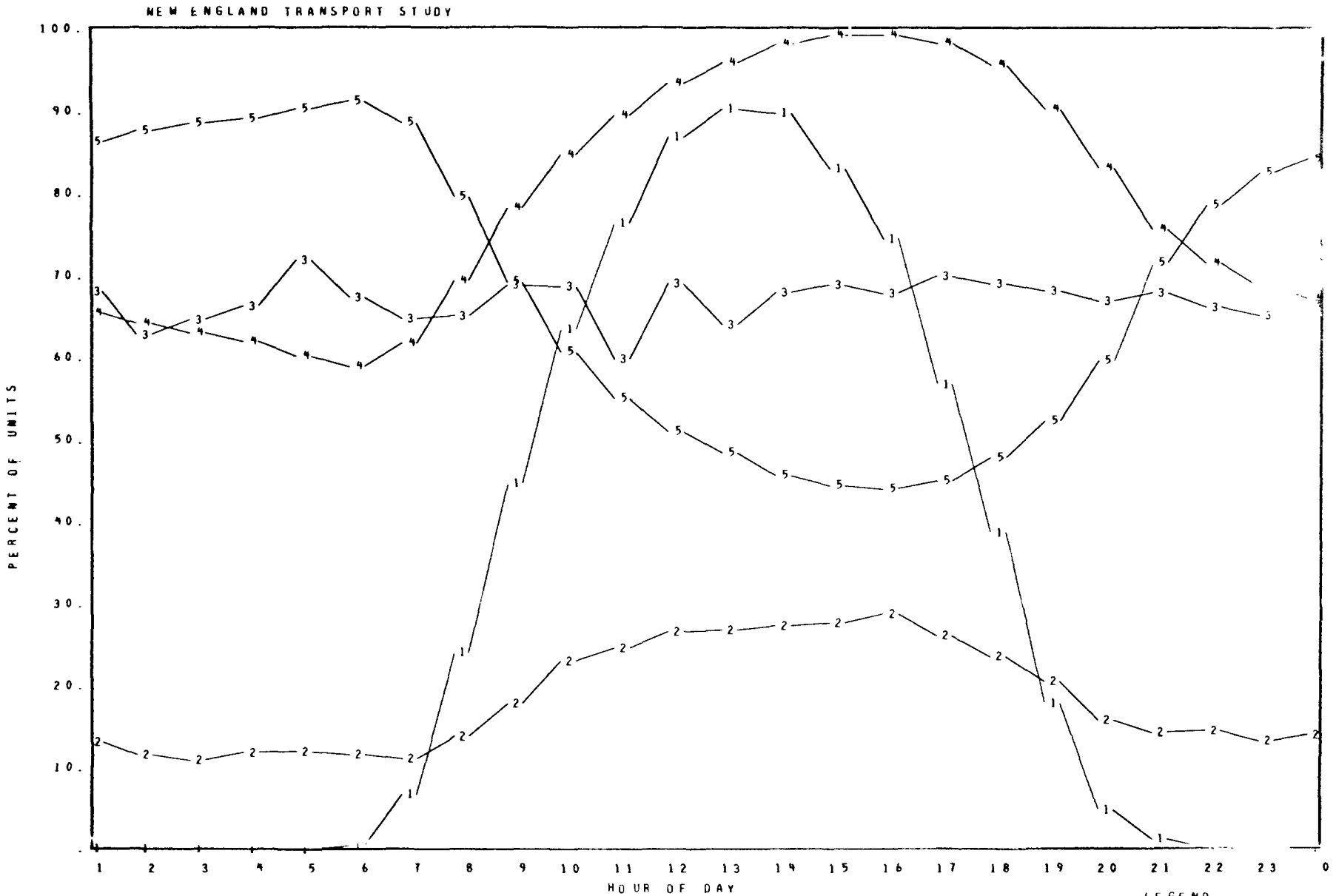



FIGURE 45a.

LEGEND

1--GLOBAL IRRADIANCE 6.000 CAL/SQ.CM/MIN
2--WIND SPEED 20.000 MPH
3--WIND DIRECTION 360.000 DEGREES
4--TEMPERATURE 30.000 CENTIGRADE
5--RELATIVE HUMIDITY 100.000 PERCENT

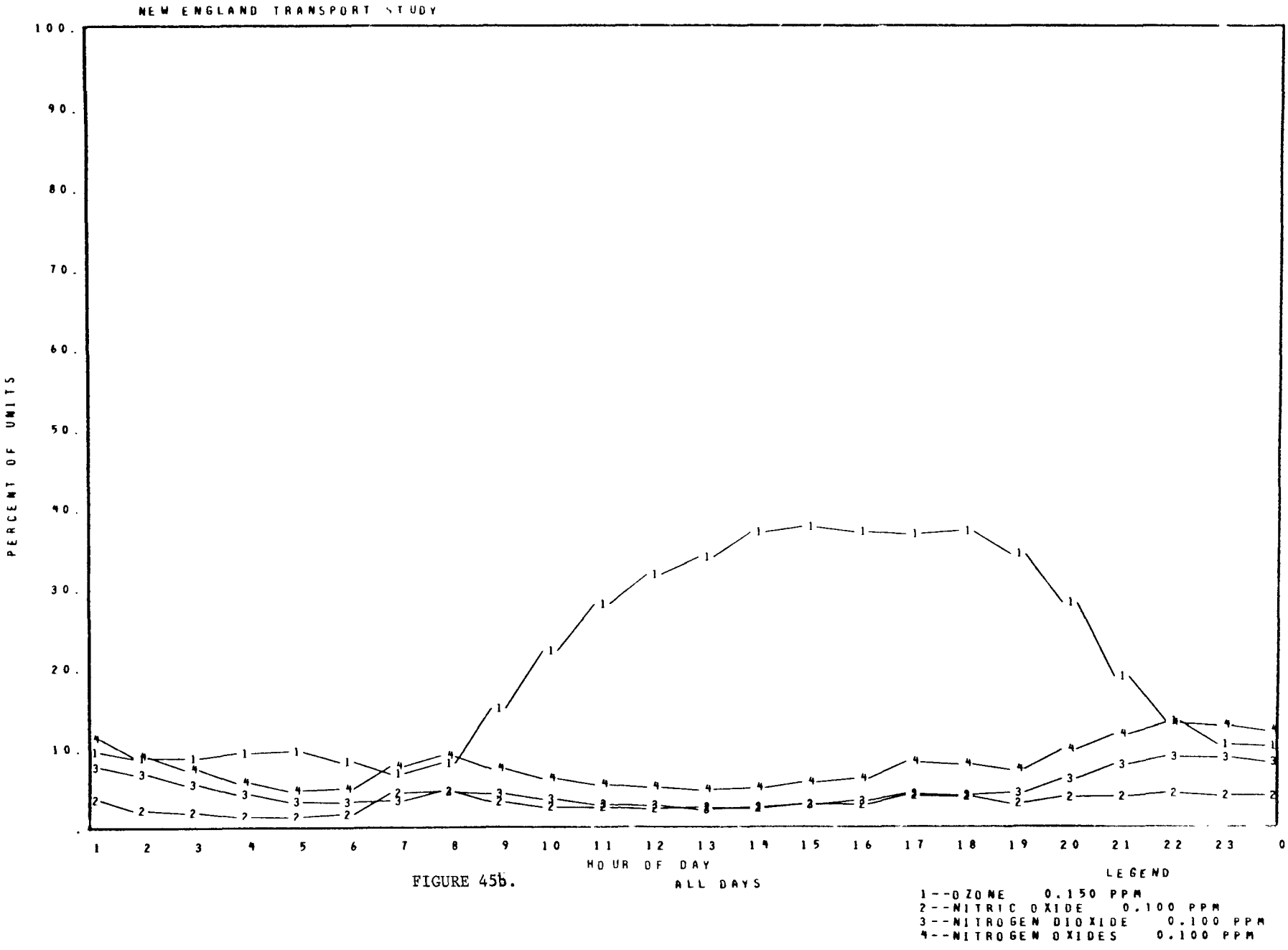

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
ALL DAYS
LEGEND
1--OZONE 0.150 PPM
2--NITRIC OXIDE 0.100 PPM
3--NITROGEN DIOXIDE 0.100 PPM
4--NITROGEN OXIDES 0.100 PPM

FIGURE 45b.

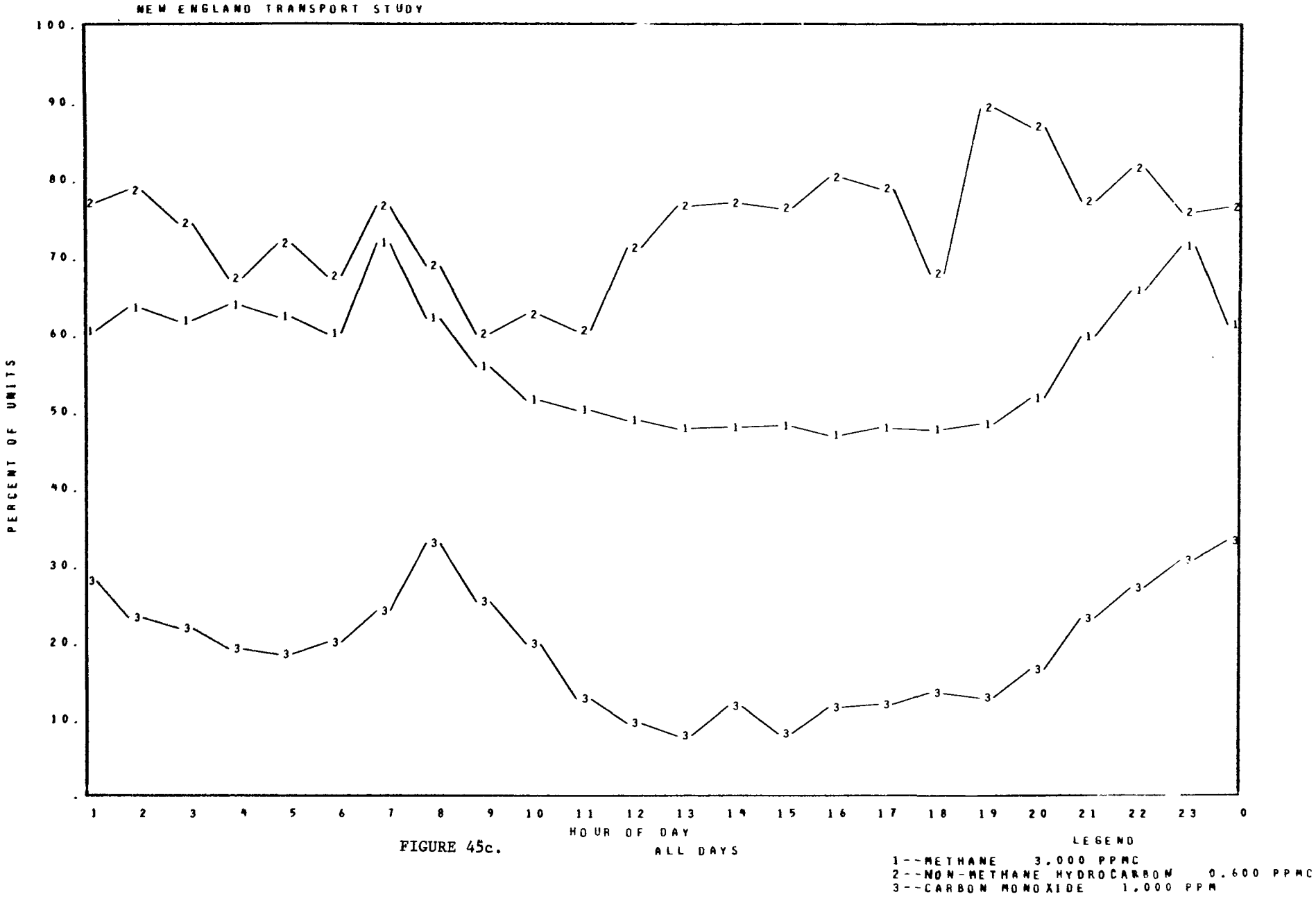

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
ALL DAYS
LEGEND
1--METHANE 3.000 PPMC
2--NON-METHANE HYDROCARBON 0.600 PPMC
3--CARBON MONOXIDE 1.000 PPM

FIGURE 45c.

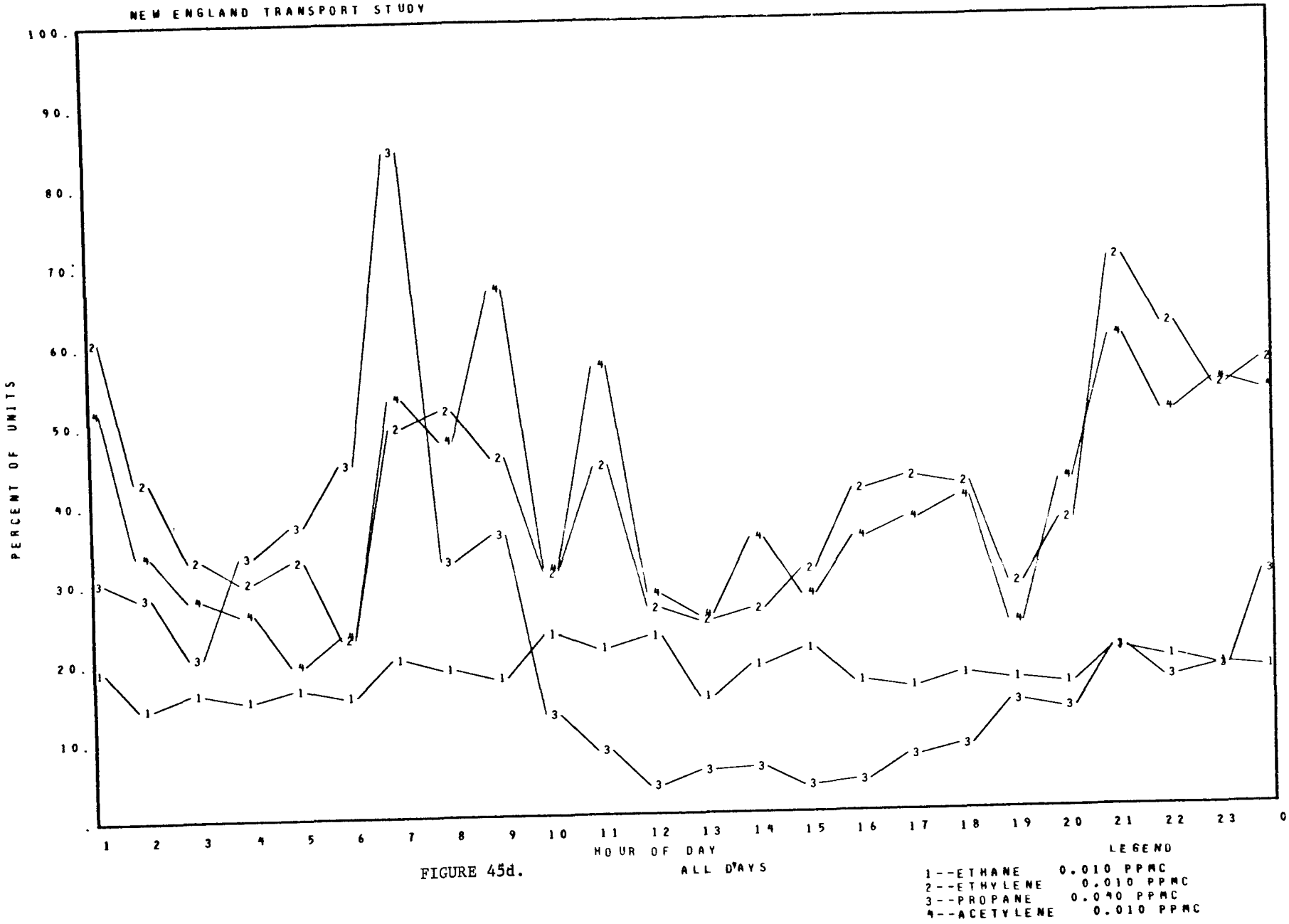

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
ALL DAYS
LEGEND
1--ETHANE 0.010 PPMC
2--ETHYLENE 0.010 PPMC
3--PROPANE 0.040 PPMC
4--ACETYLENE 0.010 PPMC

FIGURE 45d.

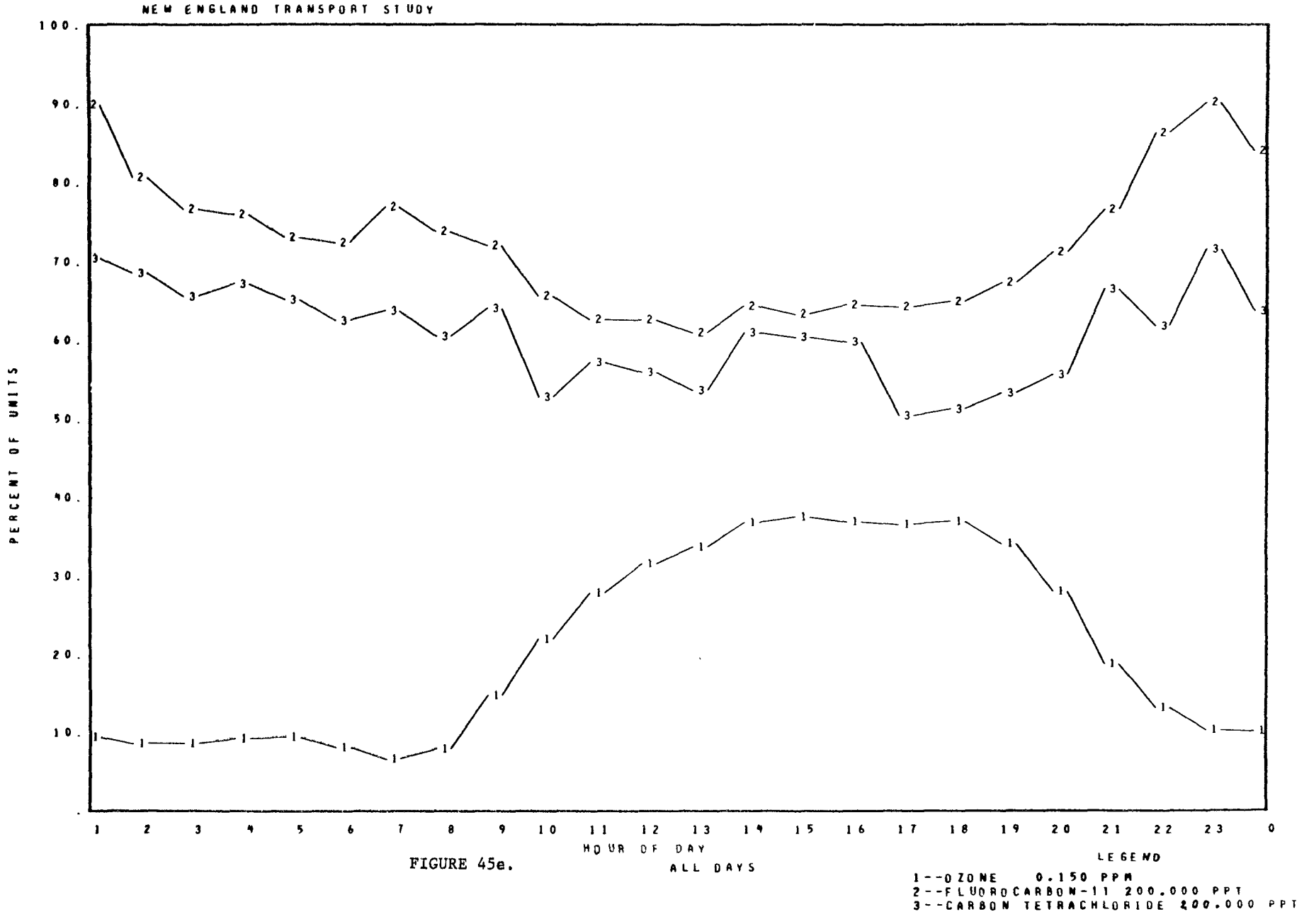

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
ALL DAYS
LEGEND
1--OZONE 0.150 PPM
2--FLUOROCARBON-11 200.000 PPT
3--CARBON TETRACHLORIDE 200.000 PPT

FIGURE 45e.

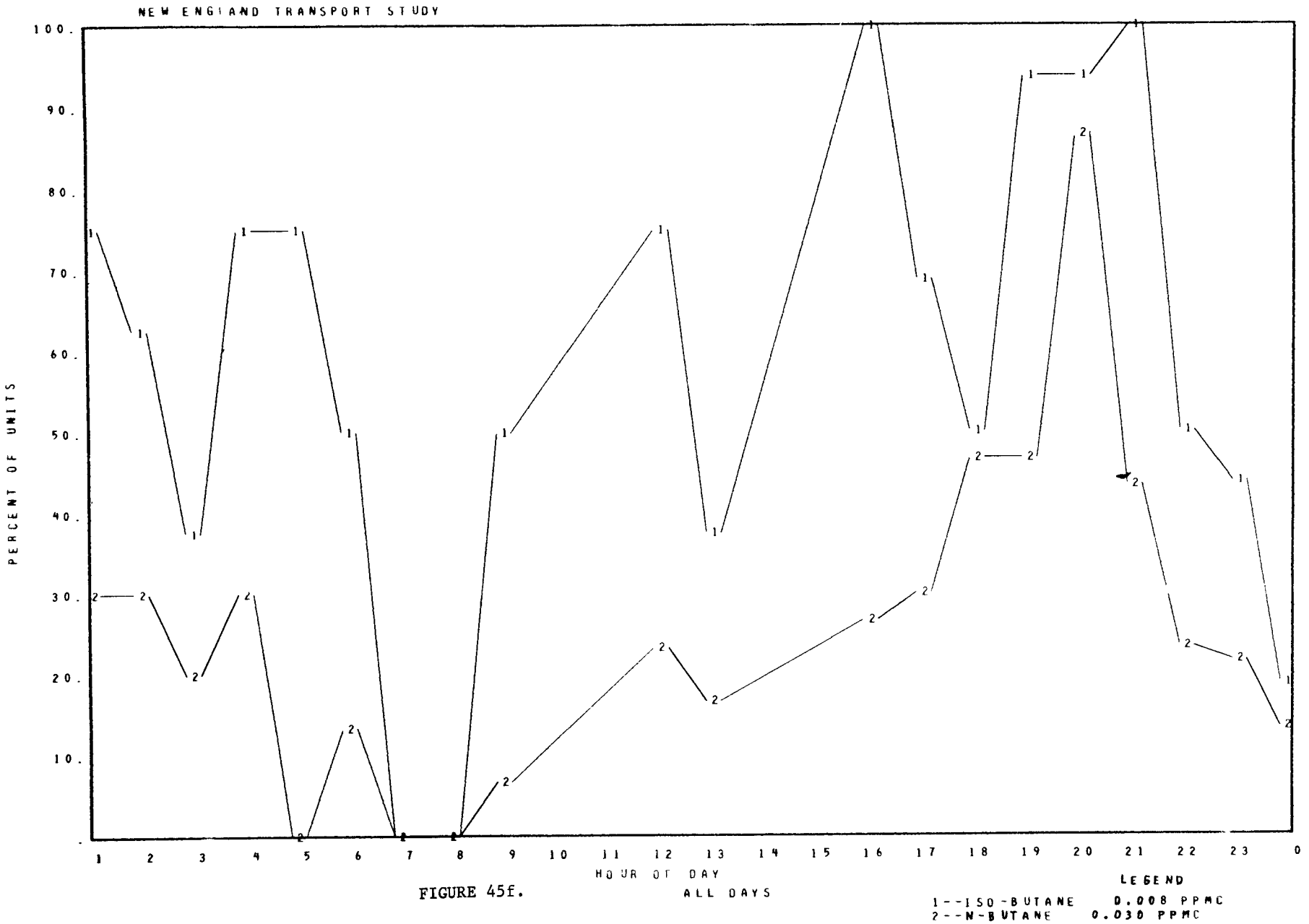

NEW ENGLAND TRANSPORT STUDY
PERCENT OF UNITS
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0
HOUR OF DAY
ALL DAYS
LEGEND
1--ISO-BUTANE 0.008 PPMC
2--N-BUTANE 0.030 PPMC

FIGURE 45f.

The composite daily averages and hourly averages for the entire study period are given in Tables 41a and b. The composite profiles for the entire study period are pictured in Figures 45a through f.

## Aircraft Sampling Results

A log of the Battelle aircraft sampling flights carried out during the 1975 New England study is given in Table 42.

In this data report, each aircraft flight is represented on a map showing the flight pattern and the ozone concentration along the flight path in parts per billion by volume. All flights were conducted at an altitude of 1000 feet above ground level unless otherwise noted. The arrows on the flight paths indicate the direction of flight. Large spaces between plotted ozone concentration values indicate that the ozone concentration was essentially constant between those values.

The sites of bag sample collection are marked along each flight path together with the bag number. The results of the analysis of each bag sample are displayed in the lower right corner of each flight map.

The vertical profiles of ozone concentration and temperature were determined during most of the flights, often at more than one location. Sites of vertical profiling are labeled along each flight path by the word "SPIRAL". The vertical ozone and temperature profiles are displayed in figures following each flight map. In cases where more than one spiral was carried out during any one flight, the starting time of the spiral (marked on each vertical profile) and the direction of flight (from Simsbury) will serve to identify each spiral location, since the spirals were carried out sequentially along the flight path. All vertical profiles have been corrected for atmospheric density variations. Haze layers observed during vertical profiling are indicated at the approximate altitude on the vertical profile plots.

In the following set of figures, each flight path and the associated vertical profile plots are listed under the same figure number with a and b designations.

The results of all of the Battelle aircraft flights from the 1975 New England study are represented in Figures 46 through 89.

TABLE 42. FLIGHT LOG

| Date | Time | Description | Flight No. |
|---|---|---|---|
| 7/18/75 | Evening | Normal Pattern | 2 |
| 7/20/75 | AM | Normal Pattern (abort due to weather) | 3 |
| 7/21/75 | Evening | Normal Pattern | 4 |
| 7/22/75 | AM | Long Island-NYC Flight | 5 |
| 7/22/75 | PM | Long Island-NYC Flight | 6 |
| 7/23/75 | AM | Normal Pattern | 7 |
| 7/23/75 | PM | Normal Pattern | 8 |
| 7/24/75 | AM | Normal Pattern (abort due to weather) | 9 |
| 7/24/75 | PM | Atlantic Ocean Flight | 10 |
| 7/26/75 | AM | Normal Pattern | 11 |
| 7/26/75 | PM | Normal Pattern | 12 |
| 7/27/75 | AM | Normal Pattern | 13 |
| 7/27/75 | PM | Normal Pattern | 14 |
| 7/28/75 | AM | Hudson River | 15 |
| 7/28/75 | PM | Connecticut River-Two Altitudes | 16 |
| 7/29/75 | AM | Normal Pattern-Clockwise | 17 |
| 7/29/75 | PM | Normal Pattern-Clockwise | 18 |
| 7/31/75 | PM | Long Distance Flight to Ohio | 19 |
| 8/3/75 | PM | Long Distance Flight from Ohio | 20 |
| 8/5/75 | AM | Plume Tracking Flight | 21 |
| 8/5/75 | AM/PM | Special Study-NYC Circle | 22 |
| 8/5/75 | Evening | Normal Pattern | 23 |
| 8/6/75 | AM | Ocean Flight-NYC Urban Plume | 24 |
| 8/9/75 | AM | Power Plant Plumes | 25 |
| 8/9/75 | AM | Long Island Flight | 26 |
| 8/9/75 | PM | Urban Plume-NYC | 27 |
| 8/10/75 | AM | Cross-Sectional Pattern | 28 |
| 8/10/75 | PM | Cross-Sectional Pattern | 29 |
| 8/11/75 | AM | Cross-Sectional Pattern (aborted) | 20 |
| 8/12/75 | AM | Aircraft Calibration Test-18 mi. Boston DME | 31 |

TABLE 42. CONTINUED

| Date | Time | Description | Flight No. |
|---|---|---|---|
| 8/13/75 | AM | Western Butterfly Pattern | 32 |
| 8/13/75 | PM | Eastern Butterfly Pattern | 33 |
| 8/14/75 | AM | Western Butterfly Pattern | 34 |
| 8/14/75 | PM | Eastern Butterfly Pattern | 35 |
| 8/15/75 | AM | Cross-Sectional Pattern | 36 |
| 8/18/75 | AM | Western Butterfly Pattern (abort-weather) | 37 |
| 8/18/75 | AM/PM | Western Butterfly Pattern | 38 |
| 8/18/75 | Evening | Boston Urban Plume | 39 |
| 8/19/75 | AM | High-Pressure Tracking | 40 |
| 8/19/75 | PM | High-Pressure Tracking | 41 |
| 8/20/75 | AM | High-Pressure Tracking | 42 |
| 8/20/75 | PM | High-Pressure Tracking | 43 |
| 8/21/75 | AM | NYC Plume Study | 44 |
| 8/21/75 | PM | NYC Plume Study | 45 |

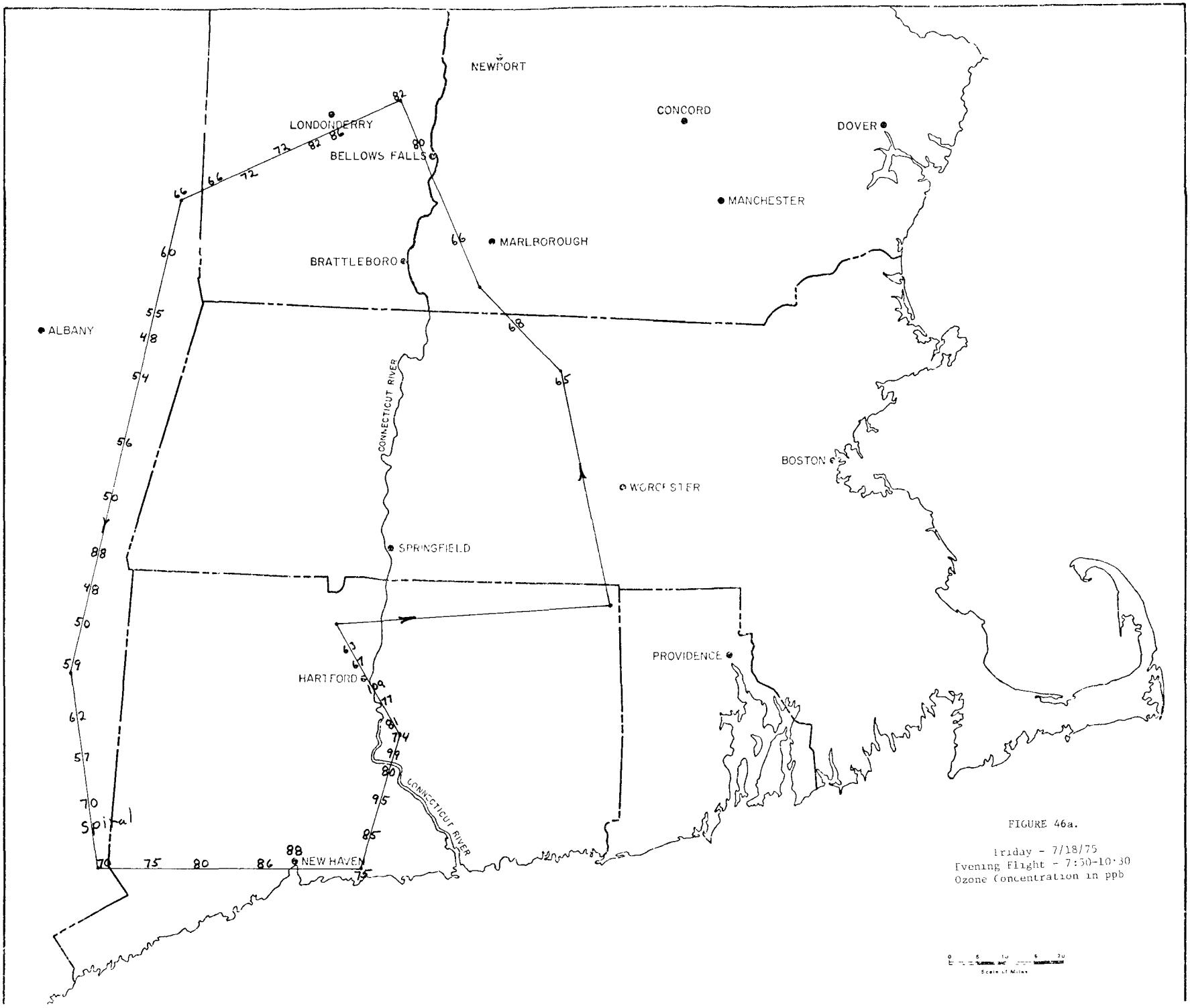
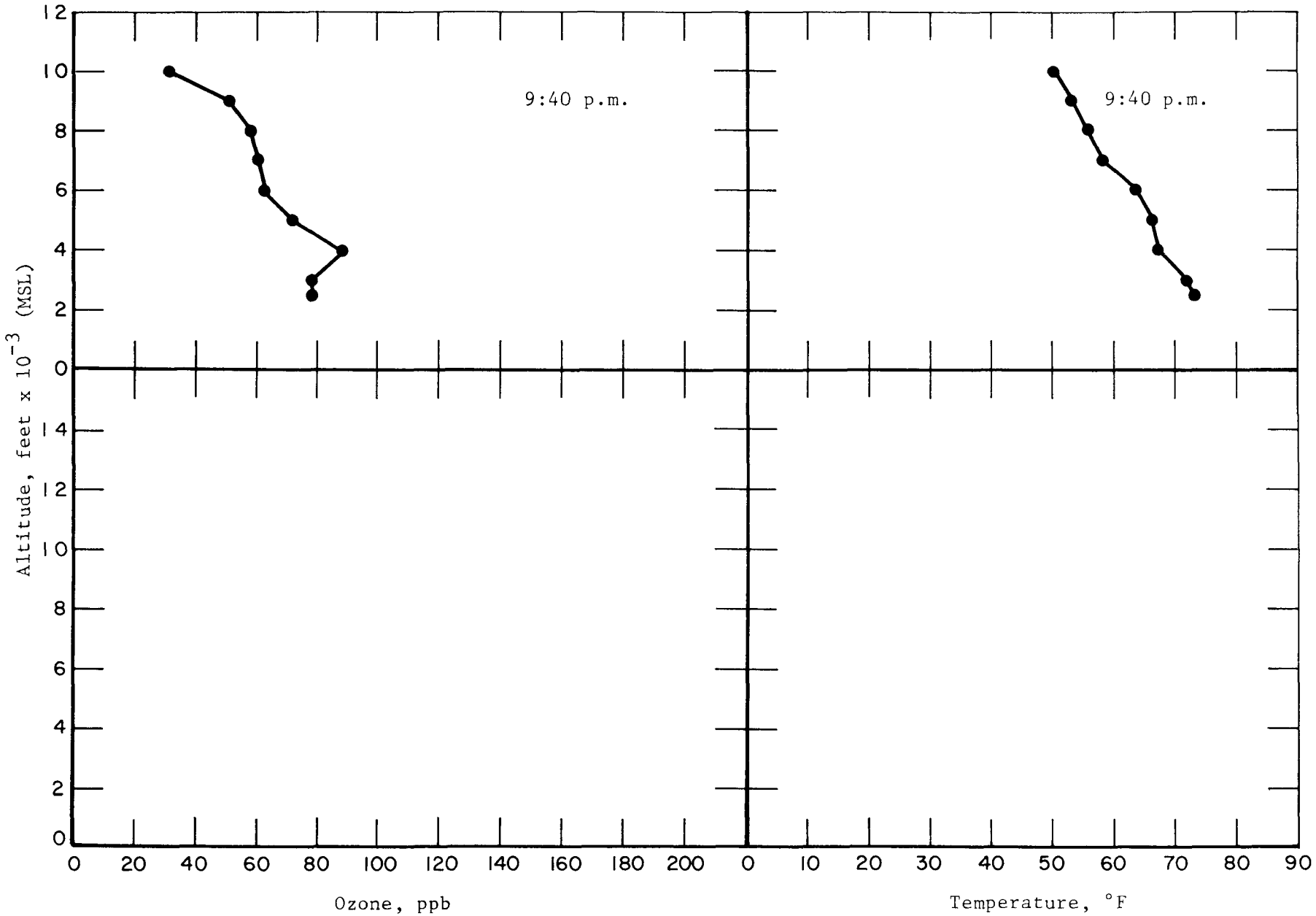



FIGURE 46a.

Friday - 7/18/75
Evening Flight - 7:50-10:30
Ozone Concentration in ppb

FIGURE 46b. Vertical Profiles July 18, 1975



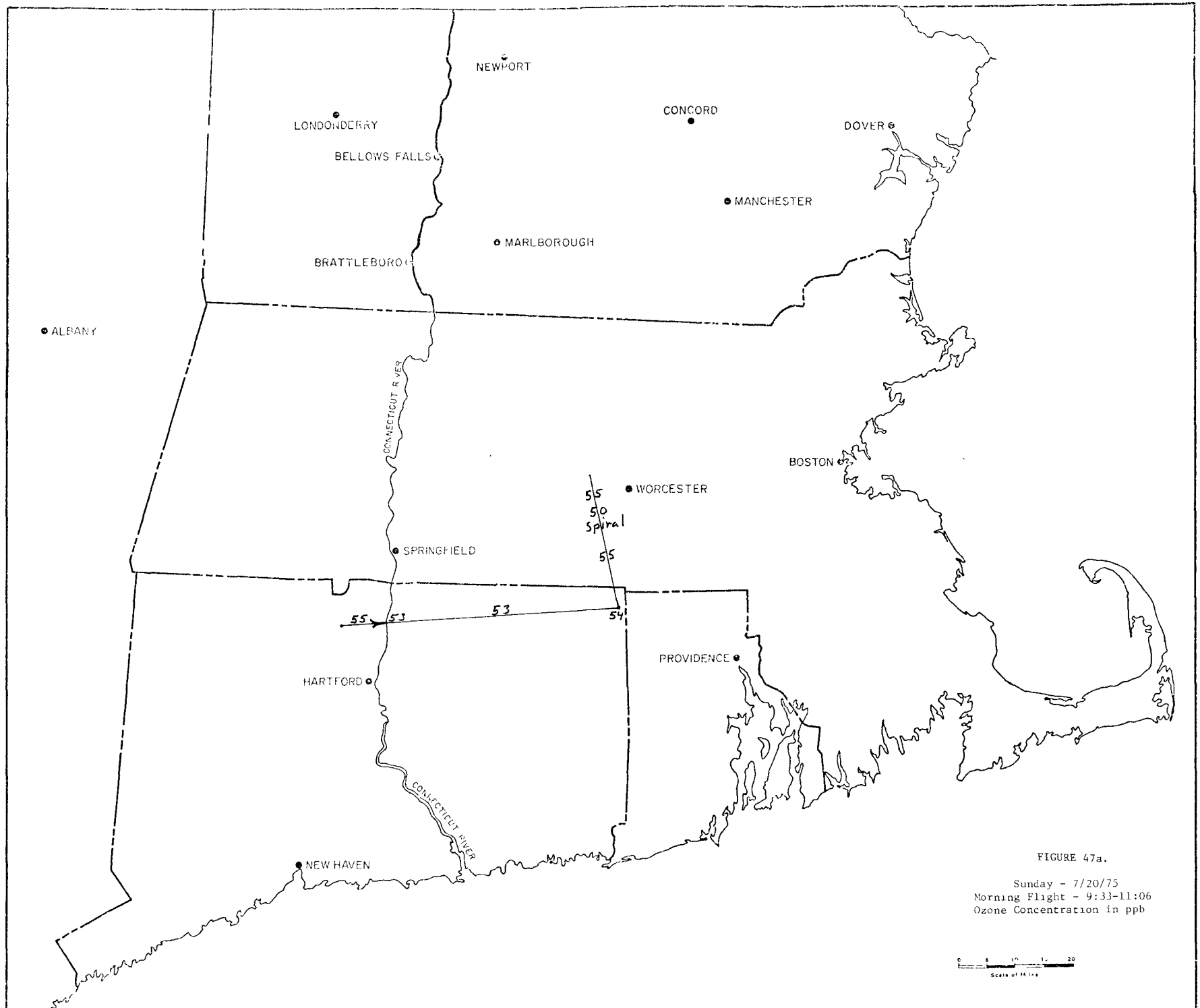
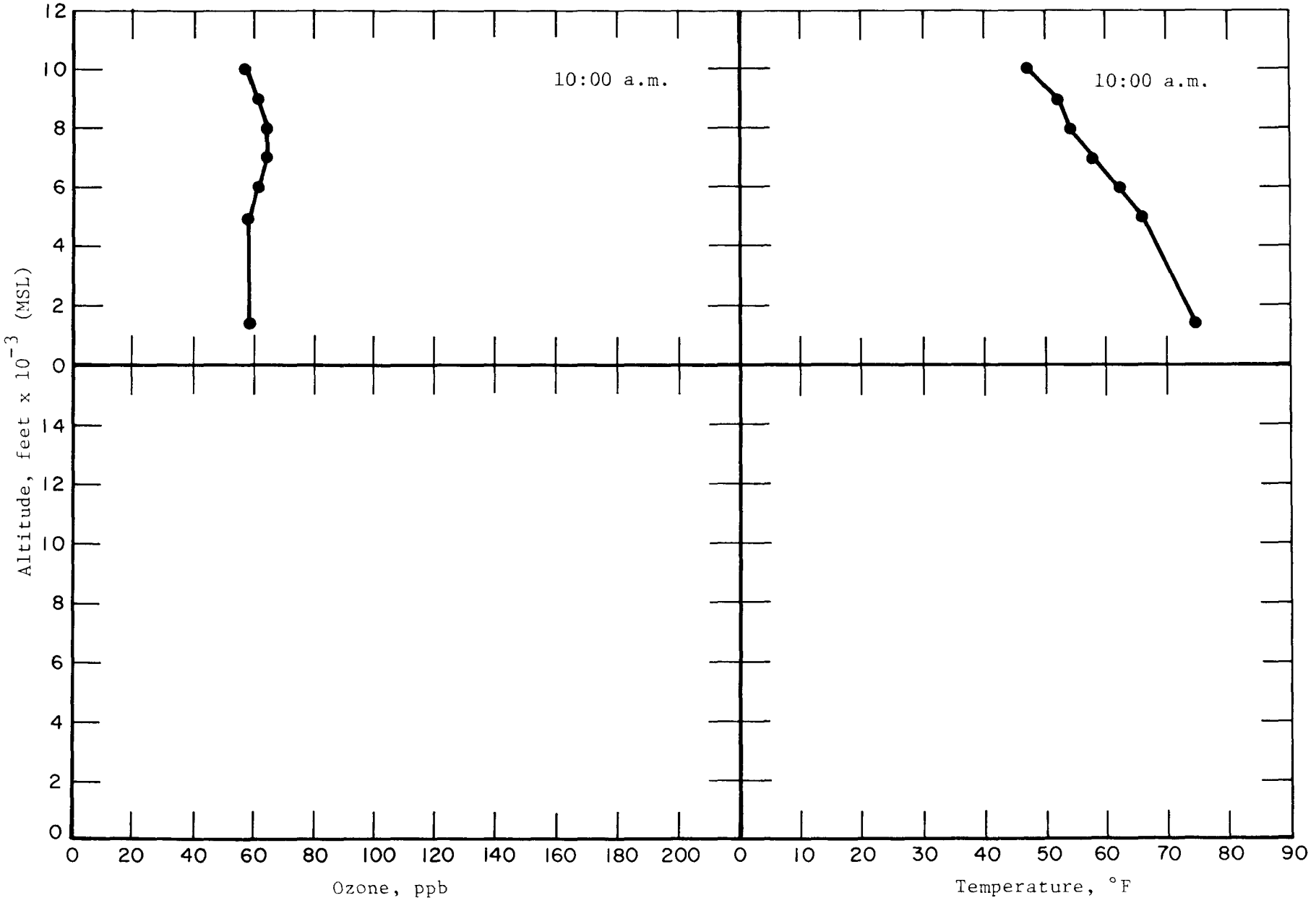



FIGURE 47a.

Sunday - 7/20/75
Morning Flight - 9:33-11:06
Ozone Concentration in ppb

FIGURE 47b. Vertical Profiles July 20, 1975



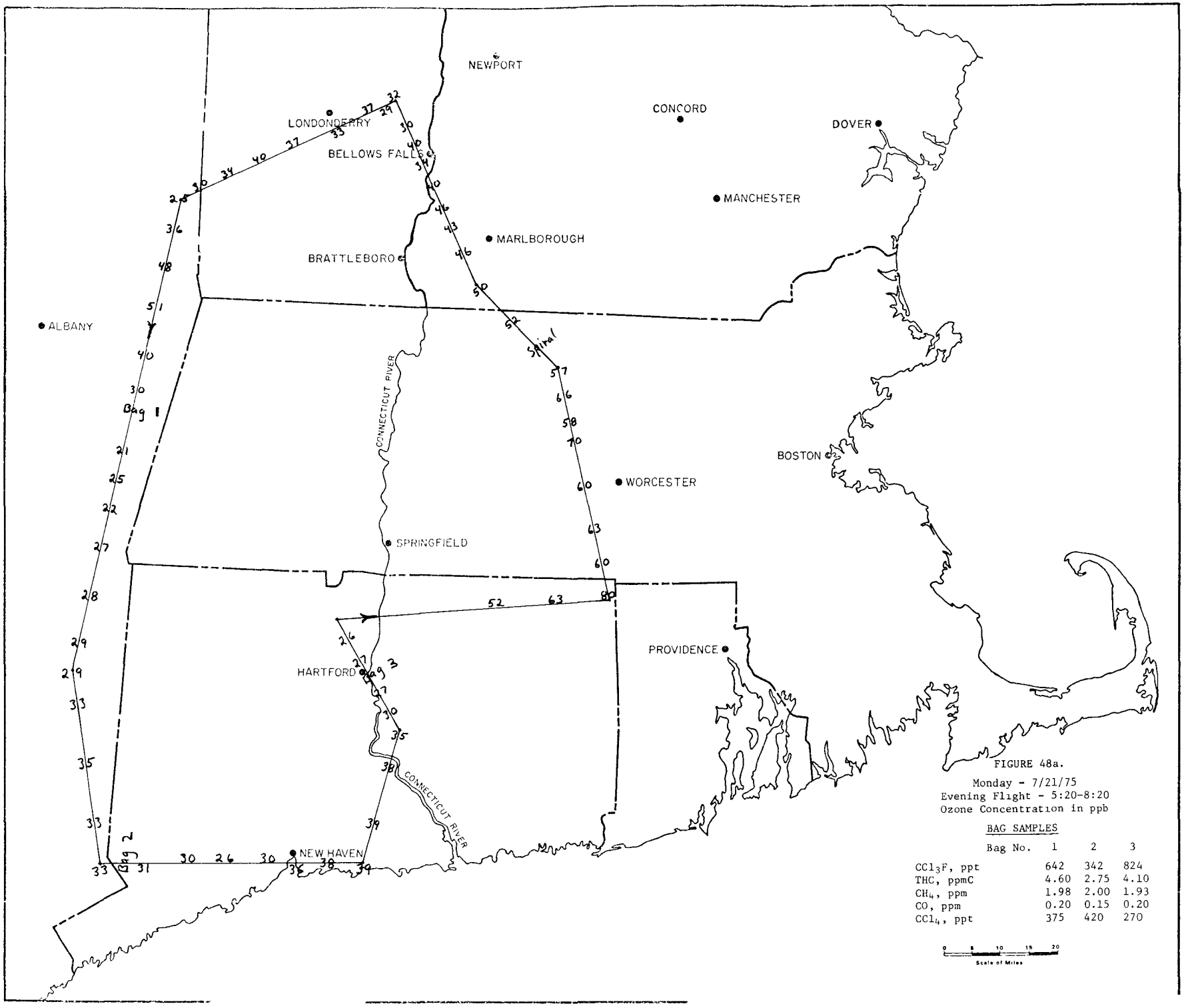


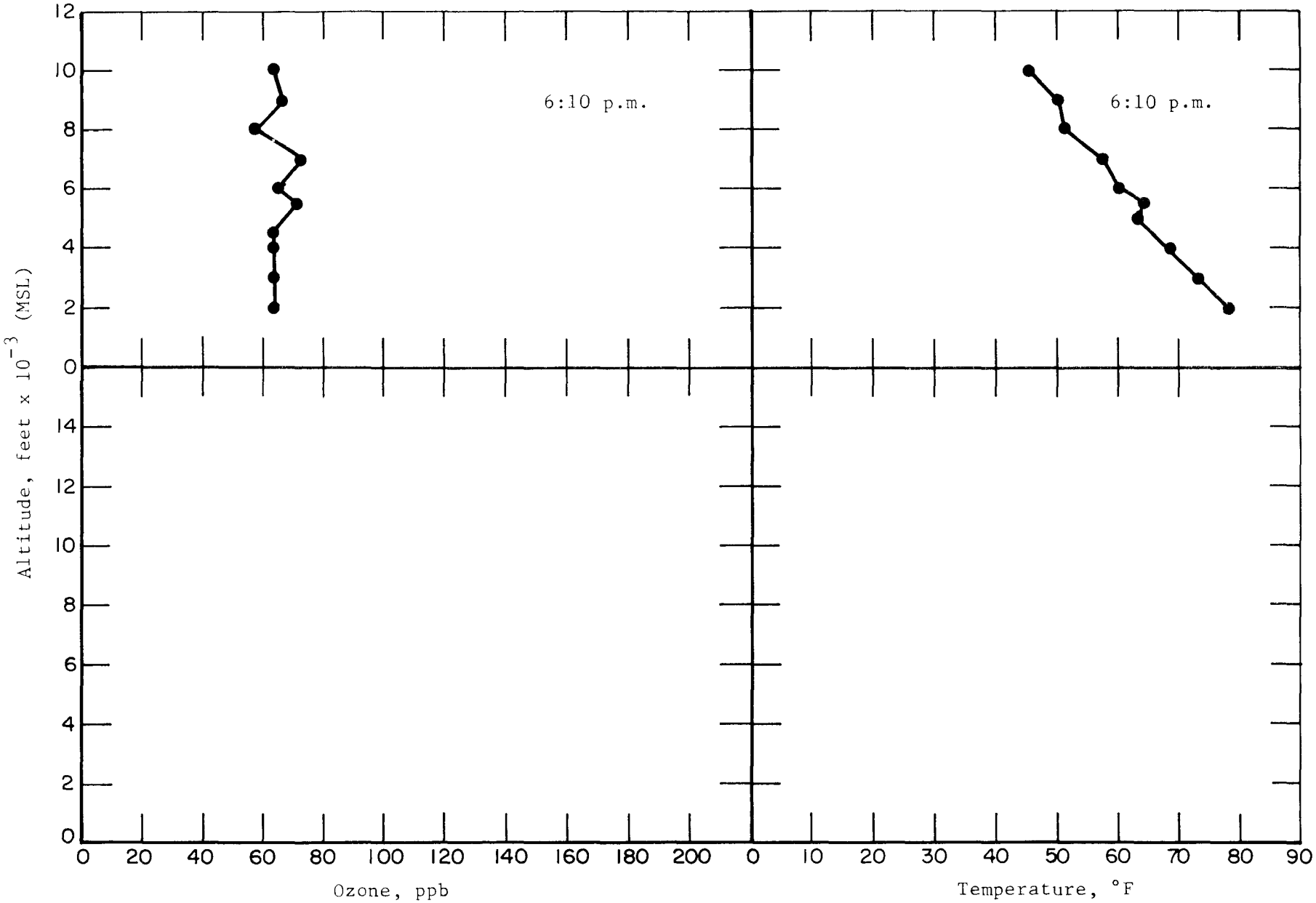

FIGURE 48a.

Monday - 7/21/75
Evening Flight - 5:20-8:20
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 642 | 342 | 824 |
| THC, ppmC | 4.60 | 2.75 | 4.10 |
| $CH_4$, ppm | 1.98 | 2.00 | 1.93 |
| CO, ppm | 0.20 | 0.15 | 0.20 |
| $CCl_4$, ppt | 375 | 420 | 270 |

FIGURE 48b. Vertical Profiles July 21, 1975



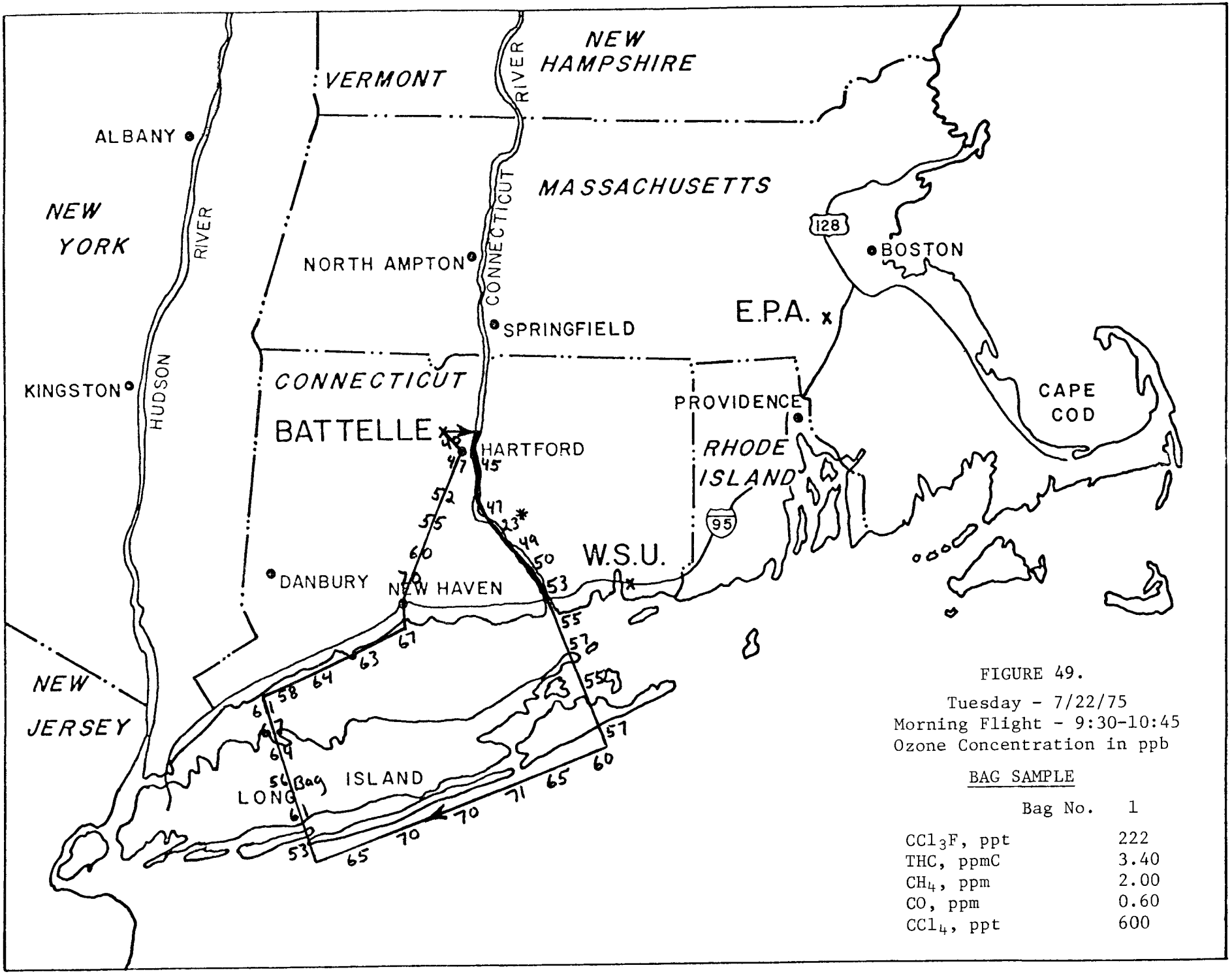



FIGURE 49.

Tuesday - 7/22/75
Morning Flight - 9:30-10:45
Ozone Concentration in ppb

BAG SAMPLE

| Bag No. | 1 |
|---|---|
| $CCl_3F$, ppt | 222 |
| THC, ppmC | 3.40 |
| $CH_4$, ppm | 2.00 |
| CO, ppm | 0.60 |
| $CCl_4$, ppt | 600 |

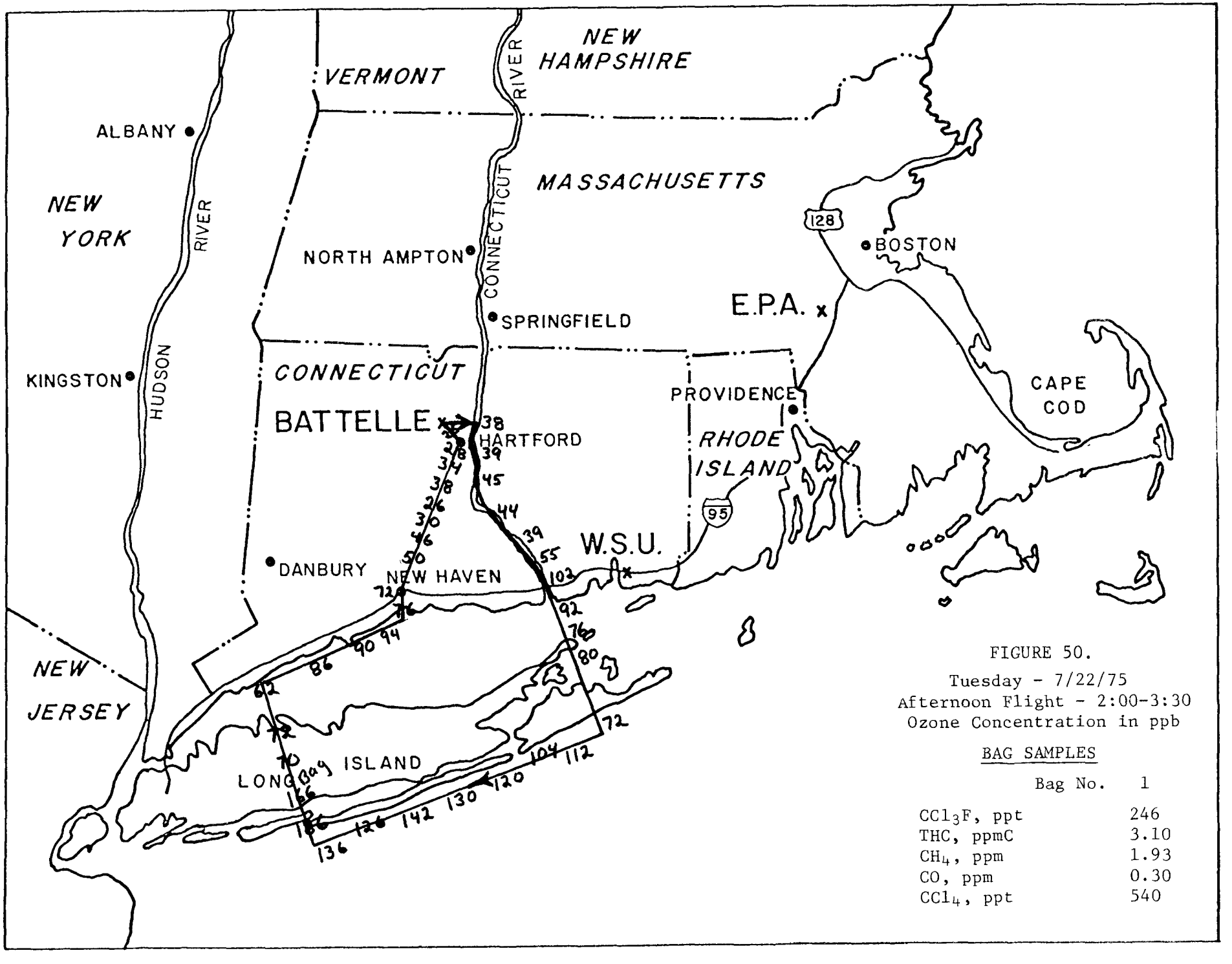



FIGURE 50.

Tuesday - 7/22/75
Afternoon Flight - 2:00-3:30
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 |
|---|---|
| $CCl_3F$, ppt | 246 |
| THC, ppmC | 3.10 |
| $CH_4$, ppm | 1.93 |
| CO, ppm | 0.30 |
| $CCl_4$, ppt | 540 |

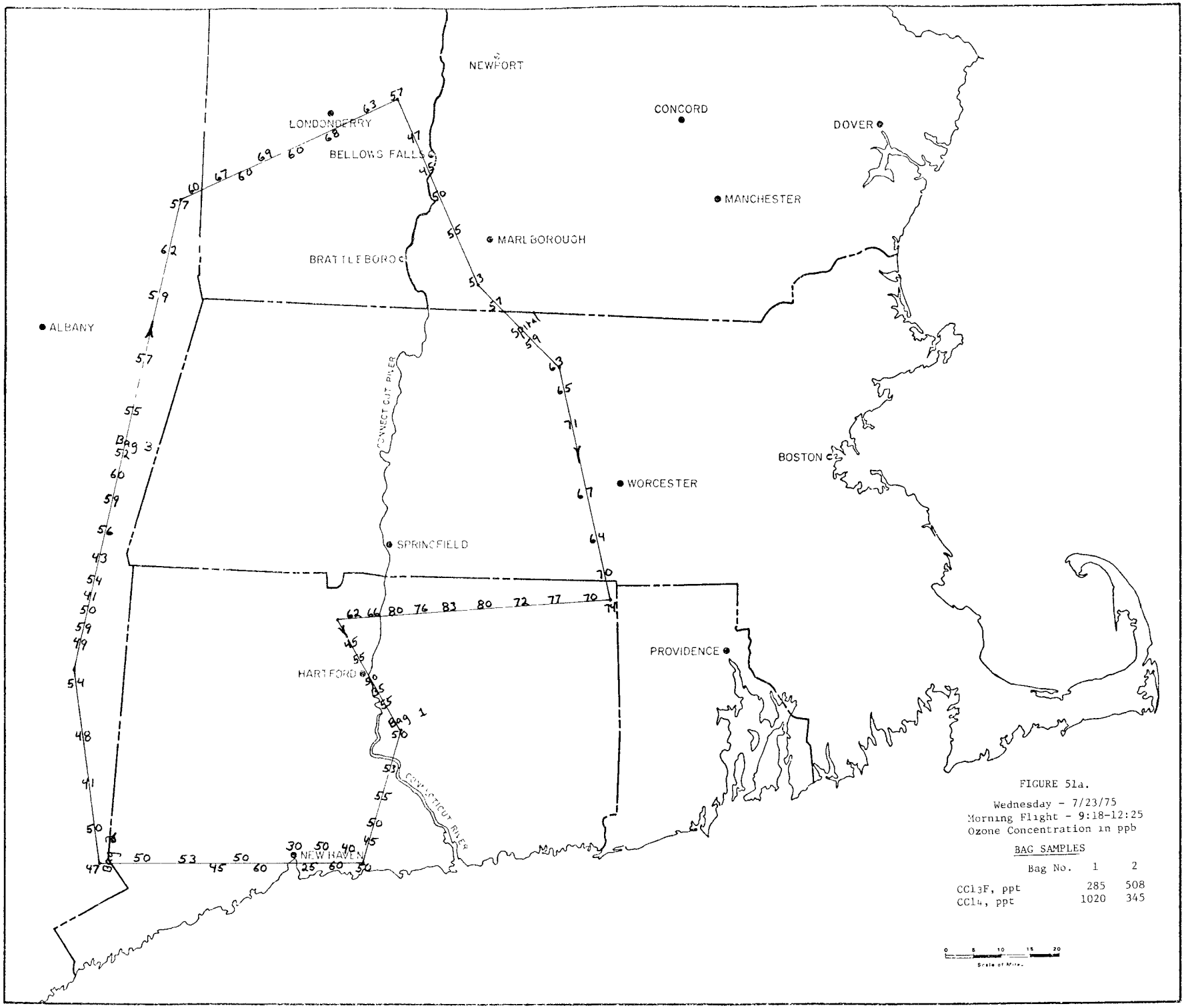



FIGURE 51a.

Wednesday - 7/23/75
Morning Flight - 9:18-12:25
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 |
|---|---|---|
| CCl3F, ppt | 285 | 508 |
| CCl4, ppt | 1020 | 345 |

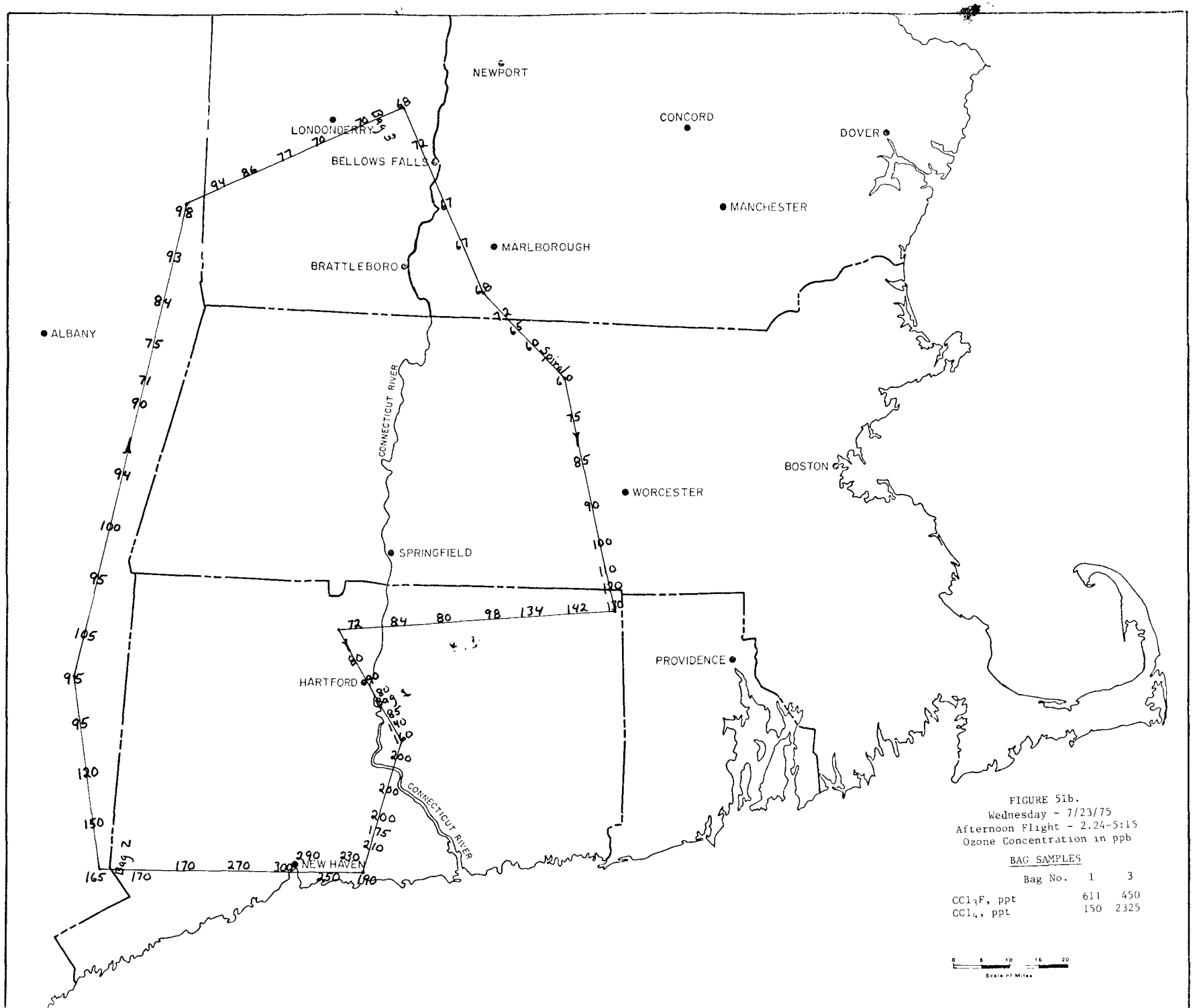
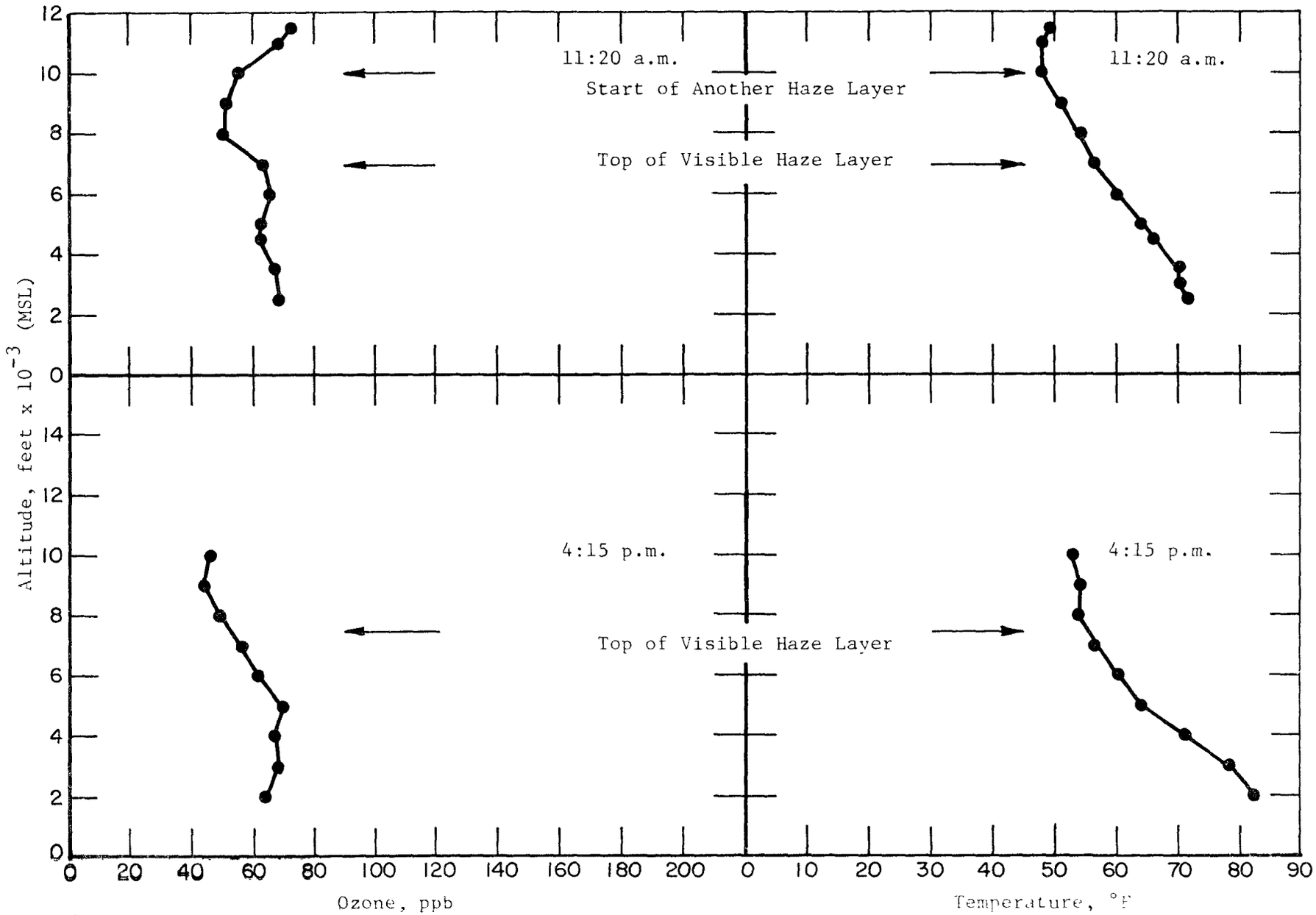



FIGURE 51b.
Wednesday - 7/23/75
Afternoon Flight - 2.24-5:15
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 3 |
|---|---|---|
| $CCl_3F$, ppt | 611 | 450 |
| $CCl_4$, ppt | 150 | 2325 |

FIGURE 51c. Vertical Profiles July 23, 1975



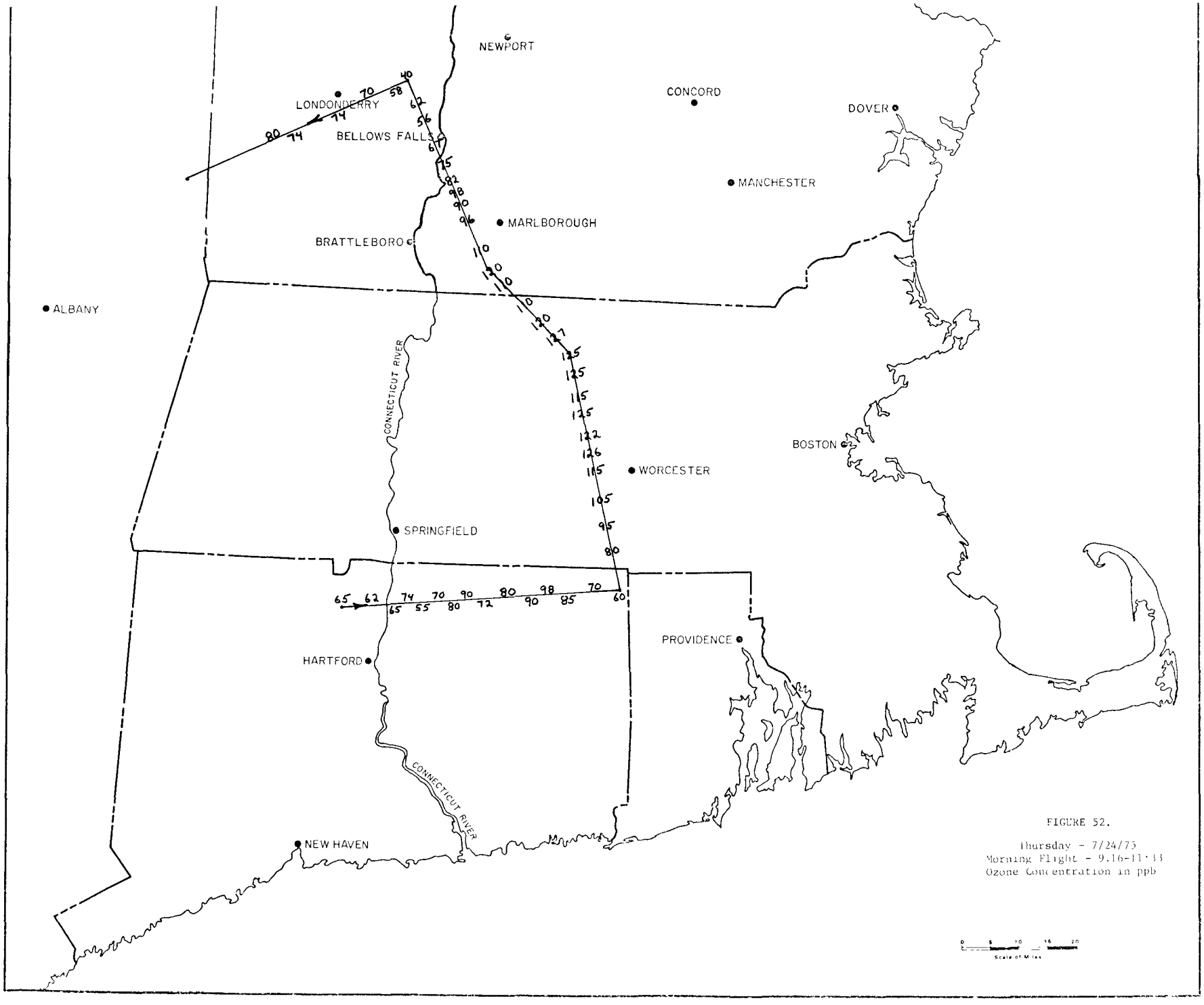



FIGURE 52.

Thursday - 7/24/73
Morning Flight - 9.16-11:33
Ozone Concentration in ppb

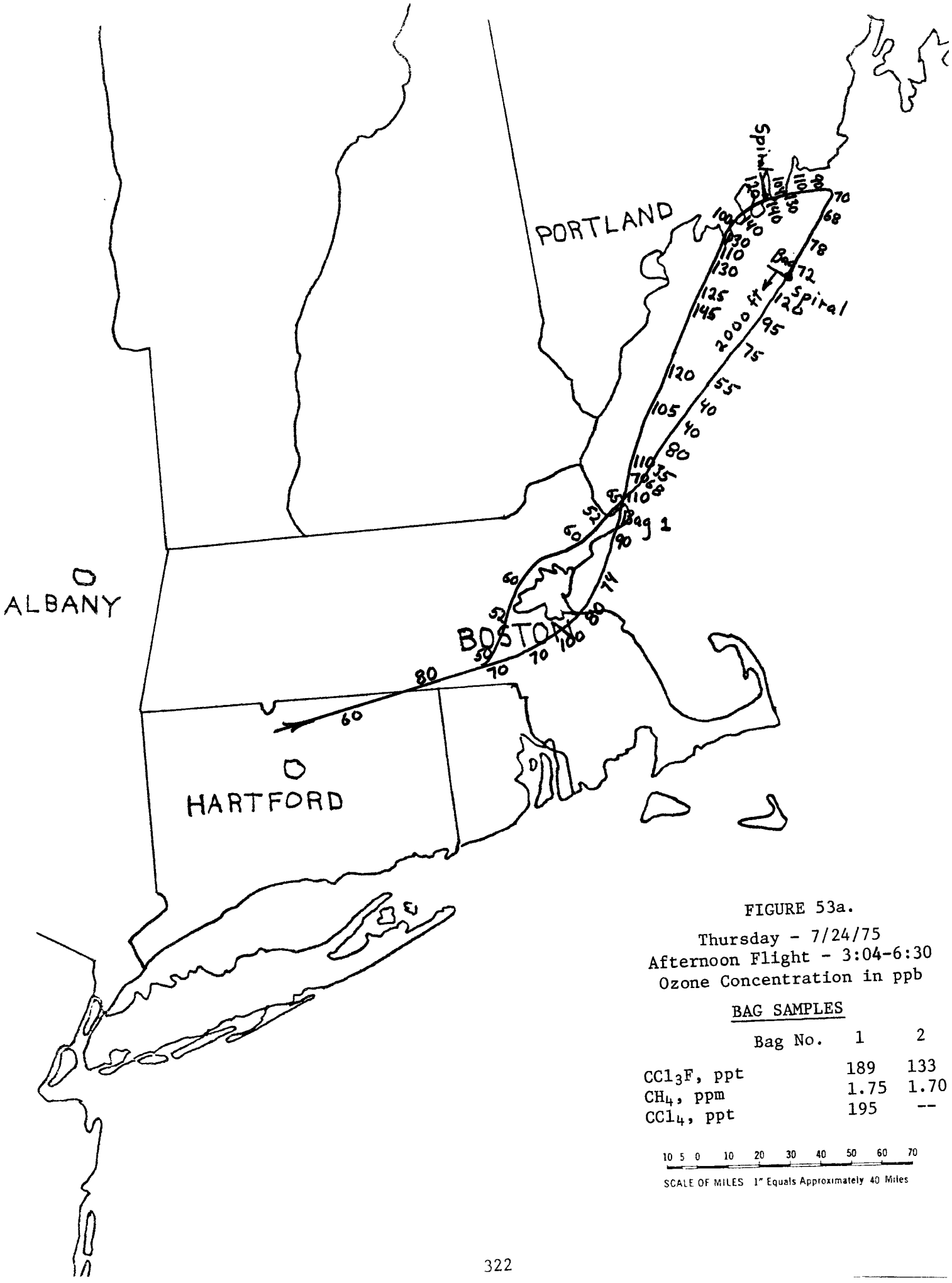


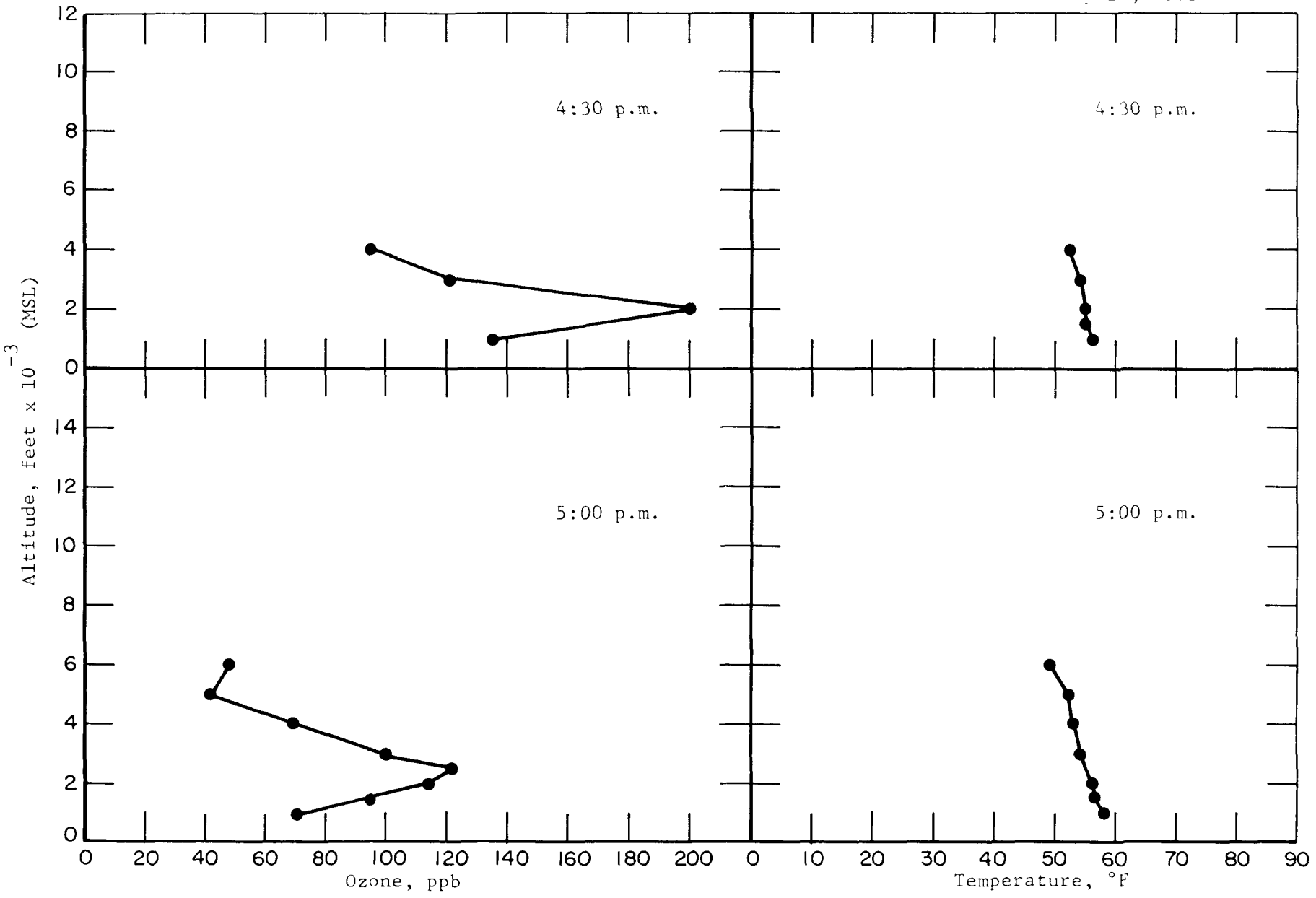

FIGURE 53a.

Thursday - 7/24/75
Afternoon Flight - 3:04-6:30
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 |
|---|---|---|
| $CCl_3F$, ppt | 189 | 133 |
| $CH_4$, ppm | 1.75 | 1.70 |
| $CCl_4$, ppt | 195 | -- |

FIGURE 53b. Vertical Profiles July 24, 1975



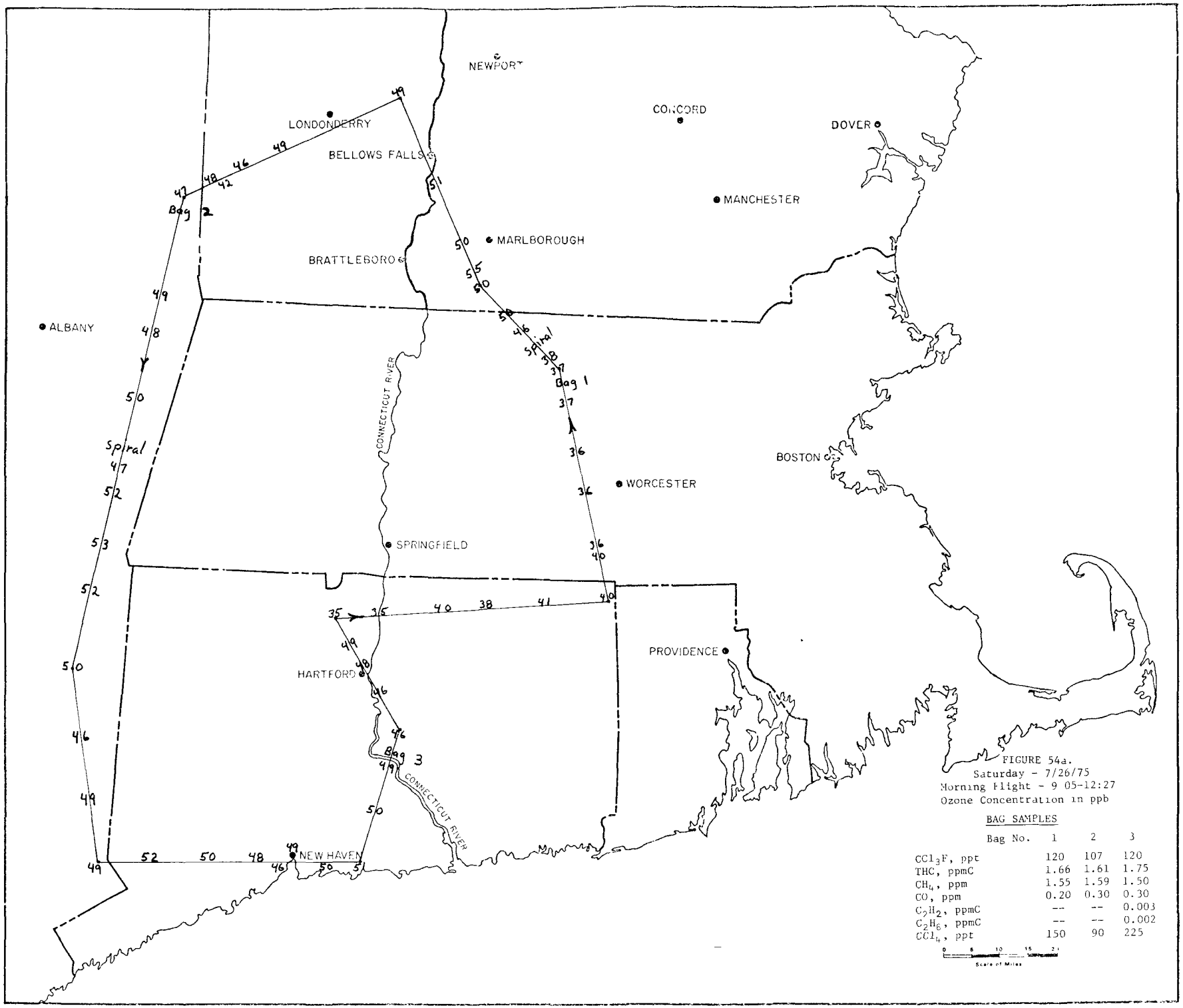
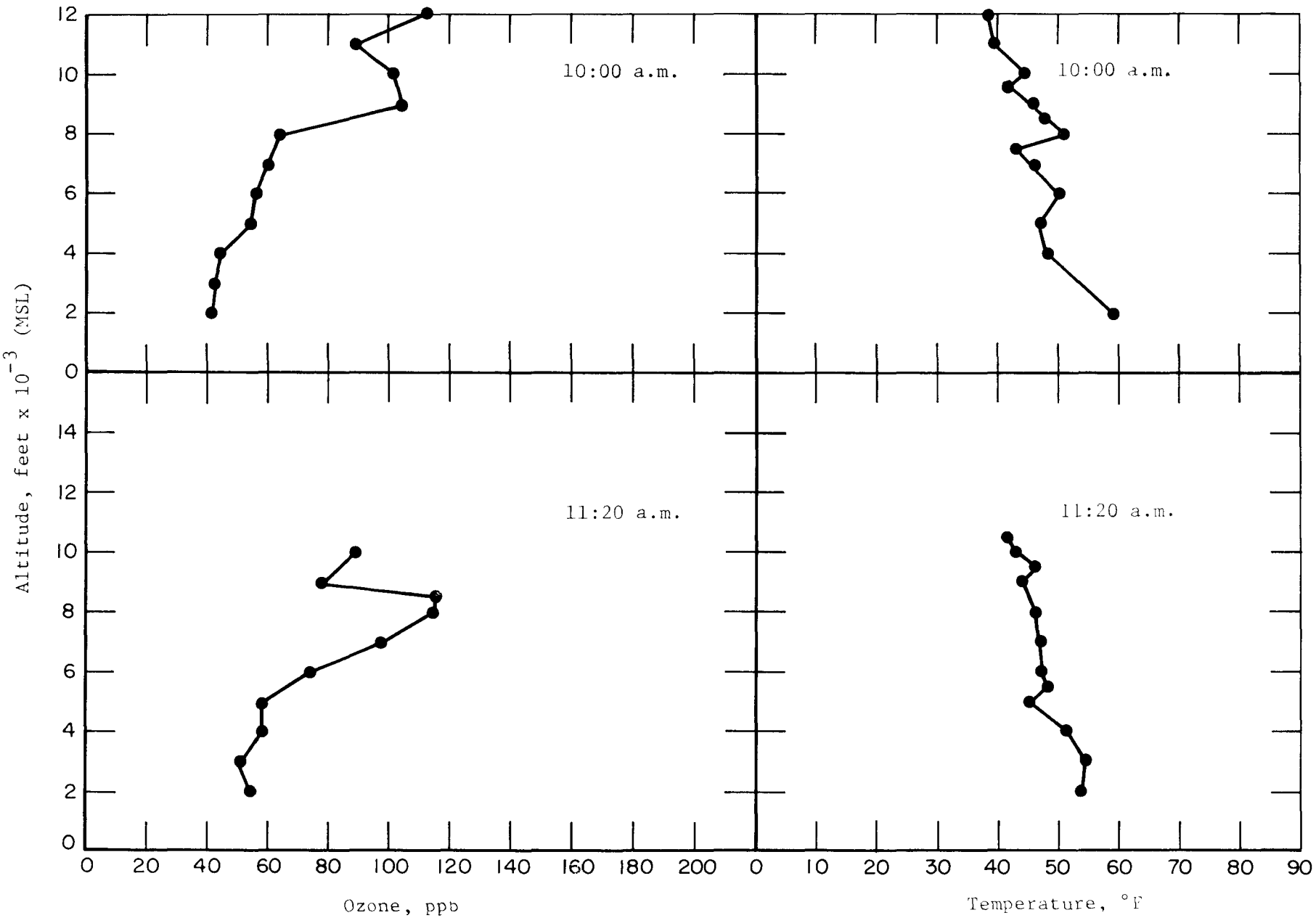



FIGURE 54a.
Saturday - 7/26/75
Morning Flight - 9 05-12:27
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 120 | 107 | 120 |
| THC, ppmC | 1.66 | 1.61 | 1.75 |
| $CH_4$, ppm | 1.55 | 1.59 | 1.50 |
| CO, ppm | 0.20 | 0.30 | 0.30 |
| $C_2H_2$, ppmC | -- | -- | 0.003 |
| $C_2H_6$, ppmC | -- | -- | 0.002 |
| $CCl_4$, ppt | 150 | 90 | 225 |

FIGURE 54b. Vertical Profiles July 26, 1975



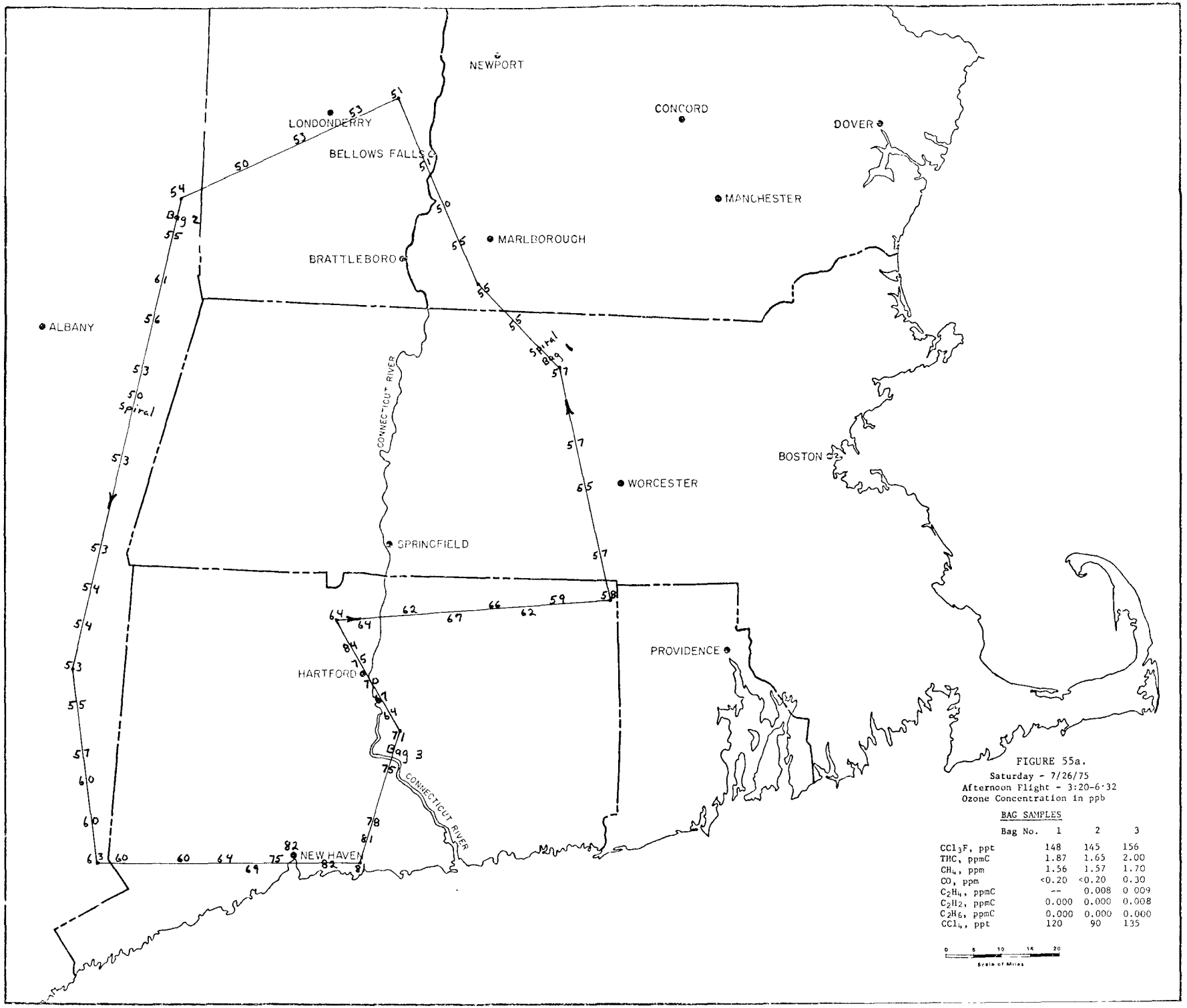
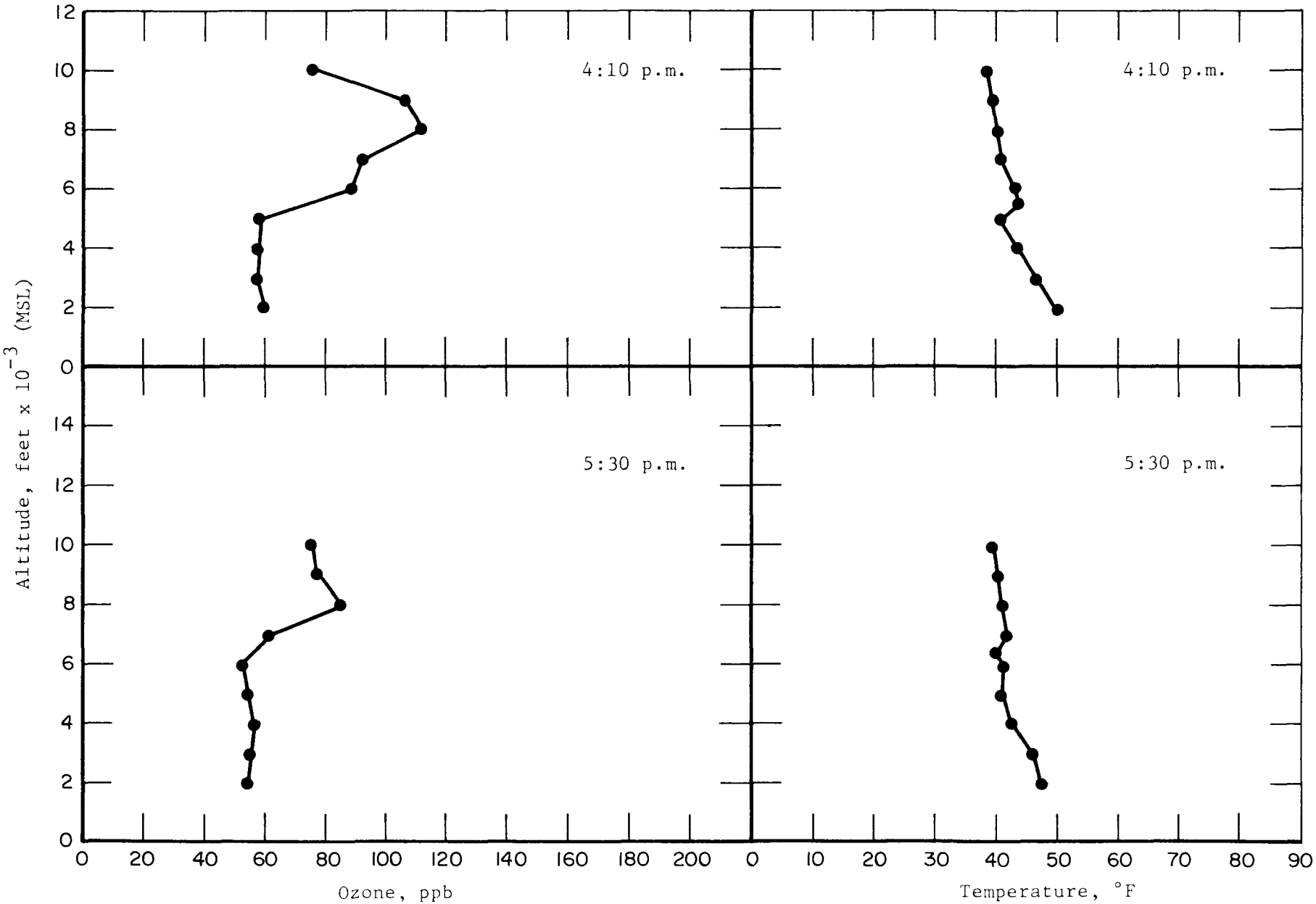



FIGURE 55a.
Saturday - 7/26/75
Afternoon Flight - 3:20-6:32
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 148 | 145 | 156 |
| THC, ppmC | 1.87 | 1.65 | 2.00 |
| $CH_4$, ppm | 1.56 | 1.57 | 1.70 |
| CO, ppm | <0.20 | <0.20 | 0.30 |
| $C_2H_4$, ppmC | -- | 0.008 | 0.009 |
| $C_2H_2$, ppmC | 0.000 | 0.000 | 0.008 |
| $C_2H_6$, ppmC | 0.000 | 0.000 | 0.000 |
| $CCl_4$, ppt | 120 | 90 | 135 |

FIGURE 55b. Vertical Profiles July 26, 1975



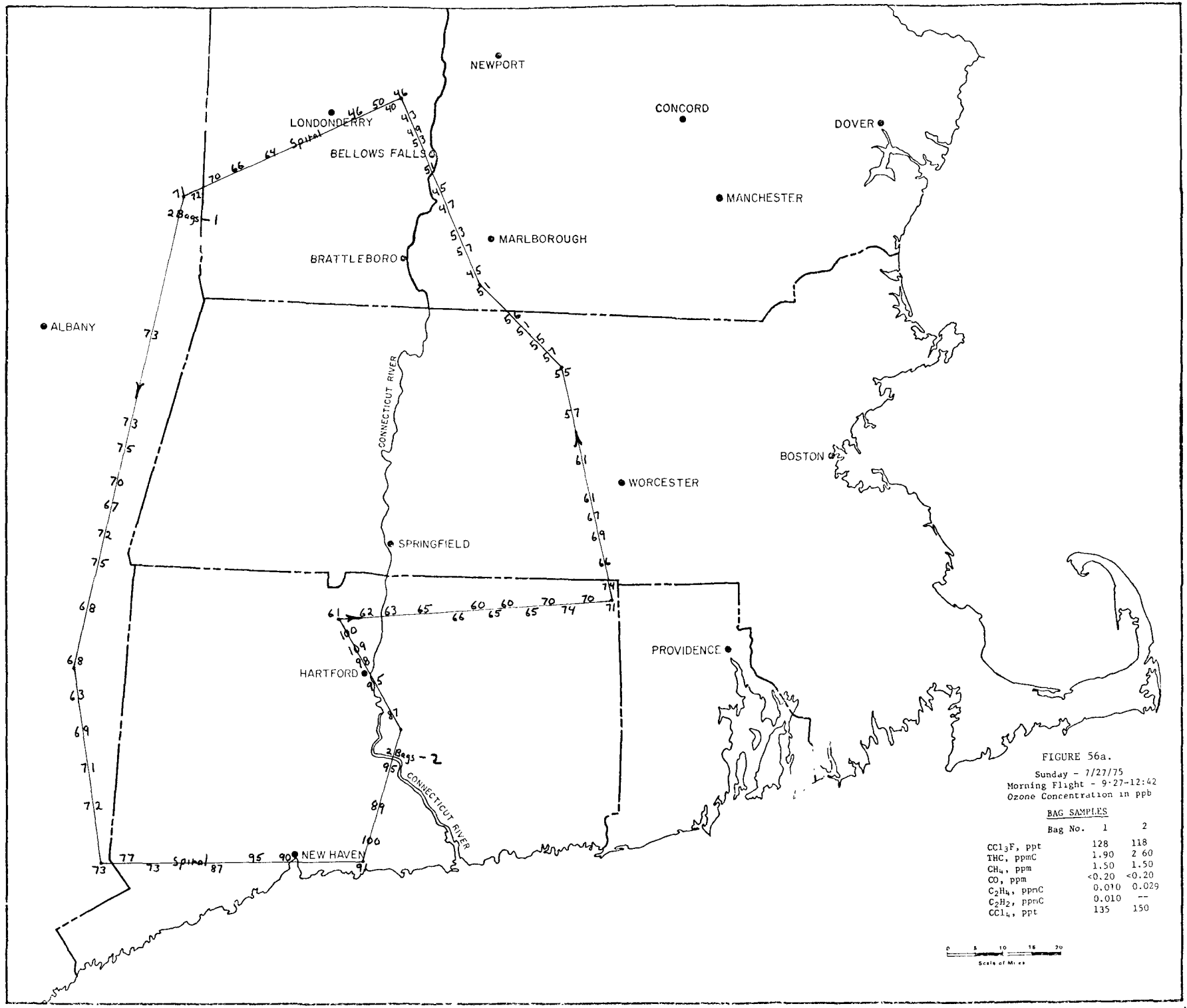


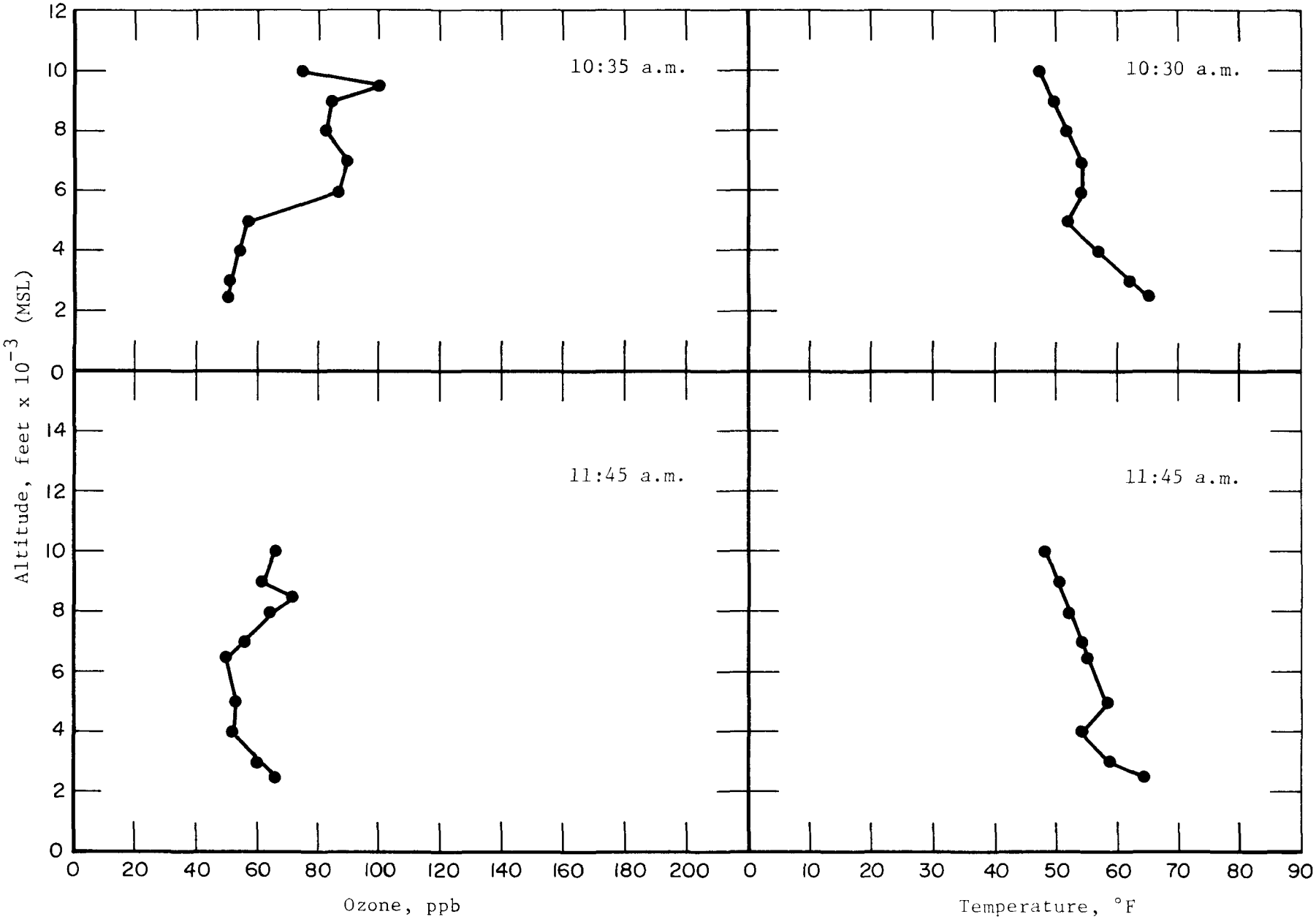

FIGURE 56a.

Sunday - 7/27/75
Morning Flight - 9:27-12:42
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 |
|---|---|---|
| $CCl_3F$, ppt | 128 | 118 |
| THC, ppmC | 1.90 | 2.60 |
| $CH_4$, ppm | 1.50 | 1.50 |
| CO, ppm | <0.20 | <0.20 |
| $C_2H_4$, ppmC | 0.010 | 0.029 |
| $C_2H_2$, ppmC | 0.010 | -- |
| $CCl_4$, ppt | 135 | 150 |

FIGURE 56b. Vertical Profiles July 27, 1975



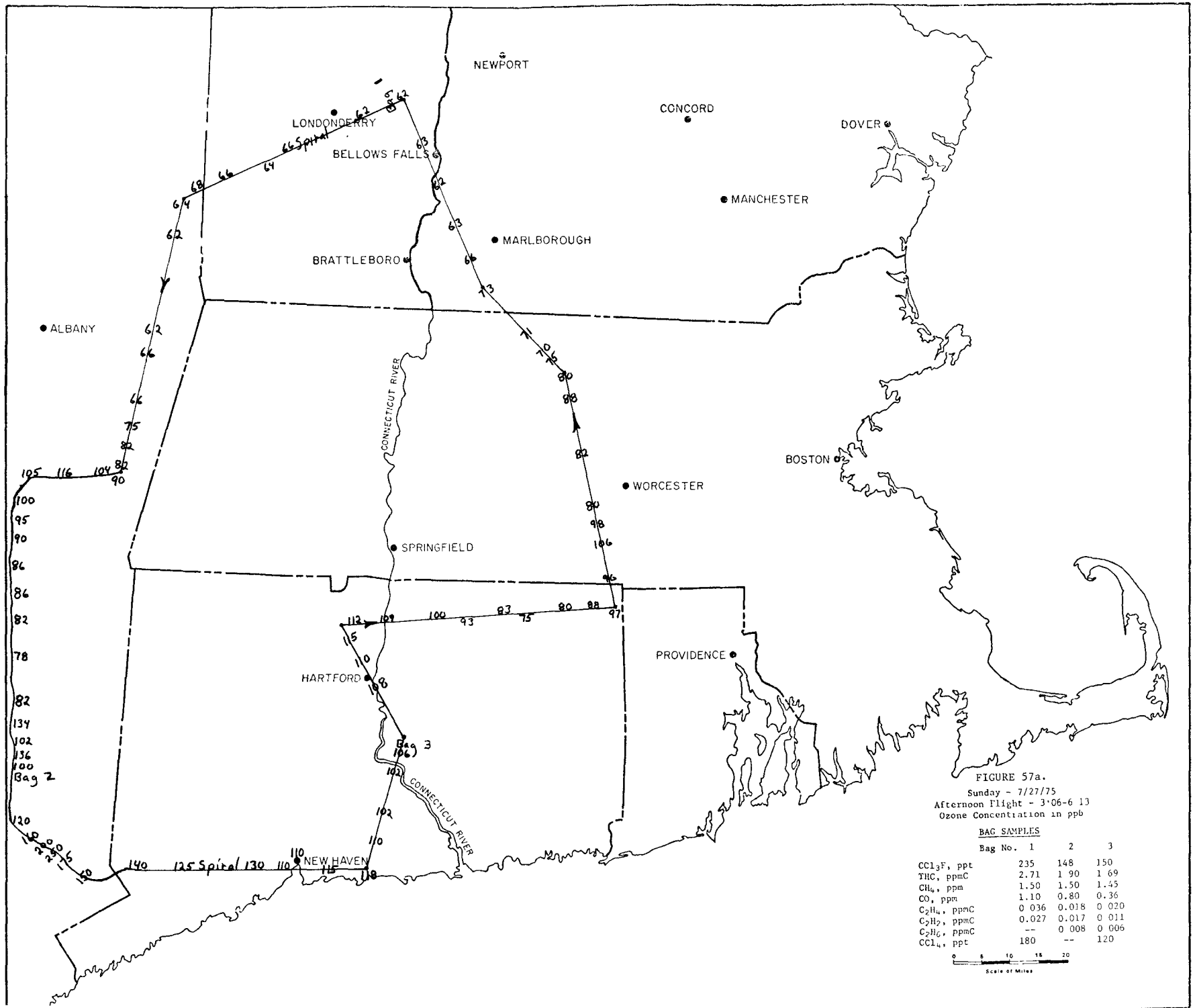


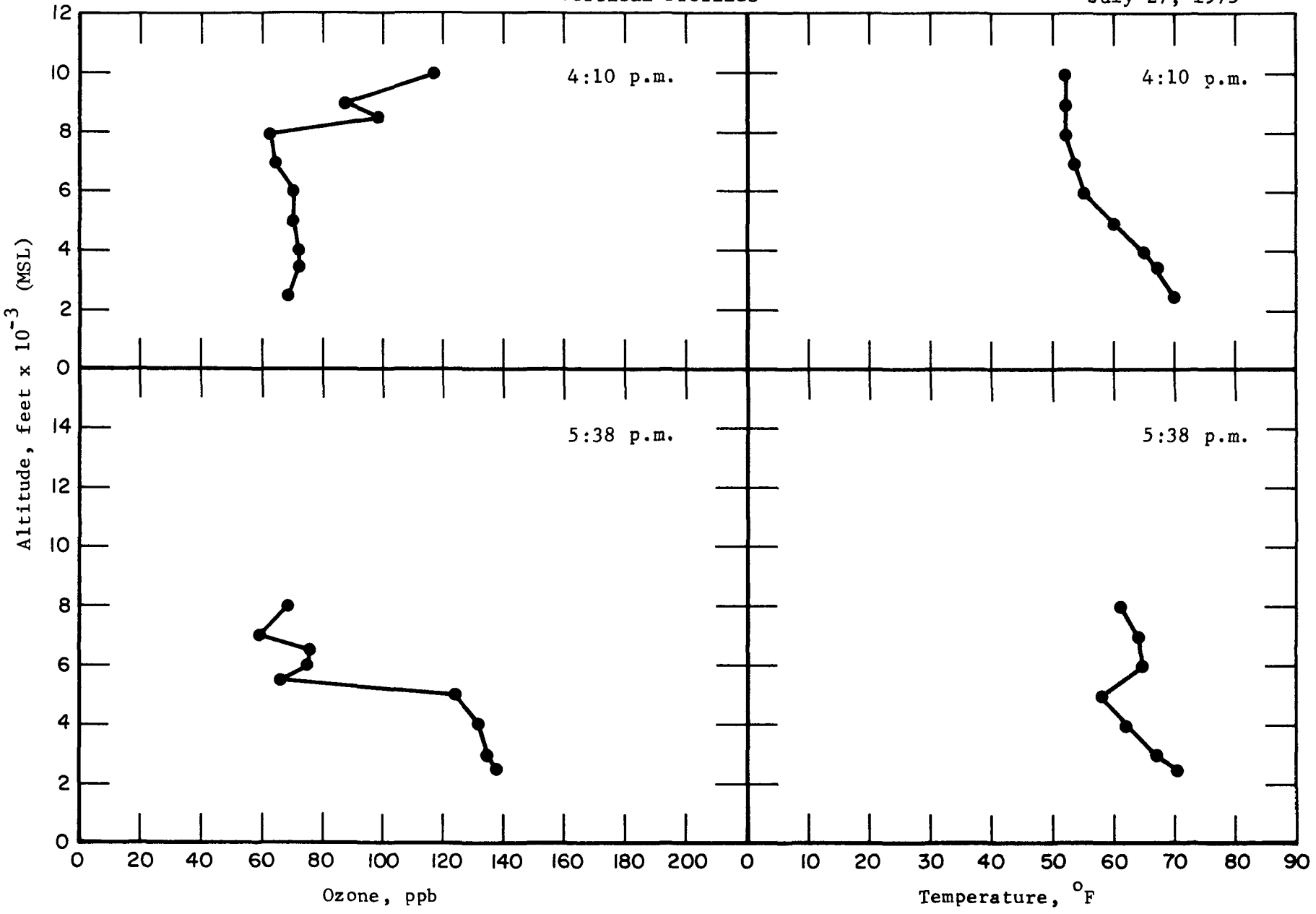

FIGURE 57a.

Sunday - 7/27/75
Afternoon Flight - 3:06-6 13
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 235 | 148 | 150 |
| THC, ppmC | 2.71 | 1 90 | 1 69 |
| $CH_4$, ppm | 1.50 | 1.50 | 1.45 |
| CO, ppm | 1.10 | 0.80 | 0.36 |
| $C_2H_4$, ppmC | 0 036 | 0.018 | 0 020 |
| $C_2H_2$, ppmC | 0.027 | 0.017 | 0 011 |
| $C_2H_6$, ppmC | -- | 0 008 | 0 006 |
| $CCl_4$, ppt | 180 | -- | 120 |

FIGURE 57b. Vertical Profiles July 27, 1975



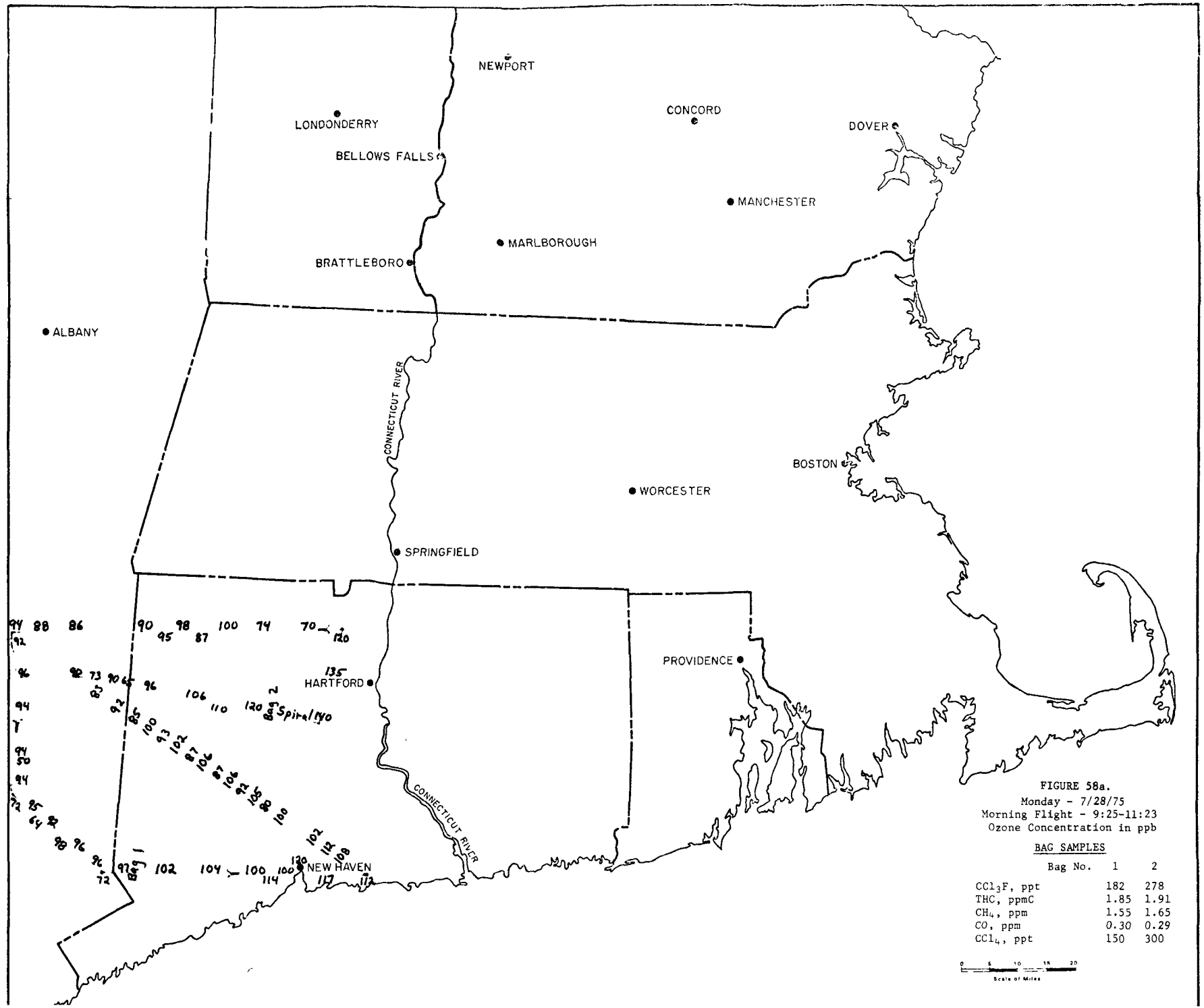
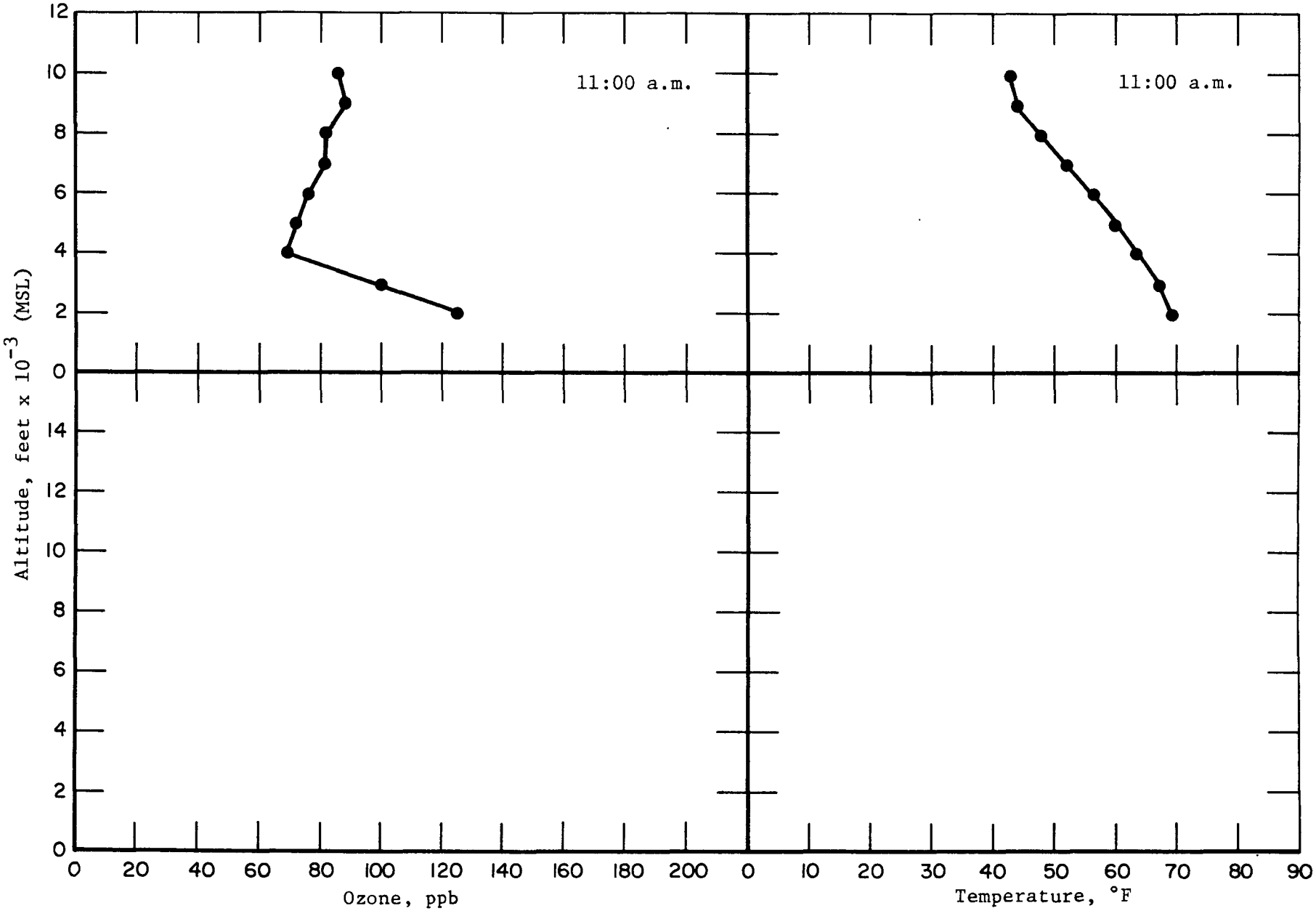



FIGURE 58a.
Monday - 7/28/75
Morning Flight - 9:25-11:23
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 |
|---|---|---|
| $CCl_3F$, ppt | 182 | 278 |
| THC, ppmC | 1.85 | 1.91 |
| $CH_4$, ppm | 1.55 | 1.65 |
| CO, ppm | 0.30 | 0.29 |
| $CCl_4$, ppt | 150 | 300 |

FIGURE 58b. Vertical Profiles July 28, 1975



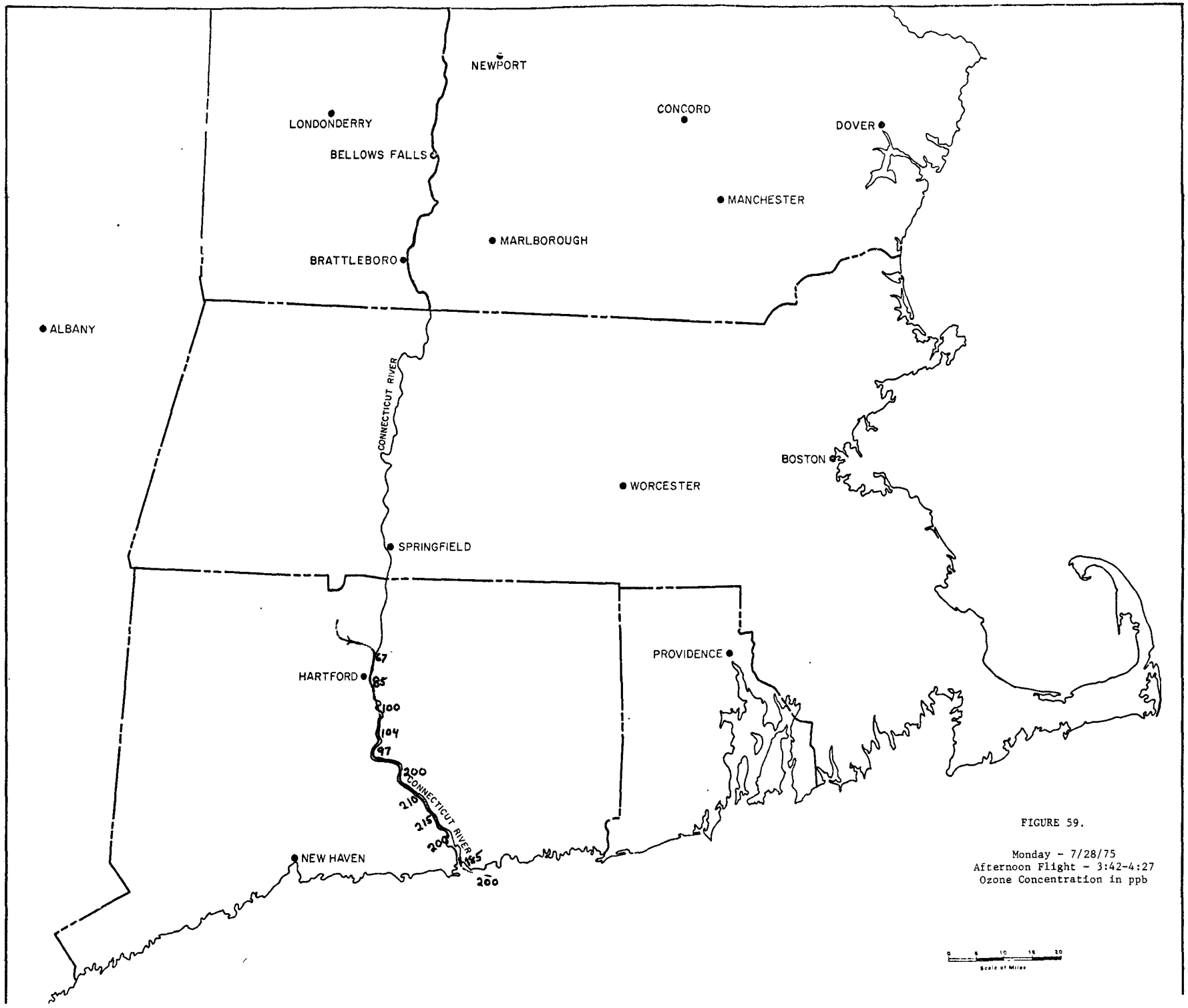



FIGURE 59.

Monday - 7/28/75
Afternoon Flight - 3:42-4:27
Ozone Concentration in ppb

FIGURE 60.

Monday - 7/28/75
Afternoon Flight - 3:42-4:27
Ozone Concentration in ppb

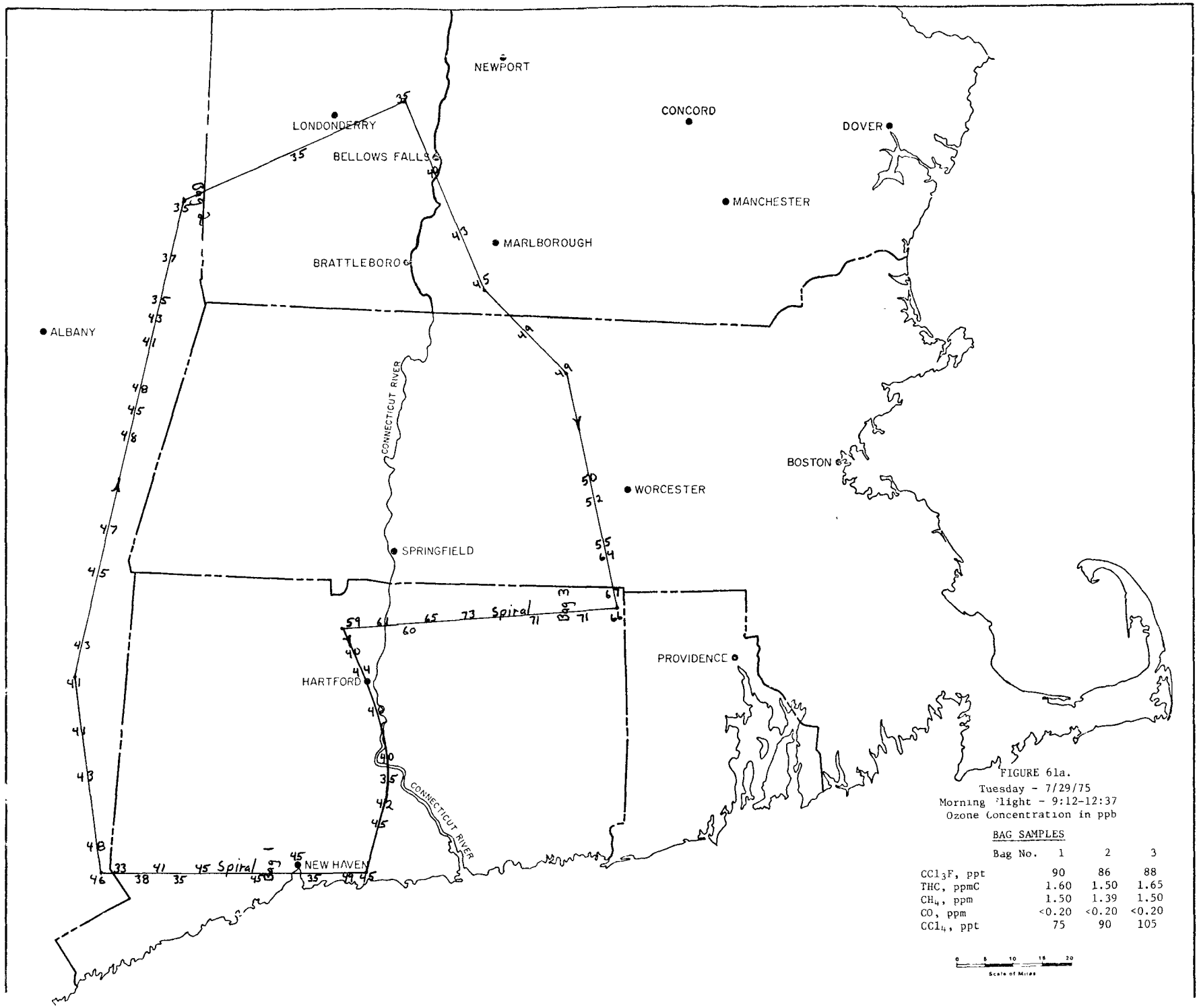
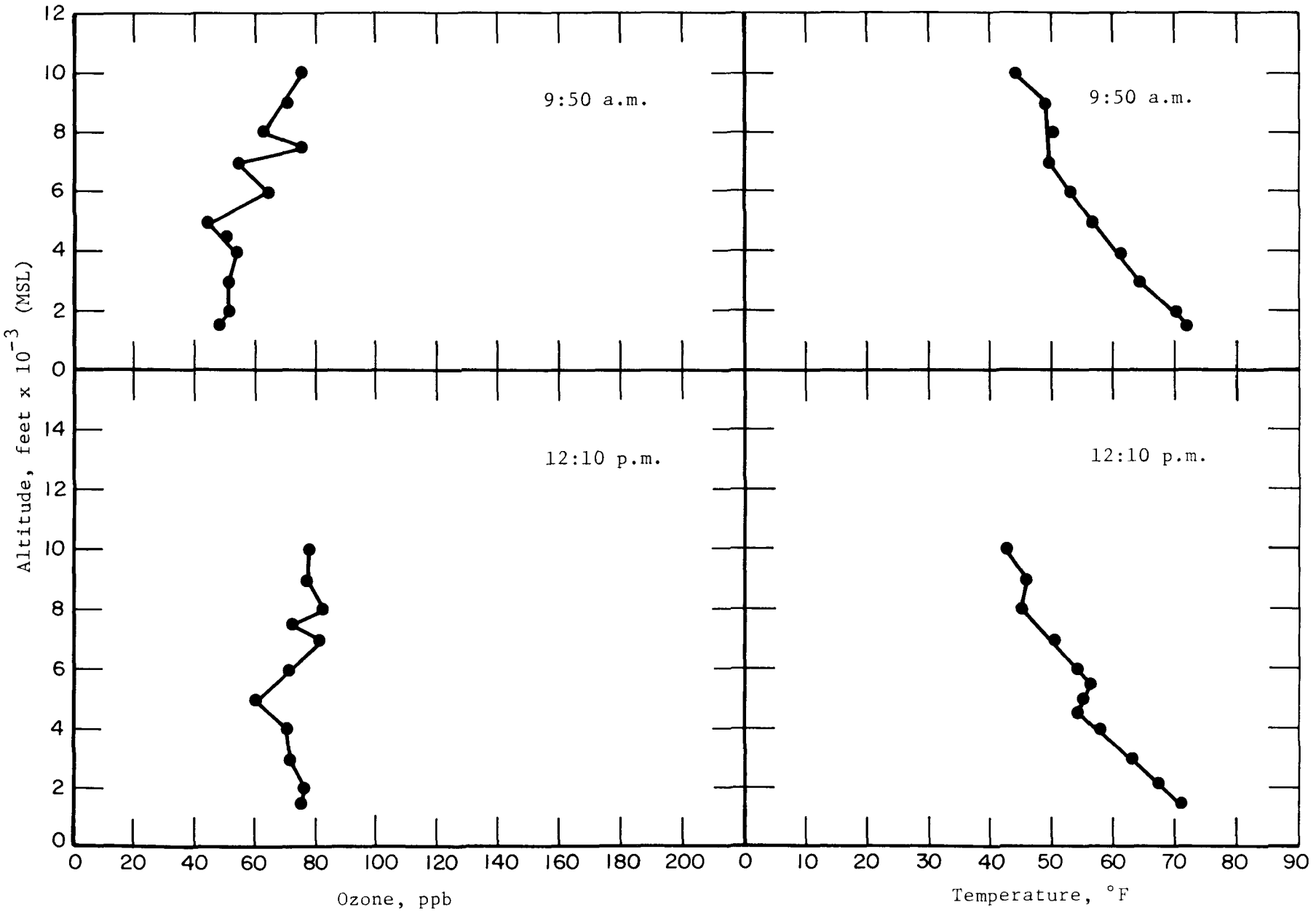



FIGURE 61a.
Tuesday - 7/29/75
Morning flight - 9:12-12:37
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 90 | 86 | 88 |
| THC, ppmC | 1.60 | 1.50 | 1.65 |
| $CH_4$, ppm | 1.50 | 1.39 | 1.50 |
| CO, ppm | <0.20 | <0.20 | <0.20 |
| $CCl_4$, ppt | 75 | 90 | 105 |

FIGURE 61b. Vertical Profiles July 29, 1975



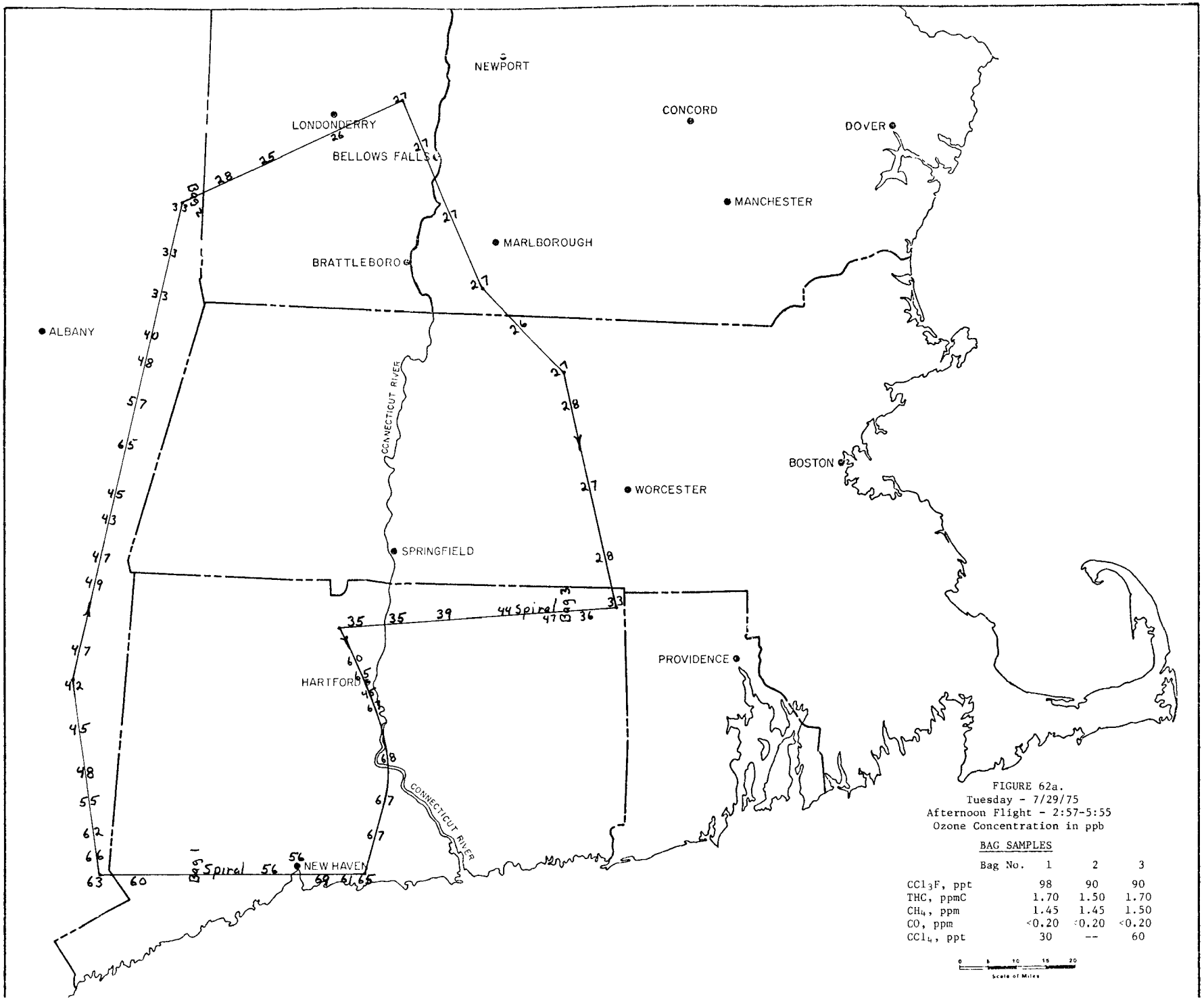
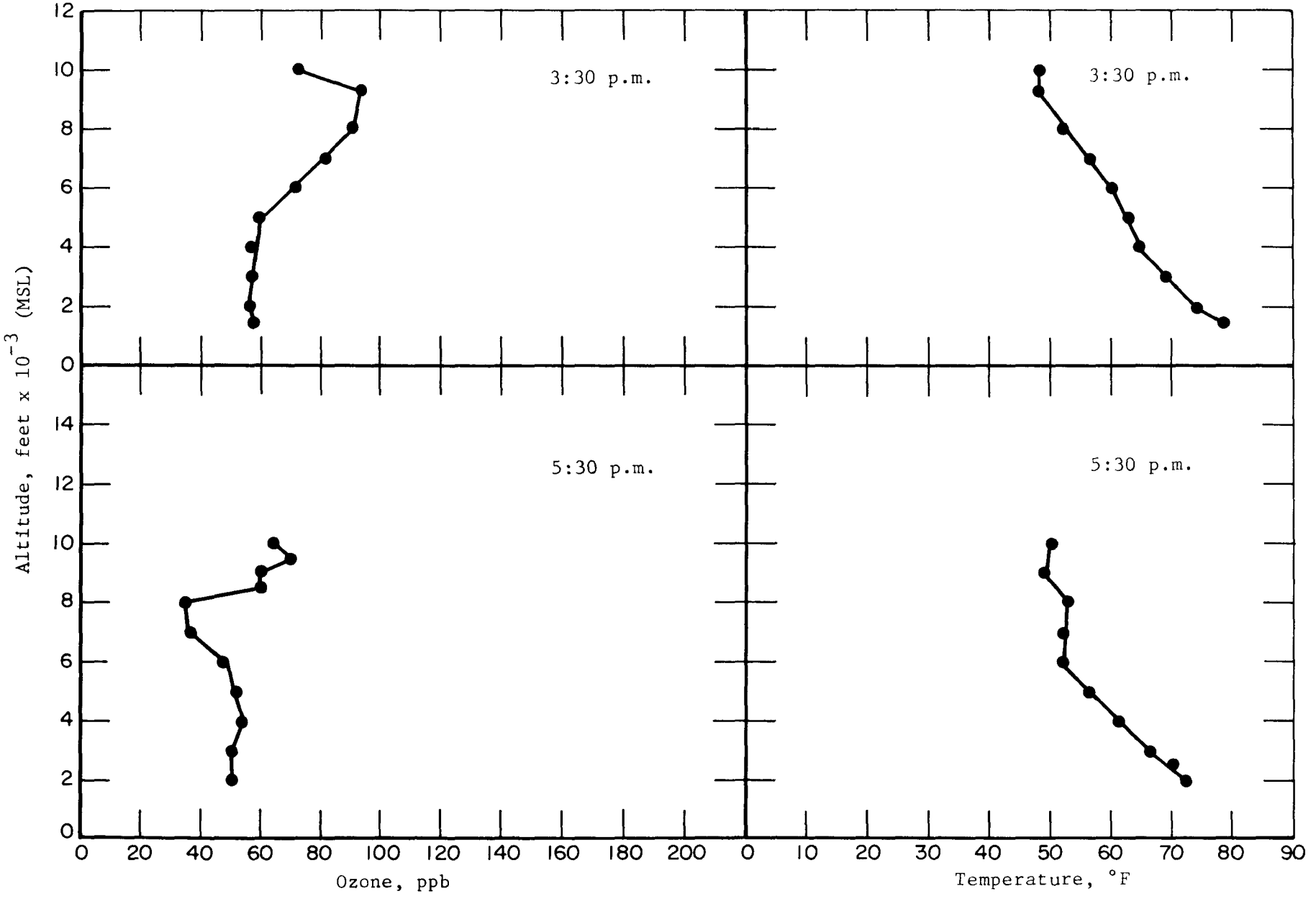



FIGURE 62a.
Tuesday - 7/29/75
Afternoon Flight - 2:57-5:55
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 98 | 90 | 90 |
| THC, ppmC | 1.70 | 1.50 | 1.70 |
| $CH_4$, ppm | 1.45 | 1.45 | 1.50 |
| CO, ppm | <0.20 | <0.20 | <0.20 |
| $CCl_4$, ppt | 30 | -- | 60 |

FIGURE 62b. Vertical Profiles July 29, 1975



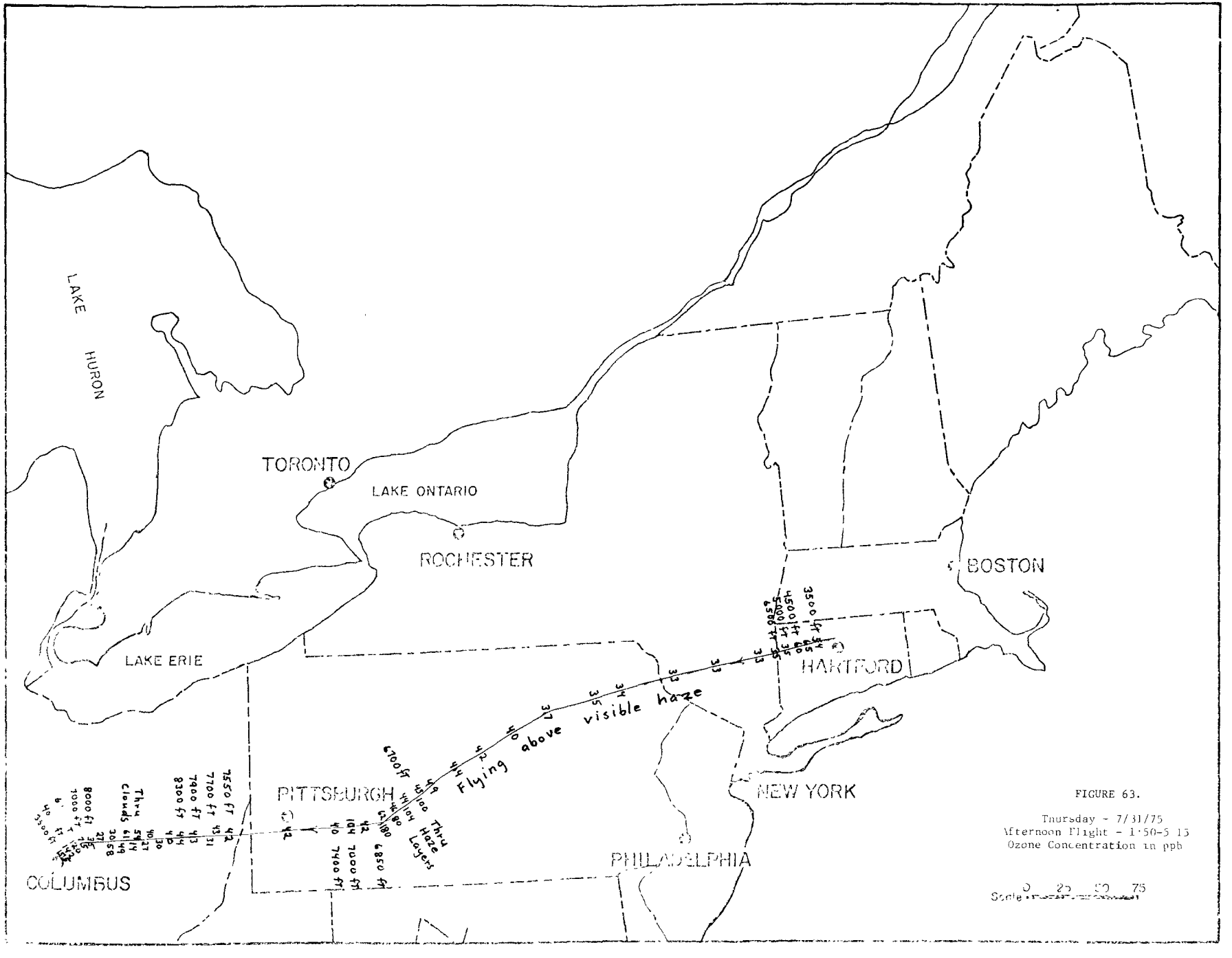



FIGURE 63.

Thursday - 7/31/75
Afternoon Flight - 1:50-5:15
Ozone Concentration in ppb

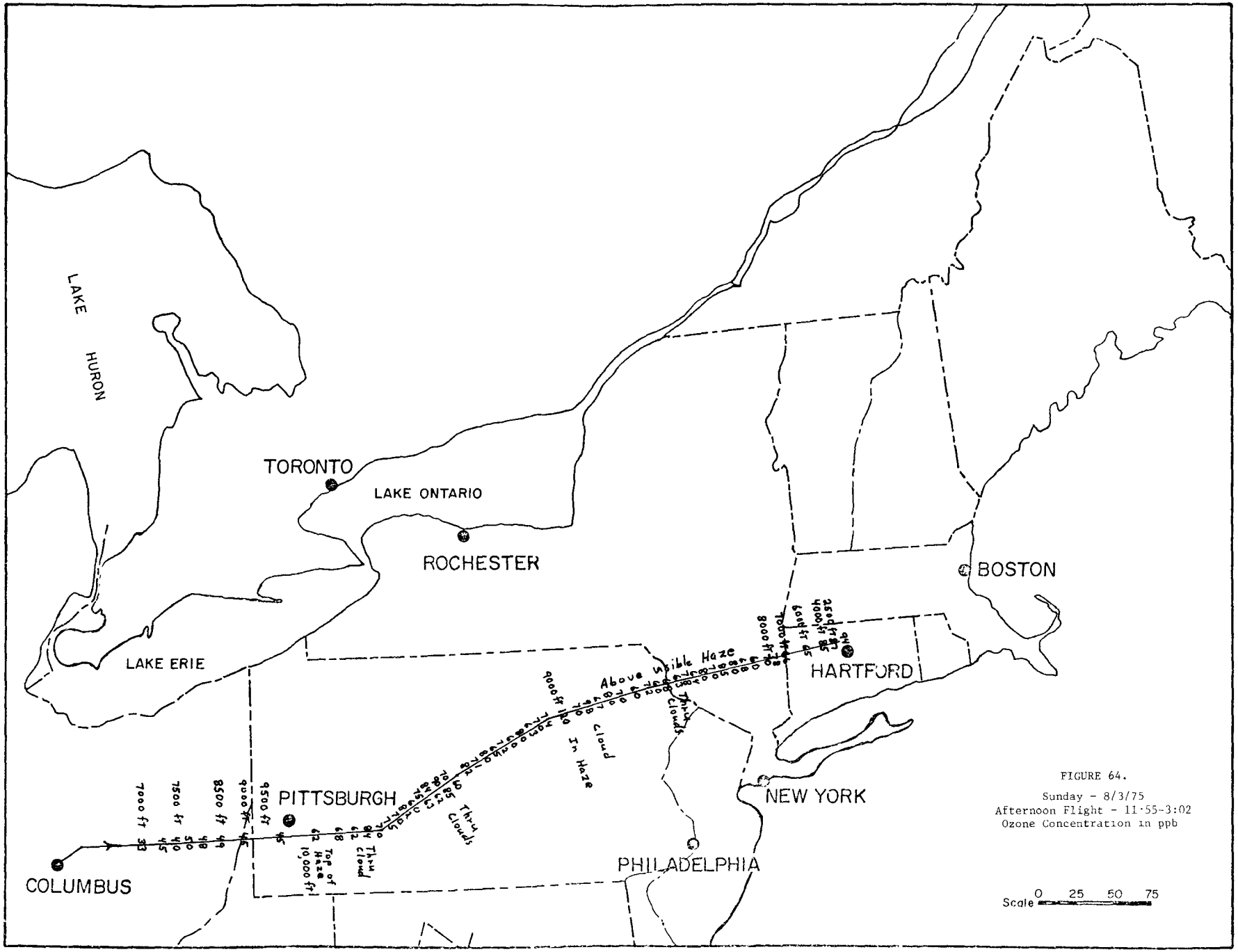



FIGURE 64.

Sunday - 8/3/75
Afternoon Flight - 11:55-3:02
Ozone Concentration in ppb

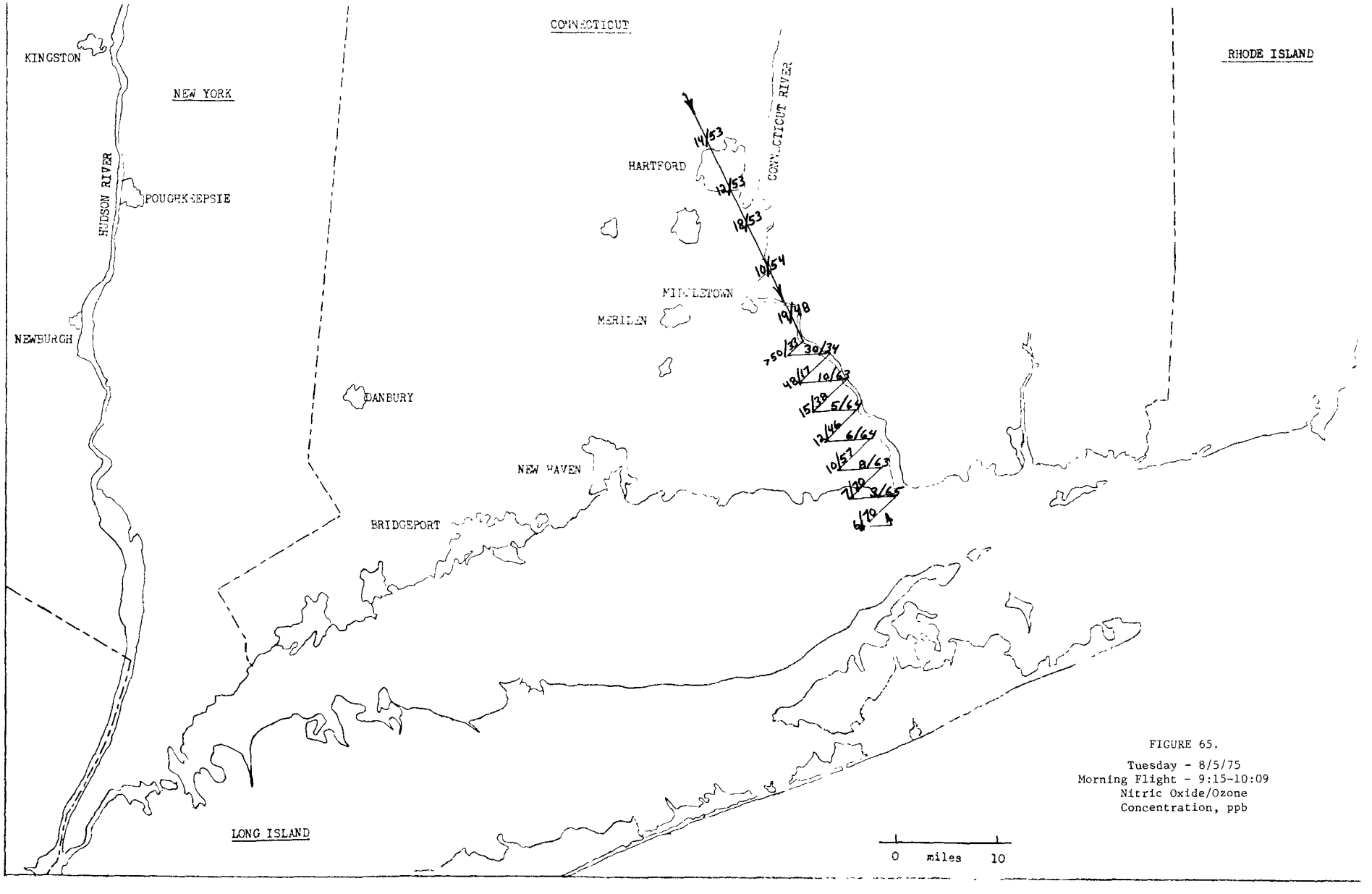



FIGURE 65.

Tuesday - 8/5/75
Morning Flight - 9:15-10:09
Nitric Oxide/Ozone
Concentration, ppb

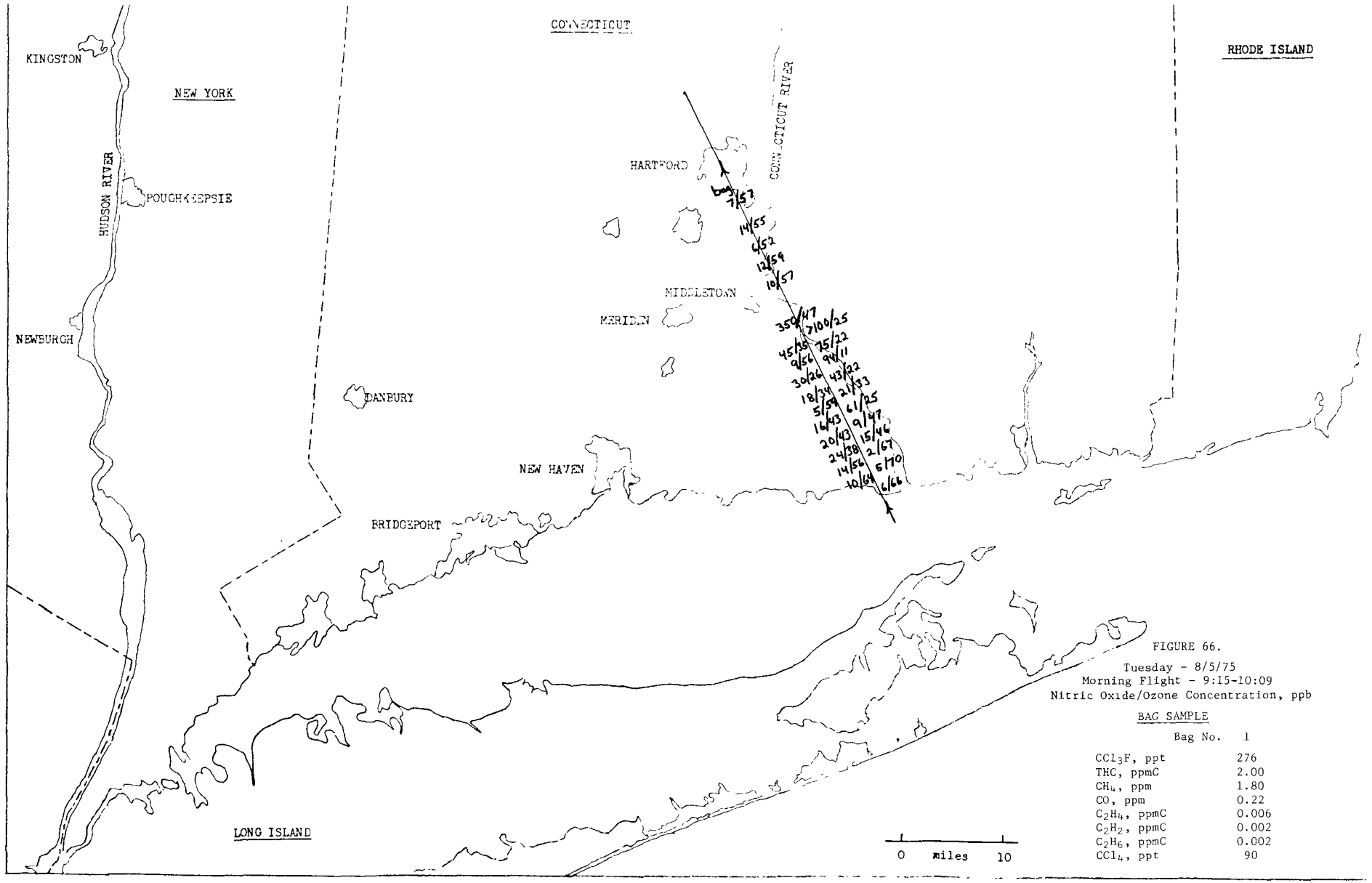



FIGURE 66.

Tuesday - 8/5/75
Morning Flight - 9:15-10:09
Nitric Oxide/Ozone Concentration, ppb

BAG SAMPLE

| Bag No. | 1 |
|---|---|
| $CCl_3F$, ppt | 276 |
| THC, ppmC | 2.00 |
| $CH_4$, ppm | 1.80 |
| CO, ppm | 0.22 |
| $C_2H_4$, ppmC | 0.006 |
| $C_2H_2$, ppmC | 0.002 |
| $C_2H_6$, ppmC | 0.002 |
| $CCl_4$, ppt | 90 |

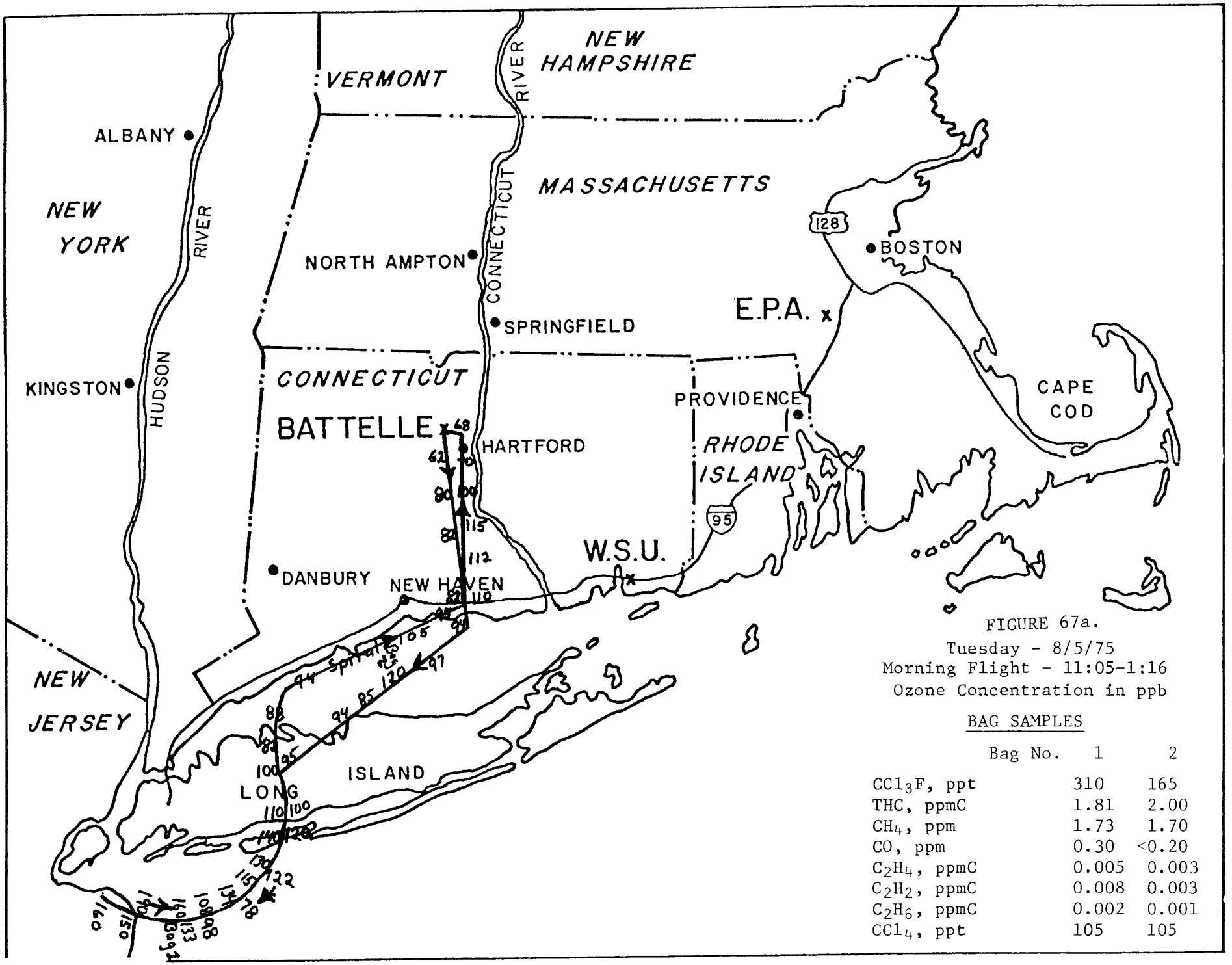
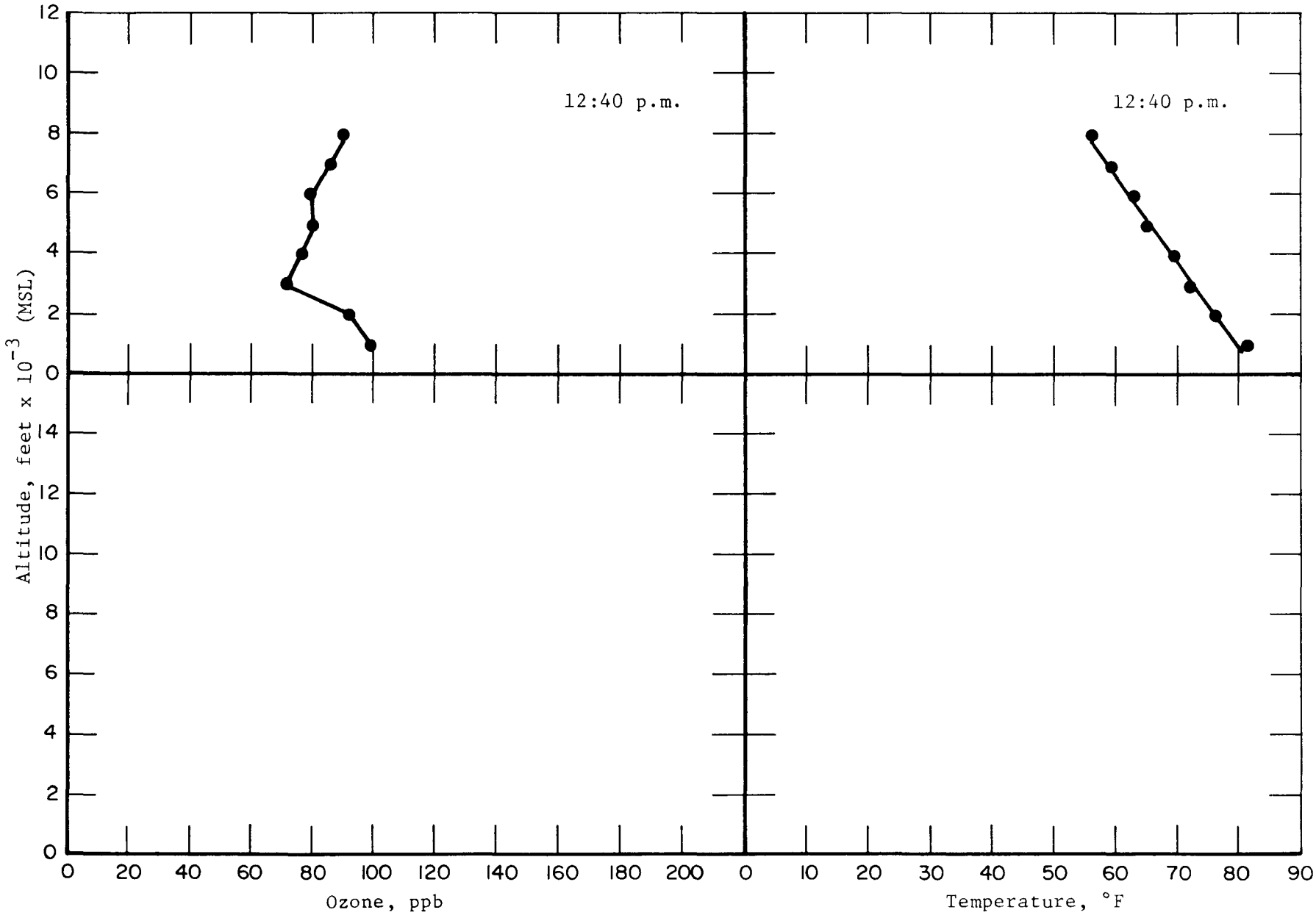



FIGURE 67a.
Tuesday - 8/5/75
Morning Flight - 11:05-1:16
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 |
|---|---|---|
| $CCl_3F$, ppt | 310 | 165 |
| THC, ppmC | 1.81 | 2.00 |
| $CH_4$, ppm | 1.73 | 1.70 |
| CO, ppm | 0.30 | <0.20 |
| $C_2H_4$, ppmC | 0.005 | 0.003 |
| $C_2H_2$, ppmC | 0.008 | 0.003 |
| $C_2H_6$, ppmC | 0.002 | 0.001 |
| $CCl_4$, ppt | 105 | 105 |

FIGURE 67b. Vertical Profiles August 5, 1975



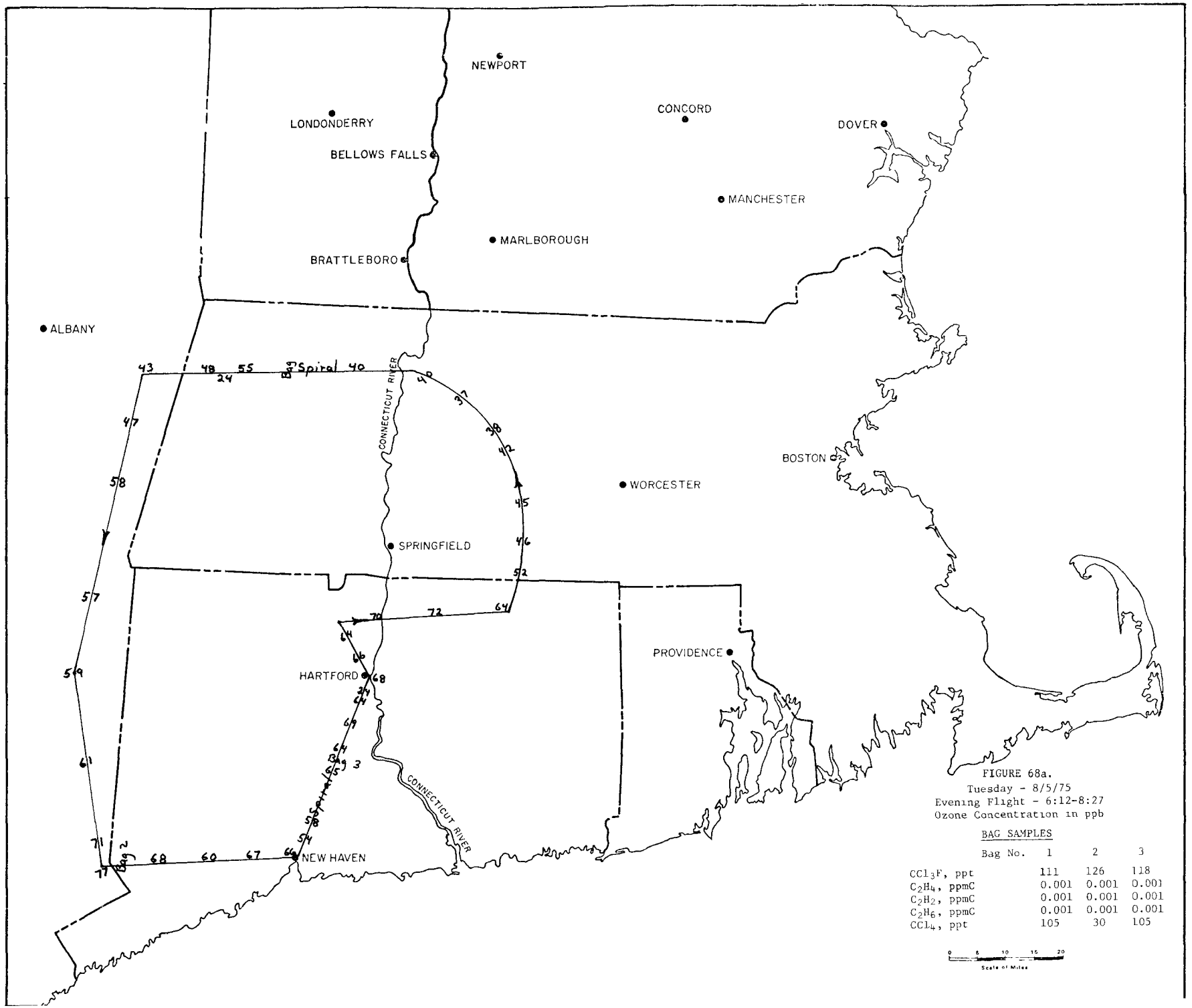
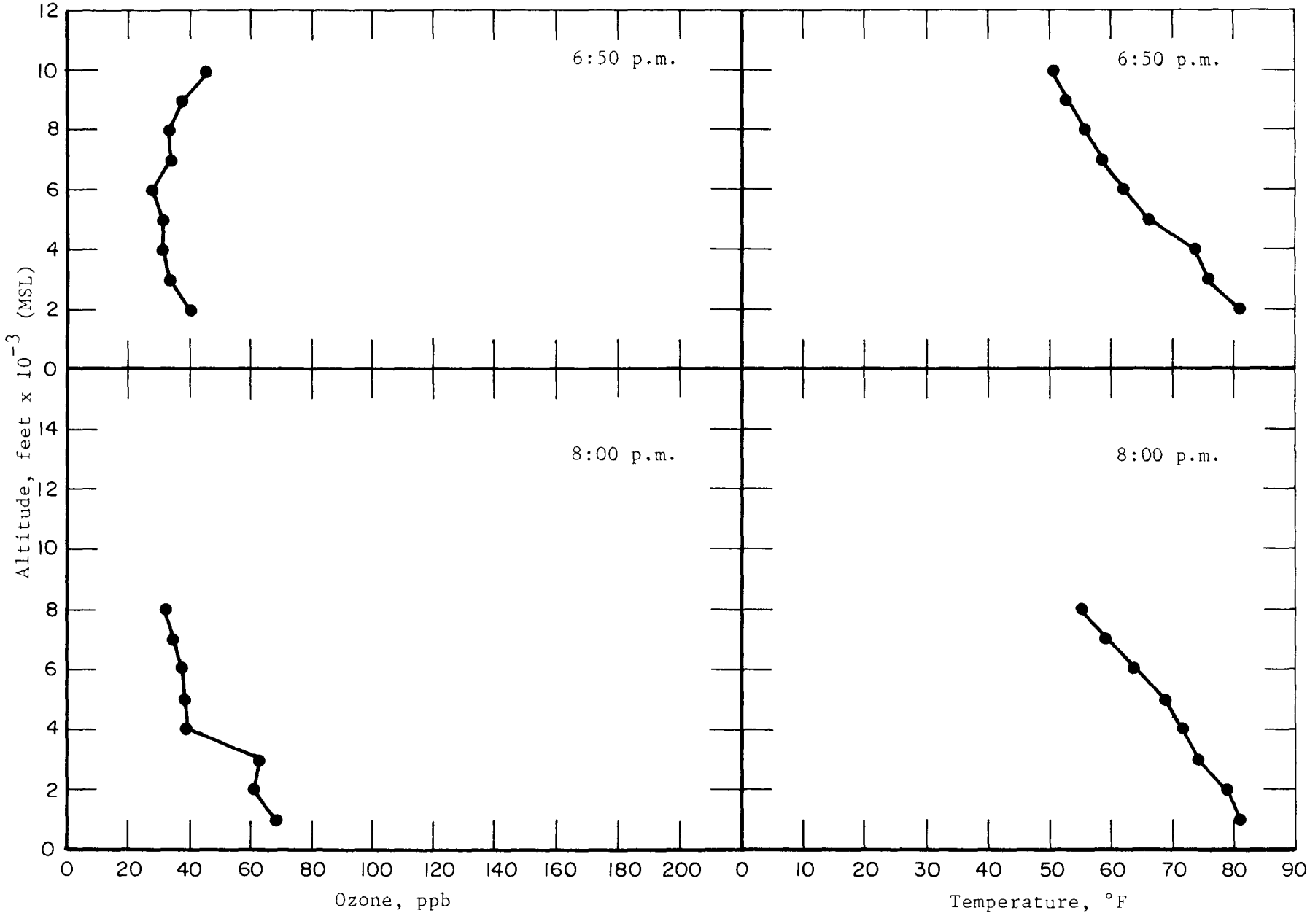



FIGURE 68a.
Tuesday - 8/5/75
Evening Flight - 6:12-8:27
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 111 | 126 | 118 |
| $C_2H_4$, ppmC | 0.001 | 0.001 | 0.001 |
| $C_2H_2$, ppmC | 0.001 | 0.001 | 0.001 |
| $C_2H_6$, ppmC | 0.001 | 0.001 | 0.001 |
| $CCl_4$, ppt | 105 | 30 | 105 |

FIGURE 68b. Vertical Profiles August 5, 1975



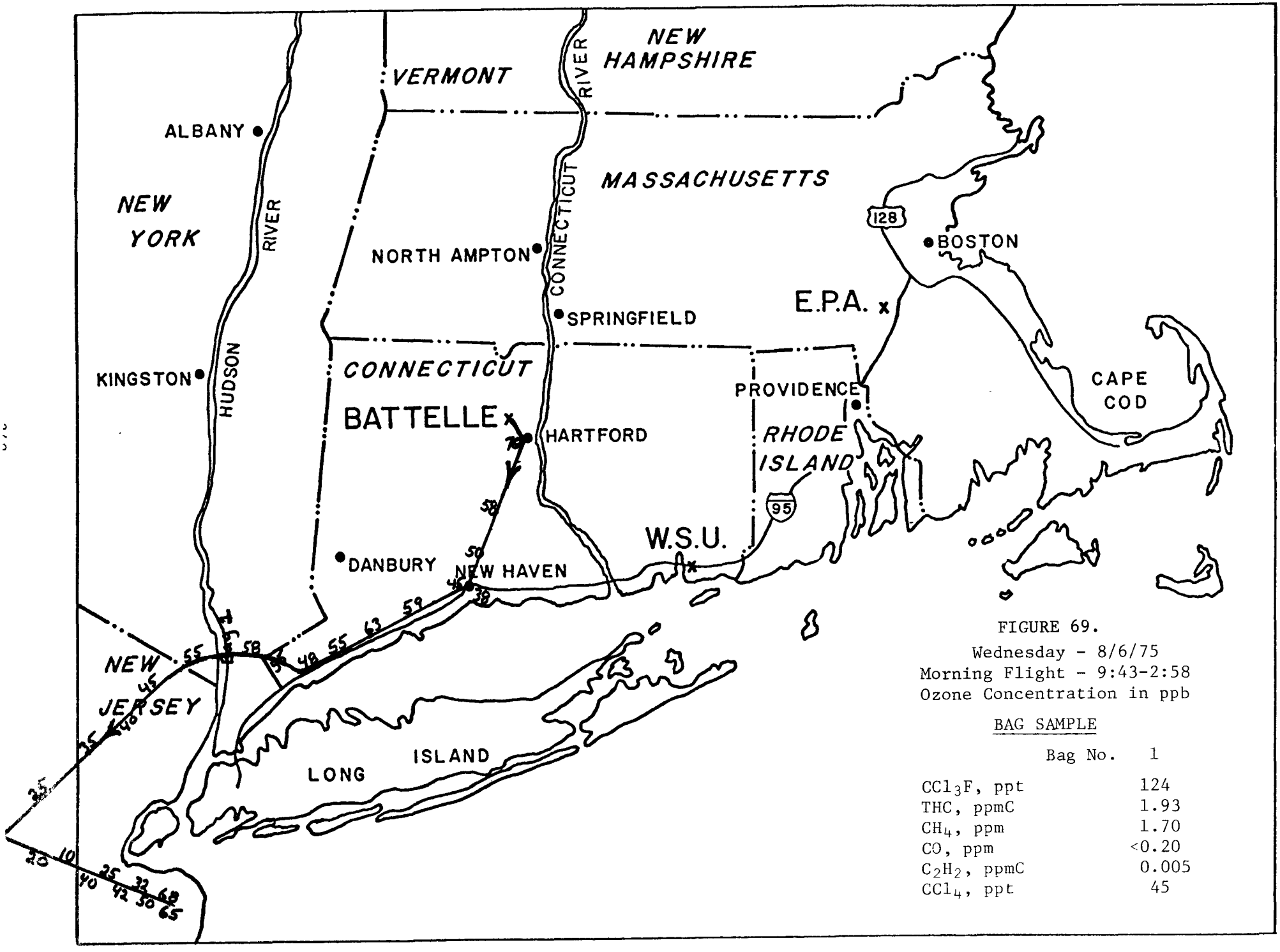



FIGURE 69.

Wednesday - 8/6/75
Morning Flight - 9:43-2:58
Ozone Concentration in ppb

BAG SAMPLE

| | Bag No. 1 |
|---|---|
| $CCl_3F$, ppt | 124 |
| THC, ppmC | 1.93 |
| $CH_4$, ppm | 1.70 |
| CO, ppm | <0.20 |
| $C_2H_2$, ppmC | 0.005 |
| $CCl_4$, ppt | 45 |

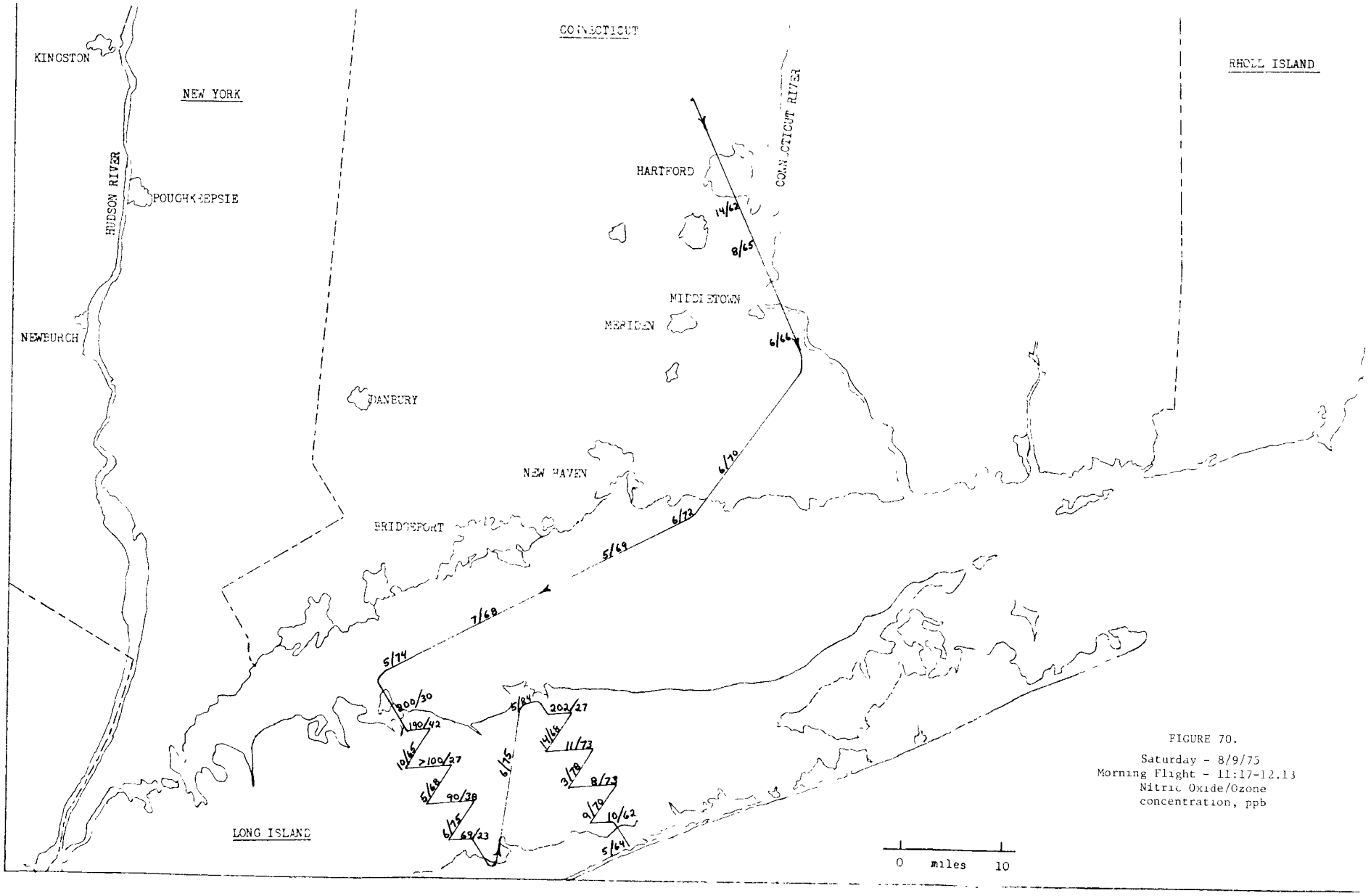



FIGURE 70.

Saturday - 8/9/75
Morning Flight - 11:17-12.13
Nitric Oxide/Ozone
concentration, ppb

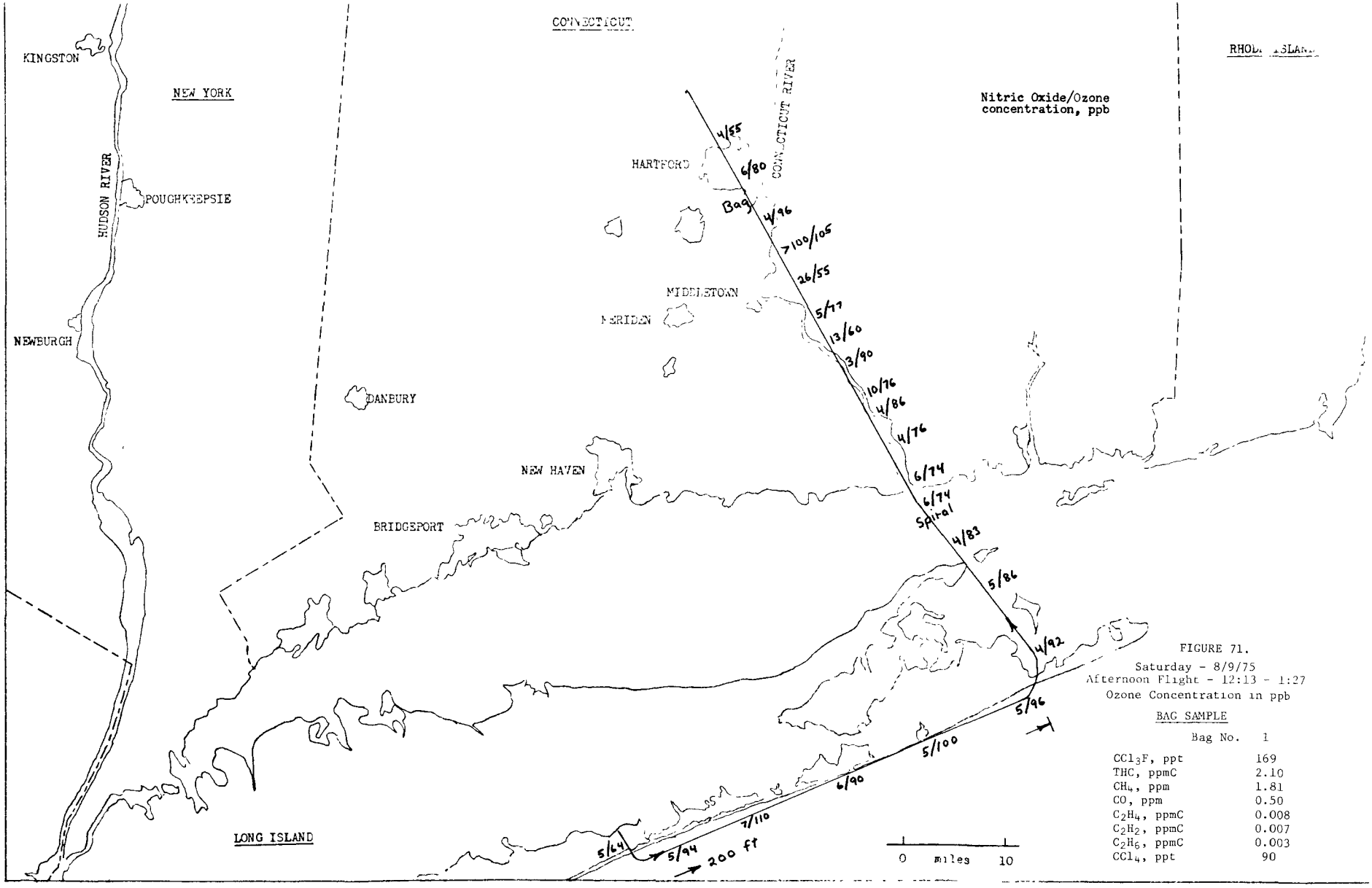



FIGURE 71.
Saturday - 8/9/75
Afternoon Flight - 12:13 - 1:27
Ozone Concentration in ppb

BAG SAMPLE

| Bag No. | 1 |
|---|---|
| $CCl_3F$, ppt | 169 |
| THC, ppmC | 2.10 |
| $CH_4$, ppm | 1.81 |
| CO, ppm | 0.50 |
| $C_2H_4$, ppmC | 0.008 |
| $C_2H_2$, ppmC | 0.007 |
| $C_2H_6$, ppmC | 0.003 |
| $CCl_4$, ppt | 90 |

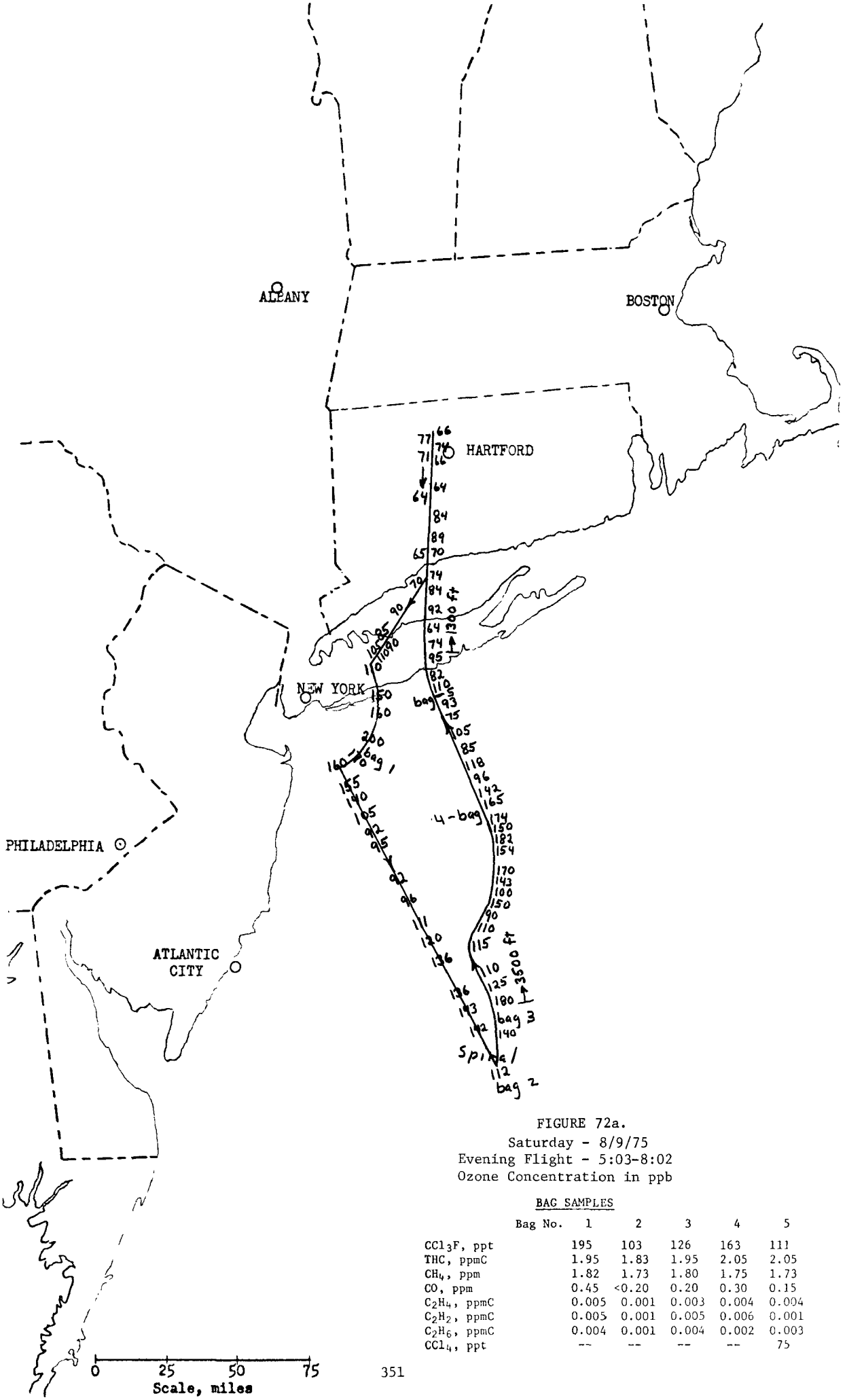
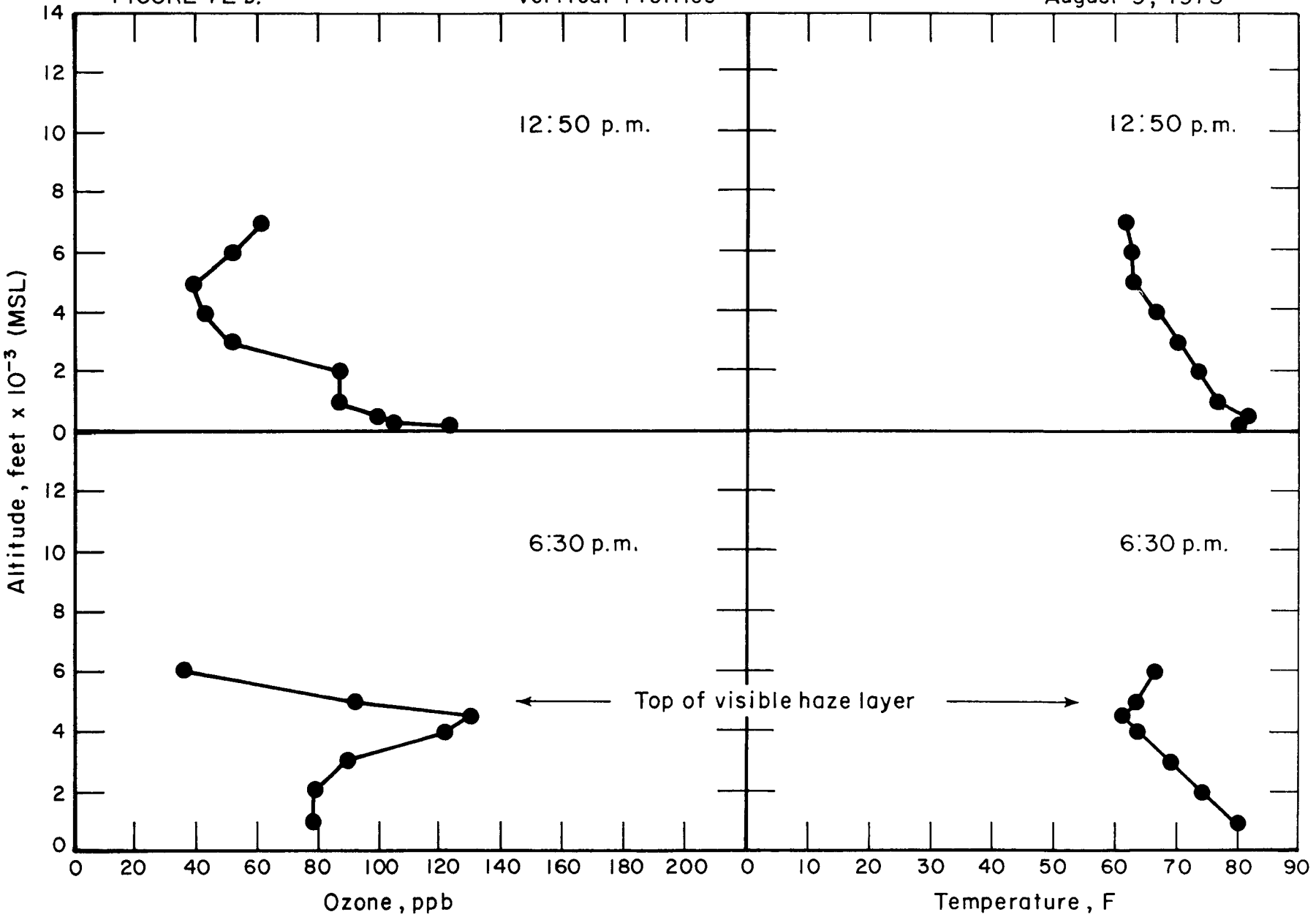



FIGURE 72a.
Saturday - 8/9/75
Evening Flight - 5:03-8:02
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| $CCl_3F$, ppt | 195 | 103 | 126 | 163 | 111 |
| THC, ppmC | 1.95 | 1.83 | 1.95 | 2.05 | 2.05 |
| $CH_4$, ppm | 1.82 | 1.73 | 1.80 | 1.75 | 1.73 |
| CO, ppm | 0.45 | <0.20 | 0.20 | 0.30 | 0.15 |
| $C_2H_4$, ppmC | 0.005 | 0.001 | 0.003 | 0.004 | 0.004 |
| $C_2H_2$, ppmC | 0.005 | 0.001 | 0.005 | 0.006 | 0.001 |
| $C_2H_6$, ppmC | 0.004 | 0.001 | 0.004 | 0.002 | 0.003 |
| $CCl_4$, ppt | -- | -- | -- | -- | 75 |

FIGURE 72 b. Vertical Profiles August 9, 1975



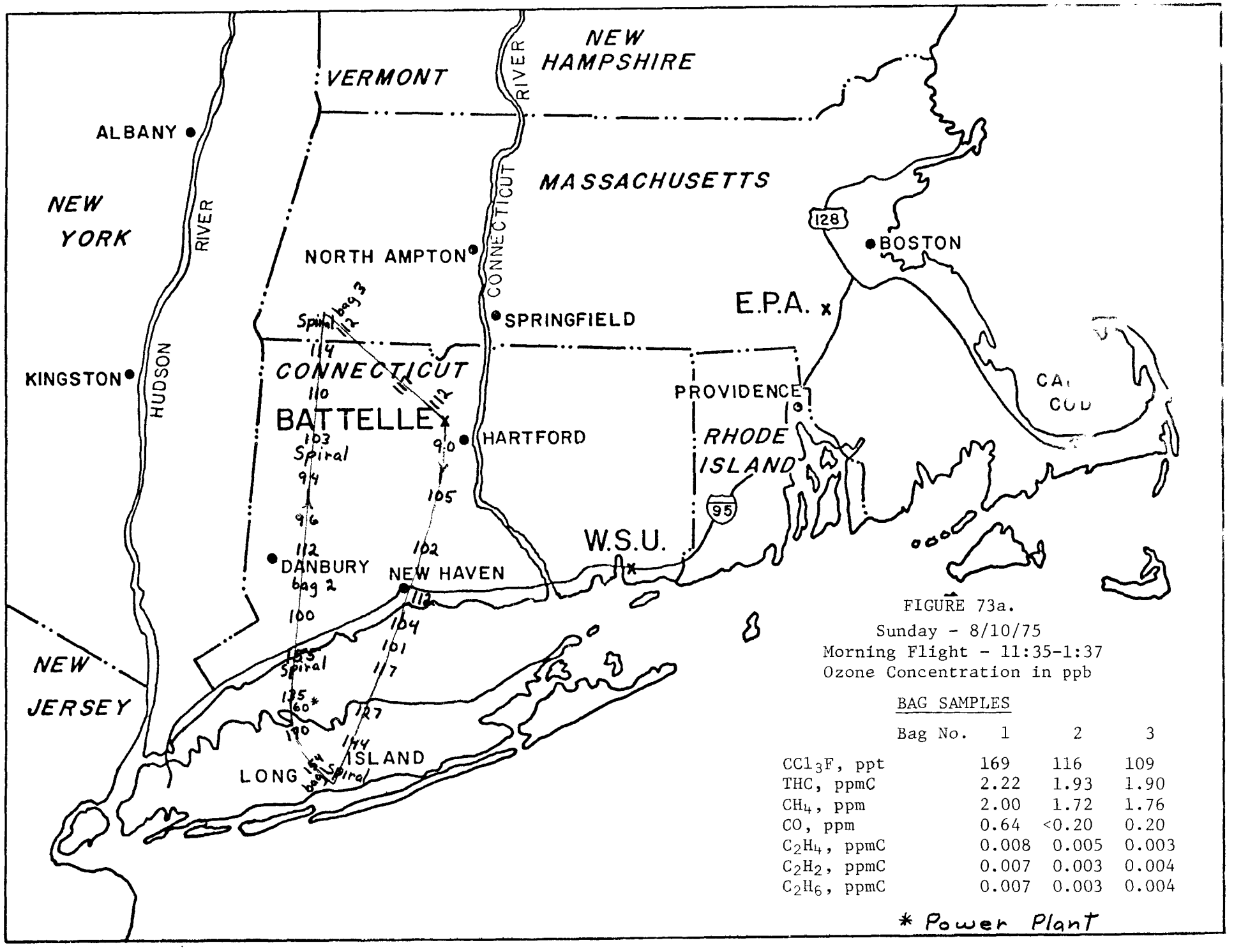



FIGURE 73a.
Sunday - 8/10/75
Morning Flight - 11:35-1:37
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 169 | 116 | 109 |
| THC, ppmC | 2.22 | 1.93 | 1.90 |
| $CH_4$, ppm | 2.00 | 1.72 | 1.76 |
| CO, ppm | 0.64 | <0.20 | 0.20 |
| $C_2H_4$, ppmC | 0.008 | 0.005 | 0.003 |
| $C_2H_2$, ppmC | 0.007 | 0.003 | 0.004 |
| $C_2H_6$, ppmC | 0.007 | 0.003 | 0.004 |

* Power Plant

FIGURE 73b. Vertical Profiles August 10, 1975

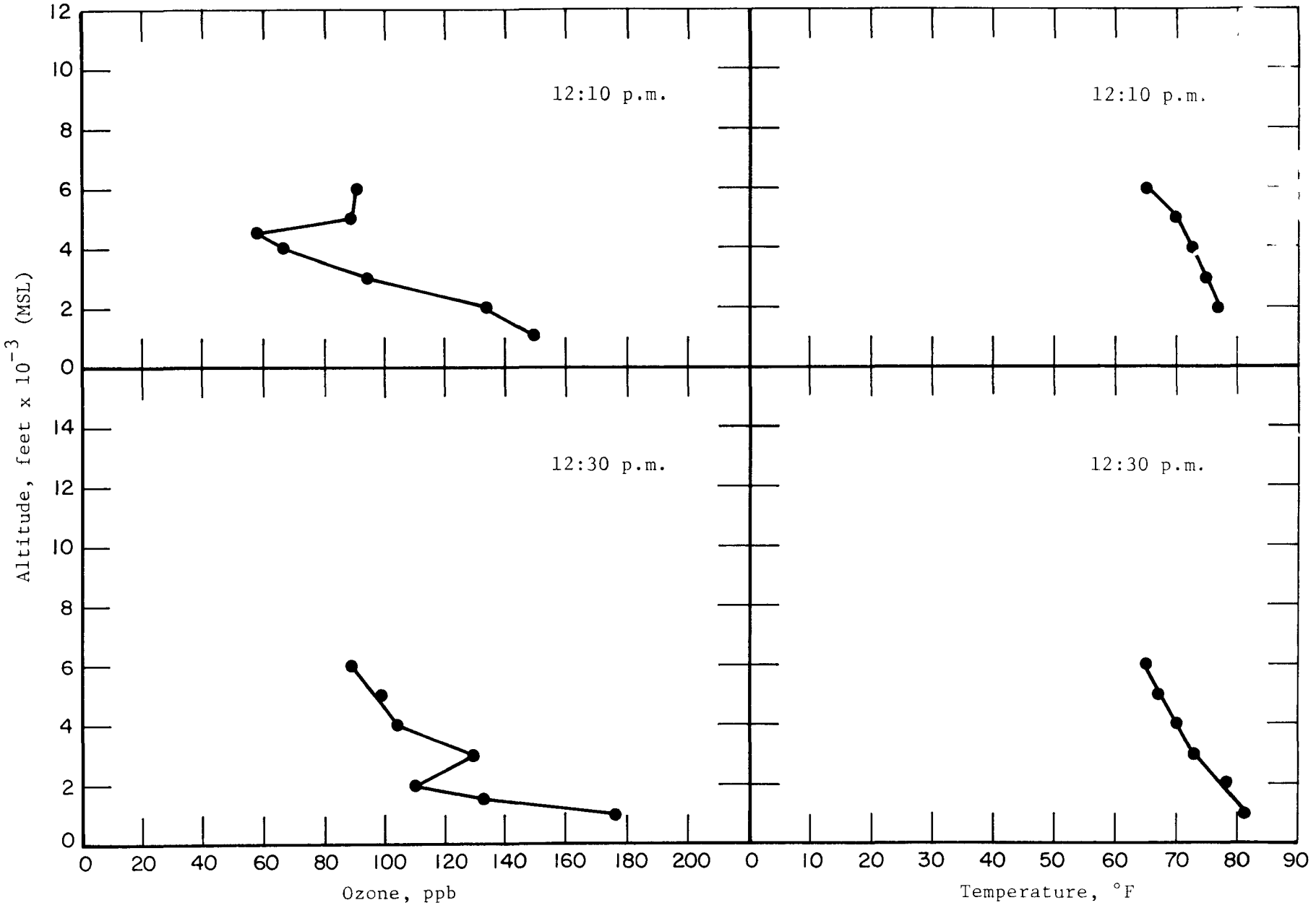
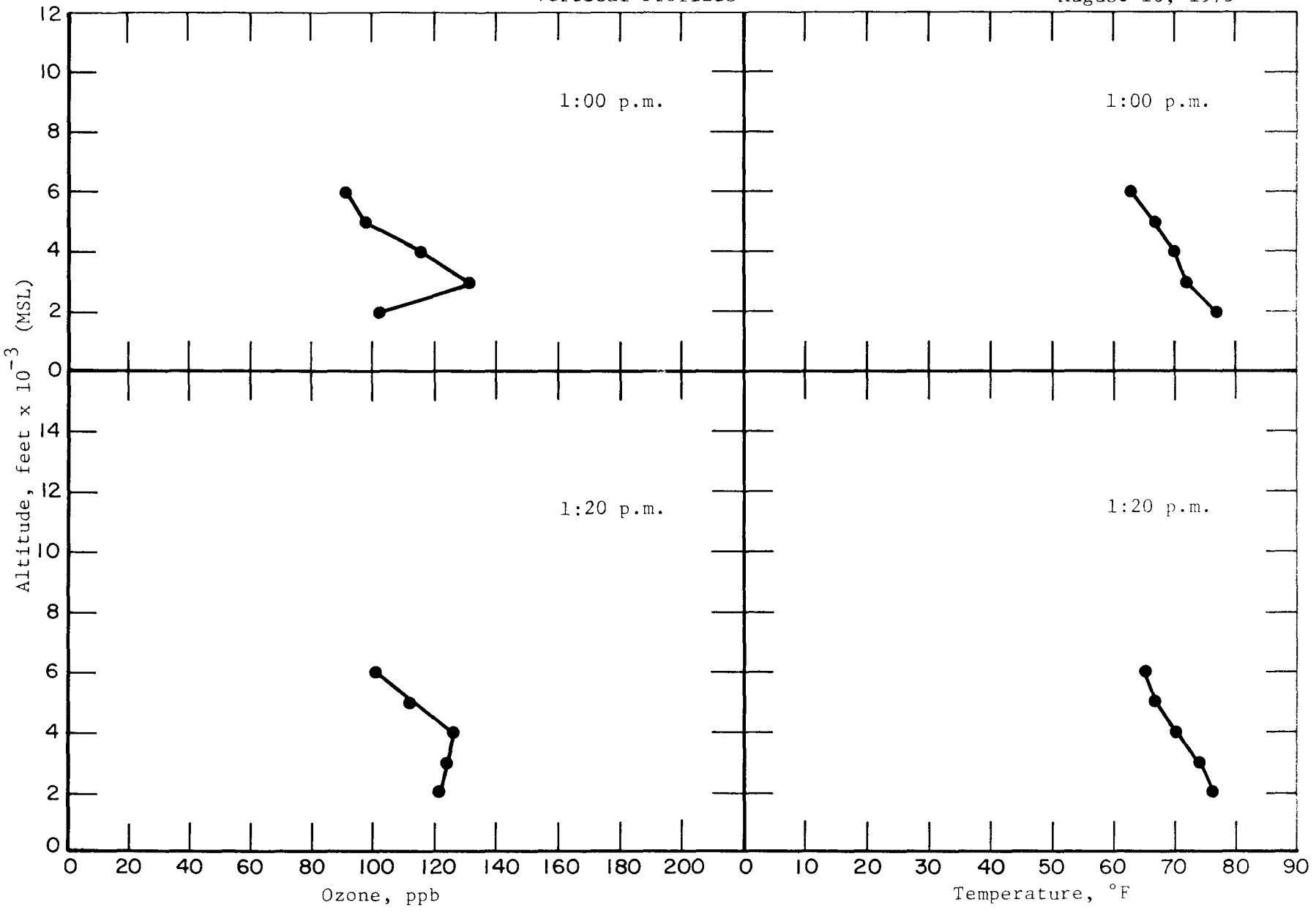


FIGURE 73c. Vertical Profiles August 10, 1975



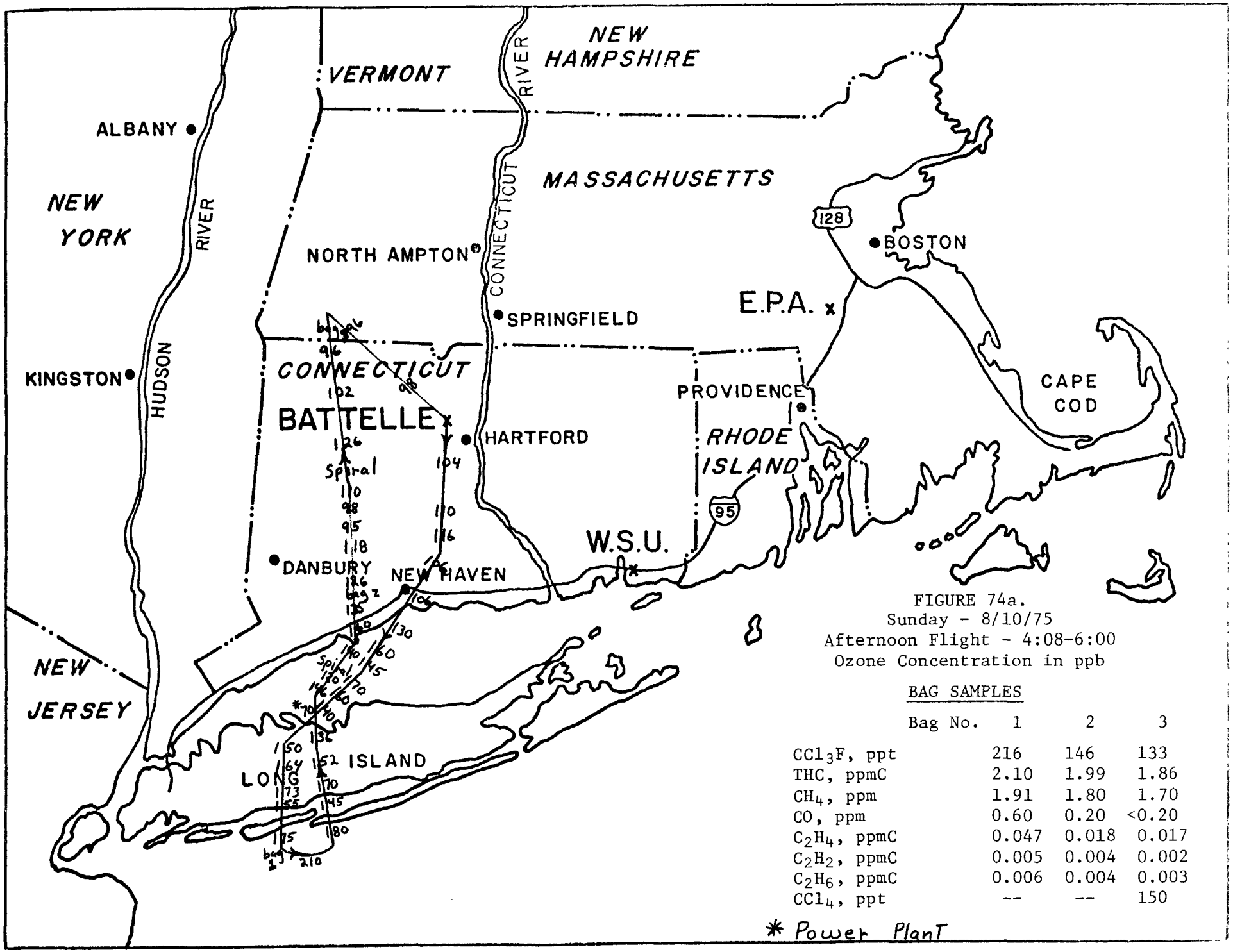


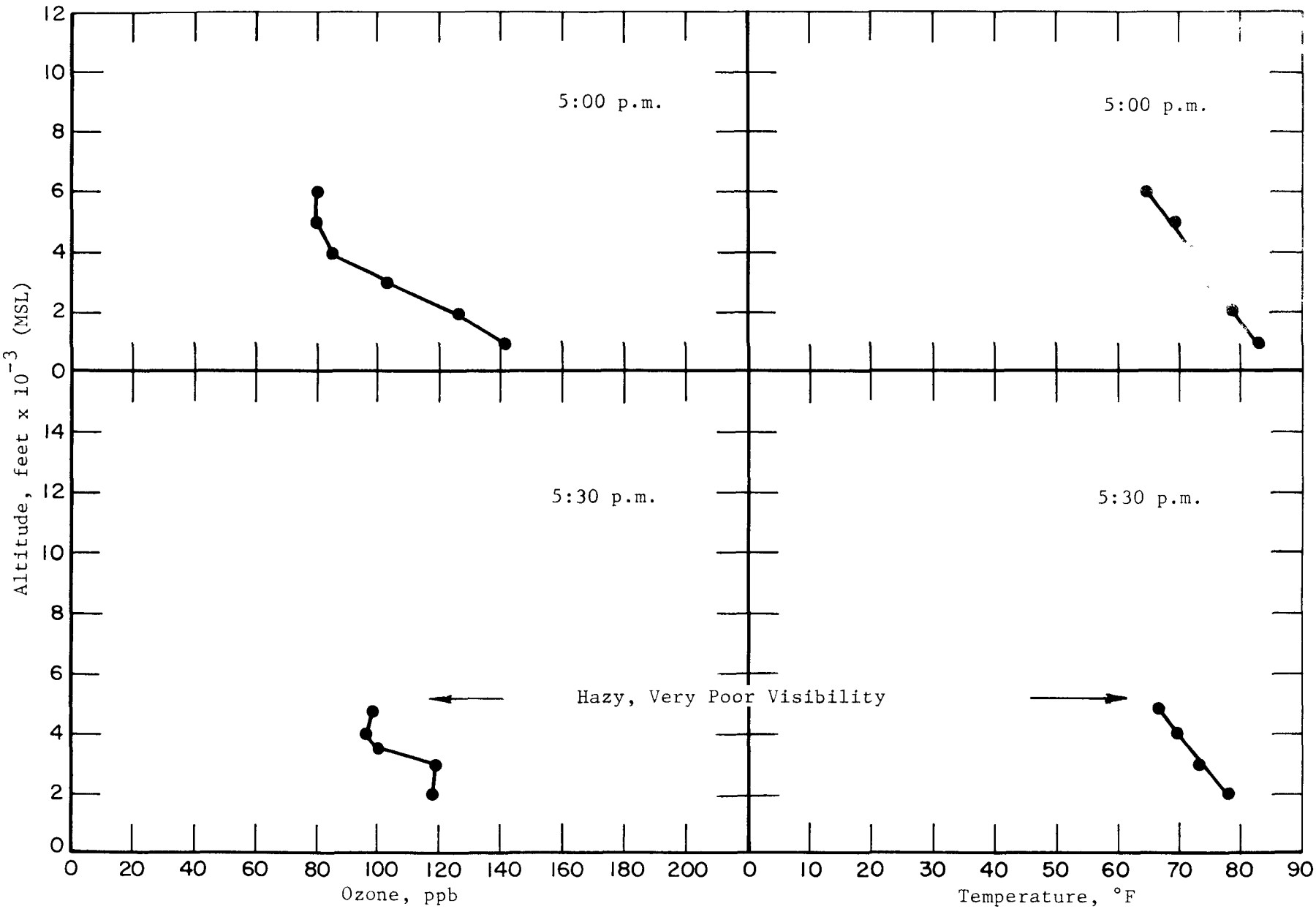

FIGURE 74a.
Sunday - 8/10/75
Afternoon Flight - 4:08-6:00
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 216 | 146 | 133 |
| THC, ppmC | 2.10 | 1.99 | 1.86 |
| $CH_4$, ppm | 1.91 | 1.80 | 1.70 |
| CO, ppm | 0.60 | 0.20 | <0.20 |
| $C_2H_4$, ppmC | 0.047 | 0.018 | 0.017 |
| $C_2H_2$, ppmC | 0.005 | 0.004 | 0.002 |
| $C_2H_6$, ppmC | 0.006 | 0.004 | 0.003 |
| $CCl_4$, ppt | -- | -- | 150 |

* Power Plant

FIGURE 74b. Vertical Profiles August 10, [illegible]



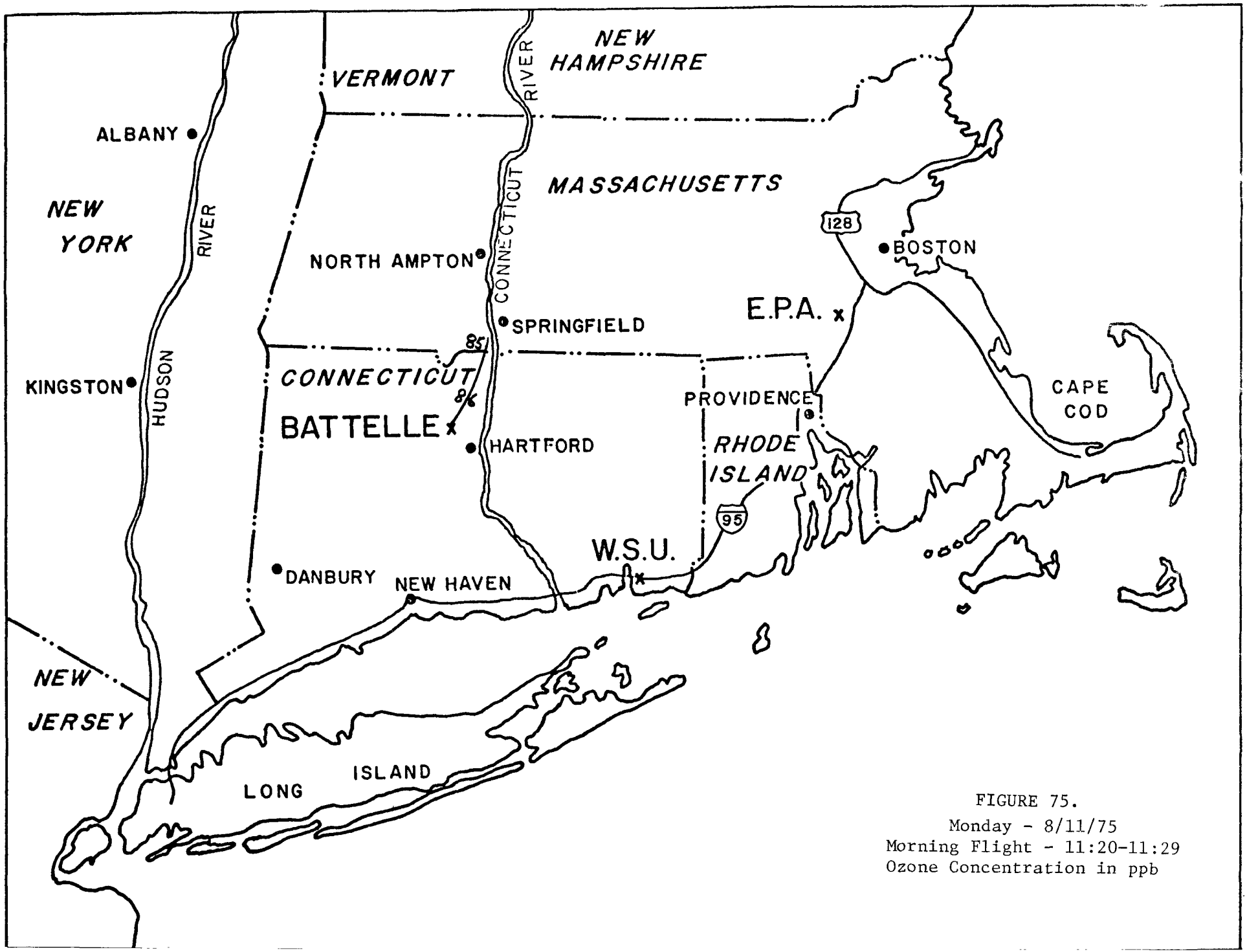



FIGURE 75.
Monday - 8/11/75
Morning Flight - 11:20-11:29
Ozone Concentration in ppb

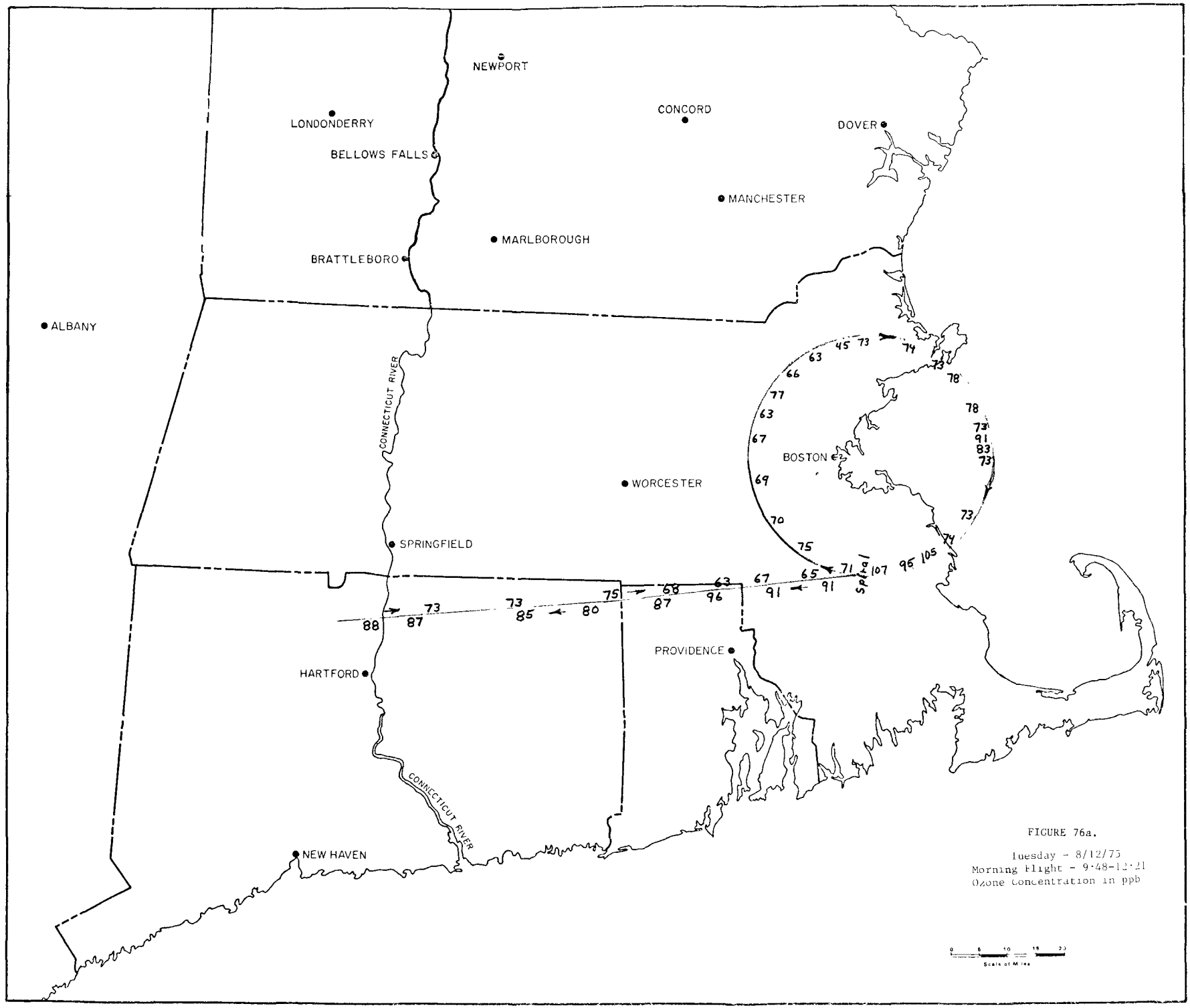
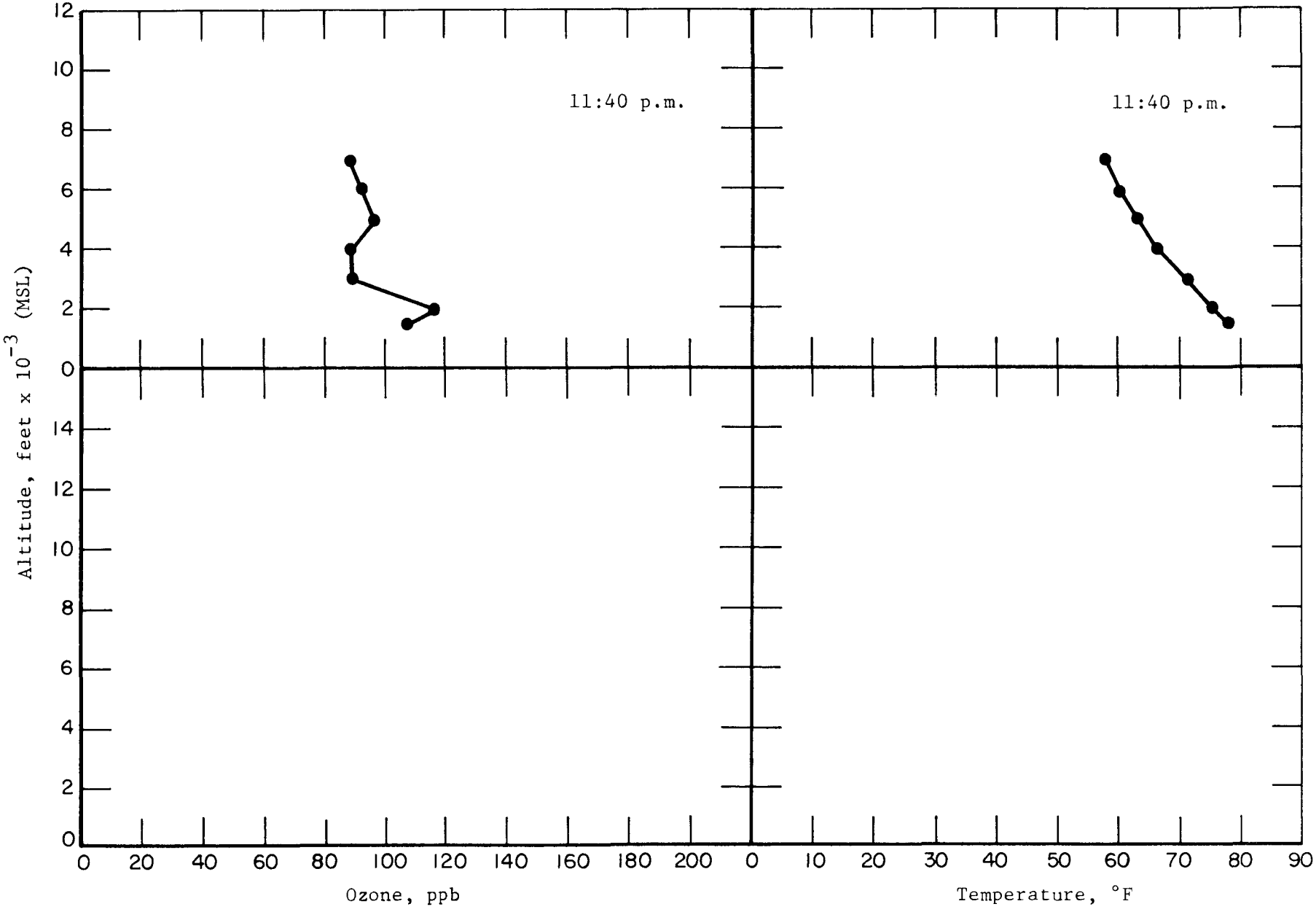



FIGURE 76a.

Tuesday - 8/12/75
Morning Flight - 9:48-12:21
Ozone Concentration in ppb

FIGURE 76b. Vertical Profiles August 12, 1975



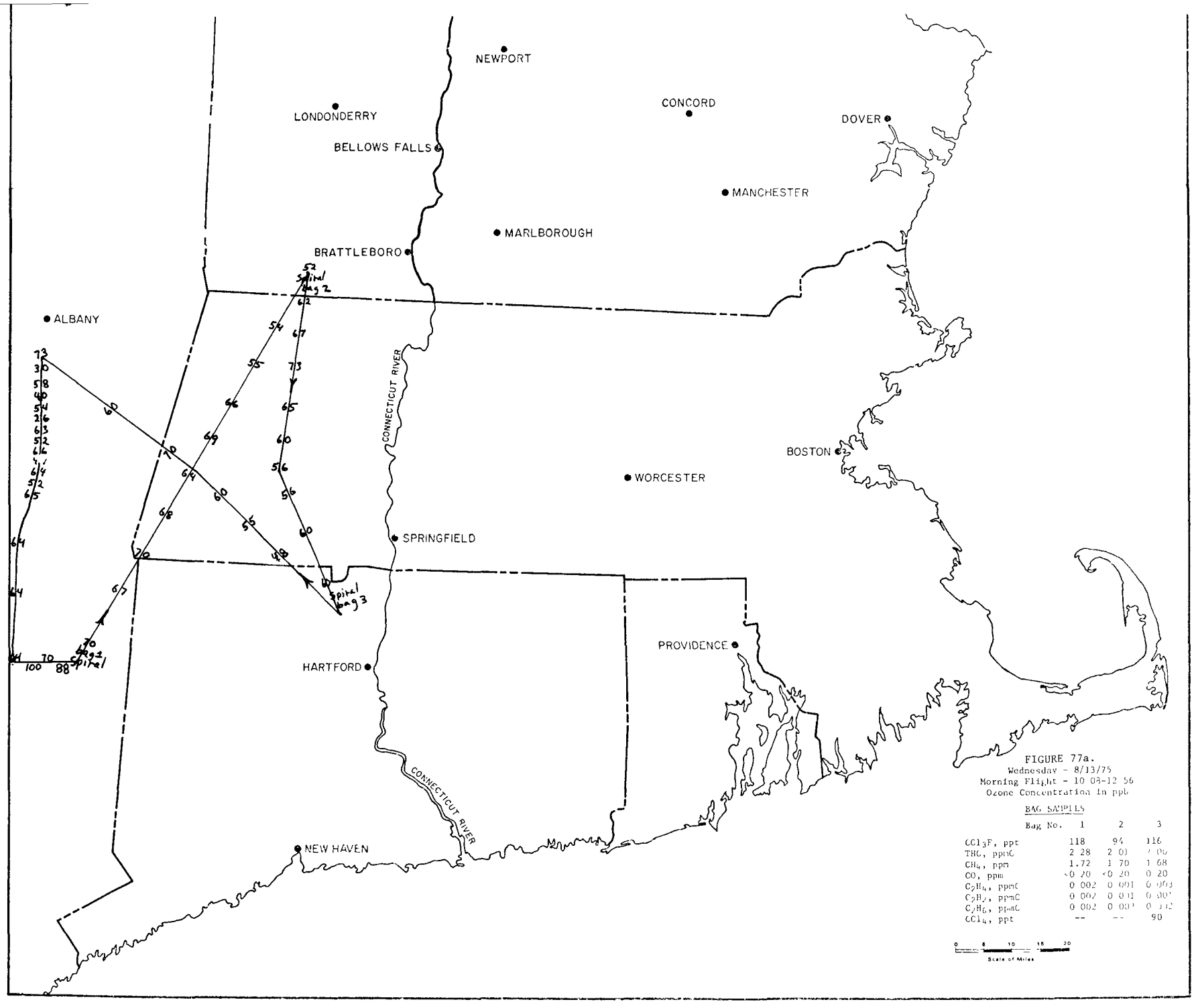



FIGURE 77a.
Wednesday - 8/13/75
Morning Flight - 10 08-12 56
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 118 | 94 | 116 |
| THC, ppmC | 2 28 | 2 01 | [illegible] |
| $CH_4$, ppm | 1.72 | 1 70 | 1 68 |
| CO, ppm | <0 20 | <0 20 | 0 20 |
| $C_2H_4$, ppmC | 0 002 | 0 001 | 0 003 |
| $C_2H_2$, ppmC | 0 002 | 0 011 | 0 00[illegible] |
| $C_2H_6$, ppmC | 0 002 | 0 00[illegible] | 0 [illegible] |
| $CCl_4$, ppt | -- | -- | 90 |

FIGURE 77b. Vertical Profiles August 13, 1975

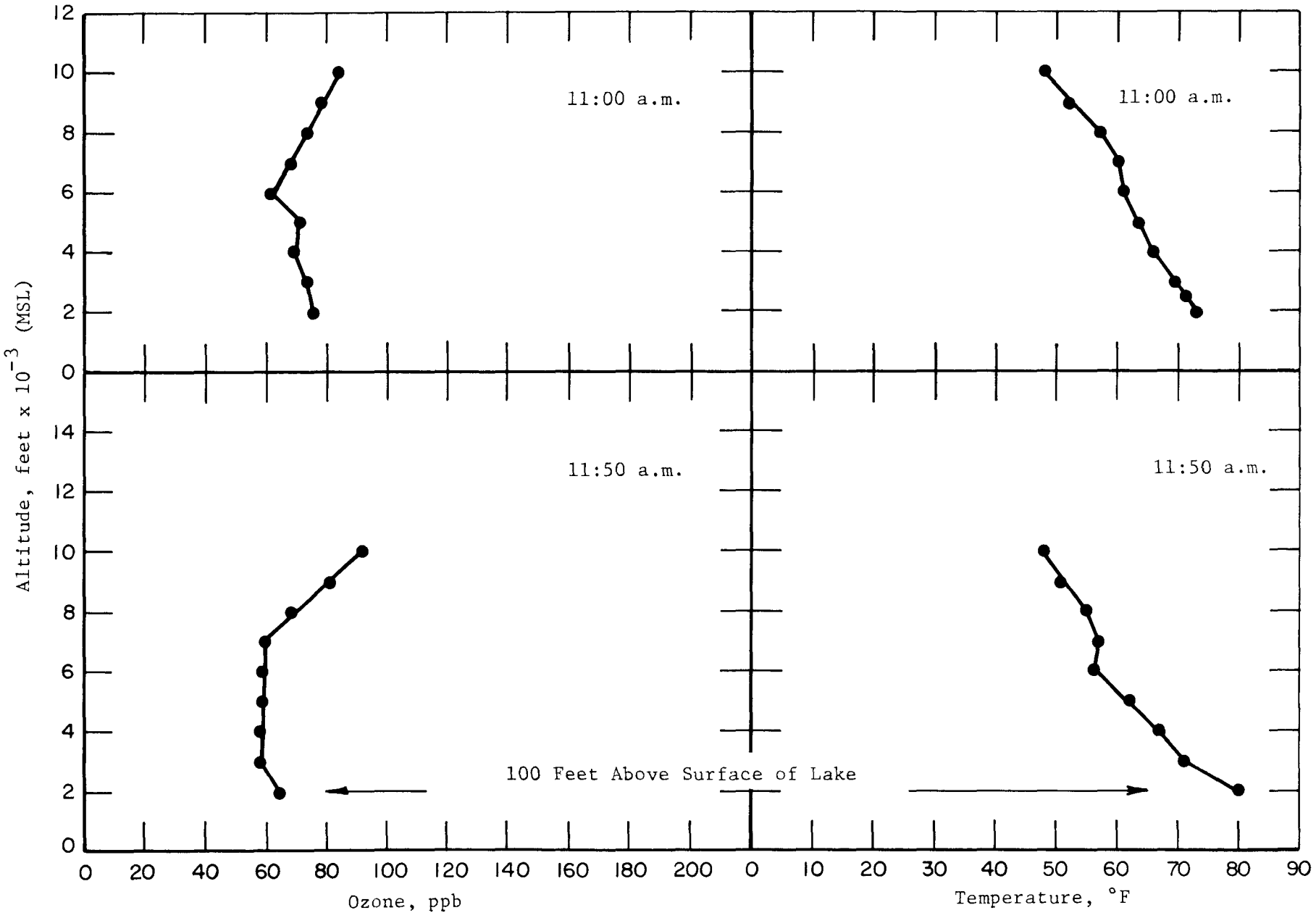
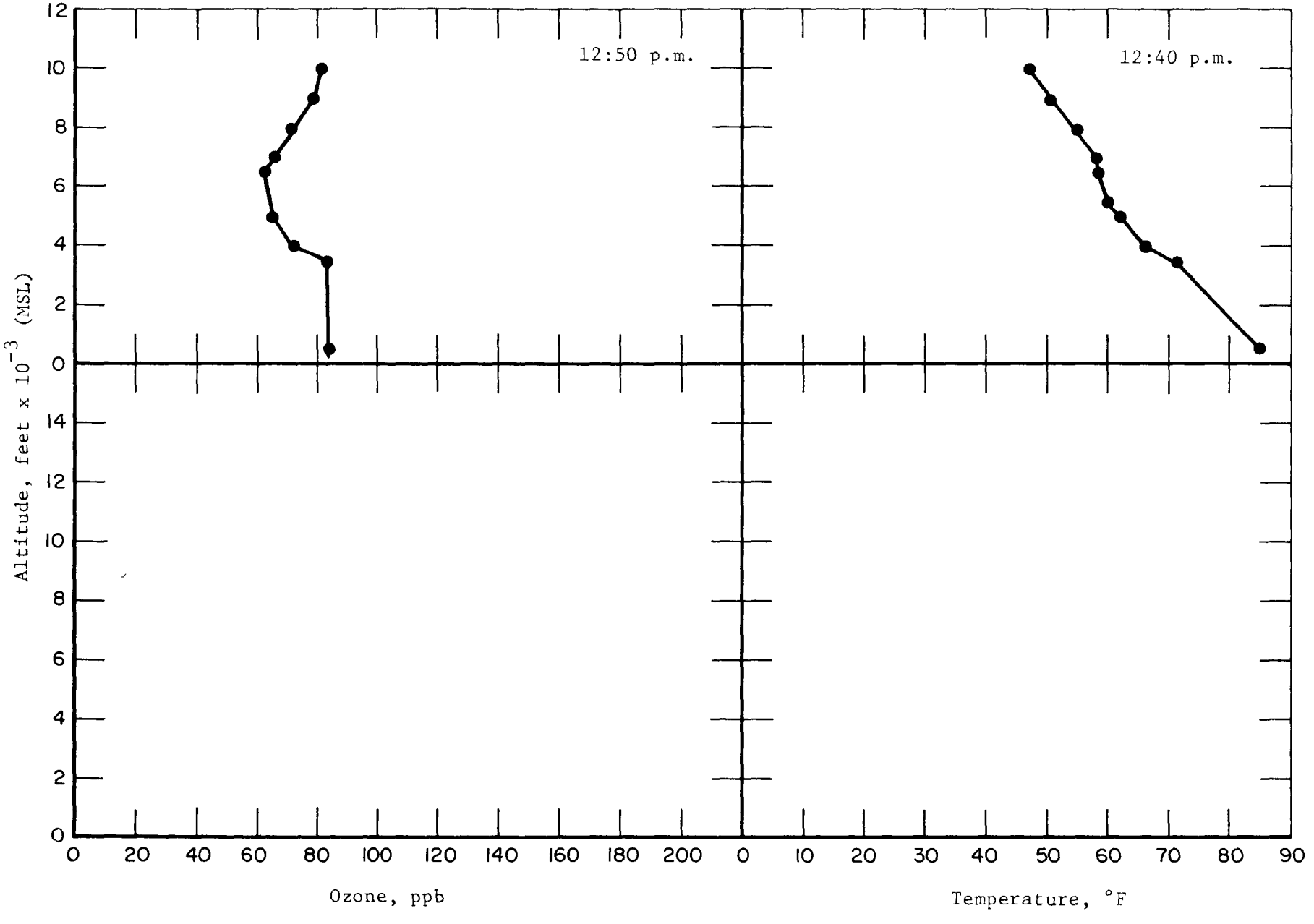


FIGURE 77c. Vertical Profiles August 13, 1975



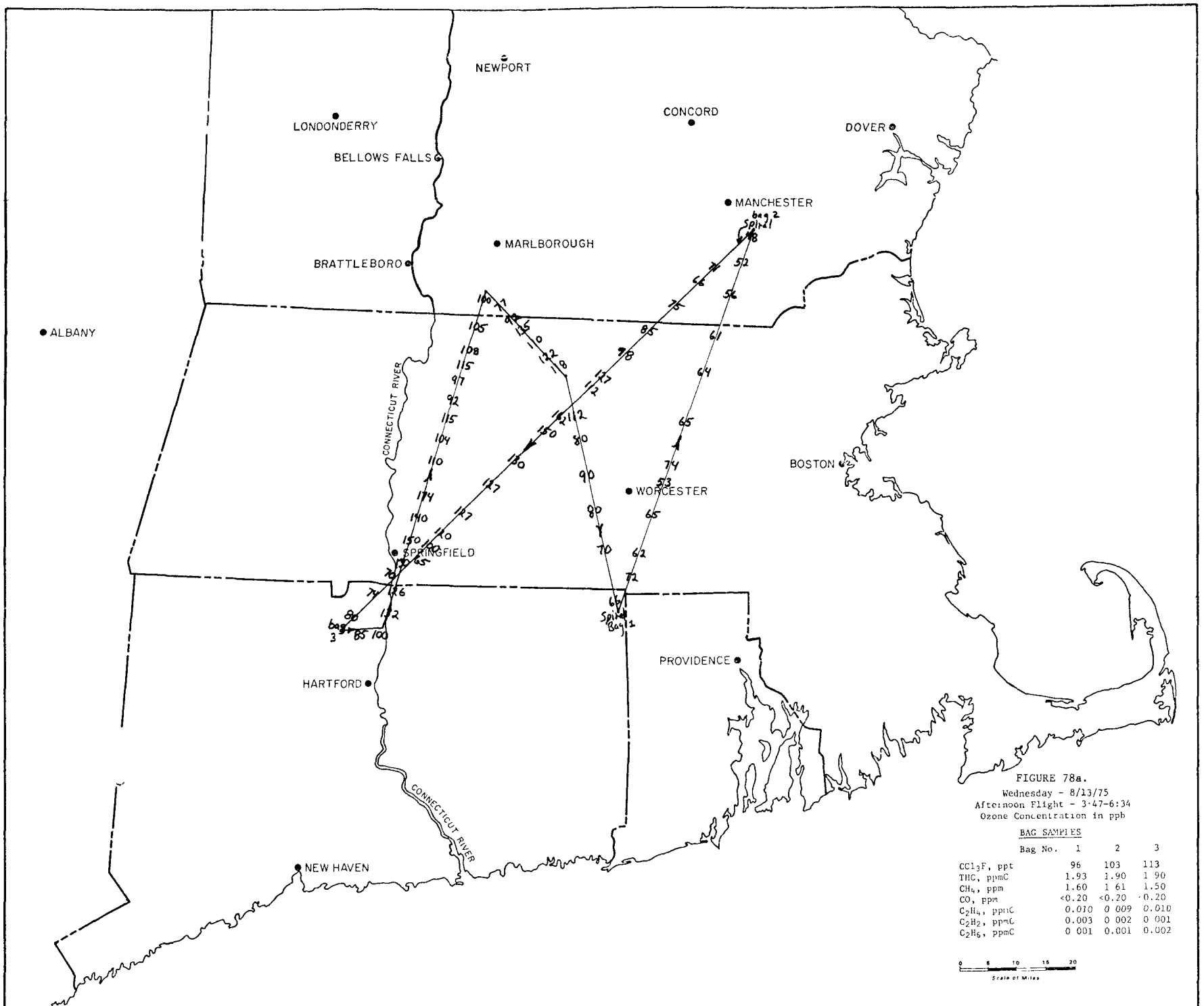
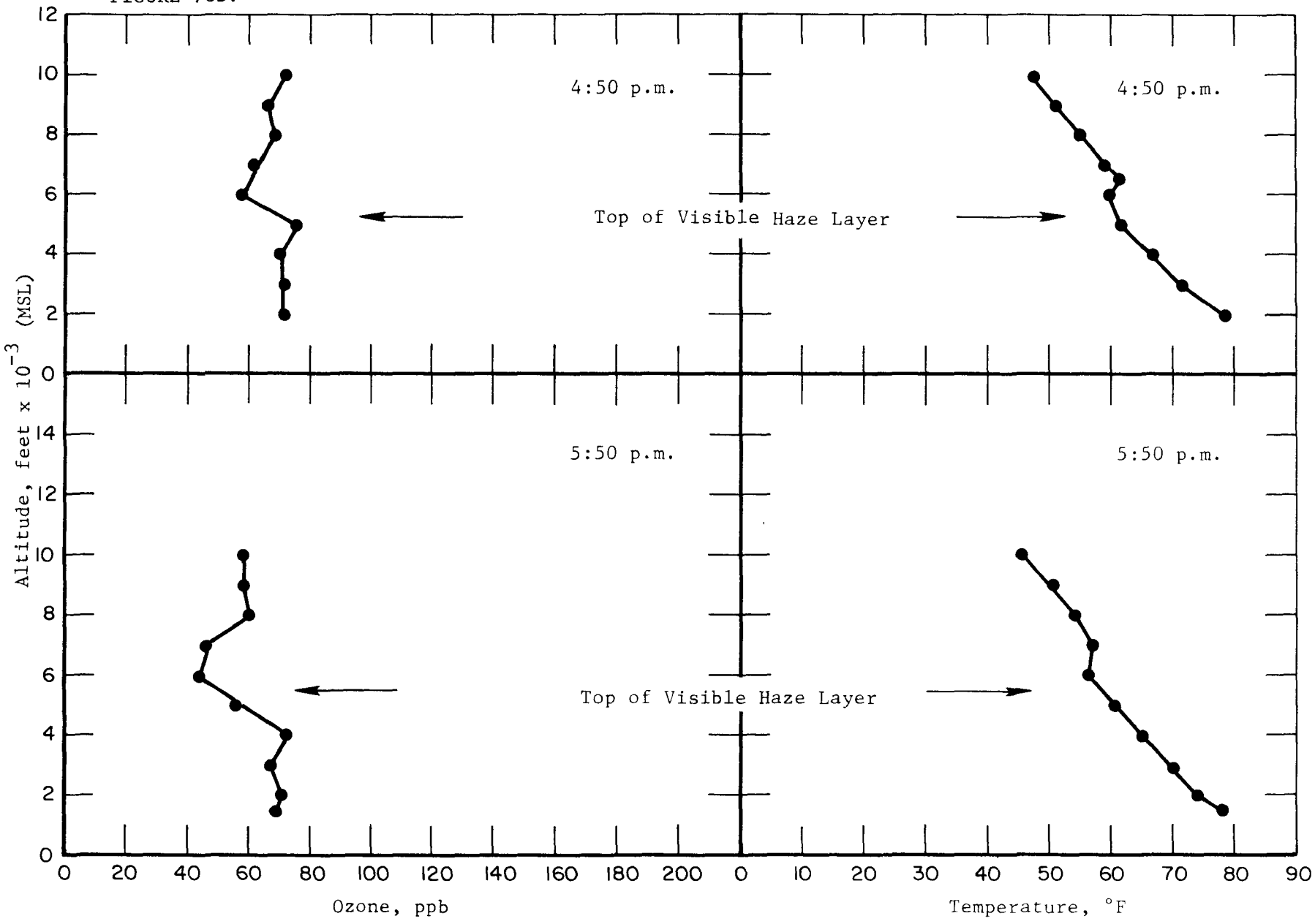



FIGURE 78a.
Wednesday - 8/13/75
Afternoon Flight - 3:47-6:34
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 96 | 103 | 113 |
| THC, ppmC | 1.93 | 1.90 | 1.90 |
| $CH_4$, ppm | 1.60 | 1.61 | 1.50 |
| CO, ppm | <0.20 | <0.20 | <0.20 |
| $C_2H_4$, ppmC | 0.010 | 0.009 | 0.010 |
| $C_2H_2$, ppmC | 0.003 | 0.002 | 0.001 |
| $C_2H_6$, ppmC | 0.001 | 0.001 | 0.002 |

FIGURE 78b. Vertical Profiles August 13, 1975



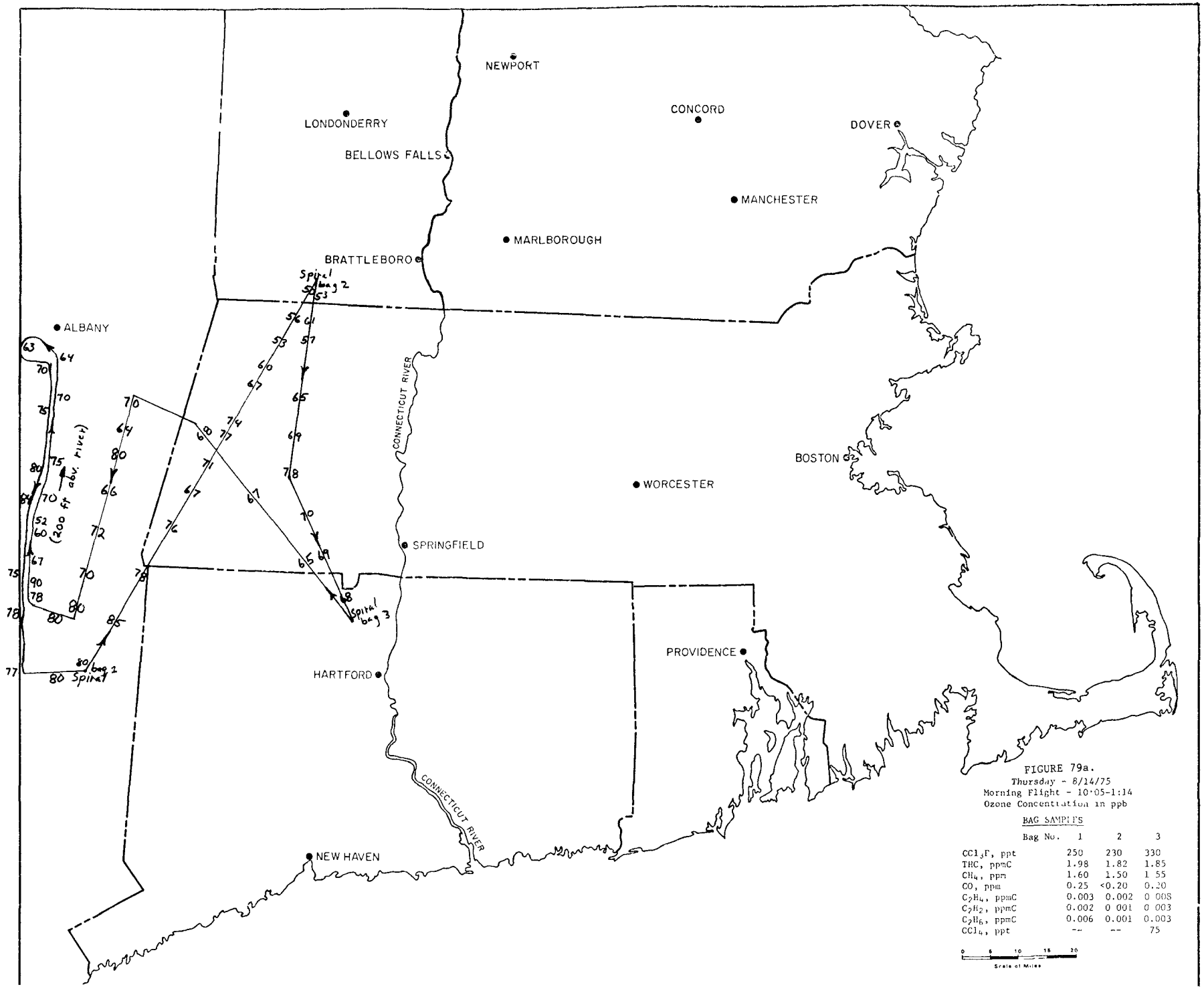



FIGURE 79a.
Thursday - 8/14/75
Morning Flight - 10:05-1:14
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 250 | 230 | 330 |
| THC, ppmC | 1.98 | 1.82 | 1.85 |
| $CH_4$, ppm | 1.60 | 1.50 | 1.55 |
| CO, ppm | 0.25 | <0.20 | 0.20 |
| $C_2H_4$, ppmC | 0.003 | 0.002 | 0.008 |
| $C_2H_2$, ppmC | 0.002 | 0.001 | 0.003 |
| $C_2H_6$, ppmC | 0.006 | 0.001 | 0.003 |
| $CCl_4$, ppt | -- | -- | 75 |

FIGURE 79b. Vertical Profiles August 14, 1975

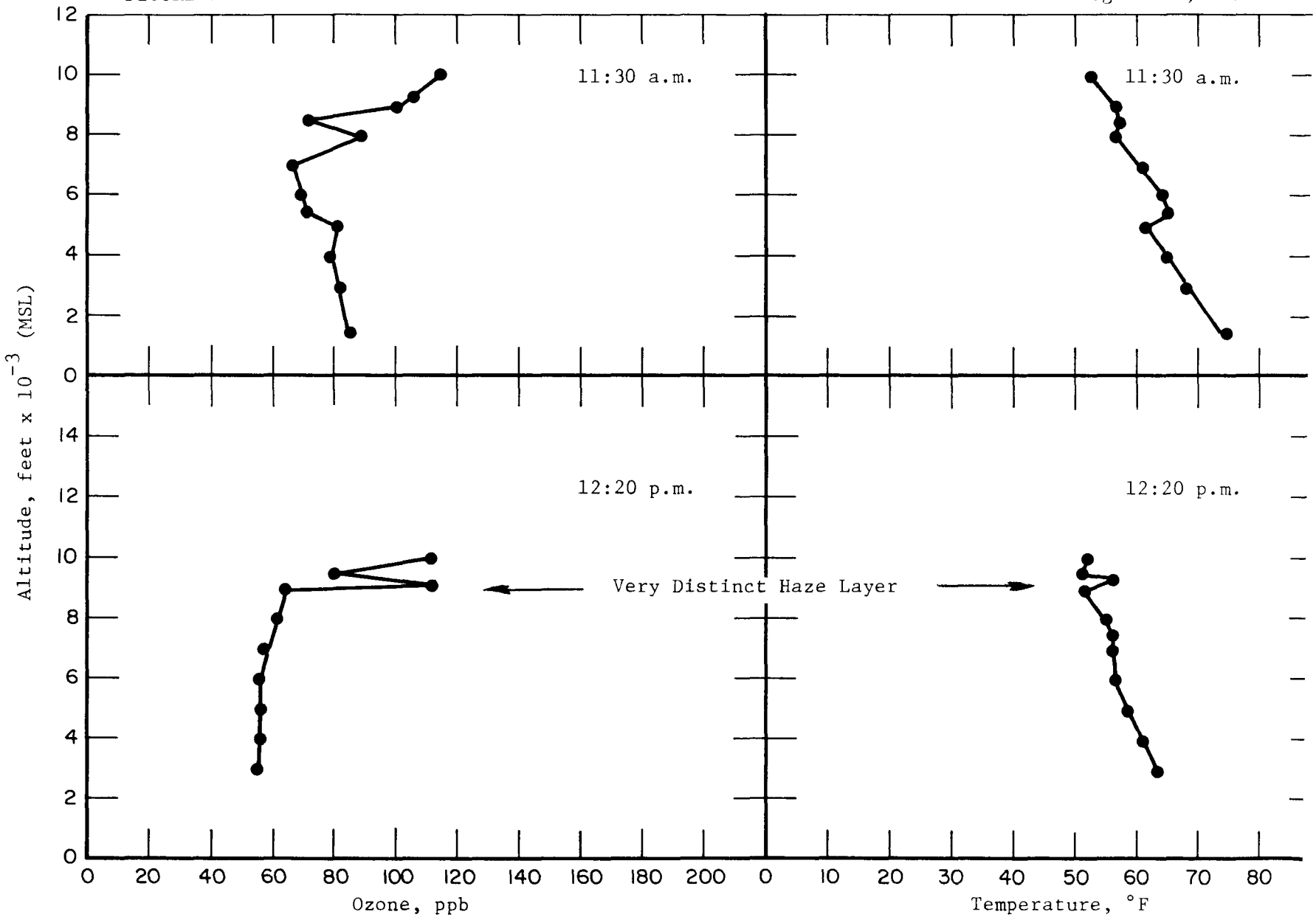
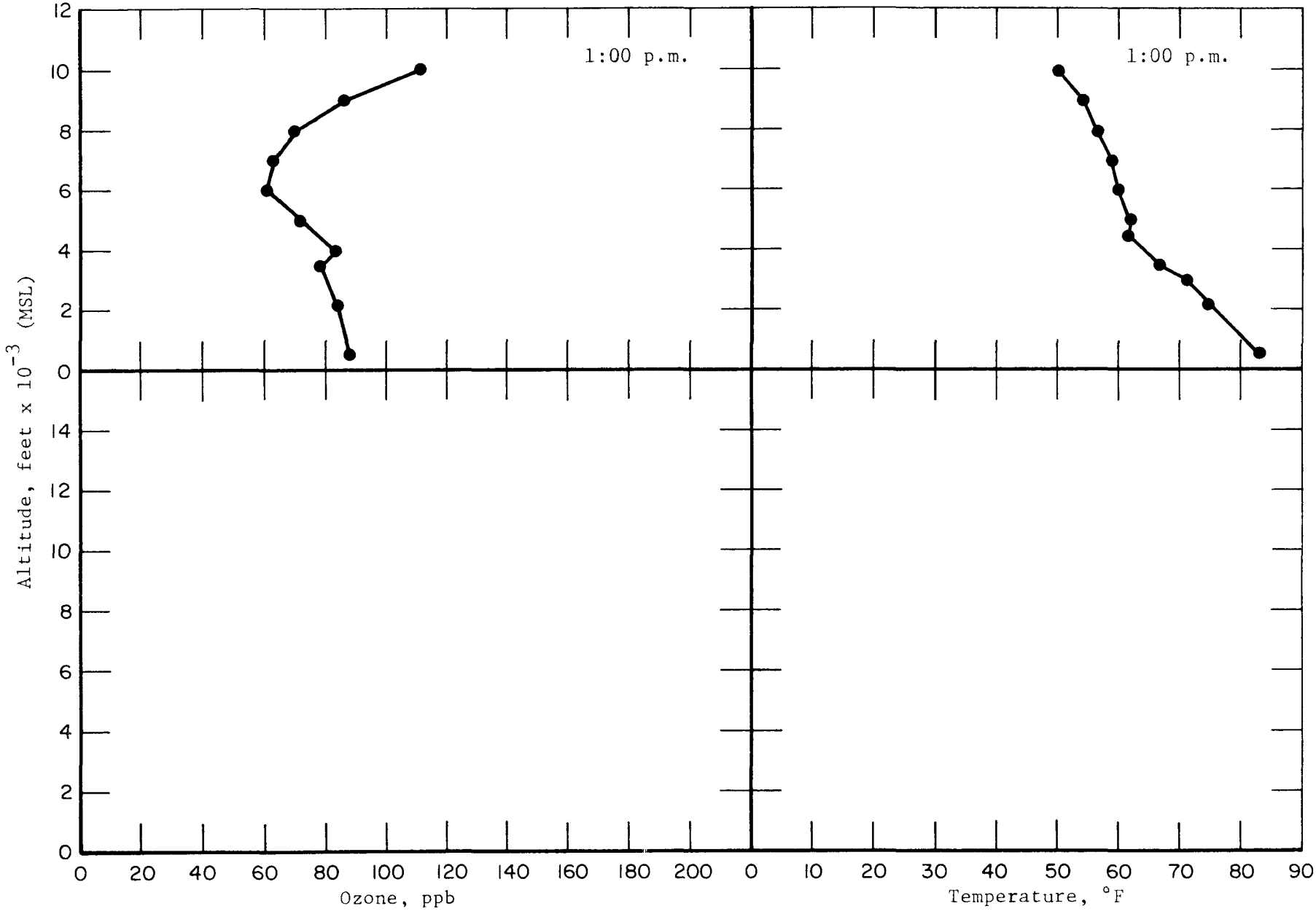


FIGURE 79c. Vertical Profiles August 14, 1975



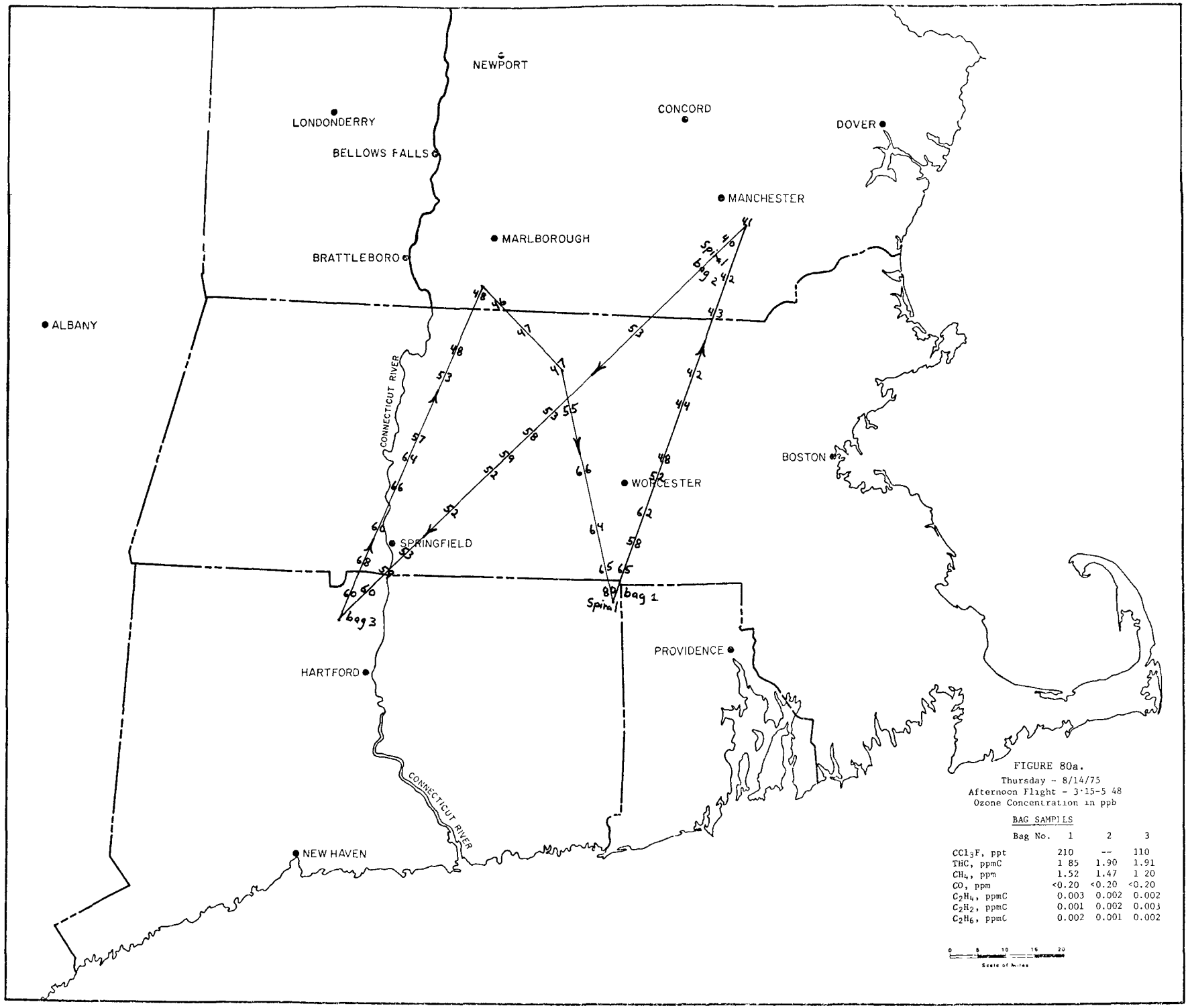



FIGURE 80a.
Thursday - 8/14/75
Afternoon Flight - 3:15-5:48
Ozone Concentration in ppb

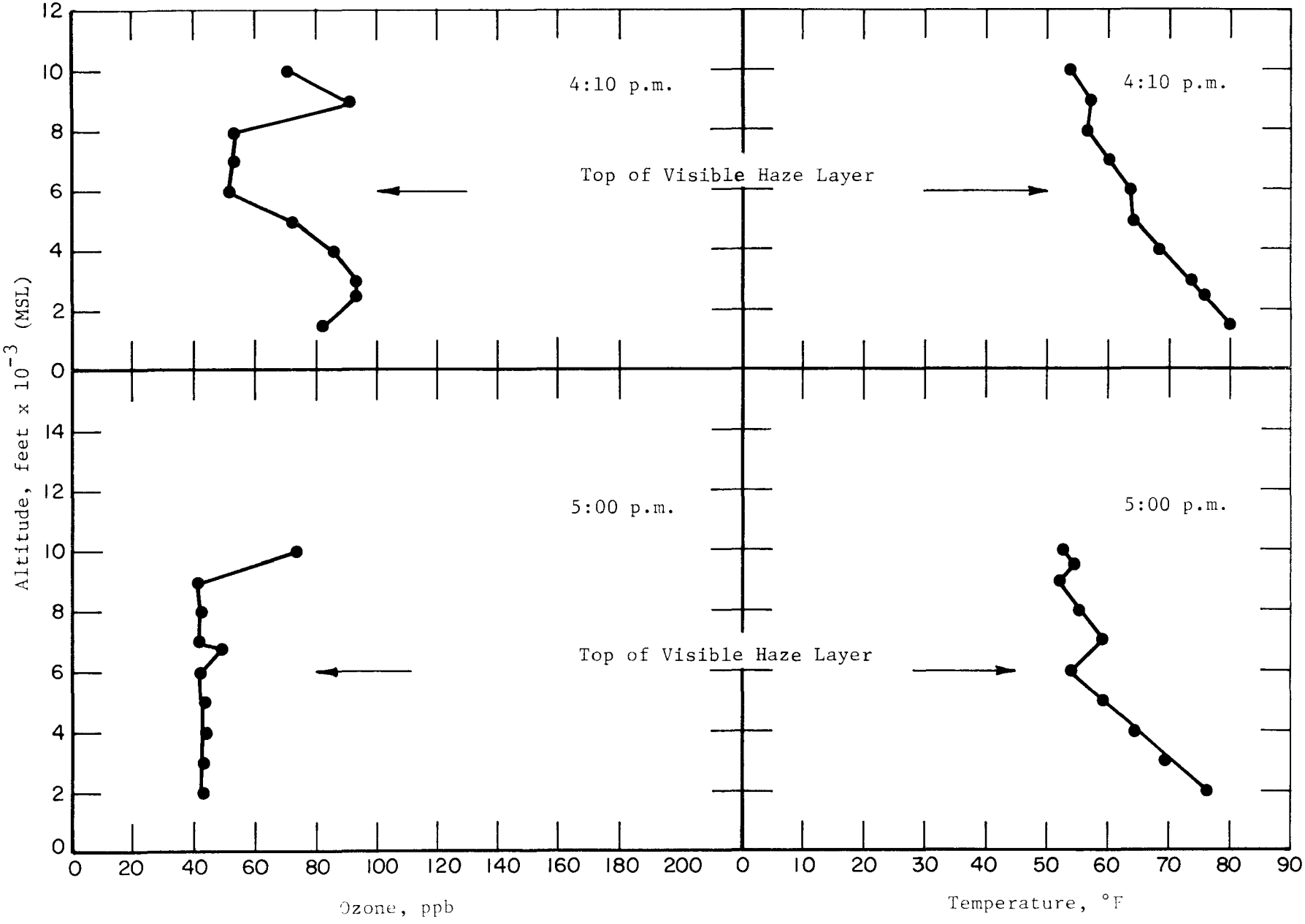
BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 210 | -- | 110 |
| THC, ppmC | 1.85 | 1.90 | 1.91 |
| $CH_4$, ppm | 1.52 | 1.47 | 1.20 |
| CO, ppm | <0.20 | <0.20 | <0.20 |
| $C_2H_4$, ppmC | 0.003 | 0.002 | 0.002 |
| $C_2H_2$, ppmC | 0.001 | 0.002 | 0.003 |
| $C_2H_6$, ppmC | 0.002 | 0.001 | 0.002 |

FIGURE 80b.

Vertical Profiles

August 14, 1975



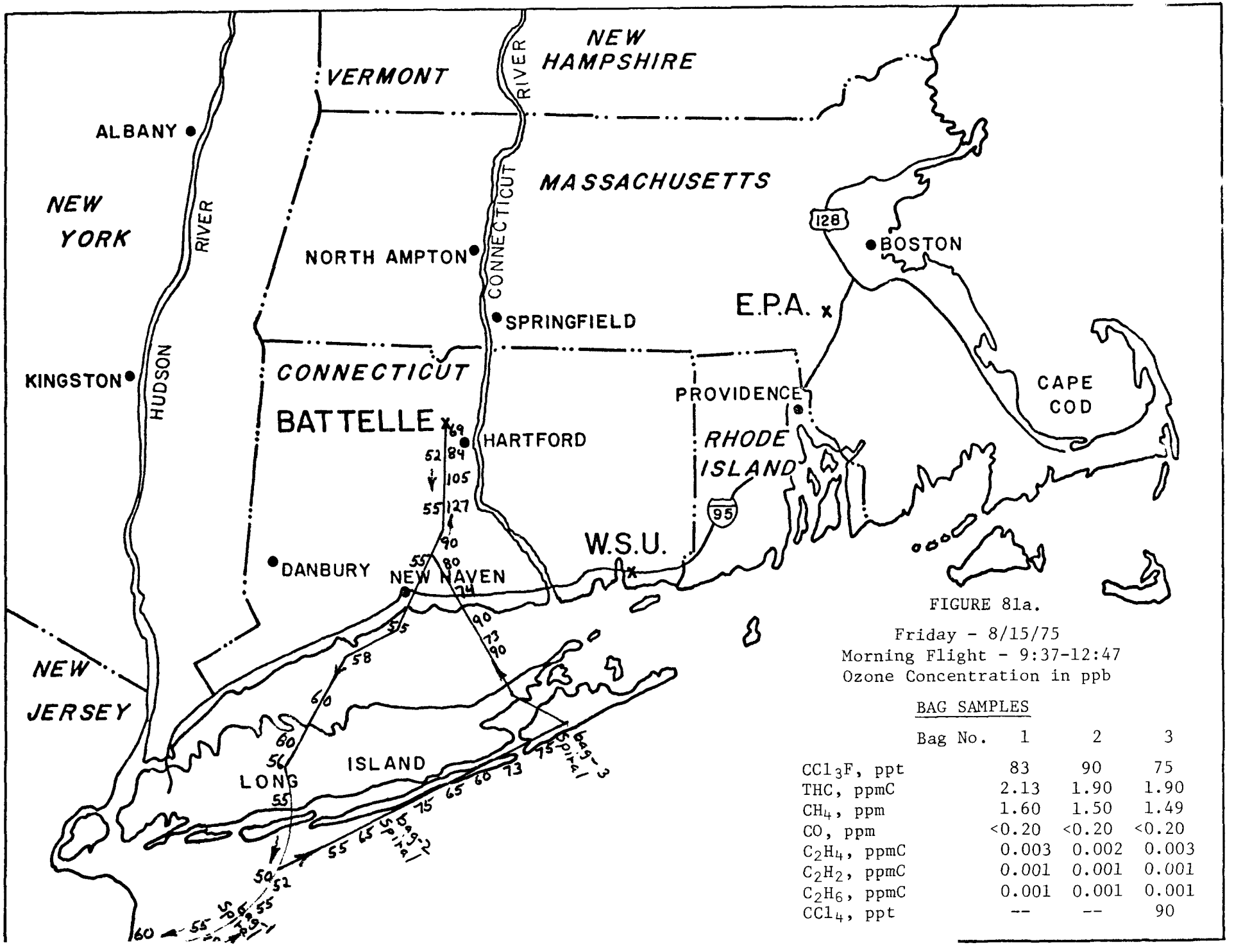



FIGURE 81a.

Friday - 8/15/75
Morning Flight - 9:37-12:47
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 83 | 90 | 75 |
| THC, ppmC | 2.13 | 1.90 | 1.90 |
| $CH_4$, ppm | 1.60 | 1.50 | 1.49 |
| CO, ppm | <0.20 | <0.20 | <0.20 |
| $C_2H_4$, ppmC | 0.003 | 0.002 | 0.003 |
| $C_2H_2$, ppmC | 0.001 | 0.001 | 0.001 |
| $C_2H_6$, ppmC | 0.001 | 0.001 | 0.001 |
| $CCl_4$, ppt | -- | -- | 90 |

FIGURE 81b. Vertical Profiles August 15, 1975

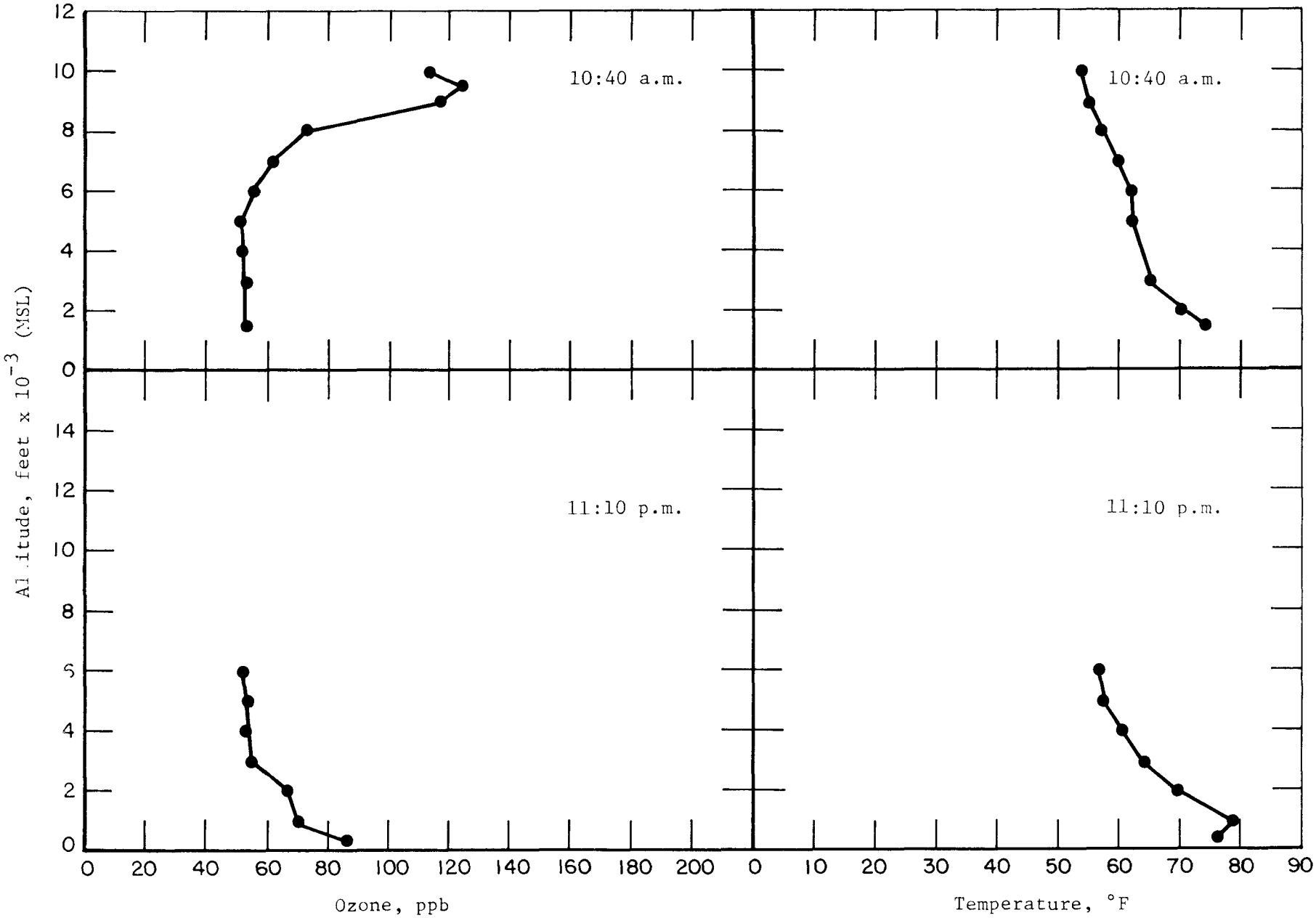
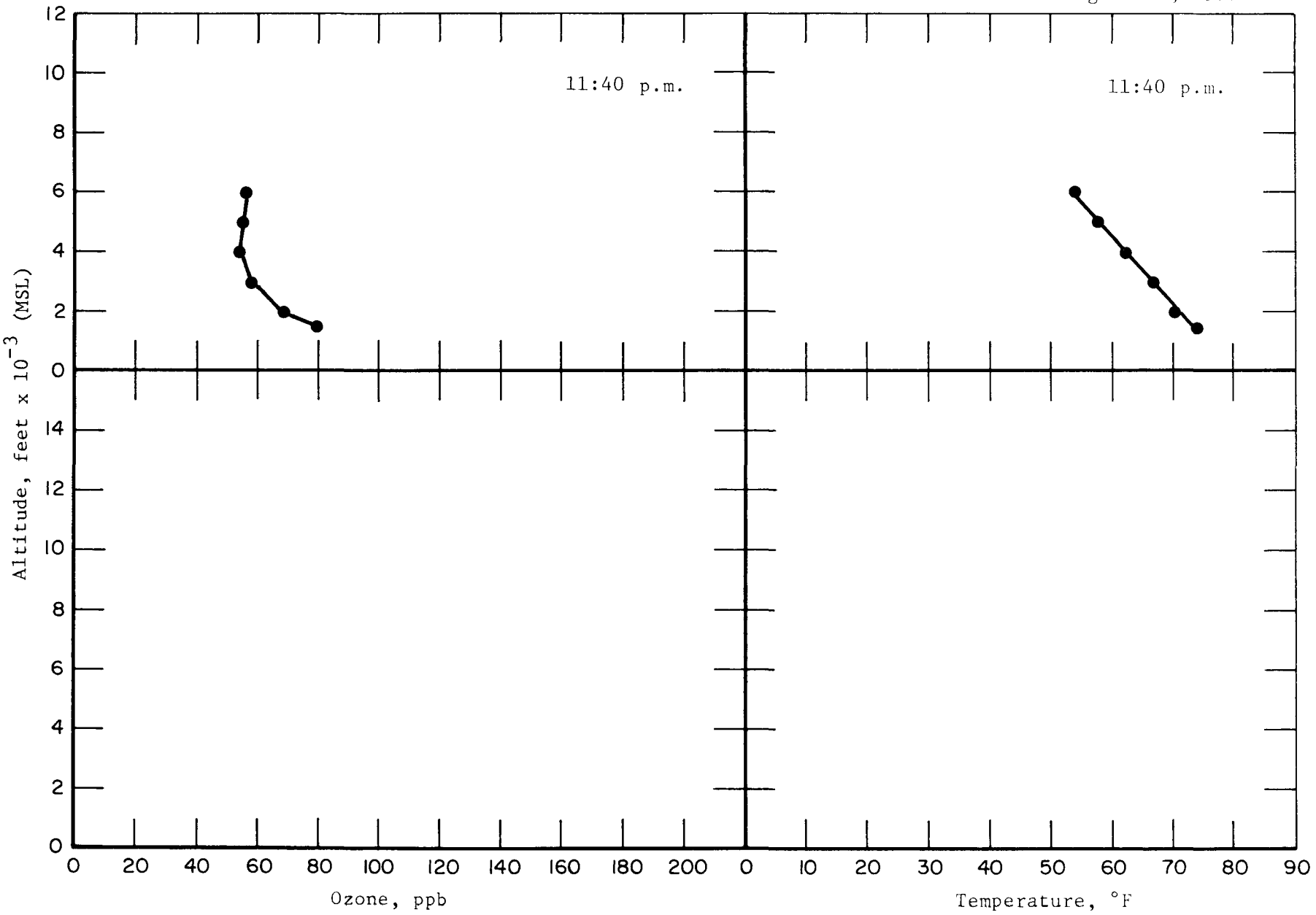


FIGURE 81c. Vertical Profiles August 15, 1975



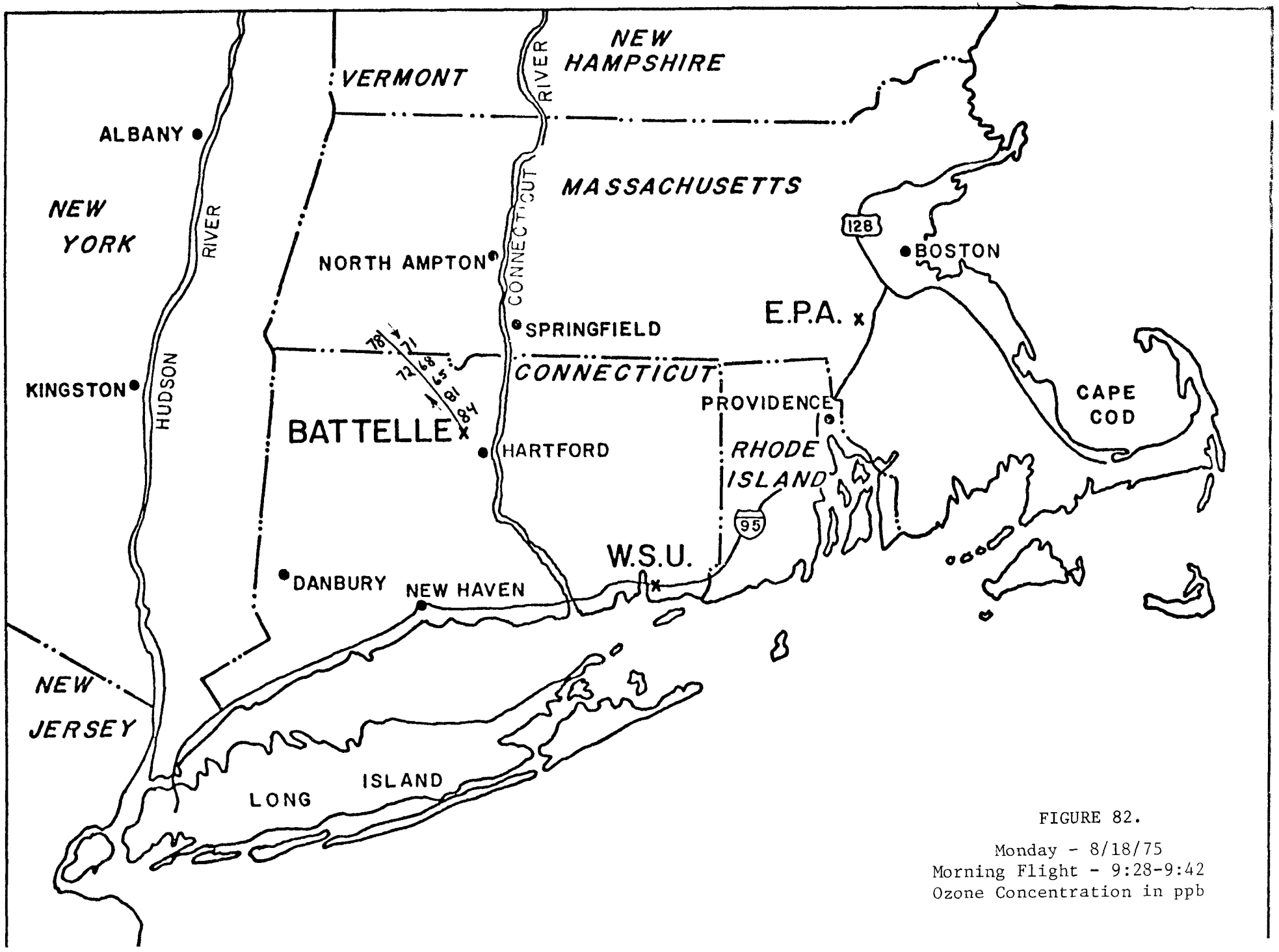



FIGURE 82.

Monday - 8/18/75
Morning Flight - 9:28-9:42
Ozone Concentration in ppb

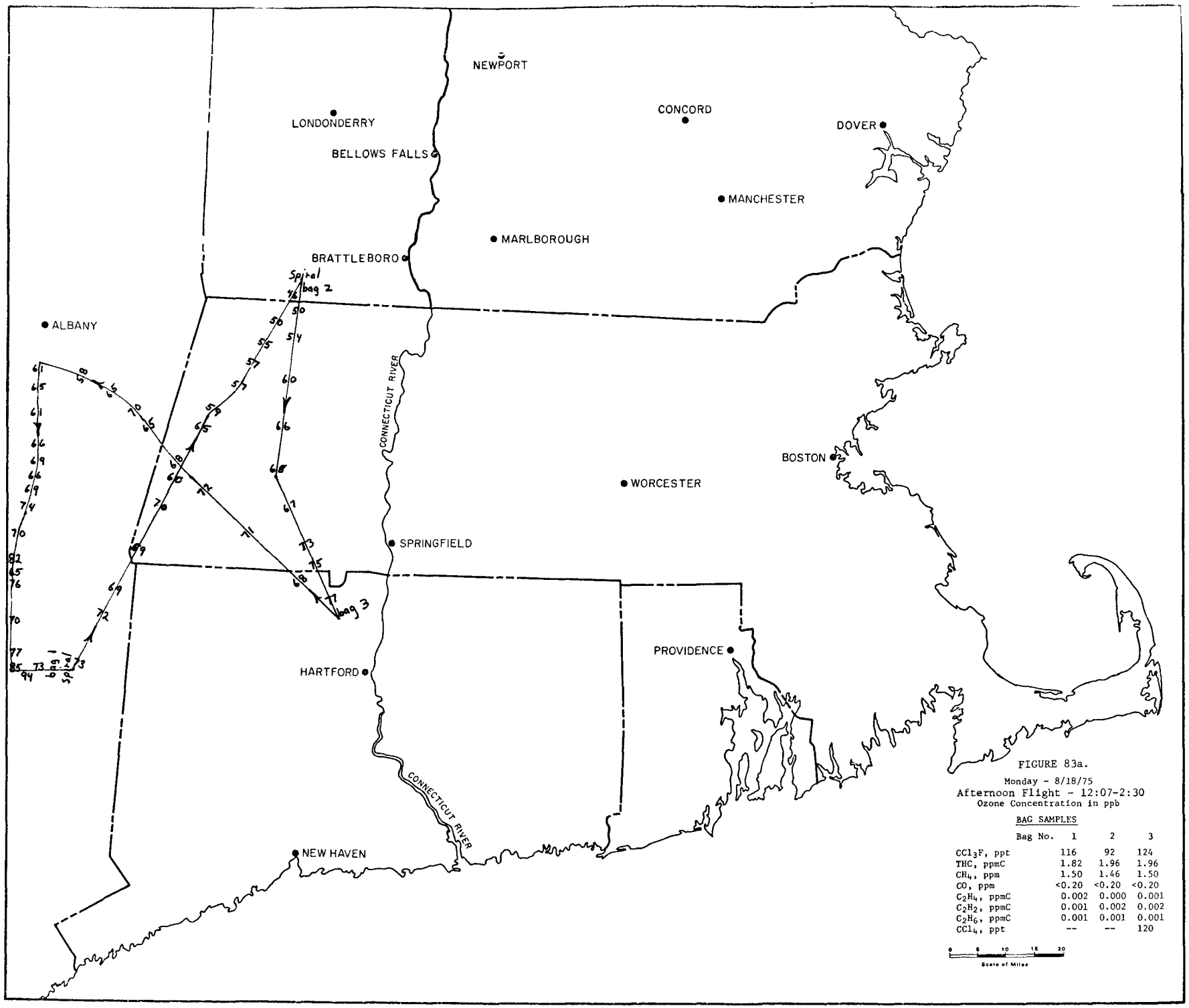



FIGURE 83a.

Monday - 8/18/75

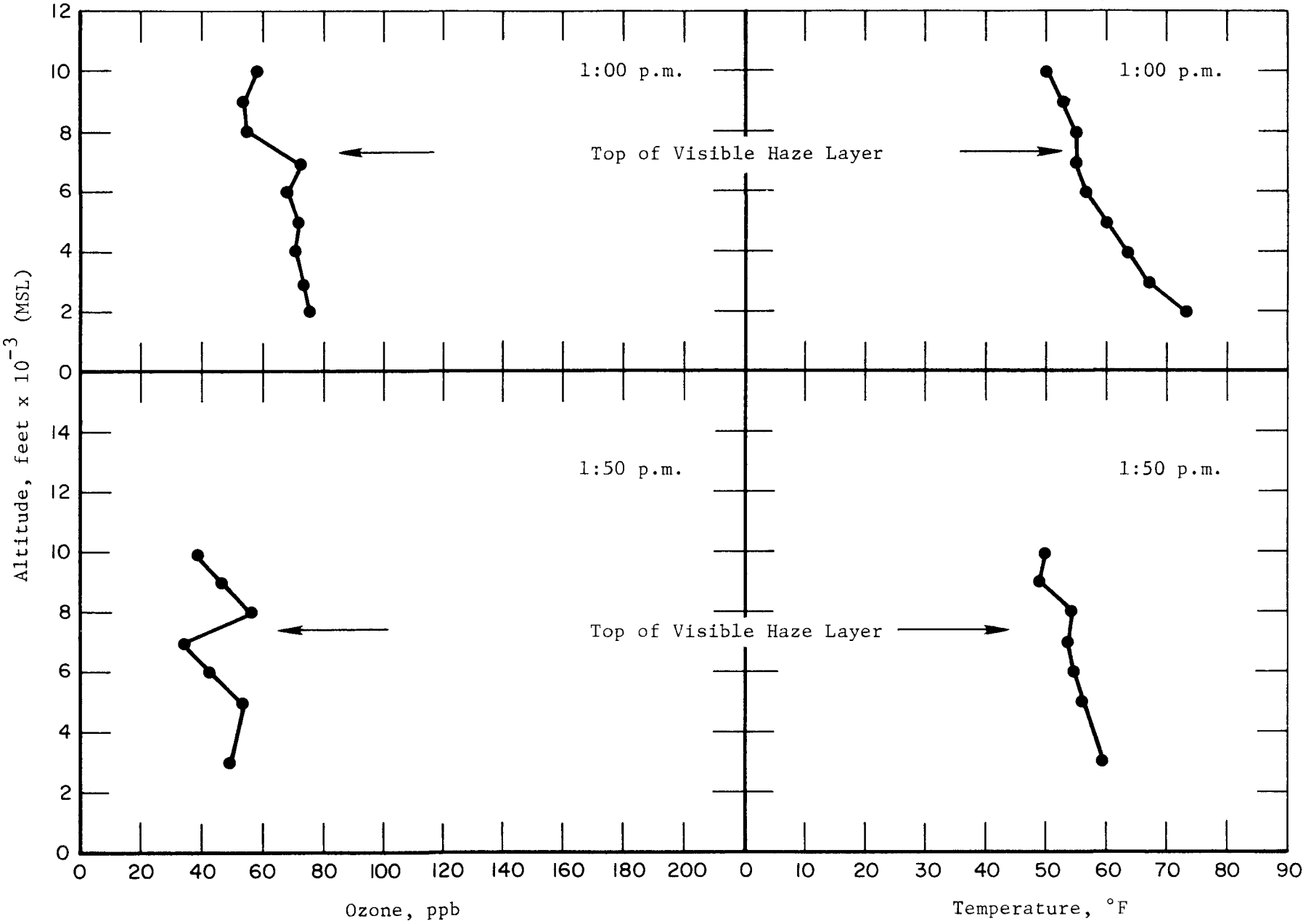
Afternoon Flight - 12:07-2:30

Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 116 | 92 | 124 |
| THC, ppmC | 1.82 | 1.96 | 1.96 |
| $CH_4$, ppm | 1.50 | 1.46 | 1.50 |
| CO, ppm | <0.20 | <0.20 | <0.20 |
| $C_2H_4$, ppmC | 0.002 | 0.000 | 0.001 |
| $C_2H_2$, ppmC | 0.001 | 0.002 | 0.002 |
| $C_2H_6$, ppmC | 0.001 | 0.001 | 0.001 |
| $CCl_4$, ppt | -- | -- | 120 |

FIGURE 83b. Vertical Profiles August 18, 1975



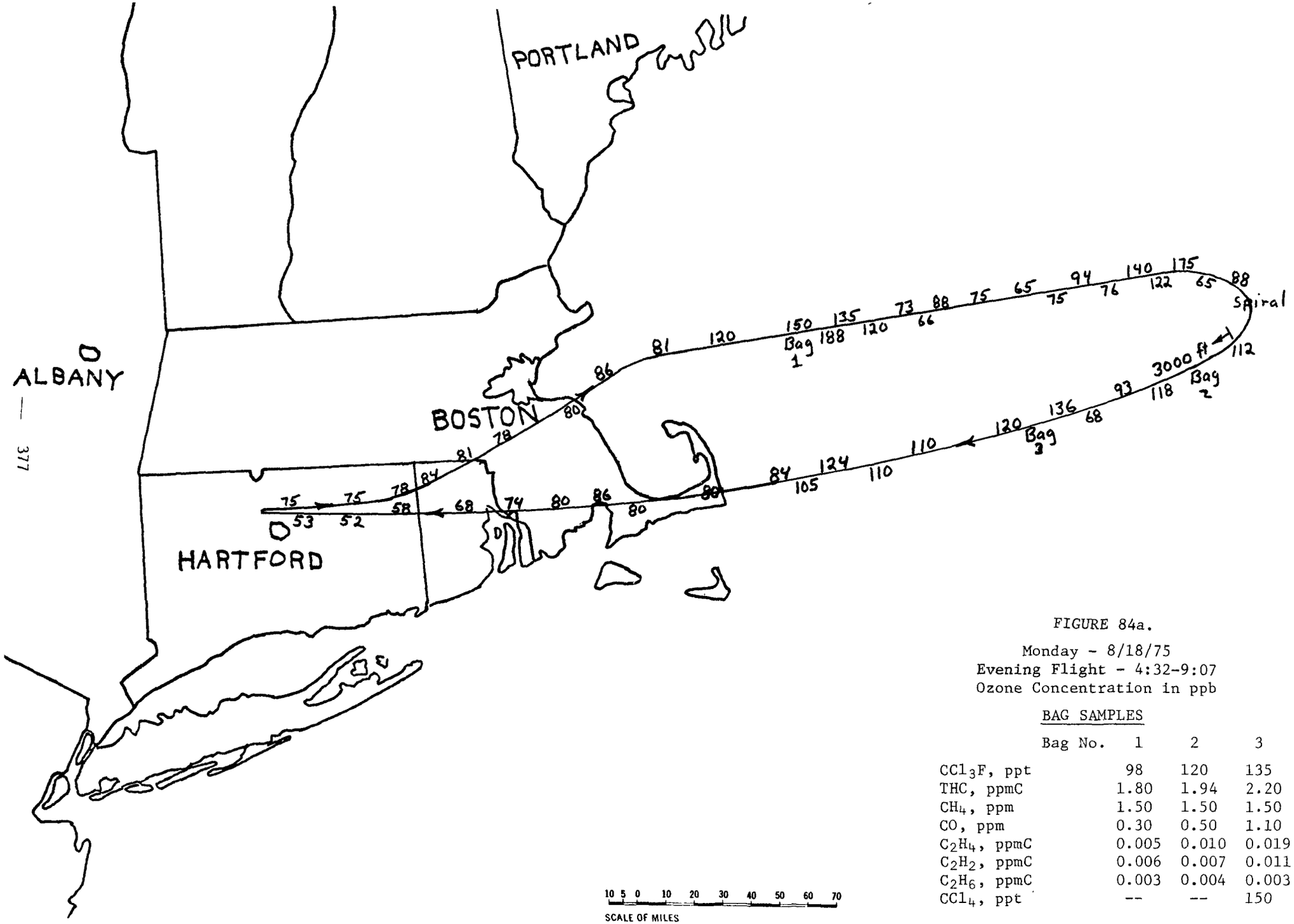


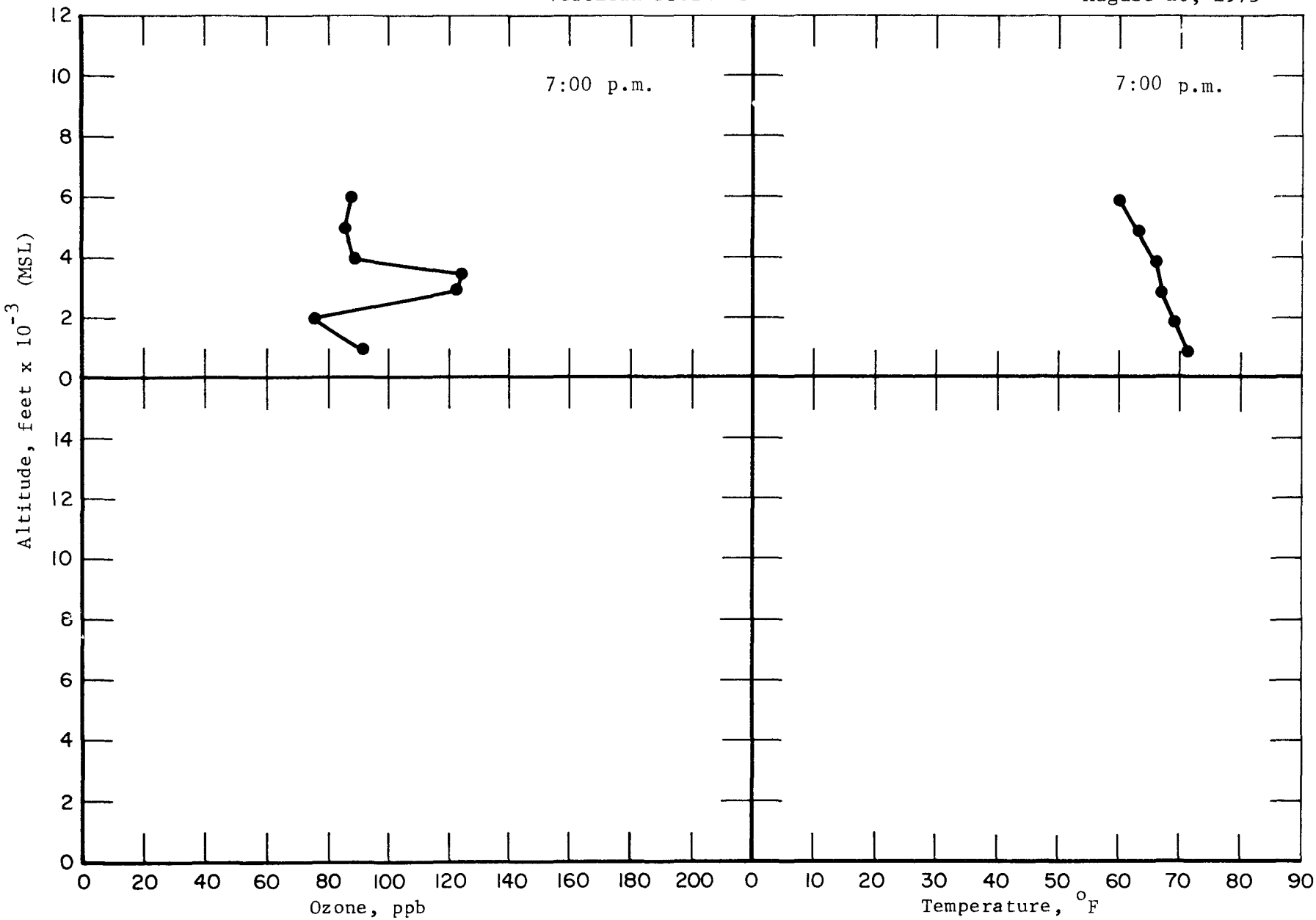

FIGURE 84a.

Monday - 8/18/75
Evening Flight - 4:32-9:07
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 98 | 120 | 135 |
| THC, ppmC | 1.80 | 1.94 | 2.20 |
| $CH_4$, ppm | 1.50 | 1.50 | 1.50 |
| CO, ppm | 0.30 | 0.50 | 1.10 |
| $C_2H_4$, ppmC | 0.005 | 0.010 | 0.019 |
| $C_2H_2$, ppmC | 0.006 | 0.007 | 0.011 |
| $C_2H_6$, ppmC | 0.003 | 0.004 | 0.003 |
| $CCl_4$, ppt | -- | -- | 150 |

FIGURE 84b. Vertical Profiles August 18, 1975



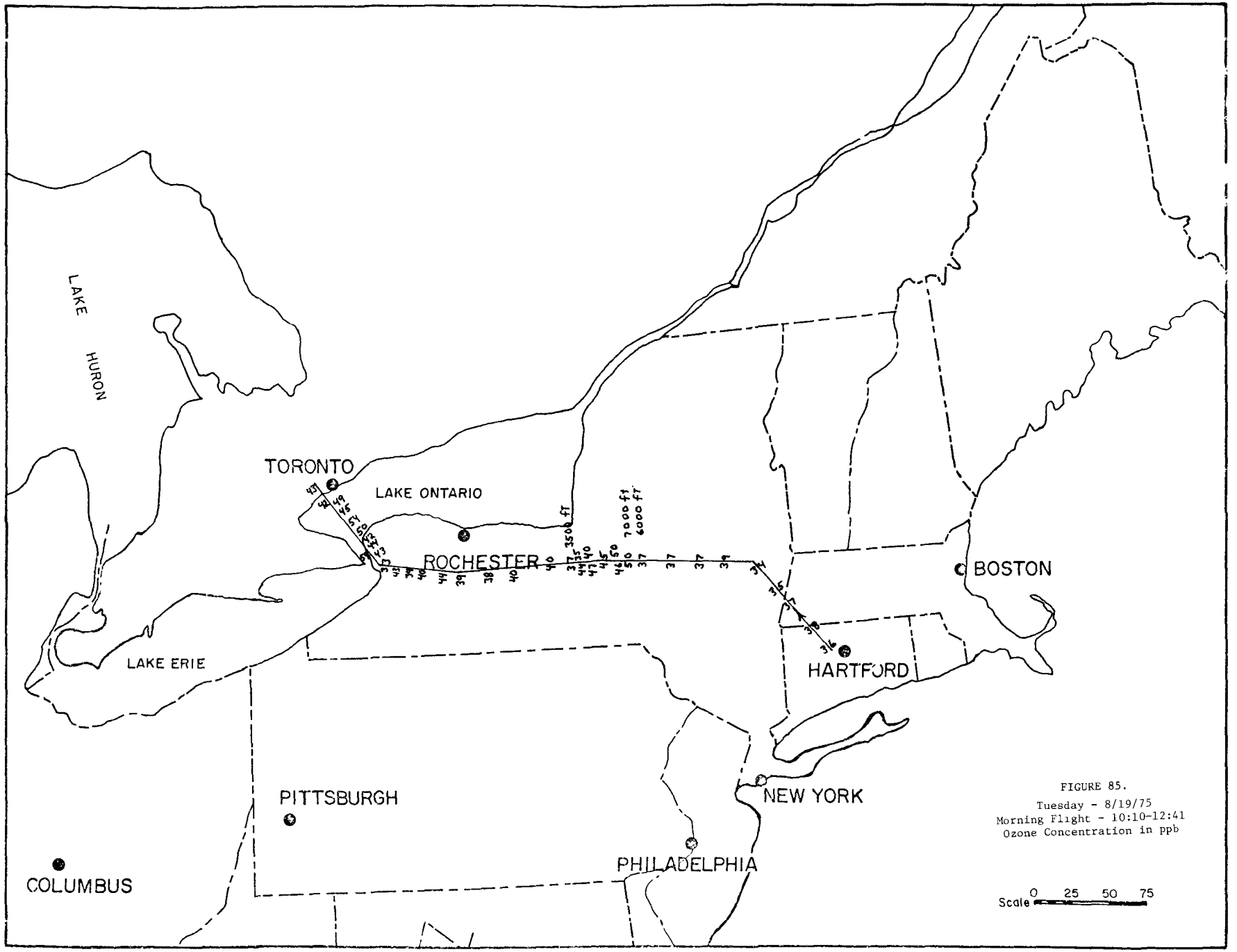



FIGURE 85.
Tuesday - 8/19/75
Morning Flight - 10:10-12:41
Ozone Concentration in ppb

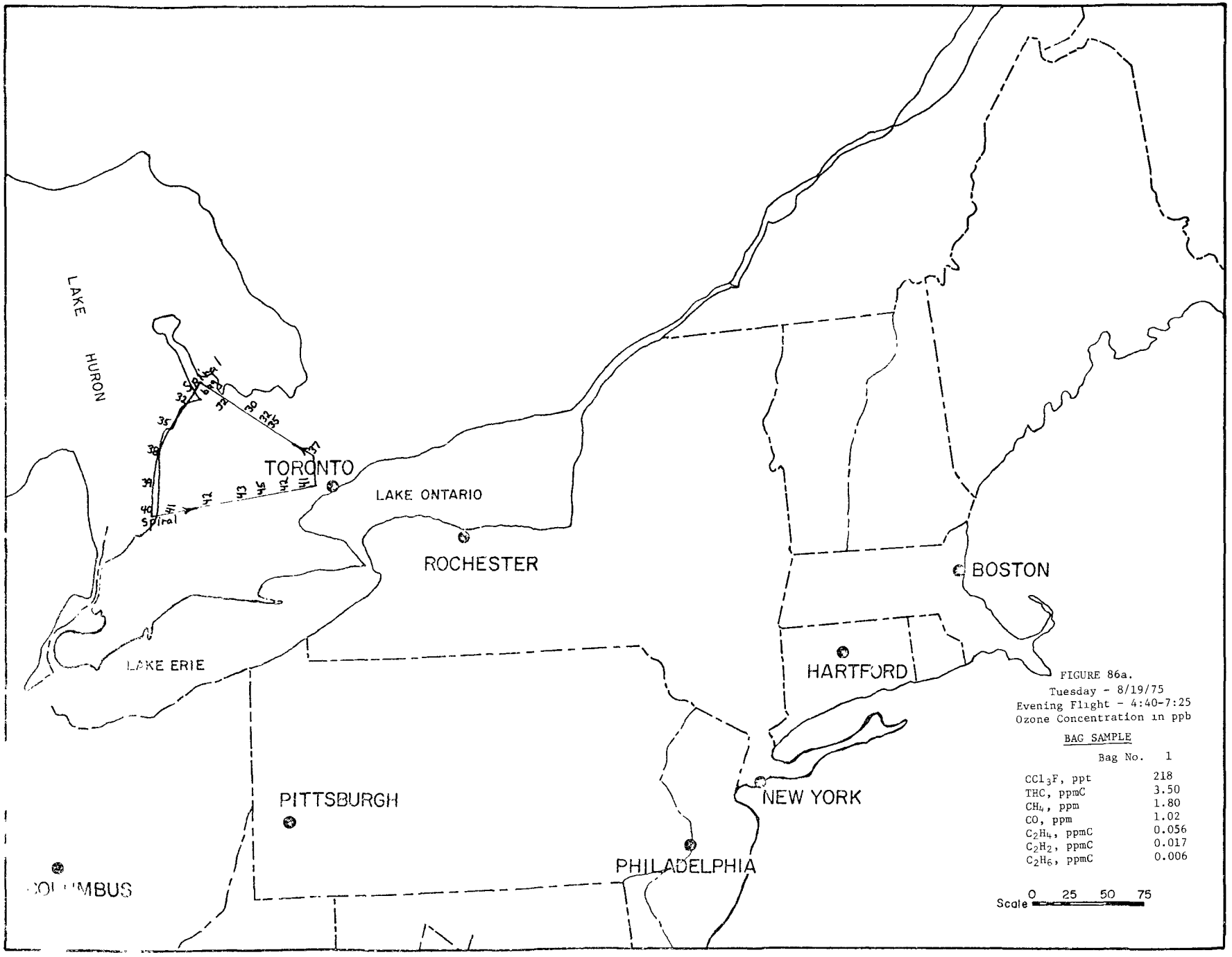



FIGURE 86a.
Tuesday - 8/19/75
Evening Flight - 4:40-7:25
Ozone Concentration in ppb

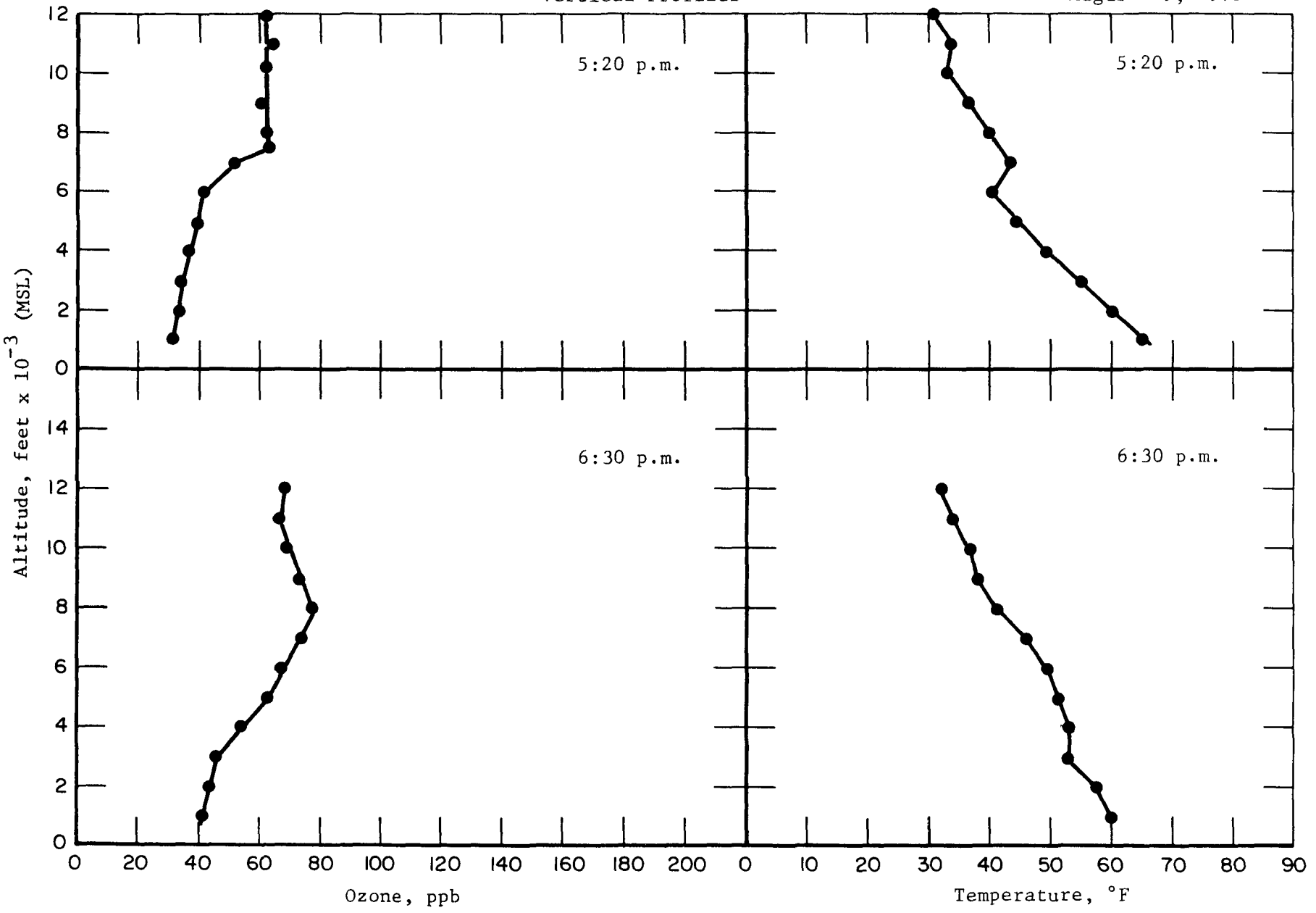
BAG SAMPLE

| Bag No. | 1 |
|---|---|
| $CCl_3F$, ppt | 218 |
| THC, ppmC | 3.50 |
| $CH_4$, ppm | 1.80 |
| CO, ppm | 1.02 |
| $C_2H_4$, ppmC | 0.056 |
| $C_2H_2$, ppmC | 0.017 |
| $C_2H_6$, ppmC | 0.006 |

FIGURE 86b.

Vertical Profiles

August 19, 1975



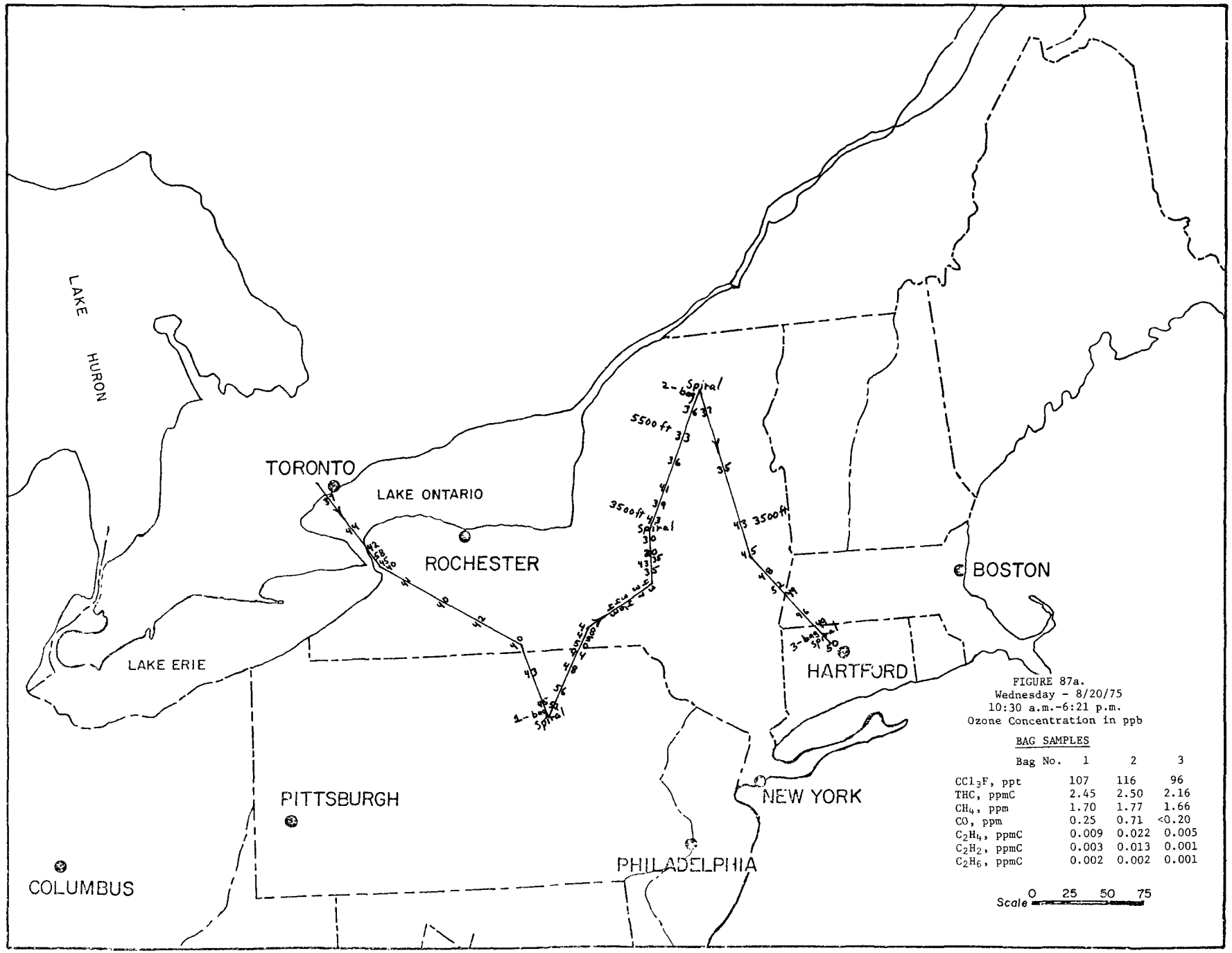



FIGURE 87a.
Wednesday - 8/20/75
10:30 a.m.-6:21 p.m.
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 | 3 |
|---|---|---|---|
| $CCl_3F$, ppt | 107 | 116 | 96 |
| THC, ppmC | 2.45 | 2.50 | 2.16 |
| $CH_4$, ppm | 1.70 | 1.77 | 1.66 |
| CO, ppm | 0.25 | 0.71 | <0.20 |
| $C_2H_4$, ppmC | 0.009 | 0.022 | 0.005 |
| $C_2H_2$, ppmC | 0.003 | 0.013 | 0.001 |
| $C_2H_6$, ppmC | 0.002 | 0.002 | 0.001 |

FIGURE 87b. Vertical Profiles August 20, 1975

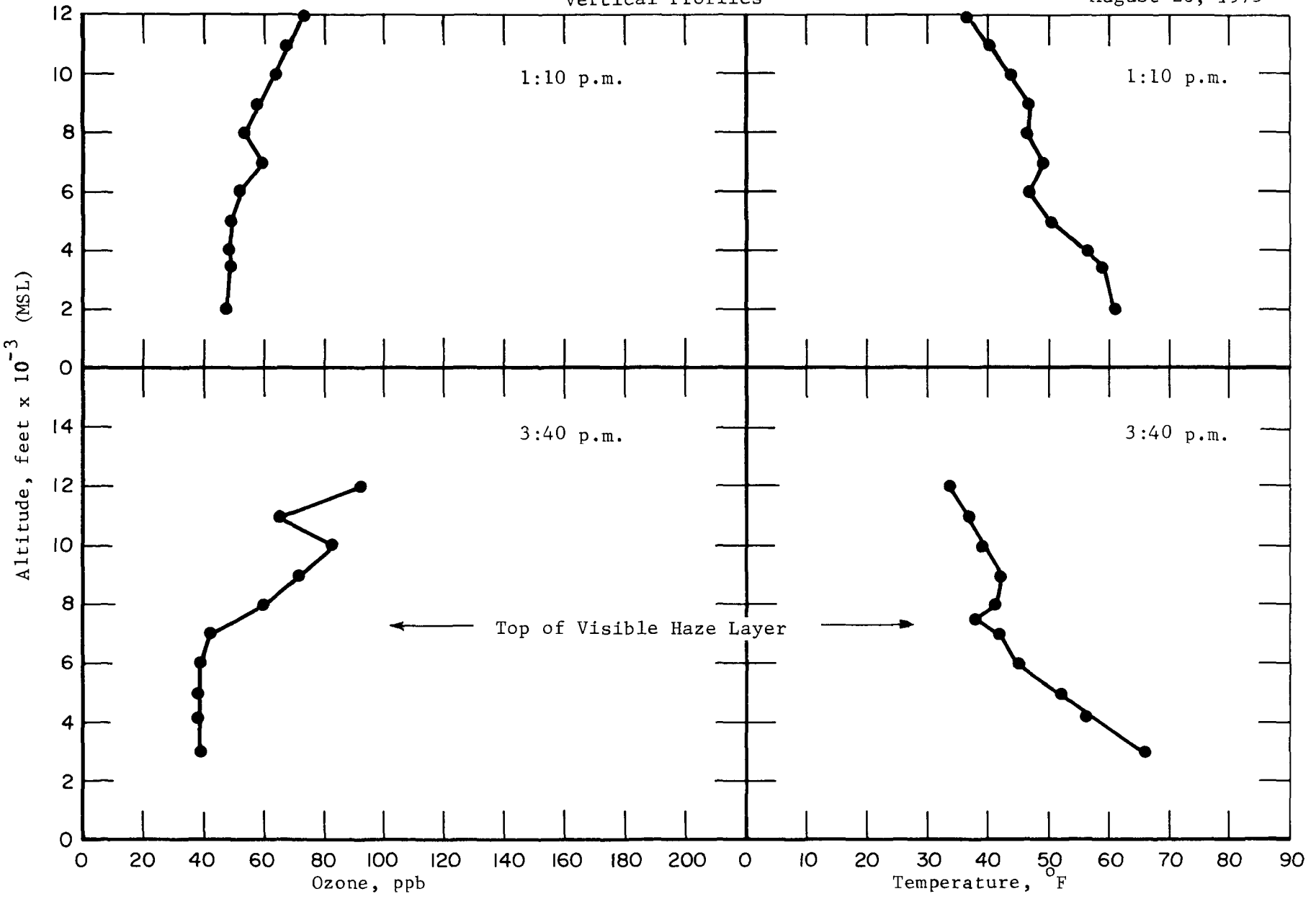
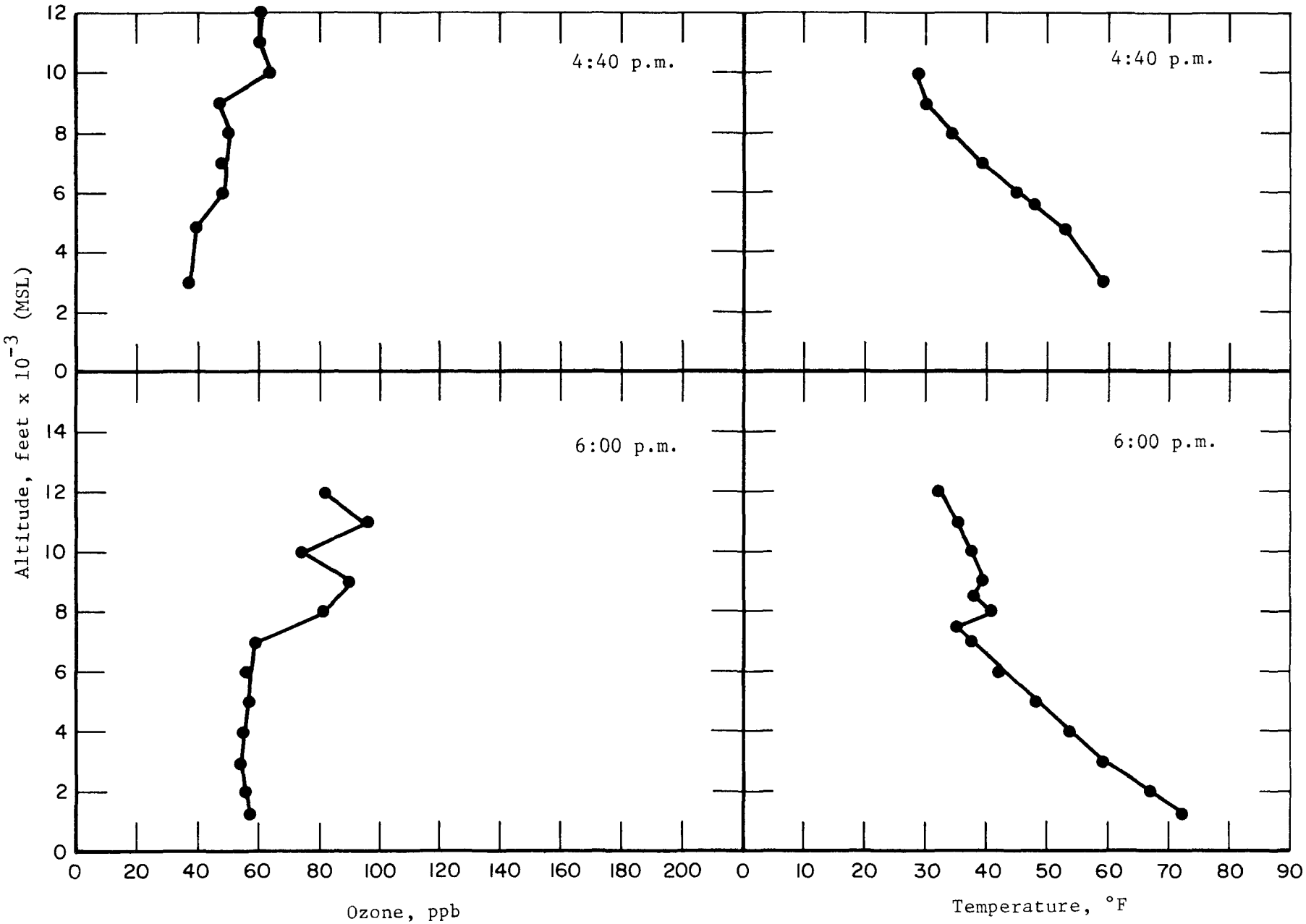


FIGURE 87c. Vertical Profiles August 20, 1975



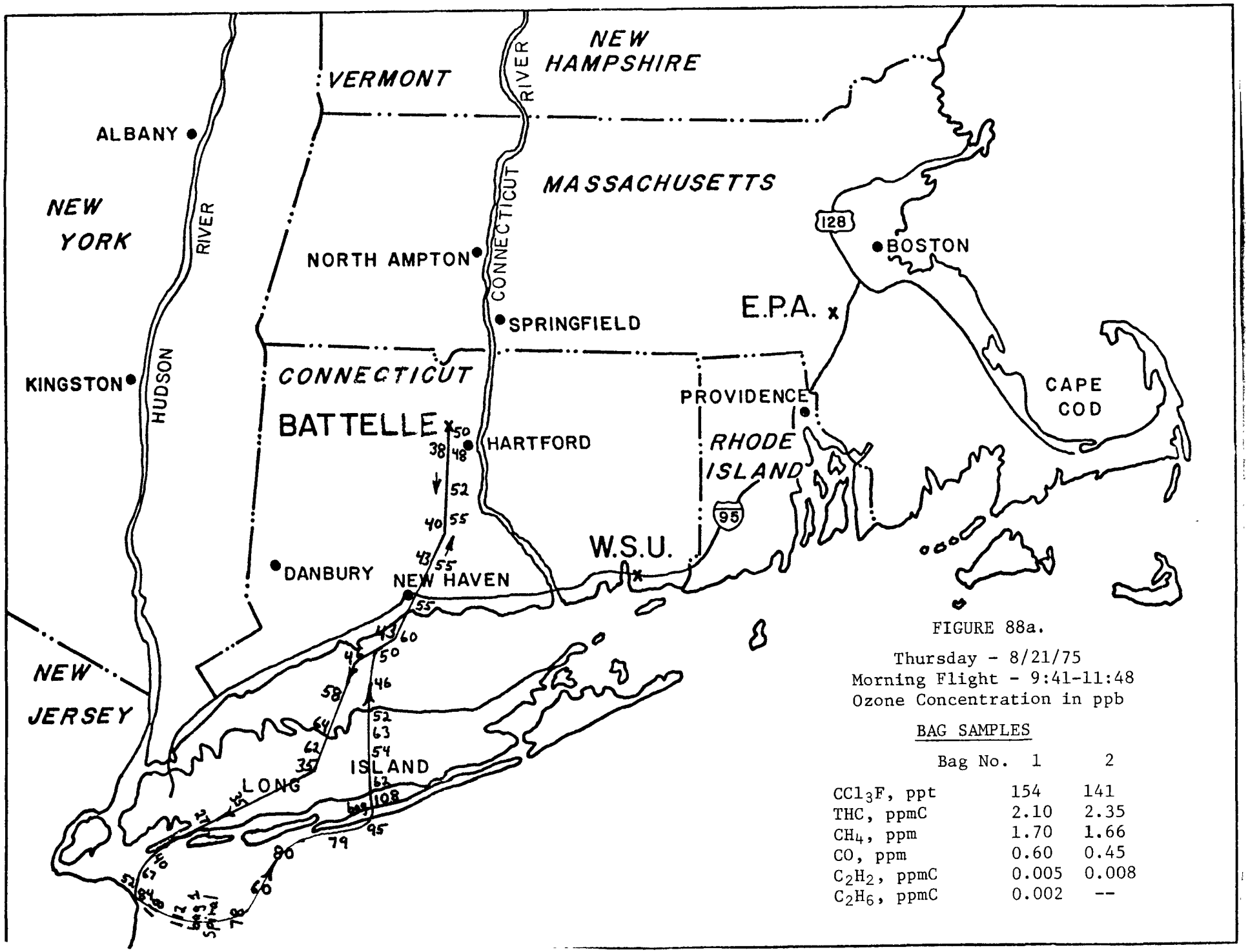


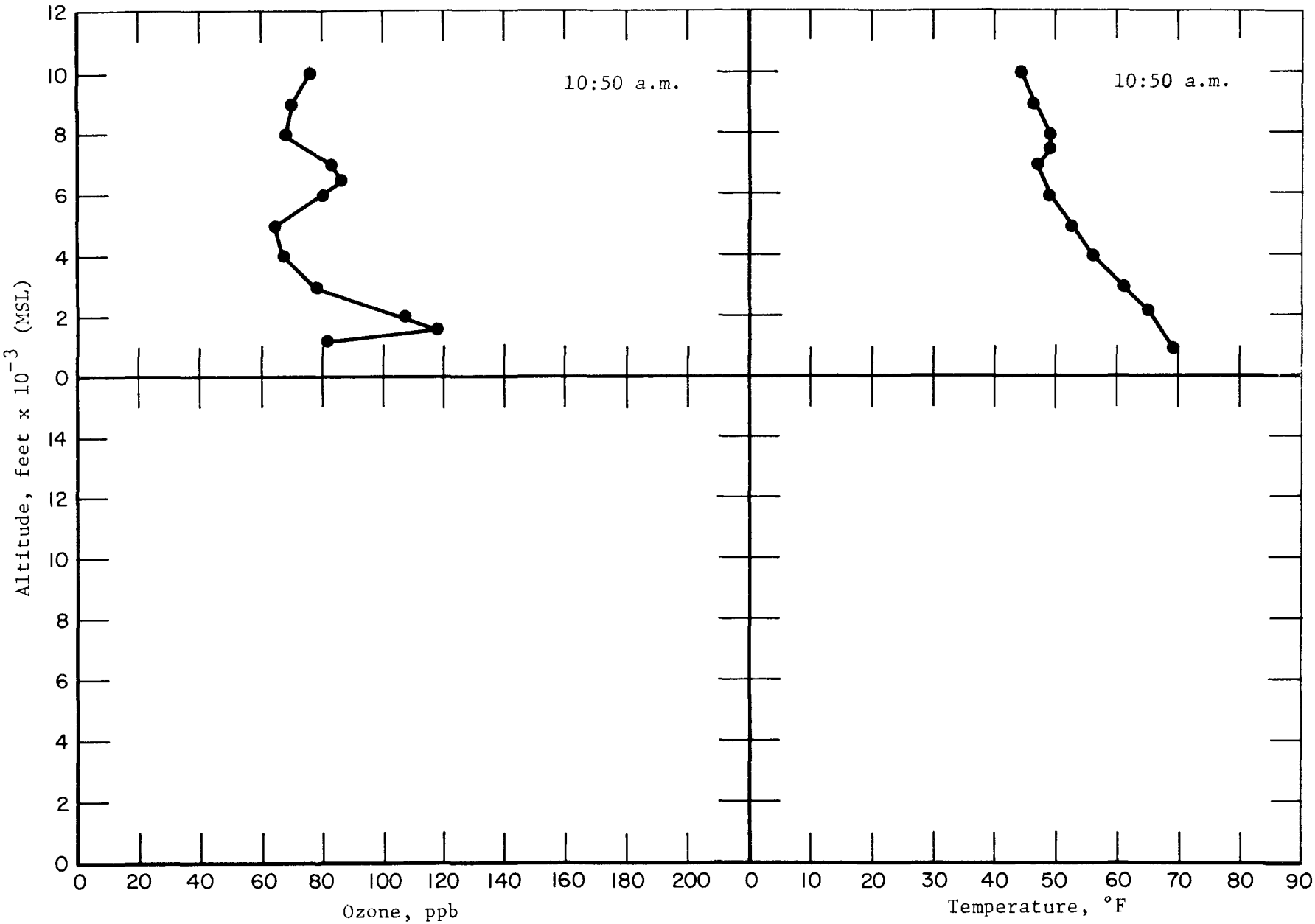

FIGURE 88a.

Thursday - 8/21/75
Morning Flight - 9:41-11:48
Ozone Concentration in ppb

BAG SAMPLES

| Bag No. | 1 | 2 |
|---|---|---|
| $CCl_3F$, ppt | 154 | 141 |
| THC, ppmC | 2.10 | 2.35 |
| $CH_4$, ppm | 1.70 | 1.66 |
| CO, ppm | 0.60 | 0.45 |
| $C_2H_2$, ppmC | 0.005 | 0.008 |
| $C_2H_6$, ppmC | 0.002 | -- |

FIGURE 88b. Vertical Profiles August 21, 1975



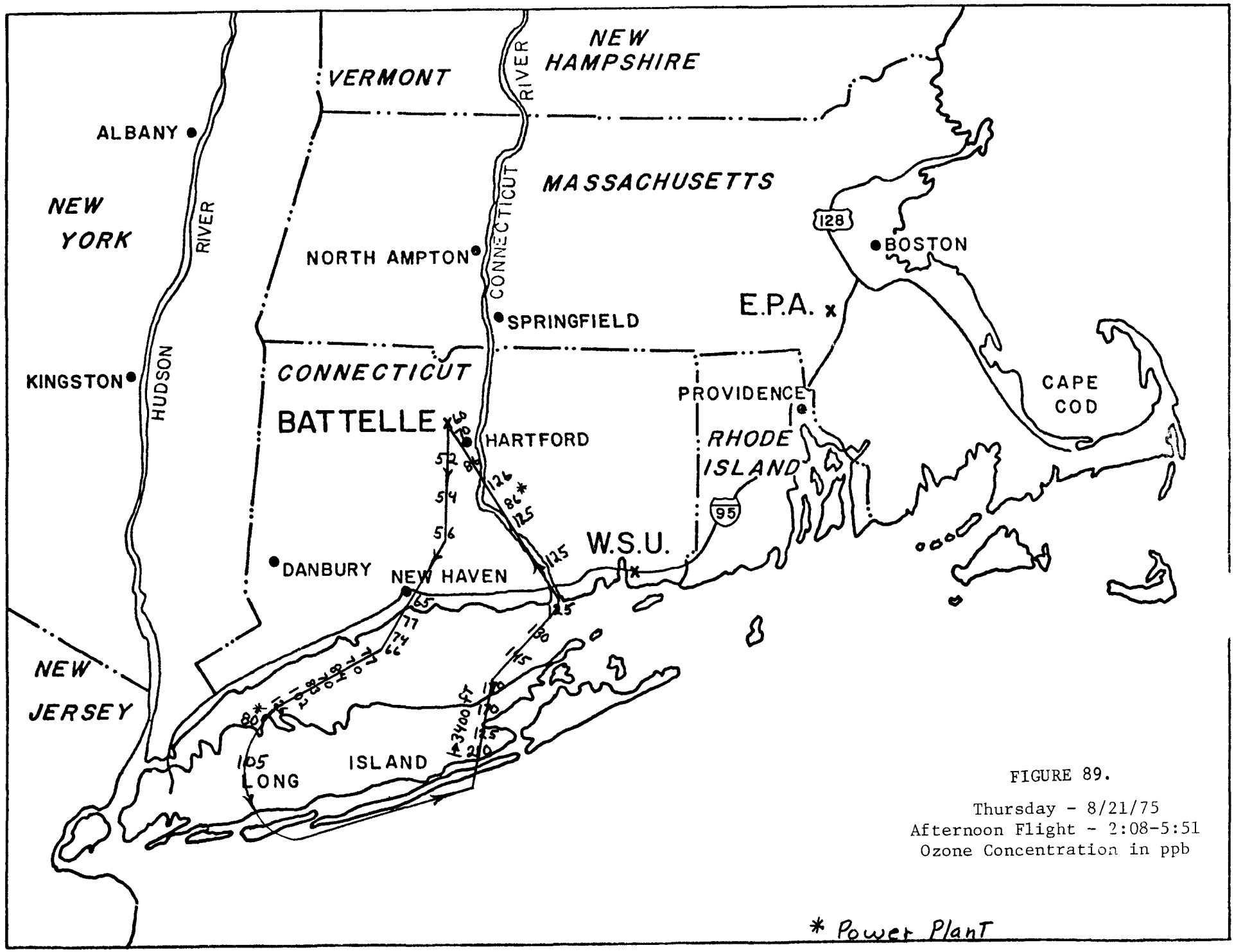



FIGURE 89.

Thursday - 8/21/75
Afternoon Flight - 2:08-5:51
Ozone Concentration in ppb

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16. ABSTRACT

A study of oxidant transport was conducted in New England over a 6-week period, from July 15 to August 21, 1975. A well equipped mobile laboratory was set up at a rural Connecticut airport and a long-range, [illegible] was outfitted for wide area and vertical aerial sampling. The mobile laboratory was equipped to continuously monitor $O_3$, NO, $NO_2$, $NO_x$, $CH_4$, $C_2H_4$, $C_2H_6$, $C_3H_8$, non-methane hydrocarbon, fluorocarbon 11 ($CFCl_3$), $CCl_4$, $SO_2$, temperature, [illegible] intensity, relative humidity, wind speed, wind direction, and barometric pressure. The airplane was outfitted to continuously monitor ozone, nitric oxide, and temperature and to collect air samples [illegible]. The bag samples were analyzed for Fluorocarbon 11 ($CFCl_3$), $CH_4$, NMHC, [illegible], $C_2H_6$, and $CCl_4$. Forty-four monitoring flights were conducted during the field study; each flight averaged approximately 3 hours and covered [illegible] 400-500 miles. Flights were also made to Chile, Canada, and 250 miles out over the ocean. The experimental methods used during the study are described and the compiled data are presented.

17. KEY WORDS AND DOCUMENT ANALYSIS

| a. DESCRIPTORS | b. IDENTIFIERS/OPEN ENDED TERMS | c. COSATI Field/Group |
|---|---|---|
| * Air pollution | New England | [illegible] |
| * Ozone | | [illegible] |
| * Transport properties | | [illegible] |
| Chemical analysis | | [illegible] |
| Field tests | | [illegible] |
| Airplanes | | [illegible] |

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