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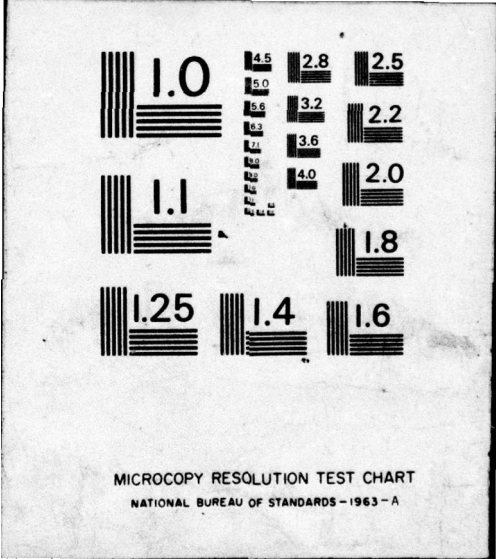
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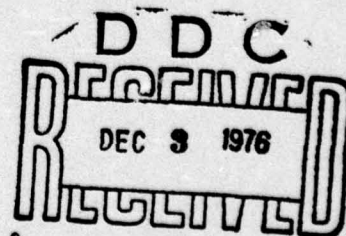
AIR QUALITY ASSESSMENT MODEL (AQAM) DATA REDUCTION AND OPERATIONS GUIDE

October 1976

Final Report

Approved for public release; distribution unlimited.

AIR FORCE WEAPONS LABORATORY
Air Force Systems Command
Kirtland Air Force Base, NM 87117



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This final report was prepared for the Air Force Weapons Laboratory, Kirtland AFB, NM, under Job Order 21035A20. Mr. David F. Menicucci (ADS) was the Laboratory Project Officer-in-Charge.

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SUMMARY

The USAF, in a contractual effort with Argonne National Laboratories (ANL), has developed a computerized Air Quality Assessment Model (AQAM). This model is used to assess the impact of USAF operations on the air quality. The original operator's guide, AFWL-TR-74-54, was written by ANL to describe the methods of operating, coding, and punching computer data decks to be input to the AQAM.

This present guide was prepared by the Air Force and supersedes all editions of the previous report; this guide also reflects the refinements made during the first year of applying the AQAM.

PREFACE

This user's guide is closely related to two other Air Force Weapons Laboratory (AFWL) technical reports.

* *A013 773* 1. AFWL-TR-75-220, Air Quality Assessment Model (AQAM) Field Data Collection Guide.

A006 807 2. AFWL-TR-74-304, A Generalized Air Quality Assessment Model for Air Force Operations.

* AFWL-TR-75-220 defines the methods for collecting and reducing emission input data. The mathematical theory of the model is described in AFWL-TR-74-304. This report, AFWL-TR-75-307, describes the operation of the AQAM and a method for punching the reduced emission input data into a formatted computer card deck for input to the model. These three reports encompass all necessary information for understanding and utilizing the AQAM.

The following are other related published or planned reports:

A001 826 AFWL-TR-74-279 outlines the techniques used to develop takeoff length equations and climbout angles for most USAF aircraft.

A006 239 AFWL-TR-74-303 presents aircraft pollution emission data and landing and takeoff cycle times for Air Force aircraft in use.

NR AFWL-TR-76-68 describes the structure and operation of a computerized routine used to detect and document errors in the AQAM input data decks.

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A description of the mechanics of the AQAM computer codes will be published in FY76 by the Argonne National Laboratories.

An unpublished letter report by the University of New Mexico Civil Engineering Research Facility (CERF) describes the methods to develop a computerized contouring code to be used with the AQAM. This report, is entitled Development of a Contouring Capability to Display Results of the Air Quality Assessment Model.

The author recognizes the efforts of Mr. Ronald DiNello (AFWL/ADS), Lieutenant John Manfredi (AFWL/WE), Ms. Lynn Wright (OL-AA, AFCEC), and Captains Dennis Naugle and Bradford Grems (AFCEC/EV) for their editorial comments, suggestions, and assistance in assembling this report. To the above personnel, the author is most grateful.

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SECTION I

INTRODUCTION

The USAF in a contractual effort with Argonne National Laboratories has developed a computerized model for assessing the impact of airbase and aircraft operations on the ambient air. This Air Quality Assessment Model (AQAM) is used by Air Force personnel to help formulate environmental impact statements and to help quantify the extent to which airbase operations affect the air quality in the regions surrounding airbase installations.

The purpose of this guide is to describe, in detail, the methods of operating the AQAM and coding and punching raw airbase data into properly structured input data decks.

Three separate input card decks are required for full AQAM operation. The first contains data for the source inventory program, and the other two are used for the short-term and long-term dispersion programs. Each data deck is made up of a group of data sets. The data punched within each data set is very specific and highly structured. The methods for the creation of these input data decks are fully documented in this guide.

This guide is a companion report to AFWL-TR-74-304, A Generalized Air Quality Assessment Model for Air Force Operations, which describes the mathematical basis for the model, and AFWL-TR-75-220, Air Quality Assessment Model Field Data Collection Guide, which describes a method for collecting raw airbase data. This report makes no attempts to describe either the mathematical theory of the model or the methods of field data collection on airbases. It does, however, assume that the user is acquainted with both subjects. Therefore, it is important that this guide is used in conjunction with both reports.

SECTION II

GENERAL OPERATING INSTRUCTIONS

The AQAM is made up of three separate codes: the source inventory code; the short-term dispersion code; and the long-term dispersion code. The long-term dispersion code utilizes a meteorological data tape which is created from a code operated by the Air Force Environmental Technical Application Center (ETAC). The structure of this tape is described in appendix H. The short-term and long-term dispersion programs are designed to produce files which are compatible with computerized routines which create contour plots of the results and statistically analyze the data.

The source inventory code must be run successfully before the dispersion codes can be used. This program computes the total annual emissions for several source categories at a given airbase. This information, along with all source geometries and dispersion parameters, is printed on the line printer and written on a disk or magnetic tape file. This file is defined in the source inventory code as Logical Unit 21. It is usually written to a temporary file storage device until a sufficient number of runs have been made and the user is confident that all computations are correct. At this point the source inventory code is rerun to create a permanent source emission data base for the airbase from which the data were collected. This permanent file is then used as a source inventory data base by both the short-term and long-term dispersion codes in the calculation of average concentrations on or around this airbase. This file is defined as Logical Unit 21 in both dispersion codes and must be included for each dispersion run.

The dispersion programs require detailed meteorological information for the period being modelled. The meteorological conditions for the short-term calculations are punched on formatted cards and are placed within the short-term card input deck. The long-term calculations, however, require climatological data which statistically represent the airbase under study. These data are coded on a magnetic tape by the Air Force Environmental Technical Application Center (ETAC) (see appendix H). It is read by the long-term model during the initial stages of execution and is defined as Logical Unit 10.

The average execution time for the source inventory code is less than 3 cp seconds (on a CDC 7600) and operates in less than 130K octal words of core. The long-term and short-term codes, however, have extremely variable running times which range from 30 seconds to 3 hours cp time (on a CDC 7600) and require up to 140K octal words of core. This time varies with the complexity of the input data and the total number of airbase locations for which predictions are calculated. The long-term code is provided with a restart capability. Information is written to Logical Unit 11 (tape or disk file) during execution. If the program abnormally terminates, by a time limit error or previously arranged operation intervention, information is printed on the line printer which informs the user of what values he must punch on an input card to start the long-term from that point in execution at some later date. The restart file (Logical Unit 11) contains the necessary information to resume execution and must be included to restart the job.

Generally, no knowledge of the AQAM codes is necessary for coding and punching input data. However, some users may wish to utilize the AQAM code to clarify the input procedure or to verify the operation of the code or the accuracy of this guide. As an aid to these persons, lists are included in appendix G which document the location and definitions of all input variable names defined throughout the AQAM codes.

Both the short-term and long-term codes write output data to a file in a format specified in appendix F. These data are provided for use later in plotting or analyzing results. The logical unit number for this file is 15. In addition, both codes have an input option that will allow information to be written to a file (Logical Unit 25) in a format which is compatible with a computerized routine which statistically analyzes the results. The option also allows the punching of computer cards which can be used by the SYMAP mapping program. SYMAP is run in conjunction with the statistical program. Information concerning the use of this statistical routine can be found in a report published by the Argonne National Laboratories in June 1975, entitled A Statistical Program for the Analysis of Air Quality Computations and Measurements.

SECTION III

USER PREPARATION

Prior to punching an AQAM input data deck, a user must prepare a clear mylar grid overlay for use with a large-scale map of the airbase under study. Additionally, he should read AFWL-TR-76-68, A Computerized Edit Program for the Air Quality Assessment Model (AQAM); AFWL-TR-74-304, A Generalized Air Quality Assessment Model for Air Force Operations; and AFWL-TR-75-220, Air Quality Assessment Model (AQAM) Field Data Collection Guide. AFWL-TR-75-220 is under revision at the Air Force Civil Engineering Center (AFCEC) and will be republished as an AFCEC technical report in FY77.

The base map should be in a large scale since it will be used to identify the location of the emission sources on the airbase. The overlay should be marked with a grid coordinate system in the same scale as the map. The grid should be calibrated in kilometers and have an origin in the lower left-hand corner with the values along the X axis increasing to the right and the values on the Y axis increasing to the top. The grid is overlaid on the map so that all airbase and aircraft sources to be defined are within the positive quadrant of the grid and so that the Y axis will be parallel with the "true north" arrow on the map. The map and grid are then used to define the location of each source on the airbase with a set of X and Y coordinates.

The AQAM input data decks are usually very large. As a result, manual editing is tedious and time consuming and is not sufficient for removing all errors. These errors cause abnormal termination of the AQAM in the final stages of execution. AFWL-TR-76-68 describes the development, structure, and operation of a computerized routine which can detect and document errors in the AQAM input data. This routine operates in a small fraction of the time and core required by the AQAM, and its operation can result in significant savings in manpower and computer time.

AFWL-TR-74-304 is needed to define and describe the mathematical basis of various input parameters and terms. AFWL-TR-75-220 describes the collection and reduction of raw field data. This user's guide along with these two reports have been designed and written for concurrent use. It is important that the user is familiar with the above reports before attempting to code and punch input data for the AQAM.

SECTION IV

SOURCE INVENTORY INPUT DATA

Input data to the source inventory program consist of data sets which contain formatted and free-format card input. Each data set is numbered consecutively and is listed in table 1. The only data set which allows free-format input is the second, NAMELIST. The NAMELIST input allows the user the capability of changing various parameters within the source inventory without actually altering the code. The formatted cards are used to define aircraft, airbase, and environ operational data. Default values are provided for certain parameters in some of the input data sets. A default value is a value that is automatically utilized in the AQAM calculations if a specified set of card columns are left blank. If these columns are punched, however, the value punched will be used in the calculations. The parameters for which there are available defaults are explicitly stated throughout the manual. If there is no mention of a default, it can be assumed that defaults are not available for this input parameter.

Each aircraft, airbase, and environ source is identified by a number chosen by the user. The identifiers for the aircraft sources are two-digit numbers determined arbitrarily. The identifiers for the airbase and environ sources are four-digit numbers which are also determined by the user but which are unique among all other airbase or environ source identifications. A suggested numbering scheme can be found in table 23.

All data sets in AQAM input are preceded by a card which identifies the particular set of data which will follow. The rules for punching this card are defined in appendix E.

SOURCE INVENTORY DATA SET 1 - TITLE INFORMATION AND DESCRIPTION OF AIRBASE SOURCES AND LOCATIONS

This data set provides data to be used for labeling the source inventory output in large block letters and for describing the airbase sources and their grid locations. The labeling consists of four lines of block letters and approximately 1-inch high. The label is centered horizontally or vertically on the paper. The character set is made up of alphanumeric characters and a blank. The first two lines are used by the program to print the words AQAM SOURCE and INVENTORY. The next two lines consist of characters specified in cards one and two of this data set. Cards three through six are used to describe the airbase sources and to define the source locations in degrees of latitude and longitude as well as coordinates in the Universal Transverse Mercator (UTM) system.

CARD NUMBER 1

FORMAT(12A1)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|--|
| 1-12 | - | Characters to appear in the third line of the Block Letter title. Characters start in col 1 (maximum of 12). |

CARD NUMBER 2

FORMAT(12A1)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|---|
| 1-12 | - | Characters to appear in the fourth line of the Block Letter title. Characters start in col 1 (maximum of 12). |

CARD NUMBER 3

FORMAT(I4)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|--|
| 1-4 | - | Total number of grid origin locations to be described. |

NOTE: If this value is zero, skip to Card Number 5.

CARD NUMBER 4

FORMAT(6A6,2(2I4,F6.3),2F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-36 | - | Description of grid origin location. |
| 37-40 | degrees | Degrees of latitude for this source. |
| 41-44 | minutes | Minutes of latitude for this source. |
| 45-50 | seconds | Seconds of latitude for this source. |
| 51-54 | degrees | Degrees of longitude for this source. |
| 55-58 | minutes | Minutes of longitude for this source. |
| 59-64 | seconds | Seconds of longitude for this source. |
| 65-72 | kilometers | Coordinate of UTM Northing for this source. |
| 73-80 | kilometers | Coordinate of UTM Easting for this source. |

CARD 4 IS REPEATED FOR EACH GRID ORIGIN LOCATION TO BE DESCRIBED AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 3, DATA SET 1.

CARD NUMBER 5

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of airbase sources to be described. |

NOTE: If this value is zero, skip to Data Set 2.

CARD NUMBER 6

FORMAT(I4,A10,2X,8A8)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number for this airbase source. |
| 5-14 | - | Identification of this airbase source (name or number). |
| 17-80 | - | Verbal description of this airbase source. |

THIS CARD IS REPEATED FOR EACH AIRBASE SOURCE TO BE DESCRIBED AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 5, DATA SET 1.

SOURCE INVENTORY DATA SET 2 - NAMELIST DATA (EGDATA, ACDATA, SEDATA)

The NAMELIST input consists of three NAMELIST group entries. Each group entry is named and allows the user to change internally programmed data values without permanently altering the computer code.

Each NAMELIST group entry, its associated variable names, and corresponding definitions are listed in table 2. These values have been programmed into the AQAM code and, unless reassigned, they will be used in all calculations of aircraft emissions. If the user feels that his data are more accurate than those programmed, he may reassign these values by using the NAMELIST input data set (see appendix A). The user has the option in this data set to change as many default values as is necessary. However, even if no variable names are entered, each of the three NAMELIST groups must be included as part of the input data. In this case, each group would contain a null set of reassignments.

SOURCE INVENTORY DATA SET 3 - METEOROLOGICAL DATA

Meteorological conditions for the airbase under study are required for use in the computation of certain aircraft landing and takeoff parameters (see table 22) in the calculation of hydrocarbon working and breathing loss emissions from enclosures containing petroleum fuels.

CARD NUMBER 1

FORMAT(5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--------------------------------------|
| 1-8 | degrees F | Average annual temperature. |
| 9-16 | - | Annual degree days. |
| 17-24 | hundred ft | Pressure altitude. |
| 25-32 | m/sec | Annual average wind speed. |
| 33-40 | degrees F | Daily average temperature variation. |

SOURCE INVENTORY DATA SET 4 - AIRBASE AIRCRAFT AND RUNWAY TOTALS

The information coded in this data set defines the total number of aircraft, runways, parking areas, special cases, and taxiway segments used at this particular airbase. These totals are used to determine the total number of cards to be input in Data Sets 6 through 9.

This data set must be present for every source inventory run.

CARD NUMBER 1

FORMAT(5I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 4 | - | Total number of aircraft types (maximum of 8, minimum of 1). |
| 8 | - | Total number of runways used (maximum of 6, minimum of 1). |
| 12 | - | Total number of parking areas (maximum of 6, minimum of 1). |
| 16 | - | Total number of special case wind conditions (see appendix C) (maximum of 3, minimum of 0). |
| 19-20 | - | Total number of taxiway path segments* (maximum of 25, minimum of 1). |

*See Data Set 7.

SOURCE INVENTORY DATA SET 5 - AIRCRAFT ACTIVITY

Activity for aircraft is defined as the total annual number of arrivals, departures, and touch and go's. Each arrival and each departure of an aircraft is considered as an operation in the landing and takeoff cycle (LTO). A touch and go, however, is a complete cycle and occurs during a training flight when a pilot approaches and lands on a runway, travels down the runway for several seconds, accelerates and lifts off. This information is used by the model for calculating the total annual emissions for a given aircraft.

CARD NUMBER 1

FORMAT(6X,12,3F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 7-8 | - | Aircraft identification number (choose from table 3). |
| 9-16 | - | Annual number of arrival operations for this aircraft (minimum of 1). |
| 17-24 | - | Annual number of departure operations for this aircraft (minimum of 1). |
| 25-32 | - | Annual number of touch and go cycles for this aircraft (minimum of 1). |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT TYPE DEFINED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT DEFINED IN DATA SET 4.

SOURCE INVENTORY DATA SET 6 - AIRCRAFT PARKING AREAS

Parking areas are defined by assigning an identification number (determined by the user) and describing the geometries of the parking area. The parking area must be defined as a square or a series of squares if it is rectangular. The user is allowed a maximum of three adjacent squares to define a rectangular or elongated parking area. An X and Y coordinate location must be input for each square making up the parking area. The length of a side of each square is also defined and the model assumes the square is situated so that a line running parallel with its right or left side will be directed north-south.

CARD NUMBER 1

FORMAT(2X,I2,I4,9F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 3-4 | - | Identification numbers for this parking area (chosen arbitrarily by the user). |
| 8 | - | Total number of squares making up this parking area (maximum of 3). |
| 9-16 | kilometers | X coordinate for the center of square 1. |
| 17-24 | kilometers | Y coordinate for the center of square 1. |
| 25-32 | kilometers | Length of one side of square 1. |

NOTE: The remainder of the card is left blank if only one square is used to define this parking area.

| | | |
|-------|------------|--|
| 33-40 | kilometers | X coordinate for the center of square 2. |
| 41-48 | kilometers | Y coordinate for the center of square 2. |
| 49-56 | kilometers | Length of one side of square 2. |

NOTE: The remainder of the card is left blank if only two squares are used to define the parking area.

| | | |
|-------|------------|--|
| 57-64 | kilometers | X coordinate for the center of square 3. |
| 65-72 | kilometers | Y coordinate for the center of square 3. |
| 73-80 | kilometers | Length of one side of square 3. |

THIS CARD IS REPEATED FOR EVERY PARKING AREA USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT PARKING AREAS DEFINED IN DATA SET 4.

SOURCE INVENTORY DATA SET 7 - AIRCRAFT TAXIWAY PATHS SEGMENTS

Each taxiway path used by the aircraft at a particular base can be defined as a series of connected straight line segments. The geometries of these straight line segments are defined and each is assigned an identification number. There are no restrictions as to the orientation of each segment, and segments are allowed to cross each other or another source or overlap other segments. Once a segment is defined, it can be used to make up several different taxiway paths if necessary. These identifying numbers will be used in Data Set 8 for defining the particular segments that are used to make up a taxiway path.

CARD NUMBER 1

FORMAT(2X,I2,4X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 3-4 | - | Identification number of this taxiway segment. This identifier is determined by the order of input. The first segment must be assigned an ID of 1. The second segment must be assigned an ID of 2, etc. |
| 9-16 | kilometers | X coordinate for start point of segment. |
| 17-24 | kilometers | Y coordinate for start point of segment. |
| 25-32 | meters | Start point height above the ground where the emissions actually occur (if left blank, a value of 4.0 will be used). |
| 33-40 | meters | Width of line (if left blank, a value of 20.0 will be used). |
| 41-48 | meters | Initial vertical dispersion parameter (if left blank, a value of 8.0 will be used). |
| 49-56 | kilometers | X coordinate for end point of segment. |
| 57-64 | kilometers | Y coordinate for end point of segment. |
| 65-72 | meters | End point height above the ground where the emissions actually occur (if left blank, a value of 4.0 will be used). |

THIS CARD IS REPEATED FOR EVERY STRAIGHT LINE TAXIWAY PATH SEGMENT DEFINED FOR THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TAXIWAY PATH SEGMENTS DEFINED IN DATA SET 4.

SOURCE INVENTORY DATA SET 8 - AIRCRAFT RUNWAYS INFORMATION

All information concerning aircraft runways is defined in this data set. Each runway on the airbase must be assigned an identification number which will be used throughout this data set. Each runway is defined as having both a length and direction. Its length is the physical length of the runway pavement in kilometers. Its direction is determined by the orientation of the runway in relation to true north (see appendix C). Aircraft usually prefer a certain direction for LTO operations. The aircraft land and takeoff in this direction for all LTO operations except when the wind is blowing in a tail wind direction. For this specific wind case condition, aircraft will abandon the prime runway direction and takeoff into the wind. For example, consider that at a certain airbase, the prime runway is situated directly east-west. Aircraft takeoff and land toward the west during all wind speeds and directions except for a special case wind condition of an east wind of greater than 10 knots. During this special case condition, all landing and takeoffs would occur from west to east. The AQAM provides the user the capability to define up to three special case wind conditions. Definition of the conditions that constitute a special case are made in the short-term and long-term dispersion codes. However, the source inventory requires a description of the runways used during each special case wind condition. In addition, the runway usage can be defined as a function of wind direction only (see appendix C). It is important to note that if a runway is used for LTOs from both directions, it is coded as two separate and distinct runways which overlap each other.

Each individual aircraft type may use several different runways, parking areas, and taxiway paths. Therefore, the arrivals and departures of individual aircraft types are defined for each runway. Also, a set of inbound and outbound taxiway paths are defined from each parking area to every runway. As a result, several distinct taxiway paths may be defined for each runway. The model assumes that once an aircraft begins his taxi on a particular path, his destination will be either the parking area or runway to which the path is assigned. Fractional usage of taxi paths is defined as a function of aircraft type and runway.

CARD NUMBER 1 (RUNWAY GEOMETRIES)

FORMAT(2X,I2,4X,7F8.3)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------------------|---|
| 3-4 | - | Identification number for this runway (chosen arbitrarily by the user). |
| 9-16 | kilometers | X coordinate for the beginning of this runway. |
| 17-24 | kilometers | Y coordinate for the beginning of this runway. |
| 25-32 | meters | The height above the ground where the emissions actually occur; i.e., the aircraft engine (if left blank, a value of 4.0 will be used). |
| 33-40 | meters | Initial horizontal dispersion parameter (if left blank, a value of 20.0 will be used). |
| 41-48 | meters | Initial vertical dispersion parameter (if left blank, a value of 8.0 will be used). |
| 49-56 | degrees from true north | Runway angle. |
| 57-64 | kilometers | Runway length. |

CARD NUMBER 2 (RUNWAY WIND DIRECTION USE)

FORMAT(2X,I2,4X,20I1)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|--|
| 1-4 | - | Runway identification number must agree with runway identifier in Card 1, Data Set 8. |
| 9 | - | Runway use in calm conditions. Punch a 1 if runway is used during a calm; punch a 0 if it is not. |
| 10-25 | - | Runway use related to wind direction. Columns 10 through 25 correspond to 16 wind directions (Col 10 = North, Col 11 = North Northeast, Col 12 = Northeast, etc.). Punch a 1 in appropriate column if runway is used when the wind is from that direction; punch a 0 if it is not used (see appendix C). |

26-28 -

Runway use in special case wind conditions. Columns 26-28 correspond to three special case wind conditions. Punch a 1 if the runway is used during this special case wind condition; punch a 0 if it is not used (see appendix C).

NOTE: The actual meteorological conditions which constitute a special case will be defined in the short-term and long-term input data.

CARD NUMBER 3 (RUNWAY ARRIVALS)

FORMAT(2X,I2,4X,8F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 3-4 | - | Runway identification number. It must be identified to the runway identifier in Card 1, Data Set 8. |
| 9-72 | - | Total number of annual arrivals of each aircraft on this runway.* Columns 8-16 contain the total arrivals for the FIRST aircraft defined in Data Set 5, Columns 17-24 contain the total annual arrivals for the SECOND aircraft, etc., to Column 72. If less than eight aircraft have been defined, only the appropriate card columns are punched and the remainder of the card is left blank. |

*The arrivals for each aircraft are punched in the order in which they are defined in Card 1, Data Set 5.

CARD NUMBER 4 (RUNWAY DEPARTURES)

FORMAT(2X,I2,4X,8F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 3-4 | - | Runway identification number. It must be identical to the runway identifier in Card 1, Data Set 8. |
| 8-72 | - | Total annual number of departures of each aircraft on this runway.** |

**This information and the procedure for coding it is identical to Data Set 8, Card Number 3, except that total annual DEPARTURES are coded for each aircraft instead of total ARRIVALS.

CARD NUMBER 5 (RUNWAY TAXIWAY PATHS)

FORMAT(3I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2-4 | - | Runway identification number. It must be identical to the runway identifier in Card 1, Data Set 8. |
| 6-8 | - | Total number of inbound taxiway paths for this runway (maximum of 8). |
| 10-12 | - | Total number of outbound taxiway paths for this runway (maximum of 8). |

CARD NUMBER 6 (INBOUND TAXIWAY USAGE)

FORMAT(3I2,2X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-2 | - | Runway identification number. It must be identical to the runway identifier in Card 1, Data Set 8. |
| 3-4 | - | Inbound taxiway path identifier; chosen arbitrarily by the user. |
| 5-6 | - | Identification number of the parking area where this taxiway path terminates. It must be identical to one of the parking area identifiers defined in Data Set 6. |
| 9-72 | fraction | Inbound taxiway usage by aircraft type.* |

*A fraction is input for each aircraft type used at this base which defines what portion of all aircraft landing on this runway use this taxiway path. The fractions are punched for each aircraft in the order they are defined in Card 1, Data Set 5. Columns 8-16 contain the fractional usage of this taxiway by the FIRST aircraft, columns 17-24 contain the fractional usage of this taxiway by the SECOND aircraft, etc., to column 72. If less than eight aircraft are defined, only the appropriate card columns are punched and the remainder of the card is left blank.

CARD NUMBER 7 (INBOUND TAXIWAY SEGMENTS)

FORMAT(4I2,16I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-2 | - | Runway identification number. It must be identical to the runway identifier in Card 1, Data Set 8. |

| | | |
|------|---|--|
| 3-4 | - | Inbound taxiway path identifier. It must be identical to the taxiway path identifier in Card 6, Data Set 8. |
| 5-6 | - | Identification number of the parking area where this path terminates. It must be identical to the parking area identifier in Card 6, Data Set 8. |
| 7-8 | - | Total number of taxiway segments forming this inbound taxiway path (maximum of 16). |
| 9-72 | - | Identifier for the taxiway segments forming this taxiway path.* |

*Columns 9-12 contain the identifier for the first segment forming this path, columns 13-16 contain the identifier for the second segment, etc. The total number of segment identifiers punched must equal the value punched in columns 7 and 8 of this card.

CARDS 6 AND 7 ARE PUNCHED AS A PAIR. A SET OF THESE TWO CARDS MUST BE REPEATED FOR EVERY INBOUND TAXIWAY PATH AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF INBOUND TAXIWAY PATHS DEFINED IN CARD 5, DATA SET 8.

CARD NUMBER 8 (OUTBOUND TAXIWAY USAGE) FORMAT(3I2,2X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-2 | - | Runway identification number. It must be identical to the runway identifier in Card 1, Data Set 8. |
| 3-4 | - | Outbound taxiway path identifier; chosen arbitrarily by the user. |
| 5-6 | - | Identification number of the parking area where this taxiway path terminates. It must be identical to one of the parking area identifiers defined in Data Set 6. |
| 9-72 | fraction | Outbound taxiway usage by aircraft type.* |

*A fraction for each aircraft type used at this base which defines what fraction of all aircraft departing on this runway use this taxiway path. The fractions are coded for each aircraft in the order they are defined in Card 1, Data Set 5. Columns 8-16 contain the fractional usage of this taxiway by the FIRST aircraft. Columns 17-24 contain the fractional usage of this taxiway by the SECOND aircraft, etc., to column 72. If less than 8 aircraft are defined, only the appropriate card columns are punched and the remainder of the card is left blank.

CARD NUMBER 9 (OUTBOUND TAXIWAY SEGMENTS)

FORMAT(4I2,16I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-2 | - | Runway identification number. It must be identical to the runway identifiers in Card 1, Data Set 8. |
| 3-4 | - | Outbound taxiway path identifier. It must be identical to the path identifier in Card 8, Data Set 8. |
| 5-6 | - | Identification number of the parking area where this path terminates. It must be identical to the parking area identifier in Card 8, Data Set 8. |
| 7-8 | - | Total number of taxiway segments forming this outbound taxiway path. |
| 9-72 | - | Identifier for the taxiway segments forming this taxiway path.* |

*Columns 9-12 contain the identifier for the first segment forming this path. Columns 13-16 contain the identifier for the second segment, etc., to column 72. The total number of segment identifiers coded must equal the value coded in columns 7 and 8 of this card.

CARDS 8 AND 9 ARE PUNCHED AS A PAIR. A SET OF THESE TWO CARDS MUST BE REPEATED FOR EVERY OUTBOUND TAXIWAY PATH AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL OF OUTBOUND TAXIWAY PATHS DEFINED IN CARD 5, DATA SET 8. THESE TWO CARDS ARE ANALOGOUS TO CARDS 6 AND 7 OF DATA SET 8.

CARDS 1 THROUGH 9 IN DATA SET 8 MUST BE REPEATED FOR EVERY RUNWAY DEFINED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF RUNWAYS DEFINED IN DATA SET 4.

SOURCE INVENTORY DATA SET 9 - AEROSPACE GROUND EQUIPMENT EMISSIONS

Aerospace Ground Equipment (AGE) consists of all motorized equipment except refueling tanks which are used to support incoming and outgoing aircraft. These support vehicles generally consist of coolers, power generators, heaters, and hydraulic test stands. The emissions for this equipment must be determined and input directly into the model. The model assumes that all AGE activities occur in the aircraft parking areas, but the emissions are calculated separately from those emissions resulting from aircraft parking activity.

CARD NUMBER 1

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from gasoline-consuming AGE equipment servicing this INCOMING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from gasoline-consuming AGE equipment servicing this INCOMING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from gasoline-consuming AGE equipment servicing this INCOMING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from gasoline-consuming AGE equipment servicing this INCOMING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from gasoline-consuming AGE equipment servicing this INCOMING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN DATA SET 4.

CARD NUMBER 2

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JP-4-consuming AGE equipment servicing this INCOMING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JP-4-consuming AGE equipment servicing this INCOMING AIRCRAFT. |

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| | | |
|-------|--------------|--|
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JP-4-consuming AGE equipment servicing this INCOMING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JP-4-consuming AGE equipment servicing this INCOMING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JP-4-consuming AGE equipment servicing this INCOMING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN DATA SET 4.

CARD NUMBER 3

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JP-5-consuming AGE equipment servicing this INCOMING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JP-5-consuming AGE equipment servicing this INCOMING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JP-5-consuming AGE equipment servicing this INCOMING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JP-5-consuming AGE equipment servicing this INCOMING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JP-5-consuming AGE equipment servicing this INCOMING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

CARD NUMBER 4

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JP-8-consuming AGE equipment servicing this INCOMING aircraft. |

| | | |
|-------|--------------|--|
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JP-8-consuming AGE equipment servicing this INCOMING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JP-8-consuming AGE equipment servicing this INCOMING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JP-8-consuming AGE equipment servicing this INCOMING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JP-8-consuming AGE equipment servicing this INCOMING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

CARD NUMBER 5

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|--|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JET A-consuming AGE equipment servicing this INCOMING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JET A-consuming AGE equipment servicing this INCOMING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JET A-consuming AGE equipment servicing this INCOMING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JET A-consuming AGE equipment servicing this INCOMING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JET A-consuming AGE equipment servicing this INCOMING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

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CARD NUMBER 6

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from gasoline-consuming AGE equipment servicing this OUTGOING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from gasoline-consuming AGE equipment servicing this OUTGOING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from gasoline-consuming AGE equipment servicing this OUTGOING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from gasoline-consuming AGE equipment servicing this OUTGOING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from gasoline-consuming AGE equipment servicing this OUTGOING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

CARD NUMBER 7

FORMAT (5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JP-4-consuming AGE equipment servicing this OUTGOING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JP-4-consuming AGE equipment servicing this OUTGOING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JP-4-consuming AGE equipment servicing this OUTGOING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JP-4-consuming AGE equipment servicing this OUTGOING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JP-4-consuming AGE equipment servicing this OUTGOING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

CARD NUMBER 8

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JP-5-consuming AGE equipment servicing this OUTGOING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JP-5-consuming AGE equipment servicing this OUTGOING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JP-5-consuming AGE equipment servicing this OUTGOING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JP-5-consuming AGE equipment servicing this OUTGOING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JP-5-consuming AGE equipment servicing this OUTGOING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

CARD NUMBER 9

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------|---|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JP-8-consuming AGE equipment servicing this OUTGOING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JP-8-consuming AGE equipment servicing this OUTGOING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JP-8-consuming AGE equipment servicing this OUTGOING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JP-8-consuming AGE equipment servicing this OUTGOING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JP-8-consuming AGE equipment servicing this OUTGOING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

CARD NUMBER 10

FORMAT(5F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|--------------|--|
| 1-8 | kg/operation | Carbon monoxide emissions resulting from JET A-consuming AGE equipment servicing this OUTGOING aircraft. |
| 9-16 | kg/operation | Hydrocarbon emissions resulting from JET A-consuming AGE equipment servicing this OUTGOING aircraft. |
| 17-24 | kg/operation | Nitrogen oxide emissions resulting from JET A-consuming AGE equipment servicing this OUTGOING aircraft. |
| 25-32 | kg/operation | Particulate emissions resulting from JET A-consuming AGE equipment servicing this OUTGOING aircraft. |
| 33-40 | kg/operation | Sulfur oxide emissions resulting from JET A-consuming AGE equipment servicing this OUTGOING aircraft. |

THIS CARD IS REPEATED FOR EVERY AIRCRAFT USED AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF AIRCRAFT TYPES DEFINED IN CARD 1, DATA SET 4.

SOURCE INVENTORY DATA SET 10 - AIRCRAFT REFUELING, SPILLAGE, AND VENTING TOTALS

The total amount of fuel used for refueling and venting aircraft is defined in this data set. Fuel venting is described as the amount of surplus fuel drained from the aircraft fuel lines. The model assumes that the refueling and venting operations occur in the parking area.

CARD NUMBER 1

FORMAT(8X,8I8)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 4-32 | - | Identification of fuel to be used in refueling aircraft (choose from table 9).* |

*Card columns 9-16 contain the identification of the fuel to be used in refueling the first aircraft defined in Data Set 4; columns 17-24 contain the fuel identification for refueling the second aircraft; columns 25-32 contain the fuel identification for refueling the third aircraft, etc., to column 72.

CARD NUMBER 2

FORMAT(2X,I2,4X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 3-4 | - | Indicator defining whether all aircraft will have a separate value for refueling or all aircraft will have same values.** |

**If each aircraft is to have a separate refueling value, the value punched in columns 3 and 4 must equal the total number of aircraft types used at this base, and card columns 9-72 are punched with the same totals for each aircraft. If each aircraft is to use the same refueling value, the value coded in columns 3 and 4 is 1 and columns 9-16 contain this refueling total.

| | | |
|------|--------|------------------------|
| 9-72 | liters | Refueling value(s).*** |
|------|--------|------------------------|

***Card columns 9-16 contain the refueling totals for the first aircraft defined in Data Set 4; columns 17-24 contain the refueling totals for the second aircraft; columns 25-32 contain the refueling totals for the third aircraft, etc., to column 72.

CARD NUMBER 3

FORMAT(2X,I2,4X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 3-4 | - | Indicator defining whether all aircraft will have a separate value of fuel spillage or if all aircraft use the same spillage value. |
| 9-72 | liters | The fuel spillage totals for aircraft are punched in columns 9-72 according to the rules in Card 2, Data Set 10. |

CARD NUMBER 4

FORMAT(2X,I2,4X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 3-4 | - | Indicator defining whether all aircraft will have a separate value of fuel venting for ARRIVING aircraft or if all ARRIVING aircraft use the same venting value. |
| 9-72 | liters | The fuel venting totals for ARRIVING aircraft are punched in Columns 9-72 according to the rules in Card 2, Data Set 10. |

CARD NUMBER 5

FORMAT(2X,I2,4X,8F8.3)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 3-4 | - | Indicator defining whether all aircraft will have a separate value of fuel venting for DEPARTING aircraft or if all DEPARTING aircraft use the same venting value. |
| 9-72 | liters | The fuel venting value for DEPARTING aircraft is punched in Columns 9-72 according to the rules in Card 2, Data Set 10. |

SOURCE INVENTORY DATA SET 11 - AIRBASE VEHICLE AGE DISTRIBUTION

The age distribution of all civilian and military vehicles on the airbase is defined in this data set. Vehicles are categorized in six vehicle classes (table 4). Within each vehicle class 16 fractions are input which define the fraction of total civilian vehicles within a certain age group. There are 16 age groups with each group corresponding to vehicle age of from 1 to 15 years. Emission factors for vehicles vary as a function of their age and class and these fractions and class categories will be used to determine what emission factors are to be used in the calculation of emissions from motor vehicle traffic. The user has the option of using a default age distribution for all or for specific vehicle classes.

CARD NUMBER 1

FORMAT(I4,8X,3I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 4 | - | ID of the emission factors to be used to calculate emissions from motor vehicles at this base (choose from table 10). |
| 16 | - | Identification number indicating whether the user intends to input an age distribution for <u>military</u> vehicles on this airbase or use the default EPA National vehicle age distribution for all classes. Punch a 0 if the user will input the age distribution. Punch a 1 if the default EPA distribution is to be used for <u>all six vehicle classes</u> .* |
| 20 | - | Identification number indicating whether the user intends to input an age distribution for <u>civilian</u> vehicles on this airbase or use the default EPA National vehicle age distribution for all classes. The same values are used for punching this data as for Column 16 of this card. |
| 21-24 | - | The year that the age distribution for military and civilian vehicles was calculated (no abbreviation allowed, i.e., year 1973 is not punched as 73). |

*The EPA age distribution is provided as a programmed user option. If the user wishes to use this distribution, code a 1 and do not input an age distribution.

CARD NUMBER 2

FORMAT(I2,2X,I2,2X,16F4.4)

NOTE: This card is input only if the value in Column 16 of Card 1, Data Set 11, is a 0. Proceed to Card 3 if the value is 1.

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2 | - | Identification number of the <u>military</u> vehicle class for which the <u>vehicle age</u> distribution is to be input (see table 4). |
| 6 | - | Identifier indicating whether the user intends to input the age distribution for this class or use the EPA National vehicle age distribution. Code a 1 if the class used the EPA distribution. Code a 0 if the age distribution is input. <u>This identifier applies to this class only.*</u> |

*The remainder of the card is left blank and the EPA vehicle age distribution is automatically used FOR THIS CLASS ONLY if the value in Column 6, Card 2, is a 1.

| | | |
|------|---|--|
| 9-72 | - | The remainder of this card contains the fractions of total vehicles in this class in each of the vehicle age categories. Columns 9-12 contain the fraction of all new vehicles. Columns 13-16 contain the fraction of vehicles 1 year old, etc., to Column 72. |
|------|---|--|

EACH FRACTION IS INPUT AS A FOUR-DIGIT NUMBER WITHOUT THE DECIMAL POINT. THE DECIMAL POINT WILL BE AUTOMATICALLY ADDED WHEN THE NUMBER IS READ. THE 16 FRACTIONS MUST TOTAL TO 1.). THIS CARD IS REPEATED FOR EACH OF THE SIX VEHICLE CLASSES.

NOTE: The following card is input only if the value in Column 20 of Card 1 is a 0. Proceed to Data Set 12 if the value is 1.

CARD NUMBER 3

FORMAT(I2,2X,I2,2X,16F4.4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2 | - | Identification number of the <u>civilian</u> vehicle class for which the <u>vehicle age</u> distribution is to be input (see table 4). |
| 6 | - | Identifier indicating whether the user intends to input the age distribution or use the EPA National vehicle age |

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distribution. The same rules are used for punching civilian vehicle age distribution as for Card 2, Data Set 11.

THIS CARD IS REPEATED FOR EACH OF THE SIX VEHICLE CLASSES.

SOURCE INVENTORY DATA SET 12 - NUMBER OF AIRBASE POINT SOURCES

A value indicating the total number of airbase point sources on this airbase is punched in this data set. Data sets 13 through 19 define the location and characteristics of each point source.

CARD NUMBER 1

FORMAT(I4)

card
columns

unit

definition

1-4

-

Total number of point sources to be defined for this base (maximum of 150).

NOTE: If the total number of point source sites is zero, Data Sets 13 through 19 are not punched and the next Data Set to be input is Data Set 20. If the total number is greater than zero, Data Sets 13 through 19 must be punched.

SOURCE INVENTORY DATA SET 13 - TRAINING FIRE POINT SOURCES

Training fire point sources are defined as shallow ground level sites on the airbase which are filled with fuel and ignited for the purpose of training fire fighters. This is usually done periodically at several different sites on the base.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 1-4 | - | Total number of training fire sites to be described. |

NOTE: If this value is zero, skip to the next Data Set.

CARD NUMBER 2

FORMAT(2I4,8F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Plume rise formula ID (choose from table 5). |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of this site above surrounding ground level. If left blank, a 0.0 will be used. |
| 33-40 | meters | Initial horizontal dispersion parameter. If left blank, a value of 91.44 will be used. |
| 41-48 | meters | Initial vertical dispersion parameter. If left blank, a value of 152.4 will be used. |
| 49-56 | kcal/sec | Heat emission rate of an average training fire at this site. If left blank, a value of 25400. will be used. |
| 57-64 | - | Annual number of fires at this site. |

65-72

gallons

Average amount of JP-4 consumed per fire at this site.

THIS CARD IS REPEATED FOR EVERY TRAINING FIRE SITE WHICH IS USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 13.

SOURCE INVENTORY DATA SET 14 - TEST CELL POINT SOURCES

A test cell point source is defined as an enclosure with a vertical exhaust which is designed to test aircraft engines after a mechanical overhaul.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of test cell sites to be described. |

NOTE: If this value is zero, skip to the next Data Set.

CARD NUMBER 2

FORMAT(2I4,9F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Total number of engine types being tested at this site. |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of the exhaust stack above the surrounding ground level. If left blank, a value of 10.0 will be used. |
| 33-40 | meters | Initial horizontal dispersion parameter. If left blank, a value of 10.0 will be used. |
| 41-48 | meters | Initial vertical dispersion parameter. If left blank, a value of 10.0 will be used. |
| 49-56 | °Kelvin | Temperature of the gas at the exit of the exhaust stack. If left blank, a value of 588.6 will be used. |
| 57-64 | m/sec | Velocity of the gas at the exit of the exhaust stack. If left blank, a value of 12.5 will be used. |
| 65-72 | meters | Diameter of the exhaust stack. If left blank, a value of 9.0 will be used. |

73-80 meters Height of the test cell building (not including the exhaust stack) above the ground. If left blank, a value of 10.0 will be used.

CARD NUMBER 3

FORMAT(2I4,5F8.4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is identical to the source ID in Card 2. |
| 5-8 | - | ID of aircraft engine tested at this site (choose from table 3). |
| 9-16 | - | Annual number of tests of this engine at this site. |
| 17-24 | min/test | Average time this engine type is tested in this test cell in the IDLE mode. |
| 25-32 | min/test | Average time this engine type is tested in this test cell in the NORMAL mode. |
| 33-40 | min/test | Average time this engine type is tested in this test cell in the MILITARY mode. |
| 41-48 | min/test | Average time this engine type is tested in this test cell in the AFTERBURNER mode. |

CARD 3 IS REPEATED FOR EVERY ENGINE TYPE BEING TESTED IN THIS TEST CELL AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF ENGINE TYPES PUNCHED IN CARD 2, COLUMN 8. CARD 2 WITH AN ASSOCIATED SET OF CARD(S) 3 IS REPEATED FOR EVERY TEST CELL USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1, DATA SET 14.

SOURCE INVENTORY DATA SET 15 - RUN-UP STAND POINT SOURCES

A runup stand is defined as an open structure used for testing aircraft turbine engines. The exhaust from runup stands is generally horizontal.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of runup stand sites to be described. |

NOTE: If this value is zero, skip to the next Data Set.

CARD NUMBER 2

FORMAT(2I4,9F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Total number of engine types being tested at this site. |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of the exhaust stack above the surrounding ground level (horizontal stack is assumed). If left blank, a value of 5.0 will be used. |
| 33-40 | meters | Initial horizontal dispersion parameter. If left blank, a value of 5.0 will be used. |
| 41-48 | meters | Initial vertical dispersion parameter. If left blank, a value of 5.0 will be used. |
| 49-56 | °Kelvin | Temperature of the gas at the exit of the exhaust stack. If left blank, a value of 0.0 will be used. |
| 57-64 | m/sec | Vertical velocity of the gas at the exit of the exhaust stack. If left blank, a value of 0.0 will be used. |
| 65-72 | meters | Diameter of the exhaust stack. If left blank, a value of 0.0 will be used. |

73-80 meters Height of the runup stand above the ground. If left blank, a value of 5.0 will be used.

CARD NUMBER 3

FORMAT(2I4,4F8.4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit ID number which is identical to ID in Card 2. |
| 5-8 | - | ID of aircraft engine tested at this site (choose from table 3). |
| 9-16 | - | Annual number of tests of this engine at this site. |
| 17-24 | min/test | Average time this engine type is tested in this runup stand in the IDLE time. |
| 25-32 | min/test | Average time this engine type is tested in this runup stand in the NORMAL mode. |
| 33-40 | min/test | Average time this engine type is tested in this runup stand in the MILITARY mode. |
| 41-48 | min/test | Average time this engine type is tested in this runup stand in the AFTERBURNER mode. |

CARD 3 IS REPEATED FOR EVERY ENGINE TYPE BEING TESTED IN THIS RUNUP STAND AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE TOTAL NUMBER OF ENGINE TYPES PUNCHED IN CARD 2, COLUMN 8. CARD 2 WITH AN ASSOCIATED SET OF CARD(S) 3 IS REPEATED FOR EVERY RUNUP STAND USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1, DATA SET 15.

SOURCE INVENTORY DATA SET 16 - POWER PLANT POINT SOURCES

Power plants are defined as large fossil fuel facilities used to produce power for industrial process and/or treating large portions of the airbase.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of power plant sites to be described. |

NOTE: If this value is zero, skip to the next Data Set.

CARD NUMBER 2

FORMAT(2I4,9F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Plume rise formula ID (choose from table 5). |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of the exhaust stack above the surrounding ground level. |
| 33-40 | meters | Initial horizontal dispersion parameter. |
| 41-48 | meters | Initial vertical dispersion parameter. |
| 49-56 | °Kelvin | Temperature of the gas at the exit of the exhaust stack. |
| 57-64 | m/sec | Velocity of the gas at the exit of the exhaust stack. |
| 65-72 | meters | Diameter of the exhaust stack. |
| 73-80 | meters | Height of the building above ground (not including the stack). |

CARD NUMBER 3

FORMAT(2I4,3F8.2,I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-----------------------|--|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2, Data Set 16. |
| 7-8 | - | Power plant emission factor identification number (choose from table 6). |
| 9-16 | percent of total fuel | Amount of sulfur in the fuel burned at this plant.* |

*If liquified petroleum is burned at this plant, the grains of sulfur per 10,000 cubic meters of gas vapor is input instead of the percent of sulfur.

| | | |
|-------|----------------------------------|---|
| 17-24 | percent of total fuel | Amount of ash in the fuel burned at this plant. |
| 25-32 | (see table 6 to determine units) | Average annual amount of fuel burned at this plant. |
| 36 | - | Value indicating if any pollutants are controlled at this plant. Punch a 1 if some or all pollutants are controlled. Punch a 0 if no pollutants are controlled. |

CARD NUMBER 4

FORMAT(2I4,6(I4,F4.3))

NOTE: Card 4 is not input if no pollutants are controlled.

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 8 | - | Number of pollutants controlled at this plant. |
| 9-56 | - | The pollutant ID number and the fraction it is controlled is input for all pollutants which are controlled. The pollutant ID can be found in table 7. The pollutant ID and the fraction it is controlled are coded together; that is, Columns 9-12 would contain the ID for the first pollutant controlled and Columns 13-16 would contain the fraction it is controlled. Columns 17-20 would contain the ID of the |

second pollutant controlled and Columns 21-24 would contain the fraction it is controlled, etc.

CARDS 2, 3, 4 (IF APPLICABLE) ARE PUNCHED TOGETHER. THIS SET OF CARDS MUST BE REPEATED FOR EACH POWER PLANT USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE CODED IN CARD 1, DATA SET 16.

SOURCE INVENTORY DATA SET 17 - INCINERATOR POINT SOURCES

An incinerator is defined as a site where the controlled burning of waste material takes place.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of incinerator sites to be described. |

NOTE: If this value is zero, skip to the next Data Set.

CARD NUMBER 2

FORMAT(2I4,9F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Plume rise formula ID (choose from table 5). |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of exhaust stack above the surrounding ground level. |
| 33-40 | meters | Initial horizontal dispersion parameter. |
| 41-48 | meters | Initial vertical dispersion parameter. |
| 49-56 | °Kelvin | Temperature of the gas at the exit of the exhaust stack. |
| 57-64 | m/sec | Velocity of the gas at the exit of the exhaust stack. |
| 65-72 | meters | Diameter of the exhaust stack. |
| 73-80 | meters | Height of the building above ground (not including the stack). |

CARD NUMBER 3

FORMAT(2I4,F8.2,I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 7-8 | - | Incinerator emission factor identification number (choose from table 8). |
| 9-16 | metric ton | Average annual amount of waste material burned at this site. |
| 20 | - | Value indicating if any pollutants are controlled at this site. Punch a 1 if some or all pollutants are controlled. Punch a 0 if <u>no</u> pollutants are controlled. |

CARD NUMBER 4

FORMAT(2I4,6(I4,F4.3))

NOTE: Card 4 is not input if no pollutants are controlled.

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 8 | - | Number of pollutants controlled at this plant. |
| 9-56 | - | The pollutant ID number and the fraction controlled are input for all pollutants which <u>are</u> controlled. The pollutant ID can be found in table 7. The pollutant ID and the fraction controlled are punched together; that is, Columns 9-12 would contain the ID for the first pollutant controlled and Columns 13-16 would contain the fraction it is controlled. Columns 17-20 would contain the ID of the second pollutant controlled and Columns 21-24 would contain the fraction it is controlled, etc. |

CARDS 2, 3, 4 (IF APPLICABLE) ARE PUNCHED TOGETHER. THIS SET OF CARDS MUST BE REPEATED FOR EACH POWER PLANT USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1, DATA SET 17.

SOURCE INVENTORY DATA SET 18 - PETROLEUM STORAGE TANK POINT SOURCES

Petroleum storage tanks are storage sites that contain petroleum products before they are distributed to usage facilities. Storage tanks are treated as either fixed roof or floating roof tanks. A different set of cards are input according to the type of roof defined. Cards 2, 3, and Card Set 1 are used to define fixed roof tanks and Cards 2, 3 and Card Set 2 are used to define floating roof tanks.

If a storage tank site contains more than one storage tank of the same size in very close spatial vicinity to each other, it may be defined as a point source. Input parameters in Card 2 concerning the size and usage of the site refer to only one of the tanks. The initial horizontal dispersion parameter, however, should be set equal to the diameter of a circle enclosing all the tanks of the same size which are being defined together as a point. The total number of tanks at this site are input in Card Sets 1 or 2. The model assumes that all tanks are vertical.

CARD NUMBER 1

FORMAT (I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of storage tank sites to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(2I4,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Plume rise formula ID (choose from table 5). |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of stack (tank) above the surrounding ground level. Punch a zero if below ground. |

33-40 meters Initial horizontal dispersion parameter.
 41-45 meters Initial vertical dispersion parameter.

CARD NUMBER 3 FORMAT(I4,4X,2I4,5F8.4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 12 | - | Fuel identification number of fuel used at this site (choose from table 9). |
| 16 | - | Roof identification number. Punch a 1 for fixed roof. Punch a 2 for floating roof. |
| 17-24 | kiloliters | Annual throughput of fuel for each tank used at this site. |
| 25-32 | kiloliters | Tank fuel capacity. |
| 33-40 | °F | Temperature of the fuel in the tank (if left blank, the average annual temperature punched in Data Set 3 will be used). |
| 41-48 | °F | Daily average temperature variation of the vapor space above the fuel (if left blank, the daily average temperature variation punched in Data Set 3 will be used).* |

*There is no default value for the daily average temperature variation for underground fixed roof storage tanks.

49-56 meters Tank diameter.

CARD SET NUMBER 1 (Fixed Roof Input for Petroleum Storage Tanks)

NOTE: Card Set 1 is input only if roof ID number in Card 3 equals 1.

CARD 1 OF CARD SET 1 FORMAT(2I4,4F8.4,I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 5-8 | - | Number of tanks of the same size at this source which are being punched together as a single point source. |

| | | |
|-------|--------|--|
| 9-16 | meters | Average height of the tanks vapor space (if left blank, half of the tank height will be used). |
| 17-24 | - | Throughput factor (if left blank, a value of 1.0 will be used).* |

*A more detailed exploration of this parameter can be found in AFWL-TR-74-304, pages 50 through 57.

| | | |
|-------|---|---|
| 25-32 | - | Paint factor (if left blank, a value of 1.2 will be used). |
| 33-40 | - | Tank diameter factor (if left blank, a value of 1.0 will be used). |
| 41-44 | - | Tank type identifier. Punch a 1 if tank is below ground; punch a 0 if tank is above ground (if left blank, it is assumed to be above ground). |

CARD SET NUMBER 2 (Floating Roof Input for Petroleum Storage Tanks)

NOTE: Card Set 2 is input only if roof ID number in Card 3 equals 2.

CARD 1 OF CARD SET 2

FORMAT(2I4,3F8.4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 5-8 | - | Number of tanks of the same size at this source which are being punched together as a single point source. |
| 9-16 | - | Rivet factor (if left blank, a value of 0.1 will be used). |
| 17-24 | - | Seal factor (if left blank, a value of 1.0 will be used). |
| 25-32 | - | Paint factor (if left blank, a value of 1.0 will be used). |

CARDS 2, 3, AND EITHER CARD SET 1 OR CARD SET 2 ARE PUNCHED TOGETHER AND REPEATED FOR EACH STORAGE TANK SITE USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1, DATA SET 18.

SOURCE INVENTORY DATA SET 19 - OTHER AIRBASE POINT SOURCES

This data set is used to define point sources on the airbase which cannot be defined in any of the other point source categories. The total annual emissions for each pollutant must be hand calculated for each source in this category. These hand calculated emissions are input in this data set.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of airbase sources to be defined in the other category. |

CARD NUMBER 2

FORMAT(2I4,9F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 8 | - | Plume rise formula ID (choose from table 5). |
| 9-16 | km | X coordinate at source center. |
| 17-24 | km | Y coordinate at source center. |
| 25-32 | meters | Height of the exhaust stack above the ground. |
| 33-40 | meters | Initial horizontal dispersion parameter. |
| 41-48 | meters | Initial vertical dispersion parameter. |
| 49-56 | °Kelvin | Temperature of the gas at the exit of the exhaust stack. |
| 57-64 | m/sec | Velocity of the gas at the exit of the exhaust stack. |
| 65-72 | meters | Diameter of the exhaust stack. |
| 73-80 | meters | Height of the building above ground. |

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CARD NUMBER 3

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|---------------|---|
| 1-4 | - | Four-digit ID number which must be identical to ID in Card 2. |
| 9-16 | metric ton/yr | Emissions of carbon monoxide at this source. |
| 17-24 | metric ton/yr | Emissions of hydrocarbons at this source. |
| 25-32 | metric ton/yr | Emissions of nitrogen oxides at this source. |
| 33-40 | metric ton/yr | Emissions of particulates at this source. |
| 41-48 | metric ton/yr | Emissions of sulfur oxides at this source. |

CARDS 2 AND 3 ARE PUNCHED TOGETHER AND REPEATED FOR EACH OTHER AIRBASE POINT SOURCE USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1, DATA SET 19.

SOURCE INVENTORY DATA SET 20 - AIRBASE AREA SOURCE GEOMETRIES

The physical geometries for each area source on this airbase are defined in this data set. Each area source on the airbase must be described as a square with each square oriented so that a line running parallel with the left or right side of the square will be directed north-south. In addition, each area is assigned an identification number. This number will be used in Data Sets 21 through 29 when defining the emissions from area sources.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of airbase area sources on this airbase (maximum of 150). |

NOTE: If the total number of area source sites is zero, Data Sets 21 through 29 are not punched, and the next data set to be punched is Data Set 30. If the total number of areas is greater than zero, Data Sets 21 through 29 must be punched.

CARD NUMBER 2

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. This ID number will be used in future data sets whenever this source is referenced. |
| 9-16 | km | X coordinate at source center. |
| 17-24 | km | Y coordinate at source center. |
| 25-32 | meters | Average height of the source above ground. |
| 33-40 | meters | Length of one side of the square defining this source. |
| 41-48 | meters | Initial vertical dispersion parameter. If left blank, a value of 8.0 will be used. |

THIS CARD IS REPEATED FOR EACH AREA SOURCE AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE IN CARD 1, DATA SET 20.

SOURCE INVENTORY DATA SET 21 - AIRBASE AREA SOURCES WITH HYDROCARBON FILLING, WORKING LOSS, AND SPILLAGE

Hydrocarbon filling or working losses occur when fuel is transferred from one facility to another. As fuel is pumped from a full to a partially empty tank, the fuel vapors from the partially empty tank are forced out into the atmosphere. In addition, a certain amount of fuel is spilled each time fuel is transferred. The areas on the airbase where these operations occur are described in this data set.

CARD NUMBER 1

FORMAT (I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of hydrocarbon filling or working loss, and spillage areas to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(I4,4X,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 9-16 | kl/yr | Total amount of automotive gasoline processed at this source. |
| 17-24 | kl/yr | Total amount of JP-4 processed at this source. |
| 25-32 | kl/yr | Total amount of aviation gasoline processed at this source. |
| 33-40 | kl/yr | Total amount of diesel fuel processed at this source. |
| 41-48 | kl/yr | Total amount of JP-5 processed at this source. |
| 49-56 | kl/yr | Total amount of JP-8 processed at this source. |
| 57-64 | kl/yr | Total amount of JET A processed at this source. |

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CARD NUMBER 3

FORMAT(8X,8F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 9-16 | - | Throughput factor for automotive gasoline processing at this source (if left blank, a value of 1.0 will be used).* |

*A more detailed explanation of this parameter can be found in AFWL-TR-74-304, pages 50 through 57.

| | | |
|-------|------------------|---|
| 17-24 | - | Throughput factor for JP-4 processing at this source (if left blank, a value of 1.0 will be used). |
| 25-32 | - | Throughput factor for aviation gasoline processing at this source (if left blank, a value of 1.0 will be used). |
| 33-40 | - | Throughput factor for diesel fuel processing at this source (if left blank, a value of 1.0 will be used). |
| 41-48 | - | Throughput factor for JP-5 processing at this source (if left blank, a value of 1.0 will be used). |
| 49-56 | - | Throughput factor for JP-8 processing at this source (if left blank, a value of 1.0 will be used). |
| 57-64 | - | Throughput factor for JET A processing at this source (if left blank, a value of 1.0 will be used). |
| 65-72 | metric ton/yr | Total amount of fuel (all types) spilled at this source. |

CARDS 2 AND 3 ARE INPUT TOGETHER AND REPEATED FOR EACH HYDROCARBON FILLING OR WORKING LOSS AND SPILLAGE SITE USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1, DATA SET 21.

SOURCE INVENTORY DATA SET 22 - HYDROCARBON BREATHING LOSS SITES (FROM PETROLEUM STORAGE TANKS)

Hydrocarbon breathing losses occur in storage tanks due to the diurnal temperature variation. Daytime heating of fuel storage tanks causes increased internal pressure. This pressure is relieved by venting the excess fuel vapor to the atmosphere. It is assumed that hydrocarbon breathing loss sites contain either fixed roof or floating roof tanks. A different set of cards are input according to the type of roof in that particular area. Card Set 1 is used to define areas containing fixed roof tanks. Card Set 2 defines floating roof tanks.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of hydrocarbon breathing loss areas to be described. |

NOTE: If this value is zero, skip to the next data set.

INPUT CARD SET 1 IF THIS SOURCE CONTAINS FIXED ROOF TANKS. INPUT CARD SET 2 IF IT CONTAINS FLOATING ROOF TANKS.

CARD SET NUMBER 1 (Input for Fixed Roof Tanks)

CARD1 OF CARD SET 1

FORMAT(4I4,4F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area defined in Data Set 20. |
| 8 | - | Identification number of fuel type used at this site (choose from table 9). |
| 12 | - | Roof identifier (punch a 1). |
| 13-16 | - | Total number of fixed roof fuel tanks in this area with the same average diameter. |
| 17-24 | meters | Average diameter of the fuel tanks in this area |
| 25-32 | - | Paint factor for the tanks in this area (if left blank, a value of 1.2 will be used). |

| | | |
|-------|--------|--|
| 33-40 | - | Tank diameter factor (if left blank, a value of 1.0 will be used). |
| 41-48 | meters | Average height of the vapor space above the liquid for tanks in this area. |

CARD SET NUMBER 2 (Input for Floating Roof Tanks)

CARD 1 OF CARD SET 2

FORMAT(4I4,4F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 8 | - | Identification number of the fuel type used at this site (choose from table 9). |
| 12 | - | Roof identifier (code a 2 in Column 12). |
| 13-16 | - | Total number of floating roof fuel tanks in this area with the same average diameter. |
| 17-24 | meters | Average diameter of the fuel tanks in this area. |
| 25-32 | - | Paint factor (if left blank, a value of 1.0 will be used). |
| 33-40 | - | Seal factor (if left blank, a value of 1.0 will be used). |
| 41-48 | - | Rivet factor (if left blank, a value of 0.1 will be used). |

EITHER CARD SET 1 OR CARD SET 2 IS PUNCHED FOR EACH HYDROCARBON BREATHING LOSS SITE ON THIS BASE AND THE TOTAL NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 22.

SOURCE INVENTORY DATA SET 23 - HYDROCARBON BREATHING LOSSES (PETROLEUM TANK TRUCK PARKING AREAS)

Petroleum products are usually transferred from one area to another in large tank trucks. When these trucks are parked, the diurnal heating of the vapor space above the liquid in the tank is forced out into the atmosphere. The areas where these trucks are parked are described in this data set and this information is used to calculate the total hydrocarbon emissions on this base.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of tank truck parking areas to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(3I4,4X,3F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 8 | - | Identification number of the fuel type used by the tank trucks in this area (choose from table 9). |
| 9-12 | - | Total number of tank trucks parked in this area. |
| 17-24 | kl | Average tank capacity of trucks parked in this area. |
| 25-32 | fraction | Average amount of the tank filled. |
| 33-40 | meters | Average diameter of the tanks. |

THIS CARD IS REPEATED FOR EACH TANK TRUCK PARKING AREA ON THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1.

SOURCE INVENTORY DATA SET 24 - HYDROCARBON BREATHING LOSSES (FROM MILITARY AND CIVILIAN PARKING AREAS)

The vapor space in the tanks of parked civilian and military motor vehicles is heated throughout the day, thus causing increased vapor pressure within the tank. The pressure is relieved by allowing the excess fuel vapor to breathe into the atmosphere. The parking areas where these breathing losses occur are described in this data set.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of military and civilian parking and civilian parking access to be described (sum of military plus civilian parking areas). |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(3I4,4X,2F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source identification number. It must correspond to an area ID defined in Data Set 20. |
| 8 | - | Identification number of the fuel used by the vehicles in this area (choose from table 9). |
| 9-12 | - | Total number of civilian and military vehicles parked in this area. |
| 17-24 | liters | Average tank capacity of the vehicles parked in this area. |
| 25-32 | fraction | Average amount each vehicle tank is filled. |

THIS CARD IS REPEATED FOR EACH MOTOR VEHICLE PARKING AREA ON THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 24.

SOURCE INVENTORY DATA SET 25 - OTHER EVAPORATIVE HYDROCARBON AREA SOURCES

This data set is used to describe evaporative hydrocarbon sources that cannot be accurately described in Data Sets 21 through 24. The total hydrocarbon emissions for these areas are hand calculated and input in this data set.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of other evaporative hydrocarbon sources to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(I4,4X,F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|---------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 9-10 | metric ton/yr | Total evaporative hydrocarbon emission from this source. |

THIS CARD IS REPEATED FOR EACH "OTHER" EVAPORATIVE HYDROCARBON SITE ON THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 25.

SOURCE INVENTORY DATA SET 26 - SPACE HEATING AREA SOURCES

Space heating sources refer mainly to areas which contain many small individual space heating units. In most instances these heating units are found in residential areas.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of space heating sources to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(2I4,3F8.2,I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|--------------------------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 8 | - | Emission factor identification number (choose from table 6). |
| 9-16 | percent | Average amount of sulfur in the fuel burned at this source. |
| 17-24 | percent | Average amount of ash in the fuel burned at this source. |
| 25-32 | see table 6 determine units | Average annual consumption of the fuel used at this source.* |

*The units are determined in table 6. Code the input value in the units corresponding to the emission factor identification number

| | | |
|----|---|--|
| 36 | - | Value indicating if any pollutants are controlled at this source. Punch a 1 if some or all are controlled. Punch a 0 if <u>no</u> pollutants are controlled. |
|----|---|--|

NOTE: Card 3 is input if the value in Column 36, Card 2 is 1.

CARD NUMBER 3

FORMAT(2I4,6(I4,F4.3))

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2. |
| 8 | - | Number of pollutants controlled. |
| 9-56 | - | The pollutant ID number and the fraction it is controlled is input for the pollutant which <u>are</u> controlled. The pollutant ID can be found in table 7. The pollutant ID and the fraction it is controlled are punched together; that is, Columns 9-12 would contain the ID of the first pollutant controlled and Columns 13-16 would contain the fraction it is controlled. Columns 17-20 would contain the ID of the second pollutant controlled and Columns 21-24 would contain the fraction it is controlled, etc., to Column 56. |

CARDS 2 AND 3 (IF APPLICABLE) ARE PUNCHED TOGETHER. THIS (THESE) CARD(S) MUST BE REPEATED FOR EACH SPACE HEATING SITE ON THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 26.

SOURCE INVENTORY DATA SET 27 - OFF-ROAD VEHICLE AREA SOURCES

Off-road vehicles are military diesel-powered vehicles which operate off the main roadways. The area where these types of vehicles operate is determined and the total fuel consumption for all vehicles in the area is hand calculated. This calculated value is input in this data set.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of off-road vehicle areas to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(I4,4X,2F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 9-16 | 1000 gal/yr | Total amount of diesel consumed at this area. |
| 17-24 | mpg | Diesel consumption rate (if left blank, a value of 3.0 will be used). |

THIS CARD IS REPEATED FOR EACH OFF-ROAD VEHICLE AREA ON THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE IN CARD 1, DATA SET 27.

SOURCE INVENTORY DATA SET 28 - MILITARY MOTOR VEHICLE AREA SOURCES

Military vehicle area sources consist of areas on the airbase predominated by military vehicles (motor pool, flight line, etc.). If military vehicles are intermixed with civilian vehicles in a parking area, the area is defined as a military area in this data set with only military vehicles defined and also as a civilian area with only civilian vehicles defined.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of military vehicle area sources to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(2I4,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 20. |
| 8 | - | Vehicle emission factor identifier for calculation of military vehicle emissions in this area (choose from table 11). |
| 9-16 | mph | Average speed of military vehicles in this area. |
| 17-64 | 1000 m/yr | Vehicle miles for military vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 17-24; the value for the second vehicle class is punched in Columns 25-32, etc., to Column 64. |

NOTE: Cards 3 and 4 are not input if the value in Column 8, Card 2, is a 1 or a 2. Input the following cards only if the value is 3.

CARD NUMBER 3

FORMAT(7I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |

8-24 1000/yr

Number of cold starts for military vehicles in each of the six vehicle classes (table 4). The value for the first vehicle class is punched in Columns 8-12, the second class is punched in Columns 13-16, etc., to Column 24.

CARD NUMBER 4

FORMAT(214)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |
| 5-8 | 1000/yr | Number of hot soaks occurring in all military vehicle classes. |

CARDS 2, 3, AND 4 ARE INPUT TOGETHER (CARDS 3 AND 4 ARE INCLUDED IF APPLICABLE) AND REPEATED FOR EACH MILITARY VEHICLE AREA ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 28.

SOURCE INVENTORY DATA SET 29 - CIVILIAN MOTOR VEHICLE AREA SOURCES

Civilian vehicle area sources consist of areas on the airbase predominated by civilian vehicles (base housing, base parking areas, etc.). If civilian vehicles are intermixed with military vehicles in a parking area, the area is defined as a civilian area in this data set with only civilian vehicles defined and also as a military vehicle area with only military vehicles defined.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of civilian vehicle area sources to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2

FORMAT(2I4,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 30. |
| 8 | - | Vehicle emission factor identifier for calculation of civilian vehicle emissions in this area (choose from table 11). |
| 9-16 | mph | Average speed of civilian vehicles in this area. |
| 17-64 | 1000 m/yr | Vehicle miles for civilian vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 17-24; the value for the second vehicle class is punched in Columns 25-32, etc., to Column 64. |

NOTE: Cards 3 and 4 are not input if the value in Column 8, Card 2, is a 1 or a 2. Input the following cards only if the value is 3.

CARD NUMBER 3

FORMAT(7I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |

5-28 1000/yr Number of cold starts for civilian vehicles in each of the six vehicle classes (table 4). The value for the first vehicle class is punched in Columns 5-8; the second class is punched in Columns 8-12, etc., to Column 28.

CARD NUMBER 4

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |
| 5-8 | 1000/yr | Number of hot soaks occurring in all civilian vehicle classes. |

CARDS 2, 3, AND 4 ARE PUNCHED TOGETHER (CARDS 3 AND 4 ARE INCLUDED IF APPLICABLE) AND REPEATED FOR EACH CIVILIAN VEHICLE AREA ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 29.

SOURCE INVENTORY DATA SET 30 - AIRBASE LINE SOURCE GEOMETRIES

The physical geometries for each line source in this airbase are defined in this data set. Each line source must be defined by describing an X and Y coordinate location at both ends. Additionally, each line is assigned an identification number. This number will be used in Data Sets 31 through 33 when defining the emissions from each particular line source.

CARD NUMBER 1 FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of airbase line sources on this airbase (maximum of 150). |

NOTE: If the total number of airbase line sources is zero, Data Sets 31 through 33 are not punched. If the total number of lines is greater than zero, Data Sets 31 through 33 must be punched.

CARD NUMBER 2 FORMAT(I4,4X,8F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. This ID will be used in future data sets whenever this line is referenced. |
| 9-16 | km | X coordinate at one end of source. |
| 17-24 | km | Y coordinate at one end of source. |
| 25-32 | meters | Average height of the emissions above the ground at this end of the line. |
| 33-40 | meters | Width of this line (if left blank, a value of 10.0 will be used). |
| 41-48 | meters | Initial vertical dispersion parameter (if left blank, a value of 2.0 will be used). |
| 49-56 | km | X coordinate at opposite end of source. |
| 57-64 | km | Y coordinate at opposite end of source. |
| 65-72 | km | Average height of the emissions above the ground at this end of the line. |

THIS CARD IS REPEATED FOR EACH LINE SOURCE AT THIS AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 30.

SOURCE INVENTORY DATA SET 31 - MILITARY MOTOR VEHICLE LINE SOURCES

Military vehicle line sources consist of roadways on the airbase predominated by military vehicles. If military vehicles are intermixed with civilian vehicles on a particular roadway, this roadway is defined as a military line source in this data set with only the military vehicles defined and also as a civilian line source with only civilian vehicles defined.

CARD NUMBER 1 FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of military vehicle line sources to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2 FORMAT(2I4,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 30. |
| 8 | - | Vehicle emission factor identifier for military vehicle on this line (choose from table 11). |
| 9-16 | mph | Average speed of military vehicles on this line. |
| 17-64 | 1000 m/yr | Vehicle miles for military vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 17-24; the value for the second class is punched in Columns 25-32, etc., to Column 64. |

NOTE: Cards 3 and 4 are not included if the value in Column 8, Card 2, is a 1 or a 2. Input the following cards only if the value is 3.

CARD NUMBER 3 FORMAT(7I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |

5-28 1000/yr Number of cold starts for military vehicles in each of the six vehicle classes (table 4). The value for the first vehicle class is punched in Columns 5-8, the second class is punched in Columns 9-12, etc., to Column 28.

CARD NUMBER 4

FORMAT(214)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |
| 5-8 | 1000/yr | Number of hot soaks occurring on this military vehicle line. |

CARDS 2, 3, AND 4 ARE PUNCHED TOGETHER (CARDS 3 AND 4 ARE INCLUDED IF APPLICABLE) AND REPEATED FOR EACH MILITARY VEHICLE LINE ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 31.

SOURCE INVENTORY DATA SET 32 - CIVILIAN MOTOR VEHICLE LINE SOURCES

Civilian vehicle line sources consist of roadways on the airbase predominated by civilian vehicles. If civilian vehicles are intermixed with military vehicles on a particular roadway, this roadway is defined as a civilian line source in this data set with only the civilian vehicles described and also as a military line source with only military vehicles defined.

CARD NUMBER 1 FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of civilian vehicle line sources to be described. |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2 FORMAT(2I4,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 30. |
| 8 | - | Vehicle emission factor identifier for civilian vehicle on this line (choose from table 11). |
| 9-16 | mph | Average speed of civilian vehicles on this line. |
| 17-64 | 1000 m/yr | Vehicle miles for civilian vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 4--24; the value for the second class is punched in Columns 25-32, etc., to Column 64. |

NOTE: Cards 3 and 4 are not included if the value in column 8 is 1 or 2. Input the following cards only if the value is 3.

CARD NUMBER 3 FORMAT(7I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |

4-28 1000/yr Number of cold starts for civilian vehicles in each of the six vehicle classes (table 4). The value for the first vehicle class is punched in Columns 4-8; the second class is punched in Columns 8-12, etc., to Column 28.

CARD NUMBER 4

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to source ID in Card 2. |
| 5-8 | 1000/yr | Number of hot soaks occurring on this civilian vehicle line. |

CARDS 2,3, AND 4 ARE PUNCHED TOGETHER (CARDS 3 AND 4 ARE ALWAYS CODED TOGETHER AND INCLUDED IF APPLICABLE) AND REPEATED FOR EACH CIVILIAN VEHICLE LINE ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 32.

SOURCE INVENTORY DATA SET 33 - OTHER NONAIRCRAFT LINE SOURCES

This data set is used to define line sources on the airbase which cannot be defined in any of the above line source categories. The total annual emission for each pollutant must be hand calculated for each source in this category. These hand calculated emissions are then input in this data set.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 1-4 | - | Total number of other nonaircraft line sources to be defined. |

CARD NUMBER 2

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------------|---|
| 1-4 | - | Four-digit source ID number. It must correspond to an area ID defined in Data Set 30. |
| 9-16 | metric tons/yr | Emission of carbon monoxide at this source. |
| 17-24 | metric tons/yr | Emission of hydrocarbon at this source. |
| 25-32 | metric tons/yr | Emission of nitrogen oxide at this source. |
| 33-40 | metric tons/yr | Emission of particulates at this source. |
| 41-48 | metric tons/yr | Emission of sulfur oxides at this source. |

CARD 2 IS REPEATED FOR EACH "OTHER" AIRBASE LINE SOURCE USED AT THIS BASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 33.

SOURCE INVENTORY DATA SET 34 - ENVIRON POINT SOURCES

Environ point sources are point sources in the area surrounding but not including the airbase. This information is used if a comparison is being made of the pollution from the airbase with the pollution from the surrounding area.

CARD NUMBER 1 FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of environ point sources to be defined (maximum of 100). |

NOTE: If this value is zero, skip to the next data set.

CARD NUMBER 2 FORMAT(2I4,9F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. Plume rise formula ID (choose from table 5). |
| 9-16 | km | X coordinate at the source center. |
| 17-24 | km | Y coordinate at the source center. |
| 25-32 | meters | Height of the exhaust stack above surrounding ground level. |
| 33-40 | meters | Initial horizontal dispersion parameter. |
| 41-48 | meters | Initial vertical dispersion parameter. |
| 49-56 | °Kelvin | Temperature of the gas at the exit of the exhaust stack. |
| 57-64 | m/sec | Velocity of the gas at the exit of the exhaust stack. |
| 65-72 | meters | Diameter of the exhaust stack. |
| 73-80 | meters | Height of the building (not including the exhaust stack) above the ground. |

CARD NUMBER 3 FORMAT(I4,4X, 5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2. |

| | | |
|-------|----------------|--|
| 9-16 | metric tons/yr | Emissions of carbon monoxide at this source. |
| 17-24 | metric tons/yr | Emissions of hydrocarbons at this source. |
| 25-32 | metric tons/yr | Emissions of nitrogen oxides at this source. |
| 33-40 | metric tons/yr | Emissions of particulates at this source. |
| 41-48 | metric tons/yr | Emissions of sulfur oxides at this source. |

CARDS 2 AND 3 ARE PUNCHED TOGETHER AND REPEATED FOR EACH ENVIRON POINT SOURCE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 34.

SOURCE INVENTORY DATA SET 35 - ENVIRON AREA SOURCES

Environ area sources are sources in the area surrounding but not including the airbase. Environ areas may be input according to one of four options. Corresponding to each option is an input card set. For each source category an option is chosen and a corresponding card set is input. For example, if option 2 is chosen, Card Set 2 is used for input of all environ area sources and Card Sets 1 and 3 are ignored. If option zero is chosen, it is assumed that there are no environ area sources to be defined and the user would advance to the next data set. An area source must be defined as a square and situated such that a line parallel with the right and left sides will be situated north-south.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 4 | - | Option identifier indicating which card set will be input (choose from table 12). |

NOTE: If this value is zero, skip to the next data set.

CARD SET NUMBER 1 (Environ Stationary and Mobile Areas)

NOTE: The sum of all stationary and mobile land use areas must not exceed 100.

CARD 1 OF CARD SET 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 1-4 | - | Total number of environ <u>stationary area sources</u> to be defined. |

CARD 2 OF CARD SET 1

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 9-16 | km | X coordinate at the center of this stationary source. |
| 17-24 | km | Y coordinate at the center of this stationary source. |

| | | |
|-------|--------|--|
| 25-32 | meters | Average height of the emissions at this stationary source above the surrounding area (no default value). |
| 33-40 | meters | Length of a side of the square used to represent this stationary source. |
| 41-48 | meters | Initial horizontal dispersion parameter for this stationary source (if left blank, a value of 8.0 will be used). |

CARD 3 OF CARD SET 1

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|----------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2 of Card Set 1. |
| 9-16 | metric tons/yr | Emission of carbon monoxide at this stationary source. |
| 17-24 | metric tons/yr | Emission of hydrocarbons at this stationary source. |
| 25-32 | metric tons/yr | Emission of nitrogen oxides at this stationary source. |
| 33-40 | metric tons/yr | Emission of particulates at this stationary source. |
| 41-48 | metric tons/yr | Emission of sulfur oxides at this stationary source |

CARDS 2 AND 3 OF CARD SET 1 ARE PUNCHED TOGETHER AND MUST BE REPEATED FOR EACH ENVIRON STATIONARY SOURCE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1 OF CARD SET 1.

CARD 4 OF CARD SET 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of environ <u>mobile area sources</u> to be defined. |

CARD 5 OF CARD SET 1

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |

| | | |
|-------|--------|--|
| 9-16 | km | X coordinate at the center of this mobile source. |
| 17-24 | km | Y coordinate at the center of this mobile source. |
| 25-32 | meters | Average height of the emissions above ground at this mobile source. |
| 33-40 | meters | Length of a side of the square used to represent this mobile source. |
| 41-48 | meters | Initial horizontal dispersion parameter for this mobile source (if left blank, a value of 2.0 will be used). |

CARD 6 OF CARD SET 1

FORMAT(2I4,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 5 of Card Set 1. |
| 8 | - | Vehicle emission factor identifier for vehicles in this mobile area source (choose from table 11). |
| 9-16 | mph | Average speed of vehicles in this mobile area. |
| 17-64 | 1000 m/yr | Vehicle miles for mobile source vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 17-24; the value for the second class is punched in Columns 25-26, etc., to Column 64. |

CARDS 7 AND 8 OF CARD SET 1 ARE NOT INCLUDED IF THE VALUE IN COLUMN 8, CARD 6, IS 1 OR 2. INPUT THE FOLLOWING CARDS ONLY IF THE VALUE IS 3.

CARD 7 OF CARD SET 1

FORMAT(7I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 5 of Card Set 1. |

4-28 1000/yr Number of cold starts for mobile source vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 4-8; the second class is punched in Columns 9-12, etc., to Column 28.

CARD 8 OF CARD SET 1

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 5 of Card Set 1. |
| 5-8 | 1000/yr | Total number of hot soaks occurring in this mobile area. |

CARDS 5, 6, 7, AND 8 OF CARD SET 1 ARE PUNCHED TOGETHER (CARDS 7 AND 8 ARE INCLUDED IF APPLICABLE) AND REPEATED FOR EACH ENVIRON MOBILE AREA ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 4 OF CARD SET 1.

CARD SET NUMBER 2

CARD 1 OF CARD SET 2

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of area sources to be defined with EPA land use categories (see table 13) (maximum of 100). |

CARD 2 OF CARD SET 2

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 9-16 | km | X coordinate at the center of this land use area. |
| 17-24 | km | Y coordinate at the center of this land use area. |
| 25-32 | meters | Average height above ground of the emissions at this source. |
| 33-40 | meters | Length of a side of the square used to represent this land use area. |

41-48 meters Initial horizontal dispersion parameter for this stationary source (if left blank, a value of 8.0 will be used).

CARD 3 OF CARD SET 2

FORMAT(I4,4X,8F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2 of Card Set 2. |
| 9-72 | fraction | Portion of this area in each of the eight land use categories (see table 13).* The portion of this area categorized in land use category 1 is punched in Columns 9-16; the portion in category 2 is punched in Columns 17-24, etc., to Column 72. |

*An area can be made up of several land use categories. For example, a particular area could be defined as being 0.30 urban (land use category 2) and 0.70 suburban (land use category 3). The fractions must sum to 1.0.

CARDS 2 AND 3 OF CARD SET 2 ARE PUNCHED TOGETHER AND ARE REPEATED FOR EACH ENVIRON LAND USE AREA AND THE NUMBER OF REPETITIONS MUST EQUAL THE VALUE PUNCHED IN CARD 1 OF CARD SET 2.

CARD SET NUMBER 3 (Environ Combined Areas)

CARD 1 OF CARD SET 3

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of <u>combined environ area sources</u> to be defined for which total emissions for each pollutant have been hand calculated (maximum of 100). |

CARD 2 OF CARD SET 3

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 9-16 | km | X coordinate at the center of this environ area. |

| | | |
|-------|--------|--|
| 17-24 | km | Y coordinate at the center of this environ area. |
| 25-32 | meters | Average height of the emission above ground at this environ area site. |
| 33-40 | meters | Length of a side of the square used to represent this area. |
| 41-48 | meters | Initial horizontal dispersion parameter for this stationary source (if left blank, a value of 8.0 will be used). |

CARD 3 OF CARD SET 3

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|----------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2 of Card Set 3. |
| 9-16 | metric tons/yr | Emission of carbon monoxide at this environ area source. |
| 17-24 | metric tons/yr | Emission of hydrocarbons at this environ area source. |
| 25-32 | metric tons/yr | Emission of nitrogen oxides at this environ area source. |
| 33-40 | metric tons/yr | Emission of particulates at this environ area source. |
| 41-48 | metric tons/yr | Emission of sulfur oxides at this environ area source. |

CARDS 2 AND 3 OF CARD SET 3 ARE INPUT TOGETHER AND MUST BE REPEATED FOR EACH ENVIRON AREA SOURCE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1 OF CARD SET 3.

SOURCE INVENTORY DATA SET 36 - ENVIRON ROADWAY LINE SOURCES

Environ roadway line sources consist of off-base civilian roadways in the vicinity of the airbase.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Total number of environ roadway line sources to be defined. |

NOTE: If this value is zero, skip to the next data set. The sum of environ roadway lines must not exceed 20.

CARD NUMBER 2

FORMAT(I4,4X,8F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 9-16 | km | X coordinate at one end of this line source. |
| 17-24 | km | Y coordinate at one end of this line source. |
| 25-32 | meters | Average height of the emissions above the ground at this end of the line. |
| 33-40 | meters | Width of this roadway line (if left blank, a value of 10.0 will be used). |
| 41-48 | meters | Initial vertical dispersion parameter (if left blank, a value of 2.0 will be used). |
| 49-56 | km | X coordinate at the opposite end of this line source. |
| 57-64 | km | Y coordinate at the opposite end of this line source. |
| 65-72 | meters | Average height of the emissions above ground at this end of the line. |

CARD NUMBER 3

FORMAT(214,7F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which is identical to the source ID in Card 2. |
| 8 | - | Vehicle emission factor identifier for vehicles on this line (choose from table 11). |
| 9-16 | mph | Average speed of military vehicles on this line. |
| 17-64 | 1000/yr | Vehicle miles for vehicles in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 17-24; the value for the second class is punched in Columns 25-32, etc., to Column 64. |

CARDS 4 AND 5 OF DATA SET 36 ARE NOT INCLUDED IF THE VALUE IN COLUMN 8, CARD 3, IS 1 OR 2. INPUT THE FOLLOWING CARDS ONLY IF THE VALUE IS 3.

CARD NUMBER 4

FORMAT(714)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2. |
| 5-28 | 1000/yr | Number of cold starts for vehicles on this roadway line in each of the six vehicle classes (see table 4). The value for the first vehicle class is punched in Columns 5-8; the second class is punched in Columns 9-12, etc., to Column 28. |

CARD NUMBER 5

FORMAT(214)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2. |
| 5-8 | 1000/yr | Total number of hot soaks occurring on this roadway line. |

CARDS 2, 3, 4, AND 5 ARE INPUT TOGETHER (CARDS 4 AND 5 ARE INCLUDED IF APPLICABLE) AND REPEATED FOR EACH ENVIRON ROADWAY LINE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE IN CARD 1, DATA SET 36.

SOURCE INVENTORY DATA SET 37 - ENVIRON NONROADWAY LINE SOURCES

Environ nonroadway lines consist of off-base line sources other than roadways.

CARD NUMBER 1

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Total number of environ nonroadway line sources to be defined. |

NOTE: If this value is zero, source inventory input is complete. The sum of environ roadway lines and nonroadway lines must not exceed 20.

CARD NUMBER 2

FORMAT(I4,4X,8F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-4 | - | Four-digit source ID number which is larger than the previous airbase or environ ID defined. |
| 9-16 | km | X coordinate at one end of this line source. |
| 17-24 | km | Y coordinate at one end of this line source. |
| 25-32 | meters | Average height of the emissions above the ground at this end of the line. |
| 33-40 | meters | Width of this nonroadway line (if left blank, a value of 10.0 will be used). |
| 41-48 | meters | Initial vertical dispersion parameters (if left blank, a value of 2.0 will be used). |
| 49-56 | km | X coordinate at opposite end of this line source. |
| 57-64 | km | Y coordinate at opposite end of this line source. |
| 65-72 | meters | Average height of the emissions above the ground at this end of the line. |

CARD NUMBER 3

FORMAT(I4,4X,5F8.2)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|----------------|---|
| 1-4 | - | Four-digit source ID number which must be identical to the source ID in Card 2. |
| 9-16 | metric tons/yr | Emission of carbon monoxide at this environ line source. |
| 17-24 | metric tons/yr | Emission of hydrocarbons at this environ line source. |
| 25-32 | metric tons/yr | Emission of nitrogen oxides at this environ line source. |
| 33-40 | metric tons/yr | Emission of particulates at this environ line source. |
| 41-48 | metric tons/yr | Emission of sulfur oxides at this environ line source. |

CARDS 2 AND 3 ARE PUNCHED TOGETHER AND MUST BE REPEATED FOR EACH ENVIRON NON-ROADWAY LINE SOURCE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN CARD 1, DATA SET 37.

SECTION V

SHORT-TERM DISPERSION INPUT DATA

The input data to the short-term dispersion model consist of both formatted cards and a magnetic tape or disk file created in a source inventory run. The formatted card input data sets are numbered and grouped in categories and are listed in table 14. These card data are used to describe the time and meteorological conditions of the period to be modelled as well as the receptor locations on the airbase for which predicted concentrations will be calculated. In addition, the temporal activity distributions for airbase stationary and environ sources are defined.

The file created by the source inventory code contains a summary of total emissions occurring on the airbase under study. Also it describes the temporal activity of all aircraft and airbase mobile sources. This file must be included as part of the input data for every short-term dispersion run.

SHORT-TERM DATA SET 1 - TITLE INFORMATION

This data set provides data to be used for labeling the short-term output in large block letters. The labeling consists of four lines of block letters, each approximately 1 inch high. The label is centered horizontally and vertically on the page.

The character set is made up of alphanumeric characters and a blank. The first two lines are used by the program to print the words AQAM and SHORT TERM. The next two lines consist of characters specified in cards 1 and 2 of this data set.

CARD NUMBER 1

FORMAT(12A1)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-12 | - | Characters to appear in the third line of "Block Letter" title (characters are left justified). |

CARD NUMBER 2

FORMAT(12A1)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-12 | - | Characters to appear in the fourth line of "Block Letter" title (characters are left justified in the field). |

SHORT-TERM DATA SET 2 - GENERAL PROBLEM DESCRIPTION

The information in this data set is used to determine the titling information for the printed matrix of pollutant concentrations, the structure of the grid of receptors, and the time segments to be modelled.

CARD NUMBER 1 FORMAT(80A1)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-80 | - | Description of this problem. This description will appear at the head of the tables used to display the predicted concentrations. |

CARD NUMBER 2 FORMAT(I6,A8)

NOTE: The source inventory code can be altered to allow an extra pollutant to be calculated. If the source inventory has not been so altered, this card is included but left blank and the user proceeds to the next card.

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 6 | - | Extra pollutant indicator. Punch a 1 if there is to be an extra pollutant printed. |
| 7-14 | - | Name to describe this extra pollutant. |

CARD NUMBER 3 FORMAT(5I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-30 | - | Pollutant ID numbers defining the pollutants for which predictions are to be printed (choose IDs from table 7). Columns 1-6 contain the ID for the first pollutant to be printed; Columns 7-12 contain the ID for the second, etc., to Column 30. |

CARD NUMBER 4 FORMAT(I6,6F6.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-6 | - | Total number of special wind cases to be defined (this must agree with the number of special wind cases defined in the source inventory of this base). |

7-42 degrees from north (clock-wise), knots

The wind directions and its associated wind speed which define a special case are input together. That is, Columns 7-12 would contain the wind direction to define special case 1 and Columns 13-18 would contain the wind speed to define special case 1; Columns 19-24 contain the wind directions for case 2 and Columns 25-30 contain the wind speed for this case, etc., to Column 42 (see appendix C).

CARD NUMBER 5

FORMAT(2F8.0,2I8,F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-8 | km | X coordinate of the lower left-hand corner of the receptor grid. |
| 9-16 | km | Y coordinate of the lower left-hand corner of the receptor grid. |
| 17-24 | - | Number of columns in the grid of the receptors. |
| 25-32 | - | Number of rows in the grid of the receptors. |
| 33-40 | km | Spacing between the rows and columns* (spacing between rows and columns is equal). |

*A receptor grid size is determined by multiplying the number of rows times the number of columns and adding to this the number of special receptors. The total grid size must not exceed 312.

CARD NUMBER 6

FORMAT(I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-6 | - | Total number of special receptors (receptors specifically defined off the grid). |

IF THE TOTAL NUMBER OF OFF GRID RECEPTORS IS ZERO, CARD 7 IS NOT INPUT. INPUT CARD 7 ONLY IF THE TOTAL NUMBER OF SPECIAL RECEPTORS IS GREATER THAN ZERO. CARD NUMBER 8 IS INPUT REGARDLESS OF THE NUMBER OF SPECIAL RECEPTORS.

CARD NUMBER 7

FORMAT(2F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 1-8 | km | X coordinate of this off-grid receptor. |
| 9-16 | km | Y coordinate of this off-grid receptor. |

THIS CARD IS REPEATED FOR EACH SPECIAL RECEPTOR LOCATION ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE IN CARD NUMBER 6 OF THIS DATA SET.

CARD NUMBER 8

FORMAT(3I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 1-6 | - | Number of statistical receptors defined. Punch a 0 if none are defined. |

NOTE: If this value is zero, the remainder of the card is left blank and user proceeds to Card Number 10.

| | | |
|-------|---|---|
| 7-12 | - | Logical unit to be used to write the statistical tape (punch a 25). |
| 13-16 | - | Indicator defining whether the statistical tape is being created during this run (new) or if data is being added to a previous one (old). Punch a 1 for new, 0 for old. |

CARD NUMBER 9

FORMAT(2F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 1-8 | km | X coordinate for statistical receptor. |
| 9-16 | km | Y coordinate for statistical receptor. |

THIS CARD IS REPEATED FOR EACH STATISTICAL RECEPTOR ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 1-6 OF CARD 8.

CARD NUMBER 10

FORMAT(3I6,F6.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 1-6 | - | The ID number of the month in which all periods to be modelled occur (choose from table 15). |

| | | |
|-------|---|---|
| 7-12 | - | The number of days in this month. |
| 17-18 | - | The number of different periods to be modeled.* |

*A period is defined as a group of consecutive hours within a 24-hour period. A period can be as small as 1 hour and as large as 24 hours. The user may define several different periods during the day and they all must be in the month defined in Columns 1-6.

| | | |
|-------|----|--|
| 19-24 | °F | Average temperature during this month. |
|-------|----|--|

DATA SETS 3 THROUGH 11 MUST BE REPEATED FOR EACH DIFFERENT PERIOD TO BE MODELED AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 17-18 OF CARD NUMBER 9, DATA SET 2.

AD-A033 001

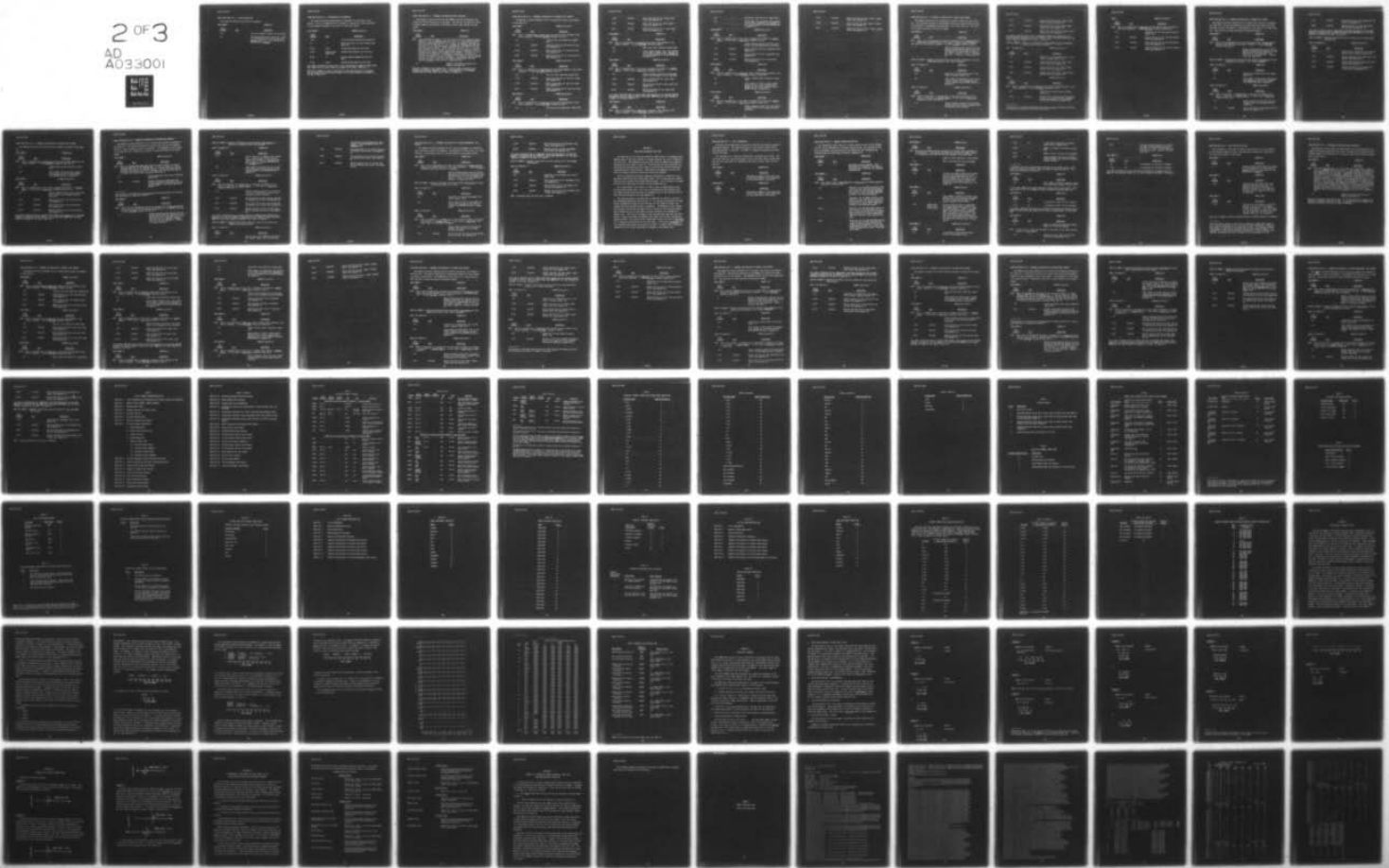
AIR FORCE WEAPONS LAB KIRTLAND AFB N MEX
AIR QUALITY ASSESSMENT MODEL (AQAM) DATA REDUCTION AND OPERATIO--ETC(U)
OCT 76 D F MENICUCCI
AFWL-TR-75-307

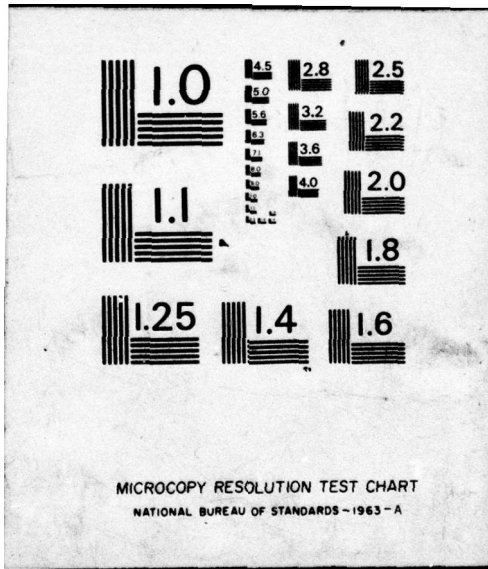
F/G 13/2

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AFWL-TR-75-307

SHORT-TERM DATA SET 3 - PERIOD DEFINITION

This data set defines the period to be modeled.

CARD NUMBER 1

FORMAT(2I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 5-6 | - | The total number of hours in this period. |
| 12 | - | Weekday/weekend period identifier. Punch a 1 if this period is to occur during a <u>weekday</u> ; punch a 2 if this period is to occur during a <u>weekend</u> . |

SHORT-TERM DATA SET 4 - METEOROLOGICAL INFORMATION

This data set defines meteorological information for each hour in this period. A calm is assumed and wind direction is ignored for a particular hour if the average wind speed is less than 1.0 meter per second.

CARD NUMBER 1

FORMAT(2I6,4F6.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|----------------------------|--|
| 5-6 | - | ID for this hour (choose from table 16). |
| 12 | - | Stability ID for this hour (choose from table 17). |
| 13-18 | m/sec | Average wind speed for this hour. |
| 19-24 | degrees from true north | Average wind direction for this hour. |
| 25-30 | °F | Average ambient temperature for this hour. |
| 31-36 | meters | Average mixing depth for this hour. |

THIS CARD IS REPEATED FOR EACH HOUR IN THIS PERIOD AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-6 OF CARD 1, DATA SET 3.

DATA SETS 5 THROUGH 11 MUST BE REPEATED FOR EACH HOUR DEFINED IN THIS PERIOD AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-6 OF CARD 1, DATA SET 3.

SHORT-TERM DATA SET 5 - TEMPORAL DISTRIBUTION INPUT INDICATOR

These data are used to define how the temporal activity distribution for airbase and environ sources are to be input. The user has the option of using a default temporal distribution or defining an hourly distribution for each source.

CARD NUMBER 1

FORMAT(I4)

card
columns

unit

definition

NOTE: This value must be either -1 or 0 for the first hour of the time period. However, if for a subsequent hour this value is 1, the temporal distribution for the preceding hour will be used. For example, consider a 6-hour time period from hours 1 to 6. Suppose the distribution indicator for hour 1 is a 0 and the temporal distribution is defined for all airbase and environ sources. If the indicator for hour 2 is a 1, the temporal activity for all sources in this hour will be identical to hour 1. The activity in hour 3 can be redefined by coding an indicator of 0 and defining a new indicator for temporal distribution. If the hours 4 through 6 are defined as 1, the temporal distribution for hour 3 will be used for all sources in hours 4 through 6. The temporal distribution of aircraft activity is read from the source inventory data file and requires no input by the user for a dispersion run.

3-4

-

Temporal distribution indicator ID
(choose from table 18).

DATA SETS 6 THROUGH 11 ARE PUNCHED ONLY IF FOR THIS HOUR THE VALUE OF THE TEMPORAL DISTRIBUTION INDICATOR IS ZERO. AN EXPLANATION OF THE TEMPORAL DISTRIBUTION FRACTIONAL INPUT CAN BE FOUND IN APPENDIX D.

SHORT-TERM DATA SET 6 - TEMPORAL DISTRIBUTION OF AIRBASE POINT SOURCES

The temporal activity fractions for all airbase point sources are defined in this data set.

CARD NUMBER 1 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 is punched only if there are training fire sites defined in the source inventory. If there are none, proceed to Card 2.

| | | |
|-------|----------|---|
| 2-4 | - | Training fire site identifier (punch 101). |
| 9-16 | fraction | Hourly activity for the training fires (see appendix D). |
| 17-24 | fraction | Daily activity for all training fires (see appendix D). |
| 25-32 | fraction | Monthly activity for all training fires (see appendix D). |

CARD NUMBER 2 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 is punched only if there are test cell sites defined in the source inventory. If there are none, proceed to Card 3.

| | | |
|-------|----------|--|
| 2-4 | - | Test cell site identifier (punch 102). |
| 9-16 | fraction | Hourly activity for all test cell sites (see appendix D). |
| 17-24 | fraction | Daily activity for all test cell sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all test cell sites (see appendix D). |

CARD NUMBER 3 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 3 is punched only if there are run-up stand sites defined in the source inventory. If there are none, proceed to Card 4.

| | | |
|-----|---|---|
| 2-4 | - | Run-up stand site identifier (punch 103). |
|-----|---|---|

| | | |
|-------|----------|---|
| 9-16 | fraction | Hourly activity for all run-up stand sites (see appendix D). |
| 17-24 | fraction | Daily activity for all run-up stand sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all run-up stand sites (see appendix D). |

CARD NUMBER 4 FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 4 is punched only if there are power plant sites defined in the source inventory. If there are none, proceed to Card 6.

| | | |
|-----|---|--|
| 2-4 | - | Power plant site identifier (punch 104). |
| 5-8 | - | Total number of power plant sites defined in the source inventory which <u>DO NOT</u> use the uniform temporal distribution defined in appendix D. |

CARD NUMBER 5 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 5 if punched only if the value in Columns 5-8 of Card 4 is greater than 0. If this value is equal to 0, proceed to Card 6.

| | | |
|-------|----------|--|
| 1-4 | - | Source inventory source ID of the power plant to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this power plant (see appendix D). |
| 17-24 | fraction | Daily activity for this power plant (see appendix D). |
| 25-32 | fraction | Monthly activity for this power plant (see appendix D). |

THIS CARD IS REPEATED FOR ALL POWER PLANTS WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 4, DATA SET 6.

CARD NUMBER 6 FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 6 is punched only if there are incinerator sites defined in the source inventory. If there are none, proceed to Card 8.

- 2-4 - Incinerator site identifier (punch 105).
- 5-8 - Total number of incinerator sites defined in the source inventory which DO NOT use the uniform temporal distribution defined in appendix D.

CARD NUMBER 7

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 7 is punched only if the value in Columns 5-8 of Card 6 is greater than 0. If this value is equal to 0, proceed to Card 8.

- | | | |
|-------|----------|--|
| 1-4 | - | Source inventory source ID of the incinerator to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this incinerator (see appendix D). |
| 17-24 | fraction | Daily activity for this incinerator (see appendix D). |
| 25-32 | fraction | Monthly activity for this incinerator (see appendix D). |

CARD NUMBER 8

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 8 is punched only if there are "other" airbase points defined in the source inventory. If there are none, proceed to Data Set 7.

- | | | |
|-----|---|---|
| 2-4 | - | "Other" airbase points identifier (punch 107). |
| 5-8 | - | Total number of "other" airbase points defined in the source inventory which <u>DO NOT</u> use the uniform temporal distribution defined in appendix D. |

CARD NUMBER 9

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 9 is punched only if the value in Columns 5-8 of Card 8 is greater than 0. If this value is equal to 0, proceed to Data Set 7.

- | | | |
|-----|---|---|
| 1-4 | - | Source inventory source ID of the "other" airbase points to be assigned activity fractions. |
|-----|---|---|

| | | |
|-------|----------|---|
| 9-16 | fraction | Hourly activity for this "other" airbase point (see appendix D). |
| 17-24 | fraction | Daily activity for this "other" airbase point (see appendix D). |
| 25-32 | fraction | Monthly activity for this "other" airbase point (see appendix D). |

NOTE: Card 3 is punched only if the value in Column 5 of Card 3 is greater than 0. If the value is zero, it is assumed to be 0.

| Card Number | Unit | Description |
|-------------|----------|---|
| 1-4 | fraction | Hourly activity for this airbase point (see appendix D). |
| 5-8 | fraction | Daily activity for this airbase point (see appendix D). |
| 9-16 | fraction | Monthly activity for this airbase point (see appendix D). |
| 17-24 | fraction | Hourly activity for this airbase point (see appendix D). |
| 25-32 | fraction | Daily activity for this airbase point (see appendix D). |
| 33-40 | fraction | Monthly activity for this airbase point (see appendix D). |
| 41-48 | fraction | Hourly activity for this airbase point (see appendix D). |
| 49-56 | fraction | Daily activity for this airbase point (see appendix D). |
| 57-64 | fraction | Monthly activity for this airbase point (see appendix D). |

NOTE: Card 3 is punched only if there are other airbase points defined in the source inventory. If there are none, proceed to Card 4.

NOTE: Card 3 is punched only if there are other airbase points defined in the source inventory. If there are none, proceed to Card 4.

NOTE: Card 3 is punched only if there are other airbase points defined in the source inventory. If there are none, proceed to Card 4.

| | | |
|-------|----------|--|
| 9-16 | fraction | Hourly activity for this "other" hydrocarbon site (see appendix D). |
| 17-24 | fraction | Daily activity for this "other" hydrocarbon site (see appendix D). |
| 25-32 | fraction | Monthly activity for this "other" hydrocarbon site (see appendix D). |

THIS CARD IS REPEATED FOR "OTHER" HYDROCARBON SOURCES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Activity Defined for All Hydrocarbon Sources in the "Other" Category)

CARD 1 OF CARD SET 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2-4 | - | Identifier for hydrocarbon sites in the "other" category (punch 110). |
| 9-16 | fraction | Hourly activity for all "other" hydrocarbon sites (see appendix D). |
| 17-24 | fraction | Daily activity for all "other" hydrocarbon sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all "other" hydrocarbon sites (see appendix D). |

CARD 2

FORMAT(I4,4X,F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 2 is punched only if there are space heating sources defined in the source inventory. If there are none, proceed to Card 3.

| | | |
|------|----------|---|
| 2-4 | - | Identifier for space heating sources (punch 111). |
| 9-16 | fraction | Portion of the total emission from space heaters which <u>use</u> the uniform temporal distribution defined in appendix D.* |

*The portion of the space heating emissions which are not distributed uniformly are distributed according to a degree hour method.

CARD 3

FORMAT(I4,4X,3F8.7)

card
columnsunitdefinition

NOTE: Card 3 is punched only if there are off-road vehicle sources defined in the source inventory. If there are none, proceed to Data Set 8.

| | | |
|-------|----------|---|
| 2-4 | - | Identifier for off-road vehicle sources (punch 112). |
| 9-16 | fraction | Hourly activity for all off-road vehicle sites (see appendix D). |
| 17-24 | fraction | Daily activity for all off-road vehicle sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all off-road vehicle sites (see appendix D). |

SHORT-TERM DATA SET 8 - TEMPORAL DISTRIBUTION OF AIRBASE LINE SOURCES

The temporal activity fractions for all airbase line sources are defined in this data set. The activity fractions for nonaircraft line sources are input according to one of two options. Corresponding to each option is an input card set. This card set is input according to the option chosen.

CARD NUMBER 1

FORMAT(I4)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|-------------------|
|-------------------------------|-------------|-------------------|

NOTE: Card 1 and its appropriate card sets are punched only if there are non-aircraft lines defined in the source inventory. If there are none, proceed to Data Set 9.

4

-

Option indicating which card set will be punched to describe the temporal activity distribution for nonaircraft lines. Punch a 1 to input Card Set 1. Punch a 2 to input Card Set 2.

CARD SET NUMBER 1 (Temporal Distribution Activity Defined Individually for Each Nonroadway Line Source in the "Other" Category)

CARD 1 OF CARD SET 1

FORMAT(2I4)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|-------------------|
|-------------------------------|-------------|-------------------|

2-4

-

Identifier for nonaircraft line sources (punch 117).

5-8

-

Total number of nonaircraft line sources which do not use the uniform temporal distribution defined in appendix D.

CARD 2 OF CARD SET 1

FORMAT(I4,4X,3F8.7)

| <u>card</u> <u>columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------------|-------------|-------------------|
|-------------------------------|-------------|-------------------|

NOTE: Card 2 of Card Set 1 is punched only if the value in Columns 5-8 of Card 1 of Card Set 1 is greater than 0. If this value is equal to 0, proceed to Data Set 9.

1-4

-

Source inventory source ID of the non-roadway lines to be assigned activity fractions.

9-16

fraction

Hourly activity for this nonaircraft line source (see appendix D).

- 17-24 fraction Daily activity for this nonaircraft line source (see appendix D).
- 25=32 fraction Monthly activity for this nonaircraft line source (see appendix D).

THIS CARD IS REPEATED FOR ALL NONAIRCRAFT LINES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Activity Defined for All Nonaircraft Line Sources)

CARD 1 OF CARD SET 2 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2-4 | - | Identifier for nonaircraft line sources in the "other" category (punch 117). |
| 9-16 | fraction | Hourly activity for all nonaircraft line sources (see appendix D). |
| 17-24 | fraction | Daily activity for all nonaircraft line sources (see appendix D). |
| 25-32 | fraction | Monthly activity for all nonaircraft line sources (see appendix D). |

SHORT-TERM DATA SET 9 - TEMPORAL DISTRIBUTION OF ENVIRON POINT SOURCES

The temporal activity for all environ point sources is defined in this data set.

CARD NUMBER 1

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 is punched only if there are environ point sources defined in the source inventory. If there are none, proceed to Data Set 10.

| | | |
|-----|---|---|
| 2-4 | - | Environ point source identifier (punch 201). |
| 5-8 | - | Total number of environ point sources which <u>do not</u> use the uniform temporal <u>distribution</u> defined in appendix D. |

CARD NUMBER 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 is punched only if the value in Columns 5-8 of Card 1 is greater than 0. If the value is equal to 0, proceed to Data Set 10.

| | | |
|-------|----------|---|
| 1-4 | - | Source inventory source ID of the environ point source to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this environ point (see appendix D). |
| 17-24 | fraction | Daily activity for this environ point (see appendix D). |
| 25-32 | fraction | Monthly activity for this environ point (see appendix D). |

THIS CARD IS REPEATED FOR ALL ENVIRON POINT SOURCES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1, DATA SET 9.

SHORT-TERM DATA SET 10 - TEMPORAL DISTRIBUTION OF ENVIRON AREA SOURCES

The temporal activity fractions for all environ area sources are defined in this data set. The activity fractions for environ area land use and combined sources is input according to one of two options. Corresponding to each option is an input card set. A particular card set is input according to the option chosen.

CARD NUMBER 1

FORMAT(I4,4X,F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2-4 | - | Environ stationary area source identifier (punch 202). |
| 9-16 | fraction | Portion of the total emissions from environ stationary sources which use the uniform temporal distribution defined in appendix D.* |

*The portions of the emissions which are not distributed uniformly are distributed according to a degree hour method.

CARD NUMBER 2

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 4 | - | Option indicating which card set will be punched to describe the temporal activity distribution for all environ sources in the "land use" or "combined" category. Punch a 1 to input Card Set 1. Punch a 2 to input Card Set 2. |

CARD SET NUMBER 1 (Temporal Distribution Activity Defined Individually for Land Use or Combined Environ Area Sources)

CARD 1 OF CARD SET 1

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2-4 | - | Environ land use or combined area identifier. (Punch a <u>203</u> if this card set defines the <u>activity</u> for <u>land use areas</u> ; punch a <u>204</u> if it defines the activity for <u>combined areas</u> .) |
| 5-8 | - | Total number of environ land use or combined area sources which <u>do not</u> use the uniform temporal distribution defined in appendix D. |

CARD 2 OF CARD SET 1

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|--|-------------|---|
| NOTE: Card 2 of Card Set 1 is punched only if the value in Columns 5-8 of Card 1 of Card Set 1 is <u>greater than 0</u> . If this value is <u>equal to 0</u> , proceed to Data Set 11. | | |
| 1-4 | - | Source inventory source ID of the environ land use or combined area source to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this environ land use or combined area source (see appendix D). |
| 17-24 | fraction | Daily activity for this environ land use or combined area sources (see appendix D). |
| 25-32 | fraction | Monthly activity for this environ land use or combined area source (see appendix D). |

THIS CARD IS REPEATED FOR ALL ENVIRON LAND USE OR COMBINED AREA SOURCES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Defined for All Environ Land Use or Combined Area Sources Format)

CARD 1 OF CARD SET 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2-4 | - | Environ land use or combined area identifier (punch a <u>203</u> if this card defines |

the activity for land use areas; punch a 204 if it defines the activity for combined areas.

| | | |
|-------|----------|--|
| 9-16 | fraction | Hourly activity for all environ land use or combined area sources (see appendix D). |
| 17-24 | fraction | Daily activity for all environ land use or combined area sources (see appendix D). |
| 25-32 | fraction | Monthly activity for all environ land use or combined area sources (see appendix D). |

SHORT-TERM DATA SET 11 - TEMPORAL DISTRIBUTION OF ENVIRON NONROADWAY LINE SOURCES

The temporal activity fractions for all airbase nonroadway line sources is input according to one of two options. Corresponding to each option is an input card set. A particular card set is input according to the option chosen.

CARD NUMBER 1 FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 and its appropriate card sets are punched only if there are non- roadway line sources defined in the source inventory. If there are none, fractional input for this hour is complete.

| | | |
|---|---|--|
| 4 | - | Option indicating which card set will be punched to describe the temporal activity distribution for environ nonroadway line sources. Punch a 1 to input Card Set 1. Punch a 2 to input Card Set 2. |
|---|---|--|

CARD SET NUMBER 1 (Temporal Distribution Activity Defined Individually for Each Environ Nonroadway Line Source)

CARD 1 OF CARD SET 1 FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

| | | |
|-----|---|--|
| 2-4 | - | Identifier for environ nonroadway line source (punch a 206). |
| 5-8 | - | Total number of environ nonroadway line sources which <u>do not</u> use the uniform temporal distribution defined in appendix D. |

CARD 2 OF CARD SET 1 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 of Card Set 1 is punched only if the value in Columns 5-8 of Card 1 of Card Set 1 is greater than 0. If this value is equal to 0, fractional input for this hour is complete.

| | | |
|------|----------|--|
| 1-4 | - | Source inventory source ID of the non-roadway line source to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this environ nonroadway line source (see appendix D). |

| | | |
|-------|----------|--|
| 17-24 | fraction | Daily activity for the nonroadway line source (see appendix D). |
| 25-32 | fraction | Monthly activity for this nonroadway line source (see appendix D). |

THIS CARD IS REPEATED FOR ALL NONROADWAY LINES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Activity Defined for All Nonroadway Line Sources)

CARD 1 OF CARD SET 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2-4 | - | Identifier for nonroadway line sources (punch 206). |
| 9-16 | fraction | Hourly activity for all nonroadway lines (see appendix D). |
| 17-24 | fraction | Daily activity for all nonroadway line sources (see appendix D). |
| 25-32 | fraction | Monthly activity for all nonroadway line sources (see appendix D). |

NOTE: Fractional input for this hour is complete.

SECTION VI
LONG-TERM DISPERSION INPUT DATA

The input data to the long-term dispersion model consist of formatted cards, magnetic tape or disk file created in a source inventory run, and a climatological data file. The formatted card input data sets are numbered and grouped in categories and are listed in table 19. The card data are used to describe the time period to be modeled and the location on the airbase for which predicted concentrations will be calculated. Additionally, the temporal activity fractions for airbase stationary and environ sources are defined.

The file created by the source inventory code contains a summary of total emissions occurring on the airbase under study. Also it describes the temporal activity of all aircraft and airbase mobile sources. This file must be included as part of the input data for every long-term dispersion run.

The climatological file contains at least 5 years of meteorological data for the airbase under study. This file is created by the Environmental Technical Applications Center and must be included as part of the required data for each long-term dispersion run (see appendix H).

The long-term model is provided with a capability to restart a job which has terminated prematurely (see section II). As execution progresses, the model writes information on tape or disk file that will be needed to restart the program from that particular point in execution. Corresponding to the information written on this file, the model writes a message in the long-term output which informs the user of the value of certain variables to be punched on a restart card. This card is included in the long-term input deck and the information is used by the model to determine the proper area at which calculations should continue. This restart card is described in Data Set 2 and is left blank for a long-term job being run for the first time. If this card is punched, the file containing the restart data must be included. A restart job is submitted identically to an initial job except for changes in the restart card.

LONG-TERM DATA SET 1 - TITLE INFORMATION

This data set provides data to be used for labeling the long-term output in large block letters. The labeling consists of four lines of block letters, each approximately 1 inch high. The label is centered horizontally and vertically on the page.

The character set is made up of alphanumeric characters and a blank. The first two lines are used by the program to print the words AQAM and LONG TERM. The next two lines consist of characters specified in Cards 1 and 2 of this data set.

CARD NUMBER 1

FORMAT(12A1)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-12 | - | Characters to appear in the third line of the "Block Letter" title (characters are left justified in the field). |

CARD NUMBER 2

FORMAT(12A1)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-12 | - | Characters to appear in the fourth line of the "Block Letter" title (characters are left justified in the field). |

LONG-TERM DATA SET 2 - GENERAL PROBLEM DESCRIPTION

The information in this data set is used to determine the titling information for the printed matrix of pollutant concentrations, the structure of the grid of receptors, the time periods to be modeled and the information for restarting the long term from a partially completed run.

CARD NUMBER 1

FORMAT(20A4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-80 | - | Description of this problem. This description will appear at the head of the tables used to display the predicted concentration. |

CARD NUMBER 2

FORMAT(4I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: This restart card is left blank for an initial run and punched appropriately for a restarted run.

| | | |
|-------|---|---|
| 5-6 | - | Identifier for the PERIOD defined in the vicinity of the long-term grid output at which execution will be continued (must be equal to a restart PERIOD identifier printed in the long-term output). |
| 11-12 | - | Identifier for the MONTH defined in the vicinity of the long-term grid output at which execution will be continued (must be equal to a restart MONTH identifier printed in the long-term output). |
| 17-18 | - | Identifier for the WIND SPEED defined in the vicinity of the long-term grid output at which execution will be continued (must be equal to a restart WIND SPEED identifier printed in the long-term output). |
| 23-24 | - | Identifier for the WIND DIRECTION defined in the vicinity of the long-term grid output at which execution will be continued (must be equal to a restart WIND DIRECTION identifier printed in the long-term output). |

CARD NUMBER 3

FORMAT(I6,A8)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: The source inventory code can be altered to allow an extra pollutant to be calculated. If the source inventory has not been so altered, Card 3 is included and left blank and the user proceeds to the next card.

| | | |
|---|---|---|
| 6 | - | Number of extra pollutants to be printed. |
|---|---|---|

| | | |
|------|---|--|
| 7-14 | - | Name to describe this extra pollutant. |
|------|---|--|

CARD NUMBER 4

FORMAT(6I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

1-30 - Pollutant ID numbers defining the pollutants for which predictions are to be printed (choose IDs from table 7). Columns 1-6 contain the ID for the first pollutant to be printed; Columns 7-12 contain the ID for the second, etc., to Column 30.

CARD NUMBER 5

FORMAT(I6,6F6.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

1-6 - Total number of special wind cases to be defined (this must agree with the number of special wind cases defined in the source inventory of this base).

7-42 degree from north (clockwise, knots) The wind direction and its associated wind speed which define a special case are coded together. Columns 7-12 would contain the wind direction in special case 1 and Columns 13-18 would contain the wind speed in special case 1. Columns 19-24 contain the wind direction for case 2 and Columns 25-30 contain the wind speed for this case, etc., to Column 42.

CARD NUMBER 6

FORMAT(2F8.0,2I8,F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

1-8 km X coordinate of the lower left-hand corner of the receptor grid.

| | | |
|-------|----|--|
| 9-16 | km | Y coordinate of the lower left-hand corner of the receptor grid. |
| 17-24 | - | Number of columns in the grid of receptors. |
| 25-32 | - | Number of rows in the grid of receptors. |
| 33-40 | km | Spacing between the rows and columns* (spacing between rows equals the spacing between columns). |

*A receptor grid size is determined by multiplying the number of rows by the number of columns and adding to this the number of special receptors. The total grid size must not exceed 312.

CARD NUMBER 7

FORMAT(I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-6 | - | Total number of special receptors (receptors specifically defined off the grid). |

IF THE TOTAL NUMBER OF OFF GRID RECEPTORS IS ZERO, CARD 8 IS NOT INPUT. INPUT CARD 8 ONLY IF THE TOTAL NUMBER OF SPECIAL RECEPTORS IS GREATER THAN ZERO.

CARD NUMBER 8

FORMAT(2F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-8 | km | X coordinate of this off grid receptor. |
| 9-16 | km | Y coordinate of this off grid receptor. |

THIS CARD IS REPEATED FOR EACH SPECIAL RECEPTOR LOCATION ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE IN CARD NUMBER 7 OF THIS DATA SET.

CARD NUMBER 9

FORMAT(3I6)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-6 | - | Number of statistical receptors defined. Punch a 0 if none are defined. |

NOTE: If this value is zero, the remainder of the card is left blank and Card Number 10 is not punched.

| | | |
|------|---|---|
| 7-12 | - | Logical unit to be used to write the statistical tape (punch a 25). |
|------|---|---|

13-16

Indicator defining whether the statistical tape is being created during this run (new) or if data is being added to a previous one (old). Punch a 1 for new, 0 for old.

CARD NUMBER 10

FORMAT(2F8.0)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 1-8 | km | X coordinate for statistical receptor. |
| 9-16 | km | Y coordinate for statistical receptor. |

THIS CARD IS REPEATED FOR EACH STATISTICAL RECEPTOR ON THE AIRBASE AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 1-6 OF CARD 9.

LONG-TERM DATA SET 3 - TIME PERIOD DEFINITION

The information in this data set defines the period of time to be modeled by the long-term dispersion code. A time period is defined as a combination of a time of day within a given month.

CARD NUMBER 1

FORMAT(16)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 6 | - | Weekday, weekend period identifier (punch a 1 if this period is to occur during a <u>weekday</u> ; punch a 2 if this period is to occur during a <u>weekend</u>). |

CARD NUMBER 2

FORMAT(716)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-42 | - | Identifier for the time of day to be modeled (choose from table 20). The identifier for the first period is punched in Columns 5-6, the identifier for the second in Columns 11-12, etc., to Column 42. |

CARD NUMBER 3

FORMAT(1316)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 1-78 | - | Identifier for the months in which the periods in Card 2 are to be modeled (choose from table 21). The identifier for the first month is punched in Columns 5-6, the identifier for the second in Columns 11-12, etc., to Column 78.* |

DATA SETS 4 THROUGH 10 MUST BE REPEATED FOR EACH DIFFERENT PERIOD TO BE MODELED.*

*The time periods chosen in Card 2 will be modeled for each month chosen in Card 3 and each combination of time period and month constitute a period for which temporal distribution fractions must be input. For example, suppose a user chooses to model two time periods during three different months. This combination of time periods and months constitute six distinct periods to be modeled. Therefore, Data Sets 4 through 10 must be repeated six times.

LONG-TERM DATA SET 4 - TEMPORAL DISTRIBUTION INPUT INDICATOR

These data are used to define how the temporal activity distributions for airbase and environ sources are to be input. The user has the option of using a default temporal distribution for all sources or defining an hourly distribution for each source.

CARD NUMBER 1

FORMAT(I4)

card
columns

unit

definition

NOTE: This value must be either -1 or 0 for the first time period. However, if for a subsequent hour this value is 1, the temporal distribution for the preceding hour will be used. For example, consider six periods for which modeling will be performed. Suppose the distribution indicator for hour 1 is 0 and the temporal distribution is defined for all airbase and environ source. If the indicator for the second period is a 1, the temporal activity for all sources in this period will be identical to period 1. The activity in period 3 can be redefined by coding an indicator of 0 and defining a new temporal distribution. If the indicators for the periods 4 through 6 are defined as 1, the temporal distribution for period 3 will be used for all sources in periods 4 through 6. The temporal distribution of aircraft activity is read from the source inventory data file and requires no input by the user for a dispersion run.

3-4

-

Temporal distribution indicator ID
(choose from table 18).

DATA SETS 5 THROUGH 10 ARE PUNCHED ONLY IF, FOR THIS PERIOD, THE VALUE OF THE TEMPORAL DISTRIBUTION INDICATOR IS ZERO. AN EXPLANATION OF THE TEMPORAL DISTRIBUTION FRACTIONAL INPUT CAN BE FOUND IN APPENDIX D.

LONG-TERM DATA SET 5 - TEMPORAL DISTRIBUTION OF AIRBASE POINT SOURCES

The temporal activity fractions for all airbase point sources are defined in this data set.

CARD NUMBER 1

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 is punched only if there are training fire sites defined in the source inventory. If there are none, proceed to Card 2.

| | | |
|-------|----------|---|
| 2-4 | - | Training fire site identifier (punch 101). |
| 9-16 | fraction | Hourly activity for the training fires (see appendix D). |
| 17-24 | fraction | Daily activity for all training fires (see appendix D). |
| 25-32 | fraction | Monthly activity for all training fires (see appendix D). |

CARD NUMBER 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 is punched only if there are test cell sites defined in the source inventory. If there are none, proceed to Card 3

| | | |
|-------|----------|--|
| 2-4 | - | Test cell site identifier (punch 102). |
| 9-16 | fraction | Hourly activity for all test cell sites (see appendix D). |
| 17-24 | fraction | Daily activity for all test cell sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all test cell sites (see appendix D). |

CARD NUMBER 3

FORMAT(I4,4X,3F8.8)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 3 is punched only if there are run-up stand sites defined in the source inventory. If there are none, proceed to Card 4.

| | | |
|-----|---|---|
| 2-4 | - | Run-up stand site identifier (punch 103). |
|-----|---|---|

| | | |
|-------|----------|---|
| 9-16 | fraction | Hourly activity for all run-up stand sites (see appendix D). |
| 17-24 | fraction | Daily activity for all run-up stand sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all run-up stand sites (see appendix D). |

CARD NUMBER 4

~FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 4 is punched only if there are power plant sites defined in the source inventory. If there are none, proceed to Card 6.

| | | |
|-----|---|--|
| 2-4 | - | Power plant site identifier (punch 104). |
| 5-8 | - | Total number of power plant sites defined in the source inventory which <u>DO NOT</u> use the uniform temporal distribution defined in appendix D. |

CARD NUMBER 5

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 5 is punched only if the value in Columns 5-8 of Card 4 is greater than 0. If this value is equal to 0, proceed to Card 6.

| | | |
|-------|----------|--|
| 1-4 | - | Source inventory source ID of the power plant to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this power plant (see appendix D). |
| 17-24 | fraction | Daily activity for this power plant (see appendix D). |
| 25-32 | fraction | Monthly activity for this power plant (see appendix D). |

THIS CARD IS REPEATED FOR ALL POWER PLANTS WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 4.

CARD NUMBER 6

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 6 is punched only if there are incinerator sites defined in the source inventory. If there are none, proceed to Card 8.

| | | |
|-----|---|--|
| 2-4 | - | Incinerator site identifier (punch 105). |
| 5-8 | - | Total number of incinerator sites defined in the source inventory which <u>DO NOT</u> use the uniform temporal distribution defined in appendix D. |

CARD NUMBER 7

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 7 is punched only if the value in Columns 5-8 of Card 6 is greater than 0. If this value is equal to 0, proceed to Card 8.

| | | |
|-------|----------|--|
| 1-4 | - | Source inventory source ID of the incinerator to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this incinerator (see appendix D). |
| 17-24 | fraction | Daily activity for this incinerator (see appendix D). |
| 25-32 | fraction | Monthly activity for this incinerator (see appendix D). |

CARD NUMBER 8

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 8 is punched only if there are "other" airbase points defined in the source inventory. If there are none, proceed to Data Set 6.

| | | |
|-----|---|---|
| 2-4 | - | "Other" airbase points identifier (punch 107). |
| 5-8 | - | Total number of "other" airbase points defined in the source inventory which <u>DO NOT</u> use the uniform temporal distribution defined in appendix D. |

CARD NUMBER 9

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 9 is punched only if the value in Columns 5-8 of Card 8 is greater than 0. If this value is equal to 0, proceed to Data Set 6.

| | | |
|-----|---|---|
| 1-4 | - | Source inventory source ID of the "other" airbase points to be assigned activity fractions. |
|-----|---|---|

| | | |
|-------|----------|---|
| 9-16 | fraction | Hourly activity for this "other" airbase point (see appendix D). |
| 17-24 | fraction | Daily activity for this "other" airbase point (see appendix D). |
| 25-32 | fraction | Monthly activity for this "other" airbase point (see appendix D). |

LONG-TERM DATA SET 6 - TEMPORAL DISTRIBUTION OF AIRBASE AREA SOURCES

The temporal activity fractions for all airbase area sources are defined in this data set. The activity fractions for hydrocarbon sources are input according to one of two options. Corresponding to each option is an input card set. This card set is input according to the option chosen.

CARD NUMBER 1 FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 4 | - | Option indicating which card set will be punched to describe the temporal activity distribution for hydrocarbon sources in the "other" category. Punch a 1 to input Card Set 1; punch a 2 to input Card Set 2. |

CARD SET NUMBER 1 (Temporal distribution Activity Defined Individually for Each Hydrocarbon Source in the "Other" Category)

CARD 1 OF CARD SET 1 FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|--|
| 2-4 | - | Identifier for hydrocarbon sites in the "other" category (punch 110). |
| 5-8 | - | Total number of hydrocarbon sites in the "other" category which <u>do not</u> use the uniform temporal distribution defined in appendix D. |

CARD 2 OF CARD SET 1 FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|---|
| 1-4 | - | Source inventory source ID of the hydrocarbon site in the "other" category to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this "other" hydrocarbon site (see appendix D). |

NOTE: Card 2 of Card Set 1 is punched only if the value in Columns 5-8 of Card 1 of Card Set 1 is greater than 0. If this value is equal to 0, proceed to Card 2.

| | | |
|-------|----------|--|
| 17-24 | fraction | Daily activity for this "other" hydrocarbon site (see appendix D). |
| 25-32 | fraction | Monthly activity for this "other" hydrocarbon site (see appendix D). |

THIS CARD IS REPEATED FOR ALL POWER PLANTS WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Activity Defined for All Hydrocarbon Sources in the "Other" Category)

CARD 1 OF CARD SET 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2-4 | - | Identifier for hydrocarbon sites in the "other" category (punch 110). |
| 9-16 | fraction | Hourly activity for all "other" hydrocarbon sites (see appendix D). |
| 17-24 | fraction | Daily activity for all "other" hydrocarbon sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all "other" hydrocarbon sites (see appendix D). |

CARD 2

FORMAT(I4,4X,F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|-------------------|
|---------------------|-------------|-------------------|

NOTE: Card 2 is punched only if there are space heating sources defined in the source inventory. If there are none, proceed to Card 3.

| | | |
|------|----------|---|
| 2-4 | - | Identifier for space heating sources (punch 111). |
| 9-16 | fraction | Portion of the total emission from space heaters which <u>use</u> the uniform temporal distribution defined in appendix D.* |

*The portion of the space heating emissions which are not distributed uniformly are distributed according to a degree hour method.

CARD 3

FORMAT(I4,4X,3F8.7)

card
columnsunitdefinition

NOTE: Card 3 is punched only if there are off-road vehicle sources defined in the source inventory. If there are none, proceed to Data Set 7.

| | | |
|-------|----------|---|
| 2-4 | - | Identifier for off-road vehicle sources (punch 112). |
| 9-16 | fraction | Hourly activity for all off-road vehicle sites (see appendix D). |
| 17-24 | fraction | Daily activity for all off-road vehicle sites (see appendix D). |
| 25-32 | fraction | Monthly activity for all off-road vehicle sites (see appendix D). |

LONG-TERM DATA SET 7 - TEMPORAL DISTRIBUTION OF AIRBASE LINE SOURCES

The temporal activity fractions for all airbase line sources are defined in this data set. The activity fractions for nonroadway line sources are input according to one of two options. Corresponding to each option is an input card set. This card set is input according to the option chosen.

CARD NUMBER 1

FORMAT (I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 and its appropriate card sets are punched only if there are non-aircraft lines defined in the source inventory. If there are none, proceed to Data Set 8.

| | | |
|---|---|--|
| 4 | - | Option indicating which card set will be punched to describe the temporal activity distribution for nonaircraft lines. Punch a 1 to input Card Set 1; punch a 2 to input Card Set 2. |
|---|---|--|

CARD SET NUMBER 1 (Temporal Distribution Activity Defined Individually for Each Nonaircraft Line Source in the "Other" Category)

CARD 1 OF CARD SET 1

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

| | | |
|-----|---|---|
| 2-4 | - | Identifier for nonaircraft line sources (punch 117). |
| 5-8 | - | Total number of nonaircraft line sources which <u>do not</u> use the uniform temporal distribution defined in appendix D. |

CARD 2 OF CARD SET 1

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 of Card Set 1 is punched only if the value in Columns 5-8 of Card 1 of Card Set 1 is greater than 0. If this value is equal to 0, proceed to Data Set 8.

| | | |
|-------|----------|--|
| 1-4 | - | Source inventory source ID of nonaircraft lines to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this nonaircraft line source (see appendix D). |
| 17-24 | fraction | Daily activity for this nonaircraft line source (see appendix D). |

25-32 fraction Monthly activity for this nonaircraft line source (see appendix D).

THIS CARD IS REPEATED FOR ALL NONAIRCRAFT LINES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Activity Defined for All Nonaircraft Line Sources)

CARD 1 OF CARD SET 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2-4 | - | Identifier for nonaircraft line sources in the "other" category (punch 117). |
| 9-16 | fraction | Hourly activity for all nonaircraft line sources (see appendix D). |
| 17-24 | fraction | Daily activity for all nonaircraft line sources (see appendix D). |
| 25-32 | fraction | Monthly activity for all nonaircraft line sources (see appendix D). |

LONG-TERM DATA SET 8 - TEMPORAL DISTRIBUTION OF ENVIRON POINT SOURCES

The temporal activity for all environ point sources is defined in this data set.

CARD NUMBER 1

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 is punched only if there are environ point sources defined in the source inventory. If there are none, proceed to Data Set 9.

| | | |
|-----|---|--|
| 2-4 | - | Environ point source identifier (punch 201). |
| 5-8 | - | Total number of environ point sources which <u>do not</u> use the uniform temporal distribution defined in appendix D. |

CARD NUMBER 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 is punched only if the value in Columns 5-8 of Card 1 is greater than 0. If the value is equal to 0, proceed to Data Set 9.

| | | |
|-------|----------|---|
| 1-4 | - | Source inventory source ID of the environ point source to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this environ point (see appendix D). |
| 17-24 | fraction | Daily activity for this environ point (see appendix D). |
| 25-32 | fraction | Monthly activity for this environ point (see appendix D). |

THIS CARD IS REPEATED FOR ALL ENVIRON POINT SOURCES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1, DATA SET 8.

LONG-TERM DATA SET 9 - TEMPORAL DISTRIBUTION OF ENVIRON AREA SOURCES

The temporal activity fractions for all environ area sources are defined in this data set. The activity fractions for environ area land use and combined sources is input according to one of two options. Corresponding to each option is an input card set. A particular card set is input according to the option chosen.

CARD NUMBER 1

FORMAT(I4,4X,F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 1 is punched and input only if environ option number 1 in Source Inventory Data Set 35 has been defined. If land use (option 2, Source Inventory Data Set 35) or combined (option 3, Source Inventory Data Set 35) areas are defined, skip Card 1 and begin this data set with Card 2. If there are no area sources, proceed to Data Set 10.

| | | |
|------|----------|--|
| 2-4 | - | Environ stationary area source identifier (punch 202). |
| 9-16 | fraction | Portion of the total emissions from environ stationary sources which use the uniform temporal distribution defined in appendix D.* |

*The portions of the emissions which are not distributed uniformly are distributed according to a degree hour method.

CARD NUMBER 2

FORMAT(I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|-------------------------|-------------|-------------------|
|-------------------------|-------------|-------------------|

NOTE: Card 2 and its appropriate card set is punched only if there are environ land use areas or environ combined areas defined in the source inventory. If there are none, proceed to Data Set 10.

| | | |
|---|---|---|
| 4 | - | Option indicating which card set will be punched to describe the temporal activity distribution for all environ sources in the "land use" or "combined" category. Punch a 1 to input Card Set 1; punch a 2 to input Card Set 2. |
|---|---|---|

CARD SET NUMBER 1 (Temporal Distribution Activity Defined Individually for Land Use or Combined Environ Area Sources)

CARD 1 OF CARD SET 1

FORMAT(2I4)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2-4 | - | Environ land use or combined area identifier (punch a 203 if this card set defines the activity for <u>land use areas</u> ; punch a 204 if it defines the activity for <u>combined areas</u>). |
| 5-8 | - | Total number of environ land use or combined area sources which <u>do not use the uniform temporal distribution</u> defined in appendix D. |

CARD 2 OF CARD SET 1

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|--|-------------|---|
| NOTE: Card 2 of Card Set 1 is punched only if the value in Columns 5-8 of Card 1 of Card Set 1 is <u>greater than 0</u> . If this value is <u>equal to 0</u> , proceed to Data Set 10. | | |
| 1-4 | - | Source inventory source ID of the environ land use or combined area source to be assigned activity fractions. |
| 9-16 | fraction | Hourly activity for this environ land use or combined area source (see appendix D). |
| 17-24 | fraction | Daily activity for this environ land use or combined area source (see appendix D). |
| 25-32 | fraction | Monthly activity for this environ land use or combined area source (see appendix D). |

THIS CARD IS REPEATED FOR ALL ENVIRON LAND USE OR COMBINED AREA SOURCES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

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CARD SET NUMBER 2 (Temporal Distribution Defined for All Environ Land Use or Combined Area Sources)

CARD 1 OF CARD SET 2

FORMAT(I4,4X,3F8.7)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|---|
| 2-4 | - | Environ land use or combined area identifier (punch a <u>203</u> if this card defines the activity for <u>land use areas</u> ; punch a <u>204</u> if it defines the activity for <u>combined areas</u>). |
| 9-16 | fraction | Hourly activity for all environ land use or combined area sources (see appendix D). |
| 17-24 | fraction | Daily activity for all environ land use or combined area sources (see appendix D). |
| 25-32 | fraction | Monthly activity for all environ land use or combined area sources (see appendix D). |

| | | |
|-------|----------|--|
| 17-24 | fraction | Daily activity for the nonroadway line source (see appendix D). |
| 25-32 | fraction | Monthly activity for this nonroadway line source (see appendix D). |

THIS CARD IS REPEATED FOR ALL NONROADWAY LINES WHICH DO NOT USE THE UNIFORM TEMPORAL DISTRIBUTION AND THE NUMBER OF REPETITIONS MUST AGREE WITH THE VALUE PUNCHED IN COLUMNS 5-8 OF CARD 1 OF CARD SET 1.

CARD SET NUMBER 2 (Temporal Distribution Activity Defined for All Nonroadway Line Sources)

| <u>card columns</u> | <u>unit</u> | <u>definition</u> |
|---------------------|-------------|--|
| 2-4 | - | Identifier for nonroadway line sources (punch 206). |
| 9-16 | fraction | Hourly activity for all nonroadway lines (see appendix D). |
| 17-24 | fraction | Daily activity for all nonroadway line sources (see appendix D). |
| 25-32 | fraction | Monthly activity for all nonroadway line sources (see appendix D). |

NOTE: Fractional input for this hour is complete.

Table 1

LIST OF SOURCE INVENTORY DATA SETS

| | |
|-------------|--|
| DATA SET 1 | Title Information and Description of Airbase Sources and Locations |
| DATA SET 2 | NAMELIST Data (EGDATA, ACDATA, DSDATA) |
| DATA SET 3 | Meteorological Data |
| DATA SET 4 | Airbase Aircraft and Runway Totals |
| DATA SET 5 | Aircraft Activity |
| DATA SET 6 | Aircraft Parking Areas |
| DATA SET 7 | Aircraft Taxiway Path Segments |
| DATA SET 8 | Aircraft Runways Information <ol style="list-style-type: none"> a. Runway Geometries b. Runway Wind Direction Use c. Runway Arrivals d. Runway Departures e. Runway Taxiway Paths <ol style="list-style-type: none"> (1) Inbound Taxiway Usage (2) Inbound Taxiway Segments (3) Outbound Taxiway Usage (4) Outbound Taxiway Segments |
| DATA SET 9 | Aircraft Aerospace Ground Equipment Emissions |
| DATA SET 10 | Aircraft Refueling, Spillage, and Venting Totals |
| DATA SET 11 | Airbase Vehicle Age Distribution |
| DATA SET 12 | Number of Airbase Point Sources |
| DATA SET 13 | Training Fire Point Sources |
| DATA SET 14 | Test Cell Point Sources |
| DATA SET 15 | Run-Up Stand Point Sources |
| DATA SET 16 | Power Plant Point Sources |
| DATA SET 17 | Incinerator Point Sources |

Table 1 (cont'd)

| | |
|-------------|---|
| DATA SET 18 | Petroleum Storage Tank Point Sources |
| DATA SET 19 | Other Airbase Point Sources |
| DATA SET 20 | Airbase Area Source Geometries |
| DATA SET 21 | Airbase Area Sources with Hydrocarbon Filling, Working Loss, and Spillage |
| DATA SET 22 | Hydrocarbon Breathing Loss Sites (from petroleum storage tanks) |
| DATA SET 23 | Hydrocarbon Breathing Losses (petroleum tank truck parking areas) |
| DATA SET 24 | Hydrocarbon Breathing Losses (from military and civilian parking areas) |
| DATA SET 25 | Other Evaporative Hydrocarbon Area Sources |
| DATA SET 26 | Space Heating Area Sources |
| DATA SET 27 | Off-Road Vehicle Area Sources |
| DATA SET 28 | Military Motor Vehicle Area Sources |
| DATA SET 29 | Civilian Motor Vehicle Area Sources |
| DATA SET 30 | Airbase Line Source Geometries |
| DATA SET 31 | Military Motor Vehicle Line Sources |
| DATA SET 32 | Civilian Motor Vehicle Line Sources |
| DATA SET 33 | Other Nonaircraft Line Sources |
| DATA SET 34 | Environ Point Sources |
| DATA SET 35 | Environ Area Sources |
| DATA SET 36 | Environ Roadway Line Sources |
| DATA SET 37 | Environ Nonroadway Line Sources |

Table 2

DEFINITION OF NAMELIST VARIABLES

| <u>Variable</u> | <u>First dimension</u> | <u>Second dimension</u> | <u>Third dimension</u> | <u>Type</u> | <u>Units</u> | <u>Definition</u> |
|--|------------------------|-------------------------|------------------------|-------------|-------------------|---|
| <u>Definition of variables contained in NAMELIST - group name EGDATA</u> | | | | | | |
| ACNAME | Acft ID | - | - | Hollerith | - | Aircraft name (see table 3) |
| EGNAME | Eng ID | - | - | Hollerith | - | Engine name (see table 3) |
| EGEMFC | Pollut ID | Eng mode ID | Eng ID | Real | lbs/1000 lbs fuel | Pollutant emission factor per engine type |
| EGFF | Eng mode ID | Eng ID | - | Real | 1000 lb/hr | Engine fuel flow rates |
| IACABF | Acft ID | - | - | Integer | - | Aircraft afterburner use indicator ¹ |
| IDACEG | Acft ID | - | - | Integer | - | Identifier of the engine type used by aircraft (see table 3) |
| IEGABF | Eng ID | - | - | Integer | - | Engine afterburner use indicator ² |
| IDRR | Acft ID | - | - | Integer | - | Identifier of the runway roll equation used by aircraft (see table 22) |
| <u>Definition of variables contained in NAMELIST - group name ACDATA</u> | | | | | | |
| APPHT | - | - | - | Real | km | Aircraft altitude at start of approach |
| CLMBHT | - | - | - | Real | km | Aircraft altitude at end of climbout |
| ENGNO | Acft ID | Flag ³ | - | Integer | - | Number of engines ³ |
| DSCNT1 | Acft ID | - | - | Real | deg | Aircraft angle for first phase of approach |
| DSCNT2 | Acft ID | - | - | Real | deg | Aircraft angle for final phase of approach |
| APSPD1 | Acft ID | - | - | Real | km/hr | Aircraft speed at first phase of approach |
| APSPD2 | Acft ID | - | - | Real | km/hr | Aircraft speed at final phase of approach |
| APPHT2 | Acft ID | - | - | Real | km | Aircraft altitude at final phase of approach |
| ASCNT1 | Acft ID | - | - | Real | deg | Aircraft angle at the beginning of first phase of takeoff |
| ASCNT2 | Acft ID | - | - | Real | deg | Aircraft angle at the beginning of the second phase of takeoff ⁴ |
| COSPD1 | Acft ID | - | - | Real | km/hr | Aircraft speed at the end of the first phase of climbout |

Table 2 (cont'd)

| <u>Variable</u> | <u>First dimension</u> | <u>Second dimension</u> | <u>Third dimension</u> | <u>Type</u> | <u>Units</u> | <u>Definition</u> |
|-----------------|------------------------|-------------------------|------------------------|-------------|--------------|--|
| COSPD2 | Acft ID | - | - | Real | km/hr | Aircraft speed at the end of the second phase of climbout |
| COHT1 | Acft ID | - | - | Real | km | Aircraft altitude at the beginning of the second phase of climbout |
| TXISPD | Acft ID | - | - | Real | km/hr | Aircraft taxi speed |
| LNDSPD | Acft ID | - | - | Real | km/hr | Aircraft speed at point of touchdown |
| TOSPD | Acft ID | - | - | Real | km/hr | Aircraft speed at point of liftoff |
| SRTUPT | Acft ID | - | - | Real | min/eng | Time aircraft idles before takeoff |
| EGCHKT | Acft ID | - | - | Real | min/eng | Time aircraft requires to check engines before takeoff |
| SHTDNT | Acft ID | - | - | Real | min/eng | Time aircraft idles before shutdown |
| TOWT | Acft ID | - | - | Real | 100 lbs | Weight of aircraft at takeoff |

Definition of variables contained in NAMELIST - group name DSDATA

| | | | | | | |
|--------|---------------------------|---------|---|------|----------|---|
| ACMO | Month index | Acft ID | - | Real | fraction | Monthly distribution of aircraft activity |
| ACDY | Weekday/weekend indicator | Acft ID | - | Real | fraction | Weekday or weekend distribution of aircraft activity ⁵ |
| ACHR | Hour index | Acft ID | - | Real | fraction | Hourly distribution of aircraft activity |
| VHMLMO | Month index | - | - | Real | fraction | Monthly distribution of airbase military vehicle activity |
| VHMLDY | Weekday/weekend indicator | - | - | Real | fraction | Weekday or weekend distribution of airbase military vehicle activity ⁵ |
| VHMLHR | Hour index | - | - | Real | fraction | Hourly distribution of airbase military vehicle activity |
| CVABMO | Month index | - | - | Real | fraction | Monthly distribution of airbase civilian vehicle activity |
| CVABDY | Weekday/weekend indicator | - | - | Real | fraction | Weekday or weekend distribution of airbase civilian vehicle activity ⁵ |
| CVABHR | Hour index | - | - | Real | fraction | Hourly distribution of airbase civilian vehicle activity |
| CVENMO | Month index | - | - | Real | fraction | Monthly distribution of environment vehicle activity |

Table 2 (cont'd)

| <u>Variable</u> | <u>First dimension</u> | <u>Second dimension</u> | <u>Third dimension</u> | <u>Type</u> | <u>Units</u> | <u>Definition</u> |
|-----------------|----------------------------------|-------------------------|------------------------|-------------|--------------|--|
| CVENDY | Weekday/ weekend indicator | - | - | Real | fraction | Weekday or weekend distribution of environ vehicle activity ⁵ |
| CVENHR | Hour index | - | - | Real | fraction | Hourly distribution of environ vehicle activity |
| FLMO | Month index | Fuel ID (table 9) | - | Real | fraction | Monthly distribution of air-base fuel processing activity |
| FLDY | Weekday/ weekend indicator | Fuel ID (table 9) | - | Real | fraction | Weekday or weekend distribution of fuel processing activity ⁵ |
| FLHR | Hour index | Fuel ID (table 9) | - | Real | fraction | Hourly distribution of air-base fuel processing activity |

¹This indicator is either 1 or 0; 1 indicates that the aircraft being defined uses afterburner on takeoff; 0 indicates it does not.

²This indicator is either 1 or 0; 1 indicates that the engine being defined has an afterburner; 0 indicates it does not.

³If, for a particular aircraft, the number of engines is to be redefined, ENGNO must be defined twice. The first reassignment is used to define the total number of engines used by this aircraft. In this first definition ENGNO contains the aircraft ID as the first dimension and a 1 as the second dimension. The second reassignment is used to define the total number of engines divided by two and rounded to an integer. The second definition contains the aircraft ID as the first dimension and a 2 as the second dimension.

⁴The beginning of the second phase of takeoff is generally defined as the time when afterburner is shut off.

⁵The weekday/weekend indicator is either 1 or 2; 1 indicates that the aircraft activity for the period Monday through Friday is to be defined; 2 indicates that the aircraft activity for the period Saturday through Sunday is to be defined. The hour IDs are listed in table 16, the month IDs in table 15; the fuel IDs are listed in table 9, the aircraft and engine IDs in table 3, and the engine mode IDs in table 3. The variable types are defined in appendix B, and an example of NAMELIST input is described in appendix A.

Table 3

AIRCRAFT, AIRCRAFT ENGINE, AND ENGINE MODE IDENTIFIERS

| <u>Aircraft name</u> | <u>Identification No.</u> |
|----------------------|---------------------------|
| B-1 | 1 |
| B-52 | 2 |
| B-52H | 3 |
| B-57A-3C | 4 |
| B-57E-G | 5 |
| F-100 | 6 |
| F-101 | 7 |
| F-102 | 8 |
| F-104A | 9 |
| F-105 | 10 |
| F-106 | 11 |
| F-4 | 12 |
| F-5 | 13 |
| F-111A | 14 |
| F-15 | 15 |
| A-7 | 16 |
| A10 | 17 |
| A-37 | 18 |
| C-5 | 19 |
| C-9 | 20 |
| C-130 | 21 |
| KC-135B | 22 |
| C-135B | 23 |
| C-141 | 24 |
| C-7 | 25 |

Table 3 (cont'd)

| <u>Aircraft name</u> | <u>Identification No.</u> |
|-------------------------|---------------------------|
| C-47 | 26 |
| C-97 | 27 |
| C-119 | 28 |
| T-29 | 29 |
| T-33 | 30 |
| T-37 | 31 |
| T-38 | 32 |
| T-39 | 33 |
| T-41 | 34 |
| O-1 | 35 |
| O-2 | 36 |
| OV-10 | 37 |
| B-52G | 38 |
| F-104C | 39 |
| F-4E | 40 |
| F-111D | 41 |
| F-111F | 42 |
| C-5LS | 43 |
| C-130H | 44 |
| HDM (Hound Dog Missile) | 45 |
| Not assigned | 46 |
| Not assigned | 47 |
| Not assigned | 48 |
| Not assigned | 49 |
| Transient | 50 |

Table 3 (cont'd)

| <u>Engine name</u> | <u>Identification No.</u> |
|--------------------|---------------------------|
| J79-G15 | 1 |
| J57-P19 | 2 |
| J52 | 3 |
| TF33-P3 | 4 |
| TF30-P7 | 5 |
| J85 | 6 |
| J75 | 7 |
| TF39 | 8 |
| T56-A7 | 9 |
| T76 | 10 |
| 0470 | 11 |
| 0360 | 12 |
| J57-P43 | 13 |
| J69 | 14 |
| J79-G17 | 15 |
| TF30-P9 | 16 |
| TF34 | 17 |
| TF41 | 18 |
| F100 | 19 |
| F101 | 20 |
| T56-A15 | 21 |
| TF39LS | 22 |
| J60 | 23 |
| Not assigned | 24 |
| JT-8D | 25 |

Table 3 (cont'd)

| <u>Engine mode</u> | <u>Identification No.</u> |
|--------------------|---------------------------|
| Idle | 1 |
| Normal | 2 |
| Military | 3 |
| Afterburner | 4 |

Table 4
VEHICLE CLASSES

| <u>Class</u> | <u>Definition</u> |
|--------------|---|
| 1 | Cars of all sizes. |
| 2 | Gasoline-burning trucks with a gross vehicle weight less than 6000 lb. |
| 3 | Gasoline-burning trucks with a gross vehicle weight greater than 6000 lb and less than 16,000 lb. |
| 4 | Gasoline-burning trucks with a gross vehicle weight greater than 16,000 lb and less than 33,000 lb. |
| 5 | Gasoline-burning trucks with a gross vehicle weight greater than 33,000 lb. |
| 6 | Diesel-burning trucks and buses of all sizes. |

Table 5
PLUME RISE FORMULA IDENTIFIERS

| <u>Formula Identification</u> | <u>Definition</u> |
|-------------------------------|--|
| 0 | No plume rise |
| 1 | Holland plume rise formula |
| 2 | Carson-Moses plume rise formula |
| 3 | Carson-Moses plume rise formula for training fires |

Table 6

POWER PLANT EMISSION FACTOR IDENTIFICATION NUMBER*

| <u>Fuel burned</u> | <u>Furnace size (heat input) and/or type</u> | <u>ID No.</u> | <u>Input units</u> |
|--------------------|---|---------------|----------------------|
| Bituminous coal | Greater than 100 million BTU, large industrial or utility | 1 | metric tons |
| Bituminous coal | Ten to 100 million BTU, large commercial or general industrial | 2 | metric tons |
| Bituminous coal | Less than 10 million BTU, general commercial and domestic (spreader stoker) | 3 | metric tons |
| Bituminous coal | Less than 10 million BTU, general commercial and domestic (hand-fired type) | 4 | metric tons |
| Anthracite coal | Pulverized (dry bottom), no fly-ash reinjection | 5 | metric tons |
| Anthracite coal | Greater than 10 million BTU, overfeed stokers, no fly-ash reinjection | 6 | metric tons |
| Anthracite coal | Less than 10 million BTU, overfeed stokers, no fly-ash reinjection | 7 | metric tons |
| Anthracite coal | Hand-fired type | 8 | metric tons |
| Fuel oil | Greater than 100 million BTU, Utility | 9 | cubic meters |
| Fuel oil | Ten to 100 million BTU, industrial and commercial (residual type horizontally and tangentially fired) | 10 | cubic meters |
| Fuel oil | Ten to 100 million BTU, industrial and commercial (distillate horizontally and tangentially fired) | 11 | cubic meters |
| Fuel oil | Less than 10 million BTU, domestic | 12 | cubic meters |
| Natural gas | Greater than 100 million BTU, utility | 13 | million cubic meters |
| Natural gas | Industrial | 14 | million cubic meters |

Table 6 (cont'd)

| <u>Fuel burned</u> | <u>Furnace size (head input) and/or type</u> | <u>ID No.</u> | <u>Input units</u> |
|-------------------------|--|---------------|-----------------------|
| Natural gas | Commercial | 15 | million cubic meters |
| Natural gas | Domestic | 16 | million cubic meters |
| Liquified petroleum gas | Industrial (Butane) | 17 | cubic meters (liquid) |
| Liquified petroleum gas | Industrial (Propane) | 18 | cubic meters (liquid) |
| Liquified petroleum gas | Commercial boilers (Butane) | 19 | cubic meters (liquid) |
| Liquified petroleum gas | Domestic boilers (Butane) | 20 | cubic meters (liquid) |
| Liquified petroleum gas | Commercial boilers (Propane) | 21 | cubic meters (liquid) |

*The type of furnace to be defined is identified according to its size, description, and fuel burned. After this determination is made, the total amount of fuel used at this plant is defined in the appropriate data set in the units corresponding to this furnace type.

Table 7

POLLUTANT TYPE IDENTIFICATION

| <u>Pollutant name</u> | <u>Coded name</u> | <u>ID No.</u> |
|-----------------------|-------------------|---------------|
| Carbon monoxide | CO | 1 |
| Total hydrocarbons | HC | 2 |
| Oxides of nitrogen | NOX | 3 |
| Particulate matter | PT | 4 |
| Oxides of sulfur | SOX | 5 |

Table 8

INCINERATOR EMISSION FACTOR IDENTIFICATION NUMBERS

| <u>Type of trash burned</u> | <u>ID No.</u> |
|-----------------------------|---------------|
| Pathological | 1 |
| Paper (single chamber) | 2 |
| Paper (multiple chamber) | 3 |
| Film (single chamber) | 4 |
| Film (multiple chamber) | 5 |

Table 9

FUEL TYPE IDENTIFICATION

| <u>Fuel name</u> | <u>Coded name</u> | <u>ID No.</u> |
|---------------------------------|-------------------|---------------|
| Automotive gasoline (MO gas) | AMG | 1 |
| Jet fuel (JP-4) | JP4 | 2 |
| Aviation gasoline (AV gas) | AVG | 3 |
| Diesel fuel | DESL | 4 |
| Jet fuel - Navy (JP-5) | JP5 | 5 |
| Experimental fuel (JP-8) | JP8 | 6 |
| Civil fuel (JETA) | JETA | 7 |

Table 10

ALTITUDE DEPENDENT MOTOR VEHICLE EMISSION FACTOR IDENTIFIERS

| <u>ID No.</u> | <u>Definition</u> |
|---------------|---|
| 1 | Low altitude emission factors. These factors are used for areas outside California* which are below 3500 feet above sea level. |
| 2 | High altitude emission factors. These factors are used for areas outside California* which are above 3500 feet above sea level. |
| 3 | California emission factors.* |

*The State of California has more stringent emission standards than other states. It is, therefore, necessary to specify that a facility is in California so that appropriate factors can be used in calculating the emissions.

Table 11

HOT/COLD RUNNING MOTOR VEHICLE EMISSION FACTOR IDENTIFIERS

| <u>ID No.</u> | <u>Definition</u> |
|---------------|--|
| 1 | Hot running emission factors used for all vehicles. |
| 2 | Cold running emission factors used for all vehicles. |
| 3 | Combine hot running emission factors with cold start emissions for all vehicles. |

Table 12

ENVIRON AREA SOURCE OPTION SELECTION IDENTIFIERS

| <u>ID No.</u> | <u>Description</u> |
|---------------|--|
| 0 | No environ areas to be defined. |
| 1 | Environ areas will be defined as either stationary or mobile sources and defined separately. |
| 2 | Environ areas will be defined according to EPA land use categories (see table 13). |
| 3 | Environ stationary and mobile area sources will be combined in a group. No distinction will be made between mobile and stationary source types. Emissions in each environ area will be hand calculated and total emission input. |

Table 13

ENVIRON LAND USE CATEGORY IDENTIFIERS

(Based on Northern Research Classification Scheme)

| <u>Land use category</u> | <u>ID No.</u> |
|--------------------------|---------------|
| City center | 1 |
| Urban area | 2 |
| Suburban area | 3 |
| Semirural area | 4 |
| Rural area | 5 |
| Cemetery | 6 |
| Park | 7 |
| Airport | 8 |

Table 14

LIST OF SHORT-TERM DATA SETS

| | |
|-------------|--|
| DATA SET 1 | Title Information |
| DATA SET 2 | General Problem Description |
| DATA SET 3 | Period Definition |
| DATA SET 4 | Meteorological Information |
| DATA SET 5 | Temporal Distribution Indicator |
| DATA SET 6 | Temporal Distribution of Airbase Point Sources |
| DATA SET 7 | Temporal Distribution of Airbase Area Sources |
| DATA SET 8 | Temporal Distribution of Airbase Line Sources |
| DATA SET 9 | Temporal Distribution of Environ Point Sources |
| DATA SET 10 | Temporal Distribution of Environ Area Sources |
| DATA SET 11 | Temporal Distribution of Environ Nonroadway Line Sources |

Table 15

SHORT-TERM MONTH IDENTIFIER

| <u>Month</u> | <u>ID No.</u> |
|--------------|---------------|
| January | 1 |
| February | 2 |
| March | 3 |
| April | 4 |
| May | 5 |
| June | 6 |
| July | 7 |
| August | 8 |
| September | 9 |
| October | 10 |
| November | 11 |
| December | 12 |

Table 16

SHORT-TERM HOUR IDENTIFIER

| <u>Hour</u> | <u>ID No.</u> |
|-------------|---------------|
| 0000-0100 | 1 |
| 0100-0200 | 2 |
| 0200-0300 | 3 |
| 0300-0400 | 4 |
| 0400-0500 | 5 |
| 0500-0600 | 6 |
| 0600-0700 | 7 |
| 0700-0800 | 8 |
| 0800-0900 | 9 |
| 0900-1000 | 10 |
| 1000-1100 | 11 |
| 1100-1200 | 12 |
| 1200-1300 | 13 |
| 1300-1400 | 14 |
| 1400-1500 | 15 |
| 1500-1600 | 16 |
| 1600-1700 | 17 |
| 1700-1800 | 18 |
| 1800-1900 | 19 |
| 1900-2000 | 20 |
| 2000-2100 | 21 |
| 2100-2200 | 22 |
| 2200-2300 | 23 |
| 2300-2400 | 24 |

Table 17

STABILITY CATEGORY IDENTIFIERS

| <u>Stability description</u> | <u>PASQUILL stability class</u> | <u>ID No.</u> |
|------------------------------|---------------------------------|---------------|
| Extremely unstable | A | 1 |
| Moderately unstable | B | 2 |
| Slightly unstable | C | 3 |
| Neutral | D | 4 |
| Slightly stable | E | 5 |
| Stable | F,G | 6 |

Table 18

TEMPORAL DISTRIBUTION INPUT INDICATOR

| <u>Temporal distribution identifier</u> | <u>Description</u> | <u>User response</u> |
|---|--|---|
| -1 | Activity of all sources is assumed uniform. | Cards defining the temporal distribution for individual sources <u>are not input.</u> |
| 0 | Activity is defined for individual sources. | Card defining the temporal distribution for individual sources <u>are input.</u> |
| 1 | Activity defined in the previous period is used. | Cards defining the temporal distribution for individual sources <u>are not input.</u> |

Table 19

LIST OF LONG-TERM DATA SETS

| | |
|-------------|--|
| DATA SET 1 | Title Information |
| DATA SET 2 | General Problem Description |
| DATA SET 3 | Period Definition |
| DATA SET 4 | Temporal Distribution Indicator |
| DATA SET 5 | Temporal Distribution of Airbase Point Sources |
| DATA SET 6 | Temporal Distribution of Airbase Area Sources |
| DATA SET 7 | Temporal Distribution of Airbase Line Sources |
| DATA SET 8 | Temporal Distribution of Environ Point Sources |
| DATA SET 9 | Temporal Distribution of Environ Area Sources |
| DATA SET 10 | Temporal Distribution of Environ Nonroadway Line Sources |

Table 20

LONG-TERM PERIOD IDENTIFIERS

| <u>Period</u> | <u>ID No.</u> |
|---------------|---------------|
| 0000-2400 | 1 |
| 0600-1800 | 2 |
| 0600-0900 | 3 |
| 0900-1500 | 4 |
| 1500-1800 | 5 |
| 1800-2100 | 6 |
| 2100-0600 | 7 |

Table 21

LONG-TERM MONTH IDENTIFIER

| <u>Month</u> | <u>ID No.</u> |
|--------------|---------------|
| January | 1 |
| February | 2 |
| March | 3 |
| April | 4 |
| May | 5 |
| June | 6 |
| July | 7 |
| August | 8 |
| September | 9 |
| October | 10 |
| November | 11 |
| December | 12 |

Table 22

AIRCRAFT RUNWAY ROLL EQUATION IDENTIFIER

Equations have been developed to describe the distance required by an aircraft to lift off. The distance is determined as a function of aircraft weight, temperature, pressure altitude, and wind component. These equations are specific for 26 different aircraft types and are programmed into the AQAM. Each aircraft in the AQAM inventory is assigned a programmed runway roll equation. These assignments are listed below.

| <u>Aircraft</u> | <u>Aircraft runway roll equation used by this aircraft</u> | <u>Equation ID No.</u> |
|-----------------|--|------------------------|
| B1 | F-4 | 12 |
| B-52 | B-52 | 2 |
| B-52H | B-52 | 2 |
| B-57A-3C | B-57 | 4 |
| B-57E-G | B-57 | 4 |
| F-100 | F-100 | 6 |
| F-101 | F-101 | 7 |
| F-102 | F-102 | 8 |
| F-104 | F-104 | 9 |
| F-105 | F-105 | 10 |
| F-106 | F-106 | 11 |
| F-4 | F-4 | 12 |
| F-5 | F-5 | 13 |
| F-111A | F-111 | 14 |
| F-15 | No equation assigned | - |
| A-7 | A-7 | 16 |
| A-10 | No equation assigned | - |
| A-37 | A-37 | 18 |
| C-5 | C-5 | 19 |
| C-9 | C-9 | 20 |

Table 22 (cont'd)

| <u>Aircraft</u> | <u>Aircraft runway roll equation used by this aircraft</u> | <u>Equation ID No.</u> |
|----------------------|--|------------------------|
| C-130 | C-130 | 21 |
| KC-135 | C-135 | 22 |
| C-135B | C-135 | 22 |
| C-141 | C-141 | 24 |
| C-7 | C-7 | 25 |
| C-47 | T-29 | 26 |
| C-97 | T-29 | 26 |
| C-119 | T-29 | 26 |
| T-29 | T-29 | 26 |
| T-33 | T-33 | 30 |
| T-37 | T-37 | 31 |
| T-38 | T-38 | 32 |
| T-39 | T-39 | 33 |
| T-41 | O-2 | 34 |
| O-1 | O-2 | 34 |
| O-2 | O-2 | 34 |
| OV-10 | OV-10 | 37 |
| B-52G | B-52 | 2 |
| F-104C | F-104 | 9 |
| F-4E | F-4 | 12 |
| F-11D | F-111 | 14 |
| F-111F | F-111 | 14 |
| C-5LS | C-5 | 19 |
| C-130H | C-130 | 21 |
| Hound Dog Missile | No equation assigned | - |

Table 22 (cont'd)

| <u>Aircraft</u> | <u>Aircraft runway roll equation used by this aircraft</u> | <u>Equation ID No.</u> |
|-----------------|--|------------------------|
| Not assigned | No equation assigned | - |
| Not assigned | No equation assigned | - |
| Not assigned | No equation assigned | - |
| Not assigned | No equation assigned | - |
| Transient | F-4 | - |

Table 23

SUGGESTED SOURCE IDENTIFICATION SYSTEM FOR SOURCE INVENTORY INPUT

| <u>Data sets</u> | <u>Suggested source ID Nos.</u> |
|------------------|---------------------------------|
| 1 | Not applicable |
| 2 | Not applicable |
| 3 | Not applicable |
| 4 | Not applicable |
| 5 | Not applicable |
| 6 | 01-06 |
| 7 | Not applicable |
| 8 | Not applicable |
| 9 | Not applicable |
| 10 | Not applicable |
| 11 | Not applicable |
| 12 | Not applicable |
| 13 | 2000-2099 |
| 14 | 2100-2199 |
| 15 | 2200-2299 |
| 16 | 2300-2399 |
| 17 | 2400-2499 |
| 18 | 2500-2599 |
| 19 | 2600-2699 |
| 20 | 3000-3899 |
| 21 | 3000-3099 |
| 22 | 3100-3199 |
| 23 | 3200-3299 |
| 24 | 3300-3399 |
| 25 | 3400-3499 |
| 26 | 3500-3599 |
| 27 | 3600-3699 |
| 28 | 3700-3799 |
| 29 | 3800-3899 |
| 30 | 4000-4299 |
| 31 | 4000-4099 |
| 32 | 4100-4199 |
| 33 | 4200-4299 |
| 34 | 5000-5999 |
| 35 | 6000-6999 |
| 36 | 7000-7999 |
| 37 | 8000-8999 |

APPENDIX A

DEFINITION OF NAMELIST INPUT

Aircraft and temporal distribution data have been programmed as part of a data base in the AQAM source inventory computer code. These data include aircraft engine emission factors, aircraft landing and takeoff parameters and values for the temporal distribution of aircraft and airbase activity. A list of all programmed data is listed at the end of this appendix. These programmed data are considered to be good overall averages and are automatically used by the program when the user has not input other data. If, however, the user has data which, for certain parameters, he feels is more accurate than those programmed, he can, through the use of the namelist input, redefine these parameters in the code. Only the variables specifically stated in the namelist input will be altered and these alterations will not be permanently implemented in the code. Therefore, if these alterations are needed in subsequent runs, the namelist input cards containing these changes must be included in the source inventory input data deck.

All namelist variables and their defined meanings are listed in table 2. The type of variable, along with the number and meaning of each dimension, is also included. Each variable must be assigned constants in the "type" of the variable only. For example, if a namelist variable is defined as integer, only integer constants can be assigned to it. Variable types are explained in appendix B. Many of the variables in the namelist are dimensioned variables, thus they contain subscripts. A dimensioned variable allows many quantities to be represented with one variable name. A particular quantity is indicated by writing a subscript (or subscripts) in parentheses after the variable name. The individual quantities are called elements. A variable of one dimension contains a string of associated elements. The subscript indicates which element is to be considered. For example, TXISPD(3) = 15.4 indicates that the taxi speed of the B-57H aircraft is to be reassigned to 15.4. A two-dimensional variable can be envisioned as being composed of horizontal rows and vertical columns. The first subscript refers to the column number. The total number of elements in the array equal the number of rows multiplied by the number of

columns and again each element is indicated by a certain set of subscripts. For example, $ACMO(2,3) = .4$ indicates that the activity fraction for the B-57 aircraft in the month of February is to be reassigned 0.4. A three-dimensional variable can be thought as being composed of three planes, each of which contain rows and columns intersecting each other at right angles. Once again, a particular element is indicated by the subscripts. For example, $EGEMFC(1,2,4) = 23.4$ indicates that the pollutant emission factor for carbon monoxide for the NORMAL mode of the TF33-P3 engine is to be reassigned to 23.4.

There is no outward display by the AQAM Source Inventory Code to indicate that namelist reassignments have been made. These changes are done internally by the code, but the user can verify that the proper elements have been reassigned by observing the programmed (default) data which are printed throughout the source inventory output. If namelist reassignments have been made, the replacement values will appear in the appropriate area of this printed default data.

Namelist reassignments are input in a free format. That is, the variable names and numbers are not punched in certain prescribed card columns; rather they are listed in a free form across the card with each variable and its assignment delimited by commas. Although the format is free, the rules for input of namelist information are explicit. These rules do vary from one machine to another, and the user is advised to seek the advice of competent computer personnel concerning these rules if he is not sure of the form of namelist input for the computer he will use. The rules set forth and the examples given in this manual are valid only for CDC 6000 or 7000 series computers.

The namelist input in the source inventory consists of three namelist group names:

1. EGDATA
2. ACDATA
3. DSDATA

To reassign the variables associated with a group name, a \$ (dollar sign) is punched in Column 2, followed immediately by the group name and a blank. Variables are then input and when all necessary reassignments for this group have been made, another \$ (dollar sign) must be punched to terminate the

reassignments. This terminator must follow the last assignment value. Card Columns 2 through 80 can be punched for namelist input. Card Column 1 is NEVER punched. Only variables associated with the group name can be defined and each variable name and its assigned value (including the last) is delimited by a comma. For example, if variables in namelist group name EGDATA were being defined, it is illegal to attempt to define TOWT within this group since it is associated with namelist group name ACDATA. Additionally, within a given group name, only those variables to receive a new value are punched. For example, consider that group name EGDATA is being defined and the only reassignment involves changing the aircraft afterburner indicator for the F-100 aircraft from "on" to "off" and to reassign the identifier for the runway roll equation for the B-1 aircraft from 12 to 14. These changes would be implemented as follows:

\$EGDATA IACABF(6) = 0, IDRR(1) = 14,\$

CARD COLUMNS

If no changes are to occur, the card would be punched as follows:

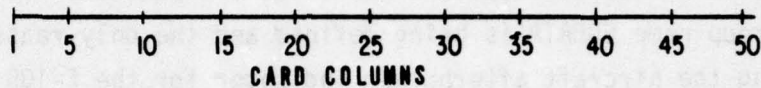
\$EGDATA \$

CARD COLUMNS

If a sufficient number of changes occur, the assignments can be continued on several cards. However, a variable name with its assigned value and delimiting comma may not span from one card to another. If the user sees that a variable assignment will not fit between the last column punched and Column 80 of a card, these remaining columns may be left blank and variable assignments continued on another card starting in Column 2. Continuation cards do not contain the namelist group name and act merely as an extension of the first card. Consecutive cards can be added as necessary to complete assignments within a group. A \$ (dollar sign) indicating group name termination follows the last assignment on the last continuation card.

It is possible to make consecutive assignments to a dimensioned variable without specifically mentioning each element. For example, if the taxi speed for aircraft 3 through 5 is to be redefined to 12.3, any one of the following forms is legal:

1. \$ACDATA TXISPD(3) = 12.3, TXISPD(4) = 12.3,
TXISPD(5) = 12.3,\$
2. \$ACDATA TXISPD(3) = 12.3, 12.3, 12.3,\$
3. \$ACDATA TXISPD(3) = 3*(12.3),\$

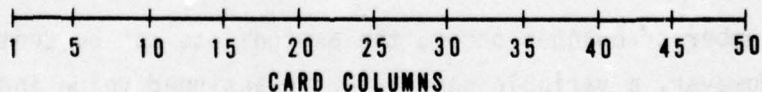


It is obvious that if each aircraft were to be assigned a different value, only the first two forms would be valid. It is not advisable to use forms 2 or 3 for two or three-dimensional variables without consulting a FORTRAN user's manual to obtain a thorough understanding of the procedure for defining multi-dimensional namelist variables. It is suggested that the user utilize form 1 unless he has a good understanding of the FORTRAN computer language.

All namelist group names must be input for each source inventory run regardless of whether there are or are not reassignments. In addition, these groups must be input in the order listed in table 2. A typical namelist data set structure may appear as follows:

```

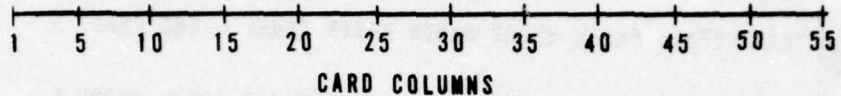
$EGDATA      $
$ACDATA      LNDSPD(19) = 396.,$
$DSDATA      ACMO(1,19) = .6, ACMO(2,19) = .6,$
    
```



Certain namelist variables deserve special attention. They are ACNAME and EGNAM in group EGDATA and APPHT and CLMBHT in ACDATA. Because of their hollerith type, ACNAME and EGNAM are unique among all other variables. These variables, when utilized, are assigned a string of alphanumeric characters to describe the aircraft and engine name. This string of variables must be defined in a hollerith field. The hollerith field consists of a number and an H,

followed by the character string. The number defines the number of characters used to describe the aircraft or engine name (see appendix B). A maximum of eight characters is allowed per string. For example, to reassign the name of aircraft 5 from B-57E-G to B-57 and to reassign the name of engine 1 from J79-G1 to J-79H, the following card would be punched:

```
SEGDATA ACNAME(5) = 4HB-57, EGNAME(1) = 5HJ-79H,$
```



Variables APPHT and CLMBHT are not dimensioned. They are assigned a value without subscripts.

Although it is not essential, it is beneficial if the user has a fundamental knowledge of FORTRAN and the AQAM code. If this is not possible, it is suggested that competent computer personnel be made available for consultation concerning the rules for creating a properly coded namelist data set.

The programmed values for every variable in each namelist group are listed in the following tables.

DEFAULT LTO CYCLE DATA

| Aircraft* | ID of assigned engine (LAGEF) | After-burner (LACABE) | Runway roll equivalent (LURR) | Gross weight (1000 lbs) (LWMT) | No. of engines (LWNO) | Angle for phase 1 of approach (LSCN1) | Angle for phase of approach (LSCN2) | Speed at phase 1 of approach (LSP1) | Altitude at phase 1 of approach (LAP1) | Angle at phase 1 of approach (LAC1) | Angle at final phase of approach (LAC2) | Speed at phase 1 of approach (LSP2) | Speed at final phase of approach (LSP3) | Altitude at initial climbout (LALC) | Taxi speed (LXSPD) | Touch-down speed (LTDSP) | Take-off speed (LTOSS) | Idle time before taxi (LXIDPT) | Engine check time before taxi (LXEGPT) | Idle time before shutdown (LXIDPT) |
|--------------|-------------------------------|-----------------------|-------------------------------|--------------------------------|-----------------------|---------------------------------------|-------------------------------------|-------------------------------------|--|-------------------------------------|---|-------------------------------------|---|-------------------------------------|--------------------|--------------------------|------------------------|--------------------------------|--|------------------------------------|
| 1 B1 | 20 | 1 | 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0 | 0 | 0.00 | 0.0 | 0 | 0 | 0.0 | 0.00 | 0.00 |
| 2 B52 | 2 | 1 | 2 | 340.0 | 8 | 2.5 | 2.5 | 329.2 | 0.22 | 5.0 | 5.5 | 369 | 568 | 0.33 | 12.0 | 296 | 267 | 20.0 | 4.50 | 4.80 |
| 3 B52-H | 4 | 0 | 3 | 340.0 | 8 | 2.5 | 2.5 | 329.2 | 0.22 | 5.0 | 5.5 | 369 | 568 | 0.33 | 12.0 | 296 | 267 | 20.0 | 4.50 | 4.80 |
| 4 B57A-JC | 6 | 0 | 4 | 45.0 | 2 | 8.8 | 2.5 | 463.0 | 0.16 | 4.0 | 8.0 | 582 | 582 | 0.60 | 27.0 | 203 | 212 | 10.0 | 0.10 | 0.50 |
| 5 B57E-6 | 4 | 0 | 5 | 45.0 | 2 | 8.8 | 2.5 | 463.0 | 0.16 | 4.0 | 8.0 | 582 | 582 | 0.60 | 27.0 | 203 | 212 | 10.0 | 0.10 | 0.50 |
| 6 F100 | 2 | 1 | 6 | 36.0 | 1 | 3.5 | 3.0 | 420.6 | 0.18 | 5.0 | 7.8 | 450 | 489 | 0.32 | 9.9 | 278 | 296 | 6.1 | 0.60 | 1.00 |
| 7 F101 | 2 | 1 | 7 | 45.0 | 2 | 4.0 | 3.5 | 438.9 | 0.21 | 6.0 | 8.2 | 565 | 565 | 0.47 | 34.0 | 278 | 314 | 6.1 | 2.00 | 2.00 |
| 8 F102 | 2 | 1 | 8 | 30.0 | 1 | 3.5 | 3.5 | 402.3 | 0.22 | 6.0 | 12.0 | 549 | 549 | 0.30 | 34.0 | 296 | 314 | 8.0 | 2.00 | 2.00 |
| 9 F104A | 15 | 1 | 9 | 20.0 | 1 | 4.0 | 3.5 | 471.8 | 0.13 | 6.5 | 9.9 | 592 | 668 | 0.36 | 12.0 | 314 | 365 | 5.0 | 0.80 | 0.50 |
| 10 F105 | 7 | 1 | 10 | 45.0 | 1 | 4.0 | 2.5 | 462.7 | 0.12 | 8.0 | 8.2 | 554 | 554 | 0.52 | 12.0 | 342 | 342 | 6.1 | 0.80 | 0.80 |
| 11 F106 | 7 | 1 | 11 | 35.0 | 1 | 3.5 | 3.5 | 402.3 | 0.22 | 6.0 | 12.8 | 554 | 554 | 0.30 | 34.0 | 296 | 296 | 8.0 | 2.00 | 2.00 |
| 12 F4 | 15 | 1 | 12 | 50.0 | 2 | 3.5 | 3.4 | 438.9 | 0.20 | 6.0 | 12.7 | 554 | 554 | 0.30 | 37.0 | 287 | 314 | 6.4 | 0.80 | 0.40 |
| 13 F5 | 6 | 1 | 13 | 18.0 | 2 | 3.0 | 2.5 | 548.7 | 0.07 | 5.0 | 9.1 | 556 | 556 | 0.18 | 25.0 | 239 | 287 | 5.4 | 0.75 | 0.66 |
| 14 F111A | 5 | 1 | 14 | 75.0 | 2 | 3.5 | 2.5 | 457.2 | 0.15 | 7.0 | 12.0 | 554 | 554 | 0.34 | 12.9 | 258 | 283 | 6.2 | 1.40 | 1.30 |
| 15 F15 | 19 | 1 | 15 | 0.0 | 2 | 3.5 | 3.4 | 438.9 | 0.20 | 6.0 | 9.3 | 549 | 640 | 0.30 | 0.0 | 287 | 314 | 0.0 | 0.00 | 0.00 |
| 16 A7 | 18 | 0 | 16 | 30.0 | 1 | 3.5 | 3.0 | 457.2 | 0.17 | 10.0 | 10.0 | 463 | 463 | 0.90 | 37.0 | 241 | 263 | 15.0 | 2.00 | 3.00 |
| 17 A10 | 17 | 0 | 17 | 0.0 | 2 | 2.0 | 0.0 | 250.0 | 0.00 | 5.0 | 6.1 | 360 | 481 | 0.20 | 0.0 | 166 | 186 | 8.0 | 2.00 | 2.00 |
| 18 A37 | 14 | 0 | 18 | 520.0 | 4 | 3.0 | 2.5 | 329.2 | 0.27 | 4.0 | 11.2 | 399 | 489 | 0.18 | 15.9 | 227 | 234 | 3.0 | 0.10 | 2.00 |
| 19 C5 | 8 | 0 | 19 | 84.0 | 2 | 3.0 | 2.5 | 310.9 | 0.26 | 5.0 | 11.4 | 349 | 460 | 0.27 | 32.5 | 212 | 260 | 3.2 | 0.10 | 0.30 |
| 20 C9 | 25 | 0 | 20 | 84.0 | 2 | 3.0 | 2.5 | 310.9 | 0.26 | 5.0 | 11.4 | 349 | 460 | 0.27 | 32.5 | 212 | 260 | 3.2 | 0.10 | 0.30 |
| 21 C130 | 9 | 0 | 21 | 100.0 | 4 | 3.5 | 2.5 | 292.6 | 0.23 | 4.0 | 10.0 | 300 | 400 | 0.20 | 42.0 | 185 | 194 | 2.8 | 0.10 | 0.70 |
| 22 C135A | 13 | 0 | 22 | 220.0 | 4 | 2.5 | 2.5 | 329.2 | 0.18 | 4.6 | 5.2 | 331 | 481 | 0.30 | 27.0 | 296 | 305 | 20.0 | 2.50 | 4.50 |
| 23 C135B | 13 | 0 | 23 | 220.0 | 4 | 2.5 | 2.5 | 329.2 | 0.18 | 4.6 | 5.2 | 331 | 481 | 0.30 | 27.0 | 296 | 305 | 20.0 | 2.50 | 4.50 |
| 24 C141 | 4 | 0 | 24 | 220.0 | 4 | 2.5 | 2.5 | 349.5 | 0.28 | 6.0 | 11.3 | 463 | 564 | 0.25 | 21.3 | 240 | 258 | 2.0 | 2.30 | 7.30 |
| 25 C7 | 9 | 0 | 25 | 24.0 | 2 | 4.0 | 2.5 | 219.4 | 0.18 | 6.0 | 6.0 | 210 | 219 | 0.10 | 35.0 | 128 | 128 | 7.0 | 3.00 | 7.00 |
| 26 C47 | 11 | 0 | 26 | 50.0 | 2 | 3.5 | 2.5 | 274.3 | 0.21 | 5.0 | 8.6 | 256 | 402 | 0.25 | 27.0 | 166 | 183 | 15.0 | 3.00 | 2.00 |
| 27 C57 | 11 | 0 | 27 | 50.0 | 2 | 3.5 | 2.5 | 274.3 | 0.21 | 5.0 | 10.3 | 256 | 402 | 0.22 | 27.0 | 166 | 183 | 15.0 | 3.00 | 2.00 |
| 28 C59 | 11 | 0 | 28 | 50.0 | 2 | 3.5 | 2.5 | 274.3 | 0.21 | 5.0 | 10.3 | 256 | 402 | 0.22 | 27.0 | 166 | 183 | 15.0 | 3.00 | 2.00 |
| 29 C79 | 11 | 0 | 29 | 50.0 | 2 | 3.5 | 2.5 | 274.3 | 0.21 | 5.0 | 10.3 | 256 | 402 | 0.22 | 27.0 | 166 | 183 | 15.0 | 3.00 | 2.00 |
| 30 T33 | 6 | 1 | 30 | 14.0 | 1 | 3.5 | 2.5 | 329.2 | 0.17 | 6.0 | 7.1 | 300 | 366 | 0.25 | 34.2 | 166 | 170 | 3.2 | 0.10 | 0.30 |
| 31 T37 | 14 | 0 | 31 | 6.0 | 2 | 5.6 | 2.5 | 256.0 | 0.06 | 5.0 | 6.0 | 366 | 457 | 0.20 | 22.3 | 148 | 168 | 3.8 | 0.50 | 0.40 |
| 32 T38 | 6 | 1 | 32 | 12.0 | 2 | 3.0 | 2.5 | 548.7 | 0.06 | 5.0 | 9.1 | 556 | 556 | 0.18 | 21.8 | 187 | 187 | 5.2 | 0.30 | 0.70 |
| 33 T39 | 6 | 1 | 33 | 14.0 | 2 | 4.3 | 3.0 | 420.6 | 0.13 | 6.0 | 7.5 | 349 | 450 | 0.30 | 37.5 | 203 | 223 | 2.3 | 0.10 | 0.30 |
| 34 T41 | 12 | 0 | 34 | 4.5 | 1 | 10.0 | 3.0 | 200.0 | 0.40 | 4.0 | 6.0 | 150 | 200 | 0.50 | 27.0 | 111 | 129 | 8.0 | 2.00 | 2.00 |
| 35 01 | 11 | 0 | 35 | 4.5 | 1 | 4.0 | 2.5 | 219.4 | 0.17 | 6.0 | 6.0 | 201 | 219 | 0.17 | 27.0 | 111 | 129 | 10.0 | 2.00 | 2.00 |
| 36 02 | 12 | 0 | 36 | 4.5 | 2 | 4.0 | 2.5 | 219.4 | 0.17 | 6.0 | 6.0 | 201 | 219 | 0.17 | 27.0 | 111 | 129 | 10.0 | 2.00 | 2.00 |
| 37 0W10 | 10 | 0 | 37 | 11.0 | 2 | 3.5 | 2.5 | 274.3 | 0.21 | 6.0 | 9.0 | 329 | 439 | 0.27 | 34.0 | 111 | 190 | 15.0 | 2.00 | 2.00 |
| 38 B52G | 13 | 0 | 38 | 50.0 | 8 | 2.5 | 2.5 | 329.2 | 0.22 | 5.0 | 5.5 | 369 | 568 | 0.33 | 12.0 | 166 | 267 | 20.0 | 4.50 | 4.80 |
| 39 F104C | 15 | 1 | 9 | 26.0 | 1 | 4.0 | 3.5 | 471.8 | 0.13 | 6.5 | 9.9 | 592 | 668 | 0.36 | 12.0 | 296 | 366 | 5.0 | 0.80 | 0.50 |
| 40 F4E | 1 | 1 | 12 | 50.0 | 2 | 3.5 | 3.4 | 438.9 | 0.20 | 6.0 | 12.7 | 554 | 554 | 0.30 | 37.0 | 314 | 314 | 6.5 | 0.80 | 0.40 |
| 41 F111D | 16 | 1 | 14 | 75.0 | 2 | 3.5 | 2.5 | 457.2 | 0.15 | 7.0 | 12.0 | 554 | 554 | 0.34 | 12.9 | 297 | 283 | 6.2 | 1.40 | 1.30 |
| 42 F111F | 16 | 1 | 14 | 75.0 | 2 | 3.5 | 2.5 | 457.2 | 0.15 | 7.0 | 12.0 | 554 | 554 | 0.34 | 12.9 | 297 | 283 | 6.2 | 1.40 | 1.30 |
| 43 C5L5 | 22 | 0 | 19 | 520.0 | 4 | 3.0 | 2.5 | 329.2 | 0.27 | 4.0 | 11.2 | 399 | 499 | 0.18 | 15.9 | 277 | 234 | 3.0 | 0.10 | 2.00 |
| 44 C130H | 21 | 0 | 21 | 100.0 | 4 | 3.5 | 2.5 | 292.6 | 0.23 | 4.0 | 10.0 | 300 | 400 | 0.20 | 42.0 | 185 | 194 | 2.8 | 0.10 | 0.70 |
| 45 0DM | 25 | 0 | 100 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0 | 0 | 0.00 | 0.0 | 0 | 0 | 0.0 | 0.00 | 0.00 |
| 46 TRANSIENT | 1 | 1 | 12 | 50.0 | 2 | 3.5 | 3.4 | 438.9 | 0.20 | 6.0 | 12.7 | 554 | 554 | 0.30 | 37.0 | 287 | 314 | 6.4 | 0.80 | 0.40 |

*see table 22.

**see table 3.

DEFAULT ENGINE DATA

| ENGINE | ENGINE MODE* | POLLUTANT EMISSION DATA (POUNDS PER 1000 LB OF FUEL) | | | | | |
|------------|--------------|--|----------|----------|----------|----------|----------|
| | | FUEL RATE (EGFF) | (EGEMFC) | | | | |
| | | 1000 LB/HR | CO | HC | NOX | PM | SOX |
| J79-G15 | Idle | 1.131E+00 | 5.67E+01 | 1.07E+01 | 2.47E+00 | 5.00E-01 | 1.00E+00 |
| | Normal | 2.720E+00 | 1.14E+01 | 1.33E+00 | 4.25E+00 | 2.22E+00 | 1.00E+00 |
| | Military | 8.921E+00 | 2.28E+00 | 2.20E-01 | 8.94E+00 | 2.36E+00 | 1.00E+00 |
| | Afterburner | 3.224E+01 | 4.00E+00 | 1.00E-02 | 3.11E+00 | 1.54E-01 | 1.00E+00 |
| J57-P19 | Idle | 1.104E+00 | 5.85E+01 | 5.34E+01 | 2.50E+00 | 3.74E+00 | 1.00E+00 |
| | Normal | 1.709E+00 | 2.64E+01 | 1.20E+01 | 3.60E+00 | 3.74E+00 | 1.00E+00 |
| | Military | 8.520E+00 | 2.00E+00 | 7.00E-01 | 1.18E+01 | 3.74E+00 | 1.00E+00 |
| | Afterburner | 3.610E+01 | 3.17E+01 | 7.00E-01 | 4.40E+00 | 3.47E+00 | 1.00E+00 |
| J52 | Idle | 8.300E-01 | 7.97E+01 | 2.22E+01 | 1.80E+00 | 6.30E-01 | 1.00E+00 |
| | Normal | 4.860E+00 | 9.50E+00 | 1.00E+00 | 7.50E+00 | 6.30E+01 | 1.00E+00 |
| | Military | 6.490E+00 | 2.10E+00 | 4.00E-01 | 9.50E+00 | 6.30E-01 | 1.00E+00 |
| TF33-P3 | Idle | 8.460E-01 | 8.34E+01 | 1.04E+02 | 2.02E+00 | 3.80E-01 | 1.00E+00 |
| | Normal | 3.797E+00 | 8.99E+00 | 3.79E+00 | 7.30E+00 | 3.80E-01 | 1.00E+00 |
| | Military | 9.979E+00 | 4.10E-01 | 1.10E-01 | 1.41E+01 | 3.80E-01 | 1.00E+00 |
| TF30-P7 | Idle | 1.250E+00 | 6.82E+01 | 1.94E+01 | 6.52E+00 | 2.21E+00 | 1.00E+00 |
| | Normal | 6.650E+00 | 6.30E+00 | 2.00E+00 | 1.20E+01 | 2.21E+00 | 1.00E+00 |
| | Military | 7.120E+00 | 3.10E+00 | 1.65E-01 | 2.69E+01 | 2.21E+00 | 1.00E+00 |
| | Afterburner | 3.840E+01 | 6.39E+00 | 1.40E-02 | 9.00E+00 | 2.21E+00 | 1.00E+00 |
| J85 | Idle | 4.530E-01 | 1.80E+02 | 2.99E+01 | 1.26E+00 | 1.30E-02 | 1.00E+00 |
| | Normal | 1.462E+00 | 4.33E+01 | 3.37E+00 | 2.32E+00 | 1.70E-02 | 1.00E+00 |
| | Military | 2.630E+00 | 2.93E+01 | 8.40E-01 | 2.68E+00 | 1.80E-02 | 1.00E+00 |
| | Afterburner | 8.323E+00 | 2.60E+01 | 7.00E-02 | 1.99E+00 | 8.00E-03 | 1.00E+00 |
| TF39 | Idle | 1.134E+00 | 6.67E+01 | 2.30E+01 | 2.95E+00 | 3.00E-01 | 1.00E+00 |
| | Normal | 1.500E+00 | 3.85E+01 | 1.29E+01 | 3.75E+00 | 1.40E+00 | 1.00E+00 |
| | Military | 1.191E+01 | 5.90E-01 | 1.80E-01 | 2.85E+01 | 1.50E+00 | 1.00E+00 |
| T56-A7 | Idle | 6.930E-01 | 1.40E+01 | 1.04E+01 | 6.17E+00 | 6.11E-01 | 1.00E+00 |
| | Normal | 8.270E-01 | 6.08E+00 | 4.80E+00 | 6.46E+00 | 1.04E+00 | 1.00E+00 |
| | Military | 1.967E+00 | 2.00E+00 | 2.25E+00 | 9.26E+00 | 5.65E-01 | 1.00E+00 |
| T76 | Idle | 1.920E-01 | 2.38E+01 | 7.42E+00 | 7.35E+00 | 3.80E-01 | 1.00E+00 |
| | Normal | 3.470E-01 | 5.92E+00 | 1.10E-01 | 9.88E+00 | 6.30E-01 | 1.00E+00 |
| | Military | 3.870E-01 | 2.28E+00 | 6.40E-02 | 1.03E+01 | 7.10E-01 | 1.00E+00 |
| 0470 | Idle | 1.512E-02 | 7.43E+02 | 1.91E+02 | 1.02E+00 | 6.08E+01 | 6.00E-01 |
| | Normal | 8.555E-02 | 6.92E+02 | 9.46E+00 | 9.37E+00 | 4.00E+01 | 6.00E-01 |
| | Military | 1.313E-01 | 1.16E+03 | 2.04E+01 | 1.11E+00 | 2.00E+01 | 6.00E-01 |
| 0360 | Idle | 1.517E-02 | 8.48E+02 | 1.45E+02 | 1.09E+00 | 6.00E+01 | 6.00E-01 |
| | Normal | 6.788E-02 | 9.72E+02 | 1.74E+01 | 6.60E+00 | 4.00E+01 | 6.00E-01 |
| | Military | 8.870E-02 | 1.03E+03 | 2.25E+01 | 5.32E+00 | 2.00E+01 | 6.00E-01 |
| J57-P43 | Idle | 1.214E+00 | 7.53E+01 | 6.18E+01 | 1.90E+00 | 1.18E+00 | 1.00E+00 |
| | Normal | 1.849E+00 | 4.61E+01 | 2.23E+01 | 3.60E+00 | 1.18E+00 | 1.00E+00 |
| | Military | 1.061E+01 | 2.30E+00 | 9.00E-01 | 1.52E+01 | 1.18E+00 | 1.00E+00 |
| J69 | Idle | 2.310E-01 | 1.27E+02 | 1.95E+01 | 1.53E+00 | 7.29E-01 | 1.00E+00 |
| | Normal | 6.980E-01 | 4.91E+01 | 1.29E+00 | 2.67E+00 | 1.70E-02 | 1.00E+00 |
| | Military | 1.095E+00 | 3.13E+01 | 5.00E-01 | 3.60E+00 | 2.00E-02 | 1.00E+00 |
| J79-G17 | Idle | 1.060E+00 | 4.01E+01 | 9.00E+00 | 2.70E+00 | 2.30E-01 | 1.00E+00 |
| | Normal | 3.340E+00 | 7.80E+00 | 1.70E+00 | 5.30E+00 | 2.22E+00 | 1.00E+00 |
| | Military | 9.820E+00 | 1.80E+00 | 6.00E-02 | 1.48E+01 | 2.22E+00 | 1.00E+00 |
| | Afterburner | 3.495E+01 | 1.35E+01 | 2.00E-02 | 5.70E+00 | 6.70E-01 | 1.00E+00 |
| TF30-P9 | Idle | 1.250E+00 | 4.64E+01 | 1.26E+01 | 6.52E+00 | 2.21E+00 | 1.00E+00 |
| | Normal | 6.650E+00 | 6.00E+00 | 2.00E+00 | 1.20E+01 | 2.21E+00 | 1.00E+00 |
| | Military | 7.120E+00 | 3.00E+00 | 1.20E+00 | 1.97E+01 | 2.21E+00 | 1.00E+00 |
| | Afterburner | 4.285E+01 | 2.48E+01 | 2.00E+00 | 4.47E+00 | 2.21E+00 | 1.00E+00 |
| T34 | Idle | 3.730E-01 | 1.13E+02 | 1.74E+01 | 2.50E+00 | 1.05E-01 | 1.00E+00 |
| | Normal | 1.215E+00 | 1.10E+01 | 9.00E-01 | 6.30E+00 | 1.05E-01 | 1.00E+00 |
| | Military | 3.275E+00 | 7.00E-01 | 2.00E-01 | 1.18E+01 | 1.05E-01 | 1.00E+00 |
| TF41 | Idle | 1.070E+00 | 1.07E+02 | 6.62E+01 | 1.30E+00 | 1.05E-01 | 1.00E+00 |
| | Normal | 5.210E+00 | 5.20E+00 | 2.40E+00 | 1.06E+01 | 1.05E-01 | 1.00E+00 |
| | Military | 9.040E+00 | 1.60E+00 | 6.00E-01 | 2.23E+01 | 1.05E-01 | 1.00E+00 |
| F100 | Idle | 1.060E+00 | 1.93E+01 | 2.30E+00 | 4.00E+00 | 5.30E-01 | 1.00E+00 |
| | Normal | 3.000E+00 | 3.00E+00 | 6.00E-01 | 1.10E+01 | 5.30E-01 | 1.00E+00 |
| | Military | 1.004E+01 | 1.80E+00 | 5.00E-02 | 4.40E+01 | 5.30E-01 | 1.00E+00 |
| | Afterburner | 4.420E+01 | 5.50E+01 | 1.00E-01 | 1.65E+01 | 5.30E-01 | 1.00E+00 |
| F101 | Idle | 0. | 1.72E+01 | 9.00E-01 | 4.20E+00 | 2.30E-01 | 1.00E+00 |
| | Normal | 0. | 3.20E+00 | 3.00E-01 | 3.20E+00 | 2.30E-01 | 1.00E+00 |
| | Military | 0. | 5.00E-01 | 2.00E-01 | 2.39E+01 | 2.30E-01 | 1.00E+00 |
| | Afterburner | 0. | 6.50E+01 | 1.00E+00 | 8.00E+00 | 2.30E-01 | 1.00E+00 |
| T56-A15 | Idle | 4.930E-01 | 1.81E+01 | 1.51E+01 | 2.45E+00 | 3.80E-01 | 1.00E+00 |
| | Normal | 1.145E+00 | 3.04E+00 | 2.90E-01 | 6.39E+00 | 6.30E-01 | 1.00E+00 |
| | Military | 2.392E+00 | 1.56E+00 | 1.80E-01 | 1.17E+01 | 7.10E-01 | 1.00E+00 |
| TF39LS | Idle | 1.134E+00 | 6.67E+01 | 2.30E+01 | 2.95E+00 | 2.10E-02 | 1.00E+00 |
| | Normal | 1.500E+00 | 3.85E+01 | 1.29E+01 | 3.75E+00 | 1.60E-02 | 1.00E+00 |
| | Military | 1.191E+01 | 5.90E-01 | 1.80E-01 | 2.85E+01 | 9.00E-03 | 1.00E+00 |
| J60 | Idle | 4.590E-01 | 7.09E+01 | 9.85E+01 | 1.49E+00 | 2.60E-02 | 1.00E+00 |
| | Normal | 1.423E+00 | 1.48E+01 | 3.20E-01 | 3.09E+00 | 1.58E-01 | 1.00E+00 |
| | Military | 2.456E+00 | 3.88E+00 | 9.00E-02 | 4.71E+00 | 1.67E-01 | 1.00E+00 |
| Unassigned | Idle | 0. | 0. | 0. | 0. | 0. | 0. |
| JT-8D | Idle | 9.590E-01 | 5.00E+01 | 9.60E+00 | 2.00E+00 | 6.00E-01 | 1.00E+00 |
| | Normal | 7.370E+00 | 6.60E+00 | 1.40E+00 | 2.70E+00 | 2.70E+00 | 1.00E+00 |
| | Military | 8.755E+00 | 1.20E+00 | 6.00E-01 | 4.30E+00 | 2.50E+00 | 1.00E+00 |

DEFAULT TEMPORAL DISTRIBUTION DATA

| <u>Description</u> | <u>Named list variables</u> | <u>Default value</u> |
|--|-----------------------------|---------------------------------------|
| Monthly aircraft activity | ACMO | 1/12 (month 1-12), (1. for month 13)* |
| Daily aircraft activity | ACDY | 1/7 |
| Hourly aircraft activity | ACHR | 1/12 (0600-1800), (0 all other times) |
| Monthly military vehicle activity | VHMLMO | 1/12 (month 1-12), (1. for month 13)* |
| Daily military vehicle activity | VHMLDY | 1/7 |
| Hourly military vehicle activity | VHMLHR | 1/12 (0600-1800), (0 all other times) |
| Monthly civilian vehicle activity | CVABMO | 1/2 (month 1-12), (0 all other times) |
| Daily civilian vehicle activity | CVABDY | 1/7 |
| Hourly civilian vehicle activity | CVABHR | 1/2 (0600-1800), (0 all other times) |
| Monthly environ vehicle activity | CVENMO | 1/12 (month 1-12), (1. for month 13)* |
| Daily environ vehicle activity | CVENDY | 1/7 |
| Hourly environ vehicle activity | CVENHR | 1/12 (0600-1800), (0 all other times) |
| Monthly fuel processing activity for all fuels | FLMO | 1/12 (month 1-12), (1. for month 13)* |
| Daily fuel processing activity for all fuels | FLDY | 1/7 |
| Hourly fuel processing activity for all fuels | FLHR | 1/12 (0600-1800), (0 all other times) |

*Month 13, utilized by long-term model only; see table 21.

APPENDIX B

CARD INPUT FORMATS

The FORMAT specification is used to describe to the computer how the information input by the user is to be arranged on the card and what type of information it is. To each value punched there must be a corresponding format in the computer code which specifies the type of information to be read and the total number of card columns used to hold this information. This total number of card columns is defined as the field length.

The input FORMATS specified throughout this manual are identical to the ones programmed in the AQAM computer code. The user will, therefore, be aware of the exact structure of the data to be input.

The AQAM input formats are comprised of five types of field specifications. Each complete field specification consists of the following:

1. A letter (I, F, A, H, or X) indicating the type of data.
2. A number designating how many card columns are used for this data.

In I, F, and H fields it is permissible to specify that the same field specification number applies to a repeated number of successive fields. This is done by replacing a number defining the number of repetitions in front of the field to be repeated.

A slash (/) in any format specification indicates that the remainder of the format specification is used to describe the input for the next card.

Specific rules for using each of the format types are described below.

1. FIELD SPECIFICATION I (INTEGER FIELD)

The form used for this is I_n , where n describes the total number of card columns containing this number (including the sign of the number and any blanks). If no sign is found, it is assumed positive. Decimal points are not permitted and if the number does not occupy the entire field, it must be punched in the right-most position of the field. Blanks in the field are interpreted as zero.

2. FIELD SPECIFICATION F (FIXED POINT FIELD)

The form used for this is $F_n.d$, where n describes the total number of card columns containing this number (including the sign of the number, decimal point, and any blanks). If no sign is found, it is assumed positive. The d describes the number of card columns allocated to the right of the decimal point. When punching data in this field, the use of the decimal point is optional. If a decimal point is included, it will override the "d" in the format specification, and the number will be read as it is punched. If it is not punched, the computer will automatically assign one in the position defined in the field specification. The user is responsible for placing the number in the field so that the decimal point will be assigned properly. The user should not attempt punching integer data in fixed point fields without a clear understanding of the FORTRAN language. Blanks in the field are interpreted as zero.

3. FIELD SPECIFICATION A (ALPHANUMERIC)

The form used for this is A_n , where n describes the total number of card columns containing these characters. This specification allows the user to input alphanumeric information (letters and numbers and other special characters) for use in labeling and titles. The user should be aware that certain special characters, such as an ampersand (&), cannot be represented in some computers. It is suggested, therefore, that the user consult documentation for his computer concerning the available character set.

4. FIELD SPECIFICATION H (HOLLERITH)

The form used for this is nH , where n describes the total number of characters following the H. These characters, not including H, will be stored in a particular computer word (variable) and is used by the AQAM to reassign aircraft and engine names. The field width n should not exceed 8 (see appendix A).

5. FIELD SPECIFICATION X (BLANK)

The form used for this is nX , where n describes the total number of card columns to leave blank.

Examples of various format specifications are included below to ensure an understanding of format usage.

Example 1:

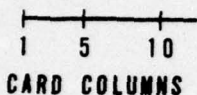
Numbers to be punched

2, -3

Format

(I4,I2)

2-3



Example 2:

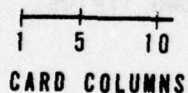
Numbers to be punched

2, 3, 16.9

Format

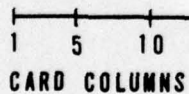
(I2,I4,F6.2)

2 3 16.9



or

2 316.9



Example 3:

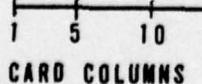
Numbers to be punched

2, 3, 50

Format

(2I2,4X,I2)

2 3 50



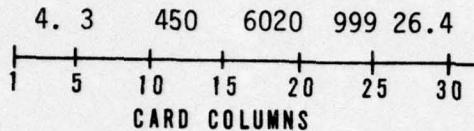
Example 4:

Numbers to be punched

4., 3, 4, 50, 60, 20
999, 26.4

Format*

(F4.2,3(I2,I5),F5.2)



Example 5:

Numbers to be punched

304, -20, 40

Format

(2I2,I5)

Numbers 304 and -20 are too large to be punched in the first two fields.

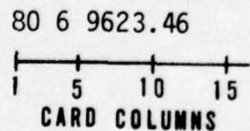
Example 6:

Numbers to be punched

80, 6, 9623.46

Format

(2I2,F8.3)



*Repetition number "3" in the format specification indicates that the portion of the format enclosed in parentheses is to be repeated three times. Therefore, this format is equivalent to FORMAT (F4.2,I2,I5,I2,I5,I2,I5,F5.2).

Example 7:

Numbers to be punched

29., .7693, .2

29 7693 .20

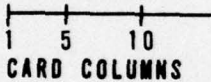


Format

(I2,2X,2F4.4)

or

29 76932000



Example 8:

Numbers to be punched

0., 3.0, 4

3 4.

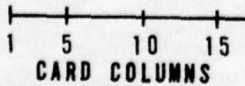


Format

(F8.2,I4,F4.3)

or

0. 34



Example 9:

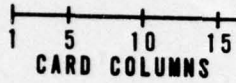
Numbers to be punched

2001, 97.632, 9000

Format

(I4,2F6.0)

200197.632 9000.



or

200197.532 9000



Example 10:

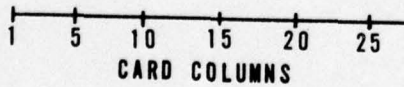
Characters to be punched

THIS IS A TEST THIS IS A TEST

Format*

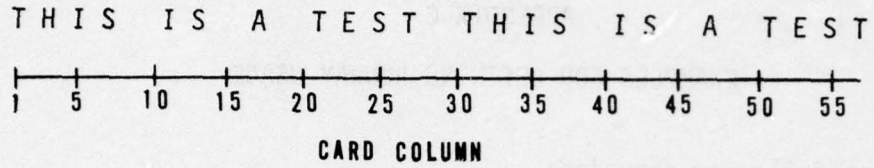
(80A1)

THIS IS A TEST THIS IS A TEST



*Since all 80 card columns are utilized in this A field, the user has the freedom to place or space the characters as he pleases.

or



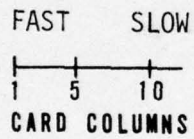
Example 11:

Characters to be punched

Format

FAST, SLOW

(2(A4,4X))



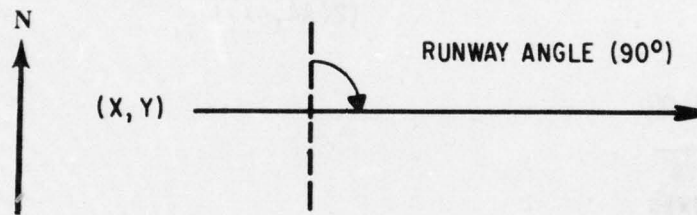
APPENDIX C

EXAMPLES FOR DEFINING RUNWAY USAGE

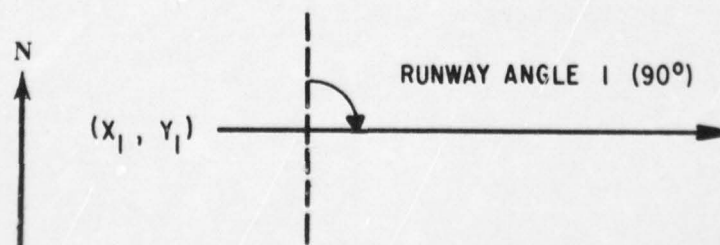
Consider the following examples:

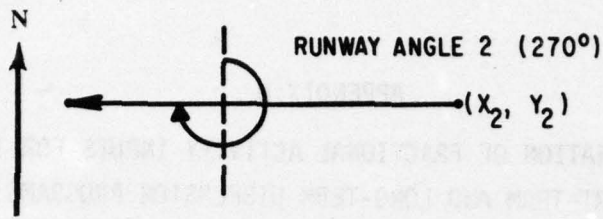
Example 1:

Aircraft always take off and land from west to east on this runway. This runway is not wind dependent; thus, a special case wind usage is not defined. This runway would be defined as follows:

Example 2:

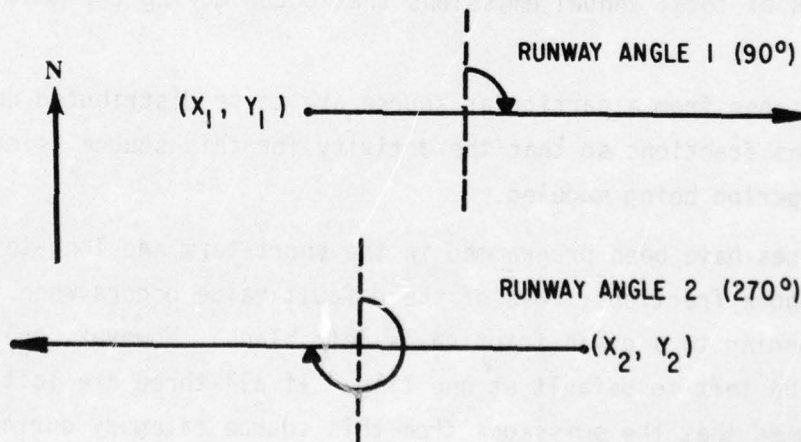
Aircraft take off and land on this runway from west to east for all winds except those directly from the west. During a west wind, aircraft take off and land from east to west. The runway usage is wind direction dependent only. Special case wind usage is not defined because a change in aircraft direction is affected only by changes in wind direction. Velocity is not considered. Two overlapping runways must be defined. The first would be described as being used during all wind conditions except a west wind. The second (the same strip of pavement as the first) would overlap the first and would be described as being used only during west wind directions.





Example 3:

Aircraft take off and land on this runway from west to east for all winds except those directly from the west with a velocity of greater than 10 knots. This case is similar to example 2 except that runway usage is not dependent simply on wind direction; rather, it is dependent on a combination of wind direction and velocity. This combination defines a special case runway use condition. As in example 2, two overlapping runways are defined. The first is described as being used during winds from all directions but is not used during a special case condition. The second is described as being unused for all wind directions but used during a special case condition.



A runway usage can be dependent on more than one wind direction or special case condition at the same time. In addition, runway usage can be dependent on both wind direction and a special case condition.

APPENDIX D

EXPLANATION OF FRACTIONAL ACTIVITY INPUTS FOR THE
SHORT-TERM AND LONG-TERM DISPERSION PROGRAMS

The fractional activity for airbase and environ sources is defined for this period only if the temporal distribution input indicator is 0 (table 18). Activity fractions are input for each environ or airbase source type and these fractions define the activity of all sources in this category. For example, if activity fractions are input for test cells, these fractions would be used to describe the activity of all test cells on the base. The fractions used to describe the source activity are listed below.

1. Fraction of total daily emissions that occur during the hour being defined.
2. Fraction of total weekly emissions that occur during the portion of the week being defined (weekend or weekday).
3. Fraction of total annual emissions that occur during the month being defined.

If the emissions from a particular source are to be distributed uniformly, the model assigns fractions so that the activity for this source is constant throughout the period being modeled.

Default values have been programmed in the short-term and long-term programs for the above fractions. Use of the default value occurs when the card column corresponding to a given fraction is left blank. However, only one or two values may be left to default at one time. If all three are left blank, it will be assumed that the emissions from this source category during this month, week, and hour are ZERO.

The aircraft, vehicle and fuel processing activity fractions are defined in the source inventory program. The definitions are accomplished through default values or namelist reassignment during the execution of the source inventory (see appendix A). These fractional values are passed to the dispersion codes via the source emission data file and are used in the dispersion

calculations involving aircraft or airbase and environ vehicles. The default fractional activity for the short-term and long-term codes is listed below.

DEFAULT ACTIVITY FRACTIONS

Airbase Points

| | |
|----------------|--|
| Training Fires | Month=1/12 Day=1/7 Hour=1/12 (0600-1800), (0 all other times) |
| Test Cells | Month=1/12 Day=1/7 Hour=1/12 (0600-1800), (0 all other times) |
| Run-up Stands | Month=1/12 Day=1/7 Hour=1/12 (0600-1800), (0 all other times) |
| Power Plants | Month=1/12 Day=1/7 Hour=1/24 |
| Incinerators | Month=1/12 Day=1/7 Hour=1/24 |

Airbase Areas

| | |
|--|---|
| Hydrocarbon Working Loss | Activity distributed according to the source inventory fuel distribution fractions. |
| Hydrocarbon Breathing Loss | Activity distributed according to the source inventory fuel distribution fractions. |
| Hydrocarbon Losses from Tank Truck Parking | Activity distributed according to the source inventory fuel distribution fractions. |
| Hydrocarbon Losses from "Other" Sources | Month=1/12 Day=1/7 Hour=1/12 (0600-1800), (0 all other times) |
| Space Heating | Activity distributed according to the degree day method. |
| Off-Road Vehicle | Month=1/12 Day=1/7 Hour=1/12 (0600-1800), (0 all other times) |
| Military Vehicle Parking | Activity distributed according to the source inventory military vehicular distribution fractions. |
| Civilian Vehicle Parking | Activity distributed according to the source inventory civilian vehicular distribution fractions. |

Airbase Lines

- Military Vehicle Lines Activity distributed according to the source inventory military vehicular distribution fractions.
- Civilian Vehicle Lines Activity distributed according to the source inventory civilian vehicular distribution fractions.
- "Other" Lines Month=1/12 Day=1/7 Hour=1/12 (0600-1800),
(0 all other times).

Environ Points

- Environ Points Month=1/12 Day=1/7 Hour=1/24

Environ Areas

- Stationary Areas Activity distributed according to the degree day method.
- Mobile Areas Activity distributed according to the source inventory civilian vehicular distribution fractions.
- EPA Land Use Areas Month=1/12 Day=1/7 Hour=1/12 (0600-1800),
(0 all other times).

Environ Lines

- Roadway Lines Activity distributed according to the source inventory civilian vehicle distribution fractions.
- Nonroadway Lines Month=1/12 Day=1/7 Hour=1/12 (0600-1800),
(0 all other times).

APPENDIX E

EXAMPLE OF A COMPLETED SOURCE INVENTORY, SHORT-TERM
AND LONG-TERM INPUT DATA SETS

All data sets within a source inventory input data deck must be identified by a card preceding the data set which contains the data set number. Although the format for the data set identifier is free, certain rules must be followed in punching it. They are as follows:

1. The number identifying the data set must be contained in Card Columns 1 through 9.
2. A data set number must be preceded by at least one asterisk (*).

The user may precede the data set number with as many asterisks as he pleases. The data set number may follow the asterisk or asterisks immediately or there may be other characters imbedded between. The columns following the data set number and through Column 80 can be used for a more complete literal description of the data set.

The AQAM Edit Program decodes the data set identifiers within the source inventory data to determine the data set to be edited. Also, the source inventory program reads the identifier card before each data set is processed. It is therefore essential that all data set identifiers be properly punched and placed within the source inventory input data deck before execution is attempted.

Data sets within the short-term and long-term decks do not require data set identifiers. The user can, however, at his discretion include identifiers throughout dispersion code input data. A special routine has been included in the short-term and long-term codes which performs, as a primary step in execution, an editing process which reads all input data, recognizes and removes all properly punched data set identifiers and recreates the input file. This operation is performed automatically by both dispersion programs and is transparent to the user. This system allows the user to develop and implement a personalized identification scheme and prevents unnecessary errors which would result in the attempts to place the identifiers throughout the dispersion input decks.

The following samples illustrate the structure of AQAM source inventory, short-term, and long-term input data decks.

SAMPLE 1
SOURCE INVENTORY INPUT
NELLIS AIR FORCE BASE

#1 TITLE INFORMATION

NELLIS AFH
26 MAY 1976

1

NEW CONTROL TOWER

36 14 9.0 115 01 35.04011.711 677.361

2010 62112 T-2 TYPE TEST CELLS
2011 62112 T-2 TYPE TEST CELLS
2015 J-85 TEST STAND
2016 TF-30 TEST STAND
2017 NEAR 61635 F-4, T-38 TRIM PAD
2018 NEAR 61635 F-111 TRIM PAD
2019 NEAR 61635 F-5 TRIM PAD
2020 61635 F-111 SOUND SUPPRESSOR; VERTICAL EXHAUST
2021 NEAR 61635 F-4 SOUND SUPPRESSOR; VERTICAL EXHAUST

*2 NAMELIST(EGDATA,ACQDATA,DSUATA)

*EGDATA

EGFF(1,1)=1.131, EGFF(2,1)=2.720, EGFF(3,1)=8.921, EGFF(4,1)=32.238,
EGFF(1,6)=.453, EGFF(2,6)=1.462, EGFF(3,6)=2.630, EGFF(4,6)=8.323,
EGFF(1,8)=1.134, EGFF(2,8)=1.500, EGFF(3,8)=11.909,
EGFF(1,9)=.693, EGFF(2,9)=.827, EGFF(3,9)=1.967,
EGFF(1,14)=.231, EGFF(2,14)=.695, EGFF(3,14)=1.095,
EGFF(1,22)=1.134, EGFF(2,22)=1.500, EGFF(3,22)=11.909,
EGFF(1,23)=.459, EGFF(2,23)=1.423, EGFF(3,23)=2.456,
EGFF(1,25)=.459, EGFF(2,25)=7.37, EGFF(3,25)=8.755, EGFF(4,25)=8.755,
EGEMFC(1,1,1)=56.74,EGEMFC(2,1,1)=10.73,EGEMFC(3,1,1)=2.47,EGEMFC(4,1,1)=.500,
EGEMFC(1,2,1)=11.40,EGEMFC(2,2,1)=1.33,EGEMFC(3,2,1)=4.25,EGEMFC(4,2,1)=2.222,
EGEMFC(1,3,1)=2.25,EGEMFC(2,3,1)=0.22,EGEMFC(3,3,1)=8.94,EGEMFC(4,3,1)=2.361,
EGEMFC(1,4,1)=4.00,EGEMFC(2,4,1)=0.01,EGEMFC(3,4,1)=3.11,EGEMFC(4,4,1)=0.154,
EGEMFC(1,1,6)=179.57,EGEMFC(2,1,6)=29.90,EGEMFC(3,1,6)=1.26,
EGEMFC(4,1,6)=0.013,
EGEMFC(1,2,6)=43.34,EGEMFC(2,2,6)=3.37,EGEMFC(3,2,6)=2.32,EGEMFC(4,2,6)=0.017,
EGEMFC(1,3,6)=29.33,EGEMFC(2,3,6)=0.84,EGEMFC(3,3,6)=2.68,EGEMFC(4,3,6)=0.018,
EGEMFC(1,4,6)=26.04,EGEMFC(2,4,6)=0.07,EGEMFC(3,4,6)=1.99,EGEMFC(4,4,6)=0.008,
EGEMFC(1,1,8)=66.73,EGEMFC(2,1,8)=22.98,EGEMFC(3,1,8)=2.95,EGEMFC(4,1,8)=0.3,
EGEMFC(1,2,8)=38.50,EGEMFC(2,2,8)=12.90,EGEMFC(3,2,8)=3.75,EGEMFC(4,2,8)=1.4,
EGEMFC(1,3,8)=0.59,EGEMFC(2,3,8)=0.18,EGEMFC(3,3,8)=28.52,
EGEMFC(4,3,8)=1.5,
EGEMFC(1,1,9)=14.01,EGEMFC(2,1,9)=10.39,EGEMFC(3,1,9)=6.17,EGEMFC(4,1,9)=0.611,
EGEMFC(1,2,9)=6.08,EGEMFC(2,2,9)=4.80,EGEMFC(3,2,9)=6.46,EGEMFC(4,2,9)=1.042,
EGEMFC(1,3,9)=2.00,EGEMFC(2,3,9)=2.25,EGEMFC(3,3,9)=9.26,EGEMFC(4,3,9)=0.565,
EGEMFC(1,1,14)=127.17,EGEMFC(2,1,14)=19.50,EGEMFC(3,1,14)=1.53,
EGEMFC(4,1,14)=.729,
EGEMFC(1,2,14)=49.05,EGEMFC(2,2,14)=1.29,EGEMFC(3,2,14)=2.67,
EGEMFC(4,2,14)=.517,
EGEMFC(1,3,14)=31.32,EGEMFC(2,3,14)=0.50,EGEMFC(3,3,14)=3.60,
EGEMFC(4,3,14)=.020,
EGEMFC(1,1,22)=66.73,EGEMFC(2,1,22)=22.98,EGEMFC(3,1,22)=2.95,
EGEMFC(4,1,22)=.021,
EGEMFC(1,2,22)=38.50,EGEMFC(2,2,22)=12.90,EGEMFC(3,2,22)=3.75,
EGEMFC(4,2,22)=.016,
EGEMFC(1,3,22)=0.59,EGEMFC(2,3,22)=0.18,EGEMFC(3,3,22)=28.52,
EGEMFC(4,3,22)=.009,
EGEMFC(1,1,23)=70.91,EGEMFC(2,1,23)=9.85,EGEMFC(3,1,23)=1.49,
EGEMFC(4,1,23)=.026,
EGEMFC(1,2,23)=14.80,EGEMFC(2,2,23)=0.32,EGEMFC(3,2,23)=3.09,
EGEMFC(4,2,23)=.158,
EGEMFC(1,3,23)=3.68,EGEMFC(2,3,23)=0.09,EGEMFC(3,3,23)=4.71,
EGEMFC(4,3,23)=.157,
EGEMFC(5,1,23)=1.0,EGEMFC(5,2,23)=1.0,EGEMFC(5,3,23)=1.0,
EGEMFC(1,1,25)=50.0,EGEMFC(1,2,25)=6.6,EGEMFC(1,3,25)=1.2,EGEMFC(1,4,25)=1.2,

EGEMFC(2,1,25)=9.6, EGEMFC(2,2,25)=1.4, EGEMFC(2,3,25)=.6, EGEMFC(2,4,25)=.60,
EGEMFC(4,1,25)=.6, EGEMFC(4,2,25)=2.7, EGEMFC(4,3,25)=2.5, EGEMFC(4,4,25)=2.5,
EGEMFC(5,1,25)=1.0, EGEMFC(5,2,25)=1.0, EGEMFC(5,3,25)=1.0, EGEMFC(5,4,25)=1.0,
EGNAMEF(23)=3HJ50.

IDACEG(33)=23, IEGABF(23)=0, IACABF(33)=0,

EGNAME(25)=5HJT-80,

IDACEG(20)=25, IEGABF(25)=0, IACABF(20)=0,

%

*ACDATA

APSPD1(14)=556.0, APSPD1(12)=556.0, DSCNT1(32)=5.0, APPHT2(12)=0.46,

APPHT2(13)=0.46, ASCNT1(14)=10.0, ASCNT1(13)=10.0, COSPD1(14)=648.6,

COSPD2(14)=648.6,

COSPD2(12)=648.6, COSPD2(13)=602.3,

COHT1(12)=.4572, COHT1(13)=.3048, TXISPD(14)=27.8, TXISPD(12)=27.8,

TXISPD(13)=9.3.

‡

*DSDATA

ACMO(1,14)=.078, ACMO(2,14)=.078, ACMO(3,14)=.089, ACMO(4,14)=.089,

ACMO(5,14)=.078, ACMO(6,14)=.089, ACMO(7,14)=.089, ACMO(8,14)=.089,

ACMO(9,14)=.089, ACMO(10,14)=.089, ACMO(11,14)=.089, ACMO(12,14)=.054,

ACMO(1,13)=.078, ACMO(2,13)=.078, ACMO(3,13)=.089, ACMO(4,13)=.089,

ACMO(5,13)=.078, ACMO(6,13)=.089, ACMO(7,13)=.089, ACMO(8,13)=.089,

ACMO(9,13)=.089, ACMO(10,13)=.089, ACMO(11,13)=.089, ACMO(12,13)=.054,

ACMO(1,12)=.075, ACMO(2,12)=.075, ACMO(3,12)=.085, ACMO(4,12)=.085,

ACMO(5,12)=.085, ACMO(6,12)=.085, ACMO(7,12)=.085, ACMO(8,12)=.085,

ACMO(9,12)=.085, ACMO(10,12)=.085, ACMO(11,12)=.085, ACMO(12,12)=.085,

ACMO(1,32)=.078, ACMO(2,32)=.078, ACMO(3,32)=.089, ACMO(4,32)=.089,

ACMO(5,32)=.078, ACMO(6,32)=.089, ACMO(7,32)=.089, ACMO(8,32)=.089,

ACMO(9,32)=.089, ACMO(10,32)=.089, ACMO(11,32)=.089, ACMO(12,32)=.054,

ACMO(1,31)=.087, ACMO(2,31)=.084, ACMO(3,31)=.084, ACMO(4,31)=.053,

ACMO(5,31)=.11, ACMO(6,31)=.064, ACMO(7,31)=.068, ACMO(8,31)=.098,

ACMO(9,31)=.078, ACMO(10,31)=.089, ACMO(11,31)=.110, ACMO(12,31)=.075,

ACMO(1,21)=.083, ACMO(2,21)=.083, ACMO(3,21)=.083, ACMO(4,21)=.075,

ACMO(5,21)=.11, ACMO(6,21)=.070, ACMO(7,21)=.075, ACMO(8,21)=.083,

ACMO(9,21)=.088, ACMO(10,21)=.079, ACMO(11,21)=.088, ACMO(12,21)=.083,

ACMO(1,24)=.021, ACMO(2,24)=.070, ACMO(3,24)=.062, ACMO(4,24)=.110,

ACMO(5,24)=.074, ACMO(6,24)=.25, ACMO(7,24)=.142, ACMO(8,24)=.025,

ACMO(9,24)=.049, ACMO(10,24)=.049, ACMO(11,24)=.099, ACMO(12,24)=.049,

ACDY(1,14)=.2, ACDY(1,13)=.2, ACDY(1,12)=.2, ACDY(1,32)=.2,

ACDY(1,31)=.14, ACDY(1,21)=.14, ACDY(1,24)=.12,

ACDY(2,14)=0.0, ACDY(2,13)=0.0, ACDY(2,12)=0.0, ACDY(2,32)=0.0,

ACDY(2,31)=.15, ACDY(2,21)=.15, ACDY(2,24)=.2,

ACHR(1,24)=0.0, ACHR(2,24)=0.0, ACHR(3,24)=0.0, ACHR(4,24)=0.0,

ACHR(5,24)=0.0, ACHR(6,24)=0.0, ACHR(7,24)=0.1, ACHR(8,24)=0.1,

ACHR(9,24)=0.1, ACHR(10,24)=0.1, ACHR(11,24)=0.1, ACHR(12,24)=0.1,

ACHR(13,24)=0.1, ACHR(14,24)=0.1, ACHR(15,24)=0.1, ACHR(16,24)=0.02,

ACHR(17,24)=0.02, ACHR(18,24)=0.02, ACHR(19,24)=0.02, ACHR(20,24)=0.02,

ACHR(21,24)=0.0, ACHR(22,24)=0.0, ACHR(23,24)=0.0, ACHR(24,24)=0.0,

ACHR(1,31)=0.0, ACHR(2,31)=0.0, ACHR(3,31)=0.0, ACHR(4,31)=0.0,

ACHR(5,31)=0.0, ACHR(6,31)=0.0, ACHR(7,31)=0.1, ACHR(8,31)=0.1,

ACHR(9,31)=0.1, ACHR(10,31)=0.1, ACHR(11,31)=0.1, ACHR(12,31)=0.1,

ACHR(13,31)=0.1, ACHR(14,31)=0.1, ACHR(15,31)=0.1, ACHR(16,31)=0.02,

ACHR(17,31)=0.02, ACHR(18,31)=0.02, ACHR(19,31)=0.02, ACHR(20,31)=0.02,

ACHR(21,31)=0.0, ACHR(22,31)=0.0, ACHR(23,31)=0.0, ACHR(24,31)=0.0,

ACHR(1,21)=0.0, ACHR(2,21)=0.0, ACHR(3,21)=0.0, ACHR(4,21)=0.0,

ACHR(5,21)=0.0, ACHR(6,21)=0.0, ACHR(7,21)=0.1, ACHR(8,21)=0.1,

ACHR(9,21)=0.1, ACHR(10,21)=0.1, ACHR(11,21)=0.1, ACHR(12,21)=0.1,

ACHR(13,21)=0.1, ACHR(14,21)=0.1, ACHR(15,21)=0.1, ACHR(16,21)=0.02,

ACHR(17,21)=0.02, ACHR(18,21)=0.02, ACHR(19,21)=0.02, ACHR(20,21)=0.02,

ACHR(21,21)=0.0, ACHR(22,21)=0.0, ACHR(23,21)=0.0, ACHR(24,21)=0.0,

ACHR(1,12)=0.0, ACHR(2,12)=0.0, ACHR(3,12)=0.0, ACHR(4,12)=0.0,

ACHR(5,12)=0.0, ACHR(6,12)=0.0, ACHR(7,12)=0.1, ACHR(8,12)=0.1,

ACHR(1,12)=0.1, ACHR(10,12)=0.1, ACHR(11,12)=0.1, ACHR(12,12)=0.1,
 ACHR(13,12)=0.1, ACHR(14,12)=0.1, ACHR(15,12)=0.1, ACHR(16,12)=0.02,
 EGEMFC(3,1,25)=2.0, EGEMFC(3,2,25)=2.7, EGEMFC(3,3,25)=4.3, EGEMFC(3,4,25)=4.3,
 ACHR(17,12)=0.02, ACHR(18,12)=0.02, ACHR(19,12)=0.02, ACHR(20,12)=0.02,
 ACHR(21,12)=0.0, ACHR(22,12)=0.0, ACHR(23,12)=0.0, ACHR(24,12)=0.0,
 ACHR(1,32)=0.0, ACHR(2,32)=0.0, ACHR(3,32)=0.0, ACHR(4,32)=0.0,
 ACHR(5,32)=0.0, ACHR(6,32)=0.0, ACHR(7,32)=0.1, ACHR(8,32)=0.1,
 ACHR(9,32)=0.1, ACHR(10,32)=0.1, ACHR(11,32)=0.1, ACHR(12,32)=0.1,
 ACHR(13,32)=0.1, ACHR(14,32)=0.1, ACHR(15,32)=0.1, ACHR(16,32)=0.02,
 ACHR(17,32)=0.02, ACHR(18,32)=0.02, ACHR(19,32)=0.02, ACHR(20,32)=0.02,
 ACHR(21,32)=0.0, ACHR(22,32)=0.0, ACHR(23,32)=0.0, ACHR(24,32)=0.0,
 ACHR(1,13)=0.0, ACHR(2,13)=0.0, ACHR(3,13)=0.0, ACHR(4,13)=0.0,
 ACHR(5,13)=0.0, ACHR(6,13)=0.0, ACHR(7,13)=0.1, ACHR(8,13)=0.1,
 ACHR(9,13)=0.1, ACHR(10,13)=0.1, ACHR(11,13)=0.1, ACHR(12,13)=0.1,
 ACHR(13,13)=0.1, ACHR(14,13)=0.1, ACHR(15,13)=0.1, ACHR(16,13)=0.02,
 ACHR(17,13)=0.02, ACHR(18,13)=0.02, ACHR(19,13)=0.02, ACHR(20,13)=0.02,
 ACHR(21,13)=0.0, ACHR(22,13)=0.0, ACHR(23,13)=0.0, ACHR(24,13)=0.0,
 ACHR(1,14)=0.0, ACHR(2,14)=0.0, ACHR(3,14)=0.0, ACHR(4,14)=0.0,
 ACHR(5,14)=0.0, ACHR(6,14)=0.0, ACHR(7,14)=0.08, ACHR(8,14)=0.08,
 ACHR(9,14)=0.08, ACHR(10,14)=0.08, ACHR(11,14)=0.08, ACHR(12,14)=0.08,
 ACHR(13,14)=0.08, ACHR(14,14)=0.08, ACHR(15,14)=0.08, ACHR(16,14)=0.08,
 ACHR(17,14)=0.04, ACHR(18,14)=0.04, ACHR(19,14)=0.04, ACHR(20,14)=0.04,
 ACHR(21,14)=0.04, ACHR(22,14)=0.0, ACHR(23,14)=0.0, ACHR(24,14)=0.0,
 VHMLMO(1)=0.08333, VHMLMO(2)=0.08333, VHMLMO(3)=0.08333, VHMLMO(4)=0.08333,
 VHMLMO(5)=0.08333, VHMLMO(6)=0.08333, VHMLMO(7)=0.08333, VHMLMO(8)=0.08333,
 VHMLMO(9)=0.08333, VHMLMO(10)=0.08333, VHMLMO(11)=0.08333, VHMLMO(12)=0.08333,
 VHMLDY(1)=0.2, VHMLDY(2)=0.0,
 VHMLHR(1)=0.0, VHMLHR(2)=0.0, VHMLHR(3)=0.0, VHMLHR(4)=0.0,
 VHMLHR(5)=0.0, VHMLHR(6)=0.0, VHMLHR(7)=0.1, VHMLHR(8)=0.1,
 VHMLHR(9)=0.1, VHMLHR(10)=0.1, VHMLHR(11)=0.1, VHMLHR(12)=0.1,
 VHMLHR(13)=0.1, VHMLHR(14)=0.1, VHMLHR(15)=0.1, VHMLHR(16)=0.0333,
 VHMLHR(17)=0.0333, VHMLHR(18)=0.0333, VHMLHR(19)=0.0, VHMLHR(20)=0.0,
 VHMLHR(21)=0.0, VHMLHR(22)=0.0, VHMLHR(23)=0.0, VHMLHR(24)=0.0,
 CVABMO(1)=0.08333, CVABMO(2)=0.08333, CVABMO(3)=0.08333, CVABMO(4)=0.08333,
 CVABMO(5)=0.08333, CVABMO(6)=0.08333, CVABMO(7)=0.08333, CVABMO(8)=0.08333,
 CVABMO(9)=0.08333, CVABMO(10)=0.08333, CVABMO(11)=0.08333, CVABMO(12)=0.08333,
 CVABDY(1)=0.1486, CVABDY(2)=0.1255,
 CVABHR(1)=0.00136, CVABHR(2)=0.00136, CVABHR(3)=0.00136, CVABHR(4)=0.00136,
 CVABHR(5)=0.00136, CVABHR(6)=0.00136, CVABHR(7)=0.0567, CVABHR(8)=0.0567,
 CVABHR(9)=0.0567, CVABHR(10)=0.0624, CVABHR(11)=0.0624, CVABHR(12)=0.0624,
 CVABHR(13)=0.0795, CVABHR(14)=0.0795, CVABHR(15)=0.0795, CVABHR(16)=0.0711,
 CVABHR(17)=0.0711, CVABHR(18)=0.0711, CVABHR(19)=0.0391, CVABHR(20)=0.0391,
 CVABHR(21)=0.0391, CVABHR(22)=0.0218, CVABHR(23)=0.0218, CVABHR(24)=0.0218,
 FLMO(1,2)=0.78, FLMO(2,2)=0.74, FLMO(3,2)=0.78, FLMO(4,2)=0.83,
 FLMO(5,2)=1.01, FLMO(6,2)=0.70, FLMO(7,2)=0.83, FLMO(8,2)=1.08,
 FLMO(9,2)=0.96, FLMO(10,2)=0.73, FLMO(11,2)=0.56, FLMO(12,2)=1.00,
 FLMO(1,3)=0.96, FLMO(2,3)=1.50, FLMO(3,3)=0.99, FLMO(4,3)=2.02,
 FLMO(5,3)=1.55, FLMO(6,3)=1.31, FLMO(7,3)=0.66, FLMO(8,3)=0.11,
 FLMO(9,3)=0.28, FLMO(10,3)=0.0, FLMO(11,3)=0.008, FLMO(12,3)=0.518,
 FLMO(1,1)=0.8333, FLMO(2,1)=0.8333, FLMO(3,1)=0.8333, FLMO(4,1)=0.8333,
 FLMO(5,1)=0.8333, FLMO(6,1)=0.8333, FLMO(7,1)=0.8333, FLMO(8,1)=0.8333,
 FLMO(9,1)=0.8333, FLMO(10,1)=0.8333, FLMO(11,1)=0.8333, FLMO(12,1)=0.8333,
 FLMO(1,4)=0.8333, FLMO(2,4)=0.8333, FLMO(3,4)=0.8333, FLMO(4,4)=0.8333,
 FLMO(5,4)=0.8333, FLMO(6,4)=0.8333, FLMO(7,4)=0.8333, FLMO(8,4)=0.8333,
 FLMO(9,4)=0.8333, FLMO(10,4)=0.8333, FLMO(11,4)=0.8333, FLMO(12,4)=0.8333,
 FLDY(1,2)=0.2, FLDY(2,2)=0.0,
 FLDY(1,3)=0.2, FLDY(2,3)=0.0,
 FLDY(1,1)=0.2, FLDY(2,1)=0.0,
 FLDY(1,4)=0.2, FLDY(2,4)=0.0,
 FLHR(1,1)=0.0, FLHR(2,1)=0.0, FLHR(3,1)=0.0, FLHR(4,1)=0.0,
 FLHR(5,1)=0.0, FLHR(6,1)=0.0, FLHR(7,1)=0.0, FLHR(8,1)=0.0,

FLHR(9,1)=0.125,FLHR(10,1)=0.125,FLHR(11,1)=0.125,FLHR(12,1)=0.125,
 FLHR(13,1)=0.0,FLHR(14,1)=0.125,FLHR(15,1)=0.125,FLHR(16,1)=0.125,
 FLHR(17,1)=0.125,FLHR(18,1)=0.0,FLHR(19,1)=0.0,FLHR(20,1)=0.0,
 FLHR(21,1)=0.0,FLHR(22,1)=0.0,FLHR(23,1)=0.0,FLHR(24,1)=0.0,
 FLHR(1,2)=0.0,FLHR(2,2)=0.0,FLHR(3,2)=0.0,FLHR(4,2)=0.0,
 FLHR(5,2)=0.0,FLHR(6,2)=0.0,FLHR(7,2)=0.0,FLHR(8,2)=0.0,
 FLHR(9,2)=0.125,FLHR(10,2)=0.125,FLHR(11,2)=0.125,FLHR(12,2)=0.125,
 FLHR(13,2)=0.0,FLHR(14,2)=0.125,FLHR(15,2)=0.125,FLHR(16,2)=0.125,
 FLHR(17,2)=0.125,FLHR(18,2)=0.0,FLHR(19,2)=0.0,FLHR(20,2)=0.0,
 FLHR(21,2)=0.0,FLHR(22,2)=0.0,FLHR(23,2)=0.0,FLHR(24,2)=0.0,
 FLHR(1,3)=0.0,FLHR(2,3)=0.0,FLHR(3,3)=0.0,FLHR(4,3)=0.0,
 FLHR(5,3)=0.0,FLHR(6,3)=0.0,FLHR(7,3)=0.0,FLHR(8,3)=0.0,
 FLHR(9,3)=0.125,FLHR(10,3)=0.125,FLHR(11,3)=0.125,FLHR(12,3)=0.125,
 FLHR(13,3)=0.0,FLHR(14,3)=0.125,FLHR(15,3)=0.125,FLHR(16,3)=0.125,
 FLHR(17,3)=0.125,FLHR(18,3)=0.0,FLHR(19,3)=0.0,FLHR(20,3)=0.0,
 FLHR(21,3)=0.0,FLHR(22,3)=0.0,FLHR(23,3)=0.0,FLHR(24,3)=0.0,
 FLHR(1,4)=0.0,FLHR(2,4)=0.0,FLHR(3,4)=0.0,FLHR(4,4)=0.0,
 FLHR(5,4)=0.0,FLHR(6,4)=0.0,FLHR(7,4)=0.0,FLHR(8,4)=0.0,
 FLHR(9,4)=0.125,FLHR(10,4)=0.125,FLHR(11,4)=0.125,FLHR(12,4)=0.125,
 FLHR(13,4)=0.0,FLHR(14,4)=0.125,FLHR(15,4)=0.125,FLHR(16,4)=0.125,
 FLHR(17,4)=0.125,FLHR(18,4)=0.0,FLHR(19,4)=0.0,FLHR(20,4)=0.0,
 FLHR(21,4)=0.0,FLHR(22,4)=0.0,FLHR(23,4)=0.0,FLHR(24,4)=0.0,

\$

*3 METEOROLOGICAL DATA

67.26 2369.00 18.08 5.00 29.00

*4 AIRCRAFT AND RUNWAY TOTALS

7 4 5 1 15

*5 AIRCRAFT ACTIVITY

| | | | |
|----|------|------|------|
| 14 | 7442 | 7442 | 7025 |
| 13 | 4215 | 4215 | 562 |
| 12 | 6762 | 6762 | 588 |
| 32 | 4215 | 4215 | 1686 |
| 31 | 4180 | 4180 | 0 |
| 21 | 915 | 915 | 0 |
| 24 | 243 | 243 | 0 |

*6 AIRCRAFT PARKING AREAS

| | | | | | | | | | | |
|---|---|--------|---------|------|--------|---------|------|--------|---------|------|
| 1 | 3 | 675.40 | 4010.81 | .180 | 675.58 | 4011.00 | .180 | 675.67 | 4011.18 | .180 |
| 2 | 3 | 675.83 | 4011.37 | .180 | 676.00 | 4011.55 | .180 | 676.16 | 4011.74 | .180 |
| 3 | 3 | 676.32 | 4011.92 | .180 | 676.48 | 4012.10 | .180 | 676.63 | 4012.29 | .180 |
| 4 | 3 | 676.90 | 4012.58 | .250 | 676.91 | 4012.83 | .250 | 676.66 | 4012.90 | .250 |
| 5 | 2 | 678.31 | 4012.94 | .060 | 678.31 | 4012.88 | .060 | | | |

*7 AIRCRAFT TAXIWAY PATH SEGMENTS

| | | | | |
|----|--------|---------|--------|---------|
| 1 | 675.85 | 4010.49 | 675.61 | 4010.69 |
| 2 | 675.61 | 4010.69 | 675.63 | 4010.96 |
| 3 | 675.67 | 4010.96 | 675.58 | 4011.00 |
| 4 | 675.09 | 4011.48 | 675.63 | 4010.96 |
| 5 | 676.09 | 4011.48 | 676.00 | 4011.55 |
| 6 | 676.56 | 4012.02 | 676.09 | 4011.48 |
| 7 | 676.56 | 4012.02 | 676.47 | 4012.10 |
| 8 | 676.77 | 4012.26 | 676.56 | 4012.02 |
| 9 | 676.91 | 4012.83 | 676.77 | 4012.26 |
| 10 | 676.95 | 4012.83 | 676.91 | 4012.83 |
| 11 | 677.64 | 4013.01 | 676.95 | 4012.98 |
| 12 | 677.85 | 4012.80 | 677.64 | 4013.01 |
| 13 | 677.85 | 4012.80 | 678.29 | 4012.76 |
| 14 | 678.29 | 4012.76 | 678.31 | 4012.88 |
| 15 | 677.85 | 4012.80 | 675.85 | 4010.49 |

*8

AIRCRAFT RUNWAY INFORMATION

| | | | | | | | | | | | | | | | | |
|------|---|---|----|----|----|---|---|---|---|----------------------|---------|--------|--------|------|-----|-----|
| 03 | | | | | | | | | | 675.61 | 4010.69 | 40.94 | 3.0357 | | | |
| 03 | | | | | | | | | | 00000000000000000001 | | | | | | |
| 03 | | | | | | | | | | 372 | 211 | 338 | 211 | 209 | 46 | 12 |
| 03 | | | | | | | | | | 372 | 211 | 338 | 211 | 209 | 46 | 12 |
| 03 | 5 | 5 | | | | | | | | | | | | | | |
| 0320 | 5 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 0320 | 5 | 3 | 12 | 13 | 14 | | | | | | | | | | | |
| 0321 | 1 | | | | | | | | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0321 | 1 | 7 | 11 | 10 | 9 | 8 | 6 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0322 | 2 | | | | | | | | | .1 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| 0322 | 2 | 6 | 11 | 10 | 9 | 8 | 6 | 5 | | | | | | | | |
| 0323 | 3 | | | | | | | | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 0323 | 3 | 5 | 11 | 10 | 9 | 8 | 7 | | | | | | | | | |
| 0324 | 4 | | | | | | | | | 0 | 0 | 0 | 0 | 1.0 | 1.0 | 0 |
| 0324 | 4 | 2 | 11 | 10 | | | | | | | | | | | | |
| 0340 | 5 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 0340 | 5 | 4 | 14 | 13 | 15 | 1 | | | | | | | | | | |
| 0341 | 1 | | | | | | | | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0341 | 1 | 2 | 3 | 2 | | | | | | | | | | | | |
| 0342 | 2 | | | | | | | | | .1 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| 0342 | 2 | 3 | 5 | 4 | 2 | | | | | | | | | | | |
| 0343 | 3 | | | | | | | | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 0343 | 3 | 4 | 7 | 6 | 4 | 2 | | | | | | | | | | |
| 0344 | 4 | | | | | | | | | 0 | 0 | 0 | 0 | 1.0 | 1.0 | 0 |
| 0344 | 4 | 5 | 9 | 8 | 6 | 4 | 2 | | | | | | | | | |
| 04 | | | | | | | | | | 675.85 | 4010.49 | 40.94 | 3.0153 | | | |
| 04 | | | | | | | | | | 00000000000000000001 | | | | | | |
| 04 | | | | | | | | | | 372 | 211 | 338 | 211 | 209 | 46 | 12 |
| 04 | | | | | | | | | | 372 | 211 | 338 | 211 | 209 | 46 | 12 |
| 04 | 5 | 5 | | | | | | | | | | | | | | |
| 0415 | 5 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 0415 | 5 | 2 | 13 | 14 | | | | | | | | | | | | |
| 0416 | 1 | | | | | | | | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0416 | 1 | 6 | 12 | 11 | 10 | 9 | 8 | 6 | 4 | 3 | | | | | | |
| 0417 | 2 | | | | | | | | | .1 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| 0417 | 2 | 7 | 12 | 11 | 10 | 9 | 8 | 6 | 5 | | | | | | | |
| 0418 | 3 | | | | | | | | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 0418 | 3 | 6 | 12 | 11 | 10 | 9 | 8 | 7 | | | | | | | | |
| 0419 | 4 | | | | | | | | | 0 | 0 | 0 | 0 | 1.0 | 1.0 | 0 |
| 0419 | 4 | 3 | 12 | 11 | 10 | | | | | | | | | | | |
| 0435 | 5 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 0435 | 5 | 3 | 14 | 13 | 15 | | | | | | | | | | | |
| 0435 | 1 | | | | | | | | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0435 | 1 | 3 | 3 | 2 | 1 | | | | | | | | | | | |
| 0437 | 2 | | | | | | | | | .1 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| 0437 | 2 | 4 | 5 | 4 | 2 | 1 | | | | | | | | | | |
| 0437 | 3 | | | | | | | | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 0438 | 3 | 5 | 7 | 6 | 4 | 2 | 1 | | | | | | | | | |
| 0439 | 4 | | | | | | | | | 0 | 0 | 0 | 0 | 1.0 | 1.0 | 0 |
| 0439 | 4 | 6 | 9 | 8 | 6 | 4 | 2 | 1 | | | | | | | | |
| 21 | | | | | | | | | | 677.85 | 4012.80 | 220.94 | 3.0153 | | | |
| 21 | | | | | | | | | | 11111111111111111110 | | | | | | |
| 21 | | | | | | | | | | 3349 | 1897 | 3043 | 1897 | 1881 | 412 | 109 |
| 21 | | | | | | | | | | 3349 | 1897 | 3043 | 1897 | 1881 | 412 | 109 |
| 21 | 5 | 5 | | | | | | | | | | | | | | |
| 2110 | 5 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 2110 | 5 | 3 | 15 | 13 | 14 | | | | | | | | | | | |
| 2111 | 1 | | | | | | | | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2111 | 1 | 3 | 1 | 2 | 3 | | | | | | | | | | | |
| 2112 | 2 | | | | | | | | | .1 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| 2112 | 2 | 4 | 1 | 2 | 4 | 5 | | | | | | | | | | |

| | | | | | | | | | |
|------|---|---|----------------------|---------|------|------|------|--------|--------|
| 2113 | 3 | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 2113 | 3 | 5 | 1 | 2 | 4 | 6 | 7 | 0 | 0 |
| 2114 | 4 | | 0 | 0 | 0 | 0 | 0 | 1.0 | 1.0 |
| 2114 | 4 | 6 | 1 | 2 | 4 | 6 | 8 | 9 | 0 |
| 2130 | 5 | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 2130 | 5 | 2 | 14 | 13 | | | | | |
| 2131 | 1 | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2131 | 1 | 8 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| 2132 | 2 | | .1 | 0 | 0 | 0 | 0 | 1.0 | 0 |
| 2132 | 2 | 7 | 5 | 6 | 8 | 9 | 10 | 11 | 12 |
| 2133 | 3 | | 0 | 0 | 1.0 | 0 | 1.0 | 0 | 0 |
| 2133 | 3 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 0 |
| 2134 | 4 | | 0 | 0 | 0 | 0 | 0 | 1.0 | 1.0 |
| 2134 | 4 | 3 | 10 | 11 | 12 | | | | 0 |
| 22 | | | 677.65 | 4013.01 | | | | 220.94 | 3.0357 |
| 22 | | | 11111111111111111110 | | | | | | |
| 22 | | | 3349 | 1897 | 3043 | 1897 | 1881 | 412 | 109 |
| 22 | | | 3349 | 1897 | 3043 | 1897 | 1881 | 412 | 109 |
| 22 | 5 | 5 | | | | | | | |
| 2225 | 5 | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 2225 | 5 | 4 | 1 | 15 | 13 | 14 | | | |
| 2225 | 1 | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2225 | 1 | 2 | 2 | 3 | | | | | |
| 2227 | 2 | | .1 | 0 | 0 | 0 | 1.0 | 0 | 0 |
| 2227 | 2 | 3 | 2 | 4 | 5 | | | | |
| 2227 | 3 | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 2228 | 3 | 4 | 2 | 4 | 5 | 7 | | | |
| 2229 | 4 | | 0 | 0 | 0 | 0 | 0 | 1.0 | 1.0 |
| 2229 | 4 | 5 | 2 | 4 | 6 | 8 | 9 | | |
| 2245 | 5 | | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 |
| 2245 | 5 | 3 | 14 | 13 | 12 | | | | |
| 2245 | 1 | | .9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2245 | 1 | 7 | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| 2247 | 2 | | .1 | 0 | 0 | 0 | 1.0 | 0 | 0 |
| 2247 | 2 | 6 | 5 | 6 | 8 | 9 | 10 | 11 | |
| 2248 | 3 | | 0 | 1.0 | 1.0 | 0 | 0 | 0 | 0 |
| 2248 | 3 | 5 | 7 | 8 | 9 | 10 | 11 | | |
| 2249 | 4 | | 0 | 0 | 0 | 0 | 0 | 1.0 | 1.0 |
| 2249 | 4 | 2 | 10 | 11 | | | | | 0 |

*9

| AEROSPACE GROUND EQUIPMENT | | | | | |
|----------------------------|---------|---------|---------|---------|--|
| 8.13 | 0.476 | 0.0245 | 0.0569 | 0.0054 | |
| 6.61 | 0.387 | 0.0200 | 0.0463 | 0.0044 | |
| 7.14 | 0.419 | 0.0216 | 0.0500 | 0.0048 | |
| 6.42 | 0.376 | 0.0194 | 0.0449 | 0.0042 | |
| 0.150 | 0.0088 | .000454 | 0.00115 | 0.0001 | |
| 0.150 | 0.0088 | .000454 | 0.00115 | 0.0001 | |
| 0.150 | 0.0088 | .000454 | 0.00115 | 0.0001 | |
| 0.5675 | 0.05675 | 0.1135 | 0.05675 | 0.01135 | |
| 0.61 | .061 | 0.122 | 0.061 | 0.0122 | |
| 0.66 | .066 | 0.132 | 0.066 | 0.0132 | |
| 0.61 | .061 | 0.122 | 0.061 | 0.0122 | |
| 0.264 | 0.0263 | 0.0517 | 0.0263 | 0.00517 | |
| 0.264 | 0.0263 | 0.0517 | 0.0263 | 0.00517 | |
| 0.264 | 0.0263 | 0.0517 | 0.0263 | 0.00517 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |

AD-A033 001

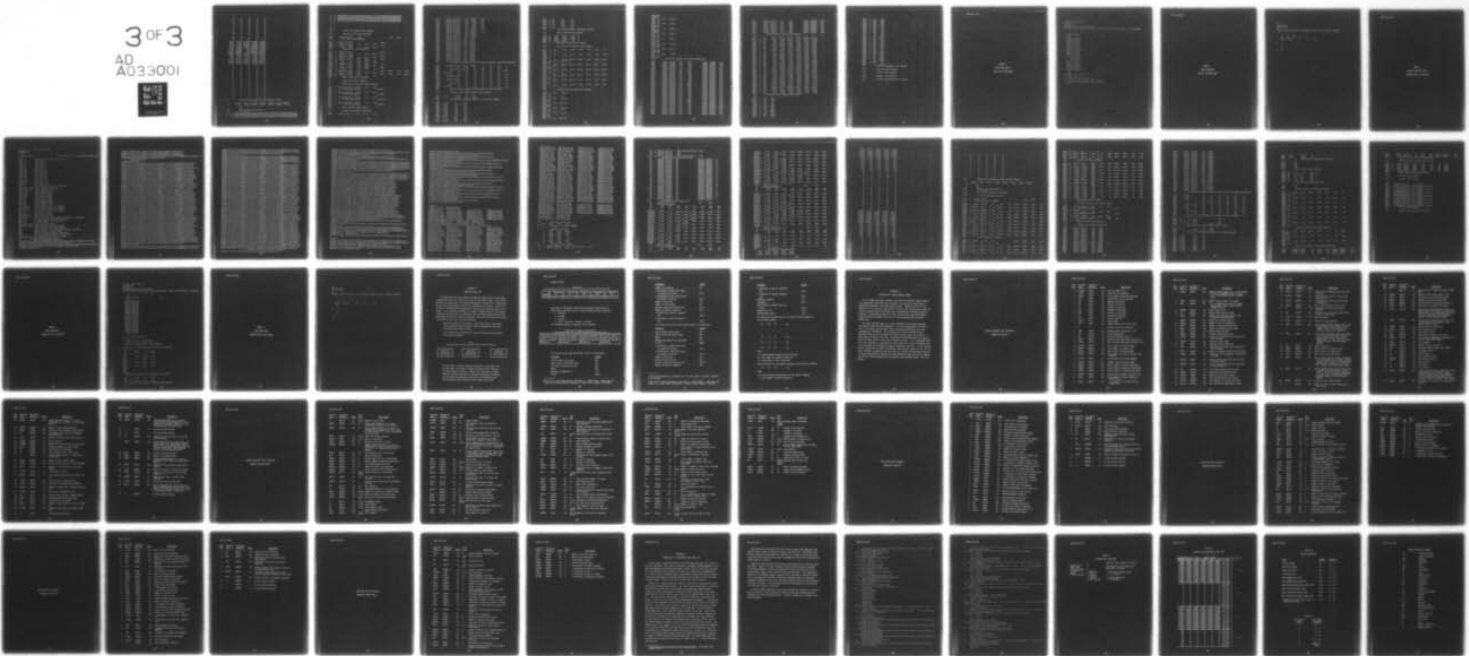
AIR FORCE WEAPONS LAB KIRTLAND AFB N MEX
AIR QUALITY ASSESSMENT MODEL (AQAM) DATA REDUCTION AND OPERATIO--ETC(U)
OCT 76 D F MENICUCCI
AFWL-TR-75-307

F/G 13/2

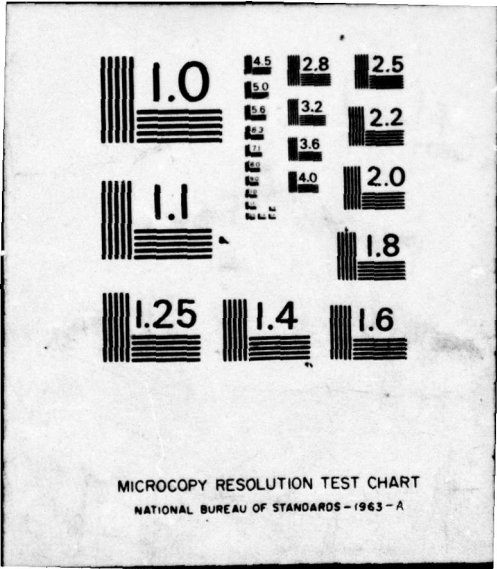
UNCLASSIFIED

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DATE
FILMED
1-77



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 - A

4 0 0000000000000345034500000345000065511379000003450690000000000000
5 0 00000000000000000000000000000000066670000000025000833000000000000
6 0 0000019004880596075905690352178922220840092105420732000000000000
1 0 111913801157145511940373037306340783063402610522011500000000000000
2 1
3 1
4 1
5 1
6 1

| *12 NUMBER OF AIRBASE POINT SOURCES | | | | | | | | | |
|--|----|-------------------|---------|-------|-------|------|--|---------|---------------|
| *13 TRAINING FIRE POINT SOURCES | | | | | | | | | |
| *14 TEST CELL POINT SOURCES | | | | | | | | | |
| *15 RUNUP STAND POINT SOURCES | | | | | | | | | |
| *16 POWER PLANT POINT SOURCES | | | | | | | | | |
| *17 INCINERATOR POINT SOURCES | | | | | | | | | |
| *18 PETROLEUM STORAGE TANK POINT SOURCES | | | | | | | | | |
| *19 OTHER AIRBASE POINT SOURCES | | | | | | | | | |
| *20 AIRBASE AREA SOURCE GEOMETRIES | | | | | | | | | |
| 2001 | 3 | 676.92 | 4011.03 | 1.00 | | | | 24. | 300. |
| 2010 | 1 | 676.72 | 4013.35 | | | | | 422. | |
| 2010 | 5 | 220.0 | 10.0 | 10.0 | 20.0 | 20.0 | | | |
| 2011 | 1 | 676.71 | 4013.33 | | | | | 422. | |
| 2011 | 1 | 60.0 | 60.0 | 0. | 36.0 | 24.0 | | | |
| 2015 | 1 | 676.67 | 4013.31 | | | | | 330.0 | |
| 2015 | 6 | 324.0 | 45.0 | 0. | 27.0 | 18.0 | | | |
| 2016 | 1 | 676.66 | 4013.29 | | | | | 330.0 | |
| 2016 | 5 | 220.0 | 10.0 | 10.0 | 20.0 | 20.0 | | | |
| 2017 | 2 | 676.91 | 4013.49 | 2.0 | 30.0 | | | 330. | |
| 2017 | 15 | 60. | 15. | 15. | 30. | 15. | | | |
| 2017 | 6 | 164. | 15. | 15. | 30. | 15. | | | |
| 2018 | 1 | 676.97 | 4013.44 | 2.0 | 30.0 | | | 330. | |
| 2018 | 5 | 150. | 19.0 | 6.2 | 22.8 | 13.8 | | | |
| 2019 | 1 | 676.94 | 4013.45 | 2.0 | 30.0 | | | 330. | |
| 2019 | 6 | 396. | 15. | 15. | 30. | 15. | | | |
| 2020 | 1 | 677.09 | 4013.34 | 7.32 | | | | 330. | 12.5 5.5 7.32 |
| 2020 | 5 | 150. | 19.0 | 6.2 | 22.8 | 13.8 | | | |
| 2021 | 1 | 676.95 | 4013.33 | 6.91 | | | | 330. | 12.5 6.0 6.91 |
| 2021 | 15 | 84. | 15. | 15. | 30. | 15. | | | |
| 2050 | 0 | 675.73 | 4012.97 | 12.92 | 1.0 | 1.0 | | | |
| 2050 | 2 | 1109271.03179.000 | | | | | | 18.2888 | |
| 2051 | 0 | 675.66 | 4012.92 | 10.97 | 1.0 | 1.0 | | | |
| 2051 | 2 | 154633.521589.000 | | | | | | 13.7160 | |
| 2052 | 0 | 675.63 | 4012.96 | 10.97 | 1.0 | 1.0 | | | |
| 2052 | 2 | 154633.521589.000 | | | | | | 13.7160 | |
| 2053 | 0 | 675.68 | 4013.02 | 12.92 | 1.0 | 1.0 | | | |
| 2053 | 3 | 14424.0002384.500 | | | | | | 15.8496 | |
| 3001 | | 676.60 | 4012.44 | 3.0 | 150.0 | 1.0 | | | |

| | | | | | |
|------|--------|---------|------|-------|-----|
| 3002 | 675.47 | 4012.98 | 3.0 | 200.0 | 1.0 |
| 3003 | 675.32 | 4012.93 | 1.0 | 150.0 | 1.0 |
| 3004 | 675.38 | 4011.13 | 1.0 | 50.0 | 1.0 |
| 3005 | 675.84 | 4011.57 | 1.0 | 50.0 | 1.0 |
| 3006 | 676.71 | 4013.48 | 1.0 | 25.0 | 1.0 |
| 3007 | 675.37 | 4011.82 | 1.0 | 100.0 | 1.0 |
| 3201 | 676.46 | 4012.95 | 3.0 | 100.0 | 1.0 |
| 3202 | 676.46 | 4012.85 | 3.0 | 100.0 | 1.0 |
| 3501 | 673.81 | 4012.50 | 5.0 | 600.0 | |
| 3502 | 674.61 | 4011.40 | 5.0 | 600.0 | |
| 3503 | 676.11 | 4012.20 | 5.0 | 300.0 | |
| 3504 | 675.67 | 4012.05 | 10.0 | 700.0 | |
| 4001 | 673.47 | 4013.09 | 0.5 | 278.0 | |
| 4002 | 673.87 | 4013.14 | 0.5 | 370.0 | |
| 4003 | 673.87 | 4012.59 | 0.5 | 740.0 | |
| 4004 | 675.24 | 4013.14 | 0.5 | 280.0 | |
| 4005 | 674.94 | 4012.02 | 0.5 | 285.0 | |
| 4006 | 674.65 | 4011.45 | 0.5 | 860.0 | |
| 4007 | 675.18 | 4012.06 | 0.5 | 205.0 | |
| 4008 | 675.58 | 4012.55 | 0.5 | 278.0 | |
| 4009 | 676.31 | 4012.79 | 0.5 | 735.0 | |
| 4010 | 675.61 | 4012.10 | 0.5 | 660.0 | |
| 4011 | 676.14 | 4012.18 | 0.5 | 490.0 | |
| 4012 | 675.71 | 4011.55 | 0.5 | 455.0 | |
| 4013 | 675.35 | 4011.14 | 0.5 | 340.0 | |
| 4014 | 675.18 | 4011.68 | 0.5 | 205.0 | |

*21 AIR BASE AREA SOURCES WITH HC FILLING, WORKING LOSSES AND SPILLAGE

| | | | | | | | | |
|------|----------|----------|--------|-------|----|----|----|-------|
| 3001 | 3335.38 | 218542.1 | 4424.6 | 977.2 | 0. | 0. | 0. | |
| 3001 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| 3002 | 0.21 | 8542.1 | 4424.6 | 0. | 0. | 0. | 0. | |
| 3002 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 17.37 |
| 3003 | 2668.30 | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3003 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | .21 |
| 3004 | 333.53 | 1354.90 | 0. | 0. | 0. | 0. | 0. | |
| 3004 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 1.31 |
| 3005 | 333.53 | 1540.08 | 0. | 0. | 0. | 0. | 0. | |
| 3005 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 1.45 |
| 3006 | 0. | 1184.01 | 0. | 0. | 0. | 0. | 0. | |
| 3006 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | .92 |
| 3007 | 32471.64 | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3007 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 2.49 |

*22 STORAGE TANK HYDROCARBON BREATHING LOSS AREA SOURCES

*23 PETROLEUM TANK TRUCK PARKING AREA SOURCES

| | | | | | |
|------|---|----|-------|-----|------|
| 3201 | 2 | 12 | 18.92 | .90 | 3.05 |
| 3202 | 2 | 13 | 18.92 | .90 | 3.05 |

*24 MILITARY AND CIVILIAN VEHICLE HC BREATHING LOSSES

| | | | | |
|------|---|-------|------|-----|
| 4001 | 1 | 242 | 70. | 0.5 |
| 4002 | 1 | 431 | 70. | 0.5 |
| 4003 | 1 | 1736 | 70. | 0.5 |
| 4004 | 1 | 252 | 70. | 0.5 |
| 4005 | 1 | 263 | 70. | 0.5 |
| 4006 | 1 | 2346 | 70. | 0.5 |
| 4007 | 1 | 137 | 70. | 0.5 |
| 4008 | 1 | 242 | 70. | 0.5 |
| 4009 | 1 | 1674 | 70. | 0.5 |
| 4009 | 4 | 41 | 150. | 0.5 |
| 4010 | 1 | 11376 | 70. | 0.5 |
| 4011 | 1 | 739 | 70. | 0.5 |

| | | | | |
|------|---|-----|------|-----|
| 4011 | 4 | 18 | 150. | 0.5 |
| 4012 | 1 | 636 | 70. | 0.5 |
| 4012 | 4 | 16 | 150. | 0.5 |
| 4013 | 1 | 359 | 70. | 0.5 |
| 4013 | 4 | 9 | 150. | 0.5 |
| 4014 | 1 | 137 | 70. | 0.5 |

*25 OTHER EVAPORATIVE HYDROCARBON SOURCES

0

*26 SPACE HEATING AREA SOURCES

4

| | | | | | |
|------|----|-------|-------|------|---|
| 3501 | 16 | .0001 | .0001 | 1.36 | 0 |
| 3502 | 16 | .0001 | .0001 | 2.55 | 0 |
| 3503 | 16 | .0001 | .0001 | 5.25 | 0 |
| 3504 | 14 | .0001 | .0001 | .10 | 0 |

*27 OFF-ROAD VEHICLE AREA SOURCES

0

*28 MILITARY MOTOR VEHICLE AREA SOURCES

4

| | | | | | | | | |
|------|-----|-----|-------|--------|-------|-------|-------|-------|
| 4007 | 3 | 15. | 3.31 | 14.30 | 5.30 | 3.72 | 3.21 | 0.0 |
| 4007 | 1 | 1 | 1 | 1 | 0 | | | |
| 4007 | 7 | | | | | | | |
| 4008 | 3 | 20. | 5.96 | 25.74 | 9.54 | 6.70 | 5.78 | 9.55 |
| 4008 | 2 | 6 | 2 | 2 | 0 | | | |
| 4008 | 26 | | | | | | | |
| 4009 | 3 | 5. | 42.09 | 181.93 | 67.42 | 47.32 | 40.82 | 67.04 |
| 4009 | 14 | 40 | 17 | 15 | 12 | 21 | | |
| 4009 | 143 | | | | | | | |
| 4010 | 3 | 20. | 33.88 | 146.46 | 54.27 | 38.10 | 32.87 | 27.09 |
| 4010 | 11 | 32 | 14 | 12 | 9 | 0 | | |
| 4010 | 148 | | | | | | | |
| 4011 | 3 | 15. | 18.66 | 80.67 | 29.89 | 20.98 | 18.10 | 29.87 |
| 4011 | 6 | 18 | 8 | 6 | 5 | 10 | | |
| 4011 | 82 | | | | | | | |
| 4012 | 3 | 15. | 16.15 | 69.80 | 25.87 | 18.15 | 15.66 | 25.70 |
| 4012 | 5 | 15 | 7 | 6 | 5 | 8 | | |
| 4012 | 70 | | | | | | | |
| 4013 | 3 | 15. | 9.00 | 38.90 | 14.42 | 10.12 | 8.73 | 14.41 |
| 4013 | 3 | 9 | 4 | 3 | 3 | 5 | | |
| 4013 | 39 | | | | | | | |
| 4014 | 3 | 15. | 3.31 | 14.30 | 5.30 | 3.72 | 3.21 | 0.0 |
| 4014 | 1 | 1 | 1 | 1 | 1 | 0 | | |
| 4014 | 7 | | | | | | | |

*29 CIVILIAN MOTOR VEHICLE AREA SOURCES

14

| | | | | | | | | |
|------|------|-----|---------|--|--|--|--|--|
| 4001 | 3 | 15. | 34.45 | | | | | |
| 4001 | 40 | | | | | | | |
| 4001 | 66 | | | | | | | |
| 4002 | 3 | 15. | 131.32 | | | | | |
| 4002 | 115 | | | | | | | |
| 4002 | 190 | | | | | | | |
| 4003 | 3 | 15. | 1941.46 | | | | | |
| 4003 | 853 | | | | | | | |
| 4003 | 1407 | | | | | | | |
| 4004 | 3 | 15. | 132.04 | | | | | |
| 4004 | 153 | | | | | | | |
| 4004 | 253 | | | | | | | |
| 4005 | 3 | 15. | 107.65 | | | | | |
| 4005 | 123 | | | | | | | |
| 4005 | 202 | | | | | | | |
| 4006 | 3 | 15. | 2674.44 | | | | | |

| | | |
|----------|-----|--------|
| 40061012 | | |
| 40061670 | | |
| 4007 3 | 15. | 136.83 |
| 4007 73 | | |
| 4007 175 | | |
| 4008 3 | 20. | 114.31 |
| 4008 287 | | |
| 4008 287 | | |
| 4009 3 | 5. | 802.22 |
| 40092014 | | |
| 40092014 | | |
| 4010 3 | 20. | 324.21 |
| 4010 814 | | |
| 4010 814 | | |
| 4011 3 | 15. | 357.47 |
| 4011 897 | | |
| 4011 897 | | |
| 4012 3 | 15. | 307.59 |
| 4012 772 | | |
| 4012 772 | | |
| 4013 3 | 15. | 172.49 |
| 4013 433 | | |
| 4013 433 | | |
| 4014 3 | 15. | 79.25 |
| 4014 7 | | |
| 4014 312 | | |

NUMBER OF AIRBASE LINE SOURCE GEOMETRIES

| | | | | | | | | |
|------|-------|--------|-----|------|-------|--------|-----|--|
| *30 | | | | | | | | |
| 40 | | | | | | | | |
| 4301 | 67694 | 401368 | 0.5 | 1524 | 67581 | 401286 | 0.5 | |
| 4302 | 67696 | 401365 | 0.5 | 762 | 67595 | 401292 | 0.5 | |
| 4303 | 67581 | 401286 | 0.5 | 762 | 67596 | 401274 | 0.5 | |
| 4304 | 67595 | 401292 | 0.5 | 762 | 67596 | 401274 | 0.5 | |
| 4305 | 67596 | 401274 | 0.5 | 762 | 67628 | 401274 | 0.5 | |
| 4306 | 67581 | 401286 | 0.5 | 1524 | 67523 | 401244 | 0.5 | |
| 4307 | 67523 | 401244 | 0.5 | 762 | 67529 | 401244 | 0.5 | |
| 4308 | 67529 | 401244 | 0.5 | 762 | 67546 | 401244 | 0.5 | |
| 4309 | 67546 | 401244 | 0.5 | 762 | 67656 | 401243 | 0.5 | |
| 4310 | 67596 | 401274 | 0.5 | 762 | 67595 | 401243 | 0.5 | |
| 4311 | 67488 | 401223 | 0.5 | 762 | 67368 | 401221 | 0.5 | |
| 4312 | 67503 | 401233 | 0.5 | 762 | 67488 | 401223 | 0.5 | |
| 4313 | 67503 | 401233 | 0.5 | 762 | 67505 | 401231 | 0.5 | |
| 4314 | 67505 | 401231 | 0.5 | 2286 | 67487 | 401218 | 0.5 | |
| 4315 | 67546 | 401244 | 0.5 | 1524 | 67545 | 401220 | 0.5 | |
| 4316 | 67574 | 401243 | 0.5 | 762 | 67573 | 401220 | 0.5 | |
| 4317 | 67595 | 401243 | 0.5 | 762 | 67594 | 401219 | 0.5 | |
| 4318 | 67487 | 401218 | 0.5 | 762 | 67496 | 401206 | 0.5 | |
| 4319 | 67529 | 401208 | 0.5 | 762 | 67496 | 401206 | 0.5 | |
| 4320 | 67516 | 401220 | 0.5 | 762 | 67545 | 401220 | 0.5 | |
| 4321 | 67545 | 401220 | 0.5 | 762 | 67573 | 401220 | 0.5 | |
| 4322 | 67573 | 401220 | 0.5 | 762 | 67594 | 401219 | 0.5 | |
| 4323 | 67656 | 401243 | 0.5 | 762 | 67594 | 401182 | 0.5 | |
| 4324 | 67487 | 401218 | 0.5 | 2286 | 67411 | 401163 | 0.5 | |
| 4325 | 67503 | 401184 | 0.5 | 762 | 67496 | 401206 | 0.5 | |
| 4326 | 67545 | 401220 | 0.5 | 762 | 67545 | 401208 | 0.5 | |
| 4327 | 67529 | 401208 | 0.5 | 762 | 67595 | 401208 | 0.5 | |
| 4328 | 67573 | 401220 | 0.5 | 762 | 67573 | 401183 | 0.5 | |
| 4329 | 67594 | 401219 | 0.5 | 762 | 67594 | 401182 | 0.5 | |
| 4330 | 67503 | 401184 | 0.5 | 762 | 67502 | 401140 | 0.5 | |
| 4331 | 67503 | 401160 | 0.5 | 762 | 67528 | 401166 | 0.5 | |
| 4332 | 67528 | 401166 | 0.5 | 762 | 67545 | 401182 | 0.5 | |

| | | | | | | | |
|------|-------|--------|-----|------|-------|--------|-----|
| 4333 | 67545 | 401182 | 0.5 | 762 | 67594 | 401182 | 0.5 |
| 4334 | 67545 | 401208 | 0.5 | 762 | 67545 | 401182 | 0.5 |
| 4335 | 67420 | 401169 | 0.5 | 1524 | 67422 | 401058 | 0.5 |
| 4336 | 67502 | 401140 | 0.5 | 762 | 67494 | 401105 | 0.5 |
| 4337 | 67594 | 401182 | 0.5 | 762 | 67489 | 401062 | 0.5 |
| 4338 | 67489 | 401062 | 0.5 | 762 | 67422 | 401058 | 0.5 |
| 4339 | 67422 | 401058 | 0.5 | 1524 | 67422 | 401054 | 0.5 |
| 4340 | 67523 | 401244 | 0.5 | 2286 | 67505 | 401231 | 0.5 |

*31

MILITARY MOTOR VEHICLE LINE SOURCES

34

| | | | | | | | | |
|------|---|-----|-------|-------|-------|-------|-------|-------|
| 4301 | 1 | 25. | 35.04 | 75.42 | 27.91 | 19.60 | 17.02 | 22.96 |
| 4302 | 1 | 25. | 31.06 | 66.85 | 24.74 | 17.37 | 15.09 | 20.35 |
| 4303 | 1 | 25. | 4.78 | 10.28 | 3.81 | 2.67 | 2.32 | 3.13 |
| 4304 | 1 | 25. | 4.38 | 9.43 | 3.49 | 2.45 | 2.13 | 2.87 |
| 4305 | 1 | 25. | 8.36 | 18.00 | 6.66 | 4.68 | 4.06 | 5.48 |
| 4306 | 1 | 25. | 15.53 | 33.43 | 12.37 | 8.69 | 7.54 | 10.18 |
| 4307 | 1 | 25. | 1.59 | 3.43 | 1.27 | 0.89 | 0.77 | 1.04 |
| 4308 | 1 | 25. | 3.98 | 8.57 | 3.17 | 2.23 | 1.94 | 2.61 |
| 4309 | 1 | 5. | 27.47 | 59.14 | 21.89 | 15.37 | 13.35 | 18.01 |
| 4310 | 1 | 25. | 7.96 | 17.14 | 6.34 | 4.45 | 3.87 | 5.22 |
| 4314 | 1 | 25. | 5.57 | 12.00 | 4.44 | 3.12 | 2.71 | 3.65 |
| 4315 | 1 | 25. | 5.97 | 12.85 | 4.76 | 3.34 | 2.90 | 3.91 |
| 4316 | 1 | 25. | 5.97 | 12.85 | 4.76 | 3.34 | 2.90 | 3.91 |
| 4317 | 1 | 25. | 5.97 | 12.85 | 4.76 | 3.34 | 2.90 | 3.91 |
| 4318 | 1 | 25. | 3.58 | 7.72 | 2.86 | 2.00 | 1.74 | 2.35 |
| 4319 | 1 | 25. | 5.97 | 12.85 | 4.76 | 3.34 | 2.90 | 3.91 |
| 4320 | 1 | 25. | 7.56 | 16.28 | 6.03 | 4.23 | 3.68 | 4.96 |
| 4321 | 1 | 25. | 7.17 | 15.43 | 5.71 | 4.01 | 3.48 | 4.70 |
| 4322 | 1 | 25. | 5.18 | 11.14 | 4.12 | 2.89 | 2.51 | 3.39 |
| 4323 | 1 | 15. | 21.50 | 46.28 | 17.13 | 12.03 | 10.45 | 14.09 |
| 4324 | 1 | 25. | 23.49 | 50.57 | 18.71 | 13.14 | 11.41 | 15.40 |
| 4326 | 1 | 25. | 2.79 | 6.00 | 2.22 | 1.56 | 1.35 | 1.83 |
| 4327 | 1 | 25. | 16.32 | 35.14 | 13.00 | 9.13 | 7.93 | 10.70 |
| 4328 | 1 | 25. | 9.16 | 19.71 | 7.30 | 5.12 | 4.45 | 6.00 |
| 4329 | 1 | 25. | 9.16 | 19.71 | 7.30 | 5.12 | 4.45 | 6.00 |
| 4331 | 1 | 25. | 6.37 | 13.71 | 5.07 | 3.56 | 3.10 | 4.17 |
| 4332 | 1 | 25. | 5.97 | 12.85 | 4.76 | 3.34 | 2.90 | 3.91 |
| 4333 | 1 | 25. | 12.34 | 26.57 | 9.83 | 6.90 | 6.00 | 8.09 |
| 4334 | 1 | 25. | 6.37 | 13.71 | 5.07 | 3.56 | 3.10 | 4.17 |
| 4335 | 1 | 25. | 27.87 | 60.00 | 22.20 | 15.59 | 13.54 | 18.27 |
| 4337 | 1 | 15. | 39.82 | 85.71 | 31.72 | 22.27 | 19.35 | 26.10 |
| 4338 | 1 | 15. | 16.72 | 36.00 | 13.32 | 9.35 | 8.13 | 10.96 |
| 4339 | 1 | 15. | 0.80 | 1.71 | 0.63 | 0.45 | 0.39 | 0.52 |
| 4340 | 1 | 25. | 5.57 | 12.00 | 4.44 | 3.12 | 2.71 | 3.65 |

*32

CIVILIAN MOTOR VEHICLE LINE SOURCES

40

| | | | |
|------|---|-----|-------|
| 4301 | 1 | 25. | 906. |
| 4302 | 1 | 25. | 414. |
| 4303 | 1 | 25. | 91. |
| 4304 | 1 | 25. | 61. |
| 4305 | 1 | 25. | 140. |
| 4306 | 1 | 25. | 355. |
| 4307 | 1 | 25. | 145. |
| 4308 | 1 | 25. | 329. |
| 4309 | 1 | 5. | 1269. |
| 4310 | 1 | 25. | 97. |
| 4311 | 1 | 15. | 666. |
| 4312 | 1 | 15. | 102. |

| | | | |
|------|---|-----|----------------------------------|
| 4313 | 1 | 15. | 16. |
| 4314 | 1 | 25. | 457. |
| 4315 | 1 | 25. | 258. |
| 4316 | 1 | 25. | 75. |
| 4317 | 1 | 25. | 169. |
| 4318 | 1 | 25. | 87. |
| 4319 | 1 | 25. | 45. |
| 4320 | 1 | 25. | 55. |
| 4321 | 1 | 25. | 61. |
| 4322 | 1 | 25. | 86. |
| 4323 | 1 | 15. | 797. |
| 4324 | 1 | 25. | 2303. |
| 4325 | 1 | 15. | 159. |
| 4326 | 1 | 25. | 111. |
| 4327 | 1 | 25. | 231. |
| 4328 | 1 | 25. | 117. |
| 4329 | 1 | 25. | 185. |
| 4330 | 1 | 15. | 303. |
| 4331 | 1 | 25. | 57. |
| 4332 | 1 | 25. | 51. |
| 4333 | 1 | 25. | 233. |
| 4334 | 1 | 25. | 197. |
| 4335 | 1 | 25. | 1860. |
| 4336 | 1 | 15. | 257. |
| 4337 | 1 | 15. | 1537. |
| 4338 | 1 | 15. | 643. |
| 4339 | 1 | 15. | 83. |
| 4340 | 1 | 25. | 615. |
| *33 | | | OTHER NON-AIRCRAFT LINE SOURCES |
| 0 | | | |
| *34 | | | ENVIRON POINT SOURCES |
| 0 | | | |
| *35 | | | ENVIRON AREA SOURCES |
| 0 | | | |
| *36 | | | ENVIRON LINE SOURCES |
| 0 | | | |
| *37 | | | ENVIRON NON-ROADWAY LINE SOURCES |
| 0 | | | |

SAMPLE 1
SHORT-TERM INPUT
NELLIS AIR FORCE BASE

#1 TITLE INFORMATION

WELLIS LEH
BASE AIR AM

#2 GENERAL PROBLEM DESCRIPTION

4JUN75 RUN. ALL ON-BASE SOURCES. TYPICAL MORNING METEOROLOGY. 20 SPEC.RECEPT.

| 0 | 1 | 2 | 3 | 4 | 5 |
|--------|---------|-----|---|---|-----|
| 1 | 30. | 10. | | | |
| 640.24 | 4015.24 | | 1 | 1 | 1.0 |
| 20 | | | | | |
| 679.58 | 4014.58 | | | | |
| 678.87 | 4013.87 | | | | |
| 678.16 | 4013.16 | | | | |
| 677.46 | 4012.46 | | | | |
| 676.75 | 4011.75 | | | | |
| 676.06 | 4011.06 | | | | |
| 675.34 | 4010.34 | | | | |
| 674.63 | 4009.63 | | | | |
| 673.92 | 4008.92 | | | | |
| 673.21 | 4008.21 | | | | |
| 672.51 | 4007.51 | | | | |
| 671.80 | 4006.80 | | | | |
| 671.09 | 4006.09 | | | | |
| 670.38 | 4005.38 | | | | |
| 669.67 | 4004.67 | | | | |
| 668.96 | 4003.96 | | | | |
| 668.25 | 4003.25 | | | | |
| 667.54 | 4002.54 | | | | |
| 666.83 | 4001.83 | | | | |
| 666.12 | 4001.12 | | | | |
| 665.41 | 4000.41 | | | | |
| 664.70 | 3999.70 | | | | |
| 664.00 | 3999.00 | | | | |
| 663.29 | 3998.29 | | | | |
| 662.58 | 3997.58 | | | | |
| 661.87 | 3996.87 | | | | |
| 661.16 | 3996.16 | | | | |
| 660.45 | 3995.45 | | | | |
| 659.74 | 3994.74 | | | | |
| 659.03 | 3994.03 | | | | |
| 658.32 | 3993.32 | | | | |
| 657.61 | 3992.61 | | | | |
| 656.90 | 3991.90 | | | | |
| 656.19 | 3991.19 | | | | |
| 655.48 | 3990.48 | | | | |
| 654.77 | 3989.77 | | | | |
| 654.06 | 3989.06 | | | | |
| 653.35 | 3988.35 | | | | |
| 652.64 | 3987.64 | | | | |
| 651.93 | 3986.93 | | | | |
| 651.22 | 3986.22 | | | | |
| 650.51 | 3985.51 | | | | |
| 649.80 | 3984.80 | | | | |
| 649.09 | 3984.09 | | | | |
| 648.38 | 3983.38 | | | | |
| 647.67 | 3982.67 | | | | |
| 646.96 | 3981.96 | | | | |
| 646.25 | 3981.25 | | | | |
| 645.54 | 3980.54 | | | | |
| 644.83 | 3979.83 | | | | |
| 644.12 | 3979.12 | | | | |
| 643.41 | 3978.41 | | | | |
| 642.70 | 3977.70 | | | | |
| 642.00 | 3977.00 | | | | |
| 641.29 | 3976.29 | | | | |
| 640.58 | 3975.58 | | | | |
| 639.87 | 3974.87 | | | | |
| 639.16 | 3974.16 | | | | |
| 638.45 | 3973.45 | | | | |
| 637.74 | 3972.74 | | | | |
| 637.03 | 3972.03 | | | | |
| 636.32 | 3971.32 | | | | |
| 635.61 | 3970.61 | | | | |
| 634.90 | 3969.90 | | | | |
| 634.19 | 3969.19 | | | | |
| 633.48 | 3968.48 | | | | |
| 632.77 | 3967.77 | | | | |
| 632.06 | 3967.06 | | | | |
| 631.35 | 3966.35 | | | | |
| 630.64 | 3965.64 | | | | |
| 629.93 | 3964.93 | | | | |
| 629.22 | 3964.22 | | | | |
| 628.51 | 3963.51 | | | | |
| 627.80 | 3962.80 | | | | |
| 627.09 | 3962.09 | | | | |
| 626.38 | 3961.38 | | | | |
| 625.67 | 3960.67 | | | | |
| 624.96 | 3959.96 | | | | |
| 624.25 | 3959.25 | | | | |
| 623.54 | 3958.54 | | | | |
| 622.83 | 3957.83 | | | | |
| 622.12 | 3957.12 | | | | |
| 621.41 | 3956.41 | | | | |
| 620.70 | 3955.70 | | | | |
| 620.00 | 3955.00 | | | | |
| 619.29 | 3954.29 | | | | |
| 618.58 | 3953.58 | | | | |
| 617.87 | 3952.87 | | | | |
| 617.16 | 3952.16 | | | | |
| 616.45 | 3951.45 | | | | |
| 615.74 | 3950.74 | | | | |
| 615.03 | 3950.03 | | | | |
| 614.32 | 3949.32 | | | | |
| 613.61 | 3948.61 | | | | |
| 612.90 | 3947.90 | | | | |
| 612.19 | 3947.19 | | | | |
| 611.48 | 3946.48 | | | | |
| 610.77 | 3945.77 | | | | |
| 610.06 | 3945.06 | | | | |
| 609.35 | 3944.35 | | | | |
| 608.64 | 3943.64 | | | | |
| 607.93 | 3942.93 | | | | |
| 607.22 | 3942.22 | | | | |
| 606.51 | 3941.51 | | | | |
| 605.80 | 3940.80 | | | | |
| 605.09 | 3940.09 | | | | |
| 604.38 | 3939.38 | | | | |
| 603.67 | 3938.67 | | | | |
| 602.96 | 3937.96 | | | | |
| 602.25 | 3937.25 | | | | |
| 601.54 | 3936.54 | | | | |
| 600.83 | 3935.83 | | | | |
| 600.12 | 3935.12 | | | | |
| 599.41 | 3934.41 | | | | |
| 598.70 | 3933.70 | | | | |
| 598.00 | 3933.00 | | | | |
| 597.29 | 3932.29 | | | | |
| 596.58 | 3931.58 | | | | |
| 595.87 | 3930.87 | | | | |
| 595.16 | 3930.16 | | | | |
| 594.45 | 3929.45 | | | | |
| 593.74 | 3928.74 | | | | |
| 593.03 | 3928.03 | | | | |
| 592.32 | 3927.32 | | | | |
| 591.61 | 3926.61 | | | | |
| 590.90 | 3925.90 | | | | |
| 590.19 | 3925.19 | | | | |
| 589.48 | 3924.48 | | | | |
| 588.77 | 3923.77 | | | | |
| 588.06 | 3923.06 | | | | |
| 587.35 | 3922.35 | | | | |
| 586.64 | 3921.64 | | | | |
| 585.93 | 3920.93 | | | | |
| 585.22 | 3920.22 | | | | |
| 584.51 | 3919.51 | | | | |
| 583.80 | 3918.80 | | | | |
| 583.09 | 3918.09 | | | | |
| 582.38 | 3917.38 | | | | |
| 581.67 | 3916.67 | | | | |
| 580.96 | 3915.96 | | | | |
| 580.25 | 3915.25 | | | | |
| 579.54 | 3914.54 | | | | |
| 578.83 | 3913.83 | | | | |
| 578.12 | 3913.12 | | | | |
| 577.41 | 3912.41 | | | | |
| 576.70 | 3911.70 | | | | |
| 576.00 | 3911.00 | | | | |
| 575.29 | 3910.29 | | | | |
| 574.58 | 3909.58 | | | | |
| 573.87 | 3908.87 | | | | |
| 573.16 | 3908.16 | | | | |
| 572.45 | 3907.45 | | | | |
| 571.74 | 3906.74 | | | | |
| 571.03 | 3906.03 | | | | |
| 570.32 | 3905.32 | | | | |
| 569.61 | 3904.61 | | | | |
| 568.90 | 3903.90 | | | | |
| 568.19 | 3903.19 | | | | |
| 567.48 | 3902.48 | | | | |
| 566.77 | 3901.77 | | | | |
| 566.06 | 3901.06 | | | | |
| 565.35 | 3900.35 | | | | |
| 564.64 | 3899.64 | | | | |
| 563.93 | 3898.93 | | | | |
| 563.22 | 3898.22 | | | | |
| 562.51 | 3897.51 | | | | |
| 561.80 | 3896.80 | | | | |
| 561.09 | 3896.09 | | | | |
| 560.38 | 3895.38 | | | | |
| 559.67 | 3894.67 | | | | |
| 558.96 | 3893.96 | | | | |
| 558.25 | 3893.25 | | | | |
| 557.54 | 3892.54 | | | | |
| 556.83 | 3891.83 | | | | |
| 556.12 | 3891.12 | | | | |
| 555.41 | 3890.41 | | | | |
| 554.70 | 3889.70 | | | | |
| 554.00 | 3889.00 | | | | |
| 553.29 | 3888.29 | | | | |
| 552.58 | 3887.58 | | | | |
| 551.87 | 3886.87 | | | | |
| 551.16 | 3886.16 | | | | |
| 550.45 | 3885.45 | | | | |
| 549.74 | 3884.74 | | | | |
| 549.03 | 3884.03 | | | | |
| 548.32 | 3883.32 | | | | |
| 547.61 | 3882.61 | | | | |
| 546.90 | 3881.90 | | | | |
| 546.19 | 3881.19 | | | | |
| 545.48 | 3880.48 | | | | |
| 544.77 | 3879.77 | | | | |
| 544.06 | 3879.06 | | | | |
| 543.35 | 3878.35 | | | | |
| 542.64 | 3877.64 | | | | |
| 541.93 | 3876.93 | | | | |
| 541.22 | 3876.22 | | | | |
| 540.51 | 3875.51 | | | | |
| 539.80 | 3874.80 | | | | |
| 539.09 | 3874.09 | | | | |
| 538.38 | 3873.38 | | | | |
| 537.67 | 3872.67 | | | | |
| 536.96 | 3871.96 | | | | |
| 536.25 | 3871.25 | | | | |
| 535.54 | 3870.54 | | | | |
| 534.83 | 3869.83 | | | | |
| 534.12 | 3869.12 | | | | |
| 533.41 | 3868.41 | | | | |
| 532.70 | 3867.70 | | | | |
| 532.00 | 3867.00 | | | | |
| 531.29 | 3866.29 | | | | |
| 530.58 | 3865.58 | | | | |
| 529.87 | 3864.87 | | | | |
| 529.16 | 3864.16 | | | | |
| 528.45 | 3863.45 | | | | |
| 527.74 | 3862.74 | | | | |
| 527.03 | 3862.03 | | | | |
| 526.32 | 3861.32 | | | | |
| 525.61 | 3860.61 | | | | |
| 524.90 | 3859.90 | | | | |
| 524.19 | 3859.19 | | | | |
| 523.48 | 3858.48 | | | | |
| 522.77 | 3857.77 | | | | |
| 522.06 | 3857.06 | | | | |
| 521.35 | 3856.35 | | | | |
| 520.64 | 3855.64 | | | | |
| 519.93 | 3854.93 | | | | |
| 519.22 | 3854.22 | | | | |
| 518.51 | 3853.51 | | | | |
| 517.80 | 3852.80 | | | | |
| 517.09 | 3852.09 | | | | |

RESEARCH REPORT OF THE
NATIONAL BUREAU OF STANDARDS
ON THE EFFECTS OF AIR POLLUTION
ON THE ENVIRONMENT

SAMPLE 1
LONG-TERM INPUT
NELLIS AIR FORCE BASE

#1
NELLIS AFH
1.0 KM GRID

#2
ANNUAL CONCENTRATIONS TO INDICATE IMPACT OF ALL AIRBASE SOURCES

| | 1 | 2 | 3 | 4 | 5 |
|----|-------|--------|----|----|--------|
| | 1 | 30. | 10 | | |
| | 666.0 | 4002.0 | | 17 | 17 1.0 |
| | 0 | | | | |
| | 0 | | | | |
| #3 | 1 | | | | |
| | 1 | | | | |
| | 13 | | | | |
| #4 | | | | | |
| | -1 | | | | |

SAMPLE 2
SOURCE INVENTORY INPUT
ALAMEDA NAVAL AIR STATION

*1 TITLE INFORMATION

ALAMEDA NAS

28 MAY 76

1

INTERSECTION P/W

37 47 18.70 122 19 5.014182.372 560.046

44
2005 TRAINING FIRE- NEAR FUEL FARM
2120 14 TEST CELL 1
2121 14 TEST CELL 2
2122 14 TEST CELL 3
2123 14 TEST CELL 4
2124 14 TEST CELL 11
2125 14 TEST CELL 12
2126 372 TEST CELL 13
2127 372 TEST CELL 14
2128 397 TEST CELL 15
2129 397 TEST CELL 16
2130 398 TEST CELL 102
2131 398 TEST CELL 103
2132 398 TEST CELL 114
2133 398 TEST CELL 115
2134 398 TEST CELL 116
2205 RUN-UP STAND NEAR TEST CELL AREA
2328 THRU 2335 POWER PLANTS IN BLDG 10
2336 THRU 2338 POWER PLANTS END OF PIER 3
2403 3424 DIESEL STORAGE TANK
2404 374A JP-4 STORAGE TANK
2405 374B AVGAS STORAGE TANK
3011 459 BX SERVICE STATION
3012 547 BX SERVICE STATION
3013 438 TRUCK LOADING RACK
3014 37 TRUCK LOADING RACK
3015 2M2 BASE SERVICE STATION
3016 373 TRUCK LOADING RACK
3115 342A HC BREATHING LOSS, OF STORAGE
3116 374A,B HC BREATHING LOSS, POL STORAGE
3117 430-97r HC BREATHING LOSS, POL STORAGE
3118 10 HC BREATHING LOSS, OF STORAGE
3215 B37 TANK TRUCK PARKING
3216 AREA C TANK TRUCK PARKING
3300 THRU 3311 A/B VEHICLE PARKING
3400 205,5A HC AREA SOURCE DRY CLEANING, PAINTING, DEGREASING
3401 167 HC AREA SOURCE, STRIPPING FACILITY
3402 360 HC AREA SOURCE, SOLVENT (MEK)
3403 410 HC AREA SOURCE
3400 THRU 3403 OTHER A/B AREA SOURCE
3500 THRU 3502 SPACE HEATING, OFF BASE HOUSING
3503 SPACE HEATING - ON BASE HOUSING
3504 SPACE HEATING - ALL NAS EXCEPT UN-BASE HOUSING
3505 SPACE HEATING - SUPPLY ANNEX
3600 OFF-ROAD VEHICLE SOURCE - PWC AREA
3601 OFF-ROAD VEHICLE SOURCE - SUPPLY AREA
3800 THRU 3802 A/B CIVILIAN VEHICLE AREA SOURCES
4100 THRU 4104 A/B NON-A/C LINE SOURCES

*2 NAMELIST (EGDATA, ACDATA, DSDATA)

SEGDATA ACNAME (1)=4HA-3H, ACNAME (2)=4HA-4F, ACNAME (3)=4HA-7A, ACNAME (4)=4HC-9A,
ACNAME (7)=5HSH-3A, ACNAME (9)=4HH-5J, ACNAME (11)=5HRÉCIP,
EGNAME (1)=6HJ52-P6, EGNAME (2)=6HJ52-P8, EGNAME (3)=8HJ52-P408, EGNAME (4)=7HJ65-W20,
EGNAME (5)=6HJTRD-9, EGNAME (6)=7HTF30-P6, EGNAME (7)=8HTF30-408,
EGNAME (8)=8HTF30P412,

EGNAME (9)=8HTF34GE-2,EGNAME (10)=7HTF41-A2,EGNAME (11)=6HT56-7A,
EGNAME (12)=6HT56-8A,EGNAME (13)=8HT56A10WA,EGNAME (14)=6HT56-14,
EGNAME (15)=6HT56-16,EGNAME (16)=8HT56A-422,EGNAME (17)=8HT58GE-8B,
EGNAME (18)=4HT-62,EGNAME (19)=8HT64GE413,EGNAME (20)=4HGTPC,EGNAME (21)=7HJ57-P10,
EGNAME (22)=7HJ57-P16,EGNAME (24)=8HJ57-P420,

EGNAME (23)=3HJ60,

EGNAME (25)=5HR1820,

EGEMFC (1,1,1)=95.6,EGEMFC (1,2,1)=11.9,EGEMFC (1,3,1)=2.7,EGEMFC (1,4,1)=0.0,
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EGEMFC (3,1,1)=2.0,EGEMFC (3,2,1)=6.4,EGEMFC (3,3,1)=9.5,EGEMFC (3,4,1)=0.0,
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EGEMFC (1,1,2)=60.0,EGEMFC (1,2,2)=1.50,EGEMFC (1,3,2)=1.1,EGEMFC (1,4,2)=0.0,
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EGEMFC (4,1,4)=0.08,EGEMFC (4,2,4)=6.07,EGEMFC (4,3,4)=4.05,EGEMFC (4,4,4)=0.0,
EGEMFC (5,1,4)=1.00,EGEMFC (5,2,4)=1.00,EGEMFC (5,3,4)=1.00,EGEMFC (5,4,4)=0.0,
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EGEMFC (2,1,6)=18.0,EGEMFC (2,2,6)=0.17,EGEMFC (2,3,6)=0.22,EGEMFC (2,4,6)=0.0,
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 EGEMFC(1,1,23)=70.91,EGEMFC(1,2,23)=5.72,
 EGEMFC(1,3,23)=3.88,EGEMFC(2,1,23)=9.85,EGEMFC(2,2,23)=.13,

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 EGEMFC(4,4,23)=.0176,EGEMFC(5,4,23)=1.0,
 EGFF(1,23)=.459,EGFF(2,23)=2.014,EGFF(3,23)=2.456,IACABF(33)=0,
 EGFF(4,23)=2.456,EGEMFC(1,4,23)=3.88,EGEMFC(2,4,23)=.09,EGEMFC(3,4,23)=4.71,
 IDACEG(33)=23,IEGABF(23)=0,
 EGEMFC(1,1,24)=64.8,EGEMFC(1,2,24)=8.8,EGEMFC(1,3,24)=5.5,EGEMFC(1,4,24)=11.6,
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 EGEMFC(4,1,24)=8.54,EGEMFC(4,2,24)=5.92,EGEMFC(4,3,24)=12.8,EGEMFC(4,4,24)=4.9,
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 EGEMFC(2,1,25)=150.3,EGEMFC(2,2,25)=48.4,EGEMFC(2,3,25)=94.6,EGEMFC(2,4,25)=0.,
 EGEMFC(3,1,25)=0.7,EGEMFC(3,2,25)=2.1,EGEMFC(3,3,25)=1.7,EGEMFC(3,4,25)=0.0,
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 EGFF(1,3)=.8200,EGFF(2,3)=8.2600,EGFF(3,3)=9.2400,EGFF(4,3)=0.0,
 EGFF(1,4)=1.3330,EGFF(2,4)=3.9510,EGFF(3,4)=6.4210,EGFF(4,4)=0.0,
 EGFF(1,5)=1.1600,EGFF(2,5)=6.7850,EGFF(3,5)=8.2850,EGFF(4,5)=0.0,
 EGFF(1,6)=.7500,EGFF(2,6)=7.4600,EGFF(3,6)=8.6090,EGFF(4,6)=0.0,
 EGFF(1,7)=.7500,EGFF(2,7)=1.8850,EGFF(3,7)=8.6090,EGFF(4,7)=0.0,
 EGFF(1,8)=.9490,EGFF(2,8)=3.5970,EGFF(3,8)=7.3940,EGFF(4,8)=14.4,
 EGFF(1,9)=.3480,EGFF(2,9)=1.2960,EGFF(3,9)=3.5000,EGFF(4,9)=0.0,
 EGFF(1,10)=1.0700,EGFF(2,10)=8.0200,EGFF(3,10)=9.0400,EGFF(4,10)=0.0,
 EGFF(1,11)=.7460,EGFF(2,11)=1.9000,EGFF(3,11)=2.0150,EGFF(4,11)=0.0,
 EGFF(1,12)=.7450,EGFF(2,12)=1.9000,EGFF(3,12)=2.0150,EGFF(4,12)=0.0,
 EGFF(1,13)=.7580,EGFF(2,13)=1.0750,EGFF(3,13)=2.0420,EGFF(4,13)=0.0,
 EGFF(1,14)=.7580,EGFF(2,14)=1.0750,EGFF(3,14)=1.0750,EGFF(4,14)=0.0,
 EGFF(1,15)=.7580,EGFF(2,15)=1.0750,EGFF(3,15)=1.0750,EGFF(4,15)=0.0,
 EGFF(1,16)=.7460,EGFF(2,16)=1.9000,EGFF(3,16)=2.0150,EGFF(4,16)=0.0,
 EGFF(1,17)=.1130,EGFF(2,17)=.7090,EGFF(3,17)=.7440,EGFF(4,17)=0.0,
 EGFF(1,18)=.045,EGFF(2,18)=.090,EGFF(3,18)=.090,EGFF(4,18)=0.0,
 EGFF(1,19)=.2680,EGFF(2,19)=1.4990,EGFF(3,19)=1.6560,EGFF(4,19)=0.0,
 EGFF(1,20)=.1800,EGFF(2,20)=.3400,EGFF(3,20)=.3400,EGFF(4,20)=0.0,
 EGFF(1,21)=1.1360,EGFF(2,21)=7.7050,EGFF(3,21)=8.1010,EGFF(4,21)=0.0,
 EGFF(1,22)=1.1700,EGFF(2,22)=7.1070,EGFF(3,22)=8.5670,EGFF(4,22)=36.3610,
 EGFF(1,24)=1.2870,EGFF(2,24)=7.7820,EGFF(3,24)=10.8640,EGFF(4,24)=37.8410,
 EGFF(1,25)=.084,EGFF(2,25)=.8620,EGFF(3,25)=.5299,
 IACABF(1)=0,IACABF(2)=0,IACABF(3)=0,IACABF(4)=0,IACABF(7)=0,IACABF(6)=0,
 IACABF(9)=0,IACABF(11)=0,
 IDACEG(1)=21,IDACEG(2)=4,IDACEG(3)=10,IDACEG(4)=5,IDACEG(7)=17,IDACEG(9)=19,
 IDACEG(11)=25,
 IEGABF(1)=0,IEGABF(2)=0,IEGABF(3)=0,IEGABF(4)=0,IEGABF(5)=0,IEGABF(6)=0,
 IEGABF(7)=0,IEGABF(8)=1,IEGABF(9)=0,IEGABF(10)=0,IEGABF(11)=0,IEGABF(12)=0,
 IEGABF(13)=0,IEGABF(14)=0,IEGABF(15)=0,IEGABF(16)=0,IEGABF(17)=0,IEGABF(18)=0,
 IEGABF(19)=0,IEGABF(20)=0,IEGABF(21)=0,IEGABF(22)=1,
 IEGABF(24)=1,IEGABF(25)=0,
 IDRR(1)=4,IDRR(2)=30,IDRR(3)=16,IDRR(4)=20,IDRR(7)=37,IDRR(9)=37,IDRR(11)=25,
 \$ACDATA
 APPHT=.9144,CLMHT=.9144,ENGNO(1,1)=2,ENGNO(2,1)=1,ENGNO(3,1)=1,ENGNO(4,1)=2,
 ENGNO(1,2)=1,ENGNO(2,2)=1,ENGNO(3,2)=1,ENGNO(4,2)=1,ENGNO(7,2)=1,ENGNO(9,2)=1,
 ENGNO(7,1)=2,ENGNO(9,1)=2,ENGNO(11,1)=2,ENGNO(11,2)=1,
 USCNT1(1)=3.0,USCNT1(2)=3.0,USCNT1(3)=3.5,USCNT1(4)=3.0,USCNT1(7)=1.0,
 USCNT2(1)=3.0,USCNT2(2)=3.0,USCNT2(3)=2.5,USCNT2(4)=3.0,USCNT2(7)=60.0,
 USCNT1(9)=1.0,USCNT1(11)=4.0,

DSCNT2(9)=60.0,DSCNT2(11)=3.0,
 APSPD1(1)=370.4,APSPD1(2)=370.4,APSPD1(3)=370.4,APSPD1(4)=370.4,
 APSPD1(7)=129.6,APSPD1(9)=129.6,APSPD1(11)=194.5,
 APSPD2(1)=277.8,APSPD2(2)=277.8,APSPD2(3)=277.8,APSPD2(4)=277.8,
 APSPD2(7)=55.6,APSPD2(9)=55.6,APSPD2(11)=165.2,
 APPHT2(1)=.3048,APPHT2(2)=.3048,APPHT2(3)=.3658,APPHT2(4)=.4572,APPHT2(7)=.121,
 APPHT2(9)=.121,APPHT2(11)=.4572,
 ASCNT1(1)=4.0,ASCNT1(2)=2.5,ASCNT1(3)=8.0,ASCNT1(4)=10.0,ASCNT1(7)=5.0,
 ASCNT1(9)=5.0,ASCNT1(11)=6.0,
 ASCNT2(1)=2.5,ASCNT2(2)=4.0,ASCNT2(3)=10.0,ASCNT2(4)=8.0,ASCNT2(7)=15.0,
 ASCNT2(9)=15.0,
 COSPD1(1)=277.8,COSPD1(2)=277.8,COSPD1(3)=277.8,COSPD1(4)=277.8,
 COSPD1(7)=74.8,COSPD1(9)=74.8,COSPD1(11)=240.8,
 COSPD2(1)=463.0,COSPD2(2)=463.0,COSPD2(3)=463.0,COSPD2(4)=370.4,
 COSPD2(7)=166.7,COSPD2(9)=166.7,COSPD2(11)=370.4,
 COMT1(1)=.4572,COMT1(2)=.4572,COMT1(3)=.457,COMT1(4)=.4572,COMT1(7)=0.121,
 COMT1(9)=0.121,COMT1(11)=0.10,
 TXISPD(1)=48.3,TXISPD(2)=48.3,TXISPD(3)=56.3,TXISPD(4)=24.1,TXISPD(7)=8.1,
 TXISPD(9)=8.1,TXISPD(11)=16.1,
 LNOSPD(1)=211.6,LNOSPD(2)=222.2,LNOSPD(3)=222.2,LNOSPD(4)=222.2,
 LNOSPD(7)=8.0,LNOSPD(9)=8.0,LNOSPD(11)=185.2,
 TOSPD(1)=277.8,TOSPD(2)=277.8,TOSPD(3)=259.3,TOSPD(4)=277.8,TOSPD(7)=16.9,
 TOSPD(9)=16.9,TOSPD(11)=185.2,
 SRTUPT(1)=10.0,SRTUPT(2)=5.0,SRTUPT(3)=5.0,SRTUPT(4)=10.0,SRTUPT(7)=10.0,
 SRTUPT(9)=5.0,SRTUPT(11)=7.0,
 EGCHK1(1)=0.0,EGCHK1(2)=0.0,EGCHK1(3)=0.0,EGCHK1(4)=0.0,EGCHK1(7)=0.0,
 EGCHK1(9)=0.0,EGCHK1(11)=3.0,
 SHDNT(1)=5.0,SHDNT(2)=5.0,SHDNT(3)=5.0,SHDNT(4)=5.0,SHDNT(7)=5.0,
 SHDNT(9)=5.0,SHDNT(11)=7.0,
 TOWT(1)=55.,TOWT(2)=14.4,TOWT(3)=42.,TOWT(4)=98.,
 TOWT(7)=5.,TOWT(9)=5.,TOWT(11)=26.

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%SDATA

VHMLDY(1)=.18, VHMLDY(2)=.05,
 CVABDY(1)=.18, CVABDY(2)=.05,
 CVABHR(1)=.018, CVABHR(2)=.008, CVABHR(3)=.005, CVABHR(4)=.003,
 CVABHR(5)=.004, CVABHR(6)=.008, CVABHR(7)=.007, CVABHR(8)=.009,
 CVABHR(9)=.045, CVABHR(10)=.049, CVABHR(11)=.047, CVABHR(12)=.072,
 CVABHR(13)=.064, CVABHR(14)=.050, CVABHR(15)=.049, CVABHR(16)=.134,
 CVABHR(17)=.096, CVABHR(18)=.036, CVABHR(19)=.029, CVABHR(20)=.021,
 CVABHR(21)=.016, CVABHR(22)=.016, CVABHR(23)=.014, CVABHR(24)=.015,
 ACDY(1,1)=0.,ACDY(2,1)=.5, ACDY(1,2)=.2, ACDY(2,2)=0.,
 ACDY(1,3)=.2,ACDY(2,3)=0., ACDY(1,4)=.2, ACDY(2,4)=0.,
 ACDY(1,7)=.2,ACDY(2,7)=0., ACDY(1,9)=0., ACDY(2,9)=.5,
 ACDY(1,11)=.2, ACDY(2,11)=0., ACDY(1,33)=.2, ACDY(2,33)=0.,
 ACHR(1,1)=.0, ACHR(2,1)=.0, ACHR(3,1)=.0, ACHR(4,1)=.0,
 ACHR(5,1)=.0, ACHR(6,1)=.0, ACHR(7,1)=.075, ACHR(8,1)=.075,
 ACHR(9,1)=.075, ACHR(10,1)=.075, ACHR(11,1)=.075, ACHR(12,1)=.075,
 ACHR(13,1)=.075, ACHR(14,1)=.075, ACHR(15,1)=.075, ACHR(16,1)=.075,
 ACHR(17,1)=.075, ACHR(18,1)=.075, ACHR(19,1)=.075, ACHR(20,1)=.0333,
 ACHR(21,1)=.0333, ACHR(22,1)=.0333, ACHR(23,1)=.0, ACHR(24,1)=.0,
 ACHR(1,2)=.0, ACHR(2,2)=.0, ACHR(3,2)=.0, ACHR(4,2)=.0,
 ACHR(5,2)=.0, ACHR(6,2)=.0, ACHR(7,2)=.06, ACHR(8,2)=.06,
 ACHR(9,2)=.06, ACHR(10,2)=.06, ACHR(11,2)=.06, ACHR(12,2)=.06,
 ACHR(13,2)=.10, ACHR(14,2)=.10, ACHR(15,2)=.10, ACHR(16,2)=.10,
 ACHR(17,2)=.10, ACHR(18,2)=.04, ACHR(19,2)=.04, ACHR(20,2)=.015,
 ACHR(21,2)=.015, ACHR(22,2)=.015, ACHR(23,2)=.015, ACHR(24,2)=.0,
 ACHR(1,3)=.0, ACHR(2,3)=.0, ACHR(3,3)=.0, ACHR(4,3)=.0,
 ACHR(5,3)=.0, ACHR(6,3)=.0, ACHR(7,3)=.06, ACHR(8,3)=.06,
 ACHR(9,3)=.06, ACHR(10,3)=.06, ACHR(11,3)=.06, ACHR(12,3)=.06,

| | | | |
|------------------|------------------|------------------|------------------|
| ACHR(13,3)=.10, | ACHR(14,3)=.10, | ACHR(15,3)=.10, | ACHR(16,3)=.10, |
| ACHR(17,3)=.10, | ACHR(18,3)=.04, | ACHR(19,3)=.04, | ACHR(20,3)=.015, |
| ACHR(21,3)=.015, | ACHR(22,3)=.015, | ACHR(23,3)=.015, | ACHR(24,3)=.0, |
| ACHR(1,4)=.0, | ACHR(2,4)=.0, | ACHR(3,4)=.0, | ACHR(4,4)=.0, |
| ACHR(5,4)=.05, | ACHR(6,4)=.05, | ACHR(7,4)=.05, | ACHR(8,4)=.05, |
| ACHR(9,4)=.05, | ACHR(10,4)=.05, | ACHR(11,4)=.05, | ACHR(12,4)=.05, |
| ACHR(13,4)=.05, | ACHR(14,4)=.05, | ACHR(15,4)=.05, | ACHR(16,4)=.05, |
| ACHR(17,4)=.05, | ACHR(18,4)=.05, | ACHR(19,4)=.05, | ACHR(20,4)=.05, |
| ACHR(21,4)=.05, | ACHR(22,4)=.05, | ACHR(23,4)=.05, | ACHR(24,4)=.05, |
| ACHR(1,9)=.0, | ACHR(2,9)=.0, | ACHR(3,9)=.0, | ACHR(4,9)=.0, |
| ACHR(5,9)=.0, | ACHR(6,9)=.0, | ACHR(7,9)=.075, | ACHR(8,9)=.075, |
| ACHR(9,9)=.075, | ACHR(10,9)=.075, | ACHR(11,9)=.075, | ACHR(12,9)=.075, |
| ACHR(13,9)=.075, | ACHR(14,9)=.075, | ACHR(15,9)=.075, | ACHR(16,9)=.075, |
| ACHR(17,9)=.075, | ACHR(18,9)=.075, | ACHR(19,9)=.025, | ACHR(20,9)=.025, |
| ACHR(21,9)=.025, | ACHR(22,9)=.025, | ACHR(23,9)=.0, | ACHR(24,9)=.0, |
| ACHR(1,7)=.0, | ACHR(2,7)=.0, | ACHR(3,7)=.0, | ACHR(4,7)=.0, |
| ACHR(5,7)=.05, | ACHR(6,7)=.05, | ACHR(7,7)=.05, | ACHR(8,7)=.05, |
| ACHR(9,7)=.05, | ACHR(10,7)=.05, | ACHR(11,7)=.05, | ACHR(12,7)=.05, |
| ACHR(13,7)=.05, | ACHR(14,7)=.05, | ACHR(15,7)=.05, | ACHR(16,7)=.05, |
| ACHR(17,7)=.05, | ACHR(18,7)=.05, | ACHR(19,7)=.05, | ACHR(20,7)=.05, |
| ACHR(21,7)=.05, | ACHR(22,7)=.05, | ACHR(23,7)=.05, | ACHR(24,7)=.05, |
| ACHR(1,11)=.0, | ACHR(2,11)=.0, | ACHR(3,11)=.0, | ACHR(4,11)=.0, |
| ACHR(5,11)=.05, | ACHR(6,11)=.05, | ACHR(7,11)=.05, | ACHR(8,11)=.05, |
| ACHR(9,11)=.05, | ACHR(10,11)=.05, | ACHR(11,11)=.05, | ACHR(12,11)=.05, |
| ACHR(13,11)=.05, | ACHR(14,11)=.05, | ACHR(15,11)=.05, | ACHR(16,11)=.05, |
| ACHR(17,11)=.05, | ACHR(18,11)=.05, | ACHR(19,11)=.05, | ACHR(20,11)=.05, |
| ACHR(21,11)=.05, | ACHR(22,11)=.05, | ACHR(23,11)=.05, | ACHR(24,11)=.05, |
| ACHR(1,33)=.0, | ACHR(2,33)=.0, | ACHR(3,33)=.0, | ACHR(4,33)=.0, |
| ACHR(5,33)=.05, | ACHR(6,33)=.05, | ACHR(7,33)=.05, | ACHR(8,33)=.05, |
| ACHR(9,33)=.05, | ACHR(10,33)=.05, | ACHR(11,33)=.05, | ACHR(12,33)=.05, |
| ACHR(13,33)=.05, | ACHR(14,33)=.05, | ACHR(15,33)=.05, | ACHR(16,33)=.05, |
| ACHR(17,33)=.05, | ACHR(18,33)=.05, | ACHR(19,33)=.05, | ACHR(20,33)=.05, |
| ACHR(21,33)=.05, | ACHR(22,33)=.05, | ACHR(23,33)=.05, | ACHR(24,33)=.05, |
| CVENDY(1)=.15, | CVENDY(2)=.125, | | |
| CVENHR(1)=.018, | CVENHR(2)=.008, | CVENHR(3)=.005, | CVENHR(4)=.003, |
| CVENHR(5)=.004, | CVENHR(6)=.008, | CVENHR(7)=.097, | CVENHR(8)=.099, |
| CVENHR(9)=.045, | CVENHR(10)=.049, | CVENHR(11)=.047, | CVENHR(12)=.072, |
| CVENHR(13)=.069, | CVENHR(14)=.050, | CVENHR(15)=.049, | CVENHR(16)=.134, |
| CVENHR(17)=.096, | CVENHR(18)=.036, | CVENHR(19)=.029, | CVENHR(20)=.021, |
| CVENHR(21)=.016, | CVENHR(22)=.016, | CVENHR(23)=.014, | CVENHR(24)=.015, |
| FLDY(1,1)=.18, | FLDY(2,1)=.05, | | |
| FLDY(1,2)=.16, | FLDY(2,2)=.10, | | |
| FLDY(1,3)=.16, | FLDY(2,3)=.10, | | |
| FLDY(1,4)=.18, | FLDY(2,4)=.05, | | |

*3 METEOROLOGICAL DATA
 59.0 2909. 4.0 8.0 14.0
 *4 AIRCRAFT AND RUNWAY TOTALS
 8 4 6 0 25
 *5 AIRCRAFT ACTIVITY

| | | | |
|----|------|------|------|
| 1 | 1375 | 1375 | 2961 |
| 2 | 1237 | 1237 | 206 |
| 3 | 2124 | 2124 | 2504 |
| 4 | 1266 | 1266 | 0 |
| 7 | 723 | 723 | 45 |
| 9 | 345 | 345 | 37 |
| 11 | 1262 | 1262 | 2036 |
| 33 | 378 | 378 | 0 |

 *6 AIRCRAFT PARKING AREAS

| | | | | | | | |
|----|---|--------|---------|-----|--------|---------|------|
| 01 | 2 | 560.71 | 4182.41 | 072 | 560.71 | 4182.35 | .072 |
| 02 | 1 | 560.70 | 4182.24 | 072 | | | |

| | | | | | | | | | | | | | | |
|----------|----|--------------------------------|---------|------|--------|----------|---------|------|------|------|------|------|------|----|
| 03 | 2 | 560.70 | 4182.13 | 084 | 560.60 | 4182.135 | .084 | | | | | | | |
| 04 | 1 | 561.45 | 4181.59 | 060 | | | | | | | | | | |
| 05 | 1 | 561.62 | 4181.59 | 060 | | | | | | | | | | |
| 06 | 2 | 561.70 | 4181.67 | 060 | 561.69 | 4181.71 | .060 | | | | | | | |
| *7 | | AIRCRAFT TAXIWAY PATH SEGMENTS | | | | | | | | | | | | |
| 01 | | 560750 | 4181600 | 20 | | 561450 | 4181590 | 2 | | | | | | |
| 02 | | 560750 | 4181600 | 20 | | 560750 | 4181470 | 2 | | | | | | |
| 03 | | 560750 | 4181600 | 20 | | 560780 | 4182070 | 2 | | | | | | |
| 04 | | 560780 | 4182130 | 20 | | 560780 | 4182240 | 2 | | | | | | |
| 05 | | 560800 | 4182540 | 20 | | 561200 | 4182550 | 2 | | | | | | |
| 06 | | 561200 | 4182550 | 20 | | 561210 | 4182640 | 2 | | | | | | |
| 07 | | 561210 | 4182640 | 20 | | 559940 | 4182600 | 2 | | | | | | |
| 08 | | 560790 | 4182370 | 20 | | 560800 | 4182540 | 2 | | | | | | |
| 09 | | 559940 | 4182600 | 20 | | 559630 | 4183090 | 2 | | | | | | |
| 10 | | 559630 | 4183090 | 20 | | 559100 | 4183250 | 2 | | | | | | |
| 11 | | 560790 | 4182370 | 20 | | 560710 | 4182410 | 2 | | | | | | |
| 12 | | 559500 | 4182590 | 20 | | 560350 | 4181260 | 2 | | | | | | |
| 13 | | 560220 | 4182100 | 20 | | 560780 | 4182070 | 2 | | | | | | |
| 14 | | 560790 | 4182370 | 20 | | 560710 | 4182350 | 2 | | | | | | |
| 15 | | 560750 | 4181470 | 20 | | 560350 | 4181260 | 2 | | | | | | |
| 16 | | 561730 | 4181590 | 20 | | 561700 | 4181670 | 2 | | | | | | |
| 17 | | 561730 | 4181590 | 20 | | 561690 | 4181710 | 2 | | | | | | |
| 18 | | 560780 | 4182240 | 20 | | 560790 | 4182370 | 2 | | | | | | |
| 19 | | 561450 | 4181590 | 20 | | 561620 | 4181590 | 2 | | | | | | |
| 20 | | 561620 | 4181590 | 20 | | 561730 | 4181590 | 2 | | | | | | |
| 21 | | 560780 | 4182130 | 20 | | 560700 | 4182130 | 2 | | | | | | |
| 22 | | 560700 | 4182130 | 20 | | 560600 | 4182135 | 2 | | | | | | |
| 23 | | 560780 | 4182240 | 20 | | 560700 | 4182240 | 2 | | | | | | |
| 24 | | 560780 | 4182070 | 20 | | 560480 | 4182330 | 2 | | | | | | |
| 25 | | 560780 | 4182070 | 20 | | 560780 | 4182130 | 2 | | | | | | |
| *8 | | AIRCRAFT RUNWAY INFORMATION | | | | | | | | | | | | |
| 31 | | 560350 | 4181260 | | | 328. | 2438 | | | | | | | |
| 31 | | 11110000000000111000 | | | | | | | | | | | | |
| 31 | | 619 | 557 | 956 | 570 | 0.0 | 0.0 | 568 | 170 | | | | | |
| 31 | | 619 | 557 | 956 | 570 | 0.0 | 0.0 | 568 | 170 | | | | | |
| 31 | 5 | 5 | | | | | | | | | | | | |
| 310106 | | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 | | | | | |
| 31010614 | 10 | 9 | 7 | 6 | 5 | 8 | 18 | 4 | 25 | 3 | 1 | 19 | 20 | 16 |
| 310205 | | 0000 | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | | | |
| 31020512 | 10 | 9 | 7 | 6 | 5 | 8 | 18 | 4 | 25 | 3 | 1 | 19 | | |
| 310403 | | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | | |
| 31040310 | 10 | 9 | 7 | 6 | 5 | 8 | 18 | 4 | 21 | 22 | | | | |
| 310502 | | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | | |
| 310502 | 8 | 10 | 9 | 7 | 6 | 5 | 8 | 18 | 23 | | | | | |
| 310601 | | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | |
| 310601 | 7 | 10 | 9 | 7 | 6 | 5 | 8 | 14 | | | | | | |
| 310106 | | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 | |
| 310106 | 6 | 16 | 20 | 19 | 1 | 2 | 15 | | | | | | | |
| 310205 | | 0000 | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| 310205 | 4 | 19 | 1 | 2 | 15 | | | | | | | | | |
| 310403 | | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| 310403 | 6 | 22 | 21 | 25 | 3 | 2 | 15 | | | | | | | |
| 310502 | | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | |
| 310502 | 6 | 23 | 4 | 25 | 3 | 2 | 15 | | | | | | | |
| 310601 | | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | |
| 310601 | 7 | 14 | 19 | 4 | 25 | 3 | 2 | 15 | | | | | | |
| 13 | | 559510 | 4183250 | | | | | | 148. | 2438 | | | | |
| 13 | | 10001111111000000000 | | | | | | | | | | | | |
| 13 | | 619 | 557 | 956 | 570 | 0.0 | 0.0 | 568 | 38 | | | | | |
| 13 | | 619 | 557 | 956 | 570 | 0.0 | 0.0 | 568 | 38 | | | | | |
| 13 | 5 | 5 | | | | | | | | | | | | |

| | | | | | | | | | |
|--------|----|----------------------------|---------|-------|-------|------|------|------|------|
| 130106 | | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 |
| 130106 | 6 | 15 | 2 | 1 | 19 | 20 | 17 | | |
| 130205 | | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 |
| 130205 | 4 | 15 | 2 | 1 | 19 | | | | |
| 130403 | | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 |
| 130403 | 6 | 15 | 2 | 3 | 25 | 21 | 22 | | |
| 130502 | | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 130502 | 6 | 15 | 2 | 3 | 25 | 4 | 23 | | |
| 130601 | | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 130601 | 7 | 15 | 2 | 3 | 25 | 4 | 18 | 11 | |
| 130106 | | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 |
| 130106 | 14 | 17 | 20 | 19 | 1 | 3 | 25 | 4 | 18 |
| 130205 | | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 |
| 130205 | 11 | 19 | 1 | 3 | 4 | 16 | 8 | 5 | 6 |
| 130403 | | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 |
| 130403 | 10 | 22 | 21 | 4 | 18 | 8 | 5 | 6 | 7 |
| 130502 | | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 130502 | 8 | 23 | 18 | 8 | 5 | 6 | 7 | 9 | 10 |
| 130601 | | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 130601 | 7 | 11 | 8 | 5 | 6 | 7 | 9 | 10 | |
| 25 | | 561210 | 4182640 | | | | | 269. | 2194 |
| 25 | | 000000000000111000000 | | | | | | | |
| 25 | | 137 | 123 | 212 | 126 | 0.0 | 0.0 | 126 | 170 |
| 25 | | 137 | 123 | 212 | 126 | 0.0 | 0.0 | 126 | 170 |
| 25 | 5 | 5 | | | | | | | |
| 250106 | | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 |
| 250106 | 7 | 12 | 15 | 2 | 1 | 19 | 20 | 16 | |
| 250205 | | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 |
| 250205 | 5 | 12 | 15 | 2 | 1 | 19 | | | |
| 250403 | | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 |
| 250403 | 7 | 12 | 15 | 2 | 3 | 25 | 21 | 22 | |
| 250502 | | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 250502 | 7 | 12 | 15 | 2 | 3 | 25 | 4 | 23 | |
| 250601 | | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 250601 | 8 | 12 | 15 | 2 | 3 | 25 | 4 | 18 | 14 |
| 250106 | | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 |
| 250106 | 11 | 16 | 20 | 19 | 1 | 3 | 25 | 4 | 18 |
| 250205 | | 0000 | 0000 | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 |
| 250205 | 9 | 19 | 1 | 3 | 25 | 4 | 18 | 8 | 5 |
| 250403 | | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 1000 |
| 250403 | 7 | 22 | 21 | 4 | 18 | 8 | 5 | 6 | |
| 250502 | | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 250502 | 5 | 23 | 18 | 8 | 5 | 6 | | | |
| 250601 | | 0000 | 0000 | 1000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 250601 | 4 | 14 | 8 | 5 | 6 | | | | |
| 05 | | 560.22 | 4182.10 | 4.0 | | | | 47.5 | .335 |
| 05 | | 11111111111111111000 | | | | | | | |
| 05 | | 0.0 | 0.0 | 0.0 | 0.0 | 723 | 345 | 0.0 | 0.0 |
| 05 | | 0.0 | 0.0 | 0.0 | 0.0 | 723 | 345 | 0.0 | 0.0 |
| 05 | 2 | 2 | | | | | | | |
| 050104 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 050104 | 3 | 24 | 3 | 1 | | | | | |
| 050203 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 050203 | 4 | 24 | 25 | 21 | 22 | | | | |
| 050104 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 050104 | 3 | 1 | 3 | 13 | | | | | |
| 050203 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 050203 | 4 | 22 | 21 | 25 | 13 | | | | |
| *9 | | AEROSPACE GROUND EQUIPMENT | | | | | | | |
| 3.036 | | 0.170 | 0.665 | 0.046 | 0.041 | | | | |
| 3.036 | | 0.170 | 0.665 | 0.046 | 0.041 | | | | |
| 3.036 | | 0.170 | 0.665 | 0.046 | 0.041 | | | | |

| | | | | | | | | | | | |
|------|----|-------------------|--------------------------------------|------|-------|-------|-------|------|-----|------|--|
| 2209 | 20 | 172 | 52 | 42 | 116 | 0 | | | | | |
| 2210 | 1 | 56205 | 418146 | 549 | 091 | 061 | 43038 | 2999 | 030 | 549 | |
| 2210 | 20 | 132 | 45 | 36 | 99 | 0 | | | | | |
| 2211 | 1 | 56206 | 418146 | 549 | 091 | 061 | 43038 | 2999 | 030 | 549 | |
| 2211 | 18 | 156 | 36 | 30 | 54 | 0 | | | | | |
| *16 | | | POWER PLANT POINT SOURCES | | | | | | | | |
| 11 | | | | | | | | | | | |
| 2328 | 1 | 56147 | 418181 | 1555 | 300 | 300 | 51650 | 1000 | 137 | 1372 | |
| 2328 | 13 | 1.0 | 1.0 | 436 | 0 | | | | | | |
| 2329 | 1 | 56147 | 418181 | 1555 | 300 | 300 | 52200 | 1000 | 137 | 1372 | |
| 2329 | 10 | .005 | .001 | 2040 | 0 | | | | | | |
| 2330 | 1 | 56148 | 418181 | 1555 | 300 | 300 | 51930 | 1000 | 137 | 1372 | |
| 2330 | 13 | 1.0 | 1.0 | 436 | 0 | | | | | | |
| 2331 | 1 | 56148 | 418181 | 1555 | 300 | 300 | 52480 | 1000 | 137 | 1372 | |
| 2331 | 10 | .005 | .001 | 2040 | 0 | | | | | | |
| 2332 | 1 | 56149 | 418181 | 1555 | 300 | 300 | 40260 | 1000 | 137 | 1372 | |
| 2332 | 14 | 1.0 | 1.000 | 436 | 0 | | | | | | |
| 2333 | 1 | 56149 | 418181 | 1555 | 300 | 300 | 40320 | 1000 | 137 | 1372 | |
| 2333 | 11 | .005 | .001 | 2040 | 0 | | | | | | |
| 2334 | 1 | 56151 | 418281 | 1555 | 300 | 300 | 40430 | 1000 | 137 | 1372 | |
| 2334 | 14 | 1.0 | 1.0 | 436 | 0 | | | | | | |
| 2335 | 1 | 56151 | 418281 | 1555 | 300 | 300 | 40540 | 1000 | 137 | 1372 | |
| 2335 | 11 | .005 | .001 | 2040 | 0 | | | | | | |
| 2336 | 1 | 56132 | 418058 | 465 | 122 | 61 | 56090 | 1000 | 61 | 366 | |
| 2336 | 11 | .005 | .002 | 0068 | 0 | | | | | | |
| 2337 | 1 | 56132 | 418058 | 465 | 122 | 61 | 56090 | 1000 | 61 | 366 | |
| 2337 | 11 | .005 | .002 | 0068 | 0 | | | | | | |
| 2338 | 1 | 56132 | 418058 | 488 | 92 | 61 | 58870 | 1000 | 46 | 366 | |
| 2338 | 11 | .005 | .002 | 0068 | 0 | | | | | | |
| *17 | | | INCINERATOR POINT SOURCES | | | | | | | | |
| 0 | | | | | | | | | | | |
| *18 | | | PETROLEUM STORAGE TANK POINT SOURCES | | | | | | | | |
| 3 | | | | | | | | | | | |
| 2403 | 0 | 56196 | 418151 | 915 | 1500 | 1500 | | | | | |
| 2403 | 4 | 114609.8111922750 | | | | | 12.5 | | | | |
| 2403 | 1 | 12195 | | | | 0 | | | | | |
| 2404 | 0 | 56028 | 418291 | 412 | 8000 | 8000 | | | | | |
| 2404 | 2 | 1207949.321460950 | | | | | 28.0 | | | | |
| 2404 | 2 | 3049 | 45 | | | 0 | | | | | |
| 2405 | 0 | 56224 | 418142 | 000 | 16800 | 16800 | | | | | |
| 2405 | 3 | 117616.62 | 3785000 | | | 1.0 | 8.0 | | | | |
| 2405 | 2 | 3049 | 5 | | | 1 | | | | | |
| *19 | | | OTHER AIRBASE POINT SOURCES | | | | | | | | |
| 0 | | | | | | | | | | | |
| *20 | | | AIRBASE AREA SOURCE GEOMETRIES | | | | | | | | |
| 39 | | | | | | | | | | | |
| 3011 | | 56242 | 418175 | 100 | 7500 | | | | | | |
| 3012 | | 56245 | 418109 | 100 | 7500 | | | | | | |
| 3013 | | 56205 | 418154 | 366 | 2500 | | | | | | |
| 3014 | | 56199 | 418125 | 366 | 6000 | | | | | | |
| 3015 | | 56150 | 418185 | 366 | 2500 | | | | | | |
| 3016 | | 56098 | 418248 | 366 | 5000 | | | | | | |
| 3115 | | 56196 | 418051 | 900 | 1500 | | | | | | |
| 3116 | | 56028 | 418291 | 400 | 8000 | | | | | | |
| 3117 | | 56224 | 418142 | 000 | 16800 | | | | | | |
| 3118 | | 561.45 | 4181.82 | 4.87 | 30.0 | 2.0 | | | | | |
| 3215 | | 56199 | 418125 | 304 | 6000 | | | | | | |
| 3216 | | 56115 | 418246 | 304 | 10000 | | | | | | |
| 3300 | | 56145 | 418218 | 100 | 75000 | | | | | | |
| 3301 | | 56086 | 418221 | 100 | 50000 | | | | | | |
| 3302 | | 56123 | 418185 | 100 | 50000 | | | | | | |

| | | | | |
|------|-------|--------|------|--------|
| 3303 | 56222 | 418171 | 100 | 50000 |
| 3304 | 56182 | 418143 | 100 | 75000 |
| 3305 | 56180 | 418076 | 100 | 50000 |
| 3306 | 56241 | 418091 | 100 | 90000 |
| 3307 | 56300 | 418234 | 100 | 52000 |
| 3308 | 56315 | 418163 | 100 | 40000 |
| 3309 | 56275 | 418163 | 100 | 40000 |
| 3310 | 56215 | 418213 | 100 | 77000 |
| 3311 | 56299 | 418193 | 100 | 75000 |
| 3400 | 56122 | 418193 | 1920 | 36000 |
| 3401 | 56186 | 418085 | 1158 | 7000 |
| 3402 | 56233 | 418123 | 1006 | 15000 |
| 3403 | 56213 | 418084 | 1372 | 6600 |
| 3500 | 56300 | 418234 | 800 | 52000 |
| 3501 | 56315 | 418163 | 800 | 40000 |
| 3502 | 56275 | 418163 | 800 | 40000 |
| 3503 | 56215 | 418213 | 500 | 77000 |
| 3504 | 56174 | 418154 | 1200 | 210000 |
| 3505 | 56299 | 418193 | 1200 | 75000 |
| 3600 | 56153 | 418077 | 900 | 61000 |
| 3601 | 56196 | 418120 | 500 | 137000 |
| 3800 | 56169 | 418200 | 50 | 160000 |
| 3801 | 56206 | 418096 | 50 | 100000 |
| 3802 | 56298 | 418196 | 50 | 120000 |

*21 AIR BASE AREA SOURCES WITH HC FILLING, WORKING LOSSES AND SPILLAGE

| | | | | | | | | | |
|------|---------|---------|----|-------|----|----|----|----|-----|
| 3011 | 7851311 | | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3011 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 47 |
| 3012 | 576627 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3012 | 75 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 38 |
| 3013 | 0. | 0. | 0. | 78728 | 0. | 0. | 0. | 0. | |
| 3013 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 16 |
| 3014 | 468277 | 558910 | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3014 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 150 |
| 3015 | 11446 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3015 | 85 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 112 |
| 3016 | 0. | 7598388 | 0. | 0. | 0. | 0. | 0. | 0. | |
| 3016 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 56 |

*22 STORAGE TANK HYDROCARBON BREATHING LOSS AREA SOURCES

| | | | | | | | | | |
|------|---|---|---|------|-----|------|--|--|--|
| 3115 | 4 | 1 | 1 | 1341 | | 122 | | | |
| 3116 | 2 | 1 | 2 | 2683 | | 31 | | | |
| 3117 | 3 | 1 | 2 | 1341 | | 31 | | | |
| 3118 | 4 | 1 | 4 | 3.55 | .60 | 1.22 | | | |

*23 PETROLEUM TANK TRUCK PARKING AREA SOURCES

| | | | | | | | | | |
|------|---|---|--|------|----|-----|--|--|--|
| 3215 | 1 | 5 | | 530 | 82 | 122 | | | |
| 3216 | 2 | 7 | | 2325 | 77 | 153 | | | |

*24 MILITARY AND CIVILIAN VEHICLE HC BREATHING LOSSES

| | | | | | | | | | |
|------|----|-----|--|------|----|--|--|--|--|
| 3300 | 1 | 524 | | 9384 | 50 | | | | |
| 3301 | 1 | 416 | | 8362 | 50 | | | | |
| 3302 | 11 | 834 | | 8403 | 50 | | | | |
| 3303 | 1 | 299 | | 8816 | 50 | | | | |
| 3304 | 11 | 045 | | 8403 | 50 | | | | |
| 3305 | 1 | 154 | | 8419 | 50 | | | | |
| 3306 | 1 | 371 | | 8377 | 50 | | | | |
| 3307 | 1 | 291 | | 8328 | 50 | | | | |
| 3308 | 1 | 291 | | 8328 | 50 | | | | |
| 3309 | 1 | 291 | | 8328 | 50 | | | | |

| | | | | | | | | | | |
|------|------|-------|--|-------|------|------|-------|--------|----|--|
| 3310 | 1 | 298 | | 8328 | 50 | | | | | |
| 3311 | 1 | 206 | | 8328 | 50 | | | | | |
| *25 | | | OTHER EVAPORATIVE HYDROCARBON SOURCES | | | | | | | |
| 4 | | | | | | | | | | |
| 3400 | | 8045 | | | | | | | | |
| 3401 | | 573 | | | | | | | | |
| 3402 | | 2952 | | | | | | | | |
| 3403 | | 392 | | | | | | | | |
| *26 | | | SPACE HEATING AREA SOURCES | | | | | | | |
| 0 | | | | | | | | | | |
| 3500 | 16 | 1.0 | 1.0 | 120 | 0 | | | | | |
| 3501 | 16 | 1.0 | 1.0 | 120 | 0 | | | | | |
| 3502 | 16 | 1.0 | 1.0 | 120 | 0 | | | | | |
| 3503 | 16 | 1.0 | 1.0 | 124 | 0 | | | | | |
| 3504 | 16 | 1.0 | 1.0 | 070 | 0 | | | | | |
| 3505 | 16 | 1.0 | 1.0 | 030 | 0 | | | | | |
| *27 | | | OFF-ROAD VEHICLE AREA SOURCES | | | | | | | |
| 2 | | | | | | | | | | |
| 3600 | | 1716 | | | | | | | | |
| 3601 | | 024 | | | | | | | | |
| *28 | | | MILITARY MOTOR VEHICLE AREA SOURCES | | | | | | | |
| 7 | | | | | | | | | | |
| 3300 | 3 | 2000 | 3912 | 48909 | 5235 | 6176 | 629 | 00 | | |
| 3300 | 4 | 24 | 9 | 10 | 4 | 0 | | | | |
| 3300 | 597 | | | | | | | | | |
| 3301 | 3 | 2000 | 1509 | 8443 | 1803 | 693 | 629 | 00 | | |
| 3301 | 1 | 3 | 0 | 1 | 0 | 0 | | | | |
| 3301 | 125 | | | | | | | | | |
| 3302 | 3 | 2000 | 826 | 9171 | 2358 | 2471 | 629 | 00 | | |
| 3302 | 0 | 3 | 1 | 3 | 0 | 0 | | | | |
| 3302 | 148 | | | | | | | | | |
| 3303 | 3 | 2000 | 2315 | 23930 | 3659 | 3857 | 629 | 00 | | |
| 3303 | 1 | 5 | 1 | 3 | 0 | 0 | | | | |
| 3303 | 334 | | | | | | | | | |
| 3304 | 3 | 2000 | 826 | 9171 | 2358 | 2471 | 629 | 00 | | |
| 3304 | 0 | 2 | 1 | 2 | 0 | 0 | | | | |
| 3304 | 150 | | | | | | | | | |
| 3305 | 3 | 2000 | 962 | 8970 | 1558 | 975 | 629 | 00 | | |
| 3305 | 0 | 5 | 0 | 1 | 0 | 0 | | | | |
| 3305 | 125 | | | | | | | | | |
| 3306 | 3 | 2000 | 826 | 9171 | 2358 | 2471 | 629 | 00 | | |
| 3306 | 0 | 1 | 0 | 1 | 0 | 0 | | | | |
| 3306 | 152 | | | | | | | | | |
| *29 | | | CIVILIAN MOTOR VEHICLE AREA SOURCES | | | | | | | |
| 3 | | | | | | | | | | |
| 3800 | 3 | 1000 | 437723 | 18619 | 4690 | 00 | 00 | 4690 | | |
| 3800 | 1459 | 62 | 16 | 0 | 0 | 16 | | | | |
| 3800 | 1552 | | | | | | | | | |
| 3801 | 3 | 1000 | 65523 | 2803 | 715 | 00 | 00 | 686 | | |
| 3801 | 218 | 9 | 2 | 0 | 0 | 2 | | | | |
| 3801 | 232 | | | | | | | | | |
| 3802 | 3 | 1000 | 21221 | 915 | 229 | 00 | 00 | 229 | | |
| 3802 | 71 | 3 | 1 | 0 | 0 | 1 | | | | |
| 3802 | 75 | | | | | | | | | |
| *30 | | | NUMBER OF AIRBASE LINE SOURCE GEOMETRIES | | | | | | | |
| 5 | | | | | | | | | | |
| 4100 | | 56152 | 418256 | 50 | 1600 | 300 | 56226 | 418249 | 50 | |
| 4101 | | 56226 | 418249 | 50 | 1600 | 300 | 56250 | 418214 | 50 | |
| 4102 | | 56250 | 418214 | 50 | 1600 | 300 | 56250 | 418144 | 50 | |

| | | | | | | | | | |
|------|---|-------------------------------------|------------|---------|---------|-----|-------|--------|----|
| 4103 | | 56250 | 414144 | 50 | 2000 | 300 | 56333 | 418142 | 50 |
| 4104 | | 56250 | 414144 | 50 | 1600 | 300 | 56251 | 418105 | 50 |
| *31 | | MILITARY MOTOR VEHICLE LINE SOURCES | | | | | | | |
| | 0 | | | | | | | | |
| *32 | | CIVILIAN MOTOR VEHICLE LINE SOURCES | | | | | | | |
| | 5 | | | | | | | | |
| 4100 | 1 | 2000 | 106925 | 4550 | 1138 | 00 | 00 | 1138 | |
| 4101 | 1 | 2000 | 59876 | 2548 | 637 | 00 | 00 | 637 | |
| 4102 | 1 | 2000 | 150077 | 6386 | 1597 | 00 | 00 | 1597 | |
| 4103 | 1 | 2000 | 295571 | 12578 | 3144 | 00 | 00 | 3144 | |
| 4104 | 1 | 2000 | 76375 | 3250 | 813 | 00 | 00 | 813 | |
| *33 | | OTHER NON-AIRCRAFT LINE SOURCES | | | | | | | |
| | 0 | | | | | | | | |
| *34 | | ENVIRON POINT SOURCES | | | | | | | |
| | 0 | | | | | | | | |
| *35 | | ENVIRON AREA SOURCES | | | | | | | |
| | 3 | | | | | | | | |
| | 7 | | | | | | | | |
| 4400 | | 556.22 | 4159.73 | 6. | 20000. | | | | |
| 4400 | | 86997.7511910. | 4113588.22 | 1947.09 | 1549.39 | | | | |
| 4401 | | 542.04 | 4202.69 | 6. | 20000. | | | | |
| 4401 | | 86997.7511910. | 4113588.22 | 1947.09 | 1549.39 | | | | |
| 4402 | | 551.44 | 4189.77 | 6. | 20000. | | | | |
| 4402 | | 86997.7523820. | 8227176.44 | 3894.18 | 3098.78 | | | | |
| 4403 | | 573.96 | 4174.84 | 6. | 20000. | | | | |
| 4403 | | 86997.7523820. | 8227176.44 | 3894.18 | 3098.78 | | | | |
| 4404 | | 564.57 | 4192.20 | 6. | 20000. | | | | |
| 4404 | | 86997.7523820. | 8227176.44 | 3894.18 | 3098.78 | | | | |
| 4405 | | 592.09 | 4154.34 | 6. | 20000. | | | | |
| 4405 | | 86997.7511910. | 4113588.22 | 1947.09 | 1549.39 | | | | |
| 4406 | | 585.60 | 4193.53 | 6. | 20000. | | | | |
| 4406 | | 86997.7511910. | 4113588.22 | 1947.09 | 1549.39 | | | | |
| *36 | | ENVIRON LINE SOURCES | | | | | | | |
| | 0 | | | | | | | | |
| *37 | | ENVIRON NON-ROADWAY LINE SOURCES | | | | | | | |
| | 0 | | | | | | | | |

SAMPLE 2
SHORT-TERM INPUT
ALAMEDA NAVAL AIR STATION

*1 TITLE INFORMATION

ALAMEDA NAS
ENV 20 PTS

*2 GENERAL PROBLEM DESCRIPTION

RJUNE76 RUN. ALAMEDA NAS. BASE PLUS ENVIRONS. WORST CASE MORNING. F STABILITY

| 0 | 1 | 2 | 3 | 4 | 5 |
|--------|---------|---|---|---|-------|
| 0 | | | | | |
| 557.30 | 4183.21 | | | 1 | 1 1.0 |
| 20 | | | | | |
| 558.24 | 4182.87 | | | | |
| 559.18 | 4182.53 | | | | |
| 560.12 | 4182.18 | | | | |
| 561.06 | 4181.84 | | | | |
| 562.00 | 4181.50 | | | | |
| 562.94 | 4181.16 | | | | |
| 563.88 | 4180.82 | | | | |
| 564.82 | 4180.47 | | | | |
| 565.76 | 4180.13 | | | | |
| 566.70 | 4179.79 | | | | |
| 567.64 | 4179.45 | | | | |
| 569.52 | 4178.76 | | | | |
| 571.40 | 4178.08 | | | | |
| 573.28 | 4177.40 | | | | |
| 575.16 | 4176.71 | | | | |
| 577.04 | 4176.03 | | | | |
| 578.91 | 4175.34 | | | | |
| 582.67 | 4173.98 | | | | |
| 586.43 | 4172.61 | | | | |
| 590.19 | 4171.24 | | | | |

0
1 31 1 49.4

*3 PERIOD DEFINITION

1 1

*4 METEOROLOGICAL INFORMATION

8 6 1.0 290. 47. 75.

*5 TEMPORAL DISTRIBUTION INPUT INDICATOR

0

*6 TEMPORAL DISTRIBUTION OF AIRBASE POINT SOURCES

| | | | | |
|------|----|-------|-------|-------|
| 101 | | | | |
| 102 | | 0.125 | .2 | .0825 |
| 103 | | 0.125 | .2 | .0825 |
| 104 | 11 | | | |
| 2324 | | .042 | 0.143 | .101 |
| 2324 | | | | |
| 2330 | | .042 | 0.143 | .101 |
| 2331 | | | | |
| 2332 | | .042 | 0.143 | .101 |
| 2333 | | | | |
| 2334 | | .042 | 0.143 | .101 |
| 2335 | | | | |
| 2336 | | | | |
| 2337 | | | | |
| 2338 | | | | |

*7 TEMPORAL DISTRIBUTION OF AIRBASE AREA SOURCES

2

| | | | | |
|-----|----|-------|-----|-------|
| 110 | | 0.125 | .2 | .0825 |
| 111 | 0. | | | |
| 112 | | .083 | .20 | .083 |

*10 TEMPORAL DISTRIBUTION OF ENVIRON AREA SOURCES

1

204 0

SAMPLE 2
LONG-TERM INPUT
ALAMEDA NAVAL AIR STATION

*1
ALAMEDA NAS
1.0 KM GRJID
*2

ANNUAL CONCENTRATIONS TO INDICATE IMPACT OF ALL AIRBASE SOURCES

| | 1 | 2 | 3 | 4 | 5 |
|----|-------|--------|----|----|-----|
| *1 | 0 | | | | |
| *2 | 555.0 | 4170.0 | 17 | 17 | 1.0 |
| *3 | 0 | | | | |
| *4 | 0 | | | | |
| | 1 | | | | |
| | 1 | | | | |
| | 13 | | | | |
| | -1 | | | | |

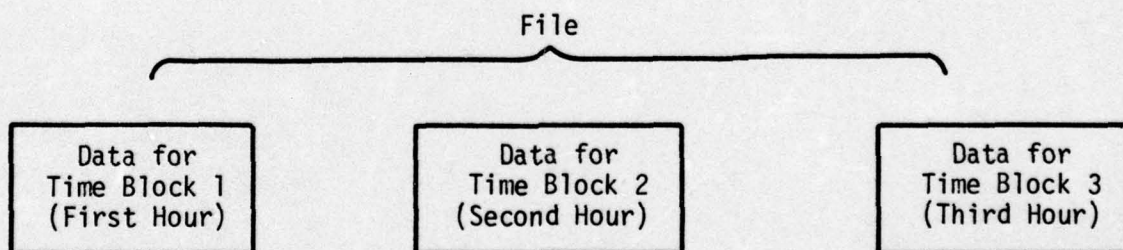


APPENDIX F
FORMAT OF DATA TAPE

The AQAM short-term and long-term dispersion models write all pollutant concentration data on a disk file as well as the line printer. This file is defined as logical unit 15 and can be permanently recorded for a certain dispersion run by cataloging the file on a permanent file device. The file is written by formatted write statements creating logical record lengths of 10 Bytes. It is possible, therefore, to create a coded tape with fixed length records and blocks which is compatible with most other computing facilities. These data can be used later for plotting or statistically analyzing results. The format for this file is described below.

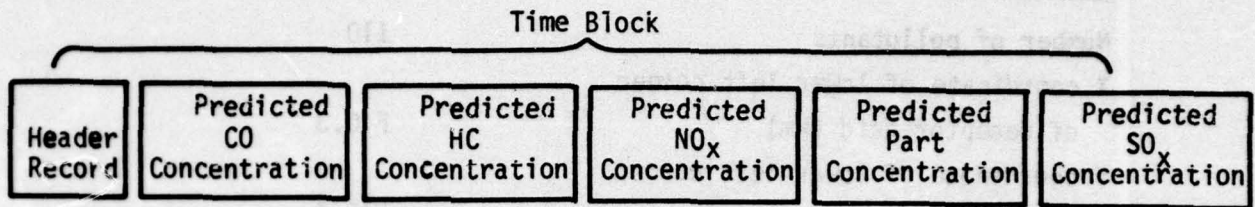
Data are written in time blocks. Each time block is equivalent to the time period for which pollutant concentrations have been calculated (see example below).

For a short-term run modeling a three-hour period, the following file would be created:



A time block is always a one-hour period for a short-term run, but may range from three to twenty-four hours for a long-term run (see tables 16 and 20). Within each time block, a header record is written containing information necessary for reading the pollutant concentration data as well as describing the time period and the structure of the receptor grid (see

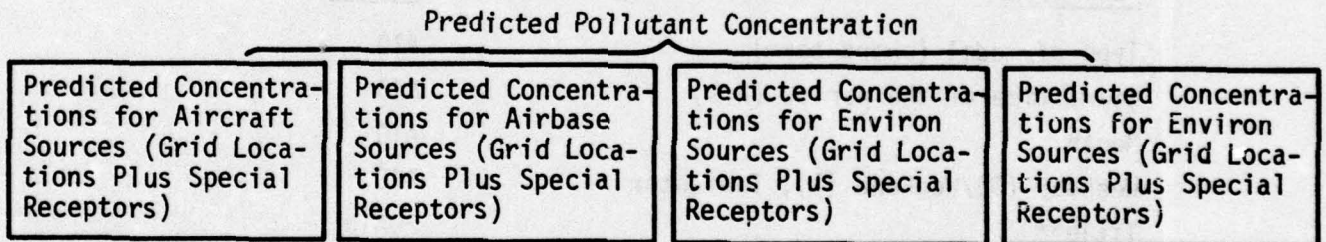
example below).



Each block of pollutant concentrations contains predictions at each receptor defined for each of the following source categories:

1. Aircraft
2. Airbase
3. Environ
4. Total (aircraft + airbase + environ)

The following example illustrates this structure:



The format for the long-term header record is listed below:

| <u>Parameter</u> | <u>Format</u> |
|--------------------------------|---------------|
| Type of model (long-term) | A10 |
| Start time of the period (hrs) | A10 |
| End time of the period (hrs) | A10 |
| Month | A10 |
| Weekday (0)/Weekend (1) | I10 |
| Title* | 20A10 |

*The title is read and stored by the model in a 20A4 format. These data are written in an 8A10 format to maintain a logical record length of 10 Bytes.

| <u>Parameters</u> | <u>Format</u> |
|--|---------------|
| Number of pollutants | I10 |
| X coordinate of lower left corner of receptor grid (km) | F10.3 |
| Y coordinate of lower left corner of receptor grid (km) | F10.3 |
| Number of grid rows | I10 |
| Number of grid columns | I10 |
| Row and column grid spacing (km) | F10.3 |
| Number of special receptors | I10 |
| X coordinate of special receptor* (km) | F10.3 |
| Y coordinate of special receptor* (km) | F10.3 |

The format for the short-term header record is listed below:

| <u>Parameter</u> | <u>Format</u> |
|--|---------------|
| Type of model (short-term) | A10 |
| Start time of the period (hrs) | A10 |
| Month | A10 |
| Weekday (0)/Weekend (1), Indicator | I10 |
| Title** | 20A10 |
| X coordinate of lower left corner of receptor grid (km) | F10.3 |
| Y coordinate of lower left corner of receptor grid (km) | F10.3 |
| Number of grid rows | I10 |
| Number of grid columns | I10 |
| Row and column grid spacing (km) | F10.3 |
| Number of special receptors | I10 |

*These two parameters are repeated for the total number of special receptors to be defined.

**The title is read and stored by the model in a 20A4 format. These data are written in an 8A10 format to maintain a logical record length of 10 Bytes.

| <u>Parameter</u> | <u>Format</u> |
|--|---------------|
| X coordinate of special receptor* (km) | F10.3 |
| Y coordinate of special receptor* (km) | F10.3 |
| Stability category | I10 |
| Windspeed | F10.3 |
| Wind direction (degree from true north) | F10.3 |
| Temperature (°F) | F10.3 |
| Mixing depth (meter) | F10.3 |

The predicted concentrations are written for each category in the following manner:

$$\begin{array}{cccc}
 C_{k_1} & C_{k_2} & C_{k_3} & \dots C_{k_m} \\
 \cdot & \cdot & \cdot & \cdot \\
 \cdot & \cdot & \cdot & \cdot \\
 \cdot & \cdot & \cdot & \cdot \\
 C_{31} & C_{32} & C_{33} & \dots C_{3m} \\
 C_{21} & C_{22} & C_{23} & \dots C_{2m} \\
 C_{11} & C_{12} & C_{13} & \dots C_{1m}
 \end{array}$$

where

C is the pollutant concentration on the grid

m is the number of columns in the grid

k is the number of rows in the grid

The predictions for the special receptors are written as follows:

$$CS_1 \quad CS_2 \quad CS_3 \quad \dots CS_n$$

where

CS is the pollutant concentration at the special receptor

n is the number of special receptors

APPENDIX G

DEFINITION OF INPUT VARIABLE NAMES

It is assumed that users wishing to utilize this guide to code and punch raw airbase data into AQAM input data decks will require no more than an elementary knowledge of the AQAM computer codes. Generally, this is true; however, for an occasional application in which a user may desire to check the logic of certain areas of the AQAM codes, supplementary information may be required. To provide assistance to users involved with such applications, tables have been provided which list all input variable names and their definitions.

The input variable names are listed according to two ordering methods, rank order by data set and alphabetical. The first presentation includes a list of all input variable names, their associated definitions, and some supplementary information. The variables are listed according to their associated data sets and ranked within each data set group in the order in which they are found in the code. Variables are mentioned within the specific data set group in which it was first assigned a value. If, in subsequent data sets, this variable is reassigned to a new value but its associated definition is not changed, the variable will not be repeated in the list. If the variable name is reused and its definition altered, the name will appear in the list of input variables associated with this data set in which the alteration occurred. The second presentation contains the same information mentioned above; however, the data are ranked alphabetically according to the variable name. The lists follow.

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|--|
| 1 | AB1234 | FIRST | No | Data set identifier |
| 1 | ITITLE | LETTER | Yes | Block title information |
| 1 | IDMAX | FIRST | No | Total number of sources described |
| 1 | DES | FIRST | Yes | Description of grid location |
| 1 | ID1 | FIRST | No | Degree of latitude |
| 1 | IM1 | FIRST | No | Minutes of latitude |
| 1 | S1 | FIRST | No | Seconds of latitude |
| 1 | ID2 | FIRST | No | Degrees of longitude |
| 1 | IM2 | FIRST | No | Minutes of longitude |
| 1 | S2 | FIRST | No | Seconds of longitude |
| 1 | NID | FIRST | No | Source identifier |
| 1 | FACND | FIRST | No | Source name |
| 1 | DES | FIRST | Yes | VERNDL description of the source |
| 2 | --- | --- | --- | Namelist input (see table 2) |
| 3 | TBAR | SRCINV | No | Average annual temperature (°F) |
| 3 | ADD | SRCINV | No | Annual degree days |
| 3 | PA | SRCINV | No | Pressure altitude (100 ft) |
| 3 | WSBAR | SRCINV | No | Annual average wind speed (meter/sec) |
| 3 | DTBAR | SRCINV | No | Daily average temperature variation (°F) |
| 4 | NACTYP | ACEMIV | No | Total number of aircraft types |
| 4 | NRNWYS | ACEMIV | No | Total number of runways used |
| 4 | NPKAR | ACEMIV | No | Total number of parking areas |
| 4 | NSCASE | ACEMIV | No | Total number of special case wind conditions |
| 4 | NLSEGS | ACEMIV | No | Total number of taxipath segments |
| 5 | IACTYP | ACEMIV | Yes | AIAGRAFT identification number |
| 5 | ANNARR | ACEMIV | Yes | Annual number of arrival operations |
| 5 | ANNDEP | ACEMIV | Yes | Annual number of departure operations |
| 5 | ANNTGO | ACEMIV | Yes | Annual number of touch-and-go cycles |
| 6 | IDPRKA | ACEMIV | Yes | Identification number of parking area |
| 6 | NPASA | ACEMIV | No | Total number of squares making up parking area |
| 6 | PAREA | ACEMIV | Yes | X, Y coordinate and length of side square (km) |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|--|
| 7 | ACLNSG | ACEMIV | Yes | Segment identification, X, Y, Z coordinate at start of segment, delta Y and Z, X, Y, Z coordinate at end of segment (km) |
| 8 | IRNWX | ACEMIV | Yes | Identification number for runway |
| 8 | RNWX | ACEMIV | Yes | X, Y, Z coordinate at start of runway (km), delta Y and Z, runway angle (degree from TN) |
| 8 | DISRNW | ACEMIV | Yes | Runway length (km) |
| 8 | ID | ACEMIV | No | Runway identification number |
| 8 | INSWD | ACEMIV | Yes | Runway use indication, special case runway use identification |
| 8 | RNWXAR | ACEMIV | Yes | Number of aircraft arrivals |
| 8 | RNWXDP | ACEMIV | Yes | Number of aircraft departures |
| 8 | NIBTT | ACEMIV | Yes | Number of inbound taxiway paths |
| 8 | NOBTT | ACEMIV | Yes | Number of outbound taxiway paths |
| 8 | IDRW | ACEMIV | No | Runway identification |
| 8 | IDIBTW | ACEMIV | Yes | Inbound taxipath identifier |
| 8 | IDIBPA | ACEMIV | Yes | Identifier of parking area connected to this taxipath |
| 8 | TTARFR | ACEMIV | Yes | Inbound taxiway usage |
| 8 | IDTW | ACEMIV | No | Inbound taxipath identifier |
| 8 | IDPA | ACEMIV | No | Identifier of parking area connected to this taxipath |
| 8 | NSEGS | ACEMIV | No | Number of segments forming this taxipath |
| 8 | IIBSEG | ACEMIV | Yes | Identifier for the segments forming this taxipath |
| 9 | ARSVEM | ACEMIV | Yes | Service vehicle emissions for arriving aircraft (kg/yr) |
| 9 | DPSVEM | ACEMIV | Yes | Service vehicle emissions for departing aircraft (kg/yr) |
| 10 | DES1 | ACEMIV | Yes | Fuel identification for aircraft |
| 10 | INPUTS | ACEMIV | No | Refueling value identification |
| 10 | ACFUEL | ACEMIV | Yes | Refueling value for aircraft |
| 10 | ACSPIL | ACEMIV | Yes | Fuel spillage value for aircraft |
| 10 | ARFLVT | ACEMIV | Yes | Fuel venting for arriving aircraft |
| 10 | DPFLVT | ACEMIV | Yes | Fuel venting for departing aircraft |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|---|
| 11 | IAREA | SRCINV | No | Identifier of emission factor for motor vehicles |
| 11 | IAATML | SRCINV | No | Indication for input of military AGE distribution |
| 11 | IAATCV | SRCINV | No | Indication for input of civilian AGE distribution |
| 11 | IYEAR | SRCINV | NO | Year to begin vehicle calculations |
| 11 | JJ | TREFCT | No | Identifier of vehicle class to be defined |
| 11 | OPT | TREFCT | Yes | Indicator for definition of AGE distribution in this class |
| 11 | RFGIS | TREFCT | Yes | AGE distribution |
| 12 | NMAX | ABPTIV | No | Number of sources defined |
| 13 | ABPTS | ABPTIV | Yes | Source identification, plume flag, X and Y coordinates (km), height of source (meter), delta X and Z, heat rate, number of fires, fuel consumed |
| 14 | ABPTS | ABPTIV | Yes | Source identification, number of engines, X and Y coordinates (km), height of stack (meter), delta Y and Z, gas temperature ($^{\circ}$ K), gas velocity, stack diameter (meter), building height (meter) |
| 14 | SID | ABPTIV | No | Source identifier |
| 14 | IDENG | ABPTIV | No | Identification of engine tested |
| 14 | TESTS | ABPTIV | No | Annual number of engine tests |
| 14 | TIME | ABPTIV | Yes | Test time in each mode (min) |
| 15 | ABPTS | ABPTIV | Yes | Source identification, number of engines, X, Y coordinates (km), height of stack (meter), delta Y and Z, gas temperature, gas velocity (meter/sec), stack diameter (meter), building height (meter) |
| 16 | ABPTS | ABPTIV | Yes | Source identification, plume flag, X and Y coordinates (km), height of stack (meter), delta Y and Z, gas temperature ($^{\circ}$ K), gas velocity (meter/sec), stack diameter (meter), building height (meter) |
| 16 | MFCID | ABPTIV | No | Emission factor identification |
| 16 | S | ABPTIV | No | Amount of sulfur in fuel (fraction of total fuel) |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|---|
| 16 | A | ABPTIV | No | Amount of ash in fuel (fraction of total fuel) |
| 16 | ANNUSE | ABPTIV | No | Amount of fuel burned (metric ton) |
| 16 | MCFLG | ABPTIV | No | Indicator of controlled pollutants |
| 16 | NPLICT | ABPTIV | No | Number of pollutants controlled |
| 16 | IDPL | ABPTIV | Yes | Identification of pollutant controlled |
| 16 | CNTRL | ABPTIV | Yes | Indicator of controlled pollutants |
| 17 | ABPTS | ABPTIV | Yes | Source identification, plume flag, X, Y coordinates (km), height of stack (meter), delta Y and Z, gas temperature (°K), gas velocity (meter/sec), stack diameter (meter), building height (meter) |
| 18 | ABPTS | ABPTIV | Yes | Source identification, plume flag, X and Y coordinates (km), height of stack (meter), delta Y and Z |
| 18 | IDFUEL | ABPTIV | No | Identification of fuel used |
| 18 | IROOF | ABPTIV | No | Roof identification |
| 18 | CAP | ABPTIV | No | Tank capacity (kl) |
| 18 | TTMP | ABPTIV | No | Temperature of fuel in tank (°F) |
| 18 | TMPDIF | ABPTIV | No | Daily average temperature variation (°F) of fuel vapor space (meter) |
| 18 | DIAM | ABPTIV | No | Tank diameter |
| 18 | NTANKS | ABPTIV | No | Number of tanks same size |
| 18 | HUS | ABPTIV | No | Average height of vapor space (meter) |
| 18 | C1 | ABPTIV | No | Throughput factor |
| 18 | C2 | ABPTIV | No | Paint factor |
| 18 | C3 | ABPTIV | No | Tank diameter factor |
| 18 | IUNGRT | ABPTIV | No | Tank type identifier |
| 18 | C1 | ABPTIV | No | Rivit factor |
| 18 | C2 | ABPTIV | No | Seal factor |
| 18 | C3 | ABPTIV | No | Paint factor |
| 19 | ABPTS | ABPTIV | Yes | Source identification, plume flag, X and Y coordinates (km), height of stack (meter), delta Y and Z, gas temperature (°K), gas velocity (meter/sec), tank diameter (meter), building height (meter) |
| 19 | SOREM | ABPTIV | Yes | Emission of CO, HC, NOX, PT, SOX (metric ton/yr) |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|---|
| 20 | ABARS | ABARIV | Yes | Source identification, X, Y, and Z coordinate (km), length of side (meter), delta Z |
| 21 | NMAXE | EVAPHC | No | Number of area sources defined |
| 21 | YRUSE | EVAPHC | Yes | Amount of fuel processed (kiloliter/yr) |
| 21 | CC | EVAPHC | Yes | Throughput factor for fuel processed (kiloliter/yr) |
| 21 | SPILL | EVAPHC | No | Amount of fuel spilled (metric ton/yr) |
| 22 | IDROOF | EVAPHC | No | Roof identifier |
| 22 | NTANKS | EVAPHC | No | Number of fixed roof tanks in this area |
| 22 | DIAM | EVAPHC | No | Average diameter of tanks (meter) |
| 22 | C1 | EVAPHC | No | Paint factor (fixed roof) |
| 22 | C2 | EVAPHC | No | Tank diameter factor (fixed roof) |
| 22 | C3 | EVAPHC | No | Average height (meter) of vapor space (fixed roof) |
| 23 | NTRKS | GUAPHC | No | Number of tank trucks parked |
| 23 | FRCFUL | GUAPHC | No | Fraction each truck is filled (fraction) |
| 24 | NVEH | EVAPHC | No | Number of civilian/military vehicles parked |
| 24 | TNKCAP | EVAPHC | No | Tank capacity (liter) |
| 25 | ANNEM | EVAPHC | No | Total hydrocarbon emissions (metric ton/yr) |
| 26 | IDEMFC | ABARIV | No | Emission factor identification |
| 26 | ICNTRL | ABARIV | No | Indication of controlled pollutants |
| 27 | ANN GAL | ABARIV | No | Amount of diesel fuel consumed (1000 gal/yr) |
| 27 | XMIGAL | ABARIV | No | Diesel fuel consumption rate |
| 28 | IOPT | VEHIC | No | Vehicle emission factor identification |
| 28 | SPEED | VEHIC | No | Average speed of vehicles (mph) |
| 28 | VM | VEHIC | Yes | Vehicle miles for vehicle |
| 28 | NCDST | VEHIC | Yes | Number of cold starts for vehicle (1000/yr) |
| 28 | NHSOAK | VEHIC | No | Number of hot soaks for vehicle (1000/yr) |
| 29 | --- | VEHIC | --- | No new variable defined |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|--|
| 30 | ABLNS | ABLIV | Yes | Source identification, X, Y, and Z coordinate (km) for beginning of line, width of line (meter), delta Z; X, Y, Z coordinate (km) for end of line |
| 31 | --- | VEHIC | --- | No new variable defined |
| 32 | --- | VEHIC | --- | No new variable defined |
| 33 | EM | ABLIV | Yes | Emissions of CO, HC, NOX, PT, and SOX (metric ton/yr) |
| | ENPTS | ENEMIV | Yes | Source identification, plume flag, X, Y coordinates (km), stack height (meter), delta Y and Z, gas temperature (°K), gas velocity (meter/sec), stack diameter (meter), building height (meter) |
| 35 | IOPT | ENEMIV | No | Environ area source option |
| 35 | NMAX1 | ENEMIV | No | Number of environ sources |
| 35 | ENARS | ENEMIV | Yes | Source identification, X, Y, and Z coordinate (km), length of side (meter), delta Z |
| 35 | NMAX2 | ENEMIV | No | Number of environ mobile areas (metric ton/yr) |
| 35 | CLDST | ENEMIV | No | Speed of vehicles in mobile area (mph) |
| 35 | CDSTN | ENEMIV | Yes | Number of cold starts in mobile area (1000/yr) |
| 35 | HSOAKN | ENEMIV | No | Number of hot soaks in mobile area (1000/yr) |
| 35 | FRCTLU | ENEMIV | Yes | Fraction of land use area used |
| 36 | ENLNS | ENEMIV | Yes | Source identification, plume flag, X, Y, and Z coordinate (km) for start of line, width of line (meter), delta Z; X, Y, and Z coordinate for end of line (km) |
| 37 | --- | ENEMIV | --- | No new variable defined |

| Variable | Category | Definition |
|----------|----------|--|
| 20 | ABNIV | Source identification, given X, Y, and Z coordinate (km) for beginning of line, width of the sector, delta X, Y, Z coordinate (km) for end of line |
| 21 | VENIC | No new variable defined |
| 22 | VENIC | No new variable defined |
| 23 | ABNIV | Locations of CO, HC, HOK, PT, and SOX (km) |
| 24 | ENMIV | Source identification, given X, Y, Z coordinate (km), back sight (km), delta X and Y, and temperature (K), gas velocity (km/hr), stack diameter (km), including the sector |
| 25 | ENMIV | Environ and source option |
| 26 | ENMIV | Area of environ sector |
| 27 | ENMIV | Area of environ sector |
| 28 | ENMIV | Area of environ sector |
| 29 | ENMIV | Area of environ sector |
| 30 | ENMIV | Area of environ sector |
| 31 | ENMIV | Area of environ sector |
| 32 | ENMIV | Area of environ sector |
| 33 | ENMIV | Area of environ sector |
| 34 | ENMIV | Area of environ sector |
| 35 | ENMIV | Area of environ sector |
| 36 | ENMIV | Area of environ sector |
| 37 | ENMIV | Area of environ sector |
| 38 | ENMIV | Area of environ sector |
| 39 | ENMIV | Area of environ sector |
| 40 | ENMIV | Area of environ sector |
| 41 | ENMIV | Area of environ sector |
| 42 | ENMIV | Area of environ sector |
| 43 | ENMIV | Area of environ sector |
| 44 | ENMIV | Area of environ sector |
| 45 | ENMIV | Area of environ sector |
| 46 | ENMIV | Area of environ sector |
| 47 | ENMIV | Area of environ sector |
| 48 | ENMIV | Area of environ sector |
| 49 | ENMIV | Area of environ sector |
| 50 | ENMIV | Area of environ sector |
| 51 | ENMIV | Area of environ sector |
| 52 | ENMIV | Area of environ sector |
| 53 | ENMIV | Area of environ sector |
| 54 | ENMIV | Area of environ sector |
| 55 | ENMIV | Area of environ sector |
| 56 | ENMIV | Area of environ sector |
| 57 | ENMIV | Area of environ sector |
| 58 | ENMIV | Area of environ sector |
| 59 | ENMIV | Area of environ sector |
| 60 | ENMIV | Area of environ sector |
| 61 | ENMIV | Area of environ sector |
| 62 | ENMIV | Area of environ sector |
| 63 | ENMIV | Area of environ sector |
| 64 | ENMIV | Area of environ sector |
| 65 | ENMIV | Area of environ sector |
| 66 | ENMIV | Area of environ sector |
| 67 | ENMIV | Area of environ sector |
| 68 | ENMIV | Area of environ sector |
| 69 | ENMIV | Area of environ sector |
| 70 | ENMIV | Area of environ sector |
| 71 | ENMIV | Area of environ sector |
| 72 | ENMIV | Area of environ sector |
| 73 | ENMIV | Area of environ sector |
| 74 | ENMIV | Area of environ sector |
| 75 | ENMIV | Area of environ sector |
| 76 | ENMIV | Area of environ sector |
| 77 | ENMIV | Area of environ sector |
| 78 | ENMIV | Area of environ sector |
| 79 | ENMIV | Area of environ sector |
| 80 | ENMIV | Area of environ sector |
| 81 | ENMIV | Area of environ sector |
| 82 | ENMIV | Area of environ sector |
| 83 | ENMIV | Area of environ sector |
| 84 | ENMIV | Area of environ sector |
| 85 | ENMIV | Area of environ sector |
| 86 | ENMIV | Area of environ sector |
| 87 | ENMIV | Area of environ sector |
| 88 | ENMIV | Area of environ sector |
| 89 | ENMIV | Area of environ sector |
| 90 | ENMIV | Area of environ sector |
| 91 | ENMIV | Area of environ sector |
| 92 | ENMIV | Area of environ sector |
| 93 | ENMIV | Area of environ sector |
| 94 | ENMIV | Area of environ sector |
| 95 | ENMIV | Area of environ sector |
| 96 | ENMIV | Area of environ sector |
| 97 | ENMIV | Area of environ sector |
| 98 | ENMIV | Area of environ sector |
| 99 | ENMIV | Area of environ sector |
| 100 | ENMIV | Area of environ sector |

SOURCE INVENTORY INPUT VARIABLES
ORDERED ALPHABETICALLY

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data sets</u> | <u>Description</u> |
|----------------------|---------------------------|--------------|------------------|---|
| A | ABPTIV | No | 16,26 | Amount of ash in fuel |
| ABARS | ABARIV | Yes | 20 | Source identification, X, Y, and Z coordinates, length of side, delta Z |
| ABLNS | ABLIV | Yes | 30 | Source identification, X, Y, and Z coordinate for beginning of line, width of line, delta Z; X, Y, and Z coordinate for end of line |
| ABPTS | ABPTIV | No | 12-19 | Number of sources defined |
| AB1234 | FIRST | No | 1-37 | Data set identifier |
| ACFUEL | ACEMIV | Yes | 10 | Refueling value for aircraft |
| ACLNSG | ACEMIV | Yes | 7 | Segment identification, X, Y, and Z coordinates at start of segment, delta Y and Z; X, Y, Z coordinates at end of segment |
| ACSPIL | ACEMIV | Yes | 10 | Fuel spillage value for aircraft |
| ADD | SRCINV | No | 3 | Annual degree days |
| ANNARR | ACEMIV | Yes | 5 | Annual number of arrival operations |
| ANNDEP | ACEMIV | Yes | 5 | Annual number of departure operations |
| ANNEM | EVAPHC | No | 25 | Total hydrocarbon emissions |
| ANN GAL | ABARIV | No | 27 | Amount of diesel fuel consumed |
| ANN TGO | ACEMIV | Yes | 5 | Annual number of touch and go cycles |
| ANN USE | ABPTIV | No | 16,17, 18,26 | Amount pollutant is controlled |
| ARFLVT | ACEMIV | Yes | 10 | Fuel venting values for departing aircraft |
| ARSVEM | ACEMIV | Yes | 9 | Service vehicle emission for departing aircraft |
| CAP | ABPTIV | No | 18 | Tank capacity |
| CC | EVAPHC | Yes | 21 | Throughput factor for fuel processed |
| CDSTN | ENEMIV | Yes | 35,36 | Number of cold starts in mobile areas |
| CLDST | ENEMIV | No | 35,36 | Speed of vehicles in mobile areas |
| CNTRL | ABARIV | No | 16,17, 26 | Indicator of controlled pollutants |
| C1 | ABPTIV | No | 18,20 | Throughput factor |
| C2 | ABPTIV | No | 18,22 | Paint factor |
| C3 | ABPTIV | No | 18,22 | Tank diameter factor |
| DES | FIRST | Yes | 1 | Description of the source |
| DIAM | ABPTIV | No | 18,22, 23 | Tank diameter |

| <u>Variable Name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|-----------------|---|
| DISRNW | ACEMIV | Yes | 8 | Runway length |
| DPFLVT | ACEMIV | Yes | 10 | Fuel venting values for departing aircraft |
| DPSVEM | ACEMIV | Yes | 9 | Service vehicle emissions for arriving aircraft |
| DTBAR | SRCINV | No | 3 | Daily average temperature variation |
| EM | ABLNIV | Yes | 33 | Emissions of CO, HC, NOX, PT, and SOX |
| ENARS | ENEMIV | Yes | 35 | Source identification, X, Y, and Z coordinates, length of side, delta Z |
| ENLNS | ENEMIV | Yes | 36,37 | Source identification, plume flag, X, Y, and Z coordinate for start of line, width of line, delta Z; X, Y, and Z coordinate for end of line |
| ENPTS | ENEMIV | Yes | 34 | Source identification, plume flag, X and Y coordinates, stack height, delta Y and Z, gas temperature, gas velocity, stack diameter, building height |
| FACND | FIRST | Yes | 1 | Source name |
| FRCFUL | EVAPHC | No | 23,24 | Fraction each tank is filled |
| FRCTLU | ENEMIV | Yes | 35 | Fraction of land area used |
| HSAOKN | ENEMIV | No | 35,36 | Number of hot soaks in mobile area |
| HVS | ABPTIV | No | 18 | Average height of vapor space |
| IAATCV | SRCINV | No | 11 | Indicator for input of civilian AGE distribution |
| IAATML | SRCINV | No | 11 | Indicator for input of military AGE distribution |
| IACTYP | ACEMIV | Yes | 5 | Aircraft identification number |
| IAREA | SRCINV | No | 11 | Identifier of emission factors for motor vehicles |
| ICNTRL | ABARIV | No | 26 | Indicator of controlled pollution |
| ID | ACEMIV | No | 8 | Runway identification number |
| IDEMFC | ABARIV | No | 26 | Emission factor identification |
| IDENG | ABPTIV | No | 14,15 | Identification of engine tested |
| IDFUEL | ABPTIV | No | 18,22, 23,24 | Identification of fuel used |
| IDIBPA | ACEMIV | Yes | 8 | Identifier of parking area connected to this taxipath |
| IDIBTW | ACEMIV | Yes | 8 | Inbound taxipath identifier |
| IDMAX | FIRST | No | 1 | Total number of sources |

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|-----------------|---|
| IDOBPA | ACEMIV | Yes | 8 | Identifier of parking area connected to this taxipath |
| IDOBTW | ACEMIV | Yes | 8 | Outbound taxipath identifier |
| IDPA | ACEMIV | No | 8 | Identifier of parking area connected to this taxipath |
| IDPL | ABPTIV | Yes | 16,17,26 | Identification of pollutant controlled |
| IDPRKA | ACEMIV | Yes | 6 | Identification number of parking area |
| IDROOF | EVAPHC | No | 22 | Roof identifier |
| IDRW | ACEMIV | No | 8 | Runway identification number |
| IDTW | ACEMIV | No | 8 | Inbound taxipath identifier |
| ID1 | FIRST | No | 1 | Degrees of latitude |
| ID2 | FIRST | No | 1 | Degrees of longitude |
| IIBSEG | ACEMIV | Yes | 8 | Identifier for the segments forming this taxipath |
| IM1 | FIRST | No | 1 | Minutes of latitude |
| IM2 | FIRST | No | 1 | Minutes of longitude |
| INPUTS | ACEMIV | No | 10 | Refueling valve indicator |
| IOBSEG | ACEMIV | Yes | 8 | Identifier for the segments forming this taxipath |
| IOPT | VEHIC | No | 31,32,35,28,29 | Vehicle emission factor identification |
| IRNWX | ACEMIV | Yes | 8 | Identification number for runway |
| IROOF | ABPTIV | No | 18 | Roof identification |
| ITITLE | LETTER | Yes | 1 | Block title information |
| IUNGAT | ABPTIV | No | 18 | Tank type identifier |
| IUSWD | ACEMIV | Yes | 8 | Runway use indicator, special case runway use indicator |
| IYEAR | SRCINV | No | 11 | Year to begin vehicle calculations |
| JJ | TREFACT | No | 11 | Identifier of vehicle class to be defined |
| MCFLG | ABPTIV | No | 17,16 | Indicator of controlled pollutants |
| MFCID | ABPTIV | No | 16,17 | Emission factor identification |
| NACTYP | ACEMIV | No | 4 | Total number of aircraft types |
| NCDST | VEHIC | Yes | 28,29,31,32 | Number of cold starts for vehicles |
| NHSOAK | VEHIC | No | 28,29,31,32 | Number of hot soaks for vehicles |

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|---------------------------|--|
| NIBTT | ACEMIV | Yes | 8 | Number of inbound taxiway paths |
| NID | FIRST | No | 1 | Source identifier |
| NLSEGS | ACEMIV | No | 4 | Total number of taxipath segments |
| NMAX | ABPTIV | No | 12-20, 30,34 | Number of sources defined |
| NMAXE | EVAPHC | No | 21-29, 31,33 | Number of area sources defined |
| NMAX1 | ENEMIV | No | 35 | Number of definition sources |
| NMAX2 | ENEMIV | No | 35 | Number of environ mobile areas |
| NOBTT | ACEMIV | Yes | 8 | Number of outbound taxiway paths |
| NPASA | ACEMIV | No | 6 | Total number of squares making up the parking area |
| NPKAR | ACEMIV | No | 4 | Total number of parking areas |
| NPLTCT | ABPTIV | No | 16,17, 26 | Number of pollutants controlled |
| NRNWYS | ACEMIV | No | 4 | Total number of runways used |
| NSCASE | ACEMIV | No | 4 | Total number of special case wind conditions |
| NSEGS | ACEMIV | No | 8 | Number of segments forming this taxipath |
| NTANKS | ABPTIV | No | 18,22 | Number of tanks same size |
| NTRKS | EVAPHC | No | 23 | Number of tank trucks parked |
| NVEH | EVAPHC | No | 24 | Number of civilian/military vehicles parked |
| OPT | TREFCT | Yes | 11 | Indicator for definition of AGE distribution in this class |
| PA | SRCINV | No | 3 | Pressure altitude |
| PAREA | ACEMIV | Yes | 6 | X, Y coordinate and length of SID of square |
| RFGIS | TREFCT | Yes | 11 | AGE distribution |
| RNWY | ACEMIV | Yes | 8 | X, Y, Z coordinate at start of runway, delta Y and Z, runway angle |
| RNWAR | ACEMIV | Yes | 8 | Number of aircraft arrivals |
| RNWDP | ACEMIV | Yes | 8 | Number of aircraft departures |
| S | ABPTIV | No | 16,26 | Amount of sulfur in fuel |
| SID | ABPTIV | No | 14-19, 21-29, 31-37 | Source identifier |
| SOREM | ABPTIV | Yes | 19,34, 35,37 | Emission of CO, HC, NOX, PT, SOX |

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|---------------------------|---|
| SPEED | VEHIC | No | 28,29, 31,32, 35,36 | Average speed of vehicles |
| SPILL | ELAPHC | No | 21 | Amount of fuel spilled |
| S1 | FIRST | No | 1 | Seconds of latitude |
| S2 | FIRST | No | 1 | Seconds of longitude |
| TBAR | SRCINV | No | 3 | Average annual temperature |
| TESTS | ABPTIV | No | 14,15 | Annual number of engine tests |
| TIME | ABPTIV | Yes | 14,15 | Test time in each mode |
| TMPDIF | ABPTIV | No | 18 | Daily average temperature variation of fuel vapor space |
| TNKCAP | EVAPHC | No | 23,24 | Tank capacity |
| TTARFR | ACEMIV | Yes | 8 | Inbound taxiway usage |
| TTDPFR | ACEMIV | Yes | 8 | Outbound taxipath usage |
| TTMP | ABPTIV | No | 18 | Temperature of fuel in tank |
| VM | VEHIC | Yes | 28,29, 31,32, 35,36 | Vehicle miles for vehicles |
| WSBAR | SRCINV | No | 3 | Annual average wind speed |
| XMIGAL | ABARIV | No | 27 | Diesel fuel consumption rate |
| YRUSE | EVAPHC | Yes | 21 | Amount of fuel processed |

| Variable | Definition | Array | Pressure | Unit |
|----------|-------------------------------------|-------|----------|-------|
| VEHIC | Average speed of vehicles | NO | | MPH |
| ELAPSE | Amount of fuel spilled | NO | | SEC |
| FIRST | Seconds of latitude | NO | | SEC |
| FIRST | Seconds of longitude | NO | | SEC |
| TEMP | Average ambient temperature | NO | | DEG F |
| TESTS | Amount of engine tests | NO | | NO |
| TIME | Test time in each mode | NO | | SEC |
| WIND | Daily average temperature variation | NO | | DEG F |
| WIND | 7 AM vapor speed | NO | | MPH |
| WIND | Wind direction | NO | | DEG |
| WIND | 1 pound taximeter usage | NO | | NO |
| WIND | Outboard taximeter usage | NO | | NO |
| WIND | Amount of fuel to tank | NO | | NO |
| WIND | Amount of fuel processed | NO | | NO |
| WIND | Annual average wind speed | NO | | MPH |
| WIND | Diesel fuel consumption rate | NO | | NO |
| WIND | Amount of fuel processed | NO | | NO |

SHORT-TERM INPUT VARIABLES

ORDERED BY DATA SET

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|--|
| 1 | ITITLE | LETTER | Yes | Block title information |
| 2 | TITLE1 | AQAMST | Yes | Description of the problem |
| 2 | NXPOL | AQAMST | No | Extra pollutant indicator |
| 2 | XNAME | AQAMST | No | Name of extra pollutant |
| 2 | IPCHOS | AQAMST | Yes | Pollutant identification number |
| 2 | NCASE | AQAMST | No | Number of special wind cases |
| 2 | WDSP | AQAMST | Yes | Special case wind directions (degree) |
| 2 | WSSP | AQAMST | Yes | Special case wind speeds (knots) |
| 2 | XBASE | AQAMST | No | X coordinate of grid (km) |
| 2 | YBASE | AQAMST | No | Y coordinate of grid (km) |
| 2 | INCRX | AQAMST | No | Number of columns in grid |
| 2 | INCRY | AQAMST | No | Number of rows in grid |
| 2 | DELTA | AQAMST | No | Spacing between rows and columns (km) |
| 2 | IADD | AQAMST | No | Number of special receptors |
| 2 | XRECEP | AQAMST | No | X coordinate of special receptor (km) |
| 2 | YRECEP | AQAMST | No | Y coordinate of special receptor (km) |
| 2 | NRSTAT | AQAMST | No | Number of statistical receptors defined |
| 2 | NSTAPE | AQAMST | No | Logical unit for statistical tape |
| 2 | NEWOLD | AQAMST | No | Indicator of old or new statistical tape |
| 2 | XSTARP | AQAMST | No | X coordinate of statistical receptor |
| 2 | YSTARP | AQAMST | No | Y coordinate of statistical receptor |
| 2 | IMONTH | MAINS | No | Identification of month to be modeled |
| 2 | NODAYS | MAINS | No | Number of days in the month |
| 2 | NPER | MAINS | No | Number of periods to be modeled |
| 2 | TMBAR | MAINS | No | Average temperature in this month (°F) |
| 3 | NHOUR | MAINS | No | Number of hours in this period |
| 3 | IDAY | MAINS | No | Weekday/weekend indicator |
| 4 | KRH | MAINS | Yes | Identification of the hour |
| 4 | JSTABB | MAINS | Yes | Stability identification |
| 4 | WSS | MAINS | Yes | Average wind speed (meter/sec) |
| 4 | WDD | MAINS | Yes | Average wind direction (degree) |
| 4 | TEMPP | MAINS | Yes | Average ambient temperature (°F) |
| 4 | HLIDD | MAINS | Yes | Average mixing depth (meter) |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|---|
| 5 | JFLAG | SOURCE | No | Temporal distribution indicator |
| 6 | ICLASS | METHC | No | Site indicator |
| 6 | FH | METHC | No | Hourly activity (fraction) |
| 6 | FD | METHC | No | Daily activity (fraction) |
| 6 | FM | METHA | No | Number of sites not using uniform distribution |
| 6 | SID | METHA | No | Identifier of site to be assigned activity |
| 7 | IOPT | ABARAR | No | Option indicator for temporal activity of hydrocarbon sources |
| 7 | UNIFRC | METHB | No | Portion of total emissions using uniform temporal distribution (fraction) |
| 8 | IMETH | METHB | No | Option indicator for temporal activity |
| 9 | --- | ENARAY | --- | No new variable defined |
| 10 | --- | ENARAY | --- | No new variable defined |
| 11 | --- | ENARAY | --- | No new variable defined |

| Variable Name | Subcategory | Units | Data Set |
|---------------|-------------|-------|----------|
| YEAR | DATE | yr | 1 |
| MONTH | DATE | mo | 2 |
| DAY | DATE | da | 3 |
| WIND | WIND | mph | 4 |
| TEMP | TEMP | deg F | 5 |
| RELAT | RELAT | deg | 6 |
| WIND | WIND | mph | 7 |
| WIND | WIND | mph | 8 |
| WIND | WIND | mph | 9 |
| WIND | WIND | mph | 10 |
| WIND | WIND | mph | 11 |
| WIND | WIND | mph | 12 |
| WIND | WIND | mph | 13 |
| WIND | WIND | mph | 14 |
| WIND | WIND | mph | 15 |
| WIND | WIND | mph | 16 |
| WIND | WIND | mph | 17 |
| WIND | WIND | mph | 18 |
| WIND | WIND | mph | 19 |
| WIND | WIND | mph | 20 |
| WIND | WIND | mph | 21 |
| WIND | WIND | mph | 22 |
| WIND | WIND | mph | 23 |
| WIND | WIND | mph | 24 |
| WIND | WIND | mph | 25 |
| WIND | WIND | mph | 26 |
| WIND | WIND | mph | 27 |
| WIND | WIND | mph | 28 |
| WIND | WIND | mph | 29 |
| WIND | WIND | mph | 30 |
| WIND | WIND | mph | 31 |
| WIND | WIND | mph | 32 |
| WIND | WIND | mph | 33 |
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| WIND | WIND | mph | 35 |
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| WIND | WIND | mph | 37 |
| WIND | WIND | mph | 38 |
| WIND | WIND | mph | 39 |
| WIND | WIND | mph | 40 |
| WIND | WIND | mph | 41 |
| WIND | WIND | mph | 42 |
| WIND | WIND | mph | 43 |
| WIND | WIND | mph | 44 |
| WIND | WIND | mph | 45 |
| WIND | WIND | mph | 46 |
| WIND | WIND | mph | 47 |
| WIND | WIND | mph | 48 |
| WIND | WIND | mph | 49 |
| WIND | WIND | mph | 50 |
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| WIND | WIND | mph | 67 |
| WIND | WIND | mph | 68 |
| WIND | WIND | mph | 69 |
| WIND | WIND | mph | 70 |
| WIND | WIND | mph | 71 |
| WIND | WIND | mph | 72 |
| WIND | WIND | mph | 73 |
| WIND | WIND | mph | 74 |
| WIND | WIND | mph | 75 |
| WIND | WIND | mph | 76 |
| WIND | WIND | mph | 77 |
| WIND | WIND | mph | 78 |
| WIND | WIND | mph | 79 |
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| WIND | WIND | mph | 81 |
| WIND | WIND | mph | 82 |
| WIND | WIND | mph | 83 |
| WIND | WIND | mph | 84 |
| WIND | WIND | mph | 85 |
| WIND | WIND | mph | 86 |
| WIND | WIND | mph | 87 |
| WIND | WIND | mph | 88 |
| WIND | WIND | mph | 89 |
| WIND | WIND | mph | 90 |
| WIND | WIND | mph | 91 |
| WIND | WIND | mph | 92 |
| WIND | WIND | mph | 93 |
| WIND | WIND | mph | 94 |
| WIND | WIND | mph | 95 |
| WIND | WIND | mph | 96 |
| WIND | WIND | mph | 97 |
| WIND | WIND | mph | 98 |
| WIND | WIND | mph | 99 |
| WIND | WIND | mph | 100 |

SHORT-TERM INPUT VARIABLES
ORDERED ALPHABETICALLY

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|-----------------|--|
| DELTA | AQAMST | No | 2 | Spacing between rows and columns |
| FD | METHC | No | 6-11 | Daily activity |
| FH | METHC | No | 6-11 | Hourly activity |
| FM | METHC | No | 6-11 | Monthly activity |
| HLIDD | MAINS | Yes | 4 | Average mixing depth |
| IADD | AQAMST | No | 2 | Number of special receptors |
| ICLASS | METHC | No | 6-11 | Site indicator |
| IDAY | MAINS | No | 3 | Weekday/weekend indicator |
| IMETH | ABLNR | No | 8,9 | Option indicator for temporal activity |
| IMONTH | MAINS | No | 2 | Identification of month to be modeled |
| INCRX | AQAMST | No | 2 | Number of columns in grid |
| INCRY | AQAMST | No | 2 | Number of rows in grid |
| IOPT | APARAR | No | 7 | Option indicator of temporal activity of hydrocarbon sources |
| IPCHOS | AQAMST | Yes | 2 | Pollutant identification number |
| ITITLE | INTRO | Yes | 1 | Block title information |
| JFLAG | SOURCE | No | 5 | Temporal distribution indicator |
| JSTABB | MAINS | Yes | 4 | Stability identification |
| KRH | MAINS | Yes | 4 | Identification of the hour |
| NCASE | AQAMST | No | 2 | Number of special wind cases |
| NEWOLD | AQAMST | No | 2 | Indicator of new or old statistical tape |
| NHOUR | MAINS | No | 3 | Number of hours in this period |
| NODAYS | MAINS | No | 2 | Number of days in the month |
| NPER | MAINS | No | 2 | Number of periods to be modeled |
| NPTC | METHA | No | 6-11 | Number of sites not using uniform distribution |
| NRSTAT | AQAMST | No | 2 | Number of statistical receptors defined |
| NSTAPE | AQAMST | No | 2 | Logical unit for statistical tape |
| NXPOL | AQAMST | No | 2 | Extra pollutant indicator |
| SID | METHA | No | 6-11 | Identifier of site to be assigned activity |
| TEMPP | MAINS | Yes | 4 | Average ambient temperature (°F) |
| TITLE1 | AQAMST | Yes | 2 | Description of the problem |
| TMBAR | MAINS | No | 2 | Average temperature of this month (°F) |

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Description</u> |
|----------------------|---------------------------|--------------|-----------------|--|
| UNIFRC | METHB | No | 7 | Portion of total emissions using uniform temporal distribution |
| WDD | MAINS | Yes | 4 | Average wind direction |
| WDSP | AQAMST | Yes | 2 | Special case wind directions |
| WSS | MAINS | Yes | 4 | Average wind speed |
| WSSP | AQAMST | Yes | 2 | Special case wind speeds |
| XBASE | AQAMST | No | 2 | X coordinate of grid |
| XNAME | AQAMST | No | 2 | Name of extra pollutant |
| XRECEP | AQAMST | No | 2 | Number of special receptors |
| XSTARP | AQAMST | No | 2 | X coordinate of statistical receptor |
| YBASE | AQAMST | No | 2 | Y coordinate of grid |
| YRECEP | AQAMST | No | 2 | Y coordinate of special receptor |
| YSTARP | AQAMST | No | 2 | Y coordinate of statistical receptor |

| Variable name | Objective category | Priority | Data set | Description |
|---------------|--------------------|----------|----------|---|
| WIND | WIND | No | 1 | Factor of total emissions using uniform regional distribution |
| WIND | WIND | Yes | 4 | Average wind direction |
| WIND | WIND | Yes | 5 | Special case wind direction |
| WIND | WIND | Yes | 6 | Average wind speed |
| WIND | WIND | Yes | 7 | Special case wind speed |
| WIND | WIND | No | 8 | Coordinate of grid |
| WIND | WIND | No | 9 | Year of data collection |
| WIND | WIND | No | 10 | Number of special receptors |
| WIND | WIND | No | 11 | Coordinate of industrial receptor |
| WIND | WIND | No | 12 | Coordinate of grid |
| WIND | WIND | No | 13 | Coordinate of special receptor |
| WIND | WIND | No | 14 | Coordinate of statistical receptor |

LONG-TERM INPUT VARIABLES

ORDERED BY DATA SET

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|--|
| 1 | ITITLE | LETTER | Yes | Block title information |
| 2 | TITLE1 | AQAMLT | Yes | Description of the problem |
| 2 | IRPR | AQAMLT | No | Identifier of period at which to stop |
| 2 | IRMN | AQAMLT | No | Identifier of month at which to restart |
| 2 | IRWS | AQAMLT | No | Identifier of wind speed at which to restart |
| 2 | IRWD | AQAMLT | No | Identifier of wind direction at which to restart |
| 2 | NXPOL | AQAMLT | No | Extra pollutant indicator |
| 2 | XNAME | AQAMLT | No | Name of extra pollutant |
| 2 | IPCHOS | AQAMLT | Yes | Pollutant identification number |
| 2 | NCASE | AQAMLT | No | Number of special wind cases |
| 2 | WDSP | AQAMLT | Yes | Special case wind direction (degree) |
| 2 | WSSP | AQAMLT | Yes | Special case wind speed |
| 2 | XBASE | AQAMLT | No | X coordinate of grid (km) |
| 2 | YBASE | AQAMLT | No | Y coordinate of grid (km) |
| 2 | INCRX | AQAMLT | No | Number of columns in grid |
| 2 | INCRY | AQAMLT | No | Number of rows in grid |
| 2 | DELTA | AQAMLT | No | Spacing between rows and columns (km) |
| 2 | IADD | AQAMLT | No | Number of special receptors |
| 2 | XRECEP | AQAMLT | No | X coordinate of special receptors |
| 2 | YRECEP | AQAMLT | No | Y coordinate of special receptors |
| 2 | NRSTAT | AQAMLT | No | Number of statistical receptors defined |
| 2 | NSTAPE | AQAMLT | No | Logical unit for statistical tape |
| 2 | XSTARP | AQAMLT | No | X coordinate of statistical receptors (km) |
| 2 | YSTARP | AQAMLT | No | Y coordinate of statistical receptors (km) |
| 3 | IDAY | MAINL | No | Weekday/weekend indicator |
| 3 | IPR | MAINL | Yes | Indicator for period of day to be modeled |
| 3 | IMN | MAINL | Yes | Indicator for months to be modeled |
| 4 | JFLAG | SOURCE | No | Temporal distribution indicator |
| 5 | ICLASS | METHC | No | Site indicator |
| 5 | FH | METHC | No | Hourly activity (fraction) |

| <u>Data set</u> | <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Definition</u> |
|-----------------|----------------------|---------------------------|--------------|--|
| 5 | FD | METHC | No | Daily activity (fraction) |
| 5 | FM | METHC | No | Monthly activity (fraction) |
| 5 | NPTC | METHA | No | Number of sites not using uniform distribution |
| 5 | SID | METHA | No | Identifier of site to be assigned activity |
| 6 | IOPT | ABARAR | No | Option indicator for temporal activity of hydrocarbon source |
| 6 | UNIFRC | METHB | No | Portions of total emissions using uniform temporal distribution (fraction) |
| 7 | IMETH | ABLNR | No | Option indicator for temporal activity |
| 8 | --- | ENARAY | --- | No new variable defined |
| 9 | --- | ENARAY | --- | No new variable defined |
| 10 | --- | ENARAY | --- | No new variable defined |

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|-----------------|---|
| DELTA | AQAML | No | 2 | Spacing between rows and columns |
| FD | METHC | No | 5,6-10 | Daily activity |
| FH | METHC | No | 5,6-10 | Hourly activity |
| FM | METHC | No | 5,6-10 | Monthly activity |
| IADP | AQAMST | No | 2 | Number of special receptors |
| ICLASS | METHC | No | 5-10 | Site indicator |
| IDAY | MAINL | No | 3 | Weekday/weekend indicator |
| IMETH | ABLNR | No | 7,8 | Option indicator for temporal activity |
| IMN | MAINL | Yes | 3 | Indicator for months to be modeled |
| INCRX | AQAML | No | 2 | Number of columns in grid |
| INCRY | AQAML | No | 2 | Number of rows in grid |
| IOPT | ABARAR | No | 6 | Option indicator for temporal activity of hydrocarbon sources |
| IPCHOS | AQAML | Yes | 2 | Pollutant identification number |
| IPR | MAINL | Yes | 3 | Indicator for period of day to be modeled |
| IRMN | AQAML | No | 2 | Identifier of month at which to restart |
| IRPR | AQAML | No | 2 | Identifier of period at which to restart |
| IRWD | AQAML | No | 2 | Identifier of wind direction at which to restart |
| IRWS | AQAML | No | 2 | Identifier of wind speed at which to restart |
| ITITLE | INTRO | Yes | 1 | Block title information |
| JFLAG | SOURCE | No | 4 | Temporal distribution indicator |
| NCASE | AQAML | No | 2 | Number of special wind cases |
| NEWOLD | AQAML | No | 2 | Indicator of new/old statistical tapes |
| NPTC | METHA | No | 5-10 | Number of sites not using uniform distribution |
| NRSTAT | AQAML | No | 2 | Number of statistical receptors defined |
| NSTAPE | AQAML | No | 2 | Logical unit for statistical tape |
| NXPOL | AQAML | No | 2 | Extra pollutant indicator |
| SID | METHA | No | 5-10 | Identifier of site to be assigned activity |
| TITLE1 | AQAML | Yes | 2 | Description of the problem |
| UNIFRC | METHB | No | 6 | Portion of total emission using uniform temporal distribution |

| <u>Variable name</u> | <u>Subroutine overlay</u> | <u>Array</u> | <u>Data set</u> | <u>Definition</u> |
|----------------------|---------------------------|--------------|-----------------|--------------------------------------|
| WDSP | AQAMLT | Yes | 2 | Special case wind directions |
| WSSP | AQAMLT | Yes | 2 | Special case wind speed |
| XBASE | AQAMLT | No | 2 | X coordinate of grid |
| XNAME | AQAMLT | No | 2 | Name of extra pollutant |
| XRECEP | AQAMST | No | 2 | X coordinate of special receptor |
| XSTARP | AQAMST | No | 2 | X coordinate of statistical receptor |
| YBASE | AQAMLT | No | 2 | Y coordinate of grid |
| YRECEP | AQAMST | No | 2 | Y coordinate of special receptor |
| YSTARP | AQAMST | No | 2 | Y coordinate of statistical receptor |

APPENDIX H

STRUCTURE OF THE METEOROLOGICAL DATA TAPE

Climatological data are provided to the AQAM long-term model via a meteorological data tape. This tape is created by a computer program operated at the USAF Environmental Technical Applications Center (ETAC) at Scott AFB, Illinois. The climatological data written on the tape are a statistical representation of at least 5 years of meteorological measurements and the physical and logical structure of the tapes is such that the data can be directly read by the AQAM long-term model. Tables H1 and H2 illustrate this data structure.

Generally, a complete data tape contains 17,564 Binary Coded Decimal (BCD) records (80 characters per record). The first record (arrow number 1, table H2) identifies the location with the Weather Bureau Army Navy (WBAN) station locator and defines the number of stability classes to be found on the tape. These data can be read from the tape utilizing the FORTRAN format (25X, I5, 4X, I2). The next record (arrow number 2, table H2) identifies the monthly data section, the time, and various related meteorological parameters. A description of each of the parameters and the format for reading this record is included in table H3. Each monthly data section is made up of 16 wind rose and 16 mixing depth data records (braces numbered 3 and 4, table H2). The wind rose and mixing depth data can be read with format (6F10.6, A6, A2, A4). Each of the 16 wind rose data records (braces numbered 3, table H2) indicate frequency of occurrence of a specific wind direction and wind speed class (see table H4). The wind direction is given as the seventh word of each data record. The six wind speed classes correspond to the first six words of each data record. For example, the initial word in all of the wind rose records defines the frequency of occurrence of wind from the north which falls within wind speed class one. The second word corresponds to speed class two, etc., to word six. Similarly, the 16 mixing depth data records contain the average mixing depth in meters as a function of wind direction and wind speed class. The mixing depth data are calculated using equations developed by K. Noyaki (ref. 1). A zero indicates a missing datum.

1. Mixing Depth Model Using Hourly Surface Observations, TCAC Report 1053, November 1973.

Wind rose and mixing depth data are listed as a pair and repeated on the tape for each of the six stability classes (see table 17). The monthly data section identifier (arrow number 2, table H2) is included with the wind rose and mixing depth data and this group is repeated for seven time-of-day periods within each of 13 months.

Generally, the data tapes are properly constructed with accurate and reliable data. However, in some instances, inaccuracies have been discovered. To provide a method to quickly and efficiently verify the accuracy of the meteorological tapes, a test algorithm has been developed. This algorithm is written in the FORTRAN computer language and is designed to read the information on the tape and calculate statistical parameters based on these data. Successful completion of the test algorithm indicates that the tape's physical structure is correct. The calculated statistical parameters can be analyzed to verify the accuracy of the data.

To ensure proper evaluation and to avoid unnecessary rejection of accurate data, an analysis of the statistical results of the test program should be directed by a qualified meteorologist. The test algorithm is included on the following pages.

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        DIMENSION WNDP(6,16,6),DEP(6,16,6),FDIR(4),FSPD(6),FSTAB(6),FR(6),
        IDMWS(6),FRE(6),DMST(6)
C READ INITIAL TAPE HEADER CARD
        READ (10,100) IDUM
100   FORMAT (1X,A2)
C SEQUENCE THROUGH TIME/PERIODS
        DO 1 I=1,7
C SEQUENCE THROUGH MONTHS
        DO 1 J=1,13
C READ SECTION HEADER CARD
        READ (10,100) IDUM
C SEQUENCE THROUGH STABILITIES
        DO 2 L=1,6
C SEQUENCE THROUGH WIND DIRECTION
        DO 3 M=1,16
C READ A WIND FREQUENCY CARD IMAGE
3     READ (10,101) (WNDP(L,M,N),N=1,6)
101   FORMAT (6F10.0)
C SEQUENCE THROUGH WIND DIRECTION
        DO 4 M=1,16
C READ A MIXING DEPTH CARD IMAGE
4     READ (10,101) (DEP(L-M,N),N=1,6)
2     CONTINUE
C INITIALIZE ARRAYS
        DO 11 N=1,4
11    FDIR(N)=0.0
        DO 12 N=1,6
        FSPD(N)=0.0
12    FSTAB(N)=0.0

        DEPM=0.0
        PRINT 111
111   FORMAT (1H )
C TASK 1, CALCULATE WIND DIRECTION FREQUENCY FOR MONTH/PERIOD OF DAY
        PRINT 103,I,J
103   FORMAT (1X,*WIND DIRECTION FREQUENCY NE-SE-SW-NW. TIME OF DAY PER
        110D=*,I2,* MONTH=*,I2)
        DO 5 L=1,6
        DO 5 N=1,6
C CALCULATE NE FREQUENCY
        FDIR(1)=FDIR(1)+WNDP(L,1,N)*.5+WNDP(L,2,N)+WNDP(L,3,N)+WNDP(L,4,N)
        1+WNDP(L,5,N)*.5
C CALCULATE SE FREQUENCY
        FDIR(2)=FDIR(2)+WNDP(L,5,N)*.5+WNDP(L,6,N)+WNDP(L,7,N)+WNDP(L,8,N)
        1+WNDP(L,9,N)*.5
C CALCULATE SW FREQUENCY
        FDIR(3)=FDIR(3)+WNDP(L,9,N)*.5+WNDP(L,10,N)+WNDP(L,11,N)+WNDP(L,12
        1,N)+WNDP(L,13,N)*.5
C CALCULATE NW FREQUENCY
5     FDIR(4)=FDIR(4)+WNDP(L,13,N)*.5+WNDP(L,14,N)+WNDP(L,15,N)+WNDP(L,1
        16,N)+WNDP(L,1,N)*.5
        PRINT 104,(FDIR(L),L=1,4)
104   FORMAT (1X,6(F10.6))
C TASK 2, CALCULATE WIND SPEED CLASS FREQUENCY FOR MONTH/PERIOD OF DAY
        PRINT 105,I,J

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105  FORMAT (1X,*WIND SPEED FREQUENCY CLASSES 1-6  TIME OF DAY PERIOD=
      1*,I2,* MONTH=*,I2)
C SEQUENCE THROUGH STABILITY, WIND DIRECTION, AND WIND SPEED
DO 6 L=1,6
DO 6 M=1,16
DO 6 N=1,6
6    FSPD(N)=FSPD(N)+WNDF(L,M,N)
PRINT 104,(FSPD(N),N=1,6)
C TASK 3, CALCULATE STABILITY CLASS FREQUENCY FOR MONTH/PERIOD OF DAY
PRINT 106,I,J
106  FORMAT (1X,*STABILITY FREQUENCY CLASSES 1-6  TIME OF DAY PERIOD=*
      1,I2,* MONTH=*,I2)
C SEQUENCE THROUGH STABILITY, WIND DIRECTION, AND WIND SPEED
DO 7 L=1,6
DO 7 M=1,16
DO 7 N=1,6
7    FSTAR(L)=FSTAR(L)+WNDF(L,M,N)
PRINT 104,(FSTAR(L),L=1,6)
C TASK 4, CALCULATE MEAN MIXING FOR MONTH/PERIOD OF DAY
PRINT 107,I,J
107  FORMAT (1X,*MEAN MIXING DEPTH (M)  TIME OF DAY PERIOD=*,I2,* MONT
      IH=*,I2)
C SEQUENCE THROUGH STABILITY, WIND DIRECTION, AND WIND SPEED
DO 8 L=1,6
DO 8 M=1,16
DO 8 N=1,6
C WEIGHT MIXING DEPTH BY WIND FREQUENCY
8    DEPM=DEPM+DEP(L,M,N)*WNDF(L,M,N)
PRINT 108,DEPM
108  FORMAT (1X,6(F6.1))
C TASK 5, CALCULATE ANNUAL (FULL DAY) MIXING DEPTHS AS FUNCTION OF WIND SPEED
C AND STABILITY
IF (J.NE.13.OR.I.NE.1) GO TO 1
PRINT 109,I,J
109  FORMAT (1X,*MEAN MIXING DEPTH AS FUNCTION OF WIND SPEED  TIME OF
      1DAY PERIOD=*,I2,* MONTH=*,I2)
C SEQUENCE THROUGH STABILITY, WIND DIRECTION, AND WIND SPEED
DO 9 L=1,6
DO 9 M=1,16
DO 9 N=1,6
FR(N)=FR(N)+WNDF(L,M,N)
C WEIGHT MIXING DEPTH BY WIND FREQUENCY
DMWS(N)=DMWS(N)+DEP(L,M,N)*WNDF(L,M,N)
FRE(L)=FRE(L)+WNDF(L,M,N)
C WEIGHT MIXING DEPTH BY STABILITY FREQUENCY
9    DMST(L)=DMST(L)+DEP(L,M,N)*WNDF(L,M,N)
DO 10 N=1,6
DMWS(N)=DMWS(N)/FR(N)
10   DMST(N)=DMST(N)/FRE(N)
PRINT 108,(DMWS(N),N=1,6)
PRINT 110,I,J
110  FORMAT (1X,*MEAN MIXING DEPTH AS FUNCTION OF STABILITY  TIME OF D
      1AY PERIOD=*,I2,* MONTH=*,I2)
PRINT 108,(DMST(N),N=1,6)
1    CONTINUE
STOP

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Table H1

GENERAL TAPE STRUCTURE

| | | | |
|---|---|--|---|
| Repeated for seven time-of-day periods for each of 13 months (17,564 records) | } | Repeated for six stability classes (192 records) | Station Locator (WBAN) (1 record) |
| | | | Time Identification and Related Statistics (1 record) |
| | | | Wind Rose Frequency Data (16 records) |
| | | | Mixing depth data (16 records) |

Table H2
 FORMAT OF METEOROLOGICAL DATA TAPE

| STATION PROCESSED IS 13840 | | | STABILITY CLASSES | | | | | No. 1 |
|----------------------------|----------|----------|-------------------|----------|----------|----------|-----------|-------|
| 0001010024 | 30.2 | 13.9 | 1077.9 | 908.5 | 681.7 | 4.4 | 89.0 | No. 2 |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | N A JAN | No. 3 |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NNE A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NE A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | ENE A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | E A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | ESE A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SE A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SSE A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | S A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SSW A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SW A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | WSW A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | W A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | WNW A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NW A JAN | |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NNW A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | N A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | NNE A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | NE A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | ENE A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | E A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | ESE A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | SE A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | SSE A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | S A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | SSW A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | SW A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | WSW A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | W A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | WNW A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | NW A JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | NNW A JAN | |
| 0.001296 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | N B JAN | No. 4 |
| 0.000259 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NNE B JAN | |
| 0.000517 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NE B JAN | |
| 0.000517 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | ENE B JAN | |
| 0.000259 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | E B JAN | |
| 0.000600 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | ESE B JAN | |
| 0.000776 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SE B JAN | |
| 0.001296 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SSE B JAN | |
| 0.001064 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | S B JAN | |
| 0.002627 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SSW B JAN | |
| 0.001034 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | SW B JAN | |
| 0.000776 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | WSW B JAN | |
| 0.001551 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | W B JAN | |
| 0.000517 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | WNW B JAN | |
| 0.001034 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NW B JAN | |
| 0.000776 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | NNW B JAN | |
| 464. | 0. | 0. | 0. | 0. | 0. | 0. | N B JAN | |
| 421. | 0. | 0. | 0. | 0. | 0. | 0. | NNE B JAN | |
| 680. | 0. | 0. | 0. | 0. | 0. | 0. | NE B JAN | |
| 441. | 0. | 0. | 0. | 0. | 0. | 0. | ENE B JAN | |
| 449. | 0. | 0. | 0. | 0. | 0. | 0. | E B JAN | |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | ESE B JAN | |
| 440. | 0. | 0. | 0. | 0. | 0. | 0. | SE B JAN | |
| 480. | 0. | 0. | 0. | 0. | 0. | 0. | SSE B JAN | |
| 460. | 0. | 0. | 0. | 0. | 0. | 0. | S B JAN | |
| 416. | 0. | 0. | 0. | 0. | 0. | 0. | SSW B JAN | |
| 464. | 0. | 0. | 0. | 0. | 0. | 0. | SW B JAN | |
| 477. | 0. | 0. | 0. | 0. | 0. | 0. | WSW B JAN | |

Table H3
SECTION IDENTIFIER

| <u>Item</u> | <u>Format</u> | <u>Columns</u> |
|--|---------------|----------------|
| Section number | I4 | 1 - 4 |
| Month (by number) | I2 | 5 - 6 |
| Start time (LST) | I2 | 7 - 8 |
| Stop time (LST) | I2 | 9 - 10 |
| Mean temperature (°F) | F6.1 | 11 - 16 |
| Mean temperature range (°F) | F6.1 | 17 - 22 |
| Mean heating degree days (base 65°F) | F10.1 | 23 - 32 |
| Mean station pressure (mb) | F10.1 | 33 - 42 |
| Mean pressure altitude (feet) | F10.1 | 43 - 52 |
| Mean surface wind speed (meter/sec) | F10.1 | 53 - 62 |
| Percent of time the prime runway is potentially active | F10.1 | 63 - 72 |

Table H4

| <u>Wind speed class</u> | <u>Wind speed (knots)</u> |
|-------------------------|---------------------------|
| 1 | 0 - 3 |
| 2 | 4 - 7 |
| 3 | 8 - 12 |
| 4 | 13 - 18 |
| 5 | 19 - 24 |
| 6 | Greater than 24 |

ABBREVIATIONS AND SYMBOLS

| | |
|-----|---------------------|
| CO | Carbon monoxide |
| CP | Central processor |
| deg | Degrees |
| F | Fahrenheit |
| ft | Feet |
| gal | Gallons |
| HC | Hydrocarbon |
| hr | Hour |
| ID | Identification |
| kl | Kiloliters |
| kg | Kilograms |
| km | Kilometers |
| l | Liters |
| LT | Long-term |
| LTO | Landing and takeoff |
| lb | Pounds |
| m | Meters |
| mi | Miles |
| min | Minutes |
| NOX | Nitrogen oxide |
| PM | Particulate matter |
| sec | Second |
| SI | Source inventory |
| SOX | Sulfur oxide |
| ST | Short-term |
| yr | Year |
| °F | Degrees Fahrenheit |
| °K | Degrees Kelvin |

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