A. Data Base Contents and Structure

The MOHAVE database has been assembled on a CDROM. The following section describes the structure of the database.

Mohave Database Structure

The Mohave database contains the data collected by the different contractors or data sources involved in this study. In addition, there are several miscellaneous database files that document the sites where the data was collected, the conversions made to the data, and the codes and field names used in this database. The Mohave database is stored in dBASE IV format.

This section describes all aspects of the Mohave database structure, including the organization of the directories, file naming convention, field name characteristics, and relational keys. In addition, it describes in detail the files containing site and database documentation.

Directory Structure

The directory structure used to organize the Mohave database files is the following:

1	2	3	4
		/arm	ayumip.dbf
		/ars	arsmhp.dbf
		/byu	byaabw.dbf
		/car	casehr.dbf
		/csu	csincs.dbf
		/dri	drbshpg.dbf
		/misc	mofiles.dbf
/mohave	/dbase	/nid	nitrhs1.dbf
		/noa	nbrthp.dbf
		/nws	nwsmhp.dbf
		/sce	scsehp.dbf
		/srp	srsmhp.dbf
		/sti	stacisc.dbf
		/tab	tbumip.dbf
		/ucd	udelcs.dbf

Column 1 above shows the main directory (mohave) and column 2 shows the dbase subdirectory that stores all dBASE files that form the Mohave database.

The names of the subdirectories on column 3 are abbreviations of the Mohave contractors or data sources that supplied the data (with the exception of the misc subdirectory). Table A-1 describes the abbreviations used for the contractors/data sources. The misc subdirectory shown in column 3 contains miscellaneous dBASE IV files which document the Mohave database and sites. Please refer to Section 2.7 for more details. Finally, column 4 shows examples of the actual dBASE data files which are stored under the subdirectories shown directly to the left of each file. For example, arsmhp.dbf can be found in the /mohave/dbase/arm subdirectory.

Table A-1 Abbreviation for contractors.

Abbreviation	Contractor
arm	Army - Yuma Proving Grounds
ars	Air Resource Specialists
byu	Brigham Young University
car	CARNOT
csu	Colorado State University
dri	Desert Research Institute
nid	NOAA - Idaho Falls
noa	NOAA - Boulder
nws	National Weather Service
sce	Southern California Edison
srp	Salt River Project
sti	Sonoma Technology, Inc.
tab	Technical and Business Systems
ucd	University of California, Davis

File Naming Convention

The database file naming convention used for all dBASE files is described below.

```
            MOHAVE DATABASE FILE NAMING CONVENTION

FORMAT:  SSTTVPYZ.DBF

     SS   = DATA SOURCE CODE
     TT   = DATA TYPE
      V   = AVERAGING INTERVAL
      P   = TIME PERIOD
     YZ   = ADDITIONAL (if needed)

DATA SOURCE CODES (CONTRACTORS)

     AR   = AIR RESOURCE SPECIALISTS
     AY   = ARMY - YUMA PROVING GROUNDS
     BY   = BIRMINGHAM YOUNG UNIVERSITY
     CA   = CARNOT
     CS   = COLORADO STATE UNIVERSITY
     DR   = DESERT RESEARCH INSTITUTE
     NI   = NOAA - IDAHO FALLS
     NO   = NOAA - BOULDER
     NW   = NATIONAL WEATHER SERVICE
     SC   = SOUTHERN CALIFORNIA EDISON
     SR   = SALT RIVER PROJECT
     ST   = SONOMA TECHNOLOGIES, INC.
     TB   = TECHNICAL AND BUSINESS SYSTEMS
     UD   = UNIVERSITY OF CALIFORNIA, DAVIS

DATA TYPE CODES

     AA = ATOMIC ABSORPTION
     AC = AIRCRAFT CONTINUOUS DATA
     AO = AIRBORNE CANISTER ORGANICS
     BS = DRI BASIC STUDY
     DN = ANNULAR DENUDER
```

```
          EL = ELEMENTAL - ELEMENTS, NITRATE, SULFATE
          HA = HALOGENS
          IN = IONS
          OG = SURFACE CANISTER ORGANICS
          PR = PEROXIDES
          RT = RADAR PROFILER - TEMPERATURE
          RW = RADAR PROFILER - WIND
          SE = STACK EMISSIONS
          SM = SURFACE MET DATA
          SP = SONIC PROFILER
          TR = TRACER
          UM = UPPER AIR BALLOON - MET
          UW = UPPER AIR BALLOON - WINDS
          VN = VISIBILITY - NEPHELOMETER
          VT = VISIBILITY - TRANSMISSOMETER

     AVERAGING INTERVAL CODES

          C    = 12 HOUR SAMPLES
          H    = HOURLY
          I    = INSTANTANEOUS
          P    = PARTIAL HOUR (< 60 MIN.)
          O    = 24 HOUR SAMPLES

     TIME PERIOD CODES

          P    = PROJECT PERIOD
          R    = PARTIAL DATA
          S    = SUMMER INTENSIVE
          W    = WINTER INTENSIVE
          1-9  = JAN - SEP
          A-C  = OCT - DEC
```

For example, the filename ayumip.dbf can be decomposed as follows:

```
          ay   =  file provided by Army - Yuma Proving Grounds
          um   = which contains upper air balloon met data
           i   = gathered as instantaneous measurements
           p   = for the project period
```

File Extensions

The table below shows the file extensions that can be found in the Mohave database:

```
          Extension Description
          .DBF      dBASE IV database file
          .DBT      dBASE IV memo field file
          .TXT      Text file (ASCII)
```

Field Names

These are the general characteristics of the field names:

- The field name is up to 6 characters long and the first character is always alphabetical, and the only other characters used are underscores or digits. This maximizes compatibility with interpretation software.

- The field format (field length and decimal places) reflects the sensitivity (i.e. the lower quantifiable limit) of that measurement.

- Some parameters (i.e. hydrocarbons) were measured by different methods at the same site, so they have different field names.

- For a detailed description of each of the field names used in the Mohave database, refer to the mfldnam.dbf file.

Relational Keys

Each record in the dBASE IV files containing data supplied by the different contractors, is uniquely identified by the following fields:

Field Name	Description
VAL	Validation code; indicates the level of validation performed on that record. Values: 1A = data as received from the contractor, 1B = preliminary validation checks were executed.
SITE	Site code; identifies the site in which the measurements were obtained.
DATE	Sampling date; shown in MM/DD/YY format.
STHR	Indicates the beginning of an hourly average or the closest hour to a measurement. The spread is 29 minutes before the hour to 30 minutes after the hour, inclusive. For example, a time X where 2:30 < X <= 3:30 has a start hour of 3.
HR,MIN,SEC	Hour, minutes and seconds in which the sample was recorded; used only for samples that are recorded more frequently than every hour.

The unique key is formed by VAL + SITE + DATE + STHR or by VAL + SITE + DATE + HR + MIN + SEC, depending on the sampling frequency.

Other Considerations

The values of all data fields have been converted to common units, regardless of how they were originally reported by the contractor. Since dBASE IV does not have an inherent way to identify missing data, we chose -99 to represent missing data.

All time (hour) values are shown in Mountain Standard Time (MST).

Site and Database Documentation

The sampling site documentation can be found in the /mohave/dbase/misc subdirectory. This miscellaneous subdirectory contains dBASE IV files with information about all the sampling sites used in the Mohave study. In addition, it contains other database files that document the conversions made to the data, and the codes and field names used in this database. Table A-2 shows a list of the database files stored in the miscellaneous subdirectory along with a brief description of their content.

Table A-2 dBASE IV site documentation files.

Filename	Description
mochange.dbf	Lists changes made to database files.
moconver.dbf	Lists conversion changes made to the measurement data files received from the contractors/data sources before they were incorporated into the database (i.e., converted temperature degree values from Fahrenheit to Celsius).
mofiles.dbf	Lists all the files that form the Mohave database, and includes the date they were received and notes on the contents of the file.
moflags.dbf	Lists the codes (and meaning of codes) used in the MOFLG field in the files containing measurement data.
mofldnam.dbf	Lists all the field names used in the Mohave database and their meaning. It also shows the units for the parameters measured.
mosite.dbf	Lists all sampling sites that participated in the Mohave study. Includes site code, elevation, coordinates, and parameters measured.

The structure of mosite.dbf and mofiles.dbf contains several field names that end with the letter X. These fields represent groups of data collected. For example, the field name NOGX represents the group of oxides of nitrogen measurements, while RHX represents the group of relative humidity measurements. The contents of the fields ending with the letter X is a two letter code that identifies the contractor or data source. This code is the same code used in the Mohave database file naming convention.