

Air



Air Quality Data Handling System (AQDHS-II) Test Run Series Documentation

EPA-450/4-79-010

Air Quality Data Handling System (AQDHS-II) Test Run Series Documentation

by

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Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
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The work has been conducted under the direction of Mr. Lloyd M. Hedgepeth of the National Air Data Branch (NADB), who is the EPA Project Officer for the contract.

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INTRODUCTION

The purpose of this manual is to document the AQDHS-II test run series released by the Environmental Protection Agency, as part of the AQDHS-II installation package. This document replaces Air Pollution Training Institute Manual 475; Comprehensive Data Handling System, Volume 2, Air Quality Data Handling System (AQDHS-II).

The test run series is divided into two major areas: basic test runs and ad hoc test runs. The basic test runs exercise each program in AQDHS-II at least once and provide the user with a means of determining whether or not his installation of AQDHS-II has been successful.

The ad hoc test runs further exercise the capabilities of the AQDHS-II programs. The ad hoc test runs also provide the user with examples of how various combinations of AQDHS-II programs may be used to generate certain reports or to accomplish special tasks.

The AQDHS-II User's Guide should be used as a reference in conjunction with this manual. Appendix A of this manual provides a cross-reference of test, procedures, and programs.

AQDHS-II TEST 1

Create and Print the Parameter File

In this test run, an initial AQDHS-II parameter file is created using the cataloged procedure AQEMP10 which executes ASRPARM (AQ0150), the parameter file transaction sort program; and AEMPARM (AQ0070), the parameter file maintenance program. The cataloged procedure AQRPP10 is then used to produce a formatted listing of the parameter file by executing ARPPARM (AQ0240), the parameter file detailed report program.

ASRPARM (AQ0150) sorts the parameter file transactions (see Figure AQT1-1 for the transaction formats) into the sequence required by AEMPARM (AQ0070). The fields of each transaction are sorted in the following order:

<u>Columns</u>	<u>Description</u>	<u>Sort Order</u>
2 - 6	Parameter Code	Ascending
7 - 8	Method Code	Ascending
9 - 10	Unit Code	Ascending
80	Action Code	Ascending
1	Card Type	Ascending

All parameter file transactions must be sorted by ASRPARM (AQ0150) before they can be used to create the parameter file.

AEMPARM (AQ0070) creates and maintains a fixed-length, sequential file containing the valid parameter, method, and unit code combinations and their descriptions. The parameter file must contain a record for a parameter, method, and unit code combination before readings for that combination can be placed in the AQDHS-II master file.

The input parameter file transactions can consist of three types: card type 1, card type 2, and card type 3. Refer to Figure AQT1-1 for the parameter file transaction formats and to Figure AQT1-2 for the parameter file transaction load sheet. The creation of a parameter file record requires a

complete set of these three transaction types all having identical parameter, method, and unit code combinations, and an action code of 'A'. Also, every field in these cards, with the exception of the two user units fields, must contain valid, non-blank data.

The options in this program are used to specify whether or not the warning-level error messages are to appear in the diagnostic report and if the input transaction file, input parameter file, and output parameter file are to be printed. In order to have the warning-level messages printed in the diagnostic report, the word FLAGW must begin in column 1 of the option card. Otherwise, the word NOFLAGW or any other value except FLAGW beginning in card column 1 will suppress these messages. If the input and output files are to be printed, the word LIST must begin in column 9 of the option card. However, if these files are not to be printed, the word NOLIST or any other word except LIST should begin in card column 9. The default values of NOFLAGW and NOLIST will be used to control printing when an option card is not present in the run stream.

ARPPARM (AQ0240) prints the parameter file in a columnized format which includes headings and a footnote feature. The content of each parameter file record is listed on two print lines.

The run stream for this test run contains the JCL necessary for creating an AQDHS-II parameter file and producing a formatted listing of this file. This run stream is shown in Figure AQT1-3. It does not show all the input parameter file transactions in the run stream, but does show the necessary JCL.

First, the run stream executes the cataloged procedure AQEMP10. Since this test run creates the initial AQDHS-II parameter file, there is obviously not an input parameter file to be accessed. This is why the old parameter file AQSOLDPR must be a dummy file in the UPDATE step. Through the use of a substitutable parameter, the new parameter file is named AQPARM01. The user must supply the DD (data definition) information for the option card file in the UPDATE step and for the input parameter transaction file in the SORT step. The options specified in the UPDATE step of this test run are NOFLAGW and

NOLIST. Refer to Figure AQT1-4 for the sample output produced by this procedure.

Next, the cataloged procedure AQRPP10 is executed to produce a formatted listing. A substitutable parameter is used to specify AQPARM01 as the input parameter file. The sample output produced by this procedure is shown in Figure AQT1-5.

Card 1

<u>Columns</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Card Type (value is 1)
2 - 6	5	Numeric	Parameter Code
7 - 8	2	Numeric	Method Code
9 - 10	2	Numeric	Units Code
11	1	Numeric	Minimum Detectable*
			Decimal Code
12 - 15	4	Numeric	Minimum Detectable
16 - 45	30	Alphanumeric	Parameter Description
46 - 70	25	Alphanumeric	Collection Method
71 - 79	9		Unused
80	1	Alphabetic	Action Code

*If the minimum detectable value is negative it must adhere to the following format: -ddd where d is any digit 0-9. The minimum detectable value must be expressed in the units specified by the units code in columns nine and 10.

Figure AQT1-1. Parameter File Transaction Formats (Page 1 of 3)

Card 2

<u>Columns</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Card Type (value is 2)
2 - 6	5	Numeric	Parameter Code
7 - 8	2	Numeric	Method Code
9 - 10	2	Numeric	Units Code
11 - 35	25	Alphanumeric	Analysis Method
36 - 65	30	Alphanumeric	Units Description
66 - 79	14		Unused
80	1	Alphabetic	Action Code

(Page 2 of 3)

Figure AQT1-1 - continued. Parameter File Transaction Formats

Card 3

<u>Columns</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Card Type (value is 3)
2 - 6	5	Numeric	Parameter Code
7 - 8	2	Numeric	Method Code
9 - 10	2	Numeric	Units Code
11 - 12	2	Numeric	Standard Units Code
13 - 21	9*	Numeric	Standard Units Conversion Factor
22 - 23	2	Numeric	User Units Code**
24 - 32	9*	Numeric	User Units Conversion Factor**
33 - 79	47		Unused
80	1	Alphabetic	Action Code

*A five-digit decimal position is assumed; e.g., 2.62 would be coded as '000262000'.

**If the user units code and user units conversion factor are blank on an add transaction, the user units code on the added parameter file record will be the same as the units code in columns nine and 10 of the transaction, and the user units conversion factor will be one.

(Page 3 of 3)

Figure AQT1-1 - continued. Parameter File Transaction Formats

AGENCY _____

AIR QUALITY DATA HANDLING SUBSYSTEM (AQDHS-II)
COMPREHENSIVE DATA HANDLING SYSTEM (CDHS)
PARAMETER TRANSACTIONS

BY _____

DATE _____

PAGE ____ OF ____

Figure AQ11-2. Parameter File Transaction Load Sheet

1	2	7	9	11	12	16	45	46	70	80
PARM	METH	UNIT	MIN	DETECT	PARAMETER DESCRIPTION	COLLECTION METHOD	ACTION			
1										
1										

1	2	7	9	11	35	36	65	80
PARM	METH	UNIT	ANALYSIS DESCRIPTION	UNITS DESCRIPTION	ACTION			
2								
2								

1	2	7	9	11	13	21	22	24	32	80
PARM	METH	UNIT	STD	STANDARD UNITS	USER	USER UNITS	UC CONVERSION FACTOR			ACTION
3										
3										

1	2	7	9	11	12	16	45	46	70	80
PARM	METH	UNIT	MIN	DETECT	PARAMETER DESCRIPTION	COLLECTION METHOD	ACTION			
1										
1										

1	2	7	9	11	35	36	65	80
PARM	METH	UNIT	ANALYSIS DESCRIPTION	UNITS DESCRIPTION	ACTION			
2								
2								

1	2	7	9	11	13	21	22	24	32	80
PARM	METH	UNIT	STD	STANDARD UNITS	USER	USER UNITS	UC CONVERSION FACTOR			ACTION
3										
3										

1	2	7	9	11	12	16	45	46	70	80
PARM	METH	UNIT	MIN	DETECT	PARAMETER DESCRIPTION	COLLECTION METHOD	ACTION			
1										
1										

1	2	7	9	11	35	36	65	80
PARM	METH	UNIT	ANALYSIS DESCRIPTION	UNITS DESCRIPTION	ACTION			
2								
2								

1	2	7	9	11	13	21	22	24	32	80
PARM	METH	UNIT	STD	STANDARD UNITS	USER	USER UNITS	UC CONVERSION FACTOR			ACTION
3										
3										

1	2	7	9	11	12	16	45	46	70	80
PARM	METH	UNIT	MIN	DETECT	PARAMETER DESCRIPTION	COLLECTION METHOD	ACTION			
1										
1										

1	2	7	9	11	35	36	65	80
PARM	METH	UNIT	ANALYSIS DESCRIPTION	UNITS DESCRIPTION	ACTION			
2								
2								

1	2	7	9	11	13	21	22	24	32	80
PARM	METH	UNIT	STD	STANDARD UNITS	USER	USER UNITS	UC CONVERSION FACTOR			ACTION
3										
3										

[illegible]

```

//UPDATE.AQSOLDPR DD DUMMY
//UPDATE.OPTINS DD *
NOFLAGW NOLIST
/*
//TEST1B EXEC AQRPP10,
//          PARMFIL=AQPARM01,
//          OUT=A
//*
//* PRINT THE PARAMETER FILE

```

9

PROGRAM NAME: ASRPARM (A00150)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT TRANSACTIONS: 267
NUMBER OF OUTPUT TRANSACTIONS: 267

Figure AQT1-4. Procedure AQEMP10 -- programs ASRPARM and AEMPARM

10

AUDHS-II PARAMETER FILE EDIT AND MAINTENANCE PROGRAM DIAGNOSTIC MESSAGES

PAGE 1

PROGRAM NAME: AEMPARM (A00070)
REVISION LEVEL: 1-00
INCORPORATED: OCTOBER 31, 1978
LAST UPDATE #: 24
OPTIONS IN EFFECT: NOFLAGW NOLIST

NUMBER OF INPUT PARAMETER FILE RECORDS: 0
NUMBER OF OUTPUT PARAMETER FILE RECORDS: 89
NUMBER OF INPUT TRANSACTION CARDS: 267
NUMBER OF VALID TRANSACTION CARDS: 267
NUMBER OF REJECTED TRANSACTION CARDS: 0
NUMBER OF DISASTER MESSAGES: 0
NUMBER OF ABORT MESSAGES: 0
NUMBER OF ERROR MESSAGES: 0
NUMBER OF CONDITIONAL MESSAGES: 0
NUMBER OF WARNING MESSAGES: 174

AQDHS-II PARAMETER FILE LISTING

PAGE 1

PROGRAM-NAME: ARPPARM (AQ0240)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

PARAMETER CODE	METHOD CODE	UNITS CODE	MIN DET	DEC IND	STANDARD UNITS CODE CONV FACTOR	USER UNITS CODE CONV FACTOR	PARAMETER DESCRIPTION UNITS DESCRIPTION	ANALYSIS METHOD COLLECTION METHOD
11101	91	01	0001	0	01 1.00000	01 1.00000	TOTAL SUSPENDED PARTICULATE U-GMS/M3 (25DEG C, 1013 M-BARS)	GRAVIMETRIC HI-VOL
11101	92	02	0011	1	01 .91600	02 1.00000	TOTAL SUSPENDED PARTICULATE U-GMS/M3 (0DEG C, 1013 M-BARS)	GRAVIMETRIC MEMBRANE SAMPLE
11201	81	09	0001	2	01 1.00000	09 1.00000	SOILING INDEX (COH/1000LF) COHS/1000 LINEAR FEET	TRANSMITTANCE TAPE SAMPLER
21101	51	90	0143	2	93 .35030	90 1.00000	TOTAL SETTLED PARTICULATE TONS/SQUARE MILE-MONTH	GRAVIMETRIC BUCKET; JAR
21101	51	91	0005	2	93 10.00000	91 1.00000	TOTAL SETTLED PARTICULATE M-GMS/SQUARE CENTIMETER-MONTH	GRAVIMETRIC BUCKET; JAR
21101	71	90	0143	2	93 .35030	90 1.00000	TOTAL SETTLED PARTICULATE TONS/SQUARE MILE-MONTH	GRAVIMETRIC (APCA) BUCKET; JAR
21101	71	91	0005	2	93 10.00000	91 1.00000	TOTAL SETTLED PARTICULATE M-GMS/SQUARE CENTIMETER-MONTH	GRAVIMETRIC (APCA) BUCKET; JAR
21101	81	90	0143	2	93 .35030	90 1.00000	TOTAL SETTLED PARTICULATE TONS/SQUARE MILE-MONTH	GRAVIMETRIC (ASTM) BUCKET; JAR
21101	81	91	0005	2	93 10.00000	91 1.00000	TOTAL SETTLED PARTICULATE M-GMS/SQUARE CENTIMETER-MONTH	GRAVIMETRIC (ASTM) BUCKET; JAR
42101	11	05	0575	3	05 1.00000	05 1.00000	CARBON MONOXIDE M-GMS/M3 (25DEG C, 1013 M-BARS)	NONDISPERSIVE INFRA-RED INSTRUMENTAL
42101	11	06	0628	3	05 .91600	06 1.00000	CARBON MONOXIDE M-GMS/M3 (0DEG C, 1013 M-BARS)	NONDISPERSIVE INFRA-RED INSTRUMENTAL
42101	11	07	0004	1	05 1.15000	07 1.00000	CARBON MONOXIDE PARTS PER MILLION (VOL/VOL)	NONDISPERSIVE INFRA-RED INSTRUMENTAL
42101	21	05	0063	2	05 1.00000	05 1.00000	CARBON MONOXIDE M-GMS/M3 (25DEG C, 1013 M-BARS)	GAS CHROMATOGRAPHIC INSTRUMENTAL
42101	21	07	0004	1	05 1.15000	07 1.00000	CARBON MONOXIDE PARTS PER MILLION (VOL/VOL)	GAS CHROMATOGRAPHIC INSTRUMENTAL
42102	11	07	0001	0	05 1.80000	07 1.00000	CARBON DIOXIDE PARTS PER MILLION (VOL/VOL)	INFARARED ABSORPTION INSTRUMENTAL

PARAM CODE: 42102* METHOD: 11* UNITS CODE: 07** PAGE 0001

Figure AQ1-5. Procedure AQRP10 -- program ARPPARM
 (Page 1 of 2)

ARPPARM (AQ0240) SUMMARY MESSAGES

NUMBER OF PARAMETER FILE RECORDS READ:	89
NUMBER OF PARAMETER FILE RECORDS LISTED:	89
PROGRAM-NAME: ARPPARM (AQ0240)	
REVISION LEVEL: 1-00	
LAST UPDATE #: 24	
DATE INCORPORATED: OCTOBER 31, 1978	

(Page 2 of 2)

Figure AQT1-5 - continued. Procedure AQRP10 -- program ARPPARM

AQDHS-II TEST 2

Create and Print the Site File

In this test run, an initial AQDHS-II site file is created using the cataloged procedure AQEMS10 which executes ASRSITE (AQ0160), the site file transaction sort program, and AEMSITE (AQ0080), the site file maintenance program. The cataloged procedure AQRPS10 is then used to produce a formatted listing of the site file by executing ARPSITE (AQ0260), the site file detailed report program.

ASRSITE (AQ0160) sorts the site file transactions (see Figure AQT2-1 for the transaction format) into the sequence required by AEMSITE (AQ0080). The fields of each transaction are sorted in the following order:

<u>Columns</u>	<u>Description</u>	<u>Sort Order</u>
1 - 2	State Code	Ascending
3 - 6	Area Code	Ascending
7 - 9	Site Code	Ascending
10	Agency Code	Ascending
11 - 12	Project Code	Ascending
13 - 15	AQCR Code	Ascending
16 - 19	County Code	Ascending

All site file transactions must be sorted by ASRSITE (AQ0160) before they can be used to create the site file.

AEMSITE (AQ0080) creates and maintains a fixed-length, sequential file containing site information for each monitoring site. The site file must contain a record for a site before readings for that site can be placed on the AQDHS-II master file.

The creation and maintenance of this site file depends on creating, changing, and deleting site file records. The creation (or addition) of a

site file record occurs when the key portion of a transaction (see Figure AQT2-1) is not found in the present site file and the remaining fields of the transaction are not blank. Changes to a site file record will occur when the key of a transaction matches a key in the existing site file and the transaction fields AQCR Code and County Code are numeric. If these conditions are met, the AQCR Code, the County Code, and the remaining fields of the transaction will replace the corresponding fields of the site file record. The deletion of a site file record takes place when the key of a transaction matches a key in the site file and the remaining fields of the transaction are blank. The site file transaction load sheet is shown in Figure AQT2-2.

ARPSITE (AQ0260) prints the site file in a columnized format which includes headings and a footnote feature.

The run stream for this test run contains the JCL necessary for creating an AQDHS-II site file and producing a formatted listing of this file. This run stream is shown in Figure AQT2-3.

First, the run stream executes the cataloged procedure AQEMS10. Since this test run creates the initial AQDHS-II site file, there is obviously not an input site file to be accessed. This is why the old site file AQSOLDMS must be a dummy file in the UPDATE step. Through the use of a substitutable parameter, the new site file is named AQSITE01. The user must supply the DD (data definition) information for the input site transaction file in the SORT step. Refer to Figure AQT2-4 for the sample output produced by this procedure.

Next, the cataloged procedure AQRPS10 is executed. A substitutable parameter is used to specify AQSITE01 as the input site file. Figure AQT2-5 shows the sample output produced by this procedure.

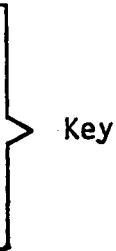
<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>	
1 - 2	2	Numeric	State Code	
3 - 6	4	Numeric	Area Code	
7 - 9	3	Numeric	Site Code	
10	1	Alphabetic	Agency Code	
11 - 12	2	Numeric	Project Code	
13 - 15	3	Numeric	AQCR Code	
16 - 19	4	Numeric	County Code	
20	1	Alphanumeric	SLAMS/NAMS ID	
21 - 80	60	Alphanumeric	Site Description	

Figure AQT2-1. Site File Transaction Format

BY _____
DATE _____
PAGE _____ OF _____

[illegible]

Figure AQT2-2. Site File Transaction Load Sheet

```

//AQSTST02 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMaster.DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMaster.DPR.DATA,AQSITE01,
// DISP=(OLD,DELETE)
//*
//* CREATE THE INITIAL SITE FILE
//*
//TEST2A EXEC AQEMS10,
//          PRIMARY=1,
//          SECNDRY=1,
//          OUT=A,
//          NEWSITE=AQSITE01
//*
//* SORT AND EDIT THE SITE TRANSACTIONS;
//* USE THEM TO BUILD THE SITE FILE
//*
//SURT.INPUT DD *
100001001E020491080 N.10TH. AVE., JACKSONVILLE, DUVAL CO.
120001001C010600080 MOUNTAIN ROAD, HILO, HAWAII CO.
120001002C010600140 PEARL HARBOR, HONOLULU, HONOLULU CO.
120001003C010600140 WAIKIKI, HONOLULU, HONOLULU CO.
120001004C010600140 SCHOFIELD BARRACKS, HONOLULU CO.
120001005C010600140 PEARL CITY, HONOLULU CO.
120001006C010600140 WAHIAWA, HONOLULU CO.
120001007C010600140 KANEOME, HONOLULU CO.
120001008C010600140 KAILUA, HONOLULU CO.
200001004B031080045 GLACIER DR., CARIBOU, AROOSTOOK CO.
340001001A061690960 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.
340001002A061662120 HWY. 301 BUS., SMITHFIELD, JOHNSTON CO.
340001003A061710480 BILTMORE ESTATES, ASHEVILLE, BUNCOMBE CO.
340001004A061702980 GUM BRANCH RD., JACKSONVILLE, ONSLOW CO.
340002001D051702880 WRIGHTSVILLE BEACH, NEW HAMOVER CO.
340002003D051681020 ROANOKE ISLAND, MANTEO, DARE CO.
340002005D051672580 TRYON RD., CHARLOTTE, MECKLENBURG CO.
340002007D051361480 CHERRY ST., WINSTON-SALEM, FORSYTH CO.
340003002G041361780 REIDSVILLE HWY., GREENSBORO, GUILFORD CO.
340003004G041664160 DOWNTOWN BLVD., RALEIGH, WAKE CO.
340003006G041701140 COURTHOUSE, KENANSVILLE, DUPLIN COUNTY
340003008G041672360 HWY. 321 N., LINCOLNTON, LINCOLN CO.
340003010G041653500 CHIMNEY ROCK, LAKE LURE, RUTHERFORD CO.
370001234F051840600 MCALISTER RD., NORMAN, CLEVELAND CO.
372240999A051863020 LIBERTY MOUNDS, TULSA, TULSA CO.
372260993A051863020 WYNONA, TULSA, TULSA CO.
372260995A051863020 SKIATOOK LAKE, TULSA, TULSA CO.
373000001A051863020 TULSA INTERNATIONAL AIRPORT, TULSA, TULSA CO.
373000110G011863020 TULSA PUBLIC HEALTH, TULSA, TULSA CO.
373000127F021863020 MOHAWK BLVD, TULSA, TULSA CO.
373000132F021863020 APACHE ST., TULSA, TULSA CO.
373000997A051863020 TULSA PUBLIC HEALTH, TULSA, TULSA CO.
373000998A051863020 TULSA POST OFFICE, TULSA, TULSA CO.
373020996A051863020 SPERRY, TULSA, TULSA CO.
373140992A051863020 OCHELATA, TULSA, TULSA CO.
373140994A051863020 VERA POST OFFICE, TULSA, TULSA CO.
//UPDATE.AQSOLDMS DD DUMMY
//TEST2B EXEC AWRPS10,
//          SITEFIL=AQSITE01
//*
//* PRINT THE SITE FILE
//*

```

Figure AQT2-3. Run Stream

PROGRAM NAME: ASKSITE (A00160)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF TRANSACTIONS READ:	36
NUMBER OF TRANSACTIONS WRITTEN:	36

Figure AQT2-4. Procedure AQEMS10 -- program ASKSITE

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ADDHS-II SITE FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AEMSITE (AQQ080)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT/ERRORS	ACTION
100001001E020471080 N.10TH. AVE., JACKSONVILLE, DUVAL CO.	*** ADDED
120001001C010600080 MOUNTAIN ROAD, HILO, HAWAII CO.	*** ADDED
120001002C010600140 PEARL HARBOR, HONOLULU, HONOLULU CO.	*** ADDED
120001003C010600140 WAIKIKI, HONOLULU, HONOLULU CO.	*** ADDED
120001004C010600140 SCHOFIELD BARRACKS, HONOLULU CO.	*** ADDED
120001005C010600140 PEARL CITY, HONOLULU CO.	*** ADDED
120001006C010600140 WAIHANA, HONOLULU CO.	*** ADDED
120001007C010600140 KANELOHE, HONOLULU CO.	*** ADDED
120001008C010600140 KAILUA, HONOLULU CO.	*** ADDED
200001004R031080045 GLACIER DR., CARIBOU, ARVODSTOK CO.	*** ADDED
340001001A061699960 YACKIN RD., FAYETTEVILLE, CUMBERLAND CO.	*** ADDED
340001002A061662120 HWY. 301 BUS., SMITHFIELD, JOHNSTON CO.	*** ADDED
340001003A061710480 HILTMORE ESTATES, ASHEVILLE, HUNCOMBE CO.	*** ADDED
340001004A061702980 GUM BRANCH RD., JACKSONVILLE, UNSLOW CO.	*** ADDED
340002001D051702880 WRIGHTSVILLE BEACH, NEW HAMBOVER CO.	*** ADDED
340002003D051681020 RANANKE ISLAND, MANEU, DARE CO.	*** ADDED
340002005D051672580 TRYON RD., CHARLOTTE, MCKLENNBURG CO.	*** ADDED

Figure AQT2-4 - continued.

Procedure AQEMS10 -- program AEMSITE

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ADDMS-II SITE FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 3

INPUT/ERRORS

ACTION

*** ADDED

575140994A051863020 VERA POST OFFICE, TULSA, TULSA CO.
*** ADDED

RECORDS ADDED:	36
RECORDS DELETED:	0
RECORDS REPLACED:	0
OLD SITE FILE COUNT:	0
NEW SITE FILE COUNT:	36
ERROR COUNT:	0

PROGRAM NAME: AEMSITE (AQ0080)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AQT2-4 - continued. Procedure AQEMSIO -- program AEMSITE

(Page 3 of 3)

PROGRAM NAME: ARPSITE (AQ0260)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

STATE	AREA	SITE	AGENCY	PROJECT	AQCR	COUNTY	SLAMS-ID	DESCRIPTION
10	0001	001	E	02	049	1080		N.10TH. AVE., JACKSONVILLE, DUVAL CO.
12	0001	001	C	01	060	0080		MOUNTAIN ROAD, HILO, HAWAII CO.
12	0001	002	C	01	060	0140		PEARL HARBOR, HONOLULU, HONOLULU CO.
12	0001	003	C	01	060	0140		WAIKIKI, HONOLULU, HONOLULU CO.
12	0001	004	C	01	060	0140		SCHOFIELD BARRACKS, HONOLULU CO.
12	0001	005	C	01	060	0140		PEARL CITY, HONOLULU CO.
12	0001	006	C	01	060	0140		WAIHANA, HONOLULU CO.
12	0001	007	C	01	060	0140		KANELOHE, HONOLULU CO.
12	0001	008	C	01	060	0140		KAILUA, HONOLULU CO.
20	0001	004	B	03	108	0045		GLACIER DR., CARIBOU, AROUSTOOK CO.
34	0002	007	D	05	136	1480		CHEERY ST., WINSTON-SALEM, FORSYTH CO.
34	0003	002	G	04	136	1780		REIDSVILLE HWY., GREENSBORO, GUILFORD CO.
34	0003	010	G	04	165	3500		CHIMNEY ROCK, LAKE LURE, RUTHERFORD CO.
34	0001	002	A	06	166	2120		HWY. 301 BUS., SMITHFIELD, JOHNSTON CO.
34	0003	004	G	04	166	4160		DOWNTOWN BLVD., RALEIGH, WAKE CO.
34	0003	008	G	04	167	2360		HWY. 321 N., LINCOLNTON, LINCOLN CO.
34	0002	005	D	05	167	2580		TRYON RD., CHARLOTTE, MECKLENBURG CO.
34	0002	003	D	05	168	1020		ROANKE ISLAND, MANTO, DARE CO.
34	0001	001	A	06	169	0960		YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.
34	0003	006	G	04	170	1140		COURTHOUSE, KENANSVILLE, DUPLIN COUNTY
34	0002	001	D	05	170	2880		WRIGHTSVILLE BEACH, NEW HANOVER CO.
34	0001	004	A	06	170	2980		GUM BRANCH RD., JACKSONVILLE, UNCLON CO.
34	0001	003	A	06	171	0480		BILTMORE ESTATES, ASHEVILLE, HUNCOMBE CO.
37	0001	234	F	05	184	0600		MCALISTER RD., NORMAN, CLEVELAND CO.
37	2240	999	A	05	186	3020		LIBERTY MOUNDS, TULSA, TULSA CO.
37	2260	993	A	05	186	3020		WYNDNA, TULSA, TULSA CO.
37	2260	995	A	05	186	3020		SKIATOOK LAKE, TULSA, TULSA CO.
37	3000	001	A	05	186	3020		TULSA INTERNATIONAL AIRPORT, TULSA, TULSA CO.
37	3000	110	G	01	186	3020		TULSA PUBLIC HEALTH, TULSA, TULSA CO.
37	3000	127	F	02	186	3020		MUHAMK. BLVD, TULSA, TULSA CO.
37	3000	132	F	02	186	3020		APACHE ST., TULSA, TULSA CO.
37	3000	997	A	05	186	3020		TULSA PUBLIC HEALTH, TULSA, TULSA CO.
37	3000	998	A	05	186	3020		TULSA POST OFFICE, TULSA, TULSA CO.
37	3020	996	A	05	186	3020		SPEERY, TULSA, TULSA CO.
37	3140	992	A	05	186	3020		OCHELATA, TULSA, TULSA CO.
37	3140	994	A	05	186	3020		VERA POST OFFICE, TULSA, TULSA CO.

STATE: 10* AREA: 0001* SITE: 001* AGENCY: E* PROJECT: 02**

PAGE 1

Figure AQT2-5. Procedure AQPS10 -- program ARPSITE
 (Page 1 of 2)

ARPSITE (AQ0260) SUMMARY MESSAGES

SITE FILE RECORDS READ 36
SITE FILE RECORDS PRINTED 36

PROGRAM NAME: ARPSITE (AQ0260)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

(Page 2 of 2)

Figure AQT2-5 - continued. Procedure AQRPS10 -- program ARPSITE

AQDHS-II TEST 3

Create and Print the Parameter Standards File

In this test run, an initial AQDHS-II parameter standards file is created using the cataloged procedure AQEMD10 which executes ASRSTND (AQ0170), the parameter standards file transaction sort program; and AEMSTND (AQ0090), the parameter standards file maintenance program. The cataloged procedure AQRPD10 is then used to produce a formatted listing of the parameter standards file by executing ARPSTND (AQ0250), the parameter standards file detailed report program.

ASRSTND (AQ0170) sorts the parameter standards file transactions (see Figure AQT3-1 for the transaction format) into the sequence required by AEMSTND (AQ0090). The fields of each transaction are sorted in the following order:

<u>Columns</u>	<u>Description</u>	<u>Sort Order</u>
1 - 5	Parameter Code	Ascending
6	Standard Type	Ascending
7 - 8	Standard Number	Ascending
9	Standard Flag	Ascending

All parameter standards file transactions must be sorted by ASRSTND (AQ0170) before they can be used to create the parameter standards file.

AEMSTND (AQ0090) creates and maintains a fixed-length, sequential file containing the state and federal standards for parameters. Each record on this file contains a primary standard and/or a secondary standard.

The creation and maintenance of this parameter standards file depends on creating, changing, and deleting parameter standards records. The creation (or addition) of a parameter standards file record occurs when the key portion of a transaction (see Figure AQT3-1) is not found in the present parameter standards file and the remaining fields of the transaction are not blank.

Changes to a parameter standards file record may occur when the key of a transaction matches a key in the existing parameter standards file and the standard description field is non-blank. If these conditions are met, the standard description field will replace the corresponding field on the parameter standards file record. The deletion of a parameter standards file record takes place when the key of a transaction matches a key in the parameter standards file and the standard description field is blank. Under these conditions, if the value of the standard flag is '1', the entire parameter standards record will be deleted. However, if the value of the standard flag is '2', only the secondary standard will be deleted. Refer to Figure AQT3-2 for the parameter standards file transaction load sheet.

ARPSTND (AQ0250) prints the parameter standards file in a columnized format which includes headings and a footnote feature. The content of each parameter standards file record is listed on two print lines: the first line lists the primary standard, and the second line lists the secondary standard.

The run stream for this test run contains the JCL necessary for creating an AQDHS-II parameter standards file and producing a formatted listing of this file. This run stream is shown in Figure AQT3-3. It does not show all the input parameter standards transactions in the run stream, but does show the necessary JCL.

First, the run stream executes the cataloged procedure AQEMD10. Since this test run creates the initial AQDHS-II parameter standards file, there is obviously not an input parameter standards file to be accessed. This is why the old parameter standards file AQSOLDFL must be a dummy file in the UPDATE step. Through the use of a substitutable parameter, the new parameter standards file is named AQSTND01. The user must supply the DD (data definition) information for the input parameter standards transaction file in the SORT step. Refer to Figure AQT3-4 for the sample output produced by this procedure.

Next, the cataloged procedure AQRPD10 is executed. A substitutable parameter is used to specify AQSTND01 as the input parameter standards file. Figure AQT3-5 shows the sample output produced by this procedure.

<u>Card Column</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1 - 5	5	Numeric	Parameter code
6	1	Alphabetic	Standard type (F or S)
7 - 8	2	Numeric	Standard number
9	1	Numeric	Standard flag (1 or 2)
10 - 11	2	Numeric	Units code
12 - 61	50	Alphanumeric	Standard description
62 - 60	19		Not used

} Transaction
Key

Figure AQT3-1. Parameter Standards File Transaction Format

BY _____
DATE _____
PAGE ____ OF ____

EPA (DUR) 430

```

//AQSTST03 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMaster.DPR,JCL
//*
//* CREATE THE INITIAL PARAMETER STANDARDS FILE
//*
//TEST3A EXEC AQEMD10,
//          PRIMARY=1,
//          SECNDRY=1,
//          OUT=A,
//          NEWSTAN=AQSTND01
//*
//* SORT AND EDIT THE PARAMETER STANDARDS TRANSACTIONS;
//* THEN USE THEM TO BUILD THE PARAMETER STANDARDS FILE
//*
//SORT.INPUT DD *
11101F01101 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 00000100
11101F01201 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 00000200
11101F02102 75 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN 00000300
11101F02202 60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN 00000400
11101S01102 60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN
11101S01202 60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN
11101F03101 260 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR. 00000500
11101F03201 150 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR. 00000600
11101S02101 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
11101S02201 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
42401F01101 365 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
42401F02107 0.14 PARTS PER MILLION 24 HOUR MAX, 1 PER YEAR
42401F03101 80 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN
42401F04107 0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN
42401F01202 1300 UG/M3 (0 C), 3 HR. MAX., 1 PER YR
42401F02207 0.5 PARTS/MILLION, 3 HR MAX, 1 PER YEAR
42401S01101 60 UG/M3 (25 C) ANNUAL ARITHMETIC MEAN
42401S02101 360 UG/M3 (25 C) , 24 HR. MAX., 1 PER YEAR
42401S03107 0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN
42401S04107 0.09 PARTS/MILLION, 24 HR. MAX., 1 PER YEAR
42401S01207 0.4 PARTS/MILLION, 3 HR. MAX, 1 PER YEAR
42602F01101 100 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN
42602F01201 100 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN
42602F02107 0.05 PARTS/MILLION, ANNUAL ARITHMETIC MEAN
42602F02207 0.05 PARTS/MILLION, ANNUAL ARITHMETIC MEAN
42602S01102 90 UG/M3 (0 C) ANNUAL ARITHMETIC MEAN
42602S01202 90 UG/M3 (0 C) ANNUAL ARITHMETIC MEAN

```

(Remainder of transactions omitted)

```

//UPDATE.AQSOLDFL DD DUMMY
//TEST3B EXEC AQRPD10,
//          STANFIL=AQSTND01
//*
//* PRINT THE PARAMETER STANDARDS FILE
//*

```

Figure AQT3-3. Run Stream

PROGRAM NAME: ASRSTND (AQ0170)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF TRANSACTIONS READ:	85
NUMBER OF TRANSACTIONS WRITTEN:	85

Figure AQ13-4. Procedure AQEMD10 -- program ASRSTND

(Page 1 of 3)

AQDHS-II PARAMETER STANDARDS FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AEMSTND (AQ0090)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 20
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT/ERRORS	ACTION	
11101F01101 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN	*** ADDED	00000100
11101F01201 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN	*** ADDED	00000200
11101F02102 75 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	*** ADDED	00000300
11101F02202 60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	*** ADDED	00000400
11101F03101 260 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR.	*** ADDED	00000500
11101F03201 150 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR.	*** ADDED	00000600
11101S01102 60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	*** ADDED	
11101S01202 60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	*** ADDED	
11101S02101 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR	*** ADDED	
11101S02201 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR	*** ADDED	
42101F0110210,000 UG/M3 (0 C) 8 HR. MAX, 1 PER YR.	*** ADDED	
42101F0120210,000 UG/M3 (0 C) 8 HR. MAX, 1 PER YR.	*** ADDED	
42101F0210140,000 UG/M3 (25 C) 1 HR. MAX, 1 PER YR.	*** ADDED	
42101F0220140,000 UG/M3 (25 C) 1 HR. MAX, 1 PER YR.	*** ADDED	
42101F03107 9 PARTS/MILLION , 8 HR MAX, 1 PER YEAR		

Figure AQI3-4 - continued. Procedure AQEMD10 -- program AEMSTND

INPUT/ERRORS	ACTION
	*** ADDED
44201F02107 0.08 PARTS/MILLION, 1 HR. MAX, 1 PER YR.	*** ADDED
44201F02207 0.08 PARTS/MILLION, 1 HR MAX, 1 PER HR.	*** ADDED
44201S01101 155 UG/M3 (25 C) ,1 HR. MAX, 1 PER YR.	*** ADDED
44201S01201 155 UG/M3 (25 C) ,1 HR. MAX, 1 PER YR.	*** ADDED
44201S02107 0.06 PARTS/ MILLION, 1 HR. MAX, 1 PER YR.	*** ADDED
44201S02207 0.06 PARTS/ MILLION, 1 HR. MAX, 1 PER YR.	*** ADDED
NUMBER OF STANDARDS ADDED:	65
NUMBER OF STANDARDS DELETED:	0
NUMBER OF STANDARDS REPLACED:	0
NUMBER OF INPUT PARAMETER STANDARDS FILE RECORDS:	0
NUMBER OF OUTPUT PARAMETER STANDARDS FILE RECORDS:	45
NUMBER OF ERRORS DETECTED:	0
PROGRAM NAME: AEMSTND (AQ0090)	
REVISION LEVEL: 1-00	
LAST UPDATE #: 24	
DATE INCORPORATED: OCTOBER 31, 1978	

Figure AQ13-4 - continued. Procedure AQEMD10 -- program AEMSTND

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AQDHS-II PARAMETER STANDARDS FILE LISTING

PAGE 1

PROGRAM-NAME: ARPSTND (AQ0250)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

** PARM-CODE	K E Y F/S	** STD-NBR	**UNIT	DESCRIPTION	**
11101	F	01	01	75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN	
11101	F	02	01	60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN	
11101	F	03	02	75 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	
11101	F	03	02	60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	
11101	S	01	01	260 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR.	
11101	S	01	01	150 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR.	
11101	S	02	02	60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	
11101	S	02	02	60 UG/M3 (0 C) ANNUAL GEOMETRIC MEAN	
42101	F	01	01	250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR	
42101	F	01	01	120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR	
42101	F	02	02	10,000 UG/M3 (0 C) 8 HR. MAX, 1 PER YR.	
42101	F	02	02	10,000 UG/M3 (0 C) 8 HR. MAX, 1 PER YR.	
42101	F	03	01	40,000 UG/M3 (25 C) 1 HR. MAX, 1 PER YR.	
42101	F	03	01	40,000 UG/M3 (25 C) 1 HR. MAX, 1 PER YR.	
42101	F	04	07	9 PARTS/MILLION, 8 HR MAX, 1 PER YEAR	
42101	F	04	07	9 PARTS/MILLION, 8 HR MAX, 1 PER YEAR	
42101	S	01	07	35 PARTS/MILLION, 1 HR. MAX, 1 PER YR	
42101	S	01	07	35 PARTS/MILLION, 1 HR. MAX, 1 PER YR	
42101	S	02	01	10,000 UG/M3 (25 C), 8 HR. MAX, 1 PER YR.	
42101	S	02	01	10,000 UG/M3 (25 C) 8 HR. MAX, 1 PER YR.	
42101	S	03	01	35,000 UG/M3 (25 C) 1 HR. MAX, 1 PER YR.	
42101	S	03	01	35,000 UG/M3 (25 C) 1 HR. MAX, 1 PER YR.	
42101	S	04	07	9 PARTS/MILLION, 8 HR MAX, 1 PER YEAR	
42101	S	04	07	9 PARTS/MILLION, 8 HR MAX, 1 PER YEAR.	
42401	F	01	07	30 PARTS/MILLION, 1 HR. MAX, 1 PER YR	
42401	F	01	07	30 PARTS/MILLION, 1 HR. MAX, 1 PER YR	
42401	F	02	01	365 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR	
42401	F	02	02	1300 UG/M3 (0 C), 3 HR. MAX., 1 PER YR	
42401	F	03	07	0.14 PARTS PER MILLION 24 HOUR MAX, 1 PER YEAR	
42401	F	03	07	0.5 PARTS/MILLION, 3 HR MAX, 1 PER YEAR	
42401	F	04	01	80 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN	
42401	F	04	07	0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN	
42401	S	01	01	60 UG/M3 (25 C) ANNUAL ARITHMETIC MEAN	
42401	S	02	07	0.4 PARTS/MILLION, 3 HR. MAX, 1 PER YEAR	
42401	S	03	01	360 UG/M3 (25 C), 24 HR. MAX., 1 PER YEAR	
42401	S	04	07	0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN	
42401	S	04	07	0.09 PARTS/MILLION, 24 HR. MAX., 1 PER YEAR	
42602	F	01	01	100 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN	
42602	F	02	01	100 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN	
42602	S	01	07	0.05 PARTS/MILLION, ANNUAL ARITHMETIC MEAN	
42602	S	01	07	0.05 PARTS/MILLION, ANNUAL ARITHMETIC MEAN	
42602	S	02	02	90 UG/M3 (0 C) ANNUAL ARITHMETIC MEAN	
42602	S	02	02	90 UG/M3 (0 C) ANNUAL ARITHMETIC MEAN	

PARM-CODE: 11101* F/S: F* STD-NBR: 01** PAGE 1

Figure AQT3-5. Procedure AQRPDI0 -- program ARPSTND

(Page 1 of 2)

ARPSTND (AQ0250) SUMMARY MESSAGES

PARAMETER STANDARDS RECORDS READ: 45
PARAMETER STANDARDS RECORDS LISTED: 45

PROGRAM-NAME: ARPSTND (AQ0250)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

(Page 2 of 2)

Figure AQT3-5 - continued. Procedure AQRPD10 -- program ARPSTND

AQDHS-II TEST 4

Convert SAROAD Transactions to AQDHS-II Transactions

In this test run, SAROAD transactions are converted to AQDHS-II master file transactions using the cataloged procedure AQCVT10 which executes ACVSARD (AQ0010), the SAROAD to AQDHS-II conversion program.

ACVSARD (AQ0010) accepts SAROAD transactions and action cards and outputs AQDHS-II master file transactions. These transactions may then be used to create or update the AQDHS-II master file.

There are three formats for the SAROAD transactions: Form 1, Form 2, and Form 3. These forms are designed to accomodate different types of data. Form 1 transactions are used to enter readings taken at less than daily intervals. Form 2 and Form 3 transactions are used for readings taken at daily or greater than daily intervals. Form 2 transactions allow readings for multiple parameters at a given site. Whereas, Form 3 transactions allow readings at multiple sites for a given parameter. Also, Form 2 transactions are used to enter composite data. Refer to Figure AQT4-1 for samples of the SAROAD load sheets and to Figure AQT4-2 for the SAROAD transaction formats. The SAROAD Form 1, Form 2, and Form 3 transactions correspond to the AQDHS-II Form 1, Form 2, and Form 3 transactions, respectively.

The SAROAD transactions, unlike the AQDHS-II transactions, do not have individual action codes. An action card indicates the action to be performed by all SAROAD transactions following it until the next action card is encountered. Action cards are identified by a '\$' in column 1 and an action code in column 2. There are three valid action codes: '1', '2', and '3'. A '1' means delete, a '2' means add, and a '3' means change. A '\$4' card is a status flag card and indicates that all SAROAD transactions following it have been sent to SAROAD. ACVSARD (AQ0010) generates AQDHS-II transactions with a transaction status flag of 'S' for all the input SAROAD Transactions which follow a '\$4' card. The '\$4' card does not override the action code currently in effect (1, 2, or 3). The '\$4' status flag card can not be used alone; it must follow a '\$2' card.

The options in this program are used to specify whether the input SAROAD transaction file and the output AQDHS-II transaction file are to be printed. In order to have the input and output files printed, the word LIST must begin in column 1 of the option card. However, if these files are not to be printed, the word NOLIST should begin in card column 1. The default value of NOLIST will be used to control printing when the option specified is invalid or an option card is not present in the run stream.

It is very likely that the number of output AQDHS-II master file transactions will be greater than the number of input SAROAD transactions. This is a result of the SAROAD transaction's capability to hold more data than the AQDHS-II transaction. For example, a SAROAD transaction can contain up to 12 hours of hourly data, whereas, an AQDHS-II transaction can contain only 8. So in this case, it takes two AQDHS-II transactions to hold the data contained in one SAROAD transaction.

The run stream for this test run contains the JCL necessary for converting SAROAD transactions into AQDHS-II master file transactions. This run stream is shown in Figure AQT4-3. It does not show all the input SAROAD transactions in the run stream, but does show the necessary JCL.

The cataloged procedure executed by this run stream is AQCVT10. The user must supply the DD (data definition) information for the option card file, the input SAROAD transaction file, and the output AQDHS-II transaction file in the CONVERT step. In this run stream, the output AQDHS-II transaction file will be named AQTRANS and stored on disk. The option specified in this test run is NOLIST. Refer to Figure AQT4-4 for the sample output produced by this procedure.

ENVIRONMENTAL PROTECTION AGENCY

NATIONAL AEROMETRIC DATA BANK

RESEARCH TRIANGLE PARK, N.C. 27711

SAROAD MULTIPLE-PARAMETER DATA FORM

THE REPORT IS REQUIRED BY LAW
42 USC 1857; 40 CFR 51

OMB No. 158 R0012
Approval expires 2/77.

2 _____

1 AGENCY

CITY NAME

SITE ADDRESS

PROJECT

TIME INTERVAL

STATE		AREA		SITE				
2	3	4	5	6	7	8	9	10

AGENCY	PROJECT	TIME	YEAR	MONTH			
11	12	13	14	15	16	17	18

DAY	ST	HR	
19	20	21	22

PARAMETER			FILTER NUMBER	AIR VOLUME			PARTICULATE WEIGHT
NAME	METHOD	UNITS	PARAMETER CODE	METHOD	UNITS	DP	VALUE
			(23-32)				(33-36)
			(37-46)				(47-50)
			(51-60)				(61-64)
			(65-74)				(75-78)

PARAMETER			PARAMETER CODE	METHOD	UNITS	DP	VALUE
NAME	METHOD	UNITS					
			(23-32)				(33-36)
			(37-46)				(47-50)
			(51-60)				(61-64)
			(65-74)				(75-78)

PARAMETER			PARAMETER CODE	METHOD	UNITS	DP	VALUE
NAME	METHOD	UNITS					
			(23-32)				(33-36)
			(37-46)				(47-50)
			(51-60)				(61-64)
			(65-74)				(75-78)

PARAMETER			PARAMETER CODE	METHOD	UNITS	DP	VALUE
NAME	METHOD	UNITS					
			(23-32)				(33-36)
			(37-46)				(47-50)
			(51-60)				(61-64)
			(65-74)				(75-78)

PARAMETER			PARAMETER CODE	METHOD	UNITS	DP	VALUE
NAME	METHOD	UNITS					
			(23-32)				(33-36)
			(37-46)				(47-50)
			(51-60)				(61-64)
			(65-74)				(75-78)

PARAMETER			PARAMETER CODE	METHOD	UNITS	DP	VALUE
NAME	METHOD	UNITS					
			(23-32)				(33-36)
			(37-46)				(47-50)
			(51-60)				(61-64)
			(65-74)				(75-78)

(Page 2 of 5)

Figure AQT4-1- continued. SAROAD Load Sheets

**THE REPORT IS REQUIRED BY LAW
42 USC 1857; 40 CFR 51**

24-hour or greater sampling interval

2										
1	Agency									
City Name										
Site Address										
Project					Time Interval					

State		Area		Site	
2	3	4	5	6	7
8	9	10			

Agency	Project	Time	Year	Month
11	12 13	14	15 16	17 18

Name PARAMETER Code				
23	24	25	26	27
Method		Units		DP
28	29	30	31	32

33	34	35	36
0	1		
0	2		
0	3		
0	4		
0	5		
0	6		
0	7		
0	8		
0	9		
1	0		
1	1		
1	2		
1	3		
1	4		
1	5		
1	6		
1	7		
1	8		
1	9		
2	0		
2	1		
2	2		
2	3		
2	4		
2	5		
2	6		
2	7		
2	8		
2	9		
3	0		
3	1		
DP →			

Name PARAMETER Code				
37	38	39	40	41
Method		Units		DP
42	43	44	45	46

47	48	49	50
4	3	2	1
0			

Name PARAMETER Code				
51	52	53	54	55
Method		Units		DP
56	57	58	59	60

61	62	63	64
4	3	2	1
0			

Name PARAMETER Code				
65	66	67	68	69
Method		Units		DP
70	71	72	73	74

75	76	77	78
4	3	2	1
0			

Figure AQT4-1 - continued. SAROAD Load Sheets (Page 3 of 5)

ENVIRONMENTAL PROTECTION AGENCY

NATIONAL AEROMETRIC DATA BANK

RESEARCH TRIANGLE PARK, N.C. 27711

SAROAD MULTIPLE-STATION DATA FORM.

OMB No 158 R0012
Approval expires 2/77.

THE REPORT IS REQUIRED BY LAW
42 USC 1857; 40 CFR 51

3		STATE	AGENCY	PROJECT	TIME
1	AGENCY	2 3	4	5 6	7

PARAMETER OBSERVED	TIME INTERVAL	PARAMETER	METHOD	UNITS	DP
		8 9 10 11 12	13 14	15 16	17

METHOD	UNITS	PROJECT	YEAR	MONTH
			18 19	20 21

SITE ADDRESS A

SITE ADDRESS C

DAY		START HOUR			AREA	SITE		VALUE
22 23		(24-25)			(26-32)		A	(33-36)
		(37-38)			(39-45)		B	(46-49)
		(50-51)			(52-58)		C	(59-62)
		(63-64)			(65-71)		D	(72-75)

SITE ADDRESS B

SITE ADDRESS D

SITE ADDRESS E

SITE ADDRESS G

DAY		START HOUR			AREA	SITE		VALUE
22 23		(24-25)			(26-32)		E	(33-36)
		(37-38)			(39-45)		F	(46-49)
		(50-51)			(52-58)		G	(59-62)
		(63-64)			(65-71)		H	(72-75)

SITE ADDRESS F

SITE ADDRESS H

SITE ADDRESS I

SITE ADDRESS K

DAY		START HOUR			AREA	SITE		VALUE
22 23		(24-25)			(26-32)		I	(33-36)
		(37-38)			(39-45)		J	(46-49)
		(50-51)			(52-58)		K	(59-62)
		(63-64)			(65-71)		L	(72-75)

SITE ADDRESS J

SITE ADDRESS L

(Page 5 of 5)

Figure AQT4-1 - continued. SAROAD Load Sheets

SAROAD Transaction - Form 1 (Hourly Data)

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Form Code
2 - 3	2	Alphanumeric	State Code
4 - 7	4	Numeric	Area Code
8 - 10	3	Numeric	Site Code
11	1	Alphabetic	Agency Code
12 - 13	2	Numeric	Project Code
14	1	Numeric	Time Code
15 - 16	2	Numeric	Year
17 - 18	2	Numeric	Month
19 - 20	2	Numeric	Day
21 - 22	2	Numeric	Start Hour
23 - 27	5	Numeric	Parameter Code
28 - 29	2	Numeric	Method Code
30 - 31	2	Numeric	Units Code
32	1	Numeric	Decimal Code
33 - 36	4	Numeric	Reading
37 - 40	4	Numeric	Reading
41 - 44	4	Numeric	Reading
45 - 48	4	Numeric	Reading
49 - 52	4	Numeric	Reading
53 - 56	4	Numeric	Reading
57 - 60	4	Numeric	Reading
61 - 64	4	Numeric	Reading
65 - 68	4	Numeric	Reading
69 - 72	4	Numeric	Reading
73 - 76	4	Numeric	Reading
77 - 80	4	Numeric	Reading

(Page 1 of 4)

Figure AQT4-2. SAROAD Transaction Formats

SAROAD Transaction - Form 2' (Daily or Multiple-Parameter Data)

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Form Code
2 - 3	2	Alphanumeric	State Code
4 - 7	4	Numeric	Area Code
8 - 10	3	Numeric	Site Code
11	1	Alphabetic	Agency Code
12 - 13	2	Numeric	Project Code
14	1	Alphanumeric	Time Code
15 - 16	2	Numeric	Year
17 - 18	2	Numeric	Month
19 - 20	2	Numeric	Day
21 - 22	2	Numeric	Start Hour
23 - 27	5	Numeric	Parameter Code
28 - 29	2	Numeric	Method Code
30 - 31	2	Numeric	Units Code
32	1	Numeric	Decimal Code
33 - 36	4	Numeric	Reading
37 - 50	14		Repeat Columns 23-36
51 - 64	14		Repeat Columns 23-36
65 - 78	14		Repeat Columns 23-36
79 - 80	2		Unused

(Page 2 of 4)

Figure AQT4-2 - continued. SAROAD Transaction Formats

SAROAD Transaction - Form 2 Composite Data

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1 - 16	16		Same as Form 2 (non-composite)
17 - 18	2	Numeric	Composite Period
19 - 20	2	Numeric	Composite Number of Samples
21	1	Numeric	Composite Type
22	1	Alphanumeric	Composite Time Code
23 - 80	58		Same as Form 2 (non-composite)

(Page 3 of 4)

Figure AQT4-2 - continued. SAROAD Transaction Formats

SAROAD Transaction - Form 3
(Multiple-Station Data)

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Form Code
2 - 3	2	Alphanumeric	State Code
4	1	Alphabetic	Agency Code
5 - 6	2	Numeric	Project Code
7	1	Alphanumeric	Time Code
8 - 12	5	Numeric	Parameter Code
13 - 14	2	Numeric	Method Code
15 - 16	2	Numeric	Units Code
17	1	Numeric	Decimal Code
18 - 19	2	Numeric	Year
20 - 21	2	Numeric	Month
22 - 23	2	Numeric	Day
24 - 25	2	Numeric	Start Hour
26 - 29	4	Numeric	Area Code
30 - 32	3	Numeric	Site Code
33 - 36	4	Numeric	Reading
37 - 49	13		Repeat Columns 24-36
50 - 62	13		Repeat Columns 24-36
63 - 75	13		Repeat Columns 24-36
76 - 80	5		Unused

(Page 4 of 4)

Figure AQT4-2 - continued. SAROAD Transaction Formats

```

//AQSIST04 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIO=RTI.C44.PO2069,MCMaster,DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMaster,DPR.DATA,AQTRANS,DISP=(OLD,DELETE)
//*
//* CONVERT SAROAD TRANSACTIONS TO AQDHS-II TRANSACTIONS
//*
//TEST4A EXEC AQCVT10
//*
//* CONVERT TRANSACTIONS
//*
//CONVERT.OPTIONS DD *
NOLIST
/*
//CONVERT.INPUT DD *
$2
1373000997A052770802004310211072 0098
2373000997A05C7512783843102110730040
7373000997A0527707010043101110720001
373000997A0527707010043101110720001
1373000997A05D7707010043101110720001
1373000997A052770701 043101110720001
1100001001E021710601004240111072 001 001 001 001 002 002 001 002 003 003 003 003
1100001001E021710601124240111072 004 006 002 001 001 000 000 000 000 000 000 000
1100001001E021710602004240111072 002 003 006 007 010 011 012 013 012 011 009 008
1100001001E021710602124240111072 006 006 006 006 006 003 001 004 006 008 007 007
1100001001E021710603004240111072 007 002 001 001 001 001 001 001 003 003 006 003
1100001001E021710603124240111072 002 003 003 006 010 011 011 012 013 016 016 016
1100001001E021710604004240111072 018 020 022 022 022 024 018 018 010 002 001 001
1100001001E021710604124240111072 001 001 001 001 001 001 001 001 001 001 002 002
1100001001E021710605004240111072 003 004 004 004 004 005 006 006 006 006 004 004
1100001001E021710605124240111072 003 003 003 003 003 006 018 020 034 044 054 060
1100001001E021710606004240111072 080 100 101 102 102 110 113 110 110 121 110 109
1100001001E021710606124240111072 080 080 090 090 099 099 100 100 100 121 122
1100001001E021710607004240111072 248 200 201 181 176 154 121 100 090 080 070 060
1100001001E021710607124240111072 040 030 020 010 009 008 007 006 006 006 006 006
1100001001E021710608004240111072 005 005 004 003 002 001 001 001 001 001 001 001
1100001001E021710608124240111072 001 001 001 001 001 001 001 001 001 001 001 001
1100001001E021710609004240111072 001 001 001 001 001 001 001 001 001 001 001 001
1100001001E021710609124240111072 001 001 001 001 001 001 001 001 001 001 001 001
1100001001E021710610004240111072 001 001 001 001 001 001 001 001 001 001 001 001
1100001001E021710610124240111072 002 002 002 002 002 002 002 002 002 002 002 002

```

(Remainder of transactions omitted)

```

/*
//CONVERT.OUTPUT DD DISP=(NEW,CATLG,DELETE),
// DSN=RTI.C44.PO2069,MCMaster,DPR.DATA,AQTRANS,UNIT=DISK,
// VOL=1,IE=SEF=RTI777,SPACE=(TRK,(5,2),RLSE)

```

Figure AQT4-3. Run Stream

SARUAD TO AQDHS-II CONVERSION PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ACVSARD (A00010)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: NOLIST

7575000997A0527707010043101110720001
 *** ACVSARD 003 ERROR - INVALID SARUAD FORM NUMBER, CARD REJECTED

575000997A0527707010043101110720001
 *** ACVSARD 004 ERROR - NON-NUMERIC SARUAD FORM NUMBER, CARD REJECTED

1375000997A0507707010043101110720001
 *** ACVSARD 007 ERROR - INVALID TIME CODE, CARD REJECTED

1375000997A052770701 043101110720001
 *** ACVSARD 005 ERROR - NON-NUMERIC START HOUR, CARD REJECTED

NUMBER OF INPUT SARUAD TRANSACTIONS:	657
NUMBER OF ACTION CARDS:	1
NUMBER OF AQDHS-II TRANSACTIONS WRITTEN:	970
NUMBER OF DIAGNOSTIC MESSAGES:	4

Figure AQT4-4. Procedure AQCVT10 -- program ACVSARD

AQDHS-II TEST 5

Create the Initial Master File Using the Converted Transactions

In this test run, an initial AQDHS-II master file is created using the cataloged procedure AQEMM10 which executes AEDMSTR (AQ0060), the master file transaction edit program; ASRINTR (AQ0130), the master file internal transaction sort program; and AFMMSTR (AQ0100), the master file maintenance program.

AEDMSTR (AQ0060) edits the input AQDHS-II master file transactions and converts those that pass the edit criteria into internal transactions which can be input to AFMMSTR (AQ0100) after being sorted by ASRINTR (AQ0130).

There are three formats for the AQDHS-II master file transactions: Form 1, Form 2, and Form 3. The Form 1 transactions are used to enter multiple readings taken at less than daily intervals. Form 2 and Form 3 transactions are used for readings taken at daily or greater than daily intervals. Form 2 transactions allow readings for multiple parameters at a given site. Whereas, Form 3 transactions allow readings at multiple sites for a given parameter. Also, Form 2 transactions are used to enter composite data. Refer to Figure AQT5-1 for the master file transaction formats and to Figure AQT5-2 for the master file transaction load sheets. These transactions can be entered in any order as the editing of a transaction is done independently of the other transactions.

In the edit process, the function of each transaction is determined (i.e., to add, change, or delete information in the master file) and then the transaction is checked for the required information which corresponds to that function. In this test run, the function of the transactions is to create (or add) records in the AQDHS-II master file. The creation of a master file record requires at least one transaction with an action code of '2', the appropriate key information, and one or more readings. In some cases, multiple add transactions create one master file record; for example, up to eight hourly readings may be entered per transaction whereas a master file record may contain up to 24 readings.

The parameter and site files are also used as input to AEDMSTR (AQ0060) to check the master file transactions for valid parameter, method, and unit code combinations and valid site information.

The options in this program are used to specify if the warning-level error messages are to appear in the diagnostic report and if the input transactions which passed the edit are to be printed. In order to have the warning-level messages printed in the diagnostic report, the word FLAGW must appear between card columns 1 and 72 of the option card. Otherwise, the word NOFLAGW on the option card will suppress these messages. If the valid input transactions are to be printed, the word LIST must appear between card columns 1 and 72 of the option card. However, if this file is not to be printed, the word NOLIST should be on the card. The options can appear in any order as long as there is at least one space between options. The default values of NOFLAGW and NOLIST will be used to control printing when the options specified are invalid or an option card is not present in the run stream.

ASRINTR (AQ0130) sorts the master file internal transactions into the sequence required by AFMMSTR (AQ0100). All the master file internal transactions must be sorted by ASRINTR (AQ0130) before they can be used to create the master file.

AFMMSTR (AQ0100) creates and maintains the master file, which is a variable-length, sequential file. Each of the records in this file is designed to contain data for a particular parameter collected at a specific site. For a given site and parameter, a master file record could contain a day of less than daily data, a week of weekly data, a month of daily data, a year of monthly or quarterly data, or a composite reading.

The options in AFMMSTR (AQ0100) are used to determine if the warning-level error messages are to be present in the diagnostic report and if listings of the valid internal transactions and the records affected by AFMMSTR (AQ0100) on the old and new master files, are to be printed.

The option word FLAGW must be specified within columns 1 through 72 of the option card in order to have the warning-level messages printed in the

diagnostic report. When the FLAGW option is not specified, its default, NOFLAGW, is in effect and no warning-level messages will be listed. This same result occurs when the word NOFLAGW is specified on the option card.

If the option word LIST appears within columns 1 through 72 of the option card, three listings will be produced: (1) a listing of the valid internal transactions, (2) a listing of the records on the old master file which were affected by AFMMSTR (AQ0100), and (3) a listing of the records on the new master file which were affected by AFMMSTR (AQ0100). Individual listings may be specified by the LISTTRAN, LISTOLD, and LISTNEW options. The LISTTRAN option will produce listing (1), the LISTOLD option will generate listing (2), and the LISTNEW option will produce listing (3). These three options can be specified in any combination and only the corresponding lists will be produced. If neither LISTTRAN, LISTOLD, LISTNEW, nor LIST is specified within columns 1 through 72 of the option card, the default option NOLIST will be in effect.

All of the options mentioned above, including FLAGW and NOFLAGW, can appear in any order and in any position within the first 72 columns of the option card provided there is at least one space between the options specified. The default values of NOFLAGW and NOLIST will be used to control printing when an option card is not present in the run stream.

The run stream for this test run contains the JCL necessary for creating an AQDHS-II master file. This run stream is shown in Figure AQT5-3.

The cataloged procedure executed by this run stream is AQEMM10. For the EDIT step, the user must supply the DD (data definition) information for the option card file and the input AQDHS-II master file transaction file. In this test run, the name of the input AQDHS-II transaction file is AQTRANS (which was created and stored on disk in Test 4). The options specified in the EDIT step are NOLIST and NOFLAGW. Since this test run creates the first AQDHS-II master file, there is obviously not an input master file to be accessed. This is why the old master file, AQSOLDMS, must be a dummy file in the UPDATE step. Also, the options specified in the UPDATE step of this test run are NOLIST and NOFLAGW. Through the use of substitutable parameters, the input parameter file is specified as AQPARM01 (created and stored on a disk in Test 1), the

input site file is specified as AQSITE01 (created and stored on disk in Test 2), and the new master file is named AQMST01N. Refer to Figure AQT5-4 for the sample output produced by this procedure.

AQDHS-II Transaction - Form 1 (Less-than-Daily Data)

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Form Code
2 - 3	2	Numeric	State Code
4 - 7	4	Numeric	Area Code
8 - 10	3	Numeric	Site Code
11	1	Alphabetic	Agency Code
12 - 13	2	Numeric	Project Code
14	1	Numeric	Time Code
15 - 16	2	Numeric	Year
17 - 18	2	Numeric	Month
19 - 20	2	Numeric	Day
21 - 22	2	Numeric	Start Hour
23 - 27	5	Numeric	Parameter Code
28 - 29	2	Numeric	Method Code
30 - 31	2	Numeric	Units Code
32	1	Numeric	Decimal Code
33 - 36	4	Numeric	Reading
37 - 40	4	Numeric	Reading
41 - 44	4	Numeric	Reading
45 - 48	4	Numeric	Reading
49 - 52	4	Numeric	Reading
53 - 56	4	Numeric	Reading
57 - 60	4	Numeric	Reading
61 - 64	4	Numeric	Reading
65 - 78	14	Numeric	Unused
79	1	Alphabetic	Transaction Status Flag
80	1	Numeric	Action Code

(Page 1 of 4)

Figure AQT5-1. Master File Transaction Formats

AQDHS-II Transaction - Form 2 (Daily or Greater-than-Daily Data)

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Form Code
2 - 3	2	Numeric	State Code
4 - 7	4	Numeric	Area Code
8 - 10	3	Numeric	Site Code
11	1	Alphabetic	Agency Code
12 - 13	2	Numeric	Project Code
14	1	Alphanumeric	Time Code
15 - 16	2	Numeric	Year
17 - 18	2	Numeric	Month
19 - 20	2	Numeric	Day
21 - 22	2	Numeric	Start Hour
23 - 27	5	Numeric	Parameter Code
28 - 29	2	Numeric	Method Code
30 - 31	2	Numeric	Units Code
32	1	Numeric	Decimal Code
33 - 36	4	Numeric	Reading
37 - 50	14		Repeat <u>Columns 23-36</u>
51 - 64	14		Repeat Columns 23-36
65 - 78	14		Repeat Columns 23-36
79	1	Alphabetic	Transaction Status Flag
80	1	Numeric	Action Code

(Page 2 of 4)

Figure AQT5-1 - continued. Master File Transaction Formats

AQDHS-II Transaction - Form 2 Composite Data

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1 - 16	16		Same as Form 2
17 - 18	2	Numeric	Composite Period
19 - 20	2	Numeric	Composite Number of Samples
21	1	Numeric	Composite Type
22	1	Alphanumeric	Composite Time Code*
23 - 80	58		Same as Form 2

*Use SAROAD time code (Appendix A, Table 3, AQDHS-II User's Guide) instead of AQDHS-II time code.

(Page 3 of 4)

Figure AQT5-1 - continued. Master File Transaction Formats

AQDHS-II Transaction - Form 3
(Multiple Site for Daily or Greater-than-Daily Data)

<u>Column #</u>	<u>Field Length</u>	<u>Data Type</u>	<u>Description</u>
1	1	Numeric	Form Code
2 - 3	2	Numeric	State Code
4	1	Alphabetic	Agency Code
5 - 6	2	Numeric	Project Code
7	1	Alphanumeric	Time Code
8 - 12	5	Numeric	Parameter Code
13 - 14	2	Numeric	Method Code
15 - 16	2	Numeric	Units Code
17	1	Numeric	Decimal Code
18 - 19	2	Numeric	Year
20 - 21	2	Numeric	Month
22 - 23	2	Numeric	Day
24 - 25	2	Numeric	Start Hour
26 - 29	4	Numeric	Area Code
30 - 32	3	Numeric	Site Code
33 - 36	4	Numeric	Reading
37 - 49	13		Repeat Columns 24-36
50 - 62	13		Repeat Columns 24-36
63 - 75	13		Repeat Columns 24-36
76 - 78	3		Unused
79	1	Alphabetic	Transaction Status Flag
80	1	Numeric	Action Code

(Page 4 of 4)

Figure AQT5-1 - continued. Master File Transaction Formats

BY _____
DATE _____
PAGE _____ OF _____

STATUS	ACTION
2	25

[illegible]

BY _____
DATE _____
PAGE _____ OF _____

STATUS	ACTION
78	80

	STATE	AREA	SITE	AGEN	PROJECT	TIME	YEAR	MONTH
1	2	4	8	11	12	14	15	17 18
2								

[illegible]

PARAMETER CODE	
37	41
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
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29	29
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31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
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46	46
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51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

PARAMETER CODE					
51					85

PARAMETER CODE	
65	69
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

METHOD	UNITS	DP
28	30	32

METHOD	UNITS	DP
42	44	48

METHOD	UNITS	DP
56	58	60
1	1	

METHOD	UNITS	DP
70	72	74

DAY		START HOUR	
19	20	21	22
0, 1			
0, 2			
0, 3			
0, 4			
0, 5			
0, 6			
0, 7			
0, 8			
0, 9			
1, 0			
1, 1			
1, 2			
1, 3			
1, 4			
1, 5			
1, 6			
1, 7			
1, 8			
1, 9			
2, 0			
2, 1			
2, 2			
2, 3			
2, 4			
2, 5			
2, 6			
2, 7			
2, 8			
2, 9			
3, 0			
3, 1			

[illegible][illegible][illegible][illegible]

BY _____
DATE _____
PAGE _____ OF _____

STATUS	ACTION
79	80

PARAMETER CODE	
65	65

METHOD	UNITS	DP
70	72	74

[illegible]

BY _____
DATE _____
PAGE ____ OF ____

STATUS	ACTION
79	80

START HOUR	AREA			SITE		
63	65	68	69	71		

[illegible]

Figure AQT5-2 - continued. Master File Transaction Load Sheets

```

//AQSTST05 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMaster.DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMaster.DPR.DATA.AQMST01N,
// DISP=(OLD,DELETE)
//*
//* CREATE THE INITIAL MASTER FILE USING THE CONVERTED
//* TRANSACTIONS FROM TEST 4
//*
//TEST5A EXEC AQEMM10,
//          NEWMSTR=AQMST01N,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* EDIT THE AQDMS=II TRANSACTIONS,
//* SORT THE INTERNAL TRANSACTIONS,
//* AND CREATE THE NEW MASTER FILE FROM THEM
//*
//EDIT.OPTIONS DD *
NOLIST NOFLAGW
/*
//EDIT.INPUT DD DISP=OLD,DSN=RTI.C44.PO2069,MCMaster.DPR.DATA.AQTRANS
//UPDATE.AQSOLDMS DD DUMMY
//UPDATE.OPTIONS DD *
NULIST NOFLAGW

```

Figure AQT5-3. Run Stream

PROGRAM NAME: AEDMSTR (A00060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 20
 DATE INCORPORATED: OCTUBER 31, 1978

OPTIONS IN EFFECT: NOLIST NOFLAG

INPUT TRANSACTIONS	ERRORS
1100001001E021710605164240111072 003 006 018 020 034 044 054 06W	2
*** AEDMSTR 027 ERROR - COLUMN 61 - NON-NUMERIC READING - CARD REJECTED	
1100001001E021710607004240111072 248 200 201 181 176 154 121 100	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAXIMUM PERMITTED - CARD ACCEPTED	
*** AEDMSTR 042 CONDITIONAL - COLUMN 41 - READING EXCEEDS MAXIMUM PERMITTED - CARD ACCEPTED	
1100001001E021710622084240111072	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 49 - READING EXCEEDS MAXIMUM PERMITTED - CARD ACCEPTED	
*** AEDMSTR 042 CONDITIONAL - COLUMN 57 - READING EXCEEDS MAXIMUM PERMITTED - CARD ACCEPTED	
2340001003A0687703260042401910109450	2
*** AEDMSTR 043 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAX PERMITTED - GROUP-01 ACCEPTED	
1340002001D0517603030042401140705840	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAXIMUM PERMITTED - CARD ACCEPTED	
NUMBER OF TRANSACTIONS READ:	970
NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	969
NUMBER OF INTERNAL TRANSACTIONS CREATED:	1,053
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	6
NUMBER OF ERROR MESSAGES:	1
NUMBER OF ABORT MESSAGES:	0

Figure AQT5-4. Procedure AQEM10 -- program AEDMSTR

AQDHS-II MASTER FILE INTERNAL TRANSACTION SORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASRINTR (AQ0130)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT INTERNAL TRANSACTIONS:	1,053
NUMBER OF OUTPUT INTERNAL TRANSACTIONS:	1,053

(Page 2 of 4)

Figure AQ15-4 - continued. Procedure AQEM10 -- program ASRINTR

PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

TABLE # 1

SIGNED NUMBER	LAST DIGIT OF NUMBER PRINTED
-9	R
-8	Q
-7	P
-6	O
-5	N
-4	M
-3	L
-2	K
-1	J
-0	
+0	\
+1	A
+2	B
+3	C
+4	D
+5	E
+6	F
+7	G
+8	H
+9	I

THIS TABLE SHOWS THE PRINT CHARACTERS
 FOR THE LAST DIGIT OF SIGNED DATA VALUES
 WHICH MAY APPEAR IN THE ADDHS-11
 MASTER FILE MAINTENANCE OUTPUT REPORTS

OPTIONS IN EFFECT: NOLIST NOFLAGW

Figure AQ05-4 - continued. Procedure AQEMM10 -- program AFMMSTR (Page 3 of 4)

TRANSACTION	ERRORS/ACTION
21	3718630203000997A05174431021107080200 008000300020001000400050 *** AFHMSTR 001 ERROR - READING 04 - ATTEMPT TO ADD DATA TO EXISTING READING - DATA REJECTED
21	3718630203000997A05174431021107080208 0040003 0004 *** AFHMSTR 001 ERROR - READING 09 - ATTEMPT TO ADD DATA TO EXISTING READING - DATA REJECTED *** AFHMSTR 001 ERROR - READING 12 - ATTEMPT TO ADD DATA TO EXISTING READING - DATA REJECTED
21	3718630203000997A05174431021107080800 305 1005 *** AFHMSTR 001 ERROR - READING 05 - ATTEMPT TO ADD DATA TO EXISTING READING - DATA REJECTED
21	3718630203000997A05174431021107080808 3042080208020801040 *** AFHMSTR 001 ERROR - READING 11 - ATTEMPT TO ADD DATA TO EXISTING READING - DATA REJECTED

NUMBER OF INPUT INTERNAL TRANSACTIONS:	1,053
NUMBER OF INPUT MASTER FILE RECORDS:	0
NUMBER OF MASTER FILE RECORDS FLAGGED FOR DELETION:	0
NUMBER OF MASTER FILE RECORDS ADDED:	331
NUMBER OF OUTPUT MASTER FILE RECORDS:	331
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	5
NUMBER OF ADULT MESSAGES:	0
NUMBER OF DISASTER MESSAGES:	0

PROGRAM NAME: AFHMSTR (A00100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

AQDHS-II TEST 6

Produce a Detailed Report of the Master File

In this test run, a detailed report of the AQDHS-II master file is generated using the cataloged procedure AQRPM20 which executes ARPMSTR (AQ0230), the master file detailed report program.

ARPMSTR (AQ0230) formats and displays the data from the master file. Information for the page headings is obtained from the parameter, site, and parameter standards files which are input to the program.

There are several output formats used depending upon the type of data (as specified by the time-code in the master file record) to be displayed. Less than daily data are displayed on a site basis in a table (maximum of two pages for each month of data) with the hours of the day as column headings and the days of the month as row headings. Each year of daily data is reported in a one-page table with months as column headings and the days of the months as row headings. Each year of weekly data is also described in a one-page table with months as column headings and weeks of the month as row headings. Monthly and quarterly data are displayed with a year of data per page on a site basis (each site is on a separate page) under column headings of month and quarter, respectively. Also, one year of data is shown per page for each type of composite data.

The option card may contain statements for either a display option or a summary option. These statements may appear on the option card in any order, but must be preceded or followed by at least one blank. (Note that a keyword which starts in card column 1 is considered to be preceded by a blank.) The statements may appear anywhere on the card except in columns 73 through 80.

The summary option allows the user to specify the method for summarizing the readings within each table. The keywords for the summary option statement are MEAN and SUM with the following meanings:

MEAN: Print the number of readings, the maximum reading and the mean for each column and row.

SUM: Print the number of readings and the sum of the readings for each row. (Column totals are not printed with this option.)

If neither of these options appear on the option card, or if an option card is not present in the run stream, the program will assume the MEAN option.

The display option allows the user to specify whether all readings should be printed or only those meeting the display criteria specified. The display option statement consists of a keyword, an optional negation flag, a relational operator and a threshold value in that order. Each element of the display option statement must be preceded and followed by at least one blank. The definition of the elements of the statement are:

Keyword: DISPLAY

Negation Flag: N or Blank

Relational Operator: >, =, < (greater than, equal to, or less than).

Threshold Value: A number in the range -999 to 9997. (Leading zeros in front of the decimal are not required. If the threshold value contains no decimal point, a decimal point will be assumed to be right justified in the field.)

The default value for the display option is DISPLAY N > 9997 and will be used when the display option is invalid or an option card is not present in the run stream.

The run stream for this test run contains the JCL necessary for producing a detailed report of the AQDHS-II master file. This run stream is shown in Figure AQT6-1.

The cataloged procedure executed by this run stream is AQRPM20. Through the use of substitutable parameters, the input master file is specified as AQMST01N (created and stored on Disk in Test 5), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), the input site file is specified as AQSITE01 (created and stored on disk in Test 2), and the input parameter standards file is specified as AQSTND01 (created and stored on disk in Test 3). The user must supply the DD (data definition) information

for the option card file. The options specified in the REPORT step of this test run are MEAN and DISPLAY N > 9997. Refer to Figure AQT6-2 for the sample output produced by this procedure.

```

//AQSTST06 JOB RTI.C44.P02443,MCMASTER,T=2,P=150,FORMS=FFWHITE,M=1
//*PROCLIH=RTI.C44.P02069,MCMASTER.DPR.JCL
//*
//* PRODUCE A DETAILED LISTING OF AQMST01N,
//* THE MASTER FILE CREATED IN TEST 5
//*
//TEST6A EXEC AQRPM20,
//      MSTRFIL=AQMST01N,
//      PARMFIL=AQPARM01,
//      SITEFIL=AQSITE01,
//      STANFIL=AQSTND01
//*
//* PRODUCE THE REPORT OF AQMST01N
//*
//REPORT,OPTIONS DD *
//MEAN DISPLAY N > 9997
//*

```

Figure AQT6-1. Run Stream

AQDHS-II MASTER FILE DETAILED REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (AQ0230)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

USER-SPECIFIED OPTION: MEAN DISPLAY N > 9997

NUMBER OF OPTION STATEMENTS READ:	2
NUMBER OF MASTER FILE RECORDS READ:	331
NUMBER OF REPORT PAGES WRITTEN:	71
NUMBER OF ERRORS DETECTED:	0

Figure AQ16-2. Procedure AQ16-20 -- program ARPMSTR

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STATE: OKLAHOMA (37)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N9997

PAGE 40

AQCR: 186 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE
 COUNTY: 3020 PROJECT: SPECIAL STUDIES
 AREA: 2260 PARAMETER: SOLAR RADIATION
 SITE: 995 UNITS: LANGLEYS
 SKIATOOK LAKE, TULSA, TULSA CO.

COLLECTION METH: INSTRUMENTAL
 ANALYSIS METHOD: PYRANOMETER
 SAMPLING INTERVAL: 01 HOURS
 BARO KEY: 372260995A0516
 KEY-1: 3718630202260995A05177 KEY-2: 633011118 KEY-3: 080400

YEAR: 1977
 MONTH: AUGUST
 MIN DET: 1
 UNITS CODE: 18

HOUR												
DAY	00	01	02	03	04	05	06	07	08	09	10	11
01												
02												
03												
04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.36	0.72	0.91
05	0.00	0.00	0.00	0.00	0.00	0.01	0.12	0.42	0.50	0.93	0.62	1.14
06	0.00	0.00	0.00	0.00	0.00	0.01	0.10	0.30	0.36	0.38	0.88	1.38
07	0.00	0.00	0.00	0.00	0.00	0.02	0.15	0.44	0.72	0.98	1.21	1.34
08	0.00	0.00	0.00	0.00	0.00	0.02	0.14	0.30	0.68	0.98	1.21	1.37
09	0.00	0.00	0.00	0.00	0.00	0.02	0.15	0.48	0.68	0.96	1.16	1.26
10	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.46	0.70	0.80	1.09	1.23
11	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.25	0.52	0.32	0.48	0.91
12	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.20	0.31	0.51	0.73	0.85
13	0.00	0.00	0.00	0.00	0.00	0.00	0.04		0.42	0.14	0.03	0.14
14	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.18	0.40	0.89	1.16	1.31
15	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.38	0.66	0.94		
16	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.27	0.40	0.59	1.06	1.27
17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.16	0.16	0.21	0.17
18	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.40	0.70	0.97	1.12	1.16
19	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.10	0.16	0.20	0.18
20	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.18	0.32	0.54	1.08	
21	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.20	0.42	0.24	0.51	0.76
22	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.40	0.67	0.88	0.84	1.02
23	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.32	0.45	0.84	0.63	1.21
24	0.00	0.00	0.00	0.00	0.00	0.00	0.06		0.68	0.70	0.84	1.10
25	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.24	0.43	0.86	1.10	1.16
26	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.36	0.68	0.96	1.14	1.26
27	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.32	0.74	1.00	1.22	1.38
28	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.04	0.05	0.08	0.09
29	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.24	0.32	0.42	0.40
30	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.51	0.83	1.06	1.30
31	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.24	0.65	0.72	1.16	1.08
NO	28	28	28	28	28	28	28	26	28	28	27	26
MEAN	.0	.0	.0	.0	.0	.0042	.0785	.263	.4703	.6432	.8133	.9761
MAX	0.00	0.00	0.00	0.00	0.00	0.02	0.16	0.48	0.74	1.00	1.22	1.38

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STATE: OKLAHOMA (37)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 41

AQCR: 186
COUNTY: 3020
AREA: 2260
SITE: 995
SKIATOOK LAKE, TULSA, TULSA CO.AGENCY: EPA - ATMOSPHERIC SURVEILLANCE
PROJECT: SPECIAL STUDIES
PARAMETER: SOLAR RADIATION
UNITS: LANGLEYSCOLLECTION METH: INSTRUMENTAL
ANALYSIS METHOD: PYRANOMETER
SAMPLING INTERVAL: 01 HOURS
SAROAD KEY: 372260995A0518
KEY-1: 3718630202260995A05177YEAR: 1977
MONTH: AUGUST
MIN DET: 1
UNITS CODE: 18
KEY-2: 633011118
KEY-3: 080400

	HOUR												NO.	MEAN	MAX
DAY	12	13	14	15	16	17	18	19	20	21	22	23			
01													0		
02													0		
03													0		
04	0.78	0.86	1.08	0.72		0.36	0.10	0.01	0.00	0.00	0.00	0.00	23	.2586	1.08
05	1.02	0.66	0.74	0.44	0.46	0.21	0.08	0.04	0.00	0.00	0.00	0.00	24	.3079	1.14
06	1.30	0.96	0.48	0.52	0.70	0.38	0.12	0.01	0.00	0.00	0.00	0.00	24	.3283	1.38
07	1.43	1.36	1.16	0.97	0.66	0.38	0.10	0.02	0.00	0.00	0.00	0.00	24	.4558	1.43
08	1.44	1.42	1.22	0.92	0.70	0.39	0.11	0.01	0.00	0.00	0.00	0.00	24	.4545	1.44
09	1.31	1.33	1.08	0.93	0.72	0.39	0.11	0.00	0.00	0.00	0.00	0.00	24	.4408	1.33
10	1.19	1.41	1.23	0.73	0.21	0.28	0.07	0.01	0.00	0.00	0.00	0.00	24	.3991	1.41
11	0.63	0.52	0.59	0.32	0.23	0.13	0.03	0.01	0.00	0.00	0.00	0.00	24	.2079	0.91
12	0.54	0.44	0.35	0.40	0.29	0.16	0.05	0.00	0.00	0.00	0.00	0.00	24	.2029	0.85
13	0.05	0.18	0.42	0.54	0.42	0.33	0.08	0.02	0.00	0.00	0.00	0.00	23	.1221	0.54
14	1.30	0.64	1.11	0.53	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	24	.3187	1.31
15	1.33	1.30	1.15	0.93	0.64	0.35	0.08	0.01	0.00	0.00	0.00	0.00	22	.3581	1.33
16	1.23	1.08	0.89	0.74	0.62	0.10	0.03	0.00	0.00	0.00	0.00	0.00	24	.3483	1.27
17	0.22	0.35	0.52	0.40	0.20	0.30	0.12	0.01	0.00	0.00	0.00	0.00	24	.1204	0.52
18	1.16	0.52	0.28	0.31	0.19	0.12	0.03	0.01	0.00	0.00	0.00	0.00	24	.2954	1.16
19	0.40	0.40		0.20	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	23	.0804	0.40
20	1.38	1.16	0.90	0.84	0.58	0.30	0.08	0.01	0.00	0.00	0.00	0.00	23	.3217	1.38
21	0.76	1.16	1.10	0.93	0.59	0.33	0.08	0.01	0.00	0.00	0.00	0.00	24	.2975	1.16
22	0.98	1.08	1.08	0.90	0.52	0.31	0.13	0.02	0.00	0.00	0.00	0.00	24	.372	1.08
23	1.33	1.24	1.12	0.76	0.58	0.38	0.12	0.02	0.00	0.00	0.00	0.00	24	.3762	1.33
24	1.03	0.92	0.84	0.70	0.58	0.38	0.06	0.00	0.00	0.00	0.00	0.00	23	.343	1.10
25	0.98	1.00	1.02	0.88	0.61	0.30	0.07	0.02	0.00	0.00	0.00	0.00	24	.3654	1.16
26	1.24	1.12	1.08	0.84	0.61	0.24	0.07	0.00	0.00	0.00	0.00	0.00	24	.4041	1.26
27	1.41	1.30	1.14	0.90	0.66	0.28	0.06	0.00	0.00	0.00	0.00	0.00	24	.4383	1.41
28	0.18	0.18	0.30	0.14	0.12	0.06	0.02	0.00	0.00	0.00	0.00	0.00	24	.0575	0.30
29	0.80	0.84	0.62	0.78	0.56	0.20	0.08	0.00	0.00	0.00	0.00	0.00	24	.2229	0.84
30	1.24	1.18	1.04	0.84	0.52	0.28	0.07	0.00	0.00	0.00	0.00	0.00	24	.382	1.30
31	1.22	1.12	1.02	0.82	0.58	0.28	0.05	0.00	0.00	0.00	0.00	0.00	24	.3775	1.22
NO	28	28	27	28	27	28	28	28	28	28	28	28	665		
MEAN	.9957	.9189	.8725	.676	.4692	.2589	.0721	.0085	.0	.0	.0	.0		.3097	
MAX	1.44	1.42	1.23	0.97	0.72	0.39	0.13	0.04	0.00	0.00	0.00	0.00			1.44

Figure AQ16-2 - continued. Procedure AQPM20 -- program ARPMSTR

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Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR (Page 4 of 18)

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AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: TAPE SAMPLER YEAR: 1974
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: TRANSMITTANCE MONTH: FEBRUARY
AREA: 0001 PARAMETER: SOILING INDEX (COH/1000LF) SAMPLING INTERVAL: 02 HOURS MIN DET: .01
SITE: 001 UNITS: COHS/1000 LINEAR FEET SAROAD KEY: 340001001A0616 UNITS CODE: 09
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06274 KEY-2: 112018109 KEY-3: 020101

	HOUR												NO.	MEAN	MAX
DAY	01	03	05	07	09	11	13	15	17	19	21	23			
01	0.1	0.1	0.2	0.3	0.5	0.8	0.3	2.1					8	.55	2.1
02													0		
03													0		
04	0.2	0.2	0.4	0.6	1.0	1.6	2.6	4.2					8	1.35	4.2
05													0		
06													0		
07													0		
08	0.5	0.5	1.0	1.5	2.5	4.0	1.5	0.5					8	1.5	4.0
09													0		
10													0		
11													0		
12	0.8	0.8	1.6	2.4	4.0	1.4	0.4	1.8					8	1.65	4.0
13													0		
14													0		
15													0		
16													0		
17													0		
18	2.1	2.1	4.2	1.3	0.5	1.8	2.3	4.1					8	2.3	4.2
19													0		
20													0		
21													0		
22													0		
23													0		
24													0		
25													0		
26													0		
27													0		
28	3.7	3.7	2.8	1.7	4.5	1.2	0.7	1.9					8	2.525	4.5
NO	6	6	6	6	6	6	6	6	0	0	0	0	48		
MEAN	1.233	1.233	1.7	1.3	2.167	1.8	1.3	2.433						1.646	
MAX	3.7	3.7	4.2	2.4	4.5	4.0	2.6	4.2							4.5

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AUCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: BUCKET/ JAR YEAR: 1974
 COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC (APCA) MONTH: MARCH
 AREA: 0001 PARAMETER: TOTAL SETTLED PARTICULATE SAMPLING INTERVAL: 03 HOURS MIN DET: 1.43
 SITE: 001 UNITS: TONS/SQUARE MILE-MONTH SAROAD KEY: 340001001A0616 UNITS CODE: 90
 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06374 KEY-2: 211017190 KEY-3: 030102

	HOUR								NO.	MEAN	MAX
DAY	02	05	08	11	14	17	20	23			
01	0.01	0.01	0.02	0.03	0.05	0.08	0.03	0.21	8	.055	0.21
02									0		
03	0.01	0.01	0.02	0.03	0.05	0.08	0.03	0.21	8	.055	0.21
04									0		
05									0		
06	0.02	0.02	0.04	0.06	0.10	0.16	0.26	0.42	8	.135	0.42
07									0		
08									0		
09									0		
10	0.03	0.03	0.06	0.09	0.15	0.24	0.39	0.13	8	.14	0.39
11									0		
12	0.05	0.05	0.10	0.15	0.25	0.40	0.15	0.05	8	.15	0.40
13	0.08	0.08	0.16	0.24	0.40	0.14	0.04	0.18	8	.165	0.40
14	0.13	0.13	0.26	0.39	0.15	0.04	0.19	0.23	8	.19	0.39
15	0.21	0.21	0.42	0.13	0.05	0.18	0.23	0.41	8	.23	0.42
16									0		
17									0		
18	0.33	0.33	0.18	0.02	0.20	0.22	0.42	0.14	8	.23	0.42
19									0		
20									0		
21									0		
22	0.04	0.04	0.10	0.15	0.25	0.40	0.15	0.05	8	.1475	0.40
23	0.37	0.37	0.28	0.17	0.45	0.12	0.07	0.19	8	.2525	0.45
24									0		
25									0		
26	0.41	0.41	0.38	0.32	0.20	0.02	0.22	0.24	8	.275	0.41
NO	12	12	12	12	12	12	12	12	96		
MEAN	.1408	.1408	.1683	.1483	.1916	.1733	.1816	.205		.1687	
MAX	0.41	0.41	0.42	0.39	0.45	0.40	0.42	0.42			0.45

Figure AQ16-2 - continued. Procedure AQRPM20 -- program ARPMSTR (Page 5 of 18)

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AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE
 COUNTY: 0960 PROJECT: EPISODE MONITORING
 AREA: 0001 PARAMETER: CARBON MONOXIDE
 SITE: 001 UNITS: M-GMS/M3 (25DEG C,1013 M-BARS)
 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.

COLLECTION METH: INSTRUMENTAL
 ANALYSIS METHOD: NONDISPERSIVE INFRA-RED
 SAMPLING INTERVAL: 04 HOURS
 SAROAD KEY: 340001001A0616
 KEY-1: 3416009600001001A06474

YEAR: 1974
 MONTH: APRIL
 MIN DET: .575
 UNITS CODE: 05
 KEY-2: 421011105 KEY-3: 040103

PRIMARY
 FEDERAL STANDARD 10,000 UG/M3 (0 C) 8 HR. MAX, 1 PER YR.
 STATE STANDARD 10,000 UG/M3 (25 C), 8 HR. MAX, 1 PER YR.

SECONDARY
 10,000 UG/M3 (0 C) 8 HR. MAX, 1 PER YR.
 10,000 UG/M3 (25 C) 8 HR. MAX, 1 PER YR.

HOUR							NO.	MEAN	MAX
DAY	03	07	11	15	19	23			
01	0.001	0.001	0.002	0.003	0.005	0.008	6	.0033	0.008
02	0.001	0.001	0.002	0.003	0.005	0.008	6	.0033	0.008
03	0.002	0.002	0.004	0.006	0.010	0.016	6	.0066	0.016
04	0.003	0.003	0.006	0.009	0.015	0.024	6	.01	0.024
05							0		
06							0		
07							0		
08	0.005	0.005	0.010	0.015	0.025	0.040	6	.0166	0.040
09							0		
10	0.008	0.008	0.016	0.024	0.040	0.014	6	.0183	0.040
11							0		
12							0		
13							0		
14							0		
15							0		
16							0		
17							0		
18	0.013	0.013	0.026	0.039	0.015	0.004	6	.0183	0.039
19	0.021	0.021	0.042	0.013	0.005	0.018	6	.02	0.042
20	0.033	0.033	0.018	0.002	0.020	0.022	6	.0213	0.033
21							0		
22							0		
23	0.004	0.004	0.010	0.015	0.025	0.040	6	.0163	0.040
24							0		
25							0		
26	0.037	0.037	0.028	0.017	0.045	0.012	6	.0293	0.045
27	0.041	0.041	0.038	0.032	0.020	0.002	6	.029	0.041
NU	12	12	12	12	12	12	72		
MEAN	.014	.014	.0168	.0148	.0191	.0173		.0160	
MAX	0.041	0.041	0.042	0.039	0.045	0.040			0.045

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Figure AQ76-2 - continued. Procedure AQRP20 -- program ARPMSTR

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AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE
COUNTY: 0960 PROJECT: EPISODE MONITORING
AREA: 0001 PARAMETER: CARBON DIOXIDE
SITE: 001 UNITS: M-GMS/M3 (25DEG C,1013 M-BARS)
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.COLLECTION METH: GAS BUBBLER
ANALYSIS METHOD: PHENOLPHTHALEIN
SAMPLING INTERVAL: 06 HOURS
SAROAD KEY: 340001001A0616
KEY-1: 3416909600001001A06574 KEY-2: 421029105 KEY-3: 050104YEAR: 1974
MONTH: MAY
MIN DET: 1.8
UNITS CODE: 05

	HOUR						
DAY	04	10	16	22	NO.	MEAN	MAX
01	.0001	.0001	.0002	.0003	4	.0001	.0003
02					0		
03					0		
04					0		
05					0		
06					0		
07					0		
08					0		
09					0		
10	.0001	.0001	.0002	.0003	4	.0001	.0003
11	.0002	.0002	.0004	.0006	4	.0003	.0006
12	.0003	.0003	.0006	.0009	4	.0005	.0009
13	.0005	.0005	.0010	.0015	4	.0008	.0015
14					0		
15					0		
16					0		
17					0		
18	.0008	.0008	.0016	.0024	4	.0014	.0024
19	.0013	.0013	.0026	.0039	4	.0022	.0039
20	.0021	.0021	.0042	.0013	4	.0024	.0042
21	.0033	.0033	.0018	.0002	4	.0021	.0033
22	.0004	.0004	.0010	.0015	4	.0008	.0015
23					0		
24					0		
25					0		
26	.0037	.0037	.0028	.0017	4	.0029	.0037
27					0		
28					0		
29					0		
30	.0041	.0041	.0038	.0032	4	.0038	.0041
NU	12	12	12	12	48		
MEAN	.0014	.0014	.0016	.0014		.0014	
MAX	.0041	.0041	.0042	.0039			.0042

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Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: DAVIS INSTRUMENT YEAR: 1974
 COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: SEQUENTIAL-CONDUCTOMETRIC MONTH: JUNE
 AREA: 0001 PARAMETER: SULFUR DIOXIDE SAMPLING INTERVAL: 08 HOURS MIN DET: 28.6
 SITE: 001 UNITS: U-GMS/M3 (ODEG C, 1013 M-BARS) SARGAD KEY: 340001001A0616 UNITS CODE: 02
 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06674 KEY-2: 424013302 KEY-3: 060105

FEDERAL STANDARD 365 UG/M3 (25 C) PRIMARY 24 HOUR MAXIMUM, 1 PER YEAR 1300 UG/M3 (0 C), 3 HR. MAX., 1 PER YR
 STATE STANDARD 60 UG/M3 (25 C) ANNUAL ARITHMETIC MEAN 0.4 PARTS/MILLION, 3 HR. MAX, 1 PER YEAR

		HOUR					
DAY	05	13	21	NO.	MEAN	MAX	
01	0.1	0.1	0.2	3	.1333	0.2	
02	0.1	0.1	0.2	3	.1333	0.2	
03	0.2	0.2	0.4	3	.2666	0.4	
04	0.3	0.3	0.6	3	.4	0.6	
05	0.5	0.5	1.0	3	.6666	1.0	
06	0.8	0.8	1.6	3	1.067	1.6	
07	1.3	1.3	2.6	3	1.733	2.6	
08	2.1	2.1	4.2	3	2.8	4.2	
09				0			
10				0			
11				0			
12				0			
13				0			
14				0			
15				0			
16				0			
17				0			
18				0			
19				0			
20				0			
21				0			
22				0			
23				0			
24	3.3	3.3	1.8	3	2.8	3.3	
25				0			
26	0.4	0.4	1.0	3	.6	1.0	
27				0			
28	3.7	3.7	2.8	3	3.4	3.7	
29				0			
30	4.1	4.1	3.8	3	4.	4.1	
NO	12	12	12	36			
MEAN	1.408	1.408	1.683		1.500		
MAX	4.1	4.1	4.2			4.2	

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Figure AQ16-2 - continued. Procedure AQRP20 -- program ARPMSTR

AGCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: GAS BUBBLER YEAR: 1974
 COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: SALTZMAN(100ML TU+ORIFIC) MONTH: JULY
 AREA: 0001 PARAMETER: NITROGEN DIOXIDE SAMPLING INTERVAL: 12 HOURS MIN DET: .0027
 SITE: 001 UNITS: PARTS PER MILLION (VOL/VOL) SAROAD KEY: 34000F001A0616 UNITS CODE: 07
 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06774 KEY-2: 426020207 KEY-3: 070106

PRIMARY
SECONDARY

FEDERAL STANDARD 0.05 PARTS/MILLION, ANNUAL ARITHMETIC MEAN 0.05 PARTS/MILLION, ANNUAL ARITHMETIC MEAN
 STATE STANDARD 0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN 0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN

HOUR					
DAY	06	18	NO.	MEAN	MAX
01	0.01	0.01	2	.01	0.01
02			0		
03	0.01	0.01	2	.01	0.01
04			0		
05	0.02	0.02	2	.02	0.02
06			0		
07	0.03	0.03	2	.03	0.03
08			0		
09			0		
10			0		
11			0		
12			0		
13			0		
14	0.05	0.05	2	.05	0.05
15			0		
16			0		
17			0		
18			0		
19			0		
20	0.08	0.08	2	.08	0.08
21			0		
22	0.13	0.13	2	.13	0.13
23			0		
24	0.21	0.21	2	.21	0.21
25			0		
26	0.33	0.33	2	.33	0.33
27			0		
28	0.04	0.04	2	.04	0.04
29			0		
30	0.37	0.37	2	.37	0.37
31	0.41	0.41	2	.41	0.41
NO	12	12	24		
MEAN	.1408	.1408		.1408	
MAX	0.41	0.41			0.41

Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR
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AUCR: 184 AGENCY: STATE
 COUNTY: 0600 PROJECT: SPECIAL STUDIES
 AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE
 SITE: 234 UNITS: U-GMS/M3 (25DEG C, 1013 M-BARS)
 NCALISTER RD., NORMAN, CLEVELAND CO.

COLLECTION METHOD: H1-VOL... YEAR: 1971
 ANALYSIS METHOD: GRAVIMETRIC
 SAMPLING INTERVAL: DAILY MIN DET: 1
 SARDAD KEY: 370001234F0518 UNITS CODE: 01
 KEY-1: 3718406000001234F05871 KEY-2: 111019101 KEY-3: 010100

PRIMARY
 FEDERAL STANDARD 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
 STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
 SECONDARY
 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR

DAY	MONTH												NO.	MEAN	MAX
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
01		101		60					56	17	35	25	2	80.5	101
02													4	33.25	56
03		60						44					2	52.	60
04					168				50		34		3	84.	168
05				70		54	90	46		70			5	66.	90
06				177							37		2	107.	177
07							62	31	57	52		15	5	43.4	62
08				38	38								2	38.	38
09			51				59		59	54	38		5	52.2	59
10								72					1	72.	72
11		40			76								2	58.	76
12								39		43			2	41.	43
13													0		
14	66				42	37		22	74	50		25	7	45.14	74
15		99											1	99.	99
16			80	83					44	20			4	56.75	83
17			62		77		77	89					4	76.25	89
18	67	51				52			7				4	44.25	67
19								95		11			2	53.	95
20							89						1	89.	89
21	40				48	71		56	34	35			6	47.33	71
22							31						1	31.	31
23			63	51					35	37			4	46.5	63
24					73		30	48					3	50.33	73
25	45								19				2	32.	45
26			70			68		63		37			4	59.5	70
27				40			52						2	46.	52
28	52				113			66	34	23			5	57.6	113
29						45	38						2	41.5	45
30			103						39	32	24		4	49.5	103
31							57	87					2	72.	87
NO	5	5	6	7	8	6	10	13	12	13	5	3	93		
MEAN	54.	70.2	71.5	74.14	79.38	54.5	58.5	58.31	42.33	37.	33.6	21.67		54.80	
MAX	67	101	103	177	168	71	90	95	74	70	38	25			177

Figure AQ16-2 - continued. Procedure AQRP20 -- program ARPMSTR

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AQCR: 186
COUNTY: 3020
AREA: 3020
SITE: 996
SPERRY, TULSA, TULSA CO.AGENCY: EPA - ATMOSPHERIC SURVEILLANCE
PROJECT: SPECIAL STUDIES
PARAMETER: LAPSE RATE
UNITS: DEG. CENTIGRADE/100 MCOLLECTION METH: INSTRUMENTAL
ANALYSIS METHOD: ELEC. / MACH. AVG. L2-L1
SAMPLING INTERVAL: WEEKLY
SAROAD KEY: 373020996A0518
KEY-1: 3718630203020996A05965YEAR: 1965
MIN DET: -99.0
UNITS CODE: 28
KEY-2: 612022128
KEY-3: 020200

WEEK	MONTH												NO.	MEAN	MAX
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
01		.0500											1	.05	.0500
02		500											1	500.	500
03		50.0											1	50.	50.0
04		0.500											1	.5	0.500
05		.0500											1	.05	.0500
NU	0	5	0	0	0	0	0	0	0	0	0	0	5		
MEAN		110.1												110.1	
MAX		500													500

Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR

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AGCR: 170 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: GAS BUBBLER YEAR: 1973
COUNTY: 2980 PROJECT: EPISODE MONITORING ANALYSIS METHOD: SALTZMAN METHOD
AREA: 0001 PARAMETER: OXIDES OF NITROGEN SAMPLING INTERVAL: MONTHLY MIN DET: .0027
SITE: 004 UNITS: PARTS PER MILLION (VOL/VOL) SARGAD KEY: 340001004A0617 UNITS CODE: 07
GUN BRANCH RD., JACKSONVILLE, ONSLOW CO. KEY-1: 3417029800001004A06A73 KEY-2: 426039907 KEY-3: 010100

SITE	MONTH												NO.	MEAN	MAX
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
004	.0026	.0025	.0999	.0023	.0022	.0021	.0999	.0023	.0024	.0025	.0026	.0025	12	.0186	.0999

Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR

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AQCR: 166 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: GAS BUBBLER YEAR: 1972
COUNTY: 2120 PROJECT: EPISODE MONITORING ANALYSIS METHOD: PARAROSANILINE
AREA: 0001 PARAMETER: ALDEHYDE SAMPLING INTERVAL: QUARTERLY MIN DET: 5.5
SITE: 002 UNITS: U-GMS/M3 (0DEG C, 1013 M-BARS) SARGAD KEY: 340001002A0616 UNITS CODE: 02
HMY, 301 BUS., SMITHFIELD, JOHNSTON CO. KEY-1: 3416621200001002A06872 KEY-2: 435019202 KEY-3: 010100

	QUARTER						
SITE	1ST	2ND	3RD	4TH	NO.	MEAN	MAX
002	11.9	12.8	13.2	10.1	4	12.	13.2

Figure AQ16-2 - continued. Procedure AQRPW20 -- program ARPMSTR

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AQCR: 136 AGENCY: COUNTY COLLECTION METH: GAS BUBBLER YEAR: 1960
COUNTY: 1780 PROJECT: COMPLAINT INVESTIGATION ANALYSIS METHOD: CHROMATROPIC ACID
AREA: 0003 PARAMETER: FORMALDEHYDE SAMPLING INTERVAL: COMPOSITE MIN DET: .5
SITE: 002 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS) SARDAD KEY: 34000300260413 UNITS CODE: 01
RELDSVILLE HWY., GREENSBORO, GUILFORD CO. KEY-1: 341361780003002604C60 KEY-2: 435029101 KEY-3: 590052

COMPOSITE TYPE: ANNUAL

PD	RDING	SAMPLES	TIME-CODE
00	2.3	52	9
NU	1		
MEAN	2.3		
MAX	2.3		

Figure AQ16-2 - continued. Procedure AQRPM20 -- program ARPMSTR

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AQCR: 136 AGENCY: COUNTY
COUNTY: 1780 PROJECT: COMPLAINT INVESTIGATION
AREA: 0003 PARAMETER: FORMALDEHYDE
SITE: 002 UNITS: U-GMS/M3 (25DEG C, 1013 M-BARS)
REIDSVILLE HWY., GREENSBORO, GUILFORD CO.

COLLECTION METH: GAS BUBBLER YEAR: 1972
ANALYSIS METHOD: CHROMATROPIC ACID
SAMPLING INTERVAL: COMPOSITE MIN DET: .5
SAROAD KEY: 340003002G0413 UNITS CODE: 01
KEY-1: 3413617800003002G04C72 KEY-2: 435029101 KEY-3: 180191

COMPOSITE TYPE: QUARTERLY

PD	RDING	SAMPLES	TIME-CODE
01	3.4	91	8
02			
03	3.9	91	8.
04	4.4	91	8
NO	3		
MEAN	3.9		
MAX	4.4		

Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR

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STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 9

AQCR: 136 AGENCY: COUNTY: PROJECT: COMPLAINT INVESTIGATION COLLECTION METHOD: GAS BUBBLER YEAR: 1973
COUNTY: 1780 ANALYSIS METHOD: CHROMATROPIC ACID
AREA: 0003 PARAMETER: FORMALDEHYDE SAMPLING INTERVAL: COMPOSITE MIN DET: .5
SITE: 002 UNITS: U-GMS/M3 (25DEG C, 1013 M-BARS) SAROAD KEY: 34000300260413 UNITS CODE: 01
REIDSVILLE HWY., GREENSBORO, GUILFORD CO. KEY-1: 3413617800003002604C73 KEY-2: 435029101 KEY-3: 380122

COMPOSITE TYPE: MONTHLY

PD.	RDING	SAMPLES	TIME-CODE
01	2.9	22	8
02	4.0	42	8
03	1.9	30	8
04	0.9	30	8
05	2.8	30	8
06	3.7	30	8
07	1.5	30	8
08	0.2	30	8
09	1.7	30	8
10	1.9	30	8
11	3.6	22	8
12	0.5	42	8

NO 12

MEAN 2.133

MAX 4.0

Figure AQ76-2 - continued. Procedure AQRP20 -- program ARPMSTR

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(Page 16 of 18)

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 15

AQCR: 136 AGENCY: COUNTY
COUNTY: 1780 PROJECT: COMPLAINT INVESTIGATION
AREA: 0003 PARAMETER: FORMALDEHYDE
SITE: 002 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS)
REIDSVILLE HWY., GREENSBORO, GUILFORD CO.

COLLECTION METH: GAS BUBBLER YEAR: 1973
ANALYSIS METHOD: CHROMATROPIC ACID
SAMPLING INTERVAL: COMPOSITE MIN DET: .5
SAROAD KEY: 340003002G0413 UNITS CODE: 01
KEY-1: 3413617800003002G04C73 KEY-2: 435029101 KEY-3: 480107

COMPOSITE TYPE: WEEKLY

PD RDING SAMPLES TIME-CODE

01	4.1	7	8
02	4.6	7	8
03	3.7	7	8
04	3.3	7	8
05	2.0	7	8
06	0.3	7	8
07	2.3	7	8
08	2.6	7	8
09	4.9	7	8
10	2.5	7	8

11			
12			
13			
14			
15			
16			
17			
18			
19	4.9	9	8

20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35	4.9	6	8

(Page 17 of 18)

Figure AQT6-2 - continued. Procedure AQRPM20 -- program ARPMSTR

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 16

AQCR: 136 AGENCY: COUNTY COLLECTION METH: GAS BUBBLER YEAR: 1973
COUNTY: 1780 PROJECT: COMPLAINT INVESTIGATION ANALYSIS METHOD: CHROMATROPIC ACID
AREA: 0003 PARAMETER: FORMALDEHYDE SAMPLING INTERVAL: COMPOSITE MIN DET: .5
SITE: 002 UNITS: U-GMS/M3 (25DEG C,1013 H-BARS) SAROAD KEY: 340003002G0413 UNITS CODE: 01
REIDSVILLE HWY., GREENSBORO, GUILFORD CO. KEY-1: 340003002G04C73 KEY-2: 435029101 KEY-3: 480107

COMPOSITE TYPE: WEEKLY

PD	RDING	SAMPLES	TIME-CODE
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51	4.9	11	
NU	13		
MEAN	3.462		
MAX	4.9		

Figure AQ16-2 - continued. Procedure AQRPW20 -- program ARPMSTR
(Page 18 of 18)

AQDHS-II TEST 7

Produce a Master File Summary Report

In this test run, a summary report of the AQDHS-II master file is generated using the cataloged procedure AQRPM30 which executes ARPMSBR (AQ0300), the master file summary report program.

ARPMSBR (AQ0300) compacts the data from an input AQDHS-II master file into a report consisting of one line of information for all the records in each site-parameter combination for one year. Each line in the listing describes the particular data group in terms of the number, the range, and the average values of its readings.

The run stream for this test run contains the JCL necessary for producing the master file summary report. This run stream is shown in Figure AQT7-1.

The cataloged procedure executed by this run stream is AQRPM30. A substitutable parameter is used to specify AQMST01N as the input AQDHS-II master file. Refer to Figure AQT7-2 for the sample output produced by this procedure.

```

//AQSTST07 JOB RTI.C44.PO2443,MCMASER,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMASER.DPR.JCL
//*
//* GENERATE A SUMMARY REPORT FOR AQMST01N
//*
//TEST7A EXEC AQRPM30,
//          MSTRFIL=AQMST01N
//*
//* BRIEFLY LIST THE CONTENTS OF AQMST01N
//*

```

Figure AQT7-1. Run Stream

PROGRAM NAME: ARPM30 (AQ0300)
REVISION LEVEL: 1-00
LAST UPDATE #: 20
DATE INCORPORATED: OCTOBER 31, 1978

Figure AQ17-2. Procedure AQPM30 -- program ARPM30
(Page 1 of 3)

AIR QUALITY DATA REPORT - TOTALS BY YEAR FOR EACH SITE-PARAMETER GROUP

PAGE 1

SITE-KEY	YEAR	PARAM-KEY	NBR OF RDGS	NBR OF NON-NULL RDGS	MIN	MAX	2ND MAX	3RD MAX	MEAN
1004910800001001E021	71	424011107	712	712	0.0000	2.4800	2.4800	2.0100	0.15087
1206001400001003C011	73	611025014	24	24	2.0000	6.0000	5.0000	5.0000	3.33333
2010800450001004H038	70	621012215	37	3	-1.2000	-0.5000	-1.1000	-1.2000	-0.93333
3413617800003002G04C	60	435029101	1	1	2.3000	2.3000	*****	*****	2.30000
	72	435029101	7	7	0.7000	4.6000	4.4000	3.9000	2.84286
	73	435029101	29	29	0.2000	4.9000	4.9000	4.9000	3.02414
	73	612023128	1	1	-1.3000	-1.3000	*****	*****	-1.30000
3416621200001002A06A	73	426039907	10	1	0.0094	0.0094	*****	*****	0.00940
3416621200001002A06B	72	435019202	4	4	10.1000	13.2000	12.8000	11.9000	12.00000
	72	621032217	2	1	-1.0000	-1.0000	*****	*****	-1.00000
3416909600001001A062	74	112018109	48	48	0.1000	4.5000	4.2000	4.2000	1.64583
3416909600001001A063	74	211017190	96	96	0.0100	0.4500	0.4200	0.4200	0.16875
3416909600001001A064	74	421011105	72	72	0.0010	0.0450	0.0420	0.0410	0.01606
3416909600001001A065	74	421029105	48	48	0.0001	0.0042	0.0041	0.0041	0.00150
3416909600001001A066	74	424013302	36	36	0.1000	4.2000	4.1000	4.1000	1.50000
3416909600001001A067	74	426028207	24	24	0.0100	0.4100	0.4100	0.3700	0.14083
3417029800002001D051	76	424011407	168	155	0.0000	5840.0000	1.2000	0.8550	37.73848
3417029800001004A06A	73	426039907	12	12	0.0021	0.0999	0.0999	0.0026	0.01865
3417029800001004A06B	76	111019101	79	14	6.0000	124.0000	81.0000	71.0000	53.14286
	76	424019101	29	5	0.0000	28.0000	0.0000	0.0000	5.60000
	77	111019101	44	28	0.0000	964.0000	455.0000	455.0000	400.64286
3417104800001003A06B	76	424019101	112	19	0.0000	1500.0000	21.6000	3.8000	80.73158
	77	424019101	81	16	0.0000	9450.0000	1500.0000	361.3000	711.01250
3718406000001234F058	71	111019101	326	93	7.0000	177.0000	168.0000	113.0000	54.79570
3718630202260995A051	77	633011118	1392	1379	0.0000	1.4400	1.4300	1.4200	0.28236
3718630203000997A05C	75	431021107	1	1	0.0400	0.0400	*****	*****	0.04000
3718630203000997A051	74	431021107	168	168	0.0000	6.0000	5.0000	5.0000	1.66825
	77	612022128	12	12	-1.0100	1.1700	0.9000	0.7900	0.25417
3718630203000997A052	63	621012015	60	60	0.9000	9902.0000	9901.0000	9900.0000	2116.70106

Figure AQ17-2 - continued. Procedure AQPM30 -- program ARPM5BR
(Page 2 of 3)

ARPMSBR (AQ0300) SUMMARY MESSAGES

PAGE 1

INPUT RECORD COUNT	331
OUTPUT LINE COUNT:	80
TOTAL NUMBER OF READINGS:	5,017
TOTAL NUMBER OF NON-NULL READINGS:	4,024
NON-NULL READINGS PERCENTAGE:	80%

PROGRAM NAME: ARPMSBR (AQ0300)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AQT7-2 - continued. Procedure AQRPM30 -- program ARPMSBR (Page 3 of 3)

AQDHS-II TEST 8

Produce an Inventory of the Master File by Pollutant

In this test run, an inventory by pollutant report is generated for an AQDHS-II master file using the cataloged procedure AQRPM40. This procedure executes ASRMSTR (AQ0140), the master file sort program; and ARPINVP (AQ0290), the inventory by pollutant report program.

ASRMSTR (AQ0140) can sort an AQDHS-II master file into the various sequences required by the AQDHS-II report programs.

These sorting sequences are determined by the options specified on the option card. The BATCH option is used when sorting batched retrieval answer files. The PARM option sorts the master file by the parameter code, whereas, the SITE and STAT options sort the master file by the site code. And, the STND option sorts the file into the standard master file sequence.

Beginning in card column 1, the word BATCH can be entered which would sort a file created by the retrieval package using the BATCH option. To specify either the PARM, SITE, STAT or STND option, the option word desired must begin in card column 7 of the option card. The remaining card columns must contain blanks. The PARM, SITE, STAT or STND option can be used in conjunction with the BATCH option or without it. The default value of STND will be used to control the sorting sequence when an option card is not present in the run stream.

ARPINVP (AQ0290) is a report program designed to describe the contents of an AQDHS-II master file primarily by pollutant-related fields and secondarily by site-related fields. The input master file must be sorted by ASRMSTR (AQ0140) using the PARM option. The parameter and site files are used to supply the parameter and the site descriptions for the report. The report generated by this program produces a one-line summary for each group of records which have the same pollutant-related fields, site-related fields, year, and time code.

The run stream for this test run contains the JCL necessary for producing an inventory of the master file by pollutant. This run stream is shown in Figure AQT8-1.

The cataloged procedure executed by this run stream is AQRPM40. Through the use of substitutable parameters, the input master file is specified as AQMST01N (created and stored on disk in Test 5), the input parameter file is specified as AQPARM01, (created and stored on disk in Test 1), and the input site file is specified as AQSITE01, (created and stored on disk in Test 2). The user must supply the DD (data definition) information for the option card file. Also, the option specified in the SORT step must be PARM. Refer to Figure AQT8-2 for the sample output produced by this procedure.

```

//AQSTST08 JOB RTI.C44.PO2443,MCMASTER,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//*
//* PRODUCE AN INVENTORY BY POLLUTANT OF AQMST01N
//*
//TEST08A EXEC AQRPM40,
//          MSTRFIL=AQMST01N,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01
//*
//* RESORT THE MASTER FILE AND
//* GENERATE THE POLLUTANT INVENTORY
//*
//SORT,OPTION DD *
//          PARM
//*

```

Figure AQT8-1. Run Stream

PROGRAM NAME: ASRMSTR (A00140)
REVISION LEVEL: 1-00
LAST UPDATE #: 20
DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: PARM

NUMBER OF INPUT RECORDS READ:	331
NUMBER OF MASTER RECORDS WRITTEN:	331
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AQT8-2. Procedure AQRPM40 -- program ASRMSTR

AIR QUALITY DATA REPORT - INVENTORY BY POLLUTANT

PAGE 1

PROGRAM NAME: ARPINVP (AQ0290)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

POL-PTH CODE	POLLUTANT NAME	STATE-AQCR-CNTY- AREA-SITE CODES	AG- PRJ	LOCATION NAME	YEAR	TIME CODE	UNIT CODE	NUM OBS	MIN OBS	MAX OBS	ARITH MEAN
1110191	TOTAL SUSPENDED PARTICULATE	3417029800001004	A06	GUM BRANCH RD., JACKSONVILLE	1976	8	01	14	6.000	124.0	53.142
					1977	8	01	28	.0000	964.0	400.64
		3718406000001234	F05	MCALISTER RD., NORMAN, CLEVE	1971	8	01	93	7.000	177.0	54.795
1120181	SOILING INDEX (COH/1000LF)	3416909600001001	A06	YADKIN RD., FAYETTEVILLE, CU	1974	2	09	48	.1000	4.500	1.6458
2110171	TOTAL SETTLED PARTICULATE	3416909600001001	A06	YADKIN RD., FAYETTEVILLE, CU	1974	3	90	96	.0100	.4500	.16875
4210111	CARBON MONOXIDE	3416909600001001	A06	YADKIN RD., FAYETTEVILLE, CU	1974	4	05	72	.0010	.0450	.01605
4210291	CARBON DIOXIDE	3416909600001001	A06	YADKIN RD., FAYETTEVILLE, CU	1974	5	05	48	.0001	.0042	.00149
4240111	SULFUR DIOXIDE	1004910800001001	E02	N.10TH. AVE., JACKSONVILLE,	1971	1	07	712	.0000	2.480	.15087
4240114	SULFUR DIOXIDE	3417028800002001	D05	WRIGHTSVILLE BEACH, NEW HAND	1976	1	07	155	.0000	5840.	37.738
4240135	SULFUR DIOXIDE	3416909600001001	A06	YADKIN RD., FAYETTEVILLE, CU	1974	6	02	36	.1000	4.200	1.5000
4240191	SULFUR DIOXIDE	3417029800001004	A06	GUM BRANCH RD., JACKSONVILLE	1976	8	01	5	.0000	28.00	5.6000
		3417104800001003	A06	BILTMORE ESTATES, ASHEVILLE,	1976	8	01	19	.0000	1500.	80.731
					1977	8	01	16	.0000	9450.	711.01
4260282	NITROGEN DIOXIDE	3416909600001001	A06	YADKIN RD., FAYETTEVILLE, CU	1974	7	07	24	.0100	.4100	.14083
4260399	OXIDES OF NITROGEN	3416621200001002	A06	HWY. 301 BUS., SMITHFIELD, J	1973	A	07	1	.0094	.0094	.00940
		3417029800001004	A06	GUM BRANCH RD., JACKSONVILLE	1973	A	07	12	.0021	.0999	.01865
4310211	MUNELTHANE HYDROCARBONS	3718630203000997	A05	TULSA PUBLIC HEALTH, TULSA,	1975	C	07	1	.0400	.0400	.04000
					1974	1	07	168	.0000	6.000	1.6682
					1977	2	07	1	.9800	.9800	.98000
4350192	ALDEHYDE	3416621200001002	A06	HWY. 301 BUS., SMITHFIELD, J	1972	B	02	4	10.10	13.20	12.000
4350291	FORMALDEHYDE	3413617800003002	G04	REIDSVILLE HWY., GREENSBORO,	1960	C	01	1	2.300	2.300	2.3000
					1972	C	01	7	.7000	4.600	2.8428
					1973	C	01	29	.2000	4.900	3.0241
6110250	WIND DIRECTION	1206001400001003	C01	WAIKIKI, HONOLULU, HONOLULU	1973	1	14	24	2.000	6.000	3.3333
6120221	LAPSE RATE	3718630203000997	A05	TULSA PUBLIC HEALTH, TULSA,	1977	1	28	12	-1.010	1.170	.25416
					1963	8	28	2	.9555	922.2	461.57
		3718630203000998	A05	TULSA POST OFFICE, TULSA, TU	1963	8	28	4	111.1	112.4	112.02
					1965	8	28	18	.0020	57.00	6.1731
						9	28	5	.0023	23.00	5.0655
		3718630203020996	A05	SPERRY, TULSA, TULSA CO.	1963	8	28	4	51.00	51.10	51.025
					1965	8	28	18	.0027	500.0	41.798

Figure AQ18-2 - continued. Procedure AQRP40 -- program ARPINVP
 (Page 2 of 3)

ARPINVP (AQ0290) SUMMARY MESSAGES

PAGE 1

INPUT RECORD COUNT: 331
OUTPUT LINE COUNT: 46

PROGRAM NAME: ARPINVP (AQ0290)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

(Page 3 of 3)
Figure AQT8-2 - continued. Procedure AQRPM40 -- program ARPINVP

AQDHS-II TEST 9

Produce an Inventory of the Master File by Site

In this test run, an inventory by site report is generated for an AQDHS-II master file using the cataloged procedure AQRPM35. This procedure executes ASRMSTR (AQ0140), the master file sort program; and ARPINVS (AQ0280), the inventory by site report program.

ASRMSTR (AQ00140) was used in Test 8 to sort the master file using the PARM option. In this test run, however, the SITE option must be used to sort the master file. Refer to Test 8 for a description of ASRMSTR (AQ0140).

ARPINVS (AQ0280) is a report program designed to describe the contents of an AQDHS-II master file primarily by site-related fields and secondarily by pollutant-related fields. The input master file must be sorted by ASRMSTR (AQ0140) using the SITE option. The parameter and site files are used to supply the parameter and site descriptions for the report. The report generated by this program produces a one-line summary for each group of records which have the same site-related fields, pollutant-related fields, year, and time code.

The run stream for this test run contains the JCL necessary for producing an inventory of the master file by site. This run stream is shown in Figure AQT9-1.

The cataloged procedure executed by the run stream is AQRPM35. Through the use of substitutable parameters, the input master file is specified as AQMST01N (created and stored on disk in Test 5), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the input site file is specified as AQSITE01 (created and stored on disk in Test 2). The user must supply the DD (data definition) information for the option card file. Also, the option specified in the SORT step must be SITE. Refer to Figure AQT9-2 for the sample output produced by this procedure.

```

//AQSTST09 JOB RTI.C44.PO2443.MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//*
//* PRODUCE AN INVENTORY BY SITE OF AQMST01N
//*
//TEST9A EXEC AQRPM35,
//          MSTRFIL=AQMST01N,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01
//
//* RESORT THE SITE FILE AND
//* GENERATE THE SITE INVENTORY
//*
//SORT,OPTION DD *
//      SITE
//

```

Figure AQT9-1. Run Stream

ADDHS-II MASTER FILE SORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASRMSTR (A00140)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: SITE

NUMBER OF INPUT RECORDS READ:	331
NUMBER OF MASTER RECORDS WRITTEN:	331
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AQT9-2. Procedure AQRPM35 -- programs ASRMSTR and ARPINVS

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ADDHS-II INVENTORY BY SITE REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPINVS (A00280)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

AIR QUALITY DATA REPORT - INVENTORY BY SITE

PAGE 11

STATE: 37 AOCR: 186 COUNTY: 3020

AREA SITE	AGENCY PROJ	LOCATION NAME	POLLUTANT NAME	POL-MTH CODE	UN CD	TM CD	YEAR	NUM HRS	MIN HRS	MAX HRS	ARITH MEAN
2260995	A05	SKIATOOK LAKE, TULSA,	TULSA CO SOLAR RADIATION	6330111	18	1	1977	1379	0.0000	1.4400	0.2823
3000997	A05	SKIATOOK LAKE, TULSA,	TULSA CO NONMETHANE HYDROCARBONS	4310211	07	C	1975	1	0.0400	0.0400	0.0400
						1	1974	168	0.0000	6.0000	1.6687
						2	1977	1	0.9800	0.9800	0.9800
			LAPSE RATE	6120221	28	1	1977	12	-1.0100	1.1700	0.2541
						8	1963	2	0.9555	922.2000	461.5777
			TEMPERATURE	6210120	15	2	1963	60	0.9000	9902.0000	2116.7010
						8	1963	2	93.3500	9666.0000	4879.6650
			DEW POINT	6210320	15	8	1963	2	9.4480	9111.0000	4560.2220
3000998	A05	SKIATOOK LAKE, TULSA,	TULSA CO LAPSE RATE	6120221	28	B	1963	4	111.1000	112.4000	112.0250
						8	1965	18	0.0020	57.0000	6.1731
						9	1965	5	0.0023	23.0000	5.0655
3020996	A05	SKIATOOK LAKE, TULSA,	TULSA CO LAPSE RATE	6120221	28	B	1963	4	51.0000	51.1000	51.0250
						8	1965	18	0.0027	500.0000	41.7980
						9	1965	5	0.0500	500.0000	110.1200
3140992	A05	SKIATOOK LAKE, TULSA,	TULSA CO LAPSE RATE	6120221	28	H	1963	4	-2.0000	0.0000	-1.0000
						8	1965	18	-56.0000	-0.0008	-4.6922
						9	1965	5	-56.0000	-0.0056	-12.3334
3140994	A05	SKIATOOK LAKE, TULSA,	TULSA CO LAPSE RATE	6120221	28	B	1963	4	-1.8000	-1.7000	-1.7750
						8	1965	18	-50.0000	-0.0009	-6.4815
						9	1965	5	-9.0000	-0.0009	-1.9821
			SOLAR RADIATION	6330111	18	1	1977	1240	0.0000	1.3300	0.2762

Figure AQT9-2 - continued. Procedure AQRPM35 -- program ARPINVS

(Page 2 of 3)

ARPINVS (AQQ290) SUMMARY MESSAGES

PAGE 1

NUMBER OF INPUT RECORDS: 331
NUMBER OF ABORT MESSAGES: 0

PROGRAM NAME: ARPINVS (AQQ280)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AQT9-2 - continued. Procedure AQRPM35 -- program ARPINVS

(Page 3 of 3)

AQDHS-II TEST 10

Generate a Statistical Analysis Report from the Master File

In this test run, the AQDHS-II master file is sorted using the cataloged procedure AQSRM10 which executes ASRMSTR (AQ0140), the master file sort program. The cataloged procedure AQRPM10 is then used to perform a statistical analysis of the master file by executing ASTPRLM (AQ0190), the preliminary statistics program; ASTMSST (AQ0200), the statistical analysis program; and ARPMSST (AQ0270), the statistical report program.

Before a statistical analysis report can be produced, the input master file must be sorted by ASRMSTR (AQ0140) using the STAT option if the file contains data from more than one calendar year. Otherwise, the master file does not require sorting. ASRMSTR (AQ0140) was used in Test 8 to sort the master file using the PARM option. In this test run, however, the STAT option must be used to sort the master file. Refer to Test 8 for a description of ASRMSTR (AQ0140).

ASTPRLM (AQ0190) performs several statistical computations using the sorted master file and the parameter file as input. The results of these computations are passed to ASTMSST (AQ0200) via the preliminary statistics file. The readings from the input master file are passed to ASTMSST (AQ0200) via the raw data file. Both of these files are FORTRAN-compatible files.

The options in ASTPRLM (AQ0190) are used to specify whether the statistical analysis is done by month, quarter, year or for the total time period. When the TOTAL option is specified on the option card, the data are grouped by site key and parameter key. The statistical analysis is performed based on all the readings reported for each site and parameter key combination. If the MONTH, QUARTER, or YEAR option is specified, the data are further grouped by month, quarter, or year, respectively. Also, the statistical analysis is performed based on all the readings reported for a site and parameter key combination during each month, quarter, or year.

The option specified must begin in card column 1 of the option card. This option affects not only ASTPRLM (AQ0190), but also ASTMSST (AQ0200) and ARPMSSST (AQ0270). The TOTAL option is the default value when the option card is blank or when there is no option card in the run stream. If an invalid option is used, the execution of ASTPRLM (AQ0190) will be aborted.

ASTMSST (AQ0200) performs a statistical analysis using the two files created by ASTPRLM (AQ0190), the preliminary statistics file and the raw data file. The statistics computed by ASTPRLM (AQ0190) and ASTMSST (AQ0200) are passed to ARPMSSST (AQ0270) in a temporary file referred to as the statistics file. ASTMSST (AQ0200) is coded in ANS FORTRAN. Notice that the option specified for ASTPRLM (AQ0190) is also in effect for this program.

ARPMSSST (AQ0270) prints the statistical analysis report which contains the results of the statistical analysis performed by ASTPRLM (AQ0190) and ASTMSST (AQ0200).

The primary input file to ARPMSSST (AQ0270) is the temporary statistics file. The site and parameter files are also required as input since prose descriptions of the sites and parameters are included in the output report.

The option specified for ASTPRLM (AQ0190) is also in effect in this program, however, additional options are used to specify the maximum number of lines to be printed per report page and whether or not a full page break will occur between one site and the next in the report. In order to have a full page break, the word FULL must begin in card column 1 of the option card. If the word BRIEF begins in card column 1, only a brief break between sites will occur. The maximum number of lines to be printed per report page can be specified by entering a two-digit numeric value beginning in card column 7. The default values of FULL and 64 will be used to control printing when the options specified are invalid or when an option card is not present in the run stream.

The statistical analysis report contains the statistics for each time period (either month, quarter, year, or total time period, depending on the option specified in ASTPRLM (AQ0190)) within a given site and parameter key combination on one line. The statistics listed for each group of data are provided below:

Percent of possible observations (readings) recorded for the time period;
Number of observations;
10th, 30th, 50th, 70th, 90th, 95th, and 99th percentiles;
Arithmetic mean;
Arithmetic standard deviation;
Geometric mean;
Geometric standard deviation;
Maximum reading;
Second maximum reading;
Third maximum reading;
Minimum reading; and
Minimum detectable value.

The format of the statistical analysis report depends on whether the MONTH, QUARTER, YEAR, or TOTAL option is specified for ASTPRM (AQ0190). The output from this test run shows the report when the MONTH option is in effect. The reports resulting from the QUARTER, YEAR, or TOTAL option are shown in Ad Hoc Tests 6, 8, and 12, respectively.

The run stream for this test run contains the JCL necessary for obtaining a statistical analysis of the master file. This run stream is shown in Figure AQT10-1.

First, the run stream executes the cataloged procedure AQSRM10. Substitutable parameters are used to specify AQMST01N as the input master file (created and stored in Test 5) and AQMST01S as the sorted master file. The user must supply the DD (data definition) information for the option card file. The option specified in the SORT step of this test run is the STAT option. Refer to Figure AQT10-2 for the sample output produced by this procedure.

Next, the run stream executes the cataloged procedure AQRPM10. Through the use of substitutable parameters, the input master file is specified as AQMST01S (sorted in the first procedure of this run stream), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the input site file is specified as AQSITE01 (created and stored on disk in Test 2). The user must supply the DD information for the option card file in both the PRELIM and the PRINTS steps. The statistical analysis option

specified in the PRELIM step of this test run is MONTH and the report options specified in the PRINTS step are FULL and 55. Figure AQT10-3 shows the sample output produced by this procedure.

It should be noted that the cataloged procedure AQSRM10 will create the sorted master file with a disposition of 'NEW,PASS', causing this file to be passed to the subsequent job steps but also causing the sorted master file to be deleted at the conclusion of the job.

```

//AQSTST10 JOB RTI.C44.PO2443.MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//*
//* PERFORM A STATISTICAL ANALYSIS OF AQMST01N
//* USING THE MONTH OPTION
//*
//TEST10A EXEC AQRN10,
//          MSTRFIL=AQMST01N,
//          SORTFIL=AQMST01S
//*
//* PRESORT THE MASTER FILE
//*
//SORT.OPTIONS DD *
//          STAT
//*
//TEST10B EXEC AQRPM10,
//          MSTRFIL=AQMST01S,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01
//*
//* GENERATE THE PRELIMINARY STATISTICS,
//* PERFORM THE STATISTICAL ANALYSIS, AND
//* PRODUCE THE STATISTICAL REPORT
//*
//PRELIM.OPTIONS DD *
//          MONTH
//*
//PRINTS.OPTIONS DD *
//          FULL 55
//*

```

Figure AQT10-1. Run Stream

PROGRAM NAME: ASRMSTR (AQ0140)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: STAT

NUMBER OF INPUT RECORDS READ:	331
NUMBER OF MASTER RECORDS WRITTEN:	331
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AQT10-2. Procedure AQSRI10 -- program ASRMSTR

PROGRAM NAME: ASTPRLM (A00190)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: MONTH

*** ASTPRLM 007 CONDITIONAL - 6 MASTER FILE RECORDS WITH QUARTERLY DATA WERE BYPASSED

NUMBER OF MASTER FILE RECORDS READ:	331
NUMBER OF MASTER FILE RECORDS WITH COMPOSITE DATA:	39
NUMBER OF STATISTICS RAW DATA FILE RECORDS WRITTEN:	627
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS WRITTEN:	74
NUMBER OF DIAGNOSTIC MESSAGES:	1

PROGRAM NAME: ASTMSST (A00200)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF STATISTICS RAW DATA FILE RECORDS READ:	627
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS READ:	74
NUMBER OF STATISTICS FILE RECORDS WRITTEN:	216

Figure AQT10-3. Procedure AQRW10 -- programs ASTPRLM and ASTMSST

(page 1 of 3)

PROGRAM-NAME: ARPMST (AQ0270)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

PRINTING OPTIONS CHOSEN ARE FULL SITE BREAK AND 55 LINES PER PAGE

AQDHS-II STATISTICAL ANALYSIS REPORT
 ANALYSIS BY MONTH
 STATE (34): NORTH CAROLINA

PAGE 7

SITE CODE: 34-0001-004-A-06
 AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE COUNTY(2980)
 SITE ADDR: GUM BRANCH RD., JACKSONVILLE, ONSLOW CO.

POLLUTANT NAME				METHOD OF COLLECTION AND ANALYSIS										INTERVAL			UNITS				TIMES	
POLLUTANT-METHOD-INTERVAL-UNITS				CODE																	HALF	
PCT	NUR	MIN	MIN	PERCENTILES								MAX	2ND	3RD	ARIT	ARIT	GEOM	GEOM	M DET			
YR/HR	OBS	OBS	DETEC	OBS	10	30	50	70	90	95	99	OBS	MAX	MAX	MEAN	ST DEV	MEAN	ST DEV	SUM			
TOTAL SUSPENDED PARTICULATE				HI-VOL - GRAVIMETRIC										DAILY			U-GMS/M3 (25DEG C,1013 M-BARS)					
11101-91-R-01																						
76/10	16.1	5	1.000	31.00	31.	43.	45.	62.	63.	63.	63.	63.00	62.00	45.00	48.80	13.60	47.20	1,341	0			
76/11	13.3	4	1.000	6.000	6.	39.	39.	62.	124.	124.	124.	124.0	62.00	39.00	57.75	49.78	36.62	3,655	0			
76/12	16.1	5	1.000	30.00	30.	34.	53.	71.	81.	81.	81.	81.00	71.00	53.00	53.80	22.33	49.94	1,550	0			
77/01	12.9	4	1.000	0.0	0.	25.	25.	35.	964.	964.	964.	964.0	35.00	25.00	256.0	472.2	25.48	22.10	1			
77/02	85.7	24	1.000	65.00	455.	455.	455.	455.	455.	455.	455.	455.0	455.0	455.0	424.7	102.7	396.7	1,604	0			
SULFUR DIOXIDE				GAS HUBBLER - PARAROSANILINE-SULFAMIC										DAILY			U-GMS/M3 (25 DEG C,1013 M-BARS)					
42401-91-R-01																						
76/07	16.1	5	5.000	0.0	0.	0.	0.	0.	28.	28.	28.	28.00	0.0	0.0	5.600	12.52	4.053	2,945	4			
OXIDES OF NITROGEN				GAS HUBBLER - SALTZMAN METHOD										MONTHLY			PARTS PER MILLION (VOL/VOL)					
42603-99-A-07																						
73/01	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/02	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/03	100.0	1	0.002	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	N/A	N/A	0.099	0.0	0.099	1.000	0			
73/04	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/05	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/06	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/07	100.0	1	0.002	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099	N/A	N/A	0.099	0.0	0.099	1.000	0			
73/08	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/09	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/10	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/11	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			
73/12	100.0	1	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	N/A	N/A	0.002	0.0	0.001	1.000	1			

Figure AQ10-3 - continued.

Procedure AQRP10 -- program ARPMST

(page 2 of 3)

NUMBER OF INPUT RECORDS: 216
NUMBER OF ERRORS: 0
NUMBER OF OUTPUT PAGES: 15

PROGRAM-NAME: ARPMST (AQ0270)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AQ10-3 - continued. Procedure AQRPM10 -- program ARPMST

(page 3 of 3)

AQDHS-II TEST 11

Screen the Master File for Anomalous Data

In this test run, the AQDHS-II master file is screened for anomalous data using the cataloged procedure AQRPM45. This procedure executes ACVANOM (AQ0040), the anomaly screening master file conversion program, and ARPANOM (AQ0320), the anomaly screening report program.

ACVANOM (AQ0040) is the first of two programs used to screen the AQDHS-II master file for readings that are anomalous and, therefore, potentially in error. This screening of the master file is accomplished by subjecting the readings in the file to various anomaly screening tests. Presently, only non-null readings which fall into one of the categories listed in Figure AQT11-1 are screened for anomalous data. The non-null hourly readings which conform to one of the categories described above are subjected to the gap test by ACVANOM (AQ0040). All other anomaly screening tests are performed by ARPANOM (AQ0320).

The AQDHS-II parameter file is used by ACVANOM (AQ0040) to supply the standard units for the parameters to be screened. It is essential that the input parameter file contain the correct standard units for each parameter or the results of the anomaly screening tests will be invalid.

The options in this program are used to specify the kinds of daily data to be included in the temporary file passed on to ARPANOM (AQ0320). This option also affects the Shewhart test which is performed by ARPANOM (AQ0320). When the NO FLAG LOW option is specified on the option card, the Shewhart test can only identify unusually high daily data. Whereas, unusually high or low daily data can be identified when the FLAG LOW option appears on the option card. Use of the FLAG LOW option is not recommended for general purposes. The option specified must begin in card column 1 of the option card. The NO FLAG LOW option is the default value when the option card is blank or when an option card is not present in the run stream.

The output master file differs from the input master file only in the values of the status flags for the records and individual readings. The status flags enable the anomaly screening programs to perform the anomaly screening tests only on data that has not been previously screened. It is important to note that the actual readings in the master file remain unchanged. The user must decide whether the readings in the anomaly screening report should be changed in the master file.

A temporary file is produced by ACVANOM (AQ0040) containing readings from the master file which fulfill certain requirements for data that is to be screened. This file is FORTRAN-compatible.

ARPANOM (AQ0320) is the second program used to screen the AQDHS-II master file for readings that are anomalous. This program subjects all the data in the temporary file passed from ACVANOM (AQ0040) to the appropriate anomaly screening tests. Hourly readings are subjected to the pattern tests (maximum value test, adjacent hourly difference test, spike test, and modified Dixon ratio test) and daily readings are subjected to the Shewhart test.

The anomaly screening report for hourly readings identifies hourly readings that fail one or more anomaly screening test and are thereby judged anomalous. The report also includes the key information required for columns 1 through 32 of the AQDHS-II master file transactions necessary to change the readings identified as anomalous. And, for all but gap test failures, the report includes the readings (in their original format) from each master file record containing anomalous data. Beneath each reading judged anomalous by either the maximum value test, the adjacent hourly difference test, or the spike test, letters are printed representing the particular tests which failed. An 'M' is printed for a maximum value test failure, an 'A' is printed for an adjacent hourly difference test failure, and an 'S' is printed for a spike test failure. Dixon ratio test failures are indicated to the right of the day in which the anomalous readings were found and the gap test failures are indicated to the right of the month in which the anomalous readings were found.

The anomaly screening report for daily readings identifies the daily readings that fail the Shewhart test and are thereby judged anomalous. This report also includes the key information required for columns 1 through 32 of the AQDHS-II master file transactions necessary to change the readings identified as anomalous, as well as the readings (in their original format) from each master mfile record containing anomalous data.

The skeleton transactions produced by ARPANOM (AQ0320) may be used in creating AQDHS-II master file transactions to change any erroneous readings in the master file. One skeleton transaction will be included for each master file record determined to contain one or more anomalous readings. Only columns 1 through 32 and column 80 of the skeleton transaction are filled in. Entries which cannot be determined by ARPANOM (AQ0320) are represented by question marks.

Data that fails any of the anomaly screening tests should be verified. Readings found to be in error should be corrected using the skeleton transactions to update the master file. Any question marks on the skeleton transactions must be replaced by the appropriate information for that field (e.g., day, start hour, and/or decimal code). The correct reading should be entered in the appropriate position within columns 33 through 36 for daily readings (Form-2 transactions) or within columns 33 through 64 for hourly readings (Form-1 transactions). See Figure AQT5-1 for the master file transaction formats. It is recommended that when the user sends the SAROAD tape to the Regional Office, an indication be made of the readings which have been flagged as anomalous and then found to be correct.

The run stream for this test run contains the JCL necessary for screening the master file for anomalous data. This run stream is shown in Figure AQT11-2.

The cataloged procedure executed by this run stream is AQRPM45. Through the use of substitutable parameters, the input master file is specified as AQMST01N (created and stored on disk in Test 5), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the output master file is named AQMST01V. The user must supply the DD (data definition) information for the option card file. The option specified in the CONVERT step of this test run is NO FLAG LOW. In this test run, the skeleton

transaction file is printed for verification purposes. However, the user will typically write this file to cards or disk in order to more easily add information to the transactions. The cataloged procedure AQRPM45 is designed to write the file to disk, so in order to write the file to cards, the user must supply the appropriate DD information for the skeleton transaction file. Refer to Figure AQT11-3 for the sample output produced by this procedure.

<u>Pollutant</u>	<u>Sampling Interval</u>	<u>Parameter Code</u>	<u>AQDHS-II Time Code</u>
Total Suspended Particulate	Daily	11101	8
Carbon Monoxide	Hourly	42101	1
Sulfur Dioxide	Hourly	42401	1
Sulfur Dioxide	Daily	42401	8
Nitrogen Dioxide	Hourly	42602	1
Nitrogen Dioxide	Daily	42602	8
Total Oxidants	Hourly	44101	1
Ozone	Hourly	44201	1

Figure AQT11-1. Categories of Data Subjected to Anomaly Screening Tests

```

//AQSTST11 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMaster,DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMaster,DPR.DATA,AQMST01V,
// DISP=(OLD,DELETE)
//*
//* SCREEN THE MASTER FILE, AQMST01N, FOR ANOMALOUS DATA
//*
//TEST11A EXEC AQRPM45,
//          OLDMSTR=AQMST01N,
//          PARMFIL=AQPARM01,
//          NEWMSTR=AQMST01V,
//          UNIT1=3330,
//          UNIT2=3330,
//          PRI1=1,
//          SEC1=1,
//          PRI2=1,
//          SEC2=1,
//          PRI3=1,
//          SEC3=1
//*
//* PRODUCE FORTRAN-COMPATIBLE FILE,
//* PRODUCE ANOMALY SCREENING REPORT
//*
//CONVERT,OPTIONS DD *
NO FLAG LOW
/*
//REPORT,FT10F001 DD SYSOUT=A

```

Figure AQT11-2. Run Stream

PROGRAM NAME: ACVANOM (AQ0040)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: NO LOW SHEWHART TEST

*** ACVANOM 007 CONDITIONAL - READING(S) > 9999.9999 IN STD UNITS, SCREENING NOT PERFORMED (3400020010051-760303-424011407)

NUMBER OF MASTER FILE RECORDS READ:	331
NUMBER OF MASTER FILE RECORDS WRITTEN:	341
NUMBER OF MASTER FILE RECORDS CONTAINING DATA TO BE SCREENED:	52
NUMBER OF RECORDS PASSED TO PROGRAM ARPANOM:	83
NUMBER OF ABORT MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	1

PROGRAM NAME: ARPANOM (AQ0320)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: NO LOW SHEWHART TEST

NUMBER OF INPUT RECORDS:	83
NUMBER OF INPUT RECORDS CONTAINING HOURLY DATA:	51
NUMBER OF INPUT RECORDS CONTAINING DAILY DATA:	29
NUMBER OF INPUT HEADER RECORDS:	2
NUMBER OF INPUT TRAILER RECORDS:	1
NUMBER OF TIMES MAXIMUM VALUE TEST FAILED:	80
NUMBER OF TIMES ADJACENT HOURLY DIFFERENCE TEST FAILED:	31
NUMBER OF TIMES SPIKE TEST FAILED:	9
NUMBER OF TIMES DIXON RATIO TEST FAILED:	3
NUMBER OF TIMES GAP TEST FAILED:	3
NUMBER OF TIMES SHEWHART TEST FAILED:	5
NUMBER OF OUTPUT SKELETON TRANSACTIONS:	19

Figure AQ11-3.

Procedure AQRPM45 -- programs ACVANOM and ARPANOM

(Page 1 of 4)

AUDHS-II ANOMALY SCREENING REPORT FOR DAILY READINGS

PAGE 1

----- COLUMNS 1 THRU 32 -----															
0 00 0000 001 1 11 1 11 11 12 22 22222 22 33 3															
1 23 4567 890 1 23 4 56 78 90 12 34567 89 01 2															

DAYS															

READINGS(FORMAT IS N XXXX WHEKE N=DECIMAL PT INDICATOR, XXXX=READING)															

SHEWHT TEST															

2-34-0001-004-A-06-8-77-01-**-00-11101-91-01-*															
1- 8 0 0035 0 9999 0 9999 0 9999 0 9999 0 9999 0 0964 0 9999															
9-16 0 9999 0 9999 0 9999 0 9999 0 0025 0 9999 0 9999 0 9999															
17-20 0 9999 0 9999 0 9999 0 0000															
FAIL															
2-34-0001-004-A-06-8-77-02-**-00-11101-91-01-*															
1- 8 0 0455 0 0455 0 0455 0 0455 0 0455 0 0455 0 0455 0 0455															
9-16 0 0455 0 0455 0 0455 0 0065 0 0455 0 0455 0 0455 0 0455															
17-24 0 0455 0 0119 0 0455 0 0455 0 0455 0 0455 0 0455 0 0455															
FAIL															
2-34-0001-003-A-06-8-76-12-**-00-42401-91-01-*															
1- 8 0 1500 0 9999 0 9999 0 9999 0 9999 0 9999 0 9999 0 9999															
9-16 0 9999 0 9999 0 9999 0 9999 0 9999 1 0000 0 9999 0 9999															
17-24 0 9999 0 9999 0 9999 1 0014 0 9999 0 9999 0 9999 0 9999															
25-26 0 9999 1 0000															
FAIL															
2-34-0001-003-A-06-8-77-01-**-00-42401-91-01-*															
1- 8 1 0000 0 1500 0 9999 0 9999 0 9999 0 9999 0 9999 1 0000 0 9999															
9-16 0 9999 0 9999 0 9999 0 9999 1 0012 0 9999 0 9999 0 9999															
17-24 0 9999 0 9999 1 0034 0 9999 0 9999 0 9999 0 9999 0 9999															
25-31 1 0000 0 9999 0 9999 0 9999 0 9999 0 9999 1 0000															
FAIL															
2-34-0001-003-A-06-8-77-03-**-00-42401-91-01-*															
1- 8 0 9999 1 0113 0 9999 0 9999 0 9999 0 9999 0 9999 1 0074															
9-16 0 9999 0 9999 0 9999 0 9999 0 9999 1 0076 0 9999 0 9999															
17-24 0 9999 0 9999 0 9999 1 0143 0 9999 0 9999 0 9999 0 9999															
25-26 0 9999 0 9450															
FAIL															

* DECIMAL PT INDICATORS ARE LISTED WITH READINGS
 ** DAY VARIES, VALID ENTRIES ARE 1 THRU 31

Figure AQ11-3 - continued. Procedure AQRPM45 -- program ARPANOM

(Page 2 of 4)

AUDHS-II ANOMALY SCREENING REPORT FOR HOURLY READINGS

PAGE 2

COLUMNS 1 THRU 32													READINGS (FORMAT IS N XXXX WHERE N=DECIMAL PT INDICATOR, XXXX=READING)						D R	GAP		
0 00 0000 001 1 11 1 11 11 12 22 2222 22 33 3 1 23 4567 890 1 23 4 56 78 90 12 34567 89 01 2													CC33	CC37	CC41	CC45	CC49	CC53	CC57	CC61	TEST	TEST
1-34-0002-001-D-05-1-76-01-05-XX-42401-14-07-*																			N/A			
00													3 0515	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999		
08													0 9999	0 9999	0 9999	0 9999	3 0008	3 0007	3 0008	3 0006		
16													3 0006	3 0004	3 0004	3 0002	3 0002	3 0001	3 0000	3 0000		
1-34-0002-001-D-05-1-76-01-06-XX-42401-14-07-*																			FAIL			
00													3 0000	3 0000	3 0000	3 0000	3 0000	3 0000	3 0000	3 0000		
08													3 0000	3 0000	2 0040	3 0006	3 0008	3 0013	3 0014	3 0016		
16													3 0014	3 0004	3 0001	3 0001	0 9999	3 0000	3 0000	3 0000		
1-34-0002-001-D-05-1-76-01-77-77-42401-14-07-*																			FAIL			
1-34-0002-001-D-05-1-76-02-23-XX-42401-14-07-*																			PASS			
00													3 0020	3 0020	3 0020	3 0025	3 0025	3 0180	3 0205	3 0310		
08													3 0230	3 0165	3 0245	3 0060	3 0045	3 0135	3 0125	3 0035		
16													3 0030	3 0055	3 0020	3 0025	3 0080	3 0335	3 0180	3 0020		
1-34-0002-001-D-05-1-76-02-24-XX-42401-14-07-*																			PASS			
00													3 0000	3 0000	3 0005	3 0015	3 0005	3 0000	3 0000	3 0010		
08													3 0035	3 0160	3 0025	3 0010	3 0010	3 0010	3 0010	3 0005		
16													3 0010	3 0040	3 0135	3 0215	3 0330	3 0500	3 0305	3 0225		
1-34-0002-001-D-05-1-76-03-01-XX-42401-14-07-*																			FAIL			
00													3 0000	3 0000	3 0000	3 0000	3 0000	3 0000	3 0000	3 0000		
08													3 0000	3 0855	3 0006	3 0011	3 0014	0 9999	3 0025	3 0017		
16													3 0018	3 0013	3 0010	3 0009	3 0007	3 0004	3 0002	3 0000		

* DECIMAL PT INDICATORS ARE LISTED WITH READINGS

** TEST CODES (PRINTED BELOW READINGS): A=ADJACENT HOURLY DIFFERENCE TEST, M=MAXIMUM VALUE TEST, S=SPIKE TEST

Figure AQ11-3 - continued. Procedure AQRPM45 -- program ARPANOM

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```

1100001001E021710605???4240111077
1100001001E021710606???4240111077
1100001001E021710607???4240111077
1100001001E021710621???4240111077
1100001001E021710622???4240111077
1100001001E0217106???4240111077
1340002001D051760105???4240114077
1340002001D051760106???4240114077
1340002001D0517601???4240114077
1340002001D051760223???4240114077
1340002001D051760224???4240114077
1340002001D051760301???4240114077
1340002001D051760302???4240114077
1340002001D0517603???4240114077
2340001004A0687701?000111019101?
2340001004A0687702?000111019101?
2340001003A0687612??00424019101?
2340001003A0687701?000424019101?
2340001003A0687703?000424019101?

```

Figure AQT11-3 - continued. Procedure AQRPM45 -- program ARPANOM

AQDHS-II TEST 12

Submit Quarterly Report to SAROAD

In this test run, data from the AQDHS-II master file are converted to SAROAD transactions using the cataloged procedure AQRPM05. This procedure executes ARPSARD (AQ0220), the AQDHS-II to SAROAD conversion program.

ARPSARD (AQ0220) provides the user with the capability of extracting data from the AQDHS-II master file for inclusion in the SAROAD data base. Only data that have not been previously submitted to SAROAD will be extracted.

The option in this program is used to specify the date to be used in selecting records from the master file. All records dated on or before the option date will be selected for processing. For example, a record dated February 1979 (7902) would be selected for processing if the option date were March 1979 (7903). A record dated after the option date will not be selected for SAROAD processing. The date on the option card is coded in card columns 1 through 4. The first two columns specify the year and the second two specify the month. If no option card is submitted, or if the option date is invalid, all records will be processed by this program.

The output AQDHS-II master file differs from the input master file in that the status flags have been changed as necessary. The output master file might contain fewer records than the input master file since some records may have been deleted.

The output SAROAD files contain SAROAD format transactions. Only data which have not previously been sent to SAROAD are contained in these files. The SAROAD add file begins with a '\$2' action card followed by all add transactions, if any; and the SAROAD change file begins with a '\$3' action card followed by all change transactions, if any. For data to be deleted from the SAROAD data base, transactions are included in the SAROAD change file to change the data to 9999. When these files are processed at the regional office, the SAROAD editor (NA027) must be executed using the DELETES option since the SAROAD change file may contain transactions to delete data from the SAROAD data base.

The run stream for this test run contains the JCL necessary for converting data from the AQDHS-II master file into SAROAD transactions. This run stream is shown in Figure AQT12-1.

The cataloged procedure executed by this run stream is AQRPM05. Through the use of substitutable parameters, the input master file is specified as AQMST01V (created in and stored on disk in Test 11), and the output master file is named AQMST01T. In this test run, the SAROAD add file and the SAROAD change file are printed for verification purposes. However, the user will typically use the cataloged procedure as designed to write these files to tape in order to submit them to SAROAD. No option card is provided in this run stream causing the default option to be in effect. Thus, all data not previously submitted to SAROAD will be submitted by this run. If the user does provide an option card in the run stream, the DD (data definition) information for the option card file in the SUBMIT step is also needed. Refer to Figure AQT12-2 for the sample output produced by this procedure.

```

//AQSTST12 JOB RTI.C44,PU2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44,PU2069,MCMaster.DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44,PU2069,MCMaster.DPR.DATA,AQMST01T,
// DISP=(OLD,DELETE)
//*
//* SUBMIT QUARTERLY REPORT TO SAROAD FROM AQMST01V,
//* THE VERIFIED FILE IN TEST 11
//* ALL RECORDS ARE SENT, NO THRESHOLD MONTH (NO OPTION CARD)
//*
//TEST12A EXEC AQRPM05,
//          ULOMSTR=AQMST01V,
//          NEWMSTR=AQMST01T,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* GENERATE NEW AQDHS-II FILE WITH ALL RECORDS FLAGGED SENT,
//* SAROAD ADD FILE (PRINTED),
//* AND SAROAD CHANGE FILE (PRINTED)
//*
//SUBMIT,STEPLIB DD DISP=(SHR,PASS),
// VQL=(PRIVATE,RETAIN),DSN=CN.EPALMH,A087.AQS,LOAD,TEST
//SUBMIT,AQSADDFL DD SYSOUT=A
//SUBMIT,AQSCGFL DD SYSOUT=A

```

Figure AQT12-1. Run Stream

PROGRAM NAME: ARPSARD (A00220)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NO SELECTION DATE OPTION USED - ALL RECORDS AVAILABLE FOR SAROAD OUTPUT

NUMBER OF FILE RECORDS READ:	331
NUMBER OF MASTER FILE RECORDS DELETED USING THE CHANGE OPTION:	0
NUMBER OF FILE RECORDS WRITTEN:	331
NUMBER OF ADD TRANSACTIONS SUBMITTED TO SAROAD:	735
NUMBER OF CHANGE TRANSACTIONS SUBMITTED TO SAROAD:	0
NUMBER OF ADD READINGS SUBMITTED TO SAROAD:	4,424
NUMBER OF CHANGE READINGS SUBMITTED TO SAROAD:	0

Figure AQT12-2. Procedure AQRPM05 -- program ARPSARD

(Page 1 of 3)

Figure AQT12-2 - continued. Procedure AQRPM05 -- program ARPSARD

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\$2 ADD TRANSACTIONS CREATED BY AUDHS
 1100001001E021710601004240111072 001 001 001 001 002 002 001 002 003 003 003 003
 1100001001E021710601124240111072 004 006 002 001 001 000 000 000 000 000 000 000
 1100001001E021710602004240111072 002 003 006 007 010 011 012 013 012 011 009 008
 1100001001E021710602124240111072 006 006 006 006 003 001 004 006 008 007 007
 1100001001E021710603004240111072 007 002 001 001 001 001 001 001 003 003 006 003
 1100001001E021710603124240111072 002 003 003 006 010 011 011 012 013 016 016 016
 1100001001E021710604004240111072 018 020 022 022 022 024 018 018 010 002 001 001
 1100001001E021710604124240111072 001 001 001 001 001 001 001 001 001 001 002 002
 1100001001E021710605004240111072 003 004 004 004 004 005 006 006 006 006 004 004
 1100001001E021710605124240111072 003 003 003 003
 1100001001E021710606004240111072 080 100 101 102 102 110 113 110 110 121 110 100
 1100001001E021710606124240111072 080 080 090 090 099 099 099 100 100 100 121 122
 1100001001E021710607004240111072 248 200 201 181 176 154 121 100 090 080 070 060
 1100001001E021710607124240111072 040 030 020 010 009 008 007 006 006 006 006 006
 1100001001E021710608004240111072 005 005 004 003 002 001 001 001 001 001 001 001
 1100001001E021710608124240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710609004240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710609124240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710610004240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710610124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710611004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710611124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710612004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710612124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710613004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710613124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710614004240111072 003 003 003 003 003 002 002 002 002 002 002 002
 1100001001E021710614124240111072 003 003 003 003 003 002 002 002 002 002 002 002
 1100001001E021710615004240111072 003 003 003 003 002 002 002 002 002 002 002 002
 1100001001E021710615124240111072 003 003 003 003 003 002 002 002 002 002 002 002
 1100001001E021710616004240111072 003 003 003 003 003 002 002 002 002 002 002 002
 1100001001E021710616124240111072 001 001 001 001 002 002 001 002 003 003 003 003
 1100001001E021710617004240111072 004 006 002 001 001 000 000 000 000 000 000 000
 1100001001E021710617124240111072 002 003 006 007 010 011 012 013 012 011 009 008
 1100001001E021710618004240111072 006 006 006 006 006 003 001 004 006 008 007 007
 1100001001E021710618124240111072 007 002 001 001 001 001 001 001 003 003 006 003
 1100001001E021710619004240111072 002 003 003 006 010 011 011 012 013 016 016 016
 1100001001E021710619124240111072 018 020 022 022 022 024 018 018 010 002 001 001
 1100001001E021710620004240111072 001 001 001 001 001 001 001 001 001 001 002 002
 1100001001E021710620124240111072 003 004 004 004 004 005 006 006 006 004 004
 1100001001E021710621004240111072 003 003 003 003 003 006 018 020 034 044 054 060
 1100001001E021710621124240111072 080 100 101 102 102 110 113 110 110 121 110 109
 1100001001E021710622004240111072 080 080 090 090 099 099 099 100 100 100 121 122
 1100001001E021710622124240111072 248 200 201 181 176 154 121 100 090 080 070 060
 1100001001E021710623004240111072 040 030 020 010 009 008 007 006 006 006 006 006
 1100001001E021710623124240111072 005 005 004 003 002 001 001 001 001 001 001 001
 1100001001E021710624004240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710624124240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710625004240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710625124240111072 001 001 001 001 001 001 001 001 001 001 001 001
 1100001001E021710626004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710626124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710627004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710627124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710628004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710628124240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710629004240111072 002 002 002 002 002 002 002 002 002 002 002 002
 1100001001E021710629124240111072 003 003 003 003 003 002 002 002 002 002 002 002
 1100001001E021710630004240111072 003 003 003 003 003 002 002 002 002 002 002 002
 1100001001E021710630124240111072 003 003 003 003 002 002 002 002 002 002 002 002
 1120001003C011730912126110250140 003 006 004 003 003 002 005 003 003 004 003 004
 1120001003C011730912126110250140 003 003 003 002 003 002 004 003 003 002 004 003
 2200001004B037700105006210122151-011

33 CHANGE TRANSACTIONS CREATED BY AUDHS. RUN SAROAD EDITOR WITH DELETES OPTION

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Figure AQT12-2 - continued. Procedure AQRPM05 -- program ARPSARD

AQDHS-II TEST 13

Retrieve a Standard Answer File From the Master File

In this test run, a standard answer file is retrieved from the AQDHS-II master file using the cataloged procedure AQRTM10. This procedure executes ARTLNGP (AQ0110), the retrieval language processor program; the COBOL compiler; the linkage editor; and the generated retrieval program, ARTGENR (AQ0120).

ARTLNGP (AQ0110) is the first of two AQDHS-II programs used to retrieve data from the AQDHS-II master file. The second program is ARTGENR (AQ0120), the program generated by ARTLNGP (AQ0110).

ARTLNGP (AQ0110) uses the retrieval skeleton program ARTSKEL, which is stored in a cataloged source library, and the user-supplied retrieval specification cards to build ARTGENR (AQ0120), which is referred to as the generated retrieval program.

The retrieval specification cards consist of retrieval control cards and retrieval request cards. The control cards indicate the beginning and end of the retrieval specifications: a \$\$SELECT card indicates the beginning of the retrieval specifications and a \$\$END card indicates the end of the retrieval specifications. Retrieval request cards follow the \$\$SELECT card and can be written in either the AQDHS-II retrieval language or in COBOL. These cards precisely identify the data to be retrieved from the master file. When the AQDHS-II retrieval language is used, up to 20 retrievals can be batched in one run, by preceeding each retrieval by a \$\$SELECT card and entering a \$\$END card after the last retrieval.

The options allowed for ARTLNGP (AQ0110) are entered on the first \$\$SELECT retrieval control card. The options specify whether the requests are written in the AQDHS-II retrieval language or in COBOL, the retrieval mode (STANDARD or SLIDING), and whether or not the LIST option is to be in effect.

The \$\$SELECT card also contains the copy member names required for certain COBOL retrievals and the name to be assigned to the generated retrieval load module should the user want to save it.

The format of the retrieval control cards is illustrated in Figure AQT13-1 and the definitions of the AQDHS-II retrieval control card fields are provided in Figure AQT13-2. Figure AQT13-3 lists possible combinations of the options for different types of retrievals.

When the AQDHS-II retrieval language is used, the user is allowed to select records from the AQDHS-II master file based upon the value of specific fields in the master file records. The data names which can be used for these AQDHS-II retrieval language requests are listed in Figure AQT13-4 and each of these data names is defined in Figure AQT13-5. The AQDHS-II retrieval language specifications are written in the format described in Figure AQT13-6 and Figure AQT13-7 provides definitions of the AQDHS-II retrieval language specification fields. The AQDHS-II retrieval specifications load sheet is provided in Figure AQT13-8.

If the COBOL language is used, the retrieval request cards are prepared according to COBOL rules for syntax and punctuation. Any retrieval that can be run using the AQDHS-II retrieval language can also be run by specifying USER as the language keyword (see Figure AQT13-1) and using the COBOL language, but nothing is gained in these retrievals by using COBOL when the AQDHS-II retrieval language can be used. There are some retrievals which cannot be accomplished using the AQDHS-II retrieval language. This is when COBOL retrievals become very beneficial. Ad Hoc Tests 1, 2, and 7 demonstrate the use of COBOL retrievals.

ARTGENR (AQ0120) is produced based on the retrieval specifications entered into ARTLNGP (AQ0110). This generated retrieval program must be compiled and link edited before it is executed. When it is executed, it reads the AQDHS-II master file and selects those records which satisfy the retrieval specifications that were entered into ARTLNGP (AQ0110). The selected records are written to an output file which is referred to as an AQDHS-II answer file.

This file is only a subset of the master file; any changes made to the answer file during the retrieval process are not reflected in the master file. The answer file has the same format as the AQDHS-II master file and may be used as input to any AQDHS-II program which uses the master file as input.

The run stream for this test run contains the JCL necessary for retrieving a standard answer file from an AQDHS-II master file. This run stream is shown in Figure AQT13-9.

The cataloged procedure executed by this run stream is AQRTM10. Through the use of substitutable parameters, the input master file is specified as AQMST01T (created and stored on disk in Test 12) and the output answer file is named AQRETRO1. The user must supply the appropriate DD (data definition) information for the input retrieval specification cards in the COMPILE step. In this test run, the input retrieval specification cards are used to produce a standard answer file containing all 1977 data in the master file. Refer to Figure AQT13-10 for the sample output produced by this procedure.

<u>Record Position</u>	<u>Field Length</u>	<u>Description</u>
1 - 8	8	Card type
9	1	Unused
10 - 13	4	Language keyword
14 - 15	2	Unused
16 - 23	8	COBOL member name
24	1	Unused
25 - 32	8	Mode keyword
33	1	Unused
34 - 39	6	List option
40 - 42	3	Unused
43 - 50	8	User-defined data member name
51	1	Unused
52 - 59	8	User-defined subroutine member name
60	1	Unused
61 - 67	7	Generated load module name
68 - 72	5	Unused
73 - 80	8	Sequence number

Figure AQT13-1. AQDHS-II Retrieval Control Card

Card Type: Identifies the type of control card.

Valid Codes: \$\$SELECT - Specifies the beginning of a retrieval request.

\$\$END - Specifies the end of a retrieval request and must appear alone on the card.

Field Length: 8 characters.

Language Keyword: Identifies the type of retrieval language to be used.

Valid Code: USER - Retrieval specifications will be COBOL language statements.

blank - Indicates that AQDHS-II retrieval language specifications will be used.

Field Length: 4 characters.

COBOL Member Name: Indicates the name of a COBOL copy member residing in a partitioned data set and containing COBOL language statements. A copy member can be used for USER retrievals or in conjunction with a user-defined data member and user-defined subroutine member.

Valid Code: blank - Specifies that the COBOL retrieval statements will be placed after the \$\$SELECT card.

member name - Specifies the name of the member of an external source library where the COBOL retrieval statements reside. These COBOL statements must have been stored in the external source library under this member name prior to the execution of the retrieval.

Field Length: 8 characters.

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Figure AQT13-2. Definition of AQDHS-II Retrieval Control Card Fields

Mode Keyword: Identifies the retrieval mode.

Valid Codes: blank - Standard answer file is to be created.

SLIDING - Sliding average answer file is to be created.

The sliding average answer file contains additional records to those meeting the retrieval specifications. These records provide the wraparound capability required by the sliding average program, ASTSLAV (AQ0180), in calculating sliding averages.

Field Length: 8 characters.

List Option: Identifies whether or not the retrieved records are to be printed.

Valid Codes: LIST - print all retrieved records.

NOLIST - Print no records.

blank - Print no records.

Field Length: 6 characters.

User-Defined Data Member Name: Identifies the name of a member in an external source library containing a COBOL 01-level data structure. This data member is used to define variables for user-defined sub-routines, and it must be used in conjunction with a COBOL member, user-defined subroutines, and AQDHS-II retrieval language specifications.

Valid Codes: blank - No user-defined data will be used.

member name - The member of an external source library which is to be copied into the working-storage section and assigned the label, 01

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Figure AQT13-2 - continued. Definition of AQDHS-II
Retrieval Control Card Fields

USER-DATA-STRUCTURE, when the retrieval program is generated.

Field Length: 8 characters.

User-Defined Subroutine Member Name: Identifies the name of a member in an external source library containing a user-defined subroutine. The user-defined subroutine can be invoked only by the user-written COBOL statements defined in the COBOL member (columns 16-23). The user-defined subroutine must be a closed subroutine; i.e., it cannot call any other subroutines. This option must be used in conjunction with a user-defined data member name, a COBOL member name and AQDHS-II retrieval language specifications.

Valid Codes: blank - No user-defined subroutine will be used.

member name - The name of the member of an external source library which contains the subroutine to be copied.

Field Length: 8 characters.

Generated Load Module Name: Specifies the user-defined load module name when the procedure AQRTM20 is used to create and store the load module of a generated retrieval program. When this field is used, the name specified must also be used for the substitutable parameter, PGMSAVE, in the job stream for procedure AQRTM20.

Valid Code: blank - The name ARTGENR will be used for the generated load module.

load module name - Must be seven characters or less consisting of the letters A-Z and the digits 0-9 and beginning with a letter.

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Figure AQT13-2 - continued. Definition of AQDHS-II
Retrieval Control Card Fields

Field Length: 7 characters.

Sequence Number: An optional entry to allow the retrieval specification cards to be numbered sequentially. No sequence checking is performed by ARTLNGP (AQ0110).

Field Length: 8 characters.

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Figure AQT13-2 - continued. Definition of AQDHS-II
Retrieval Control Card Fields

Type of Retrieval	Option Fields on \$\$SELECT Card								Batching of Retrievals Allowed
	Card Type	Language Keyword	COBOL Member Name	Mode Keyword	List Option	User-defined Data Member Name	User-defined Subroutine Member Name	Generated Load Module Name	
AQDHS-II Retrieval Language	R	N	N	O	O	N	N	O	*
COBOL retrieval with COBOL statements in retrieval specification card file	R	R	N	O	O	N	N	O	N
COBOL retrieval with COBOL statements in COBOL copy member	R	R	R	O	O	N	N	O	N
COBOL retrieval with COBOL statements in COBOL copy member which uses user-defined data definitions and user-defined subroutine	R	N	R	O	O	R	R	O	N

N Not allowed

O Option

R Required

* If the mode keyword is blank (standard retrieval), batching of retrievals is allowed. If the mode keyword is SLIDING (sliding average retrieval), batching of retrievals is not allowed.

Figure AQT13-3. Retrieval Options

Data Names for AQDHS-II and COBOL Language Retrievals

<u>Data Name</u>	<u>Field Length</u>	<u>Data Name</u>	<u>Field Length</u>
ACTION-CODE	1	KEY-3	6
AGENCY	1	METHOD-CODE	2
AQCR	3	MONTH	2
AREA-CODE	4	NBR-OF-READINGS	2
COMPOSITE-KEY-3	6	PARAMETER-CODE	5
COMPOSITE-PERIOD	2	PROJECT	2
COMPOSITE-SAMPLES	2	RECORD-STATUS-FLAG	1
COMPOSITE-TIME-CODE	1	SITE	3
COMPOSITE-TYPE	1	SLAMS-ID	1
COUNTY-CODE	4	START-HOUR	2
DATA-FIELD*	See Figure AQT13-5	STATE	2
DAY-CODE	2	STATUS-FLAG*	1
FORM-CODE	1	TIME-CODE	1
IDENT-KEY	37	UNIT-CODE	2
KEY-1	22	YEAR	2
KEY-2	9		

Data Names for COBOL Language Retrievals Only

<u>Data Name</u>	<u>Field Length</u>
DECIMAL-CODE*	1
KEY-1-A	20
RPTING-SECTION*	6

*Repeating data names.

Figure AQT13-4. Valid Retrieval Data Names

ACTION-CODE: Indicates the last action performed on the master file record.

Valid Codes: 2 - Add

3 - Change

Field Length: 1 character.

AGENCY: Identifies the agency responsible for the sampling site.

Valid Codes: See Table A-1, AQDHS-II User's Guide.

Field Length: 1 character.

AQCR: Identifies the AQCR (Air Quality Control Region) in which the sampling site is located.

Valid Codes: 001-247

Field Length: 3 characters.

AREA-CODE: Identifies the geographical area in which the sampling site is located.

Valid Codes: Contact the EPA Regional Office for the valid codes.

Field Length: 4 characters.

COMPOSITE-KEY-3: Identifies, as a group the following fields:

COMPOSITE-PERIOD

COMPOSITE-SAMPLES

COMPOSITE-TYPE

COMPOSITE-TIME-CODE

Field Length: 6 characters.

COMPOSITE-PERIOD: Identifies the period during which the composite sample was taken.

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Figure AQT13-5. Definition of Retrieval Data Names

Valid Codes: 01 - 04 Quarterly and Seasonal Composite
01 - 12 Monthly Composite
01 - 52 Weekly Composite
00 Annual Composite

Field Length: 2 characters.

COMPOSITE-SAMPLES: Indicates the number of individual samples that were composited.

Field Length: 2 characters.

COMPOSITE-TIME-CODE: Indicates the interval at which the individual composited samples were taken.

Valid Codes: SAROAD time codes are used; see Table A-3, AQDHS-II User's Guide.

Field Length: 1 character.

COMPOSITE-TYPE: Indicates the interval for which the samples were composited.

Valid Codes: 1 - Quarterly Composite
2 - Seasonal Composite
3 - Monthly Composite
4 - Weekly Composite
5 - Annual Composite

Field Length: 1 character.

COUNTY-CODE: Identifies the county in which the sampling site is located.

Field Length: 4 characters.

(Page 2 of 8)

Figure AQT13-5 - continued. Definition of Retrieval Data Names

*DATA-FIELD: The value of the sample taken.

Valid Codes: When DATA-FIELD is used in COBOL retrievals, it only refers to the four-digit reading and does not incorporate the decimal code; however, when DATA-FIELD is used in AQDHS-II Retrieval Language, it refers to the value of the sample, taking into account the decimal code. When DATA-FIELD is used as the subject name in an AQDHS-II language retrieval, the object name may be DATA-FIELD or any numeric literal within apostrophes, positive or negative, with or without a decimal point.

DAY-CODE: The day of the month on which the sample was taken.

Field Length: 2 characters.

*DECIMAL-CODE (COBOL Language Only): Indicates the position of an assumed decimal within the four-character reading in the master file record.

Valid Codes: 0, 1, 2, 3, 4

Field Length: 1 character.

FORM-CODE: Indicates which transaction format was used to create the master file record.

Valid Codes: 1 - Form 1

2 - Form 2

3 - Form 3

Field Length: 1 character.

*A repeating field.

(Page 3 of 8)

Figure AQT13-5 - continued. Definition of Retrieval Data Names

IDENT-KEY: Identifies, as a group, the following fields:

KEY-1

KEY-2

KEY-3

Field Length: 37 characters.

KEY-1: Identifies, as a group, the following fields:

STATE

AQCR

COUNTY-CODE

AREA-CODE

SITE

AGENCY

PROJECT-CODE

TIME-CODE

YEAR

Field Length: 22 characters.

KEY-1-A (COBOL Language Only): Identifies, as a group, the following fields:

STATE

AQCR

COUNTY-CODE

AREA-CODE

SITE

AGENCY

PROJECT

TIME-CODE

Field Length: 20 characters.

(Page 4 of 8)

Figure AQT13-5 - continued. Definition of Retrieval Data Names

KEY-2: Identifies, as a group, the following fields:

PARAMETER-CODE

METHOD-CODE

UNIT-CODE

Field Length: 9 characters.

KEY-3: Identifies, as a group, the following fields:

MONTH

DAY-CODE

START-HOUR

Field Length: 6 characters.

METHOD-CODE: Identifies both the collection method and the analysis method
for the parameter being measured.

Field Length: 2 characters.

MONTH: The month of the year during which the sample was taken.

Field Length: 2 characters.

NBR-OF-READINGS: Indicates the number of readings or samples contained in the
master file record.

Field Length: 2 characters.

PARAMETER-CODE: Identifies the parameter being measured.

Valid Codes: Refer to the AEROS Manual Series, Volume V: AEROS Manual
of Codes for a full list of currently accepted parameter
codes.

Field Length: 5 characters.

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Figure AQT13-5 - continued. Definition of Retrieval Data Names

PROJECT: Identifies the project in association with which the sample was taken.

Valid Codes: See Table A-2, AQDHS-II User's Guide.

Field Length: 2 characters.

RECORD-STATUS-FLAG: Indicates the SAROAD submission status and anomaly screening status of the record.

Valid Codes: S All readings in the record have been submitted to SAROAD, but one or more non-null readings have not undergone anomaly screening.

T All readings in the record have been submitted to SAROAD and all non-null readings have undergone anomaly screening.

N One or more readings in the record have not been submitted to SAROAD, and one or more non-null readings have not undergone anomaly screening.

V One or more readings in the record have not been submitted to SAROAD, but all non-null readings have undergone anomaly screening.

X Record has been flagged for deletion, all readings are null.

Field Length: 1 character.

*RPTING-SECTION (COBOL Language Only): Identifies, as a group, the following fields:

STATUS-FLAG

DECIMAL-CODE

DATA-FIELD

Field Length: 6 characters.

*A repeating field.

(Page 6 of 8)

Figure AQT13-5 - continued. Definition of Retrieval Data Names

SITE: Identifies the site at which the sample was taken.

Field Length: 3 characters.

SLAMS-ID: Indicates whether the sampling site is a State and Local Air Monitoring Station (SLAMS) or a National Air Monitoring Station (NAMS) associated with the site.

Field Length: 1 character.

START-HOUR: The hour at which the first sample was taken.

Valid Codes: See Table A-3, AQDHS-II User's Guide.

Field Length: 2 characters.

STATE: Indicates the state (or other geographic division) in which the sampling site is located.

Field Length: 2 characters.

*STATUS-FLAG: Indicates the status of the reading.

Valid Codes: A Reading has been added since submission to SAROAD and has not undergone anomaly screening.

C Reading has been changed since submission to SAROAD and has not undergone anomaly screening.

S Reading has been submitted to SAROAD but has not undergone anomaly screening.

B Reading has been added since submission to SAROAD and has undergone anomaly screening.

D Reading has been changed since submission to SAROAD and has undergone anomaly screening.

*A repeating field.

(Page 7 of 8)

Figure AQT13-5 - continued. Definition of Retrieval Data Names

T Reading has been submitted to SAROAD and has undergone anomaly screening.

Field Length: 1 character.

TIME-CODE: Indicates the interval at which the samples were taken.

Valid Codes: See Table A-3, AQDHS-II User's Guide.

Field Length: 1 character.

UNIT-CODE: Indicates the units in which the parameter was measured.

Valid Codes: See Table A-4, AQDHS-II User's Guide for a partial list and the AEROS MANUAL SERIES, Volume V: AEROS Manual of Codes for a complete list of currently accepted units codes.

Field Length: 2 characters.

YEAR: The year in which the sample was taken.

Field Length: 2 characters.

(Page 8 of 8)

Figure AQT13-5 - continued. Definition of Retrieval Data Names

<u>Record Position</u>	<u>Field Length</u>	<u>Description</u>
1 - 22	22	Subject name
23	1	Unused
24	1	Negation flag
25	1	Unused
26	1	Relational operator
27	1	Unused
28 - 67	40	Object name
68	1	Unused
69 - 71	3	Boolean operator
72 - 80	9	Unused

Figure AQT13-6. AQDHS-II Retrieval Language Specifications

Subject Name: Specifies the name of the field in the AQDHS-II master file record to be compared with the literal or the master file field specified by the object name.

Valid Codes: Only those fields listed in Figure AQT13-4 can be used.
The spelling, including hyphen, must match exactly.

Field Length: 22 characters.

Negation Flag: Indicates whether the Boolean NOT condition is in effect.

Valid Codes: N - Boolean NOT is in effect.
space - Boolean NOT is not in effect.

Field Length: 1 character.

Relational Operator: Indicates the relationship to be tested between the subject name and the object name.

Valid Codes: = equal
< less than
> greater than

Field Length: 1 character.

Object Name: A literal to be compared against the master file field specified by the subject name, or the name of a master file field to be compared against the master file field specified by the subject name (i.e., object name=subject name).

Valid Codes: If a literal is used, it must be enclosed in apostrophes. The length of the literal must be exactly the same as the field length of the data name being compared (see Figure AQT13-5). If the name of a field from the master file is used, it must match exactly one of the names listed in

(Page 1 of 2)

Figure AQT13-7. Definition of AQDHS-II Retrieval Language Specification Fields

Figure AQT13-4. However, it must not be enclosed in apostrophes.

Field Length: 40 characters.

Boolean Operator: Identifies the type of connector used between the relationship specified on this control card and that specified on the next card.

Valid Codes: AND - Indicates that both relationships must be true in order for the entire relationship to be true.

OR - Indicates that if either relationship is true, the entire relationship is true.

blank - Indicates that there is no connector, and therefore, that there is no further specification.

Field Length: 3 characters.

(Page 2 of 2)

Figure AQT13-7 - continued. Definition of AQDHS-II Retrieval Language Specification Fields

BY _____
DATE _____
PAGE _____ OF _____

**VALID VALUES FOR
NEGATION FLAG (NF): BLANK, N
RELATIONAL OPERATOR (RO):
= EQUAL
> GREATER THAN
< LESS THAN
BOOLEAN OPERATORS (BO):
AND, OR, BLANK
TYPE: N= NUMERIC
A= ALPHANUMERIC**

NOTE: PARENTHESES MUST BE BALANCED

Figure AQT13-8. Retrieval Specifications Load Sheet

```

//AQSTST13 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069.MCMaster.DPR.DATA.AGRETR01,
// DISP=(OLD,DELETE)
//*
//* RETRIEVE A STANDARD ANSWER FILE FROM AQMST01T,
//* THE MASTER FILE CREATED IN TEST 12
//*
//TEST13A EXEC AQRTM10,
//          MSTRFIL=AQMST01T,
//          ANSWRFL=AGRETR01,
//          DISP='NEW,CATLG,DELETE',
//          PRIMARY=1,
//          SECNDRY=1
//*
//* CREATE, COMPILE, AND LINK-EDIT RETRIEVAL SKELETON PROGRAM
//* USING RETRIEVAL LANGUAGE SPECIFICATIONS;
//* THEN EXECUTE THE PROGRAM TO RETRIEVE ALL RECORDS FROM 1977
//*
//COMPILE.INPUT DD *
$$SELECT                                LIST
YEAR                                   = '77'
$$END
/*

```

Figure AQT13-9. Run Stream

AQDHS-II RETRIEVAL LANGUAGE PROCESSOR PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTLNCP (AQ0110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$SELECT LIST
 YEAR = '77'
 \$\$END

NUMBER OF CONTROL CARDS READ:	3
NUMBER OF RETRIEVAL SKELETON RECORDS READ:	1,138
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:	1,179
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AQ013-10. Procedure AQRTM10 -- programs ARTLNCP and ARTGENR

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AQDHS-II GENERATED RETRIEVAL PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTGENR (AQ0120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	331
NUMBER OF ANSWER FILE RECORDS WRITTEN:	118
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

(Page 1 of 2)

150

[illegible]

AQDHS-II TEST 14

Update the Parameter File

In this test run, the AQDHS-II parameter file is updated using the cataloged procedure AQEMP10 which executes ASRPARM (AQ0150), the parameter file transaction sort program, and AEMPARM (AQ0070), the parameter file maintenance program.

The same programs were used in Test 1 to create the initial parameter file. Each of the input parameter file transactions had an action code of 'A' which signifies that the data on these transactions were to be added to the parameter file. However, in this test run, not only can information be added to the file (i.e., records created), but existing parameter file records can be changed or deleted.

Changing a record requires a transaction with the same parameter, method, and unit code combination as the record to be changed. Also, this transaction must have an action code of 'C' and an appropriate card type. If these requirements are met, the non-blank fields of the transaction will replace the corresponding fields of data in the parameter file record.

Similarly, the deletion of a parameter file record requires a transaction with the same parameter, method, and unit code combination as the record to be deleted. However, the transaction must be a card type 1 transaction, have an action code of 'D', and contain blanks in the remaining transaction fields.

The run stream for this test run contains the JCL necessary for updating an AQDHS-II parameter file. This run stream is shown in Figure AQT14-1.

The cataloged procedure executed by this run stream is AQEMP10. Through the use of substitutable parameters, the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the new parameter file is named AQPARM02. The user must supply the DD (data definition) information for the input AQDHS-II parameter transactions file in the SORT step and the option card file in the UPDATE step. The options specified in the UPDATE step of

```

//AQTST14 JOB RTI.C44.PO2443.MCMASER,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMASER.DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069.MCMASER.DPR.DATA,AQPARM02,
// DISP=(OLD,DELETE)
/*
/** UPDATE THE PARAMETER FILE, AQPARM01
/**
//TEST14A EXEC AQEMP10,
//          OLDPARM=AQPARM01,
//          NEWPARM=AQPARM02,
//          PRIMARY=1,
//          SCNDARY=1
/**
/** PRESORT THE PARAMETER TRANSACTIONS,
/** THEN UPDATE THE FILE WITH THEM
/**
//SORT.INPUT DD *
1612022128
2621012015          DEGREES FAHRENHEIT
111103910110001BENZENE SU ORGANICS          HI-VOL
2111039101BENZENE EXTRACT-SOXHLET          UGMS/M3 (25 UEG C, 1013 M-BARS)
311103910101000100000
/*
//UPDATE.OPTINS DD *
FLAG# LIST
/*

```

D
C
A
A
A

Figure AQT14-1. Run Stream

ADDHS-II PARAMETER FILE TRANSACTION SORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASRPARM (A00150)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT TRANSACTIONS: 5
 NUMBER OF OUTPUT TRANSACTIONS: 5

ADDHS-II PARAMETER FILE EDIT AND MAINTENANCE PROGRAM DIAGNOSTIC MESSAGES

PAGE 1

PROGRAM NAME: AEMPARM (A00070)
 REVISION LEVEL: 1-00
 INCORPORATED: OCTOBER 31, 1978
 LAST UPDATE #: 24
 OPTIONS IN EFFECT: FLAGW LIST

511103910101000100000

*** AEMPARM 016 WARNING - ADD TRANSACTION DOES NOT SPECIFY USER UNITS CODE, ASSUMING UNITS CODE IN KEY
 *** AEMPARM 018 WARNING - ADD TRANSACTION DOES NOT SPECIFY USER UNITS CONV FAC, ASSUMING UNITY

NUMBER OF INPUT PARAMETER FILE RECORDS: 89
 NUMBER OF OUTPUT PARAMETER FILE RECORDS: 89
 NUMBER OF INPUT TRANSACTION CARDS: 5
 NUMBER OF VALID TRANSACTION CARDS: 5
 NUMBER OF REJECTED TRANSACTION CARDS: 0
 NUMBER OF DISASTER MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0
 NUMBER OF ERROR MESSAGES: 0
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF WARNING MESSAGES: 2

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AQDHS-II PARAMETER FILE TRANSACTIONS

PAGE 1

111103910110001	BENZENE SO ORGANICS	HI-VOL	A
2111039101	BENZENE EXTRACT-SOXHLET	UGMS/M3 (25 DEG C, 1013 M-BARS)	A
311103910101000100000			A
1612022128			D
2621012015	DEGREES FAHRENHEIT		C

Figure AQI14-2 - continued. Procedure AQEMP10 -- program AEMPARM

111019101000A00100010000001000100000TOTAL	SUSPENDED PARTICULATE	M2-VOL	GRAVIMETRIC	U-GMS/M3 (25DEG
111019202001A10100009160002000100000TOTAL	SUSPENDED PARTICULATE	MEMBRANE SAMPLE	GRAVIMETRIC	U-GMS/M3 (0DEG C
112018109000A20100010000009000100000SOILING	INDEX (CUH/1000LF)	TAPE SAMPLER	TRANSMITTANCE	CUHS/1000 LINEAR
211015190014C29300003503090000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC	TONS/SQUARE MILE
211015191000E29300100000091000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC	M-GMS/SQUARE CEN
211017190014C29300003503090000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (APCA)	TONS/SQUARE MILE
211017191000E29300100000091000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (APCA)	M-GMS/SQUARE CEN
211018190014C29300003503090000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (ASTM)	TONS/SQUARE MILE
211018191000E29300100000091000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (ASTM)	M-GMS/SQUARE CEN
421011105057E30500010000005000100000CARBON	MUNOXIDE	INSTRUMENTAL	NONDISPERSIVE INFRA-RED	M-GMS/M3 (25DEG
421011106062H30500009160006000100000CARBON	MUNOXIDE	INSTRUMENTAL	NONDISPERSIVE INFRA-RED	M-GMS/M3 (0DEG C
421011107000D10500011500007000100000CARBON	MUNOXIDE	INSTRUMENTAL	NONDISPERSIVE INFRA-RED	PARTS PER MILLIO
421012105006C20500010000005000100000CARBON	MUNOXIDE	INSTRUMENTAL	GAS CHROMATOGRAPHIC	M-GMS/M3 (25DEG
421012107000D10500011500007000100000CARBON	MUNOXIDE	INSTRUMENTAL	GAS CHROMATOGRAPHIC	PARTS PER MILLIO
421021107000A00500018000007000100000CARBON	DIOXIDE	INSTRUMENTAL	INFRARED ABSORPTION	PARTS PER MILLIO
421029105001H10500010000005000100000CARBON	DIOXIDE	GAS BUBBLER	PHENOLPHTHALEIN	M-GMS/M3 (25DEG
421029107000A00500018000007000100000CARBON	DIOXIDE	GAS BUBBLER	PHENOLPHTHALEIN	PARTS PER MILLIO
424011102028F10100009160002000100000SULFUR	DIOXIDE	INSTRUMENTAL	WEST-GAEKE COLORIMETRIC	U-GMS/M3 (0DEG C
424011107000A20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	WEST-GAEKE COLORIMETRIC	PARTS PER MILLIO
424011108001\00100026200008000100000SULFUR	DIOXIDE	INSTRUMENTAL	WEST-GAEKE COLORIMETRIC	PARTS PER BILLIO
424011102028F10100009160002000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	U-GMS/M3 (25DEG
424011302028F10100009160002000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	U-GMS/M3 (0DEG C
424011307000A20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	PARTS PER MILLIO
424011308001\00100026200008000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	PARTS PER BILLIO
424011401026B10100010000001000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	U-GMS/M3 (25DEG
424011402028F10100009162002000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	U-GMS/M3 (0DEG C
424011407000A20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	PARTS PER MILLIO
424011408001\00100026200008000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	PARTS PER BILLIO
424011601026B10100010000001000100000SULFUR	DIOXIDE	INSTRUMENTAL	FLAME PHOTOMETRIC	U-GMS/M3 (25DEG
424011707000D20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	POLAROGRAPHIC DYNA SCIENC	PARTS PER MILLIO
424013101026B10100010000001000100000SULFUR	DIOXIDE	DAVIS INSTRUMENT	HYDROGEN PEROXIDE	U-GMS/M3 (25DEG
424013302028F10100009160002000100000SULFUR	DIOXIDE	DAVIS INSTRUMENT	SEQUENTIAL-CONDUCTOMETRIC	U-GMS/M3 (0DEG C
424019101000E00100010000001000100000SULFUR	DIOXIDE	GAS BUBBLER	PARAROSANILINE-SULFAMIC	U-GMS/M3 (25 DEG
424019107001140126200000007000100000SULFUR	DIOXIDE	GAS BUBBLER	PARAROSANILINE-SULFAMIC	PARTS PER MILLIO
424019401000E00100010000001000100000SULFUR	DIOXIDE	GAS BUBBLER	HYDROGEN PEROXIDE	U-GMS/M3 (25DEG
426011407000A20112300000007000100000NITRIC	OXIDE	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426021101018H10100010000001000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-LYSHKOW	U-GMS/M3 (25DEG
426021102020E10100009160002000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-LYSHKOW	U-GMS/M3 (0DEG C
426021107000A20118800000007000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	PARTS PER MILLIO
426021108001\00100018800008000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	PARTS PER BILLIO
426021201018H10100010000001000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	U-GMS/M3 (25DEG
426021207000A20118800000007000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	PARTS PER MILLIO
426021302020E10100009160002000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COULOMETRIC -GREISS-SALTZ	U-GMS/M3 (0DEG C
426021407000A20118800000007000100000NITROGEN	DIOXIDE	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426021408001\00100018800008000100000NITROGEN	DIOXIDE	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER BILLIO
426021501075B10100010000001000100000NITROGEN	DIOXIDE	INSTRUMENTAL	POLAROGRAPHIC DYNA SCIENC	U-GMS/M3 (25DEG
426028207002G40118800000008100000000NITROGEN	DIOXIDE	GAS BUBBLER	SALTZMAN(100ML TU+ORIFIC)	PARTS PER MILLIO
426028401000E00100010000001000100000NITROGEN	DIOXIDE	GAS BUBBLER	NASN SODIUM ARSENITE	U-GMS/M3 (25DEG
426028402005E10100009160002000100000NITROGEN	DIOXIDE	GAS BUBBLER	NASN SODIUM ARSENITE	U-GMS/M3 (25DEG
426029402005E10100009160002000100000NITROGEN	DIOXIDE	GAS BUBBLER	NASN SODIUM ARSENITE	U-GMS/M3 (0DEG C
426029501000E00100010000001000100000NITROGEN	DIOXIDE	GAS BUBBLER	TEA METHOD	U-GMS/M3 (25DEG
426029602005E10100009160002000100000NITROGEN	DIOXIDE	GAS BUBBLER	TGS METHOD	U-GMS/M3 (0DEG C
426031107000A20118800000007000100000OXIDES	OF NITROGEN	INSTRUMENTAL	COLORIMETRIC	PARTS PER MILLIO
426031108001\00100018800008000100000OXIDES	OF NITROGEN	INSTRUMENTAL	COLORIMETRIC	PARTS PER BILLIO
426031307000A20118800000007000100000OXIDES	OF NITROGEN	INSTRUMENTAL	COLORIMETRIC	PARTS PER MILLIO
426031407000A20118800000008100000000OXIDES	OF NITROGEN	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426039901000E00100010000001000100000OXIDES	OF NITROGEN	GAS BUBBLER	SALTZMAN METHOD	U-GMS/M3 (25DEG
426039907002G40118800000007000100000OXIDES	OF NITROGEN	GAS BUBBLER	SALTZMAN METHOD	PARTS PER MILLIO
431011101013C00100010000001000100000TOTAL	HYDROCARBONS	INSTRUMENTAL	FLAME IONIZATION	U-GMS/M3 (25DEG
431011102013C00100009160002000100000TOTAL	HYDROCARBONS	INSTRUMENTAL	FLAME IONIZATION	U-GMS/M3 (0DEG C

OUTPUT AQHNS-II PARAMETER FILE

PAGE 1

111019101000A00100010000001000100000TOTAL	SUSPENDED PARTICULATE	HI-VOL	GRAVIMETRIC	U-GMS/M3 (25DEG
111019202001A10100009160002000100000TOTAL	SUSPENDED PARTICULATE	MEMBRANE SAMPLE	GRAVIMETRIC	U-GMS/M3 (0DEG C
111039101000A10100010000001000100000BENZENE SU	ORGANICS	HI-VOL	BENZENE EXTRACT-SOXHLET	UGMS/M3 (25 DEG
112018109000A20100010000009000100000SULFING INDEX (COH/1000LF)		TAPE SAMPLER	TRANSMITTANCE	COHS/1000 LINEAR
211015190014C29300003503090000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC	TONS/SQUARE MILE
211015191000E29300100000091000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC	M-GMS/SQUARE CEN
211017190014C29300003503090000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (APCA)	TONS/SQUARE MILE
211017191000E29300100000091000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (APCA)	M-GMS/SQUARE CEN
211018190014C29300003503090000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (ASTM)	TONS/SQUARE MILE
211018191000E29300100000091000100000TOTAL	SETTLED PARTICULATE	BUCKET; JAR	GRAVIMETRIC (ASTM)	M-GMS/SQUARE CEN
421011105057E30500010000005000100000CARBON	MUNOXIDE	INSTRUMENTAL	NONDISPERSIVE INFRA-RED	M-GMS/M3 (25DEG
421011106062H30500009160006000100000CARBON	MUNOXIDE	INSTRUMENTAL	NONDISPERSIVE INFRA-RED	M-GMS/M3 (0DEG C
421011107000D10500011500007000100000CARBON	MUNOXIDE	INSTRUMENTAL	NONDISPERSIVE INFRA-RED	PARTS PER MILLIO
421012105006C20500010000005000100000CARBON	MUNOXIDE	INSTRUMENTAL	GAS CHROMATOGRAPHIC	M-GMS/M3 (25DEG
421012107000D10500011500007000100000CARBON	MUNOXIDE	INSTRUMENTAL	GAS CHROMATOGRAPHIC	PARTS PER MILLIO
421021107000A00500018000007000100000CARBON	DIOXIDE	INSTRUMENTAL	INFRARED ABSORPTION	PARTS PER MILLIO
421029105001H10500010000005000100000CARBON	DIOXIDE	GAS BUBBLER	PHENOLPHTHALEIN	M-GMS/M3 (25DEG
421029107000A00500018000007000100000CARBON	DIOXIDE	GAS BUBBLER	PHENOLPHTHALEIN	PARTS PER MILLIO
424011102028F10100009160002000100000SULFUR	DIOXIDE	INSTRUMENTAL	WEST-GAEKE COLORIMETRIC	U-GMS/M3 (0DEG C
424011107000A20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	WEST-GAEKE COLORIMETRIC	PARTS PER MILLIO
424011108001\00100026200008000100000SULFUR	DIOXIDE	INSTRUMENTAL	WEST-GAEKE COLORIMETRIC	PARTS PER MILLIO
424011301026B10100010000001000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	U-GMS/M3 (25DEG
424011302028F10100009160002000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	U-GMS/M3 (0DEG C
424011307000A20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	PARTS PER MILLIO
424011308001\00100026200008000100000SULFUR	DIOXIDE	INSTRUMENTAL	CONDUCTOMETRIC	PARTS PER MILLIO
424011401026B10100010000001000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	U-GMS/M3 (25DEG
424011402028F10100009162002000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	U-GMS/M3 (0DEG C
424011407000A20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	PARTS PER MILLIO
424011408001\00100026200008000100000SULFUR	DIOXIDE	INSTRUMENTAL	COULOMETRIC	PARTS PER MILLIO
424011601026B10100010000001000100000SULFUR	DIOXIDE	INSTRUMENTAL	FLAME PHOTOMETRIC	U-GMS/M3 (25DEG
424011707000D20126200000007000100000SULFUR	DIOXIDE	INSTRUMENTAL	POLAROGRAPHIC DYNA SCIENC	PARTS PER MILLIO
424013101026B10100010000001000100000SULFUR	DIOXIDE	DAVIS INSTRUMENT	HYDROGEN PEROXIDE	U-GMS/M3 (25DEG
424013302028F10100009160002000100000SULFUR	DIOXIDE	DAVIS INSTRUMENT	SEQUENTIAL-CONDUCTOMETRIC	U-GMS/M3 (0DEG C
424019101000E00100010000001000100000SULFUR	DIOXIDE	GAS BUBBLER	PARAROSANILINE-SULFAMIC	U-GMS/M3 (25 DEG
4240191070001140126200000007000100000SULFUR	DIOXIDE	GAS BUBBLER	PARAROSANILINE-SULFAMIC	PARTS PER MILLIO
424019401000E00100010000001000100000SULFUR	DIOXIDE	GAS BUBBLER	HYDROGEN PEROXIDE	U-GMS/M3 (25DEG
426011407000A20112300000007000100000NITROGEN	OXIDE	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426021101018H10100010000001000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-LYSHKOW	U-GMS/M3 (25DEG
426021102020E10100009160002000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-LYSHKOW	U-GMS/M3 (0DEG C
426021107000A20118800000007000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	PARTS PER MILLIO
426021108001\00100018800008000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	PARTS PER MILLIO
426021201018H10100010000001000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	U-GMS/M3 (25DEG
426021207000A20118800000007000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COLORIMETRIC-GREISS-SALTZ	PARTS PER MILLIO
426021302020E10100009160002000100000NITROGEN	DIOXIDE	INSTRUMENTAL	COULOMETRIC -GREISS-SALTZ	U-GMS/M3 (0DEG C
426021407000A20118800000007000100000NITROGEN	DIOXIDE	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426021408001\00100018800008000100000NITROGEN	DIOXIDE	INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426021501075B10100010000001000100000NITROGEN	DIOXIDE	INSTRUMENTAL	POLAROGRAPHIC DYNA SCIENC	U-GMS/M3 (25DEG
426028207002G40118800000008100000000NITROGEN	DIOXIDE	GAS BUBBLER	SALTZMAN(100ML TU+ORIFIC)	PARTS PER MILLIO
426028401000E00100010000001000100000NITROGEN	DIOXIDE	GAS BUBBLER	NASN SODIUM ARSENITE	U-GMS/M3 (25DEG
426028402005E10100009160002000100000NITROGEN	DIOXIDE	GAS BUBBLER	NASN SODIUM ARSENITE	U-GMS/M3 (25DEG
426029402005E10100009160002000100000NITROGEN	DIOXIDE	GAS BUBBLER	NASN SODIUM ARSENITE	U-GMS/M3 (0DEG C
426029501000E00100010000001000100000NITROGEN	DIOXIDE	GAS BUBBLER	TEA METHOD	U-GMS/M3 (25DEG
426029602005E10100009160002000100000NITROGEN	DIOXIDE	GAS BUBBLER	TGS METHOD	U-GMS/M3 (0DEG C
426031107000A20118800000007000100000OXIDES OF NITROGEN		INSTRUMENTAL	COLORIMETRIC	PARTS PER MILLIO
426031108001\00100018800008000100000OXIDES OF NITROGEN		INSTRUMENTAL	COLORIMETRIC	PARTS PER MILLIO
426031307000A20118800000007000100000OXIDES OF NITROGEN		INSTRUMENTAL	COLORIMETRIC	PARTS PER MILLIO
426031407000A20118800000008100000000OXIDES OF NITROGEN		INSTRUMENTAL	CHEMILUMINESCENCE	PARTS PER MILLIO
426039901000E00100010000001000100000OXIDES OF NITROGEN		GAS BUBBLER	SALTZMAN METHOD	U-GMS/M3 (25DEG
426039907002G40118800000007000100000OXIDES OF NITROGEN		GAS BUBBLER	SALTZMAN METHOD	PARTS PER MILLIO
431011101013C00100010000001000100000TOTAL	HYDROCARBONS	INSTRUMENTAL	FLAME IONIZATION	U-GMS/M3 (25DEG

Figure AQT14-2 - continued. Procedure AQEMP10 -- program AEMPARM

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AQDHS-II TEST 15

Update the Site File

In this test run, the AQDHS-II site file is updated using the cataloged procedure AQEMS10 which executes ASRSITE (AQ0160), the site file transaction sort program, and AEMSITE (AQ0080), the site file maintenance program.

The programs used in this test run were used in Test 2 to create the initial site file. For a description of ASRSITE (AQ0160) and AEMSITE (AQ0080) refer to Test 2.

The run stream for this test run contains the JCL necessary for updating an AQDHS-II site file. This run stream is shown in Figure AQT15-1.

The cataloged procedure executed by this run stream is AQEMS10. For the SORT step, the user must supply the DD (data definition) information for the input AQDHS-II site transaction file. Substitutable parameters are used to specify AQSITE01 (created and stored on disk in Test 2) as the input site file and AQSITE02 as the new (or updated) site file. Refer to Figure AQT15-2 for the sample output produced by this procedure.

```

//AQSTST15 JOB RTI.C44.PO2443,MCMASTER,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMASTER.DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMASTER.DPR.DATA,AQSITE02,
// DISP=(OLD,DELETE)
//*
//* UPDATE THE SITE FILE, AQSITE01
//*
//TEST15A EXEC AQEMS10,
//          ULOSITE=AQSITE01,
//          NEWSITE=AQSITE02,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* PRESORT THE SITE TRANSACTIONS, THEN UPDATE THE FILE WITH THEM
//*
//SURT.INPUT DD *
100001001E02
420005003A052041340 OCEAN BLVD & 1ST AVE., MYRTLE BEACH, HORRY CO.
373000110G011863020 COUNTY PUBLIC HEALTH, TULSA, TULSA CO.
/*

```

Figure AQT15-1. Run Stream

ADDHS-11 SITE FILE TRANSACTION SORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASRSITE (A00160)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF TRANSACTIONS READ: 3
 NUMBER OF TRANSACTIONS WRITTEN: 3

Figure AQT15-2. Procedure AQEMS10 -- programs ASRSITE and AEMSITE

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ADDHS-11 SITE FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AEMSITE (A00060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT/LEADS	ACTION
100001001E02	*** DELETED
3730001106011863020 COUNTY PUBLIC HEALTH, TULSA, TULSA CO.	*** REPLACED
420005003A052041340 OCEAN BLVD & 1ST AVE., MYRTLE BEACH, HORRY CO.	*** ADDED

RECORDS ADDED:	1
RECORDS DELETED:	1
RECORDS REPLACED:	1
OLD SITE FILE COUNT:	36
NEW SITE FILE COUNT:	36
ERROR COUNT:	0

AQDHS-II TEST 16

Produce a Parameter Exception Report for the Updated Parameter File

In this test run, a parameter exception report is generated for the updated parameter file using the cataloged procedure AQRPP20. This procedure executes ARPPMEX (AQ0330), the parameter exception report program.

ARPPMEX (AQ0330) is designed to give an exception report of the parameter, method, and unit code combinations which are found in the AQDHS-II master file but not in the parameter file.

For each combination not found in the parameter file, ARPPMEX (AQ0330) creates a set of three skeleton parameter file transactions which may be used in adding these exceptions to the parameter file. Note that before these transactions can be used to update the parameter file the appropriate information must be added to the following fields: (1) the minimum detectable, (2) the minimum detectable decimal code, (3) the parameter description, (4) the collection method, (5) the analysis method, (6) the units description, (7) the standard units code, and (8) the standard units conversion factor. It may also be desirable to add (9) the user units code and (10) the user units conversion factor. See Figure AQT1-1 for the parameter file transaction formats.

The parameter exception report lists the parameter, method, and unit code combinations which were missing from the parameter file or simply indicates that none were missing.

The run stream for this test run contains the JCL necessary for producing a parameter exceptions report for the updated parameter file. This run stream is shown in Figure AQT16-1.

The cataloged procedure executed by this run stream is AQRPP20. Through the use of substitutable parameters, the input master file is specified as AQMST01T (created and stored on disk in Test 12), and the input parameter file is specified as AQPARM02 (created and stored on disk in Test 14). In this test run, the skeleton transaction file is printed for verification purposes.

However, the user will typically write this file to cards or disk in order to more easily add information to the transactions. The cataloged procedure AQRPP20 is designed to write the file to disk, so in order to write the file to cards the user must supply the appropriate DD (data definition) information for the skeleton transaction file in the COMPARE step. Refer to Figure AQT16-2 for the sample output produced by this procedure.

```

//AQSTST16  J0H  RT1,C44,PU2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RT1,C44,PO2069,MCMaster,OPR,JCL
//*
//* PRODUCE A PARAMETER EXCEPTIONS REPORT FOR THE UPDATED
//* PARAMETER FILE, AQPARM02
//*
//TEST16A EXEC AQRPP20,
//          MSTRFIL=AQMST01T,
//          PARMFIL=AQPARM02
//*
//* MATCH THE PARAMETER KEYS ON THE PARAMETER FILE
//* WITH THOSE ON THE LATEST MASTER FILE, AQMST01T,
//* TO FIND ANY OUTSTANDING PARAMETER KEYS ON THE PARAMETER FILE;
//* GENERATE SKELETON TRANSACTIONS FOR THESE PARAMETER KEYS
//* (PRINTED IN THIS RUN)
//*
//COMPARE,AQSTRANS DD SYSOUT=A

```

Figure AQT16-1. Run Stream

PROGRAM NAME: ARPPMEX (AQ0330)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER RECORDS READ: 331
 NUMBER OF PARM FILE RECORDS READ: 89
 NUMBER OF PARAMETER EXCEPTIONS: 1
 NUMBER OF PARM FILE TRANSACTIONS CREATED: 3

Figure AQ16-2. Procedure AQRPP20 -- program ARPPMEX

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ADDHS-II PARAMETER EXCEPTION REPORT
 LIST OF PARAMETERS MISSING FROM ADDHS-II PARAMETER FILE

PAGE 1

PARAMETER CODE	METHOD CODE	UNIT CODE
61202	21	28

1612022128
 2612022128
 3612022128

A
 A
 A

AQDHS-II TEST 17

Produce a Site Exception Report for the Updated Site File

In this test run, a site exception report is generated for the updated site file using the cataloged procedure AQRPS20. This procedure executes ARPSMEX (AQ0340), the site exception report program.

ARPSMEX (AQ0340) is designed to give an exception report of the sites (i.e., state, area, site, agency, and project codes) which are found in the AQDHS-II master file but not in the AQDHS-II site file.

The option in this program is used to specify the maximum number of lines per printed page. The number of lines must be coded in card columns 1 and 2 of the option card. If no option card is entered, or an invalid line count is specified, a default of 62 lines per page is assumed.

The site exception report lists the sites which were missing from the site file or simply indicates that none were missing.

For those sites not found in the site file, ARPSMEX (AQ0340) creates skeleton site file transactions which may be used in adding these exceptions to the site file. Note that before these transactions can be used to update the site file the appropriate information must be added to the following fields: (1) the AQCR code, (2) the county code, (3) the SLAMS-ID, and (4) the site description. See Figure AQT2-1 for the site file transaction format.

The run stream for this test run contains the JCL necessary for producing a site exceptions report for the updated site file. This run stream is shown in Figure AQT17-1.

The cataloged procedure executed by this run stream is AQRPS20. Through the use of substitutable parameters, the input master file is specified as AQMST01T (created and stored on disk in Test 12), and the input site file is specified as AQSITE02 (created and stored on disk in Test 15). The user must supply the DD (data definition) information for the option card file. The lines per page option specified in the EXCPRP step of this test run is 62. In this test run, the skeleton transaction file is printed for verification

purposes. However, the user will typically write this file to cards or disk in order to more easily add information to the transactions. The cataloged procedure AQRPS20 is designed to write the file to disk, so in order to write the file to cards the user must supply the appropriate DD information for the skeleton transaction file in the EXCPRP step. Refer to Figure AQT17-2 for the sample output produced by this procedure.

```

//AUSTST17 JOB RTI.C44,PO2443,MCMASER,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44,PO2069,MCMASER,UPH,JCL
//*
//* PRODUCE A SITE EXCEPTIONS REPORT FOR THE
//* UPDATED SITE FILE, AQSITE02
//*
//TEST17A EXEC AQRPS20,
//          MSTRFIL=ADMST01T,
//          SITEFIL=AQSITE02
//*
//* MATCH THE SITE KEYS ON THE SITE FILE WITH THOSE ON
//* THE LATEST MASTER FILE, AQMST01T,
//* TO FIND ANY OUTSTANDING SITE KEYS ON THE SITE FILE;
//* GENERATE SKELETON TRANSACTIONS FOR THESE SITES (PRINTED IN THIS RUN)
//*
//LXCPRP.AQSTRANS DD SYSOUT=A
//LXCPRP.OPTIONS DD *
62
/*

```

Figure AQT17-1. Run Stream

PROGRAM NAME: ARPSMEX (ADD340)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: 62 LINES PER PAGE

NUMBER OF MASTER FILE RECORDS: 331
NUMBER OF SITE FILE RECORDS: 36
NUMBER OF MISSING SITES PRINTED IN REPORT: 1
NUMBER OF SKELETON TRANSACTIONS GENERATED: 1

Figure AQT17-2. Procedure AQRPS20 -- program ARPSMEX

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ADDHS-II SITE EXCEPTION REPORT
LIST OF SITES MISSING FROM ADDHS-II SITE FILE

PAGE 1

STATE CODE	AREA CODE	SITE CODE	AGENCY	PROJECT
10	0001	001	E	02

100001001E020491080

AQDHS-II TEST 18

Produce a FORTRAN-Compatible Master File and a FORTRAN-Compatible Parameter File

In this test run, a FORTRAN-compatible master file is produced using the cataloged procedure AQCVM10 which executes ACVMFOR (AQ0020), the master file COBOL to FORTRAN format conversion program. The cataloged procedure AQCVP10 is then used to produce a FORTRAN-compatible parameter file by executing ACVPFOR (AQ0030), the parameter file COBOL to FORTRAN format conversion program.

ACVMFOR (AQ0020) generates a FORTRAN-compatible file containing the data from an AQDHS-II master file (or answer file). The file produced by ACVMFOR (AQ0020) is not used by any AQDHS-II program. This program is provided for the user who has ANS FORTRAN programs which use data from the AQDHS-II master file.

This FORTRAN-compatible file contains a greater number of physical records than the input master file because each input master file record is split into one to four output records. This splitting is required because an AQDHS-II master file consists of variable-length records which store a maximum of 31 readings, whereas, the FORTRAN-compatible master file consists of fixed-length records which store up to ten readings. All readings from an AQDHS-II master file record are stored in a set of FORTRAN-compatible records which have the same key fields and are sequenced by a record sequence field. Additionally, a header record and a trailer record are attached to the beginning and end of the converted file, respectively.

ACVPFOR (AQ0030) generates a FORTRAN-compatible file containing the data from an AQDHS-II parameter file. The file produced by ACVPFOR (AQ0030) is not used by any AQDHS-II program. This program is designed for the user who has ANS FORTRAN programs which use data from the AQDHS-II parameter file.

The data fields on a converted record are the same as in the input parameter file record with the exception of the 'minimum detectable' data field. In the COBOL parameter file, the minimum detectable is represented as

a signed four-digit number, and the decimal position for this number is indicated in a separate data field. When the file is converted to the FORTRAN-compatible format, the minimum detectable is represented by a ten-character field containing the sign ('-' if negative, blank if positive), the decimal point, and the actual numeric value. Also, the FORTRAN-compatible file will have a header record at the beginning of the file and a trailer record at the end.

The run stream for this test run contains the JCL necessary for producing a FORTRAN-compatible master file and a FORTRAN-compatible parameter file. This run stream is shown in Figure AQT18-1.

First, the run stream executes the cataloged procedure AQCVM10. Through the use of substitutable parameters, the input master file is specified as AQMST01T (created and stored on disk in Test 12), and the FORTRAN-compatible master file is named AQMSTF01. Refer to Figure AQT18-2 for the sample diagnostic output produced by this procedure.

Next, the cataloged procedure AQCVF10 is executed. Substitutable parameters are used to specify AQPARM01 (created and stored on disk in Test 1) as the input parameter file and AQPRMF01 as the FORTRAN-compatible parameter file. Figure AQT18-3 shows the sample output diagnostic produced by this procedure.

```

//ANSTST18 JOB RTI.C44.PO2443,MCMASTER,T=2,P=150,FURMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMASTER.DPR,JCL
//KILL EXEC PGM=IEFBRI4
//DD1 DD DSN=RTI.C44.PO2069,MCMASTER.DPR.DATA,AQMSTF01,
// DISP=(OLD,DELETE)
//DD2 DD DSN=RTI.C44.PO2069,MCMASTER.DPR.DATA,AQPRMF01,
// DISP=(OLD,DELETE)
//*
//* PRODUCE MASTER AND PARAMETER FILES THAT MAY BE
//* USED IN FORTRAN PROGRAMS
//*
//TEST18A EXEC AQCVMI0,
//          MSTRFIL=AQMST01T,
//          MSTRFUR=AQMSTF01,
//          DISP='NEW,CATLG,DELETE',
//          PRIMARY=1,
//          SECONDRY=1
//*
//* CREATE A FORTRAN-COMPATIBLE MASTER FILE
//* FROM THE LATEST MASTER,AQMST01T
//*
//TEST18B EXEC AQCVPI0,
//          PARMFIL=AQPARM01,
//          PARMFUR=AQPRMF01,
//          DISP='NEW,CATLG,DELETE',
//          PRIMARY=1,
//          SECONDRY=1
//*
//* CREATE A FORTRAN-COMPATIBLE FILE
//* FROM THE FILE AQPARM01
//*

```

Figure AQT18-1. Run Stream

PROGRAM NAME: ACVMFOR (AQ0020)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF FILE RECORDS READ:	331
NUMBER OF FILE RECORDS WRITTEN:	707
NUMBER OF ERRORS DETECTED:	0

Figure AQT18-2. Procedure AQCM10 -- program ACVMFOR

PROGRAM NAME: ACVPFOR (AQ0030)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF FILE RECORDS READ:	111
NUMBER OF FILE RECORDS WRITTEN:	113
NUMBER OF ERRORS DETECTED:	0

Figure AQ18-3. Procedure AQCVPI0 -- program ACVPFOR

AQDHS-II TEST 19

Archive Data from the Master File

In this test run, data from the AQDHS-II master file is archived using the cataloged procedure AQMSM20. This procedure executes AMSARCH (AQ0215), the master file archival program.

AMSARCH (AQ0215) creates from an input AQDHS-II master file two distinct master files: a new AQDHS-II master file and an archived AQDHS-II master file. By archiving the oldest year(s) of data, the user can reduce the size of his working master files and his operating expenses as well.

The option in this program is used to specify the beginning year for records in the new master file. A master file record is selected for the new master file if the date of the record is greater than or equal to the specified year; otherwise, the record is selected for the archived file. The user must enter an option card specifying the option date. Also, the option date must appear in card columns 1 and 2 of the option card, and it must be numeric and greater than 59. If the option date is invalid, or if no option card is submitted, an error message will be printed and program execution will be terminated.

The run stream for this test run contains the JCL necessary for archiving data from the AQDHS-II master file. This run stream is shown in Figure AQT19-1.

The cataloged procedure executed by this run stream is AQMSM20. Through the use of substitutable parameters, the input master file is specified as AQMST01T (created and stored on disk in Test 12), the new master file is named AQMST02N, and the archived master file is named AQARCM01. The user must supply the DD (data definition) information for the option card file. The option specified in the ARCHIVE step of this test run is 65. Thus, all data dated prior to 1965 is archived. Figure AQT19-2 shows the sample output produced by this procedure.

```

//AQSTST19 JOB RTI.C44.PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMaster.DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMaster.DPR.DATA,AQARCH01,
// DISP=(OLD,DELETE)
//DD2 DD DSN=RTI.C44.PO2069,MCMaster.DPR.DATA,AQMST02N,
// DISP=(OLD,DELETE)
//*
//* ARCHIVE THE DATA PRIOR TO 1965 ON THE LATEST MASTER FILE, AQMST01T
//*
//TEST19A EXEC AQMSM20,
//          MSTRFIL=AQMST01T,
//          NEWMSTR=AQMST02N,
//          ARCHMSTR=AQARCH01,
//          PRI1=1,
//          SEC1=1,
//          PRI2=1,
//          SEC2=1
//*
//* SPLIT THE MASTER FILE INTO AN
//* ARCHIVED FILE, AQARCH01, WITH ALL DATA BEFORE 1965,
//* AND A NEW WORKING FILE, AQMST02N
//* WITH DATA 1965 - PRESENT, INCLUSIVE
//*
//ARCHIVE.OPTIONS DD *
65
//*

```

Figure AQT19-1. Run Stream

AUDHS-11 MASTER FILE ARCHIVAL PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AMSARCH (A00215)
REVISION LEVEL: 1-00
LAST UPDATE #:
DATE INCORPORATED: OCTOBER 31, 1978

ALL DATA PRIOR TO 1965 IS ARCHIVED

OLD MASTER COUNT:	331
NEW MASTER COUNT:	318
ARCHIVED MASTER COUNT:	13

Figure AQT19-2. Procedure AQMSM20 -- program AMSARCH
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AQDHS-II TEST 20

Reproduce the Working Master File with Data in Standard Units

In this test run, the AQDHS-II master file is reproduced in standard units using the cataloged procedure AQCVM20. This procedure executes ACVUNIT (AQ0050), the units code conversion program.

ACVUNIT (AQ0050) reads each AQDHS-II master file (or answer file) record and creates a new master file record, changing the units code field to the units specified by the option card. Each data reading in the record is then converted to the new units using the conversion factor stored in the parameter file. This program allows the user to produce reports in the same units as the EPA standards or in units of his own choosing.

The options in this program are used to specify whether the master file will be reproduced in EPA standard units or in user units. The STD option denotes that the EPA standard units code will be used for each parameter and method code combination. The USER option indicates that the units specified by the user in the parameter file will be used for each parameter and method code combination. The option specified must begin in card column 1 of the option card. If the option on the option card is invalid, or if an option card is not present in the run stream, the default value of STD will be in effect.

The input AQDHS-II parameter file should contain the units code and conversion factor information for all parameter, method, and unit code combinations on the master file. Note that the input master file (or answer file) is not altered by ACVUNIT (AQ0050); a separate, converted file is produced. This converted master file contains data values converted to the specified units. The file may be out of sequence since the units code field (a sort-key field) has been changed.

The run stream for this test run contains the JCL necessary for creating an AQDHS-II master file in standard units. This run stream is shown in Figure AQT20-1.

The cataloged procedure executed by this run stream is AQCVM20. Through the use of substitutable parameters, the input master file is specified as AQMST02N (created and stored on disk in Test 19), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the converted master file is named AQMST02U. The user must supply the DD (data definition) information for the option card file. The option specified in the CONV step of this test run is STD causing the readings to be reproduced in EPA standard units. Refer to Figure AQT20-2 for the sample output produced by this procedure.

```

//AQTST20 JOB RTI.C44.P02443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PRICLIB=RTI.C44.P02069.MCMaster,DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.P02069.MCMaster.DPR,DATA,AQMST02U,
// DISP=(OLD,DELETE)
//*
//* REPRODUCE THE WORKING MASTER FILE, AQMST02N,
//* WITH DATA IN STANDARD UNITS
//*
//TEST20A EXEC AQCV20,
//          NSTRFIL=AQMST02N,
//          ANSWRFL=AQMST02U,
//          PARMFIL=AQPARM01,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* RUN THE UNITS CODE CONVERSION PROGRAM WITH THE STANDARD OPTION
//*
//CONV.OPTIONS DD *
STD
/*

```

Figure AQT20-1. Run Stream

PROGRAM NAME: ACVUNIT (AQ0050)
REVISION LEVEL: 1-00
LAST UPDATE #: 74
ELIMINATED: OCTOBER 31, 1978

OPTION IS STD

5417028800002001005176424011401030300 READING # 01 300800.000000
*** ACVUNIT 004 CONDITIONAL - CONVERTED DATA FIELD TOO LARGE, RESULT IS INVALID

NUMBER OF INPUT RECORDS:	318
NUMBER OF OUTPUT RECORDS:	318
NUMBER OF ERRORS DETECTED:	1
NUMBER OF READINGS CONVERTED:	4,340
NUMBER OF READINGS TOO LARGE:	1
NUMBER OF READINGS TOO SMALL:	0
NUMBER OF RECORDS WITH READINGS CONVERTED:	318
NUMBER OF RECORDS WITH READINGS TOO LARGE:	1
NUMBER OF RECORDS WITH READINGS TOO SMALL:	0

Figure AQT20-2. Procedure AQCVN20 -- program ACVUNIT

AQDHS-II TEST 21

Produce a Sliding Average Report for all Hourly Data Retrieved from the Master File in Standard Units

In this test run, a sliding average answer file is retrieved from the AQDHS-II master file which is in standard units using the cataloged procedure AQRPM20. This procedure executes ARTLNGP (AQ0110), the retrieval language processor program, the COBOL compiler; the linkage editor; and the generated retrieval program, ARTGENR (AQ0120). The cataloged procedure AQSTM20 is then used to calculate the values for the sliding average report by executing ASTSLAV (AQ0180), the sliding average program. Finally, the cataloged procedure AQRPM20 is used to produce the sliding average report by executing ARPMSTR (AQ0230), the master file detailed report program.

ARTLNGP (AQ0110) and ARTGENR (AQ0120) were used in Test 13 to produce a standard answer file from the AQDHS-II master file. However, in this test run, the retrieval programs are used to produce the necessary input file for the sliding average program, ASTSLAV (AQ0180). The retrieval specification cards entered into ARTLNGP (AQ0110) must specify SLIDING as the retrieval mode (refer to Test 13). The file produced by ARTGENR (AQ0120) in this case is referred to as a sliding average answer file and must not be confused with the standard answer file. For a discussion of the programs ARTLNGP (AQ0110) and ARTGENR (AQ0120), see Test 13.

ASTSLAV (AQ0180) is used to calculate values for a sliding average report. The sliding average values are computed for all the data contained in the input file. Therefore, the user should retrieve the particular data to be included in the sliding average report rather than performing sliding average calculations on the entire master file.

The file which is input to ASTSLAV (AQ0180) must be a sliding average answer file created by a retrieval in which the SLIDING mode is specified. The records in the sliding average answer file have been changed to indicate

that they are sliding average records. In addition, there are extra records in the file to provide a wrap-around capability (to be used when the beginning of a year, month, or day has been retrieved).

The options in ASTSLAV (AQ0180) are used to specify the size of the sliding average interval and the percentage of readings required to calculate the sliding average value. The word AVERAGE must begin in card column 1 of the option card. Then, beginning in card column 9, the sliding average interval (a number from 2 to 31) must be specified. This number indicates the interval (or number of readings) for which the sliding average value is to be calculated. As an example, suppose the interval value is three: to calculate a sliding average value, the corresponding input reading plus the previous two input readings (a total of three) are used.

To calculate the sliding average value over an interval of length m does not require that all m readings be present in the input file. If the SAROAD option is in effect (an S is in card column 21 of the option card), 75% of the m readings are required. Whereas, if the AQDHS-II option is in effect (an A is in column 21), $(m + 1)/2$ readings are required. If neither option for the required number of readings is specified, or if an invalid value is entered, the default value A is assumed. Figure AQT21-1 lists, by interval number, the number of readings required for each of these options.

All records read by ASTSLAV (AQ0180) are processed for sliding average values; however, a check is made on the time code of each record to determine if the interval number specified on the option card is greater than the maximum interval size for that time code. A chart of the maximum interval size for each time code is shown in Figure AQT21-2.

The file generated by ASTSLAV (AQ0180) contains sliding average values as calculated by the program. This file is in the same format as the standard AQDHS-II master file.

The report produced by ARPMSTR (AQ0230) can either be a standard report (as in Test 6), or it can be a sliding average report. This option is determined by the type of file entered and not by the option card. Sliding average value files produced by ASTSLAV (AQ0180) are flagged as such and produce the sliding average report (as in this test); all other files produce a standard report. When a sliding average report is being produced by ARPMSTR

(AQ0230) the DISPLAY option may be used, but the SUM and MEAN options may not be used.

The run stream for this test run contains the JCL necessary to produce a sliding average report for all hourly data that has been retrieved from the master file which is in standard units. This run stream is shown in Figure AQT21-3.

First, the run stream executes the cataloged procedure AQRTM10 to retrieve a sliding average answer file. Through the use of substitutable parameters, the input master file is specified as AQMST02N (created and stored on disk in Test 19) and the output answer file is named AQSLAVRT. Remember that AQMST02N is the file which was produced by the units code conversion program, ACVUNIT (AQ0050), in Test 19 and is a reproduction of the active master file in standard units. Thus all readings in AQSLAVRT are expressed in standard units. The user must supply the appropriate DD (data definition) information for the input retrieval specification cards in the COMPILE step. In this test run, the input retrieval specification cards are used to generate a sliding average answer file containing all records with a time code of 1. Refer to Figure AQT21-4 for the sample output produced by this procedure.

Next, the run stream executes the cataloged procedure AQSTM20 which produces the sliding average values. Substitutable parameters are used in this step to indicate AQSLAVRT (created in the first procedure of this test) as the input answer file and to name the output sliding average values file AQSLDAVG. The user must supply the appropriate DD information for the option card file. In this test run, the options specified in the AVERAGE step are AVERAGE, '3', and 'A' signifying that 3 readings are to be used to calculate the sliding average value, and at least two of the readings are required for a calculation. The sample output produced by this procedure is shown in Figure AQT21-5.

Finally, the run stream executes the cataloged procedure AQRPM20 for the sliding average report. By using substitutable parameters in this step, the input master file is specified as AQSLDAVG (created in the previous procedure), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), the input site file is specified as AQSITE01

(created and stored on disk in Test 2), and the input parameter standards file is specified as AQSTND01 (created and stored on disk in Test 3). The user must supply the DD information for the option card file. The option specified in the REPORT step of this test run is DISPLAY > 0.5. Figure AQT21-6 shows the output produced by this procedure.

<u>Interval</u>	<u>Required # of Readings</u>	
	<u>AQDHS-II Option</u>	<u>SAROAD Option</u>
2	2	1
3	2	2
4	3	3
5	3	3
6	4	4
7	4	5
8	5	6
9	5	6
10	6	7
11	6	8
12	7	9
13	7	9
14	8	10
15	8	11
16	9	12
17	9	12
18	10	13
19	10	14
20	11	15
21	11	15
22	12	16
23	12	17

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Figure AQT21-1. Required Number of Readings for Interval Size

<u>Interval</u>	<u>Required # of Readings</u>	
	<u>AQDHS-II Option</u>	<u>SAROAD Option</u>
24	13	18
25	13	18
26	14	19
27	14	20
28	15	21
29	15	21
30	15	22
31	16	23

(Page 2 of 2)

Figure AQT21-1 - continued. Required Number of Readings for Interval Size

<u>AQDHS-II Time Code</u>	<u>Time Interval</u>	<u>Maximum Interval Size</u>
1	1 hour	24
2	2 hour	12
3	3 hour	8
4	4 hour	6
5	6 hour	4
6	8 hour	3
7	12 hour	2
8	Daily	28,29,30, or 31 depending on month
9	Weekly	5
A	Monthly	12
B	Quarterly	4
C	Composite	Not applicable

Figure AQT21-2. Maximum Interval Size By Time Code

```

//AQSTST21 JOB RTI.C44.PO2443,MCMASTER,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMASTER,DPR.JCL
//*
//* PRODUCE A SLIDING AVERAGE REPORT FOR ALL HOURLY DATA
//* RETRIEVED FROM THE MASTER FILE, AQMST02U
//*
//TEST21A EXEC AQRTM10,
//          MSTRFIL=AQMST02N,
//          ANSWRFL=AQSLAVRT,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* RUN THE RETRIEVAL PROCEDURE WITH THE
//* SLIDING OPTION SPECIFIED IN THE '$$SELECT' CONTROL CARD
//*
//COMPILE,INPUT DD *
$$SELECT          SLIDING
TIME=CODE          = '1'
$$END
/*
//TEST21B EXEC AQSTM20,
//          ANSRFIL=AQSLAVRT,
//          VALUFIL=AQSLDAVG,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* CREATE THE SLIDING-AVERAGE-VALUES FILE FROM
//* THE RETRIEVED FILE IN STEP A,
//* USING AN AVERAGING INTERVAL OF 3 READINGS; THE AVERAGING
//* CRITERION OPTION (COL.21) IS 'A'; THIS MEANS THAT THE AQDHS=11
//* CRITERION HOLDS (1 MORE THAN HALF OF THE READINGS IN THE AVERAGING
//* INTERVAL MUST BE PRESENT FOR THE CALCULATION TO BE MADE)
//*
//AVERAGE,OPTIONS DD *
AVERAGE 3          A
/*
//TEST21C EXEC AQRPM20,
//          MSTRFIL=AQSLDAVG,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* PRODUCE THE SLIDING AVERAGE REPORT
//* FROM THE SLIDING-AVERAGE-VALUES FILE IN STEP B
//* DISPLAY ONLY VALUES GREATER THAN 0.5
//*
//REPORT,OPTIONS DD *
DISPLAY > 0.5
/*

```

Figure AQT21-3. Run Stream

AQDHS-11 RETRIEVAL LANGUAGE PROCESSOR PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTLNGP (A00110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$SELECT SLIDING
 TIME-CODE = '1'
 \$\$END

NUMBER OF CONTROL CARDS READ:	3
NUMBER OF RETRIEVAL SKELETON RECORDS READ:	1,138
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:	1,177
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

AQDHS-11 GENERATED RETRIEVAL PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTGENR (A00120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	318
NUMBER OF ANSWER FILE RECORDS WRITTEN:	167
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

AQDMS-II SLIDING AVERAGE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASTSLAV (AQ0180)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: AVERAGE 3 A

NUMBER OF SLIDING AVERAGE ANSWER RECORDS READ:	167
NUMBER OF SLIDING AVERAGE VALUE RECORDS WRITTEN:	157
NUMBER OF ERRORS DETECTED:	0

Figure AQ121-5. Procedure AQSTM20 -- program ASTSLAV
190

AQDHS-II MASTER FILE DETAILED REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (A00230)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

USER-SPECIFIED OPTION: DISPLAY > 0.5

NUMBER OF OPTION STATEMENTS READ: 1
 NUMBER OF MASTER FILE RECORDS READ: 157
 NUMBER OF REPORT PAGES WRITTEN: 24
 NUMBER OF ERRORS DETECTED: 0

STATE: OKLAHOMA (37)

AQDHS-II AIR QUALITY DATA REPORT - SLIDING AVERAGE INTERVAL = 3
 DISPLAY > 0.5

PAGE 15

AQCR: 186 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: INSTRUMENTAL YEAR: 1974
 COUNTY: 3020 PROJECT: SPECIAL STUDIES ANALYSIS METHOD: FLAME IONIZATION MONTH: AUGUST
 AREA: 3000 PARAMETER: NINMETHANE HYDROCARBONS SAMPLING INTERVAL: 01 HOURS MIN DFT: .2
 SITE: 997 UNITS: PARTS PER MILLION SARGAD KEY: 373000997A051R UNITS CODE: 07
 TULSA PUBLIC HEALTH, TULSA, TULSA CO. KEY-1: 3718630203000997A05174 KEY-2: 431021107 KEY-3: 080200

PRIMARY
 FEDERAL STANDARD 0.24 PARTS/MILLION, 3 HOUR MAX, 1 PER YEAR .24 PARTS/MILLION, 3 HOUR MAX, 1 PER YEAR
 STATE STANDARD 0.20 PARTS/MILLION, 3 HOUR MAX, 1 PER YEAR .20 PARTS/MILLION, 3 HOUR MAX, 1 PER YEAR

SECONDARY

DAY	HOUR											
	00	01	02	03	04	05	06	07	08	09	10	11
01												
02	***	2.500	2.000	1.667	2.667	3.000	2.667	1.667	1.333	2.000	2.000	1.667
03	2.667	4.000	4.333	4.000	3.000	1.667	2.333	2.000	2.667	2.000	2.000	2.333
04	1.333	2.333	2.667	2.000	1.667	1.667	1.667	1.333	.6667		1.333	1.667
05	3.267	3.300	3.333	3.100	3.800	4.700	4.867	4.767	5.167	5.067	4.600	3.267
06	4.267	4.633	5.367	6.633	6.567	6.100	5.800	5.367	4.500	3.433	3.367	3.433
07	4.833	4.000	3.500	3.400	3.300	3.200	3.100	3.000	3.267	3.600	4.000	4.100
08	3.432	3.630	3.795	3.895	4.030	4.197	5.297	5.963	6.321	5.681	5.374	5.027

*** INDICATES SLIDING AVERAGE VALUE NOT COMPUTED DUE TO INSUFFICIENT NUMBER OF READINGS IN FILE.
 BLANK INDICATES SLIDING AVERAGE VALUE DID NOT MEET DISPLAY CRITERIA OR DID NOT MEET SELECTION CRITERIA.

Figure AQ121-6. Procedure AQRPm20 -- program ARPMSTR

AQDHS-II TEST 22

Dump the Contents of the Archived Master File

In this test run, the contents of the archived master file are dumped using the cataloged procedure AQRPM25. This procedure executes ARPDUMP (AQ0310), the master file formatted dump program.

ARPDUMP (AQ0310) produces a formatted dump of an AQDHS-II master file. Descriptions of each field within a master file record are printed to the left of the corresponding data contained in each record.

The option in this program is used to specify the number of lines per printed page. This option can be very useful to those users who are using the standard 11 x 14 inch output form and have the ability to print eight lines per inch, thus reducing the amount of paper used. The number of lines per page must be entered in card columns 1 and 2 of the option card. The default of 55 lines per page is assumed when the option is invalid or an option card is not present in the run stream.

The run stream for this test run contains the JCL necessary for dumping the contents of the archived master file. This run stream is shown in Figure AQT22-1.

The cataloged procedure executed by this run stream is AQRPM25. Through the use of a substitutable parameter, the input master file is specified as AQARCM01 (created and stored on disk in Test 19). The user must supply the DD (data definition) information for the option card file. The option specified in the DUMP step of this test run is 80 lines per page. Refer to Figure AQT22-2 for the sample output produced by this procedure.

```

//AQTST22 JOB RTI.C44.P02443,MCMASER,T=2,P=150,FORMS=FFWHITE
//*PRUCLIB=RTI.C44.P02069,MCMASER,UPR,JCL
//*
//* DUMP THE CONTENTS OF THE ARCHIVED FILE, AQARCH01,
//* CREATED IN TEST 19
//*
//TEST22A EXEC AQRPMS,
//          MSTRFIL=AQARCH01
//*
//* RUN THE DUMP PROGRAM AGAINST THE ARCHIVED FILE,
//* WITH A LINES-PER-PAGE MAXIMUM OF 80
//*
//DUMP,OPTIONS DD *
RO
/*

```

Figure AQT22-1. Run Stream

AGDHS-II MASTER FILE FORMATTED DUMP

PAGE 1

PROGRAM NAME: ARPDUMP (A00310)
REVISION LEVEL: 1-00
LAST UPDATE #1 20
DATE INCORPORATED: OCTOBER 31, 1978

OPTION OF 80 LINES PER PAGE USED

(Page 1 of 2)

Figure AQT22-2. Procedure AQRPM25 -- program ARPDUMP

AQDHS-II MASTER FILE FORMATTED DUMP

PAGE 2

ACTION C= 2 FORM C= 2 STATE #= 34 AQCR= 136 COUNTY= 1780 AREA= 0003 SITE= 002 AGENCY= G PROJECT= 04 TIME= C REC YEAR= 60
 PARAMETER C= 43502 METHOD C= 91 UNITS C= 01 REC MONTH= 59 REC DAY= 00 START HOUR= 52 SLAMS= NBR OF READINGS IS 01
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 0023 **

ACTION C= 2 FORM C= 1 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 2 REC YEAR= 63
 PARAMETER C= 62101 METHOD C= 20 UNITS C= 15 REC MONTH= 01 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 12
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 0 9000 ** S 0 9100 ** S 0 9200 ** S 0 9300 ** S 0 9400 ** S 0 9500 ** S 0 9600 ** S 0 9700 ** S 0 9800 ** S 0 9900 **
 S 0 9901 ** S 0 9902 **

ACTION C= 2 FORM C= 1 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 2 REC YEAR= 63
 PARAMETER C= 62101 METHOD C= 20 UNITS C= 15 REC MONTH= 01 REC DAY= 02 START HOUR= 00 SLAMS= NBR OF READINGS IS 12
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 9000 ** S 1 9100 ** S 1 9200 ** S 1 9300 ** S 1 9400 ** S 1 9500 ** S 1 9600 ** S 1 9700 ** S 1 9800 ** S 1 9900 **
 S 1 9901 ** S 1 9902 **

ACTION C= 2 FORM C= 1 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 2 REC YEAR= 63
 PARAMETER C= 62101 METHOD C= 20 UNITS C= 15 REC MONTH= 01 REC DAY= 03 START HOUR= 00 SLAMS= NBR OF READINGS IS 12
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 2 9000 ** S 2 9100 ** S 2 9200 ** S 2 9300 ** S 2 9400 ** S 2 9500 ** S 2 9600 ** S 2 9700 ** S 2 9800 ** S 2 9900 **
 S 2 9901 ** S 2 9902 **

ACTION C= 2 FORM C= 1 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 2 REC YEAR= 63
 PARAMETER C= 62101 METHOD C= 20 UNITS C= 15 REC MONTH= 01 REC DAY= 04 START HOUR= 00 SLAMS= NBR OF READINGS IS 12
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 3 9000 ** S 3 9100 ** S 3 9200 ** S 3 9300 ** S 3 9400 ** S 3 9500 ** S 3 9600 ** S 3 9700 ** S 3 9800 ** S 3 9900 **
 S 3 9901 ** S 3 9902 **

ACTION C= 2 FORM C= 1 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 2 REC YEAR= 63
 PARAMETER C= 62101 METHOD C= 20 UNITS C= 15 REC MONTH= 01 REC DAY= 05 START HOUR= 00 SLAMS= NBR OF READINGS IS 12
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 4 9000 ** S 4 9100 ** S 4 9200 ** S 4 9300 ** S 4 9400 ** S 4 9500 ** S 4 9600 ** S 4 9700 ** S 4 9800 ** S 4 9900 **
 S 4 9901 ** S 4 9902 **

ACTION C= 2 FORM C= 2 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 61202 METHOD C= 21 UNITS C= 28 REC MONTH= 02 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 02
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 9222 ** S 4 9555 **

ACTION C= 2 FORM C= 2 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 62101 METHOD C= 20 UNITS C= 15 REC MONTH= 02 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 02
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 2 9555 ** S 0 9666 **

ACTION C= 2 FORM C= 2 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 997 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 62103 METHOD C= 20 UNITS C= 15 REC MONTH= 02 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 02
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 0 9111 ** S 3 9444 **

ACTION C= 2 FORM C= 3 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3000 SITE= 998 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 61202 METHOD C= 21 UNITS C= 28 REC MONTH= 01 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 04
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 1111 ** S 1 1122 ** S 1 1124 ** S 1 1124 **

ACTION C= 2 FORM C= 3 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3020 SITE= 996 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 61202 METHOD C= 21 UNITS C= 28 REC MONTH= 01 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 04
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 0511 ** S 1 0510 ** S 1 0510 ** S 1 0510 **

ACTION C= 2 FORM C= 3 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3140 SITE= 992 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 61202 METHOD C= 21 UNITS C= 28 REC MONTH= 01 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 04
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 0600 ** S 1 0000 ** S 1 -0020 ** S 1 -0020 **

ACTION C= 2 FORM C= 3 STATE #= 37 AQCR= 186 COUNTY= 3020 AREA= 3140 SITE= 994 AGENCY= A PROJECT= 05 TIME= 8 REC YEAR= 63
 PARAMETER C= 61202 METHOD C= 21 UNITS C= 28 REC MONTH= 01 REC DAY= 01 START HOUR= 00 SLAMS= NBR OF READINGS IS 04
 SUBMIT STATUS= S READINGS APPEAR AS FOLLOWS: STATUS=FLAG BLANK DECIMAL-CODE BLANK READING BLANK **
 S 1 -0017 ** S 1 -0018 ** S 1 -0018 ** S 1 -0018 **

NUMBER OF RECORDS READ: 13
 NUMBER OF RECORDS DUMPED: 13

PROGRAM NAME: AQDHS-II (AN0310)
 REVISION LEVEL: 1-00
 LAST UPDATE: 24
 DATE INCORPORATED: OCTOBER 31, 1978

Figure AQ122-2 - continued. Procedure AQRP25 -- program ARPDUMP

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AQDHS-II Test 23

Update the Master File

In this test run, the input AQDHS-II master file transactions are edited and converted into internal transactions using the cataloged procedure AQEDT10 which executes AEDMSTR (AQ0060), the master file transaction edit program. The cataloged procedure AQFMM10 is then used to update the AQDHS-II master file by executing ASRINTR (AQ0130), the master file internal transaction sort program; and AFMMSTR (AQ0100), the master file maintenance program.

In Test 5, the initial AQDHS-II master file was created using only one cataloged procedure which executed the same programs as this test run. By using two different procedures, the user can edit several different sets of input transactions and then perform a single file maintenance on all the transactions edited. This will result in operating cost savings since it makes it necessary to pass the master file only one time. Refer to Test 5 for a description of AEDMSTR (AQ0060), ASRINTR (AQ0130), and AFMMSTR (AQ0100).

The input master file transactions in Test 5 were used exclusively for creating master file records. However, in this test run, not only are records created, but existing master file records are changed and deleted.

To change a reading in a master file record, the user enters a transaction with the same key information as the master file record to be changed. Also, this transaction must have an action code of '3' and contain the new value(s) for the reading(s) to be changed. If these requirements are met, the non-blank readings of the transaction will replace the corresponding readings in the master file record. An individual reading can be deleted using this same process by changing the reading in the master file record to 9999.

Similarly, the deletion of a master file record requires that the user enter a transaction with the same key information as the master file record to be deleted. However, the transaction must also have an action code of '1',

and the remaining transaction fields should contain blanks. It should be noted that the records are flagged for deletion as a result this test run but are not actually deleted. When the master file is processed by ARPSARD (AQ0220), and the SAROAD date file is created, the records flagged for deletion will be physically deleted.

In order to add a reading to an existing master file record, the user can enter a transaction with the same key information as the master file record to be affected. This transaction should have an action code of '2' and contain the readings to be added.

The run stream for this test run contains the JCL necessary for updating an AQDHS-II master file. This run stream is shown in Figure AQT23-1. It does not show all the input master file transactions in the run stream but, it does show the necessary JCL.

First, the run stream executes the cataloged procedure AQEDT10. Through the use of substitutable parameters, the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), the input site file is specified as AQSITE01 (created and stored on disk in Test 2), and the output internal transaction file is named TRANS01. For the EDIT step, the user must supply the DD (data definition) information for the option card file and the input AQDHS-II master file transaction file. The option specified in this test run is LIST, and the default value of NOFLAGW will also be in effect. Refer to Figure AQT23-2 for the sample output produced by this procedure.

Next, the cataloged procedure AQFMM10 is executed. Substitutable parameters are used to specify the input master file as AQMST02N (created and stored on disk in Test 19), to specify the input master file internal transactions as TRANS01 (created and stored on disk in the first procedure of this test), and to name the updated master file AQMST03N. The user must supply the DD information for the option card file in the UPDATE step. The options specified for this test run are LIST and FLAGW. Figure AQT23-3 shows the sample output produced by this procedure.

```

//AQSTST23 JOB RTI.C44.PO2443.MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//KILL EXEC PGM=IEFBRI4
//DD1 DD USN=RTI.C44.PO2069.MCMaster.DPR.DATA,AQMST03N,
// DISP=(OLD,DELETE)
//*
//* THIS TEST IS THE FIRST MASTER FILE UPDATE SINCE THE ORIGINAL
//* MASTER WAS BUILT IN TEST 5; THE UPDATE INCLUDES CHANGES AND DELETES
//* AS WELL AS ADDS; THE TRANSACTION EDITOR PROGRAM AND THE
//* FILE MAINTENANCE PROGRAM ARE INVOKED BY TWO DIFFERENT PROCEDURES
//* IN THIS TEST; USING THESE SEPARATED PROCEDURES, THE USER MAY
//* MAKE MULTIPLE EDITS AND THEN PERFORM A SINGLE FILE MAINTENANCE
//* ON ALL THE TRANSACTIONS EDITED
//*
//TEST23A EXEC AQEDT10,
//          TRANS=TRANS01,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* EDIT AQDHS=11 TRANSACTIONS AND CATALOGUE THE OUTPUT
//* INTERNAL TRANSACTIONS TO USE AS INPUT TO THE FILE MAINTENANCE
//* PROGRAM LATER
//*
//EDIT.OPTIONS DD *
LIST
/*
//EDIT.INPUT DD *
1340001001A06179010100111019101000010001000200030005000880039021
1340001001A06179010116111019101000010001000200030005000800030021
1340001001A06179010300111019101000020002000400060010001600260042
1340001001A06179010416111019101000030003000600090015002400390013
1340001001A06179010608111019101000050005001000150025004000150005
1340001001A06179010800111019101000080008001600240040001400040018
1340001001A06179011008111019101000130013002600390015000400190023
1340001001A06179011016111019101000210021004200130005001800230041
1340001001A06179012000111019101000330033001800020020002200420014
1340001001A06179012008111019101000040004001000150025004000150005
1340001001A06179012016111019101000370037002800170045001200070019
1340001001A06179013108111019101000410041003800320020000200220024
1340001001A066790301054240133021000100010002

```

2
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2

(Remainder of transactions omitted)

```

/*
//TEST23B EXEC AQFMM10,
//          OLDMSTR=AQMST02N,
//          NEWHSTR=AQMST03N,
//          PRIMARY=1,
//          SECNDRY=1,
//          TRANS=TRANS01
//*
//* UPDATE THE MASTER FILE, AQMST02N, CREATED IN TEST 19 WITH THE
//* TRANSACTIONS EDITED IN STEP A
//*
//UPDATE.OPTIONS DD *
LIST FLAGW
/*

```

Figure AQT23-1. Run Stream

PROGRAM NAME: AEDMSTR (AQ0060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: LIST NOFLAGM

INPUT TRANSACTIONS	ENRURS
1340001001A06179010100111019101000010001000200030005000880039021	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 57 - READING EXCEEDS MAXIMUM PERMITTED	
*** AEDMSTR 042 CONDITIONAL - COLUMN 61 - READING EXCEEDS MAXIMUM PERMITTED	
1340001001A06179010116111019101000010001000200030005000800030021	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A06179010300111019101000020002000400060010001600260042	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A06179010416111019101000030003000600090015002400390013	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A06179010608111019101000050005001000150025004000150005	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A066790307054240133021001300130026	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A061790328004240131010003700379928	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 41 - READING EXCEEDS MAXIMUM PERMITTED	
1340001001A06779021406426028207200050005	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A06779022206426031407200130013	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1120001001C01179013116424013302100110011000900100009000800080007	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
1340001001A061650328004240131010003700379928	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 41 - READING EXCEEDS MAXIMUM PERMITTED	
1340001001A06165010100111019101000010001000200030005000880039021	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 57 - READING EXCEEDS MAXIMUM PERMITTED	
*** AEDMSTR 042 CONDITIONAL - COLUMN 61 - READING EXCEEDS MAXIMUM PERMITTED	
1120001003C011780131164210111061004000030002574780455747	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 45 - READING EXCEEDS MAXIMUM PERMITTED	
*** AEDMSTR 042 CONDITIONAL - COLUMN 49 - READING EXCEEDS MAXIMUM PERMITTED	
*** AEDMSTR 042 CONDITIONAL - COLUMN 53 - READING EXCEEDS MAXIMUM PERMITTED	
1120001003C01178123016426021407345500600040502900270025002500260	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAXIMUM PERMITTED	

AQDHS-II MASTER FILE TRANSACTION EDIT PROGRAM -- DIAGNOSTIC REPORT

PAGE 2

NUMBER OF TRANSACTIONS READ:	91
NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	83
NUMBER OF INTERNAL TRANSACTIONS CREATED:	83
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	10
NUMBER OF ERROR MESSAGES:	8
NUMBER OF ABORT MESSAGES:	0

Figure AQJ23-2 - continued. Procedure AQEDT10 -- program AEDMSTR
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Figure AQT23-2 - continued. Procedure AQEDT10 -- program AEDMSTR

2025年12月25日

1120001001C011790203004240133021000000000000000000000000000000	2
1120001001C011790203084240133021000000000000000000000000000000	2
1120001001C01179020316424013302100040004000600600070003000000000	2
1340001001A061650328004240131010003700379928	2
1340001001A06165010100111019101000010001000200030005000800039021	2
1100001001E02171060600424011107300800100010101020102011001130110	3
1100001001E02171060608424011107301100121011001000080008000900090	3
1100001001E02171060616424011107300990099009901000100011001210122	3
1100001001E02171060700424011107	1
1100001001E02171062100424011107	1
1100001001E0217106220042401110730080008000900090099009900990100	3
1100001001E02171062208424011107301000100012101220248020002010181	3
1100001001E0217106221642401110730176015401210100009008000700060	3
1120001003C0117806250042011401000390024002900290029002900290034	2
1120001003C0117806250842011401000340309004900690074008800980088	2
1120001003C01178062516442011401000830073007800490010000400240000	2
1120001003C0117804150042101110510290017001700170012002300290	2
1120001003C01178041508421011105199990690023003400170017001200120	2
1120001003C01178041516421011105101700170023002300460092008000290	2
1120001003C01178013100421011106199999999999999999999999999999999	2
1120001003C011780131084210111061999999999003400310022002400260029	2
1120001003C011780131164210111061004000030002574780455747	2
1120001003C01178112200426021407303600345034003350350037503850760	2
1120001003C01178112208426021407309000840040003003300340033003400390	2
1120001003C01178112216426021407303800440038503300335033003400340	2
1120001003C01178123000426021407301550150015001550150015001500145	2
1120001003C01178123008426021407301550170015001600240029002900335	2
1120001003C01178123016426021407345500690040502900270025002500260	2

NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA: 83

(Page 4 of 4)

PROGRAM NAME: ASRINTR (AQ0130)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT INTERNAL TRANSACTIONS:	83
NUMBER OF OUTPUT INTERNAL TRANSACTIONS:	83

Figure AQ123-3. Procedure AQFMM10 -- program ASRINTR

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PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

TABLE # 1

SIGNED NUMBER	LAST DIGIT OF NUMBER PRINTED
-9	R
-8	Q
-7	P
-6	O
-5	N
-4	M
-3	L
-2	K
-1	J
+0	\
+1	A
+2	B
+3	C
+4	D
+5	E
+6	F
+7	G
+8	H
+9	I

THIS TABLE SHOWS THE PRINT CHARACTERS
 FOR THE LAST DIGIT OF SIGNED DATA VALUES
 WHICH MAY APPEAR IN THE AGDHS-II
 MASTER FILE MAINTENANCE OUTPUT REPORTS

OPTIONS IN EFFECT: LIST FLAGM

TRANSACTION	ERRORS/ACTION
*** AFMMSTR 002 WARNING	- READING 04 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79010200-424013302)
*** AFMMSTR 002 WARNING	- READING 05 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79010200-424013302)
*** AFMMSTR 002 WARNING	- READING 06 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79010200-424013302)
*** AFMMSTR 002 WARNING	- READING 07 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79010200-424013302)
*** AFMMSTR 002 WARNING	- READING 08 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79010200-424013302)
*** AFMMSTR 002 WARNING	- READING 09 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79010200-424013302)
*** AFMMSTR 002 WARNING	- READING 09 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79020300-424013302)
*** AFMMSTR 002 WARNING	- READING 10 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79020300-424013302)
*** AFMMSTR 002 WARNING	- READING 11 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79020300-424013302)
*** AFMMSTR 002 WARNING	- READING 12 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79020300-424013302)
*** AFMMSTR 002 WARNING	- READING 13 NOT SPECIFIED - FILLED WITH NINES (120001001C011-79020300-424013302)
*** AFMMSTR 002 WARNING	- READING 09 NOT SPECIFIED - FILLED WITH NINES (120001003C011-78041500-421011105)
*** AFMMSTR 002 WARNING	- READING 09 NOT SPECIFIED - FILLED WITH NINES (120001003C011-78013100-421011106)
*** AFMMSTR 002 WARNING	- READING 10 NOT SPECIFIED - FILLED WITH NINES (120001003C011-78013100-421011106)
*** AFMMSTR 002 WARNING	- READING 01 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 02 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 03 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 04 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 05 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 06 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 07 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 08 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79011000-111019101)
*** AFMMSTR 002 WARNING	- READING 01 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 02 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 03 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 04 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 05 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 06 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 07 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)
*** AFMMSTR 002 WARNING	- READING 08 NOT SPECIFIED - FILLED WITH NINES (340001001A061-79013100-111019101)

NUMBER OF INPUT INTERNAL TRANSACTIONS:	63
NUMBER OF INPUT MASTER FILE RECORDS:	318
NUMBER OF MASTER FILE RECORDS FLAGGED FOR DELETION:	2
NUMBER OF MASTER FILE RECORDS ADDED:	51
NUMBER OF OUTPUT MASTER FILE RECORDS:	369
NUMBER OF WARNING MESSAGES:	30
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0
NUMBER OF DISASTER MESSAGES:	0

PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

AGDHS-II MASTER FILE MAINTENANCE PROGRAM - INPUT MASTER FILE CONFIRMATION LISTING

PAGE 1

FIXED SEGMENT	REPEATING DATA	ACTION
21T	1004910800001001E02171424011107060600 24 V20080V20100V20101V20102V20102V20110V20113V20110V20110V20121V20110V20100V20080V20080V20090V20090 V20099V20099V20099V20100V20100V20100V20121V20122	CHANGED
21T	1004910800001001E02171424011107060700 24 V20248V20200V20201V20181V20176V20154V20121V20100V20090V20080V20070V20060V20040V20030V20020V20010 V20009V20008V20007V20006V20006V20006V20006V20006	DELETED
21T	1004910800001001E02171424011107062100 24 V20003V20003V20003V20003V20003V20006V20018V20020V20034V20044V20054V20060V20080V20100V20101V20102 V20102V20110V20113V20110V20110V20121V20110V20109	DELETED
21T	1004910800001001E02171424011107062200 24 V20080V20080V20090V20090V20099V20099V20099V20100V20100V20100V20121V20122V20248V20200V20201V20181 V20176V20154V20121V20100V20090V20080V20070V20060	CHANGED
NUMBER OF INPUT MASTER FILE RECORDS:		318
NUMBER OF INPUT MASTER FILE RECORDS LISTED:		4

Figure AQT23-3 - continued. Procedure AQFM10 -- program AFMMSTR

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INTERNAL TRANSACTION	ACTION	
31 1004910800001001E02171424011107060600	*** CHANGED	30800800100010101020102011001130110
31 1004910800001001E02171424011107060608	*** CHANGED	30801100121011001000080008000900090
31 1004910800001001E02171424011107060616	*** CHANGED	30800990099009901000100010001210122
11 1004910800001001E02171424011107060700	*** DELETED	00
11 1004910800001001E02171424011107062100	*** DELETED	00
31 1004910800001001E02171424011107062200	*** CHANGED	3080080008000900090009900990090100
31 1004910800001001E02171424011107062208	*** CHANGED	30801000100012101220248020002010181
31 1004910800001001E02171424011107062216	*** CHANGED	30801760154012101000090008000700060
21 1206000800001001C01178424013302123100	*** ADDED	1080000000000000000000000000000000
21 1206000800001001C01178424013302123108	*** ADDED	1080000000000000000000000000000000
21 1206000800001001C01178424013302123116	*** ADDED	1080000000000000000000000000000000
21 1206000800001001C01179424013302010100	*** ADDED	1080000000100000000000000000000000
21 1206000800001001C01179424013302010108	*** ADDED	10800000001000400040006000800040004
21 1206000800001001C01179424013302010116	*** ADDED	1080005000500020001000000000000000
21 1206000800001001C01179424013302010200	*** ADDED	1030000000000000
21 1206000800001001C01179424013302010208	*** ADDED	108 0005000600070007000800100011
21 1206000800001001C01179424013302010216	*** ADDED	10800100011001000110009000800080007
21 1206000800001001C01179424013302013100	*** ADDED	10800050005000600070007000600060006
21 1206000800001001C01179424013302013108		10800080011001100130013001300140012

Figure AQDHS-3 - continued. Procedure AQFM10 -- program AFMSTR (Page 5 of 8)

INTERNAL TRANSACTION	ACTION	
21 3416909600001001A06779426031407020506	*** ADDED	20200020002
21 3416909600001001A06779426031407020706	*** ADDED	20200030003
21 3416909600001001A06779426031407021A06	*** ADDED	20200050005
21 3416909600001001A06779426031407022006	*** ADDED	20200080008
21 3416909600001001A06779426031407022406	*** ADDED	20200210021
21 3416909600001001A06779426031407022506	*** ADDED	20200330033
21 3416909600001001A06779426031407022606	*** ADDED	20200040004
21 3416909600001001A06779426031407022706	*** ADDED	20200370037
21 3416909600001001A06779426031407022806	*** ADDED	20200410041
NUMBER OF INPUT INTERNAL TRANSACTIONS:		83

Figure AQT23-3 - continued. Procedure AQFMM10 -- program AFMMSR
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[illegible]

ADDHS-11: MASTER FILE MAINTENANCE PROGRAM - OUTPUT MASTER FILE CONFIRMATION LISTING

PAGE 4

FIXED SEGMENT	REPEATING DATA	ACTION
21N 3416909600001001A06779426031407022006 A20008A20008	02	ADDED
21N 3416909600001001A06779426031407022406 A20021A20021	02	ADDED
21N 3416909600001001A06779426031407022506 A20033A20033	02	ADDED
21N 3416909600001001A06779426031407022606 A20004A20004	02	ADDED
21N 3416909600001001A06779426031407022706 A20037A20037	02	ADDED
21N 3416909600001001A06779426031407022806 A20041A20041	02	ADDED
NUMBER OF OUTPUT MASTER FILE RECORDS:	369	
NUMBER OF OUTPUT MASTER FILE RECORDS LISTED:	55	

AQDHS-II TEST 24

Submit Another Quarterly Report to SAROAD

In this test run, the data from the updated AQDHS-II master file which have not previously been sent to SAROAD are converted to SAROAD transactions using the cataloged procedure AQRPM05. This procedure executes ARPSARD (AQ0220), the AQDHS-II to SAROAD conversion program.

The same program was used in Test 12 to submit a quarterly report to SAROAD. Any data which have already been submitted to SAROAD by ARPSARD (AQ0220) will not be submitted in this test. Status flags in the master file indicate which readings have been previously submitted to SAROAD. For a description of ARPSARD (AQ0220) refer to Test 12.

The run stream for this test run contains the JCL necessary for converting data from the updated AQDHS-II master file into SAROAD transactions. This run stream is shown in Figure AQT24-1.

The cataloged procedure executed by this run stream is AQRPM05. Through the use of substitutable parameters, the input master file is specified as AQMST03N (created and stored on disk in Test 23), and the output master file is named AQMST03S. In this test run, the SAROAD add file and the SAROAD change file are printed for verification purposes. However, the user will typically use the cataloged procedure AQRPM05 as designed to write these files to tape in order to submit them to SAROAD. An option card is not provided in this run stream which causes the default option to be in effect (that is, all data not previously submitted to SAROAD will be submitted by this run). If the user does provide an option card in the run stream, the DD (data definition) information for the option card file in the SUBMIT step is also needed. Refer to Figure AQT24-2 for the sample output produced by this procedure.

```

//AQSTST24 JOB RTI.C44.PO2443,MCMASTER,I=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMASTER,DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069,MCMASTER,DPR,DATA.AQMST03S,
// DISP=(OLD,DELETE)
//*
//* SUBMIT QUARTERLY REPORT TO SAROAD FROM AQMST03N, THE
//* UPDATED FILE FROM THE PRECEDING TEST; ANY RECORD THAT WAS SENT
//* BEFORE IN TEST 12 WILL NOT BE RE-SENT UNLESS DATA ON IT HAS
//* BEEN CHANGED
//*
//TEST24A EXEC AQRPM05,
//          OLDMSIR=AQMST03N,
//          NEWMSIR=AQMST03S,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* GENERATE NEW AQDHS-II FILE WITH ALL RECORDS FLAGGED SENT,
//* SAROAD ADD FILE (PRINTED),
//* AND SAROAD CHANGE FILE (PRINTED)
//*
//SUBMIT.AQSADDFL DD SYSOUT=A
//SUBMIT.AQSGHFL DD SYSOUT=A

```

Figure AQT24-1. Run Stream

PROGRAM NAME: ARPSARD (AQ0220)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NO SELECTION DATE OPTION USED - ALL RECORDS AVAILABLE FOR SAROAD OUTPUT

NUMBER OF FILE RECORDS READ:	369
NUMBER OF MASTER FILE RECORDS DELETED USING THE CHANGE OPTION:	2
NUMBER OF FILE RECORDS WRITTEN:	367
NUMBER OF ADD TRANSACTIONS SUBMITTED TO SAROAD:	65
NUMBER OF CHANGE TRANSACTIONS SUBMITTED TO SAROAD:	8
NUMBER OF ADD READINGS SUBMITTED TO SAROAD:	384
NUMBER OF CHANGE READINGS SUBMITTED TO SAROAD:	96

Figure AQ124-2. Procedure AQRP05 -- program ARPSARD (Page 1 of 3)

```

$2 ADD TRANSACTIONS CREATED BY AQDHS
1120001001C011781231004240133021 000 000 000 000 000 000 000 000 000 000 000 000 000
1120001001C011781231124240133021 000 000 000 000 000 000 000 000 000 000 000 000 000
1120001001C011790101004240133021 000 001 000 000 000 000 000 000 000 001 004 004
1120001001C011790101124240133021 006 008 004 004 005 002 001 000 000 000 000 000
1120001001C011790102004240133021 000 000 000 000 000 000 000 000 000 005 006 007
1120001001C011790102124240133021 007 008 010 011 010 011 010 011 009 008 008 007
1120001001C011790131004240133021 005 005 006 007 007 006 006 006 008 011 011 013
1120001001C011790131124240133021 013 013 014 012
1120001001C011790201004240133021 007 007 006 005 004 004 004 007 009 010 011 012
1120001001C011790201124240133021 014 013 012 012 008 007 007 007 007 007 008 007
1120001001C011790203004240133021 000 000 000 000 000 000 000 000
1120001001C011790203124240133021 000 000 000 002 004 004 006 006 007 003 000 000
1120001003C011780415004210111051 290 170 170 170 120 120 230 290 490 230 340
1120001003C011780415124210111051 170 170 120 120 170 170 230 230 460 420 800 290
1120001003C011780131004210111061 034 031
1120001003C011780131124210111061 022 024 026 029 040 003 002574780455747
1120001003C011781122004260214073 360 345 340 335 350 375 385 760 400 840 400 320
1120001003C011781122124260214073 340 330 340 390 380 440 385 350 335 330 340 340
1120001003C011781230004260214073 155 150 150 155 150 150 150 145 155 170 150 160
1120001003C011781230124260214073 240 290 290 3354550 600 405 290 270 250 250 260
1120001003C011780625004420114010 039 024 029 029 029 029 029 034 034 309 049 069
1120001003C011780625124420114010 074 088 098 088 083 073 078 049 010 004 024 000
1340001001A061650101001110191010 001 001 002 003 005 00880039021
1340001001A061650328004240131010 037 0379928
1340001001A061790101001110191010 001 001 002 003 005 00880039021
1340001001A061790108001110191010 008 008 016 024 040 014 004 018
1340001001A061790110001110191010 013 013 026 039
1340001001A061790110121110191010 015 004 019 023 021 021 042 013 005 018 023 041
1340001001A061790120001110191010 033 033 018 002 020 022 042 014 004 004 010 015
1340001001A061790120121110191010 025 040 015 005 037 037 028 017 045 012 007 019
1340001001A061790131001110191010 041 041 038 032
1340001001A061790131121110191010 020 002 022 024
1340001001A061790328004240131010 037 0379928
1340001001A065790301054240133021 001 001 002
1340001001A065790302054240133021 001 001 002
1340001001A065790303054240133021 002 002 004
1340001001A065790304054240133021 003 003 006
1340001001A065790305054240133021 005 005 010
1340001001A065790306054240133021 008 008 016
1340001001A065790308054240133021 021 021 042
1340001001A065790324054240133021 033 033 018
1340001001A065790326054240133021 004 004 010
1340001001A065790330054240133021 041 041 038
1340001001A066790201064260282072 001 001
1340001001A066790203064260282072 001 001
1340001001A066790205064260282072 002 002
1340001001A066790207064260282072 003 003
1340001001A066790220064260282072 008 008
1340001001A066790222064260282072 013 013
1340001001A066790224064260282072 021 021
1340001001A066790225064260282072 033 033
1340001001A066790226064260282072 004 004
1340001001A066790227064260282072 037 037
1340001001A066790228064260282072 041 041
1340001001A066790201064260314072 001 001
1340001001A066790203064260314072 001 001
1340001001A066790205064260314072 002 002
1340001001A066790207064260314072 003 003
1340001001A066790214064260314072 005 005
1340001001A066790220064260314072 008 008
1340001001A066790224064260314072 021 021
1340001001A066790225064260314072 033 033
1340001001A066790226064260314072 004 004

```

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AQDHS-II TEST 25

Screen the Updated Master File for Anomalous Data

In this test run, the updated AQDHS-II master file is screened for anomalous data using the cataloged procedure AQRPM45. This procedure executes ACVANOM (AQ0040), the anomaly screening master file conversion program; and ARPANOM (AQ0320), the anomaly screening report program.

The same programs were used in Test 11 to screen the entire AQDHS-II master file for anomalous data. This test run takes advantage of the status flags set in Test 11 because they enable the anomaly screening programs to perform the anomaly screening tests only on data that has not been previously screened. For a description of ACVANOM (AQ0040) and ARPANOM (AQ0320) refer to Test 11.

The run stream for this test run contains the JCL necessary for screening the updated master file for anomalous data. This run stream is shown in Figure AQT25-1.

The cataloged procedure executed by this run stream is AQRPM45. Through the use of substitutable parameters, the input master file is specified as AQMST03S (created and stored on disk in Test 24), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the output (or screened) master file is named AQMST03T. The user must supply the DD (data definition) information for the option card file. The option specified in the CONVERT step of this test run is FLAG LOW. In this test run, the skeleton transaction file is printed for verification purposes. However, the user will typically write this file to cards or disk in order to more easily add information to the transactions. The cataloged procedure AQRPM45 is designed to write the file to disk, so in order to write the file to cards the user must supply the appropriate DD information for the skeleton transaction file in the REPORT step. Refer to Figure AQT25-2 for the sample output produced by this procedure.

```

//AQSTST25 JOB RTI.C44,PO2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44,PO2069,MCMaster.DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44,PO2069,MCMaster.DPR.DATA,AQMST03T,
// DISP=(OLD,DELETE)
//*
//* SCREEN THE MASTER FILE,AQMST03S, FOR ANOMALOUS DATA; MOST OF THE
//* RECORDS ON THIS FILE HAVE ALREADY BEEN SCREENED AND ARE
//* NOT RESCREENED IN THIS TEST
//*
//TEST25A EXEC AQRPM45,
//          OLDMSR=AQMST03S,
//          NEWMSR=AQMST03T,
//          PARMFIL=AQPARM01,
//          PRI1=1,
//          SEC1=1,
//          PRI2=1,
//          SEC2=1,
//          PRI3=1,
//          SEC3=1
//*
//* RESCREEN THE FILE FOR ANOMALOUS DATA,
//* THIS TIME USING THE LOW SHEWHART TEST;
//* PRINT THE SKELETON TRANSACTIONS
//*
//CONVERT,OPTIONS DD *
FLAG LOW
/*
//REPORT.FT10F001 DD SYSOUT=A

```

Figure AQT25-1. Run Stream

PROGRAM NAME: ACVANOM (AQ0040)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978
 OPTION IN EFFECT: LOW SHERHART TEST

*** ACVANOM 007 CONDITIONAL - READING(S) > 9999.9999 IN STD UNITS, SCREENING NOT PERFORMED (340002001D051-760303-024011407)

NUMBER OF MASTER FILE RECORDS READ:	367
NUMBER OF MASTER FILE RECORDS WRITTEN:	367
NUMBER OF MASTER FILE RECORDS CONTAINING DATA TO BE SCREENED:	16
NUMBER OF RECORDS PASSED TO PROGRAM AHPANOM:	32
NUMBER OF ABORT MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	1

Figure AQ125-2. Procedure AQRP45 -- program ACVANOM

PROGRAM NAME: ARPANOM (AQ0320)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: LOW SHEWHART TEST

NUMBER OF INPUT RECORDS:	32
NUMBER OF INPUT RECORDS CONTAINING HOURLY DATA:	29
NUMBER OF INPUT RECORDS CONTAINING DAILY DATA:	0
NUMBER OF INPUT HEADER RECORDS:	2
NUMBER OF INPUT TRAILER RECORDS:	1
NUMBER OF TIMES MAXIMUM VALUE TEST FAILED:	11
NUMBER OF TIMES ADJACENT HOURLY DIFFERENCE TEST FAILED:	13
NUMBER OF TIMES SPIKE TEST FAILED:	3
NUMBER OF TIMES DIXON RATIO TEST FAILED:	2
NUMBER OF TIMES GAP TEST FAILED:	7
NUMBER OF TIMES SHEWHART TEST FAILED:	0
NUMBER OF OUTPUT SKELETON TRANSACTIONS:	14

Figure AQ125-2 - continued. Procedure AQRPM45 -- program ARPANOM
(page 2 of 4)

AQDHS-11 ANOMALY SCREENING REPORT FOR HOURLY READINGS

PAGE 1

----- COLUMNS 1 THRU 32 -----													READINGS (FORMAT IS N XXXX WHEN N=DECIMAL PT INDICATOR, XXXX=READING)								D R	GAP
0 00 0000 001 1 11 1 11 11 12 22 22222 22 33 3	1 23 4567 890 1 23 4 56 78 90 12 34567 89 01 2												CC33	CC37	CC41	CC45	CC49	CC53	CC57	CC61	TEST	TEST
1-10-0001-001-E-02-1-71-06-??-??-42401-11-07-*																						FAIL
1-12-0001-003-C-01-1-78-04-15-XX-42101-11-05-*																					N/A	
	00												1 0290	1 0170	1 0170	1 0170	1 0120	1 0120	1 0230	1 0290		
	08												0 9999	1 0690	1 0230	1 0340	1 0170	1 0170	1 0120	1 0120		
	16												1 0170	1 0170	1 0230	1 0230	1 0460	1 0920	1 0800	1 0290		
																	A	AM	AM	A		
1-12-0001-003-C-01-1-78-04-??-??-42101-11-05-*																						FAIL
1-12-0001-003-C-01-1-78-01-31-XX-42101-11-06-*																					N/A	
	00												0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999		
	08												0 9999	0 9999	1 0034	1 0031	1 0022	1 0024	1 0026	1 0029		
	16												1 0040	1 0003	1 0002	1 5747	1 8045	1 5747				
															A	AMS	AMS	AMS				
1-12-0001-003-C-01-1-78-01-??-??-42101-11-06-*																						FAIL
1-12-0001-003-C-01-1-78-11-22-XX-42602-14-07-*																					N/A	
	00												3 0360	3 0345	3 0340	3 0335	3 0350	3 0375	3 0385	3 0760		
	08												3 0900	3 0840	3 0400	3 0320	3 0340	3 0330	3 0340	3 0390		
	16												3 0380	3 0440	3 0385	3 0350	3 0335	3 0330	3 0340	3 0340		
																			A	AM		
1-12-0001-003-C-01-1-78-11-??-??-42602-14-07-*																						FAIL
1-12-0001-003-C-01-1-78-12-30-XX-42602-14-07-*																					FAIL	
	00												3 0155	3 0150	3 0150	3 0155	3 0150	3 0150	3 0150	3 0145		
	08												3 0155	3 0170	3 0150	3 0160	3 0240	3 0290	3 0290	3 0335		
	16												3 4550	3 0600	3 0405	3 0290	3 0270	3 0250	3 0250	3 0260		
													AMS	AS								
1-12-0001-003-C-01-1-78-12-??-??-42602-14-07-*																						FAIL

* DECIMAL PT INDICATORS ARE LISTED WITH READINGS

** TEST CODES (PRINTED BELOW READINGS): A=ADJACENT HOURLY DIFFERENCE TEST, M=MAXIMUM VALUE TEST, S=SPIKE TEST

Figure AQI25-2 - continued. Procedure AQRPMA5 -- program ARPANOM

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AQDHS-II ANOMALY SCREENING REPORT FOR DAILY READINGS

PAGE 1

```

----- COLUMNS 1 THRU 32 -----
0 00 0000 001 1 11 1 11 11 12 22 22222 22 33 3
1 23 4567 890 1 23 4 56 78 90 12 34567 89 01 2
-----
DAYS READINGS(FORMAT IS N XXXX WHERE N=DECIMAL PT INDICATOR, XXXX=READING)
-----
SHEWHT
TEST
-----

```

NO DAILY READINGS WERE JUDGED ANOMALOUS

```

1100001001E0217106?????424011107? 3
1120001003C011780415??421011105? 3
1120001003C01178047??421011105? 3
1120001003C011780131??421011106? 3
1120001003C01178017??421011106? 3
1120001003C011781122??426021407? 3
1120001003C0117811??426021407? 3
1120001003C011781230??426021407? 3
1120001003C01178127??426021407? 3
1120001003C011780625??42011401? 3
1340001001A061650328??424013101? 3
1340001001A0616503??424013101? 3
1340001001A061790328??424013101? 3
1340001001A0617903??424013101? 3

```

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Figure AQ125-2 - continued. Procedure AQRP45 -- program ARPANOM

AQDHS-II TEST 26

Archive Data from the Updated Master File and Merge this Data with Previously Archived Data

In this test run, data from the updated AQDHS-II master file is archived using the cataloged procedure AQMSM20 which executes AMSARCH (AQ0215), the master file archival program. The cataloged procedure AQMSM10 is then used to merge this archived master file with a previously generated archived master file by executing AMSMERG (AQ0210), the master file merge program.

AMSARCH (AQ0215) was used in Test 19 to archive data from an AQDHS-II master file. For a description of AMSARCH (AQ0215) refer to Test 19.

AMSMERG (AQ0210) creates a single AQDHS-II master file from two separate AQDHS-II master files. The two input master files can also be answer files produced by a retrieval, archived master files, or any other combination of two files in master file format. However, the files must be in correct master file sequence and must not have any record key in common. The merged AQDHS-II master file will contain all the records from both files, and it will be in correct master file sequence.

The run stream for this test run contains the JCL necessary for archiving data from an AQDHS-II master file and merging two archived master files into one. This run stream is shown in Figure AQT26-1.

First, the run stream executes the cataloged procedure AQMSM20. Through the use of substitutable parameters, the input master file is specified as AQMST03T (created and stored disk in Test 25), the new master file is named AQMST04T, and the archived master file is named AQARCH1A. The user must supply the DD (data definition) information for the option card file. The option specified in the ARCHIVE step of this test run is 66 causing all data dated prior to 1966 to be archived. Figure AQT26-2 shows the sample output produced by this procedure.

Next, the cataloged procedure AQMSM10 is executed. Substitutable parameters are used to specify AQARCM01 (created and stored in Test 19) and

AQARCM1A (created and stored on disk by the above procedure) as the input master files to be merged, and AQARCM02 as the merged master file. Through the use of substitutable parameters, the input files to this step, AQARCM01 and AQARCM1A, are deleted after successful completion of the run. Refer to Figure AQT26-3 for the sample output produced by this procedure.

```

//AQSTST26 JOB RTI,C44,PD2443,MCMaster,T=2,P=150,FORMS=FFWHITE
//*PROCLIB=RTI,C44,PD2069,MCMaster,DPR,JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI,C44,PD2069,MCMaster,DPR,DATA,AQARCH02,
// DISP=(OLD,DELETE)
//*
//* ARCHIVE THE OLDEST DATA (1965) FROM THE CURRENT WORKING MASTER;
//* THEN MERGE THIS 1965 DATA WITH THE PREVIOUSLY ARCHIVED FILE
//* FROM TEST 19 AND CATALOGUE THE RESULTING TOTAL-ARCHIVED FILE
//*
//TEST26A EXEC AQMSM20,
//          MSTRFIL=AQMST03T,
//          NEWMSTR=AQMST04T,
//          ARCHSTR=AQARCH1A,
//          PRI1=1,
//          SEC1=1,
//          PRI2=1,
//          SEC2=1
//*
//* ARCHIVE THE 1965 DATA AS A TEMPORARY FILE
//*
//ARCHIVE,OPTIONS DD *
66
/*
//TEST26B EXEC AQMSM10,
//          NEWMSTR=AQARCH02,
//          INFILE1=AQARCH01,
//          INFILE2=AQARCH1A,
//          PRI1=1,
//          SEC1=1,
//          DISP1='OLD,DELETE,KEEP',
//          DISP2='OLD,DELETE,KEEP'
//*
//* MERGE THE 2 ARCHIVED FILES, FROM THIS TEST AND FROM TEST 19;
//* KEEP ONLY THE MERGED FILE
//*

```

Figure AQT26-1. Run Stream

PROGRAM NAME: AMSARCH (AQ0215)
REVISION LEVEL: 1-00
LAST UPDATE #:
DATE INCORPORATED: OCTOBER 31, 1978

ALL DATA PRIOR TO 1966 IS ARCHIVED

OLD MASTER COUNT:	367
NEW MASTER COUNT:	341
ARCHIVED MASTER COUNT:	26

Figure AQT26-2. Procedure AQMSM20 -- program AMSARCH

PROGRAM NAME: AMSMERG (A00210)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT FILE 1 CONTAINS:	13 RECORDS
INPUT FILE 2 CONTAINS:	26 RECORDS
OUTPUT FILE CONTAINS:	39 RECORDS

Figure AQT26-3. Procedure AQMSM10 -- program AMSMERG

AQDHS-II AD HOC TEST 1

Resubmit 1979 Data to SAROAD

Suppose an agency has submitted all of its data up to the third quarter of 1980 to SAROAD but it is necessary to resubmit all 1979 data. How can this be accomplished by AQDHS-II, since the 1979 readings in the master file have been flagged as sent?

This ad hoc test demonstrates how the 1979 data can be resubmitted. By means of a retrieval, all 1979 data from the master file is returned to a non-sent status. The retrieval is performed using the cataloged procedure AQRMT10, which invokes the following steps:

- 1) ARTLNPG (AQ0110), the retrieval language processor;
- 2) the COBOL compiler and linkage editor; and
- 3) ARTGENR (AQ0120), the generated retrieval program.

The cataloged procedure AQRPM05 is then used to submit all the data in the retrieved file flagged not sent to SAROAD by executing ARPSARD (AQ0220), the AQDHS-II to SAROAD conversion program.

For a description of the retrieval programs, ARTLNPG (AQ0110) and ARTGENR (AQ0120), refer to Test 13. For a description of the AQDHS-II to SAROAD conversion program, ARPSARD (AQ0220), see Test 12.

In this test run, the retrieval request cards which are used as input to ARTLNPG (AQ0110) are written in COBOL. The use of in-line COBOL sentences requires the insertion of the keyword USER beginning in column 10 of the \$\$SELECT card. Following the \$\$SELECT card in this test run are COBOL sentences to accomplish the following:

- 1) Each record of the input master file is retrieved. (The data element RECORD-QUALIFIES-SW is set to TRUE.)
- 2) For each record having 1979 data, the record status flag and reading status flags are set to add, not sent.

An option card is used in the SAROAD conversion step, which contains the digits 7912 in columns one through four; this indicates to ARPSARD (AQ0220) that no data beyond December 1979 is to be submitted to SAROAD, even if the status flags indicate that it should be. This cutoff date helps accomplish the purpose of the run: to resubmit only 1979 data.

The run stream for this test run contains the JCL necessary for resubmitting 1979 data to SAROAD. This run stream is shown in Figure AHT1-1.

First, the run stream executes the cataloged procedure AQRTM10. As indicated by the substitutable parameters, the input master file is specified as AQMST04T and the output answer file is named TEMPRETR. Note that AQMST04T was established as the active master file in Test 26 when data was archived from master file AQMST03T. Since all data in AQMST03T was flagged sent (refer to test 24), all data in AQMST04T is also flagged sent. The user must supply the appropriate DD information for the input retrieval specification cards in the COMPILE step. In this test run, these cards are used to return all 1979 data in the master file to a non-sent status. Figure AHT1-2 shows sample output from the execution of the cataloged procedure, AQRTM10.

Next, the run stream executes AQRPM05. Substitutable parameters are used to specify TEMPRETR (created by the first procedure in this test run) as the input master file and TEMSARD as the output master file. In this test run, the SAROAD add file and the SAROAD change file are printed for verification purposes. However, the user will typically use the cataloged procedure as designed to write these files to tape in order to submit them to SAROAD. The user must supply the DD information for the option card file. The date option specified in the SUBMIT step of this test run is 7912. Refer to Figure AHT1-3 for the sample output produced by this procedure.

There are two important aspects of this test run: (1) if the input master file contained data dated prior to 1979 flagged as add or change (pre-1979 data that had been added or changed after the latest SAROAD submission), that data would be included in the SAROAD add or change files

created during the execution of ARPSARD (AQ0220); and (2) in an operational environment, the master file produced by ARPSARD (AQ0220) would serve as the new master file since it reflects the correct submission status of all data.

```

//ADHOC01 JOB RTI.C44.P02443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.P02069,MCMaster.DPR.JCL
//*
//* RESUBMIT ALL 1979 DATA TO SAROAD USING THE FOLLOWING TECHNIQUE:
//* FIRST, RETRIEVE THE ENTIRE MASTER FILE, CHANGING ALL STATUS-FLAGS
//* AND RECORD-STATUS-FLAGS FROM A 'SENT' STATUS TO A 'NOT-SENT' STATUS;
//* SECOND, INPUT THIS RETRIEVED FILE TO THE SAROAD REPORT PROGRAM
//*
//ADHOC01A EXEC AQRMT10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* RETRIEVE THE FILE USING IN-LINE COBOL SPECIFICATIONS
//*
//COMPILE.INPUT DD *
$$SELECT USER
      GO TO USER-PARAGRAPH.
    USER-REPEAT.
      IF DATA-FIELD (SUB) IS NOT EQUAL TO 9999
        IF STATUS-FLAG (SUB) IS EQUAL TO 'S' OR
          STATUS-FLAG (SUB) IS EQUAL TO 'C'
          MOVE 'A' TO STATUS-FLAG (SUB)
        ELSE
          IF STATUS-FLAG (SUB) IS EQUAL TO 'T' OR
            STATUS-FLAG (SUB) IS EQUAL TO 'D'
            MOVE 'B' TO STATUS-FLAG (SUB),
          ADD 1 TO SUB.
        USER-REPEAT-END.
      EXIT.

    USER-PARAGRAPH.
      MOVE TRUE TO RECORD-QUALIFIES-SW.
      IF YEAR IS EQUAL TO '79'
        MOVE 1 TO SUB
        PERFORM USER-REPEAT THRU USER-REPEAT-END
          NBR-OF-READINGS TIMES
        IF RECORD-STATUS-FLAG IS EQUAL TO 'S'
          MOVE 'N' TO RECORD-STATUS-FLAG
        ELSE
          IF RECORD-STATUS-FLAG IS EQUAL TO 'T'
            MOVE 'V' TO RECORD-STATUS-FLAG.
        USER-PARAGRAPH-END.
      EXIT.

$$END
//*
//ADHOC01B EXEC AQRPM05,
//          OLDMSTR=TEMPRETR,
//          NEWMSTR=TEMPSARD,
//          DISPI='NEW,PASS',
//          PRIMARY=1,
//          SECNDRY=1
//*
//* SEND DATA TO SAROAD USING A CUTOFF MONTH OF DECEMBER, 1979,
//* IN THE OPTION CARD; THUS, NO DATA AFTER 1979 WILL BE SUBMITTED
//* TO SAROAD
//*
//SUBMIT.AQSADDFL DD SYSOUT=A
//SUBMIT.AQSCHGFL DD SYSOUT=A
//SUBMIT.OPTION DD *
7912
//*

```

Figure AHT1-1. Run Stream

PROGRAM NAME: ARTLNGP (A00110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

```

$$$SELECT USER
  GO TO USER-PARAGRAPH.
  USER-REPEAT.
    IF DATA-FIELD (SUB) IS NOT EQUAL TO 9999
      IF STATUS-FLAG (SUB) IS EQUAL TO 'S' OR
        STATUS-FLAG (SUB) IS EQUAL TO 'C'
        MOVE 'A' TO STATUS-FLAG (SUB)
      ELSE
        IF STATUS-FLAG (SUB) IS EQUAL TO 'T' OR
          STATUS-FLAG (SUB) IS EQUAL TO 'D'
          MOVE 'B' TO STATUS-FLAG (SUB).
        ADD 1 TO SUB.
      USER-REPEAT-END.
    EXIT.

  USER-PARAGRAPH.
    MOVE TRUE TO RECORD-QUALIFIES-SW.
    IF YEAR IS EQUAL TO '79'
      MOVE 1 TO SUB
      PERFORM USER-REPEAT THRU USER-REPEAT-END
        NBR-OF-READINGS TIMES
    IF RECORD-STATUS-FLAG IS EQUAL TO 'S'
      MOVE 'N' TO RECORD-STATUS-FLAG
    ELSE
      IF RECORD-STATUS-FLAG IS EQUAL TO 'T'
        MOVE 'V' TO RECORD-STATUS-FLAG.
    USER-PARAGRAPH-END.
  EXIT.

```

\$\$\$END

NUMBER OF CONTROL CARDS READ:	29
NUMBER OF RETRIEVAL SKELETON RECORDS READ:	1,138
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:	1,213
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

PROGRAM NAME: ARTGENR (A00120)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	341
NUMBER OF ANSWER FILE RECORDS WRITTEN:	341
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT1-2 - continued. Procedure AQRMT10 --- program ARTGENR
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PROGRAM NAME: ARPSARD (AQ0220)
REVISION LEVEL: 1-00
LAST UPDATE #1 24
DATE INCORPORATED: OCTOBER 31, 1978

DATE OF 12 79 USED FOR SAROAD SELECTION CRITERIA

NUMBER OF FILE RECORDS READ:	341
NUMBER OF MASTER FILE RECORDS DELETED USING THE CHANGE OPTION:	0
NUMBER OF FILE RECORDS WRITTEN:	341
NUMBER OF ADD TRANSACTIONS SUBMITTED TO SAROAD:	51
NUMBER OF CHANGE TRANSACTIONS SUBMITTED TO SAROAD:	0
NUMBER OF ADD READINGS SUBMITTED TO SAROAD:	242
NUMBER OF CHANGE READINGS SUBMITTED TO SAROAD:	0

Figure AHT1-3. Procedure AQ0PM05 -- program ARPSARD

(Page 1 of 2)

Figure AHT1-3 - continued. Procedure AQRPM05 -- program ARPSARD

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```

S2  ADD TRANSACTIONS CREATED BY ADDHS
1120001001C011790101004240133021 000 001 000 000 000 000 000 000 000 001 004 004
1120001001C011790101124240133021 006 008 004 004 005 005 002 001 000 000 000 000
1120001001C011790102004240133021 000 000 000
1120001001C011790102124240133021 007 008 010 011 010 011 010 011 009 008 008 007
1120001001C011790131004240133021 005 005 006 007 007 006 006 006 008 011 011 013
1120001001C011790131124240133021 013 013 014 012
1120001001C011790201004240133021 007 007 006 005 004 004 004 007 009 010 011 012
1120001001C011790201124240133021 014 013 012 012 008 007 007 007 007 007 008 007
1120001001C011790203004240133021 000 000 000 000 000 000 000 000
1120001001C011790203124240133021 000 000 002 004 004 006 006 007 003 000 000
1340001001A061790101001110191010 001 001 002 003 005 00880039021
1340001001A061790108001110191010 008 008 016 024 040 014 004 018
1340001001A061790110001110191010 013 013 026 039
1340001001A061790110121110191010 015 004 019 023 021 021 042 013 005 018 023 041
1340001001A061790120001110191010 033 033 018 002 020 022 042 014 004 004 010 015
1340001001A061790120121110191010 025 040 015 005 037 037 028 017 045 012 007 019
1340001001A061790131001110191010 041 041 038 032
1340001001A061790131121110191010 020 002 022 024
1340001001A061790328004240131010 037 0379928
1340001001A065790301054240133021 001 001 002
1340001001A065790302054240133021 001 001 002
1340001001A065790303054240133021 002 002 004
1340001001A065790304054240133021 003 003 006
1340001001A065790305054240133021 005 005 010
1340001001A065790306054240133021 008 008 016
1340001001A065790308054240133021 021 021 042
1340001001A065790324054240133021 033 033 018
1340001001A065790326054240133021 004 004 010
1340001001A065790330054240133021 041 041 038
1340001001A066790201064260282072 001 001
1340001001A066790203064260282072 001 001
1340001001A066790205064260282072 002 002
1340001001A066790207064260282072 003 003
1340001001A066790220064260282072 008 008
1340001001A066790222064260282072 013 013
1340001001A066790224064260282072 021 021
1340001001A066790225064260282072 033 033
1340001001A066790226064260282072 004 004
1340001001A066790227064260282072 037 037
1340001001A066790228064260282072 041 041
1340001001A066790201064260314072 001 001
1340001001A066790203064260314072 001 001
1340001001A066790205064260314072 002 002
1340001001A066790207064260314072 003 003
1340001001A066790214064260314072 005 005
1340001001A066790220064260314072 008 008
1340001001A066790224064260314072 021 021
1340001001A066790225064260314072 033 033
1340001001A066790226064260314072 004 004
1340001001A066790227064260314072 037 037
1340001001A066790228064260314072 041 041

```

S3 CHANGE TRANSACTIONS CREATED BY ADDHS. RUN SAROAD EDITOR WITH DELETES OPTION

AQDHS-II AD HOC TEST 2

Rescreen all Data from the Master File

Just as it was possible (in Ad Hoc Test 1) to resubmit data to SAROAD by manipulating the master file status flags, it is possible to rescreen the master file data with a similar technique.

In this test run, all data from the AQDHS-II master file is returned to a non-screened status by means of a retrieval using the cataloged procedure AQRTM10. This procedure executes ARTLNGP (AQ0110), the retrieval language processor program; the COBOL compiler; the linkage editor; and ARTGENR (AQ0120), the generated retrieval program. The retrieved file is then rescreened using the cataloged procedure AQRPM45, which executes ACVANOM (AQ0040) and ARPANOM (AQ0320), the anomaly screening programs.

For a description of the retrieval programs, refer to Test 13. And, a description of ACVANOM (AQ0040) and ARPANOM (AQ0320) can be found in Test 11.

The retrieval request cards used in this test run are in the COBOL language as in the Ad Hoc Test 1. However, unlike Ad Hoc Test 1, in which in-line COBOL sentences were used, the sentences in this run are stored in a copy member named COPYEXM2. To use a copy member, two keywords must be coded on the \$\$SELECT card: the word USER beginning in column 10 and the name of the copy member beginning in column 16. The COBOL sentences in copy member COPYEXM2 cause all records of the input master file to be retrieved. Also, the record status flag and the reading status flags of each record are set to non-screened.

The run stream for this test run contains the JCL necessary to rescreen all data from the AQDHS-II master file. This run stream is shown in Figure AHT2-1. The COBOL sentences stored in copy member COPYEXM2 are shown in Figure AHT2-2.

First, the run stream executes cataloged procedure AQRTM10 to produce the desired answer file. Through the use of substitutable parameters, the input master file is specified as AQMST04T (created and stored on disk in Test 26) and the output answer file is named TEMPRETR. The user must supply the DD information for the input retrieval specification cards in the COMPILE step. Refer to Figure AHT2-3 for the sample output produced by this procedure.

Next, the run stream executes the cataloged procedure AQRPM45 to screen the answer file. Substitutable parameters are used to specified TEMPRETR (created in the first procedure of this test) as the input master file, AQPARM01 (created and stored on disk in Test 1) as the input parameter file, and SAVESCRN as the output master file. The user must supply the DD information for the option card file. The option specified in the CONVERT step of this test run is FLAG LOW, which indicates that the low Shewhart test is to be applied. The FORTRAN-compatible file passed from ACVANOM (AQ0040) to ARPANOM (AQ0320), defined in the cataloged procedure AQRPM45 as a temporary file, is redefined in the CONVERT step of this run stream as a permanent file (data set name FORTANOM). This technique could be used to save any temporary file in any of the AQDHS-II procedures; however, the user will not normally need to save temporary files. In this test run, the skeleton master file transactions are printed for verification purposes. Normally, the user would write these skeleton transactions to cards or disk to be used in correcting readings in the master file. Figure AHT2-4 shows the sample output produced by this procedure.

An important aspect of this test run is that in an operational environment the master file produced by ACVANOM (AQ0040) in the anomaly screening step of this test run would be the new master file because it reflects the latest screening status of the readings in the master file.

PROGRAM NAME: ARTLNGP (AQ0110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$SELECT USER COPYEXM2
 \$\$END

NUMBER OF CONTROL CARDS READ:	2
NUMBER OF RETRIEVAL SKELETON RECORDS READ:	1,138
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:	1,159
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT2-3. Procedure AQRTM10 -- programs ARTLNGP and ARTGENR

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PROGRAM NAME: ARTGENR (AQ0120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	341
NUMBER OF ANSWER FILE RECORDS WRITTEN:	341
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

PROGRAM NAME: ACVANUM (AQ0040)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: LOW SNEWART TEST

*** ACVANUM 007 CONDITIONAL - READING(S) > 9999,9999 IN STD UNITS, SCREENING NOT PERFORMED (340002001D051-760303-424011407)

NUMBER OF MASTER FILE RECORDS READ:	341
NUMBER OF MASTER FILE RECORDS WRITTEN:	341
NUMBER OF MASTER FILE RECORDS CONTAINING DATA TO BE SCREENED:	62
NUMBER OF RECORDS PASSED TO PROGRAM ARPANOM:	146
NUMBER OF ABORT MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	1

PROGRAM NAME: ARPANOM (AQ0320)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: LOW SNEWART TEST

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NUMBER OF INPUT RECORDS:	146
NUMBER OF INPUT RECORDS CONTAINING HOURLY DATA:	55
NUMBER OF INPUT RECORDS CONTAINING DAILY DATA:	88
NUMBER OF INPUT HEADER RECORDS:	2
NUMBER OF INPUT TRAILER RECORDS:	1
NUMBER OF TIMES MAXIMUM VALUE TEST FAILED:	10
NUMBER OF TIMES ADJACENT HOURLY DIFFERENCE TEST FAILED:	12
NUMBER OF TIMES SPIKE TEST FAILED:	3
NUMBER OF TIMES DIXON RATIO TEST FAILED:	5
NUMBER OF TIMES GAP TEST FAILED:	6
NUMBER OF TIMES SNEWART TEST FAILED:	12
NUMBER OF OUTPUT SKELETON TRANSACTIONS:	27

Figure AHT2-4. Procedure AGRPM45 -- programs ACVANOM and ARPANOM

AQDHS-11 ANOMALY SCREENING REPORT FOR HOURLY READINGS

PAGE 1

----- COLUMNS 1 THRU 32 -----													READINGS(FORMAT IS N XXXX WHERE N=DECIMAL PT INDICATOR, XXXX=READING)								D R	GAP
0 00 0000 001 1 11 1 11 11 12 22 2222 22 33 3	1 23 4567 890 1 23 4 56 78 90 12 34567 89 01 2												CC33	CC37	CC41	CC45	CC49	CC53	CC57	CC61	TEST	TEST
1-10-0001-001-E-02-1-71-06-77-??-42401-11-07-*																						FAIL
1-12-0001-003-C-01-1-78-04-15-XX-42101-11-05-*																					N/A	
	00												1 0290	1 0170	1 0170	1 0170	1 0120	1 0120	1 0230	1 0290		
	08												0 9999	1 0690 A	1 0230 A	1 0340	1 0170	1 0170	1 0120	1 0120		
	16												1 0170	1 0170	1 0230	1 0230	1 0460 A	1 0920 AM	1 0800 AM	1 0290 A		
1-12-0001-003-C-01-1-78-04-??-??-42101-11-05-*																						FAIL
1-12-0001-003-C-01-1-78-01-31-XX-42101-11-06-*																					N/A	
	00												0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999		
	08												0 9999	0 9999	1 0034	1 0031	1 0022	1 0024	1 0026	1 0029		
	16												1 0040	1 0003	1 0002 A	1 5747 AMS	1 8045 AMS	1 5747 AMS				
1-12-0001-003-C-01-1-78-11-22-XX-42602-14-07-*																					N/A	
	00												3 0360	3 0345	3 0340	3 0335	3 0350	3 0375	3 0385 A	3 0760 AM		
	08												3 0900 M	3 0840 AM	3 0400 A	3 0320	3 0340	3 0330	3 0340	3 0390		
	16												3 0380	3 0440	3 0385	3 0350	3 0335	3 0330	3 0340	3 0340		
1-12-0001-003-C-01-1-78-11-??-??-42602-14-07-*																						FAIL
1-12-0001-003-C-01-1-78-12-30-XX-42602-14-07-*																					FAIL	
	00												3 0155	3 0150	3 0150	3 0155	3 0150	3 0150	3 0150	3 0145		
	08												3 0155	3 0170	3 0150	3 0160	3 0240	3 0290	3 0290	3 0335 AS		
	16												3 4550 AMS	3 0600 AS	3 0405	3 0290	3 0270	3 0250	3 0250	3 0260		
1-12-0001-003-C-01-1-78-12-??-??-42602-14-07-*																						FAIL

* DECIMAL PT INDICATORS ARE LISTED WITH READINGS

** TEST CODES (PRINTED BELOW READINGS): A=ADJACENT HOURLY DIFFERENCE TEST, M=MAXIMUM VALUE TEST, S=SPIKE TEST

Figure AHT2-4 - continued. Procedure AQRPM45 -- program ARPANOM
(Page 2 of 4)

AQDHS-11 ANOMALY SCREENING REPORT FOR DAILY READINGS

PAGE 1

COLUMNS 1 THRU 32													SHEWHT TEST
0 00 0000 001 1 11 1 11 11 12 22 2222 22 33 3 1 23 4567 890 1 23 4 56 78 90 12 34567 89 01 2	DAYS												
READINGS(FORMAT IS: N XXXX WHERE N=DECIMAL PT INDICATOR, XXXX=READING)													
2-34-0001-004-A-06-8-77-01-**-00-11101-91-01-*	1- 8	0 0035	0 9999	0 9999	0 9999	0 9999	0 9999	0 9964	0 9999	FAIL			
	9-16	0 9999	0 9999	0 9999	0 9999	0 0025	0 9999	0 9999	0 9999				
	17-20	0 9999	0 9999	0 9999	0 0000								
2-34-0001-004-A-06-8-77-02-**-00-11101-91-01-*	1- 8	0 0455	0 0455	0 0455	0 0455	0 0455	0 0455	0 0455	0 0455	FAIL			
	9-16	0 0455	0 0455	0 0455	0 0065	0 0455	0 0455	0 0455	0 0455				
	17-24	0 0455	0 0119	0 0455	0 0455	0 0455	0 0455	0 0455	0 0455				
2-34-0001-003-A-06-8-76-12-**-00-42401-91-01-*	1- 8	0 1500	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	FAIL			
	9-16	0 9999	0 9999	0 9999	0 9999	0 9999	1 0000	0 9999	0 9999				
	17-24	0 9999	0 9999	0 9999	1 0014	0 9999	0 9999	0 9999	0 9999				
	25-26	0 9999	1 0000										
2-34-0001-003-A-06-8-77-01-**-00-42401-91-01-*	1- 8	1 0000	0 1500	0 9999	0 9999	0 9999	0 9999	1 0000	0 9999	FAIL			
	9-16	0 9999	0 9999	0 9999	0 9999	1 0012	0 9999	0 9999	0 9999				
	17-24	0 9999	0 9999	1 0034	0 9999	0 9999	0 9999	0 9999	0 9999				
	25-31	1 0000	0 9999	0 9999	0 9999	0 9999	0 9999	1 0000					
2-34-0001-003-A-06-8-77-02-**-00-42401-91-01-*	1- 8	0 9999	0 9999	0 9999	0 9999	0 9999	1 3613	0 9999	0 9999	FAIL			
	9-16	0 9999	0 9999	0 9999	1 0000	0 9999	0 9999	0 9999	0 9999				
	17-24	0 9999	1 0128	0 9999	0 9999	0 9999	0 9999	0 9999	1 0069				
2-34-0001-003-A-06-8-77-03-**-00-42401-91-01-*	1- 8	0 9999	1 0113	0 9999	0 9999	0 9999	0 9999	0 9999	1 0074	FAIL			
	9-16	0 9999	0 9999	0 9999	0 9999	0 9999	1 0076	0 9999	0 9999				
	17-24	0 9999	0 9999	0 9999	1 0143	0 9999	0 9999	0 9999	0 9999				
	25-26	0 9999	0 9450										
2-37-0001-234-F-05-8-71-04-**-00-11101-91-01-*	1- 8	0 0060	0 9999	0 9999	0 9999	0 0070	0 0177	0 9999	0 0038	FAIL			
	9-16	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 0083				
	17-24	0 9999	0 9999	0 9999	0 9999	0 9999	0 9999	0 0051	0 9999				
	25-27	0 9999	0 9999	0 0040									
2-37-0001-234-F-05-8-71-06-**-00-11101-91-01-*	1- 8	0 9999	0 9999	0 9999	0 9999	0 0054	0 9999	0 9999	0 9999	FAIL			
	9-16	0 9999	0 9999	0 9999	0 9999	0 9999	0 0037	0 9999	0 9999				
	17-24	0 9999	0 0052	0 9999	0 9999	0 0071	0 9999	0 9999	0 9999				
	25-29	0 9999	0 0068	0 9999	0 9999	0 0045							
2-37-0001-234-F-05-8-71-09-**-00-11101-91-01-*	1- 8	0 9999	0 0056	0 9999	0 0050	0 9999	0 9999	0 0057	0 9999	FAIL			
	9-16	0 0059	0 9999	0 9999	0 9999	0 9999	0 0074	0 9999	0 0044				
	17-24	0 9999	0 0007	0 9999	0 9999	0 0034	0 9999	0 0035	0 9999				
	25-30	0 0019	0 9999	0 9999	0 0034	0 9999	0 0039						
2-37-0001-234-F-05-8-71-10-**-00-11101-91-01-*	1- 8	0 9999	0 0017	0 9999	0 9999	0 0070	0 9999	0 0052	0 9999	FAIL			
	9-16	0 0054	0 9999	0 9999	0 0043	0 9999	0 0050	0 9999	0 0020				
	17-24	0 9999	0 9999	0 0011	0 9999	0 0035	0 9999	0 0037	0 9999				
	25-30	0 9999	0 0037	0 9999	0 0023	0 9999	0 0032						

* DECIMAL PT INDICATORS ARE LISTED WITH READINGS
 ** DAY VARIES, VALID ENTRIES ARE 1 THRU 31

Figure AHT2-4 - continued. Procedure AQRPM45 -- program ARPANOM

AQDHS-II AD HOC TEST 3

Produce an Inventory by Pollutant Report with Data from both the Archived and Active Master Files

In this test run, all hourly TSP and SO₂ data which are recorded in standard units and exceed the maximum values (2000 micrograms/cubic meter for TSP and 5240 micrograms/cubic meter for SO₂) are to be retrieved, regardless of whether the data are in the active master file or have been archived.

To accomplish this, the cataloged procedure AQRTM20 is used first to execute the retrieval language processor program, ARTLNGP (AQ0110); the COBOL compiler; and the linkage editor to create the generated retrieval program, ARTGENR (AQ0120). Then, the cataloged procedure AQRTM30 is used twice to execute ARTGENR (AQ0120) using two different input files: the archived master file and the active master file. The advantage of using these separate procedures instead of the single retrieval cataloged procedure, AQRTM10, is that the retrieval program does not have to be regenerated from the retrieval specifications each time a new master file is to be used. This test run also uses the cataloged procedure AQMSM10 to merge the two retrieved files by executing AMSMERG (AQ0210), the master file merge program. It also uses the cataloged procedure AQRPM40 to produce an inventory by pollutant of the merged file by executing ASRMSTR (AQ0140), the master file sort program; and ARPINVP (AQ0290), the inventory by pollutant report program.

The retrieval programs are discussed in Test 13. The master file merge program, AMSMERG (AQ0210), is discussed in Test 26. ASRMSTR (AQ0140) and ARPINVP (AQ0290) are both described in Test 8.

The retrieval request cards for this test run are in the AQDHS-II retrieval language. Also, the \$\$SELECT card contains the value RETRVR beginning in column 61. This specifies the name of the load module for the generated retrieval program when the procedure AQRTM20 is used to create and store this load module. When this field is used, the name specified must also be used for the substitutable parameter PGMSAVE in the cataloged

procedure AQRTM20. If no value is placed in this keyword field of the \$\$SELECT statement, the default value of ARTGENR is used for the retrieval program name.

The run stream for this test run contains the JCL necessary for producing an inventory by pollutant report of data retrieved from both the archived and active master files. This run stream is shown in Figure AHT3-1.

The cataloged procedure AQRTM20 is executed in step A to generate the retrieval program load module which is named RETRVR by the specifications on the \$\$SELECT card and by the use of a substitutable parameter. The user must supply the DD information for the input retrieval specification cards in the COMPILE step. In this test run, the input retrieval specification cards will be used to produce a standard answer file containing all hourly TSP and SO₂ data which exceeded their maximum values and are recorded in standard units. Refer to Figure AHT3-2 for the sample output produced by this procedure.

In step B and C, the cataloged procedure AQRTM30 is used to execute the retrieval program load module, RETRVR, on the archived master file AQARCM02 (created and stored on disk in Test 26) and on the active master file AQMST04T (created and stored on disk in Test 26), respectively. The load module and the input master files are specified in this test run using substitutable parameters. By the same method, the output answer file is named ARCHRETR in step B and ACTVRETR in step C. Sample outputs from step B and step C are shown in Figures AHT3-3 and AHT3-4, respectively.

Next, the run stream executes the cataloged procedure AQMSM10. Through the use of substitutable parameters, the input files to be merged are identified as ARCHRETR (created in step B) and ACTVRETR (created in step C), and the merged file is named MERGRETR. This file contains all the desired high readings for TSP and SO₂ regardless of whether the readings were taken before or after the archival cut off year. MERGRETR is established as a temporary file by specifying 'NEW,PASS' for the substitutable parameter DISP3. (The default value for DISP3 is 'NEW,CATLG,DELETE' which causes the

merged file to be cataloged.) Figure AHT3-5 shows the sample output from this procedure.

In the last step, the inventory of pollutant report is generated by executing the cataloged procedure AQRPM40. Substitutable parameters are used in this step to specify MERGRETR (created in the above step) as the input master file, AQPARM01 (created and stored on disk in Test 1) as the input parameter file, and AQSITE01 (created and stored on disk in Test 2) as the input site file. The user must supply the DD information for the option card file in the SORT step. The option specified must be PARM. Refer to Figure AHT3-6 for the sample output produced by this procedure.

```

//ADHOC03 JOB RTI.C44.PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//PROCLIB=RTI.C44.PO2069.MCMaster,DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069.MCMaster,DPR.DATA.MERGRET,
//      DISP=(OLD,DELETE),
//DD1 DD DSN=RTI.C44.PO2069.MCMaster,DPR.DATA.ACTVRETR,
//      UNIT=DISK,VOL=(SER=(RTI111,RTI222,RTI666,RTI777)),DISP=(OLD,DELETE)
//DD1 DD DSN=RTI.C44.PO2069.MCMaster,DPR.DATA.ARCHRETR,
//      UNIT=DISK,VOL=(SER=(RTI111,RTI222,RTI666,RTI777)),DISP=(OLD,DELETE)
//
//* THIS ADHOC TEST DEMONSTRATES THE CAPABILITY OF AQDMS-II
//* TO RUN THE SAME RETRIEVAL ON MORE THAN ONE FILE,
//* WITHOUT HAVING TO RECOMPILE THE RETRIEVAL SKELETON PROGRAM
//* EACH TIME; HERE THE SAME RETRIEVAL CRITERIA ARE USED TO OBTAIN DATA
//* FROM BOTH THE ARCHIVED FILE AND THE ACTIVE FILE; FINALLY A
//* PARAMETER INVENTORY IS PRODUCED FOR THESE RETRIEVED FILES
//
//ADHOC03A EXEC AQRTM20,
//      PGMSAVE=RETRVR
//
//* THE RETRIEVAL LANGUAGE SPECIFICATIONS CALL FOR HOURLY DATA
//* WITH ABNORMALLY HIGH READINGS FOR TSP AND SULFUR DIOXIDE;
//* THESE SPECIFICATIONS ARE INSERTED INTO THE RETRIEVAL SKELETON,
//* WHICH IS THEN COMPILED AND LINK-EDITED; THE RESULTING LOAD MODULE
//* IS CATALOGUED AND SAVED FOR LATER USE ON ANY MASTER=FORMAT FILE
//
//COMPILE.INPUT DD *
SSSELECT                                RETRVR
((PARAMETER-CODE                        = '11101'
DATA-FIELD                             > '2000')
(PARAMETER-CODE                        = '42401'
DATA-FIELD                             > '5240'))
TIME-CODE                              = '1'
DATA-FIELD                             < '9999'
UNIT-CODE                              = '01'
SSEND
//
//ADHOC03B EXEC AQRTM30,
//      PROGRAM=RETRVR,
//      MSTRFIL=AQARCM02,
//      ANSHRFL=ARCHRETR,
//      DISP='NEW,PASS',
//      PRIMARY=1,
//      SECNDRY=1
//
//* THE PROGRAM 'RETRVR', CREATED IN STEP A,
//* IS EXECUTED TO RETRIEVE THE DESIRED DATA FROM THE ARCHIVED FILE
//
//ADHOC03C EXEC AQRTM30,
//      PROGRAM=RETRVR,
//      MSTRFIL=AQMST04T,
//      ANSHRFL=ACTVRETR,
//      DISP='NEW,PASS',
//      PRIMARY=1,
//      SECNDRY=1
//
//* THE RETRIEVAL LOAD MODULE 'RETRVR' IS EXECUTED AGAIN,
//* THIS TIME USING THE ACTIVE MASTER FILE
//
//ADHOC03D EXEC AQMSM10,
//      DISP='NEW,PASS',
//      INFILE1=ARCHRETR,
//      INFILE2=ACTVRETR,
//      NEWMSTR=MERGRET,
//      PRI=1,
//      SEC=1
//
//* THE 2 RETRIEVED FILES FROM STEPS B AND C ARE MERGED INTO ONE
//* MASTER=FORMAT FILE TO USE AS INPUT TO THE POLLUTANT INVENTORY STEP
//
//ADHOC03E EXEC AQRP40,
//      MSTRFIL=MERGRET,
//      PARMFIL=AQPARM01,
//      SITEFIL=AQSITE01
//
//* THE MERGED FILE IS USED TO PRODUCE A PARAMETER INVENTORY
//
//SORT.OPTION DD *
//      PARM
//

```

Figure AHT3-1. Run Stream

PROGRAM NAME: ARTLNGP (AQ0110)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$\$SELECT
((PARAMETER-CODE = '11101'
DATA-FIELD > '2000')
(PARAMETER-CODE = '42401'
DATA-FIELD > '5240'))
TIME-CODE = '1'
DATA-FIELD < '9999'
UNIT-CODE = '01'
\$\$\$END

RETRVR

AND
OR
AND
AND
AND
AND

NUMBER OF CONTROL CARDS READ: 9
NUMBER OF RETRIEVAL SKELETON RECORDS READ: 1,138
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN: 1,188
NUMBER OF CONDITIONAL MESSAGES: 0
NUMBER OF ERROR MESSAGES: 0
NUMBER OF ABORT MESSAGES: 0

Figure AHT3-2. Procedure AQRTM20 -- program ARTLNGP

PROGRAM NAME: RETRVR (AQ0120)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	39
NUMBER OF ANSWER FILE RECORDS WRITTEN:	2
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT3-3. Procedure AQRTM30 -- program RETRVR

PROGRAM NAME: RETRVR (A00120)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	343
NUMBER OF ANSWER FILE RECORDS WRITTEN:	2
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT3-4. Procedure AQRTM30 -- program RETRVR

PROGRAM NAME: AMSMERG (AQ0210)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT FILE 1 CONTAINS:	2 RECORDS
INPUT FILE 2 CONTAINS:	2 RECORDS
OUTPUT FILE CONTAINS:	4 RECORDS

Figure AHT3-5. Procedure AQMSM10 -- program AMSMERG

PROGRAM NAME: ASRMSTR (A00140)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: PARM

NUMBER OF INPUT RECORDS READ:	4
NUMBER OF MASTER RECORDS WRITTEN:	4
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AHT3-6. Procedure AQRPM40 -- program ASRMSTR
(Page 1 of 2)

AIR QUALITY DATA REPORT - INVENTORY BY POLLUTANT

PAGE 1

PROGRAM NAME: ARPINV (AQ0290)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

POL-MTH CODE	POLLUTANT NAME	STATE-AQCR-CNTY- AG- AREA-SITE CODES PRJ	LOCATION NAME	YEAR	TIME CODE	UNIT CODE	NUM OBS	MIN OBS	MAX OBS	ARITH MEAN
1110191	TOTAL SUSPENDED PARTICULATE	3416909600001001 A06	YADKIN RD., FAYETTEVILLE, CU	1965	1	01	8	1.000	9021.	2130.5
				1979	1	01	16	1.000	9021.	1068.0
4240131	SULFUR DIOXIDE	3416909600001001 A06	YADKIN RD., FAYETTEVILLE, CU	1965	1	01	3	37.00	9928.	3334.0
				1979	1	01	3	37.00	9928.	3334.0

ARPINV (AQ0290) SUMMARY MESSAGES

PAGE 1

INPUT RECORD COUNT: 4
OUTPUT LINE COUNT: 4

PROGRAM NAME: ARPINV (AQ0290)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT3-6 - continued. Procedure AQRPW40 -- program ARPINV
(Page 2 of 2)

AQDHS-II AD HOC TEST 4

Produce a Detailed Report in User Units Containing Data Retrieved from the Master File

This test incorporates the first use in the test run series of the user units fields in the parameter file. The cataloged procedure AQRTM10 is executed first. AQRTM10 executes the retrieval language processor program, ARTLNGP (AQ0110); the COBOL compiler; the linkage editor; and the generated retrieval program ARTGENR (AQ0120). Next, the cataloged procedure AQCVM20 is used to execute ACVUNIT (AQ0050), the units code conversion program. And finally, the cataloged procedure AQRPM20 is used to produce a detailed report by executing ARPMSTR (AQ0230), the master file detailed report program.

The retrieval programs are described in Test 13. ACVUNIT (AQ0050) is described in Test 20 and ARPMSTR (AQ0230) is described in Test 6.

The run stream for this test run contains the JCL necessary for producing a detailed report of data retrieved from the master file and then converted into user units. This run stream is shown in Figure AHT4-1.

First, the run stream executes the cataloged procedure AQRTM10 to obtain a retrieval. Substitutable parameters are used to specify AQMST04T (created and stored on disk in Test 26) as the input master file, and TEMPRETR as the output answer file. The user must supply the DD information for the input retrieval specification cards in the COMPIL step. In test run, these cards are used to produce a standard answer file containing all NO₂ and NO_x data from 1979 in the master file. Refer to Figure AHT4-2 for the sample output produced by this procedure.

Next, the run stream executes the cataloged procedure AQCVM20. By using substitutable parameters, the input master file is specified as TEMPRETR

(created by the first procedure of this test), the input parameter file is specified as AQPARM01 (created and stored on disk in Test 1), and the output answer file is named UNITCONV. All the readings in this answer file have been converted to the units of parts per billion (the user units specified in the parameter file AQPARM01). The user must supply the DD information for the option card file. The option specified in the CONV step of this test run is USER. Figure AHT4-3 shows the output produced by this procedure.

Finally, the cataloged procedure AQRPM20 is executed to produce a detailed report. Substitutable parameters indicate UNITCONV (created by the above procedure) as the input master file, AQPARM01 (created and stored in Test 1) as the input parameter file, AQSITE01 (created and stored on disk in Test 2) as the input site file, and AQSTND01 (created and stored on disk in Test 3) as the input parameter standards file. The user must supply the DD information for the option card file. The options specified in the CONV step of this test run are SUM and DISPLAY > -10. The sample output produced by this procedure is shown in Figure AHT4-4.

```

//ADHUC04 JOB RTI,C44.PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI,C44.PO2069,MCMaster,DPR,JCL
//*
//* THIS TEST RETRIEVES NITROGEN DIOXIDE AND OXIDES OF NITROGEN,
//* CONVERTS THE RETRIEVED DATA FROM THE UNITS IN THE KEY TO
//* THE USER UNITS, AND PRODUCES A DETAILED LIST OF THE RESULTING FILE
//*
//ADHOC04A EXEC AGRM10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* THE RETRIEVAL IS PERFORMED USING RETRIEVAL LANGUAGE
//* SPECIFICATIONS
//*
//COMPILE.INPUT DD *
$$SELECT
YEAR                      = '79'
(PARAMETER-CODE           = '42602'
PARAMETER-CODE           = '42603')
$$END
//*
//ADHOC04B EXEC AQCVM20,
//          MSTRFIL=TEMPRETR,
//          ANSWRFL=UNITCONV,
//          PARMFIL=AQPARM01,
//          DISP='NEW,PASS',
//          PRIMARY=1,
//          SECNDRY=1
//*
//* CONVERT THE DATA IN THE RETRIEVED FILE TO USER UNITS
//* (AS SPECIFIED IN THE OPTION CARD)
//*
//CONV.OPTIONS DD *
USER
//*
//ADHUC04C EXEC AGRPM20,
//          MSTRFIL=UNITCONV,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* LIST THE CONTENTS OF THE CONVERTED FILE WITH A SUM,
//* RATHER THAN A MEAN, OPTION AND WITH A NEGATIVE DISPLAY CRITERION
//*
//REPORT.OPTIONS DD *
SUM DISPLAY > -10
//*

```

AND
OR

Figure AHT4-1. Run Stream

AQDM1-11 RETRIEVAL LANGUAGE PROCESSOR PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTLNGP (AQ0110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$\$SELECT
 YEAR = '79' AND
 (PARAMETER-CODE = '42602' OR
 PARAMETER-CODE = '42603')
 \$\$\$END

NUMBER OF CONTROL CARDS READ: 5
 NUMBER OF RETRIEVAL SKELETON RECORDS READ: 1,138
 NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN: 1,181
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF ERROR MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0

Figure AHT4-2. Procedure AQRTM10 -- Programs ARTLNGP and ARTGENR

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AQDHS-11 GENERATED RETRIEVAL PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTGENR (AQ0120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ: 341
 NUMBER OF ANSWER FILE RECORDS WRITTEN: 22
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0

PROGRAM NAME: ACVUNIT (A00050)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1970

OPTION IS USER

NUMBER OF INPUT RECORDS:	22
NUMBER OF OUTPUT RECORDS:	22
NUMBER OF ERRORS DETECTED:	0
NUMBER OF READINGS CONVERTED:	44
NUMBER OF READINGS TOO LARGE:	0
NUMBER OF READINGS TOO SMALL:	0
NUMBER OF RECORDS WITH READINGS CONVERTED:	22
NUMBER OF RECORDS WITH READINGS TOO LARGE:	0
NUMBER OF RECORDS WITH READINGS TOO SMALL:	0

Figure AHT4-3. Procedure AQCVM20 -- program ACVUNIT

AGDHS-11 MASTER FILE DETAILED REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (AQ0230)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

USER-SPECIFIED OPTION: SUM DISPLAY > -10

NUMBER OF OPTION STATEMENTS READ:	2
NUMBER OF MASTER FILE RECORDS READ:	22
NUMBER OF REPORT PAGES WRITTEN:	2
NUMBER OF ERRORS DETECTED:	0

Figure AHT4-4. Procedure AQ0230 -- program ARPMSTR
 (Page 1 of 2)

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY >-10

PAGE 1

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: YEAR: 1979
 COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: MONTH: FEBRUARY
 AREA: 0001 PARAMETER: SAMPLING INTERVAL: 12 HOURS MIN DET: 1
 SITE: 001 UNITS: SAROAD KEY: 340001001A0616 UNITS CODE: 08
 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 340009600001001A06779 KEY-2: 426028208 KEY-3: 020106

FEDERAL STANDARD 100 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN PRIMARY 100 UG/M3 (25 C), ANNUAL ARITHMETIC MEAN
 STATE STANDARD 90 UG/M3 (0 C) ANNUAL ARITHMETIC MEAN SECONDARY 90 UG/M3 (0 C) ANNUAL ARITHMETIC MEAN

DAY	HOUR		NO.	SUM
	06	18		
01	10.00	10.00	2	20.0000
02			0	
03	10.00	10.00	2	20.0000
04			0	
05	20.00	20.00	2	40.0000
06			0	
07	30.00	30.00	2	60.0000
08			0	
09			0	
10			0	
11			0	
12			0	
13			0	
14			0	
15			0	
16			0	
17			0	
18			0	
19			0	
20	80.00	80.00	2	160.0000
21			0	
22	130.0	130.0	2	260.0000
23			0	
24	210.0	210.0	2	420.0000
25	330.0	330.0	2	660.0000
26	40.00	40.00	2	80.0000
27	370.0	370.0	2	740.0000
28	410.0	410.0	2	820.0000

Figure AHT4-4 - continued. Procedure AQRP20 -- program ARPMSTR

(Page 2 of 2)

AQDHS-II AD HOC TEST 5

Produce a Sliding Average Report

Ad Hoc Test 5 generates a sliding average report of 1979 sulfur dioxide hourly data using the SAROAD criterion for averaging. To accomplish this, the retrieval programs are executed by the cataloged procedure AQRTM10. The cataloged procedure AQSTM20 is then used to execute ASTSLAV (AQ0180), the sliding average program. The sliding average report is produced using the cataloged procedure AQRPM20 to execute ARPMSTR (AQ0230), the master file detailed report program.

Test 13 provides a description of the programs executed by the retrieval procedure. ADQHS-II retrieval language specifications are used in this test run. The special keyword, SLIDING, appears on the \$\$SELECT card beginning in column 25; this creates a sliding average answer file rather than a standard answer file.

The sliding average program, ASTSLAV (AQ0180), is discussed in Test 21. The present test uses the SAROAD criterion for averaging. This criterion requires that 75% of the readings in an averaging interval be present for an average to be calculated. In this test, where an interval of 8 readings is specified, the 75% minimum translates into 6 readings. Under the regular AQDHS-II criterion, only 5 readings (one more than half) would be needed to calculate an average.

Test 21 describes the detailed report program, ARPMSTR (AQ0230).

The run stream for Ad Hoc Test 5 appears in Figure AHT5-1. First, the cataloged procedure AQRTM10 is executed to retrieve all hourly 1979 sulfur dioxide data from the active master file, AQMST04T (created and stored on disk in Test 26). The user must supply the DD information for the input retrieval specification cards. Figure AHT5-2 shows the sample output produced by this procedure.

Next, the cataloged procedure AQSTM20 is executed using the sliding average answer file TEMPRTR (created by the first procedure in this test) as input. The option card in this step indicates an averaging interval of 8; it also has an S in column 21, which specifies that the SAROAD averaging criterion is to be used. The user must supply the DD information for this option card in the AVERAGE step. Figure AHT5-3 shows the sample output from this procedure.

Finally, a sliding average report is produced by executing the cataloged procedure AQRPM20. The input files are TEMPSLAV (created by the above procedure), AQPARM01, AQSITE01 and AQSTND01. The last three files were created in Tests 1, 2, and 3, respectively. The user must supply the DD information for the option card file in the REPORT step. The option card for the master file report program shows a display criterion of DISPLAY < 0.9. Sample output produced by this procedure is shown in Figure AHT5-4.

```

//ADHOC05 JOB RTI.C44,PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44,PO2069,MCMaster,DPR,JCL
//*
//* RETRIEVE A SLIDING-AVERAGE ANSWER FILE OF SULFUR DIOXIDE
//* HOURLY DATA FROM 1979; THEN RUN THIS FILE THRU THE SLIDING
//* AVERAGE PROGRAM WITH AN AVERAGING INTERVAL OF 8;
//* FINALLY, LIST THE SLIDING-AVERAGE-VALUES FILE
//* WITH A USER-SUPPLIED DISPLAY CRITERION
//*
//ADHOC05A EXEC AQRTH10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* THE '$$SELECT' CARD CONTAINS THE MODE KEYWORD 'SLIDING',
//* WHICH IS REQUIRED IF A SLIDING AVERAGE REPORT IS TO BE PRODUCED
//*
//COMPILE,INPUT DD *
$$SELECT          SLIDING
YEAR              N < '78'
PARAMETER-CODE    = '02401'
TIME-CODE         = '1'
$$SEND
//*
//ADHOC05B EXEC AQSTM20,
//          ANSRFIL=TEMPRETR,
//          VALUFIL=TEMPSLAV,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* THE SLIDING-AVERAGE-VALUES FILE IS PRODUCED;
//* THE OPTION CARD INDICATES AN AVERAGING INTERVAL OF 8;
//* THE 'S' OPTION (APPEARING IN COL. 21 OF THE CARD) INDICATES
//* THAT THE SAROAD CRITERION FOR SLIDING AVERAGE CALCULATION HOLDS
//* (75% OF THE READINGS MUST BE PRESENT IN THE AVERAGING INTERVAL
//* FOR THE CALCULATION TO BE MADE); SINCE THE AVERAGING INTERVAL IS 8,
//* THIS CRITERION REQUIRES 6 READINGS TO BE PRESENT, WHEREAS THE
//* AQDMS-II SLIDING AVERAGE CRITERION (1 MORE THAN HALF) WOULD
//* HAVE REQUIRED ONLY 5
//*
//AVERAGE,OPTIONS DD *
AVERAGE 8          S
//*
//ADHOC05C EXEC AQRPM20,
//          MSTRFIL=TEMPSLAV,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* PRODUCE THE SLIDING AVERAGE REPORT
//*
//REPORT,OPTIONS DD *
DISPLAY < .9
//*

```

Figure AHT5-1. Run Stream

PROGRAM NAME: ARTLNCP (A00110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$SELECT	SLIDING	
YEAR	N < '78'	AND
PARAMETER-CODE	= '42401'	AND
TIME-CODE	= '1'	
\$\$END		

NUMBER OF CONTROL CARDS READ:	5
NUMBER OF RETRIEVAL SKELETON RECORDS READ:	1,138
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:	1,181
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT5-2. Procedure A00110 -- programs ARTLNCP and ARTGENR

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PROGRAM NAME: ARTGENR (A00120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	343
NUMBER OF ANSWER FILE RECORDS WRITTEN:	11
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

AQDHS-II SLIDING AVERAGE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASTSLAV (A00180)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: AVERAGE 8 3 /

NUMBER OF SLIDING AVERAGE ANSWER RECORDS READ:	11
NUMBER OF SLIDING AVERAGE VALUE RECORDS WRITTEN:	7
NUMBER OF ERRORS DETECTED:	0

Figure AHT5-3. Procedure AQSTM20 -- program ASTSLAV

PROGRAM NAME: ANPMSTR (A00230)
REVISION LEVEL: 1-00
LAST UPDATE #: 20
DATE INCORPORATED: OCTOBER 31, 1978
USER-SPECIFIED OPTION: DISPLAY < .9

NUMBER OF OPTION STATEMENTS READ:	1
NUMBER OF MASTER FILE RECORDS READ:	7
NUMBER OF REPORT PAGES WRITTEN:	8
NUMBER OF ERRORS DETECTED:	0

AGR: 060 AGENCY: EPA - EFFECTS RESEARCH COLLECTION METH: DAVIS INSTRUMENT YEAR: 1979
 COUNTY: 0080 PROJECT: POPULATION-ORIENTED SURV. ANALYSIS METHOD: SEQUENTIAL-CONDUCTOMETRIC MONTH: JANUARY
 AREA: 0001 PARAMETER: SULFUR DIOXIDE SAMPLING INTERVAL: 01 HOURS MIN DET: 28.6
 SITE: 001 UNITS: U-GMS/M3 (0 DEG C, 1013 M-HARS) SAROAD KEY: 120001001C0106 UNITS CODE: 02
 MOUNTAIN ROAD, HILO, HAWAII CO. KEY-1: 1206000800001001C01179 KEY-2: 424013302 KEY-3: 010100

FEDERAL STANDARD 365 UG/M3 (25 C) PRIMARY 24 HOUR MAXIMUM, 1 PER YEAR 1300 UG/M3 (0 C), 3 HR, MAX., 1 PER YR
 STATE STANDARD 60 UG/M3 (25 C) ANNUAL ARITHMETIC MEAN 0.4 PARTS/MILLION, 3 HR, MAX, 1 PER YEAR

DAY	HOUR											
	00	01	02	03	04	05	06	07	08	09	10	11
01	.0000	.0125	.0125	.0125	.0125	.0125	.0125	.0125	.0125	.0125	.0625	.1125
02	.1000	.0375	.0125	.0000	.0000	***	***	***	***	***	***	***
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31	***	***	***	***	***	.6000	.6000	.6000	.6375	.7125	.7750	.8500

*** INDICATES SLIDING AVERAGE VALUE NOT COMPUTED DUE TO INSUFFICIENT NUMBER OF READINGS IN FILE.
 BLANK INDICATES SLIDING AVERAGE VALUE DID NOT MEET DISPLAY CRITERIA OR DID NOT MEET SELECTION CRITERIA.

AQDHS-II AD HOC TEST 6

Use Batched Retrievals in Generating a Statistical Analysis Report Ordered by Parameter

This is the first example of batched retrievals in the test run series. First, the retrieval procedure, AQRTM10, is executed with batch retrievals. Then the master file sort procedure, AQSRM10, is executed to sort the answer file passed from the retrieval step. The statistical analysis procedure, AQRPM10, then follows, with the sorted file as input.

The retrieval programs executed by AQRTM10 are described in Test 13. To batch retrievals, each retrieval is preceded by a \$\$SELECT card and one \$\$END card follows all the retrievals. The batched retrievals are used as input to the retrieval language processor program, ARTLNGP (AQ0110). In this run, three retrievals are batched: one for particulate data, a second for sulfur dioxide data, and a third for oxides of nitrogen data.

The master file sort program, ASRMSTR (AQ0140), is described in Test 8. An answer file produced by batched retrievals should always be sorted by ASRMSTR (AQ0140) using the BATCH option to group the records selected by each retrieval together. In this run, the STAT option is also specified because the answer file is to be used to produce a statistical analysis report.

Test 10 provides a description of the statistical analysis programs: ASTPRLM (AQ0190), ASTMSST (AQ0200), and ARPMSSST (AQ0270).

The run stream for Ad Hoc Test 6 appears in Figure AHT6-1. Step A executes the retrieval procedure, AQRTM10, using as input the active master file AQMST04T (created and stored on disk in test 26) and producing an answer file named TEMPRETR. Sample output from this step is shown in Figure AHT6-2. Step B executes the master file sorting procedure, AQSRM10, with the answer file TEMPRETR as input and the output sorted file named TEMPSORT. Two options are specified on the option card in this step: BATCH, beginning in column 1, and STAT, beginning in column 7. Sample output from this step is shown in

Figure AHT6-3. The statistical analysis procedure AQRPM10, is executed last, using the QUARTER option for the preliminary statistics program and a line-per-page maximum of 60 for the statistical report program. Sample output from this step is shown in Figure AHT6-4.

Note that the statistical analysis report generated in this run is ordered by parameter because 1) each of the batched retrievals selected records for a given parameter and 2) the BATCH option in ASRMSTR (AQ0140) caused the records selected by each of the retrievals to be grouped together. If one retrieval had been used in the retrieval step (the BATCH option would therefore not be used in the sort step), the statistical analysis report would have been ordered by site.

```

//ADHOC06 JOB RTI.C44.PO2443,MCMASTER,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//*
//* RUN A BATCH RETRIEVAL ON THE MASTER FILE, RETRIEVING FIRST
//* CERTAIN TSP DATA, SECOND CERTAIN SULFUR DIOXIDE DATA,
//* AND THIRD CERTAIN OXIDES OF NITROGEN DATA; PRODUCE A STATISTICAL
//* REPORT FROM THIS ANSWER FILE
//*
//ADHOC06A EXEC AQRTM10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* A BATCH RETRIEVAL IS GENERATED WITH MULTIPLE SETS OF RETRIEVAL
//* SPECIFICATIONS; EACH SET OF SPECIFICATIONS IS SEPARATED FROM THE
//* OTHERS BY ITS OWN '$$SELECT' CARD
//*
//COMPILE.INPUT DD *
$$SELECT
YEAR              = '79'                                AND
MONTH             < '04'                                AND
PARAMETER-CODE    = '11101'                              AND
TIME-CODE         = '1'
$$SELECT
YEAR              = '79'                                AND
MONTH             < '04'                                AND
PARAMETER-CODE    = '42401'                              AND
TIME-CODE         = '1'
$$SELECT
YEAR              = '79'                                AND
MONTH             < '04'                                AND
PARAMETER-CODE    = '42603'
$$END
//*
//ADHOC06B EXEC AQSRM10,
//          MSTRFIL=TEMPRETR,
//          SORTFIL=TEMPSORT,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* SORT THE RETRIEVED FILE USING THE 'BATCH' AND 'STAT' OPTIONS;
//* THE BATCH RETRIEVAL IN STEP A MERELY RETRIEVES ALL RECORDS FITTING
//* ANY OF THE SPECIFICATION SETS, KEEPING THE RECORDS IN NORMAL
//* MASTER FILE ORDER; THE BATCH SORT REORDERS THE RECORDS INTO THE
//* SAME SEQUENCE AS THAT IN WHICH THE ASSOCIATED RETRIEVAL SPECIFICATION
//* SETS OCCUR IN STEP A (ALL TSP DATA FIRST, THEN SULFUR DIOXIDE
//* DATA, AND FINALLY OXIDES OF NITROGEN DATA).
//*
//SORT.OPTIONS DD *
BATCH STAT
//*
//ADHOC06C EXEC AQSRM10,
//          MSTRFIL=TEMPSORT,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          PRI1=1,
//          SEC1=1,
//          PRI2=1,
//          SEC2=1
//*
//* USING THE SORTED RETRIEVED FILE, CREATE THE PRELIMINARY
//* STATISTICS FILES (TEMPORARY) USING THE QUARTER
//* OPTION, GENERATE THE STATISTICAL ANALYSIS FILE (TEMPORARY), AND
//* PRODUCE THE STATISTICAL REPORT
//*
//PRELIM.OPTIONS DD *
QUARTER
//*
//PRINTS.OPTIONS DD *
60

```

Figure AHT6-1. Run Stream

PROGRAM NAME: ARTLNCP (AQ0110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$SELECT		
YEAR	= '79'	AND
MONTH	< '04'	AND
PARAMETER-CODE	= '11101'	AND
TIME-CODE	= '1'	
\$\$SELECT		
YEAR	= '79'	AND
MONTH	< '04'	AND
PARAMETER-CODE	= '42401'	AND
TIME-CODE	= '1'	
\$\$SELECT		
YEAR	= '79'	AND
MONTH	< '04'	AND
PARAMETER-CODE	= '42603'	
\$\$END		

NUMBER OF CONTROL CARDS READ:	15
NUMBER OF RETRIEVAL SKELETON RECORDS READ:	1,147
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:	1,262
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT6-2. Procedure AQRTM10 -- programs ARTLNCP and ARTGENR

271

PROGRAM NAME: ARTGENR (AQ0120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	341
NUMBER OF ANSWER FILE RECORDS WRITTEN:	22
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

PROGRAM NAME: ASRMSTR (AQ0140)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: BATCH STAT

NUMBER OF INPUT RECORDS READ:	22
NUMBER OF MASTER RECORDS WRITTEN:	22
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AHT6-3. Procedure AQSRM10 -- program ASRMSTR

PROGRAM NAME: ASTPRLM (A00190)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: QUARTER

NUMBER OF MASTER FILE RECORDS READ:	22
NUMBER OF MASTER FILE RECORDS WITH COMPOSITE DATA:	0
NUMBER OF STATISTICS RAW DATA FILE RECORDS WRITTEN:	36
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS WRITTEN:	6
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AHTU-4. Procedure AQRPM10 -- program's ASTPRLM and ASTMSS1
 273
 (Page 1 of 4)

PROGRAM NAME: ASTMSS1 (A00200)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF STATISTICS RAW DATA FILE RECORDS READ:	36
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS READ:	6
NUMBER OF STATISTICS FILE RECORDS WRITTEN:	12

Figure AHT6-4. Procedure AQPM10 -- program ARPMST

274

ADDMS-II STATISTICAL ANALYSIS REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM-NAME: ARPMST (AQ0270)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTION CARD IMAGE: 60

*** ARPMST 805 WARNING - COLUMN 1 - INVALID OR MISSING SITE BREAK OPTION - FULL BREAK OPTION USED

PRINTING OPTIONS CHOSEN ARE FULL SITE BREAK AND 60 LINES PER PAGE

ADDMS-II STATISTICAL ANALYSIS REPORT ANALYSIS BY QUARTER STATE (34): NORTH CAROLINA

PAGE 1

SITE CODE: 34-0001-001-A-06
 AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE COUNTY(0960)
 SITE ADDR: YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.

(Page 2 of 4)

POLLUTANT NAME					METHOD OF COLLECTION AND ANALYSIS										INTERVAL		UNITS				TIMES	
POLLUTANT-METHOD-INTERVAL-UNITS					CODE																HALF	
PCT	NBR	MIN	MIN		PERCENTILES							MAX	2ND	3RD	ARIT	ARIT	GEOM	GEOM	M DET			
YR/QTR	OBS	OBS	DETEC	OBS	10	30	50	70	90	95	99	OBS	MAX	MAX	MEAN	ST DEV	MEAN	ST DEV	SUB			
TOTAL SUSPENDED PARTICULATE					M1-VOL - GRAVIMETRIC										HOURLY		U-GMS/M3 (25DEG C,1013 M-BARS)					
11101-91-1-01																						
79/1	3.0	64	1.000	1.000	4.	13.	18.	25.	41.	42.	9021.	9021.	8003.	45.00	284.9	1492.	17.00	4.384	0			

ADDHS-II STATISTICAL ANALYSIS REPORT
ANALYSIS BY QUARTER
STATE (12): HAWAII

PAGE 2

SITE CODE: 12-0001-001-C-01
AGENCY/PROJECT: C01

AGENCY TYPE: EPA - EFFECTS RESEARCH

COUNTY(0080)

SITE ADDR: MOUNTAIN ROAD, HILO, HAWAII CO.

POLLUTANT NAME		METHOD OF COLLECTION AND ANALYSIS										INTERVAL			UNITS		TIMES				
POLLUTANT-METHOD-INTERVAL-UNITS CODE		PERCENTILES															HALF				
YR/QTR	PCT	NBR	MIN	MIN		10	30	50	70	90	95	99	MAX	2ND	3RD	ARIT	ARIT	GEOM	GEOM	M DET	
OBS	OBS	DETEC	OBS										OBS	MAX	MAX	MEAN	ST DEV	MEAN	ST DEV	SUR	
SULFUR DIOXIDE		DAVIS INSTRUMENT										- SEQUENTIAL-CONDUCTOMETRIC			HOURLY			U-GMS/M3 (0DEG C, 1013 M-BARS)			
42401-33-1-02																					
79/1	4.7	101	28.60	0.0		0.0	0.2	0.6	0.7	1.1	1.3	1.4	1.400	1.400	1.300	0.537	0.428	14.29	1.006	101	

ADDHS-II STATISTICAL ANALYSIS REPORT
ANALYSIS BY QUARTER
STATE (34): NORTH CAROLINA

PAGE 3

SITE CODE: 34-0001-001-A-06
AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE

COUNTY(0960)

SITE ADDR: YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.

POLLUTANT NAME		METHOD OF COLLECTION AND ANALYSIS										INTERVAL			UNITS		TIMES				
POLLUTANT-METHOD-INTERVAL-UNITS CODE		PERCENTILES															HALF				
YR/QTR	PCT	NBR	MIN	MIN		10	30	50	70	90	95	99	MAX	2ND	3RD	ARIT	ARIT	GEOM	GEOM	M DET	
OBS	OBS	DETEC	OBS										OBS	MAX	MAX	MEAN	ST DEV	MEAN	ST DEV	SUB	
SULFUR DIOXIDE		DAVIS INSTRUMENT										- HYDROGEN PEROXIDE			HOURLY			U-GMS/M3 (25DEG C, 1013 M-BARS)			
42401-31-1-01																					
79/1	0.1	3	26.20	37.00		37.	37.	37.	9928.	9928.	9928.	9928.	9928.	37.00	37.00	3334.	5710.	238.6	25.24	0	
OXIDES OF NITROGEN		INSTRUMENTAL										- CHEMILUMINESCENCE			12 HOURS			PARTS PER MILLION (VOL/VOL)			
42603-14-7-07																					
79/1	12.2	22	0.010	0.010		0.01	0.03	0.05	0.21	0.37	0.41	0.41	0.410	0.410	0.370	0.141	0.153	0.065	3.944	0	

Figure AHT6-4 - continued.

275 Procedure AQRPM10 -- program ARPMST

(Page 3 of 4)

ARPMSSST (AQ0200) SUMMARY MESSAGES

PAGE 1

NUMBER OF INPUT RECORDS: 12
NUMBER OF ERRORS: 1
NUMBER OF OUTPUT PAGES: 3

PROGRAM-NAME: ARPMSSST (AQ0270)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT6-4 - continued. Procedure AQRPM10 -- program ARPMSSST

(Page 4 of 4)

AQDHS-II AD HOC TEST 7

Retrieve Data and List the Answer File

The primary function of this ad hoc test is to exercise the copy-member capabilities of the retrieval language processor. Each record containing sulfur dioxide data recorded in units of parts per million and having an average reading value above 1.0 part per million is retrieved during an execution of AQRTM10, the retrieval procedure. The answer file is listed with the master file detailed report procedure, AQRPM20.

Test 13 describes the retrieval programs. The retrieval specifications in the present test are in the COBOL language and are contained in three copy members; the names of all three members appear on the \$\$SELECT card in specific keyword fields. The primary copy member does not always require the use of the other two members; this was the case in Ad Hoc Test 2, in which the primary copy member appeared by itself on the \$\$SELECT card. In the present test, the primary member is named RPTEST03; this name begins in column 16. The user-defined subroutine member is subordinate to the primary copy member; this subordinate member contains a COBOL paragraph or paragraphs that are performed by the primary copy member. User-defined data items, which should be under the same '01' level, are stored in the third copy member. The user-defined subroutine member is named RPTEST3A in this test; this name is placed on the \$\$SELECT card beginning in column 52. The user-defined data member is named DTTEST03; this name begins in column 43. See Figure AHT7-1 for a listing of each of these copy members. When three COBOL copy members are used in the fashion described above, there must be at least one AQDHS-II retrieval language statement following the \$\$SELECT card.

The detailed list program, ARPMSTR (AQ0230), is discussed in Test 6.

The run stream for Ad Hoc Test 7 appears in Figure AHT7-2. Sample output from the execution of the retrieval procedure is shown in Figure AHT7-3. The retrieval execution involves the input of the active master file, AQMST04T

(created and stored on disk in test 26), and the output of the answer file, TEMPRETR. Notice in the output from ARTLNGP (AQ0110), a single AQDHS-II retrieval language statement YEAR=YEAR appears. This statement, which has no impact on the retrieval specifications, is present simply as a requirement of using three copy members.

Sample output from the detailed list step is shown in Figure AHT7-4. The user options in this step specify a MEAN report with a display criterion of no data greater than 9990.

Copy Member: RPTEST03

```
MOVE FALSE TO RECORD-QUALIFIES-SW.
IF PARAMETER-CODE EQUAL TO '42401'
  AND UNIT-CODE EQUAL TO '07'
  MOVE ZERO TO USER-TOTAL-READING
  USER-AVG-READING
  USER-NBR
  MOVE BINARY-1 TO SUB
  PERFORM USER-CK THRU USER-CK-END NBR-OF-READINGS TIMES
  DIVIDE USER-TOTAL-READING BY USER-NBR
  GIVING USER-AVG-READING
  IF USER-AVG-READING IS GREATER THAN 1
    MOVE TRUE TO RECORD-QUALIFIES-SW.
```

00000010
00000020
00000030
00000040
00000050
00000060
00000070
00000080
00000090
00000100
00000110
00000120

Copy Member: RPTEST3A

```
USER-CK.
  MOVE DATA-FIELD (SUB) TO USER-DATA-FLD.
  IF DECIMAL-CODE (SUB) EQUAL TO 0
    MOVE USER-DATA-FLD0 TO USER-DATA-FLDX
  ELSE
    IF DECIMAL-CODE (SUB) EQUAL TO 1
      MOVE USER-DATA-FLD1 TO USER-DATA-FLDX
    ELSE
      IF DECIMAL-CODE (SUB) EQUAL TO 2
        MOVE USER-DATA-FLD2 TO USER-DATA-FLDX
      ELSE
        IF DECIMAL-CODE (SUB) EQUAL TO 3
          MOVE USER-DATA-FLD3 TO USER-DATA-FLDX
        ELSE
          MOVE USER-DATA-FLD4 TO USER-DATA-FLDX.
  IF USER-DATA-FLDX IS LESS THAN 9998
    ADD 1 TO USER-NBR
    ADD USER-DATA-FLDX TO USER-TOTAL-READING.
  ADD 1 TO SUB.
USER-CK-END. EXIT.
```

00000010
00000020
00000030
00000040
00000050
00000060
00000070
00000080
00000090
00000100
00000110
00000120
00000130
00000140
00000150
00000160
00000170
00000180
00000190
00000200

Copy Member: DTTEST03

```
01 USER-DATA-STRUCTURE.
02 USER-TOTAL-READING PIC S9(5)V9(4) VALUE +0.
02 USER-AVG-READING PIC S9(5)V9(4) VALUE +0.
02 USER-NBR PIC 99 VALUE 0.
02 USER-DATA-FLD PIC S9(4).
02 USER-DATA-FLD0 REDEFINES
  USER-DATA-FLD PIC S9(4).
02 USER-DATA-FLD1 REDEFINES
  USER-DATA-FLD PIC S999V9.
02 USER-DATA-FLD2 REDEFINES
  USER-DATA-FLD PIC S99V99.
02 USER-DATA-FLD3 REDEFINES
  USER-DATA-FLD PIC S9V999.
02 USER-DATA-FLD4 REDEFINES
  USER-DATA-FLD PIC S99999.
02 USER-DATA-FLDX PIC S9(4)V9(4).
```

00000010
00000020
00000030
00000040
00000050
00000060
00000070
00000080
00000090
00000100
00000110
00000120
00000130
00000140
00000150
00000160

Figure AHT7-1. COBOL Copy Members

```

//ADHUC07 JOB RTI.C44.PO2443,MCMASER,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMASER.DPR.JCL
//*
//* RETRIEVE AND LIST ALL SULFUR DIOXIDE RECORDS EACH HAVING AN
//* AVERAGE READING VALUE ABOVE 1.00 PPM. ALL POSSIBLE TYPES OF COPY
//* MEMBERS ARE CALLED FOR IN THE RETRIEVAL SPECIFICATIONS IN THIS TEST
//*
//ADHUC07A EXEC AQRMT10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* THE '$$SELECT' CARD CONTAINS VALUES IN THE THREE COPY MEMBER
//* FIELDS: (1) THE MEMBER NAME(RPTEST03), (2) THE USER-DEFINED
//* SUBROUTINE MEMBER NAME (RPTEST3A) WHICH IS PERFORMED BY RPTEST03,
//* AND (3) THE USER-DEFINED DATA MEMBER NAME (DTTEST03) WHICH DEFINES
//* DATA ITEMS USED BY RPTEST3A. THE RETRIEVAL LANGUAGE STATEMENT
//* 'YEAR = YEAR' IS PRESENT SIMPLY TO FULFILL A REQUIREMENT
//* OF THE COPY MEMBERS USED
//*
//COMPILE.INPUT DD *
$$SELECT      RPTEST03              DTTEST03 RPTEST3A
YEAR          = YEAR
$$END
/*
//ADHUC07B EXEC AQRPM20,
//          MSTRFIL=TEMPRETR,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* LIST THE RETRIEVED FILE FROM STEP A; USE THE REPORT CRITERIA
//* OF 'MEAN' AND 'DISPLAY N > 9990'
//*
//REPORT.OPTIONS DD *
MEAN DISPLAY N > 9990
/*

```

Figure AHT7-2. Run Stream

ADDHS-II RETRIEVAL LANGUAGE PROCESSOR PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTLNGP (A00110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1970

INPUT (CONTROL CARDS):

\$\$SELECT RPTST03 DTTEST03 RPTST3A
 YEAR = YEAR
 \$\$END

NUMBER OF CONTROL CARDS READ: 3
 NUMBER OF RETRIEVAL SKELETON RECORDS READ: 1,138
 NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN: 1,192
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF ERROR MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0

Figure AHT7-3. Procedure A00110 -- programs ARTLNGP and ARTGENR

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ADDHS-II GENERATED RETRIEVAL PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTGENR (A00120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1970

NUMBER OF MASTER FILE RECORDS READ: 341
 NUMBER OF ANSWER FILE RECORDS WRITTEN: 1
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0

AQDHS-II MASTER FILE DETAILED REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (AQ0230)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

USER-SPECIFIED OPTION: MEAN DISPLAY N > 9990

NUMBER OF OPTION STATEMENTS READ:	2
NUMBER OF MASTER FILE RECORDS READ:	1
NUMBER OF REPORT PAGES WRITTEN:	2
NUMBER OF ERRORS DETECTED:	0

Figure AHT7-4. Procedure AQ0230 -- program ARPMSTR

282

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
 DISPLAY N>9990

PAGE 2

AQCR: 170	AGENCY: EPA - ATMOSPHERIC RESEARCH	COLLECTION METH: INSTRUMENTAL	YEAR: 1976
COUNTY: 2880	PROJECT: SPECIAL STUDIES	ANALYSIS METHOD: COULOMETRIC	MONTH: MARCH
AREA: 0002	PARAMETER: SULFUR DIOXIDE	SAMPLING INTERVAL: 01 HOURS	MIN DET: .01
SITE: 001	UNITS: PARTS PER MILLION (VOL/VOL)	SAROAD KEY: 340002001D0517	UNITS CODE: 07
WRIGHTSVILLE BEACH, NEW HANOVER CO.	KEY-1: 3417028800002001D05176	KEY-2: 424011407	KEY-3: 030300

	PRIMARY	SECONDARY
FEDERAL STANDARD	0.14 PARTS PER MILLION 24 HOUR MAX, 1 PER YEAR	0.5 PARTS/MILLION, 3 HR MAX, 1 PER YEAR
STATE STANDARD	0.03 PARTS/MILLION, ANNUAL ARITHMETIC MEAN	

	- HOUR														
DAY	12	13	14	15	16	17	18	19	20	21	22	23	NO.	MEAN	MAX
01													0		
02													0		
03	0.017	0.030	0.037	0.030	0.027	0.023	0.015	0.011	0.008	0.005	0.006	0.003	24	243.4	5840
NO	1	1	1	1	1	1	1	1	1	1	1	1	24		
MEAN	.017	.03	.037	.03	.027	.023	.015	.011	.008	.005	.006	.003		243.4	
MAX	0.017	0.030	0.037	0.030	0.027	0.023	0.015	0.011	0.008	0.005	0.006	0.003			5840

AQDHS-II AD HOC TEST 8

Run a Statistical Analysis on an Answer File

This ad hoc test exercises the year option of the statistical analysis programs. First, an answer file of 1973 and January 1979 data is retrieved with an execution of the procedure AQRPM10. The statistical analysis procedure, AQRPM10, is run against this answer file. AQRPM10 executes the preliminary statistics program, ASTPRLM (AQ0190), the statistical analysis program, ASTMSST (AQ0200), and the statistical report program, ARPMSSST (AQ0270).

Standard AQDHS-II retrieval language specifications are used in this test. See Test 13 for a description of the retrieval-related programs.

Test 10 describes the three statistical analysis programs. The present ad hoc test uses an analysis period of a full year; compare this with the monthly period (Test 10) and the quarterly period (Ad Hoc Test 6).

Figure AHT8-1 shows the run stream of this test. Step A, in which the retrieval procedure, AQRPM10, is executed, uses the active master file AQMST04T (created and stored on disk in Test 26) as the input file and produces the answer file TEMPRETR. Figure AHT8-2 gives sample output for this retrieval step. Step B runs the statistical analysis against the answer file TEMPRETR, using parameter and site files AQPARM01 and AQSITE01 (created in the first two tests in the series). The preliminary statistics option is YEAR. The user-specified statistical report option is BRIEF. Figure AHT8-3 shows sample output from this statistical analysis.

Note that the answer file was not sorted using the STAT option of the master file sort program, ASRMSTR (AQ0140), prior to being input to the statistical analysis procedure. This causes the report to be printed by site, by year within site, by parameter within year. Thus, all data for a given site and parameter would not necessarily appear together. However, sorting of

the answer file would insure that all data for a given site and parameter would appear together in the statistical analysis report.

```

//ADHOC08 JOB RTI.C44,PU2443,MCMAS TER,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI,C44,PO2069,MCMAS TER,DPR,JCL
//*
//* RETRIEVE ALL 1973 DATA AND JANUARY,1979, DATA; RUN A STATISTICAL
//* ANALYSIS ON THE ANSWER FILE USING THE YEAR OPTION
//*
//ADHOC08A EXEC AQR TM10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* RETRIEVE THE DATA WITH REGULAR RETRIEVAL LANGUAGE
//* SPECIFICATIONS
//*
//COMPILE.INPUT DD *
$$SELECT
YEAR          = '79'
MONTH         = '01'
YEAR          = '73'
$$END
//*
//ADHOC08B EXEC AQR PM10,
//          MSTRFIL=TEMPRETR,
//          PARMFIL=AQPAR M01,
//          SITEFIL=AQSITE01,
//          PRI1=1,
//          SEC1=1,
//          PRI2=1,
//          SEC2=1
//*
//* PRODUCE THE STATISTICAL REPORT, WITH THE 'YEAR' OPTION
//* SPECIFIED IN THE PRELIMINARY STATISTICS STEP
//*
//PRELIM.OPTIONS DD *
YEAR
//*
//PRINTS.OPTIONS DD *
BRIEF
//*

```

AND
OR

Figure AHT8-1. Run Stream

PROGRAM NAME: ARTLNGP (AQ0110)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

```

$$SELECT
YEAR          = '79'
MONTH         = '01'
YEAR          = '73'
$$END

```

AND
OR

NUMBER OF CONTROL CARDS READ:	#	5
NUMBER OF RETRIEVAL SKELETON RECORDS READ:		1,147
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN:		1,192
NUMBER OF CONDITIONAL MESSAGES:		0
NUMBER OF ERROR MESSAGES:		0
NUMBER OF ABORT MESSAGES:		0

PROGRAM NAME: ARTGENR (AQ0120)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ:	341
NUMBER OF ANSWER FILE RECORDS WRITTEN:	41
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

Figure AHT8-2. Procedure AQRTM10 -- programs -- ARTLNGP and ARTGENR

AQDMS-II PRELIMINARY STATISTICS PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASTPRM (AQ0190)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: YEAR

NUMBER OF MASTER FILE RECORDS READ:	41
NUMBER OF MASTER FILE RECORDS WITH COMPOSITE DATA:	30
NUMBER OF STATISTICS RAW DATA FILE RECORDS WRITTEN:	24
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS WRITTEN:	7
NUMBER OF DIAGNOSTIC MESSAGES:	0

AQDMS-II STATISTICAL ANALYSIS PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASTMSST (AQ0200)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF STATISTICS RAW DATA FILE RECORDS READ:	24
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS READ:	7
NUMBER OF STATISTICS FILE RECORDS WRITTEN:	15

Figure AIT8-3. Procedure AQPM10 -- programs ASTPRM and ASTMSST
 (Page 1 of 4)

PROGRAM-NAME: ARPMST (A00270)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1976

OPTION CARD IMAGE: BRIEF

*** ARPMST 006 WARNING - COLUMN 7 - INVALID OR MISSING LINE MAXIMUM OPTION - 64 LINES PER PAGE USED

PRINTING OPTIONS CHOSEN ARE BRIEF SITE BREAK AND 64 LINES PER PAGE

Figure AHT8-3 - continued. Procedure AQRPM10 -- program ARPMST

(Page 2 of 4)

ADDHS-II STATISTICAL ANALYSIS REPORT
ANALYSIS BY YEAR
STATE (34): NORTH CAROLINA

PAGE 2

SITE CODE: 34-0001-002-A-06
AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE COUNTY(2120)
SITE ADDR: HWY. 301 BUS., SMITHFIELD, JOHNSTON CO.

POLLUTANT NAME POLL-METH-INTRV-UNITS CODE					METHOD OF COLLECTION AND ANALYSIS										INTERVAL		UNITS		TIMES	
YEAR	PCT OBS	NBR OBS	MIN DETEC	MIN OBS	10	30	50	70	90	95	99	MAX OBS	2ND MAX	3RD MAX	ARIT MEAN	ARIT ST DEV	GEOM MEAN	GEOM ST DEV	M DET	HALF SUB
OXIDES OF NITROGEN					GAS BUBBLER - SALTZMAN METHOD										MONTHLY		PARTS PER MILLION (VOL/VOL)			
42603-99-A-07																				
73	8.3	1	0.002	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	N/A	N/A	0.009	0.0	0.009	1.000	0	

SITE CODE: 34-0001-001-A-06
AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE COUNTY(0960)
SITE ADDR: YADKIN RD., FAYETTEVILLE, CUMBERLAND CO.

POLLUTANT NAME POLL-METH-INTRV-UNITS CODE					METHOD OF COLLECTION AND ANALYSIS										INTERVAL		UNITS		TIMES	
YEAR	PCT OBS	NBR OBS	MIN DETEC	MIN OBS	10	30	50	70	90	95	99	MAX OBS	2ND MAX	3RD MAX	ARIT MEAN	ARIT ST DEV	GEOM MEAN	GEOM ST DEV	M DET	HALF SUB
TOTAL SUSPENDED PARTICULATE					HI-VOL - GRAVIMETRIC										HOURLY		U-GMS/M3 (25DEG C, 1013 M-BARS)			
11101-91-1-01																				
79	0.7	64	1.000	1.000	4.	13.	18.	25.	41.	42.	9021.	9021.	8003.	45.00	284.9	1492.	17.00	4.384	0	

SITE CODE: 34-0001-004-A-06
AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE COUNTY(2980)
SITE ADDR: GUM BRANCH RD., JACKSONVILLE, ONSLOW CO.

POLLUTANT NAME POLL-METH-INTRV-UNITS CODE					METHOD OF COLLECTION AND ANALYSIS										INTERVAL		UNITS		TIMES	
YEAR	PCT OBS	NBR OBS	MIN DETEC	MIN OBS	10	30	50	70	90	95	99	MAX OBS	2ND MAX	3RD MAX	ARIT MEAN	ARIT ST DEV	GEOM MEAN	GEOM ST DEV	M DET	HALF SUB
OXIDES OF NITROGEN					GAS BUBBLER - SALTZMAN METHOD										MONTHLY		PARTS PER MILLION (VOL/VOL)			
42603-99-A-07																				
73	100.0	12	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.009	0.009	0.009	0.009	0.009	0.002	0.018	0.038	0.002	5.340	10

Figure AHT8-3 - continued. Procedure AQRPM10 -- program ARPM5ST

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ARPMSSST (AQ0200) SUMMARY MESSAGES

PAGE 1

NUMBER OF INPUT RECORDS: 15
NUMBER OF ERRORS: 1
NUMBER OF OUTPUT PAGES: 2

PROGRAM-NAME: ARPMSSST (AQ0270)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT8-3 - continued. Procedure AQRP10 -- program ARPMSSST (Page 4 of 4)

AQDHS-II AD HOC TEST 9

Generate all Non-Abortive Error Messages of the Master File Transaction Edit Program

Of the 70 error messages possibly generated by the master file transaction edit program, AEDMSTR (AQ0060), only four will cause the run to abort. All the other error messages are exercised in this ad hoc test. The generation of these errors is accomplished in two executions of the procedure AQEDT10, which executes AEDMSTR (AQ0060).

A program description of AEDMSTR (AQ0060) appears in Test 5. Of the 66 non-abortive errors, only one generates a warning-level message that can be suppressed with the NOFLAGW option.

The run stream for this ad hoc test is shown in Figure AHT9-1. Output from the first execution of AEDMSTR (AQ0060) appears in Figure AHT9-2. In this step, 65 of the 66 different error messages appear. The remaining error message, generated by an invalid option card, is produced in the second execution of AEDMSTR (AQ0060). Figure AHT9-3 contains sample output from this second step.

```

//ADHUC09 JOB RTI.C44,PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44,PO2069,MCMaster.DPR,JCL
//*
//* THIS TEST GENERATES ALL WARNING AND ERROR MESSAGES THAT
//* CAN BE PRODUCED BY THE MASTER FILE TRANSACTION EDITOR
//*
//ADHOC09A EXEC AQEDT10,
//          PARMFIL=AQPARM01,
//          TRANS=TRANS1,
//          SITEFIL=AQSITE01,
//          DISP='NEW,PASS',
//          PRIMARY=1,
//          SECNDRY=1
//*
//* ALL ERROR AND WARNING MESSAGES ARE PRODUCED IN THIS STEP
//* EXCEPT THE MESSAGE FOR AN INVALID OPTION CARD; A VALID OPTION CARD
//* IS REQUIRED TO LIST THE TRANSACTIONS AND FLAG THE WARNING
//* CONDITION
//*
//EDIT.OPTIONS DD *
LIST FLAGW
//EDIT.INPUT DD *
1340003010G0417508220061101231210002      000100060005000400030003      2
1340002001U05173100500611042114100030004000300020004000500030002      2
1100001001E021740708086110131281-291      005200880089010301270169      2
2340003002G04C730307486                      6                      2
340003002G04C7402911843501910110005      2
  2340003002G04C7401911843501910110005
2340003002G0497401911843501910110005      7
1
199      2
111      2
1111111      2
1111111111Q      2
1111111111Q11      2
1111111111A010      2
1111111111A01111      2
1111111111A01170      2
1111111111A0117011119911111111119      2
1111111111A01170111111111111111AAAA      2
1111111111A01170111111111111111      2

```

(Remainder of transactions omitted)

```

//ADHOC09B EXEC AQEDT10,
//          PARMFIL=AQPARM01,
//          TRANS=TRANS2,
//          SITEFIL=AQSITE01,
//          DISP='NEW,PASS',
//          PRIMARY=1,
//          SECNDRY=1
//*
//* AN ERROR MESSAGE IS GENERATED FOR THE INVALID OPTION CARD
//*
//EDIT.OPTIONS DD *
UTTER NONSENSE
//*
//EDIT.INPUT DD *
1340003010G0417508220061101231210002      000100060005000400030003      2

```

Figure AHT9-1. Run Stream

PROGRAM NAME: AEDMSTR (A00060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: LIST FLAGW

INPUT TRANSACTIONS	ERRORS
1340003010G0417508220061101231210002	000100060005000400030003 2
*** AEDMSTR 041 ERROR - COLUMN 30 - INVALID UNITS CODE - CARD REJECTED	
1340002001U05173100500611042114100030004000300020004000500030002	2
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
1100001001E021740708086110131281-291	005200880089010301270169 2
*** AEDMSTR 040 ERROR - COLUMN 28 - INVALID METHOD CODE - CARD REJECTED	
*** AEDMSTR 066 ERROR - COLUMN 33 - DATA MUST BE POSITIVE FOR THIS PARM - CARD REJECTED	
2340003002G04C730307486	6 2
*** AEDMSTR 058 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE	- GROUP-01 REJECTED
*** AEDMSTR 059 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE	- GROUP-01 REJECTED
*** AEDMSTR 060 ERROR - COLUMN 30 - NON-NUMERIC UNIT CODE	- GROUP-01 REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED	
*** AEDMSTR 058 ERROR - COLUMN 37 - NON-NUMERIC PARAMETER CODE	- GROUP-02 REJECTED
*** AEDMSTR 059 ERROR - COLUMN 42 - NON-NUMERIC METHOD CODE	- GROUP-02 REJECTED
*** AEDMSTR 060 ERROR - COLUMN 44 - NON-NUMERIC UNIT CODE	- GROUP-02 REJECTED
*** AEDMSTR 055 ERROR - COLUMN 46 - NONNUMERIC DECIMAL POSITION	- GROUP-02 REJECTED
340003002G04C7402911843501910110005	2
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
*** AEDMSTR 044 ERROR - COLUMN 79 - INVALID STATUS FLAG - CARD REJECTED	
*** AEDMSTR 010 ERROR - COLUMN 04 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED	
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
*** AEDMSTR 016 ERROR - COLUMN 20 - MONTH ZERO OR GREATER THAN TWELVE - CARD REJECTED	
*** AEDMSTR 026 WARNING - COLUMN 24 - START HOUR GREATER THAN 23 -CARD ACCEPTED	
*** AEDMSTR 021 ERROR - COLUMN 08 - NON-NUMERIC PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 022 ERROR - COLUMN 13 - NON-NUMERIC METHOD CODE - CARD REJECTED	
*** AEDMSTR 061 ERROR - COLUMN 33 - NON-NUMERIC READING	- GROUP-01 REJECTED
2340003002G04C7401911843501910110005	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
*** AEDMSTR 002 ERROR - COLUMN 01 - NON-NUMERIC TRANSACTION CODE - CARD REJECTED	
2340003002G0497401911843501910110005	7
*** AEDMSTR 003 ERROR - COLUMN 80 - INVALID ACTION CODE - CARD REJECTED	
*** AEDMSTR 018 ERROR - COLUMN 19 - INVALID DAY - CARD REJECTED	
7	
*** AEDMSTR 004 ERROR - COLUMN 80 - NON-NUMERIC ACTION CODE - CARD REJECTED	
*** AEDMSTR 001 ERROR - COLUMN 01 - INVALID TRANSACTION CODE - CARD REJECTED	
1	
*** AEDMSTR 006 ERROR - COLUMN 02 - NON-NUMERIC STATE CODE - CARD REJECTED	2
*** AEDMSTR 008 ERROR - COLUMN 04 - NON-NUMERIC AREA CODE - CARD REJECTED	
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED	

Figure AHT9-2. Procedure AQEDIT10 -- program AEDMSTR

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INPUT TRANSACTIONS

ERRORS

```

*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 012 ERROR - COLUMN 14 - NON-NUMERIC TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

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```

*** AEDMSTR 008 ERROR - COLUMN 04 - NON-NUMERIC AREA CODE - CARD REJECTED
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 012 ERROR - COLUMN 14 - NON-NUMERIC TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

111

```

*** AEDMSTR 008 ERROR - COLUMN 04 - NON-NUMERIC AREA CODE - CARD REJECTED
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 012 ERROR - COLUMN 14 - NON-NUMERIC TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

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1111111

```

*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 012 ERROR - COLUMN 14 - NON-NUMERIC TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED

```

Figure AHT9-2 - continued. Procedure AQEDIT10 -- program AEDMSTR
(Page 2 of 10)

INPUT TRANSACTIONS

ERRORS

```

*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

1111111110

```

*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 012 ERROR - COLUMN 14 - NON-NUMERIC TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

111111111011

```

*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED
*** AEDMSTR 012 ERROR - COLUMN 14 - NON-NUMERIC TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

111111111A010

```

*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED
*** AEDMSTR 005 ERROR - COLUMN 14 - INVALID TIME CODE - CARD REJECTED
*** AEDMSTR 013 ERROR - COLUMN 15 - NON-NUMERIC YEAR - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

111111111A01111

```

*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED
*** AEDMSTR 014 ERROR - COLUMN 15 - YEAR LESS THAN SIXTY - CARD REJECTED
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

```

Figure AHT9-2 - continued. Procedure AQEDT10 -- program AEDMSTR
(Page 3 of 10)

INPUT TRANSACTIONS	ERRORS
111111111A01170	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 015 ERROR - COLUMN 17 - NON-NUMERIC MONTH - CARD REJECTED	
*** AEDMSTR 017 ERROR - COLUMN 19 - NON-NUMERIC DAY - CARD REJECTED	
*** AEDMSTR 019 ERROR - COLUMN 21 - NON-NUMERIC START HOUR - CARD REJECTED	
*** AEDMSTR 021 ERROR - COLUMN 23 - NON-NUMERIC PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 022 ERROR - COLUMN 28 - NON-NUMERIC METHOD CODE - CARD REJECTED	
*** AEDMSTR 023 ERROR - COLUMN 30 - NON-NUMERIC UNITS CODE - CARD REJECTED	
*** AEDMSTR 024 ERROR - COLUMN 32 - NON-NUMERIC DECIMAL POSITION - CARD REJECTED	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
111111111A0117011199111111119	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 020 ERROR - COLUMN 32 - DECIMAL POSITION GREATER THAN FOUR - CARD REJECTED	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
111111111A011701111111111111AAAA	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 027 ERROR - COLUMN 33 - NON-NUMERIC READING - CARD REJECTED	
111111111A01170111111111111111	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
211111111A01C70 4350191011997	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 029 ERROR - COLUMN 19 - NON-NUMERIC NUMBER OF SAMPLES - CARD REJECTED	
*** AEDMSTR 030 ERROR - COLUMN 22 - INVALID COMPOSITE TIME CODE - CARD REJECTED	
*** AEDMSTR 031 ERROR - COLUMN 21 - NON-NUMERIC COMPOSITE TYPE - CARD REJECTED	
211111111A01C70 1 4350191011997	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 029 ERROR - COLUMN 19 - NON-NUMERIC NUMBER OF SAMPLES - CARD REJECTED	
*** AEDMSTR 030 ERROR - COLUMN 22 - INVALID COMPOSITE TIME CODE - CARD REJECTED	
*** AEDMSTR 032 ERROR - COLUMN 17 - NON-NUMERIC PERIOD - CARD REJECTED	
211111111A01C7099999Z4350191011997	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 030 ERROR - COLUMN 22 - INVALID COMPOSITE TIME CODE - CARD REJECTED	
*** AEDMSTR 034 ERROR - COLUMN 21 - INVALID COMPOSITE TYPE - CARD REJECTED	
211111111A01C7099999124350191011997	2
*** AEDMSTR 007 ERROR - COLUMN 02 - INVALID STATE CODE - CARD REJECTED	
*** AEDMSTR 030 ERROR - COLUMN 22 - INVALID COMPOSITE TIME CODE - CARD REJECTED	
*** AEDMSTR 033 ERROR - COLUMN 17 - INVALID PERIOD - CARD REJECTED	
110999799709717011111999999971	2
*** AEDMSTR 035 ERROR - COLUMN 04 - INVALID AREA CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	

Figure AHT9-2 - continued. Procedure AQEDT10 -- program AEDMSTR
(Page 4 of 10)

INPUT TRANSACTIONS	ERRORS
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED.	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
11000019970971701111119999999971	2
*** AEDMSTR 036 ERROR - COLUMN 08 - INVALID SITE CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
11000010010971701111119999999971	2
*** AEDMSTR 037 ERROR - COLUMN 11 - INVALID AGENCY CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
11000010010971701111119999999971	2
*** AEDMSTR 038 ERROR - COLUMN 12 - INVALID PROJECT CODE - CARD REJECTED	
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 23 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED	
134000300260417401010011101910109997	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAXIMUM PERMITTED	
337F05811101910107105040000012349997	2
*** AEDMSTR 043 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAX PERMITTED	
1340001001A067740225101120181091000100010001	2
*** AEDMSTR 045 ERROR - COLUMN 21 - INVALID START HOUR (READINGS SPAN END OF DAY) - REJECTED	
3370998999999797971050400099979970001	2
*** AEDMSTR 047 ERROR - COLUMN 26 - INVALID AREA CODE - GROUP-01 REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 08 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 020 ERROR - COLUMN 17 - DECIMAL POSITION GREATER THAN FOUR - CARD REJECTED	
337099899999979797105040000019970001	2
*** AEDMSTR 048 ERROR - COLUMN 30 - INVALID SITE CODE - GROUP-01 REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 08 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 020 ERROR - COLUMN 17 - DECIMAL POSITION GREATER THAN FOUR - CARD REJECTED	
337099899999979797105040000012340001	2
*** AEDMSTR 049 ERROR - COLUMN 04 - INVALID AGENCY CODE - GROUP-01 REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 08 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 020 ERROR - COLUMN 17 - DECIMAL POSITION GREATER THAN FOUR - CARD REJECTED	
337F99899999979797105040000012340001	2
*** AEDMSTR 050 ERROR - COLUMN 05 - INVALID PROJECT CODE - GROUP-01 REJECTED	
*** AEDMSTR 039 ERROR - COLUMN 08 - INVALID PARAMETER CODE - CARD REJECTED	
*** AEDMSTR 020 ERROR - COLUMN 17 - DECIMAL POSITION GREATER THAN FOUR - CARD REJECTED	
337F05811101910107105041 1 1 1	2
*** AEDMSTR 056 ERROR - COLUMN 26 - NON-NUMERIC AREA CODE - GROUP-01 REJECTED	
*** AEDMSTR 057 ERROR - COLUMN 30 - NON-NUMERIC SITE CODE - GROUP-01 REJECTED	
*** AEDMSTR 062 ERROR - COLUMN 25 - NON-NUMERIC START-HOUR - GROUP-01 REJECTED	
*** AEDMSTR 061 ERROR - COLUMN 33 - NON-NUMERIC READING - GROUP-01 REJECTED	

Figure AHT9-2 - continued.

Procedure AQEDT10 -- program AEDMSTR

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INPUT TRANSACTIONS

ERRORS

```

*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

234003002G04C74019118499999979799999          2
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 005 ERROR - COLUMN 14 - INVALID TIME CODE - CARD REJECTED
*** AEDMSTR 016 ERROR - COLUMN 17 - MONTH ZERO OR GREATER THAN TWELVE - CARD REJECTED
*** AEDMSTR 026 WARNING - COLUMN 21 - START HOUR GREATER THAN 23 -CARD ACCEPTED
*** AEDMSTR 014 ERROR - COLUMN 15 - YEAR LESS THAN SIXTY - CARD REJECTED
*** AEDMSTR 051 ERROR - COLUMN 23 - INVALID PARAMETER CODE - GROUP-01 REJECTED
*** AEDMSTR 054 ERROR - COLUMN 32 - DECIMAL POSTION GREATER THAN FOUR - GROUP-01 REJECTED

234003002G04C74019118443501979799999          2
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 005 ERROR - COLUMN 14 - INVALID TIME CODE - CARD REJECTED
*** AEDMSTR 016 ERROR - COLUMN 17 - MONTH ZERO OR GREATER THAN TWELVE - CARD REJECTED
*** AEDMSTR 026 WARNING - COLUMN 21 - START HOUR GREATER THAN 23 -CARD ACCEPTED
*** AEDMSTR 014 ERROR - COLUMN 15 - YEAR LESS THAN SIXTY - CARD REJECTED
*** AEDMSTR 052 ERROR - COLUMN 28 - INVALID METHOD CODE - GROUP-01 REJECTED
*** AEDMSTR 054 ERROR - COLUMN 32 - DECIMAL POSTION GREATER THAN FOUR - GROUP-01 REJECTED

234003002G04C74019118443501119799999          2
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 005 ERROR - COLUMN 14 - INVALID TIME CODE - CARD REJECTED
*** AEDMSTR 016 ERROR - COLUMN 17 - MONTH ZERO OR GREATER THAN TWELVE - CARD REJECTED
*** AEDMSTR 026 WARNING - COLUMN 21 - START HOUR GREATER THAN 23 -CARD ACCEPTED
*** AEDMSTR 014 ERROR - COLUMN 15 - YEAR LESS THAN SIXTY - CARD REJECTED
*** AEDMSTR 053 ERROR - COLUMN 30 - INVALID UNITS CODE - GROUP-01 REJECTED
*** AEDMSTR 054 ERROR - COLUMN 32 - DECIMAL POSTION GREATER THAN FOUR - GROUP-01 REJECTED

234003002G04C7401911846210322170-7H7          2
*** AEDMSTR 063 ERROR - COLUMN 33 - INVALID NEGATIVE DATA FORMAT - GROUP-01 REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

234003002G04C7401911846210322170-7H7424011021-7776210322170-990          2
*** AEDMSTR 063 ERROR - COLUMN 33 - INVALID NEGATIVE DATA FORMAT - GROUP-01 REJECTED
*** AEDMSTR 064 ERROR - COLUMN 47 - DATA MUST BE POSITIVE FOR THIS PARM-GROUP-02 REJECTED
*** AEDMSTR 009 ERROR - COLUMN 08 - NON-NUMERIC SITE CODE - CARD REJECTED
*** AEDMSTR 010 ERROR - COLUMN 11 - NON-ALPHABETIC AGENCY CODE - CARD REJECTED
*** AEDMSTR 011 ERROR - COLUMN 12 - NON-NUMERIC PROJECT CODE - CARD REJECTED
*** AEDMSTR 005 ERROR - COLUMN 14 - INVALID TIME CODE - CARD REJECTED
*** AEDMSTR 016 ERROR - COLUMN 17 - MONTH ZERO OR GREATER THAN TWELVE - CARD REJECTED
*** AEDMSTR 026 WARNING - COLUMN 21 - START HOUR GREATER THAN 23 -CARD ACCEPTED
*** AEDMSTR 014 ERROR - COLUMN 15 - YEAR LESS THAN SIXTY - CARD REJECTED

234003002G04C7401911841110192021-500          2
*** AEDMSTR 064 ERROR - COLUMN 33 - DATA MUST BE POSITIVE FOR THIS PARM-GROUP-01 REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

234003002G04C7401911841110192021-5006210322170-52B1110192021-321          2

```

Figure AHT9-2 - continued. Procedure AQEDT10 -- program AEDMSTR

INPUT TRANSACTIONS

ERRORS

```

*** AEDMSTR 064 ERROR - COLUMN 33 - DATA MUST BE POSITIVE FOR THIS PARM-GROUP-01 REJECTED
*** AEDMSTR 063 ERROR - COLUMN 47 - INVALID NEGATIVE DATA FORMAT - GROUP-02 REJECTED
*** AEDMSTR 064 ERROR - COLUMN 61 - DATA MUST BE POSITIVE FOR THIS PARM-GROUP-03 REJECTED
*** AEDMSTR 028 ERROR - RECORD CONTAINS NO READINGS - CARD REJECTED

1340001001A0617001010042401110210440-2191732-400 2
*** AEDMSTR 066 ERROR - COLUMN 37 - DATA MUST BE POSITIVE FOR THIS PARM - CARD REJECTED
*** AEDMSTR 066 ERROR - COLUMN 45 - DATA MUST BE POSITIVE FOR THIS PARM - CARD REJECTED

1340001001A0617001010062101221500440-XYZ1732-ABC 2
*** AEDMSTR 065 ERROR - COLUMN 37 - INVALID NEGATIVE DATA FORMAT - CARD REJECTED
*** AEDMSTR 065 ERROR - COLUMN 45 - INVALID NEGATIVE DATA FORMAT - CARD REJECTED

334A0684240111021700101000001001-007000001002-1810000010030050 2
*** AEDMSTR 064 ERROR - COLUMN 33 - DATA MUST BE POSITIVE FOR THIS PARM-GROUP-01 REJECTED
*** AEDMSTR 064 ERROR - COLUMN 46 - DATA MUST BE POSITIVE FOR THIS PARM-GROUP-02 REJECTED

334A0686210122150700101000001001-ABC000001002-CBA0000010031500 2
*** AEDMSTR 063 ERROR - COLUMN 33 - INVALID NEGATIVE DATA FORMAT - GROUP-01 REJECTED
*** AEDMSTR 063 ERROR - COLUMN 46 - INVALID NEGATIVE DATA FORMAT - GROUP-02 REJECTED

1340001003A06575051303611012013100070080 2
*** AEDMSTR 027 ERROR - COLUMN 41 - NON-NUMERIC READING - CARD REJECTED

1340001003A06775051316611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06775051316611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06575051317611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06375051317611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06375051308611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06375051323611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06175051309611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06175051322611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06675051316611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06675051308611012013100070080 2
*** AEDMSTR 025 ERROR - COLUMN 21 - START HOUR INVALID FOR TIME CODE - CARD REJECTED

1340001003A06575051306611012013100070080 2

```

Figure AHT9-2 - continued.

Procedure AQEDT10 -- program AEDMSTR

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INPUT TRANSACTIONS	ERRORS
337F05211101910107112140100012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
337F05511101910107112140500012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
337F05711101910107112141100012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
337F05711101910107112140500012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
337F05A11101910107112149900012340025	2
*** AEDMSTR 026 WARNING - COLUMN 24 - START HOUR GREATER THAN 23 -CARD ACCEPTED	
337F05711101910107112141500012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
337F05611101910107112141200012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
337F05L11101910107112147700012340025	2
*** AEDMSTR 005 ERROR - COLUMN 07 - INVALID TIME CODE - CARD REJECTED	
*** AEDMSTR 026 WARNING - COLUMN 24 - START HOUR GREATER THAN 23 -CARD ACCEPTED	
1340003002G0417401010011101910109997	2
*** AEDMSTR 042 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAXIMUM PERMITTED	
337F05811101910107105040000012349997	2
*** AEDMSTR 043 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAX PERMITTED	
2340003002G0497401010011101910109997	2
*** AEDMSTR 043 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAX PERMITTED	
2340003002G04C7401051R11101910109997	2
*** AEDMSTR 043 CONDITIONAL - COLUMN 33 - READING EXCEEDS MAX PERMITTED	

TRANSACTIONS READ:	135
NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	58
NUMBER OF INTERNAL TRANSACTIONS CREATED:	58
NUMBER OF WARNING MESSAGES:	10
NUMBER OF CONDITIONAL MESSAGES:	6
NUMBER OF ERROR MESSAGES:	281
NUMBER OF ABORT MESSAGES:	0

PROGRAM NAME: AEDMSTR (AQ0060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT9-2 - continued. Procedure AQEDT10 -- program AEDMSTR
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```

1340003002G0417401010011101910109997
337F05A1110191010710504
334A0684240111021700101
334A0686210122150700101
1340001003A06175051308611012013100070080
1340001003A06175051316611012013100070080
1340001003A06275051300611012013100070080
1340001003A06275051301611012013100070080
1340001003A06275051316611012013100070080
1340001003A06275051317611012013100070080
1340001003A06375051300611012013100070080
1340001003A06375051301611012013100070080
1340001003A06475051300611012013100070080
1340001003A06475051301611012013100070080
1340001003A06475051302611012013100070080
1340001003A06475051303611012013100070080
1340001003A06575051300611012013100070080
1340001003A06575051301611012013100070080
1340001003A06575051302611012013100070080
1340001003A06575051303611012013100070080
1340001003A06575051304611012013100070080
1340001003A06575051305611012013100070080
1340001003A06675051300611012013100070080
1340001003A06675051301611012013100070080
1340001003A06675051302611012013100070080
1340001003A06675051303611012013100070080
1340001003A06675051304611012013100070080
1340001003A06675051305611012013100070080
1340001003A06675051306611012013100070080
1340001003A06775051300611012013100070080
1340001003A06775051301611012013100070080
1340001003A06775051302611012013100070080
1340001003A06775051303611012013100070080
1340001003A06775051304611012013100070080
1340001003A06775051305611012013100070080
1340001003A06775051306611012013100070080
1340001003A06775051307611012013100070080
1340001003A06775051308611012013100070080
1340001003A06775051309611012013100070080
1340001003A06775051309611012013100070080
1340001003A06775051310611012013100070080
1340001003A06775051311611012013100070080
2340002001D0587408010044101150110196
2340002001D0597408010744101150110196
2340002001D05A7408011244101150110196
2340002001D0587408012344101150110196
2340002001D0587408019944101150110196
337F05A11101910107112140500012340025
337F05A11101910107112142300012340025
337F05A11101910107112149900012340025
1340003002G0417401010011101910109997

```

INPUT TRANSACTIONS PASSING EDIT CRITERIA

337F0581110191010710504	2
2340003002G04974010100	2
2340003002G04C74010518	2

NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA: 58

Figure AHT9-2 - continued. Procedure AQEDT10 -- program AEDMSTR

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PROGRAM NAME: AEDMSTR (AQ0060)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: DEFAULT (NOLIST NOFLAGH)

INPUT TRANSACTIONS ERRORS
*** AEDMSTR 046 CONDITIONAL - MISSING OR INVALID OPTION CARD - DEFAULT OPTIONS USED
1340003010G0417508220061101231210002 000100060005000400030003 2
*** AEDMSTR 041 ERROR - COLUMN 30 - INVALID UNITS CODE - CARD REJECTED

NUMBER OF TRANSACTIONS READ:	1
NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	0
NUMBER OF INTERNAL TRANSACTIONS CREATED:	0
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	1
NUMBER OF ERROR MESSAGES:	1
NUMBER OF ABORT MESSAGES:	0

Figure AHT9-3. Procedure AQEDIT10 -- program AEDMSTR

AQDHS-II AD HOC TEST 10

Exercise the Individual List Options in the Master File Maintenance Program

The master file maintenance program, AFMMSTR (AQ0100), has several options for input and output file listings. Test 5 has demonstrated that, with the NOLIST option, all input and output file listings may be suppressed. At the other extreme all files may be listed, using the single option LIST, as in Test 23. This ad hoc test shows that the listings may also be done on an individual file basis, with the proper choice of option words.

The procedure AQEDT10 is executed in the first step; this procedure executes the master file transaction edit program, AEDMSTR (AQ0060). The resulting internal transactions are input to three executions of AQFMM10, the procedure that executes AFMMSTR (AQ0100). Each of these file maintenance steps exercises a different individual-file listing option.

Both AEDMSTR (AQ0060) and AFMMSTR (AQ0100) are discussed in Test 5. In the current test, execution of these two programs is performed in separate steps by separate cataloged procedures, as in Test 23.

The run stream for Ad Hoc Test 10 appears in Figure AHT10-1. Step A of the run edits card transactions using the parameter and site files AQPARM01 and AQSITE01 (created and stored on disk in Tests 1 and 2, respectively). The output internal transaction file, named TEMPTRNS, is produced. Sample output from this edit step is shown in Figure AHT10-2. The internal transaction file, TEMPTRNS, is input to each of the file maintenance steps following. All three file maintenance executions also use the same input master file, the archived file AQARCM02 (created and stored on disk in test 26).

Sample output from the first file maintenance step (Figure AHT10-3) shows that the user-specified option is LISTTRAN and that the input internal transaction file is listed. Sample output from the second file maintenance step (Figure AHT10-4) shows that the user-specified option is LISTOLD and that

the input master file's deleted or changed records are listed. Sample output from the third file maintenance step (Figure AHT10-5) shows that the user-specified option is LISTNEW and that the output master file's added or changed records are listed. Remember that any combination of these three list options may be specified in a single run.

```

//ADHOC10 JOB RTI.C44.PO2443,MCMASTER,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069,MCMASTER.DPR,JCL
//*
//* THIS RUN EXERCISES THE THREE SINGLE-FILE LIST OPTIONS SEPARATELY;
//* 'LISTTRAN' LISTS ONLY THE INPUT INTERNAL TRANSACTION FILE;
//* 'LISTOLD' LISTS ONLY THE INPUT MASTER FILE RECORDS THAT ARE
//* AFFECTED BY THE UPDATE; 'LISTNEW' LISTS ONLY THE OUTPUT MASTER FILE
//* RECORDS THAT ARE ADDED OR CHANGED IN THE UPDATE
//*
//ADHOC10A EXEC AQEDT10,
//          DISP='NEW,PASS',
//          PRIMARY=1,
//          SECNDRY=1,
//          TRANS=TEMPTRNS,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01
//*
//* THE AQDHS=II TRANSACTIONS ARE EDITED; THE OUTPUT INTERNAL TRANSACTION
//* FILE IS PASSED ON TO THE FILE MAINTENANCE STEPS FOLLOWING
//*
//EDIT.OPTIONS DD *
LIST
//*
//EDIT.INPUT DD *
1340003010604175082216611012312100020002000300040003000200030002      2
1120001003C01174061000611022114000010002000400030002000300020001      2
1120001003C01174061008611022114000020001000300000002000400020004      2
1120001003C01174061016611022114000050003000200010002000200030004      2
1120001003C01173091200611025014000050006000400030003000200050003      2
1120001003C01173091208611025014000030004000300040003000300030002      2
1120001003C01173091216611025014000030002000400030003000200040003      2
1373000997A052630101006210120151900091009200                          3
1373000997A052630102006210120150900091009200                          3
1373000997A052630103006210120153900091009200                          3
1373000997A052630104006210120152900091009200                          3
1373000997A052630105006210120152900091009200                          3
//*
//ADHOC10B EXEC AQFMM10,
//          OLDMSTR=AQARCM02,
//          DISP1='OLD,PASS',
//          TRANS=TEMPTRNS
//*
//* THE THREE FILE MAINTENANCE STEPS IN THIS RUN ALL USE AS INPUT THE
//* LATEST ARCHIVED MASTER FILE AND THE INTERNAL TRANSACTIONS CREATED IN
//* STEP A; IN THIS STEP THE OPTION CHOSEN IS TO LIST ONLY THE INTERNAL
//* TRANSACTIONS
//*
//UPDATE.AQSNEWMS DD DUMMY
//UPDATE.OPTIONS DD *
LISTTRAN
//*
//ADHOC10C EXEC AQFMM10,
//          OLDMSTR=AQARCM02,
//          DISP1='OLD,PASS',
//          TRANS=TEMPTRNS
//*
//* ONLY THE INPUT MASTER FILE RECORDS AFFECTED BY THE UPDATE ARE
//* LISTED IN THIS STEP
//*
//UPDATE.AQSNEWMS DD DUMMY
//UPDATE.OPTIONS DD *
LISTOLD
//*
//ADHOC10D EXEC AQFMM10,
//          OLDMSTR=AQARCM02,
//          DISP1='OLD,PASS',
//          TRANS=TEMPTRNS
//*
//* ONLY THE OUTPUT MASTER FILE RECORDS AFFECTED BY THE UPDATE ARE
//* LISTED IN THIS STEP
//*
//UPDATE.AQSNEWMS DD DUMMY
//UPDATE.OPTIONS DD *
LISTNEW

```

Figure AHT10-1. Run Stream

PROGRAM NAME: AEDMSTR (A00060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: LIST NOFLAGH

INPUT TRANSACTIONS	ERRORS
1340003010G04175082216611012312100020002000300040003000200030002	2
*** AEDMSTR 041 ERROR - COLUMN 30 - INVALID UNITS CODE - CARD REJECTED	

NUMBER OF TRANSACTIONS READ:	12
NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	11
NUMBER OF INTERNAL TRANSACTIONS CREATED:	11
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	1
NUMBER OF ABORT MESSAGES:	0

AODHS-II MASTER FILE TRANSACTION EDIT PROGRAM - CONFIRMATION LISTING

PAGE 1

INPUT TRANSACTIONS PASSING EDIT CRITERIA

1120001003C01174061000611022114000010002000400030002000300020001	2
1120001003C01174061000611022114000020001000300000002000400020004	2
1120001003C01174061016611022114000050003000200010002000200030004	2
1120001003C01173091200611025014000050006000400030003000200050003	2
1120001003C01173091208611025014000030004000300040003000300030002	2
1120001003C01173091216611025014000030002000400030003000200040003	2
1373000997A052630101006210120151900091009200	3
1373000997A052630102006210120150400091009200	3
1373000997A052630103006210120151900091009200	3
1373000997A052630104006210120152900091009200	3
1373000997A052630105006210120152900091009200	3

NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	11
---	----

Figure AHT10-2. Procedure AQEDT10 -- program AEDMSTR

AQDHS-II MASTER FILE INTERNAL TRANSACTION SORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASRIITH (AQ0130)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT INTERNAL TRANSACTIONS: 11
 NUMBER OF OUTPUT INTERNAL TRANSACTIONS: 11

AQDHS-II MASTER FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

TABLE # 1

SIGNED NUMBER	LAST DIGIT OF NUMBER PRINTED
-9	R
-8	Q
-7	P
-6	O
-5	N
-4	M
-3	L
-2	K
-1	J
+0	\
+1	A
+2	B
+3	C
+4	D
+5	E
+6	F
+7	G
+8	H
+9	I

THIS TABLE SHOWS THE PRINT CHARACTERS
 FOR THE LAST DIGIT OF SIGNED DATA VALUES
 WHICH MAY APPEAR IN THE AQDHS-II
 MASTER FILE MAINTENANCE OUTPUT REPORTS

OPTIONS IN EFFECT: LISTOLD

Figure AHT10-3. Procedure AQFM10 -- programs ASRIINTR and AFMMSTR
 308 (Page 1 of 3)

NUMBER OF INPUT INTERNAL TRANSACTIONS:	11
NUMBER OF INPUT MASTER FILE RECORDS:	39
NUMBER OF MASTER FILE RECORDS FLAGGED FOR DELETION:	0
NUMBER OF MASTER FILE RECORDS ADDED:	2
NUMBER OF OUTPUT MASTER FILE RECORDS:	41
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	0
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0
NUMBER OF DISASTER MESSAGES:	0

PROGRAM NAME: AFMMSTR (A00100)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1970

Figure AHT10-3 - continued. Procedure AQFMM10 -- program AFMMSTR

(Page 2 of 3)

AQDMS-II MASTER FILE MAINTENANCE PROGRAM - INTERNAL TRANSACTION CONFIRMATION LISTING

PAGE 1

INTERNAL TRANSACTION	ACTION	
21 1206001400001003C01173611025014091200 *** ADDED	00800050006000400030003000200050003	
21 1206001400001003C01173611025014091208 *** ADDED	00800030004000300040003000300030002	
21 1206001400001003C01173611025014091216 *** ADDED	00800030002000400030003000200040003	
21 1206001400001003C01174611022114061000 *** ADDED	-00800010002000400030002000300020001	
21 1206001400001003C01174611022114061008 *** ADDED	008000200010003000000002000400020004	
21 1206001400001003C01174611022114061016 *** ADDED	00800050003000200010002000200030004	
31 3718630203000997A05263621012015010100 *** CHANGED	103900091009200	
31 3718630203000997A05263621012015010200 *** CHANGED	003900091009200	
31 3718630203000997A05263621012015010300 *** CHANGED	303900091009200	
31 3718630203000997A05263621012015010400 *** CHANGED	203900091009200	
31 3718630203000997A05263621012015010500 *** CHANGED	203900091009200	
NUMBER OF INPUT INTERNAL TRANSACTIONS:	11	

Figure AHT10-3 - continued. Procedure AQFM10 -- program AFMISTR

(Page 3 of 3)

PROGRAM NAME: ASRINTR (AQ0130)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT INTERNAL TRANSACTIONS: 11
 NUMBER OF OUTPUT INTERNAL TRANSACTIONS: 11

AODHS-II MASTER FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

TABLE # 1

SIGNED NUMBER	LAST DIGIT OF NUMBER PRINTED
-9	R
-8	Q
-7	P
-6	O
-5	N
-4	M
-3	L
-2	K
-1	J
-0	
+0	\
+1	A
+2	B
+3	C
+4	D
+5	E
+6	F
+7	G
+8	H
+9	I

THIS TABLE SHOWS THE PRINT CHARACTERS
 FOR THE LAST DIGIT OF SIGNED DATA VALUES
 WHICH MAY APPEAR IN THE AODHS-II
 MASTER FILE MAINTENANCE OUTPUT REPORTS

OPTIONS IN EFFECT: LISTTRAN

Figure AHT10-4.

Procedure AQFM10 -- programs ASRINTR and AFMMSTR

(Page 1 of 2)

NUMBER OF INPUT INTERNAL TRANSACTIONS: 11
 NUMBER OF INPUT MASTER FILE RECORDS: 39
 NUMBER OF MASTER FILE RECORDS FLAGGED FOR DELETION: 0
 NUMBER OF MASTER FILE RECORDS ADDED: 2
 NUMBER OF OUTPUT MASTER FILE RECORDS: 41
 NUMBER OF WARNING MESSAGES: 0
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF ERROR MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0
 NUMBER OF DISASTER MESSAGES: 0

PROGRAM NAME: AFMMSTR (A00100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT10-4 - continued.

Procedure AQFM10 -- program AFMMSTR

(Page 2 of 2)

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ADHS-II MASTER FILE MAINTENANCE PROGRAM - INPUT MASTER FILE CONFIRMATION LISTING

PAGE 1

FIXED SEGMENT

REPEATING DATA

213	3718630203000997A05263621012015010100	12
	S09000S09100S09200S09300S09400S09500S09600S09700S09800S09900S09902	
213	3718630203000997A05263621012015010200	12
	S19000S19100S19200S19300S19400S19500S19600S19700S19800S19900S19902	
213	3718630203000997A05263621012015010300	12
	S29000S29100S29200S29300S29400S29500S29600S29700S29800S29900S29902	
213	3718630203000997A05263621012015010400	12
	S39000S39100S39200S39300S39400S39500S39600S39700S39800S39900S39902	
213	3718630203000997A05263621012015010500	12
	S49000S49100S49200S49300S49400S49500S49600S49700S49800S49900S49902	

AC 1/100

CHANGED

CHANGED

CHANGED

CHANGED

CHANGED

NUMBER OF INPUT MASTER FILE RECORDS: 39
 NUMBER OF INPUT MASTER FILE RECORDS LISTED: 5

PROGRAM NAME: ASRINTR (AQ0130)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT INTERNAL TRANSACTIONS: 11
 NUMBER OF OUTPUT INTERNAL TRANSACTIONS: 11

AQDHS-II MASTER FILE MAINTENANCE PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

TABLE # 1

SIGNED NUMBER	LAST DIGIT OF NUMBER PRINTED
------------------	------------------------------------

-9	R
-8	Q
-7	P
-6	O
-5	N
-4	M
-3	L
-2	K
-1	J
0	I
+0	\
+1	A
+2	B
+3	C
+4	D
+5	E
+6	F
+7	G
+8	H
+9	I

THIS TABLE SHOWS THE PRINT CHARACTERS
 FOR THE LAST DIGIT OF SIGNED DATA VALUES
 WHICH MAY APPEAR IN THE AQDHS-II
 MASTER FILE MAINTENANCE OUTPUT REPORTS

OPTIONS IN EFFECT: LISTNEW

Figure AHT10-5.

Procedure AQFMM10 -- programs ASRINTR and AFMMSTR

(Page 1 of 2)

NUMBER OF INPUT INTERNAL TRANSACTIONS: 11
 NUMBER OF INPUT MASTER FILE RECORDS: 39
 NUMBER OF MASTER FILE RECORDS FLAGGED FOR DELETION: 0
 NUMBER OF MASTER FILE RECORDS ADDED: 2
 NUMBER OF OUTPUT MASTER FILE RECORDS: 41
 NUMBER OF WARNING MESSAGES: 0
 NUMBER OF CONDITIONAL MESSAGES: 0
 NUMBER OF ERROR MESSAGES: 0
 NUMBER OF ABORT MESSAGES: 0
 NUMBER OF DISASTER MESSAGES: 0

PROGRAM NAME: AFMMSTR (AQ0100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT10-5 - continued.

Procedure AQFM10 -- program AFMMSTR

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(Page 2 of 2)

AQDHS-II MASTER FILE MAINTENANCE PROGRAM - OUTPUT MASTER FILE CONFIRMATION LISTING

PAGE 1

FIXED SEGMENT	REPEATING DATA	ACTION
21N	1206001400001003C01173611025014091200 24 A00005A00006A00004A00003A00002A00005A00003A00004A00003A00004A00003A00003A00002 A00003A00002A00004A00003A00003A00002A00004A00003	ADDED
21N	1206001400001003C01174611022114061000 24 A00001A00002A00004A00003A00002A00003A00002A00001A00002A00001A00003A00000A00002A00004A00002A00004 A00005A00003A00002A00001A00002A00002A00003A00004	ADDED
31N	3718630203000997A05263621012015010100 12 C19000C19100C19200S09300S09400S09500S09600S09700S09800S09900S09901S09902	CHANGED
31N	3718630203000997A05263621012015010200 12 C09000C09100C09200S19300S19400S19500S19600S19700S19800S19900S19901S19902	CHANGED
31N	3718630203000997A05263621012015010300 12 C39000C39100C39200S29300S29400S29500S29600S29700S29800S29900S29901S29902	CHANGED
31N	3718630203000997A05263621012015010400 12 C29000C29100C29200S39300S39400S39500S39600S39700S39800S39900S39901S39902	CHANGED
31N	3718630203000997A05263621012015010500 12 C29000C29100C29200S49300S49400S49500S49600S49700S49800S49900S49901S49902	CHANGED
	NUMBER OF OUTPUT MASTER FILE RECORDS: 41 NUMBER OF OUTPUT MASTER FILE RECORDS LISTED: 7	

AQDHS-II AD HOC TEST 11

Convert SAROAD Transactions and Update the Master File

This ad hoc test converts SAROAD-format card transactions to AQDHS-II format transactions and then updates the master file with the converted transactions. The present test does in one run what took two runs early in the test series, when the initial master file, AQMST01N, was created from SAROAD transactions in Tests 4 and 5. The SAROAD to AQDHS-II conversion is performed by the program ACVSARD (AQ0010), which is executed by the procedure AQCVT10. The transaction editing and master file maintenance are then done by AEDMSTR (AQ0060) and AFMMSTR (AQ0100) respectively; both of these programs, as well as the internal transaction sort program, ASRINTR (AQ0130), are executed by the procedure AQEMM10.

The run stream for this test is contained in Figure AHT11-1. Step A, in which the SAROAD conversion is done, uses the LIST option. This option, which was not used in the other SAROAD conversion run (Test 4), lists each SAROAD input transaction and beneath it the AQDHS-II output transaction or transactions generated from it.

In the SAROAD transaction input file, the first card is a \$2 card. This indicates that all the transactions following it are adds (action code of 2). The output AQDHS-II transaction file is assigned a temporary data set name, &&AQTRANS. Sample output from this step appears in Figure AHT11-2.

Step B, the file maintenance step, uses the AQDHS-II transaction data set &&AQTRANS to update the active master file, AQMTST04T. The parameter and site files AQPARM01 and AQSITE01 are used to edit the transactions. The new master file created is named AH11MSTR. Figure AHT11-3 contains sample output from this step.

```

//ADHOC11 JOB RTI,C44.PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PO2069.MCMaster.DPR.JCL
//KILL EXEC PGM=IEFBR14
//DD1 DD DSN=RTI.C44.PO2069.MCMaster.DPR.DATA.AH11MSTR,
// DISP=(OLD,DELETE)
/*
/*
/* THIS RUN EXERCISES THE LIST OPTION OF THE SAROAD-TO-AQDHS-II
/* CONVERTER; UNDER THIS OPTION, EACH INPUT SAROAD TRANSACTION IS LISTED
/* AND FOLLOWED IN THE LISTING BY ITS ASSOCIATED OUTPUT AQDHS-II
/* TRANSACTION(S)
/* IN THE SAME RUN, THESE AQDHS-II TRANSACTIONS ARE USED TO UPDATE THE
/* ACTIVE MASTER FILE
/*
//ADHOC11A EXEC AQCVT10
/*
/* THE SAROAD CONVERTER IS RUN
/*
//CONVERT.OPTIONS DD *
LIST
/*
//CONVERT.INPUT DD *
$2
1373000997A0517708020062101201520067-050-0310071-083-11700610079-10100900066-043
1373000997A0517708020062103201520067-050-0310071-083-11700610079-10100900066-043
1373000997A0527707010343101110720001
1373000997A052770802004310211072006700500031007100830117006100790101009000660043
1373000997A052770803004310211072006700500031007100830117006100790101009000660043
1373000997A052770804004310211072006700500031007100830117006100790101009000660043
1373000997A052770805004310211072006700500031007100830117006100790101009000660043
1373000997A052770806004310211072 00500031 00830117006100790101009000660043
1373000997A052770807004310211072 00830117006100790101009000660043
1373000997A0527708080043102110720067 0031007100830117006100790101009000660043
1373000997A0527708090043102110720067005000310071
1373000997A052770810004310211072 00500031 0083011700610079 009000660043
2373000997A05875050100 62101201530015
2373000997A0587506010043102110730020431011107302004320111073050062101201530123
2373000997A0587507010043102110730020431011107302004320111073050062101201530123
2373000997A0587508010043102110730020 4320111073050062101201530123
2373000997A05875090100 4320111073050062101201530123
2373000997A05875100100431021107300024310111073002343201110730234621012015301566
2373000997A058751101004310211073000243101110730023 62101201530156

```

(Remainder of transactions omitted)

```

/*
//CONVERT.OUTPUT DD DISP=(NEW,PASS),DSN=##AQTRANS,UNIT=SYSDA,
// SPACE=(TRK,(10,1))
//ADHOC11B EXEC AQEMM10,
//      OLDMSR=AQMST04T,
//      NEWMSTR=AH11MSTR,
//      PARMFIL=AQPARM01,
//      SITEFIL=AQSITE01,
//      PRIMARY=1,
//      SECNDRY=1
/*
/* EDIT THE AQDHS-II TRANSACTIONS CREATED IN STEP A,
/* SORT THE RESULTING INTERNAL TRANSACTIONS,
/* AND UPDATE THE MASTER FILE WITH THESE SORTED TRANSACTIONS
/*
//EDIT.INPUT DD DISP=OLD,DSN=##AQTRANS

```

Figure AHT11-1. Run Stream

SARDAD TO AGDHS-II CONVERSION PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ACVSARD (A00010)
REVISION LEVEL: 1-00
LAST UPDATE #1 24
DATE INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: LIST

INPUT (SARDAD)

OUTPUT (AGDHS-II)

S2

1373000997A0517708020062101201520067-050-0310071-083-11700610079-10100900066-043	
1373000997A0517708020062101201520067-050-0310071-083-11700610079	2
1373000997A051770802006210120152-10100900066-043	2
1373000997A0517708020062103201520067-050-0310071-083-11700610079-10100900066-043	
1373000997A0517708020062103201520067-050-0310071-083-11700610079	2
1373000997A051770802006210320152-10100900066-043	2
1373000997A0527707010343101110720001	
*** ACVSARD 006 ERROR - START HOUR INCOMPATIBLE WITH TIME CODE, CARD REJECTED	
1373000997A052770802004310211072006700500031007100830117006100790101009000660043	
1373000997A05277080200431021107200670050003100710083011700610079	2
1373000997A0527708021643102110720101009000660043	2
1373000997A052770803004310211072006700500031007100830117006100790101009000660043	
1373000997A05277080300431021107200670050003100710083011700610079	2
1373000997A0527708031643102110720101009000660043	2
1373000997A052770804004310211072006700500031007100830117006100790101009000660043	
1373000997A05277080400431021107200670050003100710083011700610079	2
1373000997A0527708041643102110720101009000660043	2
1373000997A052770805004310211072006700500031007100830117006100790101009000660043	
1373000997A05277080500431021107200670050003100710083011700610079	2
1373000997A0527708051643102110720101009000660043	2
1373000997A052770806004310211072 00500031 00830117006100790101009000660043	
1373000997A052770806004310211072 00500031 0083011700610079	2
1373000997A0527708061643102110720101009000660043	2
1373000997A052770807004310211072 00830117006100790101009000660043	
1373000997A052770807004310211072 0083011700610079	2
1373000997A0527708071643102110720101009000660043	2
1373000997A0527708080043102110720067 0031007100830117006100790101009000660043	

Figure AHT11-2. Procedure AQCVT10 -- program ACVSARD (Page 1 of 2)

SAHQAD TO AQDHS-II CONVERSION PROGRAM - DIAGNOSTIC REPORT

PAGE 4

INPUT (SAHQAD)	OUTPUT (AQDHS-II)	
	337A05A61202212816501010030009980023	2
337A0586120221281650201	0030209960500 337A05A6120221281650201	2
	0030209960500	2
337A058612022128165030100300099800230030209960500003140992-056003140994-009	337A05A612022128165030100300099800230030209960500003140992-056003140994-009	2
337A058612022128165040100300099812340030209960500003140992-086003140994-009	337A05A612022128165040100300099812340030209960500003140992-086003140994-009	2
337A058612022128165050100300099812340030209960500003140992-086003140994-012	337A05A612022128165050100300099812340030209960500003140992-086003140994-012	2
337A058612022128165060100300099812990030209960500003140992-000003140994-012	337A05A612022128165060100300099812990030209960500003140992-000003140994-012	2
337A058612022128165070100300099812990030209960500003140992-000003140994-014	337A05A612022128165070100300099812990030209960500003140992-000003140994-014	2
337A058612022128165080100300099811110030209960511003140992-000003140994-014	337A05A612022128165080100300099811110030209960511003140992-000003140994-014	2
337A05861202212816509010030009981111	003140994-017 337A05A61202212816509010030009981111	2
337A0586120221281651001	003140992-000 337A05A6120221281651001	2
337A0586120221281651101	003140994-014 337A05A6120221281651101	2
337A05861202212816512010030009981111	003140992-000 337A05A61202212816512010030009981111	2

NUMBER OF INPUT SARHAD TRANSACTIONS:	52
NUMBER OF ACTION CARDS:	1
NUMBER OF AQDHS-II TRANSACTIONS WRITTEN:	61
NUMBER OF DIAGNOSTIC MESSAGES:	1

PROGRAM NAME: ACVSARD (AQ0010)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT11-2 - continued. Procedure ACQVT10 -- program ACVSARD

AQDHS-II MASTER FILE TRANSACTION EDIT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: AEDMSTR (AQ0060)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

OPTIONS IN EFFECT: DEFAULT (NOLIST NOFLAGW)

INPUT TRANSACTIONS ERRORS
 *** AEDMSTR 046 CONDITIONAL - MISSING OR INVALID OPTION CARD - DEFAULT OPTIONS USED

NUMBER OF TRANSACTIONS READ:	61
NUMBER OF TRANSACTIONS PASSING EDIT CRITERIA:	61
NUMBER OF INTERNAL TRANSACTIONS CHEATED:	122
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	1
NUMBER OF ERROR MESSAGES:	0
NUMBER OF ABORT MESSAGES:	0

AQDHS-II MASTER FILE INTERNAL TRANSACTION SORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASRINTR (AQ0130)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF INPUT INTERNAL TRANSACTIONS:	122
NUMBER OF OUTPUT INTERNAL TRANSACTIONS:	122

Figure AHT11-3. Procedure AQEM10 -- programs AEDMSTR and ASRINTR
 (Page 1 of 3)

PROGRAM NAME: AFMMSTR (A00100)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT11-3 - continued. Procedure AQEMM10 -- program AFMMSTR

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(Page 2 of 3)

TABLE # 1	
SIGNED NUMBER	LAST DIGIT OF NUMBER PRINTED
-9	R
-8	Q
-7	P
-6	O
-5	N
-4	M
-3	L
-2	K
-1	J
-0	
+0	\
+1	A
+2	B
+3	C
+4	D
+5	E
+6	F
+7	G
+8	H
+9	I

THIS TABLE SHOWS THE PRINT CHARACTERS
 FOR THE LAST DIGIT OF SIGNED DATA VALUES
 WHICH MAY APPEAR IN THE AGDHS-II
 MASTER FILE MAINTENANCE OUTPUT REPORTS

OPTIONS IN EFFECT: DEFAULT (NOLIST NOFLAGW)

*** AFMMSTR 005 CONDITIONAL - MISSING OR INVALID CARD - DEFAULT OPTIONS (NOLIST NOFLAGW) USED

TRANSACTION

ERRORS/ACTION

21 3718630203000997A05277431021107080200 208006700500031007100830
*** AFMMSTR 001 ERROR - READING 02 - ATTEMPT TO ADD DATA TO EXISTING READING - DATA REJECTED

NUMBER OF INPUT INTERNAL TRANSACTIONS:	122
NUMBER OF INPUT MASTER FILE RECORDS:	341
NUMBER OF MASTER FILE RECORDS FLAGGED FOR DELETION:	0
NUMBER OF MASTER FILE RECORDS ADDED:	37
NUMBER OF OUTPUT MASTER FILE RECORDS:	378
NUMBER OF WARNING MESSAGES:	0
NUMBER OF CONDITIONAL MESSAGES:	1
NUMBER OF ERROR MESSAGES:	1
NUMBER OF ABORT MESSAGES:	0
NUMBER OF DISASTER MESSAGES:	0

PROGRAM NAME: AFMMSTR (AG0100)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AH11-3 - continued.

Procedure AQEMM10 -- program AFMMSTR

(Page 3 of 3)

AQDHS-II AD HOC TEST 12

Perform a Total-Time-Period Statistical Analysis on a Multi-Year File

The purpose of this ad hoc test is to emphasize the requirement of running a pre-sort when a master file with more than one calendar year of data is used for a total-time-period statistical analysis. An answer file containing 1976 and 1977 data is retrieved for this purpose using the procedure AQRPM10. The unsorted answer file is input to the statistical analysis program series of ASTPRLM (AQ0190), ASTMSST (AQ0200), and ARPMSST (AQ0270); these three programs are executed by the procedure AQRPM10. The total-time-period option is specified in this step. Next the answer file is pre-sorted with the procedure AQRSM10, which executes the master file sort program, ASRMSTR (AQ0140). The sorted file is then input to another execution of the statistical analysis procedure with the total-time-period option.

Test 13 contains a description of the retrieval programs. The present ad hoc test uses standard AQDHS-II retrieval language statements. The subject in each of the retrieval statements, KEY-1, references a group of master file fields, including all site-related fields, the time code, and the year. Here the retrieval statements are requesting that all 1976 and 1977 records with daily data (time code of 8) for a specific site be retrieved.

Test 8 describes the master file sort program, ASRMSTR (AQ0140). Test 10 describes the three statistical analysis programs.

The Ad Hoc Test 12 run stream appears in Figure AHT12-1. In the retrieval step (Step A), the active master file, AQMST045, is the input file and the answer file is named TEMPRETR. Sample output from this step is shown in Figure AHT12-2. Step B consists of a statistical analysis on TEMPRETR, the unsorted file. The user-designated option for the preliminary statistics program is TOTAL; the total-time-period option is also the default if no option card is included in the stream. Notice in the statistical analysis report from this step (Figure AHT12-3) that one of the parameters has two sets of statistics, one for 1976 and one for 1977. Under the total-time-period

option, the parameter should have only one set of statistics covering the entire period of data collection. Thus, this report is invalid.

To remedy this situation, a pre-sort for the answer file, TEMPRETR, is used in Step C. The option used is STAT. The sorted file is named TEMPSORT. This latter file is input to another execution of the statistical analysis procedure in Step D. Again, the user option is TOTAL. This time, each parameter does have a single set of statistics in the statistical analysis report, which demonstrates that a pre-sort is required when a total-time-period option is used for a statistical analysis of a multi-year file. Output samples from this sort step and statistical analysis step are shown in Figure AHT12-4 and Figure AHT12-5, respectively.

```

//ADHOC12 JOB RTI,C44.PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI,C44.PO2069,MCMaster,DPR,JCL
//*
//* THIS TEST DEMONSTRATES THE NECESSITY OF PRESORTING A
//* MULTI-YEAR ANSWER FILE THAT IS TO BE STATISTICALLY ANALYZED
//* WITH THE TOTAL-TIME-PERIOD OPTION; THE RETRIEVED FILE WILL
//* BE ANALYZED FIRST WITHOUT PRESORTING AND THEN WITH
//* PRESORTING
//*
//ADHOC12A EXEC AQRTM10,
//          MSTRFIL=AQMST04T,
//          ANSWRFL=TEMPRETR,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* THE FILE RETRIEVED IN THIS STEP CONTAINS 1976 AND 1977 DATA FROM
//* A SINGLE SITE WITH 2 PARAMETERS
//*
//COMPILE.INPUT DD *
$$SELECT
KEY-1              = '3417029800001004A06876'          OR
KEY-1              = '3417029800001004A06877'
$$END
//*
//ADHOC12B EXEC AQRPM10,
//          MSTRFIL=TEMPRETR,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01
//*
//* IN THIS STEP, THE STATISTICAL ANALYSIS IS PERFORMED ON THE ANSWER FILE
//* WITHOUT PRESORTING; THE STATISTICAL REPORT GENERATES, FOR EACH
//* SITE-PARAMETER GROUP, A SEPARATE SET OF STATISTICS FOR EACH YEAR,
//* EVEN THOUGH THE TOTAL-TIME-PERIOD OPTION IS SPECIFIED
//*
//PRELIM.OPTIONS DD *
TOTAL
//*
//ADHOC12C EXEC AQSRM10,
//          MSTRFIL=TEMPRETR,
//          SORTFIL=TEMPSORT,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* THE RETRIEVED FILE IS NOW PRESORTED
//*
//SORT.OPTIONS DD *
STAT
//*
//ADHOC12D EXEC AQRPM10,
//          MSTRFIL=TEMPSORT,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01
//*
//* THE STATISTICAL ANALYSIS IS NOW RUN ON THE SORTED FILE; THIS TIME
//* A TRUE TOTAL-TIME-PERIOD STATISTICAL REPORT IS GENERATED, WITH
//* A SINGLE SET OF STATISTICS ENCOMPASSING THAT TOTAL PERIOD FOR EACH
//* PARAMETER WITHIN THE SITE
//*
//PRELIM.OPTIONS DD *
TOTAL
//*

```

Figure AHT12-1. Run Stream

AODHS-II RETRIEVAL LANGUAGE PROCESSOR PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTLNGP (A00110)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

INPUT (CONTROL CARDS):

\$\$SELECT
KEY-1 = '3417029800001004A06876' OR
KEY-1 = '3417029800001004A06877'
\$\$END

NUMBER OF CONTROL CARDS READ: 4
NUMBER OF RETRIEVAL SKELETON RECORDS READ: 1,147
NUMBER OF RETRIEVAL SOURCE RECORDS WRITTEN: 1,190
NUMBER OF CONDITIONAL MESSAGES: 0
NUMBER OF ERROR MESSAGES: 0
NUMBER OF ABORT MESSAGES: 0

AODHS-II GENERATED RETRIEVAL PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARTGENR (A00120)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF MASTER FILE RECORDS READ: 341
NUMBER OF ANSWER FILE RECORDS WRITTEN: 6
NUMBER OF CONDITIONAL MESSAGES: 0
NUMBER OF ABORT MESSAGES: 0

Figure AHT12-2. Procedure AQR1M10 -- programs ARTLNGP and ARTGENR

AQDHS-II PRELIMINARY STATISTICS PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASTPRM (AQ0190)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 INCORPORATED: OCTOBER 31, 1978

OPTION IN EFFECT: TOTAL

NUMBER OF MASTER FILE RECORDS READ:	6
NUMBER OF MASTER FILE RECORDS WITH COMPOSITE DATA:	0
NUMBER OF STATISTICS RAW DATA FILE RECORDS WRITTEN:	10
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS WRITTEN:	5
NUMBER OF DIAGNOSTIC MESSAGES:	0

AQDHS-II STATISTICAL ANALYSIS PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ASTMSST (AQ0200)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

NUMBER OF STATISTICS RAW DATA FILE RECORDS READ:	10
NUMBER OF PRELIMINARY STATISTICS FILE RECORDS READ:	5
NUMBER OF STATISTICS FILE RECORDS WRITTEN:	9

Figure AHT10-3. Procedure AQPM10 -- programs ASTPRM and ASTMSST

(Page 1 of 3)

ADDHS-II STATISTICAL ANALYSIS REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM-NAME: ARPMST (A00270)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

*** ARPMST 004 WARNING - OPTION CARD MISSING: DEFAULT VALUES ARE 64 LINES PER PAGE AND FULL SITE BREAK

Figure AHT12-3 - continued.

Procedure AQRPM10 -- program ARPMST

(Page 2 of 3)

ADDHS-II STATISTICAL ANALYSIS REPORT
 ANALYSIS FOR TOTAL TIME PERIOD
 STATE (34): NORTH CAROLINA

PAGE 1

SITE CODE: 34-0001-004-A-06
 AGENCY/PROJECT: A06

AGENCY TYPE: EPA - ATMOSPHERIC SURVEILLANCE COUNTY(2980)
 SITE ADDR: GUM BRANCH RD., JACKSONVILLE, ONSLOW CO.

POLLUTANT NAME				METHOD OF COLLECTION AND ANALYSIS										INTERVAL			UNITS		TIMES		
POLLUTANT-METHOD-INTERVAL-UNITS				CODE				SAMPLING DATES											HALF		
PCT	NBR	MIN	MIN	PERCENTILES						MAX	2ND	3RD	ARIT	ARIT	GEOM	GEOM	M DET				
OBS	OBS	DETEC	OBS	10	30	50	70	90	95	99	OBS	MAX	MAX	MEAN	ST DEV	MEAN	ST DEV	SUM			
TOTAL SUSPENDED PARTICULATE				HI-VOL				- GRAVIMETRIC						DAILY			U-GMS/M3 (25DEG C,1013 M-BARS)				
11101-91-8-01				10/01/76 TO 12/31/76																	
15.2	14	1.000	6.000	30.	39.	45.	62.	81.	124.	124.	124.0	81.00	71.00	53.14	28.22	44.79	2,016	0			
SULFUR DIOXIDE				GAS BUBBLER				- PARAROSANILINE-SULFAMIC						DAILY			U-GMS/M3 (25 DEG C,1013 M-BARS)				
42401-91-8-01				07/01/76 TO 07/31/76																	
16.1	5	5.000	0.0	0.	0.	0.	0.	28.	28.	28.	28.00	0.0	0.0	5.600	12.52	4.053	2,945	4			
TOTAL SUSPENDED PARTICULATE				HI-VOL				- GRAVIMETRIC						DAILY			U-GMS/M3 (25DEG C,1013 M-BARS)				
11101-91-8-01				01/01/77 TO 02/28/77																	
47.5	28	1.000	0.0	35.	455.	455.	455.	455.	455.	964.	964.0	455.0	455.0	400.6	193.3	268.0	4,425	1			

ARPMSS1 (AQ0200) SUMMARY MESSAGES:

PAGE 1

NUMBER OF INPUT RECORDS: 9
NUMBER OF ERRORS: 1
NUMBER OF OUTPUT PAGES: 1

PROGRAM-NAME: ARPMSS1 (AQ0270)
REVISION LEVEL: 1-00
LAST UPDATE #1 24
DATE INCORPORATED: OCTOBER 31, 1978

Figure AHT12-3 - continued. Procedure AQRPM10 -- program ARPMSS1
328 (Page 3 of 3)

PAGE 1

*** ARHMSST 004 WARNING - OPTION CARD MISSING; DEFAULT VALUES ARE 64 LINES PER PAGE AND FULL SITE BREAK

(Page 2 of 3)

PAGE 1

SITE ADDR: GUM BRANCH RD., JACKSONVILLE, ONSLOW CO.

POLLUTANT NAME				METHOD OF COLLECTION AND ANALYSIS										INTERVAL		UNITS		TIMES		
POLLUTANT-METHOD-INTERVAL-UNITS				SAMPLING DATES														HALF		
PCT	NBR	MIN	MIN	CODE	PERCENTILES						MAX	2ND	3RD	ARIT	ARIT	GEOM	GEOM	M DEVI		
OBS	OBS	DETEC	OBS	10	30	50	70	90	95	99	OBS	MAX	MAX	MEAN	ST DEV	MEAN	ST DEV	SUB		
TOTAL SUSPENDED PARTICULATE				HI-VOL	- GRAVIMETRIC										DAILY		U-GMS/M3 (25DEG C,1013 M-BARS)			
11101-91-8-01					10/01/76 TO 02/28/77															
27.8	42	1.000	0.0	31.	62.	455.	455.	455.	455.	964.	964.0	455.0	455.0	284.8	228.8	147.6	4.618	1		
SULFUR DIOXIDE				GAS BUBBLER	- PARAROSANILINE-SULFAMIC										DAILY		U-GMS/M3 (25 DEG C,1013 M-BARS)			
42401-91-8-01					07/01/76 TO 07/31/76															
16.1	5	5.000	0.0	0.	0.	0.	0.	28.	28.	28.	28.00	0.0	0.0	5.600	12.52	4.053	2.945	4		

ARPM8ST (AQ0200) SUMMARY MESSAGES

PAGE 1

NUMBER OF INPUT RECORDS: 6
NUMBER OF ERRORS: 1
NUMBER OF OUTPUT PAGES: 1

PROGRAM-NAME: ARPM8ST (AQ0270)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1970

Figure AHT12-5 - continued. Procedure AQRPM10 -- program ARPM8ST

(Page 3 of 3)

AQDHS-II AD HOC TEST 13

Test the 'STND' Option of the Master File Sort Program

This test demonstrates that the STND option of the master file sort program, ASRMSTR (AQ0140), sorts the master file in the standard sort sequence. To show this the archived file, which is in the standard sort sequence, is listed by the master file detailed report program, ARPMSTR (AQ0230). This program is executed by the procedure AQRPM20. Next, the file is sorted in parameter order by ASRMSTR (AQ0140), which is executed by the procedure AQRPM10. A detailed listing of the sorted file is also made. The report pages of this listing are in a different order from those of the first listing. Finally, the parameter-sorted file is resorted to the standard sort sequence using the STND option of ASRMSTR (AQ0140). The detailed listing of this resorted file indicates that the STND sort restores the file to the normal sort sequence since the pages in this listing are in the same order as those in the listing of the original file.

The master file detailed list program, ARPMSTR (AQ0230), is described in Test 6. The master file sort program, ASRMSTR (AQ0140), is described in Test 8.

Figure AHT13-1 lists the run stream. The first step of the job is to list the archived file, AQARCM02 (created and stored on disk in Test 26). The first three pages of this listing are shown in Figure AHT13-2. The second step is to sort AQARCM02 using the PARM option. The sorted file is named ARCSORT1. Output from this sort step appears in Figure AHT13-3. The third step is to list ARCSORT1. The first three pages of this listing are shown in Figure 13-4. A comparison of this figure with Figure AHT13-2 shows that the parameter sort has changed the order of the records. The fourth step is to sort ARCSORT1 using the STND option. The sorted file is named ARCSORT2. Output from this sort step appears in Figure AHT13-5. The fifth step is to list ARCSORT2 and the first three pages of this listing are shown in Figure AHT13-6. A comparison of this figure with Figure AHT13-2 demonstrates that the STND sort returned the file to standard sort sequence.

```

//ADHOC13 JOB RTI.C44.PO2443,MCMaster,T=3,P=150,FORMS=FFWHITE
//*PROCLIB=RTI.C44.PU2069,MCMaster.DPR,JCL
//*
//* THIS TEST DEMONSTRATES THAT THE "STND" OPTION OF THE MASTER FILE
//* SORTER DOES, IN FACT, SORT A MASTER FILE IN NORMAL ORDER;
//* FIRST, A DETAILED LISTING IS MADE OF THE ARCHIVED FILE; SECOND,
//* THE FILE IS RESORTED WITH THE "PARM" OPTION AND RELISTED; LAST,
//* THE PARM-SORTED FILE IS SORTED BACK INTO ITS ORIGINAL ORDER WITH THE
//* "STND" OPTION AND LISTED ONCE AGAIN
//*
//ADHOC13A EXEC AQRPM20,
//          MSTRFIL=AQARCM02,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* THE INITIAL ARCHIVED FILE IS LISTED
//*
//ADHOC13B EXEC AQSRM10,
//          MSTRFIL=AQARCM02,
//          SORTFIL=ARCSORT1,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* SORT THE ARCHIVED FILE IN "PARM" ORDER
//*
//SORT,OPTIONS DD *
//          PARM
//*
//ADHOC13C EXEC AQRPM20,
//          MSTRFIL=ARCSORT1,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* LIST THE PARM-SORTED FILE; NOTE THAT REORDERING OF THE FILE
//* HAS AFFECTED THE ORDER OF THE REPORT PAGES
//*
//ADHOC13D EXEC AQSRM10,
//          MSTRFIL=ARCSORT1,
//          SORTFIL=ARCSORT2,
//          PRIMARY=1,
//          SECNDRY=1
//*
//* RESORT THE PARM-SORTED FILE INTO STANDARD ORDER AGAIN
//*
//SORT,OPTIONS DD *
//          STND
//*
//ADHOC13E EXEC AQRPM20,
//          MSTRFIL=ARCSORT2,
//          PARMFIL=AQPARM01,
//          SITEFIL=AQSITE01,
//          STANFIL=AQSTND01
//*
//* LIST THE STANDARD-SORT FILE; THE ORDER OF THE REPORT PAGES IS IDENTICAL
//* TO THAT OF THE DETAIL LIST OF THE ORIGINAL FILE
//*

```

Figure AHT13-1. Run Stream

ADDHS-II MASTER FILE DETAILED REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (A00230)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

*** ARPMSTR 003 CONDITIONAL - OPTION CARD MISSING FOR STD ANSWER FILE - ASSUMING MEAN REPORT
 ASSUMED DEFAULT OPTION: MEAN DISPLAY N > 9997

NUMBER OF OPTION STATEMENTS READ: 0
 NUMBER OF MASTER FILE RECORDS READ: 39
 NUMBER OF REPORT PAGES WRITTEN: 21
 NUMBER OF ERRORS DETECTED: 1

STATE: NORTH CAROLINA (34)

ADDHS-II AIR QUALITY DATA REPORT
 DISPLAY N>9997

PAGE 1

AQCR: 136	AGENCY: COUNTY	COLLECTION METH: GAS BUBBLER	YEAR: 1960
COUNTY: 1780	PROJECT: COMPLAINT INVESTIGATION	ANALYSIS METHOD: CHROMATROPIC ACID	
AREA: 0003	PARAMETER: FORMALDEHYDE	SAMPLING INTERVAL: COMPOSITE	MIN DET: .5
SITE: 002	UNITS: U-GMS/M3 (25DEG C, 1013 M-BARS)	SAROAD KEY: 340003002G0413	UNITS CODE: 01
REIDSVILLE HWY., GREENSBORO, GUILFORD CO.		KEY-1: 3413617800003002G04C60	KEY-2: 435029101 KEY-3: 590052

COMPOSITE TYPE: ANNUAL

PD	RDING	SAMPLES	TIME-CODE
00	2.3	52	9
NO	1		
MEAN	2.3		
MAX	2.3		

Figure AHT13-2. Procedure AQRPM20 -- program ARPMSTR (Page 1 of 2)

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 2

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: HI-VOL YEAR: 1965
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC MONTH: JANUARY
AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE SAMPLING INTERVAL: 01 HOURS MIN DET: 1
SITE: 001 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS) SARDAD KEY: 340001001A0616 UNITS CODE: 01
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06165 KEY-2: 111019101 KEY-3: 010100

PRIMARY
FEDERAL STANDARD 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
SECONDARY

	HOUR											
DAY	00	01	02	03	04	05	06	07	08	09	10	11
01	1	1	2	3	5	8	8003	9021				
NO	1	1	1	1	1	1	1	1	0	0	0	0
MEAN	1.	1.	2.	3.	5.	8.	8003	9021				
MAX	1	1	2	3	5	8	8003	9021				

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 3

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: HI-VOL YEAR: 1965
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC MONTH: JANUARY
AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE SAMPLING INTERVAL: 01 HOURS MIN DET: 1
SITE: 001 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS) SARDAD KEY: 340001001A0616 UNITS CODE: 01
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06165 KEY-2: 111019101 KEY-3: 010100

PRIMARY
FEDERAL STANDARD 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
SECONDARY

	HOUR													NO.	MEAN	MAX
DAY	12	13	14	15	16	17	18	19	20	21	22	23				
01													0	2131	9021	
NO	0	0	0	0	0	0	0	0	0	0	0	0	0			
MEAN														2131		
MAX																9021

Figure AHT13-2 - continued.

336 Procedure AQRPM20 -- program ARPMSTR

(Page 2 of 2)

PROGRAM NAME: ASRMSTR (A00100)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: PARM

NUMBER OF INPUT RECORDS READ:	39
NUMBER OF MASTER RECORDS WRITTEN:	39
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AHT13-3. Procedure AQRMI0 -- program ASRMSTR

ADDHS-II MASTER FILE DETAILED REPORT PROGRAM - DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (AQ0230)
 REVISION LEVEL: 1-00
 LAST UPDATE #: 24
 DATE INCORPORATED: OCTOBER 31, 1978

*** ARPMSTR.003 CONDITIONAL - OPTION CARD MISSING FOR STD ANSWER FILE - ASSUMING MEAN REPORT
 ASSUMED DEFAULT OPTION: MEAN DISPLAY N > 9997

NUMBER OF OPTION STATEMENTS READ: 0
 NUMBER OF MASTER FILE RECORDS READ: 39
 NUMBER OF REPORT PAGES WRITTEN: 21
 NUMBER OF ERRORS DETECTED: 1

Figure AHT13-4.

Procedure AQRP420 -- program ARPMSTR

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STATE: NORTH CAROLINA (34)

ADDHS-II AIR QUALITY DATA REPORT DISPLAY N>9997

PAGE 1

ADCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: HI-VOL YEAR: 1965
 COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC MONTH: JANUARY
 AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE SAMPLING INTERVAL: 01 HOURS MIN DEL: 1
 SITE: 001 UNIT: U-GMS/M3 (25 DEG C, 1013 M-BARS) SARGAD KEY: 340001001A0616 UNITS CODE: 01
 YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416999600001001A06165 KEY-2: 111019101 KEY-3: 010100
 PRIMARY SECONDARY
 FEDERAL STANDARD 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
 STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR

	HOUR											
DAY	00	01	02	03	04	05	06	07	08	09	10	11
01	1	1	2	3	5	8	8003	9021				
NO	1	1	1	1	1	1	1	1	0	0	0	0
MEAN	1.	1.	2.	3.	5.	8.	8003	9021				
MAX	1	1	2	3	5	8	8003	9021				

(Page 1 of 3)

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 2

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: HI-VOL YEAR: 1965
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC MONTH: JANUARY
AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE SAMPLING INTERVAL: 01 HOURS MIN DET: 1
SITE: 001 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS) SAROAD KEY: 340001001A0616 UNITS CODE: 01
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06165 KEY-2: 111019101 KEY-3: 010100

PRIMARY
FEDERAL STANDARD 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR
SECONDARY

	HOUR												NO.	MEAN	MAX
DAY	12	13	14	15	16	17	18	19	20	21	22	23			
01													8	2131	9021
NO	0	0	0	0	0	0	0	0	0	0	0	0	8		
MEAN														2131	
MAX															9021

Figure AHT13-4 - continued. Procedure AQRPW20 -- program ARPMSTR
(Page 2 of 3)

STATE: NORTH CAROLINA (34)

AQDHS-11 AIR-QUALITY DATA REPORT
DISPLAY N>9997

PAGE 3

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: DAVIS INSTRUMENT YEAR: 1965
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: HYDROGEN PEROXIDE MONTH: MARCH
AREA: 0001 PARAMETER: SULFUR DIOXIDE SAMPLING INTERVAL: 01 HOURS MIN DET: 26.2
SITE: 001 UNITS: U-GMS/M3 (25 DEG C, 1013 H-BARS) SAROAD KEY: 340001001A0616 UNITS CODE: 01
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 341690960001001A06165 KEY-2: 424013101 KEY-3: 032800
PRIMARY SECONDARY
FEDERAL STANDARD 365 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 1300 UG/M3 (0 C), 3 HR. MAX., 1 PER YR
STATE STANDARD 60 UG/M3 (25 C) ANNUAL ARITHMETIC MEAN 0.4 PARTS/MILLION, 3 HR. MAX, 1 PER YEAR

	HOUR											
DAY	00	01	02	03	04	05	06	07	08	09	10	11
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28	37	37	9928									
NO	1	1	1	0	0	0	0	0	0	0	0	0
MEAN	37.	37.	9928									
MAX	37	37	9928									

(Page 3 of 3)

Figure AH13-4 - continued. Procedure AQRPW20 -- program ARPMSTR

PROGRAM NAME: ASRMSTR (AQ0100)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

SORT OPTION SPECIFIED: STND

NUMBER OF INPUT RECORDS READ:	39
NUMBER OF MASTER RECORDS WRITTEN:	39
NUMBER OF DIAGNOSTIC MESSAGES:	0

Figure AHT13-5. Procedure AQSRM10 --- program ASRMSTR

AQDHS-II MASTER FILE DETAILED REPORT PROGRAM -- DIAGNOSTIC REPORT

PAGE 1

PROGRAM NAME: ARPMSTR (AQ0230)
REVISION LEVEL: 1-00
LAST UPDATE #: 24
DATE INCORPORATED: OCTOBER 31, 1978

*** ARPMSTR 003 CONDITIONAL - OPTION CARD MISSING FOR STD ANSWER FILE - ASSUMING MEAN REPORT
ASSUMED DEFAULT OPTION: MEAN DISPLAY N > 9997

NUMBER OF OPTION STATEMENTS READ: 0
NUMBER OF MASTER FILE RECORDS READ: 39
NUMBER OF REPORT PAGES WRITTEN: 21
NUMBER OF ERRORS DETECTED: 1

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 1

AQCR: 136 AGENCY: COUNTY
COUNTY: 1780 PROJECT: COMPLAINT INVESTIGATION
AREA: 0003 PARAMETER: FORMALDEHYDE
SITE: 002 UNITS: U-GMS/M3 (25DEG C, 1013 M-HARS)
REIDSVILLE HWY., GREENSBORO, GUILFORD CO.

COLLECTION METH: GAS BUBBLER YEAR: 1960
ANALYSIS METHOD: CHROMATROPIC ACID
SAMPLING INTERVAL: COMPOSITE MIN DET: .5
SAROAD KEY: 340003002G0413 UNITS CODE: 01
KEY-1: 3413617800003002G04C60 KEY-2: 435029101 KEY-3: 590052

COMPOSITE TYPE: ANNUAL

PD	RDING	SAMPLES	TIME-CODE
00	2.3	52	
NO	1		
MEAN	2.3		
MAX	2.3		

Figure AHT13-6. Procedure: AQDPM20 -- program ARPMSTR

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STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
DISPLAY N>9997

PAGE 2

AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: HI-VOL YEAR: 1965
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC MONTH: JANUARY
AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE SAMPLING INTERVAL: 01 HOURS MIN DET: 1
SITE: 001 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS) SARGAD KEY: 340001001A0616 UNITS CODE: 01
YADKIN RD., FAYETTEVILLE, CUMBERLAND CO. KEY-1: 3416909600001001A06165 KEY-2: 111019101 KEY-3: 010100

PRIMARY
FEDERAL STANDARD 75 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN 60 UG/M3 (25 C) ANNUAL GEOMETRIC MEAN
STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR

	HOUR											
DAY	00	01	02	03	04	05	06	07	08	09	10	11
01	1	1	2	3	5	8	8003	9021				
NO	1	1	1	1	1	1	1	1	0	0	0	0
MEAN	1.	1.	2.	3.	5.	8.	8003	9021				
MAX	1	1	2	3	5	8	8003	9021				

STATE: NORTH CAROLINA (34)

AQDHS-II AIR QUALITY DATA REPORT
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AQCR: 169 AGENCY: EPA - ATMOSPHERIC SURVEILLANCE COLLECTION METH: HI-VOL YEAR: 1965
COUNTY: 0960 PROJECT: EPISODE MONITORING ANALYSIS METHOD: GRAVIMETRIC MONTH: JANUARY
AREA: 0001 PARAMETER: TOTAL SUSPENDED PARTICULATE SAMPLING INTERVAL: 01 HOURS MIN DET: 1
SITE: 001 UNITS: U-GMS/M3 (25DEG C,1013 M-BARS) SARGAD KEY: 340001001A0616 UNITS CODE: 01
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PRIMARY
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STATE STANDARD 250 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR 120 UG/M3 (25 C) 24 HOUR MAXIMUM, 1 PER YEAR

	HOUR												NO.	MEAN	MAX
DAY	12	13	14	15	16	17	18	19	20	21	22	23			
01													8	2131	9021
NO	0	0	0	0	0	0	0	0	0	0	0	0	8		
MEAN														2131	
MAX															9021

Figure AHT13-6 - continued. Procedure AQRPm20 -- program ARPMSTR

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APPENDIX A

CROSS-REFERENCE OF TESTS, PROCEDURES, AND PROGRAMS

<u>Test</u>	<u>Procedures</u>	<u>Programs</u>
1	AQEMP10 AQRPP10	ASRPARM (AQ0150) AEMPARM (AQ0070) ARPPARM (AQ0240)
2	AQEMS10 AQRPS10	ASRSITE (AQ0160) AEMSITE (AQ0080) ARPSITE (AQ0260)
3	AQEMD10 AQRPD10	ASRSTND (AQ0170) AEMSTND (AQ0090) ARPSTND (AQ0250)
4	AQCVT10	ACVSARD (AQ0010)
5	AQEMM10	AEDMSTR (AQ0060) ASRINTR (AQ0130) AFMMSTR (AQ0100)
6	AQRPM20	ARPMSTR (AQ0230)
7	AQRPM30	ARPMSBR (AQ0300)
8	AQRPM40	ASRMSTR (AQ0140) ARPINVP (AQ0290)
9	AQRPM35	ASRMSTR (AQ0140) ARPINVS (AQ0280)
10	AQSRM10 AQRPM10	ASRMSTR (AQ0140) ASTPRLM (AQ0190) ASTMSST (AQ0200) ARPMSSST (AQ0270)
11	AQRPM45	ACVANOM (AQ0040) ARPANOM (AQ0320)

<u>Test</u>	<u>Procedures</u>	<u>Programs</u>
12	AQRPM05	ARPSARD (AQ0220)
13	AQRTM10	ARTLNGP (AQ0110) ARTGENR (AQ0120)
14	AQEMP10	ASRPARM (AQ0150) AEMPARM (AQ0070)
15	AQEMS10	ASRSITE (AQ0160) AEMSITE (AQ0080)
16	AQRPP20	ARPPMEX (AQ0330)
17	AQRPS20	ARPSMEX (AQ0340)
18	AQCV10 AQCV10	ACVMFOR (AQ0020) ACVPFOR (AQ0030)
19	AQMSM20	AMSARCH (AQ0215)
20	AQCV20	ACVUNIT (AQ0050)
21	AQRTM10 AQSTM20 AQRPM20	ARTLNGP (AQ0110) ARTGENR (AQ0120) ASTSLAV (AQ0180) ARPMSTR (AQ0230)
22	AQRPM25	ARPDUMP (AQ0310)
23	AQEDT10 AQFMM10	AEDMSTR (AQ0060) ASRINTR (AQ0130) AFMMSTR (AQ0100)
24	AQRPM05	ARPSARD (AQ0220)
25	AQRPM45	ACVANOM (AQ0040) ARPANOM (AQ0320)

<u>Test</u>	<u>Procedures</u>	<u>Programs</u>
26	AQMSM20 AQMSM10	AMSARCH (AQ0215) AMSMERG (AQ0210)
Ad Hoc 1	AQRTM10 AQRPM05	ARTLNGP (AQ0110) ARTGENR (AQ0120) ARPSARD (AQ0220)
Ad Hoc 2	AQRTM10 AQRPM45	ARTLNGP (AQ0110) ARTGENR (AQ0120) ACVANOM (AQ0040) ARPANOM (AQ0320)
Ad Hoc 3	AQRTM20 AQRTM30 AQMSM10 AQRPM40	ARTLNGP (AQ0110) ARTGENR (AQ0120) AMSMERG (AQ0210) ASRMSTR (AQ0140) ARPINVP (AQ0290)
Ad Hoc 4	AQRTM10 AQCVM20 AQRPM20	ARTLNGP (AQ0110) ARTGENR (AQ0120) ACVUNIT (AQ0050) ARPMSTR (AQ0230)
Ad Hoc 5	AQRTM10 AQSTM20 AQSTM20	ARTLNGP (AQ0110) ARTGENR (AQ0120) ASTSLAV (AQ0180) ARPMSTR (AQ0230)
Ad Hoc 6	AQRTM10 AQSRM10 AQRPM10	ARTLNGP (AQ0110) ARTGENR (AQ0120) ASRMSTR (AQ0140) ASTPRLM (AQ0190) ASTMSST (AQ0200) ARPMSSST (AQ0270)
Ad Hoc 7	AQRTM10 AQRPM20	ARTLNGP (AQ0110) ARTGENR (AQ0120) ARPMSTR (AQ0230)

<u>Test</u>	<u>Procedures</u>	<u>Programs</u>
Ad Hoc 8	AQRTM10 AQRPM10	ARTLNGP (AQ0110) ARTGENR (AQ0120) ASTPRLM (AQ0190) ASTMSST (AQ0200) ARPMSSST (AQ0270)
Ad Hoc 9	AQEDT10	AEDMSTR (AQ0060)
AD Hoc 10	AQEDT10 AQFMM10	AEDMSTR (AQ0060) ASRINTR (AQ0130) AFMMSTR (AQ0100)
Ad Hoc 11	AQCVT10 AQEMM10	ACVSARD (AQ0010) AEDMSTR (AQ0060) ASRINTR (AQ0130) AFMMSTR (AQ0100)
Ad Hoc 12	AQRTM10 AQRPM10 AQSRM10	ARTLNGP (AQ0110) ARTGENR (AQ0120) ASTPRLM (AQ0190) ASTMSST (AQ0200) ARPMSSST (AQ0270) ASRMSTR (AQ0140)
Ad Hoc 13	AQRPM20 AQSRM10	ARPMSTR (AQ0230) ASRMSTR (AQ0140)

<u>Procedure</u>	<u>AQDHS-II Tests</u>	<u>AQDHS-II Ad Hoc Tests</u>
AQCVM10	18	
AQCVM20	20	4
AQCVF10	18	
AQCVT10	4	11
AQEDT10	23	9, 10
AQEMD10	3	
AQEMM10	5	11
AQEMP10	1, 14	
AQEMS10	2, 15	
AQFMM10	23	10
AQMSM10	26	3
AQMSM20	19, 26	
AQRPD10	3	
AQRPM05	12, 24	1
AQRPM10	10	6, 8, 12
AQRPM20	6, 21	4, 5, 7, 13
AQRPM25	22	
AQRPM30	7	
AQRPM35	9	
AQRPM40	8	3
AQRPM45	11, 25	2
AQRPP10	1	
AQRPP20	16	
AQRPS10	2	
AQRPS20	17	

<u>Procedure</u>	<u>AQDHS-II Tests</u>	<u>AQDHS-II Ad Hoc Tests</u>
AQRTM10	13, 21	1, 2, 4, 5, 6, 7, 8, 12
AQRTM20		3
AQRTM30		3
AQSRM10	10	6, 12, 13
AQSTM20	21	5

<u>Program</u>	<u>AQDHS-II Tests</u>	<u>AQDHS-II Ad Hoc Tests</u>
ACVANOM (AQ0040)	11, 25	2
ACVMFOR (AQ0020)	18	
ACVPFOR (AQ0030)	18	
ACVSARD (AQ0010)	4	11
ACVUNIT (AQ0050)	20	4
AEDMSTR (AQ0060)	5, 23	9, 10, 11
AEMPARM (AQ0070)	1, 14	
AEMSITE (AQ0080)	2, 15	
AEMSTND (AQ0090)	3	
AFMMSTR (AQ0100)	5, 23	10, 11
AMSARCH (AQ0215)	19, 26	
AMSMERG (AQ0210)	26	3
ARPANOM (AQ0320)	11, 25	2
ARPDUMP (AQ0310)	22	
ARPINVP (AQ0290)	8	3
ARPINVS (AQ0280)	9	
ARPMSTR (AQ0300)	7	
ARPMSTT (AQ0270)	10	6, 8, 12
ARPMSTR (AQ0230)	6, 21	4, 5, 7, 13
ARPPARM (AQ0240)	1	
ARPPMEX (AQ0330)	16	
ARPSARD (AQ0220)	12, 24	1
ARPSITE (AQ0260)	2	
ARPSMEX (AQ0340)	17	
ARPSTND (AQ0250)	3	

<u>Program</u>	<u>AQDHS-II Tests</u>	<u>AQDHS-II Ad Hoc Tests</u>
ARTGENR (AQ0120)	13, 21	1, 2, 3, 4, 5, 6, 7, 8, 12
ARTLNGP (AQ0110)	13, 21	1, 2, 3, 4, 5, 6, 7, 8, 12
ASRINTR (AQ0130)	5, 23	10, 11
ASRMSTR (AQ0140)	8, 9, 10	3, 6, 12, 13
ASRPARM (AQ0150)	1, 14	
ASRSITE (AQ0160)	2, 15	
ASRSTND (AQ0170)	3	
ASTMSST (AQ0220)	10	6, 8, 12
ASTPRLM (AQ0190)	10	6, 8, 12
ASTSLAV (AQ0180)	21	5

TECHNICAL REPORT DATA <i>(Please read Instructions on the reverse before completing)</i>		
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4. TITLE AND SUBTITLE Air Quality Data Handling System (AQDHS-II) Test Run Series Documentation		5. REPORT DATE May 1979
		6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) The Research Triangle Institute Operations Analysis Division, Research Triangle Park,		8. PERFORMING ORGANIZATION REPORT NO. NC 27709
9. PERFORMING ORGANIZATION NAME AND ADDRESS Office of Air Quality Planning and Standards Monitoring and Data Analysis Division Research Triangle Park, North Carolina 27711		10. PROGRAM ELEMENT NO. 2AF643
		11. CONTRACT/GRANT NO. 68-02-3011
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15. SUPPLEMENTARY NOTES		
16. ABSTRACT This manual documents the AQDHS-II test run series and replaces the Air Pollution Training Institute Manual 475, Comprehensive Data Handling System, Volume 2, Air Quality Data Handling System (AQDHS-II). The test run series is divided into two major areas: basic test runs and ad hoc test runs. The basic test runs exercise each program in AQDHS-II at least once and provide the user with a means of determining whether or not his installation of AQDHS-II has been successful. The ad hoc test runs further exercise the capabilities of the AQDHS-II programs. The ad hoc test runs also provide the user with examples of how various combinations of AQDHS-II programs may be used to generate certain reports or to accomplish special tasks. The AQDHS-II User's Guide should be used as a reference in conjunction with this manual. Appendix A of this manual provides a cross-reference of tests, procedures, and programs.		
17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Computer Programs Computer Software Data Processing Air Pollution Data Handling Computer System Programs Data Base Management System Distributed Processing	CDHS AQDHS-II SAROAD Atmospheric Pollution System Installation System Testing	
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