<table>
<tr><td colspan="3" align="center">QUALITY ASSURANCE/QUALITY CONTROL DOCUMENTATION SERIES</td></tr>
</table>

TITLE	**OPTICAL MONITORING DATA ARCHIVES**
TYPE	**STANDARD OPERATING PROCEDURE**
NUMBER	**4600**
DATE	**SEPTEMBER 1993**

AUTHORIZATIONS		
TITLE	NAME	SIGNATURE
ORIGINATOR	Betsy Davis-Noland	
PROJECT MANAGER	James H. Wagner	
PROGRAM MANAGER	David L. Dietrich	
QA MANAGER	Gloria S. Mercer	
OTHER		

REVISION HISTORY			
REVISION NO.	CHANGE DESCRIPTION	DATE	AUTHORIZATIONS
0.1	Minor text changes	December 1996	

TABLE OF CONTENTS

LIST OF TABLES

1.0   PURPOSE AND APPLICABILITY

This standard operating procedure (SOP) is a guide to the archiving and maintenance of optical visibility monitoring data. The purpose of this SOP is to assure that the following data and information are secure and available:

- Nephelometer data

- Transmissometer data

- Associated meteorological data

- Supporting documentation

These archives are a historical record of both raw and processed data files and provide information that supports the documentation of existing conditions and trends in monitored areas. Duplicate archive tapes of digital data are stored off-site to prevent data loss.

The following technical instructions (TIs) provide detailed information regarding specific archive procedures:

- TI 4600-5000   *Nephelometer Data Archives (IMPROVE Protocol)*

- TI 4600-5010   *Transmissometer Data Archives (IMPROVE Protocol)*

2.0   RESPONSIBILITIES

2.1   PROJECT MANAGER

The project manager shall:

- Ensure that archives are accessible, orderly, complete, and current.

- Inform the data archivist when data have been finalized and reported and are ready to be archived.

- Ensure that duplicate archives are properly stored off-site.

2.2   DATA COORDINATOR

The data coordinator shall:

- Archive raw transmissometer data on a monthly basis.

- Inform the data archivist of files to be archived on a monthly basis.

- Maintain supporting hard copy documentation.

2.3   DATA ARCHIVIST

The data archivist shall:

- Obtain and compile ASCII data files to be archived as directed by the project manager or data coordinator.

- Perform periodic archives.

- Prepare and maintain data archive files and records.

- Provide a list of archived file names to the project manager or data coordinator.

3.0   REQUIRED EQUIPMENT AND MATERIALS

Required equipment and materials include computer equipment and software, digital data, and supporting documentation as discussed in the following subsections. Data Archive Request Forms are also needed to document the archiving process.

3.1   COMPUTER EQUIPMENT AND SOFTWARE

Optical visibility monitoring digital data archives are performed on IBM-PC compatible systems. Required computer system components and software include:

- An IBM compatible 386/486 computer system with VGA display and minimum 80 megabyte hard disk, and a 3.5" diskette drive, connected to the ARS computer network

- 3.5" diskettes

- GigaTrend's SL Digital Audio Tape (DAT) Drive

- 4mm DAT cartridges

- GigaTrend's ServerDat archiving/backup software

- ServerDat and WordPerfect software

- Hewlett Packard Laserjet 4 Printer

- Three-ring notebook

- Plastic storage pouches and storage boxes

- Storage cabinet

3.2   DIGITAL DATA

ASCII files, as specified on the Data Archive Request Form, must be available in a designated network on-line directory. All optical data will be handled as ASCII files.

3.3 SUPPORTING HARD COPY DOCUMENTATION

Supporting hard copy documentation for optical data is divided into two categories, site-based and instrument-based. All supporting documentation is archived on a continual basis. Equipment and materials for maintaining supporting documentation archives include:

- Three-ring notebooks

- Manila file folders

- Hanging file folders

- Standard file cabinets

4.0 METHODS

Archiving of raw digital data is performed on a monthly basis. Archiving of all raw and processed digital data is performed after data have been finalized and reported (generally seasonally for nephelometer data and annually for transmissometer data). All files are in ASCII format. Files are stored in their original formats (non-compressed) on magnetic tape and at least two copies of each archive tape are created. One tape is stored at ARS, the other(s) are stored off-site. Hard copies of supporting documentation are archived on a continual basis and stored in-office.

Procedures for archiving optical data are discussed in the following two (2) major subsections:

4.1 Nephelometer Data Archives
4.2 Transmissometer Data Archives

4.1 NEPHELOMETER DATA ARCHIVES

4.1.1 <u>Nephelometer Digital Data Archives</u>

Table 4-1 outlines the nephelometer monthly and seasonal archive process. Raw data files (site-specific daily files collected by telephone modem, DCP, or downloaded from storage modules) are archived monthly. File types to be archived seasonally include:

- Processed data files for each site; Level-A (XXXX_N), Level-0 (XXXX_N0), and Level-1 (XXXX_N11)

- Submit files for plotting data

- Constants file (NPROCESS.CON)

- Calibration files (QA files) for each instrument

- Code files (XXXX_C) for each site

- Data processing and plotting program executable and source code files

Specific nephelometer archive procedures are detailed in TI 4600-5000, *Nephelometer Data Archives (IMPROVE Protocol)*.

Table 4-1

Archiving Procedures for Nephelometer and Associated Digital Data
and Supporting Information

NEPHELOMETER DATA ARCHIVES				
RESPONSIBILITY	**TIMING**	**FILE TYPES ARCHIVED**	**MEDIA**	**DISPOSITION**
Monthly Archive of Nephelometer Digital Data				
Data Archivist as directed by the Data Coordinator	By the 10th of the month following the month of record	•Raw data files (site-specific daily files collected by telephone modem, DCP, or downloaded from storage modules)	Magnetic tape	•Two copies at ARS (archive storage cabinet and DCC)
Seasonal Archive of Nephelometer Digital Data				
Data Archivist as directed by the Project Manager	After data have been finalized and reported (within 90 days after the end of a season)	•Processed data files; Level-A (XXXX_N), Level-0 (XXXX_N0) and Level-1 (XXXX_N11) files •Submit files for plotting data • Constants file (NPROCESS.CON) •QA calibration files (SSS_N.QA) •QA database files (XXXX_C) •Data processing and plotting program executable and source code files (NGN_PULL, NGN_PLOT, NGN_SEAS, NGN_NSUM, NGN_QA)	Magnetic tape	•One copy at ARS •One copy off-site
Archive of Supporting Hard Copy Documentation				
Data Coordinator	Continuously	•Site specifications •Site servicing trip reports •Monitoring timelines •Data coordinator/site operator correspondence •Site operator log sheets •Instrument calibration and audit reports •Instrument maintenance logs •Weekly plots •Seasonal plots •Annual plots •Seasonal summary history forms •Seasonal uncertainty printouts	Hard copies	•On file at ARS or ARS storage

4.1.2 Nephelometer Supporting Hard Copy Documentation Archives

Supporting hard copy documentation is archived on a continual basis. Nephelometer monitoring support documentation includes the following:

- Site specifications

- Site servicing trip reports

- Monitoring timelines

- Data coordinator/site operator correspondence

- Site operator log sheets

- Instrument calibration and audit reports

- Instrument maintenance logs

- Weekly, seasonal, and annual data plots

- Seasonal summary history forms

- Seasonal uncertainty printouts

Specific nephelometer archive procedures are detailed in TI 4600-5000, *Nephelometer Data Archives (IMPROVE Protocol)*.

4.2 TRANSMISSOMETER DATA ARCHIVES

4.2.1 Transmissometer Digital Data Archives

Table 4-2 outlines the transmissometer monthly and seasonal archive process. Raw data files (daily Wallops files) are archived monthly. File types to be archived seasonally include:

- Processed data files for each site; Level-A (XXXX_T), Level-0 (XXXX_T0), and Level-1 (XXXX_T11, XXXX_T1W, and XXX_T14)

- Submit files for plotting data

- Constants file (TPROCESS.CON)

- Lamp calibration files (XXXX_L) for each instrument

- Code files (XXXX_C) for each site

- Data processing and plotting program executable and source code files

Specific transmissometer archive procedures are detailed in TI 4600-5010, *Transmissometer Data Archives (IMPROVE Protocol)*

Table 4-2

Archiving Procedures for Transmissometer and Associated Digital Data
and Supporting Information

TRANSMISSOMETER DATA ARCHIVES				
RESPONSIBILITY	**TIMING**	**FILE TYPES ARCHIVED**	**MEDIA**	**DISPOSITION**
Monthly Archive of Transmissometer Digital Data				
Data Coordinator	By the 10th of the month following the month of record	•Raw data files (Wallops files)	3.5" diskette	•One copy at ARS (DCC)
Data Archivist as directed by the Data Coordinator	By the 10th of the month following the month of record	•Raw data files (Wallops files)	Magnetic tape	•Two copies at ARS (archive storage cabinet and DCC)
Periodic Archive of Transmissometer Digital Data				
Data Archivist as directed by the Project Manager	After data have been finalized and reported	•Processed data files; Level-A (XXXX_T), Level-0 (XXXX_T0) and Level-1 (XXXX_T11, XXXX_T1W, and XXXX_T14) files •Submit files for plotting data • Constants file (TPROCESS.CON) •Lamp calibration files (XXXX_L) •Code files (XXXX_C) •Data processing and plotting program executable and source code files (WALLOPS4, STRIP_T, APPEND_T, PROCESS.BAT, WIN_TSUM)	Magnetic tape	•Two copies at ARS (Archive Storage Cabinet and DCC) •One copy off-site
Archive of Supporting Hard Copy Documentation				
Data Coordinator	Continuously	•Site specifications •Monitoring timelines •Data coordinator/site operator correspondence •Site operator log sheets •Instrument calibration and audit reports •Instrument maintenance logs •Bi-monthly plots •Seasonal plots •Annual plots •Seasonal summary history forms	Hard copies	•On file at ARS or ARS storage

4.2.2 Transmissometer Supporting Hard Copy Documentation Archives

Supporting hard copy documentation is archived on a continual basis. Transmissometer monitoring support documentation includes the following:

- Site specifications

- Monitoring timelines

- Data coordinator/site operator correspondence

- Site operator log sheets

- Instrument calibration and audit reports

- Instrument maintenance logs

- Bi-monthly, seasonal, and annual plots

- Seasonal summary history forms

Specific transmissometer archive procedures are detailed in TI 4600-5010, *Transmissometer Data Archives (IMPROVE Protocol)*.

QUALITY ASSURANCE/QUALITY CONTROL DOCUMENTATION SERIES		
TITLE	**TRANSMISSOMETER DATA ARCHIVES (IMPROVE PROTOCOL)**	
TYPE	**TECHNICAL INSTRUCTION**	
NUMBER	**4600-5010**	
DATE	**JANUARY 1994**	

AUTHORIZATIONS		
TITLE	NAME	SIGNATURE
ORIGINATOR	J. Carter Blandford	
PROJECT MANAGER	James H. Wagner	
PROGRAM MANAGER	David L. Dietrich	
QA MANAGER	Gloria S. Mercer	
OTHER		

REVISION HISTORY			
REVISION NO.	CHANGE DESCRIPTION	DATE	AUTHORIZATIONS
1.0	Monthly archive and tape naming procedures	March 1995	
1.1	Minor text and formatting changes	December 1996	

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 PURPOSE AND APPLICABILITY

This technical instruction (TI) is a guide to archiving transmissometer-based optical visibility monitoring data. The purpose of this TI is to assure that data and supporting information are secure and available. This TI is referenced by SOP 4600, *Optical Monitoring Data Archives*.

2.0 RESPONSIBILITIES

2.1 PROJECT MANAGER

The project manager shall:

- Ensure that archives are accessible, orderly, complete, and current.

- Issue a Data Archive Request Form to the data archivist when data have been finalized and reported.

- Document and distribute duplicate archive tapes to off-site locations.

2.2 DATA COORDINATOR

The data coordinator shall:

- Archive, on at least a monthly basis, all raw transmissometer and associated meteorological data files to 3.5" PC-compatible diskettes.

- Issue a Data Archive Request Form to the data archivist on a monthly basis.

- Maintain archives of supporting hard copy documentation on a continual basis.

2.3 DATA ARCHIVIST

The data archivist shall:

- On at least a monthly basis, archive all raw transmissometer and associated meteorological data files to magnetic tape.

- Archive finalized and reported data (processed data and associated files to magnetic tape).

- Obtain and compile data files to be archived as described on the Data Archive Request Form.

- Perform archives as described in this TI.

- Maintain data archive files and records.

3.0   REQUIRED EQUIPMENT AND MATERIALS

Required equipment and materials include computer equipment and software, digital data, and supporting documentation as discussed in the following subsections. Data Archive Request Forms are also needed to document the archiving process.

3.1   COMPUTER EQUIPMENT AND SOFTWARE

Optical visibility monitoring digital data archives are performed on IBM-PC compatible systems. Required computer system components and software include:

- An IBM compatible 386/486 computer system with VGA display and minimum 80 megabyte hard disk and a 3.5" diskette drive, connected to the ARS computer network

- 3.5" diskettes

- GigaTrend's SL Digital Audio Tape (DAT) Drive

- 4mm DAT cartridges

- GigaTrend's ServerDat archiving/backup software

- ServerDat and WordPerfect software

- Hewlett Packard Laserjet 4 Printer

- Three-ring notebook

- Plastic storage pouches and storage boxes

- Storage cabinet

3.2   DIGITAL DATA

ASCII files of transmissometer data (raw, Level-A, Level-0, or Level-1) as specified on the Data Archive Request Form, must be available in a designated network on-line directory. All transmissometer data will be handled as ASCII files.

3.3   SUPPORTING HARD COPY DOCUMENTATION

Supporting hard copy documentation for transmissometer monitoring is divided into two categories, site-based and instrument-based. All supporting documentation is archived on a continual basis. Equipment and materials for maintaining supporting documentation archives include:

- Three-ring notebooks

- Manila file folders

- Hanging file folders

- Standard file cabinets

4.0   METHODS

Table 4-1 outlines archiving procedures for transmissometer and associated digital data and supporting information. Details of each archive procedure are described in the following four (4) major subsections:

4.1 Monthly Archive of Transmissometer Digital Data
4.2 Periodic Archive of Transmissometer Digital Data
4.3 Digital Data Archiving
4.4 Supporting Hard Copy Documentation Archiving

4.1   MONTHLY ARCHIVE OF TRANSMISSOMETER DIGITAL DATA

Raw data files (files downloaded daily from Wallops Island) are archived on a monthly basis. At the beginning of each month (after the bi-monthly plots are completed), the raw data files are copied from the ARS computer network are archived on 3.5" diskettes and on magnetic tape. The data coordinator maintains the 3.5" diskette archive and the data archivist maintains the magnetic tape archive. Procedures for each archive type are discussed in the following subsections.

4.1.1 <u>Monthly Archive of Transmissometer Data Files to 3.5" Diskettes</u>

Copy raw data files to 3.5" diskettes using the following procedures:

• Insert a blank, formatted 3.5" diskette into drive "A:" on an ARS network workstation.

• Change to the "F:\USERS\WALLOPS" directory.

• It is convenient to create individual daily files in 10-day increments by using a wildcard command in the Julian date field of the file name. For example, to create daily files for Julian dates 300 to 309 (October 27 to December 5), type **COPY F:\USERS\WALLOPS\GAL9330?.DAT A:** at the DOS prompt. This will copy files GAL93300 to GAL93309.DAT to "A:" drive. The naming format for raw data files is "GALYYDDD.DAT," where "YY" is the year and "DDD" is the Julian date.

• Label the 3.5" diskette to include all files archived. The 3.5" diskette holds 1.44 megabytes, or approximately 45 raw daily data files of average size.

4.1.2 <u>Monthly Archive of Transmissometer Data Files to Magnetic Tape</u>

Archiving the raw data files to magnetic tape involves appending save sets to the most recent tape until the tape is full. A duplicate of each archive tape is also created and delivered to the project manager for off-site storage. Raw data file archive tapes stored at ARS are labeled GAL_1_1, GAL_2_1, etc.; the duplicate tapes are labeled GAL_1_2, GAL_2_2, etc.

Monthly archiving to magnetic tape is a two-part process, as detailed in Section 4.3. First, the data coordinator issues a Data Archive Request Form to the data archivist. Second, with the information provided on the form, the data archivist archives the requested data set.

Table 4-1

Archiving Procedures for Transmissometer and Associated Digital Data
and Supporting Information

TRANSMISSOMETER DATA ARCHIVES				
RESPONSIBILITY	**TIMING**	**FILE TYPES ARCHIVED**	**MEDIA**	**DISPOSITION**
Monthly Archive of Transmissometer Digital Data				
Data Coordinator	By the 10th of the month following the month of record	•Raw data files (Wallops files)	3.5" diskette	•One copy at ARS (DCC)
Data Archivist as directed by the Data Coordinator	By the 10th of the month following the month of record	•Raw data files (Wallops files)	Magnetic tape	•Two copies at ARS (archive storage cabinet and DCC)
Periodic Archive of Transmissometer Digital Data				
Data Archivist as directed by the Project Manager	After data have been finalized and reported	•Processed data files; Level-A (XXXX_T), Level-0 (XXXX_T0) and Level-1 (XXXX_T11, XXXX_T1W, and XXXX_T14) files •Submit files for plotting data • Constants file (TPROCESS.CON) •Lamp calibration files (XXXX_L) •Code files (XXXX_C) •Data processing and plotting program executable and source code files (WALLOPS4, STRIP_T, APPEND_T, PROCESS.BAT, WIN_TSUM)	Magnetic tape	•Two copies at ARS (Archive Storage Cabinet and DCC) •One copy off-site
Archive of Supporting Hard Copy Documentation				
Data Coordinator	Continuously	•Site specifications •Monitoring timelines •Data coordinator/site operator correspondence •Site operator log sheets •Instrument calibration and audit reports •Instrument maintenance logs •Bi-monthly plots •Seasonal plots •Annual plots •Seasonal summary history forms	Hard copies	•On file at ARS or ARS storage

4.2   PERIODIC ARCHIVE OF TRANSMISSOMETER DIGITAL DATA

As illustrated in Table 4-1, a series of processed data, submit, constants, calibration, database, and executable files are archived on magnetic streamer tape periodically, following final data processing. Periodic transmissometer data archiving is a two-part process, similar to monthly archiving. First, the project manager issues a Data Archive Request Form to the data archivist. Second, with the information provided on the form, the data archivist archives the requested data set.

Processed data files (Level-A, Level-0, and Level-1) are located on the ARS computer network, on "G:\USERS\TRANS\NETWORK\YYS" (where "YY" is the year and "S" is the season, e.g., 933 signifies third season (summer) of 1993). The naming convention for these files is:

Type	Naming Convention	Description		
Level-A	XXXX_T	XXXX	=	Site code
		T	=	Transmissometer data
Level-0	XXXX_T0	XXXX	=	Site code
		T	=	Transmissometer data
		0	=	Level-0 data
Level-1	XXXX_T11	XXXX	=	Site code
		T	=	Transmissometer data
		1	=	Level-1 data
		1	=	Hourly data
	XXXX_T1W	W	=	Weather removed data
	XXXX_T14	4	=	Four-hour averaged data

Other supporting files to be archived include:

Type	Naming Convention	Description
Submit files	SEASSUM.SBM	Plotting information
Constants file	TPROCESS.CON	Site specifications
Lamp calibration files	XXXX_L	Instrument-specific lamp information
Code files	XXXX_C	Quality assurance validity and precision codes
Data processing source code and executable files	WALLOPS4	Data acquisition files
	STRIP_T	Reformatting files
	APPEND_T	Appending files
	PROCESS.BAT	Validation program files
	WIN_TSUM	Seasonal summary plot program files

Refer to TI 4400-5000, *Transmissometer Data Reduction and Validation (IMPROVE Protocol)*, and TI 4300-4023, *Transmissometer Daily Compilation and Review of DCP-Collected Data (IMPROVE Protocol)* for detailed discussions on each data file type.

The periodic archiving procedure is identical to monthly archiving of daily files (see Section 4.1). A Data Archive Report is produced and disposition of tapes and archive records parallel monthly archiving procedures.

4.3   DIGITAL DATA ARCHIVING

Digital data archiving involves first completing a Data Archive Request Form, then having the data archivist perform the archiving.

4.3.1   <u>Data Archive Request Form</u>

The data coordinator (for monthly archiving) or project manager (for periodic archiving after data have been validated and reported) issues a Data Archive Request Form to the data archivist. Figure 4-1 is an example Data Archive Request Form. The following information should be completed by the person requesting the archive:

- Current date

- Name of person to receive the data archive request (the data archivist)

- Name of person who initiated the data archive request (the data coordinator or project manager)

- Project name or account codes

- Data period (e.g., Summer 1993 through Spring 1994)

- Number of archive tape copies required

- A general description of the data (e.g., "digital data files for reported transmissometer monitoring from the Summer 1993 through Spring 1994 seasons for the IMPROVE project")

- Note if a new archive tape is to be created or if an existing tape is to be appended or overwritten

- Disposition of the tapes

- Names of the specific files to be archived using an attached directory listing of the files if needed

The data archivist will archive the data within two weeks after receiving the Data Archive Request Form and will complete the form with the following information:

- Archive date

- Number of archive tapes made

Air Resource
Specialists, Inc.

DATA ARCHIVE REQUEST

Date: _____   Project/Study: _____

To: _____   Period: _____

From: _____   # of tape copies: _____

General Data Description: _____

New Tape _____ or Label of Tape to Append: _____

Disposition: _____

Files to be archived (include full path) or attach listing:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

To Be Completed by Data Archivist

Archive date: _____ # of tapes per copy: _____ # of copies: _____

Tape Label(s): _____

Disposition: _____

Notes: _____
_____
_____
_____

archive.req 12/94

Figure 4-1. Data Archive Request Form.

- Tape label names

- Disposition of the tapes

- Additional notes concerning the archive

4.3.2 Archiving Procedure

4.3.2.1 The ServerDat Program

The data archivist obtains and compiles all files to be archived, then performs the archive as the following steps detail:

1) If using a new tape, initialize it before proceeding with the archive. To initialize a 4mm DAT tape, hold the **EJECT** button while inserting the tape into the GigaTrend SL tape drive. Release the button when the left LED flashes. When the orange LED lights, press the **EJECT** button again. When the initialization is complete, the tape will automatically eject.

2) If using a tape that has previously been used or initialized, insert the 4mm DAT archive tape into the GigaTrend SL tape drive.

3) From any ARS network work station, enter the ServerDat program by typing **SD** at the DOS prompt.

4) Select **SCHEDULE ATTENDED JOBS** from the "Main Menu."

5) Select **BACK UP TO TAPE** from the "Attended Operations Menu."

6) Select **SPEED ENTRY** from the "Selection Method Menu."

7) Select the volume that contains the source files (SYS is drive F:, VOL1 is drive G:).

8) Mark the directories/files to archive by highlighting the directory/file name and pressing **F5**. Press **F2** when all directories/files to archive have been marked.

9) Fill in the "Attended Back Up To Tape Job Entry Form" on the computer screen display (see Figure 4-2) with the following information:

    • Tape name following the tape naming convention as described in this TI.

    • Mode (append or overwrite).

    • The report directory and name (the report lists the archived files and any error messages generated during the job). This file will be used later for hard copy documentation of the archive.

```
╔══════════════════════════════════════════════════════════════════════╗
║ ServerDat(tm)  V 4.02 11/1/93        Wednesday  February 9, 1994  12:38 pm ║
║              User SUPERVISOR on File Server ARS_NET2                    ║
╠══════════════════════════════════════════════════════════════════════╣
║             Job Entry Form: Attended Back Up To Tape                    ║
║                                                                         ║
║ Source Directory: ARS_NET2/VOL1:USERS\TRANS\DATA                        ║
║ Tape Name: TRANS_WINTER94    Mode: APPEND    Session Password:          ║
║ Report: ARS_NET2/SYS:USERS\ARS\ARCHIVE.RPT                              ║
║                                                                         ║
║             INCLUDE  FILES                  INCLUDE   DIRECTORIES        ║
║           │                               │                             ║
║           │                               │                             ║
║           │                               │                             ║
║                                                                         ║
║ Back Up Hidden Files: NO  Back Up System Files: NO  Clear Archive Bit: NO║
║ Verify Method:  Compare Tape To Disk                   Track Files: YES  ║
║                                                                         ║
║ Backup Method:  Complete: All Files                                     ║
║                                                                         ║
║ Create Script:  NO                        Delete Source Files: NO       ║
╠══════════════════════════════════════════════════════════════════════╣
║            <F1>:Help    <F2>:Done    <Esc>:Exit                        ║
╚══════════════════════════════════════════════════════════════════════╝
```

Figure 4-2. Attended Backup to Tape Job Entry Form (Screen Display).

4.3.2.2 The Data Archive Report

The Data Archive Report is the file named in Step 9 in Section 4.3.2.1. The report can be printed by running ARCHRPT.BAT, a DOS batch file that loads WordPerfect and runs a WordPerfect macro to reformat and print the report. To run the batch file:

- Type at the network DOS prompt **ARCHRPT**, then press the "Enter" key.

- When prompted, enter the report file name as entered in Step 9 in Section 4.3.2.1.

The report will be sent to the HP Laserjet 4 printer. Photocopy the report and stone one copy with each archive tape. Store an additional copy in the Data Archive Log notebook.

4.3.2.3 Disposition of Tapes and Data Archive Records

Archive tapes and records are distributed as follows:

- One copy of each archive tape is stored at ARS in the archive storage cabinet in the computer room. The tape is placed in a plastic protector pouch with a copy of the archive report and Data Archive Request Form, then into a storage box with other archive tapes. The storage box will reside in the archive storage cabinet at ARS for no less than five years.

- One copy of the monthly archive tape is returned to the data coordinator with a copy of the archive report and a copy of the completed Data Archive Request Form for storage in the Data Collection Center (DCC).

- One copy of the periodic archive tape is returned to the project manager with a copy of the archive report and a copy of the completed Data Archive Request Form for off-site storage.

- One copy of the archive report and one copy of the completed Data Archive Request Form will be placed in the Data Archive Log notebook. The Data Archive Log notebook resides in the archive storage cabinet in the computer room.

- Any additional copies of the tape will be distributed as indicate don the Data Archive Request Form.

4.3.2.4 Reported Transmissometer Data Archive Tape Labeling Convention

Each reported transmissometer data archive tape will be labeled using the following convention:

- The first eight characters will be "TRANSRPT_."

- Characters 9 through 13 will denote the month and year the report was issued using a three-letter abbreviation for the month (JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and two digits for the year (94, 95, 96, etc.).

- Character number 14 will be an underscore (_).

The remaining fields on the "Job Entry Form" should hold the following values:

- Include Files - This can be used to selectively archive certain files by standard DOS "wild card" criteria. If all files in the directories marked in Step 8 are to be archived, leave this field blank.

- Back Up Hidden Files = **NO**

- Back Up System Files = **NO**

- Clear Archive Bit = **NO**

- Verify Method = **COMPARE TAPE TO DISK**

- Back Up Method = **COMPLETE: ALL FILES**

- Track Files = **YES**

- Create Script = **NO**

- Back Up System Files = **NO**

- Clear Archive Bit = **NO**

- Verify Method = **COMPARE TAPE TO DISK**

- Back Up Method = **COMPLETE: ALL FILES**

- Track Files = **YES**

- Create Script = **NO**

- Delete Source Files = **YES** or **NO**. Select **YES** only if the files are no longer needed on the network drive. Use caution with this option.

10) Press **F2** to begin the job once the "Job Entry Form" is complete. The program displays the archiving activity on the screen in real-time, giving the total number of files, bytes and blocks, and the specific file and its size as the job is processed.

11) If the "Delete Source Files" field in the "Job Entry Form" was set to "Yes," the program will ask whether or not to delete the source files. The deletion can be confirmed if the files are no longer needed on the network. The source files should not be deleted if additional archives are required.

12) Press any key when the job is done to return to the "Attended Operations Menu."

13) Press the **EJECT** button on the tape drive to remove the tape cartridge.

14) Label both the tape cartridge and the cartridge case with the tape name (refer to Step 9).

15) Repeat all steps to create duplicate tapes.

- Characters 15 through 21 will denote the reporting period; two digits for the beginning season year (i.e., 93, 94, 95) followed by a single digit to indicate the season (1=winter, 2=spring, 3=summer, 4=fall). Next will be a dash (-) followed by two digits for the ending season year and one digit for the ending season.

- The final two characters are an underscore (_) and a number representing the tape copy number.

For example, copy one of the reported transmissometer archive tape for a report issued in September of 1994 covering the period of Summer 1993 through Spring 1994 would be named: TRANRPT_SEP94_933-942_1.

4.4   SUPPORTING HARD COPY DOCUMENTATION ARCHIVING

Supporting hard copy documentation is archived continually. The documentation is located in the DCC in labeled three-ring notebooks and in labeled file cabinets.

4.4.1 Site-Based Transmissometer Supporting Hard Copy Documentation Archives

Site-based transmissometer monitoring support documentation includes:

- Site specifications (refer to TI 4070-3010, *Installation and Site Documentation for Optec LPV-2 Transmissometer Systems (IMPROVE Protocol).*

- Monitoring timelines (refer to TI 4110-3300, *Troubleshooting and Emergency Maintenance Procedures for Optec LPV-2 Transmissometer Systems (IMPROVE Protocol)*)

- Data coordinator/site operator correspondence (refer to TI 4110-3130, *Troubleshooting and Emergency Maintenance Procedures for Optec LPV-2 Transmissometer Systems (IMPROVE Protocol)*)

- Site operator log sheets (refer to TI 4110-3100, *Routine Operator Maintenance Procedures for Optec LPV-2 Transmissometer Systems (IMPROVE Protocol)*)

- ARS trip reports from yearly site visits (refer to TI 4115-3000, *Annual Site Visit Procedures for Optec LPV-2 Transmissometer Systems (IMPROVE Protocol)*)

- Bi-monthly plots (refer to TI 4400-5000, *Transmissometer Data Reduction and Validation (IMPROVE Protocol)*)

- Seasonal summary plots (refer to TI 4500-5100, *Transmissometer Data Reporting (IMPROVE Protocol)*)

- Annual summary plots (refer to TI 4500-5100, *Transmissometer Data Reporting (IMPROVE Protocol)*)

4.4.2 <u>Instrument-Based Transmissometer Supporting Hard Copy Documentation Archives</u>

Instrument-based transmissometer monitoring support documentation includes:

- Instrument calibration (refer to TI 4200-2100, *Calibration of Optec LPV-2 Transmissometers (IMPROVE Protocol)*)

- Instrument maintenance logs (refer to TI 4110-3400, *Annual Laboratory Maintenance Procedures for LPV-2 Transmissometer Systems (IMPROVE Protocol)*)

- Field audit reports (refer to SOP 4710, *Transmissometer Field Audit Procedures*)