AFCTN Report 94-084

AFCTB-ID 94-098

Technical Raster Transfer Using:

West Coast Information Systems'

Data. Submitted By:

OO-ALC/DSGC-SCB

Supporting The EDCARS Program

(Contract #F33657-75-C-0310)

MIL-R-28002A (Raster)

Quick Short Test Report

16 July 1994

Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

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Using:
West Coast Information Systems' Data
Submitted by: OO-ALC/DSGC-SCB
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MIL-STD-1840A
MIL-R-28002A (Raster)

Quick Short Test Report

16 July 1994

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

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Springfield, VA 22161

Air Force CALS Test Bed

Notification of Test Results

16 July 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

DSGC-SCB

Identified as follows:

Title:	**Technical Raster Transfer**
Program:	**EDCARS**
Program Office:	**OO-ALC/DSGC-SCB**
Contract No.:	**F33657-75-C-0310**
QSTR No.:	**AFCTB-ID 94-098**

Received on the following media: Three **9-Track Tape**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	**Fail**
MIL-STD-1840A Media Format:	**Fail**
MIL-D-28000A IGES:	**N/A**
MIL-M-28001B SGML:	**N/A**
MIL-R-28002A Raster:	**Fail**
MIL-D-28003 CGM:	**N/A**

Formal results with associated disclaimer are documented and available from the AFCTB.

Air Force CALS Test Bed
HQ ESC/AV-2P
4027 Colonel Glenn Highway, Suite 300
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Phone: 513-257-3085 FAX: 513-257-5881

Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Hill AFB's interpretation and use of the CALS standards in transferring technical Raster data to DGSC-SCB. Hill AFB used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on three 9-track magnetic tapes.

2. Test Parameters

Test Plan: AFCTB 94-098

Date of Evaluation: 16 July 1994

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
John McCloud
DSGC-SCB
8000 Jeff Davis Highway
Richmond VA 23297-5000
(DSN) 695-4402

Kim Call
OO-ALC/TIEDEE
Hill AFB, UT 84056
(DSN) 458-6225

Data Description: Technical Raster Test
3 Document Declaration files
600 Raster files

Data Source System:

1840

HARDWARE
A T & T EDCARS Proprietary Equipment

SOFTWARE
A T & T/MAXIMA Proprietary Software (EDCALS)

Raster

HARDWARE
A T & T Proprietary Software

SOFTWARE
IBM Software

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN *Tapetool v1.2.10 UNIX*
XSoft *CAPS/CALS v40.4*

MIL-R-28002 (Raster)

HP 735

AFCTN *xrastb.hp*
InterCAP *X-Change v7.82*

SUN SparcStation 2

Carberry *CADLeaf Plus v3.1*
AFCTN *validg4*
AFCTN *xrastb.sun4*
IGES Data Analysis (IDA) *IGESView v3.0*

PC 486

AFCTN *validg4*
IDA *IGESView Windows*
Inset Systems *HiJaak v2.1*
Expert Graphics *RxHighlight v1.0*

Standards Tested:

MIL-STD-1840A
MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

The tapes arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tapes were not enclosed in a barrier bag or barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. The tape reels did not have the labels indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Some 9-track tape units require this BPI to be set manually. A packing list showing all files recorded on the tapes was not enclosed in the box.

3.2 Transmission Envelope

The 9-track tapes received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tapes were run through the AFCTN *Tapetool v1.2.10* utility. All three tapes reported the same type errors and and notes, which will be discussed as one. The total errors and notes can be seen in the Appendix to this report for each tape.

All three tapes were reported as having "unexpected maximum record size encountered" notes. These are listed in the Appendix A, Section 9.1.1, 9.2.1, and 9.3.1. These notes point to the intent, of MIL-STD-1840A and the ANSI definitions, that the Record Format Length should have been set at 260 rather than 256. The intent is that the maximum data size is 256 bytes; thus the format length is 256 plus 4-byte Record Control Word that precedes the data bytes in variable length records. Some software programs are sensitive to the number 260 because it is used to limit the record size when unblocking data. Some systems need this value to declare

the maximum allowable record size as an attribute of a file when it is created.

A note was reported on the tape label version. MIL-STD-1840A permits the use of both version three and four. The use of the most current standard should be used and noted.

Many of the Raster files were reported as having an incomplete last block. This is normally the case when the last block of a fixed length file is not padded to the end of the block. All three tapes had similar reported notes. Some tape systems may ignore the data located in this partial block.

```
*** NOTE - Last block was incomplete. Short blocks are
    proned to be interpreted as noise by some tape drives.
    Tape Label => 2048, Actual => 1664, Block Number => 113
```

All three contained more than 300 files. Since the AFCTN *Tapetool* utility has a limitation of 300 files, this was reported as an error.

```
*** INTERNAL ERROR (ansiread) - Maximum number of files (= 300) ex-
ceeded.
```

The tapes were read using XSoft's *CAPS read1840A* utility with any reported errors. The declaration files had a file count set to 999, which is the maximum number permitted in MIL-STD-1840A. Tape one reported no data files, tape two reported 324 files, and tape three reported 378 files. It is believed that tape one reported no data files because the Document Declaration file was named D002, which is the same name of the second data set.

The tapes did not meet the requirements defined in MIL-STD-1840A due to the lack of padding in the data files.

3.2.2 Declaration and Header Fields

All three tapes had reported errors in the Document Declaration file and data file headers. In all Document Declaration files, an invalid change level was flagged. MIL-STD-1840A requires that the word "ORIGINAL" or a revision number, followed by a change level number, followed by a change level date, be the value of this record.

```
chglvl: ORIGINAL, 15334840117
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid change level encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Change level should be the word ORIGINAL
    or a Revision Number, followed by a Change Level Number, followed by
    a Change Level Date. They should be separated by a comma or space.
```

The AFCTN *Tapetool* reported an error in the file count record. This was caused by the 300 file limitation of the utility. This is not an error although the XSoft *read1840A* utility also reported and error in the same area, where the total files were less than the number indicated.

```
Checking file count...
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Raster File Count does
    not match filcnt record. Actual => 299, Expected => 999.
*** NOTE - Correction made in new Document Declaration header file.
1 error(s) were encountered during file count verification.
File Count verification complete.
```

All three tapes had reported errors in the srcdocid record. The AFCTN *Tapetool* will report an error if more than one space is encountered after the colon. This is not an error as the data in this record had a required space located here.

```
srcdocid:   C10576          81755 A              00010001UMEAHN
*** ERROR (MIL-STD-1840A; 5.1.4) - Value contains leading spaces.
*** NOTE - Correction made in new Raster Header File.
```

This portion of the three tapes do not meet the requirements defined in MIL-STD-1840A, because of the errors in the Document Declaration file. Both the change level and file count records were in error.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included in this evaluation.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included in this evaluation.

6. Raster Analysis

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The tapes contained over 900 Raster files. A sample of the files were evaluated using the AFCTN *validg4* utility. This program reported that some files failed to meet the CALS MIL-R-28002A specification. When the files were checked it was noted that the complete files were reported as having incomplete last blocks, and the files reported with correct block lengths were incomplete.

The files were read into the AFCTN *xrastb.sun4* viewing utility. The files with reported errors noted by *validg4* were also reported in error. When the files were viewed, it was noted that the bottom of the image was missing.

The Raster files were read into Carberry's *CADLeaf* software with reported errors. All images, which had reported errors noted by *validg4*, had a "could not import" error.

The files were read into IDA's *IGESView for Windows* with reported errors. All files with errors reported by *validg4* would not import.

The files were read into Inset Systems' *HiJaak for Windows* with reported errors. All files with errors reported by *validg4* would not import.

The files were read using InterCAP's *X-Change*. All files imported without a reported error. The files with errors reported by *validg4* were seen as incomplete images.

The Raster files were imported into Expert Graphics' *Rx-Highlight* and displayed without a reported error. The images which were reported as having errors by *validg4* were noted with errors by *RxHighlight*. A sample of one of these files is included in Appendix D of this report.

As an example of some of the files in error, on the tape with the files labeled as D002RXXX, the following is a partial list of bad files:

11,12,14,17,18,21,28,32,33,36,37,38,39,40,41,51.

The Raster files on all three tapes do not meet the CALS MIL-R-28002 specification. Approximately half of the files had incomplete file blocks, which resulted in partial unusable images.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included in this evaluation.

8. Conclusions and Recommendations

All three tapes contained errors. The tapes could be read properly using the AFCTN *Tapetool* software regardless of the tape label errors; however, the tape label errors may cause other software systems to read the data improperly. The errors in the MIL-STD-1840A headers were minor and can be corrected easily. The errors in the construction of the tapes resulted in many unusable Raster files.

The errors with the Raster images are serious. However, the errors were not in the construction of the files but in the manner they were written to the tape. Approximately half of the files were noted as having errors. The Raster files do not meet the CALS MIL-R-28002A specification.

The three tapes, submitted by OO-ALC/DGSC-SCB, Hill AFB, do not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape One

9.1.1 Tape Catalog

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

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MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set083

                                                                    Page: 1

                                                Record
                                                Format/    Block      Selected/
File Name               File Type               Length   Length/Total Extracted
-------------------------------------------------------------------------------
D002                    Document Declaration    D/00256 02048/000001  Extracted
*** NOTE (MIL-STD-1840A; 5.2.1.3) - Unexpected maximum variable record size
    encountered. Header => 256, Expected => 260
*** NOTE (ANSI X3.27; 8.5.2.6) - Record Length for Recording Format Type D
    shall be the maximum length of a Measured Data Unit (MDU).
*** NOTE (ANSI X3.27; 7.2.3) - A variable length record shall be contained
    in an MDU. An MDU consists of a four byte Record Control Word (RCW)
    followed immediately by the variable record.
*** NOTE (ANSI X3.4) - A Record Control Word shall consist of four characters
    that express the sum of the lengths of the RCW and the variable record.
D002R001                Raster                  F/00128 02048/000043  Extracted
D002R002                Raster                  F/00128 02048/000051  Extracted

                       <<<<< PART OF LOG FILE REMOVED HERE >>>>>

D002R298                Raster                  F/00128 02048/000016  Extracted
D002R299                Raster                  F/00128 02048/000015  Extracted

Catalog Process terminated with 0 error(s), 0 warning(s), and 4 note(s).
```

9.1.2 Tape Evaluation Log

```
CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 15 10:26:51 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1OOALCD                              EDCALS                          3

  Label Identifier: VOL1
  Volume Identifier: OOALCD
  Volume Accessibility:
  Owner Identifier: EDCALS
  Label Standard Version: 3

*** NOTE  (ANSI X3.27; 8.3.1.8) - The Label Standard Version
    should be 4 to represent the current level of ANSI X3.27.

HDR1D002             OOALCE00010001000100 93048 00000 000000IBMZLA

  Label Identifier: HDR1
  File Identifier: D002
  File Set Identifier: OOALCE
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: IBMZLA

HDR2D020480025640CALSOPT1/CONVERT     B           00
```

```
  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00256
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D002            OOALCE00010001000100 93048 00000 000001IBMZLA

  Label Identifier: EOF1
  File Identifier: D002
  File Set Identifier: OOALCE
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier: IBMZLA

EOF2D020480025640CALSOPT1/CONVERT     B           00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00256
  Offset Length: 00

************ Tape Mark ***************

HDR1D002R001        OOALCE00010002000100 93048 00000 000000IBMZLA

  Label Identifier: HDR1
  File Identifier: D002R001
  File Set Identifier: OOALCE
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
```

```
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: IBMZLA

HDR2F020480012840CALSOPT1/CONVERT      B           00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

*** NOTE - Last block was incomplete.  Short blocks are
    proned to be interpreted as noise by some tape drives.
    Tape Label => 2048, Actual => 1408, Block Number => 43

  Number of data blocks read = 43.

************ Tape Mark ***************

EOF1D002R001          OOALCE00010002000100 93048 00000 000043IBMZLA

  Label Identifier: EOF1
  File Identifier: D002R001
  File Set Identifier: OOALCE
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000043
  Implementation Identifier: IBMZLA

EOF2F020480012840CALSOPT1/CONVERT      B           00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00
```

```
************ Tape Mark ***************

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

HDR2F020480012840CALSOPT1/CONVERT      B            00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

*** NOTE - Last block was incomplete.  Short blocks are
    proned to be interpreted as noise by some tape drives.
    Tape Label => 2048, Actual => 384, Block Number => 15

  Number of data blocks read = 15.

************ Tape Mark ***************

*** INTERNAL ERROR (ansiread) - Maximum number of files (= 300) exceeded.

Deallocating /dev/rmt0...

Tape Import Process terminated with 1 error(s), 0 warning(s),
and 268 note(s).
```

9.1.3 Tape File Set Validation Log

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

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MIL-STD-1840A File Set Evaluation Log

File Set: Set083

Found file: D002
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: West Coast Information Systems, Inc
srcdocid: To Be Assigned
srcrelid: NONE
chglvl: ORIGINAL, 15334840117
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid change level encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Change level should be the word ORIGINAL
    or a Revision Number followed by a Change Level Number followed by
    a Change Level Date.  They should be separated by a comma or space.
dteisu: 19930117
dstsys: UNKNOWN
dstdocid: To Be Assigned
dstrelid: NONE
dtetrn: 19930117
dlvacc: NONE
filcnt: R999
ttlcls: Unclassified
doccls: Unclassified
doctyp: Unclassified
docttl: EDCARS conversion to CALS group 4

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D002.

Found file: D002R001
Extracting Raster Header Records...
Evaluating Raster Header Records...
```

```
srcdocid: SPFPS-3025        81755  AM2            00010001USBCHN
dstdocid: 1840A group 4 site
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 003936,004900
rdensty: 0200
notes: EDCARS to 1840 group 4 conversion image

Saving Raster Header File: D002R001_HDR
Saving Raster Data File: D002R001_GR4

Found file: D002R002
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: SPGSE1790         35351 B              00010001USBCHN
dstdocid: 1840A group 4 site
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 003904,004900
rdensty: 0200
notes: EDCARS to 1840 group 4 conversion image

Saving Raster Header File: D002R002_HDR
Saving Raster Data File: D002R002_GR4
```

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

```
Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Raster File Count does
    not match filcnt record.  Actual => 299, Expected => 999.
*** NOTE - Correction made in new Document Declaration header file.
1 error(s) were encountered during file count verification.
File Count verification complete.
```

```
A total of 20 error(s), 0 warning(s), and 19 note(s) were
encountered in Document D002.

A grand total of 20 error(s), 0 warning(s), and 19 note(s) were
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

9.1.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D002     ' ---
-- declaration file indicates 0 files of type T
-- declaration file indicates 0 files of type G
-- declaration file indicates 0 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 999 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
*** WARNING: Declaration file indicates 999 Raster files, but tape contains
0 files.
```

9.2 Tape Two

9.2.1 Tape Catalog

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 15 11:06:21 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set084

                                                                    Page: 1

                                                  Record
                                                  Format/    Block      Selected/
File Name                 File Type               Length  Length/Total Extracted
-------------------------------------------------------------------------------
D001                      Document Declaration    D/00256 02048/000001 Extracted
*** NOTE (MIL-STD-1840A; 5.2.1.3) - Unexpected maximum variable record size
    encountered. Header => 256, Expected => 260
*** NOTE (ANSI X3.27; 8.5.2.6) - Record Length for Recording Format Type D
    shall be the maximum length of a Measured Data Unit (MDU).
*** NOTE (ANSI X3.27; 7.2.3) - A variable length record shall be contained
    in an MDU. An MDU consists of a four byte Record Control Word (RCW)
    followed immediately by the variable record.
*** NOTE (ANSI X3.4) - A Record Control Word shall consist of four characters
    that express the sum of the lengths of the RCW and the variable record.
D001R001                  Raster                  F/00128 02048/000060 Extracted
D001R002                  Raster                  F/00128 02048/000016 Extracted
D001R003                  Raster                  F/00128 02048/000014 Extracted

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

D001R297                  Raster                  F/00128 02048/000072 Extracted
D001R298                  Raster                  F/00128 02048/000041 Extracted
D001R299                  Raster                  F/00128 02048/000055 Extracted

Catalog Process terminated with 0 error(s), 0 warning(s), and 4 note(s).
```

9.2.2 Tape Evaluation Log

```
CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 15 10:54:41 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1OOALCD                              EDCALS                              3

  Label Identifier: VOL1
  Volume Identifier: OOALCD
  Volume Accessibility:
  Owner Identifier: EDCALS
  Label Standard Version: 3

*** NOTE  (ANSI X3.27; 8.3.1.8) - The Label Standard Version
    should be 4 to represent the current level of ANSI X3.27.

HDR1D001            OOALCD00010001000100 93048 00000 000000IBMZLA

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: OOALCD
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: IBMZLA

HDR2D020480025640CALSOPT1/CONVERT     B           00
```

```
  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00256
  Offset Length: 00

********** Tape Mark **********

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

********** Tape Mark **********

EOF1D001            OOALCD00010001000100 93048 00000 000001IBMZLA

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: OOALCD
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier: IBMZLA

EOF2D020480025640CALSOPT1/CONVERT     B           00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00256
  Offset Length: 00

********** Tape Mark **********

HDR1D001R001        OOALCD00010002000100 93048 00000 000000IBMZLA

  Label Identifier: HDR1
  File Identifier: D001R001
  File Set Identifier: OOALCD
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
```

```
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: IBMZLA

HDR2F020480012840CALSOPT1/CONVERT      B            00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 60.

************ Tape Mark ***************

EOF1D001R001          OOALCD00010002000100 93048 00000 000060IBMZLA

  Label Identifier: EOF1
  File Identifier: D001R001
  File Set Identifier: OOALCD
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000060
  Implementation Identifier: IBMZLA

EOF2F020480012840CALSOPT1/CONVERT      B            00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************
```

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
HDR2F020480012840CALSOPT1/CONVERT      B            00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

*** NOTE - Last block was incomplete.  Short blocks are
    proned to be interpreted as noise by some tape drives.
    Tape Label => 2048, Actual => 768, Block Number => 55

  Number of data blocks read = 55.

************ Tape Mark ***************

*** INTERNAL ERROR (ansiread) - Maximum number of files (= 300) exceeded.

Deallocating /dev/rmt0...

Tape Import Process terminated with 1 error(s), 0 warning(s),
and 232 note(s).
```

9.2.3 Tape File Set Validation Log

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Fri Jul 15 11:06:24 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set084

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: West Coast Information Systems, Inc
srcdocid: To Be Assigned
srcrelid: NONE
chglvl: ORIGINAL, 15334840117
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid change level encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Change level should be the word ORIGINAL
    or a Revision Number followed by a Change Level Number followed by
    a Change Level Date.  They should be separated by a comma or space.
dteisu: 19930117
dstsys: UNKNOWN
dstdocid: To Be Assigned
dstrelid: NONE
dtetrn: 19930117
dlvacc: NONE
filcnt: R999
ttlcls: Unclassified
doccls: Unclassified
doctyp: Unclassified
docttl: EDCARS conversion to CALS group 4

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D001.

Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...
```

```
srcdocid:   C10567          81755 C                00010001USBCHN
*** ERROR (MIL-STD-1840A; 5.1.4) - Value contains leading spaces.
*** NOTE - Correction made in new Raster Header File.
dstdocid: 1840A group 4 site
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 003712,004656
rdensty: 0200
notes: EDCARS to 1840 group 4 conversion image

1 error(s), 0 warning(s), and 1 note(s) were encountered
 in Raster File D001R001.
Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4

Found file: D001R002
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid:   C10576          81755 A                00010001UMEAHN
*** ERROR (MIL-STD-1840A; 5.1.4) - Value contains leading spaces.
*** NOTE - Correction made in new Raster Header File.
dstdocid: 1840A group 4 site
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 002416,002624
rdensty: 0200
notes: EDCARS to 1840 group 4 conversion image

1 error(s), 0 warning(s), and 1 note(s) were encountered
 in Raster File D001R002.
Saving Raster Header File: D001R002_HDR
Saving Raster Data File: D001R002_GR4
```

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

```
Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.
```

```
Checking file count...
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Raster File Count does
    not match filcnt record.  Actual => 299, Expected => 999.
*** NOTE - Correction made in new Document Declaration header file.
1 error(s) were encountered during file count verification.
File Count verification complete.

A total of 70 error(s), 0 warning(s), and 69 note(s) were
encountered in Document D001.

A grand total of 70 error(s), 0 warning(s), and 69 note(s) were
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

9.2.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001     ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned1.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned2.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned3.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned4.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned5.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned6.R.cci'.

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned322.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned323.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t2/ToBeAssigned/
ToBeAssigned324.R.cci'.
-- declaration file indicates 0 files of type T
-- declaration file indicates 0 files of type G
-- declaration file indicates 0 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 999 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
*** WARNING: Declaration file indicates 999 Raster files, but tape contains
324 files.
```

9.3 Tape Three

9.3.1 Tape Catalog

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 15 12:13:55 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set085

                                                                    Page: 1

                                                 Record
                                                 Format/    Block      Selected/
File Name              File Type                 Length  Length/Total Extracted
-------------------------------------------------------------------------------
D001                   Document Declaration      D/00256 02048/000001 Extracted
*** NOTE (MIL-STD-1840A; 5.2.1.3) - Unexpected maximum variable record size
    encountered. Header => 256, Expected => 260
*** NOTE (ANSI X3.27; 8.5.2.6) - Record Length for Recording Format Type D
    shall be the maximum length of a Measured Data Unit (MDU).
*** NOTE (ANSI X3.27; 7.2.3) - A variable length record shall be contained
    in an MDU. An MDU consists of a four byte Record Control Word (RCW)
    followed immediately by the variable record.
*** NOTE (ANSI X3.4) - A Record Control Word shall consist of four characters
    that express the sum of the lengths of the RCW and the variable record.
D001R001               Raster                    F/00128 02048/000113 Extracted
D001R002               Raster                    F/00128 02048/000117 Extracted
D001R003               Raster                    F/00128 02048/000126 Extracted

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

D001R297               Raster                    F/00128 02048/000011 Extracted
D001R298               Raster                    F/00128 02048/000015 Extracted
D001R299               Raster                    F/00128 02048/000015 Extracted

Catalog Process terminated with 0 error(s), 0 warning(s), and 4 note(s).
```

9.3.2 Tape Evaluation Log

```
CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Jul 15 12:02:56 1994
ANSI Tape Import Log

Allocating tape drive /dev/rmt0...
/dev/rmt0 allocated.

VOL1OOALCA                              EDCALS                                3

  Label Identifier: VOL1
  Volume Identifier: OOALCA
  Volume Accessibility:
  Owner Identifier: EDCALS
  Label Standard Version: 3

*** NOTE  (ANSI X3.27; 8.3.1.8) - The Label Standard Version
    should be 4 to represent the current level of ANSI X3.27.

HDR1D001              OOALCA00010001000100 93048 00000 000000IBMZLA

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: OOALCA
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: IBMZLA

HDR2D020480025640CALSOPT1/CONVERT     B           00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00256
  Offset Length: 00
```

```
************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D001            OOALCA00010001000100 93048 00000 000001IBMZLA

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: OOALCA
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier: IBMZLA

EOF2D020480025640CALSOPT1/CONVERT     B           00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00256
  Offset Length: 00

************ Tape Mark ***************

HDR1D001R001        OOALCA00010002000100 93048 00000 000000IBMZLA

  Label Identifier: HDR1
  File Identifier: D001R001
  File Set Identifier: OOALCA
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: IBMZLA
```

```
HDR2F020480012840CALSOPT1/CONVERT      B           00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

*** NOTE - Last block was incomplete.  Short blocks are
    proned to be interpreted as noise by some tape drives.
    Tape Label => 2048, Actual => 1664, Block Number => 113

  Number of data blocks read = 113.

************ Tape Mark ***************

EOF1D001R001          OOALCA00010002000100 93048 00000 000113IBMZLA

  Label Identifier: EOF1
  File Identifier: D001R001
  File Set Identifier: OOALCA
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93048
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000113
  Implementation Identifier: IBMZLA

EOF2F020480012840CALSOPT1/CONVERT      B           00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00
************ Tape Mark ***************

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

HDR2F020480012840CALSOPT1/CONVERT      B           00
```

```
  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

********** Tape Mark **********

  Actual Block Size Found = 2048 Bytes.

*** NOTE - Last block was incomplete.  Short blocks are
    proned to be interpreted as noise by some tape drives.
    Tape Label => 2048, Actual => 768, Block Number => 15

  Number of data blocks read = 15.
v
********** Tape Mark **********

*** INTERNAL ERROR (ansiread) - Maximum number of files (= 300) exceeded.

Deallocating /dev/rmt0...

Tape Import Process terminated with 2 error(s), 0 warning(s),
and 217 note(s).
```

9.3.3 Tape File Set Validation Log

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Fri Jul 15 12:13:57 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set085

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: West Coast Information Systems, Inc
srcdocid: To Be Assigned
srcrelid: NONE
chglvl: ORIGINAL, 15334840117
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid change level encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Change level should be the word ORIGINAL
    or a Revision Number followed by a Change Level Number followed by
    a Change Level Date.  They should be separated by a comma or space.
dteisu: 19930117
dstsys: UNKNOWN
dstdocid: To Be Assigned
dstrelid: NONE
dtetrn: 19930117
dlvacc: NONE
filcnt: R999
ttlcls: Unclassified
doccls: Unclassified
doctyp: Unclassified
docttl: EDCARS conversion to CALS group 4

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D001.

Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...
```

```
srcdocid:   AD39692        73030 B              00010001USBEHN
*** ERROR (MIL-STD-1840A; 5.1.4) - Value contains leading spaces.
*** NOTE - Correction made in new Raster Header File.
dstdocid: 1840A group 4 site
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 007008,009000
rdensty: 0200
notes: EDCARS to 1840 group 4 conversion image

1 error(s), 0 warning(s), and 1 note(s) were encountered
 in Raster File D001R001.
Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4

Found file: D001R002
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid:   AD39693        73030 B              00010001USBEHN
*** ERROR (MIL-STD-1840A; 5.1.4) - Value contains leading spaces.
*** NOTE - Correction made in new Raster Header File.
dstdocid: 1840A group 4 site
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 007008,009000
rdensty: 0200
notes: EDCARS to 1840 group 4 conversion image

1 error(s), 0 warning(s), and 1 note(s) were encountered
 in Raster File D001R002.
Saving Raster Header File: D001R002_HDR
Saving Raster Data File: D001R002_GR4
```

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
Saving Raster Header File: D001R299_HDR
Saving Raster Data File: D001R299_GR4
```

```
Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Raster File Count does
    not match filcnt record.  Actual => 299, Expected => 999.
*** NOTE - Correction made in new Document Declaration header file.
1 error(s) were encountered during file count verification.
File Count verification complete.

A total of 77 error(s), 0 warning(s), and 76 note(s) were
encountered in Document D001.

A grand total of 77 error(s), 0 warning(s), and 76 note(s) were
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

9.3.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001     ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned1.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned2.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned3.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned4.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned5.R.cci'.

                          <<<<< PART OF LOG FILE REMOVED HERE >>>>>

/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned375.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned376.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned377.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9498t3/ToBeAssigned/
ToBeAssigned378.R.cci'.
-- declaration file indicates 0 files of type T
-- declaration file indicates 0 files of type G
-- declaration file indicates 0 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 999 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
*** WARNING: Declaration file indicates 999 Raster files, but tape
contains 378 files.
```