



# AFCTN Report 94-116

AFCTB-ID  
94-116



## Manual S9536-JG-MMA-010 Publication Transfer Using:



## O'Neil & Associates' Data Supporting:



## U. S. Navy's SEAWOLF Program

(Contract #N00023-90-C-2901)



MIL-STD-1804A

MIL-M-28001B (SGML)

MIL-R-28002A (Raster)

MIL-D-28003 (CGM)

## Quick Short Test Report

24 August 1994

19960408 025



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

DATA QUALITY IMPROVED

**Manual S9536-JG-MMA-010 Publication Transfer**

**Using:**

**O'Neil & Associates' Data**

**Supporting:**

**Navy SEAWOLF Program**

**(Contract #N00023-90-C-2901)**

**MIL-STD-1840A**

**MIL-M-28001B (SGML)**

**MIL-R-28002A (Raster)**

**MIL-D-28003 (CGM)**

**Quick Short Test Report**

**24 August 1994**

---

**Prepared By**

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

**AFCTB Contact**

**Gary Lammers**  
**(513) 427-2295**

**AFCTN Contact**

**Mel Lammers**  
**(513) 427-2295**

## DISCLAIMER

This document was prepared as an account of the work sponsored by the Air Force. Neither the United States Government, the Air Force, nor any of their employees makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, nor represents that its use would not infringe on privately owned rights. Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the Air Force. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or the Air Force, and shall not be used for advertising or product endorsement purposes.

Available to the public from the  
National Technical Information Service  
U.S. Department of Commerce  
5285 Port Royal Road  
Springfield, VA 22161

This report and those involved in its preparation do not endorse any product, process, or company stated herein. Use of these means by anyone does not imply certification by the Air Force CALS Test Network (AFCTN).

---

# **Air Force CALS Test Bed**

## ***Notification of Test Results***

**24 August 1994**

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

### **O'Neil & Associates, Inc.**

Identified as follows:

Title:	<b>Technical TO S9536-JG-MMA-010 Publication Transfer</b>
Program:	<b>SEAWOLF</b>
Program Office:	<b>U. S. Navy</b>
Contract No.:	<b>N00023-90-C-2901</b>
QSTR No.:	<b>AFCTB-ID 94-116</b>

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

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard:	<b>Pass</b>
MIL-STD-1840A Media Format:	<b>Pass</b>
MIL-D-28000A IGES:	<b>Pass</b>
MIL-M-28001B SGML:	<b>Pass</b>
MIL-R-28002A Raster:	<b>Pass</b>
MIL-D-28003 CGM:	<b>Pass</b>

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  
Dayton, OH 45431-1672  
Phone: 513-257-3085     FAX: 513-257-5881**

---

## Contents

1.	Introduction.....	1
1.1.	Background.....	1
1.2.	Purpose.....	2
2.	Test Parameters.....	3
3.	1840A Analysis.....	6
3.1.	External Packaging.....	6
3.2.	Transmission Envelope.....	6
3.2.1.	Tape Formats.....	6
3.2.2.	Declaration and Header Fields.....	7
4.	SGML Analysis.....	7
5.	Raster Analysis.....	8
6.	CGM Analysis.....	9
7.	IGES Analysis.....	11
8.	Conclusions and Recommendations.....	12
9.	Appendix A - Tapetool Report Logs.....	13
9.1.	Tape Catalog.....	13
9.2.	Tape Evaluation Log.....	14
9.3.	Tape File Set Validation Log.....	15
9.4.	XSoft Tape Log.....	18
10.	Appendix B - Detailed SGML Analysis.....	20
10.1.	Exoterica Normalizer.....	20
10.2.	Exoterica Validator Parser.....	20

---

10.3.	sgmls Parser Log.....	23
11.	Appendix C - Detailed Raster Analysis.....	25
11.1.	Output Cadleaf - R008.....	25
12.	Appendix E - Detailed CGM Analysis.....	26
12.1.	File D001C001.....	26
12.1.1.	Parser Log MetaCheck.....	26
12.1.2.	validcgm Log.....	28
12.1.3.	Output Cadleaf.....	29
12.1.4.	Output CALSView.....	30
12.1.5.	Output cgm2draw/IslandDraw.....	31
12.1.6.	Output Designer.....	32
12.1.7.	Output Harvard Graphics.....	33
12.1.8.	Output HiJaak Pro.....	34
12.1.9.	Output IslandDraw 4.0.....	35
12.1.10.	Output Ventura.....	36
12.1.11.	Output X-Change.....	37
12.2.	File D001C002.....	38
12.2.1.	Parser Log MetaCheck.....	38
12.2.2.	Output cgm2draw/IslandDraw.....	40

---

## 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 O'Neil & Associates' interpretation and use of the CALS standards in transferring technical publication data. O'Neil used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

## 2. Test Parameters

**Test Plan:** AFCTB 94-116

**Date of Evaluation:** 24 August 1997

**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:** Larry C. McKinley  
O'Neil & Associates, Inc.  
425 North Findlay Street  
Dayton OH 45404-2203  
(513) 461-1852

**Data Description:** Technical Manual Test

- 1 Document Declaration file
- 2 Document Type Definitions (DTDs)
- 1 Text/Standard Generalized Markup Language (SGML) file
- 15 Raster files
- 2 Computer Graphics Metafiles (CGMs)

**Data Source System:**

1840

**HARDWARE**

386 PC

**SOFTWARE**

AFCTN Tapetool v1.2.11

Text/SGML

**HARDWARE**

386 PC

**SOFTWARE**

WordPerfect Intellitag v1.2  
Exoterica Validator v1.1

---

Raster

**HARDWARE**

Xerox Imaging System K-6200  
HP/Apollo 425T

**SOFTWARE**

K-Series Version 2.0  
Auto-trol S5000 CCITT-G4 Converter

CGM

**HARDWARE**

HP/Apollo 425T

**SOFTWARE**

Auto-trol S5000/CGM Converter 1.4

**Evaluation Tools Used:**

**MIL-STD-1840A (TAPE)**

SUN 3/280

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

**MIL-M-28001 (SGML)**

PC 486/50

ArborText Adept  
Exoterica XGMLNormalizer v1.2e3.2  
Exoterica Validator v2.0 ex1  
McAfee & McAdam Sema Mark-it v2.3  
Public Domain sgmls

**MIL-R-28002 (Raster)**

HP 735

InterCAP X-Change v7.82

SGI Indigo2

IGES Data Analysis (IDA) CALSView

SUN SparcStation 2

Carberry CADLeaf Plus v3.1

AFCTN validg4

PC 486

Inset Systems HiJaak Pro

Expert Graphics RxHighlight v1.0

**MIL-D-28003 (CGM)**

HP 735

InterCAP X-Change v7.82

ArborText cgm2draw

Carberry CADLeaf Plus v4.0

Island Software IslandDraw v3.0

---

SGI Indigo 2  
    IDA CALSView  
SUN SparcStation 2  
    Island Software *IslandDraw v4.0*  
PC 486/50  
    Advanced Technology Center  
        (ATC) *MetaCheck R 2.10*  
    ATC ForView  
    Software Publishing Corporation  
        (SPC) *Harvard Graphics v3.05*  
    Inset Systems *HiJaak Pro*  
    Lotus *Freelance v2.01*  
    Micrografx *Designer v4.0*

**Standards**

**Tested:**  
MIL-STD-1840A  
MIL-M-28001B  
MIL-R-28002A  
MIL-D-28003

### 3. 1840A Analysis

#### 3.1 External Packaging

The tape was hand delivered to the Air Force CALS Test Bed (AFCTB), and was not enclosed in a box, in accordance with ASTM D 3951.

The tape was not enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Attached to the tape was a packing list showing all files recorded on the tape.

#### 3.2 Transmission Envelope

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

##### 3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.10* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility with no reported errors. It was noted that only one DTD was present after the read. This occurred because the two DTDs had identical destination system document (dstdocid) record values, and the *CAPS read1840A* utility renamed the files using the dstdocid record values. (MIL-STD-1840A permits identical dstdocid values for multiple files; MIL-STD-1840B corrected this problem).

The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

---

### 3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file and data file headers. This portion of the tape meets the CALS MIL-STD-1840A requirements.

## 4. SGML Analysis

The tape contained one text and two DTD files. The basic DTD contained the graphic references and pointed to the basic MIL-M-38784C DTD.

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. 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 unless specified in the report. Changes to DTD or text files required by each system are not documented in the report.

The text and DTD files were evaluated using ArborText's *Adept* parser. No errors were reported by the parser. Three warnings were issued for the DTD files. The DTD had three mixed content models in the 38784C DTD.

The text and DTD files were evaluated using Exoterica's *Validator ex1* parser. No errors were reported; however, many duplicated definitions were noted. The ISO character sets were defined in both the initial and called DTDs. Three warnings for a mixed content model in the 38784C DTD were reported.

The text and DTD files were tested using Exoterica's *XGML-Normalizer* parser. No errors were reported by the parser. Three warnings were issued by this utility. The warnings were for mixed content models in the 38784C DTD.

The text and DTD files were evaluated using the Public Domain *sgmls* parser. Many errors were issued for graphic references which could not be found. These are not considered errors for this report. Additional warnings were issued for duplicated definitions.

---

The McAfee & McAdam *Sema Mark-it v2.3* parser reported no errors or warnings.

The DTD and text files meet the CALS MIL-M-28001B specification. When two or more DTDs are used, an effort should be made to comment out the duplicate entries.

## 5. Raster Analysis

The tape contained 15 Raster files. These files were evaluated using the AFCTN *validg4* utility. This program reported that the files meet the CALS MIL-R-28002A specification.

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 files were read into the AFCTN *xrastb.sun4* viewing utility. No problems were encountered. It was noted that some images were white on black, which made viewing difficult. For technical publications graphic images are normally black on white. File D001R008 was noted as marginal in quality.

The files were converted using ArborText's *g42tiff* utility without a reported error. The resulting files were read into Island Software's *IslandPaint* and displayed.

The Raster files were read into Carberry's *CADLeaf* software and displayed without a reported error.

The files were read using IDA's *CALSVIEW* and displayed without a reported error.

The files were read and displayed using IDA's *IGESVIEW* and *IGESVIEW for Windows* without a reported error.

The files were read and displayed using Inset Systems' *HiJaak Pro* without a reported error.

---

The Raster files were converted using Rosetta Technologies' *Prepare* without a reported error. The resulting files were read into Rosetta Technologies' *Preview* and displayed.

The Raster files were imported into Expert Graphics' *Rx-Highlight* and displayed without a reported error.

The Raster files meet the CALS MIL-R-28002A specification.

## 6. CGM Analysis

The tape contained two CGM files. The AFCTB has several tools for viewing CGM 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 files were evaluated using ATC's *MetaCheck* with CALS options. No CALS or CGM errors or warnings were reported by this utility.

The CGM files were evaluated using the beta AFCTN *validcgm* utility. This utility reported no errors in either file.

The CGM files were converted using ArborText's *cgm2draw* utility without a reported error. The resulting files were read into Island Software's *IslandDraw v3.1* and displayed. In file C001, the text font was noted in error with the word "WARNING" extending beyond the symbol toward the right.

The files were read into Carberry's *CADLeaf* software and displayed. File C001 had a problem with the text extending beyond the graphics to the right.

According to R. Bryan DiAntonio of Carberry Technology, "With the 'Proportional Font' option turned on, text overlapping was not a problem."

The files were read into IDA's *CALSVIEW*. File C001 had a text font problem with the text extending beyond the graphics to the right.

---

The files were imported into the Micrografx *Designer* without a reported error. File C001 displayed and printed correctly.

The files were read into ATC's *ForView* without a reported error. The text displayed very small in the lower left corner of the image.

The files would not import into Lotus' *Freelance*. Every time an attempt was made to import either file C001 or C002, the system stopped.

The files were imported into SPC's *Harvard Graphics v3.05* with two reported errors. The errors were objects clipped and point adjustment required. File C001 displayed with the text extending beyond the boundary to the right. File C002 displayed correctly.

The files were read into Inset Systems' *HiJaak Pro* without a reported error. File C001 had a problem in the text font. The text extended beyond the defined box between the graphics and the text.

The files were imported directly into Island Software's *IslandDraw v4.0* without a reported error. The image appeared to be correct, although color changes were necessary. This resulted in some loss in file C001. File C002 displayed correctly.

The files were read into InterCAP's *X-Change* without a reported error. The text font was in error, and the text exceeded the defined boundary toward the right.

The files were imported into Corel's *Ventura Publisher* without a reported error. The displayed and printed text for file C001 was very small and located on the left side of the line.

While both CGM files were reported without error most applications, in the AFCTB, had problems with the text in file C001. The text was normally too large and the words exceeded the length of the line to the right. The CGM files meet the CALS MIL-D-28003 specification.

## 7. IGES Analysis

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

## 8. Conclusions and Recommendations

The physical structure of the tape had no reported errors or warnings. The CALS headers were correct. This portion of the tape meets the requirements defined in CALS MIL-STD-1840A.

The DTD and text files meet the CALS MIL-M-28001B specification.

The Raster files meet the CALS MIL-R-28002A specification.

The CGM files meet the CALS MIL-D-28003 specification, although most applications had problems with the text font in file C001.

The tape submitted by O'Neil & Associates, Inc. meets the CALS MIL-STD-1840A requirements.

---

## 9. Appendix A - Tapetool Report Logs

### 9.1 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

Wed Aug 24 08:53:37 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set049

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001C001	CGM	F/00080	00800/000002	Extracted
D001C002	CGM	F/00080	00800/000005	Extracted
D001G003	DTD	D/00260	02048/000002	Extracted
D001G004	DTD	D/00260	02048/000017	Extracted
D001R005	Raster	F/00128	02048/000004	Extracted

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

D001R019	Raster	F/00128	02048/000031	Extracted
D001T020	Text	D/00260	02048/000034	Extracted

Catalog Process terminated normally.

---

## 9.2 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

Wed Aug 24 08:53:17 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ONA001

4

Label Identifier: VOL1  
Volume Identifier: ONA001  
Volume Accessibility:  
Owner Identifier:  
Label Standard Version: 4

HDR1D001                    ONA00100010001000000 94234 00000 000000

Label Identifier: HDR1  
File Identifier: D001  
File Set Identifier: ONA001  
File Section Number: 0001  
File Sequence Number: 0001  
Generation Number: 0000  
Generation Version Number: 00  
Creation Date: 94234  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000000  
Implementation Identifier:

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

##### End of Volume ONA001 #####

##### End Of Tape File Set #####

Deallocating /dev/rmt0...  
Tape Import Process terminated normally.

### 9.3 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

Wed Aug 24 08:53:37 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set049

Found file: D001

srcsys: O'Neil & Assoc. CAGE 83007

srcdocid: S9536-JG-MMA-010

srcrelid: NONE

chglvl: ORIGINAL

dteis: 19940810

dstsys: General Dynamics - Electric Boat Div. - CAGE 51900

dstdocid: S9536-JG-MMA-010

dstrelid: NONE

dtetrn: 19940822

dlvacc: NONE

filcnt: C2,G2,R15,T1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Technical Publication

docttl: Mtn.Mnl.Electronic & Aux Water/Chilled Water Heat Exchanger

Found file: D001C001

srcdocid: S9536-JG-MMA-010

dstdocid: S9536-JG-MMA-010

txtfilid: W

figid: W-1

srcgph: WARNING

doccls: UNCLASSIFIED

notes: NONE

Found file: D001C002

srcdocid: S9536-JG-MMA-010  
dstdocid: S9536-JG-MMA-010  
txtfilid: W  
figid: C-1  
srcgph: CAUTION  
doccls: UNCLASSIFIED  
notes: NONE

Found file: D001G003

srcdocid: S9536-JG-MMA-010  
dstdocid: S9536-JG-MMA-010  
notes: EB-010X.DTD (document specific DTD preface)

Found file: D001G004

srcdocid: S9536-JG-MMA-010  
dstdocid: S9536-JG-MMA-010  
notes: m38784c (main DTD)

Found file: D001R005

srcdocid: S9536-JG-MMA-010  
dstdocid: S9536-JG-MMA-010  
txtfilid: W  
figid: COVER  
srcgph: NSEALOGO  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 000704,000600  
rdensty: 0400  
notes: NONE

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

Found file: D001T020

srcdocid: S9536-JG-MMA-010  
dstdocid: S9536-JG-MMA-010  
txtfilid: W  
doccls: UNCLASSIFIED  
notes: NONE

Saving Text Header File: D001T020\_HDR  
Saving Text Data File: D001T020\_TXT

---

Evaluating numbering scheme...

No errors were encountered during numbering scheme evaluation.

Numbering scheme evaluation complete.

Checking file count...

No errors were encountered during file count verification.

File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

## 9.4 XSoft Tape Log

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001 ' ---  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
WARNING.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
CAUTION.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file  
'aftb94116/S9536-JG-MMA-010/S9536JGMMMA010.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file  
'aftb94116/S9536-JG-MMA-010/S9536JGMMMA010.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
NSEALOGO.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
CHNGFORM.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
MAILER.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
APPROVAL.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
VALIDATN.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
COOLER.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
PERFLOG.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
FUNCDIAG.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
NUTSEQU.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
TUBEEXP.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
COOLASSY.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
SHELLSUB.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
BUNDLES.A.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
BONNETIO.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
TMDER.R.cci'.  
/cals/caps/Bin/read1840A: writing data file 'aftb94116/S9536-JG-MMA-010/  
W.T.sgm'.  
-- declaration file indicates 1 files of type T  
-- declaration file indicates 2 files of type G  
-- declaration file indicates 0 files of type H  
-- declaration file indicates 0 files of type Q
```

-- declaration file indicates 15 files of type R  
-- declaration file indicates 2 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

## 10. Appendix B - Detailed SGML Analysis

### 10.1 Exoterica Normalizer

C:\XGML\XGMLNORM.EXE --

Warning on line 383 in file i:\94116\38784c.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'CALLOUT' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 633 in file i:\94116\38784c.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'ITEM' may be treated as data characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --

Warning on line 884 in file i:\94116\38784c.dtd:

An element with mixed content does not permit data characters everywhere.

Spaces and line breaks in element 'TERM' may be treated as data characters, forcing insertion of markup.

### 10.2 Exoterica Validator Parser

```
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 234,
      used in "c:\xgml\94116.dtd", line 148:
```

```
  A parameter entity name has been declared more than once.
```

```
  The entity is "%ISolat1".
```

```
  <!ENTITY % ISolat1 PUBLIC "ISO 8879-1986//ENTITIES Added Latin 1//EN" >
```

```
-->
```

```
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 236,
      used in "c:\xgml\94116.dtd", line 148:
```

```
  A parameter entity name has been declared more than once.
```

```
  The entity is "%ISOgrk3".
```

```
  <!ENTITY % ISOgrk3 PUBLIC "ISO 8879-1986//ENTITIES Greek Symbols//EN" >
```

```
-->
```

```
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 238,
      used in "c:\xgml\94116.dtd", line 148:
```

```
  A parameter entity name has been declared more than once.
```

---

```
The entity is "%ISONum".
<!ENTITY % ISONum PUBLIC "ISO 8879-1986//ENTITIES Numeric and Special
      *****
-->
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 241,
      used in "c:\xgml\94116.dtd", line 148:
      A parameter entity name has been declared more than once.
      The entity is "%ISOpub".
      <!ENTITY % ISOpub PUBLIC "ISO 8879-1986//ENTITIES Publishing//EN" >
            *****
-->
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 243,
      used in "c:\xgml\94116.dtd", line 148:
      A parameter entity name has been declared more than once.
      The entity is "%ISOtech".
      <!ENTITY % ISOtech PUBLIC "ISO 8879-1986//ENTITIES General Technical//EN" >
            *****
-->
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 280,
      used in "c:\xgml\94116.dtd", line 148:
      A general entity name has been declared more than once.
      The entity is "disclos1".
      <!ENTITY disclos1 "Originator Supplies Appropriate Department or Agency Her
            *****
-->
<!-- **Warning** in "c:\xvalid\iso-grk3.ent" (entity "%ISOgrk3"), line 11,
      used in "i:\94116\38784c.dtd" (entity "%m38784c"), line 321,
      used in "c:\xgml\94116.dtd", line 148:
      A general entity name has been declared more than once.
      The entity is "alpha".
      <!ENTITY alpha SDATA "[alpha ]"---=small alpha, Greek-->
            *****
-->
      <<<< PART OF LOG FILE REMOVED HERE >>>>
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 383,
      used in "c:\xgml\94116.dtd", line 148:
      An element with mixed content should permit data characters ("#PCDATA")
      everywhere.
      The element being declared is "CALLOUT".
      <!ELEMENT callout - - (#PCDATA | graphic) >
            /\
-->
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 633,
      used in "c:\xgml\94116.dtd", line 148:
      An element with mixed content should permit data characters ("#PCDATA")
      everywhere.
```

---

---

```
The element being declared is "ITEM".
<!ELEMENT item      - o (%text;, (%list;)*, footnote*) >
                                                                /\
-->
<!-- **Warning** in "i:\94116\38784c.dtd" (entity "%m38784c"), line 884,
      used in "c:\xgml\94116.dtd", line 148:
      An element with mixed content should permit data characters ("#PCDATA")
      everywhere.
      The element being declared is "TERM".
      <!ELEMENT term      - o (%termele;) >
                                                                /\
-->
<!-- **Warning** in "c:\xgml\94116.dtd", line 150:
      An element is not allowed in the document instance because it does not
      appear in any accessible content model or it is completely excluded.
      The element is "SHORTTITLE".
-->
<!-- **Warning** in "i:\94116\d001t020.", line 1:
      There is no element with an IDREF or IDREFS attribute value equal to a
      specified ID value.
      The unreferenced ID attribute value is "CHAP2".
-->
<!-- Capacity points/limits:
      TOTALCAP =105788/200000
      ENTCAP   =13952/200000
      ENTCHCAP =14666/70000
      ELEMCAP  =4672/70000
      GRPCAP   =24672/70000
      EXGRPCAP =576/70000
      EXNMCAP  =1056/70000
      ATTCAP   =28128/200000
      ATTCHCAP =708/70000
      AVGRPCAP =14880/70000
      NOTCAP   =192/70000
      NOTCHCAP =334/70000
      IDCAP    =992/70000
      IDREFCAP =960/70000
      MAPCAP   =0/70000
      LKSETCAP =0/70000
      LKNMCAP  =0/70000
-->
<!-- 339 warnings reported. -->
```

---

## 10.3 sgmls Parser Log

sgmls: Warning at \ws\94116.dtd, line 29 in declaration parameter 5:  
Could not find external general entity "warning"

sgmls: Warning at \ws\94116.dtd, line 30 in declaration parameter 5:  
Could not find external general entity "caution"

sgmls: Warning at \ws\94116.dtd, line 31 in declaration parameter 5:  
Could not find external general entity "note"

sgmls: Warning at \ws\94116.dtd, line 33 in declaration parameter 5:  
Could not find external general entity "nsealogo"

sgmls: Warning at \ws\94116.dtd, line 34 in declaration parameter 5:  
Could not find external general entity "chngform"

sgmls: Warning at \ws\94116.dtd, line 35 in declaration parameter 5:  
Could not find external general entity "chngrec"

sgmls: Warning at \ws\94116.dtd, line 36 in declaration parameter 5:  
Could not find external general entity "approval"

sgmls: Warning at \ws\94116.dtd, line 37 in declaration parameter 5:  
Could not find external general entity "validatn"

sgmls: Warning at \ws\94116.dtd, line 38 in declaration parameter 5:  
Could not find external general entity "cooler"

sgmls: Warning at \ws\94116.dtd, line 39 in declaration parameter 5:  
Could not find external general entity "perflog"

sgmls: Warning at \ws\94116.dtd, line 40 in declaration parameter 5:  
Could not find external general entity "funcdiag"

sgmls: Warning at \ws\94116.dtd, line 41 in declaration parameter 5:  
Could not find external general entity "nutsequ"

sgmls: Warning at \ws\94116.dtd, line 42 in declaration parameter 5:  
Could not find external general entity "tubeexp"

sgmls: Warning at \ws\94116.dtd, line 43 in declaration parameter 5:  
Could not find external general entity "coolassy"

sgmls: Warning at \ws\94116.dtd, line 44 in declaration parameter 5:  
Could not find external general entity "shellsub"

sgmls: Warning at \ws\94116.dtd, line 45 in declaration parameter 5:  
Could not find external general entity "bundlesa"

sgmls: Warning at \ws\94116.dtd, line 46 in declaration parameter 5:  
Could not find external general entity "bonnetio"

sgmls: Warning at \ws\94116.dtd, line 47 in declaration parameter 5:  
Could not find external general entity "tmder"

sgmls: Warning at \ws\94116.dtd, line 48 in declaration parameter 5:  
Could not find external general entity "mailer"

sgmls: In file included at \ws\94116.dtd, line 75:  
Warning at i:\94116\38784c.dtd, line 234 in declaration parameter 5:  
Could not find external parameter entity "ISolat1"

sgmls: In file included at \ws\94116.dtd, line 75:  
Warning at i:\94116\38784c.dtd, line 234 in declaration parameter 5:  
Duplicate specification occurred for "%ISolat1"; duplicate ignored

---

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

sgmls: In file included at \ws\94116.dtd, line 75:  
In file included at i:\94116\38784c.dtd, line 321:  
Warning at c:\xvalid\iso-tech.ent, line 73 in declaration parameter 4:  
Duplicate specification occurred for "wedgeq"; duplicate ignored

TOTALCAP 102784  
ENTCAP 13952  
ENTCHCAP 10446  
ELEMCAP 4672  
GRPCAP 24672  
EXGRPCAP 608  
EXNMCAP 1056  
ATTCAP 28128  
ATTCHCAP 708  
AVGRPCAP 14880  
NOTCAP 192  
NOTCHCAP 334  
IDCAP 992  
IDREFCAP 2144  
MAPCAP 0  
LKSETCAP 0  
LKNMCAP 0

## 11. Appendix C - Detailed Raster Analysis

### 11.1 Output Cadleaf - R008

#### APPROVAL AND PROCUREMENT RECORD PAGE

APPROVAL DATA FOR: S9536-JG-MMA-010/51900

TITLE OF MANUAL: Maintenance Manual for Electronic and Auxiliary Fresh Water/Chilled Water Cooler, Type 10060 Navy EV

APPROVAL AUTHORITY: Supervisor of Shipbuilding, Conversion, and Repair, USN Groton, CT Itr Ser 242/105, dtd 15 April 1982.

CONTRACT NUMBER	SHIP APPLICABILITY	QUANTITY OF MANUALS	QUANTITY OF EQUIPMENT	BUILDING YARD
N00024-B2-C-2000	SSN25	*	1	ERDiv, Groton, CT

\*Quantities distributed in accordance with Distribution List numbers identified in the SSN21 Class INDEX of Technical Publication (ITP).

#### REMARKS:

Change A, approved by SupShip, Groton, Itr Ser 262D/1054 dated 18 August 1983.

DATE: 15 April 1982

CERTIFICATION: It is hereby certified that S9536-JG-MMA-010/51900 to be provided under contract N00024-89-C-2000 has been approved by the approval data shown above.

Contract Engineer  
ITT Standard  
Fluid Technology Corporation  
Box 1102, Buffalo, N.Y. 14240  
OAGE 51900

## 12. Appendix E - Detailed CGM Analysis

### 12.1 File D001C001

#### 12.1.1 Parser Log MetaCheck

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-93 CGM Technology Software  
Execution Date: 08/24/94 Time: 12:12:25

Metafile Examined : i:\94116\c001.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

=====  
Trace Report  
=====

Tracing not selected.

=====  
CGM Conformance Violation Report  
=====

No Errors Detected

=====  
CAL S CGM Profile (MIL-D-28003) Report  
=====

No profile discrepancies detected.

=====  
Conformance Summary Report  
=====

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-93 CGM Technology Software  
Execution Date: 08/24/94 Time: 12:12:27

Name of CGM under test: i:\94116\c001.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : >warning<

METAFILE DESCRIPTION : >AUTO-TROL/REL-1.0 MIL-D-28003/BASIC-<  
>1<

Picture 1 starts at octet offset 146: >warning<

Conformance Summary : This file conforms to the CGM specification.  
This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
55 Elements Tested  
572 Octets Tested

```
=====
| No Errors Were Detected |
=====
```

===== End of Conformance Report =====

## 12.1.2 validcgm Log

Analysis for file c001.cgm using table table

(0, 1) occurred 1 time  
(0, 2) occurred 1 time  
(0, 3) occurred 1 time  
(0, 4) occurred 1 time  
(0, 5) occurred 1 time  
(1, 1) occurred 1 time  
(1, 2) occurred 1 time  
(1, 7) occurred 1 time  
(1, 8) occurred 1 time  
(1, 9) occurred 1 time  
(1, 11) occurred 1 time  
(1, 13) occurred 1 time  
(2, 1) occurred 1 time  
(2, 3) occurred 1 time  
(2, 4) occurred 1 time  
(2, 5) occurred 1 time  
(2, 6) occurred 1 time  
(2, 7) occurred 1 time  
(4, 1) occurred 7 times  
(4, 4) occurred 1 time  
(4, 7) occurred 1 time  
(5, 3) occurred 1 time  
(5, 10) occurred 1 time  
(5, 15) occurred 1 time  
(5, 16) occurred 1 time  
(5, 18) occurred 1 time  
(5, 22) occurred 1 time  
(5, 28) occurred 1 time  
(5, 30) occurred 1 time  
(5, 34) occurred 20 times

### 12.1.3 Output Cadleaf



WARNING



#### 12.1.4 Output CALSView

**WARNIN**

### 12.1.5 Output cgm2draw/IslandDraw



## 12.1.6 Output Designer



**WARNING**

### 12.1.7 Output Harvard Graphics



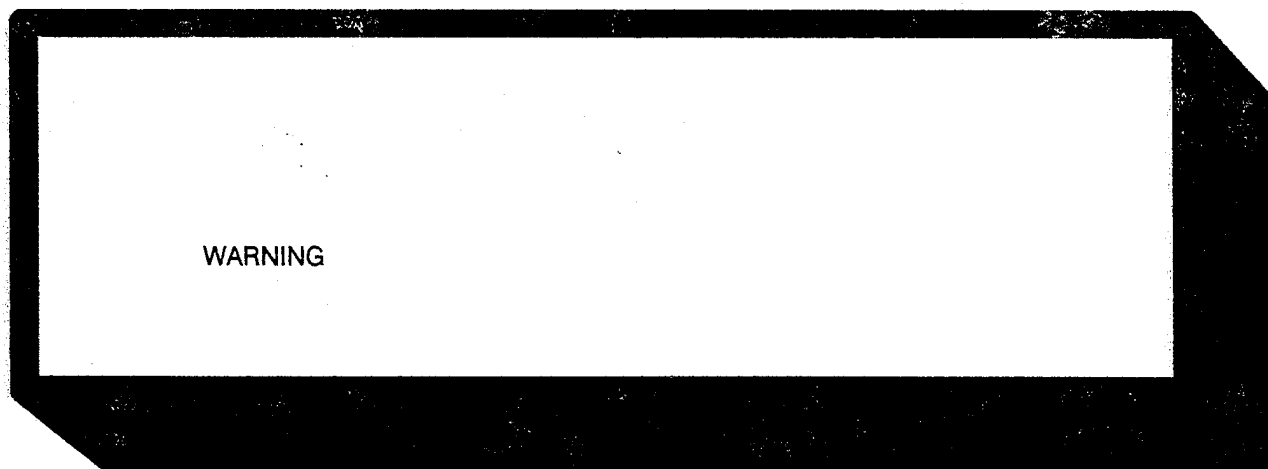
## 12.1.8 Output HiJaak Pro



### 12.1.9 Output IslandDraw 4.0



## 12.1.10 Output Ventura



## 12.1.11 Output X-Change



**WARNING**

## 12.2 File D001C002

### 12.2.1 Parser Log MetaCheck

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-93 CGM Technology Software  
Execution Date: 08/24/94 Time: 12:12:35

Metafile Examined : i:\94116\c002.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

=====  
Trace Report  
=====

Tracing not selected.

=====  
CGM Conformance Violation Report  
=====

No Errors Detected

=====  
CAL S CGM Profile (MIL-D-28003) Report  
=====

No profile discrepancies detected.

=====  
Conformance Summary Report  
=====

MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-93 CGM Technology Software  
Execution Date: 08/24/94 Time: 12:12:37

Name of CGM under test: i:\94116\c002.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : >caution<

METAFILE DESCRIPTION : >AUTO-TROL/REL-1.0 MIL-D-28003/BASIC-<  
>1<

Picture 1 starts at octet offset 146: >caution<

Conformance Summary : This file conforms to the CGM specification.

---

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
53 Elements Tested  
3430 Octets Tested

=====  
| No Errors Were Detected |  
=====

=====  
End of Conformance Report  
=====

## 12.2.2 Output cgm2draw/IslandDraw

