AFCTN Report 94-099

AFCTB-ID 94-069

Technical Publication Transfer Using:

Northrop Corporation's Data Supporting:

ASC/YSSA B-2 Program

(Contract #F33567-81-C0067/0051)

MIL-STD-1840A
MIL-D-28000A (IGES)
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIL-D-28003 (CGM)

Quick Short Test Report

13 June 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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Quick Short Test Report

13 June 1994

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

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Air Force CALS Test Bed

Notification of Test Results

13 June 1994

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

Northrop Corporation

Identified as follows:

Title:	**Technical Publication Transfer**
Program:	**B-2**
Program Office:	**ACS/YSSA**
Contract No.:	**F33567-81-C0067/0051**
QSTRNo.:	**AFCTB-ID 94-069**

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

The results of the QSTR evaluation are as follows:

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

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 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 Northrop Corporation's interpretation and use of the CALS standards in transferring technical publication data. Northrop 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 94-069

Date of Evaluation: 13 June 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:
J.P. Kent
Northrop Corporation
B2 Division, M/S R213/UM
8900 E. Washington Blvd
Pico Rivera CA 90660
(310) 948-0624

Data Description:
Technical Manual Test
- 3 Document Declaration files
- 3 Document Type Definitions (DTDs)
- 4 Initial Graphics Exchange Specification (IGES) files
- 3 Text/Standard Generalized Markup Language (SGML) files
- 1 Raster file
- 5 Computer Graphics Metafile (CGM) files

Data Source System:

1840

HARDWARE
SUN IPX

SOFTWARE
Intergrated Technical Data System (ITDS) v2

IGES

HARDWARE
SUN IPX

SOFTWARE
Northrop ITDS Converter - GEF_IGES

Text/SGML

HARDWARE

SUN IPX

SOFTWARE

ITDS v2

Raster

HARDWARE

SUN IPX

SOFTWARE

ITDS v2

CGM

HARDWARE

SUN IPX

SOFTWARE

Northrop B2 ITDS GEF

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

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

MIL-D-28000 (IGES)

HP 735

InterCAP ***X-Change v7.82***
Island Software ***IslandDraw v3.0***
Carberry ***CADLeaf v3.1.2***

SGI Indigo2

Cadkey ***Cadkey v6.0***
IDA ***CALSView***
International TechneGroup Incorporated (ITI) ***IGES/Works v2.0***

Sun SparcStation 2

AUTODESK ***AutoCAD R12***
Carberry ***CADLeaf Plus v3.1***
IGES Data Analysis (IDA) ***Parser/Verifier v92***
IDA ***IGESView v3.05***
International TechneGroup Incorporated (ITI) ***IGES/Works v1.3***

PC 486/50

IDA ***IGESView Windows***

MIL-M-28001 (SGML)

PC 486/50

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***
Island Graphics ***IslandPaint v3.0***

SGI Indigo2

IDA ***CALSView***

SUN SparcStation 2

Carberry ***CADLeaf Plus v3.1***
AFCTN ***validg4***
AFCTN ***xrastb.sun4***

PC 486

IDA ***IGESView Windows***
Inset Systems ***HiJaak Pro***
Expert Graphics ***RxHighlight v1.0***

MIL-D-28003 (CGM)

HP 735

Carberry ***CADLeaf Plus v3.1***
InterCAP ***X-Change v7.82***
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) ***ForView R 1.0***
ATC ***MetaCheck R 2.10***
Software Publishing Corporation (SPC) ***Harvard Graphics v3.05***
Inset Systems ***HiJaak Pro***
Lotus ***Freelance v2.01***
Corel ***Ventura Publisher***

Standards Tested:

MIL-STD-1840A
MIL-D-28000A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape 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 tape was 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. Enclosed in the box 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 without any reported errors.

The physical structure of the tape meets the requirements defined in ANSI X3.27 and MIL-STD-1840A.

3.2.2 Declaration and Header Fields

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

4. IGES Analysis

The tape contained four IGES files. These files were evaluated using IDA's ***parser/verifier*** set for CALS Class I. This utility reported no CALS errors. The Start Sections contained the required conformance statement.

The AFCTB has several tools for viewing IGES 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 converted using a utility available within the AFCTB, with no reported errors. The resulting files were read into Island Software's ***IslandDraw***, displayed and printed without a reported error. It was noted that files Q204 and Q205 displayed on the left side of the screen. The remainder of the files were located off the page to the left. The origin point of these files was found to be a negative value. An undocumented feature of the translator was used to create complete images.

The files were read into AUTODESK's ***AutoCAD R12*** without a reported error. File Q206 had an error in the General Note block.

The files were converted using Cadkey's ***ig2c*** utility. The resulting files were read into Cadkey's ***Cadkey***, displayed and printed. Several errors were noted in file Q206, this included the General Note block. An error was also noted in the imbedded font change block.

The files were read into Carberry's ***CADLeaf*** software without a reported error. When displayed and printed, file Q206 had an error in the General Note block. An error was also noted in the imbedded font change block.

The files were read using IDA's ***CALSView.*** An error was noted in the General Note block where the vertical line of text was displayed horizontally.

The files were read using IDA's ***IGESView*** and ***IGESView for Windows.*** No errors were noted.

The files were read using InterCAPS' ***X-Change***. No errors were noted.

The files were read using ITI's ***IGESWorks*** without a reported error. The files were displayed and printed.

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

The IGES files had no reported CALS errors. Errors were noted on file Q206 by many of the IGES tools available within the AFCTB. The IGES files meet the CALS MIL-D-28000A, Amendment one specification.

5. SGML Analysis

The tape contained three DTD, three text, and three Format Output Specification Instance (FOSI) files. The DTD files were the same except for the graphic references. All graphic references were placed in one DTD and this file was used for all parsing operations.

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 the Exoterica ***XGMLNormalizer*** parser. This parser reported six warnings in the DTD for mixed content models. Shown below is the error and the section of the DTD it relates to.

```
:\XGML\XGMLNORM.EXE --
Warning on line 730 in file 9469.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'NOTICE' may be treated as data
characters, forcing insertion of markup.
<!ELEMENT notice            - o       (para+ |%paracon;)      +(table) >

<!ATTLIST         notice   notctype   (%notctype;)             #IMPLIED
                                      %secur;                          >
```

The text and DTD files were tested using the Exoterica ***Validator exl*** parser. Fifteen warnings were issued by this tool. Two warnings were issued for an empty element without a start tag.

```
<!-- **Warning** in "\xgml\9469.dtd", line 522:
   An EMPTY element must have a start tag and must not have an end tag.
   Therefore, it is inappropriate to specify an omissible start tag or
   an inomissible end tag in its declaration.
```

```
   The element is "DATABASE".
   <!ELEMENT database        - -       EMPTY       >
                                       ^^^^^
-->
```

Six warnings were issued for mixed content models, and seven warnings were issued for elements used and not defined.

The text and DTD files from the tape were evaluated using McAfee & McAdam's ***Sema Mark-it v2.3*** parser. No errors or warnings were issued by this tool.

The text and DTD files from the tape were evaluated using the Public Domain ***sgmls*** parser. Two warnings were issued by this utility.

```
sgmls: Warning at \ws\9469.dtd, line 449 in declaration parameter 4:
       End-tag minimization should be "O" for EMPTY element
```

No errors were reported in any of the DTD or text files. However, all but one parsers reported warnings. The files meet the CALS MIL-M-28001A specification.

6. Raster Analysis

The tape contained one Raster file. This file was evaluated using the AFCTN ***validg4*** utility. This program reported that the file meets the CALS MIL-R-28002A specification.

The files were read into the AFCTN ***xrastb.sun4*** viewing utility. No problems were noted.

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 file was converted using a utility available within the AFCTB, without a reported error. The resulting file was read into Island Software's ***IslandPaint*** and displayed.

The Raster file was read into Carberry's ***CADLeaf*** software without a reported error. The image was displayed with no noted errors.

The file was read using IDA's ***CALSView*** without a reported error.

The file was read into IDA's ***IGESView*** and ***IGESView for Windows*** without a reported error and displayed.

The file was read into and displayed using Inset Systems' ***HiJaak for Windows*** without a reported error.

The file was read using InterCAP's ***X-Change*** without a reported error.

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

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

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained five CGM files. The files were evaluated using ATC's ***MetaCheck*** with CALS options. This utility reported no errors in the files.

The CGM files were evaluated using the beta AFCTN ***validcgm*** utility. This utility reported errors in the files. See Appendix D, Section 12.1.2 for file analysis results.

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 and indication of CALS capability. All operations were performed using the default settings.

The CGM files were converted using a utility available within the AFCTB, without a reported error. The resulting files were read into Island Software's ***IslandDraw v3.1***, displayed and printed. File C104 had noted text overflow. The remaining files appeared to be correct.

The files were read into Carberry's ***CADLeaf*** software and displayed. File C104 had noted text overflow. The remaining files appeared to be correct. When the proportional font option was selected, most text was displayed within the defined boundaries. However, in two of the blocks the text still overflowed into the next block.

The files were read into IDA's ***CALSView.*** All files appeared to display correctly with the exception of file C104. Text overflow was noted in many blocks along with the restricted text block.

The files were imported into ATC' ***ForView.*** None of the files displayed and they all caused General Protection error messages.

The files were imported into Lotus' ***Freelance.*** None of the files displayed and they all caused General Protection error messages.

The files were imported into SPC's ***Harvard Graphics v3.05*** with reported errors. None of the resulting images were

usable. The reported errors were line style, points adjusted, non-CGM entities encountered, and objects not translated.

When an attempt was made to read into Inset Systems' ***HiJaak Pro***, all files generated a Real Precision Not Supported error message.

The files were imported directly into Island Software's ***IslandDraw v4.0***. File C104 had text overflow in the restricted text block, and errors in the Elliptical arc blocks. In file C105 the arcs were not complete. File C108 also reported errors.

The files were read into InterCAP's ***X-Change*** without a reported error. No errors were noted in the displayed images.

An attempt to import the files into Corel's ***Ventura Publisher*** resulted in errors reported by file C104 and C108. The other two files imported without any errors, but the resulting images were not usable.

The CGM files meet the CALS MIL-D-28003 specification. However, none of the PC based software were able to successfully read the files. Only two of the workstation based software applications were successful.

8. Conclusions and Recommendations

The tape could be read properly using the AFCTN ***Tapetool*** Software without any reported errors or warnings. The physical structure and CALS headers were correct. This portion of the tape meets the CALS MIL-STD-1840A and ANSI X3.27 requirements.

The IGES files meet the CALS MIL-D-28000A specification.

The SGML files meet the CALS MIL-M-28001A specification. All but one parser, available within the AFCTB, reported warnings in the DTDs.

The Raster file meets the CALS MIL-R-28002A specification.

The CGM files meet the CALS MIL-D-28003 specification. However, most of the software tools available within the AFCTB, could not correctly display the images. This is because the PC-Based software products, used in this test, do not support the high precision levels (16 digit) required by the submitted CGM files.

The tape submitted by Northrop Corporation 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

Fri Jun 10 15:58:53 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set072
                                                                    Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000034	Extracted
D001H003	Output Specification	D/00260	02048/000001	Extracted
D001C004	CGM	F/00080	00800/000006	Extracted
	<<<<< PART OF LOG FILE REMOVED HERE >>>>>			
D002T001	Text	D/00260	02048/000001	Extracted
D002G002	DTD	D/00260	02048/000034	Extracted
D002H003	Output Specification	D/00260	02048/000001	Extracted
D002Q004	IGES	F/00080	02000/000012	Extracted
D002Q005	IGES	F/00080	02000/000577	Extracted
D002Q006	IGES	F/00080	02000/000033	Extracted
D002Q007	IGES	F/00080	02000/000042	Extracted
D003T001	Text	D/00260	02048/000001	Extracted
D003G002	DTD	D/00260	02048/000034	Extracted
D003H003	Output Specification	D/00260	02048/000001	Extracted
D003R004	Raster	F/00128	02048/000007	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

Fri Jun 10 15:58:10 1994
ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01                CONTROLLER                                        4

  Label Identifier: VOL1
  Volume Identifier: ITDS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001            ITDS0100010001000100 94160 94160 000000  CONTROLLER

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: ITDS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  94160
  Expiration Date:  94160
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:   CONTROLLER

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

############ End of Volume ITDS01 ###############

############ 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

Fri Jun 10 15:58:53 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set072

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

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L590/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_CGM_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.7
dstrelid: NONE
dtetrn: 19940609
dlvacc: ASC/YSSA B-2 F33567-81-C0067/0051
filcnt: T1, H1, G1, C5
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TEST DOCUMENT
docttl: GEF->CGM Graphics Test

Found file: D001T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE
```

```
Saving Text Header File: D001T001_HDR
Saving Text Data File: D001T001_TXT
Found file: D001G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
notes: NONE

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
notes: NONE

Saving Output Specification Header File: D001H003_HDR
Saving Output Specification Data File: D001H003_OS

Found file: D001C004
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: CALS_CGM_TEST2
dstdocid: STPRO25.7
txtfilid: W
figid: NONE
srcgph: allreal.cgm
doccls: UNCLASSIFIED
notes: NONE

Saving CGM Header File: D001C004_HDR
Saving CGM Data File: D001C004_CGM
```

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

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

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L590/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_IGES_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.9
dstrelid: NONE
dtetrn: 19940609
dlvacc: ASC/YSSA B-2 F33567-81-C0067/0051
filcnt: T1, H1, G1, Q4
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TEST DOCUMENT
docttl: GEF->IGES Graphics Test


Found file: D002T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: CALS_IGES_TEST2
dstdocid: STPRO25.9
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D002T001_HDR
Saving Text Data File: D002T001_TXT

Found file: D002G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: CALS_IGES_TEST2
dstdocid: STPRO25.9
notes: NONE

Saving DTD Header File: D002G002_HDR
Saving DTD Data File: D002G002_DTD
```

```
Found file: D002H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: CALS_IGES_TEST2
dstdocid: STPRO25.9
notes: NONE

Saving Output Specification Header File: D002H003_HDR
Saving Output Specification Data File: D002H003_OS

Found file: D002Q004
Extracting IGES Header Records...
Evaluating IGES Header Records...

srcdocid: CALS_IGES_TEST2
dstdocid: STPRO25.9
txtfilid: W
figid: NONE
srcgph: apple2d.igs
doccls: UNCLASSIFIED
notes: NONE

Saving IGES Header File: D002Q004_HDR
Saving IGES Data File: D002Q004_IGS
```

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

```
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 D002.

Found file: D003
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Division,
L590/UB, 8900 E. Washington Blvd., Pico Rivera, CA 90660-3765 (310) 948-0624
srcdocid: CALS_RAS_TEST2
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930126
```

```
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (I)/ENCT,
TechneCenter, 4027 Col. Glenn Highway, Dayton, OH 45431-1601
dstdocid: STPRO25.11
dstrelid: NONE
dtetrn: 19940609
dlvacc: ASC/YSSA B-2 F33567-81-C0067/0051
filcnt: T1, H1, G1, R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TEST DOCUMENT
docttl: GEF->RAS Graphics Test

Found file: D003T001
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D003T001_HDR
Saving Text Data File: D003T001_TXT

Found file: D003G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
notes: NONE

Saving DTD Header File: D003G002_HDR
Saving DTD Data File: D003G002_DTD

Found file: D003H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
notes: NONE

Saving Output Specification Header File: D003H003_HDR
Saving Output Specification Data File: D003H003_OS
```

```
Found file: D003R004
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: CALS_RAS_TEST2
dstdocid: STPRO25.11
txtfilid: W
figid: NONE
srcgph: test2.ras
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002560,003584
rdensty: 0300
notes: NONE

Saving Raster Header File: D003R004_HDR
Saving Raster Data File: D003R004_GR4

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 D003.

No errors were encountered in this File Set.

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

9.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001     ' ---
/cals/caps/Bin/read1840A: --- Read declaration file 'D002     ' ---
/cals/caps/Bin/read1840A: --- Read declaration file 'D003     ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   CALSCGMTEST2.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   CALSCGMTEST2.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   allrealcgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   arcscgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   fillscgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   linescgm.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO257/
   textcgm.C.cgm'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 0 files of type R
-- declaration file indicates 5 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
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   CALSIGESTEST2.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   CALSIGESTEST2.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   apple2digs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   classic2digs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   ientityigs.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO259/
   lgtableigs.Q.igs'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
```

```
-- declaration file indicates 4 files of type Q
-- declaration file indicates 0 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
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
   W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
   CALSRASTEST2.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
   CALSRASTEST2.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9469/STPRO2511/
   test2ras.R.cci'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 1 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 1 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
```

10. Appendix B - Detailed IGES Analysis

10.1 File D002Q006

10.1.1 Parser/Verifier Log

```
************************************
*****  IGES PARSER/VERIFIER   *****
*****       MARCH 1993        *****
*****   IGES Data Analysis    *****
*****     (708) 344-1815      *****
************************************

Input file is q206.igs

Checking conformance to CALS Class I (MIL-D-28000A 2/10/92)

Today is June 13, 1994  8:17 AM

************************************
*****    CHECK FILE SYNTAX    *****
************************************

   Section        Records

   Start             11
   Global             3
   Directory        400  (    200 Entities)
   Parameter        389
   Terminate          1

NITPICK 2489: Excess precision in real constant (16.00099754) for XS of D
              3.
NITPICK 2489: Excess precision in real constant (-0.12499999) for P1.X of D
              7.
NITPICK 2489: Messages regarding excess precision suppressed.

 ************************************
 *****  SUMMARY AND STATISTICS  ****
 ************************************
```

```
*** File and Product Name Information ***

   File name from sender     = 'ientity.igs'
   File creation Date.Time   = '940607.070004'
   Model change Date.Time    = ''
   Author                    = 'KASSEL'
   Department                = 'CALS TEST NETWORK'
   Product name from sender  = 'ientity.igs'
   Destination product name  = 'ientity.igs'

*** Parameter Delimiters ***

   Delimiter  = ','
   Terminator = ';'

*** Originating System Data ***

   System ID              = 'ITDS CONVERTER: GEF_IGES'
   Preprocessor version   = '1.0'
   Specification version = 6 (IGES 4.0)

*** Precision levels ***
   Integer bits =    32
   Floating point  -  Exponent =    38  Mantissa =     6
   Double precision - Exponent =   308  Mantissa =    15

*** Global Model Data ***

   Model scale             =  1.0000E+00
   Unit flag               =  1
   Units                   =  'IN'
   Line weights            =  8
   Maximum line thickness  =  1.600000E-02
   Minimum line thickness  =  2.000000E-03
   Granularity             =  1.000000E-03
   Maximum coordinate      =  1.650000E+01

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

 Blank status: Visible                    200
               Blanked                      0

 Independence: Independent                185
               Physically Subordinate      12
               Logically Subordinate        3
               Totally Subordinate          0
```

Entity use:	Geometry	67
	Annotation	132
	Definition	1
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	200
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	3	Circular arc
102	0	0	1	Composite curve
104	1	0	2	Conic arc - ellipse
104	2	0	1	Conic arc - hyperbola
104	3	0	1	Conic arc - parabola
106	11	0	1	Copious data - Piecewise planar, linear string(2D linear path)
106	63	0	1	Simple closed planar curve
110	0	0	27	Line
112	0	0	2	Parametric spline curve
124	0	0	12	Transformation matrix
126	0	0	6	Rational B-spline curve
212	0	0	129	General note
230	0	0	1	Sectioned area (Standard Crosshatching)
308	0	0	1	Subfigure definition
404	0	0	1	Drawing
406	16	0	1	Property - Drawing size
406	18	0	1	Property - Intercharacter spacing
408	0	0	8	Single subfigure instance
410	0	0	1	View - Orthographic parallel

*** Entity Count by Level ***

Level	Count
0	200

```
*** Labeling Information ***

   0% of the entities are labeled.

   Unlabeled     200

*** Line Fonts Used in Data ***

100  102  104  106  108  110  112  114

 -    -    -    -    -    -    -    -   Undefined
 3    1    4    2    -    27   2    -   Solid
 -    -    -    -    -    -    -    -   Dashed
 -    -    -    -    -    -    -    -   Phantom
 -    -    -    -    -    -    -    -   Center-line
 -    -    -    -    -    -    -    -   Dotted
 -    -    -    -    -    -    -    -   User defined

116  118  120  122  124  125  126  128

 -    -    -    -    12   -    -    -   Undefined
 -    -    -    -    -    -    6    -   Solid
 -    -    -    -    -    -    -    -   Dashed
```

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

```
*** Line Widths Used in Data ***

    Weight       Count      Width

 Defaulted       200       (0.0020)

*** Colors Used in Data ***

 Defaulted        25
       Red       175

***********************************
*****     ENTITY ANALYSIS     *****
***********************************

*** Entity type: 100

*** Entity type: 102
```

```
 *** Entity type: 104

WARNING 2265: Start point off conic by 1.349441E-03 at D     23.
WARNING 2039: End point off conic by 1.435289E-03 at D     23.
WARNING 2265: Start point off conic by 1.094899E-03 at D     27.
WARNING 2039: End point off conic by 1.719588E-03 at D     27.

 *** Entity type: 106

 *** Entity type: 110

  --    27 lines averaging 7.155823E+00 units --

 *** Entity type: 112

 *** Entity type: 124

WARNING 2492: Undefined line font value (0) specified for D     21.
WARNING 2492: Undefined line font value (0) specified for D     25.
WARNING 2492: Undefined line font value (0) specified for D     29.
WARNING 2492: Messages regarding undefined line font suppressed.
12 transformation matrices, 4 non-zero translations.
NOTE    2341: 4 matrices contain translation information.

 *** Entity type: 126

 *** Entity type: 212

       129 text strings in data file.
       Average text aspect ratio in file is 0.9982937.
       Minimum text aspect ratio in file is 0.7978667.
       Maximum text aspect ratio in file is 1.4857143.

       FONTS USED IN FILE

       FONT   COUNT   NAME

          1     127   Default ASCII Style
       1002       2   Symbol Font 2

 *** Entity type: 230

 *** Entity type: 308

  Subfigure name at D     19: 'subfig0'.
    Number of included entities = 6.
```

```
 *** Entity type: 404

Drawing at D       5 contains 1 views.
Drawing at D       5 contains 0 annotation entities.

 *** Entity type: 406

 *** Entity type: 408

  Subfigure instance at D    363 references subfigure at D     19.
  Subfigure instance at D    373 references subfigure at D     19.
  Subfigure instance at D    377 references subfigure at D     19.
  Subfigure instance at D    381 references subfigure at D     19.
  Subfigure instance at D    385 references subfigure at D     19.
  Subfigure instance at D    389 references subfigure at D     19.
  Subfigure instance at D    393 references subfigure at D     19.
  Subfigure instance at D    397 references subfigure at D     19.

 *** Entity type: 410

  Scale of view at D      1 is 1.000000E+00.
Orthographic View entity at D      1 has  0 clipping planes specified.
   XMIN = Not Set        XMAX = Not Set
   YMIN = Not Set        YMAX = Not Set
   ZMIN = Not Set        ZMAX = Not Set

 *** Message Summary ***

2015: 4 Mathematically incorrect definitions.
2038: 145 Invalid Line font values.

 *** Error Summary ***

     0 fatal errors
     0 severe errors
     0 errors
   149 warnings
     0 cautions
   914 nitpicks
     1 notes

 *** End of Analysis of q206.igs ***
```

10.1.2 Parser Log - AutoCAD R12

```
Title: IGESIN Journal (v5.1 Nov 05 1992)
================================================================================
File: C:/TMP/Q206.xli
Date: Mon, Jun 13, 1994
Time: 13:02:55
================================================================================

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N:   117-10075750
Translating from IGES file:        C:/TMP/Q206.IGS
            to AutoCAD Drawing:    C:\Q206.dwg

================================================================================

Options obtained from:  default settings
Curves Approximated to Tolerance of          0.01
Surfaces Approximated to Tolerance of        0.01

Text Font/Style mapping:
IGES Text font      Style Name       ACAD Font
         0                SYMBOL0        iges0
         1               STANDARD          txt
         2                  LEROY          txt
         3                 FUTURA          txt
         6                 COMP80          txt
        12                GOTHICE      gothice
        13                GOTHICI      gothici
        14                 ROMANS       romans
        17                 ROMANT       romant
        18                 ROMAND       romand
        19                    OCR          txt
      1001                SYMBOL1     iges1001
      1002                SYMBOL2     iges1002
      1003                SYMBOL3     iges1003
      2001                  KANJI      bigfont

IGES Linefont/AutoCAD Linetype mapping
IGES Line Font      AutoCAD linetype        Shape file
         0                   BYLAYER
         1                CONTINUOUS
         2                    DASHED             acad.lin
         3                   PHANTOM             acad.lin
         4                    CENTER             acad.lin
         5                       DOT             acad.lin
```

Parse phase

*** Warning (IEVM_BAD_START_POINT_104) ***
(DE 23, TF 104:2) Entity's start point not on the conic. Value found was -5.0045203e-001, 2.1541785e-001.

Action taken: Start point moved 1.3494413e-003 units, from -5.0045203e-001, 2.1541785e-001 to -5.0045203e-001, 2.1676729e-001.

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

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 39, TF 100:0) Entity's radii are not equal. Start point radius: 5.0142377e-001. Terminate point radius: 5.0096873e-001.

Action taken: Start point moved 2.2751903e-004 units from 1.4990643e+000, 8.9985771e+000 to 1.4990647e+000, 8.9988046e+000. Terminate point moved 2.2751903e-004 units from 9.9903320e-001, 9.4986076e+000 to 9.9880568e-001, 9.4986070e+000.

*** Warning (IEVM_BAD_CONTINUITY_112) ***
(DE 369, TF 112:0) Entity's Degree of Continuity, 0, is incorrectly specified. Degree of Continuity calculated to be 1.

Action taken: Degree of Continuity set to 1.

==========
Start Section:

CONFORMANCE:
  MIL-D-28000 Amendment1, 20 December 1988
  Technical Illustration Class I Subset

ILLUSTRATION IDENTIFIER:
  ientity.igs

GEF 0.499002 0.5
GEF 16.5 10.5

Global Section:

Parameter Delimiter: ,
Record Delimiter: ;
Sending Product ID: ientity.igs
File Name: ientity.igs
System ID: ITDS CONVERTER: GEF_IGES
Preprocessor Version: 1.0
Size of Integer: 32

Sgl. Precision Mag:	38
Sgl. Precision Sig:	6
Dbl. Precision Mag:	308
Dbl. Precision Sig:	15
Receiving Product ID:	ientity.igs
Model Space Scale:	1.000000
Unit Flag:	1
Unit String:	IN
# of Line Weights:	8
Maximum Line Width:	0.016000
Creation Date:	06/07/94 07:00:04
Minimum Resolution:	0.001000
Maximum Coordinate:	16.500000
Author:	KASSEL
Organization:	CALS TEST NETWORK
IGES Version Number:	6
Drafting Standard:	0

Entity Summary:

Type	Form	Description	Count
100	0	Circular Arc	3
102	0	Composite Curve	1
104	1	Ellipse	2
104	2	Hyperbola	1
104	3	Parabola	1
106	11	Planar Piecewise Linear Curve	1
106	63	Simple Closed Planar Curve	1
110	0	Line	27
112	0	Parametric Spline Curve	2
124	0	Transformation Matrix	12
126	0	Rational B-Spline Curve (General)	6
212	0	General Note (Simple)	129
230	0	Section Area (Standard Fill)	1
308	0	Subfigure Definition	1
404	0	Drawing (form 0)	1
406	16	Property (Drawing Size)	1
406	18	Property (Int-character Spacing)	1
408	0	Subfigure Instance	8
410	0	View	1
		Total	200

```
Translation phase
Drawing Entity (404 Form 0) at DE 5, with
   name = ,
   size = 16.000998, 10.000000,
   units = IN,
was processed in the AutoCAD drawing file:  C:\Q206.dwg

*** Warning (ACAD_NEW_VIEW_VOLUME_GENERATED) ***
( DE: 1 TF: 410:0 )
A new view volume has been generated for the view with:
 XMIN (-1.387808), XMAX (18.386810),
 YMIN (-1.386810), YMAX (12.385481),
 ZMIN (-1.886810), ZMAX (1.886810).
```

IGES Entity Summary

Type	Form	Description	Count	Processed	Errors
100	0	Circular Arc	3	3	0
102	0	Composite Curve	1	1	0
104	1	Ellipse	2	2	0
104	2	Hyperbola	1	1	0
104	3	Parabola	1	1	0
106	11	Planar Piecewise Linear Curve	1	1	0
106	63	Simple Closed Planar Curve	1	1	0
110	0	Line	23	23	0
112	0	Parametric Spline Curve	2	2	0
126	0	Rational B-Spline Curve (General)	6	6	0
212	0	General Note (Simple)	129	129	0
230	0	Section Area (Standard Fill)	1	1	0
308	0	Subfigure Definition	1	1	0
404	0	Drawing (form 0)	1	1	0
406	16	Property (Drawing Size)	1	1	0
408	0	Subfigure Instance	8	8	0
410	0	View	1	1	0
Totals			183	183	0

Unsupported IGES Entity Summary

Type	Form	Description	Count
406	18	Property (Int-character Spacing)	1
Total			1

AutoCAD Entity Summary

Entity	Created	Errors
LINE	31	0
CIRCLE	1	0
TEXT	134	0
ARC	2	0
INSERT	10	0
POLYLINE	14	0
BLOCK	3	0
Totals	195	0

Error Summary:

The following message was issued 1 time(s)
Entity's radii are not equal. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued 4 time(s)
Entity's start point not on the conic. Value found was %.7e, %.7e.

The following message was issued 4 time(s)
Entity's End Point not on the conic. Value found was %.7e, %.7e.

The following message was issued 1 time(s)
Entity's Degree of Continuity, %d, is incorrectly specified. Degree of Continuity calculated to be %d.

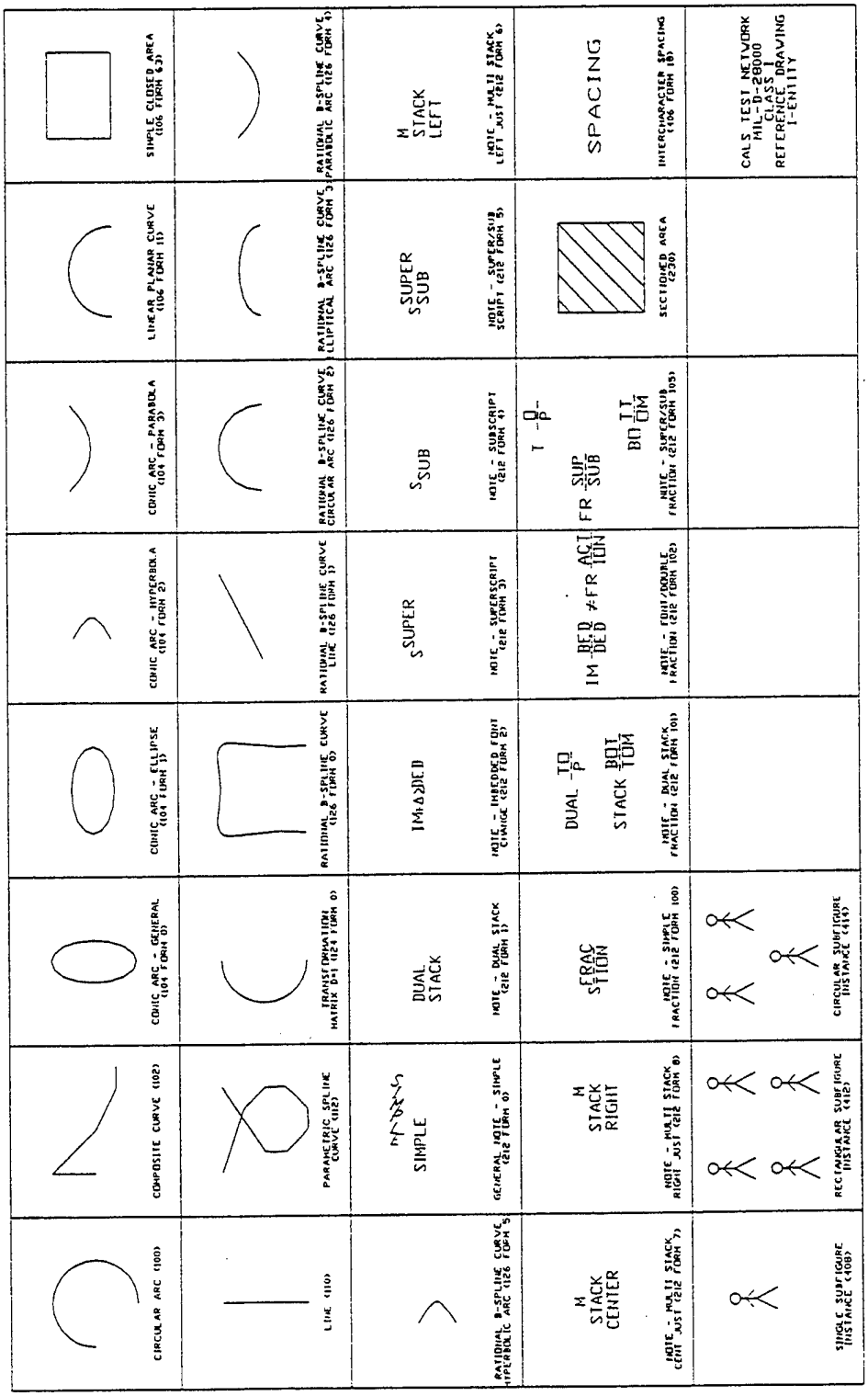
The following message was issued 1 time(s)
A new view volume has been generated for the view with:
XMIN (%lf), XMAX (%lf),
YMIN (%lf), YMAX (%lf),
ZMIN (%lf), ZMAX (%lf).

Status: 0
Warning: 11
Error: 0
Fatal: 0

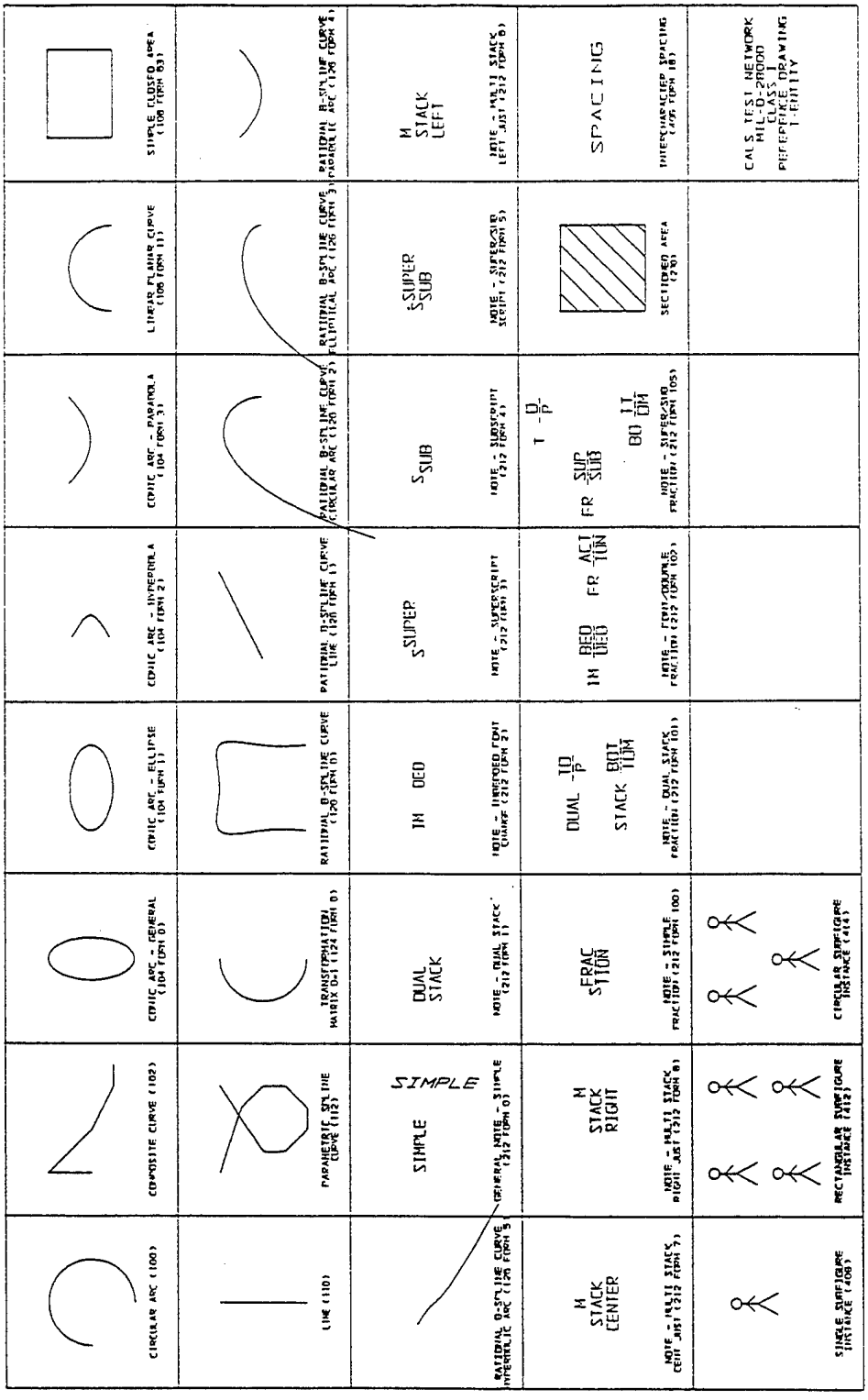
Elapsed Time:

Processor: 00:00:14
Clock: 00:00:14

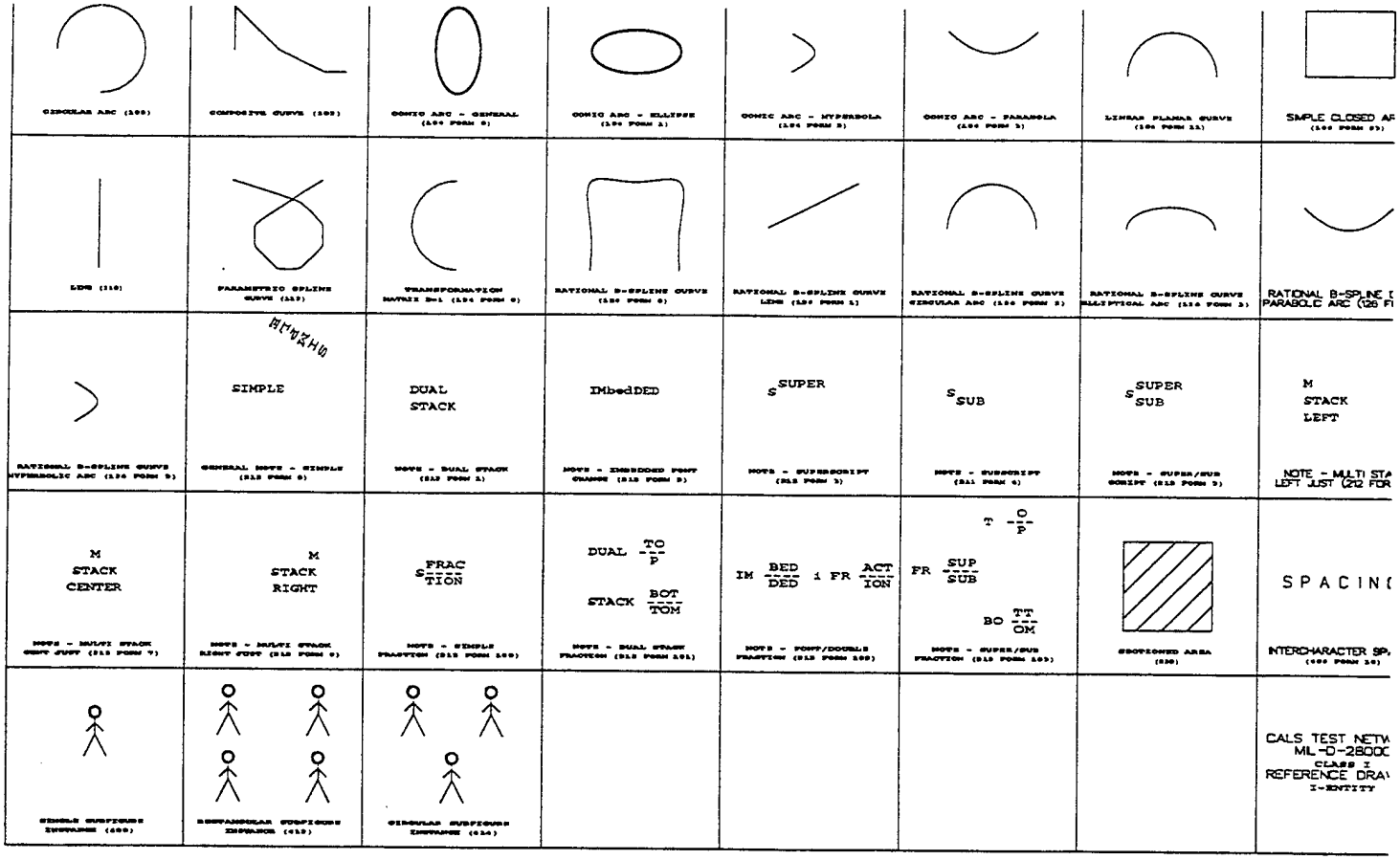
10.1.3 Output AutoCAD R12



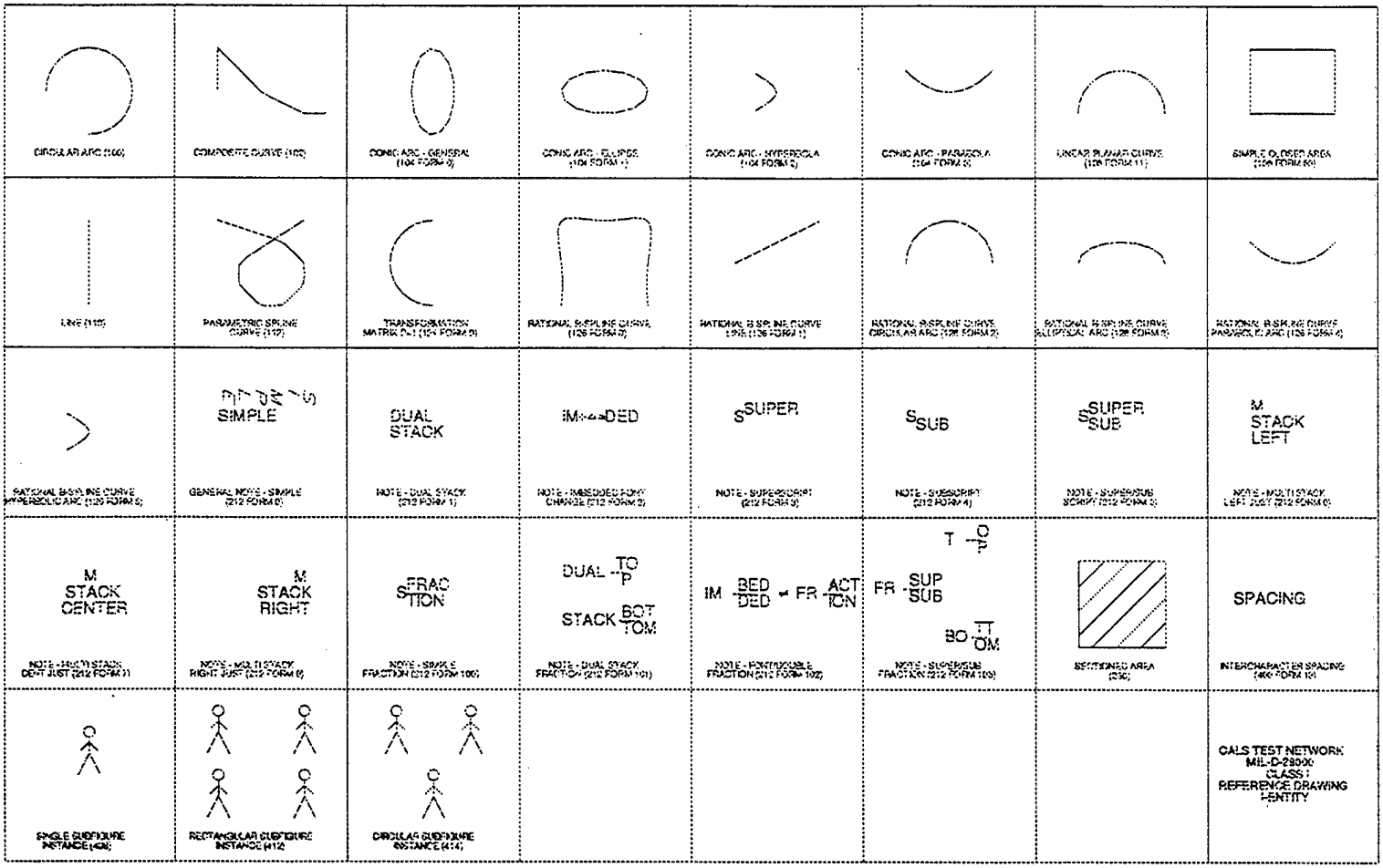
10.1.4 Output Cadkey v5.02



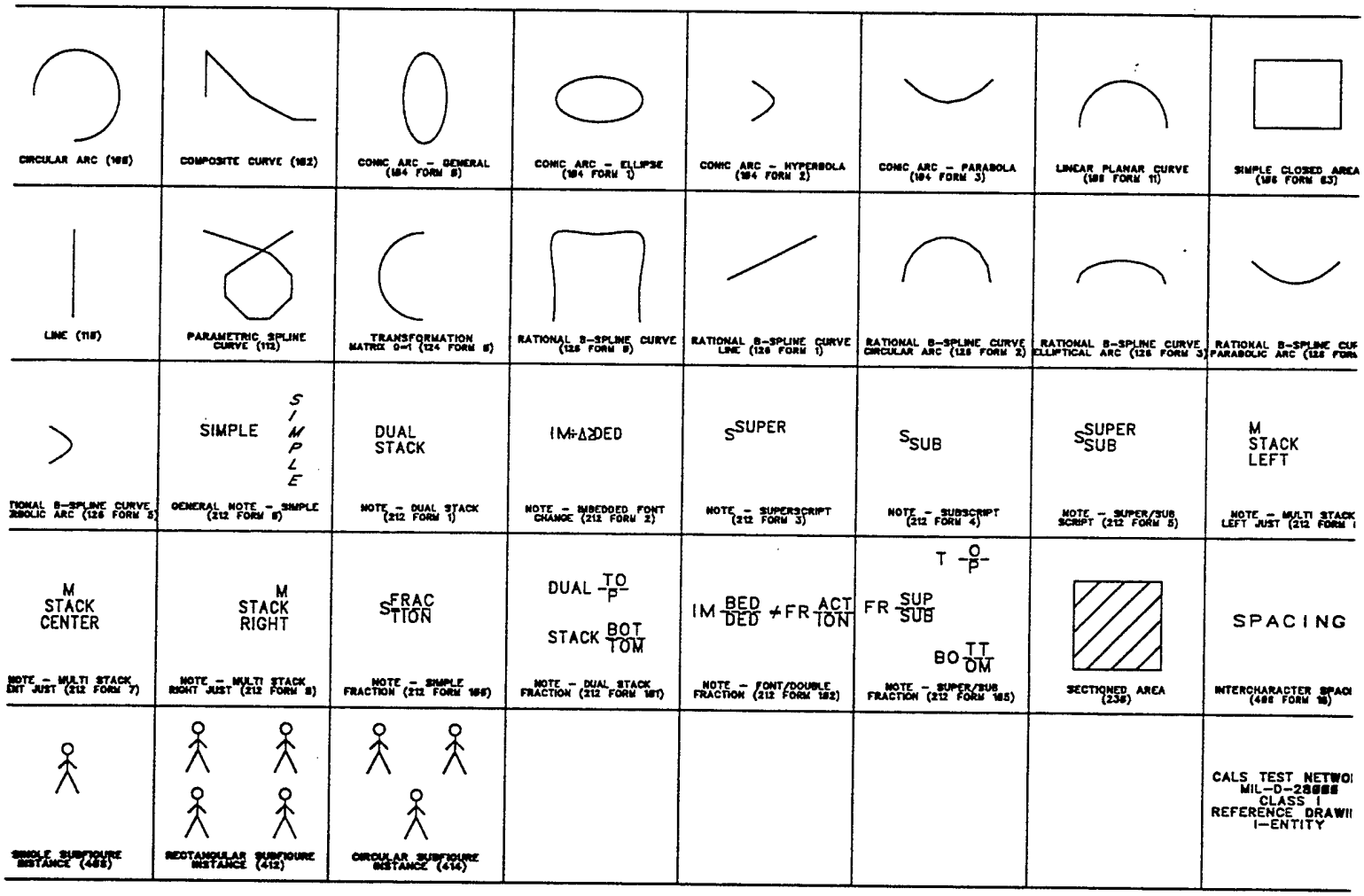
10.1.5 Output CADLeaf



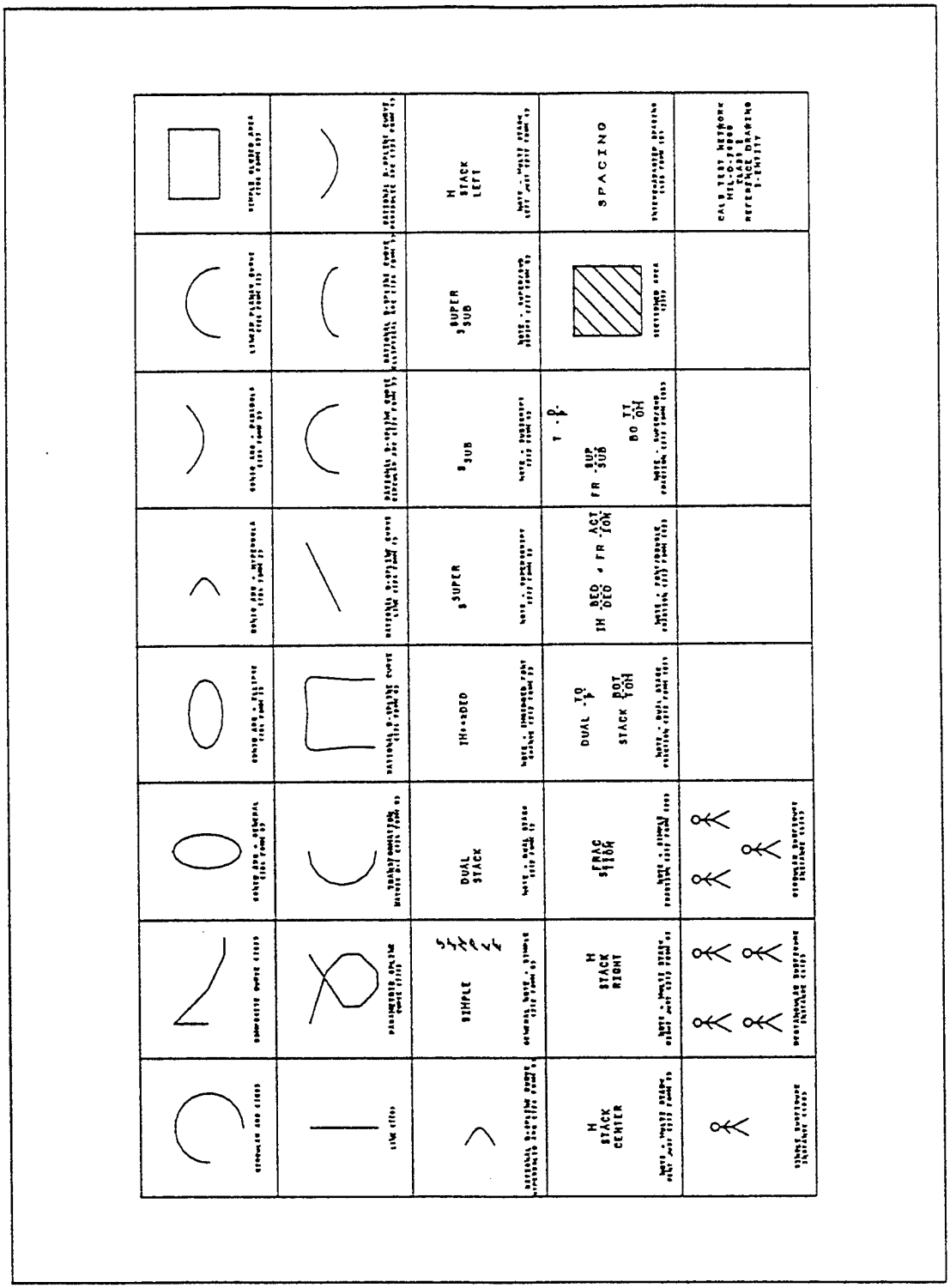
10.1.6 Output CALSView



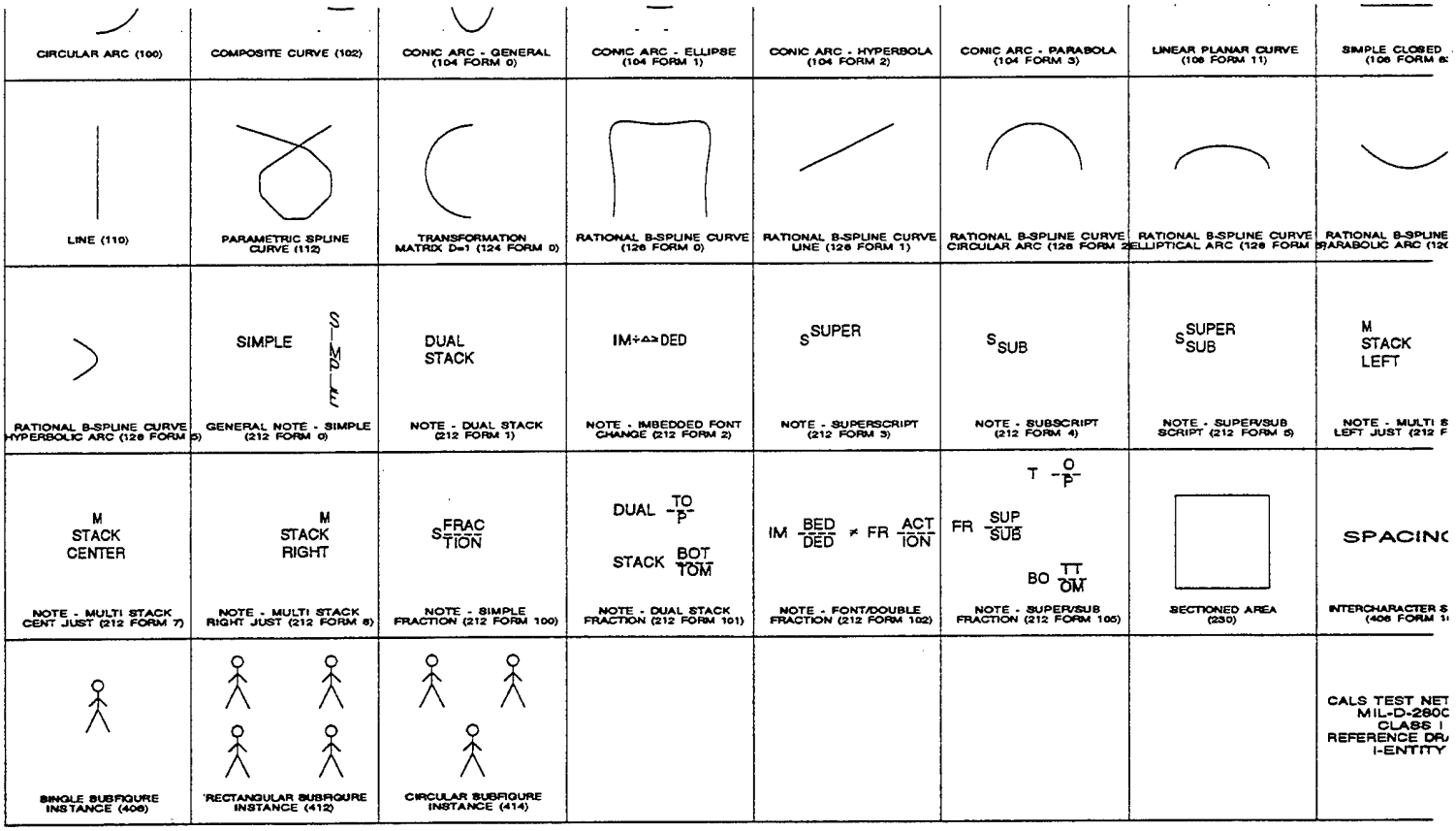
10.1.7 Output IGESView



10.1.8 Output IGESWorks



10.1.9 Output IslandDraw



iges2draw/ID

10.1.10 Output Preview

11. Appendix C - Detailed SGML Analysis

11.1 Exoterica XGMLNormalizer Parser

```
C:\XGML\XGMLNORM.EXE --
Warning on line 730 in file 9469.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'NOTICE' may be treated as data
characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --
Warning on line 817 in file 9469.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'INTERNATLSTD' may be treated as data
characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --
Warning on line 856 in file 9469.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'HOWTOUSE' may be treated as data
characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --
Warning on line 1366 in file 9469.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 1548 in file 9469.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'ENTRY' may be treated as data
characters, forcing insertion of markup.

C:\XGML\XGMLNORM.EXE --
Warning on line 1587 in file 9469.dtd:
An element with mixed content does not permit data characters
everywhere.
Spaces and line breaks in element 'FTNOTE' may be treated as data
characters, forcing insertion of markup.
```

11.2 Exoterica Validator exl

```
<!-- **Warning** in "\xgml\9469.dtd", line 522:
   An EMPTY element must have a start tag and must not have an end tag.
   Therefore, it is inappropriate to specify an omissible start tag or an
   inomissible end tag in its declaration.
   The element is "DATABASE".
   <!ELEMENT database        - -       EMPTY      >
                                       ^^^^^
-->
<!-- **Warning** in "\xgml\9469.dtd", line 604:
   An EMPTY element must have a start tag and must not have an end tag.
   Therefore, it is inappropriate to specify an omissible start tag or an
   inomissible end tag in its declaration.
   The element is "MEDIUM".
   <!ELEMENT medium          - -             EMPTY>
                                             ^^^^^
-->
<!-- **Warning** in "\xgml\9469.dtd", line 730:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "NOTICE".
   <!ELEMENT notice            - o       (para+ |%paracon;)      +(table) >
                                                          /\
-->
<!-- **Warning** in "\xgml\9469.dtd", line 818:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "INTERNATLSTD".
                                       %paracon;)                 >
                                                /\
-->
<!-- **Warning** in "\xgml\9469.dtd", line 857:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "HOWTOUSE".
                                                %paracon;)     >
                                                         /\
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1366:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "CALLOUT".
   <!ELEMENT callout           - -       (#PCDATA | graphic)          >
                                                          /\
-->
```

```
<!-- **Warning** in "\xgml\9469.dtd", line 1549:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "ENTRY".
                                                | %paracon;)  >
                                                          /\
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1588:
   An element with mixed content should permit data characters ("#PCDATA")
   everywhere.
   The element being declared is "FTNOTE".
                                                 %paracon;)       -(ftnote | ft
                                                          /\
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
   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 "CFGPGE".
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
   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 "CONTASSURPG".
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
   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 "COVERINDEX".
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
   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 "REFDOC".
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
   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 "\xgml\9469.dtd", line 1617:
   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 "STALOC".
-->
<!-- **Warning** in "\xgml\9469.dtd", line 1617:
   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 "TESTCODE".
```

```
   <!-- Capacity points/limits:
      TOTALCAP =163221/200000
      ENTCAP   =11872/200000
      ENTCHCAP =6965/70000
      ELEMCAP  =5696/70000
      GRPCAP   =59200/70000
      EXGRPCAP =416/70000
      EXNMCAP  =992/70000
      ATTCAP   =44160/200000
      ATTCHCAP =756/70000
      AVGRPCAP =32608/70000
      NOTCAP   =192/70000
      NOTCHCAP =364/70000
      IDCAP    =0/70000
      IDREFCAP =0/70000
      MAPCAP   =0/70000
      LKSETCAP =0/70000
      LKNMCAP  =0/70000
-->
<!-- 15 warnings reported. -->
```

11.3 Sema Mark-it Log

```
No reported errors
```

11.4 Public Domain sgmls Log

```
sgmls: Warning at \ws\9469.dtd, line 449 in declaration parameter 4:
       End-tag minimization should be "O" for EMPTY element
sgmls: Warning at \ws\9469.dtd, line 531 in declaration parameter 4:
       End-tag minimization should be "O" for EMPTY element
```

12. Appendix D - Detailed CGM Analysis

12.1 File D001C004

12.1.1 Parser Log MetaCheck

```
MetaCheck Version 2.10 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 06/13/94     Time:  10:44:35

Metafile Examined    : i:\94069\c104.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

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

Tracing not selected.

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

No Errors Detected

========== CALS 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: 06/13/94     Time:  10:44:38

Name of CGM under test: i:\94069\c104.cgm
Encoding              : Binary

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All

BEGIN METAFILE string : >allreal.cgm<
METAFILE DESCRIPTION  : >NORTHROP B2 ITDS GEF, MIL-D-28003/BA<
                        >SIC-1<
```

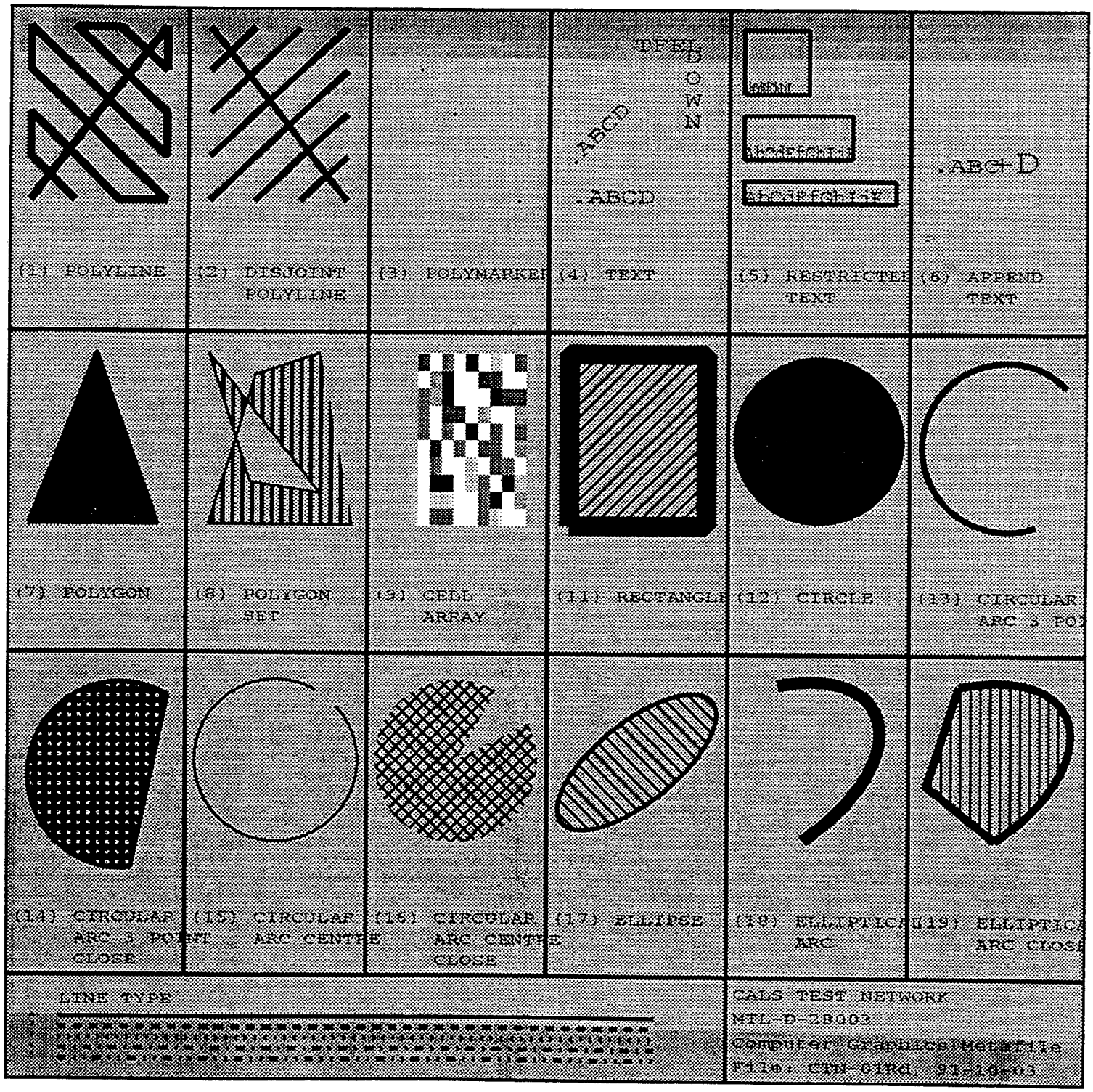
```
Picture 1 starts at octet offset 202: >Picture 1<

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
        272 Elements Tested
       3980 Octets Tested

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

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

12.1.2 validcgm Log

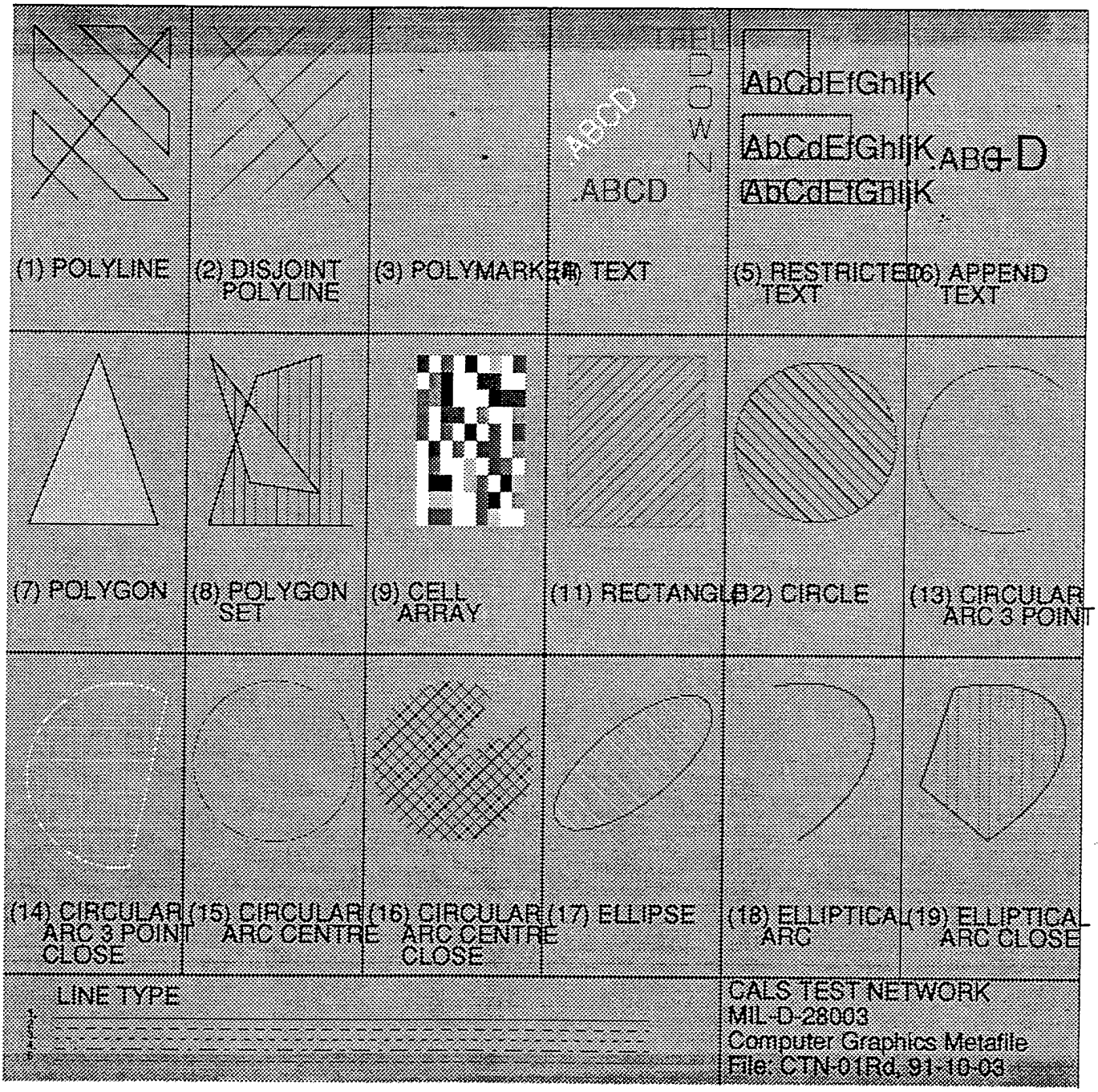
```
Analysis for file c104.cgm using table table
ERROR: illegal in this state (2), std B
ERROR: required precursor (0, 4) not yet seen
(14.1, 0)        (3, 6, 2)      Clip Indicator OFF
MILSPEC 28003 error: illegal hatch index
(173, 2354)      (5, 24, 2)     Hatch Index 6
(0, 1) occurred 1 time
(0, 2) 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, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(1, 12) occurred 1 time
(1, 13) occurred 1 time
(2, 2) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
```

(3, 2) occurred 1 time
(3, 6) occurred 1 time
(3, 6) occurred illegally 1 time
(4, 1) occurred 32 times
(4, 3) occurred 5 times
(4, 4) occurred 50 times
(4, 7) occurred 3 times
(4, 9) occurred 1 time
(4, 12) occurred 2 times
(4, 15) occurred 3 times
(4, 16) occurred 2 times
(4, 17) occurred 2 times
(4, 18) occurred 2 times
(4, 19) occurred 1 time
(5, 2) occurred 17 times
(5, 3) occurred 17 times
(5, 4) occurred 17 times
(5, 6) occurred 5 times
(5, 7) occurred 5 times
(5, 8) occurred 5 times
(5, 10) occurred 3 times
(5, 12) occurred 5 times
(5, 13) occurred 1 time
(5, 14) occurred 7 times
(5, 15) occurred 5 times
(5, 16) occurred 7 times
(5, 17) occurred 4 times
(5, 18) occurred 1 time
(5, 22) occurred 10 times
(5, 23) occurred 8 times
(5, 24) occurred 7 times
(5, 27) occurred 2 times
(5, 28) occurred 2 times
(5, 29) occurred 2 times
(5, 30) occurred 10 times
(5, 31) occurred 7 times
(5, 34) occurred 1 time

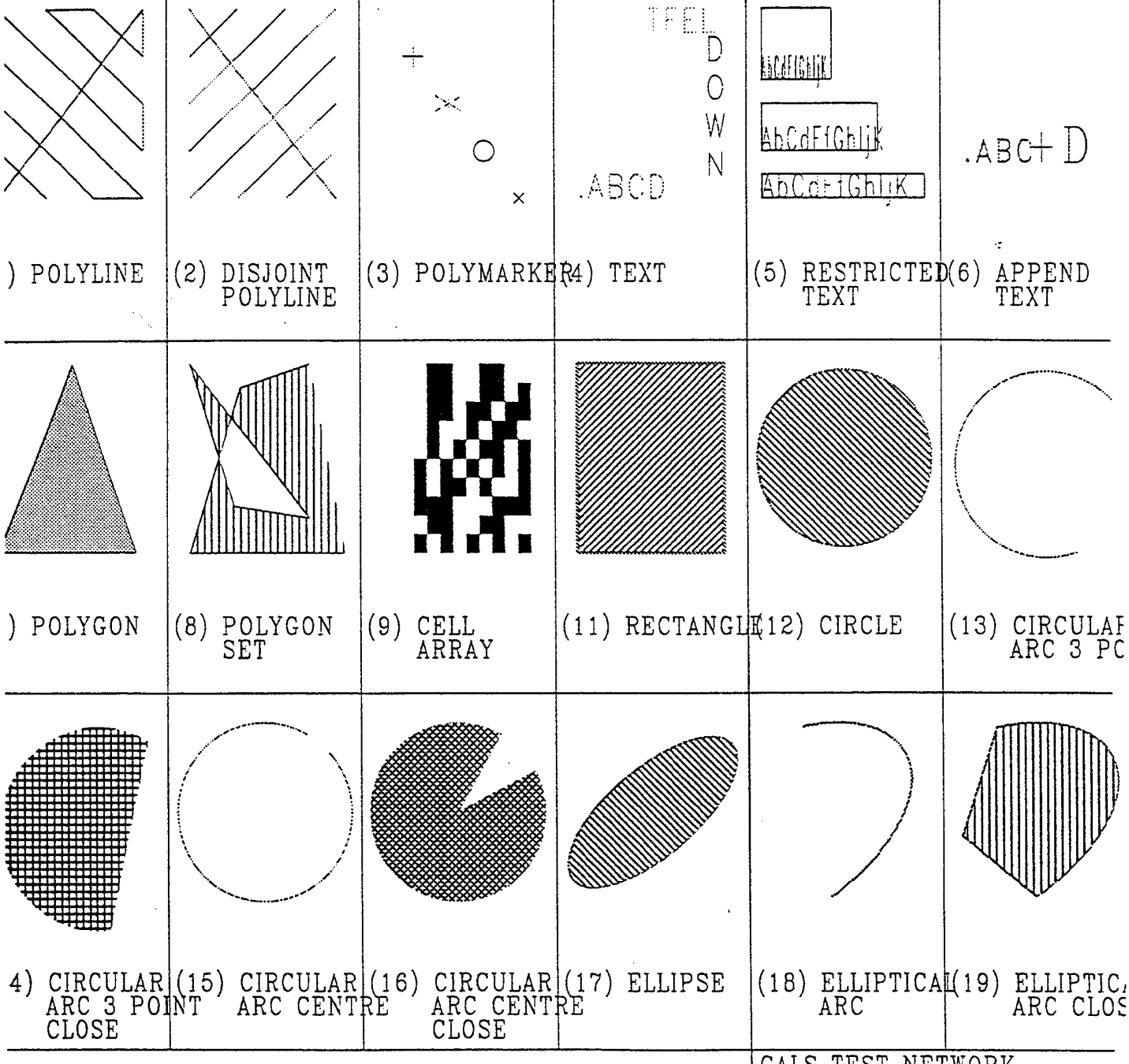
12.1.3 Output CADLeaf



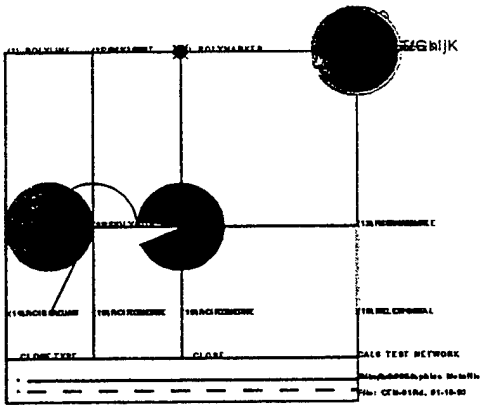
12.1.4 Output CALSView



12.1.5 Output IslandDraw



12.1.6 Output Harvard Graphics



hg305
C104

12.1.7 Output IslandDraw v4.0