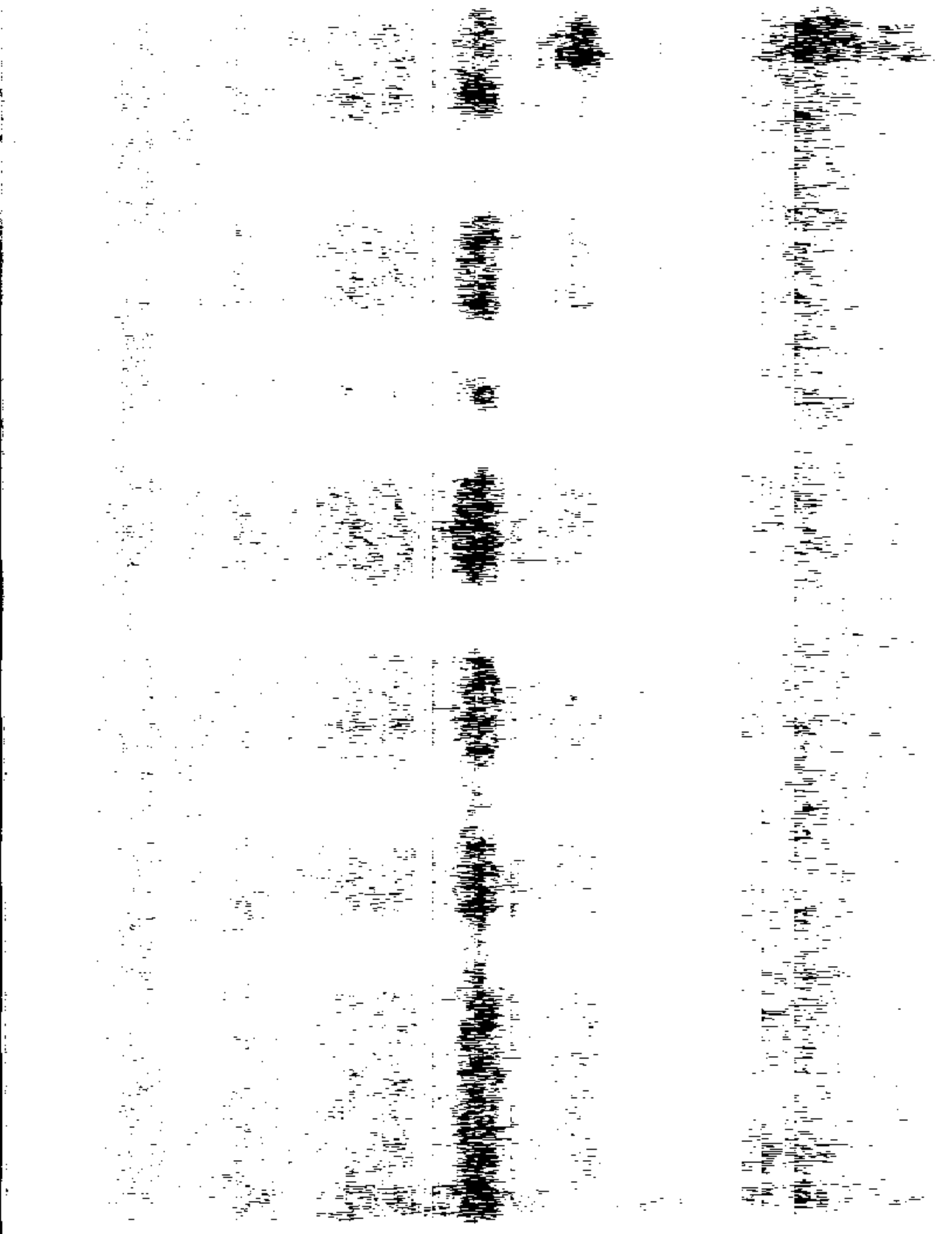




FINAL TEST REPORT

CONFIDENTIAL

Global Test Operations
Advanced Vehicle Technology**"RECORD COPY"**Schedule No. 7-7-17Retain Until 2015TO: K. Arthurs
R. H. KarbowskiTest Order No. T-16489
Work Task W. O. No. B4006
Test Date 1-10-95
Date Reported 3-9-95
Sheet 1 of 53SUBJECT: Crash Test 9691 (90° Right Side Fixed Pole Impact at 15.1 ±
0.4 mph, 24.3 ± 0.6 km/h) - 199X Crown Victoria (EM-114)
4-Door SedanREQUESTED BY: Vehicle Safety and CAE Department, Advanced Vehicle
Technology - J. E. AbramczykOBJECT: To obtain development data relative to air bag system
sensors.SUMMARY OF
TEST RESULTS: See Section 1.0 for air bag system sensor data.
R. G. Roosa
Product Test EngineerConcur: 
C. Tomai
Section Supervisor
Safety Test Engineering Section

VEHICLE DATA:

Make and Model	1991 Crown Victoria (EN-114) 4-Door Sedan (Production Prototype)	
ID Numbers	2FACP74W0K164220, 517-W-894	
Power Train	4.6L, EFI, Automatic Overdrive Transmission (AODE)	
Fuel Tank(s)	Test Condition: Empty	
Front Seat(s)	Type: Split Bench Cover: Cloth Tracks/Position: 6-Way Power/Mechanical Mid and Down Seat Backs/Position: Adjustable/Not Recorded Head Restraints/Position: RF: Adjustable/Up Lumbar Support/Position: Power/Deflated	
Rear Seat(s)	Type: Bench Cover: Cloth	
Restraint System	RF & RR: 3-Point Continuous Loop Active Belt	
Occupants	RF: BIO-SID Uninstrumented Dummy RR: US-SID Uninstrumented Dummy	
Test Weight	Front: 2193 lb (995 kg) Rear: 2395 lb (1086 kg) Total: 4588 lb (2081 kg)	
Tires	Front: P215/70R15 30 psi (207 kPa) Rear: P215/70R15 30 psi (207 kPa) Spare: Removed	
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel	

GENERAL TEST COMMENTS:

1. Test Procedure

The test was performed according to the following Corporate test procedure(s):

Fixed Barrier Collision, ST-14 dated January 15, 1992.

1.1 Vehicle Alignment

The test vehicle impacted an eight inch diameter steel pole structure, rigidly attached to the barrier face. The vehicle steel pole was aligned so that the point of vehicle impact was the right (passenger side) B-pillar. The test vehicle impacted the pole perpendicular to the barrier face.

2. Remarks

Crash movies, pre- and post- crash still photographs of the test vehicle and copies of this report are available only through the Safety Test Engineering Section after permission is obtained from the test requesting department. The negative numbers of the still photographs are CN309021-5887 through -5920.

TEST RESULTS:**1.0 Sensor Development**

Time histories of the dummy dynamic displacements obtained from Film Analysis are included in this report.

Time histories of the air bag/sensor(s) are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

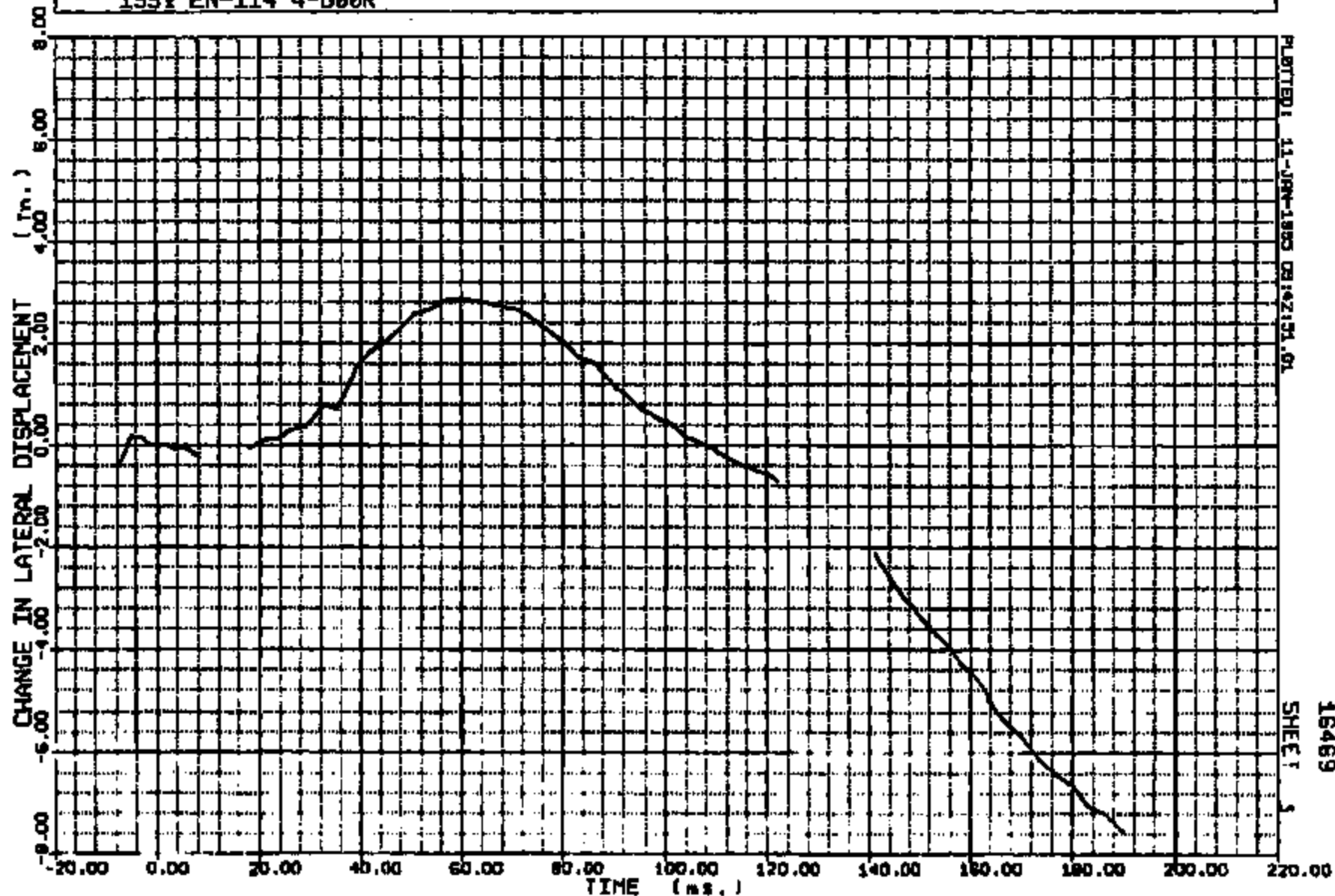
2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

Time histories of the vehicle accelerations and other instrumentation are included in this report.

Time histories of vehicle dynamic displacements obtained from Film Analysis are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

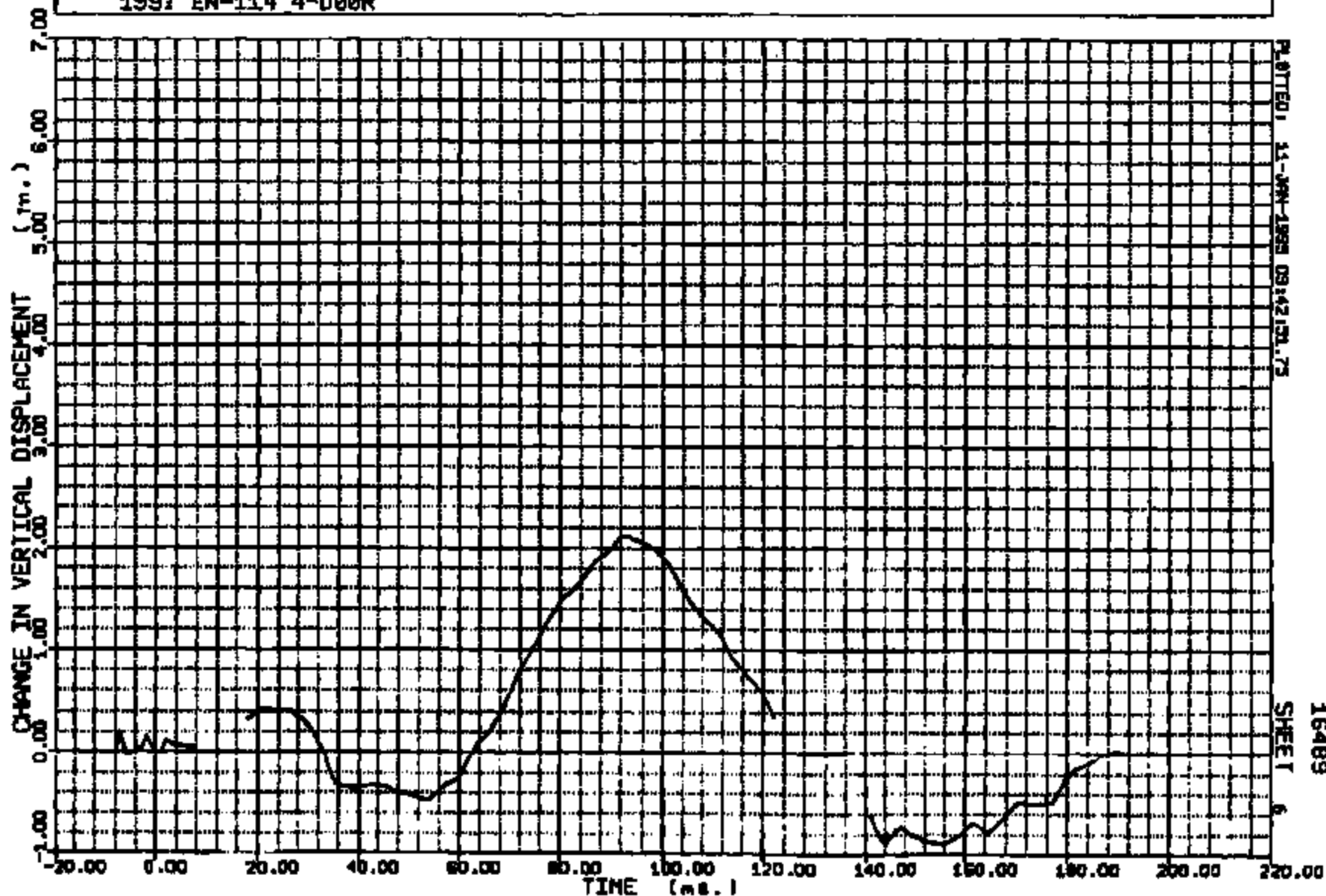
Y - AXIS: FRONT OF PASSENGER HEAD WRT ROOF C/L AT A-PILLAR MAX = 2.871 at 60.00 MIN = -7.539 at 190.00				
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
9691	BARRIER	16489	SCALE	NOT APPLIED
199x EN-114 4-D00R				



CRTS 0009691

ENTIRE PAGE CONFIDENTIAL

Y - AXIS: FRONT OF PASSENGER HEAD WRT ROOF C/L AT A-PILLARX = 2.121 at 89.00 MDN = -.8946 at 155.00				
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
9691	BARRIER	16489	SCALE	NOT APPLIED
199: EN-114 4-000R				

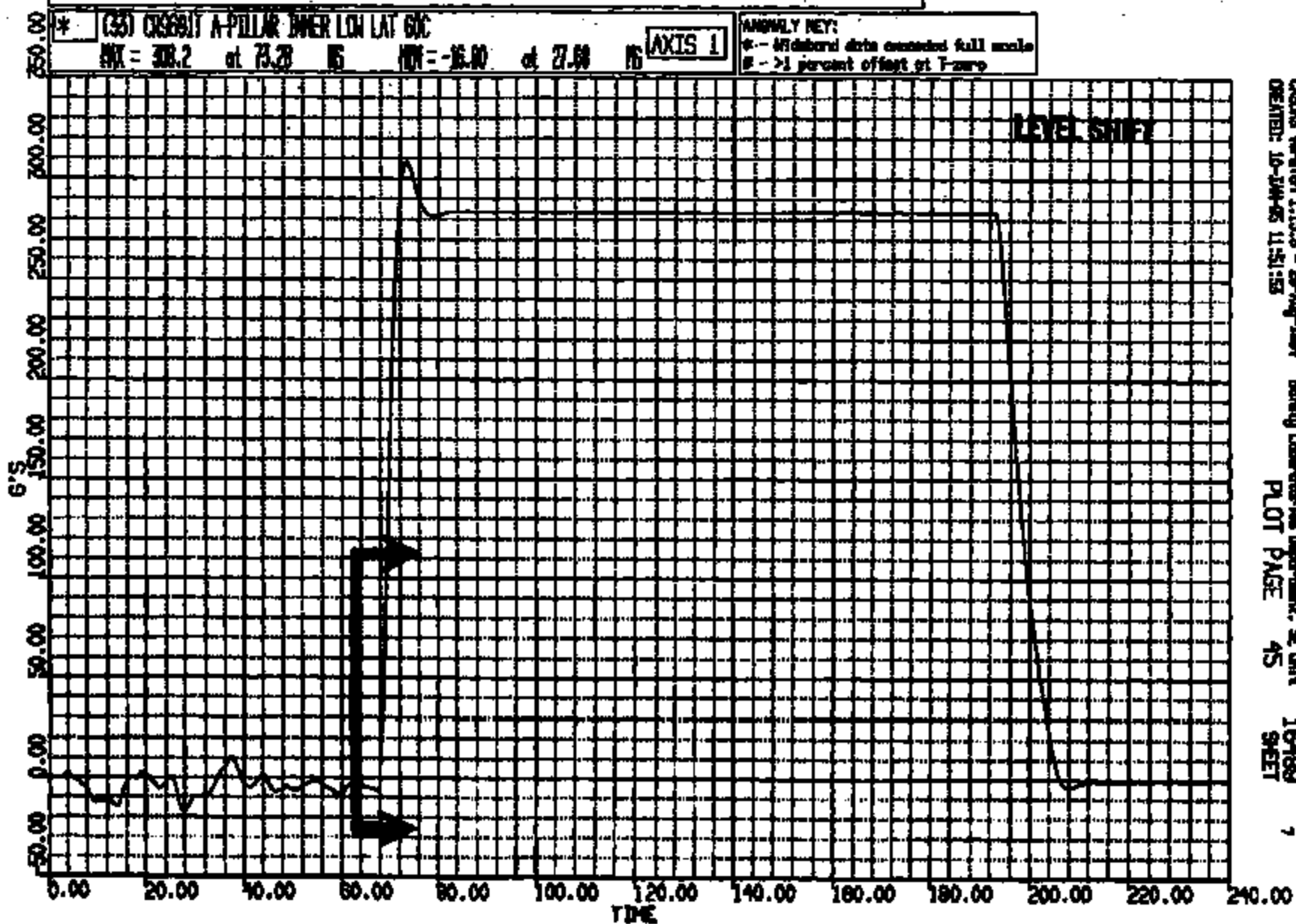


CRIS 0009691

16489

ENTIRE PAGE CONFIDENTIAL

CR R: 8891 TO: 18488 DATE: 85011010 11:51:07
1895 EN-114



CR6891 Version 1.15.3 - 28-Aug-1994 Safety Laboratories Department, SE Unit 18488
CREATED: 10-14-85 11:51:53 PLOT PAGE 45 SHEET 7

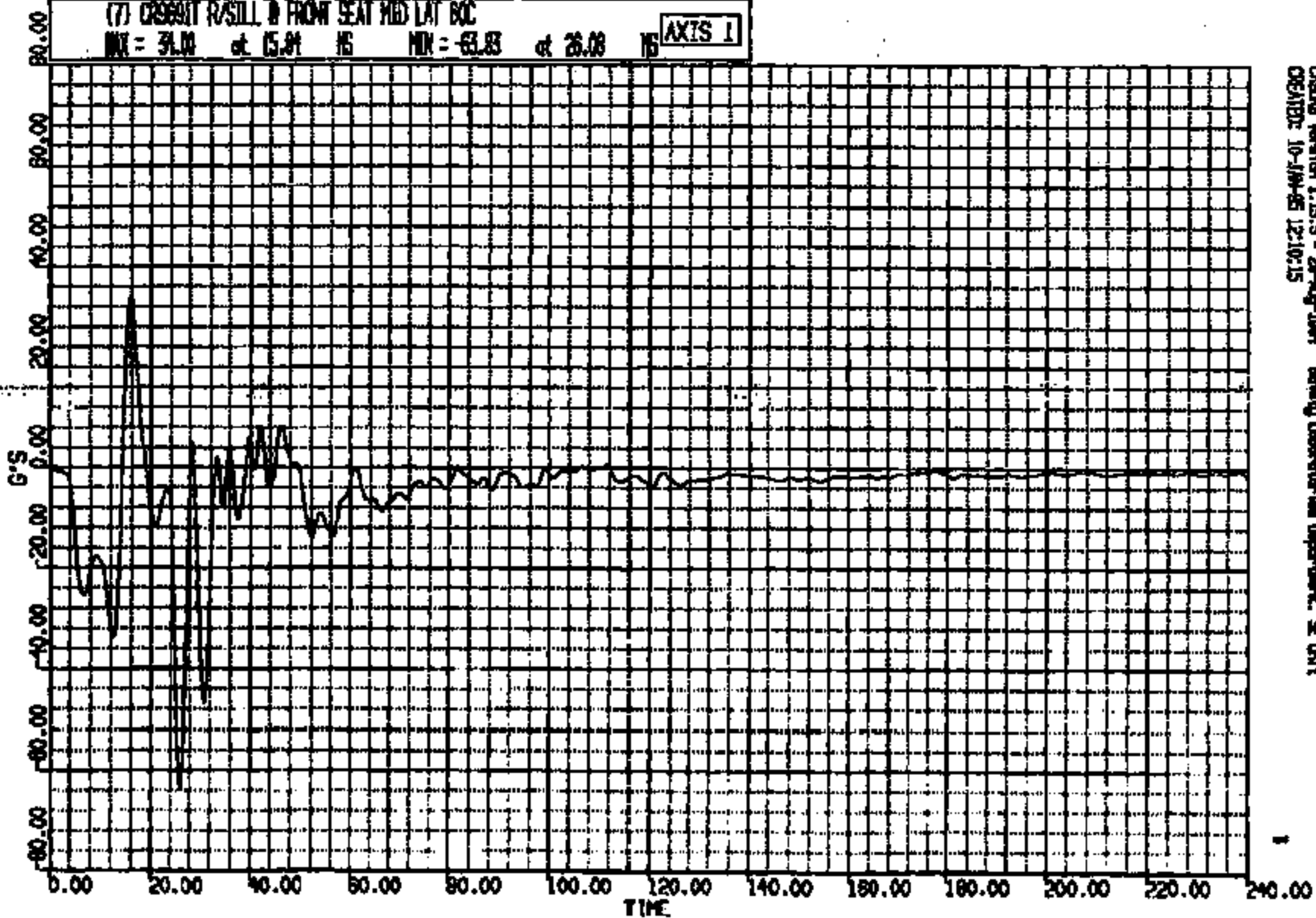
CRIS 0009691

ENTIRE PAGE CONFIDENTIAL

CR R: 9891 TO: 16469 DATE: 86011010 11:31:07
1993 EN-114

(7) CRASHOUT P/SILL & FRONT SEAT MID LAT BOC

MAX = 31.04 at 15.81 HS MIN = -63.83 at 26.08 HS

AXIS I

CHENBS Version 1.15.3 - 28-Aug-1991 Safety Laboratory Department. SE Unit
 CREATED: 10-11-95 12:10:15

ENTIRE PAGE CONFIDENTIAL

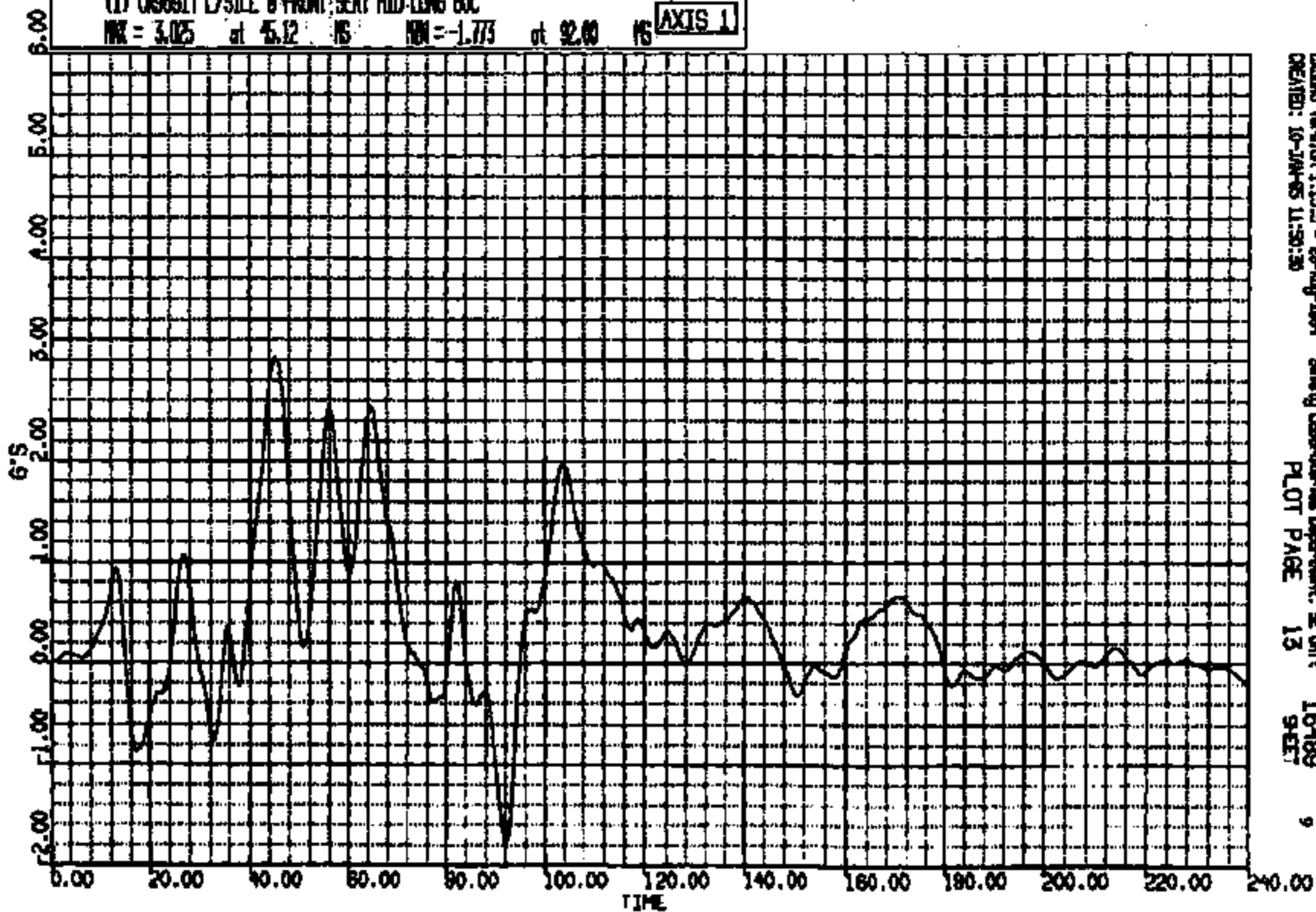
CRTS 0009691

CR R: 9591 TO: 18488 DATE: 95011010 11:51:07
1995 EN-114

(1) CROSSIT L/SILL @ FRONT SEAT MID-LONG BOC

NR = 3.025 at 5.52 NS NR = -1.773 at 92.00 NS

AXIS 1



DEMB Version 1.15.2 - 28-Aug-1994
CREATED: 10-JAN-95 11:50:30

Safety Laboratories Department, SE Unit
PLOT PAGE 13

16489
9
9/87

ENTIRE PAGE CONFIDENTIAL

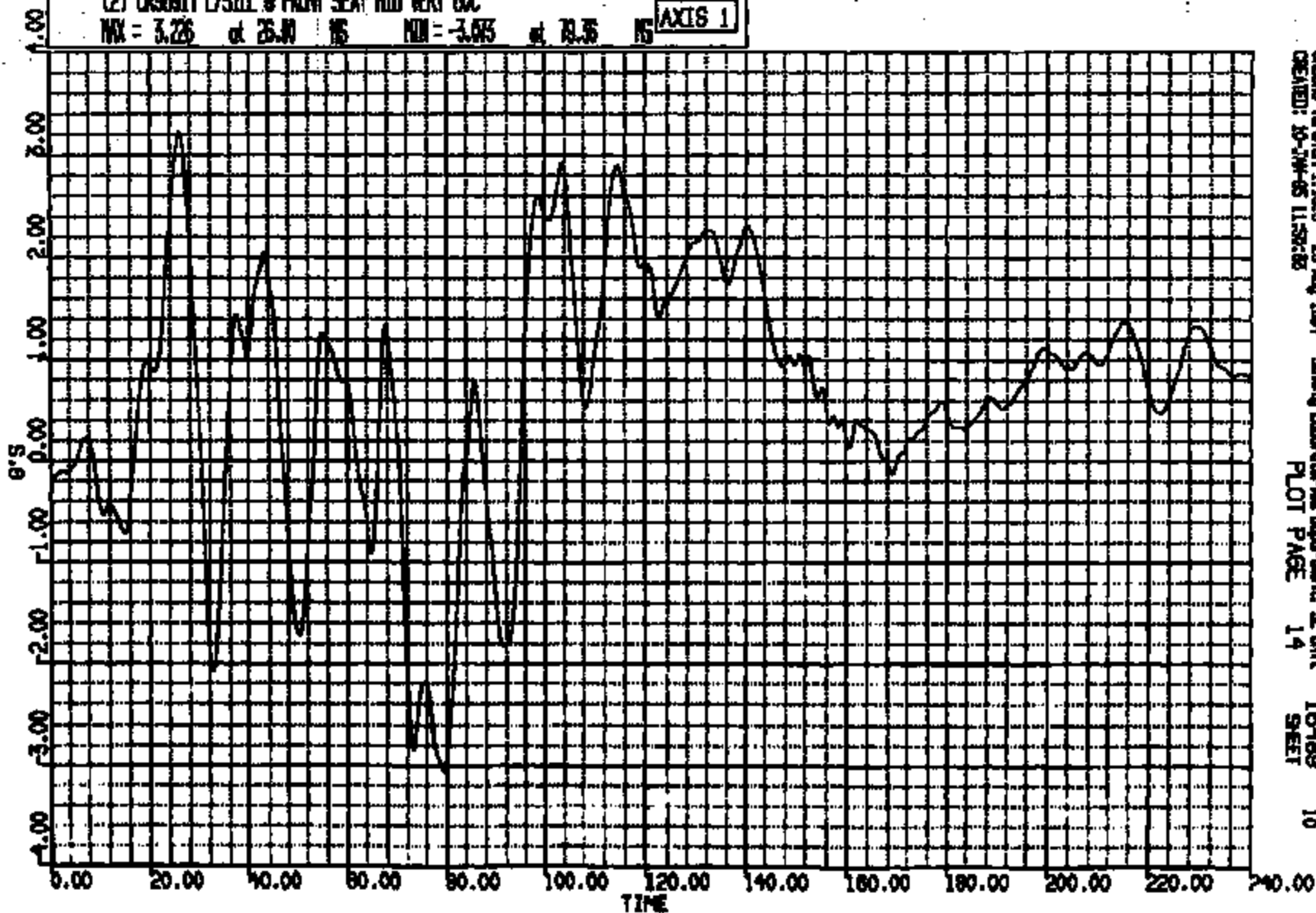
CRIS 0009691

CR R: 0001 TO: 10489 DATE: 05011010 11:31:07
1005 EN-114

(2) CRASH/L/STILL @ FRONT SEAT MID VERT GXC

MAX = 3.26 at 25.00 MS MIN = -3.93 at 73.35 MS

AXIS 1



CRASH Version 1.15.3 - 29-Aug-1994
CREATED: 10-04-05 11:56:00

Safety Laboratory Department, SE Unit

PLOT PAGE 14 SHEET

16489 10

ENTIRE PAGE CONFIDENTIAL

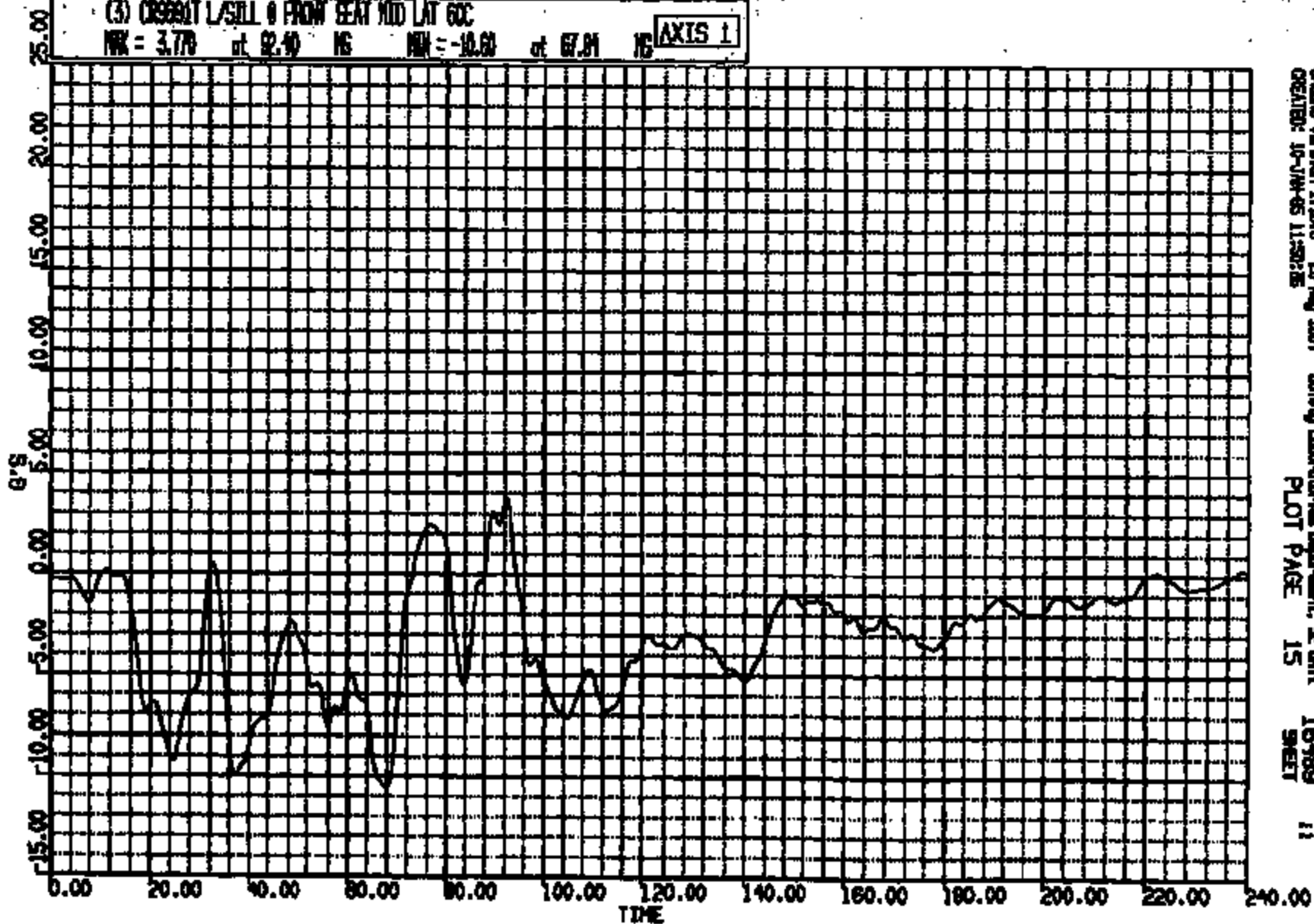
CRITS 0009691

CR R: 8881, TO: 18488 DATE: 85011010 11:51:07
1885 EN-114

(3) CROSSHAT L/SILL @ PROW SEAT MID LAT 60C

PK = 3.770 at 92.40 HS MIN = -10.60 at 67.91 HS

AXIS 1



CRIMS Version 1.15.3 - 28-Aug-1991
CREATED: 10-JUN-85 11:50:25

Safety Laboratories Department, E Unit
PLOT PAGE 15

18489
SHEET 11

CRIS 0009691

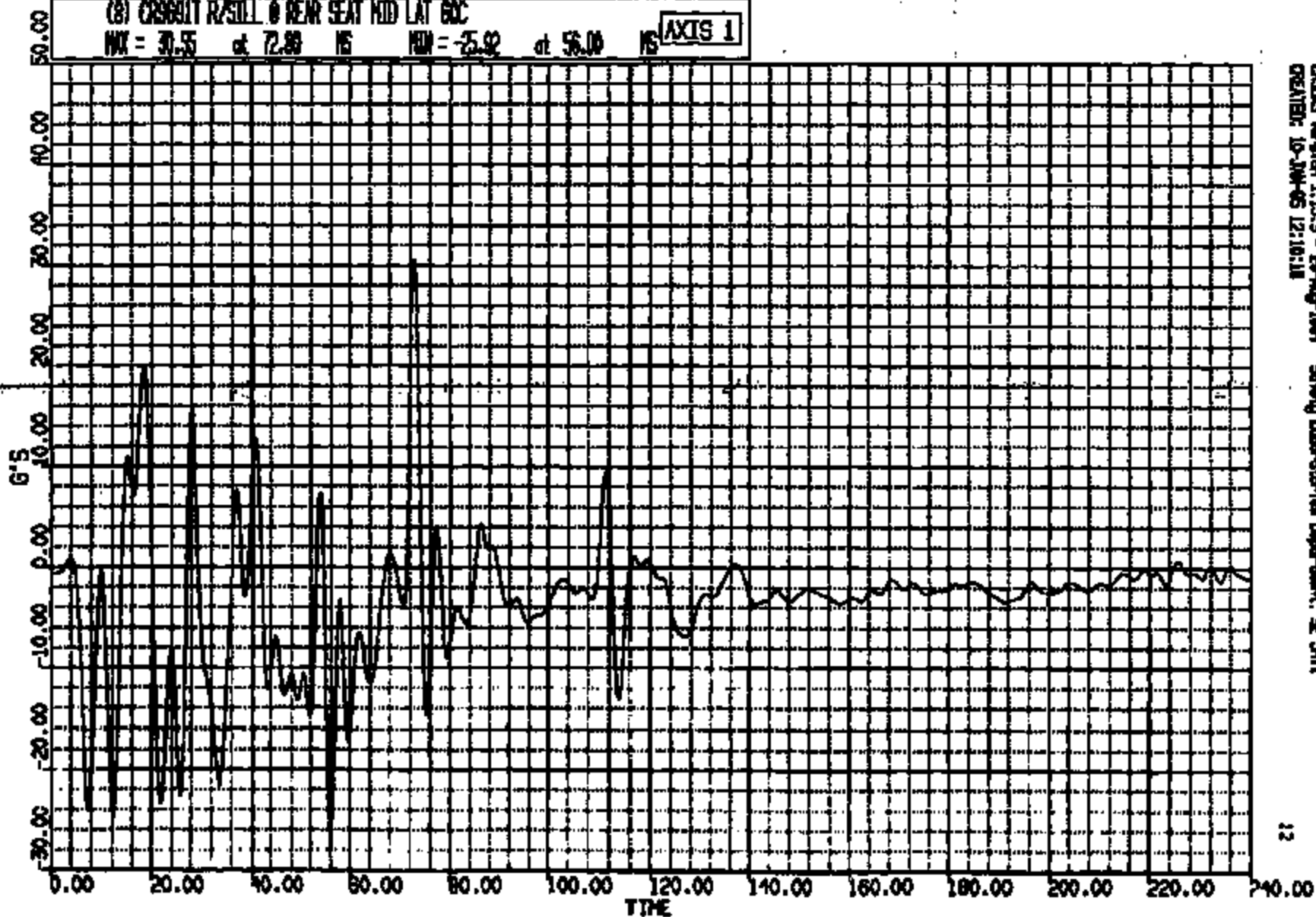
ENTIRE PAGE CONFIDENTIAL

CR R: 9891 TO: 18488 DATE: 95011010 11:31:07
1995 EN-114

(8) CRASHOUT R/SOLL @ REAR SEAT MID LAT GOC

MAX = 30.55 at 72.88 MS MIN = -25.92 at 56.00 MS

AXIS 1



CRASH Version 1.15.3 - 20-Aug-1994 Safety Laboratories Department, SE Unit
CREATED: 10-JUN-95 12:10:18

12

ENTIRE PAGE CONFIDENTIAL

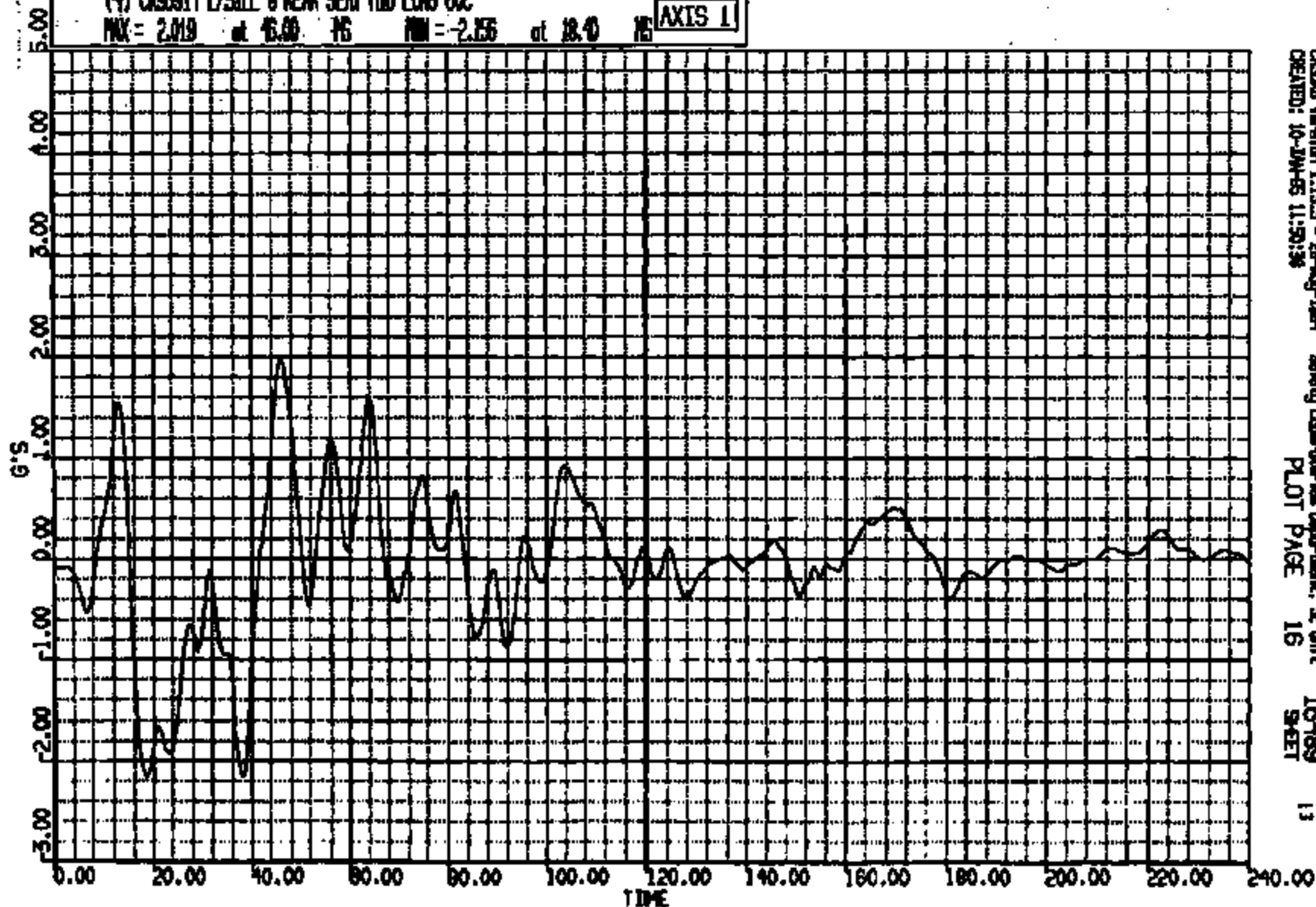
CRTS 0009691

CR R: 8881 TO: 18488 DATE: 85011010 11:31:07
1005 EN-114

(4) CROSSIT L/SILL @ REAR SEAT MID LONG 80C

MAX = 2.019 at 45.00 MS MIN = -2.356 at 18.40 MS

AXIS 1



CADDS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-85 11:50:36

Safety Laboratories Department, SE Unit

PLOT PAGE 16

SHEET

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ENTIRE PAGE CONFIDENTIAL

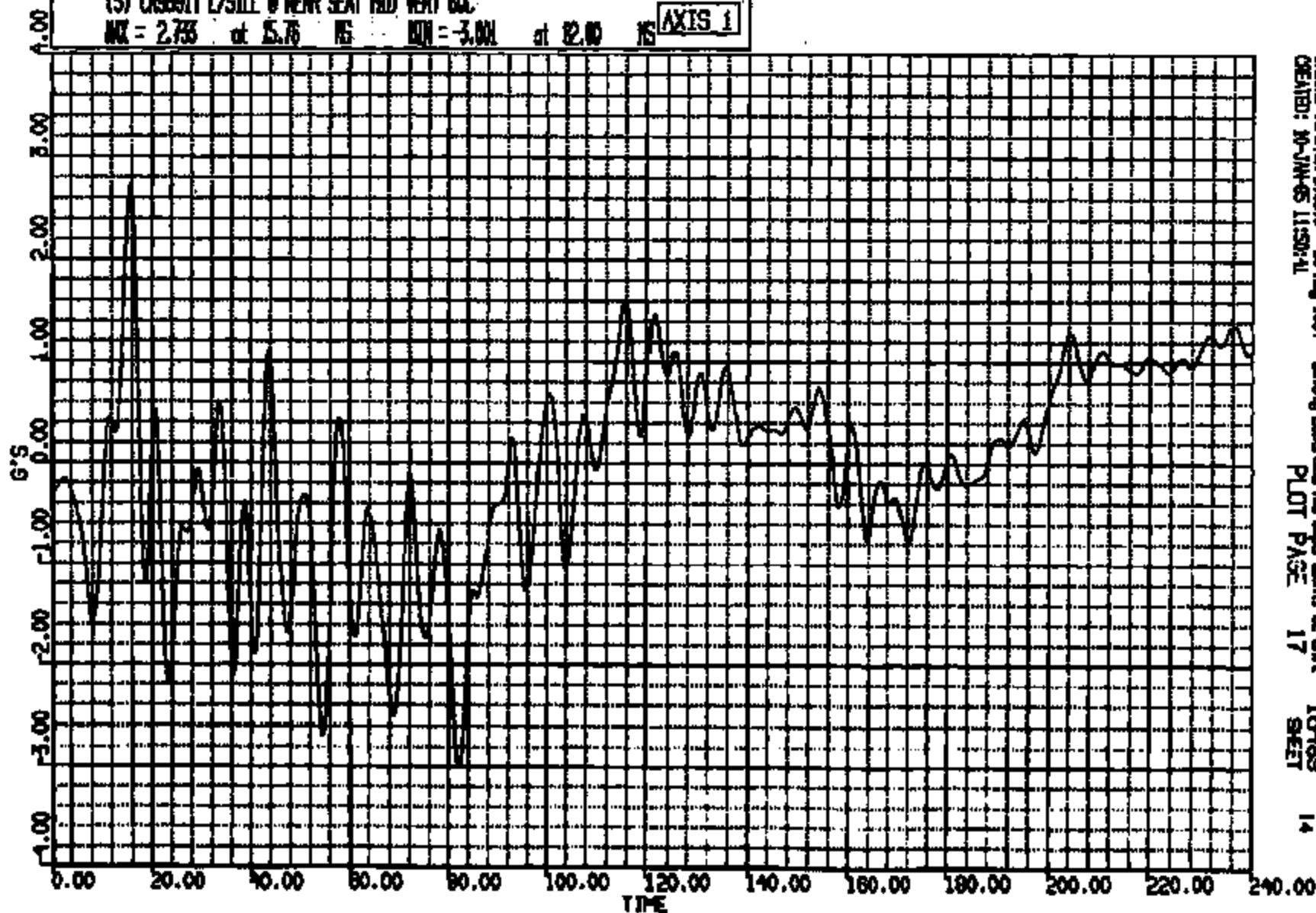
CRTS 0009691

CR R: 8891 TO: 18489 DATE: 95011010 11:51:07
1888 EN-114

(5) CR360IT L/SILL @ REAR SEAT MID VERT GAC

MAX = 2.733 at 5.76 MS MIN = -3.001 at 82.00 MS

AXIS 1



CR3608 Version 1.15.3 - 28-Aug-1994
CREATED: 95-JUN-05 11:50:41

Safety Laboratories Department, SE Unit

PLOT PAGE

17

18489
SHEET

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ENTIRE PAGE CONFIDENTIAL

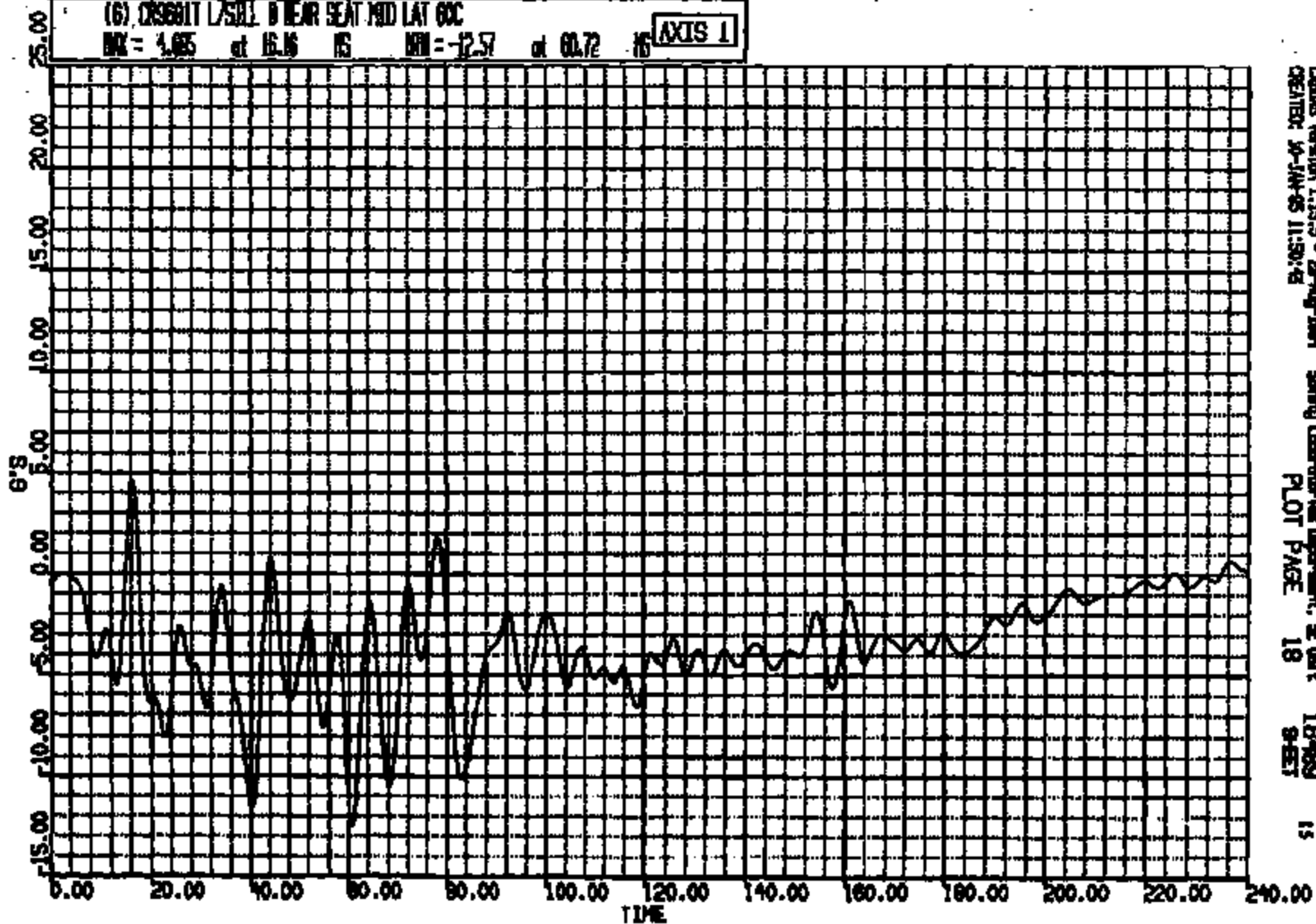
CRIS 0009691

CR R: 8891 TO: 18-88 DATE: 88011010 11:51:07
1005 AN-114

(6) CR3881T L/SRL 0 NEAR BEAT MID LAT 60C

MAX = 4.635 at 16.16 MS MIN = -12.57 at 60.72 MS

AXIS 1



CR3881T Version 1.15.3 - 28-Aug-2001
CREATED: 30-JAN-88 11:50:42

Safety Laboratory Inc Department, E Unit

PLOT PAGE 18 9-SET

15

CR3881T 0009691

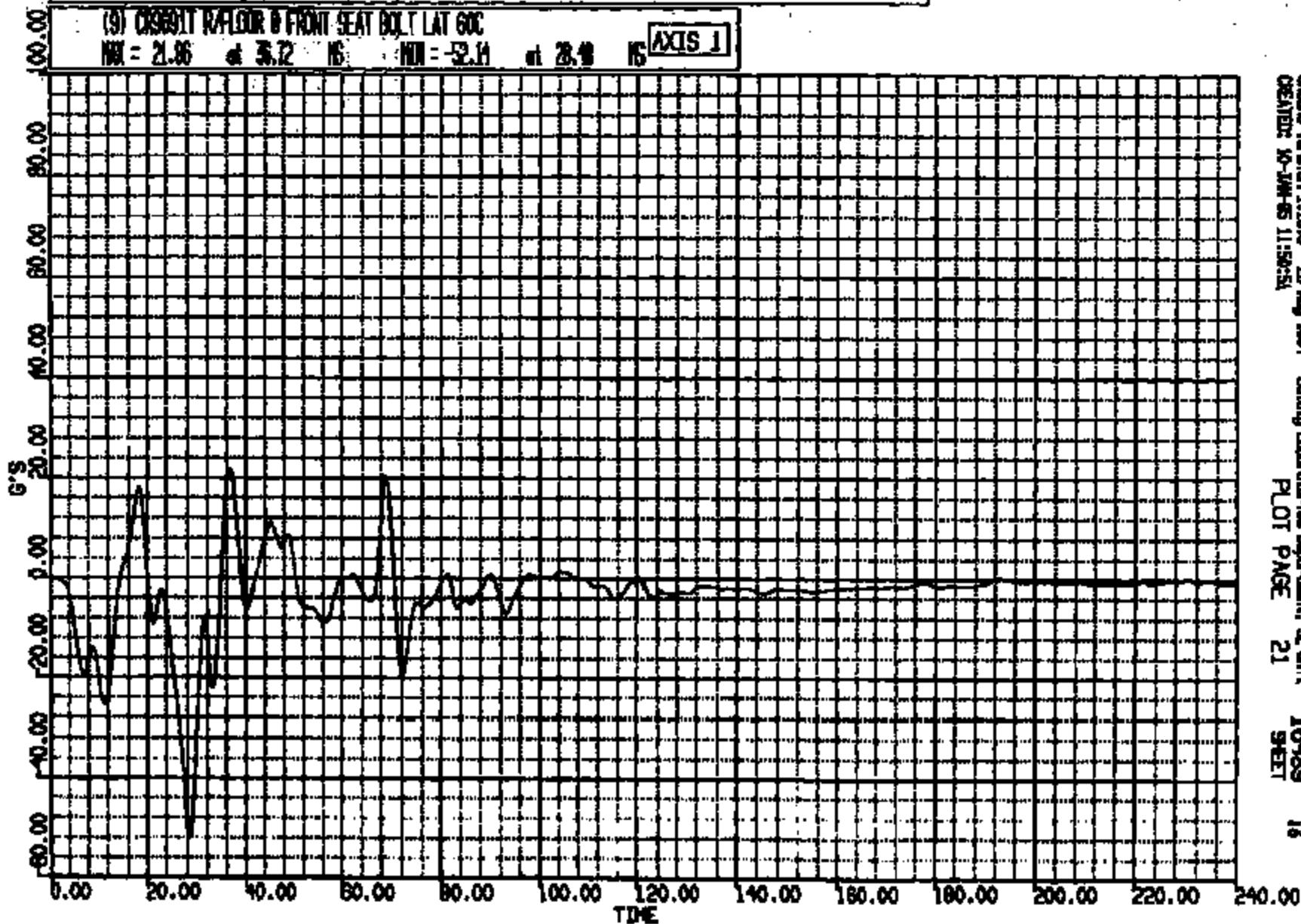
ENTIRE PAGE CONFIDENTIAL

CR R: 8881 TO: 18489 DATE: 85011010 11:31:07
1885 EN-114

(9) CR8891T R/FLOOR 8 FRONT SEAT BOLT LAT 60C

MIN = 21.86 at 3.32 MS MAX = -52.14 at 28.48 MS

AXIS 1



CASUS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-85 11:58:54

Safety Laboratories Department, SE Unit
PLOT PAGE 21

18489 16
SHEET

ENTIRE PAGE CONFIDENTIAL

CRIS 0009691

CR R: 8881 TO: 18488 DATE: 85011010 11:31:07
1888 EN-114

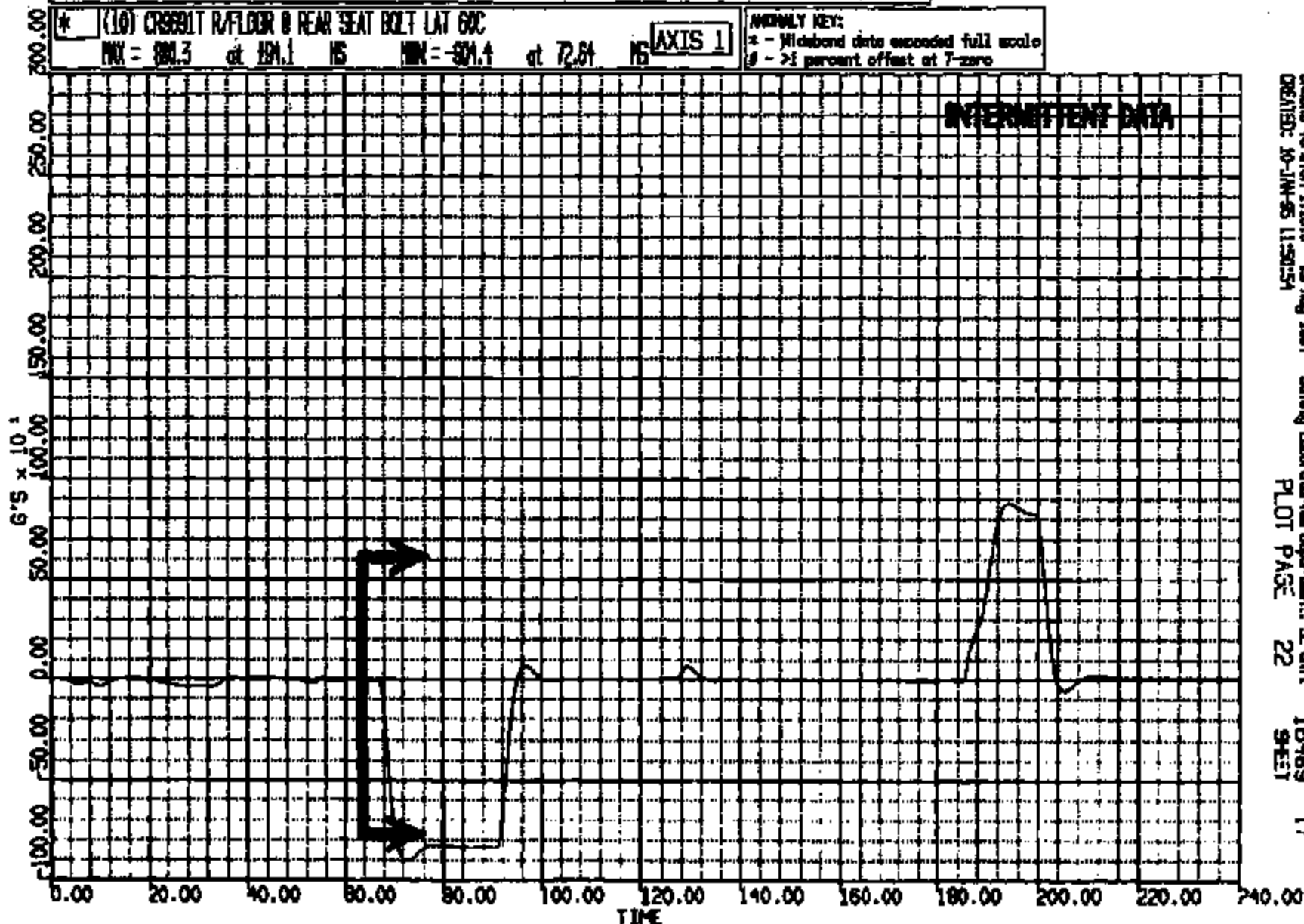
* (10) CR8881T R/FLOOR 8 REAR SEAT BELT LAT GOC

MM = 880.3 at 184.1 HS MM = -884.4 at 72.84 HS

AXIS 1

NOBODY KEY:

* - Midband data exceeded full scale
- >1 percent offset at T-zero



CRIS 0009691

CASUS Version 1.15.3 - 28-Aug-1984
CREATED: 10-JAN-85 11:50:54

Safety Laboratory Department, SE Unit
PLOT PAGE 22 SHEET

18489 17

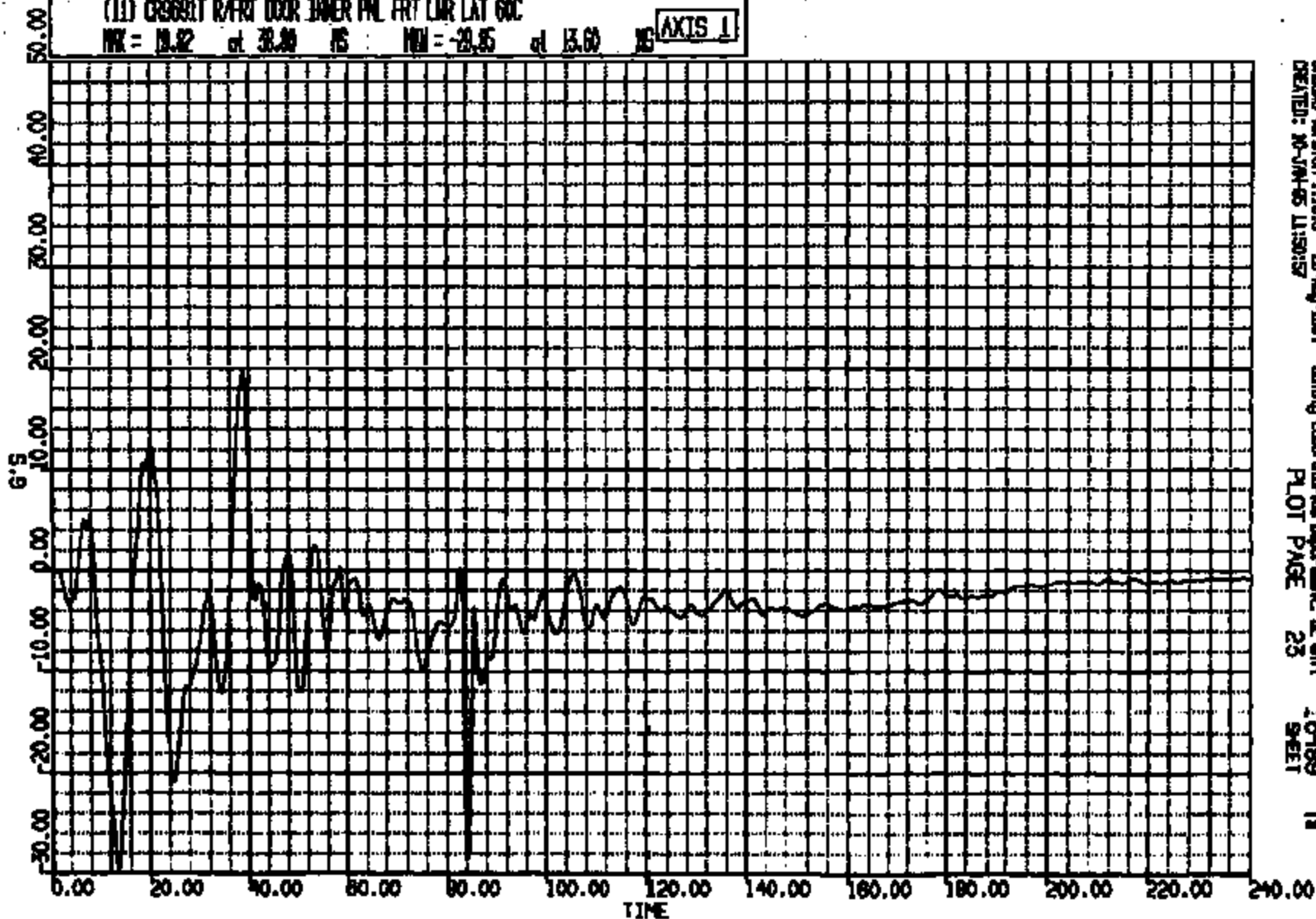
ENTIRE PAGE CONFIDENTIAL

CR R: 8881 TO: 18488 DATE: 86011010 11:51:07
1888 EN-114

(11) G8881T R/FRT DOOR INER PNL FRT LAR LAT 60C

NR = 18.82 of 38.80 IS NM = -28.55 of 13.60 IS

AXIS 1



CHSMB Version 1.15.3 - 28-Aug-1981
CREATED: 10-JAN-85 11:50:57

Safety Laboratories Department, SE Unit
PLOT PAGE 23

SHEET 18

ENTIRE PAGE CONFIDENTIAL

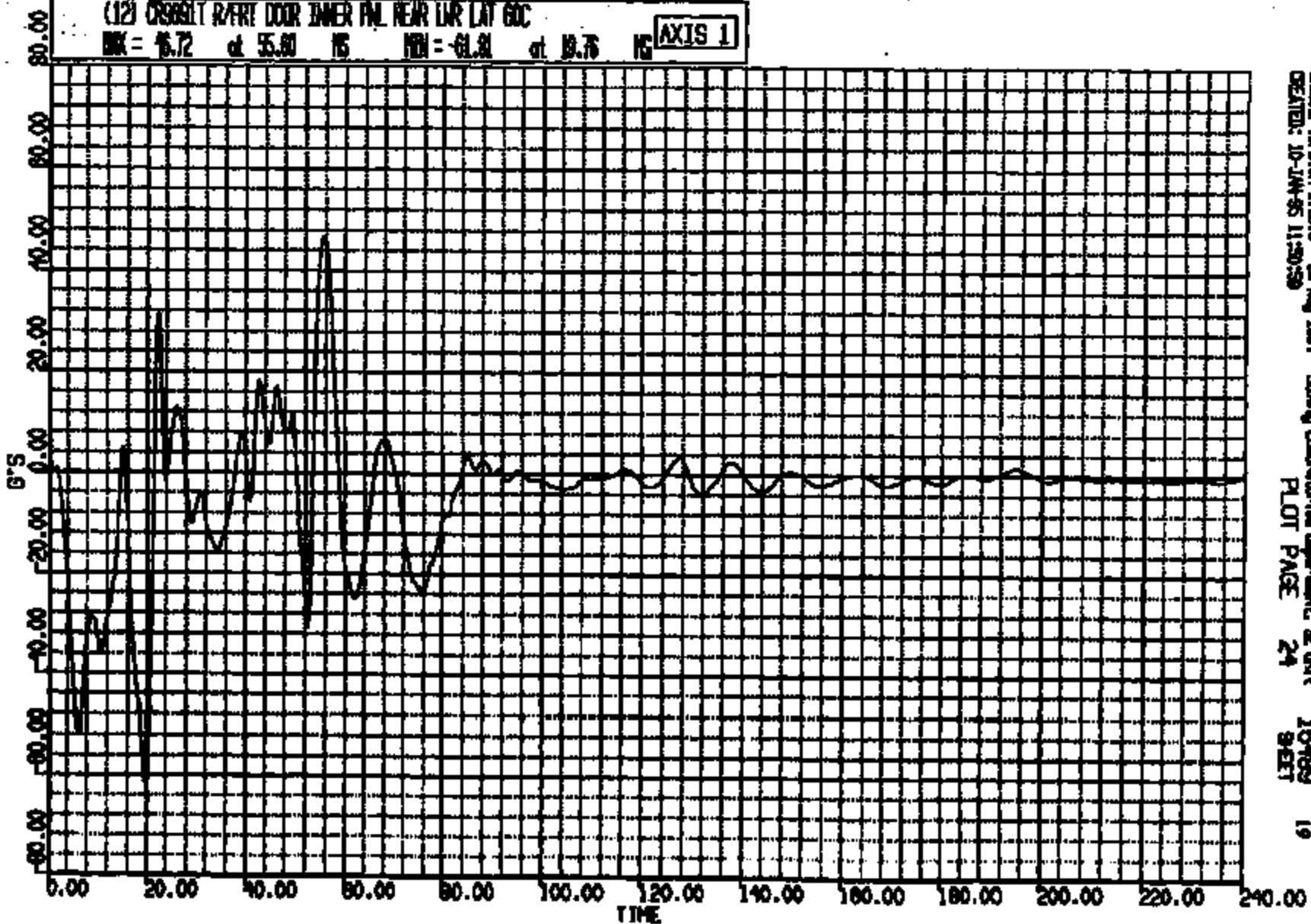
CRIS 0009691

CH R: 8881 TO: 18488 DATE: 88011010 11:31:07
1888 EN-114

(12) CRSSGT R/FRT DOOR INNER PNL NEAR LAR LAT 60C

MAX = 15.72 at 55.80 HS MIN = -61.81 at 18.75 HS

AXIS 1



CHSMB Version 1.15.3 - 28-Aug-1984
CREATED: 10-JAN-85 11:30:50

Safety Laboratory Department, SE Unit

PLOT PAGE 24

18489 19
9817

ENTIRE PAGE CONFIDENTIAL

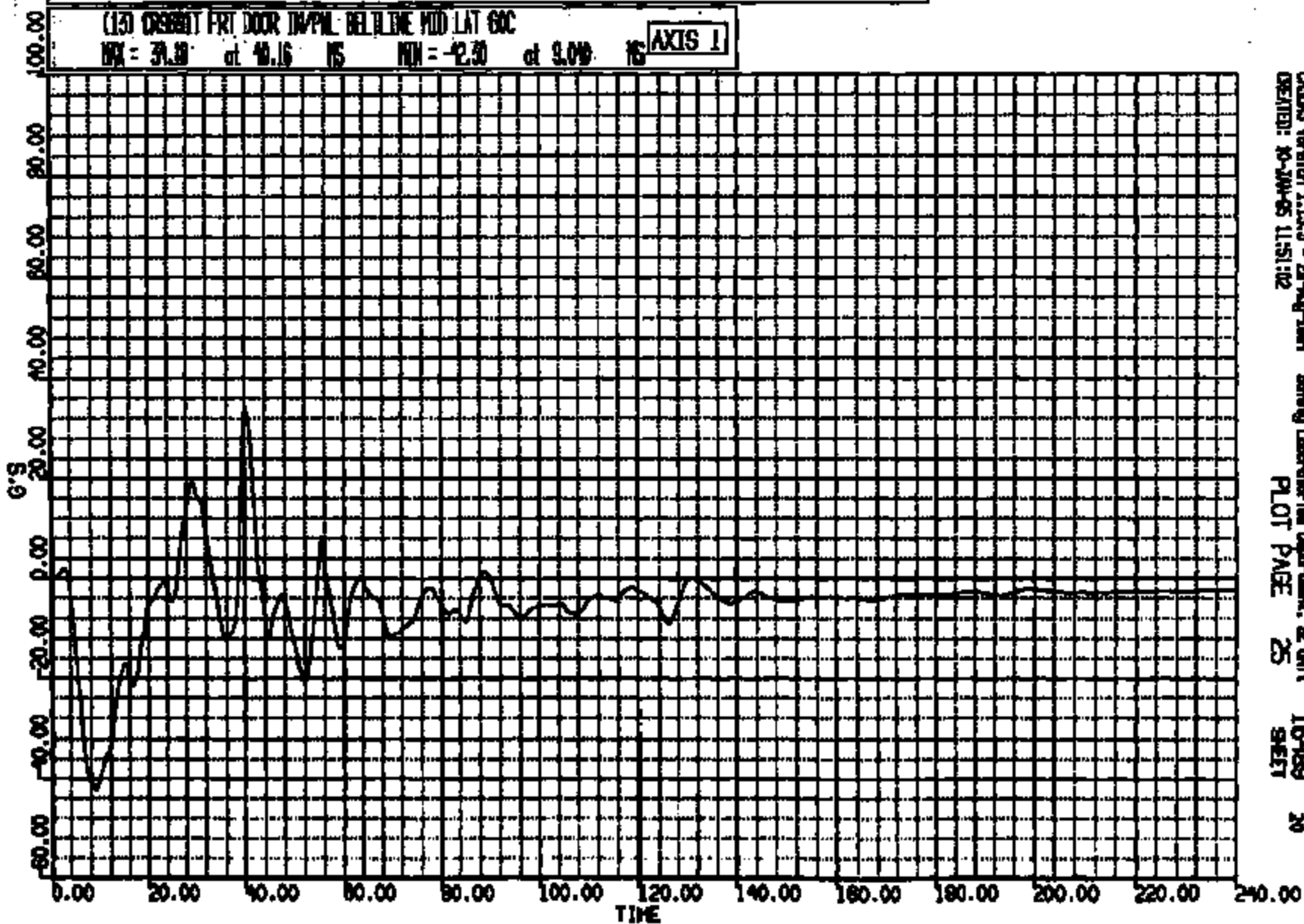
CRIS 0009691

CR R: 8881 TO: 18489 DATE: 85011010 11:31:07
1985 EN-114

(13) CREDIT FRT DOOR IMPUL BELT LINE MID LAT 60C

MAX = 39.18 at 40.16 15 MIN = -12.30 at 9.00 15

AXIS 1



CRTS 0009691

CADDS Version 1.15.3 - 28-Aug-1984
CREATED: 10-20-85 11:51:02

Safety Laboratory Department, SE Unit

PLOT PAGE 25 SHEET

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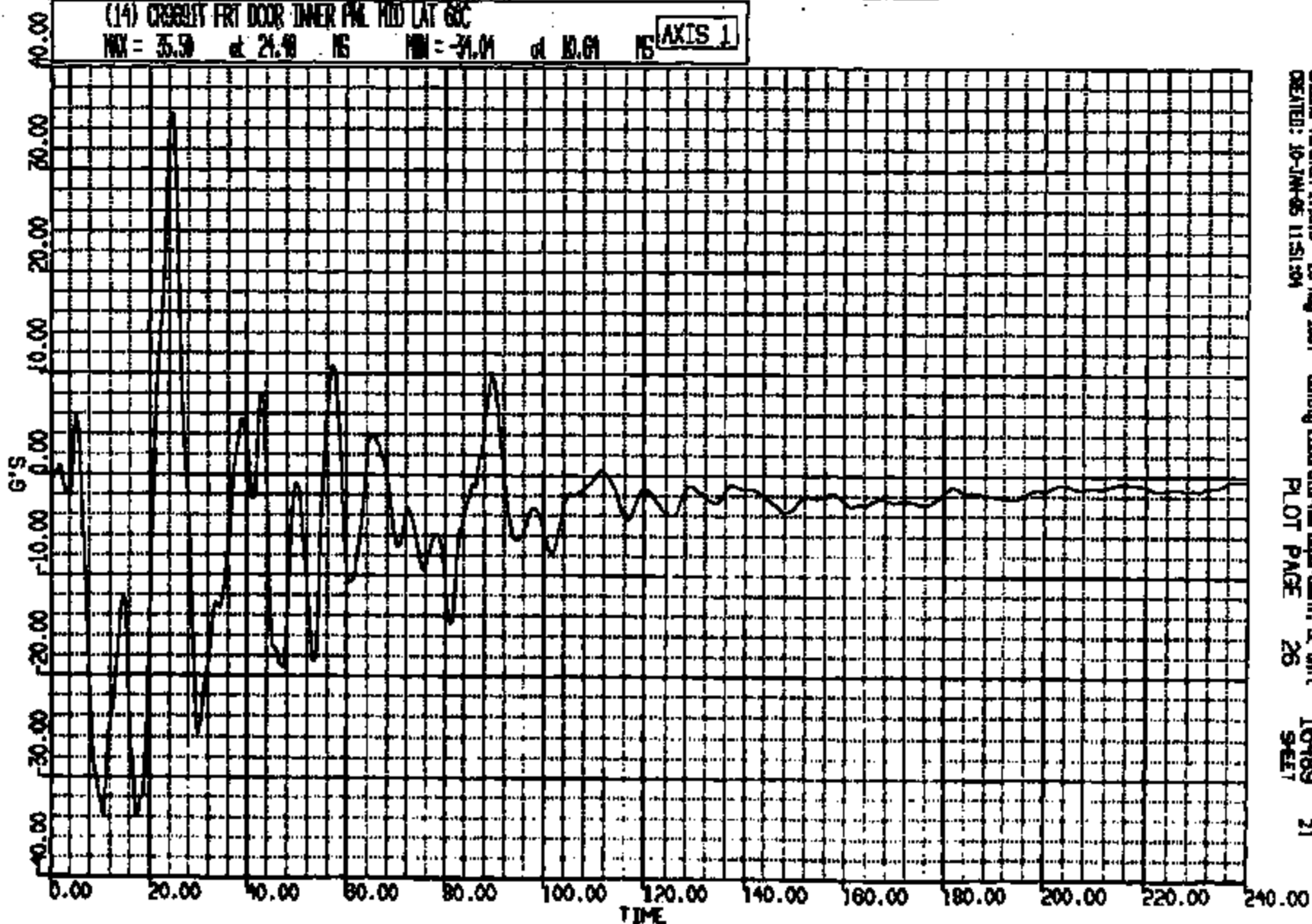
ENTIRE PAGE CONFIDENTIAL

CR #: 0001 TO: 16489 DATE: 05011010 11:51:07
1995 EN-114

(14) CROSSIT FRT DOOR INNER PNL MID LAT 68C

MAX = 35.50 at 21.40 MS MIN = -31.01 at 10.01 MS

AXIS 1



CASUAL Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 11:51:04

Safety Laboratory Department, E. Unit

PLOT PAGE 26 16489 21
94E7

ENTIRE PAGE CONFIDENTIAL

CRTS 0009691

CR R: 0801 TO: 10489 DATE: 95011010 11:51:07
1995 EN-114

(15) CR0801T FRT DOOR IN/PAL ON DOOR BEAM LAT 60C

MAX = 21.19 at 10.56 MS MIN = -61.55 at 1.000 MS

AXIS 1



CRIS 0009691

CR0801T Version 1.15.3 - 20-Aug-1994
CREATED: 10-JAN-95 11:51:07

Safety Laboratory Department, SE Unit

PLOT PAGE 27

16489
SHEET

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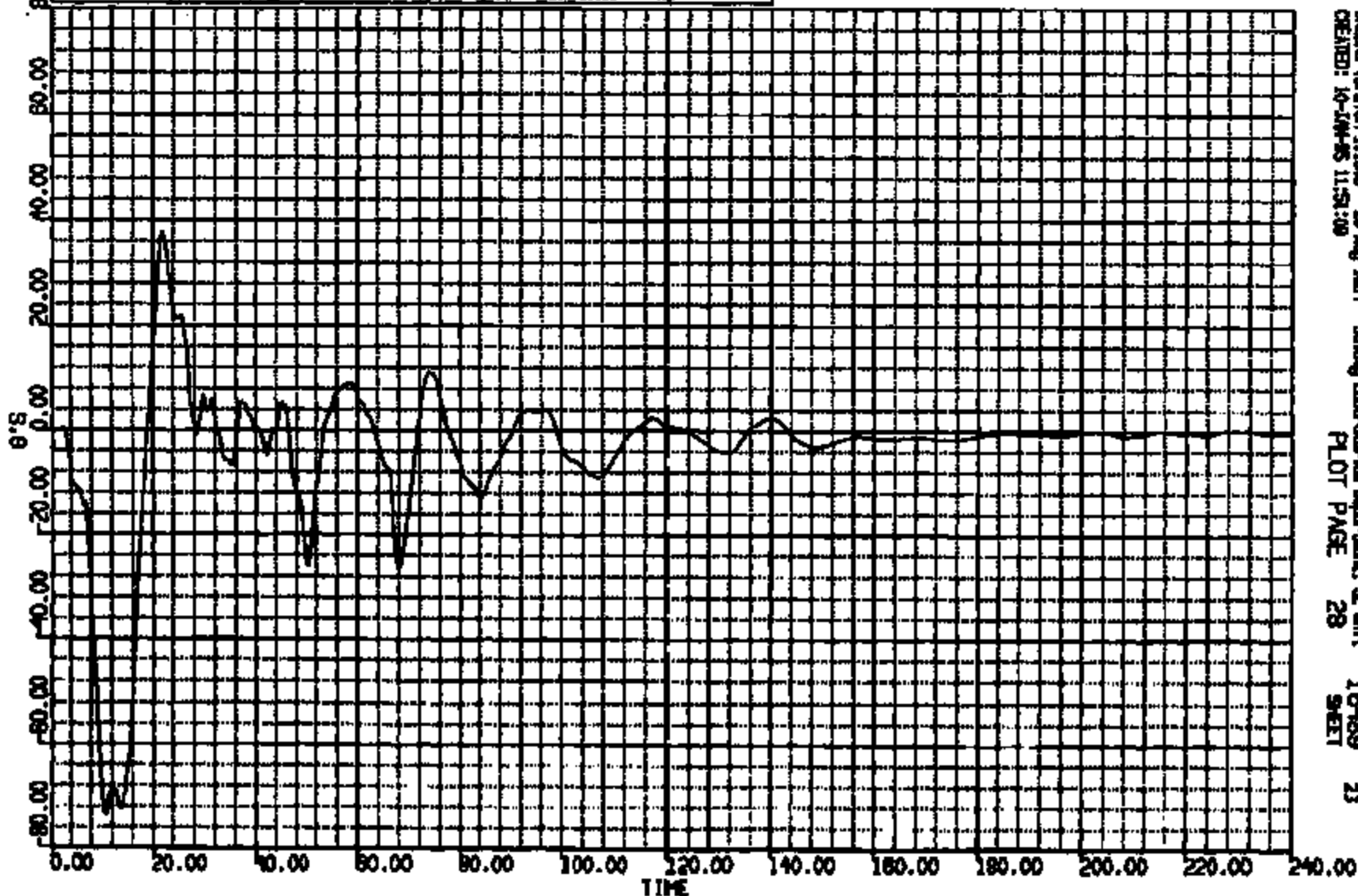
ENTIRE PAGE CONFIDENTIAL

CR R: 8881 TO: 18489 DATE: 85011010 11:51:07
1888 EN-114

(16) CROSBIT REAR DOOR INTRUSION BELTLINE MID LAT 60C

MAX = 57.70 at 21.76 MS MIN = -73.85 at 10.88 MS

AXIS 1



CASPER Version 1.15.3 - 29-Aug-1984
CREATED: 10-10-85 11:51:08

Safety Laboratory Department, SE Unit

PLOT PAGE 28 SHEET 23

ENTIRE PAGE CONFIDENTIAL

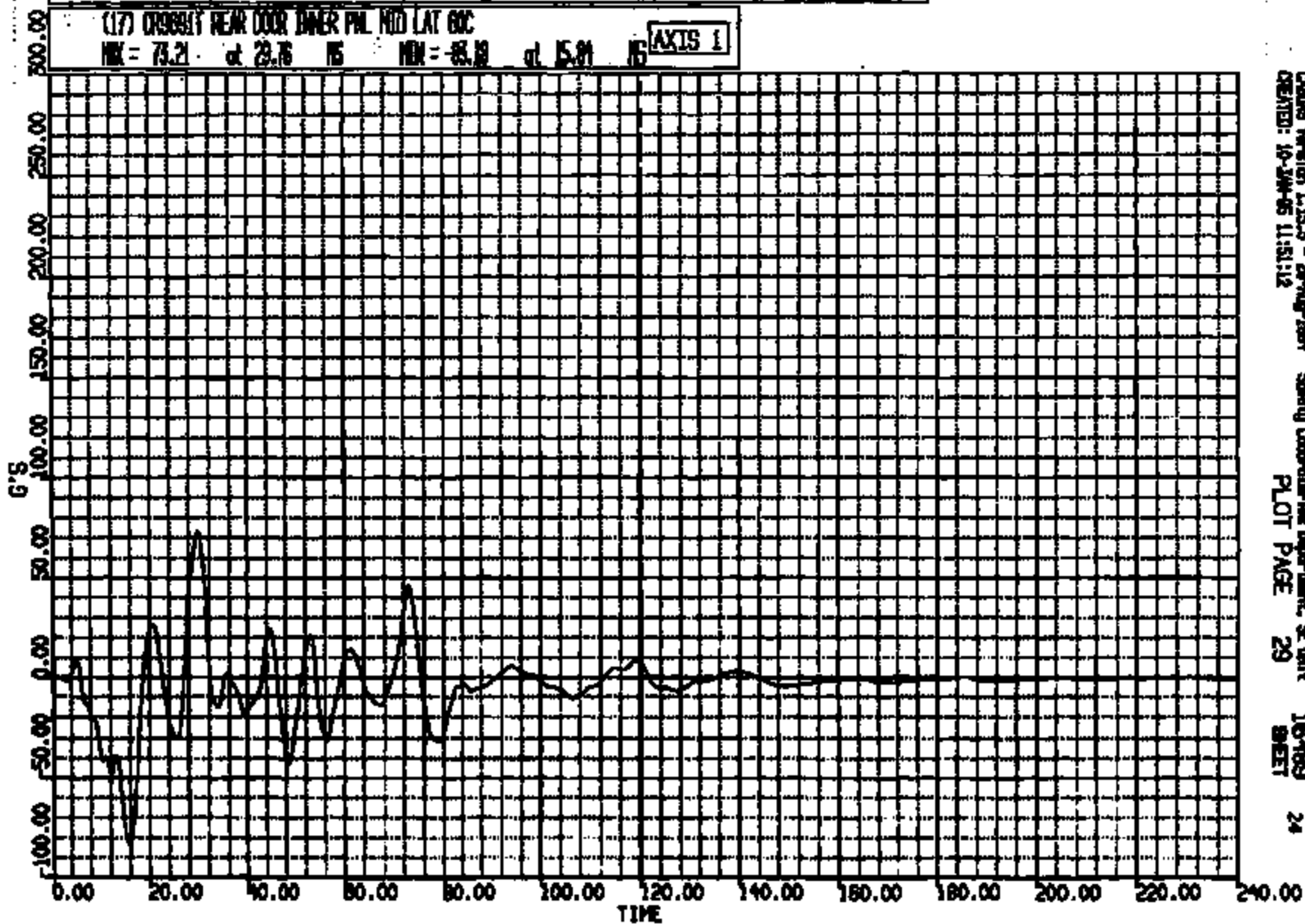
CRIS 0009691

CR R: 8881 TO: 18488 DATE: 88011010 11:51:07
1888 EN-114

(17) CROSSIT REAR DOOR INER PNL MID LAT GOC

MAX = 73.21 at 23.76 MS MIN = -85.19 at 15.01 MS

AXIS 1



CARDAS Version 1.55.3 - 28-Aug-1994
CREATED: 10-24-95 11:51:12

Safety Laboratory Department, SE Unit
PLOT PAGE 29

18488
88ET 24

ENTIRE PAGE CONFIDENTIAL

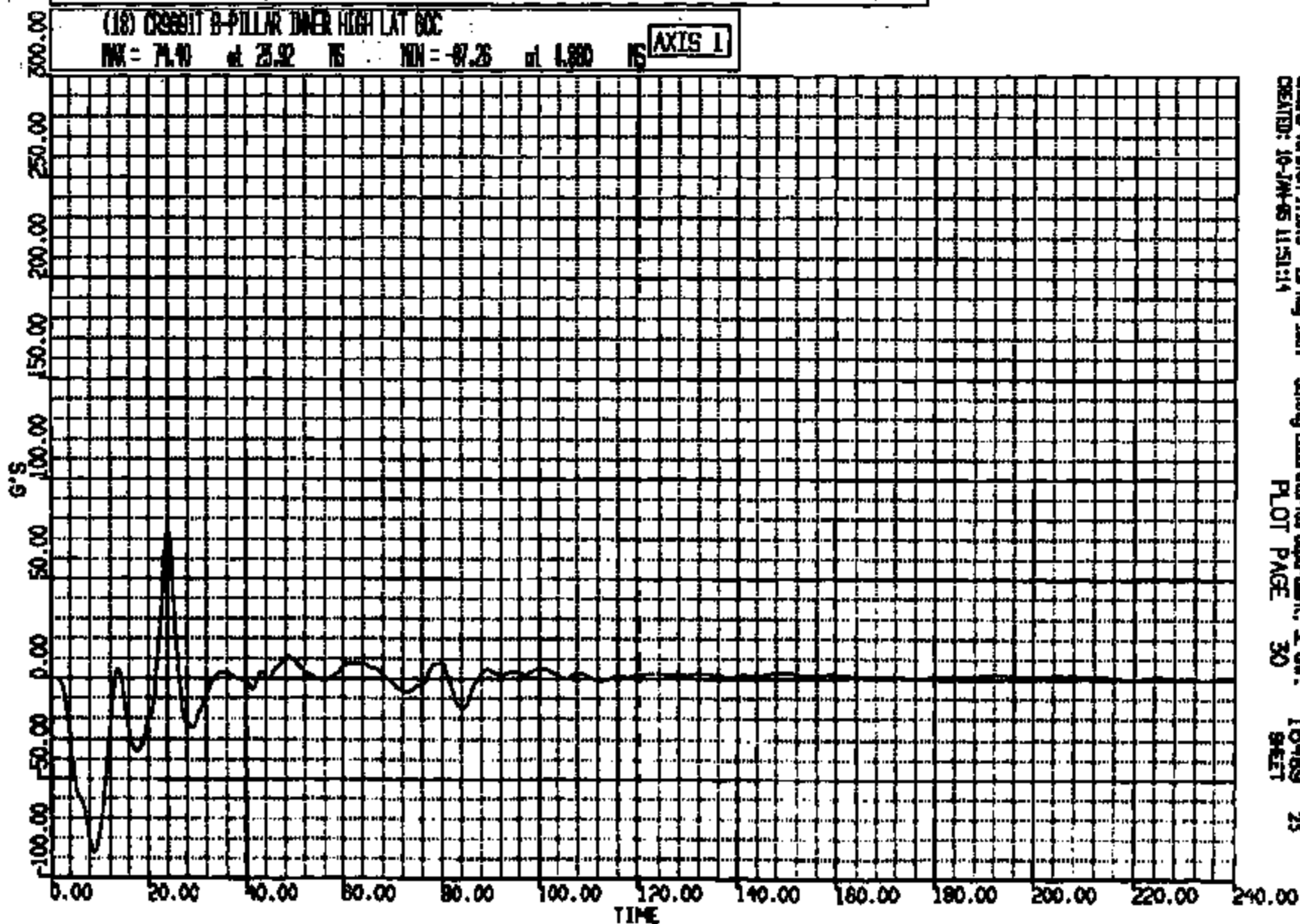
CRIS 0009691

CR R: 0001 TO: 10489 DATE: 05011010 11:51:07
1000 EN-114

(18) CROSBIT B-PILLAR INNER HIGH LAT GOC

INX = 74.40 at 25.92 NS MIN = -87.26 at 1.880 NS

AXIS 1



CHROMS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 11:51:14

Safety Laboratories Department, SE 04:
PLOT PAGE 30

10489 25
SHEET

ENTIRE PAGE CONFIDENTIAL

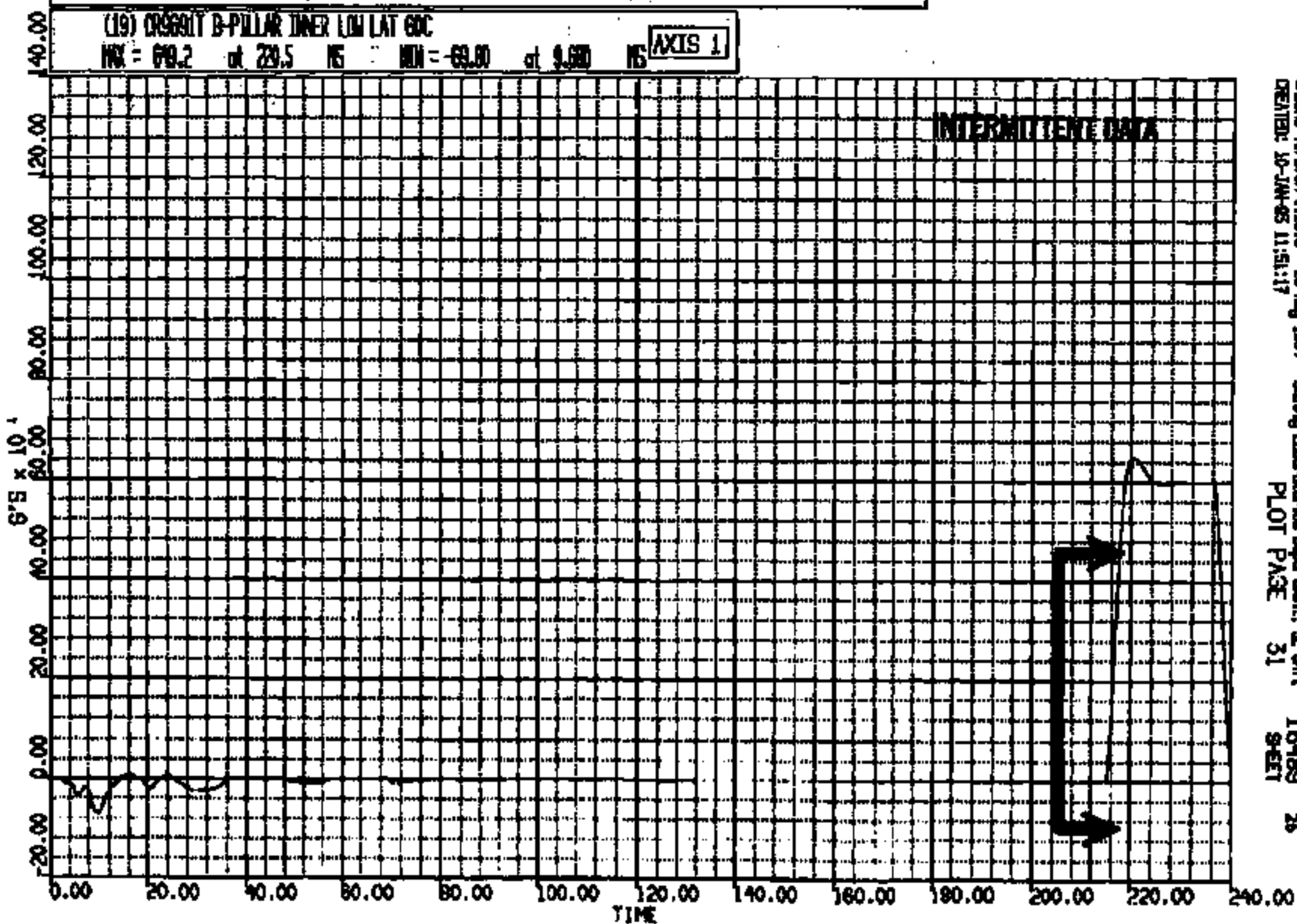
CRIS 0009691

CR R: 8881 TO: 18488 DATE: 85011010 11:31:07
1985 EN-114

(19) CROSSIT B-PILLAR INNER LOW LAT 60C

MAX = 019.2 at 230.5 NS MIN = -69.00 at 9.680 NS

AXIS 1



OSDMS Version 1.15.3 - 28-Aug-1984
CREATED: 10-JAN-85 11:51:17

Safety Laboratories Department, SE Unit

PLOT PAGE 31

18488 25
SHEET

CRIS 0009691

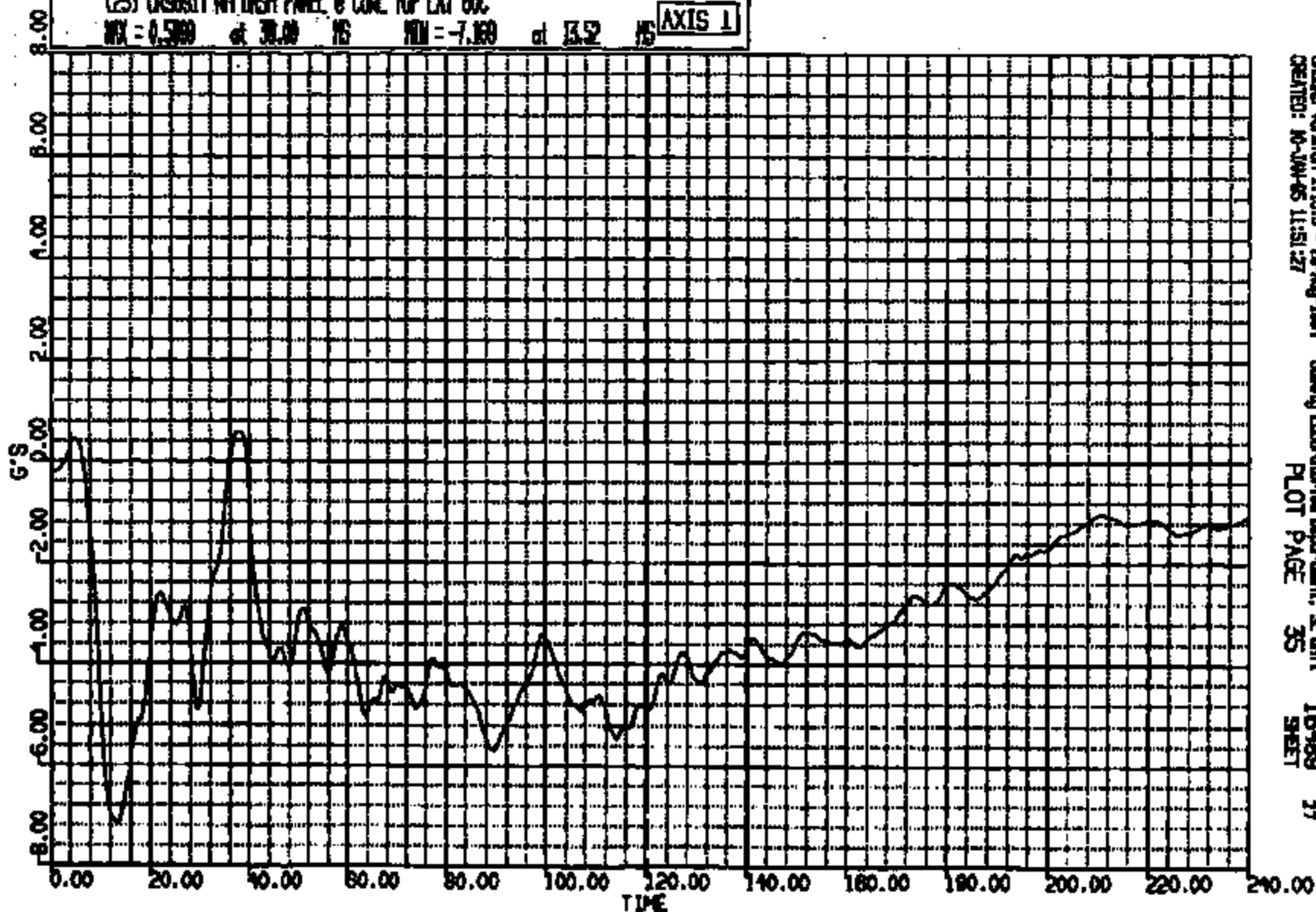
ENTIRE PAGE CONFIDENTIAL

CR R: 8881 TO: 18489 DATE: 95011010 11:31:07
1995 EN-114

(23) ORBITAL IN-DASH PANEL @ CONE TOP LAT 60C

MAX = 0.500 at 30.00 MS MIN = -7.000 at 13.2 MS

AXIS 1



CASIAS Version 1.15.3 - 29-Aug-1994
CREATED: 10-JUN-95 11:51:27

Safety Laboratory Department, SE Unit

PLOT PAGE

35

SHEET

27

ENTIRE PAGE CONFIDENTIAL

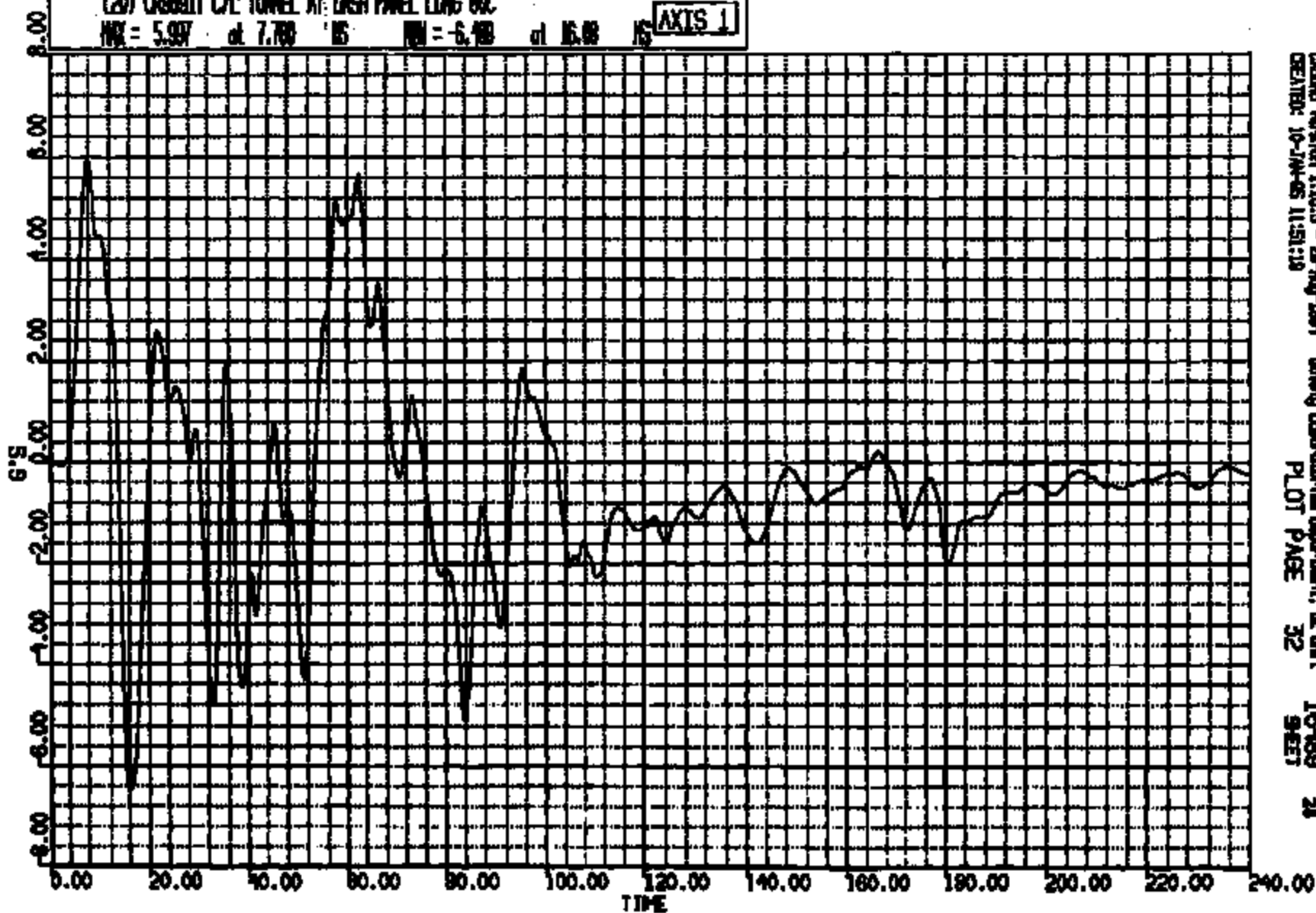
CRIS 0009691

CR R: 8881 TO: 18489 DATE: 88011010 11:51:07
1005 EN-114

(20) ORBIT C/L TUNEL AT DASH PANEL LONG 60C

MAX = 5.997 at 7.700 MS MIN = -6.483 at 16.00 MS

AXIS 1



CHARGE Version 1.15.3 - 28-Aug-1991
CREATED: 10-JAN-95 11:51:10

Safety Laboratory Department, E Unit

PLOT PAGE 32 SHEET

10489 25

ENTIRE PAGE CONFIDENTIAL

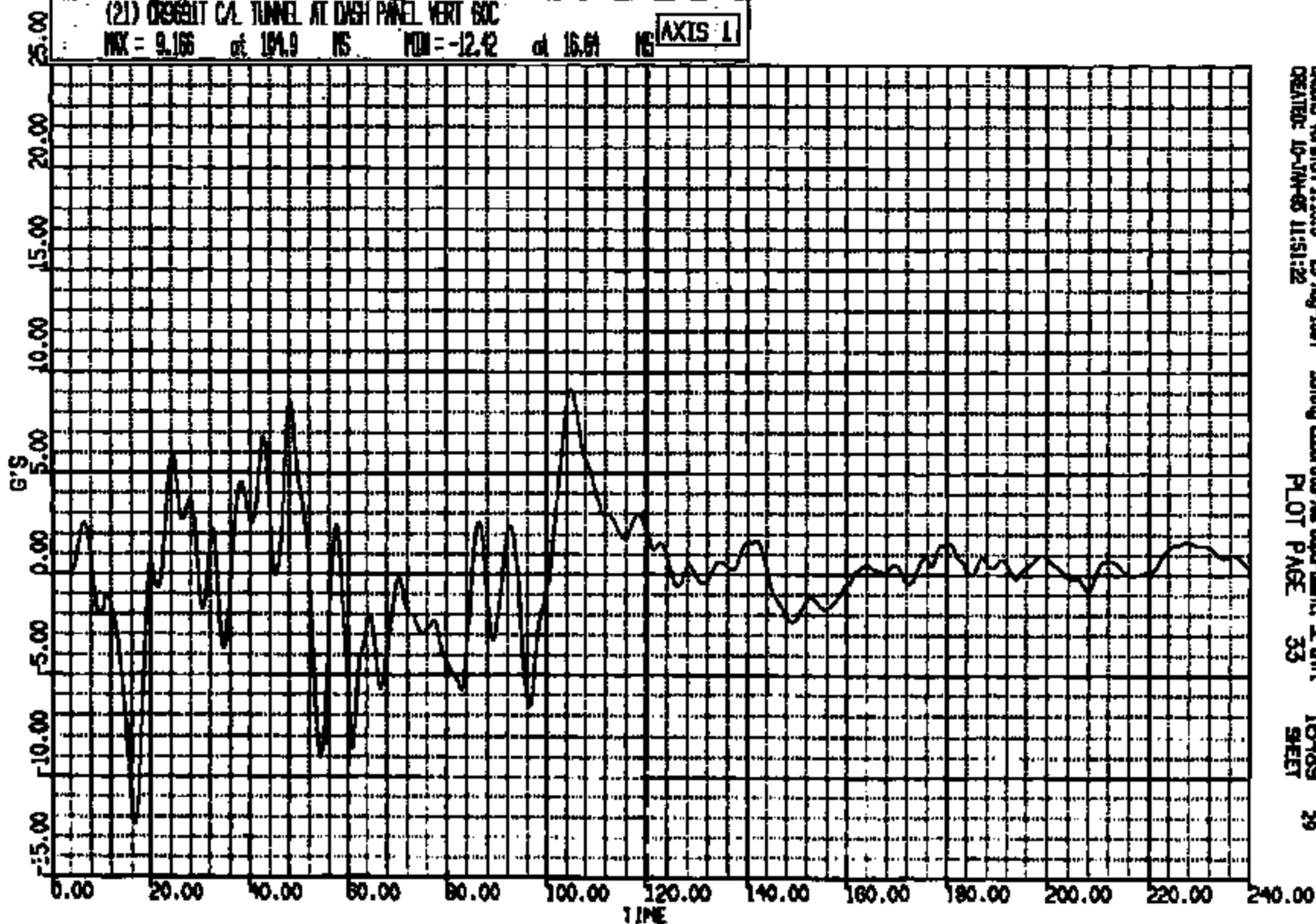
CRIS 0009691

CR R: 2891 TO: 18489 DATE: 25011010 11:31:07
1995 EN-114

(21) CROSSIT C/L TUNNEL AT DASH PANEL VERT 60C

MAX = 9.166 at 194.9 MS MIN = -12.42 at 16.61 MS

AXIS 1



CADMS Version 1.15.3 - 29-Aug-1994
CREATED: 10-JUN-95 11:51:22

Safety Laboratories Department, SE Unit

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18489 29
SHEET

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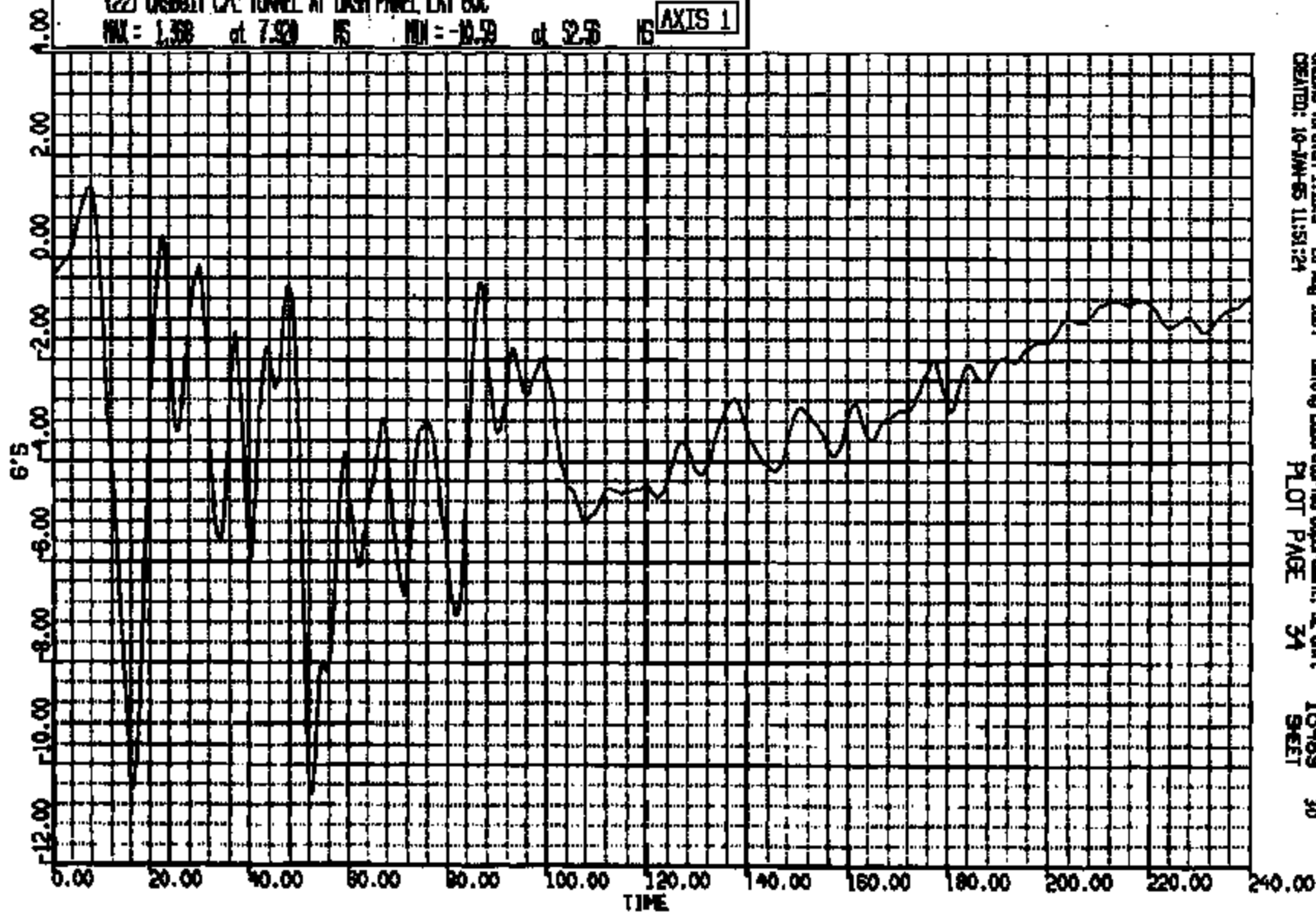
CRTS 0009691

CR R: 0001 TO: 10400 DATE: 05011010 11:51:07
1995 EN-114

(22) ORIGIN CA. TUNNEL AT DASH PANEL LAT 60C

MAX = 1.38 at 7.92 IS MIN = -10.59 at 32.5 IS

AXIS 1



CADMS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 11:51:24

Safety Laboratories Department, SE Unit

PLOT PAGE

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SHEET

10400 30

ENTIRE PAGE CONFIDENTIAL

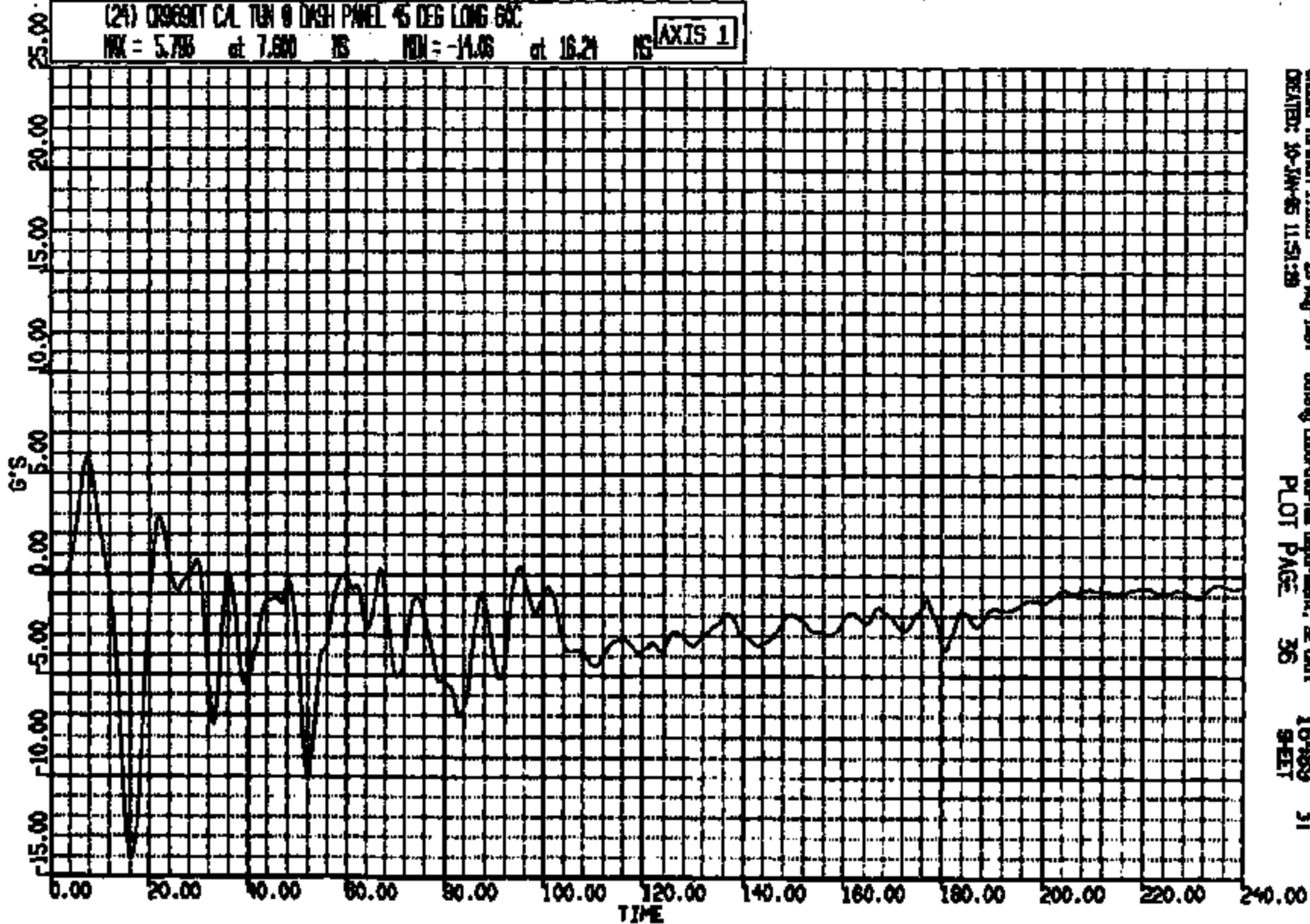
CRIS 0009691

CR N: 8881 TO: 18488 DATE: 85011010 11:51:07
1888 EN-114

(24) ORIGIN CAL TUN @ DASH PANEL 45 DEG LONG 60C

MAX = 5.785 at 7.600 NS MIN = -14.06 at 16.24 NS

AXIS 1



CASME Version 1.15.3 - 25-Aug-1994
CREATED: 10-JAN-85 11:51:28

Safety Laboratories Department, SE Unit
PLOT PAGE 36

16488 31
SHEET

CRIS 0009691

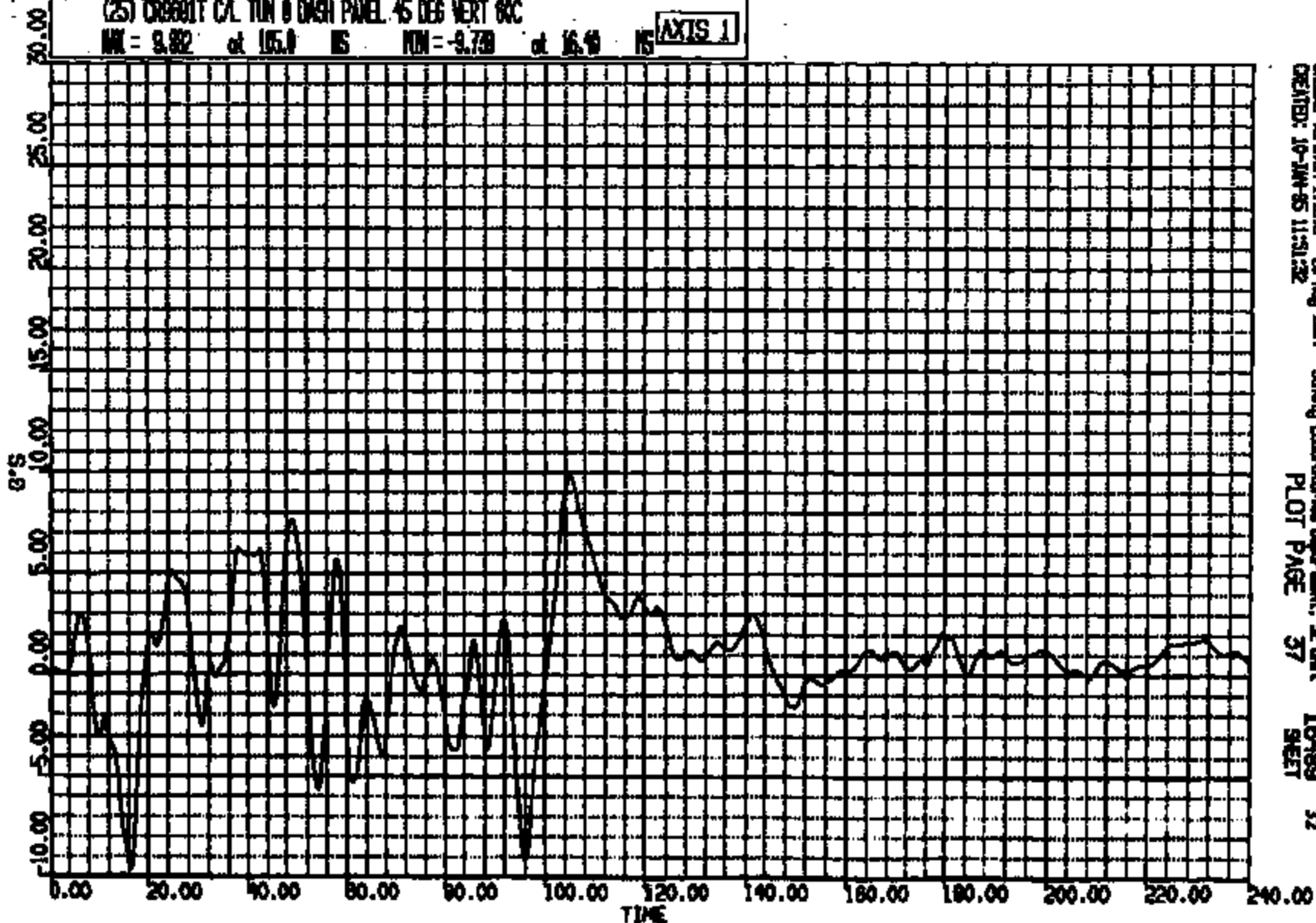
ENTIRE PAGE CONFIDENTIAL

CR. R: 9991 TO: 16489 DATE: 95011010 11:51:07
1995 EN-114

(25) ORBIT CAL TUN 0 DASH PANEL 45 DEG VERT 80C

MIN = 9.82 at 105.0 MS MAX = 9.73 at 16.40 MS

AXIS 1



CHANGE Version 1.15.3 - 88-Aug-1994
CREATED: 10-JUN-95 11:51:32

Safety Laboratories Department, SE Unit
PLOT PAGE 37

16489 32
SHEET

ENTIRE PAGE CONFIDENTIAL

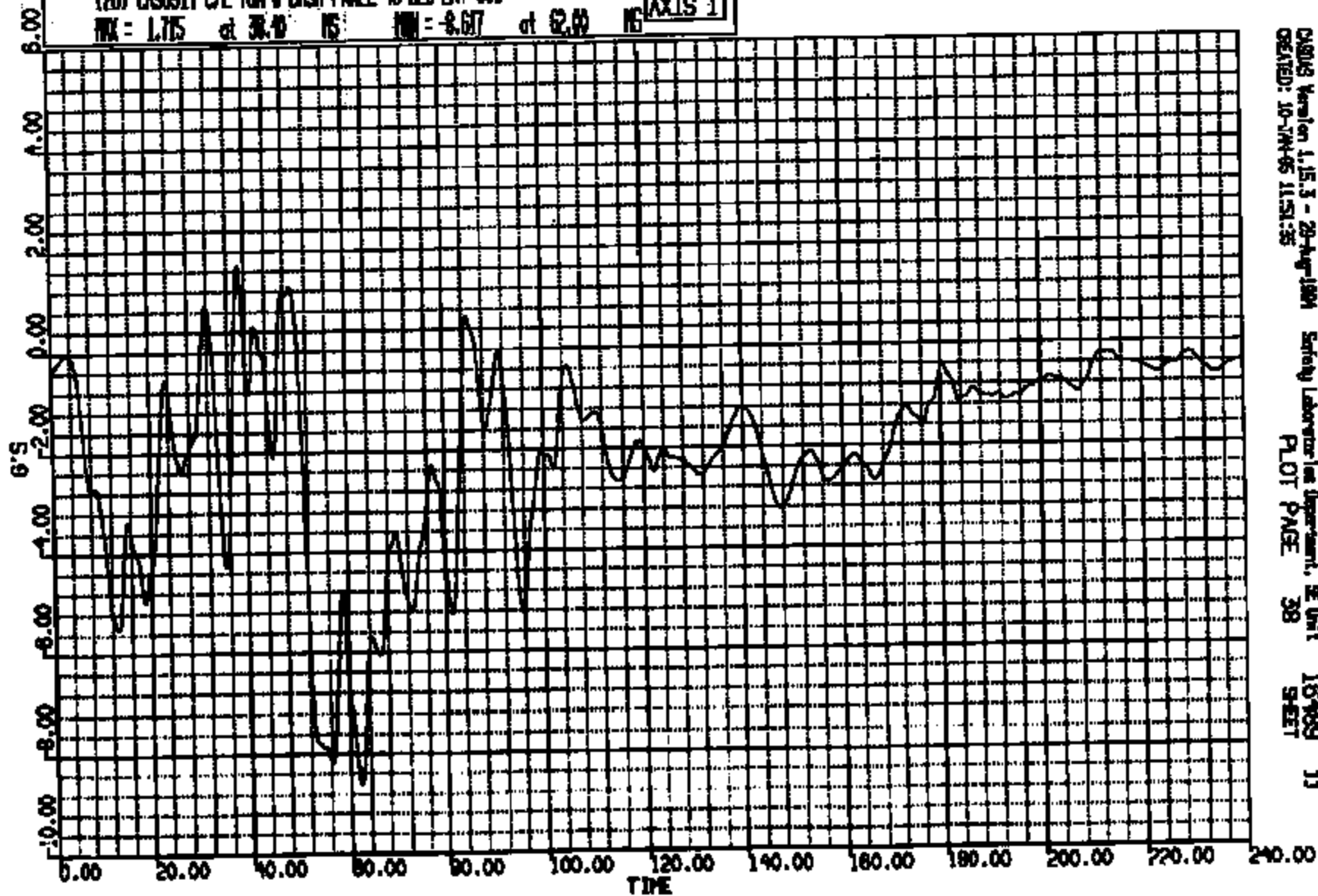
CRITS 0009691

CR R: 0891 TO: 18489 DATE: 98011010 11:21:07
1998 EN-114

(26) 0891T CAL TUN 0 DASH PANEL 45 DEG LAT 60C

PK = 1.75 at 38.0 MS MIN = 8.67 at 12.00 MS

AXIS 1



CADDS Version 1.15.3 - 29-Aug-1994
CREATED: 10-JAN-95 11:51:35

Safety Laboratories Department, SE Unit
PLOT PAGE 38

18489 JJ
5-SET

ENTIRE PAGE CONFIDENTIAL

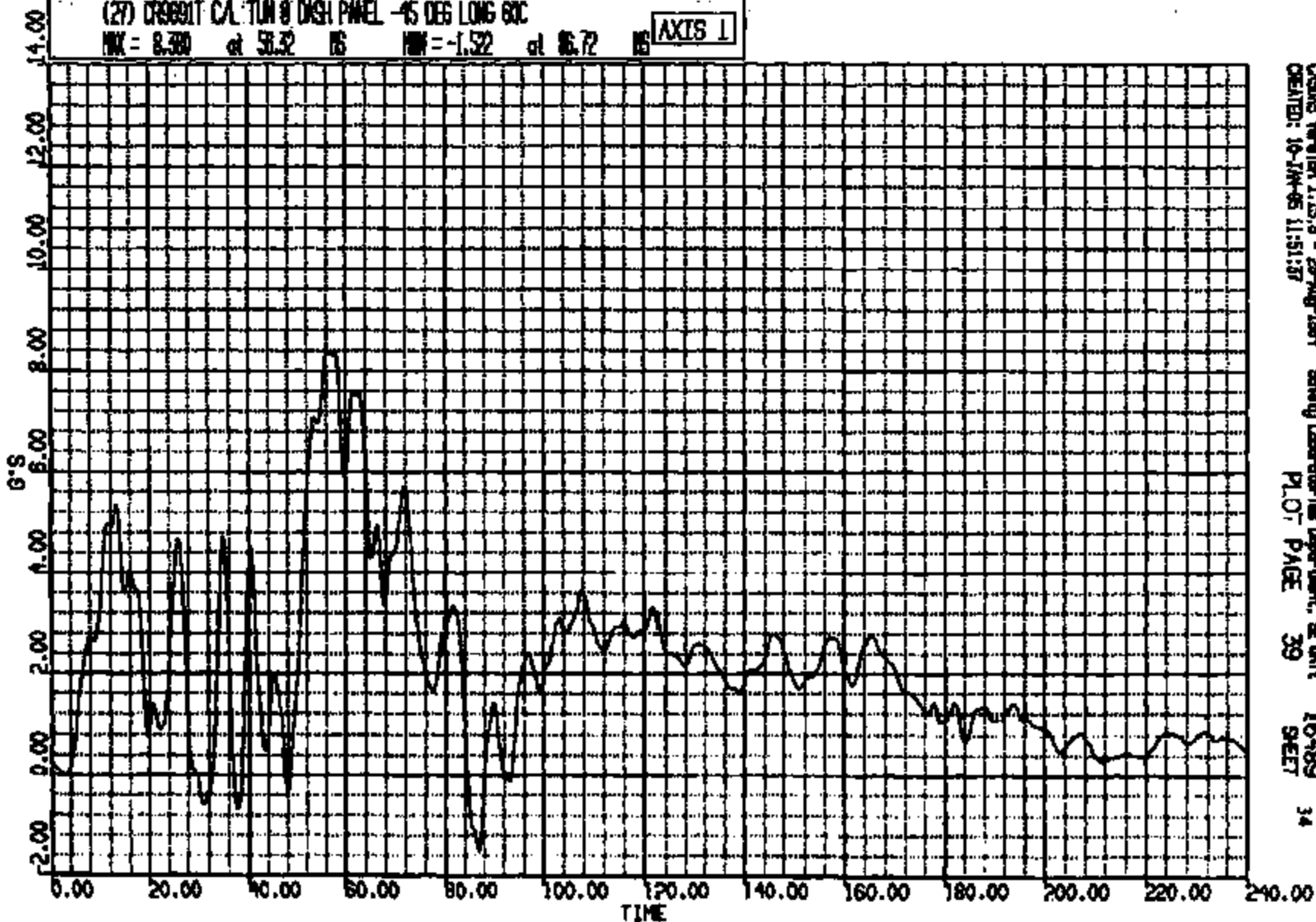
CRIS 0009691

CR R: 8891 TO: 16489 DATE: 05011010 11:51:07.
1995 EN-114

(27) DROGNET CAL TUN 8 DASH PANEL -45 DEG LONG 60C

MAX = 8.380 at 56.32 IS MIN = -1.522 at 86.72 IS

AXIS 1



CSGMS Version 1.15.3 - 29-Aug-1994
CREATED: 16-JAN-95 11:51:37

Safety Laboratories Department, EE Unit
PLOT PAGE 39

16489
SHEET 34

CRTS 0009691

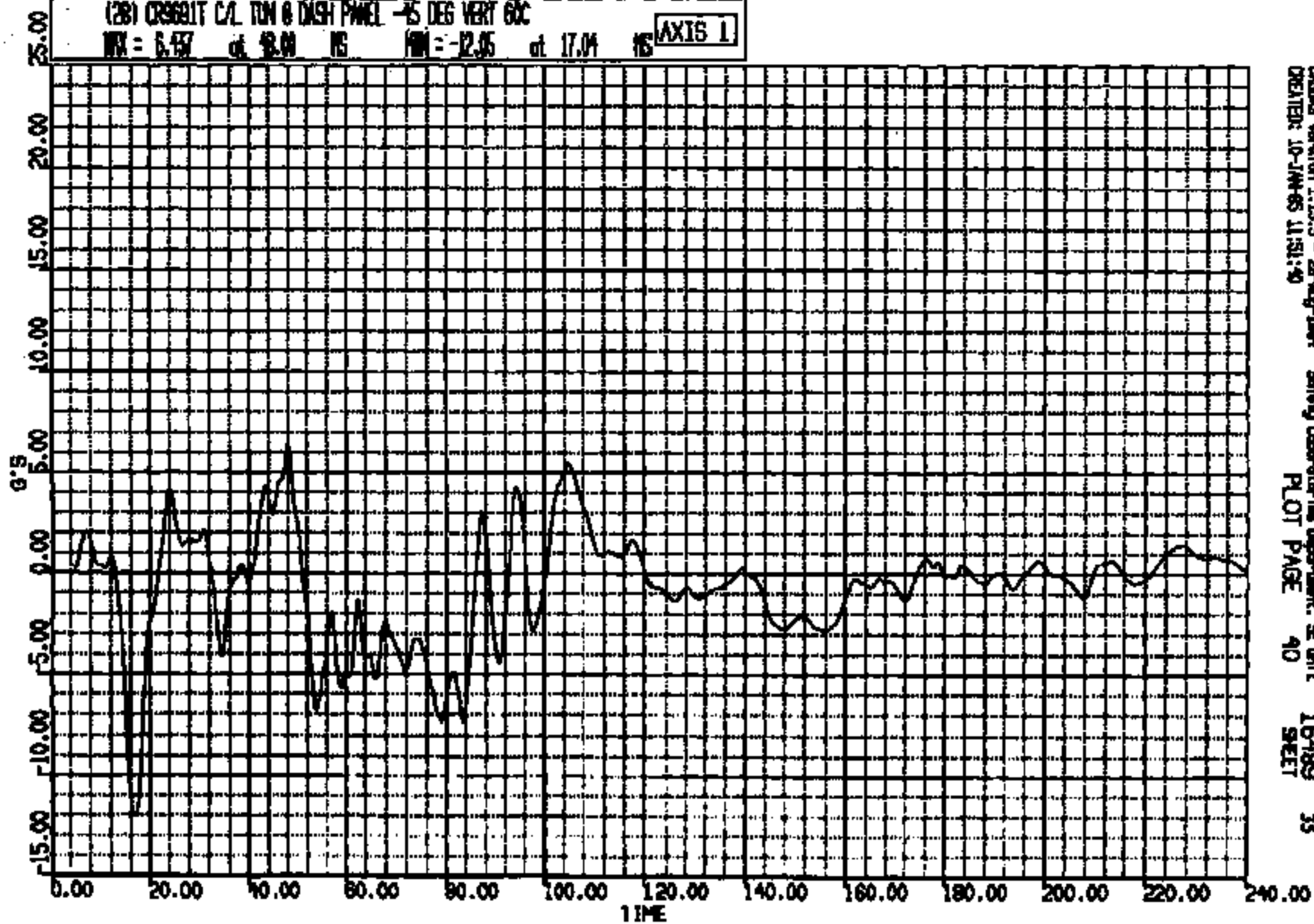
ENTIRE PAGE CONFIDENTIAL

CR R: 9991 TD: 16488 DATE: 95011010 11:51:07
1995 EN-114

(28) CR661T C/L TON & DASH PWR -45 DEG VERT 60C

WV = 6.457 at 92.00 NS HV = -12.05 at 17.04 NS

AXIS 1



CR661T Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 11:51:40

Safety Laboratory/Ins Department, SE Unit
PLOT PAGE 40

16489 35
SEET

CRIS 0009691

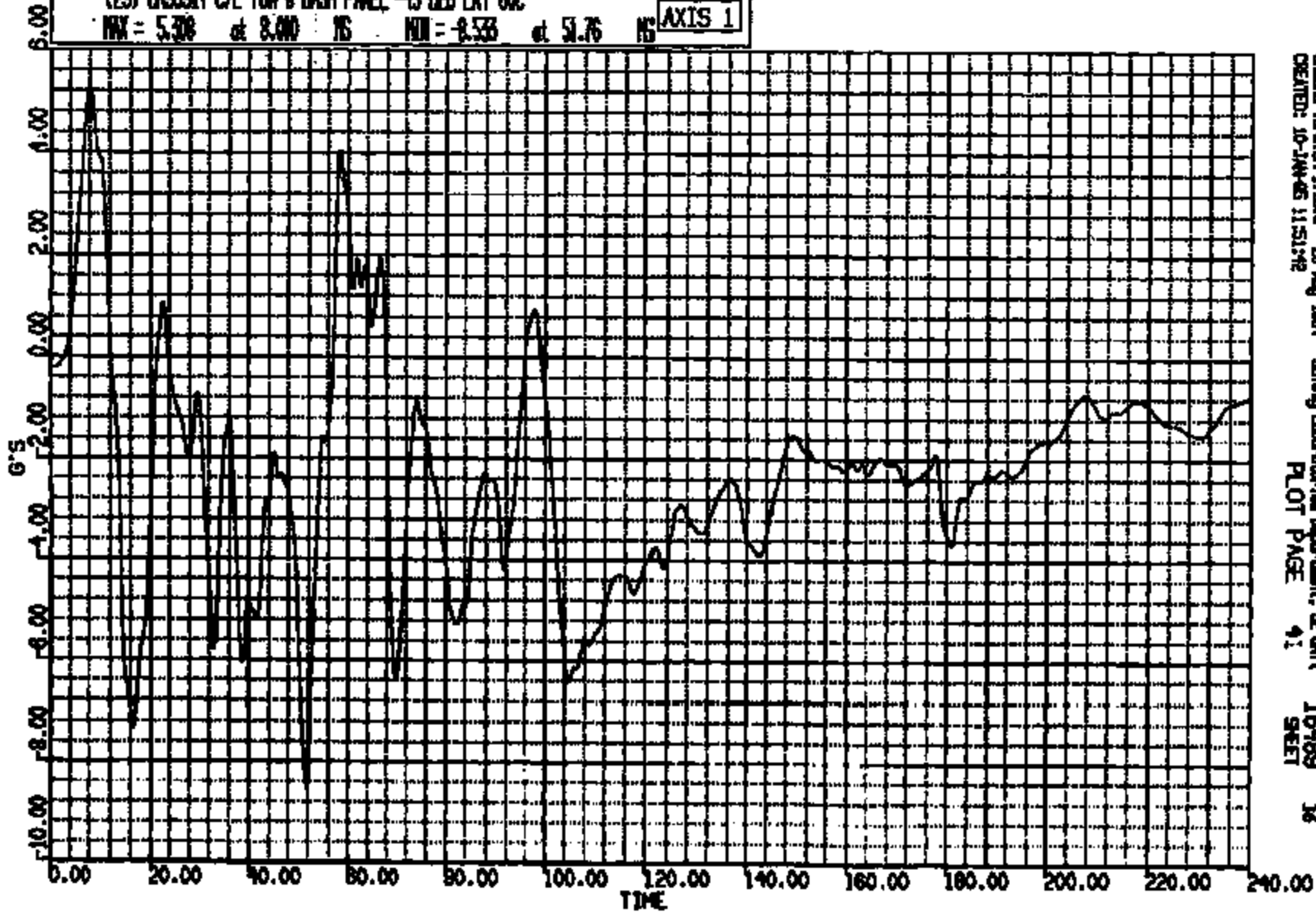
ENTIRE PAGE CONFIDENTIAL

CR #: 8881 TO: 18489 DATE: 88011010 11:31:07
1888 EN-114

(29) DREGGT CAL TUN 8 DASH PNEU -45 DEG LAT 60C

MAX = 5.308 at 8.000 NS MIN = -8.533 at 51.76 NS

AXIS 1



CADDS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-85 11:51:42

Safety Laboratory Department, SE Unit
PLOT PAGE 41

18489 36
SHEET

ENTIRE PAGE CONFIDENTIAL

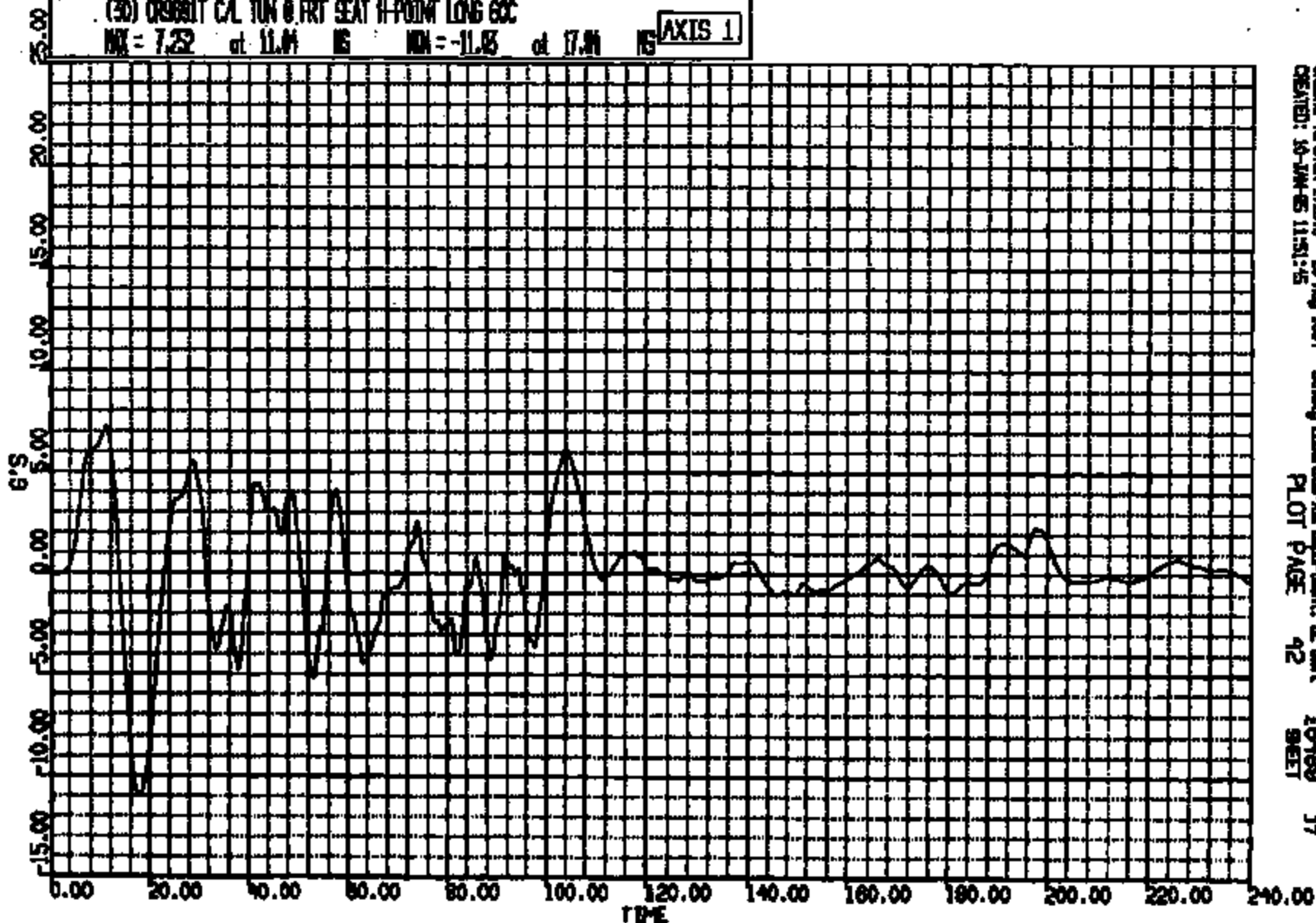
CRIS 0009691

CR R: 8881 TO: 18489 DATE: 85011010 11:51:07
1885 EN-114

(30) ORBIT CAL TUN 0 FRT SEAT H-POINT LONG 600

MAX = 7.32 at 11.04 NS MIN = -11.83 at 17.04 NS

AXIS 1



CASUS Version 1.15.3 - 28-Aug-1991
CREATED: 10-JAN-85 11:51:15

Safety Laboratory Department, EE Unit

PLOT PAGE

42

SHEET

18489 17

ENTIRE PAGE CONFIDENTIAL

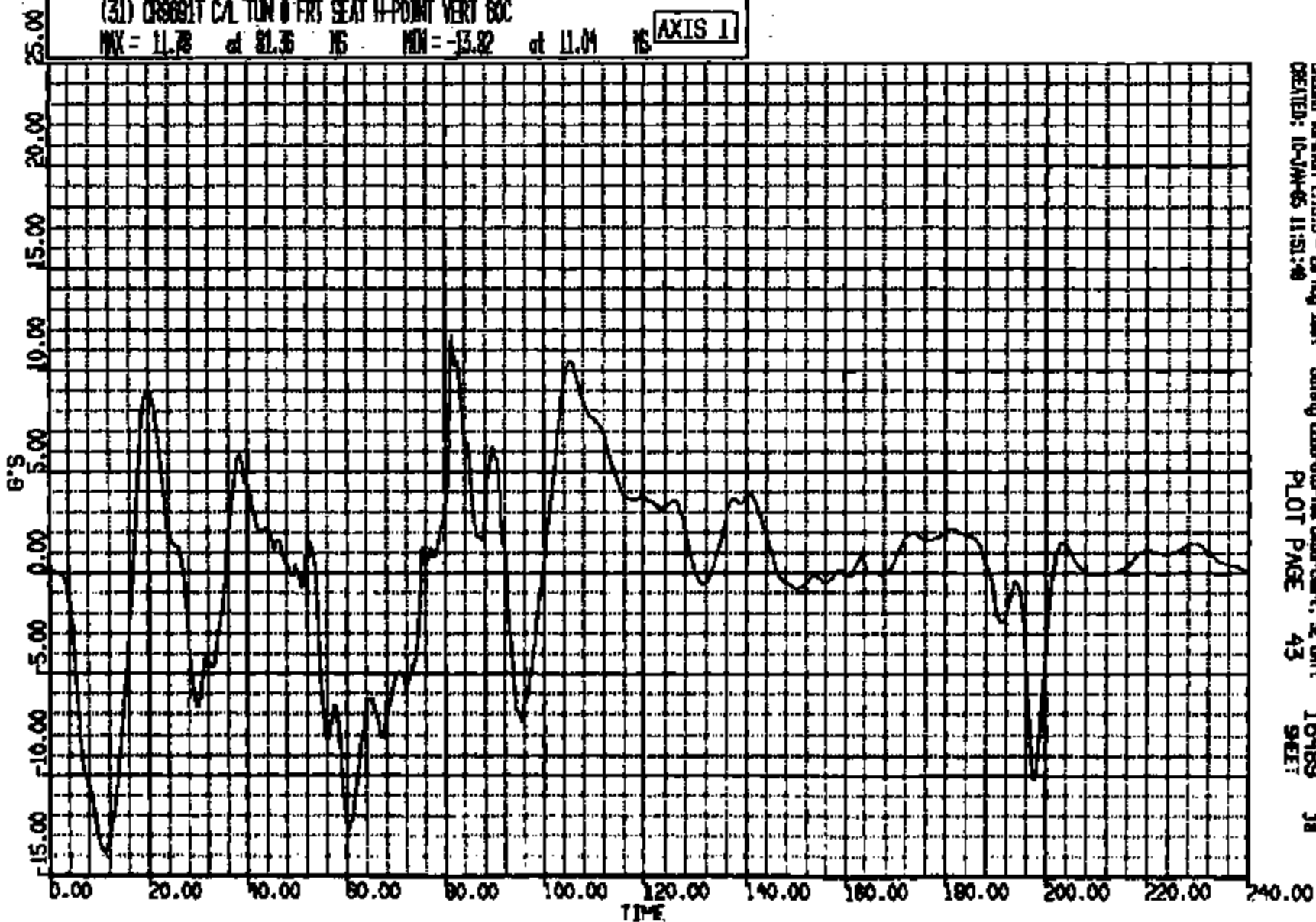
CRTS 0009691

CR #: 8881 TO: 18488 DATE: 88011010 11:51:07
1888 EN-114

(31) CR8881T C/L TUN # FRY SEAT H-POINT VERT 80C

MAX = 11.78 at 81.36 MS MIN = -13.82 at 11.04 MS

AXIS 1



DIAGN Version 1.15.3 - 28-Aug-1991
CREATED: 10-JAN-88 11:51:48

Safety Laboratory Department, SE Unit

PLOT PAGE 43

SEE: 16489 JB

CRTS 0009691

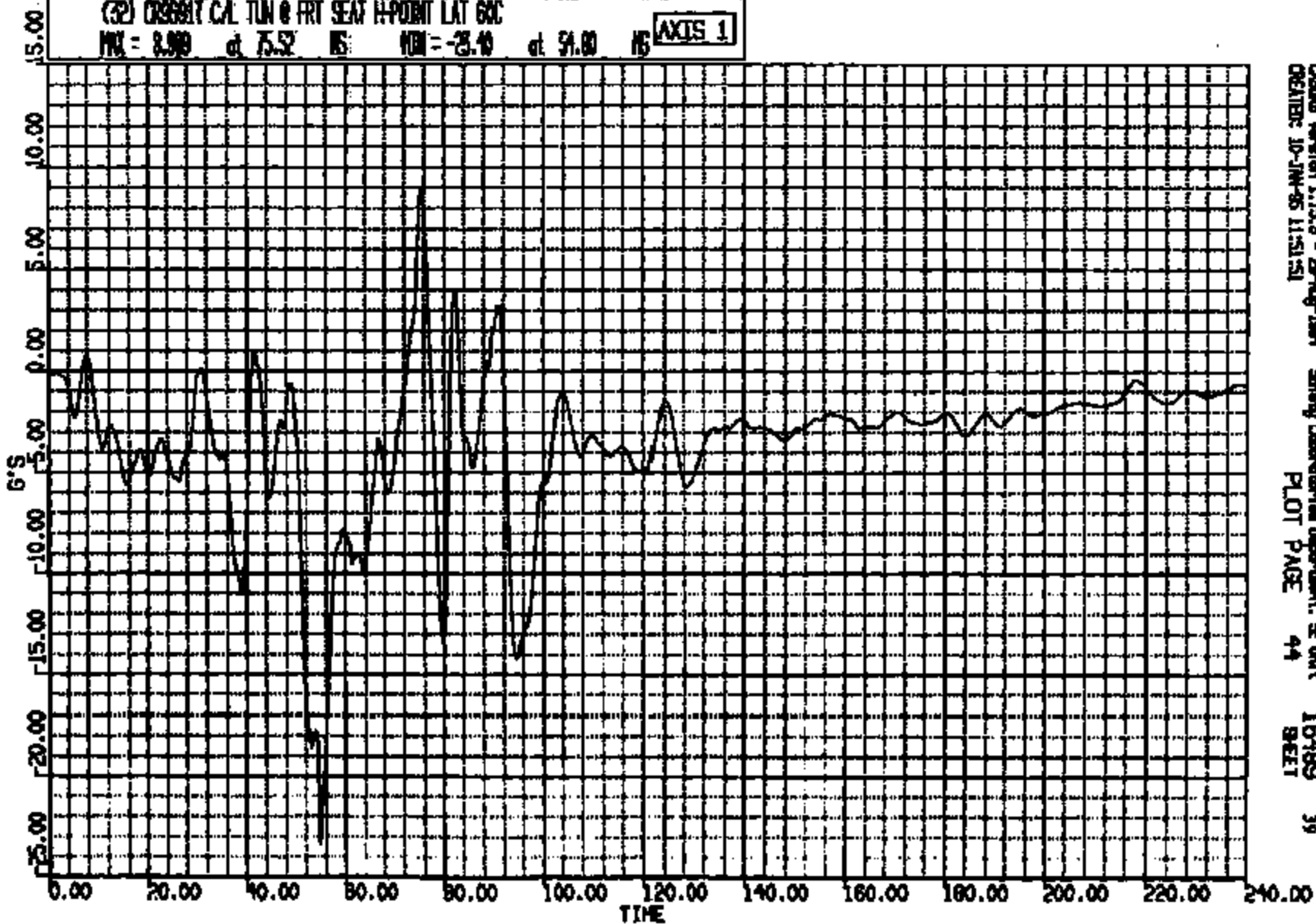
ENTIRE PAGE CONFIDENTIAL

CR R: 0001 TO: 10489 DATE: 05011010 11:31:07
1995 EN-117

(32) CRASHY CAL TUN @ FRT SEAT H-POINT LAT 60C

PAU = 8.90 at 75.52 MS NOM = -25.40 at 91.00 MS

AXIS 1



CRASH Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 11:51:51

Safety Laboratory Department, SE Unit
PLOT PAGE 44

10489 39
SHEET

ENTIRE PAGE CONFIDENTIAL

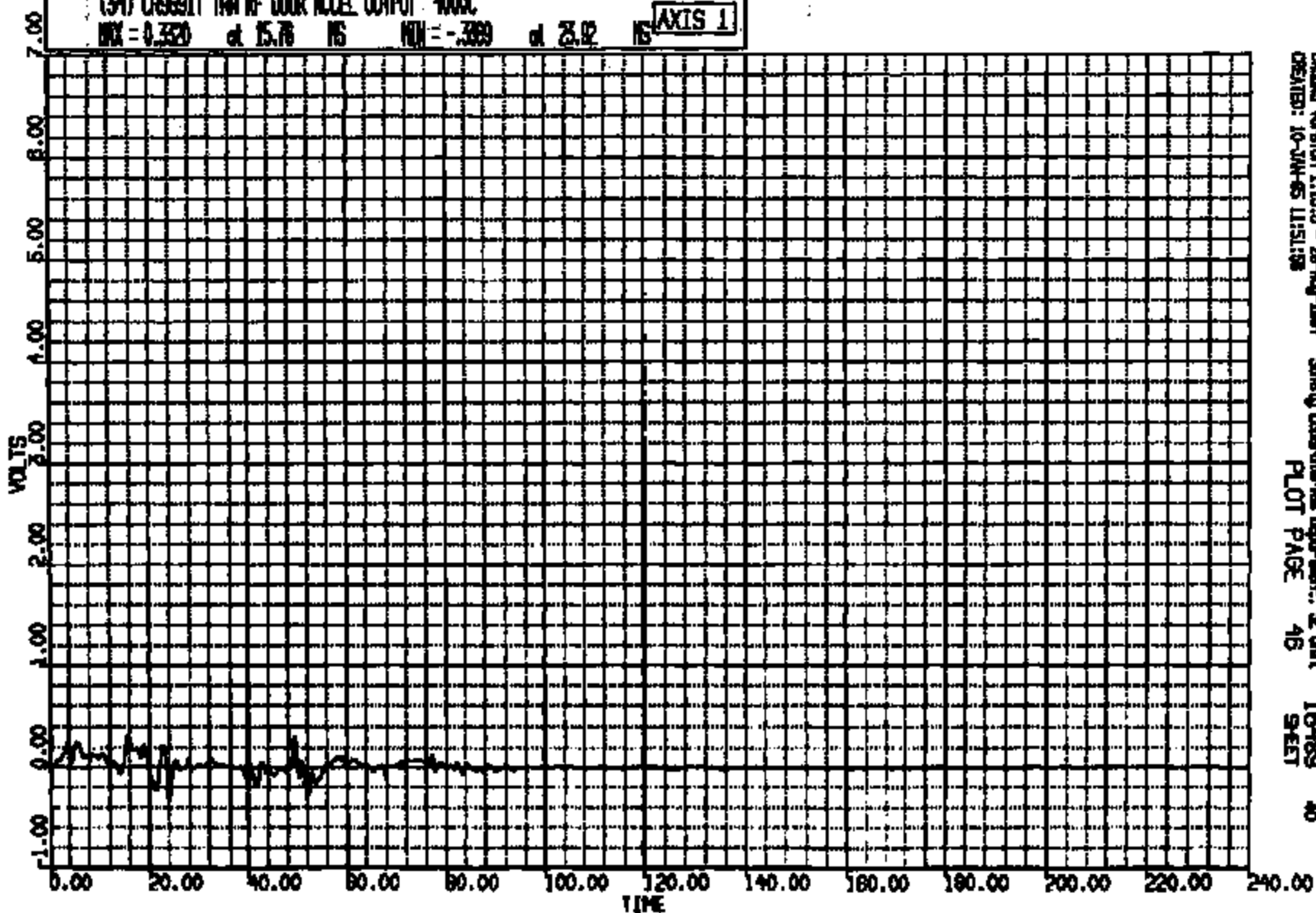
CRIS 0009691

CR #: 8881 TO: 18488 DATE: 85011010 11:51:07
1888 EN-114

(34) CROSSIT TRN RF DOOR ACCEL OUTPUT: 4000C

MAX = 0.3320 at 15.76 MS MIN = -0.3889 at 23.02 MS

AXIS 1



CASUS Version 1.15.3 - 28-Aug-1984
CREATED: 10-JAN-85 11:51:08

Safety Laboratories Department, SE Unit

PLOT PAGE

46

SLEET

18488

40

ENTIRE PAGE CONFIDENTIAL

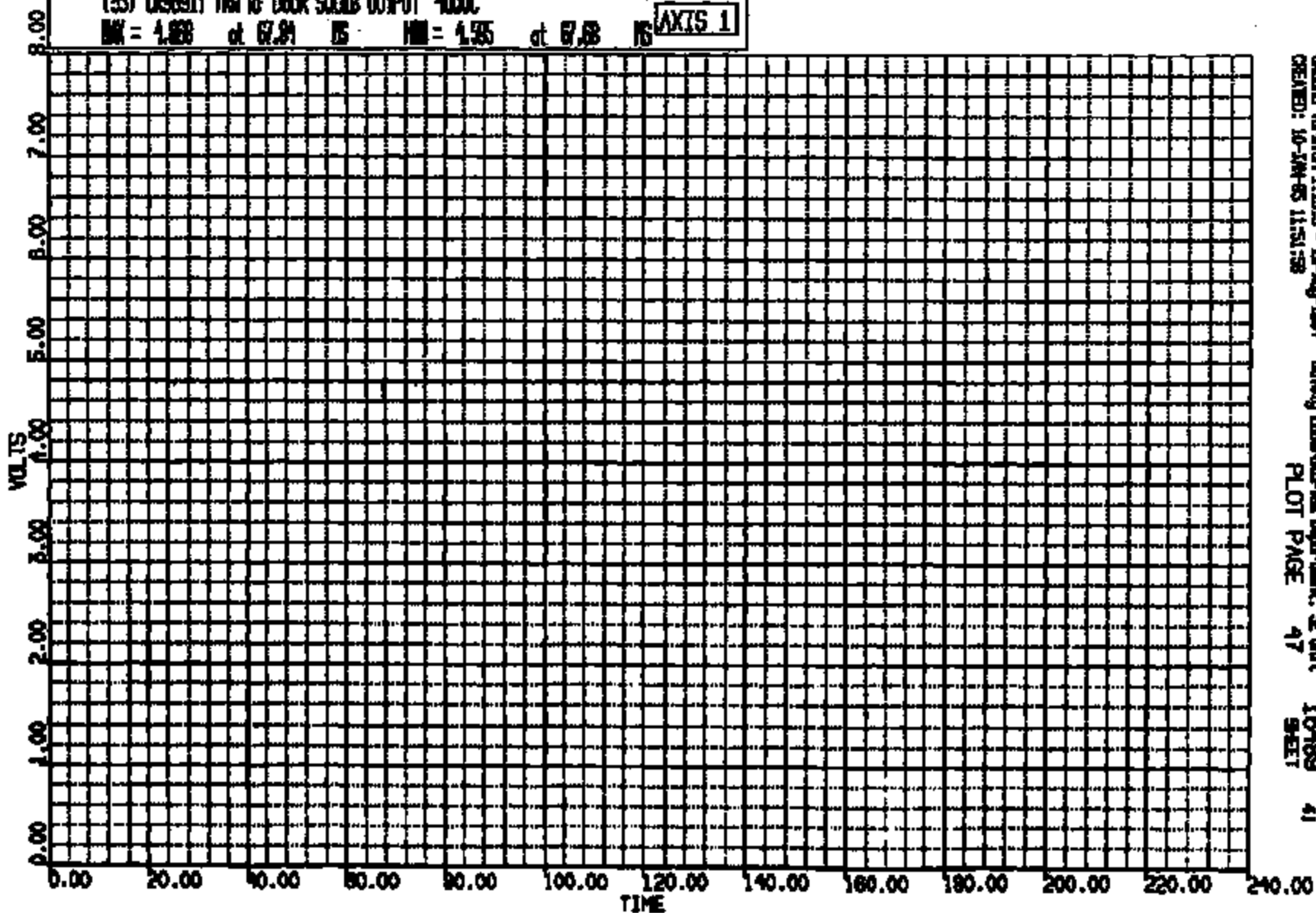
CRIS 0009691

CR R: 9991 TO: 18489 DATE: 95011010 11:51:07
1995 EN-114

(35) ORIGIN TIME OF DOOR SOLID OUTPUT 4000

MM = 1.938 at 67.91 IS MM = 1.935 at 67.93 IS

AXIS 1



CASHE Version 1.15.3 - 28-Aug-1994
CREATED: 10-14-95 11:51:58

Safety Laboratories Department, SE Unit

PLOT PAGE 47 SHEET 41

ENTIRE PAGE CONFIDENTIAL

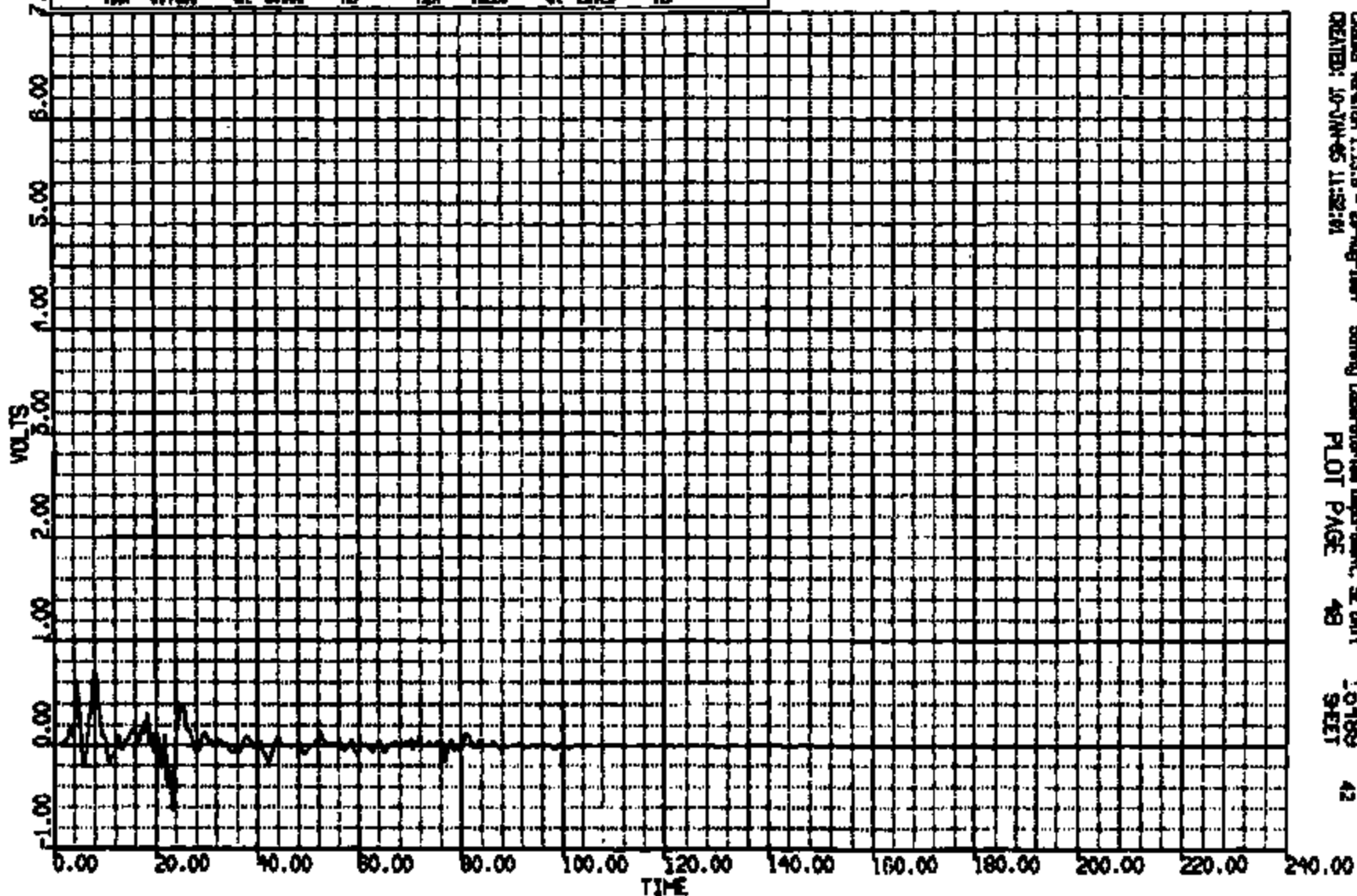
CRIS 0009691

CR R: 8891 TO: 18488 DATE: 85011010 11:31:07
1985 EN-114

(35) CR9881T TMM R/B-PILLAR ACCEL OUTPUT 400C

MAX = 0.700 at 8.000 NS MIN = -.529 at 23.2 NS

AXIS 1



CRIS 0009691

CRS88 Version 1.15.3 - 28-Aug-1984
CREATED: 10-JUN-85 11:32:01

Safety Laboratory Department, SE Unit
PLOT PAGE 48

18488
9/ET 42

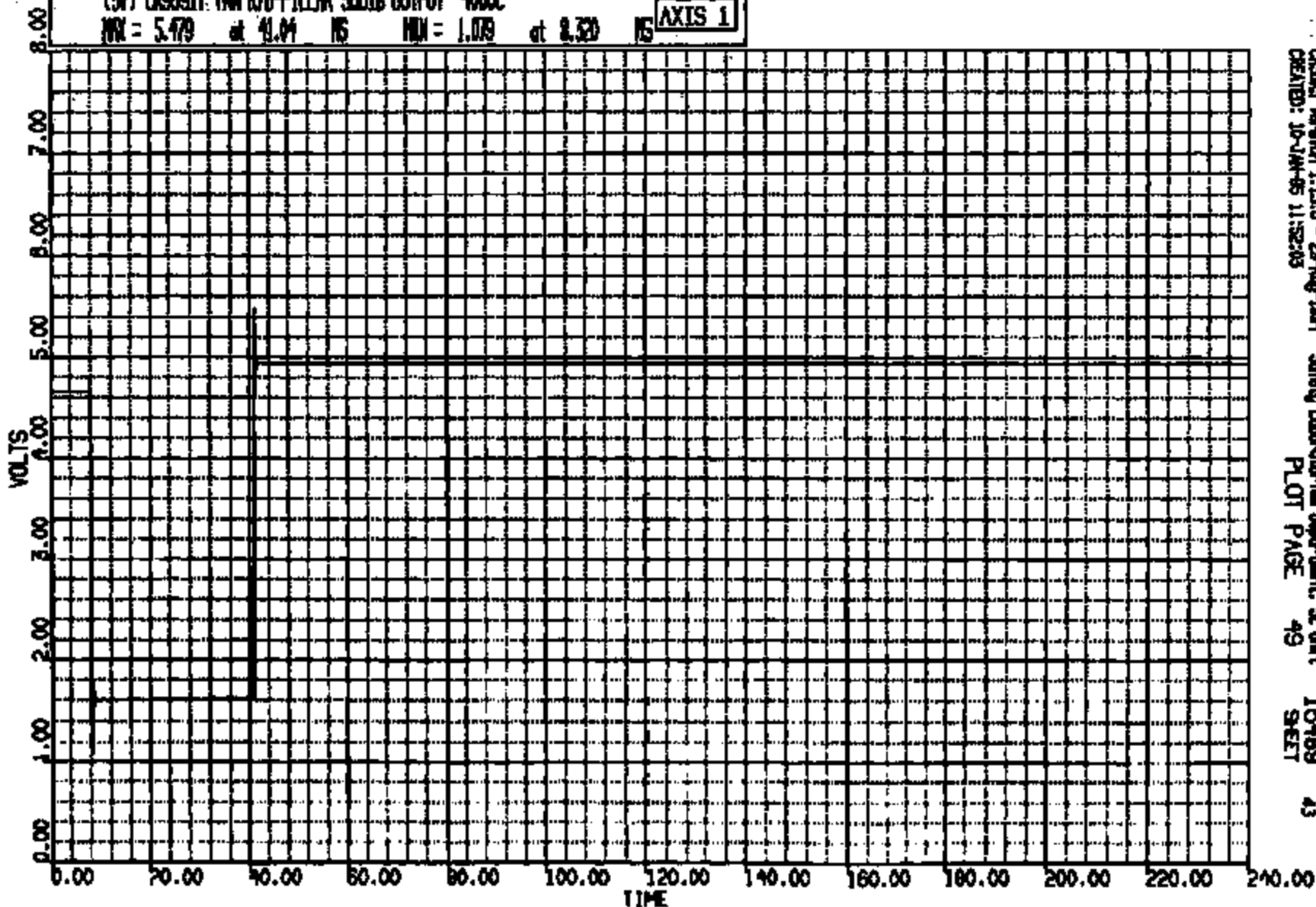
ENTIRE PAGE CONFIDENTIAL

CR R: 0001 TO: 10480 DATE: 05011010 11:51:07
1000 EN-114

(37) ORIGIN: TMM R/D-PHAR SLID OUTPUT 400C

MM = 5.479 at 4.04 NS MM = 1.079 at 2.320 NS

AXIS 1



CISMS Version 1.15.3 - 20-Aug-1994
CREATED: 10-14-95 11:52:03

Safety Laboratory Department, SE Unit

PLOT PAGE

49

SHEET

43

ENTIRE PAGE CONFIDENTIAL

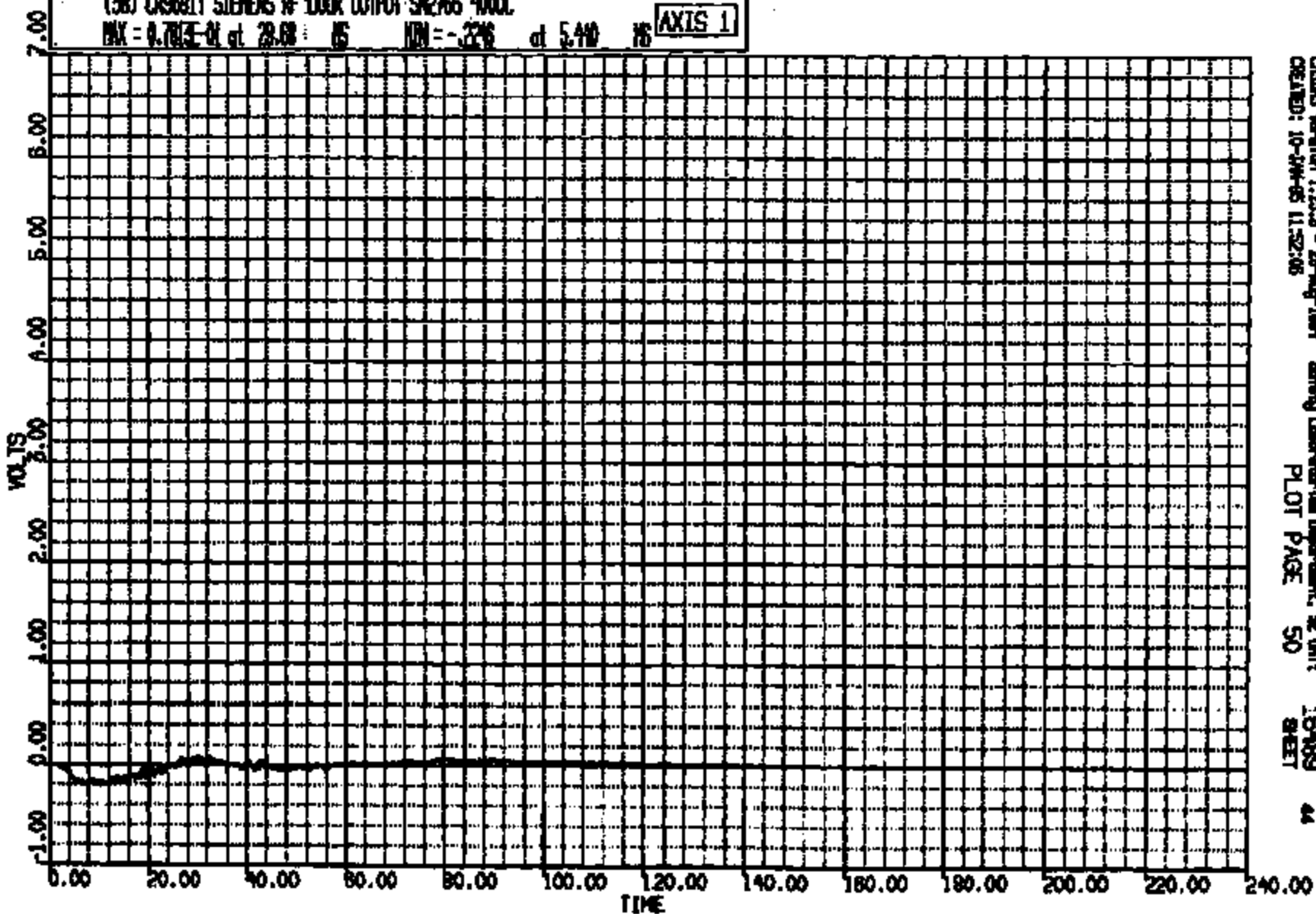
CRIS 0009691

CR R: 9891 TO: 18499 DATE: 98011010 11:51:07
1998 EN-114

(38) CROBILT SIEMENS # DOOR OUTPUT S42766 4000C

MAX = 4.7013-01 at 28.68 MS MIN = -32% at 5.440 MS

AXIS 1



CRS085 Version 1.15.3 - 28-Aug-1994
CREATED: 10-24-95 11:52:05

Safety Laboratory Inc. Department, SE (h):
PLOT PAGE 50 SHEET

44

CRIS 0009691

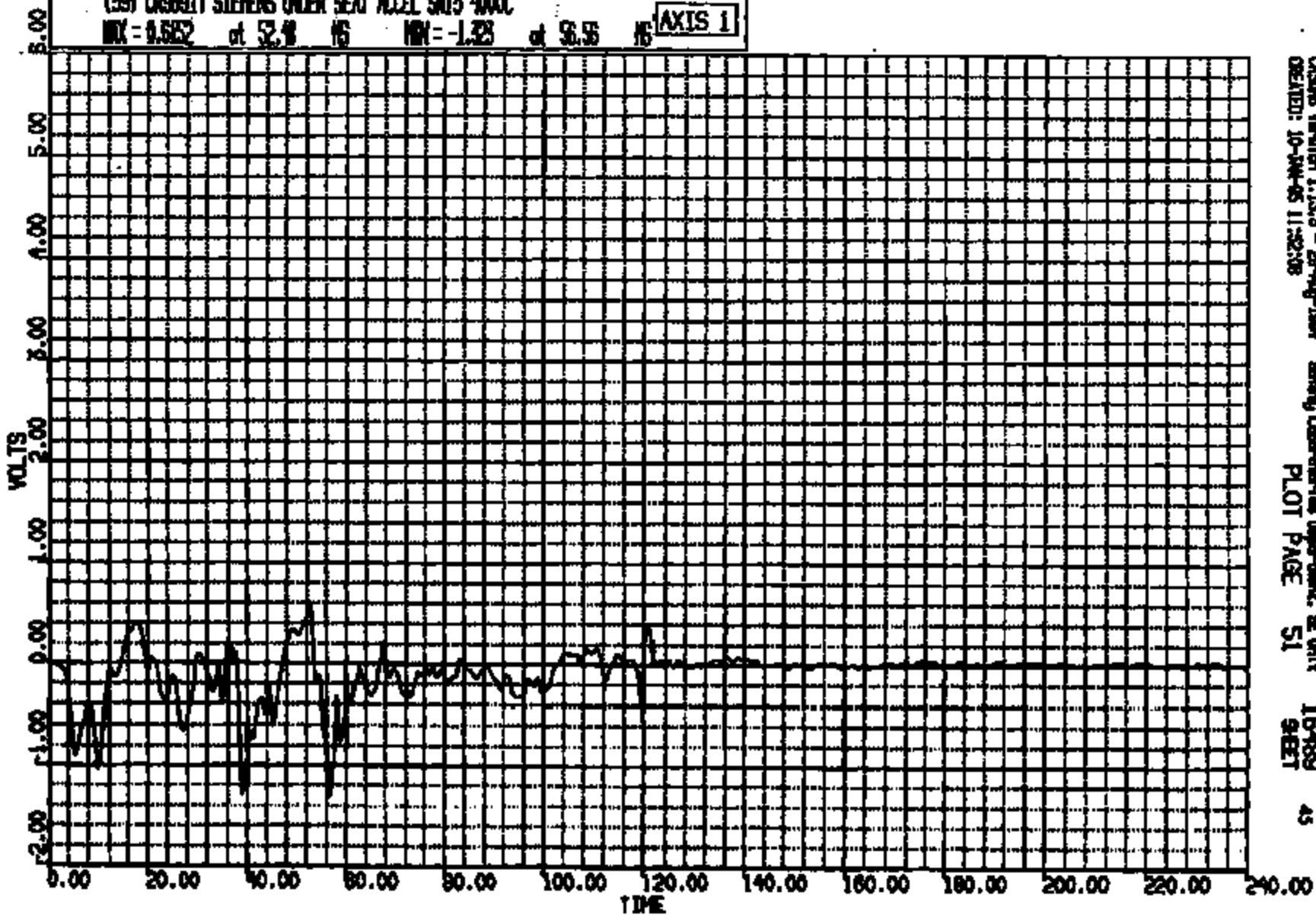
ENTIRE PAGE CONFIDENTIAL

CR R: 0891 TO: 18489 DATE: 95011010 11:31:07
1995 EN-114

(39) CROSBIT SIEMENS UNDER SEAT ACCEL SNO3 400C

MAX = 0.5652 at 52.46 MS MIN = -1.323 at 36.55 MS

AXIS 1



CASUAL Version 1.15.5 - 28-Aug-1994
CREATED: 10-04-95 11:32:08

Safety Laboratory Department, BE Unit
PLOT PAGE 51

18489 45
98ET

ENTIRE PAGE CONFIDENTIAL

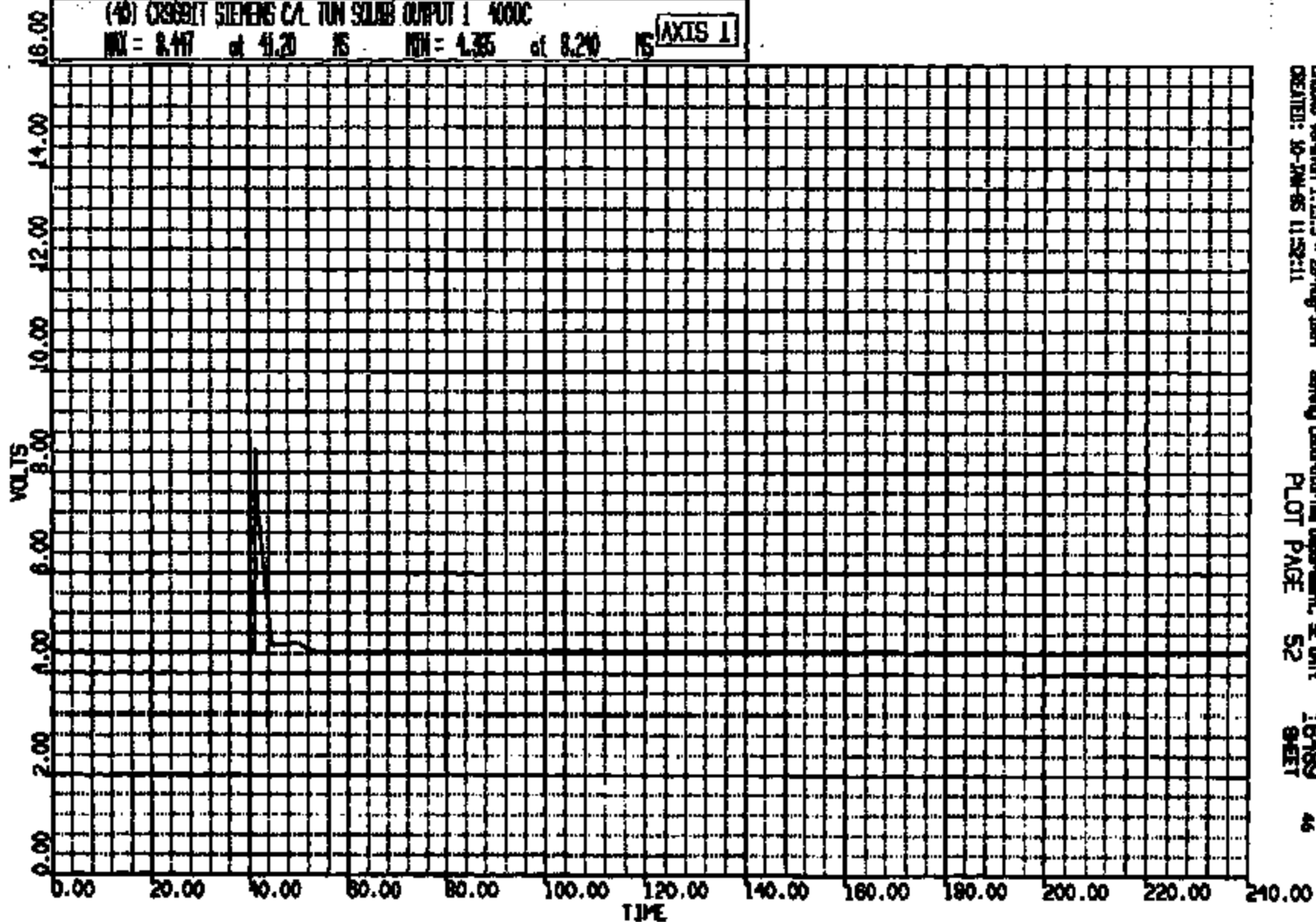
CRIS 0009691

CR #: 8891 TO: 18488 DATE: 95011010 11:31:07
1895 EN-114

(40) CROSBIT SIEMENS C/L TUN SOUND OUTPUT 1 400C

RM = 8.447 at 41.20 NS RM = 4.335 at 8.240 NS

AXIS 1



CROSBIT Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 11:32:11

Safety Laboratory Inc Department, SE Unit:
PLOT PAGE 52 SHEET

18488 46

CRIS 0009691

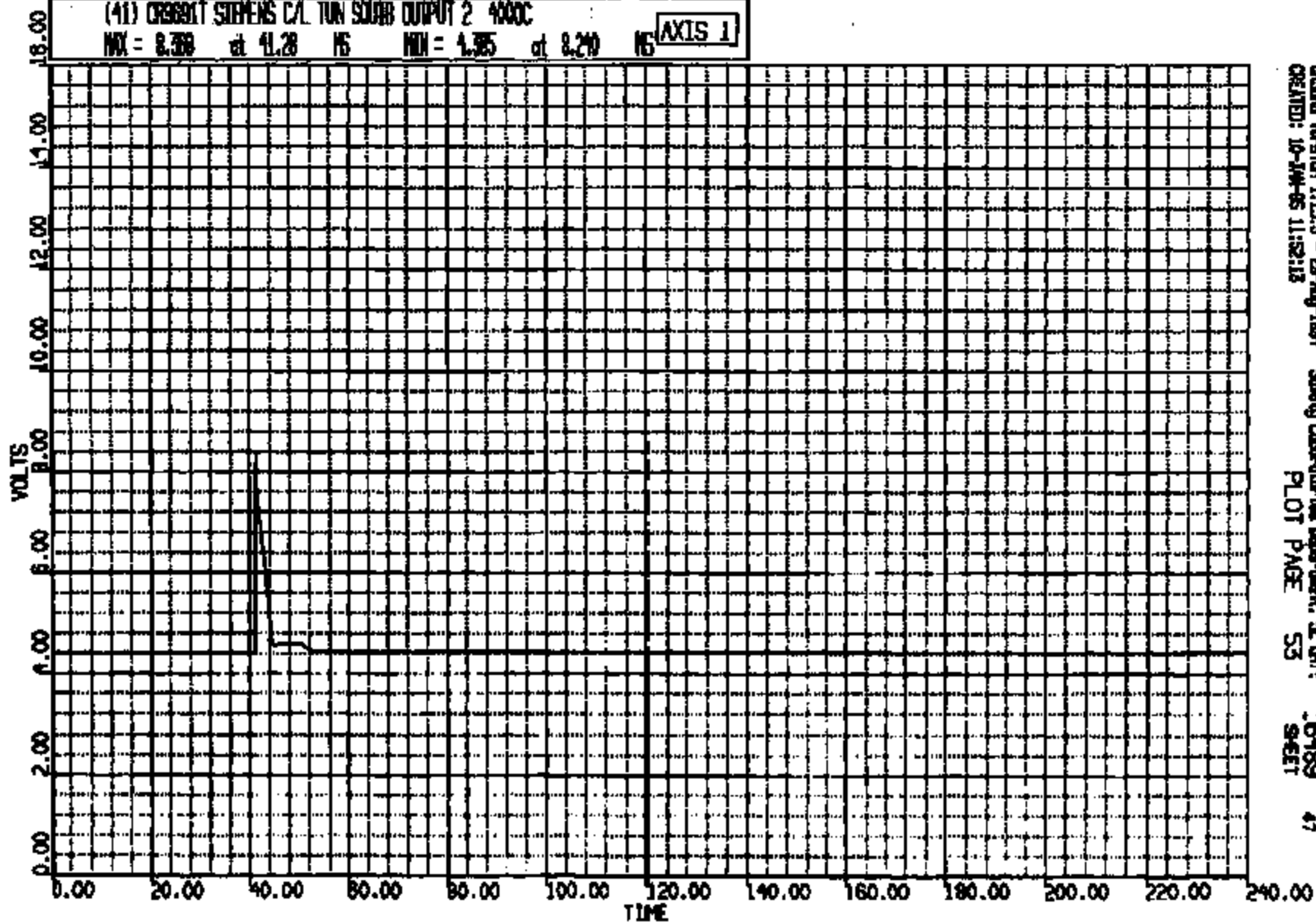
ENTIRE PAGE CONFIDENTIAL

CR R: 0001 TO: 10-100 DATE: 05011010 11:51:07
1995 EN-114

(11) CROSBY STEPHENS C/L TUN SOURCE OUTPUT 2 4000C

MAX = 8.388 at 41.28 MS MIN = 4.385 at 8.210 MS

AXIS 1



CASING Version 1.15.3 - 29-Aug-1994
CREATED: 10-10-95 11:52:12

Safety Laboratory Department, E Unit
PLOT PAGE 53

6489 47
9-6-95

ENTIRE PAGE CONFIDENTIAL

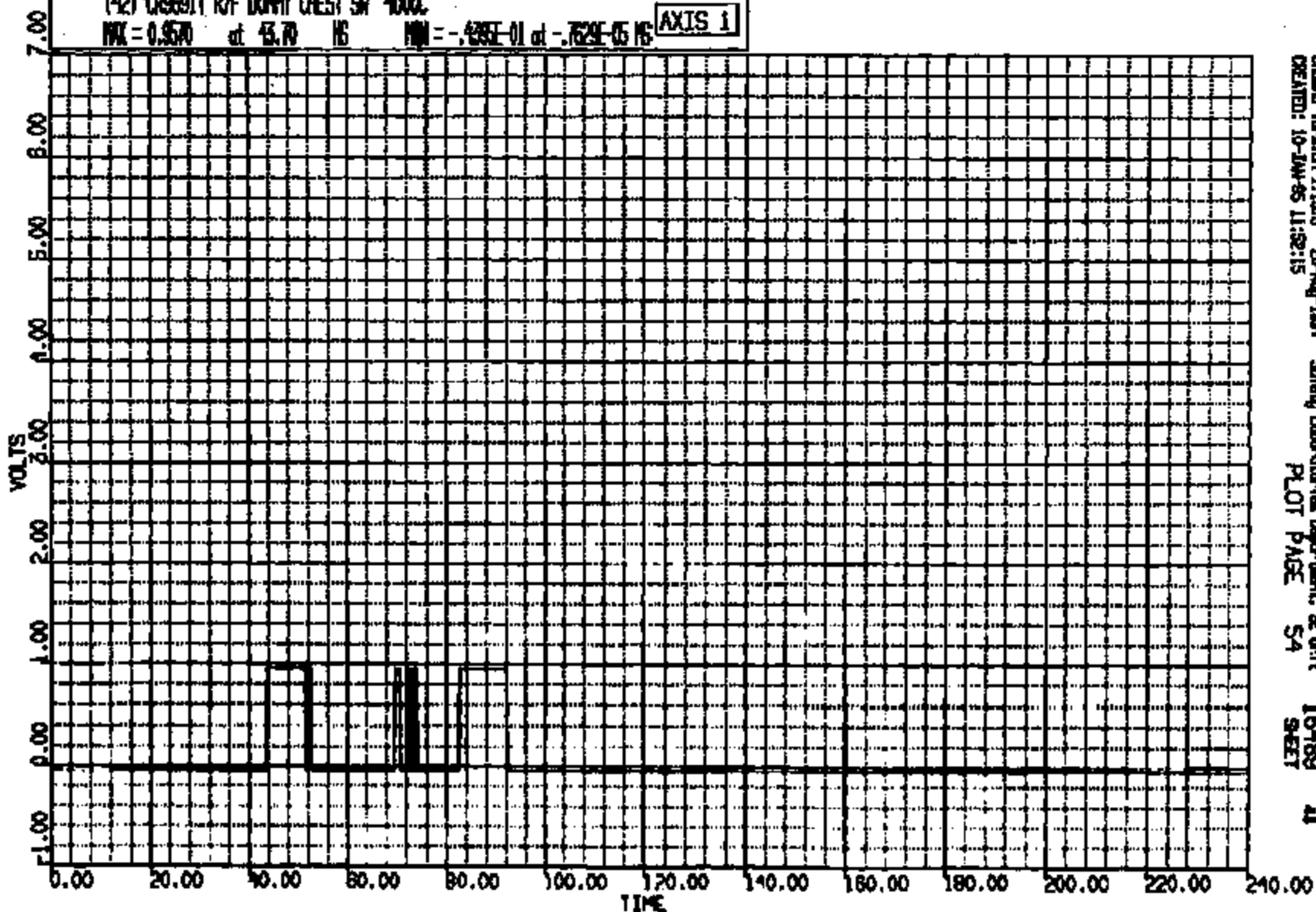
CRTS 0009691

CR R: 0001 TO: 10480 DATE: 05011010 11:31:07
1000 EN-114

(42) CR0001T R/F DUMMY CHEST SN 4000C

MAX = 0.9570 at 43.70 NS MIN = -.428E-01 at -.7529E-05 NS

AXIS 1



CISMS Version 1.15.0 - 28-Aug-1994
CREATED: 10-JAN-95 11:32:15

Safety Laboratories Department, EE Unit
PLOT PAGE 54

10480 41
SHEET

CRIS 0000691

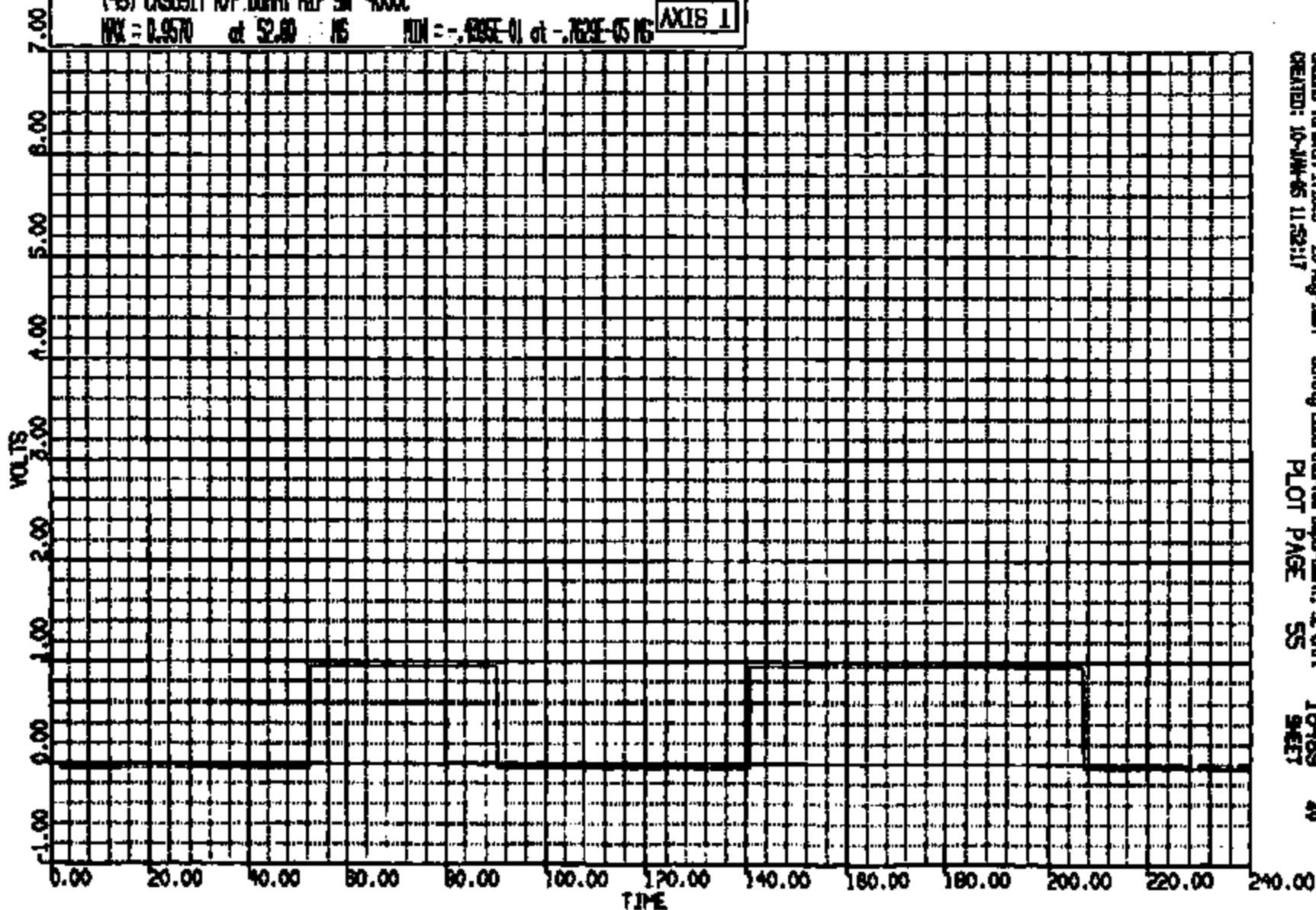
ENTIRE PAGE CONFIDENTIAL

CR R: 8891 TO: 18489 DATE: 95011010 11:51:07
1995 EN-114

(43) C89691T R/F DUMPT HEP SM 4000C

MAX = 0.9570 at 52.00 MS MIN = -.485E-01 at -.762E-05 MS

AXIS 1



CASING Version 1.15.3 - 29-Aug-1994
CREATED: 10-JUN-95 11:52:17

Safety Laboratory Department, SE Unit
PLOT PAGE 55

SHEET 49

CRIS 0009691

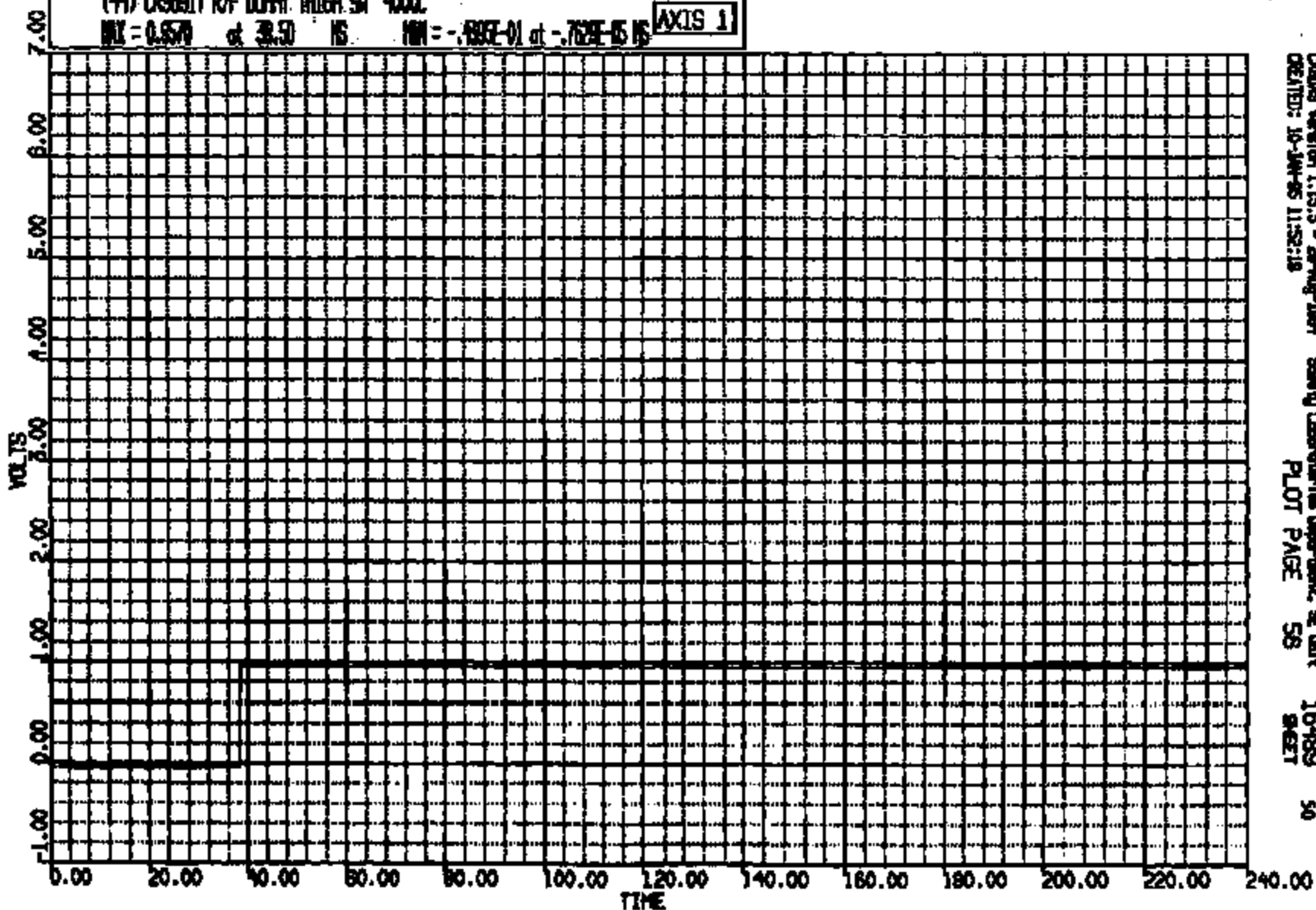
ENTIRE PAGE CONFIDENTIAL

CR R: 8891 TO: 18489 DATE: 95011010 11:31:07
1989 EN-114

(44) CR681T R/F DUMPY THIGH SW 4000

MAX = 0.9570 at 38.50 HS MIN = -.7832-01 at -.7629E-05 HS

AXIS 1



CHUD6 Version 1.15.3 - 28-Aug-1989
CREATED: 10-JAN-85 11:32:18

Safety Laboratories Department, SE Unit
PLOT PAGE 58

18489 50
SHEET

CRIS 0009691

ENTIRE PAGE CONFIDENTIAL

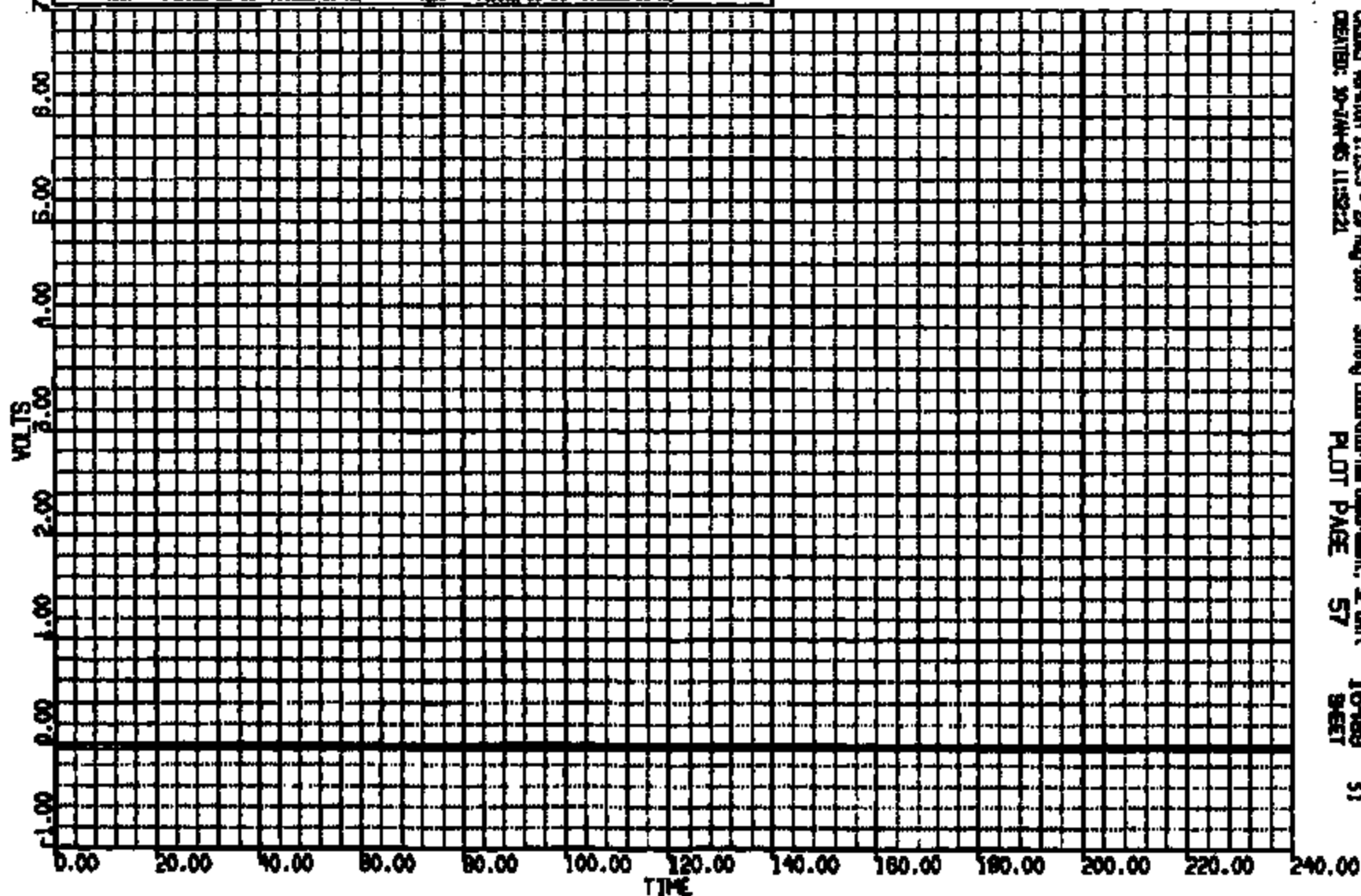
CR R: 8891 TO: 18489 DATE: 85011010 11:31:07
1985 EN-114

(45) CROSSIT POLE TO RAF DUNNY HEAD SN 4000C

HW = -.483E-01 at -.762E-05 NS

HW = -.483E-01 at -.762E-05 NS

AXIS 1



CASING Version 1.15.3 - 28-Aug-1981
CREATED: 30-JUN-85 11:52:21

Seismic Laboratory Department, SE Unit
PLOT PAGE 57

18489 51
SHEET

CRTS 0009691

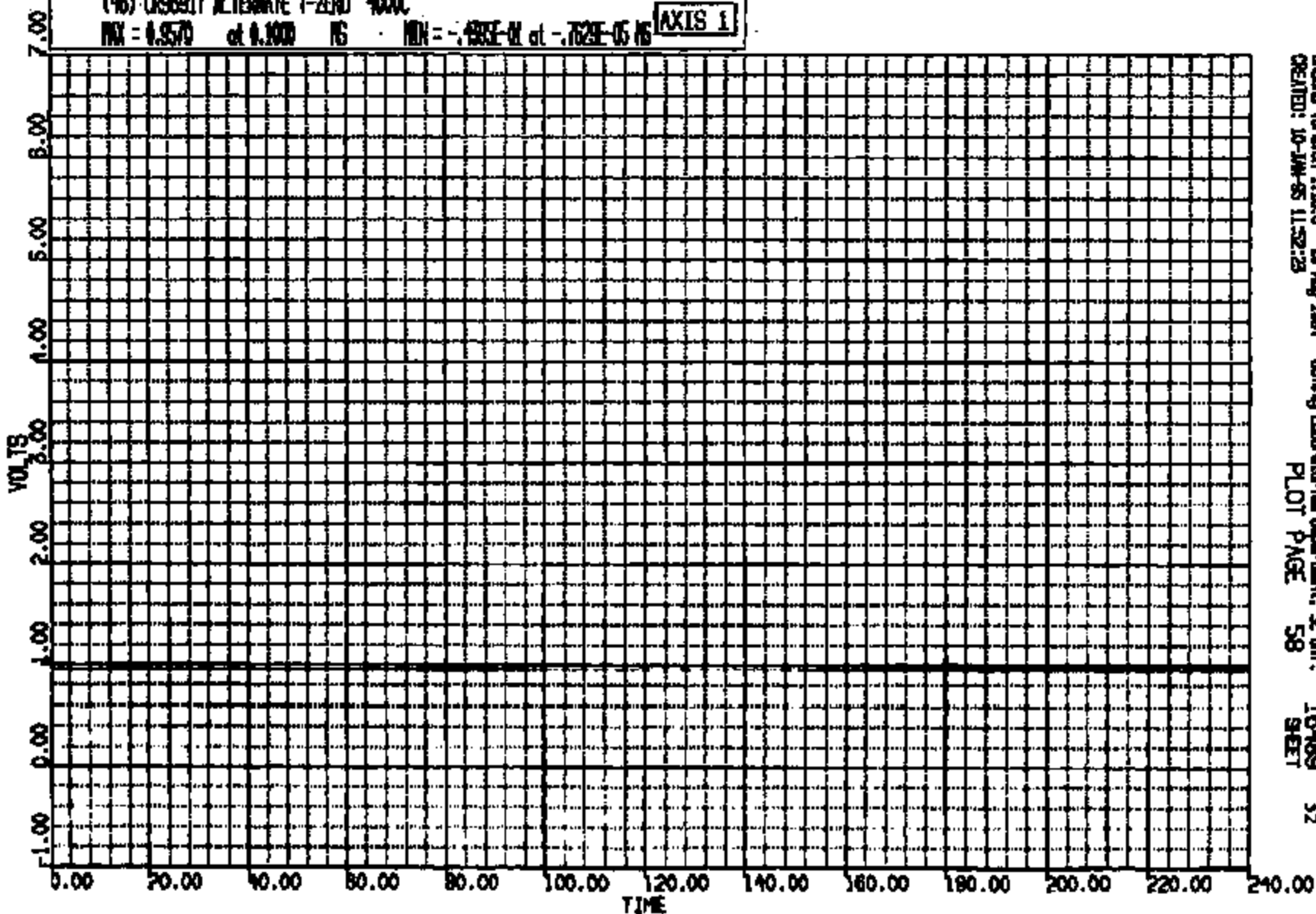
ENTIRE PAGE CONFIDENTIAL

CR R: 0001 Y0: 10400 DATE: 05011010 11:31:07
1990 EN-117

(46) CR9691T ALTERNATE T-ZERO 4000C

MAX = 0.9570 at 0.1000 NS MIN = -1.485E-04 at -1.762E-05 NS

AXIS 1



CR9691T Version 1.15.3 - 20-Aug-1994
CREATED: 10-JUN-95 11:52:23

Safety Laboratory Inc Department, SE Unit:

PLOT PAGE 58

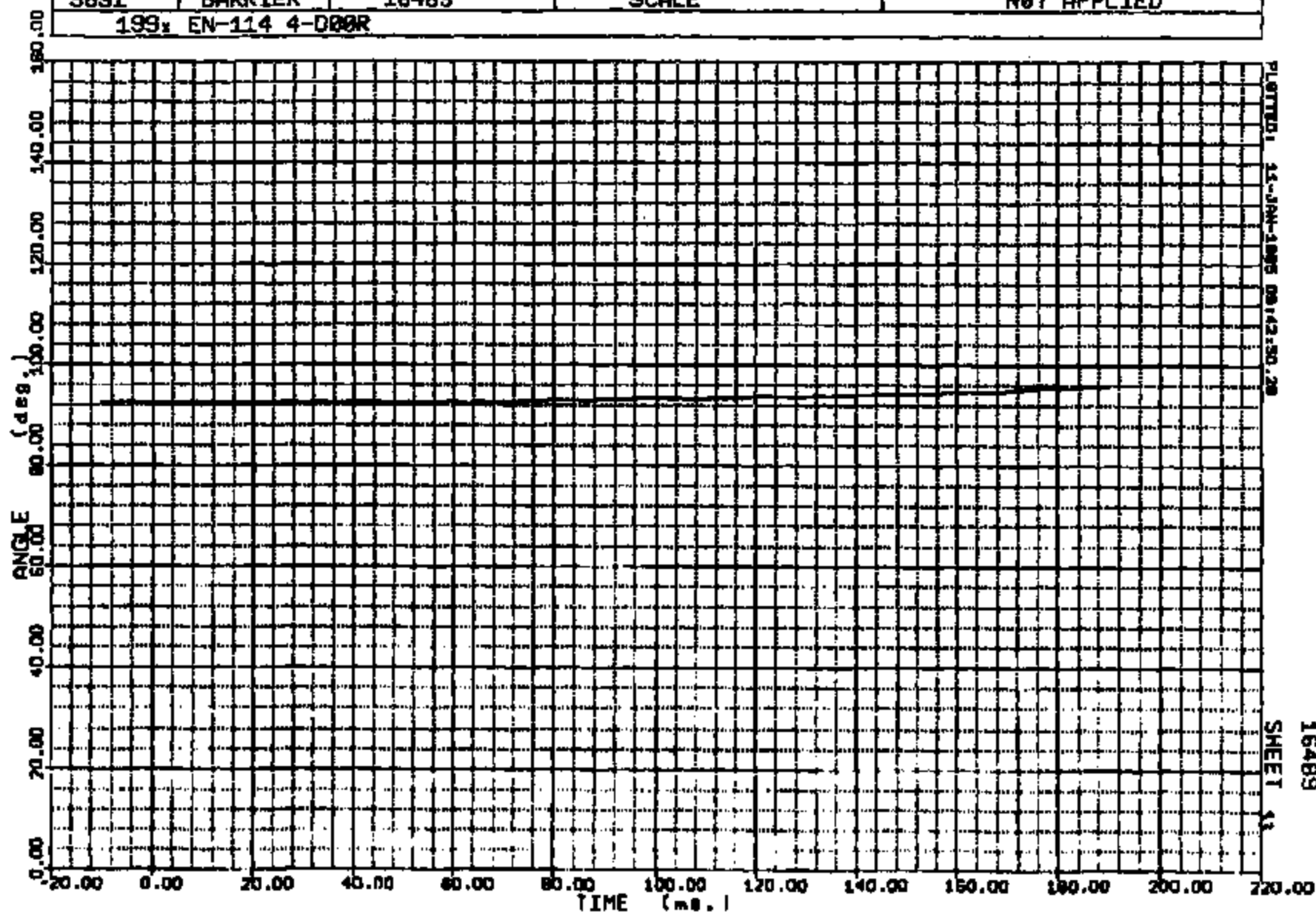
SHEET 52

CRIS 0009691

ENTIRE PAGE CONFIDENTIAL

Y - AXIS: VEHICLE CENTERLINE ANGLE WRT GROUND MAX = 85.76 at 150.00 MIN = 92.80 at 1.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
9691	BARRIER	16489	SCALE	NOT APPLIED
199: EN-114 4-000R				



CRIS 0009691

16489

ENTIRE PAGE CONFIDENTIAL







TEST AUTHORIZATION				TEST ORDER NUMBER: <u>16489</u>			
A. Donahoe DO: C. E. O'Donnell				REQUEST DATE:	REQUESTED COMPLETION DATE:		
				12/24	12/24		
				REQUEST NUMBER:	PROJECT NUMBER:		
				12-2402-0214			
				REQUESTING ACTIVITY:			
				Vehicle Safety and CAE Technology			
TITLE OF TEST:							PARTS DUE DATE:
Risk Impact sensor development - polefree impact							
TYPE OF TEST:		VIN NUMBER or IDENTIFICATION		VEHICLE MODEL & YEAR		PROD. OR ENG. LETTER:	
☒ VEHICLE ☐ BENCH		VIN - 2FAC7H420K164890		199X EN114			
☐ LABORATORY ☐ OTHER		8174894		TEST CONDUCTED TO		DISPOSITION OF PARTS:	
ENGINE NO. EMPL. CARS:		TRANSMISSION:		AXLE RATIO:		CERTIFY CONTROL ITEM	
		Standard				COMPLIANCE WITH	
TYPE OF FUEL:		CONVERTER:		EMISSION TESTS:		GOV. REGULATIONS:	
Stoddard						☐ YES ☒ NO	
						IF YES, GIVE CODE	
CRANKCASE OIL AND CAPACITY (L):			TIRE SIZE AND PLY RATING:		REPORT CATEGORIES:		MAIL REPORT TO:
VEHICLE TEST WEIGHT (Lbs):			TIRE PRESSURE (psi):		☒ ENGINEERING		ROOM: <u>MD 100</u>
FRONT REAR TOTAL			FRONT REAR		☒ DATA		BLDG: <u>POC</u>
1998 1977 3970					☒ RAN DATA		
1. OBJECT OF TEST 2. TEST PROCEDURE 3. ITEMS TO BE TESTED (NAME, NUMBER, QUANTITY)							
1) Evaluation of the sensor performance in the above vehicle when subjected to polefree impact at CL of RH B-Pillar.							
2) Conduct a 15 mph RH side impact into rigid polefree fixture. Position dummies per FMVSS 214, S7. Record dimensions on sheet provided. Paint channels on dummies in contrasting colors (head, thorax, hip, thigh, legs). Occupants to be restrained with seat belts. Doors on impacted side of vehicle to remain closed following test. Additional Requirement: Modify dummy seat position such that head will strike pole on impact.							
3) 199X EN114 sedan <i>(Previously Impacted by Pole)</i> WAS TO 16489  Estimated Test Cost: \$28,000 3 COPIES of Copies (Black Stamped) by: RETAIN Record Copy (Red Stamped) Tanc: Schedule Number: <u>7-7-126</u>							
REQUESTING SECT. NO:	WORK ORDER WORK TASK:	ISSUED REQUESTED BY:	PHONE:	APPROVAL:	TEST TYPE:	WEEK:	WEEK OFF DATE:
1000	1000	J. E. Abner	30-0510	12/24/94			

NOTE: WORKSTATION: DO NOT WRITE BELOW THIS LINE

WORK STANDARD NUMBER:				TEST DESCRIPTION:			
MANDATORY							
TEST ORDER NO:	CATEGORY	RESP. SECTION:	EST. COMP. DATE:	FEED	TEST ENG. INITIALS:	UNIT CODE:	TEST ORDER DATE:
16489	1	260	1-31-95	6	12/24	TNP	12-13-94
PERFORMING SECTION	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST. START DATE	EST. COMP. DATE	STATUS
							PERCENT COMPLETE
TOTAL							

SIDE IMPACT TEST REQUEST FORMAT

VEHICLE INFORMATION:

Model Year: 199X
 Vehicle Line: EN114
 Model: _____
 Build Number: N/A
 Tag Number: 517W994
 VIN Number: 2FACP74W0RX184230
 Fuel System Rated Capacity: _____
 Prototype Level: Production

TEST WEIGHT:

Option Weight: _____ Minimum X 33% Option _____ Maximum
 Test Weight: Front 2190 Rear 2384 Total 4574
 Acceptable Variance: + 25 lbs - 0 lbs
 Ride Heights: _____

TEST MODE:

15 MPH Vehicle side impact into pole/tree fixture _____ Left X Right
 _____ MPH FMVSS 214 (passenger car configuration) _____ Left _____ Right
 _____ MPH FMVSS 214 (LTV configuration) _____ Left _____ Right
 _____ MPH Car to car angular _____ degrees
 _____ MPH Car to car 90 degree impact

Impact Point CL of passenger side B-pillar
 LTV Barrier Height _____

TEST OBJECTIVES: Cert (C) Audit (A) Safety Guideline (SG)

_____ FMVSS 214
 _____ FMVSS 301 _____ Static Rollover _____ Pressure Check
 _____ Door Openability
X _____ Sensor Development

DUMMIES (F) Front (R) Rear:

F&R Certification
 _____ BIOSID _____ Instrumented _____ Uninstrumented
F&R Side Impact Dummy (SID) _____ Instrumented F&R Uninstrumented
F&R Positioning per FMVSS 214 Dynamic Test Procedure

RESTRAINT SYSTEM:

X Belted Front Occupant
X Belted Rear Occupant

DIMENSIONAL ANALYSIS:

<u> </u> 404	<u> </u> 409	<u> </u> 411	<u> </u> 417
<u> </u> 418	<u> </u> 421	<u> </u> 423	<u> </u> 425
<u> </u> 427	<u> </u> 429	<u> </u> 431	<u> </u> 433
<u> </u> 435	<u> </u> 437		

* LEFT ONLY

DATA CHANNELS:

FRONT OCCUPANT (SIDE IMPACT DUMMIES):

<u> </u> Head C.G.	<u> </u> Long	<u> </u> Vert	<u> </u> Lat	
<u> </u> Chest T1	<u> </u> Long	<u> </u> Vert	<u> </u> Lat	<u> </u> Lat Backup
<u> </u> Chest T12	<u> </u> Long	<u> </u> Vert	<u> </u> Lat	<u> </u> Lat Backup
<u> </u> Upper Rib	<u> </u> Primary	<u> </u> Backup		
<u> </u> Lower Rib	<u> </u> Primary	<u> </u> Backup		
<u> </u> Chest Deflection				
<u> </u> Pelvis	<u> </u> Long	<u> </u> Vert	<u> </u> Lat	<u> </u> Lat Backup
<u> </u> Upper Neck Load Cell				
<u> </u> Lower Neck Load Cell				

VEHICLE:

<u>X</u> Right Sill @ Front Seat Mid	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Sill @ Rear Seat Mid	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Left Sill @ Front Seat Mid	<u>X</u> Long	<u>X</u> Vert	<u>X</u> Lat
<u>X</u> Left Sill @ Rear Seat Mid	<u>X</u> Long	<u>X</u> Vert	<u>X</u> Lat
<u>X</u> Right Front Door @ Beltline	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Front Door Over Armrest	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Front Door Lower (Front)	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Front Door Rear of Seat H-pt	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Front Door Beam mid rear.	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right A-Pillar Lower (inside)	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right B-Pillar Lower (inside)	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right B-Pillar Upper (inside)	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Rear Door @ Beltline	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Rear Door Over Armrest	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Dash panel at Cowl Top	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u> </u> Right Front Seat Back Recliner	<u> </u> Long	<u> </u> Vert	<u> </u> Lat
<u>X</u> Right Front Floor @ Seatbelt Front	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u>X</u> Right Front Floor @ Seatbelt Rear	<u> </u> Long	<u> </u> Vert	<u>X</u> Lat
<u> </u> Rear Floor Pan Above Axle	<u> </u> Long	<u> </u> Vert	<u> </u> Lat
<u> </u> CL Tunnel @ Dash panel	<u>X</u> Long	<u>X</u> Vert	<u>X</u> Lat
<u> </u> CL Tunnel @ Dash +45° from Long	<u>X</u> Long	<u>X</u> Vert	<u>X</u> Lat
<u> </u> CL Tunnel @ Dash -45° from Long	<u>X</u> Long	<u>X</u> Vert	<u>X</u> Lat
<u> </u> CL Tunnel @ Head H-pt	<u>X</u> Long	<u>X</u> Vert	<u>X</u> Lat
<u> </u> Fuel Inertia Switch			

SENSORS

☒ TRW on L/F Door
☒ TRW on L/F B-Pillar
☒ Siemens on L/F Door
☐ Siemens on CL Tunnel
☒ Siemens under L/F Seat
☒ TRW on L/F B-Pillar (Flight Recorder)
☒ Siemens on L/F Door (Flight Recorder)

Responsible Sensor Engineer

R. Ross (39-05149)
 R. Ross (39-05149)
 R. Ross (39-05149)
 R. Ross (39-05149)
 P. Simmons (84-55501)
 P. Simmons (84-55501)
 P. Simmons (84-55501)

MOVING BARRIER:

☐ Center of Gravity	☐ Long	☐ Vari	☐ Lat
☐ Left Frame Rail	☐ Long	☐ Vari	☐ Lat
☐ Right Frame Rail	☐ Long	☐ Vari	☐ Lat
☐ Bumper Face - Left	☐ Long	☐ Vari	☐ Lat
☐ Bumper Face - Center	☐ Long	☐ Vari	☐ Lat
☐ Bumper Face - Right	☐ Long	☐ Vari	☐ Lat

CONTACT SWITCHES:

☒ Front Dummy	☒ Chest	☒ Hip	☒ Thigh
☐ Rear Dummy	☐ Chest	☐ Hip	☐ Thigh
☒ Pole	☒ Head height		

DATA PROCESSING:

☒ Use Standard Graphs and Scales
☒ FIR Filter Dummy Channels

FILM ANALYSIS:

☒ Cart w/ Ground & w/ Vehicle to show Impact Point
☒ Impact Speed
☒ Impact Angle
☒ Front Occupant Head w/ Vehicle for kinematics
 Note: Targets and Measurements only (Plots may be required later)

STILL PHOTOGRAPHS:

☒ Pre & Post Test Documentation Photos
☒ Post Test Documentation of Door Trim Panel & Door Interior with Panel Removed

HIGH SPEED PHOTOGRAPHY:

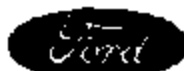
☒ Onboard Cart - View of Impact
☒ Onboard Front - View of Front Dummy
☒ Onboard Side - View of Front Dummy
☒ Onboard Side - View of Rear Dummy
☒ Onboard Rear - View of Rear Dummy
☐ Onboard - View of Front Seat to show Airbag Deployment from front
☐ Onboard - View of Front Seat to show Airbag Deployment from overhead
☒ Left - Overall
☒ Left - Impact at Angle
☒ Left - 45 deg. Impact at Angle
☐ Right - Overall
☐ Right - Impact at Angle
☐ Right - 45 deg. Impact at Angle
☒ Overhead - Overall
☒ Overhead - Close-Up
☐ Pft - Contact
☐ Pft - Overlap
☐ Pft - Fuel Tank

DATA, FILM AND PHOTO DISTRIBUTION:

☐ 3 Number of Copies of Data Required
☐ 2 Number of Film Prints Required
☐ 2 Number of Contact Prints Required

DISTRIBUTION LIST:

<u>ACTIVITY:</u>	<u>DATA</u>	<u>F.A.</u>	<u>D.A.</u>	<u>FILM</u>	<u>PHOTO</u>
Joe Abramczyk - Safety and CAE	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
Rick Ross - Restraints Systems	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
Joe Brown - Restraints Systems	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>



FINAL TEST REPORT

Global Test Operations
Advanced Vehicle Technology

TO: M. Juzosek

Test Order No.	T-16476
Work Task W. O. No.	B4006
Test Date	1/10/95
Date Reported	3/17/97
Sheet	1 of 62

SUBJECT: Crash Test 9692 (90° Right Side Fixed Pole Impact at 15.1 ± 0.4 mph, 24.3 ± 0.6 km/h) - 199X Crown Victoria (EN-114) 4-Door Sedan

REQUESTED BY: Vehicle Safety and CAE Department, Advanced Vehicle Technology - J. E. Abrzeczyk

OBJECT: To obtain development data relative air bag system sensors.

SUMMARY OF TEST RESULTS: See Section 1.0 for air bag system sensor data.

Thomas P. Murphy

T. Murphy
Product Test Engineer

M. M. Hamilton

Concur: G. Tomai
Section Supervisor
Crash Test Operations Section

VEHICLE DATA:

Make and Model	199X Crown Victoria (EN-114) 4-Door Sedan (Production Prototype)	
ID Numbers	2PACF74W1NK206281, 517-W-969	
Power Train	4.6L, EFI, Automatic Transmission	
Fuel Tank(s)	Test Condition: Empty	
Front Seat(s)	Type: Split Bench Cover: Cloth Tracks/Position: Manual/Mechanical Mid Seat Backs/Position: Adjustable/Not Measured Head Restraints/Position: Adjustable/Down	
Rear Seat(s)	Type: Bench Cover: Cloth	
Restraint System	RF: 3-Point Continuous Loop Active Belt RR: 3-Point Continuous Loop Active Belt	
Occupants	RF: BIO-SID Uninstrumented Dummy RR: US-SID Uninstrumented Dummy	
Test Weight	Front: 2192 lb (994 kg) Rear: 2400 lb (1089 kg) Total: 4592 lb (2083 kg)	
Tires	Front: P215/70R15 30 psi (207 kPa) Rear: P215/70R15 30 psi (207 kPa) Spare: Removed	
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel	

GENERAL TEST COMMENTS:**1. Test Procedure**

The test was performed according to the following Corporate test procedure(s):

Fixed Barrier Collision, ST-14 dated January 15, 1992.

1.1 Vehicle Alignment

The test vehicle impacted an eight inch diameter steel pole structure rigidly attached to the barrier face. The vehicle steel pole was aligned so that the point of vehicle impact was parallel to a plane passing through the R/F dummy's longitudinal H-Pt. The test vehicle impacted the pole perpendicular to the barrier face.

2. Remarks

Crash movies, pre- and post- crash still photographs of the test vehicle and copies of this report are available only through the Safety Test Engineering Section after permission is obtained from the test requesting department. The negative numbers of the still photographs are CH309021-5994 through -6027.

TEST RESULTS:**1.0 Sensor Development**

Time histories of the dummy dynamic displacements obtained from Film Analysis are included in this report.

Time histories of the air bag/sensor(s) are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

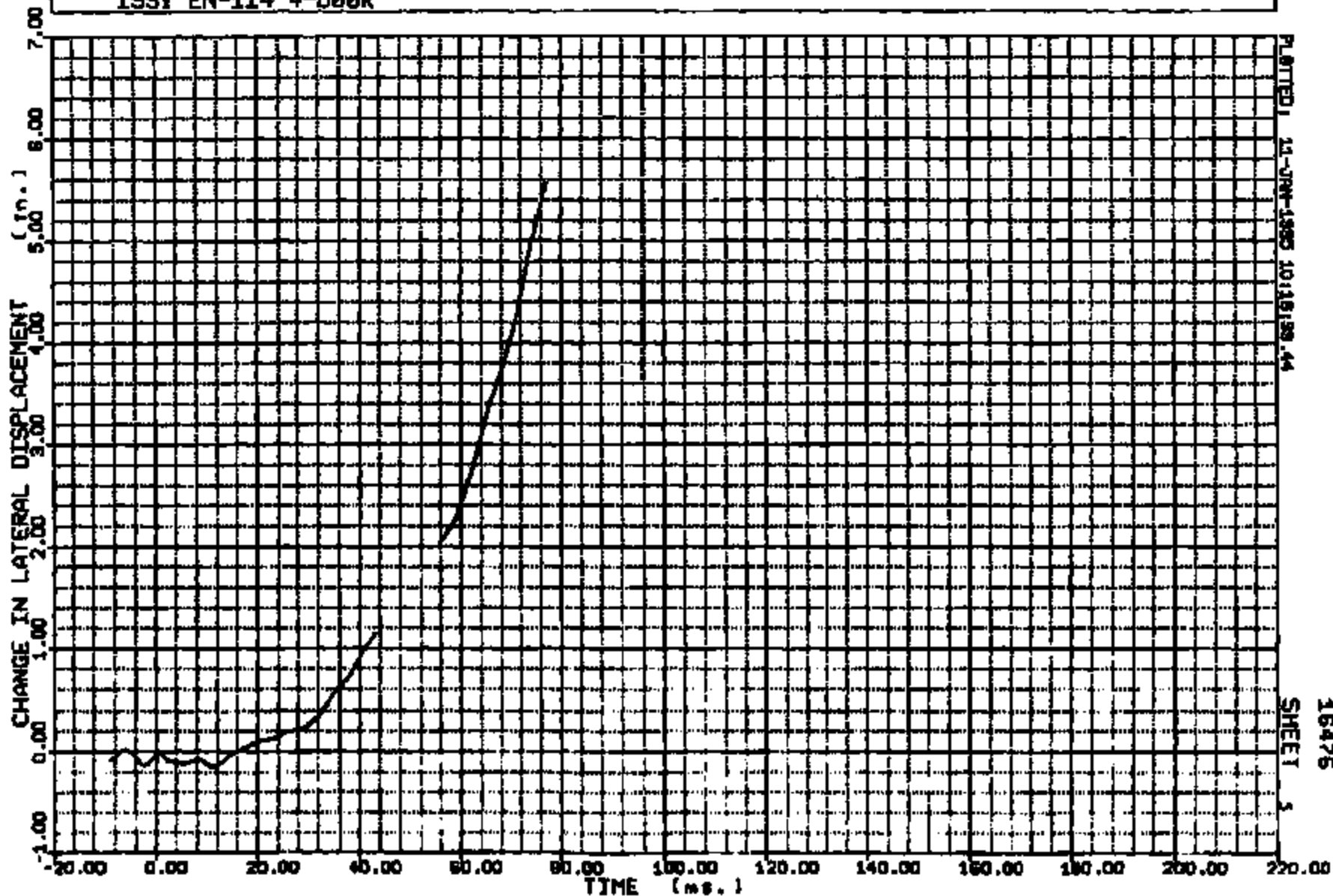
2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

Time histories of the vehicle accelerations and other instrumentation are included in this report.

Time histories of vehicle dynamic displacements obtained from Film Analysis are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

Y - AXIS: FRONT OF PASSENGER HEAD MRY ROOF CAL AT A-PILLAR MAX = 5.572 at 77.00 MIN = -.1382 at 11.00				
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
9692	BARRIER	16476	SCALE	NOT APPLIED
199: EN-114 4-DOOR				



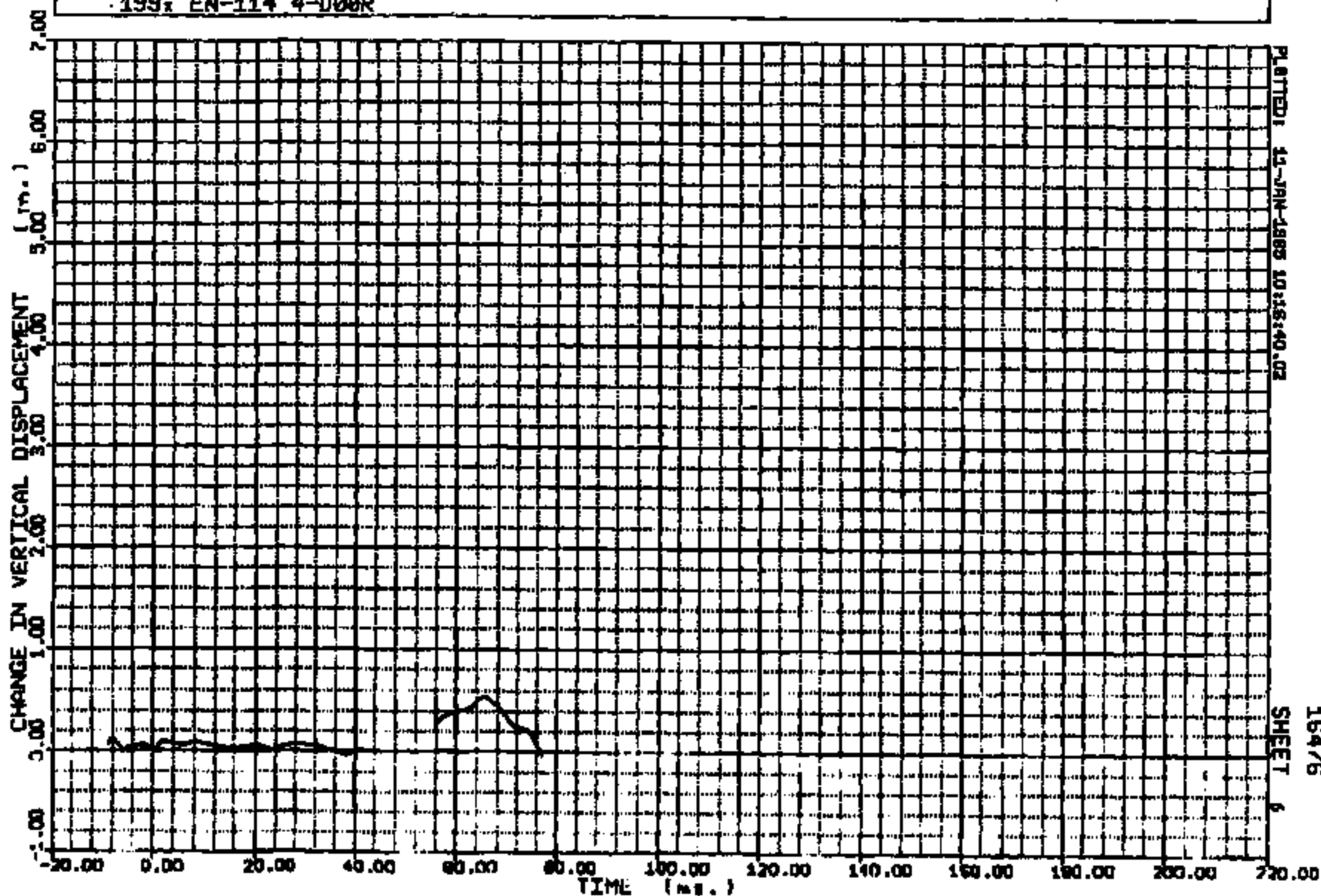
CRIS 0009692

16476

ENTIRE PAGE CONFIDENTIAL

Y - AXIS: FRONT OF PASSENGER HEAD WRT ROOF C/L AT A-PILLARAX = 0.5487 at 65.00 MIN = -.8902E-01 at 77.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
9692	BARRIER	16476	SCALE	NOT APPLIED
.199: EN-114 4-D08R				



CRIS 0009692

ENTIRE PAGE CONFIDENTIAL
16476

CR R: 9822 TO: 16478 DATE: 98011010 18:08:09
EN: +14

(1) CR9632T R/F DOOR OVER NWVEST (SI) LAT 60C

$$MX = 31.17 \quad \text{at } 23.41 \quad MS \quad MN = -69.34 \quad \text{at } 25.20 \quad MS$$

AXIS 1



CASDIS Version 1.15.3 - 29-Aug-1994
 CREATED: 10-MAR-95 16:31:58

Safety Laboratory Department, 35 Unit
PLOT PAGE 15

16476 SHEET

ENTIRE PAGE (CONFIDENTIAL)

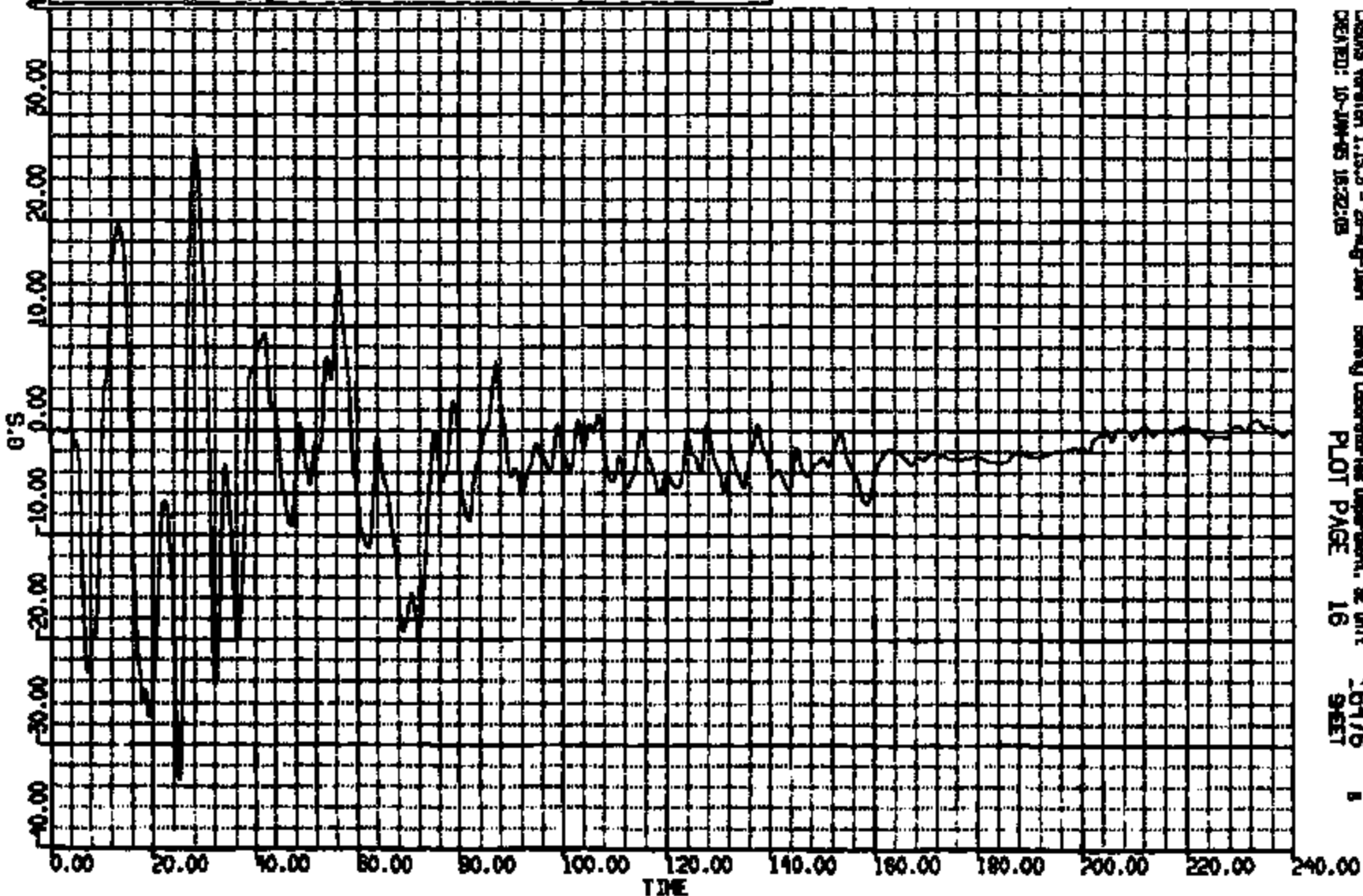
CRTS 0009692

CR R: 9892 TO: 18478 DATE: 95011010 18:06:02
EN-114

(2) CR9892T R/F DOOR SWR HOLE (SIDE IMP) LAT 60C

MAX = 27.08 at 28.15 NS MIN = -33.67 at 25.04 NS

AXIS 1



CASUS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 18:22:03

Safety Laboratory Inc Department, SE Unit

PLOT PAGE 16 SHEET

ENTIRE PAGE CONFIDENTIAL

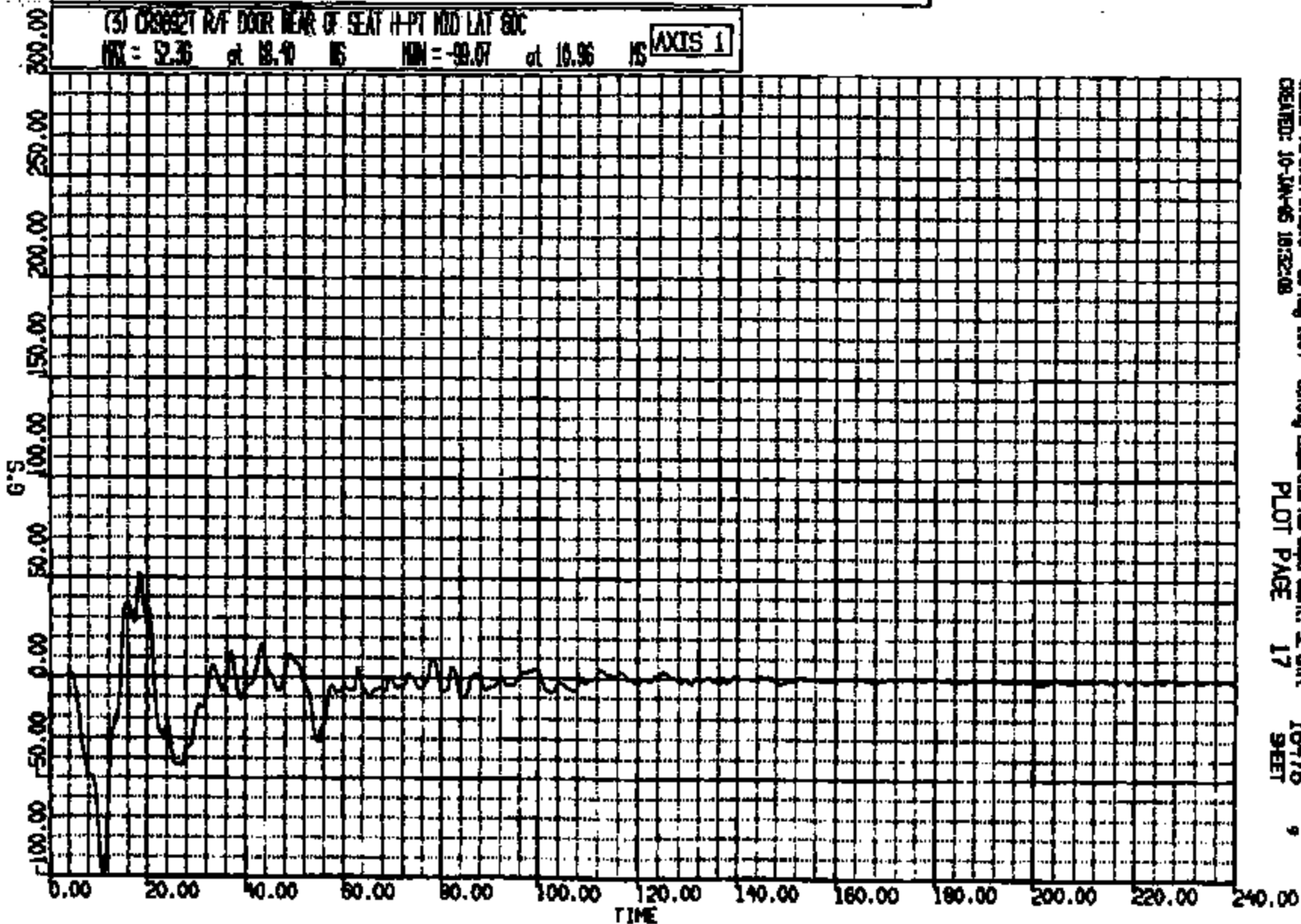
CRIS 0009692

CR R: 8882 TO: 16476 DATE: 95011010 16:08:08
EN-114

(3) CR882T R/F DOOR NEAR OF SEAT H-PT MID LAT 60C

MAX = 52.36 at 18.40 MS MIN = -99.07 at 10.96 MS

AXIS 1



CASINS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 16:32:08

Safety Laboratories Department, SE Unit
PLOT PAGE 17

16476
SHEET 9

ENTIRE PAGE CONFIDENTIAL

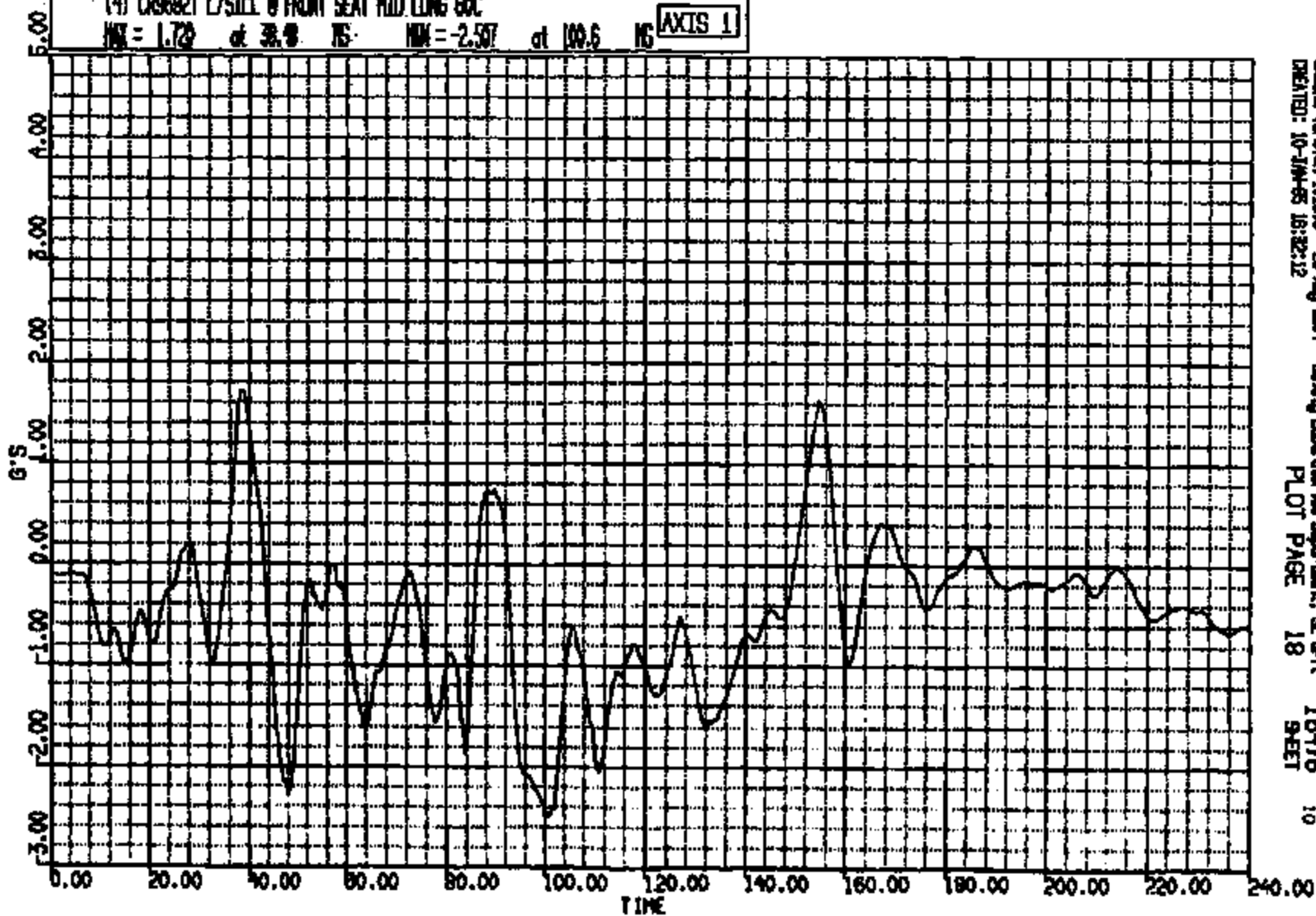
CRTS 0009692

CR R: 8882 TO: 18476 DATE: 85011010 18:08:08
EN-114

(4) CR8682T L/SILL @ FRONT SEAT MID LONG GOC

MAX = 1.72 at 38.8 MS MIN = -2.507 at 100.6 MS

AXIS 1



CASUAL Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-85 18:32:12

Safety Laboratory Department, SE 411
PLOT PAGE 18

18476 10
SHEET

CRIS 0009692

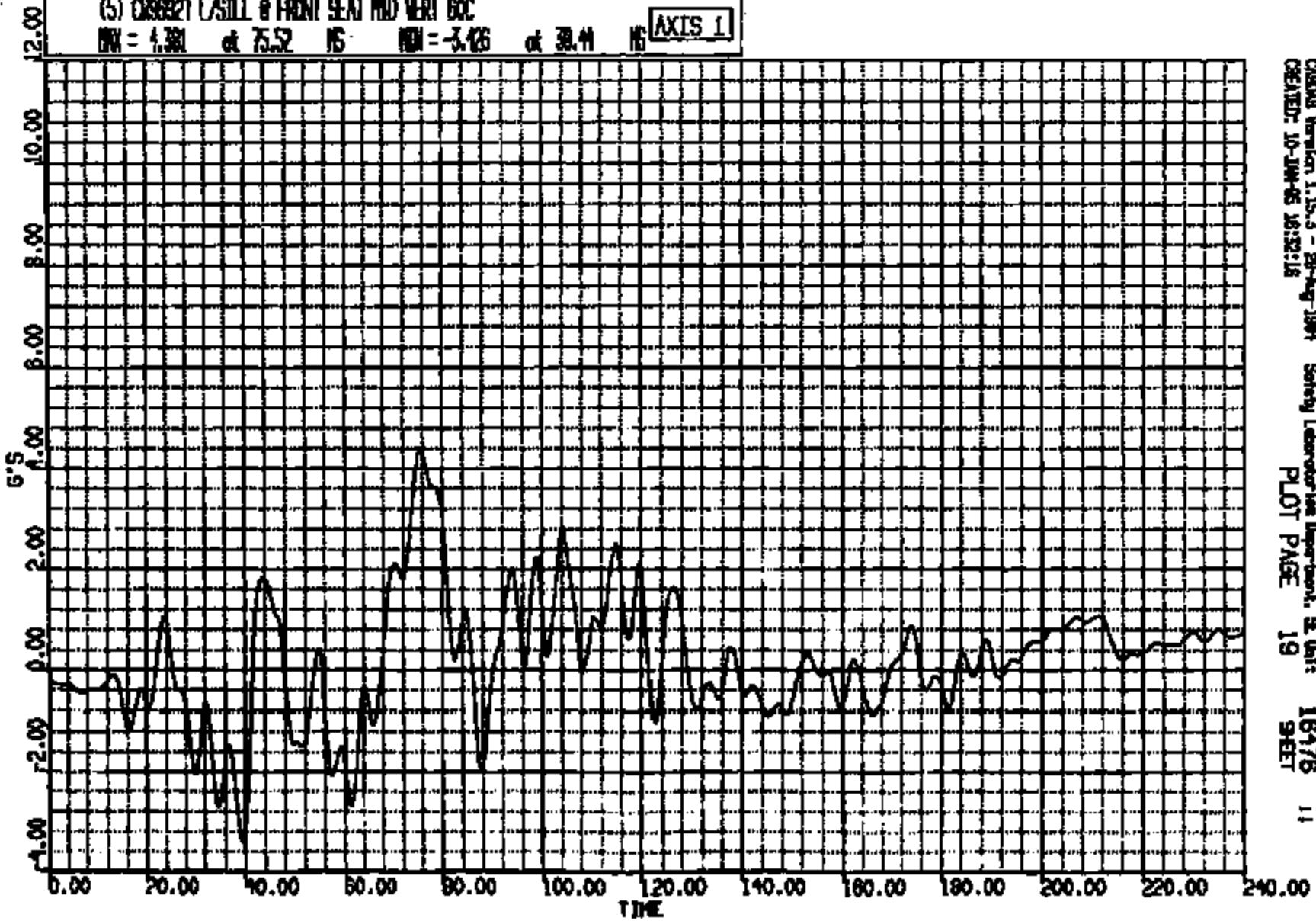
ENTIRE PAGE CONFIDENTIAL

CR R: 0002 TO: 10470 DATE: 08011010 10:08:08
EN-114

(5) ORIGINET L/SILL @ FRONT SEAT MID VERT GDC

$$\mu_{\text{H}} = 4.301 \quad \sigma_{\text{H}} = 75.52 \quad \mu_{\text{D}} = -3.426 \quad \sigma_{\text{D}} = 39.44 \quad \mu_{\text{G}}$$

AXIS 1



CLASMS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 18:32:18

Safety Laboratory Department, 55 Unit:

PLOT PAGE 19

11
16476
95ET

ENTIRE PAGE CONFIDENTIAL

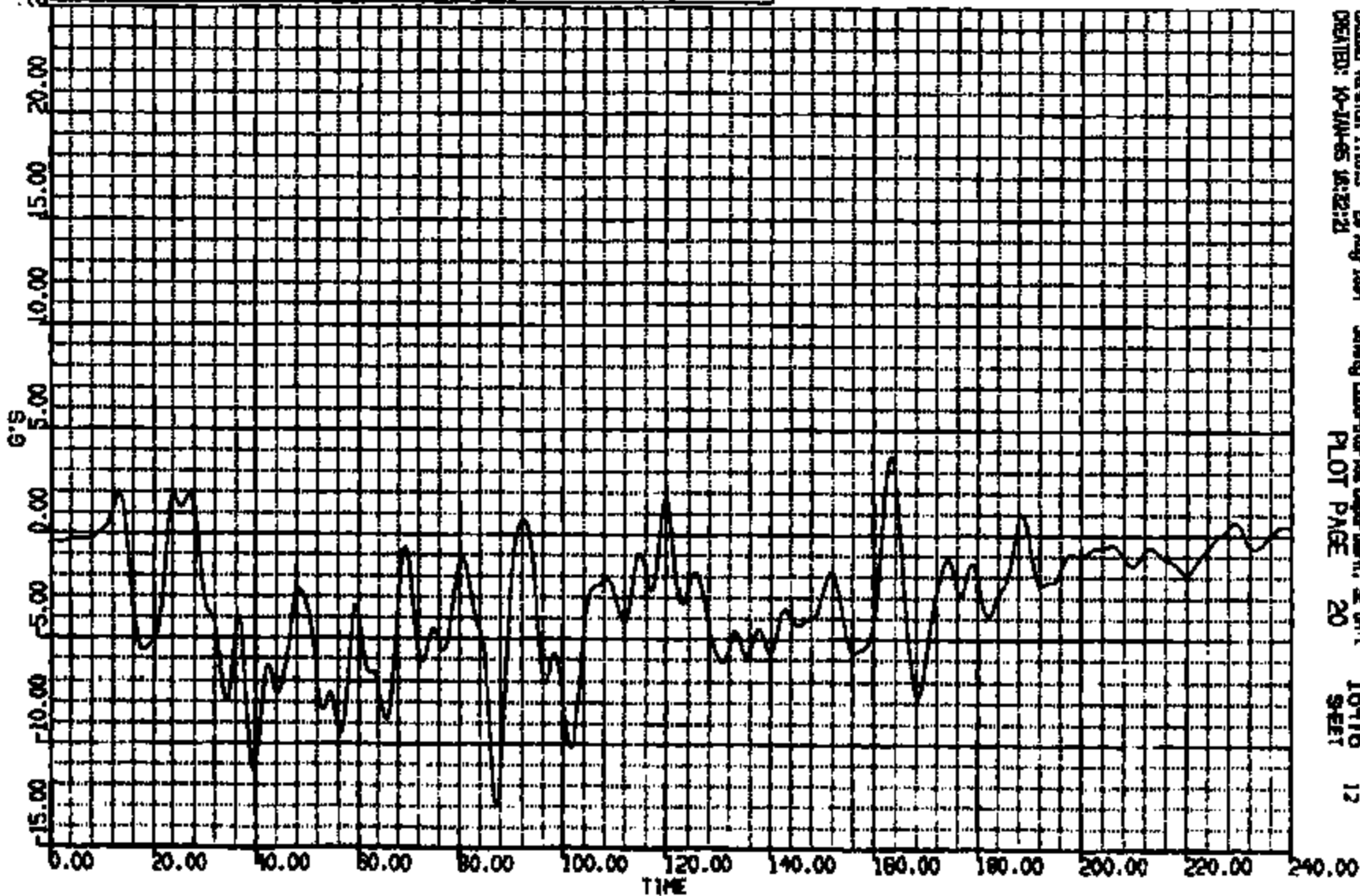
CRTS 0009692

CR R: 8682 TD: 18476 DATE: 85011010 18:08:08
EN-114

(S) CR8002T L/SILL @ FRONT SEAT MID LAT 80C

MAX = 3.75 at 183.2 MS MIN = -12.90 at 87.20 MS

AXIS 1



CADDS Version 1.15.3 - 28 Aug 1991
CREATED: 10-JAN-95 18:32:12

Safety Laboratory Inc Department, SE Unit
PLOT PAGE 20

18476 12
SHEET

ENTIRE PAGE CONFIDENTIAL

CRTS 0009692

00:00:00 TO: 16476 DATE: 95011010 18:08:08
 00:00:00

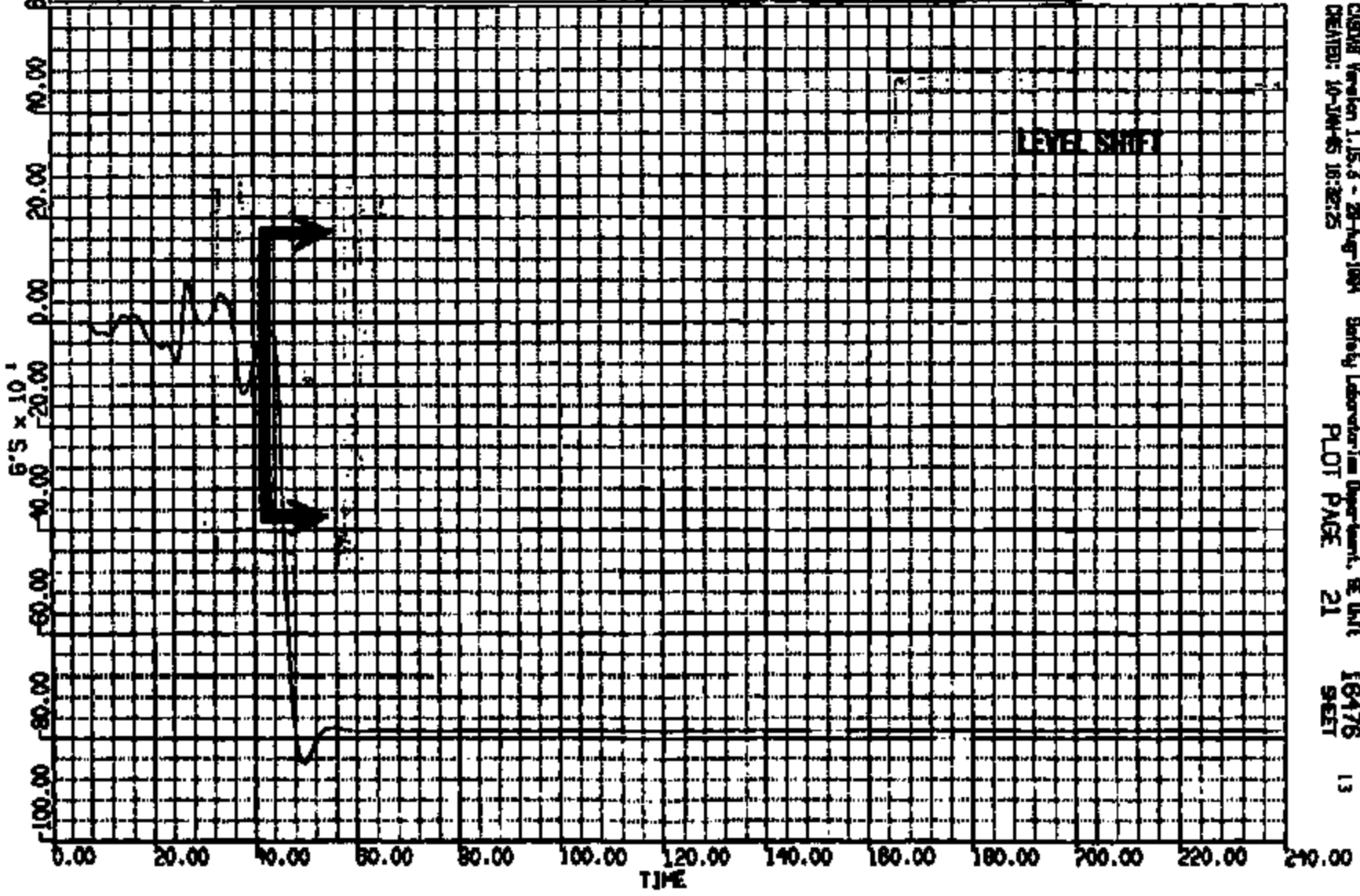
(7) CR9692 R/SILE @ FRONT SEAT MID LAT 60C

NR - 00.13 at 25.00 IS NR - 90.6 at 40.52 IS

AXIS 1

ANOMALY KEY:

0 - Wideband data exceeded full scale
 1 - >1 percent offset at T-zero



CR9692 Version 1.15.2 - 28-Aug-1994 Safety Laboratory Department, E Unit 16476 13
 CREATED: 10-JUN-95 18:28:25 PLOT PAGE 21 SHEET

CRIS 0009692

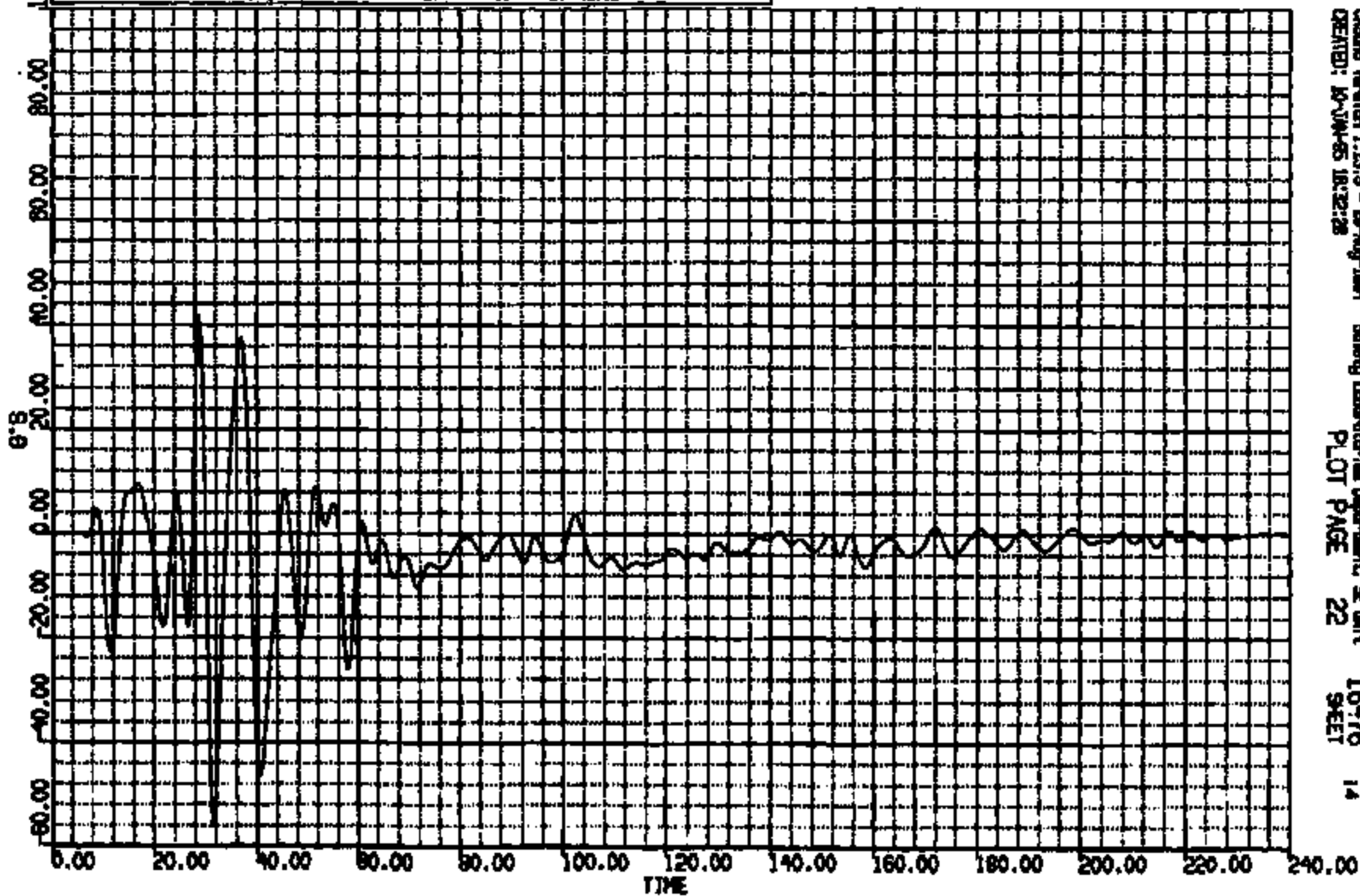
ENTIRE PAGE CONFIDENTIAL

CR R: 0882 TO: 10478 DATE: 05011010 18:06:08
EN-114

(8) CR0802T R/SILL @ REAR SEAT MID LAT GOC

MAX = 41.62 at 28.80 MS MIN = -58.30 at 31.52 MS

AXIS 1



CASUS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 18:22:28

Safety Laboratory Inc Department SE Unit
PLOT PAGE 22

16476 14
SHEET

ENTIRE PAGE CONFIDENTIAL

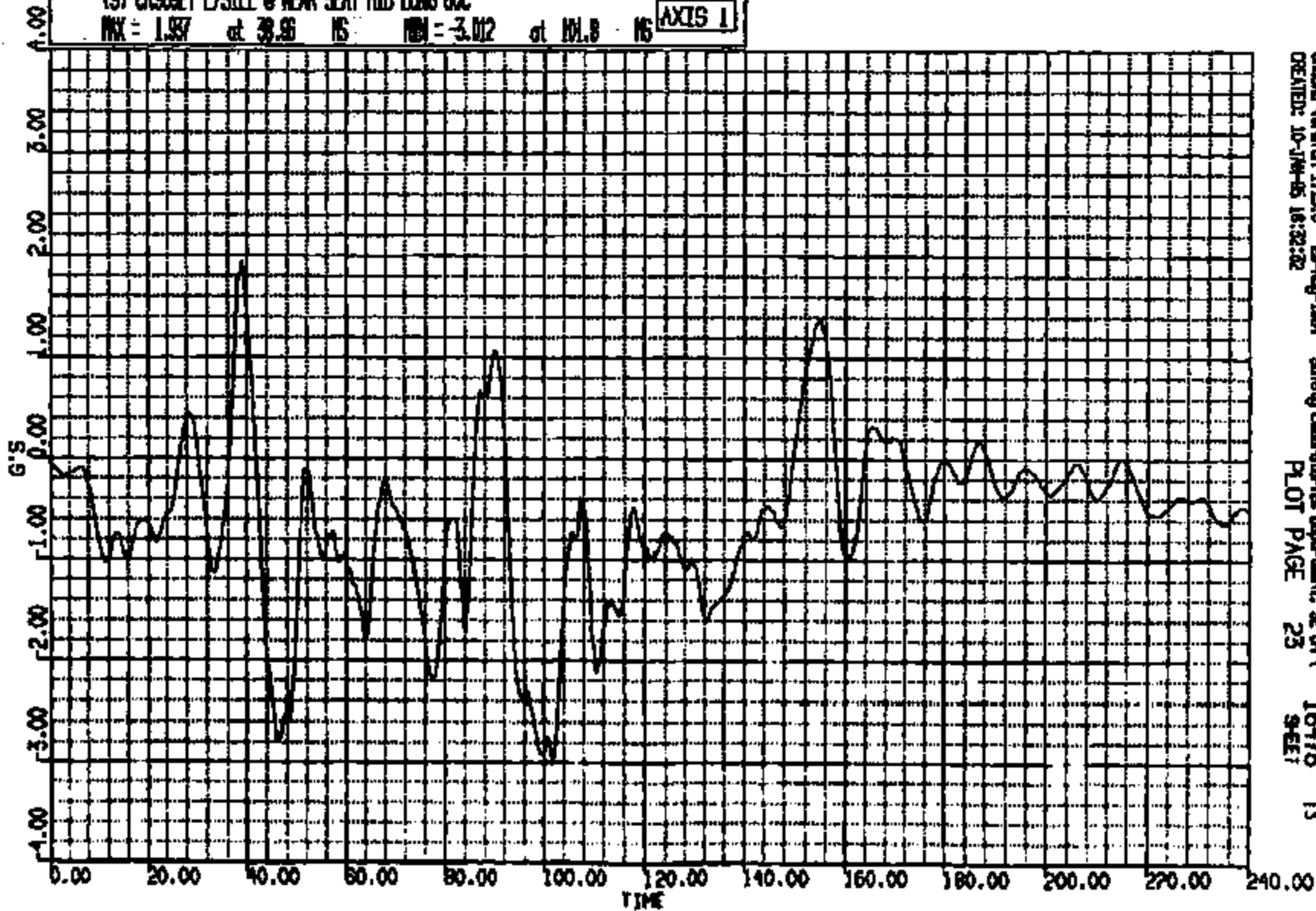
CRTS 0009692

CR R: 9892 TO: 18478 DATE: 85011010 18:08:08
EN-114

(9) CR9892T L/SILL @ NEAR SEAT MID LONG GOC

MAX = 1.97 at 38.96 MS MIN = -3.012 at 104.8 MS

AXIS 1



CASPER Version 1.15.3 - 20-Aug-1994
CREATED: 10-JUN-95 16:32:32

Safety Laboratories Department, SE Unit
PLOT PAGE 23

18478 15
SEE

CRIS 0009692

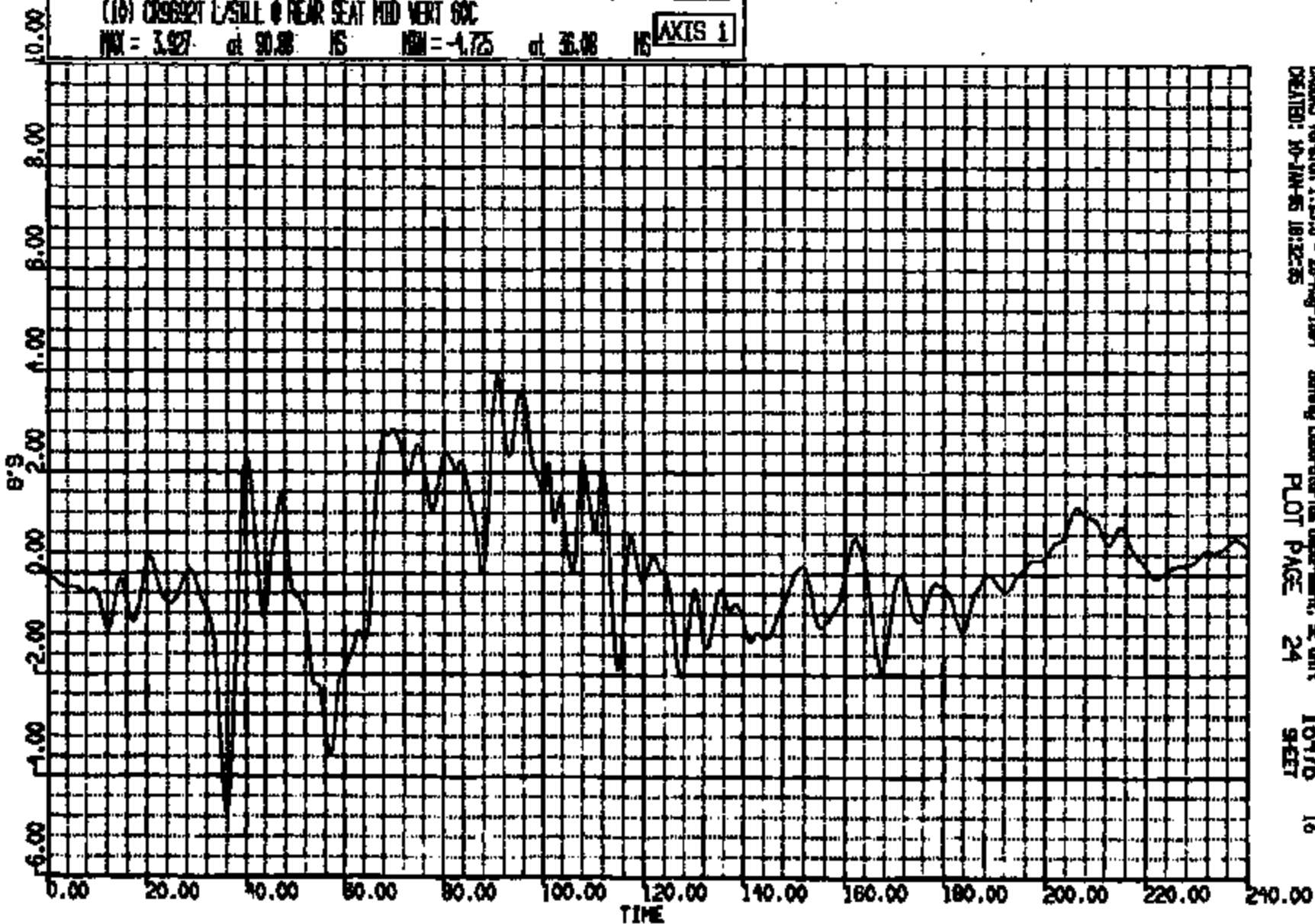
ENTIRE PAGE CONFIDENTIAL

CR R: 9592 TO: 18478 DATE: 95011010 18:08:08
EN-114

(16) CR9692T L/SIDE @ REAR SEAT MID VERT GPC

MAX = 3.927 at 90.08 MS MIN = -1.725 at 35.08 MS

AXIS 1



CR9692T Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 18:12:35

Safety Laboratories Department, SE Unit
PLOT PAGE 24

18478 16
SHEET

CRTS 0009692

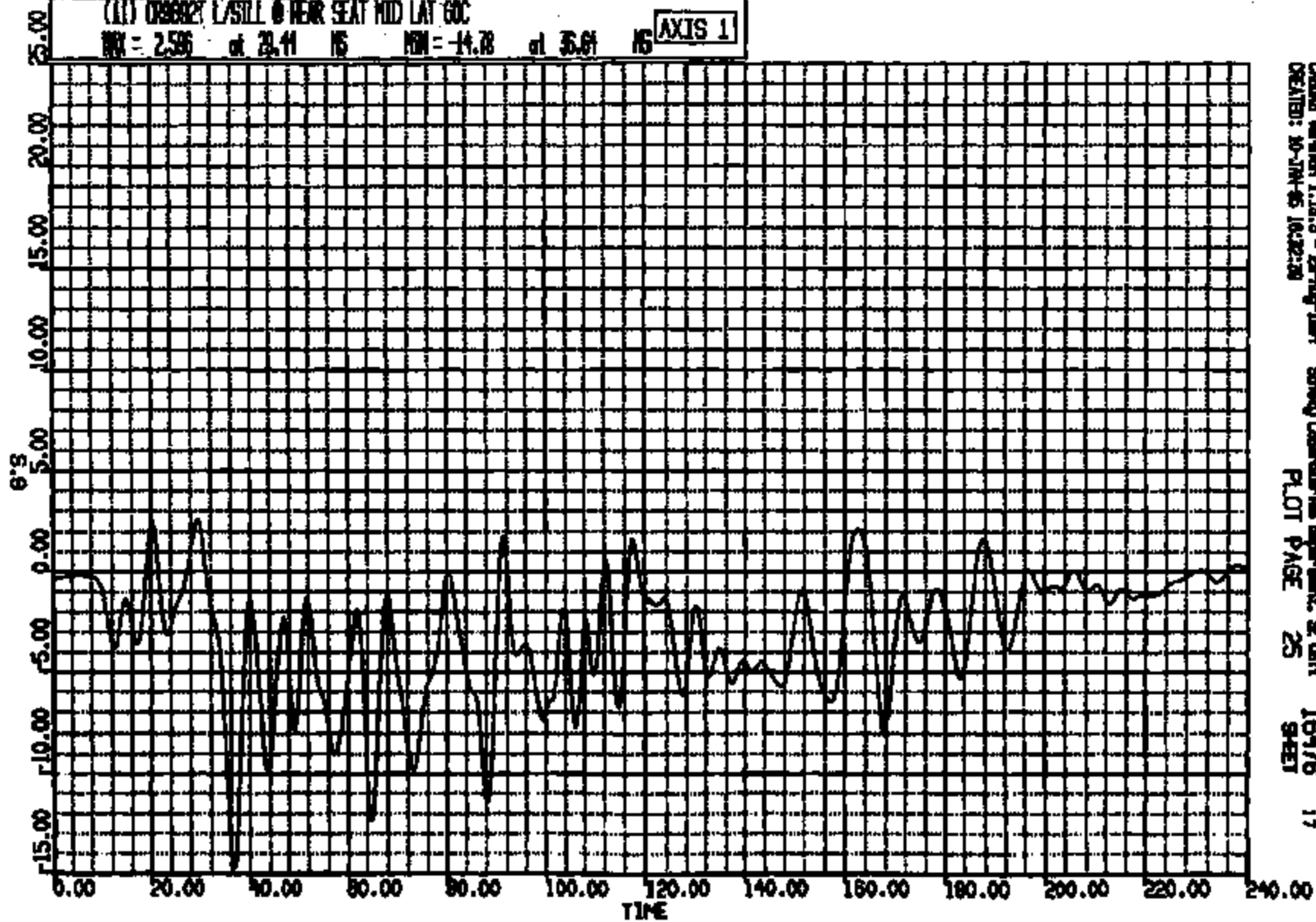
ENTIRE PAGE CONFIDENTIAL

CR R: 9882 TO: 18478 DATE: 88011010 18:02:08
EN-114

(11) 098822 L/SILL @ NEAR SEAT MID LAT 60C

MIN = 2.586 at 23.41 MS MAX = 14.78 at 35.61 MS

AXIS 1



CHARGE Version 1.5.3 - 20-Aug-1991
CREATED: 10-JUN-85 16:32:30

Safety Laboratories Department, SE Unit
PLOT PAGE 25

16478 17
SHEET

CRIS 0009692

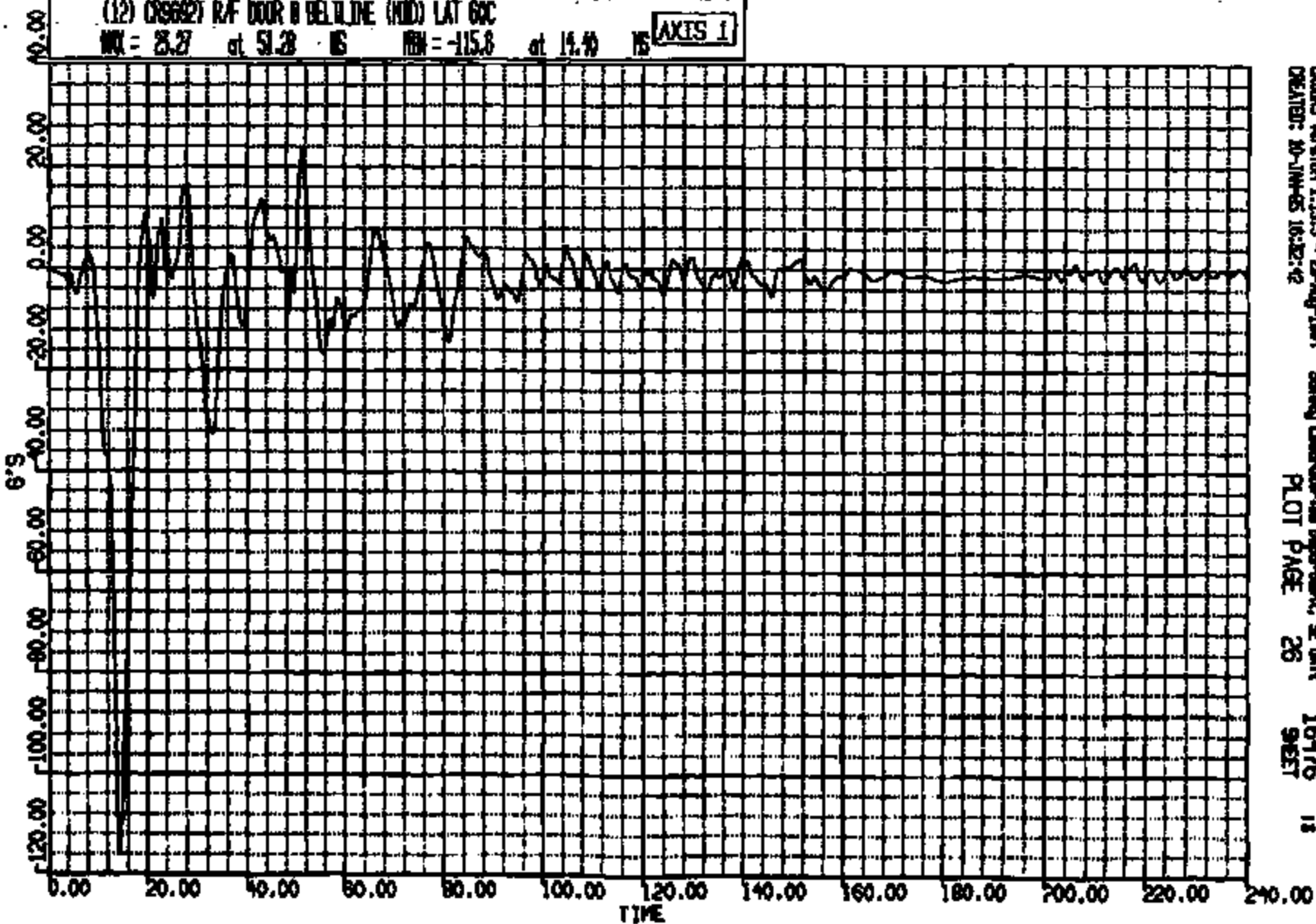
ENTIRE PAGE CONFIDENTIAL

CR #: 8882 TO: 16476 DATE: 08011010 18:08:08
EN-114

(12) (28682) R/F DOOR B BELT LINE (HND) LAT 60C

MAX = 28.27 at 51.28 MS MIN = -115.8 at 14.40 MS

AXIS 1



CRS09 Version 1.15.3 - 29-Aug-1991
CREATED: 10-JUN-93 16:32:42

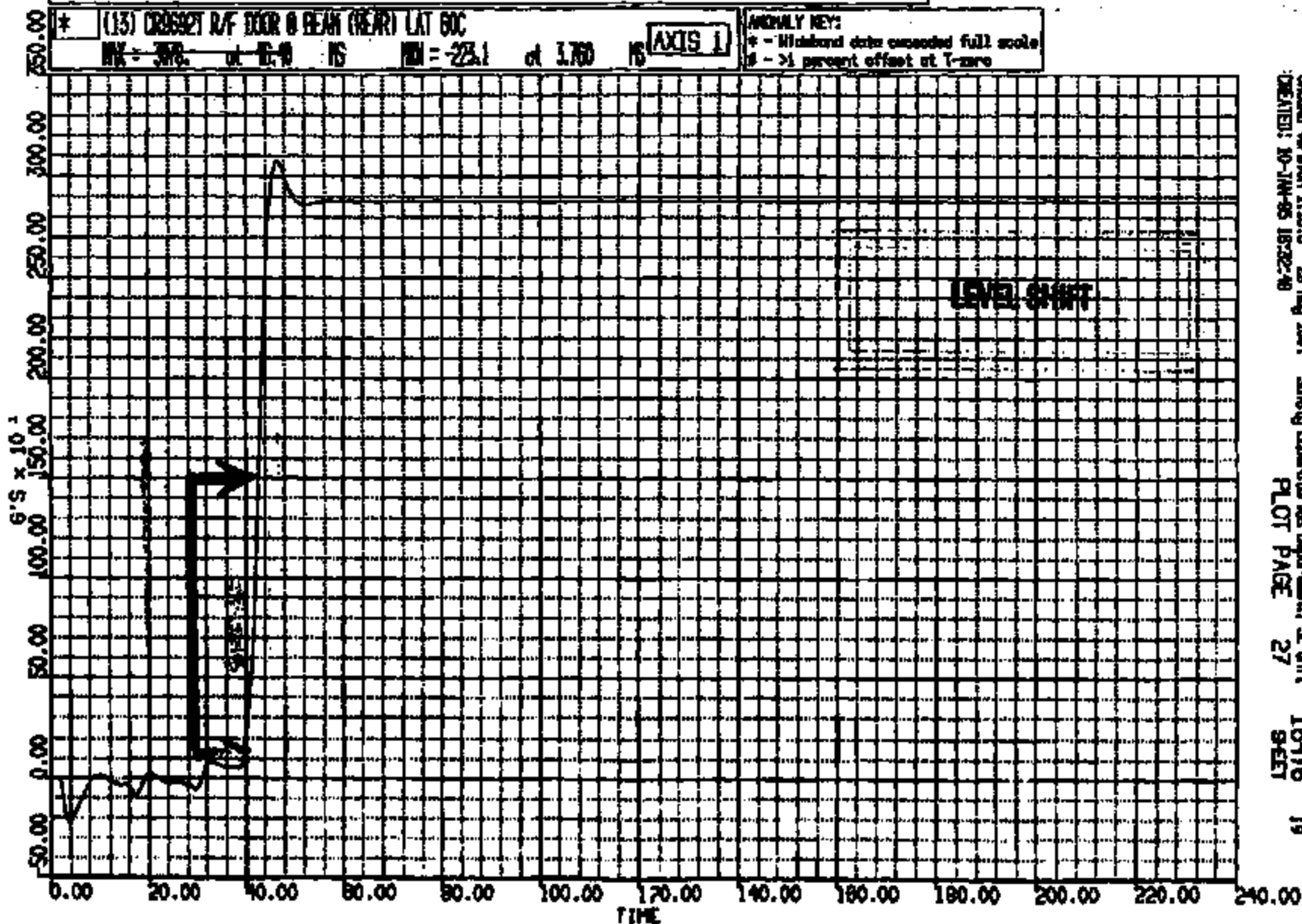
Safety Laboratory Department, SE Unit
PLOT PAGE 26

16476 18
98ET

CRIS 0006692

ENTIRE PAGE CONFIDENTIAL

CR R: 9892 TO: 18476 DATE: 95011010 18:08:08
EN-114



CASAB Version 1.15.3 - 28-Aug-1994 Safety Laboratory Department, SE Unit 15476 19
 CREATED: 10-JAN-95 18:22:40 PLOT PAGE 27 94ET

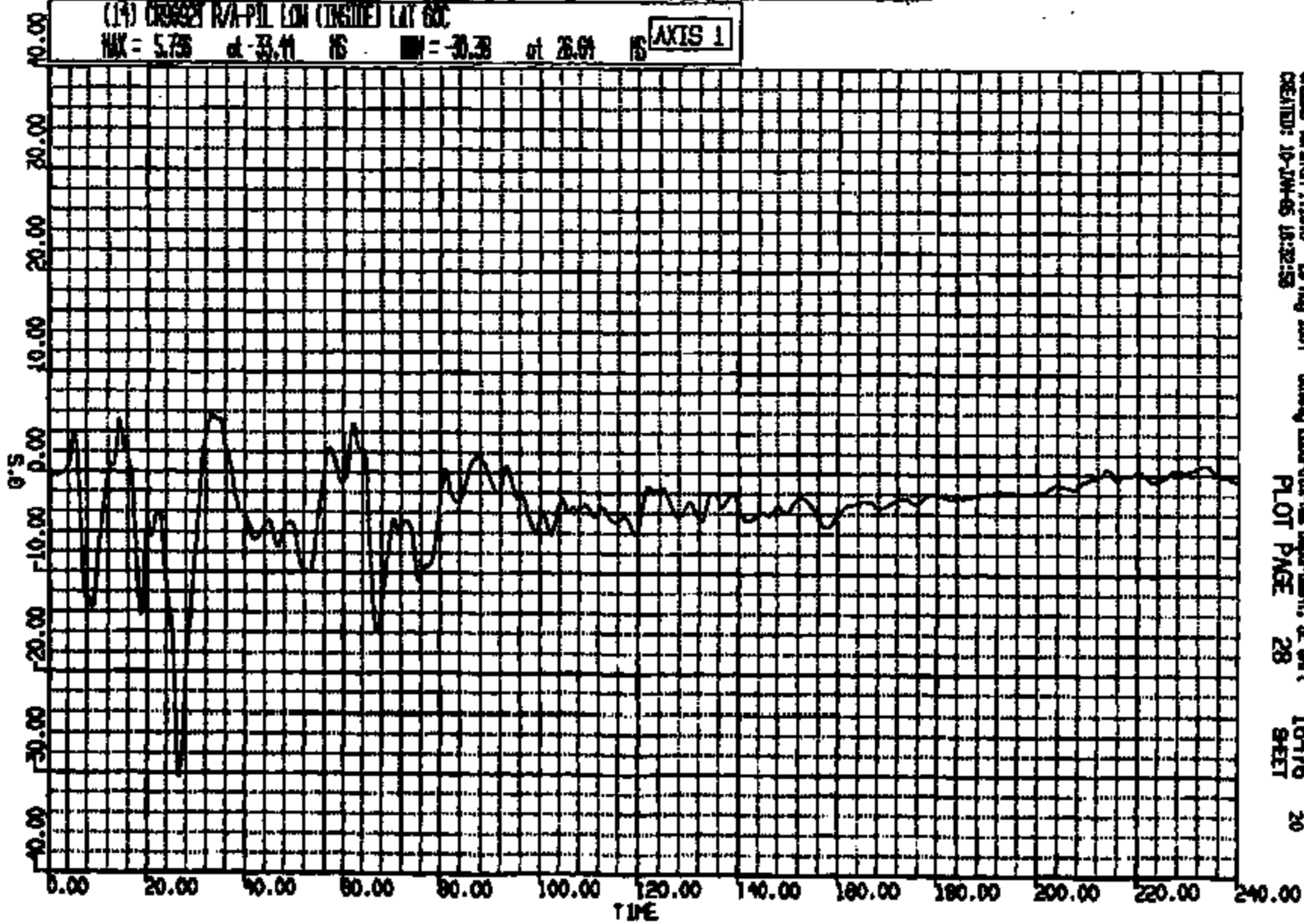
CRIS 0009692

ENTIRE PAGE CONFIDENTIAL

FN-114

MAX = 5.736 at -33.41 MS MIN = -30.38 at 26.04

AXIS 1



Plot Page 28 Sheet 20

ENTIRE PAGE CONFIDENTIAL

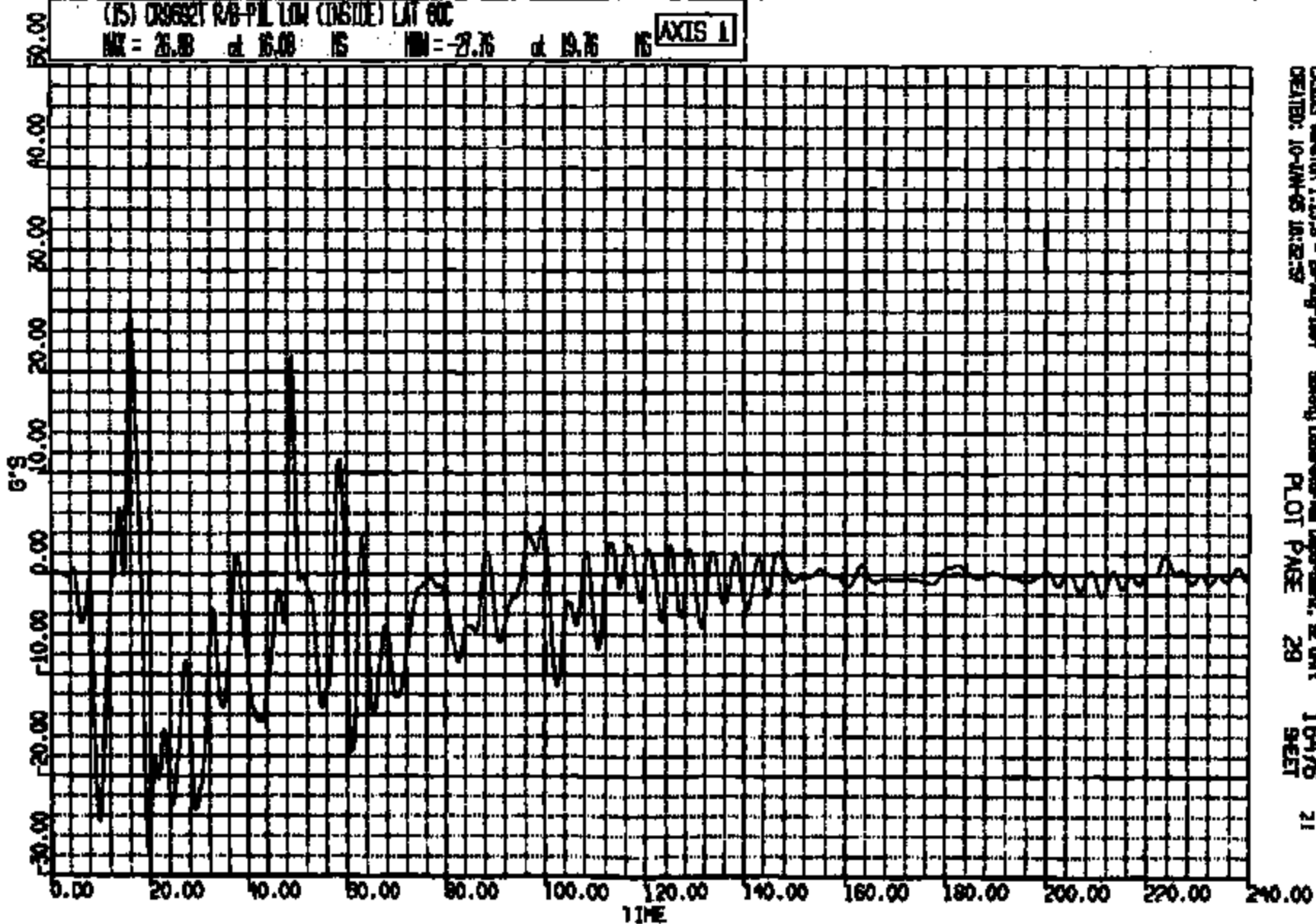
CRIS 0009692

CR N: 9892 TO: 18476 DATE: 96011010 18:08:08
EN-114

(15) CROSSST R/B-PIL LOW (INSIDE) LAT 60C

MAX = 26.83 at 16.00 NS MIN = -27.76 at 19.76 NS

AXIS 1



CRIS Version 1.15.3 - 28-Aug-1994
CREATED: 10-12-95 18:22:57

Safety Laboratory Test Department, SE Unit
PLOT PAGE 29

18476 21
SELT

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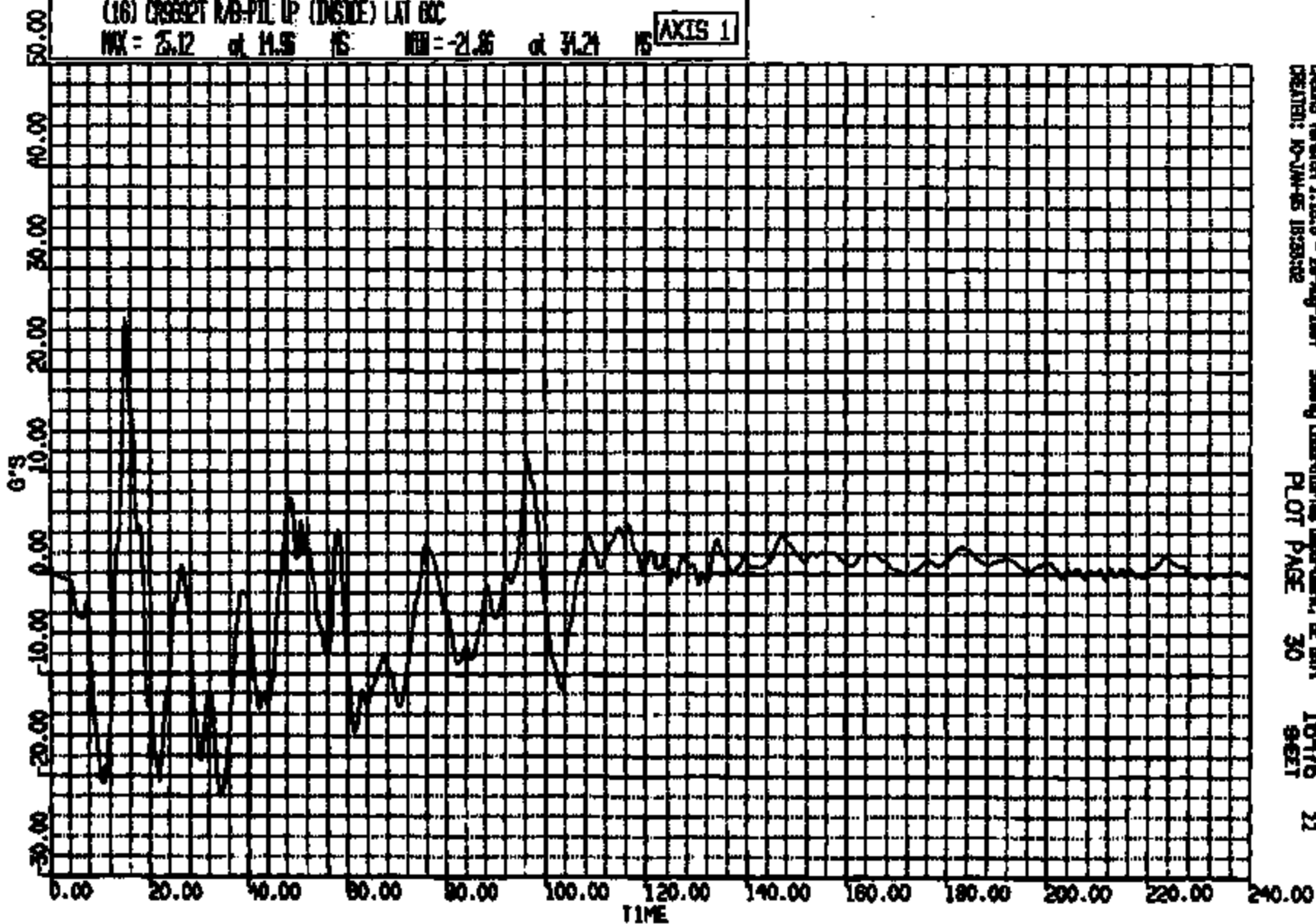
CRIS 0009692

CRN N: 9882 TO: 18476 DATE: 95011010 18:08:08
EN-114

(16) CR882T RAS-PIL UP (INSIDE) LAT 60C

MAX = 25.12 at 14.56 MS MIN = -21.86 at 34.24 MS

AXIS 1



CR882T Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 18:08:08

Safety Laboratory Department, BE Unit
PLOT PAGE 30

18476 22
9882

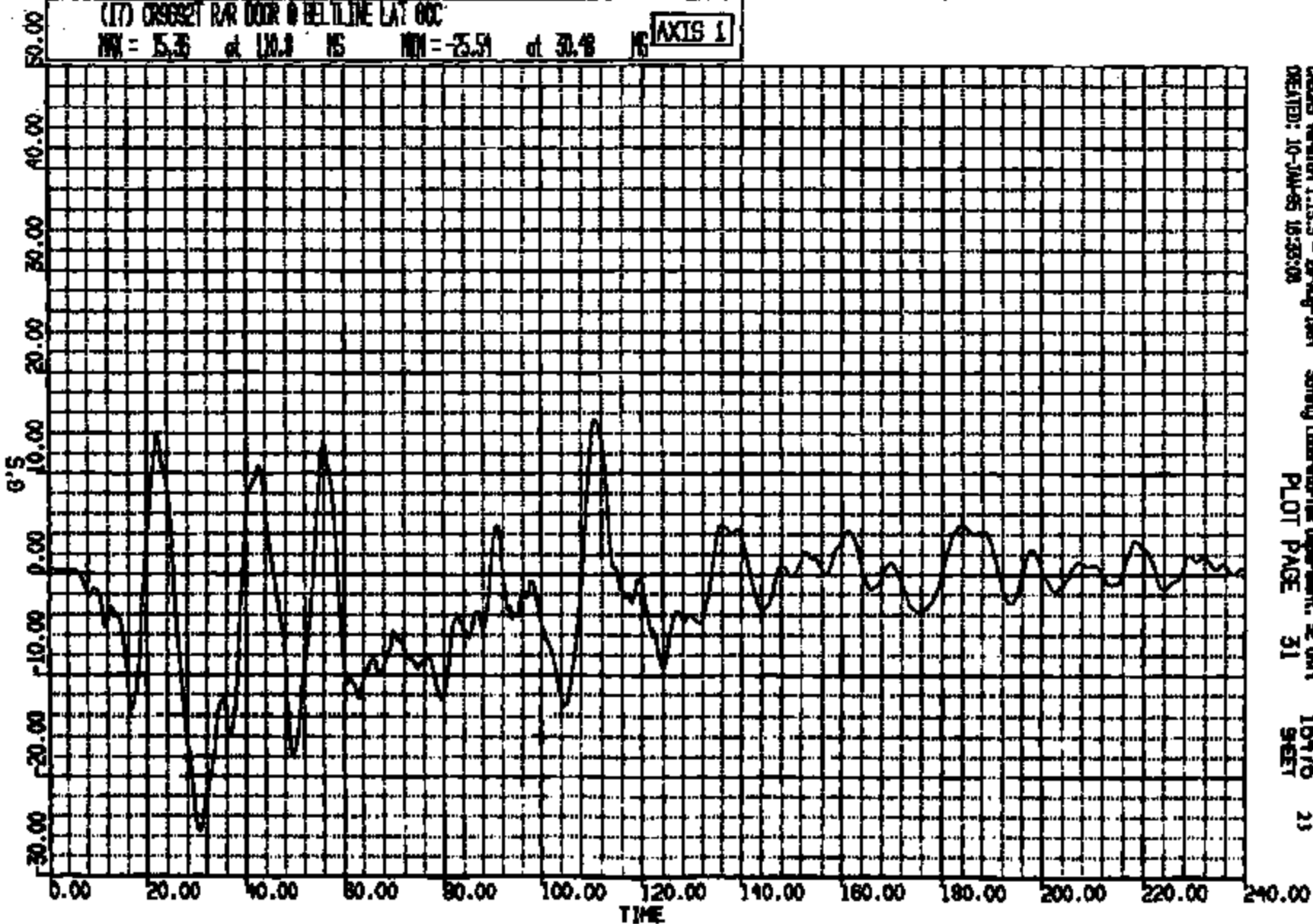
CRIS 0009692

ENTIRE PAGE CONFIDENTIAL

EN-119

$MM = 5.3$ at 10.1 NS $MM = -25.51$ at 30.48 NS

AXIS 1



CREATED: 10-JUN-85 15:33:08

State Laboratory Department, SE Unit
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16476 23
SHEET

ENTIRE PAGE CONFIDENTIAL

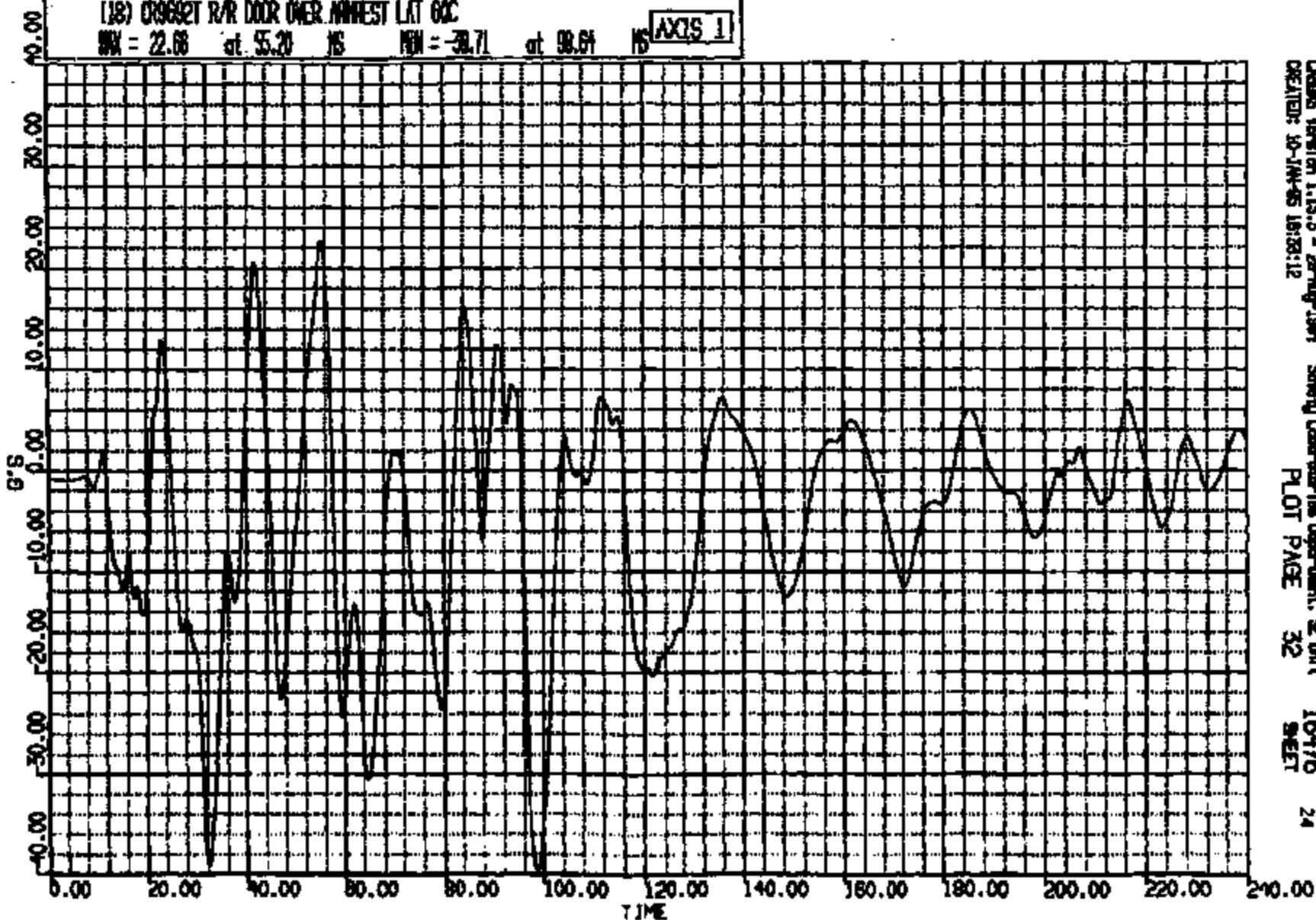
CRIS 0009692

CU R: 8882 TO: 16476 DATE: 95011010 16:08:08
EZ 114

(18) CRACKET R/R DOOR OVER ANNEX LAT 60C

MM = 22.68 at 55.20 MS MM = -38.71 at 98.61 MS

AXIS 1



CRACK Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 16:28:12

Safety Laboratory Department, SE Unit
PLOT PAGE 32

16476
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ENTIRE PAGE CONFIDENTIAL

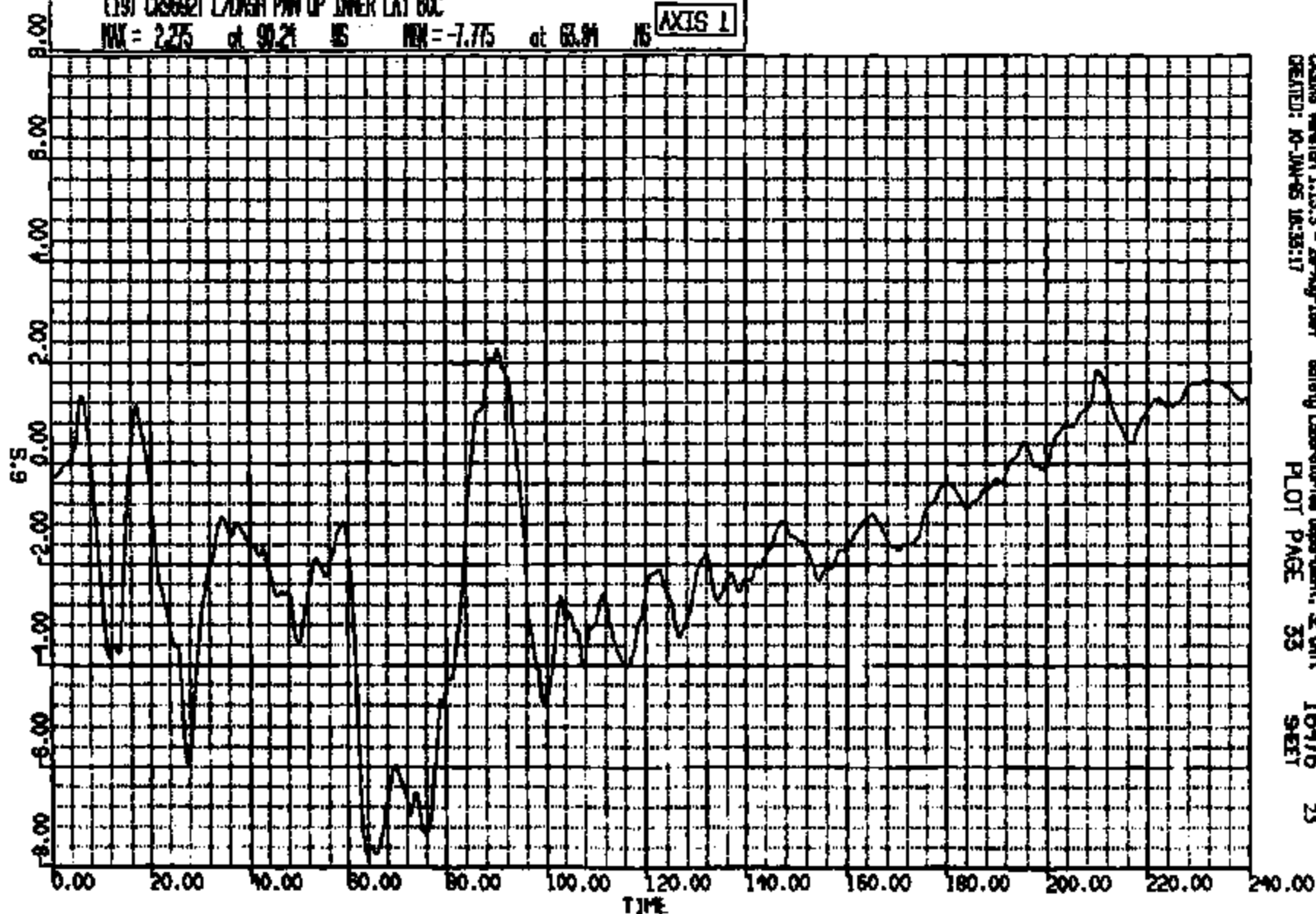
CRIS 0009692

CR RI: 9892 TO: 18476 DATE: 95011010 16:08:08
EN-114

(19) CR9892T L/DASH PAN UP INER LAT 80C

MAX = 2.275 at 90.21 MS MIN = -7.775 at 63.94 MS

AXIS 1



CASING Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 16:35:17

Safety Laboratory Department, SE Unit
PLOT PAGE 33

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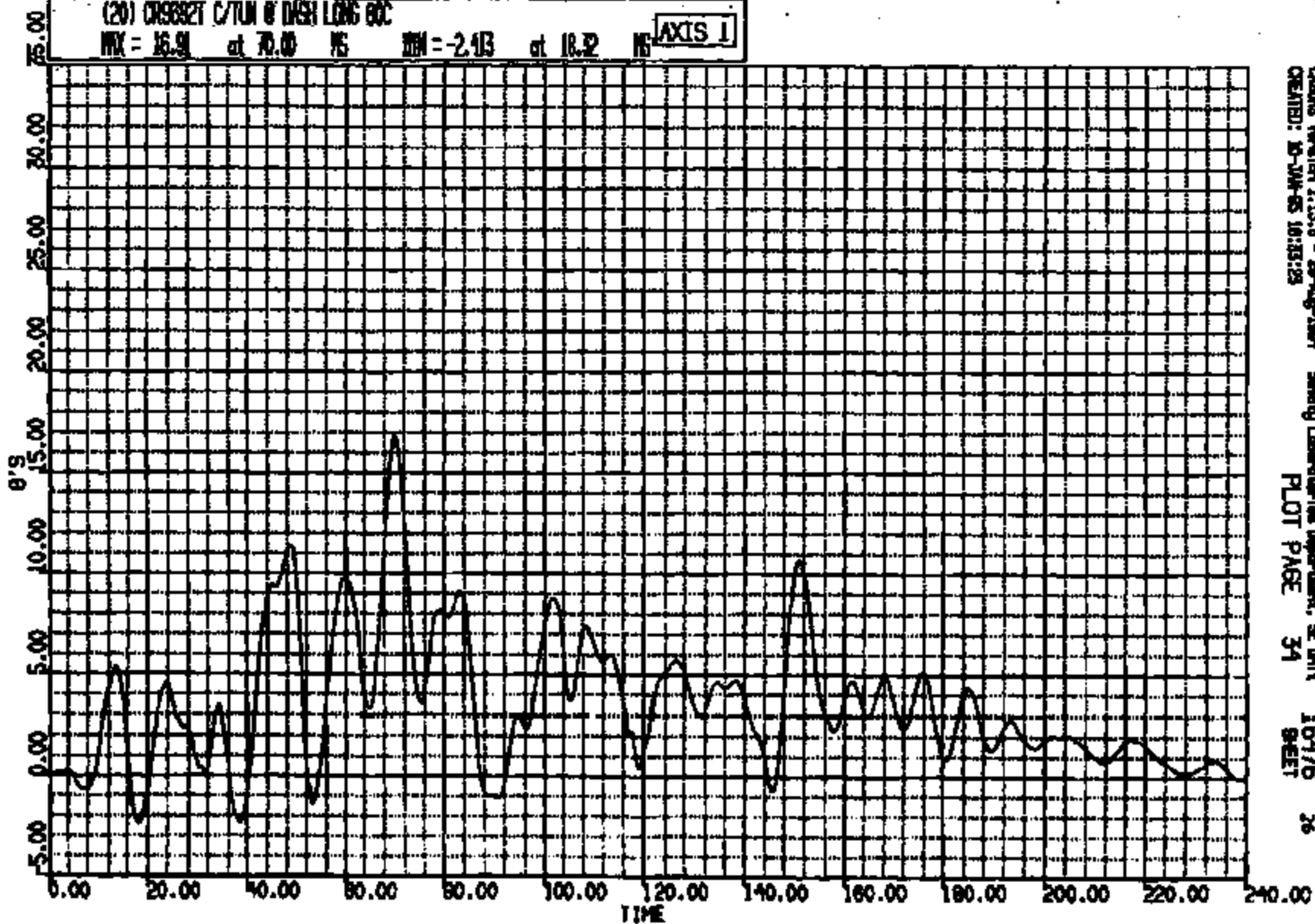
CRIS 0009692

ENTIRE PAGE CONFIDENTIAL

EN-114

MAX = 16.91 at 70.00 MS MIN = -2.413 at 18.32 MS

AXIS I



**Safety Laboratories Department, 55 Unit
P.O. Box 5107, TX**

Statistics Department, SE Unit 16476
 PLOT PAGE 34 SHEET 26

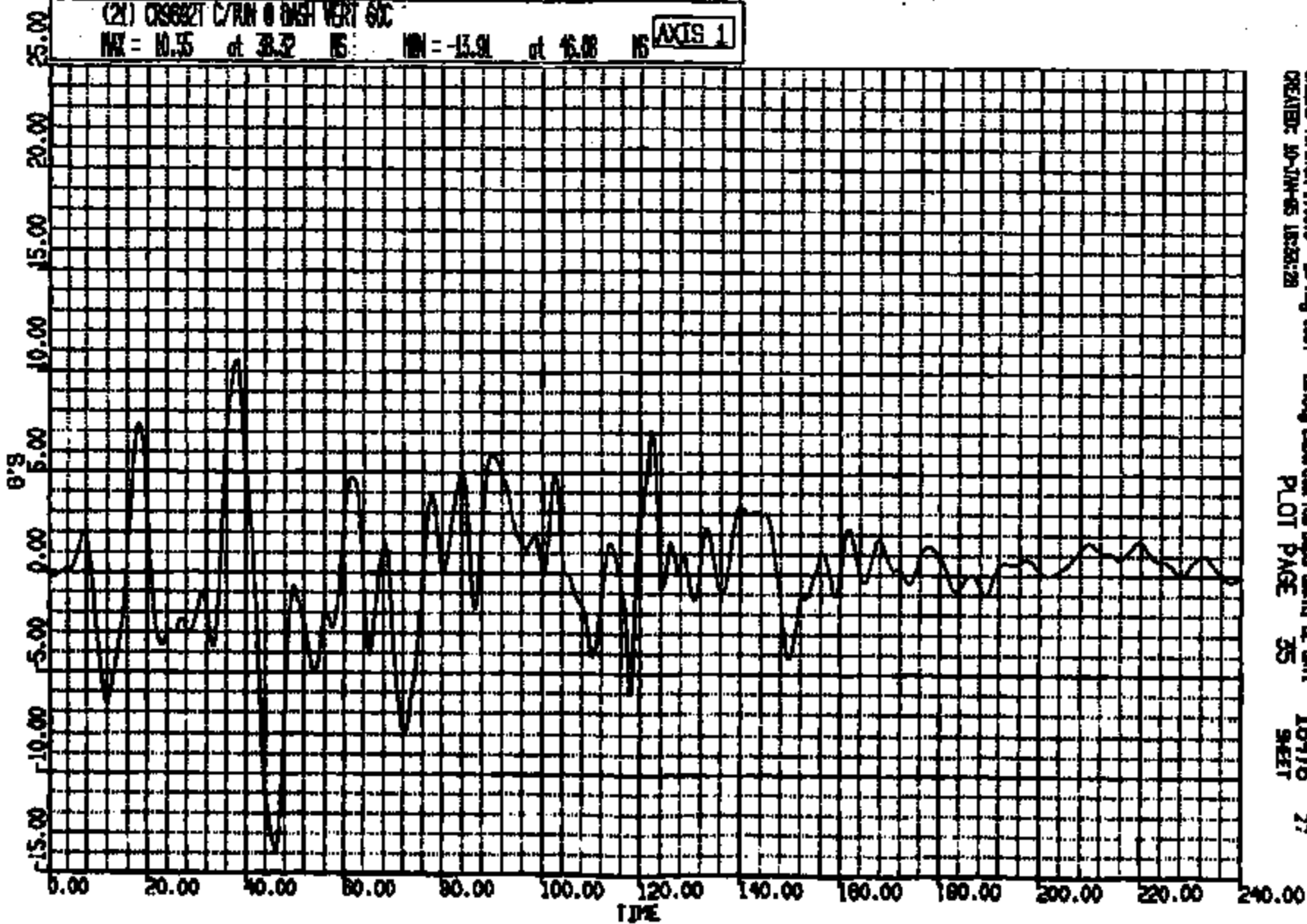
ENTIRE PAGE CONFIDENTIAL

CRTS 0009692

CR R: 9882 TOT 16476 DATE: 95011010 16:08:08
EN-114

(21) CR682T C/RUN @ HSH VERT SEC

MAX = 10.35 at 38.32 MS MIN = -13.91 at 65.08 MS **AXIS 1**



CRMS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 16:28:28

Safety Laboratories Department, EE Unit
PLOT PAGE 35

16476 27
SHEET

CRTS 0009692

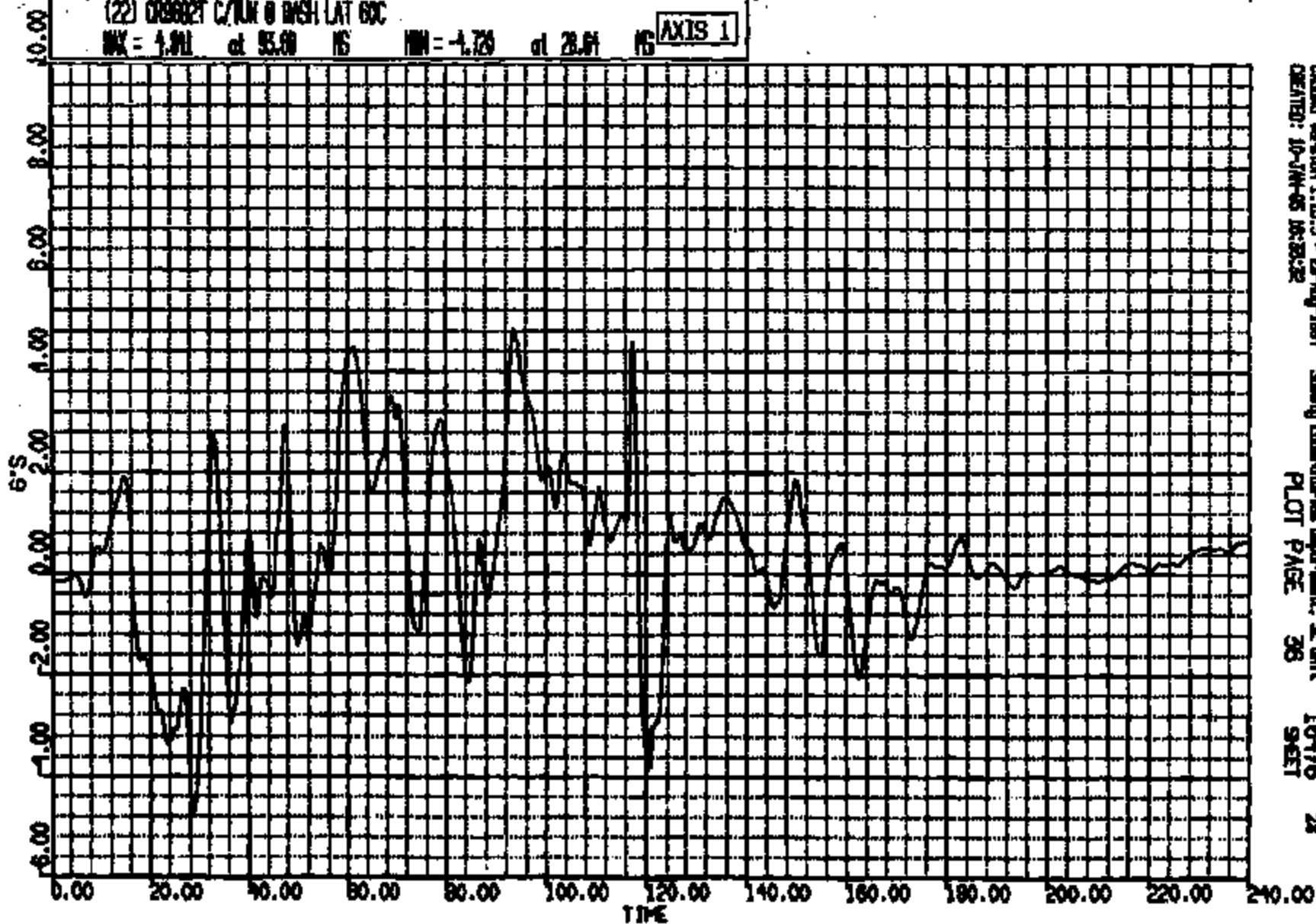
ENTIRE PAGE CONFIDENTIAL

CP R: 8882 TO: 18478 DATE: 85011010 18:08:08
FZ-114

(22) CR8882T C/NM @ WASH LAT 60C

MAX = 1.911 at 95.00 NS MIN = -1.728 at 28.01 NS

AXIS 1



CR8882 Version 1.15.3 - 28-Aug-1984
CREATED: 10-JUN-85 18:28:32

Safety Laboratories Department, SE Unit
PLOT PAGE 38

16478 28
SHEET

CRIS 0009692

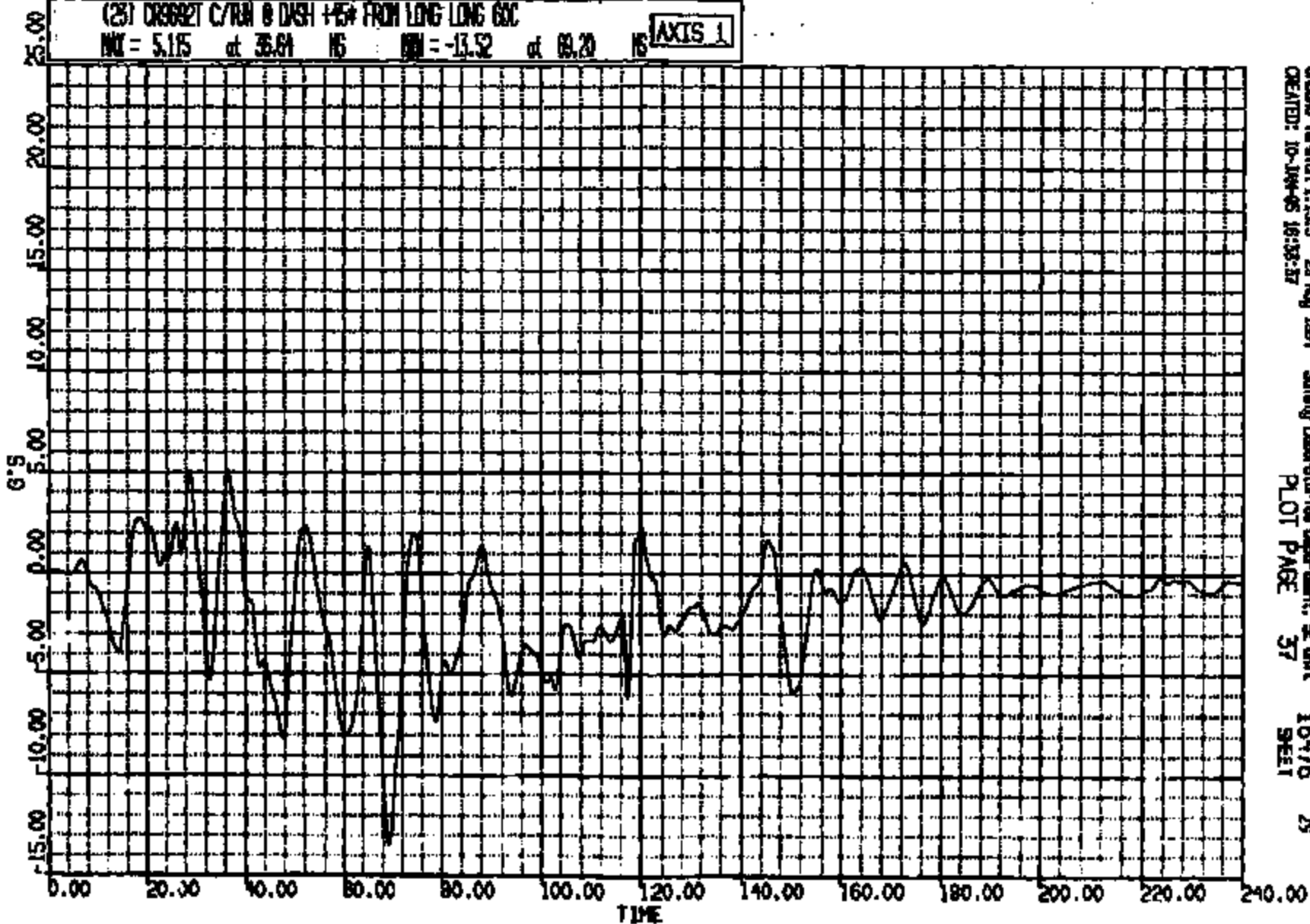
ENTIRE PAGE CONFIDENTIAL

CR R: 0002 TO: 16476 DATE: 25011010 16:08:08
EN-114

(25) CR00021 C/VIN 0 DASH +454 FROM LONG LONG GOC

NG = 5.15 at 35.81 NS NN = -13.52 at 89.20 NS

AXIS 1



CR00021 Version 1.15.3 - 24-Aug-1994
CREATED: 10-JUN-95 16:08:17

Safety Laboratory Department, SE Unit
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16476 25
SHE1

CR00021 0009692

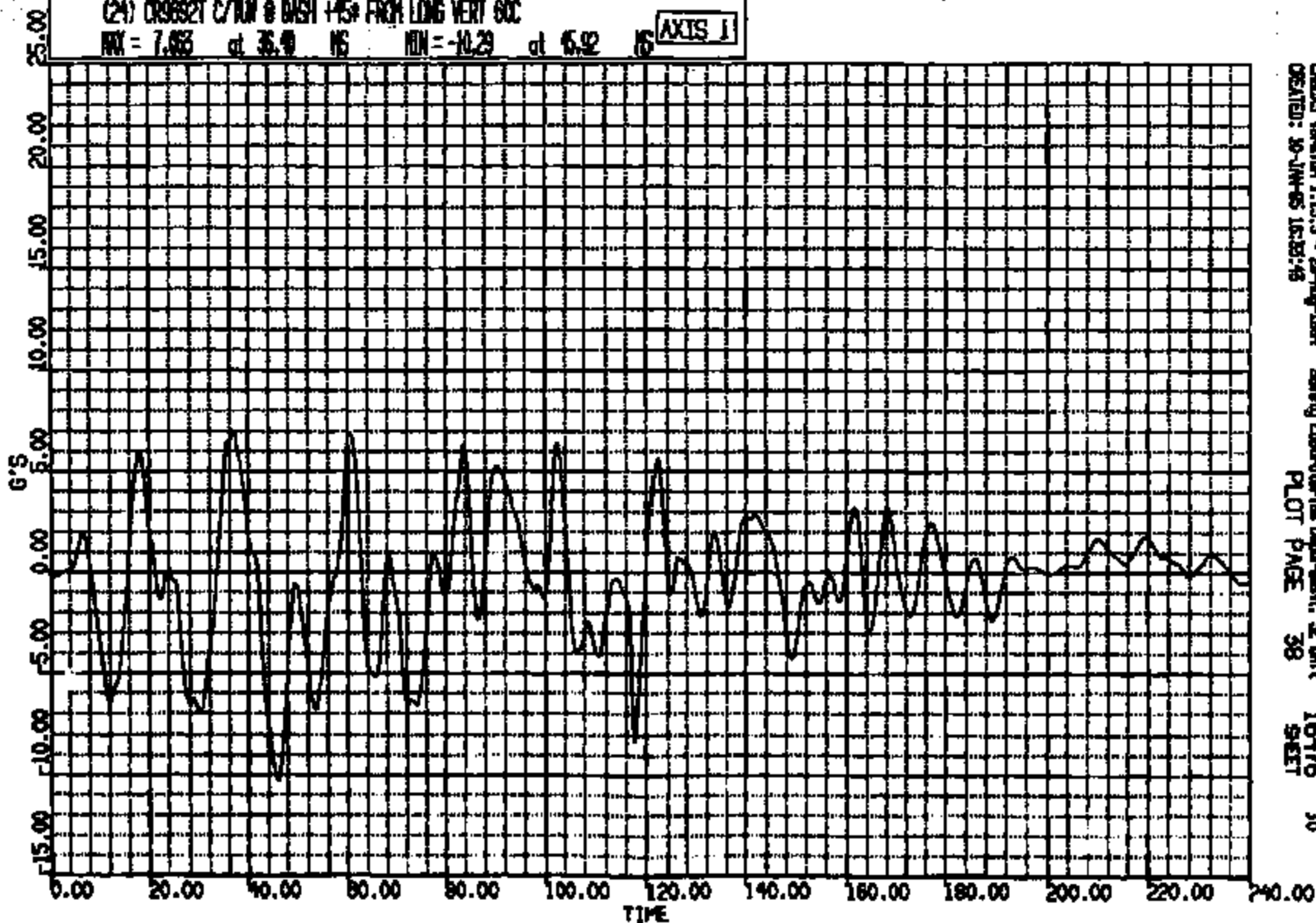
ENTIRE PAGE CONFIDENTIAL

CR R: 9892 TO: 18478 DATE: 95011010 18:08:08
EN-114

(24) CR9892T C/RUN @ DASH +150 FROM LONG VERT SOC

MAX = 7.863 at 35.40 NS MIN = -10.29 at 65.92 NS

AXIS 1



CASUS Version 1.15.3 - 29-Aug-1994
CREATED: 30-JAN-95 16:33:48

Safety Laboratories Department, SE Unit
PLOT PAGE 38

18478 30
SHEET

ENTIRE PAGE CONFIDENTIAL

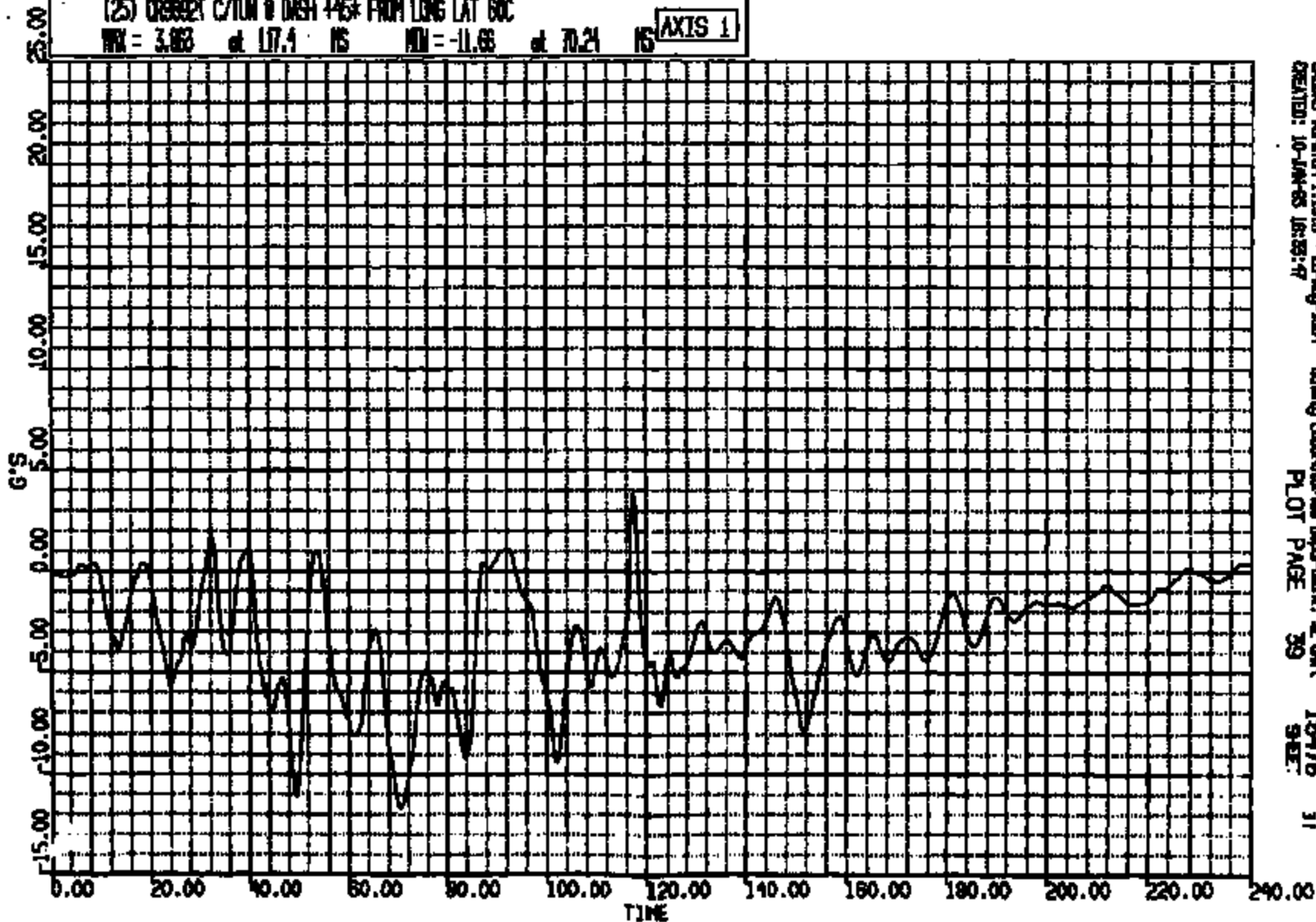
CRIS 0009692

CR R: 6602 TO: 18476 DATE: 95011010 18:08:08
EN-114

(25) ORGNET C/TUN @ DASH +45* FROM LONG LAT 60C

MAX = 3.853 at 17.4 NS MIN = -11.66 at 70.24 NS

AXIS 1



CRTS 0009692

ORNAS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 18:08:47

Safety Laboratory Inc Department, SE Unit
PLOT PAGE 39

18476 31
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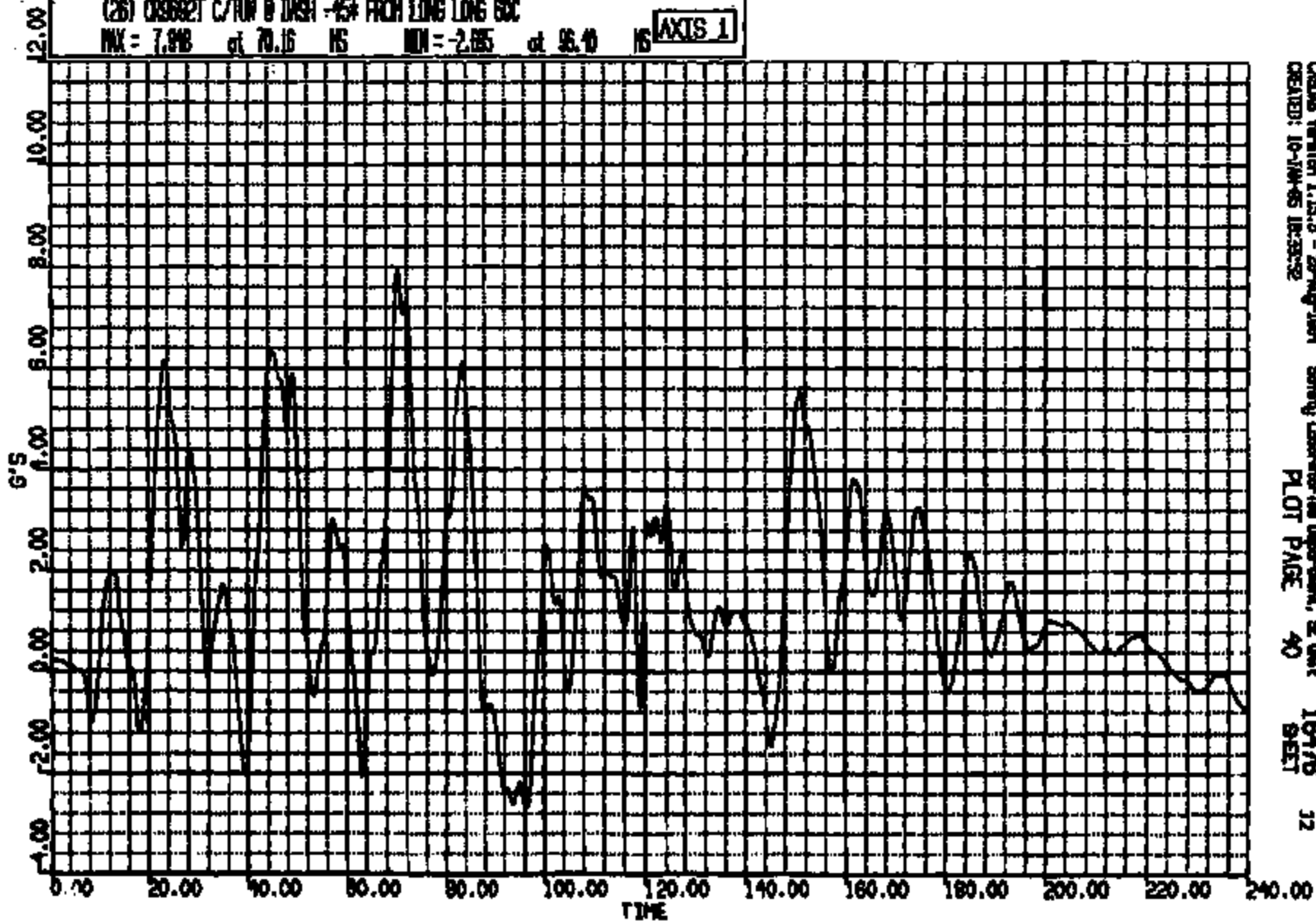
ENTIRE PAGE CONFIDENTIAL

CR N: 8882 TO: 18476 DATE: 85011010 18:08:08
EN-114

(26) CR8882T C/TUN @ DASH -45* FROM LONG LONG SEC

MAX = 7.918 at 70.16 NS MIN = -2.185 at 95.10 NS

AXIS 1



CHDS Version 1.15.3 - 28-Aug-1991
CREATED: 10-JAN-85 18:35:32

Safety Laboratory Department, E Unit
PLOT PAGE 40

18476 32
SECT

CRTS 0009692

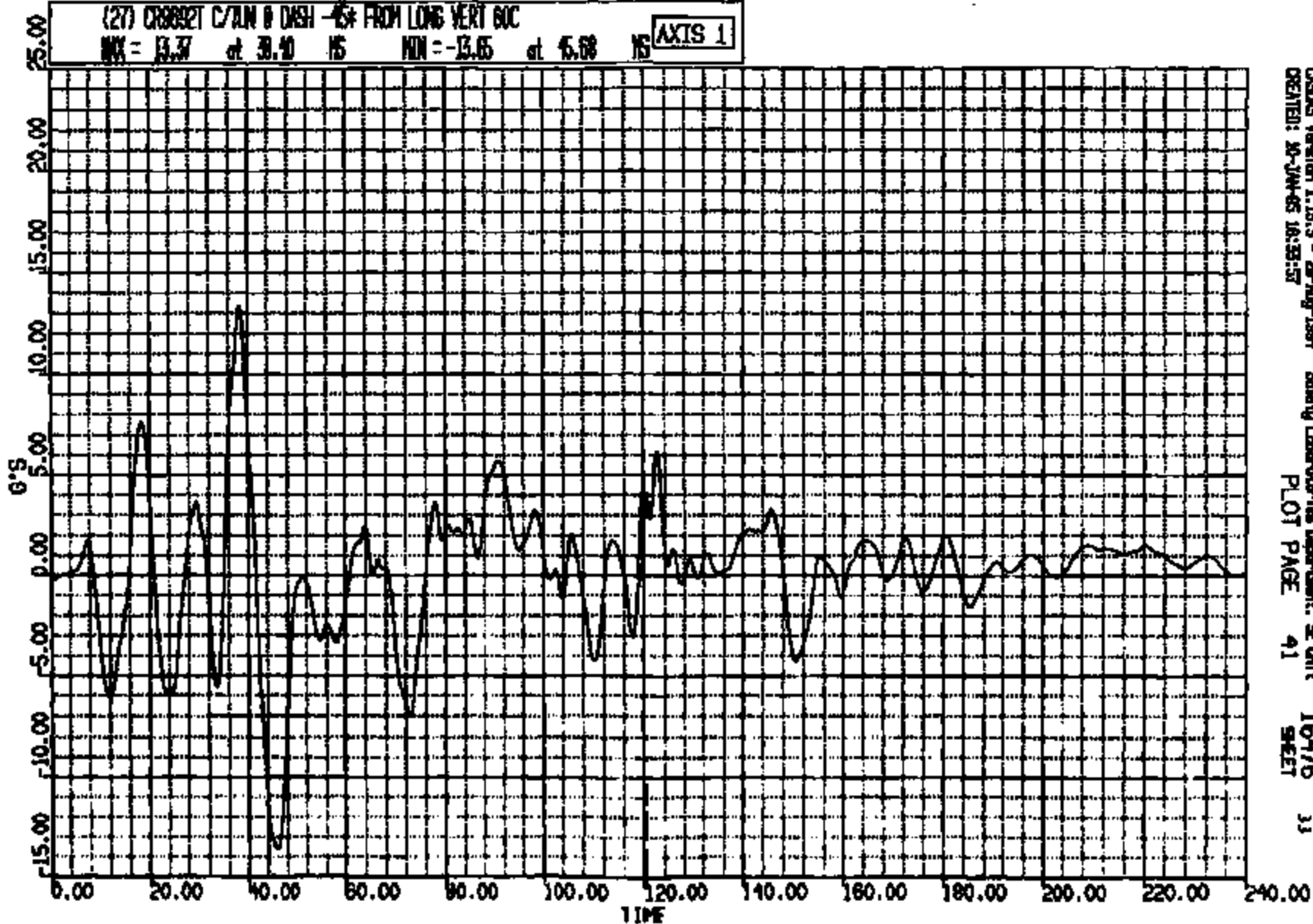
ENTIRE PAGE CONFIDENTIAL

CR R: 9632 TO: 18476 DATE: 95011010 18:06:09
EN-114

(27) CH882T C/RUN 8 DASH -454 FROM LONG VERT SOC

MAX = 13.37 at 38.40 MS MIN = -13.65 at 45.68 MS

AXIS 1



CADDS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 16:59:57

Safety Laboratories Department, SE Unit

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16476 33
SHEET

ENTIRE PAGE CONFIDENTIAL

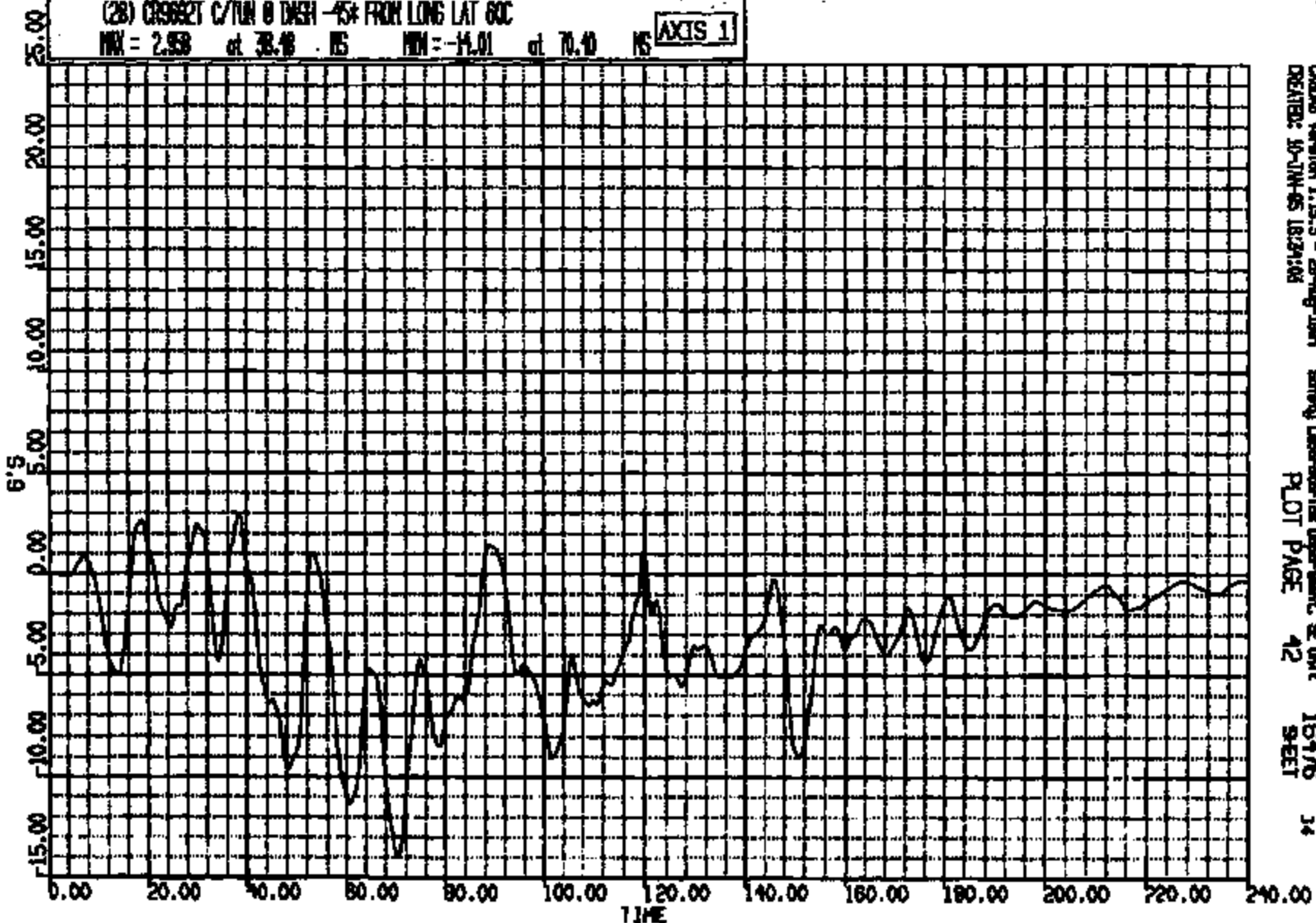
CRIS 0009692

CR R: 9892 TO: 16476 DATE: 95011010 16:08:08
BZ-114

(28) CR9892T C/TUN 0 DASH -45* FROM LONG LAT 80C

MIN = 2.98 at 38.48 NS MIN = -14.01 at 70.40 NS

AXIS 1



CR9892T Version 1.15.3 - 28-Aug-1994
CREATED: 10-JUN-95 16:24:08

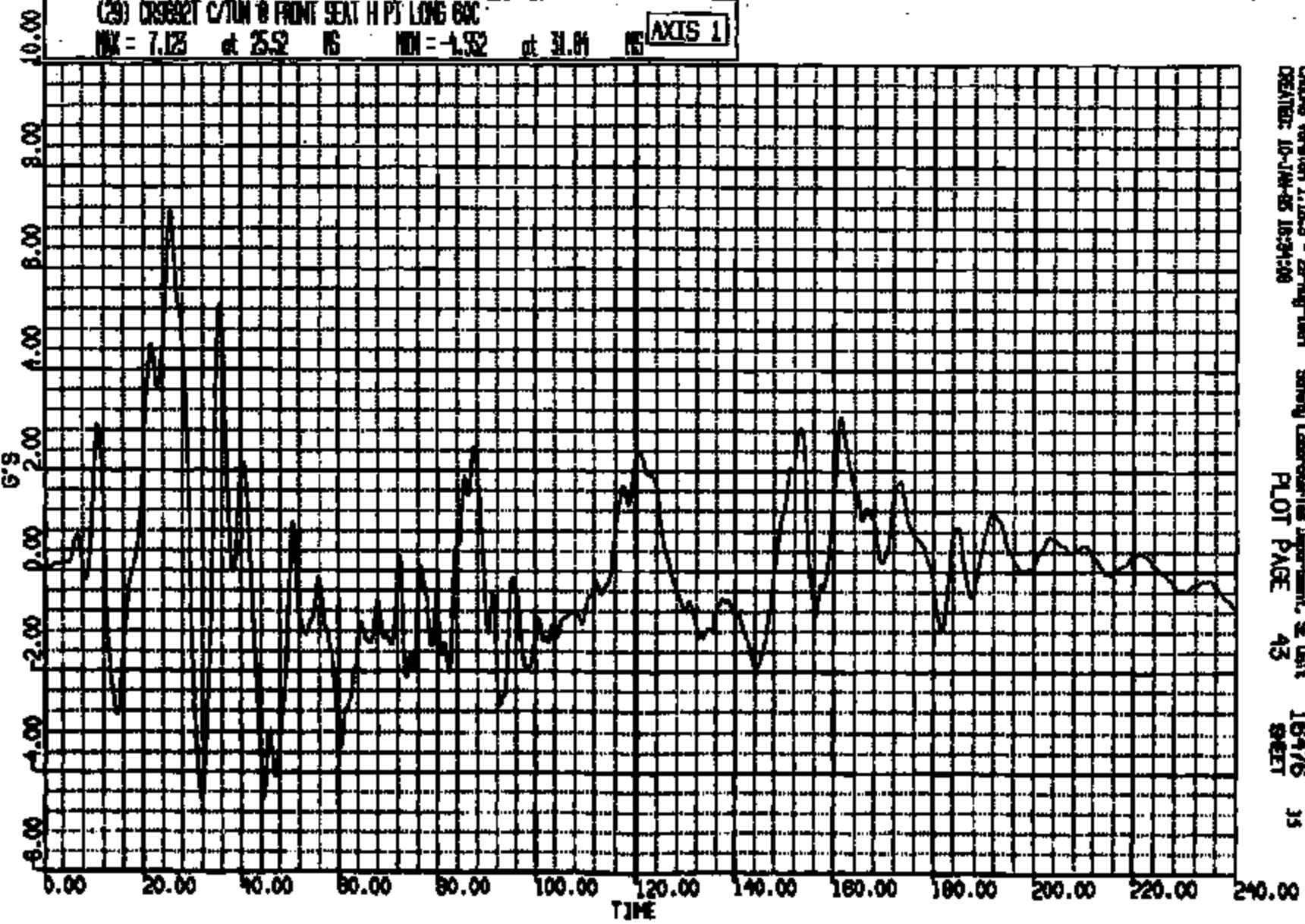
Seafloor Laboratory Department, SE Unit
PLOT PAGE 42

16476 34
SHEET

ENTIRE PAGE CONFIDENTIAL

CRIS 0009692

(29) CRSECT C/TUN @ FRONT SEAT H PT LONG 60C
 MAX = 7.123 at 25.2 MS MIN = -1.352 at 31.04 MS **AXIS 1**



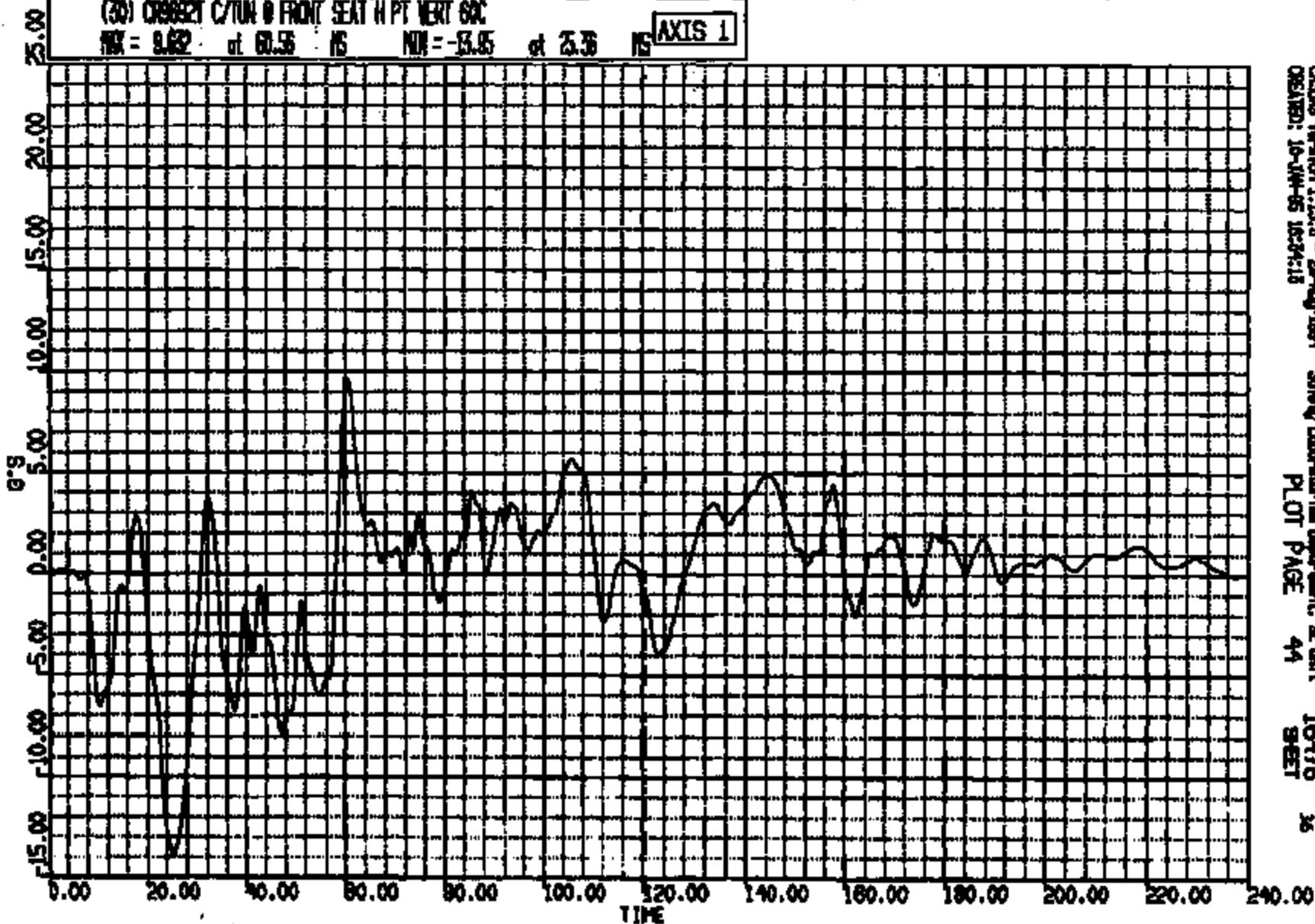
CRTS 0009692

CR R: 8992 TO: 16476 DATE: 95011010 18:08:08
EN-114

(30) CR99321 C/TUN @ FRONT SEAT H PT VERT 60C

MAX = 9.62 at 60.56 MS MIN = -53.95 at 25.36 MS

AXIS 1



CRSUS Version 1.15.3 - 20-Aug-1994
CREATED: 16-JUN-95 16:34:13

Safety Laboratory Department, E Unit

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16476 36
SHEET

ENTIRE PAGE CONFIDENTIAL

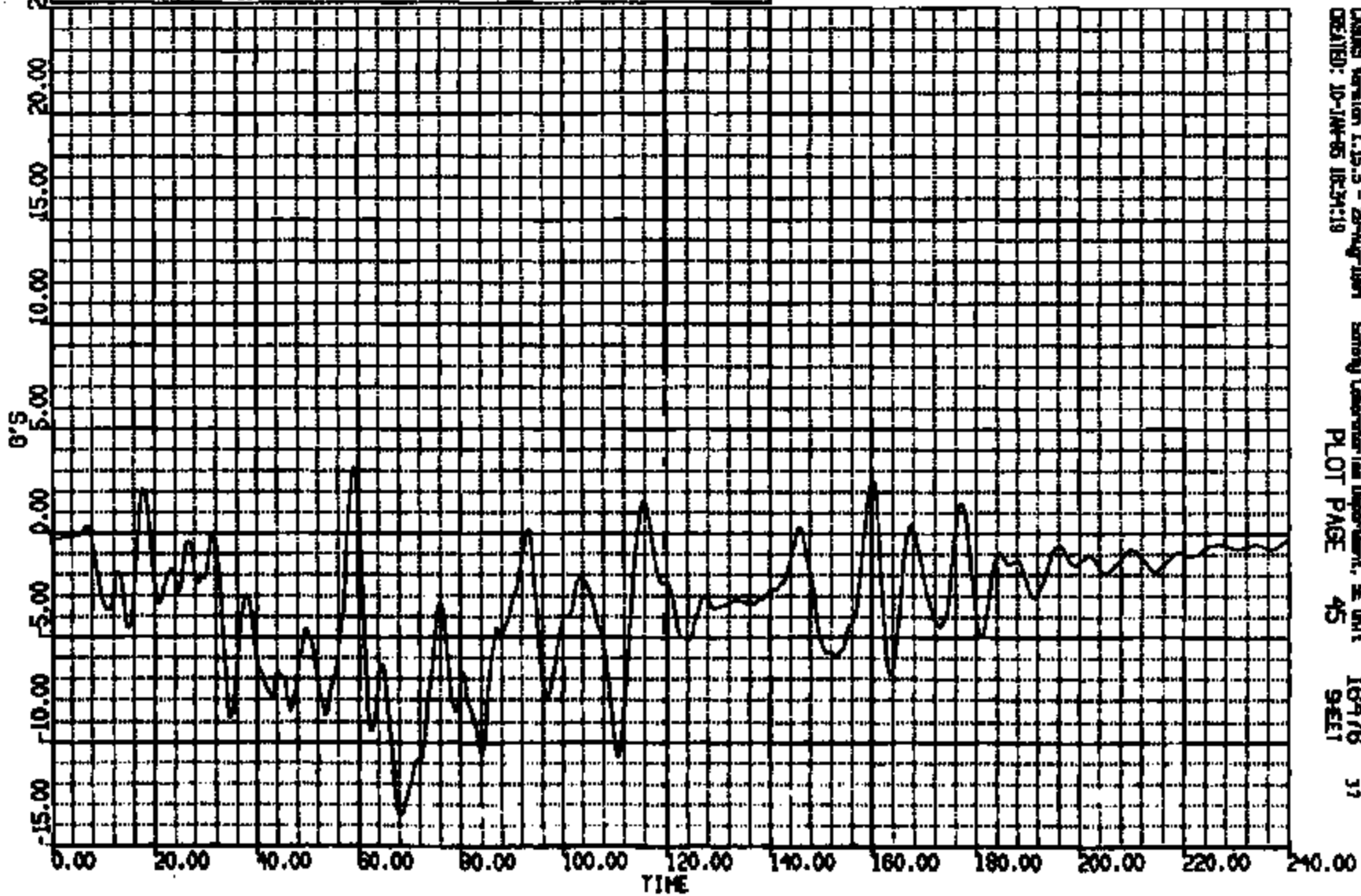
CRIS 0009692

CR R: 8892 TO: 18476 DATE: 85011010 18:08:08
EN-114

(31) CR8892T C/TUN @ FRONT SEAT H PT LAT 60C

MAX = 3.741 at 39.28 MS MIN = -13.58 at 83.16 MS

AXIS 1



CASING Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-85 18:24:19

Safety Laboratory Inc. Department, E Unit
PLOT PAGE 45

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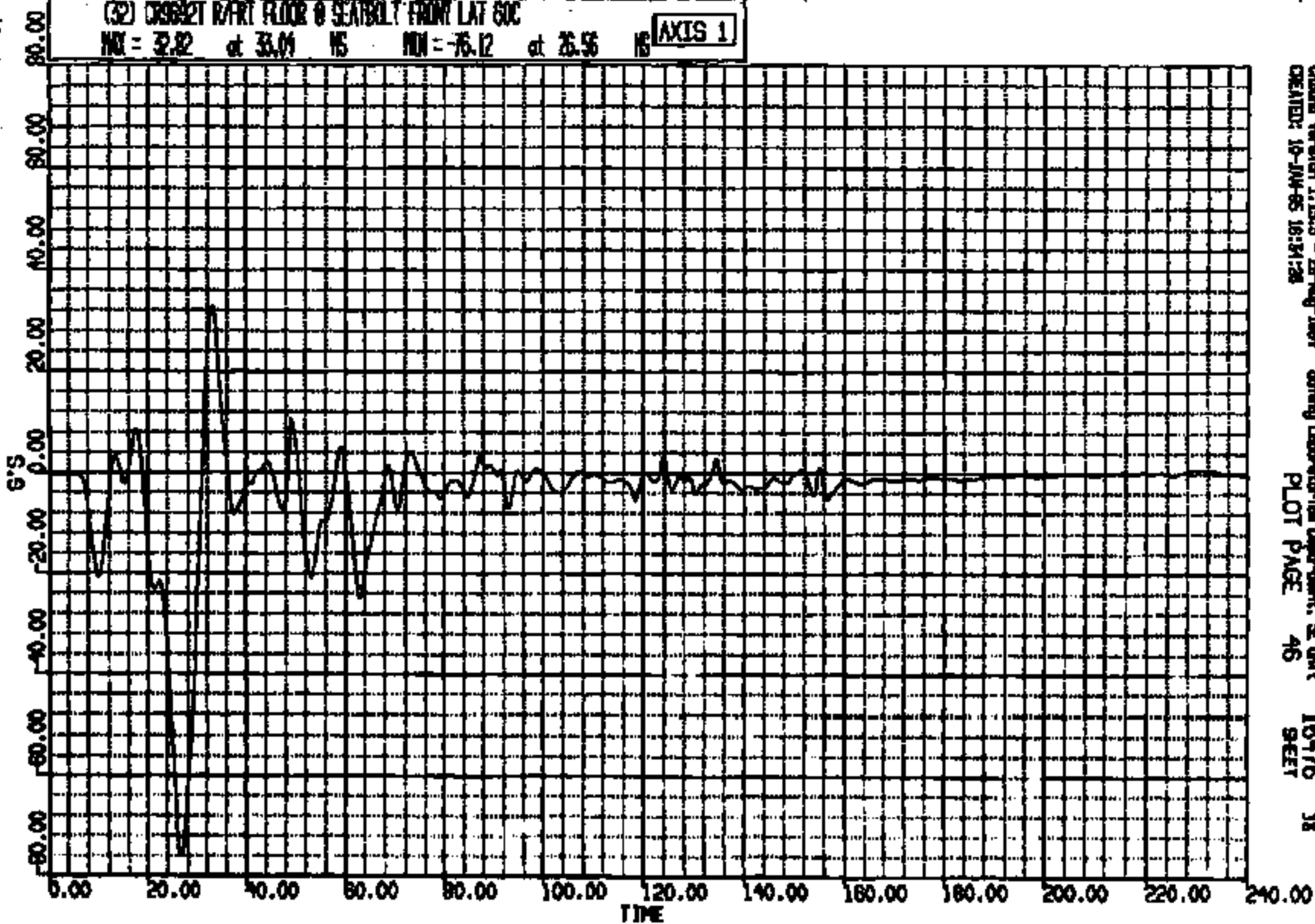
CRIS 0008692

CR R: 9892 TO: 16476 DATE: 95011010 15:08:08
EN-114

(32) CR0902T R/PT FLOOR 8 SEATBELT FRONT LAT SOC

MAX = 32.82 at 33.04 MS MIN = -75.12 at 25.56 MS

AXIS 1



CASAD Version 1.15.3 - 20-Aug-1994
CREATED: 10-JUN-95 16:31:28

Safety Laboratory Department, SE Unit
PLOT PAGE 46

16476 JB
98ET

ENTIRE PAGE CONFIDENTIAL

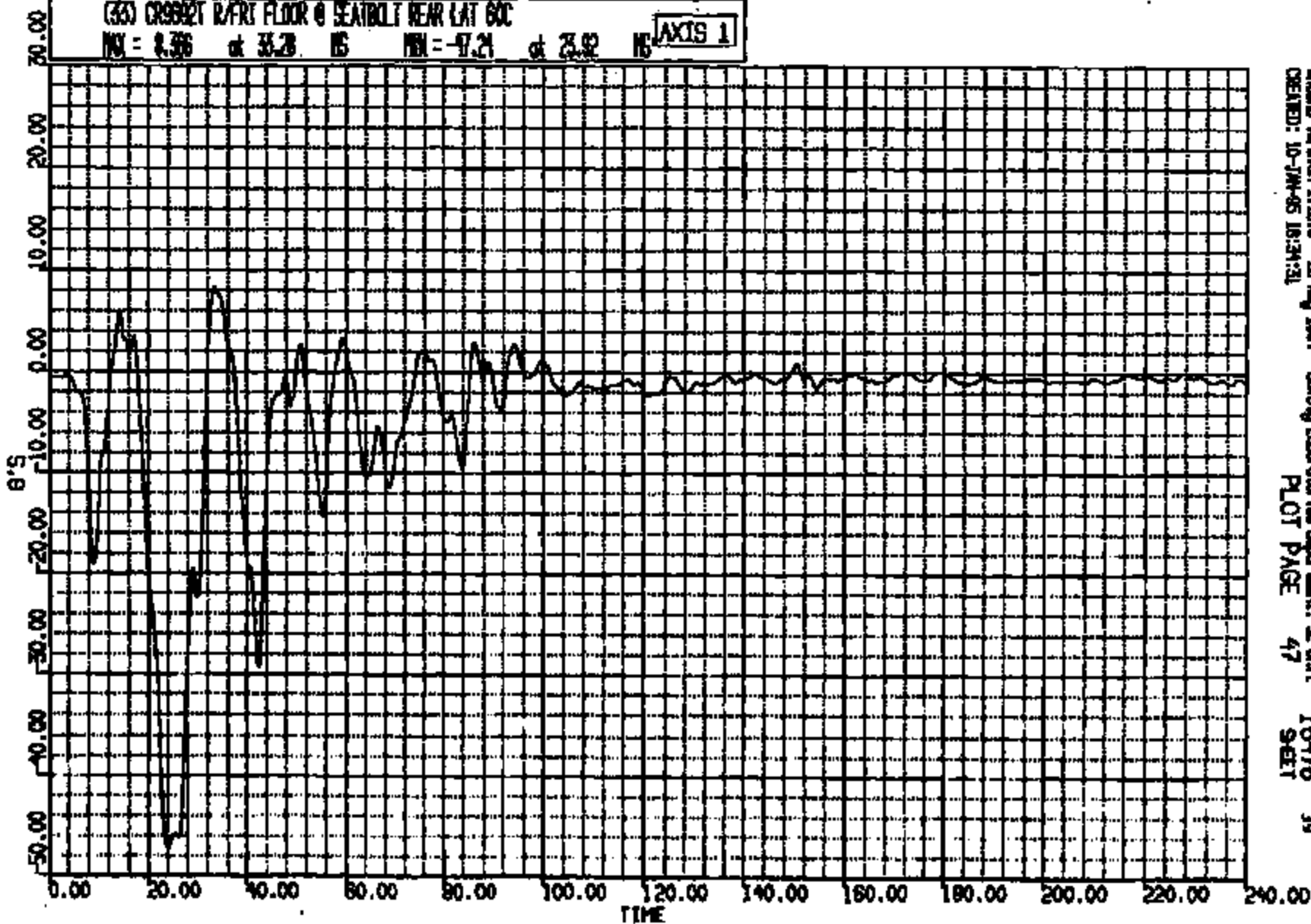
CRIS 0009692

CR R: 8882 TO: 18476 DATE: 85011010 18:08:08
EN-114

(33) CROSSHRT R/FRT FLOOR @ SEABOLT NEAR LAT 60C

MAX = 8.356 at 33.28 MS MIN = -47.21 at 23.92 MS

AXIS 1



CASOS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-85 18:24:31

Safety Laboratory Department, SE Unit
PLOT PAGE 47

18476 39
SET

CRTS 0009692

ENTIRE PAGE CONFIDENTIAL

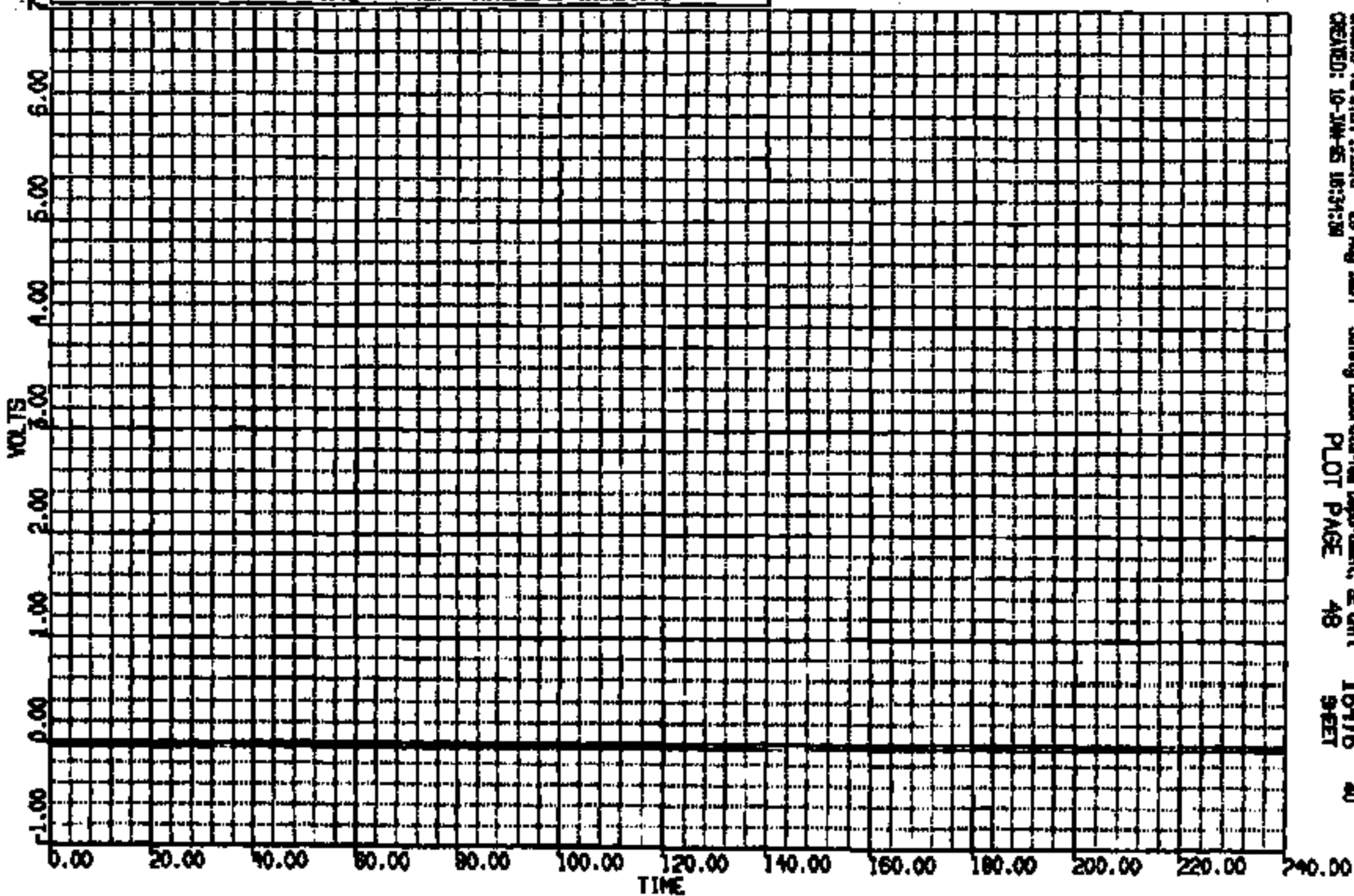
CR N: 9582 TO: 16476 DATE: 05011010 16:08:09
EZ-1114

(34) CR6682T R/F DUMMY HEAD SN 400C

NRX = -.493E-01 at -.762E-05 MS

NRW = -.493E-01 at -.762E-05 MS

AXIS 1



CR6682 Version 1.15.3 - 20-Aug-1994
CREATED: 10-JAN-95 16:34:30

Safety Laboratory Department, E Unit
PLOT PAGE 48

16476 40
9:51

CRIS 000969Z

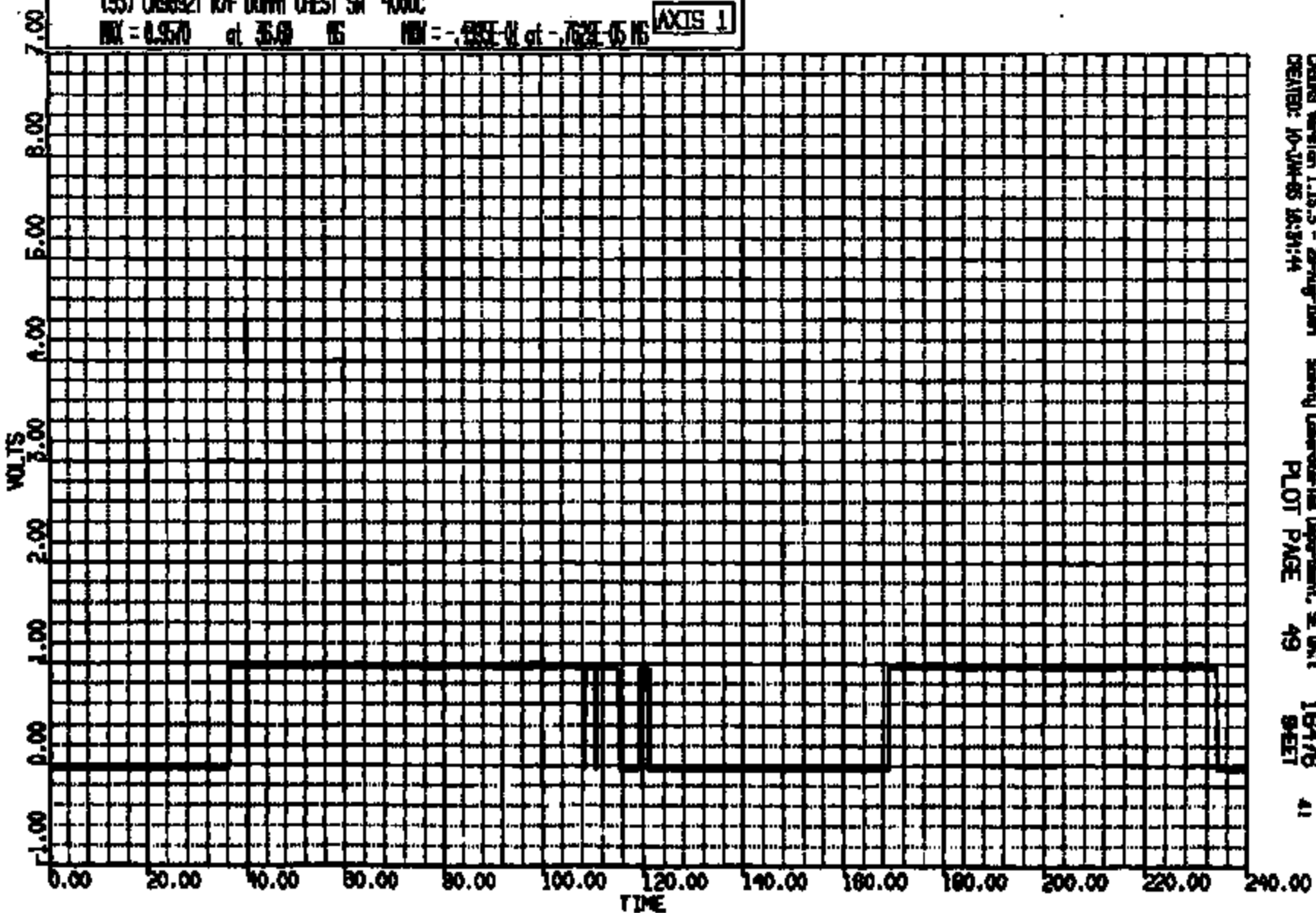
ENTIRE PAGE CONFIDENTIAL

CR R: 9692 TO: 18478 DATE: 95011010 18:08:08
EN-114

(35) CR9692T R/F DMMT CHEST SW 4000C

MAX = 0.9570 at 35.00 MS MIN = -0.0000 at -76.24 MS

AXIS 1



CHENG Wenzhen 1.15.3 - 28-Aug-1991
CREATED: 10-JUN-95 16:31:14

Safety Laboratory Department, SE Unit
PLOT PAGE 49

18478 41
SHEET

ENTIRE PAGE CONFIDENTIAL

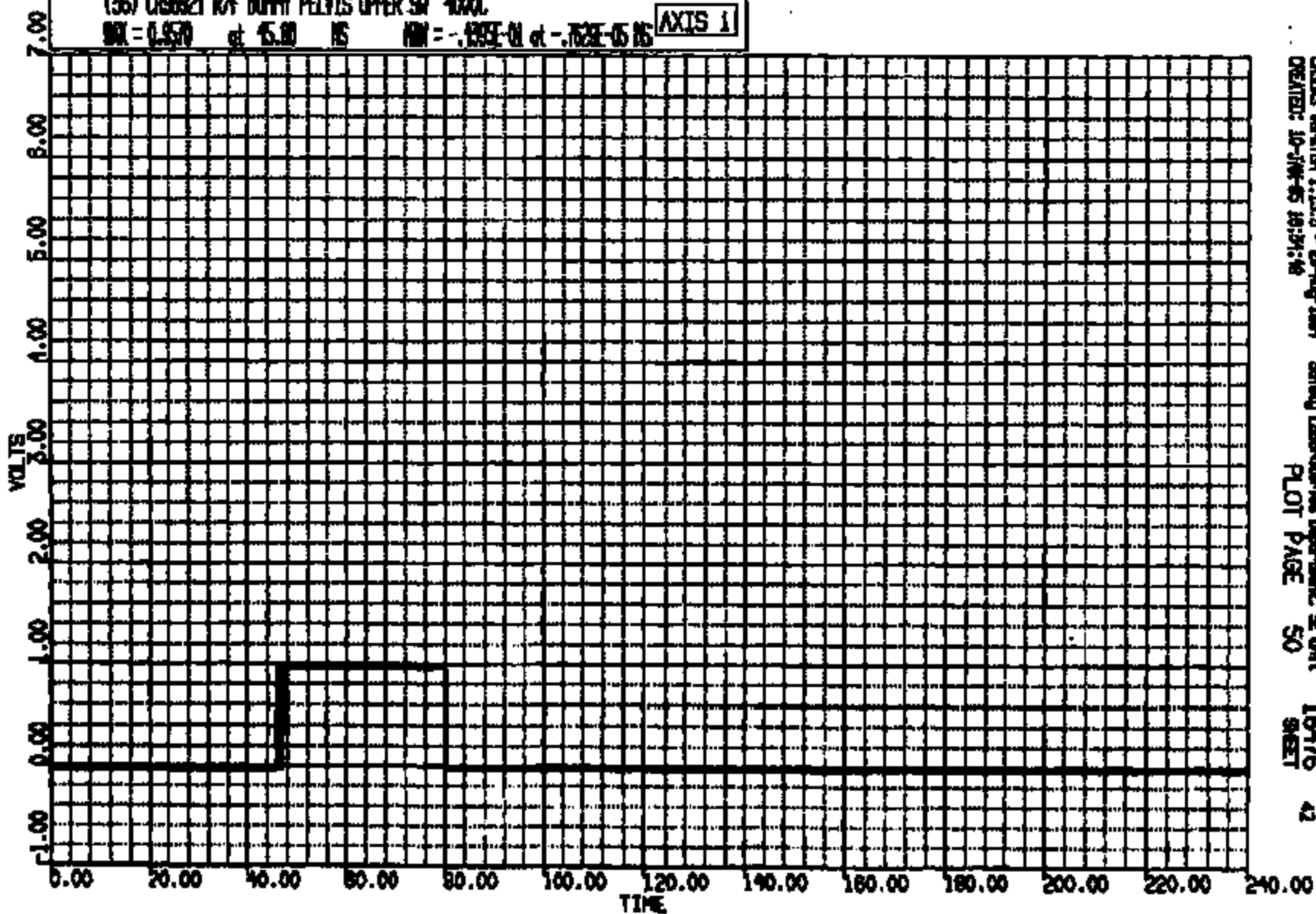
CRIS 0009692

CR R: 0002 TO: 10470 DATE: 05011010 10:00:00
EN-114

(35) CRO02T R/F BUNNY PELVIS UPPER SM 4000C

RM = 0.870 at 45.00 NS RM = -.135E-01 at -.702E-05 NS

AXIS 1



CRIS Version 1.15.3 - 20-Aug-1994
CREATED: 10-JUN-95 10:31:40

Safety Laboratories Department, SE Unit
PLOT PAGE 50 SHEET

10476 42

CRIS 0009692

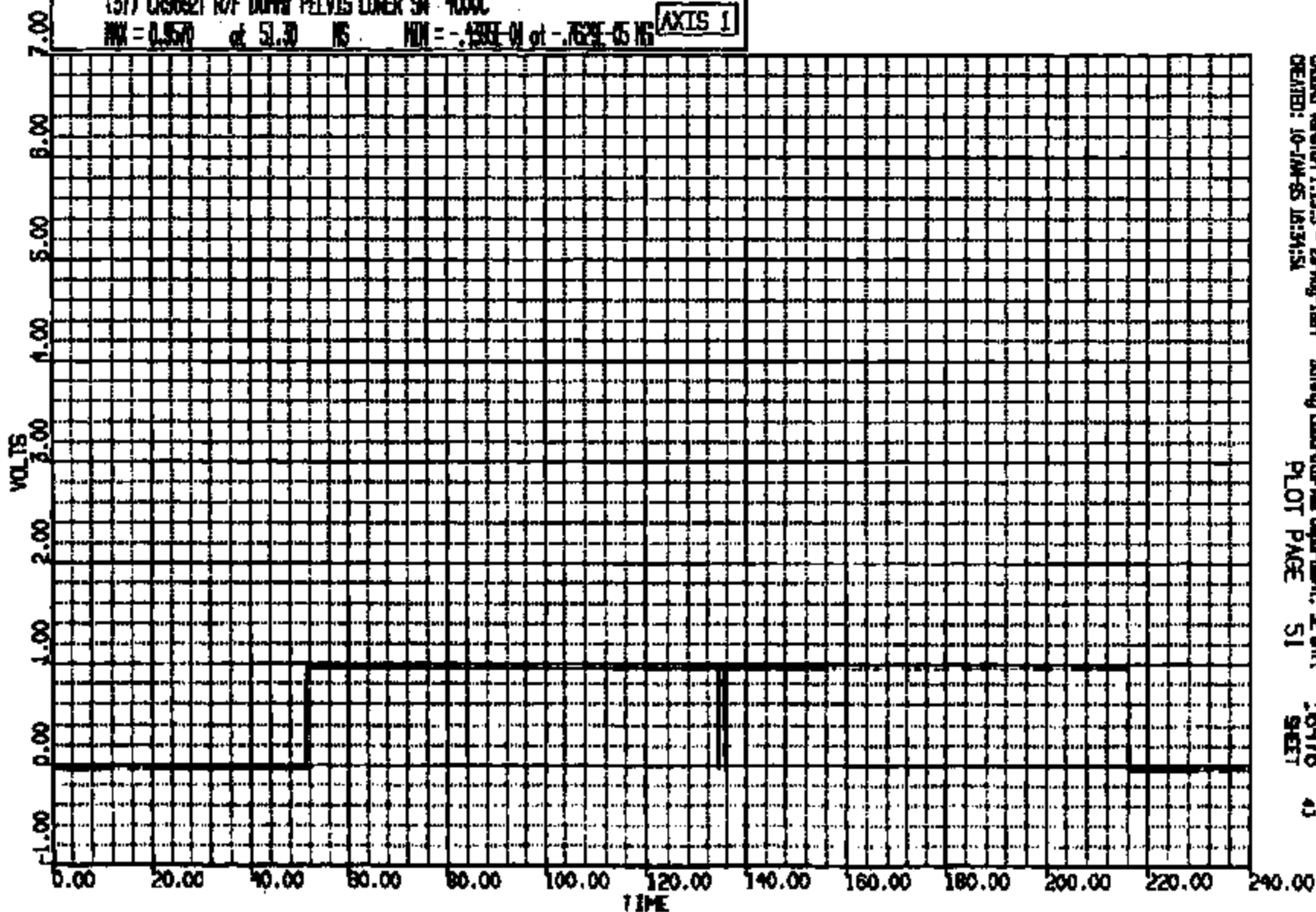
ENTIRE PAGE CONFIDENTIAL

CR R: 8882 TO: 18476 DATE: 85011010 18:08:08
EN-114

(37) C8682T R/F DUMMY PELVIS LOWER SN 4000C

MM = 0.9570 at 51.30 NS MIN = -.430E-04 at -.762E-05 NS

AXIS 1



CHARGE Version 1.15.3 - 28-Aug-1984
CREATED: 10-JAN-85 18:34:54

Safety Laboratory Department, SE Unit
PLOT PAGE 51

18476
SHEET 43

ENTIRE PAGE CONFIDENTIAL

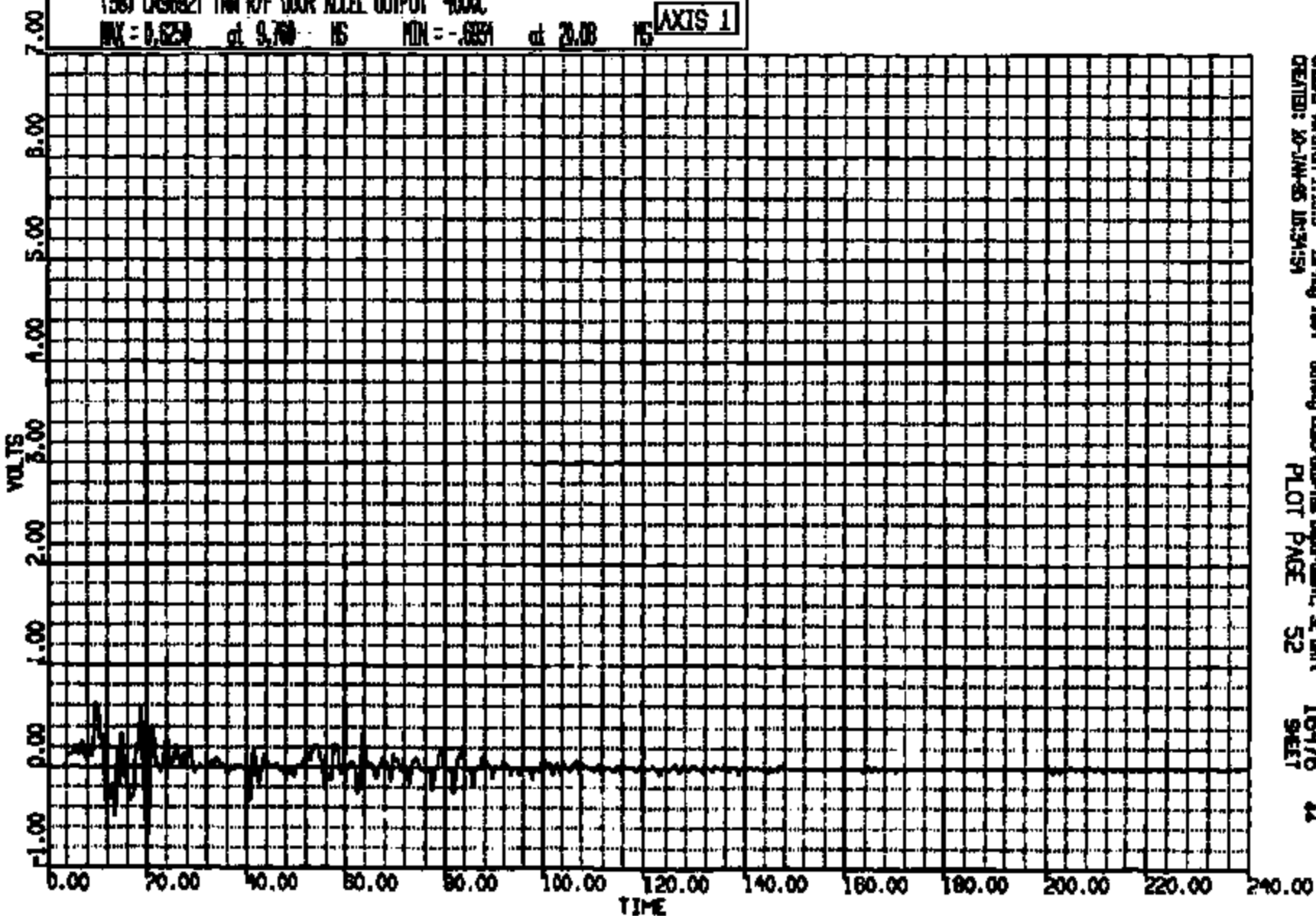
CRTS 0009692

DR R: 8882 TO: 18478 DATE: 85011010 18:08:08
EN-114

(38) 03082T TTM R/F ODR ACCEL OUTPUT 400AC

MAX = 0.623 at 9.700 NS MIN = -.6891 at 20.08 NS

AXIS 1



CHARGE Version 1.15.3 - 28-Aug-1994
CREATED: 20-JAN-85 10:34:54

Biology Laboratories Department, SE Unit
PLOT PAGE 52

18478 44
SHEET

ENTIRE PAGE CONFIDENTIAL

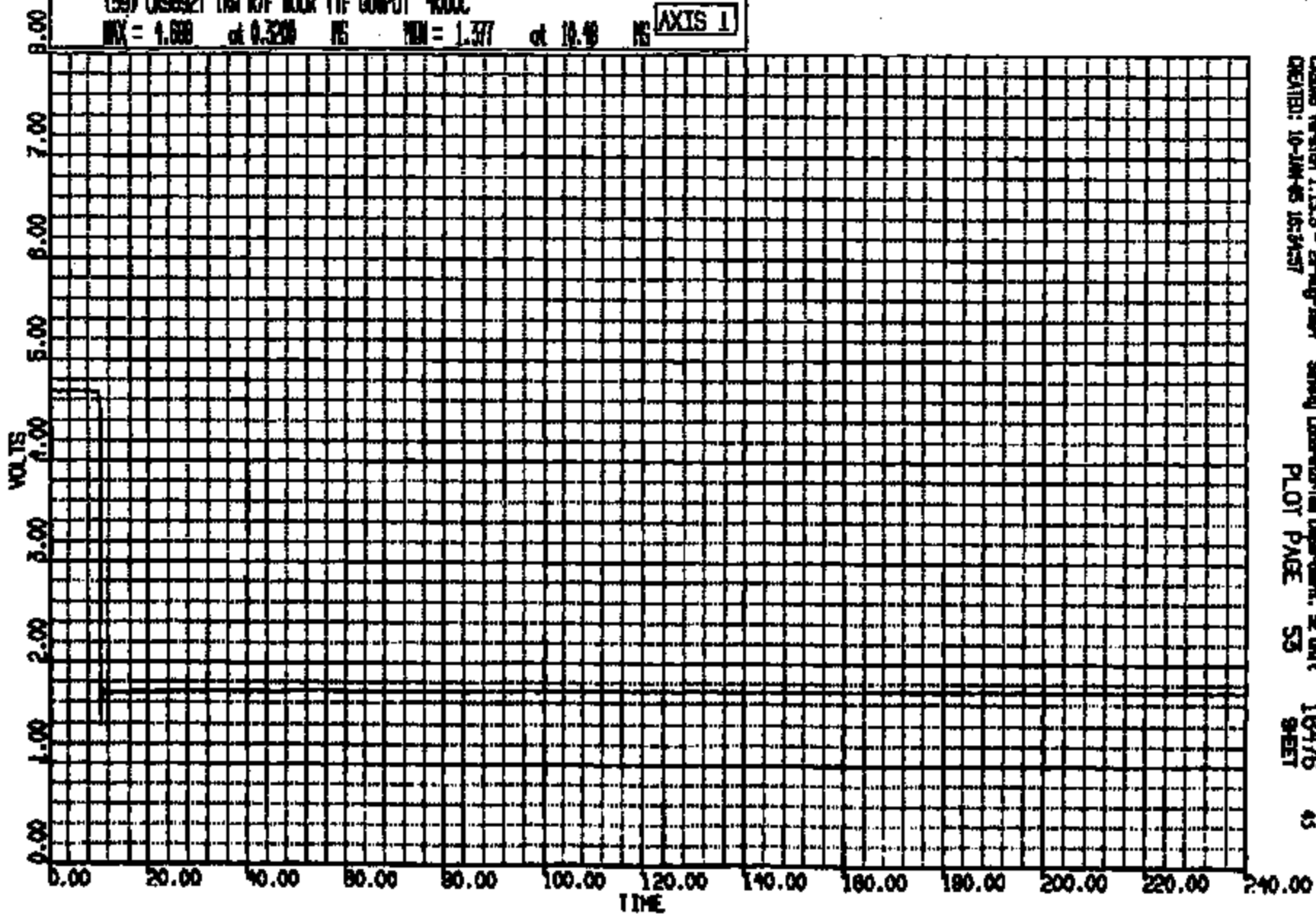
CRIS 0009692

CR A: 8482 TO: 18478 DATE: 95011010 18:08:08
ENT 114

(20) CR8821 THW R/F BUCK T/F OUTPUT 400C

MAX = 1.688 at 0.320 MS MIN = 1.377 at 10.48 MS

AXIS 1



CR8821 Version 1.15.5 - 28-Aug-2004
CREATED: 10-JAN-95 16:54:57

Safety Laboratory Department, EE Unit
PLOT PAGE 53

18478 45
SHEET

CRIS 0009692

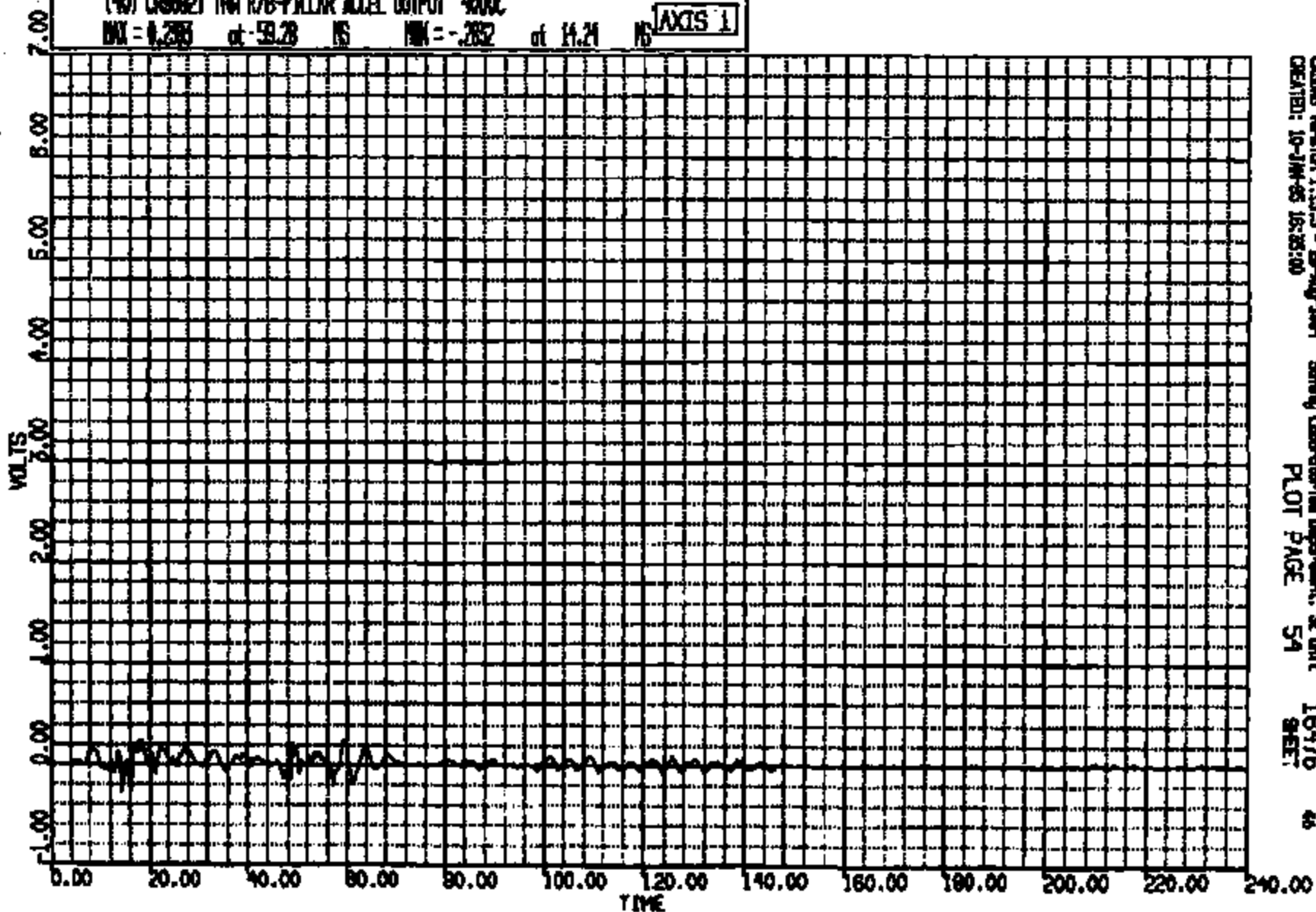
ENTIRE PAGE CONFIDENTIAL

CR R: 9892 TO: 18478 DATE: 85011010 18:08:08
EN-114

(40) CR8821 TWA R/B-PILLAR ACCEL OUTPUT 400C

MAX = 0.285 at 59.28 MS MIN = -0.282 at 14.24 MS

AXIS 1



CASUS Version 1.15.3 - 20-Aug-1991
CREATED: 10-JUN-85 18:28:00

Safety Laboratory Department, S Unit
PLOT PAGE 54

18476 40
SHEET

CRIS 0009692

ENTIRE PAGE CONFIDENTIAL

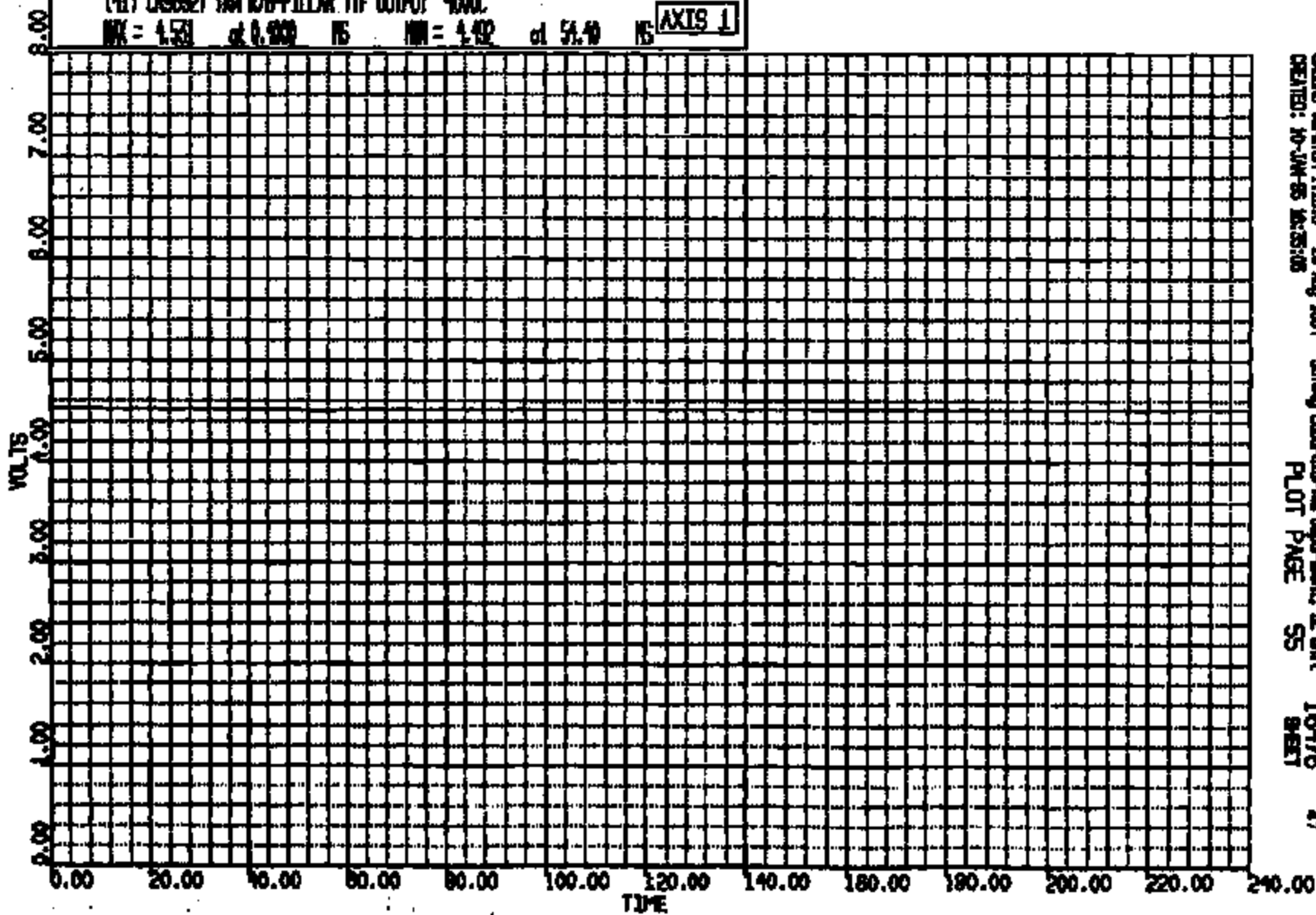
CRSIS Version 1.15.3 - 28-Aug-2001 Safety Laboratory Inc. Department, SE Unit 18478 47
 CREATED: 10-JUN-85 16:25:08 PLOT PAGE 55 SHEET

CR RT 8882 TO: 18478 DATE: 85011010 16:08:08
 EN-114

(41) CR8882T TNA R/A-PILLAR TTF OUTPUT 4000C

MAX = 4.531 at 0.000 NS MIN = 4.432 at 54.40 NS

AXIS 1



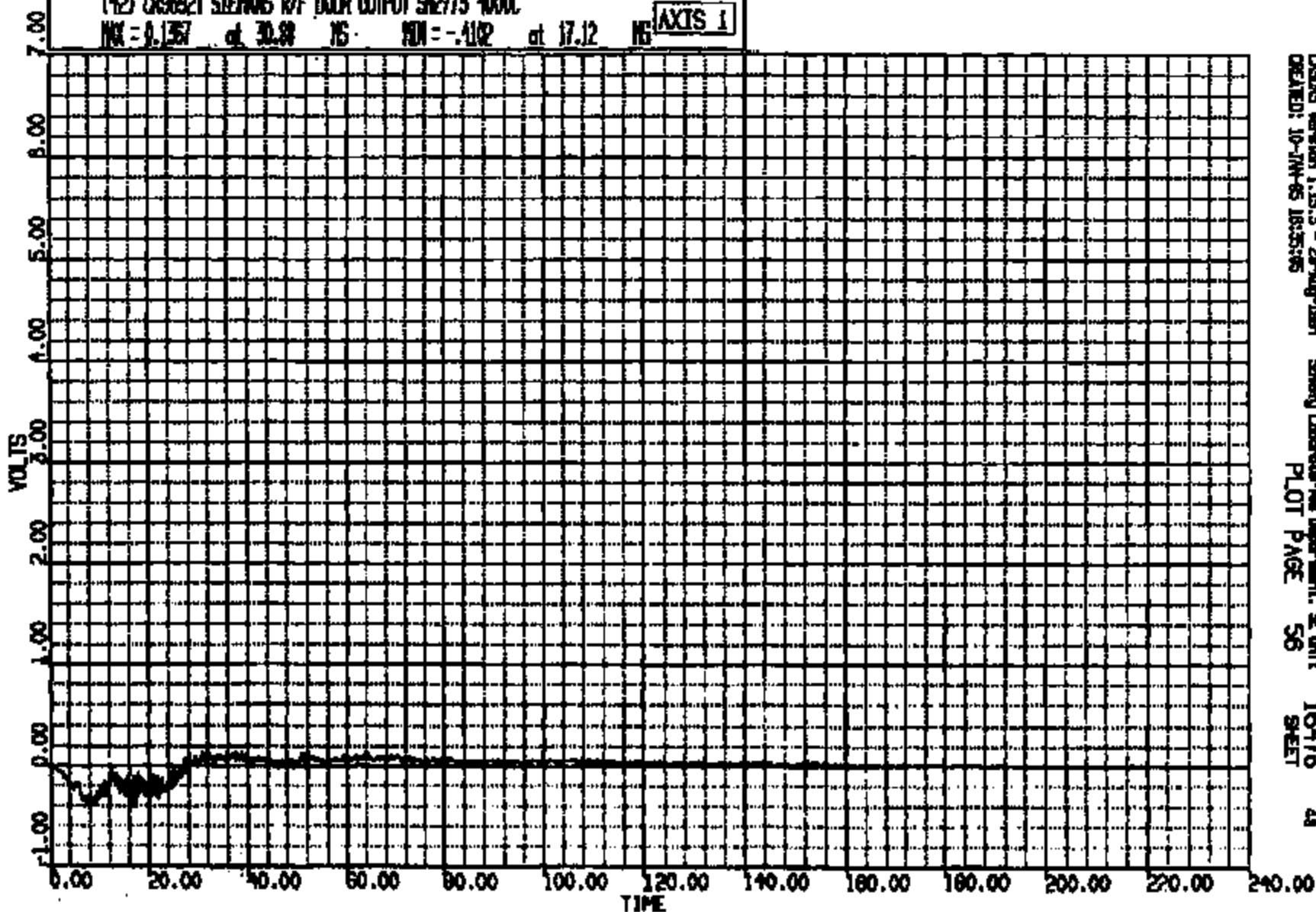
CRIS 0009692

CR R: 0002 TO: 10170 DATE: 05011010 18:08:08
EN-114

(42) 029682T SIEMENS R/F DOOR OUTPUT SNE773 4000C

MIN = 0.137 at 30.8 MS MAX = -.4102 at 17.12 MS

AXIS 1



CRS Version 1.15.3 - 29-Aug-1991
CREATED: 10-JUN-95 18:35:05

Safety Laboratory Department, E Unit

PLOT PAGE 56 SHEET

16476 44

ENTIRE PAGE CONFIDENTIAL

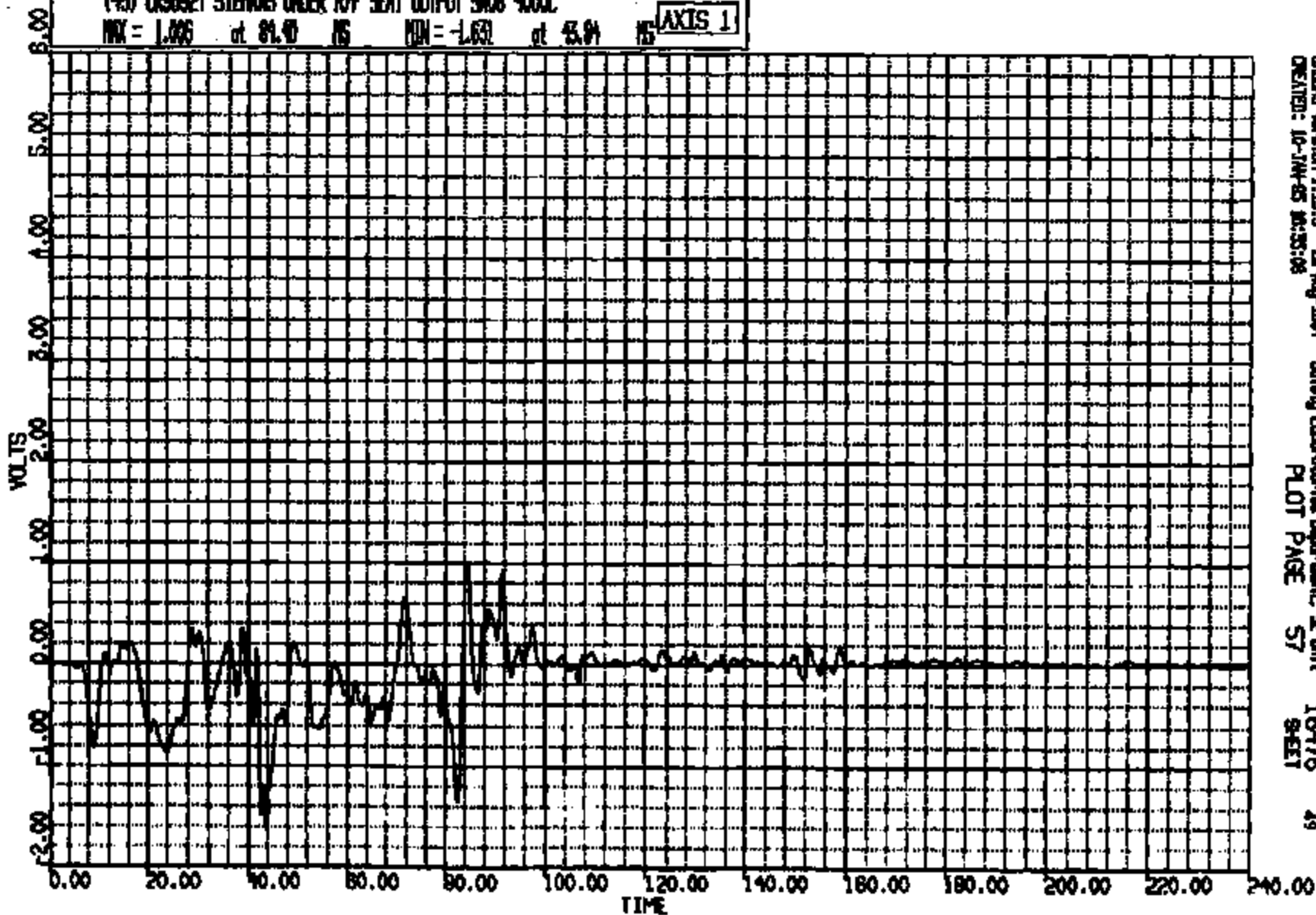
CRIS 0009692

OR R: 8882 TO: 18478 DATE: 88011010 18:08:08
EN-114

(45) 088021 STEERING UNDER R/F SEAT OUTPUT 9408 4000C

MAX = 1.006 at 81.40 HS MIN = -1.632 at 43.84 HS

AXIS 1



CRSUS Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-85 18:35:08

Safety Laboratories Department, SE Unit
PLOT PAGE 57

18478 49
SHEET

ENTIRE PAGE CONFIDENTIAL

CRTS 0009692

CRS006 Version 1.15.3 - 28-Aug-1994
CREATED: 10-JAN-95 18:35:11

Safety Laboratory Inc. Department, SE Unit

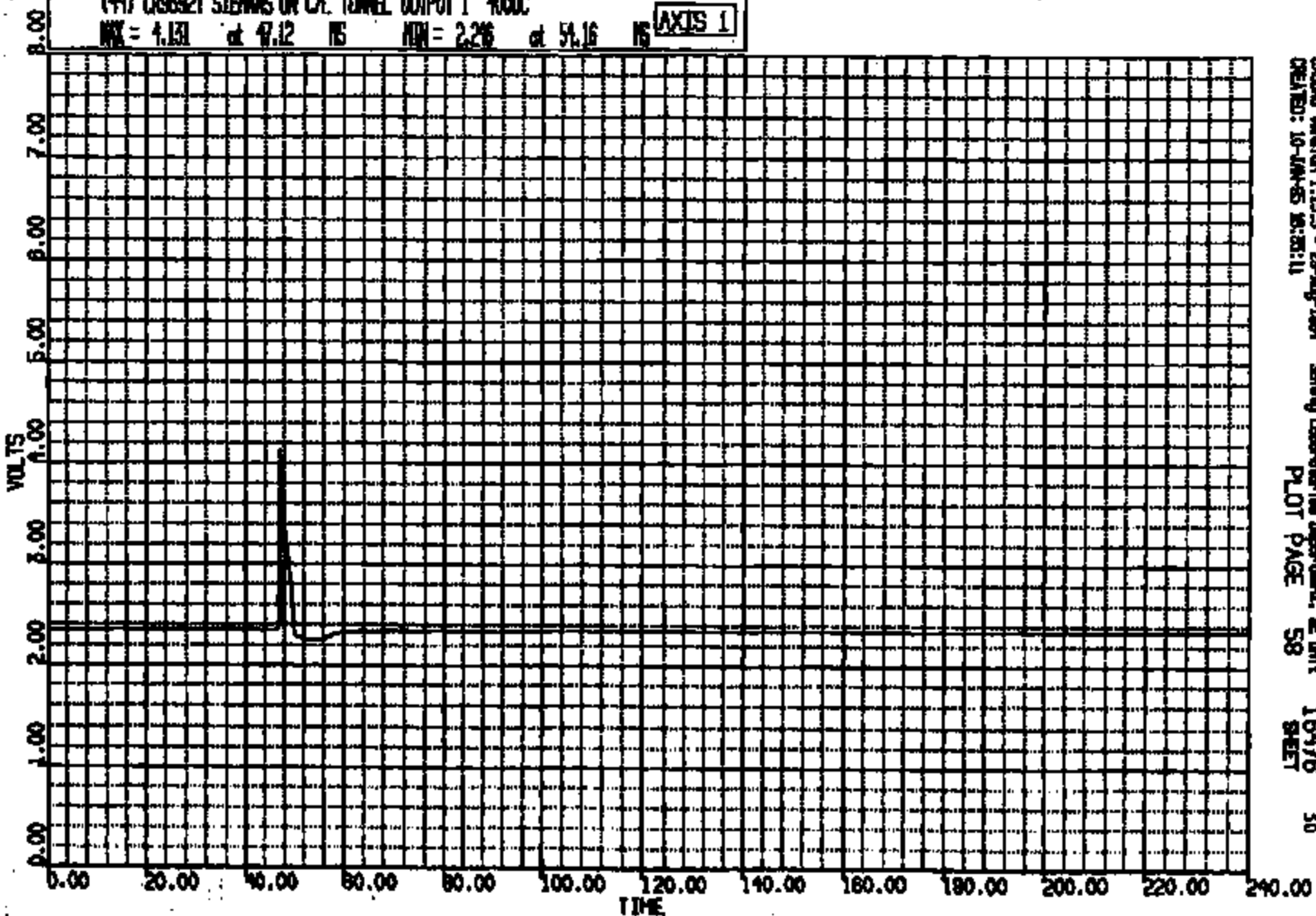
PLOT PAGE 58

18476 50
SHEETCR R: 9992 TO: 18476 DATE: 95011010 18:08:08
EN-114

(44) CR00021 STEPPING ON CA. TUNNEL OUTPUT 1 4000C

MAX = 4.131 at 47.12 NS MIN = 2.216 at 54.16 NS

AXIS 1



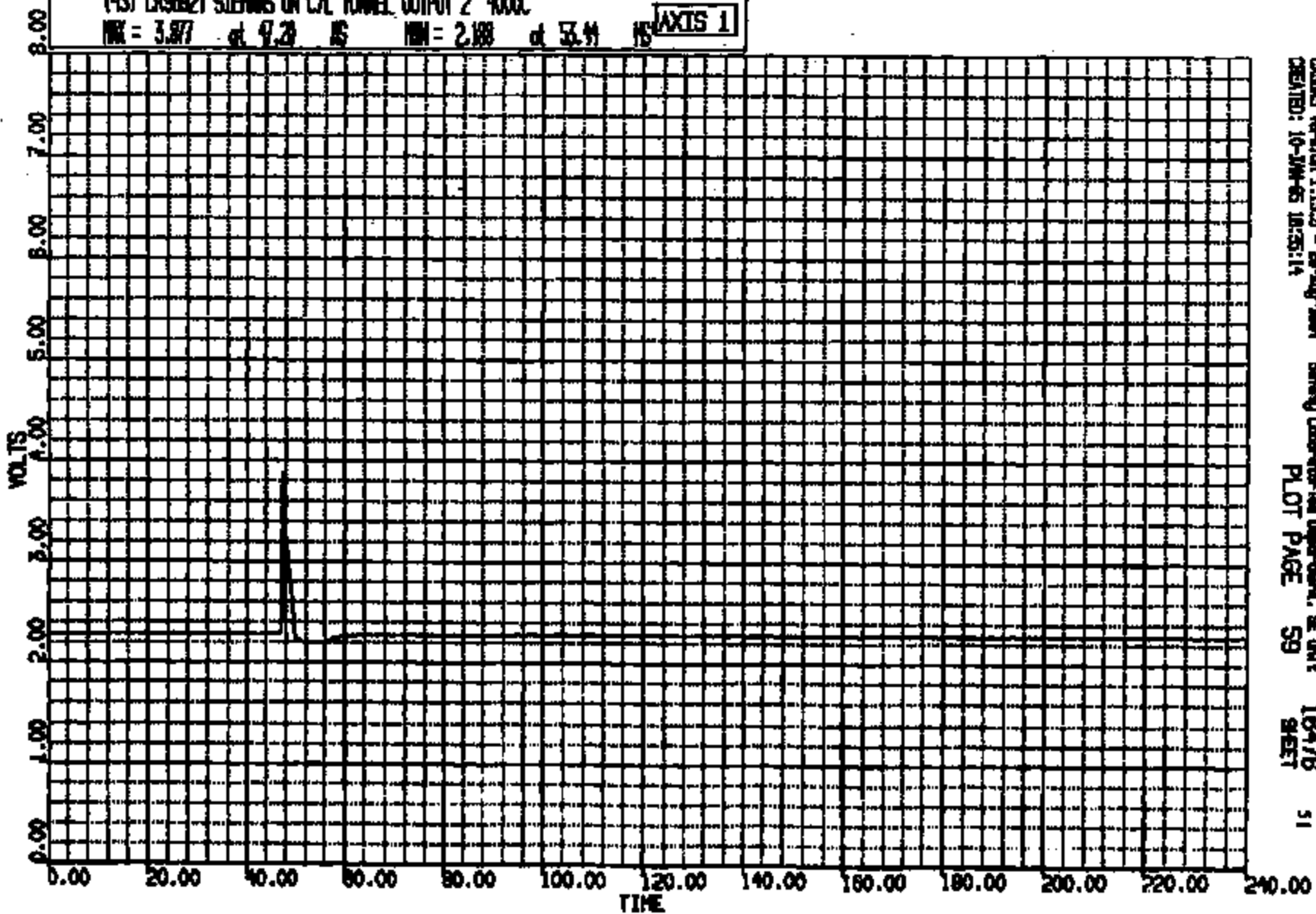
CRIS 0009692

CR R: 0822 TO: 18476 DATE: 25011010 18:08:08
BY: 114

(45) CR0821 STEMMS ON C/L TUNNEL OUTPUT 2 400C

RM = 3.877 at 4.20 MS RM = 2.188 at 53.44 MS

AXIS 1



CHS03 Version 1.15.2 - 20-Aug-2004
CREATED: 10-JUN-05 18:25:14

Safety Laboratory Inc. Department, SE Unit
PLOT PAGE 59

18476 51
SHEET

CRIS 0009692

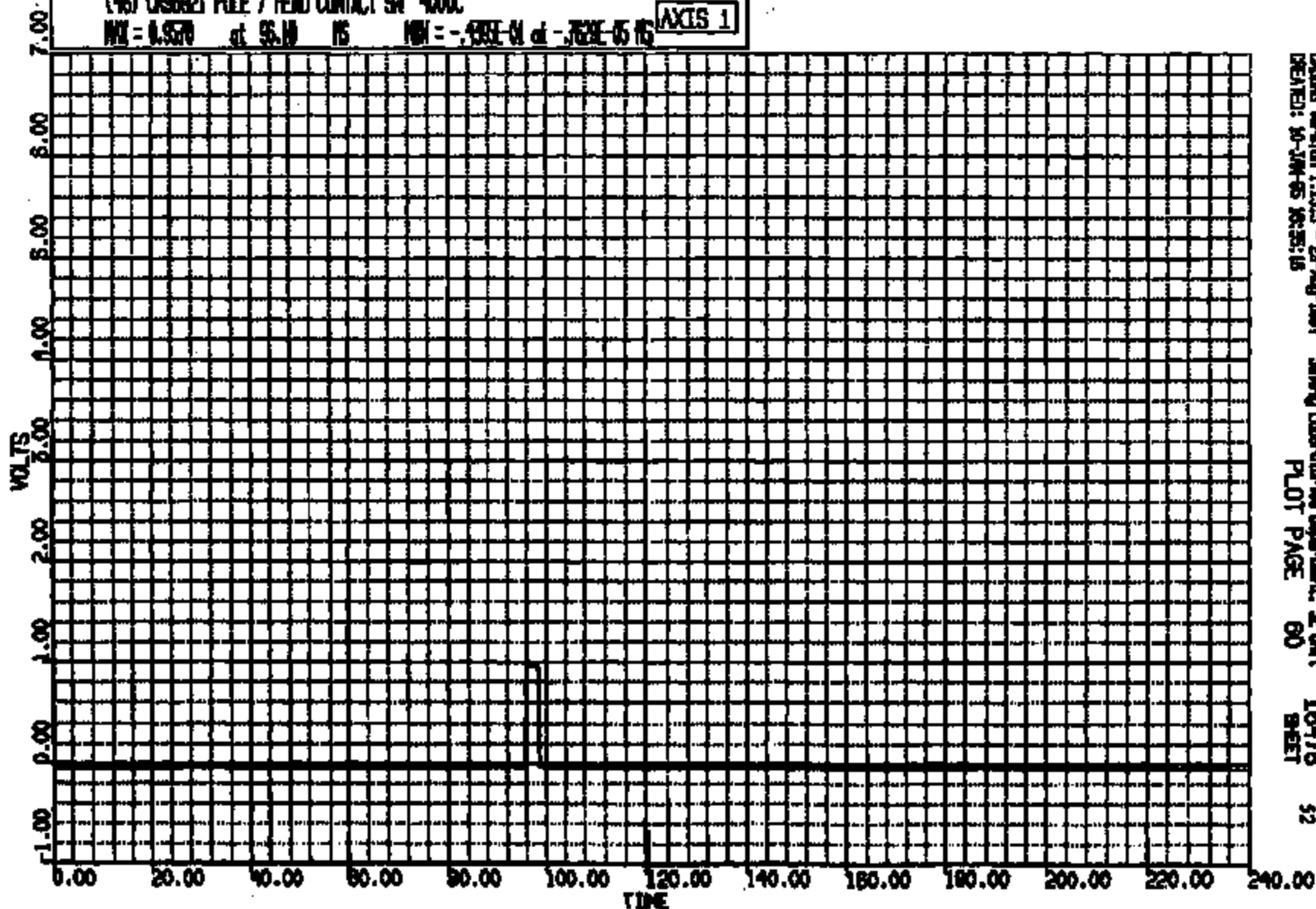
ENTIRE PAGE CONFIDENTIAL

CR 2: 8882 Y0: 18478 DATE: 95011010 18:08:08
EZ-114

(46) CR662T PILE / HEAD CONTACT SH 4000C

MM = 0.9570 at 55.10 15 MM = -.133E-01 at -.763E-05 15

AXIS 1



CR662T Version 1.15.3 - 28-Aug-1991
CREATED: 10-JAN-95 18:25:15

Safety Laboratory Department, SE Unit
PLOT PAGE 60

18478
SHEET 52

ENTIRE PAGE CONFIDENTIAL

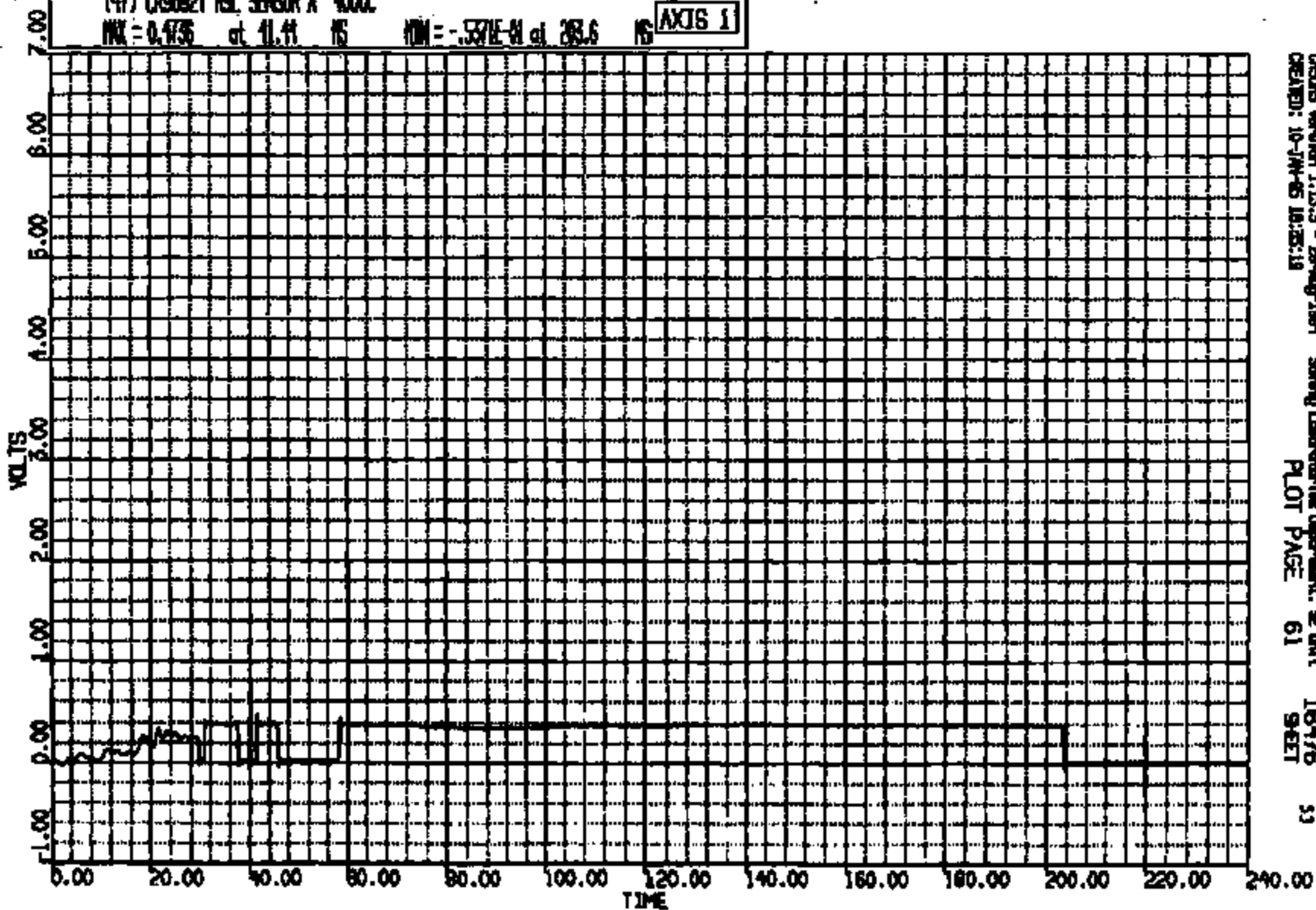
CRITS 0009692

CR R: 9892 TO: 18476 DATE: 95011010 16:08:08
EN-114

(47) CR6021 ASL SENSOR A 4000

MAX = 0.4735 at 41.41 MS MIN = -.5371E-01 at 203.6 MS

AXIS 1



ORION Version 1.15.3 - 28-Aug-1991
CREATED: 10-JAN-95 16:25:19

Safety Laboratories Department, SE Unit

PLOT PAGE 61 SHEET

18476 53

ENTIRE PAGE CONFIDENTIAL

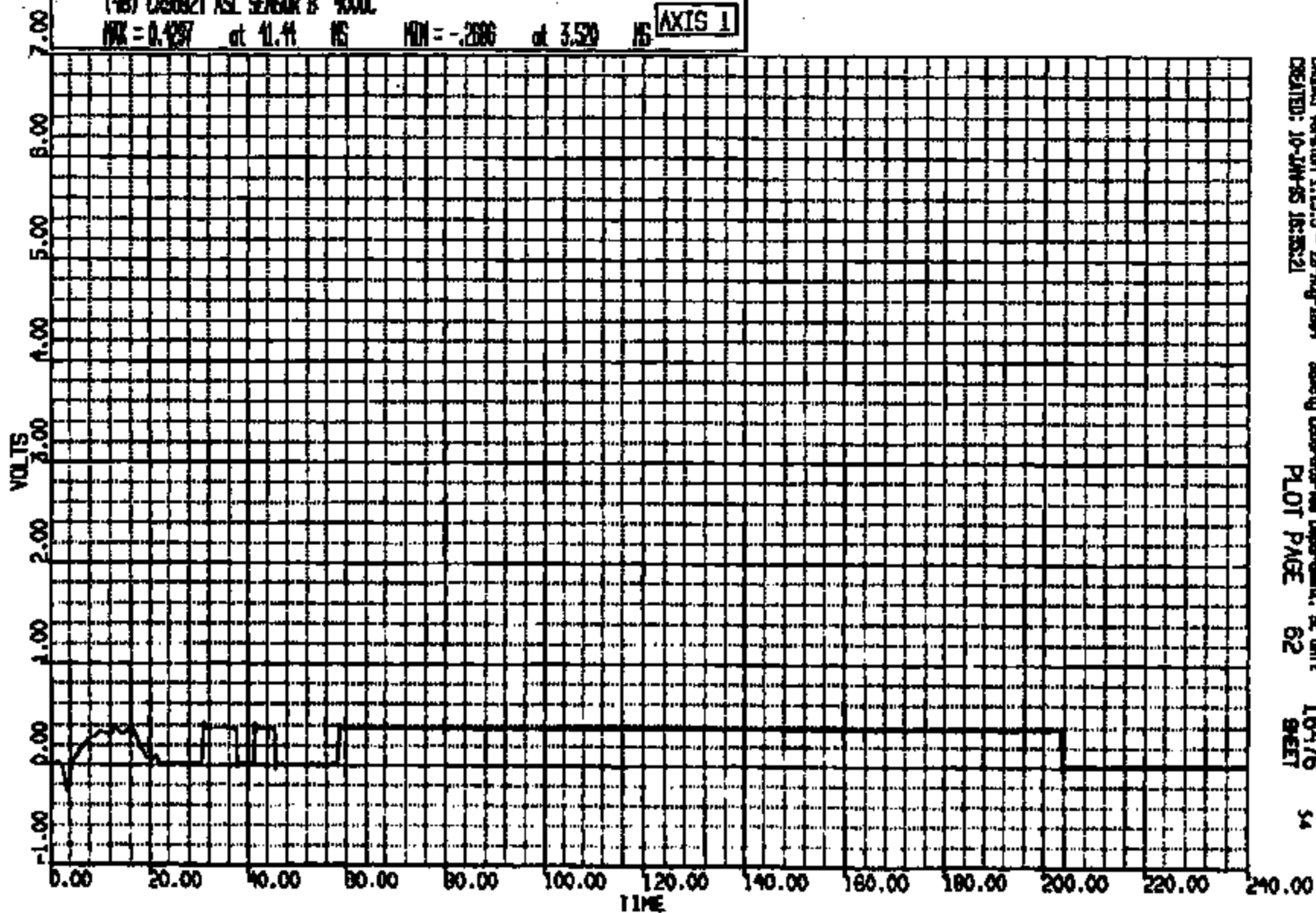
CRTS 0009692

CU R: 9892 TO: 18476 DATE: 95011010 18:08:08
EZ-114

(48) C2982T 1SL SENSOR B 400C

MAX = 0.4297 at 11.41 MS MIN = -.2686 at 3.520 MS

AXIS 1



CRS001 Version 1.15.3 - 25-Aug-1994
CREATED: 10-JUN-95 18:05:21

Safety Laboratory Test Department, SE Unit
PLOT PAGE 62

18476
SHEET 54

CRIS 0009692

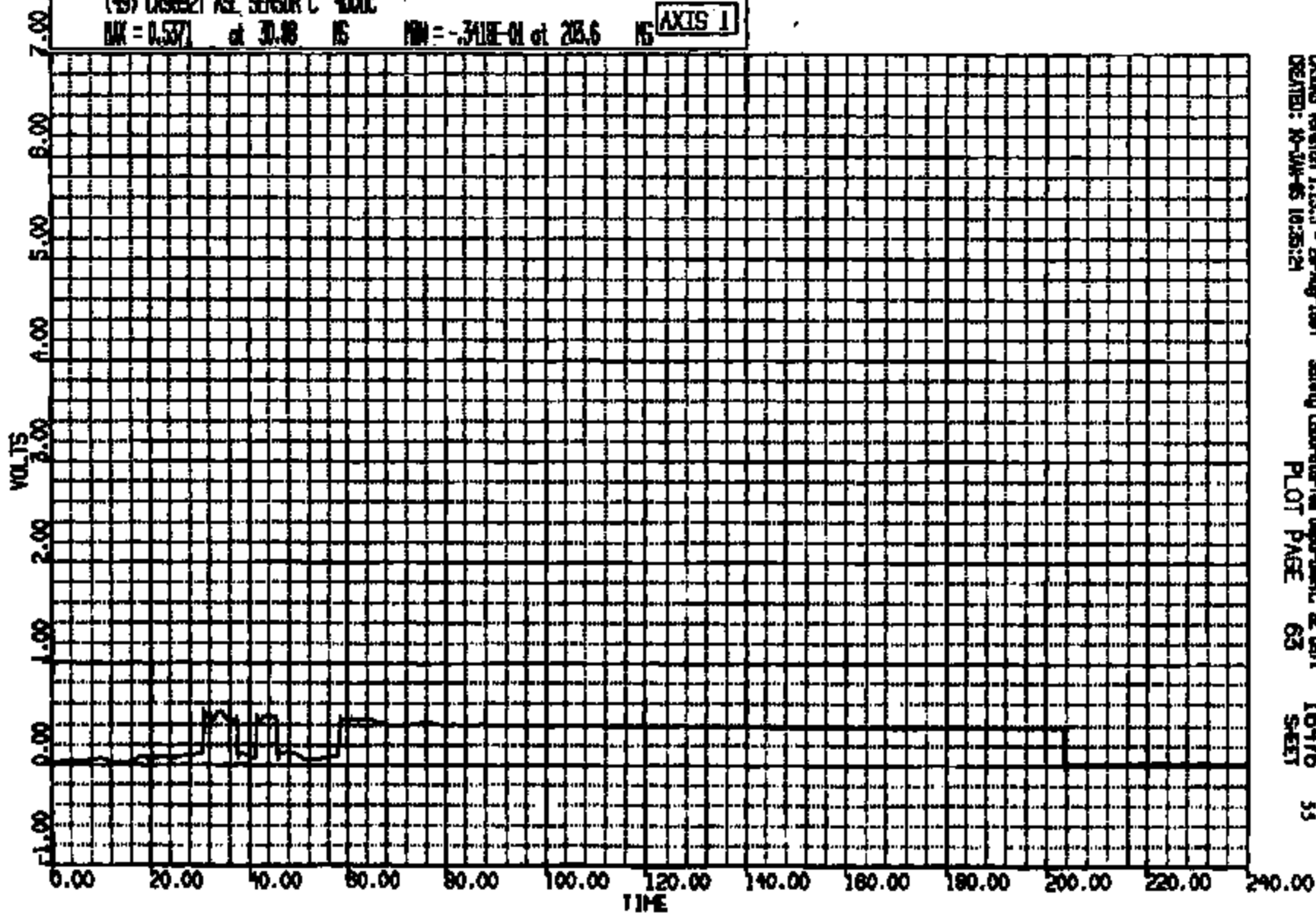
ENTIRE PAGE CONFIDENTIAL

CR R: 9992 TO: 18476 DATE: 05011010 18:08:08
EN-114

(49) CR9992T ASL SENSOR C 4000C

MAX = 0.5371 at 30.98 NS MIN = -.3418E-01 at 203.6 NS

AXIS 1



CRSIS Version 1.15.3 - 28-Aug-1991
CREATED: 10-3AM-85 18:26:24

Safety Laboratory Department, E Unit
PLOT PAGE 63

18476 55
SHEET

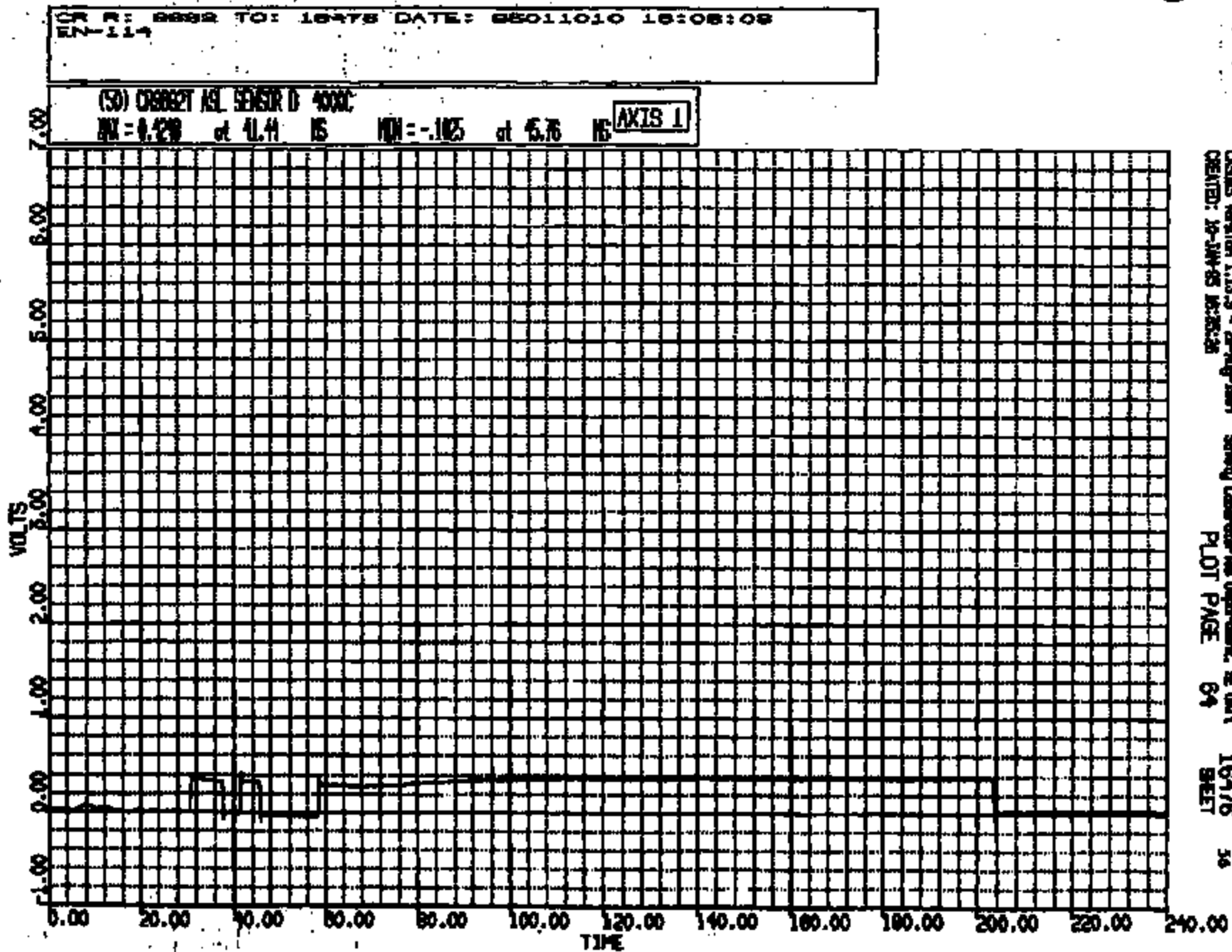
ENTIRE PAGE CONFIDENTIAL

CRIS 0009692

CHANGES Version 1.15.3 - 28-Aug-1994
 CREATED: 16-JAN-95 16:25:28

Safety Laboratory Inc Department, SE Unit 1
 PLOT PAGE 64 SHEET

16476 36



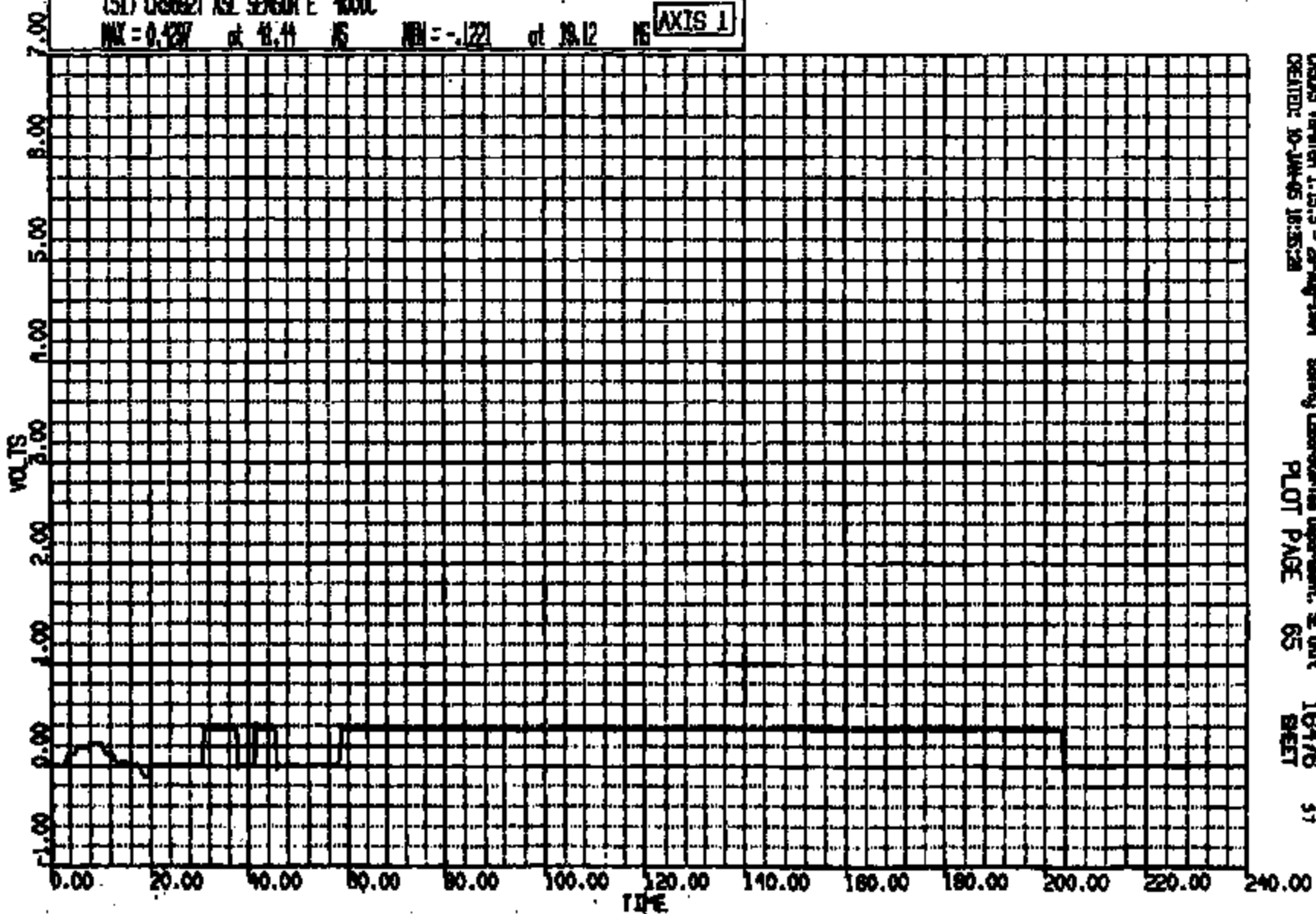
CRITS 0009692

CR R: 8882 TO: 18478 DATE: 85011010 18:08:08
EN-114

(S1) CR8882T ASL SENSOR E 4000C

MAX = 0.4287 at 18.44 MS MIN = -.1221 at 19.12 MS

AXIS 1



OSDAS Version 1.15.3 - 28-Aug-1984
CREATED: 10-JAN-85 18:35:28

Safety Laboratories Department, SE Unit
PLOT PAGE 65

18478 57
SHEET

ENTIRE PAGE CONFIDENTIAL

CRIS 0009692

CHADS Version 1.15.3 - 28-Aug-1994
CREATED: 16-JUN-95 19:55:31

Safety Laboratory Inc. Dayton, OH Unit

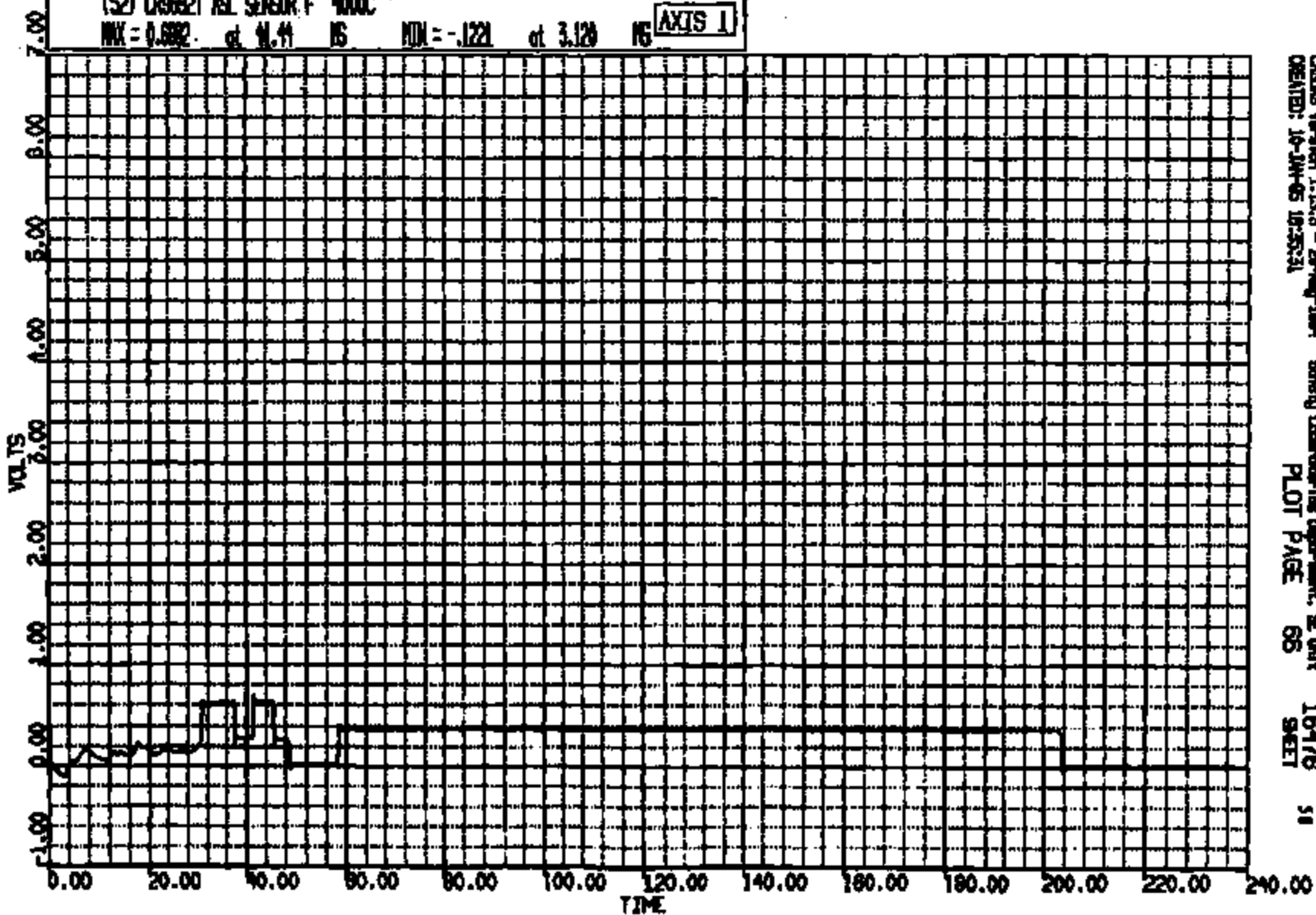
PLOT PAGE 66 SHEET 51

CIR # : 9892 TO : 18478 DATE : 95011010 18:08:08
E7-1114

(52) CR9892T KSL SENSOR F 400C

MAX = 0.6892 at 11.41 MS MIN = -.1221 at 3.120 MS

AXIS 1



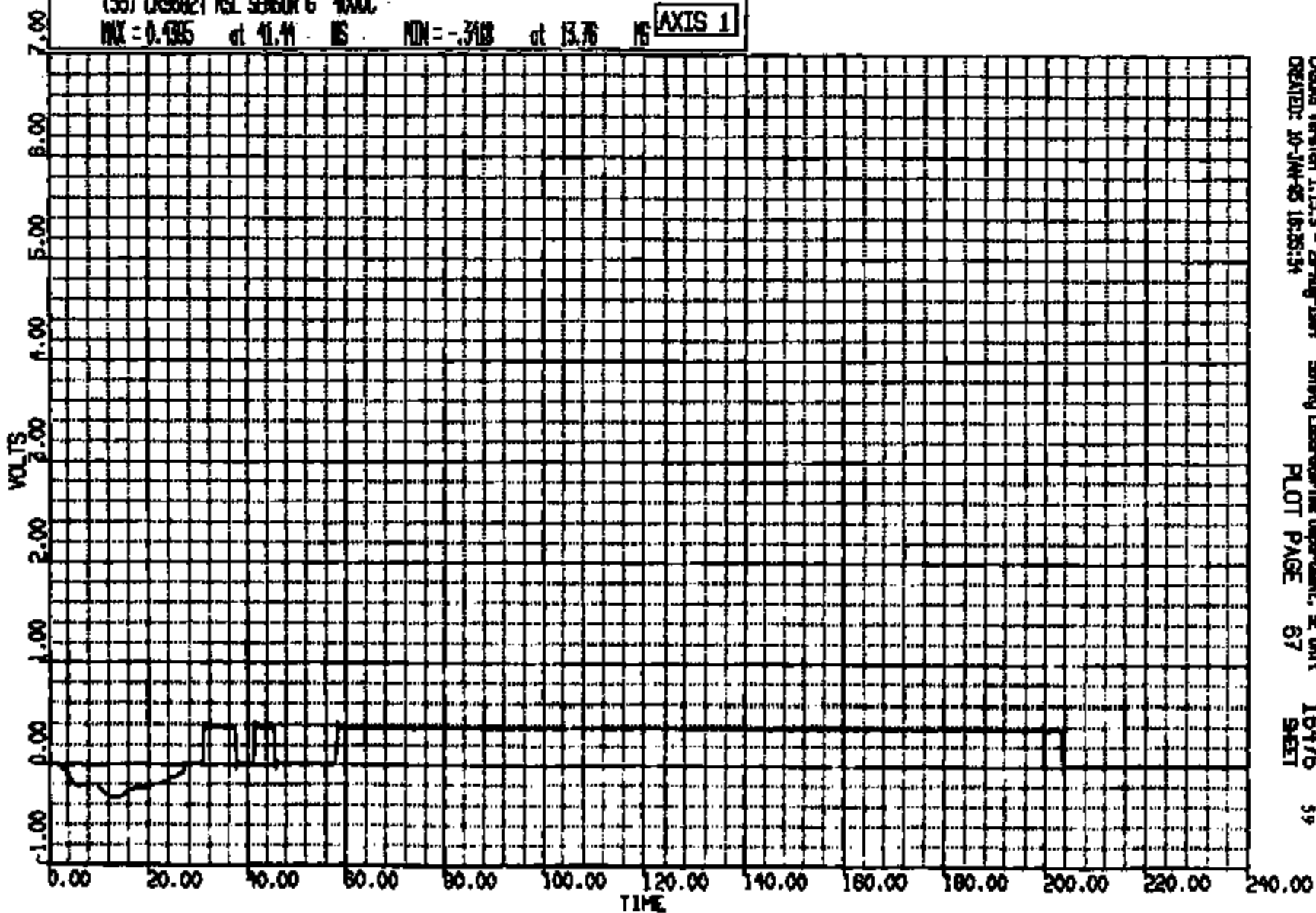
CRIS 0009692

EQ R: 9888 TO: 16476 DATE: 95011010 18:08:08
EZ-114

(53) 096821 ASL SENSOR 6 400C

MAX = 0.435 at 41.41 MS MIN = -.348 at 13.76 MS

AXIS 1



CRS06 Version 1.15.3 - 29-Aug-1994
CREATED: 10-JAN-95 18:35:54

Biology Laboratories Department, SE Unit
PLOT PAGE 67

16476 59
SHEET

ENTIRE PAGE CONFIDENTIAL

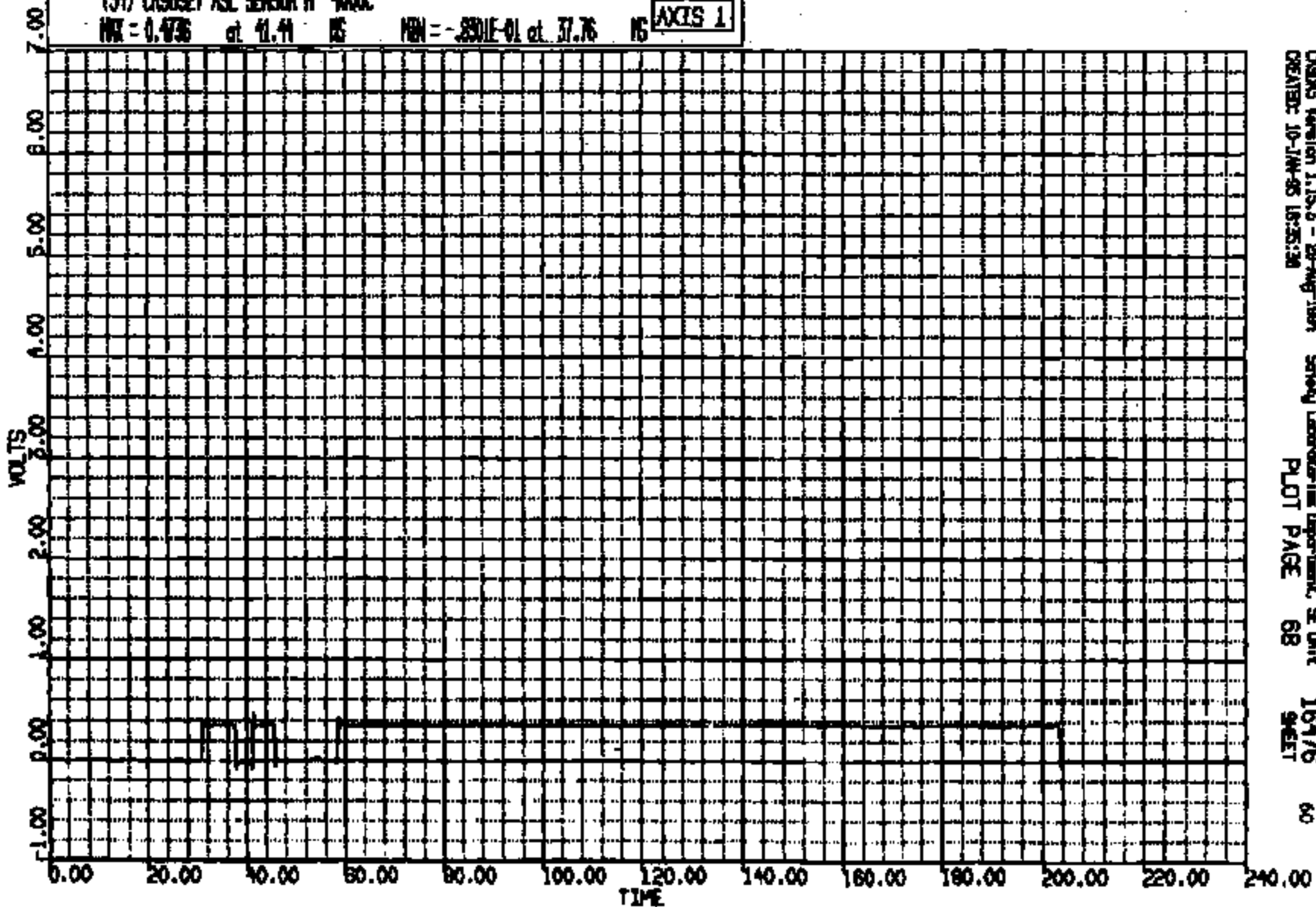
CRIS 0009692

CR #: 8882 TO: 18478 DATE: 95011010 18:08:08
EN-114

(54) C26621 ASL SENSOR H 4000

MIN = 0.476 at 41.41 MS MAX = -3801E-01 at 37.76 MS

AXIS 1



CHMS Version 1.15.2 - 28-Aug-1994
CREATED: 10-JAN-95 18:25:30

Safety Laboratory Department, SE Unit
PLOT PAGE 68

16476 60
SHEET

ENTIRE PAGE CONFIDENTIAL

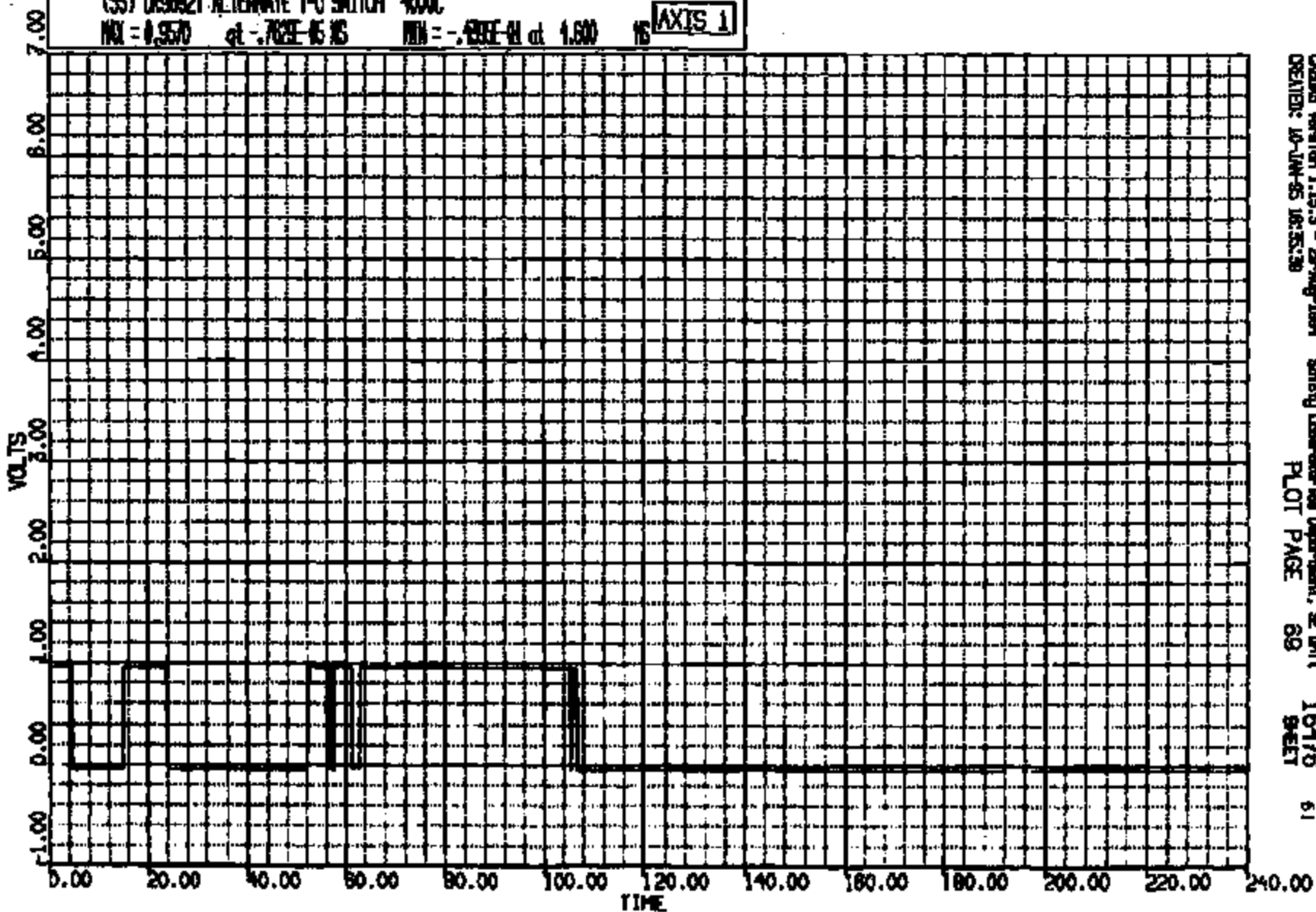
CRIS 0009692

CR R: 0002 TO: 10476 DATE: 05011010 18:06:08
EZ-114

(SS) 09082T ALTERNATE T-O SWITCH *K00C

MAX = 0.9570 at .702E-05 MS MIN = -.600E-01 at 1.500 MS

AXIS 1



CHROM Version 1.15.3 - 28-Aug-1994
OPERATOR: 10-JAN-95 16:55:38

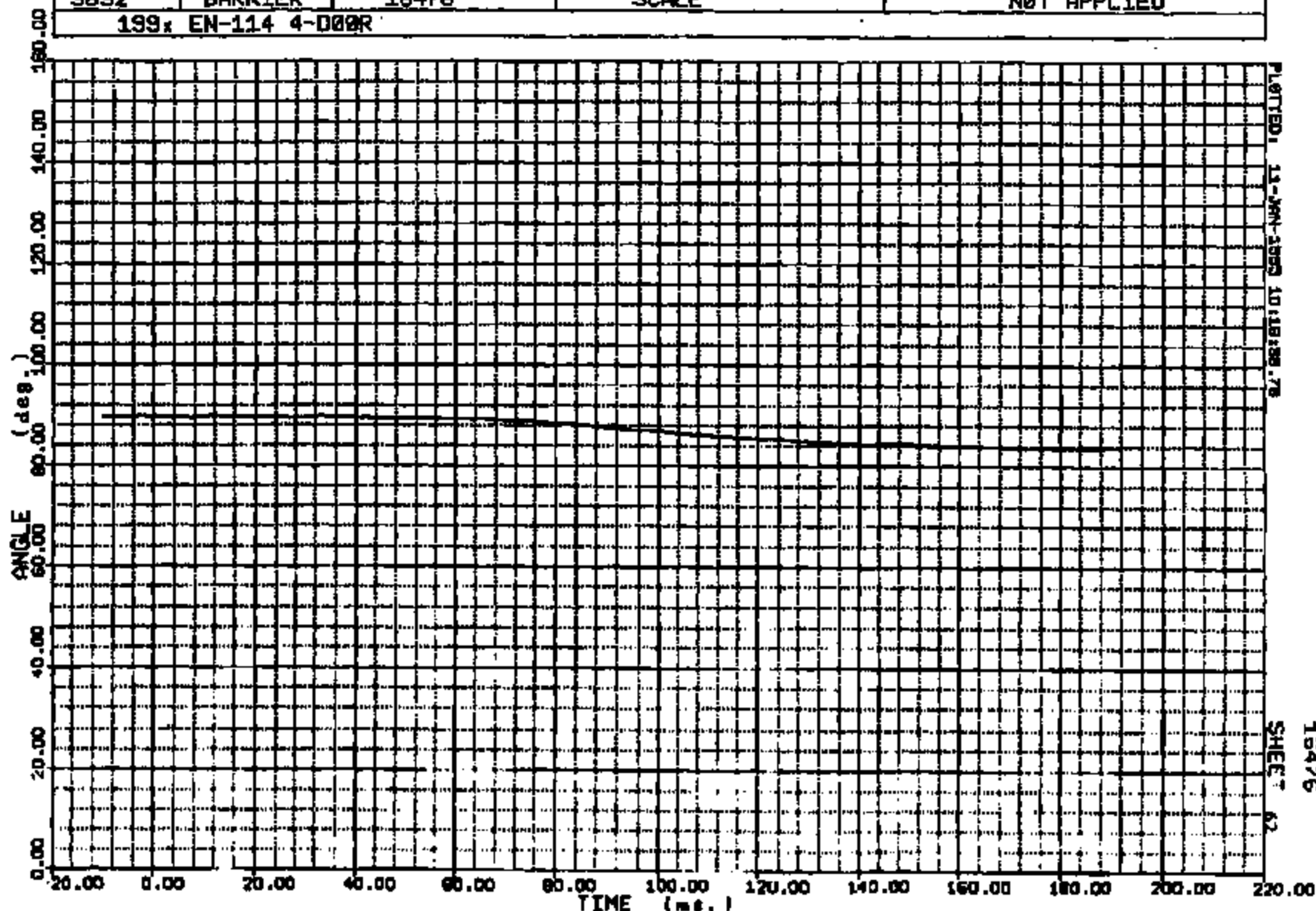
Safety Laboratory Department, SE Unit
PLOT PAGE 69

10476 61
9:51

CRIS 0009692

ENTIRE PAGE CONFIDENTIAL

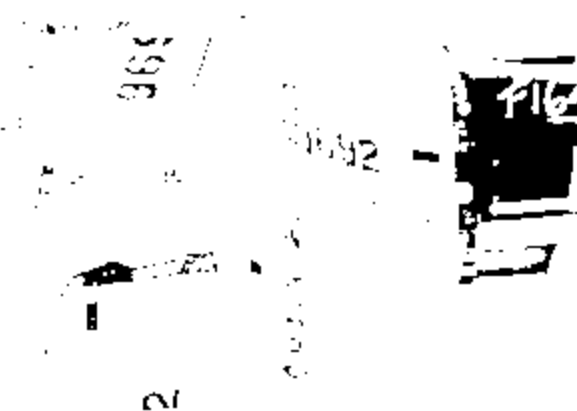
Y - AXIS: VEHICLE CENTERLINE ANGLE WRT GROUND		MAX = 89.80 at -9.00 MIN = 83.52 at 183		
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
9692	BARRIER	16476	SCALE	NOT APPLIED
199x EN-114 4-D00R				



CRIS 0009692

16476

ENTIRE PAGE CONFIDENTIAL





TEST AUTHORIZATION

TEST ORDER NUMBER: **16476**

A. Brzezinski		OO: D. E. O'Donnell		REQUEST DATE: 12/1/84	REQUESTED COMPLETION DATE: 12/1/84
				REQUEST NUMBER: 10-0402-300	PROBLEM NUMBER:
				REQUESTING ACTIVITY: Vehicle Safety and Cab Technology	
TITLE OF TEST: Side Impact sensor development - vehicle impact					PARTS USE DATE:
TYPE OF TEST: ☒ VEHICLE ☐ BENCH		VIN NUMBER or IDENTIFICATION: VIN - 5BACF74W1030001		VEHICLE MODEL & YEAR: 1984 EN114	
☐ LABORATORY ☐ OTHER		TRANSMISSION: Standard		TEST CONDUCTED TO: CERTIFY CONTROL ITEM	
ENGINE NO. DISPL. CARB:		AXLE RATIO:		COMPLIANCE WITH: GOV. REGULATIONS:	
TYPE OF FUEL: Standard		CONVERSION:		[] YES [X] NO	
CRANKCASE OIL AND CAPACITY (L):		TIRE SIZE AND PLY RATING:		REPORT CATEGORIES: [X] ENGINEERING [X] DATA [X] RAW DATA	
VEHICLE TEST WEIGHT (Lbs): FRONT 1985 REAR 1877 TOTAL 3862		TIRE PRESSURE (psi): FRONT REAR		ROOM: MD 100 BLDG: FOC	

1. OBJECT OF TEST 2. TEST PROCEDURE 3. ITEMS TO BE TESTED (NAME, NUMBER, QUANTITY)

- Evaluation of the sensor performance in the above vehicle when subjected to simulated polefree rigid fixture.
- Conduct a 15 mph RH side impact using polefree fixture rigidly affixed to barrier. Position dummies per FMVSS 214, S7. Record dimensions on sheet provided. Paint charcoals on dummies in contrasting colors (head, thorax, hip, thigh, legs). Occupants to be restrained with seat belts. Doors on impacted side of vehicle to remain closed following test. Additional Requirements: Position dummy such that head CG may contact pole CL.

- 1984 EN114 sedan
(Previously impacted by LTV simulation)

COPY OF Copies (Mark Stamp) by: REYAN Record Copy (Full Stamp) Time:	2014
Schedule Number: 7-7-126	

Estimated Test Cost: \$20,000

REQUESTING SECT. NO: 1000	WORK ORDER WORK TASK: B-1000	ISSUED REQUESTED BY: J.E. Brzezinski	PHONE: 20-25152	APPROVAL: A.S. Brzezinski	TEST TYPE:	RISK:	ISSN OFF DATE:
---------------------------------	------------------------------------	--	--------------------	------------------------------	------------	-------	-------------------

REQUESTER: DO NOT WRITE BELOW THIS LINE

WORK STANDARDS NUMBER: 02-02-72-003				TEST DESCRIPTION: 15 MPH RH Side Impact					
MANDATORY				OPTIONAL					
TEST ORDER NO: 16476	CATEGORY 1	RESP. SECTION: E260	EST. COMP. DATE: 1/2/85	PEO	TEST ENG. INITIALS: [Signature]	UNIT CODE: E-2	TEST ORDER DATE:	USER CODE:	PROD. CODE:
PERFORMING SECTION: E260	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST. START DATE	EST. COMP. DATE	STATUS	PERCENT COMPLETE	
TOTAL									

SIDE IMPACT TEST REQUEST FORMAT

VEHICLE INFORMATION:

Model Year: 199X
 Vehicle Line: EN114
 Model: _____
 Build Number: N/A
 Tag Number: 517W999
 VIN Number: 2FACP74W1NX208281
 Fuel System Rated Capacity: _____
 Prototype Level: Production

TEST WEIGHT:

Option Weight: _____ Minimum X 33% Option _____ Maximum
 Test Weight: Front 2180 Rear 2384 Total 4574
 Acceptable Variance: + 25 lbs - 0 lbs
 Ride Heights: _____

TEST MODE:

16 MPH Vehicle side impact into pole/tree fixture _____ Left X Right
 _____ MPH FMVSS 214 (passenger car configuration) _____ Left _____ Right
 _____ MPH FMVSS 214 (LTV configuration) _____ Left _____ Right
 _____ MPH Car to car angular _____ degrees
 _____ MPH Car to car 90 degree impact

Impact Point CL of Passenger side Door
 LTV Barrier Height _____

TEST OBJECTIVES: Cert (C) Audit (A) Safety Guidelines (SQ)

_____ FMVSS 214
 _____ FMVSS 301 _____ Static Rollover _____ Pressure Check
 _____ Door Openability
X _____ Sensor Development

DUMMIES (F) Front (R) Rear:

_____ Certification
 _____ BIOSID _____ Instrumented _____ Uninstrumented
F&R Side Impact Dummy (SID) _____ Instrumented F&R Uninstrumented
F&R Positioning per FMVSS 214 Dynamic Test Procedure

RESTRAINT SYSTEM:

☒ Belted Front Occupant
☒ Belted Rear Occupant

DIMENSIONAL ANALYSIS:

_____ 404	_____ 408	_____ 411	_____ 417
_____ 418	_____ 421	_____ 423	_____ 425
_____ 427	_____ 429	_____ 431	_____ 433
_____ 435	_____ 437		

* LEFT ONLY

DATA CHANNELS:

FRONT OCCUPANT (SIDE IMPACT DUMMIES):

_____ Head C.G.	_____ Long	_____ Vert	_____ Lat	
_____ Chest T1	_____ Long	_____ Vert	_____ Lat	_____ Lat Backup
_____ Chest T12	_____ Long	_____ Vert	_____ Lat	_____ Lat Backup
_____ Upper Rib	_____ Primary	_____ Backup		
_____ Lower Rib	_____ Primary	_____ Backup		
_____ Chest Deflection				
_____ Pelvis	_____ Long	_____ Vert	_____ Lat	_____ Lat Backup
_____ Upper Neck Load Cell				
_____ Lower Neck Load Cell				

VEHICLE:

☒ Right SII @ Front Seat Mid	_____ Long	_____ Vert	☒ Lat
☒ Right SII @ Rear Seat Mid	_____ Long	_____ Vert	☒ Lat
☒ Left SII @ Front Seat Mid	☒ Long	☒ Vert	☒ Lat
☒ Left SII @ Rear Seat Mid	☒ Long	☒ Vert	☒ Lat
☒ Right Front Door @ Beltline	_____ Long	_____ Vert	☒ Lat
☒ Right Front Door Over Armrest	_____ Long	_____ Vert	☒ Lat
☒ Right Front Door Lower (Front)	_____ Long	_____ Vert	☒ Lat
☒ Right Front Door Rear of Seat H-pt	_____ Long	_____ Vert	☒ Lat
☒ Right Front Door B-pillar mid rear.	_____ Long	_____ Vert	☒ Lat
☒ Right A-Pillar Lower (inside)	_____ Long	_____ Vert	☒ Lat
☒ Right B-Pillar Lower (inside)	_____ Long	_____ Vert	☒ Lat
☒ Right B-Pillar Upper (inside)	_____ Long	_____ Vert	☒ Lat
☒ Right Rear Door @ Beltline	_____ Long	_____ Vert	☒ Lat
☒ Right Rear Door Over Armrest	_____ Long	_____ Vert	☒ Lat
☒ Right Dash panel at Cowl Top	_____ Long	_____ Vert	☒ Lat
_____ Right Front Seat Back Recliner	_____ Long	_____ Vert	_____ Lat
_____ Rear Floor Pan Above Axle	_____ Long	_____ Vert	_____ Lat
☒ CL Tunnel @ Dash panel	☒ Long	☒ Vert	☒ Lat
☒ CL Tunnel @ Dash +45° from Long	☒ Long	☒ Vert	☒ Lat
☒ CL Tunnel @ Dash -45° from Long	☒ Long	☒ Vert	☒ Lat
☒ CL Tunnel @ Feet H-pt	☒ Long	☒ Vert	☒ Lat
_____ Fuel Inertia Switch			

SENSORS

☒ TRW on L/F Door
☒ TRW on L/F B-Pillar
☒ Siemens on L/F Door
☐ Siemens on CL Tunnel
☐ Siemens under L/F Seat
☐ TRW on L/F B-Pillar (Flight Recorder)
☐ Siemens on L/F Door (Flight Recorder)

Responsible Sensor Engineer

R. Ross (39-05149)
 R. Ross (39-05149)
 R. Ross (39-05149)
 R. Ross (39-05149)
 P. Simmons (84-66501)
 P. Simmons (84-66501)
 P. Simmons (84-66501)

MOVING BARRIER:

☐ Center of Gravity	☐ Long	☐ Vert	☐ Lat
☐ Left Frame Rail	☐ Long	☐ Vert	☐ Lat
☐ Right Frame Rail	☐ Long	☐ Vert	☐ Lat
☐ Bumper Face - Left	☐ Long	☐ Vert	☐ Lat
☐ Bumper Face - Center	☐ Long	☐ Vert	☐ Lat
☐ Bumper Face - Right	☐ Long	☐ Vert	☐ Lat

CONTACT SWITCHES:

☒ Front Dummy	☒ Chest	☒ Hip	☒ Thigh
☐ Rear Dummy	☐ Chest	☐ Hip	☐ Thigh
☒ Pole	☒ Head contact		

DATA PROCESSING:

☒ Use Standard Graphs and Scales
☒ FIR Filter Dummy Channels

FILM ANALYSIS:

☒ Cart wrt Ground & wrt Vehicle to show Impact Point
☒ Impact Speed
☒ Impact Angle
☒ Front Occupant Head wrt Vehicle for Identification
 Note: Targets and Measurements only (Photo may be required later)

STILL PHOTOGRAPHS:

☒ Pre & Post Test Documentation Photos
☒ Post Test Documentation of Door Trim Panel & Door Interior with Panel Removed

HIGH SPEED PHOTOGRAPHY:

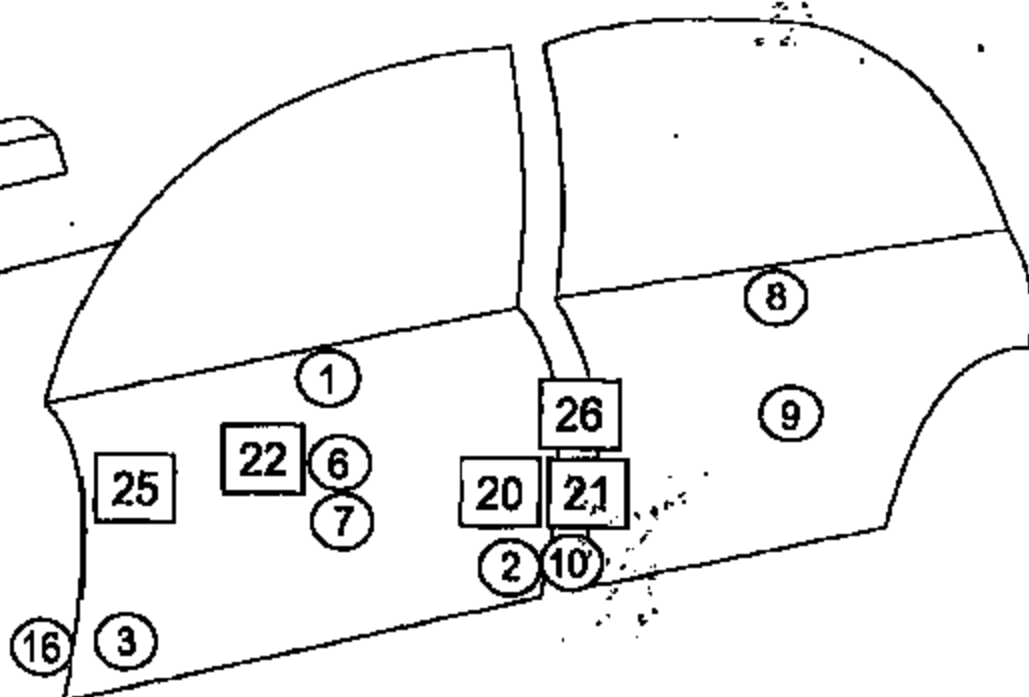
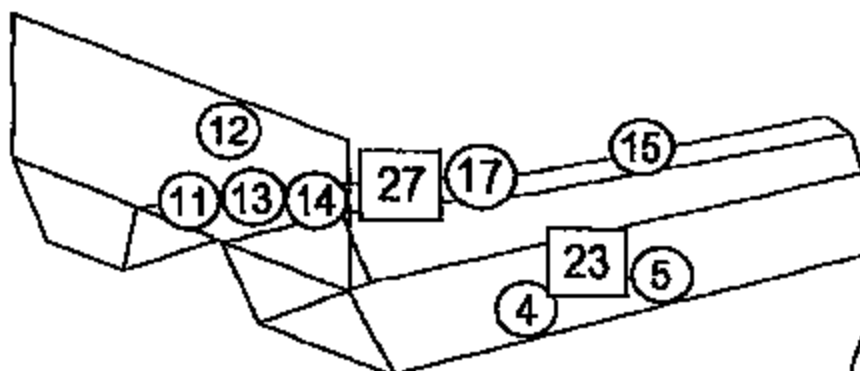
☒ Onboard Car - View of Impact
☒ Onboard Front - View of Front Dummy
☒ Onboard Side - View of Front Dummy
☒ Onboard Side - View of Rear Dummy
☒ Onboard Rear - View of Rear Dummy
☐ Onboard - View of Front Seat to show Airbag Deployment from front
☐ Onboard - View of Front Seat to show Airbag Deployment from overhead
☒ Left - Overall
☒ Left - Impact at Angle
☒ Left - 45 deg. Impact at Angle
☐ Right - Overall
☐ Right - Impact at Angle
☐ Right - 45 deg. Impact at Angle
☒ Overhead - Overall
☒ Overhead - Close-Up
☐ Pft - Contact
☐ Pft - Overlap
☐ Pft - Fuel Tank

DATA, FILM AND PHOTO DISTRIBUTION:

3 Number of Copies of Data Required
2 Number of Film Prints Required
2 Number of Contact Prints Required

DISTRIBUTION LIST:

<u>ACTIVITY:</u>	<u>DATA</u>	<u>F.A.</u>	<u>D.A.</u>	<u>FILM</u>	<u>PHOTO</u>
<u>Joe Abramczyk - Safety and CAE</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>Rick Sam - Restraints Systems</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>Joe Brown - Restraints Systems</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>



SENSOR NUMBER	DESCRIPTION	SERIAL NUMBER
20	TRW on front door	10820
21	TRW on B pillar	10005
22	Siemens on front door	02773
23	Selmans under seat (accel)	B
24		
25	Siemens/Simmons	
26	TRW/Selmans	
27	Selmans on CL tunnel	00075

-Not in Se 1240e
Box 45 Off.

ACCEL NUMBER	DESCRIPTION
1	Front door inner panel @ beltline mid
2	Front door inner panel rear lower
3	Front door inner panel front lower
4	Door sill mid
5	Door sill front seat "H" point
6	Front door inner mid
7	Front door inner mid rear on door beam
8	Rear door inner panel @ beltline mid
9	Rear door inner mid
10	B pillar inner lower
11	CL Tunnel @ dash panel
12	LH dash panel @ cowl top
13	CL Tunnel @ dash panel @ 45 degrees from longitudinal
14	CL Tunnel @ dash panel @ 90 degrees from #13
15	CL tunnel @ ft seat H point
16	A pillar inner lower
17	CL Tunnel @ front seat mid

CRASH MODE:	15 MPH VOLE "CL" BTR
VEHICLE NUMBER:	5176969 R
DATE:	

CR 15 0009692

ENTIRE PAGE CONFIDENTIAL

5076

FINAL TEST REPORT

CONFIDENTIAL

Global Test Operations
Advanced Vehicle Technology

"RECORD COPY"

Schedule No. 9-7-12Retain Until 2018

TO:

K. Arthur

Test Order No.	T-A3042
Work Task W. O. No.	J16
Test Date	5/16/97
Date Reported	4/29/98
Sheet	1 of 101

SUBJECT:

Crash Test 10705 (90° Left Side Fixed Pole Impact at 15.3 ± 0.4 mph, 24.6 ± 0.6 km/h) - 1999 FR-145 4-Door Sedan

REQUESTED BY:

Vehicle Safety and CAE Department, Advanced Vehicle Technology - D. Purdy

OBJECT:

To obtain development data relative to air bag system sensors.

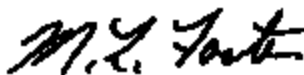
SUMMARY OF
TEST RESULTS:

See Section 1.0 for air bag system sensor data.

Concurs:



R. Burns
Section Supervisor
Operations Engineering Section


M. Foster
Test Development Engineer

VEHICLE DATA:

Make and Model	1999 FH-143 4-Door Sedan (Berkhorse Prototype)
ID Numbers	2M2LM73W3EX699568, 307-T-824, FP6205
Power Train	4.6L, EFI, Automatic (4R70W) Transmission
Fuel Tank(s)	Usable Capacity: 19.0 gal. (71.9L) Test Condition: Empty
Front Seat(s)	Type: 60/40 Split Bench Cover: Leather Tracks/Position: 6-Way Power/Mechanical Mid and Down Seat Backs/Position: Adjustable/20.7° Rear of Vertical Head Restraints/Position: Adjustable/Up Lumbar Support/Position: LF: Power/Unflated
Restraint System	LF: 3-Point Continuous Loop Active Belt and Seat Back Side Air Bag
Occupants	LF: NIO-SID Uninstrumented Dummy
Test Weight	Front: 2363 lb (1072 kg) Rear: 2269 lb (1029 kg) Total: 4632 lb (2101 kg)
Tires	Front: P225/60R16 32 psi (221 kPa) Rear: P225/60R16 32 psi (221 kPa) Spare: Removed
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel

GENERAL TEST COMMENTS:**1. Test Procedure**

The test was performed according to the following Corporate test procedure(s):

Fixed Barrier Collision, T657-ST-14 dated July 17, 1996.

1.1 Vehicle Alignment

The test vehicle impacted an 350 mm diameter steel pole structure, rigidly attached to the barrier face. The vertical steel pole was aligned so that the point of vehicle impact was centered on the test dummy's left front head center of gravity.

2. Remarks

Crash movies, pre- and post- crash still images of the test vehicle and copies of this report are available only through the Crash Test Operations Section after permission is obtained from the test requesting department. The crash still images are stored on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 10705001 through 10705044.

TEST RESULTS:**1.0 Sensor Development**

Time histories of the dummy dynamic displacements obtained from Film Analysis are included in this report.

Time histories of the air bag/sensor(s) are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

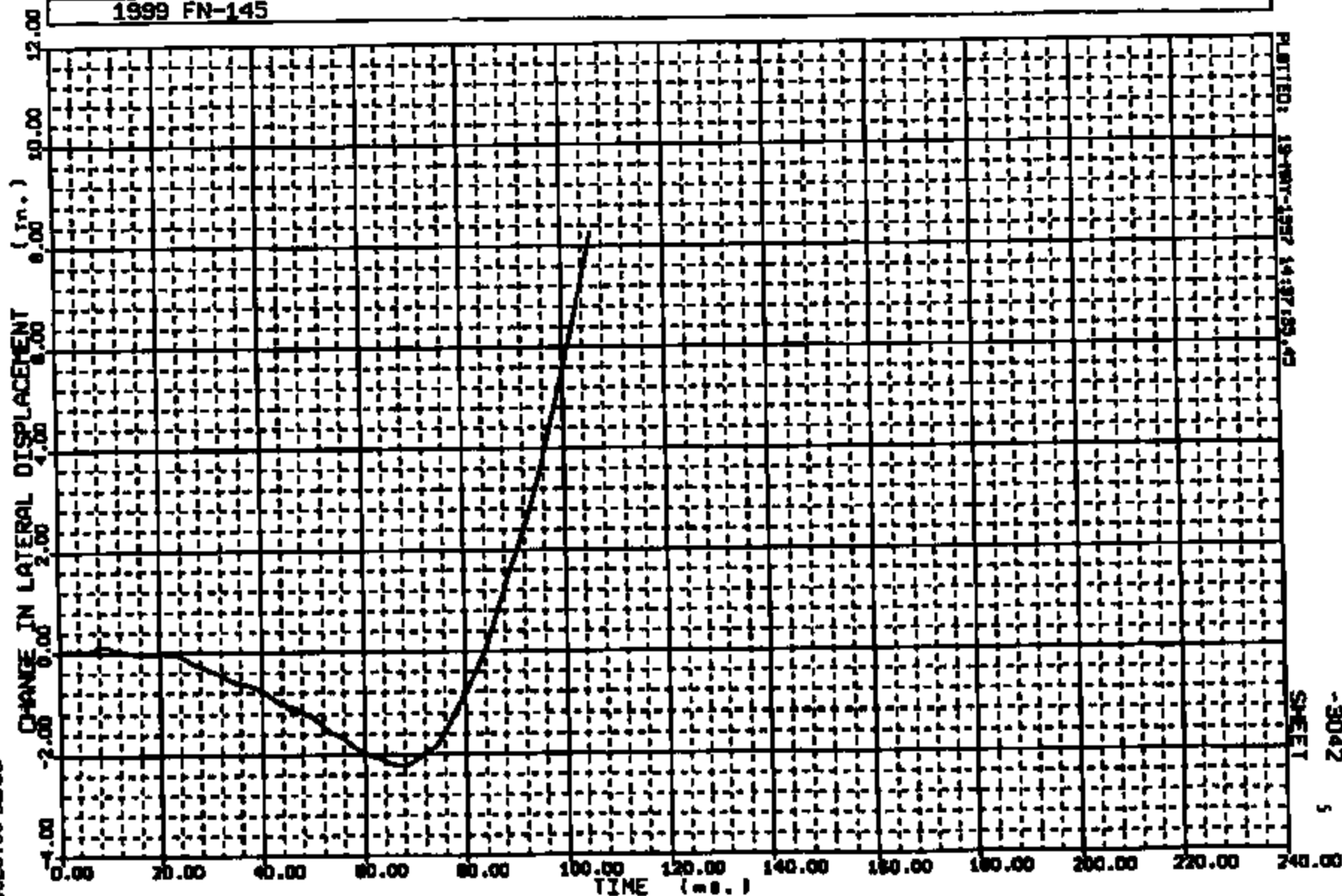
Time histories of the vehicle accelerations and other instrumentation are included in this report.

Time histories of vehicle dynamic displacements obtained from Film Analysis are included in this report.

Static displacements of various body points obtained by Dimensional Analysis are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

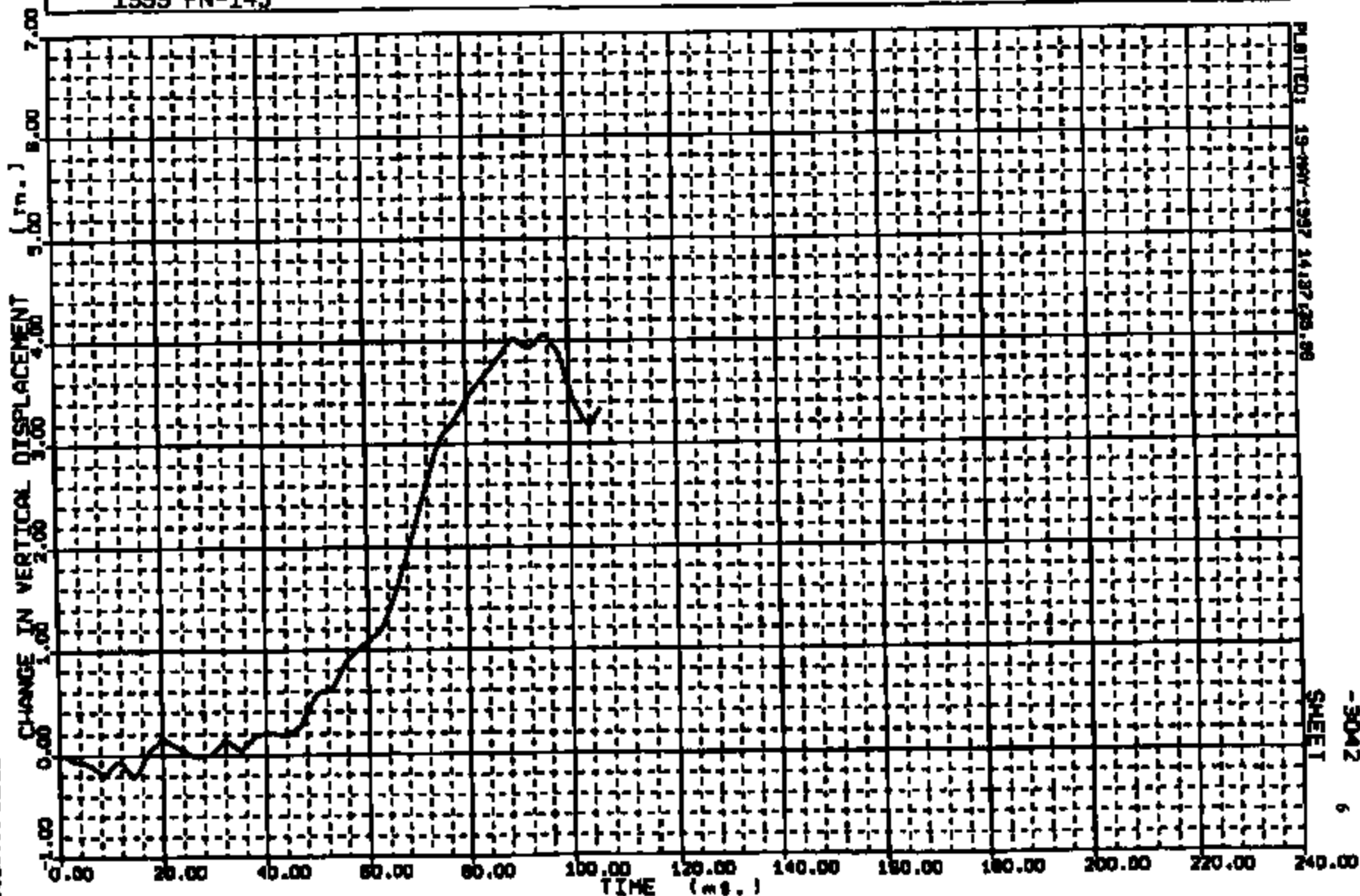
Y - AXIS:		DRIVER HEAD NRT ROOF C/L AT B-PILLAR		MAX = 6.278	at 105.00	MIN = -2.218	at 88.00
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD		PITCH CORRECTION		
10705	BARRIER	-3042	SCALE		NOT APPLIED		
1999 FN-145							



Y - AXIS: DRIVER HEAD WRT ROOF C/L AT B-PILLAR

MAX = 4.066 at 95.00 MIN = -.2118 at 14.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10705	BARRIER	-3042	SCALE	NOT APPLIED
1999 FN-145				

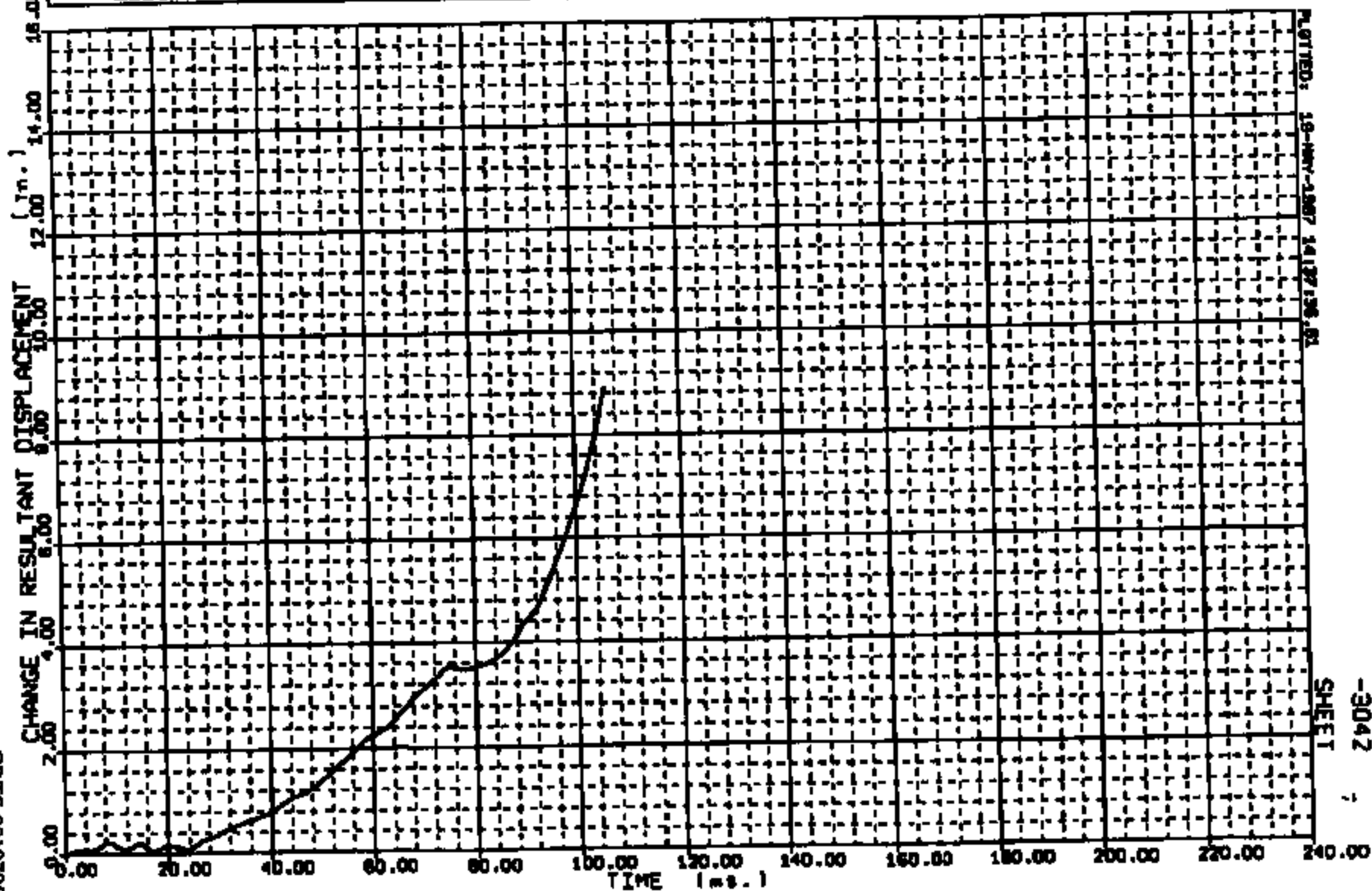


CRIS 0010705

Y - AXIS: DRIVER HEAD WRT ROOF C/L AT B-PILLAR MAX = 0.825 at 108.00 MIN = 0.0000E+00 at 0.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10705	BARRIER	-3042	SCALE	NOT APPLIED

1999 FN-145

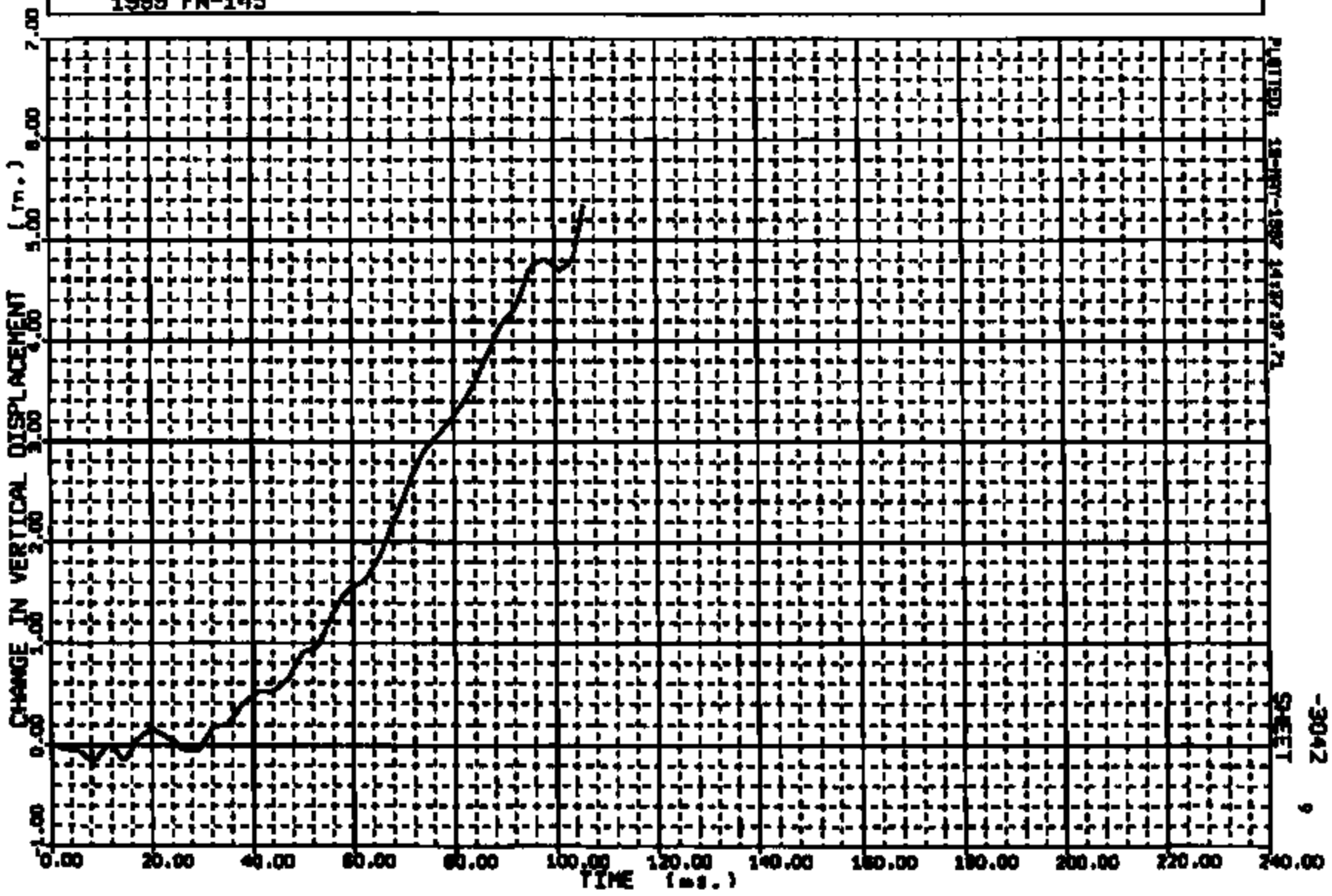


CRIS 0010705

Y - AXIS: DRIVER CHEST WRT ROOF C/L AT B-PILLAR MAX = 5.343 at 106.60 MIN = -.1507 at 9.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10705	BARRIER	-3042	SCALE	NOT APPLIED

1999 FN-145



CRTS 0010705

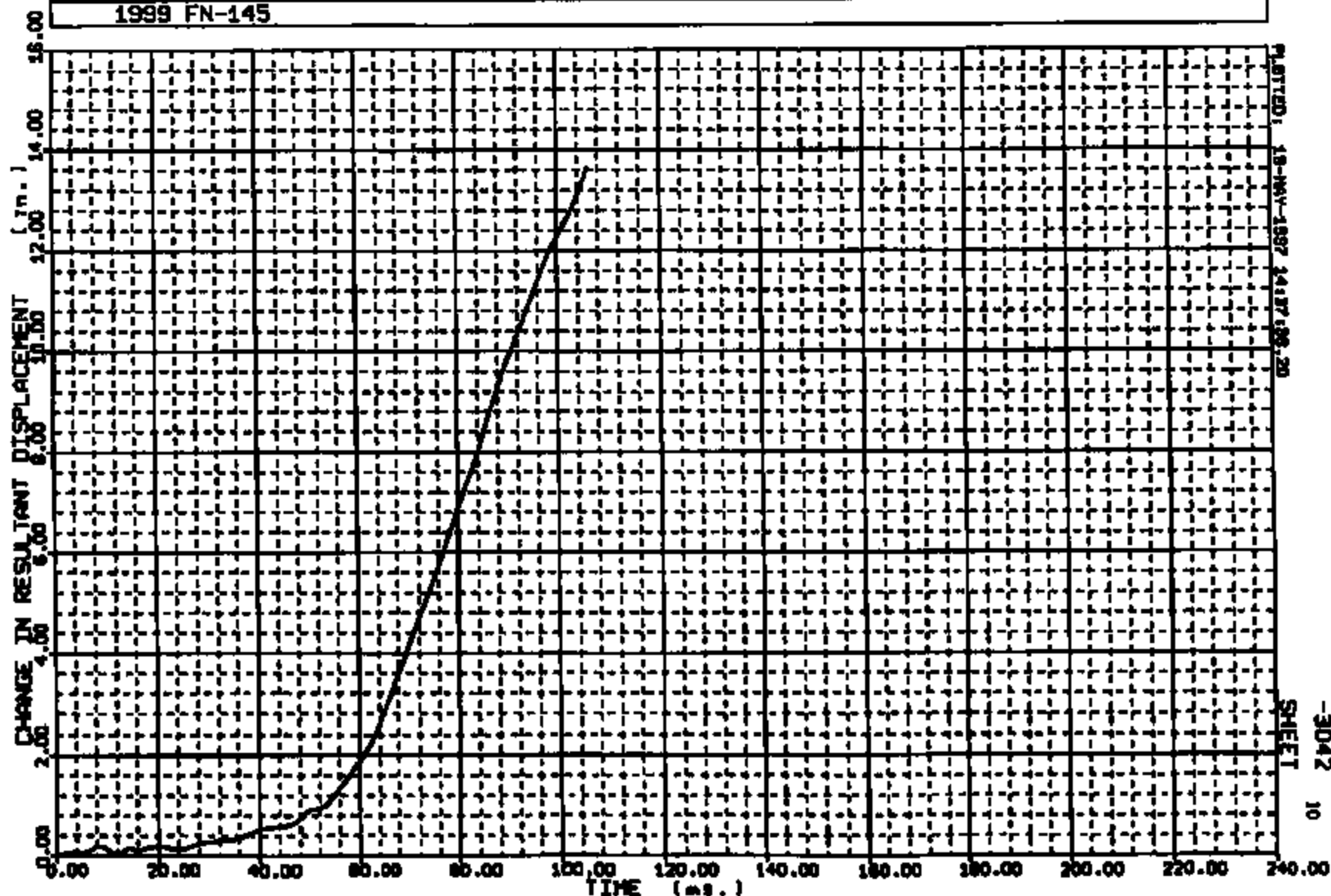
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SHEET

-3042 9

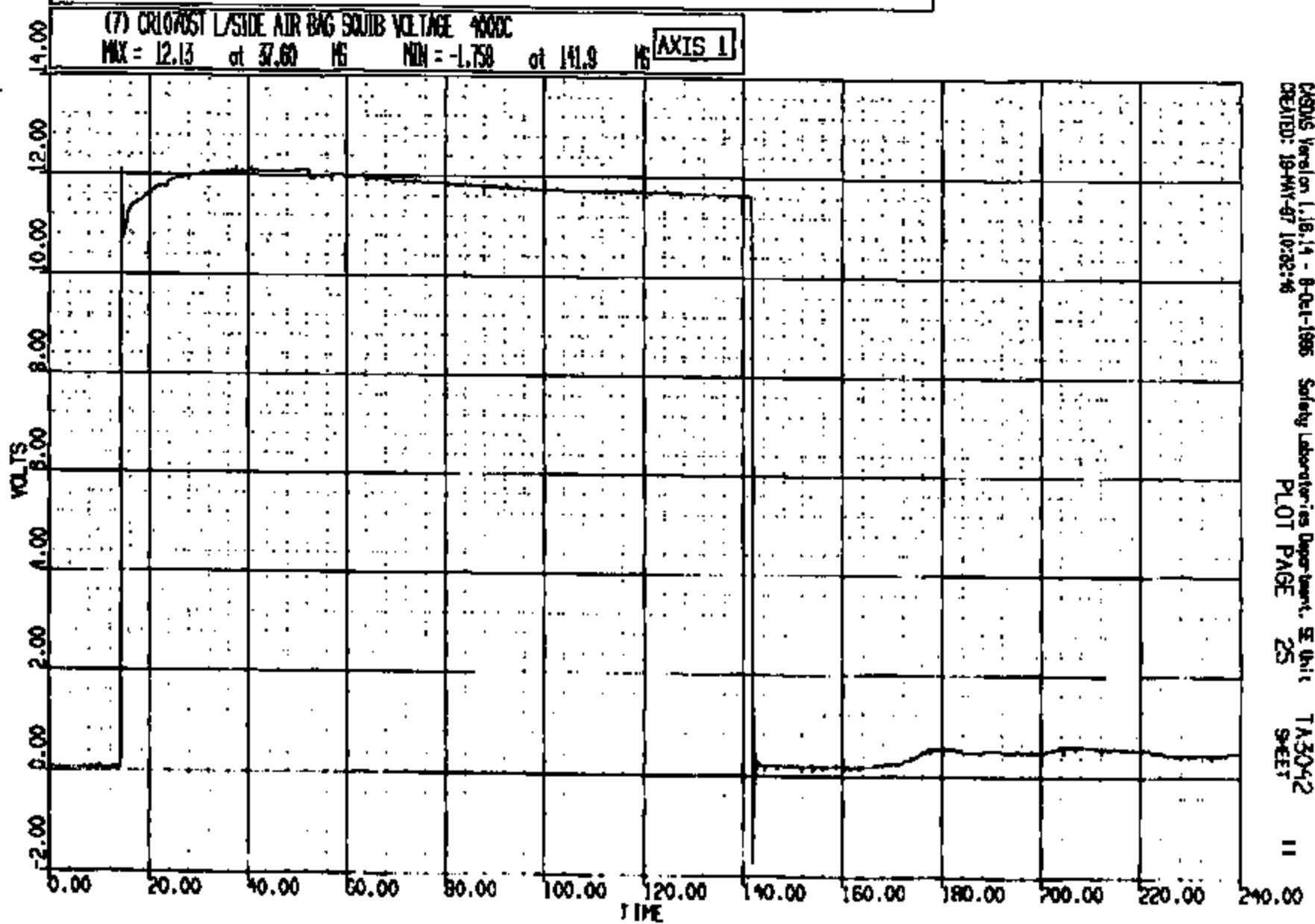
Y - AXIS: DRIVER CHEST WRT ROOF C/L AT B-PILLAR MAX = 13.88 at 106.00 MIN = 0.0000E+00 at 0.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10705	BARRIER	-3042	SCALE	NOT APPLIED
1999 FN-145				



CRIS 0010705

CR R= 10705 TO: TA3042 DATE: 070516 13:59:49
1999 FN-146



CR10705 Version 1.18.14 - 8-Oct-1999
CREATED: 19-MAY-97 10:32:46

Safety Laboratories Department, SE Unit
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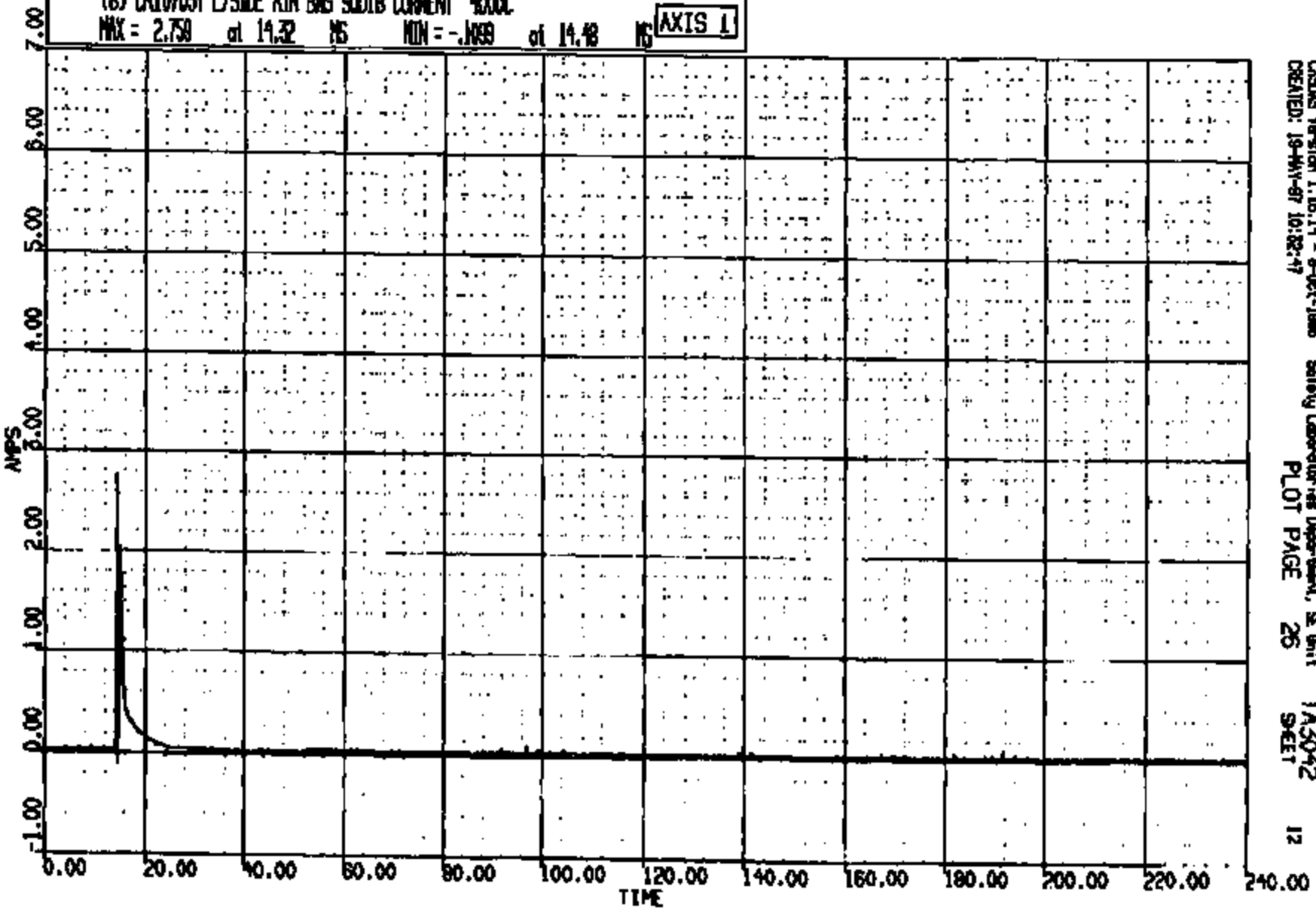
CR10705

CR R: 10708 TO: TA3042 DATE: 870818 18:38:48
1988 FN-145

(8) CR107051 L/SIDE AIR BAG SENS CURRENT 4000C

MAX = 2.758 at 14.32 MS MIN = -.0039 at 14.48 MS

AXIS 1



CADDS Version 1.16.14 - 8-Oct-1986
CREATED: 18-MAY-87 10:32:47

Safety Laboratories Department, SE Unit
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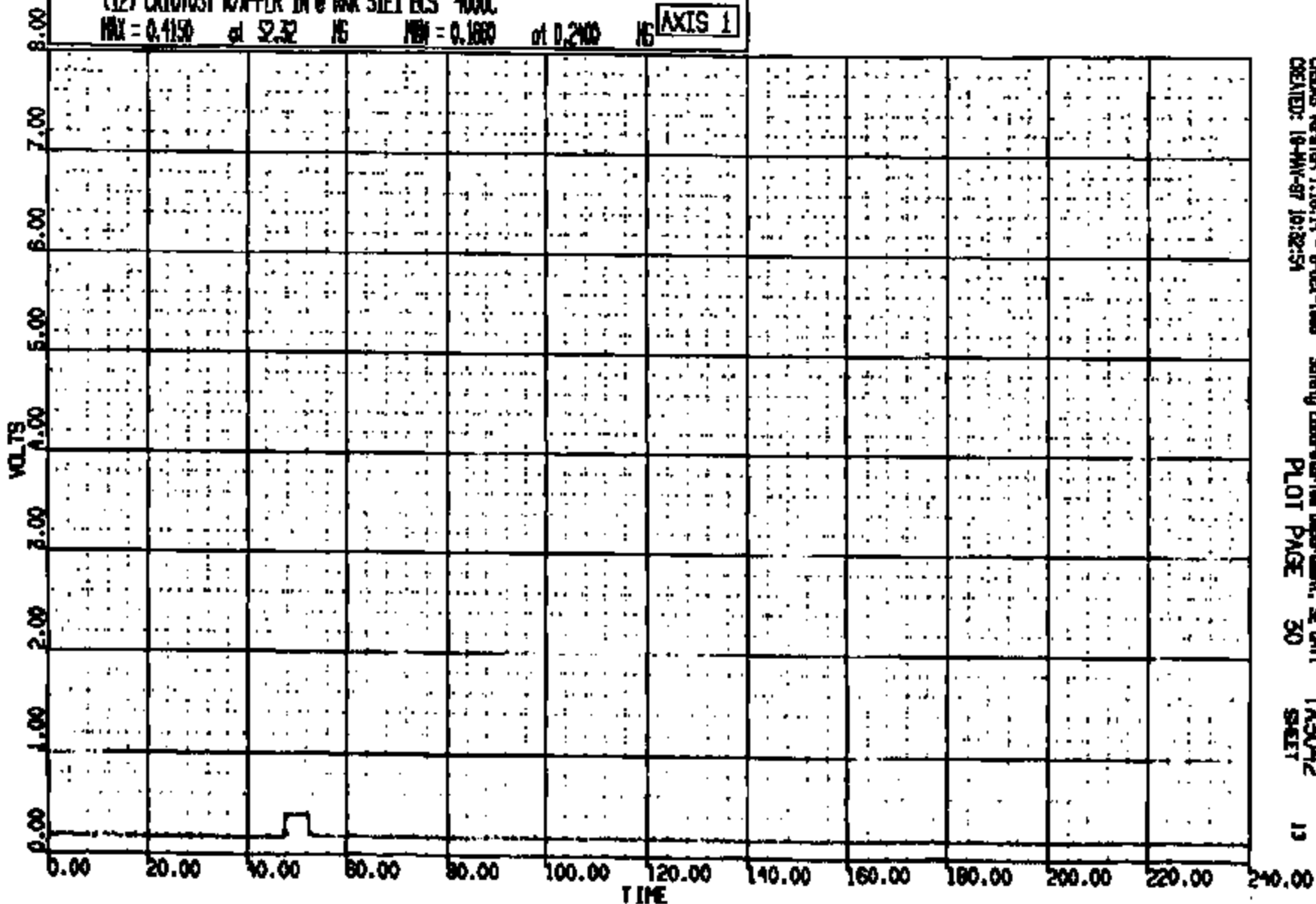
CRIS 0010705

CR R: 10705 TO: TA3042 DATE: 870516 15:59:48
1989 FN-148

(12) CR10705T R/A-PLR IN @ RWR STEI ECS 4000C

MAX = 0.4150 @ 52.32 HS MIN = 0.1000 @ 0.2400 HS

AXIS 1



CASMS Version 1.06.14 - 8-02-1988
CREATED: 18-MAY-87 10:32:54

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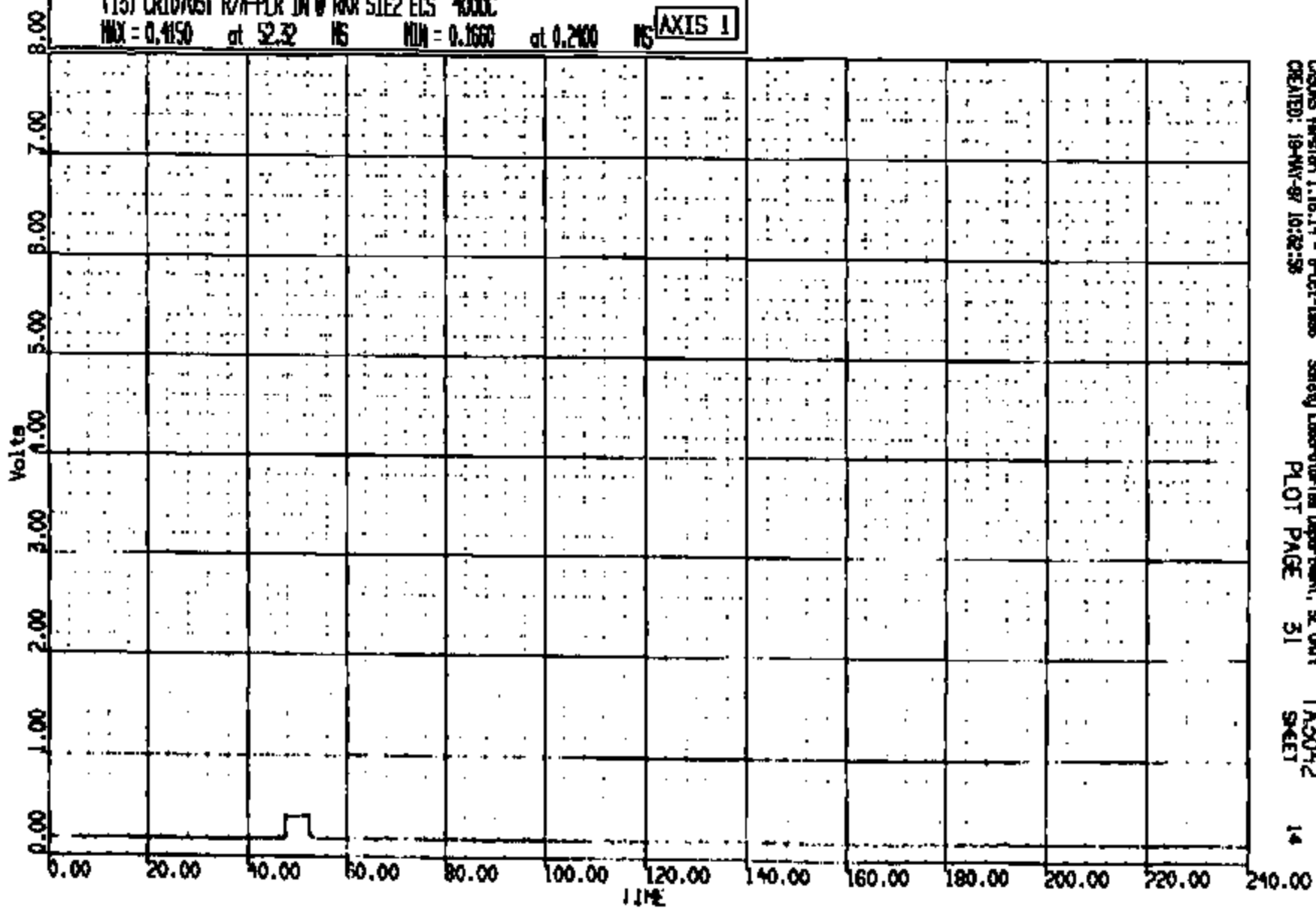
CRIS 0010705

CR R: 10705 TO: TA3042 DATE: 870516 15:58:48
1989 FN-148

(13) CR107051 R/A-PLR IN @ R001 SIE2 ECS 4000C

MAX = 0.4150 at 52.32 NS MIN = 0.1660 at 0.2400 NS

AXIS 1



CRTS Version 1.16.14 - 8-01-1986
CREATED: 18-MAY-87 10:52:58

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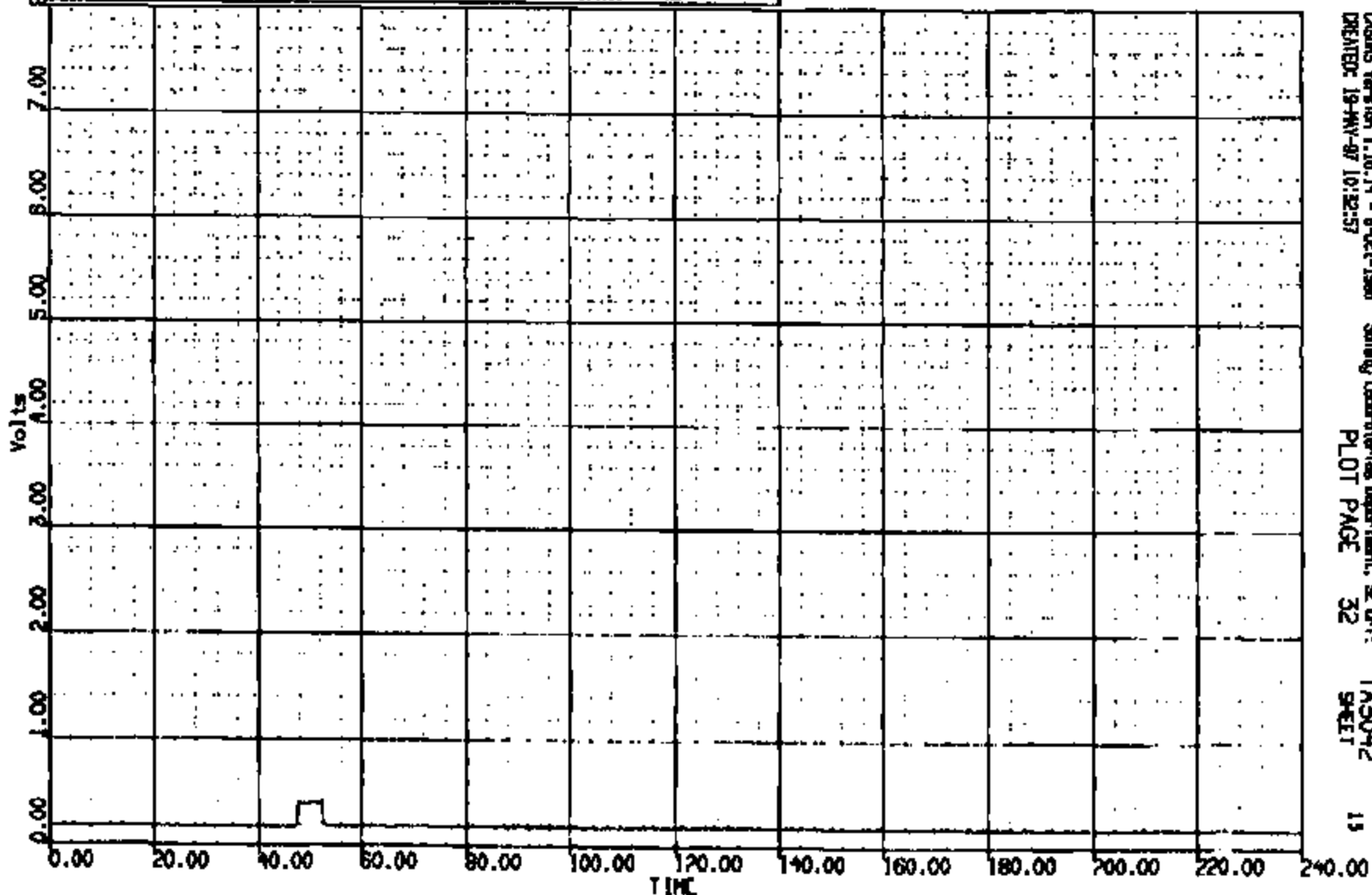
CRTS 0010705

CR R: 10705 TO: TA3042 DATE: 970518 18:39:48
1999 FN-146

(14) CR107051 R/A-PLR IN @ ROR SIE3 ECS 4000C

MAX = 0.4199 at 52.32 NS MIN = 0.1000 at 0.4000 NS

AXIS 1



CRSIS Version 1.16.14 - 8-Oct-1998
CREATED: 19-MAY-97 10:32:57

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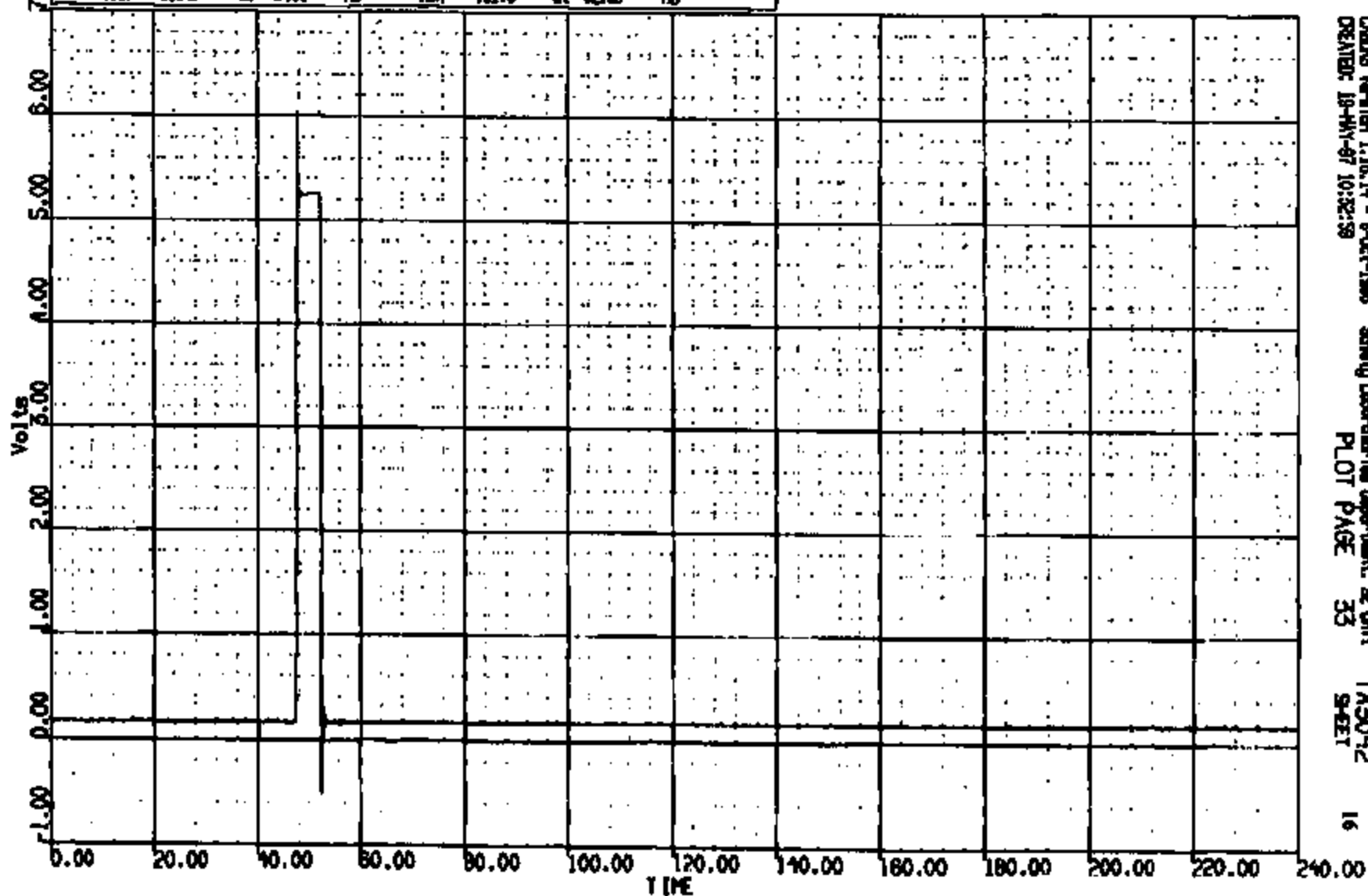
CRIS 0010705

CR R: 10705 TC: TA5042 DATE: 870618 18:59:48
1889 FN-146

(15) CR1000ST R/A-PLR IN @ NR SITE ECS 4000C

MAX = 6.040 at 47.60 MS MIN = -5.176 at 52.56 MS

AXIS 1



CHARTS Version 1.18.14 - 8-Oct-1986
CREATED: 18-MAY-87 10:32:58

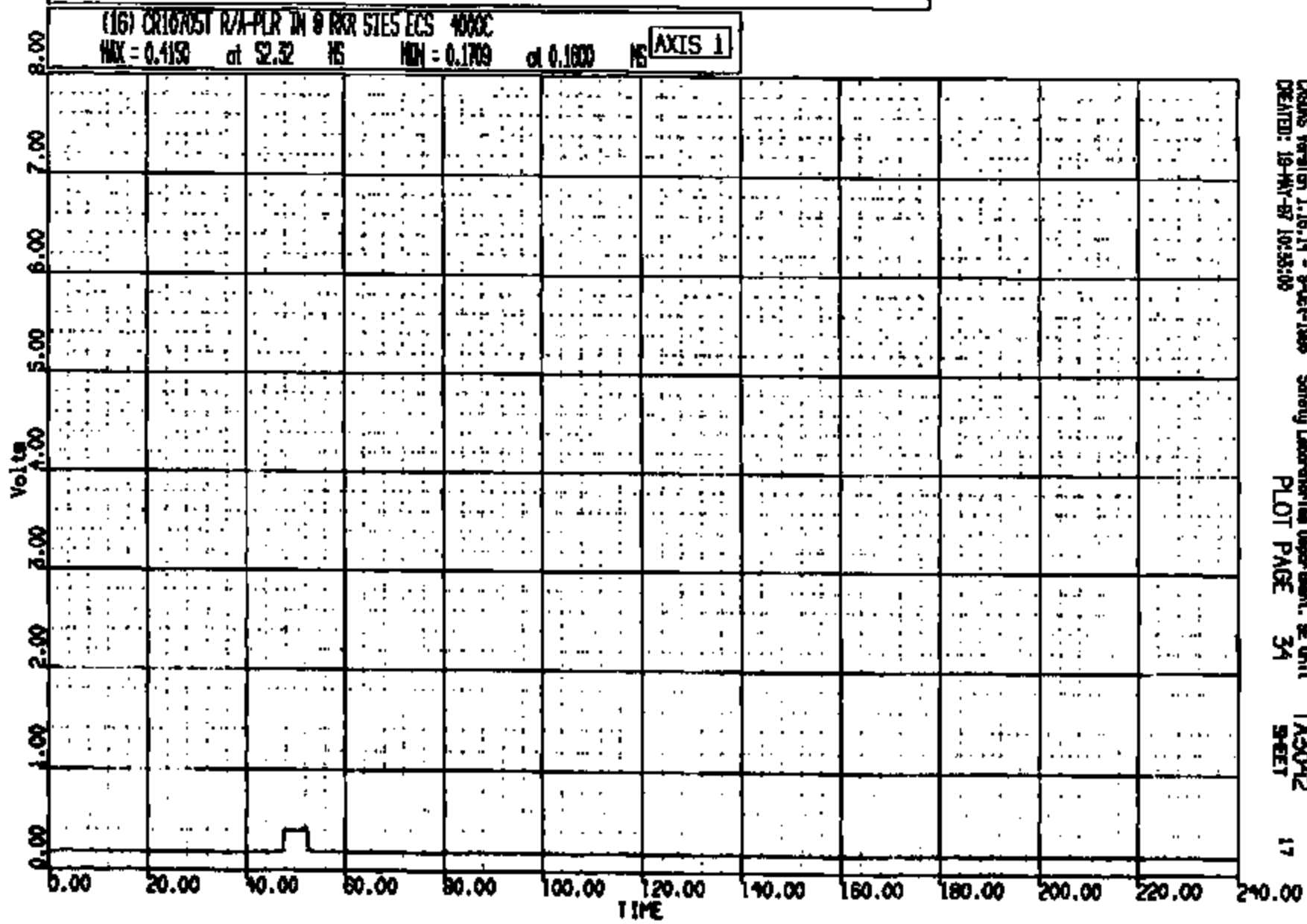
Safety Laboratories Department, SE Unit
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CRIS 0010705

CR N: 10705 TO: TAB042 DATE: 970518 13:59:49
1999 FN-145



CRS05 Version 1.16.11 - 9-Oct-1999
CREATED: 19-MAY-97 10:35:00

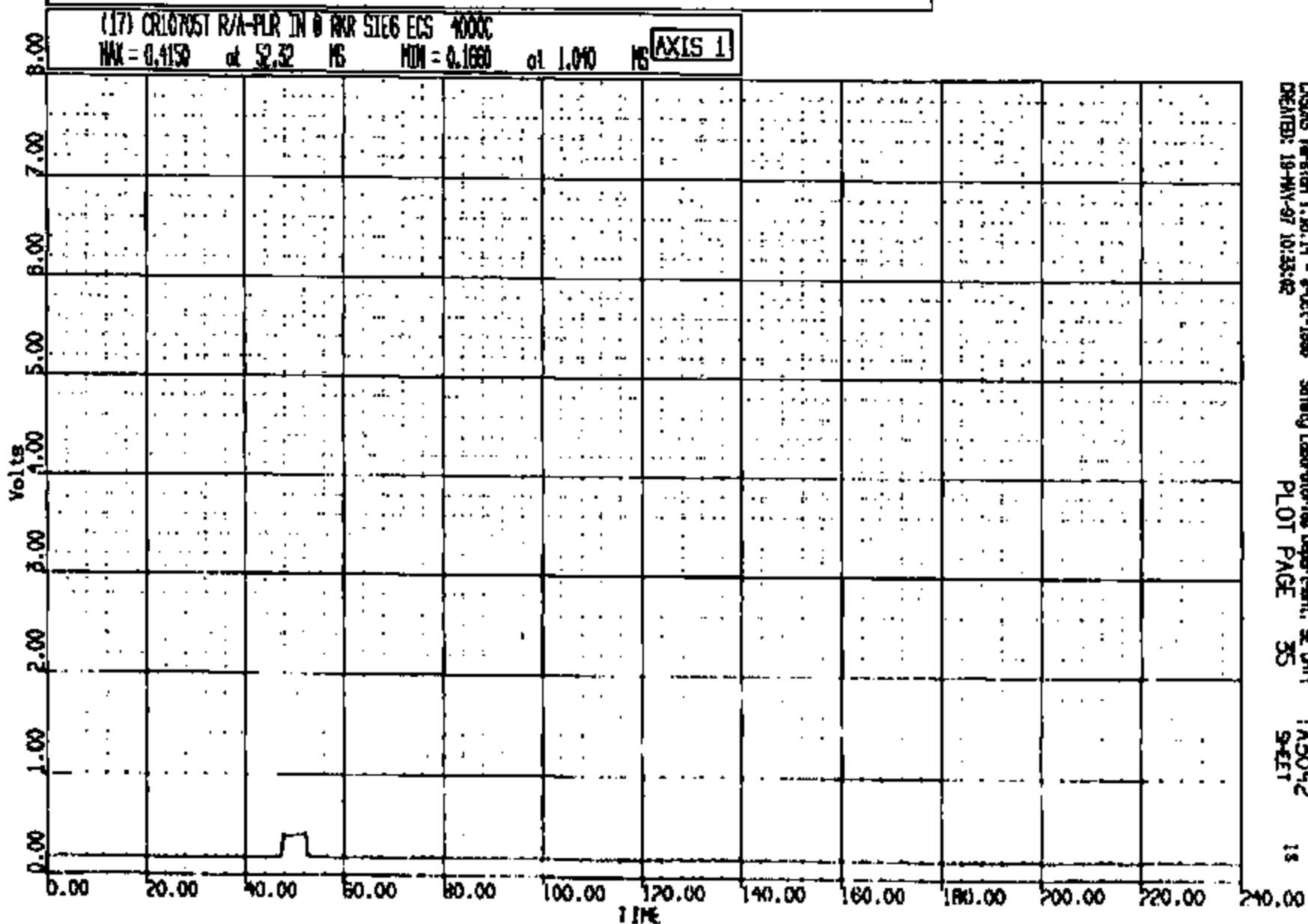
Safety Laboratories Department, BE Unit
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TAB042
9-ET 17

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CRIS 0010705

CR R: 10705 TO: TA5042 DATE: 870318 13:38:48
1899 FN-145



CLASIS Version 1.06.14 - 8-Oct-1988
CREATED: 18-MAY-87 10:33:02

Safety Laboratories Department, SE Unit
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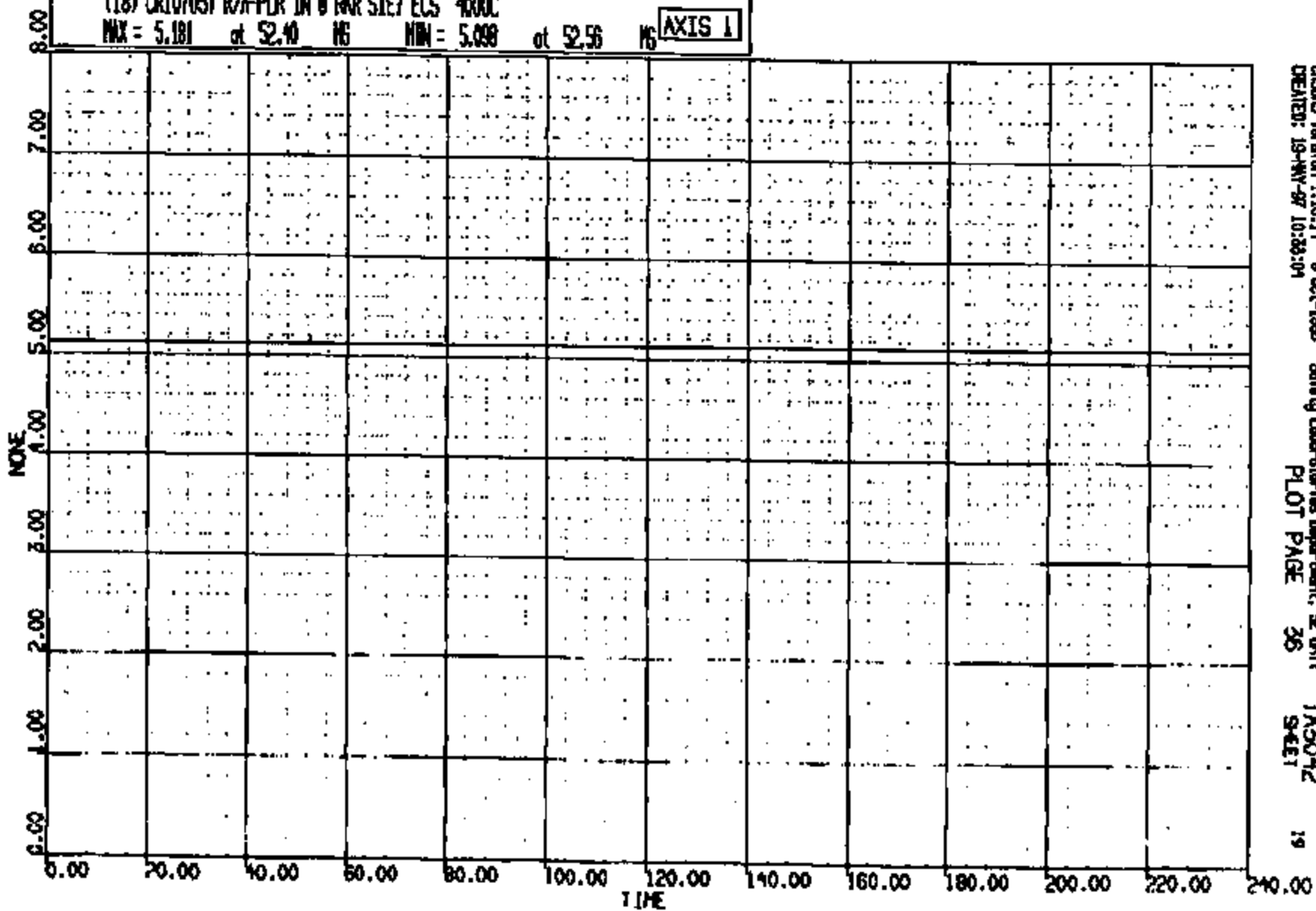
CRIS 0010705

CR R: 10705 TQ: TA3042 DATE: 970516 13:59:49
1999 FN-145

(18) CR107051 R/A-PLR IN 0 R/R SIE7 ECS 4000C

MAX = 5.181 at 52.40 HG MIN = 5.098 at 52.56 HG

AXIS 1



CASMS Version 1.16.14 - 8-Oct-1995
CREATED: 19-MAY-97 10:38:04

Safety Laboratories Department, SE Unit
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CRIS 0010705