THE STATE OF SOUTH CAROLINA
In the Court of Appeals

APPEAL FROM BAMBERG COUNTY
Court Of Common Pleas

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SC COURT OF APPEALS

The Honorable Doyet A. Early III, Circuit Court Judge

Case No: 2008-CP-05-235

Laura Riley as the Personal Representative
of the Estate of Benjamin Riley.....Respondent,

v.

Ford Motor Company.....Appellant.

RECORD ON APPEAL – VOLUME III

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FINAL TEST REPORT

Global Test Operations
Advanced Vehicle Technology

		Test Order No.	T-A0803
		Work Task W.O. No.	R11
TO:	J. Mark	Test Dates	9/10/97
	M. E. Tokarsky	Date Reported	1/16/98
		Sheet	1 of 230

SUBJECT: Crash Test 10826 (Right Side Impact at 33.8 ± 0.4 mph, 54.4 ± 0.6 km/h) - 1999 PN-96 (4X4) Super Cab
Impacted by an NHTSA Moving Deformable Barrier crabbed at a 27° angle

REQUESTED BY: Vehicle Safety and CAE Department, Advanced Vehicle Technology - P. Culkeen

OBJECT: To obtain development data relative to FMVSS 214 and safety design guideline door openability.

SUMMARY OF TEST RESULTS:

- See Section 1 for injury criteria data.
- See Section 2.0 for post-impact door openability data.

C. Mack
C. Mack
Product Test Engineer

Concur: R. Burns 1/16/98
Section Supervisor
Operations Engineering Section

VEHICLE DATA: (TARGET)

Make and Model	1999 PN-96 (4X4) Super Cab (Structural Prototype)
ID Numbers	1FTDX1862VNA95358, 294-W-861, F59243
Power Train	5.4L, EFI, Automatic (E40D) Transmission
Fuel Tank(s)	Usable Capacity: 30.0 gal. (114L) Test Condition: Empty
Front Seat(s)	Type: 40/60 Split Bench Cover: Leather Tracks/Position: Manual/Mechanical Mid Seat Backs Position: Adjustable/21.2° Rear of Vertical Head Restraints/Position: Integral/Fixed
Rear Seat(s)	Type: Bench Cover: Leather
Restraint	RF: 3-Point Continuous Loop Active Belt RR: 3-Point Continuous Loop Active Belt
Occupants	RF & RR: BIO-SID Instrumented Dummy
Test Weight	Front: 3469 lb (1574 kg) Rear: 2661 lb (1207 kg) Total: 6130 lb (2781 kg)
Tires	Front: P235/70R16 Rear: P235/70R16 Spare: Removed
Significant Content or Accessories	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel

CART DATA: (BULLET)

Test Weight	The NHTSA Moving Deformable Barrier test weight was 3057 lb (1387 kg).

GENERAL TEST COMMENTS:

1. Test Procedure

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

- Side Impact Occupant Crash Protection, ST-15 dated October 22, 1992.
- Post-Impact Door Opening Evaluation, Proposal P4-103D dated July 25, 1983.

1.1 Vehicle Alignment

The cart wheels were positioned (crabbed) at 27° to the left of the cart centerline. The longitudinal centerline of the cart was perpendicular to the longitudinal centerline of the test vehicle at impact. The cart was aligned so that (at impact) a longitudinal plane tangent to the right side of the cart passed through the impact reference point, 20 inches rearward of front axle centerline.

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 10826001 through 10826051.

TEST RESULTS:

1. Occupant Injury Data (FMVSS 214)

	R. F. Dummy	R. R. Dummy
Head Injury Criteria (HIC)	44	61
Interval t1	65 ms	58 ms
t2	101 ms	70 ms
Upper Rib FIR Filter	16 g	19 g
Lower Rib FIR Filter	47 g	51 g
Lower Spine FIR Filter (T12)	18 g	21 g
Pelvis FIR Filter	15 g	34 g
Thoracic Trauma Index (TTI)	33	36

Time histories of the dummy instrumentation are included in this report.

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 Door Openability

The left front door could be unlatched and opened manually following impact.

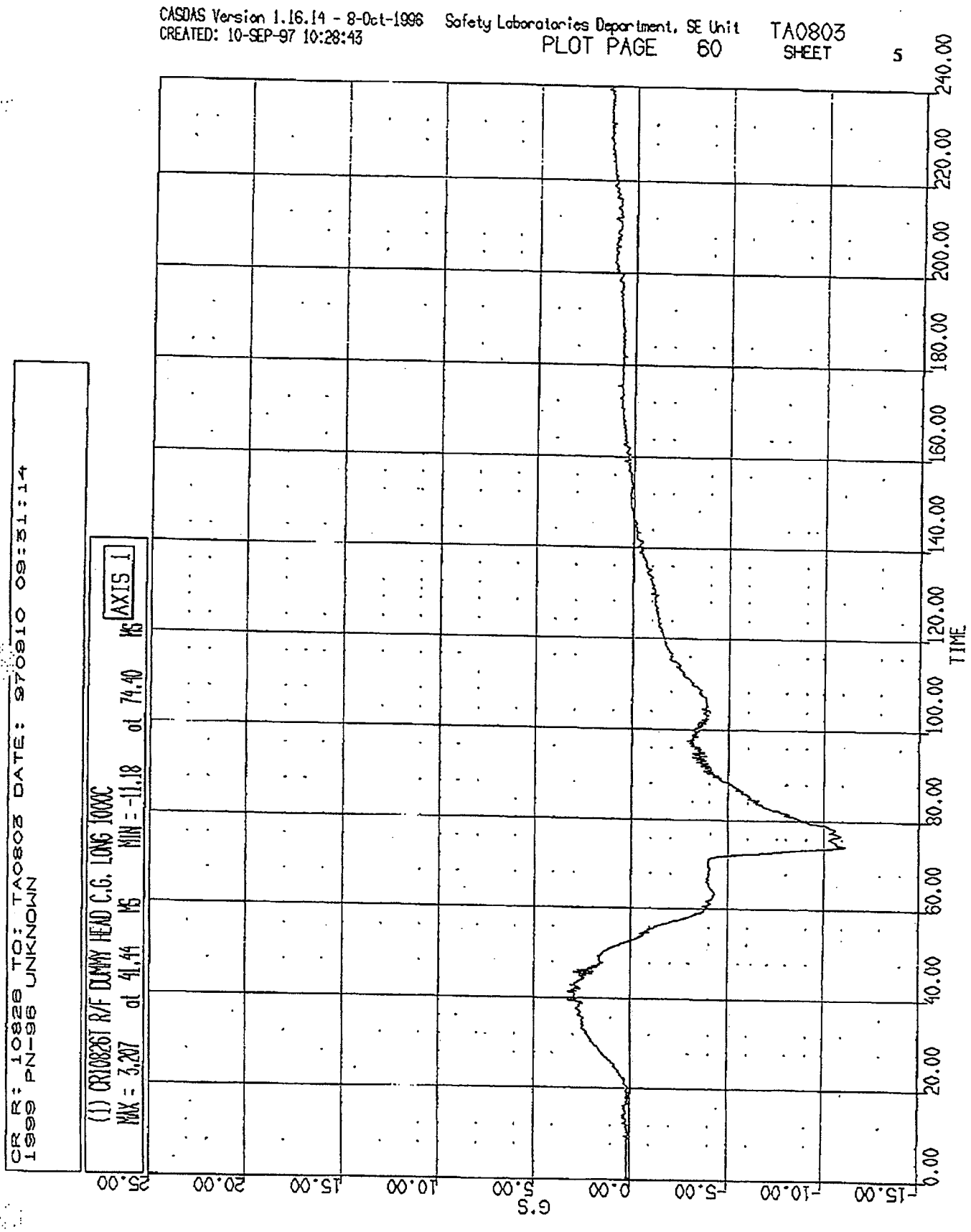
3. Vehicle Displacement and Instrumentation Data

Time histories of the vehicle/cart 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.



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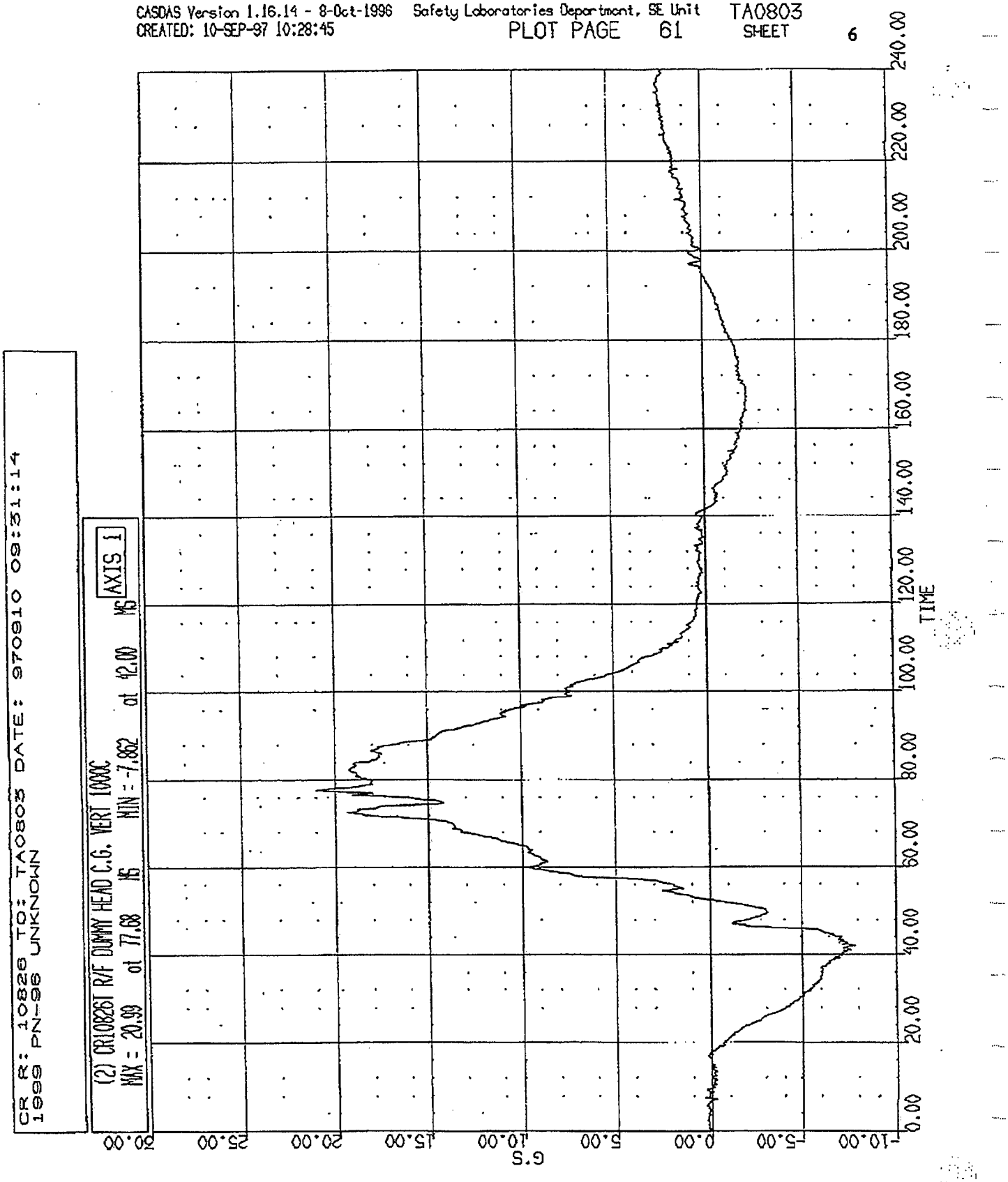

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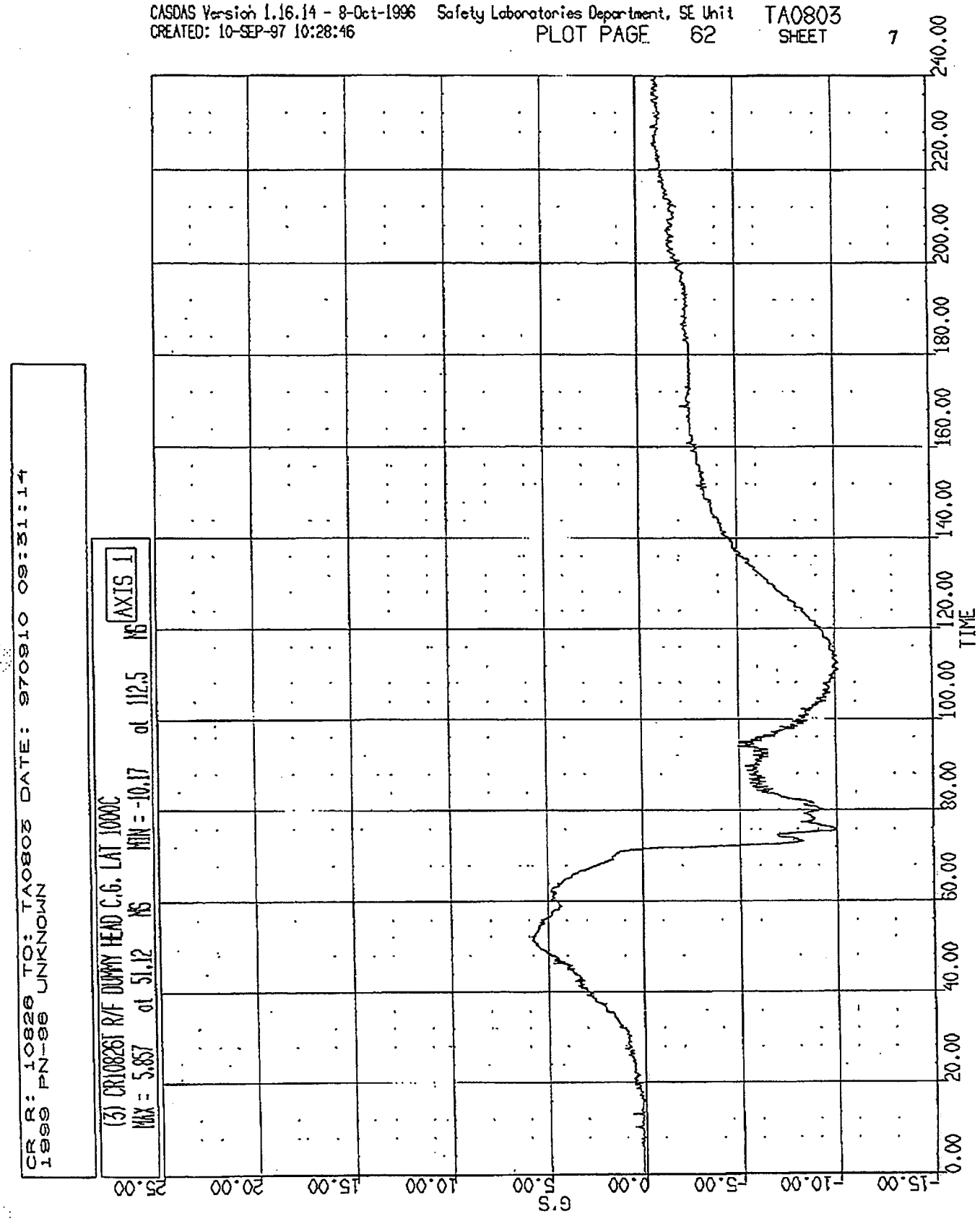

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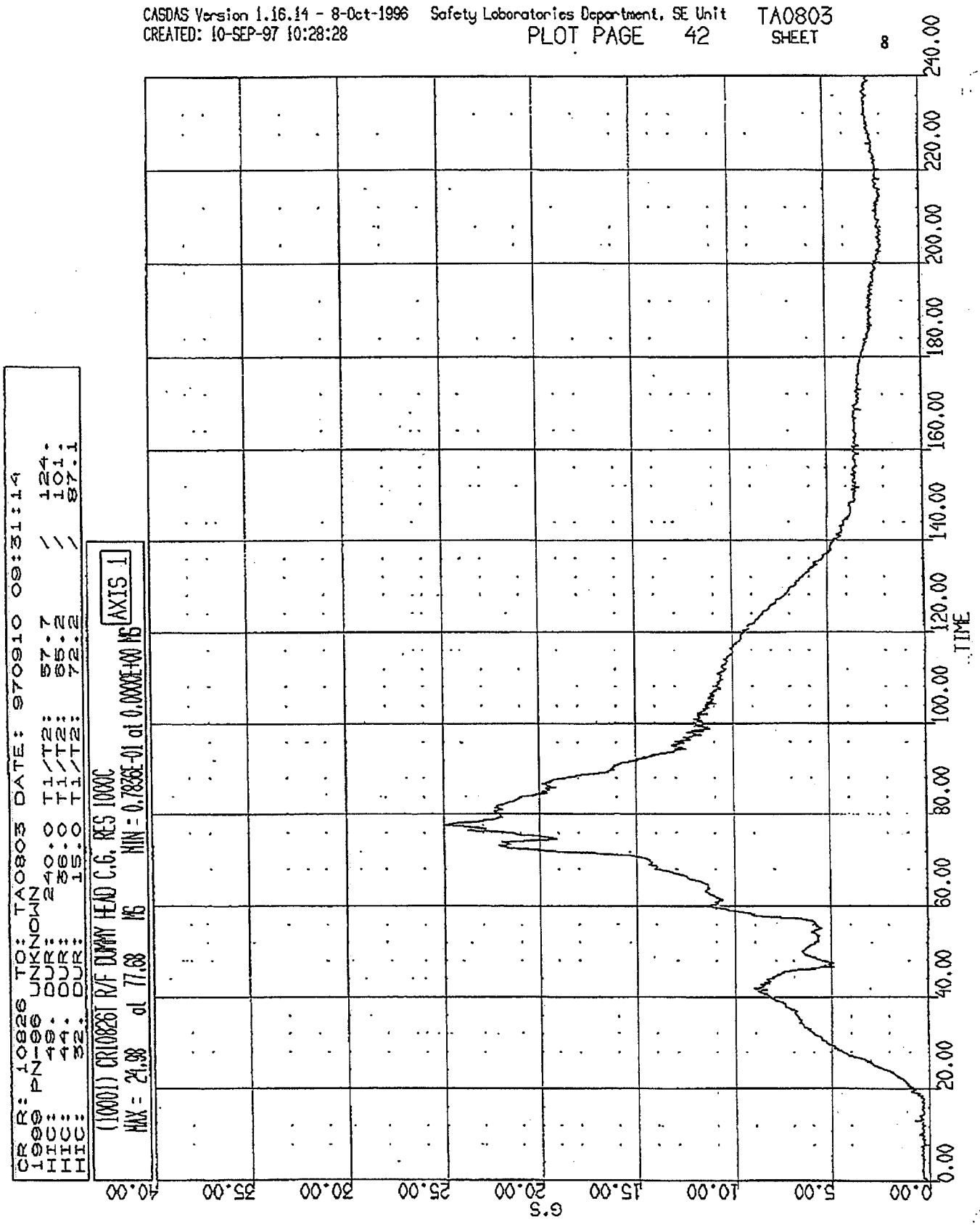
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HIIC: 44. DUR: 56.00 T1/T2: 65.22 / 101.
HIIC: 32. DUR: 15.00 T1/T2: 72.2 / 87.1
(10001) CR10826T R/F DUMMY HEAD C.G. RES 1000C
MAX = 24.98 at 77.68 MS MIN = 0.7826E-01 at 0.0000E+00 MS
AXIS 1
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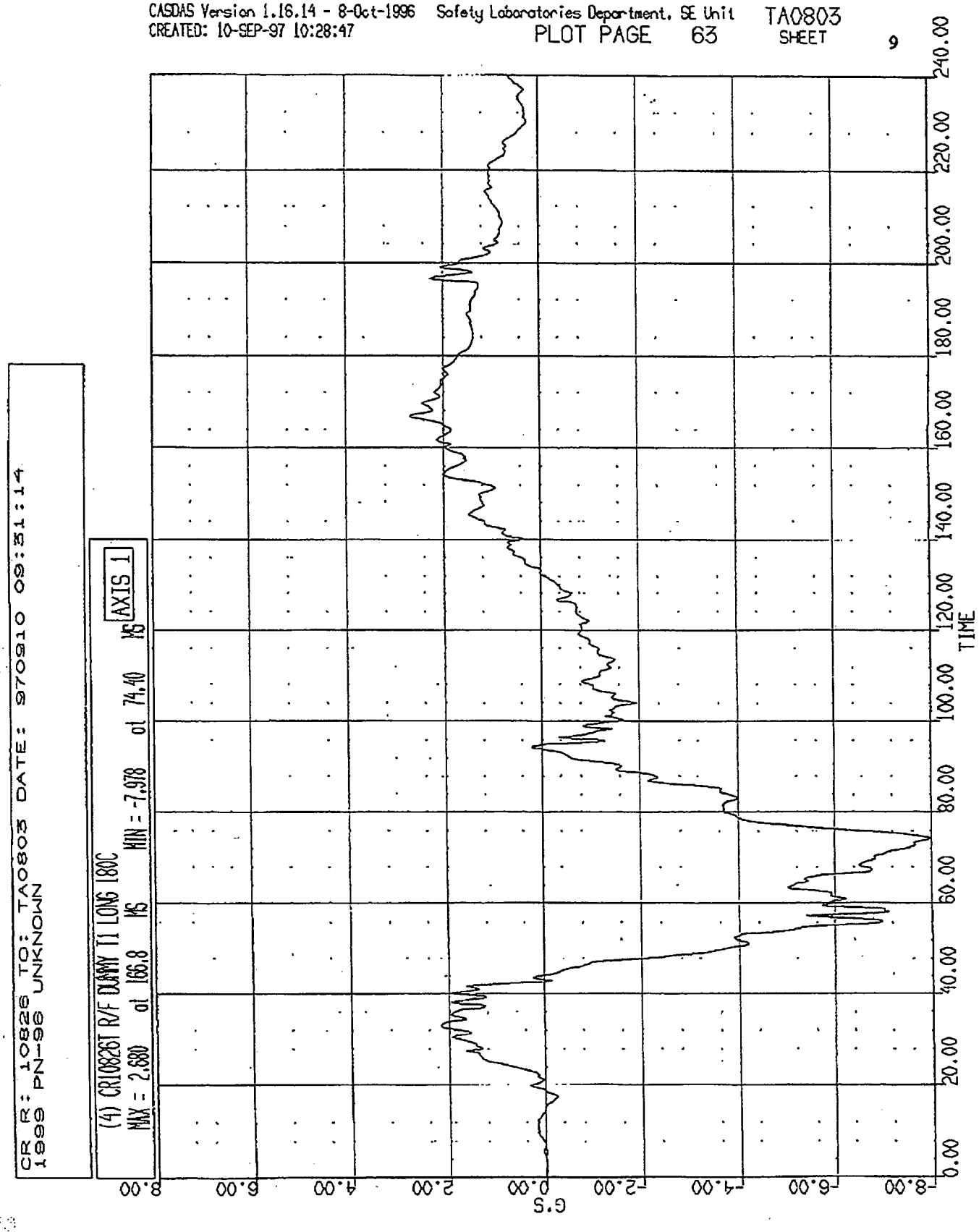

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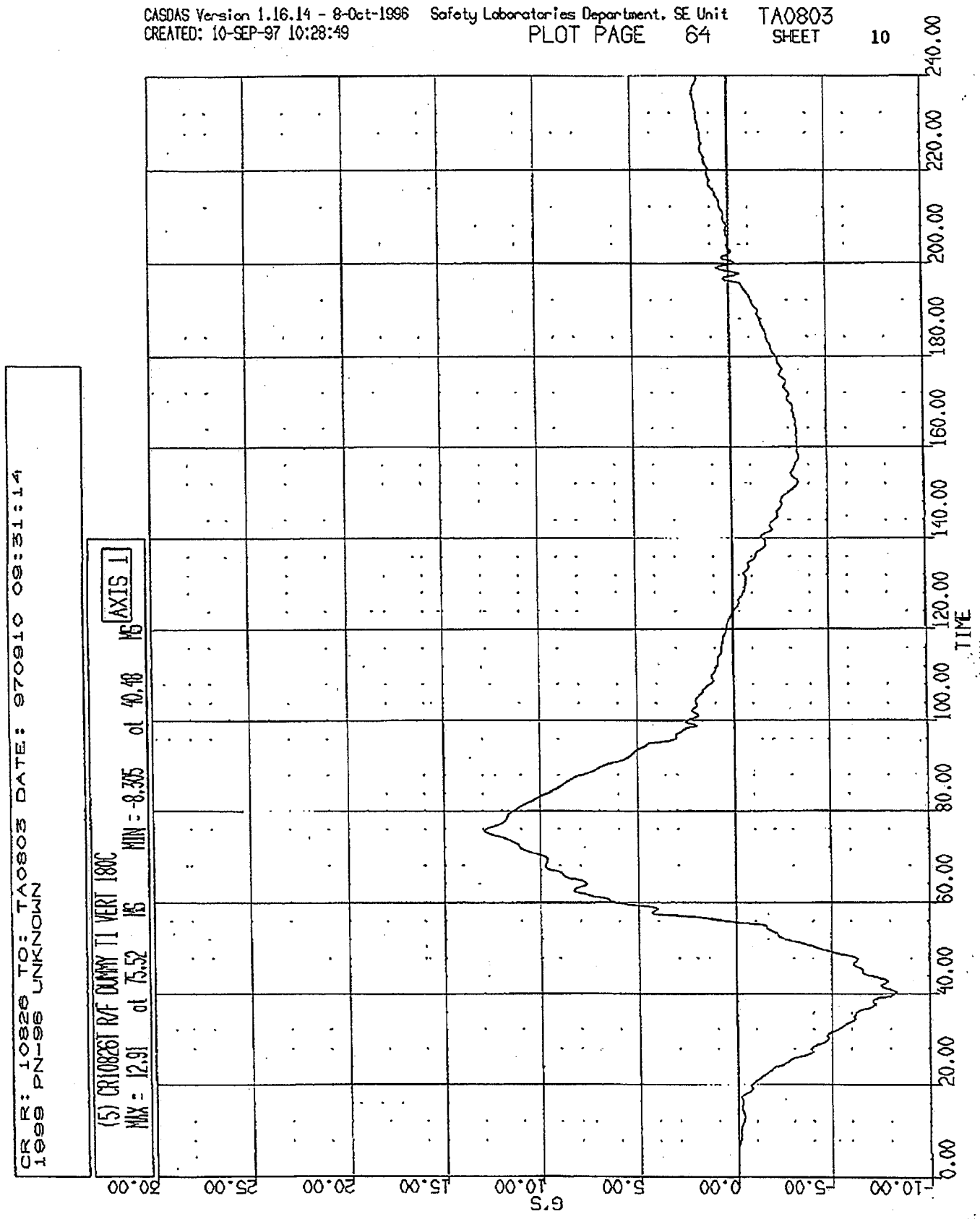

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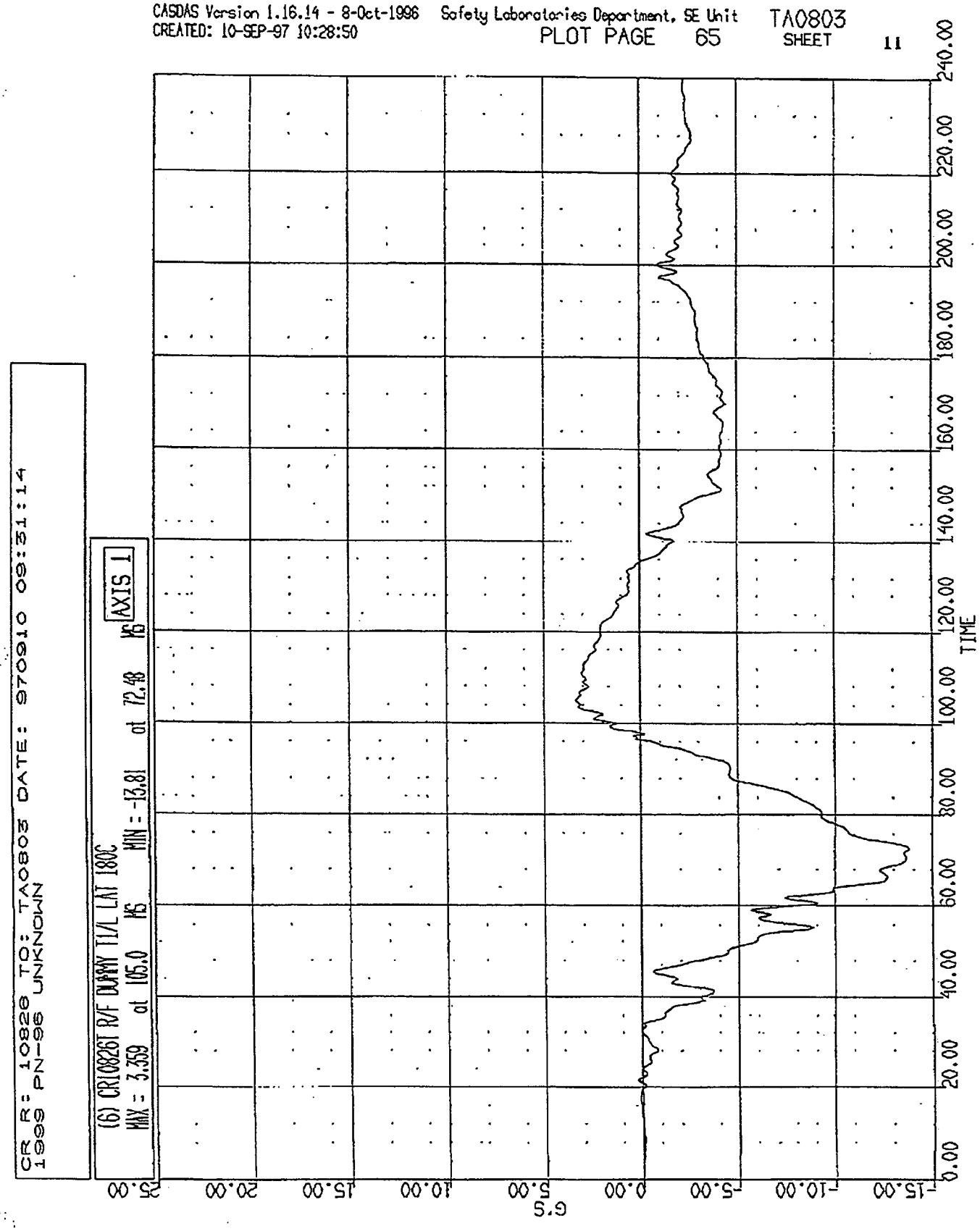

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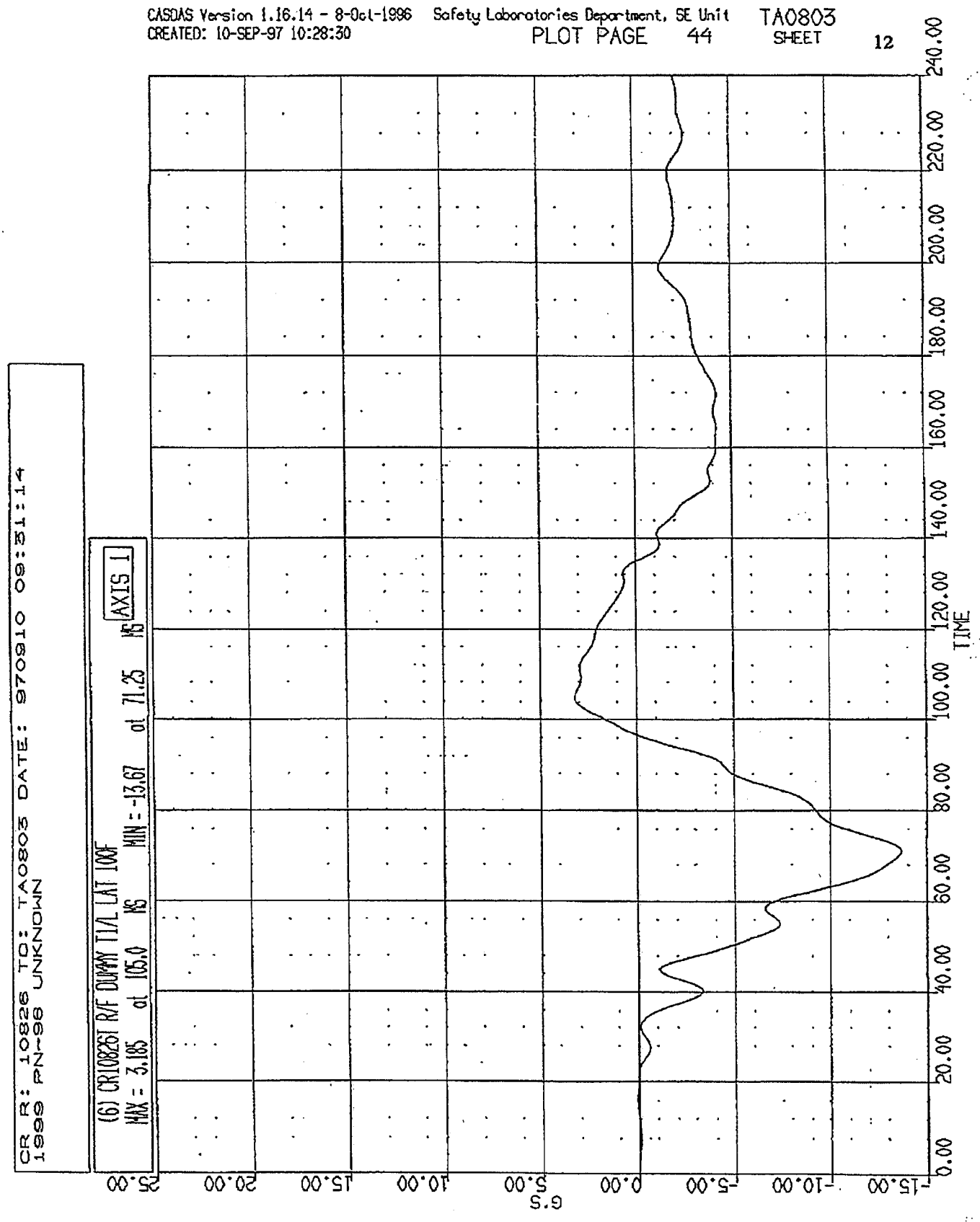

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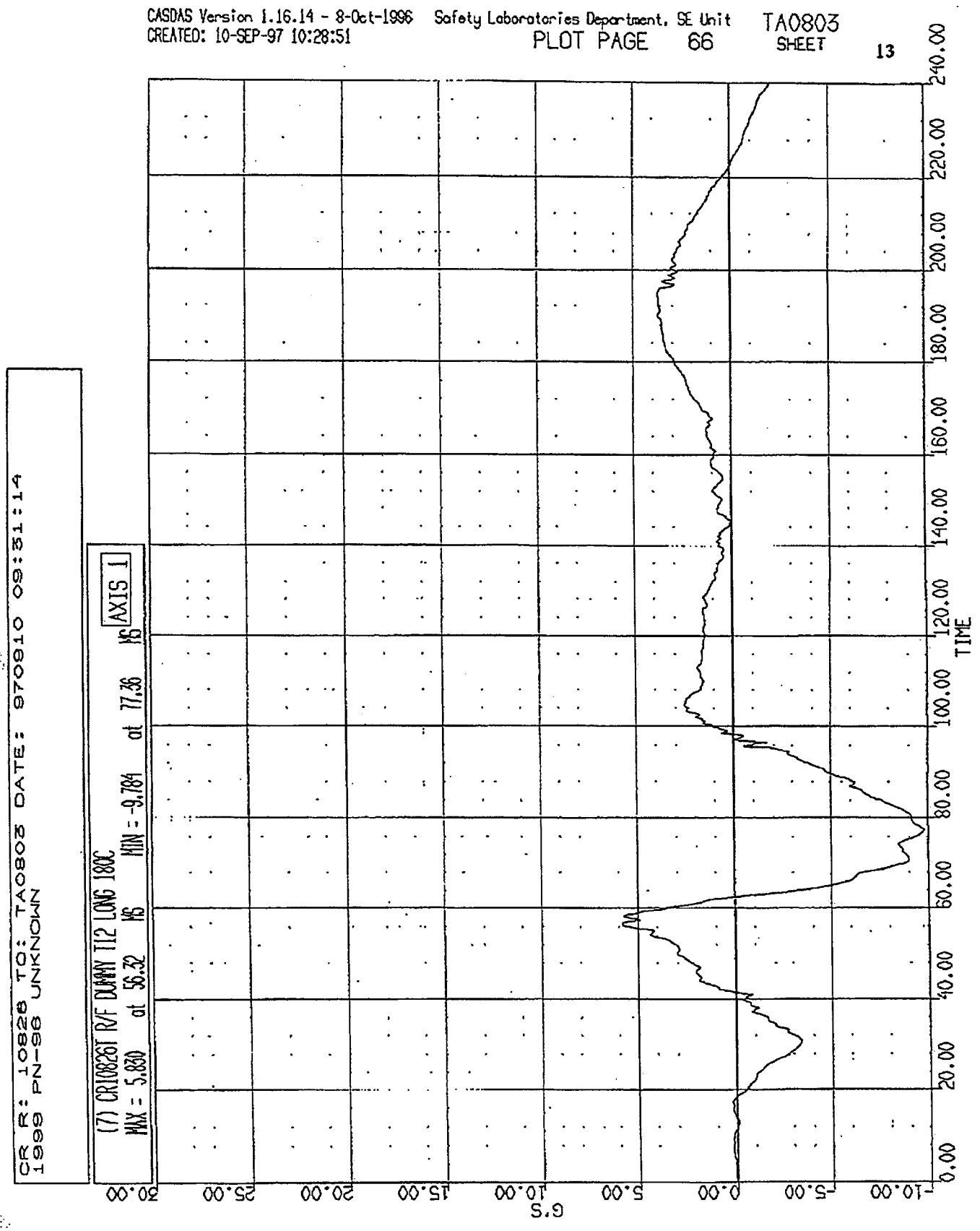

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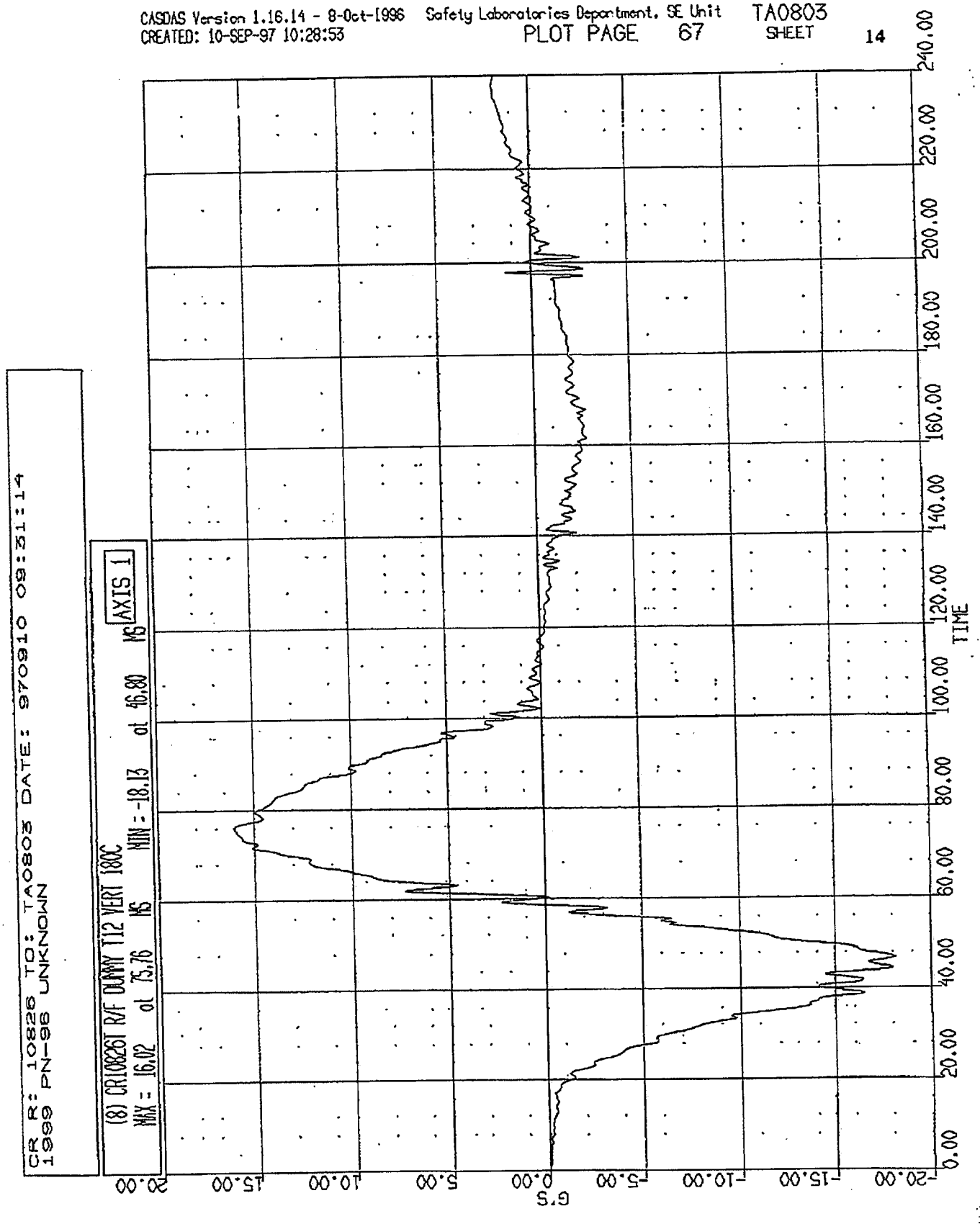

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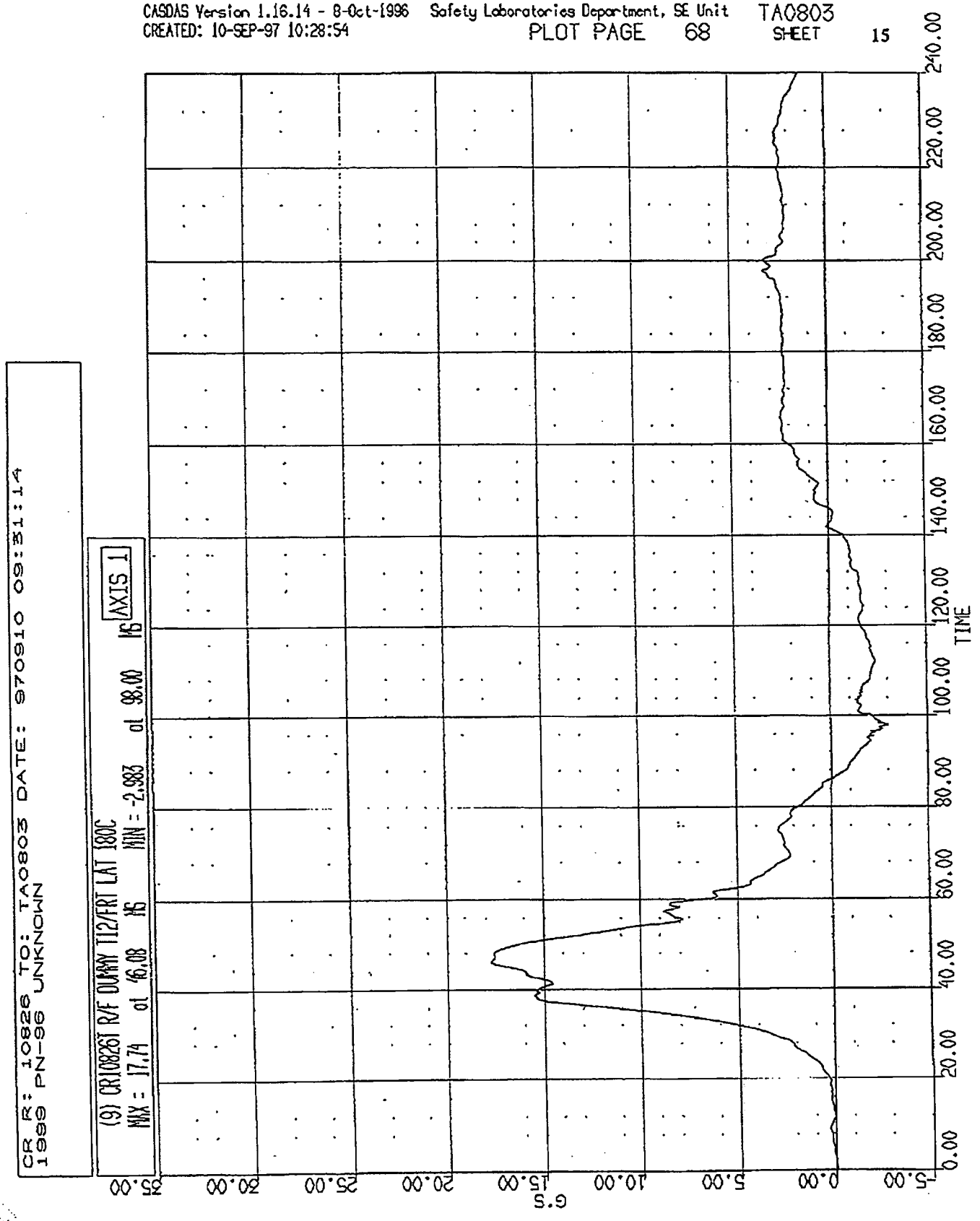

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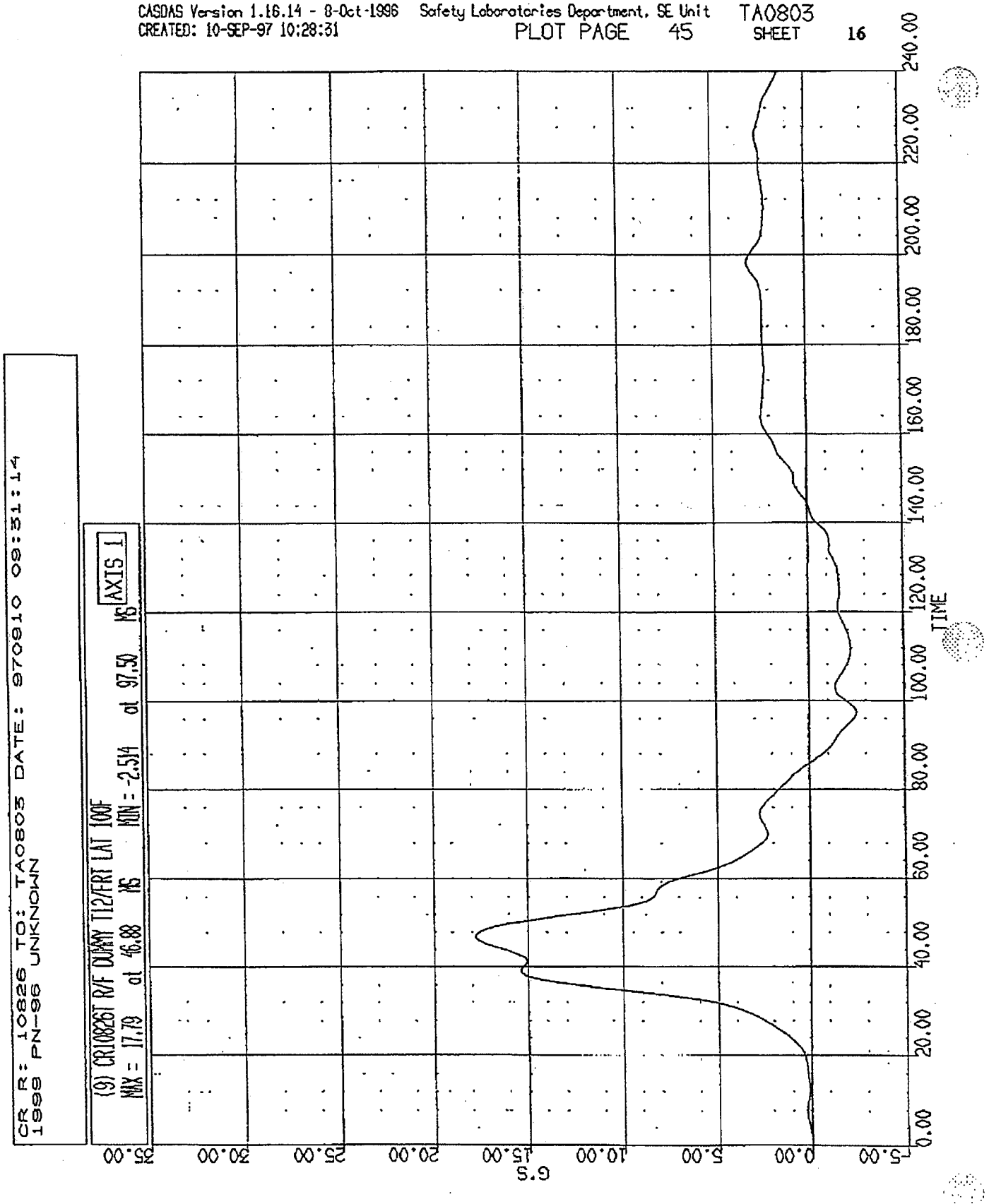

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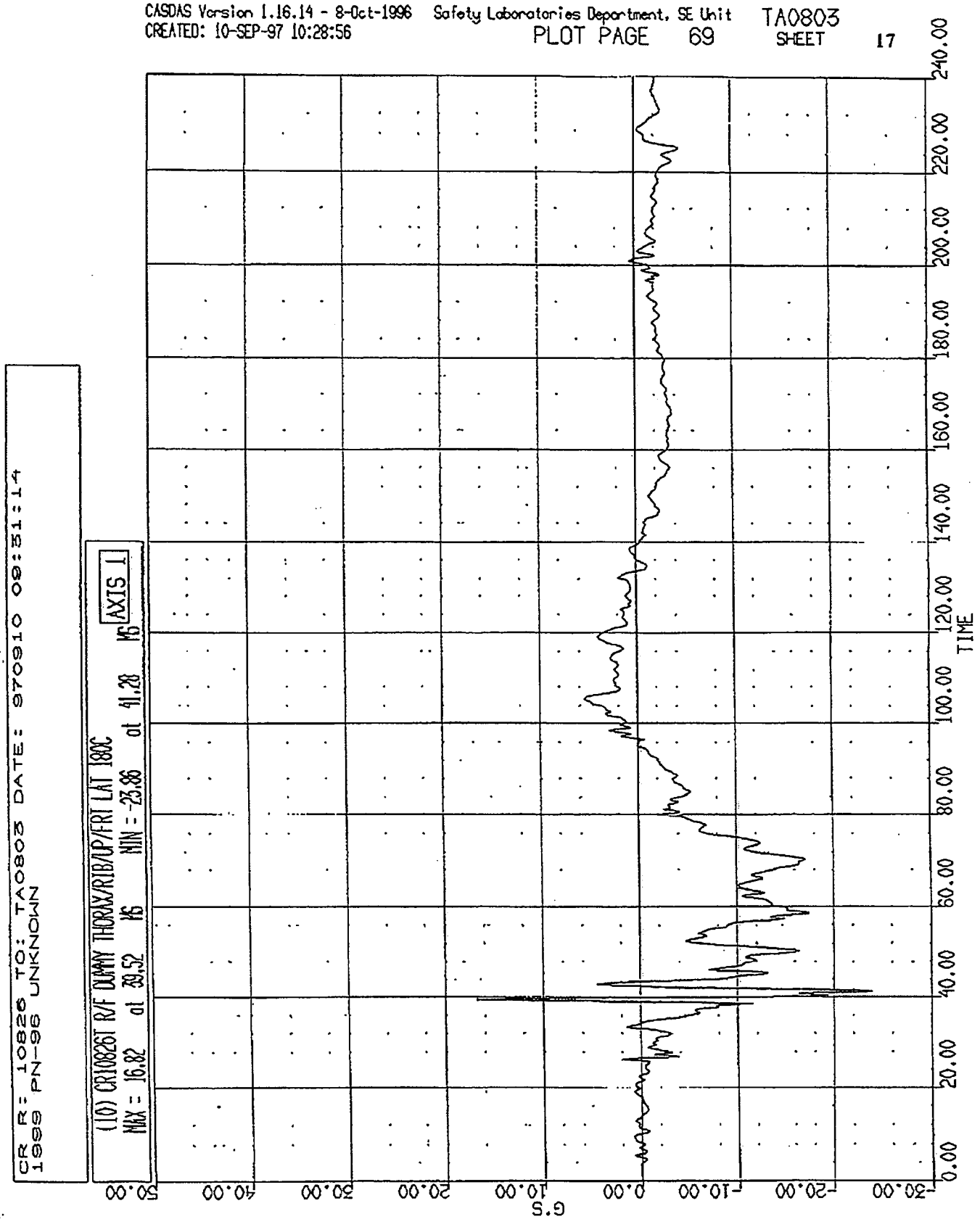

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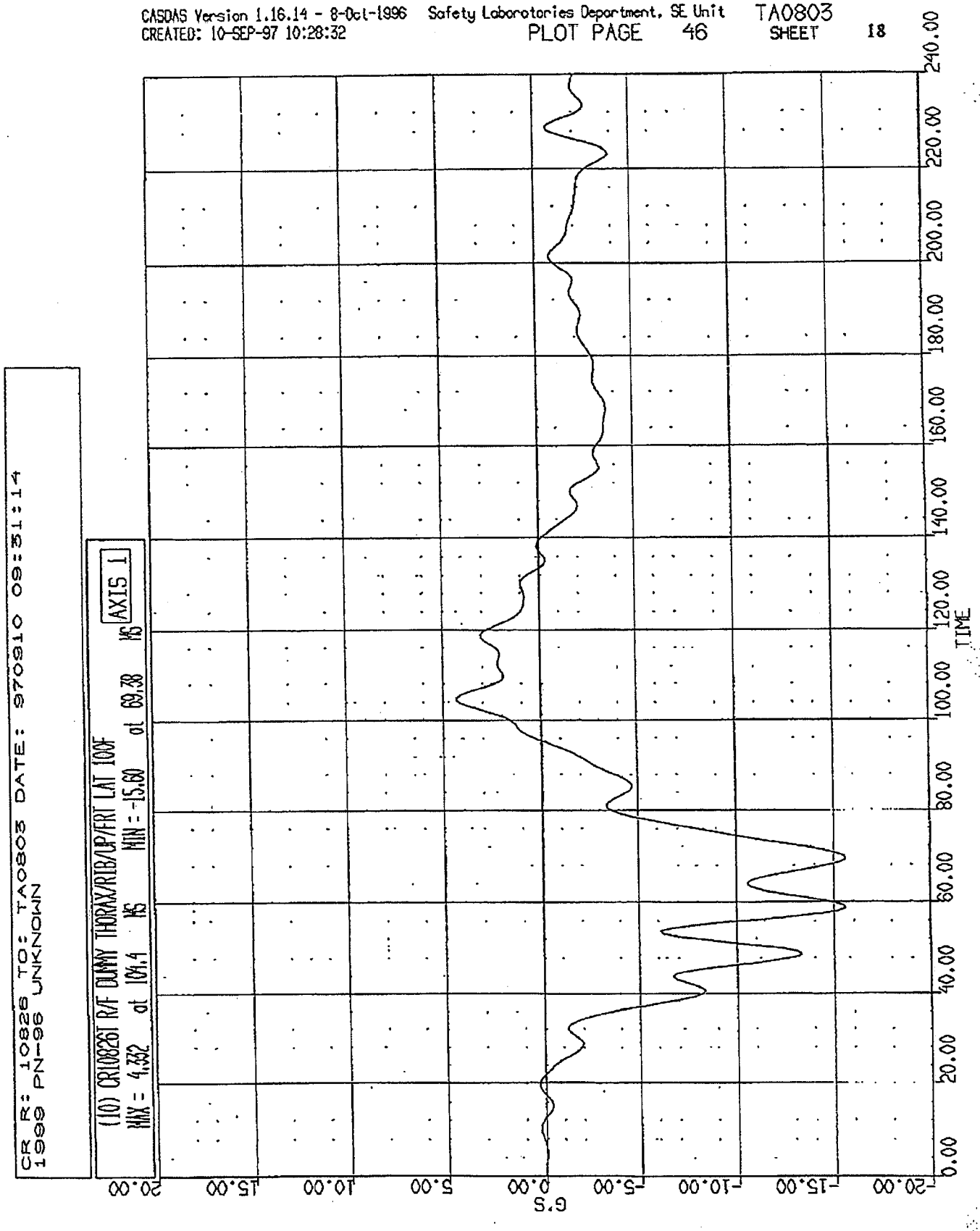

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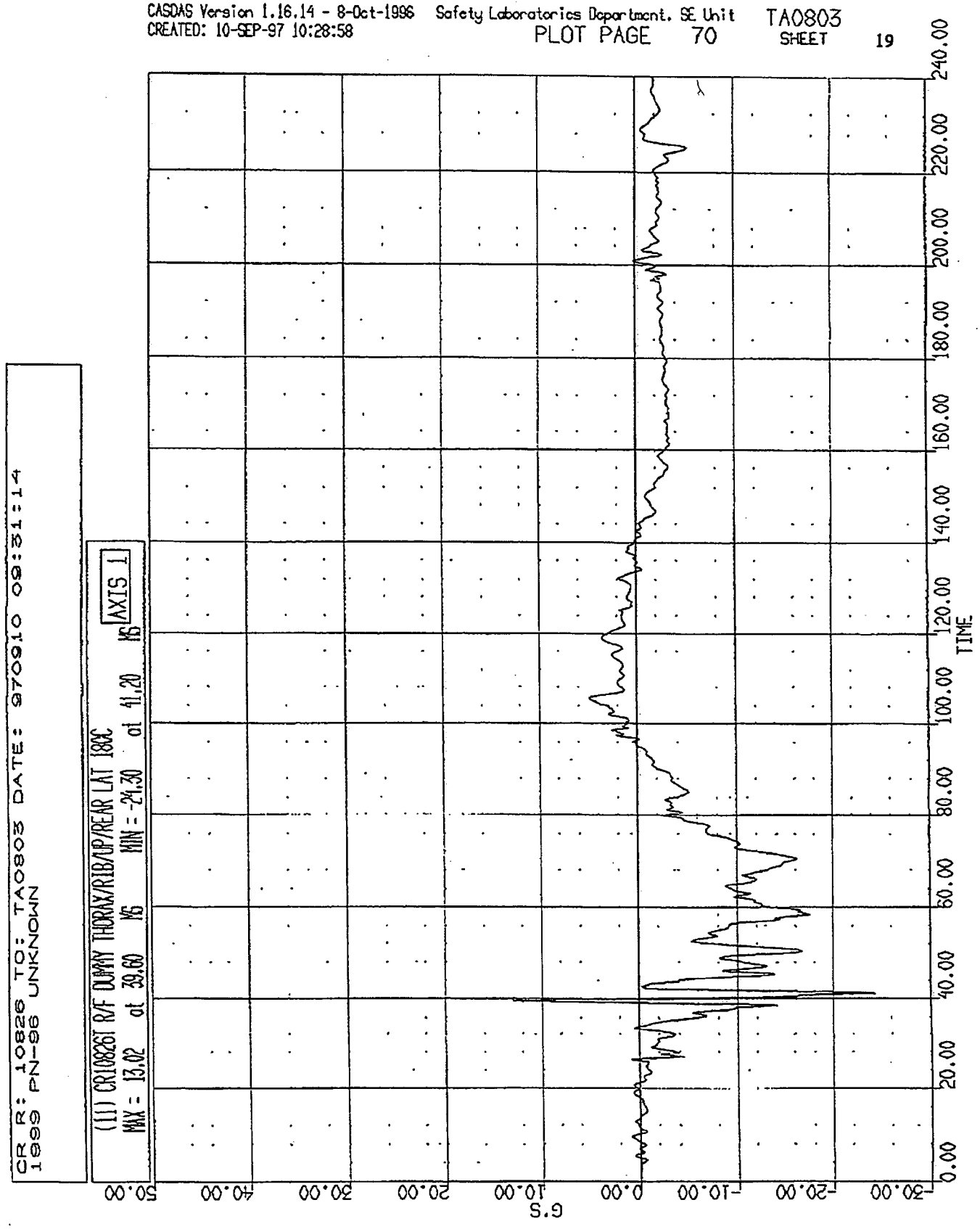

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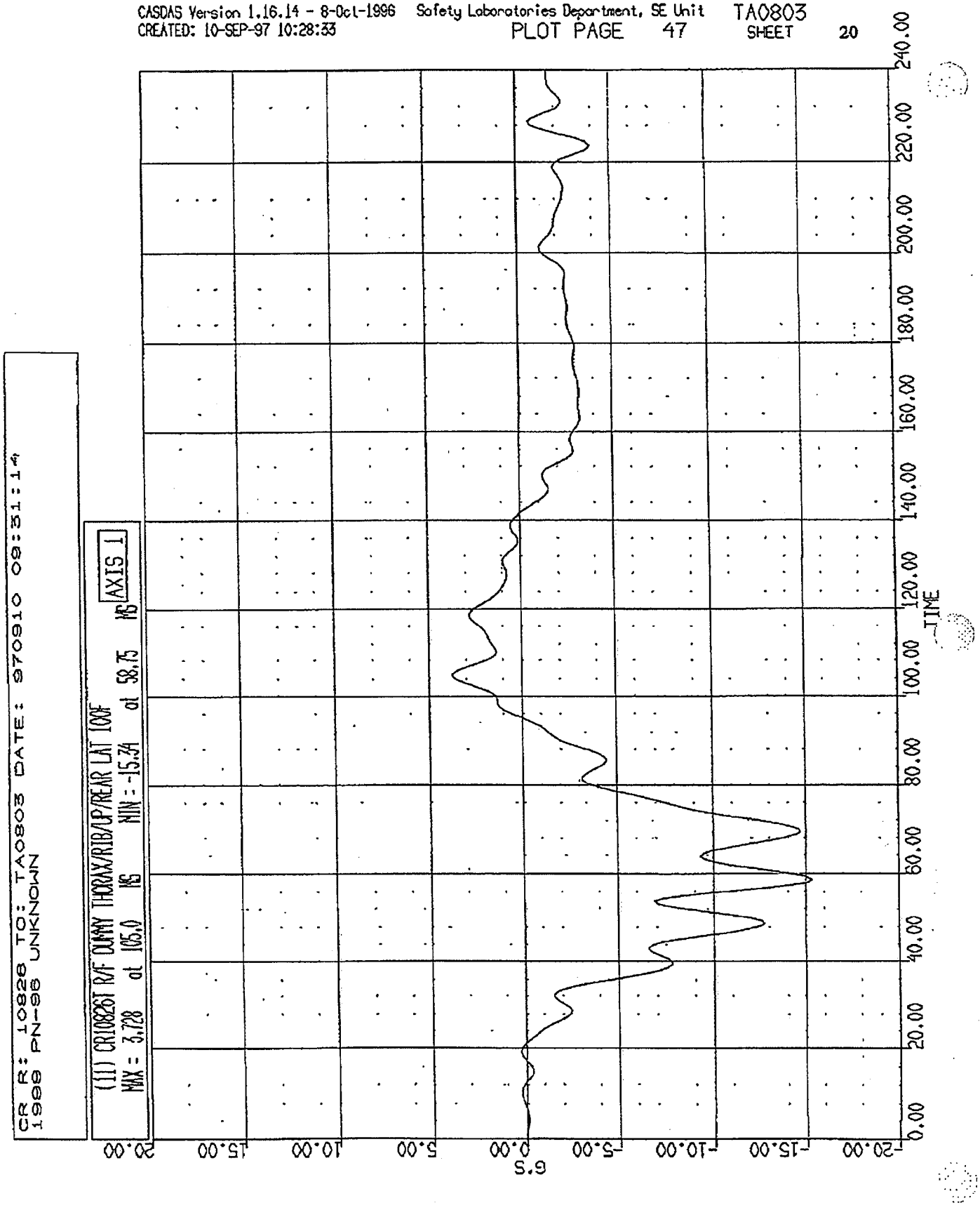

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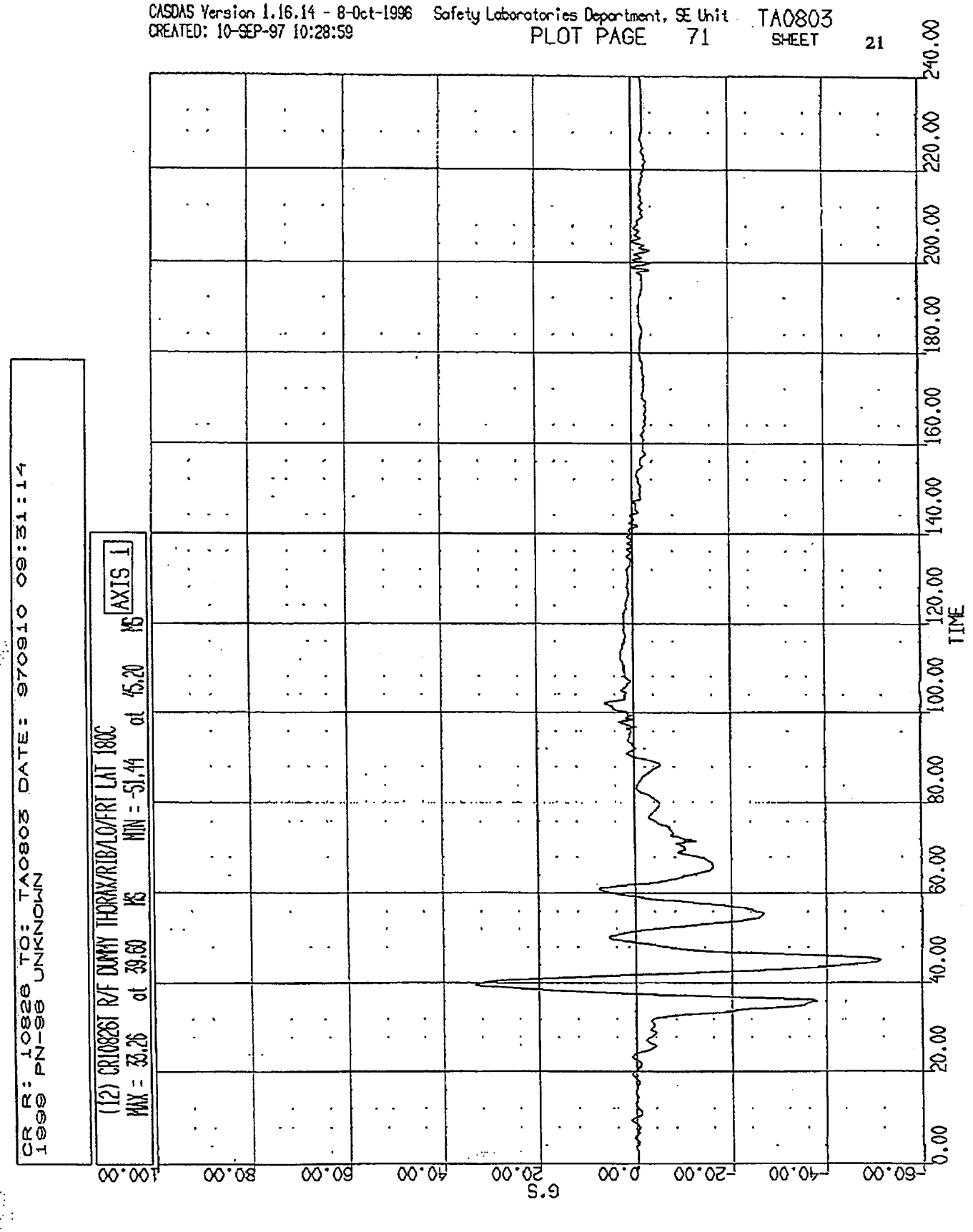

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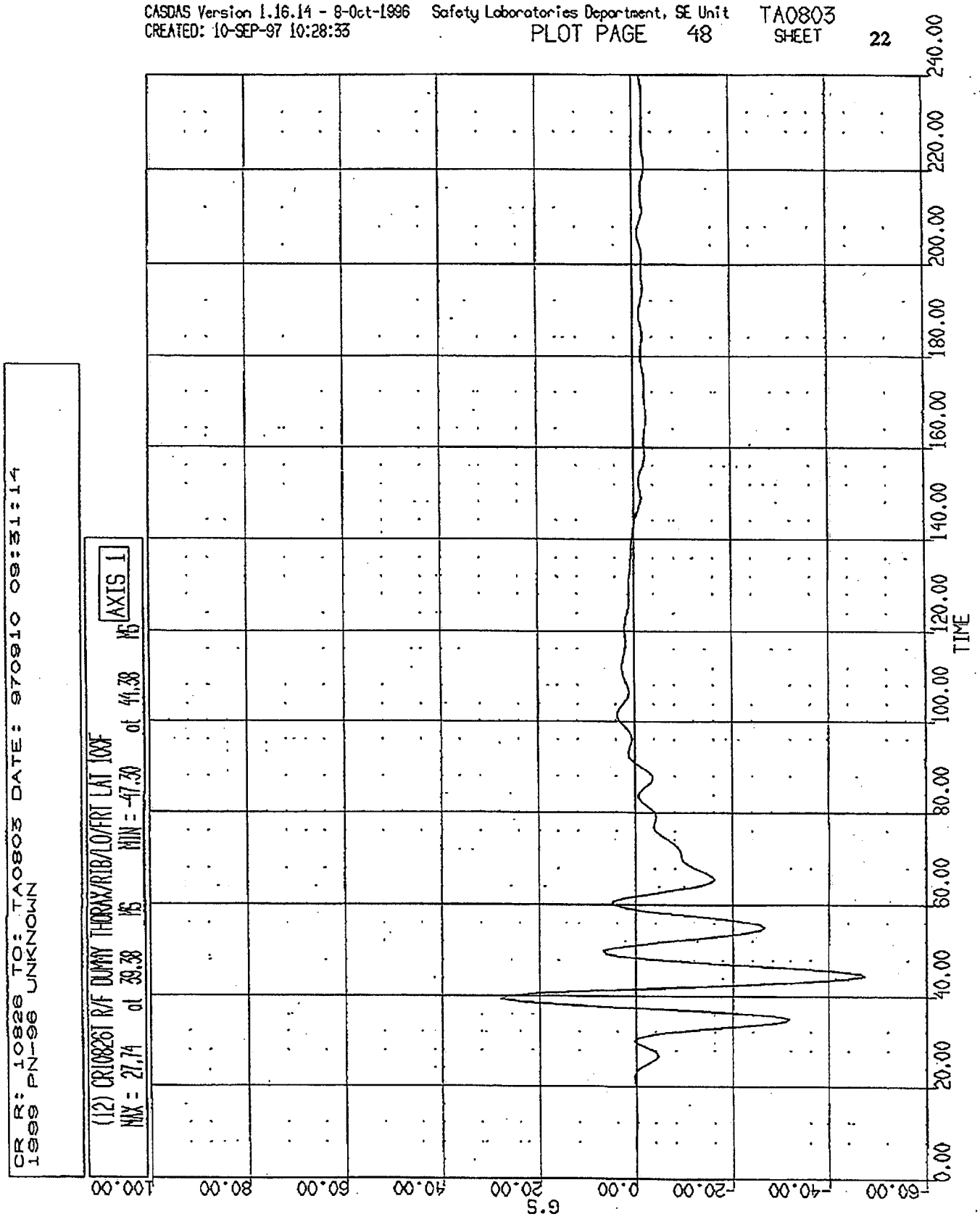

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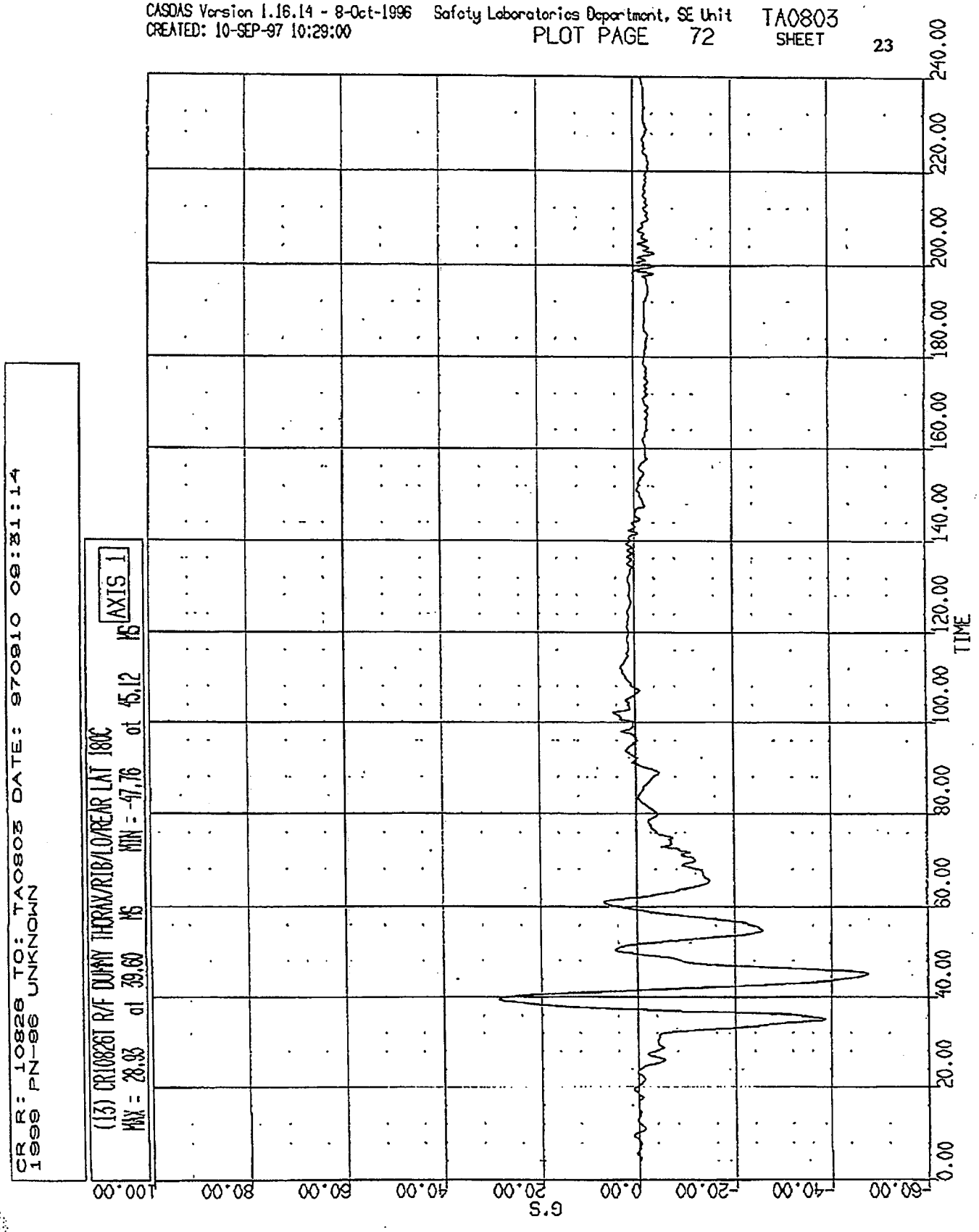

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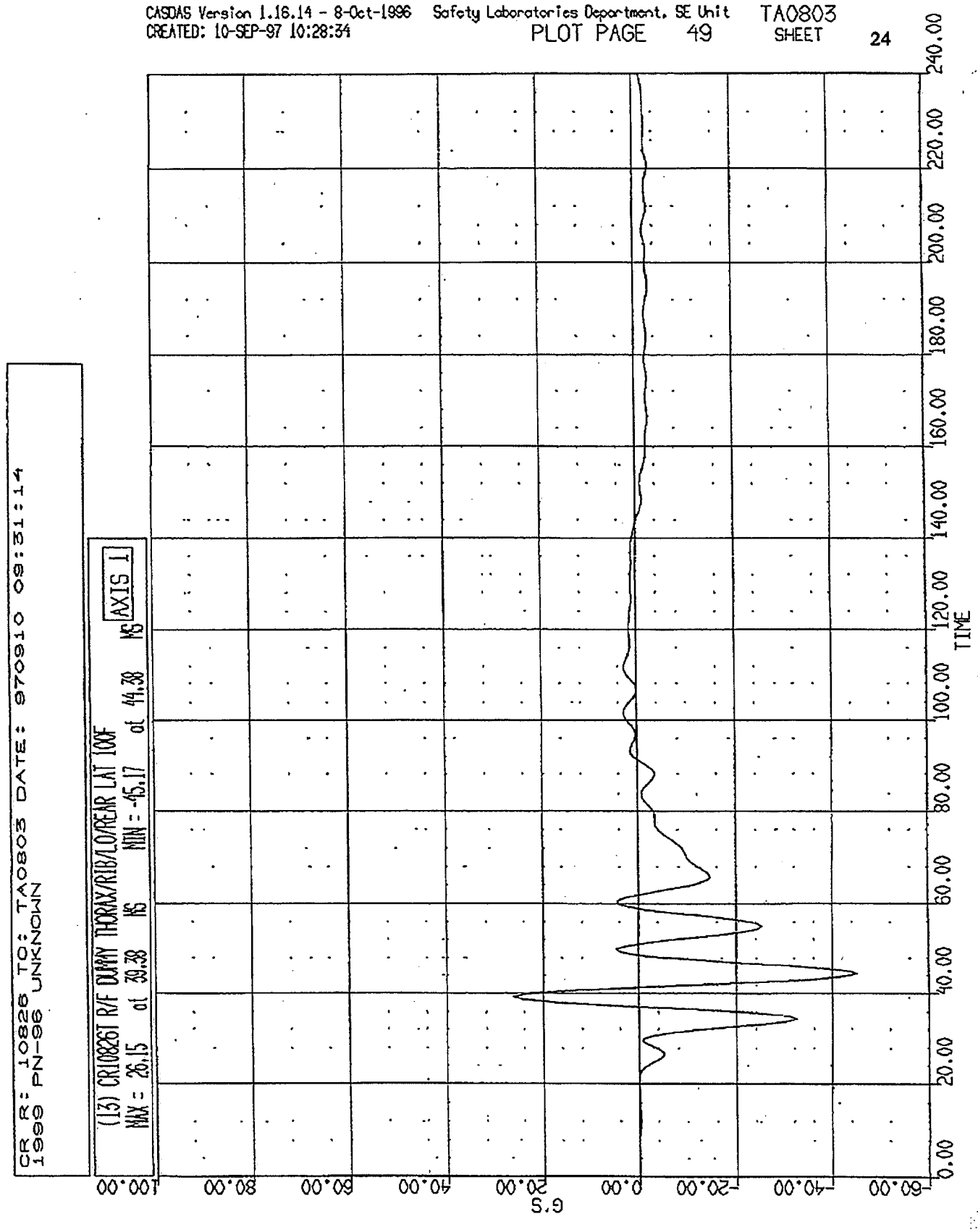

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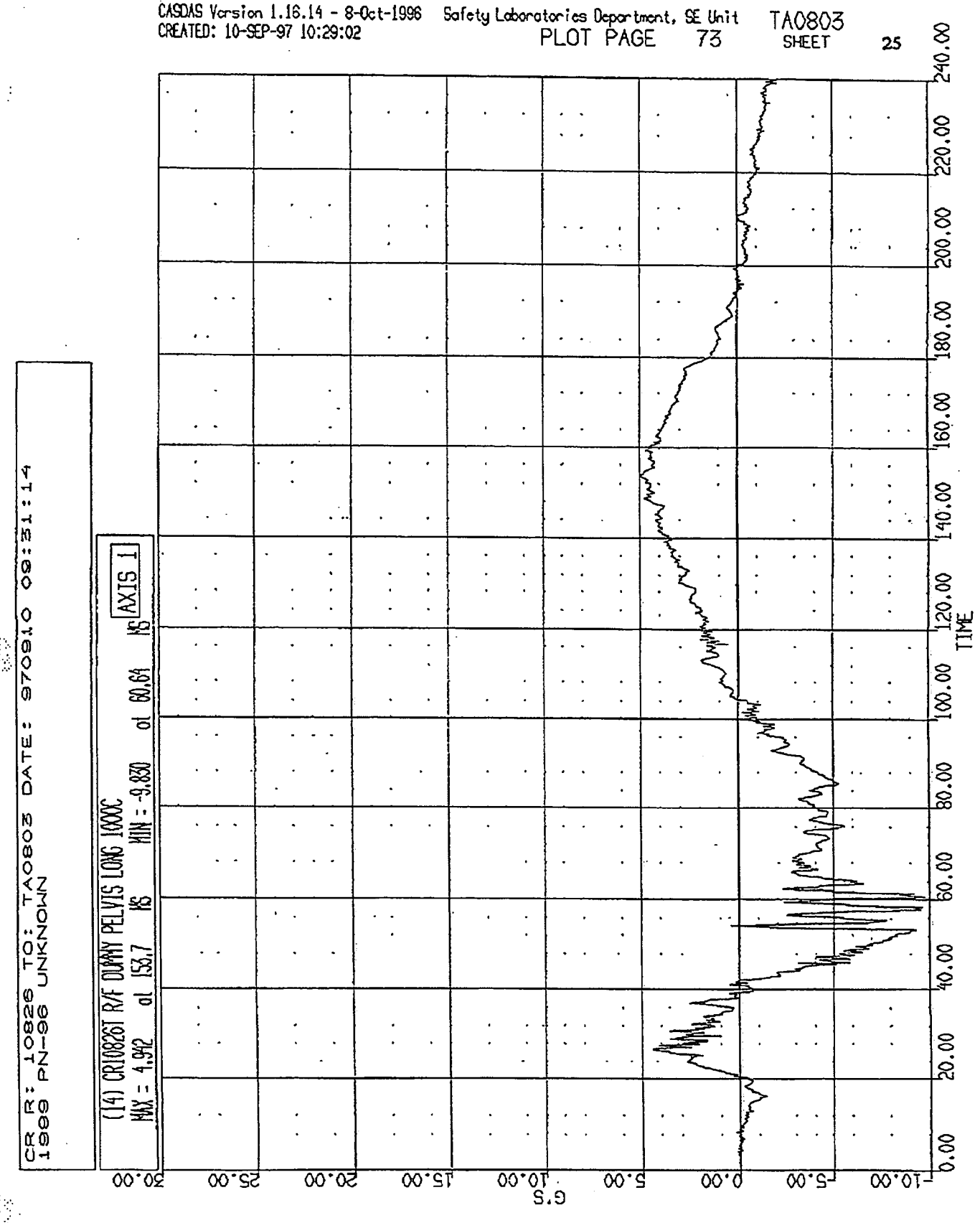

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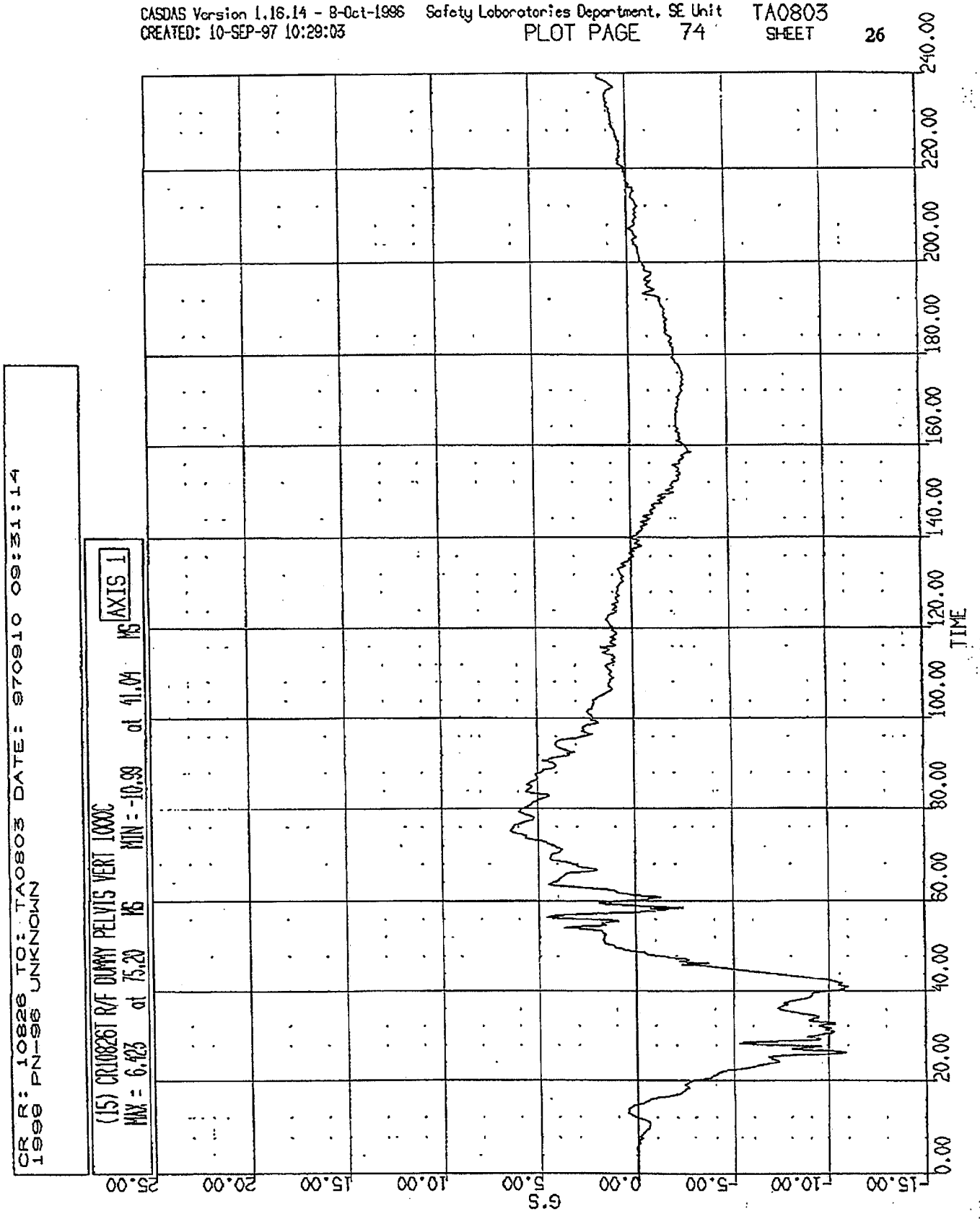

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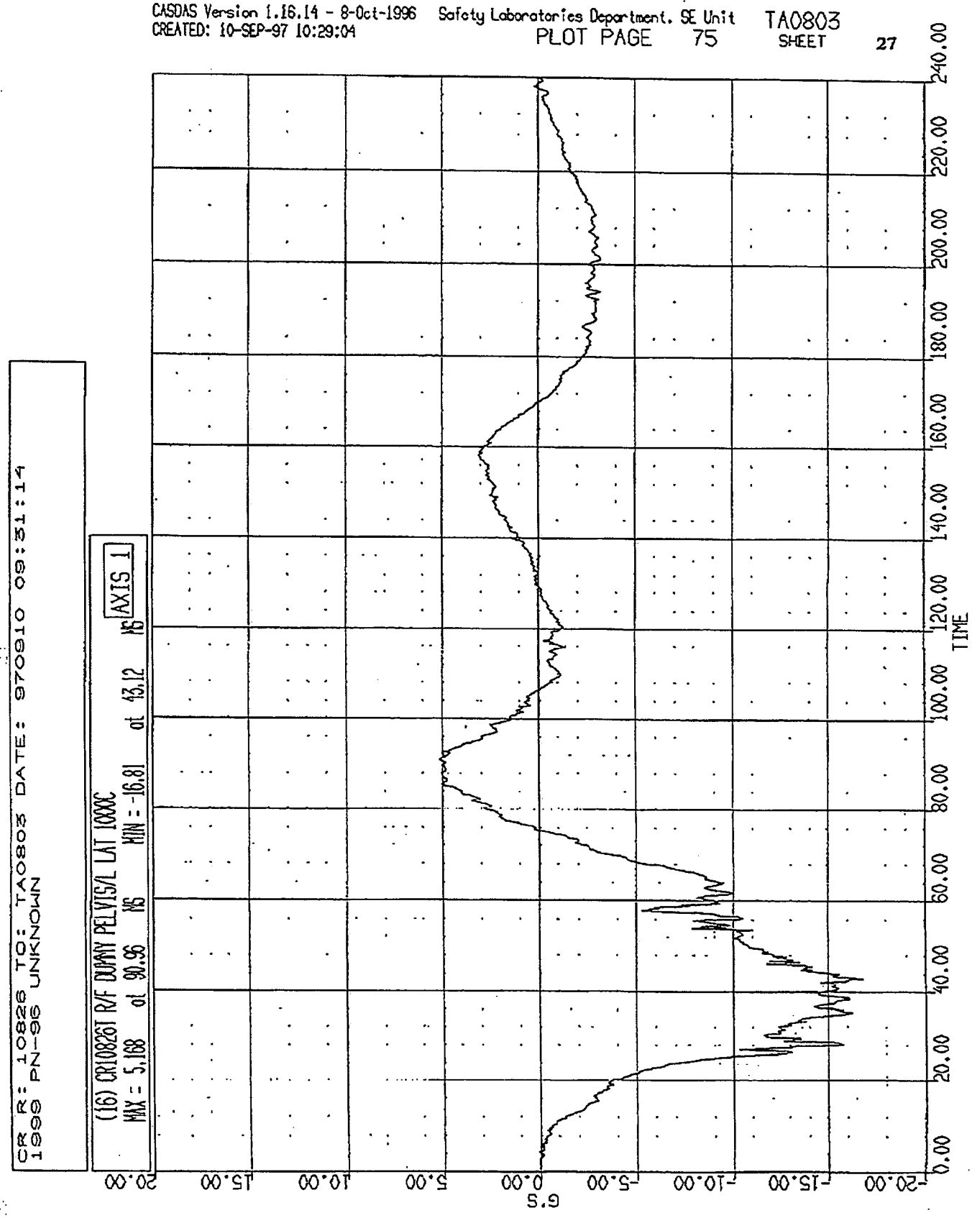

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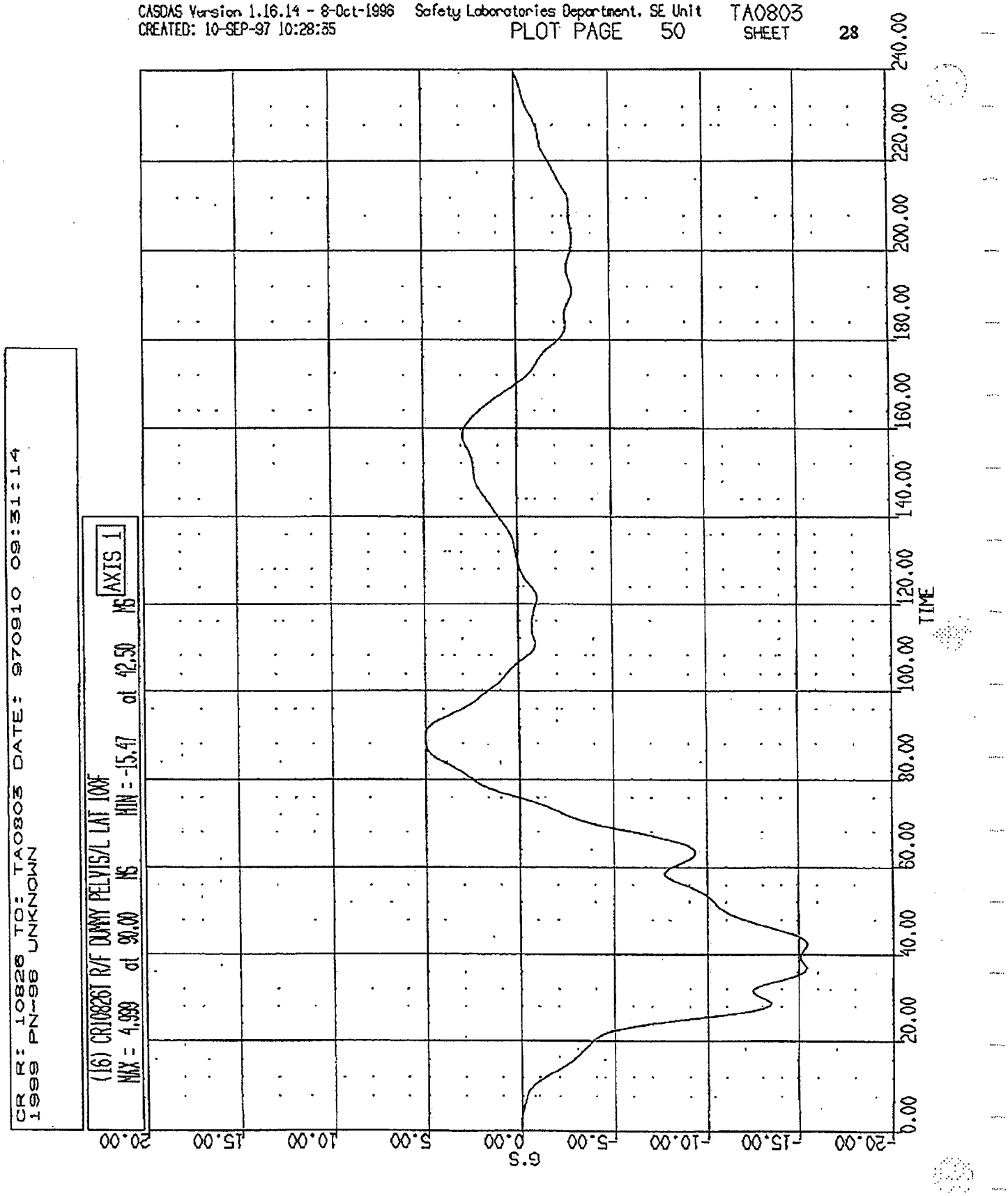

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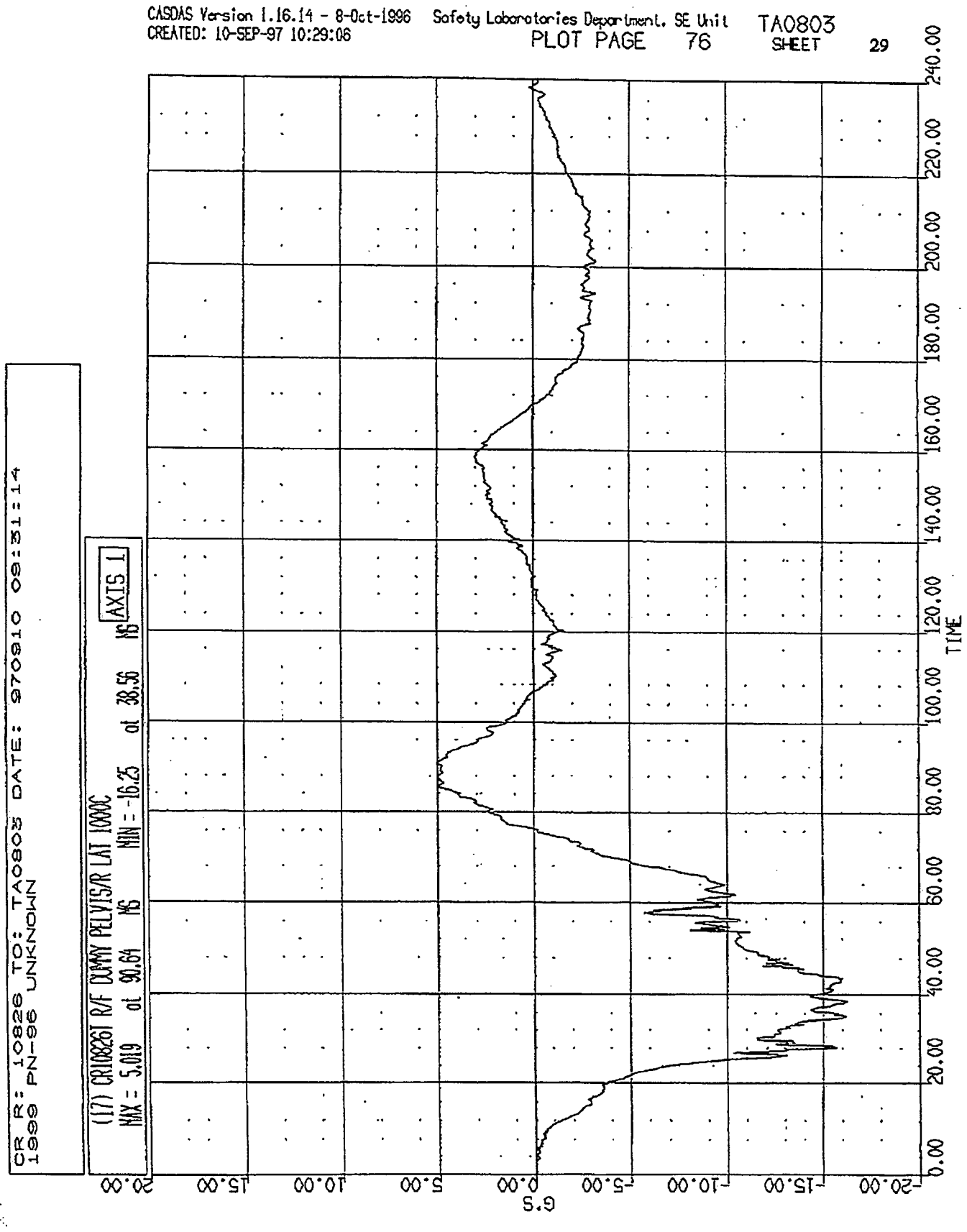
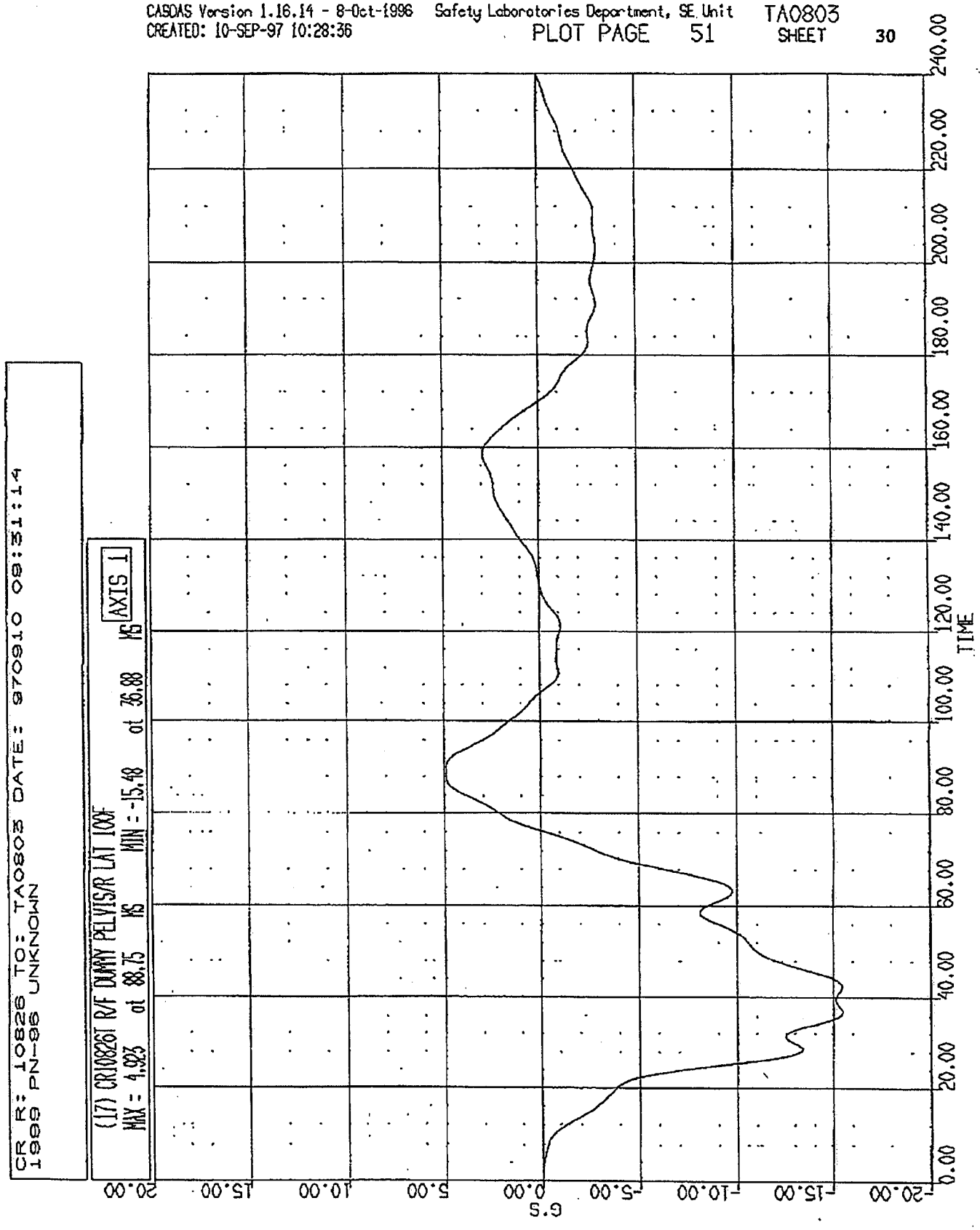


CRTS 0010826



CRTS 0010826

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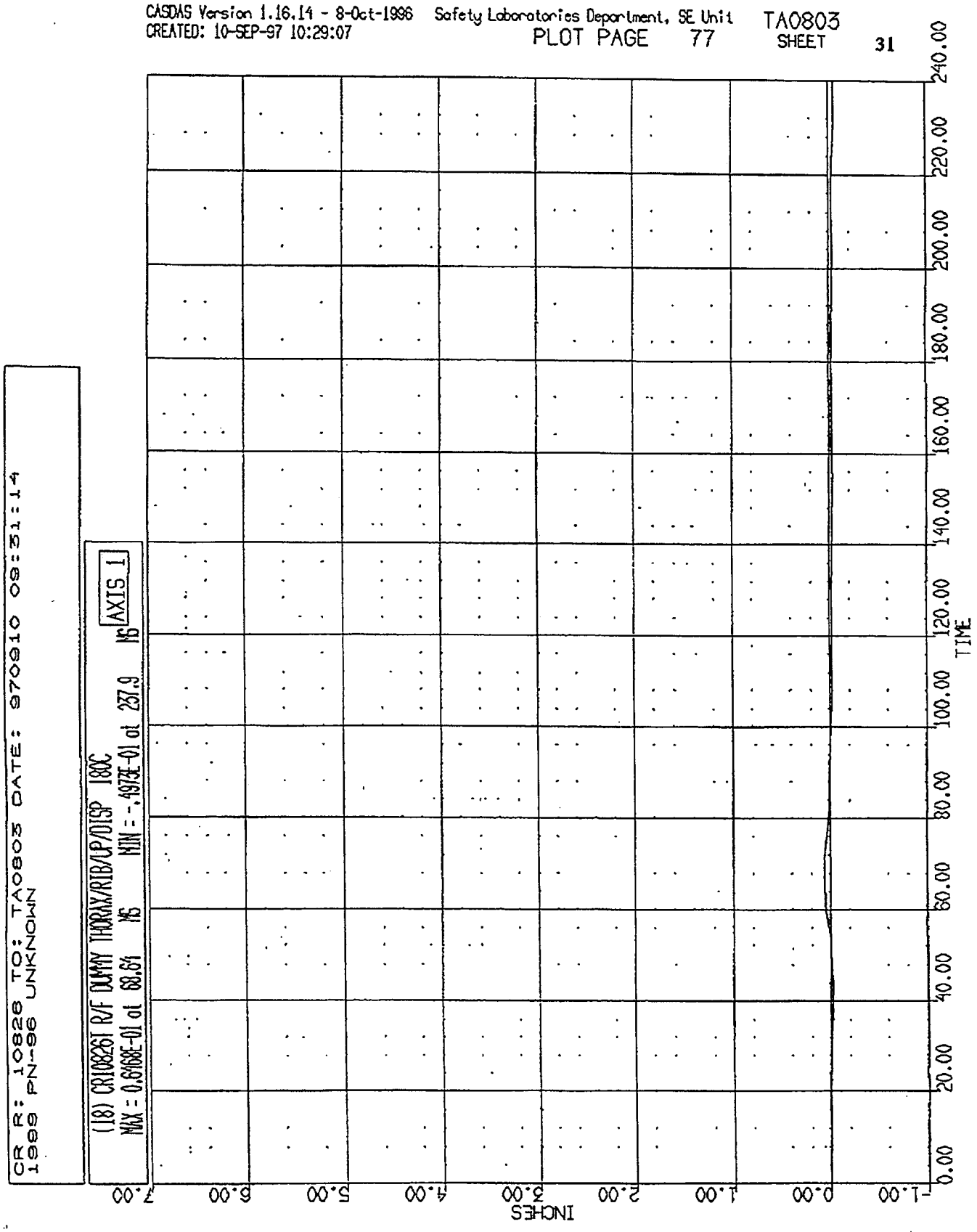
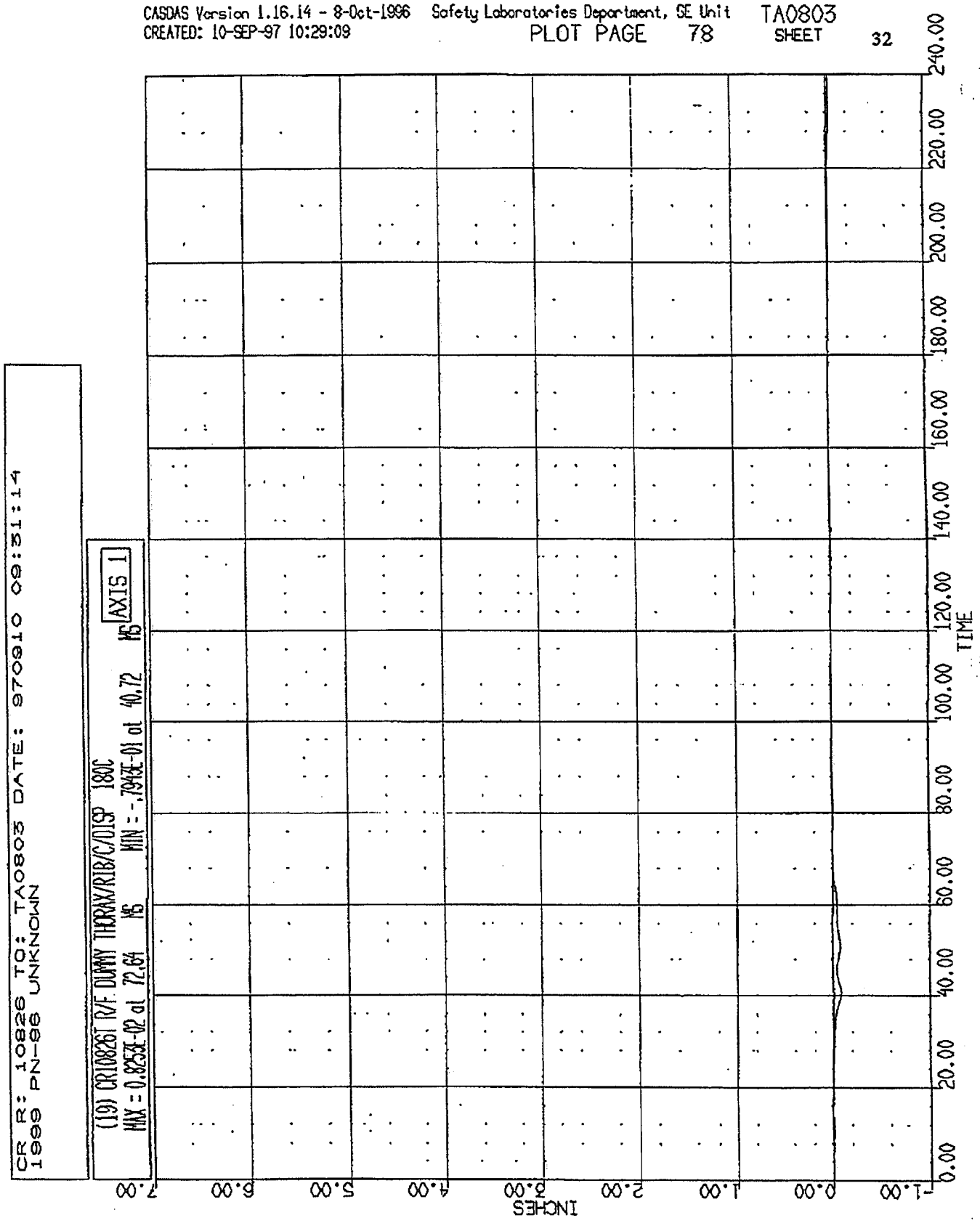
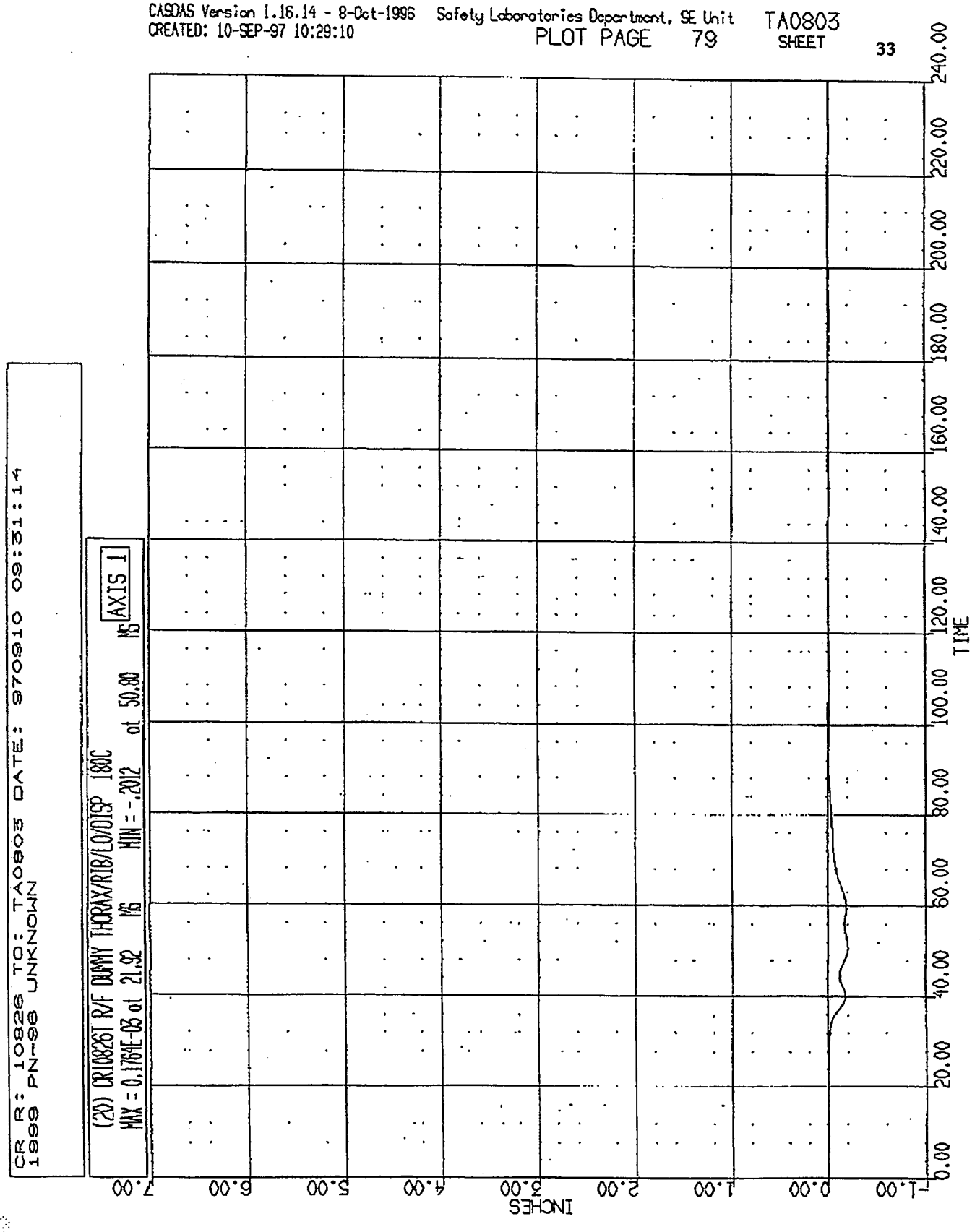
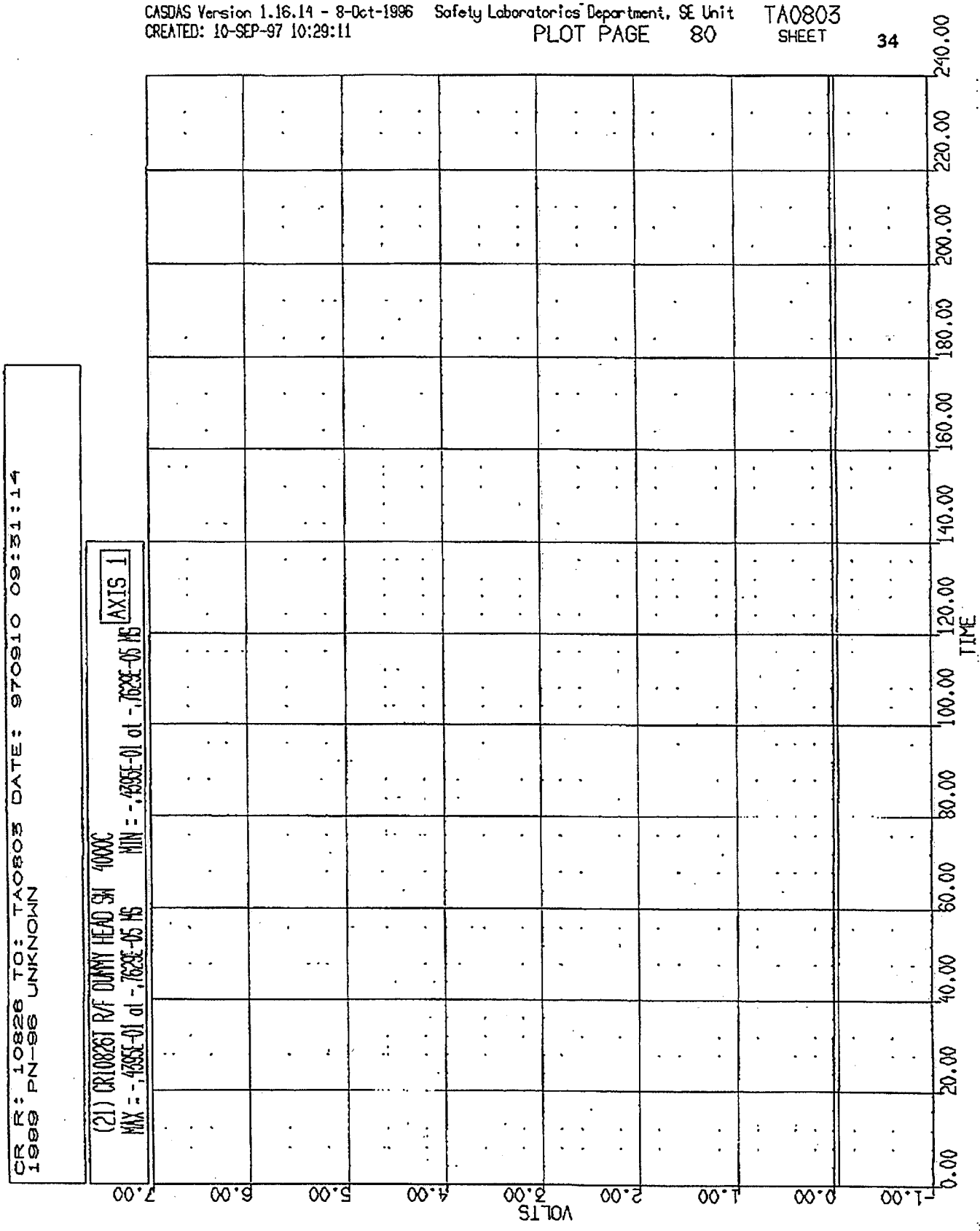


CRTS 0010826

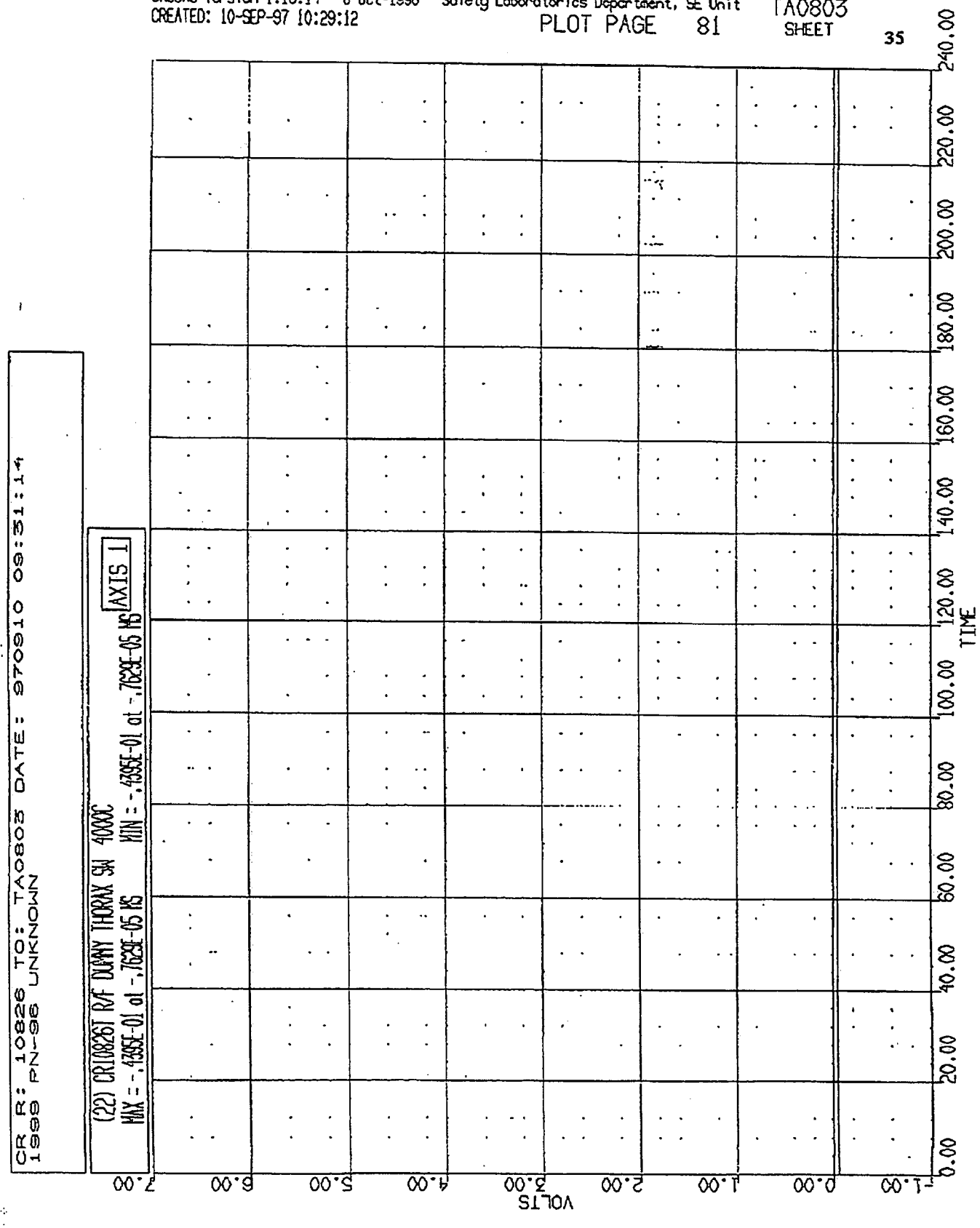

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-98 UNKNOWN
(19) CR10826T R/F DUMMY THORAX/RIB/C/DISP 180C
MAX = 0.8253E-02 at 72.64 MS MIN = -.7943E-01 at 40.72 MS
AXIS 1
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
TIME
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
INCHES



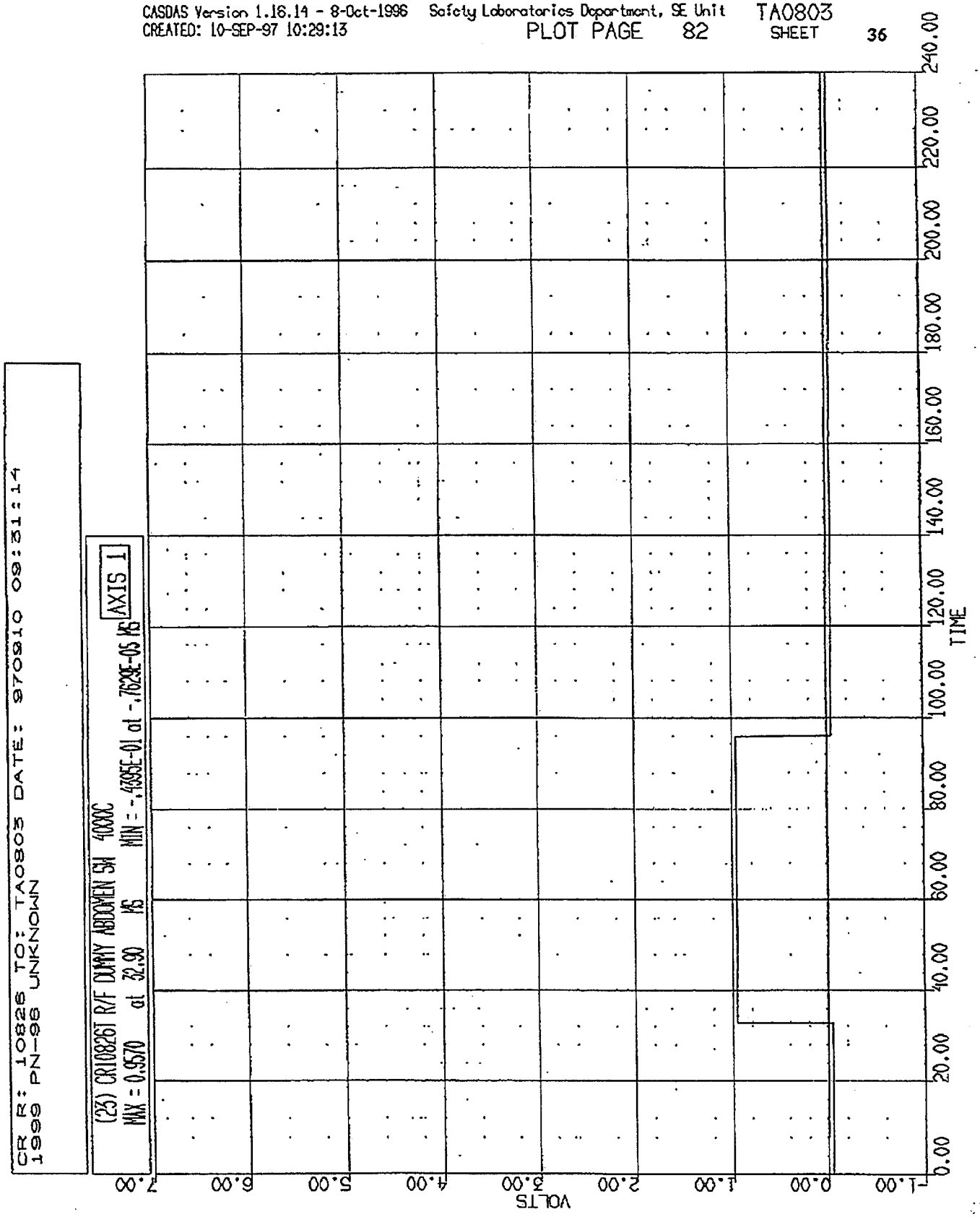
CRTS 0010826



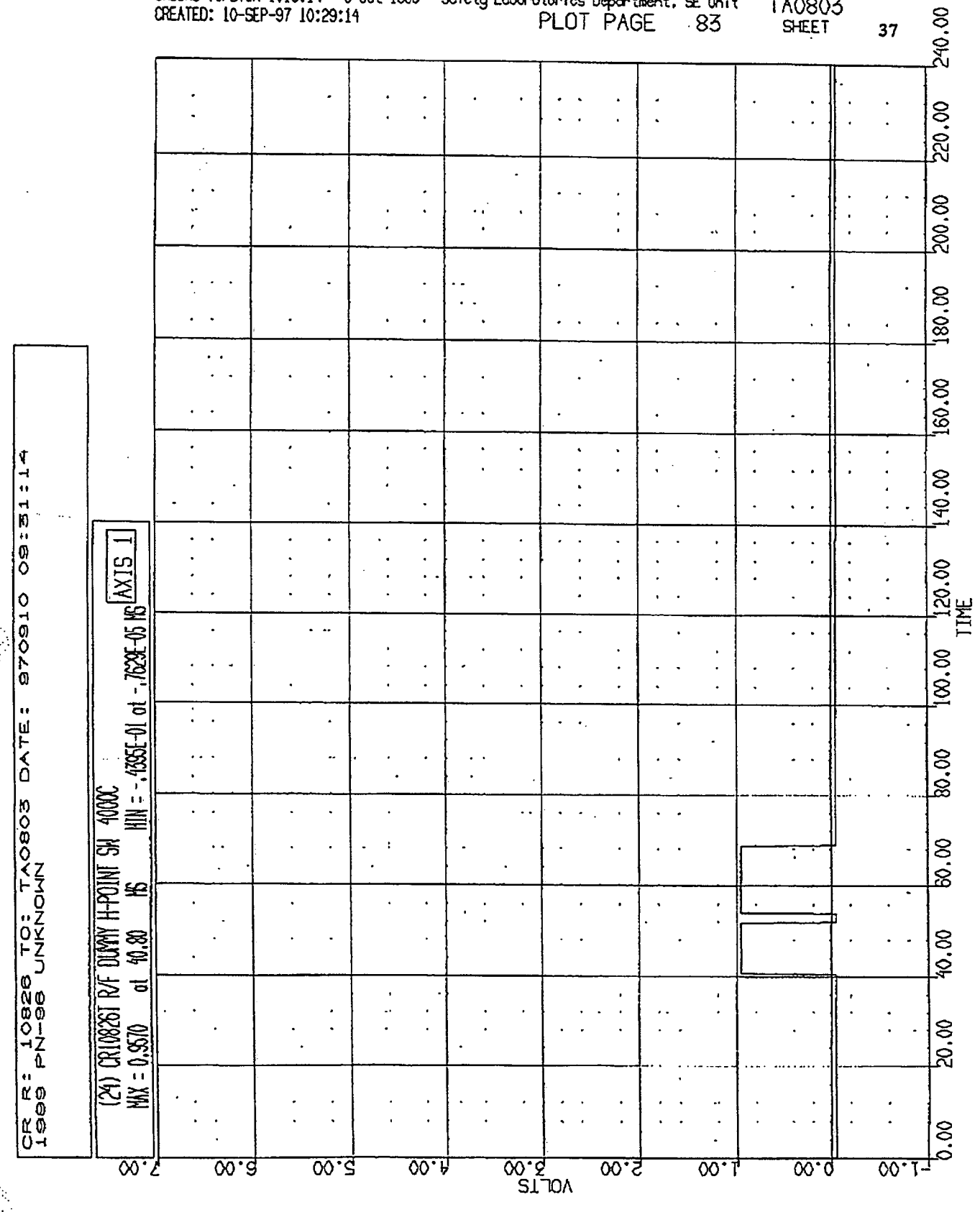
CRTS 0010826



CRTS 0010826



CRTS 0010826


CR R: 10828 TO: TA0803 DATE: 970910 09:51:14
1999 PN-96 UNKNOWN
(24) CR110826T R/F DUMMY H-POINT SW 4000C
MAX = 0.9570 at 40.80 MS MIN = -.4335E-01 at -.7629E-05 MS
AXIS 1
VOLTS
TIME
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
0.00
20.00
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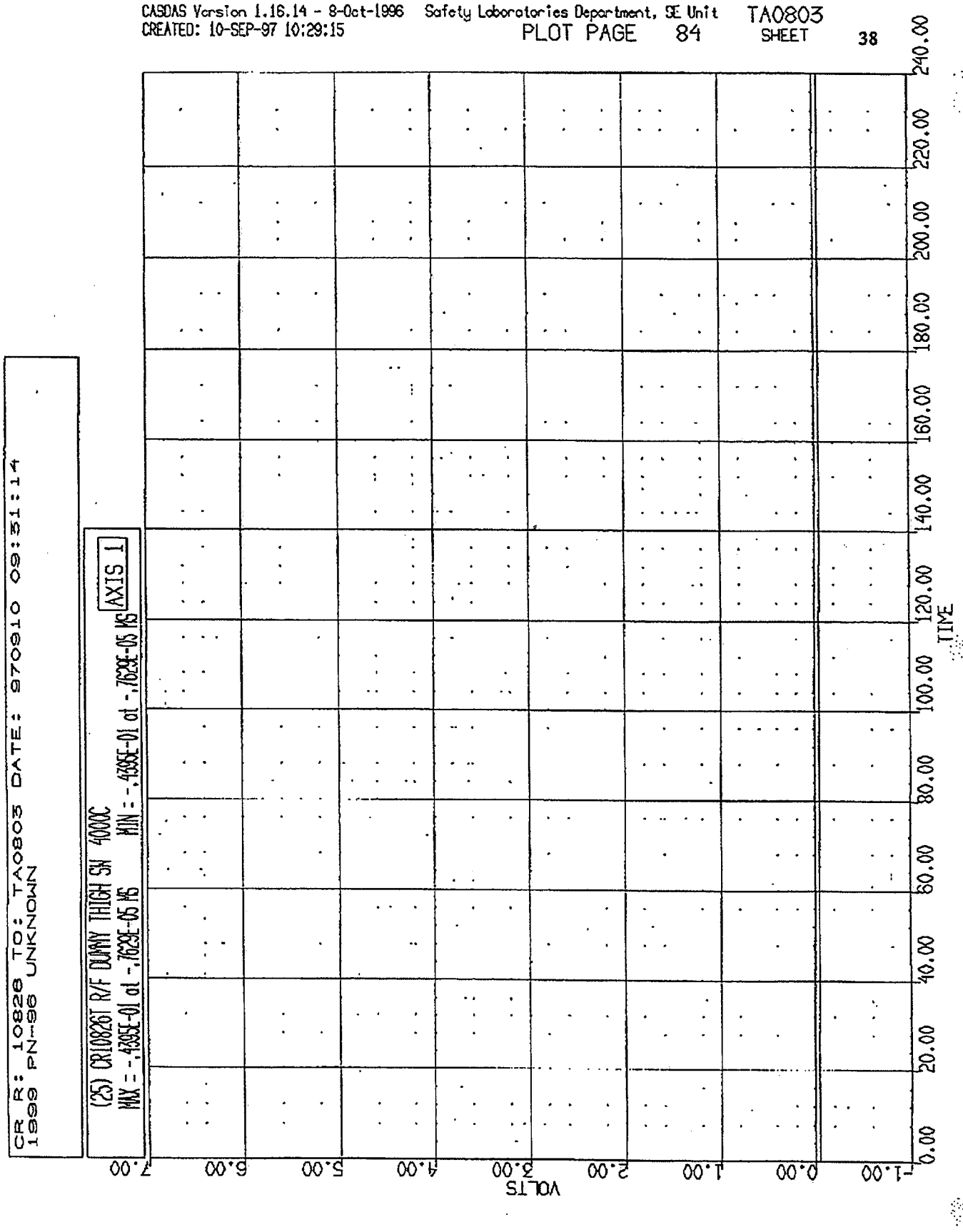
200.00
220.00
240.00


CR R: 10828 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(25) CR10828T R/F DUMMY THIGH SW 4000C
MAX = -.4305E-01 at -.7629E-05 MS
MIN = -.4305E-01 at -.7629E-05 MS
AXIS 1
VOLTS
TIME
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
0.00
20.00
40.00
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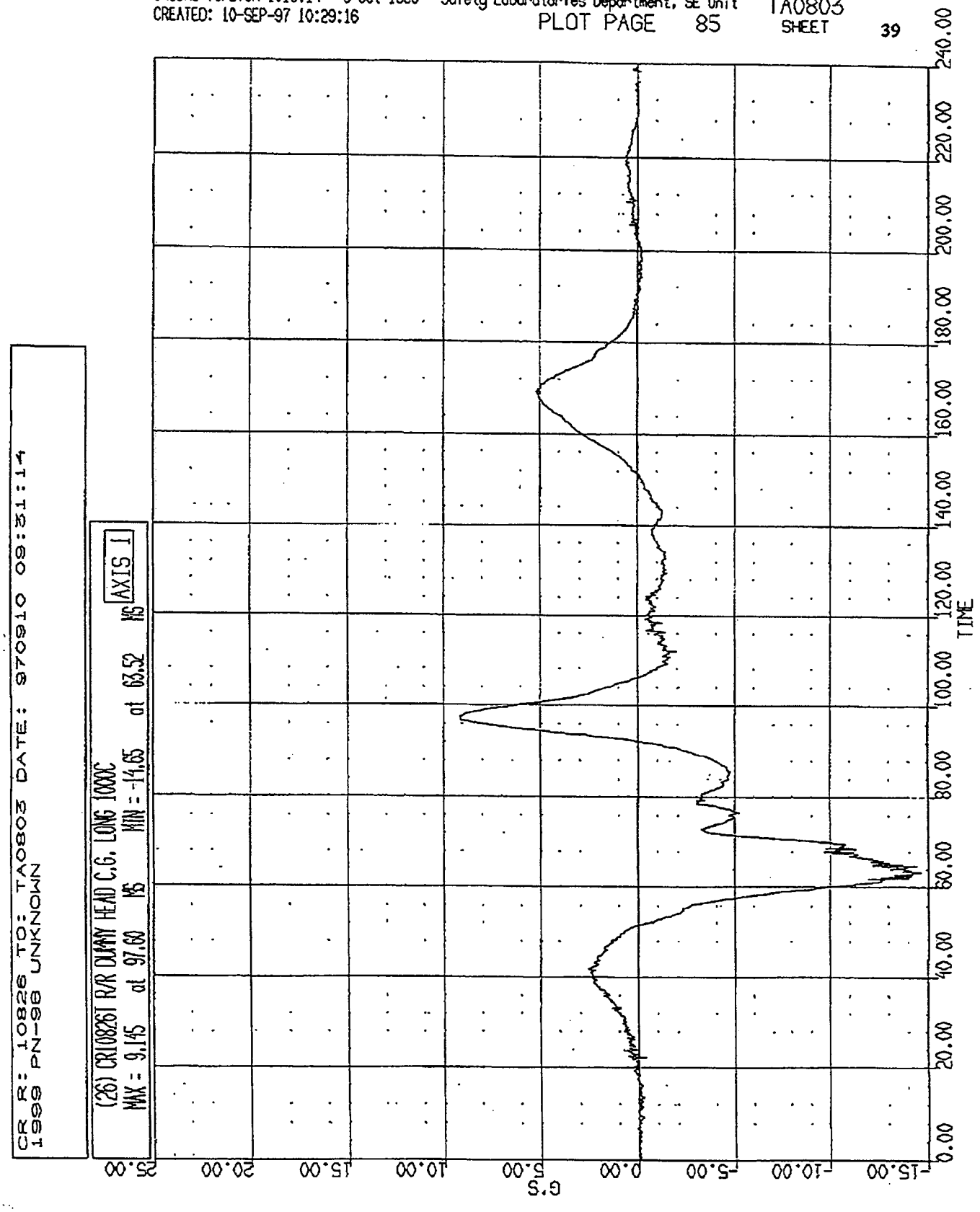
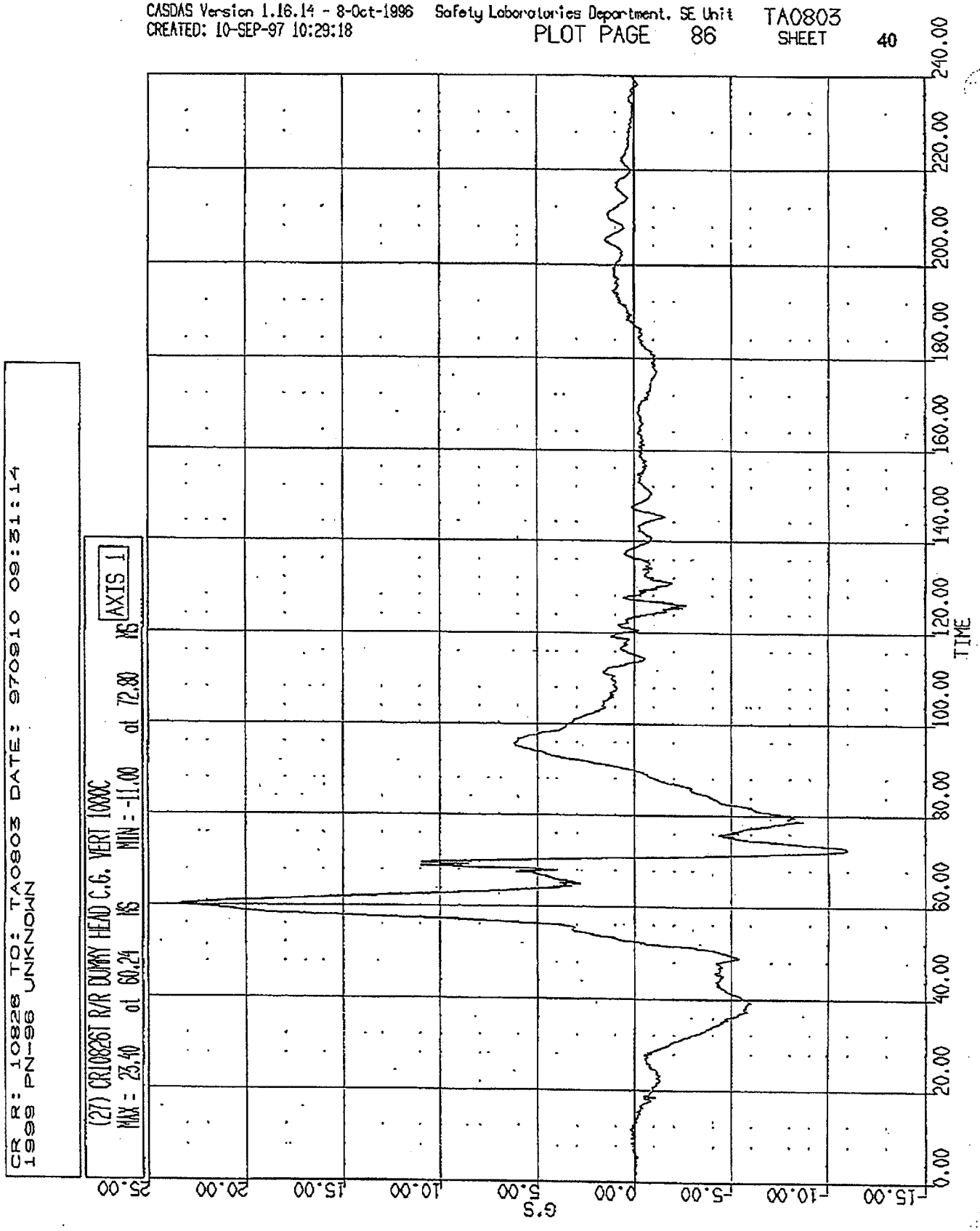
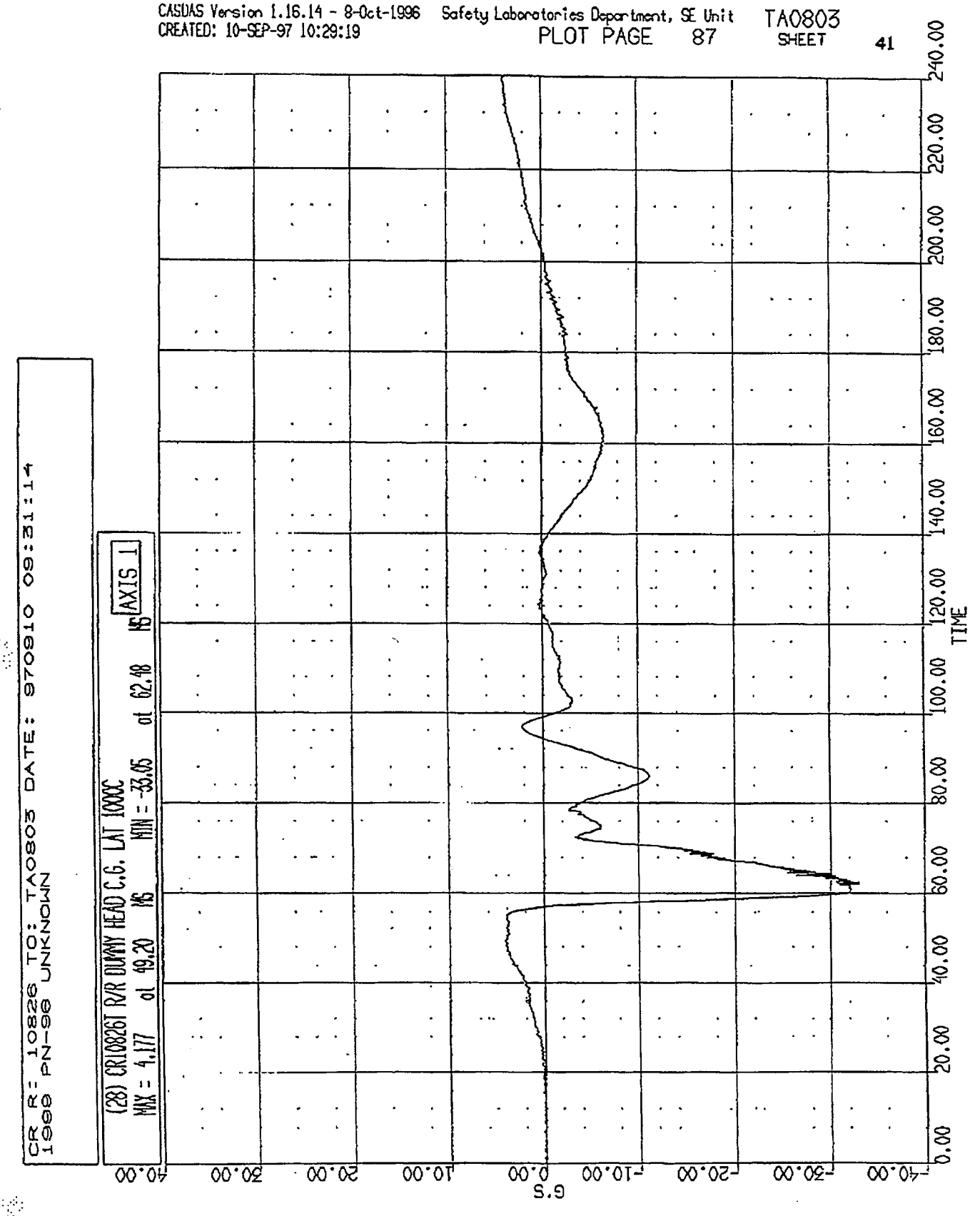
200.00
220.00
240.00



CRTS 0010826



CRTS 0010826



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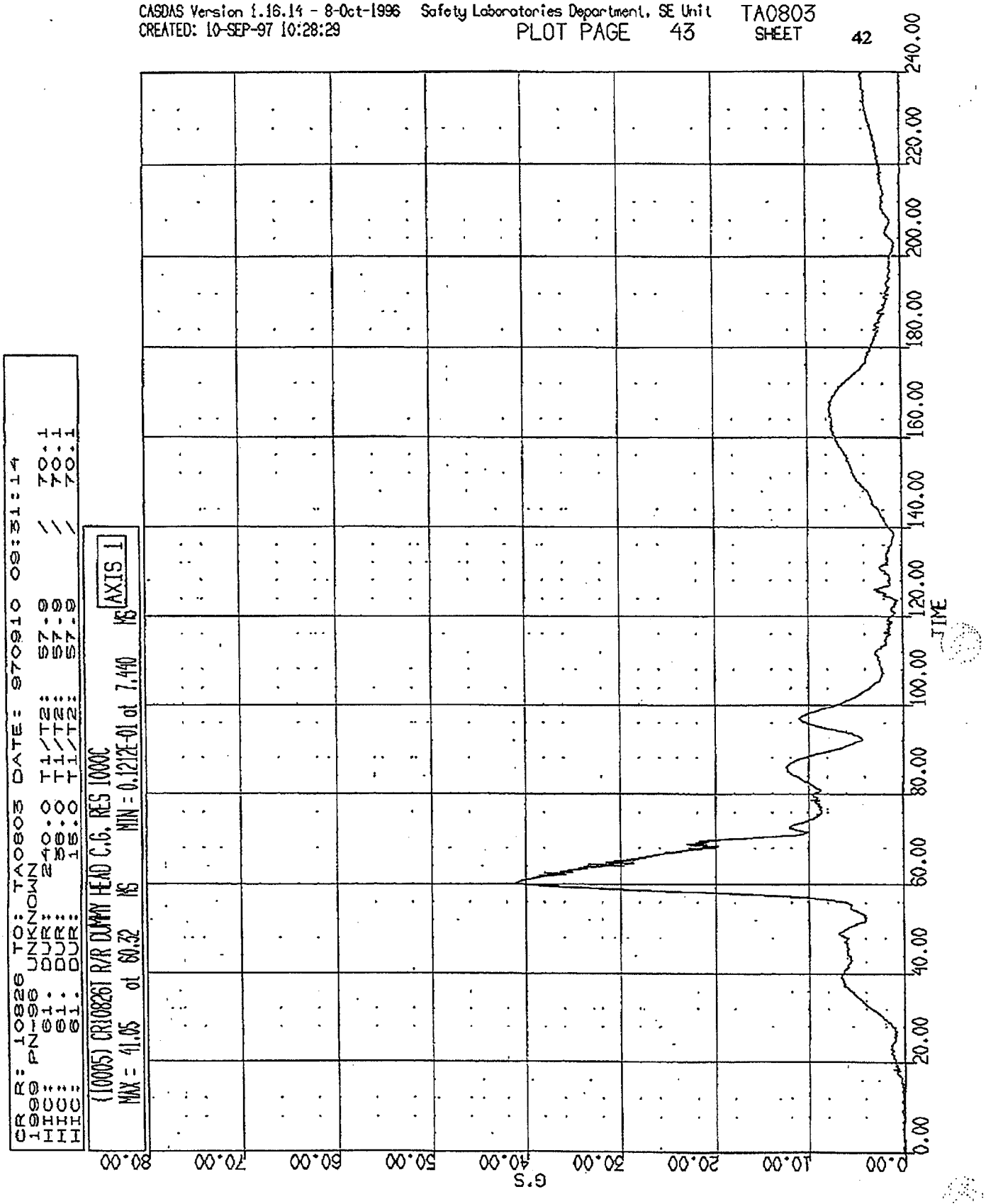
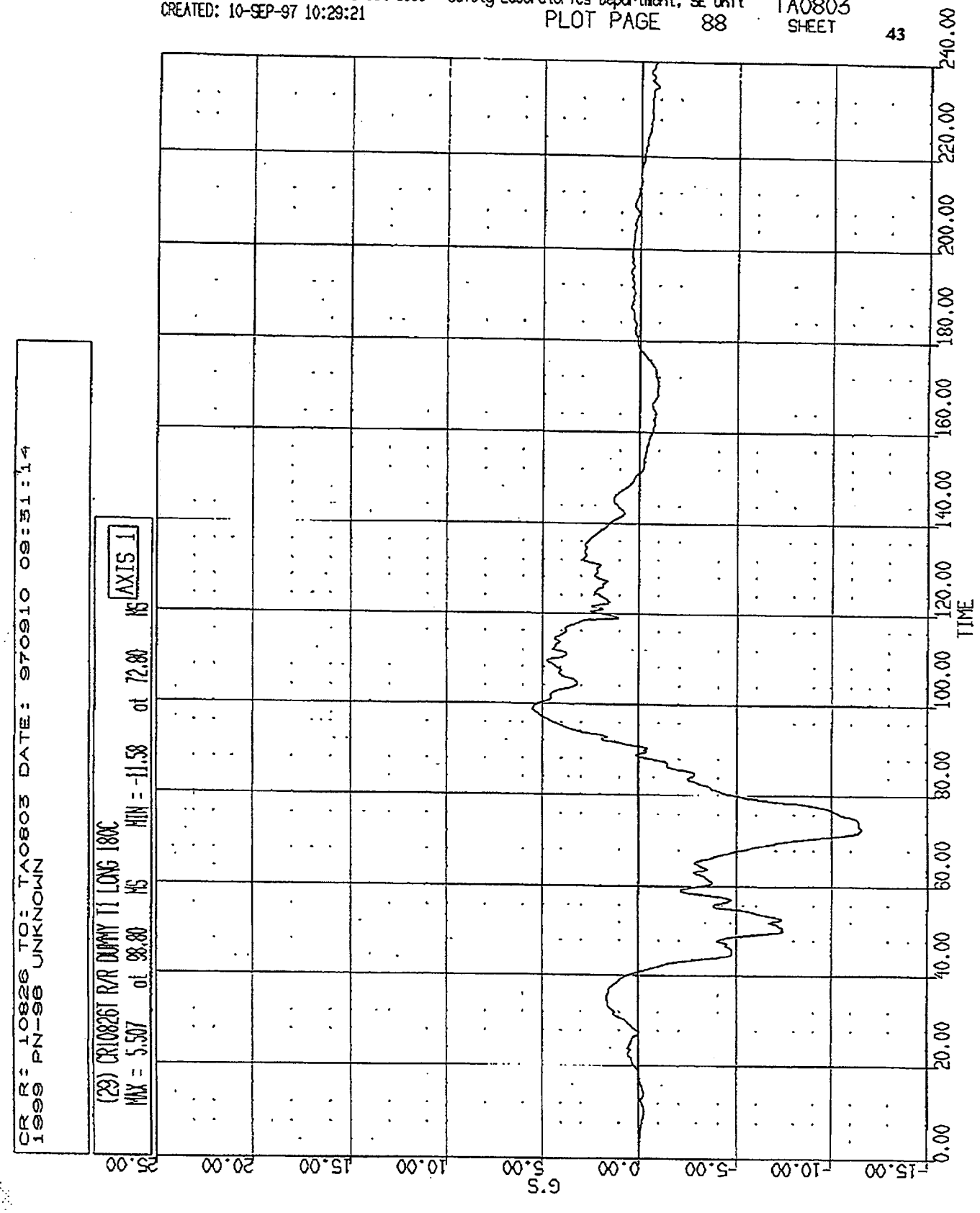


CRTS 0010826



CRTS 0010826

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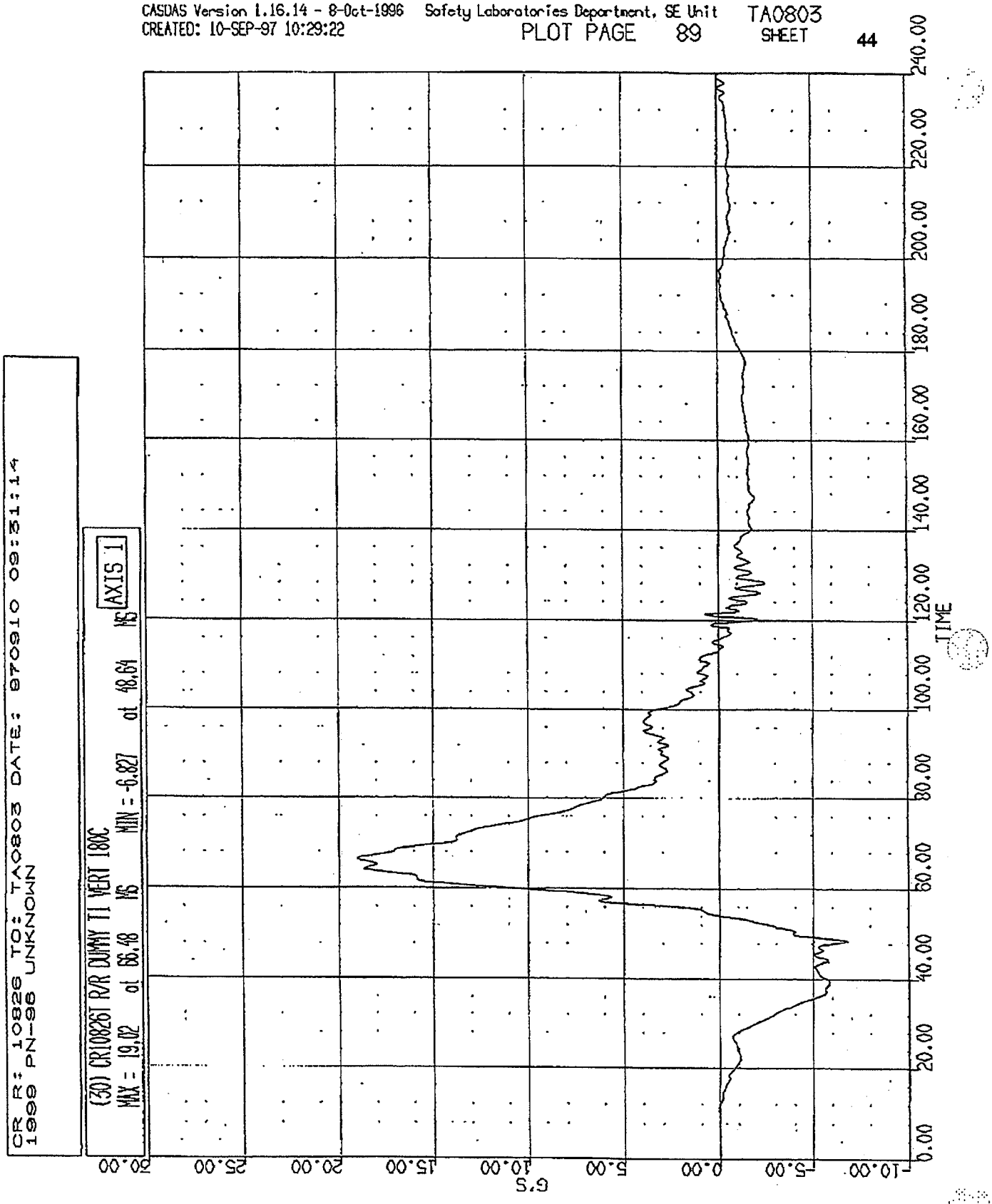

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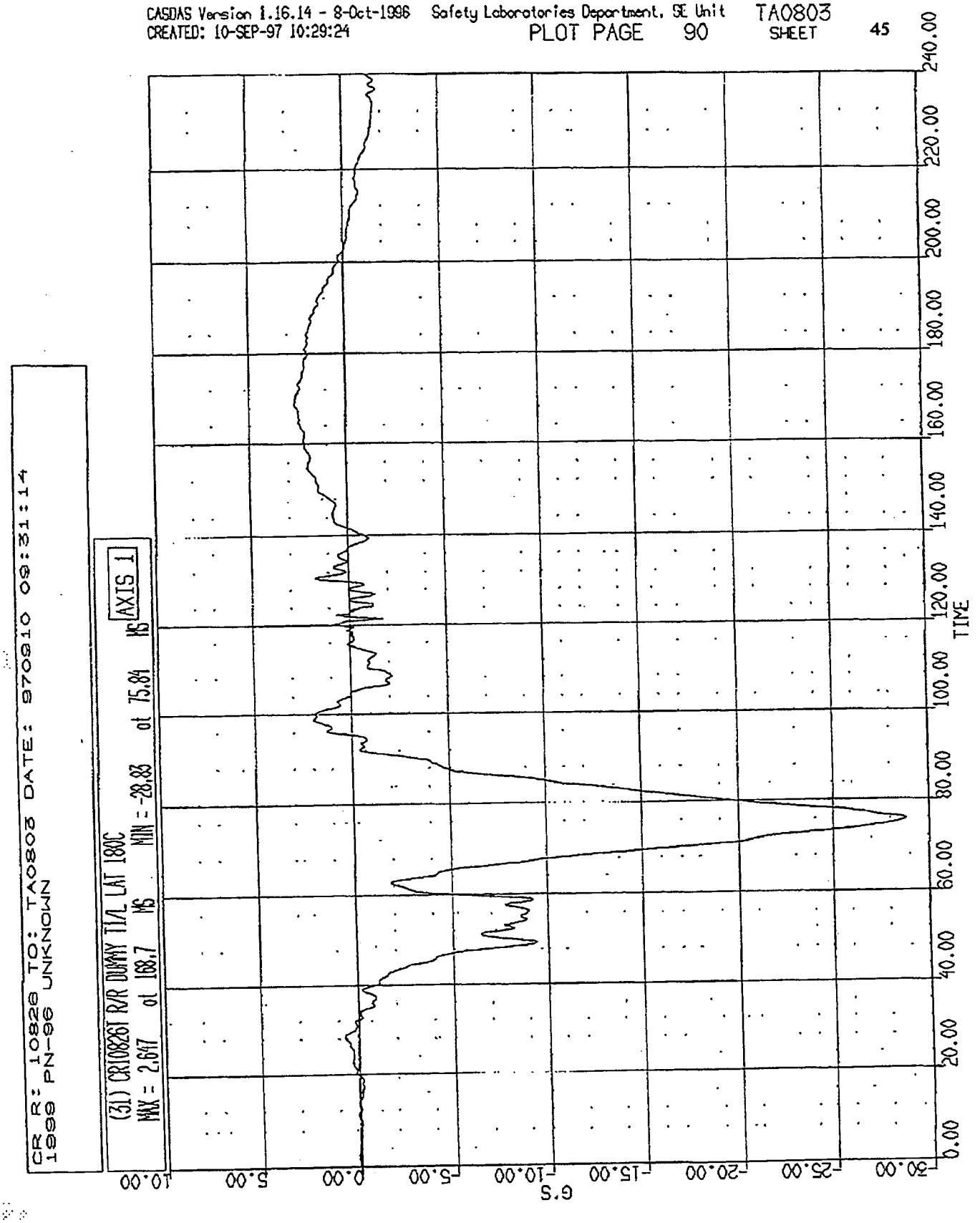

CRTS 0010826

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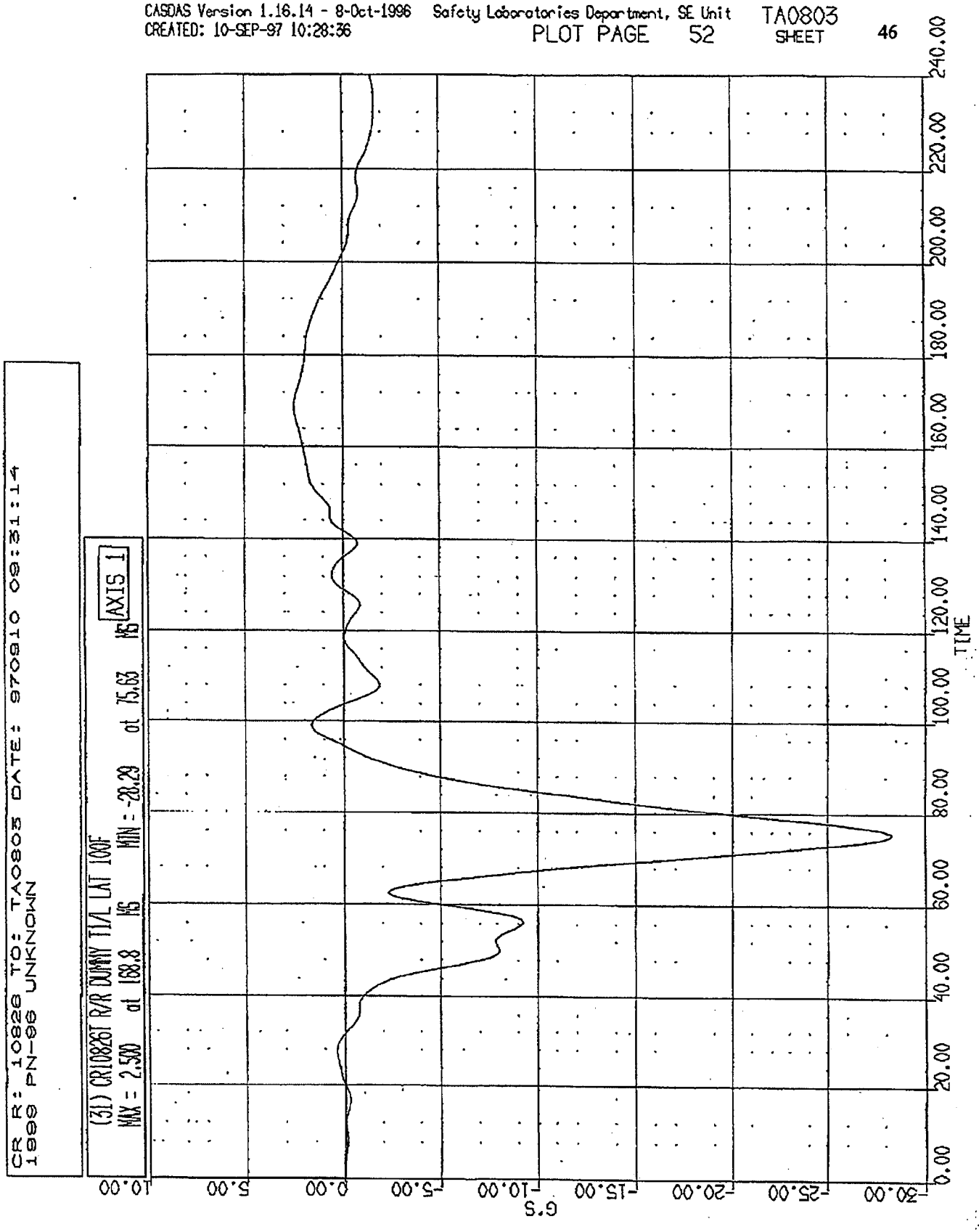
CREATED: 10-SEP-97 10:28:36 PLOT PAGE 52 SHEET 46



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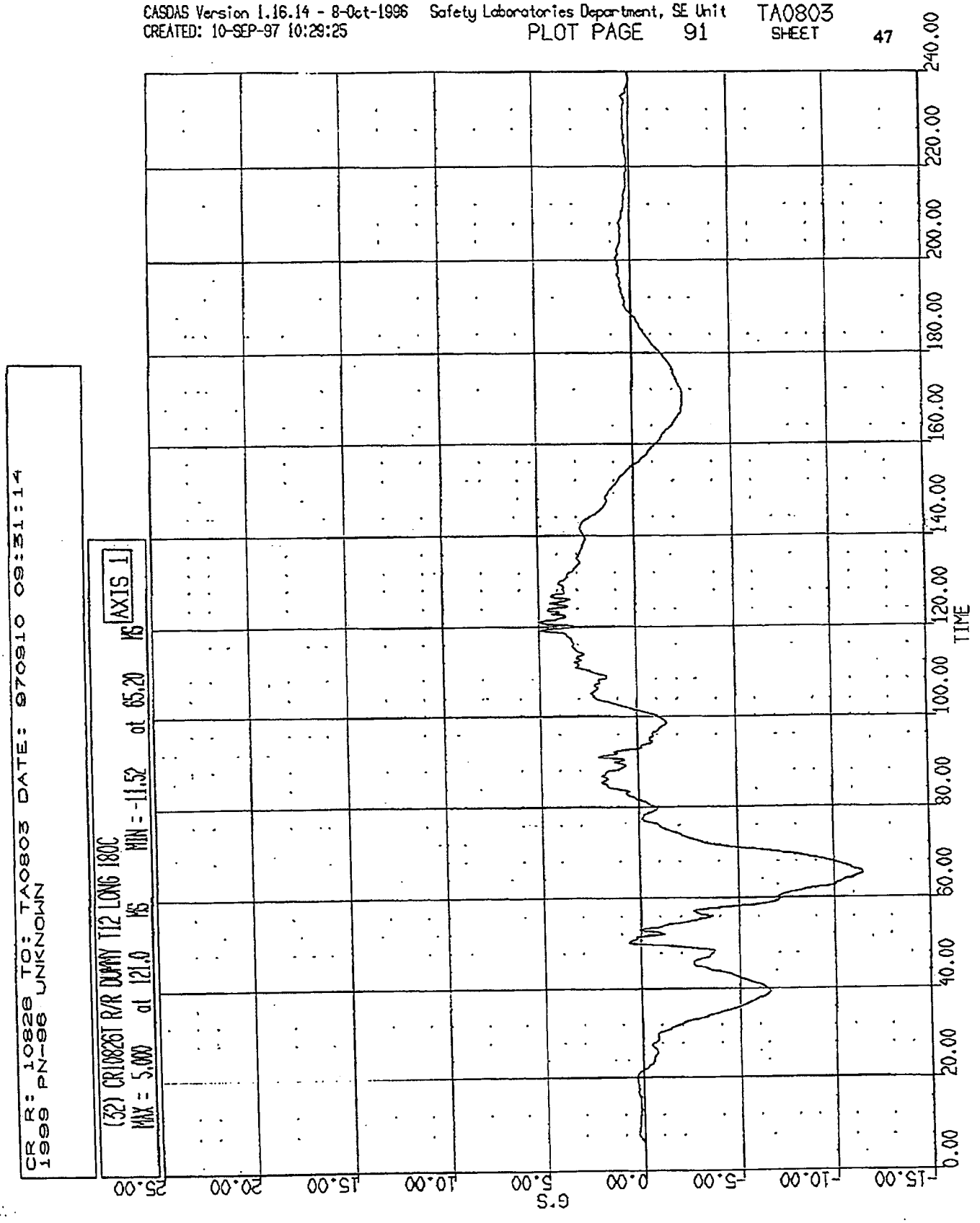

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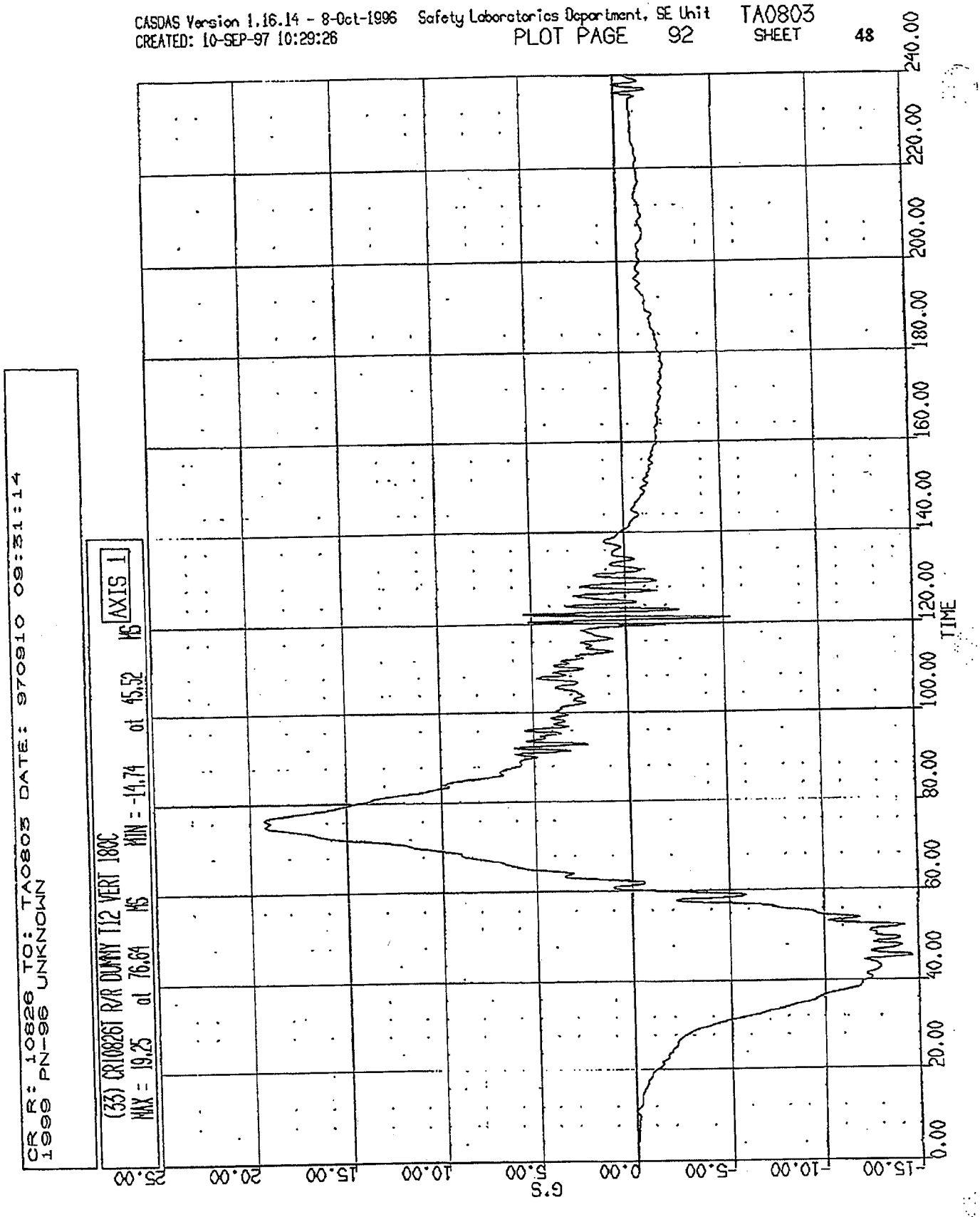

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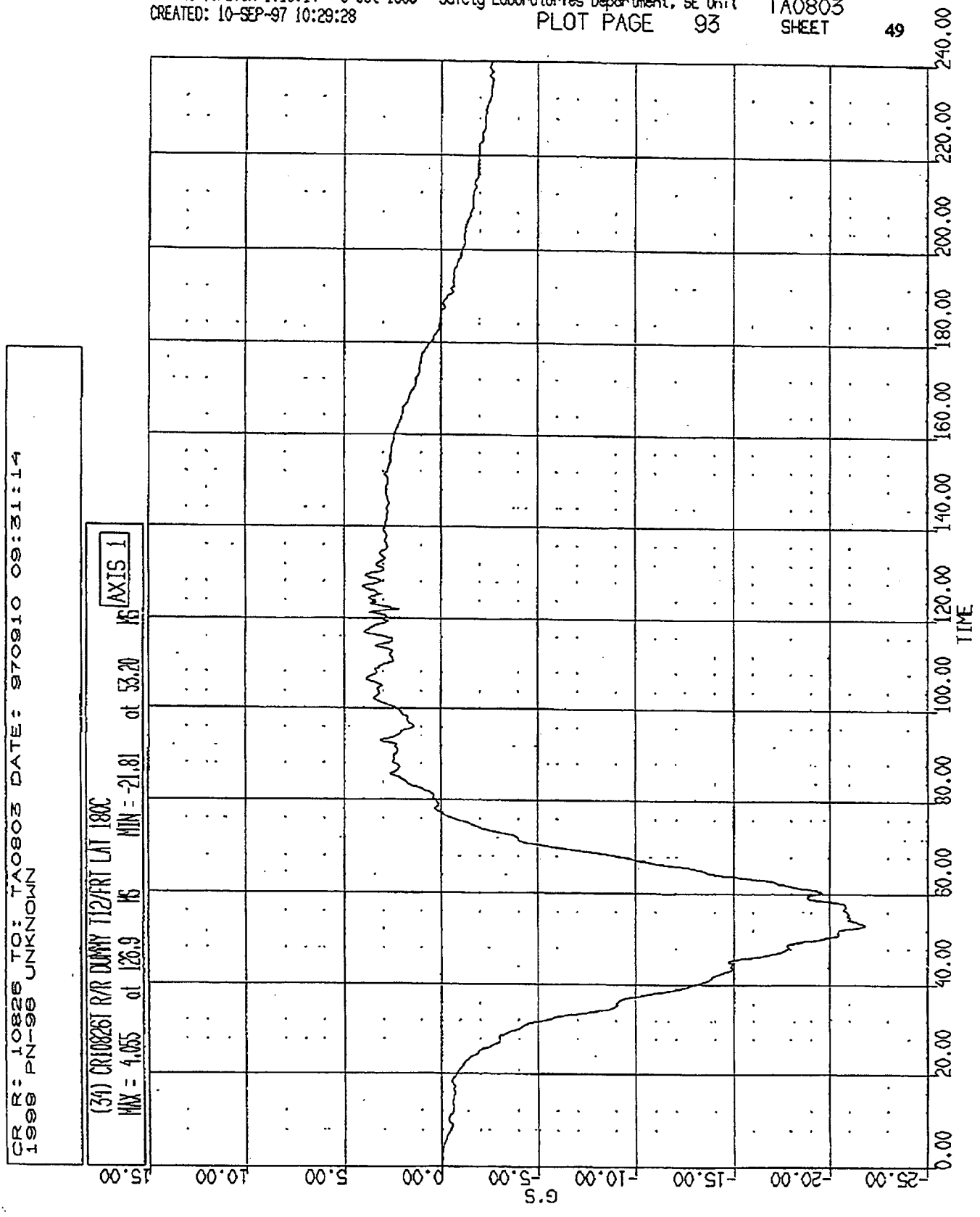
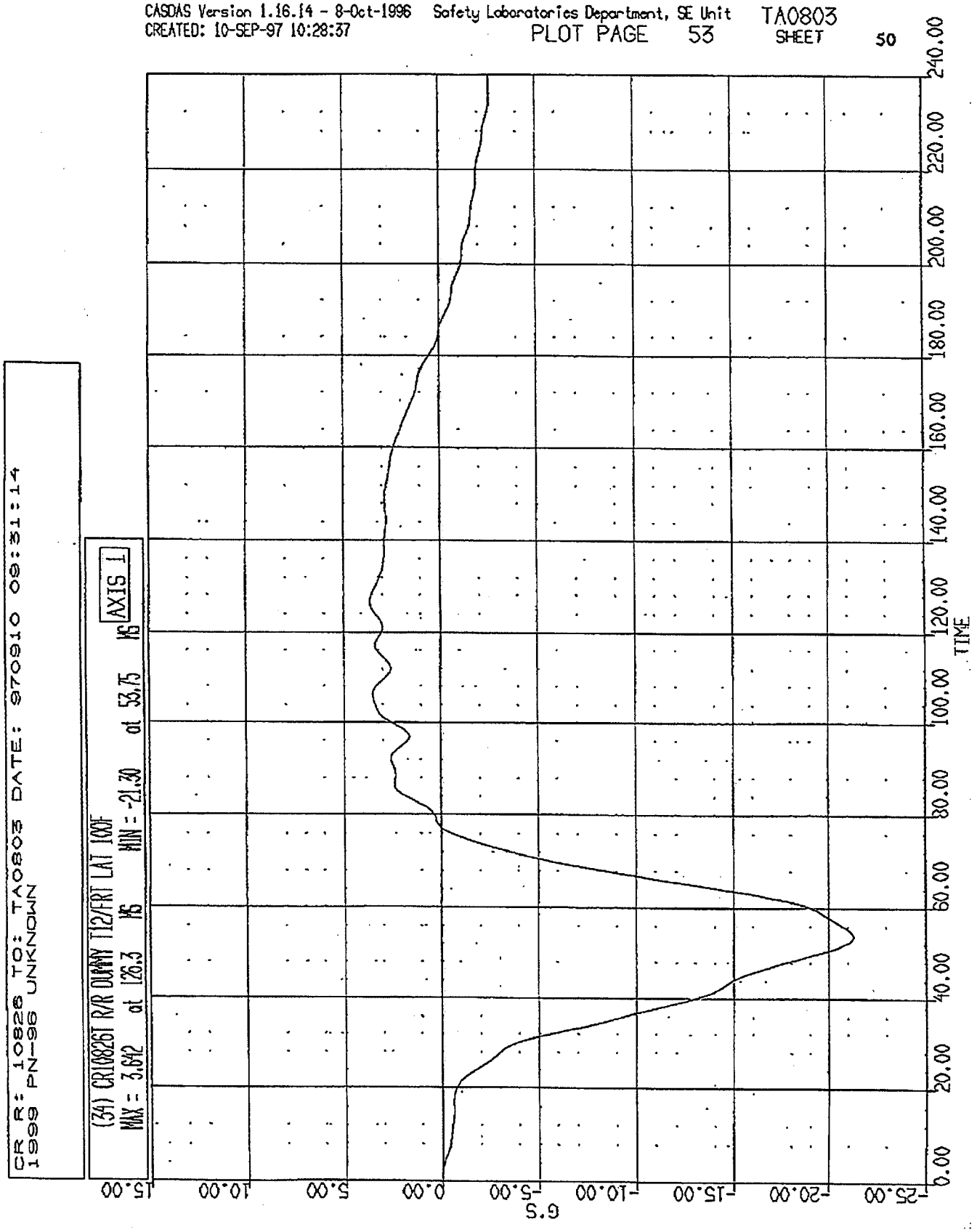
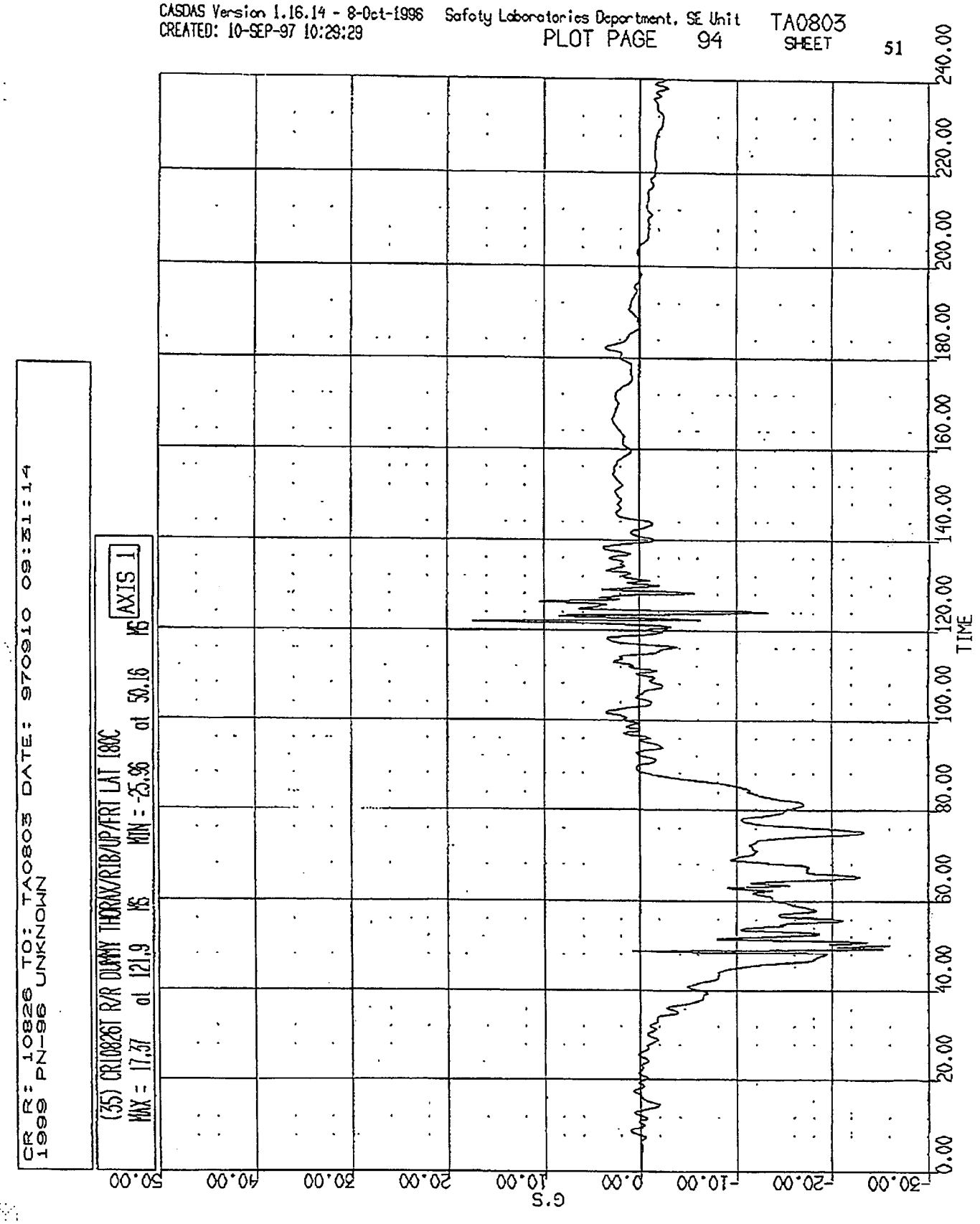


CRTS 0010826



CRTS 0010826



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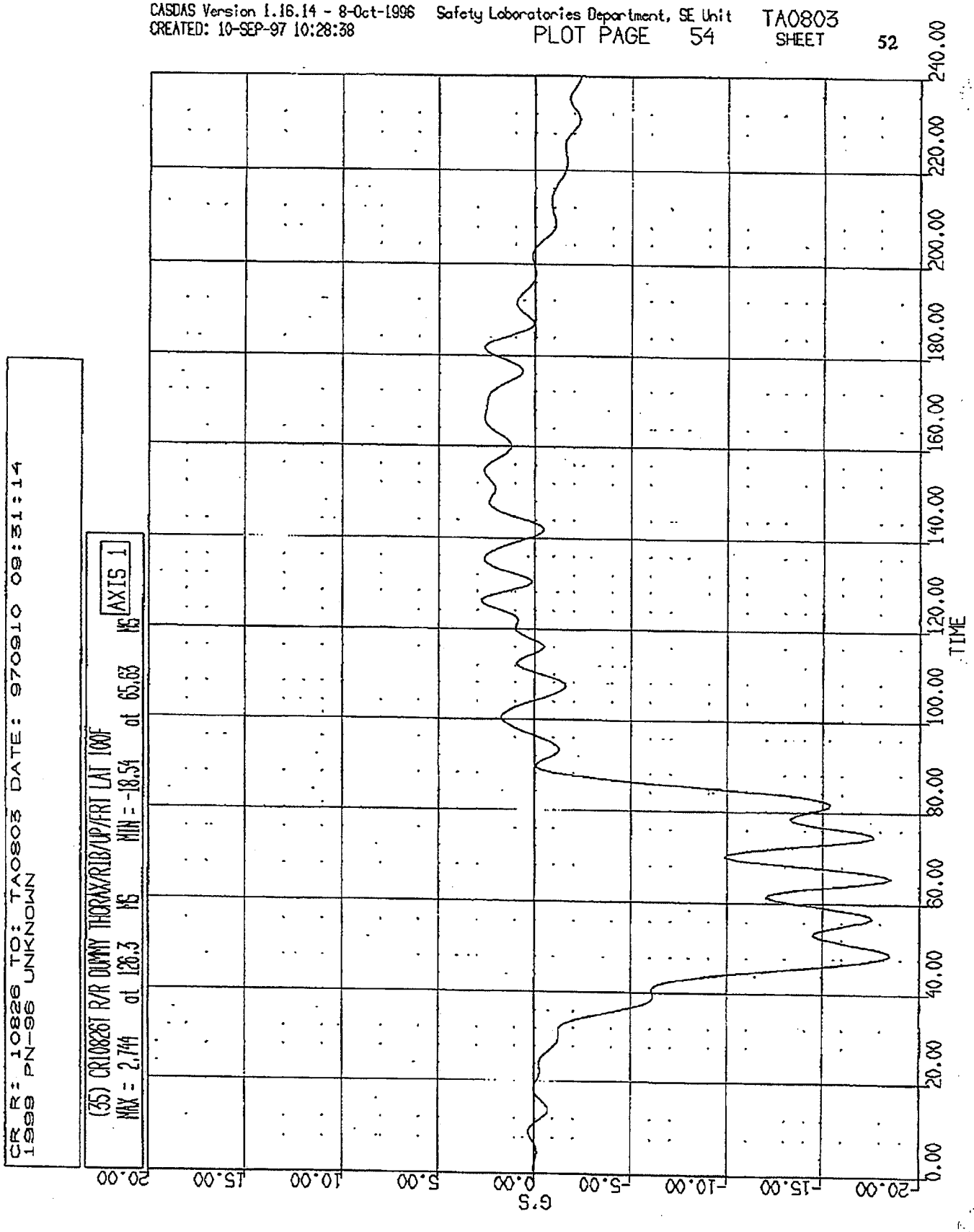

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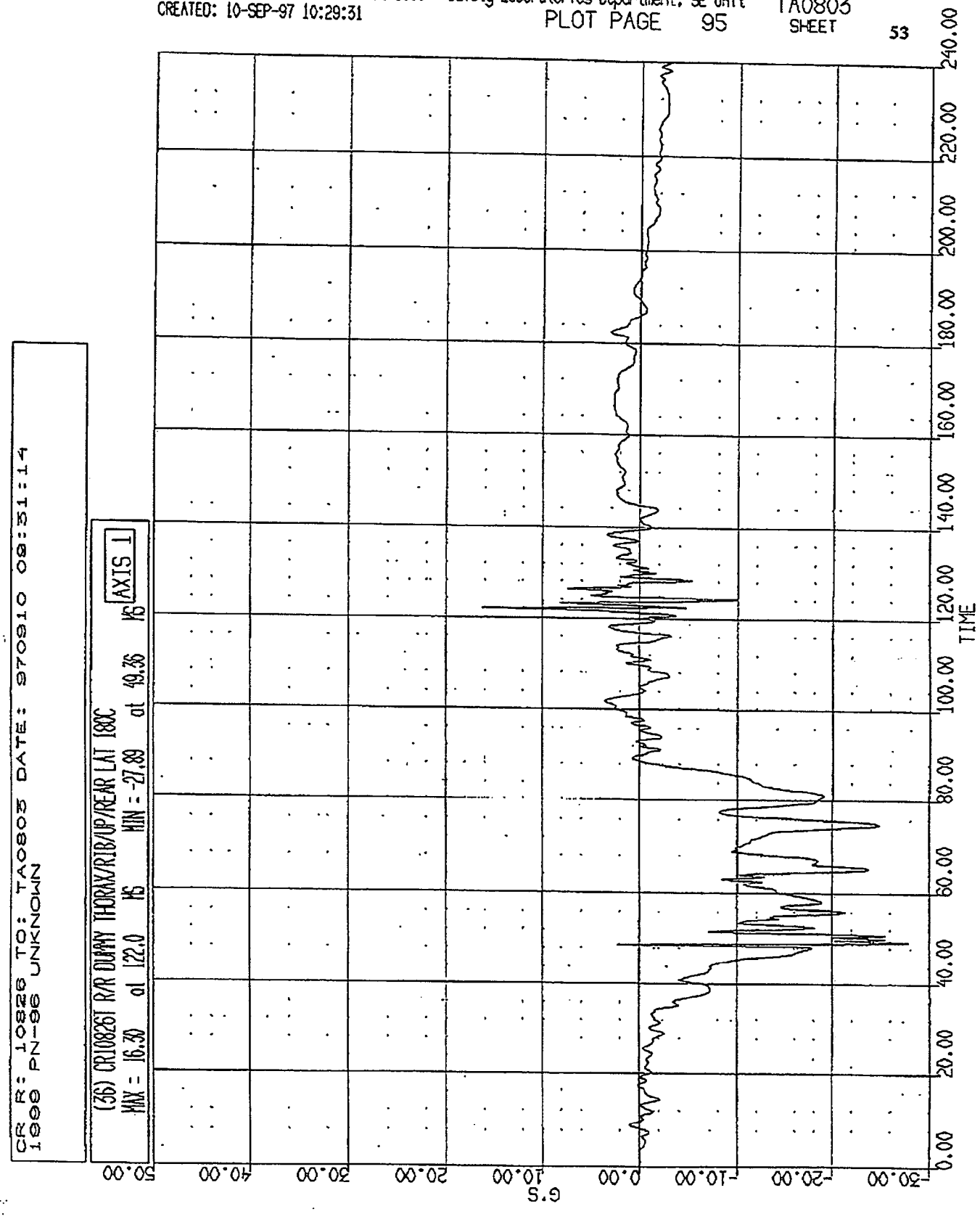

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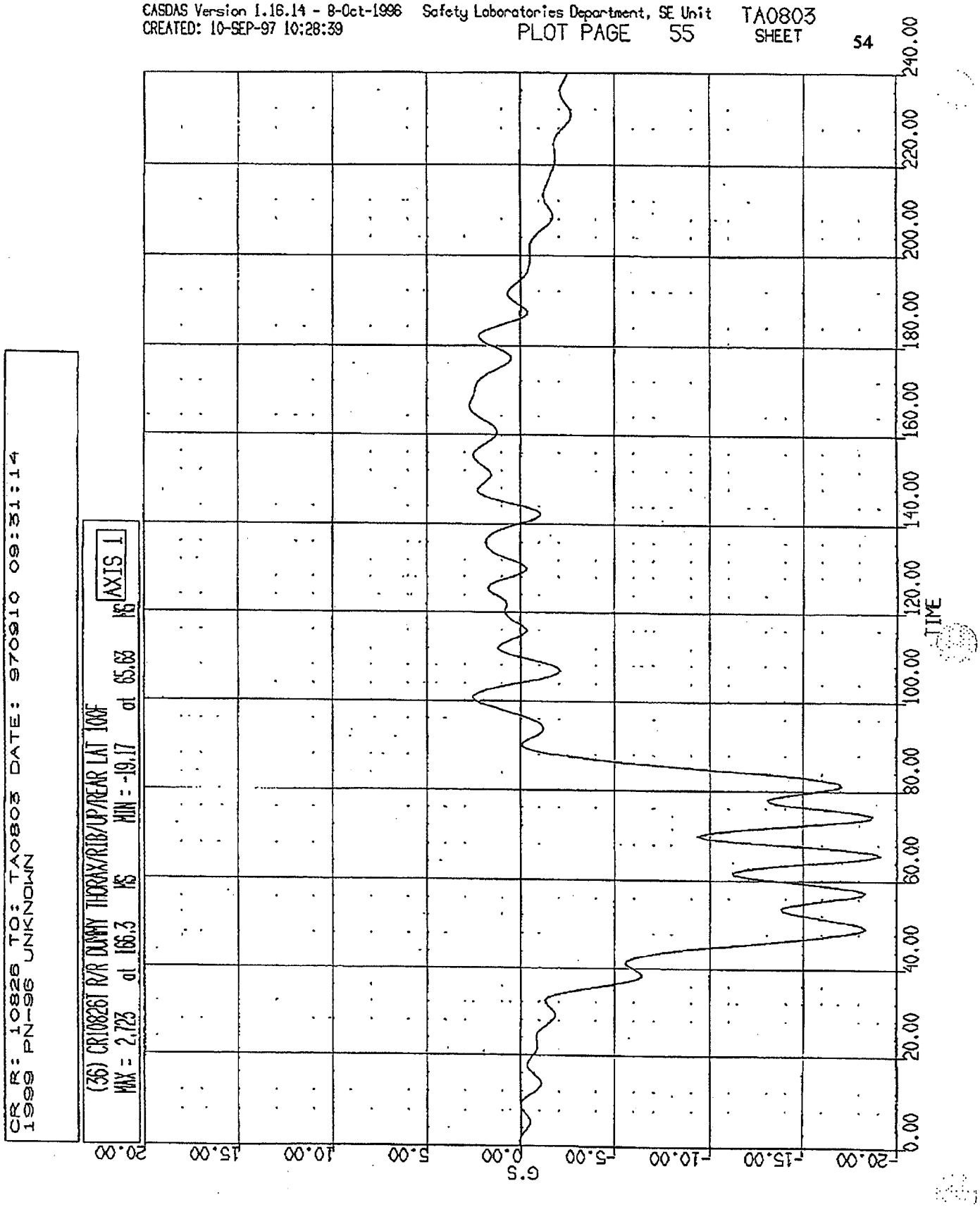
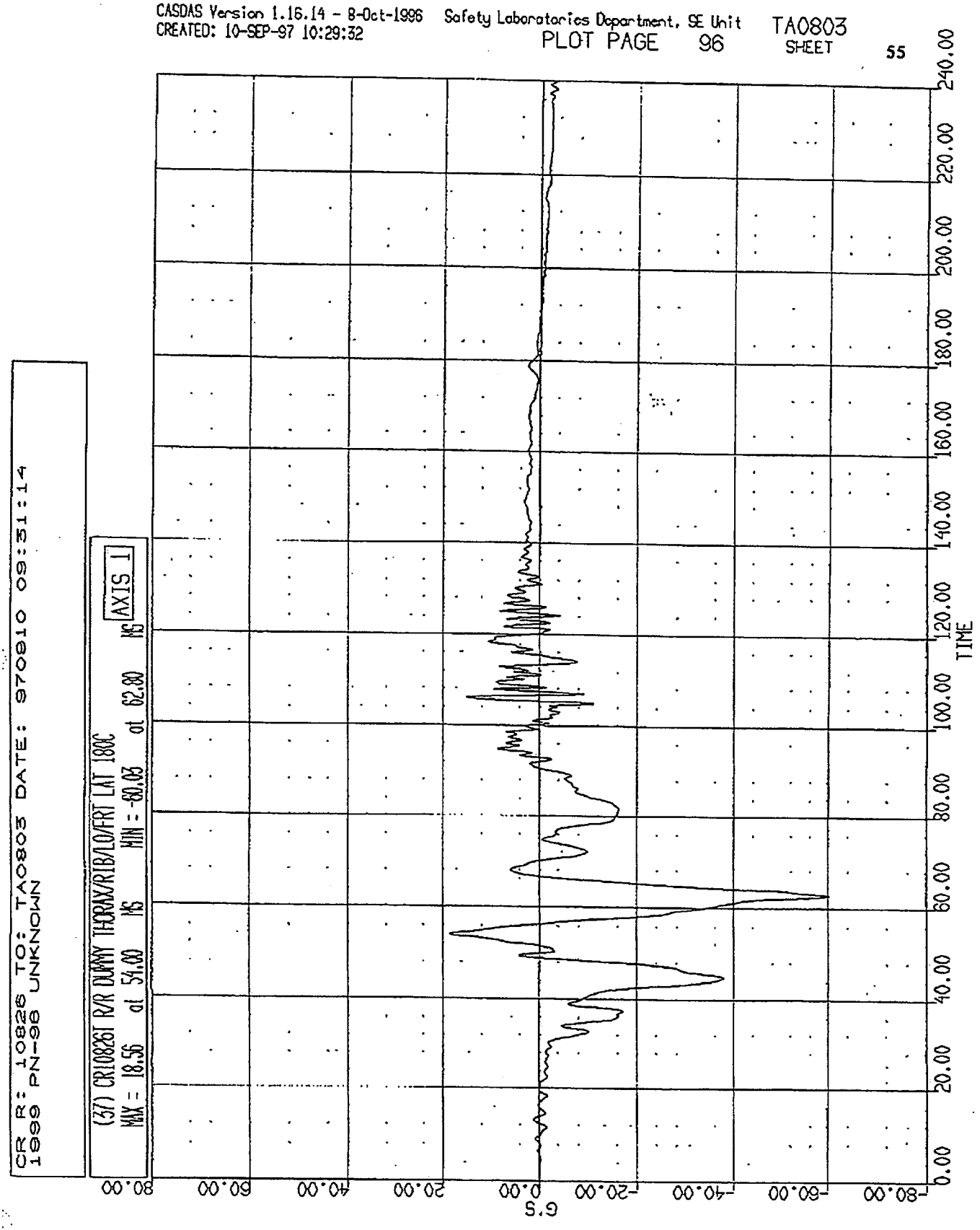
CREATED: 10-SEP-97 10:28:39 PLOT PAGE 55 SHEET 54



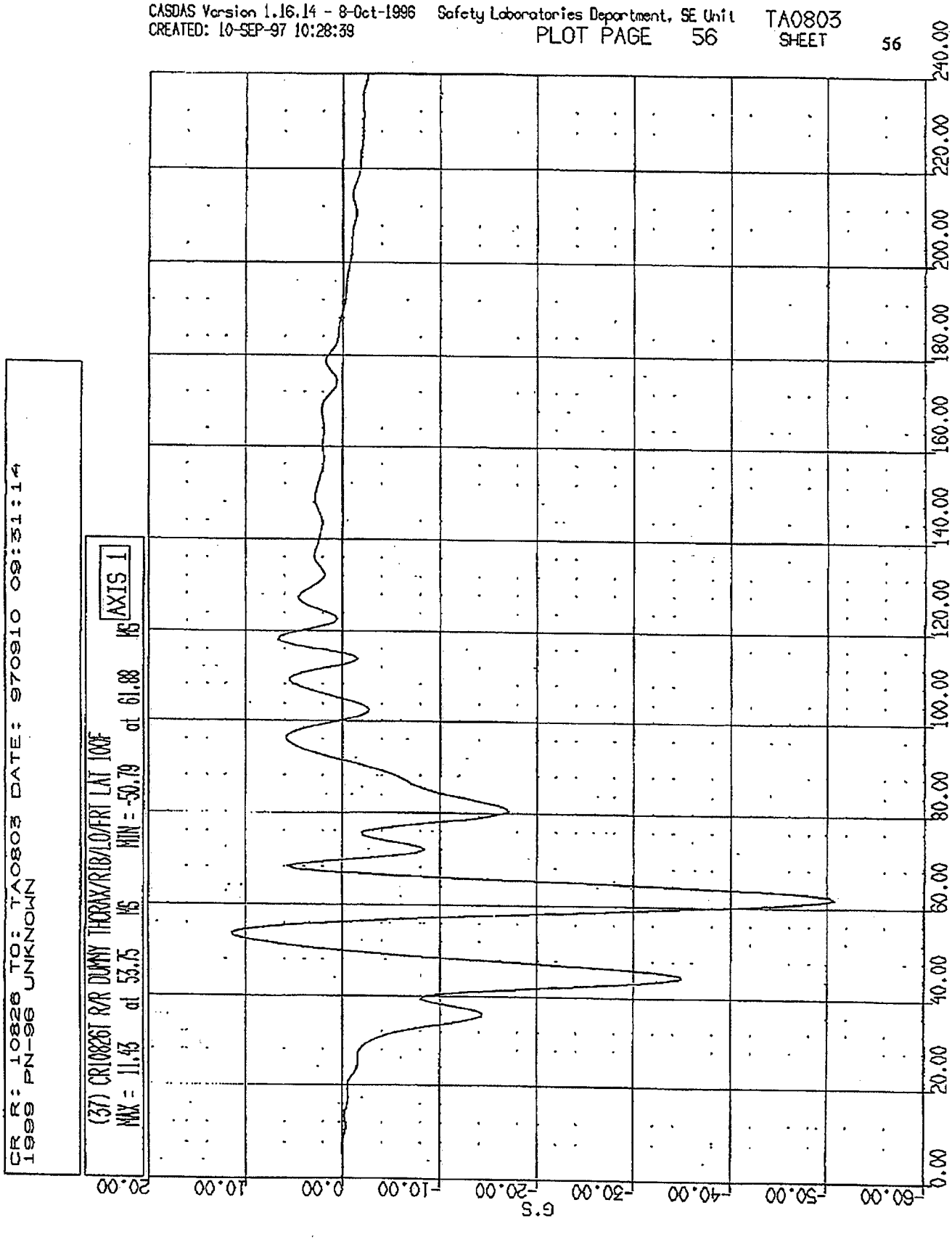
CRTS 0010826

0900

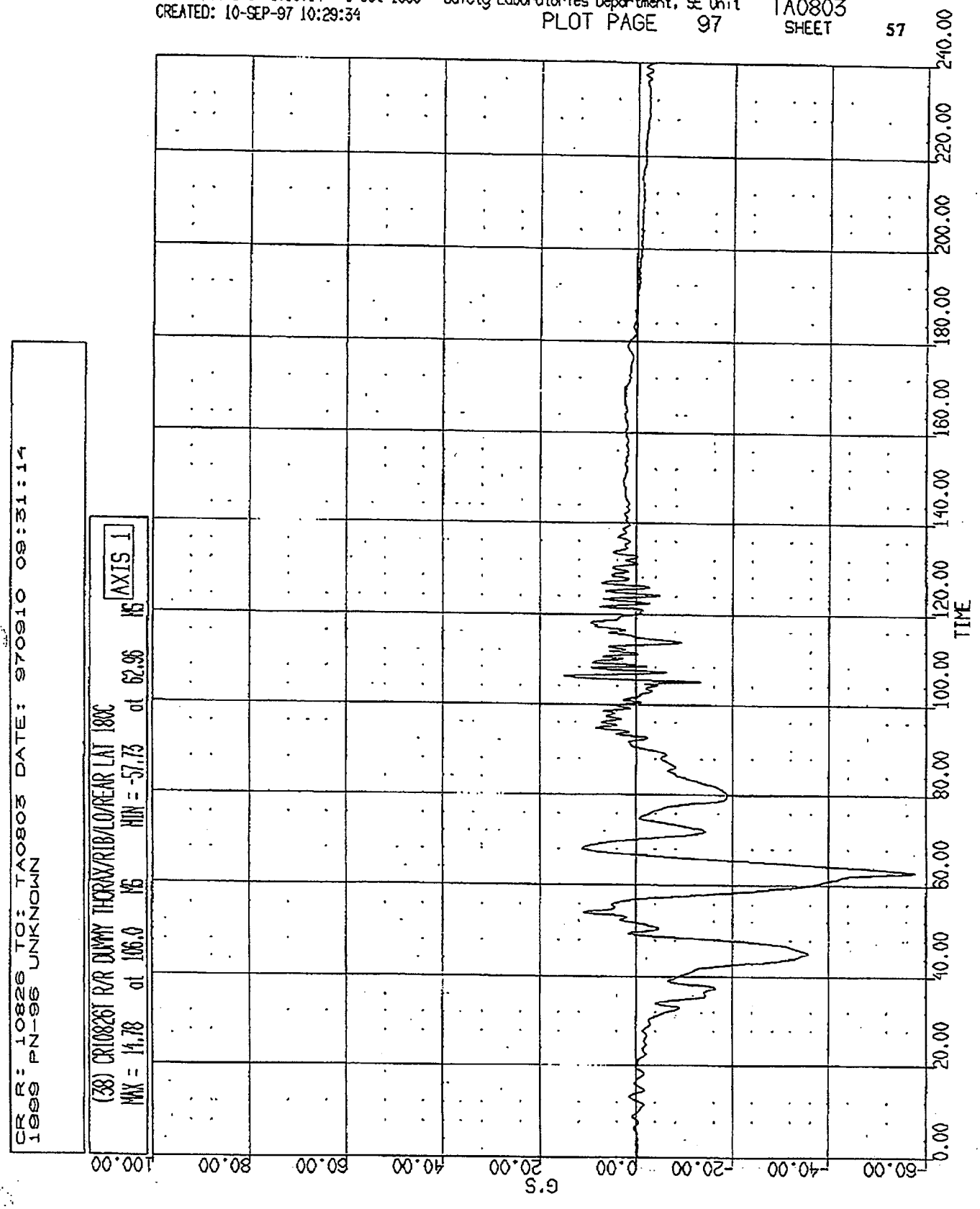


CRTS 0010826

0901



CRTS 0010826



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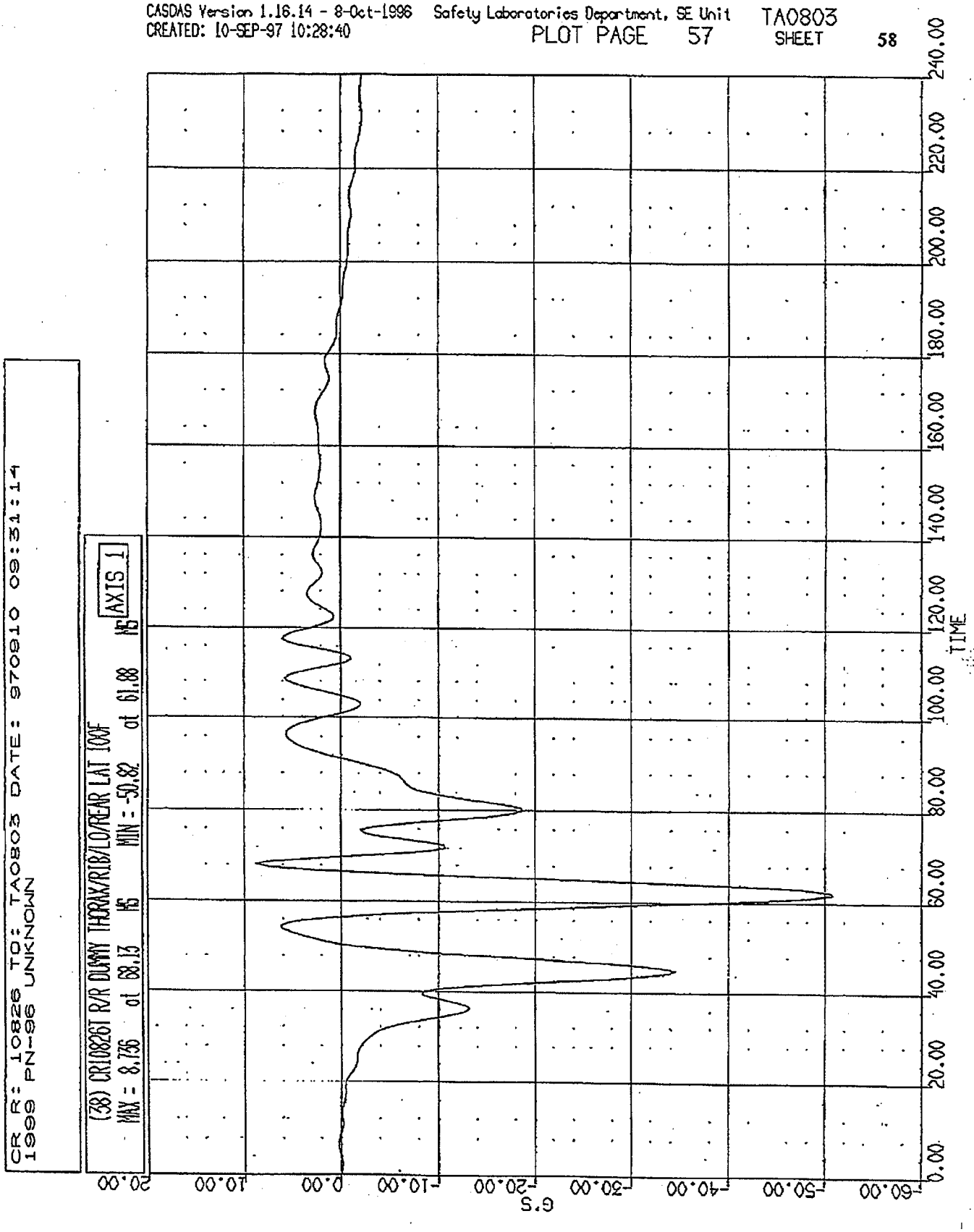
CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(738) CR10826T R/R DUMMY THORAX/RIB/LO/REAR LAT 100F
MAX = 8.736 at 68.13 MS MIN = -50.82 at 61.88 MS AXIS 1
G'S
TIME
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
-50.00
-60.00
0.00
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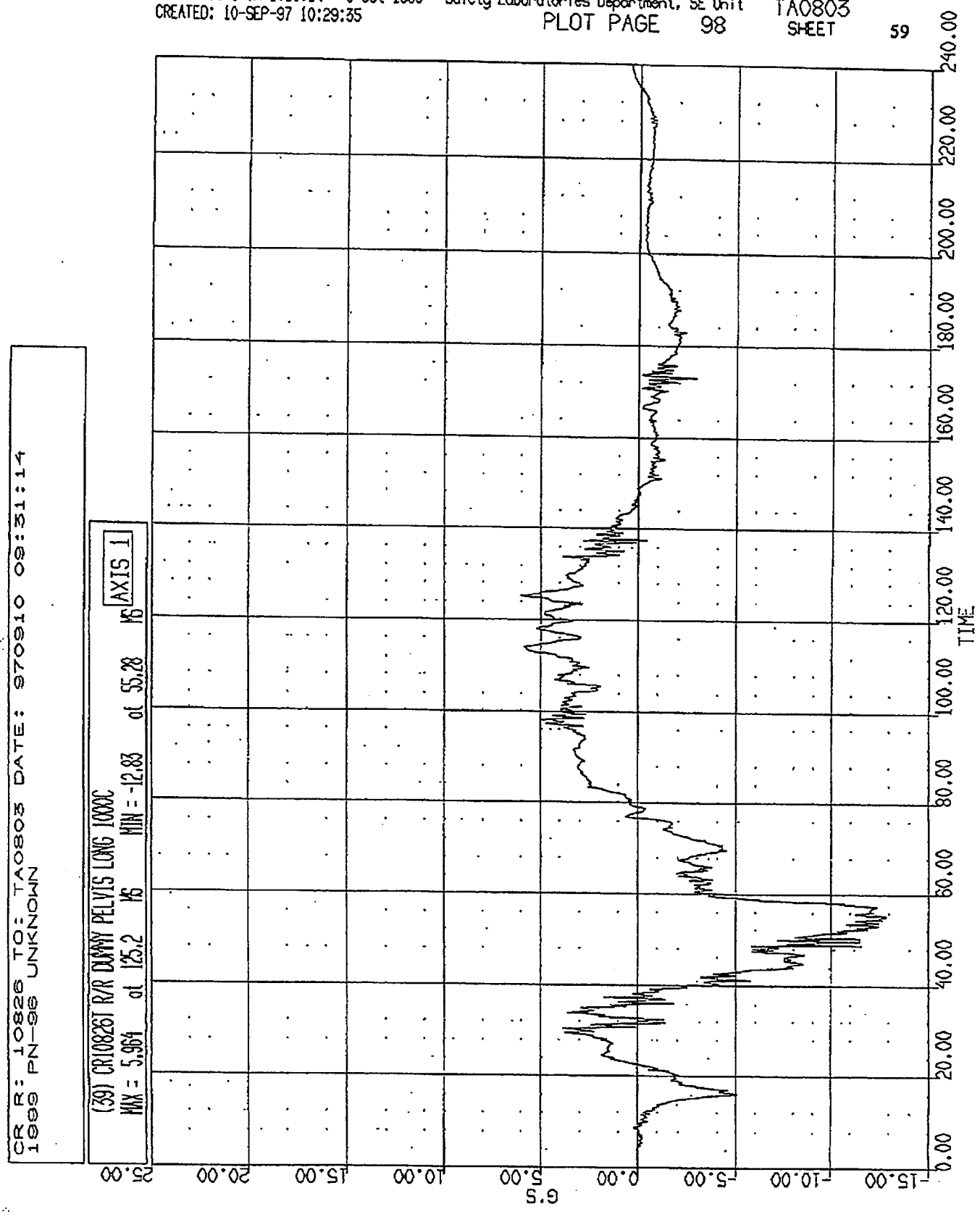
200.00
220.00
240.00



CRTS 0010826

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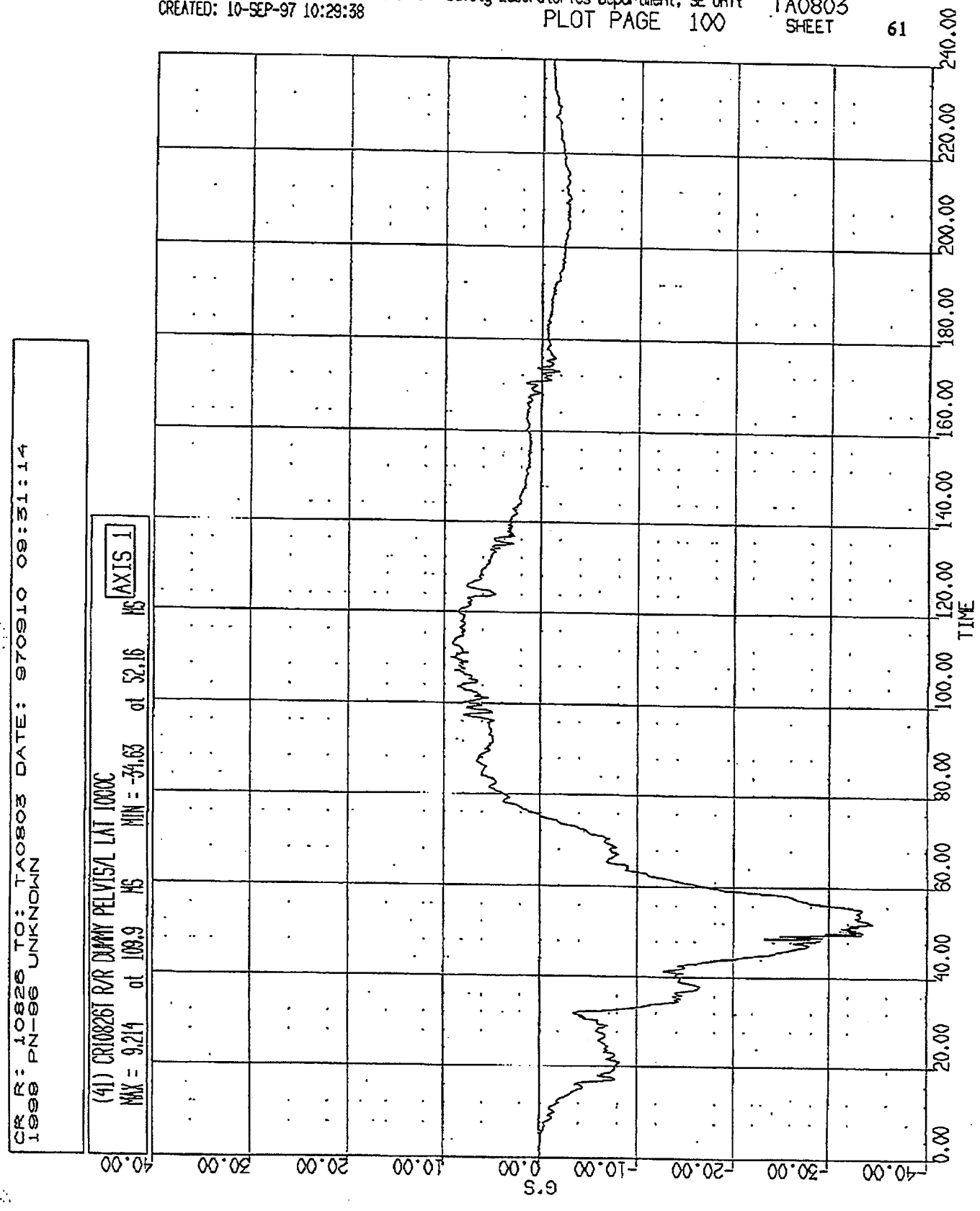
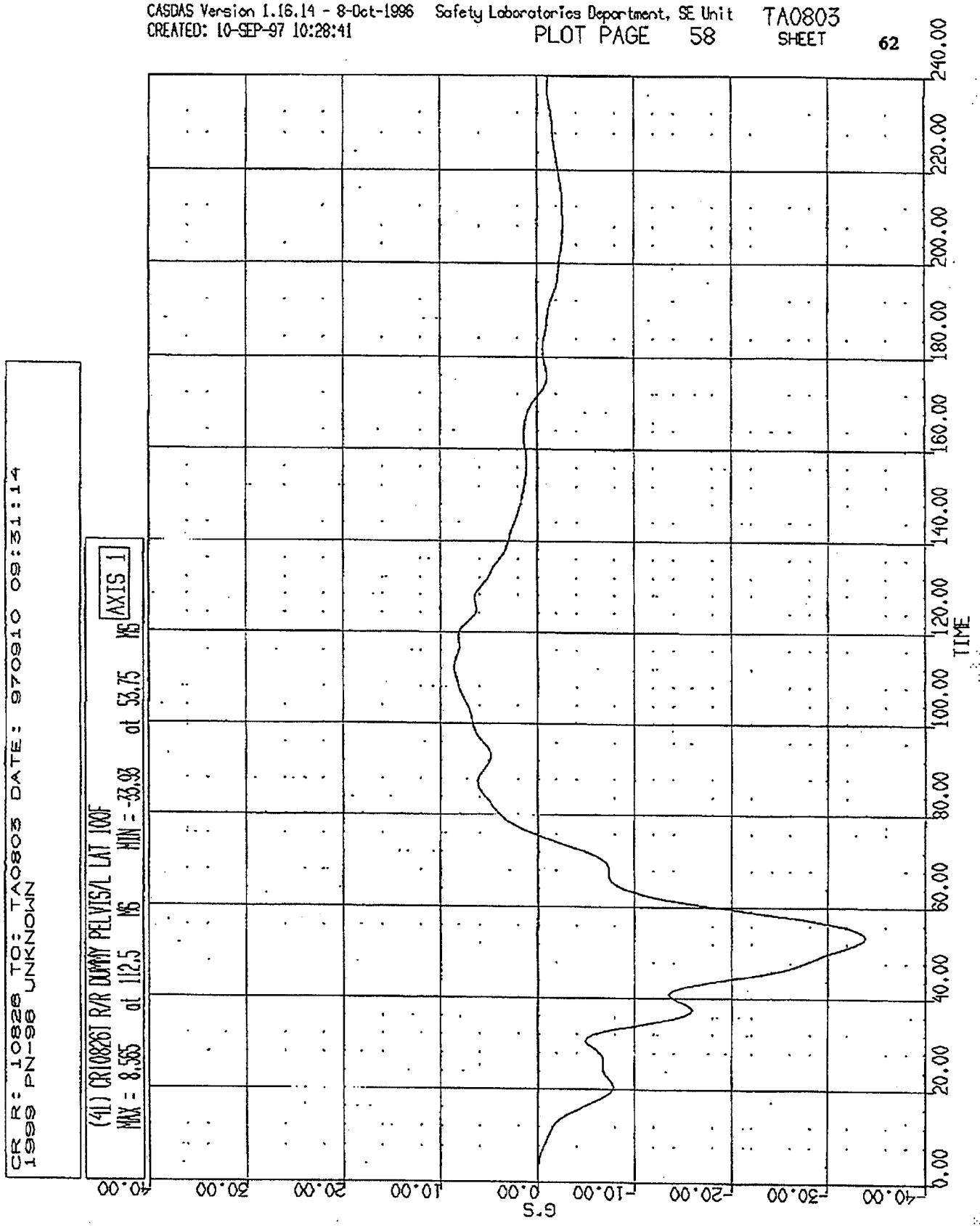
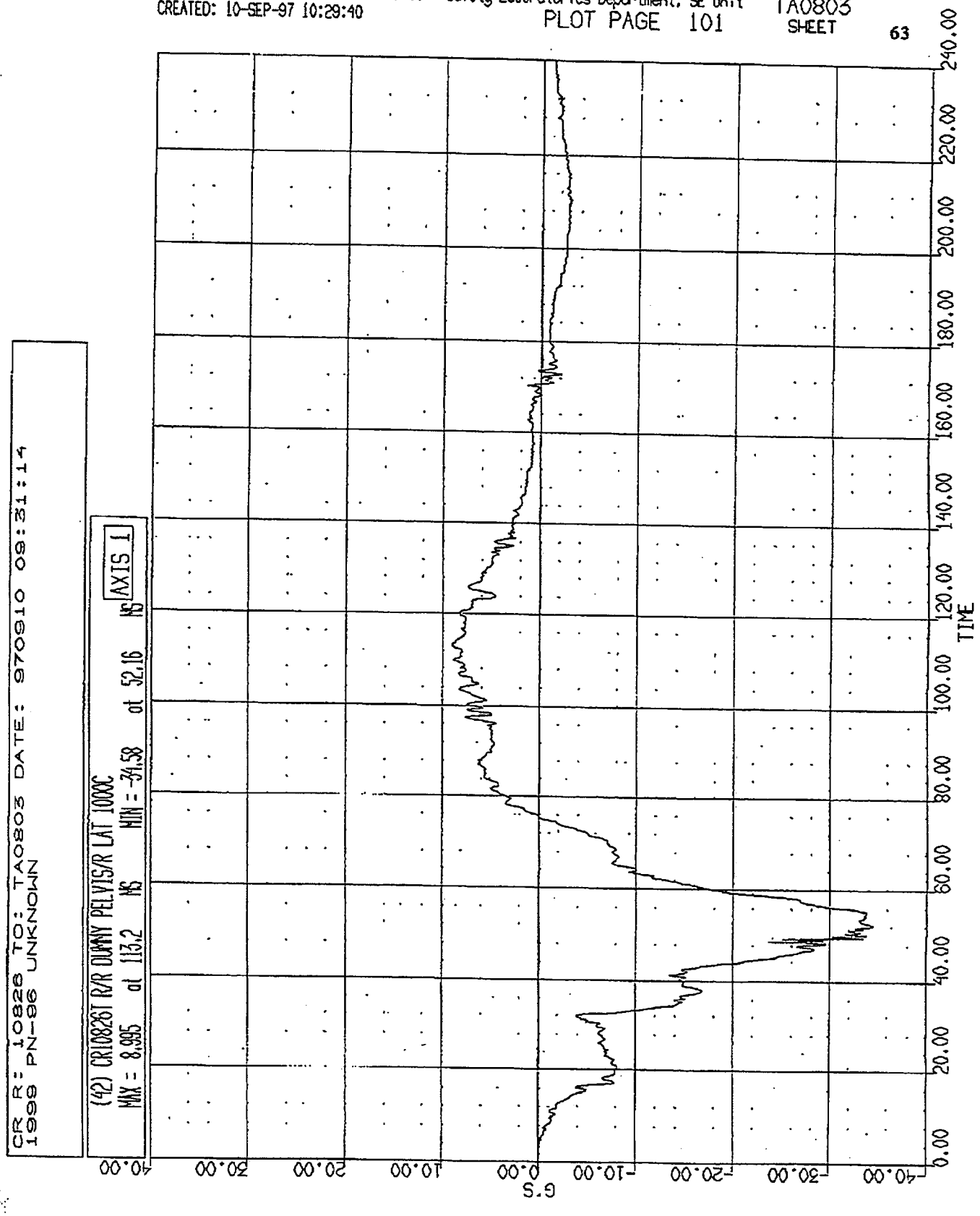
CRTS 0010826

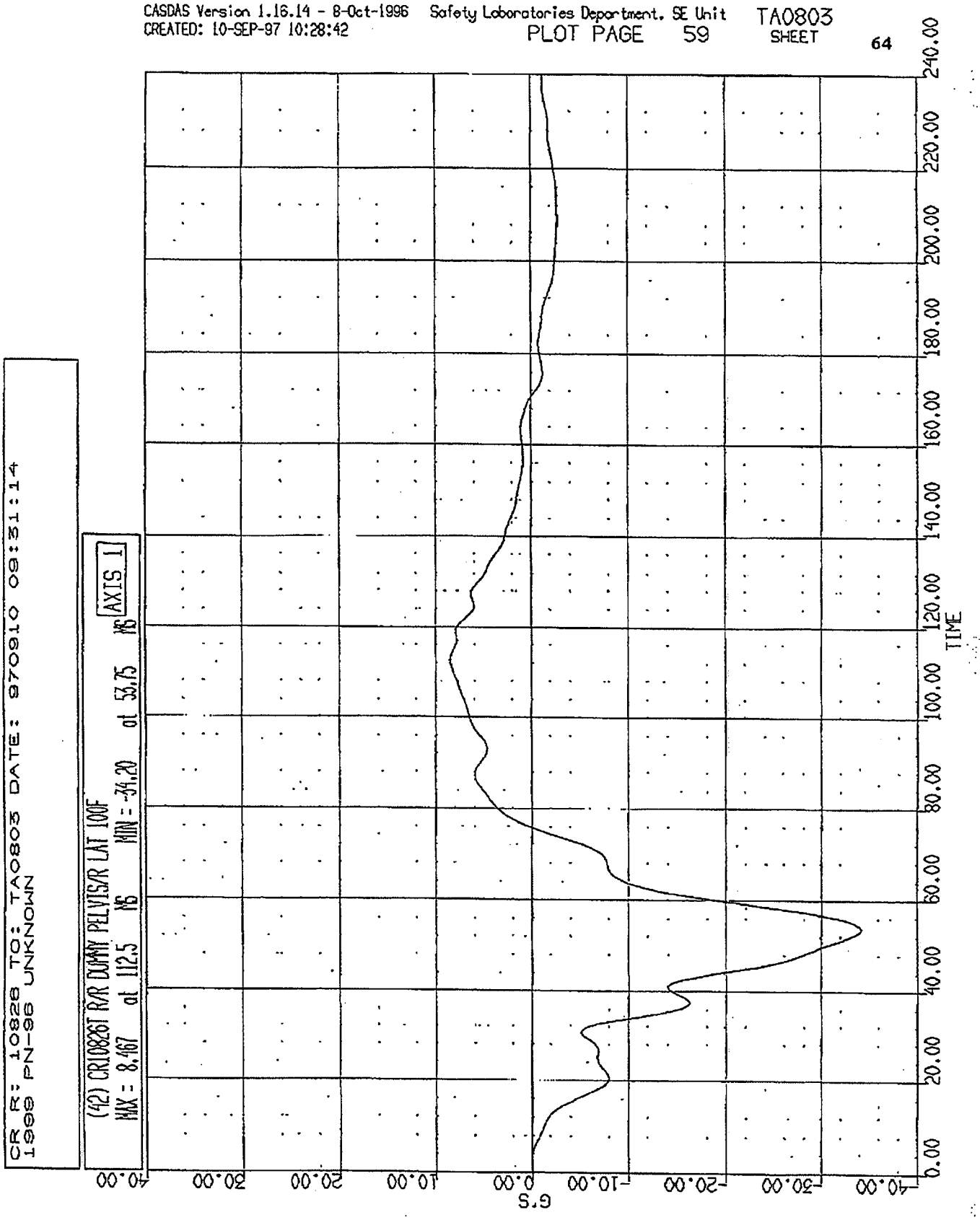


CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(41) CR10826T R/R DUMMY PELVIS/L LAT 100F
MAX = 8.565 at 112.5 MS MIN = -33.93 at 53.75 MS AXIS 1
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
TIME
40.00
30.00
20.00
10.00
0.0
-10.00
-20.00
-30.00
-40.00
G's



CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1998 PN-98 UNKNOWN
(42) CR10826T R/R DUMMY PELVIS/R LAT 100F
MAX = 8.167 at 112.5 MS MIN = -34.20 at 53.75 MS
AXIS 1
G's
TIME
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
0.00
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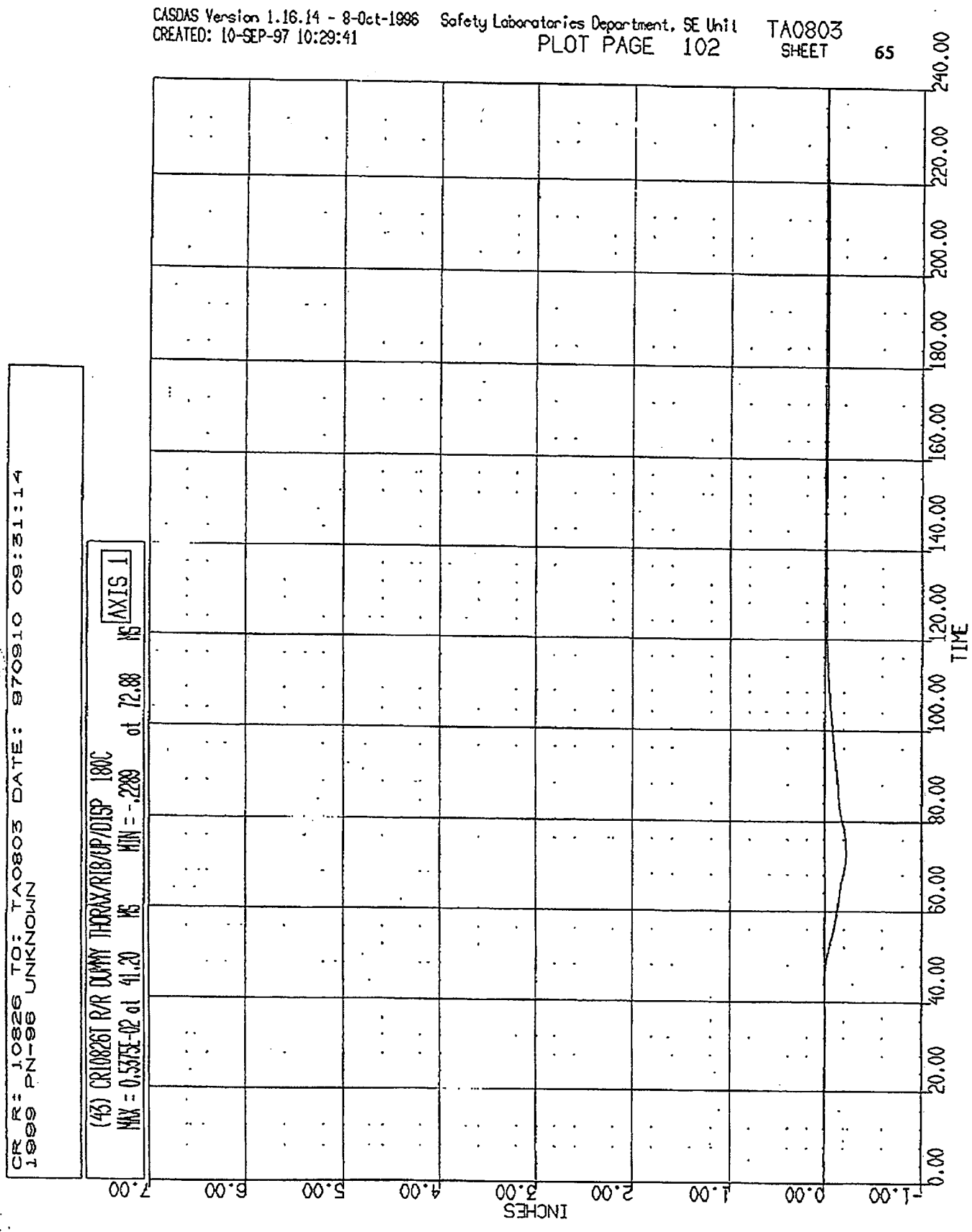
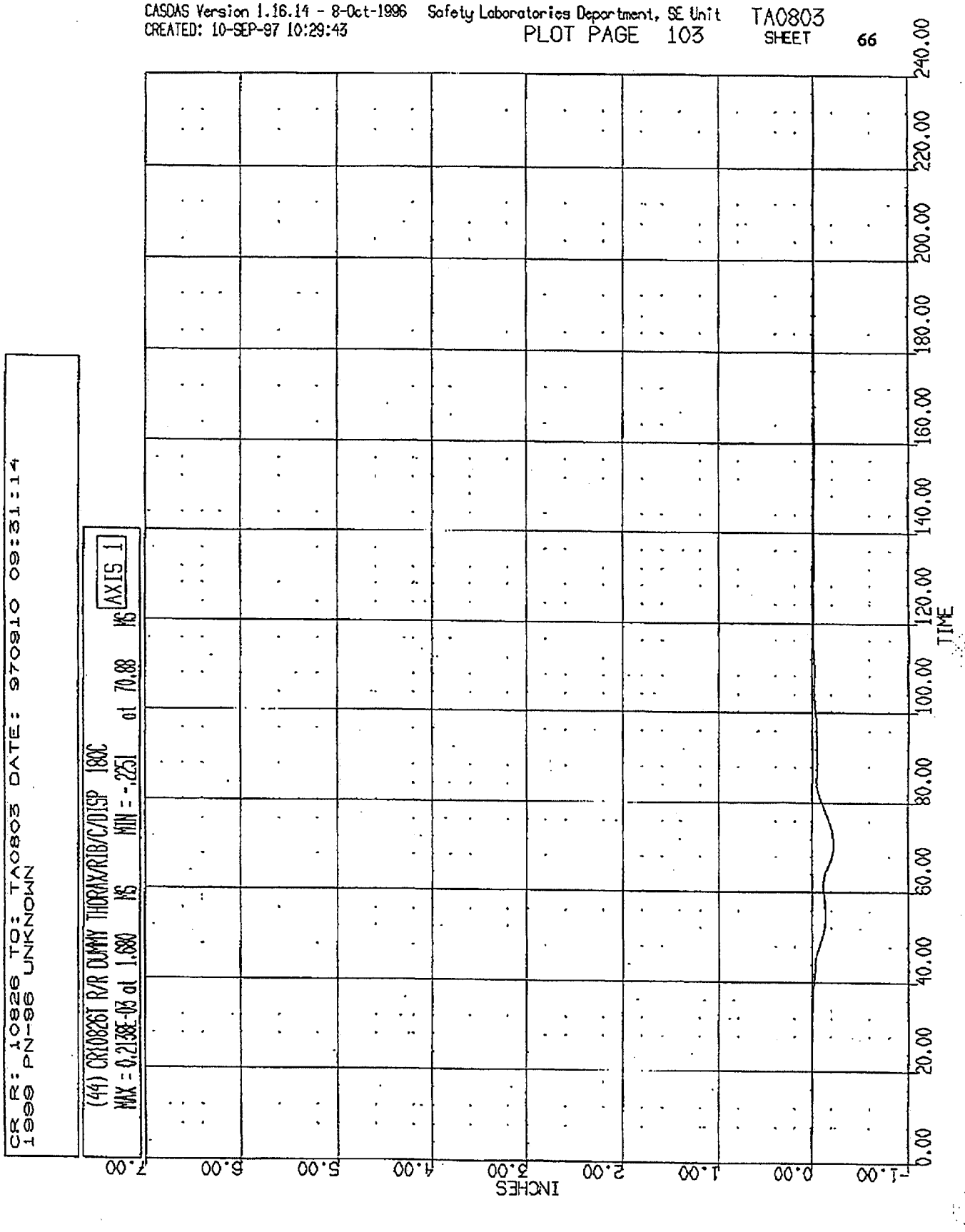
200.00
220.00
240.00



CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(44) CR10826T R/R DUMMY THORAX/RIB/C/DISP 180C
MAX = 0.2138E-03 at 1.680 MS MIN = -.2251 at 70.88 MS AXIS 1
INCHES
TIME
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
0.00
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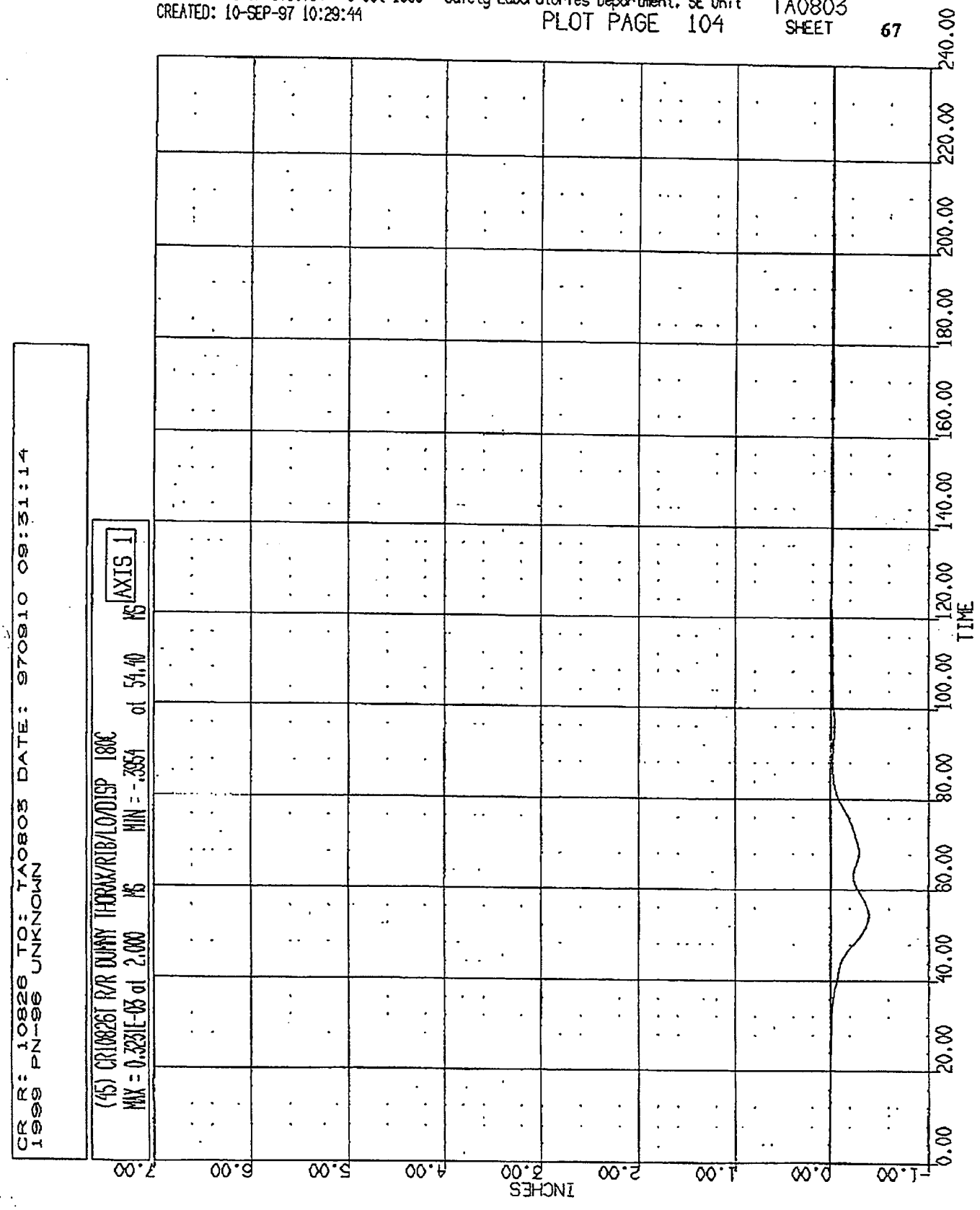
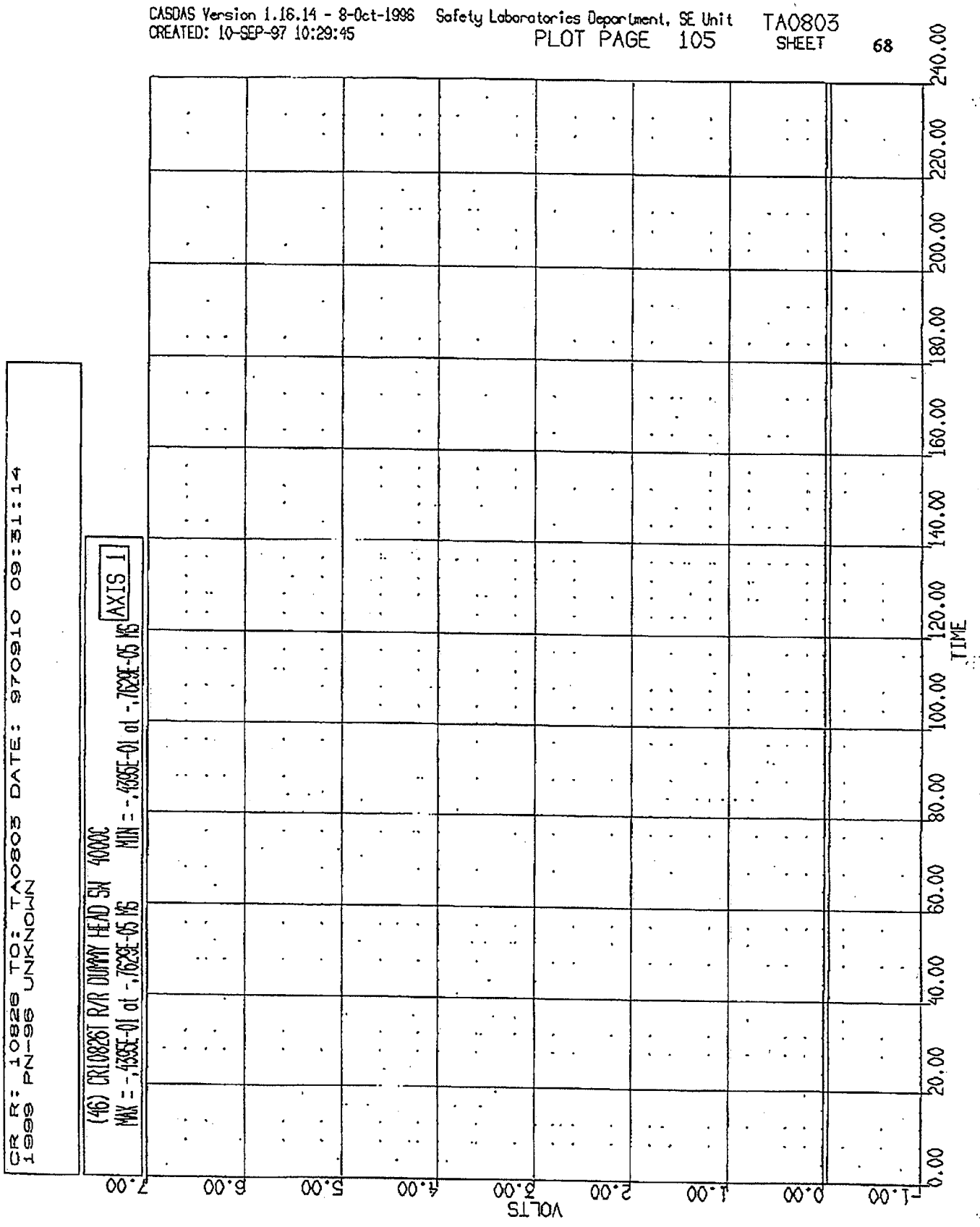
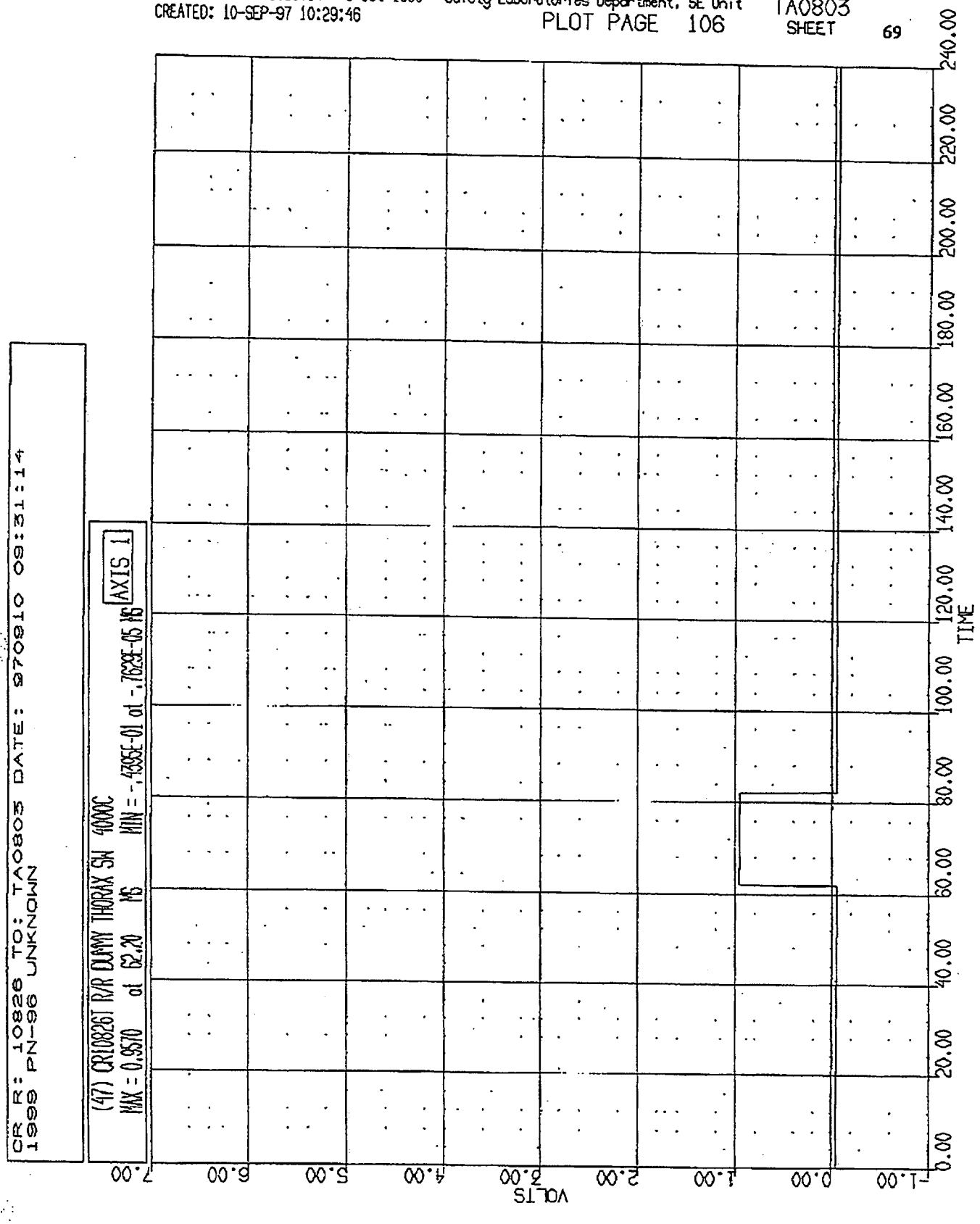
200.00
220.00
240.00

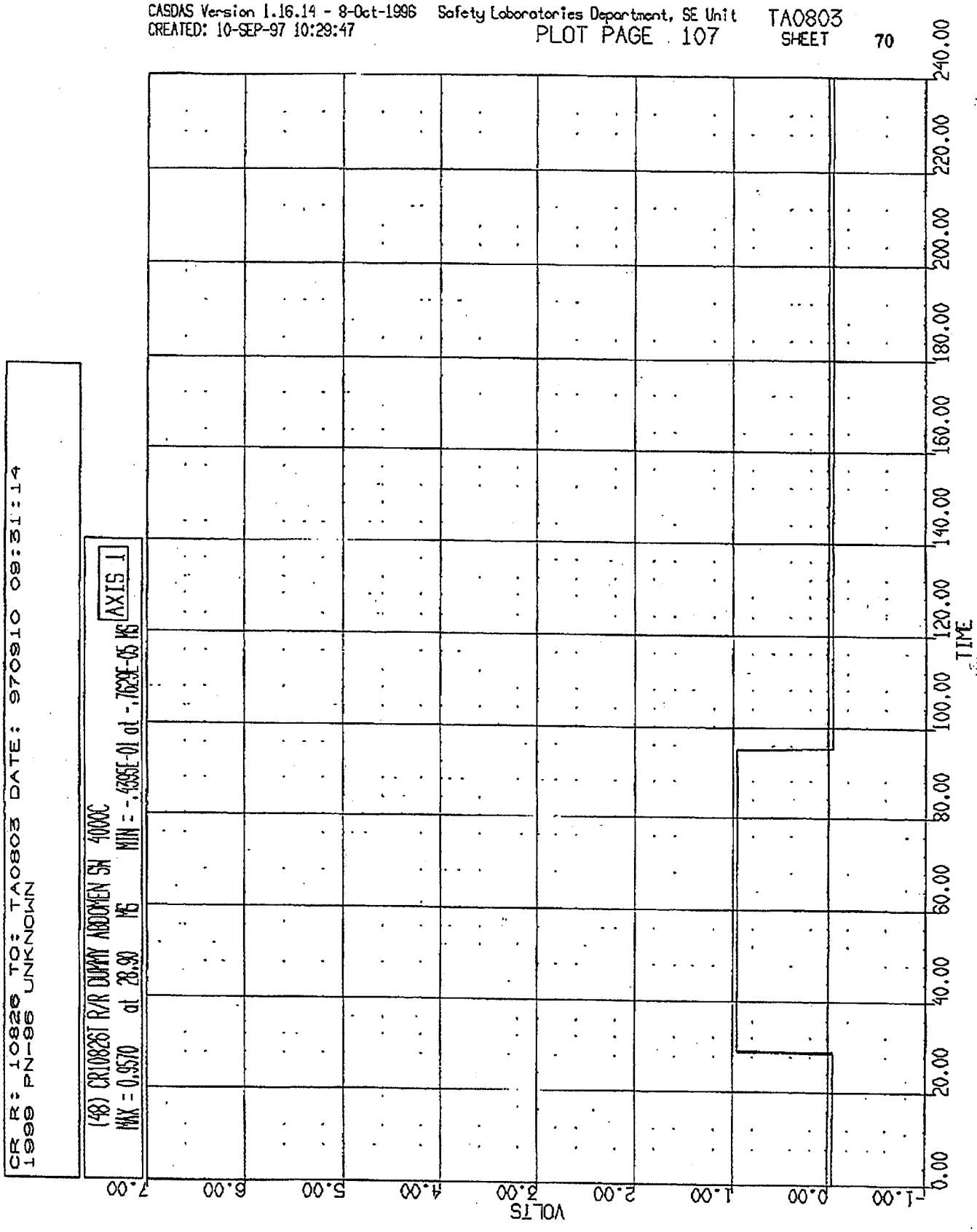


CRTS 0010826

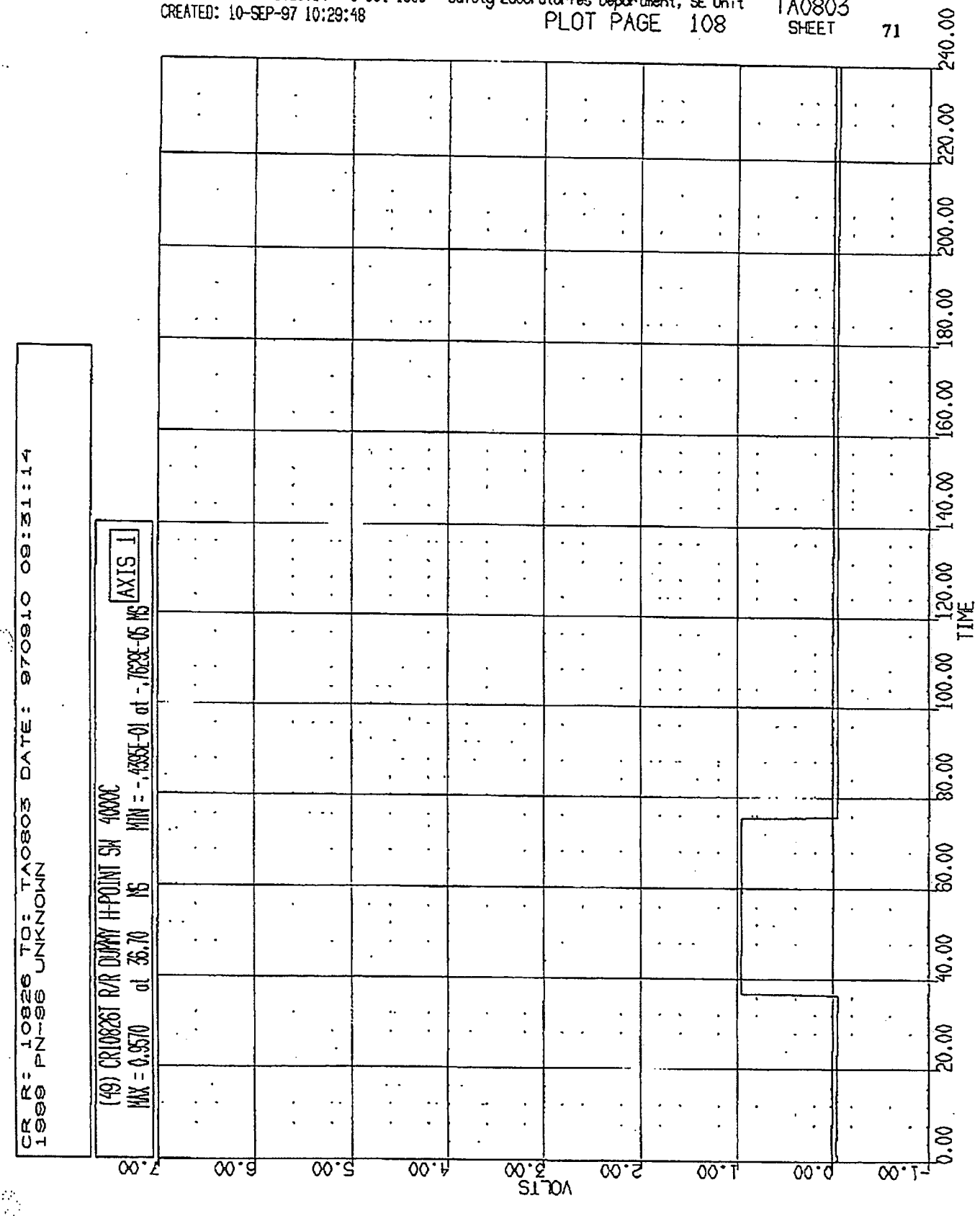


CRTS 0010826

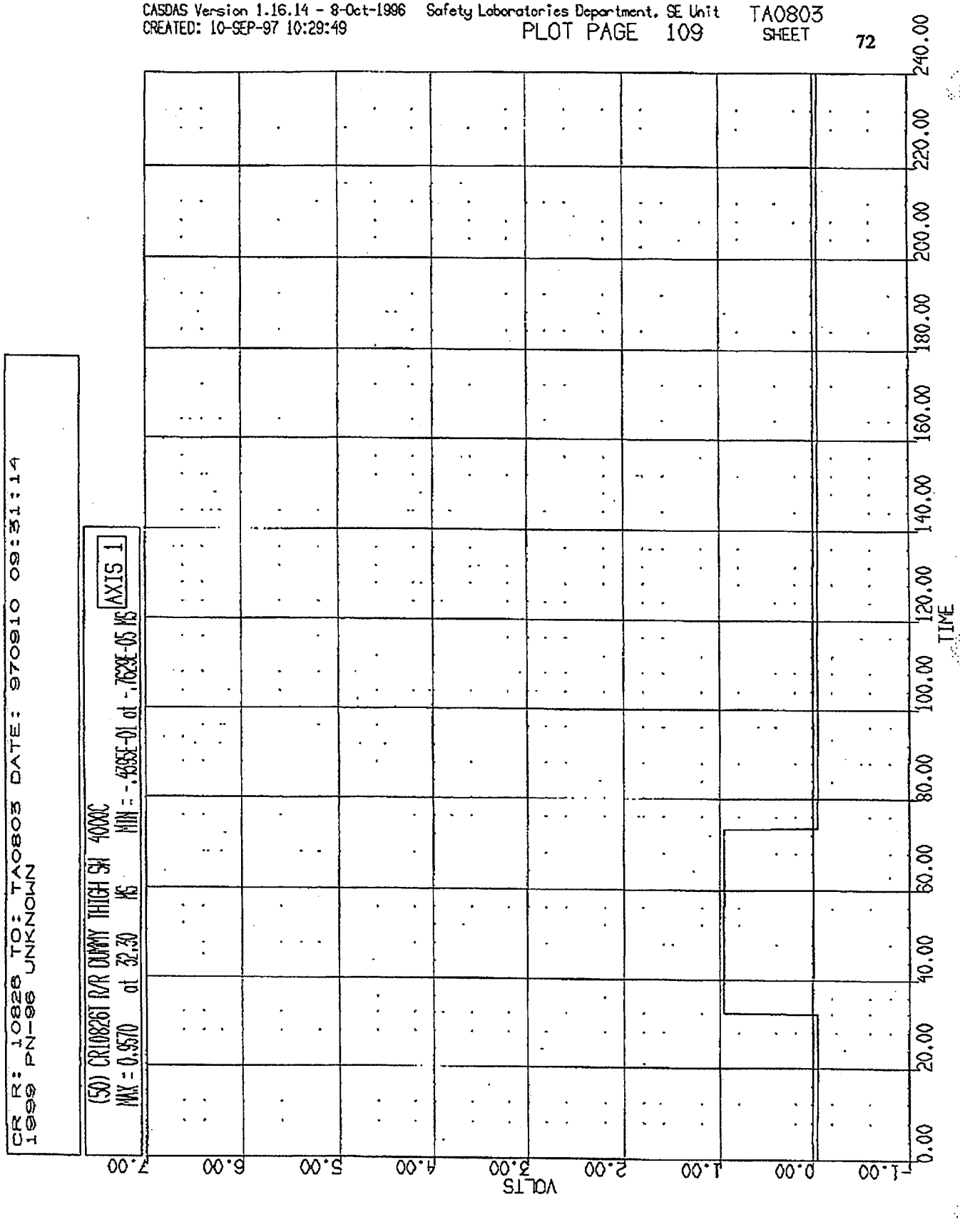

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(47) CR10826T R/R DUMMY THORAX SW 4000C
MAX = 0.9570 at 62.20 MS MIN = -.4335E-01 at -.7623E-05 MS
AXIS 1
VOLTS
TIME
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(148) CR10826T R/R DUMMY ABDOMEN SW 4000C
MAX = 0.9570 at 28.90 MS MIN = -.4935E-01 at -.7629E-05 MS
AXIS 1
VOLTS
TIME
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00

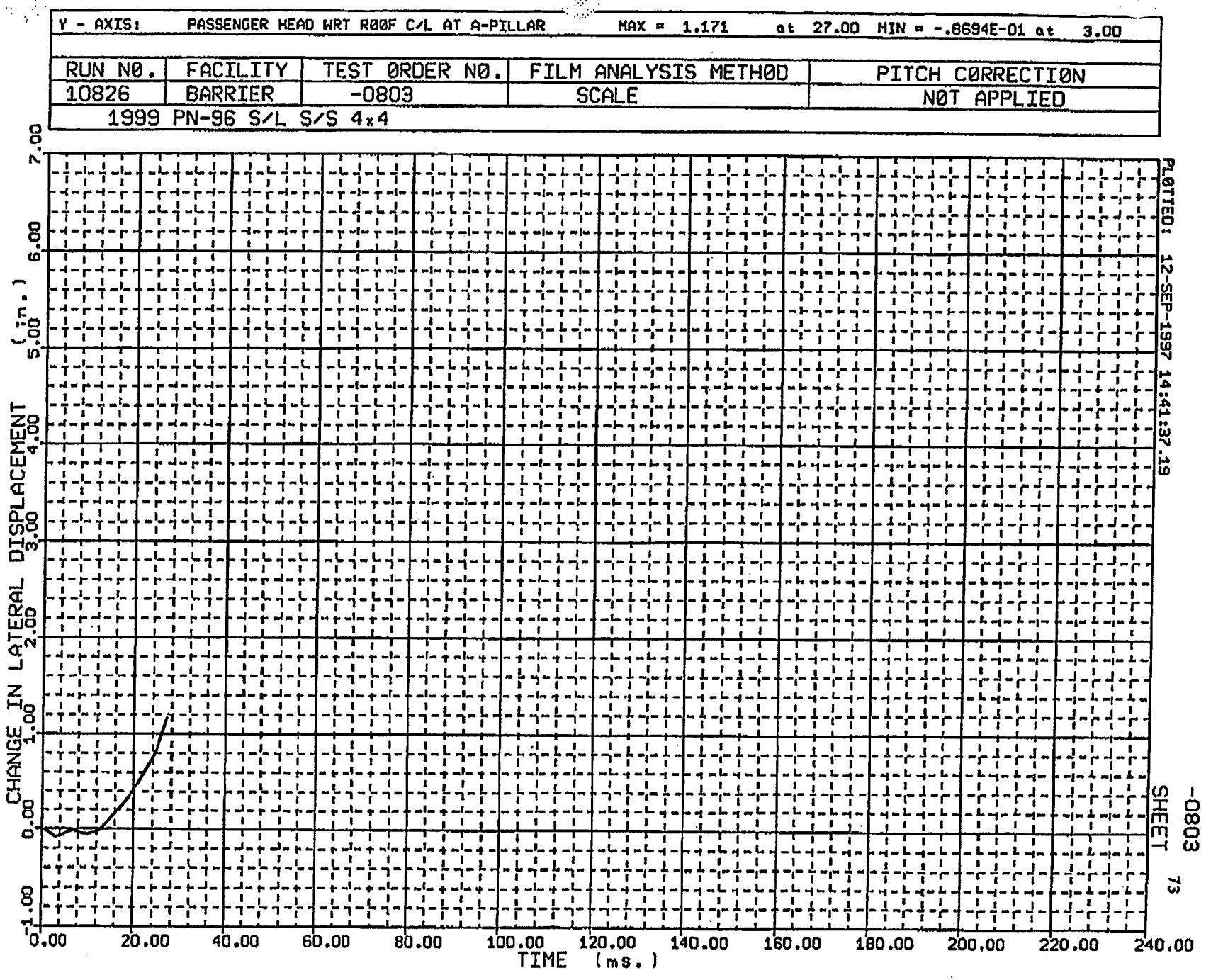
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:29:48 PLOT PAGE 108 SHEET 71



CRTS 0010826



CRTS 0010826



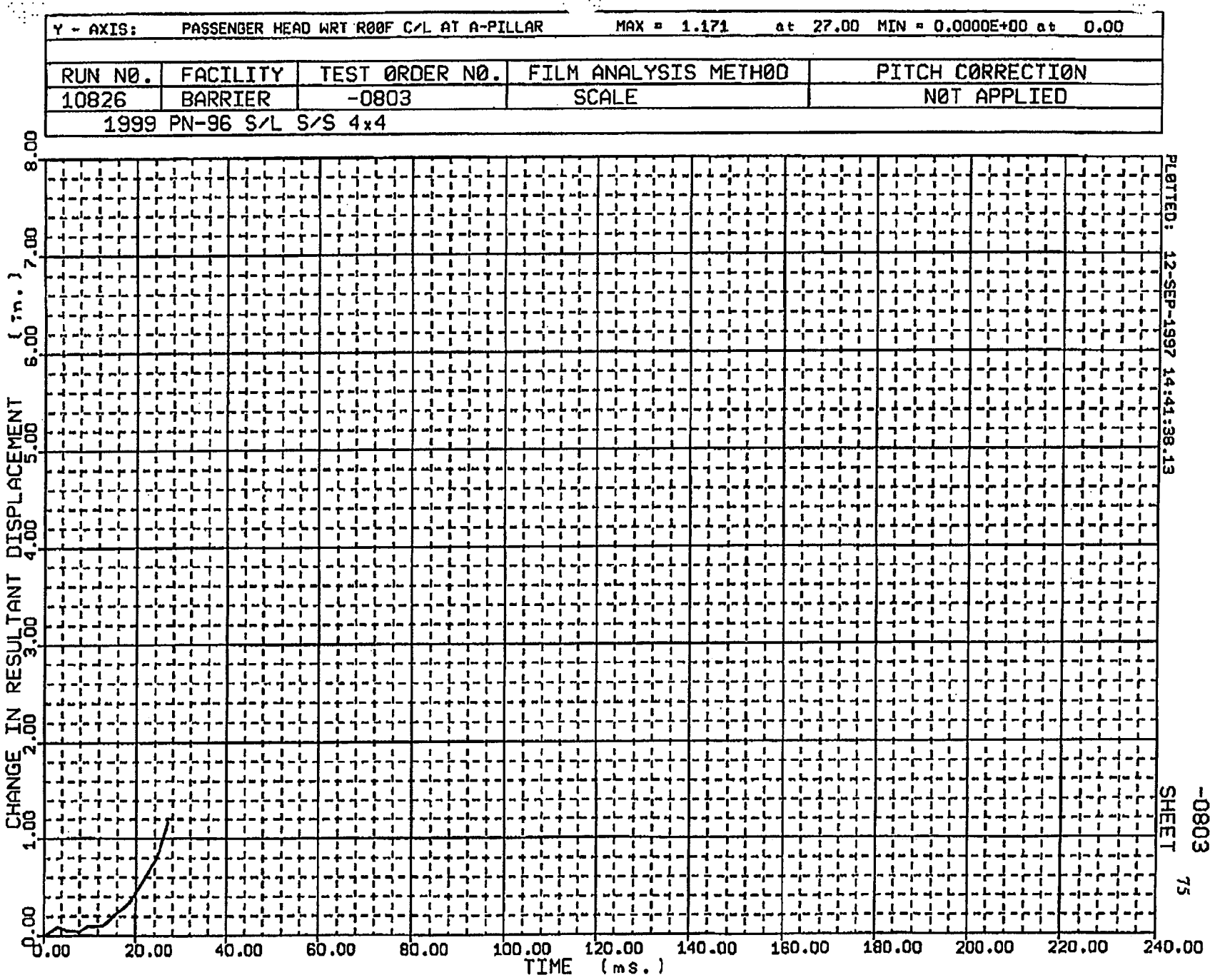
CRTS 0010826

Y - AXIS:	PASSENGER HEAD WRT ROOF C/L AT A-PILLAR	MAX = 0.1623	at 16.00	MIN = -.3971E-01	at 7.00
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION	
10826	BARRIER	-0803	SCALE	NOT APPLIED	
1999 PN-96 S/L S/S 4x4					

-0803
SHEET 74

CRTS 0010826

0920



CRTS 0010826

0921

Y - AXIS:	PASSENGER CHEST WRT ROOF C/L AT A-PILLAR		MAX = 0.1177E-01 at 1.00	MIN = -.9362E-01 at 9.00
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10826	BARRIER	-0803	SCALE	NOT APPLIED
1999 PN-96 S/L S/S 4x4				

SHEET 76 -0803

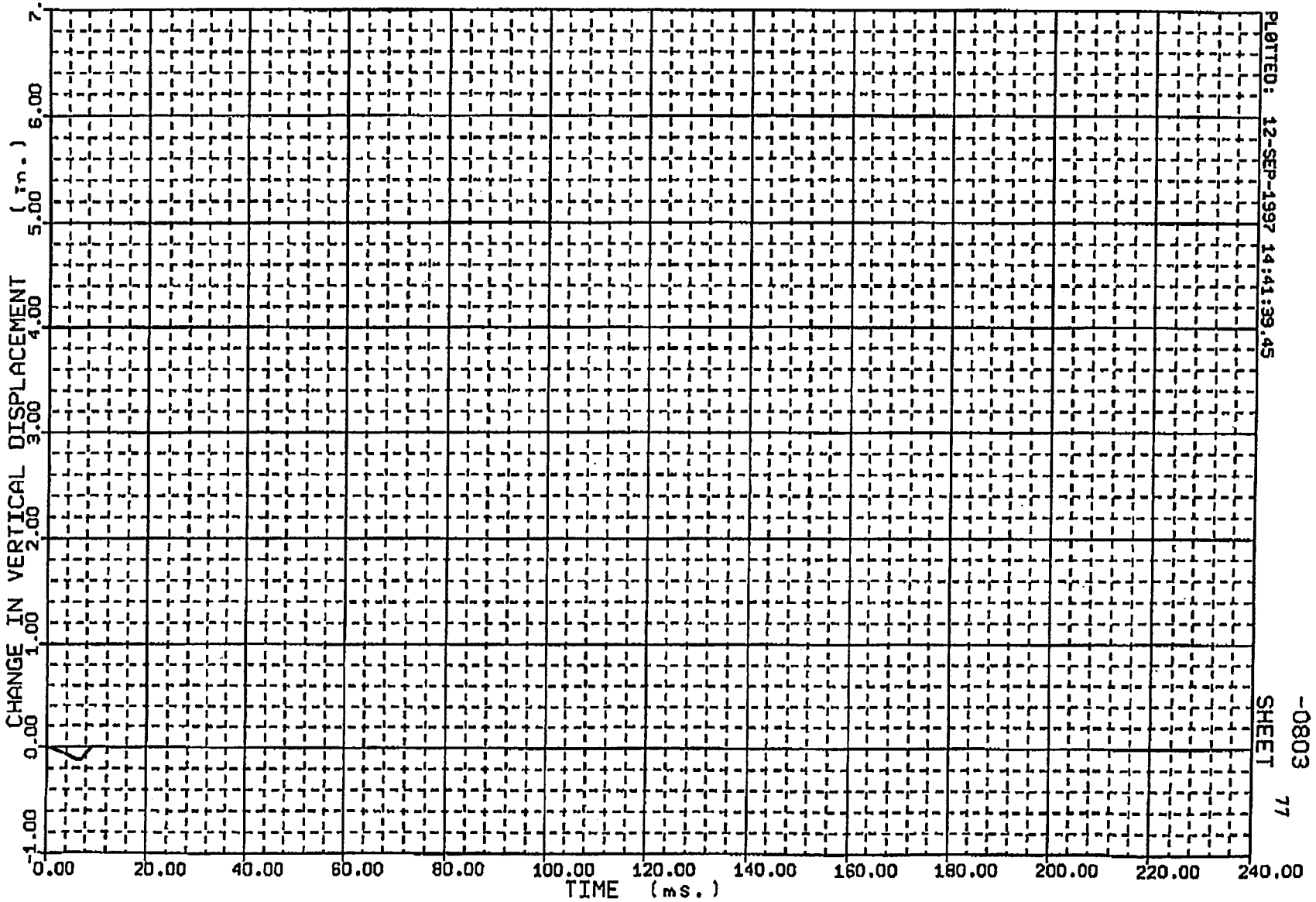
CRTS 0010826

0922

Y - AXIS: PASSENGER CHEST WRT R00F C/L AT A-PILLAR MAX = 0.0000E+00 at 0.00 MIN = -.1196 at 7.00

RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
10826	BARRIER	-0803	SCALE	N0T APPLIED

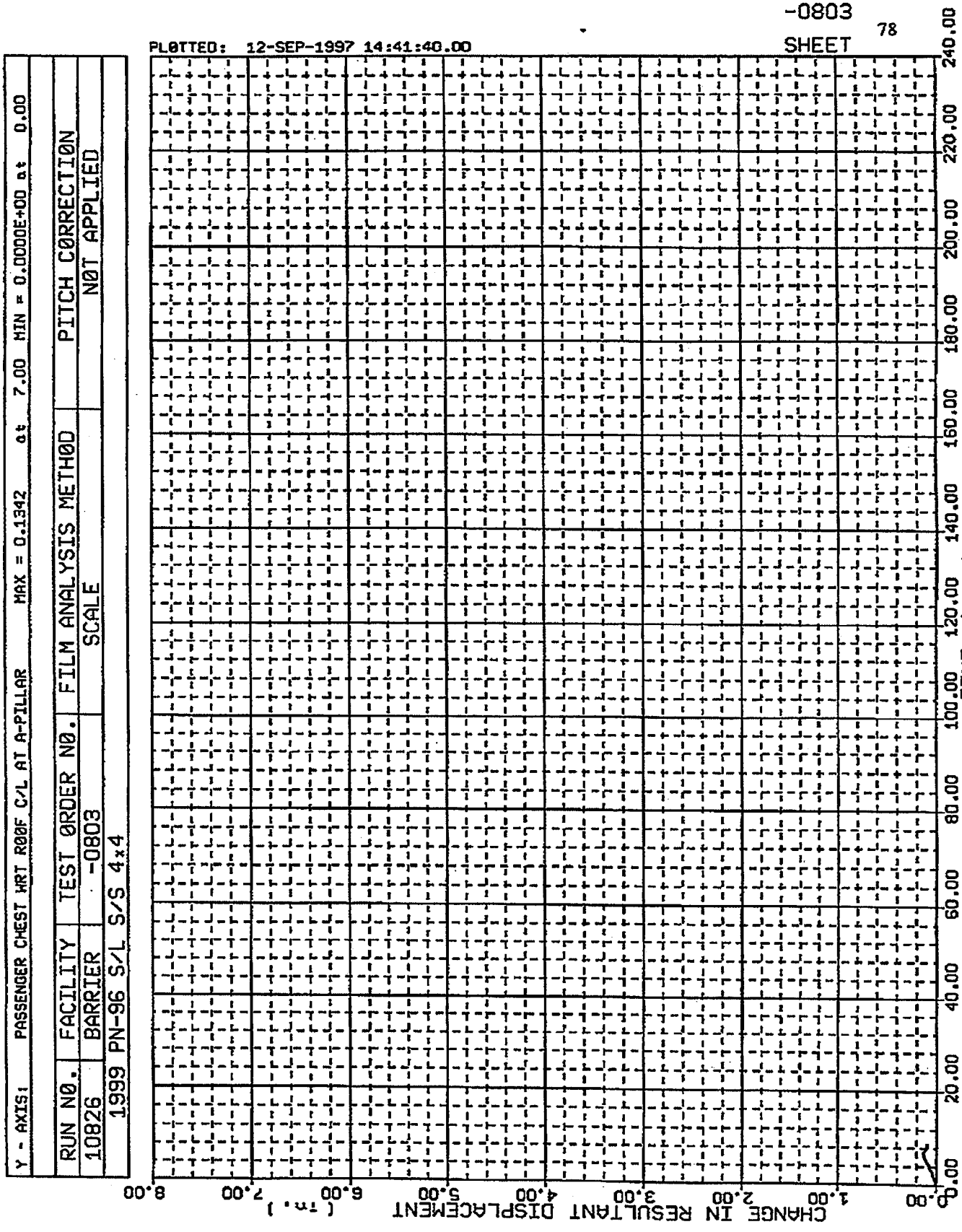
1999 PN-96 S/L S/S 4x4



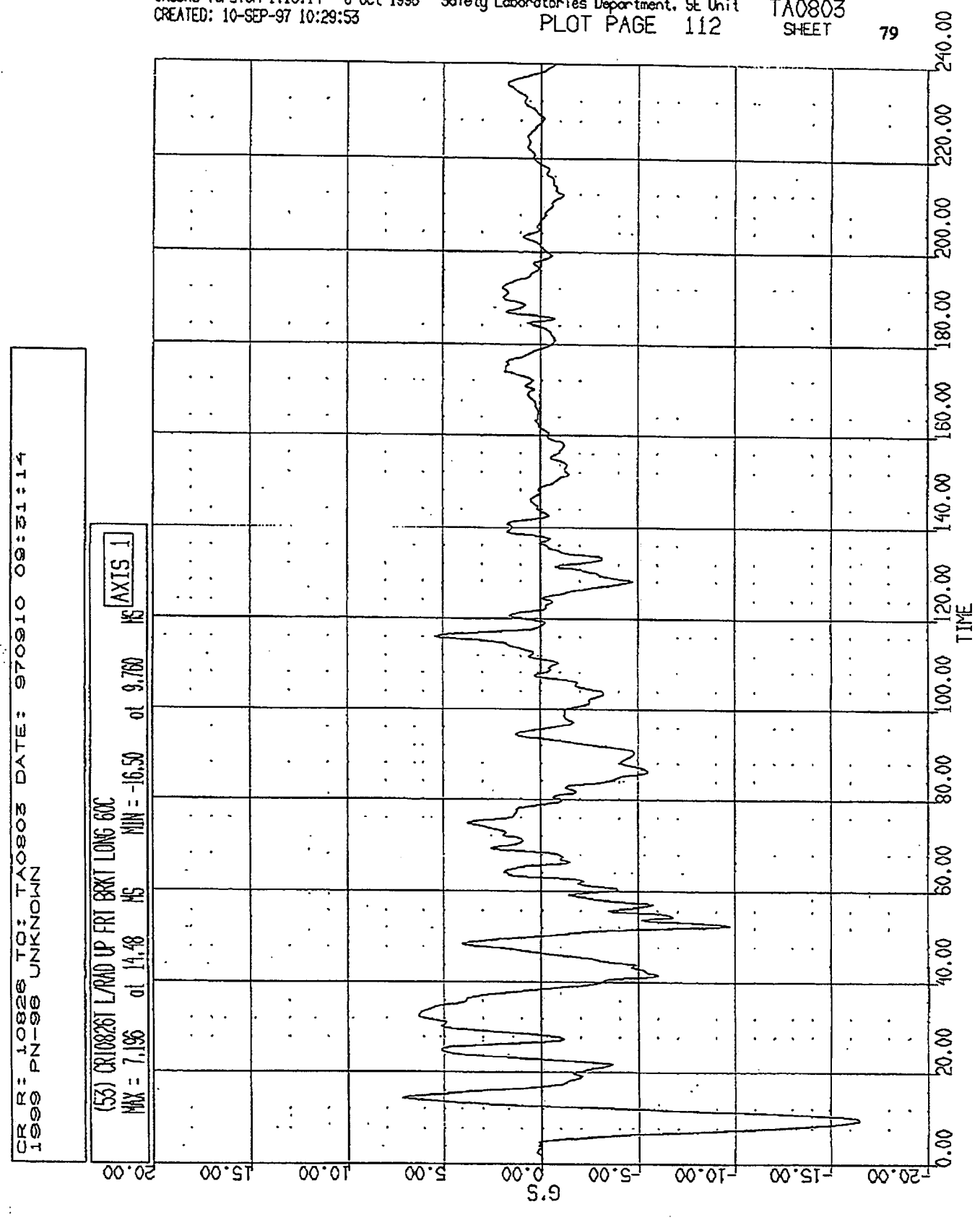
-0803 SHEET 77

CRIS 0010826

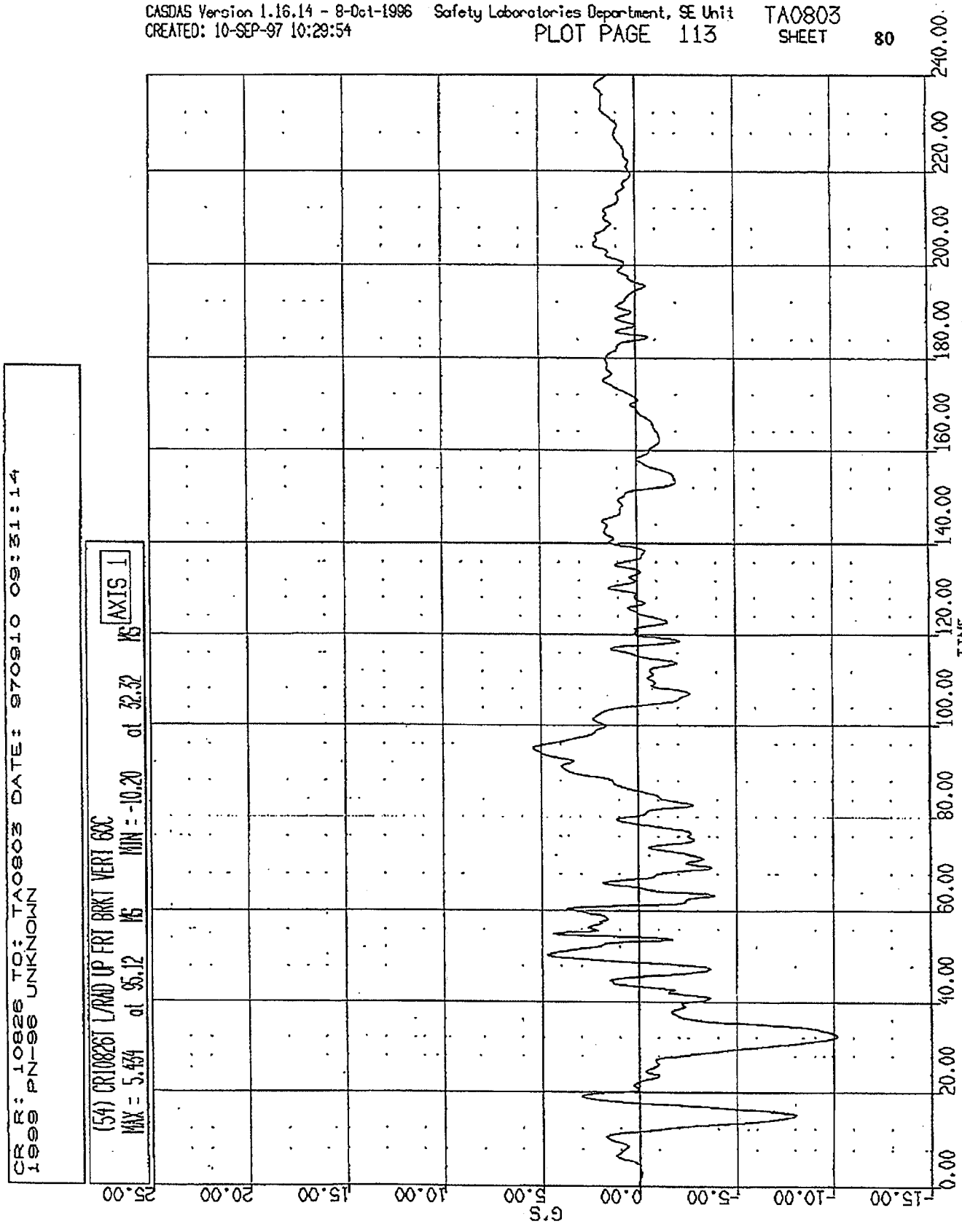
0923



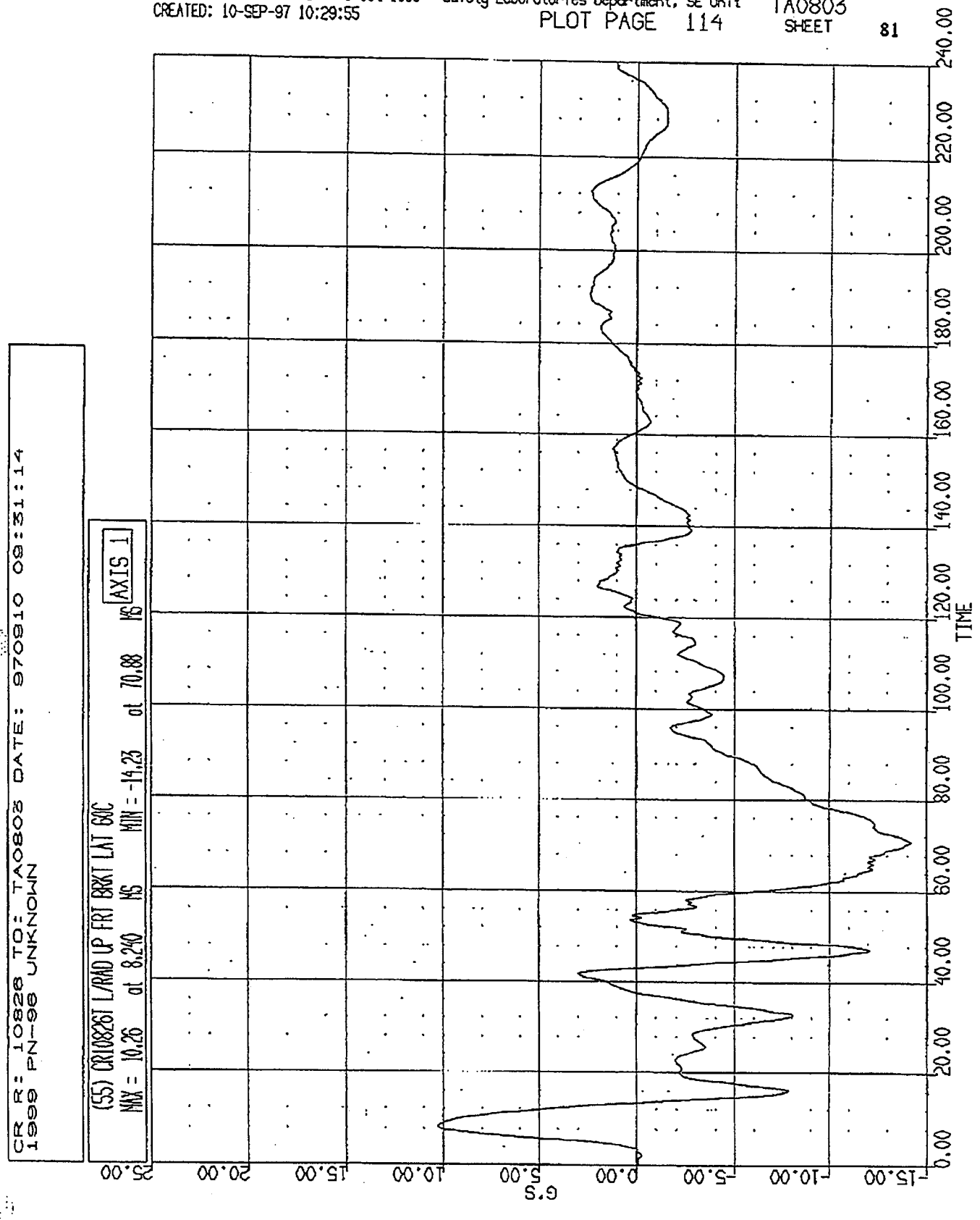
CRTS 0010826



CRTS 0010826

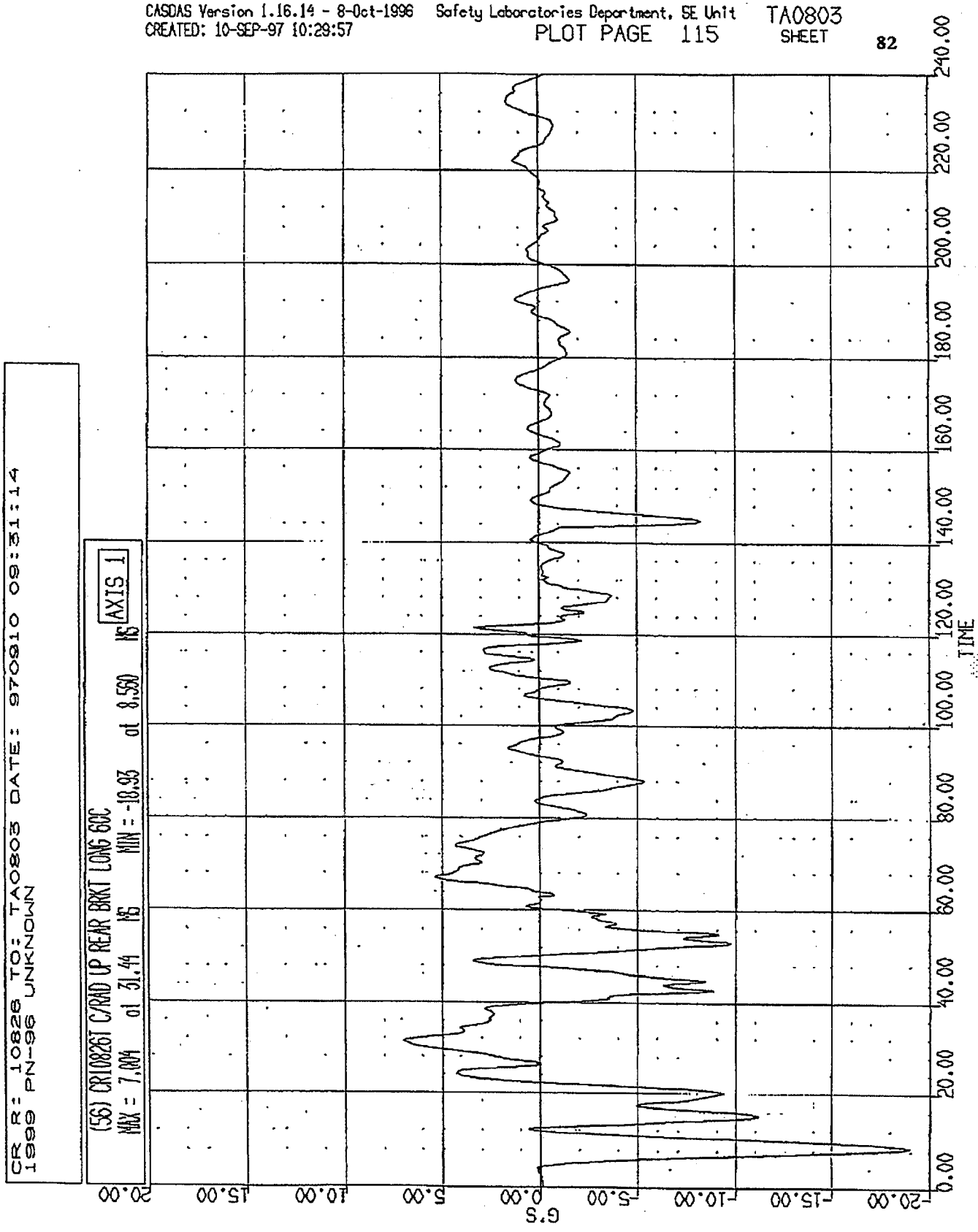


CRTS 0010826

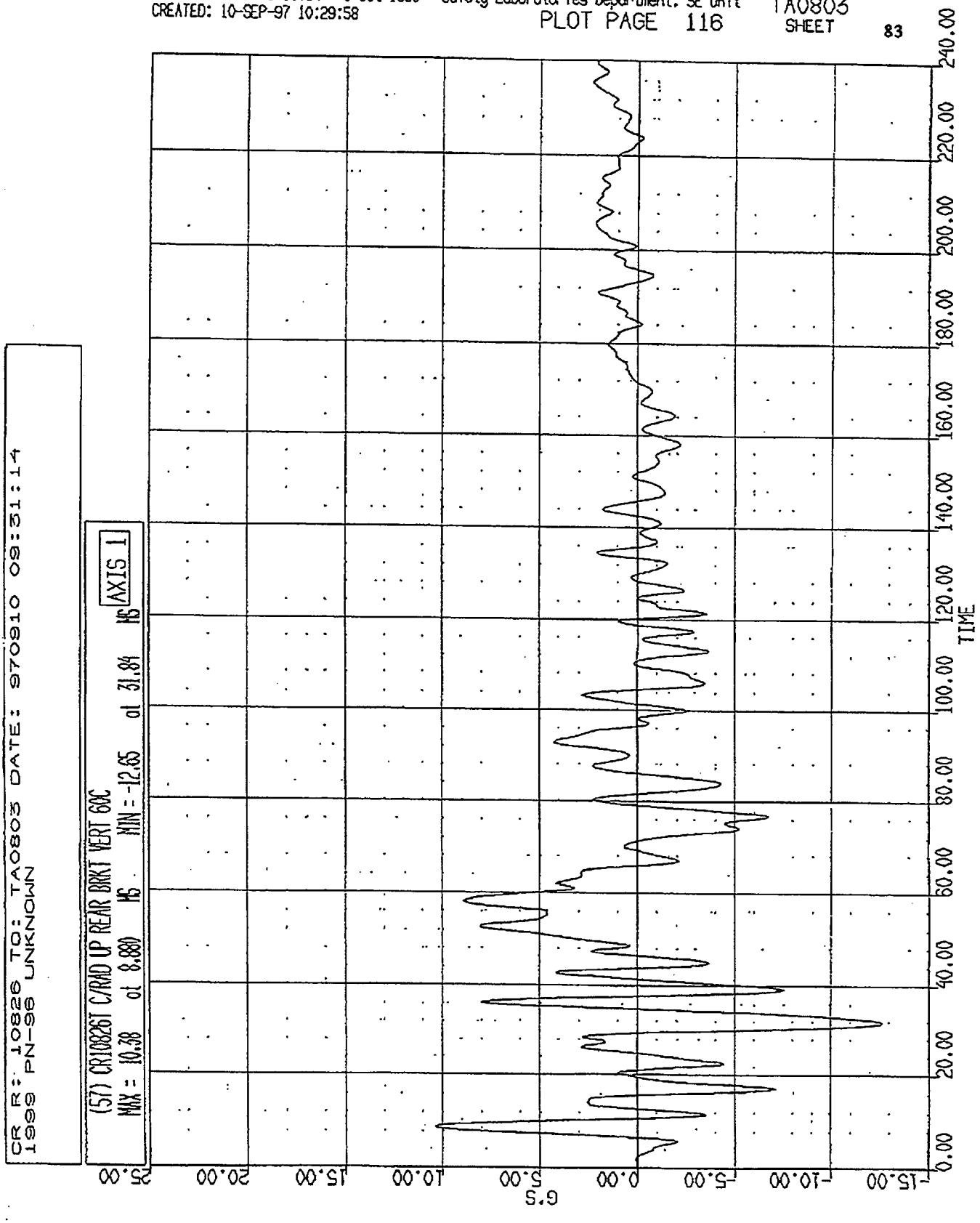


CRTS 0010826

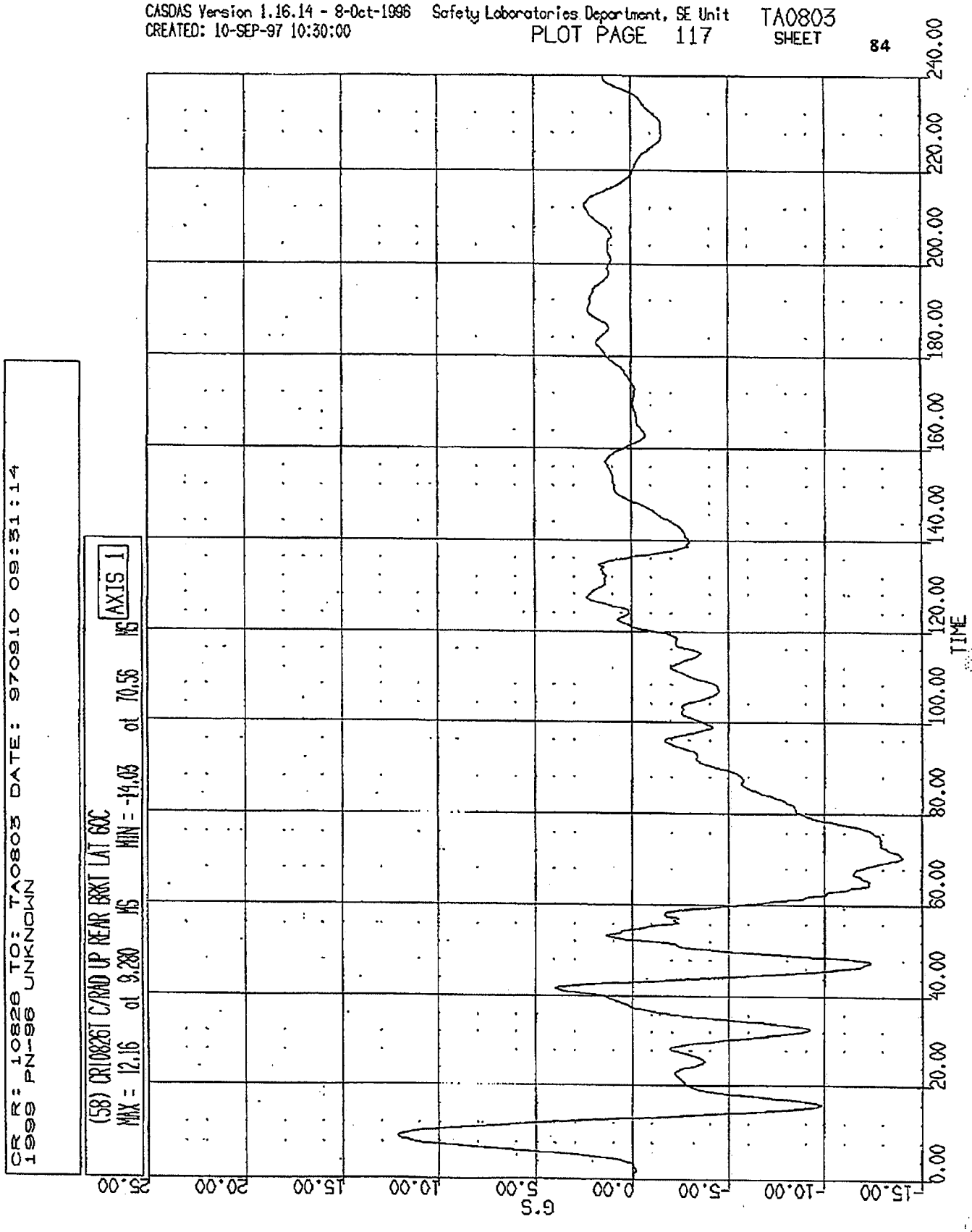
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:29:57 PLOT PAGE 115 SHEET 82

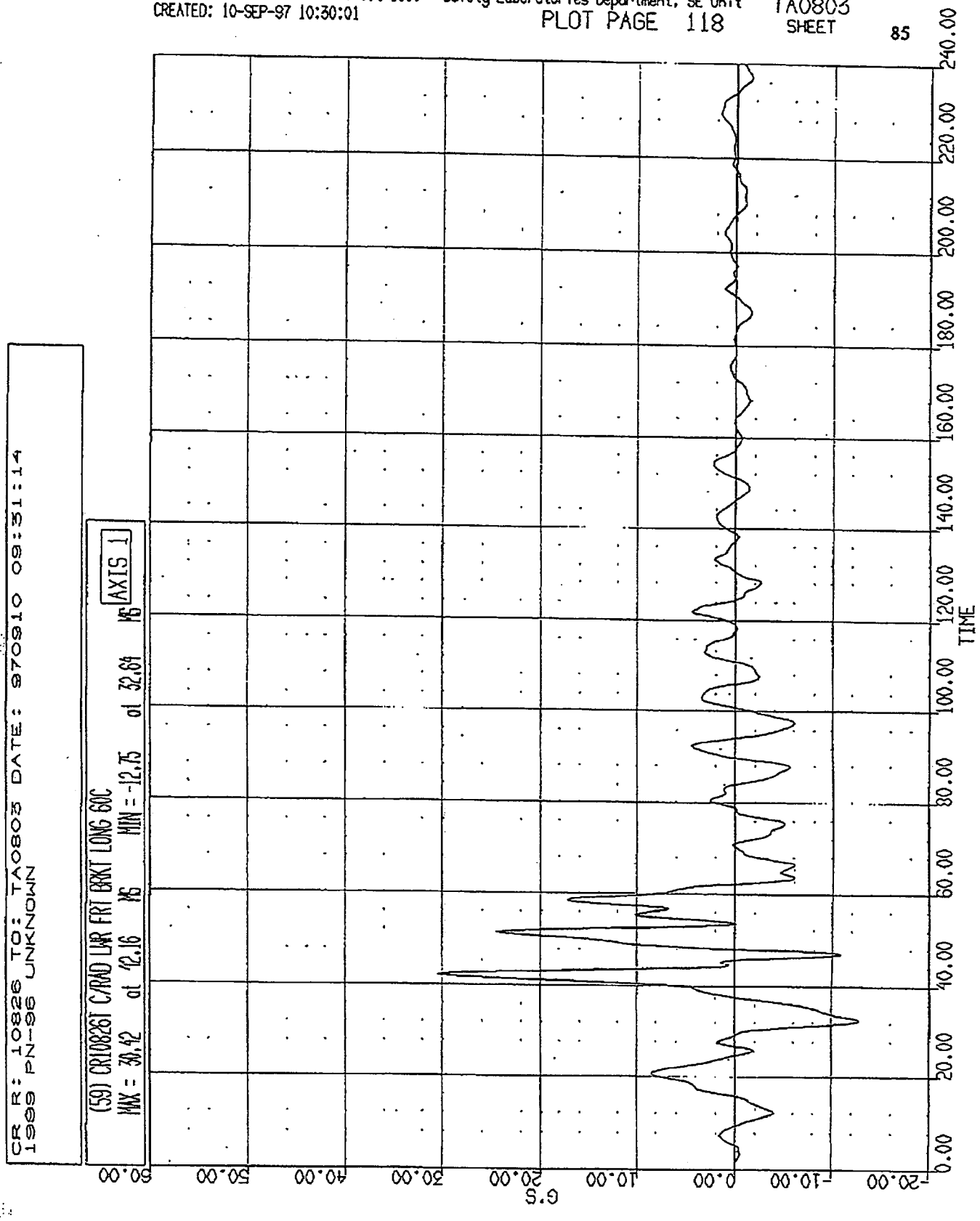


CRTS 0010826



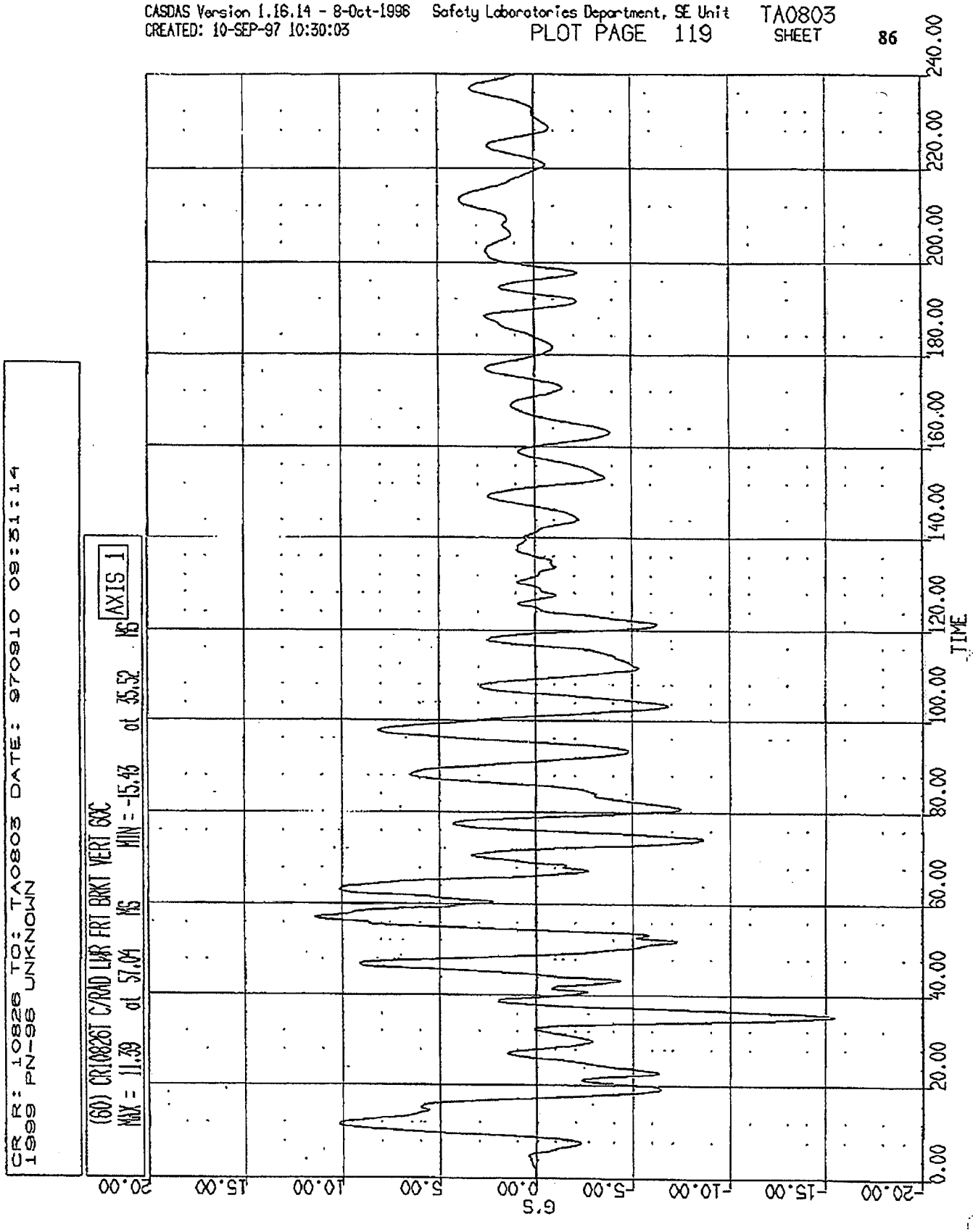
CRTS 0010826


CR R: 10828 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(58) CR10826T C/RAD UP REAR BKT LAT 60C
MAX = 12.16 at 9.280 MS MIN = -14.03 at 70.56 MS
AXIS 1
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
G'S
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME

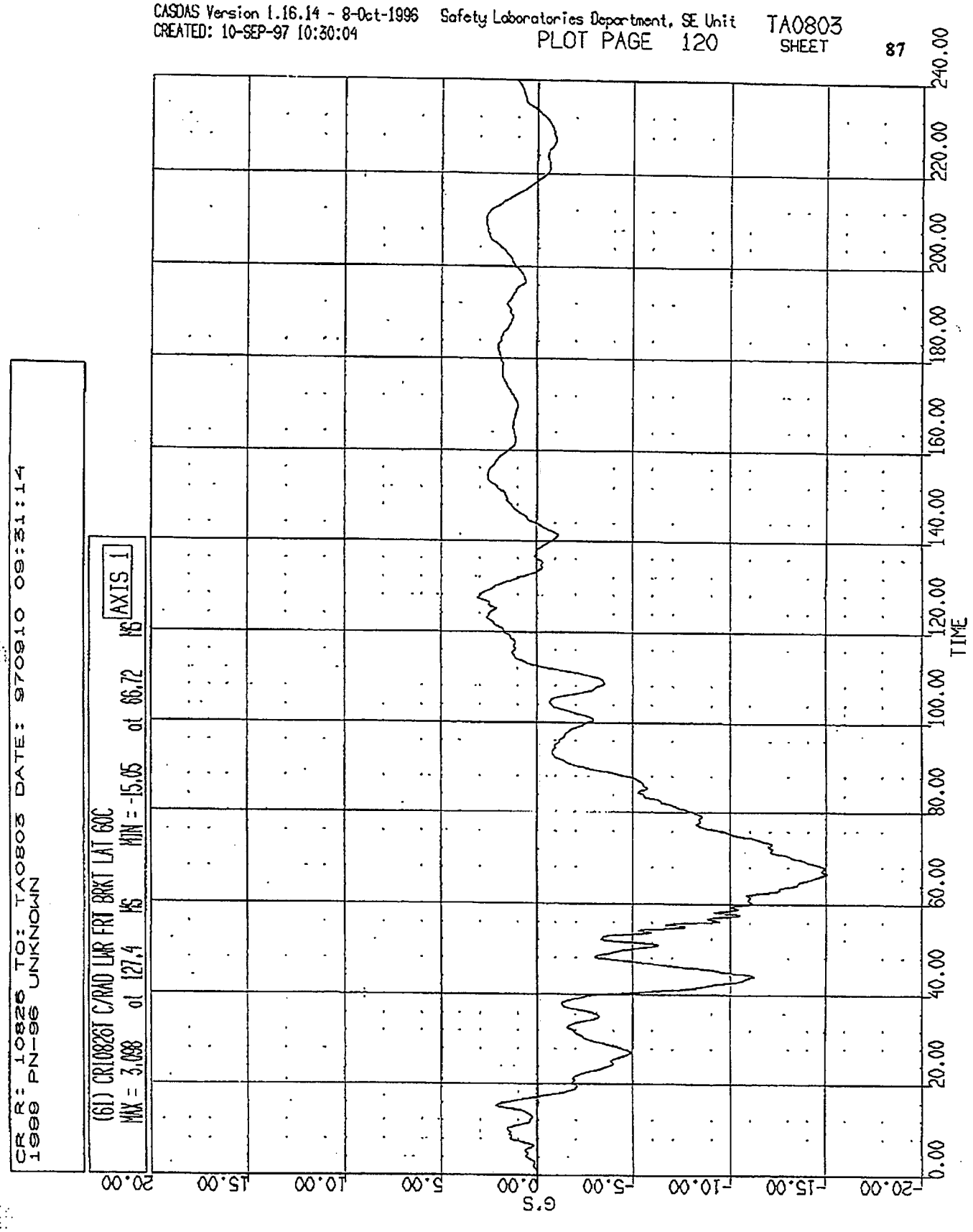


CRTS 0010826

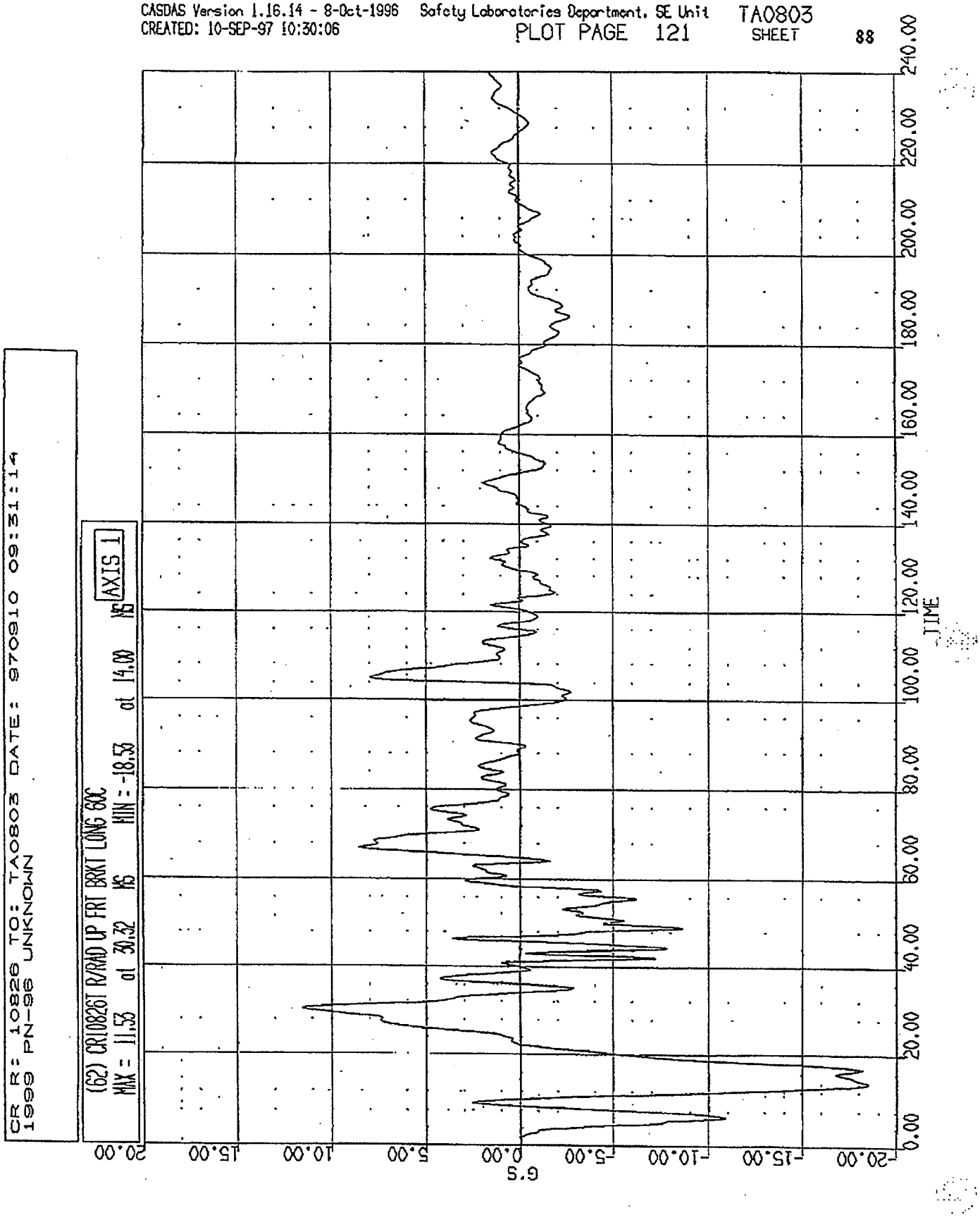
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:03 PLOT PAGE 119 SHEET 86



CRTS 0010826

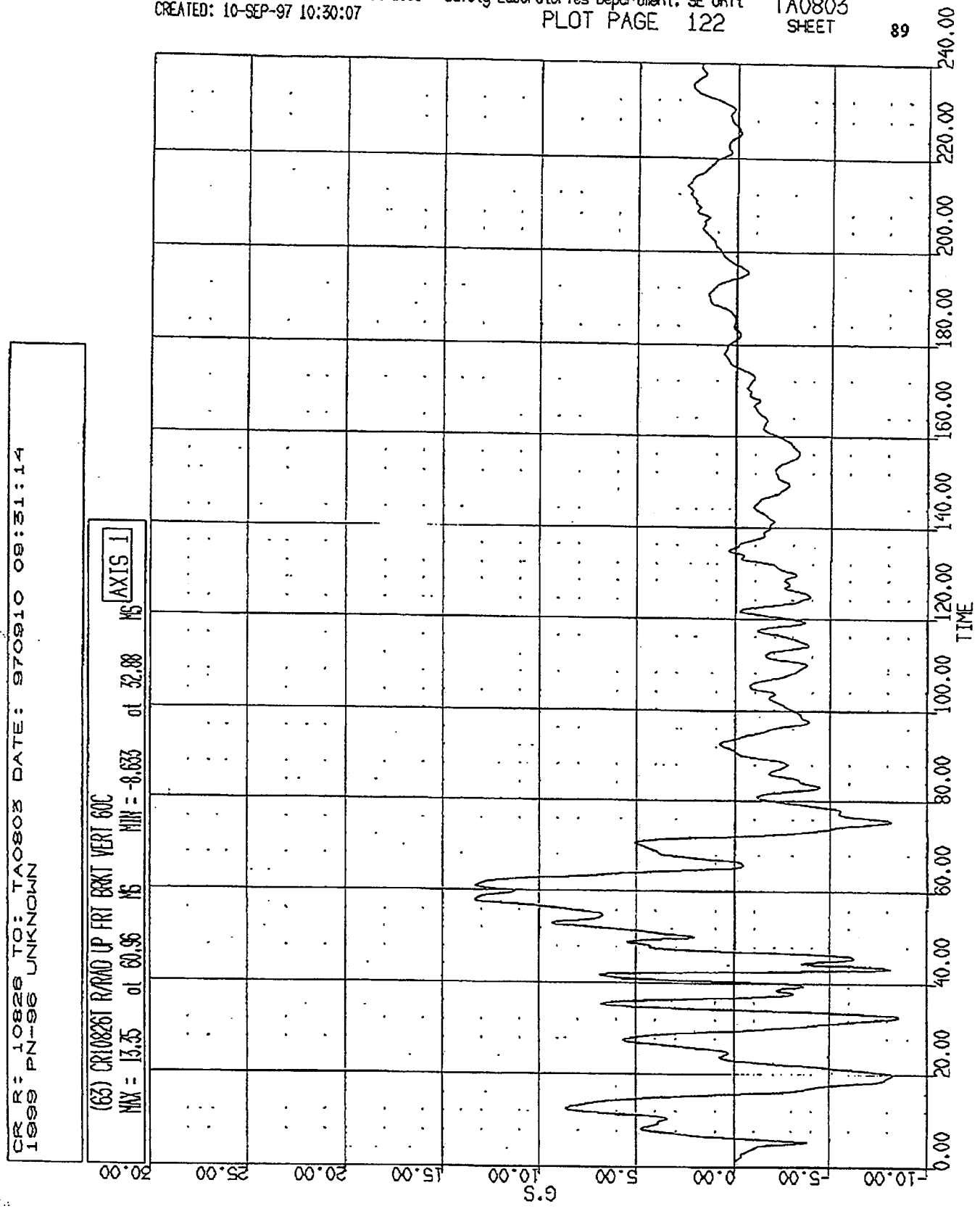


CRTS 0010826



CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:07 PLOT PAGE 122 SHEET 89



CRTS 0010826

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN

(64) CR10826T R/RAD UP FRT BRKT LAT 60C
MAX = 14.71 at 70.72 MS MIN = -9.946 at 8.640 MS AXIS 1

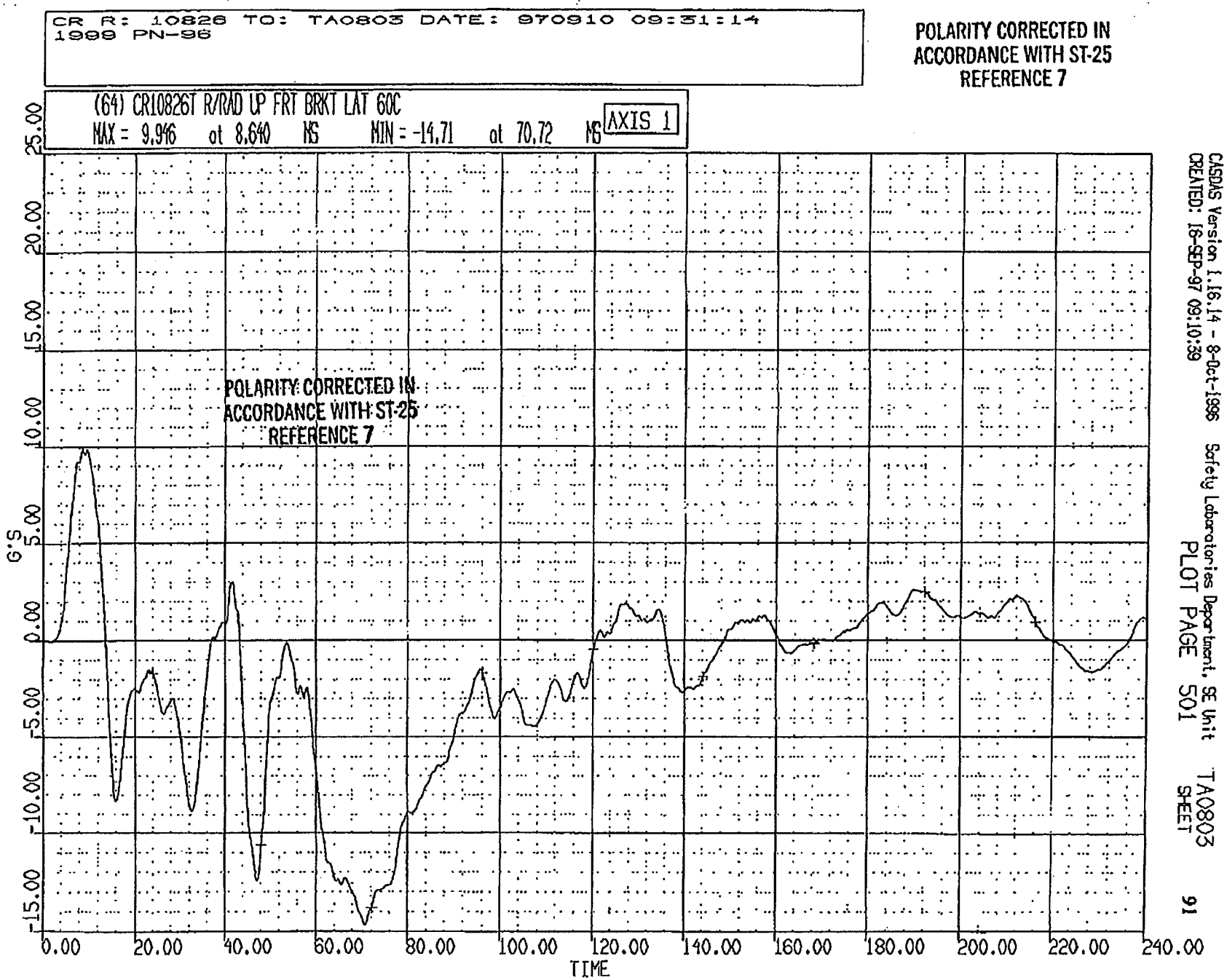
SEE ADJUSTED PLOT
POLARITY CORRECTED IN ACCORDANCE WITH ST-25 REFERENCE 7

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:08

PLOT PAGE 123 TA0803
SHEET 90

CRTS 0010826

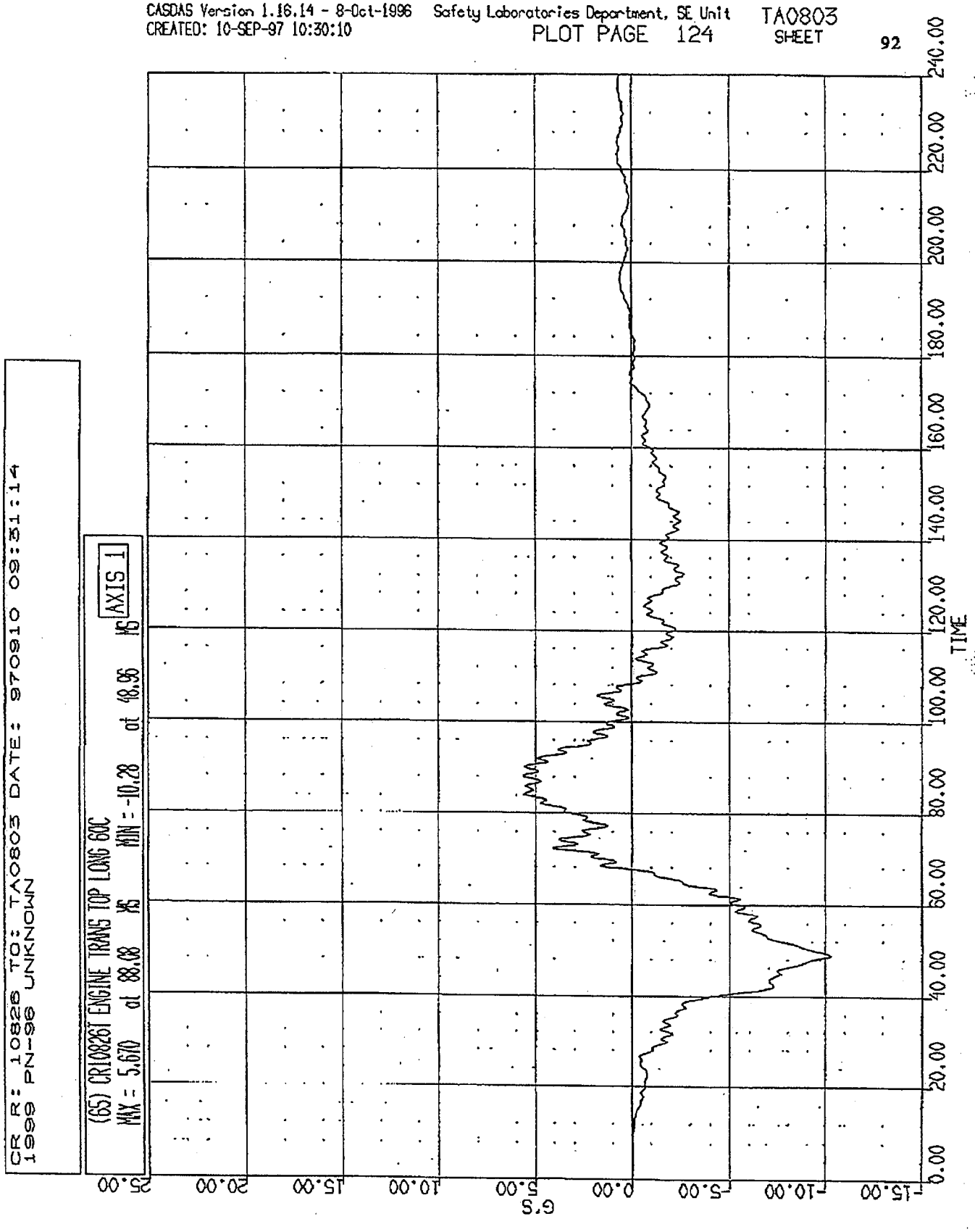
0936



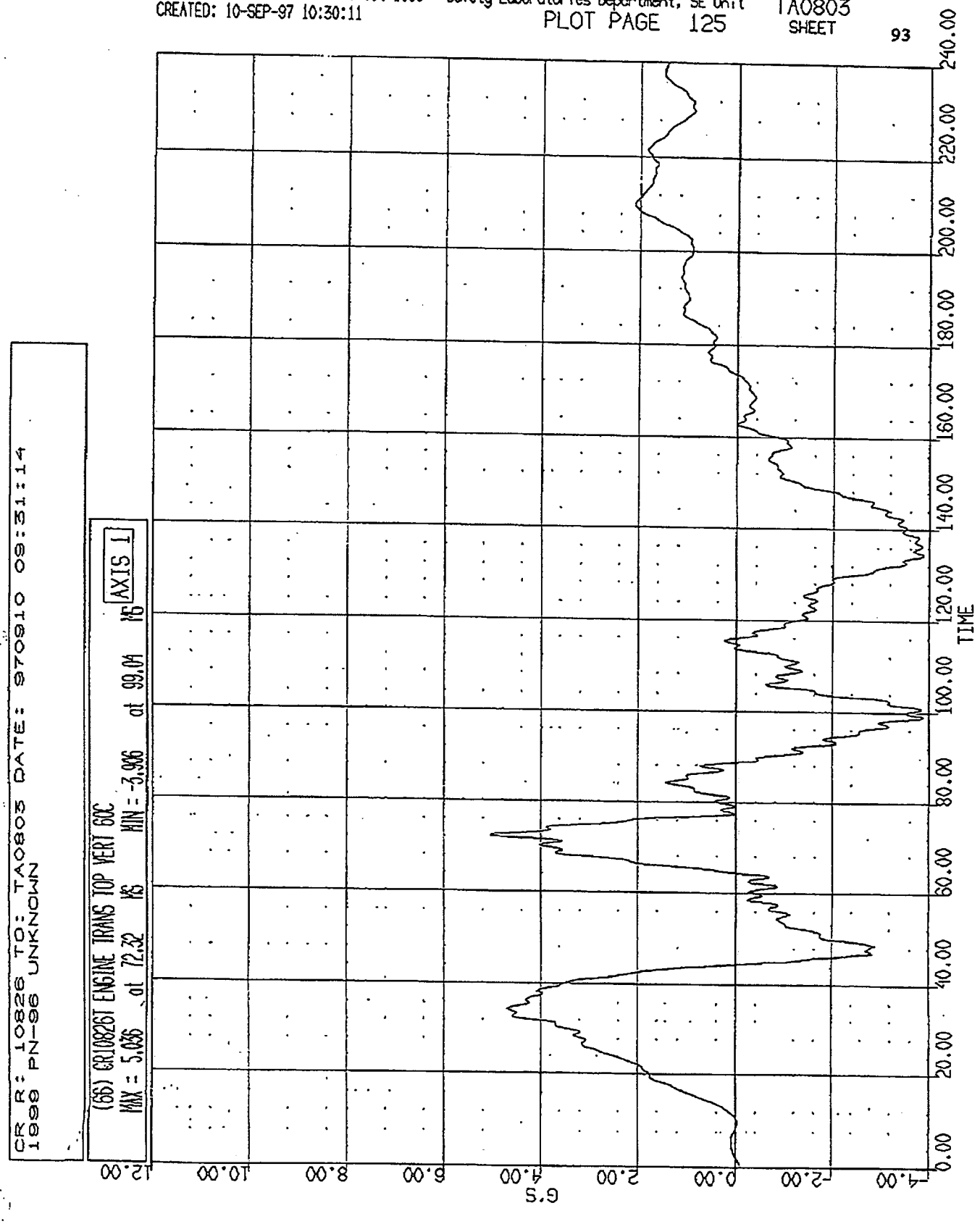
CRTS 0010826

0937

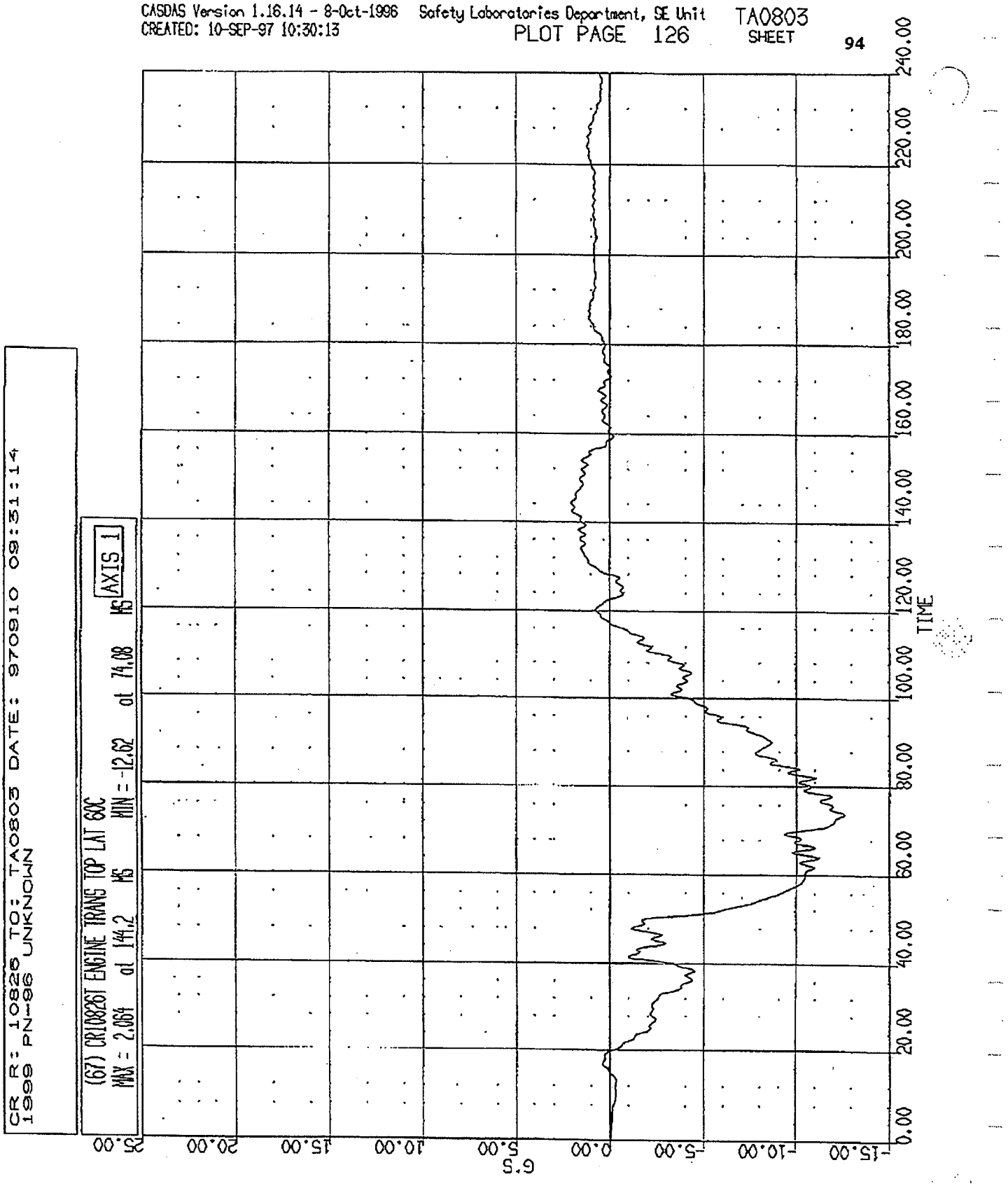
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:10 PLOT PAGE 124 SHEET 92



CRTS 0010826

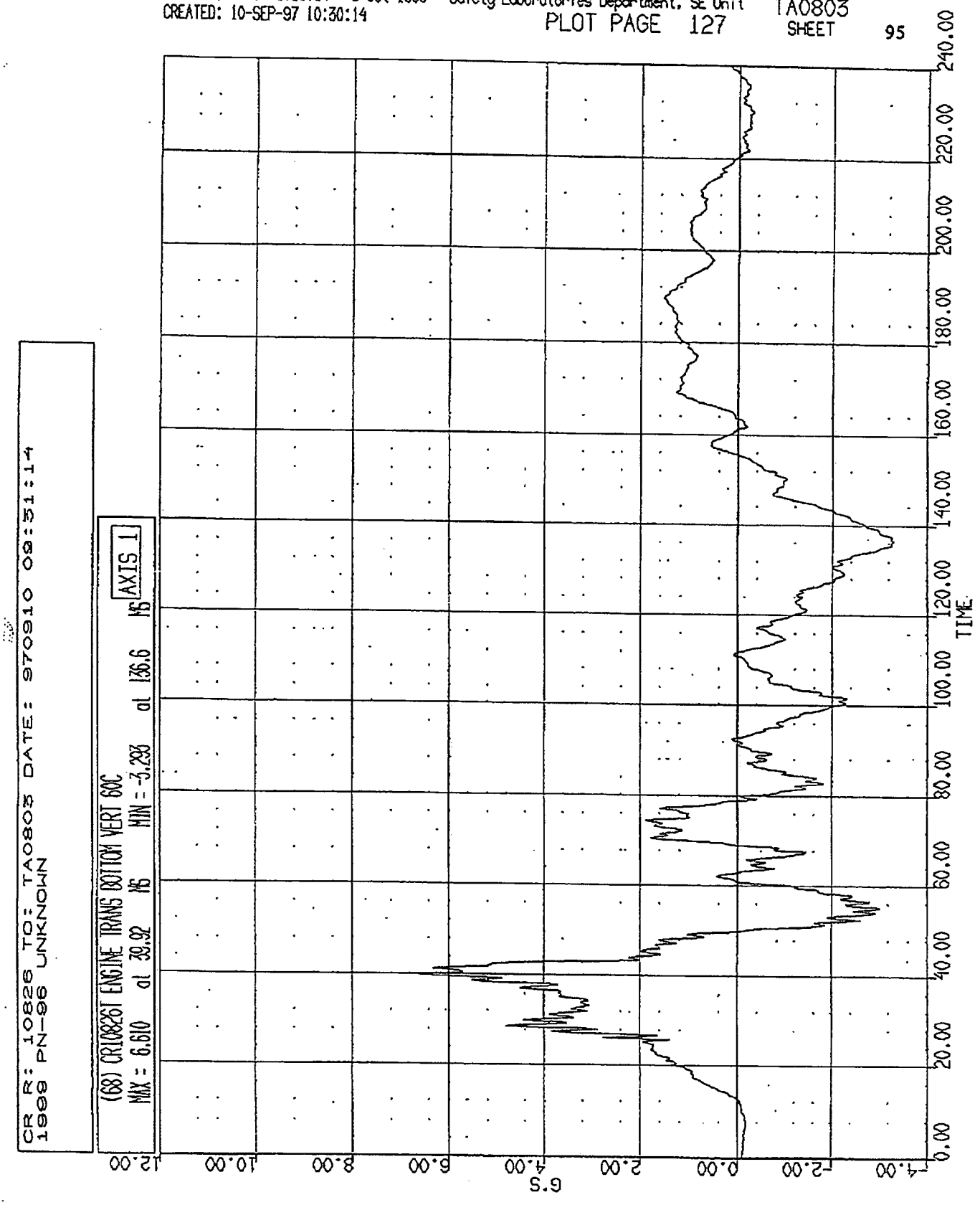


CRTS 0010826



CRTS 0010826

0940



CRTS 0010826

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN

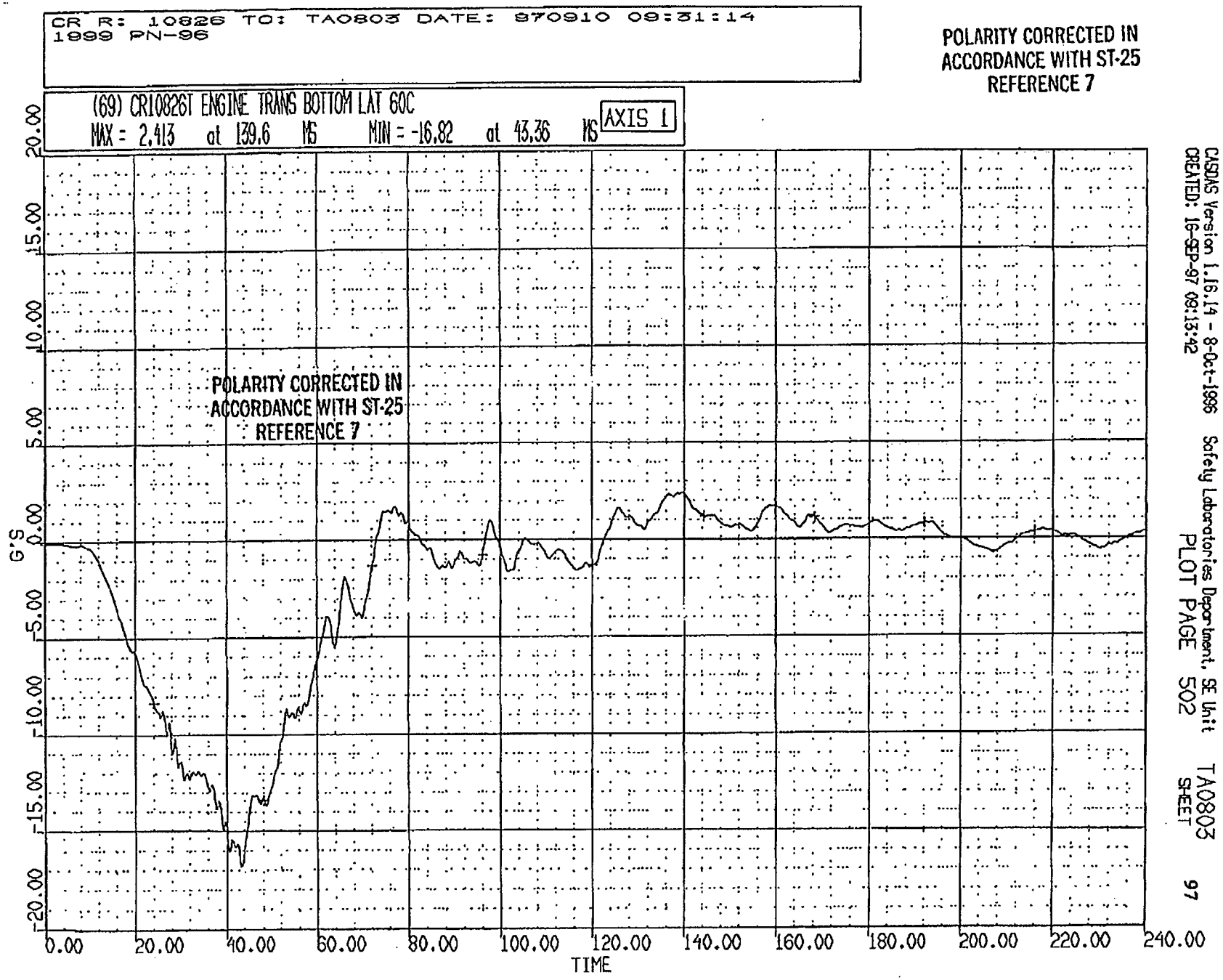
SEE ADJUSTED PLOT

POLARITY CORRECTED IN ACCORDANCE WITH ST-25 REFERENCE 7

(69) CR10826T ENGINE TRANS BOTTOM LAT 60C
MAX = 16.82 at 43.36 MS MIN = -2.413 at 139.6 MS AXIS 1

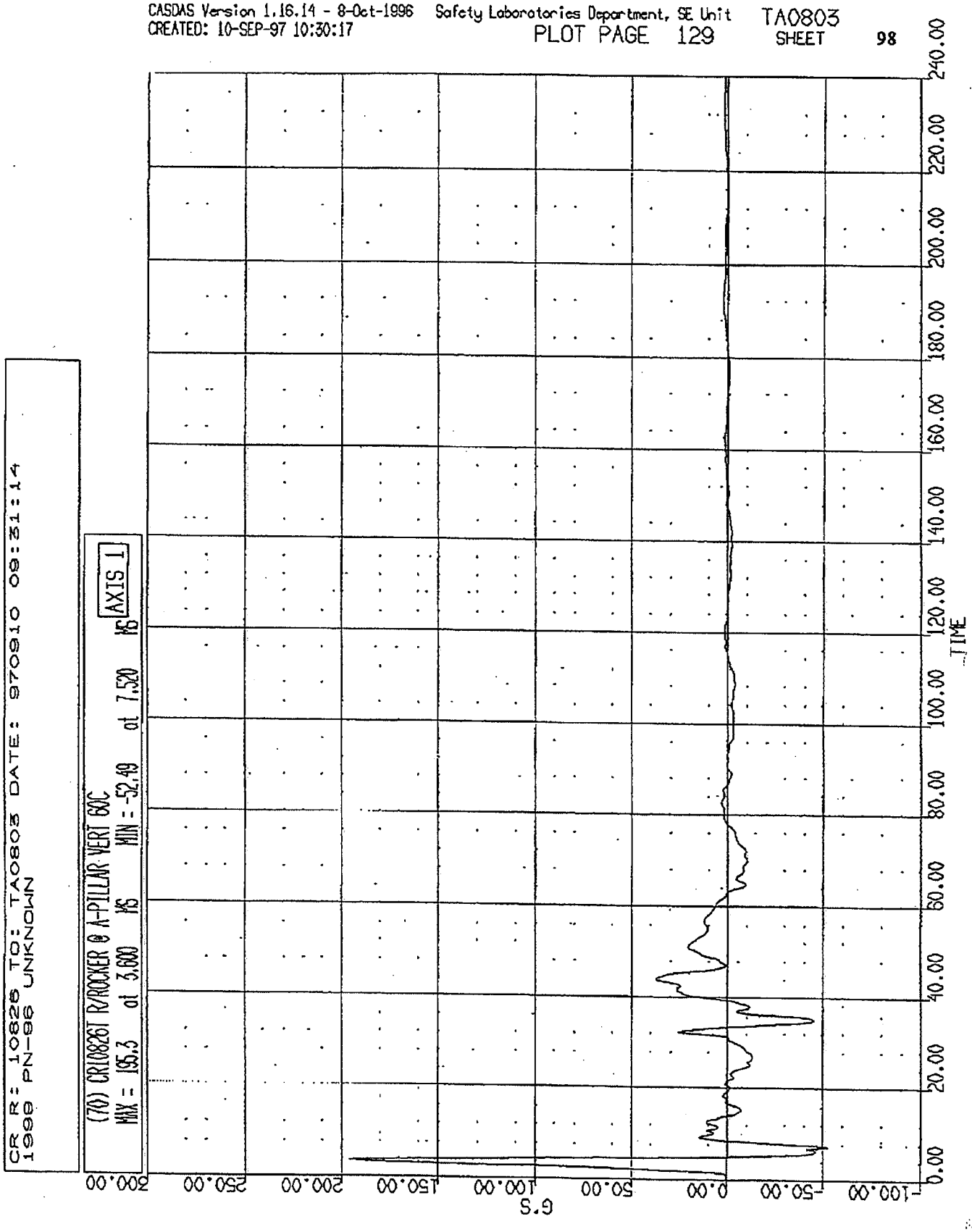
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:16 PLOT PAGE 128 TA0803 SHEET 96

CRTS 0010826

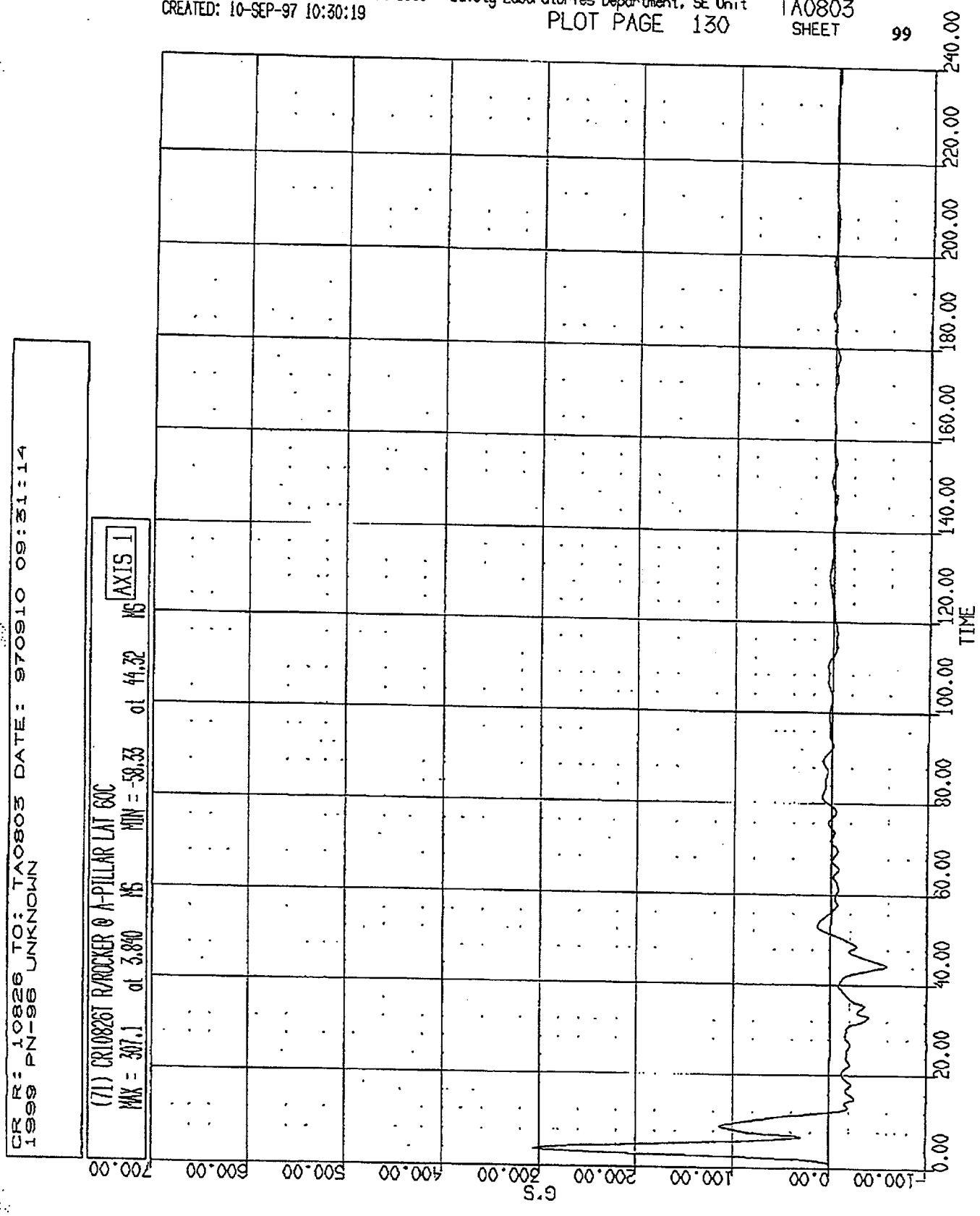


CRTS 0010826

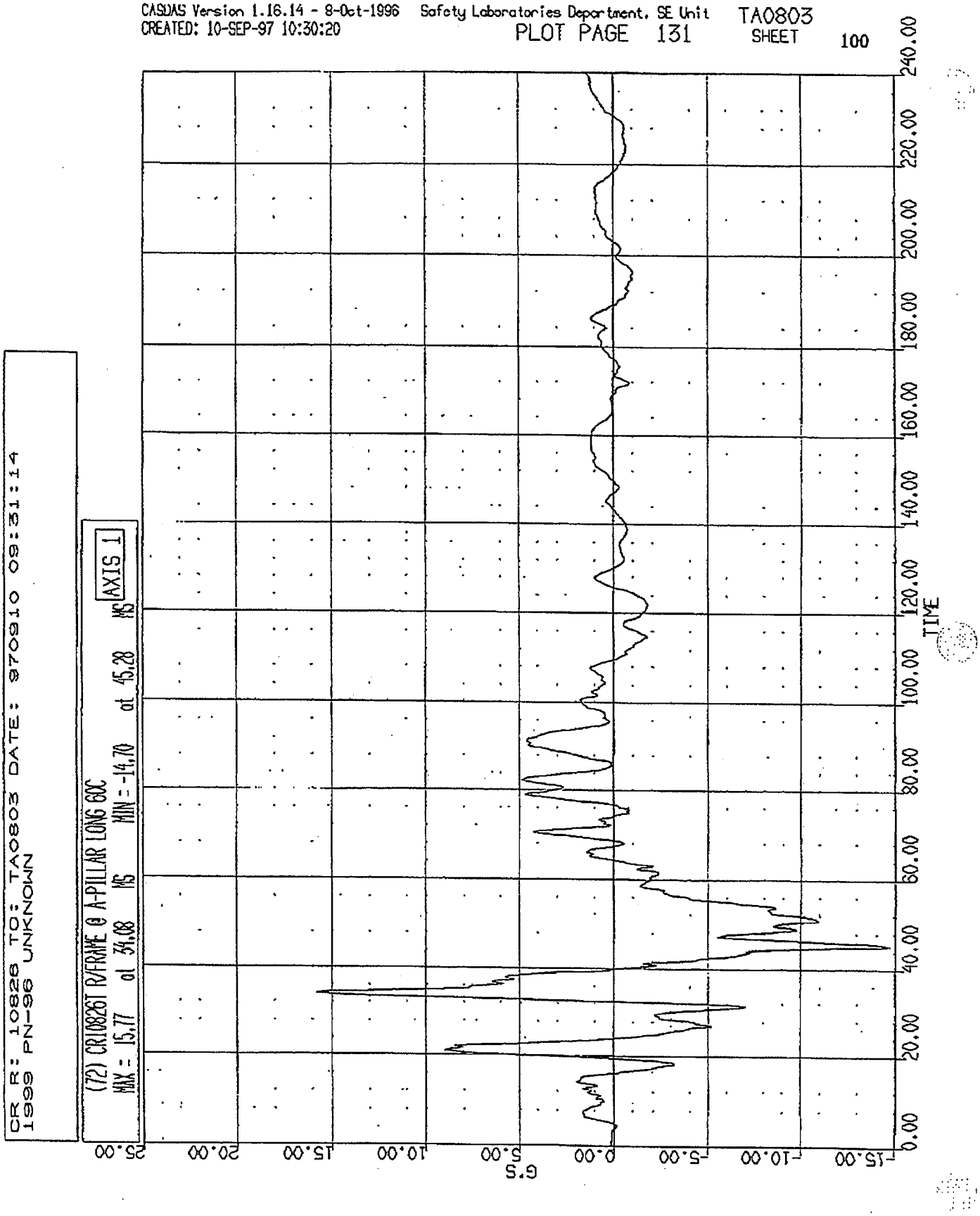
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:17 PLOT PAGE 129 SHEET 98



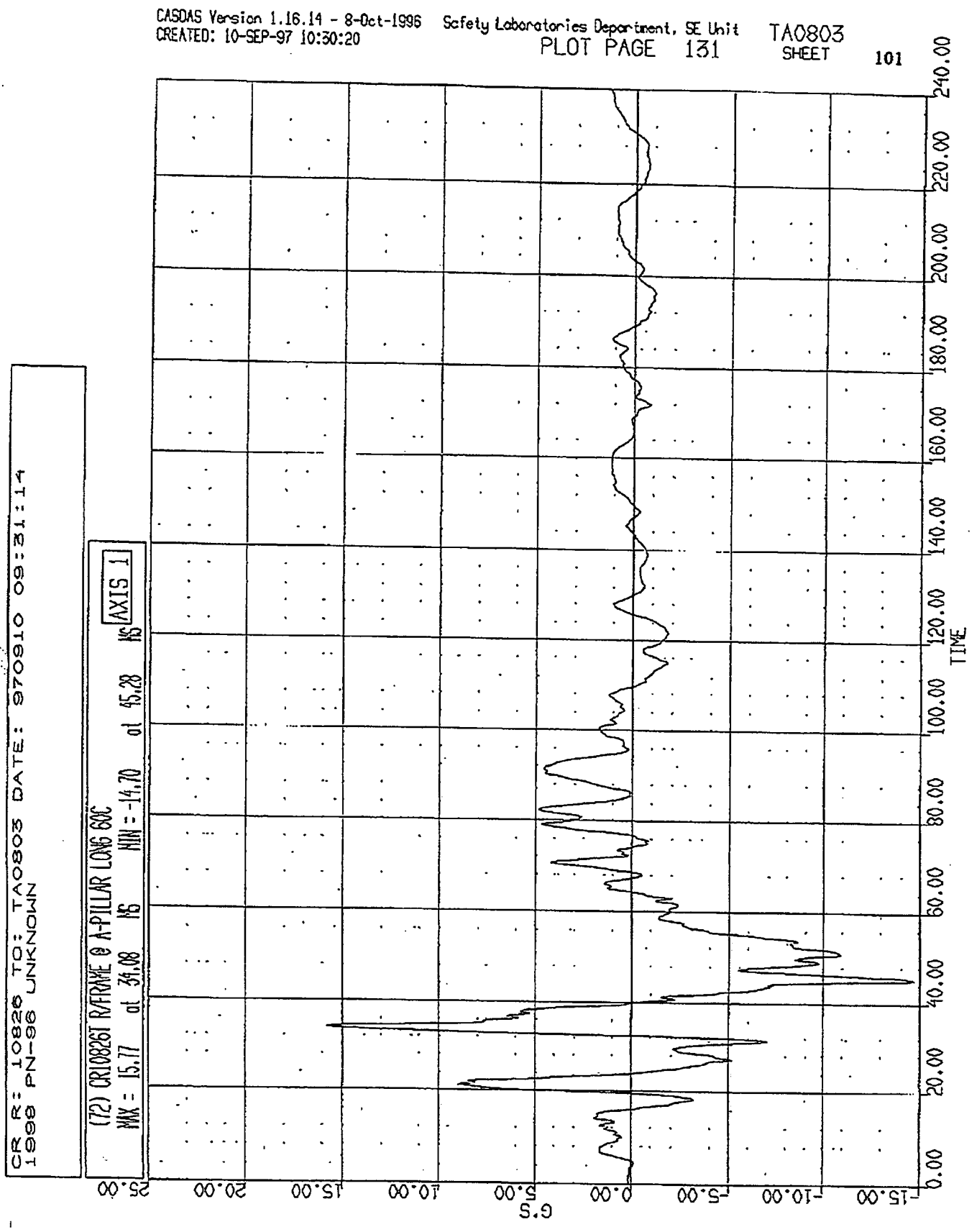
CRTS 0010826



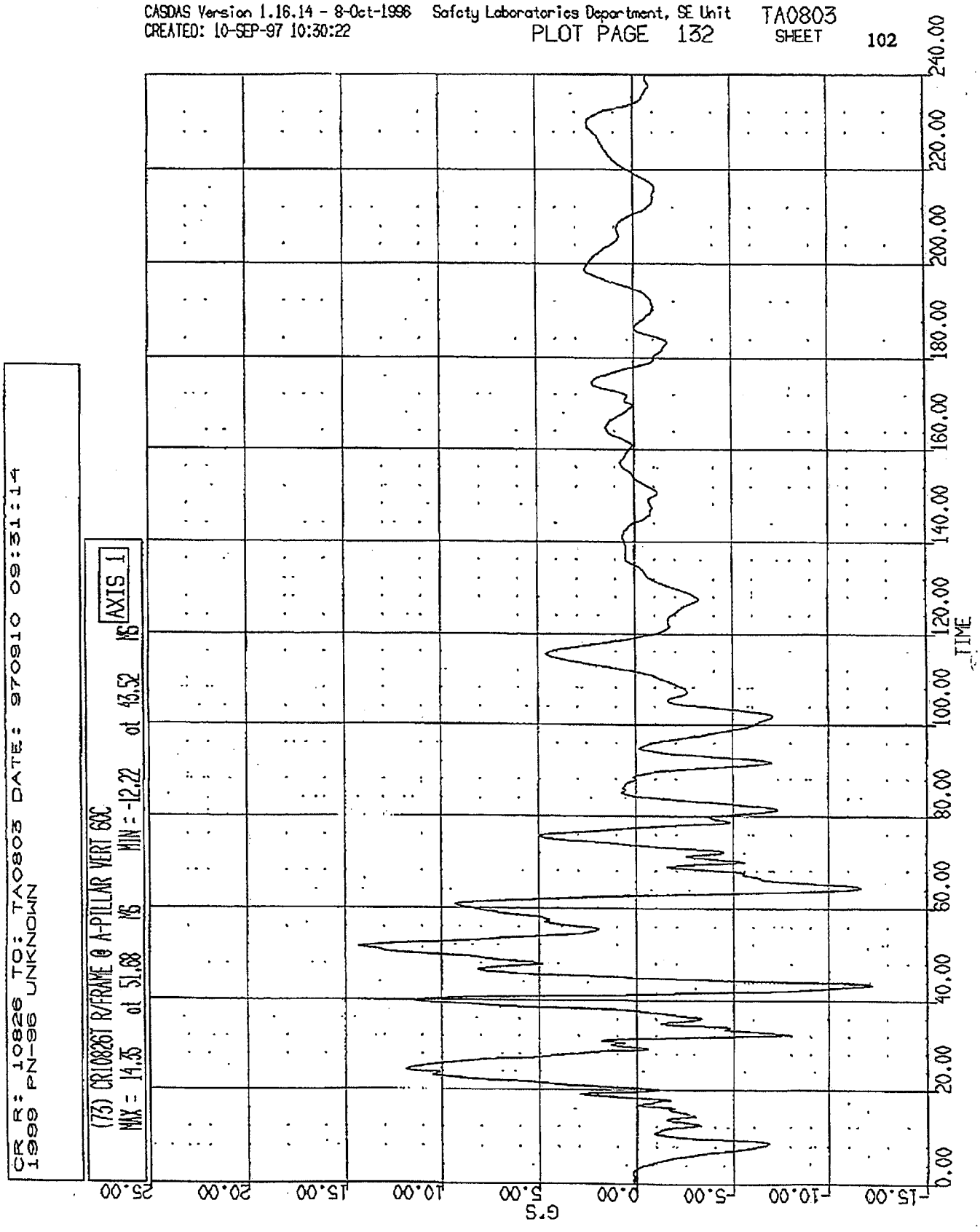
CRTS 0010826



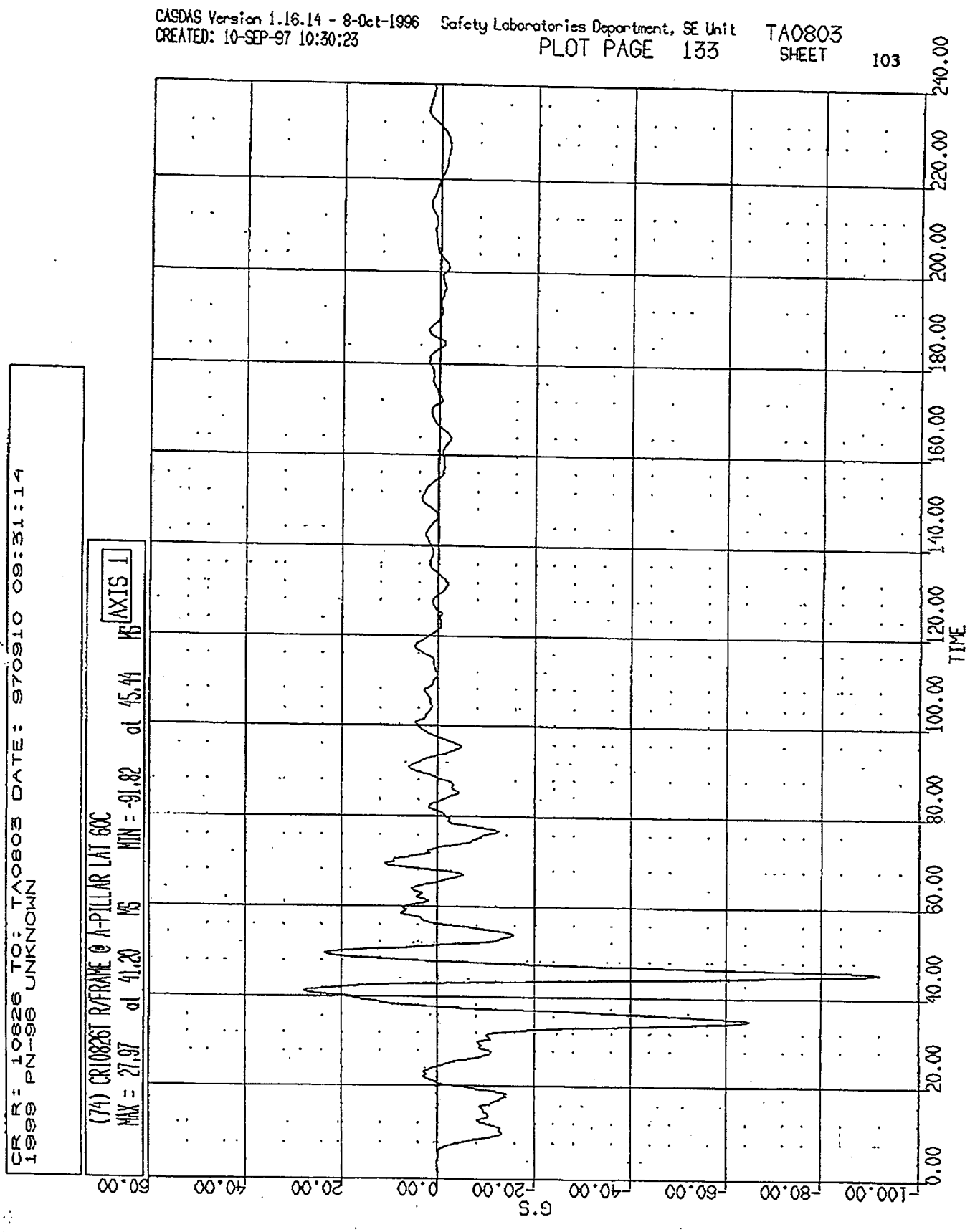
CRTS 0010826



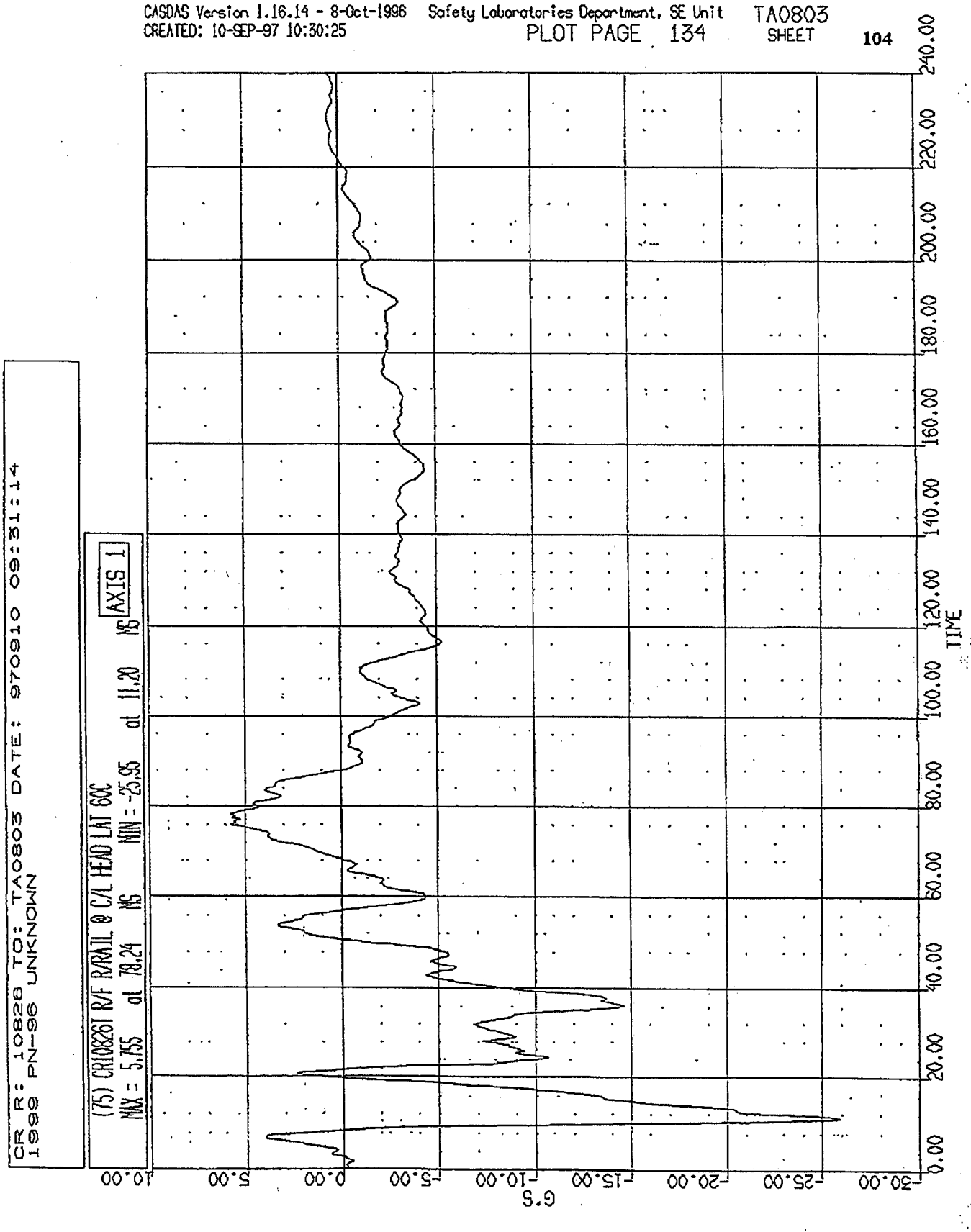
CRTS 0010826



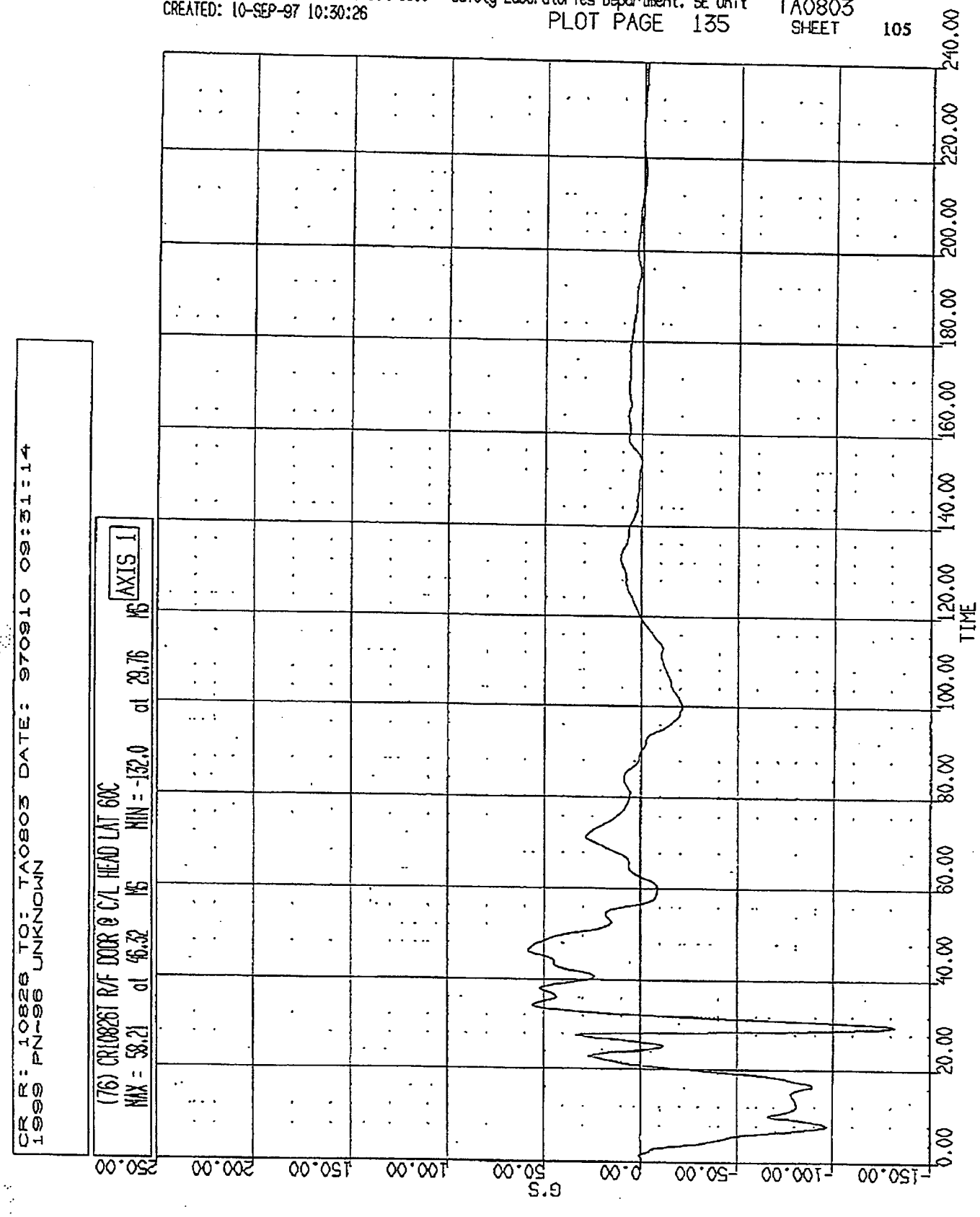
CRTS 0010826



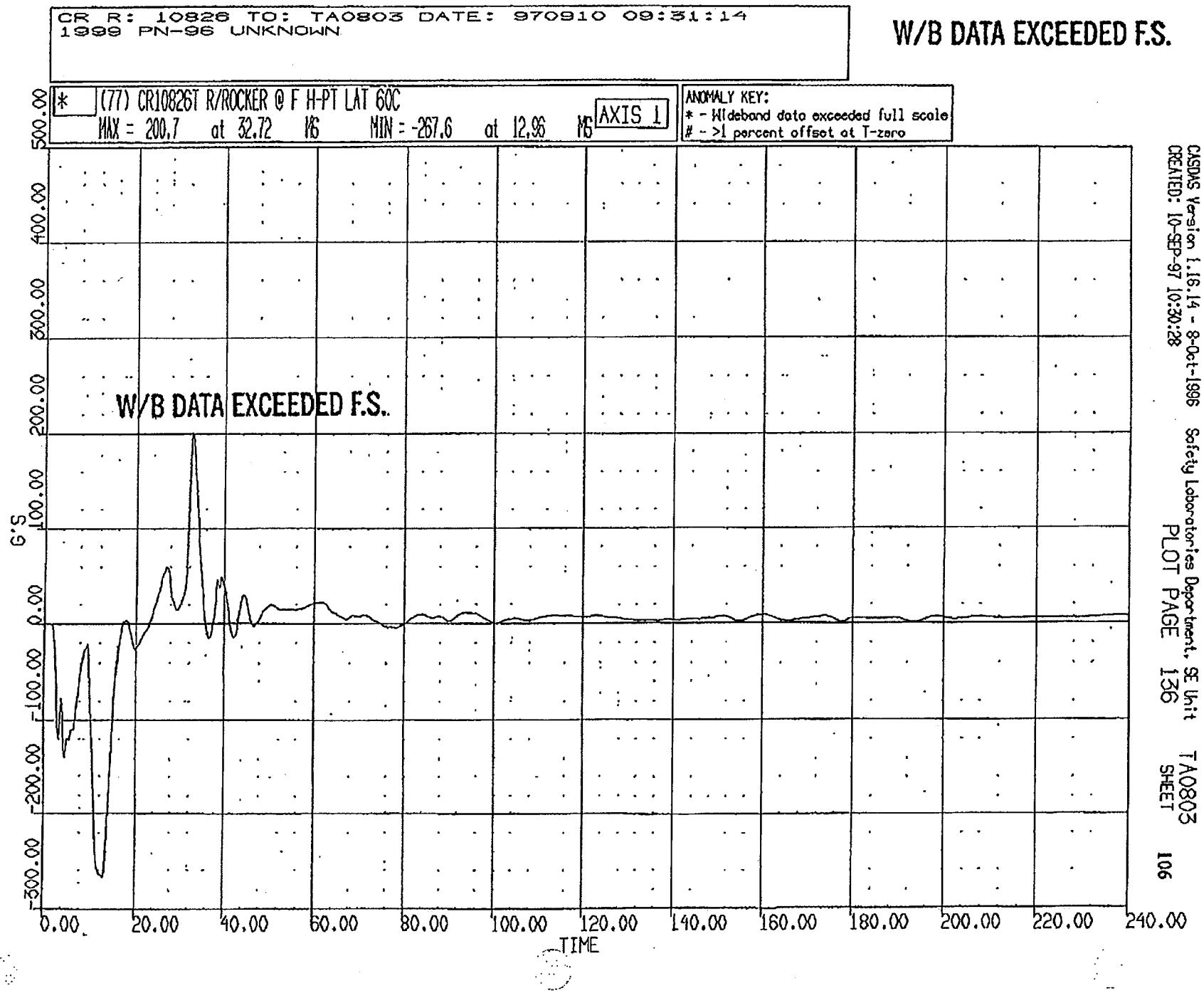
CRTS 0010826



CRTS 0010826



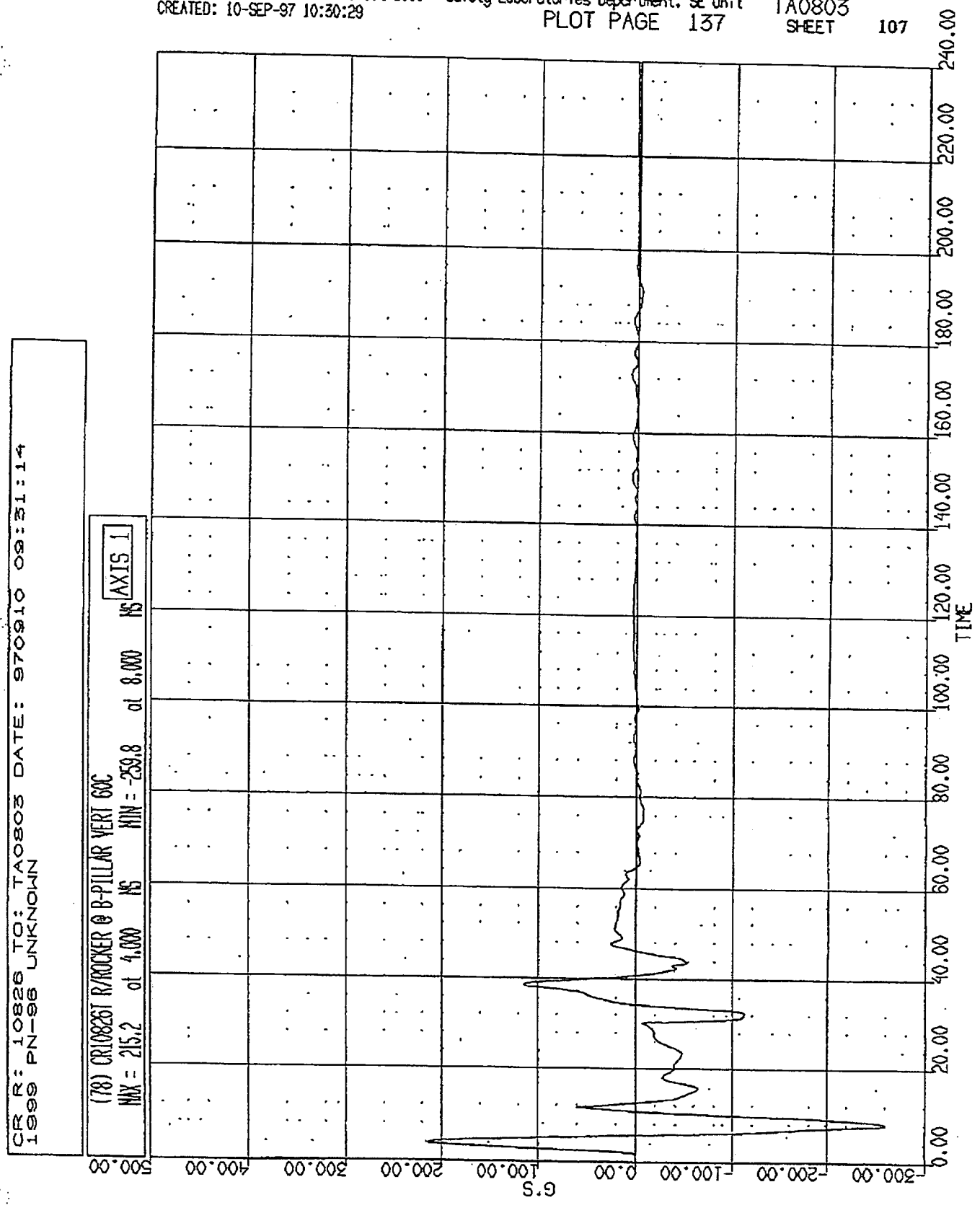
CRTS 0010826



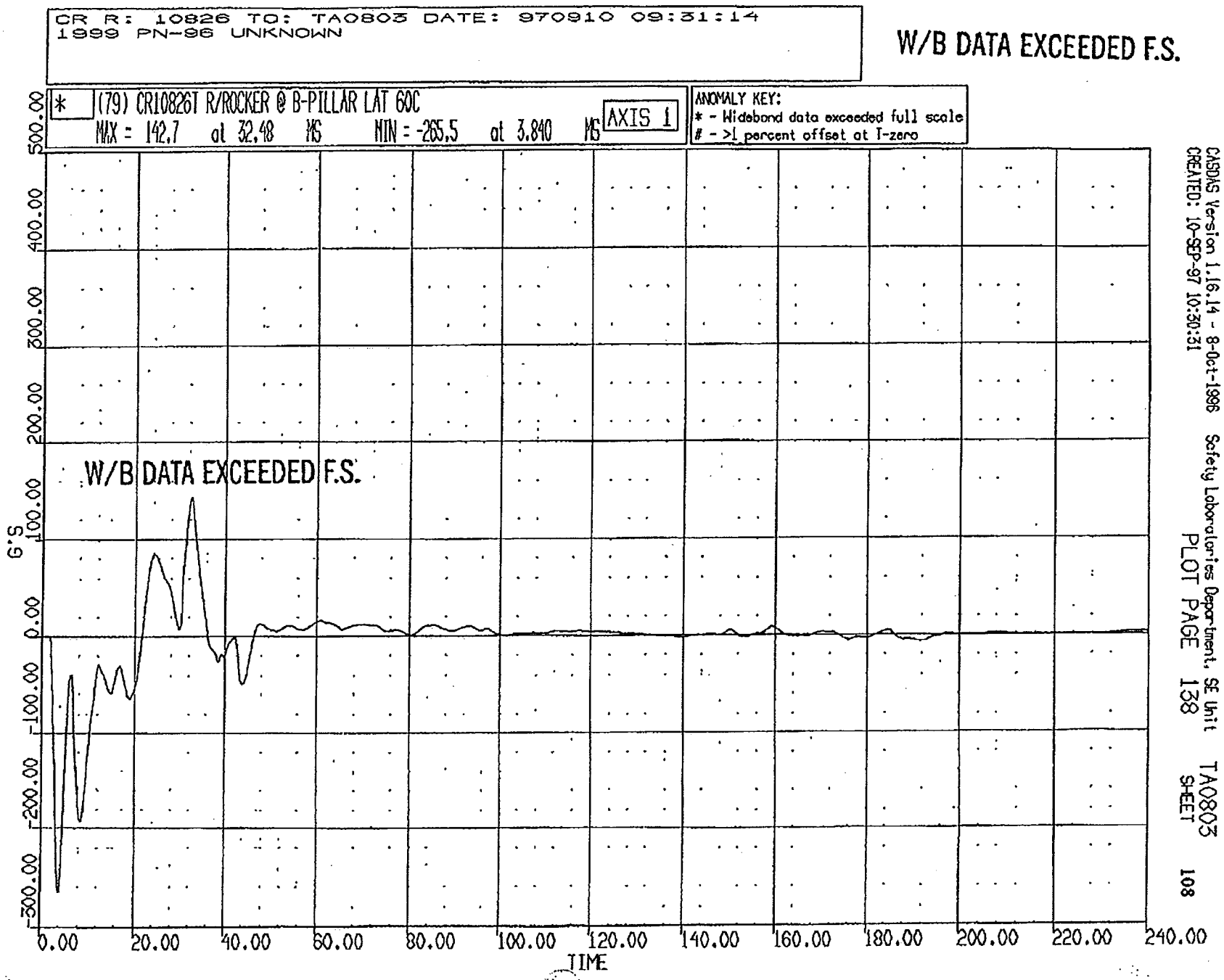
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:28 PLOT PAGE 136 TA0803 SHEET 106

CRTS 0010826

0952



CRTS 0010826



CRTS 0010826

CR R: 10826 TO: TA0803 DATE: 970910 09:51:14
1999 PN-96 UNKNOWN

W/B DATA EXCEEDED F.S.

* (80) CR10826T R/FRAME @ B-PILLAR LONG 60C
MAX = 438.7 at 33.20 MS MIN = -33.88 at 38.72 MS AXIS 1

ANOMALY KEY:
* - Wideband data exceeded full scale
# - >1 percent offset at T-zero

W/B DATA EXCEEDED F.S.

G's

700.00
600.00
500.00
400.00
300.00
200.00
100.00
00.0
-00.001

0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

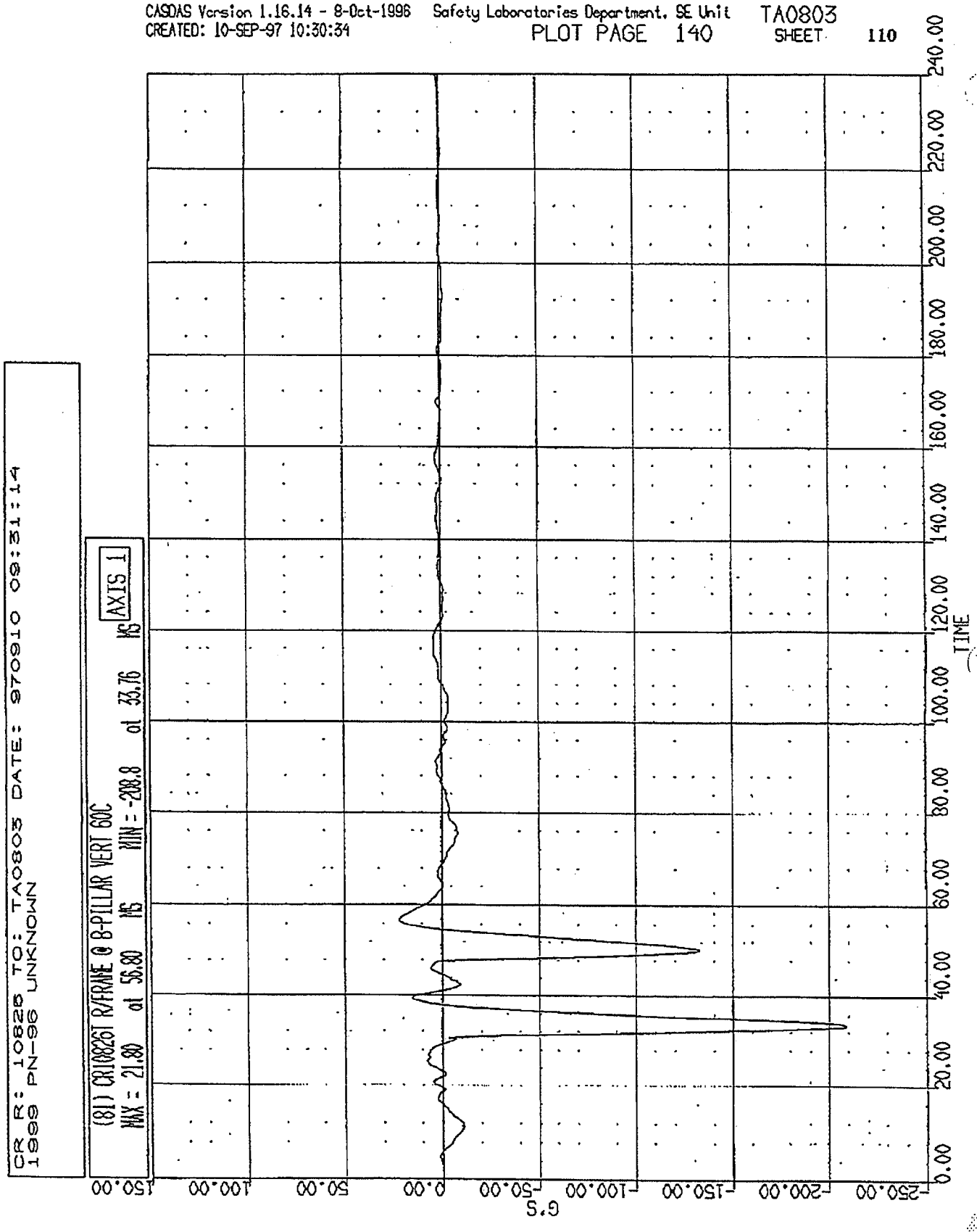
CASDAS Version 1.16.11 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:32

PLOT PAGE 139 TA0803 SHEET 109

CRTS 0010826

0955

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:34 PLOT PAGE 140 SHEET 110



CRTS 0010826

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN

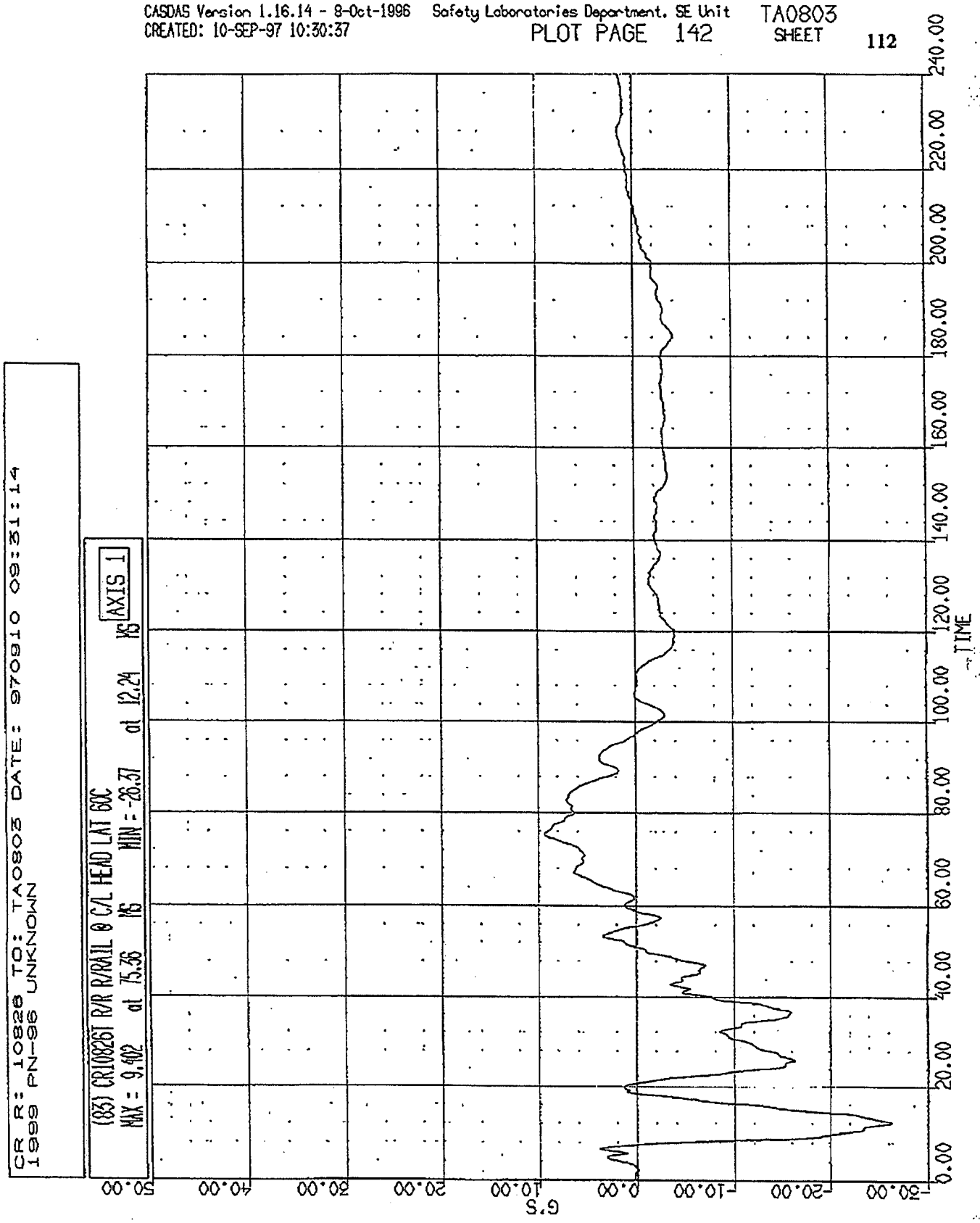
W/B DATA EXCEEDED F.S.

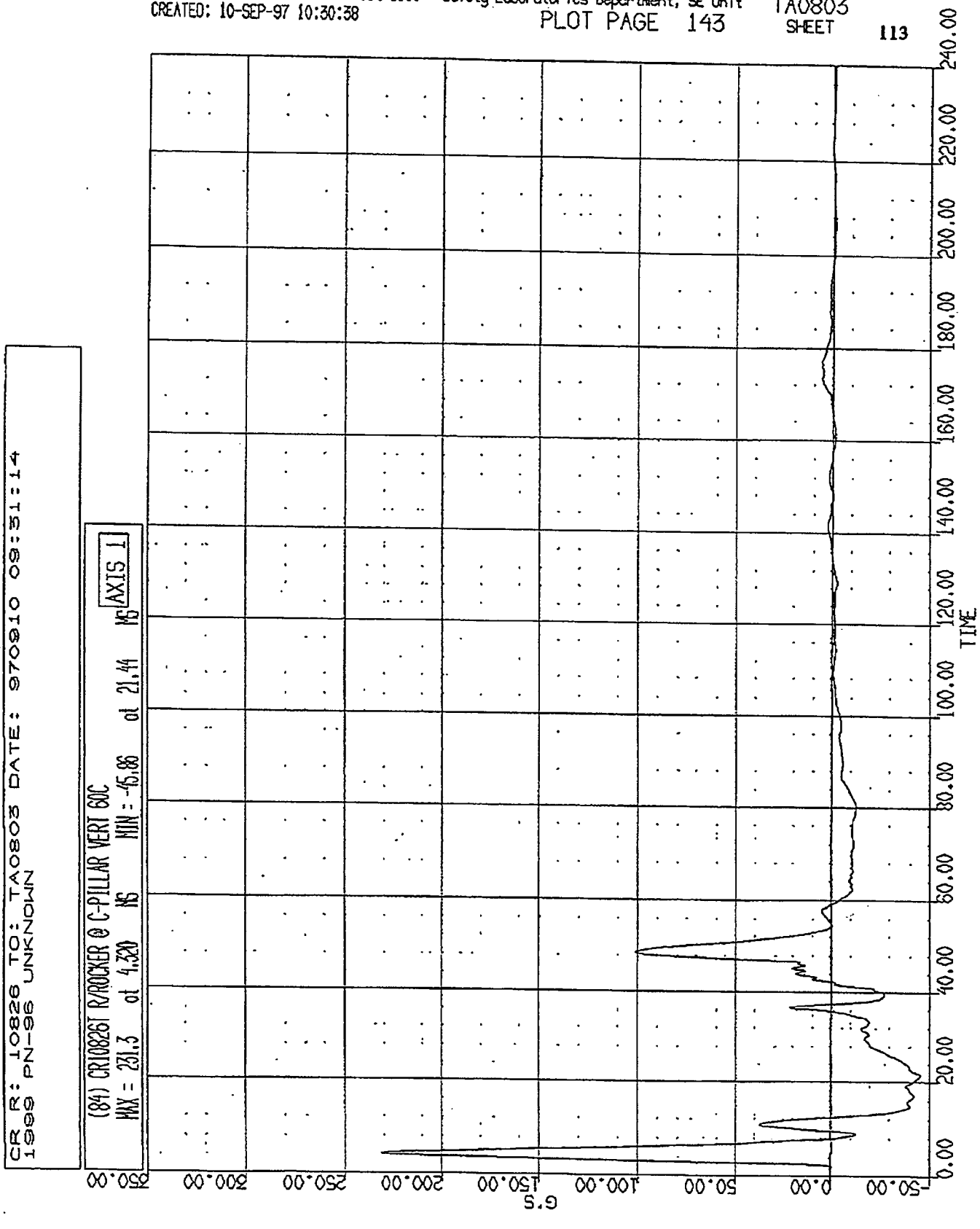
* (82) CR10826T R/FRAME @ B-PILLAR LAT 60C
MAX = 47.91 at 55.28 MS MIN = -428.1 at 49.92 MS AXIS 1

ANOMALY KEY:
* - Wideband data exceeded full scale
# - >1 percent offset at T-zero

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:35 PLOT PAGE 141 TA0803 SHEET 111

CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(83) CR10826T R/R R/RAIL @ C/L HEAD LAT 60C
MAX = 9.402 at 75.36 MS MIN = -26.37 at 12.24 MS
AXIS 1
G'S
TIME
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00



CRTS 0010826

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN

W/B DATA EXCEEDED F.S.

* (85) CR10826T R/ROCKER @ C-PILLAR LAT 60C
MAX = 80.46 at 23.12 MS MIN = -275.1 at 11.12 MS AXIS 1

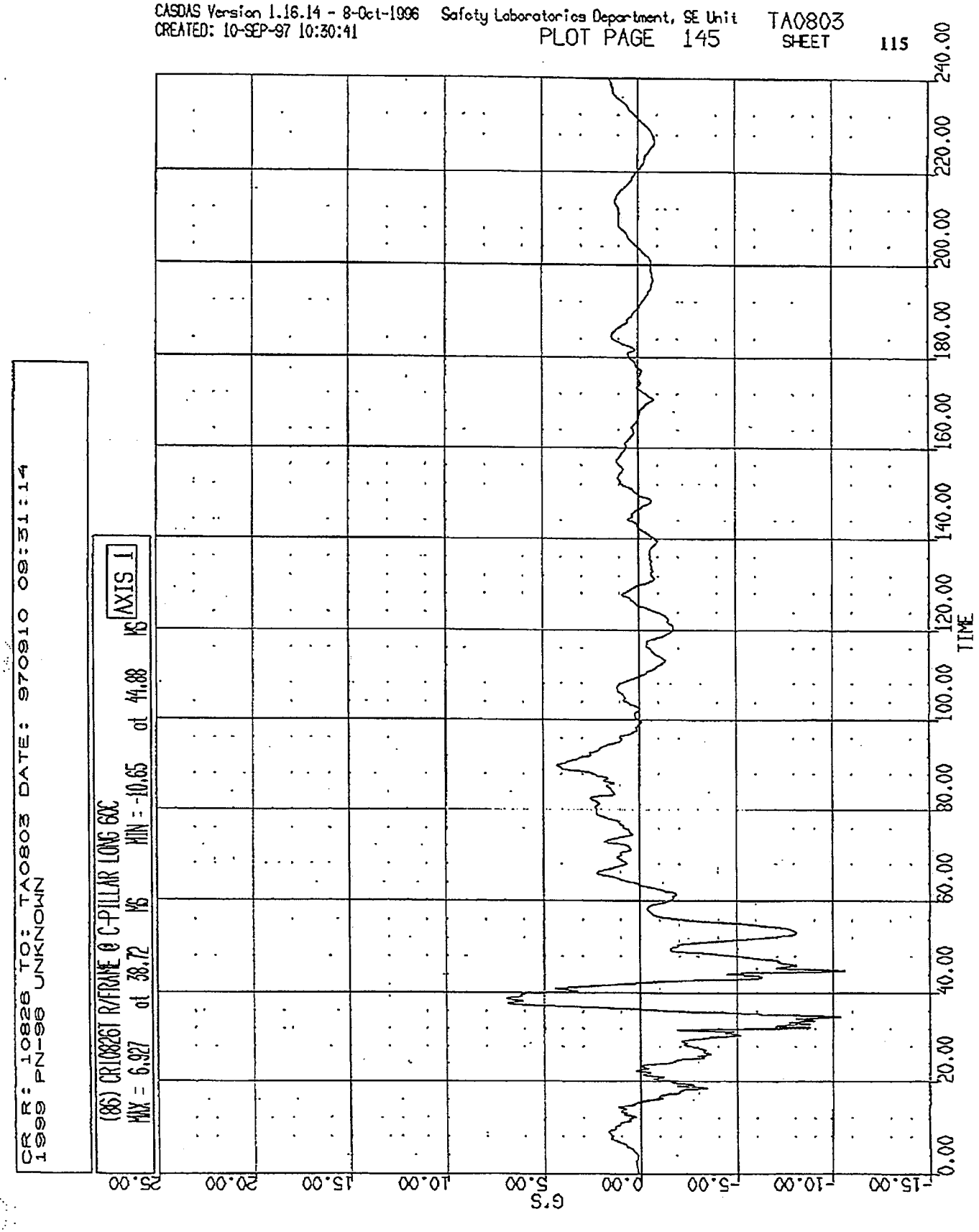
ANOMALY KEY:
* - Wideband data exceeded full scale
# - >1 percent offset at T-zero

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:40

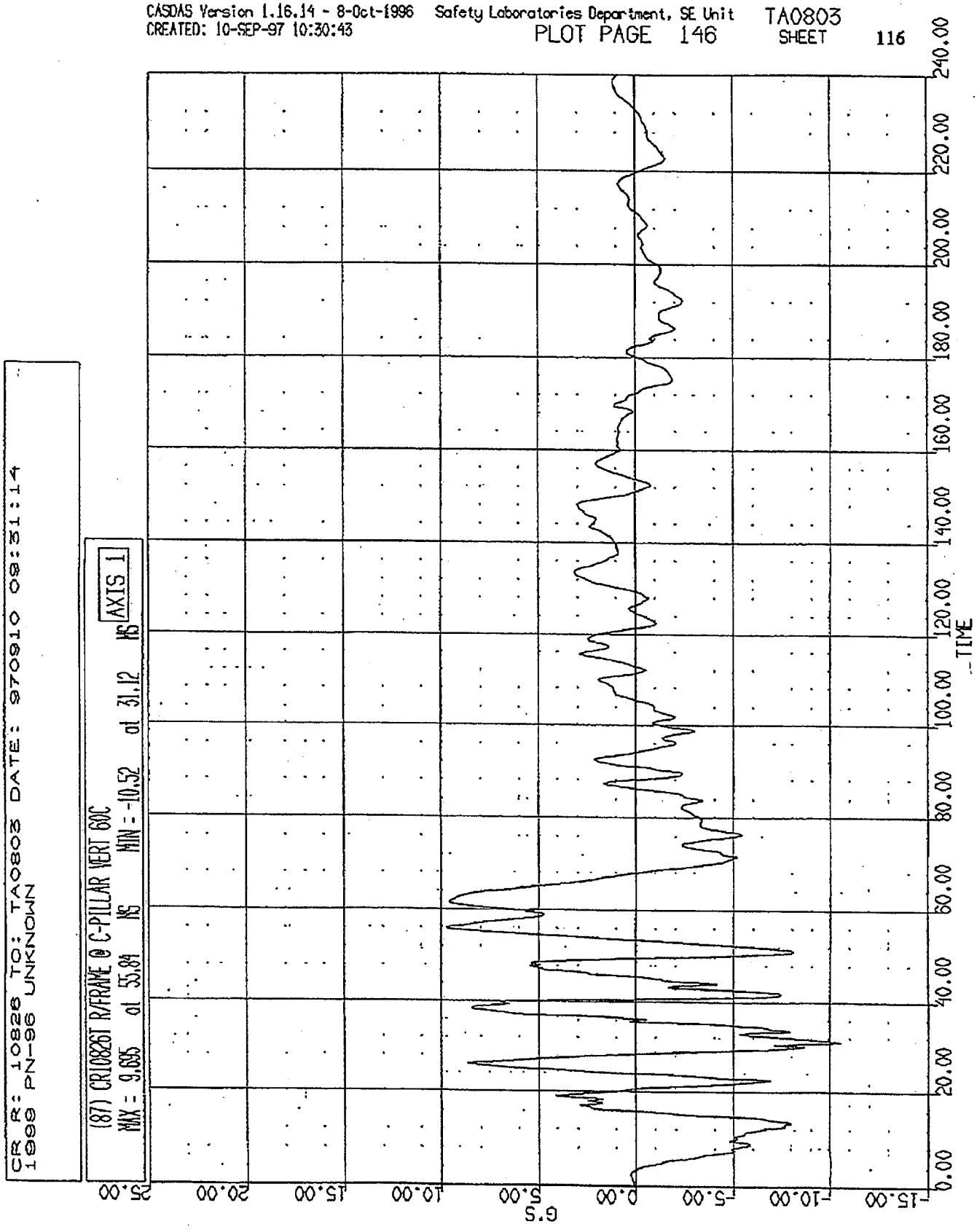
PLOT PAGE 144 TA0803 SHEET 114

CRTS 0010826

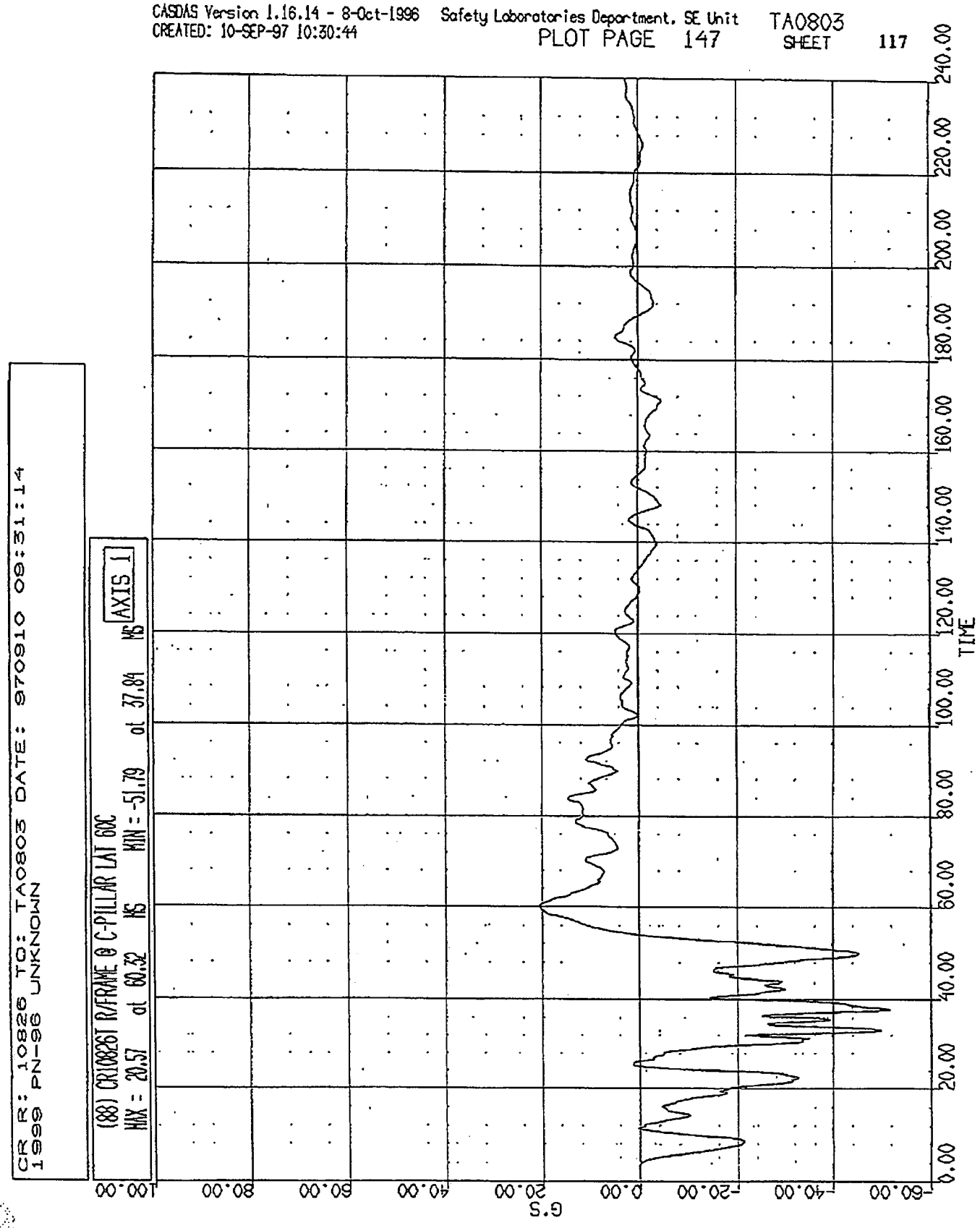
0960



CRTS 0010826

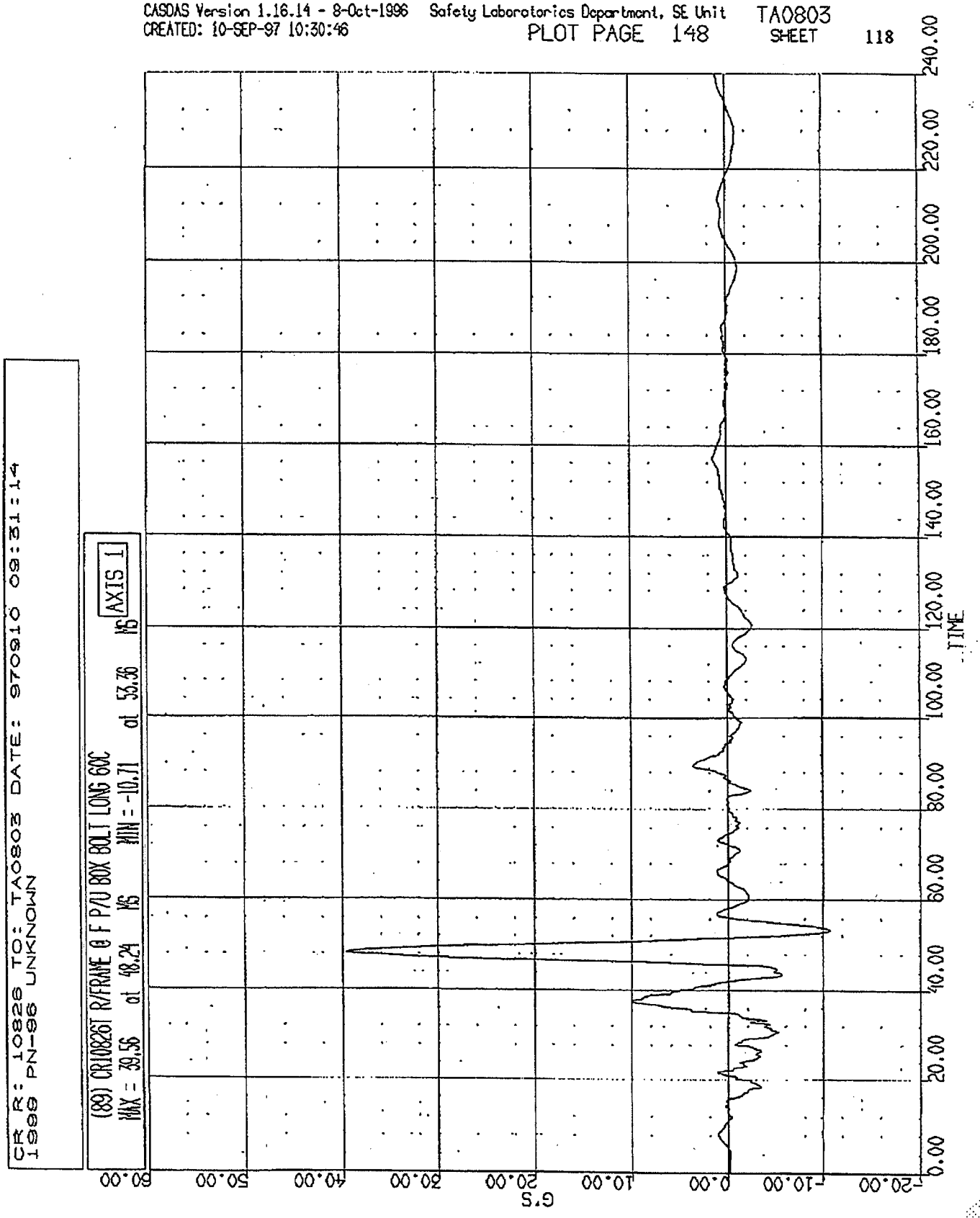


CRTS 0010826



CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:46 PLOT PAGE 148 SHEET 118



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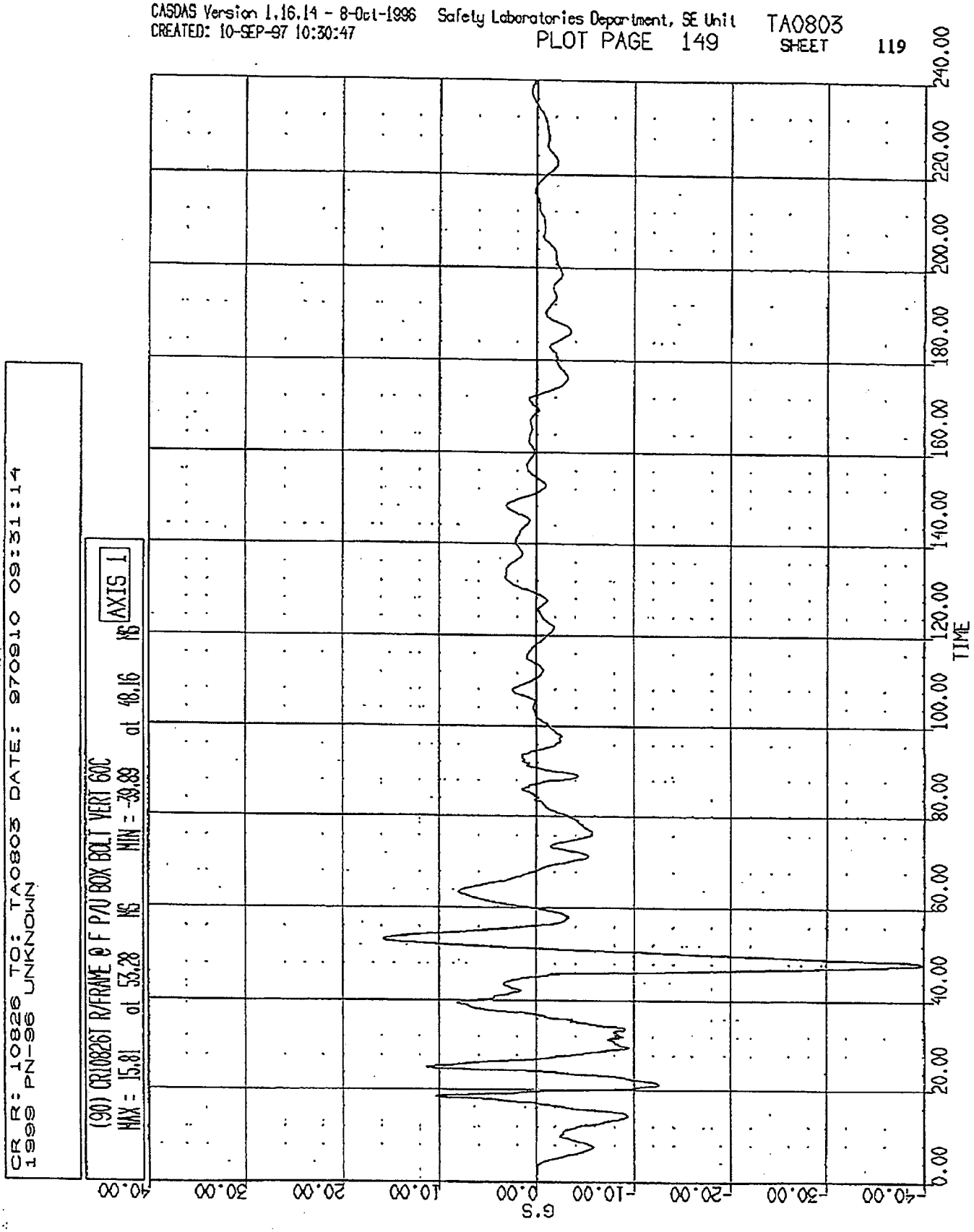
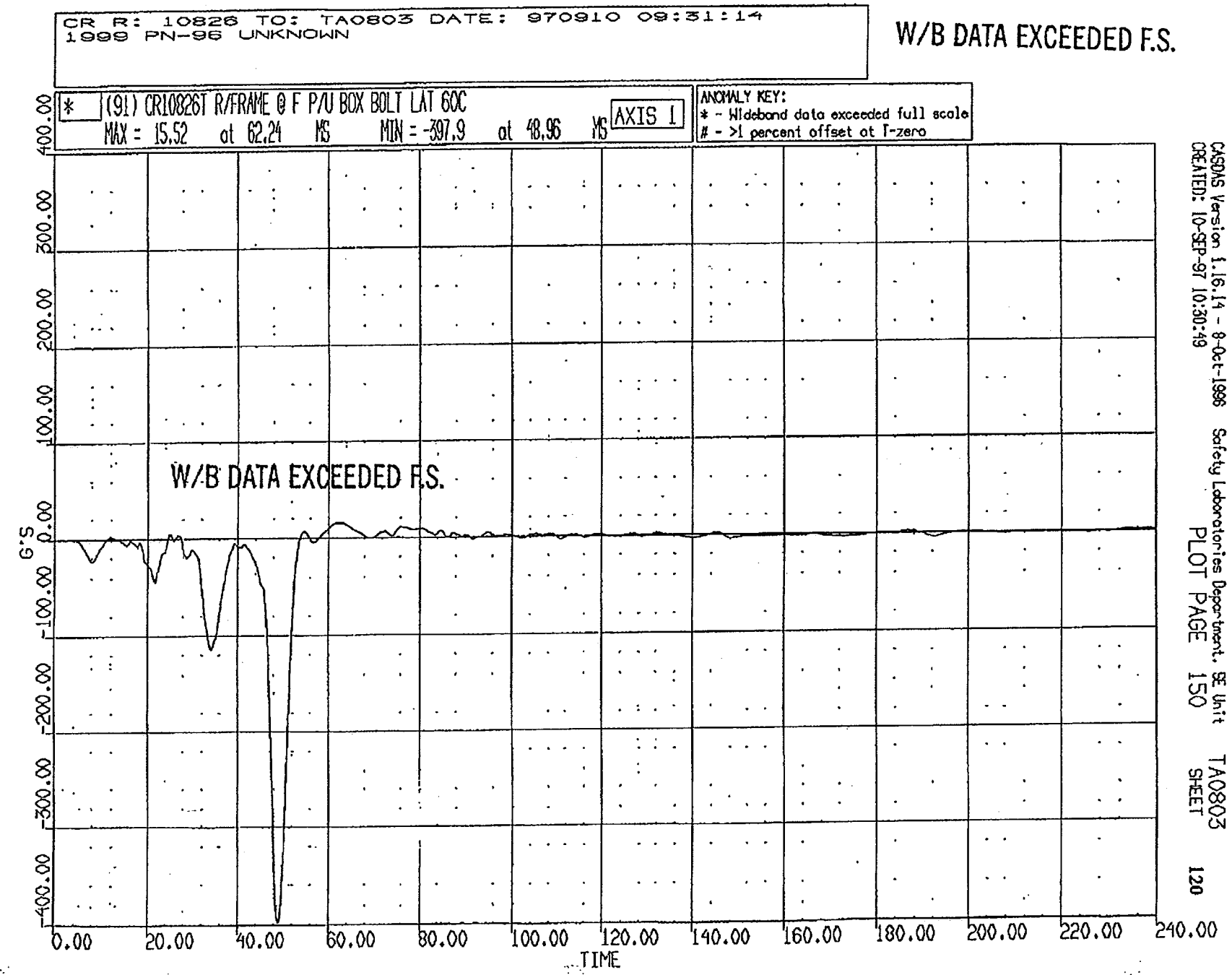


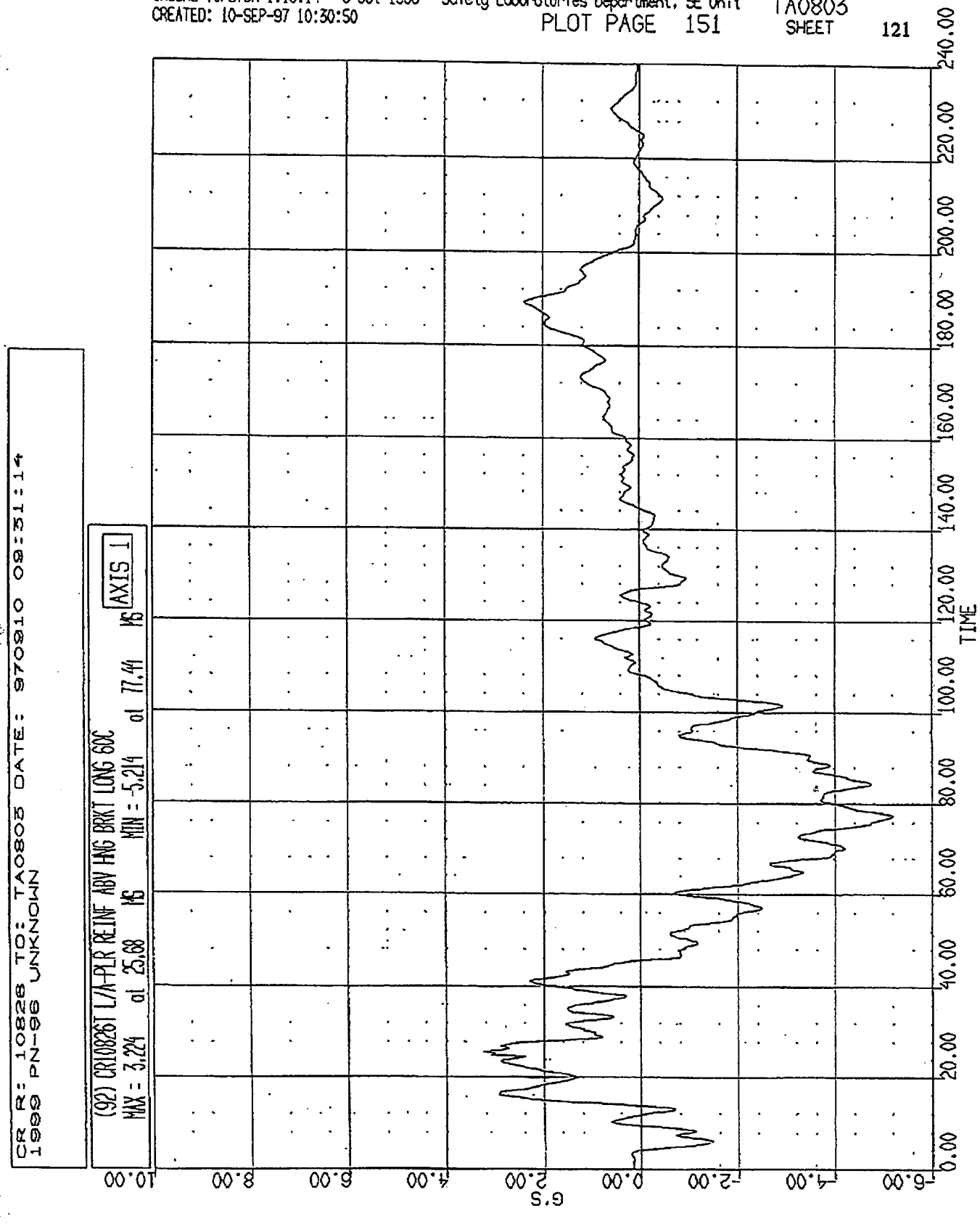
CRTS 0010826



CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:30:49 PLOT PAGE 150 TA0803 SHEET 120

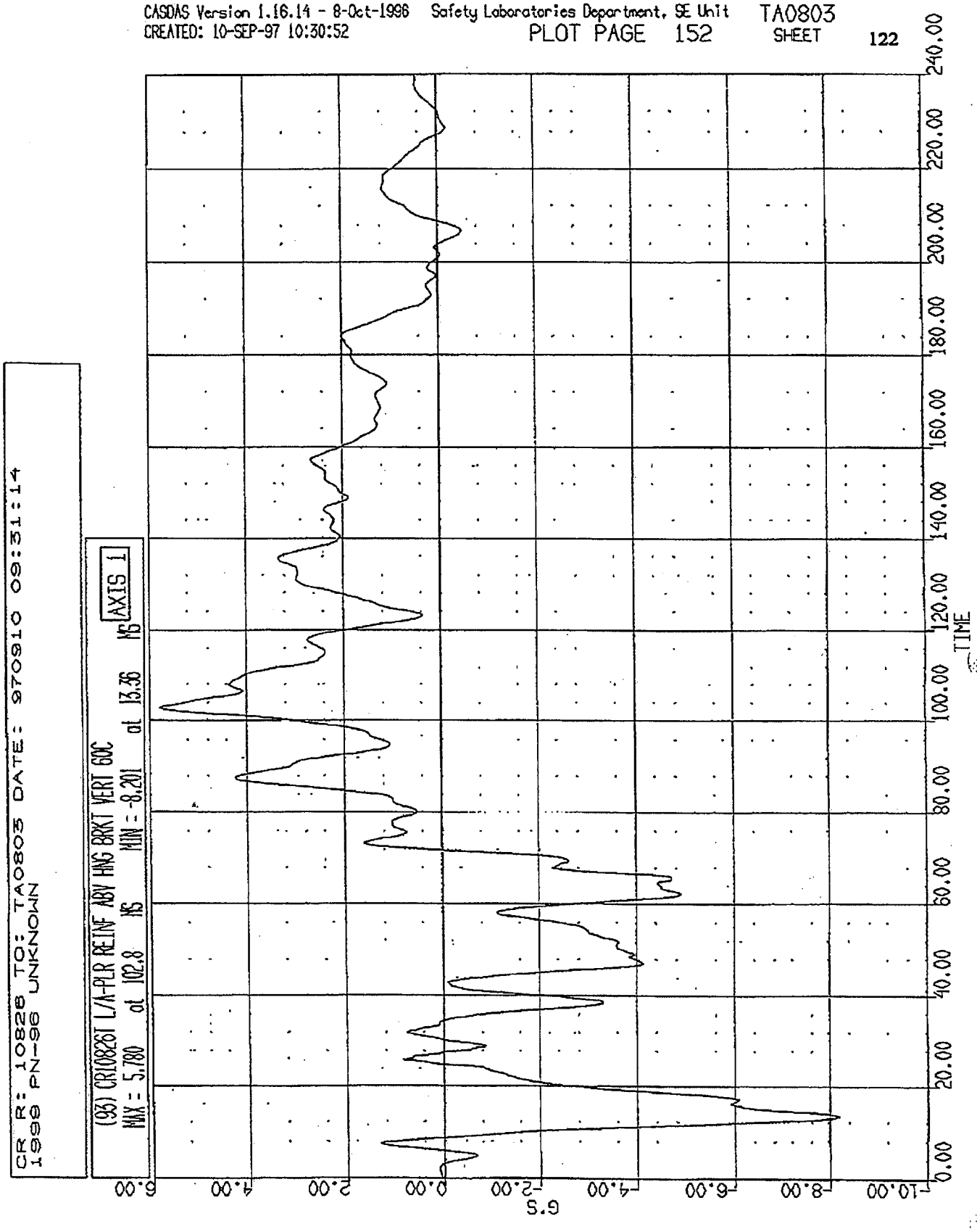
CRTS 0010826

0966

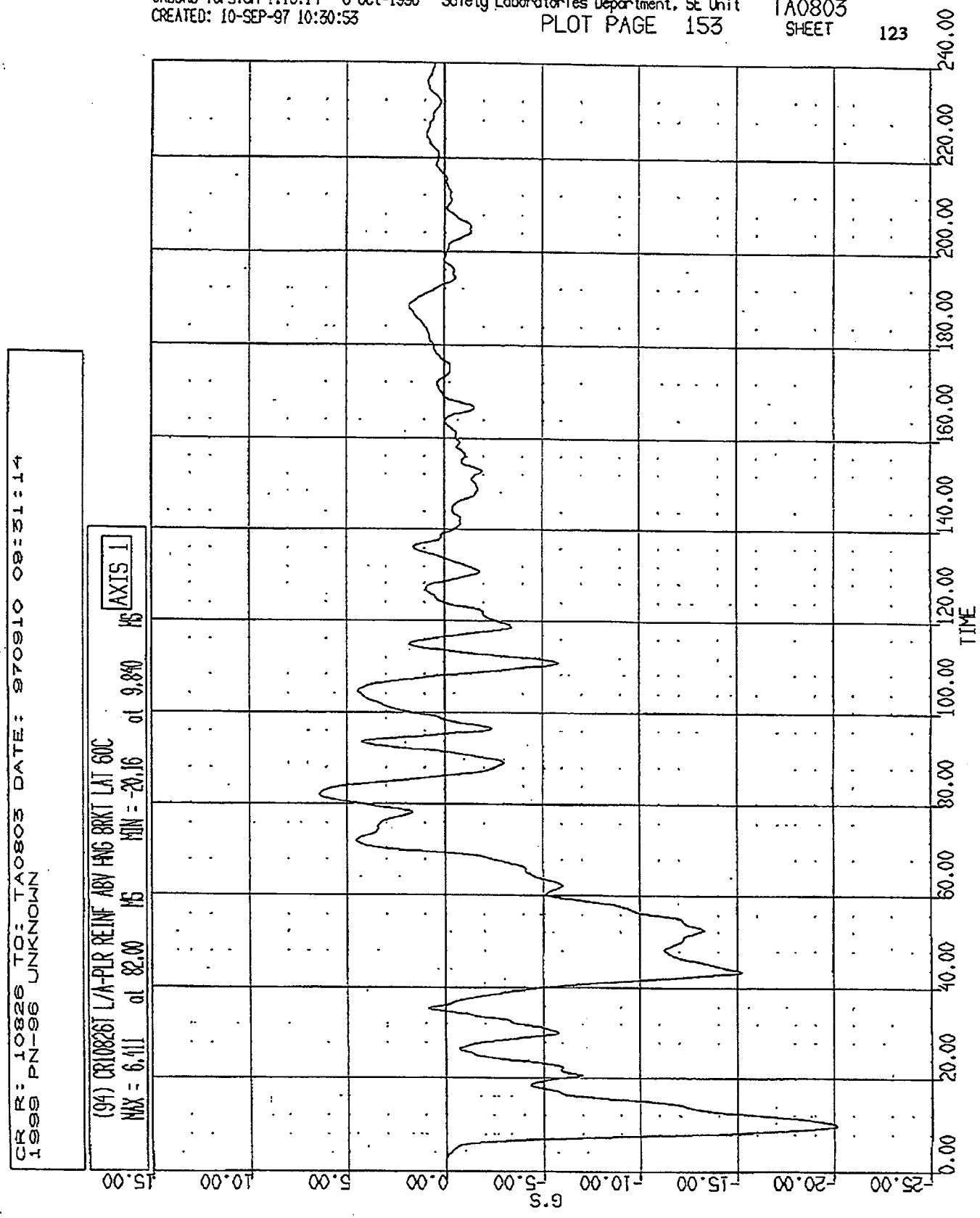


CRTS 0010826

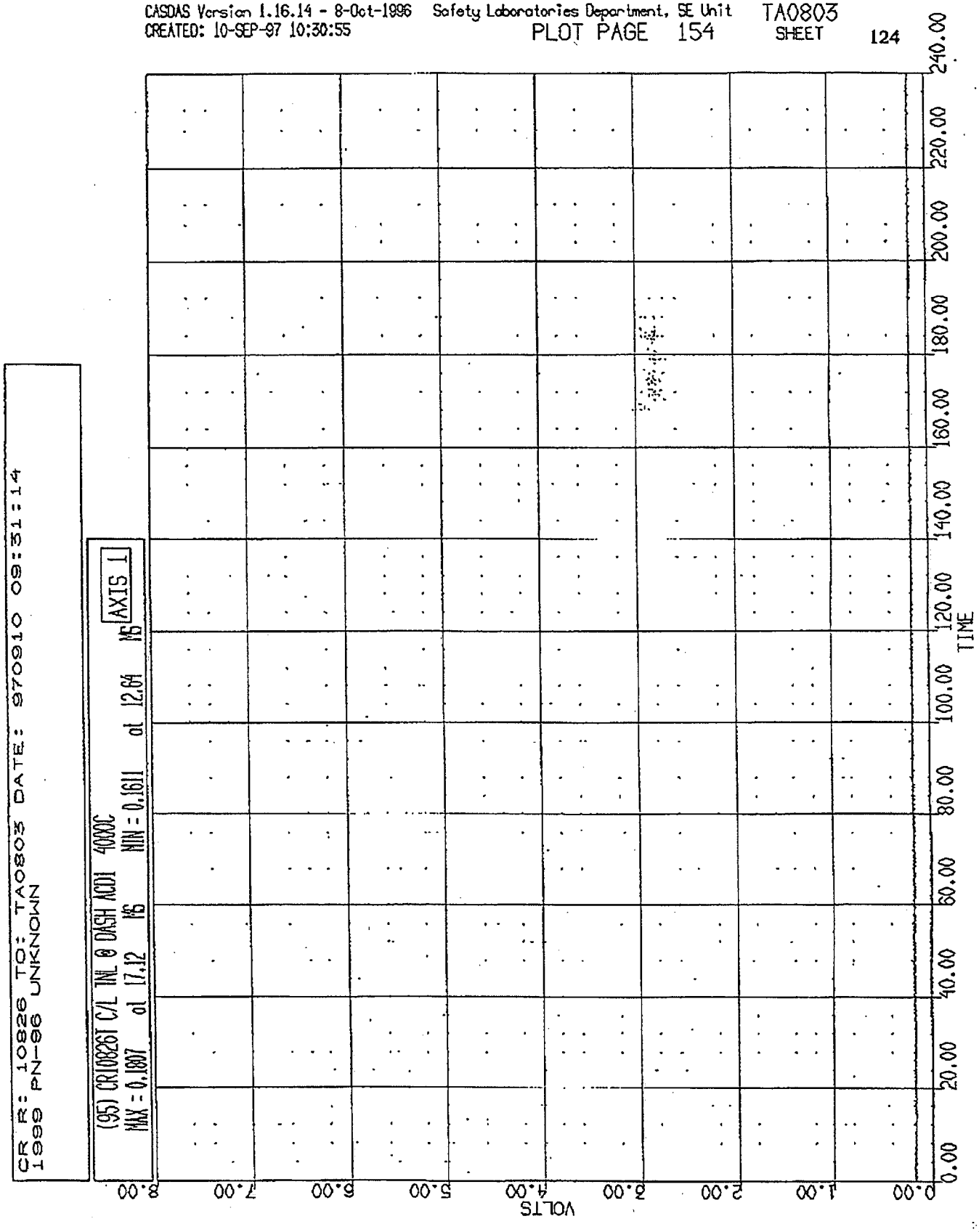
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:52 PLOT PAGE 152 SHEET 122

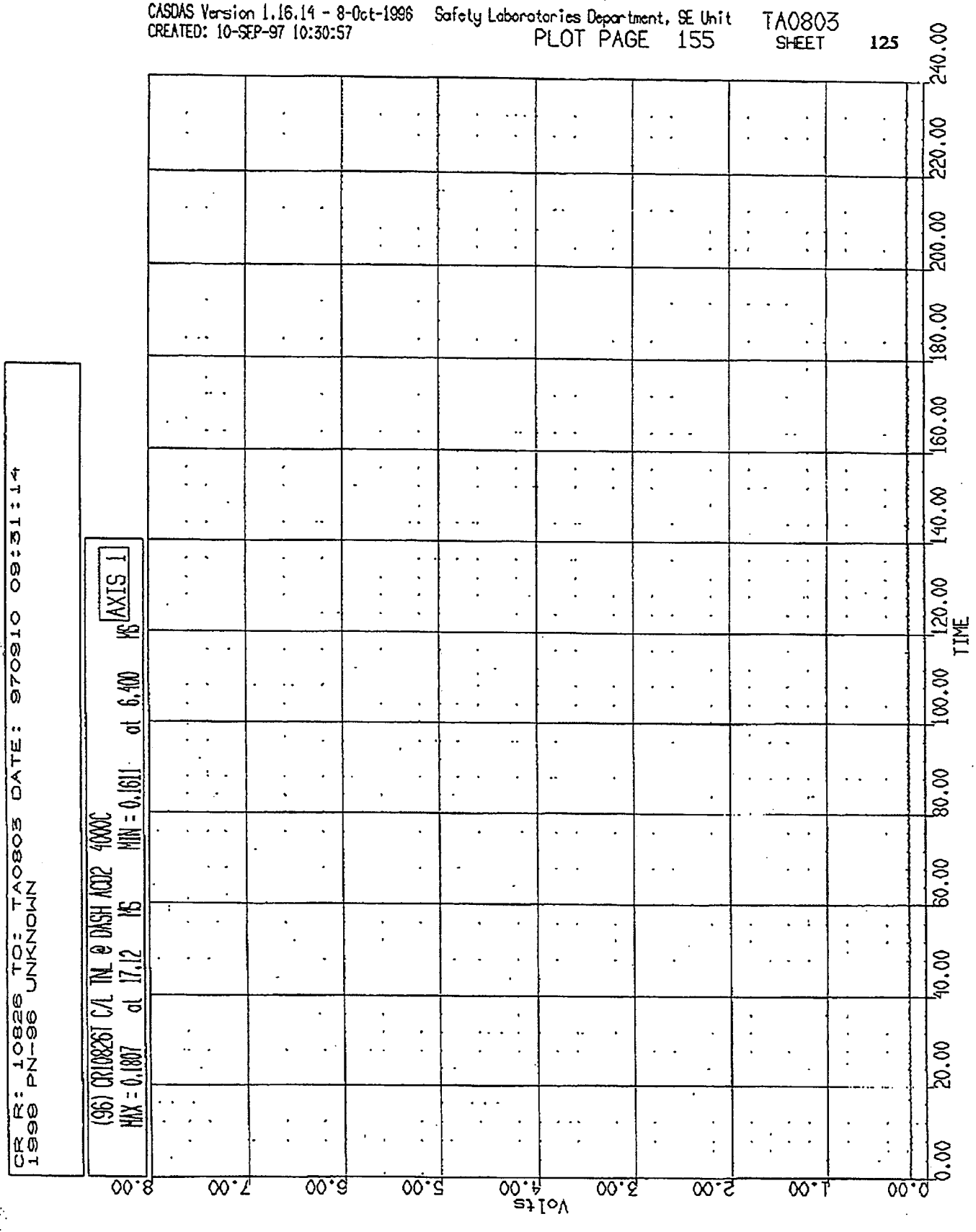


CRTS 0010826



CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(95) CR10826T C/L TNL @ DASH ACD1 4000C
MAX = 0.1807 at 17.12 M6 MIN = 0.1611 at 12.64 M5
AXIS 1
VOLTS
TIME
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00



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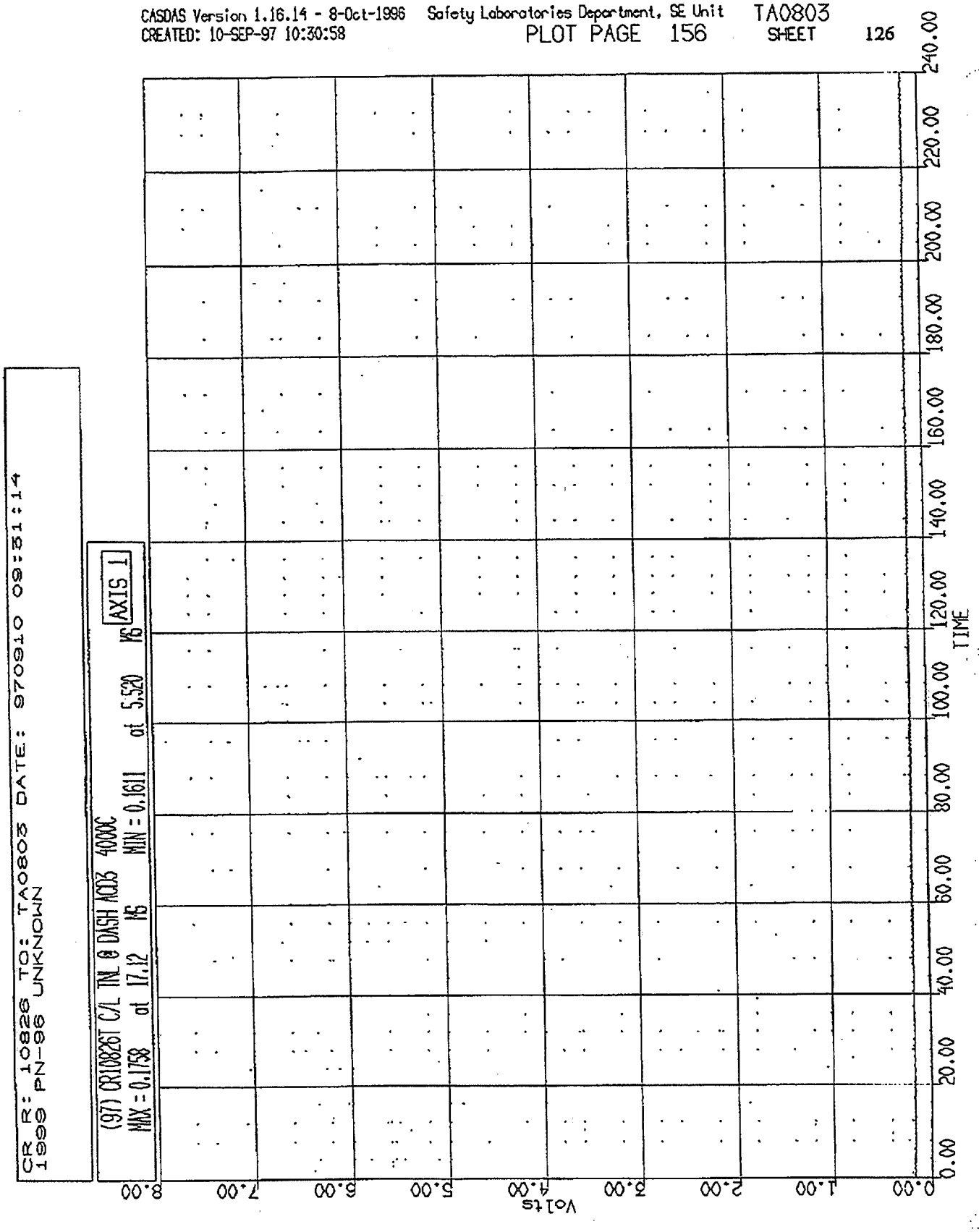
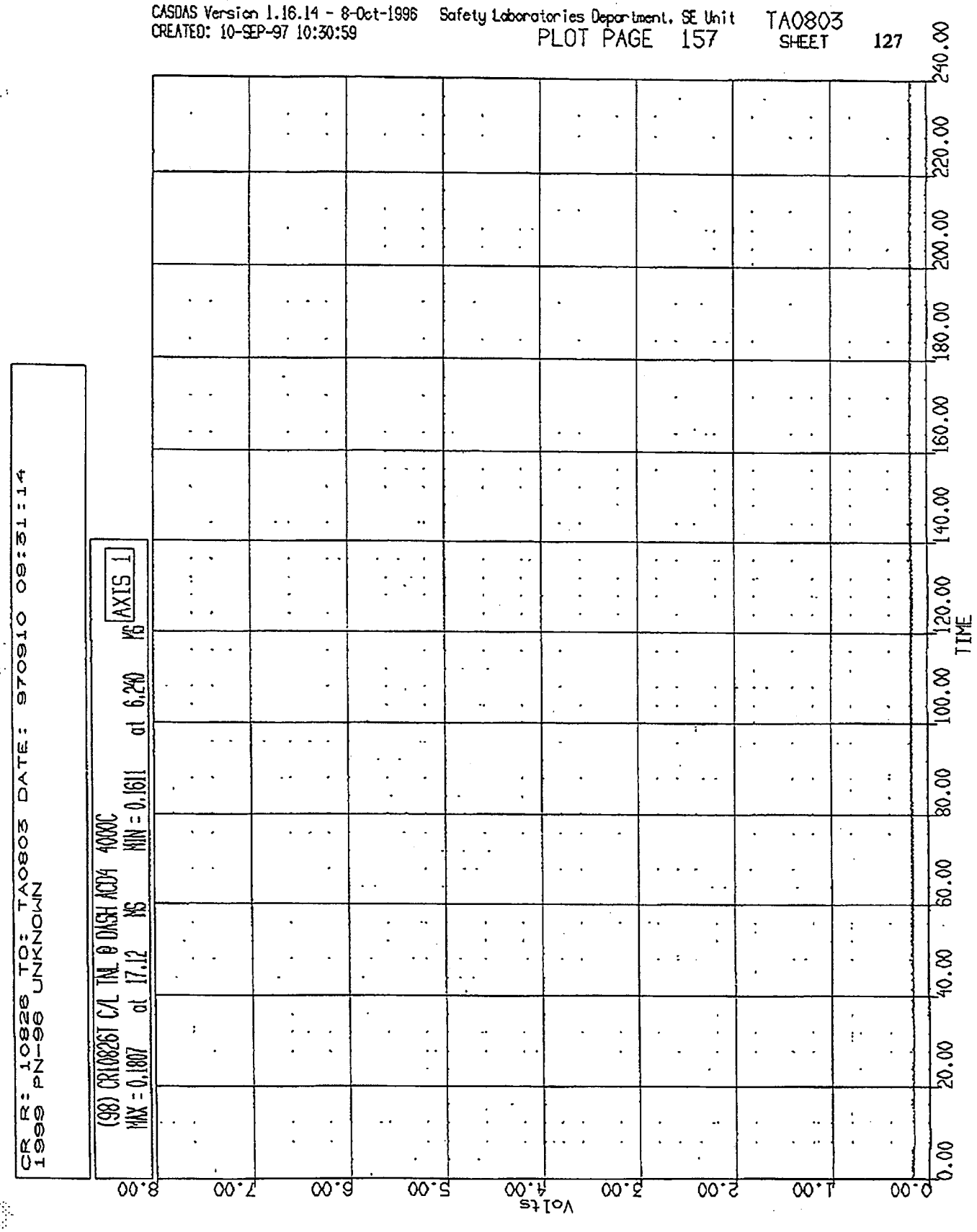
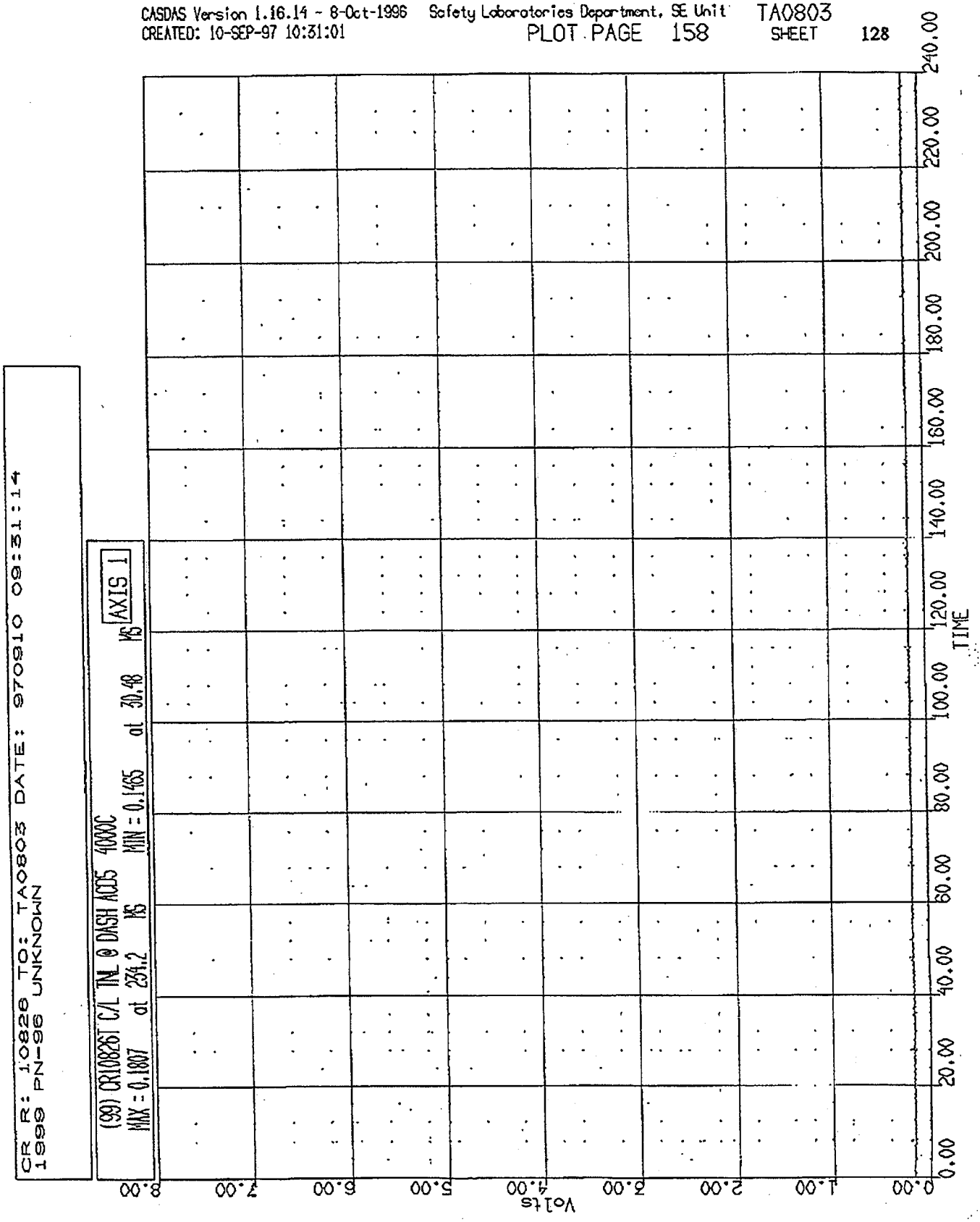

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(97) CR10826T C/L TNL @ DASH ACC3 4000C
MAX = 0.1758 at 17.12 MS MIN = 0.1611 at 5.520 MS
AXIS 1
Volts
TIME
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:30:59 PLOT PAGE 157 SHEET 127



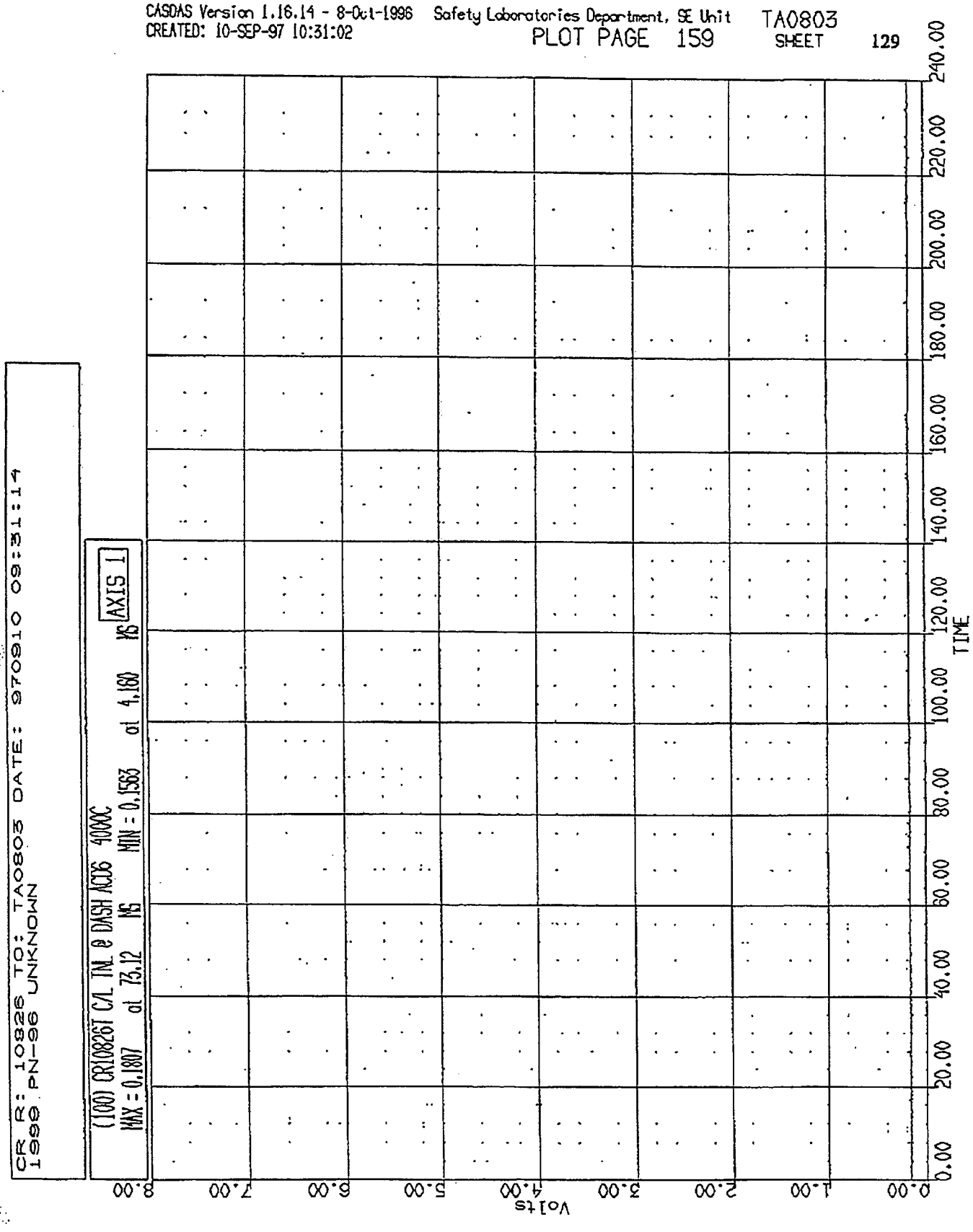
CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:01 PLOT PAGE 158 SHEET 128

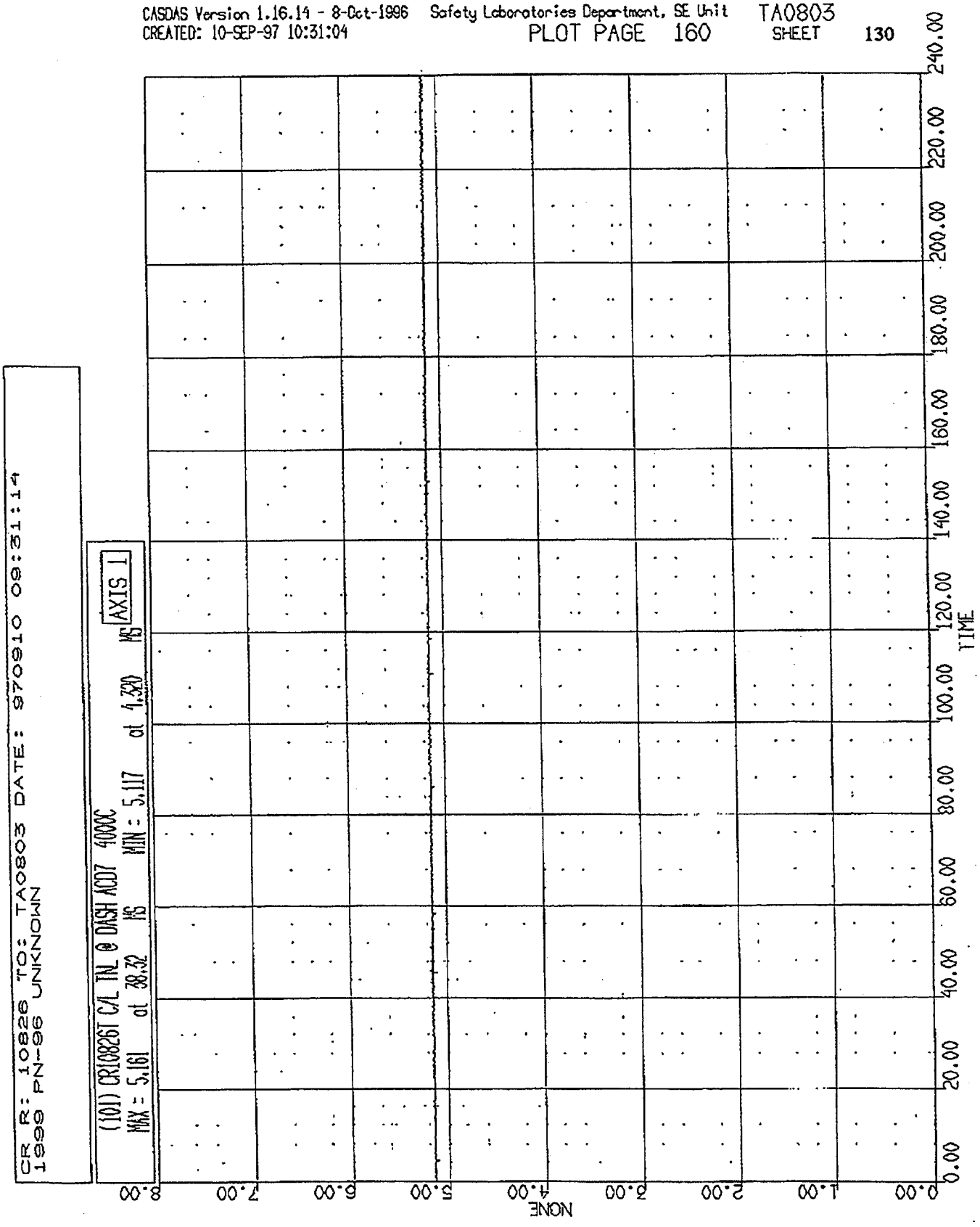


CRTS 0010826

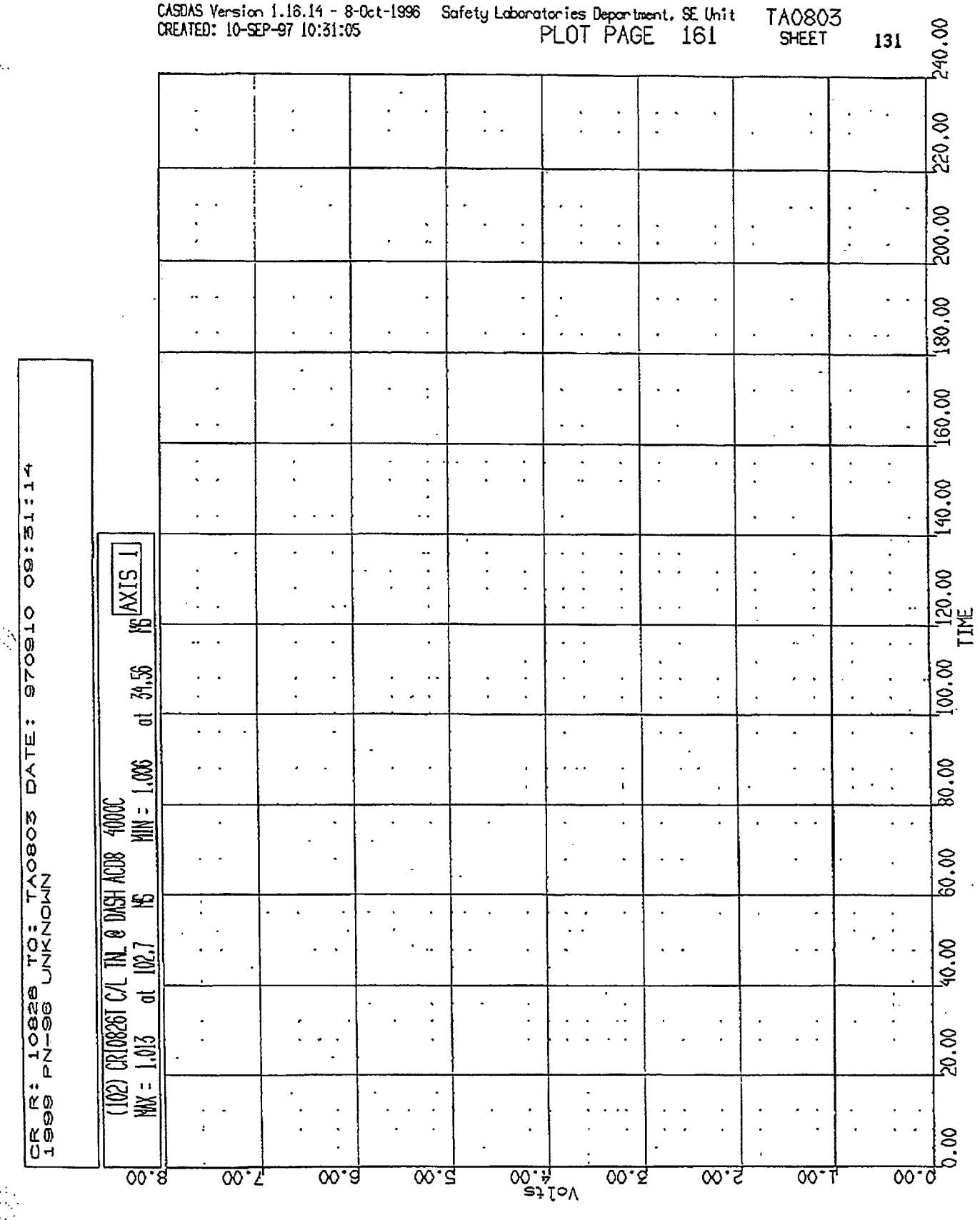
CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:02 PLOT PAGE 159 SHEET 129



CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(101) CR10826T C/L TNL @ DASH ADD7 4000C
MAX = 5.161 at 38.32 MS MIN = 5.117 at 4.320 MS
AXIS 1
NONE
TIME
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:05 PLOT PAGE 161 SHEET 131



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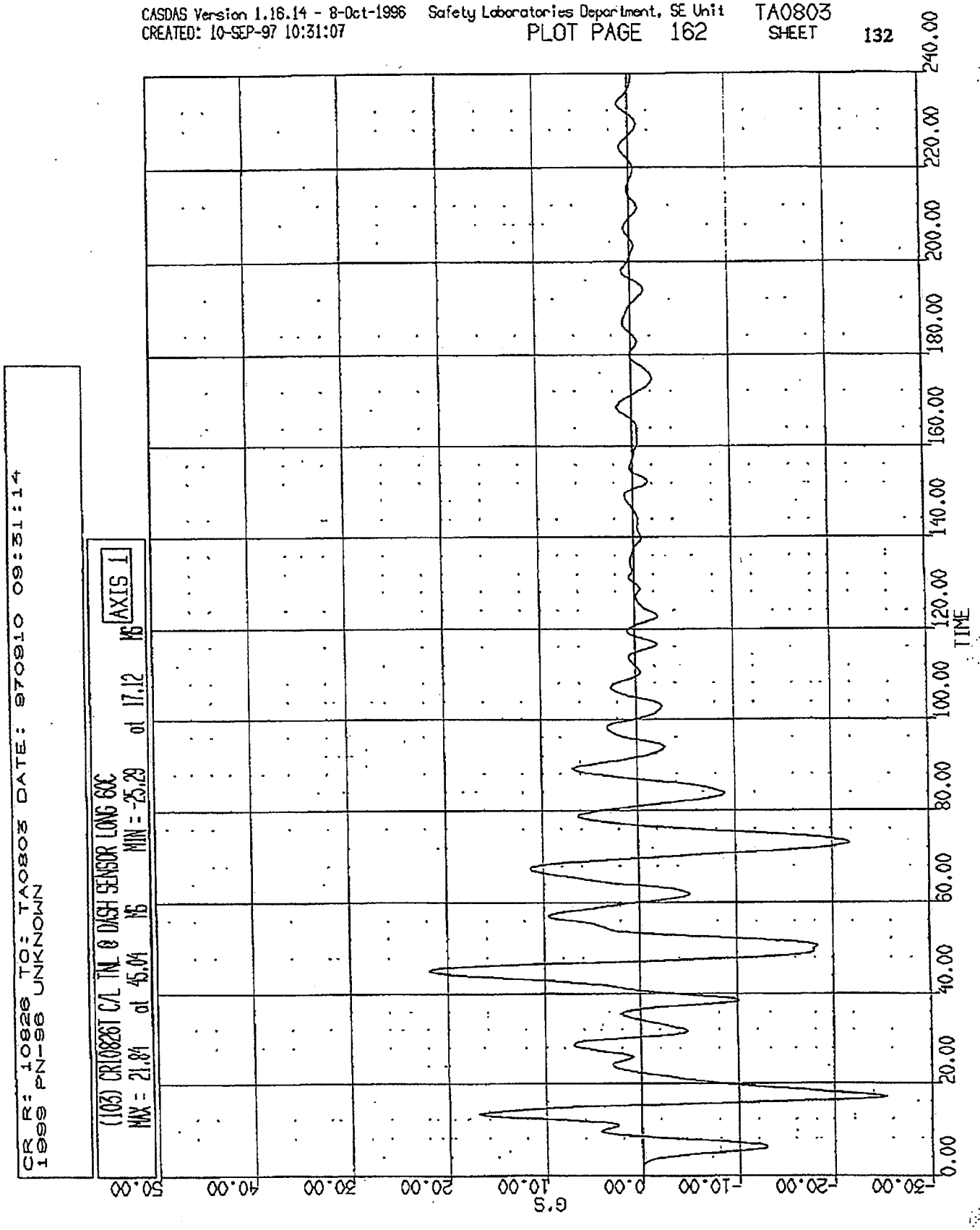

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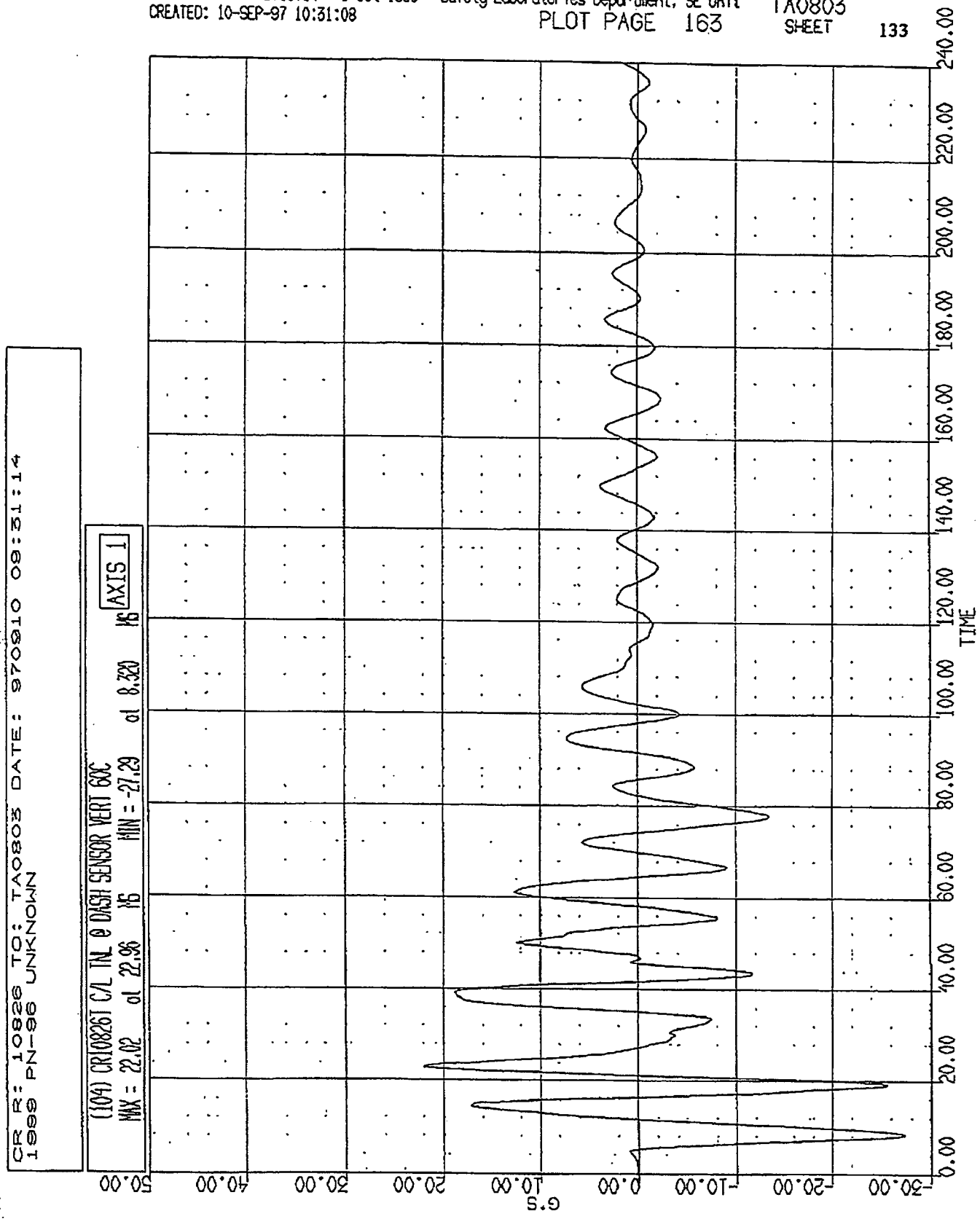

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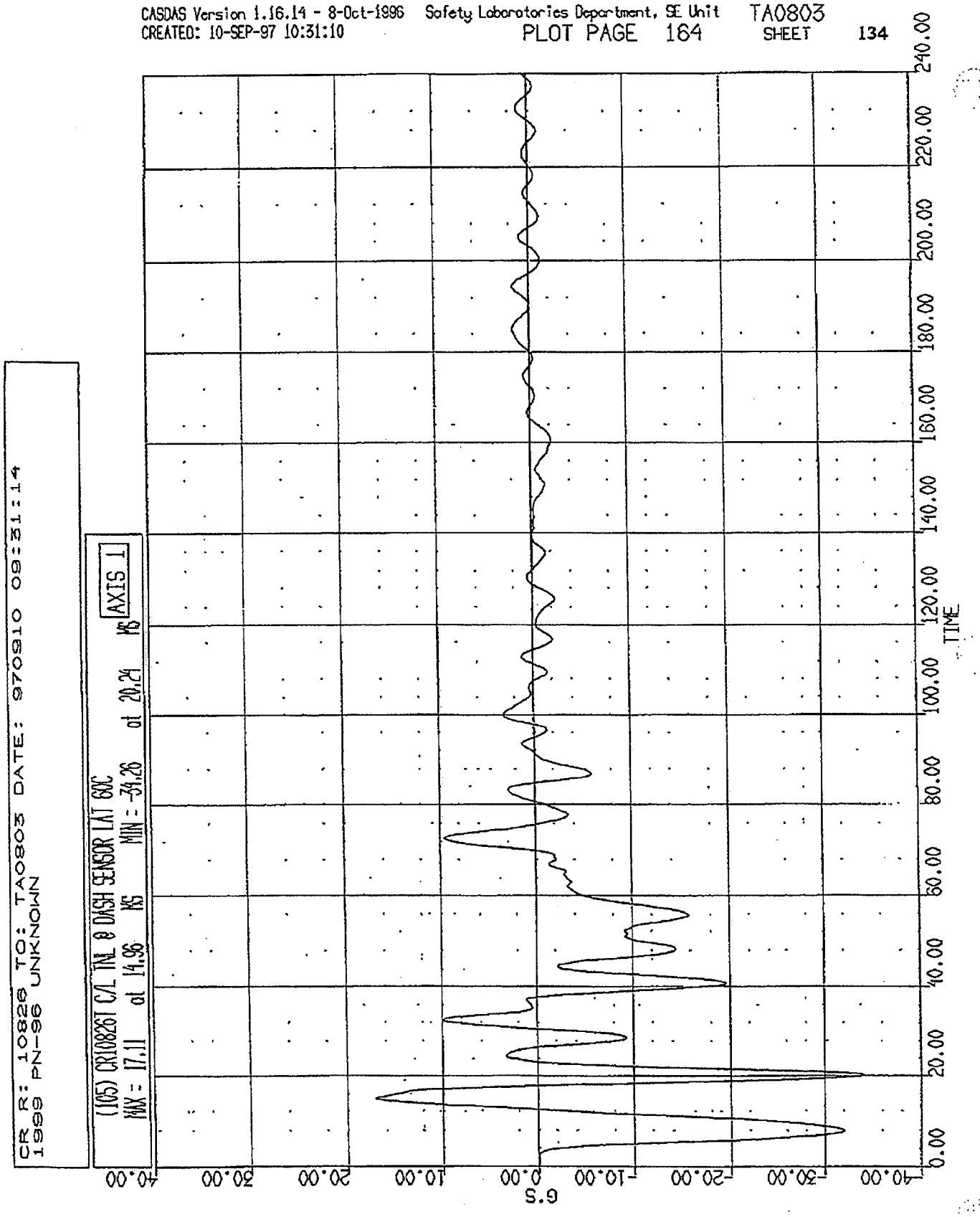

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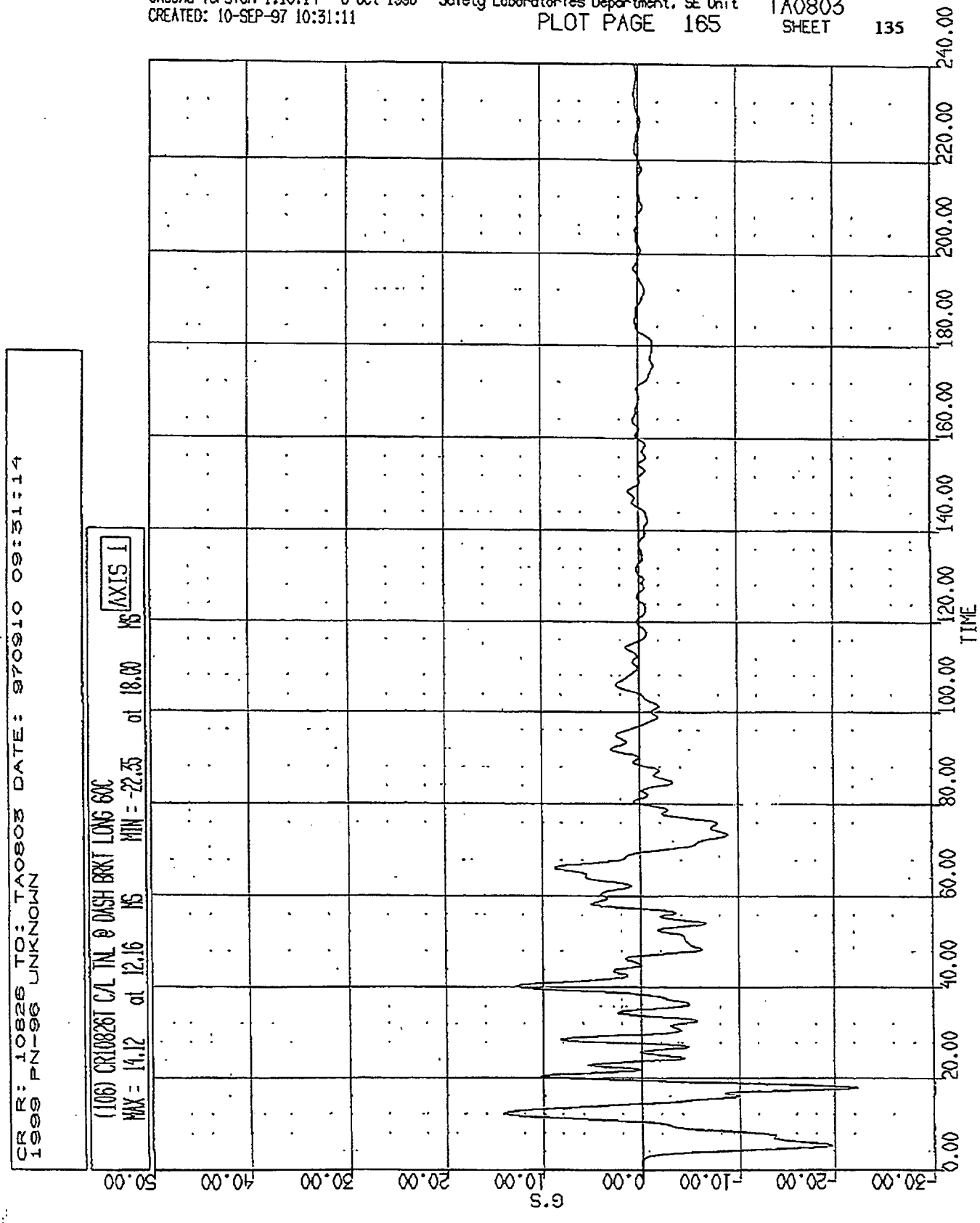
CASOAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department. SE Unit TA0803
CREATED: 10-SEP-97 10:31:11 PLOT PAGE 165 SHEET 135



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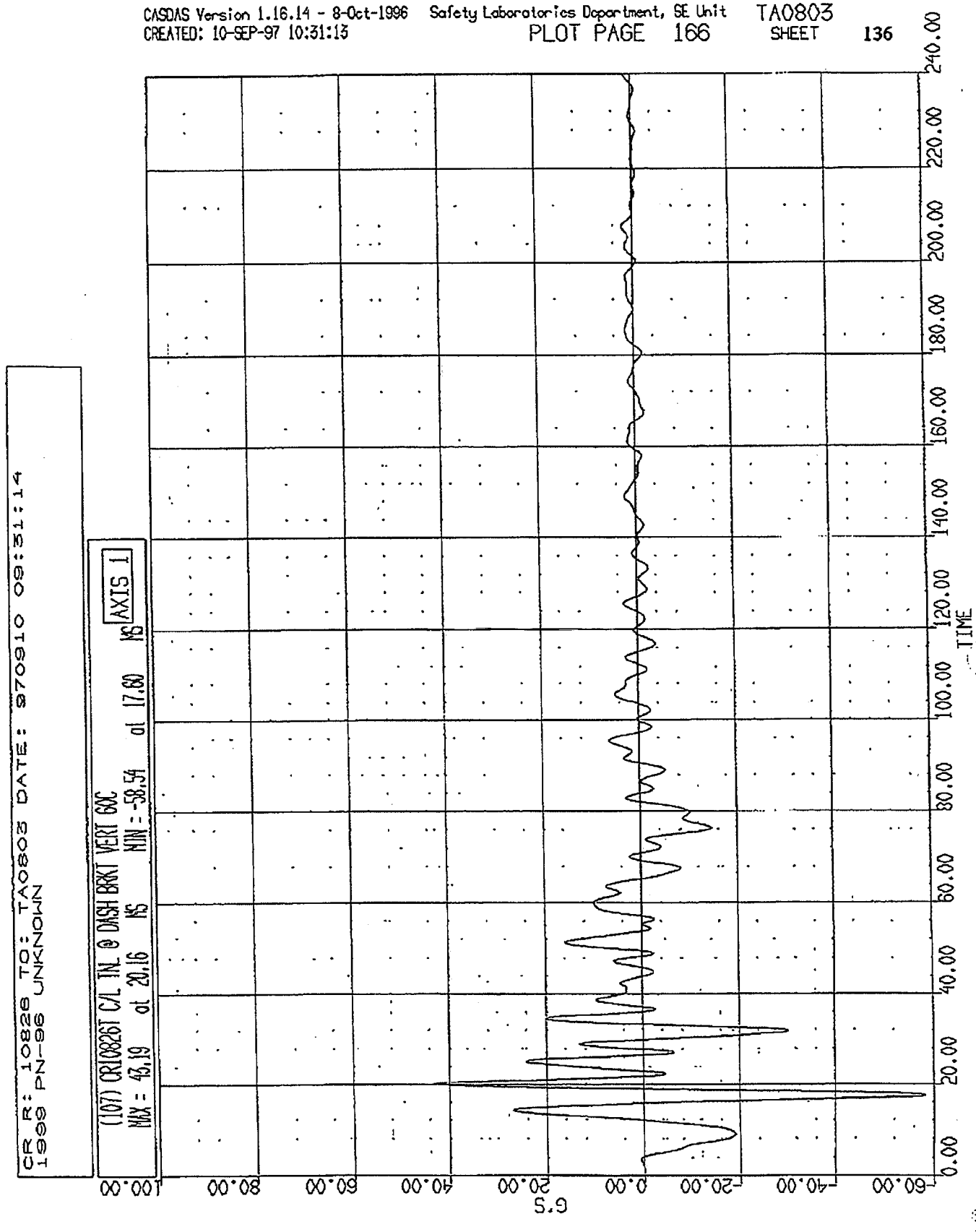

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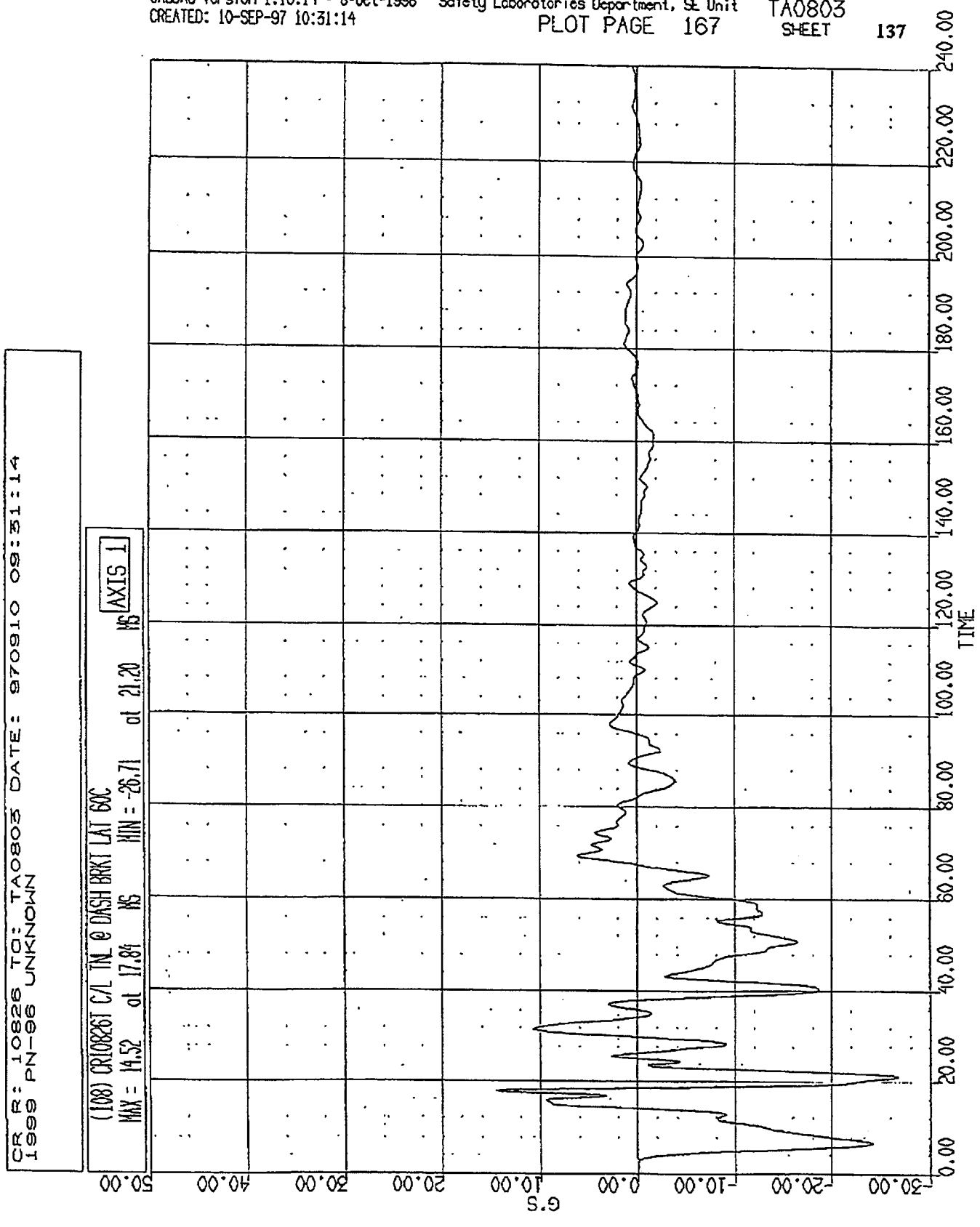

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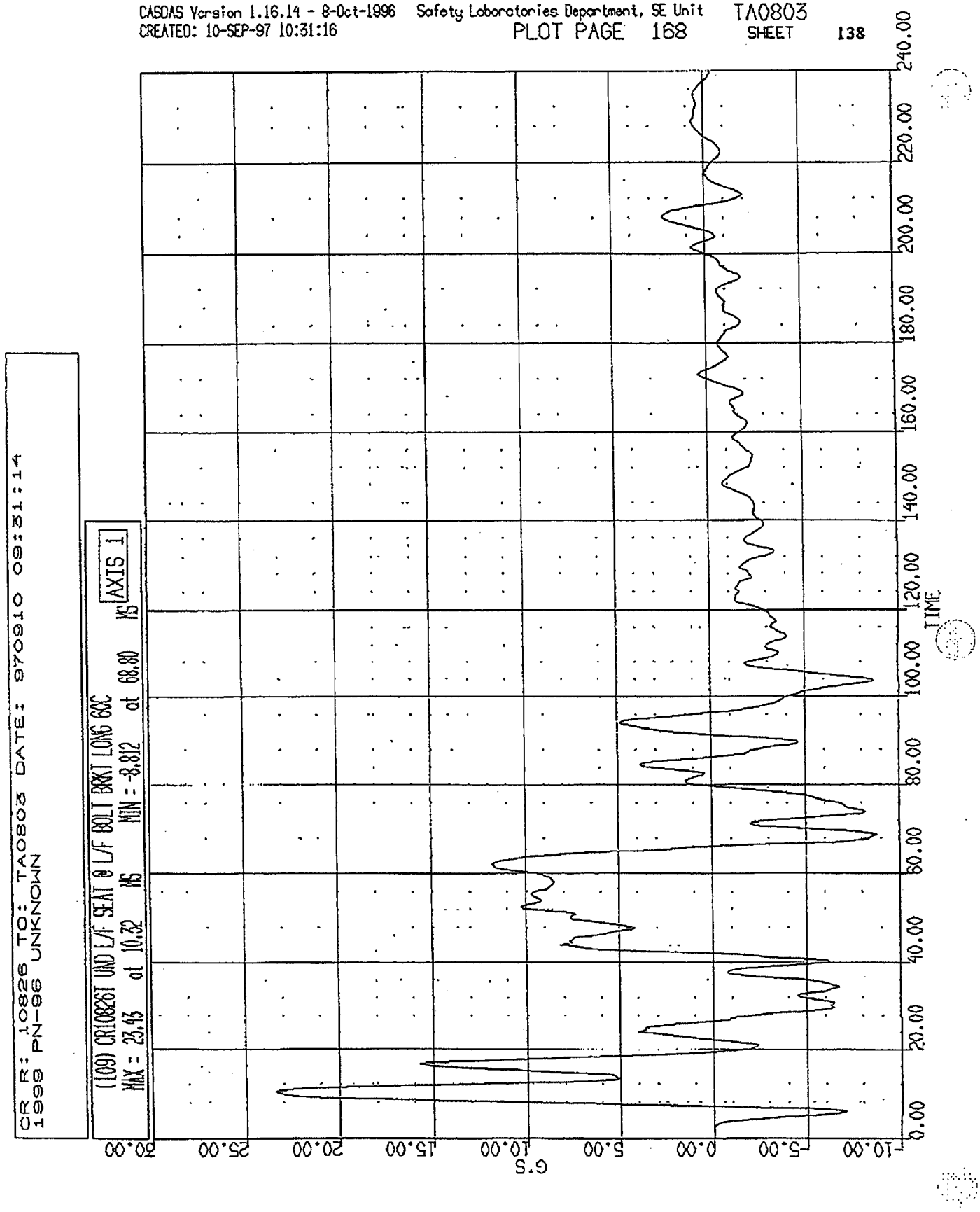

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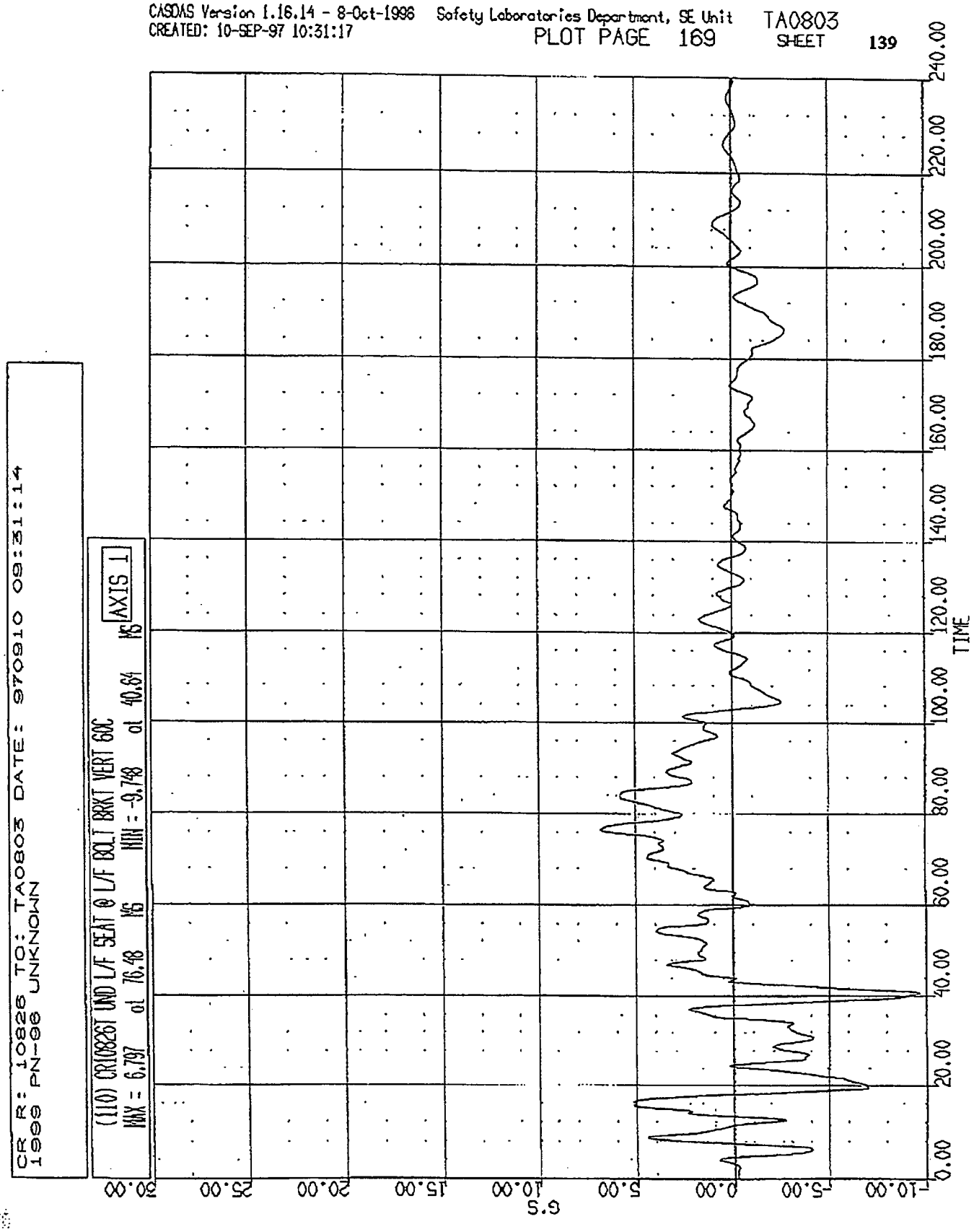

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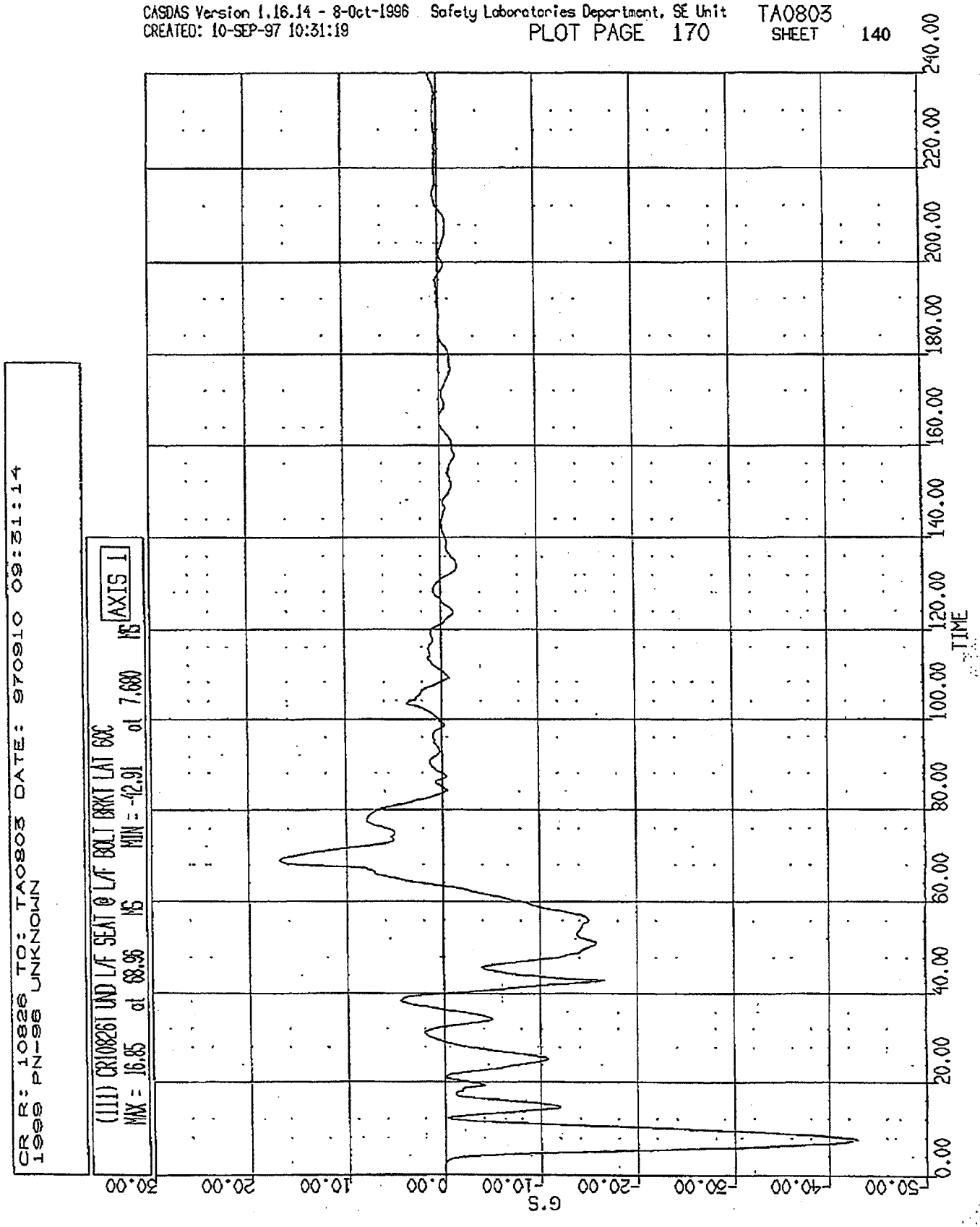

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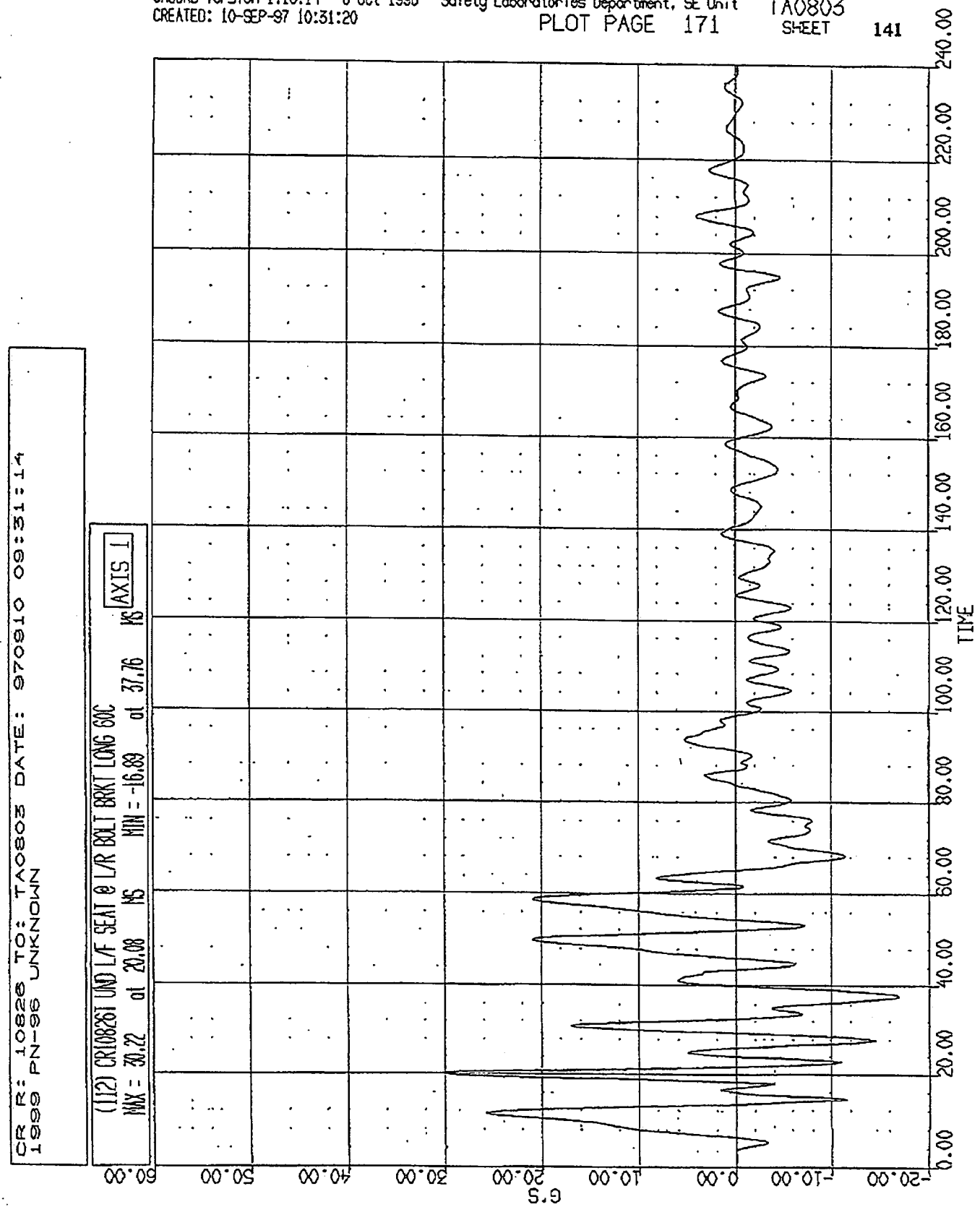

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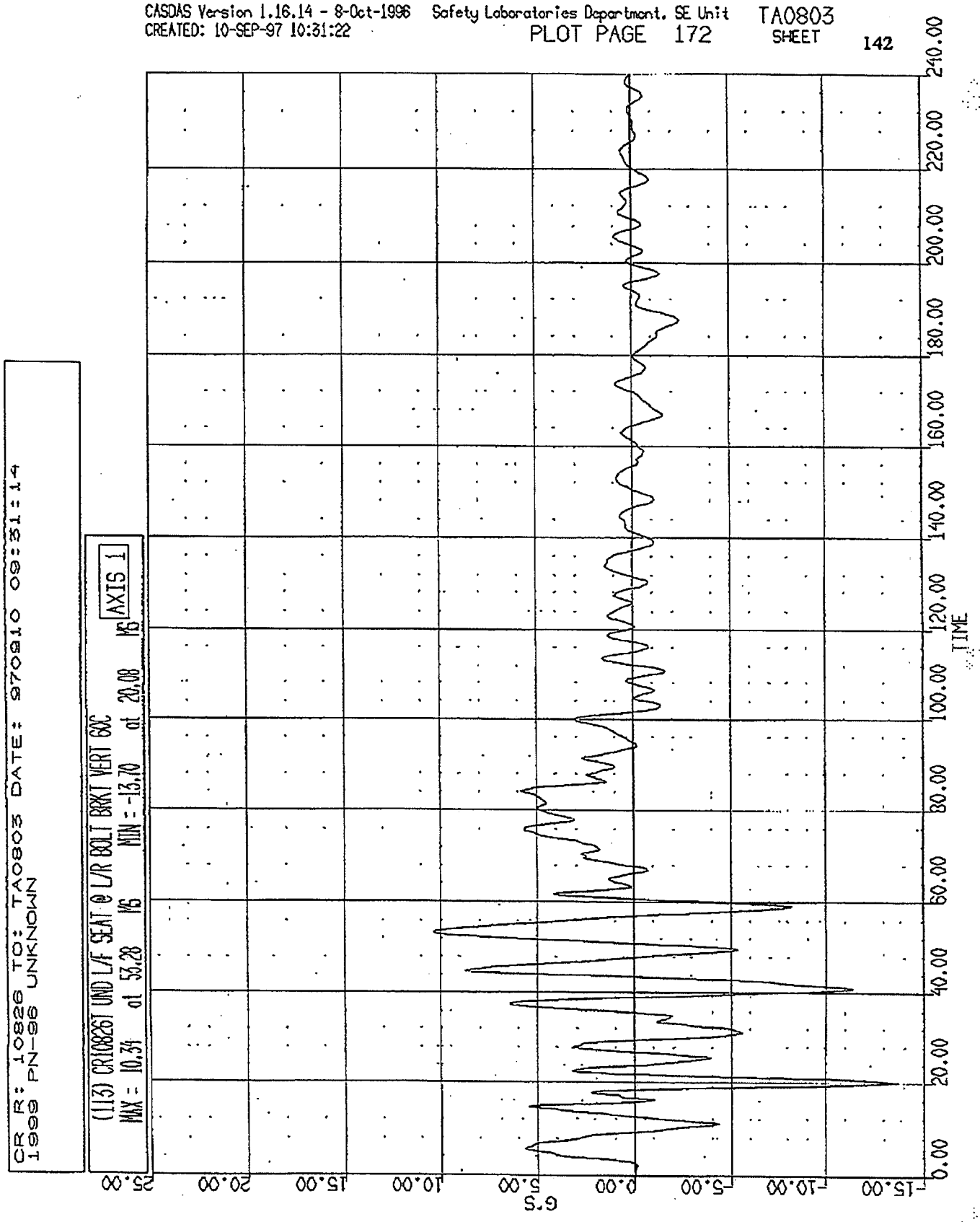
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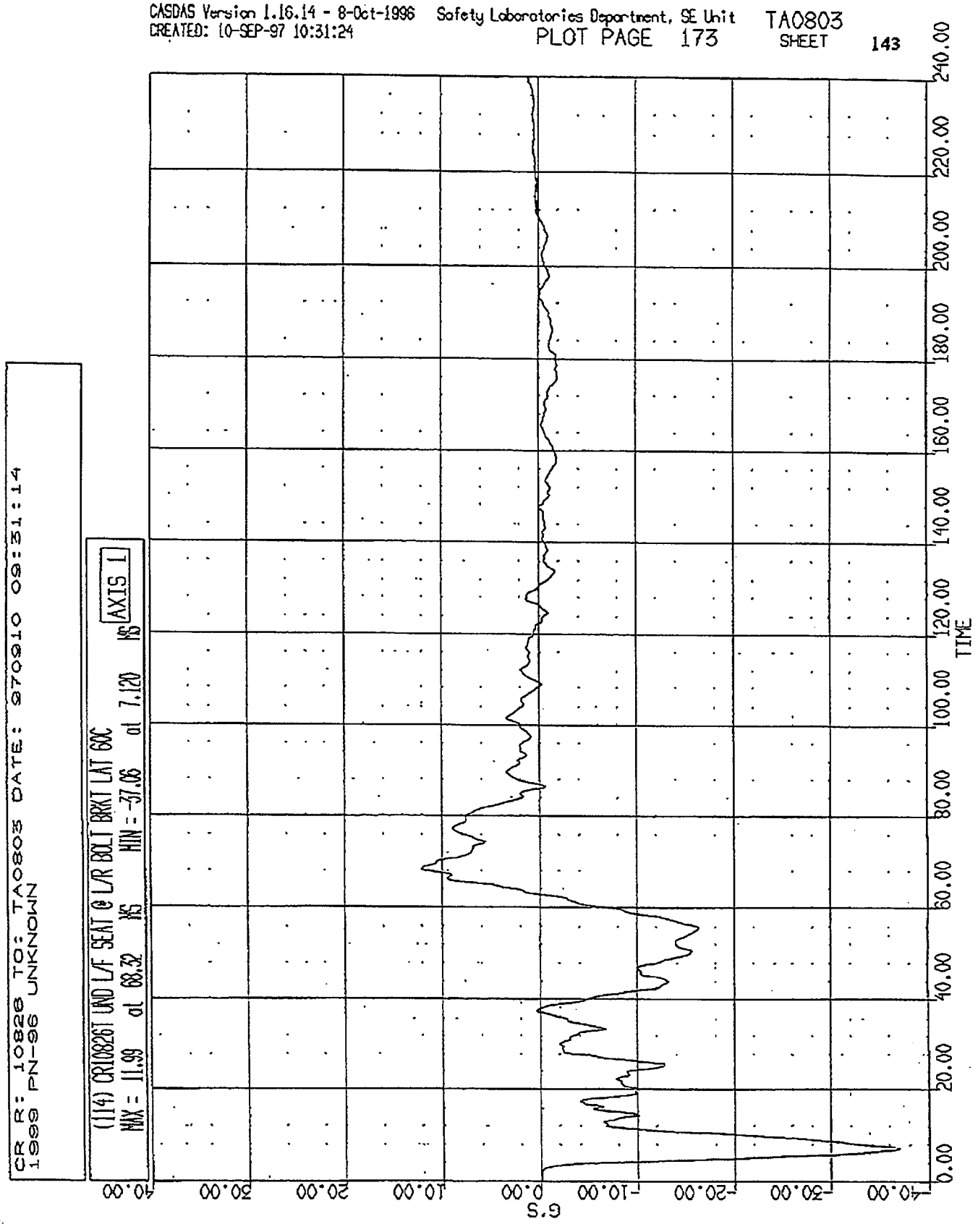
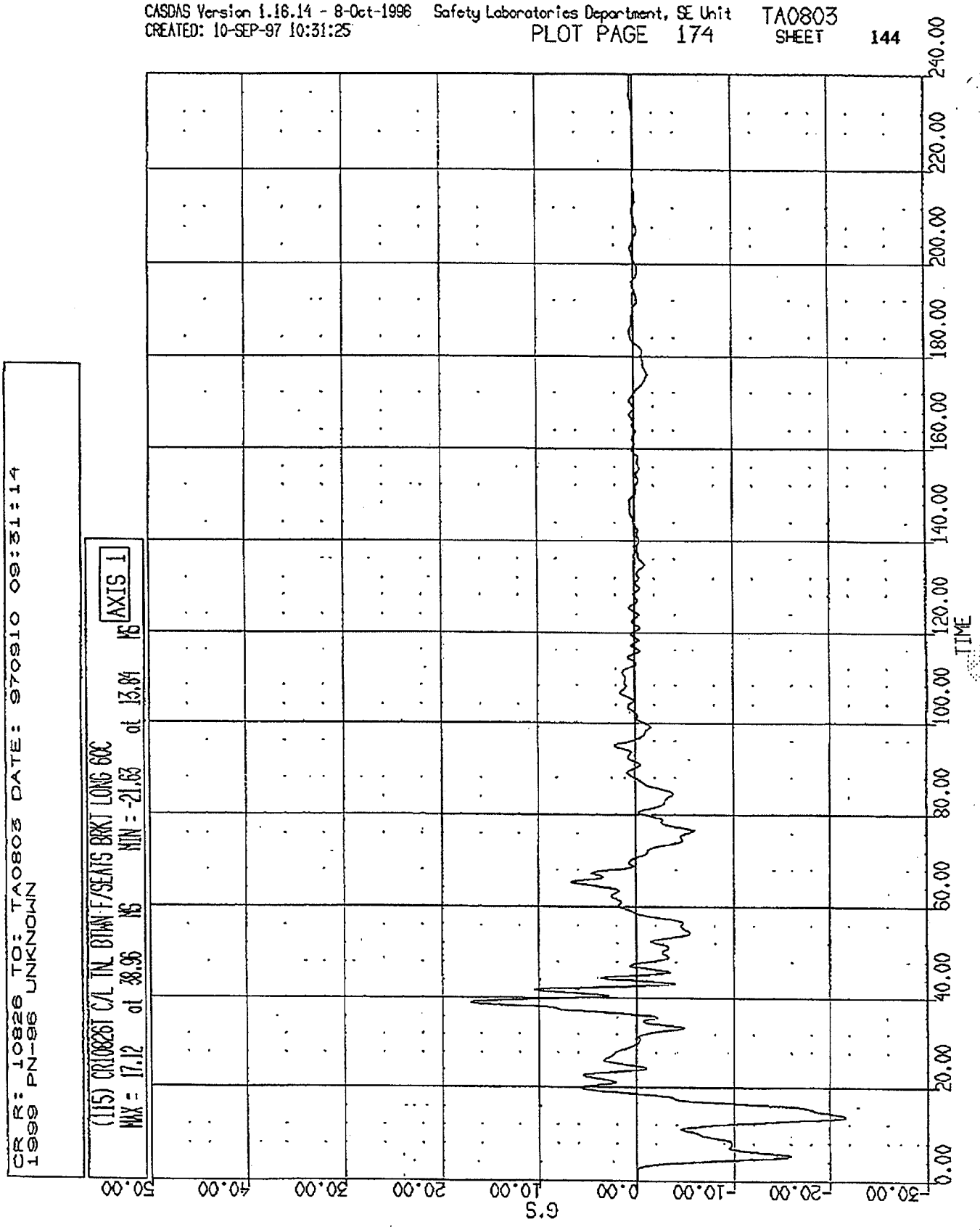
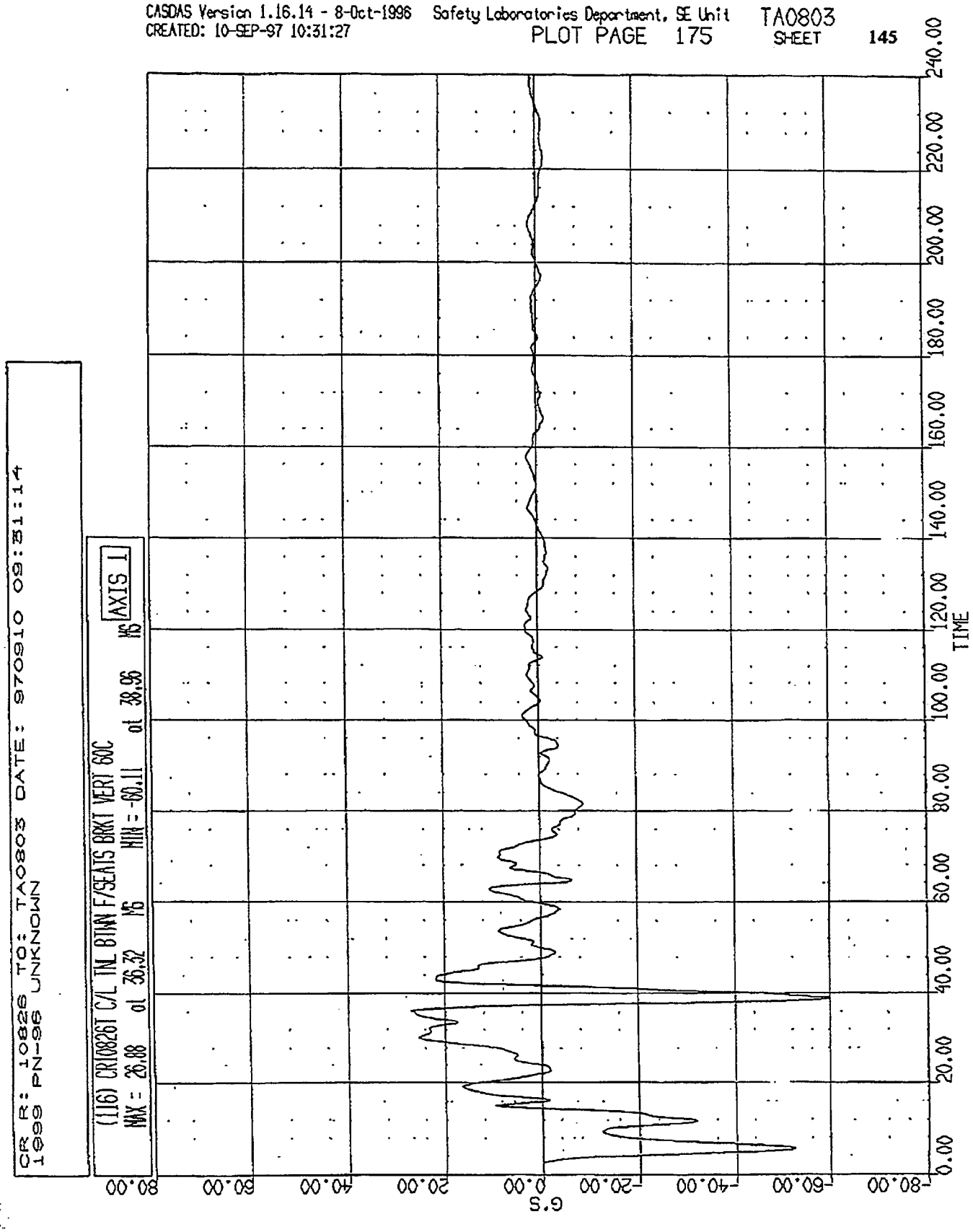
CREATED: 10-SEP-97 10:31:22
PLOT PAGE 172
SHEET
CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(113) CR10826T UND L/F SEAT @ L/R BOLT BRKT VERT 60C
MAX = 10.34 at 53.28 MS MIN = -13.70 at 20.08 MS
AXIS 1
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
TIME
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
G'S



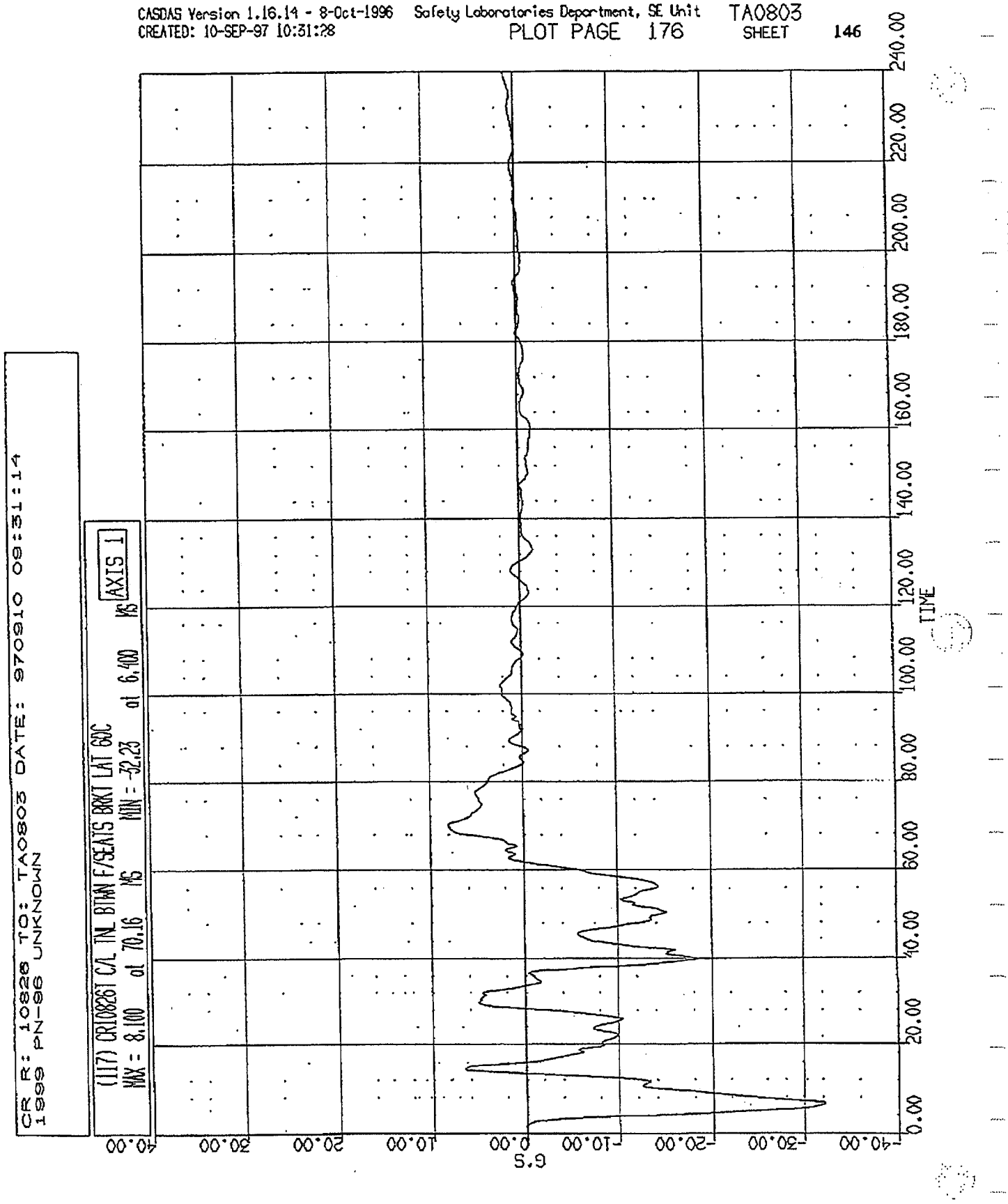
CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN
(115) CR10826T C/L TNL BTWN F/SEATS BRKT LONG 60C
MAX = 17.12 at 38.96 MS MIN = -21.63 at 13.84 MS
AXIS 1
TIME
S.G
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
-20.00
-10.00
0.00
10.00
20.00
30.00
40.00
50.00

CASDAS Version 1.16.14 - 8-Oct-1998 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:27 PLOT PAGE 175 SHEET 145



CRTS 0010826



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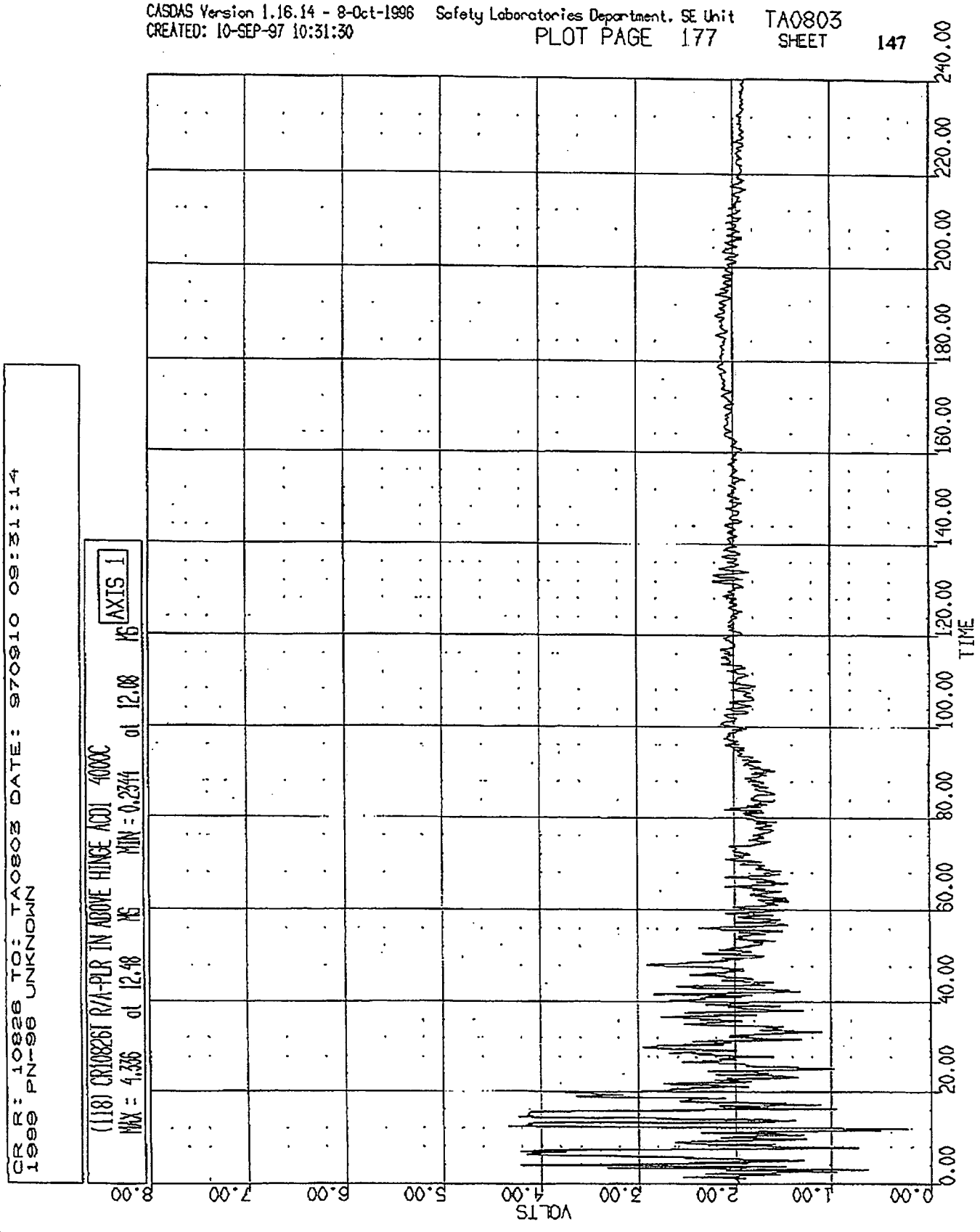
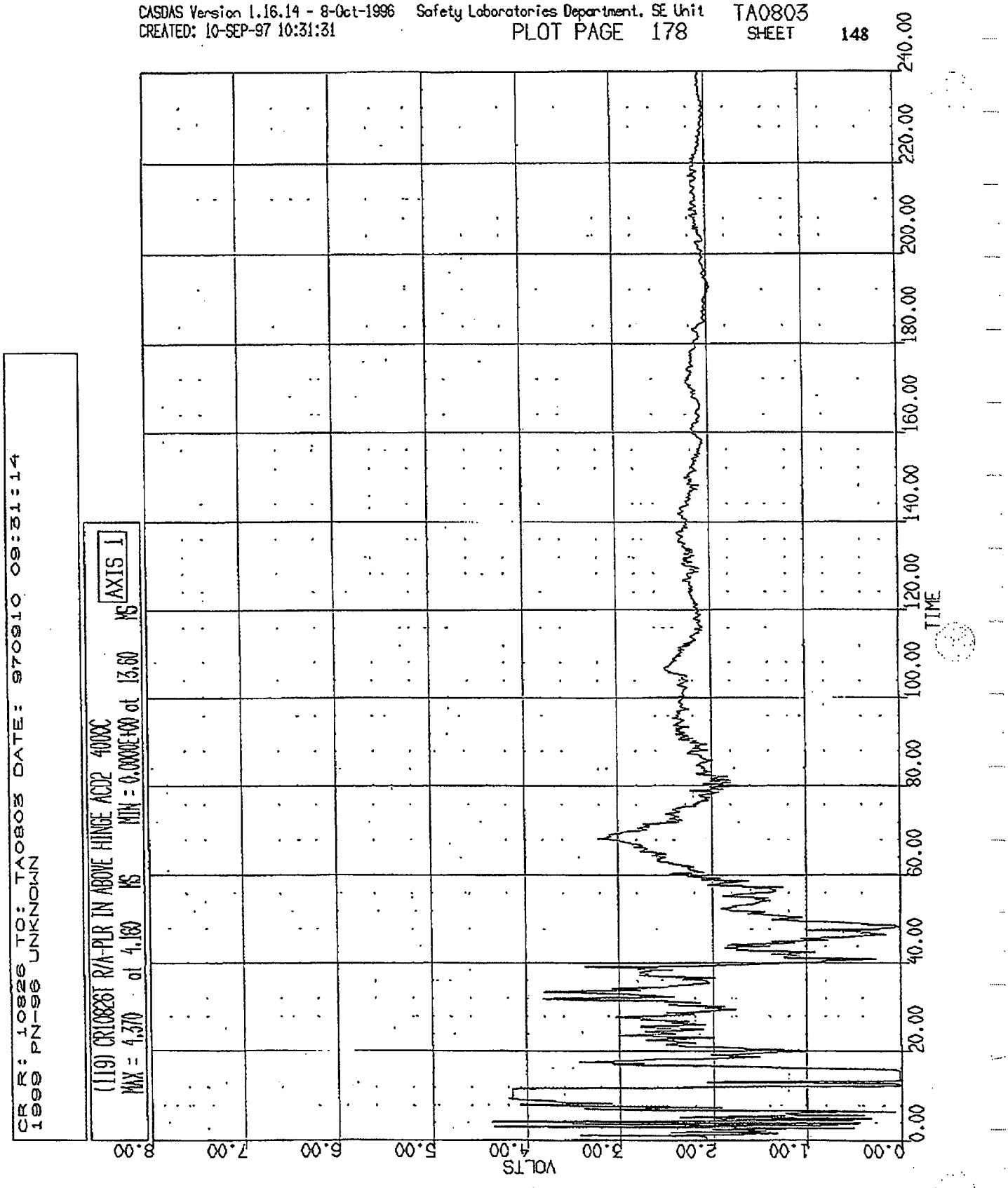


CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:31 PLOT PAGE 178 SHEET 148



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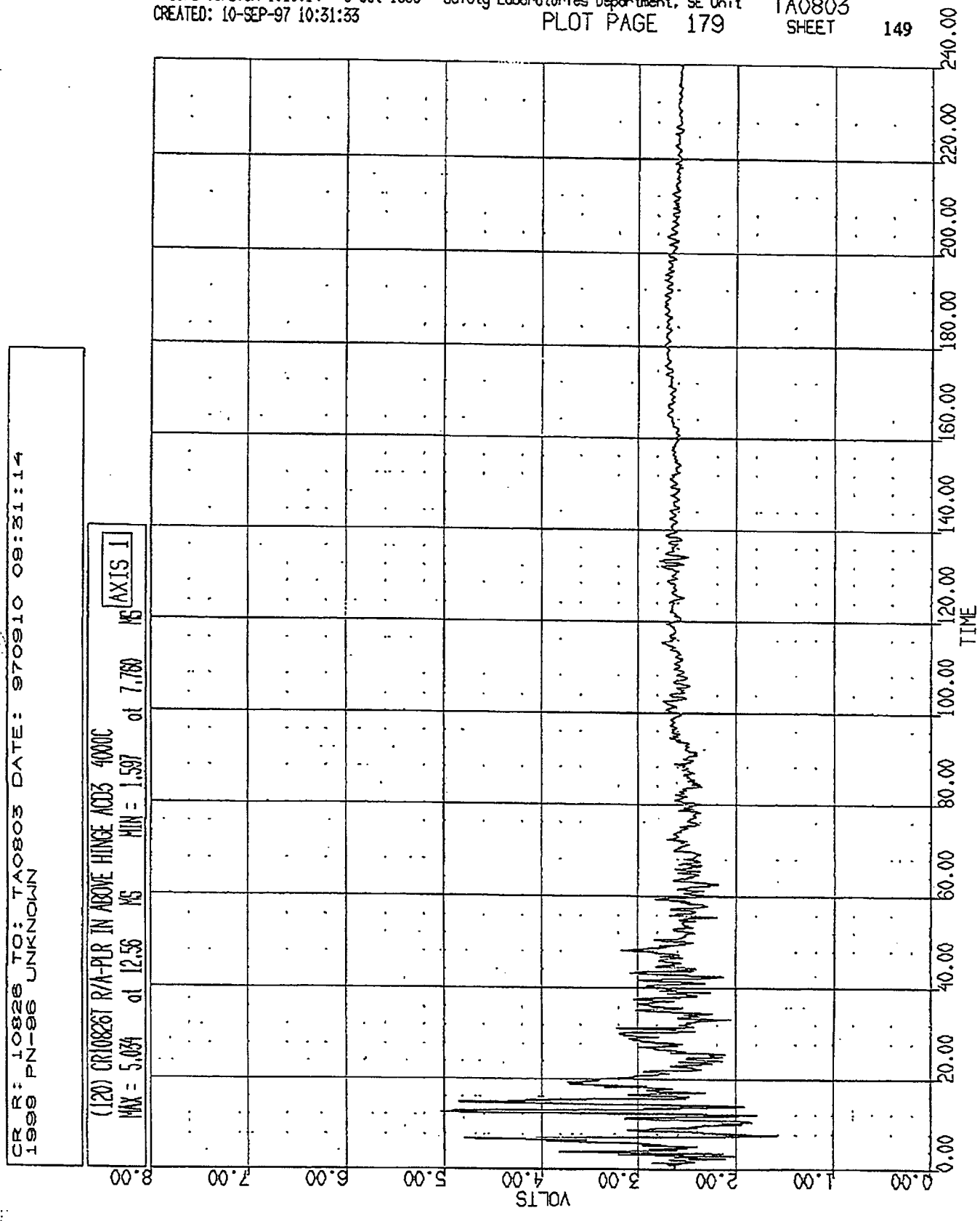

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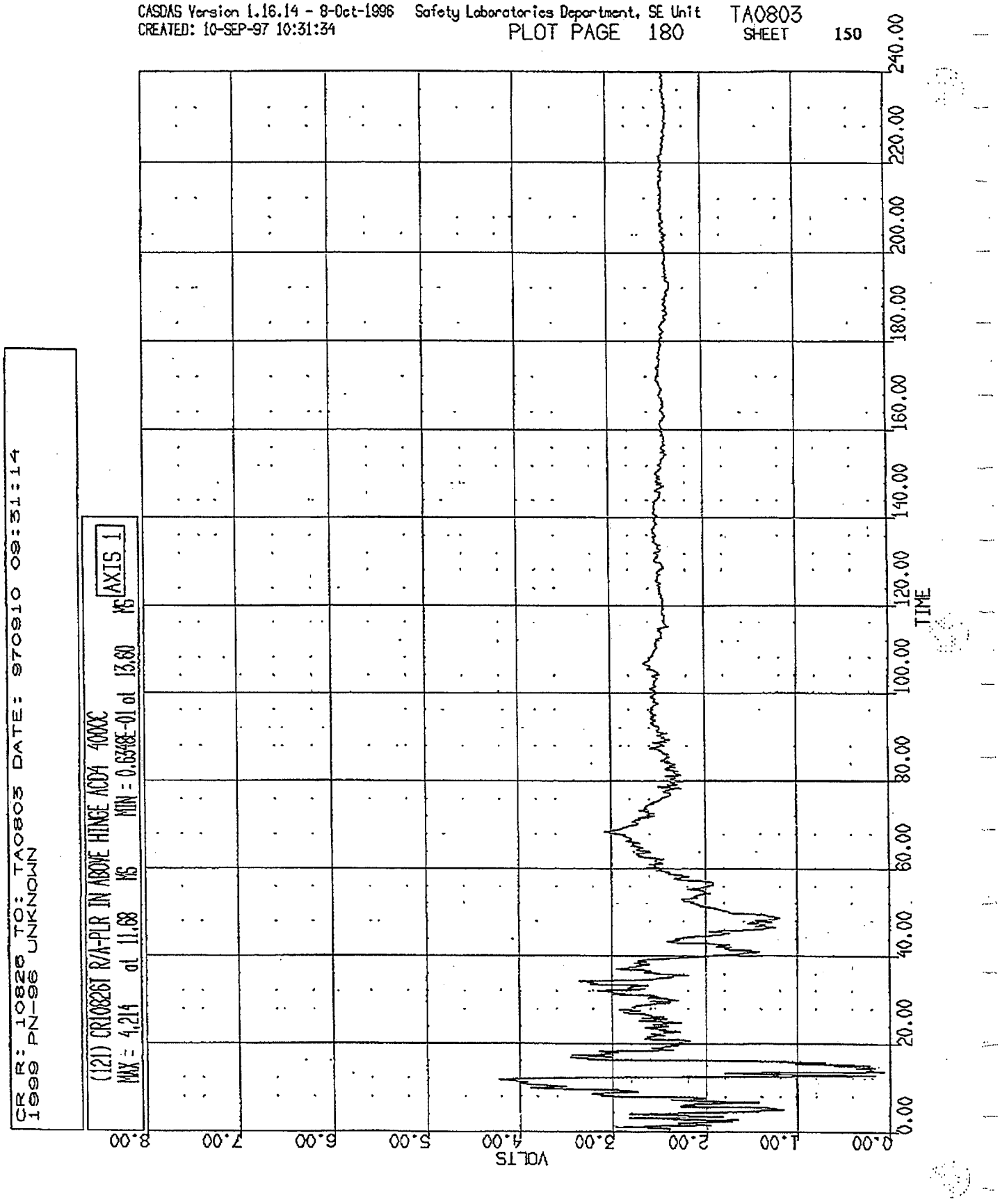
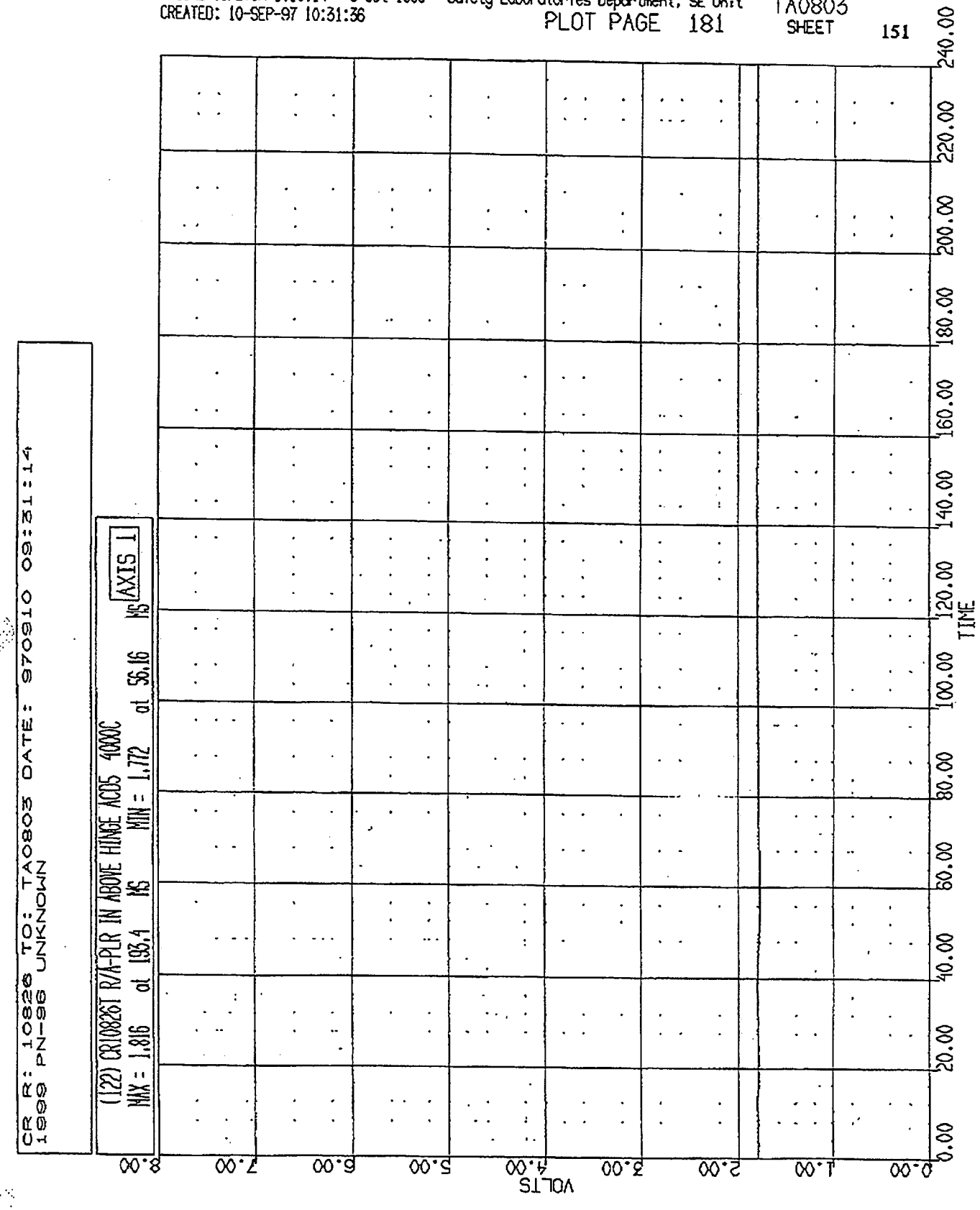


CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:36 PLOT PAGE 181 SHEET 151



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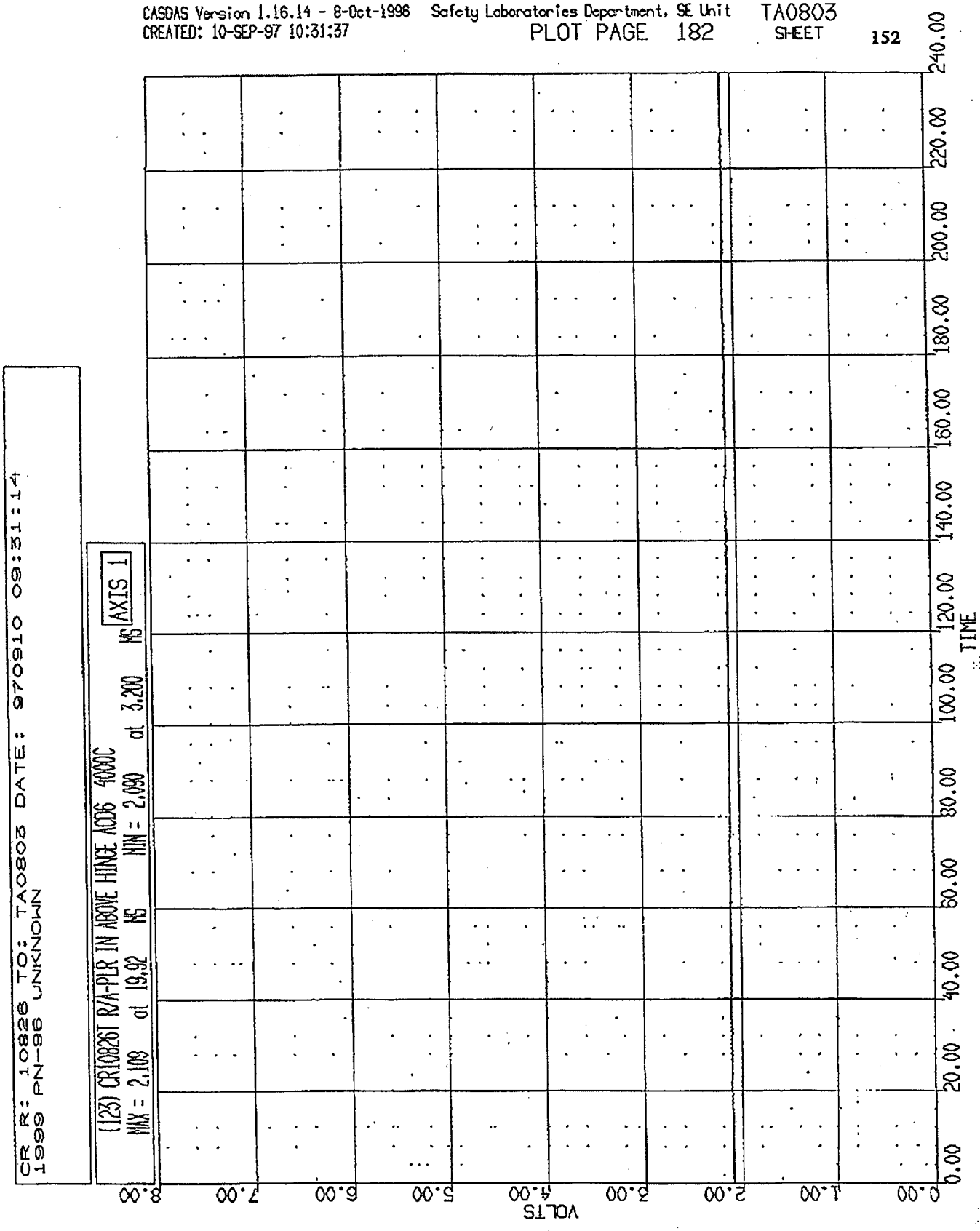
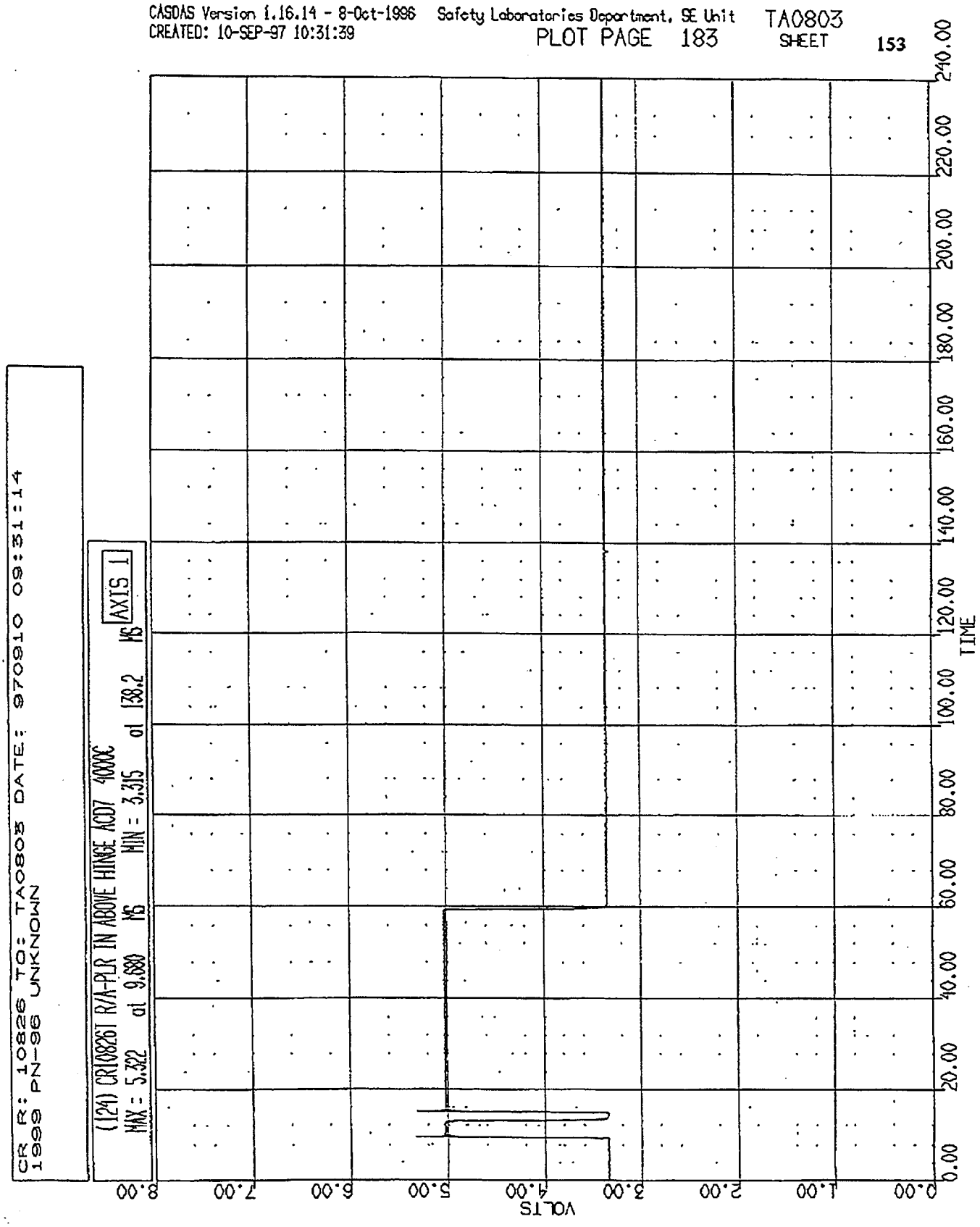
0997

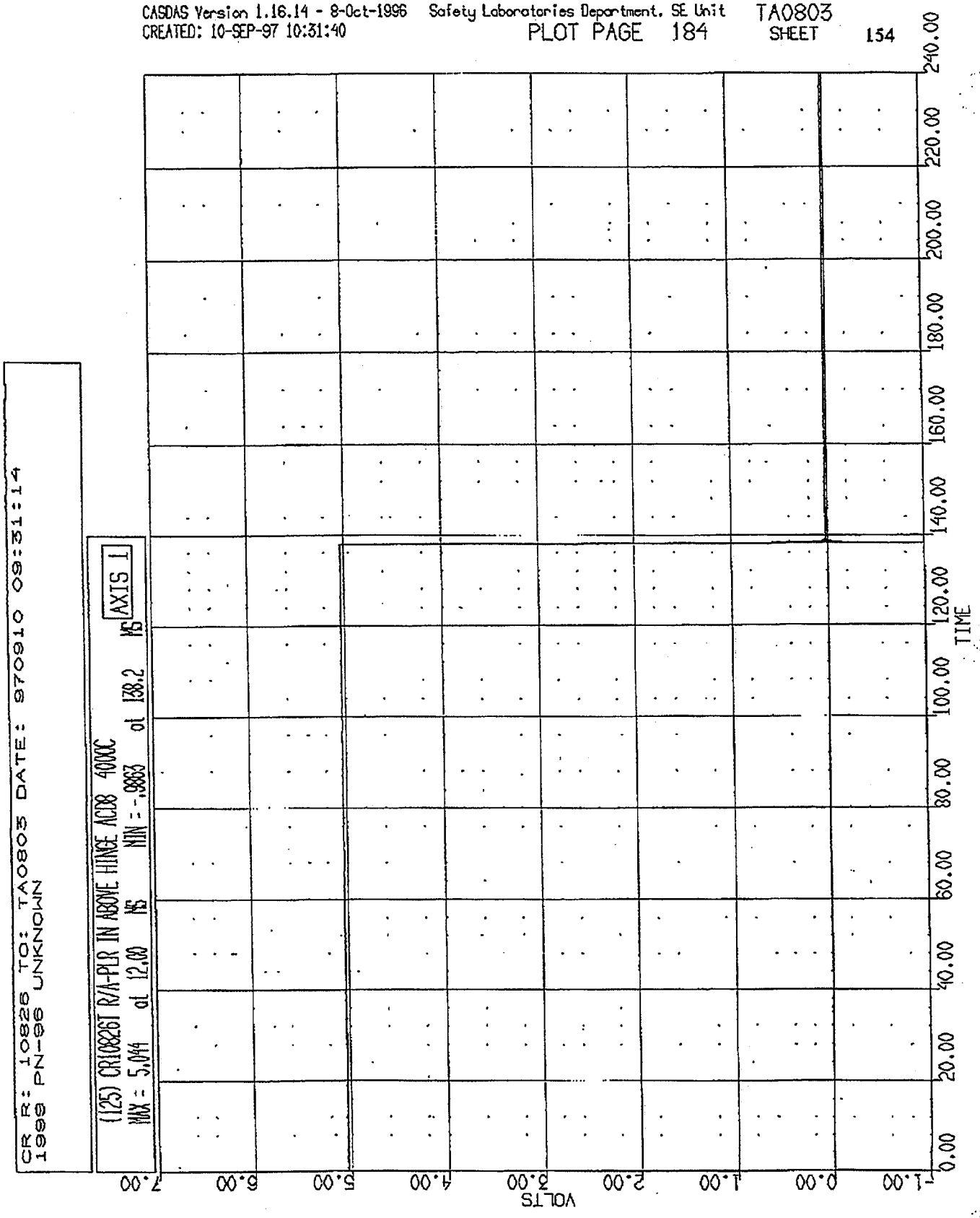


CRTS 0010826

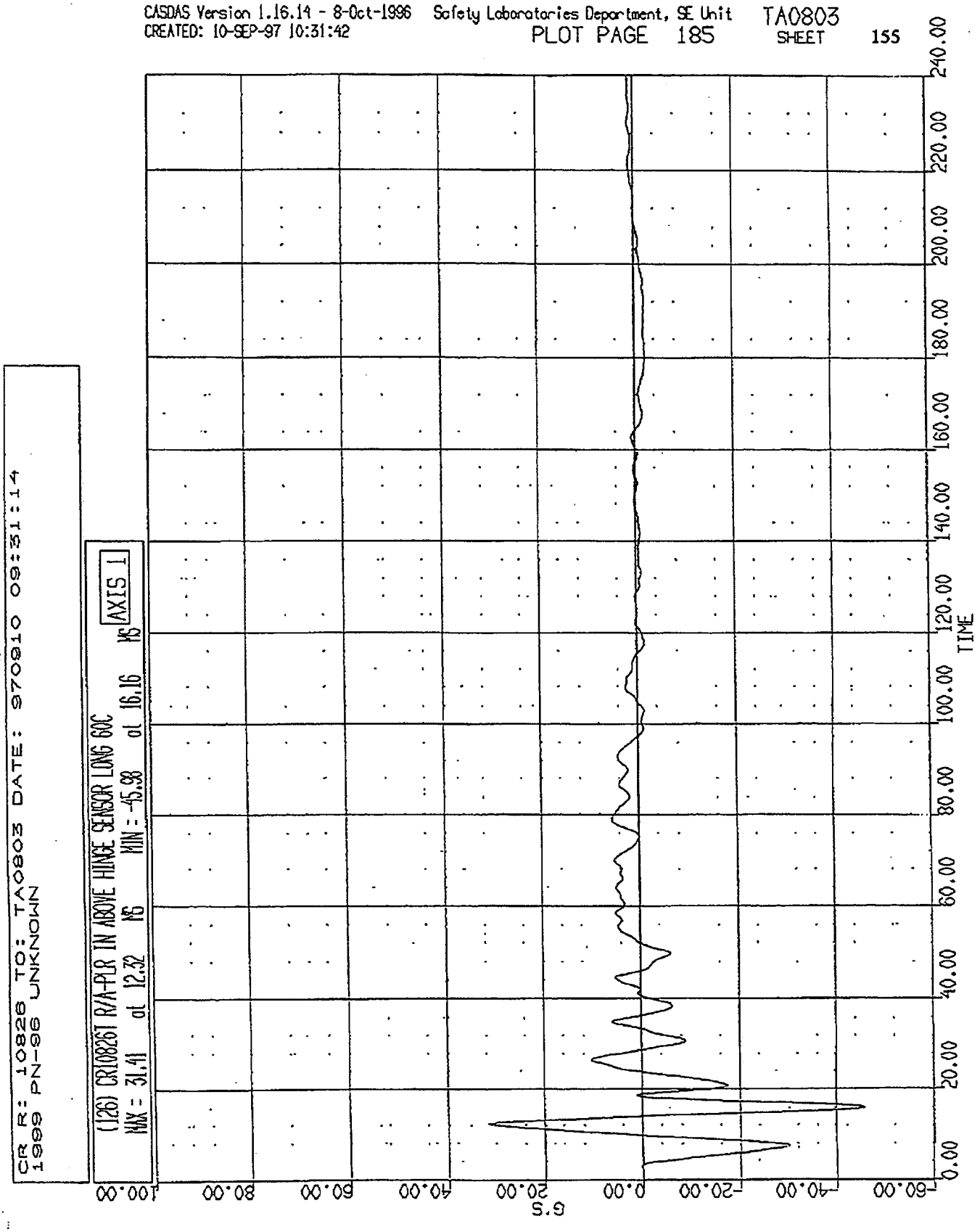


CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:31:40 PLOT PAGE 184 SHEET 154



CRTS 0010826



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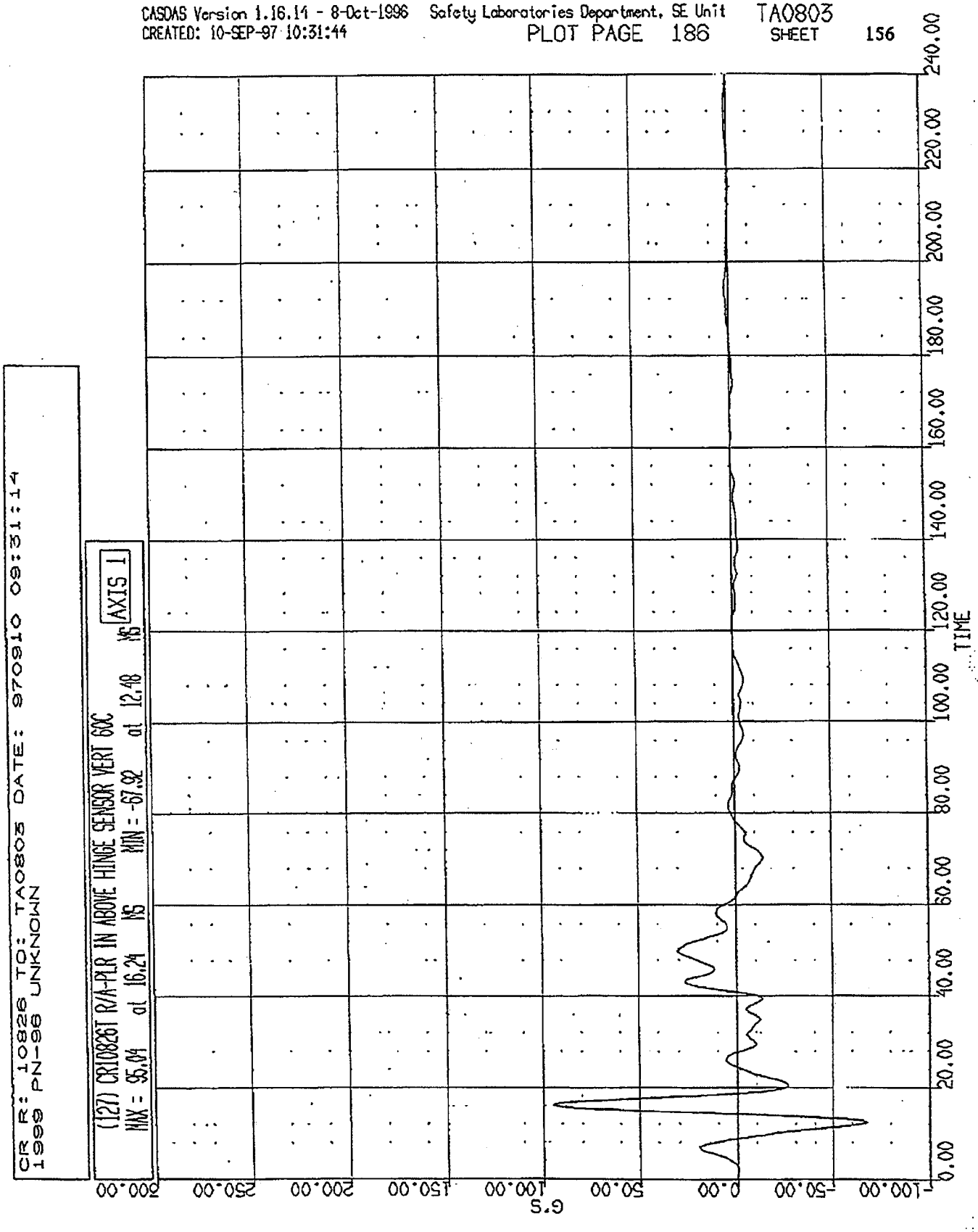

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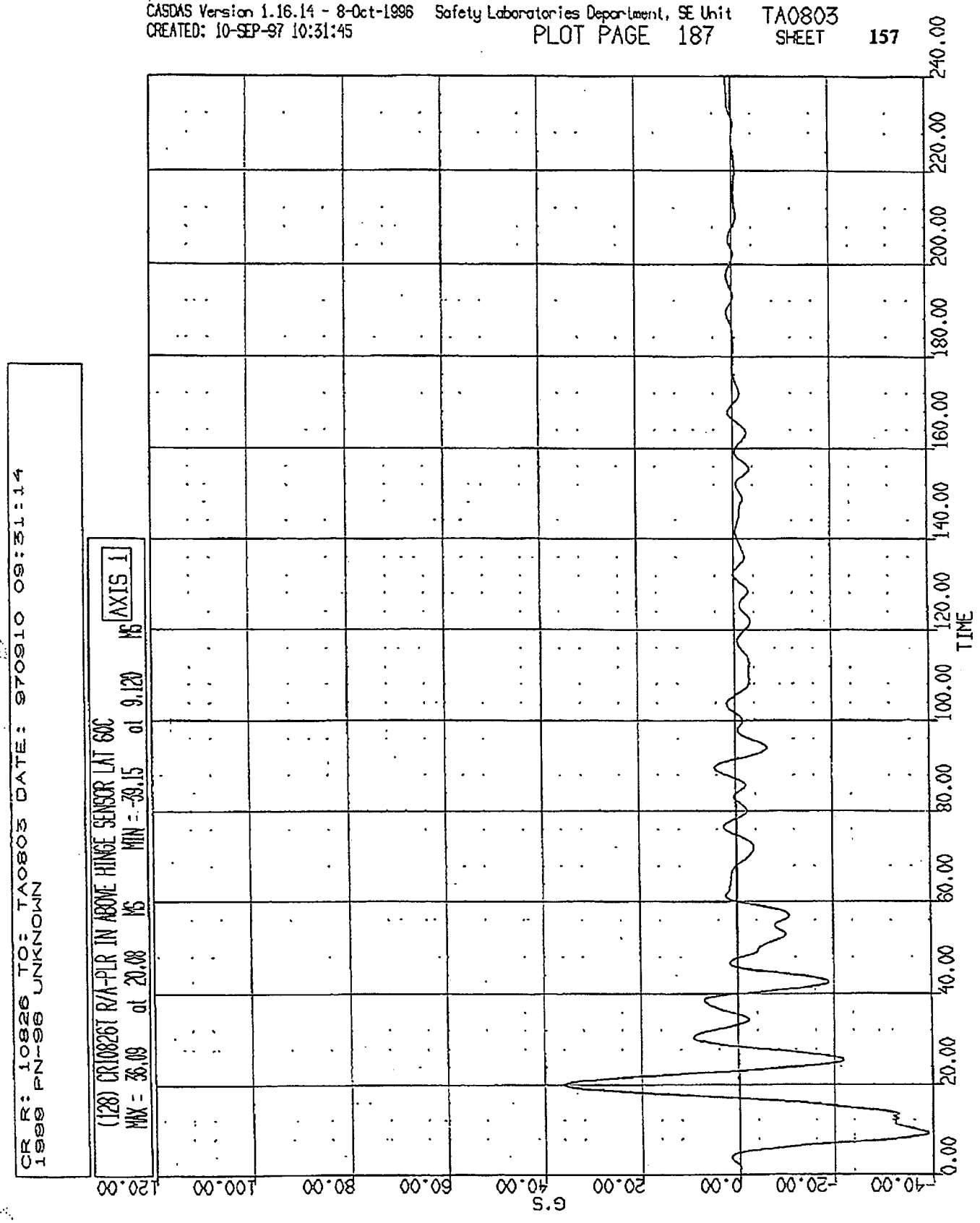

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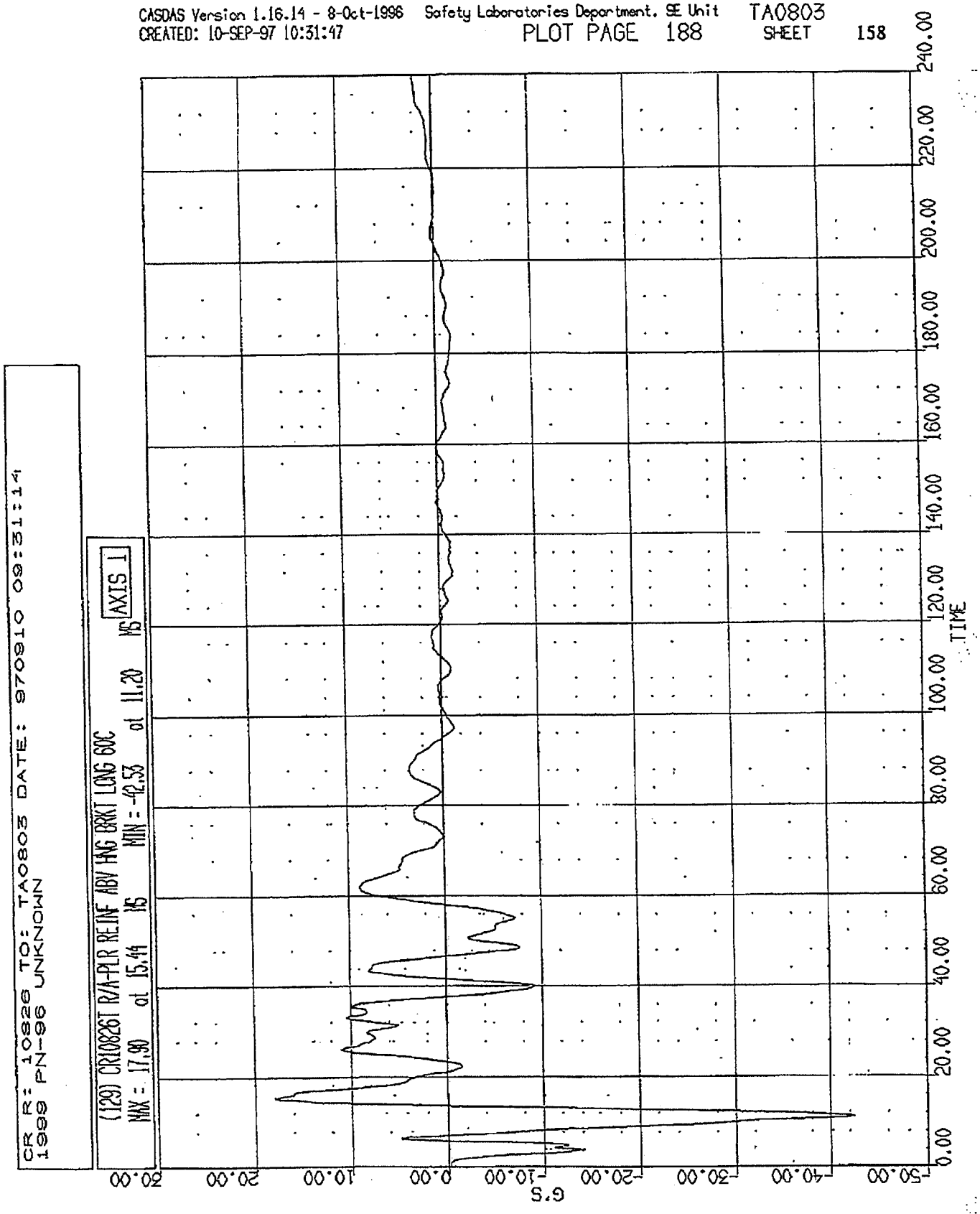

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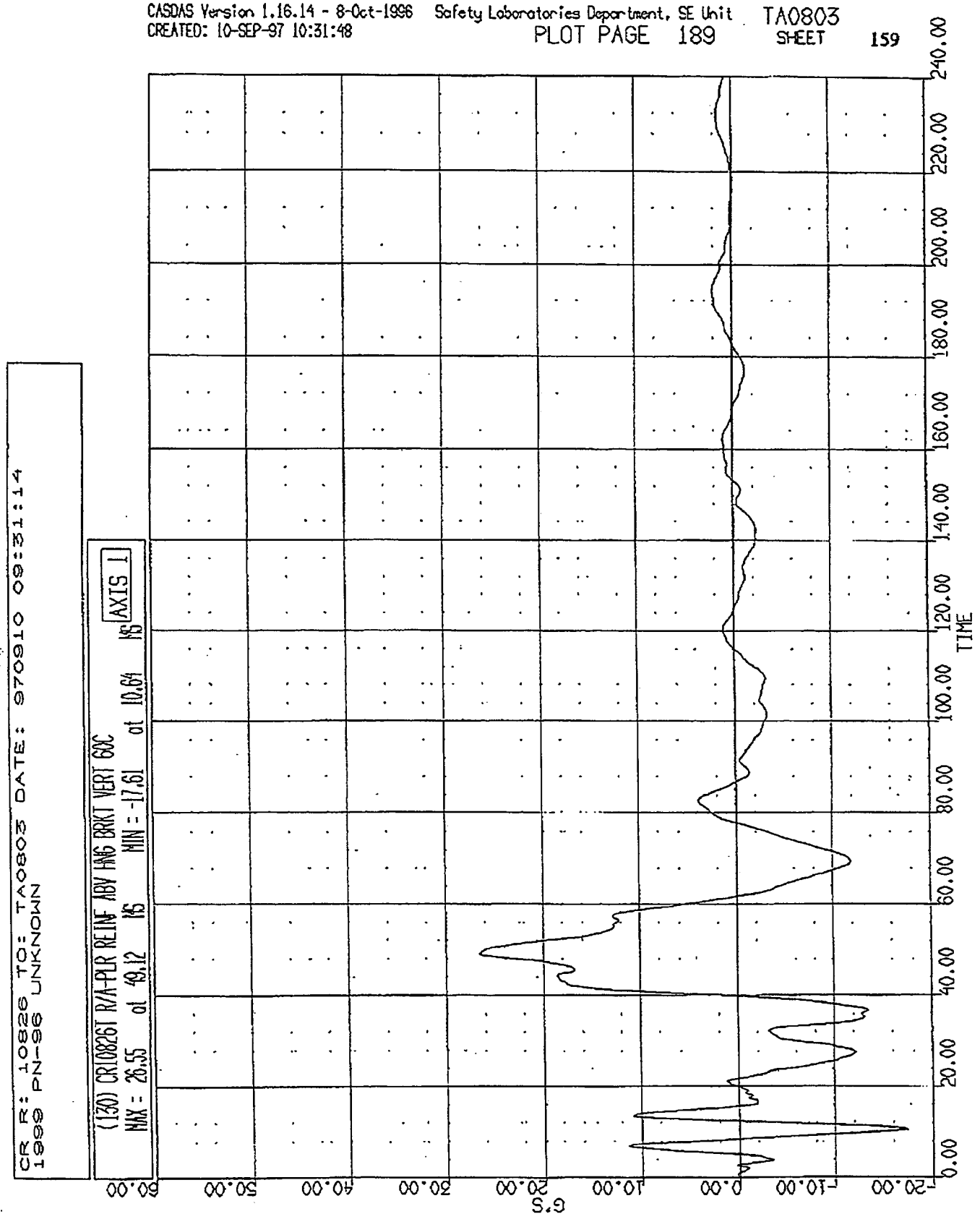

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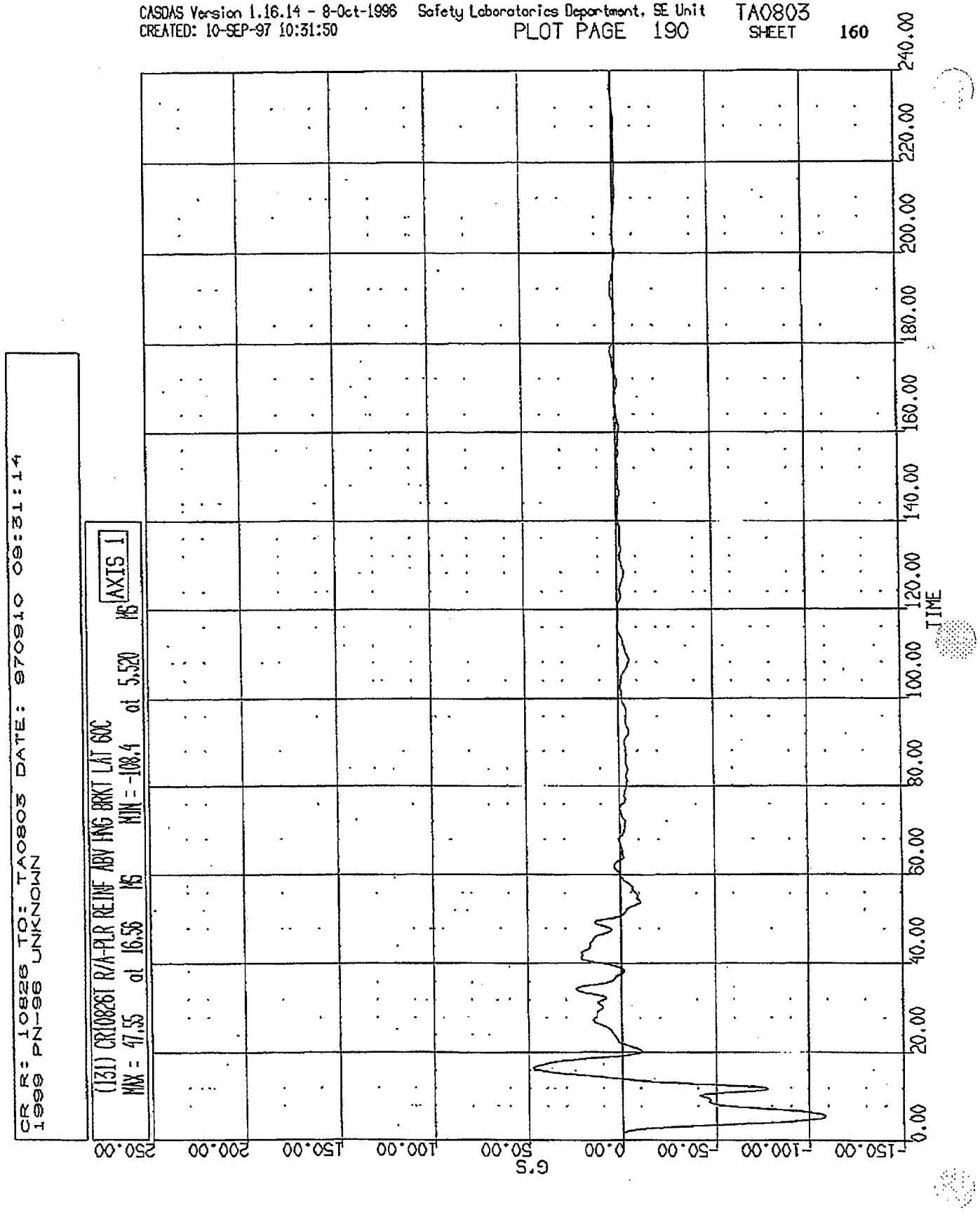
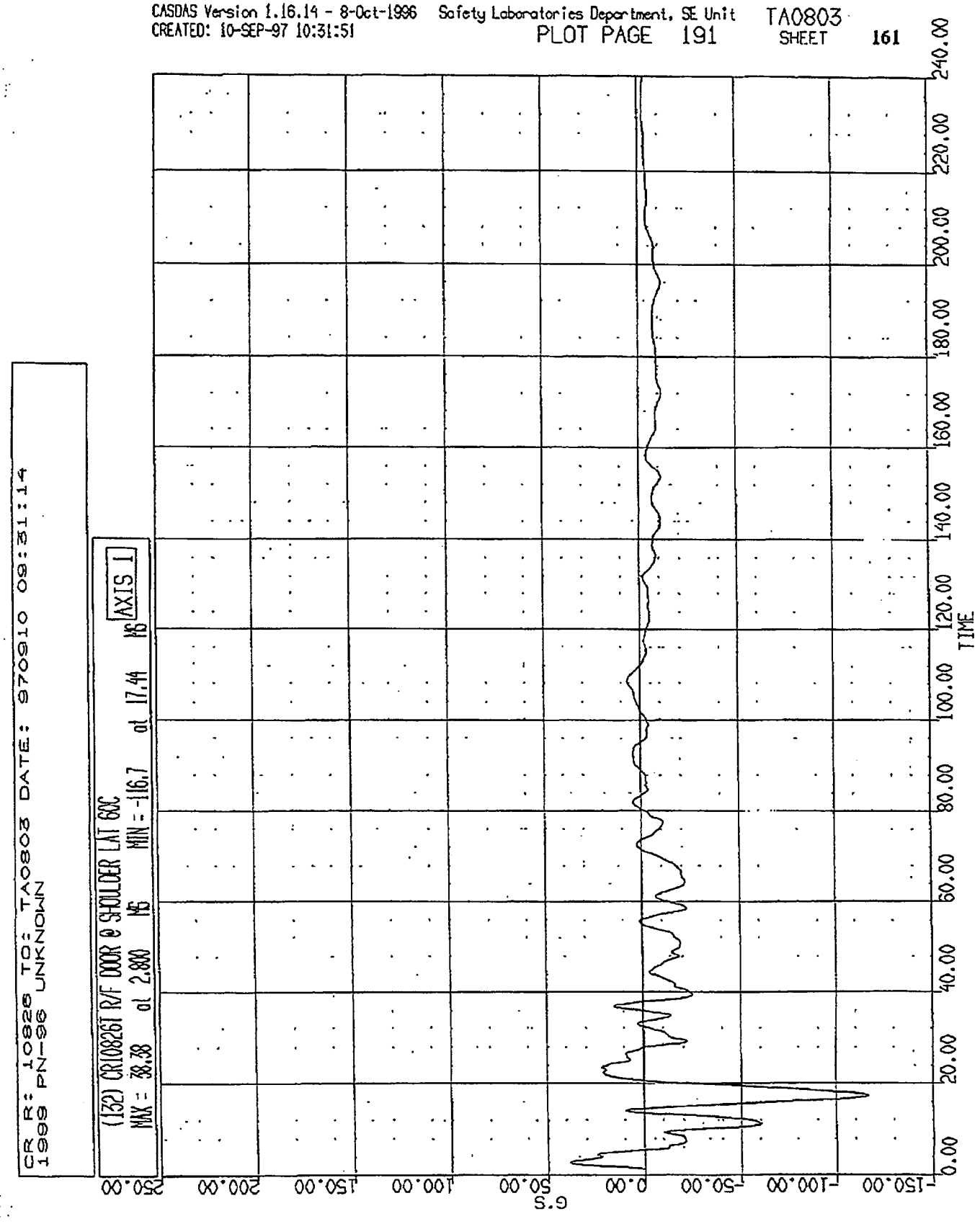
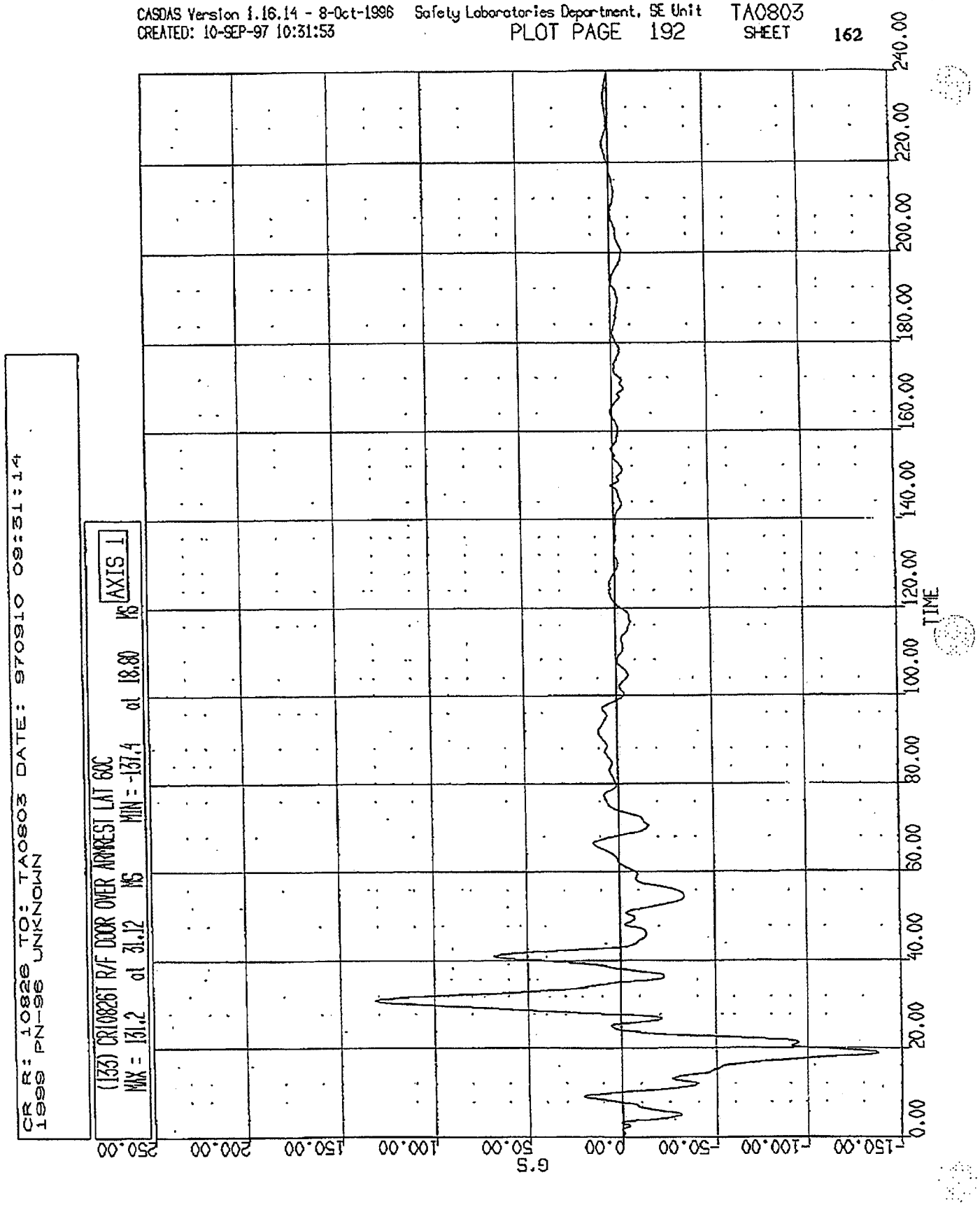


CRTS 0010826



CRTS 0010826



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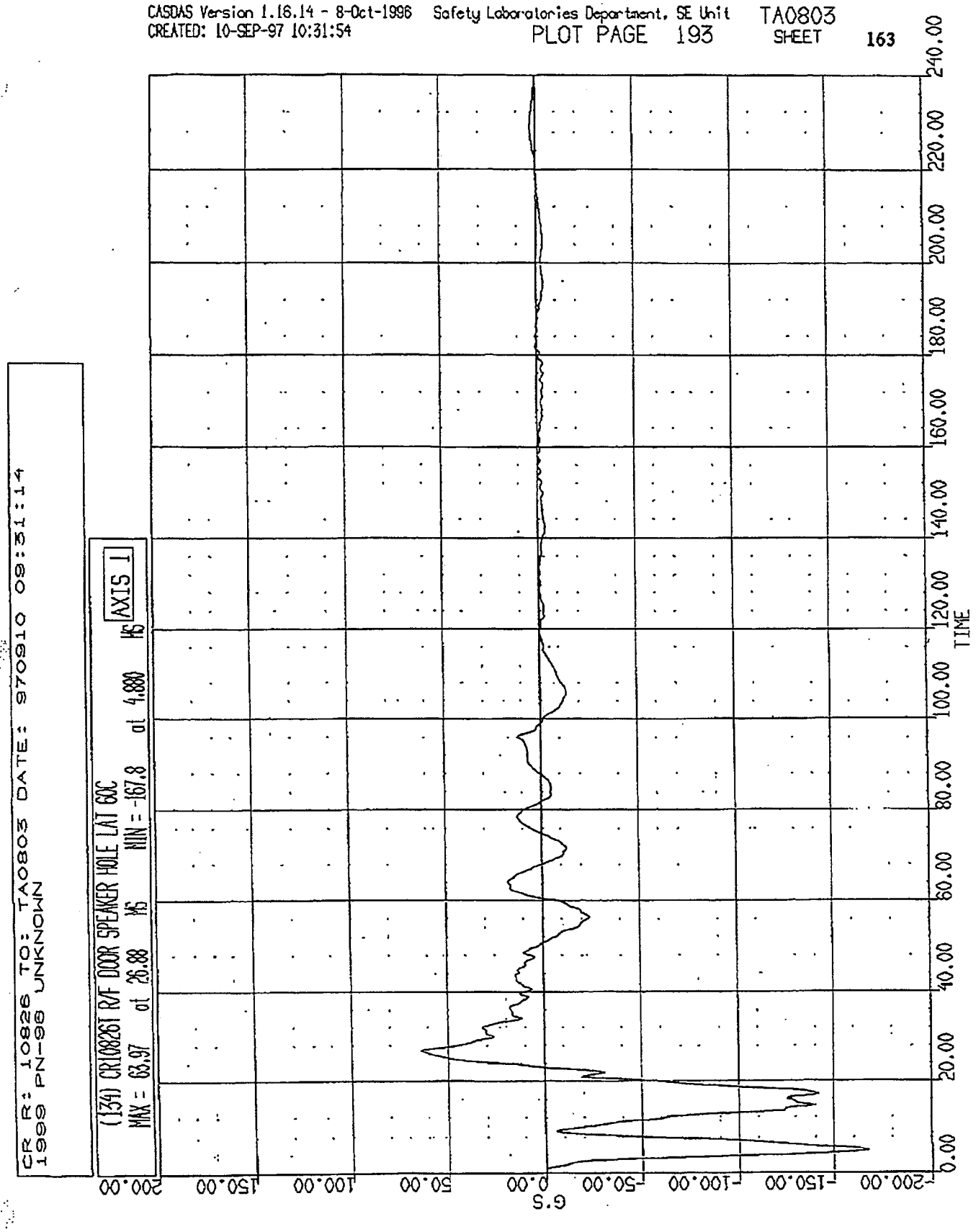

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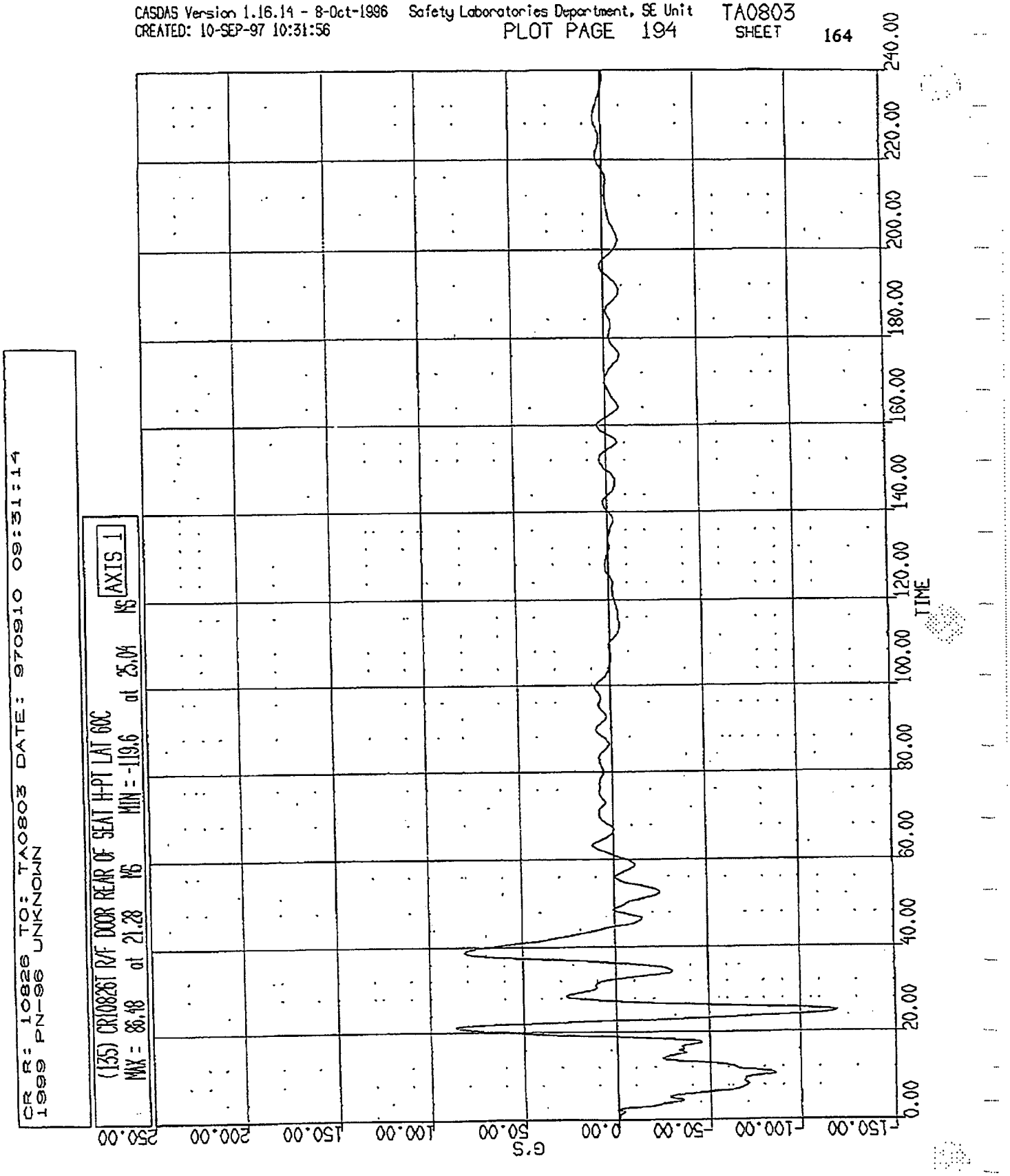

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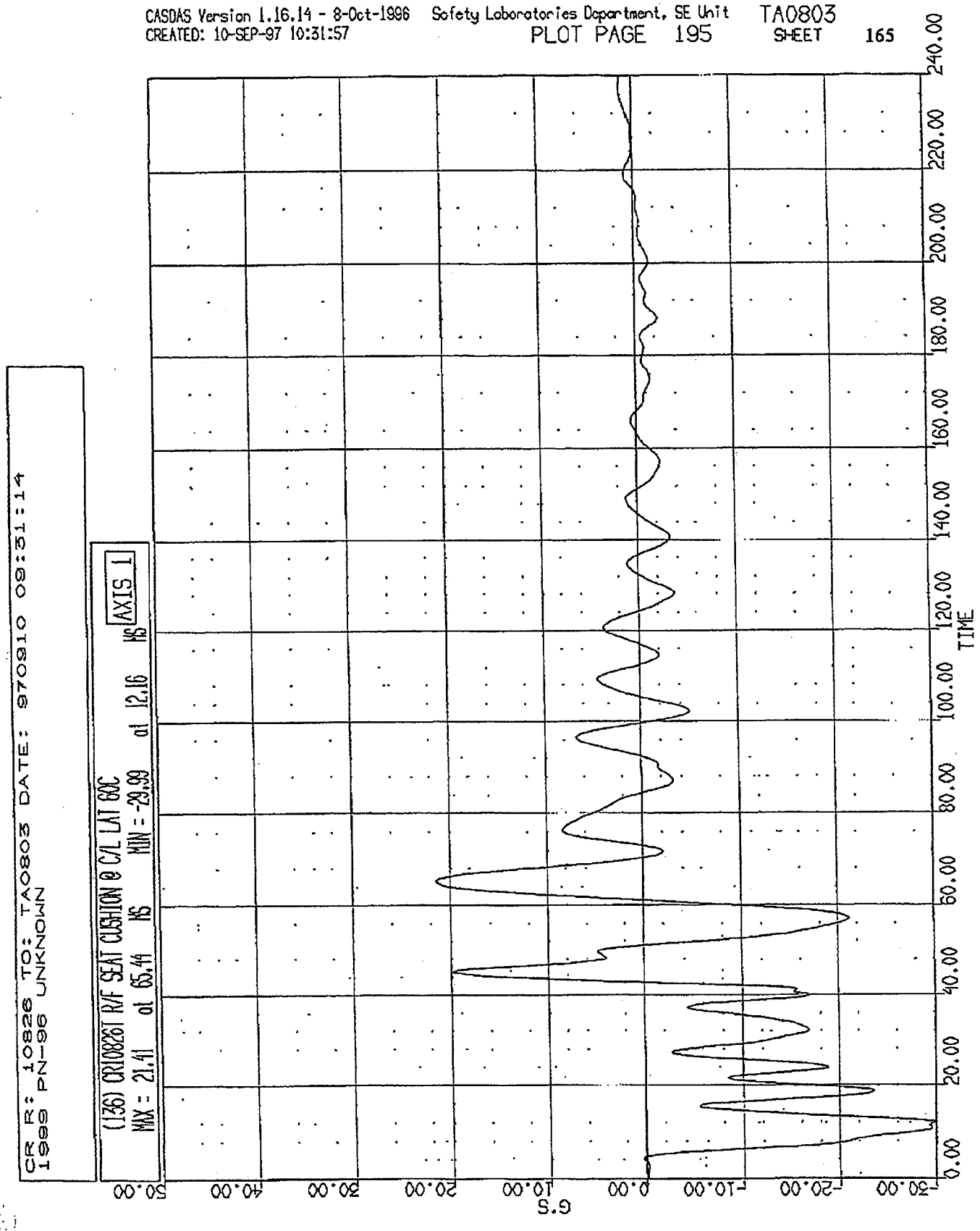

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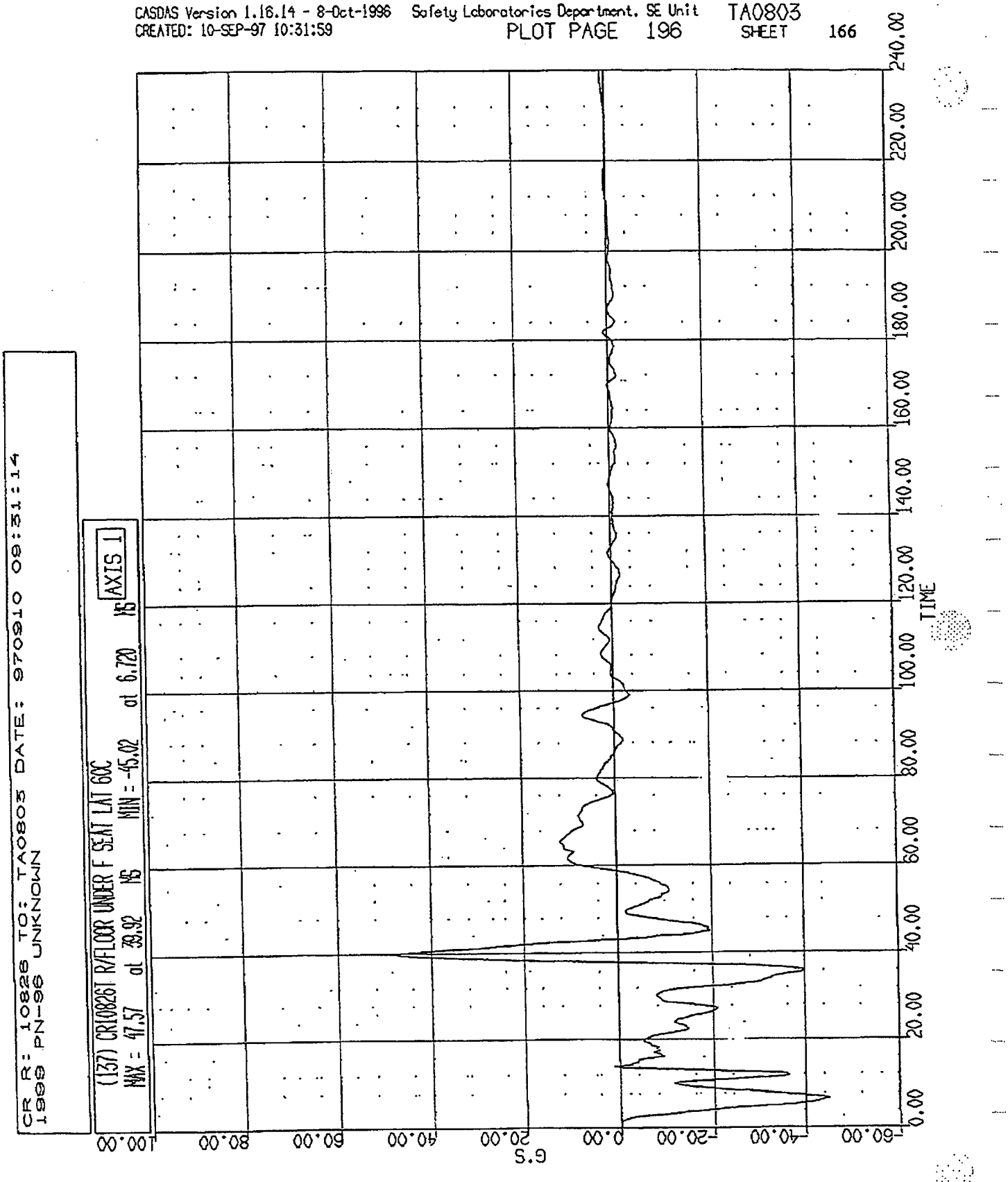

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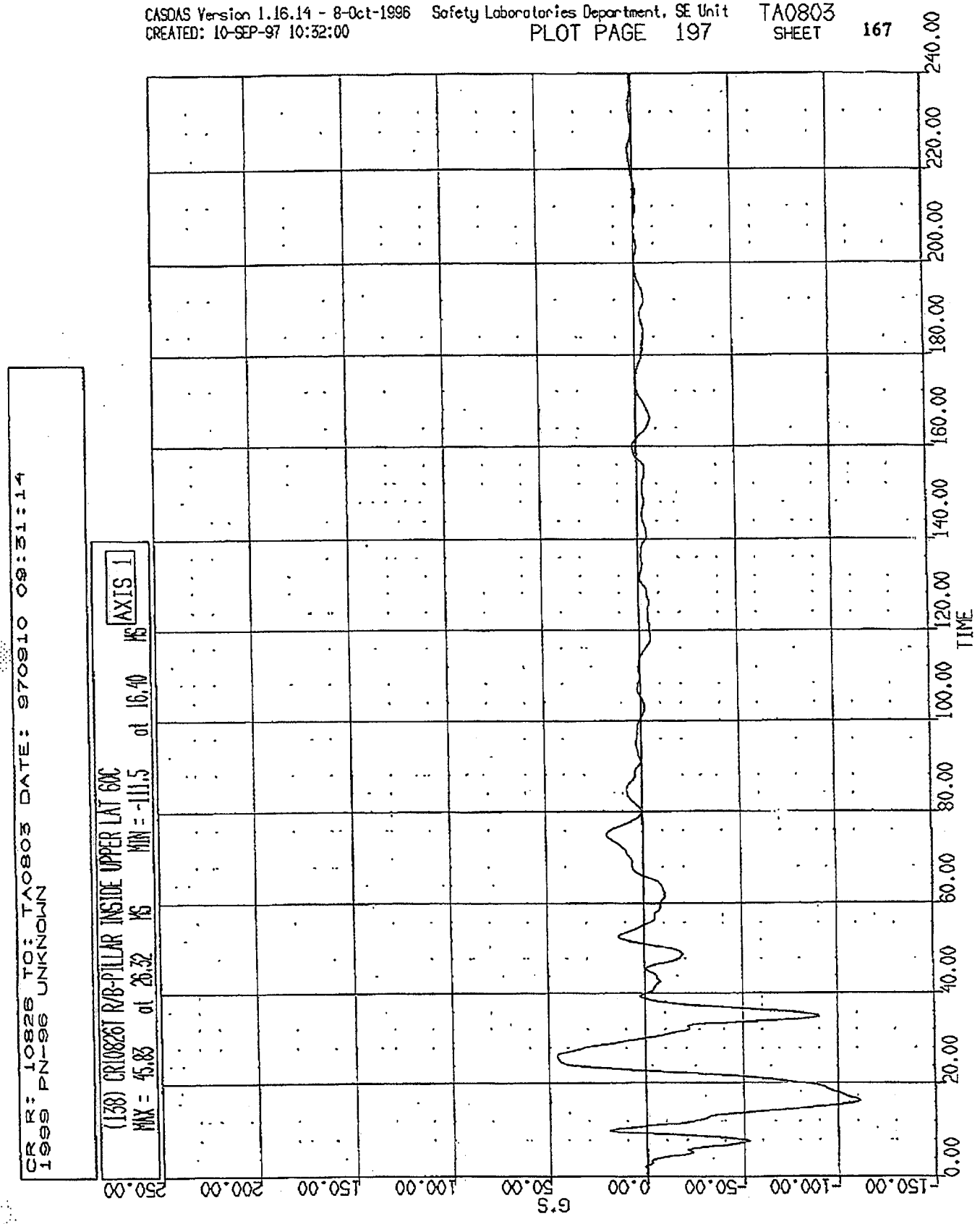

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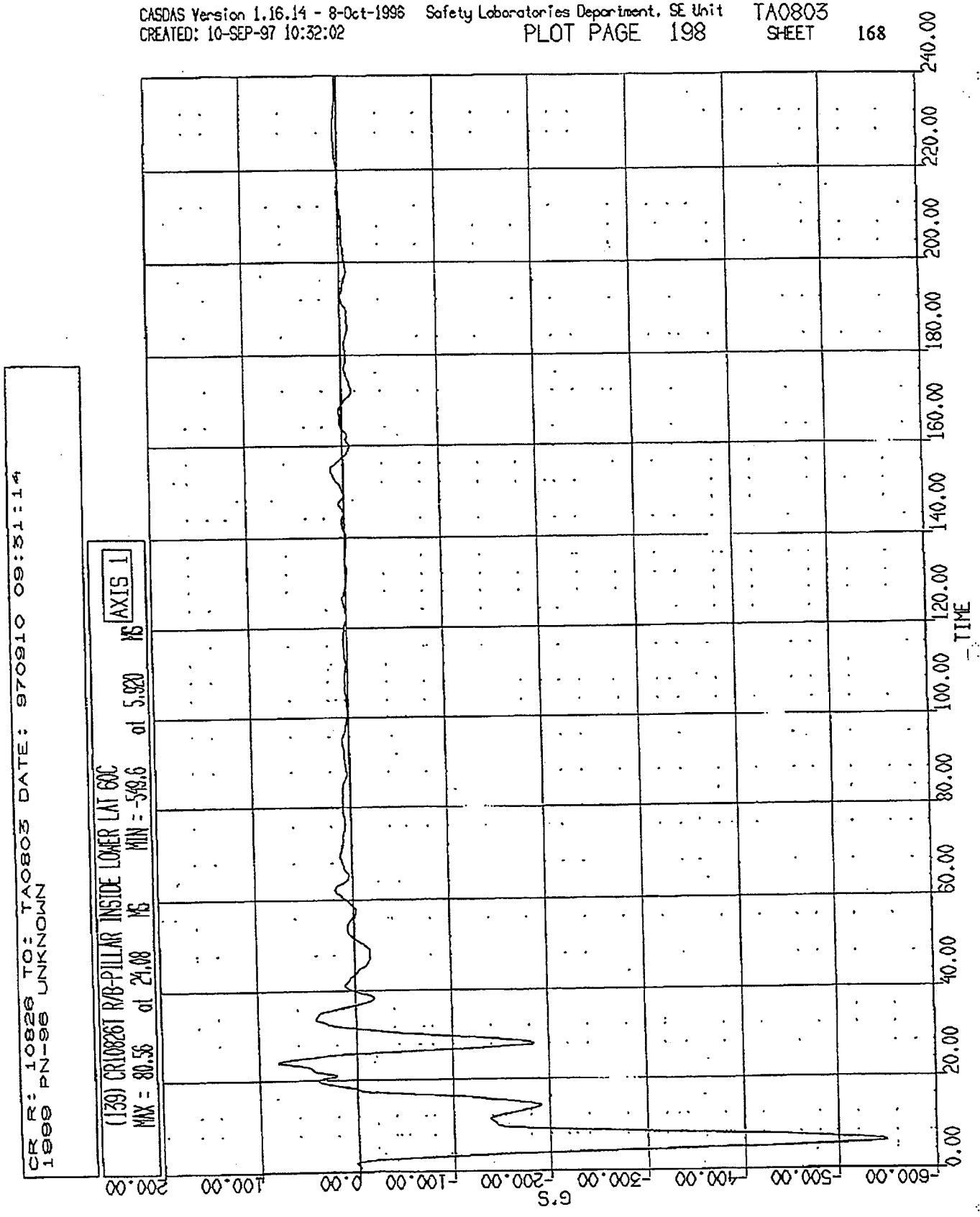

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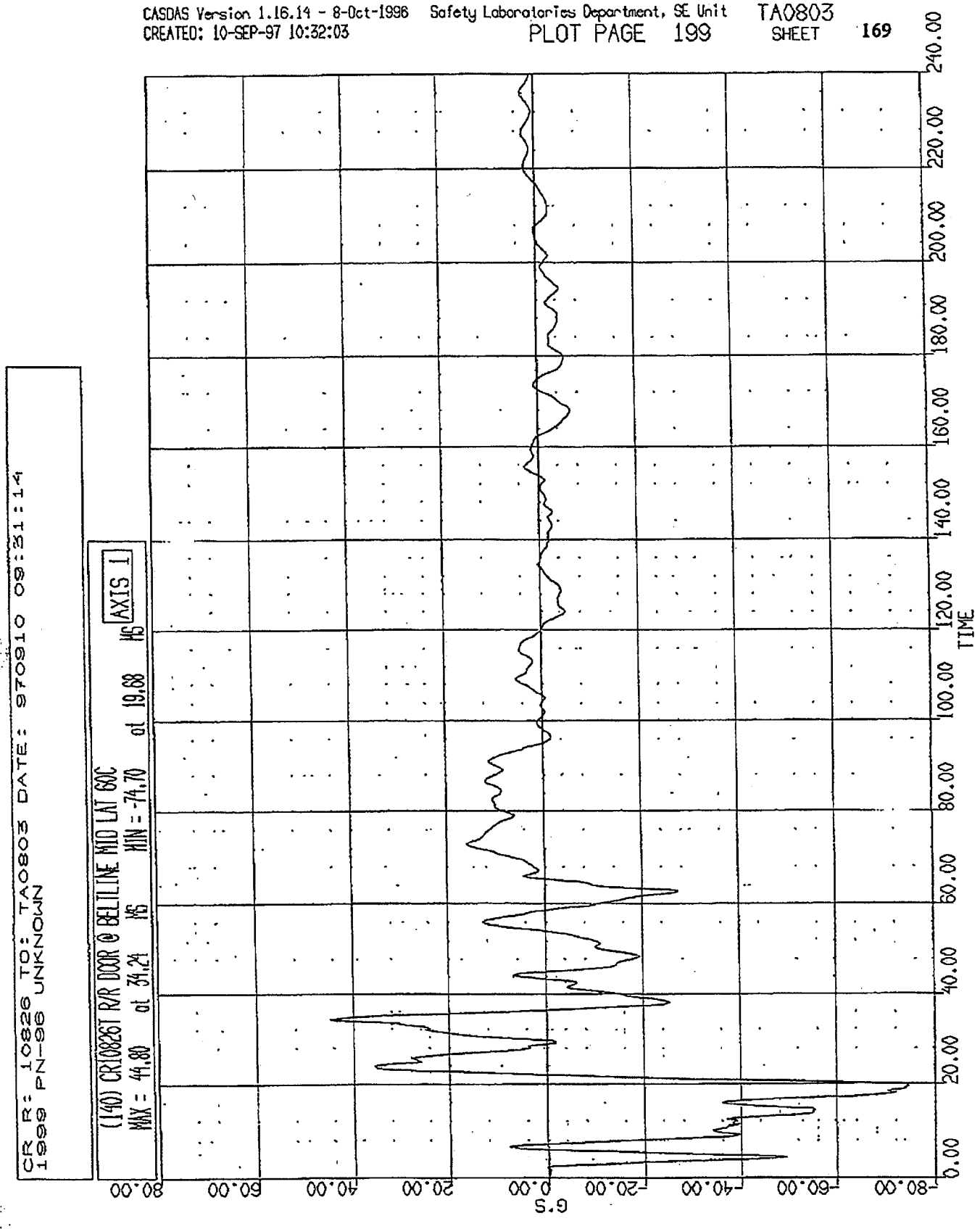

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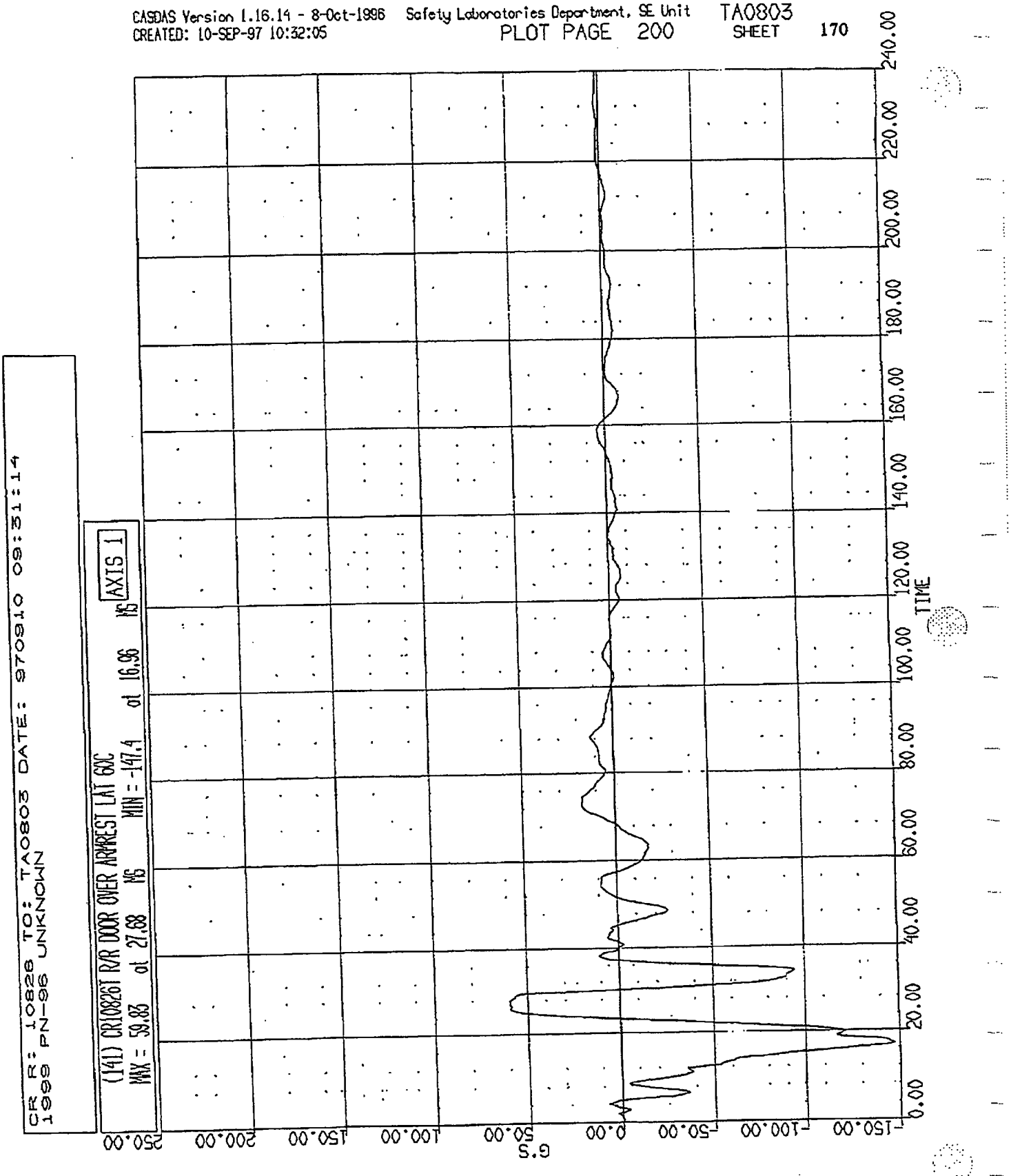

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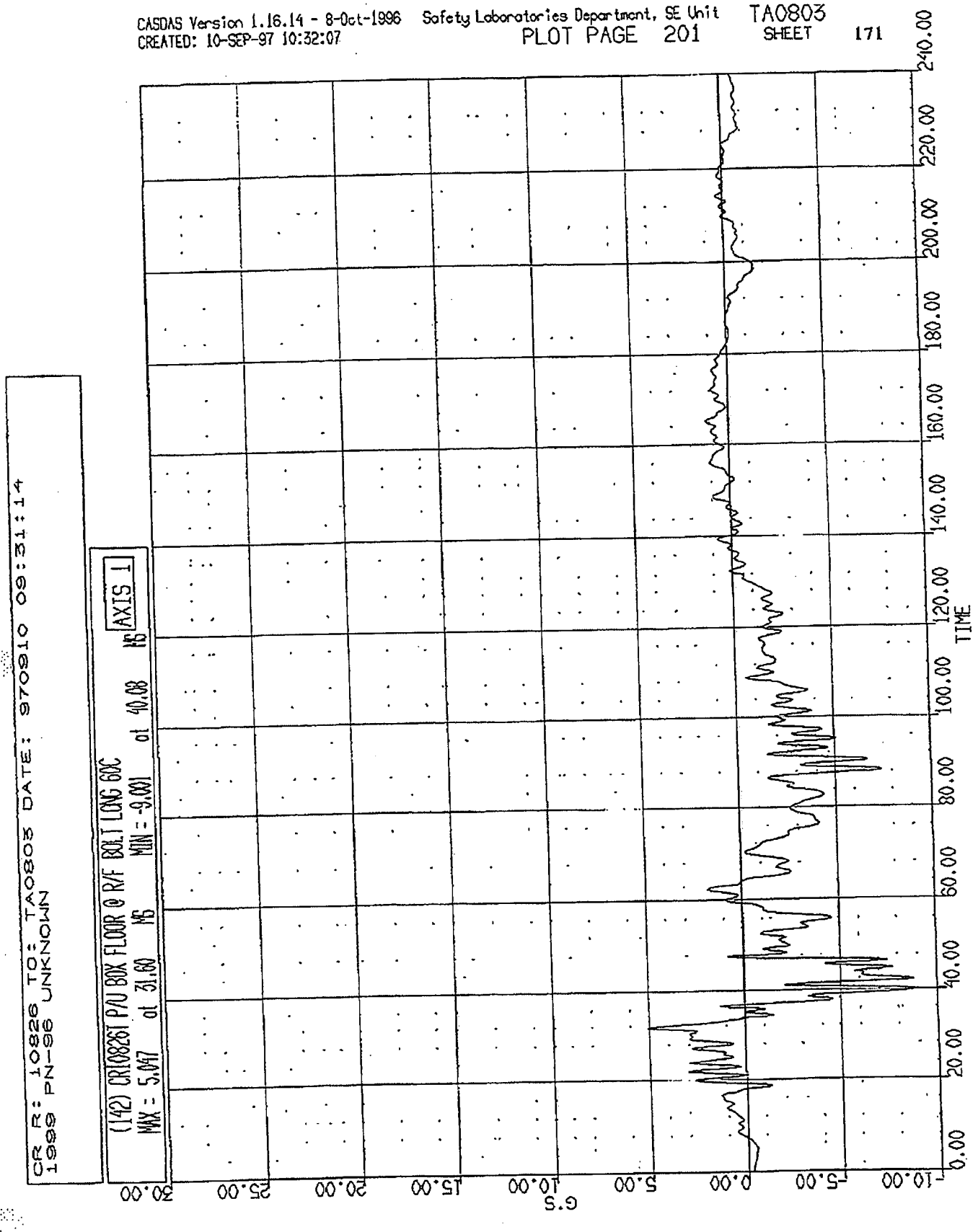

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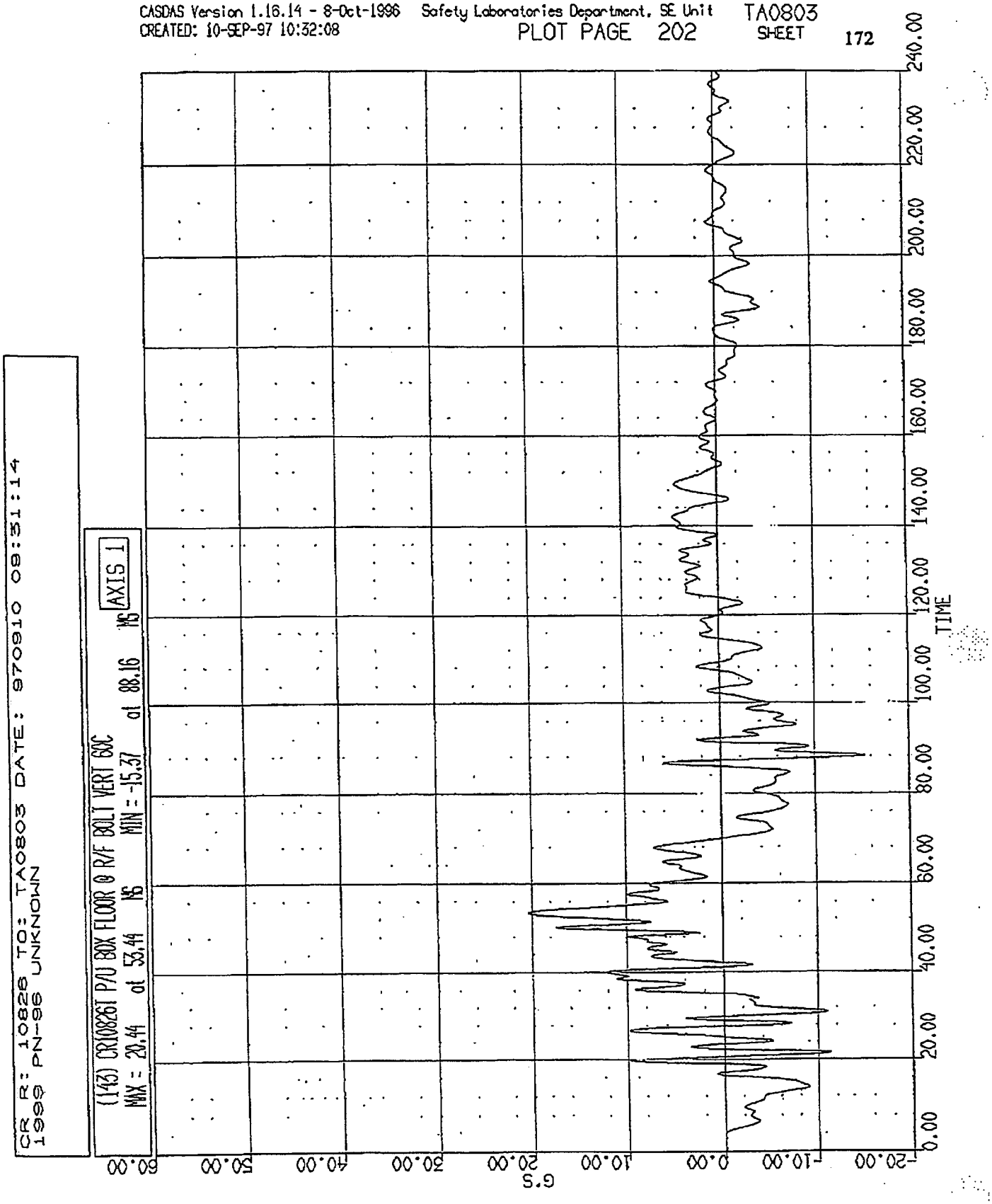

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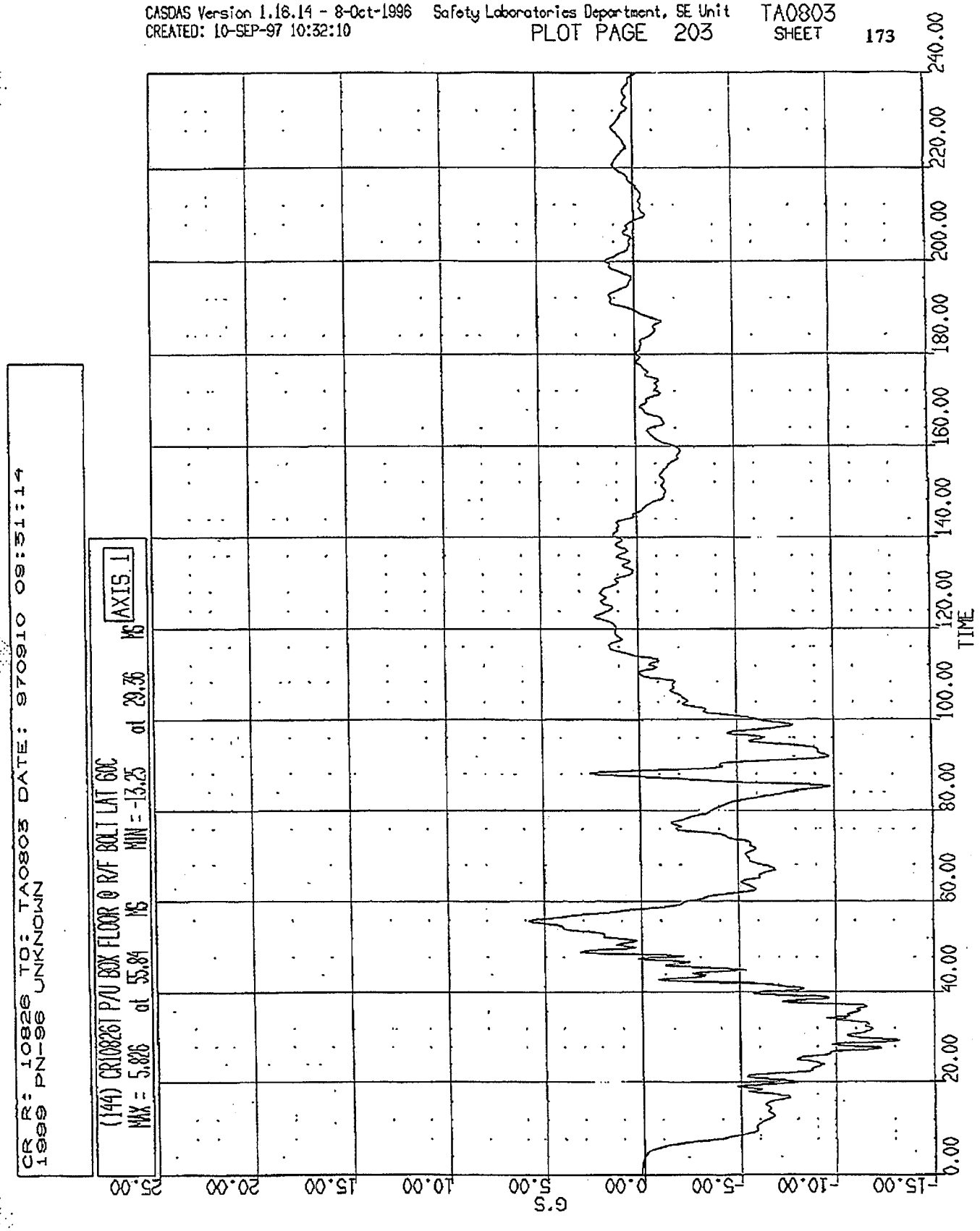

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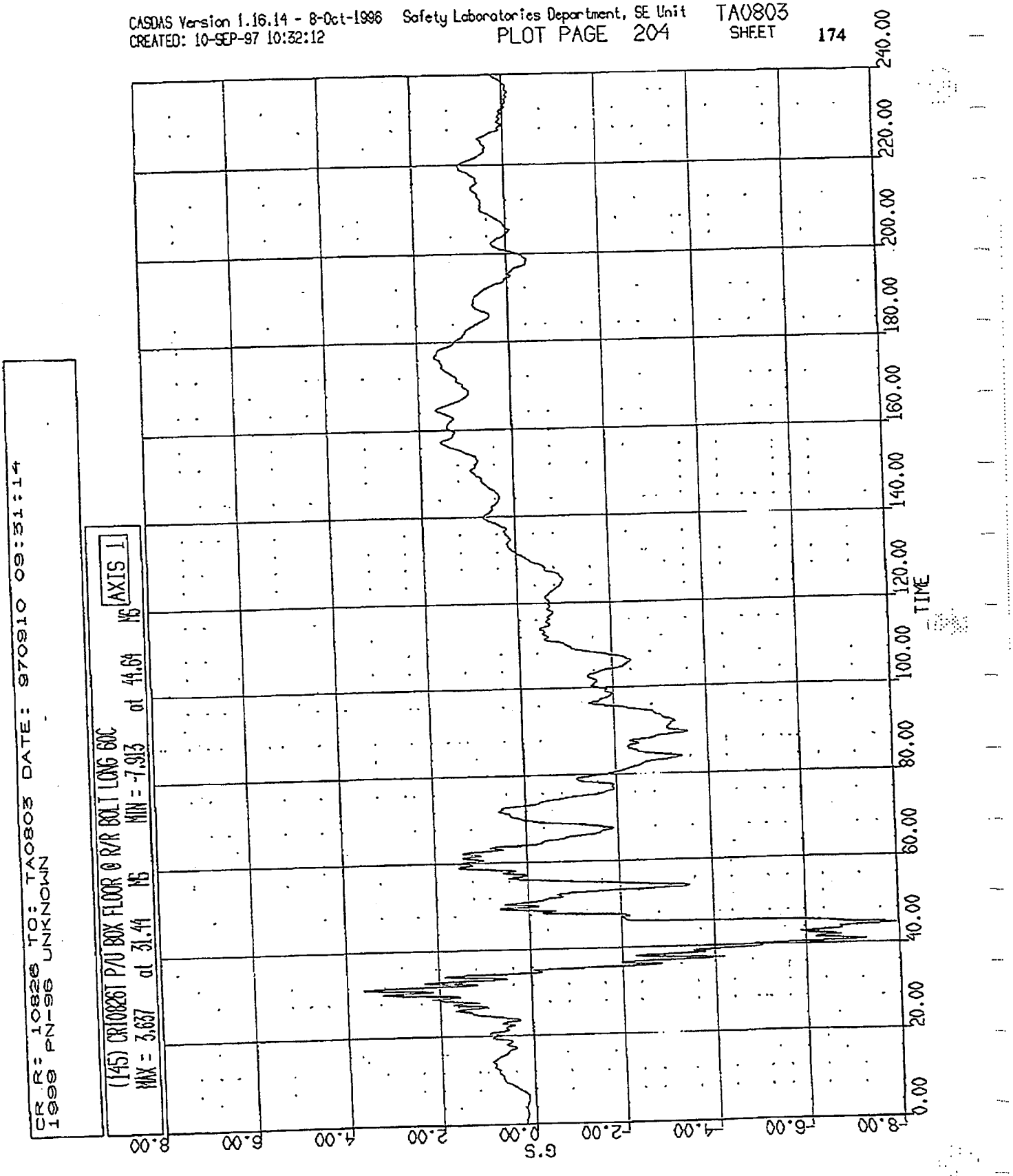

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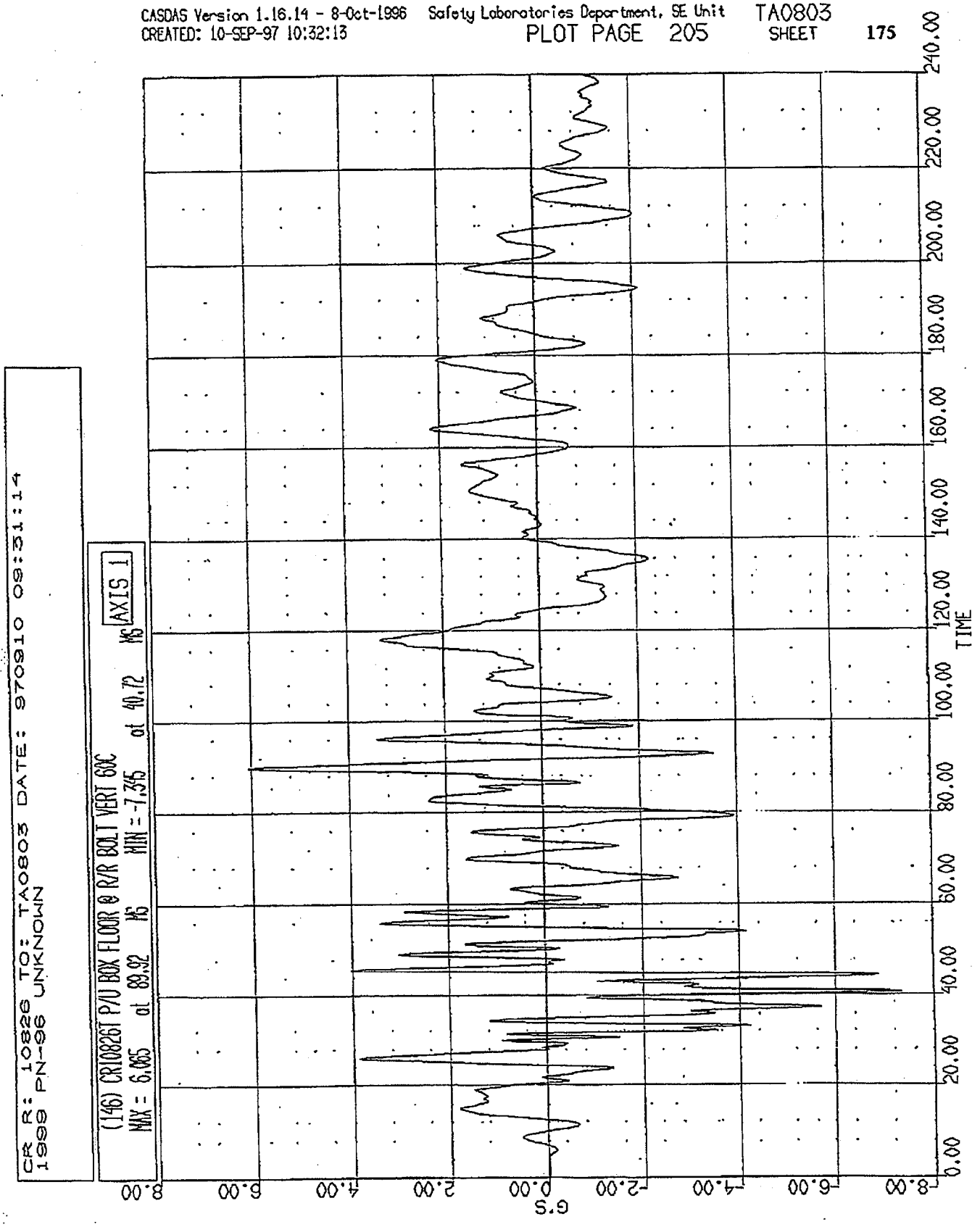
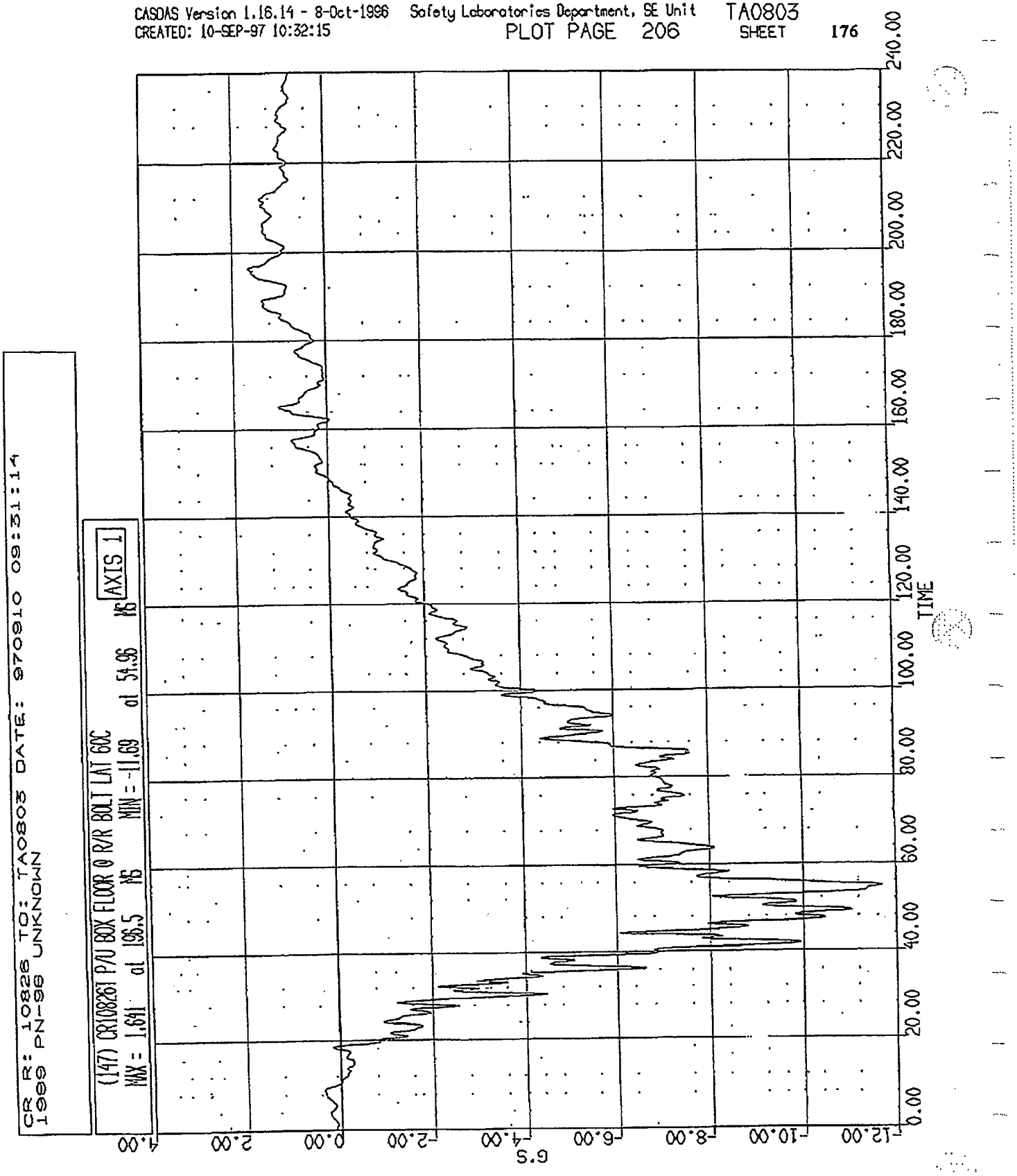
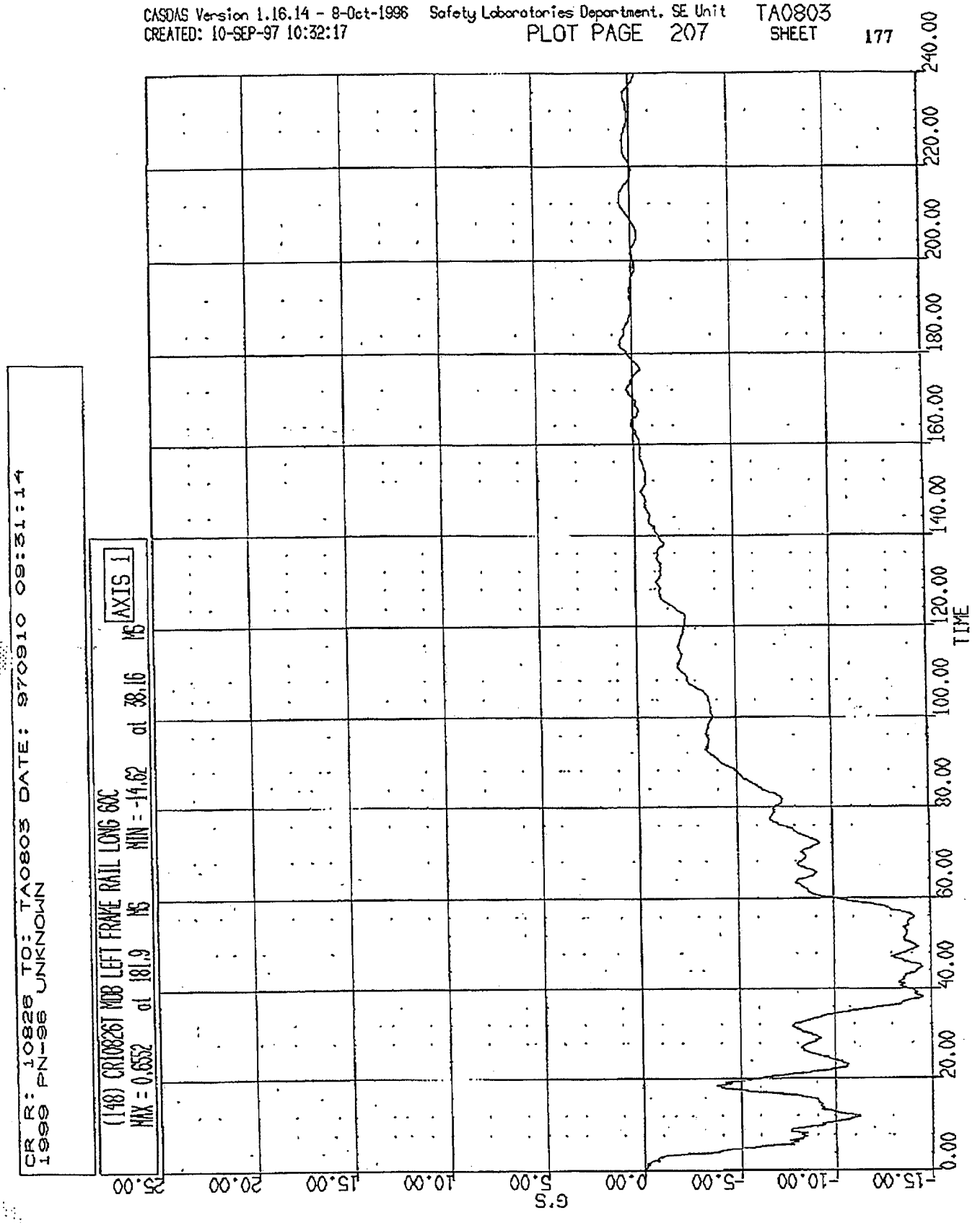


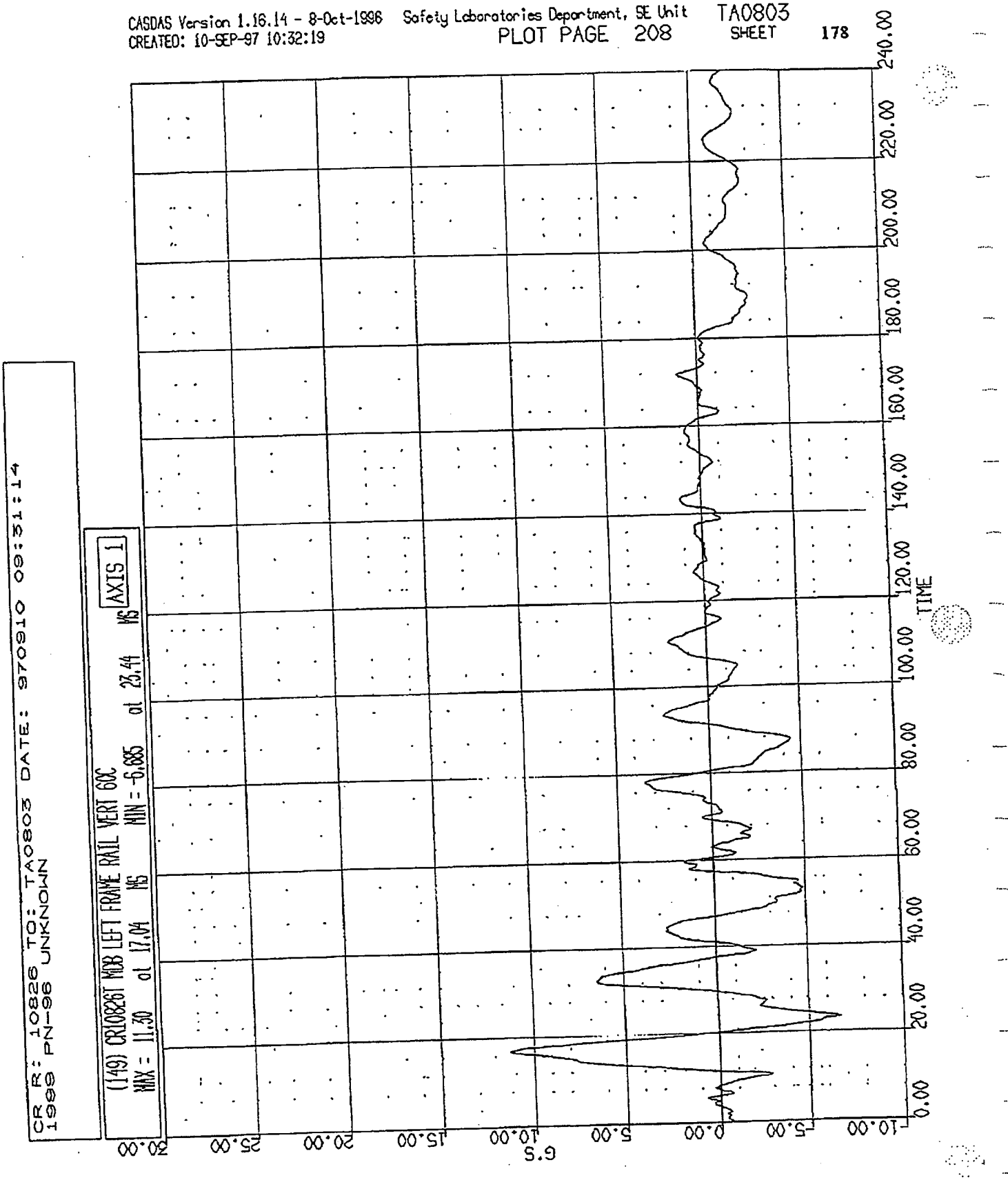
CRTS 0010826



CRTS 0010826



CRTS 0010826


CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1998 PN-96 UNKNOWN
(149) CR10826T MXB LEFT FRAME RAIL VERT 60C
MAX = 11.30 at 17.04 MS MIN = -6.885 at 23.44 MS
AXIS 1
G'S
TIME
30.00
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
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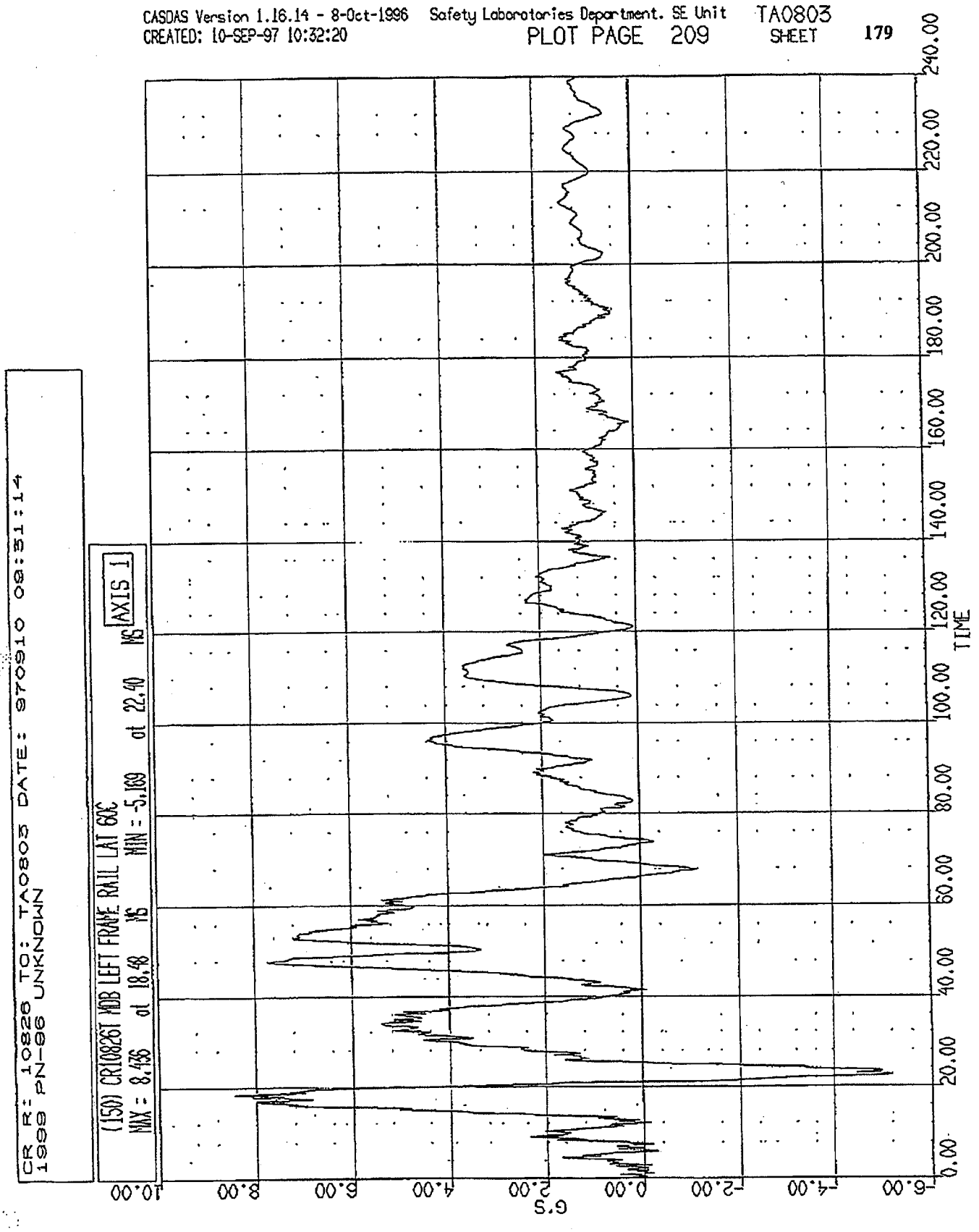
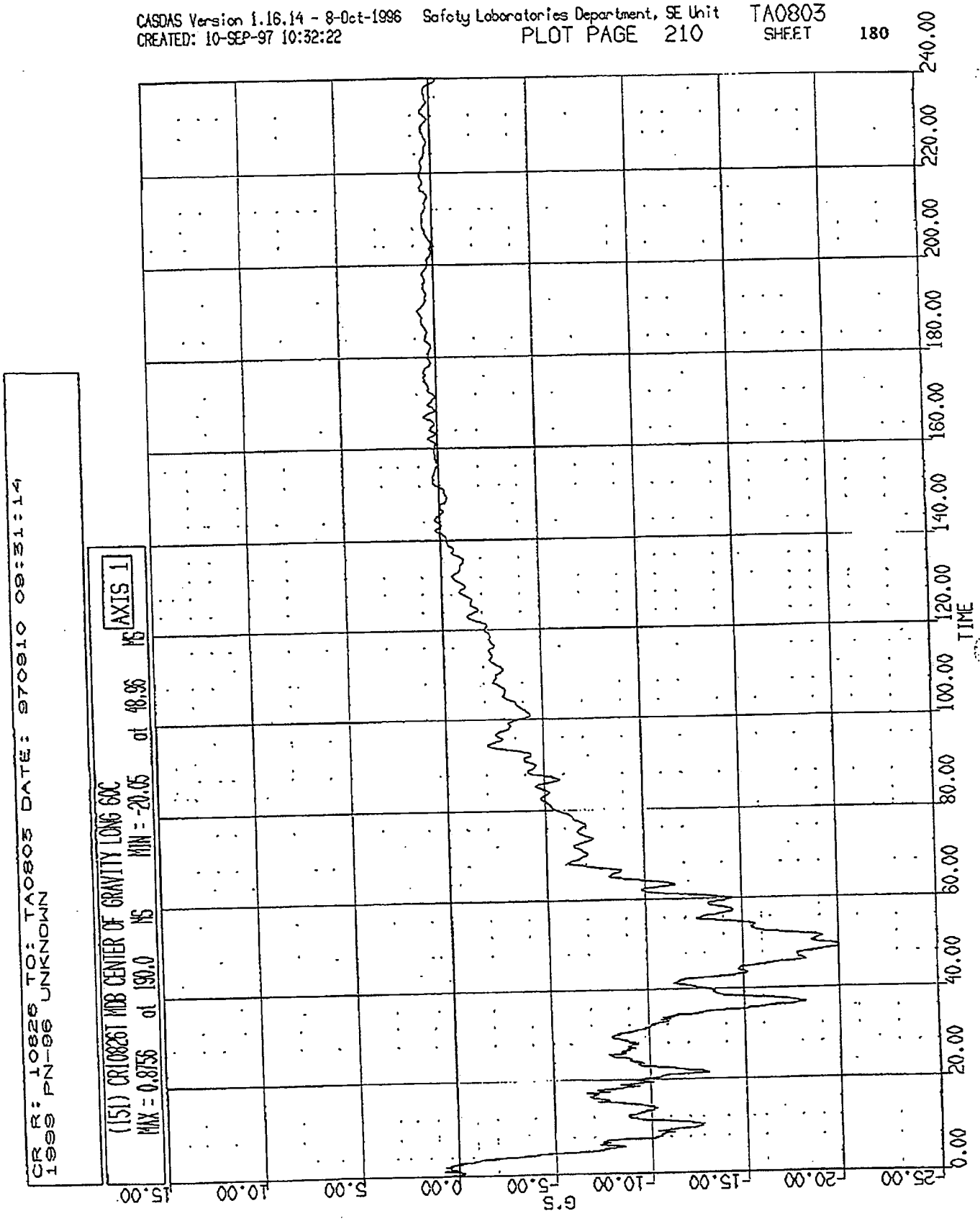
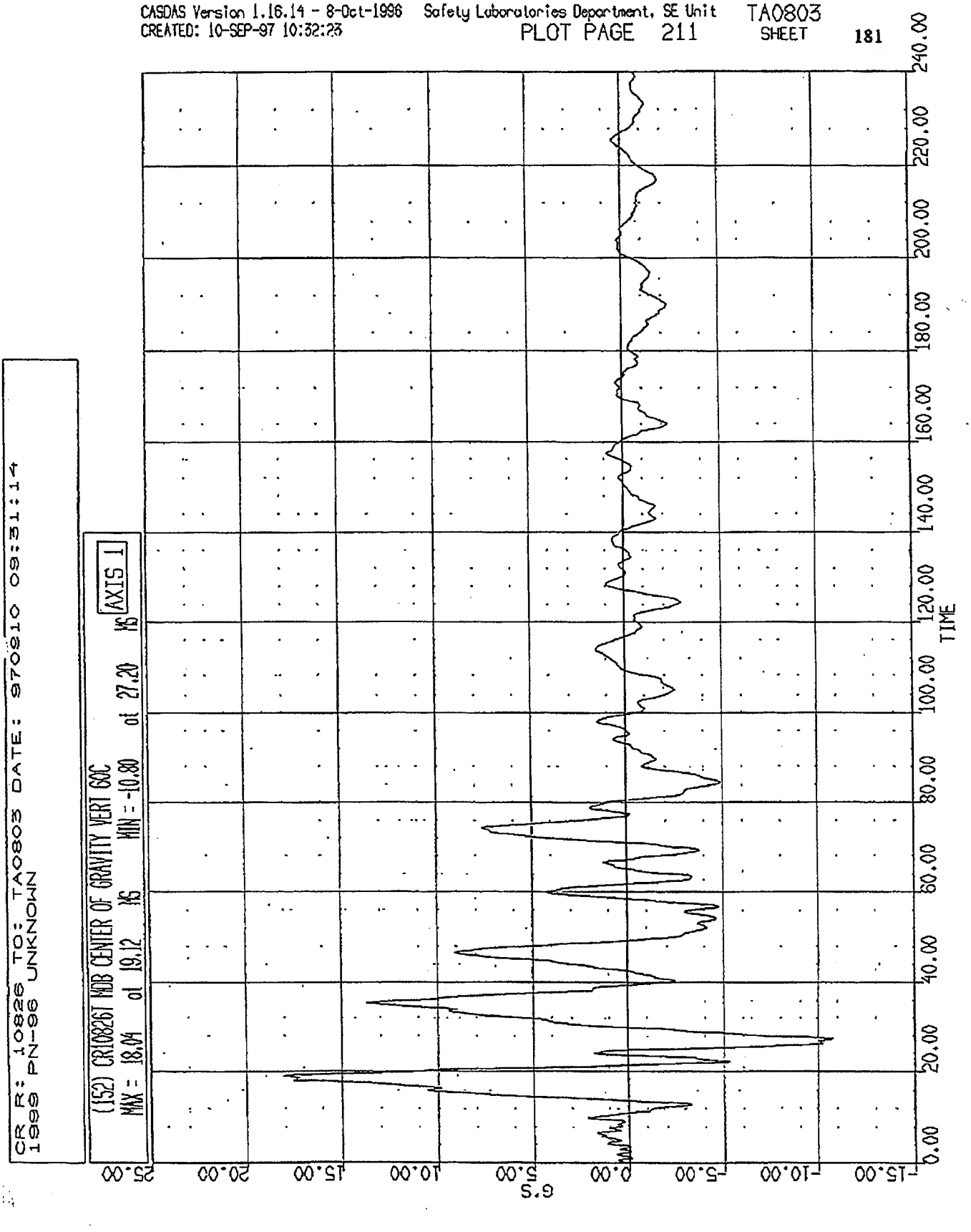
160.00
180.00
200.00
220.00
240.00



CRTS 0010826



CRTS 0010826



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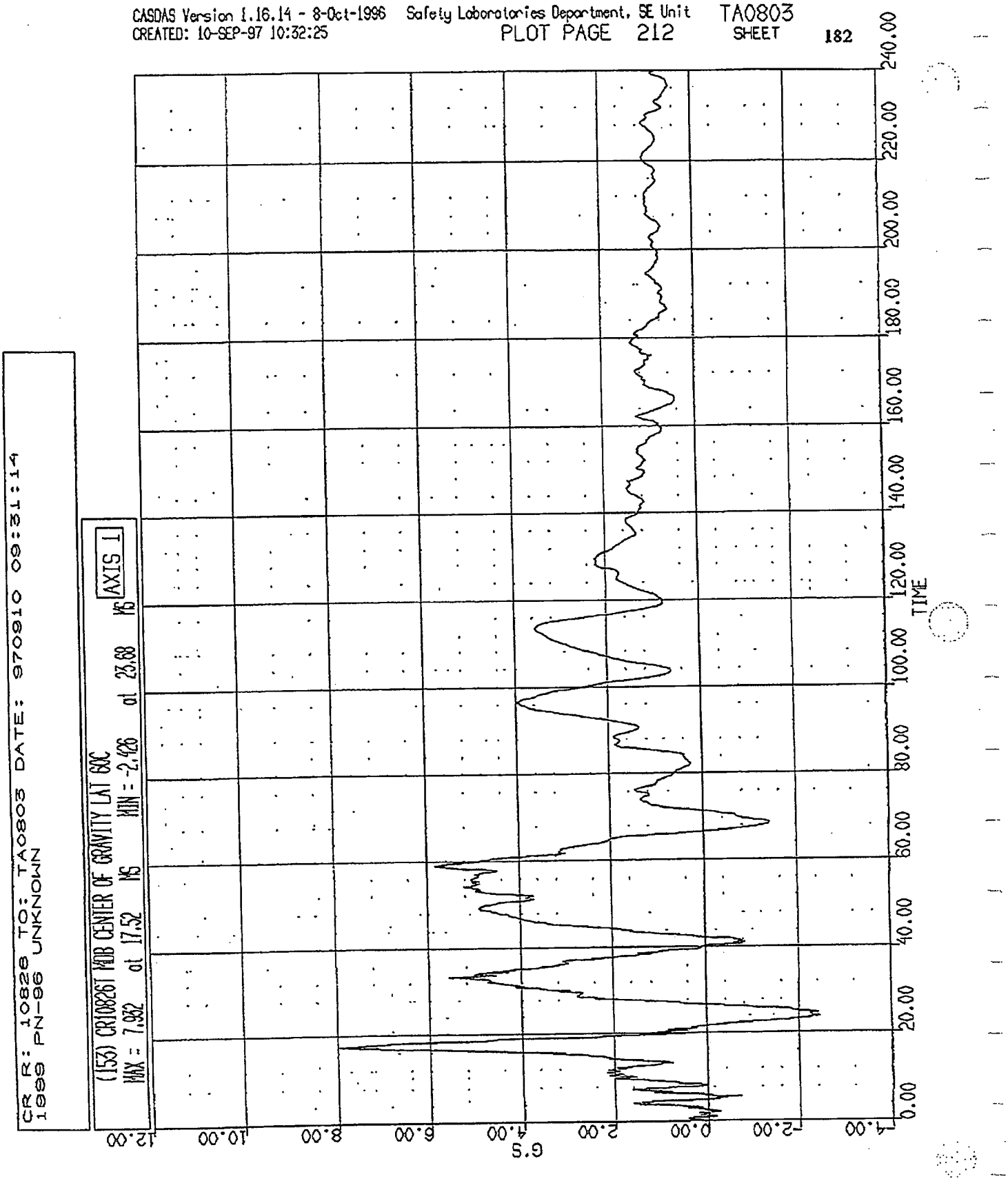

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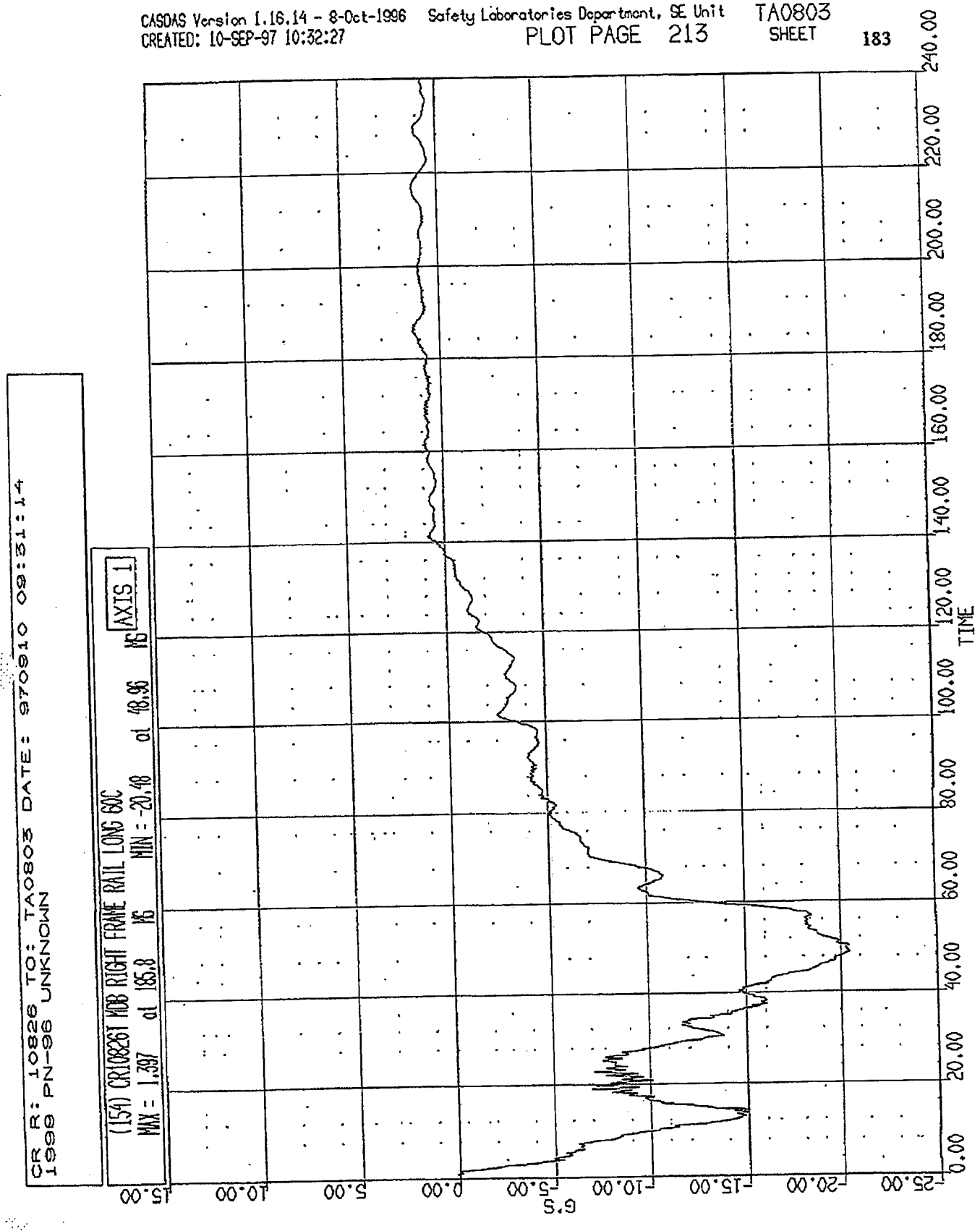

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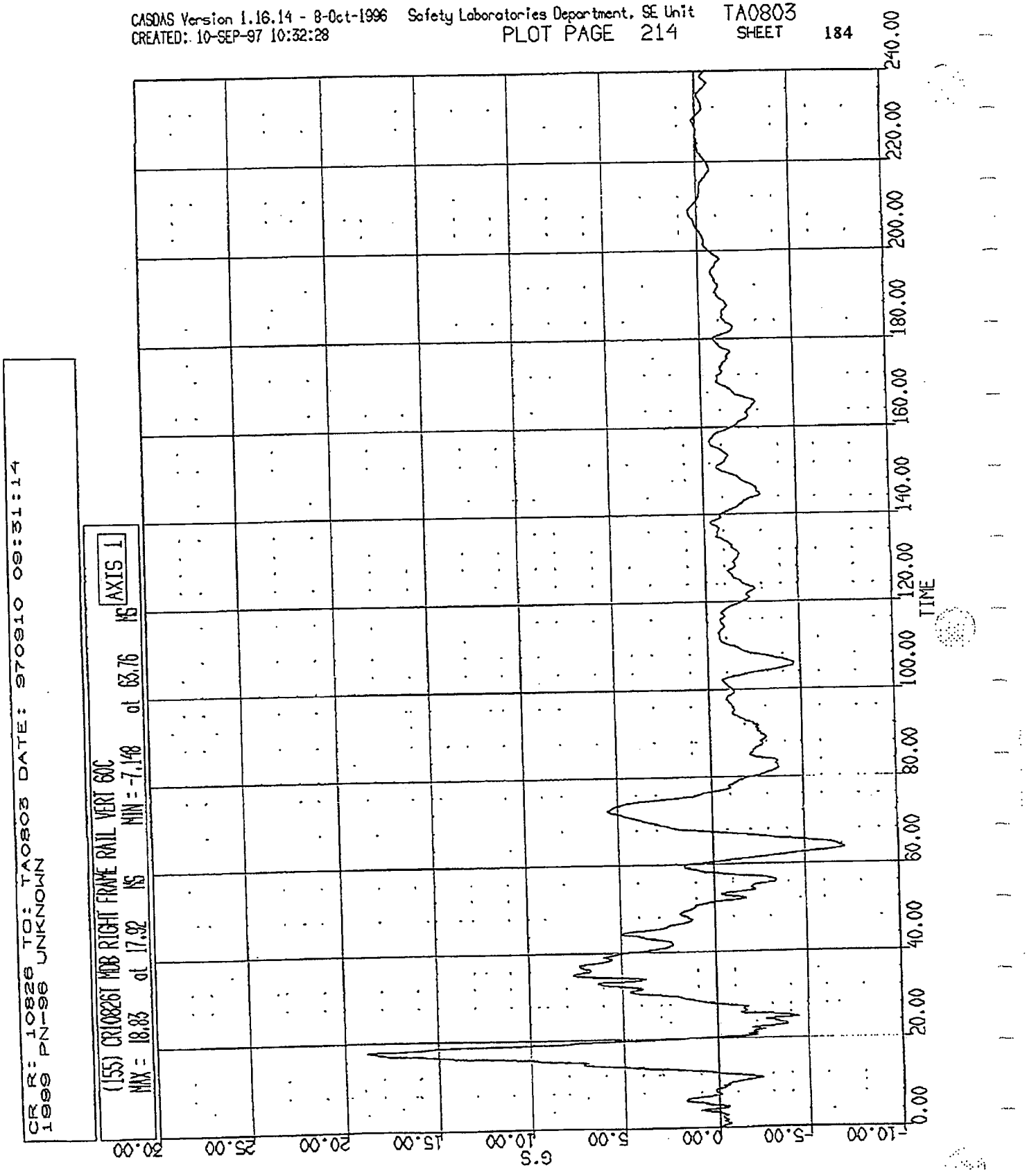
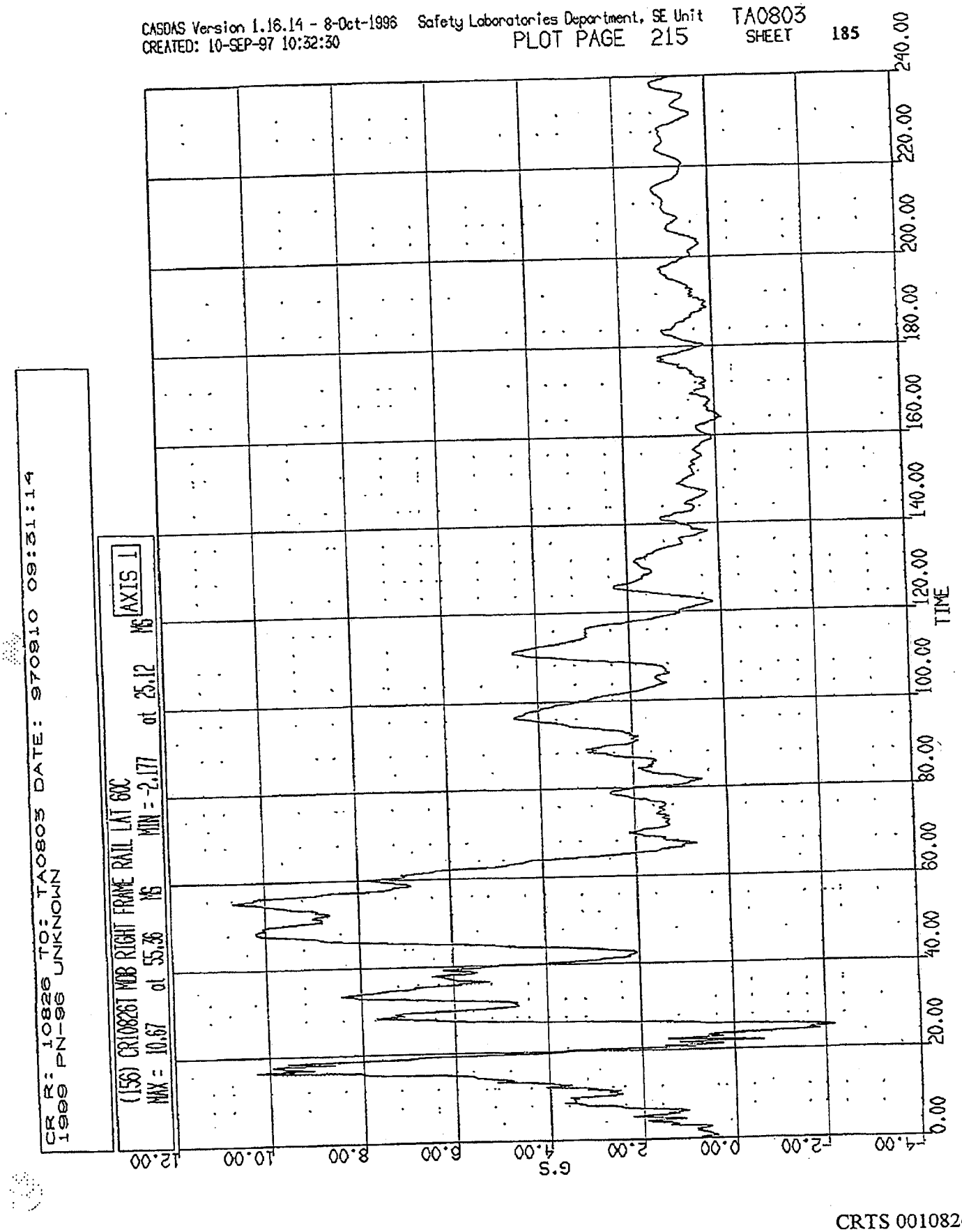


CRTS 0010826



CRTS 0010826

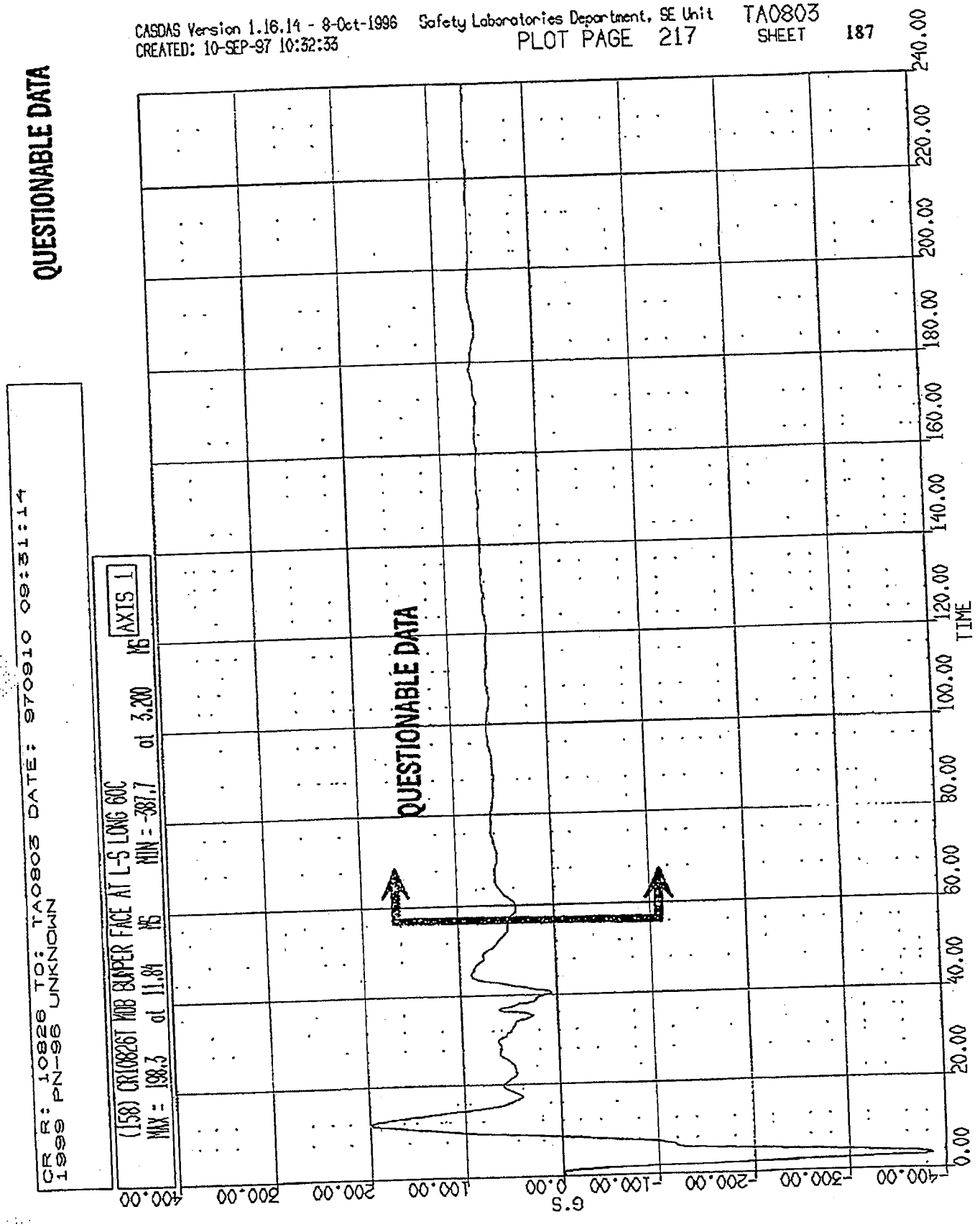
CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN

QUESTIONABLE DATA

(157) CR10826T MDB BUMPER FACE AT C-L LONG 60C
MAX = 199.3 at 13.84 MS MIN = -18.20 at 1.200 MS AXIS 1

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:32:32 PLOT PAGE 216 TA0803 SHEET 186

CRTS 0010826



CRTS 0010826

CR R: 10826 TO: TA0803 DATE: 970910 09:31:14
1999 PN-96 UNKNOWN

QUESTIONABLE DATA

(159) CR10826T MDB BUMPER FACE AT R-S LONG 60C
MAX = 122.1 at 10.80 MS MIN = -109.4 at 2.000 MS AXIS 1

QUESTIONABLE DATA

G's

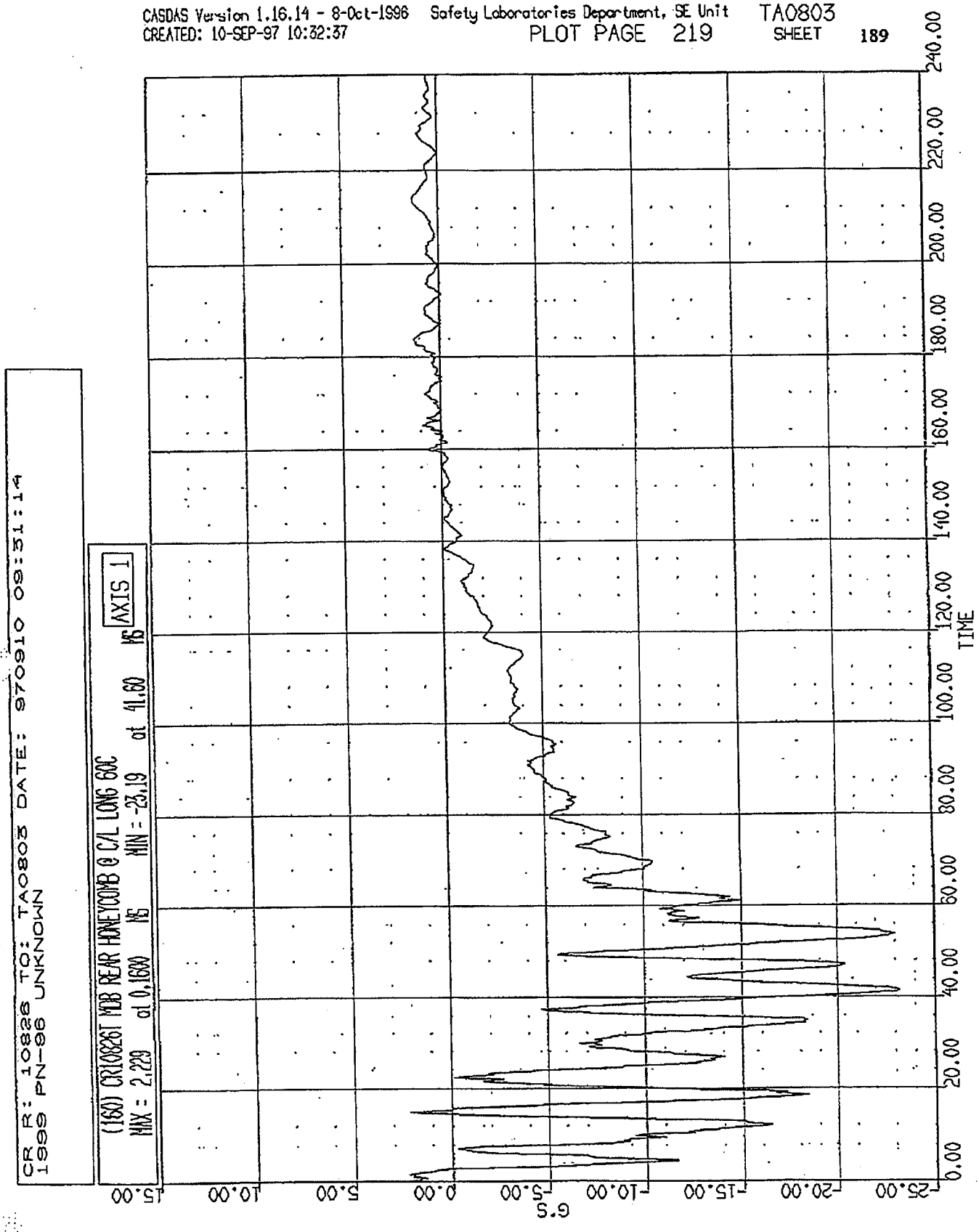
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00

0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

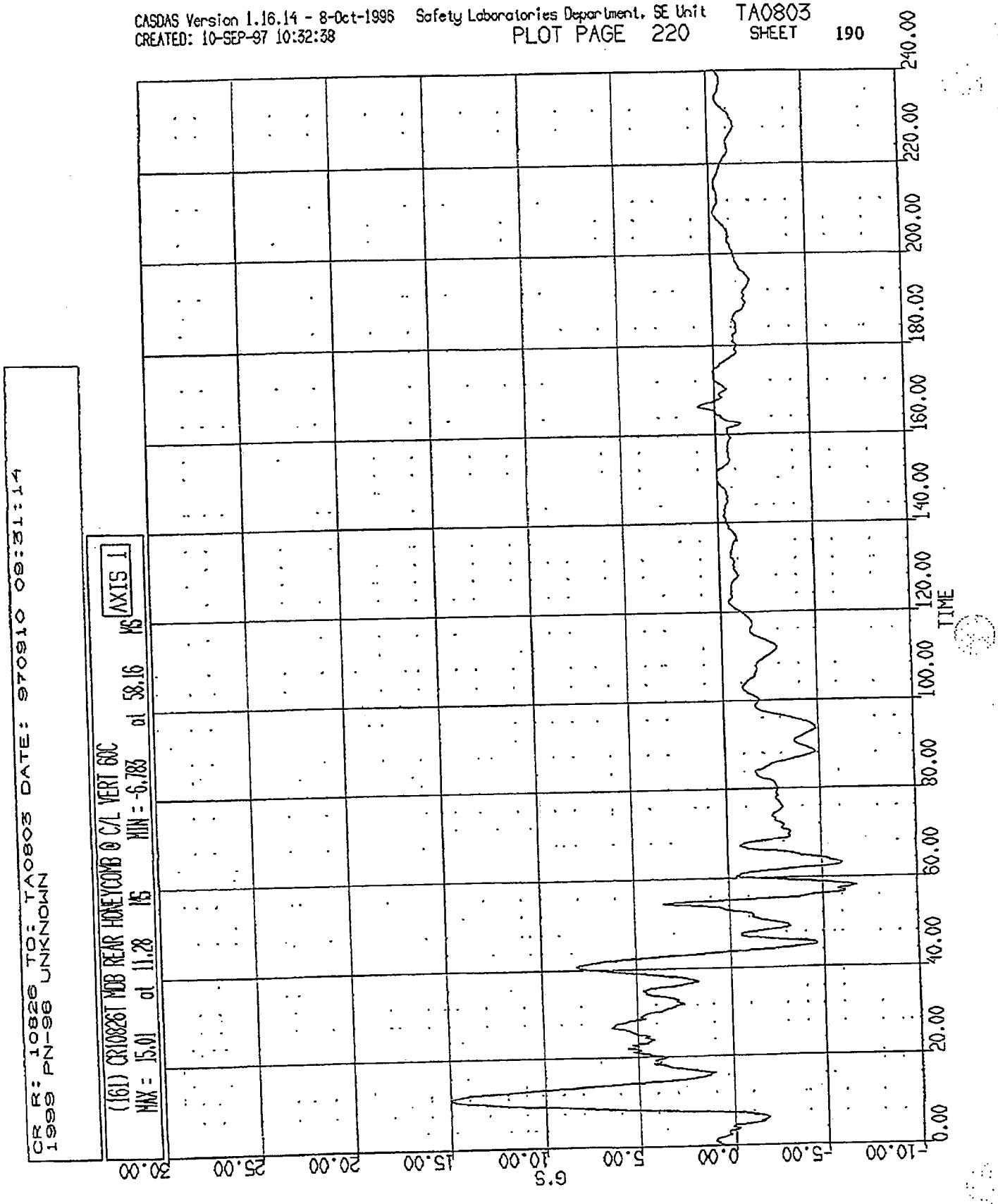
TIME

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit
CREATED: 10-SEP-97 10:32:35 PLOT PAGE 218 TA0803 SHEET 188

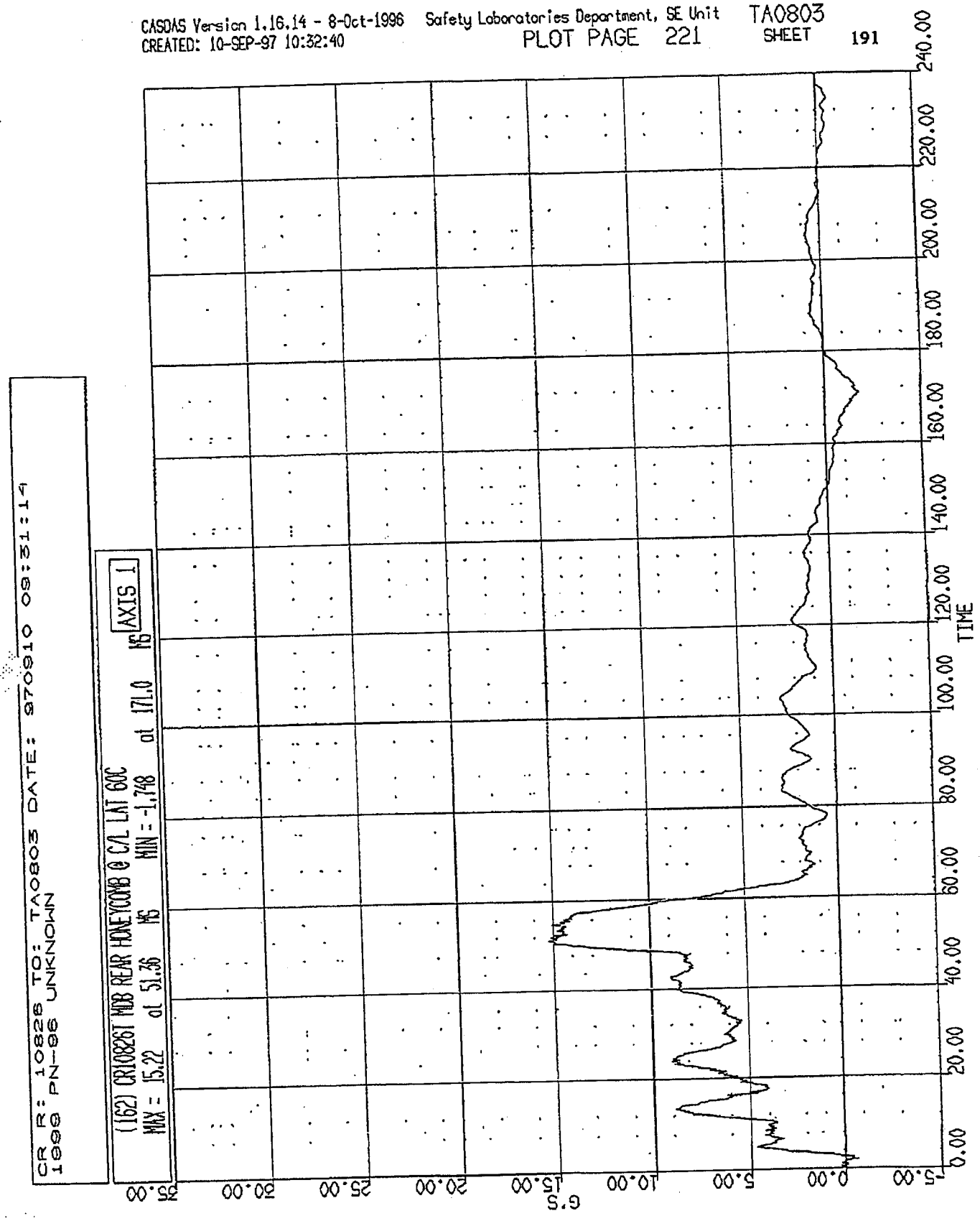
CRTS 0010826



CRTS 0010826

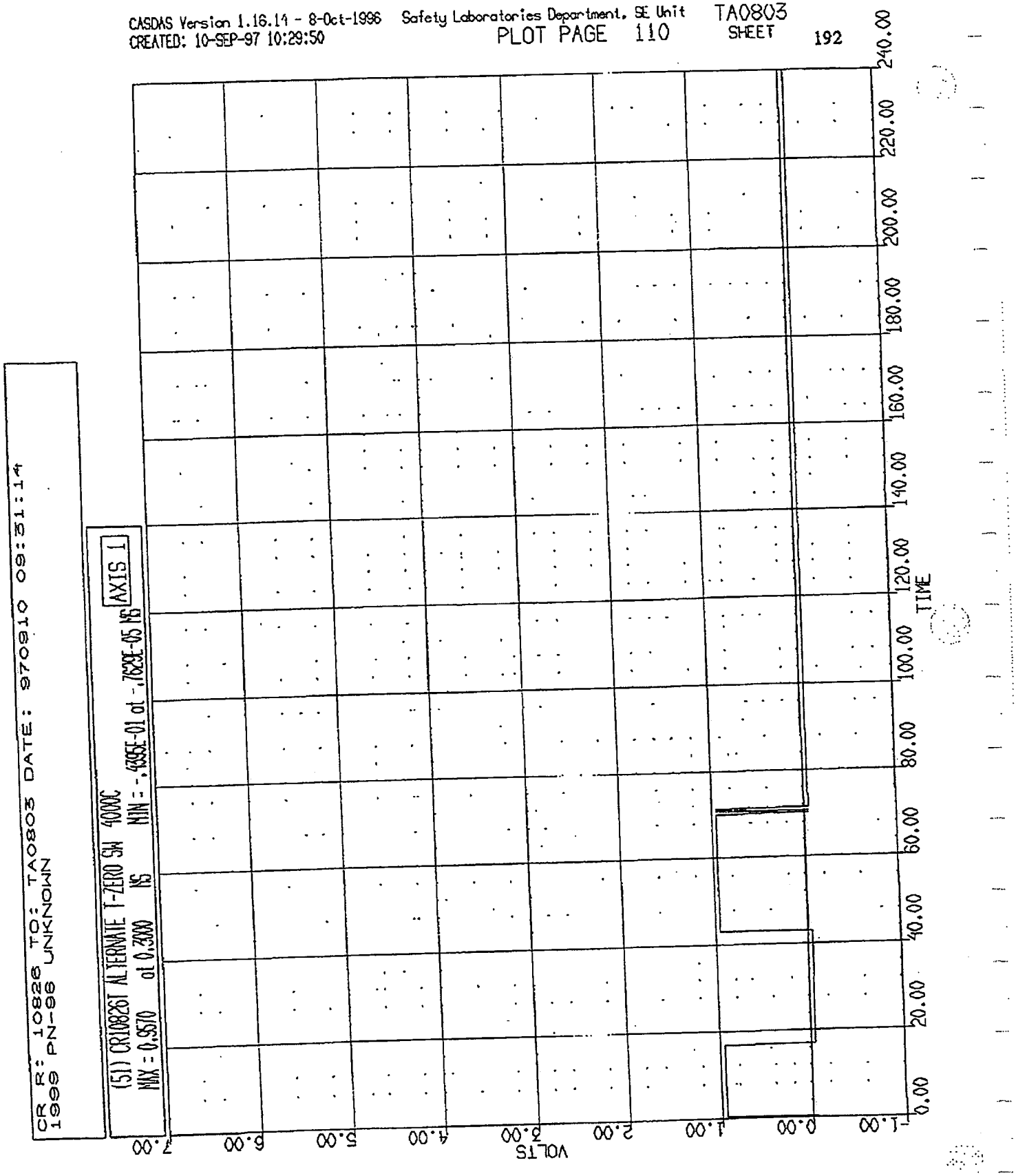


CRTS 0010826

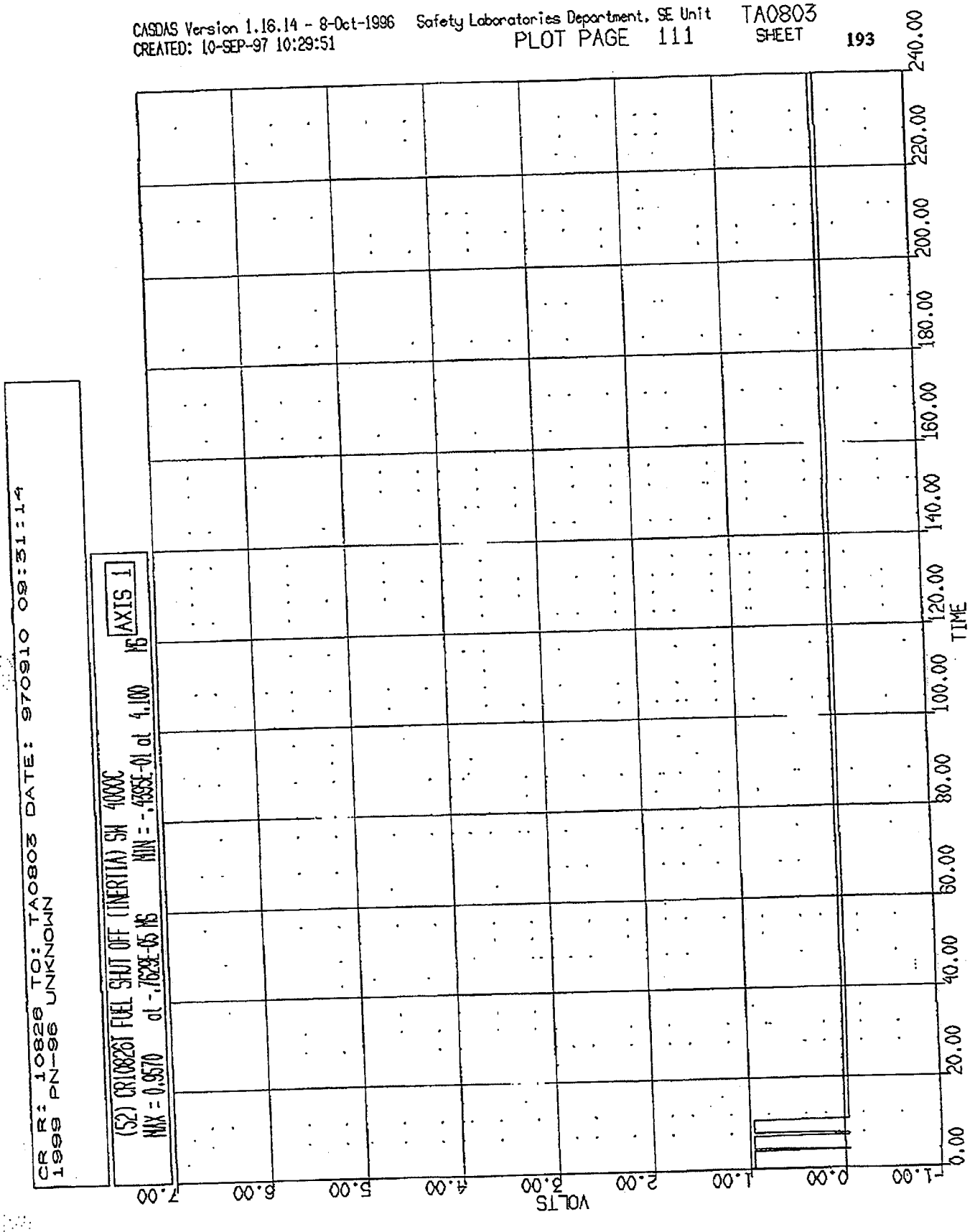


CRTS 0010826

CASDAS Version 1.16.14 - 8-Oct-1996 Safety Laboratories Department, SE Unit TA0803
CREATED: 10-SEP-97 10:29:50 PLOT PAGE 110 SHEET 192



CRTS 0010826



CRTS 0010826

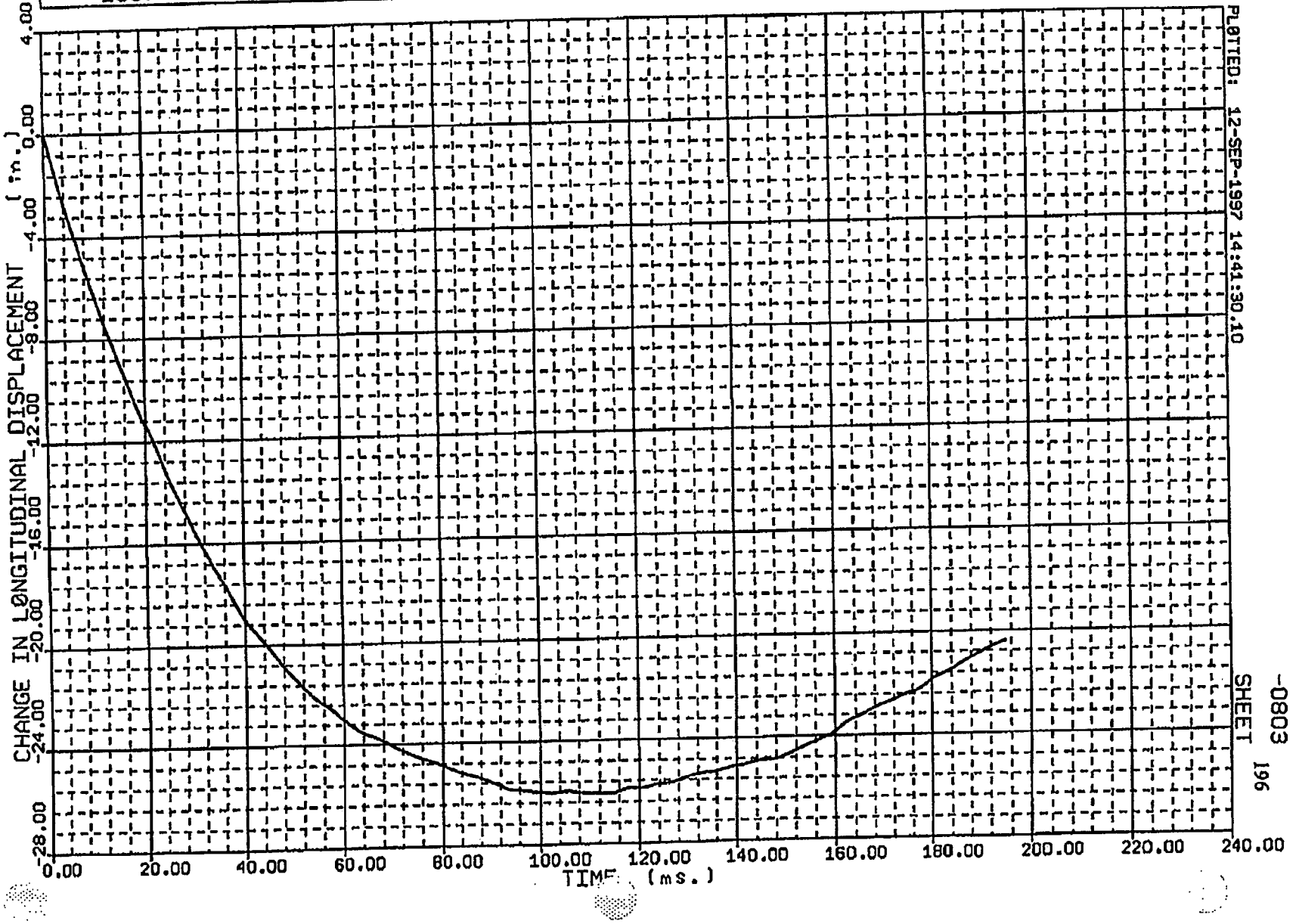
Y - AXIS: L/S R00F AT B-PILLAR WRT GR0UND REFERENCE		MAX = 25.74 at 195.00	MIN = -.2230 at 3.00	
RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
10826	BARRIER	-0803	SCALE	N0T APPLIED
1999 PN-96 S/L S/S 4x4				

SHEET 194 -0803

CRTS 0010826

Y - AXIS: L/S R00F AT B-PILLAR WRT GR0UND REFERENCE MAX = 9.100 at 195.00 MIN = -.1323 at 9.00
RUN N0. | FACILITY | TEST 0RDER N0. | FILM ANALYSIS METH0D | PITCH C0RRECTI0N
10826 | BARRIER | -0803 | SCALE | N0T APPLIED
1999 PN-96 S/L S/S 4x4
CHANGE IN LATERAL DISPLACEMENT (in.)
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME (ms.)
PL0TTED: 12-SEP-1997 14:41:29.56
SHEET 195
-0803

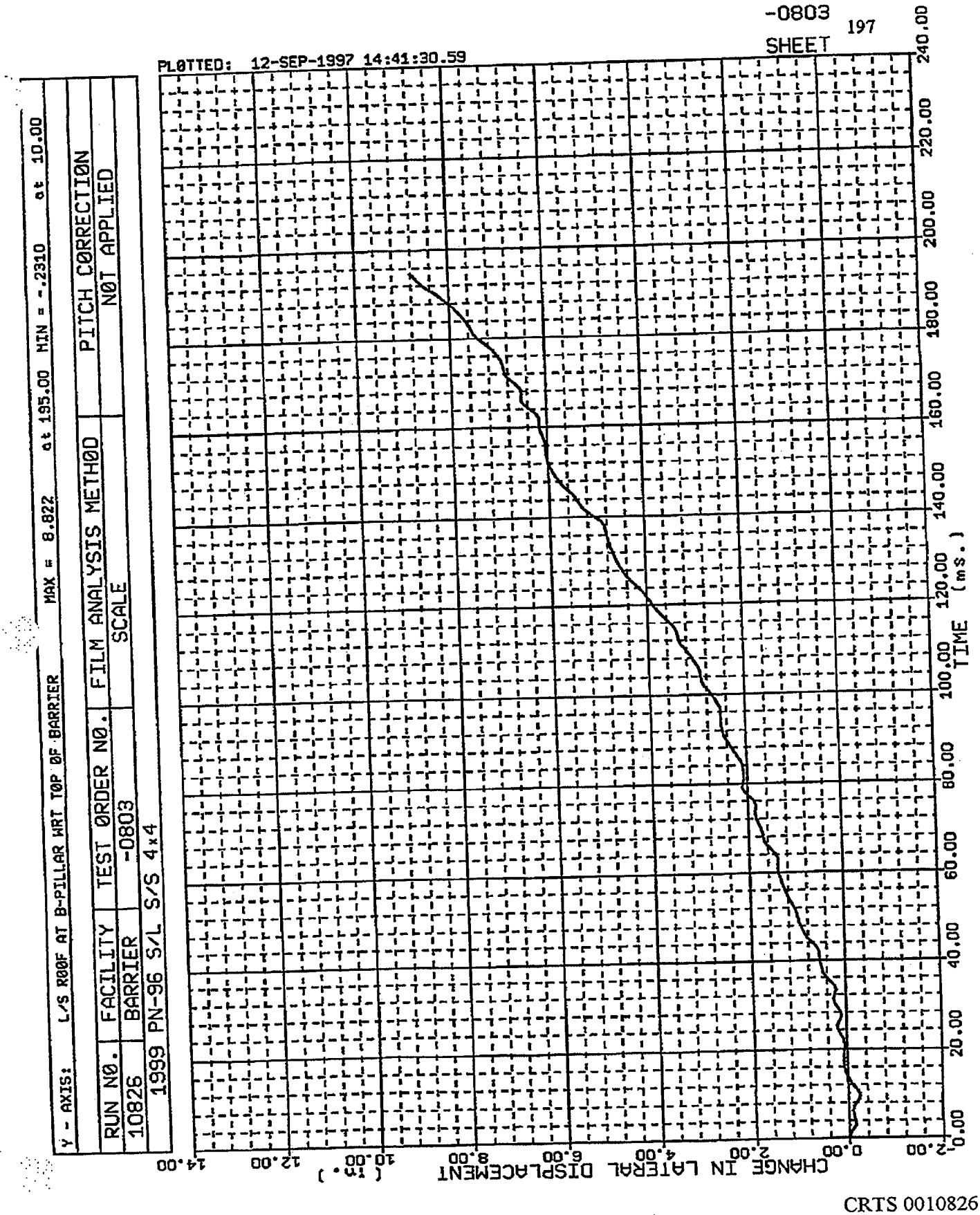
Y - AXIS:	L/S R00F AT B-PILLAR WRT T0P 0F BARRIER		MAX = 0.0000E+00 at 0.00 MIN = -26.09 at 114.00	
RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
10826	BARRIER	-0803	SCALE	N0T APPLIED
1999 PN-96 S/L S/S 4x4				



SHEET 196

-0803

CRTS 0010826



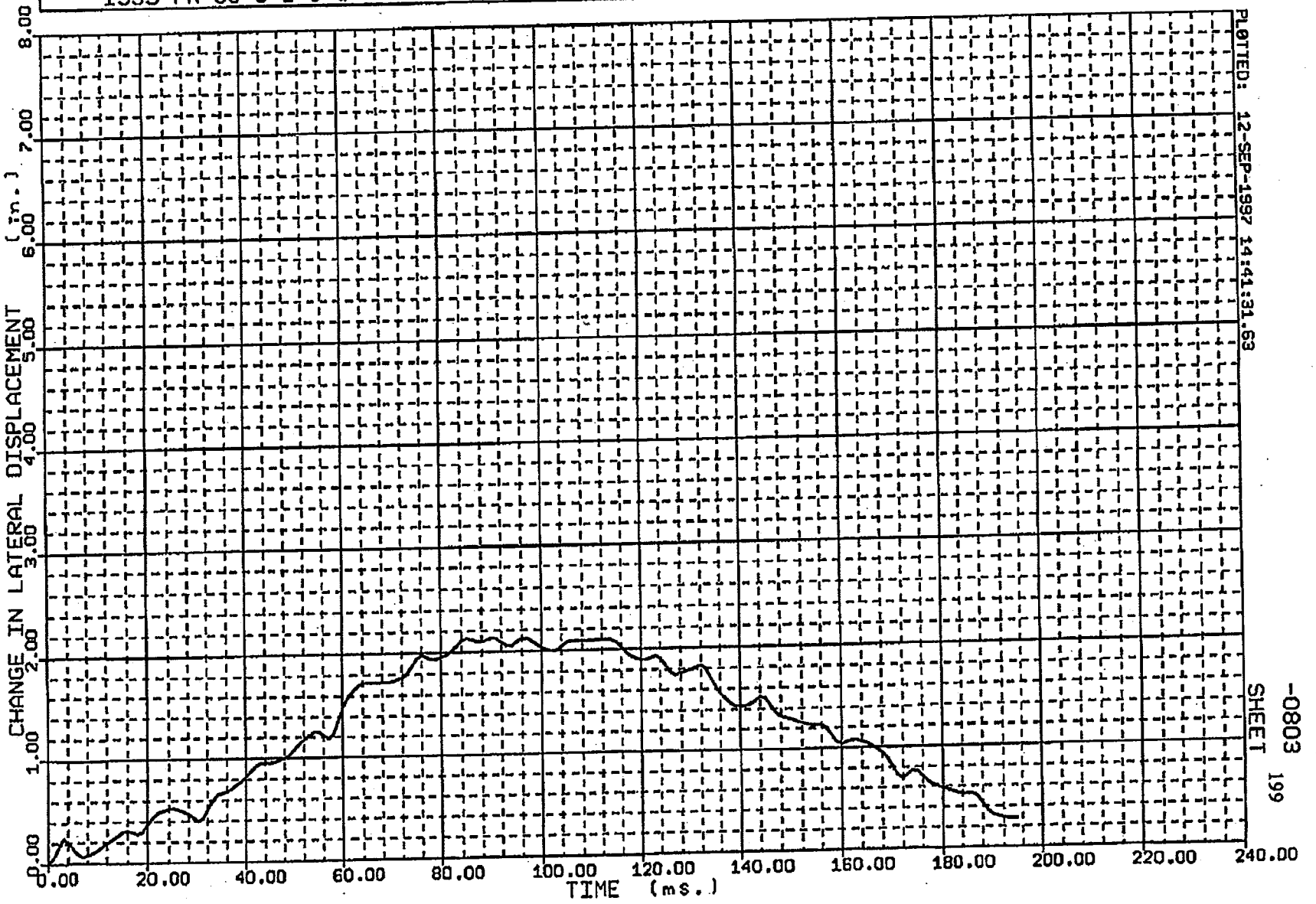
CRTS 0010826

Y - AXIS: TØP ØF BARRIER WRT GRØUND REFERENCE			MAX = 46.13 at 195.00 MIN = 0.0000E+00 at 0.00	
RUN NØ.	FACILITY	TEST ØRDER NØ.	FILM ANALYSIS METHØD	PITCH CØRRECTIØN
10826	BARRIER	-0803	SCALE	NØT APPLIED
1999 PN-96 S/L S/S 4x4				

CRTS 0010826

-0803 SHEET 198

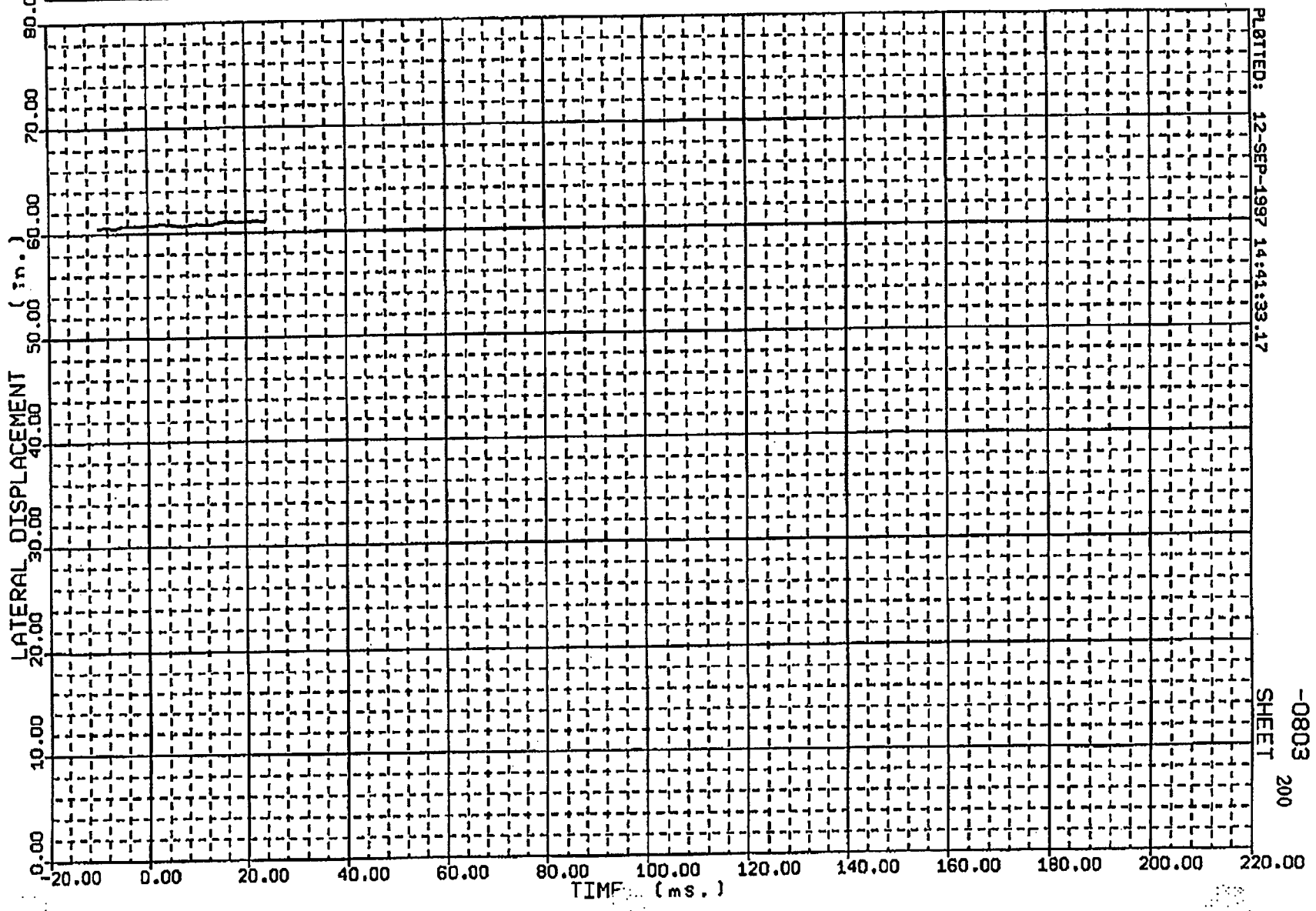
Y - AXIS:	TØP ØF BARRIER WRT GRØUND REFERENCE	MAX = 2.130 at 65.00	MIN = 0.0000E+00 at 0.00
RUN NØ.	FACILITY	TEST ØRDER NØ.	FILM ANALYSIS METHØD	PITCH CØRRECTIØN
10826	BARRIER	-0803	SCALE	NØT APPLIED
1999 PN-96 S/L S/S 4x4				



SHEET 199 -0803

CRTS 0010826

Y - AXIS: TOP OF BARRIER WRT GROUND REFERENCE.			MAX = 61.11 at 22.00 MIN = 60.48 at -10.00	
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10826	BARRIER	-0803	SCALE	NOT APPLIED
1999 PN-96 S/L S/S 4x4				

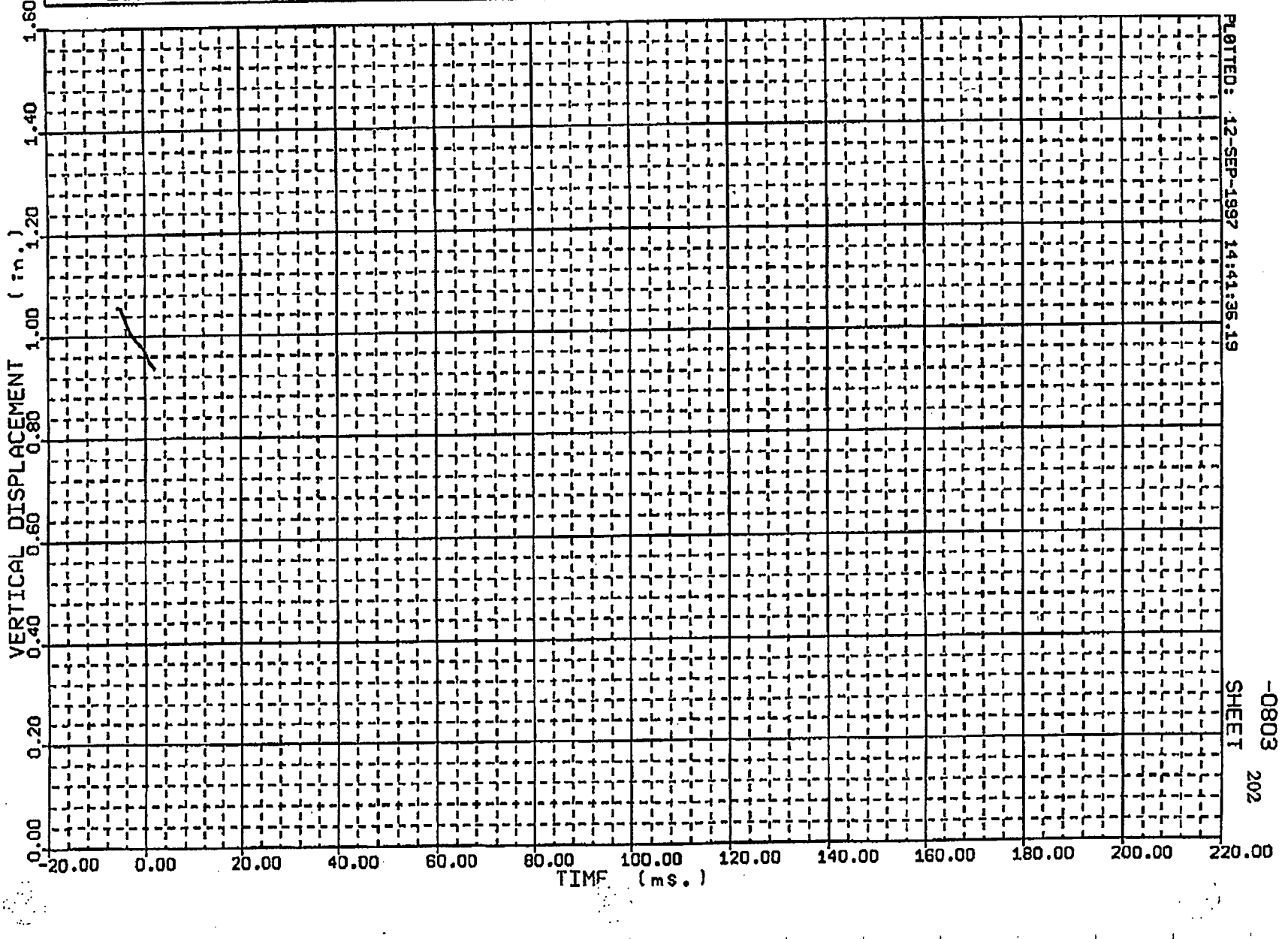


SHEET 200 -0803

CRTS 0010826

CRTS 0010826

Y - AXIS: R/FRONT FENDER WRT R/MOVING BARRIER			MAX = 1.056 at -6.00 MIN = 0.9356 at 2.00	
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
10826	BARRIER	-0803	SCALE	NOT APPLIED
1999 PN-96 S/L S/S 4x4				



SHEET 202 -0803

CRTS 0010826

Y - AXIS: R/REAR QUARTER WRT L/MØVING BARRIER			MAX = 1.048 at -7.00 MIN = 0.8187 at 2.00	
RUN NØ.	FACILITY	TEST ØRDER NØ.	FILM ANALYSIS METHØD	PITCH CØRRECTIØN
10826	BARRIER	-0803	SCALE	NØT APPLIED
1999 PN-96 S/L S/S 4x4				

CRTS 0010826

VEHICLE INFORMATION

TEST DESCRIPTION:	27 DEG. RIGHT SIDE CRABBING CART
VEHICLE PROGRAM YEAR:	1999
VEHICLE MODEL NAME:	PN-96
VEHICLE PROGRAM NAME:	PN-96
VEHICLE ID NUMBER:	294W861
CERTIFICATION VEHICLE CODE:	DV
REQUESTOR NAME:	P. M. CULKEEN
TEST ENGINEER NAME:	C. MACK

TIME AND DATE OF REPORT: 10-OCT-97 09:02:37

ASC TO #: T- TA0803

DIMENSIONAL ANALYSIS REPORT

CRASH #: 10826

UNT NO	SIDE	PNT NO	DESCRIPTION	** POINT COORDINATES ** INCHES LONG X	LAT Y	VERT Z	INCHES CHANGED X	Y	Z	D
070			SEE COMMENT SHEET							
		75	PUCK "Z" HEIGHT FOR DIMENSIONAL REF. ONLY	BEF AFT		-4.73				
071			MISCELLANEOUS / SIDED							
	L	07	CONTROL NOTCH/HOLE C/L SET DR/SIDE MEAS./PASS.	BEF AFT	119.69	-33.10	27.43			
074			CMM POSITIONING REF.							
		41	CMM FRONT DOOR A PILLAR @ROOF @SIDE OF IMPACT	BEF AFT	108.74	27.05	72.38			
		42	CMM FRONT DOOR A PILLAR @BELT @SIDE OF IMPACT	BEF AFT	89.28	32.81	54.42			
		43	CMM FRONT DOOR A PILLAR @ROCKER @SIDE OF IMPACT	BEF AFT	93.73	34.07	26.95			
		44	CMM FRONT DOOR ROCKER @B PILLAR @SIDE OF IMP.	BEF AFT	130.72	33.97	26.54			
411			TOP (BODY) NON SIDED							
		09	ALIGNMENT & SET UP PT. (LEFT FOREMOST FRAME)	BEF AFT	37.21	-15.86	23.50			
		17	ALIGNMENT & SET UP PT. (RIGHT FOREMOST FRAME)	BEF AFT	37.60	15.80	23.40			
		26	"H" POINT LOCATION ON OUTER FRT/OCCUPANT DOOR	BEF AFT	119.09	38.30	41.89			
		36	"H" POINT LOCATION ON OUTER REAR/OCUPANT DOOR	BEF AFT	151.10	38.10	42.40			

* VALUE WAS TRANSLATED

TIME AND DATE OF REPORT: 10-OCT-97 09:02:39

ASC TO #: T- TA0803 DIMENSIONAL ANALYSIS REPORT CRASH #: 10826

UNT NO	SIDE	PNT NO	DESCRIPTION		** POINT COORDINATES ** INCHES LONG X	LAT Y	VERT Z	INCHES CHANGED X	Y	Z	D
		37	"H" POINT LOCATION ON INNER REAR/OCUPANT DOOR	BEF AFT	151.10	32.24	42.40				
		38	TOP OF ROCKER SILL IN LINE W/FRONT "H" PT.	BEF AFT	119.09	33.92	26.55				
		39	TOP OF ROCKER SILL IN LINE W/REAR "H" PT. 4DR	BEF AFT	151.10	34.16	30.34				
		57	FRONT OCCUPANT SEAT C/L (WIDTH)	BEF AFT		16.70					
		67	REAR OCCUPANT SEAT C/L (WIDTH)	BEF AFT		18.00					
		72	ALIGNMENT & SET UP PT. (LEFT REARMOST FRAME)	BEF AFT	255.36	-16.70	29.04				
		82	ALIGNMENT & SET UP PT. (RIGHT REARMOST FRAME)	BEF AFT	255.59	16.45	29.18				
		84	"W.R.T." ON ROCKER SIDE OPPOSITE OF IMPACT	BEF AFT	132.96 132.96	-36.72 -36.72	23.36 23.33	0.00	0.00	-0.03	0.03
412			TOP (BODY) SIDED POINTS								
	L	09	END OF FRONT SPINDLE @ CENTERLINE(WHEELBASE)	BEF AFT	62.74 64.03	-33.30 -28.06	16.56 16.22	1.29	5.24	-0.34	5.41
	R	09	END OF FRONT SPINDLE @ CENTERLINE(WHEELBASE)	BEF AFT	62.80 66.15	33.31 38.38	16.09 16.73	3.35	5.07	0.64	6.11
	L	10	FRONT FENDER LIP(BOTTOM SIDE) @ AXLE C/LINE	BEF AFT	62.74 62.80	-38.31 -33.59	41.56 41.66	0.06	4.72	0.10	4.72
	R	10	FRONT FENDER LIP(BOTTOM SIDE) @ AXLE C/LINE	BEF AFT	62.80 69.01	38.64 41.29	41.72 39.65	6.21	2.65	-2.07	7.06
	L	16	LATCH/STRIKER BOLT @C/L OR U-BOLT@TOP @B PILLAR	BEF AFT	134.03 134.15	-34.44 -34.43	43.47 43.47	0.12	0.01	0.00	0.12

* VALUE WAS TRANSLATED

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DIMENSIONAL ANALYSIS REPORT

CRASH #: 10826

UNT NO	SIDE	PNT NO	DESCRIPTION	** POINT COORDINATES ** INCHES	LONG X	LAT Y	VERT Z	INCHES CHANGED X	Y	Z	D
	R	16	LATCH/STRIKER BOLT @C/L OR U-BOLT@TOP @B PILLAR	BEF	134.09	34.08	43.54				
				AFT	138.51	28.41	43.42	4.42	-5.67	-0.12	7.19
	L	86	REAR FENDER LIP (BOTTOM SIDE) @ AXLE C/LINE	BEF	219.34	-39.69	40.58				
				AFT	220.96	-35.83	39.37	1.62	3.86	-1.21	4.36
	R	86	REAR FENDER LIP (BOTTOM SIDE) @ AXLE C/LINE	BEF	219.40	39.72	40.62				
				AFT	221.56	43.03	42.02	2.16	3.31	1.40	4.19
	L	89	END OF REAR SPINDLE @ CENTERLINE(WHEELBASE)	BEF	219.34	-32.50	13.97				
				AFT	220.90	-27.99	13.99	1.56	4.51	0.02	4.77
	R	89	END OF REAR SPINDLE @ CENTERLINE(WHEELBASE)	BEF	219.40	32.45	14.02				
				AFT	221.42	36.48	15.62	2.02	4.03	1.60	4.78
650			BLANK UNIT POINTS								
		06	6 SEE COMMENTS PAGE	BEF	111.22	18.05	30.10				
				AFT							
		07	7 SEE COMMENTS PAGE	BEF	107.97	0.95	32.30				
				AFT							
		09	9 SEE COMMENTS PAGE	BEF	91.48	31.57	37.87				
				AFT							
		10	10 SEE COMMENTS PAGE	BEF	91.34	-3.09	36.87				
				AFT							
		12	12 SEE COMMENTS PAGE	BEF	88.34	3.32	34.81				
				AFT							
		13	13 SEE COMMENTS PAGE	BEF	93.06	-33.39	22.27				
				AFT							
		14	14 SEE COMMENTS PAGE	BEF	141.37	-33.39	22.32				
				AFT							
		15	15 SEE COMMENTS PAGE	BEF	99.17	33.34	22.22				
				AFT							

* VALUE WAS TRANSLATED

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CRASH #: 10826

UNT NO	SIDE	PNT NO	DESCRIPTION	** POINT COORDINATES ** INCHES	LONG X	LAT Y	VERT Z	INCHES CHANGED X	Y	Z	D
		16	16 SEE COMMENTS PAGE	BEF AFT	148.20	33.21	22.44				
		17	17 SEE COMMENTS PAGE	BEF AFT	102.61	32.49	43.48				
		18	18 SEE COMMENTS PAGE	BEF AFT	114.16	32.50	47.68				
		19	19 SEE COMMENTS PAGE	BEF AFT	125.51	33.25	41.23				
		20	20 SEE COMMENTS PAGE	BEF AFT	133.73	32.22	59.67				
		21	21 SEE COMMENTS PAGE	BEF AFT	135.10	26.25	71.68				
		22	22 SEE COMMENTS PAGE	BEF AFT	135.55	31.66	58.38				
		23	23 SEE COMMENTS PAGE	BEF AFT	135.00	32.01	32.38				
		24	24 SEE COMMENTS PAGE	BEF AFT	145.49	32.06	53.23				
		25	25 SEE COMMENTS PAGE	BEF AFT	111.20	18.05	30.11				
		27	27 SEE COMMENTS PAGE	BEF AFT	125.04	23.93	78.29				
		28	28 SEE COMMENTS PAGE	BEF AFT	125.20	27.13	76.67				
		29	29 SEE COMMENTS PAGE	BEF AFT	151.20	23.93	78.58				

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	X	Y	Z
				BARRIER FACE SECTIONALS			
418	S1		1	AFTER	-4.82	-30.82	32.00
			2	AFTER	-4.68	-30.07	31.99
			3	AFTER	-3.69	-28.85	32.00
			4	AFTER	-4.18	-27.64	32.01
			5	AFTER	-6.77	-25.93	31.99
			6	AFTER	-8.94	-24.78	31.99
			7	AFTER	-10.97	-23.52	31.96
			8	AFTER	-11.92	-22.02	32.02
			9	AFTER	-12.44	-20.57	32.00
			10	AFTER	-12.74	-18.85	31.95
			11	AFTER	-12.41	-17.40	31.99
			12	AFTER	-11.44	-16.05	32.00
			13	AFTER	-10.56	-14.23	31.98
			14	AFTER	-10.89	-12.89	31.99
			15	AFTER	-12.48	-9.37	31.99
			16	AFTER	-13.13	-4.98	32.05
			17	AFTER	-13.35	0.45	31.98
			18	AFTER	-13.57	21.10	32.03
			19	AFTER	-12.94	27.32	32.00
			20	AFTER	-12.30	28.25	31.98

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			21	AFTER	-12.10	28.68	31.99
			22	AFTER	-10.05	32.08	32.03
				BARRIER FACE SECTIONALS			
418	S2						
			1	AFTER	-12.31	-30.21	22.02
			2	AFTER	-13.58	-29.12	22.62
			3	AFTER	-13.82	-26.64	22.05
			4	AFTER	-14.00	-20.03	21.96
			5	AFTER	-14.30	-11.64	22.02
			6	AFTER	-14.66	9.44	22.02
			7	AFTER	-14.75	23.47	22.01
			8	AFTER	-14.77	30.07	21.98
			9	AFTER	-14.91	32.67	21.98
				BARRIER FACE SECTIONALS			
418	S3						
			1	AFTER	-17.08	-32.48	16.99
			2	AFTER	-18.44	-30.04	16.94
			3	AFTER	-18.54	-23.59	17.01
			4	AFTER	-18.67	-8.83	17.03
			5	AFTER	-18.77	12.48	17.02
			6	AFTER	-18.74	21.72	16.99
			7	AFTER	-18.58	29.18	17.00

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			8	AFTER	-17.63	32.00	17.01
423	S1			BELTLINE EXTERIOR SECT			
			1	BEFORE	67.56	34.47	53.17
			1	AFTER	73.16	39.25	51.56
			2	BEFORE	72.95	35.02	53.12
			2	AFTER	78.62	39.07	51.87
			3	BEFORE	82.23	35.55	53.17
			3	AFTER	84.59	38.79	51.91
			4	BEFORE	86.83	35.70	53.17
			4	AFTER	92.08	38.25	51.97
			5	BEFORE	97.39	36.05	53.16
			5	AFTER	92.54	38.80	51.53
			6	BEFORE	112.54	36.39	53.17
			6	AFTER	93.86	38.62	51.55
			7	BEFORE	126.98	36.64	53.16
			7	AFTER	95.07	38.39	51.50
			8	BEFORE	137.07	36.66	53.14
			8	AFTER	96.43	38.36	51.52
			9	BEFORE	137.77	36.68	53.14
			9	AFTER	99.88	38.23	51.53
			10	BEFORE	144.06	36.68	53.16
			10	AFTER	102.93	38.01	51.51
			11	BEFORE	151.49	36.62	53.13
			11	AFTER	104.50	38.02	51.49
			12	BEFORE	158.57	36.52	53.15
			12	AFTER	115.24	37.26	51.44

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			13	BEFORE	160.47	36.33	53.15
			13	AFTER	118.06	37.03	51.41
			14	BEFORE	173.15	36.55	53.16
			14	AFTER	124.00	36.58	51.40
			15	BEFORE	186.61	36.71	53.15
			15	AFTER	126.37	36.39	51.37
			16	BEFORE	198.95	36.74	53.17
			16	AFTER	130.45	36.08	51.36
			17	BEFORE	214.23	36.77	53.11
			17	AFTER	134.09	35.81	51.32
			18	BEFORE	220.32	36.72	53.05
			18	AFTER	137.10	35.59	51.38
425	S1			MIDLINE EXTERIOR SECT			
			1	BEFORE	66.94	36.76	47.19
			1	AFTER	72.86	40.39	45.61
			2	BEFORE	74.91	36.96	47.18
			2	AFTER	80.86	39.56	45.74
			3	BEFORE	86.07	37.39	47.20
			3	AFTER	92.01	38.79	45.88
			4	BEFORE	86.48	37.41	47.23
			4	AFTER	92.48	38.24	45.36
			5	BEFORE	97.02	37.64	47.20
			5	AFTER	95.04	37.97	45.46
			6	BEFORE	112.45	37.86	47.20
			6	AFTER	95.98	37.66	45.55
			7	BEFORE	125.65	37.93	47.20
			7	AFTER	98.09	37.52	45.61

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			8	BEFORE	136.95	37.99	47.18
			8	AFTER	99.11	37.49	45.45
			9	BEFORE	137.77	38.01	47.22
			9	AFTER	101.04	37.18	45.53
			10	BEFORE	144.18	37.93	47.21
			10	AFTER	102.77	36.82	45.63
			11	BEFORE	151.69	37.83	47.22
			11	AFTER	104.69	36.24	45.70
			12	BEFORE	158.43	37.73	47.27
			12	AFTER	106.29	35.88	45.73
			13	BEFORE	159.70	37.55	47.23
			13	AFTER	109.18	36.07	45.59
			14	BEFORE	173.07	37.75	47.25
			14	AFTER	118.05	35.87	45.46
			15	BEFORE	186.51	37.85	47.26
			15	AFTER	123.44	35.58	45.43
			16	BEFORE	199.06	37.86	47.26
			16	AFTER	131.20	34.95	45.39
			17	BEFORE	214.01	37.92	47.23
			17	AFTER	140.25	34.21	45.49
			18	BEFORE	220.21	37.94	47.20
			18	AFTER	141.27	34.24	45.44
427	S1			CHARACTER LINE EXT SECT			
			1	BEFORE	72.81	38.93	39.33
			1	AFTER	78.84	39.82	37.62
			2	BEFORE	74.74	39.05	39.40
			2	AFTER	80.87	39.62	37.62

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			3	BEFORE	76.93	38.85	39.33
			3	AFTER	83.13	39.13	37.69
			4	BEFORE	77.57	38.43	39.28
			4	AFTER	83.72	38.66	37.79
			5	BEFORE	79.82	38.15	39.37
			5	AFTER	87.82	37.96	37.97
			6	BEFORE	86.56	37.97	39.33
			6	AFTER	92.42	37.51	38.06
			7	BEFORE	86.91	37.97	39.36
			7	AFTER	92.97	36.26	37.75
			8	BEFORE	95.99	38.12	39.34
			8	AFTER	96.18	35.51	38.00
			9	BEFORE	111.82	38.29	39.33
			9	AFTER	97.28	34.85	38.24
			10	BEFORE	125.21	38.32	39.35
			10	AFTER	98.17	34.26	38.41
			11	BEFORE	136.29	38.29	39.36
			11	AFTER	99.32	34.22	38.32
			12	BEFORE	136.83	38.27	39.36
			12	AFTER	104.65	33.68	38.38
			13	BEFORE	143.54	38.16	39.37
			13	AFTER	106.86	33.43	38.39
			14	BEFORE	151.31	38.04	39.41
			14	AFTER	107.15	33.45	38.32
			15	BEFORE	157.62	37.90	39.35
			15	AFTER	107.98	33.53	38.20
			16	BEFORE	158.78	37.74	39.30
			16	AFTER	110.04	33.25	38.28

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			17	BEFORE	172.54	37.90	39.35
			17	AFTER	117.11	32.84	38.29
			18	BEFORE	185.82	37.97	39.37
			18	AFTER	125.90	32.24	38.27
			19	BEFORE	198.56	37.97	39.36
			19	AFTER	126.96	32.25	38.22
			20	BEFORE	206.44	38.93	39.32
			20	AFTER	128.68	32.06	38.25
			21	BEFORE	208.26	39.31	39.31
			21	AFTER	130.62	32.00	38.28
			22	BEFORE	210.31	39.41	39.30
			22	AFTER	132.97	32.03	38.06
429	S1			BOTTOM OF DOOR EXT SECT			
			1	BEFORE	89.51	37.00	23.50
			1	AFTER	94.99	28.95	23.52
			2	BEFORE	133.74	37.01	23.67
			2	AFTER	95.79	28.41	23.64
			3	BEFORE	134.06	36.92	23.85
			3	AFTER	106.67	27.37	24.03
			4	BEFORE	155.18	36.85	23.80
			4	AFTER	115.37	26.86	24.11
431	S1			ROCKER PANEL EXT SECT			
			1	BEFORE	89.55	36.40	23.59
			1	AFTER	94.57	28.81	23.72
			2	BEFORE	97.41	36.43	23.59
			2	AFTER	101.46	26.33	24.28

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			3	BEFORE	105.33	36.43	23.64
			3	AFTER	109.54	25.56	24.36
			4	BEFORE	116.06	36.43	23.65
			4	AFTER	120.23	24.67	24.55
			5	BEFORE	130.44	36.46	23.62
			5	AFTER	134.50	23.66	24.74
			6	BEFORE	142.06	36.41	23.56
			6	AFTER	146.13	23.30	24.87
			7	BEFORE	151.80	36.37	23.56
			7	AFTER	155.84	23.98	24.74
433	S1			ROOF LINE INTERIOR SECT			
			1	BEFORE	92.68	29.66	58.15
			1	AFTER	97.24	32.40	57.53
			2	BEFORE	110.50	24.71	72.27
			2	AFTER	114.64	26.62	72.56
			3	BEFORE	114.18	25.05	73.98
			3	AFTER	117.93	26.25	74.49
			4	BEFORE	127.62	24.61	75.05
			4	AFTER	128.50	25.66	75.25
			5	BEFORE	136.54	23.94	74.65
			5	AFTER	140.29	24.20	74.62
			6	BEFORE	153.34	23.78	74.90
			6	AFTER	0.00	0.00	0.00
			7	BEFORE	156.93	23.72	74.52
			7	AFTER	0.00	0.00	0.00
435	S1			BELT LINE INTERIOR SECT			

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			1	BEFORE	96.38	32.67	53.64
			1	AFTER	102.09	35.14	52.82
			2	BEFORE	109.34	32.65	53.67
			2	AFTER	103.98	34.94	52.72
			3	BEFORE	130.71	32.54	54.13
			3	AFTER	114.62	34.03	53.62
			4	BEFORE	135.32	32.30	54.57
			4	AFTER	135.89	31.78	53.83
			5	BEFORE	144.45	32.32	52.89
			5	AFTER	139.21	28.90	54.32
			6	BEFORE	153.31	32.33	53.54
			6	AFTER	146.47	29.79	53.66
437	S1			HIP INTERIOR SECTION			
			1	BEFORE	97.71	27.20	41.82
			1	AFTER	98.94	31.57	42.73
			2	BEFORE	93.74	32.66	42.00
			2	AFTER	109.78	31.01	42.82
			3	BEFORE	104.83	32.64	42.00
			3	AFTER	118.27	31.25	42.25
			4	BEFORE	112.75	32.73	42.09
			4	AFTER	122.83	31.17	42.31
			5	BEFORE	117.26	32.97	42.02
			5	AFTER	130.14	30.97	42.16
			6	BEFORE	127.67	32.76	42.04
			6	AFTER	132.72	29.63	42.42
			7	BEFORE	131.16	32.68	42.00
			7	AFTER	136.07	28.51	43.05

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			8	BEFORE	134.86	32.37	41.95
			8	AFTER	138.86	26.80	42.90
			9	BEFORE	139.80	32.64	42.04
			9	AFTER	144.13	27.50	42.25
			10	BEFORE	150.56	32.32	41.96
			10	AFTER	154.58	28.34	42.20
				1ST 50 FWD/HINGE PLANE			
438	S1						
			1	BEFORE	86.74	36.45	22.99
			1	AFTER	91.75	30.91	23.01
			2	BEFORE	86.73	36.98	23.46
			2	AFTER	91.90	31.12	23.44
			3	BEFORE	86.65	37.26	23.97
			3	AFTER	91.91	31.44	23.96
			4	BEFORE	86.67	37.43	24.93
			4	AFTER	92.01	31.91	24.80
			5	BEFORE	86.66	37.45	27.85
			5	AFTER	92.09	32.57	26.18
			6	BEFORE	86.69	37.54	30.74
			6	AFTER	92.18	32.88	26.57
			7	BEFORE	86.68	37.64	33.00
			7	AFTER	92.30	33.39	27.27
			8	BEFORE	86.69	37.82	35.31
			8	AFTER	92.51	34.63	29.85
			9	BEFORE	86.65	37.92	37.84
			9	AFTER	92.54	35.58	32.16
			10	BEFORE	86.65	37.96	41.99
			10	AFTER	92.64	37.16	36.79

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** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			11	BEFORE	86.57	37.74	45.13
			11	AFTER	92.65	37.05	40.09
			12	BEFORE	86.56	37.31	47.81
			12	AFTER	92.54	37.93	43.58
			13	BEFORE	86.56	36.67	50.30
			13	AFTER	92.37	38.63	48.30
			14	BEFORE	86.49	35.44	53.88
			14	AFTER	92.25	38.10	52.58
			15	BEFORE	86.52	34.70	55.41
			15	AFTER	92.19	37.78	54.00
			16	BEFORE	86.49	33.79	56.52
			16	AFTER	92.07	36.74	55.28
				SECT @ 2500 BODY LINE			
439	S1						
			1	BEFORE	98.39	37.04	23.53
			1	AFTER	103.38	27.53	24.03
			2	BEFORE	98.39	37.31	24.05
			2	AFTER	103.43	28.05	25.25
			3	BEFORE	98.41	37.45	24.68
			3	AFTER	103.43	28.87	26.56
			4	BEFORE	98.38	37.42	25.50
			4	AFTER	103.47	29.21	26.88
			5	BEFORE	98.35	37.26	27.20
			5	AFTER	103.45	29.36	27.22
			6	BEFORE	98.39	37.21	28.87
			6	AFTER	103.47	29.45	29.23
			7	BEFORE	98.39	37.30	31.08
			7	AFTER	103.51	29.96	32.10

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			8	BEFORE	98.39	37.40	32.50
			8	AFTER	103.56	30.37	33.25
			9	BEFORE	98.41	37.85	33.36
			9	AFTER	103.56	30.46	33.49
			10	BEFORE	98.35	38.05	36.46
			10	AFTER	103.66	31.66	35.95
			11	BEFORE	98.40	38.16	39.21
			11	AFTER	103.79	33.20	37.75
			12	BEFORE	98.38	38.16	41.79
			12	AFTER	103.86	33.74	38.33
			13	BEFORE	98.41	38.04	44.26
			13	AFTER	103.94	34.60	39.49
			14	BEFORE	98.42	37.44	48.43
			14	AFTER	104.04	35.46	41.19
			15	BEFORE	98.47	36.53	51.87
			15	AFTER	104.02	35.74	42.19
			16	BEFORE	98.50	35.77	54.05
			16	AFTER	104.04	36.48	45.89
			17	BEFORE	98.43	35.30	54.54
			17	AFTER	104.07	37.13	49.26
439	S2			SECT @ 2500 BODY LINE			
			1	BEFORE	98.41	32.64	29.68
			1	AFTER	103.59	27.89	30.60
			2	BEFORE	98.34	32.63	33.09
			2	AFTER	103.44	28.21	33.54
			3	BEFORE	98.37	32.67	38.39
			3	AFTER	103.61	29.92	39.25

CRTS 0010826
1066
220 T-A0803

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			4	BEFORE	98.41	32.68	46.58
			4	AFTER	103.89	32.59	46.36
			5	BEFORE	98.40	32.69	50.24
			5	AFTER	104.01	35.02	52.71
			6	BEFORE	98.41	32.69	48.61
			6	AFTER	0.00	0.00	0.00
			7	BEFORE	98.40	32.66	53.12
			7	AFTER	0.00	0.00	0.00
440	S1			VERT SECT. 20° FWD I/CL			
			1	BEFORE	119.38	37.05	23.59
			1	AFTER	124.33	26.44	24.26
			2	BEFORE	119.40	37.48	24.68
			2	AFTER	124.37	27.05	25.09
			3	BEFORE	119.39	37.47	25.51
			3	AFTER	124.36	27.47	25.88
			4	BEFORE	119.37	37.33	26.71
			4	AFTER	124.37	28.12	26.55
			5	BEFORE	119.35	37.16	28.53
			5	AFTER	124.43	28.65	27.00
			6	BEFORE	119.40	37.24	30.76
			6	AFTER	124.45	28.83	27.50
			7	BEFORE	119.42	37.52	32.59
			7	AFTER	124.50	29.09	30.96
			8	BEFORE	119.40	38.02	33.49
			8	AFTER	124.53	29.21	32.59
			9	BEFORE	119.39	38.27	37.71
			9	AFTER	124.54	29.44	33.30

CRTS 0010826
1067
221 T-A0803

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			10	BEFORE	119.40	38.31	40.26
			10	AFTER	124.54	29.46	33.52
			11	BEFORE	119.40	38.24	43.69
			11	AFTER	124.57	30.07	36.05
			12	BEFORE	119.39	37.90	47.31
			12	AFTER	124.63	31.00	37.26
			13	BEFORE	119.42	37.50	49.59
			13	AFTER	124.72	32.15	38.21
			14	BEFORE	119.39	36.73	52.50
			14	AFTER	124.77	32.83	38.81
			15	BEFORE	119.42	36.09	54.36
			15	AFTER	124.78	33.04	39.06
			16	BEFORE	119.40	35.69	54.80
			16	AFTER	124.78	33.29	39.54
			17	BEFORE	119.41	26.98	75.86
			17	AFTER	124.83	33.85	40.86
			18	BEFORE	119.41	26.12	76.63
			18	AFTER	124.88	34.46	42.37
			19	BEFORE	119.42	25.44	76.93
			19	AFTER	124.89	35.16	44.34
			20	BEFORE	119.40	23.63	77.50
			20	AFTER	124.95	35.74	46.39
				VERT SECT. 20" FWD I/CL			
440	S2						
			1	BEFORE	119.35	32.62	30.39
			1	AFTER	124.61	28.63	29.93
			2	BEFORE	119.38	33.07	35.10
			2	AFTER	124.68	28.58	32.36

CRTS 0010826
1068
222 T-A0803

ASC TO #: T- TA0803 DIMENSIONAL ANALYSIS REPORT CRASH #: 10826

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			3	BEFORE	119.41	32.75	48.20
			3	AFTER	124.79	29.23	34.73
			4	BEFORE	119.36	32.65	53.51
			4	AFTER	125.39	29.66	37.97
441	S1			VERT SECT. @ IMPACT C/L			
			1	BEFORE	135.79	37.02	23.71
			1	AFTER	140.75	25.30	24.33
			2	BEFORE	135.81	37.34	24.30
			2	AFTER	140.81	25.80	24.98
			3	BEFORE	135.81	37.45	25.27
			3	AFTER	140.81	26.55	25.76
			4	BEFORE	135.81	37.22	27.06
			4	AFTER	140.84	27.43	26.45
			5	BEFORE	135.78	36.94	29.41
			5	AFTER	140.86	27.79	26.76
			6	BEFORE	135.80	37.20	31.96
			6	AFTER	140.85	27.99	27.08
			7	BEFORE	135.62	37.89	33.75
			7	AFTER	140.86	28.06	27.59
			8	BEFORE	135.80	38.26	38.59
			8	AFTER	140.80	28.28	29.33
			9	BEFORE	135.84	38.31	42.56
			9	AFTER	140.81	29.09	31.47
			10	BEFORE	135.80	37.99	47.20
			10	AFTER	140.48	30.32	32.86
			11	BEFORE	135.77	35.99	55.18
			11	AFTER	140.98	31.17	36.26

CRTS 0010826
1069
223 T-A0803

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			12	BEFORE	135.69	34.59	59.32
			12	AFTER	141.03	31.63	37.61
			13	BEFORE	135.67	33.54	62.34
			13	AFTER	141.08	32.01	38.37
			14	BEFORE	135.64	32.30	65.73
			14	AFTER	141.12	33.28	40.03
			15	BEFORE	135.62	30.89	69.09
			15	AFTER	141.10	33.76	40.81
			16	BEFORE	135.65	29.31	72.34
			16	AFTER	141.10	34.00	41.41
			17	BEFORE	135.63	26.78	76.47
			17	AFTER	141.10	34.18	42.24
			18	BEFORE	135.65	24.61	77.82
			18	AFTER	141.23	34.24	45.37
			19	BEFORE	135.64	23.24	78.20
			19	AFTER	141.27	34.38	46.22
				VERT SECT. @ IMPACT C/L			
441	S2						
			1	BEFORE	135.85	32.39	35.79
			1	AFTER	140.48	25.67	35.89
			2	BEFORE	135.85	32.36	41.39
			2	AFTER	139.91	26.39	40.57
			3	BEFORE	135.82	32.35	45.27
			3	AFTER	139.57	26.98	44.05
			4	BEFORE	135.87	32.36	53.32
			4	AFTER	139.78	28.45	51.89
			5	BEFORE	134.79	31.00	62.14
			5	AFTER	139.56	28.91	54.42

CRTS 0010826
1070
224 T-A0803

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			6	BEFORE	134.19	27.74	70.36
			6	AFTER	138.95	28.96	63.04
			7	BEFORE	133.33	25.51	74.32
			7	AFTER	138.95	28.17	67.62
442	S1			VERT SECT 20" AFT I/CL			
			1	BEFORE	150.44	36.81	23.66
			1	AFTER	155.46	25.18	24.96
			2	BEFORE	150.47	37.04	24.01
			2	AFTER	155.35	25.92	26.47
			3	BEFORE	150.46	37.25	24.67
			3	AFTER	155.28	26.49	27.18
			4	BEFORE	150.41	37.24	25.78
			4	AFTER	155.23	26.86	27.58
			5	BEFORE	150.47	36.96	27.66
			5	AFTER	155.17	27.54	28.19
			6	BEFORE	150.48	36.77	30.16
			6	AFTER	155.06	28.14	28.68
			7	BEFORE	150.48	37.09	32.76
			7	AFTER	155.01	28.24	28.88
			8	BEFORE	150.49	37.56	33.63
			8	AFTER	155.04	28.24	29.75
			9	BEFORE	150.47	37.84	36.41
			9	AFTER	154.93	28.63	31.12
			10	BEFORE	150.51	38.05	39.08
			10	AFTER	154.59	29.46	32.60
			11	BEFORE	150.53	38.13	42.32
			11	AFTER	154.40	29.86	33.17

CRTS 0010826
1071
225 T-A0803

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			12	BEFORE	150.52	37.54	49.31
			12	AFTER	154.34	30.02	33.34
			13	BEFORE	150.42	36.76	52.73
			13	AFTER	154.29	30.47	34.77
			14	BEFORE	150.46	36.08	54.79
			14	AFTER	154.32	30.97	36.92
			15	BEFORE	150.52	35.50	55.26
			15	AFTER	154.35	31.19	38.11
			16	BEFORE	150.53	27.34	75.63
			16	AFTER	154.30	31.57	38.63
			17	BEFORE	150.52	25.99	77.08
			17	AFTER	153.85	33.34	40.97
			18	BEFORE	150.54	25.12	77.60
			18	AFTER	153.79	33.66	41.54
			19	BEFORE	150.57	21.44	78.46
			19	AFTER	153.76	33.76	42.15
				VERT SECT 20" AFT I/CL			
442	S2						
			1	BEFORE	150.51	32.24	39.90
			1	AFTER	154.15	27.23	36.45
			2	BEFORE	150.53	32.23	43.23
			2	AFTER	154.49	27.74	39.24
			3	BEFORE	150.53	32.44	45.91
			3	AFTER	154.82	28.52	43.18
			4	BEFORE	150.51	32.52	50.12
			4	AFTER	154.77	29.00	45.57
			5	BEFORE	150.51	32.27	52.05
			5	AFTER	154.53	30.17	49.92

CRTS 0010826
1072
226 T-A0803

ASC TO #: T- TA0803

DIMENSIONAL ANALYSIS REPORT

CRASH #: 10826

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			6	BEFORE	150.50	32.34	53.94
			6	AFTER	154.44	30.26	51.54
			7	BEFORE	150.49	32.27	52.75
			7	AFTER	154.72	30.78	53.52

ASC TO #: T- TA0803

DIMENSIONAL ANALYSIS REPORT

CRASH #: 10826

** COMMENTS **

ANY AUTOMATICALLY GENERATED COMMENTS APPEAR IN THIS BOX:

*** THIS DIMENSION SYSTEM UTILIZES THE RIGHT HAND RULE ***
from Front of Vehicle FACING REARWARD
+ = Rearward, Up, & Left (AMERICAN PASSENGER SIDE)
[Lateral Zero is Centerline of Vehicle]

%%%% THE " D " DIMENSION UNDER " INCHES CHANGED X Y Z " %%%%
%%% IS THE SCALAR (TRUE VALUE) DISTANCE CHANGE OF THE POINT %%%

REMINDER::: Paint a C/L stripe on tunnel from front seat to and including rear seat where applicable.

*** If this is a POLE IMPACT TEST, do NOT scribe cart edges. ***

ON SIDE IMPACTS FOR VEHICLES WITH A WHEELBASE OF 114 inches or less
SCRIBE (4)VERTICAL LINES on side of impact from ROCKER TO BELT LINE @:
(1) WHEELBASE C/L (2) 37" FORWARD OF WHEELBASE C/L
(3) 4" FORWARD OF WHEELBASE C/L (4) 29" REARWARD OF WHEELBASE C/L

ON SIDE IMPACTS FOR VEHICLES WITH A WHEEL BASE GREATER THAN 114 INCHES
SCRIBE (4)VERTICAL LINES on side of impact from ROCKER TO BELT LINE @:
(1) 20" (2) 53" (3) 86" REARWARD OF FRONT AXLE CENTER LINE
(4) @ WHEELBASE CENTER LINE

Scribe a vertical line @ the vehicle seating reference point.
Note:The vehicle seating reference point is defined as the theoretical position of the "H" point for the lowest & most rearward normal driving position.

Scribe 2 vertical lines. One 750mm (29.53") FORWARD & the second 750mm REARWARD of the vehicle seating reference point.

SCRIBE 3 VERTICAL LINES AT SGRP, FWD OF SGRP 750MM, RWD OF SGRP 750MM

BELT LINE (EXTERIOR SECTION) LOCATED @ 1st INCREMENTED 50mm BODY LINE BELOW GLASS/WEATHERSTRIP

MID LINE (EXTERIOR SECTION) LOCATED @ _____mm BODY LINE

CHARACTER LINE (EXTERIOR SECTION) LOCATED @ _____mm BODY LINE

ROCKER LINE (EXTERIOR SECTION) LOCATED @
1ST INCREMENTED 10mm BODY LINE BELOW DOOR OPENING

TIME AND DATE OF REPORT: 10-OCT-97 09:02:42

CRTS 0010826
1074
228 T-A0803

** COMMENTS **

ANY COMMENTS ENTERED BY OPERATORS APPEAR BELOW THIS LINE:

****

NOTE: L/S FRAME ALIGNMENT AT PAINT MARKS REAR POINT 2.18 WIDER THAN FRONT.

UNIT 650 POINTS AS FOLLOWS:

1 THRU 12 ACC'S

1. N/A
2. ""
3. ""
4. ""
5. ""
6. UND R/F SEAT @ SEAT BOLT
7. C/L TNL BETWEEN FRONT SEATS
8. N/A
9. R/A PLR
10. C/L TUNNEL @ DASH SENSOR
11. NOT AVAILABLE
12. C/L TUNNEL @ DASH BRKT

POST CRASH SET UP POINTS

13. L/F SILL
14. L/R SILL
15. R/F SILL
16. R/R SILL

ACC'S CON'T

17. R/S FRT DOOR FWD
18. R/S FRT DOOR MID
19. R/S FRT DOOR REAR
20. R/S FRT DOOR @ BELT
21. R/S REAR DOOR @ ROOF
22. R/S REAR DOOR @ BELT FWD
23. R/S REAR DOOR @ ROCKER
24. R/S REAR DOOR @ BELT REAR

25. R/S ROCKER FRT
26. R/S ROCKER REAR

CRIS 0010826 1075 229 T-A0803

** COMMENTS **

CRTS 0010826
1076
230 T-A0803

TEST AUTHORIZATION

TEST ORDER NUMBER: TA0803 PMC

TO: C. TOMAI CC: M. Tokarsky

REQUEST DATE: 8/14/97

REQUESTED COMPLETION DATE: 8/18 ASAP

REQUEST NUMBER: 16-R11-3849

PROBLEM NUMBER: n/a

REQUESTING ACTIVITY: Vehicle Safety & CAE Technology

TITLE OF TEST:	(speed)	(test description)
1999 PN96	33.5	27 degree RH Crabbed Side Impact (11 inch clearance)

PARTS DUE DATE: n/a

TYPE OF TEST: [X] VEHICLE [ ] BENCH [ ] LABORATORY [ ] OTHER

VIN # or IDENTIFICATION: F59243 -- 294W861 1FTEF27L5VKA68189

VEHICLE MODEL & YEAR: 1999 PN96

PROD. OR ENG. LETTER: n/a

TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOV. REGULATIONS: 8/18 X Yes PMC X No

DISPOSITION OF PARTS: n/a

PROCUREMENT REQ ? [ ] YES [ ] NO IF YES,GIVE CODE

ENGINE NO. DISPL. CARB:	TRANSMISSION:	AXLE RATIO:
5.4L V8 EFI	E4OD	n/a

TYPE OF FUEL: ~~Stoddard~~ None cert 8/19	CONVERTER:	IGNITION TIMING
	n/a	n/a

CRANKCASE OIL AND CAPACITY (L): n/a

TIRE SIZE AND PLY RATING: P235/70R-16 OWL A-T

REPORT CATEGORIES: [X] ENGINEERING [X] DATA [X] RAWDATA

MAIL REPORT TO: BLDG: PDC MAIL DROP: 188 ADDRESS: PMC 8/18

VEHICLE TEST WEIGHT:

FRONT	REAR	TOTAL
3466	2644	6110

TIRE PRESSURE (psi):

FRONT	REAR
29	32

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

1) Conduct: (speed) 33.5 (year) 1999 (vehicle) PN96 (level) SP (mode) 27 degree RH Crabbed Side Impact (11 inch clearance)

7-7-12 207

2) Velocity At Impact: 33.5
Remote Fire Time:
Positioning procedure: ST-15

3) Vehicle Year: 1999
Vehicle Line: PN96
Vehicle Level: SP

Additional Contacts:	(name)	(phone)	(pager number)
	P. Culkeen	59-44792	313/660-0792
	F. Naglich	33-78735	810/559-204

Estimated test cost = $30,000.00

Test Dev. Engineer: C. Mack 39-08063 M. Hamilton ~~39-07825~~ 800/955-7243

REQUESTING SECT. NO:	WORK ORDER/ WORK TASK:	ISSUED/ REQUESTED BY:	PHONE:	APPROVAL:	TEST TYPE:	RISK:	SIGN OFF DATE:
T-551	R11	P. Culkeen	59-44792	M. Tokarsky 59-42626	n/a	n/a	n/a

REQUESTER: DO NOT WRITE BELOW THIS LINE

WORK STANDARDS NUMBER:

TEST DESCRIPTION:

MANDATORY / OPTIONAL

TEST ORDER NO:	CATEGORY	RESP. SECTION:	EST. COMP. DATE:	PEO	TEST ENG. INITIALS:	UNIT CODE:	TEST ORDER DATE:	USER CODE:	PROD. CODE:

PERFORMING SECTION	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST. START DATE	EST. COMP DATE	STATUS	PERCENT COMPLETE
		$	$					
TOTAL		$						

General Request Information

Test Mode

33.5 mph
27 degree RH Crabbed Side Impact (11 inch clearance)

Test Objectives: Cert (C) Verif (V) Dev (D) Audit (A) Safety Guideline (SG)

PMC 8/18

	FMVSS 204 - Steering Wheel Displacement
	FMVSS 208 - Frontal Occupant Protection
	FMVSS 212 - Wind Shield Retention
V	FMVSS 214 - Side Impact Protection
	FMVSS 219 - Windshield Zone Intrusion
	Film Analysis
	Template
	FMVSS 301 - Fuel Ssytem Integrity
	Rollover
	Pressure Check
	FMVSS 303 - NGV Fuel System Integrity
D	Sensor Development
ES6	Door Openability
	ECE 32 Occupant Survival Space - Rear Impact
	ECE 33 Occupant Survival Space - Frontal Impact
	ECE 34 Fuel System Integrity
	ECE 94 Step II - Frontal Offset
	ECE / M / 133 STEP II - 300mm Barrier Side Impact

PMC 8/18

Primary Test Vehicle Information

Use (Target/Bullet):	Target
Model Year:	1999
Vehicle Program:	PN96
Vehicle Name:	F-150
Body Style:	S/L S/S 4X4
Build Number:	F59243
Tag Number:	294W861
VIN Number:	1FTEF27L5VKA68189
Fuel System Rated Capacity:	30
Prototype Level:	SP
Drive Side:	Left Hand Drive

<<< <<< END OF SHEET >>> >>>

Film Analysis & Photographic Services Request

Front Impact Film Analysis

_____ Head WRT Vehicle
_____ Shoulder WRT Vehicle
_____ Rocker WRT Ground

Other, Specify:

_____
_____

Side Impact Film Analysis

X Impact Speed
X Impact Angle
X Dummy Head wrt Vehicle Lateral
X Dummy Head wrt Vehicle Vertical
X Dummy Head wrt Vehicle Resultant
X Cart wrt Vehicle Impact Point
X Dummy Chest wrt Vehicle
X Cart wrt Vehicle Intrusion (overhead)
_____ Vehicle wrt Pole Intrusion (overhead)
_____ Dummy Head wrt Pole

Other, Specify:

_____
_____

Rear Impact Film Analysis

Other, Specify:

_____
_____

Still Photography

_____ Copies of Still Photo Proof Sheets Required
_____ Copies of Still Photos (4X5) Required
X Pre Test Documentation Photographs
X Post Test Documentation Photographs

High Speed Photographic Requirements

1 Copies of High Speed Film Required
_____ Copies of High Speed Film Required in VHS Format
_____ Digitization of Driver/ Passenger Kinematics
_____ Format

High Speed Cameras for Front Imapct

On-Board Vehicle

_____ Onboard - LEFT Occupant Over Shoulder
_____ Onboard - RIGHT Occupant Over Shoulder
_____ Onboard - Driver "D" Ring
_____ Onboard - Driver Retracter (Lower)
_____ Onboard - Driver Lower Torso to I/P Contact, From Rear, Cross Car
_____ Onboard - Passenger Lower Torso to I/P Contact, From Rear, Cross Car
_____ Onboard - Passenger "D" Ring
_____ Onboard - Passenger Retractor (Lower)
_____ Onboard - Driver Door (Left Knee to Bolster)
_____ Onboard - Passenger Door (Knees to I/P)
_____ Onboard - Photo Sonic (Intermediate Shaft) - From Floor
_____ Onboard - Photo Sonic (Intermediate Shaft) - Side View From Tunnel
_____ Onboard - Fiber Optics (Intermediate Shaft) - From Floor
_____ Onboard - Fiber Optics (Intermediate Shaft) - Side View From Tunnel

Floor Coverage

_____ Left Occupant Over Shoulder, On tripod, from rear, cross car
_____ Right Occupant Over Shoulder, On tripod, from rear, cross car
_____ Left Occupant Over Shoulder, In lights
_____ Right Occupant Over Shoulder, In lights
_____ Overall Left
_____ Barrier to B-Pillar Left
_____ Dummy Kinematics & Velocity Left
_____ Overall Right
_____ Barrier to B-Pillar Right
_____ Dummy Kinematics & Velocity Right
_____ Top of Barrier - Overall View of Windshield
_____ Top of Barrier - Driver
_____ Top of Barrier - Passenger
_____ Left Front Rail Extension Bumper Close-up
_____ Right Front Rail Extension Bumper Close-up

Overhead Coverage

_____ Overhead - Overall
_____ Overhead - A-Pillar Forward
_____ Steering Column Displacement
_____ Scale
_____ Resection

Pit Coverage

_____ Pit - Overall
_____ Pit - A-Pillar Forward
_____ Pit - L/R Frame Horns (Crisscross)
_____ Pit - L/R Front Rails #1 X/M Rearward
_____ Pit - Steering Gear Close-up
_____ Pit - Fuel Tank

_____ Pieces of Plex-Glass to be removed from pit.

High Speed Cameras for Side Impact

On-Board Vehicle

X Front Dummy from Vehicle Hood
X Front Dummy from Opposite Window Opening
X Rear Dummy from Opposite Window Opening
X Rear Dummy from Vehicle Trunk
X View of Front Seat to Show Dummy Interaction with Trim from Front (Fiber Optic)
_____ View of Front Seat to Show Dummy Interaction with Trim from Rear

Secondary Vehicle Coverage

X ON BOARD CART, Cart Centerline - View of Impact

Floor Coverage

X Full Left View of Impact
X Full Right View of Impact
X Front 3/4 View of Impact
X Rear 3/4 View of Impact
X View of Cart for Velocity determination

Pit Coverage

X Cart contact - view of impacted side of vehicle with cart contact
X Cart contact - overlap view of impacted side of vehicle with cart contact

Overhead Coverage

X Overall view of impacted vehicle side including cart
X view of impacted vehicle side focus on front door opening area

High Speed Cameras for Rear Imapct

Floor Coverage

_____ Overall Left
_____ Velocity Left
_____ Overall Right
_____ Velocity Right
_____ A-Pillar Forward Left
_____ A-Pillar Forward Right
_____ Left B-Pillar Rearward (Target)
_____ Right B-Pillar Rearward (Target)
_____ Left Side 45 Degree Angle of Contact Area (from rear)
_____ Right Side 45 Degree Angle of Contact Area (from front)

Overhead Coverage

_____ Overhead - Overall
_____ Overhead - A-Pillar Forward

_____ Overhead - B-Pillar Rearward

Pit Coverage

_____ Pit - Fuel Tank
_____ Pit - Overlap of Fuel Tank
_____ Pit - Filler Pipe

All Other High Speed Photography

_____
_____

<<< <<< END OF SHEET >>> >>>

Dimensional Analysis Request
Primary Vehicle

Frontal Impacts

	74		
	81		
	106	Control Points (CAR)	Exterior
	107		
	126	Collapse Distance Points	Exterior
	128	Frame/ St. Col / Eng. for Graphs (CAR)	Exterior
	130	Frame Standard Bottom (CAR)	Exterior
	132	Unitized Standard Bottom (CAR)	Exterior
	134	Drive Shaft Collapse	Exterior
	136	Standard Body Relative	Exterior/Interior
	138	Windshield (CAR)+R[31]C	Exterior
	140	Sill & Pillar	Exterior
	142	Shot-Glass	Exterior
	146	Header	Interior
	150	Steering Wheel Deformation/ Periphery	Interior
	153	Steering Column Mounts	Interior
	154	Steering Column Targets	Interior
	155		
	156	Seat Track to Floor Mounts	Exterior
	158	Seat to Track Mounts	Exterior
	160	Cowl Rotation	Exterior
	162	Floorpan Points	Exterior
	164	Knee Bolster	Interior
	166	Seat Belt Mounts	Interior
	168	Diagnal Strut	Interior
	170	Tunnel Hinge Pillar	Exterior
	172	Brake Bracket	Interior
	174	Instrument Panel Mounts	Exterior
	176	T-N-T Targets	Exterior/Interior
	177	Top Non-Sided & Body Sided	Exterior/Interior
	300		
	302		
	346		
	356		
	364		
	376		
	465	Plot 9 Sectional Profiles	
	506	Decoupling Column Collapse	Exterior
	507	P.R. Steering Column Collapse	Exterior
	508		
	640		
	641		
	642		
	647	Footwell Reduction	
		0	
		0	

Side Impacts

	404	Control Points (CAR)	Exterior
X	405	Control Points (TRUCK)	Exterior
X	409	Body Targets & Orientation Points (Wheel Lips)	Exterior
X	411	A B C Pillars	Interior
X	417	Pre-Crash Lateral Seat CL's, H-Pts, etc	Exterior/Interior
X	418	NHTSA Barrier face Profiles (Mid-Bumper, Mid-Stack, Top of Barrier)	Exterior
	419	European Barrier face Profiles (Mid-Bumper, Mid-Stack, Top of Barrier)	Exterior
X	421	Roof line exterior section	Exterior
X	423	Beltline exterior section (1st 50mm Body line below glass/weather strip)	Exterior
X	425	Mid-line exterior section (plan view @ 800 mm Body line)	Exterior
X	427	Character line exterior section (plan view @ 600 mm Body line)	Exterior
X	429	Bottom of door exterior section	Exterior
X	431	Rocker line exterior section (1st 10 mm Body line below door opening)	Exterior
X	433	Roof line interior section	Interior
X	435	Beltline interior section	Interior
X	437	Hip line interior section	Interior
X	438	Hinge Pillar exterior section (1st 50mm Body line forward of Hinge plane)	Exterior
X	439	2500 mm Body line interior and exterior sections	Exterior/Interior
X	440	Front H-Point Mid -Seat Location interior and exterior sections (per package)	Exterior/Interior
X	441	B-Pillar interior and exterior sections (1st 50mm Body line rearward of striker p	Exterior/Interior
X	442	Rear H-Point Location interior and exterior sections (per package)	Exterior/Interior
		0	
		0	

Rear Impacts

	207	Control Points Rear	Exterior
	224	Top (Body) Non-Sided	Exterior
	225	Top (Body) Sided	Exterior
	227	Rear Impact Standard Bottom	Exterior
	231	Muffler, Pivots & Deepwell (Unitized)	Exterior
	233	Muffler, Axle & Deepwell (Frame)	Exterior
	235	Sub Frame Mounts	Exterior
	238	Carbon Canister Tray	Exterior
	239	A, B, C Pillars (Exterior)	Exterior
		0	
		0	

<<< <<< END OF SHEET >>> >>>

CRTS 0010826

General Specifications
Secondary Vehicle or Cart

Hardware (Vehicle or Cart)

Use (Target/Bullet):	Bullet
Type (Vehicle/Cart):	NHTSA Side (Crab Cart)
Model Year:	
Vehicle Line:	
Model:	
Tag Number:	
VIN Number:	
Prototype Level:	
Drive Side:	None

Occupants

		Occupant 1	Occupant 2
Type		None	None
In-Vehicle Location			
Verify:	Seat Position Long		
	Seat Position Vert		
	Seat Back Angle		
Occupant Belted			

Target Conditions

Weight	Target	Acceptable Variance (+)	(-)
Front	3466	13	0
Rear	2644	13	0
Total	6110	25	0

Ride Height @ Test Weight **Measured**

Front: _____ From: _____

Rear: _____ To: _____

Special Instructions

_____

_____

Special Prep/Build Instructions
Primary Vehicle

Special Build Instructions

_____ Remove Side View Mirrors
_____ Remove Headrests
_____ Remove Hood
_____ Remove Arm rest
_____ Remove Bottom of Bumper Cover
_____ Cut Off Brake & Clutch Pedal
_____ Color Contrast Under Hood Components

Other, Specify:
__X__ Scribe line for R/H side of crabbed cart on vehicle.
_____

Pryo Restraints Usage

_____ Left Front Air Bag
_____ Right Front Air Bag
_____ Left Side Air Bag
_____ Right Side Air Bag
_____ Left Pyro Retractor
_____ Left Pyro Buckle
_____ Right Pyro Retractor
_____ Right Pyro Buckle

Other, Specify:

_____
_____

_____ Remote Fire Time:
(No fire time listed if sensor fired OR if no pyro restraints are used)

Special Pre-Test Preparation

Other, Specify:

_____
_____

<<< <<< END OF SHEET >>> >>>

CRTS 0010826

Occupant / ATD Request
Primary Vehicle

		Occupant 1	Occupant 2
Type		BIOSID	BIOSID
Instrumentation Level*		~~Verification Certification~~ Certification	~~Verification Certification~~ Certification
In-Vehicle Location		RF	RR
Verify:	***Seat Position Long***	mid track travel	fixed ~~mid track travel~~
	Seat Position Vert	if power, full down	if power, full down
	Seat Back Angle	21.0 degrees	21.0 degrees
Positioning Procdure		ST-15	ST-15
	Use Foot Rest		
	Take Seat Track Video		
	Special Positioning Instructions		
Dummy Adjustment	(arm angle)		
Occupant Belted		YES	YES

RMC 8/13 CEM 8/18

*See Instrumentation request for detailed instrumentation inforamtion.

<<< <<< END OF SHEET >>> >>>

Instrumentation and Data Processing Request

Primary Vehicle Structural Instrumentation - Frontal Impact

ACCELEROMETERS:	Long	Vert	Lat
Engine/Trans Upper			
Engine/Trans Lower			
Left Rocker at B-Pillar			
Right Rocker at B-Pillar			
Left Frame at B-Pillar			
Right Frame at B-Pillar			
Left A-Pillar Inside			
Right A-Pillar Inside			
Centerline Tunnel @ Dash			
Centerline Tunnel Middle			
Centerline Tunnel @ Seat Long Centerline			
Left Floor Pan Under Seat			
Left Door Inside Top			
Left Shock Tower			
Right Floor Pan Under Seat			
Right Door Inside Top			
Right Shock Tower			
Rad Support Top - Center			
#1 Crossmember Bottom			
#2 Crossmember Bottom			
Left Front Rail Forward of Sledrunners.			
Left Front Rail Forward of Shock Tower			
Right Front Rail Forward of Sledrunners.			
Right Front Rail Forward of Shock Tower			
Directly Below D.A. Point # 69			
Directly Below D.A. Point # 64			

Primary Vehicle Structural Instrumentation - Side Impact

ACCELEROMETERS:	Long	Vert	Lat
L/ A-PILLAR_INSIDE_@_ROCKER			
L/ A-PILLAR_INSIDE_@_HINGE			
R/ A-PILLAR_INSIDE_@_HINGE			
L/ F_DOOR_@_BELTLINE_MID			
L/ F_DOOR_OVER_ARMREST			
L/ F_DOOR_REAR_OF_SEAT_H-PT			
L/ F_DOOR_SPEAKER_HOLE			
L/ B-PILLAR_INSIDE_@_ROOF			
L/ B-PILLAR_INSIDE_@_BELTLINE			
L/ B-PILLAR_INSIDE_@_ROCKER			
L/ R_DOOR_@_BELTLINE_MID			
L/ R_DOOR_OVER_ARMREST			
L/ ROCKER_@_FRONT_SEAT_MID			
L/ ROCKER_@_REAR_SEAT_MID			
R/ ROCKER_@_FRONT_SEAT_MID			
R/ ROCKER_@_REAR_SEAT_MID			
FRONT_FLOOR_PAN_@_C/L			
FLOOR_XMBR_@_L/F_SEAT_C/L			
FLOOR_XMBR_@_R/F_SEAT_C/L			

____	C/L_TUNNEL_@_FRONT_SEAT	____	____	____
____	REAR_FLOOR_PAN_ABOVE_AXLE	____	____	____

Primary Vehicle Structural Instrumentation - Rear Impact

ACCELEROMETERS:	Long	Vert	Lat
____ Left Rocker Panel at "B" Pillar	____	____	____
____ Right Rocker Panel at "B" Pillar	____	____	____
____ Left Frame Rail at "B" Pillar	____	____	____
____ Right Frame Rail at "B" Pillar	____	____	____

OTHER STRUCTURAL ACCELS:	Long	Vert	Lat
X R/_F_DOOR _OVER_ARMREST	____	____	X
X R/_F_DOOR_REAR_OF_SEAT_H-PT	____	____	X
X R/_F_DOOR_SPEAKER_HOLE	____	____	X
X R/_B-PILLAR_INSIDE_UPPER	____	____	X
X R/_B-PILLAR_INSIDE_LOWER	____	____	X
X R/_F_DOOR_@_C/L_HEAD	____	____	X
X R/_F_ROOF_RAIL_@C/L_HEAD	____	____	X
X R/_R_ROOF_RAIL_@C/L_HEAD	____	____	X
X R/_FRT_SEAT_CUSHON_@C/L	____	____	X
X R/_FLOOR_UNDER_F_SEAT	____	____	X
X R/_ROCKER_@_A-PLR	____	X	X
X R/_ROCKER_@_B-PLR	____	X	X
X R/_ROCKER_@_C-PLR	____	X	X
X R/_FRAME_@_A-PLR	X	X	X
X R/_FRAME_@_B-PLR	X	X	X
X R/_FRAME_@_C-PLR	X	X	X
X P/U_BOX_FLOOR_@_R/_F_BOLT	X	X	X
X P/U_BOX_FLOOR_@_R/_R_BOLT	X	X	X
X R/_FRAME_@_F_P/U_BOX-BOLT	X	X	X
X R/_R_DOOR_@_BELTLINE_MID	____	____	X
X R/_R_DOOR_OVER_ARMREST	____	____	X
X R/_ROCKER_@_F_H-PT	____	____	X
X R/_F_DOOR_@_SHOULDER	____	____	X
X ENG/TRANS_TOP	X	X	X
X ENG/TRANS_BOTTOM	____	X	X
	7	11	25

Secondary Vehicle Structural Instrumentation

ACCELS:		Long	Vert	Lat	
X	MDB_CENTER_OF_GRAVITY	X	X	X	
X	MDB_LEFT_FRAME_RAIL	X	X	X	
X	MDB_RIGHT_FRAME_RAIL	X	X	X	
X	MDB_REAR_HONEYCOMB_@_C-L	X	X	X	
X	MDB_BUMPER_FACE_@_C-L	X	~~X~~	~~X~~	Delete CEM 8/18
X	MDB_BUMPER_FACE_@_L-S	X	~~X~~	~~X~~	
X	MDB_BUMPER_FACE_@_R-S	X	~~X~~	~~X~~	

	Long	Vert	Lat
Left Rocker Panel at "A" Pillar			
Right Rocker Panel at "A" Pillar			
Left Rocker Panel at "B" Pillar			
Right Rocker Panel at "B" Pillar			

OTHER SECONDARY VEHICLE ACCELS:	Long	Vert	Lat

Primary Vehicle Systems Instrumentation

SENSOR ACCELS:

	Long	Vert	Lat
_____ L/Rad Upper Front	_____	_____	_____
_____ C/Rad Upper Front	_____	_____	_____
_____ R/Rad Upper Front	_____	_____	_____
_____ C/L Tunnel Forward	_____	_____	_____
_____ C/L Tunnel Between Seats	_____	_____	_____
_____	_____	_____	0
_____	_____	_____	0

MONITOR AIR BAG SENSORS:

- _____ See Sensor Map
- _____ Monitor Closure of Each Specified Sensor
- _____ Monitor Closures of Single Pt Elect Sensor

MONITOR AIR BAGS STATUS:

- _____ Driver Squib Voltage
- _____ Driver Squib Current
- _____ Driver Bag Pressure
- _____ Passenger Squib Voltage
- _____ Passenger Squib Current
- _____ Passenger Bag Pressure
- _____ Passenger Inflator Pressure

RESTRAINT LOADS:

- _____ Left Belt Tongue - Strain Gaged
- _____ Left Pyro-Technic Buckle Squib Voltage
- _____ Left Pyro-Technic Buckle Squib Current
- _____ Right Belt Tongue - Strain Gaged
- _____ Right Pyro-Technic Buckle Squib Voltage
- _____ Right Pyro-Technic Buckle Squib Current
- _____ Left Lap Belt at Anchor Load
- _____ Left Torso Belt at Retractor Load
- _____ Left Torso Belt at D-ring Load
- _____ Right Lap Belt at Anchor Load
- _____ Right Torso Belt at Retractor Load
- _____ Right Torso Belt at D-ring Load

STEERING COLUMN:

- _____ Stroke Break Wires
- _____ Tilt Mechanism Break Wires
- _____ String Pot
- _____ Load Cell (5 Axis)
- _____
- _____

SWITCHES:

- _____ Engine to Rad Support left
- _____ Engine to Rad Support center
- _____ Engine to Rad Support right
- _____ Brake booster to shock tower

FUEL SYSTEM:

- __X__ Inertia Fuel System Cut-Off Switch

ANGULAR MOTION SENSORS

- _____
- _____

VEHICLE STRING POTS

- _____

OTHER VEHICLE SYSTEM INSTRUMENTATION

CRTS 0010826

Dummy Instrumentation - Internal

50H3 L/F

ACCELS:

____ Head C.G.	____ Long	____ Vert	____ Lat
____ Chest	____ Long	____ Vert	____ Lat
____ Pelvis	____ Long	____ Vert	____ Lat

LOAD CELLS:

____ Neck Upper Load	____ Fx	____ Fy	____ Fz
____ Neck Upper Moment	____ Mx	____ My	____ Mz
____ Neck Lower Load	____ Fx	____ Fy	____ Fz
____ Neck Lower Moment	____ Mx	____ My	____ Mz
____ Thoracic Load	____ Fx	____ Fy	____ Fz
____ Thoracic Moment	____ Mx	____ My	
____ Lower Lumbar Load	____ Fx	____ Fy	____ Fz
____ Lower Lumbar Moment	____ Mx	____ My	____ Mz
____ L/Femur Load			____ Fz
____ L/Femur Moment	____ Mx	____ My	____ Mz
____ R/Femur Load			____ Fz
____ R/Femur Moment	____ Mx	____ My	____ Mz
____ L/Up/Tibia Moment & Load	____ Mx	____ My	____ Fz
____ R/Up/Tibia Moment & Load	____ Mx	____ My	____ Fz
____ L/Low/Tibia Moment & Load	____ Mx	____ My	____ Fz
____ R/Low/Tibia Moment & Load	____ Mx	____ My	____ Fz

POTENTIOMETERS:

____ Chest Deflection	____ Disp
____ Knee Slider - Left	____ Disp
____ Knee Slider - Right	____ Disp

OTHER INTERNAL DUMMY INSTRUMENTATION:

_____

_____

Dummy Instrumentation - External

CONTACT SWITCHES:

____ L / Knee Contact
____ R / Knee Contact
____ Header

STRING POTS:

____ Pelvis
____ L / Knee
____ R / Knee

OTHER EXTERNAL DUMMY INSTRUMENTATION:

_____

_____

Dummy Instrumentation - Internal

50H3 R/F

ACCELS:

____ Head C.G.	____ Long	____ Vert	____ Lat	
____ Chest	____ Long	____ Vert	____ Lat	
____ Pelvis	____ Long	____ Vert	____ Lat	

LOAD CELLS:

____ Neck Upper Load	____ Fx	____ Fy	____ Fz
____ Neck Upper Moment	____ Mx	____ My	____ Mz
____ Neck Lower Load	____ Fx	____ Fy	____ Fz
____ Neck Lower Moment	____ Mx	____ My	____ Mz
____ Thoracic Load	____ Fx	____ Fy	____ Fz
____ Thoracic Moment	____ Mx	____ My	
____ Lower Lumbar Load	____ Fx	____ Fy	____ Fz
____ Lower Lumbar Moment	____ Mx	____ My	____ Mz
____ L/Femur Load			____ Fz
____ L/Femur Moment	____ Mx	____ My	____ Mz
____ R/Femur Load			____ Fz
____ R/Femur Moment	____ Mx	____ My	____ Mz
____ L/Up/Tibia Moment & Load	____ Mx	____ My	____ Fz
____ R/Up/Tibia Moment & Load	____ Mx	____ My	____ Fz
____ L/Low/Tibia Moment & Load	____ Mx	____ My	____ Fz
____ R/Low/Tibia Moment & Load	____ Mx	____ My	____ Fz

POTENTIOMETERS:

____ Chest Deflection	____ Disp
____ Knee Slider - Left	____ Disp
____ Knee Slider - Right	____ Disp

OTHER INTERNAL DUMMY INSTRUMENTATION:

_____

_____

Dummy Instrumentation - External

CONTACT SWITCHES:

____ L / Knee Contact
____ R / Knee Contact
____ Header

STRING POTS:

____ Pelvis
____ L / Knee
____ R / Knee

OTHER EXTERNAL DUMMY INSTRUMENTATION:

_____

_____

Dummy Instrumentation - Internal

BioSID ~~SID~~ PMC 8/18 R ~~R~~/F

ACCELS: R/F PMC 8/18

X	L/F_ DUMMY_HEAD_C.G.	X Long	X Vert	X Lat
X	L/F_ DUMMY_T1	X Long	X Vert	
X	L/F_ DUMMY_T1/	X Lat - L		X Lat - R
X	L/F_ DUMMY_T12	X Long	X Vert	
X	L/F_ DUMMY_T12/	X Lat - FRT		X Lat - REAR
X	L/F_ DUMMY_PELVIS	X Long	X Vert	
X	L/F_ DUMMY_PELVIS/	X Lat - L		X Lat - REAR
X	L/F_ DUMMY_THORAX/RIB/UP/	X Lat - FRT		X Lat - REAR
	L/F_ DUMMY_THORAX/RIB/C/	Lat - FRT		Lat - REAR
X	L/F_ DUMMY_THORAX/RIB/LO/	X Lat - FRT		X Lat - REAR
		9	4	6

LOAD CELLS:

	L/F_ DUMMY_ABDOMEN_LOAD_FRONT (EURO)			Fy		
	L/F_ DUMMY_ABDOMEN_LOAD_MID (EURO)			Fy		
	L/F_ DUMMY_ABDOMEN_LOAD_REAR (EURO)			Fy		
	L/F_ DUMMY_THORACIC_SPINE_LOAD		Fx	Fy		Fz
	L/F_ DUMMY_THORACIC_SPINE_LOAD		Mx	My		
	L/F_ DUMMY_LUMBAR_SPINE_LOAD		Fx	Fy		Fz
	L/F_ DUMMY_LUMBAR_SPINE_LOAD		Mx	My		
	L/F_ DUMMY_PUBIC_LOAD (EURO)			Fy		

POTENTIOMETERS: R/F PMC 8/18

Delete PMC 8/18 ~~X~~	L/F_ DUMMY_CHEST_DEFLECTION (SID)	X Disp
	L/F_ DUMMY_THORAX/RIB/UP/DISP (EURO)	Disp
	L/F_ DUMMY_THORAX/RIB/C/DISP (EURO)	Disp
	L/F_ DUMMY_THORAX/RIB/LO/DISP (EURO)	Disp

OTHER INTERNAL DUMMY INSTRUMENTATION:

PMC 8/18 ~~X~~ All lateral rib deflection channels PMC 8/18

BIO SID CHANNELS

- R/F THORAX/RIB/UP/DISP X
- R/F THORAX/RIB/C/DISP X
- R/F THORAX/RIB/LO/DISP X

Dummy Instrumentation - External

CONTACT SWITCHES: R/F PMC 8/18

X	L/F_ DUMMY_HEAD_SW
	L/F_ DUMMY_ARM_SW
X	L/F_ DUMMY_THORAX_SW
X	L/F_ DUMMY_ABDOMEN_SW
X	L/F_ DUMMY_H-POINT_SW
X	L/F_ DUMMY_THIGH_SW

OTHER EXTERNAL DUMMY INSTRUMENTATION:

BioSID ~~SID~~ PMC 8/18 R/R

Dummy Instrumentation - Internal

ACCELS: R/R PMC 8/18

X	L/R_ DUMMY_HEAD_C.G.	X	Long	X Vert	X Lat
X	L/R_ DUMMY_T1	X	Long	X Vert	
X	L/R_ DUMMY_T1/	X	Lat - L		X Lat - R
X	L/R_ DUMMY_T12	X	Long	X Vert	
X	L/R_ DUMMY_T12/	X	Lat - FRT		X Lat - REAR
X	L/R_ DUMMY_PELVIS	X	Long	X Vert	
X	L/R_ DUMMY_PELVIS/	X	Lat - L		X Lat - REAR
X	L/R_ DUMMY_THORAX/RIB/UP/	X	Lat - FRT		X Lat - REAR
	L/R_ DUMMY_THORAX/RIB/C/		Lat - FRT		Lat - REAR
X	L/R_ DUMMY_THORAX/RIB/LO/	X	Lat - FRT		X Lat - REAR

LOAD CELLS:

	L/R_ DUMMY_ABDOMEN_LOAD_FRONT (EURO)				Fy	
	L/R_ DUMMY_ABDOMEN_LOAD_MID (EURO)				Fy	
	L/R_ DUMMY_ABDOMEN_LOAD_REAR (EURO)				Fy	
	L/R_ DUMMY_THORACIC_SPINE_LOAD		Fx		Fy	Fz
	L/R_ DUMMY_THORACIC_SPINE_LOAD		Mx		My	
	L/R_ DUMMY_LUMBAR_SPINE_LOAD		Fx		Fy	Fz
	L/R_ DUMMY_LUMBAR_SPINE_LOAD		Mx		My	
	L/R_ DUMMY_PUBIC_LOAD (EURO)				Fy	

POTENTIOMETERS: R/R PMC 8/18

Delete PMC 8/18 ~~X~~	L/R_ DUMMY_CHEST_DEFLECTION (SID)	X Disp
	L/R_ DUMMY_THORAX/RIB/UP/DISP (EURO)	Disp
	L/R_ DUMMY_THORAX/RIB/C/DISP (EURO)	Disp
	L/R_ DUMMY_THORAX/RIB/LO/DISP (EURO)	Disp

OTHER INTERNAL DUMMY INSTRUMENTATION:

PMC 8/18 ~~X All lateral rib deflection channels~~

PMC 8/18
- R/R THORAX/RIB/UP/DISP
- R/R THORAX/RIB/C/DISP
- R/R THORAX/RIB/LO/DISP

Dummy Instrumentation - External

CONTACT SWITCHES: R/R PMC 8/18

X	L/R_ DUMMY_HEAD_SW
	L/R_ DUMMY_ARM_SW
X	L/R_ DUMMY_THORAX_SW
X	L/R_ DUMMY_ABDOMEN_SW
X	L/R_ DUMMY_H-POINT_SW
X	L/R_ DUMMY_THIGH_SW

OTHER EXTERNAL DUMMY INSTRUMENTATION:

[redacted]

<<< <<< END OF SHEET >>> >>>

Test Conditions - Final Prep

T.O. #: TA0803 PMC 8/18

Final Prep Contacts

ONE of these MUST be present during weigh-up & final prep

	Test Engineer	Request Engineer	Build Coordinator
Name:	M. Hamilton	P. Culkeen	F. Naglich
Phone:	39-07825	59-44792	33-78735
Pager:	800/955-7243	313/660-0792	810/559-2049

Tire Pressure

Front: 29 Rear: 32

Fuel System

Fuel Tank & System to Contain: ~~Standard~~ DO NOT FILL FUEL TANK CEM 8/19

~~28.5~~	=	~~95%~~	x	30
Fill Level	=	%	x	Capacity

Weight Targets

If required weight distribution is UNACHIEVABLE, please note allowable variances.

	Curb Weight	Requested Test Weight	Acceptable Test Weight Variance High (+)	Acceptable Test Weight Variance Low (-)	Actual Test Weight
Front:	3254	3466	12.5	0.0001	3469
Rear:	2216	2644	12.5	0.0001	2661
Total:	5470	6110	25	0.0002	6130 (+20)

Rated Luggage Load: 300

Simulate/Verify at Weigh-Up

Dummy Weight _____

On Board Camera Count _____

Weight Addition (Restrictions)

Do NOT place any weight in the following locations:

____ Air Cleaner	____ Engine	X Doors
____ Battery	____ Fan Box/Shroud	X Foot Wells - Front
____ Bottle - Coolant	____ Headlamp Opngs	X Foot Wells - Rear
____ Bottle - Washer	____ Radiator	____ Quarter Panels
Other:		____ Trunk Floor
____		
____		

Ride Heights

Measure @ Test Weight		Measure	
Front:	N/A	From:	N/A
Rear:	N/A	To:	N/A

Additional Remarks

Do not add more that 75lbs of steel shot to the engine.

<<< <<< END OF SHEET >>> >>>

SENSOR MAP

Program:	PN96
Vehicle ID:	F59243
Build Level:	1999 SP
Test Mode:	33.69 mph DSI

Instructions: 1) Delete sensors that don't apply. 2) Enter serial numbers in far right column. 3.) Deliver Sensor map and sensors to Crash Test Engineer

ACD Engr:	Mark Caron (313)495-2458
Siemens Engr:	Vicki Davis (810) 312-7916
Breed Engr:	Matt Villemure (800) 553-0625
Takata Engr:	Jeff Bennett (810) 361-1166

For exact sensor locations, see XL1F-012005-SM Revision D
Available from Crash Test Engineer Pat Cutkeen or Paul Culbertson

ID	Location Name	Type	Output	Nominal (+/-)	Max/Min	Serial No.	Rev
~~1~~	~~L/GOR BRKT LWR BRD1~~	~~Breed Mech~~	~~volts~~	~~6~~	0	7G12169797	
~~2~~	~~R/GOR BRKT LWR BRD1~~	~~Breed Mech~~	~~volts~~	6	0	9A12262465	
~~3~~	~~L/RAD LWR FRT BRD1~~	~~Accel~~	~~Tmax~~				
~~4~~	~~R/RAD LWR FRT BRD1~~	~~Accel~~	~~Tmax~~				
5	L/RAD UP FRT BRKT	Accel	Tmax				
6	C/RAD UP REAR BRKT	Accel	Tmax				
7	R/RAD UP FRT BRKT	Accel	Tmax				
~~8~~	~~L/GOR BRKT LWR SENSOR~~	~~Accel~~	~~Tmax~~				
~~9~~	~~R/GOR BRKT LWR SENSOR~~	~~Accel~~	~~Tmax~~				
12	C/RAD LWR FRT BRKT	Accel	Tmax				
~~13~~	~~L/GOR BRKT UPR BRKT~~	~~Accel~~	~~Tmax~~				
~~14~~	~~R/GOR BRKT UPR BRKT~~	~~Accel~~	~~Tmax~~				
17	UND L/F SEAT @ L/F BOLT BRKT	Accel	Tmax				
18	UND L/F SEAT @ L/R BOLT BRKT	Accel	Tmax				
21	C/L TNL BETWEEN F/SEATS BRKT	Accel	Tmax				
22	C/L TNL @ DASH ACD1	ACD RCM DDR	volts	0.0(0.6)	5	RCM - DDR - 78 - 3 - 016	D
22a	C/L TNL @ DASH ACD2	ACD RCM DDR	volts	0.0(0.6)	5	(SM004)	D
22b	C/L TNL @ DASH ACD3	ACD RCM DDR	volts	0.0(0.6)	5	"	D
22c	C/L TNL @ DASH ACD4	ACD RCM DDR	volts	0.0(0.6)	5	"	D
22d	C/L TNL @ DASH ACD5	ACD RCM DDR	volts	0.0(0.6)	5	"	D
22e	C/L TNL @ DASH ACD6	ACD RCM DDR	volts	0.0(0.6)	5	"	D
22f	C/L TNL @ DASH ACD7	ACD RCM DDR	volts	0.0(0.6)	5	"	D
22g	C/L TNL @ DASH ACD8	ACD RCM DDR	volts	5.0(0.6)	5	"	D
23	R/A-PLR IN ABOVE HINGE ACD1	ACD RCM INT2	volts	2.0(0.6)	5	RCM - INT2 - 125	
23a	R/A-PLR IN ABOVE HINGE ACD2	ACD RCM INT2	volts	2.0(0.6)	5	(SM002)	
23b	R/A-PLR IN ABOVE HINGE ACD3	ACD RCM INT2	volts	2.5(0.6)	5	"	
23c	R/A-PLR IN ABOVE HINGE ACD4	ACD RCM INT2	volts	2.5(0.6)	5	"	
23d	R/A-PLR IN ABOVE HINGE ACD5	ACD RCM INT2	volts	2.0(0.6)	5	"	
23e	R/A-PLR IN ABOVE HINGE ACD6	ACD RCM INT2	volts	2.0(0.6)	5	"	
23f	R/A-PLR IN ABOVE HINGE ACD7	ACD RCM INT2	volts	3.3(0.6)	5	"	
23g	R/A-PLR IN ABOVE HINGE ACD8	ACD RCM INT2	volts	5.0(0.6)	5		
24	C/L TNL @ DASH SENSOR	Accel	Tmax				
25	R/A-PLR IN ABOVE HINGE SENSOR	Accel	Tmax				
26	C/L TNL @ DASH BRKT	Accel	Tmax				
27	R/A-PLR REINF ABOVE HINGE BRK	Accel	Tmax				
28	L/A-PLR REINF ABOVE HINGE BRK	Accel	Tmax				
~~29~~	~~C/L TNL @ DASH TAKATA1~~	~~Takata ECS~~	~~volts~~	~~1.18~~	~~10~~	A3	C
~~29a~~	~~C/L TNL @ DASH TAKATA2~~	~~Takata ECS~~	~~volts~~	~~1.18~~	~~10~~	"	C
~~30~~	~~C/L TNL @ DASH BREED~~	~~Breed ECS~~	~~volts~~	~~5.0(0.6)~~	~~5~~	FRACS-310-093	

Delete PMC 8/18

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Eric Kesler x36541 Ford ACD
Created: 3/4/97
Revised: 3/4/97

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Filename: F59243.XLS
Page 1 of 1

CRTS 0010826

T.O. TA0803

Side Impact Barrier Test Data Sheet

Crash Number 10826 Test Date 9/10/97

Impact Velocity 33.83 MPH Barrier Lot #

MDB Tire Pressure

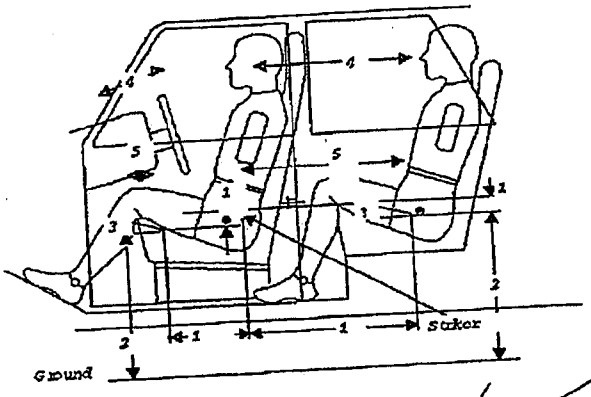
LF	RF
LR	RR

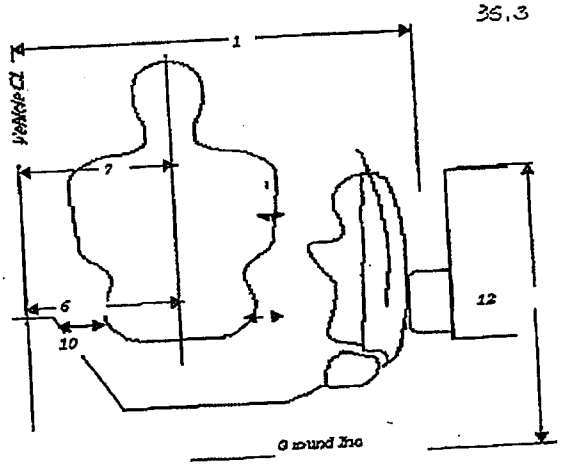
Vehicle Weight

LF	RF
LR	RR
Total	

Occupant/Vehicle Data		Front	Rear
Dummy Serial Number		D156	D153
Seatback Angle - Barrier Measurement/(DA)		21.2	Fixed
Dummy to Interior/door H-point (+/- 0.5 inch required)	Vertical	-.4	+.4
Above/Forward (+) Below/Rearward (-)	Longitudinal	+.1	-.1
1. H-Point to Door Striker	Vertical	+1.8	-1.1
Above/Forward (+) Below/Rearward (-)	Longitudinal	+14.9	-18
2. H-Point to Ground (vertical)		36	37.5
3. Pelvic Angle		21.8	10.8
4. Nose to Upper Steering/ Headrest (shortest)	to I/P	26.5	13.5
5. Abdomen to lower steering/seatback (horizontal)	to I/P	17.8	16.8
6. Pelvis centerline to Vehicle centerline (lateral)		15.8	18.3
7. Chest centerline to Vehicle centerline (lateral)		15.7	18.2
Seat centerline to Vehicle centerline (lateral) (DA)		16	18
8. Chest to Beltline (lateral, shortest)		9.2	6.5
9. Pelvis to H-Point (lateral)		7.9	6.6
10. Pelvis to nearest inboard hard point (lateral)			
Left Wheel lip height (vertical to ground)		34.8	34.9
Right Wheel lip height (vertical to ground)		35.9	35.7
11. Vehicle centerline to barrier face (lateral)			
12. Barrier Top to Ground @ Pullback (Vertical)		33.2	
Impact Mark relative to Target	+ above/fwd - below/rear		

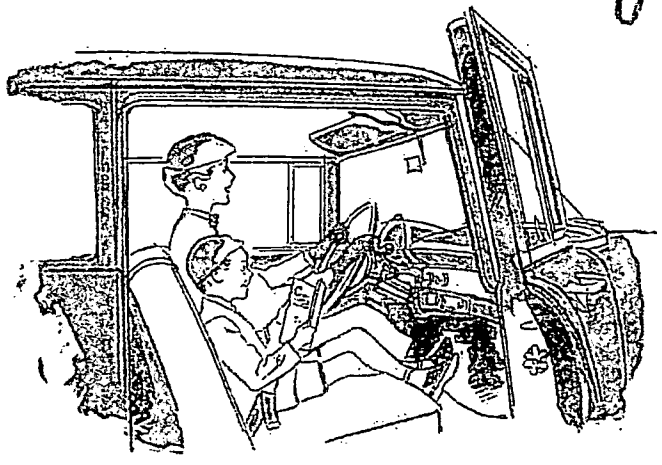
35.3





Front		Rear	
L	17.8 / 17.9	L	14.4 / 14.5
V	36.0 /	V	37.1 / 37.5

FORD Lifeguard Design



...what it can mean to you and yours

Why Ford is dedicated to Safety

More than two years ago, Ford undertook a program of research and testing to determine the causes of accident injuries . . . so that a safer car could be built.

Safety "accidents" were staged—accidents wherein instruments and cameras recorded and measured the reaction of car "occupants" as well as the behavior of the car itself. Many thousands of dollars were spent destroying *property* in order to find out more about protecting people.

Simultaneously, Ford engineers consulted pioneers in the field of crash injury research at Universities, at Medical Colleges, and at State Police headquarters.

The research of these men and institutions who have worked in many cases without remuneration to save human life and lessen passenger injuries, has been invaluable to Ford's development of Lifeguard design—the first major contribution to driver and passenger safety in accidents. Grateful acknowledgment is hereby made to these pioneers:

Hugh de Haven—Father of crash injury research in the aircraft field.

Medical organizations, State Police and Departments of Public Health reports from Arizona, Connecticut, Indiana, Maryland, Minnesota, North Carolina, Vermont, Virginia and the city of Minneapolis.

John D. Moore and his colleagues—Who tabulate, analyze and interpret the above reports for the research program of the Cornell Medical College.

Dr. Frank Mayfield and his colleagues—Sub-committee on Traffic Injury Prevention of the Committee on Trauma, American College of Surgeons.

Pennsylvania Turnpike Authority—For accident analysis.

J. H. Mathewson and his colleagues—University of California, Los Angeles.

Dr. E. Arnold Gilreath and his colleagues—Committee on Trauma, American College of Surgeons.

Dr. Fletcher Woodward and his colleagues—American Medical Association's Safety Committee.

Dr. Ross A. McFarland and his associates—Harvard School of Public Health.

Lt. Col. John P. Stapp, U.S.A.F.(MC)—Chief, Aero Medical Field Laboratory, Holloman Air Development Center, Holloman Air Force Base, New Mexico.

Edward R. Dye and his colleagues—Cornell Aeronautical Laboratory.

Neil H. Dearborn and his colleagues—National Safety Council.

In this booklet you will see the tangible results of this research . . . you will see why the 1956 Ford, with Lifeguard design, makes a safer contribution to driver and passenger protection.

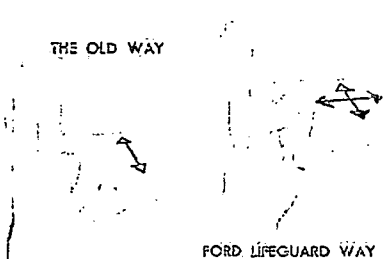
Ford pioneers Lifeguard Double-Grip Door Latch

You're far more safe if you stay IN the car

Surprising as it may seem, accident statistics show that you're safer if you are able to stay in the car in an accident than if you're thrown out . . .

In addition, Ford research reveals when doors stay closed, they reinforce the roof in the event of roll-overs. They keep the body a unit . . . retain its strength.

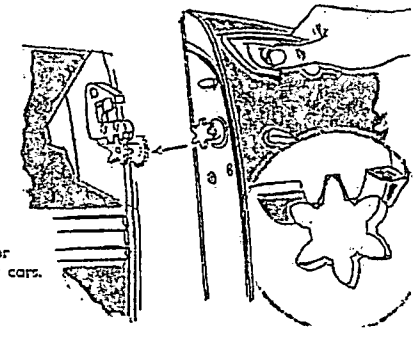
So, the problem was to design a door latch which would give added protection against the door springing open—whether locked or not—when the door frame "stretches," as it is apt to do in a collision.



Ford designed an interlocking striker plate to overlap the door latch rotor to reduce the possibility of this happening. In effect it works like the hand clasp at left.

The steel used in the interlocking striker plate is one of the strongest types available—high-tensile *chrome-molybdenum* steel.

Ask your Ford Dealer to show you this door latch, now standard equipment on all Ford cars.



YOUNG FUNERAL HOME
109 Yemassee Hwy
Post Office Box 338
Yemassee, South Carolina 29945
(843) 589-2555

Deceased: Sheriff Benjamin Riley

Date of Death: August 29, 2007 Date of Statement: August 31, 2007

STATEMENT OF FUNERAL GOODS AND SERVICES SELECTED

Charges are only for those items that you selected or that are required. If we are required by law or by a cemetery or crematory to use any items, we will explain reasons in writing below.

A. Charge for Services Selected

Professional Services

Basic Services of Funeral Director and Staff	$ 1660
Embalming	665
Other preparation	175

Facilities and Equipment and Staff

Use of Facilities/Preparation Room/Viewing	$ 125
Use of Equipment/Staff Gravesite	570

Transportation

Transfer of Remains to Funeral Home	$ 175
Hearse	350
Limosine Service	500
Utility Vehicle	-0-

Total of Services Selected ..... $ 4220

B. Charge for Merchandise Selected $ 2497

(Jewel Mint) Rosetan 20 ga

Outer Burial Container ..... $ 1150
(Titan- Doric)

Total of Merchandise Selected.....$ 3647

C. CASH ADVANCES

SC Sales Tax	(7%) on merchandise	$ 255
8 ½ X 11 Booklet	1000 copies @ 1.65	$ 1650
Death Certificates	5 copies $12.00 5x$3.00.....	
Total Cash Advances.....		$ 1905

SUMMARY

Total Funeral Home Charges.....	$ 7867
Sales Tax on merchandise (SC 7%).....	255
Cash Advances.....	$ 1905
COMPLETE TOTAL.....	$ 10027

Disclosures

If you selected a funeral that may require embalming such as a funeral with viewing, you may have to pay for embalming. You do not have to pay for embalming you did not approve. If you selected arrangements such as a direct cremation or immediate burial, if we charge for embalming, we will explain below.

Reason for embalming_____

If any law, cemetery or crematory requirements have required the purchase of any items listed, the law or requirement is explained below.

ACKNOWLEDGEMENT AND AGREEMENT

I (We) Authorize YOUNG FUNERAL HOME to perform services, furnish goods and incur outside charges specified on this statement.

Signed X Dayna A. Riley

Social Security No._____

Address_____

City_____

Zip_____ Telephone_____

Co-Signed_____

Acceptance: This funeral establishment agrees to provide all services, merchandise and cash advances indicated on this statement.

DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) Thru:	2009
Schedule Number:	7-7-12

Inter Office

Truck Operations

September 14, 1989

LIGHT TRUCK TEST SUMMARY OF CRASH 7290

To: S. L. Von Foerster
B. W. Miller
J. R. Saieg
J. Seisser
S. E. Simon

cc: S. M. Aquinto
H. K. Singh
R. I. Liljestrand
J. I. Goodman
D. G. Wheatley

Program: 1992 F-SERIES/BRONCO 208 DEVELOPMENT

Test Parameters:

- Vehicle Model - F-150 4X2 (92 Mechanical Development Vehicle)
- Vehicle No. - 301T409 FBMP02
- Test Weight Condition - MAX Options
- Crash Mode - 30 Deg. Frontal Angular Right
- Impact Speed - 31 MPH

Objective: To Evaluate the Dynamic Impact Performance of the Subject Vehicle Relative to:

- FMVSS 208 - Occupant Crash Protection (Docket No. 71-14; Notice 53, effective date 9-1-91)
- FMVSS 301 - Fuel System Integrity (Docket 73-20; Notice 9, effective 9-1-76)

Conclusions:

- This test vehicle met all the FMVSS 208 Injury Criteria Corporate Objectives. FMVSS 208 Injury Criteria results are summarized on sheet 2.
- This test vehicle met the at impact requirements of FMVSS 301. A post impact pressure check was made inlieu of a static rollover.

Concurred: Ronald N. Hazzard R. N. Hazzard Signed: D. L. Patterson D. L. Patterson

SUMMARY OF TEST RESULTS CRASH 7290

Requirements Performance

FMVSS 208

CRITERIA	REQUIREMENT 1/	OBJECTIVE 2/	DRIVER	PASSENGER
HIC	1000 36 ms CUT-OFF	700 36 ms CUT-OFF	130	63
CHEST G'S	60 G's MAX 3ms CUT-OFF	50 G's MAX 3 ms CUT-OFF	24.3	23.0
FEMURS AXIAL LOAD	2250 lbs MAX COMPRESSION	1600 lbs MAX COMPRESSION		
LEFT			608	179
RIGHT			150	228

1/ 30 MPH Impact Speed FMVSS 208 Test Requirements.
2/ 35 MPH Impact Speed Corporate Safety Guideline Objectives (average of two (2) tests).

FMVSS 301

Impact & 30 Minute Period Following Impact		Engine Fuel System	M/S Fuel System	A/A Fuel System	Total
. Max. fuel loss of 1 oz. by wt. during impact.		0	0	0	0
. Max. fuel loss of 5 oz. by wt. during the 5 min. period immediately following cessation of motion.		0	0	0	0
. Max. fuel loss of 1 oz. by wt. during any 1 min. interval of the remaining 25 min. of test period.		0	0	0	0
Static Rollover					
. Max. fuel loss of 5 oz. by wt. during the 1st 5 min. of testing at each 90° increment.	90° 180° 270° 360°	STATIC ROLLOVER NOT PERFORMED VEHICLE WAS PRESSURE TESTED AFTER IMPACT.			
. Max. fuel loss of 1 oz. by wt. during any 1 min. interval of the remaining test period at each 90° increment.	90° 180° 270° 360°				
Leakage Source(s): None					

POST TEST OBSERVATIONS CRASH 7290

Frame/Chassis:

- Front of frame horns both folded towards the left side of the vehicle.
- The 1A crossmember attachment brackets remained attached to the frame hornes.

Body:

- Both "B" pillars were deformed in the area of the "D" ring. The deformation was less severe than seen on 35 MPH frontal impacts.
- The right door came open during the impact.

Steering Column:

- Steering column intermediate shaft did not decoupled during impact.

Driver Kinematics/Restraints:

- Driver Belt payout at the D ring was ≃ 2.4" @ 141 ms.
- Dummy head contacted the right edge of the steering wheel wheel hub cover.
- Driver knees contacted instrument panel adjacent to steering column. The Azdele close out panel was retained by its attachments.

Passenger Kinematics/Restraints:

- Passenger Belt payout at the D ring was ≃ 2.3" @ 136 ms.
- The passengers knees contacted the glove box door in the modified phase 0 I/P.
- The passenger head did not contact the I/P.

CRASH TEST # 7290

PAGE(S) #4

THESE PAGES WERE MISSING AT TIME OF SCAN.

DETAILED SUMMARY OF LIGHT TRUCK CRASH #7290

Test Information:

Crash Mode: FAR	Impact Spd: 31.0 MPH
Crash Date: 09/22/89	Rollover Date: N/A

Vehicle Information:

Build No.: FBMP02 R2402		Tag #: 301-T-409
Model: F-150 4X2 R/C S/S		Wheelbase: 3378 mm
Engine: 5.8 L EFI	Transmission: E4OD	Driveline: 1-PIECE
GVWR: 6250 LBS.	Frt. GAWR: 3250 LBS.	Rear GAWR: 3776 LBS.
Bumper types: SIMULATED 92 (FRONT) NONE (REAR)		
Frame Gage: 0.146"		
Tire Size: 235/75R15		

Test Weight:

PROJECTED		ACTUAL	
. Front	2733	. Front	2732
. Rear	2339	. Rear	2343
. Total	5072	. Total	5075

Instrumentation/Ballast Weight:

. 100 lbs. instrumentation (estimated)
. 350 lbs. over rear axle
. 200 lbs. in engine

Significant Options:

. Power Steering
. Power Brakes

Vehicle Collapse:

Dynamic Collapse - Left: N/A	Right: 36.0" @ 84 ms

Note: Dynamic collapse numbers are estimates based on the time lateral movement across the barrier face began (84 ms).

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Free Disk Space: 278528

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LOGO	.OJ	304	01/27/89	10:29	OLD-NEW	.JOB	5712	08/23/89	14:40
OLD-NEW	.REV	6282	09/26/89	10:18	OLD_NEW	.926	1671	09/29/89	16:19
PHOTO	.LST	2217	05/10/89	07:33	ROSTER	.C-W	11993	05/31/89	12:13
SFDP	.BOX	1580	08/11/89	07:57	STORAGE	.	2760	08/04/89	06:34
UPDATE	.JOB	4116	06/08/89	21:22					

FINAL TEST REPORT

Engineering Technology Services Office
Car Product Development

CONFIDENTIAL

"RECORD COPY"
Schedule No. 7-7-12
Retain Until 2010

TO: R. N. Hazzard

Test Order No. T-13080
Work Task W. O. No. T9L13
Test Date 9-22-89
Date Reported 6-22-90
Sheet 1 of 90

SUBJECT: Crash Test 7290 (30° Right Front Fixed Barrier Impact at 31.2 ± 0.4 mph, 50.2 ± 0.6 km/h) - 1992 F-150 (4X2) Regular Cab

REQUESTED BY: Emission, Fuel Economy and Safety Department, Light Truck Engineering Office - D. L. Patterson

OBJECT: To obtain development data relative to FMVSS 208, 301 and safety design guideline door openability.

SUMMARY OF TEST RESULTS:

- See Section 1.0 for injury criteria data.
- See Section 2.0 for fuel spillage data.
- See Section 3.0 for post-impact door openability data.

L. M. Johnson
Product Test Engineer

Concur: T. H. Parkins
Unit Supervisor
Safety Test Engineering Section

VEHICLE DATA:

Make and Model	1992 F-150 (4X2) Regular Cab
Wheelbase	133.5 in (3378 mm)
ID Numbers	1FTEF15H4KLA31858, 301-T-409, R2402
Power Train	5.8L, EFI, 49 States Engine, Automatic Transmission, One-Piece Driveshaft (E40D)
Fuel Tank(s)	Usable Capacity: 19.0 gal. (71.9L) - Midship 18.2 gal. (68.9L) - Aft Axle Test Condition: The "run-dry" tank(s) were filled with red-dyed Stoddard solvent to 95% of its rated usable capacity.
Front Seat(s)	Type: Bench Cover: Vinyl Tracks/Position: 2-Way Manual/ Mechanical Mid Seat Backs/Position: Adjustable/17° Rear of Vertical Head Restraints/Position: None
Restraint System	LF: 3-Point Continuous Loop Active Belt RF: 3-Point Continuous Loop Active Belt
Occupants	LF & RF: 50th percentile male, Hybrid II, Instrumented
Test Weight	Front: 2732 lb (1239 kg) Rear: 2343 lb (1063 kg) Total: 5075 lb (2302 kg)
GVWR	6250 lb (2835 kg)
Tires	Front: P235/75R15 35 psi (241 kPa) Rear: P235/75R15 35 psi (241 kPa)
Spare Tire Mounting	Removed
Significant Content or Accessories:	Power Steering, Power Brakes, Fixed Antenna

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 16, 1989.

. Occupant Crash Protection, ST-25 dated May 19, 1989.

. CFI and EFI Fuel Systems - Except Front Wheel Drive Vehicles Stoddard Solvent Fill, ST-11 REF. 4 dated November 8, 1982.

. Post-Impact Door Opening Evaluation, Proposal P4-103D dated July 25, 1983.

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 CN54017-7786 through -7844.

TEST RESULTS:

1.0 Occupant Injury Data (FMVSS 208)

	L. F. Dummy	R. F. Dummy
Head Injury Criteria (HIC)	130	63
Interval t_1	103 ms	119 ms
t_2	139 ms	155 ms
Chest resultant acceleration level at 3 ms cumulative duration	24 g	23 g
Peak axial compression load:		
Left femur	608 lb	179 lb
Right femur	150 lb	228 lb
Dummy contained within the vehicle during the crash	Yes	Yes

Time histories of the dummy instrumentation are included in this report.

Time histories of the dummy 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 requester and are not included in this report.

2.0 Fuel System Integrity (FMVSS 301)

. There was no fuel system spillage during or for thirty minutes following impact.

. The fuel system held pressure during a post-crash pressure check.

3.0 Door Openability

. The left front door could be unlatched and opened manually following impact.

. The right front door opened upon impact.

4.0 Vehicle Crush and Instrumentation Data

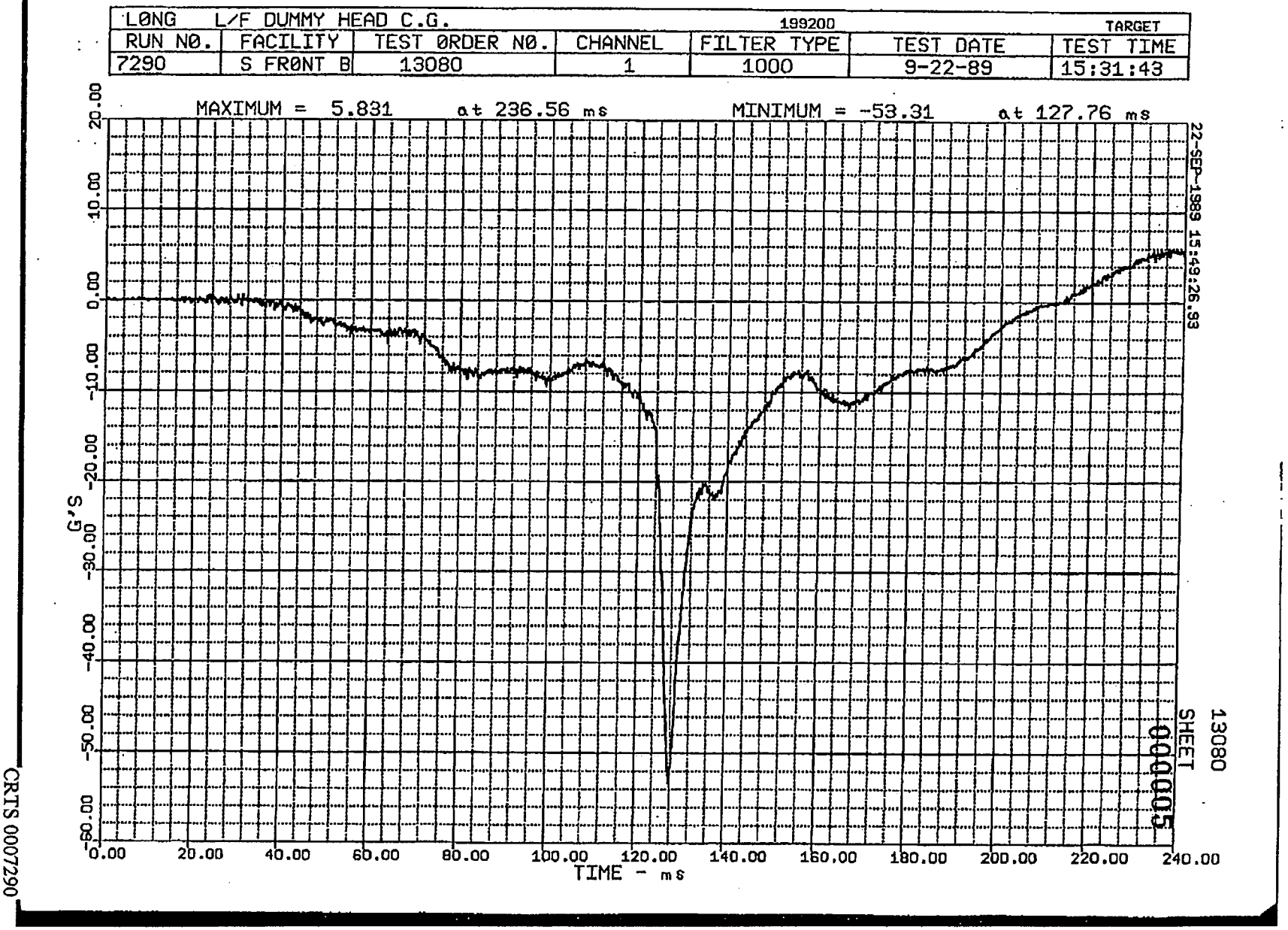
	Maximum Dynamic Longitudinal Crush in.	(mm)
Left Side	45.6	(1158)
Right Side	48.4	(1229

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.

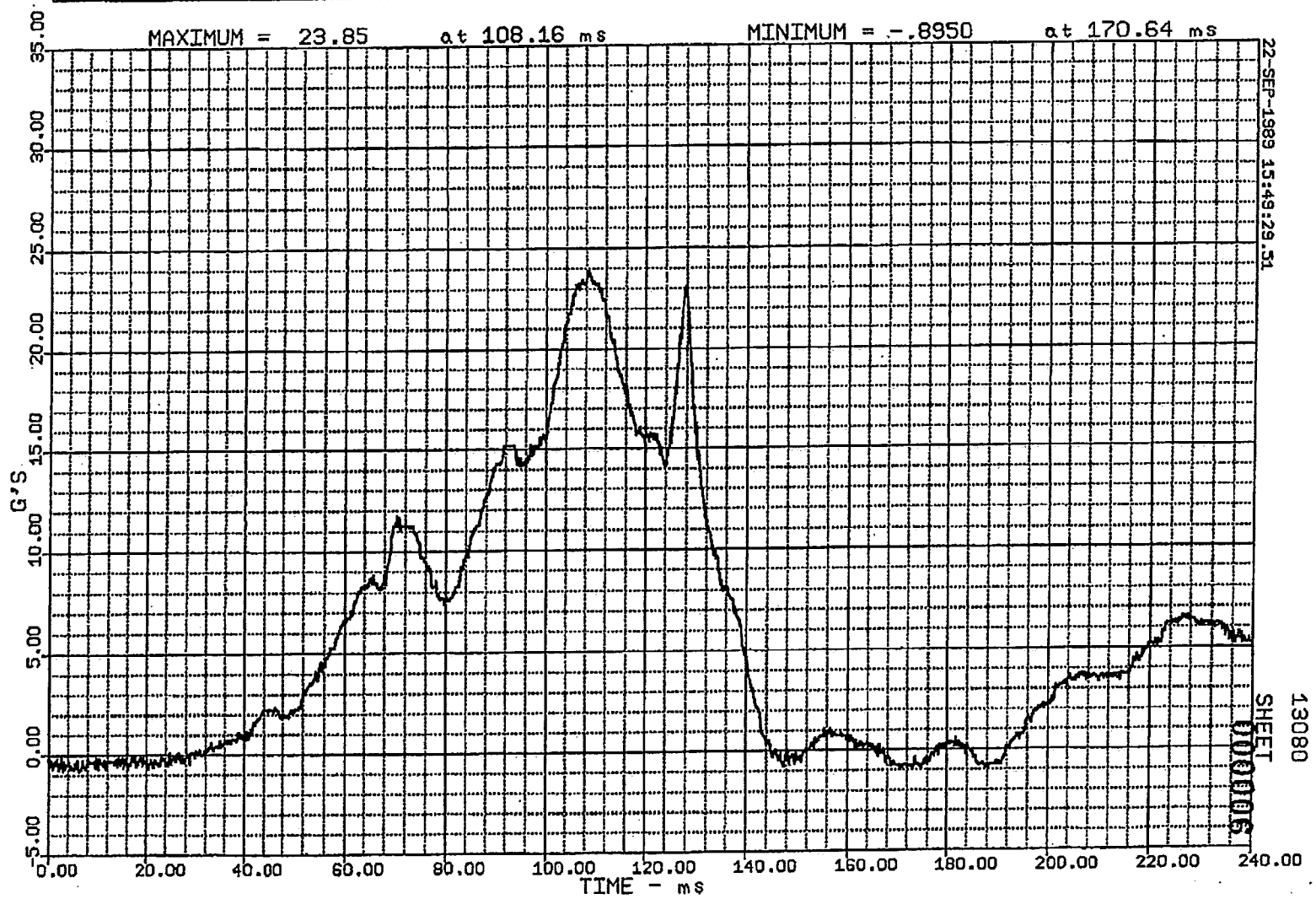
Time histories of any requested derived data (i.e. integrations, etc.) were given to the requester and are not included in this report.



CRTS 0007290

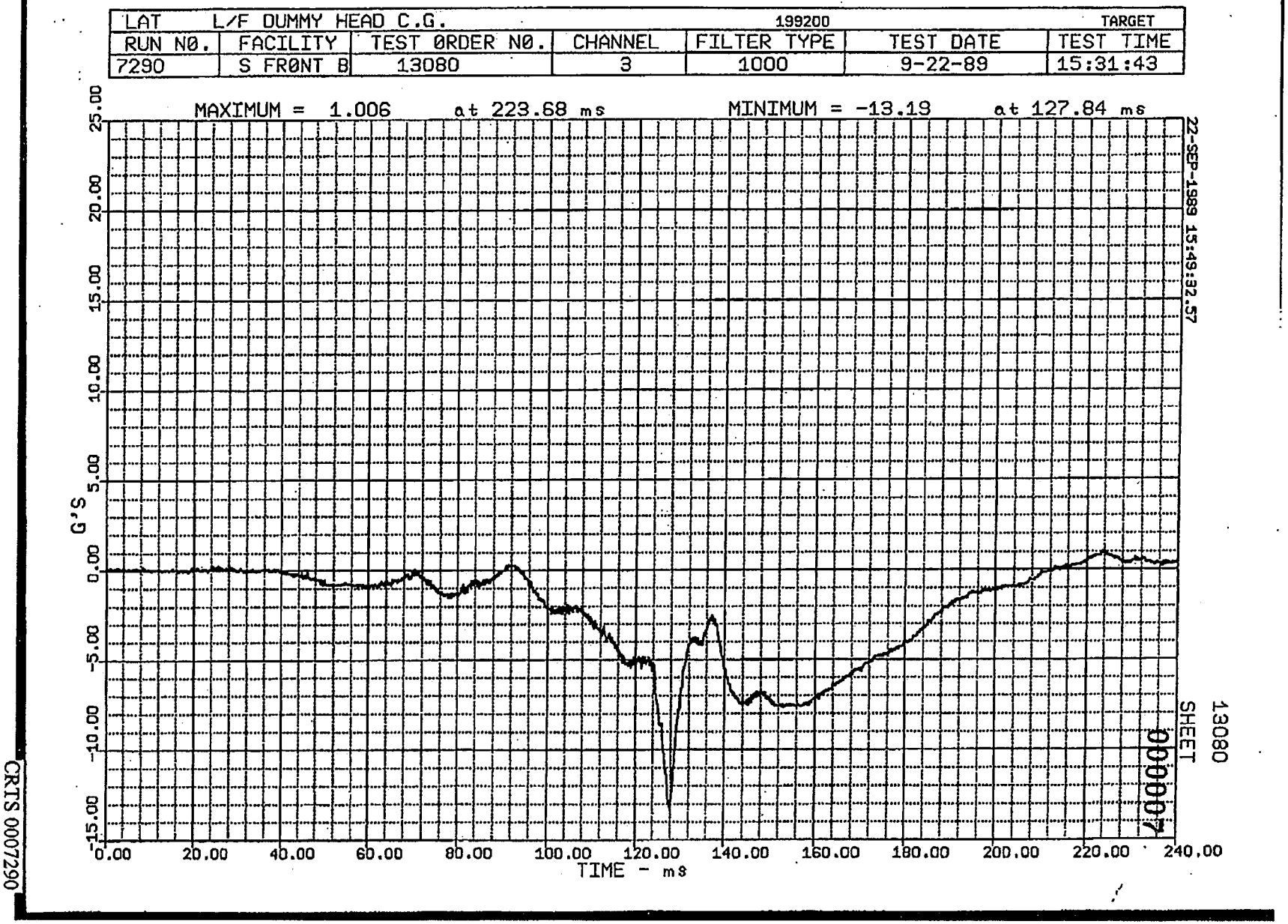
PRODUCED BY FORD
1113

VERT L/F DUMMY HEAD C.G.			19920D			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	2	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1114



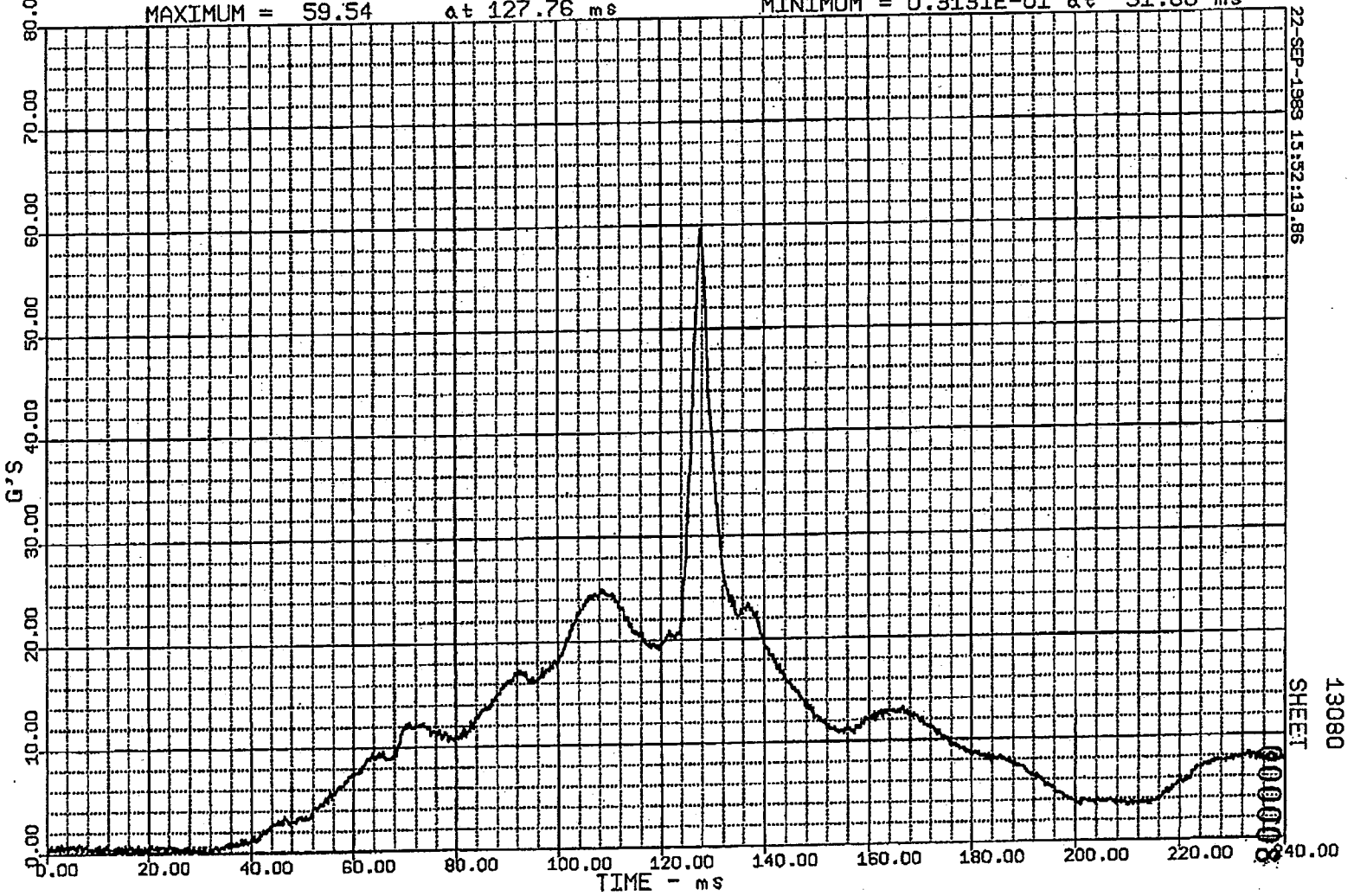
CRTS 0007290

PRODUCED BY FORD
1115

RES. L/F DUMMY HEAD C.G.			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	79	1000	9-22-89	15:31:43

$ HIC = 130. T1 = 102.80 T2 = 138.88 Regular HIC requested, 36ms used.

MAXIMUM = 59.54 at 127.76 ms MINIMUM = 0.3131E-01 at 31.60 ms

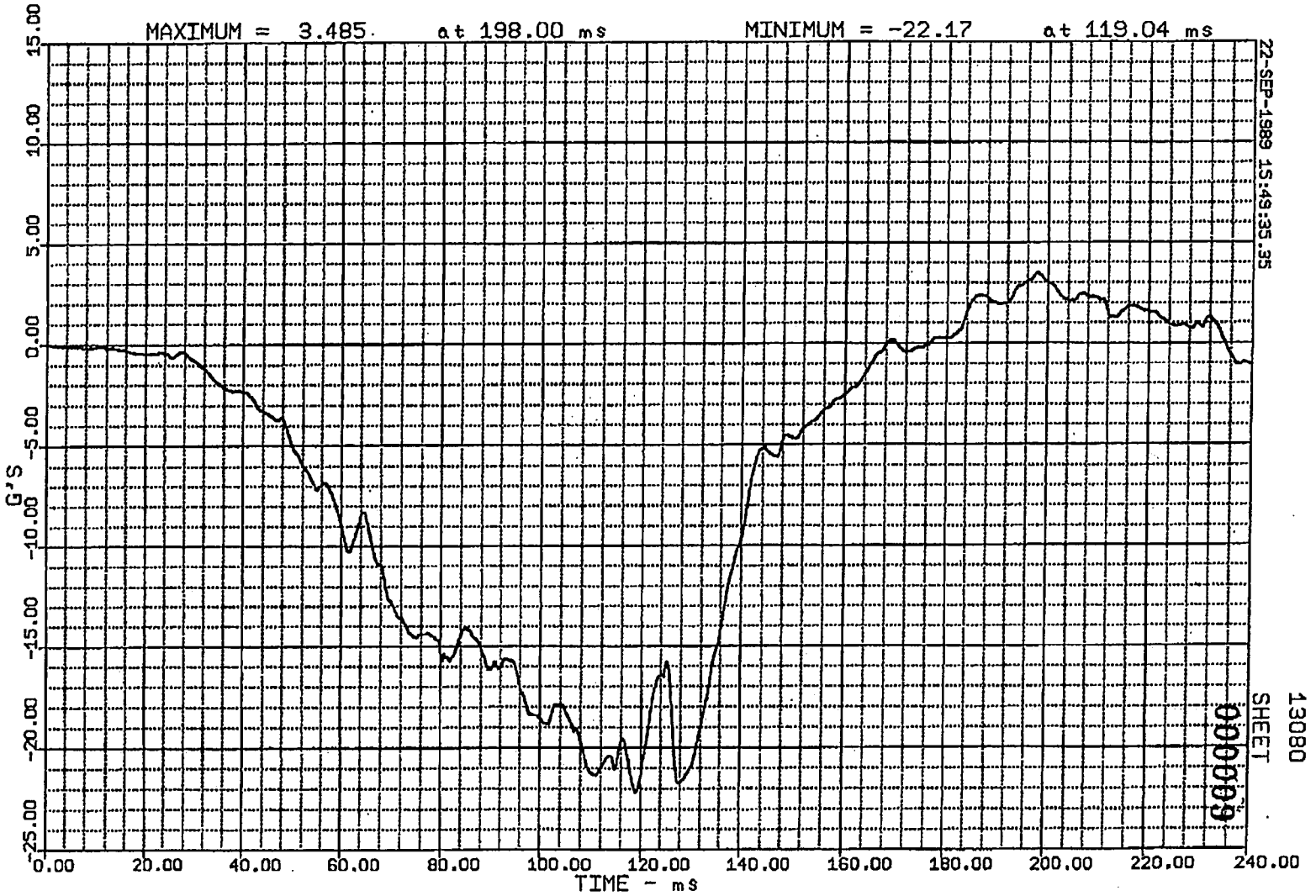


CRTS 0007290

PRODUCED BY FORD

1116

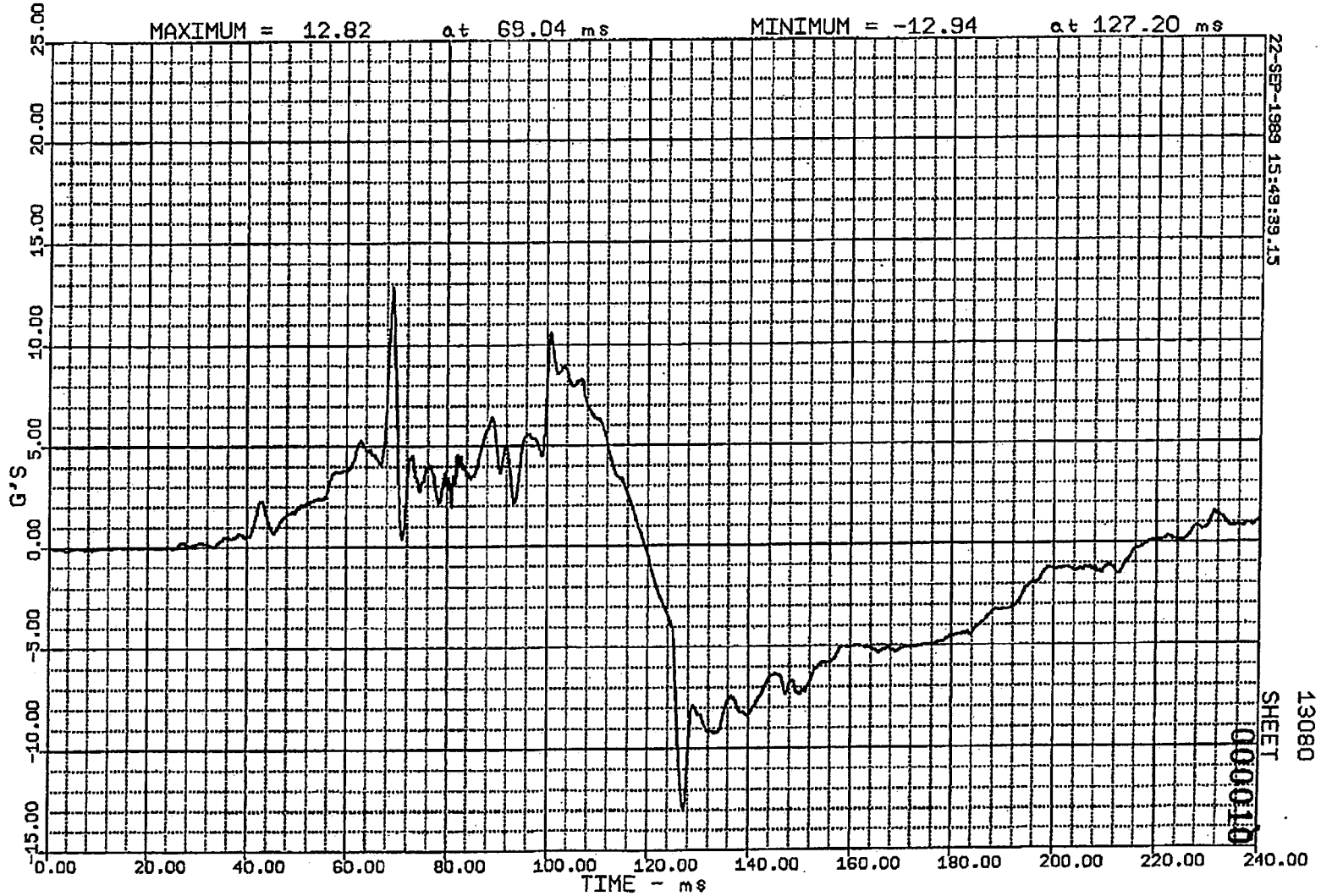
L0NG	L/F DUMMY CHEST			199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	4	180	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1117

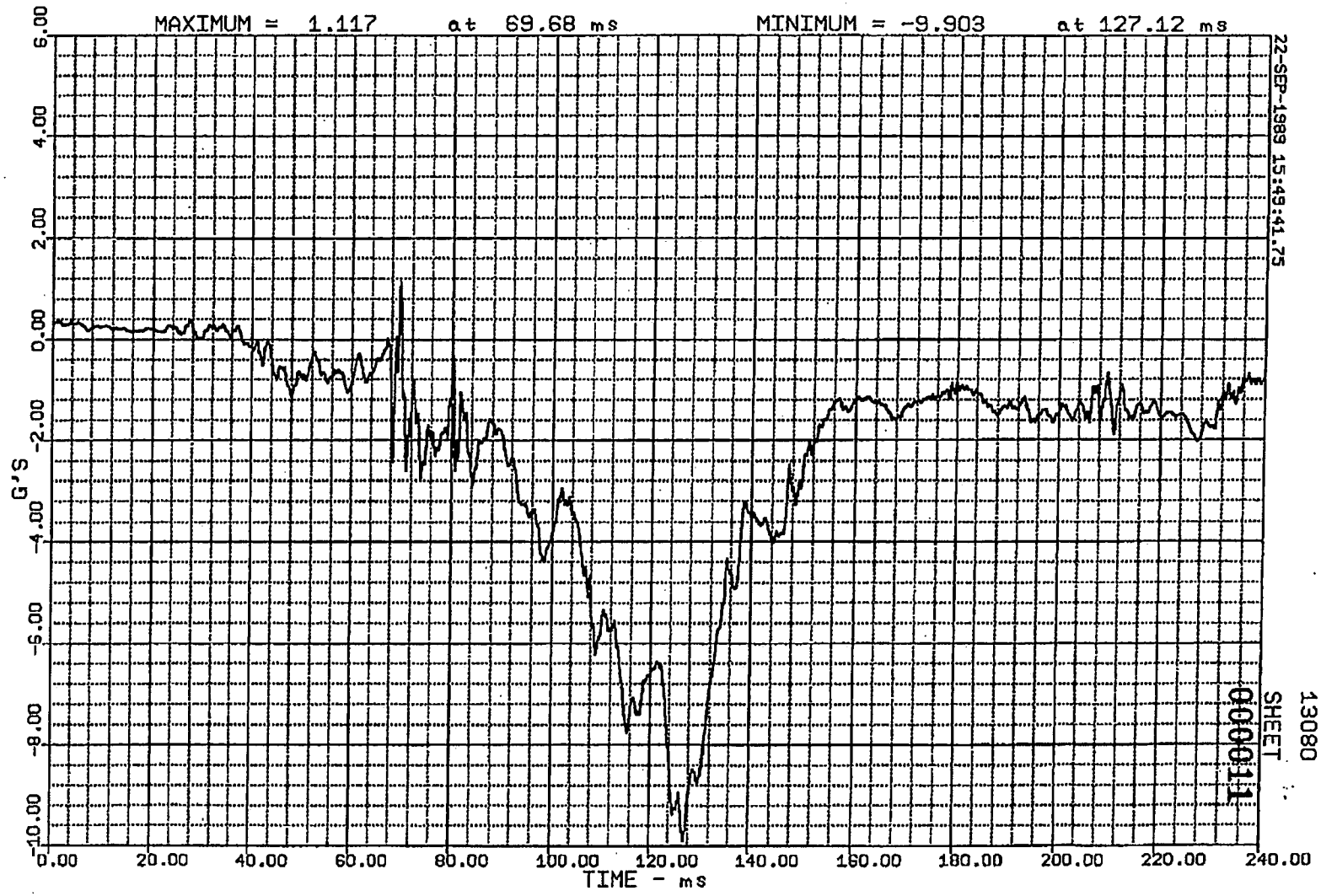
VERT L/F DUMMY CHEST			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	5	180	9-22-89	15:31:43



CRTS 0007290

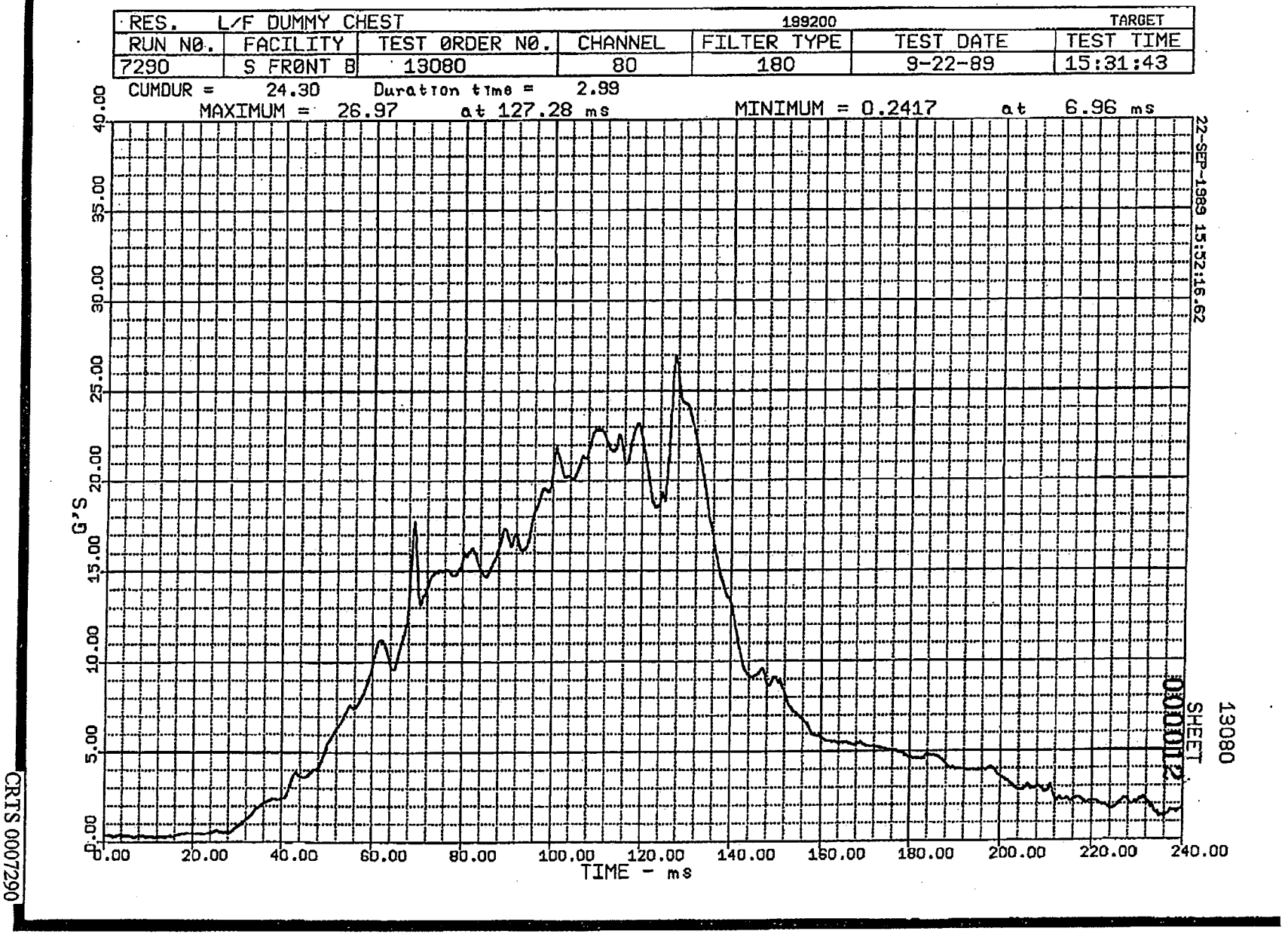
PRODUCED BY FORD
1118

LAT	L/F DUMMY CHEST		199200			TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	6	180	9-22-89	15:31:43



CRTS 0007290

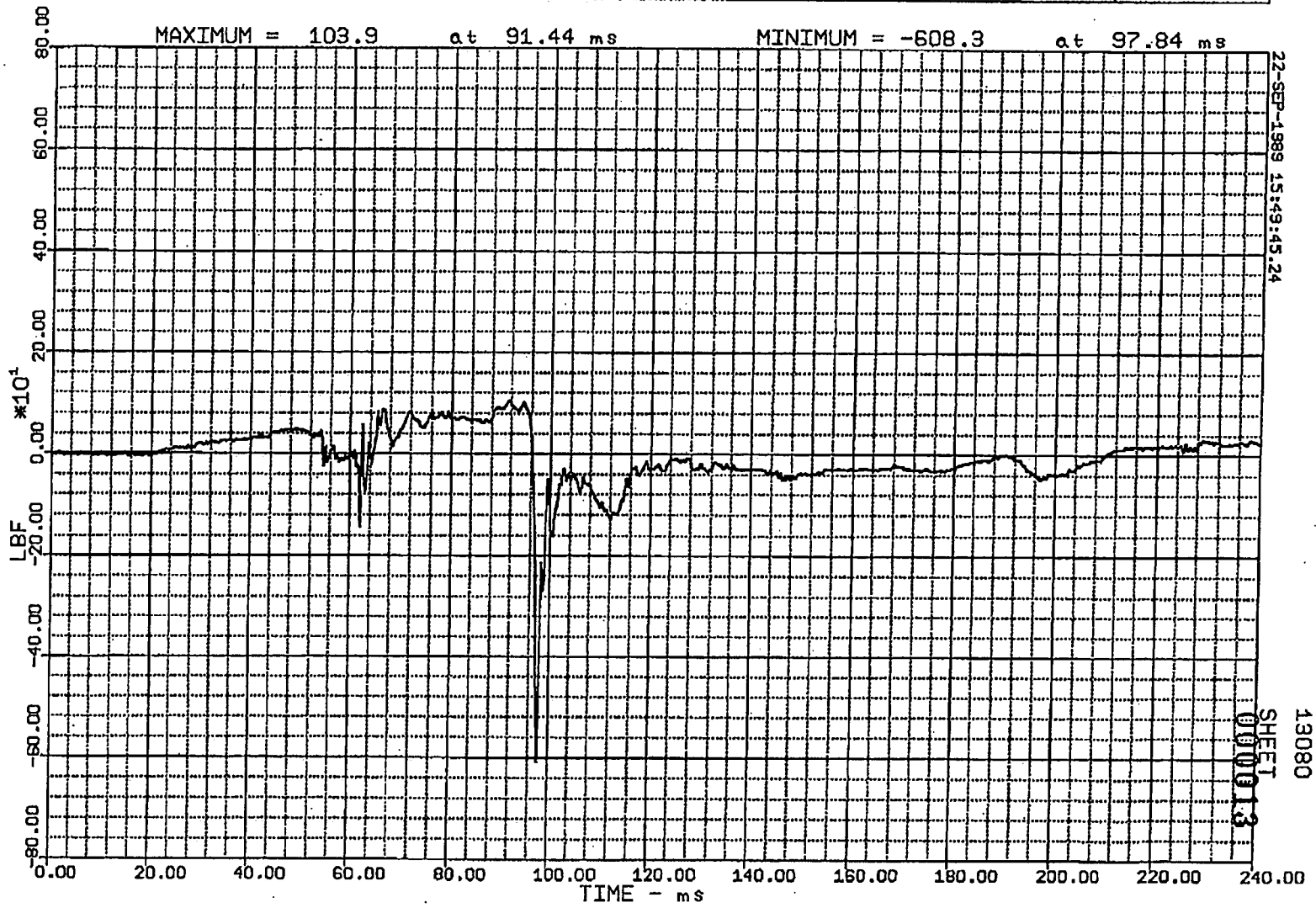
PRODUCED BY FORD
1119



CRTS 0007290

PRODUCED BY FORD
1120

AXIAL L/F DUMMY L/FEMUR L0AD B#1			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	8	600	9-22-89	15:31:43

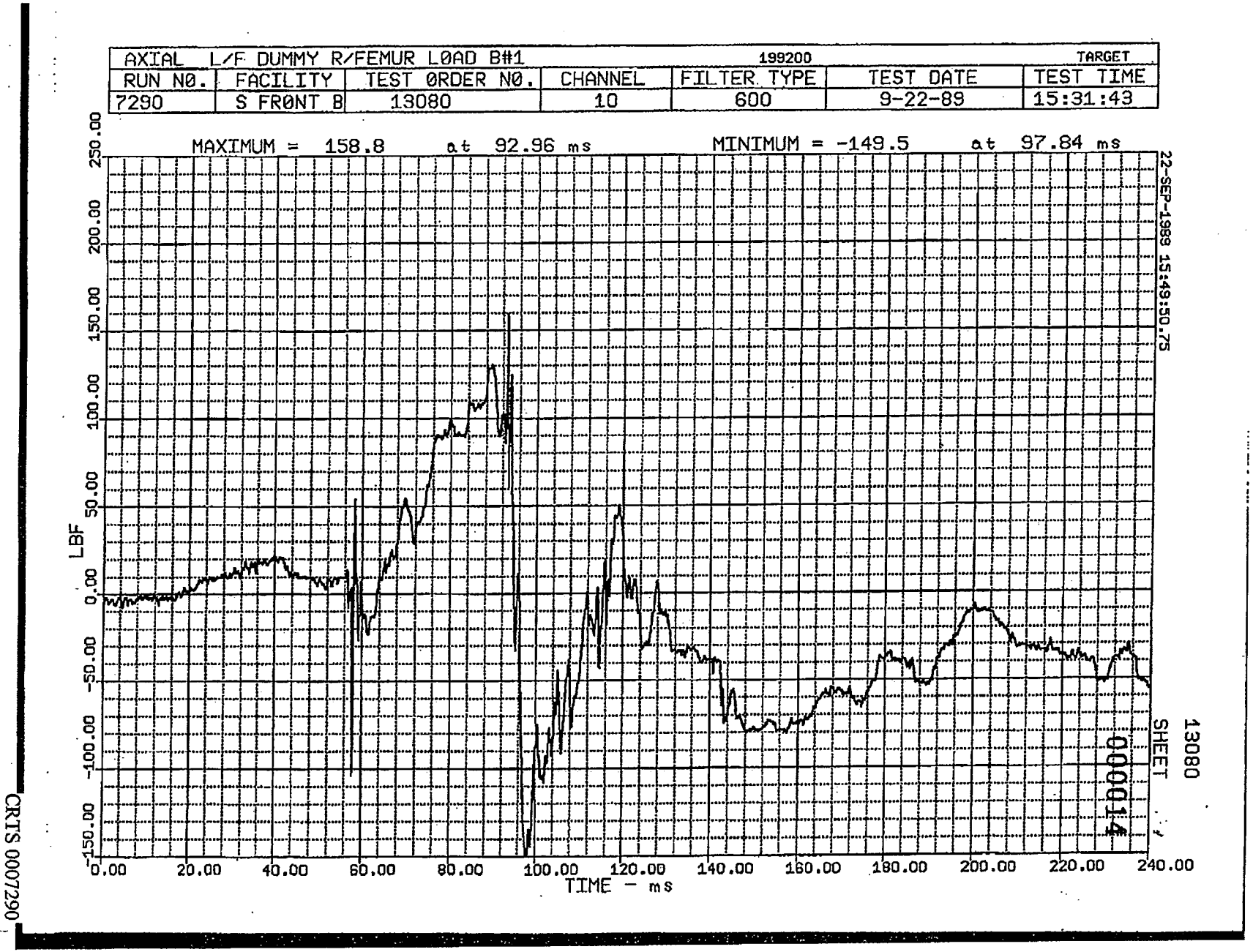


13080

SHEET 0010013

CRTS 0007290

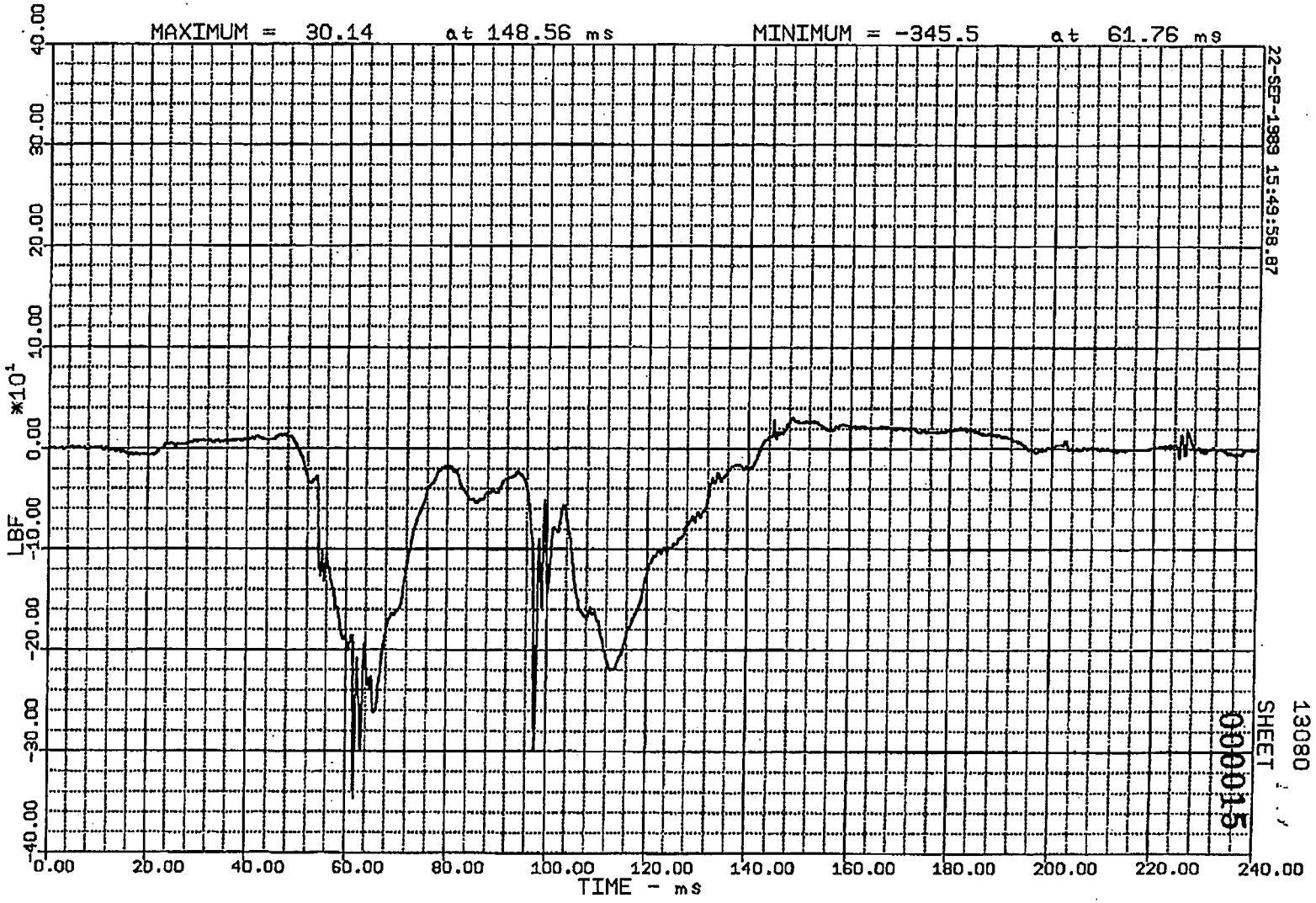
PRODUCED BY FORD
1121



CRTS 0007290

PRODUCED BY FORD
1122

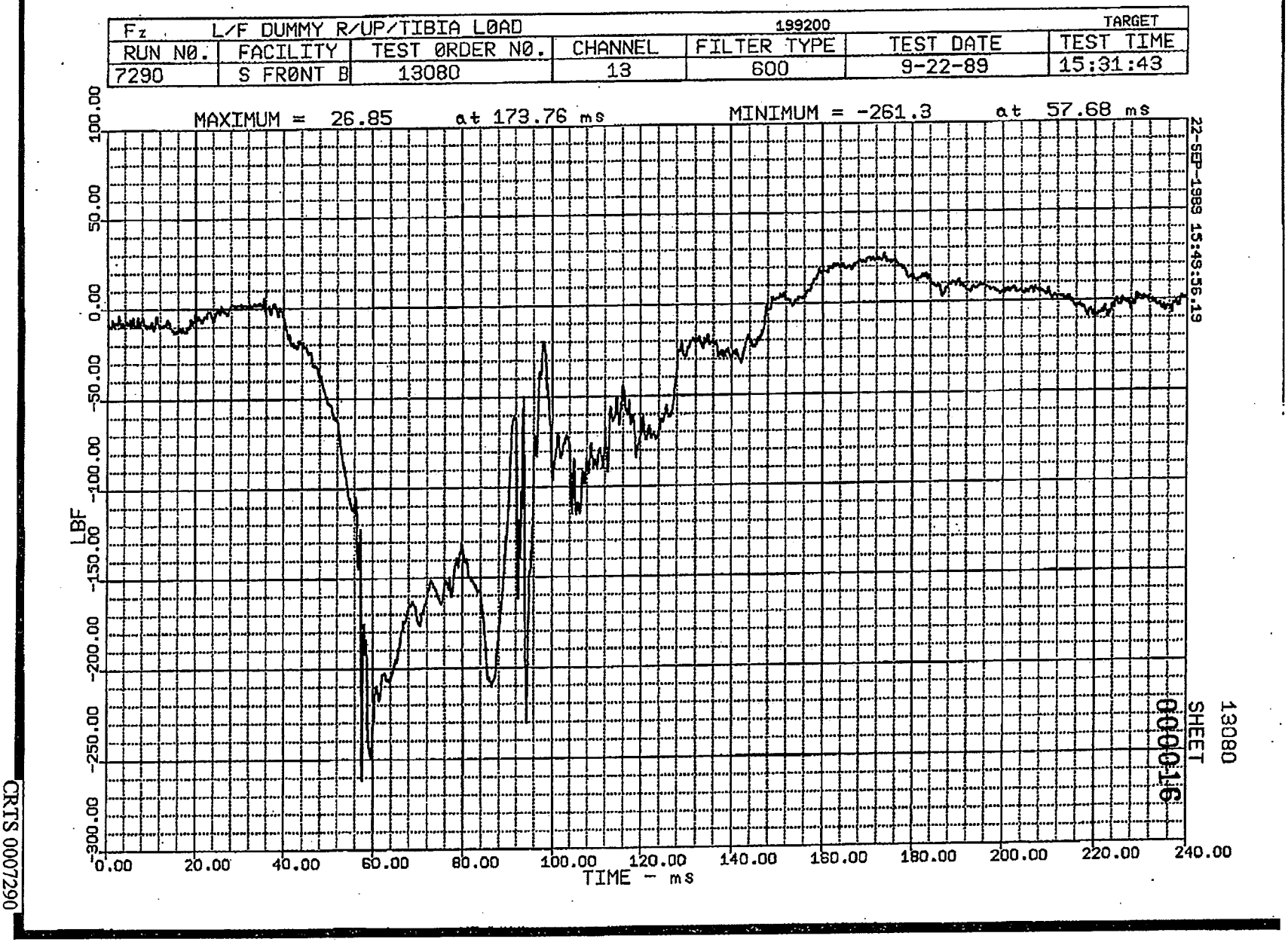
Fz	L/F DUMMY L/UP/TIBIA L0AD			199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	14	600	9-22-89	15:31:43



13080
SHEET 0000015

CRTS 0007290

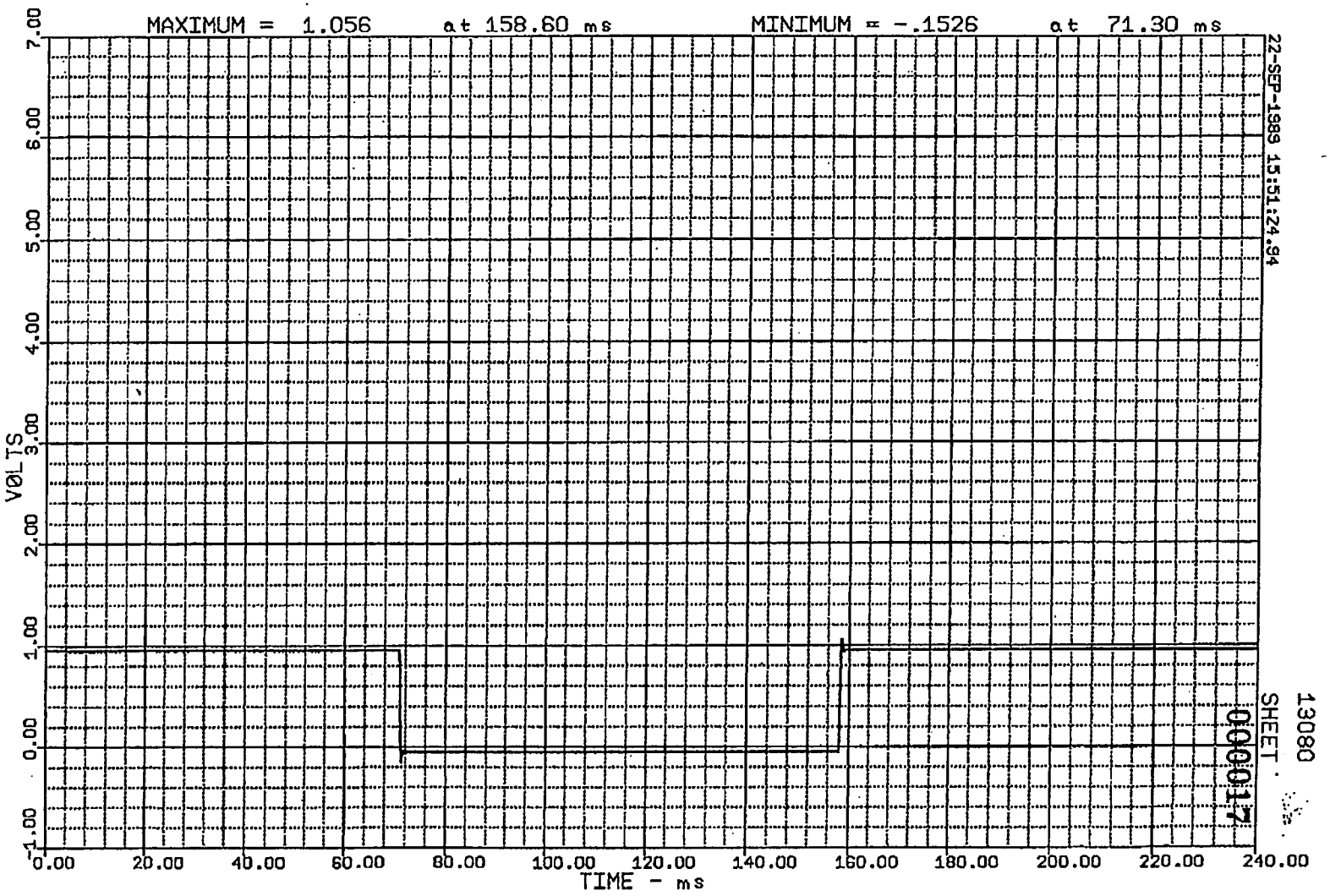
PRODUCED BY FORD
1123



CRTS 0007290

PRODUCED BY FORD
1124

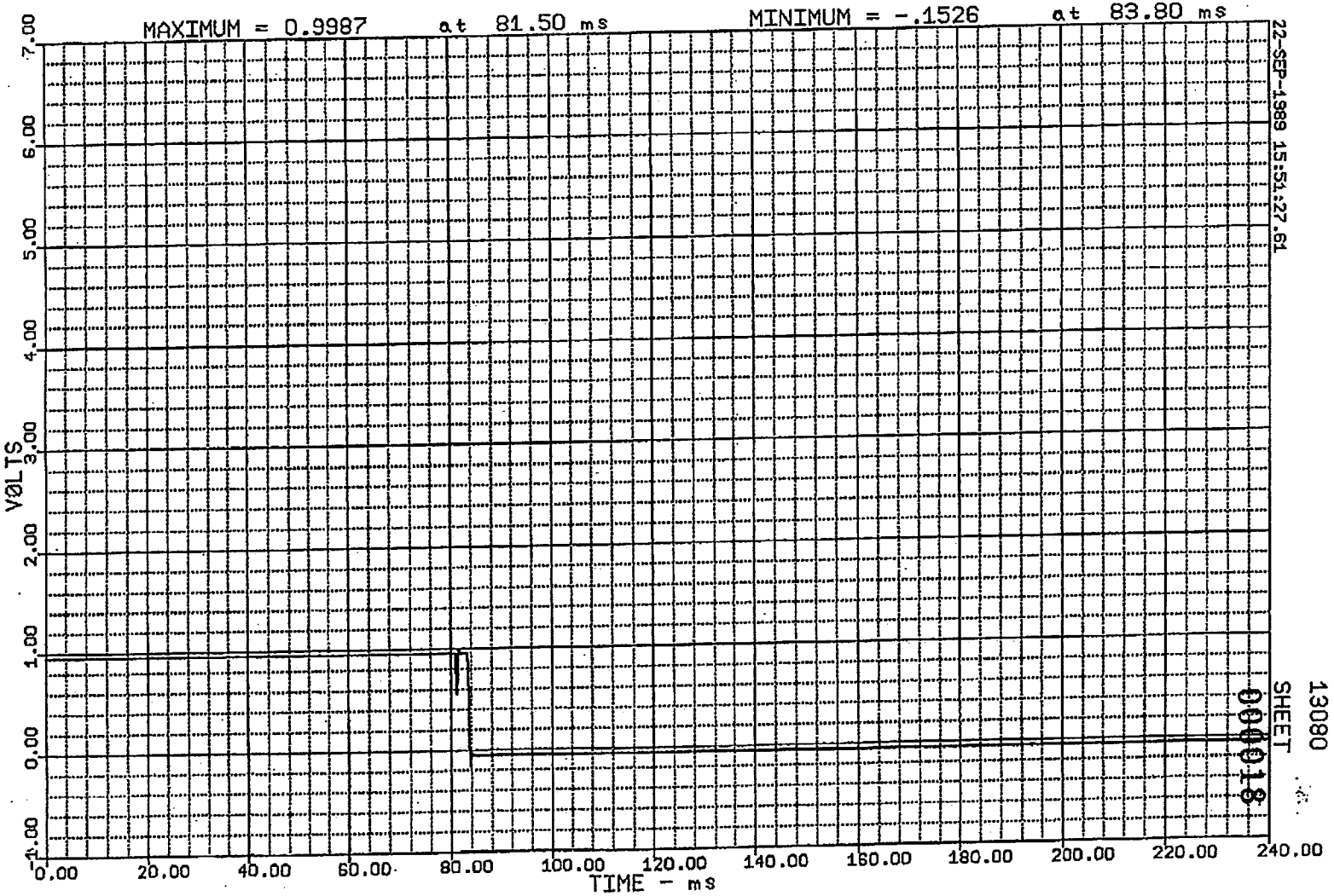
L/R DUMMY L/KNEE SW			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	56	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1125

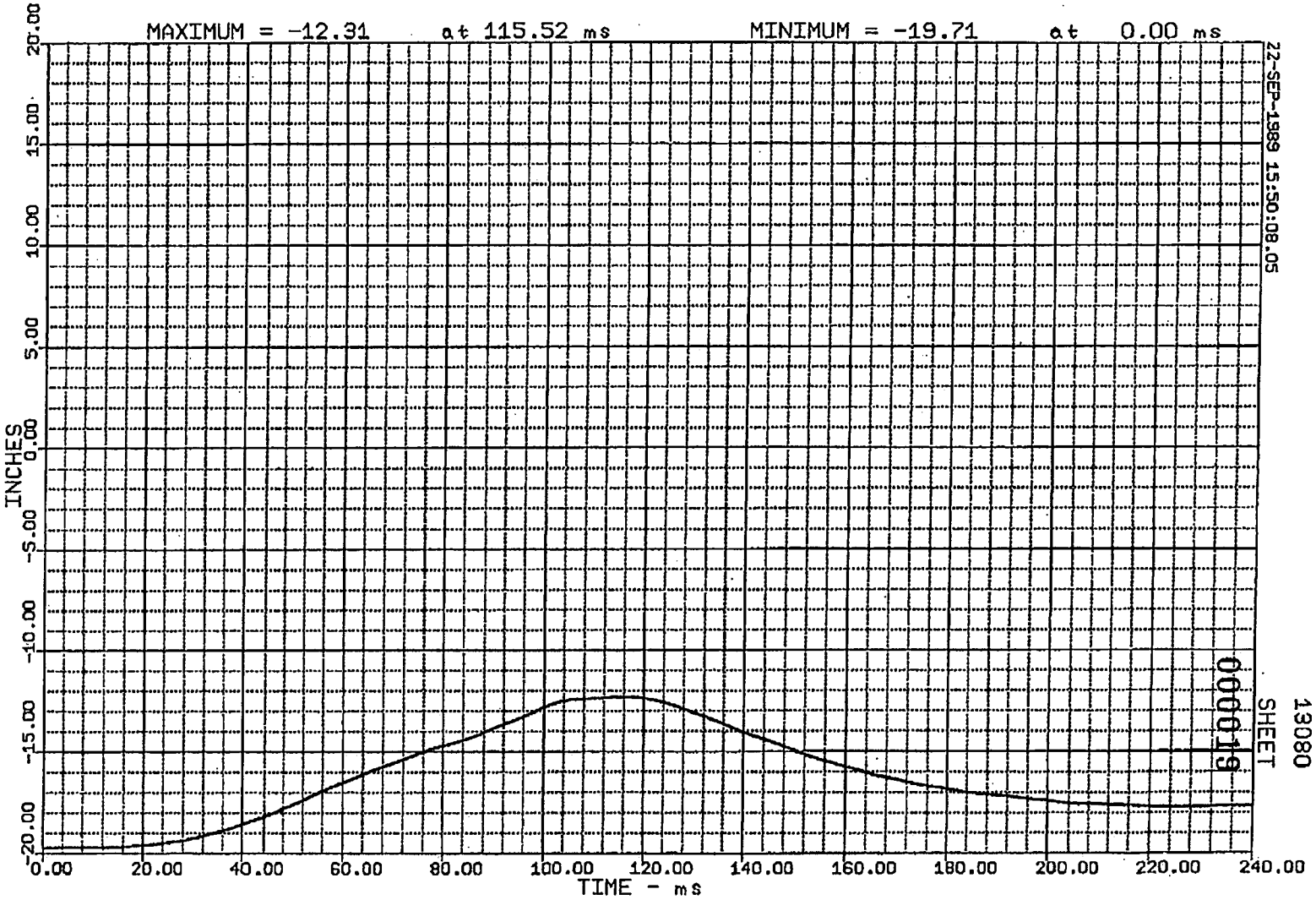
L/F DUMMY R/KNEE SW				199200		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	57	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1126

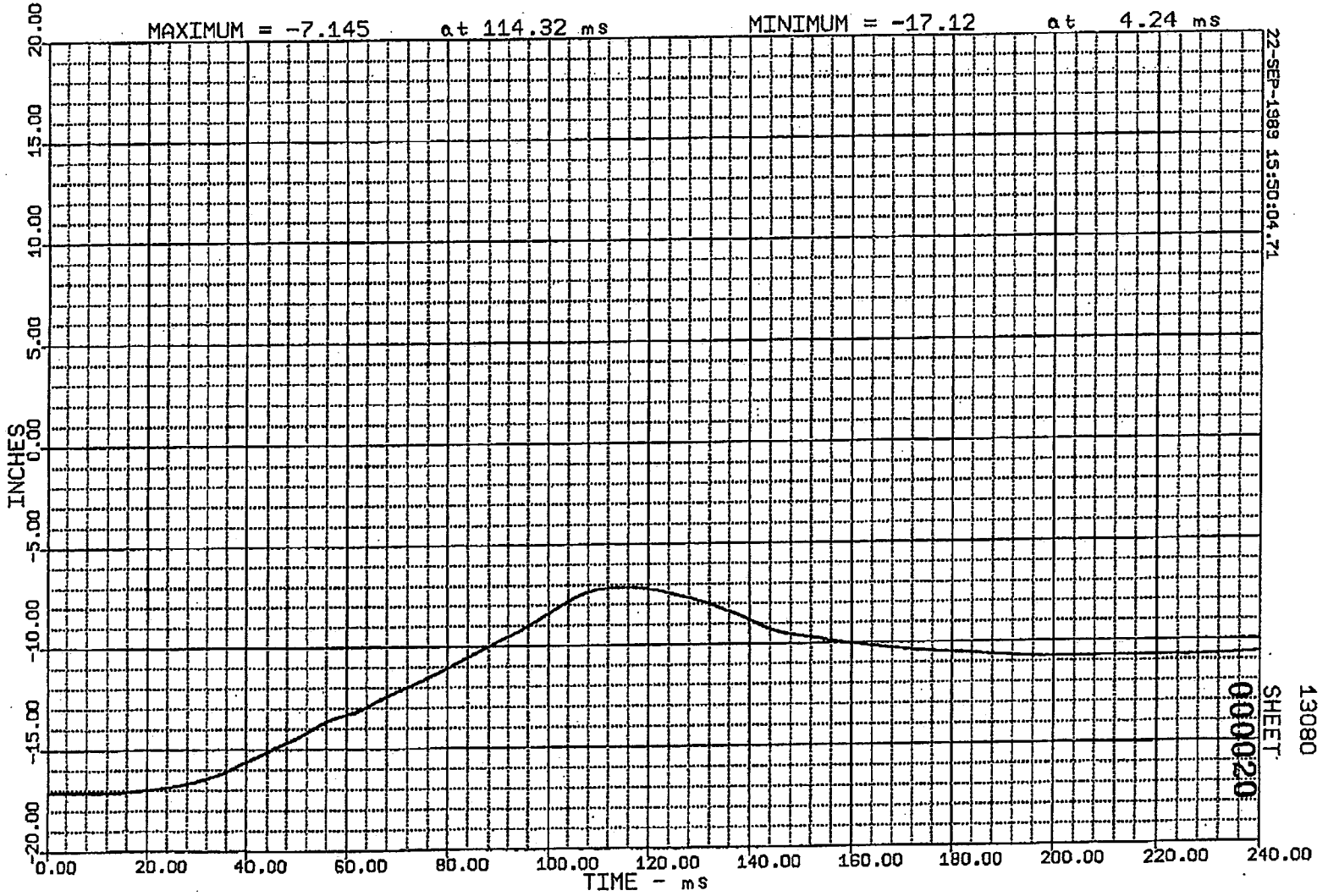
L/F DUMMY L/KNEE S.P.			199200			TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	17	60	9-22-89	15:31:43



CRIS 0007290

PRODUCED BY FORD
1127

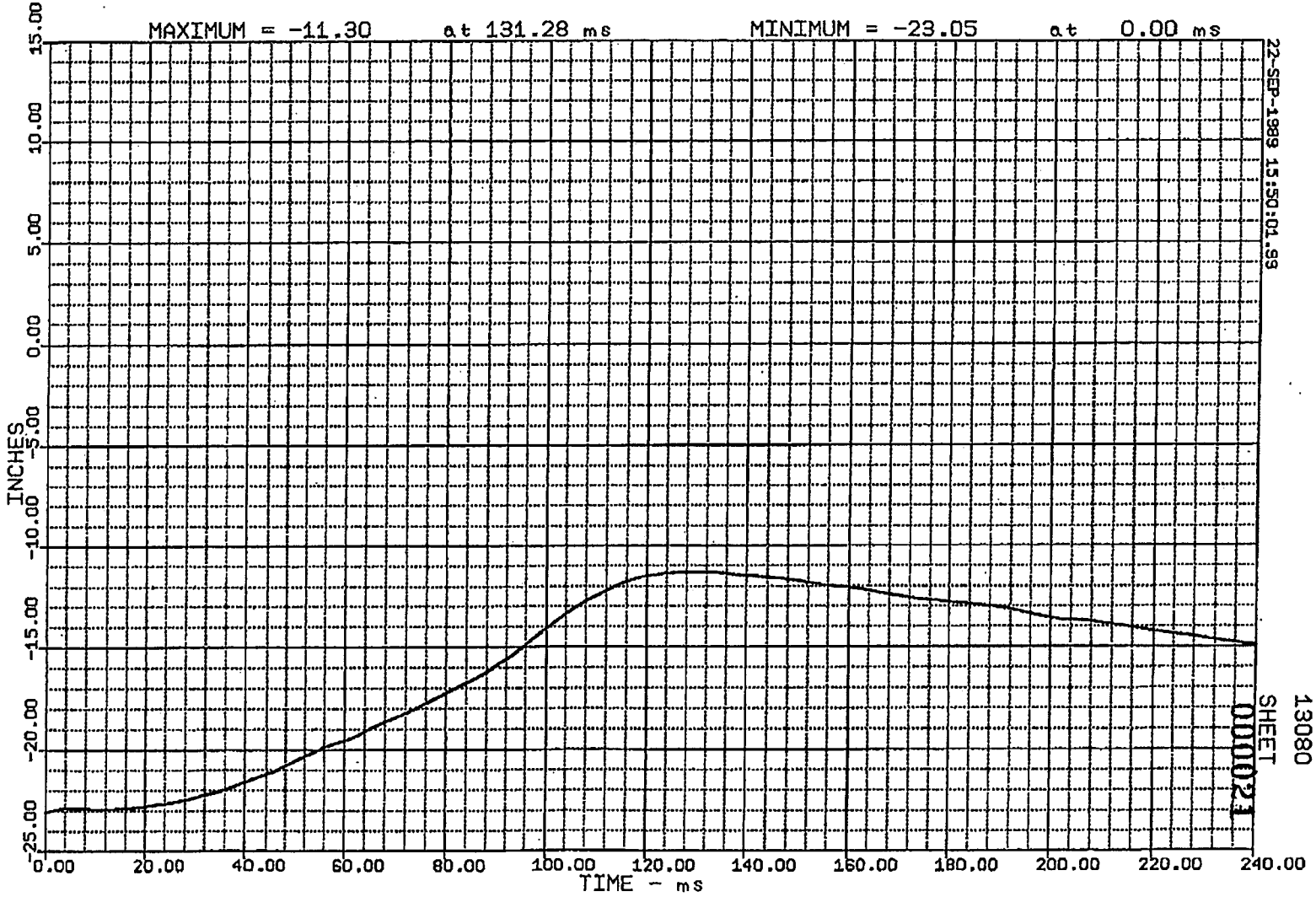
L/F DUMMY R/KNEE S.P.				199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	16	60	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1128

L/F DUMMY PELVIS S.P.			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	15	60	9-22-89	15:31:43



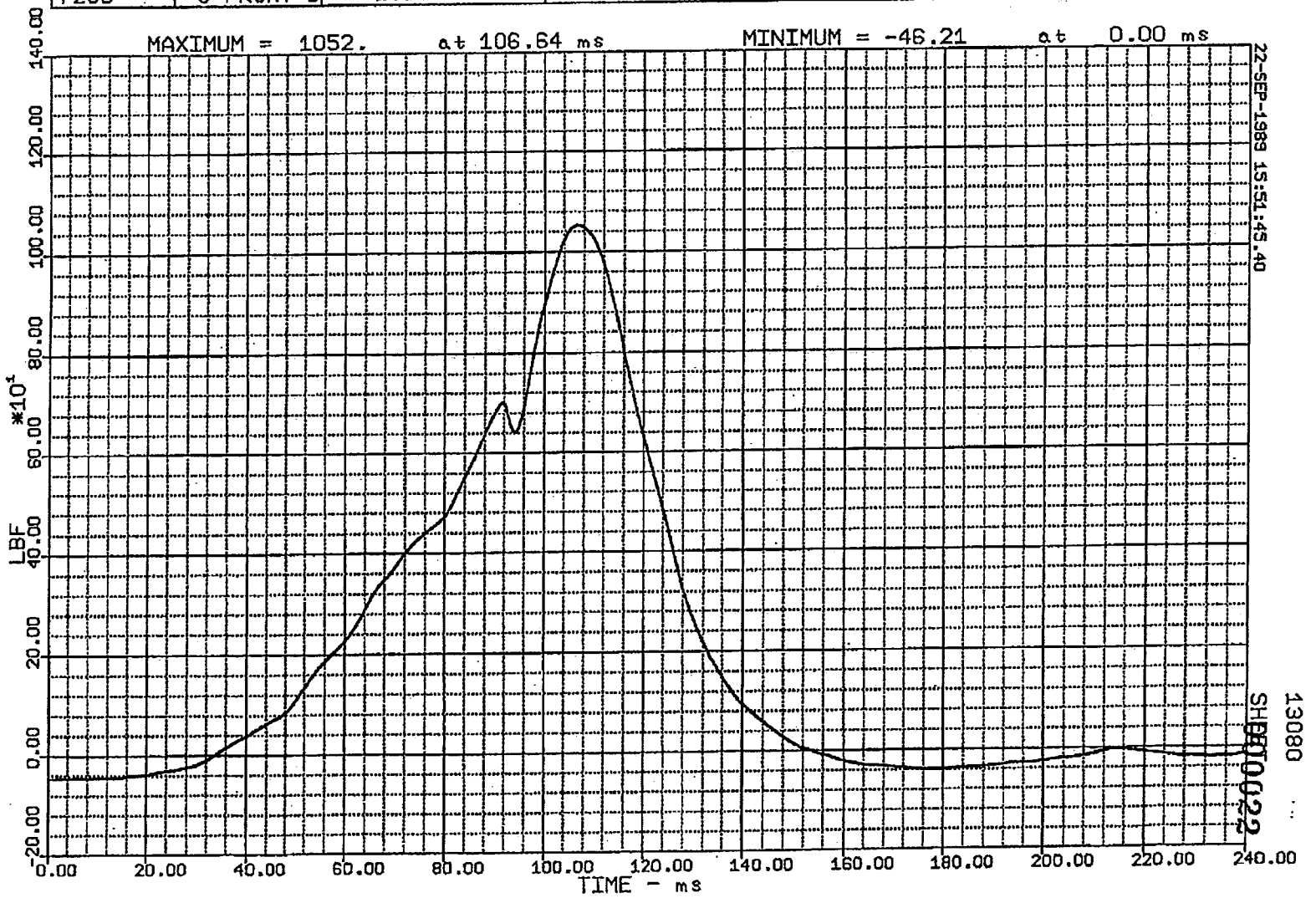
13080

SHEET 0000021

CRTS 0007290

PRODUCED BY FORD
1129

L/F LAP BELT @ ANCH0R				199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	67	60	9-22-89	15:31:43



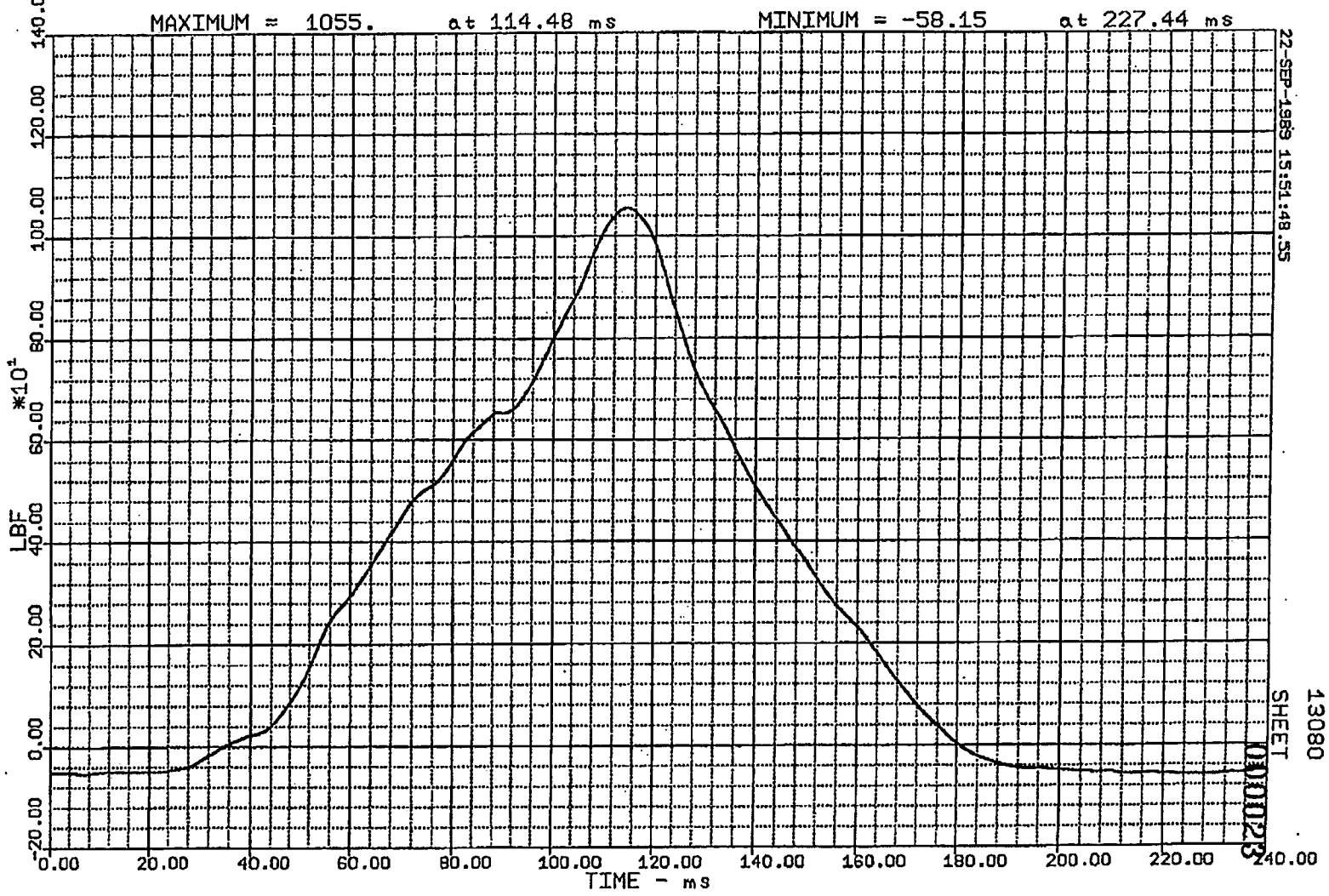
13080

SHEET 0022

CRTS 0007290

PRODUCED BY FORD
1130

L/F TØRSØ BELT @ RETRACTØR			199200			TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	68	60	9-22-89	15:31:43



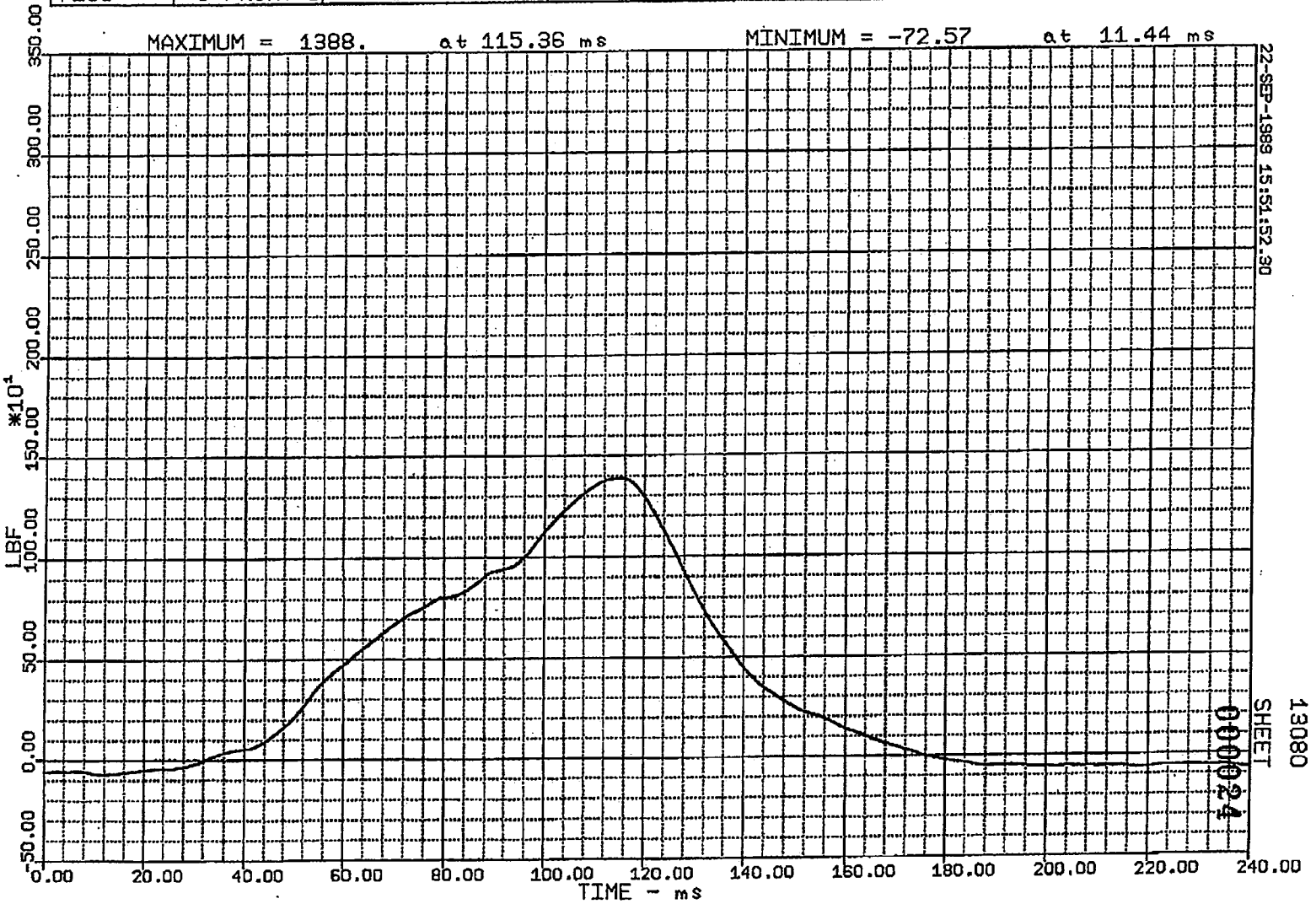
13080

SHEET 000123

CRTS 0007290

PRODUCED BY FORD
1131

L/F T0RS0 BELT @ D-RING				199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	69	60	9-22-89	15:31:43



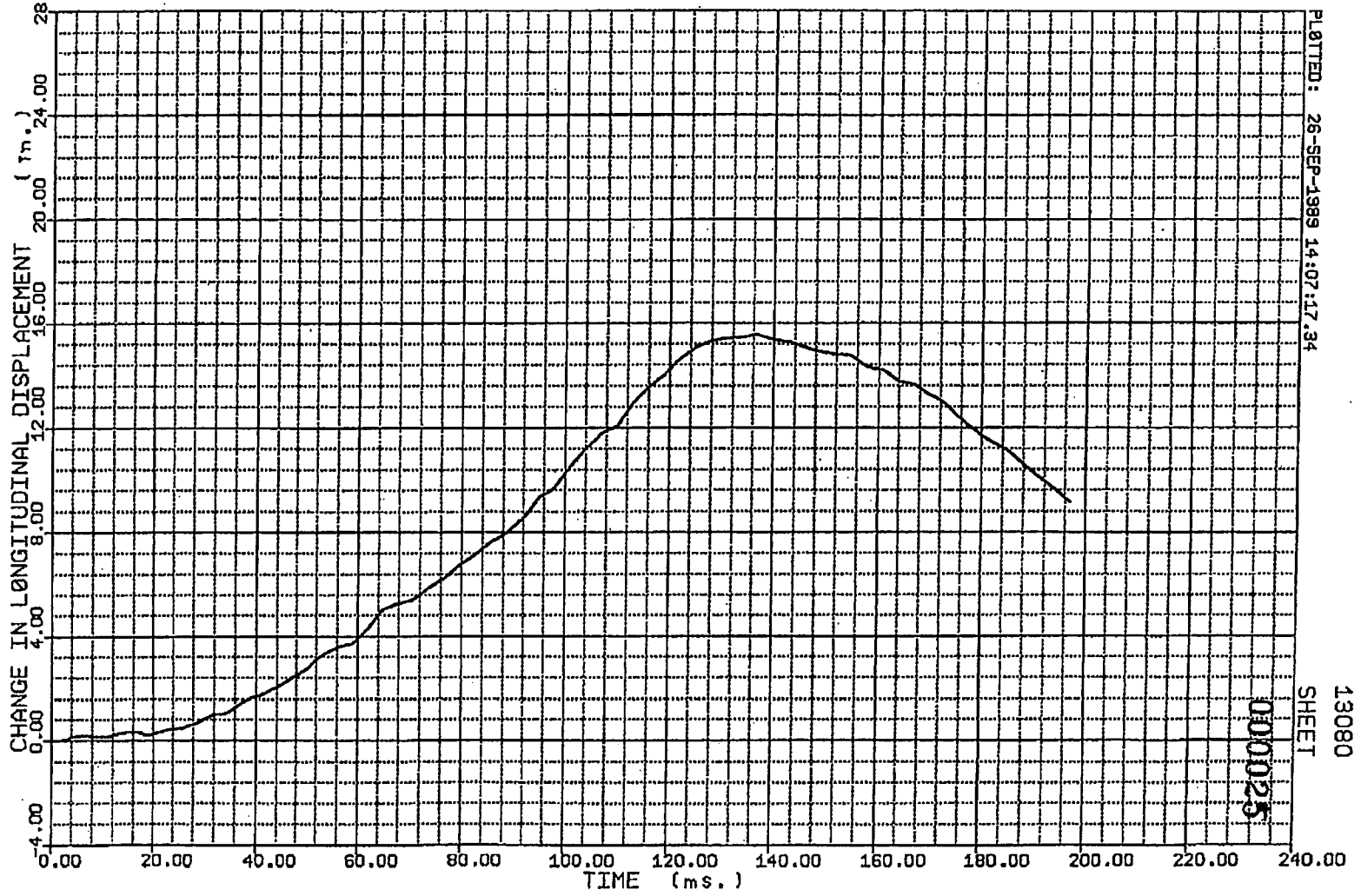
13080

SHEET 0000024

CRTS 0007290

PRODUCED BY FORD
1132

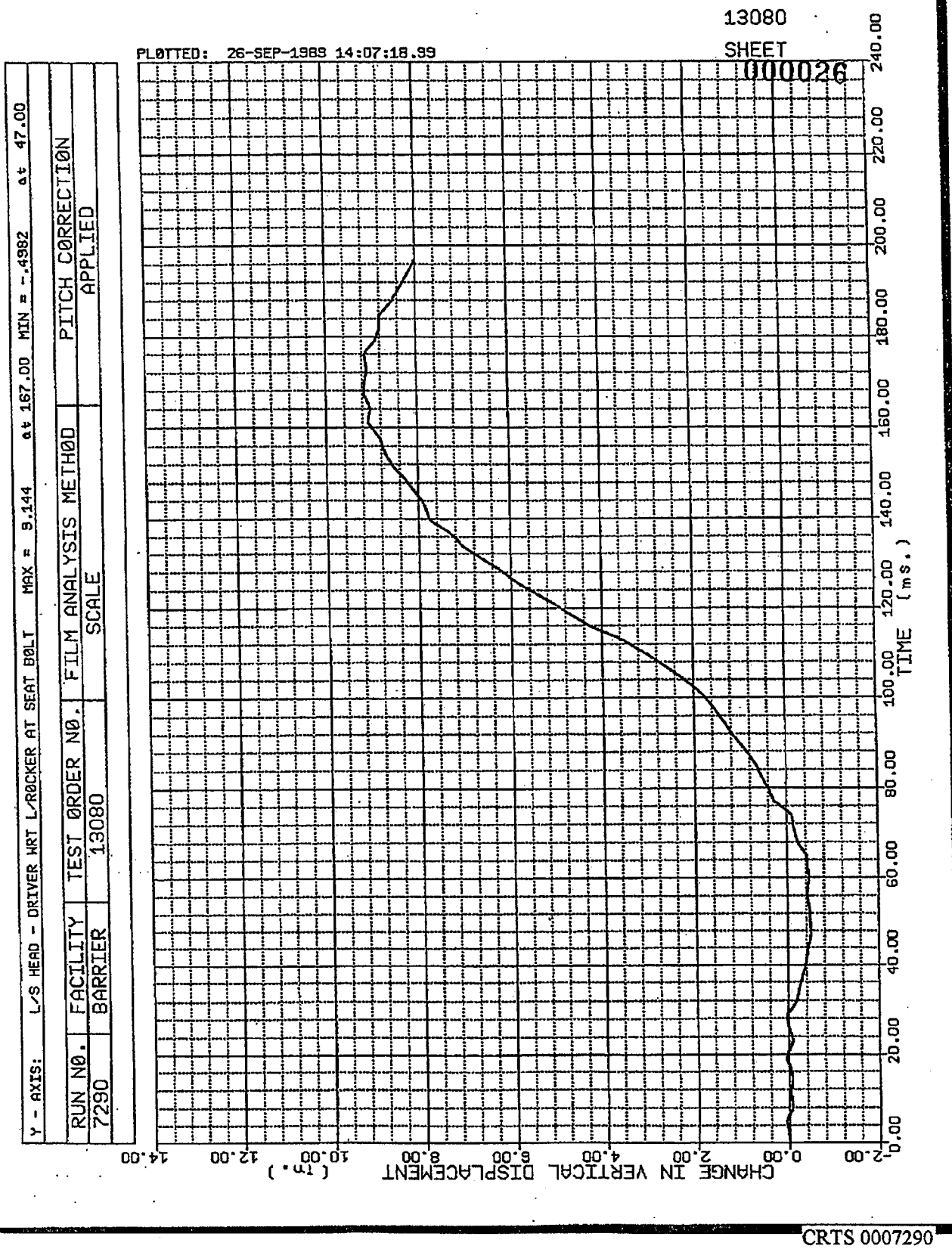
Y - AXIS:	L/S HEAD - DRIVER WRT L/ROCKER AT SEAT BOLT	MAX = 15.54	at 137.00	MIN = -.1679E-01	at 1.00
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION	
7290	BARRIER	13080	SCALE	APPLIED	



13080
SHEET 00025

CRIS 0007290

PRODUCED BY FORD
1133



CRTS 0007290

PRODUCED BY FORD
1134

Y - AXIS: L/SH0ULDER - DRIVER WRT L/R0CKER AT SEAT B0LT MAX = 8.686 at 108.00 MIN = -.2301E-01 at 1.00

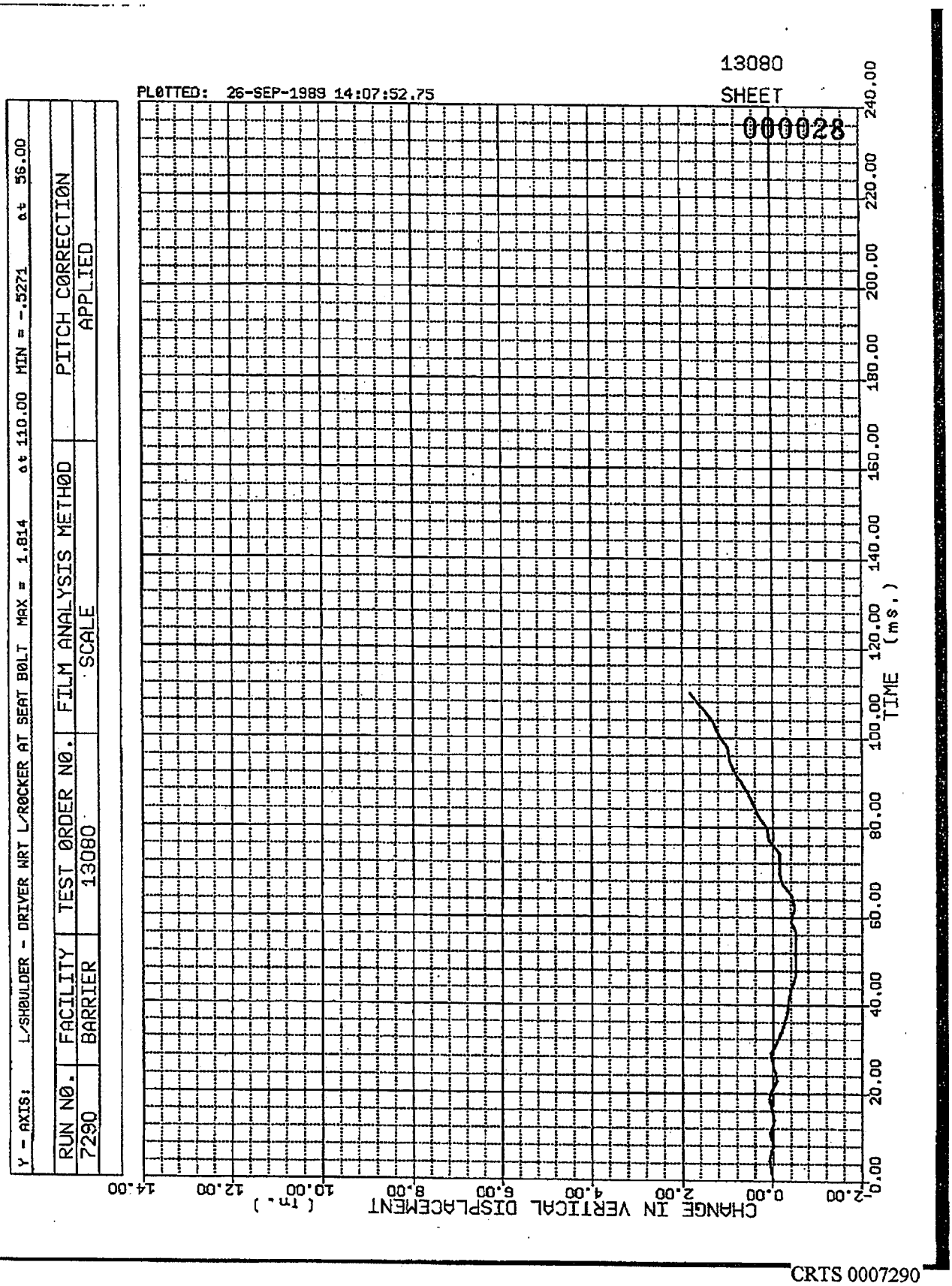
RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
7290	BARRIER	13080	SCALE	APPLIED

PL0TTED: 26-SEP-1989 14:07:51.05

13080 SHEET 000027

CRTS 0007290

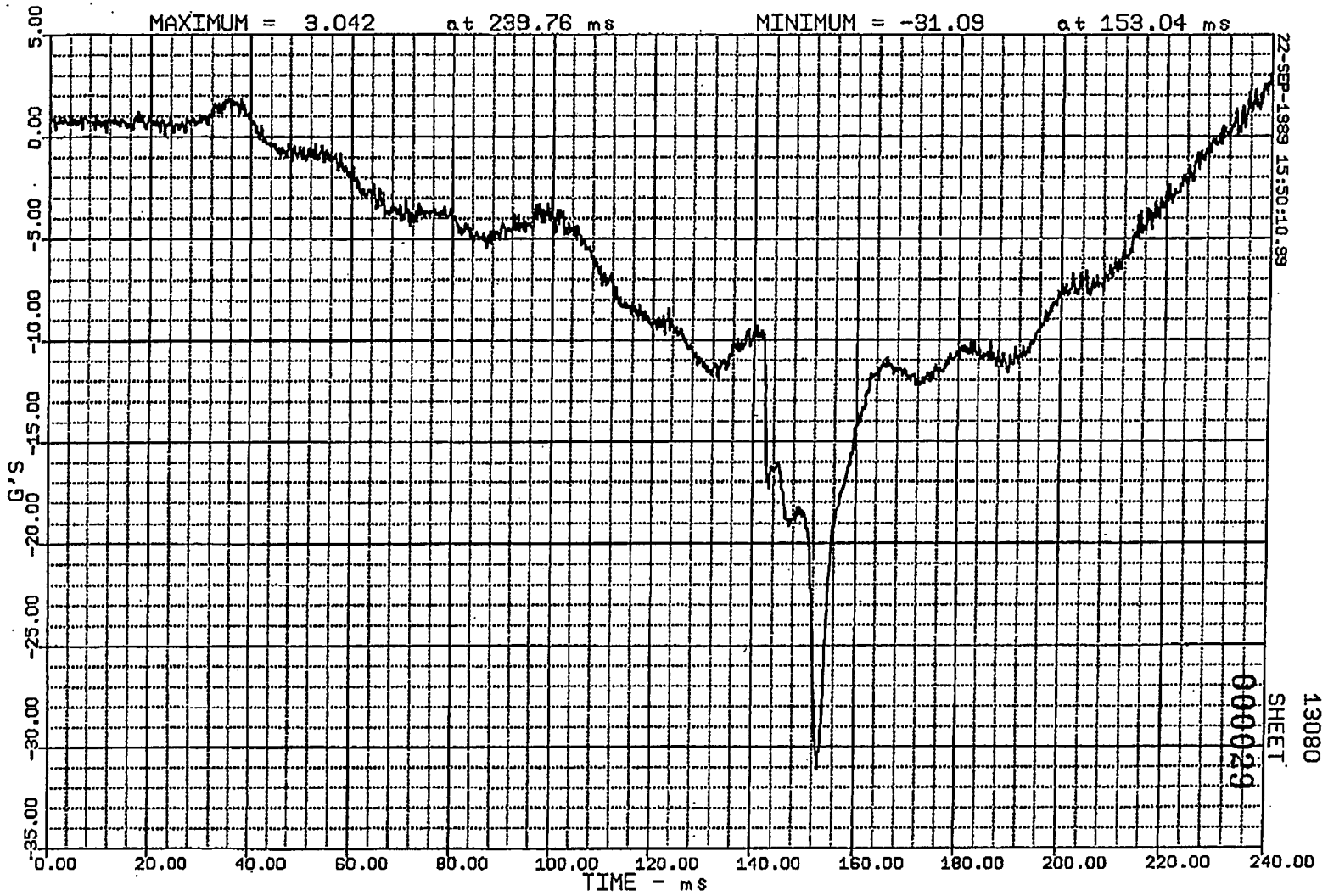
PRODUCED BY FORD
1135



CRTS 0007290

PRODUCED BY FORD
1136

LØNG R/F DUMMY HEAD C.G.			199200			TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	20	1000	9-22-89	15:31:43



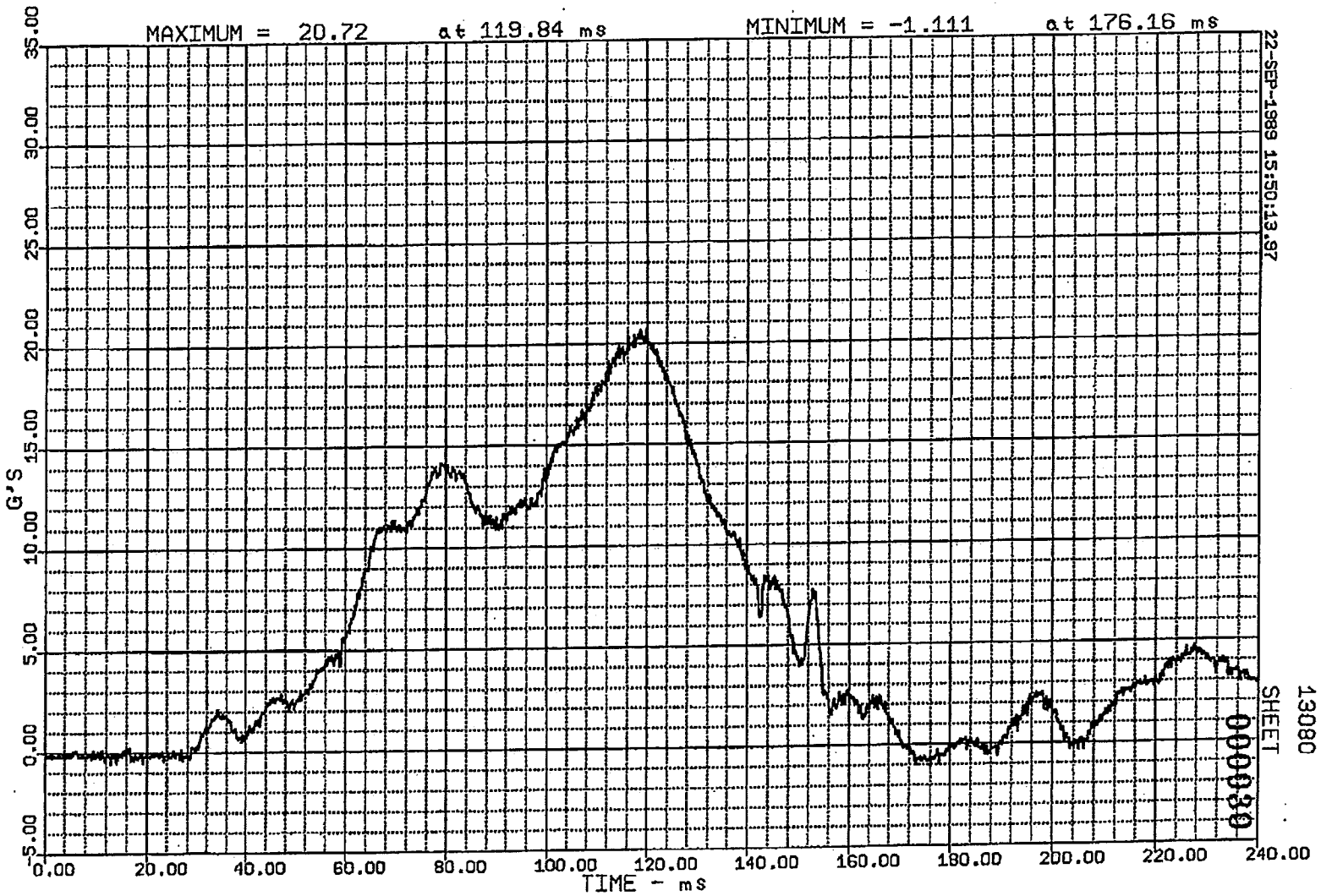
13080

SHEET 00029

CRTS 0007290

PRODUCED BY FORD
1137

VERT R/F DUMMY HEAD C.G.			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	21	1000	9-22-89	15:31:43



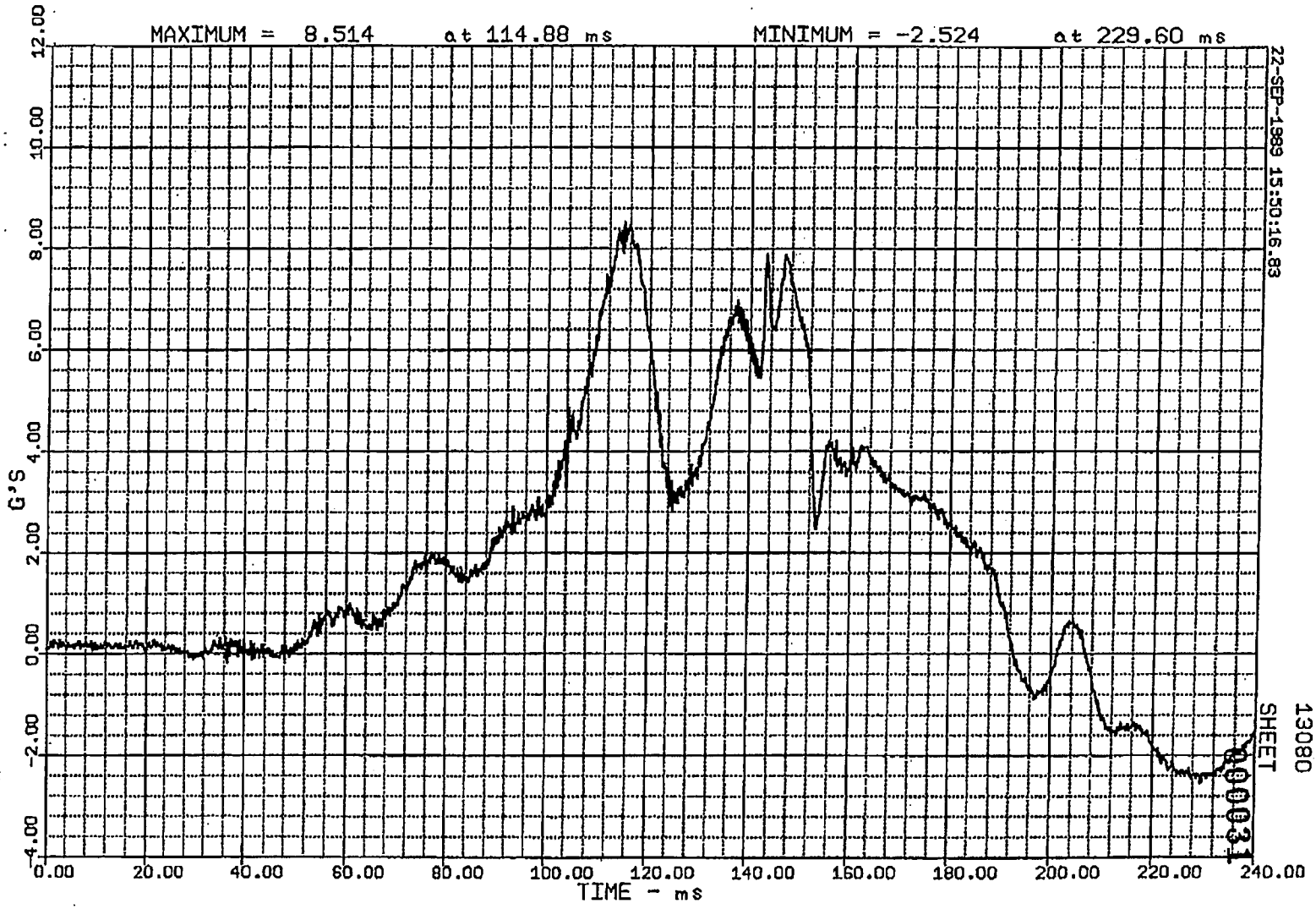
13080

SHEET 000030

CRTS 0007290

PRODUCED BY FORD
1138

LAT	R/F DUMMY HEAD C.G.		199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	22	1000	9-22-89	15:31:43



13080

SHEET 0000031

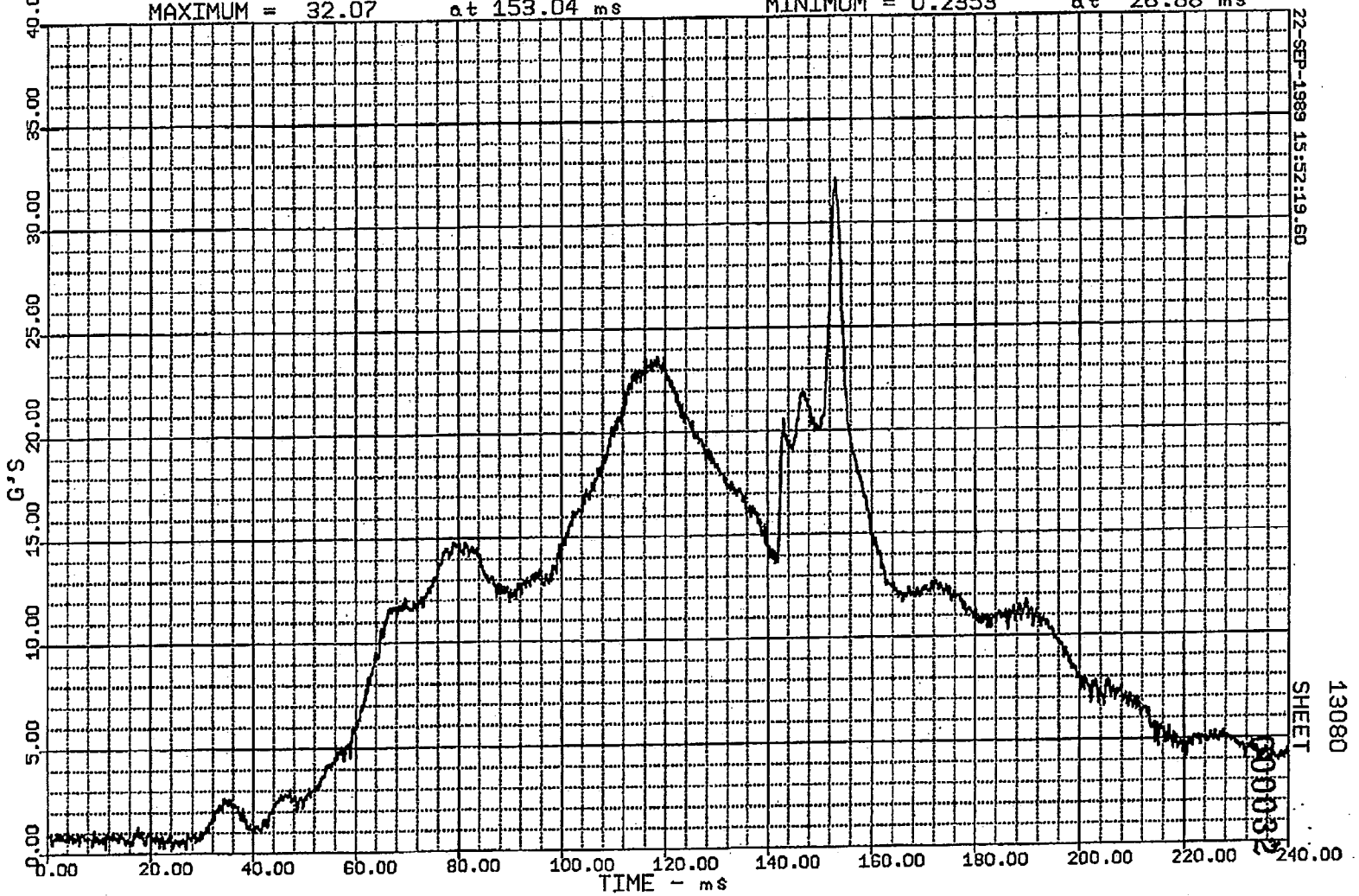
CRTS 0007290

PRODUCED BY FORD
1139

RES. R/F DUMMY HEAD C.G.			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	81	1000	9-22-89	15:31:43

$ HIC = 63. T1 = 118.56 T2 = 154.64 Regular HIC requested, 36ms used.

MAXIMUM = 32.07 at 153.04 ms MINIMUM = 0.2353 at 26.88 ms

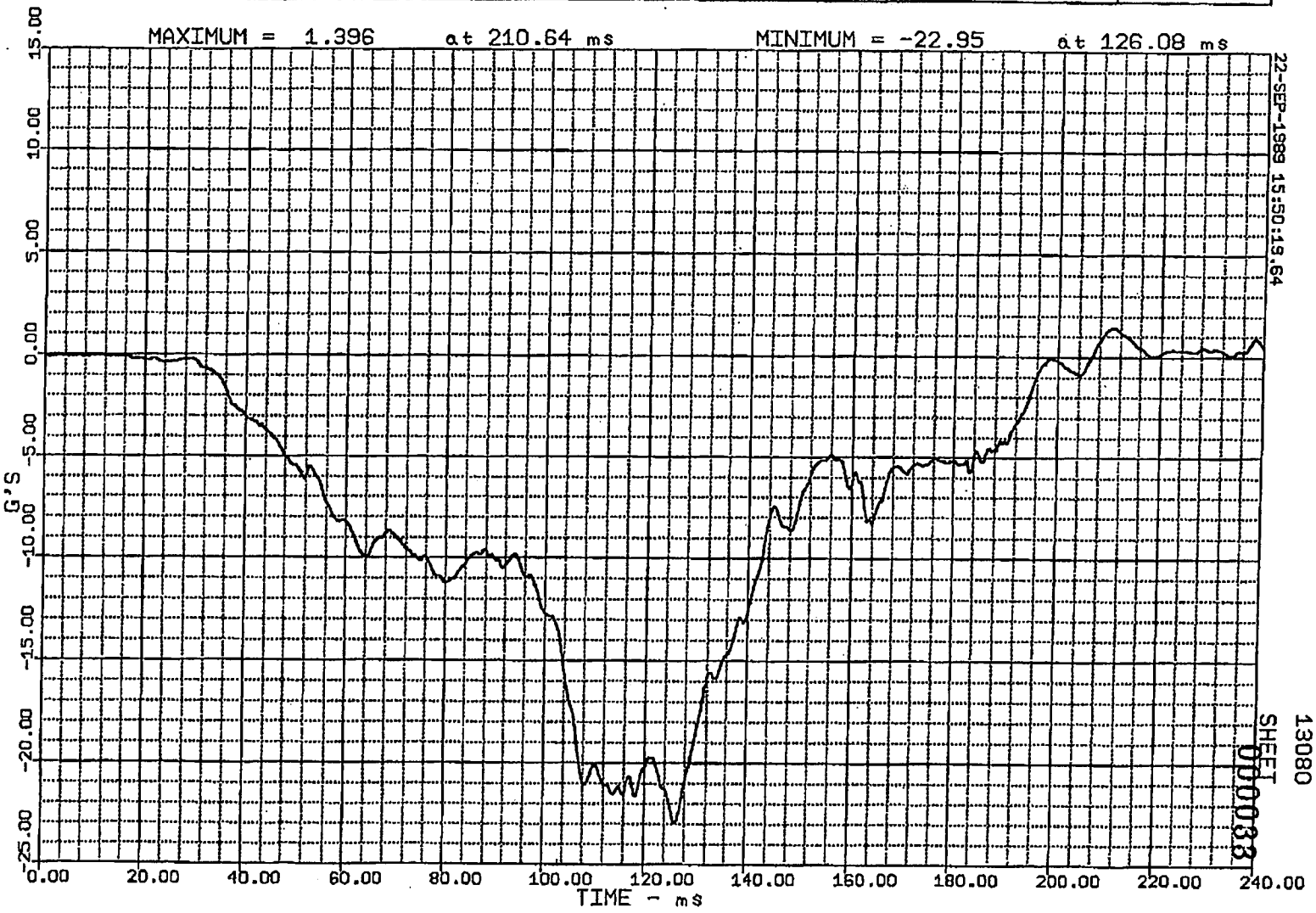


13080 SHEET 2 0003

CRTS 0007290

PRODUCED BY FORD
1140

L0NG R/F DUMMY CHEST				199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	23	180	9-22-89	15:31:43



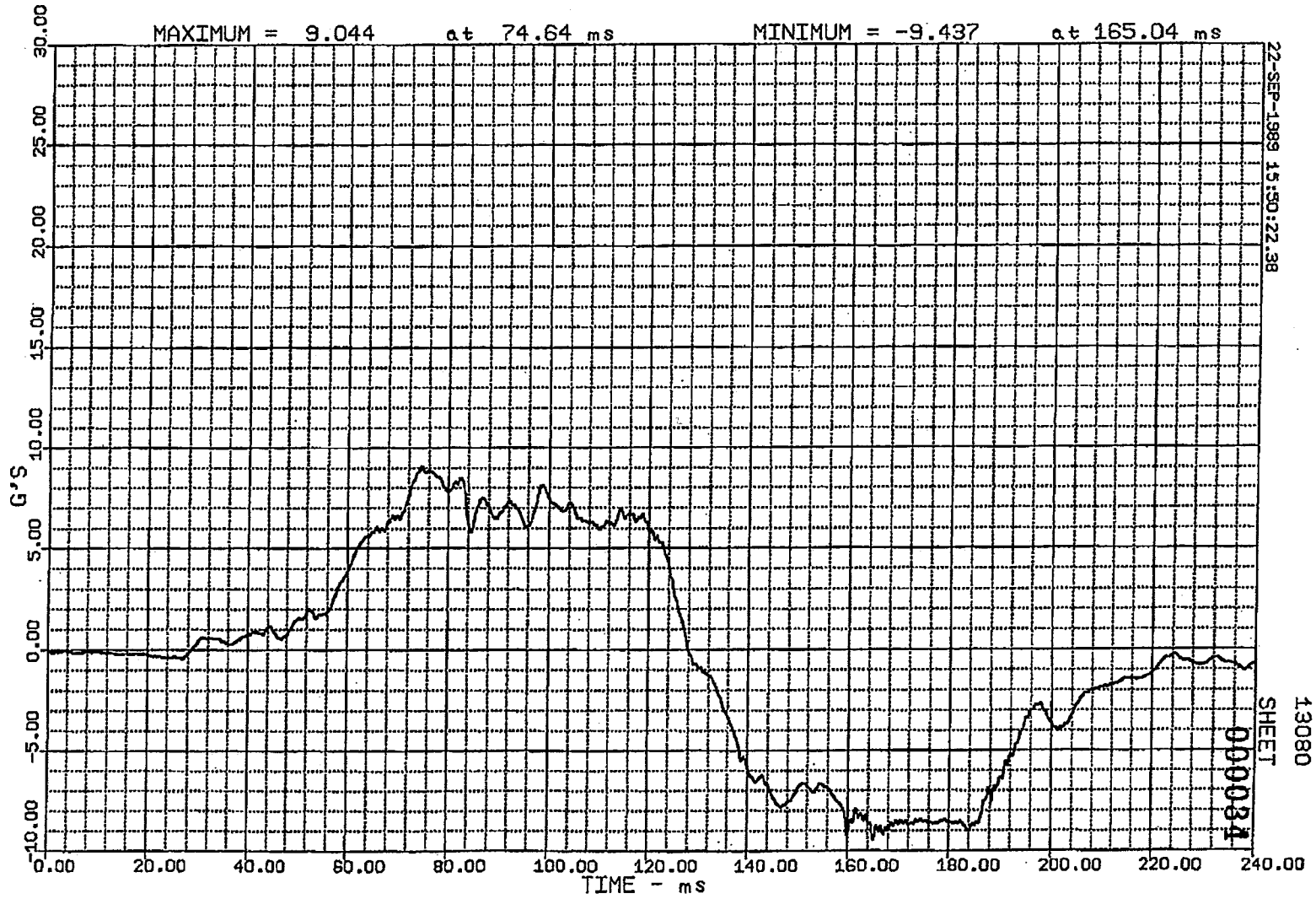
13080

SHEET 0000033

CRTS 0007290

PRODUCED BY FORD
1141

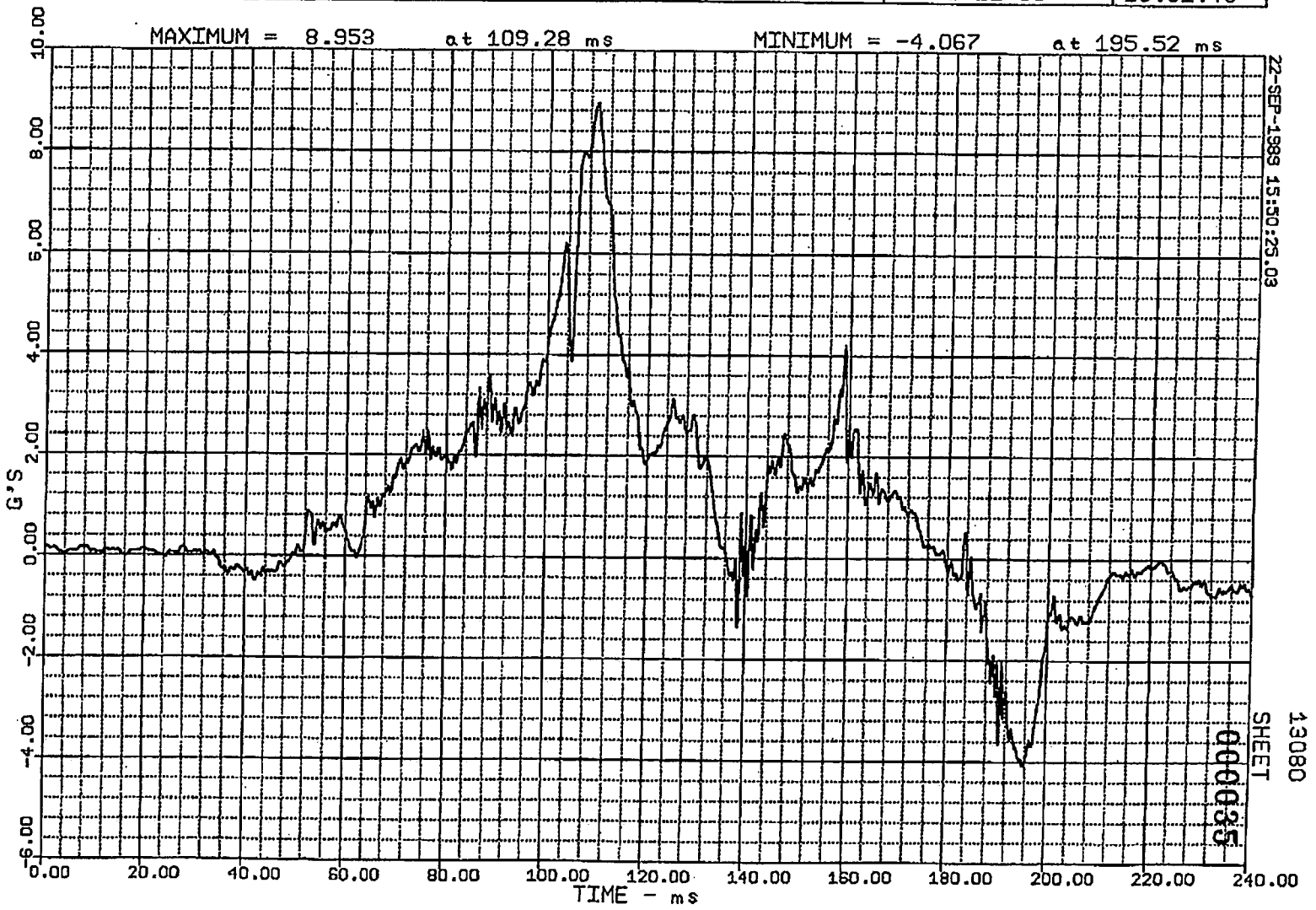
VERT	R/F DUMMY CHEST		199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	24	180	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1142

LAT R/F DUMMY CHEST			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	25	180	9-22-89	15:31:43



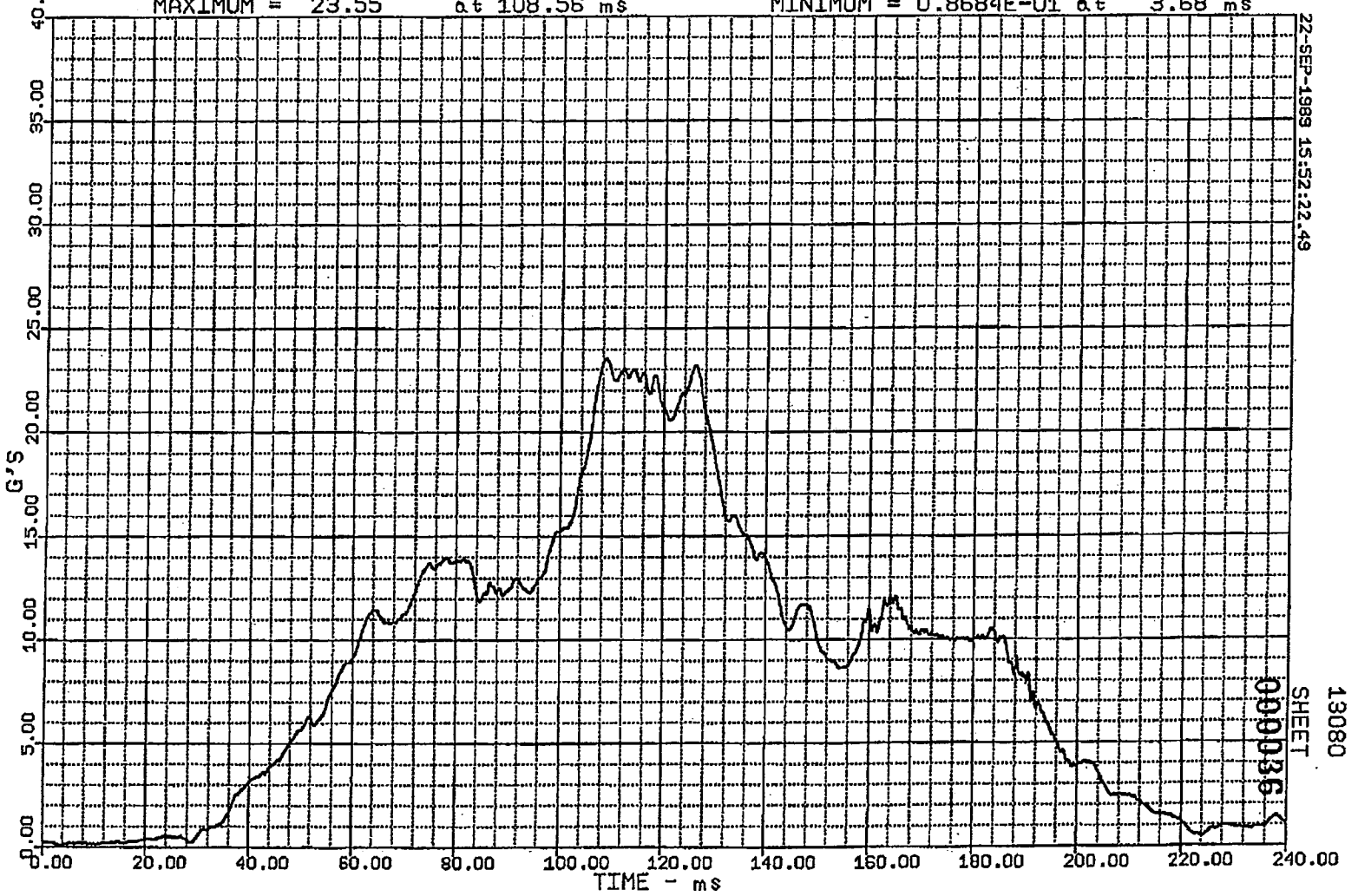
CRTS 0007290

PRODUCED BY FORD
1143

RES. R/F DUMMY CHEST			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	82	180	9-22-89	15:31:43

CUMDUR = 23.02 Duration time = 3.00

MAXIMUM = 23.55 at 108.56 ms MINIMUM = 0.8684E-01 at 3.68 ms



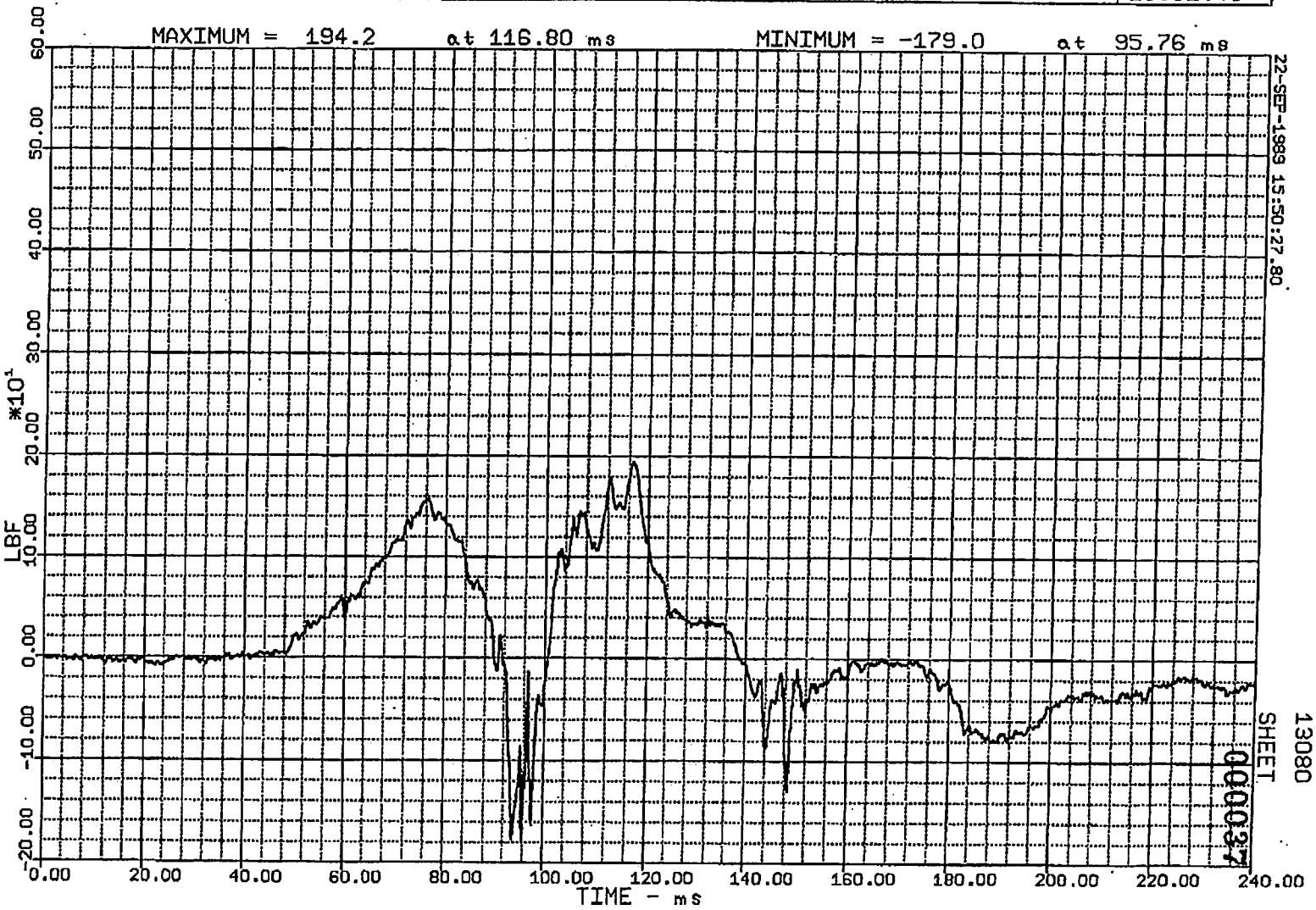
13080 SHEET 000036

CRTS 0007290

PRODUCED BY FORD 1144

AXIAL R/F DUMMY L/FEMUR L0AD B#1 199200 TARGET

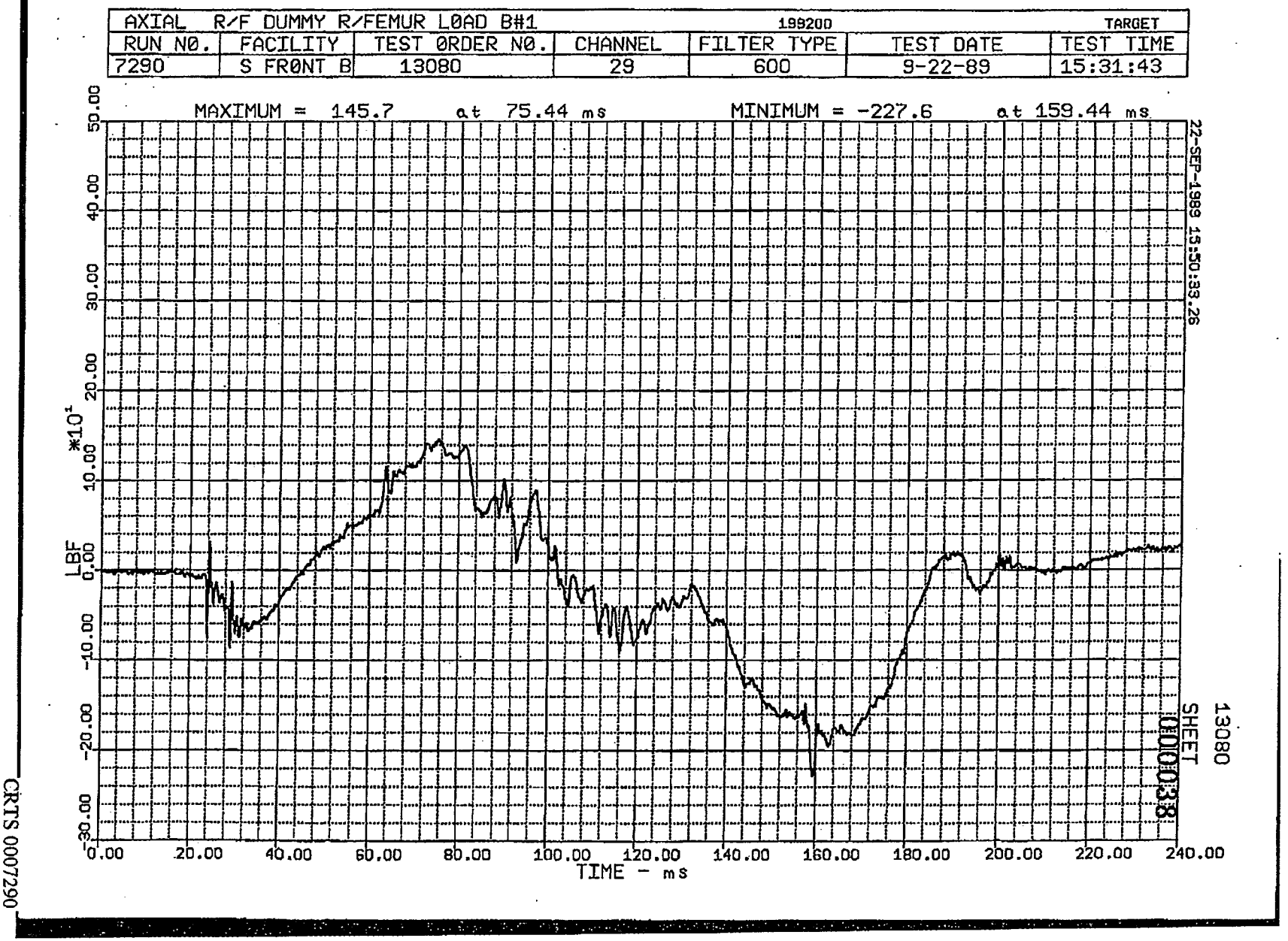
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	27	600	9-22-89	15:31:43



13080 SHEET 0000137

CRTS 0007290

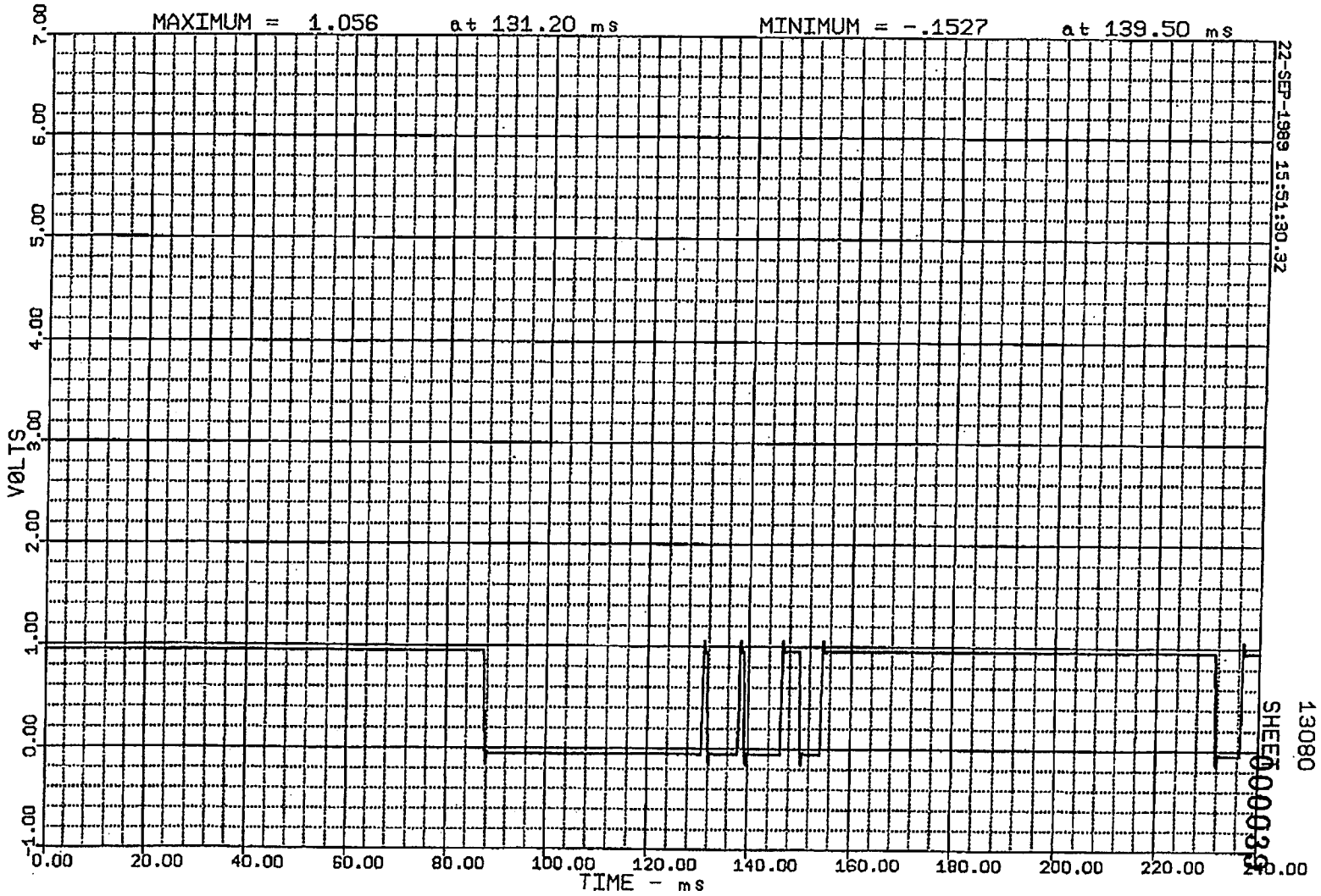
PRODUCED BY FORD
1145



CRTS 0007290

PRODUCED BY FORD
1146

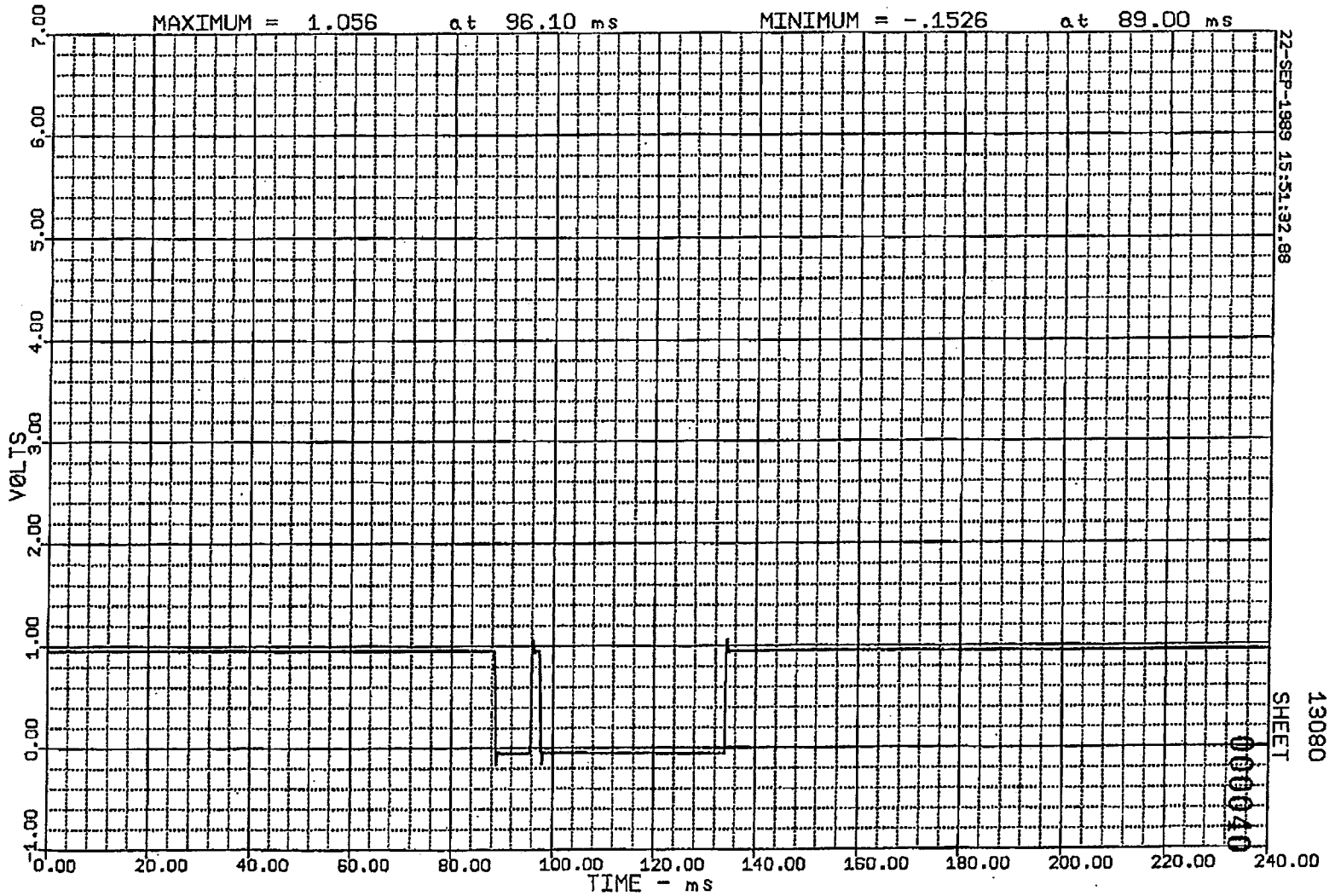
R/F DUMMY L/KNEE SW				199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	59	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1147

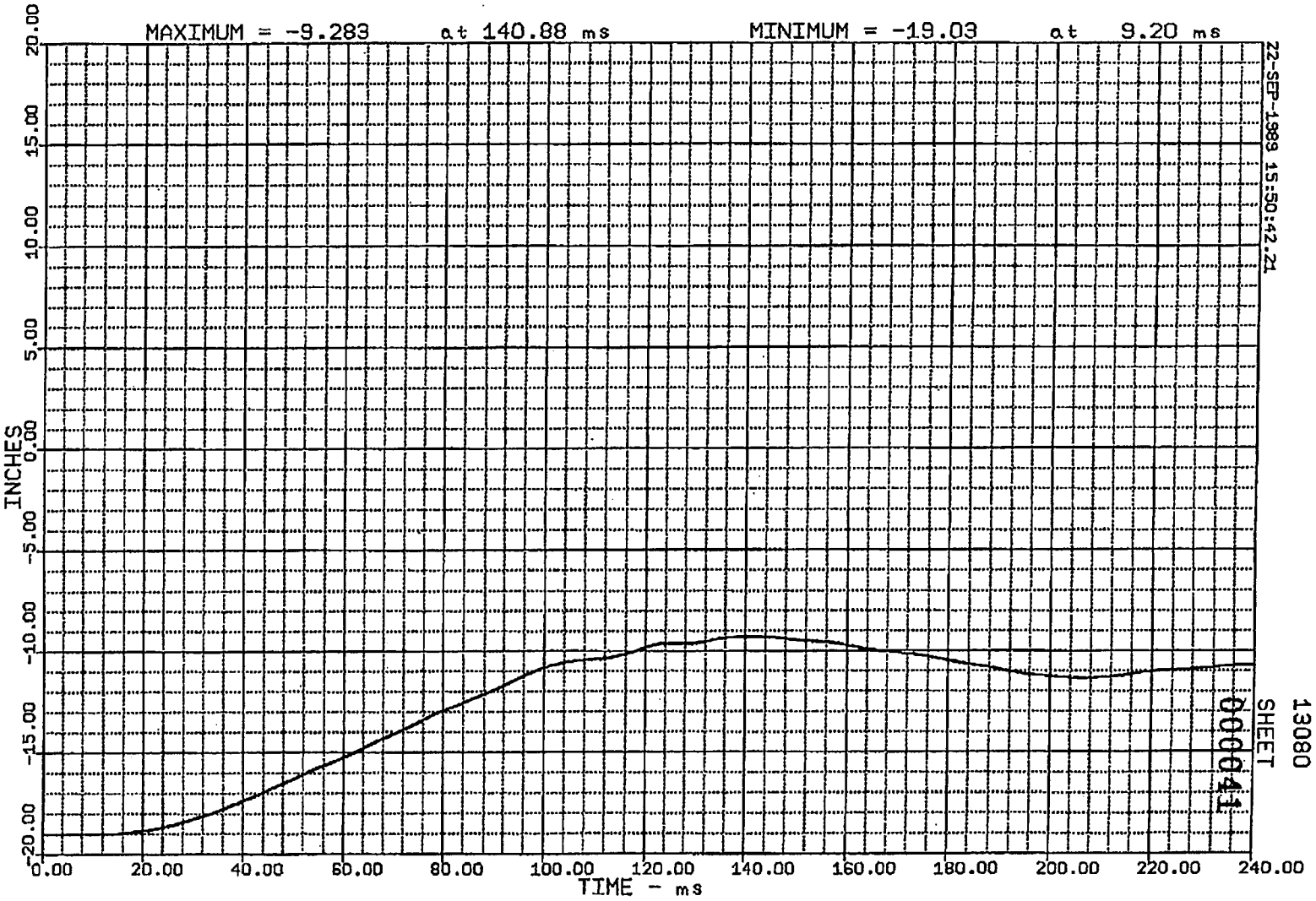
R/F DUMMY R/KNEE SW			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	60	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1148

R/F DUMMY L/KNEE S.P.			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	33	60	9-22-89	15:31:43



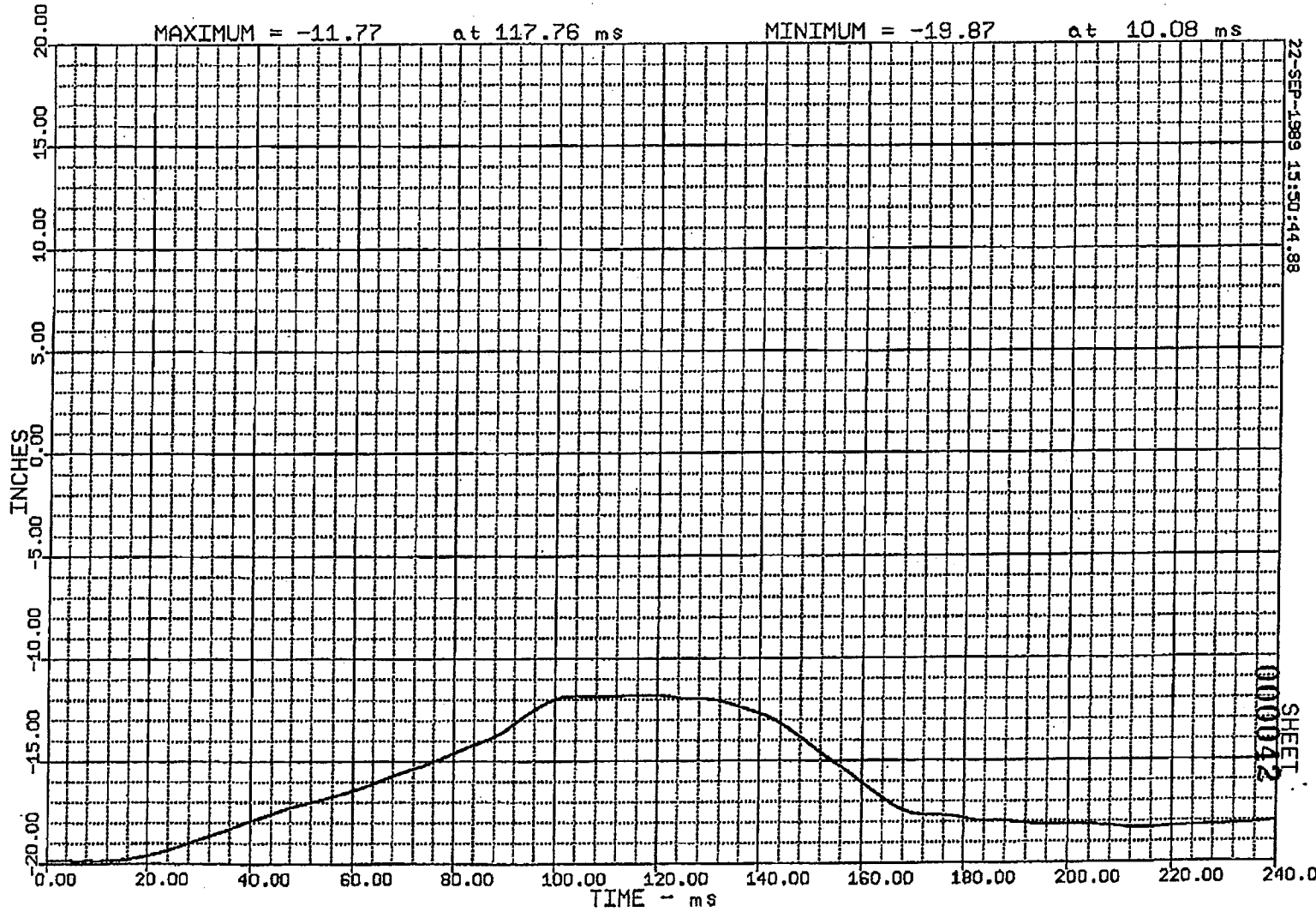
13080

SHEET 000041

CRTS 0007290

PRODUCED BY FORD
1149

R/F DUMMY R/KNEE S.P.			199200			TARGET
RUN N0.	FACILITY	TEST ØRDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	34	60	9-22-89	15:31:43



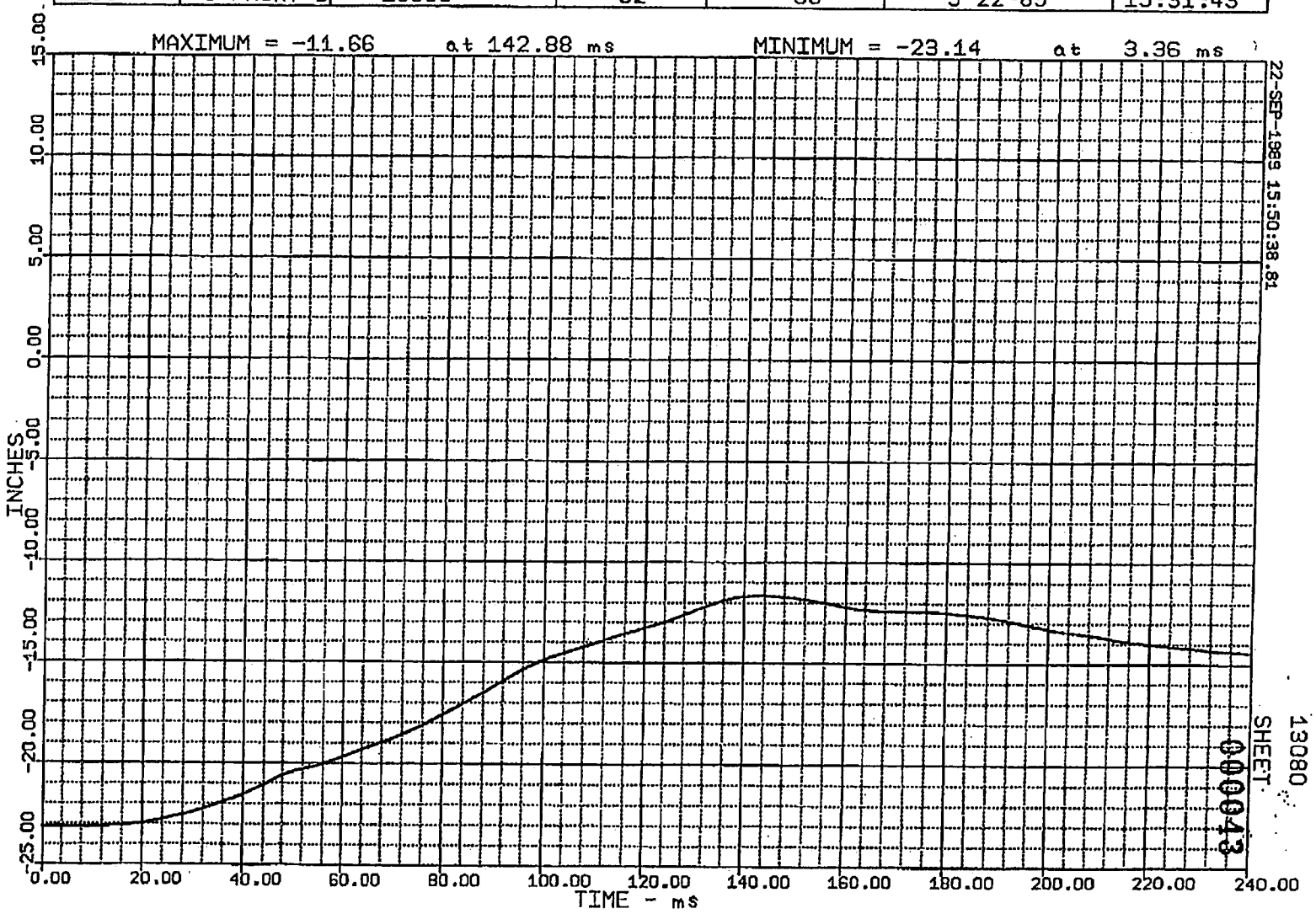
13080

SHEET 0000142

CRTS 0007290

PRODUCED BY FORD
1150

R/F DUMMY PELVIS S.P.				199200		TARGET
RUN N0.	FACILITY	TEST ØRDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	32	60	9-22-89	15:31:43

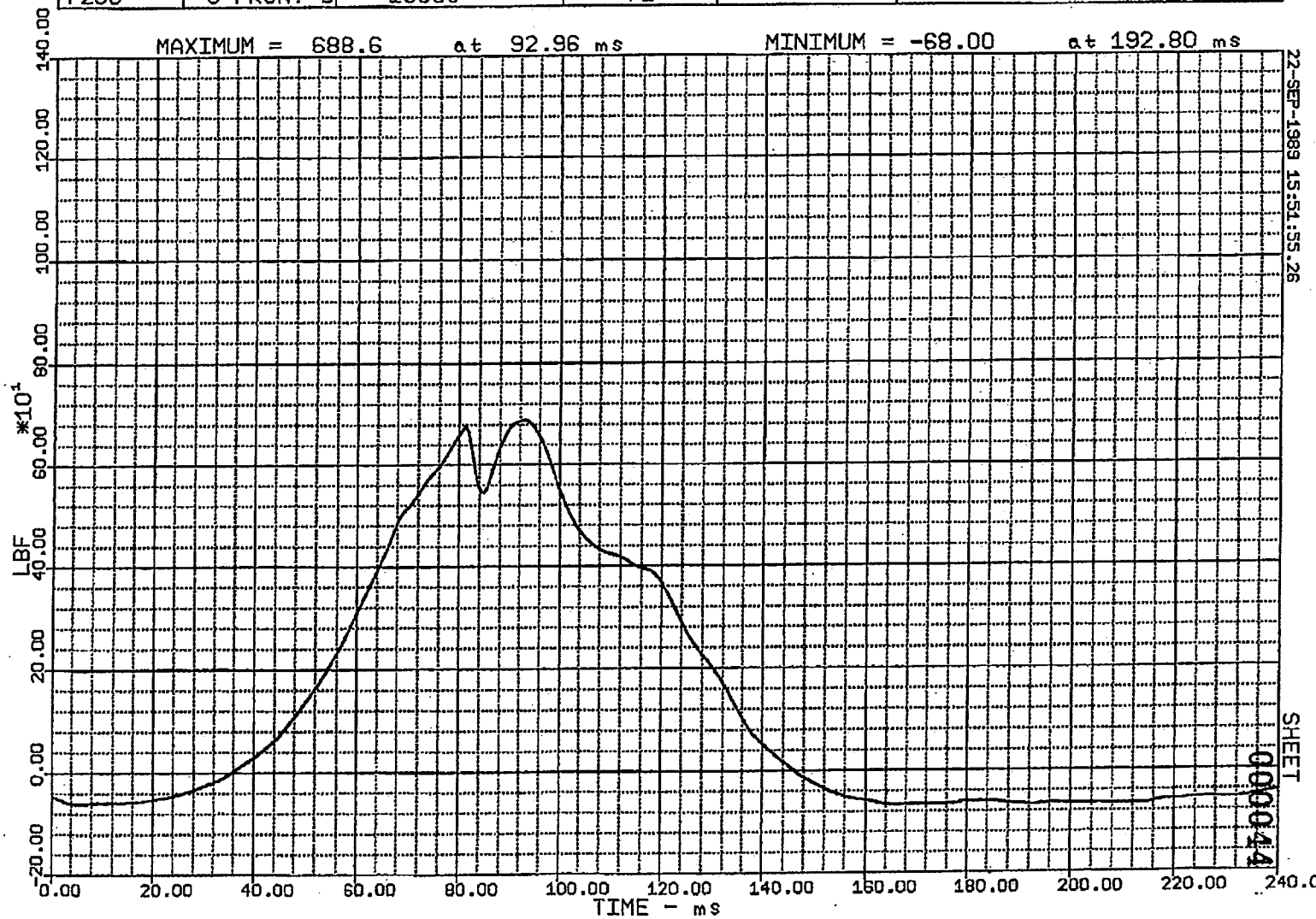


13080
SHEET 000043

CRTS 0007290

PRODUCED BY FORD
1151

R/F LAP BELT @ ANCH0R			19920D			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	71	60	9-22-89	15:31:43

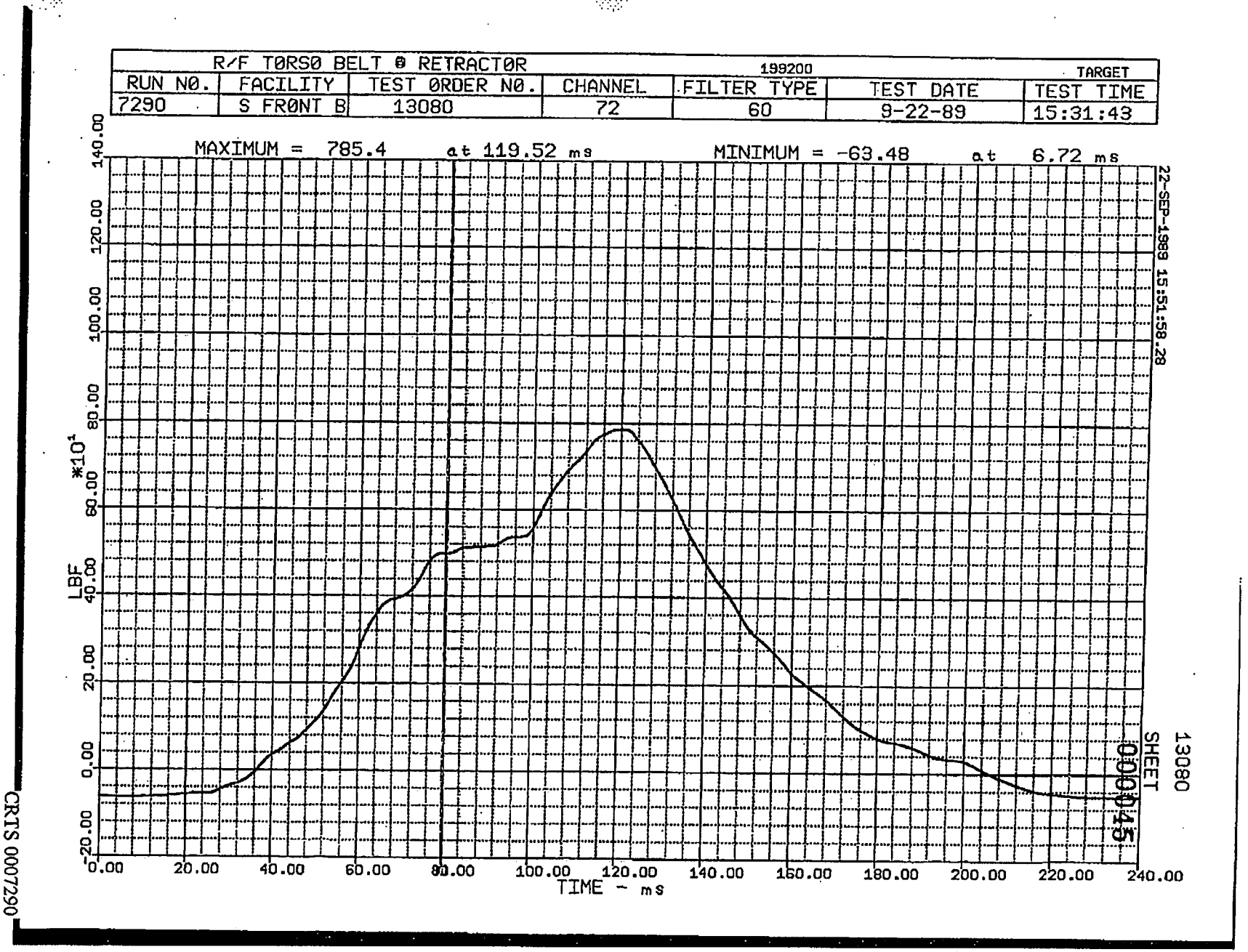


13080

SHEET 0000144

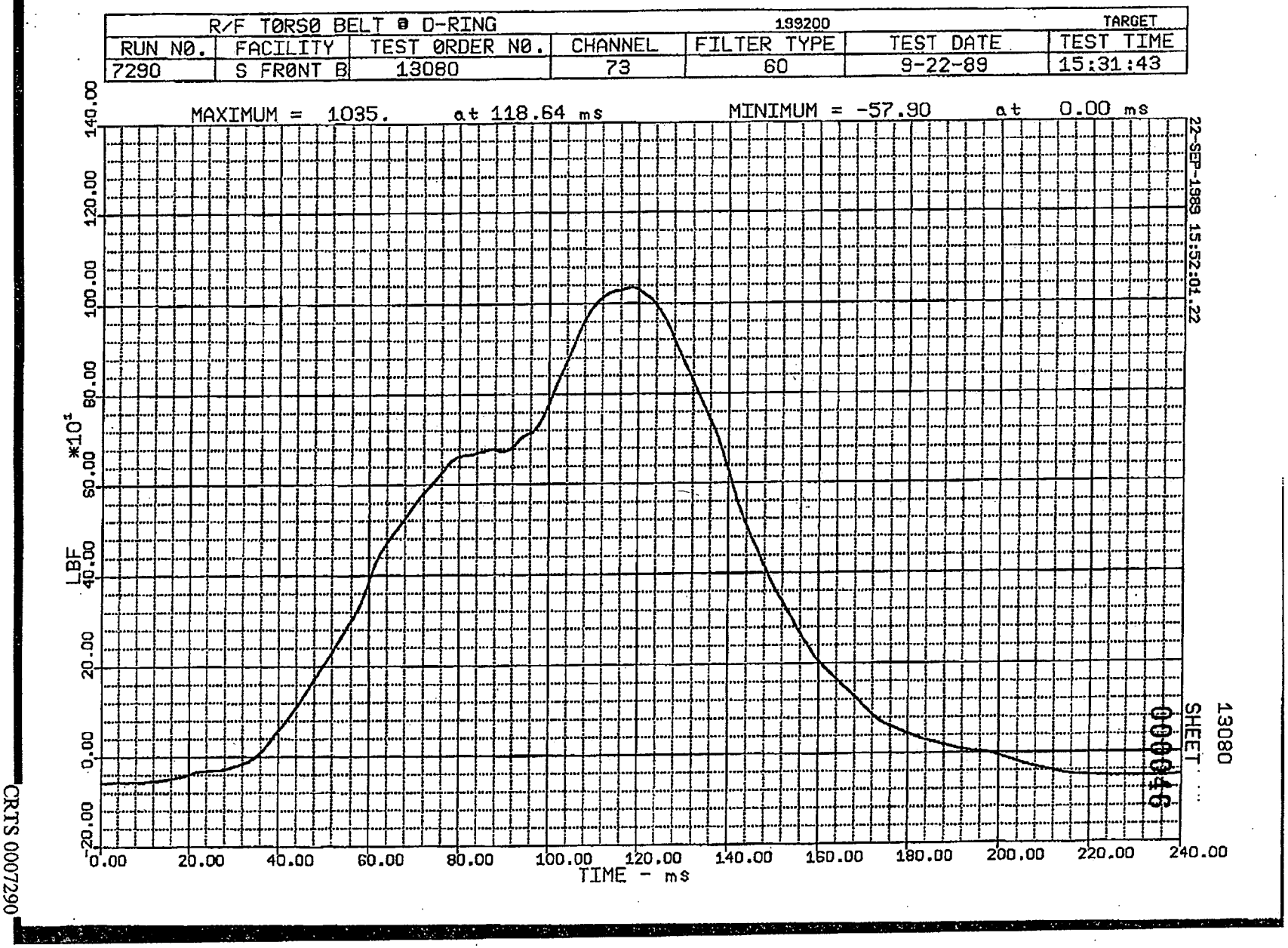
CRTS 0007290

PRODUCED BY FORD
1152



CRTS 0007290

PRODUCED BY FORD
1153

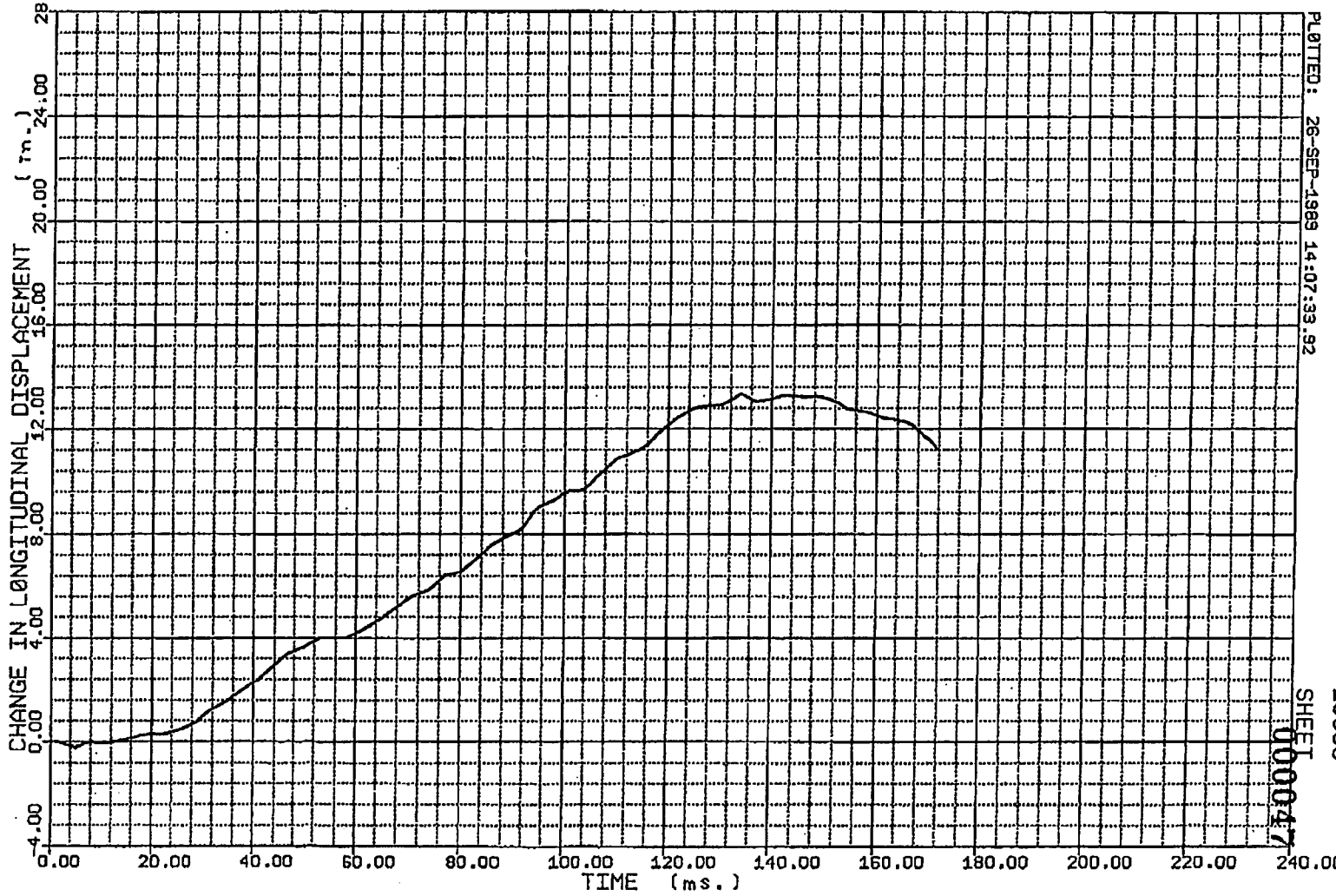


CRTS 0007290

PRODUCED BY FORD
1154

Y - AXIS: R/S HEAD - PASSENGER WRT R/ROCKER AT SEAT BOLT MAX = 13.33 at 134.00 MIN = -.2153 at 5.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
7290	BARRIER	13080	SCALE	APPLIED

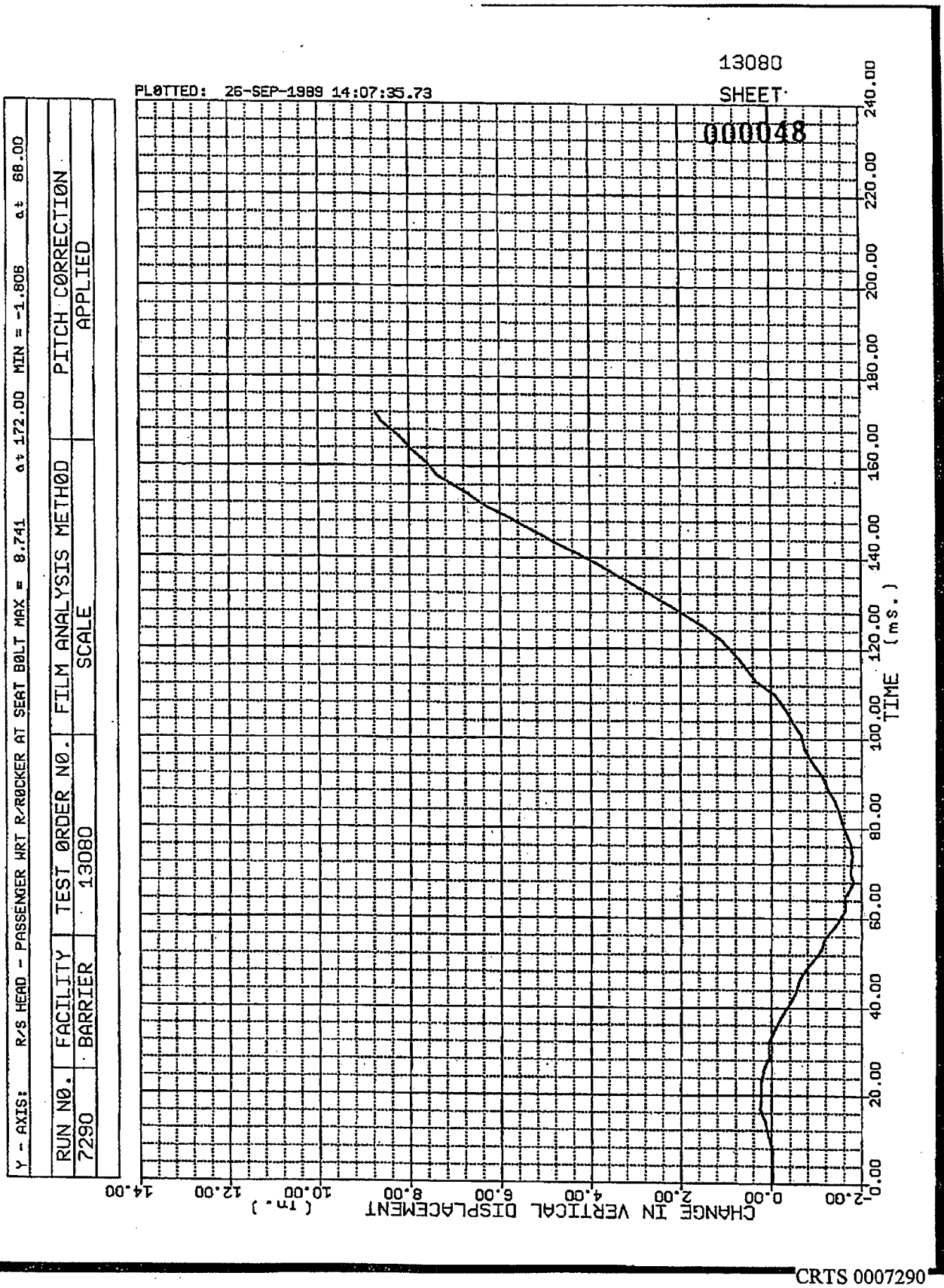


13080

SHEET 000047

CRTS 0007290

PRODUCED BY FORD
1155



CRTS 0007290

PRODUCED BY FORD

Y - AXIS: R/SH0ULDER - PASSENGER WRT R/R0CKER AT SEAT B0LMAX = 5.687 at 107.00 MIN = -.1877 at 5.00

RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
7290	BARRIER	13080	SCALE	APPLIED

PL0TTED: 26-SEP-1988 14:08:03.44

13080

SHEET 000049

CRTS 0007290

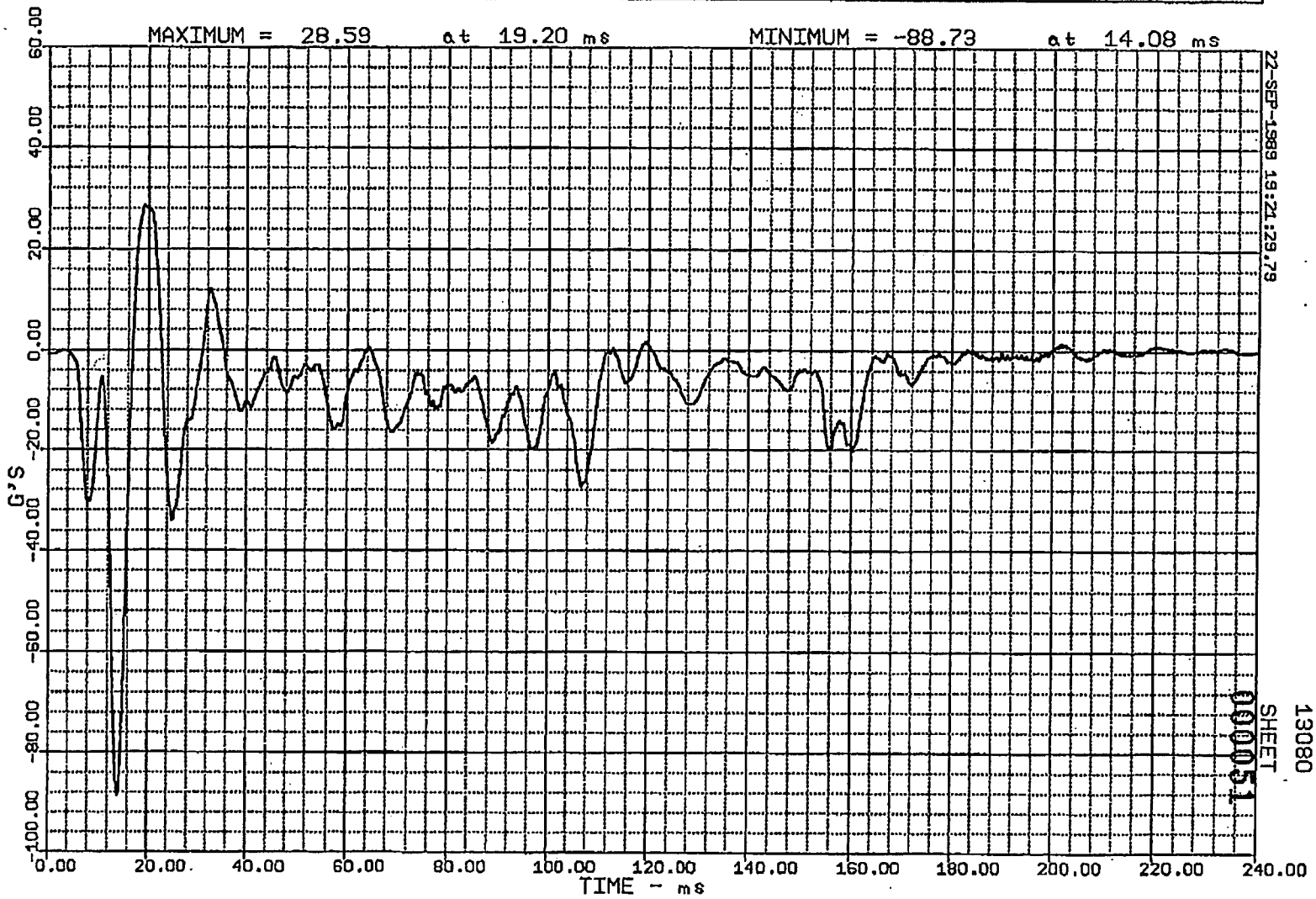
PRODUCED BY FORD
1157

Y - AXIS: R/SH0ULDER - PASSENGER WRT R/R0CKER AT SEAT B0LMAX = 5.740 at 172.00 MIN = -1.897 at 70.00				
RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
7290	BARRIER	13080	SCALE	APPLIED

CRTS 0007290

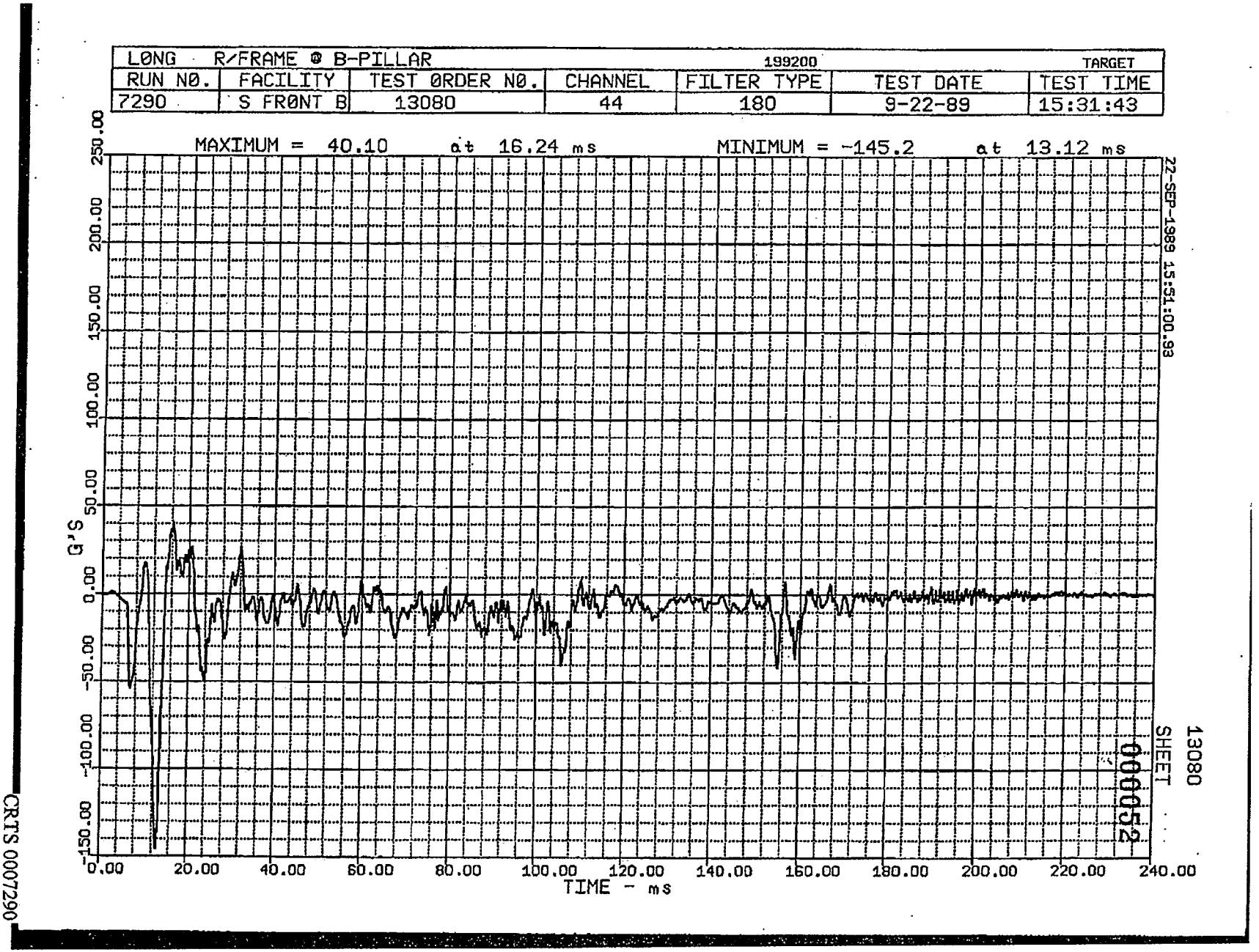
PRODUCED BY FORD
1158

LØNG	R/FRAME @ B-PILLAR			199200		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	44	60	9-22-89	15:31:43



CRTS 0007290

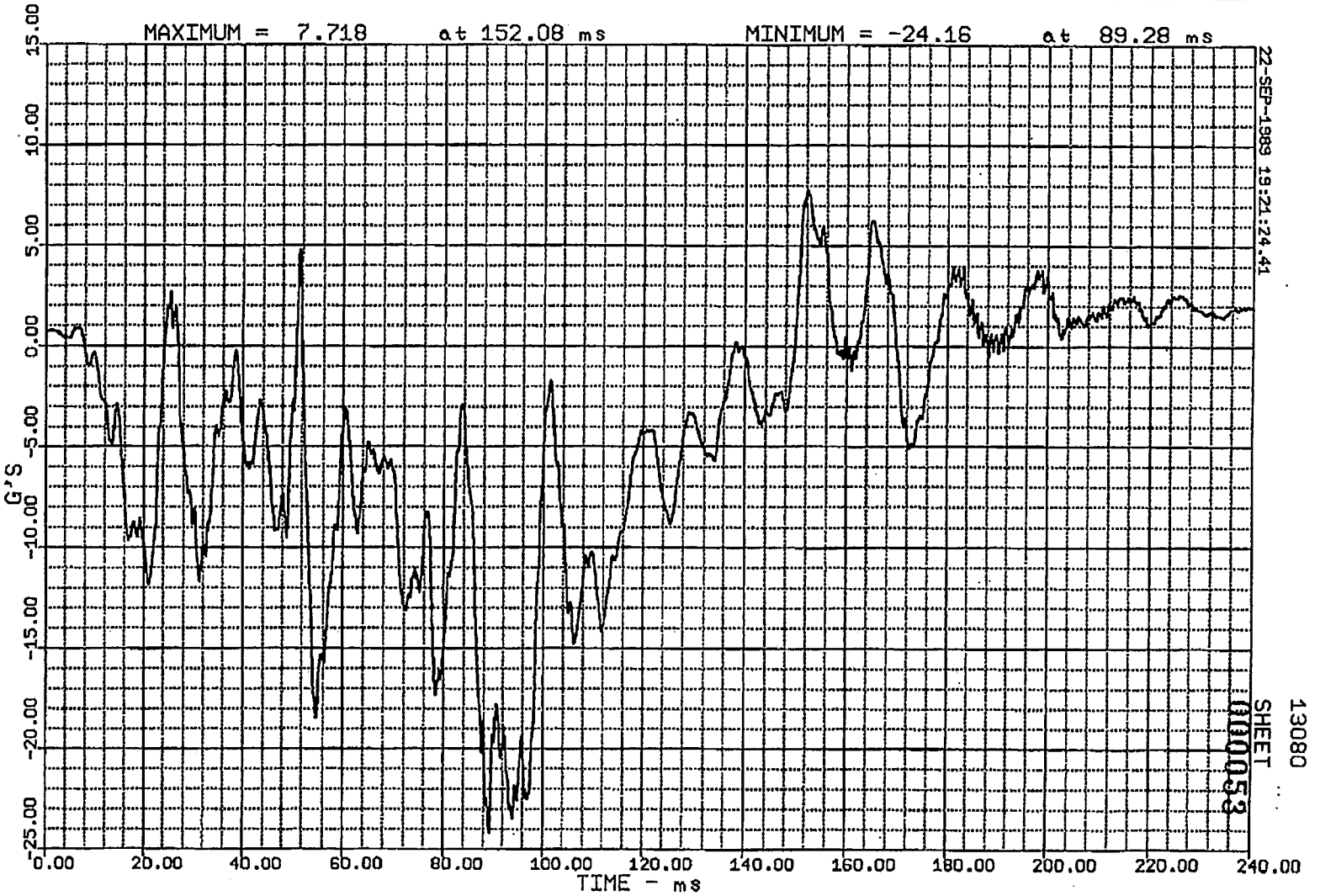
PRODUCED BY FORD
1159



CRTS 0007290

PRODUCED BY FORD
1160

LØNG L/FRAME @ B-PILLAR				19920D		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	41	60	9-22-89	15:31:43

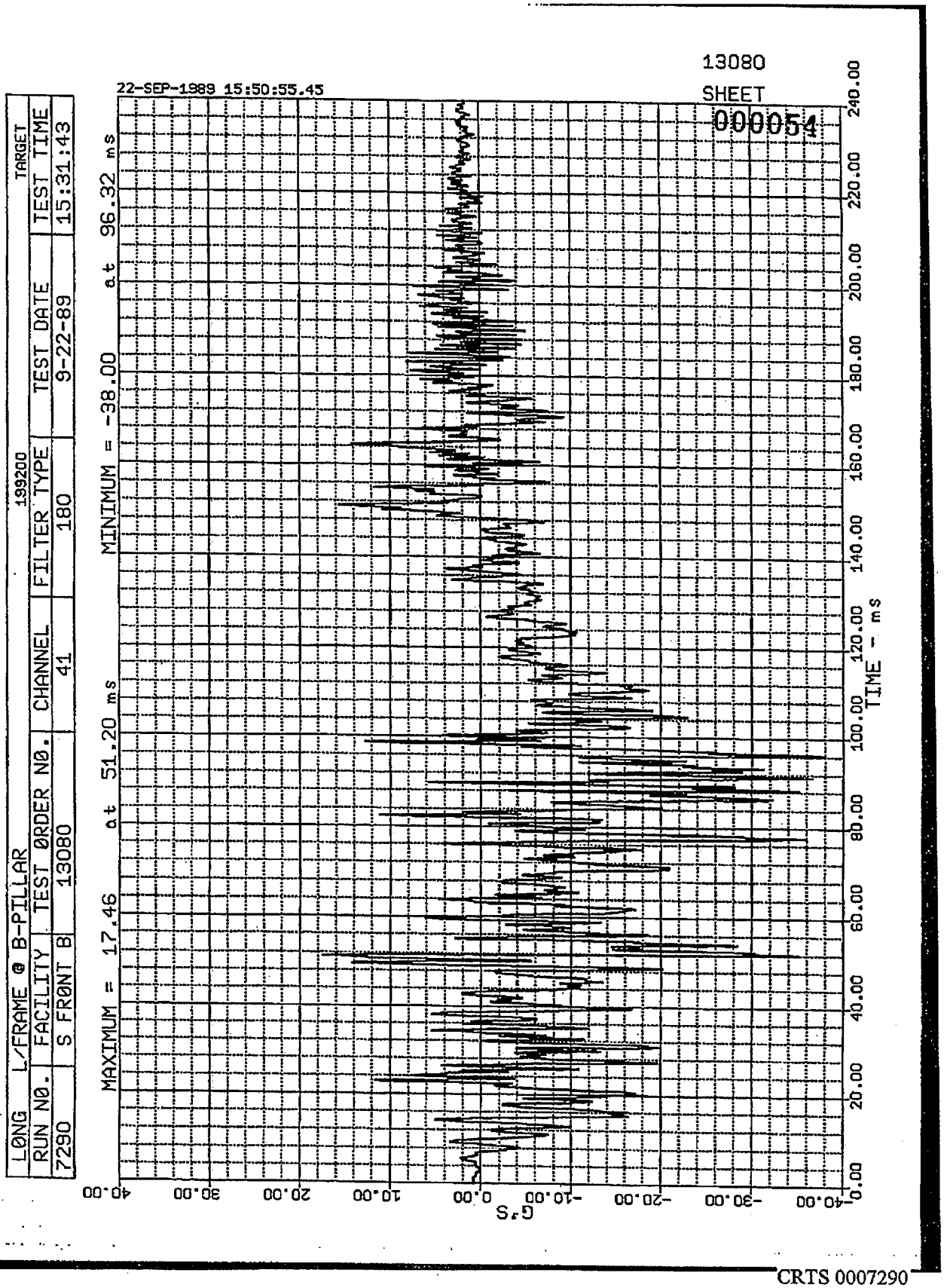


13080

SHEET 000053

CRTS 0007290

PRODUCED BY FORD
1161

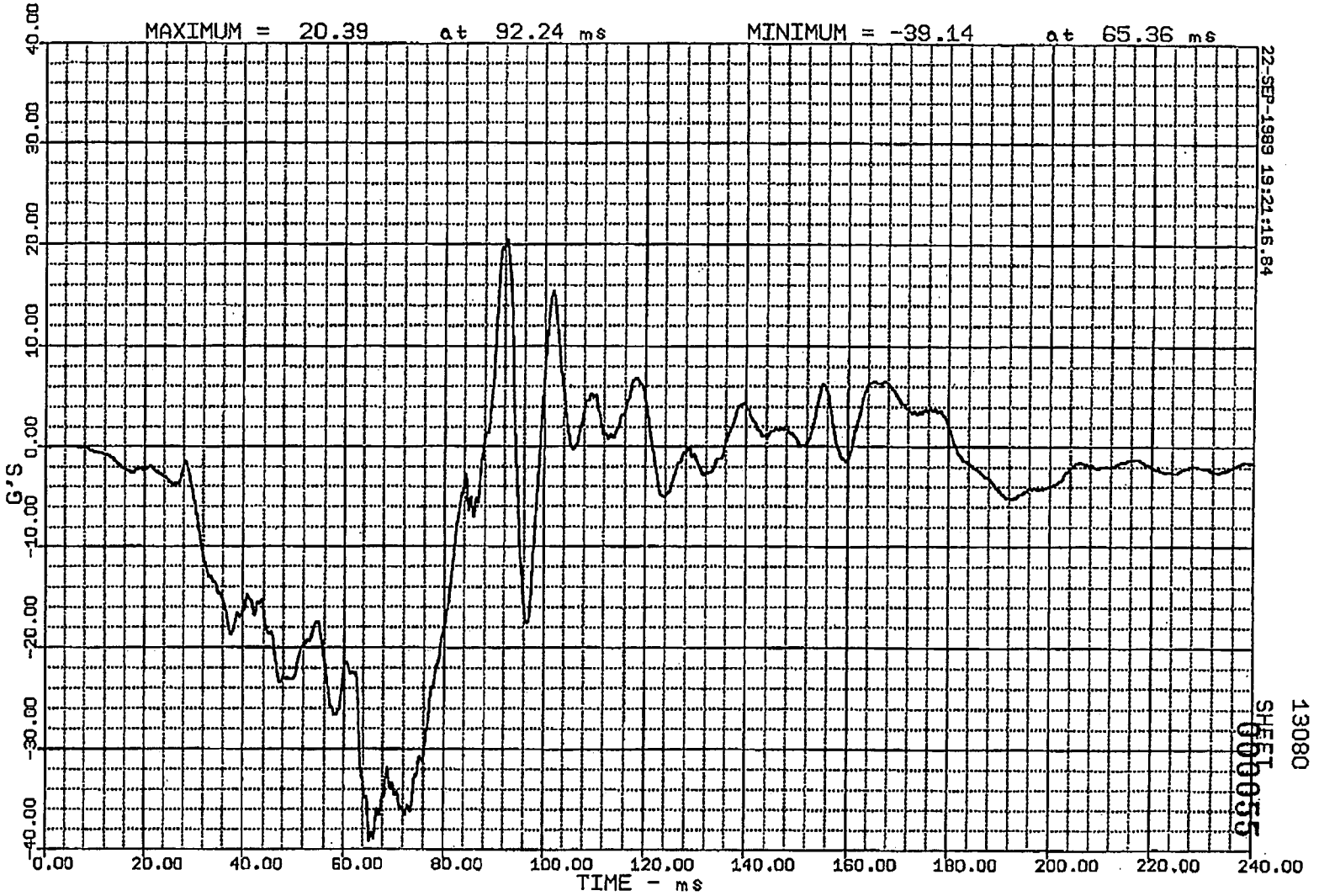


CRTS 0007290

PRODUCED BY FORD

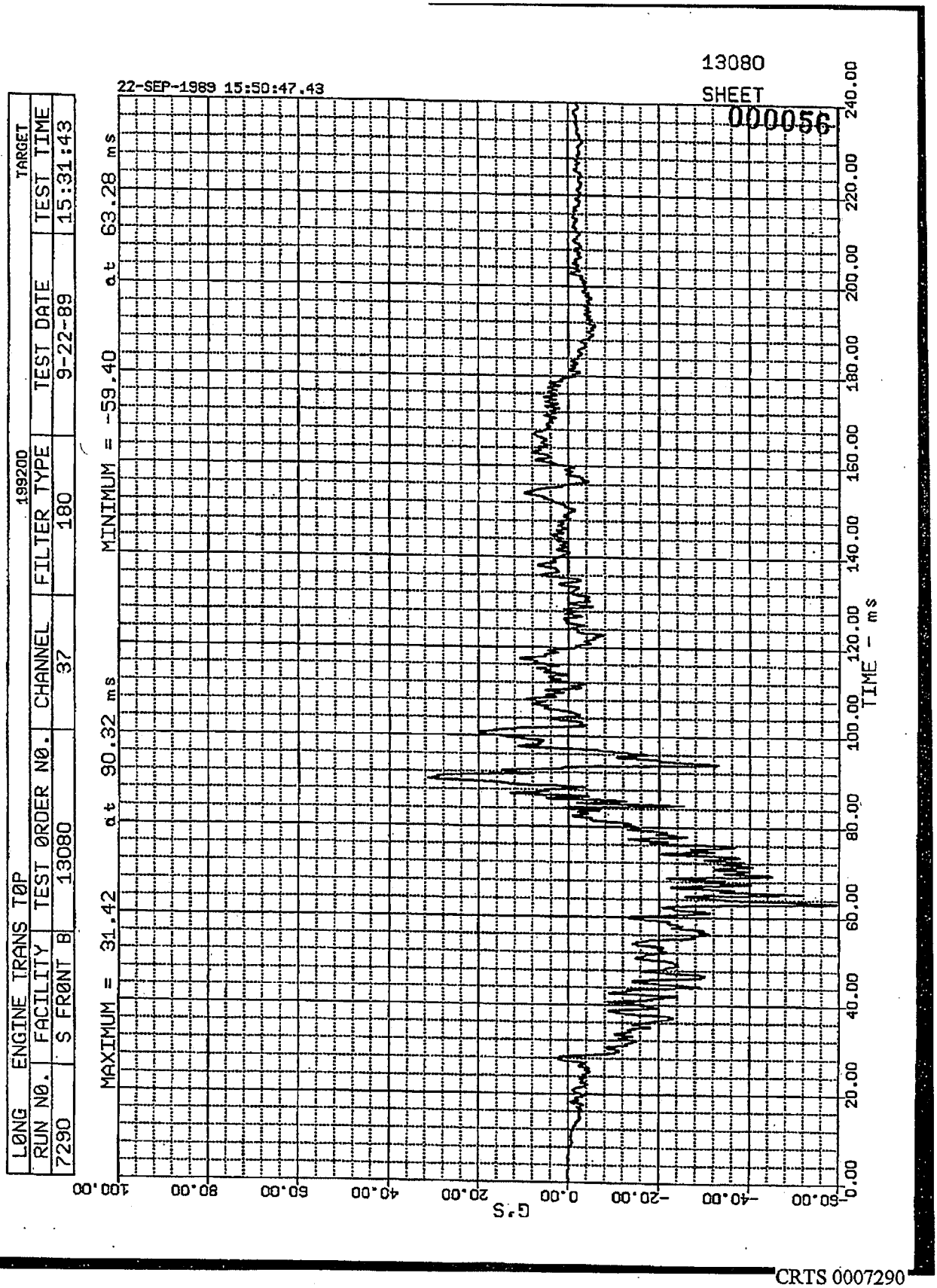
1162

LØNG	ENGINE TRANS TØP			199200		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	37	60	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1163

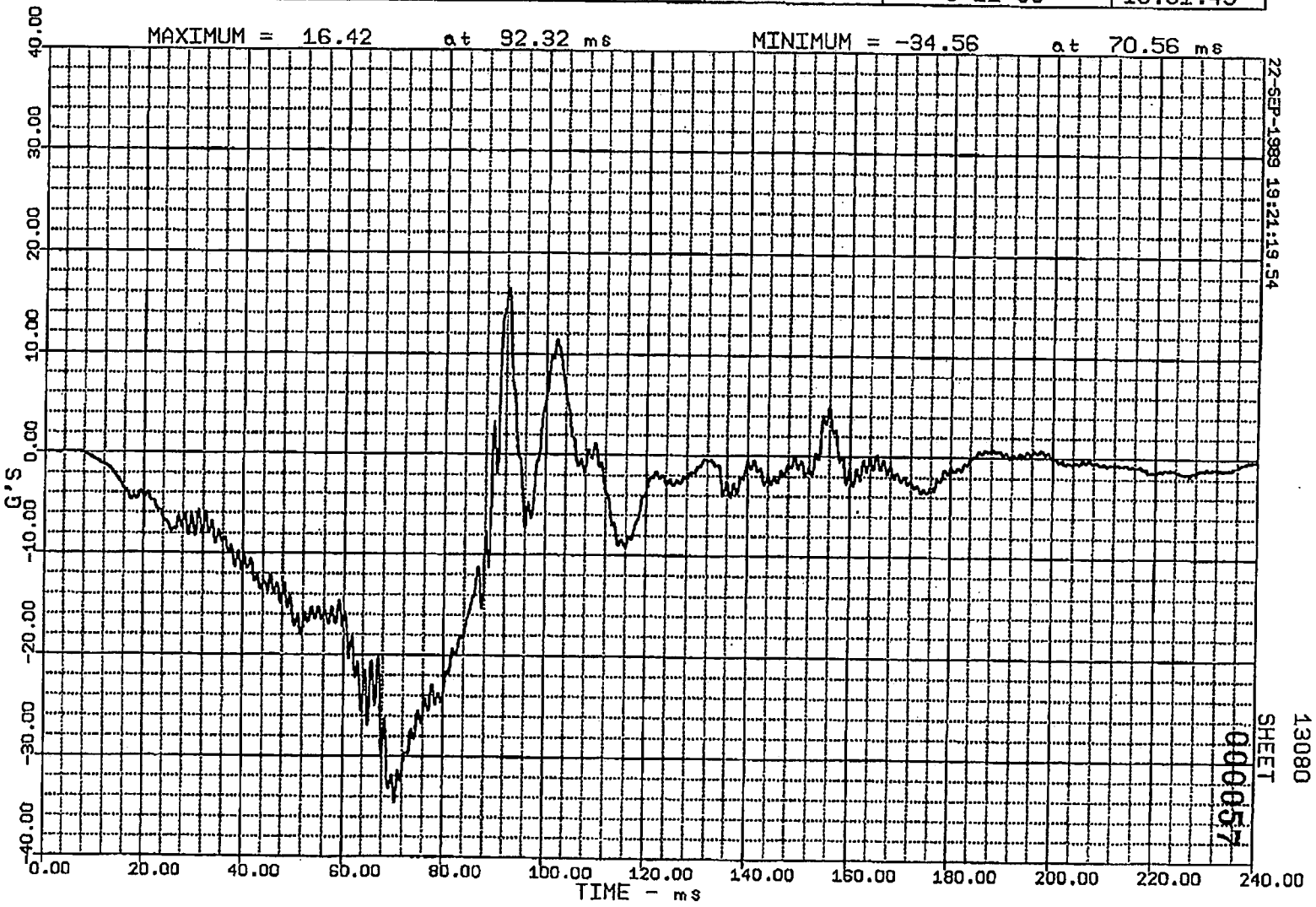


CRTS 0007290

PRODUCED BY FORD
1164

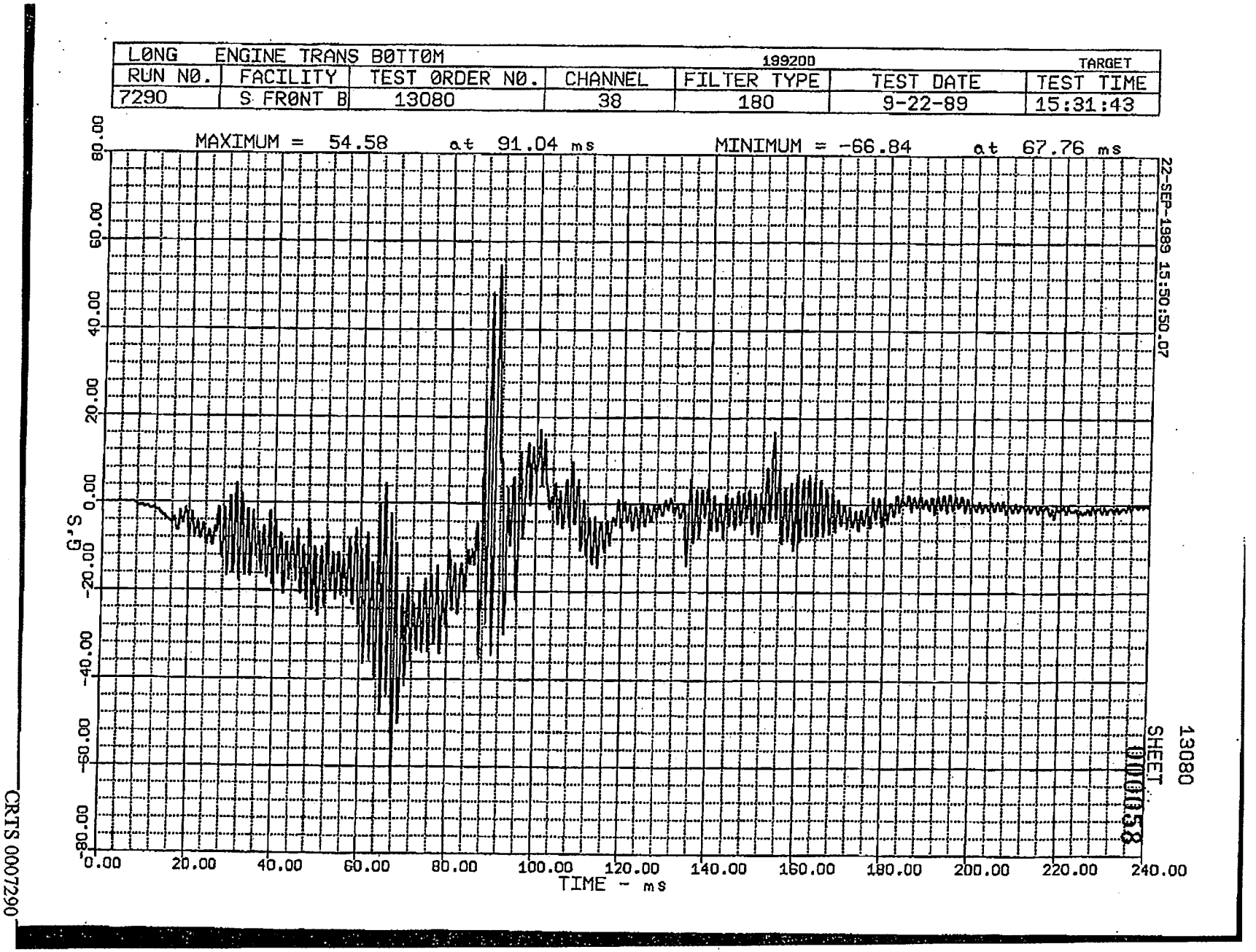
LØNG ENGINE TRANS BØTTØM 199200

RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TARGET TEST TIME
7290	S FRØNT B	13080	38	60	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1165

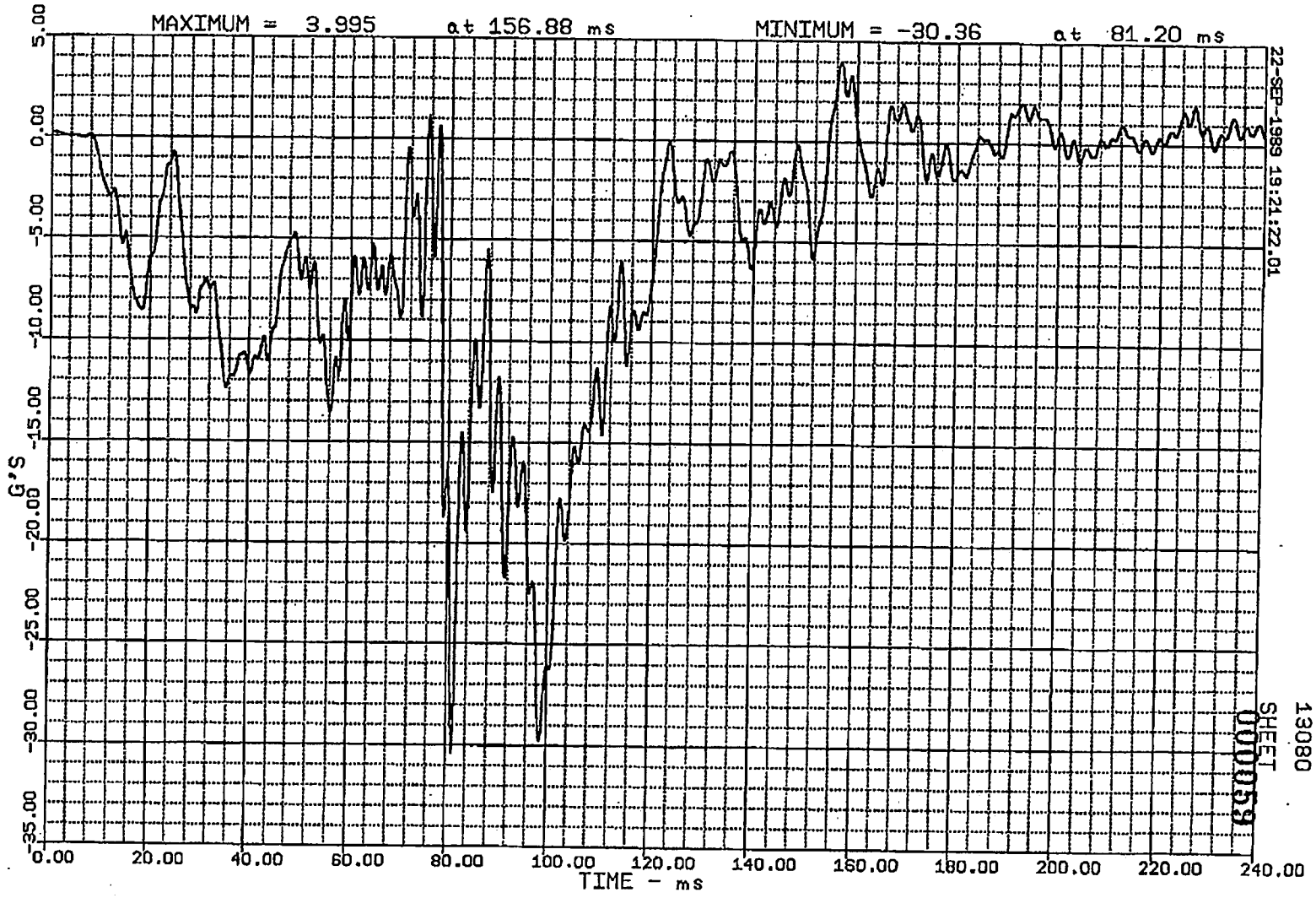


CRTS 0007290

PRODUCED BY FORD

1166

LØNG L/RØCKER @ B-PILLAR				199200		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	40	60	9-22-89	15:31:43

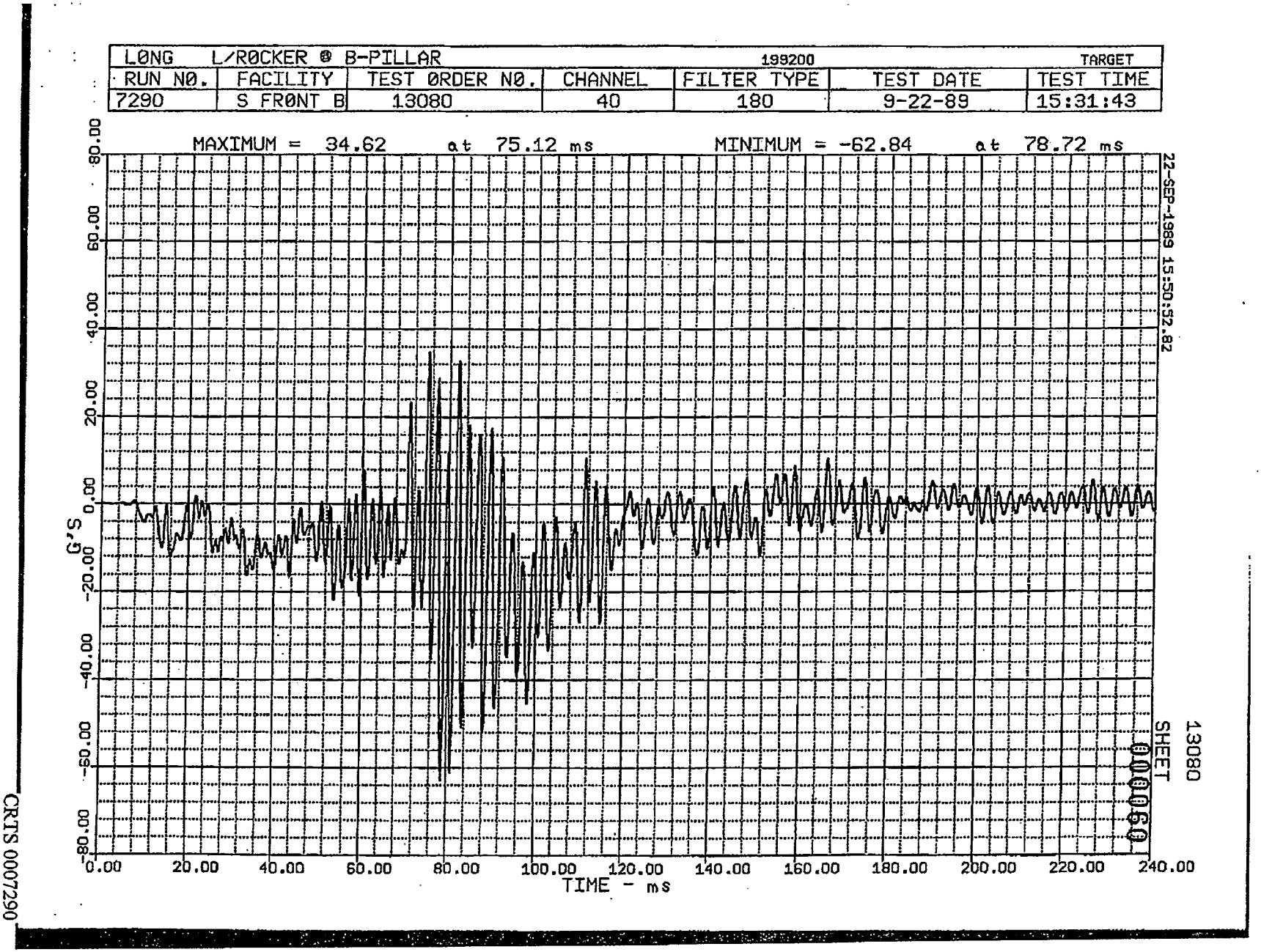


13080

SHEET 0000059

CRTS 0007290

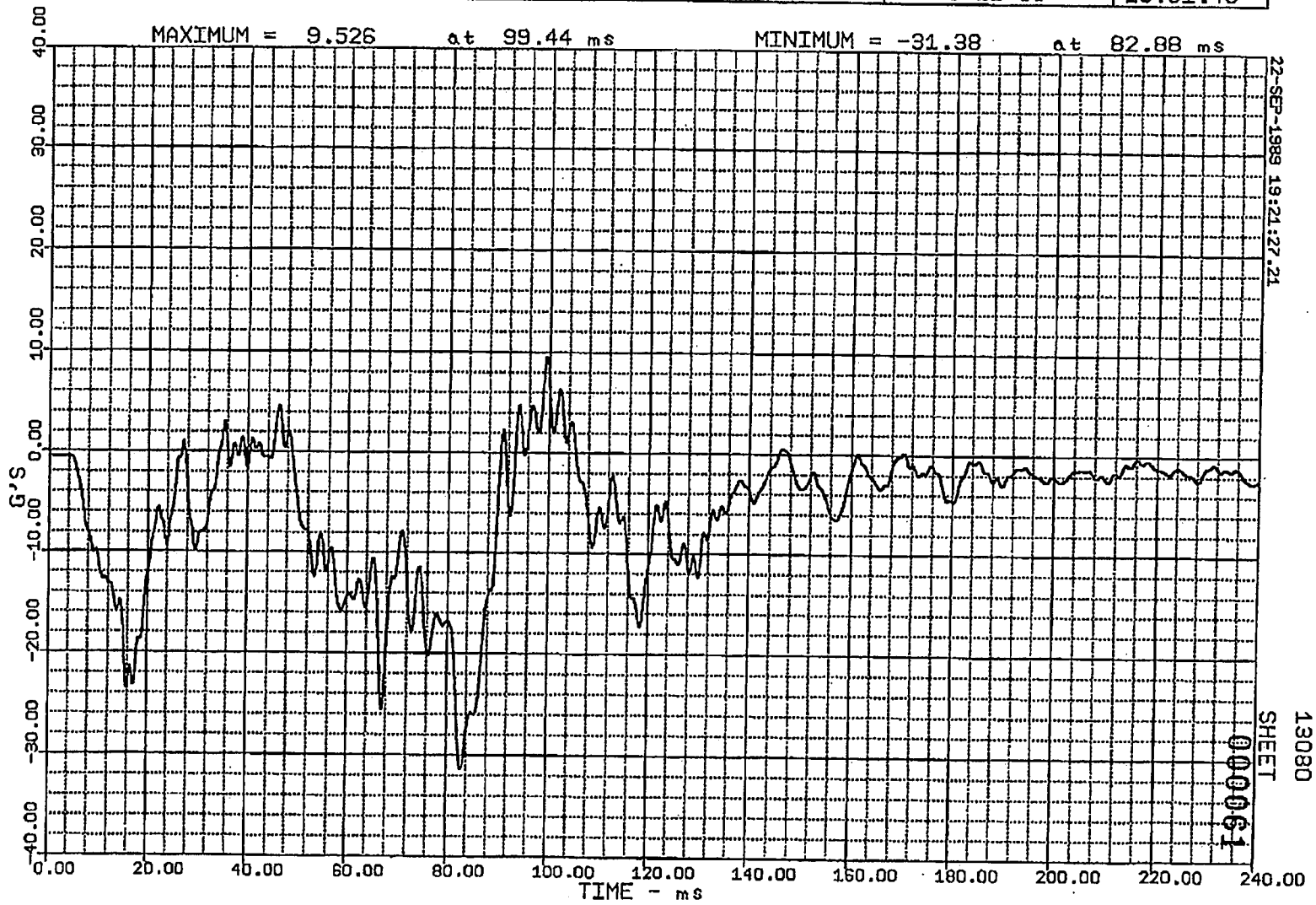
PRODUCED BY FORD
1167



CRTS 0007290

PRODUCED BY FORD
1168

LØNG R/RØCKER @ B-PILLAR				199200		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	43	60	9-22-89	15:31:43

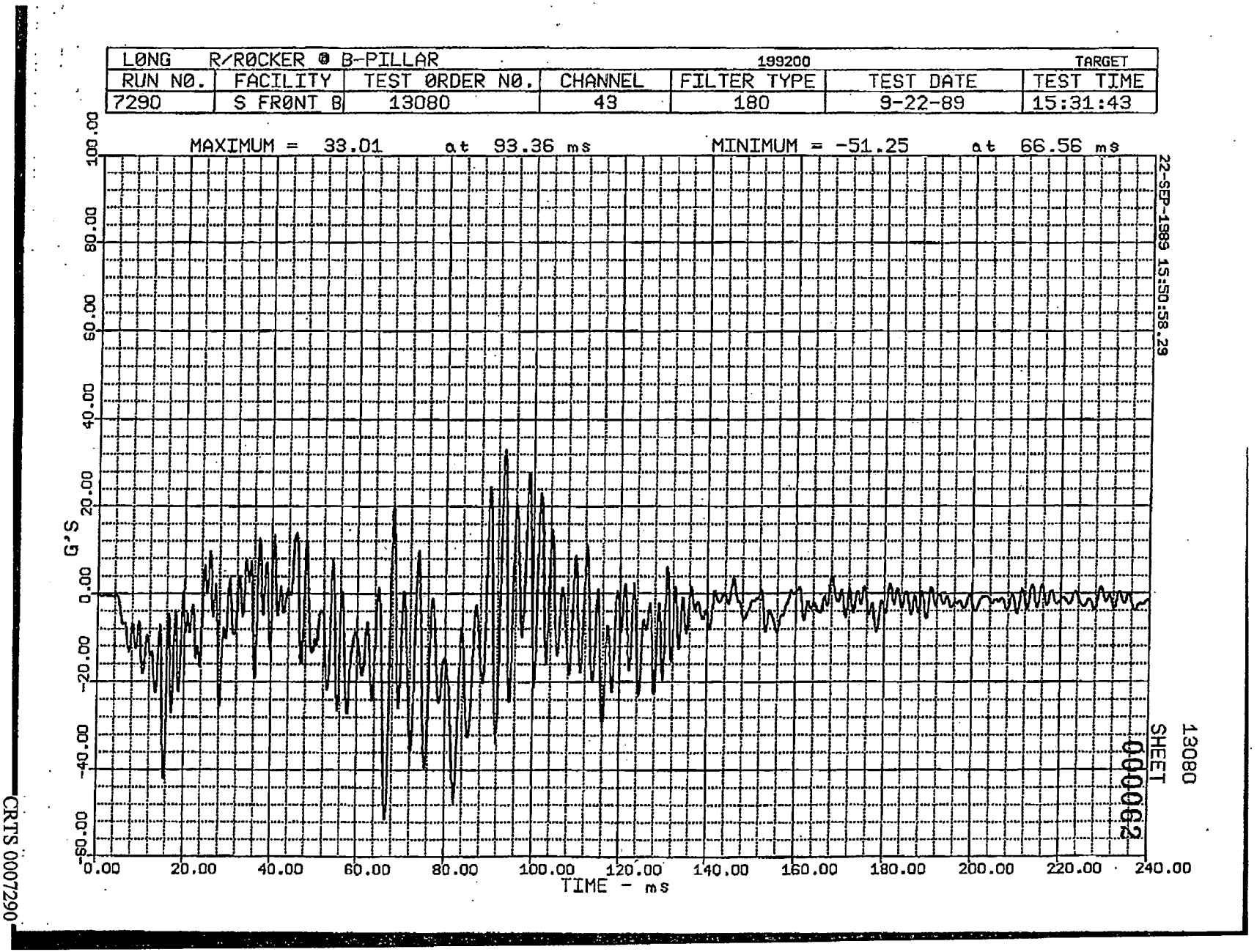


13080

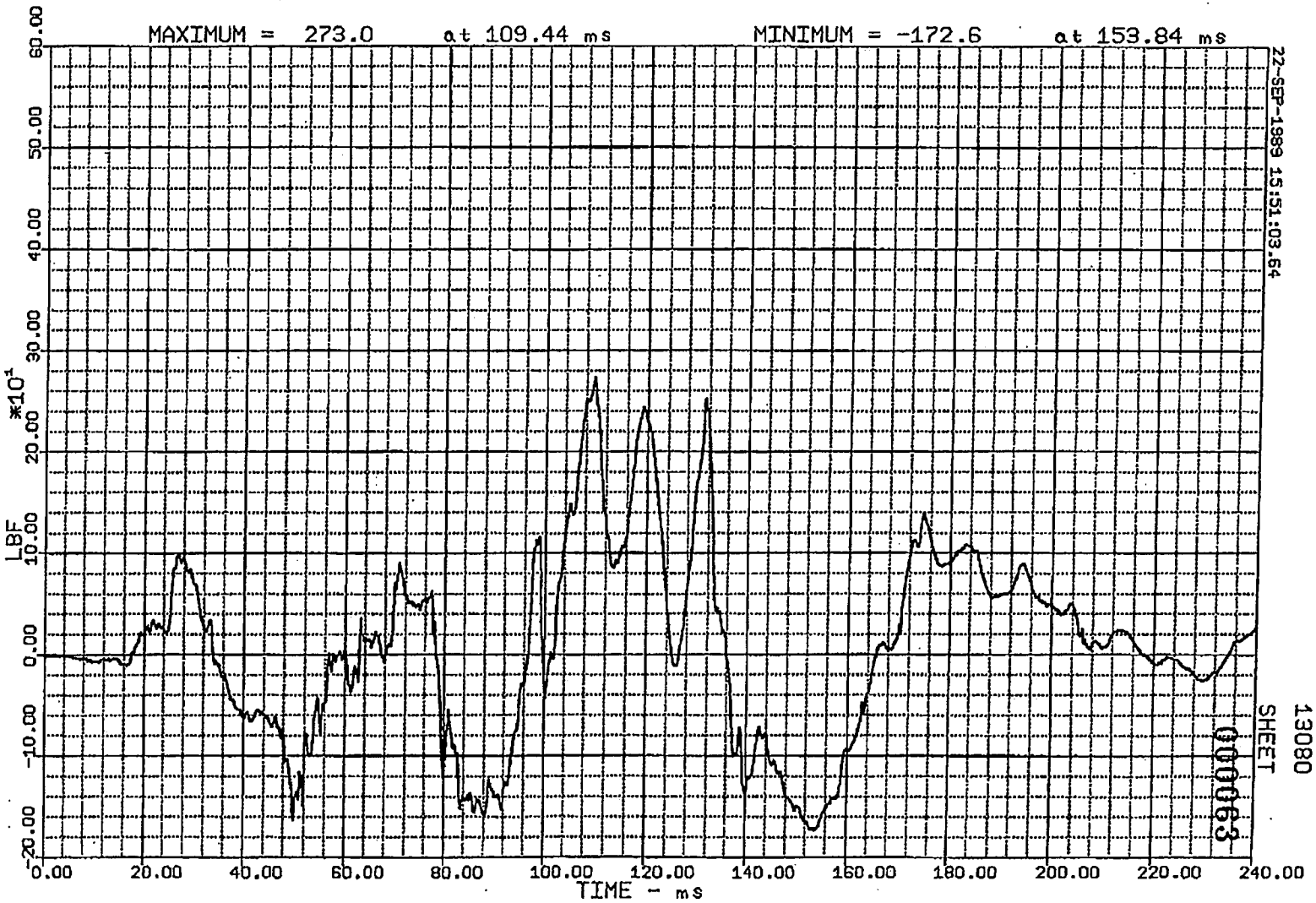
SHEET 000061

CRTS 0007290

PRODUCED BY FORD 1169


LØNG R/RØCKER @ B-PILLAR
199200
TARGET
RUN NØ. | FACILITY | TEST ØRDER NØ. | CHANNEL | FILTER TYPE | TEST DATE | TEST TIME
7290 | S FRØNT B | 13080 | 43 | 180 | 9-22-89 | 15:31:43
MAXIMUM = 33.01 at 93.36 ms
MINIMUM = -51.25 at 66.56 ms
22-SEP-1989 15:50:58.29
G's
TIME - ms
13080
SHEET 000062
CRTS 0007290
PRODUCED BY FORD
1170

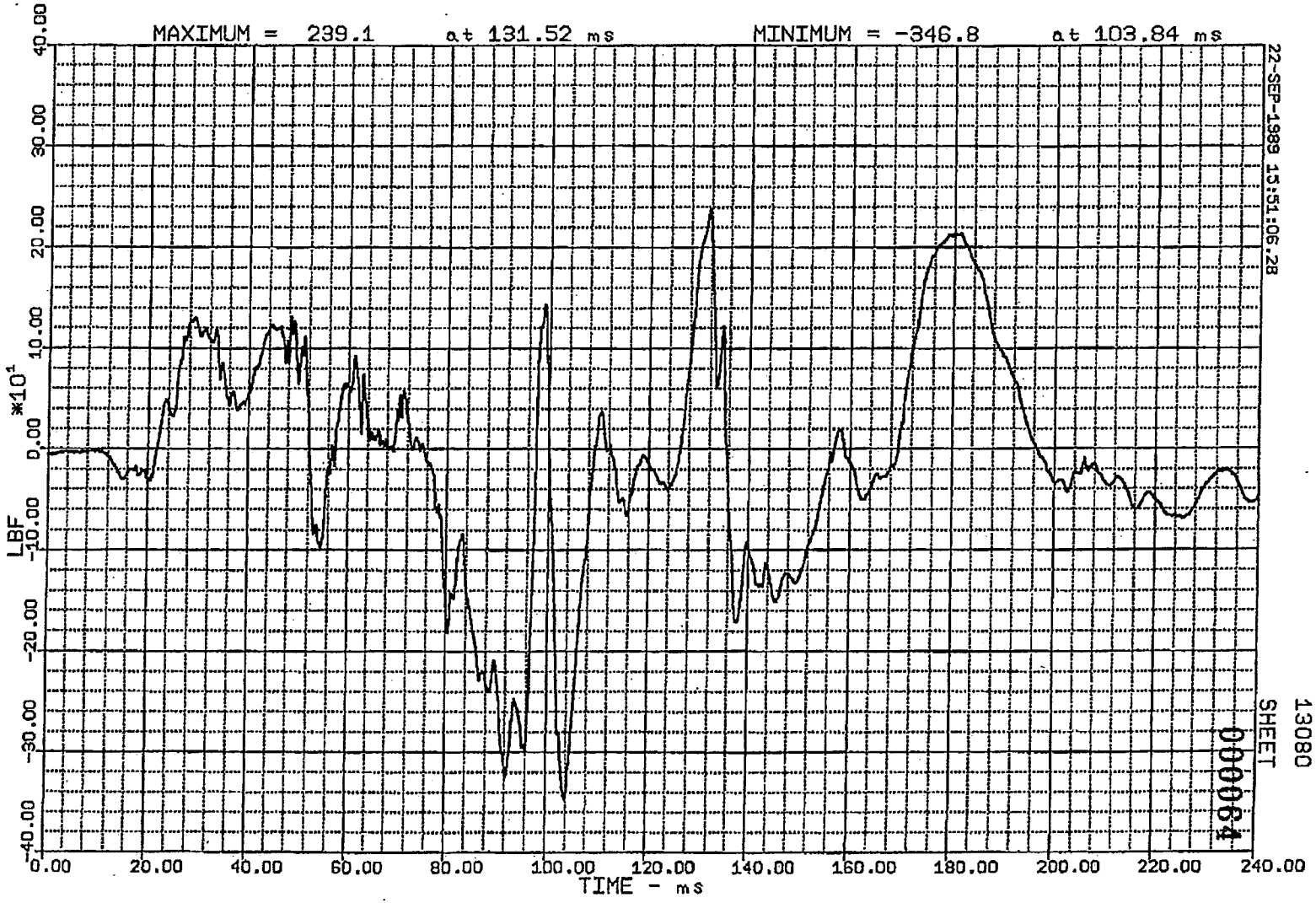
Fx	STEERING C0LUMN L0AD CELL			199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	46	600	9-22-89	15:31:43



CRTS 0007290

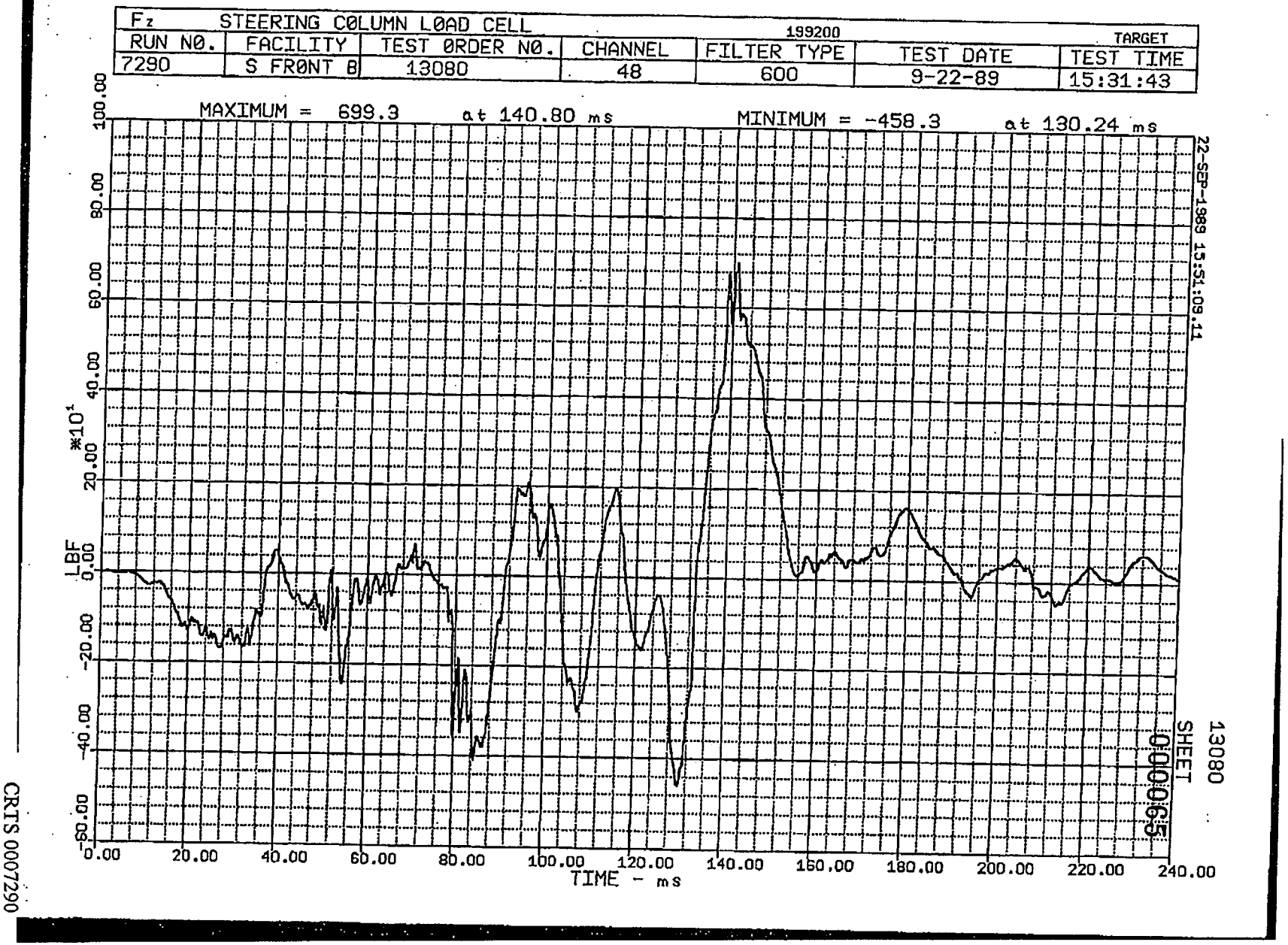
PRODUCED BY FORD
1171

Fy	STEERING C0LUMN L0AD CELL			199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	47	600	9-22-89	15:31:43



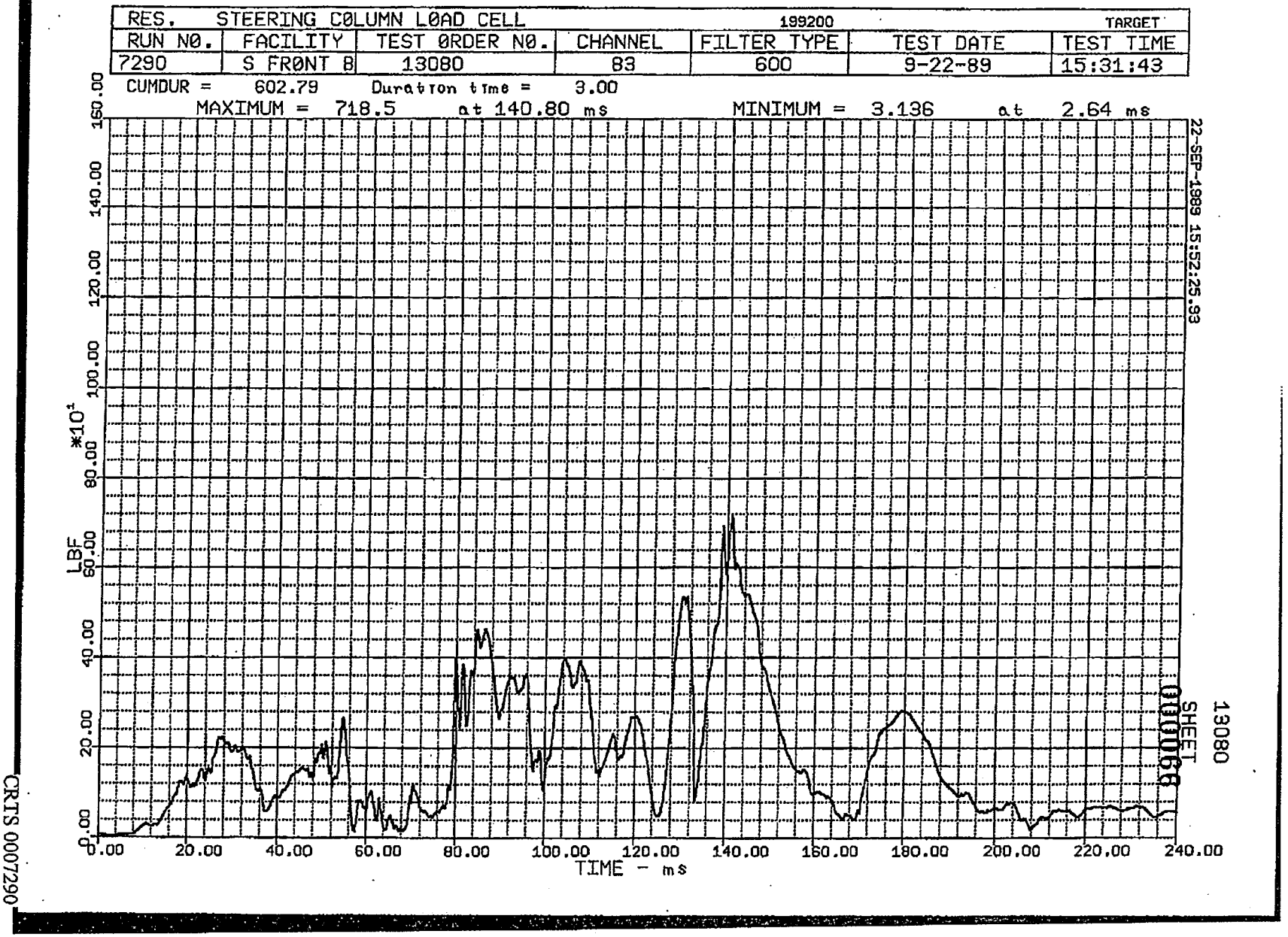
CRTS 0007290

PRODUCED BY FORD
1172



CRTS 0007290

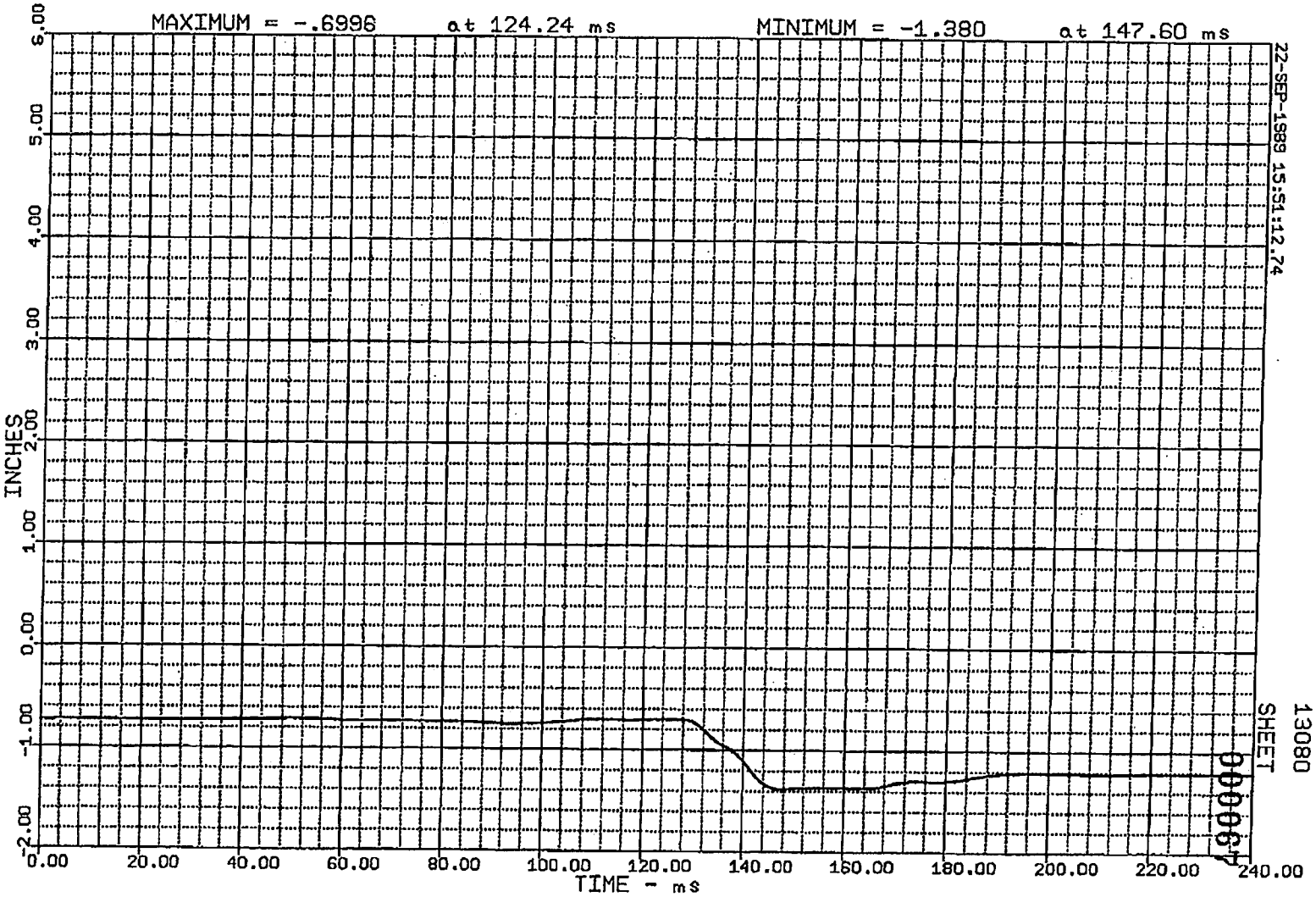
PRODUCED BY FORD
1173



CRTS 0007290

PRODUCED BY FORD
1174

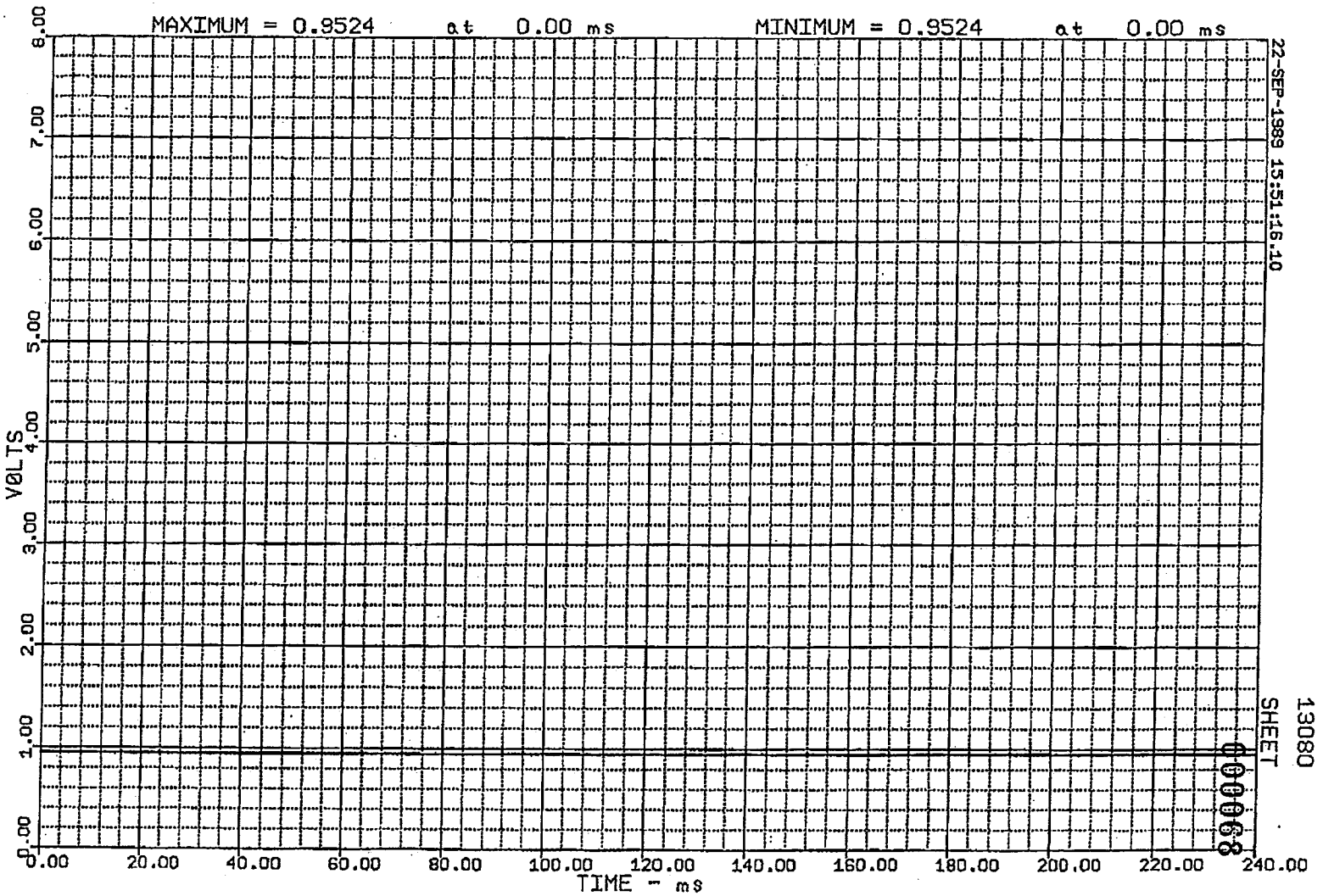
STG COLUMN THRU BRACKET DISP				199200		TARGET
RUN NO.	FACILITY	TEST ORDER NO.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRONT B	13080	50	60	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1175

STEERING WHEEL RIM (UPPER) SW			199200			TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	52	1000	9-22-89	15:31:43

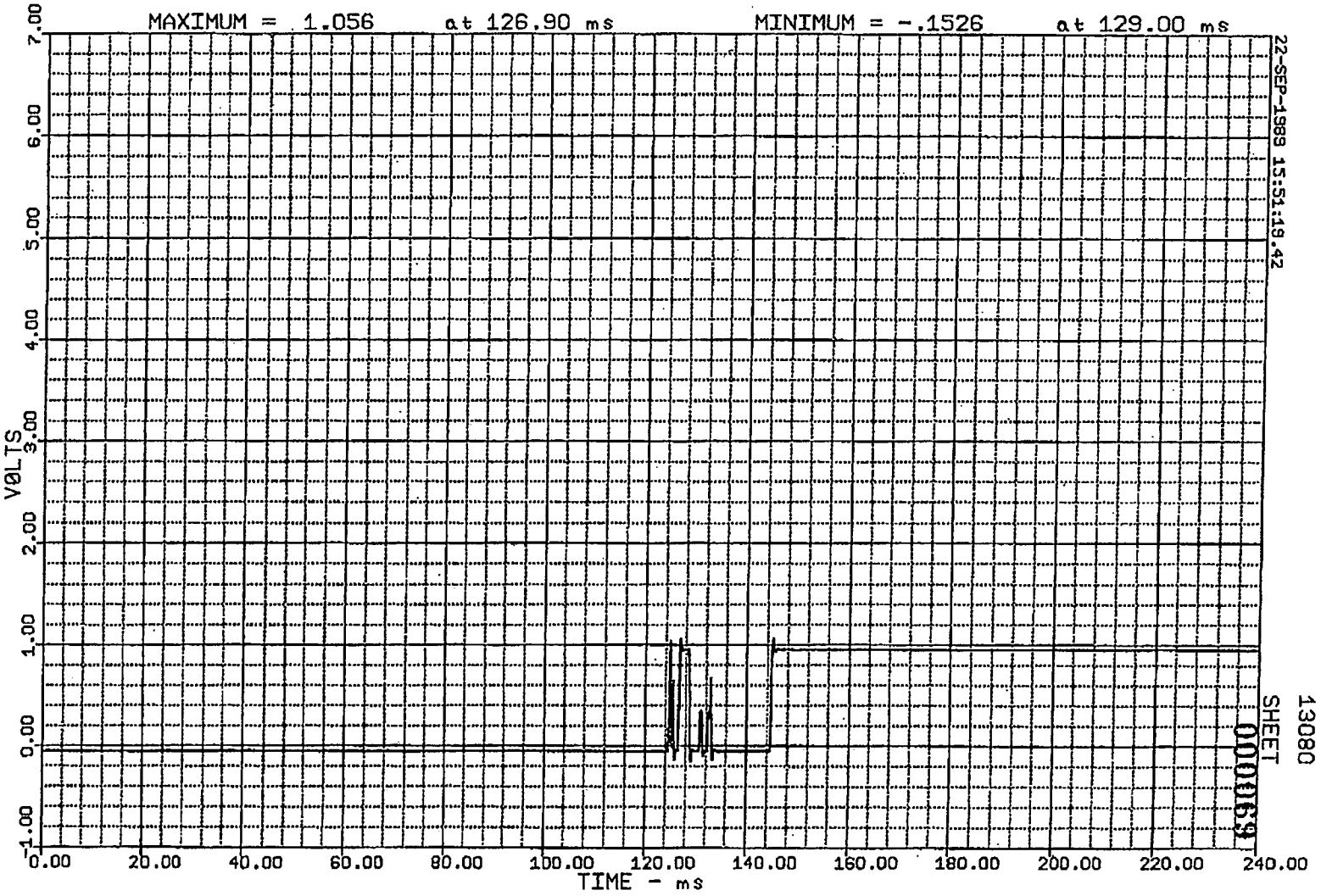


13080 SHEET 000068

CRTS 0007290

PRODUCED BY FORD
1176

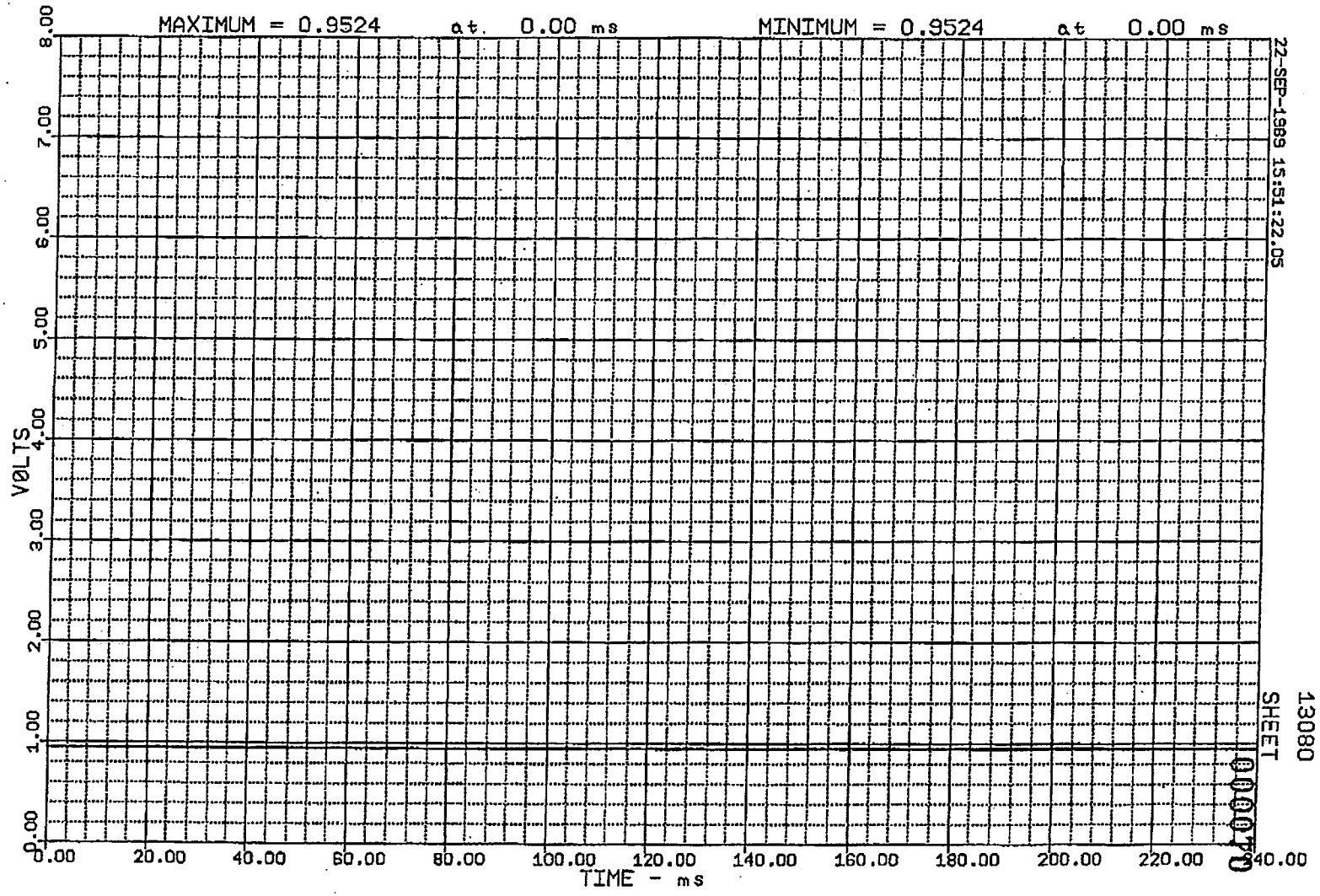
STEERING WHEEL RIM (HUB) SW			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	53	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1177

STEERING WHEEL RIM (LØWER) SW				199200		TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	54	1000	9-22-89	15:31:43

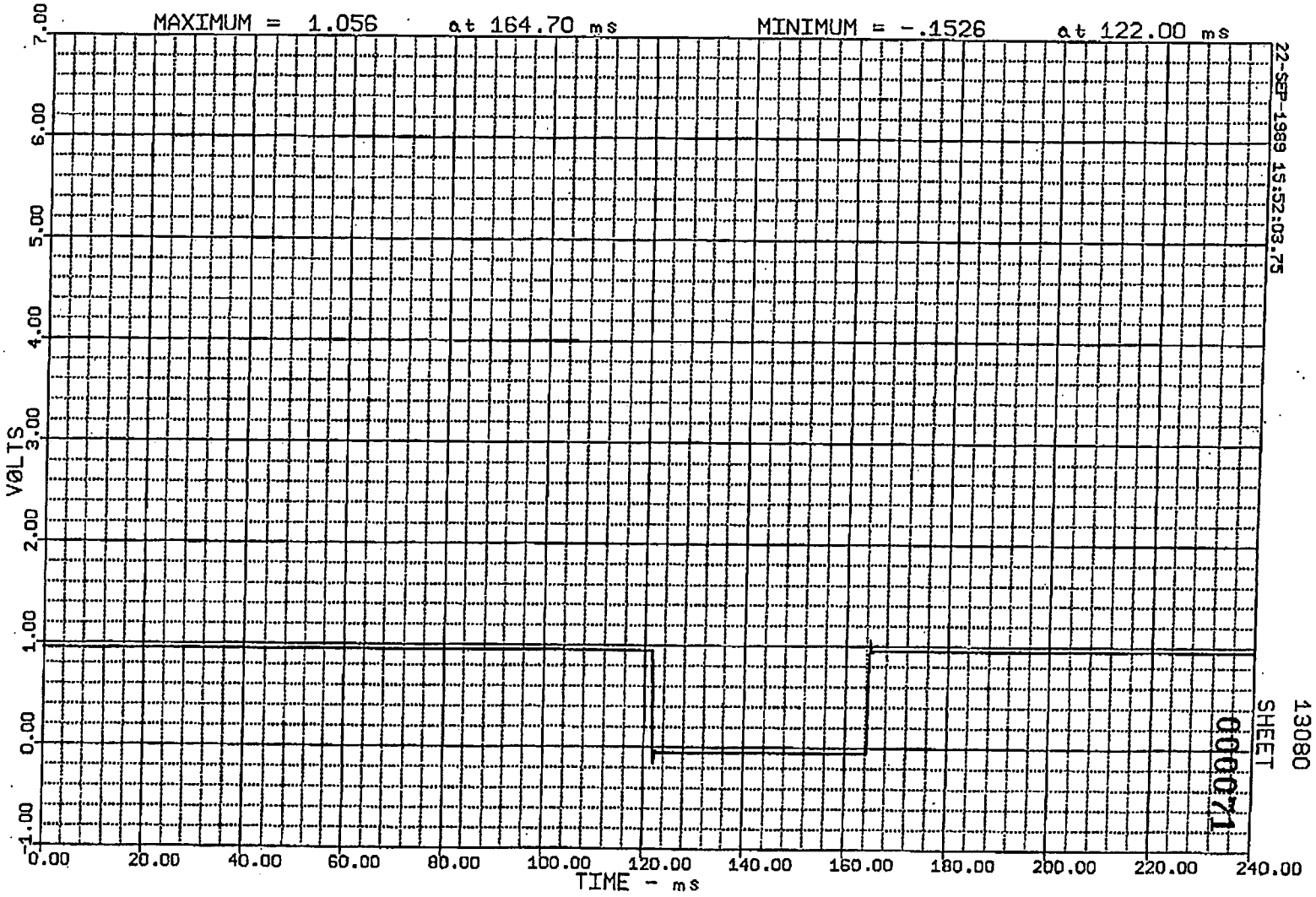


13080
SHEET 0000

CRTS 0007290

PRODUCED BY FORD
1178

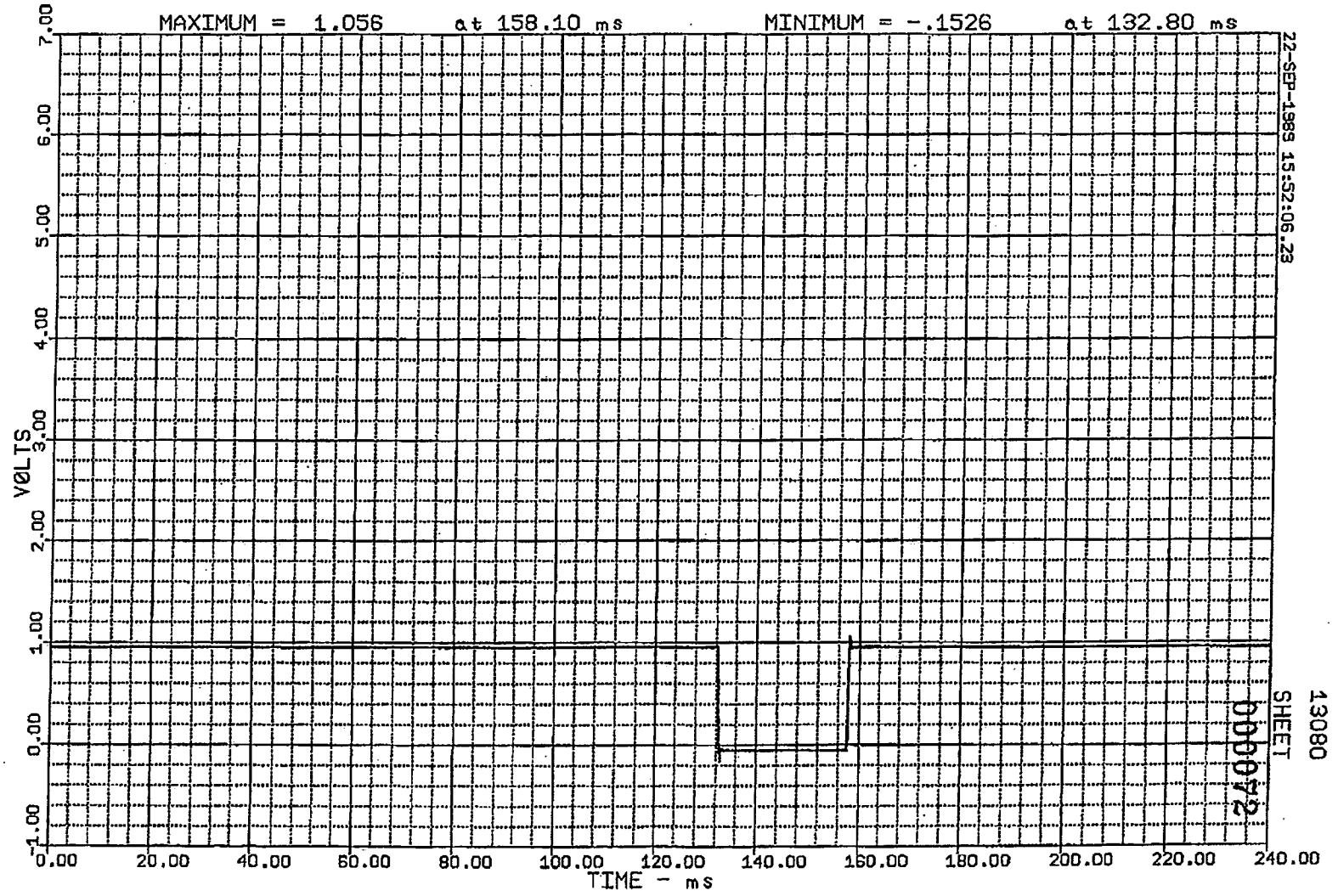
L/F SEAT RAMP LEFT SIDE SW			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	75	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1179

L/F SEAT RAMP RIGHT SIDE SW			199200			TARGET
RUN NØ.	FACILITY	TEST ØRDER NØ.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FRØNT B	13080	76	1000	9-22-89	15:31:43

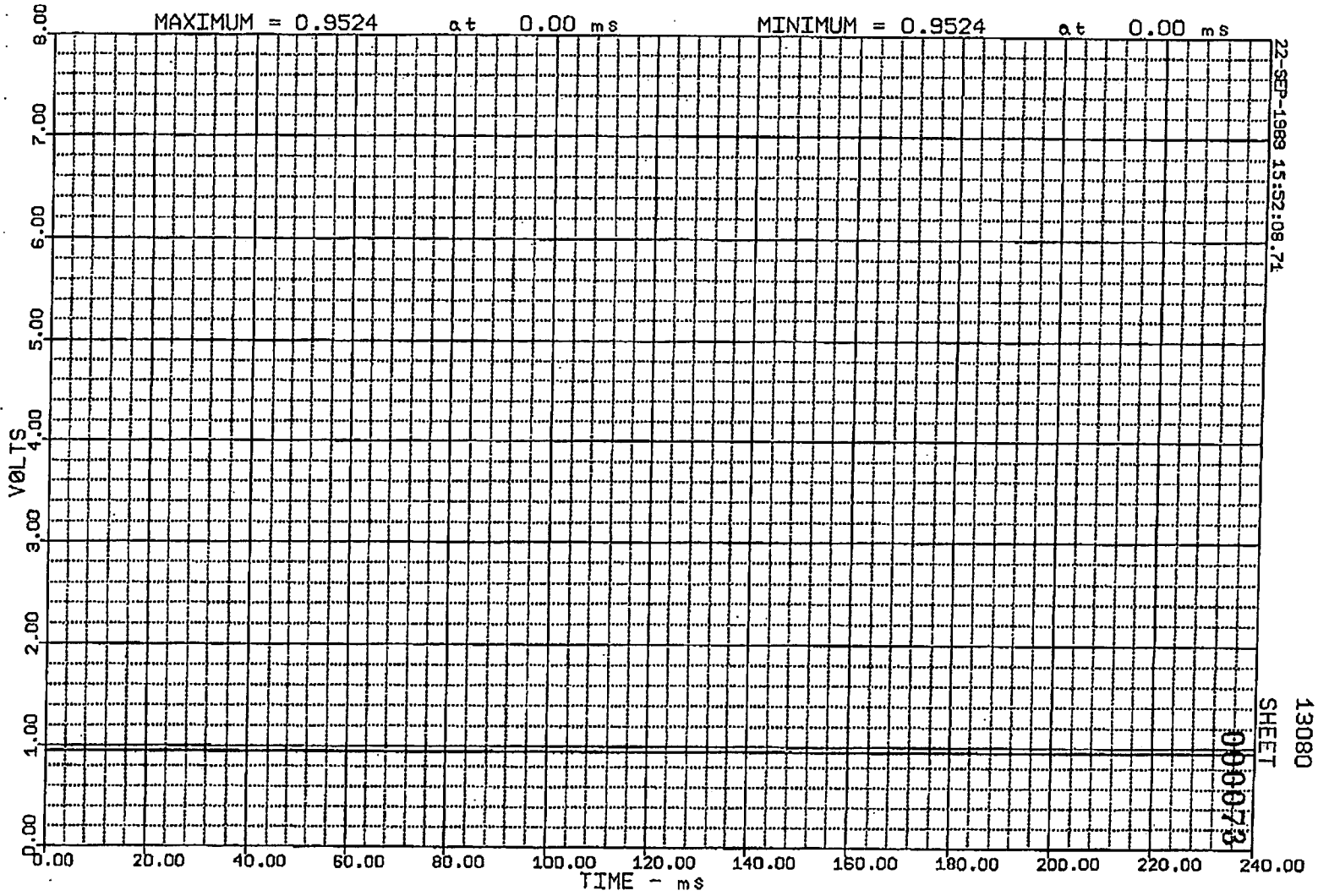


13080
SHEET
0000072

CRTS 0007290

PRODUCED BY FORD
1180

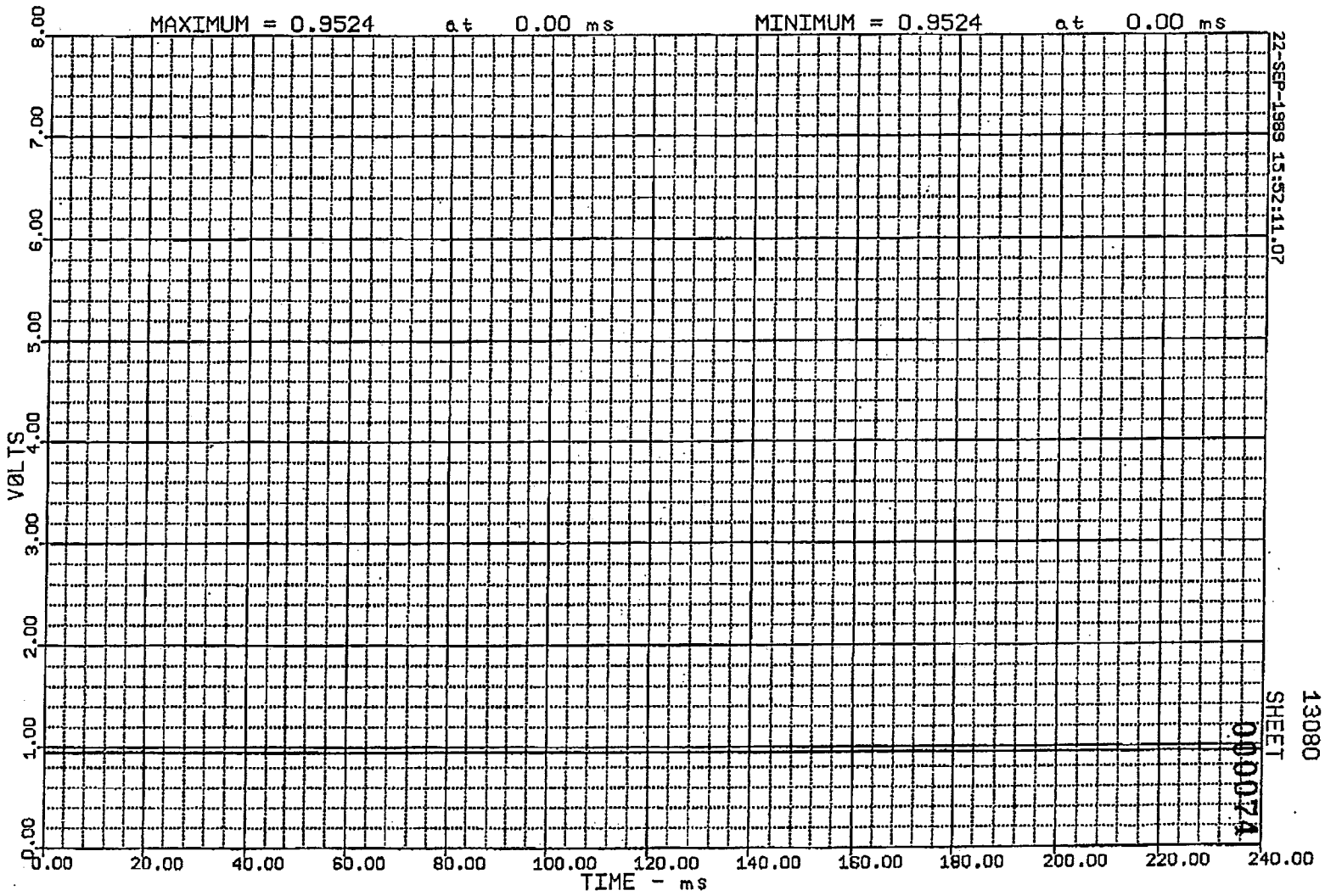
R/F SEAT RAMP LEFT SIDE SW				199200		TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	77	1000	9-22-89	15:31:43



CRTS 0007290

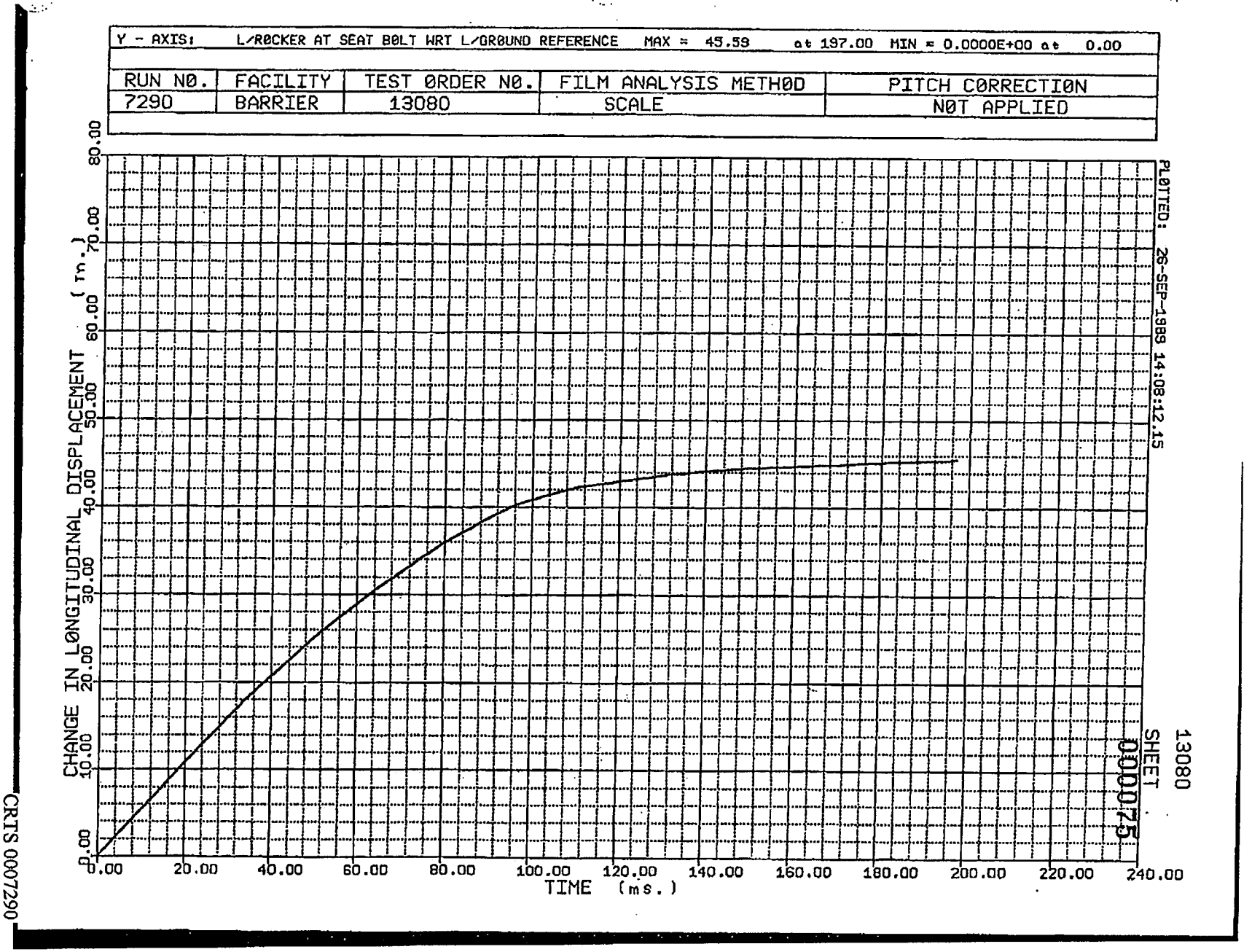
PRODUCED BY FORD
1181

R/F SEAT RAMP RIGHT SIDE SW			199200			TARGET
RUN N0.	FACILITY	TEST 0RDER N0.	CHANNEL	FILTER TYPE	TEST DATE	TEST TIME
7290	S FR0NT B	13080	78	1000	9-22-89	15:31:43



CRTS 0007290

PRODUCED BY FORD
1182


Y - AXIS: L/ROCKER AT SEAT BOLT WRT L/GROUND REFERENCE MAX = 45.59 at 197.00 MIN = 0.0000E+00 at 0.00
RUN NO. 7290
FACILITY BARRIER
TEST ORDER NO. 13080
FILM ANALYSIS METHOD SCALE
PITCH CORRECTION NOT APPLIED
PLOTTED: 26-SEP-1989 14:08:12.15
CHANGE IN LONGITUDINAL DISPLACEMENT (in.)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME (ms.)
13080
SHEET 000075
CRTS 0007290
PRODUCED BY FORD
1183

Y - AXIS: L/ROCKER AT SEAT BOLT WRT L/GROUND REFERENCE MAX = 1.672 at 146.00 MIN = -.1335 at 23.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
7290	BARRIER	13080	SCALE	NOT APPLIED

PLOTTED: 26-SEP-1988 14:08:14.09

13080 SHEET 000076

CRTS 0007290

PRODUCED BY FORD
1184

Y - AXIS: R/ROCKER AT SEAT BOLT WRT R/GROUND REFERENCE MAX = 48.38 at 175.00 MIN = 0.0000E+00 at 0.00

RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
7290	BARRIER	13080	SCALE	NOT APPLIED

PLOTTED: 26-SEP-1989 14:08:18.17

13080

SHEET 00007?

CRTS 0007290

PRODUCED BY FORD

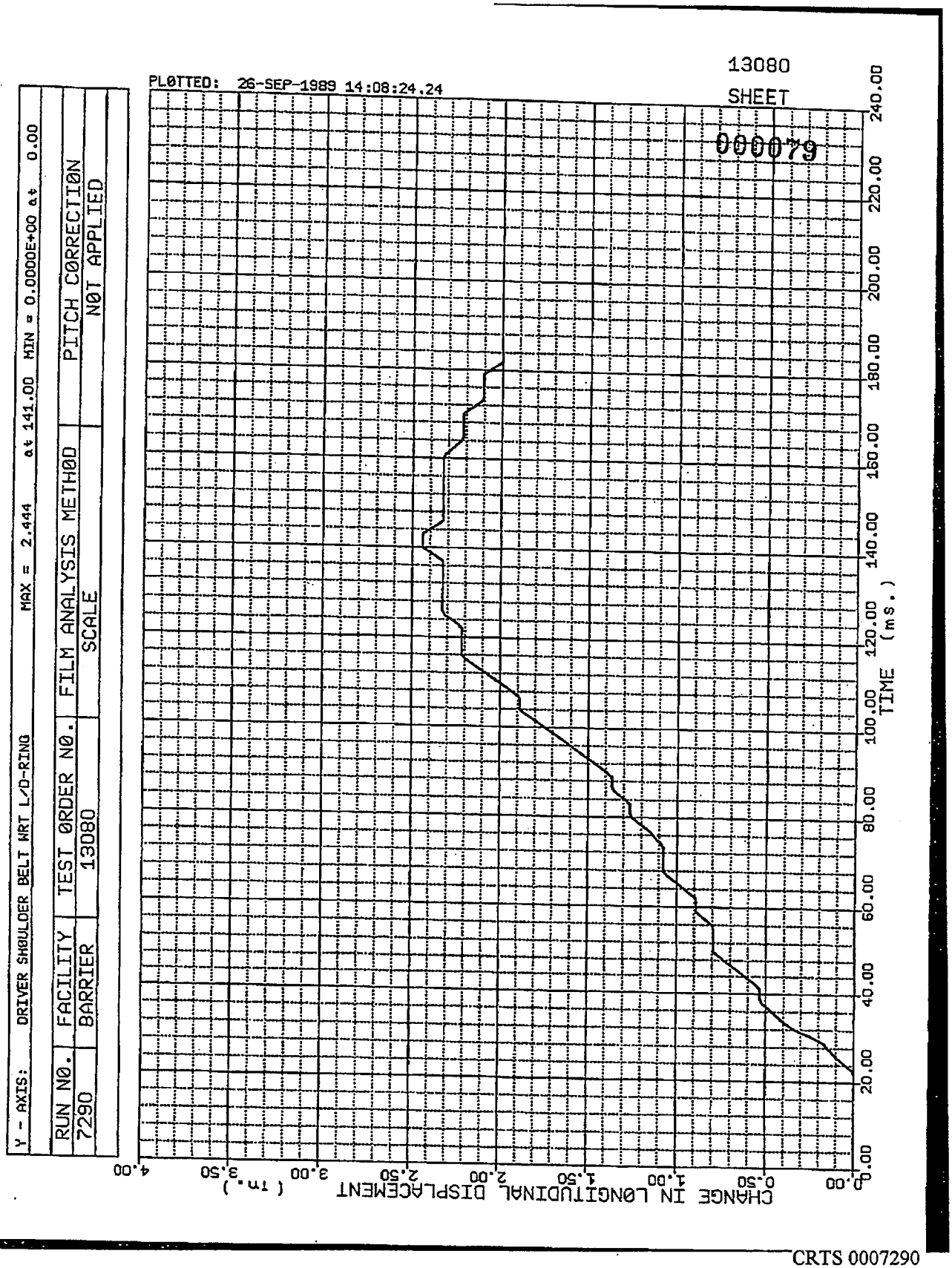
1185

Y - AXIS: R/R0CKER AT SEAT B0LT WRT R/GR0UND REFERENCE MAX = 8.144 at 173.00 MIN = -.1818E-01 at 7.00

RUN N0.	FACILITY	TEST 0RDER N0.	FILM ANALYSIS METH0D	PITCH C0RRECTI0N
7290	BARRIER	13080	SCALE	N0T APPLIED

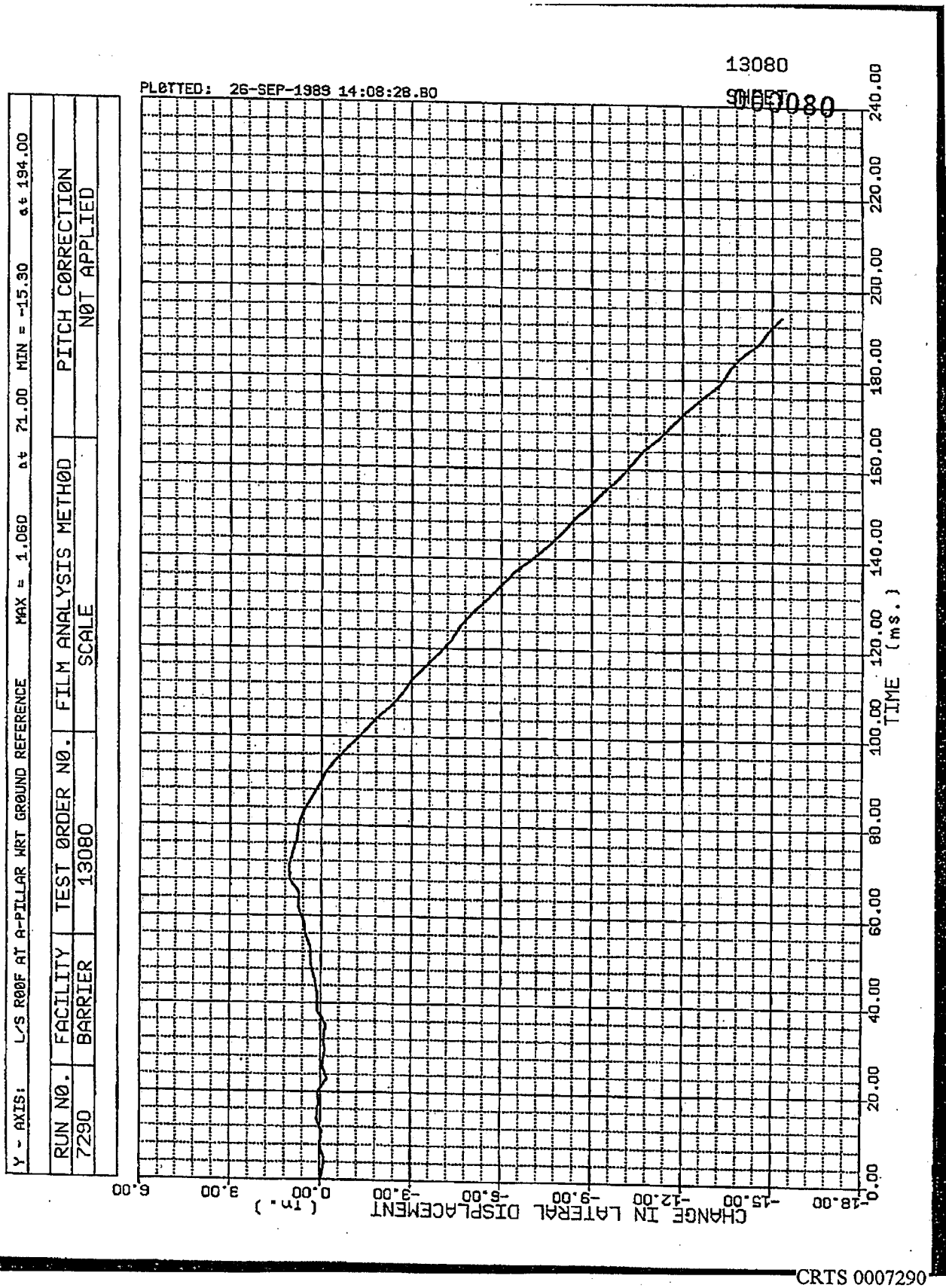
CRTS 0007290

PRODUCED BY FORD
1186



CRTS 0007290

PRODUCED BY FORD
1187



CRTS 0007290

PRODUCED BY FORD
1188

Y - AXIS:	PASSENGER SHOULDER BELT WRT R/D-RING		MAX = 2.329 at 136.00	MIN = 0.0000E+00 at 0.00
RUN NO.	FACILITY	TEST ORDER NO.	FILM ANALYSIS METHOD	PITCH CORRECTION
7290	BARRIER	13080	SCALE	NOT APPLIED

CRTS 0007290

PRODUCED BY FORD
1189

T-13080
000082

Sheet

LIGHT TRUCK SAFETY
DIMENSIONAL ANALYSIS FRAME MEASUREMENTS
AFTER: DAYS / NOONS

T.O. No. ~~6-4572~~
Veh. No. 301 T409
Crash No. 7290
Veh. Make 92 F-150

	Before			After			Change		
Frame Left Side Rail	LONG	LAT	VERT	LONG	LAT	VERT	LONG	LAT	VERT
1. Foremost point	200.25	18.50	21.26	195.60	33.52	23.07	-4.65	+15.02	+1.81
2. Front axle	179.51	17.50	21.53	177.63	24.36	23.32	-1.88	+6.86	+1.79
3. Aft of engine support X/M	164.88	15.62	20.30	163.99	22.79	20.65	-0.99	+7.11	+0.35
4. Radius arm mounting bracket	144.36	16.60	16.58	143.85	19.87	15.32	-0.51	+3.27	-1.26
5. "B" pillar	96.34	17.92	19.81	96.14	17.80	20.81	-0.20	-0.12	+1.00
6. Rear spring front hanger bracket	70.32	17.90	20.31	70.33	17.85	23.77	+0.01	-0.05	+3.46
7. Rear axle	43.71	17.28	23.82	44.14	17.22	29.91	+0.43	-0.06	+6.09
8. Rear spring rear shackle bracket	/	/	/	/	/	/	/	/	/
9. Rearmost point	+.31	18.40	21.60	+0.98	18.33	32.60	+0.67	-0.07	+11.00
10. ACC ON ROCKER @ "B" PILLAR	100.82	29.66	20.69	/	/	/	/	/	/
11. _____									

Frame Right Side Rail									
1. Foremost point	200.01	20.30	21.24	182.74	0.13	23.58	-17.27	-20.73	+2.34
2. Front axle	179.20	19.18	21.81	173.34	13.06	26.78	-5.86	-6.12	+4.97
3. Aft of engine support X/M	165.27	16.97	20.63	160.65	8.68	22.42	-4.62	-8.29	+1.79
4. Radius arm mounting bracket	143.77	17.62	16.56	140.95	13.98	14.56	-2.82	-3.64	-2.00
5. "B" pillar	95.45	18.99	19.71	95.00	18.75	18.84	-0.45	-0.24	-0.87
6. Rear spring front hanger bracket	69.63	18.88	20.04	69.26	18.87	21.44	-0.37	-0.01	+1.40
7. Rear axle	43.29	18.19	23.54	43.40	18.44	27.27	+0.11	+0.25	+3.73
8. Rear spring rear shackle bracket	/	/	/	/	/	/	/	/	/
9. Rearmost point	0.00	18.40	21.26	0.00	18.33	28.90	0.00	-0.07	+7.65
10. ACC ON ROCKER @ "B" PILLAR	100.80	30.88	20.57	/	/	/	/	/	/
11. _____									

Displacement References: Long. - lateral; vertical plane at the frame side rail foremost or rearmost point; Lat. - vertical, longitudinal plane through the longitudinal axis; and Vert. - horizontal plane at the tire to ground interface.

Negative sign (-) denotes decrease in displacement ~~forward~~/rearward, inboard, and downward for the longitudinal, lateral, and vertical directions respectively.

(L) or (R) denotes left or right of centerline.

T-13080

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LIGHT TRUCK SAFETY
DIMENSIONAL ANALYSIS BODY MEASUREMENTS
AFTER: DAYS / NOTMS

Sheet
T.O. No. ~~6545~~
Veh. No. 301T409
Crash No. 7290
Veh. Make 92 F-150

	Before			After			Change		
Left Side	LONG	LAT	VERT	LONG	LAT	VERT	LONG	LAT	VERT
A. Front seat bolt target	124.00	35.88	18.00	/	/	/	/	/	/
B. Rear sill target	114.00	35.93	18.00	/	/	/	/	/	/
C. Front sheet metal target	144.38	34.32	51.88	143.78	37.09	51.80	-0.60	+2.87	-0.08
D. "B" pillar target	99.96	34.96	54.24	100.32	35.83	54.24	+0.36	+0.87	0.00
E. Docket target	41.35	38.94	36.17	43.22	37.90	43.94	+1.87	-1.04	+7.77
F. Rear body target	3.85	36.99	44.36	-0.90	35.22	56.65	-2.95	-1.77	+12.29
G. Rear cab target	97.43	36.81	44.60	97.66	36.75	44.63	+0.23	-0.06	+0.03
H. Box/bed target	96.05	36.86	44.78	98.46	35.45	46.63	+2.41	-1.41	+1.85
I. Body side target	/	/	/	/	/	/	/	/	/
J. ROOF TARGET	124.00	28.39	73.00	/	/	/	/	/	/
K. MASTER CONTROL NOTCH	137.16	/	19.85	/	/	/	/	/	/
L.									

Right Side									
A. Front seat bolt target	124.00	37.04	18.00	/	/	/	/	/	/
B. Rear sill target	114.00	36.98	18.00	/	/	/	/	/	/
C. Front sheet metal target	144.28	35.38	51.79	142.82	32.14	49.99	-1.46	-3.24	-1.80
D. "B" pillar target	99.96	36.08	54.49	102.93	34.91	54.21	+2.97	-1.17	-0.25
E. Docket target	41.35	39.90	35.47	42.67	40.87	37.84	+1.32	+0.97	+2.37
F. Rear body target	-4.51	37.30	43.55	-2.36	39.10	50.07	-2.15	+1.80	+6.52
G. Rear cab target	97.19	37.95	44.65	100.07	37.55	44.96	+2.88	-0.40	+0.31
H. Box/bed target	95.38	38.05	44.48	97.31	39.49	42.33	+1.93	-1.44	-2.15
I. Body side target	/	/	/	/	/	/	/	/	/
J. ROOF TARGET	124.00	29.11	73.00	/	/	/	/	/	/
K.									
L.									

Displacement References: Long. - lateral; vertical plane at the frame side rail foremost or rearmost point; Lat. - vertical, longitudinal plane through the longitudinal axis; and Vert. - horizontal plane at the tire to ground interface.

Negative sign (-) denotes decrease in displacement ~~forward~~/rearward, inboard, and downward for the longitudinal, lateral, and vertical directions respectively.

T-13080
000084

Sheet

LIGHT TRUCK SAFETY
DIMENSIONAL ANALYSIS
MISCELLANEOUS MEASUREMENTS
AFTER: DAYS INDOORS

T.O. No. [redacted]
Veh. No. 301T409
Crash No. 7290
Veh. Make 92 F-150

Miscellaneous Points	Before			After			Change		
	LONG	LAT	VERT	LONG	LAT	VERT	LONG	LAT	VERT
M. Steering gear housing	184.65	12.28	21.43	183.87	20.92	24.56	-0.78	+8.64	+3.13
N. Steering gear coupling	176.54	13.65	29.11	175.74	21.62	30.02	-0.80	+7.97	+0.91
O. Aft axle fuel tank-left side									
P. Aft axle fuel tank filler pipe									
Q. Midship fuel tank-front	104.88	8.20	16.65	104.48	8.12	16.52	-0.40	-0.08	-0.13
R. Midship fuel tank filler pipe	63.68	36.65	31.48	64.94	35.86	32.71	+1.26	-0.79	+5.23
S. Aft axle fuel tank-right side									
T. Midship fuel tank-rear	53.86	8.12	15.98	53.60	8.55	20.43	-0.26	+0.43	+4.47
U. Wheelbase-left side	132.50			131.80			-0.70		
V. Wheelbase-right side	132.50			126.10			-6.40		
W. Bellhsg. insp. plate bolt	154.66	2.16	17.64	152.92	8.88	17.74	-1.74	+6.72	+0.10
X. Rear X/M @ vehicle C/L									
Y. Overall crush-right	205.85			188.53			-17.32		
Z. Overall crush-left	205.82			199.93			-5.89		
AA. Overall crush-centerline	206.75			190.76			-15.99		
BB. Steering wheel hub nut (Shaft Shaft)	132.90	17.47	48.23	133.14	19.67	48.77	+0.24	+2.20	+0.54
CC. Dash panel-left side	156.64	19.48	31.27	155.82	21.98	32.08	-0.82	+2.50	+0.81
DD. Dash panel-right side	154.17	20.82	32.97	150.72	16.02	33.35	-3.45	-4.80	+0.38
EE. Floor pan-left front	144.55	19.51	28.37	144.18	21.60	23.59	-0.37	+2.09	+0.22
FF. Floor pan-center front	146.58	-2.89	33.96	143.94	1.02	34.04	-2.64	3.91	+0.08
GG. Floor pan-right front	144.98	20.53	23.95	143.86	15.76	22.88	-1.12	-4.77	-1.07
HH. Instrument panel-left side	135.52	30.65	46.70	135.54	33.53	48.38	+0.02	+2.88	+1.68
II. Instrument panel-right side	136.41	31.74	46.78	134.20	28.40	48.84	-2.21	-3.34	+2.06
JJ. Overall crush-centerline*									
KK. L/S CURVE	202.49			MISSING			MISSING		
LL. R/S CURVE	202.41			MISSING			MISSING		

Displacement References: Long. - lateral; vertical plane at the frame side rail foremost or rearmost point; Lat. - vertical, longitudinal plane through the longitudinal axis; and Vert. - horizontal plane at the tire to ground interface.

Negative sign (-) denotes decrease in displacement [redacted]/rearward, inboard, and downward for the longitudinal, lateral, and vertical directions respectively.

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1192

T-13080

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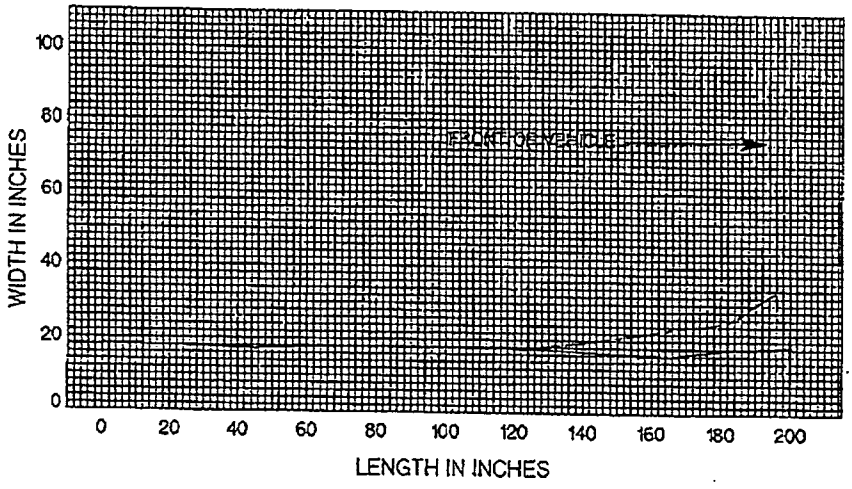
LEFT RAIL
PLAN VIEW

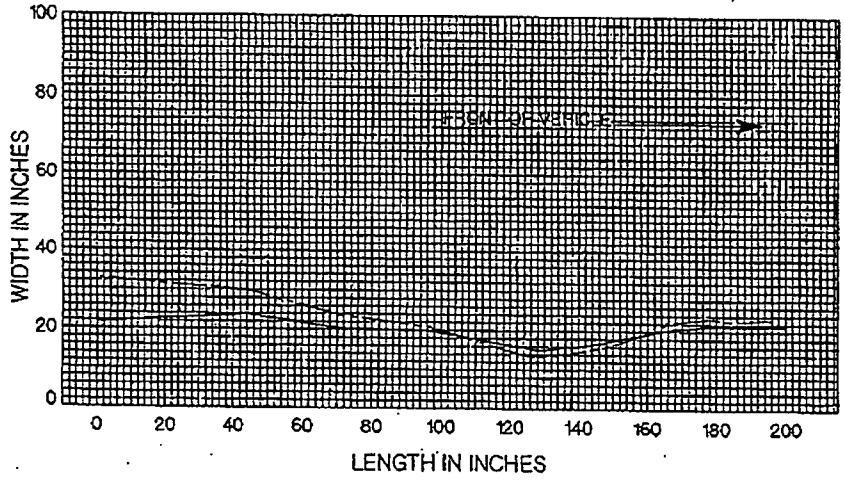
BEFORE ——— AFTER - - - -

T.O. ~~Gen572~~
VEH. NO. 301T409
92 F-150
CRASH NO. 7290
RIGHT FRONT IMPACT



LEFT RAIL
SIDE VIEW

BEFORE ——— AFTER - - - -



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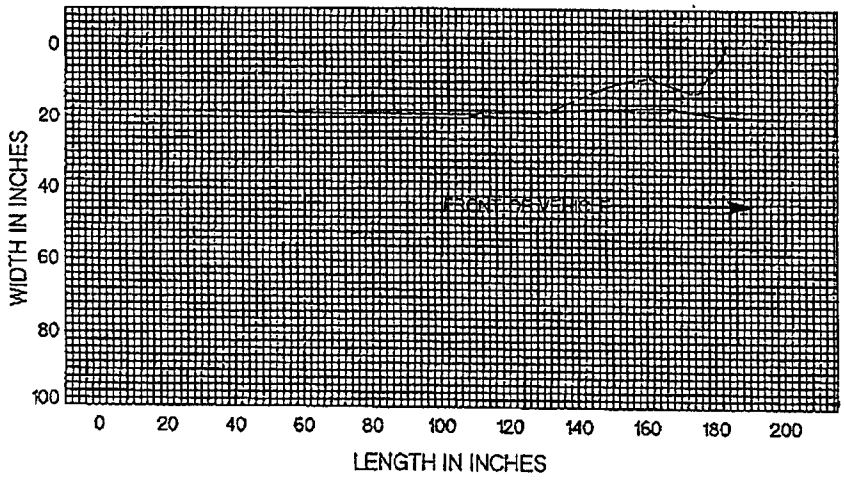
RIGHT RAIL
PLAN VIEW

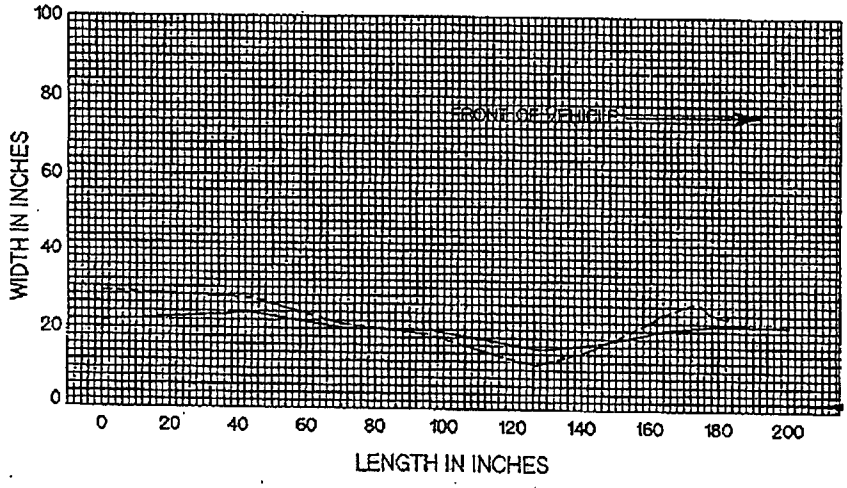
BEFORE ——— AFTER - - - -

T.O. ~~8-4572~~
VEH. NO. 301T409
92 F-150
CRASH NO. 7290
RIGHT FRONT IMPACT



RIGHT RAIL
SIDE VIEW

BEFORE ——— AFTER - - - -



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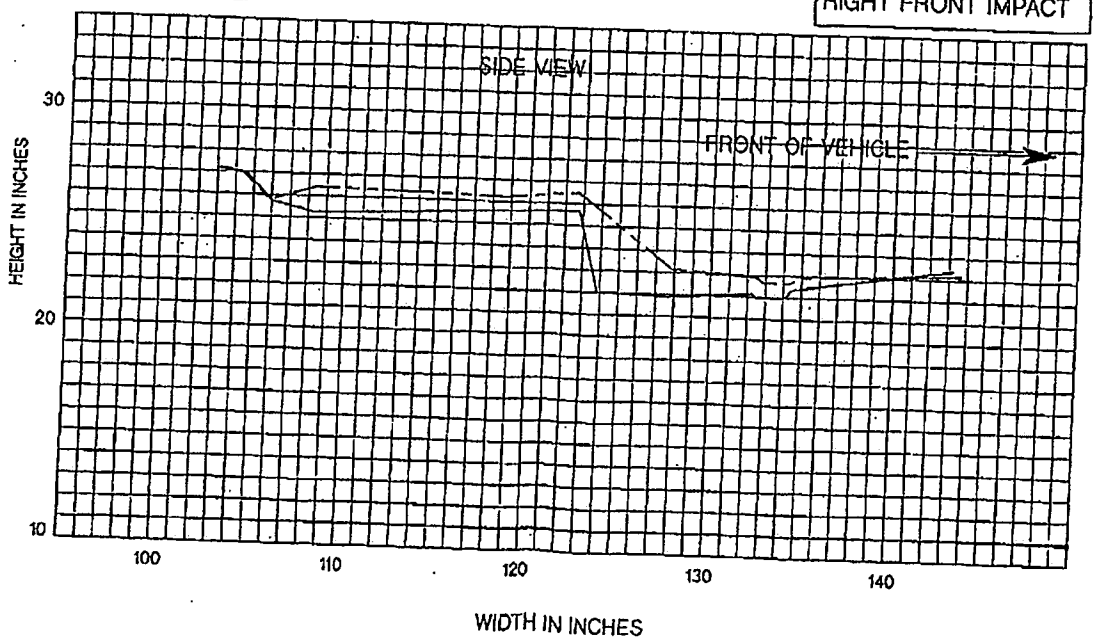
FLOORPAN SECTIONAL

LEFT SIDE- O/B SEAT MNT.

BEFORE _____

AFTER _ _ _ _

T.O. ~~C-45RE~~
VEH. NO. 301T409
92 F-150
CRASH NO. 7290
RIGHT FRONT IMPACT



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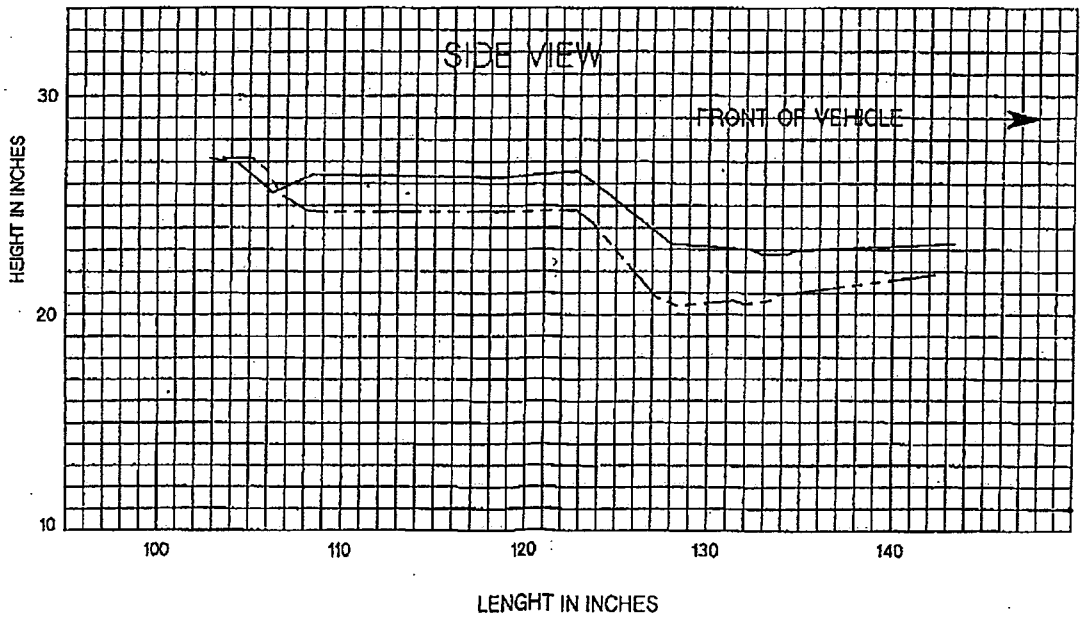
FLOORPAN SECTIONAL

RIGHT SIDE- O/B SEAT MNT.

BEFORE _____
AFTER _ _ _ _

T.O. ~~6-4572~~
VEH. NO. 301T409
92 F-150
CRASH NO. 7290
RIGHT FRONT IMPACT



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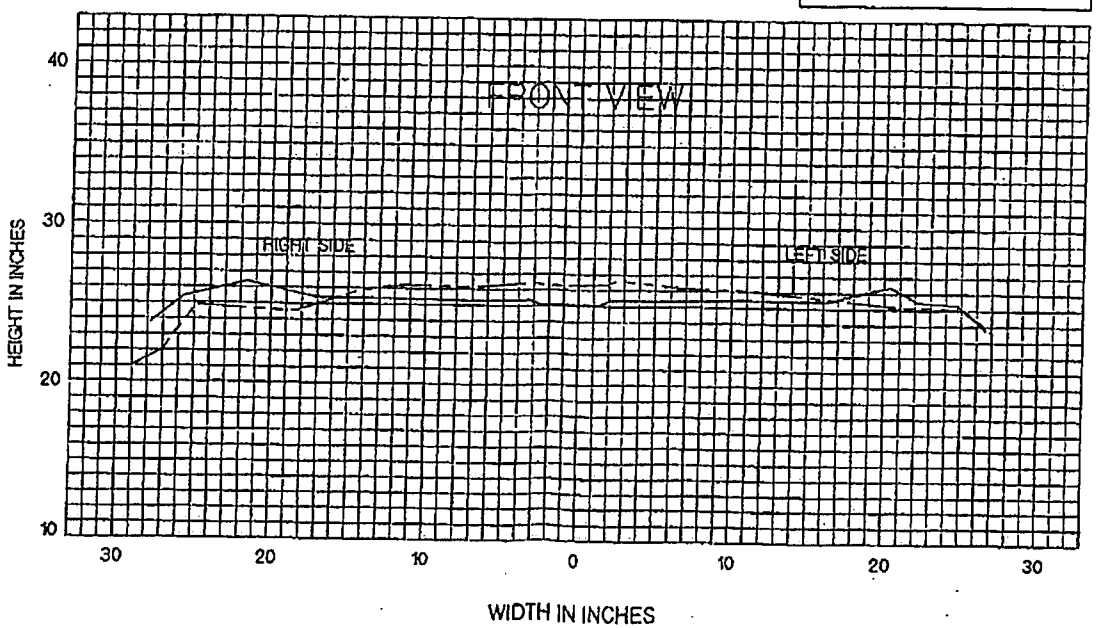
FLOORPAN SECTIONAL

REAR SEAT BOLT SECTION

BEFORE _____

AFTER _ _ _ _

T.O. [redacted]
VEH. NO. 301T409
92 F-150
CRASH NO. 7290
RIGHT FRONT IMPACT



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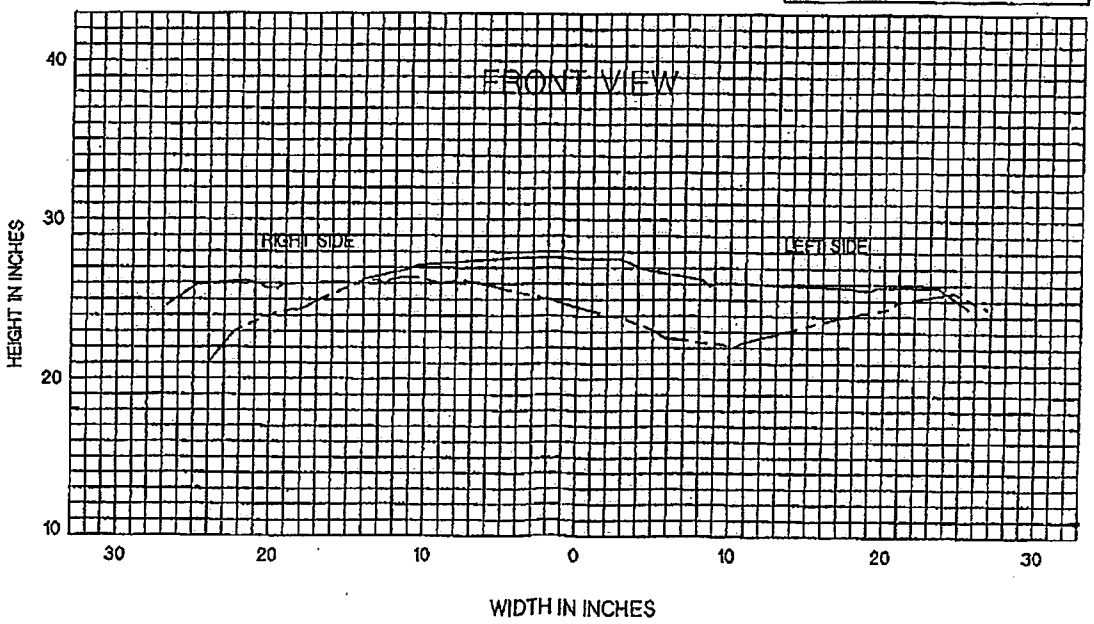
FLOORPAN SECTIONAL

FRONT SEAT BOLT SECTION

BEFORE _____
AFTER _ _ _ _

T.O. [redacted]
VEH. NO. 301T409
92 F-150
CRASH NO. 7290
RIGHT FRONT IMPACT



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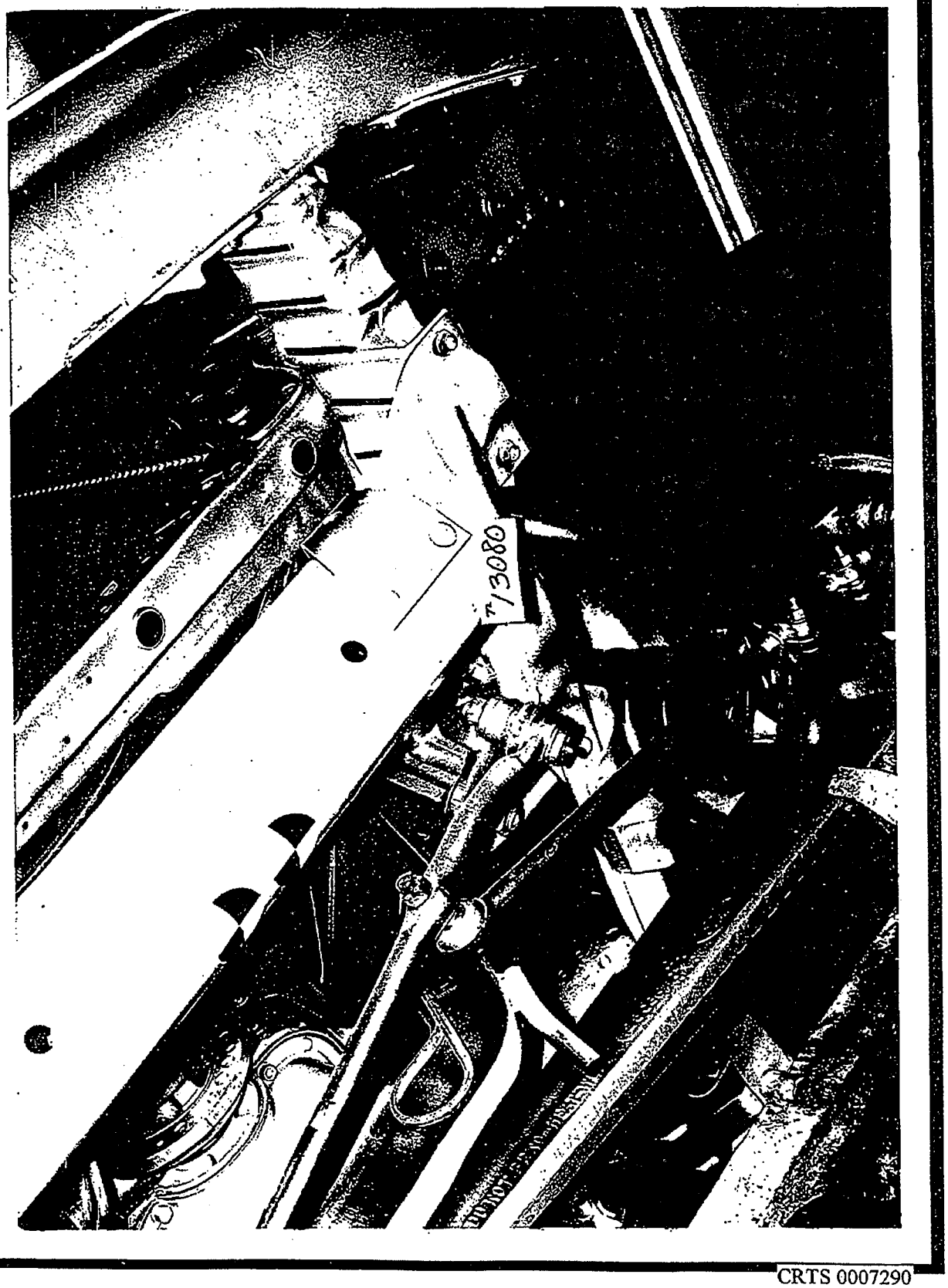
CN054017- 1189



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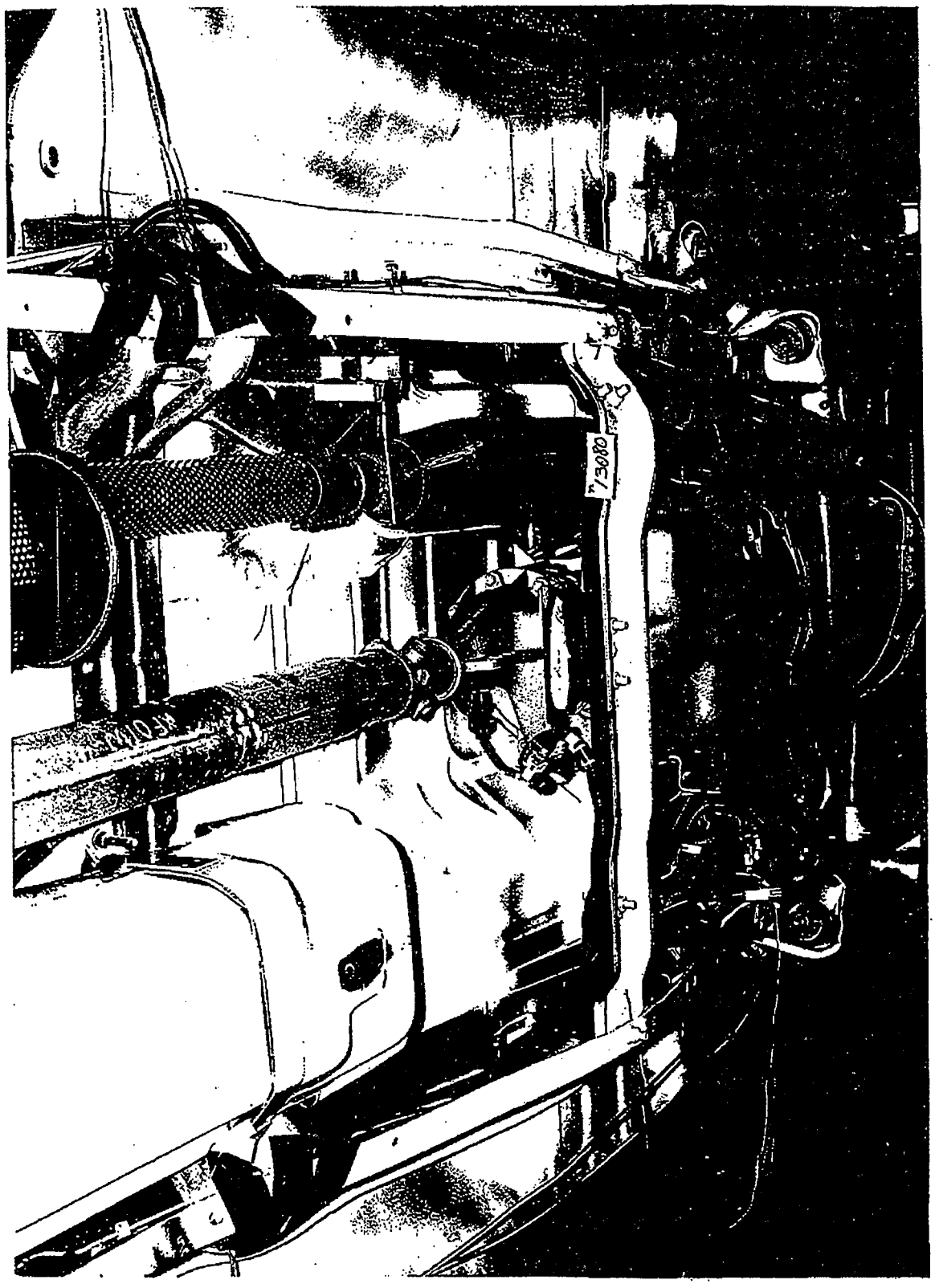

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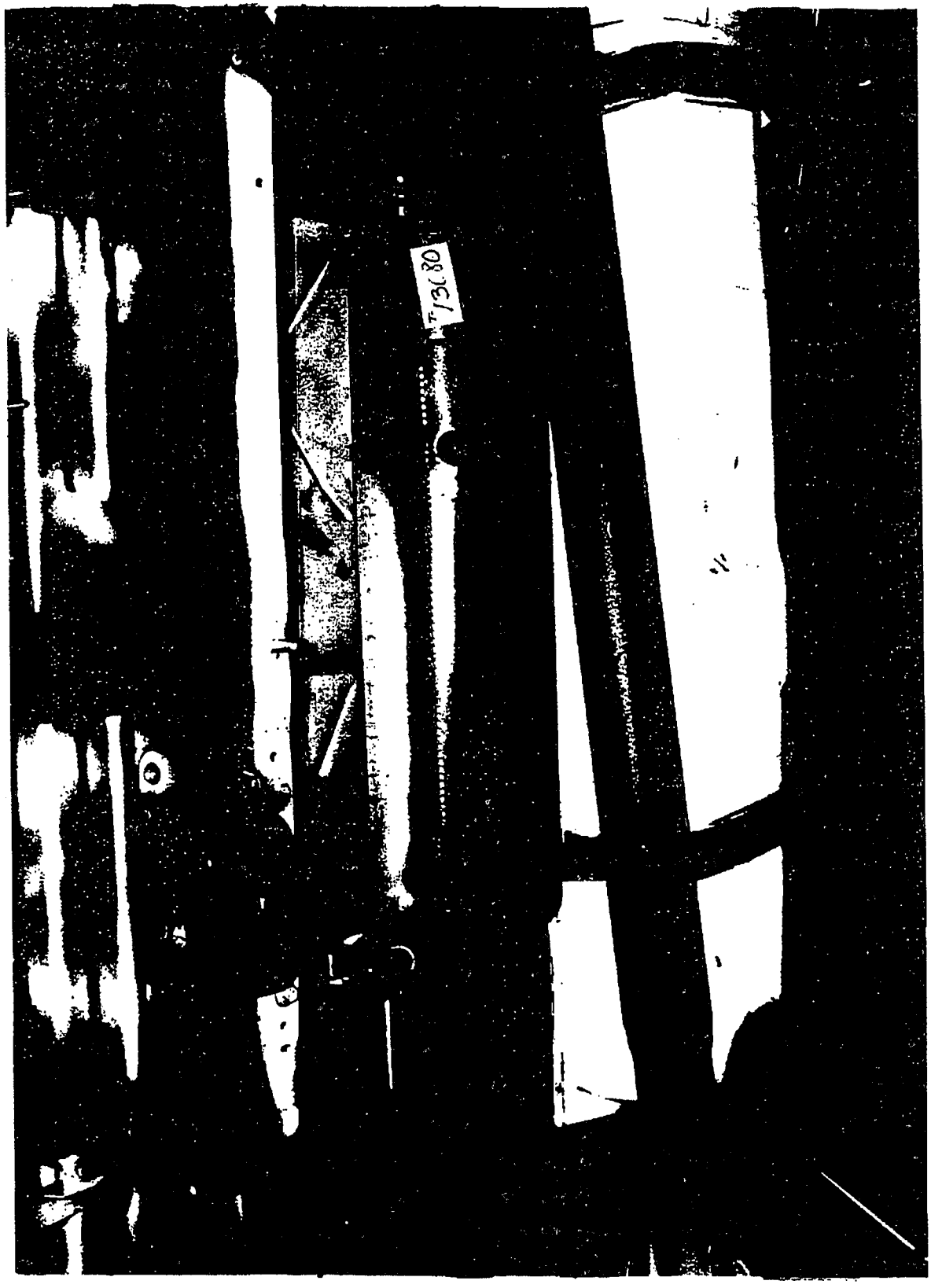

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CN054017- 1196

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CN 054017- 7299

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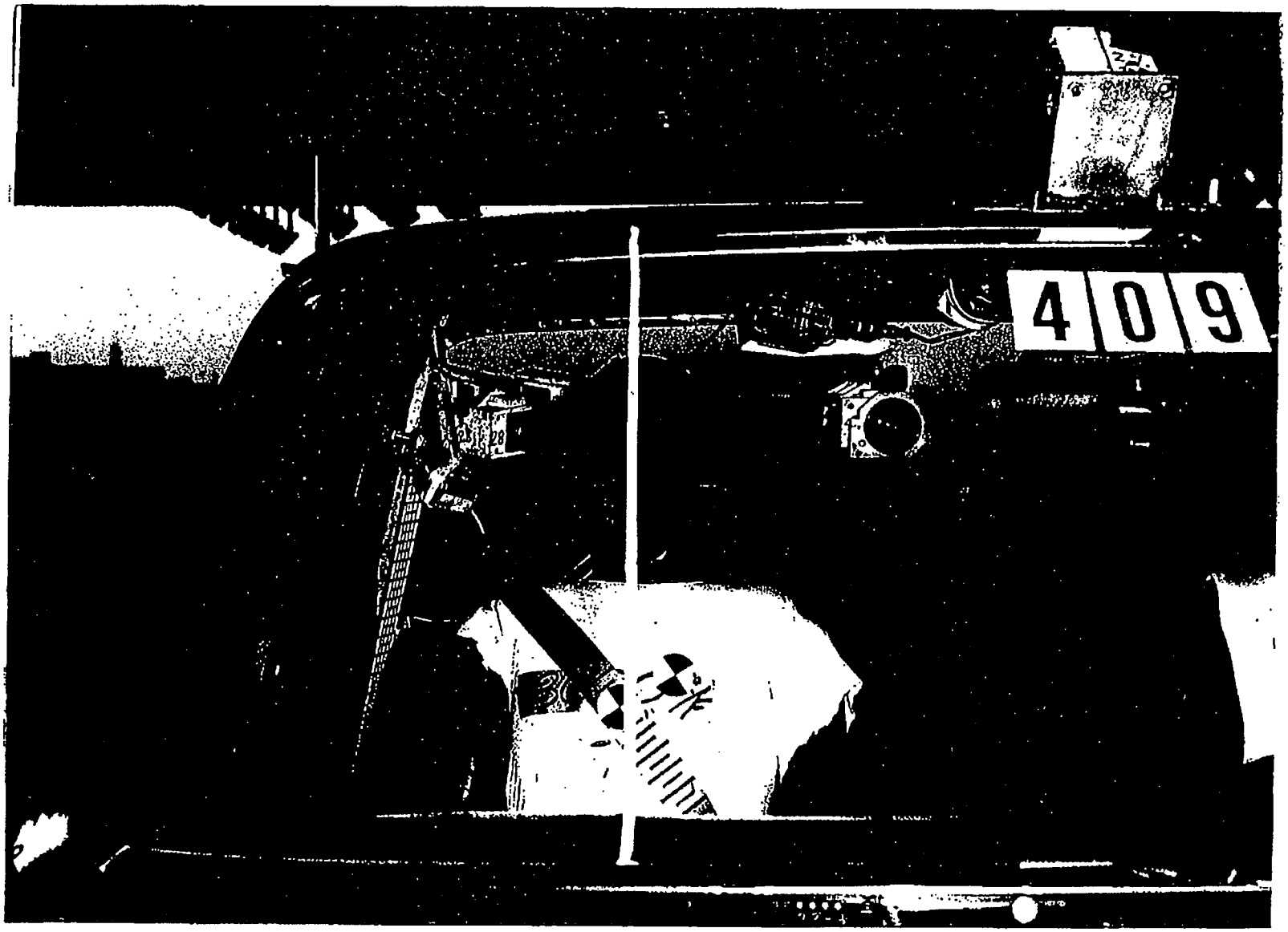

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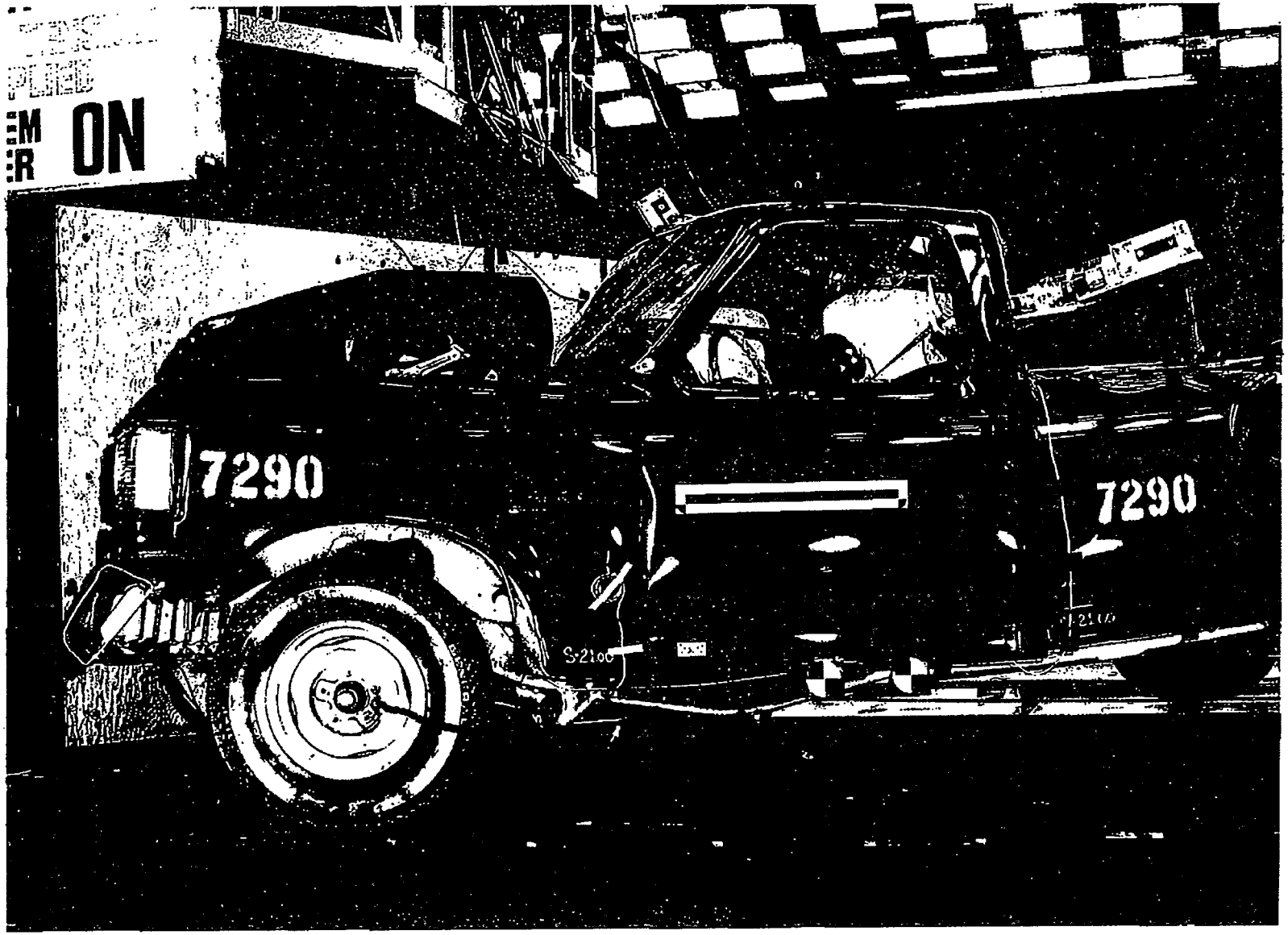

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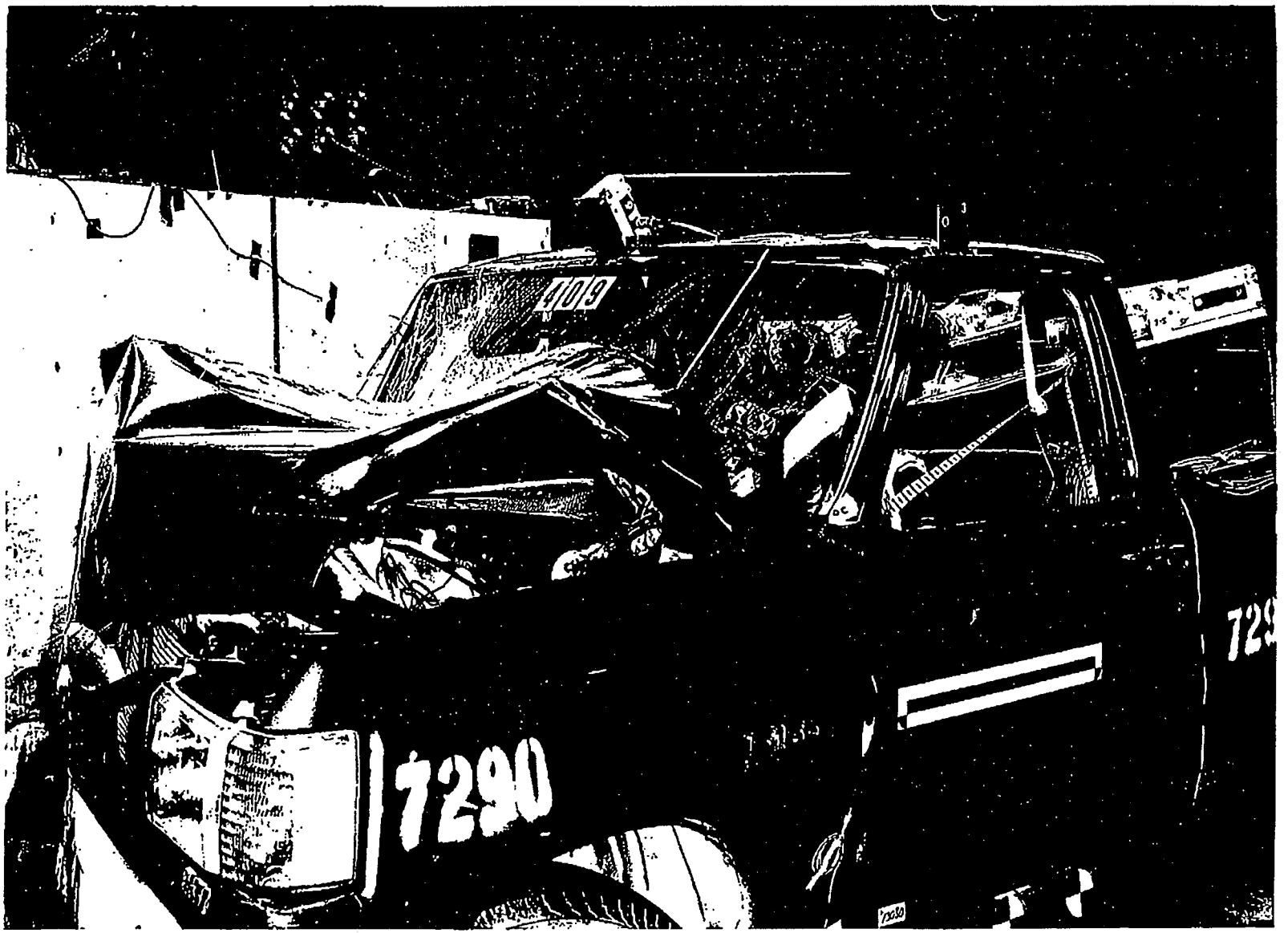

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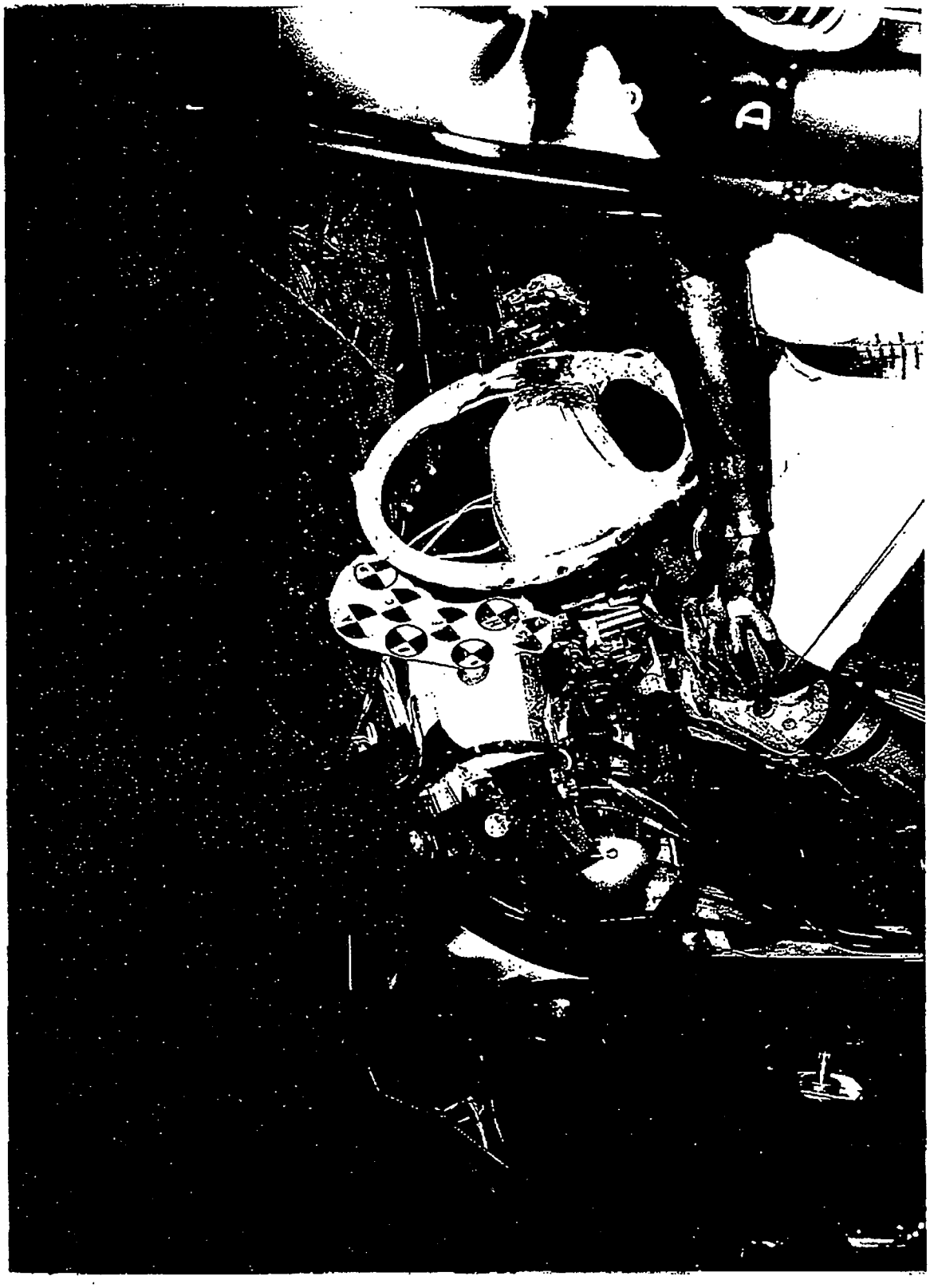
CN 054017 - 7811



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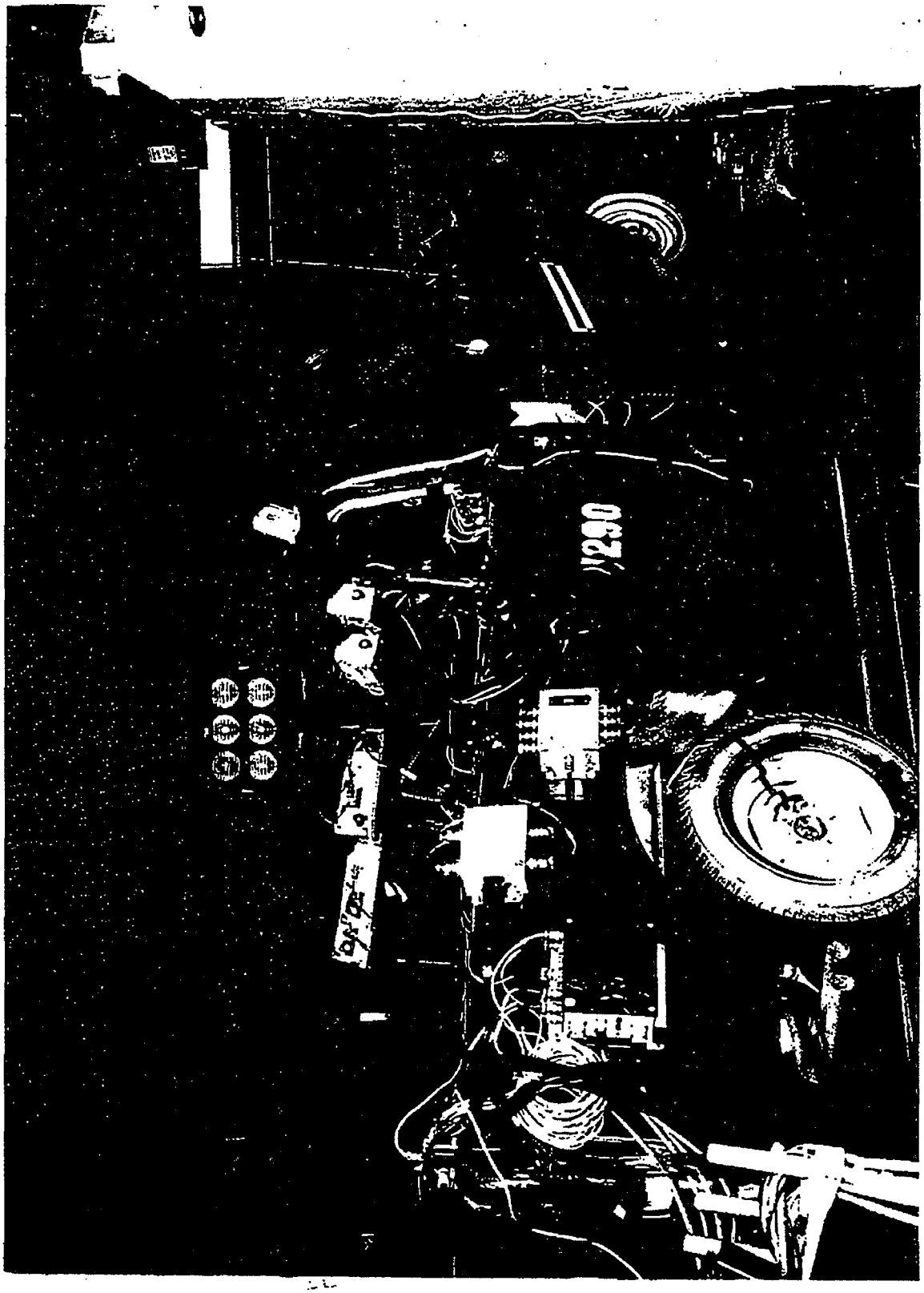

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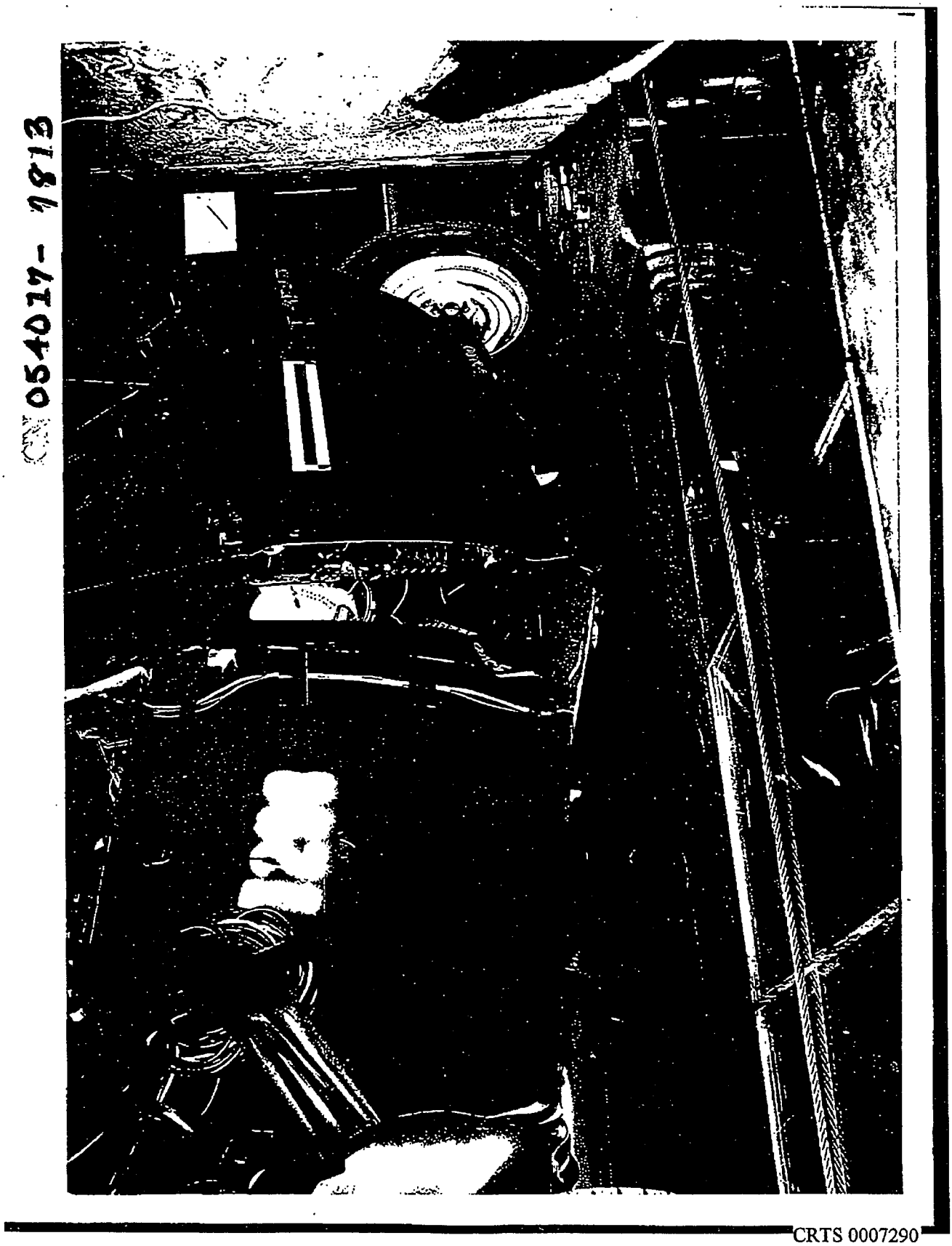
054017-1813



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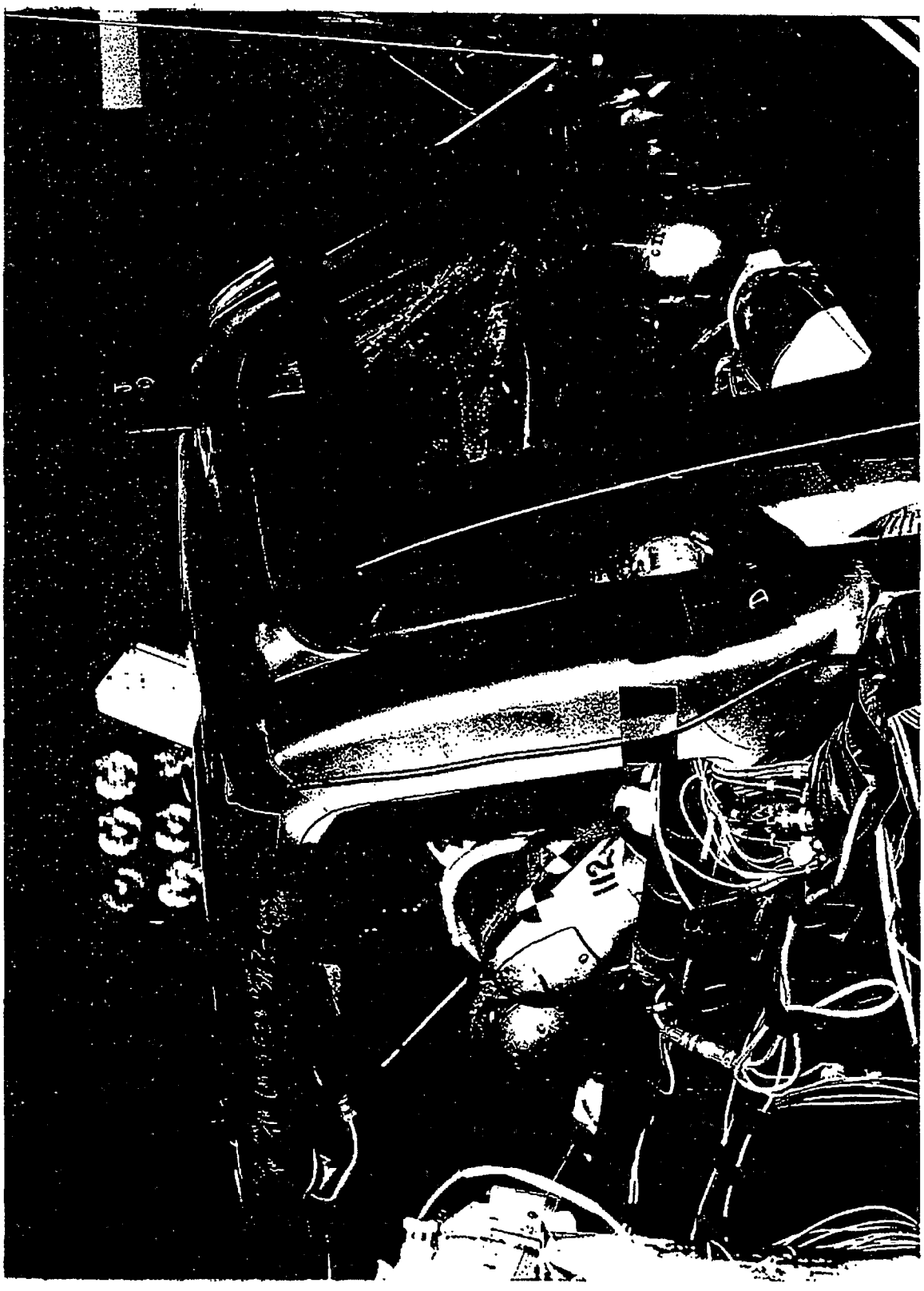
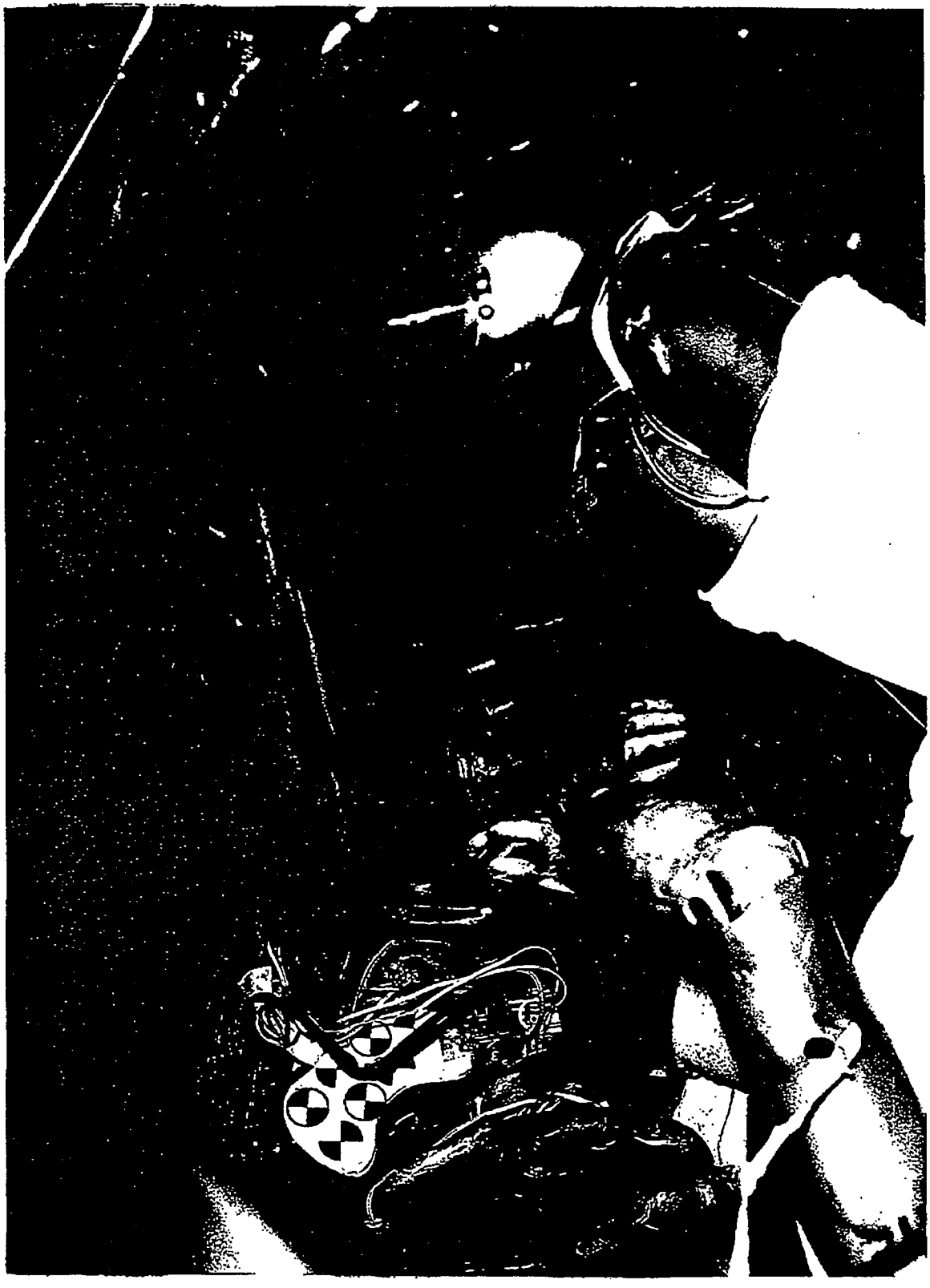


CN 054017- 1815



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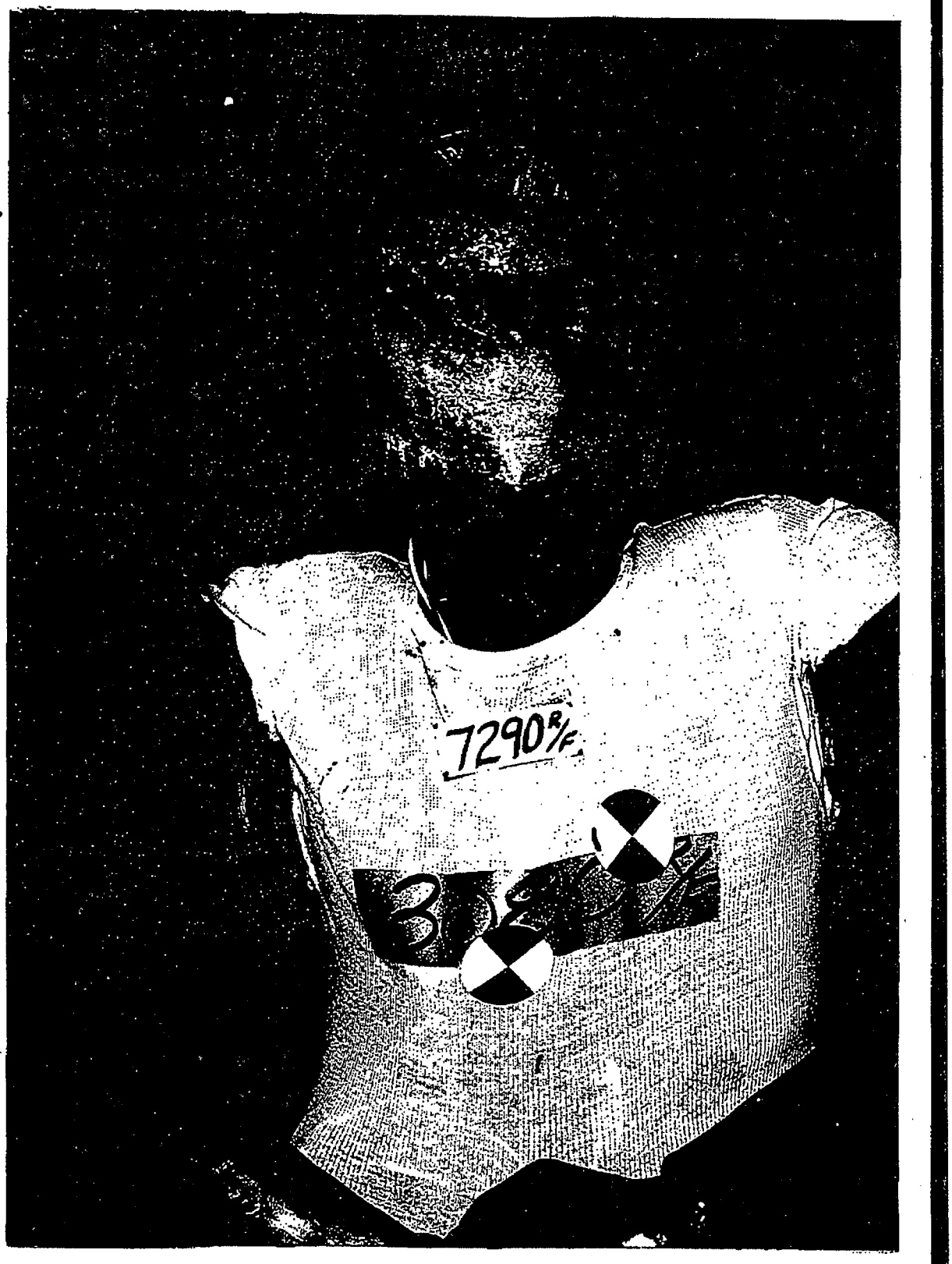

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PRODUCED BY FORD
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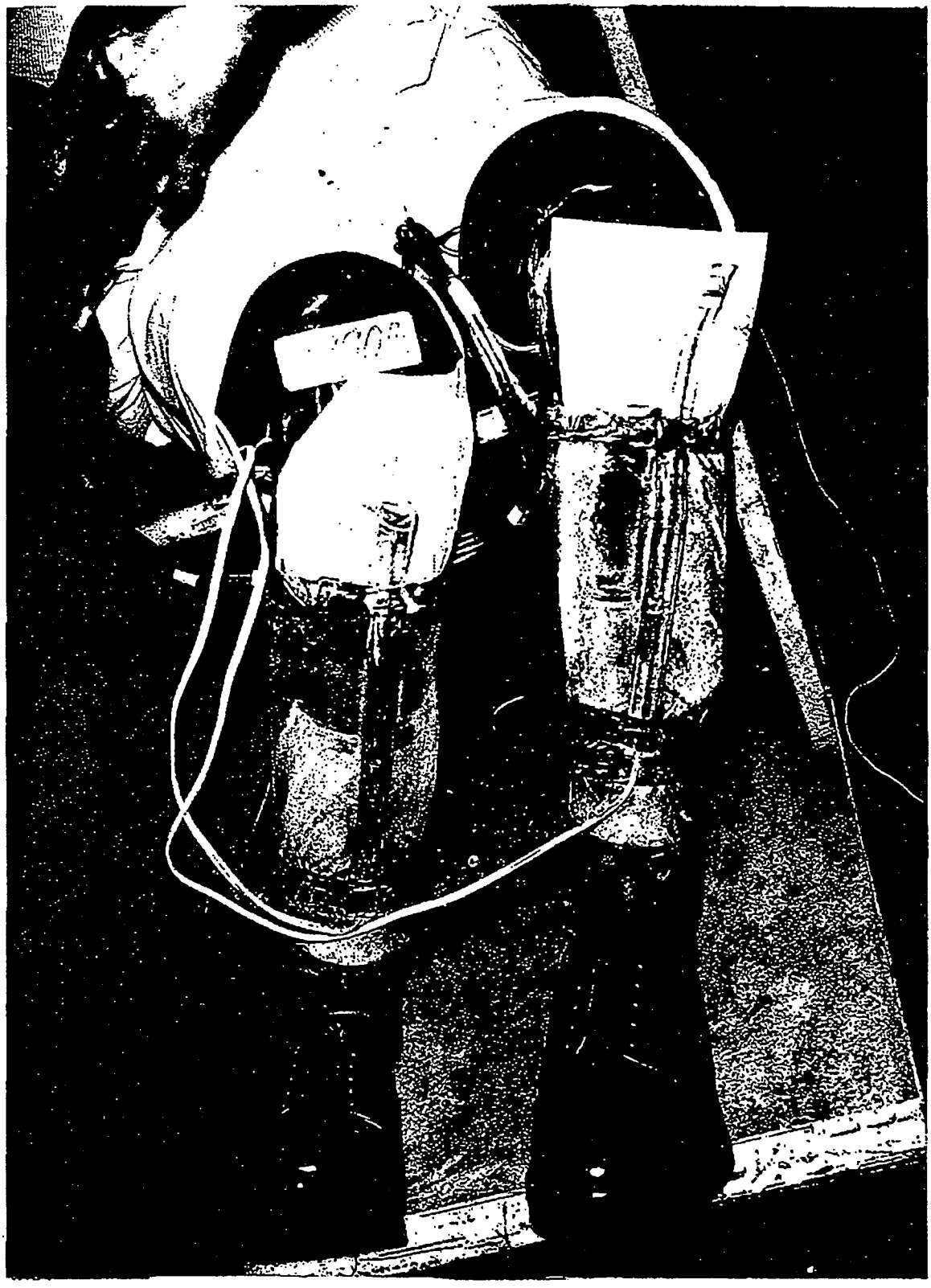
CN 054017 - 9817



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PRODUCED BY FORD
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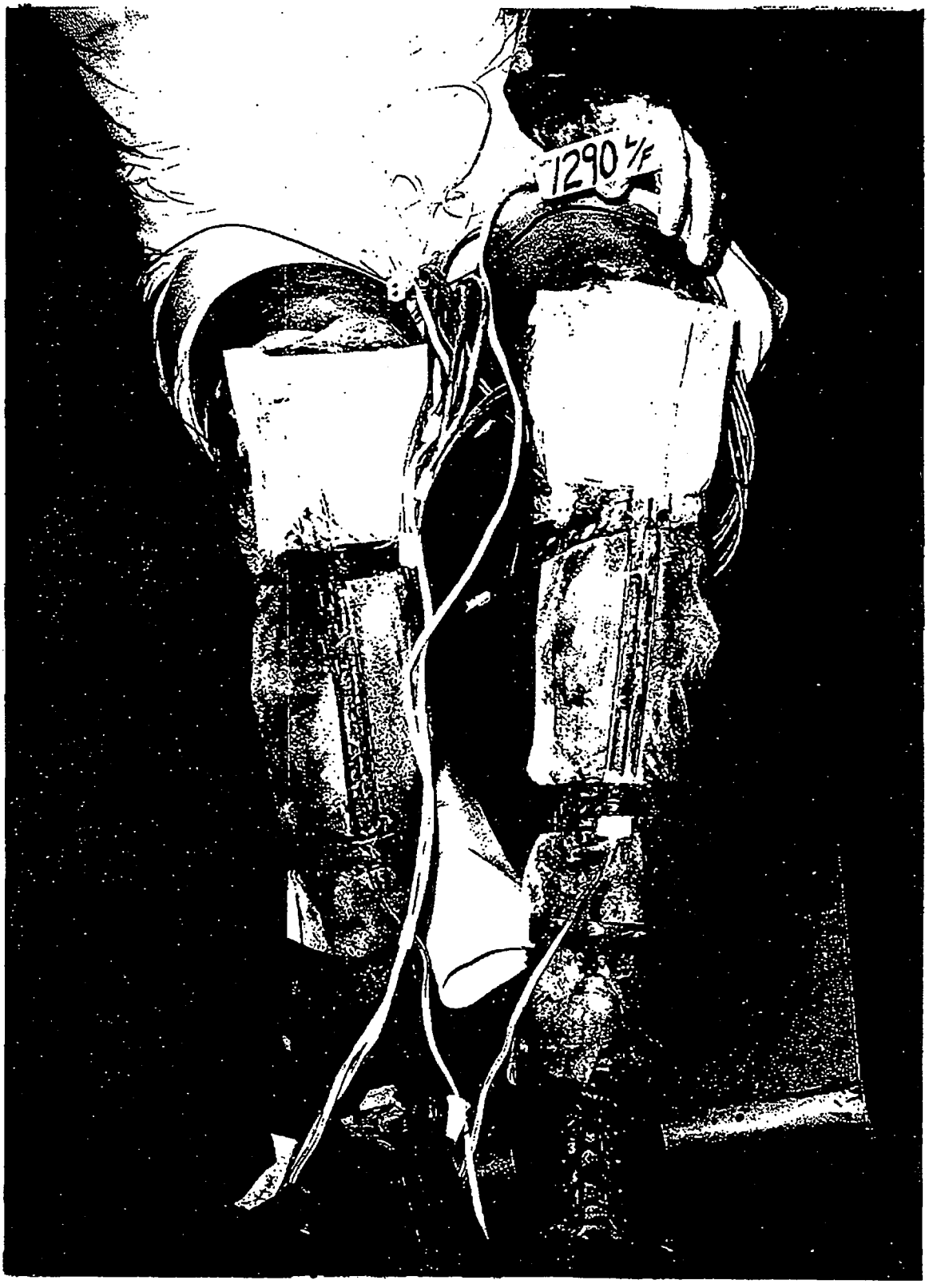
CN054017 - 1819



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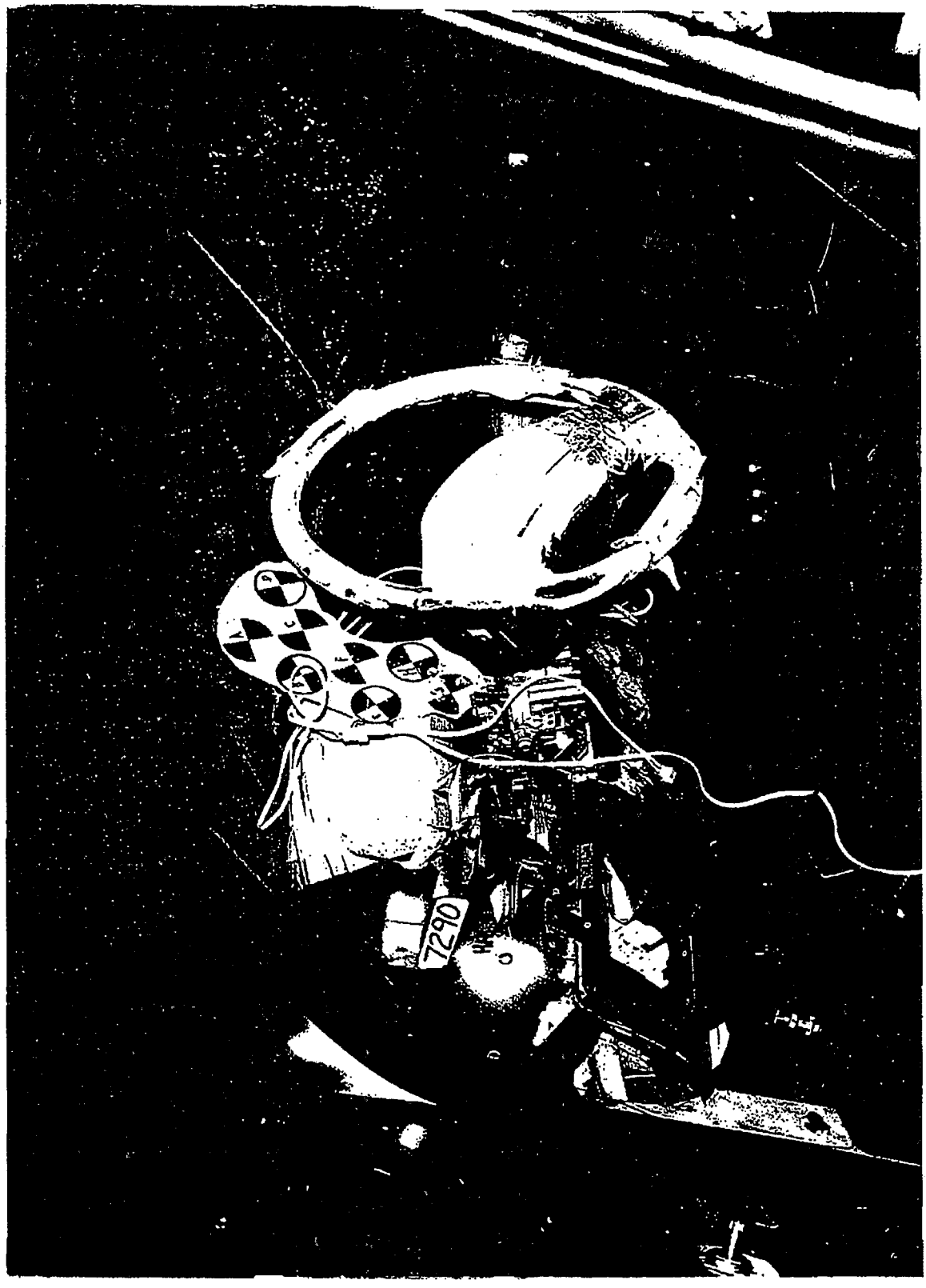
CN054017- 1820



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CN 054017- 1821

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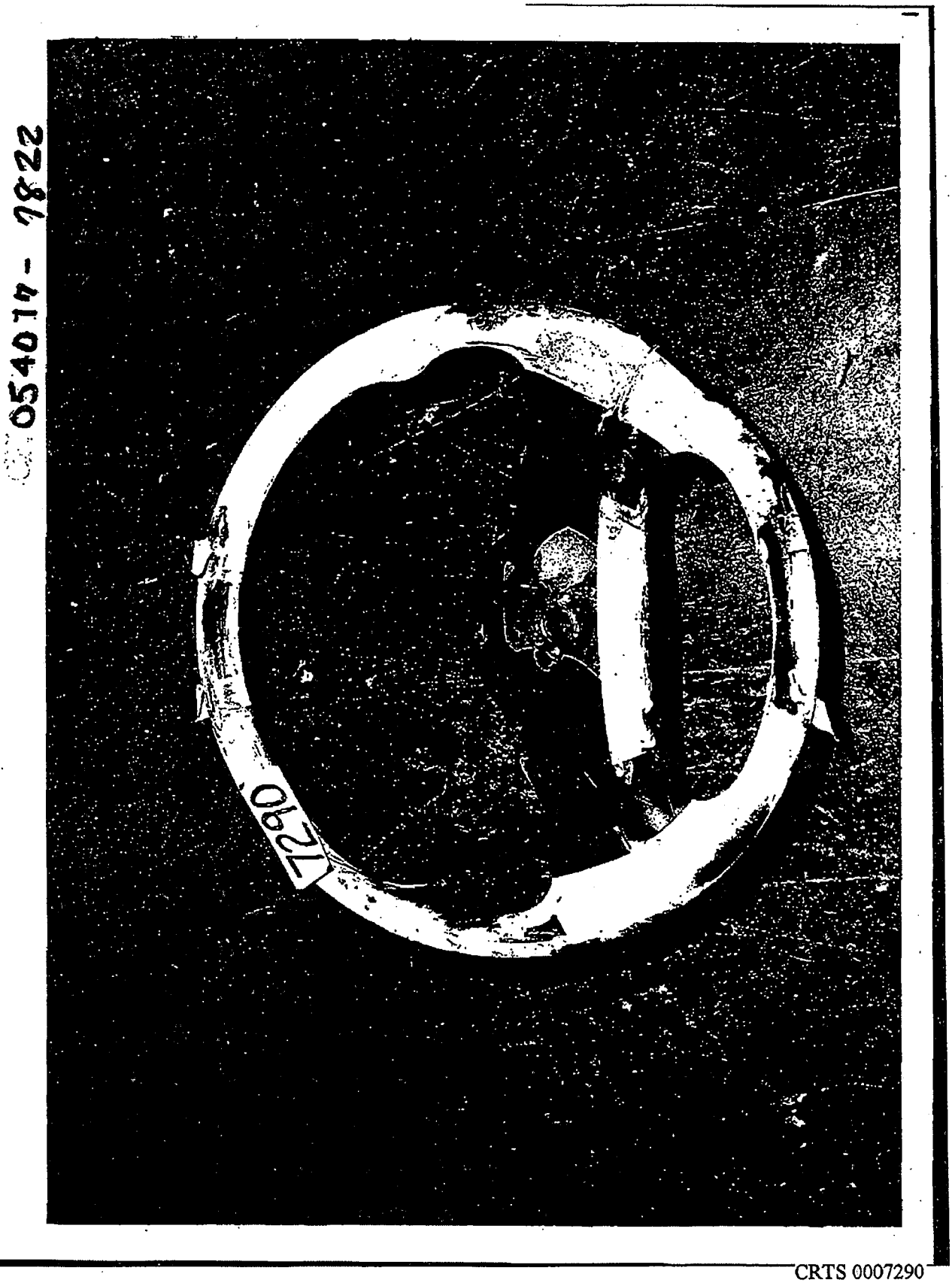
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PRODUCED BY FORD
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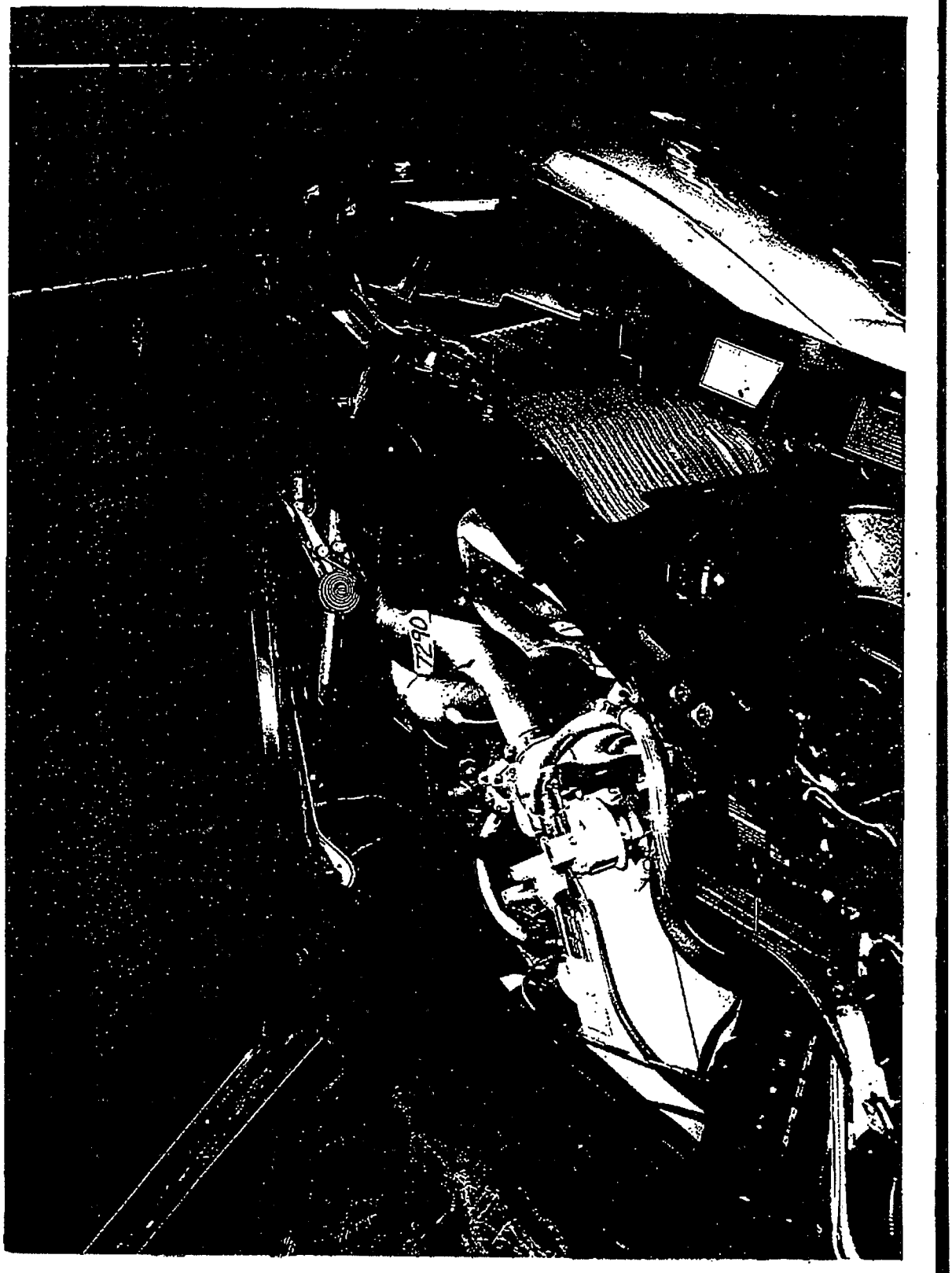

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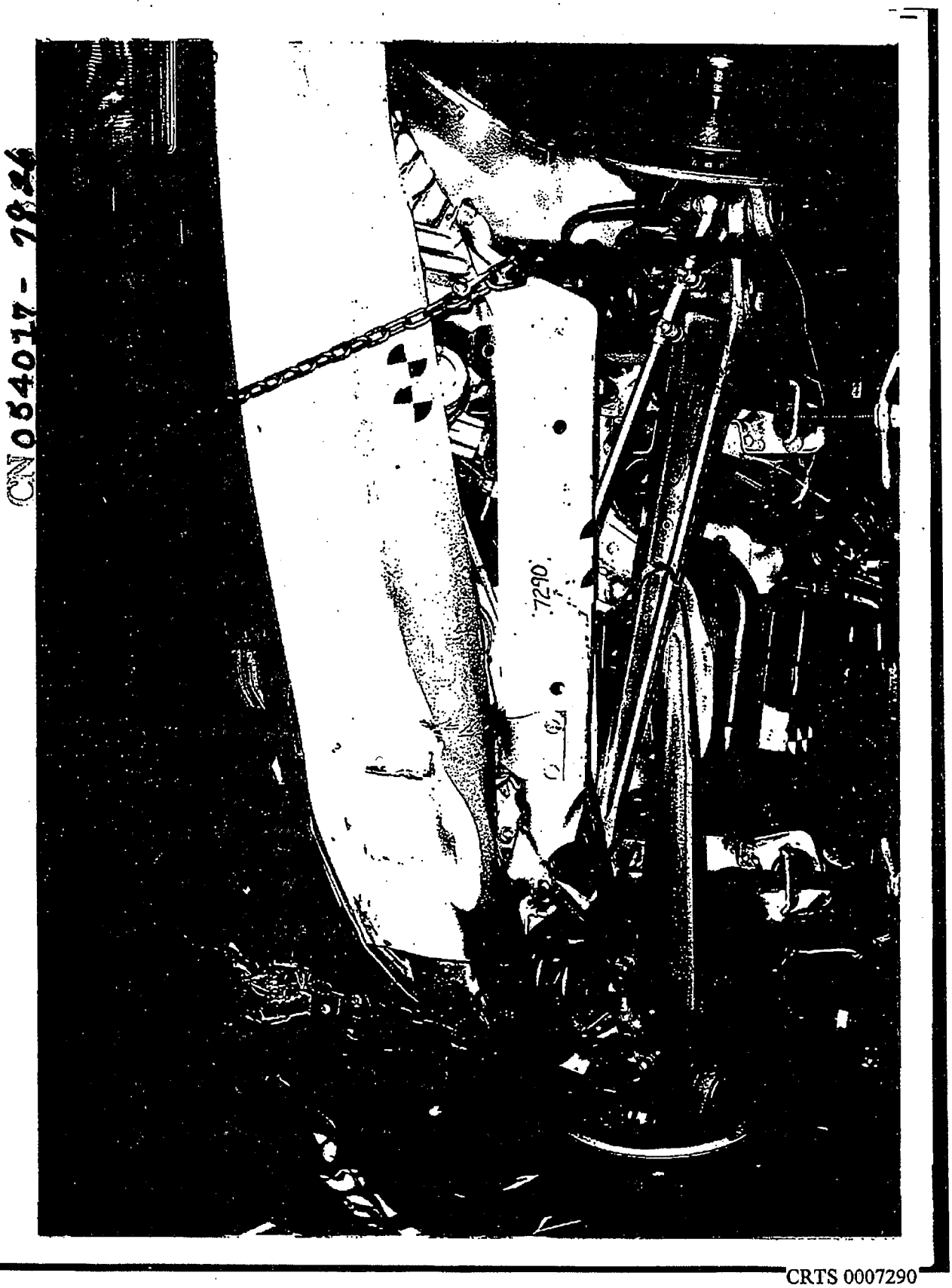
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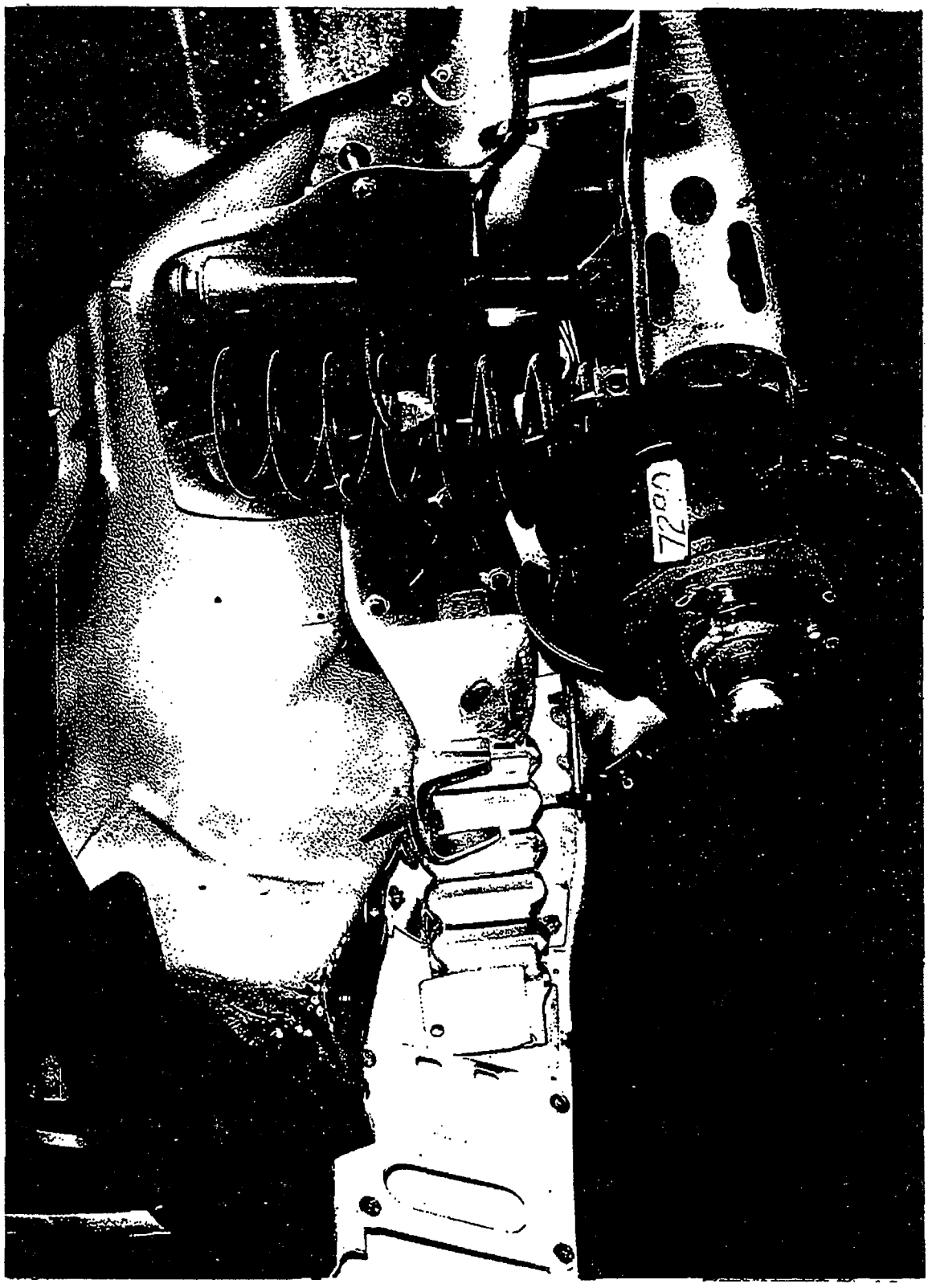

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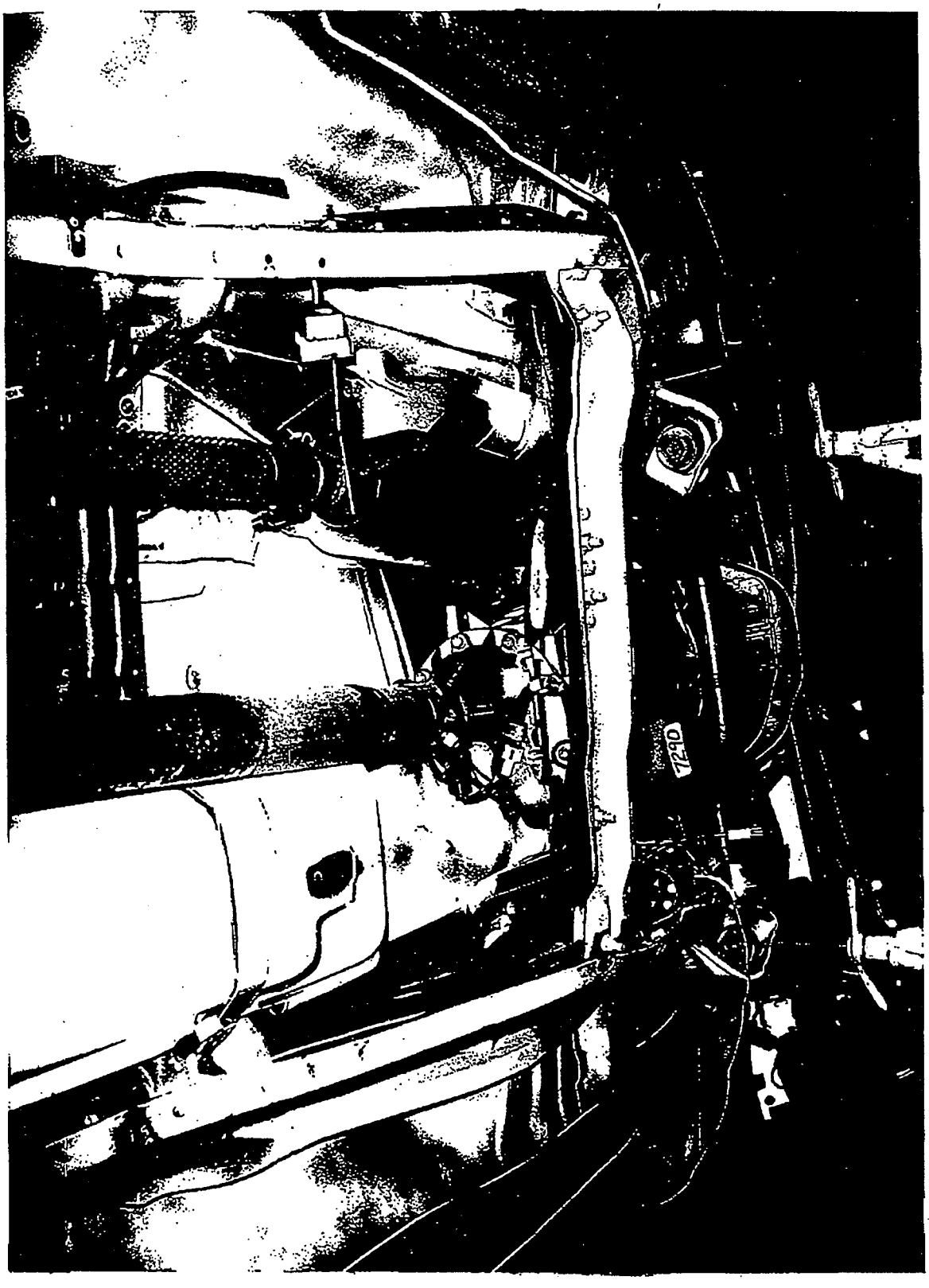

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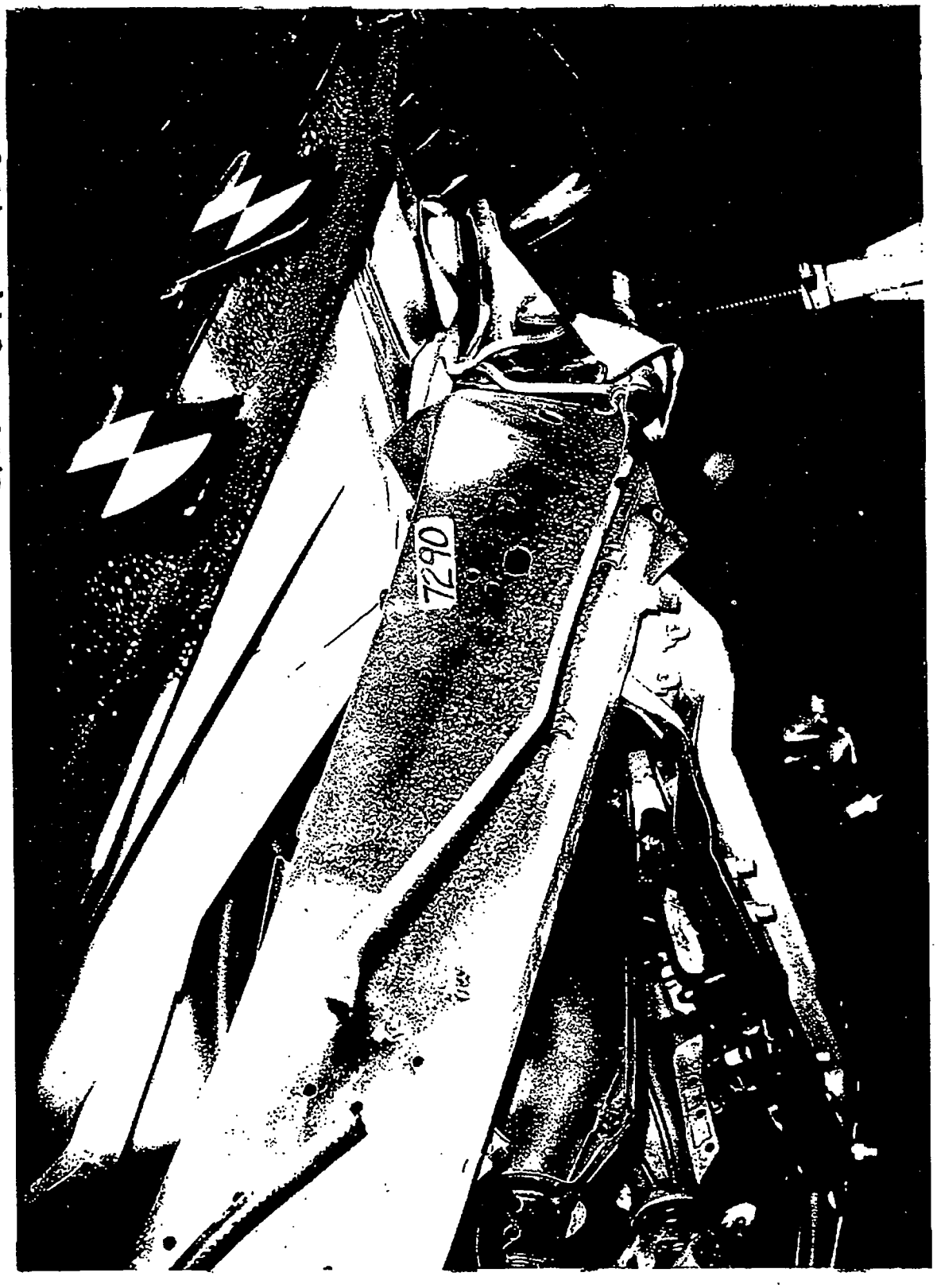

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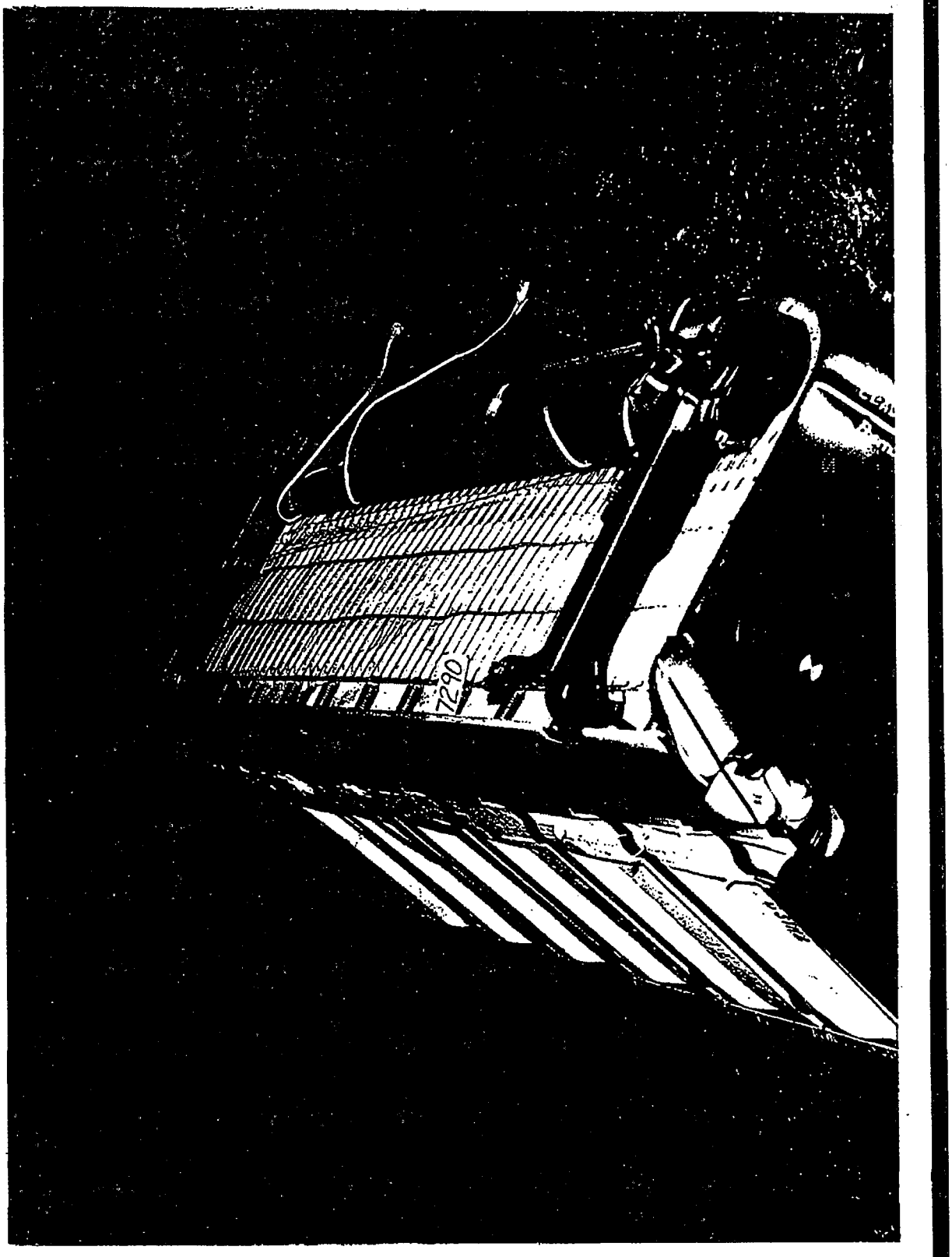

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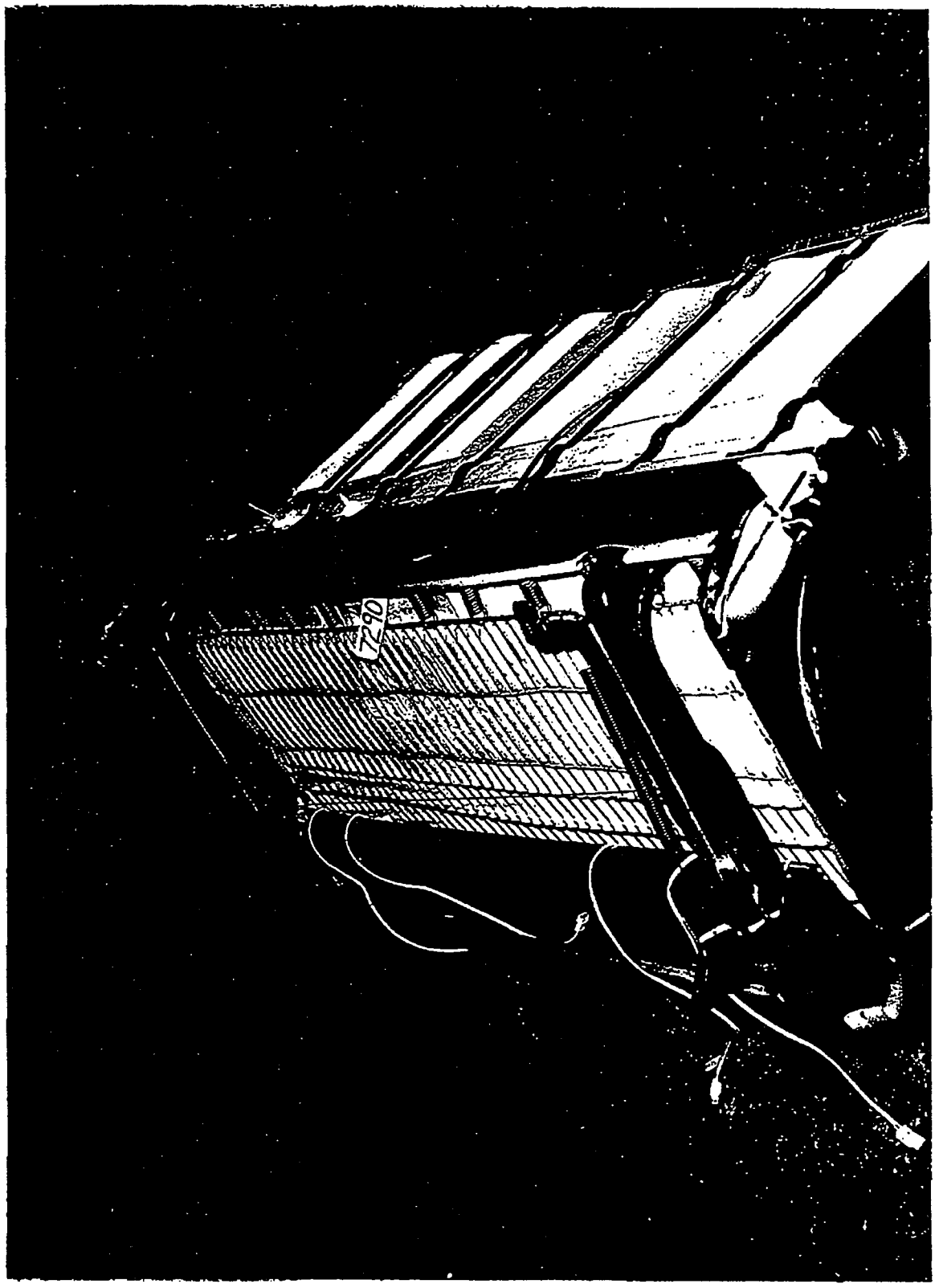

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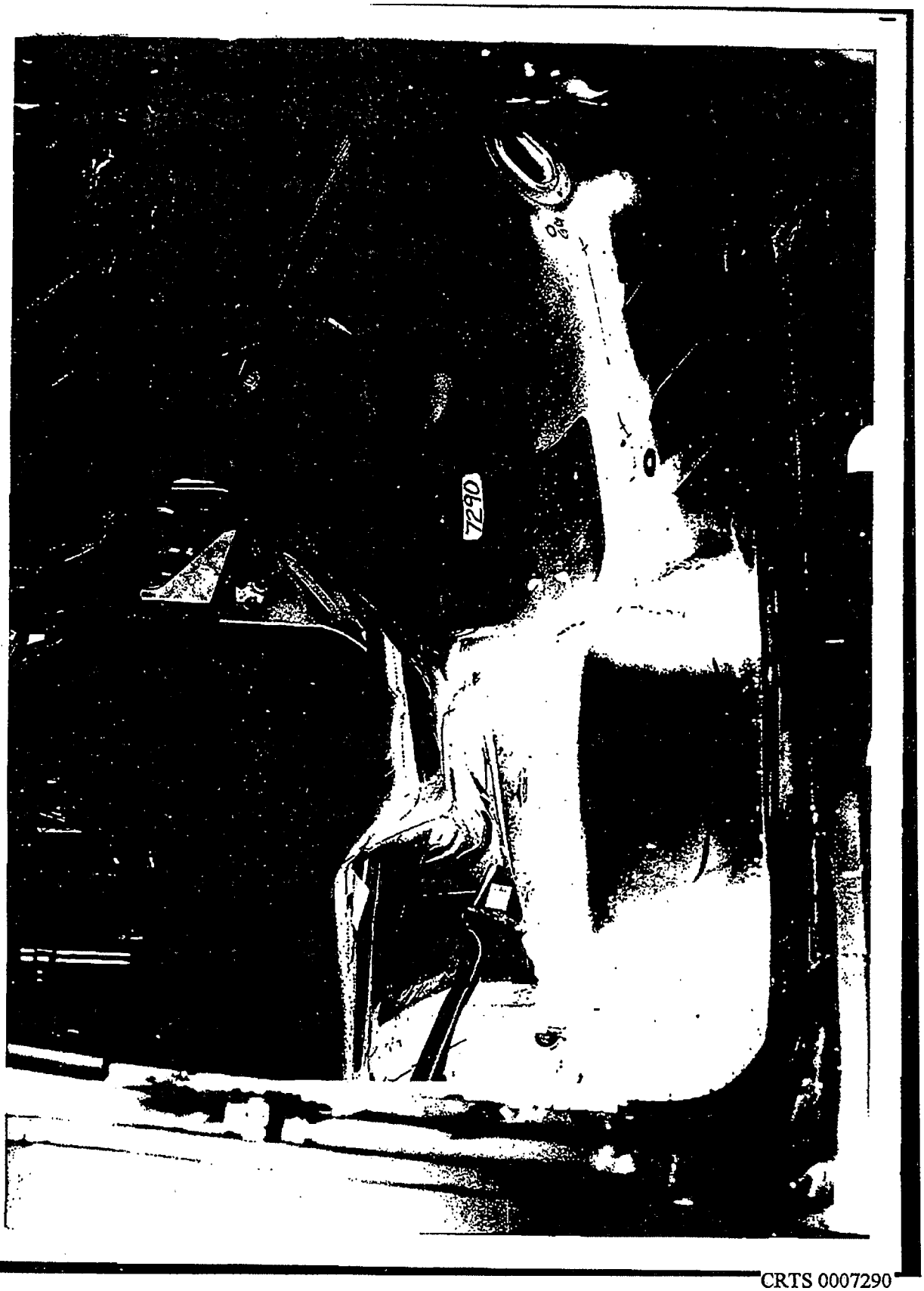

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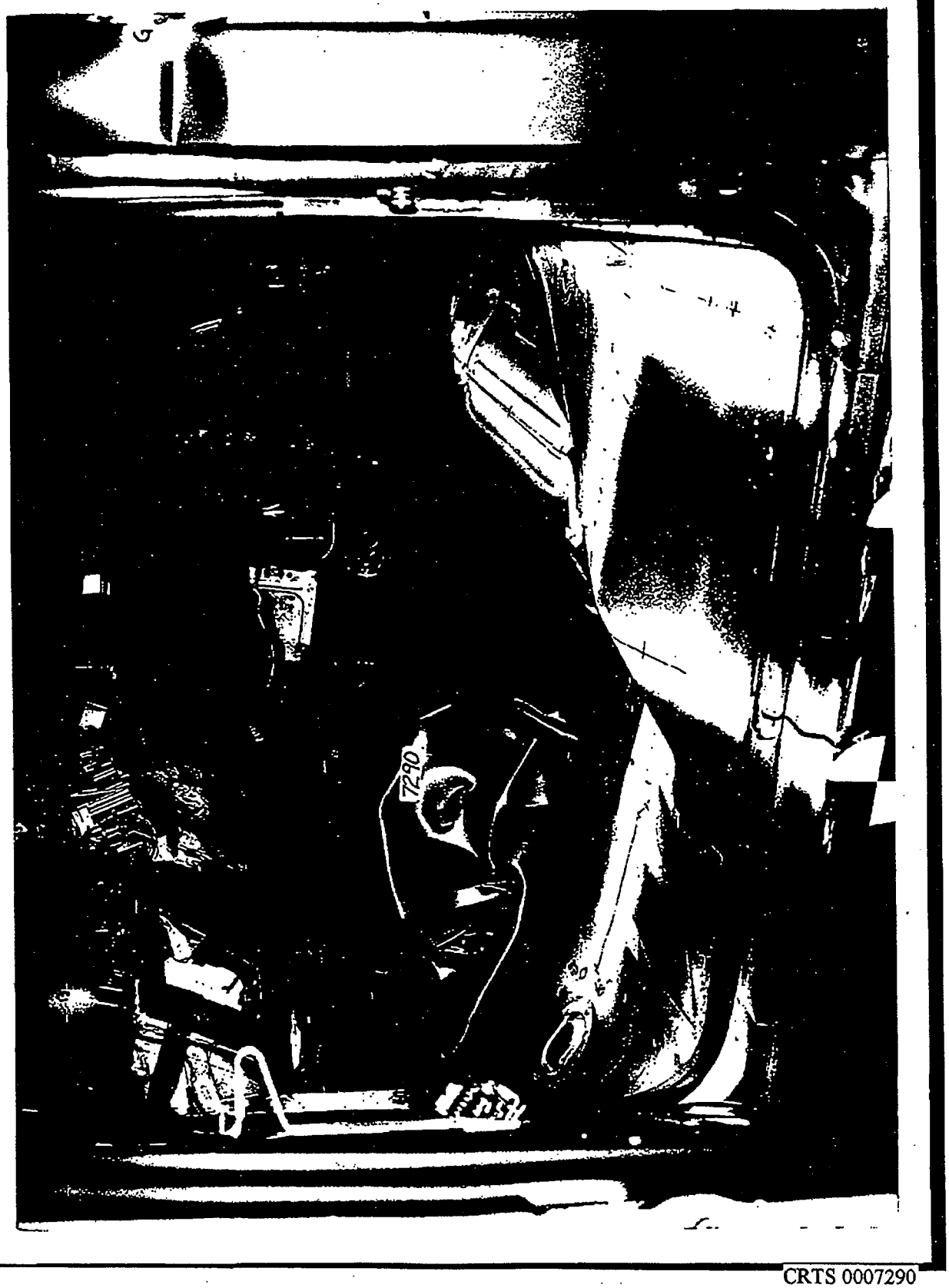

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Test Authorization

TEST ORDER NUMBER T-13080

TO: Mr. J. Vella cc: O. M. Jacques

3848

REQUEST DATE	REQUEST COMPLETION DATE
08/17/89	A.S.A.P.
REQUEST NUMBER	PROBLEM NUMBER

REQUESTING ACTIVITY: LIGHT TRUCK SAFETY PROGRAMS

TITLE OF TEST: OCCUPANT INJURY CRITERIA 30 MPH FAR EAL IMPACT @ MAX OPTION WEIGHT

PARTS DUE DATE AVAILABLE:

TYPE OF TEST	VEHICLE NUMBER OR OTHER IDENTIFICATION	VEHICLE MODEL & YEAR	PRODUCT OR ENG. LETTER
☑ VEHICLE ☐ BENCH ☐ LABORATORY ☐ OTHER	1992 F-150 4X2 R/C 3378mm WB. F8MP02 301T409 R24672	1992 F-150 4X2 LWB	

ENGINE NO. DISP. CARB.	TRANSMISSION	AXLE RATIO	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOVERNMENT REGULATIONS?	DISPOSITION OF PARTS
5.8L EFI	E4OD	N/A	☐ YES ☑ NO	SAVE 1 YEAR FROM MONTH OF CRASH
TYPE OF FUEL	CONVERTER	IGNITION TIMING		PROCUREMENT REQUIRED? ☐ YES ☑ NO IF YES, GIVE ROUTING CODE:
STODDARD	-	-		

CRANKCASE OIL AND CAPACITY	TIRE SIZE AND PLY RATING	REPORT CATAGORIES	MAIL REPORT TO:
-	P235/75R15.	☑ ENGINEERING ☑ DATA ☑ RAW DATA	ROOM 244 BLDG. P & A Bldg.
VEHICLE TEST WEIGHT	TIRE PRESSURE		
FRONT 2733 REAR 2339 TOTAL 5072	FRONT 35 REAR 35		

1. OBJECT OF TEST 2. TEST PROCEDURE 3. ITEMS TO BE TESTED (NAME, PART NOS., QUANTY)

1. Evaluate the crash performance of a F-150 4X2 with respect to:

   - Occupant injury criteria requirements (reference FMVSS 208)
   - Fuel System Integrity (reference FMVSS 301) - No post Crash Static RollOver. Pressure Check Only
   - Door Operability

2. 30 MPH Front Angular Left Impact per procedure ST-14.

3. 1992 F-150 4X2 (Development Mechanical Prototype)

   5.8L EFI engine
   E4OD Transmission
   3378mm Wheelbase
   6250 lb. GVWR
   Max option weight condition
   50th percentile HYBRID II driver & passenger
   19.0 Gal Midship Fuel Tank
   18.2 Gal Aft Axle Fuel Tank

DISPOSE of Copies (Black Stamped) by:
RETAIN Record Copy (Red Stamped) Thru: 2009
Schedule Number: 7-7-12

REQUESTING SECT. NO.	WORK ORDER/WORK TASK	ORIGINATED/REQUESTED BY	PHONE	APPROVALS	TEST TYPE	RISK	SIGN-OFF DATE
K7914	T9L13	D. L. Patterson	29765	R. W. H.			

REQUESTOR DO NOT WRITE BELOW THIS LINE

WORK STANDARDS NUMBER	TITLE
00.00-1P-001	

MANDATORY

TEST ORDER NO.	CATAGORY	RESP. SECTION	EST. COMP. DATE
T-13080	1	2620	12/15/89

OPTIONAL

PEO	TEST ENG'RS. INIT.	UNIT CODE	TEST ORDER DATE	USER CODE	PROD. CODE
L	L J	THP	9 15 89		

PERFORMING SECTION	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST. START DATE	EST. COMP. DATE	STATUS	%COMPLETE
2620		$	$					
TOTAL		$	$					

I. Dimensional Analysis

A. Standard frame and body points
B. Overall static crush
C. Seat back angle
D. Seat drop, verify H-point location or design drawing within ± 1/2 inch. (seat to be in design mid-point).
E. Floorpan deformation longitudinally and laterally through the seat track mountingbolt holes.
F. Position of master control notch relative to other control points.
G. Position seat (in design mid-position) WRT to vehicle.
H. Reference front seat bolt hole wrt fiducial mark (RH & LH side).
I. Restraint system mounting bolts @ Retractor and D-Ring sling (x,y,z directions).

FOR SCALES AND FILTERING, PLEASE REFER TO ATTACHED SET UP SHEETS (ATTACHED)

II. Acceleration Measurements (DO NOT WELD to frame, OK to weld to body).

A. L&R frame rail @ "B-post"
B. Engine and trans accel (lower engine mounting)
C. Engine and trans accel (upper engine mounting)
D. L&R rocker @ "B-post"
E. Steering column triaxial load cell (please prove plot of resultant load)
F. LVDT to monitor steering col. stroking.

III. Dummy Instrumentation (HyBrid III Driver and HyBrid II Passenger)

A. Head accels (Triax & Resultant), HIC (floating method, and 36ms cutoff).
B. Chest accels (Triax & Resultant, including 3ms cumulative duration routine)
C. Left and right femur loads
D. Left and right tibia loads (Driver)
E. String pots behind seat to dummy lower torso (Driver/Passenger)
F. String pots to dummy knees (Driver/Passenger)

IV. Contact Switches

A. BARRIER T-0
B. TOP, BOTTOM and HUB of steering wheel.
C. L&R KNEE contact (Driver & Passenger)

V. Restraint System Loads (Driver & Passenger)

A. Lap Belt @ Outboard Anchor. Locate between anchor and seat as close as possible to anchor.
B. Torso Belt @ Retractor
C. Torso Belt between D-Ring and Shoulder. Locate transducer no more than 1" from "D" ring and support with masking tape

VI. Data Analysis

REFER TO ATTACHED PLOTS REQUIRED SHEET

VII. Film Analysis - SEE ATTACHED FILM ANALYSIS SHEET

A. "Dummy head and shoulder kinematics" - displacements and velocity. Targets must be visible at T-0
B. Dynamic collapse of left and right side corrected for rotation and pitch
C. Steering Column Displacement - SCALE METHOD
D. Belt payout at "D" ring (Driver & Passenger)

VIII. Typical Still Photographs

IX. High Speed Camera Coverage

A. On Board

-Criss Cross viewing dummy kinematics (2)
-Criss Cross viewing belt payout at "D"-rings (wide angle) (2)
-Center viewing instrument panel (wide angle) (1)
-Behind seat viewing Right side retractor (1)
-Windshield header pointing downward viewing inboard bucle ends (2)

B. Pit Coverage

-Criss Cross on front frame horns to #1 X/M
-Criss Cross on frame rails #1 crossmember to trans X/M
-Criss Cross on frame rails aft of trans. crossmember

C. Ground Based

-2 side view - close in on ground angled upward (front frame horn collapse)
-1 overhead - overall vehicle
-2 side view - overall vehicle RHS and LHS
-Coverage for steering column dynamics
-Forward side view - dummy kinematics -RHS and LHS
-Over the shoulder using high tripods Left & Right Side.
-Thru the windshield from cameras mounted on top of barrier to view occupant containment
-Provide camera coverage for steering column resection method as backup only

ALL FILM SEQUENCES TO BE IN NORMAL REFERENCE WRT GROUND

X. Special Prep Requirements

1. Use standard dummy positioning targets as requested by B&CE Provide requestor with copy of the seating position measurements
2. Do not tape dummy hands to steering wheel
3. Tape windshield centerline of vehicle and seating position
4. Special targeting of steering column, and dummy in support of film analysis requirements
5. Stripe belts in 1 inch increments (including lap belt at retractor)
6. Determined design mid-position of seat travel and mark track and seat.
7. Paint frame rails (YELLOW), bumper, radiator, radius arms, engine crossmember and engine contrasting colors.
8. Remove the 3 front plexiglas panels to aid in underbody film coverage and analysis.

FRAME RAILS MUST BE PAINTED YELLOW

Please provide five (5) copies of high speed film and still photographs. Provide six (6) copies of data. Jessie Eiland, Restraints Engineering receives one set of data including film and photos. All others to D.L. Patterson

THIS INFORMATION IS REQUIRED ON AN ASAP BASIS

Write the test data requested below to Multics ID
>udd>BE-IDAADV>crash_data

**C _ _ _ _ 1 Long. accel at "B" pillar (average left & right 60 Hz filter)
C _ _ _ _ 2 1st Integration of above curve
C _ _ _ _ 3 2nd Integration of above curve
C _ _ _ _ 4 Component & Resultant Chest accels. (Driver & Pass. 600 Hz filter)
C _ _ _ _ 5 Component & Resultant Head accels. (Driver & Pass. 1000 Hz filter)
C _ _ _ _ 5 All Belt Loads (Driver & Passenger 1000 Hz filter)
C _ _ _ _ 6 Head Trajectory (Driver & Passenger film analysis)

** To be filled in by the crash number

TEST INSTRUMENTATION SHEET

DATE _____

VEHICLE _____ TEST ORDER NO. _____

TECHNICIAN _____ ENGINEER _____

NO.	ORIENTATION TRANSDUCER LOCATION	FULL SCALE VALUES Long	Vert	Lat	TAPE FREQ Rec.	Play back
1	L Rocker @ B-Post	100 g			10K	60 & 180
1	R Rocker @ B-Post	100 g			10K	60 & 180
2	Top and Bottom of Engine	300 g			10K	60 & 180
1	L Frame Rail @ B-Post	300 g			10K	60 & 180
1	R Frame Rail @ B-Post	300 g			10K	60 & 180
2	Long L&R "B" pillar	300 g			10K	60 & 180
2	LT and RT Torso Belt @ Retractor		3000 lbs		10K	60
2	LT and RT Torso Belt @ D-Ring		3000 lbs		10K	60
2	LT and RT Lap Belt @ Outboard Anchor		3000 lbs		10K	60
6	LT & RT Dummy Head	250 g	250 g	100 g	10K	1000
6	LT & RT Dummy Chest	150 g	150 g	150 g	10K	180
4	LT & RT Dummy L & R Femur Loads (F)		3000 lbs		10K	600
4	LT Dummy L & R Tibia Loads (F)		3000 lbs		10K	600
1	LVDT on Steering Column				10K	60
3	Triaxial Load Cell @ Top of Str Col.				10K	600
	CONTACT SWITCHES					
4	LT & RT Dummy Knees				10K	1000
3	Top , Bottom and Hub of steering wheel				10K	1000
	STRING POTS					
4	LT & RT Dummy Knees				10K	60
2	LT & RT Dummy Lower Torso				10K	60

JOB INSTRUCTION SHEET
Data Analysis Unit

Test Number _____ Date _____

Plots Required X T.O. Number _____

Engineer _____ Job Assigned To: _____

Data Channels	Position		Filter Req'd	Axis	Duration	1st Integrat.	2nd Integrat.	Comments
	LF	RF	Class	Long X		Long _	Long _	Calculate HIC both
HEAD	X	X	1000	Vert X	Start 0	Vert _	Vert _	and without 36ms
				Lat X	End 240	Lat _	Lat _	cut-off.
				Res X		Res X	Res X	
	LF	RF	Class	Long X				Calculate CUM DUR
CHEST	X	X	180	Vert X	Start 0			with 3ms cut-off.
				Lat X	End 240			
				Res X		Res X	Res X	
	LF	RF	Class					
FEMUR	X	X	600	Ax'l X	Start 0			
TIBIA	X		600	Ax'l X	End 240			
BELTS	LF	RF	Class					
TORSO RET	X	X	60	Ax'l X	Start 0			
LAP O/B	X	X	60	Ax'l X	End 240			
"D" RING	X	X	60	Ax'l X				
	LF & RF		Class					
ROCKERS	X	X	60 & 180	Long X	Start 0	Long X	Long X	
FRAME	X	X	60 & 180	Long X	End 240	Long X	Long X	
ENGINE	X	X	60 & 180	Long X		Long X	Long X	
			Class					
SIGNATURE LEFT			35 & 60	Long X	Start 0	Long X	Long X	
SIGNATURE RIGHT			35 & 60	Long X	End 240	Long X	Long X	
SIGNATURE AVERAGE			35 & 60	Long X		Long X	Long X	
			Class					
Contact Switches			1000					
			Class					
LVDT on Stg. Col.			60					
Pelvic String Pots			60					
			Class	F_x X				
Triaxial Load Cell			600	F_y X				
				F_z X				
				Res X				

FILM ANALYSIS REQUEST

Crash No. _____
Test Order No. _____
Test Engineer _____
Test Date _____

Test Type _____
Development X
Vehicle _____

ANALYSIS REQUIREMENT	PLOTS REQUIRED TIME MS/IN	LONG DISP IN/IN	VERT DISP IN/IN	LAT DISP IN/IN
Steering Column WRT Vehicle Reference				
Scale Method Phantom Pt. X Direct _	20	1	1	1
Resect Method Phantom Pt. X Direct _				
NOTE: Only do Resection if scale method is Unacceptable				
Vehicle WRT Ground				
Rocker At B-Post Left X Right X	20	4	4	
LF/RF Belt Pay-out @ "D" Ring vs time	20	.5 in.		
Dummy Components WRT Vehicle Reference				
L/Front X R/Front X				
Head Vert vs Long		2	2	
Head	20	4	2	
Shoulder (if viewable)	20	4	2	

		Time	LONG VEL	VERT VEL	VELOCITY
Other:	Head Velocity	20	10 ft/sec	10 ft/sec	Resultant
	Shoulder Velocity	20	10 ft/sec	10 ft/sec	Resultant
	Steering Column Velocity	20	10 ft/sec	10 ft/sec	Resultant

	Time	LONG ACC	VERT ACC	ACCELERATION
Head Acceleration	20	Auto	Auto	Resultant

PLOTS REQUIRED

Provide single plots, using the vertical scales (per 2cm) below, for a duration of 240 ms.

	Long	Vert	Lat	Reslt	Reslt 1st Int	Reslt 2nd Int
1) LF/RF Head Acceleration	20 g	20 g	10 g	20 g	10 fps	2 in
2) LF/RF Chest Acceleration	20 g	20 g	10 g	20 g	10 fps	2 in
3) Lt/Rt Rocker	10 g					
4) Frame Accels	10 g					
5) Steering Column LVDT	.4 in					
	Accel	**1st Int Ave only**	**2nd Int Ave only**			
6) Engine Longitudinal	50 g					
7) Rocker (Lt, Rt & Avg)	10 g	10 fps	10 in			
8) Signature (Lt, Rt & Avg)	10 g	10 fps	5 in			
	Force					
9) LF/RF Dummy - (Rt/Lt) Femur	300 lbs.					
10) LF Dummy - (Rt/Lt) Tibia	300 lbs.					
11) LF/RF Retract. D-Ring	300 lbs.					
12) LF/RF Torso Belt Loads	300 lbs.					
13) LF/RF Lap Belt Loads	300 lbs.					
	Displacement					
14) Steering Column stroke	2 in.					
15) LF/RF Pelvic String Pots	2 in.					
16) LF/RF Knee (Lt/Rt) String Pots	2 in.					
Crossplots						
15) Average Crash Signature (positive y-axis) vs the 2nd integration of the Average Crash Signature (pos. x-axis)	10 g/inch "Y" axis 4 inches/inch "X" axis					

Dummy & Restraint Requirements

Dummy Type

	Driver	Passenger
Percentile Size:	50th	50th
Type:	HyBrid II	HyBrid II

Preparation

1. Put 1" stripes on the belts from the shoulder to the location to be viewed by the cameras. Do not use solvent based paint.

2. Measure belt on spool after positioning belt on dummy.

3. Paint chamois on dummy's head with poster paints. Coverage to be complete on both left and right side of face.

   .. Use one light color above the nose
   .. Use contrasting light color below the nose
   .. Reverse the color scheme on the opposite side dummy

4. Paint chamois on dummy's knees using four light colored poster paints. Use different colors than those used on the head.

   .. Use one color above the knee
   .. Use a contrasting color below the knee bottom
   .. On opposite knee repeat the above using two remaining colors

5. Place two (2) targets on each dummy's head so that rotation and translation WRT the center of gravity can be measured. Targets must be visible at T-0.

Positioning

Position dummies per ST 25. Record dimensions and provide requester with positioning information.

Please provide copies of dummy positioning sheets as part of data pack.

C-7290

AEROSTAR TA — DUMMY MEASUREMENTS — # 19-3 (A23153)
PLEASE FILL OUT THIS SHEET COMPLETELY — Sheet 14 of 14

	Driver			Passenger		
	Standard	Initial	Final	Standard	Initial	Final
Roof rail target WRT Fiducial Mark						
Long	____	____	____	____	____	____
Vert	____	____	____	____	____	____
LAT	____	____	____	____	____	____
Rocker Dummy Target WRT Fiducial Mark						
Long	____	____	____	____	____	____
Vert	____	____	____	____	____	____
Lat	____	____	____	____	____	____
Head WRT Roof Rail Target						
Long	____	____	15.1	____	____	15.0
Vert	____	____	10.2	____	____	10.3
Lat	____	____	9.2	____	____	9.8
Shoulder WRT Roof Rail Target						
Long	____	____	15.4	____	____	15.4
Vert	____	____	20.1	____	____	19.7
Lat	____	____	3.5	____	____	3.7
H-Point WRT Rocker Dummy Target						
Long	____	____	9.8	____	____	10.3
Vert	____	____	19.1	____	____	~~18.7~~ 18.3
Lat	____	____	12.1	____	____	12.9
Outboard Knee Bolt						
Long	____	____	-5.8	____	____	-5.6
Vert	____	____	21.3	____	____	20.8
Lat	____	____	13.1	____	____	~~14.0~~ 13.9
Leg to Instrument Panel						
Left	____	____	4.3	____	____	5.7
Right	____	____	4.4	____	____	6.1
Rocker Targets to Ground						
Front	____	____	14.8	____	____	14.8
Rear	____	____	14.9	____	____	14.9
Nose to:						
Steering Wheel	____	____	16.0			
Instrument Panel				____	____	25.7
Steering Wheel to:						
Torso	____	____	7.7			
Top of Legs	____	____	2.2			
Knee bolts (outside to outside)	____	____	12.2	____	____	11.8
Pelvic ∠			22°			24°

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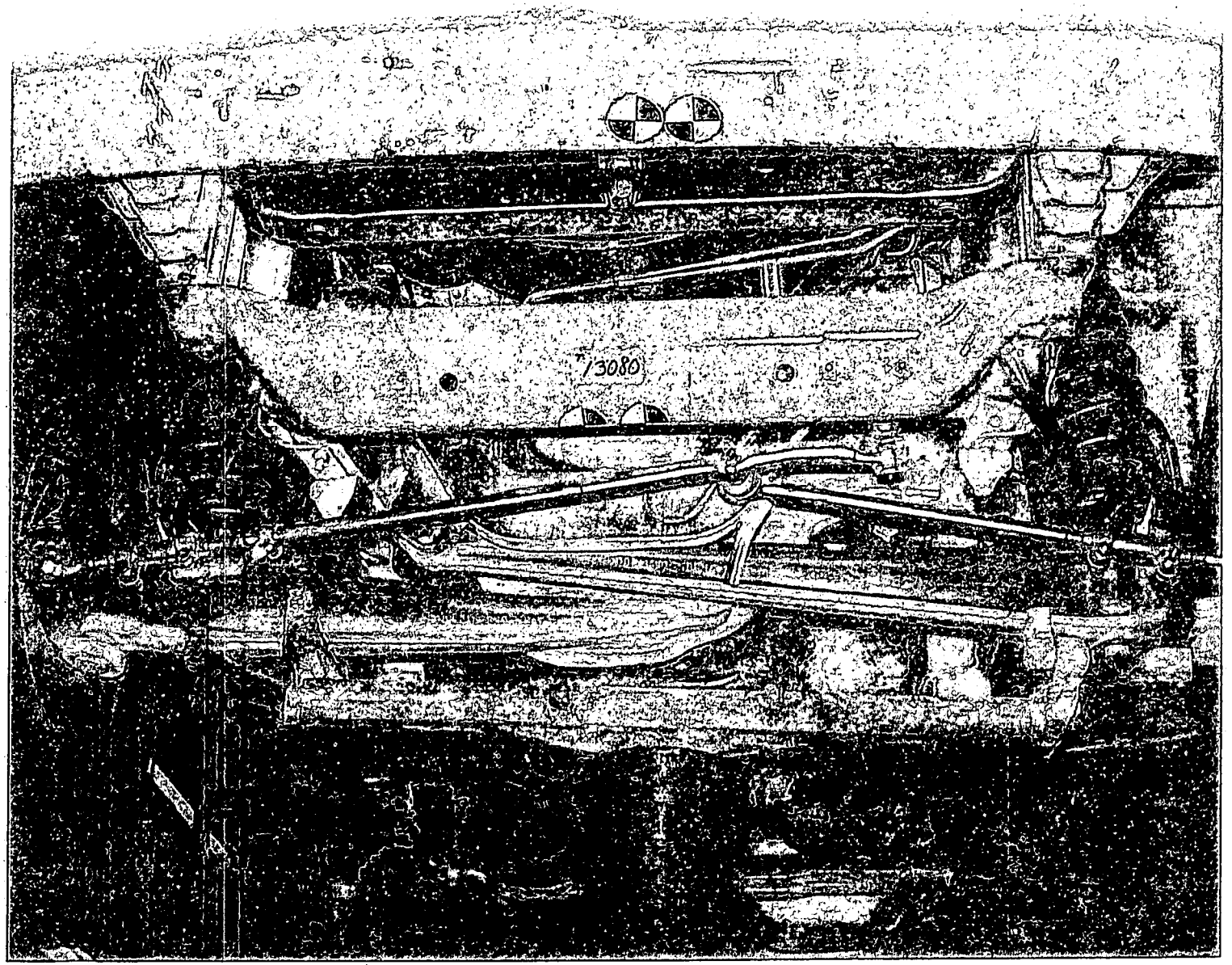

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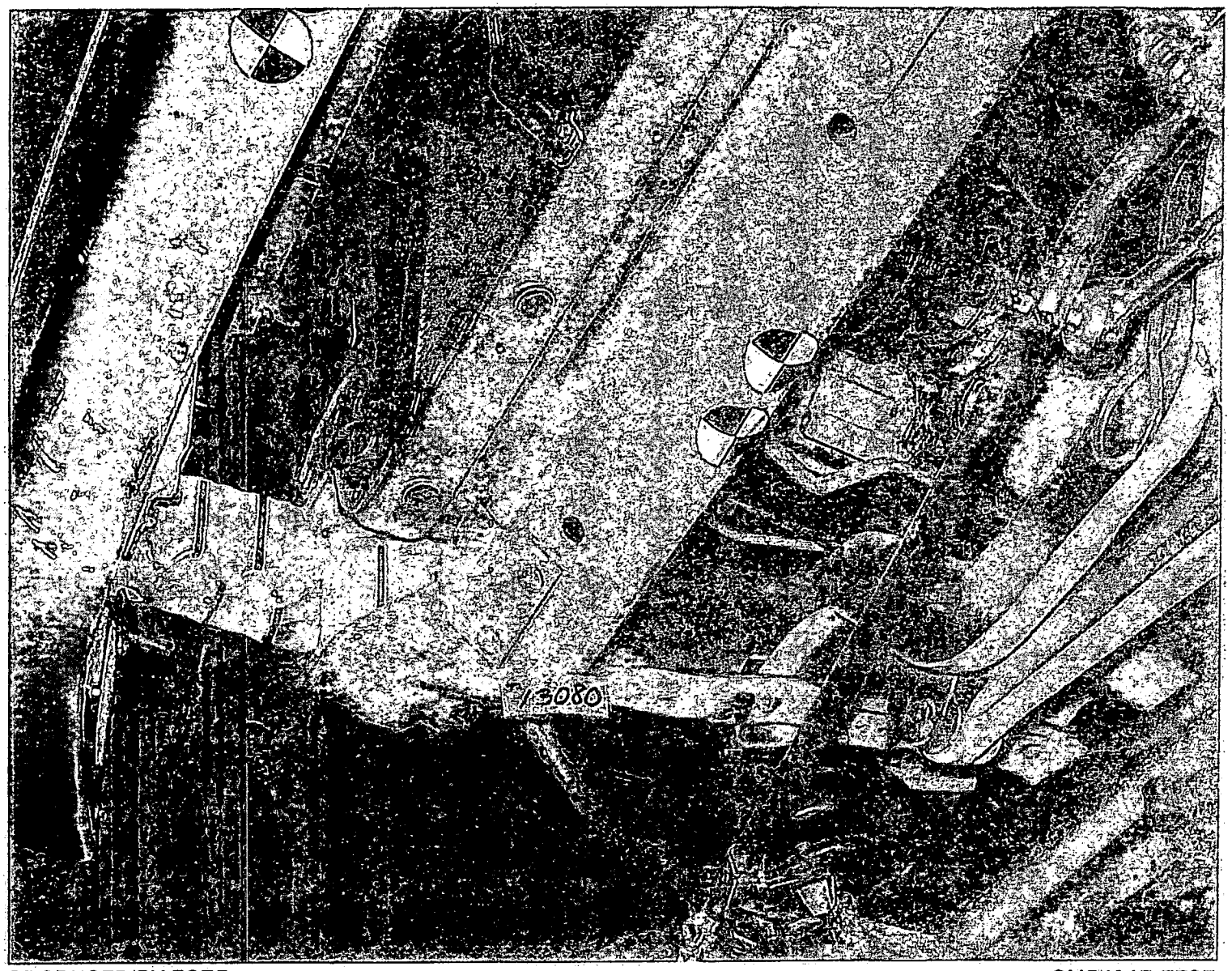

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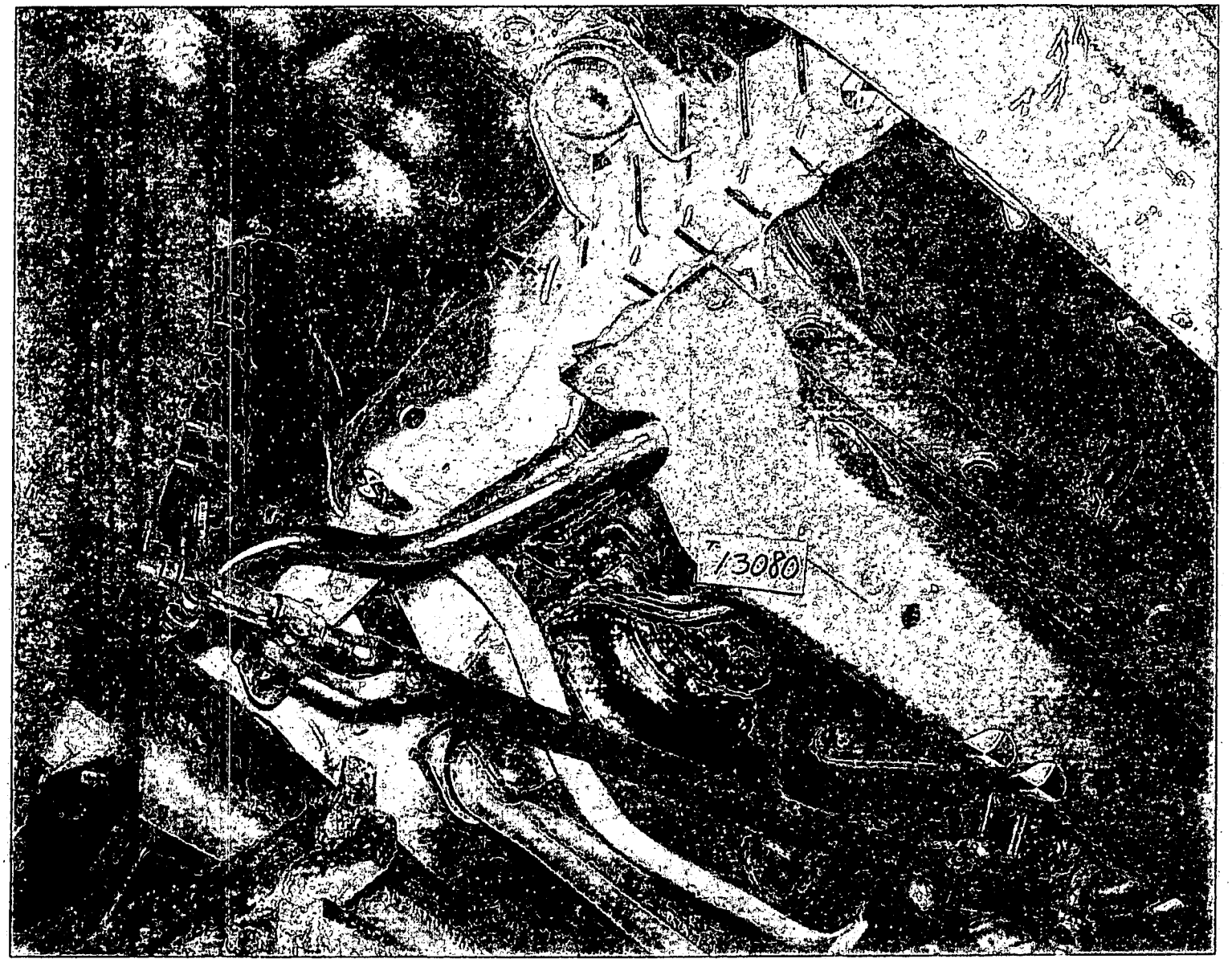

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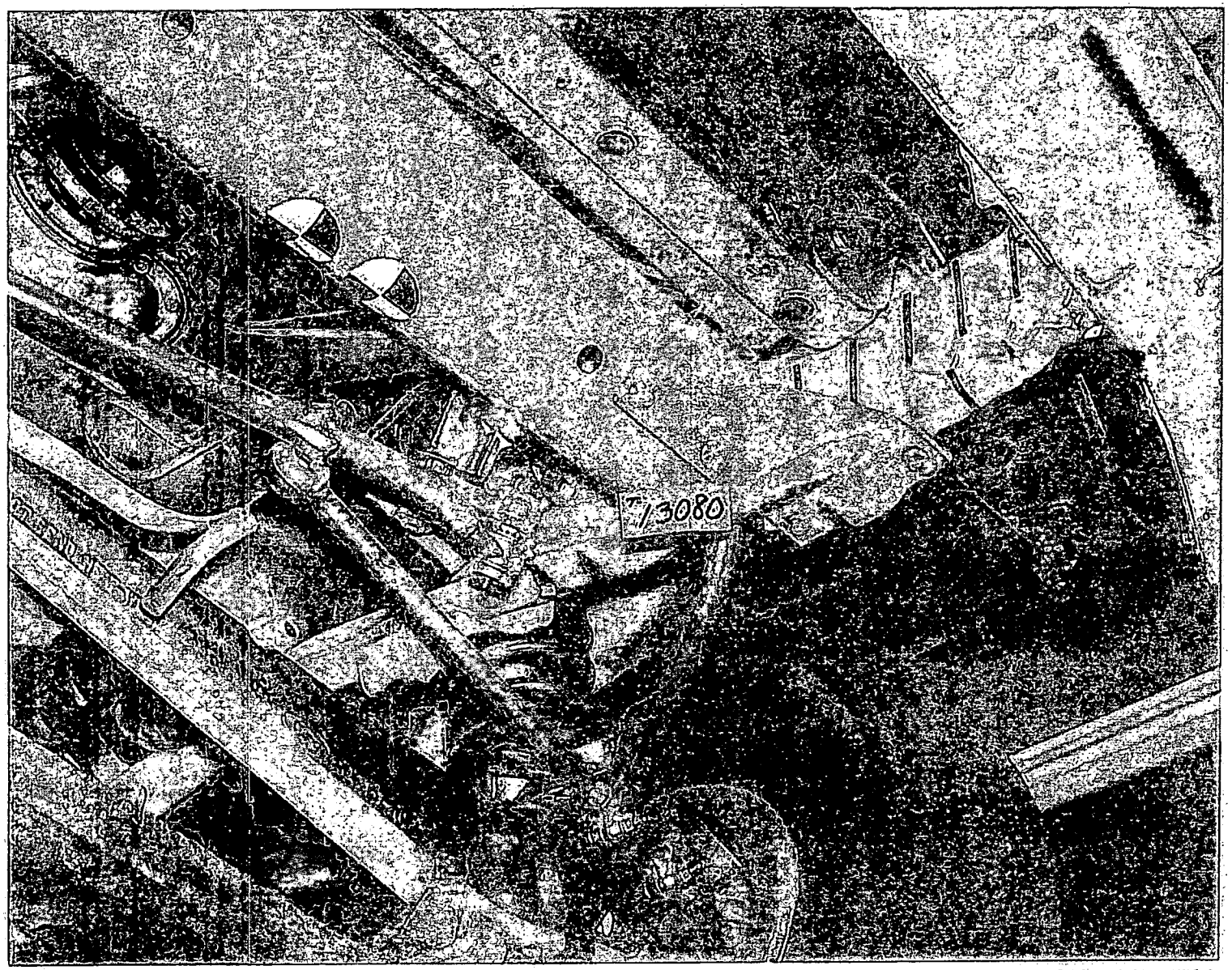

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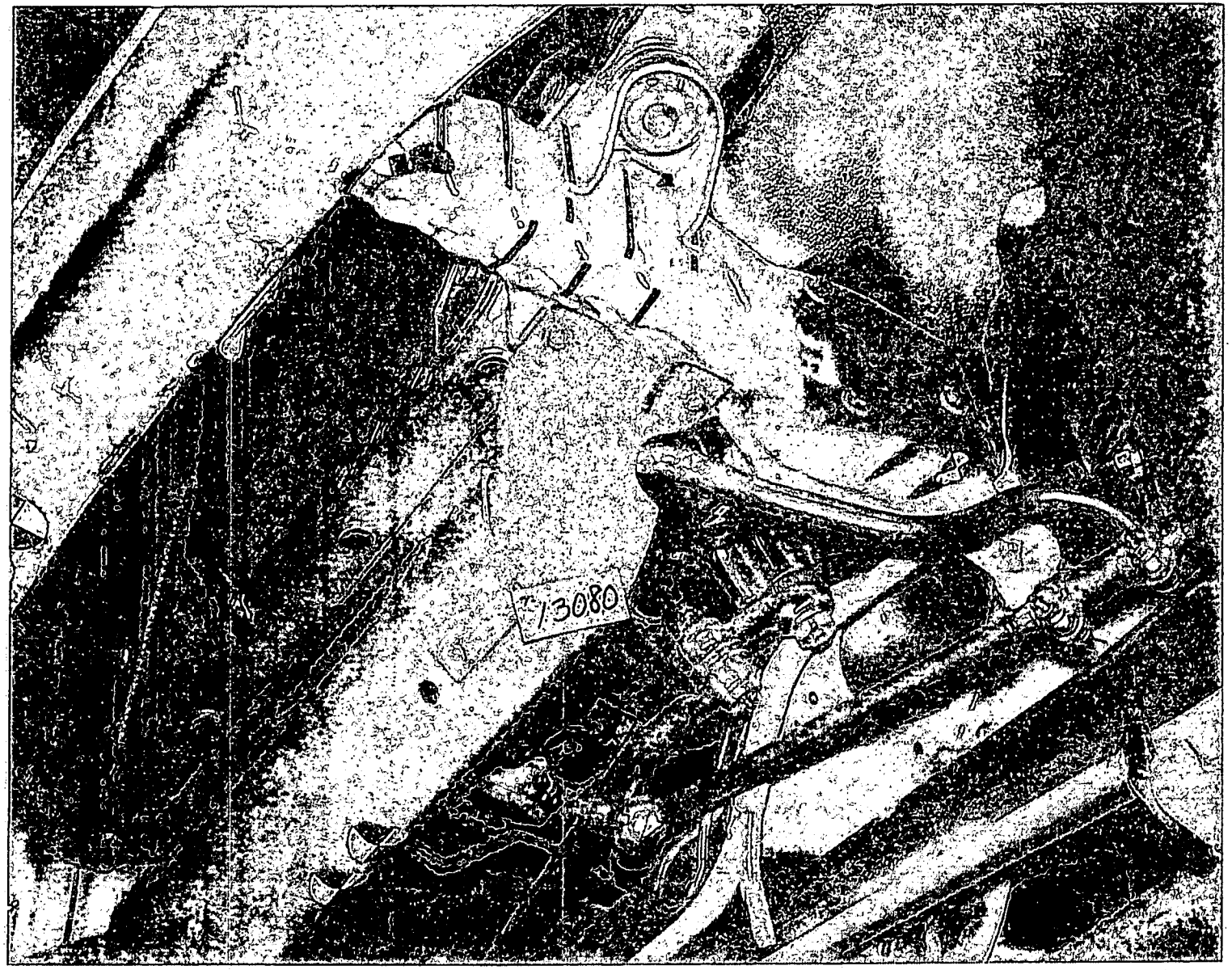

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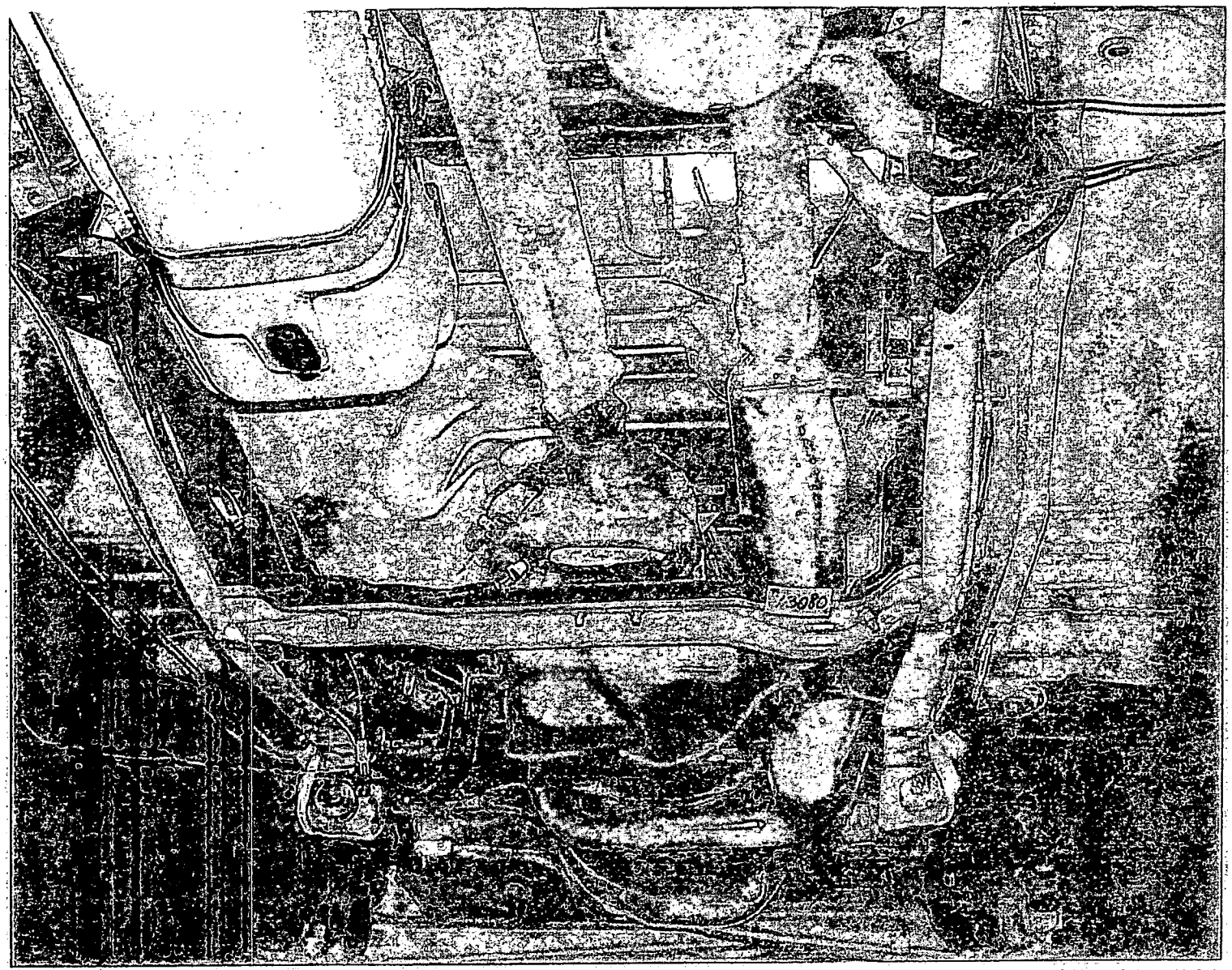

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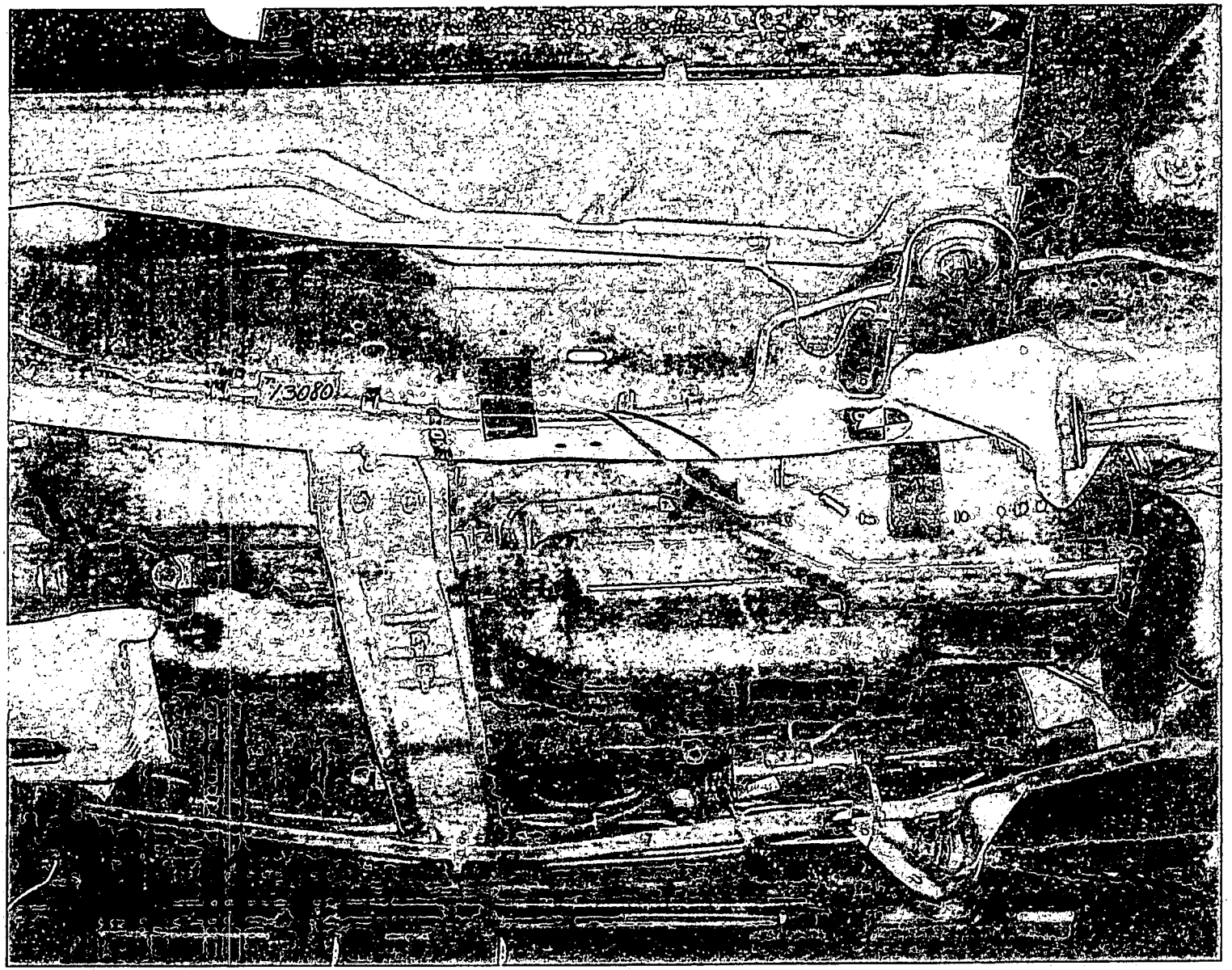
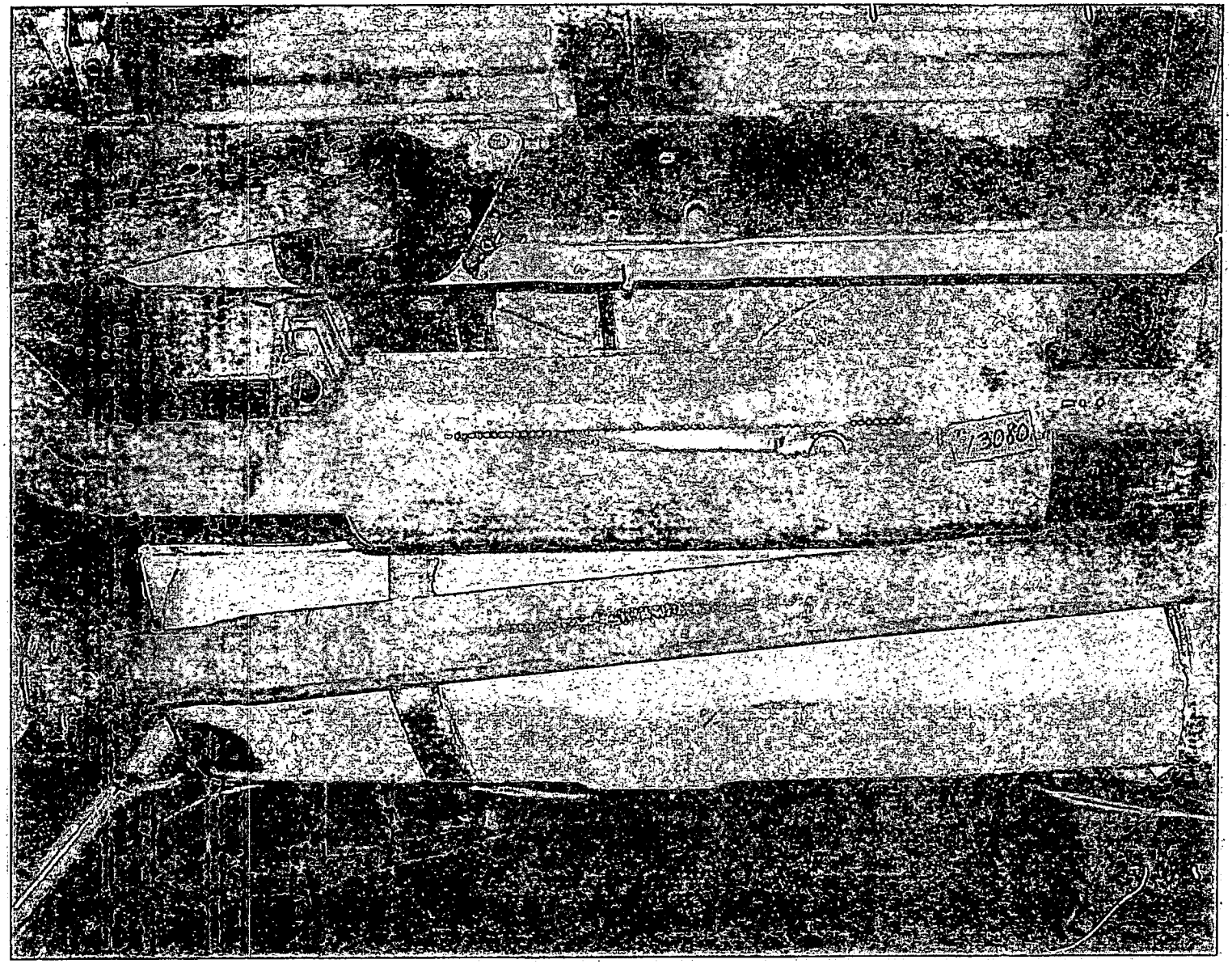
CRTS 007290



PRODUCED BY FORD

CN54017-7792

CRTS 007290



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CN54017-7793

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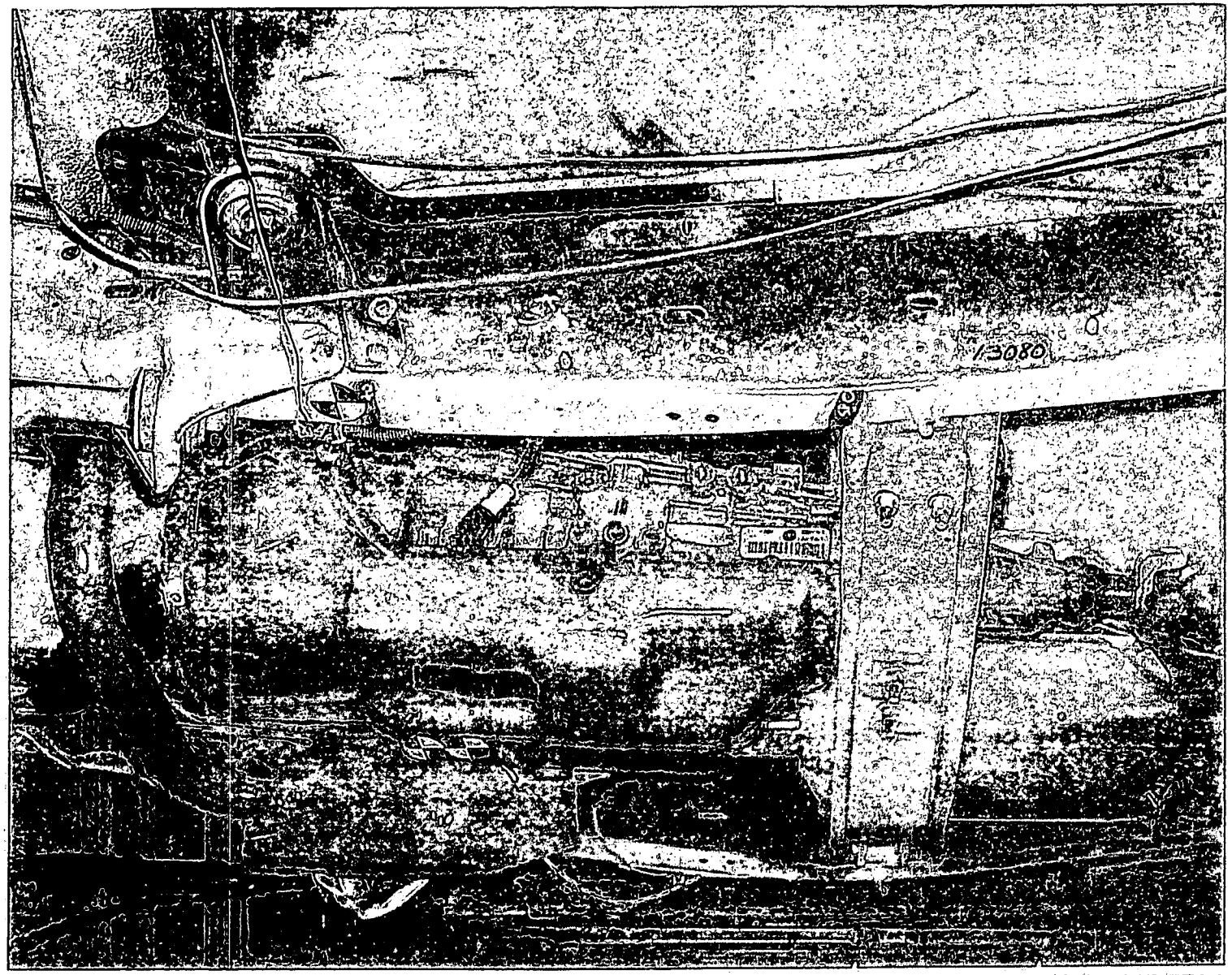

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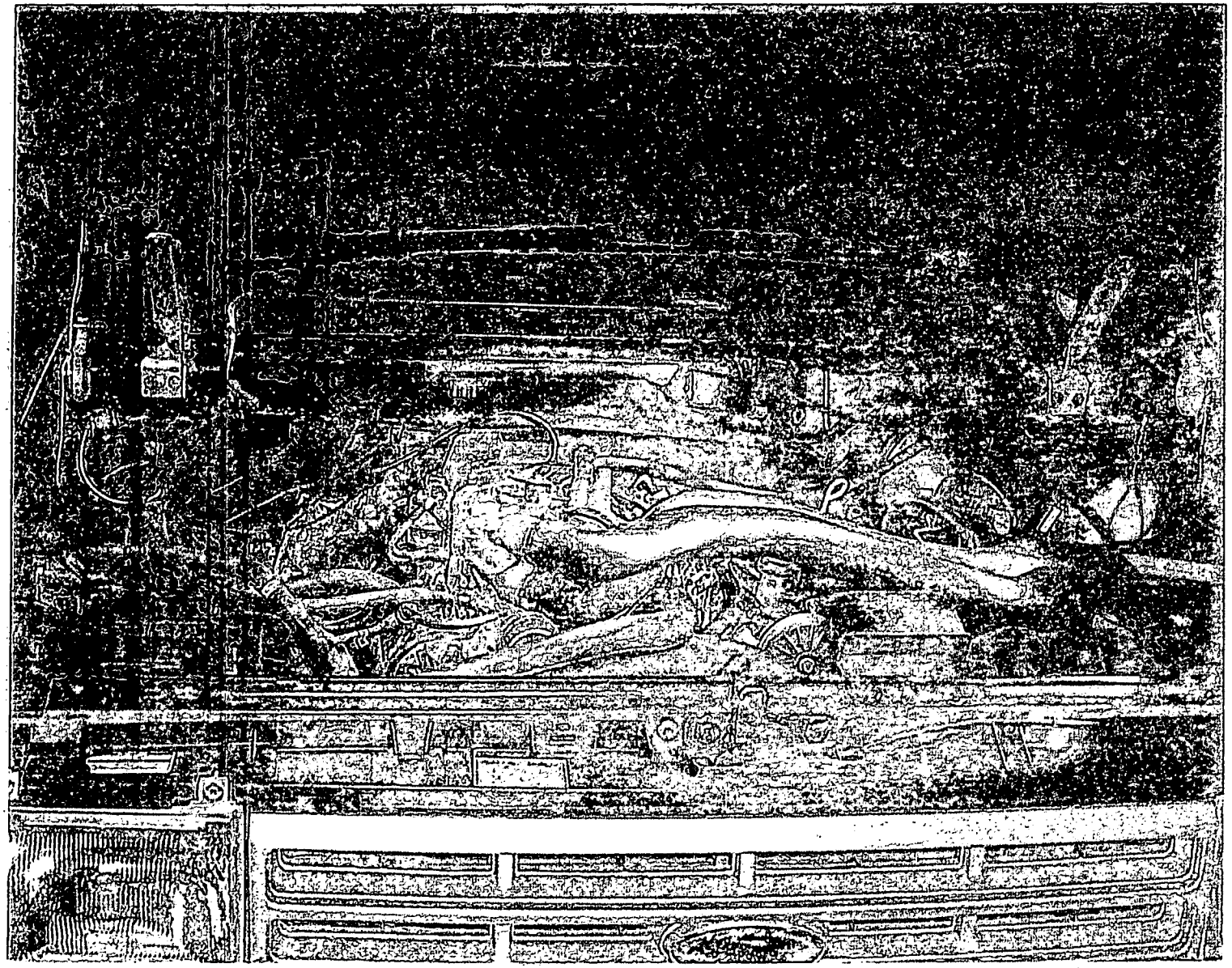

PRODUCED BY FORD

CN54017-7796

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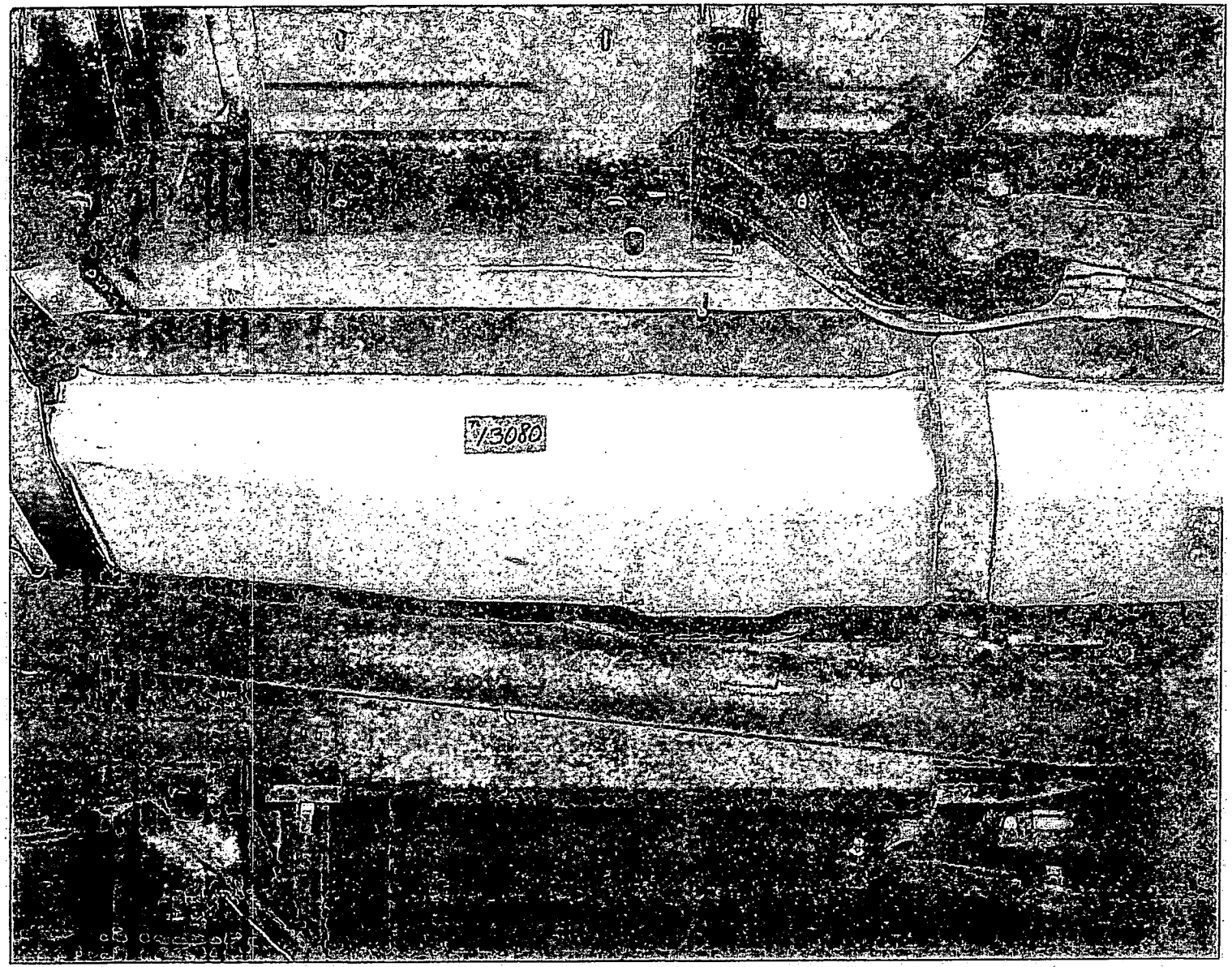

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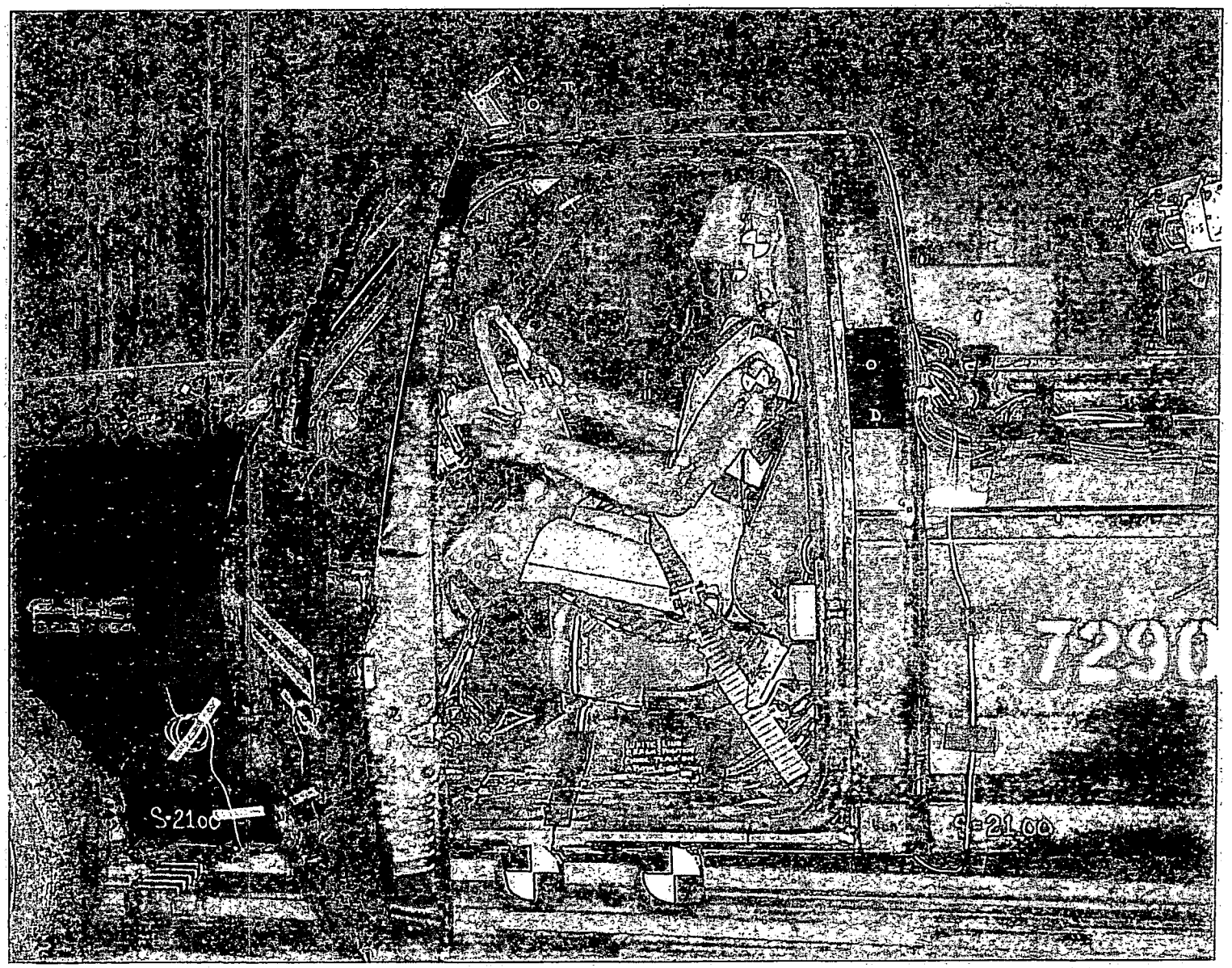

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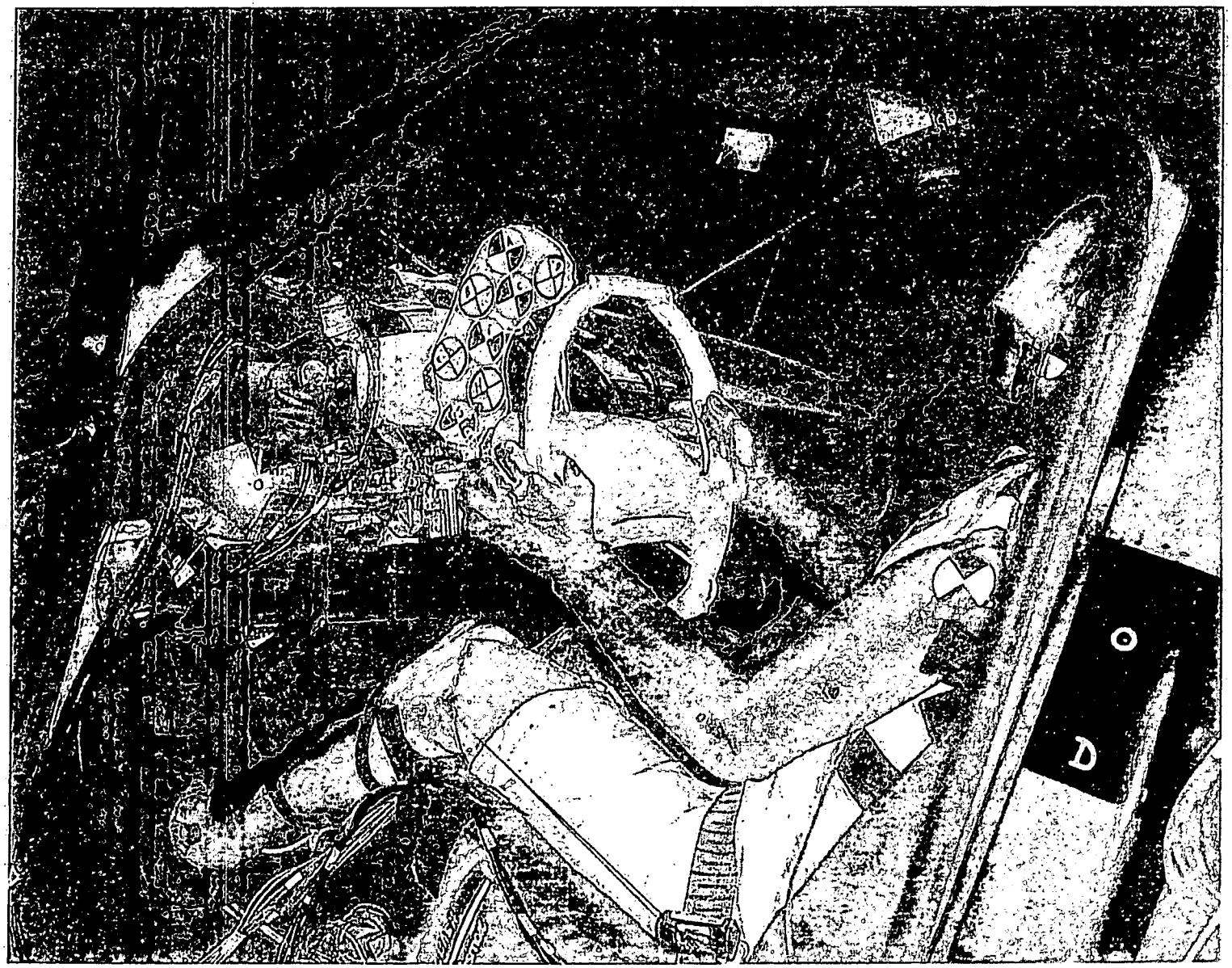

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CN54017-7798

1280

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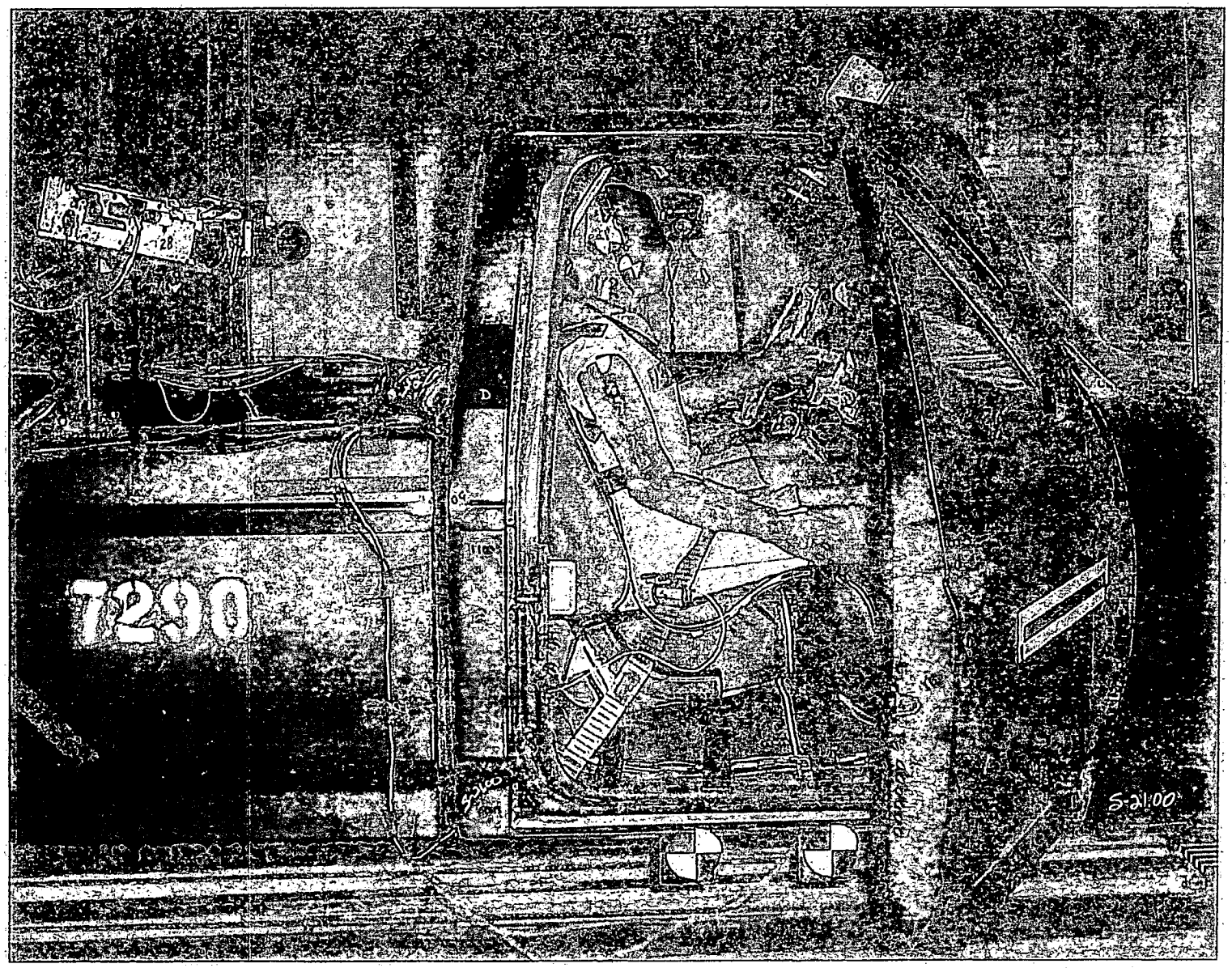

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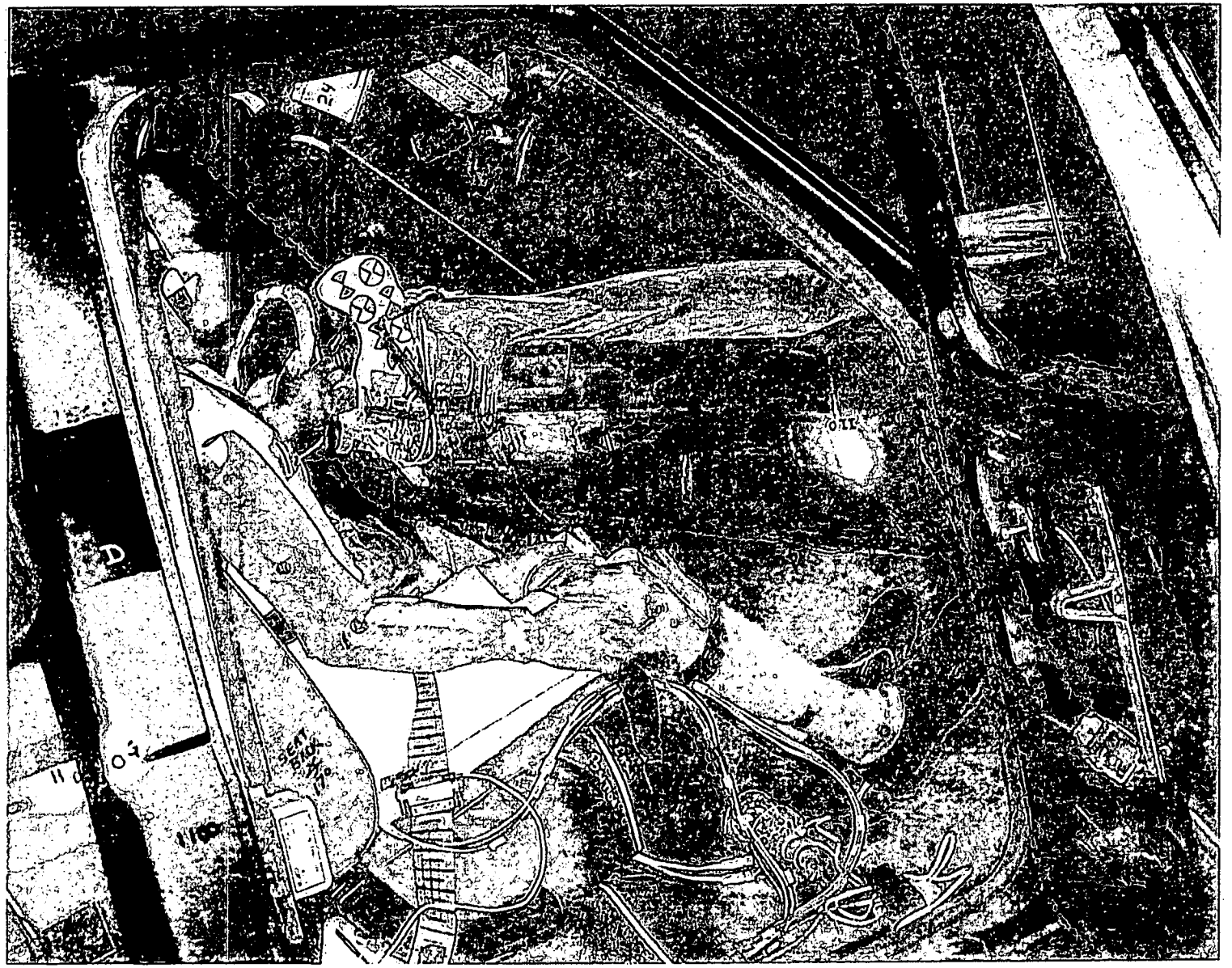

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CN54017-7800

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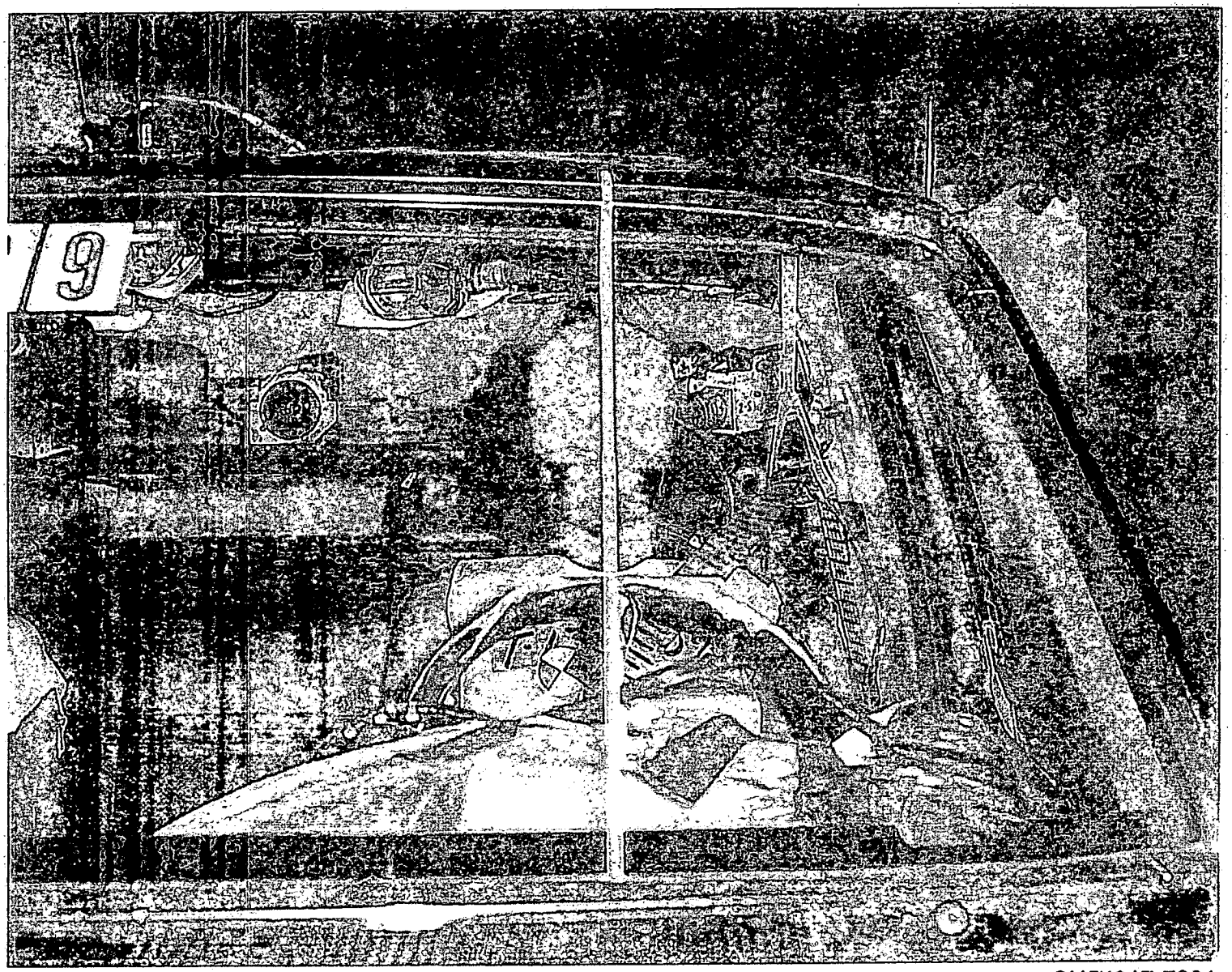

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CN54017-7802

1284

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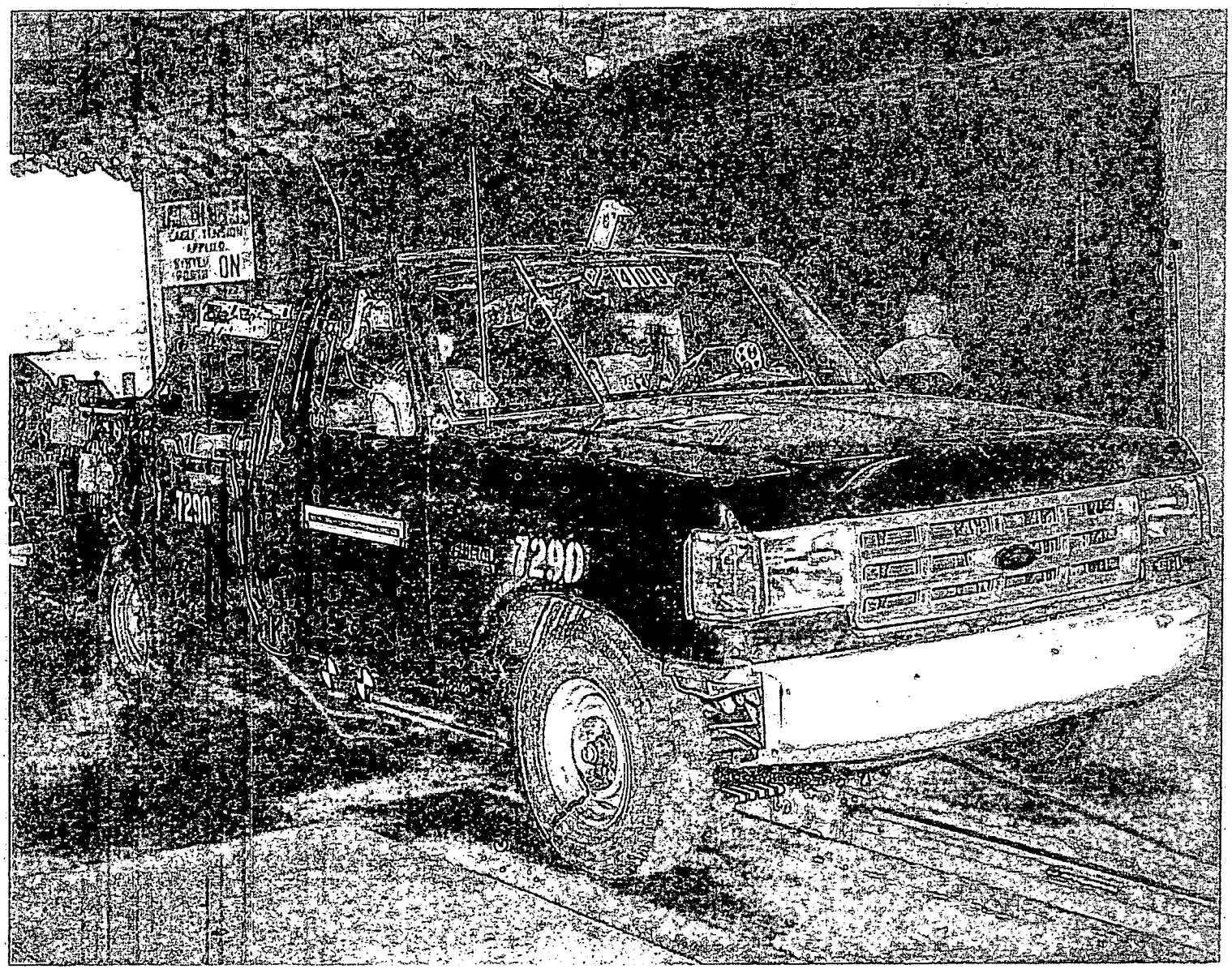

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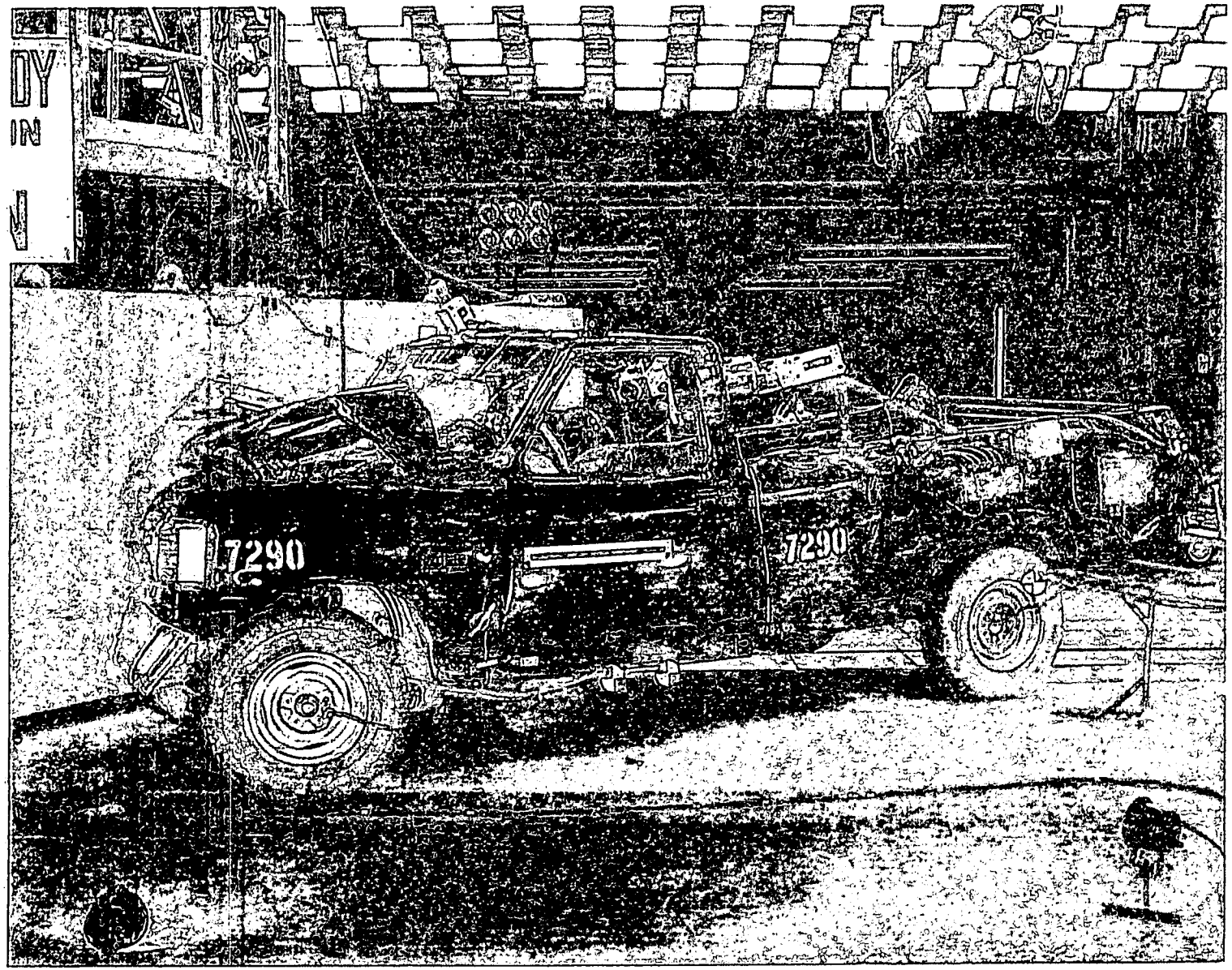

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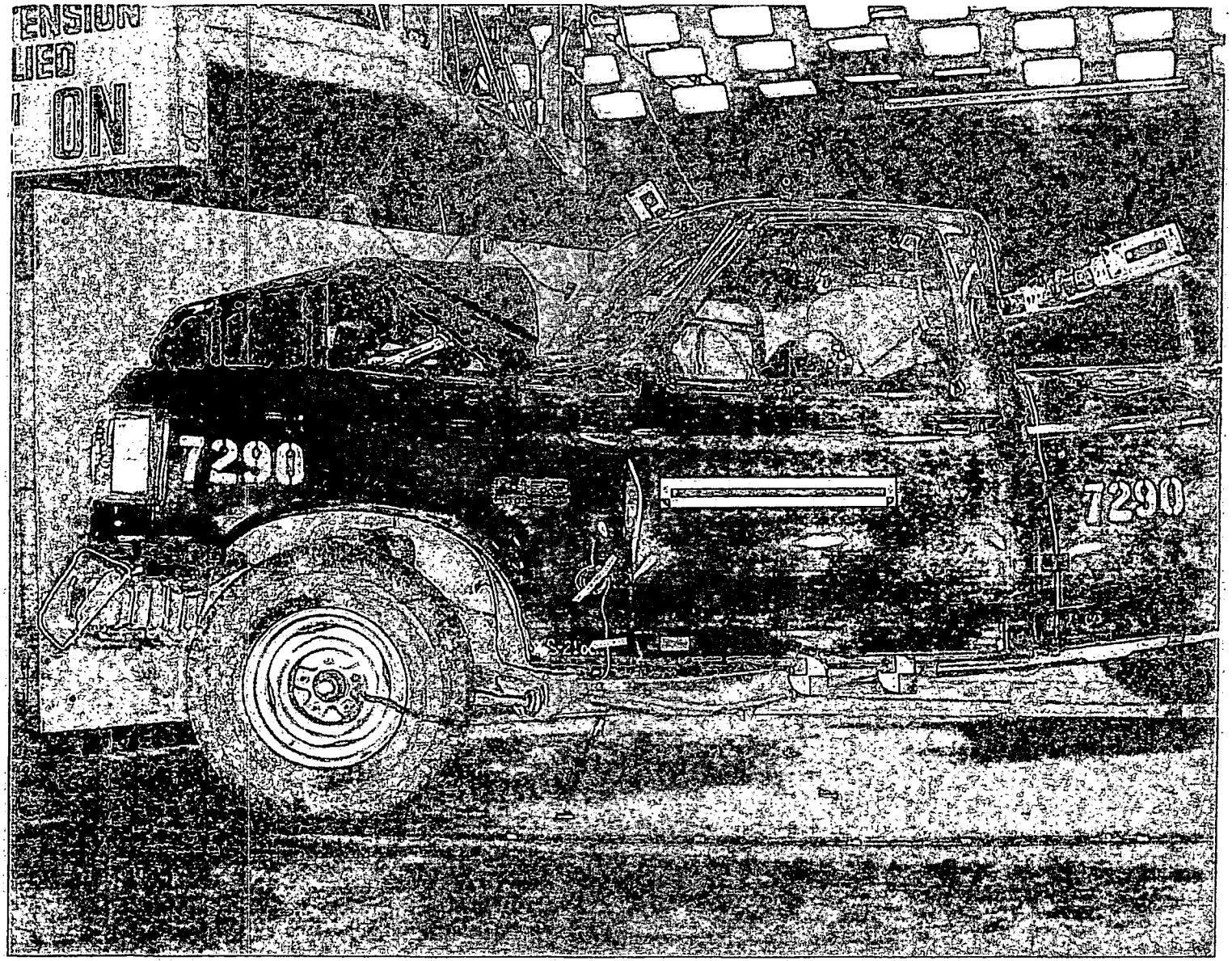

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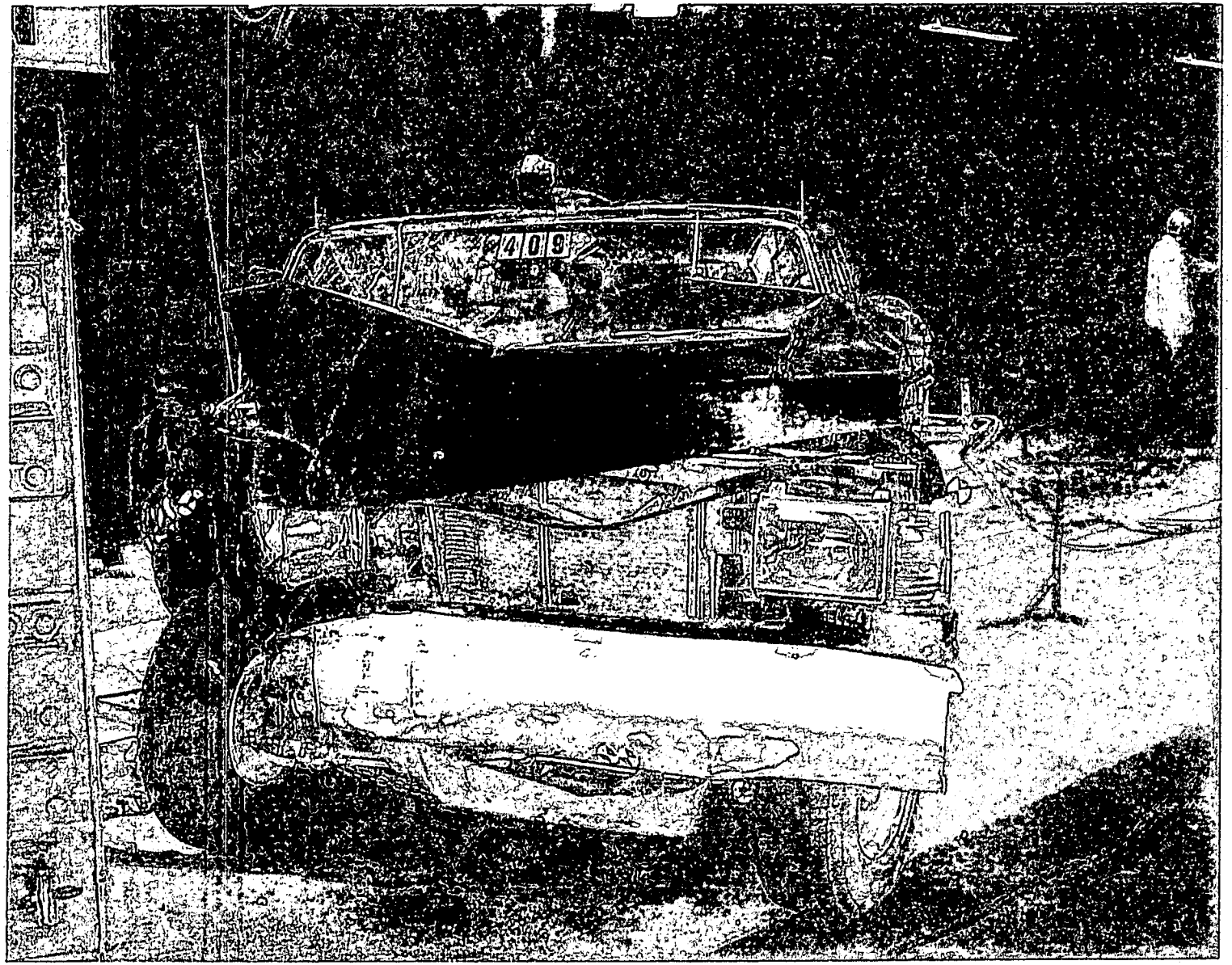

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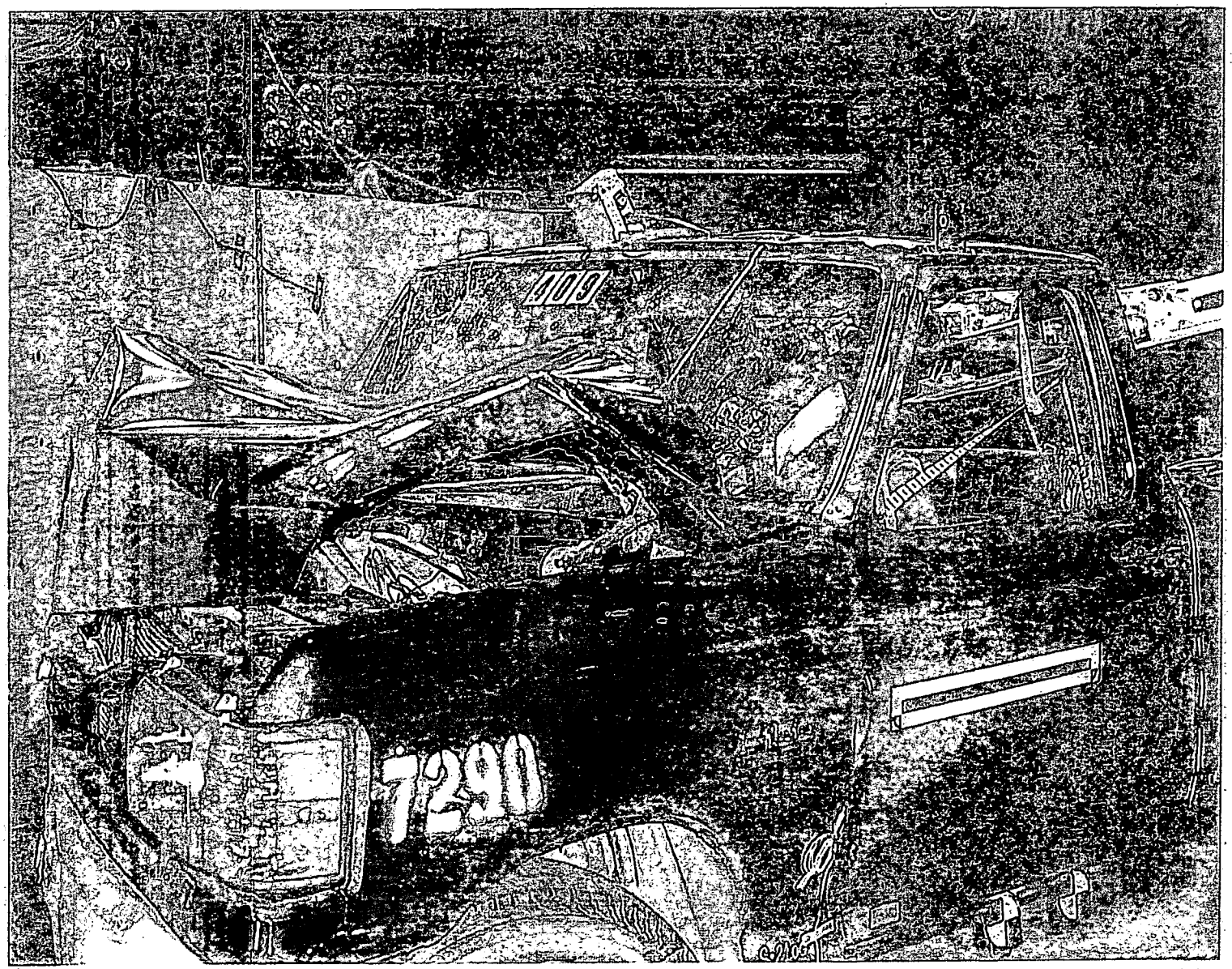

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CN54017-7810

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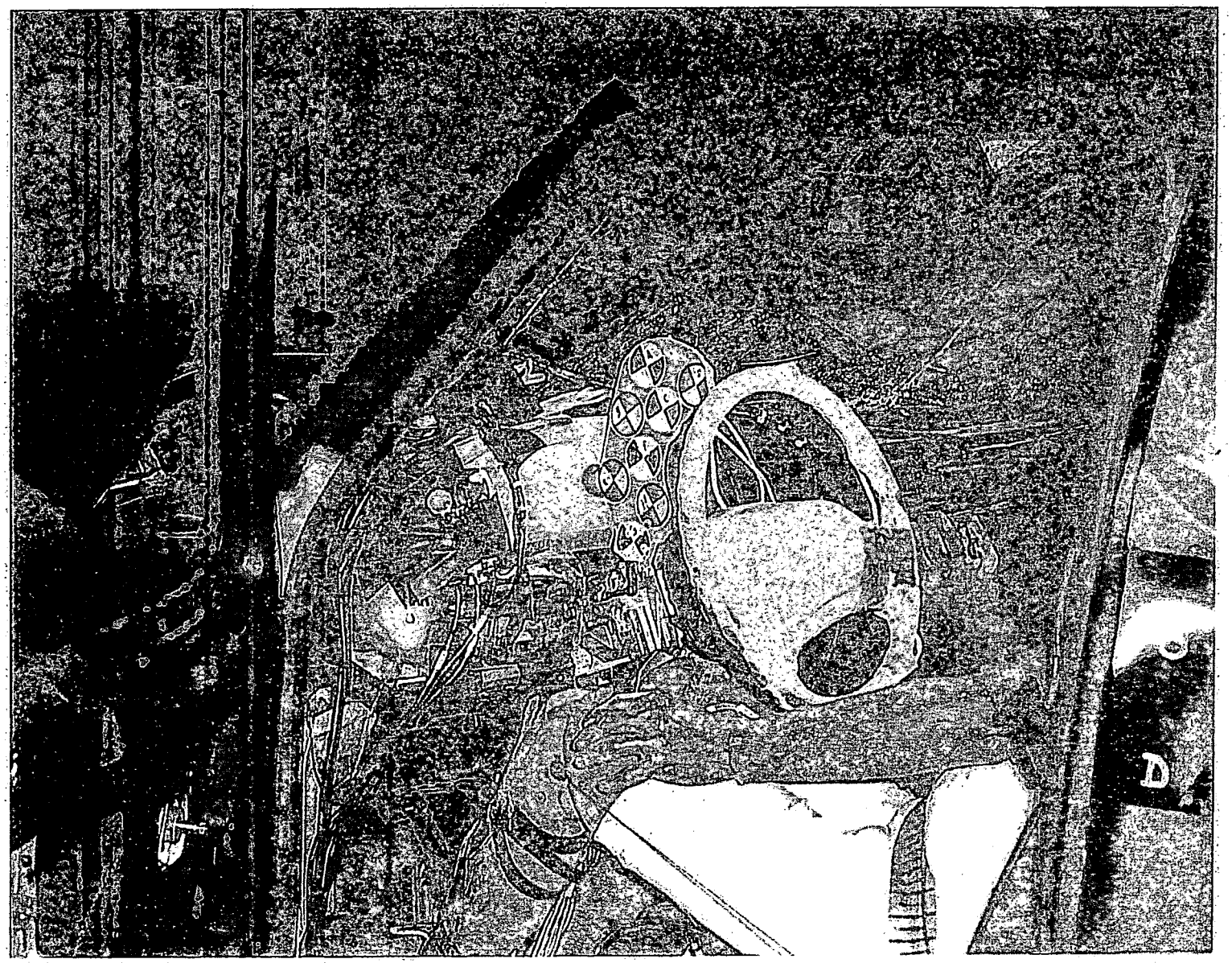

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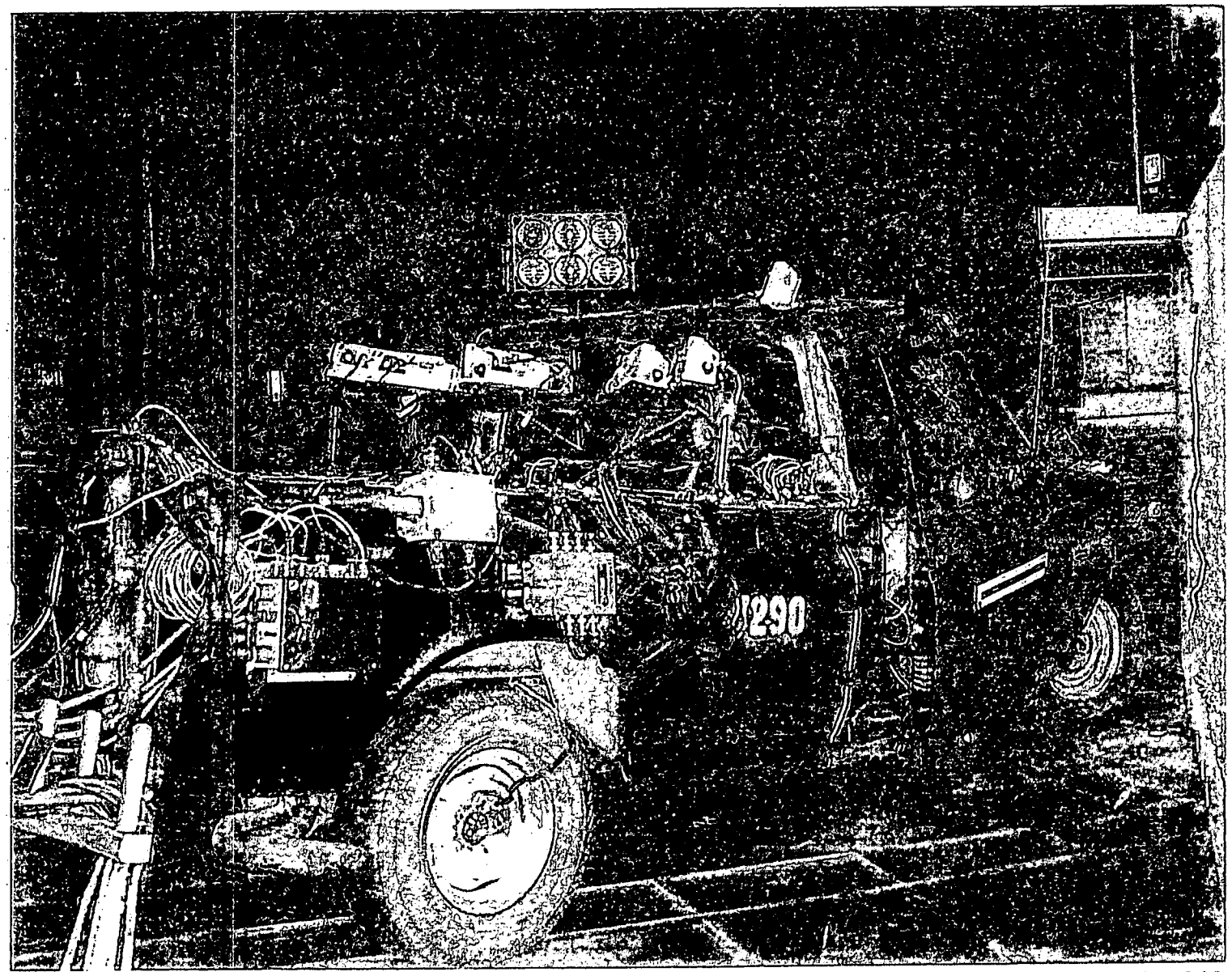

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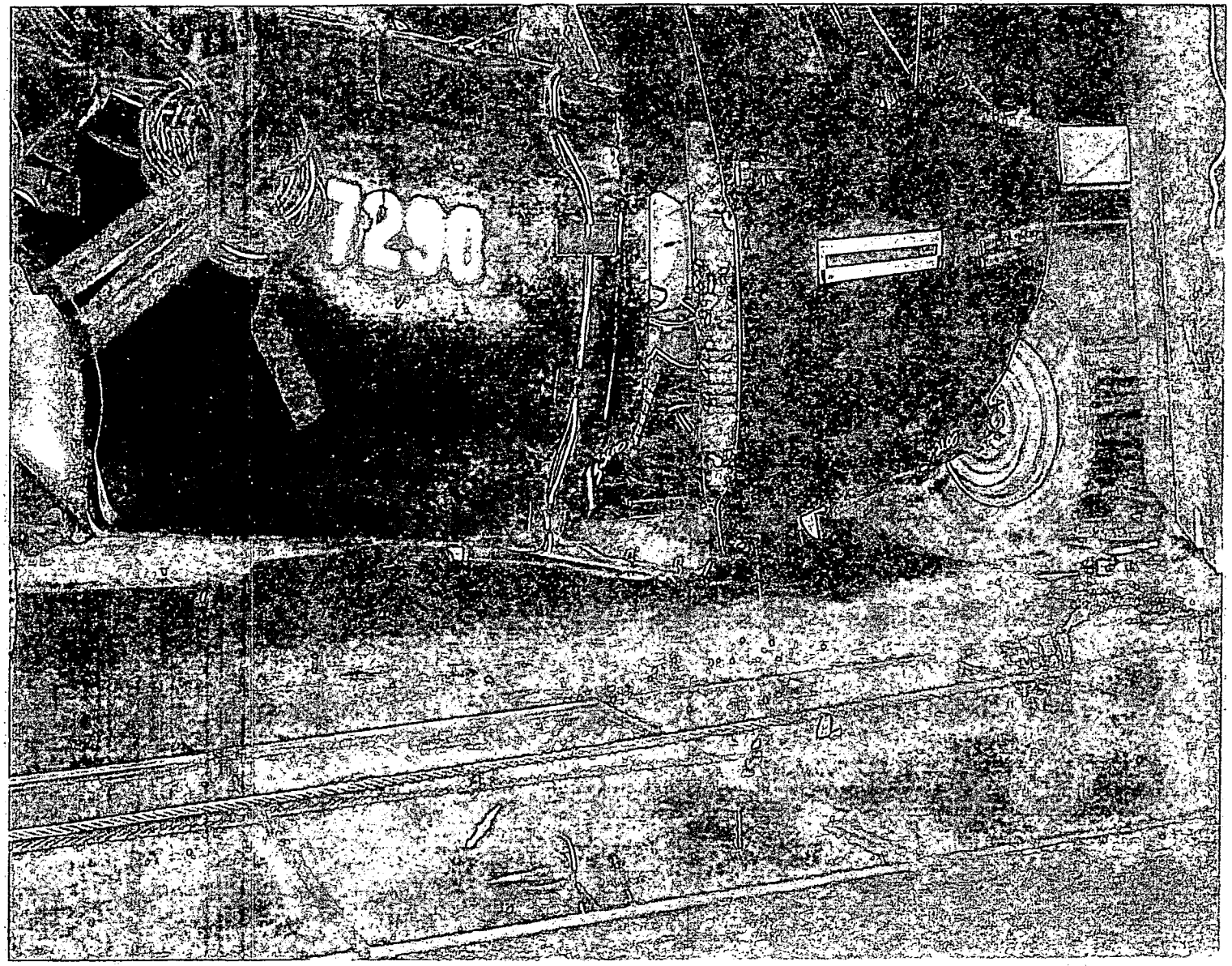

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CN54017-7813

CRTS 007290

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CN54017-7814

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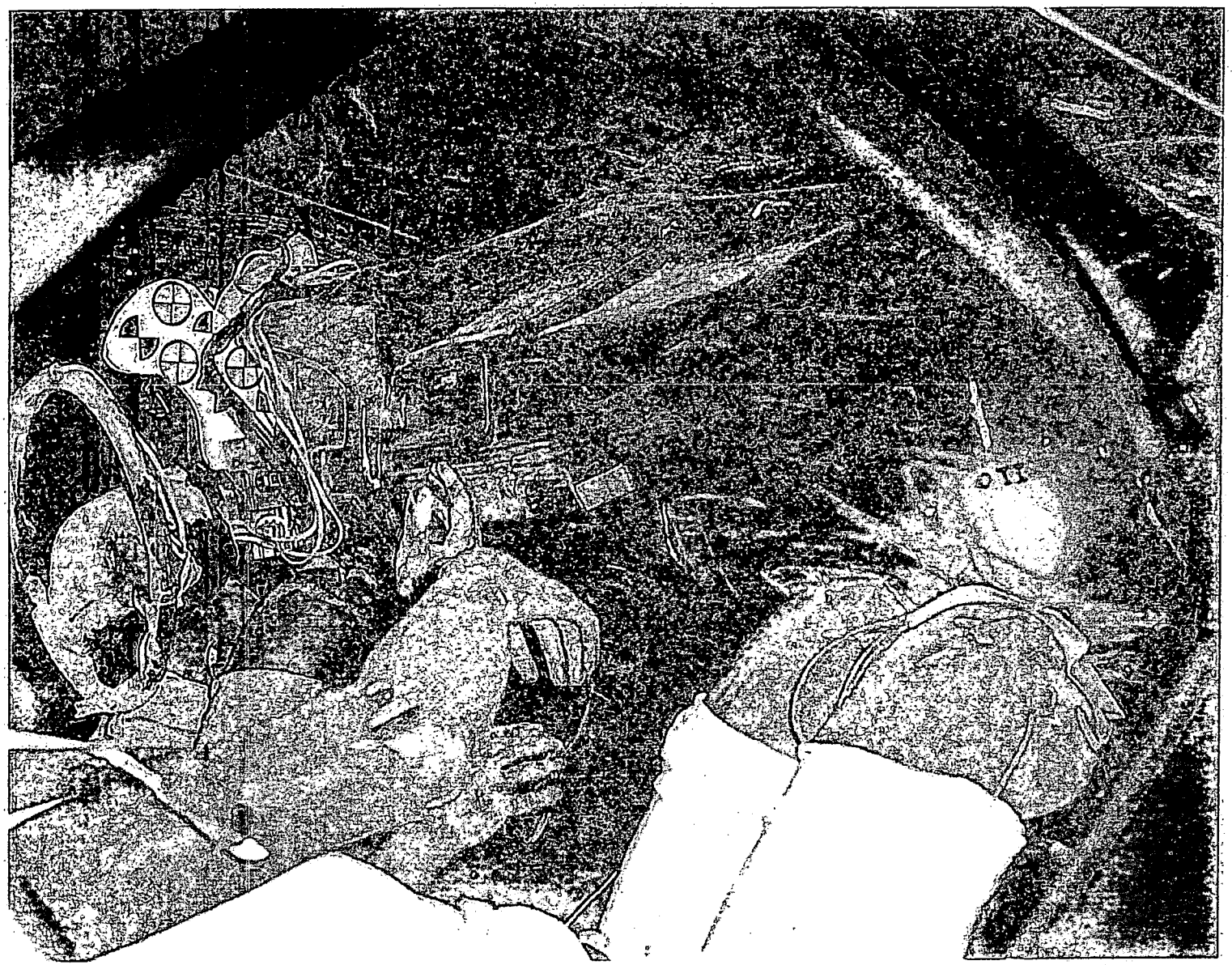

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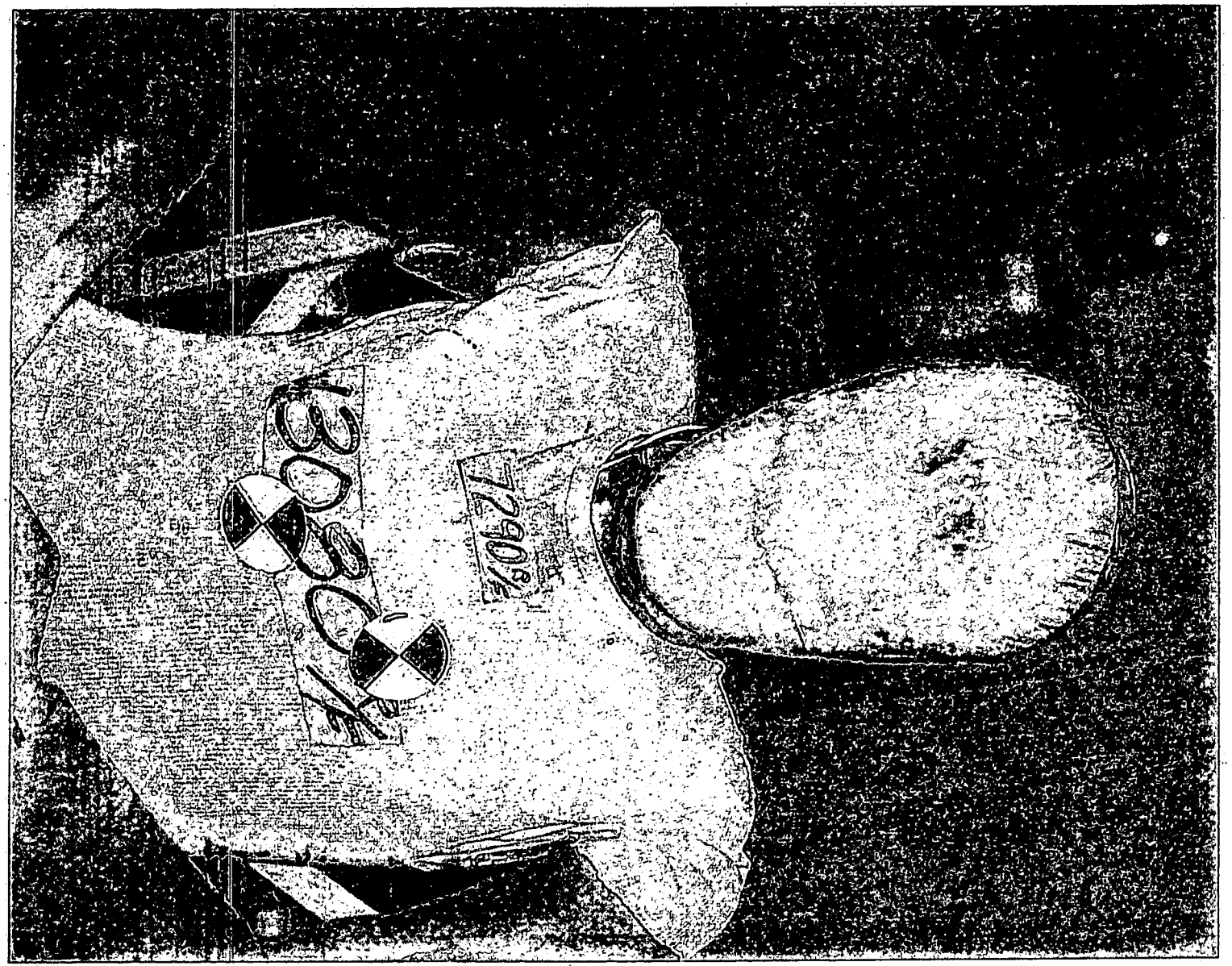

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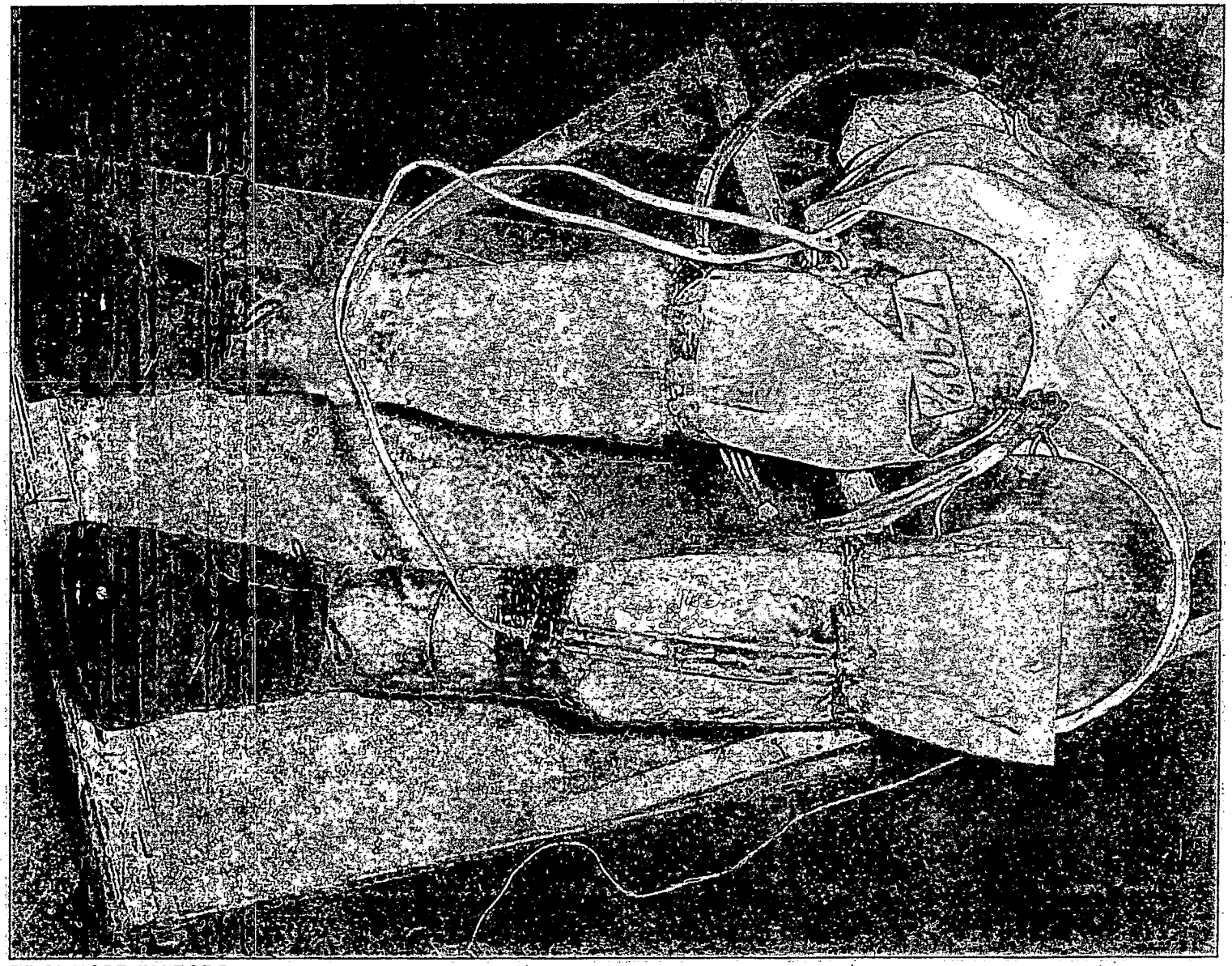

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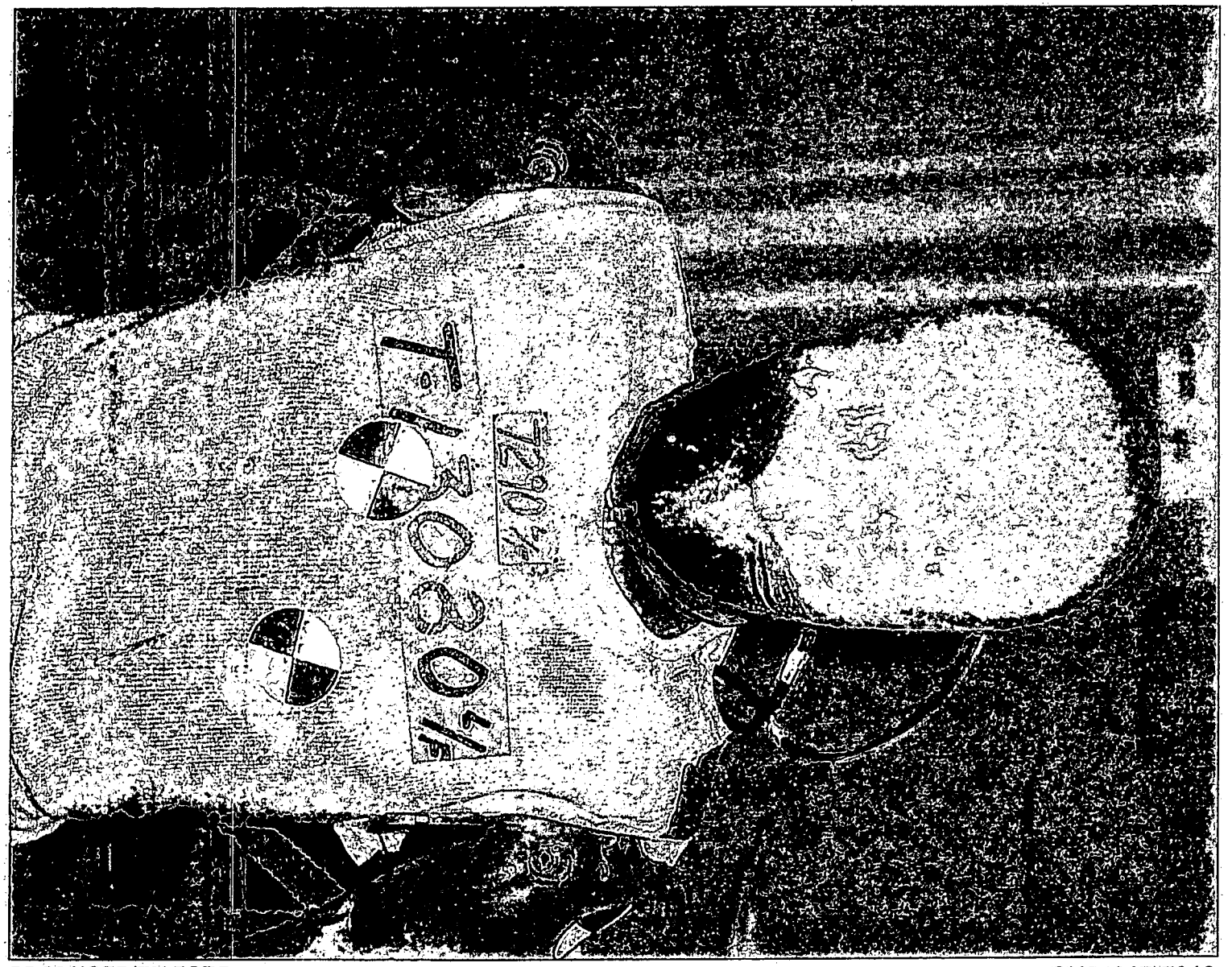

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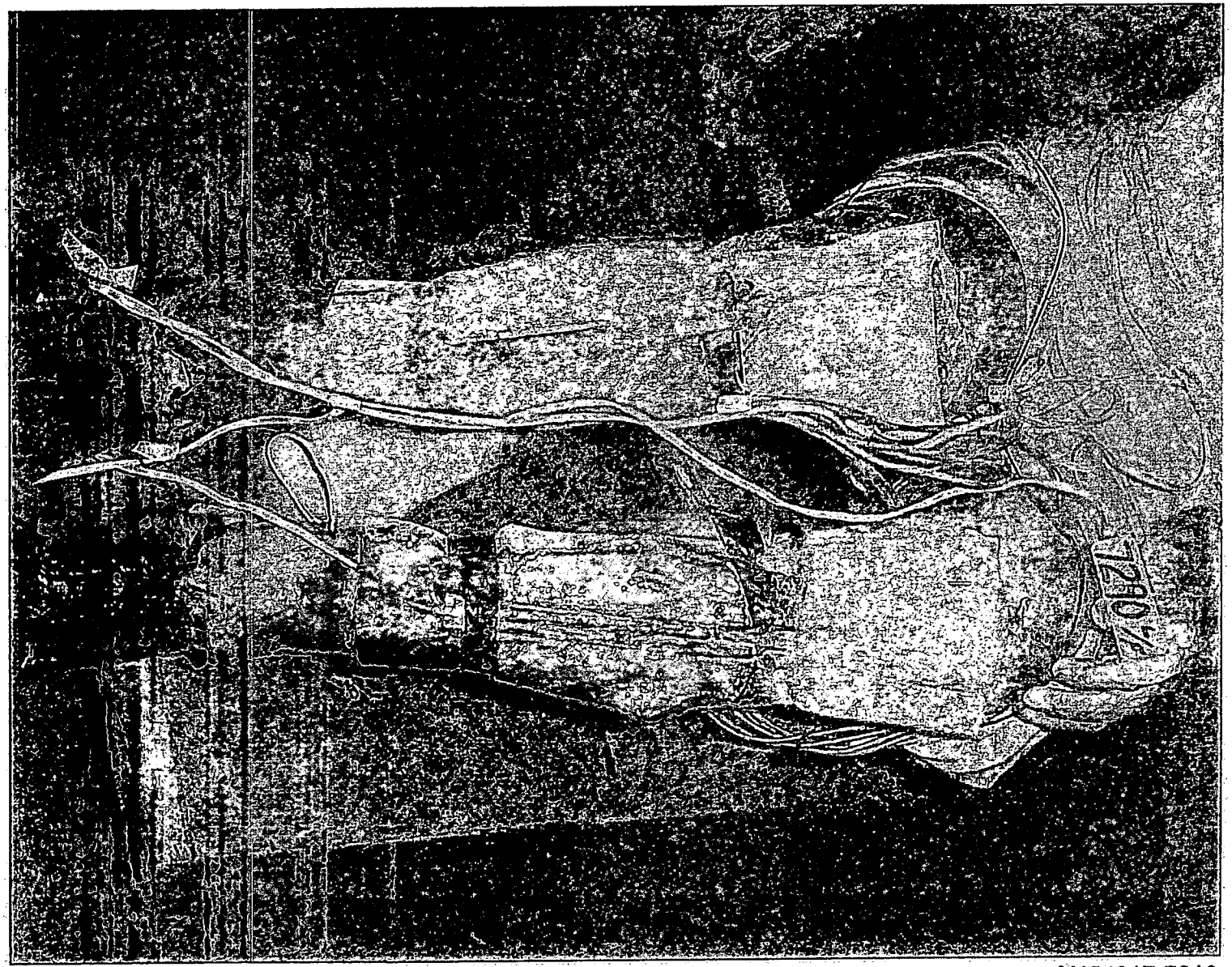

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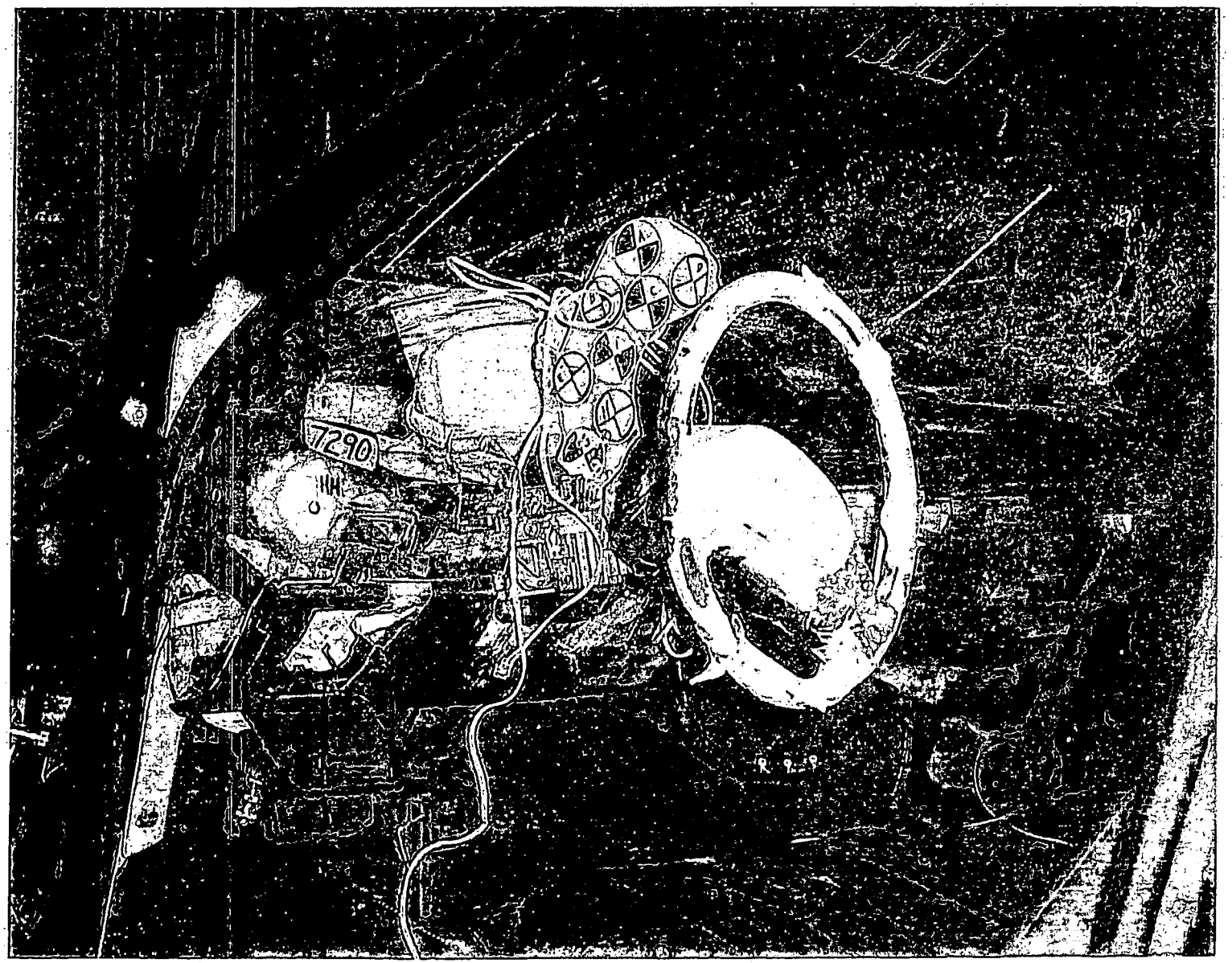

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CN54017-7820

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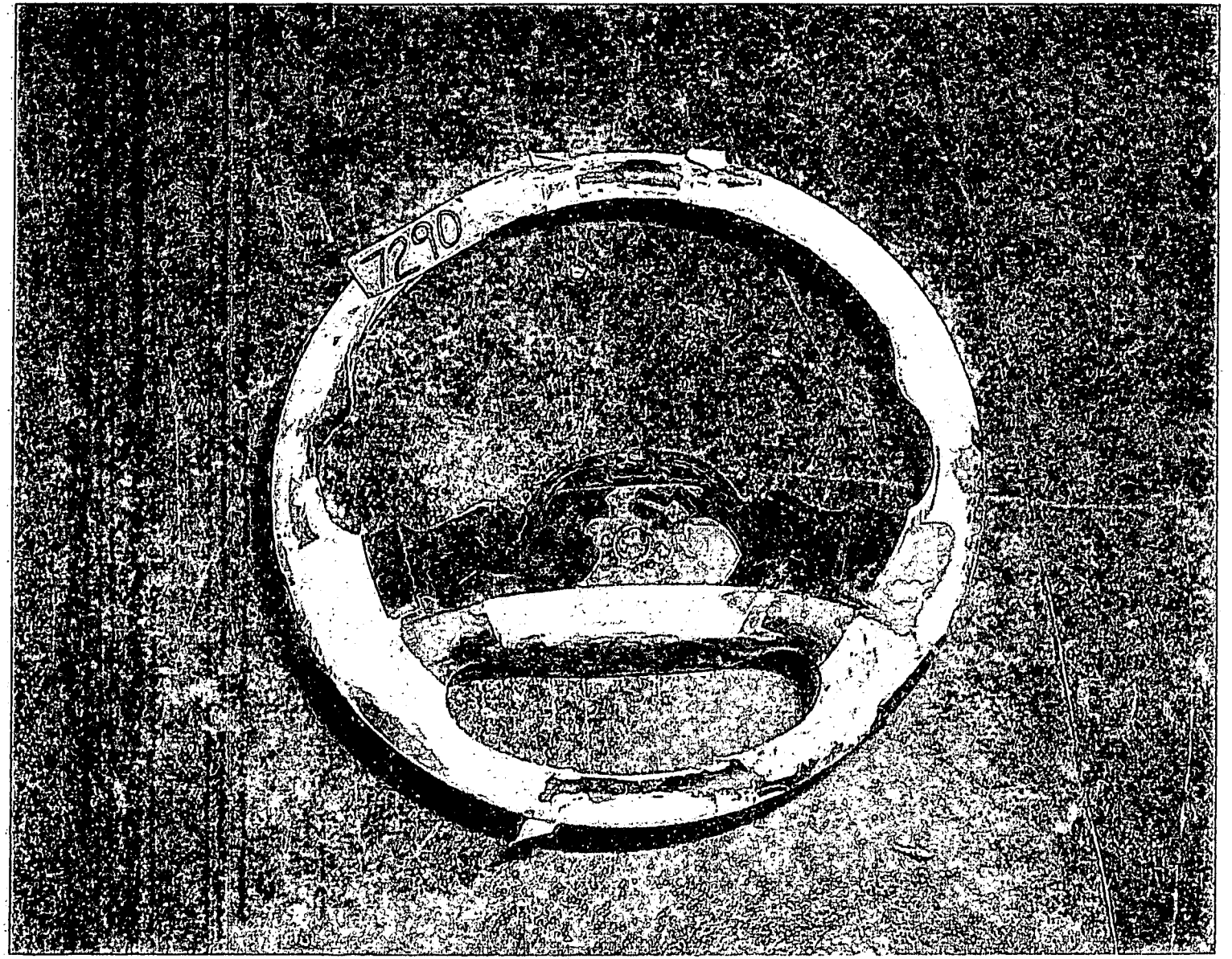

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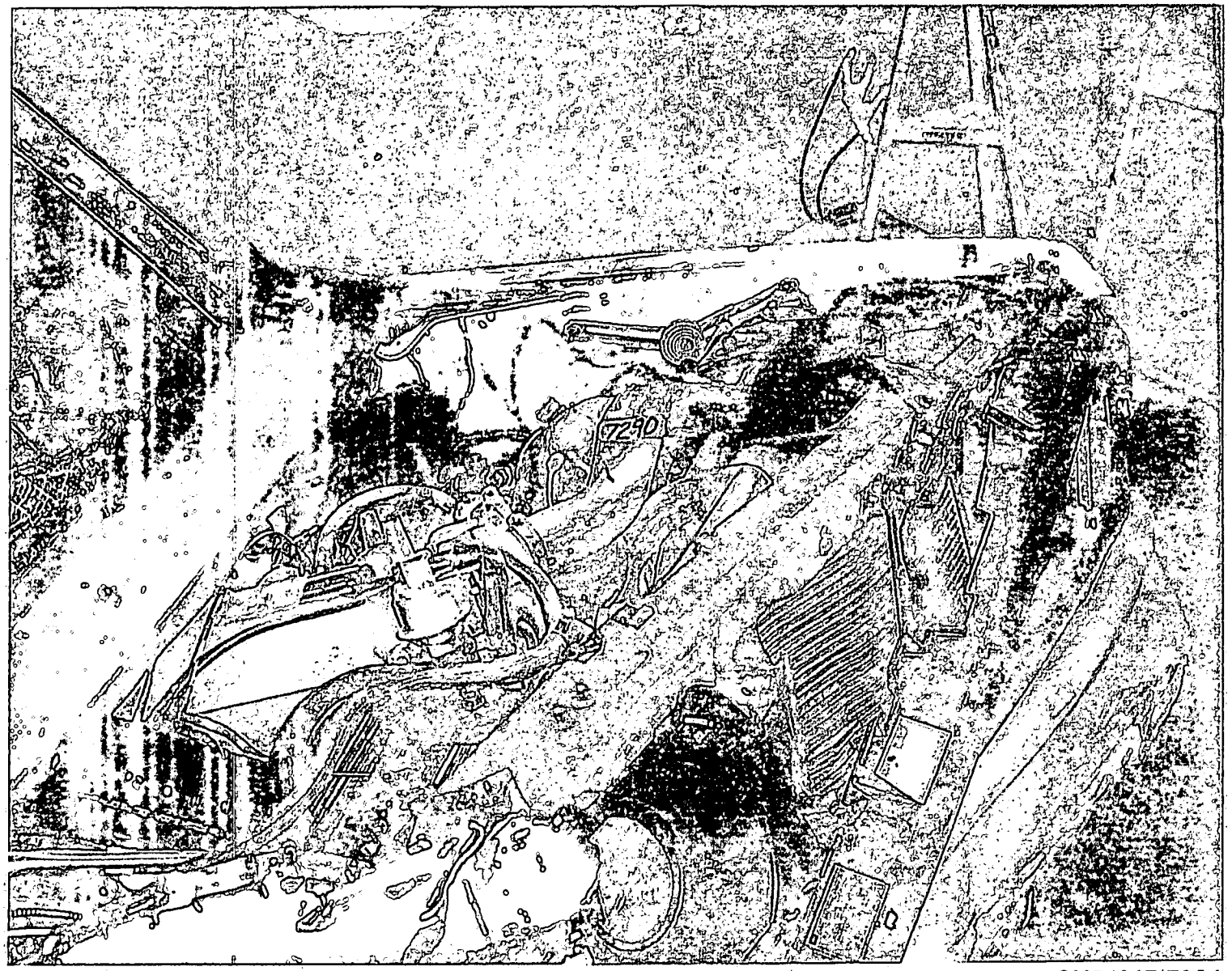

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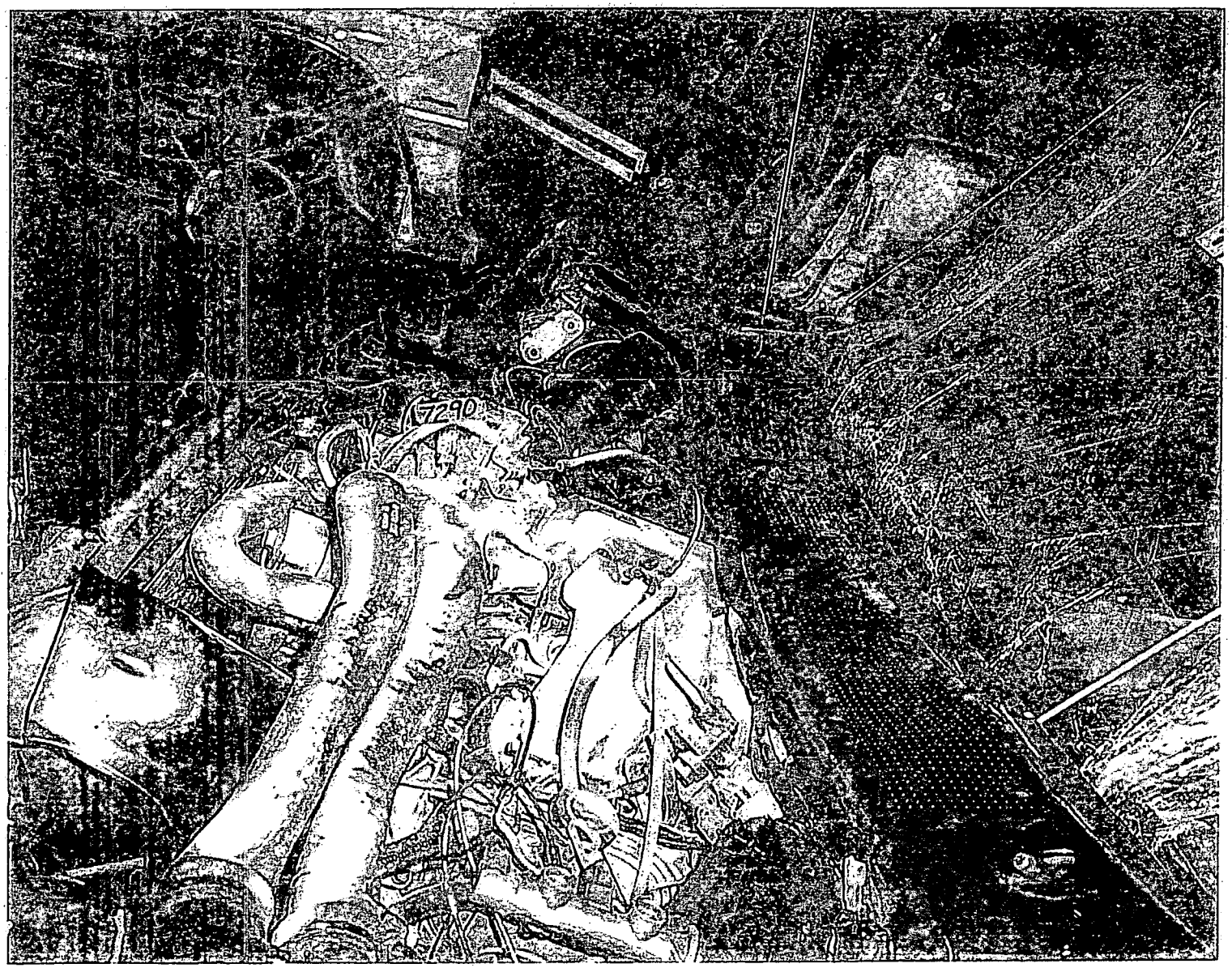

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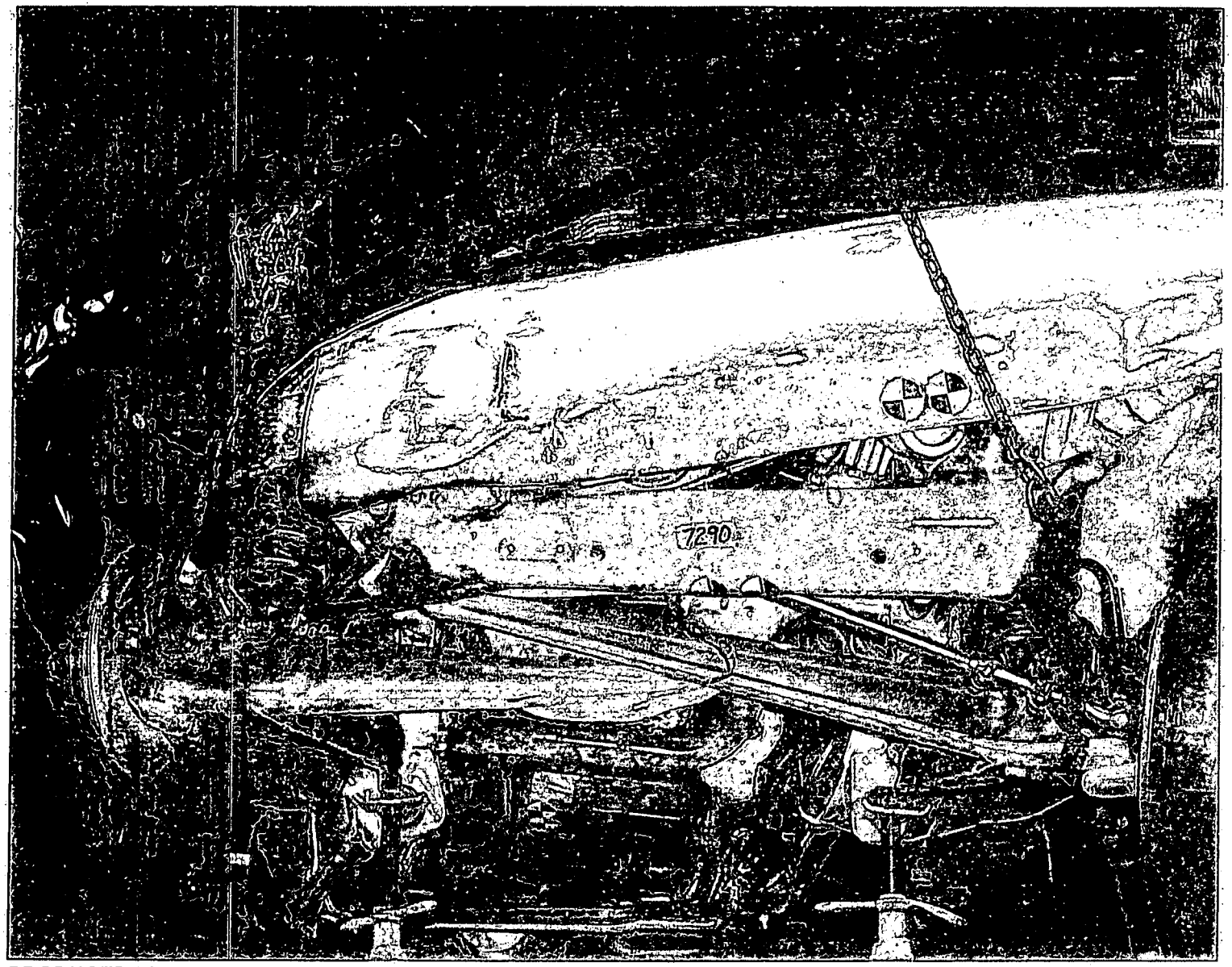

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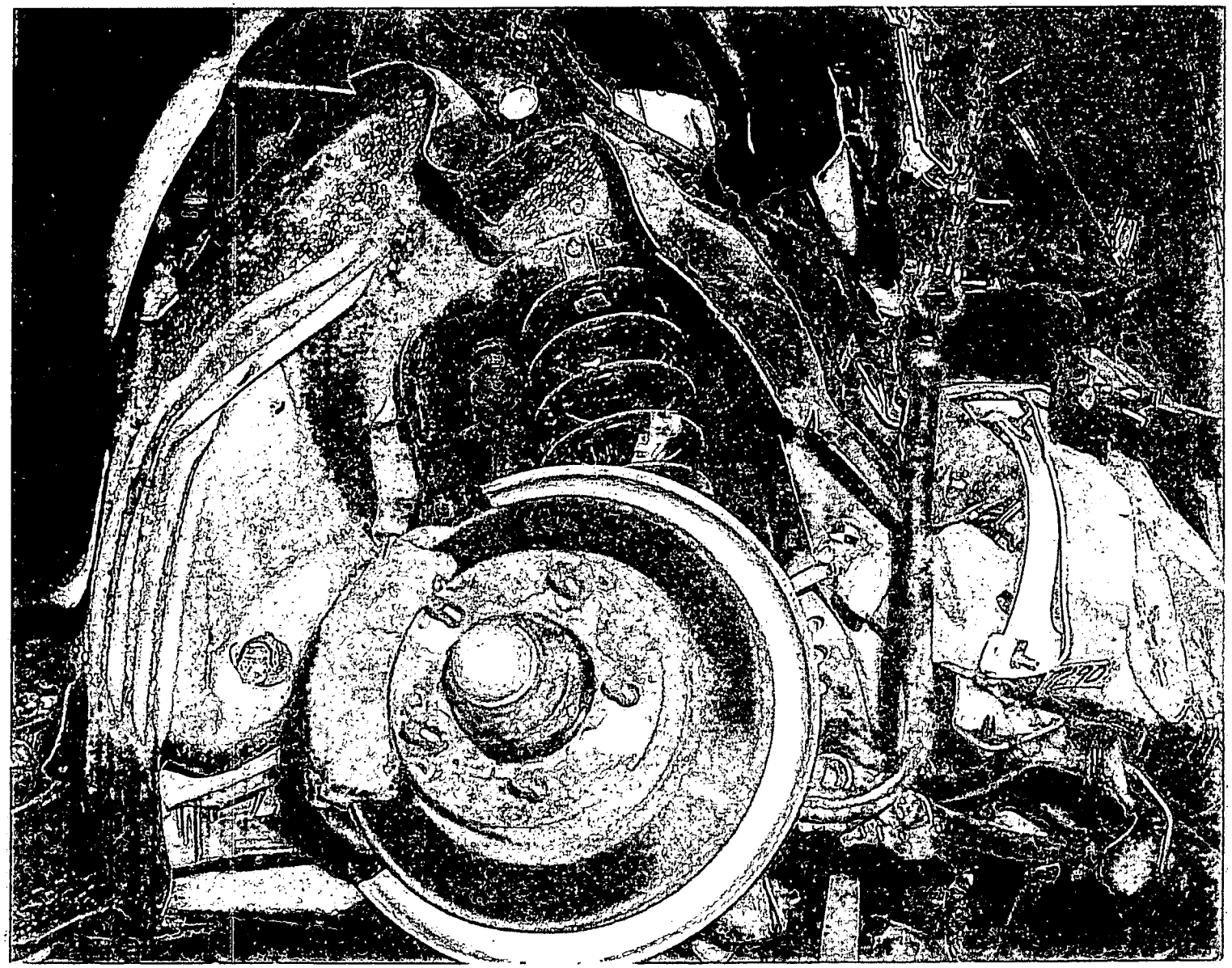

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CN54017-7828

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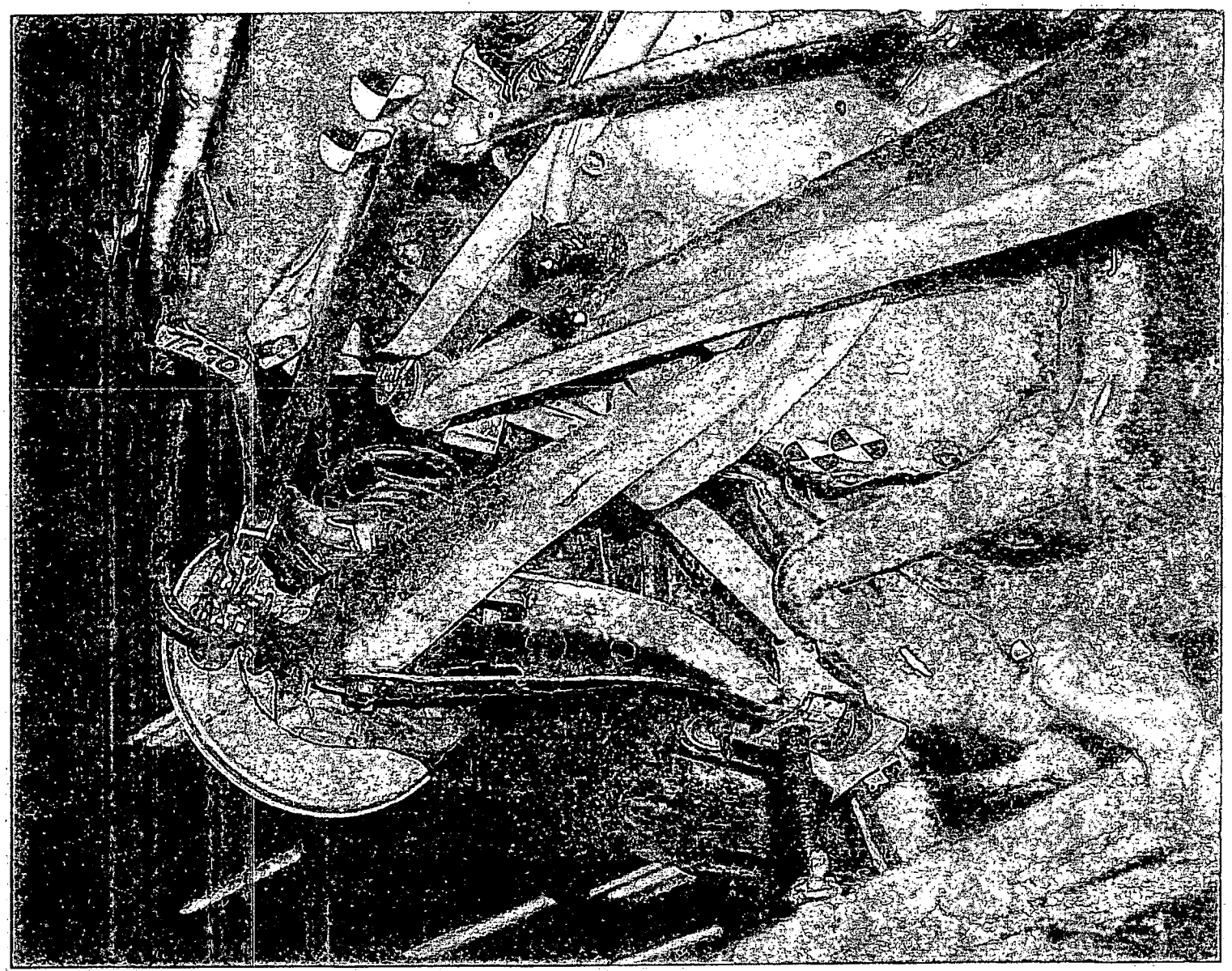

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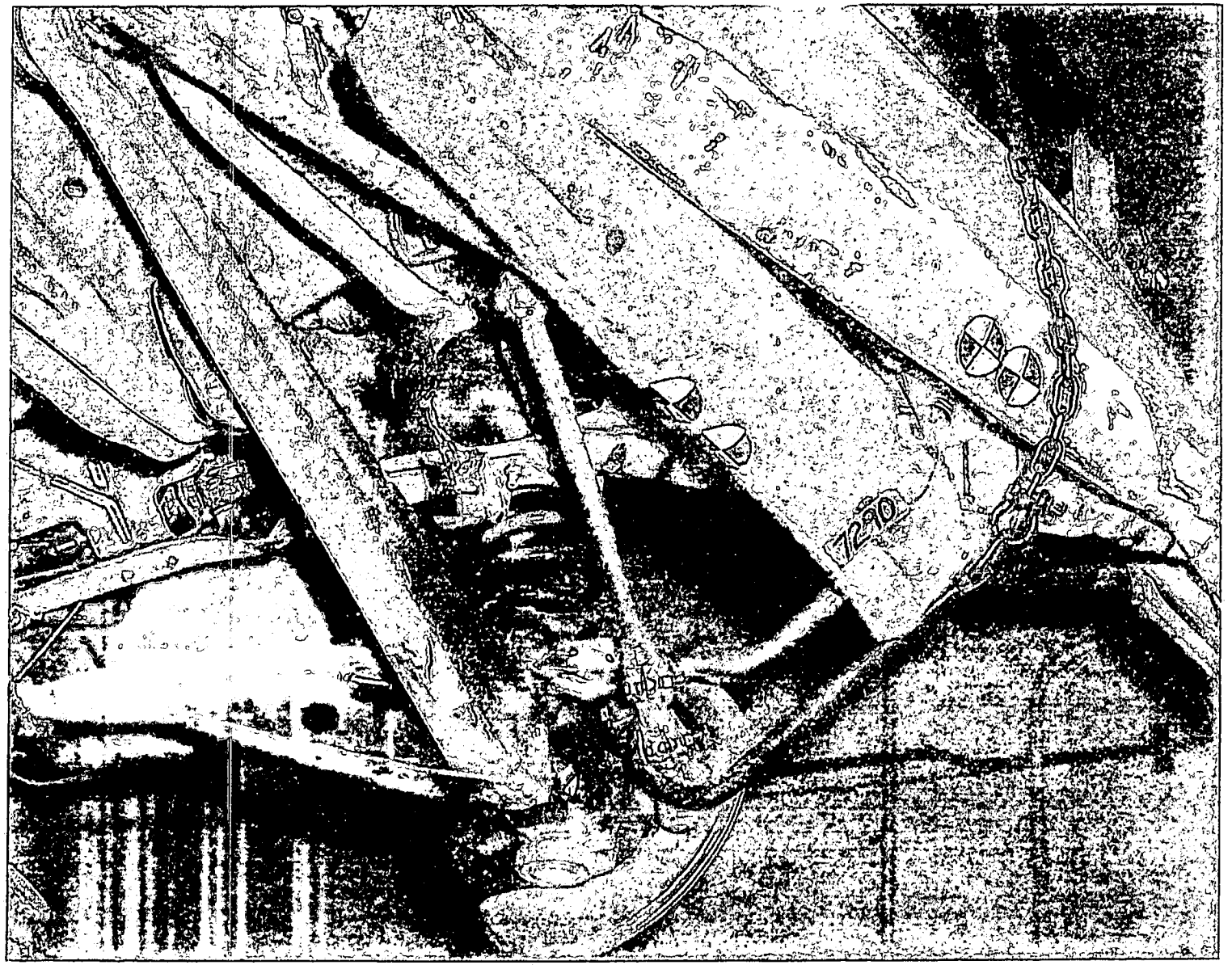

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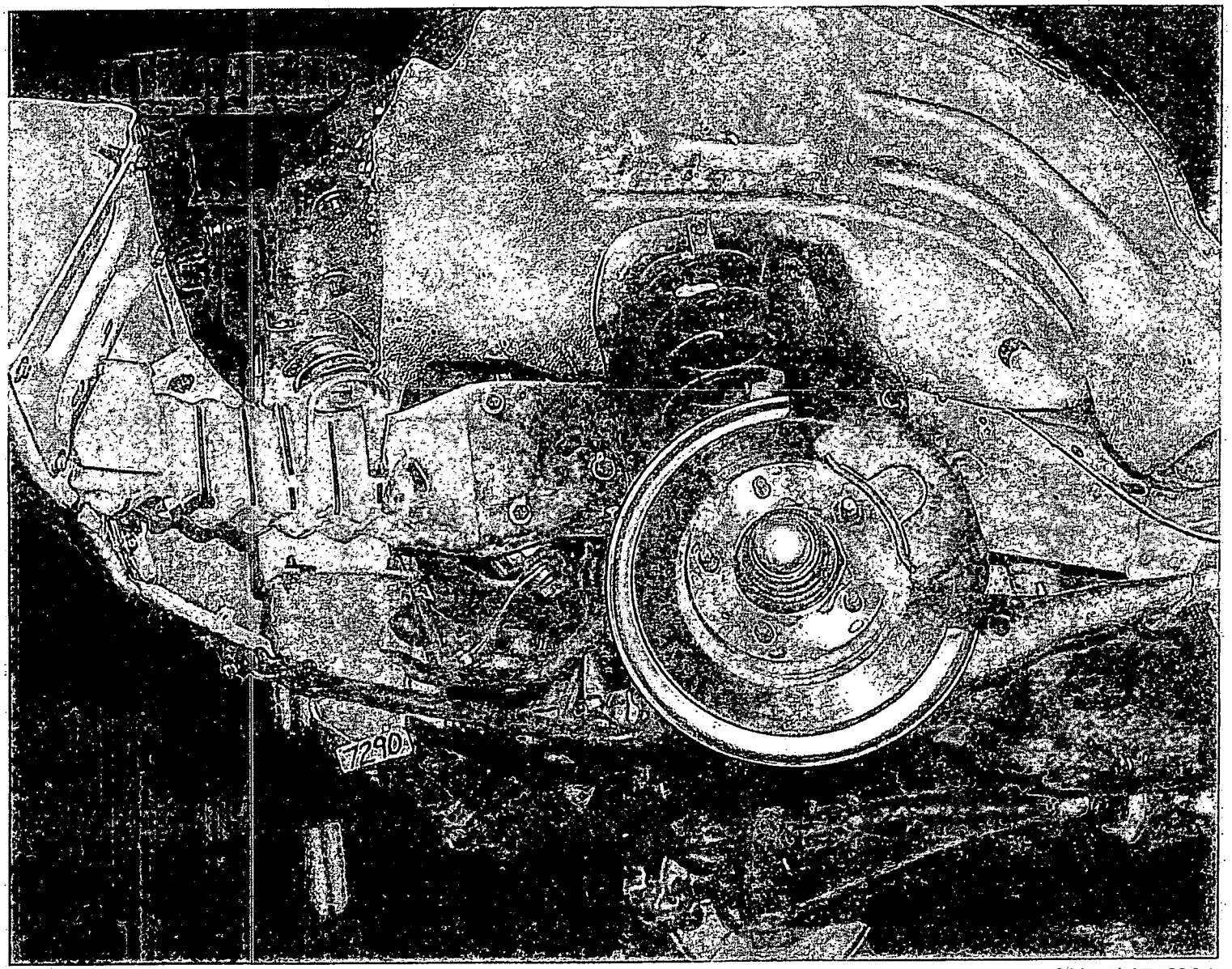

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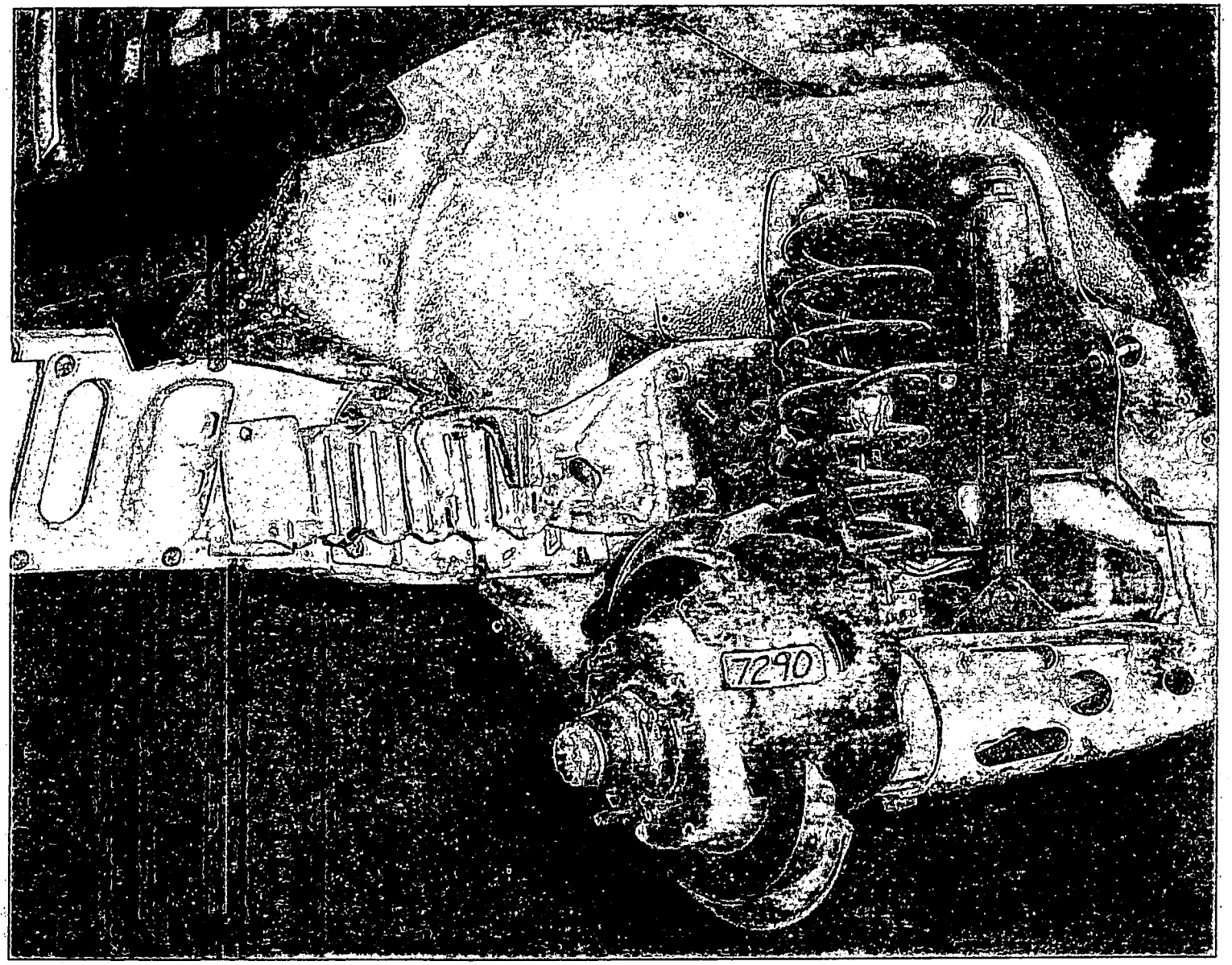

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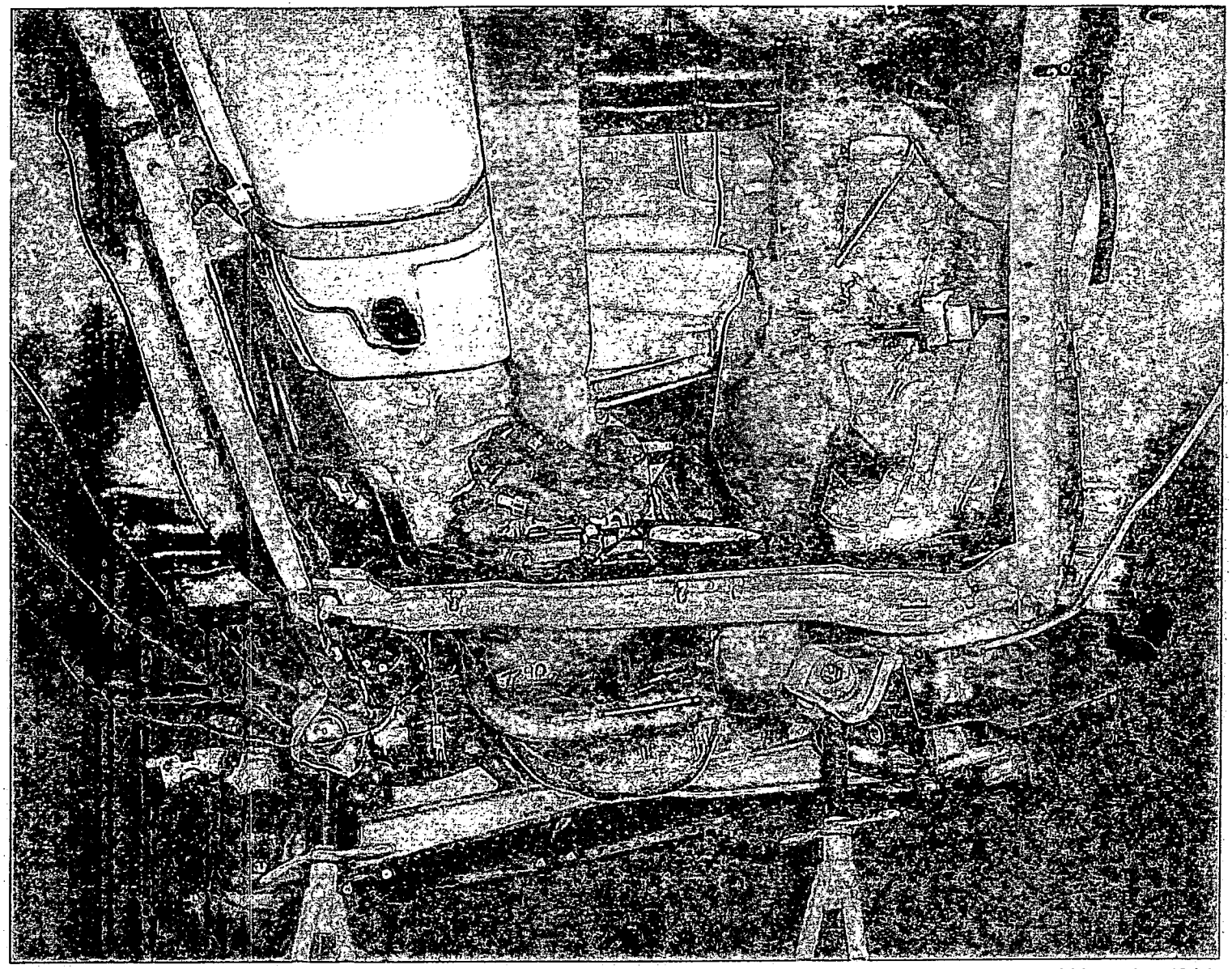

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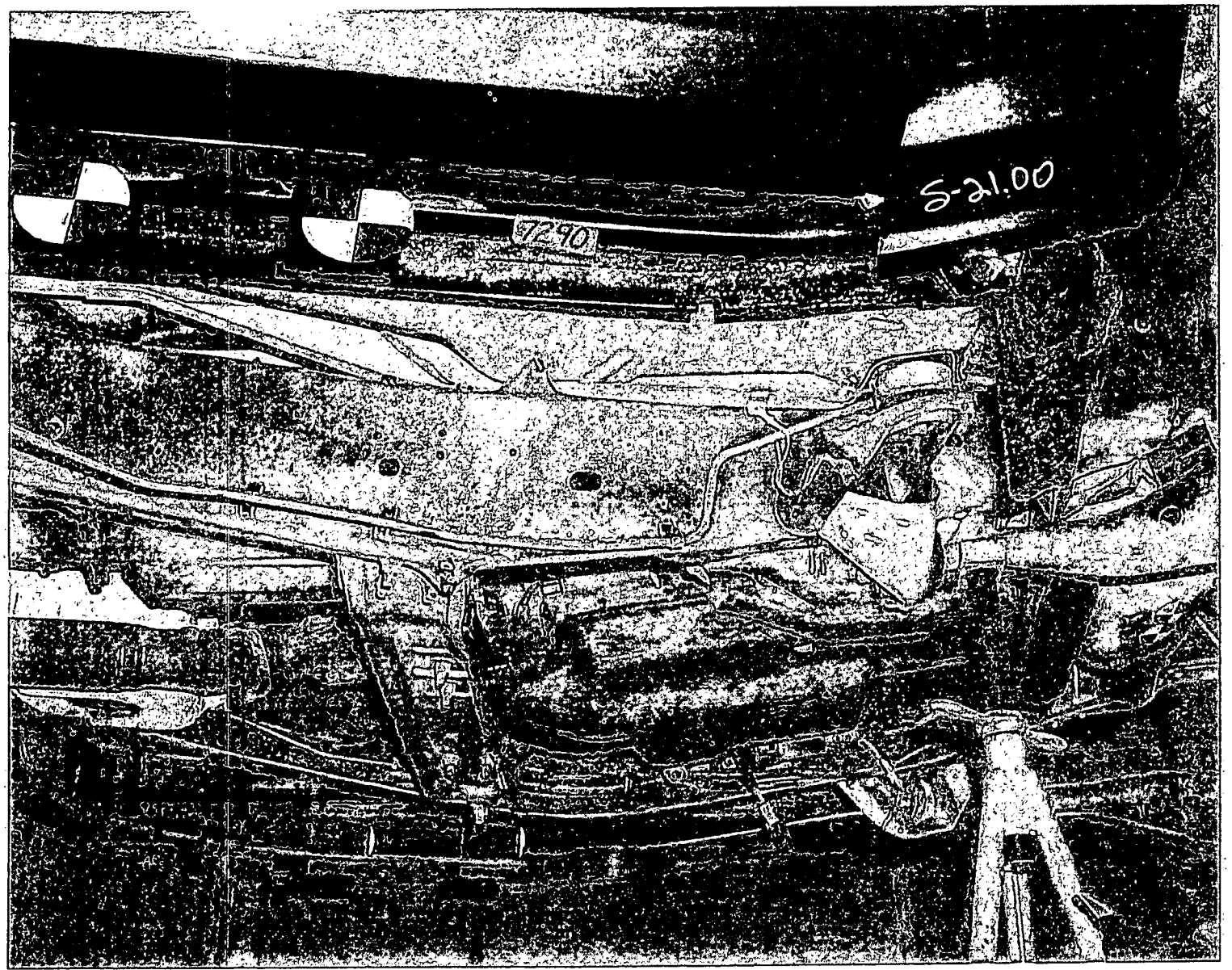

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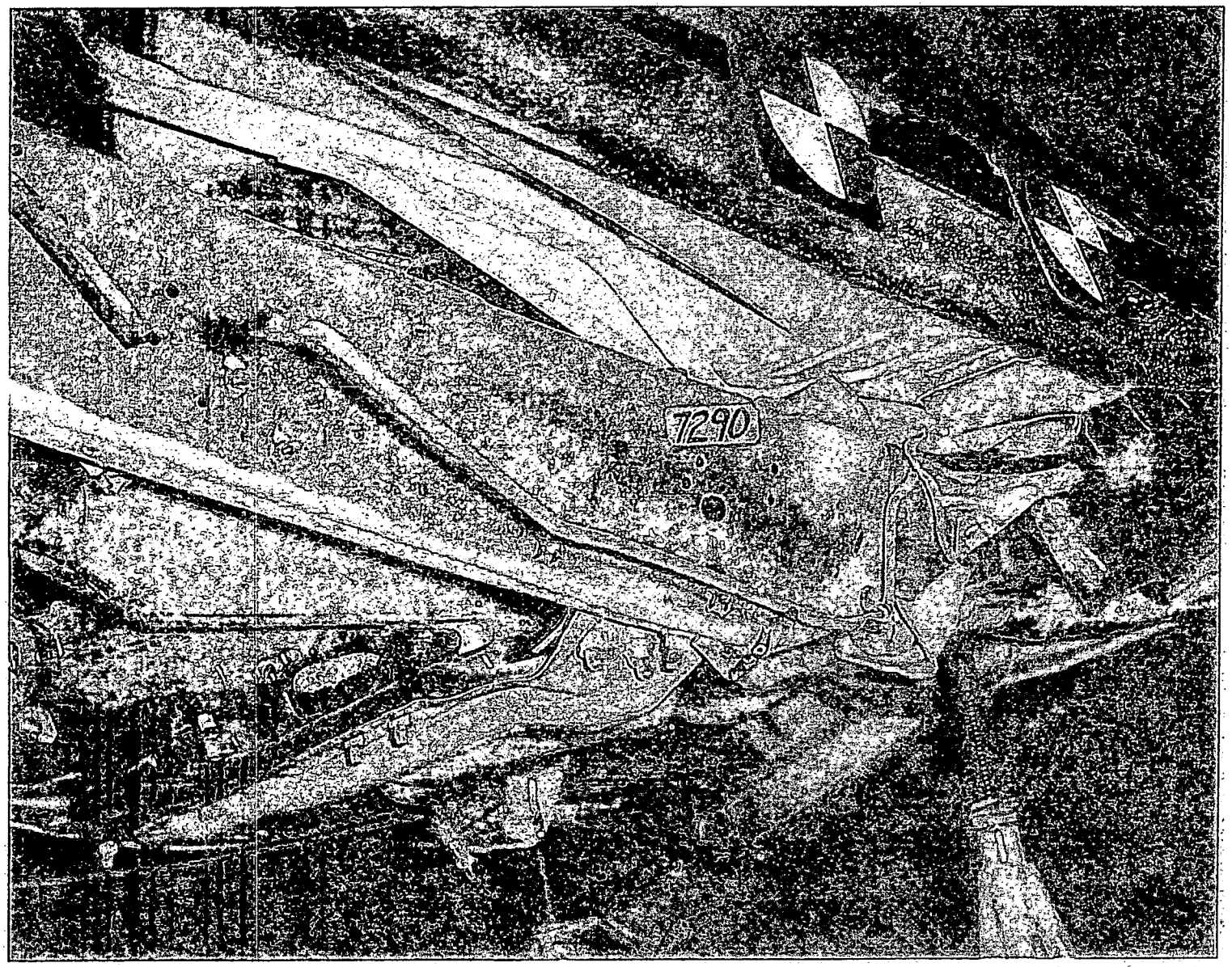

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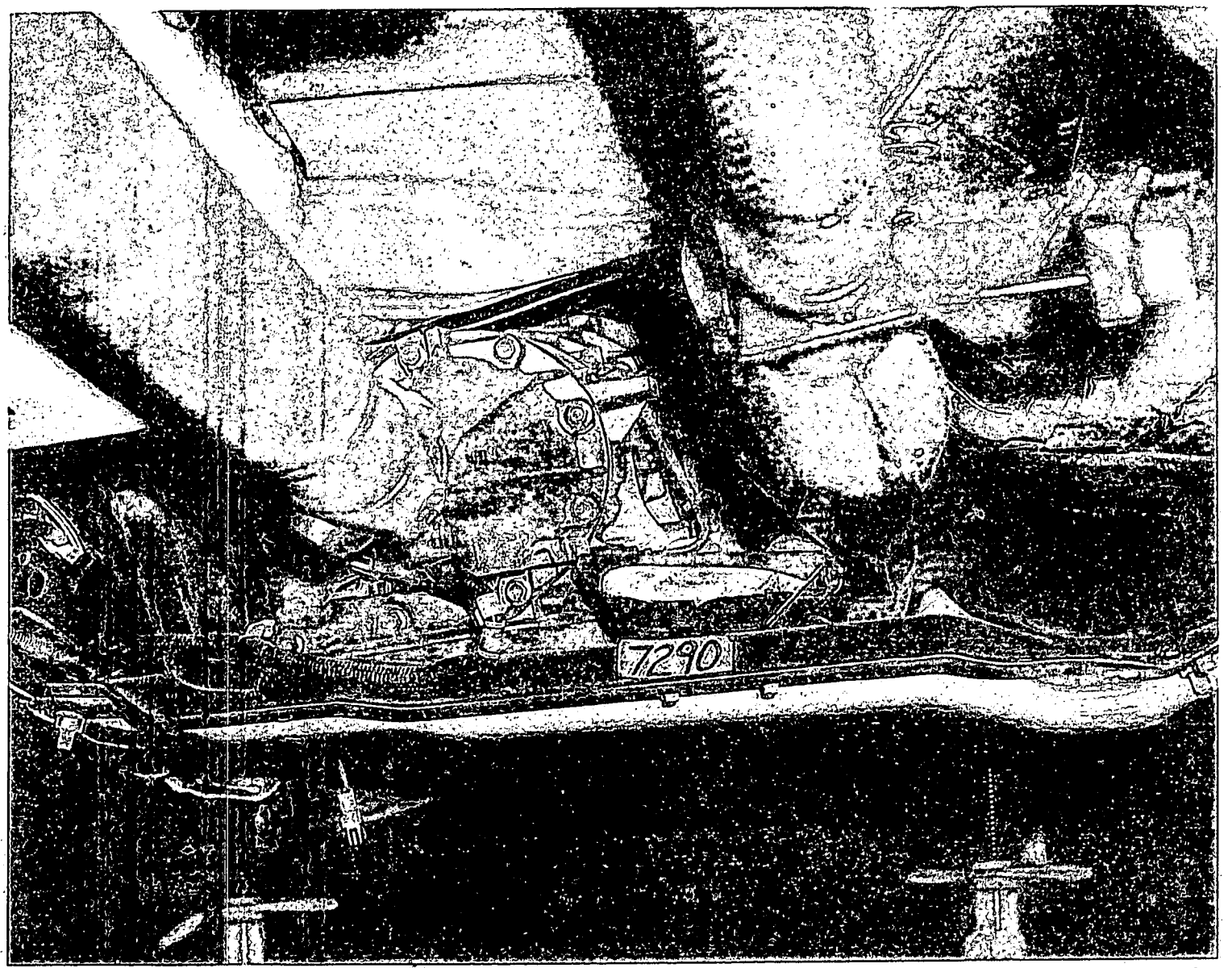

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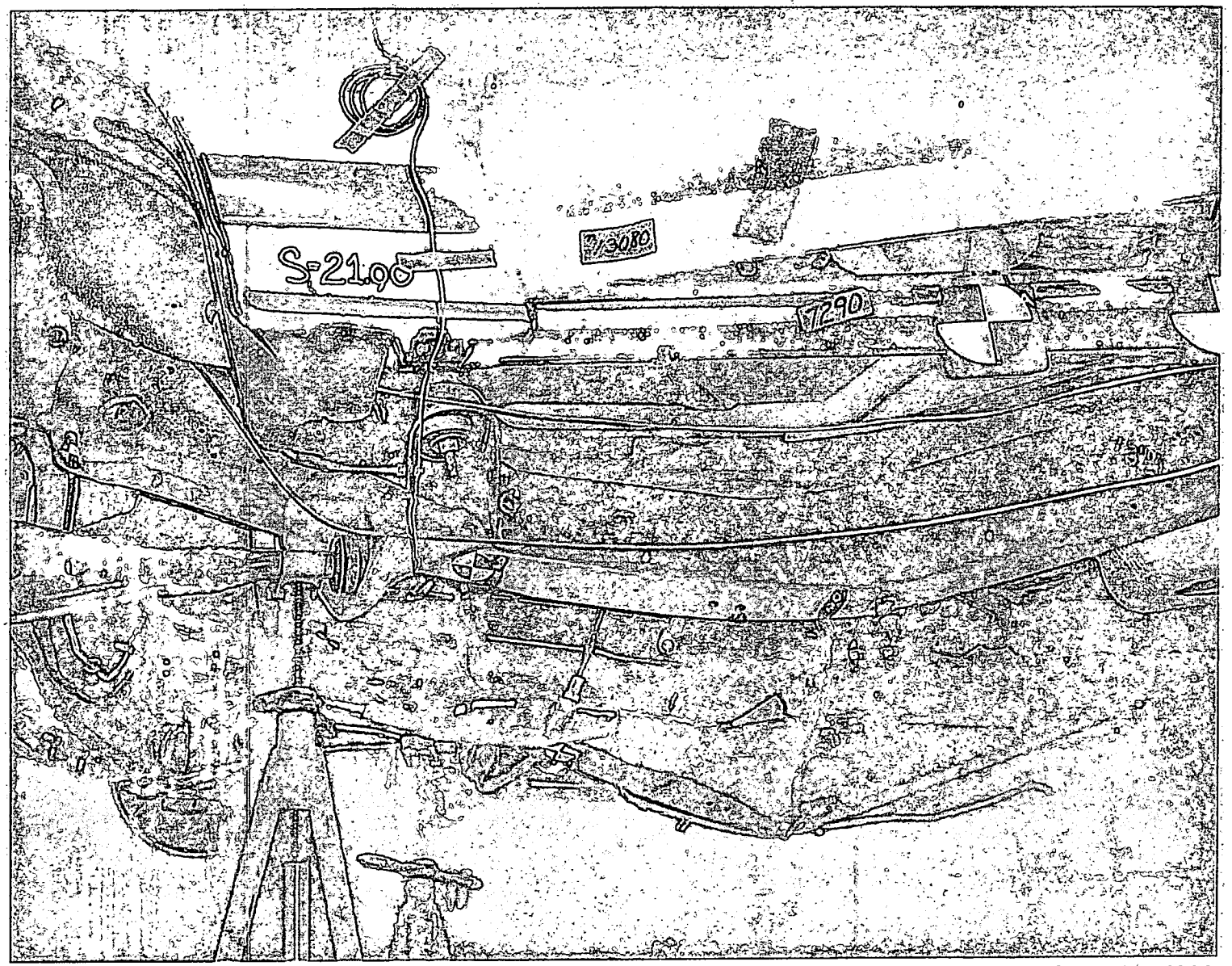

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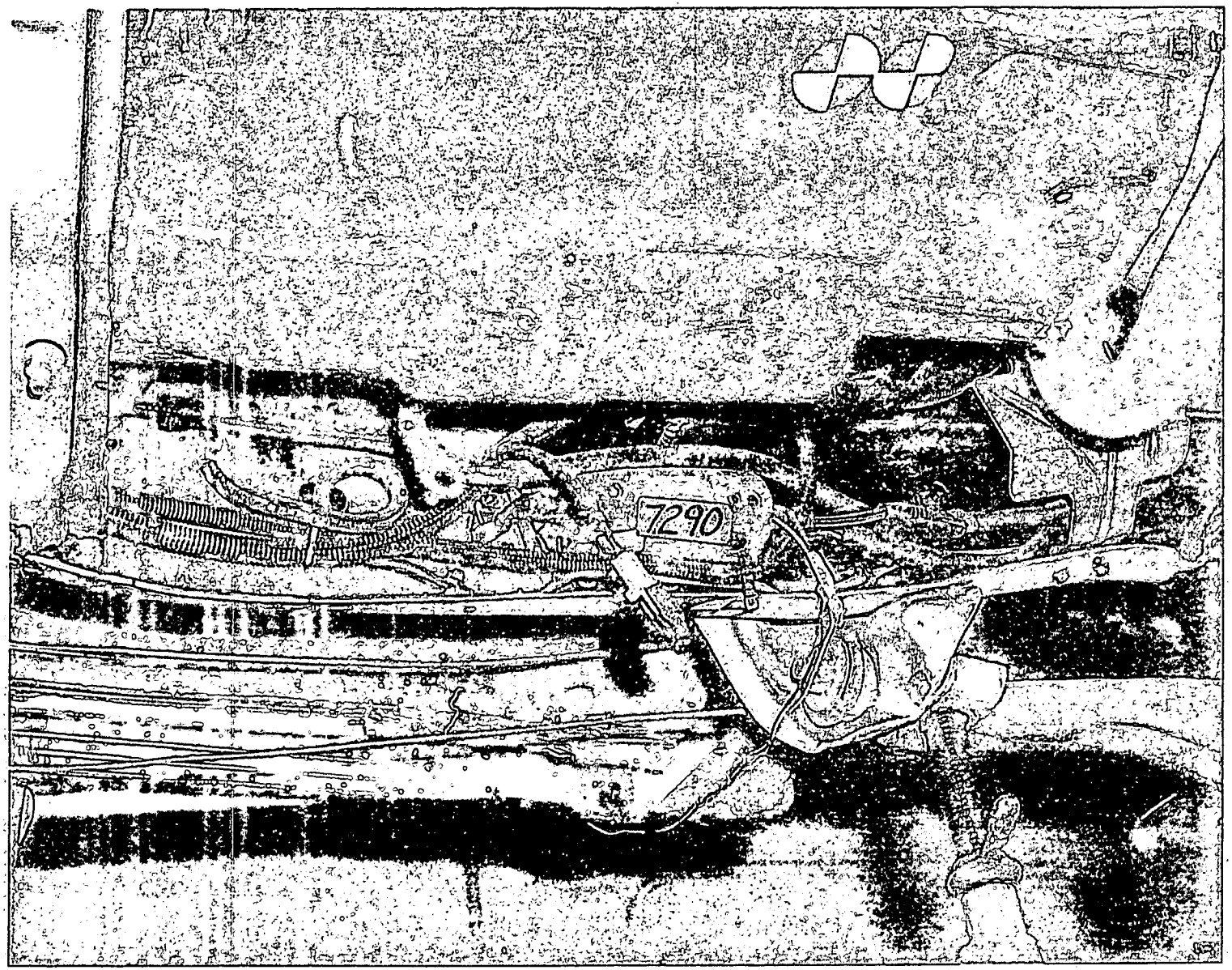

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CN54017-7838

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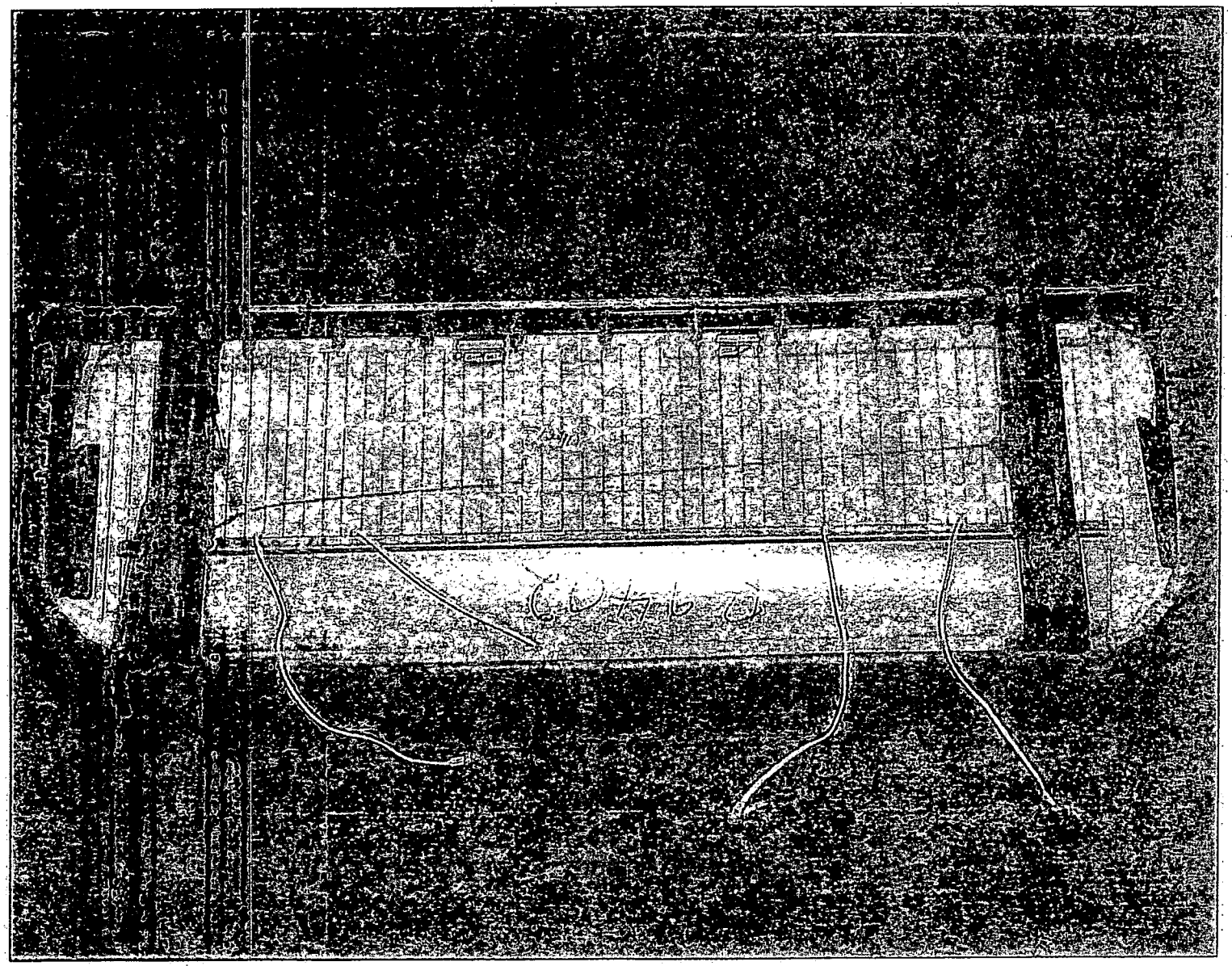
CRTS 007290



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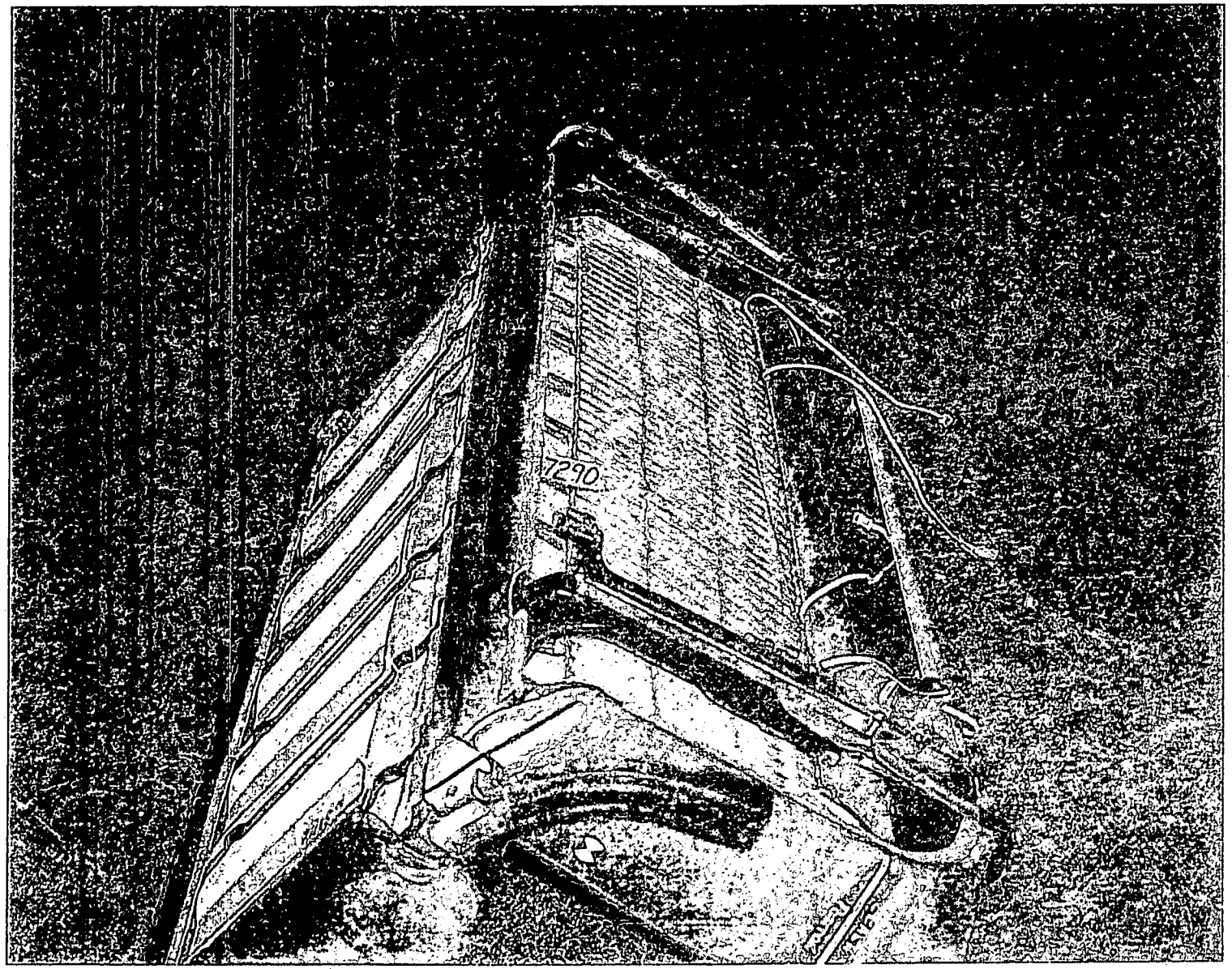

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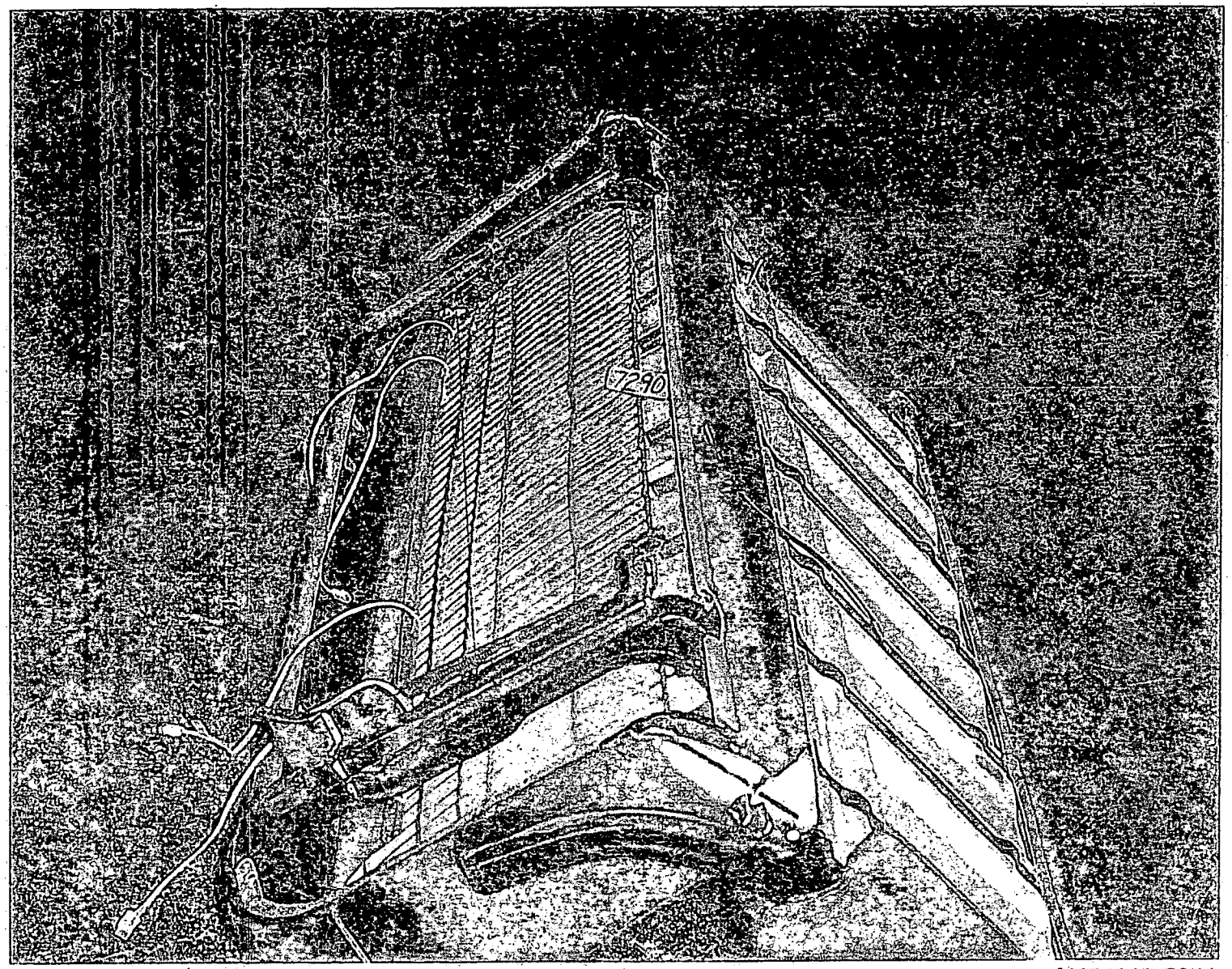

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CN54017-7841

CRTS 007290

PRODUCED BY FORD

CN54017-7842

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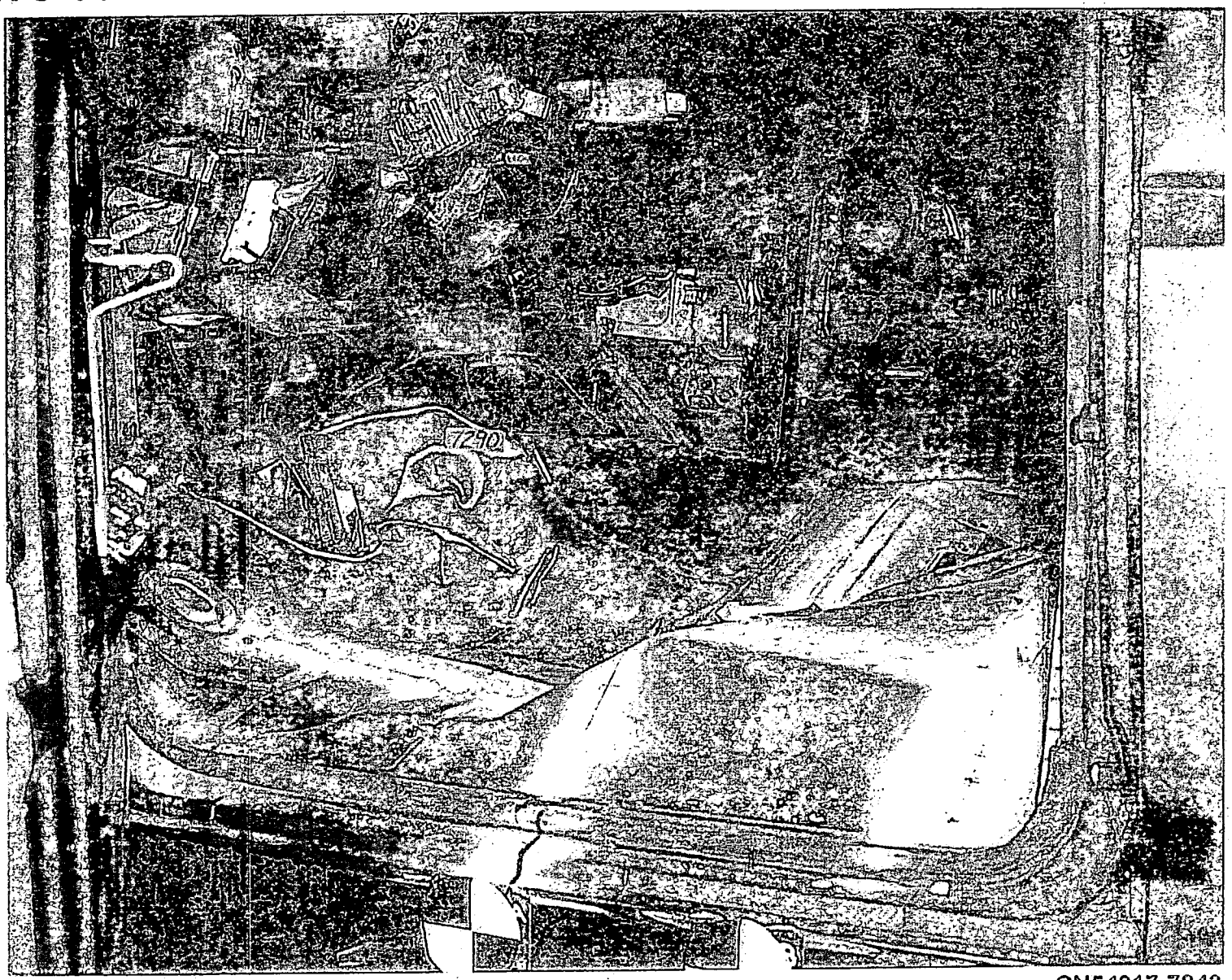

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CN54017-7843

CRTS 007290

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