FINAL TEST REPORT

Global Test Operations
Advanced Vehicle Technology

		Test Order No.	T-B9582
		Work Task W. O. No.	F09
TO:	A. Taub	Test Date	4/19/99
		Date Reported	6/20/99
		Sheet	1 of 99

SUBJECT: Crash Test 11398 (90° Front 40% Offset Driver Side Barrier with a Deformable Barrier Face Impact at 40.1 ± 0.4 mph, 64.5 ± 0.6 km/h) - 2000 Taurus (D186) 4-Door Wagon

REQUESTED BY: Vehicle Crash Safety Department - Advanced Vehicle Technology - D. Perrigo

OBJECT: To obtain development data relative to the Insurance Institute for Highway Safety Crashworthiness Evaluation Offset Barrier Crash Test Protocol Version III, FMVSS 212 and 219.

SUMMARY OF TEST RESULTS:

- See Section 1.0 for injury criteria data.
- See Section 2.0 for windshield mounting retention data.
- See Section 3.0 for windshield protected zone intrusion and windshield penetration data.

L. Stockton
Test Development Engineer

Concur: S. Leah
Section Supervisor
Operations Engineering Section

VEHICLE DATA:

Make and Model	2000 Taurus (D186) 4-Door Wagon
ID Numbers	1FALP62UXYG100591, 579-W-358, DC090014
Power Train	3.0L, FFV, Automatic (AX4N) Transaxle
Fuel Tank(s)	Test Condition: Empty
Front Seat(s)	Type: Bucket Cover: Cloth Tracks/Position: LF: 6-Way Power/Mechanical Mid and Down RF: Manual/Mechanical Mid Seat Backs/Position: Adjustable/LF: 27.5° Rear of Vertical Lumbar Support/Position: LF: Power/Deflated
Restraint System	LF: 3-Point Continuous Loop Active Belt with Pyrotechnic Retractor and Steering Wheel Air Bag RF: Instrument Panel Air Bag
Occupants	LF: 50th Percentile Male, Hybrid III, Instrumented RF: None Used
Test Weight	Front : 2199 lb (997 kg) Rear: 1476 lb (670 kg) Total: 3675 lb (1667 kg)
Tires	Front: P215/60R16 30 psi (207 kPa) Rear: P215/60R16 30 psi (207 kPa) Spare: Removed
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel

GENERAL TEST COMMENTS:

1. Test Procedure

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

Fixed Barrier Collision, T667-ST-14 dated July 17, 1996.

And non-corporate test procedure(s):

IIHS Crashworthiness Evaluation Offset Barrier Crash Test Protocol Version III.

1.1 Vehicle Alignment

A fixture was attached to the normal barrier face and aligned to overlap 40% of the front of the test vehicle on the driver side. A deformable barrier face was mounted to the fixture so that the deformable bumper's lower edge was 19 cm above and parallel to the ground.

2. Remarks

Crash movies, pre- and post- crash still images of the test vehicle and copies of this report are available through the Operations Engineering Section, Safety Laboratories Department, GTO. The crash still images are stored and archived on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 11398001 through 11398065.

TEST RESULTS:

1.0 Occupant Injury Data - HSS

		L.F. Dummy	
Head Performance Criteria (HPC)		347	
Interval	t1	99	ms
	t2	125	ms
Head Resultant Acceleration Level at 3 ms Cumulative Duration		48	g
Neck Bending Moment		44.6	Nm
Thoracic Compression Index (THCC)		21.22	mm
V*C		.09797	m/s
Tibia Compression Criterion (TCFC)			
	Left tibia - top	1.602	kn
	Left tibia - bottom	N/A	kn
	Right tibia - top	2.020	kn
	Right tibia - bottom	N/A	kn
Tibia Index (TI)			
	Left tibia - top	.5167	
	Left tibia - bottom	.9165	
	Right tibia - top	.5140	
	Right tibia - bottom	.5781	
Knee Sliding Joints			
	Left knee	N/A	mm
	Right knee	N/A	mm

Time histories of the dummy Neck Injury Criteria (NIC) and Femur Force Criteria (FFC) are included in this report.

Time histories of the dummy instrumentation 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.

TEST RESULTS (Cont'd.)

2.0 Windshield Mounting Retention (FMVSS 212)

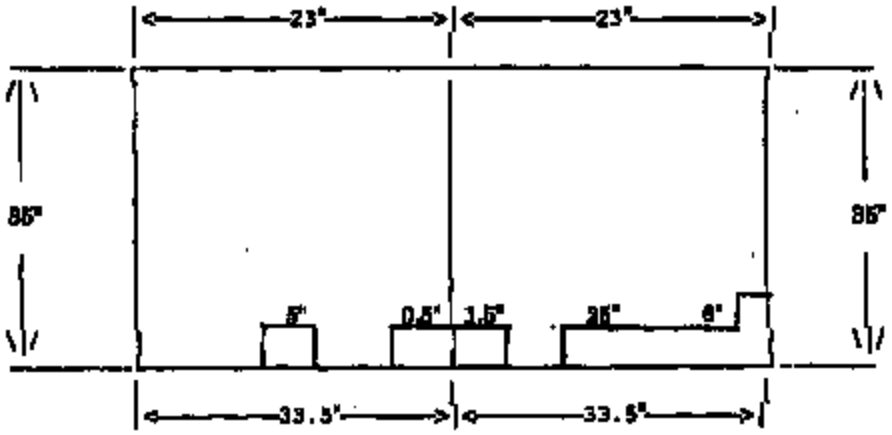
The driver side windshield mounting retention at ambient room temperature was 65%.

The passenger side windshield mounting retention at ambient room temperature was 94%.

Top

Passenger Side

Driver Side



Bottom

Separation

3.0 Windshield Zone Intrusion (FMVSS 219)

Based on a review of the crash movie and post-crash observations it was judged that neither the windshield intrusion zone nor the windshield below the intrusion zone was penetrated by any part of the vehicle during the crash. No intrusion zone template was used.

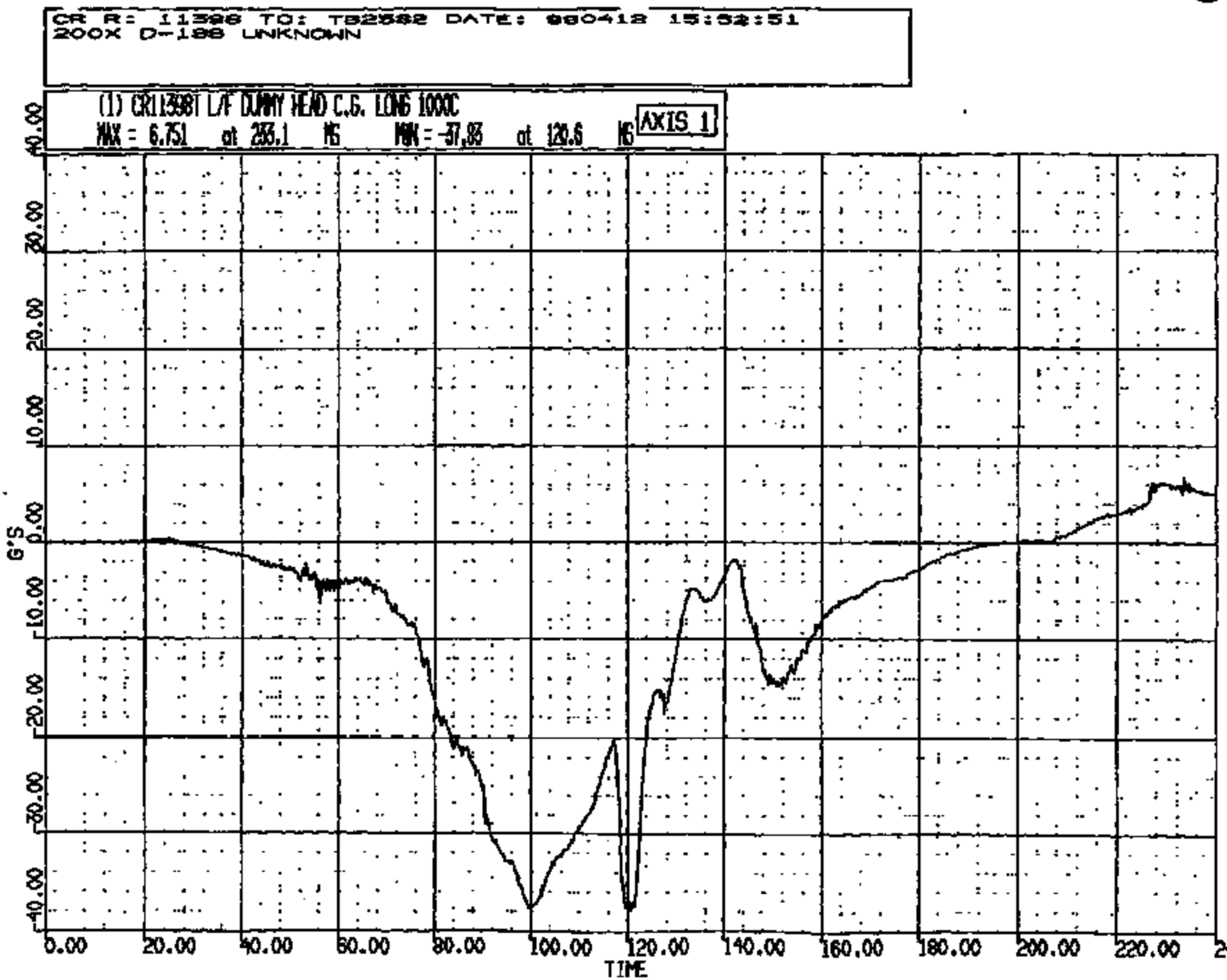
4.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

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

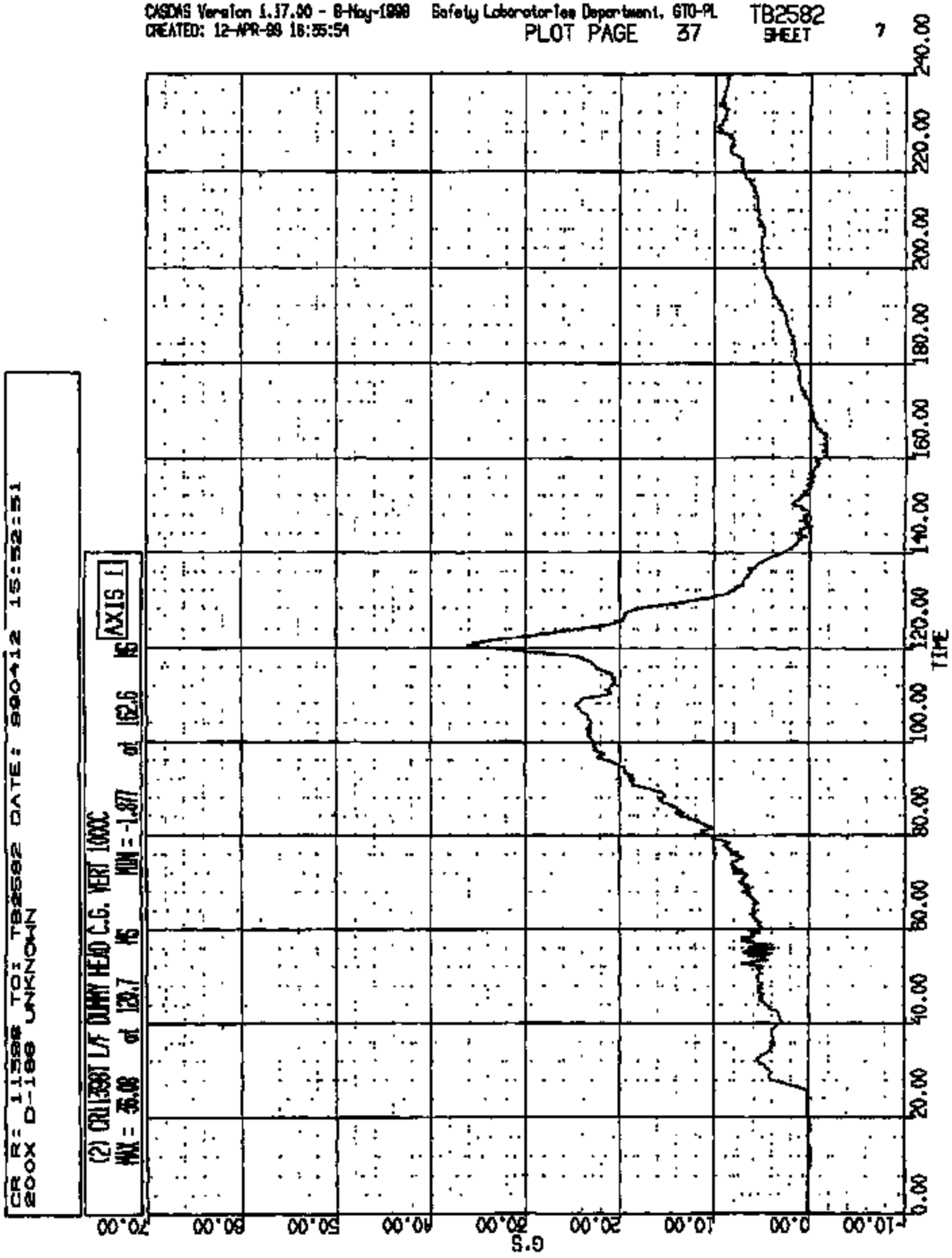
Time histories of vehicle dynamic displacements obtained from Film Analysis are included in this report.

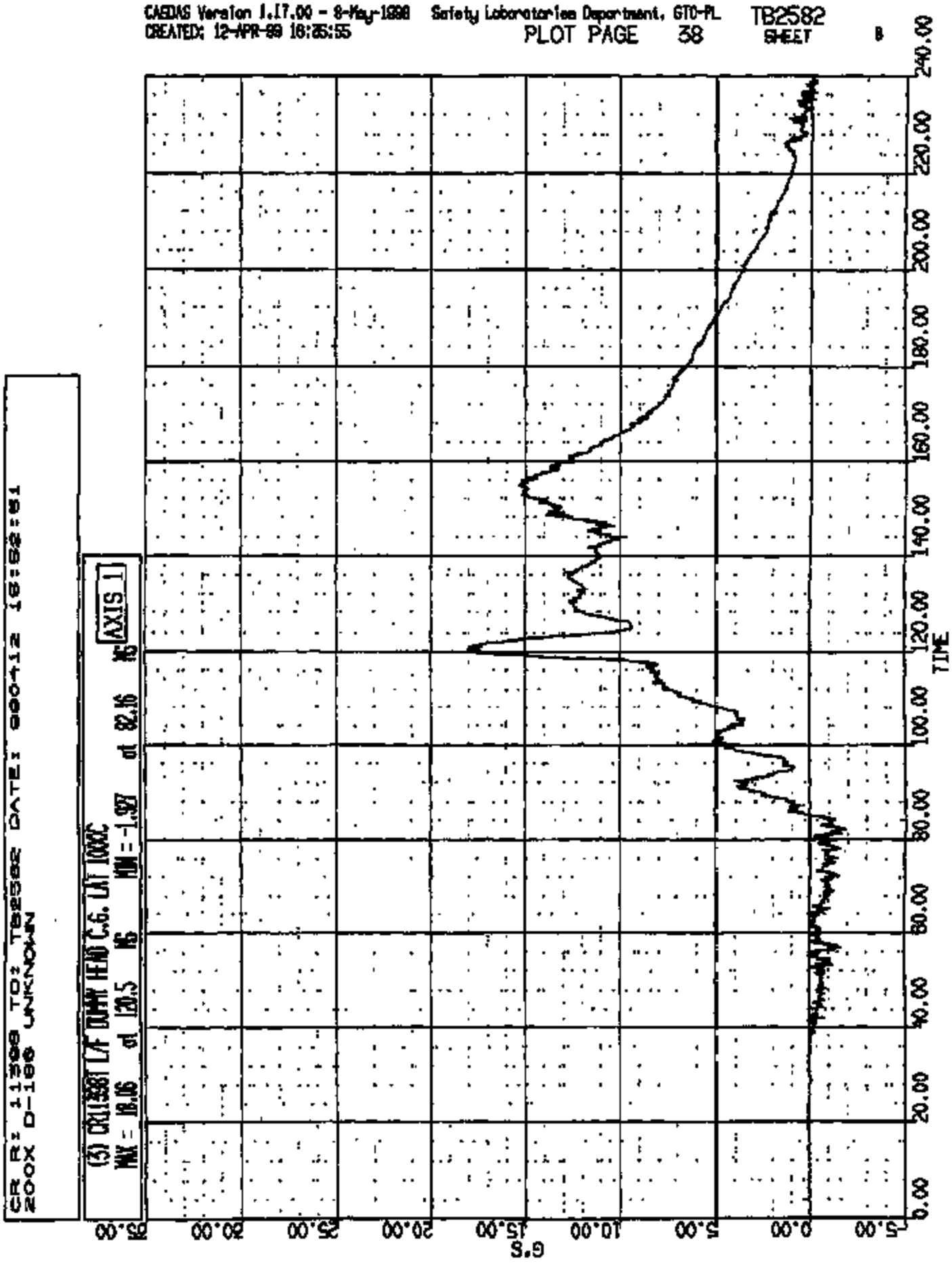
Static displacements of various body points obtained by Dimensional Analysis are included in this report.

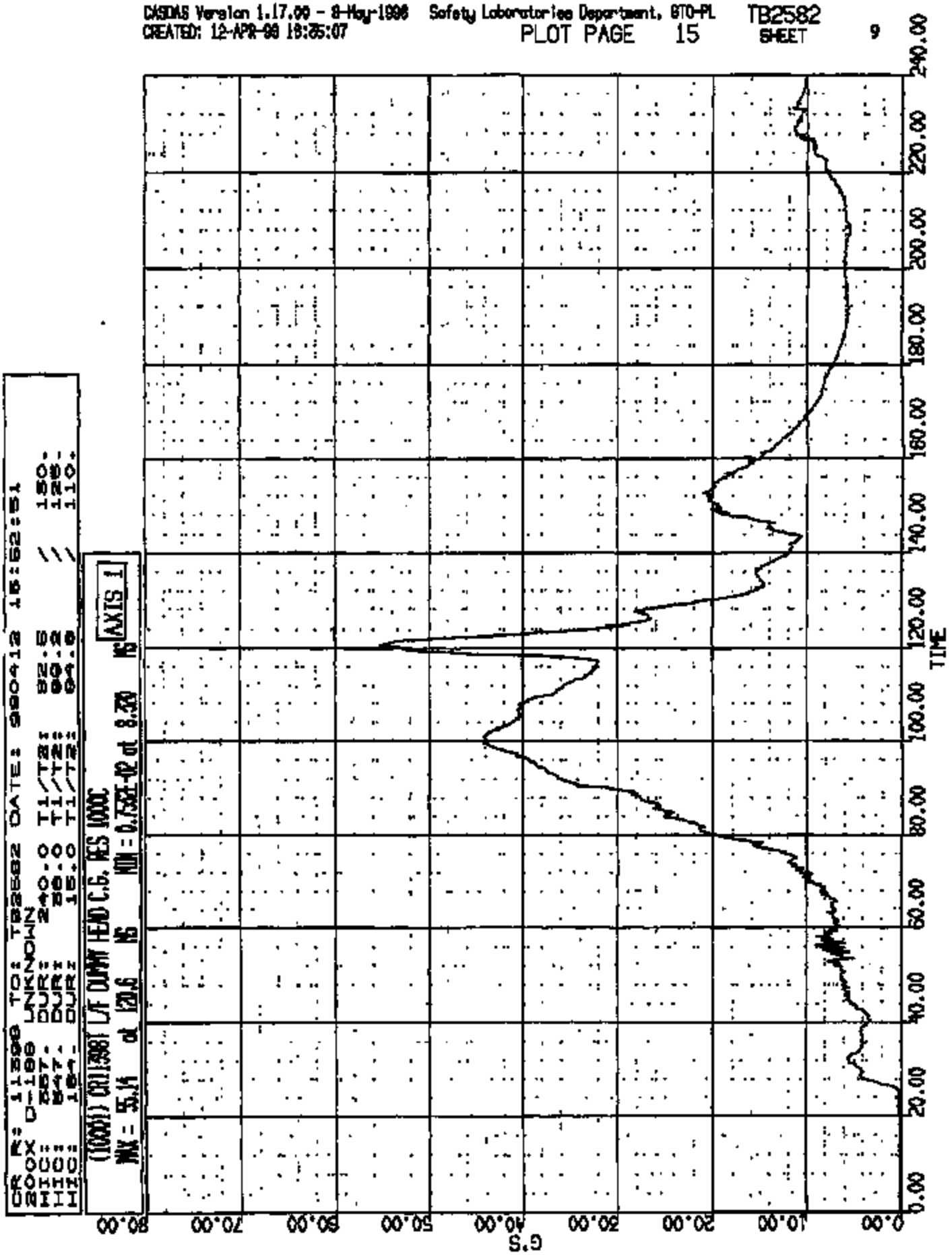
Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

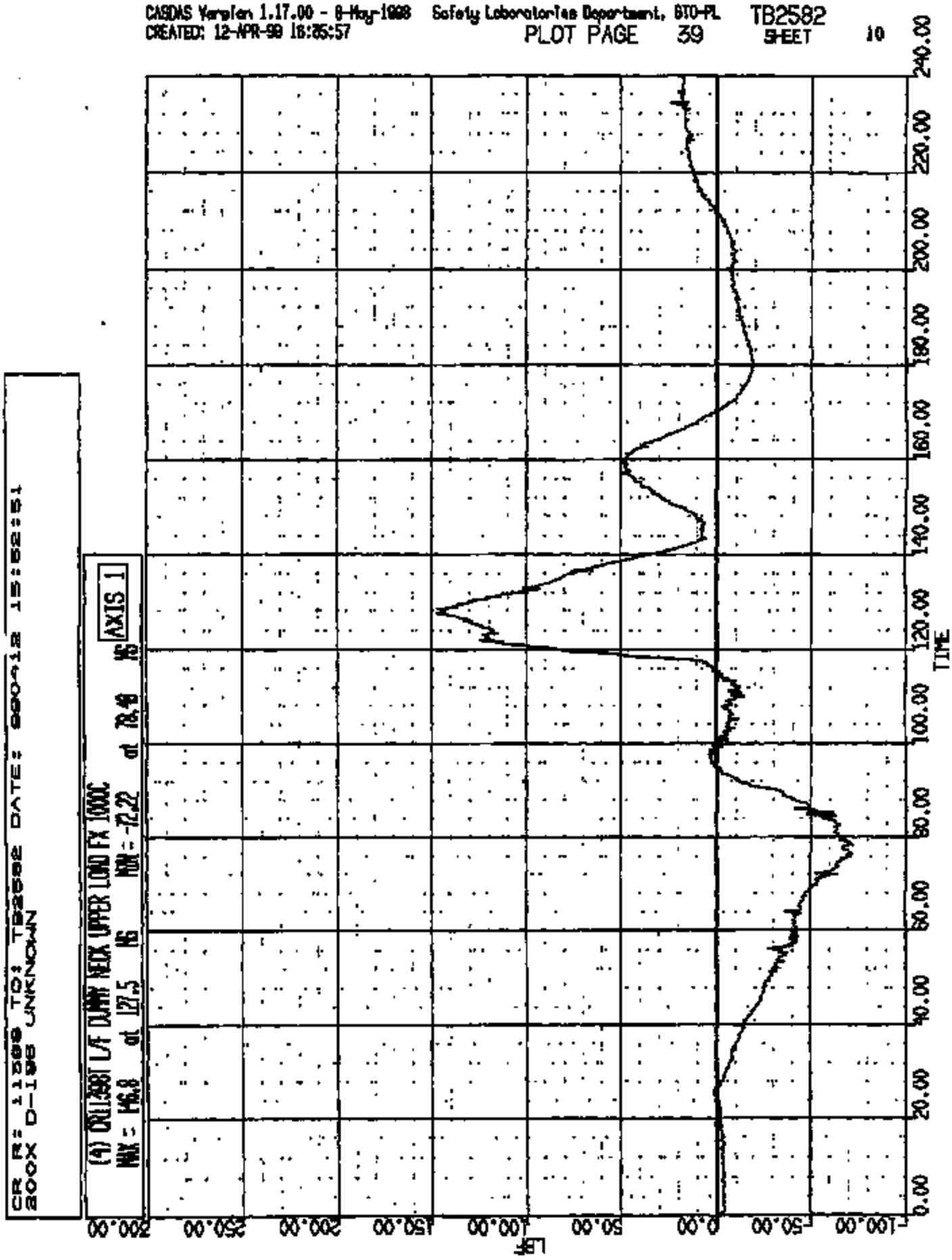

CR R= 11398 TO: TB2582 DATE: 980412 15:52:51
200X D-186 UNKNOWN
(1) CR11398T L/F DUMMY HEAD C.G. LONG 100C
MAX = 6.751 at 235.1 MS MIN = -37.93 at 120.6 MS
AXIS 1
G'S
TIME
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
CADAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 070-PL
CREATED: 12-APR-98 18:55:52
PLOT PAGE 36
TB2582
SHEET 6

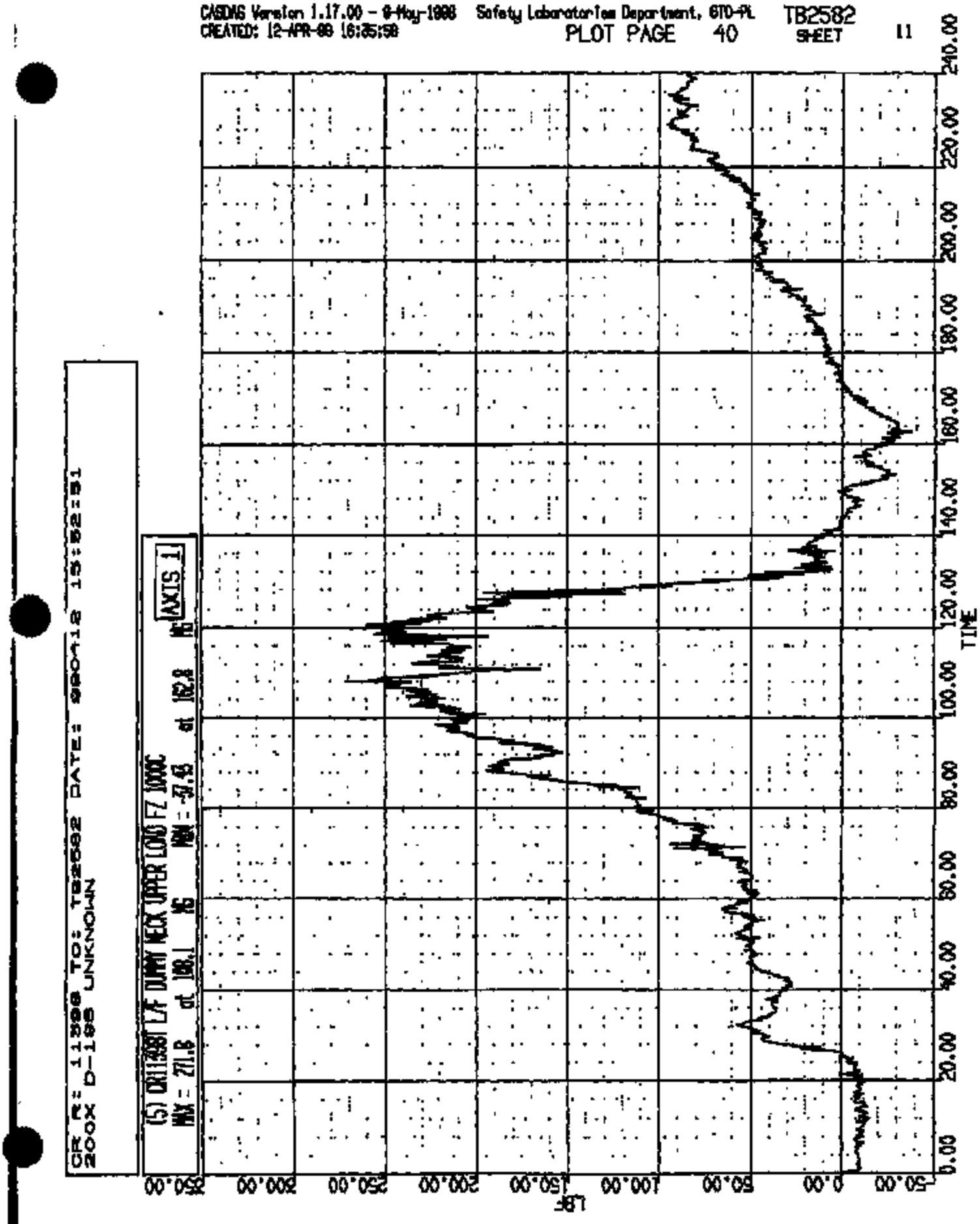
CRTS 001398

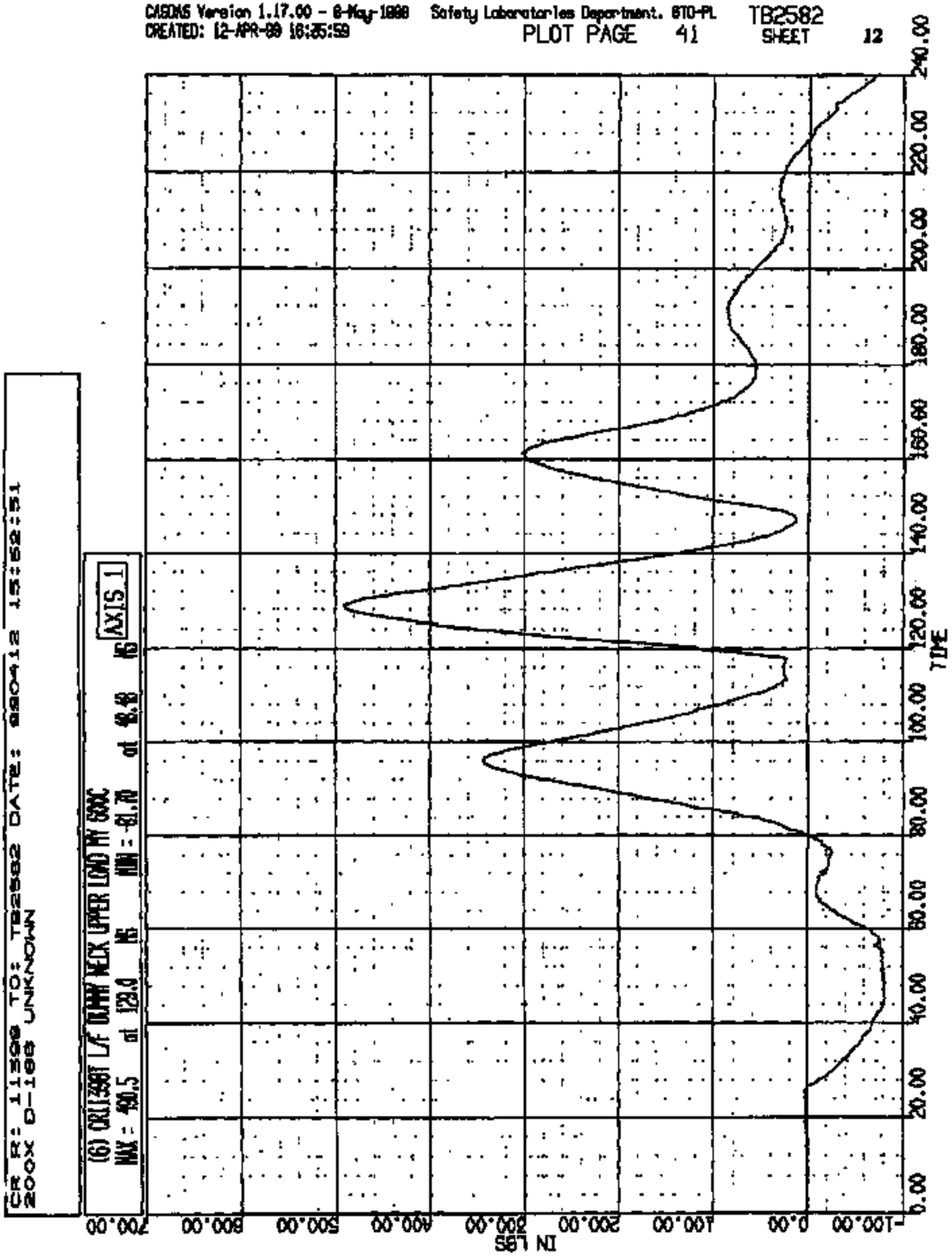

CR R= 11588 TO: TB2582 DATE: 980412 15:52:51
200X D-188 UNKNOWN
(2) CRU1390T L/F DUMMY HEAD C.G. VERT 1000C
MAX = 36.08 at 128.7 MS MIN = -1.877 at 162.6 MS
AXIS 1
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
G's
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
TIME


CR R: 11398 TO: TB2582 DATE: 990412 16:52:51
200X D-196 UNKNOWN
(3) CRU13987 L/F DUMMY HEAD C.G. ACT 1000C
MAX = 18.06 at 120.5 MS MIN = -1.927 at 82.16 MS
AXIS 1
G's
TIME
5.00
0.00
5.00
10.00
15.00
20.00
25.00
30.00
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 #: 11398 TC#: TB2582 DATE: 980412 16:52:51
D-1188
CHOOSE
CHANNEL
UNKNOWN
DURn= 2567.
DURn= 2547.
DURn= 164.
240.00 T1/T2= 82.5 150.
200.00 T1/T2= 80.2 125.
150.00 T1/T2= 84.6 110.
(1000G) CRTS398 L/R DUMMY HEAD C.G. RES WAVEC
MAX = 55.1 at 120.6 MS MIN = 0.7324E-02 at 8.320 MS
AXIS 1
G's
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
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00


CR R: 11589 TO: TB2582 DATE: 990412 15:52:51
200X D-198 UNKNOWN
(4) CRUISER L/F DUMMY NECK UPPER LOAD FX 1000C
MAX = 146.8 at 127.5 MS MIN = -72.22 at 78.9 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
300.00
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
LBF


CASING Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-98 16:35:58
PLOT PAGE 40
TB2582
SHEET 11
CR R: 11398 TO: TB2582 DATE: 980412 15:52:51
200X D-198 UNKNOWN
(5) DX11398F L/F DUMMY NECK UPPER LOAD FZ 10000
MAX = 271.8 at 198.1 MS MIN = -37.43 at 182.8 MS
AXIS 1
LBF
TIME
250.00
200.00
150.00
100.00
50.00
0.00
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


CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN
(6) 0011398T L/F OUTPUT NECK UPPER LOAD MY 600C
MAX = 490.5 at 128.0 MS MIN = -81.70 at 40.48 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
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
-100.00
LBS NI

NECK BENDING MOMENT: FLEXION & EXTENSION
INPUT CR11398T_L/F_DUMMY_NECK_UPPER_LOAD_MY_600C
CHLS: CR11398T_L/F_DUMMY_NECK_UPPER_LOAD_FX_1000C
CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
HYBRID III CRITERIA PLOT - BOTH X DUMMY

FOREIGN

AXIS 1
(10014) CORRECTED NECK MOMENT MY

MAX = 44.56 at 129.1 MS
MIN = -9.499 at 240.0 MS

AXIS 1
(10016) MAXIMUM NECK EXTENSION

MAX = -57.00 at 0.0000E+00 MS
MIN = -57.00 at 140.0 MS

AXIS 1
(10017) MAXIMUM NECK FLEXION

MAX = 190.0 at 0.0000E+00 MS
MIN = 190.0 at 0.0000E+00 MS

CRASH Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-FL TB2582
CREATED: 12-APR-99 18:35:18 PLOT PAGE 20 SHEET 13

CRTS 0011398

AXIAL NECK TENSION LOADING
CR R: 11390 TO: TB2582 DATE: 990412 15:52:51
HYBRID III CRITERIA PLOT - 50TH % DUMMY
DURATION CURVES MAY INCLUDE MULTIPLE PEAKS

FOREIGN

AXIS 1
(10020) CRITERIA LINE FOR AXIAL NECK TENSION LOADING
MAX = 3.300 at 0.0000E+00 MS
MIN = 1.100 at 60.00 MS

AXIS 1
(10019) DURATION CRIT:350T L/F DUMMY NECK UPPER LOAD FZ 100
MAX = 1.209 at 0.7889E-01 MS
MIN =0.0000E+00 at 0.0000E+00 MS

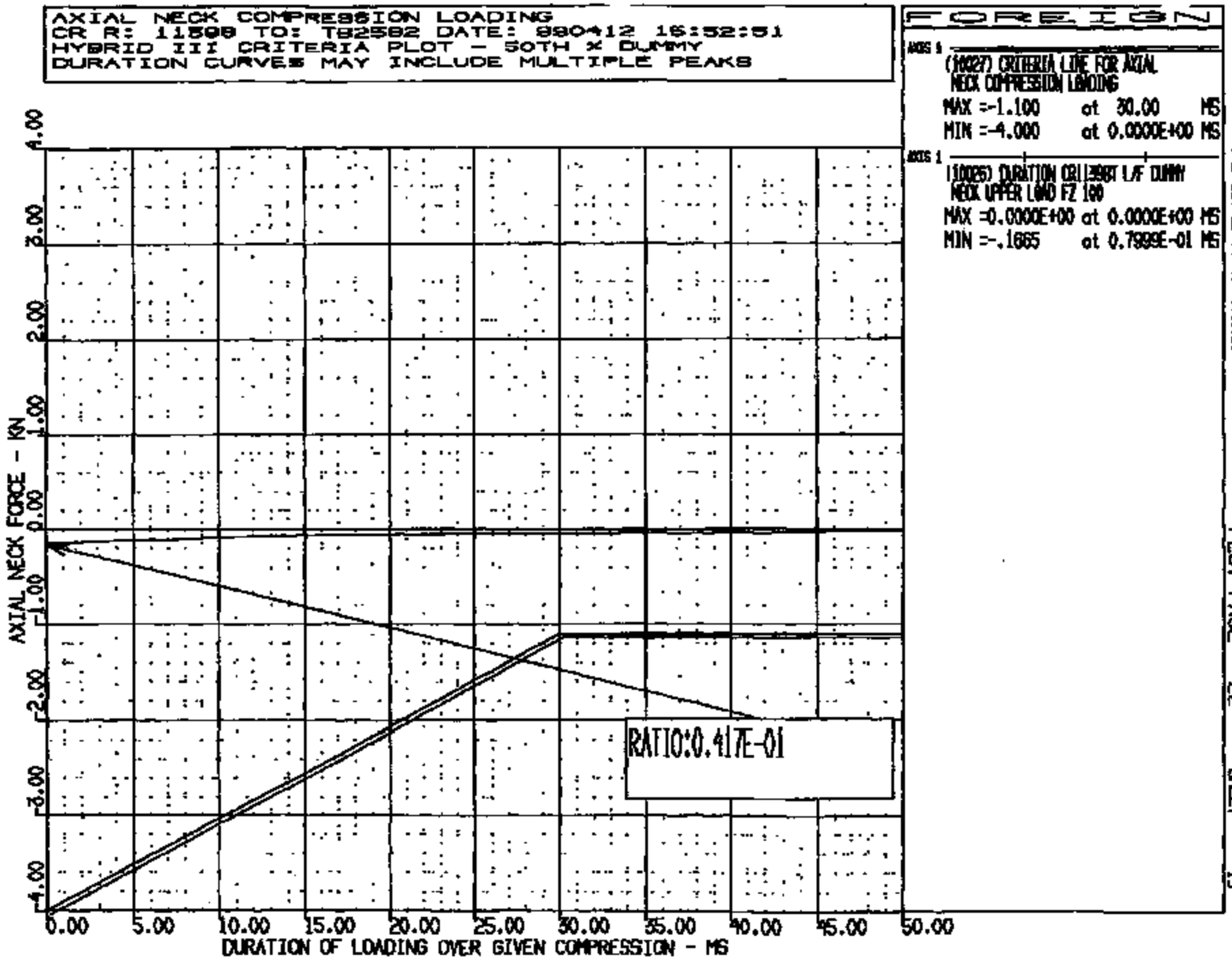
RATIO:0.367

AXIAL NECK FORCE - KN
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00

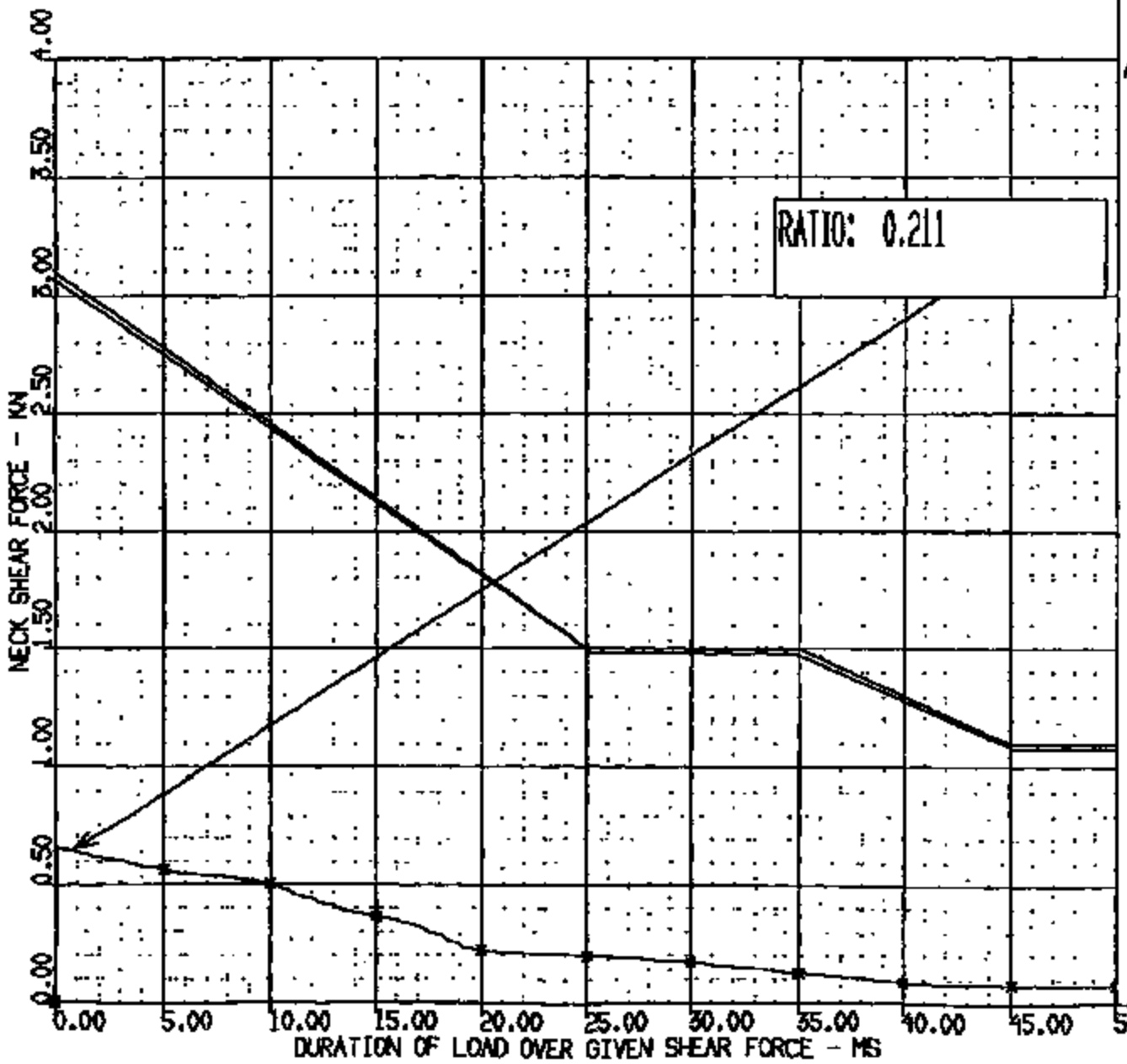
0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00 55.00 60.00 65.00 70.00
DURATION OF LOADING OVER GIVEN TENSION - MS

CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 18:05:20
PLOT PAGE 21
TB2582
SHEET 14

CRTS 0011398


AXIAL NECK COMPRESSION LOADING
CR R: 11598 TO: TB2582 DATE: 980412 16:52:51
HYBRID III CRITERIA PLOT - 50TH X DUMMY
DURATION CURVES MAY INCLUDE MULTIPLE PEAKS
FOREIGN
AXIS 1
(10027) CRITERIA LINE FOR AXIAL NECK COMPRESSION LOADING
MAX =-1.100 at 30.00 MS
MIN =-4.000 at 0.0000E+00 MS
AXIS 1
(10025) DURATION CRI 398T LAF DUMMY NECK UPPER LOAD FZ 100
MAX =0.0000E+00 at 0.0000E+00 MS
MIN =-.1665 at 0.7999E-01 MS
AXIAL NECK FORCE - KN
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
45.00
50.00
DURATION OF LOADING OVER GIVEN COMPRESSION - MS
RATIO:0.417E-01
CARMA Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6110-PL
CREATED: 12-MAR-98 18:55:21
PLOT PAGE 22
TB2582
SHEET 15
CRIS 0011398

FORE NECK WRT HEAD SHEAR FORCE
CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
HYBRID III CRITERIA PLOT - 50TH % DUMMY
DURATION CURVES MAY INCLUDE MULTIPLE PEAKS



FOREIGN

AXIS 1
(10034) CRITERIA LINE FOR FORE NECK WRT HEAD SHEAR FORCE
MAX = 3.100 at 0.0000E+00 MS
MIN = 1.100 at 45.00 MS

AXIS 1
(10035) DURATION CRU1398T L/F DUMMY NECK UPPER LOAD FX 100
MAX =0.6532 at 0.7999E-01 MS
MIN =0.0000E+00 at 0.0000E+00 MS

CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTDHRL
CREATED: 12-APR-99 10:35:28 PLOT PAGE 23 TB2582 SHEET 16

CRTS 0011398

AFT NECK WRT HEAD SHEAR FORCE
CR R: 11598 TO: TB2582 DATE: 990412 15:62:51
HYBRID III CRITERIA PLOT - 50TH % DUMMY
DURATION CURVES MAY INCLUDE MULTIPLE PEAKS

FOREIGN

AXIS 1
(10041) CRITERIA LINE FOR AFT NECK WRT HEAD SHEAR FORCE
MAX =-1.100 at 45.00 MS
MIN =-3.100 at 0.0000E+00 MS

AXIS 1
(10040) DURATION CRIT AFT L/F DUMMY NECK UPPER LOAD FX 100
MAX =0.0000E+00 at 0.0000E+00 MS
MIN =-.3212 at 0.7999E-01 MS

NECK SHEAR FORCE - KN

0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50

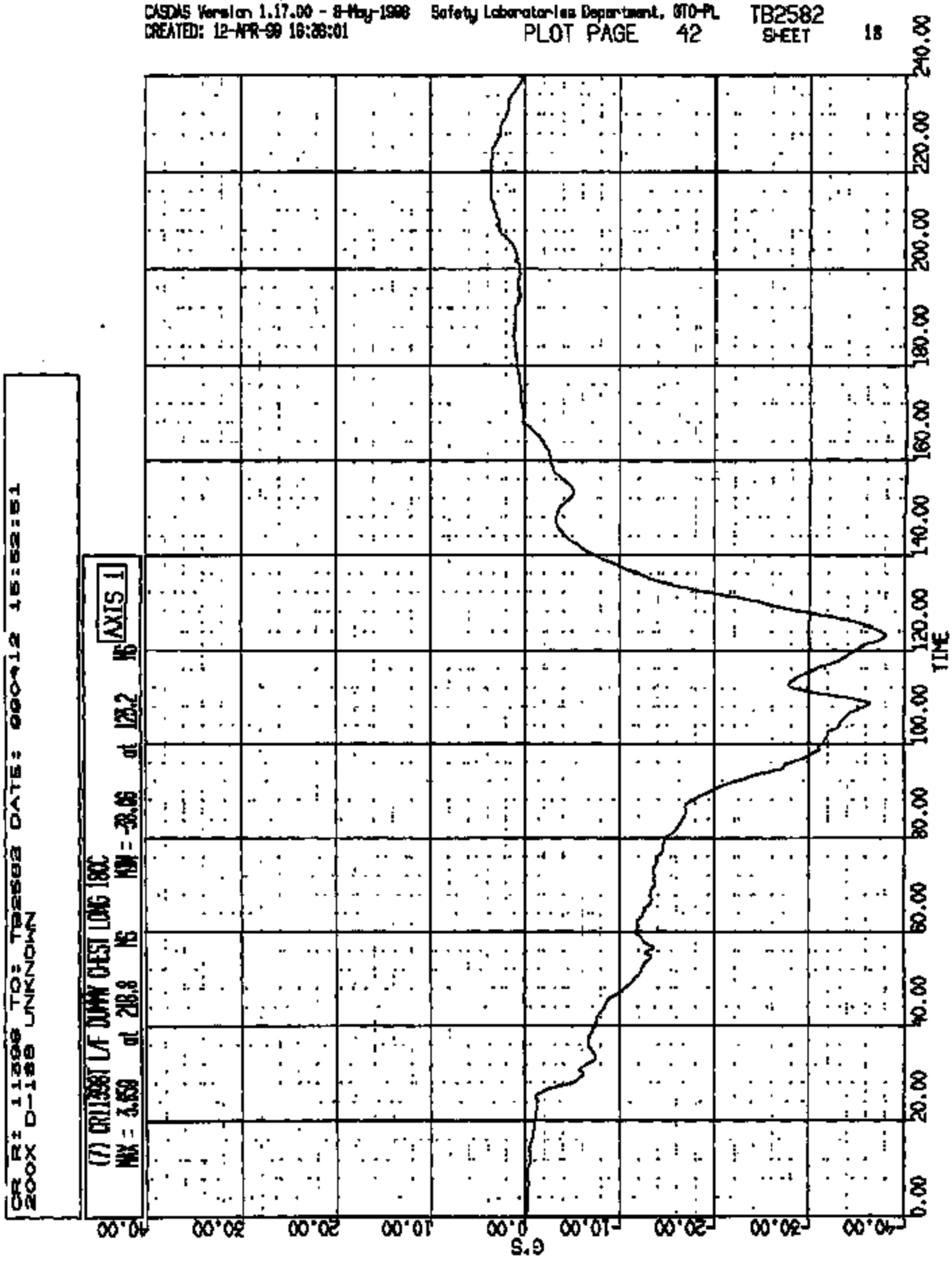
0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00

DURATION OF LOAD OVER GIVEN SHEAR FORCE - MS

RATIO:0.125

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6TO-PL TB2582
CREATED: 12-APR-99 16:35:24 PLOT PAGE 24 SHEET 17

CRTS 001398


CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-198 UNKNOWN
(7) CRI13987 L/F DUMMY CHEST LONG 180C
MAX = 3.659 at 218.8 MS MIN = -38.66 at 128.2 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

CR R: 11598 TO: TB2582 DATE: 900412 15:52:51
200X D-186 UNKNOWN

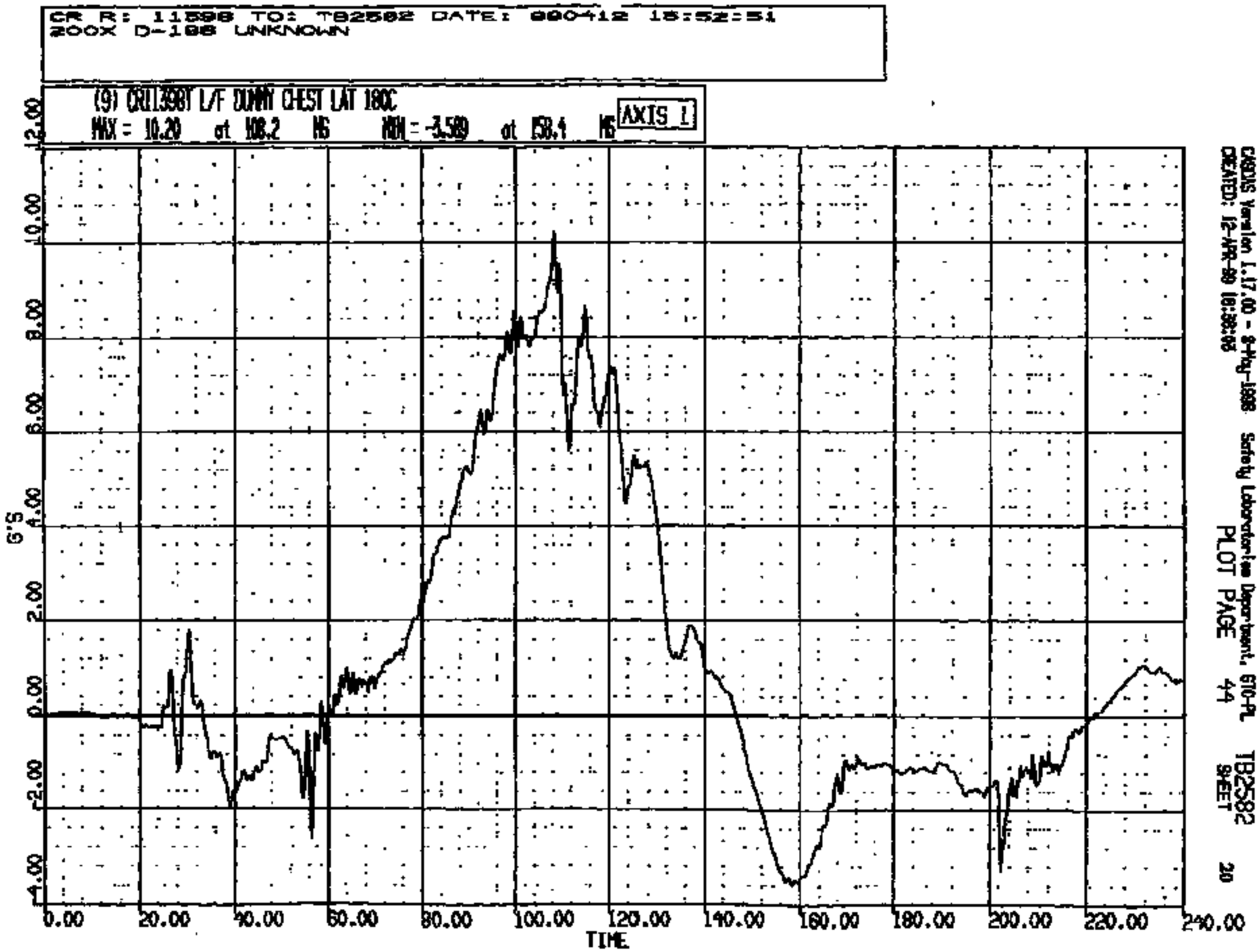
(8) CR11598T L/F DUMMY CHEST VERT 180C
MAX = 8.219 at 102.7 MS MIN = -7.354 at 151.2 MS AXIS 1

G's
30.00
25.00
20.00
15.00
10.00
5.0
0.0
-5.0
-10.0

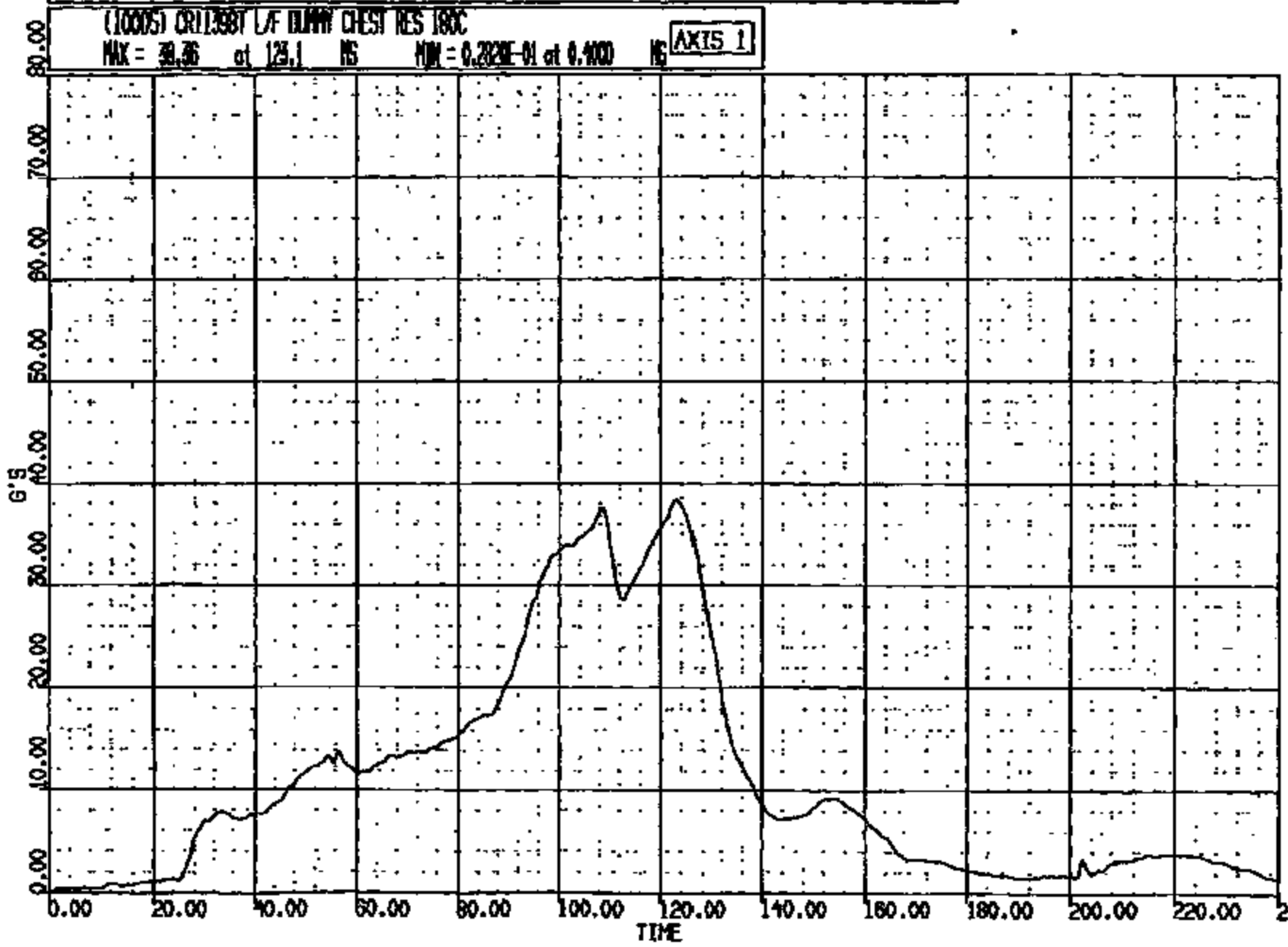
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00
TIME

CRDMS Version 1.17.00 - 6-May-1988 Safety Laboratories Department, 970-PL TB2582
CREATED: 12-APR-90 16:36:12 PLOT PAGE 43 SHEET 19

CRTS 0011398

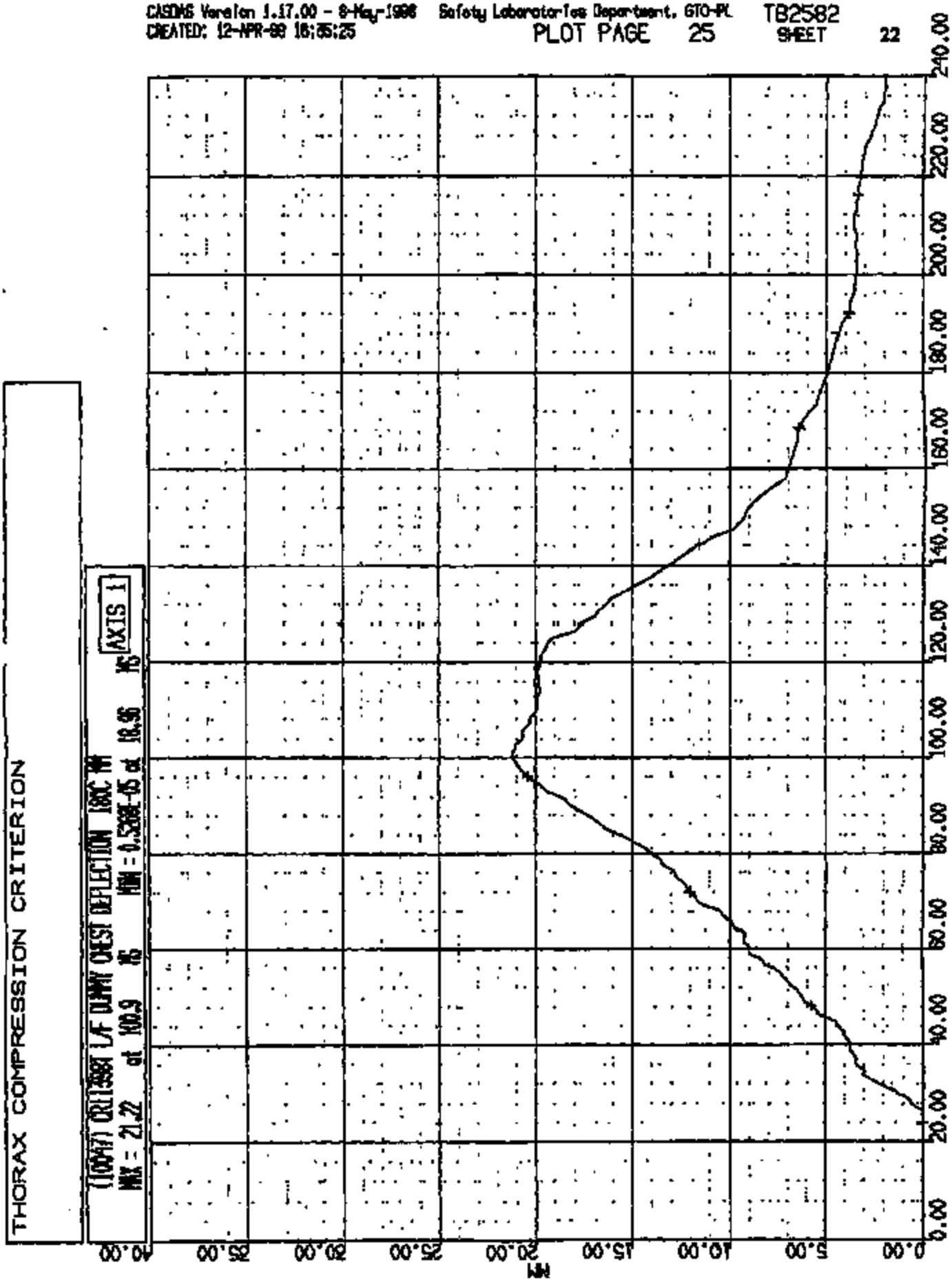

CR R: 11598 TO: TB2582 DATE: 980412 15:52:51
200X D-188 UNKNOWN
(9) CRU1398T L/F DUMMY CHEST LAT 180C
MAX = 10.20 at 108.2 MS MIN = -3.589 at 158.1 MS
AXIS 1
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
G's
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME
CARDIS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 12-APR-98 10:38:09
PLOT PAGE 44
TB2582
SHEET 20
CRTS 0011398

CR R: 11588 TO: TB2582 DATE: 990412 15:52:51
200X D-198 UNKNOWN
CUMDUR = 57.530 Duration time = 2.9978



CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 18:35:08
PLOT PAGE 16
TB2582
SHEET 21

CRTS 0011398


THORAX COMPRESSION CRITERION
(10MY7) CRI13580 L/F DUMMY CHEST DEFLECTION (80C MM
MAX = 21.22 at 100.9 MS MIN = 0.5268E-05 at 18.96 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
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
MM

CR R: 11596 TO: TB2582 DATE: 990412 15:52:51
200X D-186 UNKNOWN

EXPERIMENTAL

(10048) CRI13987 LA DMY CHEST DEFLECTION 180C V+C(E) M/S
MAX = 0.6826E-01 at 92.16 MS MIN = -.9897E-01 at 125.8 MS

AXIS 1

METERS/SEC

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

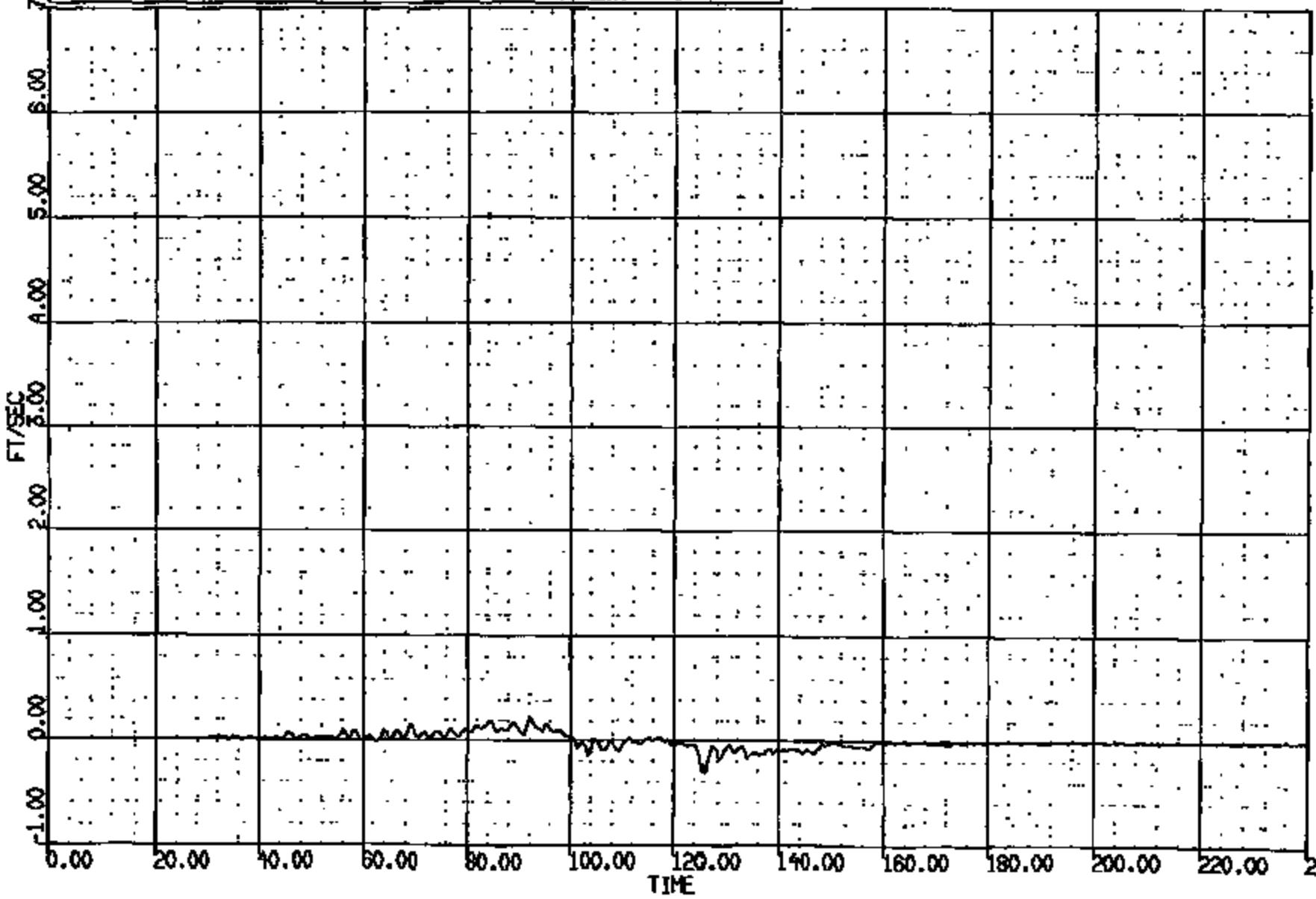
CRTS 0011398

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-MAY-99 18:55:26 PLOT PAGE 26 TB2582 SHEET 23

CR R: 11586 TO: TB2582 DATE: 990412 15:52:51
200X D-196 UNKNOWN

EXPERIMENTAL

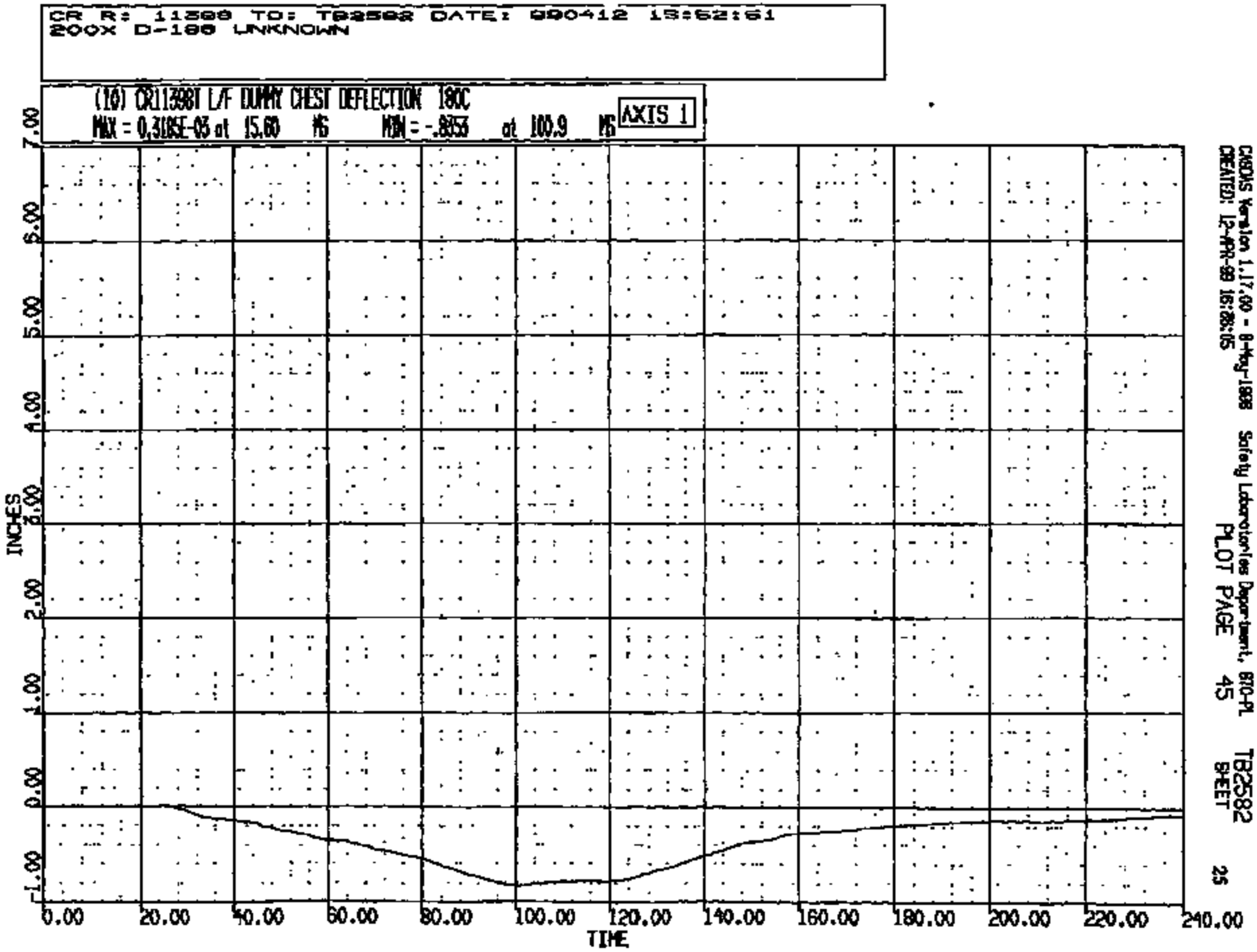
(10049) CR11398 L/F DMY CHEST DEFLECTION 180C VAC(E) F/S
MAX = 0.2290 at 92.16 MS MIN = -.3214 at 125.8 MS AXIS 1



CADMS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 12-APR-99 16:35:28

PLOT PAGE 27 TB2582 SHEET 24

CRTS 0011398

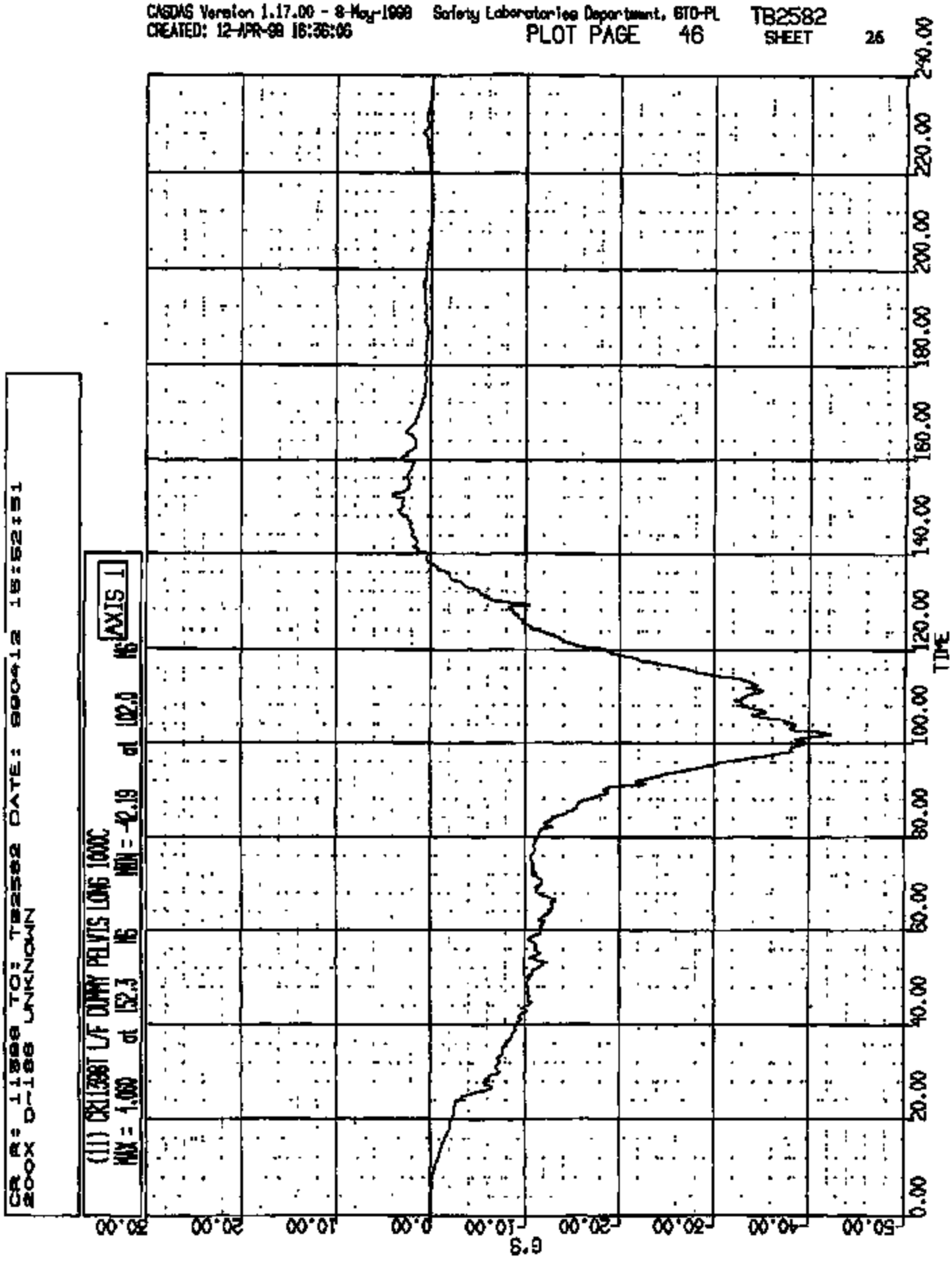


CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 870-PL
CREATED: 12-APR-99 16:38:05

PLOT PAGE 45

TB2582
SHEET 25

CRTS 0011398


CR A: 11888 TO: TB2582 DATE: 980412 18:52:51
200X D-188 UNKNOWN
(11) CR11398T L/F DUMMY PELVIS LONG 1000C
MAX = 1.000 at 152.3 MS MIN = -42.19 at 102.0 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
-30.00
-20.00
-10.00
0.00
10.00
20.00
30.00
40.00
50.00
G's

CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-196 UNKNOWN

(12) CR11398T LAF DUMMY PELVIS VERT 1000C
MAX = 1.741 at 222.6 MS MIN = -20.97 at 118.8 MS

AXIS 1

G's

TIME

CARDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 16:26:07

PLOT PAGE 47 TB2582 SHEET 27

CRTS 0011398

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-18S UNKNOWN

(13) CRI1398T L/F DUMMY PELVIS LAT 1000C
MAX = 14.07 at 118.1 MS MIN = -4.865 at 152.2 MS AXIS 1

G's

TIME

CRTS 0011398

CADAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 670-A
CREATED: 12-APR-99 16:26:09 PLOT PAGE 48 TB2582 SHEET 28

CR R: 11598 TO: TB2582 DATE: 980412 15:52:61
200X D-189 UNKNOWN

(10007) CRU1398T L/F DUMMY PELVIS RES 1000C
MAX = 11.90 at 102.0 MS MIN = 0.1201 at 5.200 MS AXIS 1

G's

TIME

CAMAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-98 16:05:09

PLOT PAGE 17 TB2582 SHEET 29

CRTS 0011398

CR R: 11398 TO: TB2582 DATE: 980412 15:52:51
200X D-186 UNKNOWN

(14) CR11398 L/F DUMMY L/FEMUR LOAD FZ 600C
MAX = 215.7 at 85.60 MS MIN = -545.8 at 122.6 MS AXIS 1

LBF x 10 ¹

100.00
80.00
60.00
40.00
20.00
0.00
-20.00
-40.00
-60.00

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

CADDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 870-HL
CREATED: 12-APR-98 16:28:10 PLOT PAGE 49 TB2582 SHEET 30

CRTS 0011398

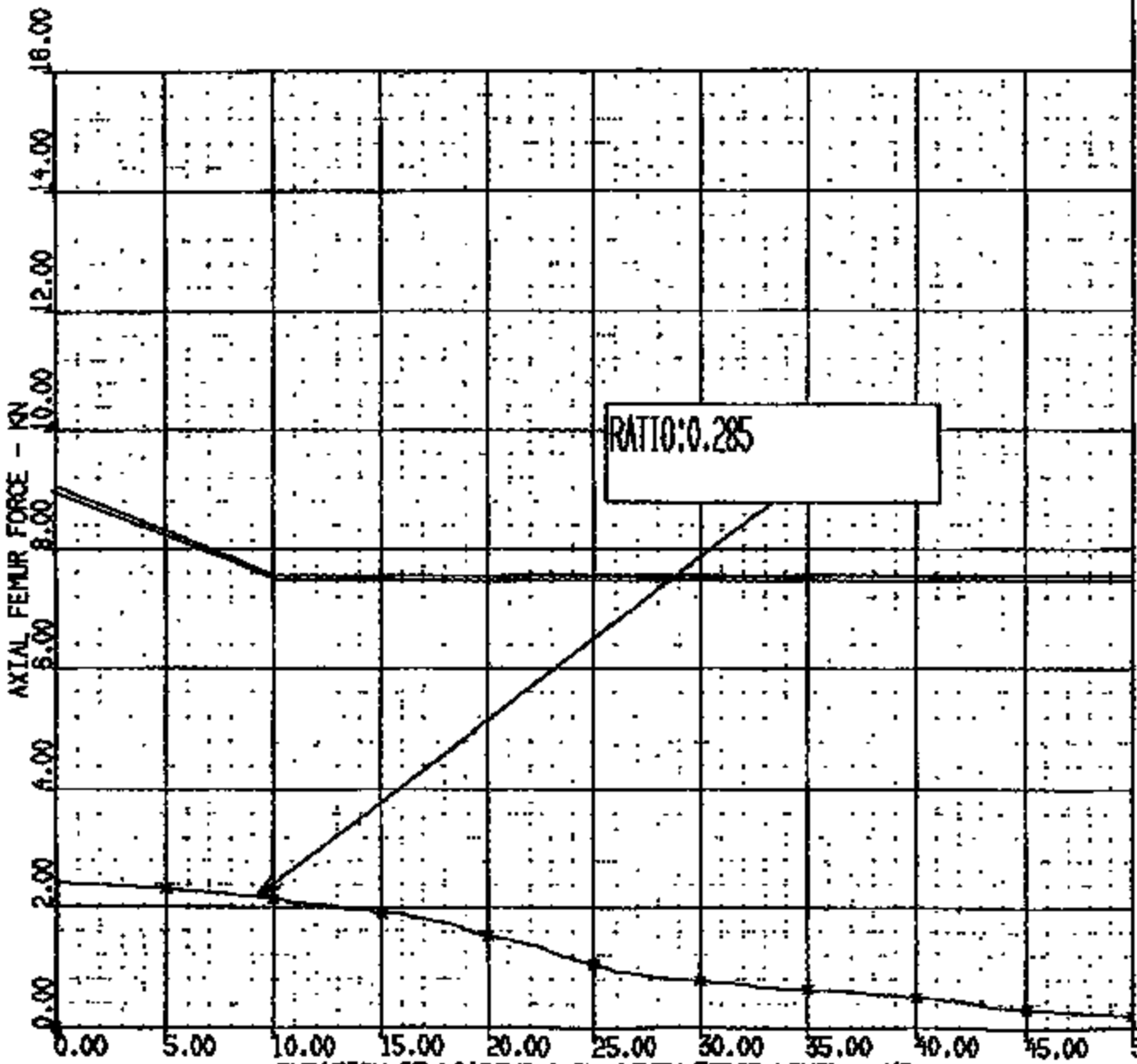
CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-186 UNKNOWN

(15) CR11598T L/F DUMMY R/FENDR LOAD FZ 600C
MAX = 107.5 at 72.32 MS MIN = -724.5 at 116.1 MS AXIS 1

CARDS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 6170-PL
CREATED: 12-APR-99 15:38:11
PLOT PAGE 50 TB2582 SHEET 31

CRTS 00113696

AXIAL FEMUR FORCE
CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
HYBRID III CRITERIA PLOT - 50TH % DUMMY
DURATION CURVES MAY INCLUDE MULTIPLE PEAKS



FOREIGN

AXIS 1
(30054) CRITERIA LINE FOR AXIAL FEMUR FORCE
MAX = 9.070 at 0.000E+00 MS
MIN = 7.560 at 10.00 MS

AXIS 1
(30053) DURATION CRIT398T L/F DUMMY L/FEMUR LOAD FZ 600C
MAX = 2.419 at 0.7998E-01 MS
MIN =0.0000E+00 at 0.000E+00 MS

CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB2582
CREATED: 12-APR-99 15:55:29 PLOT PAGE 28 SHEET 32

CRTS 001139

AXIAL FEMUR FORCE
CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
HYBRID III CRITERIA PLOT — 50TH % DUMMY
DURATION CURVES MAY INCLUDE MULTIPLE PEAKS

FOREIGN

AXIS 1
(A0065) CRITERIA LINE FOR AXIAL FEMUR FORCE
MAX = 9.070 at 0.0000E+00 MS
MIN = 7.560 at 10.00 MS

AXIS 1
(A0062) DURATION CURVE BY LAF DUMMY R/FEMUR LOAD FZ 600C
MAX = 3.225 at 0.7999E-01 MS
MIN =0.0000E+00 at 0.0000E+00 MS

RATIO:0.360

AXIAL FEMUR FORCE - KN

16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00

0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00

DURATION OF LOADING OVER GIVEN FORCE LEVEL - MS

CRTS 0011398

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 16:55:31
PLOT PAGE 29 TB2582 SHEET 33

CR #: 11500 TO: TB2582 DATE: 990412 15:52:51
200X D-180 UNKNOWN

(16) CRI1398T L/F DUMMY LAP/TIBIA LOAD FZ 600C
MAX = 25.02 at 218.5 MS MIN = -359.2 at 85.76 MS AXIS 1

LBF
400.00
300.00
200.00
100.00
0.00
-100.00
-200.00
-300.00
-400.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 12-MAR-99 16:38:13

PLOT PAGE 51 TB2582
SHEET 34

CRTS 0011398

CR R: 11308 TO: TB2582 DATE: 990412 15:52:51
200X D-180 UNKNOWN

(19) CR11398T L/F DUMMY RAP/TIBIA LOAD FZ 600C
MAX = 32.18 at 139.5 MS MIN = -451.1 at 80.84 MS AXIS 1

LBF

200.00
100.00
0.00
-100.00
-200.00
-300.00
-400.00
-500.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL TB2582
CREATED: 12-APR-99 16:20:17 PLOT PAGE 54 SHEET 35

CRTS 0011398

CR R: 11599 TO: TB2582 DATE: 980412 15:52:51
200X D-199 UNKNOWN

(17) CR11398T L/F DUMMY L/UP/TIBIA LOAD MK 600C
MAX = 146.5 at 127.7 MS MIN = -274.2 at 259.0 MS AXIS 1

LBS-IN

500.00
400.00
300.00
200.00
100.00
0.0
-100.00
-200.00
-300.00

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

CARDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department 670-PL TB2582
CREATED: 12-APR-98 16:28:14 PLOT PAGE 52 SHEET 36

CRTS 001139

CR R: 11598 TD: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN

(20) CR11598T L/F DUMMY RAP/TIBIA LOND MK 600C
MAX = 156.9 at 253.4 MS MIN = -729.2 at 90.72 MS AXIS 1

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-99 16:36:18

PLOT PAGE 55 TB2582
SHEET 37

IN-LBS
800.00
600.00
400.00
200.00
0.00
-200.00
-400.00
-600.00
-800.00

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

CRTS 0011398

CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN

(18) CRI1398T L/F DUMMY L/AP/TIBIA LOAD MY 600C
MAX = 141.9 at 154.6 MS MIN = -906.6 at 85.44 MS AXIS 1

CADDS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-99 18:26:16 PLOT PAGE 53 TB2582 SHEET 38

SELECTED 1 x 10 ** 1

80.00
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00

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

CRTS 0011398

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-196 UNKNOWN

(21) CR11398T L/F DUMMY R/UP/TIBIA LOAD MY 600C
MAX = 987.3 at 226.5 MS MIN = -665.9 at 90.16 MS AXIS 1

CARDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department 610-PL TB2582
CREATED: 12-APR-99 18:38:20 PLOT PAGE 56 SHEET 39

FORCE (LBS) x 10 ^ 3

60.00
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00

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

CRTS 011398

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
300X D-188 UNKNOWN

(22) CR11598T L/F DUMMY LAUCHER/TIBIA LOAD MX SCC
MAX = 197.6 at 91.68 MS MIN = -70.79 at 228.9 MS AXIS 1

CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-RL
CREATED: 12-APR-99 16:38:21 PLOT PAGE 57 TB2582 SHEET 40

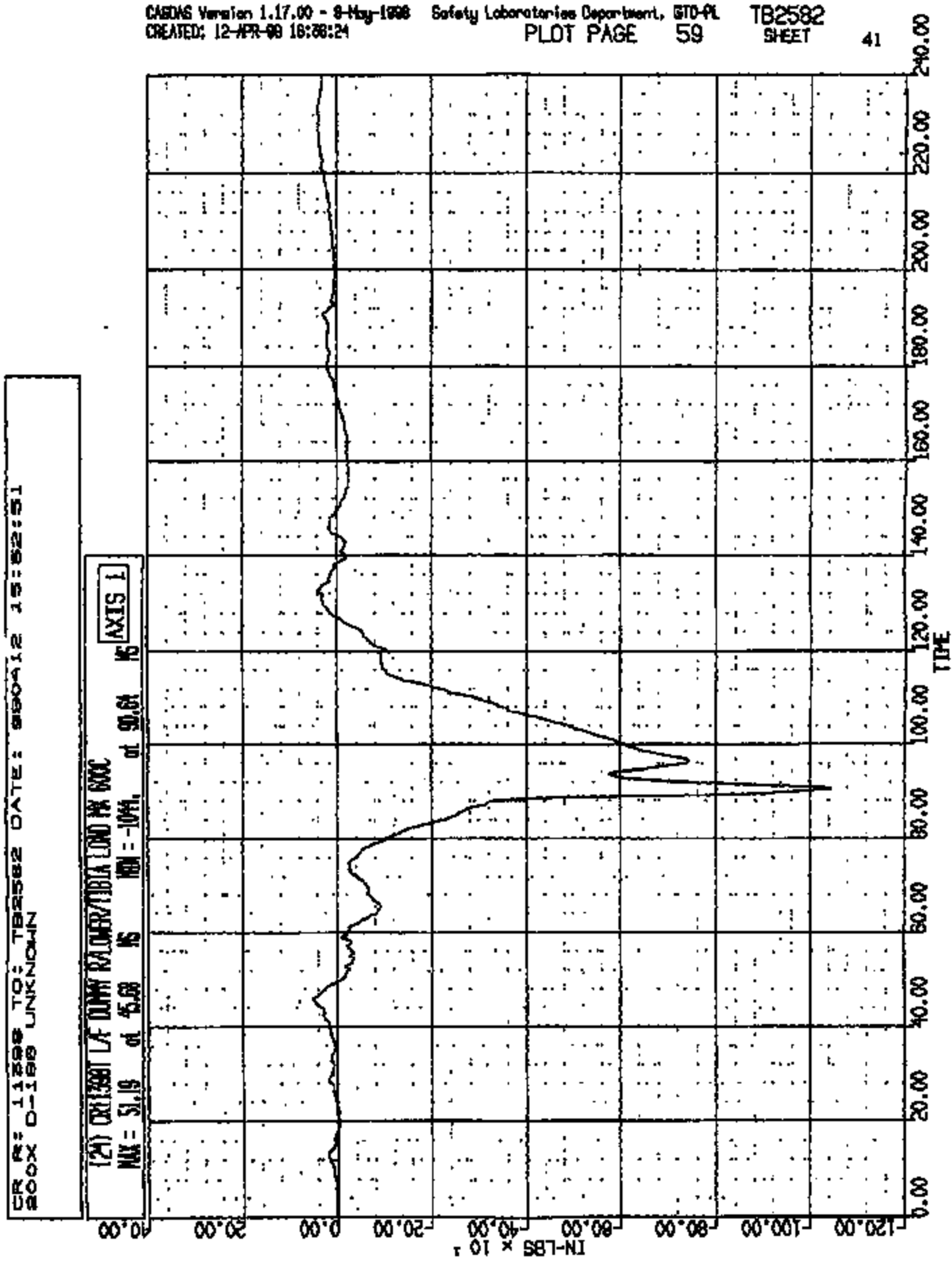
SCF-N

200.00
150.00
100.00
50.00
0.0
-50.00
-100.00

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

CRTS 0011398


CR #: 11398 TO: TB2582 DATE: 980412 15:52:51
200X 0-180 UNKNOWN
(24) CR11398T L/F DUMMY RADOMER/TIBIA LOAD MX 600C
MAX = 51.19 at 45.68 MS MIN = -104. at 90.64 MS
AXIS 1
IN-LBS x 10 ²
TIME
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
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00
-120.00

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-186 UNKNOWN

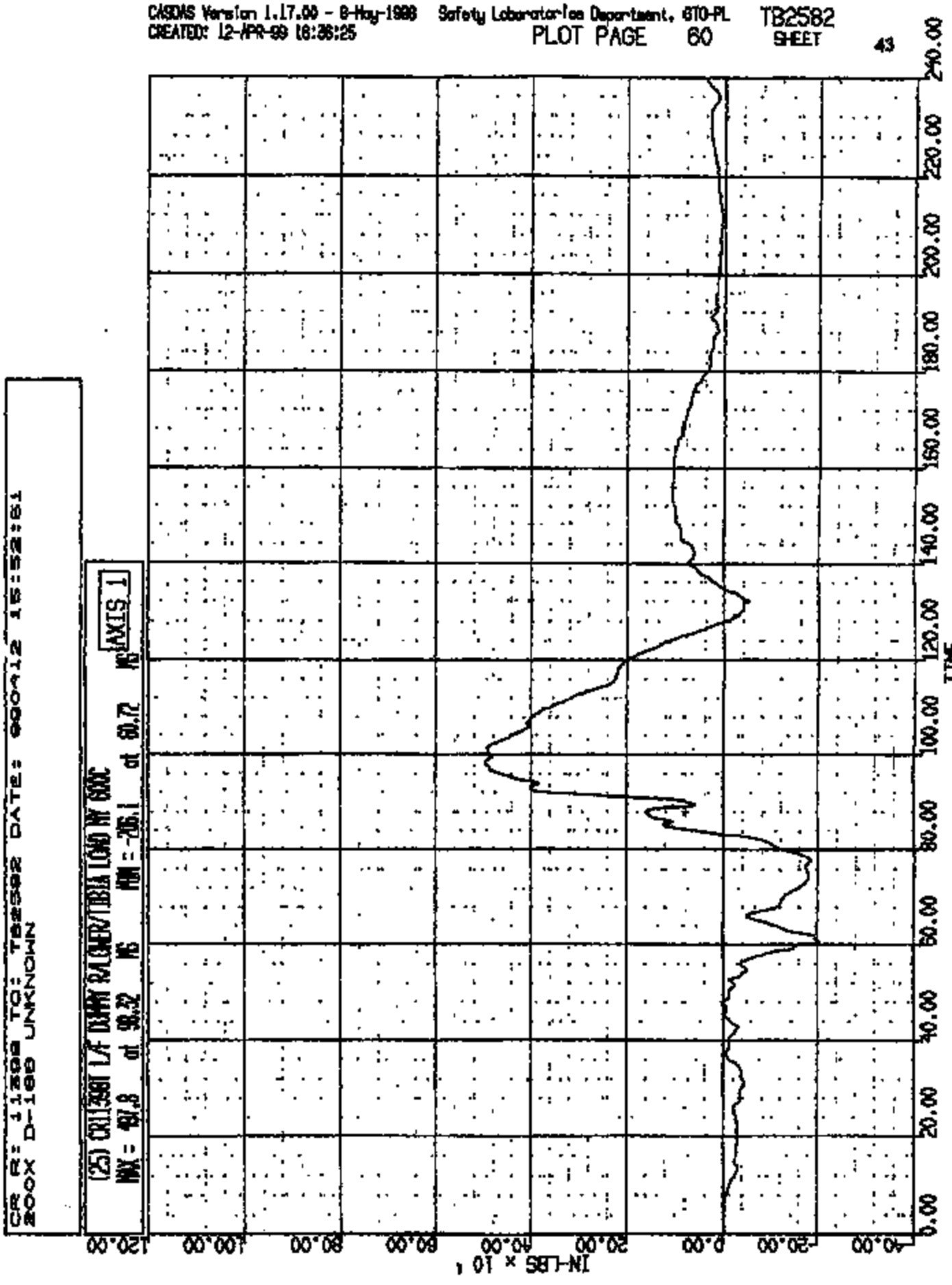
(23) CR(1398T L/F DUMMY LA/LOWER/TIBIA LOAD MY 600C
MAX = 1762. at 109.9 MS MIN = -254.8 at 93.68 MS AXIS 1

CARDAS Version 1.17.00 - 8-May-1999 Safety Laboratories Department, 610-PL TB2582
CREATED: 12-APR-99 16:30:23 PLOT PAGE 58 SHEET 42

SBTL-NI x 10

TIME

CRTS 0011391


CR R: 11298 TC: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN
(25) CR11398 L/F DUMMY RA LOWER/TIBIA LOAD MY 60MC
MAX = 497.8 at 98.32 MS MIN = -205.1 at 60.72 MS
AXIS 1
TIME
× 10 ¹ SBJ-NI
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
-40.00

TIBIA COMPRESSIVE FORCE CRITERION

CR #: 11596 TO: TB2582 DATE: 890412 15:52:51

FOREIGN

axis 1
(10058) CRI 3SOT LAF DUMMY LAP/TIBIA LOAD FZ 60SC
MAX =0.1024 at 218.5 MS
MIN =-1.602 at 85.76 MS

axis 1
(10059) MAXIMUM COMPRESSIVE FORCE CRITERIA LINE
MAX =-8.000 at 0.0000E+00 MS
MIN =-8.000 at 90.00 MS

AXIAL TIBIA FORCE - KN

8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00

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)

CRTS 0011398

CARDS Version 1.17.00 - 8-May-1989 Safety Laboratories Department, GTO-RL TB2582
CREATED: 12-APR-89 16:56:23 PLOT PAGE 30 SHEET 44

TIBIA COMPRESSIVE FORCE CRITERION

CR #: 11598 TO: TB2562 DATE: 980412 16:52:51

FOREIGN

AXIS 1
(10070) CRI(3981 L/F DUMMY RAW/TIBIA LOAD FZ 600C
MAX =0.1431 at 139.5 MS
MIN =-2.020 at 89.84 MS

AXIS 2
(10071) MAXIMUM COMPRESSIVE FORCE CRITERIA LINE
MAX =-8.000 at 0.0000E+00 MS
MIN =-8.000 at 90.00 MS

AXIAL TIBIA FORCE - KN

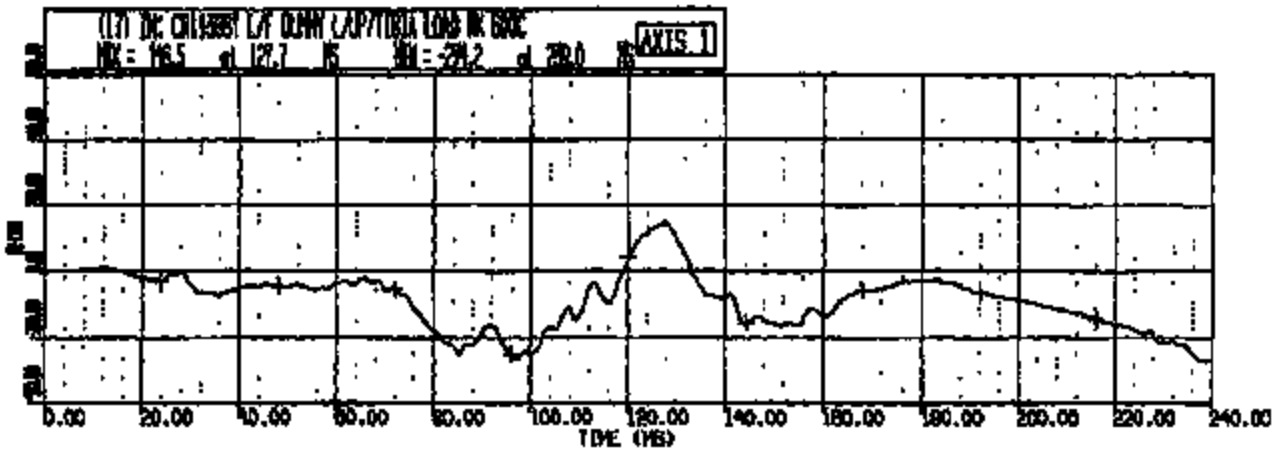
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00

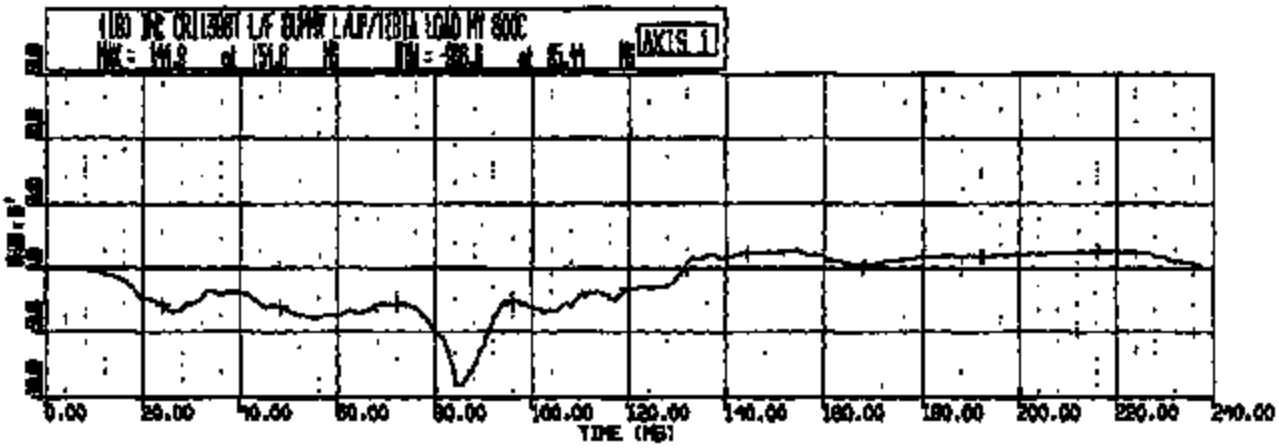
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

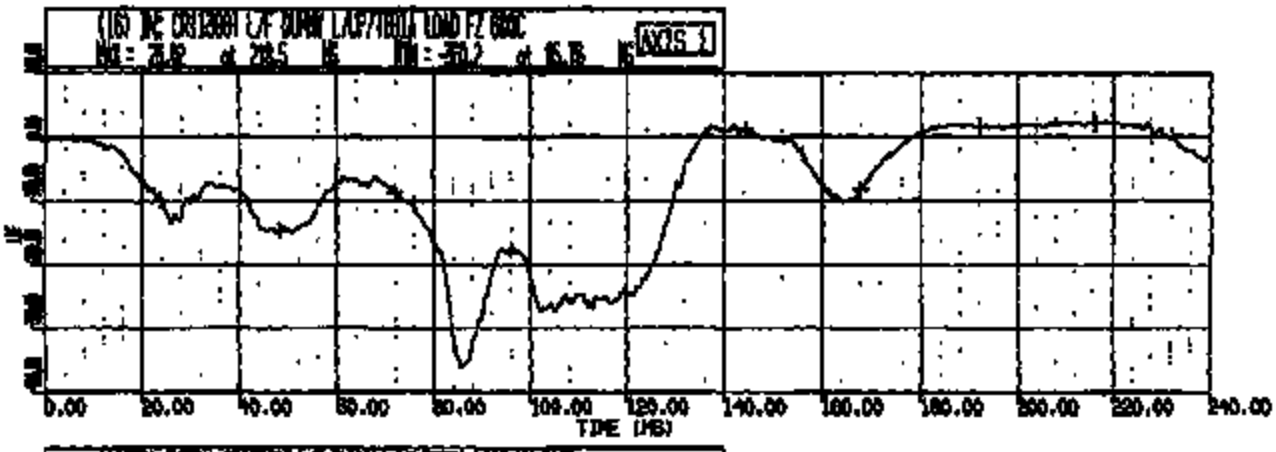
TIME (MS)

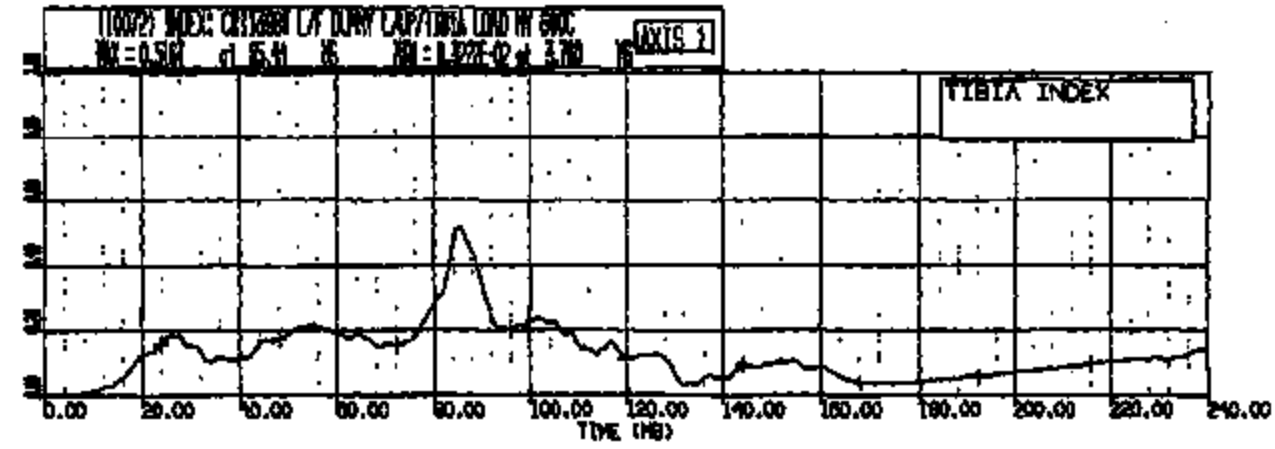
CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL TB2562
CREATED: 12-APR-98 16:55:24 PLOT PAGE 31 SHEET 45

CRTS 001398

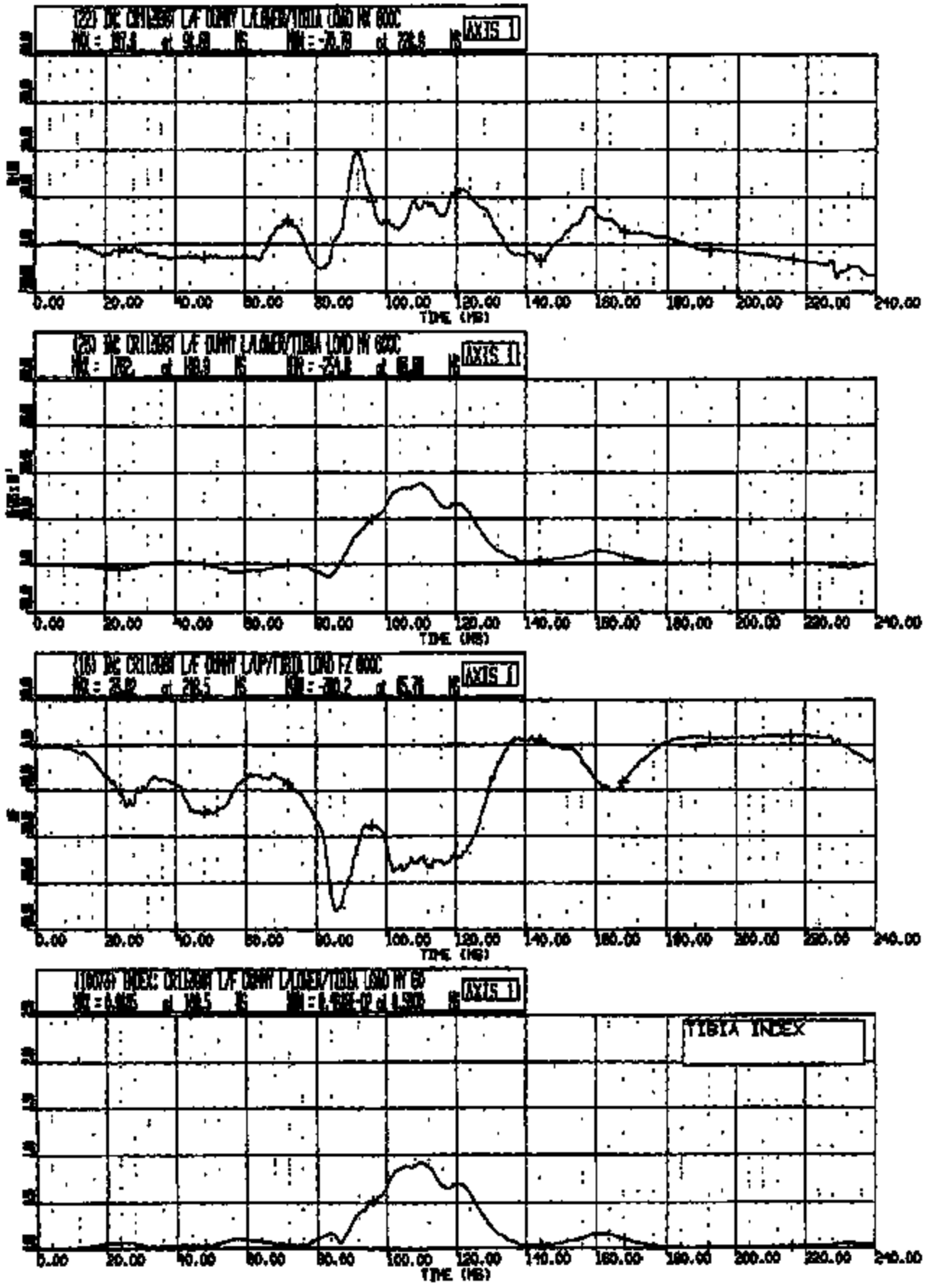

AXIS 1
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME (MS)


AXIS 1
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)

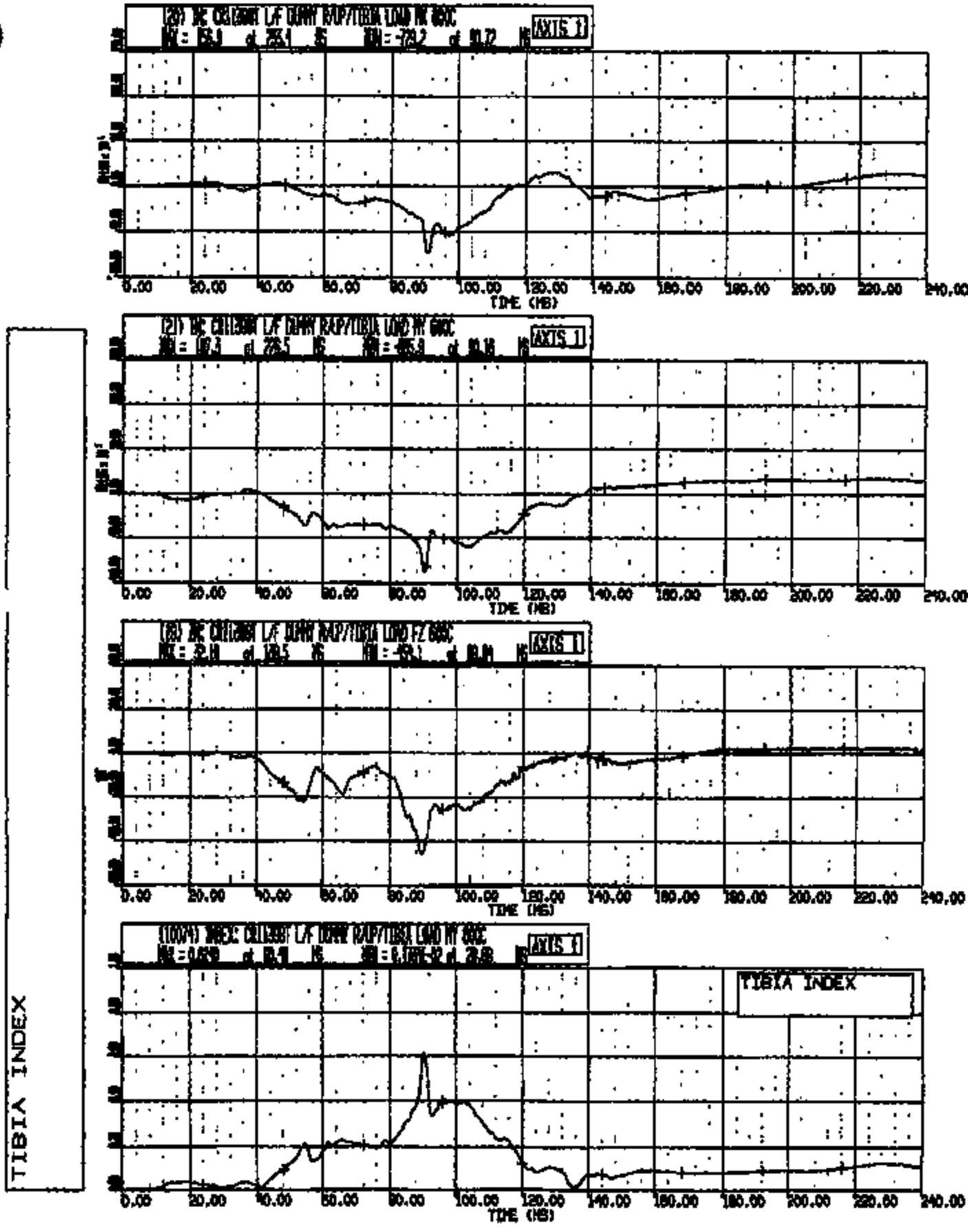

AXIS 1
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME (MS)

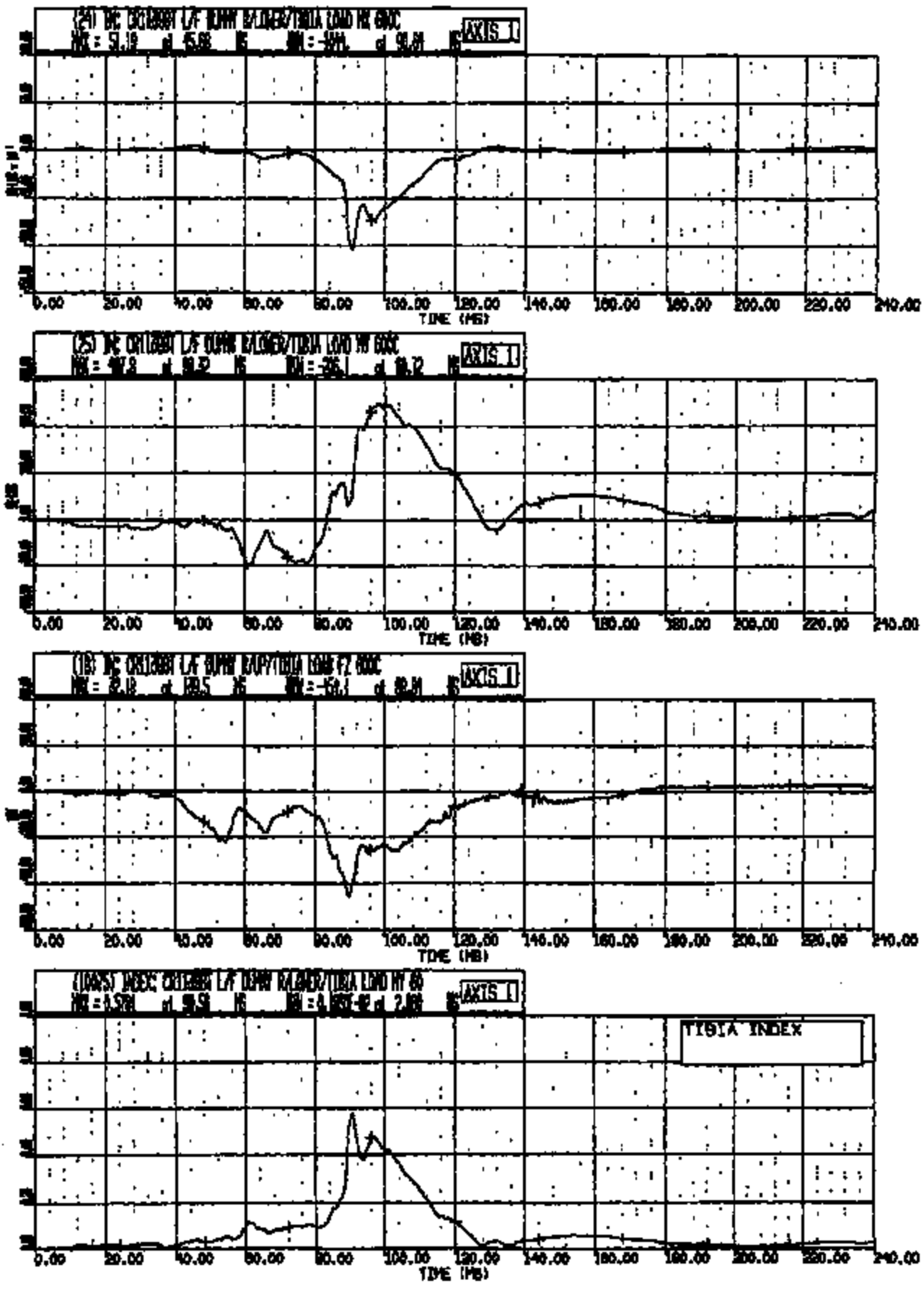

AXIS 1
TIBIA INDEX
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00
TIME (MS)

TIBIA INDEX


AXIS 1
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)
TIBIA INDEX

TIBIA INDEX


AXIS 1
TIME (MS)
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
TIBIA INDEX



TIBIA INDEX

CR R= 11598 TO: TB2582 DATE: 990412 16:52:51
200X D-166 UNKNOWN

(26) CR11598T L/F DUMMY LANKLE SW 4000C
MAX = 0.9570 at 21.50 MS MIN = -.4355E-01 at -.7629E-05 MS

AXIS 1

CASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-99 15:26:28

PLOT PAGE 61 TB2582 SHEET 50

VOLTS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRIS 001598

CR R: 11396 TO: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN

(27) CR11398T L/F DUMMY R/WHEEL SW 4000C
MAX = 0.3570 at 104.4 MS MIN = -.4935E-01 at -.7625E-05 MS

AXIS 1

VOLTS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

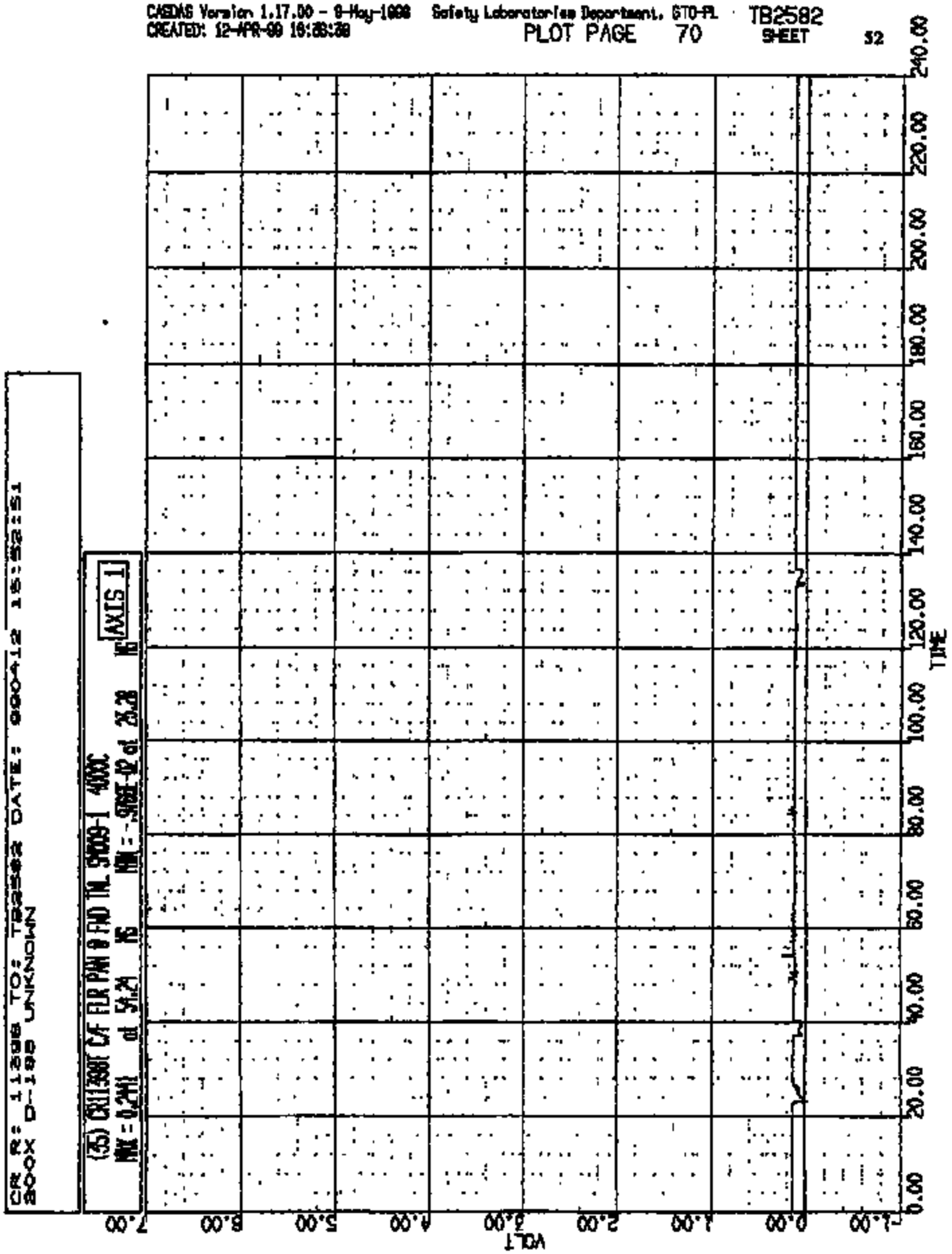
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

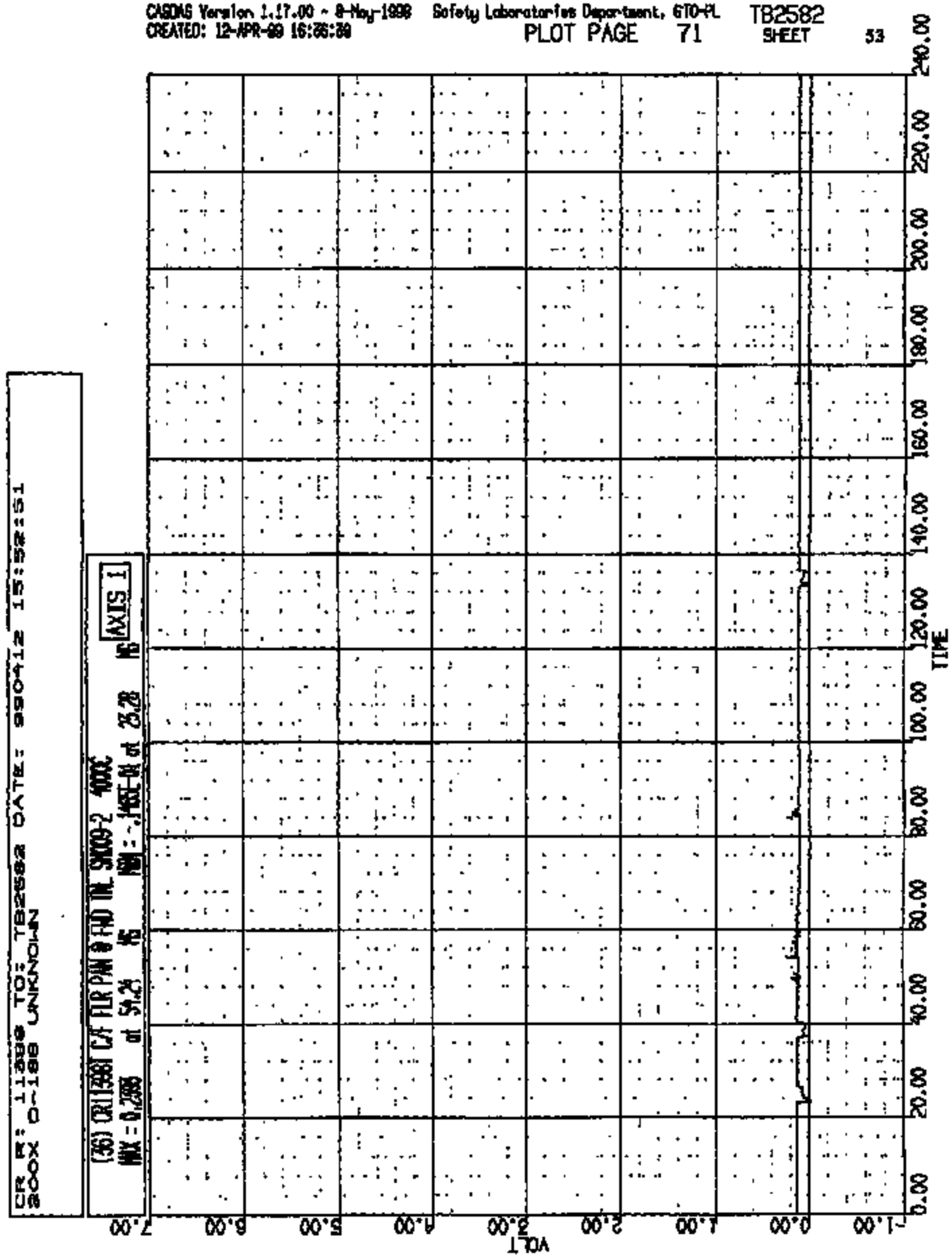
TIME

CARDAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-98 16:08:27

PLOT PAGE 62 TB2582 SHEET 51

CRTS 0011398


CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-198 UNKNOWN
(35) CX11398(C/F FLR PAN @ FND TML 9M09-[4000C
MAX = 0.2481 at 54.24 MS MIN = -.9985-12 at 25.28 MS AXIS 1
VOLT
TIME
2.00
8.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
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


CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X 0~198 UNKNOWN
(36) CRI1398I C/F FLR PAN @ FND INL SK009-2 400XC
MAX = 0.2886 at 54.24 MS MIN = -.14656-04 at 25.28 MS AXIS 1
VOLT
TIME
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
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

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-198 UNKNOWN

(37) CR113987 C/F FLR PWR @ FWD TML SM009-3 4000C
MAX = 5.679 at 25.04 MS MIN = -.8887 at 23.28 MS AXIS 1

CASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 18:58:40

PLOT PAGE 72 TB2582 SHEET 54

VOLT

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 0011398

CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-166 UNKNOWN

(38) CRU1398T C/F FLR PNW @ PND TNL 5M009-1 4000C
MAX = 5.664 at 119.1 MS MIN = -.0859 at 122.6 MS

AXIS 1

VOLT

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CNSNS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6TD-PL
CREATED: 12-APR-99 16:08:41

PLOT PAGE 73

TB2582
SHEET 55

CRTS 0011398

CR R: 11598 TO: TB2582 DATE: 920412 15:52:51
200X D-188 UNKNOWN

(39) CR113981 C/F FLR PAN @ PAD TNL SM009-5 4000C
MAX = 5.393 at 25.04 MS MIN = -.7275 at 26.58 MS AXIS 1

CHEDAS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, BTD-PL TB2582
CREATED: 12-APR-89 16:36:43 PLOT PAGE 74 SHEET 56

VOLT

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 001398

CR R: 11599 TO: TB2582 DATE: 980412 15:52:51
200X D-196 UNKNOWN

(40) CR115981 C/F FLR PWN @ FND TML 91009-6 400C
MAX = 0.2539 at 54.24 MS MIN = 0.1465E-01 at 23.28 MS AXIS 1

CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6T0-PL
CREATED: 12-APR-98 16:38:14 PLOT PAGE 75 TB2582 SHEET 57

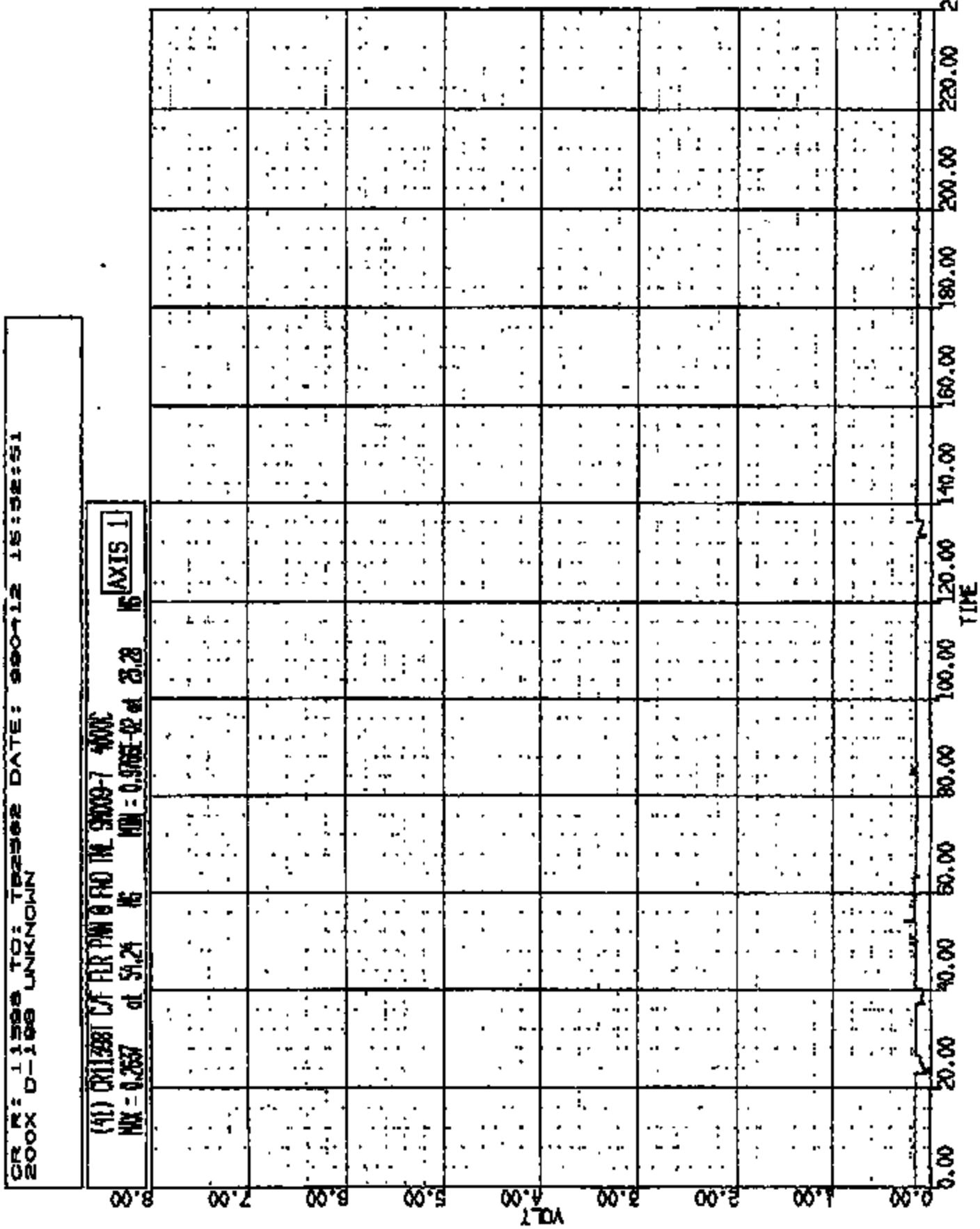
LTDA

8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

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

CRTS 0011398


CR R: 11598 TO: TB2582 DATE: 990412 18:52:51
200X D-1598 UNKNOWN
(41) CRITICAL CAP FLEX PWR BD PKG TML SN0009-7 WWW
MIN = 0.2637 at 54.24 MG MIN = 0.9065E-02 at 28.28 MG AXIS 1
VOLT
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

CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-196 UNKNOWN

(42) CR11398T C/F FLR PNW 0 FWD TML SN009-8 4000C
MAX = 0.2666 at 51.24 MS MIN = 0.4885E-02 at 23.28 MS AXIS 1

VOLT

8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

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

CRTS 0011398

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTD-PL
CREATED: 12-APR-99 18:28:46 PLOT PAGE 77 TB2582 SHEET 59

CR R: 11599 TO: T82592 DATE: 980412 16:52:51
200X D-186 UNKNOWN

(43) CR11598T C/F FLR PAN @ FWD TML SH009-9 400DC
MAX = 0.0000E+00 at 0.0000E+00 MS MIN = 0.0000E+00 at 0.0000E+00 MS

AXIS 1

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 8100-PL TB2582
CREATED: 12-APR-98 16:38:46 PLOT PAGE 78 SHEET 60

VOLT

8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

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

CRTS 0011398

CR #: 11588 TO: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN

(29) CRIT398T C/RND LONG 60C
MAX = 120.6 at 41.68 MS MIN = -201.2 at 46.89 MS AXIS 1

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, BMD-RL
CREATED: 12-APR-99 [01:38:29]

PLOT PAGE 64 TB2582 SHEET 61

CRTS 001398

CR R: 11596 TO: TB2582 DATE: 990412 15:52:51
200X D-196 UNKNOWN

(30) CR11398T C/RND VERT 60C
MAX = 152.5 at 45.20 MS MIN = -189.5 at 47.20 MS AXIS 1

250.00
200.00
150.00
100.00
50.00
0.0
-50.00
-100.00
-150.00
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

CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6170-PL
CREATED: 12-APR-99 16:38:31

PLOT PAGE 65 TB2582 SHEET 62

CRTS 0011398

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-166 UNKNOWN

(31) CR11598T C/WND LAT 60C
MAX = 28.70 at 58.00 MS MIN = -37.65 at 50.88 MS AXIS 1

S'G

40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00

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

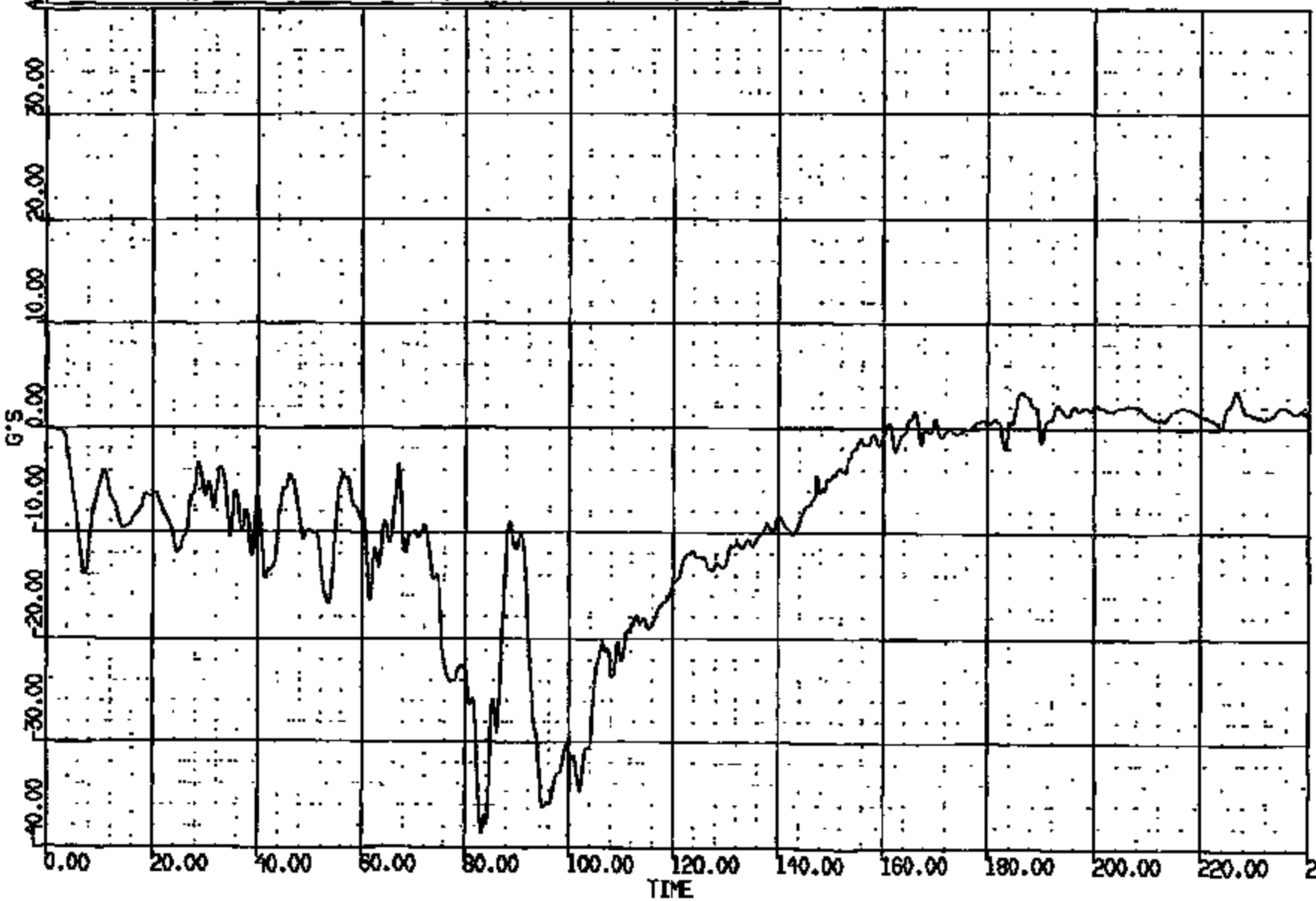
CASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 18:38:32

PLOT PAGE 66 TB2582 SHEET 63

CRTS 0011398

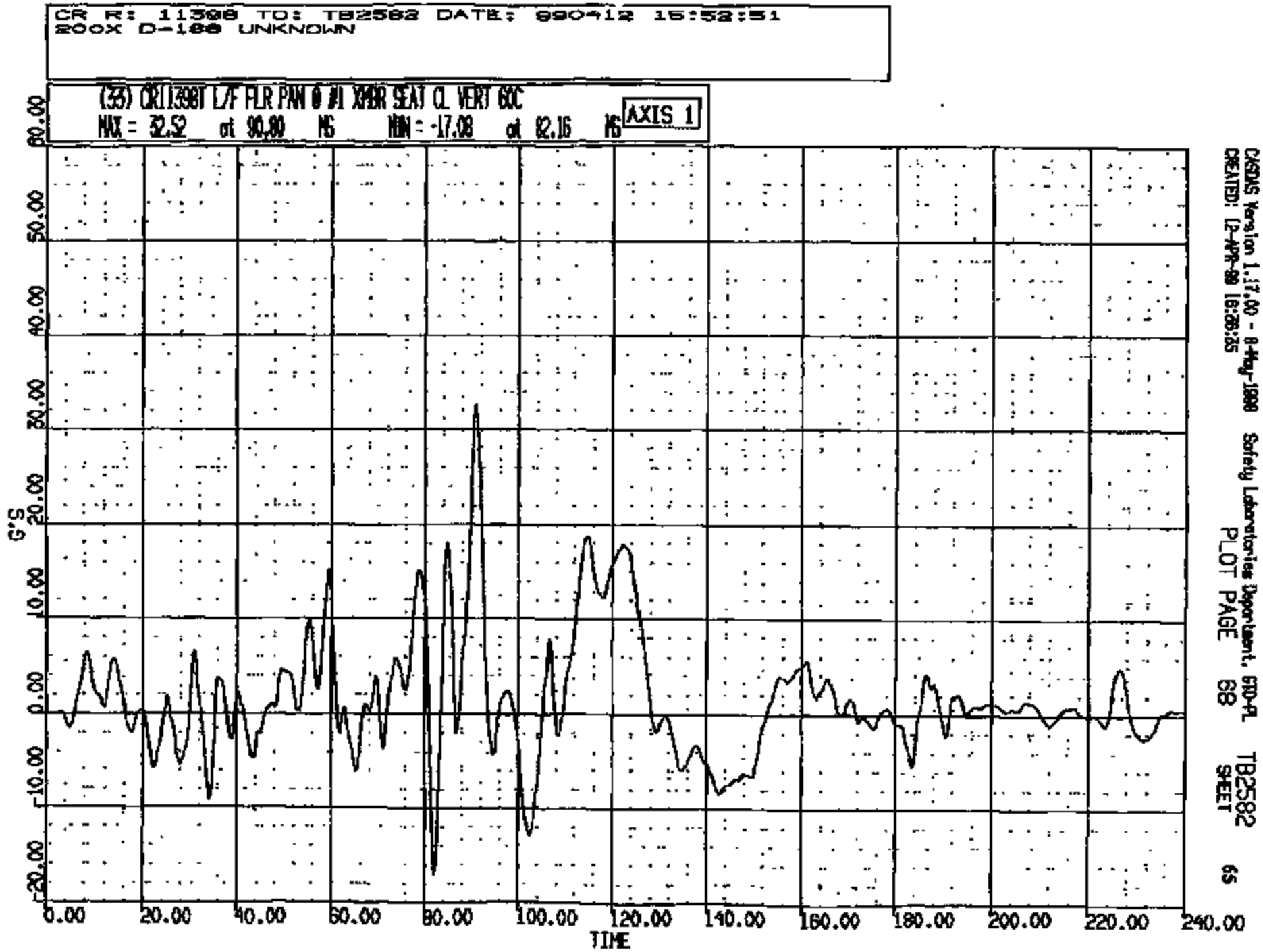
CR R: 11598 TO: TB2582 DATE: 980412 15:52:51
200X D-188 UNKNOWN

(52) CRI1598T L/F FLR PAN @ #1 XMBR SEAT CL LONG 60C
MAX = 3.59G at 226.4 MS MIN = -39.66 at 85.12 MS AXIS 1

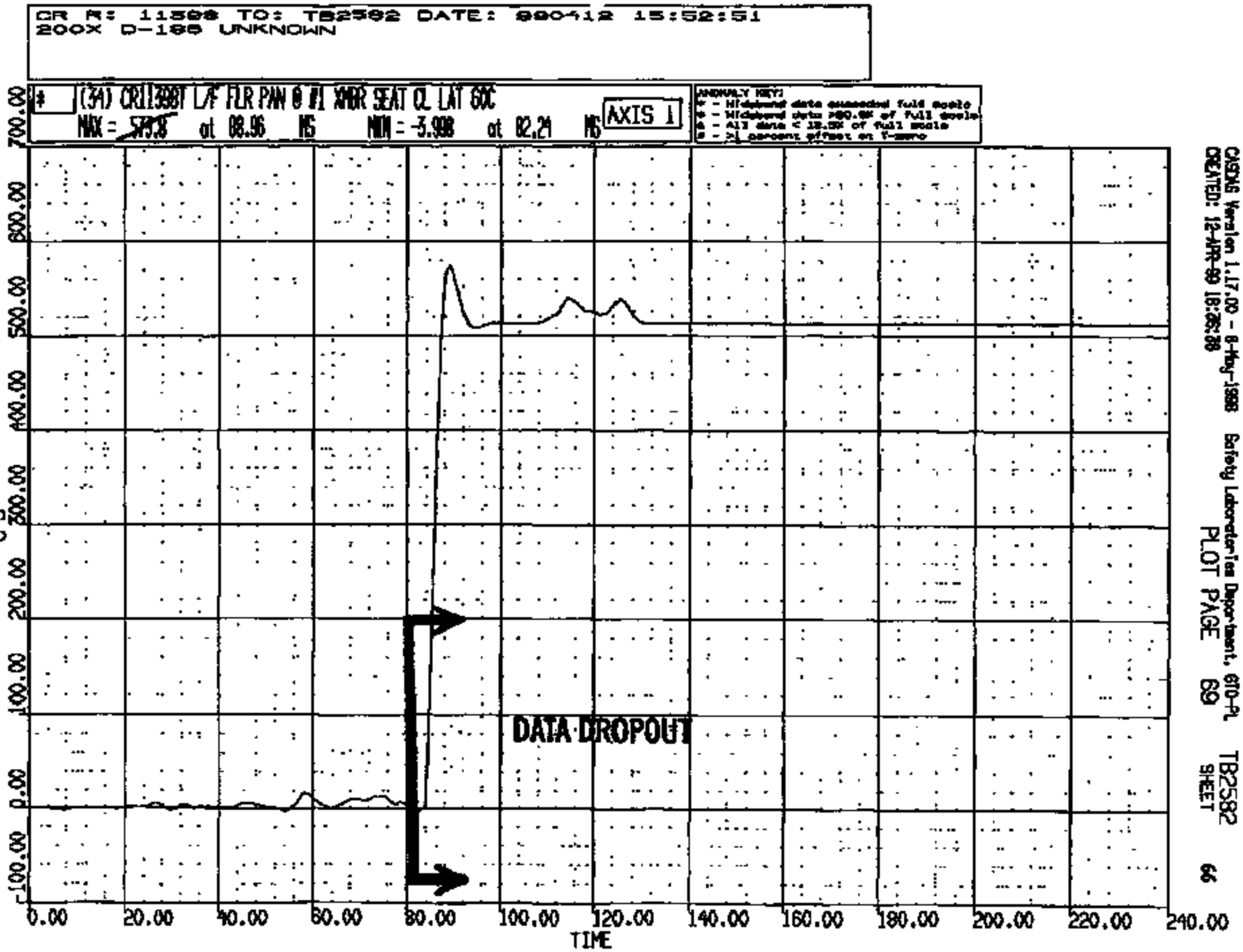


CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL TB2582
CREATED: 12-APR-98 16:38:23 PLOT PAGE 67 SHEET 64

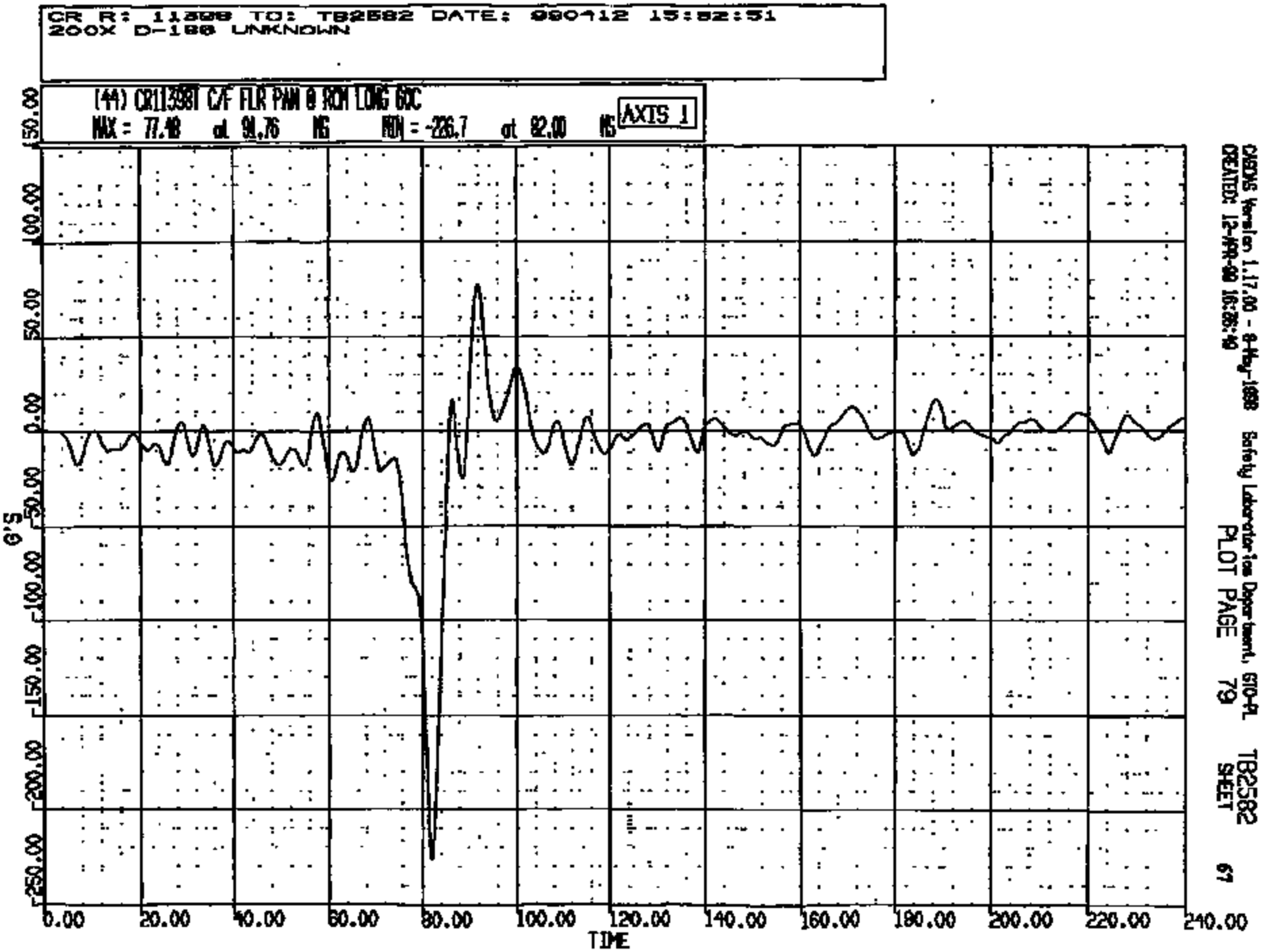
CRTS 001398



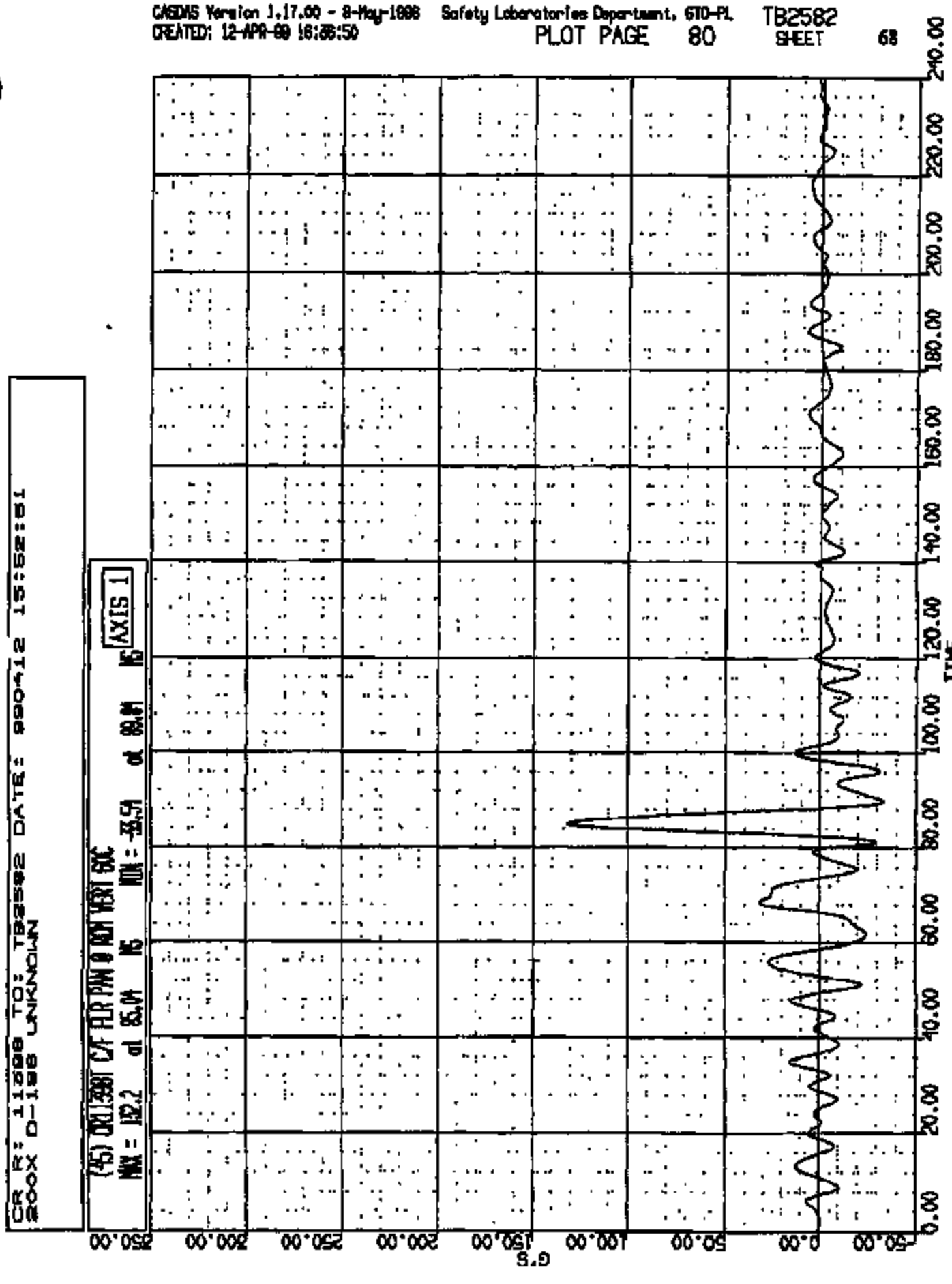
CRTS 0011398

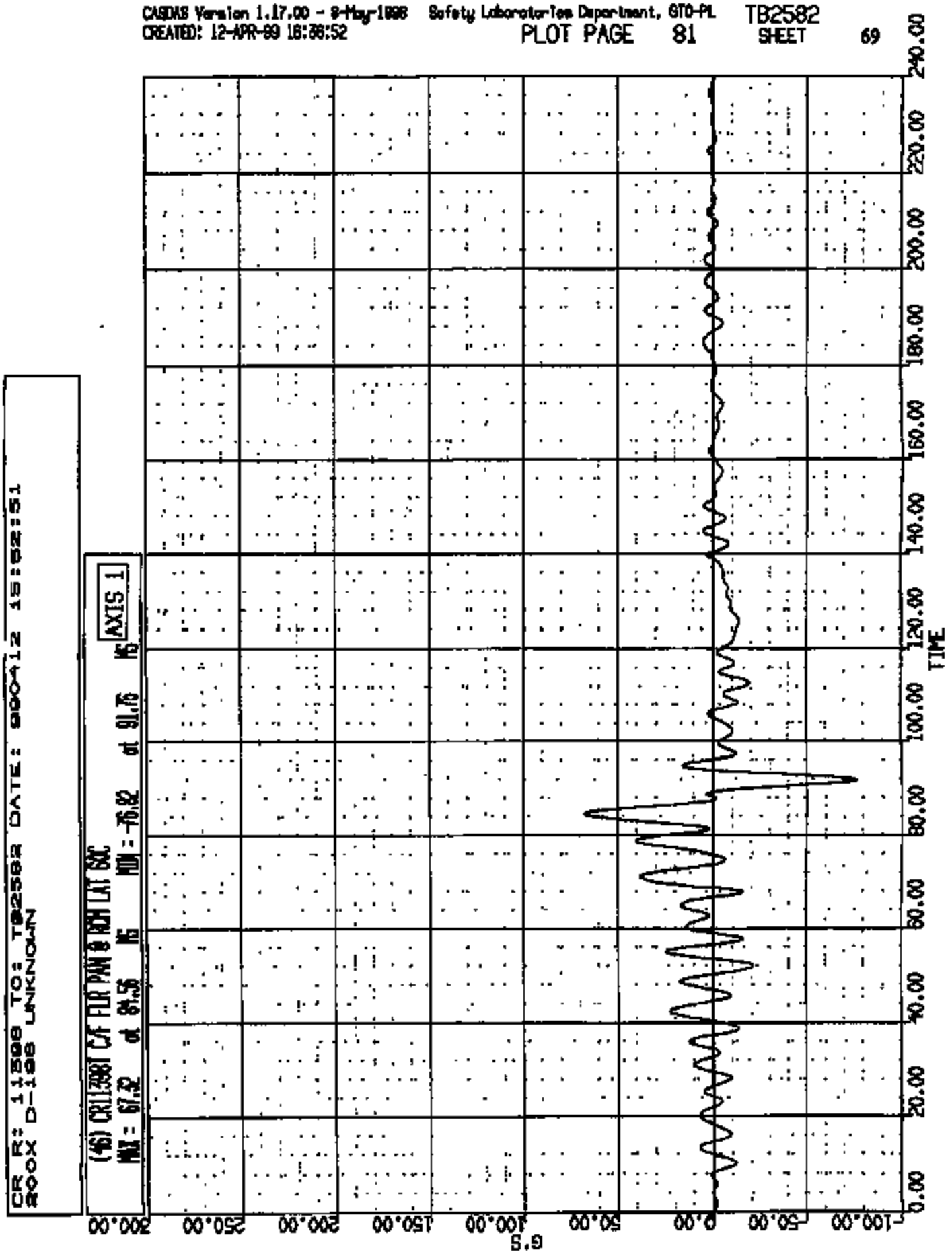


CRTS 0011398



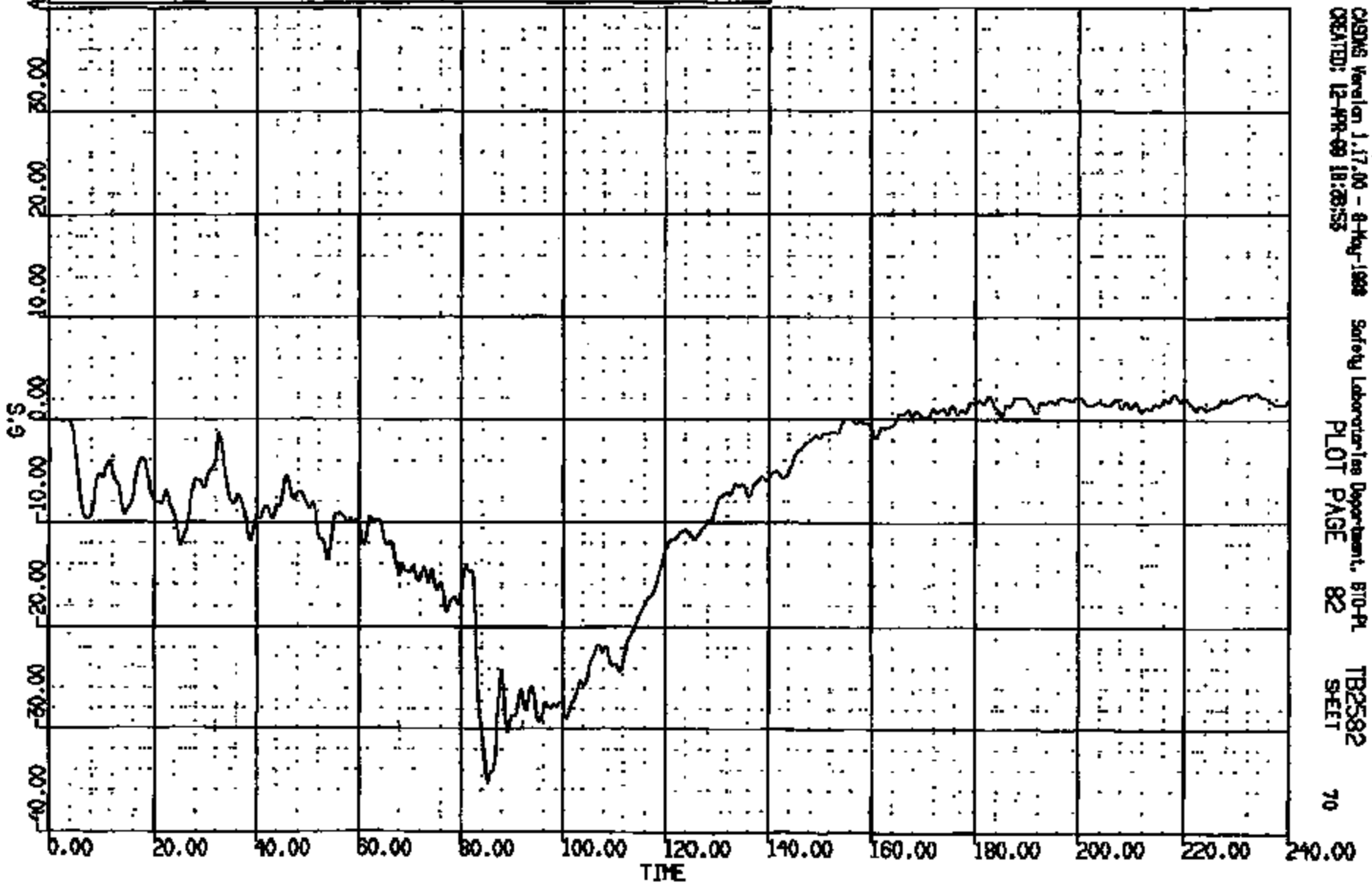
CRTS 0011398


CR R: 11268 TO: TB2582 DATE: 990412 15:52:51
200X 0-198 UNKNOWN
(45) 0011398T C/F FLR PWM @ MDM VERT SOC
MAX = 102.2 at 85.04 MS MIN = -35.59 at 88.04 MS
AXIS 1
250.00
200.00
150.00
100.00
50.00
0.00
G'S
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


CR R: 11588 TO: TB2582 DATE: 980412 15:52:51
200X D-196 UNKNOWN
(46) CR11398T C/F FLR PAN @ MDH LAT SAC
MAX = 67.20 at 84.56 MS MIN = -76.82 at 91.76 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
-100.00
-50.00
0.00
50.00
100.00
150.00
200.00
250.00
300.00
TIME

CR R: 11588 TO: TB2582 DATE: 990412 15:52:51
200X D-180 UNKNOWN

(47) CRI13981 R/F FLR PAN @ #1 XMBR SEAT CL LONG 60C
MAX = 2.626 at 253.8 MS MIN = -35.33 at 85.12 MS AXIS 1



CARDMS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, BTD-PL
CREATED: 12-APR-99 18:28:53
PLOT PAGE 82 TB2582 SHEET 70

CRTS 0011398

CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-198 UNKNOWN

(48) CR11398T R/F FLR PAN @ #1 XMBR SEAT CL VERT ISOC
MAX = 19.02 at 86.48 MS MIN = -7.253 at 101.1 MS AXIS 1

G's

20.00
15.00
10.00
5.00
0.00
-5.00
-10.00

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

TIME

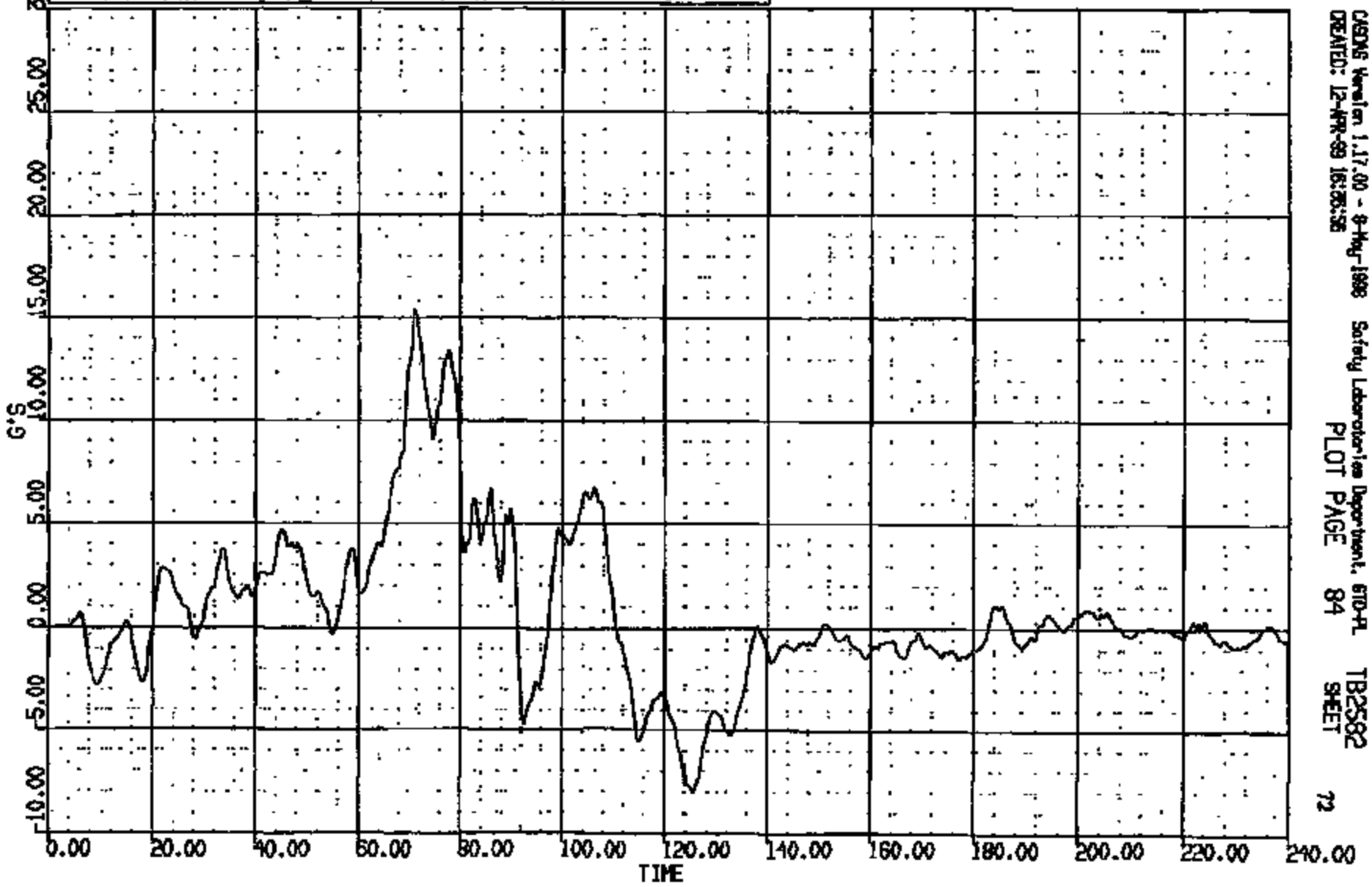
CARDS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 6110-PL
CREATED: 12-APR-99 16:55:54

PLOT PAGE 83 TB2582 SHEET 71

CRTS 011398

CR R: 11598 TO: TB2582 DATE: 890412 15:52:51
200X D-186 UNKNOWN

(49) CR113981 R/F FLR PAN @ #1 XMBR SEAT CL LAT 60C
MAX = 15.39 at 71.04 MS MIN = -8.057 at 125.5 MS AXIS 1

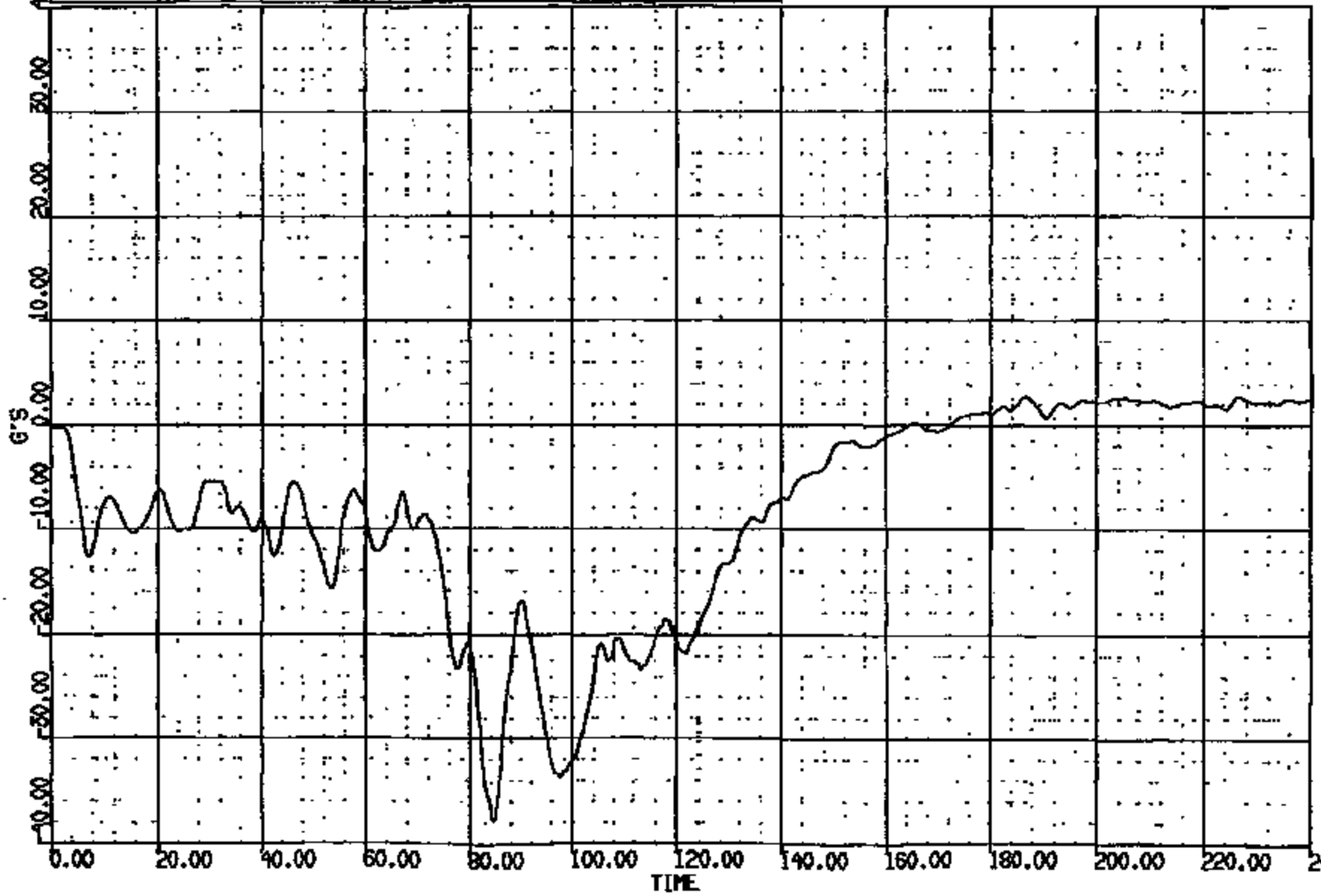


CADAS Version 1.17.00 - 8-May-1989 Safety Laboratories Department, 670-HL TB2582
CREATED: 12-APR-89 16:26:38 PLOT PAGE 84 SHEET 72

CRTS 0011398

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN

(50) CRT1398T L/ROCKER & B-PILLAR LONG 60C
MAX = 2.789 at 186.7 MS MIN = -37.80 at 84.56 MS AXIS 1



CRTS 0011398

CHEDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-99 18:38:57

PLOT PAGE 85 TB2582 SHEET 73

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-180 UNKNOWN

(51) CR11398T L/ROCKER @ B-PILLAR VERT 60C
MAX = 11.17 at 85.92 MS MIN = -9.168 at 135.1 MS AXIS 1

G's

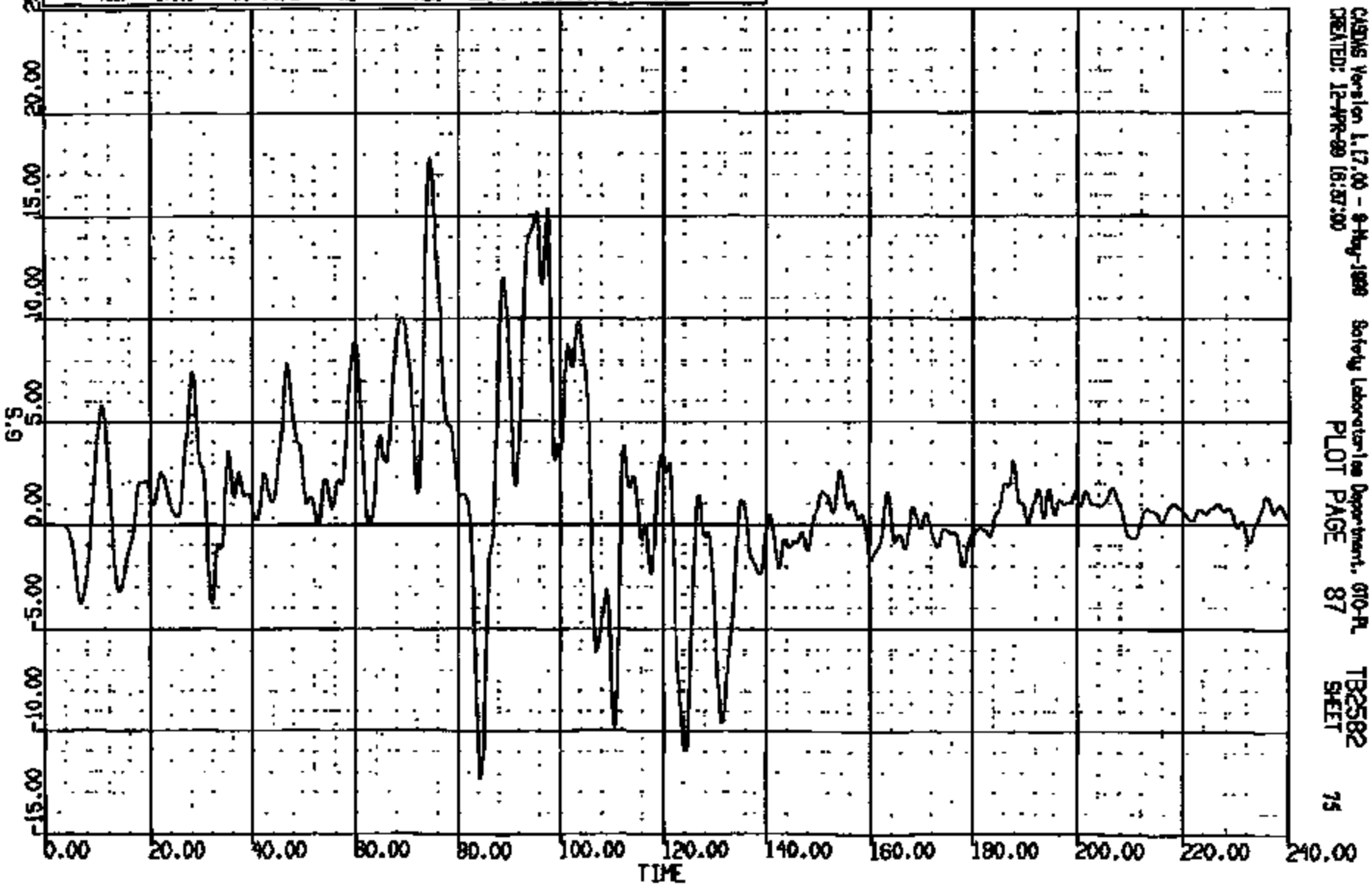
TIME

CRDMG Version 1.17.00 - 6-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 12-APR-99 16:56:59 PLOT PAGE 86 TB2582 SHEET 74

CRTS 0011398

CR R: 11200 TO: TB2582 DATE: 900412 15:52:51
200X D-186 UNKNOWN

(52) CRI1398T L/ROCKER @ B-PILLAR LAT 60C
MAX = 17.81 at 74.48 MS MAX = -12.40 at 81.48 MS AXIS 1



CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 010-PL
CREATED: 12-APR-00 16:57:00

PLOT PAGE 87 TB2582 SHEET 75

CRTS 0011398

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-186 UNKNOWN

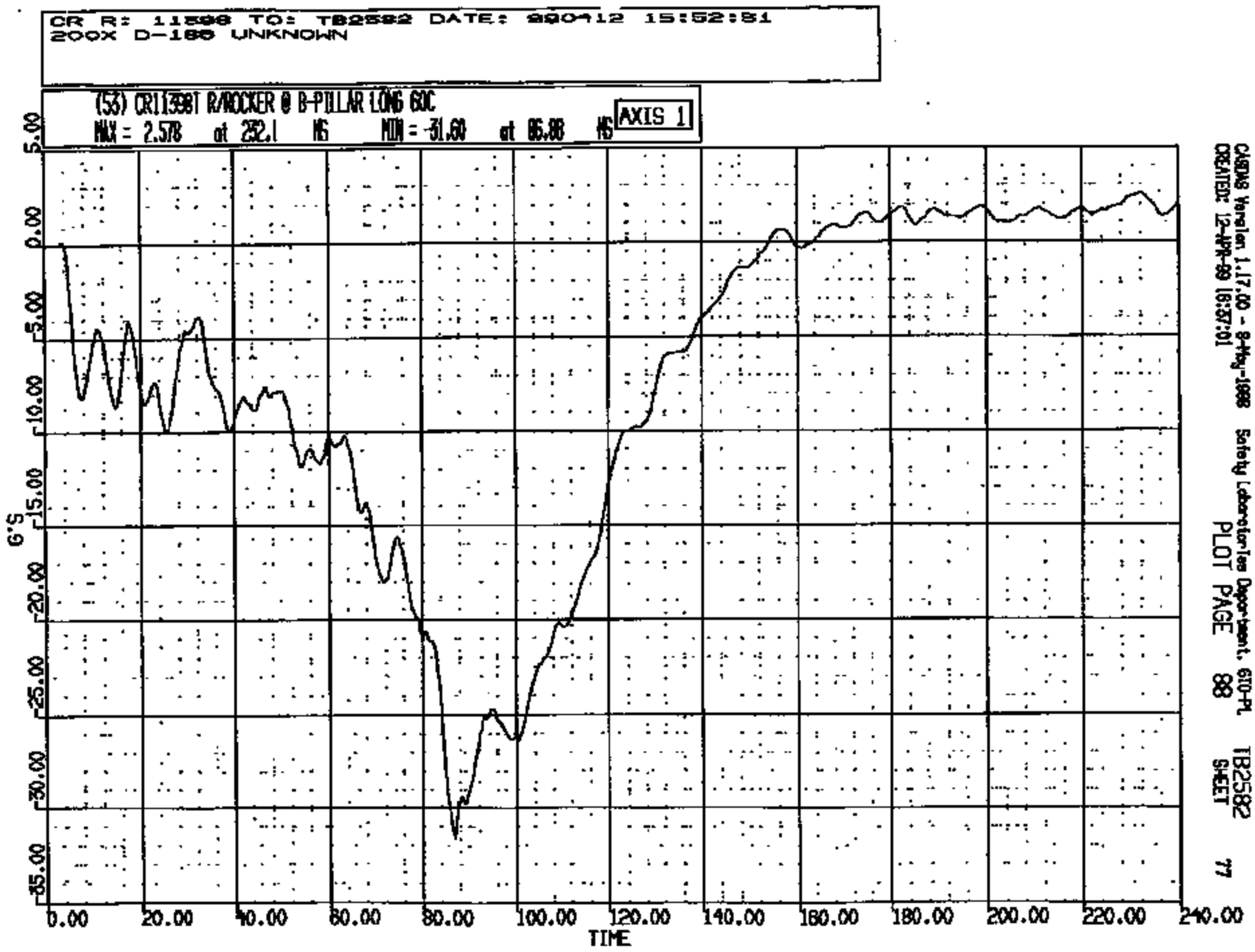
(10008) CRIT398T L/ROCKER @ B-PILLAR RES 60C
MAX = 41.26 at 84.48 MS MIN = 0.2514 at 0.5800 MS AXIS 1

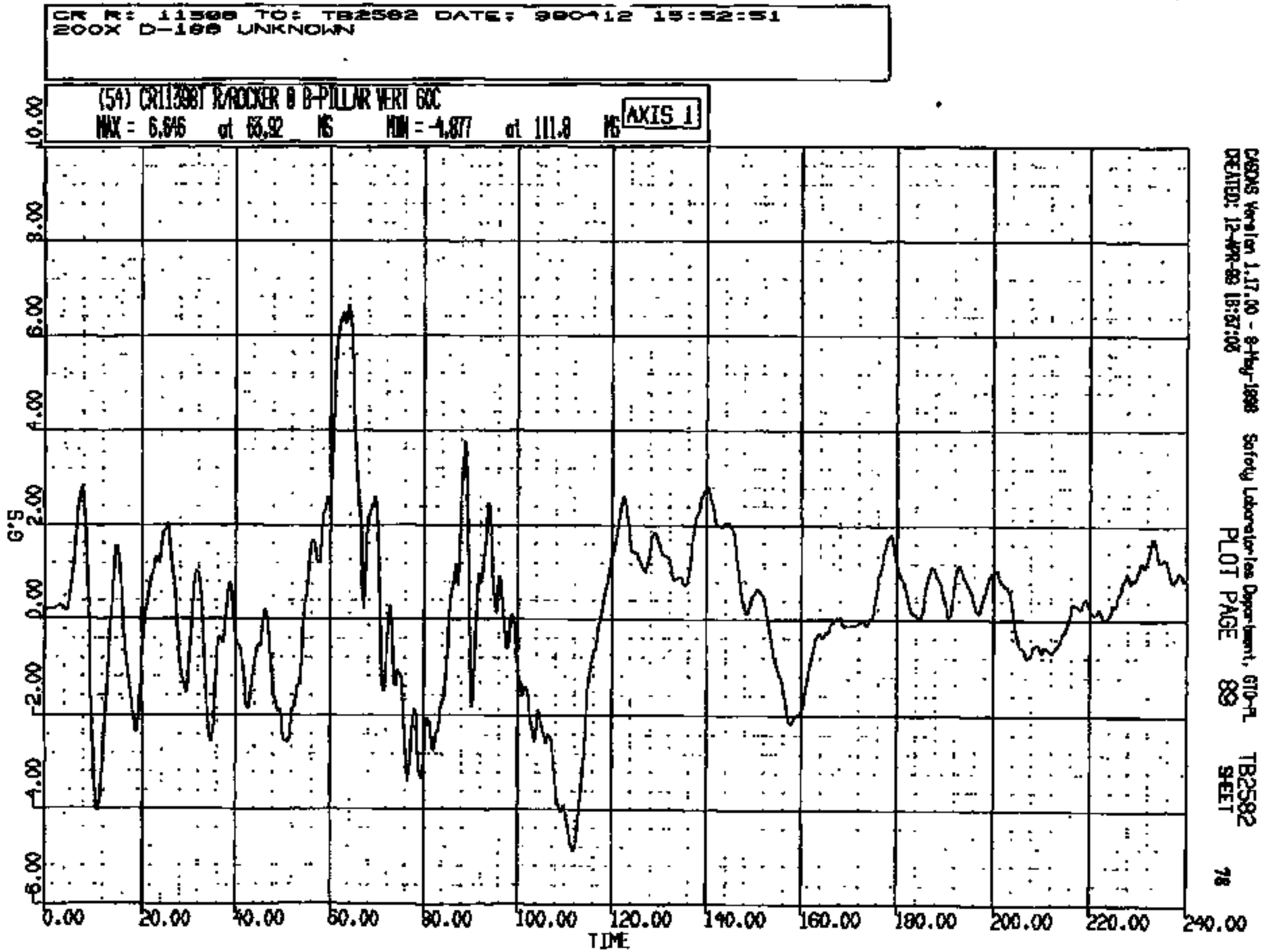
G's

TIME

CRTS 0011398

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 870-AL TB2582
CREATED: 12-MAR-99 16:05:11 PLOT PAGE 18 SHEET 76


CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-180 UNKNOWN
(53) CR11398T R/ROCKER @ B-PILLAR LONG 60C
MAX = 2.578 at 252.1 MS MIN = -31.60 at 86.88 MS
AXIS 1
G'S
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
-35.00
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 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 12-APR-99 18:37:01
PLOT PAGE 88
TB2582
SHEET 77
CRTS 0011398



CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-FL TB2582
CREATED: 12-MAR-98 18:57:08 PLOT PAGE 88 SHEET 18

CRTS 0011398

CR R: 11398 TO: TB2582 DATE: 990412 15:52:51
200X D-189 UNKNOWN

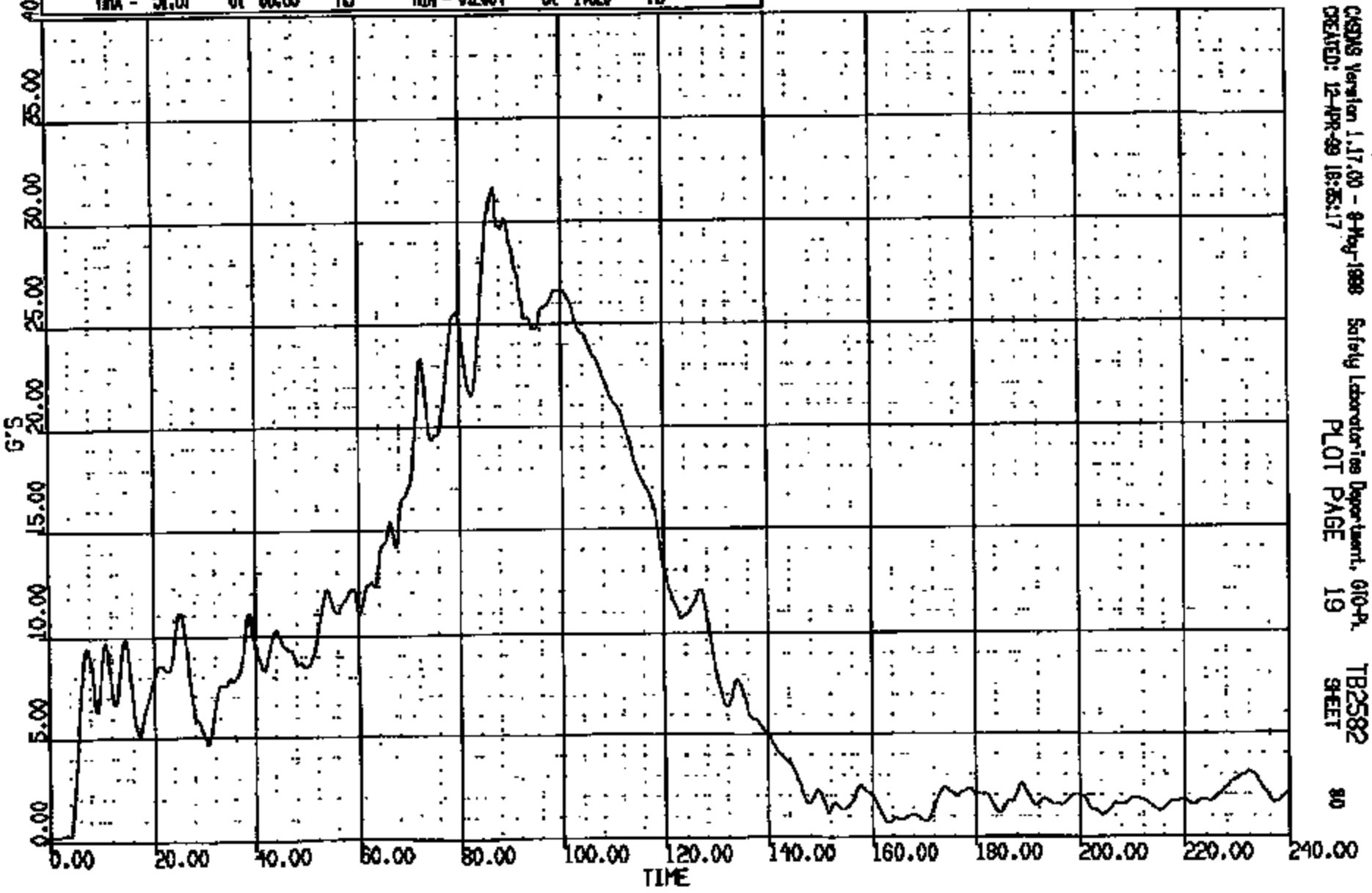
(55) CR11398T R/ROCKER @ B-PILLAR LAT 60C
MAX = 15.40 at 78.68 MS MIN = -7.935 at 68.56 MS AXIS 1

CASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 6170-PL TB2582
CREATED: 12-APR-99 16:37:04 PLOT PAGE 90 SHEET 79

CRTS 0011398

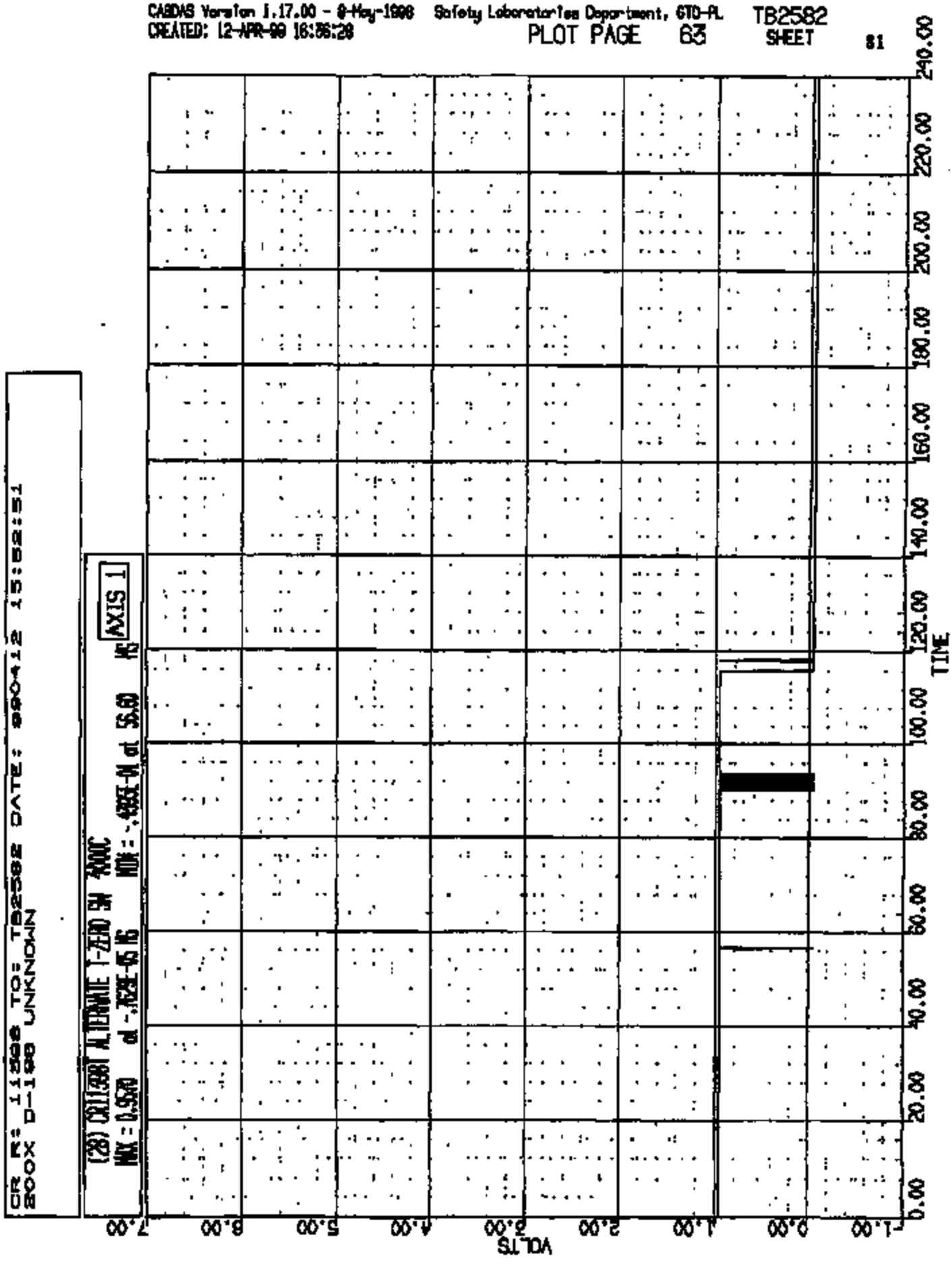
CR R: 11888 TO: TB2582 DATE: 990412 15:52:51
200X D-188 UNKNOWN

(10009) CR11398T R/ROCKER @ B-PILLAR RES 60C
MAX = 34.67 at 86.88 MS MIN = 0.2064 at 1.520 MS AXIS 1



CRASH Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 010-PL
CREATED: 12-APR-99 18:35:17 PLOT PAGE 19 TB2582 SHEET 80

CRTS 0011398


CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
BOOX D--1998 UNKNOWN
(28) CH1(398T ALTERNATE T-ZERO SW 4000C
MAX = 0.9580 at -.7625E-05 MS MIN = -.4855E-04 at 56.60 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
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
220.00
240.00

CR R: 11598 TO: TB2582 DATE: 890412 15:52:51
200X D-186 UNKNOWN

(0) CRCL1398 L RRR AT B PLR MRT L GND REF LONG DISP
MAX = 54.01 at 121.0 MS MIN = 0.0000E+00 at 0.0000E+00 MS AXIS 1

INCHES

TIME

CADAS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 670-PL TB2582
CREATED: 16-APR-89 12:37:28 PLOT PAGE 1 SHEET 82

CRTS 001398

CR #: 11599 TO: TB2582 DATE: 990412 15:52:51
200X D-196 UNKNOWN

(0) CRC11398 L MAR AT B PLR MRT L GND REF VERT DISP
MAX = 0.7300E-01 at 31.00 MS MIN = -4.025 at 182.0 MS AXIS 1

INCHES

3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-5.00

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

CRTS 0011398

CREATED: 16-APR-99 12:37:38 CADAS Version 1.17.00 - 6-May-1999 Safety Laboratories Department 670-PL

PLOT PAGE 2 TB2582 SHEET 83

CR R: 11598 TO: TB2582 DATE: 990412 15:52:51
200X D-186 UNKNOWN

(0) CRC11398 L RKR AT B PLR HRT L GND REF LONG VEL
MAX = 58.31 at 3.000 MS MIN = -8.998 at 186.0 MS AXIS 1

FT/SEC

70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
-10.00

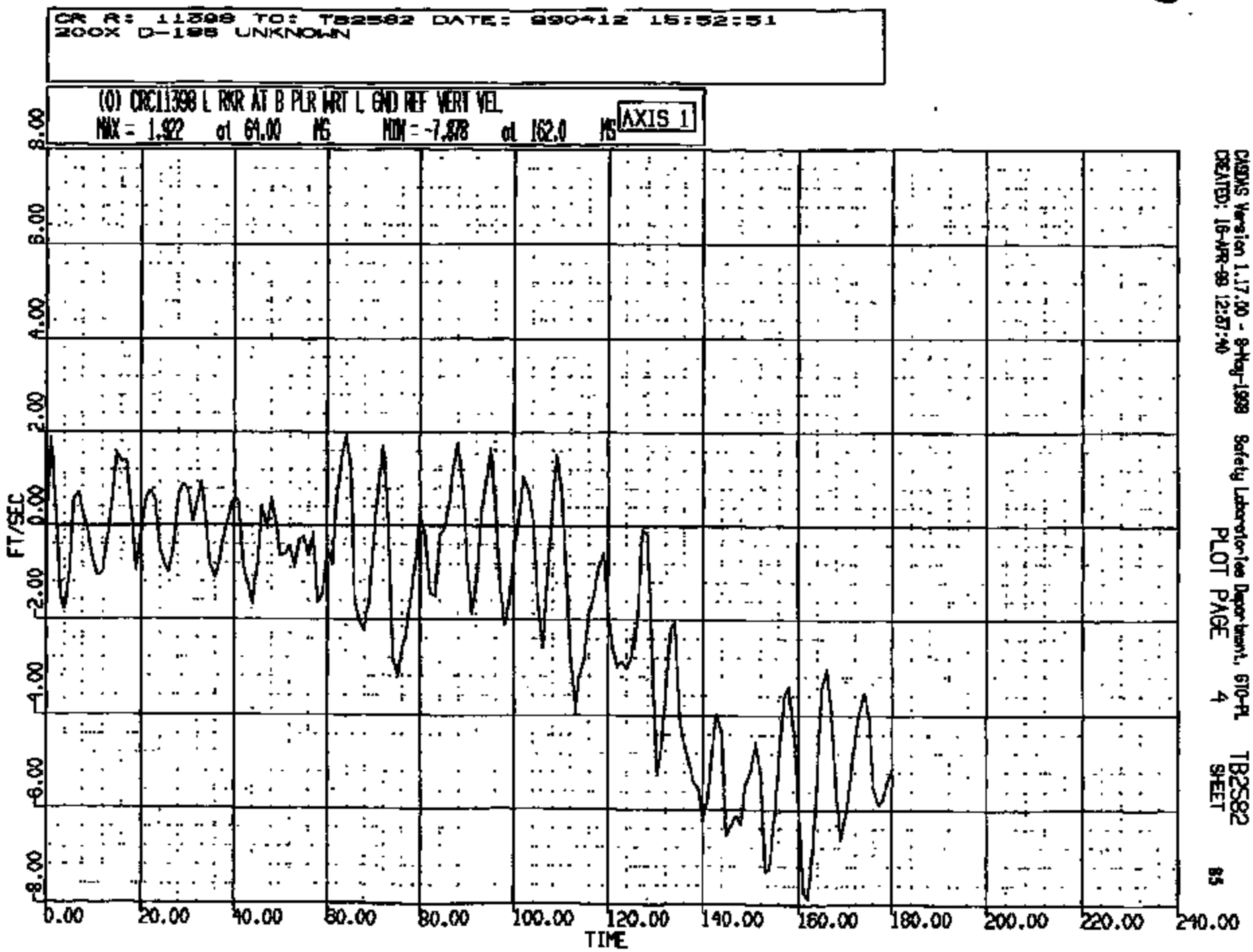
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 18-MAR-99 12:57:39

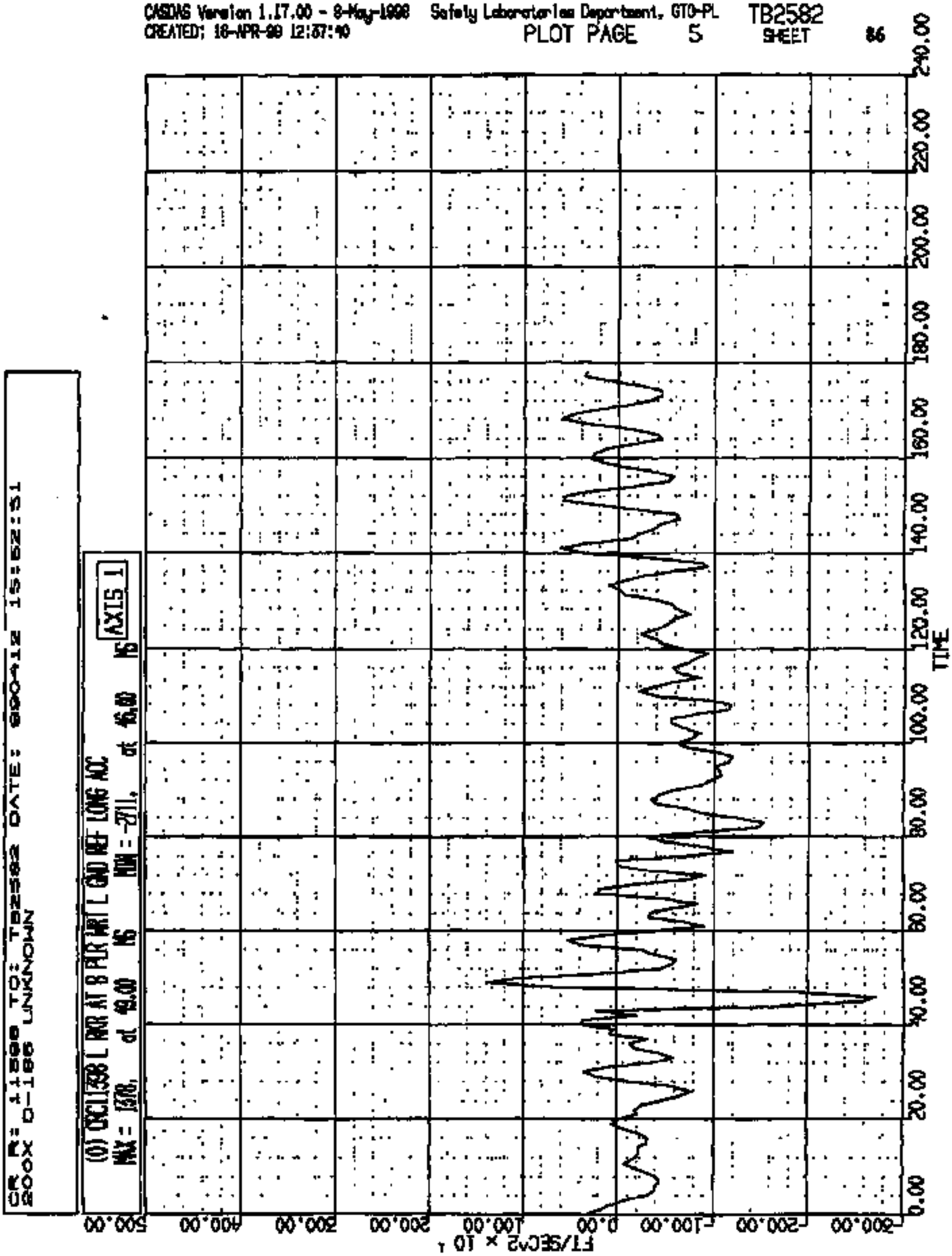
PLOT PAGE 3 TB2582 SHEET 84

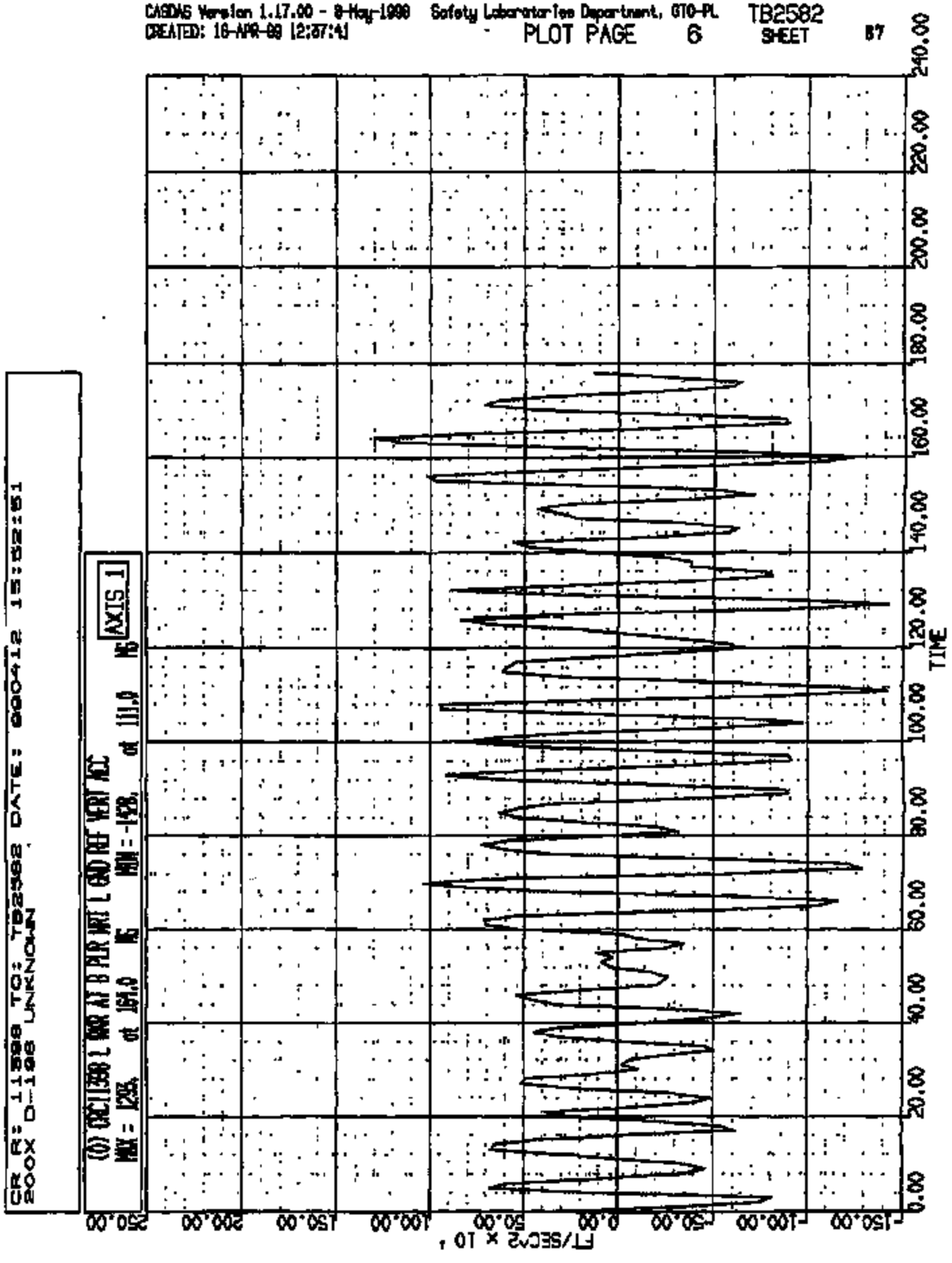
CRTS 0011398



CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB2582
CREATED: 16-APR-99 12:57:40 PLOT PAGE 4 SHEET 85

CRTS 0011398


CR R: 11888 TO: TB2582 DATE: 990412 15:52:51
20X 0-185 UNKNOWN
(0) OXC1398 L RWR AT B PLR WRT L GND REF LONG AOC
MAX = 1378, at 49.00 NS MIN = -2711, at 46.00 NS
AXIS 1
FT/SEC^2 x 10^1
500.00
400.00
300.00
200.00
100.00
0.00
-100.00
-200.00
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


CR R: 11398 TC: TB2582 DATE: 980412 15:52:51
200X D-198 UNKNOWN
(0) CHC(1398 L MAR AT B PAR VERT L GND REF VERT ACC
MAX = 235. at 164.0 MS MIN = -142. at 111.0 MS
AXIS 1
FT/SEC^2 x 10 ^
TIME
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00
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

ASC TO #: T- T82582 DIMENSIONAL ANALYSIS REPORT CRASH #: 11398

VEHICLE INFORMATION

TEST DESCRIPTION:	90 DEG FRONT 40% OFF FIXED DEF BARRIER
VEHICLE PROGRAM YEAR:	200X
VEHICLE MODEL NAME:	TRUCK
VEHICLE PROGRAM NAME:	D-186
VEHICLE ID NUMBER:	5798358
CERTIFICATION VEHICLE CODE:	DV
REQUESTOR NAME:	[redacted]
TEST ENGINEER NAME:	

TIME AND DATE OF REPORT: 18-MAY-99 16:19:42

ASC TO #: T- T82582 DIMENSIONAL ANALYSIS REPORT CRASH #: 11398

** POINT COORDINATES **

UNT NO	SIDE	PNT NO	DESCRIPTION		INCHES LONG X	LAT Y	VERT Z	INCHES CHANGED X	Y	Z	D
124			TOP (BODY) NON SIDED								
		55	STEERING WHEEL HUB NUT @ C/L	REF AFT	104.52	-13.56	40.48				
125			TOP (BODY) SIDED								
		31	LATCH/STRIKER BOLT @C/L OR U-BOLTSTOP @B PILLAR	REF AFT							
	R	31	LATCH/STRIKER BOLT @C/L OR U-BOLTSTOP @B PILLAR	REF AFT	125.25 125.26	31.43 31.43	30.60 30.61	0.01	0.00	0.01	0.01
	L	41	FRONT INBOARD TRACK TO FLOOR	REF AFT	108.52	-7.56	15.59				
	L	42	FRONT OUTBOARD TRACK TO FLOOR	REF AFT	108.79	-22.67	14.90				
	L	43	REAR INBOARD TRACK TO FLOOR	REF AFT	121.84	-8.65	14.78				
	L	44	REAR OUTBOARD TRACK TO FLOOR	REF AFT	122.25	-23.80	15.25				
650			BLANK UNIT POINTS								
		01	1 SEE COMMENTS PAGE	REF AFT	86.32	-4.89	22.12				
		02	2 SEE COMMENTS PAGE	REF AFT	91.48	-14.26	23.81				
		03	3 SEE COMMENTS PAGE	REF AFT	89.90	-22.73	21.09				

* VALUE WAS TRANSLATED TIME AND DATE OF REPORT: 10-MAY-99 16:13:43 PAGE 1

ASC TO #: T- TE2582 DIMENSIONAL ANALYSIS REPORT CRASH #: 11398

** SECTIONALS **

DEV NO	SCEN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	X	Y	Z
465	81			MINE A SECTNS A-I 81-89			
			1	AFTER	107.89	-20.60	13.07
			2	AFTER	104.71	-20.60	12.29
			3	AFTER	103.60	-20.60	12.29
			4	AFTER	103.18	-20.60	12.41
			5	AFTER	100.82	-20.60	11.45
			6	AFTER	98.86	-20.60	10.95
			7	AFTER	95.86	-20.60	11.67
			8	AFTER	95.63	-20.60	12.36
			9	AFTER	95.41	-20.60	12.79
			10	AFTER	94.14	-20.60	12.38
			11	AFTER	90.63	-20.60	13.72
			12	AFTER	88.70	-20.60	14.98
			13	AFTER	88.72	-20.60	15.91
			14	AFTER	87.37	-20.60	19.92
			15	AFTER	86.79	-20.60	20.58
			16	AFTER	86.45	-20.60	21.16
			17	AFTER	86.85	-20.60	22.83
			18	AFTER	86.59	-20.60	24.93
			19	AFTER	86.93	-20.60	26.22
			20	AFTER	85.46	-20.64	30.14

TIME AND DATE OF REPORT: 18-MAY-99 16:13:43 PAGE 1

CRTS 0011398

TJ-E2582 90

** SECTIONALS **

UNIT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	X	Y	INCHES Z
			21	AFTER	84.88	-20.60	32.76
			22	AFTER	85.10	-20.52	35.00
			23	AFTER	85.36	-20.60	36.16
			24	AFTER	85.95	-20.60	36.37
			25	AFTER	86.27	-20.60	36.61
			26	AFTER	85.91	-20.60	37.77
			27	AFTER	87.35	-20.60	38.45
			28	AFTER	88.50	-20.60	37.88
			29	AFTER	89.62	-20.60	38.12
			30	AFTER	88.76	-20.60	38.17
			31	AFTER	86.05	-20.60	42.57
			32	AFTER	91.63	-20.60	43.27
465	82			MINE A SECTION A-I 81-89			
			1	AFTER	107.68	-8.40	13.50
			2	AFTER	104.54	-8.40	13.70
			3	AFTER	103.13	-8.40	13.84
			4	AFTER	101.10	-8.40	13.74
			5	AFTER	97.91	-8.40	14.41
			6	AFTER	97.39	-8.40	14.15
			7	AFTER	97.12	-8.40	13.11
			8	AFTER	96.04	-8.40	11.84

ASC TO #: T- TB2562 DIMENSIONAL ANALYSIS REPORT CRASH #: 11398

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	X	Y	INCHES Z
			9	AFTER	94.95	-8.40	12.62
			10	AFTER	93.37	-8.40	13.86
			11	AFTER	91.08	-8.40	13.35
			12	AFTER	88.75	-8.40	13.96
			13	AFTER	86.84	-8.40	15.69
			14	AFTER	83.88	-8.40	20.36
			15	AFTER	82.95	-8.40	22.48
			16	AFTER	83.82	-8.40	24.36
			17	AFTER	83.50	-8.40	30.34
			18	AFTER	82.78	-8.40	33.37
			19	AFTER	82.05	-8.40	35.28
			20	AFTER	80.77	-8.40	37.03
			21	AFTER	81.34	-8.40	37.48
			22	AFTER	81.03	-8.40	38.06
			23	AFTER	82.44	-8.40	38.80
			24	AFTER	88.21	-8.40	38.89
			25	AFTER	84.49	-8.40	39.08
			26	AFTER	81.87	-8.40	43.24
			27	AFTER	78.49	-8.40	43.38
465	83			NINE A SECTNS A-I 81-89			
			1	AFTER	101.37	-19.45	36.81

TIME AND DATE OF REPORT: 18-MAY-99 16:13:43 PAGE 3

** SECTIONALS **

UNI NO	SCEN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			2	AFTER	101.38	-19.45	36.58
			3	AFTER	101.16	-19.45	36.39
			4	AFTER	100.84	-19.45	36.36
			5	AFTER	100.47	-19.45	36.11
			6	AFTER	99.81	-19.45	34.94
			7	AFTER	98.23	-19.45	33.06
			8	AFTER	97.40	-19.45	32.12
			9	AFTER	96.37	-19.45	31.05
			10	AFTER	95.69	-19.45	30.55
			11	AFTER	95.00	-19.45	30.18
			12	AFTER	94.51	-19.45	30.06
			13	AFTER	94.08	-19.45	30.05
			14	AFTER	93.63	-19.45	30.13
			15	AFTER	93.49	-19.45	30.12
			16	AFTER	92.75	-19.45	30.13
465	84			MIRR A SECTNS A-I 81-89			
			1	AFTER	100.00	-7.65	35.93
			2	AFTER	99.90	-7.65	35.31
			3	AFTER	99.55	-7.65	35.13
			4	AFTER	99.47	-7.65	34.75
			5	AFTER	99.07	-7.65	33.98

** SECTIONALS **

UNIT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			6	AFTER	97.99	-7.65	32.62
			7	AFTER	97.20	-7.65	31.88
			8	AFTER	96.20	-7.65	30.44
			9	AFTER	95.12	-7.65	29.49
			10	AFTER	94.59	-7.65	29.09
			11	AFTER	93.96	-7.65	28.74
			12	AFTER	93.39	-7.65	28.70
			13	AFTER	93.03	-7.65	28.80
			14	AFTER	92.61	-7.65	28.92
			15	AFTER	92.25	-7.65	29.00
465	85			NINE A SECTION A-I 81-89			
			1	AFTER	107.86	-14.30	12.89
			2	AFTER	104.20	-14.30	11.68
			3	AFTER	99.98	-14.30	10.89
			4	AFTER	96.76	-14.30	10.42
			5	AFTER	95.72	-14.30	11.98
			6	AFTER	93.43	-14.30	11.56
			7	AFTER	91.90	-14.30	12.35
			8	AFTER	88.46	-14.30	14.22
			9	AFTER	84.37	-14.30	19.14
			10	AFTER	83.79	-14.30	21.21

** SECTIONALS **

UNT NO	SCEN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	INCHES X	Y	Z
			11	AFTER	83.10	-14.30	22.88
			12	AFTER	84.34	-14.30	25.44
			13	AFTER	84.15	-14.30	28.98
			14	AFTER	83.63	-14.30	29.43
			15	AFTER	83.58	-14.30	34.35
			16	AFTER	84.39	-14.30	35.28
			17	AFTER	83.94	-14.30	36.98
			18	AFTER	84.25	-14.30	37.05
			19	AFTER	83.94	-14.30	38.24
			20	AFTER	85.29	-14.30	38.18
			21	AFTER	87.66	-14.30	38.68
			22	AFTER	86.62	-14.30	38.84
			23	AFTER	83.50	-14.30	43.13
			24	AFTER	79.70	-14.30	43.63
465	06			MIRR A SECTNS A-I 01-89			
			1	AFTER	82.56	0.00	23.80
			2	AFTER	83.03	-2.33	23.80
			3	AFTER	83.26	-4.35	23.80
			4	AFTER	83.55	-8.70	23.80
			5	AFTER	83.41	-11.88	23.80
			6	AFTER	83.46	-14.38	23.80

ASC TO #: T- T82582 DIMENSIONAL ANALYSIS REPORT CRASH #: 11398

** SECTIONALS **

UNT NO	SCTN NO	SIDE	SEQ NO	NAME AND CRASH STATUS	X	Y	INCHES Z
			7	AFTER	83.75	-17.25	23.80
			8	AFTER	85.32	-18.06	23.80
			9	AFTER	86.36	-18.86	23.80
			10	AFTER	86.62	-20.24	23.75
			11	AFTER	87.40	-22.45	23.80
			12	AFTER	87.69	-24.54	23.80
			13	AFTER	87.87	-28.24	23.80

ASC TO #: T- TB2582 DIMENSIONAL ANALYSIS REPORT CRASH #: 11398

** COMMENTS **

ANY AUTOMATICALLY GENERATED COMMENTS APPEAR IN THIS BOX:

THIS VEHICLE IS SET UP TO DESIGN ATTITUDE AND WHILE REPORTED IN ENGLISH UNITS, USES A METRIC PRINT REQU. SUSPENSION COMPONENTS ARE NOT IN DESIGN POSITION. COORDINATES CAN BE CONVERTED TO DESIGN PRINT VALUES BY USING THE FOLLOWING: asking for a metric print-out or

TO CONVERT TO METRIC DESIGN PRINT VALUES: MULTIPLY BY 25.4.
TO CONVERT TO ENGLISH DESIGN PRINT VALUES:(for most DOMESTIC VEHICLES)
SUBTRACT 78.74 (2000 MM) FROM THE X VALUE AND SUBTRACT 19.69 (500 MM) FROM THE Z VALUE.

ANY COMMENTS ENTERED BY OPERATORS APPEAR BELOW THIS LINE:

****

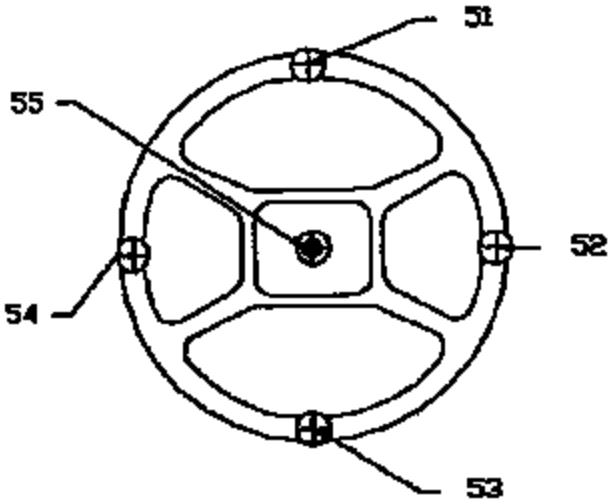
UNIT 465 PROFILE DESCRIPTIONS ARE AS FOLLOWS:

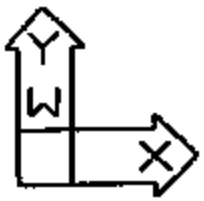
01. LONGITUDINAL PROFILE OF DASH/FLOORPAN 150mm's O/B OF BRAKE PEDAL C/L "Y"
02. LONGITUDINAL PROFILE OF DASH/FLOORPAN 150mm's I/B OF BRAKE PEDAL C/L "Y"
03. LONGITUDINAL PROFILE OF LOWER INSTRUMENT PANEL 150mm's O/B OF HUSHOT C/L"Y"
04. LONGITUDINAL PROFILE OF LOWER INSTRUMENT PANEL 150mm's I/B OF HUSHOT C/L"Y"
05. LONGITUDINAL PROFILE OF DASH/FLOORPAN @ BRAKE PEDAL C/L "Y"
06. LATERAL PROFILE OF DASH/FLOORPAN @ BRAKE PEDAL C/L "Z"

UNIT 650 POINT DESCRIPTIONS ARE AS FOLLOWS:

01. POINT ON C/L OF ACCELERATOR PAD.
02. POINT ON C/L OF BRAKE PEDAL
03. POINT ON C/L OF DRIVER FOOTREST.

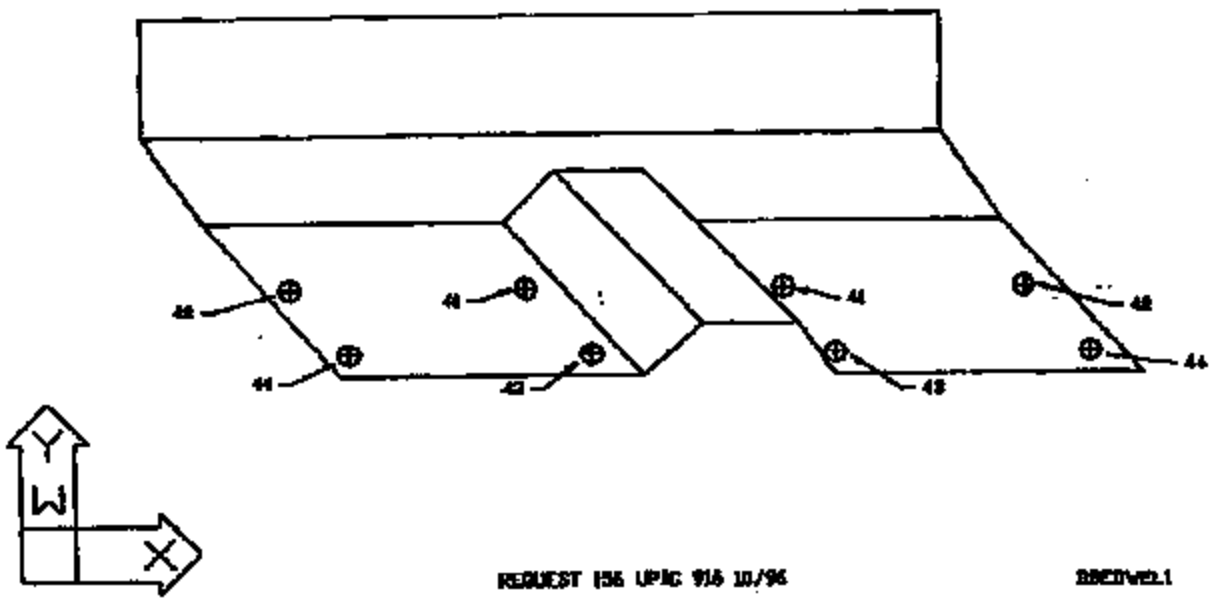
STEERING WHEEL PERIPHERY REQUEST 150
UNIT 124 POINTS 51-55



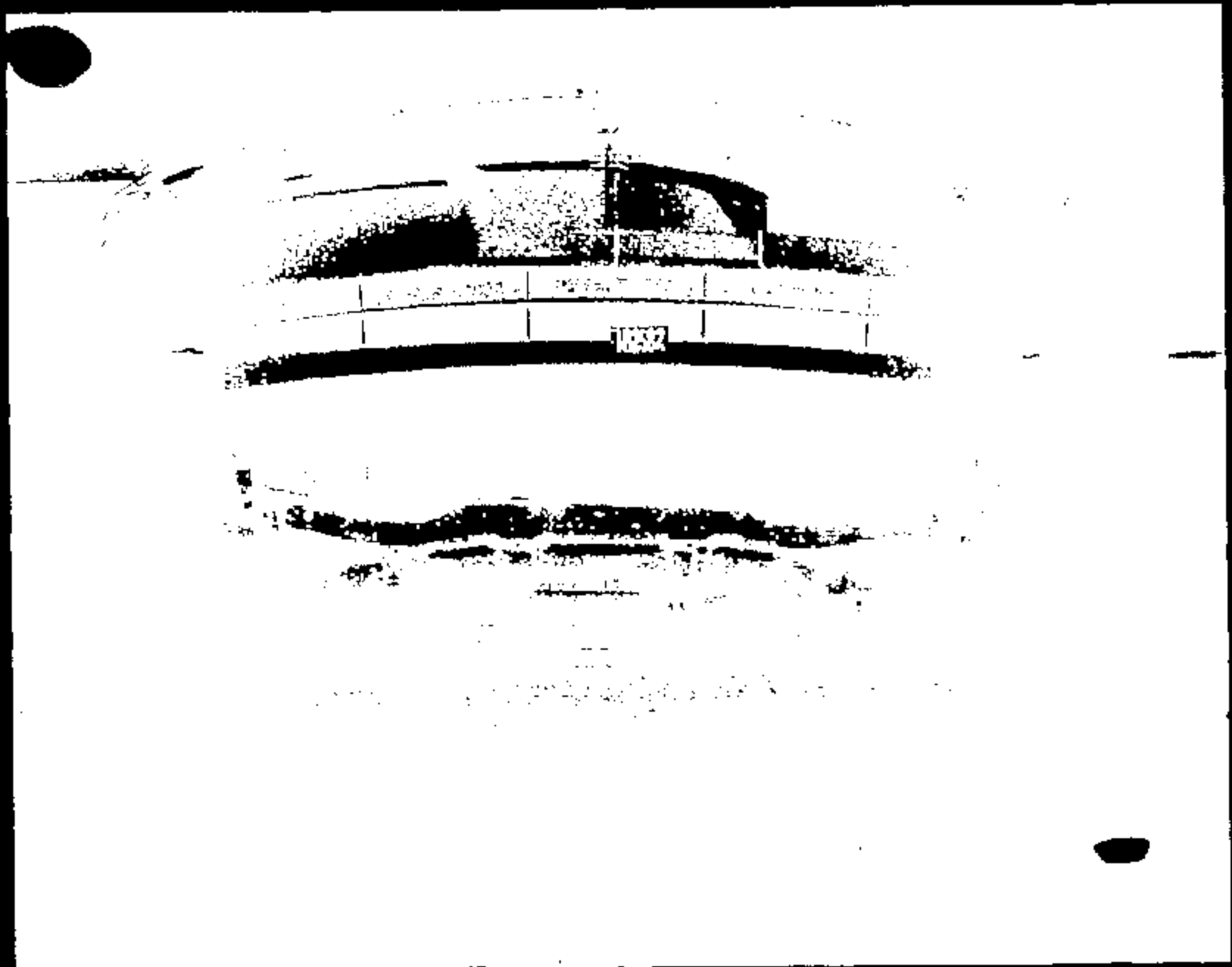


REQUEST 150 UPIC 302 10/96 DIMENSIONS

SEAT TRACK TO FLOOR MOUNTS REQUEST 156
UNIT 125 POINTS 43-44 LEFT AND RIGHT



REQUEST 156 UPIC 916 10/96 SSCDver2.1



Name: 11398001.JPG

CRTS 0011398

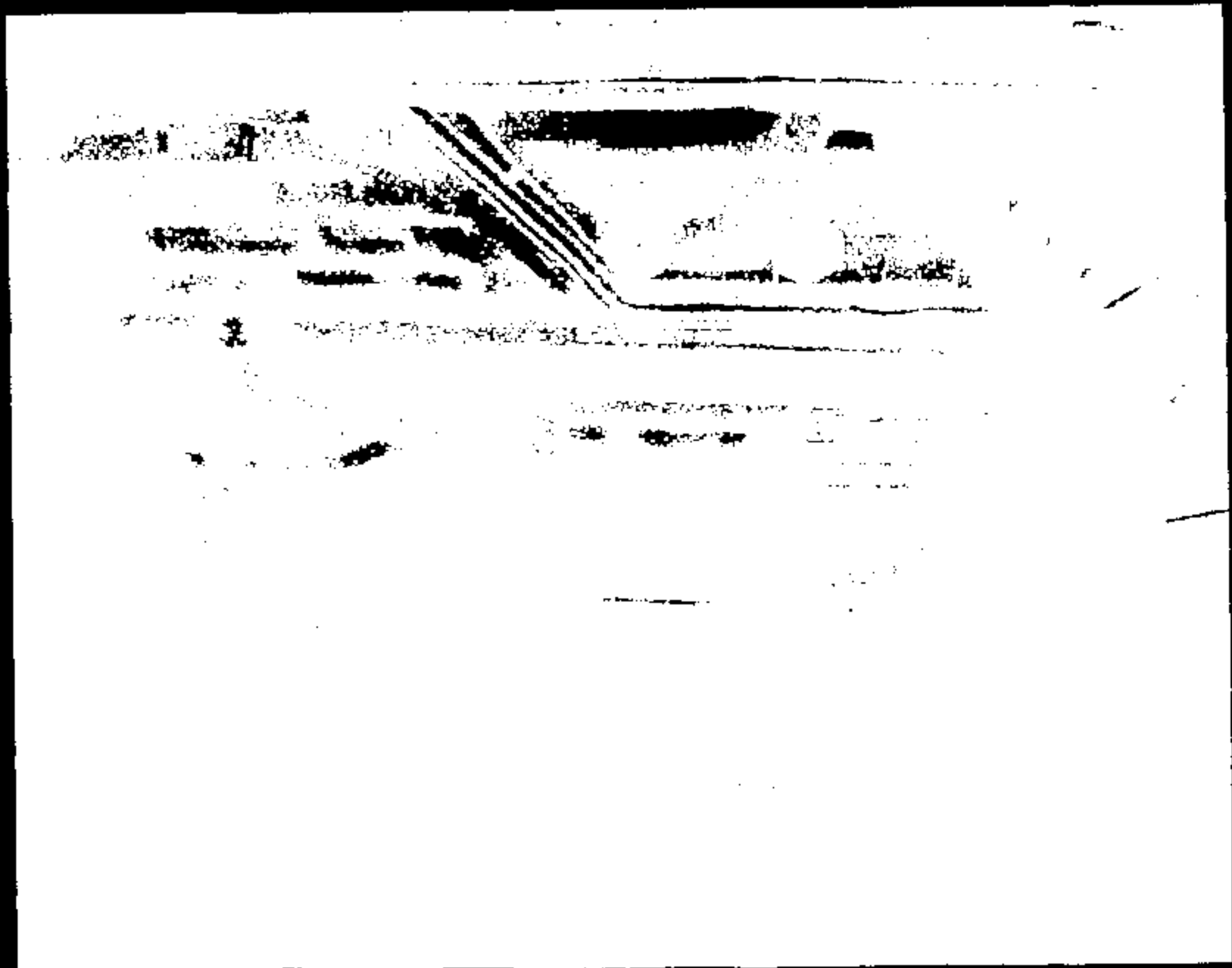
Name: 11398002.JPG

CRTS 0011398

CRTS 0011398

Name: 11396004.JPG

CRTS 0011398



Name: 11398005.JPG

Name: 11398006.JPG

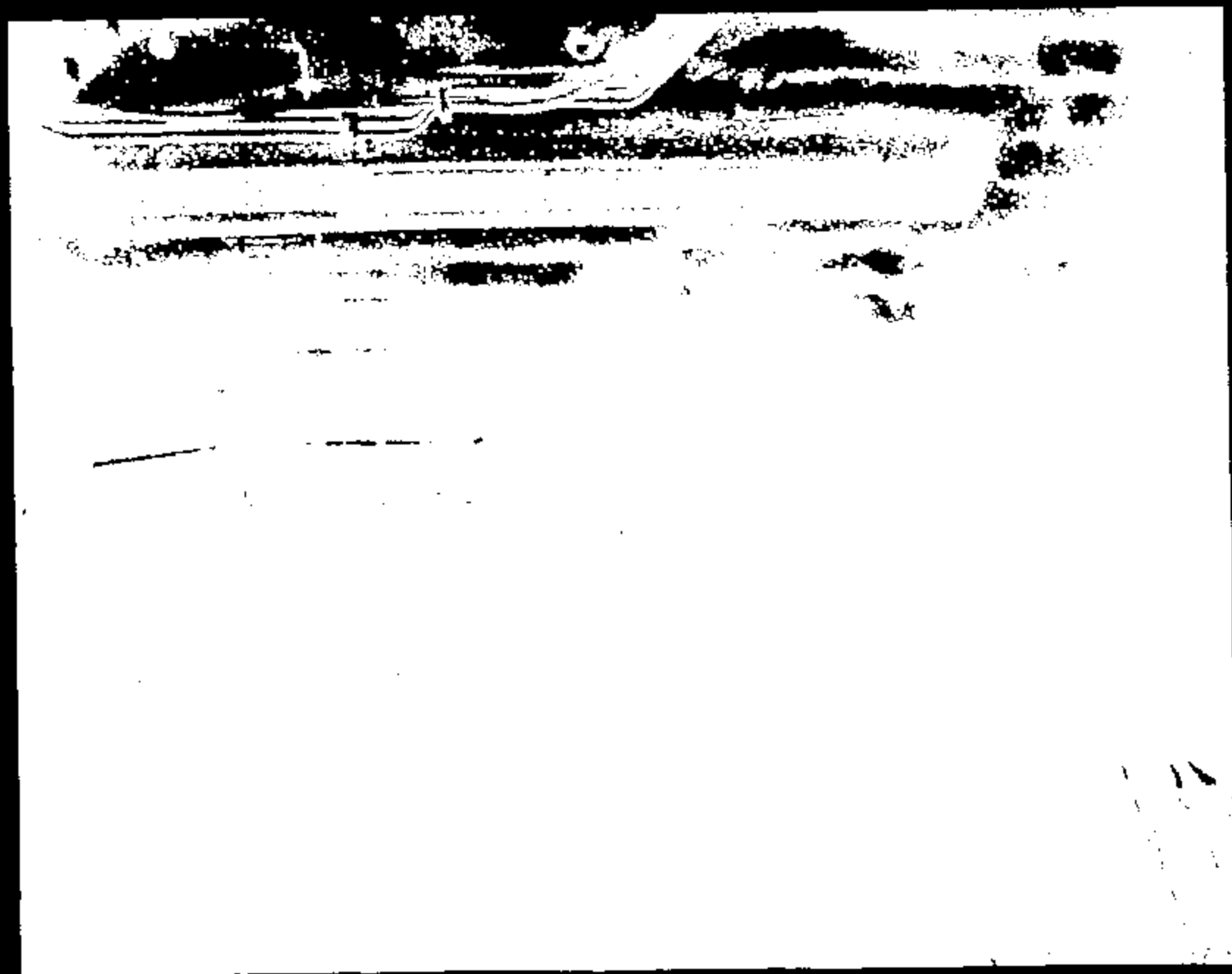
CRTS 0011398

Name: 11398007.JPG

CRTS 0011398

Name: 11398008.JPG

CRTS 0011398



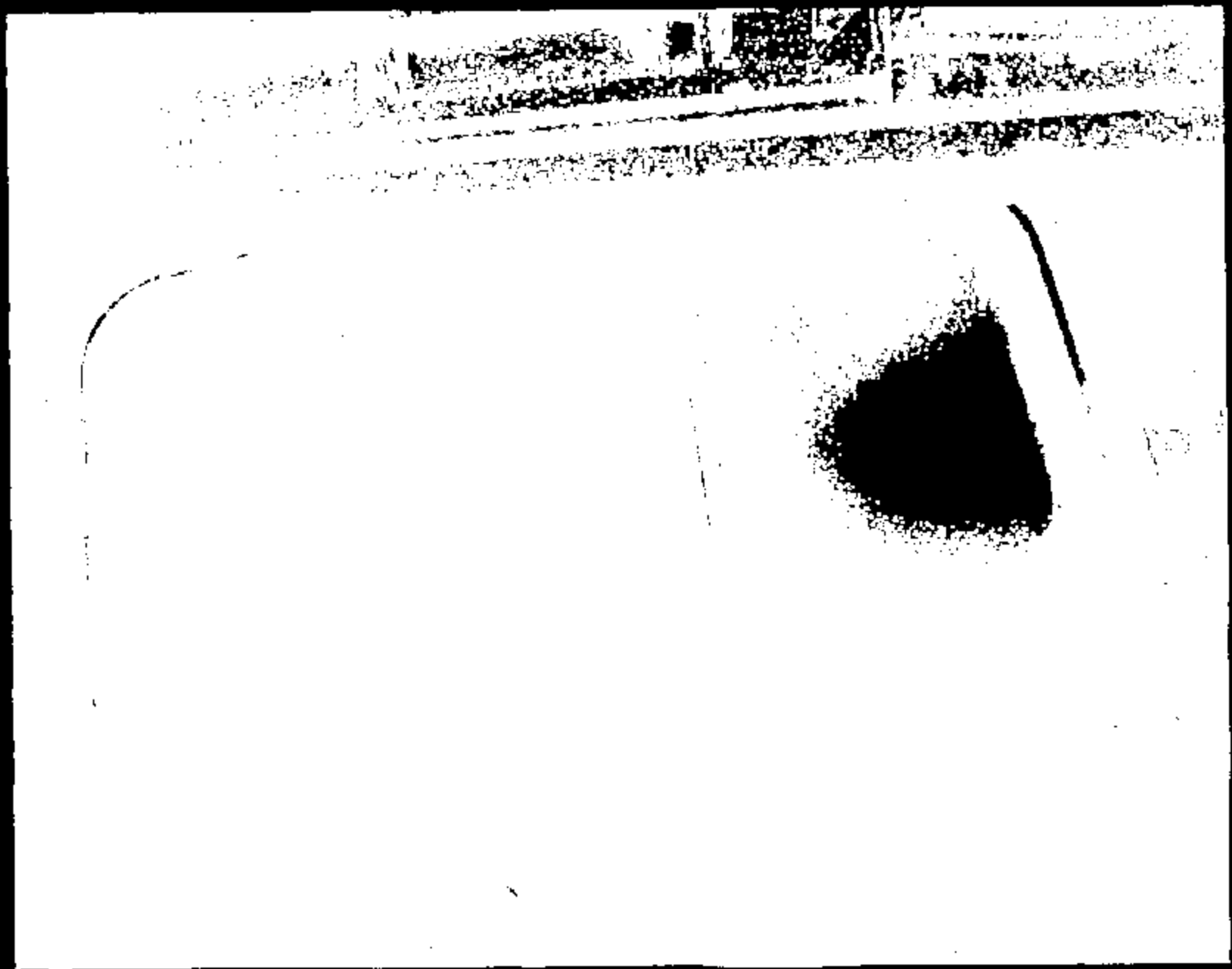
Name: 11398009.JPG

CRTS 0011398

Name: 11398010.JPG

Name: 11398011.JPG

CRTS 0011398

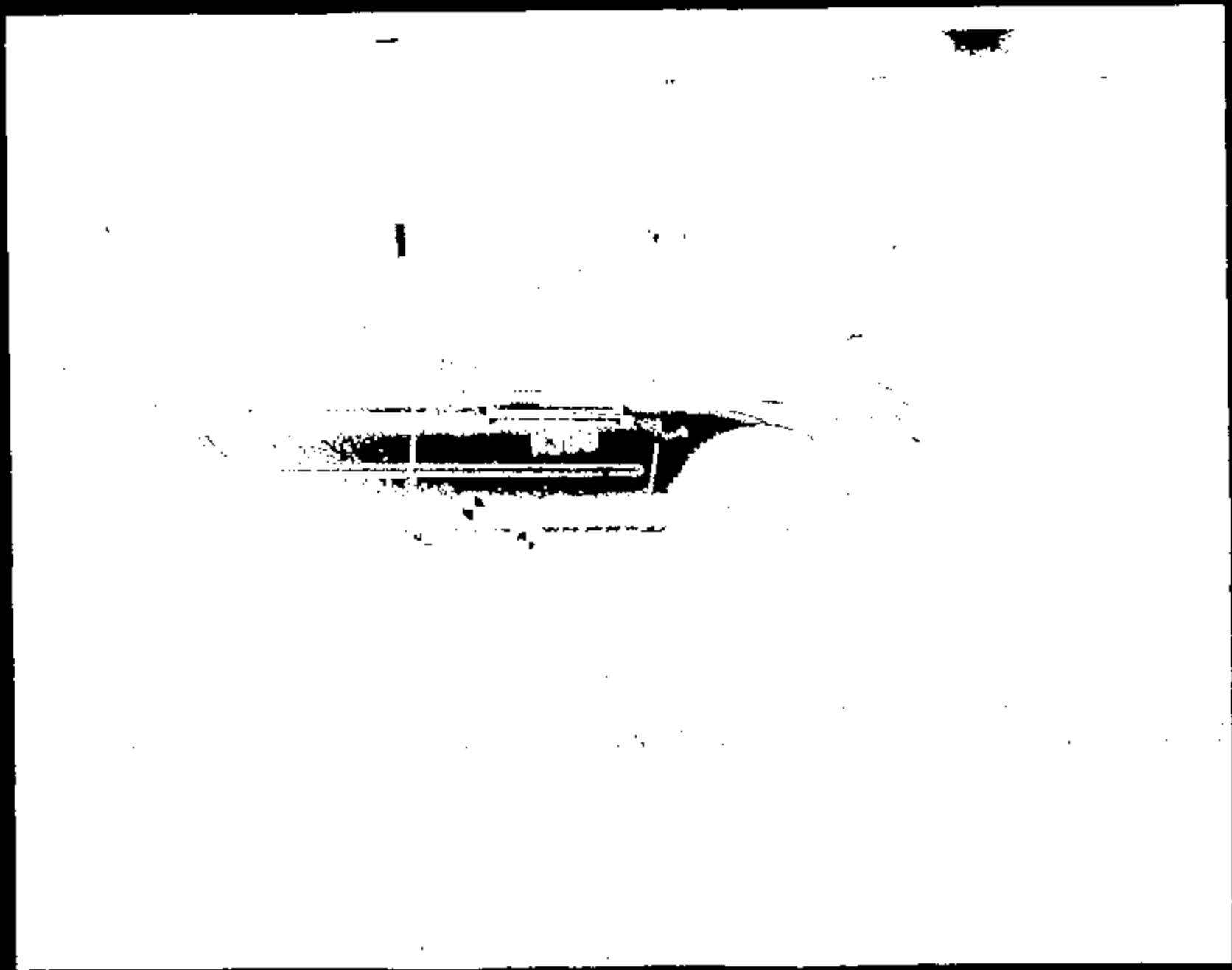


Name: 11398012.JPG

CRTS 0011398

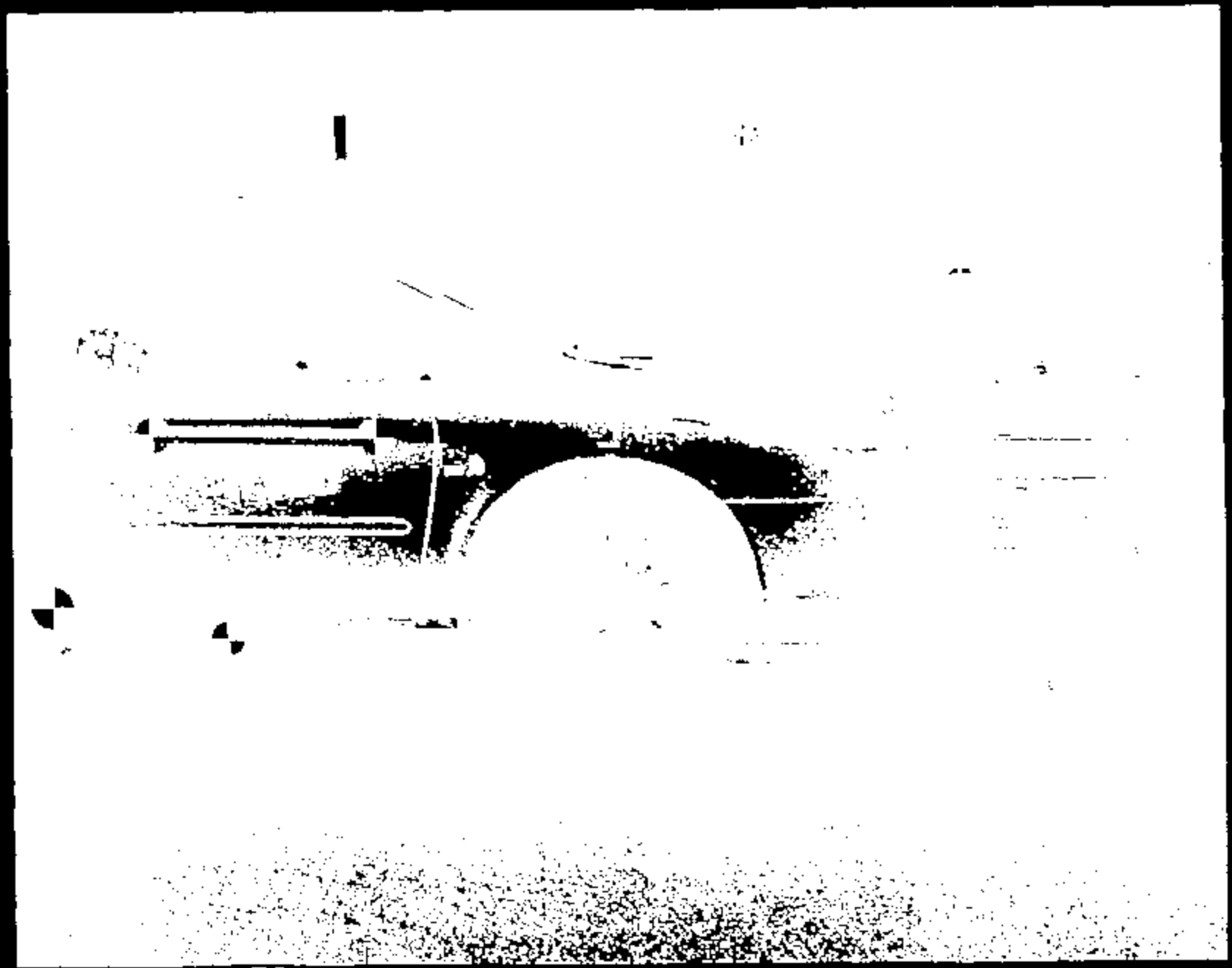
Name: 11398013.JPG

CRTS 0011398



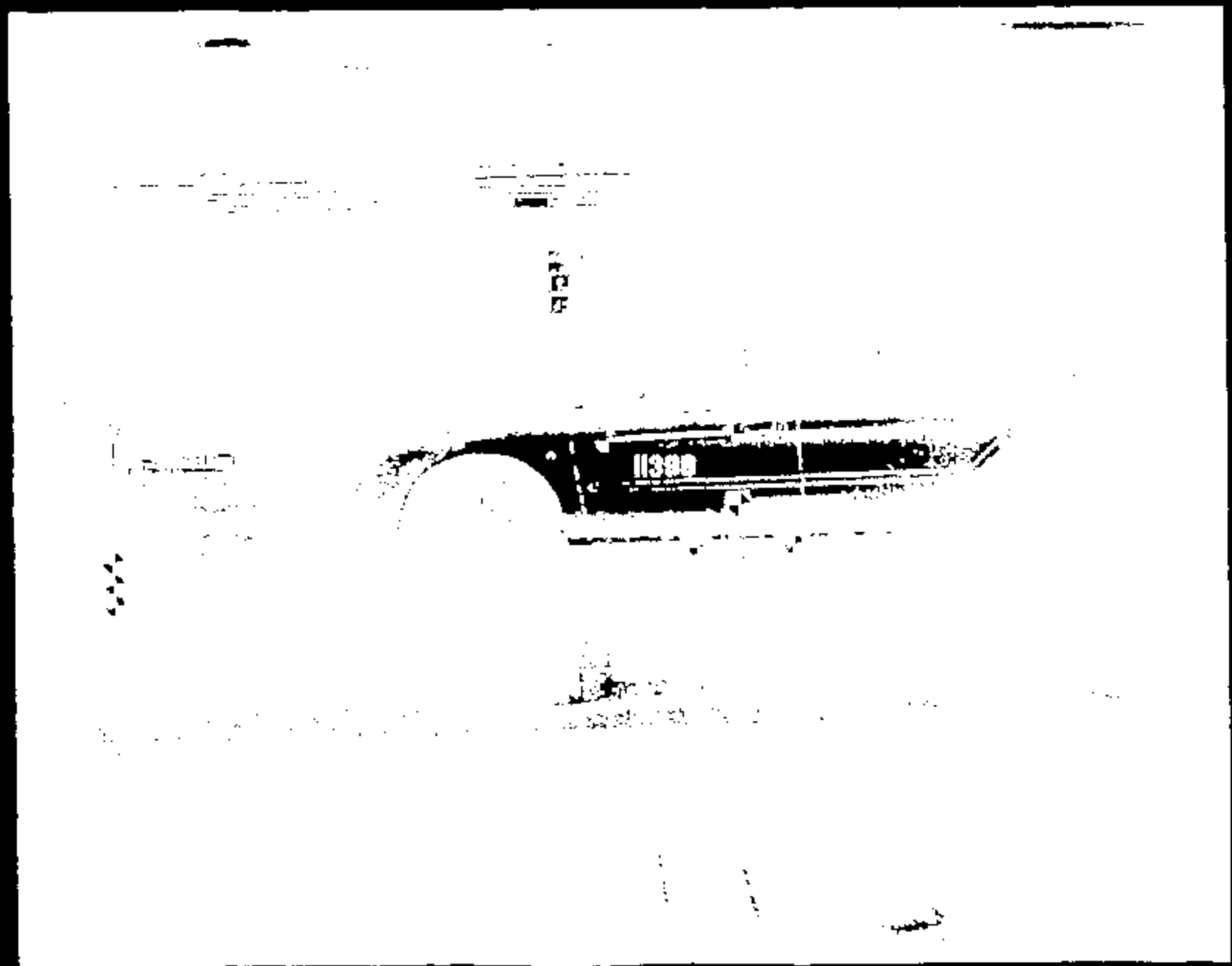
Name: 11398014.JPG

CRTS 001398



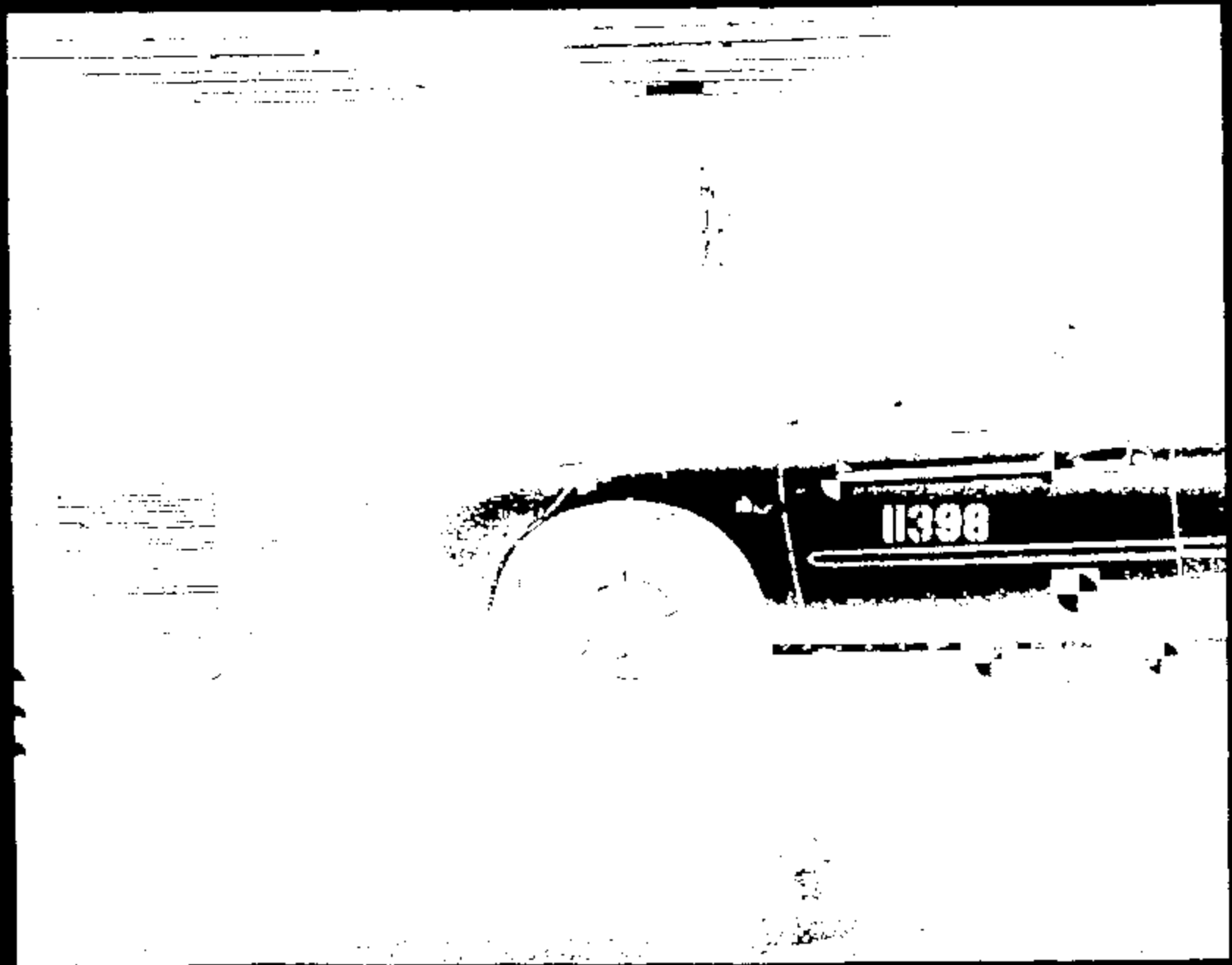
Name: 113980015.JPG

CRTS 0011398



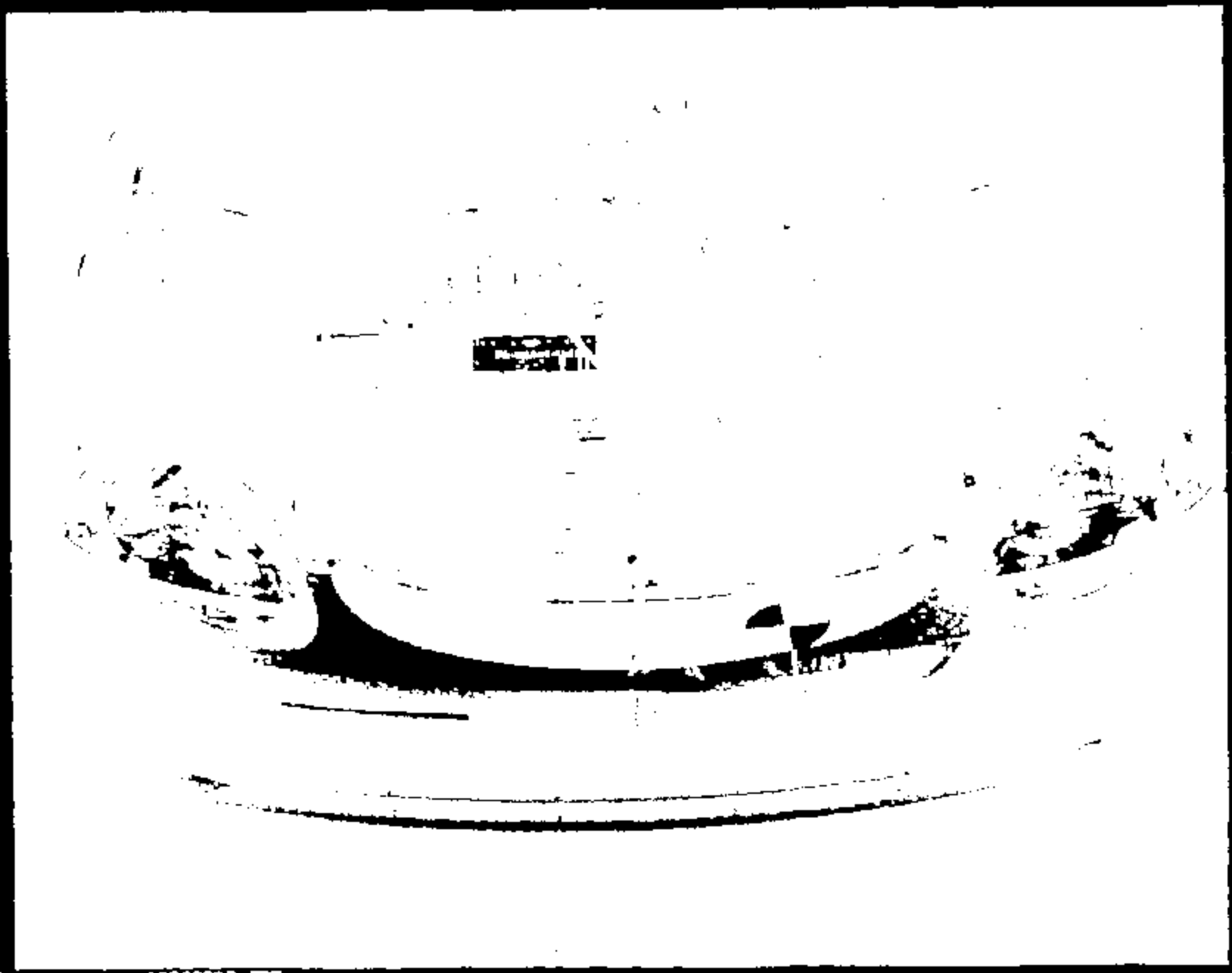
Name: 11398016.JPG

CRTS 0011398



Name: 11398017.JPG

CRTS 0011398



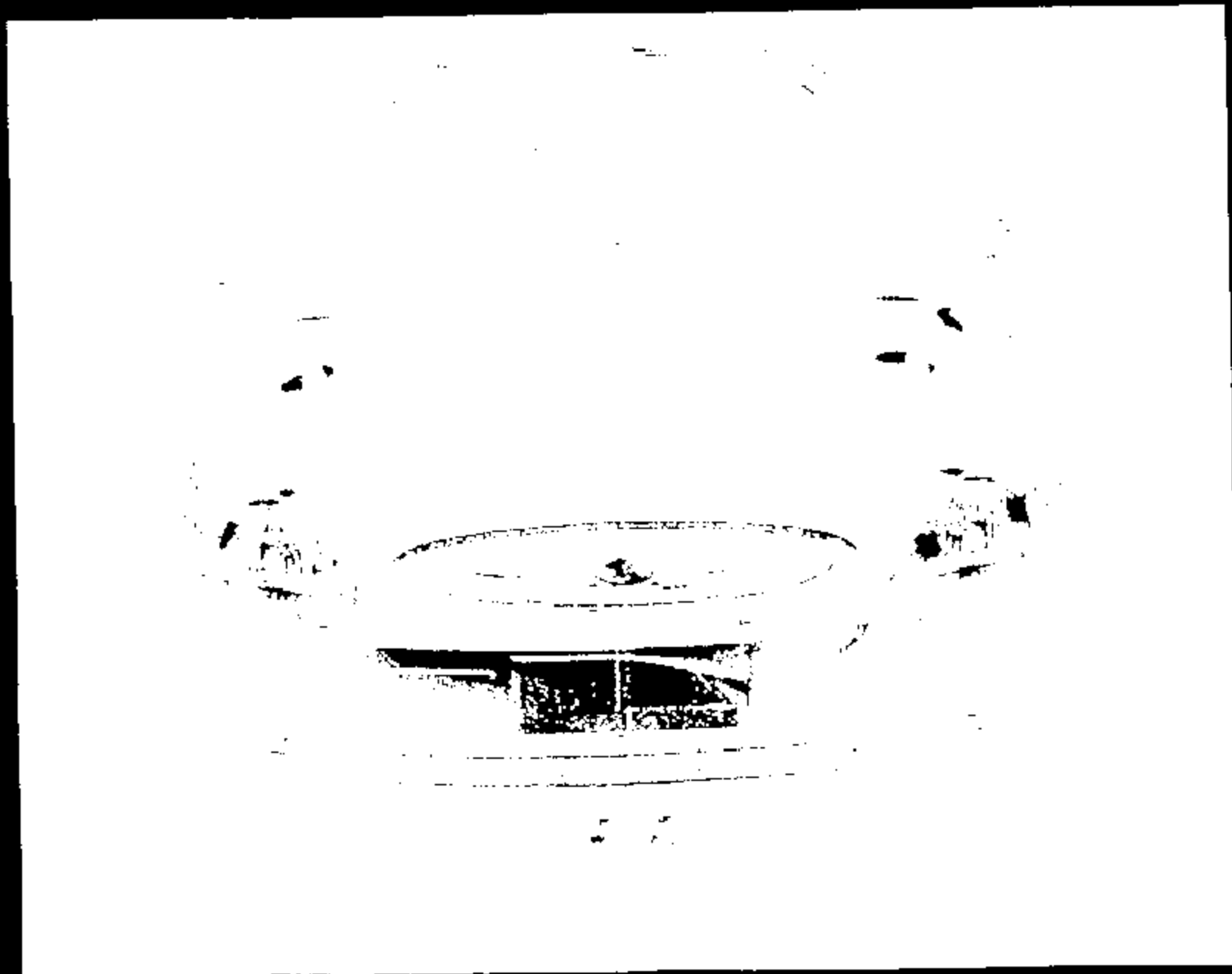
Name: 12390018.JPG

Name: 11398019.JPG

CRTS 0011398

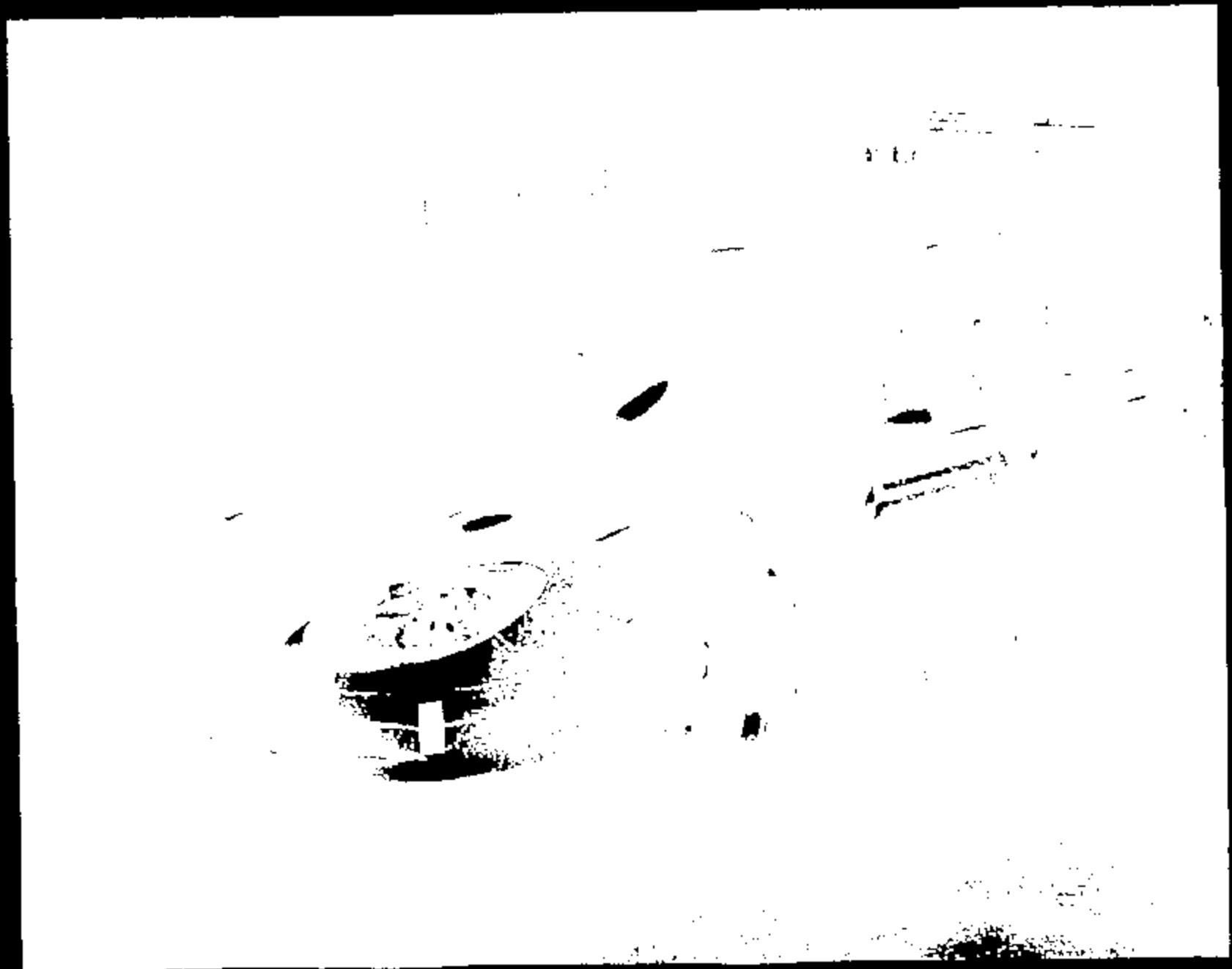
Name: 11398020.JPG

CRTS 0011398



Name: 11390021.JPG

CRTS 0011398



Name: 11398022.JPG

Name: 11398023.JPG

CRTS 0011398

Name: 11398024.JPG

CRTS 001398

Name: 113998025.JPG

CRTS 0011398

Name: 11398026.JPG

CRTS 0011398

Name : 11396027.JPG

CRTS 00113968

Name: 11398028.JPG

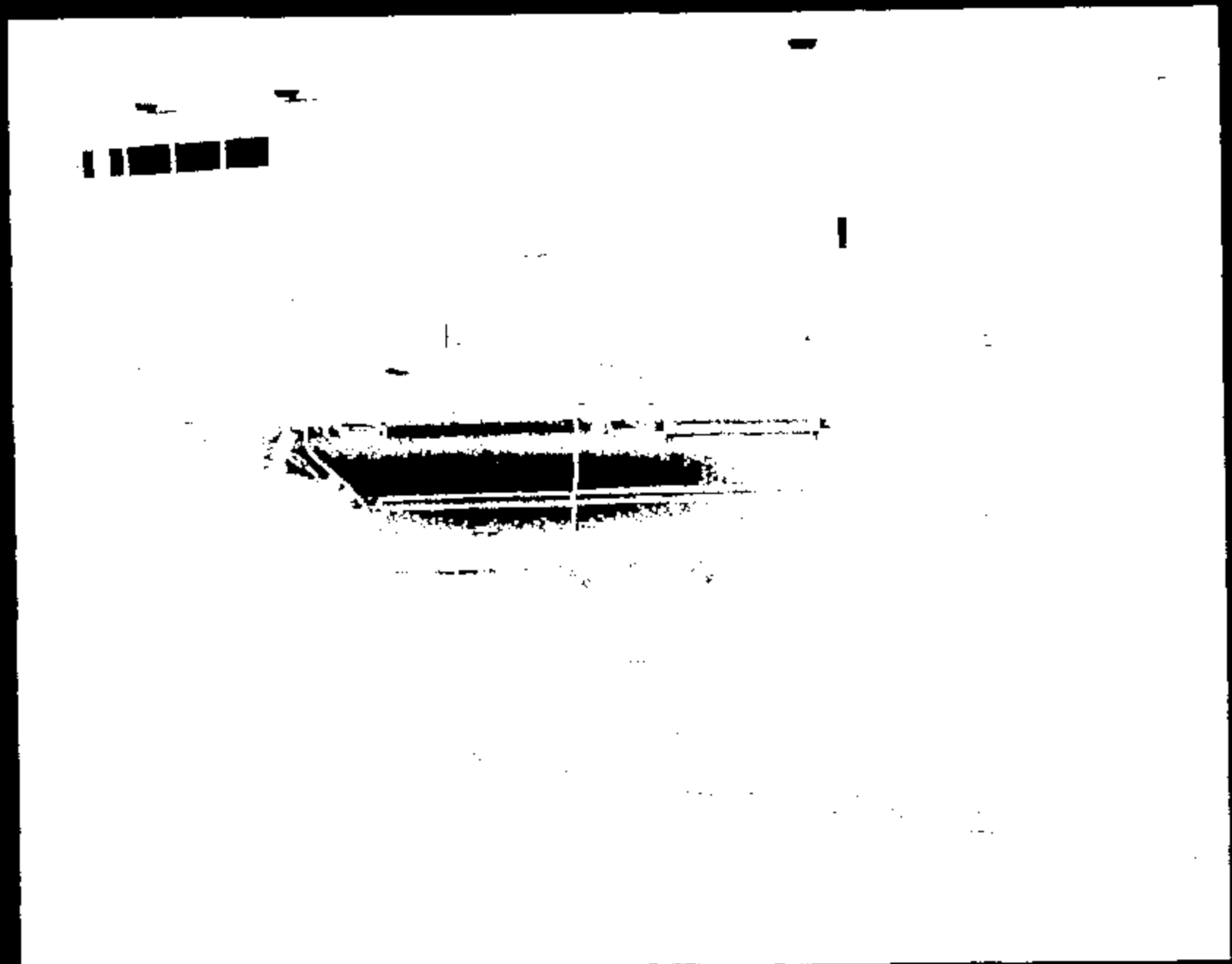
CRTS 0011398

Name: 11190029.JPG

CRTS 0011398

Name: 11398030.JPG

CRTS 0011398



Name: 11398031.JPG

CRTS 0011398

Name: 11398032.JPG

CRTS 0011398

Name: 11398033.JPG

CRTS 0011398

Name: 11398034.JPG

CRTS 0011398

Name: 113980315.JPG

CRTS 0011398

Name: 11398036.JPG

CRTS 0011398

Name: 11398037.JPG

CRTS 0011398

Name: 11398038.JPG

CRTS 0011398

Name: 11398039.JPG

Name: 11398040.JPG

CRTS 0011398

Name: 11398041.JPG

CRTS C0111398

Name : 11398042.JPG

CRTS 0011398

Name: 11398043.JPG

CRTS 0011398

Name: 11398044.JPG

CRTS 0011398

Name: 11398045.JPG

CRTS 0011398

Name: 11330046.JPG

CRTS 0011398

Name: 11190847.JPG

CRTS 0011398

Name: 11398048.JPG

CRTS 0011398

Name: 11398049.JPG

CRTS 0011398

Name: 11398080.JPG

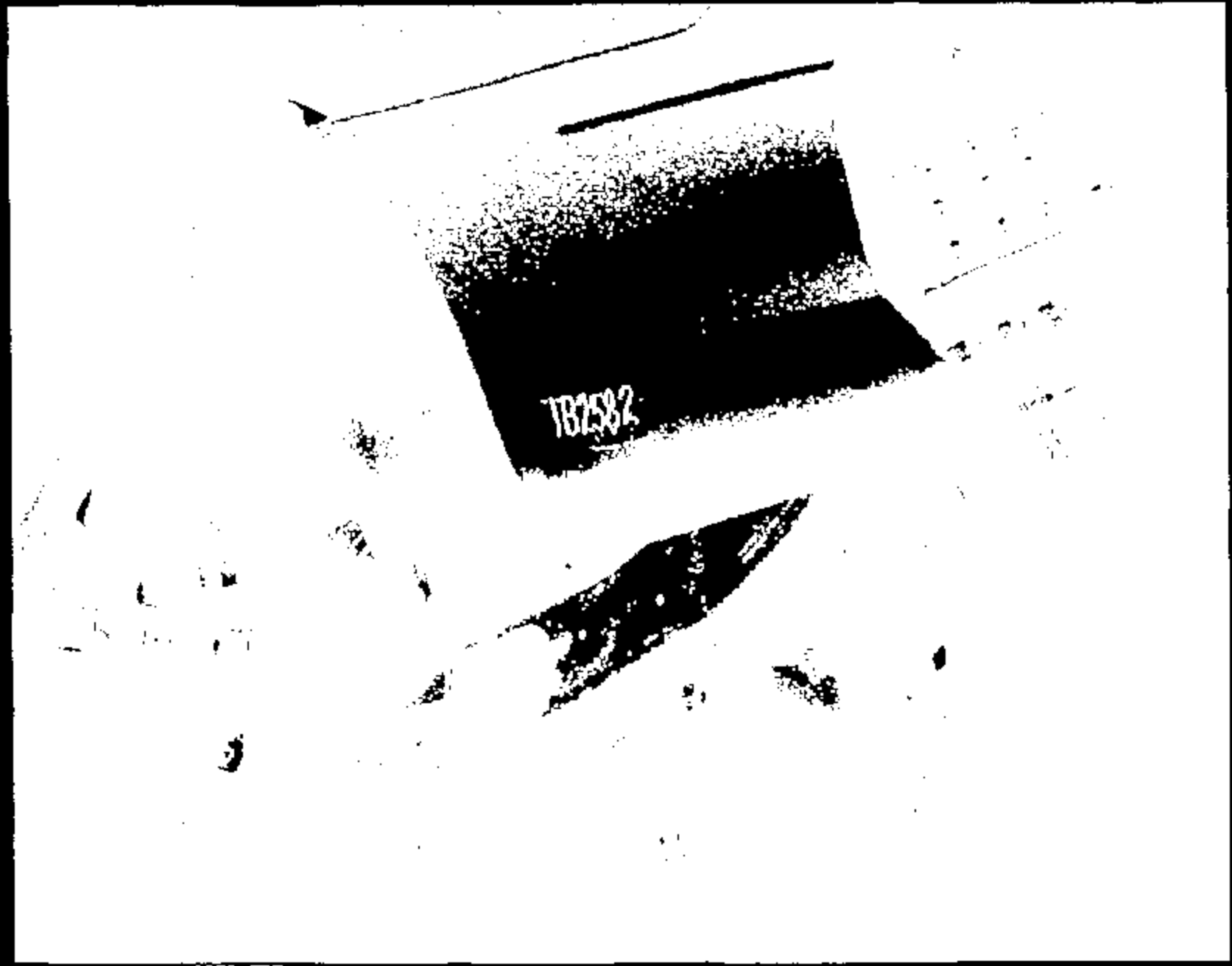
CRTS 0011398

Name: 11398051.JPG

CRTS 0011398

Name: 11398052.JPG

CRTS 0011398

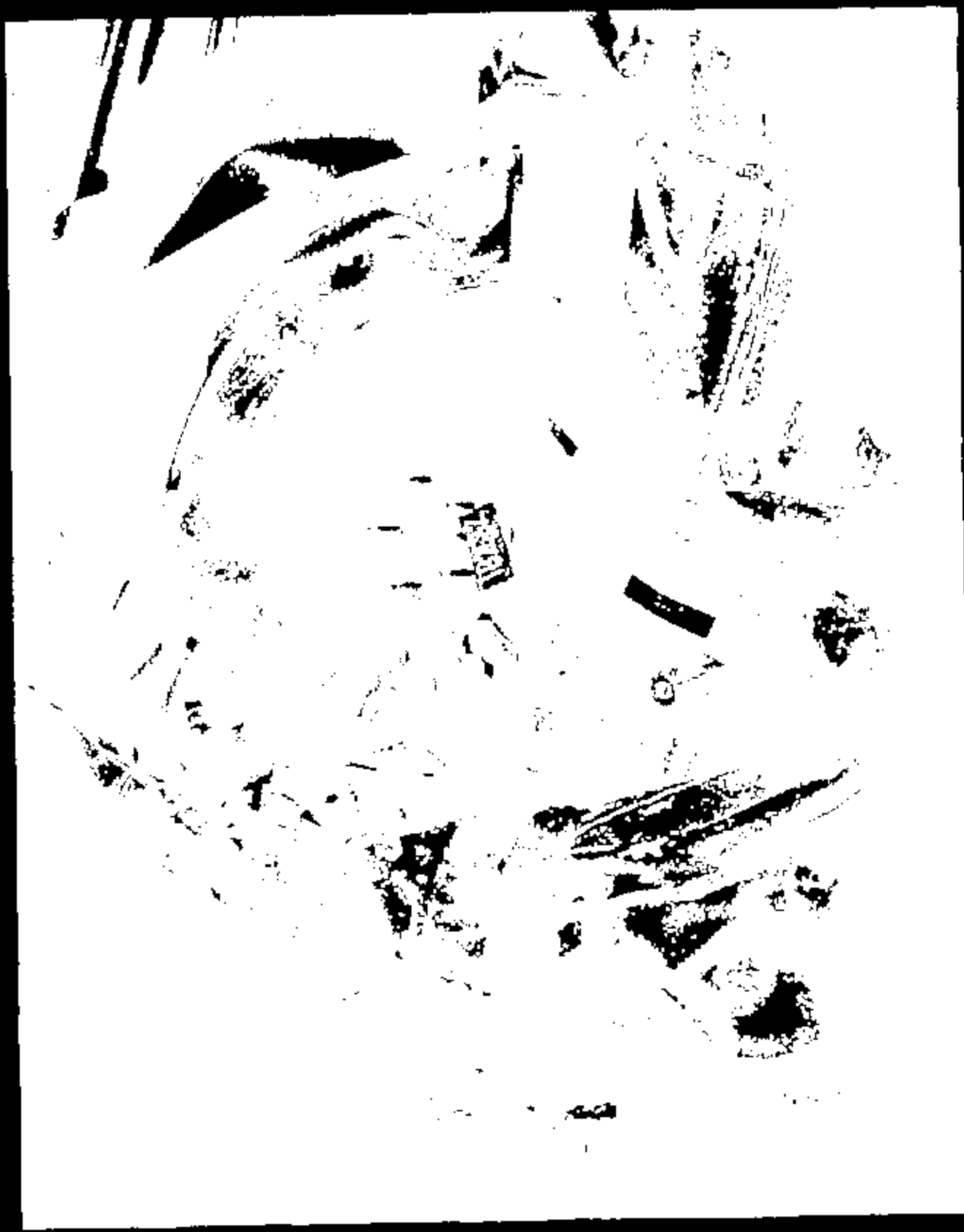


Name: 113980S3.JPG

CRTS 0011398

Name: 11398054.JPG

CRTS 001398



CRTS 0011398

Name: 11398056.JPG

CRTS 0011398

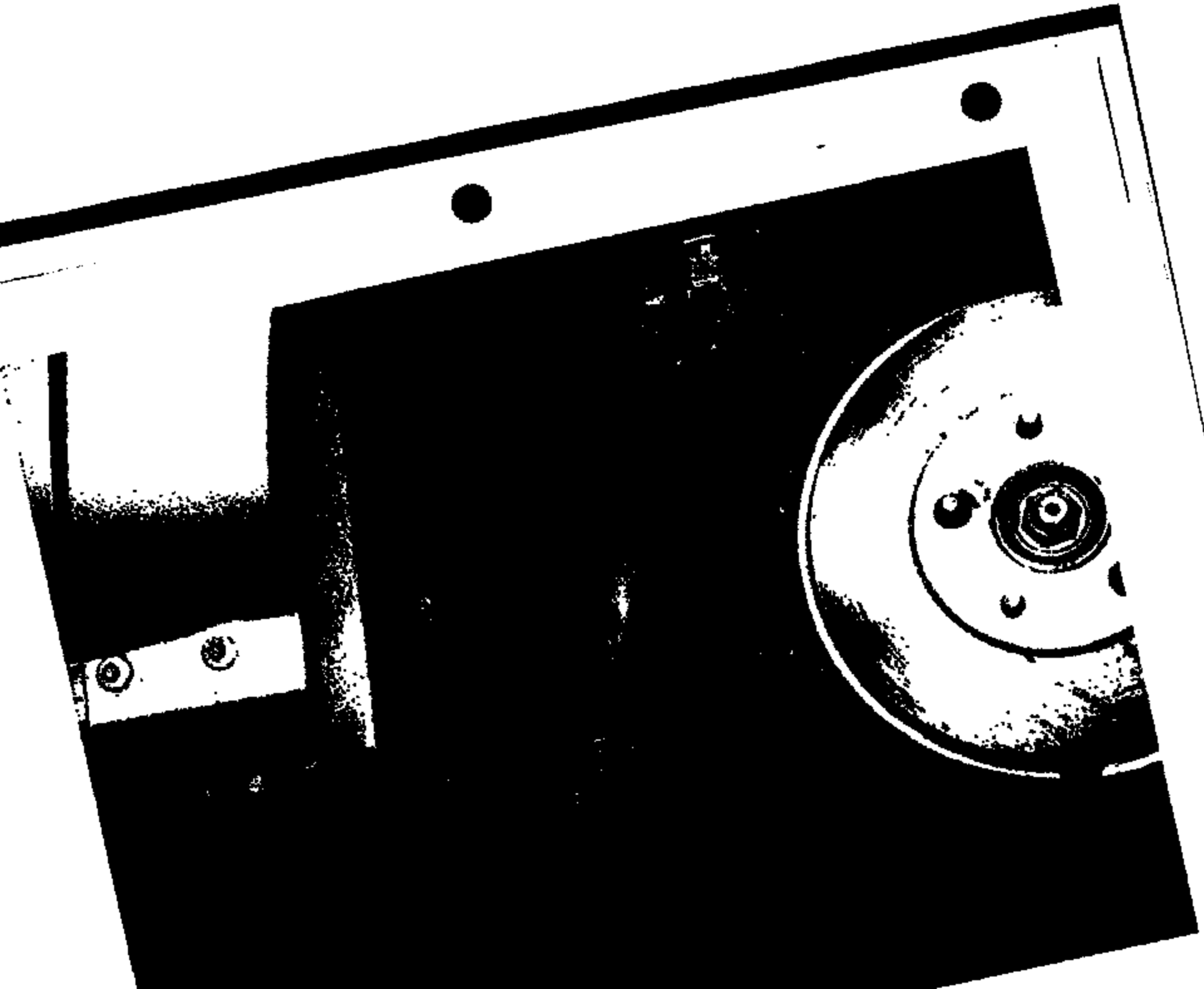
Name: 11398057.JPG

CRTS 0011398

Name: 11398058.JPG

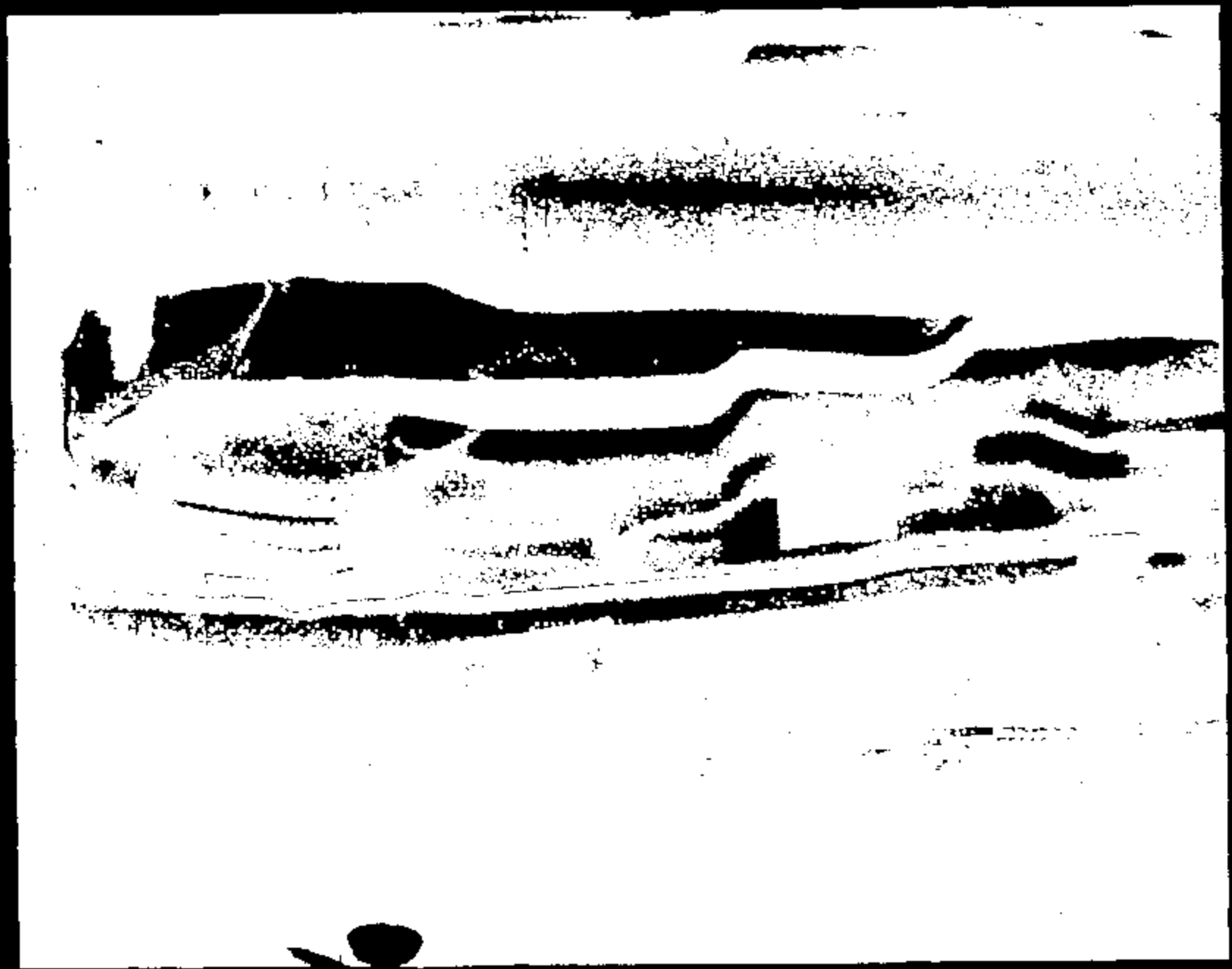
CRTS 0011398

Name: 11398059.JPG

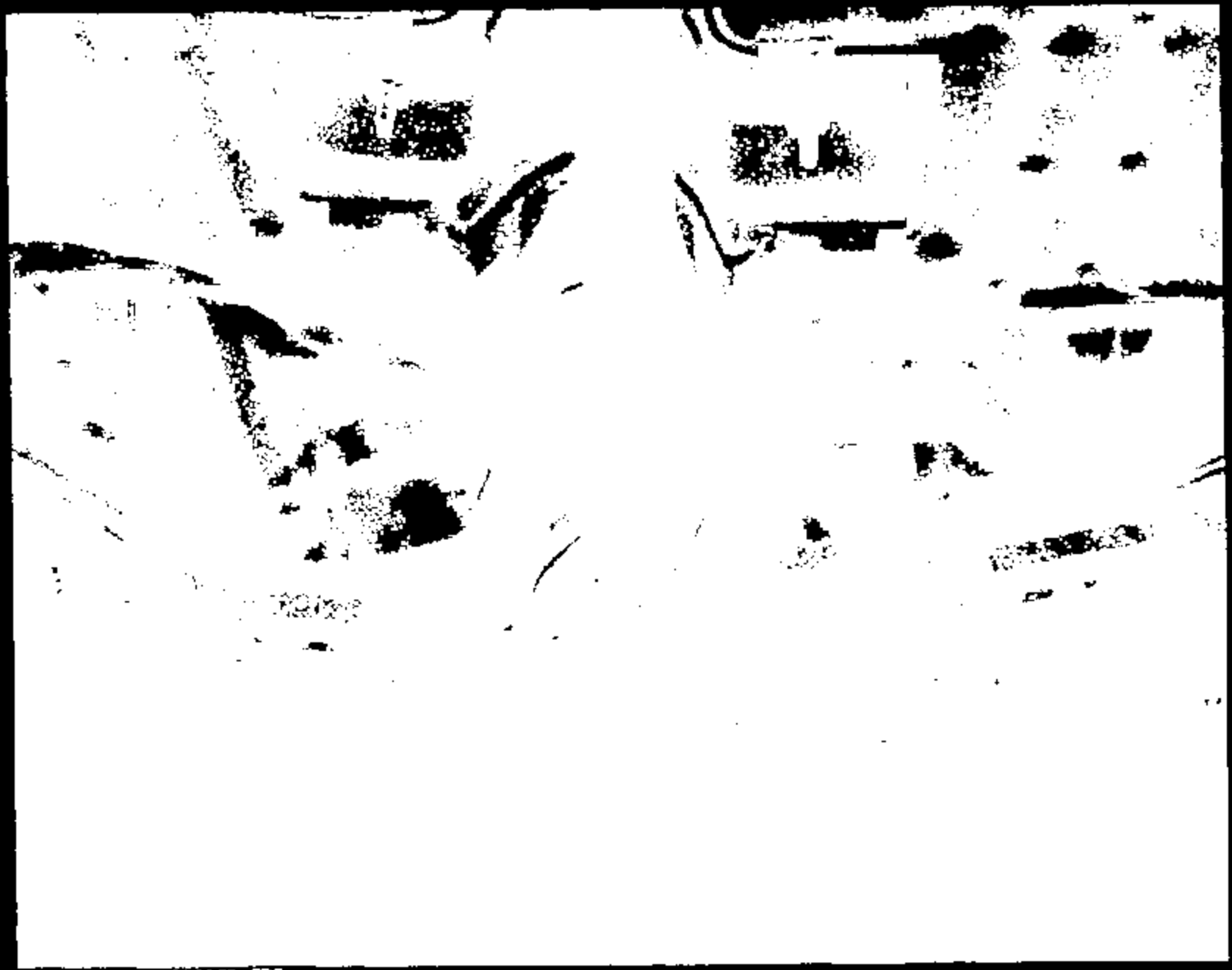


Name: 11398061.JPG

CRTS 0011398



Name: 11190062.JPG



Name: 11398063.JPG

CRTS 0011398

Name: 11398064.JPG

CRTS 0011398

Name: 11398065.JPG

CRTS 011398

TB2592

GTO Test Request

Requestor/Coordinator (PROPS ID):
DPERRIGO
DALE PERRIGO

Testing Activity:	Date Submitted:	Requested Completion Date:	Requestor Reference Number:
Crash Barrier Test Lab	27-JAN-99	30-DEC-99	

Test Procedure Number:	Test Title and / or Subject of Test:
CRB-00	D156 FFV Sedan 40mph offset deformable barrier

Billable Requestors Dept No.:	Worldwide/Work Order Number:	Test conducted to certify control item compliance with Government Regulations:
T551 AV221BA	P09	Yes: ☐ No: ☒
Billable Requestors PROP'S I.D.: DPERRIGO	Billable Requestors Name: DALE PERRIGO	

Complete the following two questions as indicated

1 – Rational for not replacing this test by CAE Analysis:

- ☐ No CAE Methodology or process available
- ☐ For CAE Correlation
- ☐ Insufficient confidence in CAE
- ☐ To obtain basic data for CAE
- ☐ Replacement or Improvement of existing Test
- ☐ Testing is Quicker
- ☐ Mandatory or Regulatory
- ☐ Certification
- ☐ Development test for P2S
- ☒ Not applicable

Other:

(Check appropriate boxes)

2 – What is the expected Test Outcome:

- ☐ Results will meet DVP/WOR requirements
- ☐ System Component will not meet Test specification
- ☒ Unknown
- ☐ Above is Based on CAE?

Other:

"RECORD COPY"
Schedule No. 1-1-12
Retain Until 2018

(Check appropriate boxes)

Test Purpose/Test Procedure or Description of Test:

Custom Test Procedure T557-599

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: DALE PERRIGO
Testing Engineer: _____
Requesting Supervisor/Manager: ALAN TAUB
Testing Supervisor: _____

27-JAN-99 14:33:54 Printed By: GARY WILLIAMS

BARRIER TEST REQUEST

DBP 4/11/99

T02562

TEST OBJECTIVE:	IIHS 40 MPH OFFSET DEFORMABLE BARRIER, FMVSS 212, 219
IMPACT SPEED (MPH) =	40
TEST PROCEDURE:	CRS-00, CUSTOM TEST PROCEDURE T057-229
	IMPACT VEHICLE INTO DEFORMABLE BARRIER WITH 40% OFFSET ON DRIVER'S SIDE

TEST VEHICLE TAG:	578W368
TEST VEHICLE VIN:	1FALP52DXYG100561
MODEL:	D156
MODEL YEAR:	2000
ENGINE/TRANS	3L 2V FFV / AX4N

TASK NO.: F09
BILLABLE DEPT.: T561

	FUEL TYPE	RATED CAPACITY (GAL.)	95% FULL (GAL.)
FUEL:	NONE		

TIRE PRESSURE (PSI):	FRONT =	60	REAR =	30	SPARE = NA
CURB WEIGHT (LBF.):	FRONT =	2196	REAR =	1195	TOTAL = 3391
TEST WEIGHT (LBF.):	FRONT =	2199	REAR =	1499	TOTAL = 3697
					+/- = 25

RIDE HEIGHTS (IN.): FRONT = LEVEL RKR +/- = TO GROUND; REAR = LEVEL RKR +/- = TO GROUND

WEIGH UP INSTRUCTIONS:

MAY REMOVE: EXHAUST, DECK LID, DOOR GLASS, INTERIOR TRIM.
DO NOT PLACE WEIGHT: UNDERHOOD EXCEPT IN ENGINE.
MAX ADD TO ENGINE: 75 LBF.
LOAD TO TEST WEIGHT & LEVEL ROCKERS WRT GROUND.
SEEING INSERTS ACCEPTABLE.

OCCUPANT TYPE:	LEFT FRONT =	50TH%	HYBRID III
	RIGHT FRONT =		

DUMMY POSITIONING: ST-39 DRIVER FOOT-REST: YES

SEAT POSITIONING:

	LONG	VERT	BACK ANGLE (DEG.)	PKG CHECK
LEFT FRONT =	MID	~~MID~~ DOWN	27.2 (FRAME)	Y
RIGHT FRONT =				

DBP Apr 12, 1999

RESTRAINTS USAGE:

	BELT	PYRO BELT	PRT BAG	SIDE BAG
LEFT FRONT =		X	X	
RIGHT FRONT =				

SENSOR SYSTEM: LIVE PRODUCTION HARNESS. MONITOR SENSOR OUTPUTS.
SEE ATTACHED "SENSOR MAP"

File: T02562.xls, Tab: REQUEST
Created: 12/15/98
Printed: 1/27/99, 9:26 PM

Created By: D. Perigo, 84-58018

BARRIER TEST REQUEST

TB2592

DIMENSIONAL ANALYSIS: DETERMINE 40% OFFSET FROM ECO FRONTAL IMPACT TEST PROCEDURE (VEHICLE MUST OVERLAP BARRIER FACE BY 40% +/- 20MM).

150, 156, 647 DBP 4/20/99

STILL PHOTO: STANDARD PRE & POST TEST
CONTACT REQUESTOR FOR ADDITIONAL INSTRUCTIONS.

HIGH SPEED FILM:

	ONBOARD	
1	LEFT	OVER SHOULDER
2	LEFT	RETRACTOR
3	LEFT	D-RING
4	RIGHT	FRONT WINDOW OPENING LOOKING AT DRIVER'S KNEES
	OFFBOARD	
1	RIGHT	OVERALL
2	LEFT	OVERALL
3	OVERHEAD	OVERALL
4	OVERHEAD	A-PILLAR FORWARD
6	LEFT	OCCUPANT KINEMATICS
8	PIT	A-PILLAR FORWARD
TOTAL OFFBOARD =	6	TOTAL ONBOARD = 4

FILM ANALYSIS:

	DESCRIPTION	ACCEL	VEL	DISP	ANGLE
1	LFT RKR LONG @ B-PILLAR WRT GROUND		X	X	
2	LFT RKR VERT @ B-PILLAR WRT GROUND		X	X	
3	RGT RKR LONG @ B-PILLAR WRT GROUND		X	X	
4	RGT RKR VERT @ B-PILLAR WRT GROUND		X	X	

DIGITIZED FILM: NONE

SPECIAL BUILD INSTRUCTIONS:

1. REMOVE DECKLID
2. COLOR CONTRAST UNDERBODY.
3. UPDATE AIRBAGS AND BELTS
4. COLOR CONTRAST ADJUSTABLE PEDALS

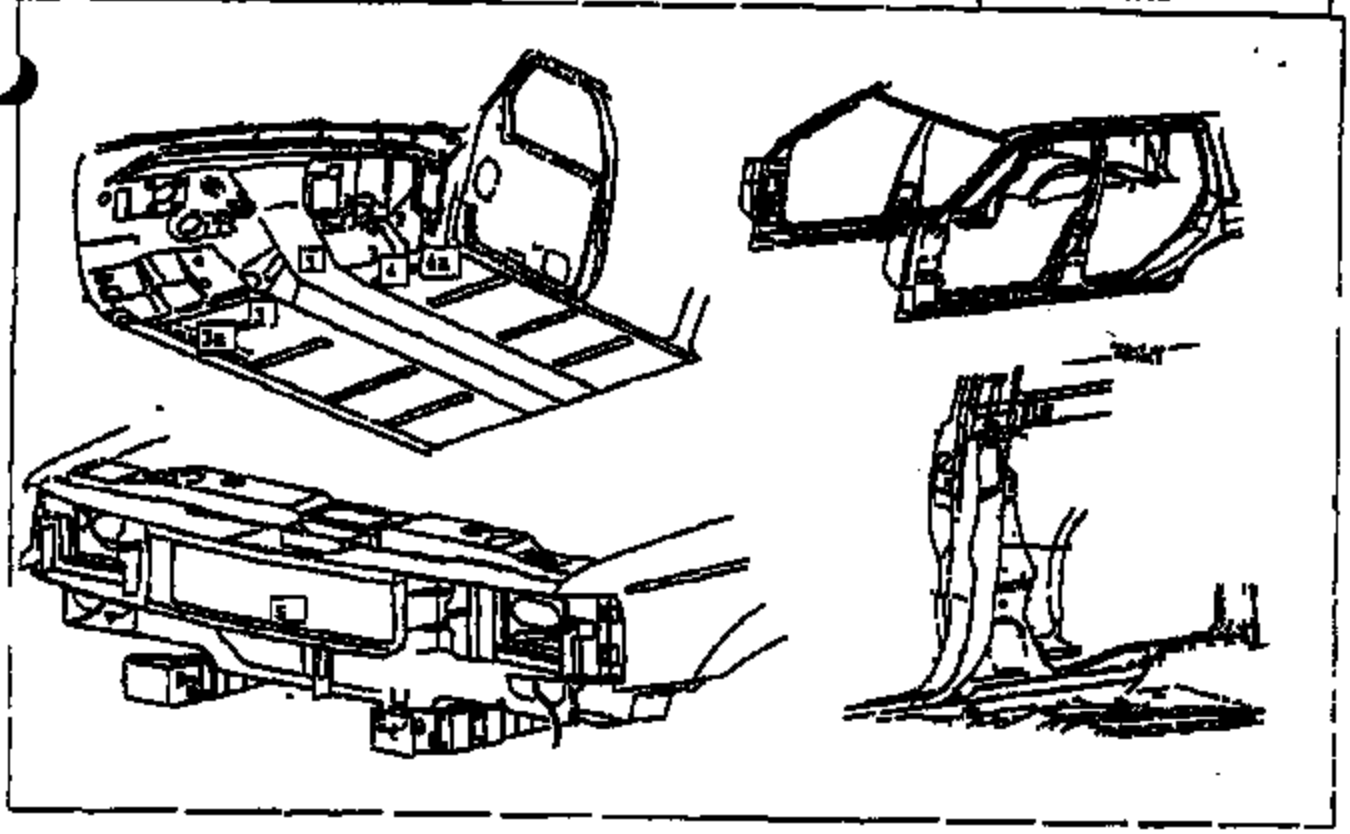
FUNCTION	NAME	PHONE	PAGER
REQUESTOR:	D. PERRIGO	84-56018	DPER
BLD. COORD:	B. PAGANO	32-30545	BPAG
SUPERVISOR:	K. ARTHURS	84-05156	KART

DESCRIPTION	DATE	PG AFFECT.	AUTHOR
CORRECTED TA NUMBER IN HEADER	5-Jan	1&2	DBP
CHANGED FUEL TYPE TO NONE	5-Jan	1	DBP
CHANGED WEIGHTS TO REFLECT IIHS PROCESS	5-Jan	1	DBP
CHANGED DUMMY POST. TO REFLECT IIHS PROCESS	5-Jan	1	DBP
ADDED DIMENSIONAL ANALYSIS COMMENT	5-Jan	2	DBP
DELETED ONBOARD CAMERA FOCUSSED ON PRETENSIONER	5-Jan	2	DBP
CORRECTED "CREATED BY" NAME IN FOOTER	5-Jan	1&2	DBP

SENSOR MAP

Vehicle ID: 579W386
Build level: CP

Program: D186
Test Mode: 40 offset deform.
TA No.: TB2092



	Location Name		Supplier	Output	Nominal (+/-)	Sensor Channels only Manifin	Serial #
1	C/F_FLOOR_PAN_RCH (LHD MIRROR Location)	8W09-1	VISTEON	DAS1_OUT	0	10	[redacted]
		8W09-2		DAS2_OUT	0	10	
		8W09-3		PAS1_OUT	0	10	
		8W09-4		PAS2_OUT	0	10	
		8W09-5		D_PRP_OUT	0	10	
		8W09-6		P_PRP_OUT	0	10	
		8W09-7		D_BAG1_OUT	0	10	
		8W09-8		P_BAG1_OUT	0	10	
		8W09-9		STATUS	5	10	
1	C/F_FLOOR_PAN_R_RCH		accel	TRIAX	On Dyrsm		NA
3a	L/F_FLOOR-B_PI_8W08_OUTBD		VISTEON	SENSOR			
3	L/F_FLOOR_B_PI_8W08_REAR_CT		accel	TRIAX			NA
4a	R/F_FLOOR_B_PI_8W08_OUTBD		VISTEON	SENSOR			
4	R/F_FLOOR_B_PI_8W08_REAR_CT		accel	TRIAX			NA
5	C/SAD	FCA	VISTEON	FCH			
5	C/SAD		accel	TRIAX Next to FCH			NA

T sens required; Assumed system power from vehicle wiring and battery - use provided harness

REVISION LOG

DESCRIPTION	DATE	PAGE AFFECT	AUTH
Deleted serial numbers for sensors, since they are unknown.	1/5/99	1	DBP

DUMMY MEASUREMENT REPORT
CRASH BARRIER

RUN NUMBER 11398 DUMMY POSITION LEFT FRONT
WT ORDER NUMBER TB2562 DUMMY ABBREV 50H3

ABSOLUTE MEASUREMENTS (INCH)	MEASUREMENT
LEG(HYB II)/KNEE(HYB III) TO INST PANEL LEFT	4.30
LEG(HYB II)/KNEE(HYB III) TO INST PANEL RIGHT	4.20
ROCKER TARGETS TO GROUND FRONT	7.50
ROCKER TARGETS TO GROUND REAR	7.60
NOSE TO STEERING WHEEL	16.00
NOSE TO INSTRUMENT PANEL	
INSTRUMENT PANEL TO TORSO	
STEERING WHEEL TO TORSO	7.50
STEERING WHEEL TOP LEGS	2.50
KNEE SPREAD OS-OS(HYB II)/CL-CL(HYB III)	10.50
SEAT BACK ANGLE	27.30
PELVIC ANGLE	21.90
HEAD ANGLE	0.20
ROCKER ANGLE	0.00
NECK BRACKET ANGLE	0.00
BUMPER TARGET TO GROUND	

RELATIVE MEASUREMENTS (INCH)	WRT FRT RKR TGT
HEAD LAT	14.10
HEAD VERT	36.70
HEAD LONG	13.80
SHOULDER LAT	
SHOULDER VERT	
SHOULDER LONG	
H-POINT LAT	10.20
H-POINT VERT	10.30
H-POINT LONG	8.60
O/S KNEE BOLT LAT	10.70
O/S KNEE BOLT VERT	16.70
O/S KNEE BOLT LONG	-6.70

FINAL TEST REPORT

CONFIDENTIAL

Global Test Operations
Advanced Vehicle Technology

		Test Order No.	T-B4162
		Work Task W. O. No.	F16
TO:	K. Arthurs	Test Date	4/17/99
		Date Reported	5/27/99
		Sheet	1 of 17

SUBJECT: Crash Test 11407 (30° Front Fixed Barrier Impact at 34.9 ± 0.4 mph, 56.2 ± 0.6 km/h) - 2001 Taurus (D186) 4-Door Sedan

REQUESTED BY: Vehicle Crash Safety Department, Advanced Vehicle Technology - D. Perrigo

OBJECT: To obtain development data relative to FMVSS 301.

SUMMARY OF TEST RESULTS: See Section 1.0 for fuel spillage data.

R. Oda
Engineering Data Control Analysis

Concur: S. Leah
Section Supervisor
Operations Engineering Section

VEHICLE DATA:

Make and Model	2001 Taurus (D186) 4-Door Sedan
ID Numbers	1FAFP5325KG116294, 590-W-719, DD190001
Power Train	3.0L, EFI, Automatic Transaxle
Fuel Tank(s)	Usable Capacity: 18.0 gal. (68.1L) Test Condition: The "run dry" tank was filled with red-dyed Stoddard solvent to 95% of its rated usable capacity.
Front Seat(s)	Type: Bucket Cover: Cloth Tracks/Position: Manual/Mechanical Mid Seat Backs/Position: Adjustable/Not Measured Head Restraints/Position: Adjustable/Down
Restraint System	LF & RF: 3-Point Continuous Loop Active Belt
Occupants	LF & RF: Water Filled Containers (Simulating 50th Percentile Male, Hybrid II, Uninstrumented Dummies)
Test Weight	Front: 2362 lb (1071 kg) Rear: 1906 lb (865 kg) Total: 4268 lb (1936 kg)
Tires	Front: P205/65R15 — 30 psi (207 kPa) Rear: P205/65R15 — 30 psi (207 kPa) Spare: Removed
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel

GENERAL TEST COMMENTS:

1. Test Procedure

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

- Fixed Barrier Collision, T857-ST-14 dated July 17, 1996.
- EPI Fuel System Stoddard Solvent Fill, ST-11 REF. 4.
- Fuel System Static Rollover, T857-ST-84 dated July 17, 1996.

2. Remarks

Crash movies, pre- and post- crash still images of the test vehicle and copies of this report are available through the Operations Engineering Section, Safety Laboratories Department, GTO. The crash still images are stored and archived on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 11407001 through 11407085.

TEST RESULTS:

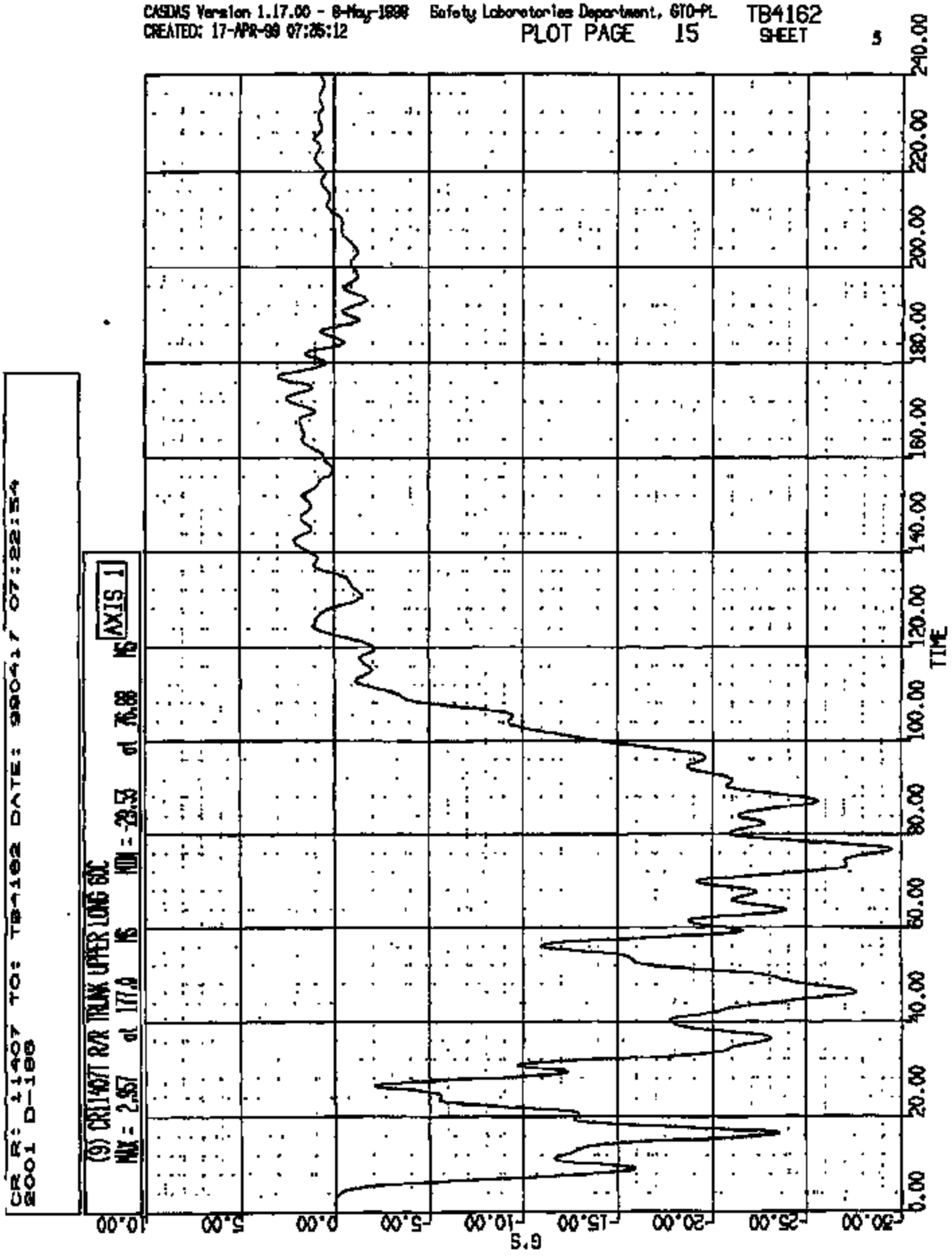
1.0 Fuel System Integrity (FMVSS 301)

- There was spillage from the rollover valve during impact, estimated to be 0.1 ounces.
- There was no fuel system spillage during the post-crash static rollover test.
- The fuel system held pressure during a post-crash pressure check.

2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

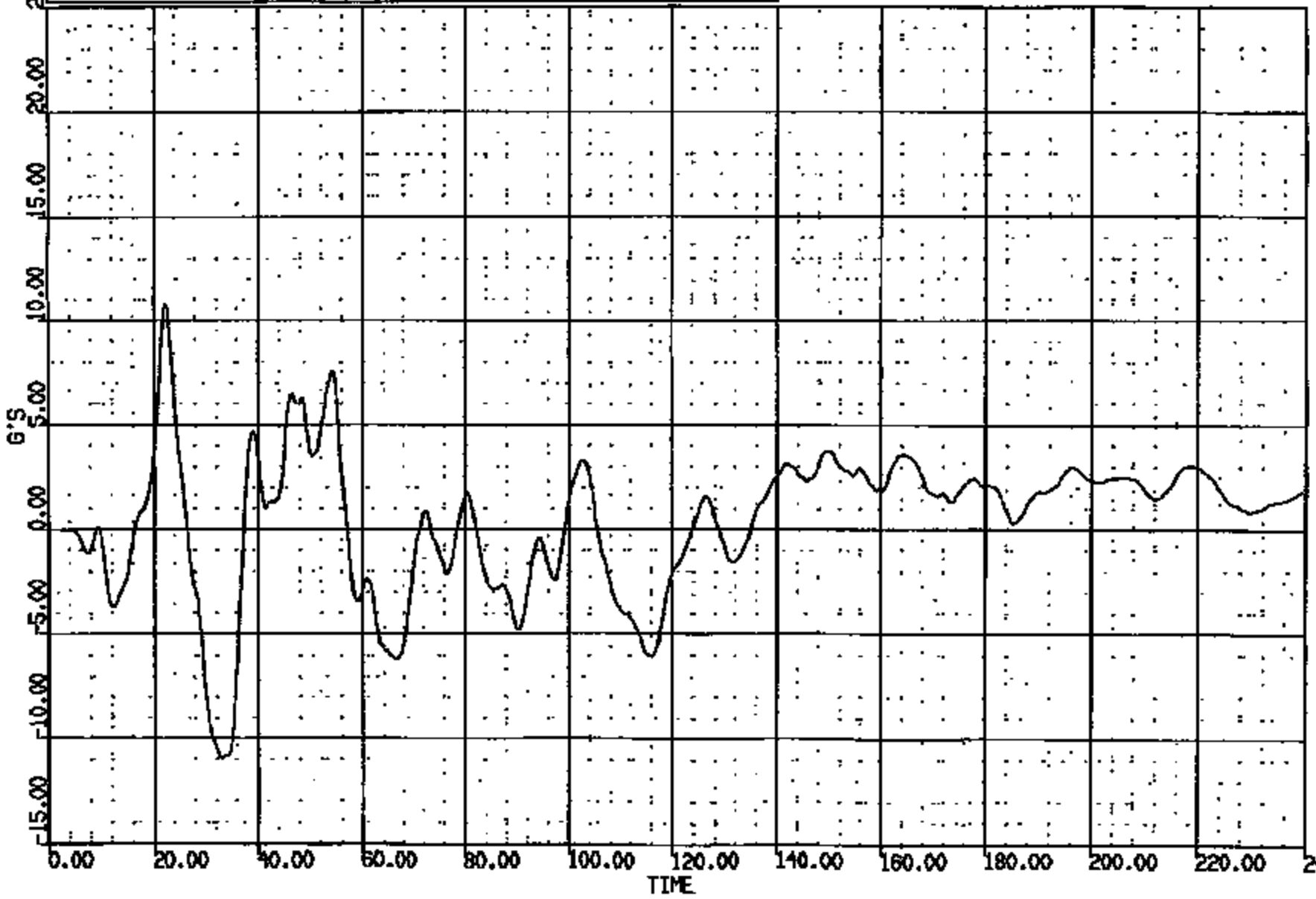
Time histories of the vehicle accelerations and other instrumentation are included in this report.

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


CR R: 11407 TO: TB4162 DATE: 980417 07:22:54
2001 D-188
(9) CR11407T R/R TRUNK UPPER LONG 60C
MAX = 2,857 at 177.0 MS MIN = -28.53 at 76.88 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
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
G's

CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-188

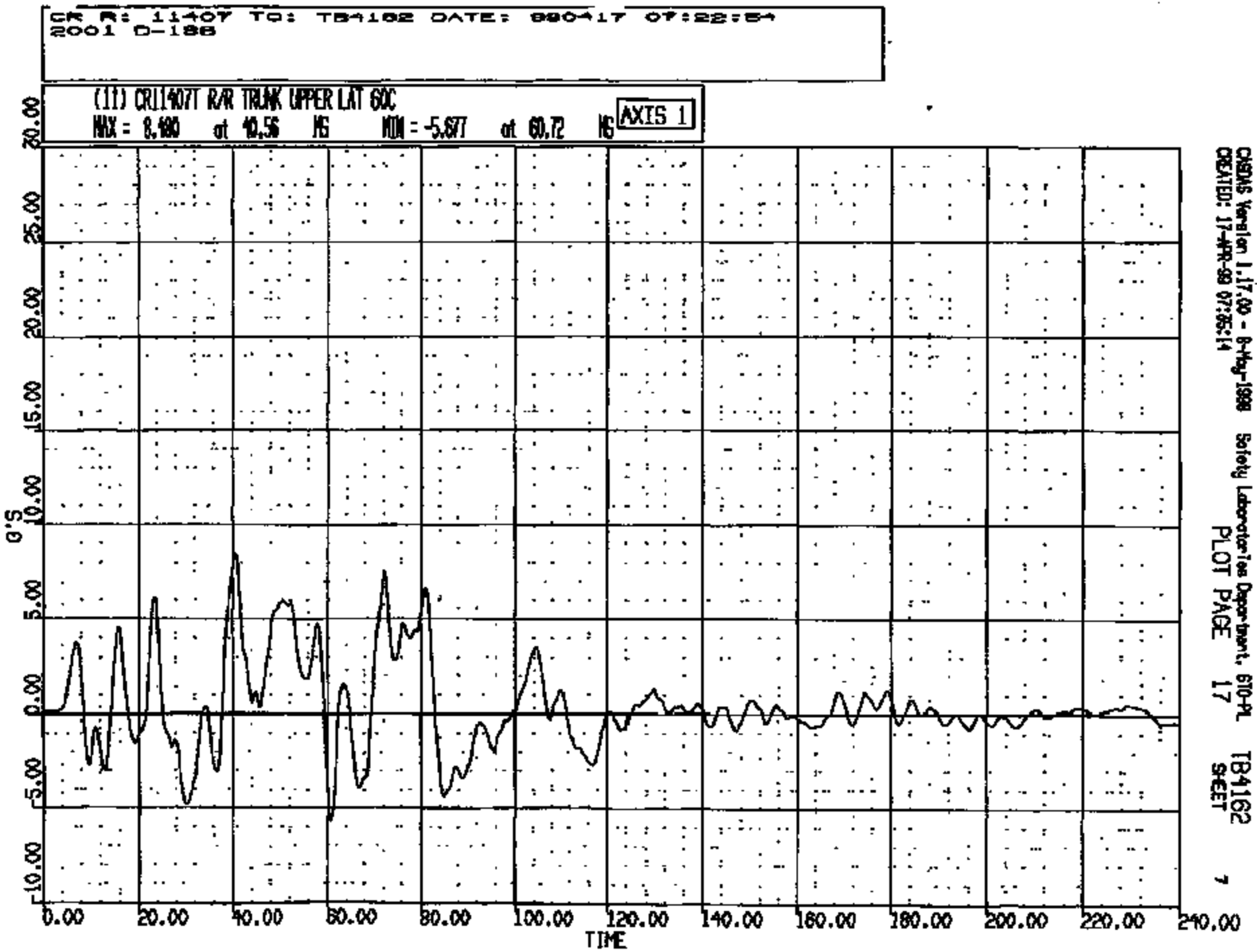
(10) CR11407T R/R TRUNK UPPER VERT 60C
MAX = 10.77 at 22.40 MS MIN = -10.93 at 32.88 MS AXIS 1

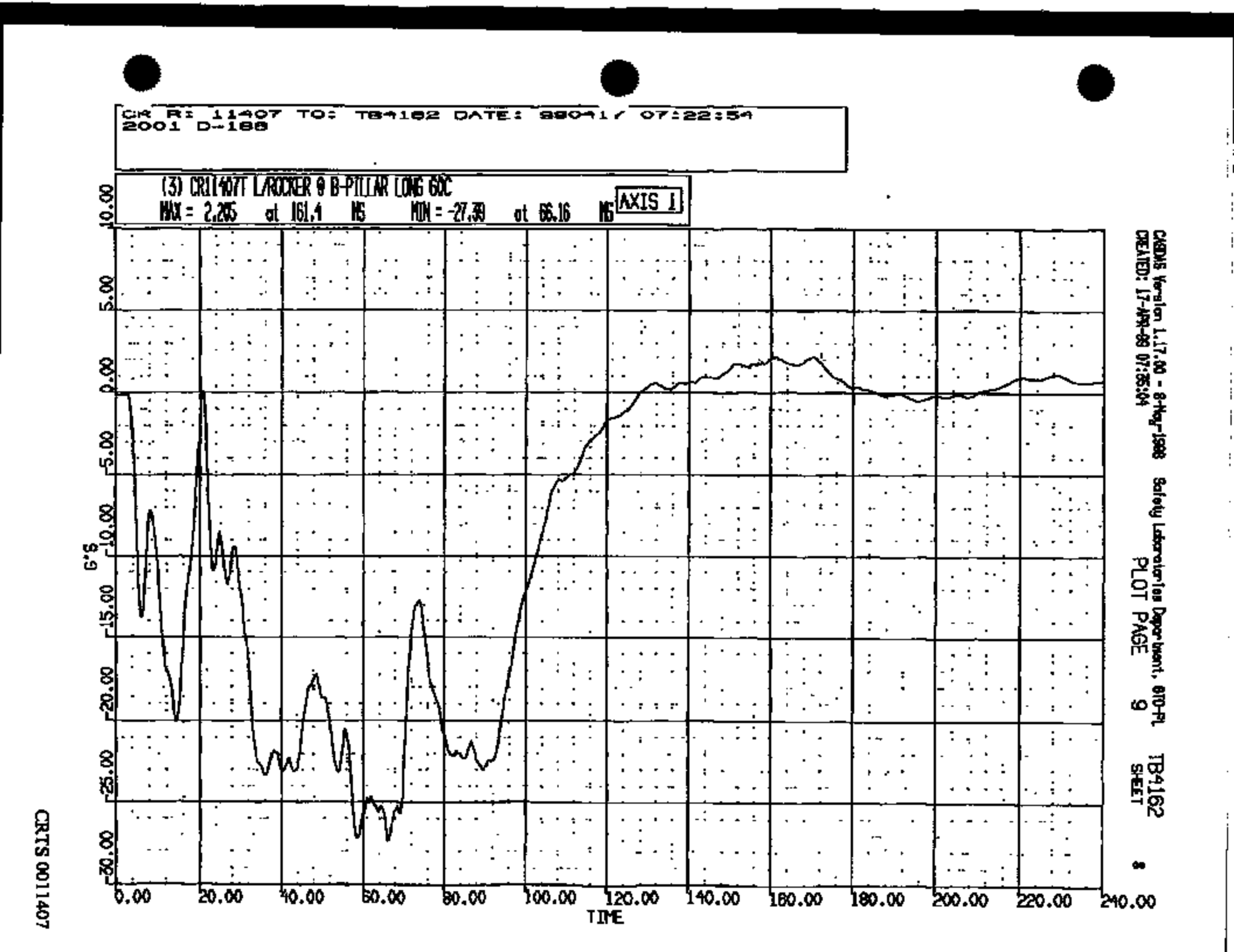


CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 17-APR-99 07:55:13

PLOT PAGE 16 TB4162 SHEET 6

CRTS 011407


CK R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-188
(11) CR11407T R/R TRUNK UPPER LAT 60C
MAX = 8.490 at 10.56 MS MIN = -5.877 at 60.72 MS
AXIS 1
G's
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
140.00
160.00
180.00
200.00
220.00
240.00
TIME
CRSDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 17-APR-99 07:25:14
PLOT PAGE 17
TB4162
SHEET 7
CRTS 011407


CR R: 11407 TO: TB4162 DATE: 880917 07:22:54
2001 D-188
(3) CR11407T L/ROCKER @ B-PILLAR LONG 60C
MAX = 2.205 at 161.4 MS MIN = -27.39 at 66.16 MS
AXIS 1
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
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
CRDMS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 670-PL
CREATED: 17-APR-88 07:35:04
PLOT PAGE 9
TB4162
SHEET 8
CRTS 011407

CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-166

(4) CR11407T L/KICKER @ B-PILLAR VERT 60C
MAX = 11,64 at 63,60 MS MIN = -15,23 at 47,36 MS AXIS 1

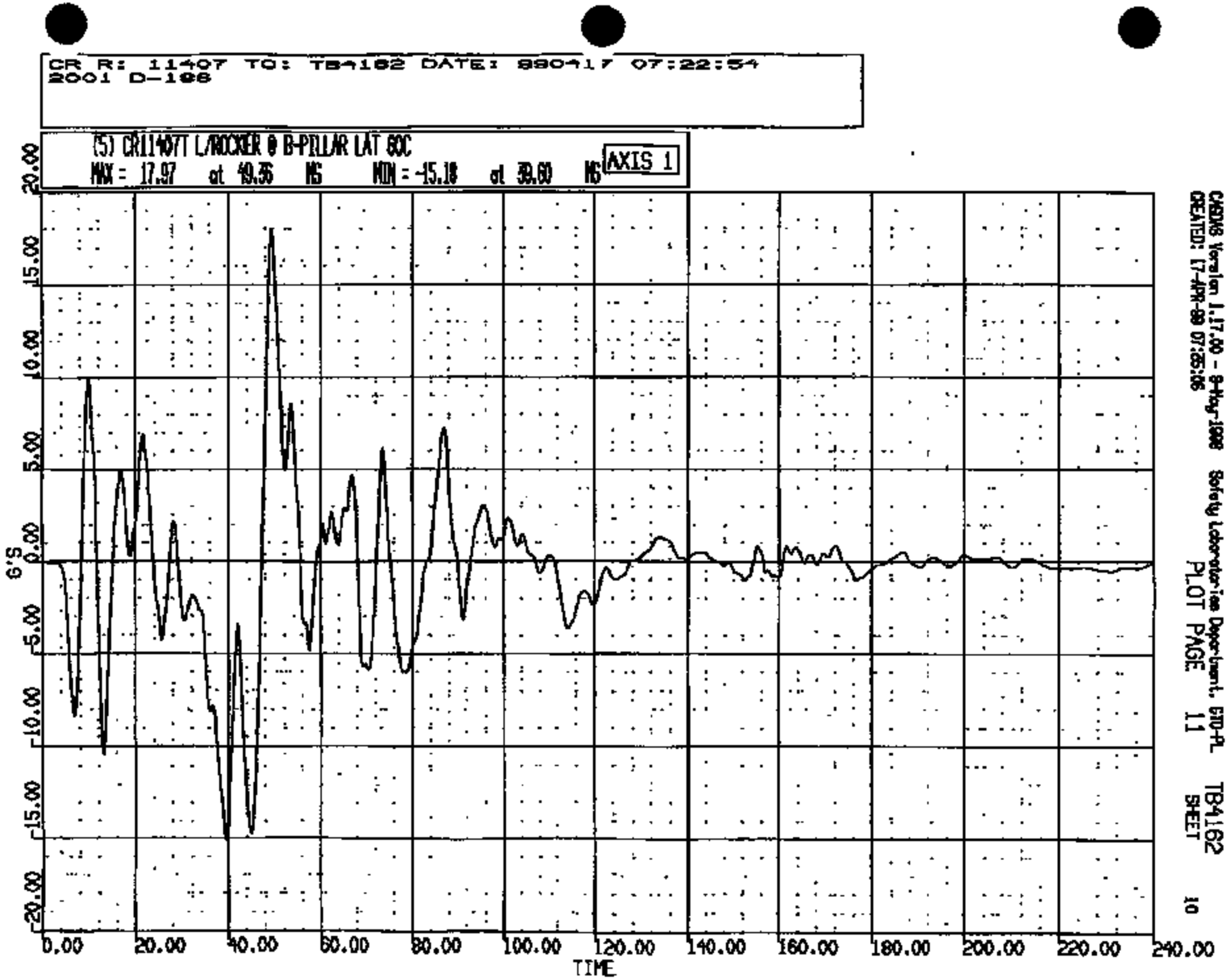
CARDAS Version 1.17.00 - 6-May-1999 Safety Laboratories Department, GTO-PL
CREATED: 17-APR-99 07:35:35

PLOT PAGE 10 TB4162 SHEET 9

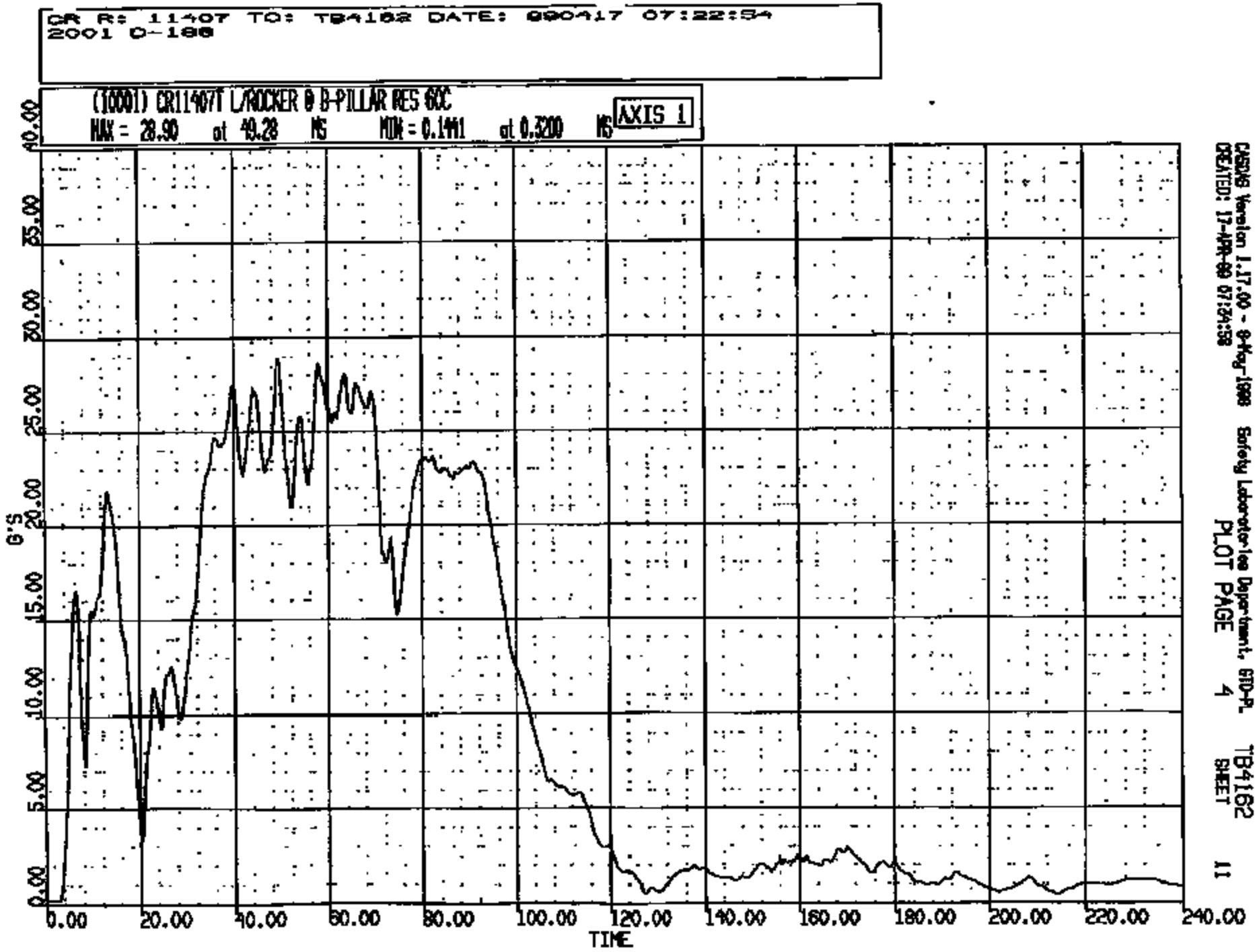
G's

TIME

CRTS 0011407



CRTS 0011407


CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 0-199
(10001) CR11407T L/ROCKER @ B-PILLAR RES 60C
MAX = 28.90 at 49.28 MS MIN = 0.1441 at 0.5200 MS
AXIS 1
G's
TIME
0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00
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
CARDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, GTD-PL
CREATED: 17-APR-99 07:24:38
PLOT PAGE 4
TB4162
SHEET 11

CRTS 011407

CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-188

* (6) CR11407T R/ROCKER @ B-PILLAR LONG 60C AXIS 1

MAX = 12.11 at 44.32 MS MIN = -29.02 at 56.72 MS

ANOMALY KEY:
- = Missing data suppressed full scale
- = Missing data >50.0% of full scale
- = All data < 10.0% of full scale
- = 24 percent offset on T-zero

G's

50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00

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

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 17-APR-99 07:25:08

PLOT PAGE 12 TB4162 SHEET 12

CRTS 0011407

CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-168

(7) CRL11407T R/ROCKER @ B-PILLAR VERT 60C
MAX = 10.41 at 61.52 MS MIN = -20.50 at 15.68 MS AXIS 1

S.G

15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00

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

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6110-PL
CREATED: 17-APR-99 07:25:00

PLOT PAGE 13 TB4162 SHEET 13

CRTS 0011407

CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-186

(8) CR11407T R/ROCKER @ B-PILLAR LAT 60C
MAX = 31.53 at 44.29 MS MIN = -16.13 at 52.84 MS AXIS 1

G's

60.00
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

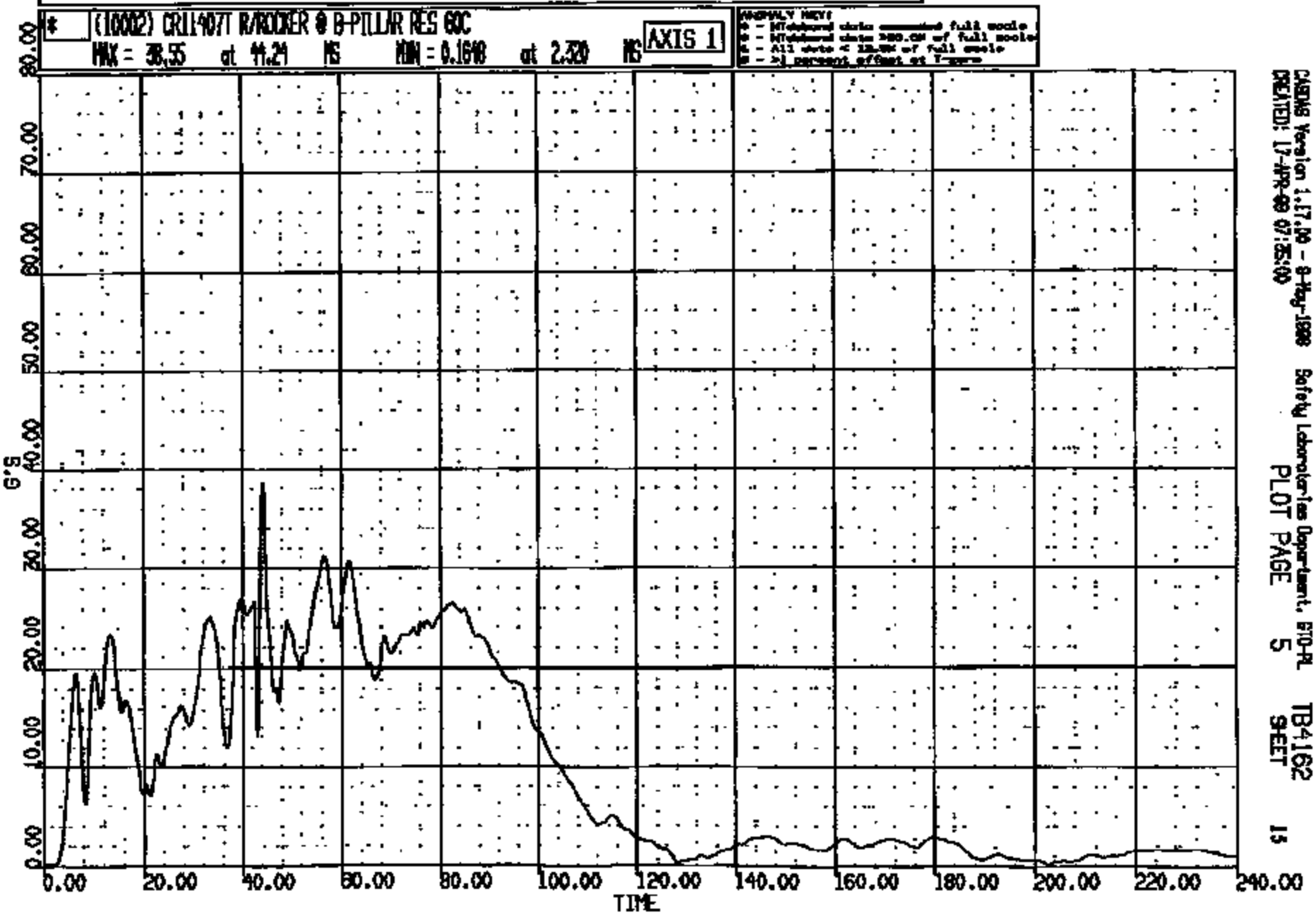
TIME

CASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 670-RL
CREATED: 17-APR-99 07:35:10

PLOT PAGE 14 TB4162 SHEET 14

CRTS 0011407

CR R: 11407 TO: TB4162 DATE: 980417 07:22:54
2001 D-198



CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 8110-PL
CREATED: 17-APR-98 07:35:00
PLOT PAGE 5 TB4162 SHEET 15

CRTS 0011407

CR R: 11407 TO: TB4162 DATE: 990417 07:22:54
2001 D-166

(1) CR11407T ALTERNATE T-ZERO SN 4000C
MAX = 0.9570 at -.762E-05 MS MIN = -.439E-01 at 179.1 MS

AXIS 1

CNEDAS Version 1.17.00 - 8-May-1989 Safety Laboratories Department, GTO-PL
CREATED: 17-APR-99 07:35:02

PLOT PAGE 7 TB4162 SHEET 16

VOLTS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 011407

CR R: 11407 TO: TB4162 DATE: 980917 07:22:34
2001 D-186

(2) CR114077 FUEL INERTIA SW SW 4000C
MAX = 0.9570 at -.7629E-05 MS MIN = 0.9570 at -.7629E-05 MS AXIS 1

VOLTS

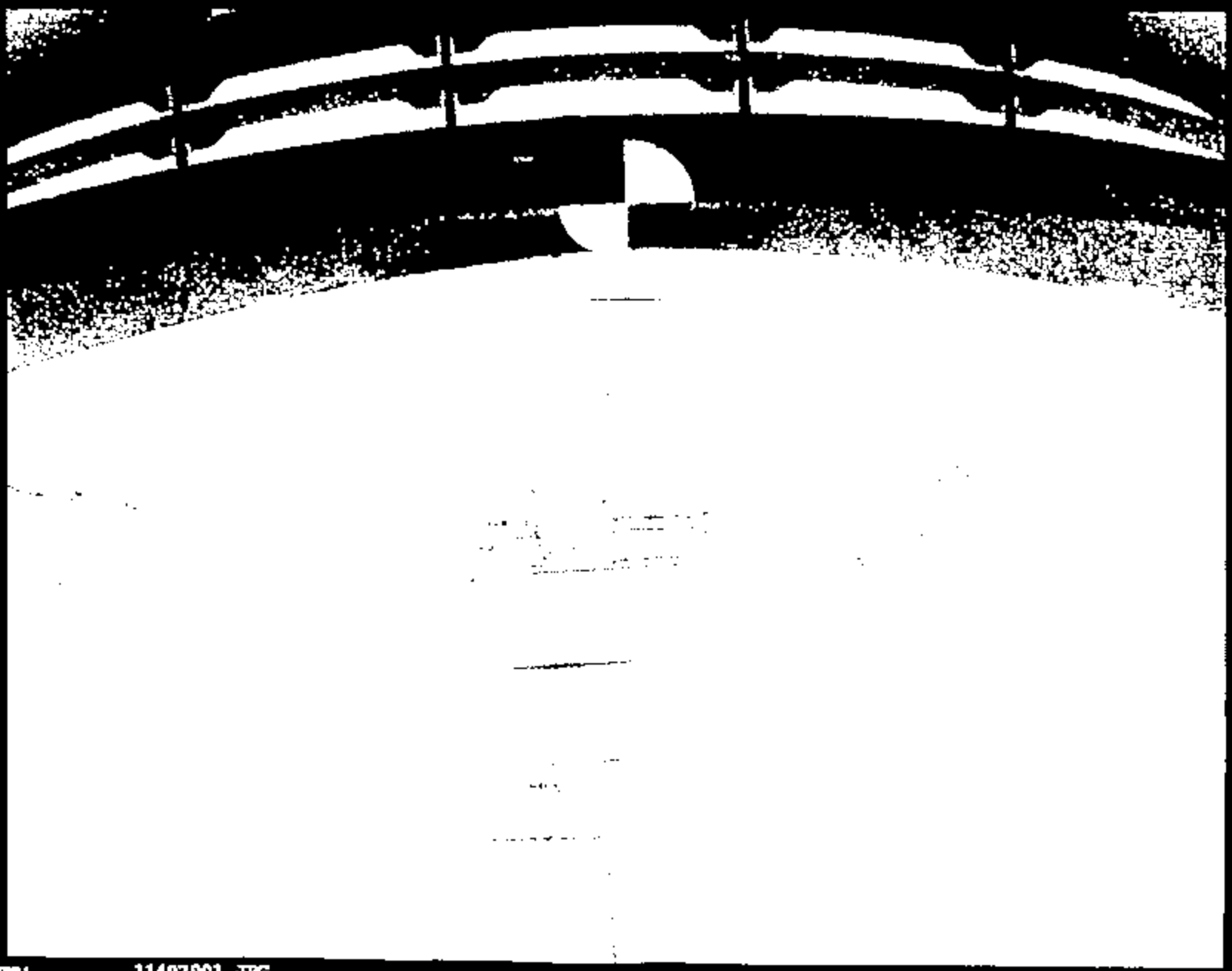
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB4162
CREATED: 17-APR-98 07:25:08 PLOT PAGE 8 SHEET 17

CRTS 0011407

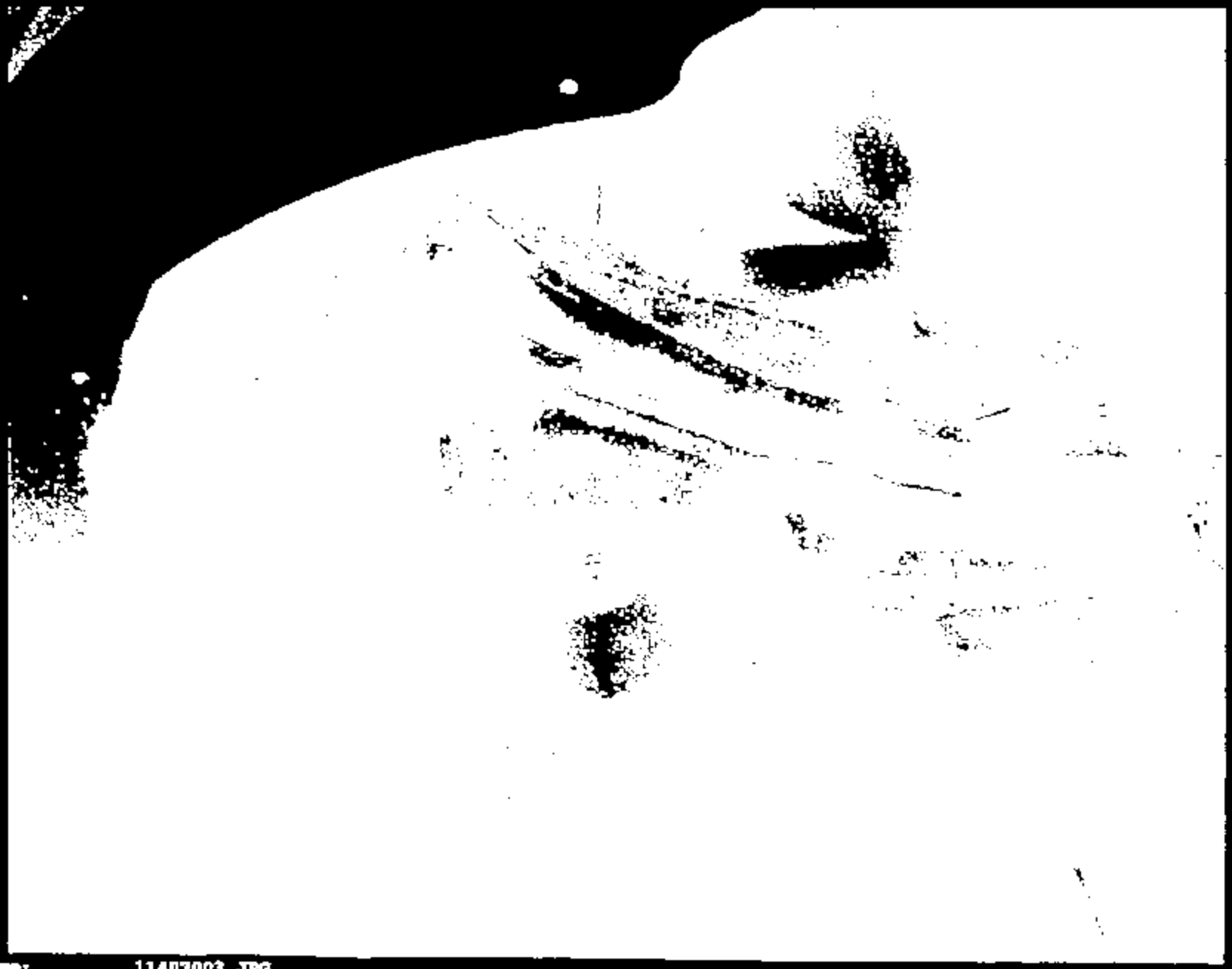


Name: 11407001.JPG

CRTS 0011407

Name: 11407002.JPG

CRTS 0011407



Name: 11407003.JPG

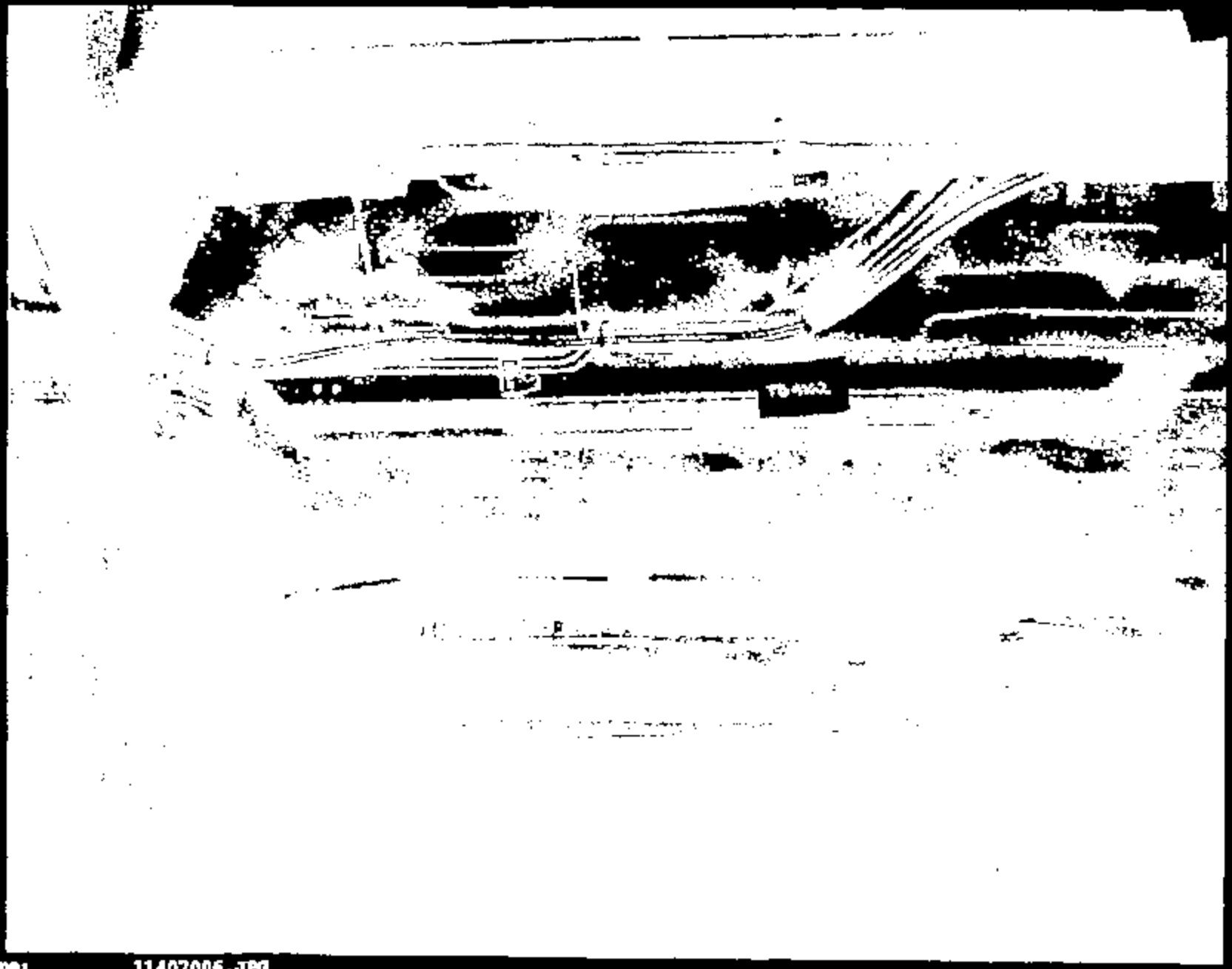
CRTS 011407

Name: 11407004.JPG

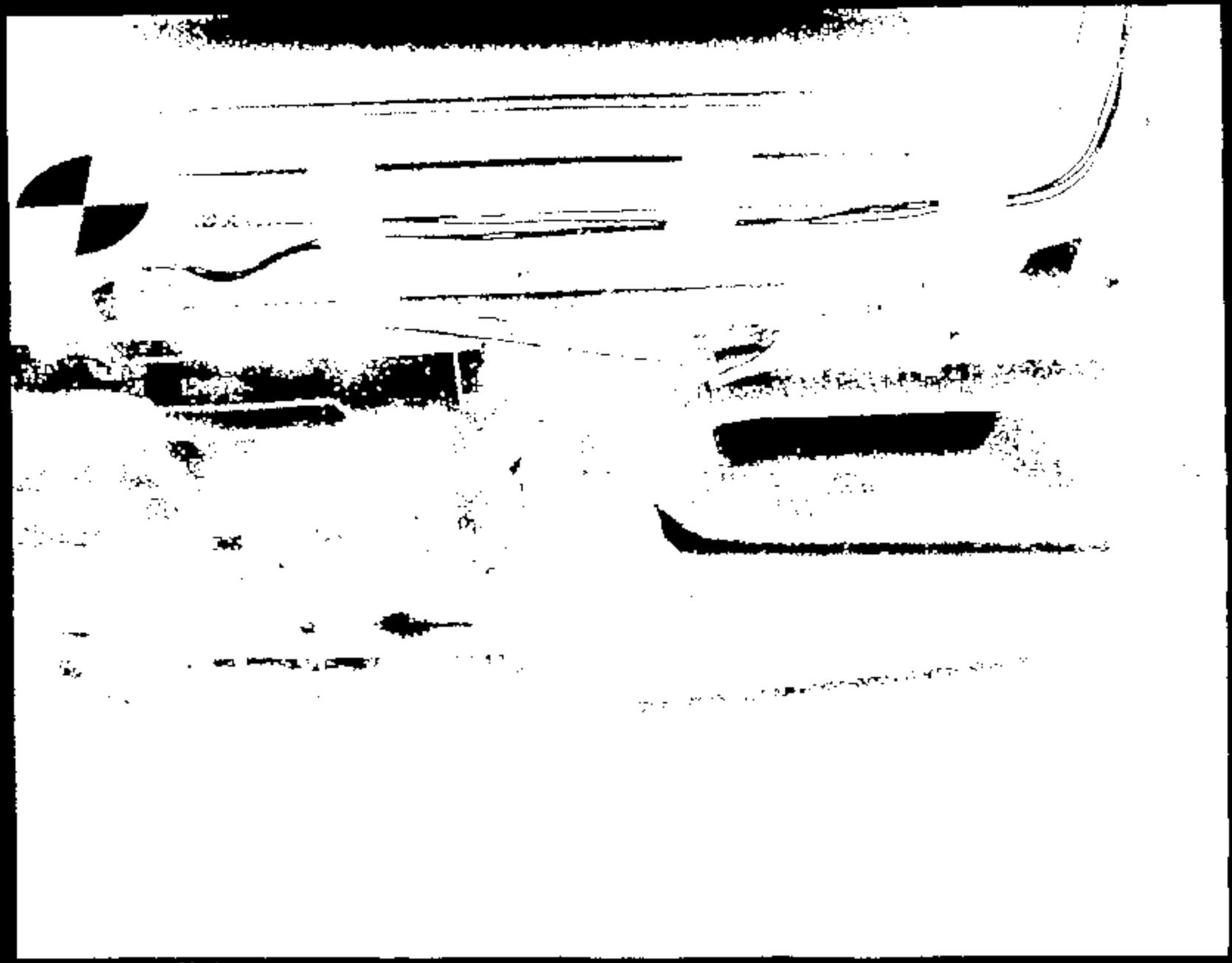
CRTS 0011407

Name: 11407005.JPG

CRTS 0011407

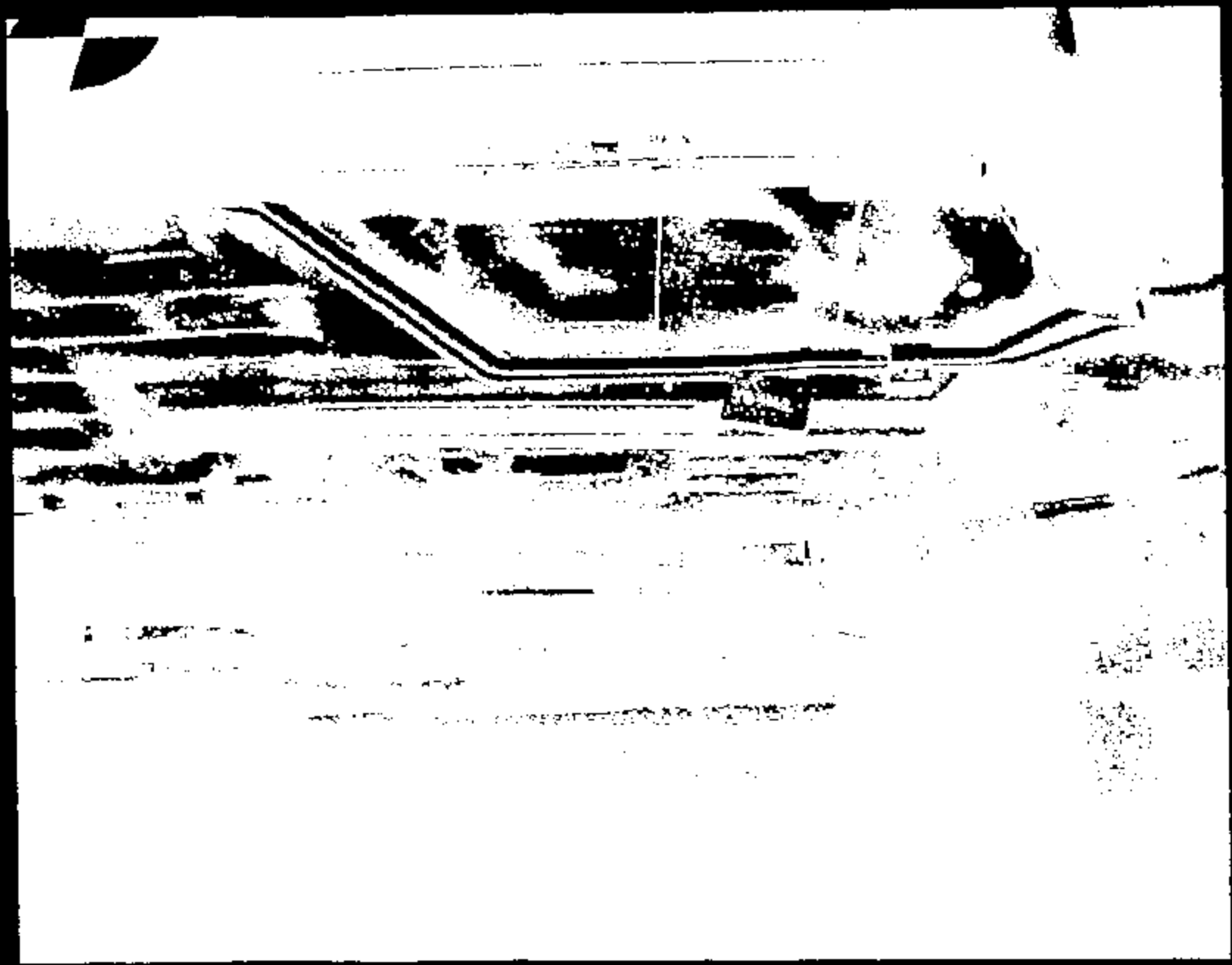


Name: 11407006.JPG



Name: 11407007.JPG

CRTS 0011407



Name: 11407008.JPG

CRTS 0011407

Name: 11407009.JPG

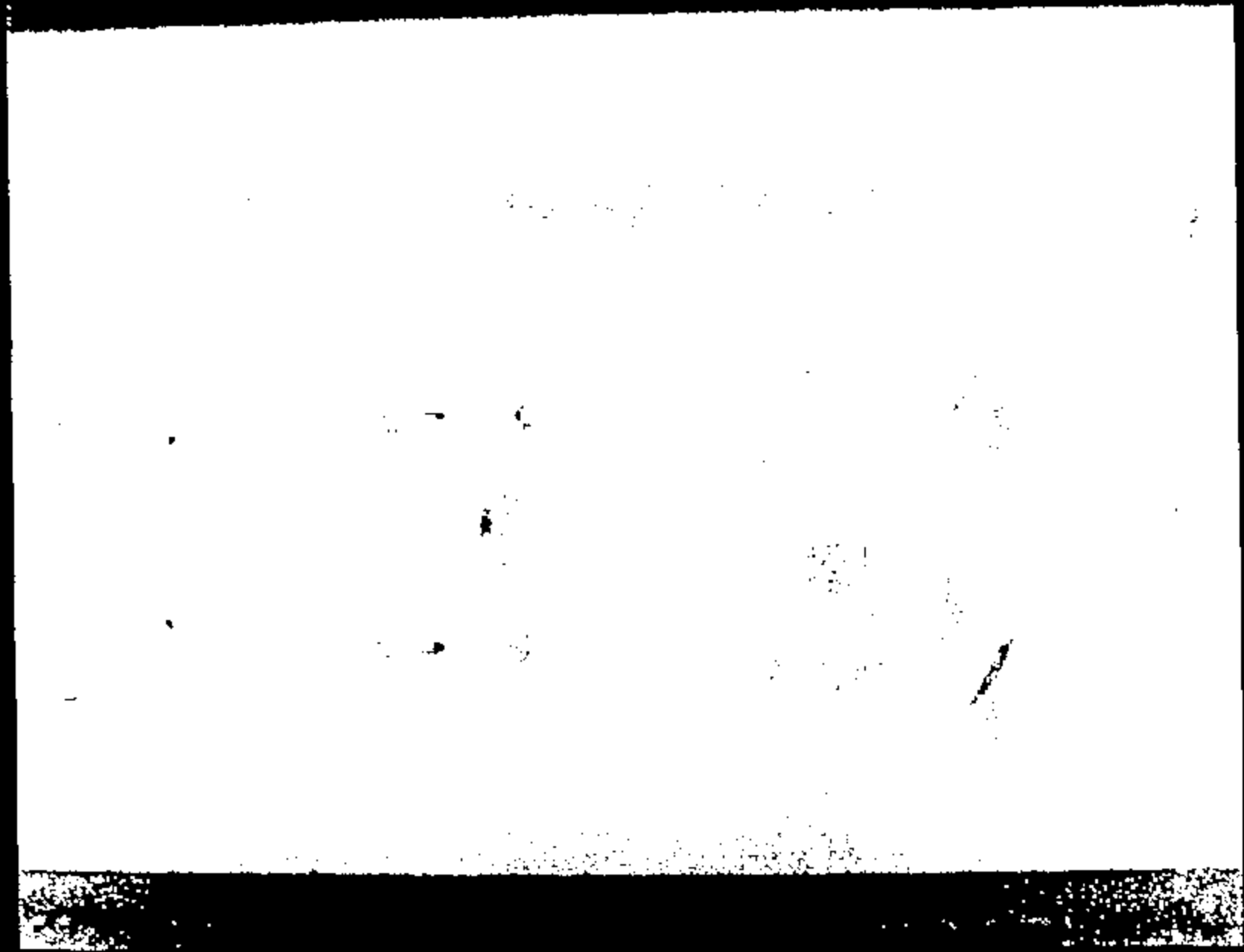
CRTS 0011407

Name: 11407010.JPG

CRTS 0011407

Name: 11407011.JPG

CRTS 0011407

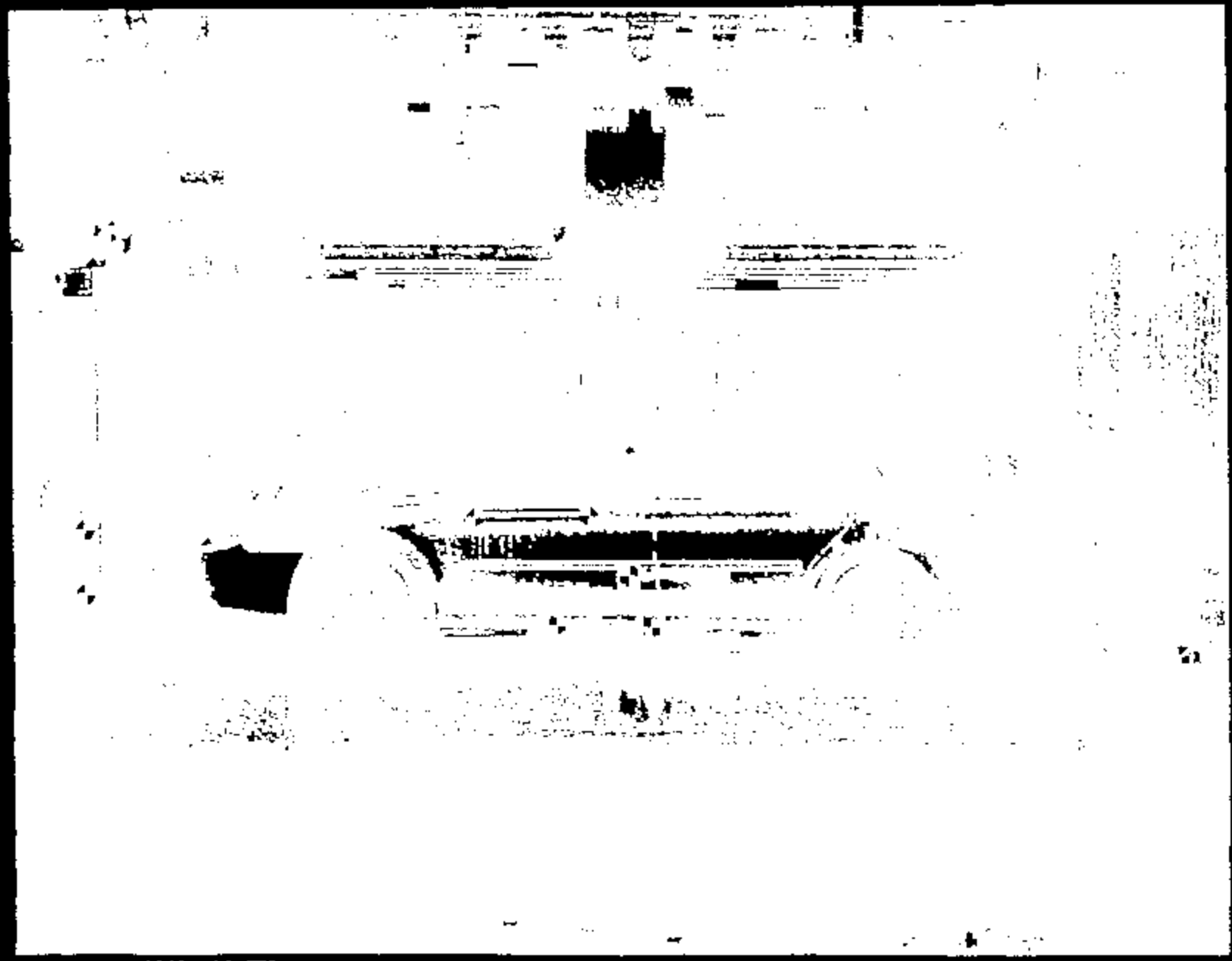


Name: 11407012.JPG

CRTS 0011407

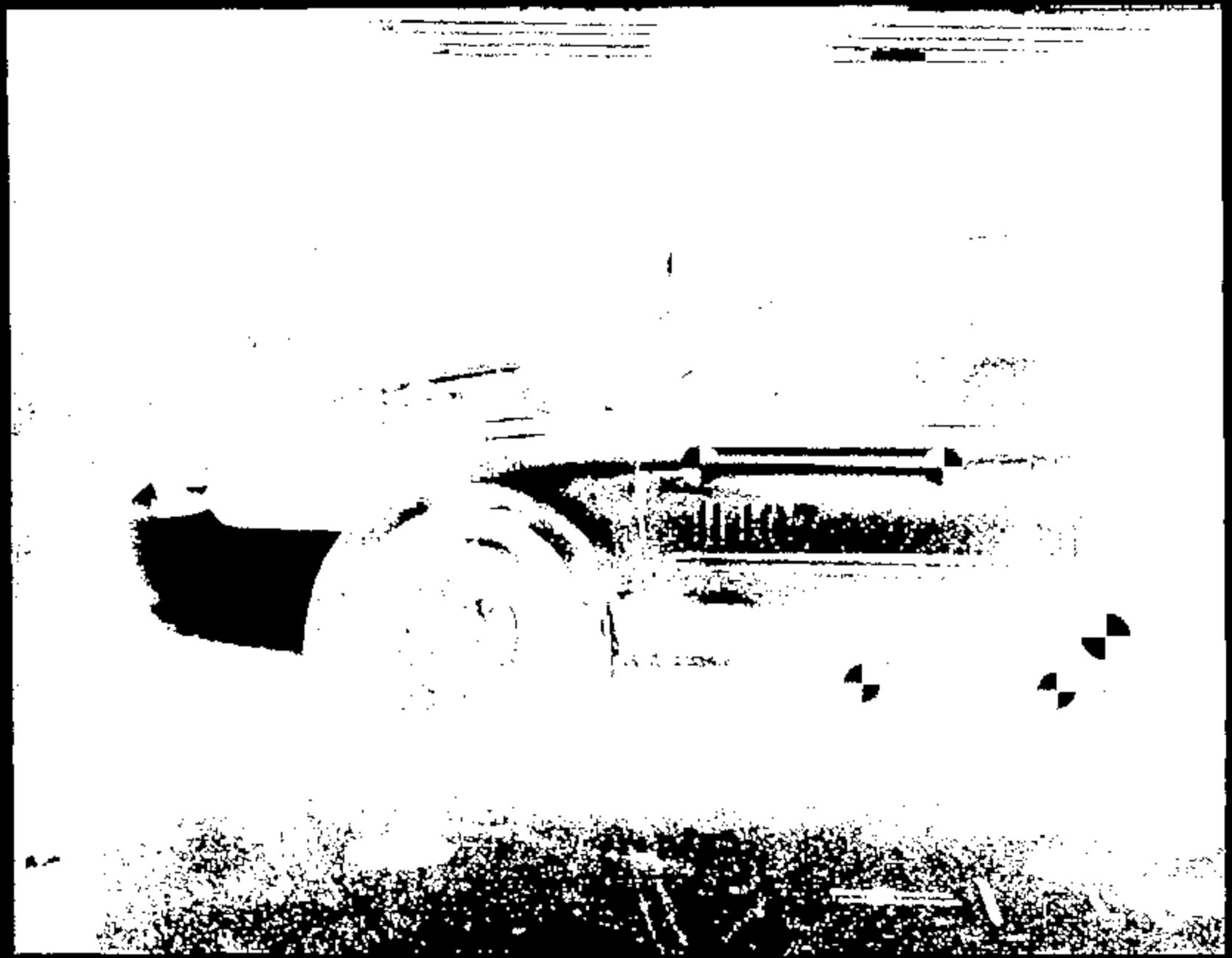
Name: 11407013.JPG

CRTS 0011407



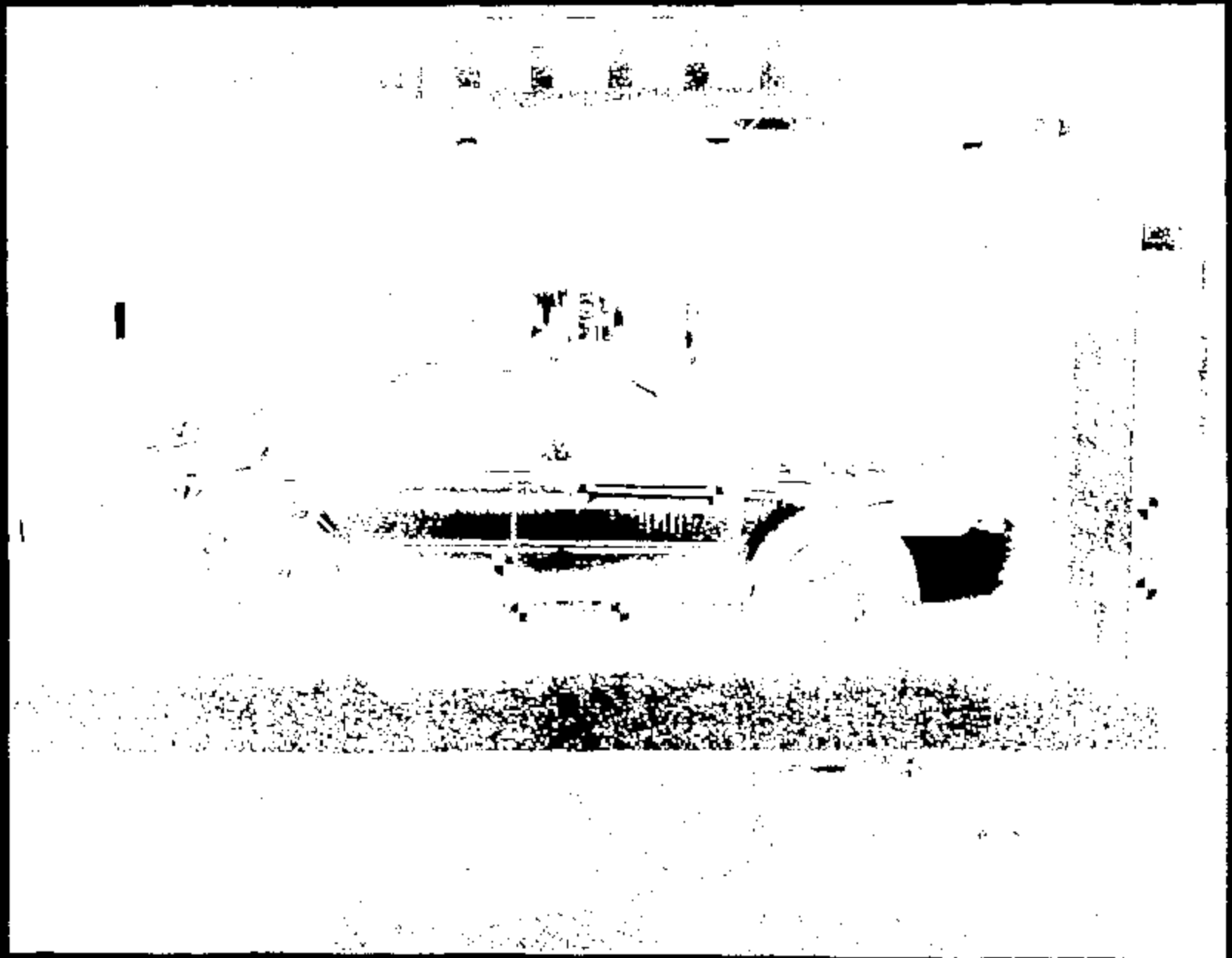
Name: 11407014.JPG

CRTS 0011407



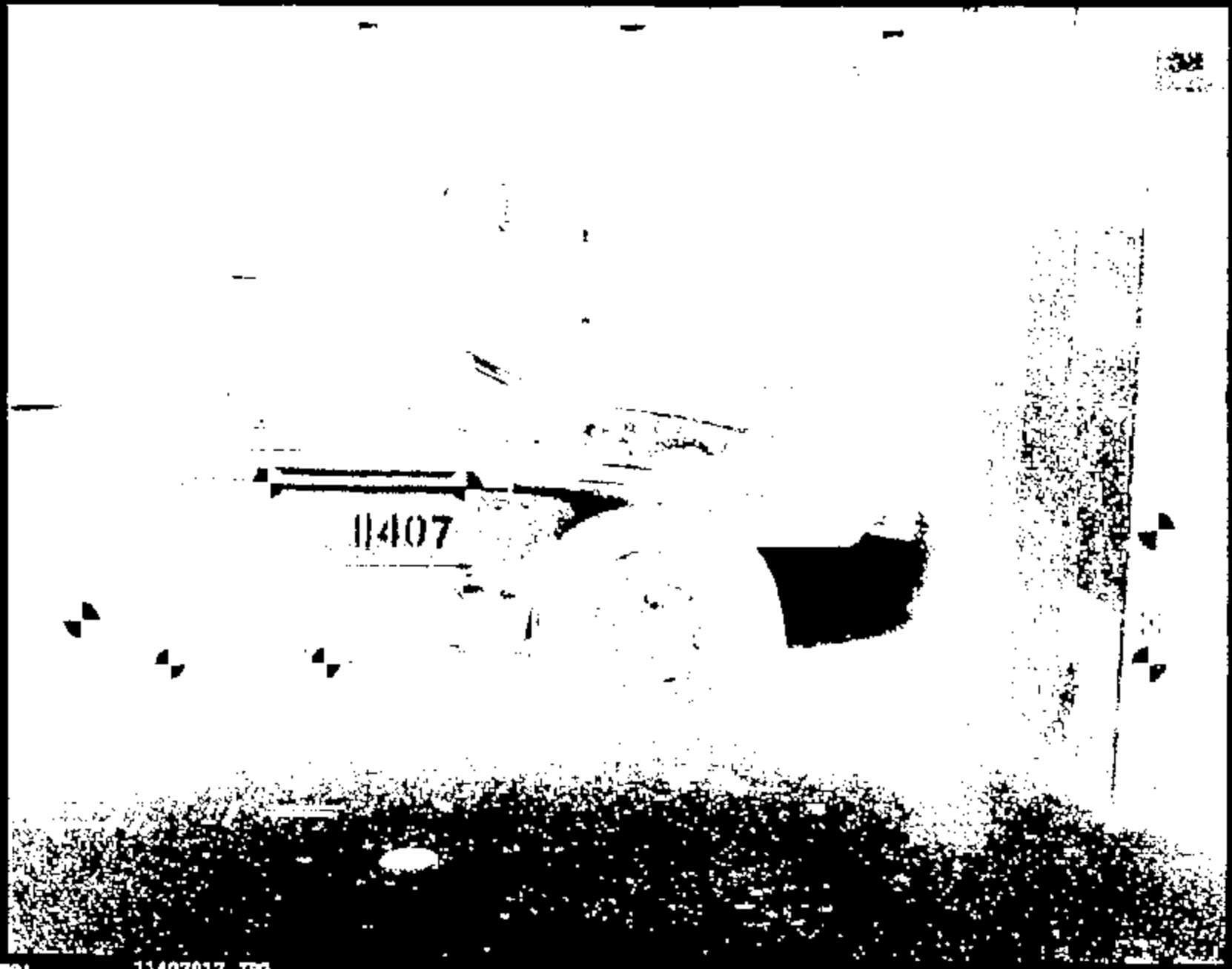
Name: 11407015.JPG

CRIS 0011407



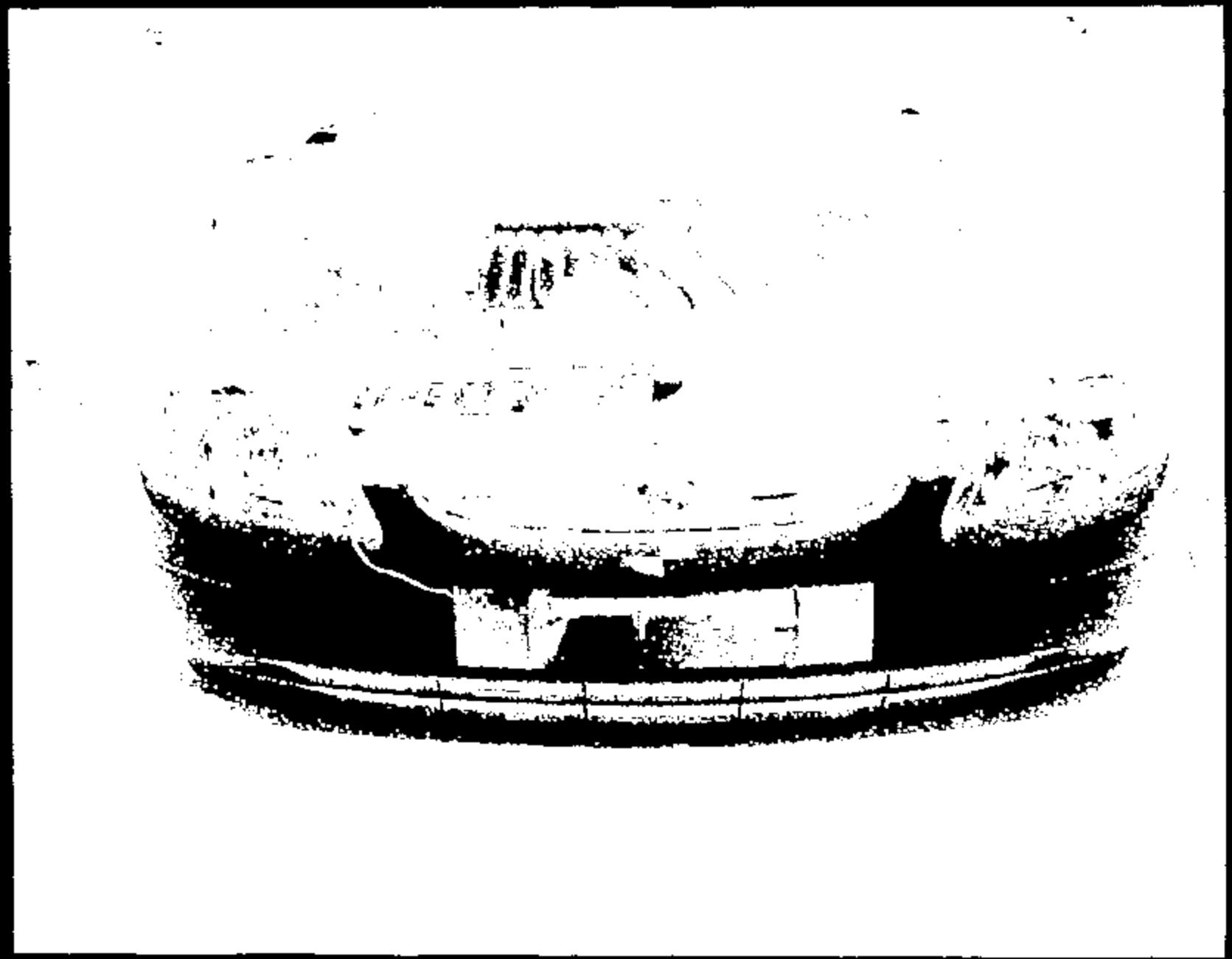
Name: 11407016.JPG

CRTS 011407



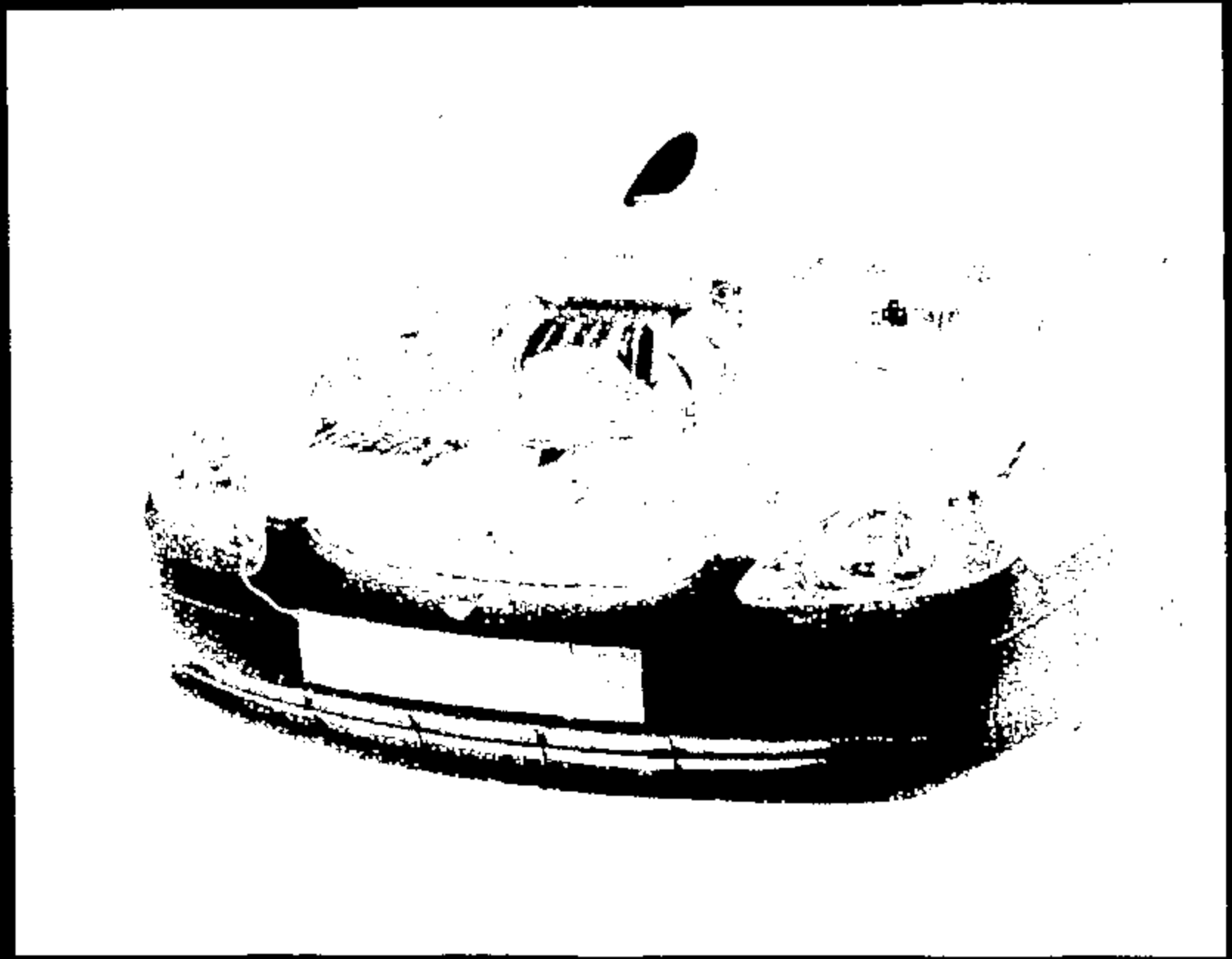
Name: 11407017.JPG

CRTS 0011407



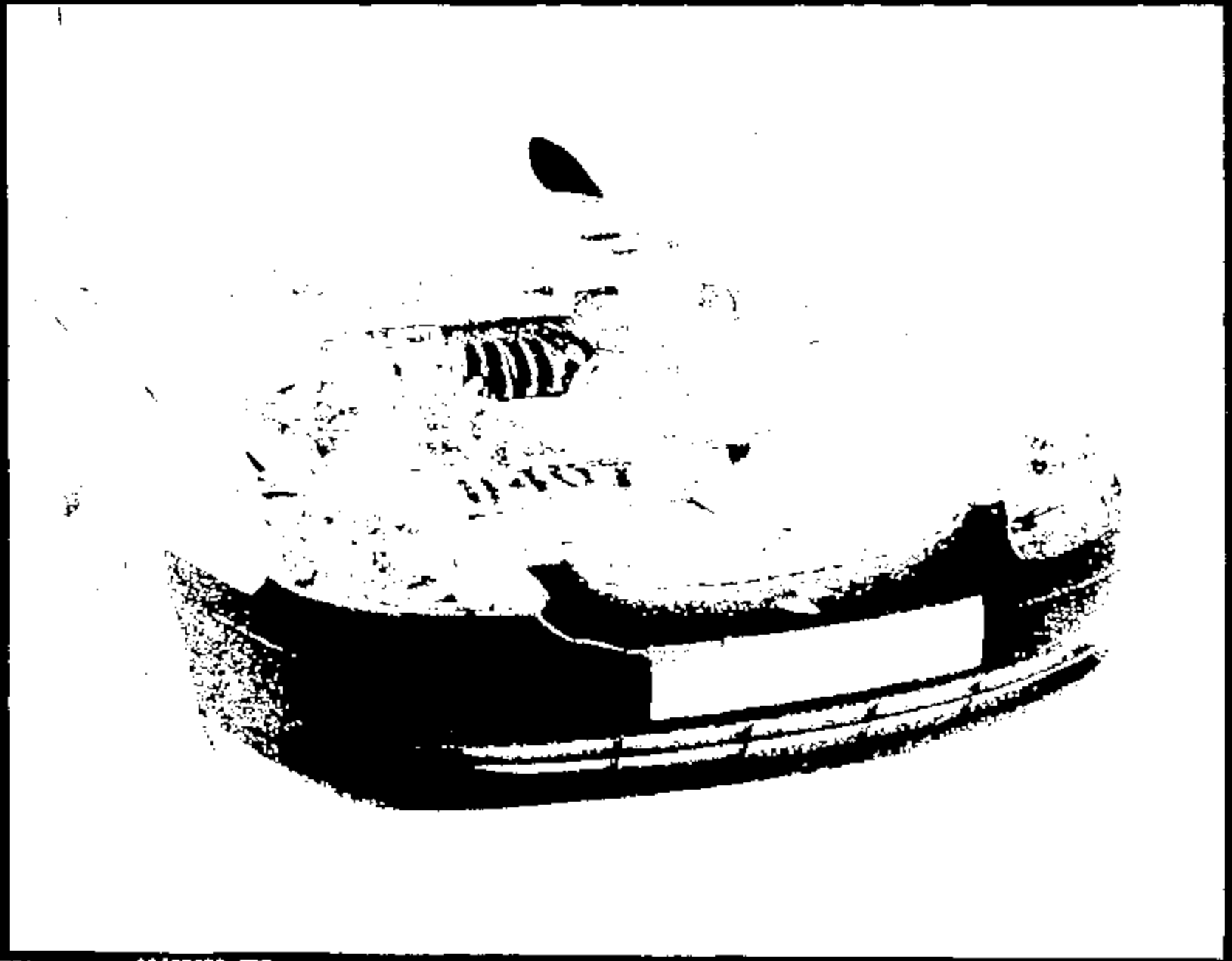
Name: 11407018.JPG

CRTS 011407



Name: 11407019.JPG

CRTS 0011407



Name: 11407020.JPG

CRTS 0011407

Name: 11407021.JPG

CRTS 0011407

Name: 11407022.JPG

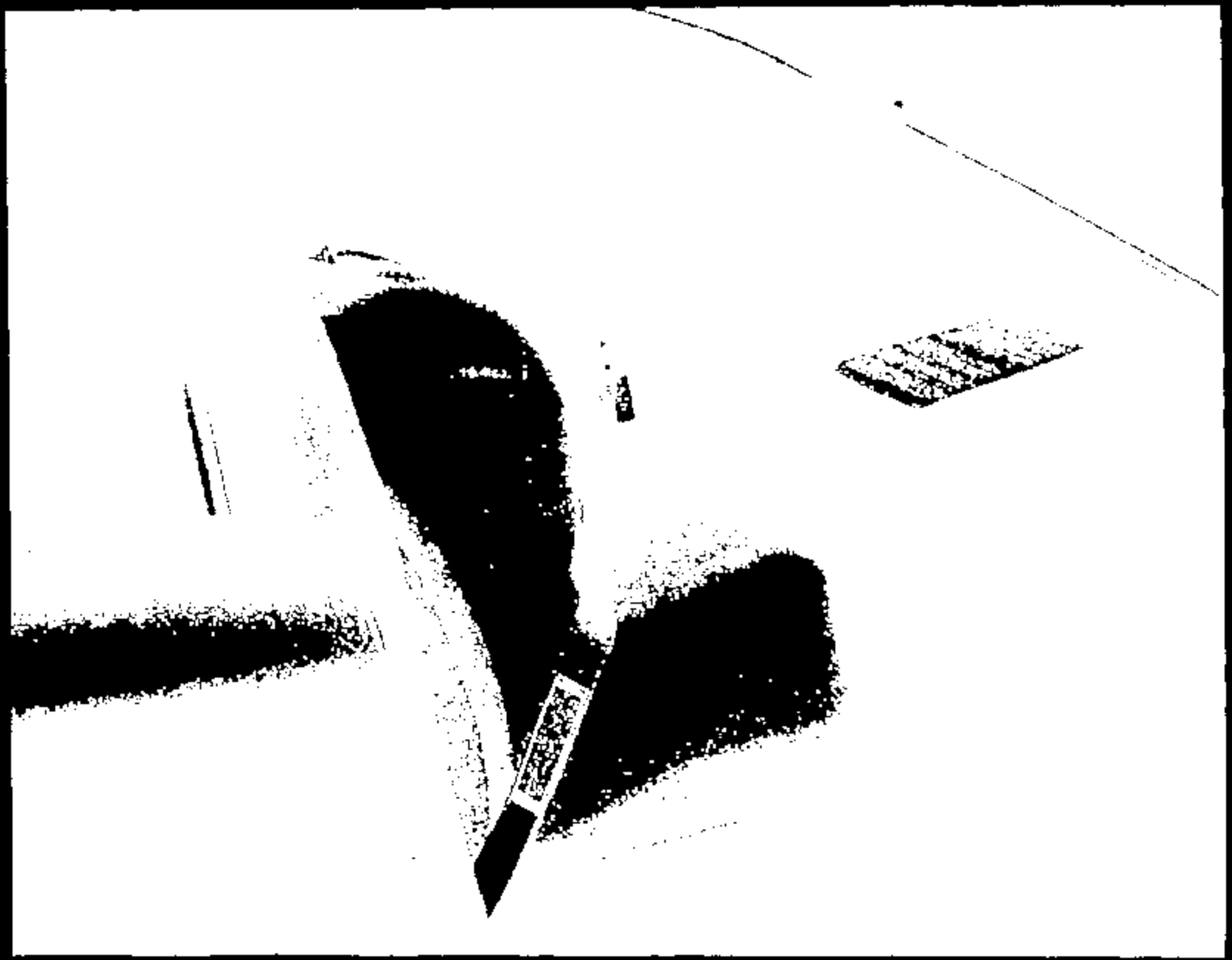
CRTS 0011407

Name: 11407023.JPG

CRTS 0011407

Name: 11407024.JPG

CRTS 0011407

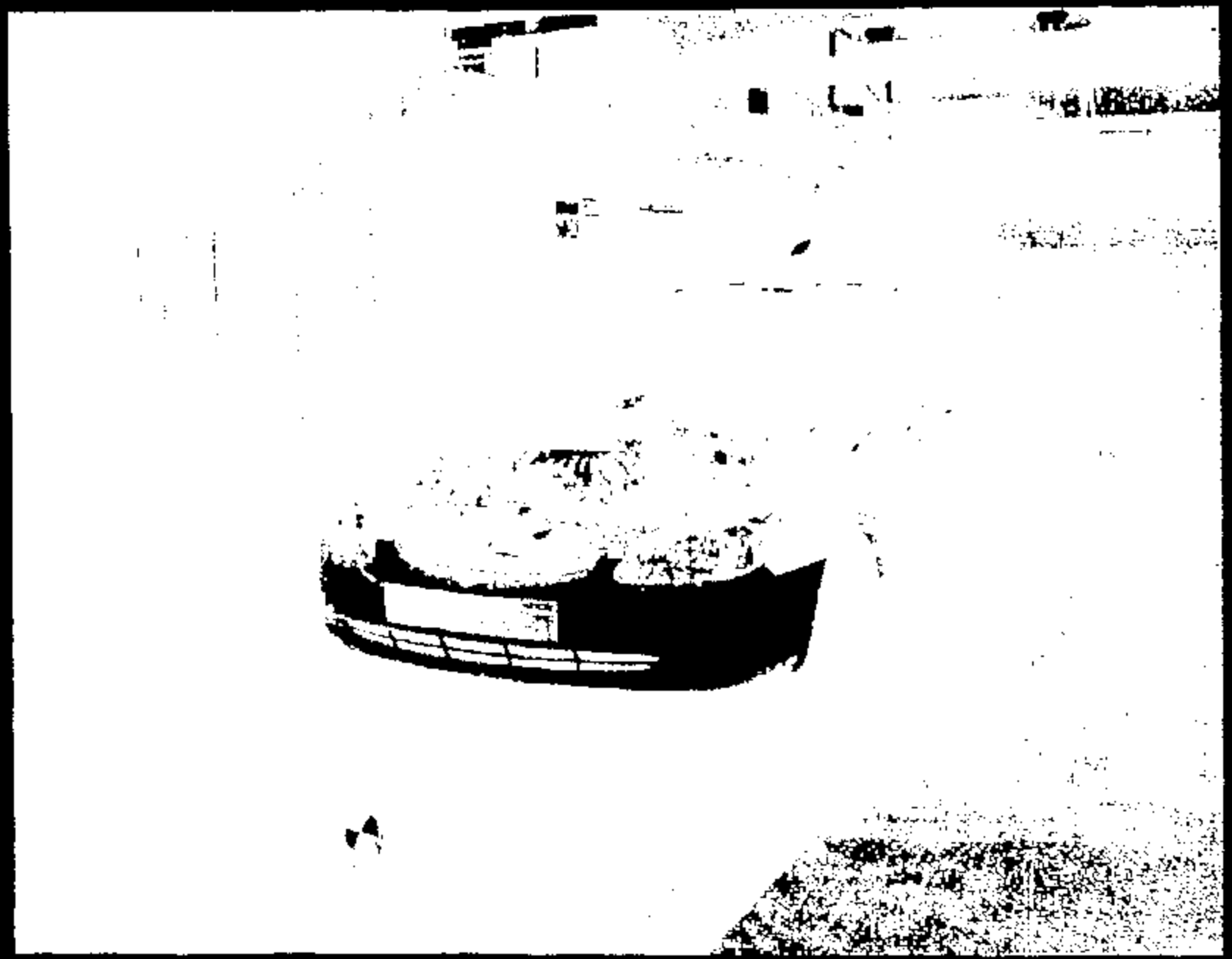


Name: 11407025.JPG

CRTS 011407

Name: 11407026.JPG

CRTS 0011407

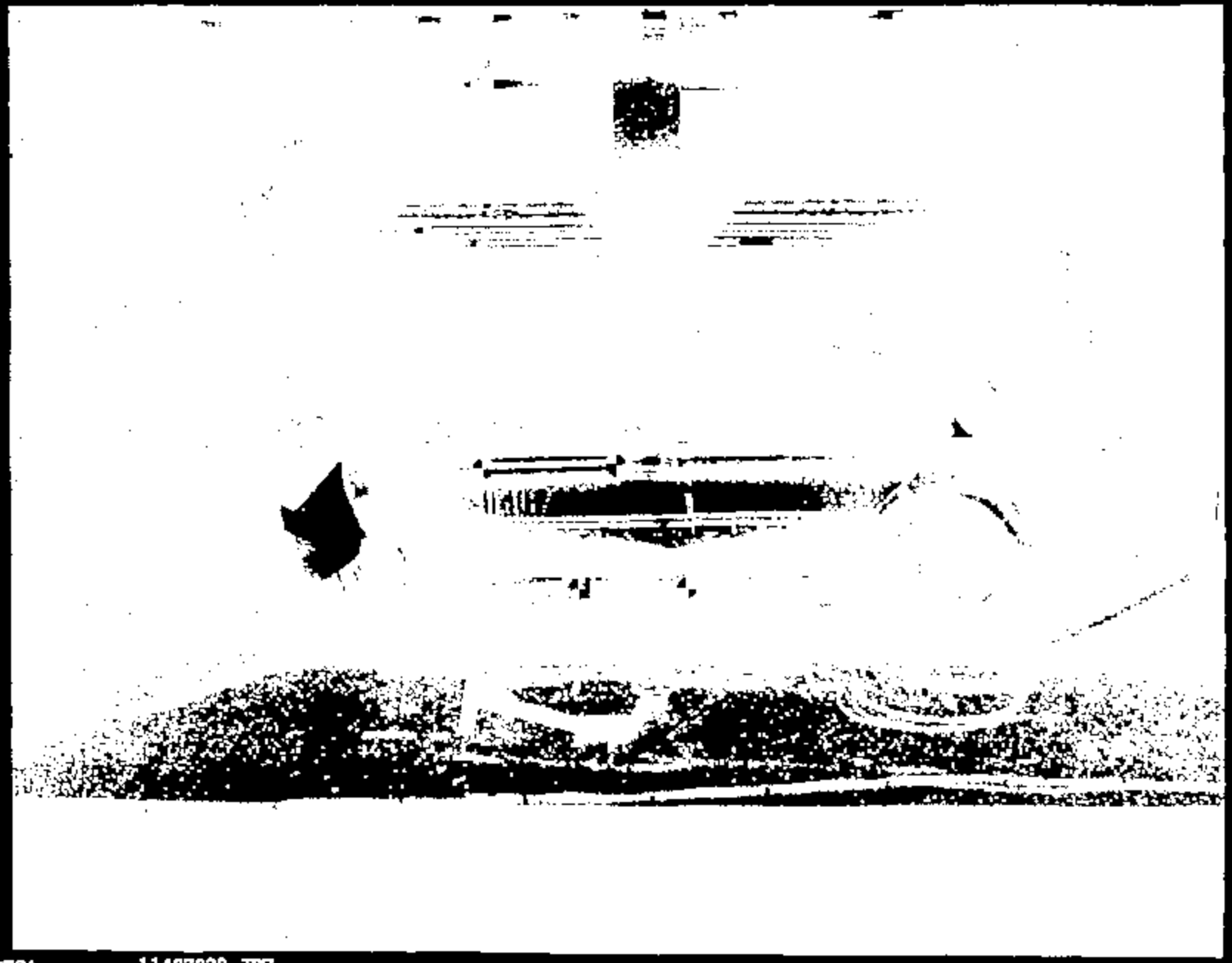


Name: 11407027.JPG

CRTS 0011407

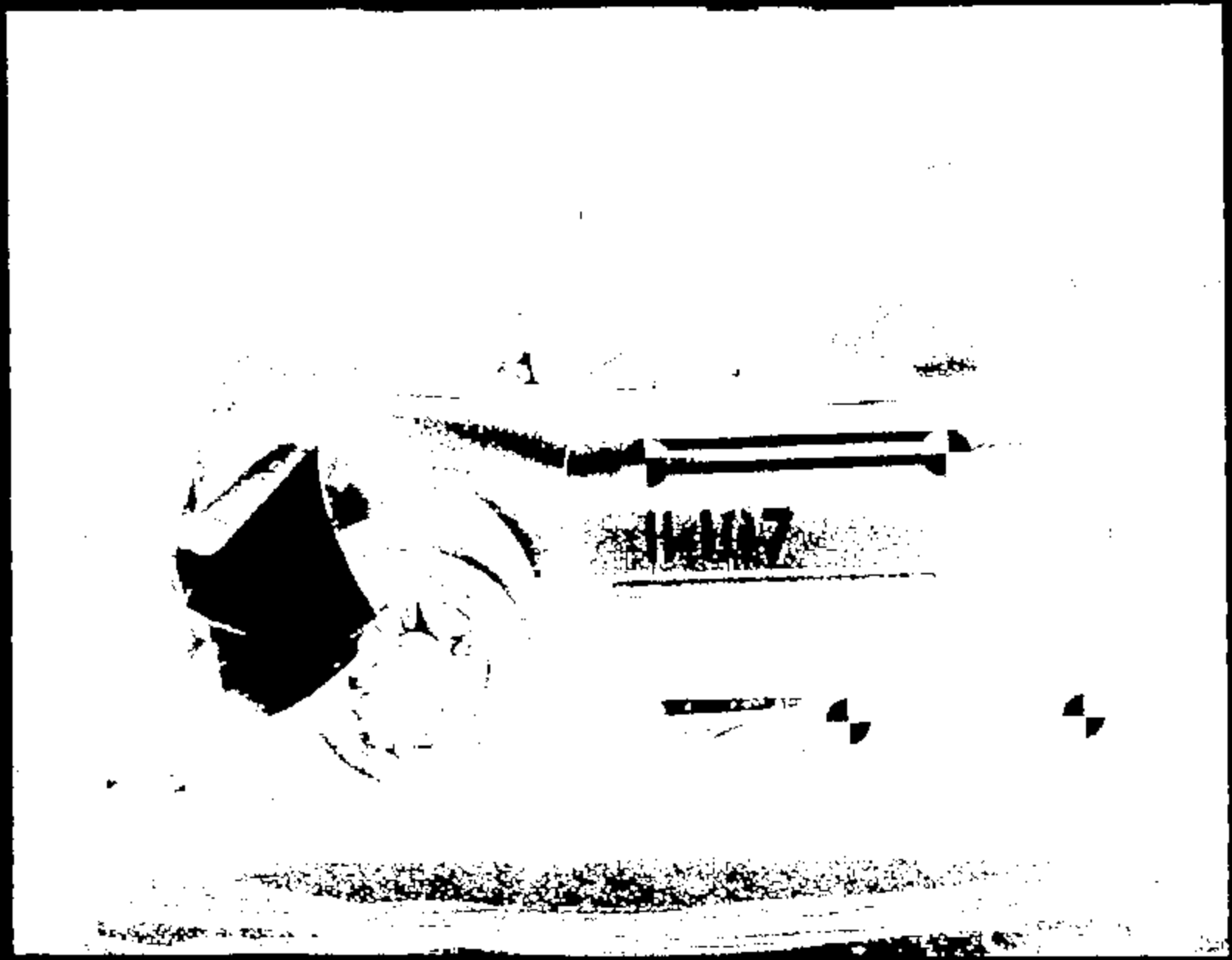
Name: 11407028.JPG

CRTS 0011407



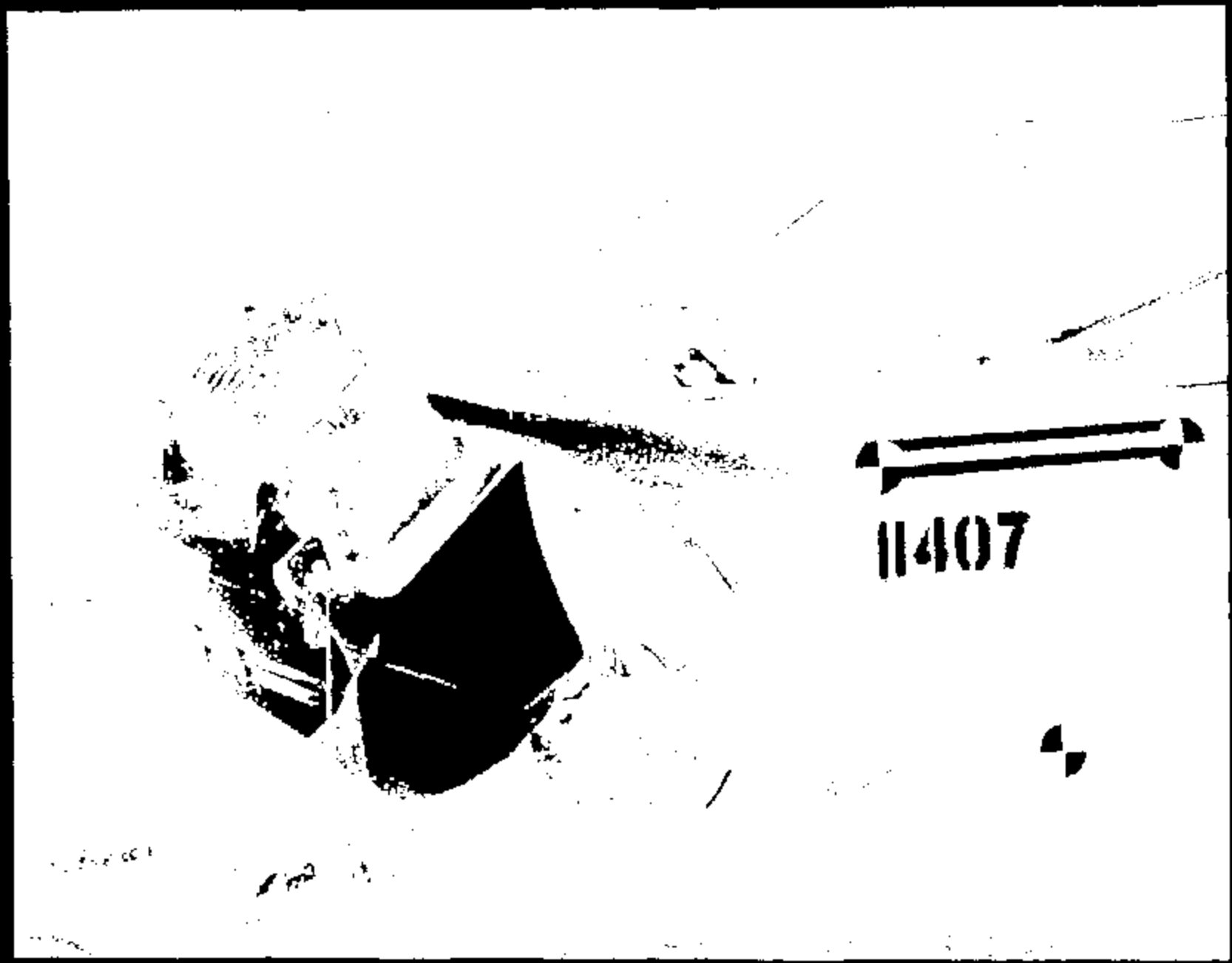
Name: 11407029.JPG

CRTS 0011407



Name: 11407030.JPG

CRTS 0011407



Name: 11407031.JPG

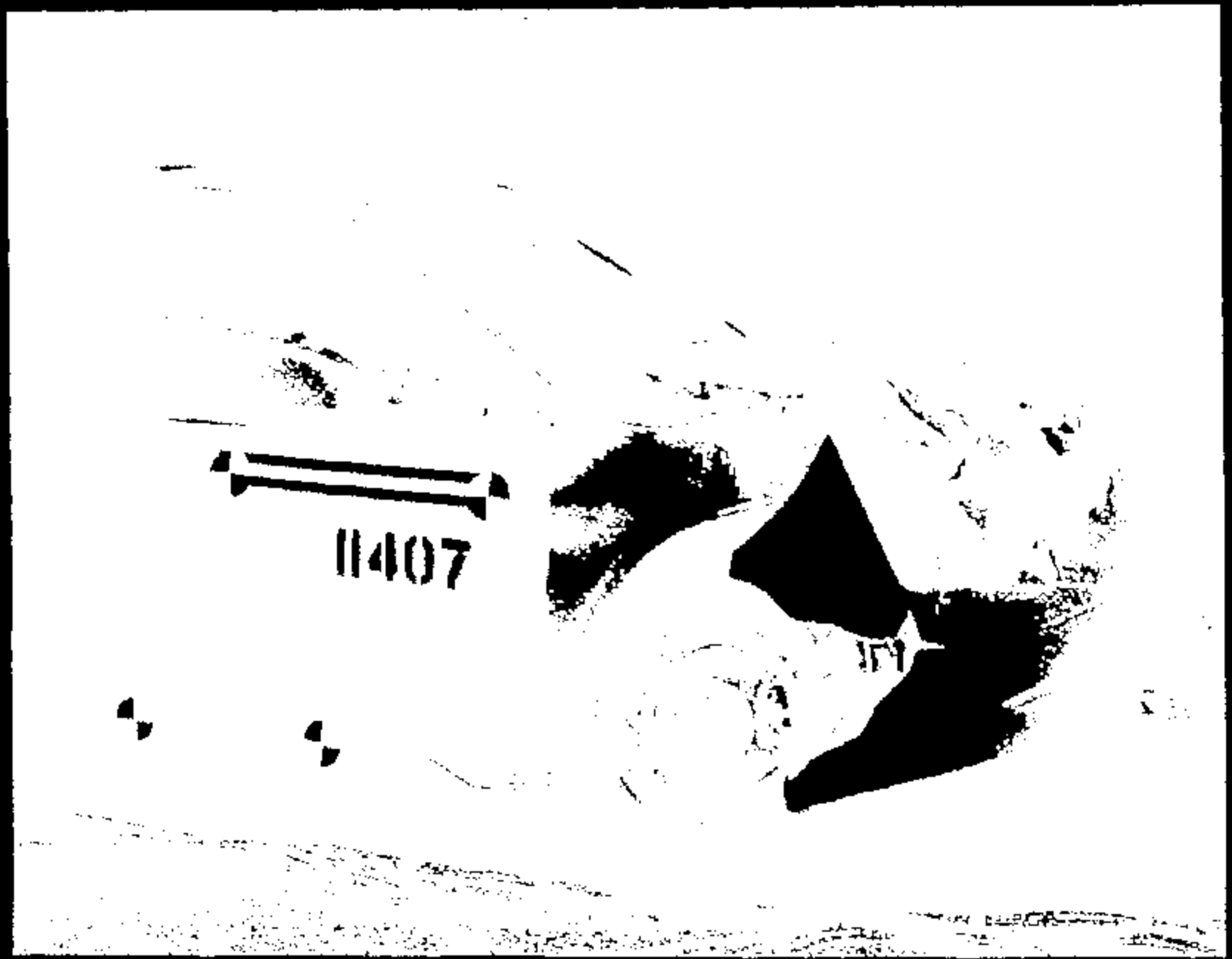
CRTS 011407

Name: 11407032.JPG

CRTS 0011407

Name: 11407033.JPG

CRTS 011407



Name: 11407034.JPG

CRTS 0011407

Name: 11407035.JPG

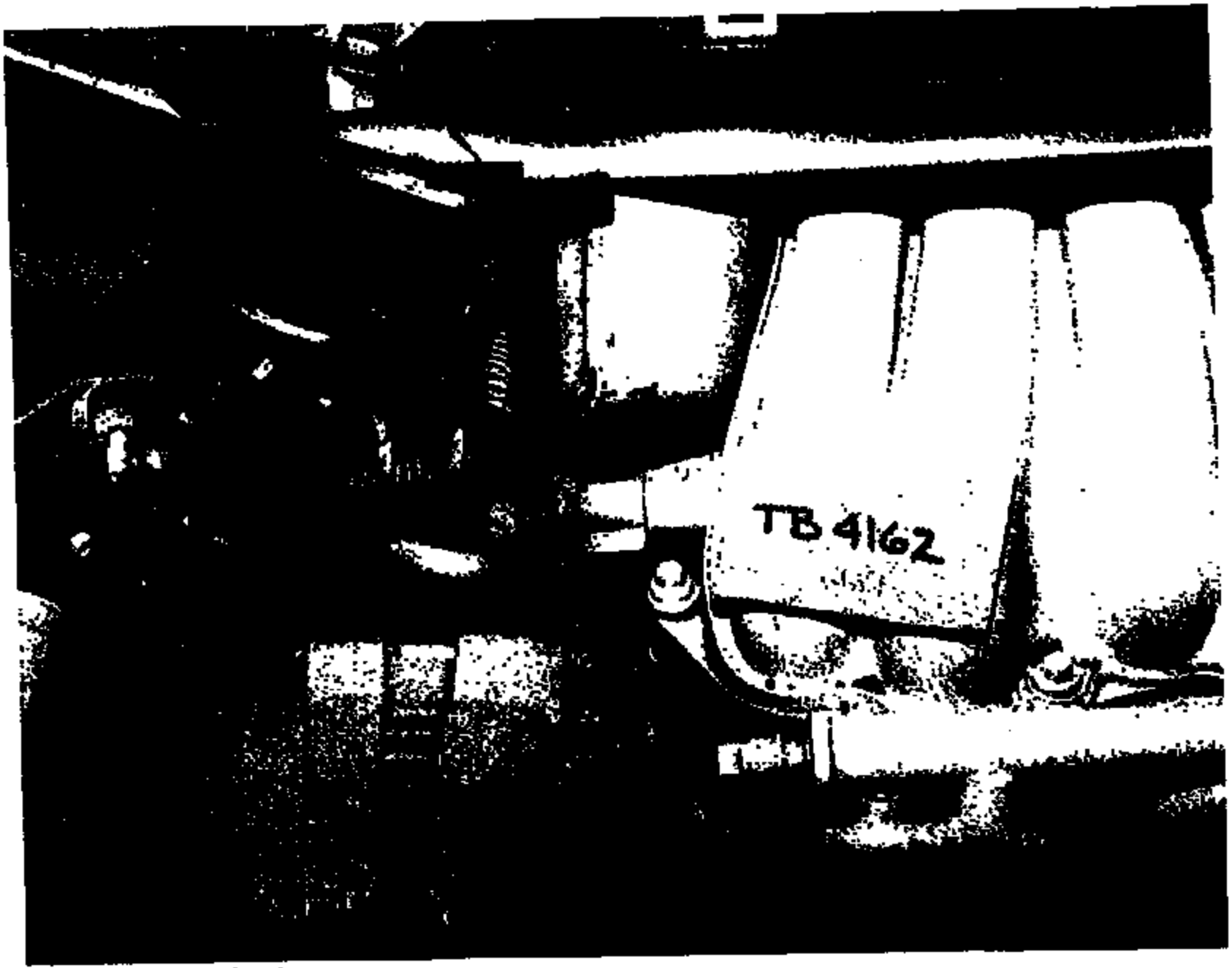
CRTS 001407

Name: 11407036.JPG

CRTS 0011407

Name: 11407037.JPG

CRTS 0011407



Name: 11407038.JPG

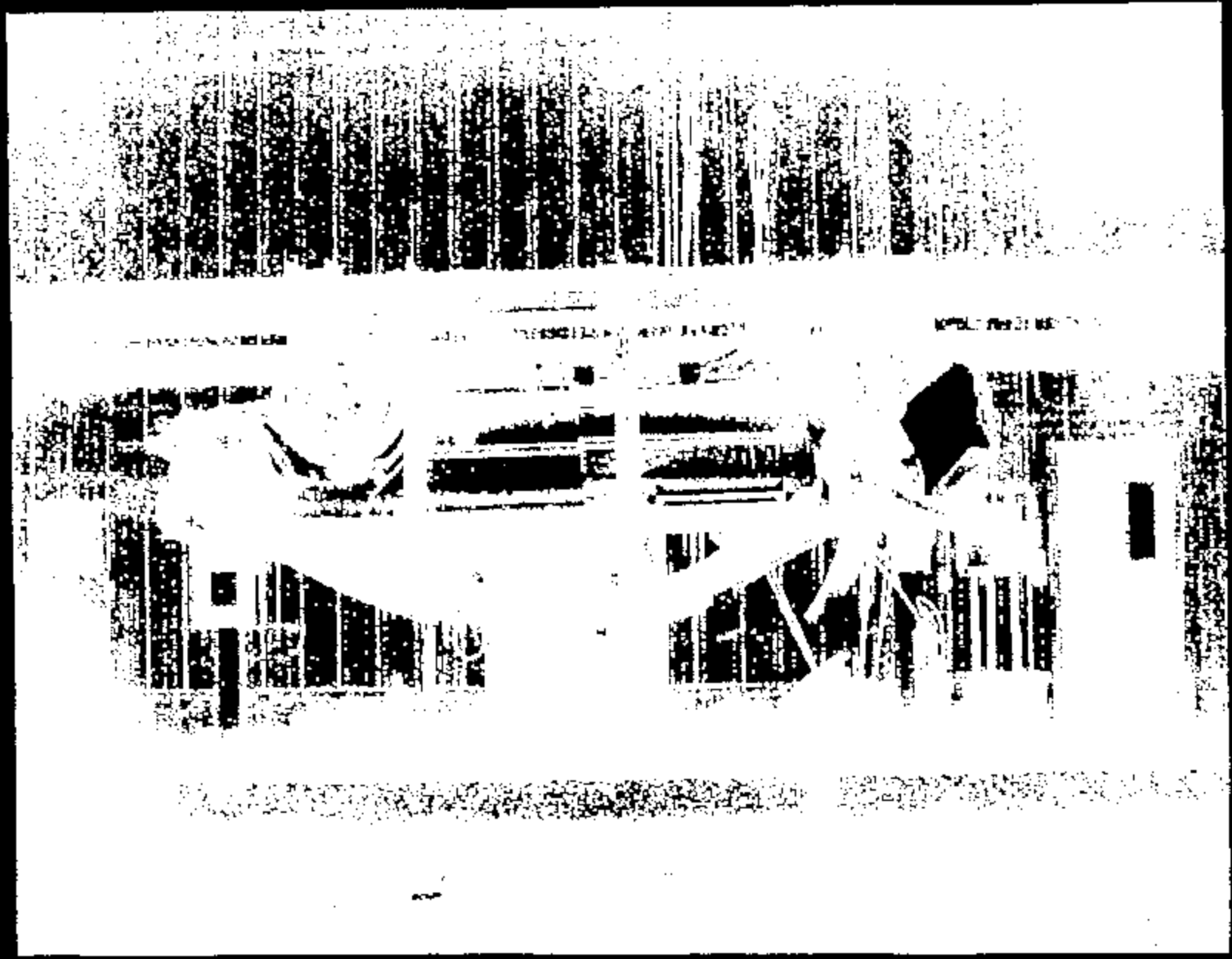
CRTS 0011407

Name: 11407039.JPG

CRTS 0011407

Name: 11407040.JPG

CRTS 0011407



Name: 11407041.JPG

CRTS 0011407

Name: 11407042.JPG

CRTS 0011407

Name: 11407043.JPG

CRTS 0011407

Name: 11407044.JPG

CRTS 0011

11407045.JPG

Name: 11407046.JPG

Name: 11407047.JPG

CRTS 0011407

Name: 11407048.JPG

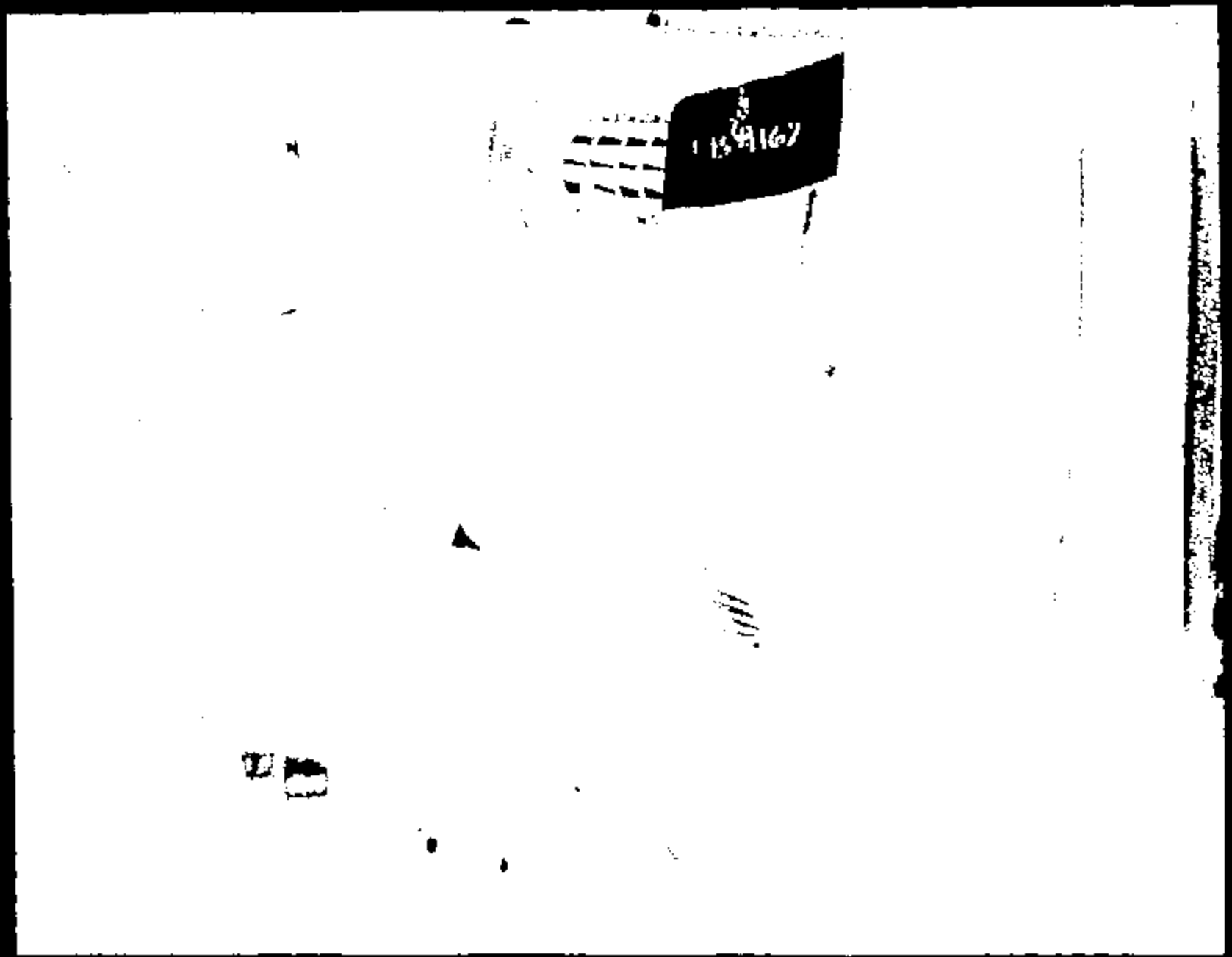
CRTS 0011407

Name: 11407049.JPG

CRTS 0011407

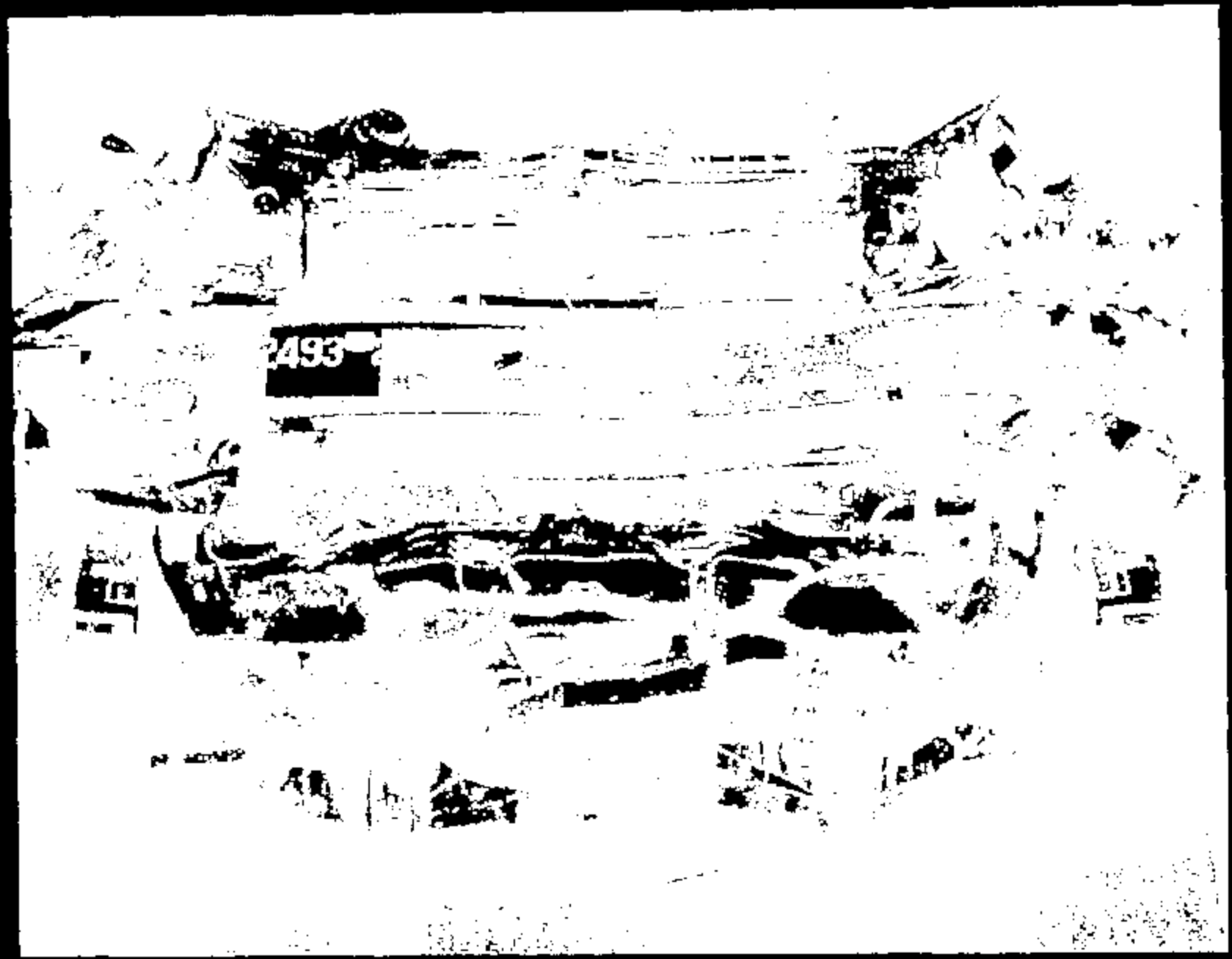
Name: 11&07050.JPG

CRTS 0011407



Name: 11407051.JPG

CRTS 0011407



Name: 11407052.JPG

CRTS 0011407

Name : 11407053.JPG

CRTS 0011407

Name: 11407054.JPG

CRTS 001407

Name: 11407055.JPG

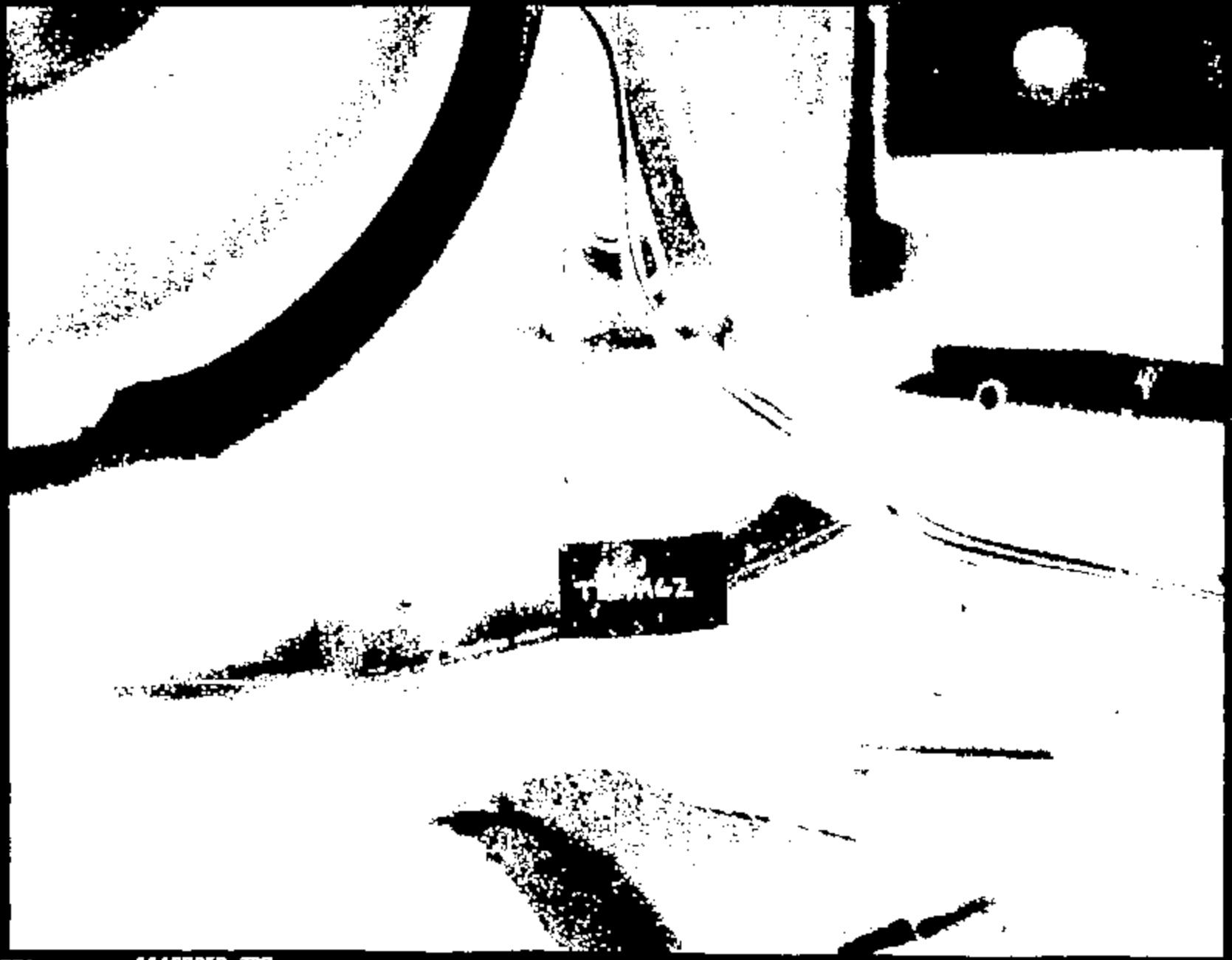
Name: 11407056.JPG

CRTS 0011407

Name: 11407057.JPG

Name: 11407058.JPG

CRTS 011407



Name: 11407059.JPG

CRTS 0011407


11407060.JPG

Name: 11407061.JPG

Name: 11487062.JPG

CRTS 0011407

Name: 11407063.JPG

CRTS 0011407

Name: 11407064.JPG

CRTS 0011407

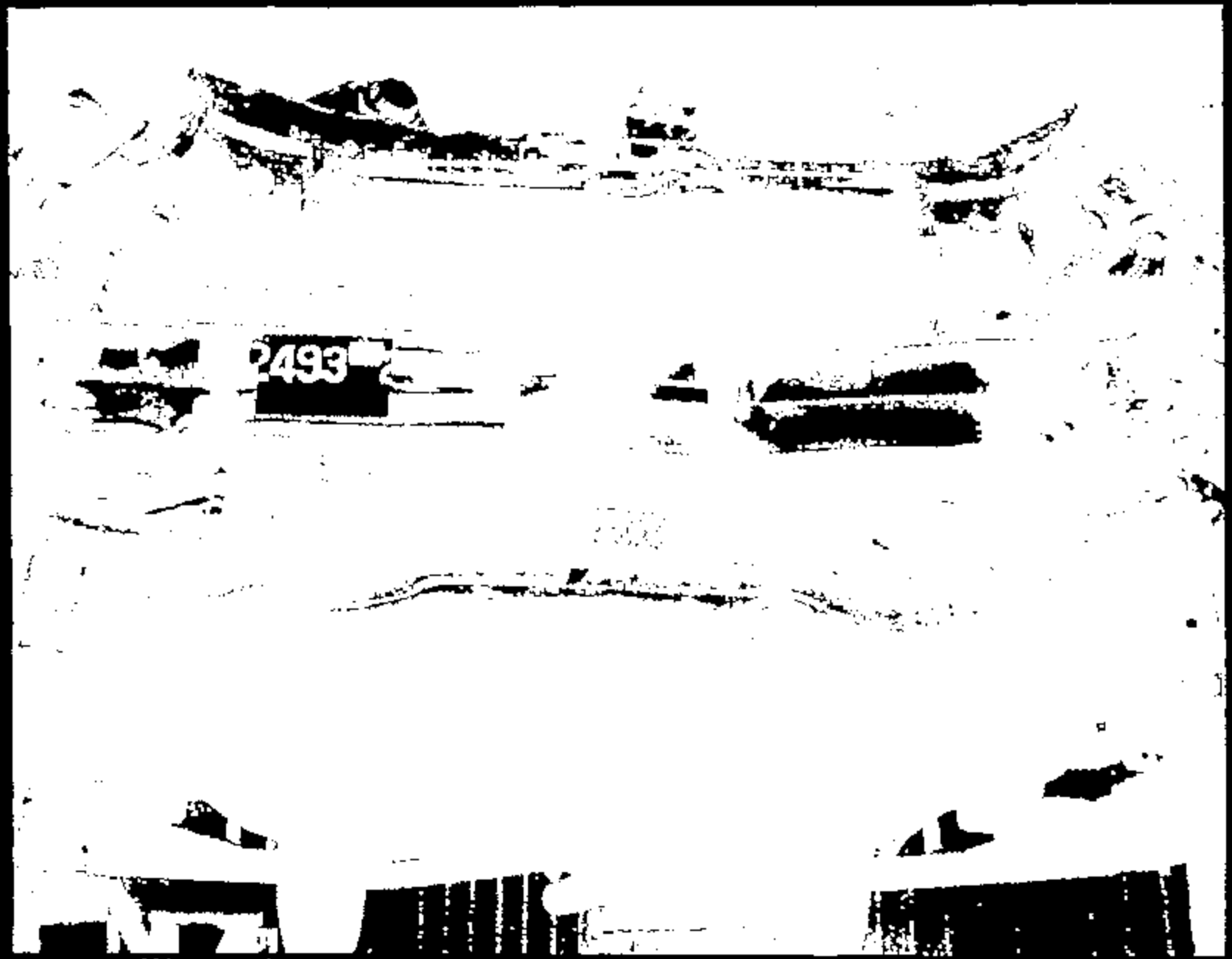
Name: 11407065.JPG

CRTS 011407

Name: 11407066.JPG

Name: 11407067.JPG

CRTS 0011407



Name: 11407068.JPG

CRTS 0011407

Name: 12407069.JPG

CRTS 0011407

Name: 114070?0.JPG

CRTS 0011407

Name: 11407071.JPG

Name: 11407072.JPG

CRTS 0011407

Name: 11407073.JPG

CRTS 0011407

Name: 11407074.JPG

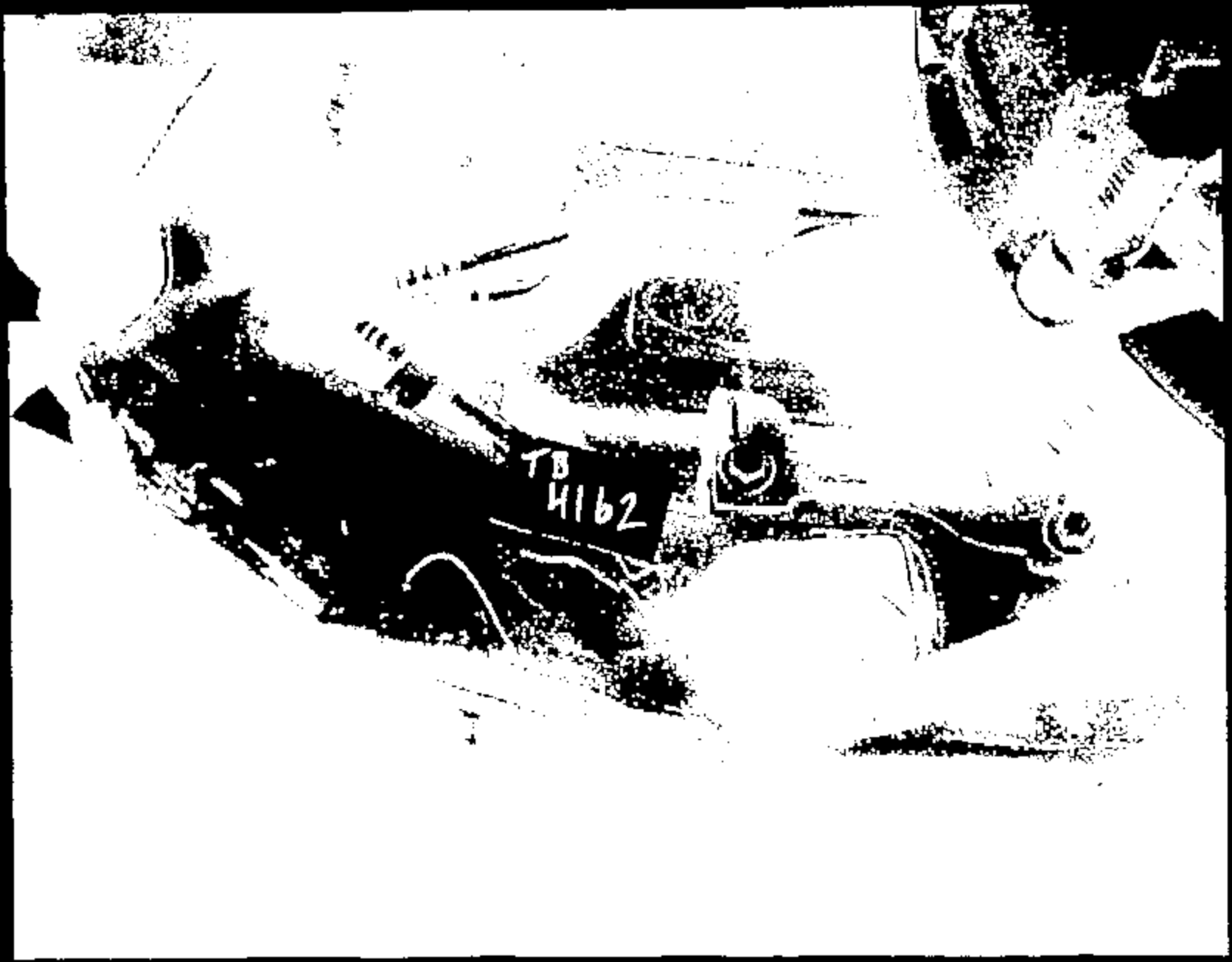
Name: 11407075.JPG

CRTS 0011407

Name: 11467076.JPG

Name: 11407077.JPG

CRTS 011407

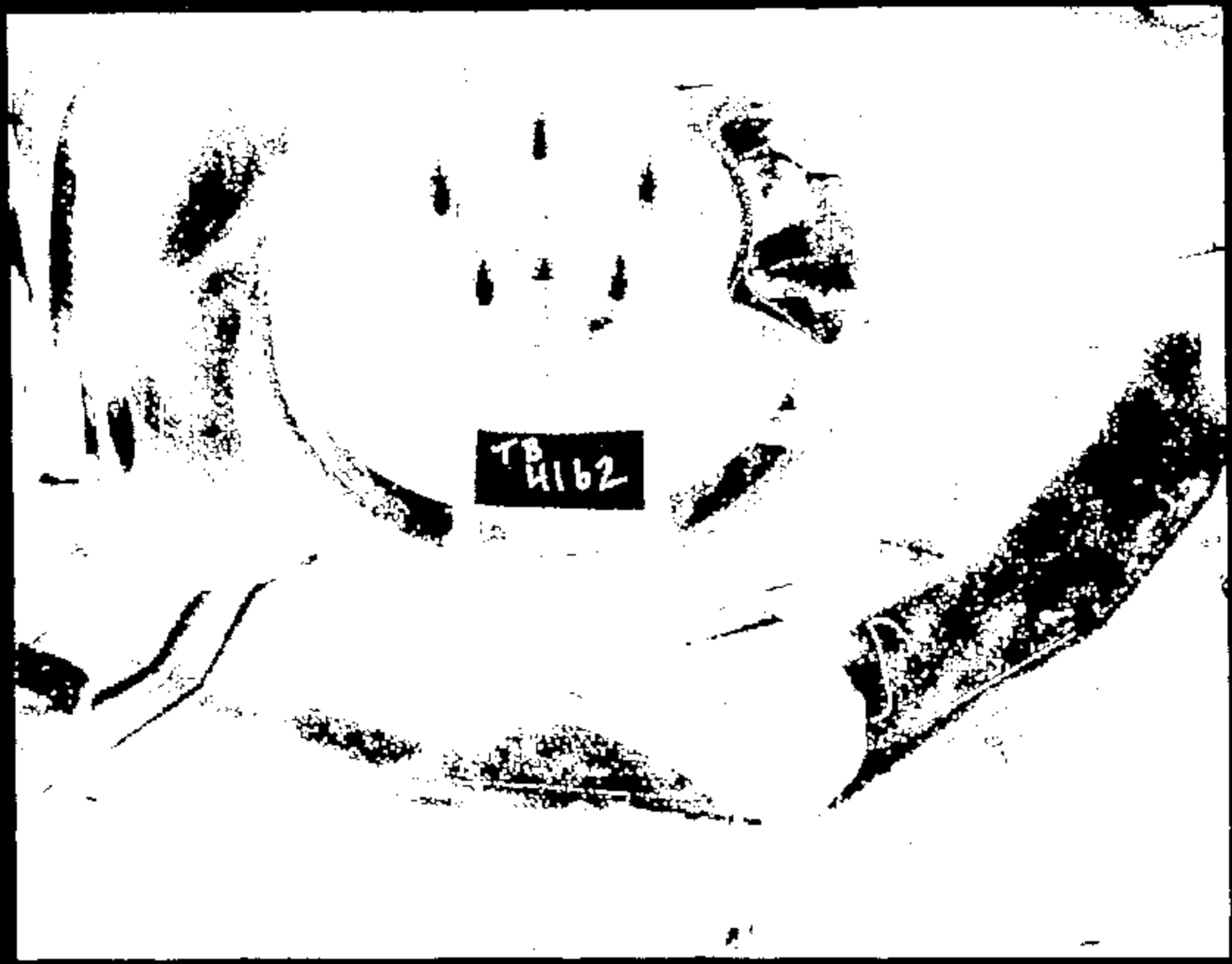


Name: 11407078.JPG

CRTS 011407

Name: 11407079.JPG

CRTS 00114



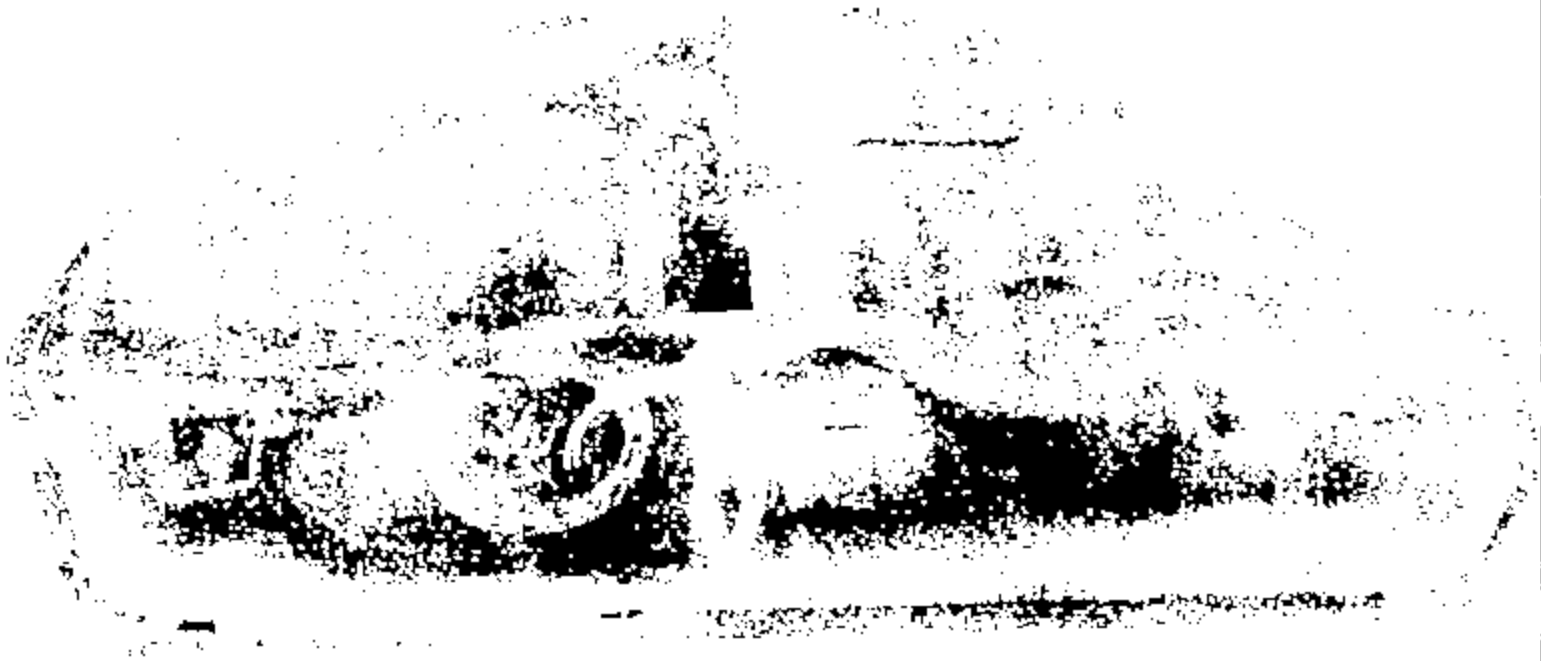
Name: 114070B0.JPG

CRTS 0011407

Name: 11407081.JPG

Name: 11407082.JPG

CRTS 0011407



Name: 11407083.JPG

CRTS 011407

Name: 11407084.JPG

CRTS 0011407

Name: 11407085.JPG

CRTS 0011407

TEST AUTHORIZATION

TEST AUTHORIZATION NUMBER: TB4162

TO: Safety Lab Department

CC: K. Arthurs

REQUEST DATE: 03/22/1999

REQUESTED COMPLETION DATE: 03/22/1999

REQUEST NUMBER: n/a

PROBLEM NUMBER: n/a

REQUESTING ACTIVITY: Vehicle Crash Safety

TITLE OF TEST:	(speed)	(test description)	PART# DUE DATE:
2001 D186	35 MPH	90 degree Frontal Barrier	n/a

TYPE OF TEST:	VIN # or IDENTIFICATION	VEHICLE MODEL & YEAR:	PROD. OR ENG. LETTER:
[X] VEHICLE [ ] BENCH [ ] LABORATORY [ ] OTHER	2D1860071 – 860W719 1FAPP6236Y1116224	2001 D186	n/a

ENGINE NO. DISPL. CARB.	TRANS / DRIVETRAIN:	AXLE RATIO:	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH	DISPOSITION OF PARTS:
3.0L/4V V6 FFV		n/a		n/a

TYPE OF FUEL:	CONVERTER:	IGNITION TIMING	GOV. REGULATIONS:	PROCUREMENT REQ ?
Stoddard	n/a	n/a	Yes X No	[ ] YES [ ] NO IF YES,GIVE CODE

CRANKCASE OIL AND CAPACITY (L):	TIRE SIZE AND PLY RATING:	REPORT CATEGORIES:	MAIL REPORT TO:
n/a	P205 65 R15	[X] ENGINEERING [X] DATA [X] RAWDATA	BLDG: MAIL DROP: ADDRESS:

VEHICLE TEST WEIGHT:			TIRE PRESSURE (psi):	
FRONT	REAR	TOTAL	FRONT	REAR
2362	1890	4252	30	30

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

1) Conduct: (speed) 35 MPH (year) 2001 (vehicle) D186 (level) # CPf
(mode) 90 degree Frontal Barrier

2) Velocity At Impact: 35 MPH
Remote Fire Time: N/A
Positioning procedure: N/A

3) Vehicle Year: 2001
Vehicle Line: D186
Vehicle Level: CPf

	(name)	(phone)	(pager number)	
Test Requester:	D. Perrigo	84-86018	DPER	
Build Coordinator:	B. Pagano	32-36045	BPAG	Estimated test cost = $30,000.00
Additional Contacts:				
Test Dev. Engineer				

REQUESTING SECT. NO:	WORK ORDER/ WORK TASK:	ISSUED/ REQUESTED BY:	PHONE:	APPROVAL:	TEST TYPE:	RISK:	SIGN OFF DATE:
7551	F18	D. Perrigo	84-86018	K. Arthurs	n/a	n/a	n/a

COMPLETE THE FOLLOWING TWO QUESTIONS AS INDICATED:

(Check appropiate boxes)

1 - Rational for not replacing this test by CAE analysis:
- __ No CAE Methodology or process available
- __ No CAE Correlation
- __ Insufficient confidence in CAE
- __ To obtain basic data for CAE
- __ Replacement or improvement of existing Test.
- __ Testing is Quicker.
- X Mandatory or Regulatory
- __ Certification
- __ Development test for FSS
- __ Not applicable.
- __ Other

(Check appropiate boxes)

2 - What is the expected Test Outcome:
- __ Results will meet DVP/WCR requirements.
- __ System Component will not meet Test specification.
- X Unknown.
- __ Above is Based on CAE?
- __ Other:

"RECORD COPY"
Schedule No. 7-2-12
Retain Until 2019

RIP/3-26-99

General Request Information

TA#: TB4162

Test Mode

35 MPH
90 degree Frontal Barrier

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

REGULATORY:

_____ FMVSS 204 - Steering Wheel Displacement
_____ FMVSS 208 - Frontal Occupant Protection
_____ FMVSS 212 - Wind Shield Retention
_____ FMVSS 214 - Side Impact Protection
_____ FMVSS 219 - Windshield Zone Intrusion
_____ Film Analysis
_____ Template
D FMVSS 301 - Fuel System Integrity
X Rollover
X Pressure Check
_____ FMVSS 303 - NGV Fuel System Integrity
_____ ECE 12 (74/297/EEC) - Protection of the Driver Against Steering Mechanism
_____ ECE 32 Rear Impact - Structural Performance
_____ ECE 33 Frontal Impact - Structural Performance
_____ ECE 34 Fuel System Integrity
_____ ECE 94 Step II Frontal Offset - Occupant Performance
_____ ECE 95 Step II 300mm Barrier Side Impact - Occupant Performance
_____ 96/79/EC - Frontal Offset
_____ 96/27/EC - Side Impact

FORD AUTOMOTIVE OPERATIONS SAFETY DESIGN GUIDELINES:

_____ Front Impact FAO Safety Design Guidelines
_____ Offset Frontal FAO Safety Design Guidelines
_____ Side Impact Protection FAO Safety Design Guidelines
_____ Rear Impact Fuel System Performance FAO Safety Design Guidelines

OTHER:

_____ Sensor Development
_____ Other, Specify: _____

Primary Test Vehicle Information

Use (Target/Bullet):	BULLET
Model Year:	2001
Vehicle Program:	D156
Vehicle Name:	TAURUS
Body / Cab Style:	SEDAN
Build Number:	DD190001
Tag Number:	590W719
VIN Number:	1FAFP53U81G116224
Fuel System Rated Capacity(Gal):	16
Prototype Level:	CPT
Drive Side:	LH

1FAFP53U81G116224

Special Prep/Build Instructions
Primary Vehicle

TA#: TB4182

Special Build Instructions

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

Other, Specify:

X	May remove decklid, door glass, interior trim
_____	

Pryo Restraints Usage

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

Other, Specify:

_____

_____

N/A	Remote Fire Time: (No fire time listed if sensor fired OR if no pyro restraints are used)
_____	Remote back-up Fire Time:

Special Pre-Test Preparation

Other, Specify:

_____

Occupant / ATD Request
Primary Vehicle

TA#: TB4162

	Occupant 1	Occupant 2
Type	Water Bottle	Water Bottle
Instrumentation Level*		
In-Vehicle Location	LF	RF
Verify: ***Seat Position Long***		
Seat Position Vert	FULL DOWN	FULL DOWN
Seat Back Angle		
Positioning Procedure	N/A	N/A
Use Foot Rest	N/A	N/A
Take Seat Track Video		
Special Positioning Instructions		
Dummy Adjustment (arm angle)		
Occupant Belted	YES	YES

*See Instrumentation request for detailed Instrumentation information.

Test Conditions - Final Prep

TA#: TB4182

Final Prep Contacts

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

	Test Engineer	Request Engineer	Build Coordinator
Name:		D. Perrigo	B. Pagano
Phone:		84-56018	32-38045
Pager:		DPER	BPAG

Test Weight

____ Minumum Option Weight
____ 33% Option Weight
__X__ Maximum Option Weight

GVWR: ____
Wheelbase: ____

Tire Pressure

Front: 30. psi Rear: 30. psi

Fuel System

Fuel Tank & System to Contain: Stoddard

17.1 gallons / Fill Level = 95 % / % x 18.0 gallons / 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:		2,362 lbs	13 lbs	0 lbs	2362
Rear:		1,890 lbs	13 lbs	0 lbs	1926
Total:		4,252 lbs	26 lbs	0 lbs	4288

Rated Luggage Load: 0 lbs

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
____ Battery
__X__ Bottle - Coolant
__X__ Bottle - Washer
____ Engine
____ Fan Box/Shroud
__X__ Headlamp Opngs
__X__ Radiator
____ Doors
____ Foot Wells - Front
____ Foot Wells - Rear
____ Quarter Panels
____ Trunk Floor

Other: ____
____

Ride Heights

Measure @ Test Weight
Front: ____
Rear: ____

Measure
From: Rocker Level to Ground
To: Rocker Level to Ground

Additional Remarks

____ DO NOT fill tank with stoddard until weigh-up

Dimensional Analysis Request
Primary Vehicle

TA#: TB4162

Frontal Impacts

	74		
	81		
	105	Control Points (CAR)	Exterior
	107		
	128	Collapse Distance Points	Exterior
	129	Frame/ St. Col./ Eng. for Stretch (CAR)	Exterior
	130	Frame Standard Bottom (CAR)	Exterior
	132	Unibeam Standard Bottom (CAR)	Exterior
	134	Drive Shaft Collapse	Exterior
	136	Standard Body Relative	Exterior/Interior
	138	Windshield (CAR)+R91C	Exterior
	140	Sill & Pillar	Exterior
	142	Shot-Guns	Exterior
	146	Header	Interior
	150	Steering Wheel Deformation/ Periphery	Interior
	152	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	Diagonal Strut	Interior
	170	Tunnel Hinge Pillar	Exterior
	172	Brake Bracket (ONLY if you can reach it)	Interior
	174	Instrument Panel Mounts	Exterior
	176	T-N-T Targets	Exterior/Interior
	177	Top Non-Sided & Body Sided	Exterior/Interior
	228	Rear Door Aperture Reduction	
	300		
	302		
	345		
	958		
	964		
	978		
	465	Pilot 9 Sectional Profiles	
	506	Depounding Column Collapse	Exterior
	507	P.R. Steering Column Collapse	Exterior
	508		
	509	T2 Steering Column Collapse & Intermediate Shaft	Interior
	840	Dash Profile @ Driver Centerline	Interior
	841	Dash Profile @ Vehicle Centerline	Interior
	842	Dash Profile @ Passenger Centerline	Interior
	847	Footwell Reduction	Interior
	880	1) Driver/Passenger - A & B-Pillar points 100mm above the sill and 100mm below the window aperture. (NOTE: all points should be as close as possible to the rubber sealing strip around the door aperture) 2) Dash Panel Point which is lghudinally in line with the center of the brake pedal 3) Dash Panel Points 200mm inboard/outboard of brake pedal center point (NOTE: Carpet will either have to be folded back or two small diagonal intersecting slits may be made in the carpet)	

Film Analysis & Photographic Services Request

Front Impact Film Analysis

TA#: TB4162

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

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

__2__ 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 Impact

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
__X__ Overall Left
_____ Barrier to B-Pillar Left
_____ Dummy Kinematics & Velocity Left
__X__ 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
__X__ Top of Barrier - Engine Close-up
__X__ Top of Barrier - Fuel Sensor Close-Up
__X__ In lights - Close-up of Fuel Sensor from left side
__X__ In lights - Close-up of Engine/Fuel Rail from right side
_____ Left Front Rail Extension Bumper Close-up
_____ Right Front Rail Extension Bumper Close-up

CRTS 0011407

Overhead Coverage

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

Pit Coverage

_____ Pit - Overall
_X_ 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.

All Other High Speed Photography

_____
_____

Instrumentation and Data Processing Request

TA#: TB4162

Primary Vehicle Structural Instrumentation - Frontal Impact

ACCELEROMETERS:	Long	Vert	Lat
___ Engine/Trans Upper	___	___	___
___ Engine/Trans Lower	___	___	___
___ Left Rocker at A-Pillar	___	___	___
___ Right Rocker at A-Pillar	___	___	___
X Left Rocker at B-Pillar	X	X	X
X Right Rocker at B-Pillar	X	X	X
___ Left Rocker at C-Pillar	___	___	___
___ Right Rocker at C-Pillar	___	___	___
___ Left Frame at A-Pillar	___	___	___
___ Right Frame at A-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 # 84	___	___	___
X Next to Fuel Inertia Switch	X	X	X
___ Top of Battery	___	___	___
___ Near ACS Bypass Switch	___	___	___

OTHER STRUCTURAL ACCELS:	Long	Vert	Lat
_____	___	___	___
_____	___	___	___

SENSOR ACCELS:

_____See Sensor Map

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

STEERING COLUMN:

_____Stroke Break Wires
_____Tilt Mechanism Break Wires
_____String Pot
_____Load Cell (6 Axis)
_____
_____

SWITCHES:

_____Engine to Rad Support left
_____Engine to Rad Support center
_____Engine to Rad Support right
_____Brake booster to shock tower
_____Other _____
_____
_____

FUEL SYSTEM:

__X__Inertia Fuel System Cut-Off Switch

ANGULAR MOTION SENSORS:

_____
_____

VEHICLE STRING POTS:

_____
_____

OTHER VEHICLE SYSTEM INSTRUMENTATION:

_____A/B Bypass Driver (acs) Switch

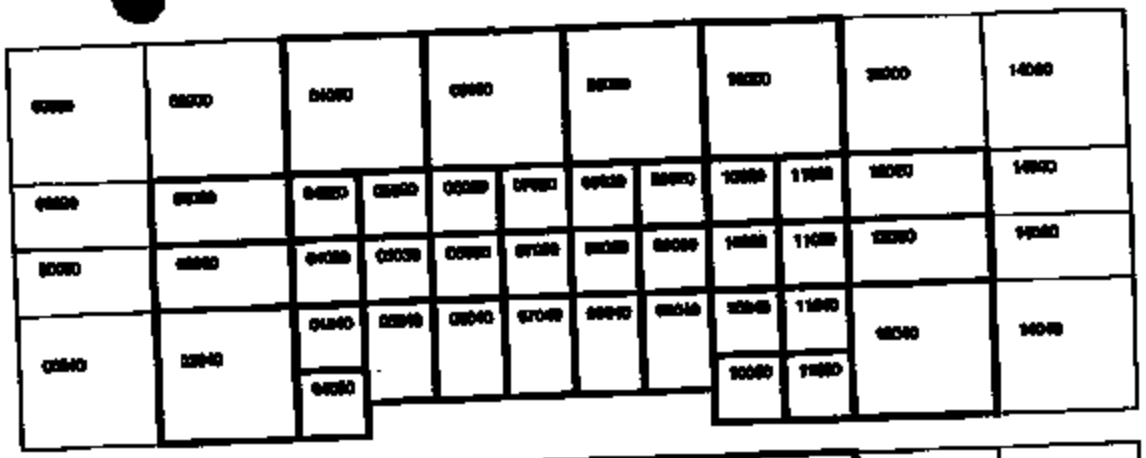
RESTRAINT LOADS:

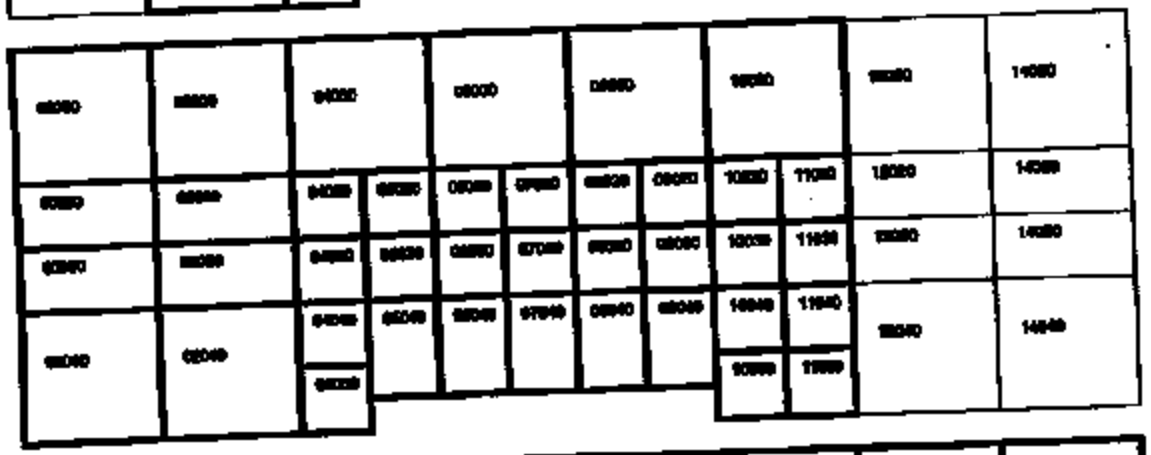
_____Left Belt Tongue - Strain Gaged
_____Left Pyro-Technic Buckle Squib Voltage
_____Left Pyro-Technic Buckle Squib Current
_____Right Belt Tongue - Strain Gaged
_____Right Pyro-Technic Buckle Squib Voltage
_____Right Pyro-Technic Buckle Squib Current
_____Left Lap Belt at Anchor Load
_____Left Torso 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
_____Lightweight Left Lap Belt at Anchor Load
_____Lightweight Left Torso Belt at Retr. Load
_____Lightweight Left Torso Belt at D-ring Load
_____Lightweight Right Lap Belt at Anchor Load
_____Lightweight Right Torso Belt at Retr. Load
_____Lightweight Right Torso Belt at D-ring Load

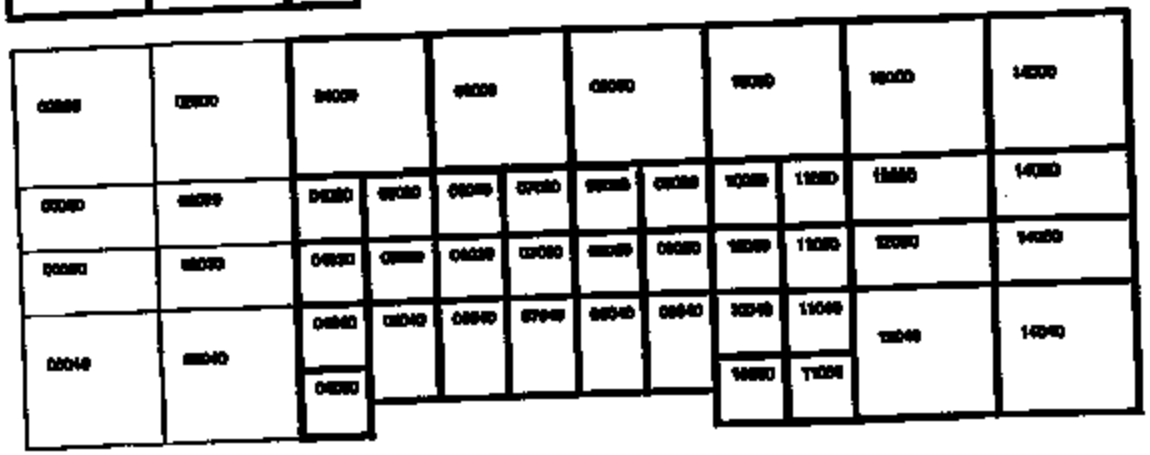
A/B Bypass Passenger (aos) Switch
A/B Bypass Loop (aos) Switch

Barrier Load Cell Request

TA#: TB4162







90 Degree Full Frontal Impact

___ All Barrier Load Cells (see diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

___ Partial Barrier Load Cells (see bolded diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

30 Degree Left Full Frontal Impact

___ All Barrier Load Cells (see diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

___ Partial Barrier Load Cells (see bolded diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

30 Degree Right Full Frontal Impact

___ All Barrier Load Cells (see diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

___ Partial Barrier Load Cells (see bolded diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

List of T Contacts

TA#: TB4162

	Last name	Phone	Pager	Profs
Requestor	D. Perrigo	84-69018	DPER	DPERRIGO
Aproving supervisor	K. Arthurs	39-06168	KART	KARTHURS
Build coordinator	B. Pagano	32-39045	BPAG	BPAGANO
Test engineer				
Sensor Engineer	F. Volpe	59-49469	FVOLPE1	FVOLPE1
Other				

	Last name	Phone	Pager	Profs
Seats	M. Jessup	84-51691	MJESSUP1	MJESSUP1
Instrument panel	M. Keranen	39-74148	NONE	MKERANEN
Restraints	N. Desai	39-06145	NDESAI	NDESAI
Air bag (driver)	R. Ruthinowski	69-16976	RRUTHINO	RRUTHINO
Air bag (passenger)	R. Ruthinowski	69-16976	RRUTHINO	RRUTHINO
Steering column				

CRTS 0011407

Revisions List

TA#: TB4162

DATE	AUTHORIZATION	DESCRIPTION	PAGE #s

VEHICLE SAFETY PACKAGE LAB WORK ORDER

TA#: TB4162

DATE	MODEL	YEAR	CARLINE	WORK ORDER NO
03/22/1999	DD190001	2001	D186	TB4162

DIVISION	PHONE	DEPT	WORK TASK
D. Perrigo	84-56018	T551	F10

COORDINATOR	PHONE	TEST MODE
B. Pagano	32-36045	90 degree Frontal Barrier

VIN NUMBER	VEHICLE NO	BUILD NUMBER
1FAFP5328SG118224	DD190001	590W719

TYPE OF BUILT	T# NUMBER	DATE BUILT

SEAT POSITION

SGRP		MID POINT		FULL REAR	

SEATS TO BE CHECKED

LH FRT		CENTER FRT		RH FRT	
LH REAR		CENTER REAR		RH REAR	
VEHICLE DELIVERED TO	D/A		BARRIER	BUILD SITE	

ANY QUESTIONS CONTACT:

PETER J. SIMONIE
PHONE: (313) 59-46809
PAGER: (313) 705-9965

DESCRIPTION OF JOB TO BE PERFORMED:

CONFIDENTIAL

FINAL TEST REPORT

Global Test Operations
Advanced Vehicle Technology

		Test Order No.	T-B4161
		Work Task W. O. No.	F16
TO:	K. Arthurs	Test Date	4/16/99
		Date Reported	5/27/99
		Sheet	1 of 17

SUBJECT: Crash Test 11406 (30° Right Front Fixed Barrier Impact at 31.0 ± 0.4 mph, 49.9 ± 0.6 km/h) - 2001 Taurus (D186) 4-Door Sedan

REQUESTED BY: Vehicle Crash Safety Department, Advanced Vehicle Technology - D. Parrigo

OBJECT: To obtain development data relative to FMVSS 301.

SUMMARY OF TEST RESULTS: See Section 1.0 for fuel spillage data.

R. Oda
Engineering Data Control Analysis

Concur: S. Lash
Section Supervisor
Operations Engineering Section

VEHICLE DATA:

Make and Model	2001 Taurus (D186) 4-Door Sedan (Confirmation Prototype)
ID Numbers	1FAFP5326XG118329, 590-W-718, DD190000
Power Train	3.0L, EFI, Automatic Transaxle
Fuel Tank(s)	Usable Capacity: 18.0 gal. (68.1L) Test Condition: The "run dry" tank was filled with red-dyed Stoddard solvent to 95% of its rated usable capacity.
Front Seat(s)	Type: Bucket Cover: Cloth Tracks/Position: Manual/Mechanical Mid Seat Backs/Position: Adjustable/Not Measured Head Restraints/Position: Adjustable/Down
Restraint System	LF: 3-Point Continuous Loop Active Belt RF: 3-Point Continuous Loop Active Belt
Occupants	LF & RF: Water Filled Containers (Simulating 50th Percentile Male, Hybrid II, Uninstrumented Dummies)
Test Weight	Front: 2363 lb (1072 kg) Rear: 1892 lb (858 kg) Total: 4255 lb (1930 kg)
Tires	Front: P205/65R15 30 psi (207 kPa) Rear: P205/65R15 30 psi (207 kPa) Spare: Removed
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel

GENERAL TEST COMMENTS:

1. Test Procedure

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

- Fixed Barrier Collision, T657-ST-14 dated July 17, 1996.
- EFI Fuel System Stoddard Solvent Fill, ST-11 REF. 4.
- Fuel System Static Rollover, T657-ST-34 dated July 17, 1996.

2. Remarks

Crash movies, pre- and post- crash still images of the test vehicle and copies of this report are available through the Operations Engineering Section, Safety Laboratories Department, GTO. The crash still images are stored and archived on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 11406001 through 11406057.

TEST RESULTS:

1.0 Fuel System Integrity (FMVSS 301)

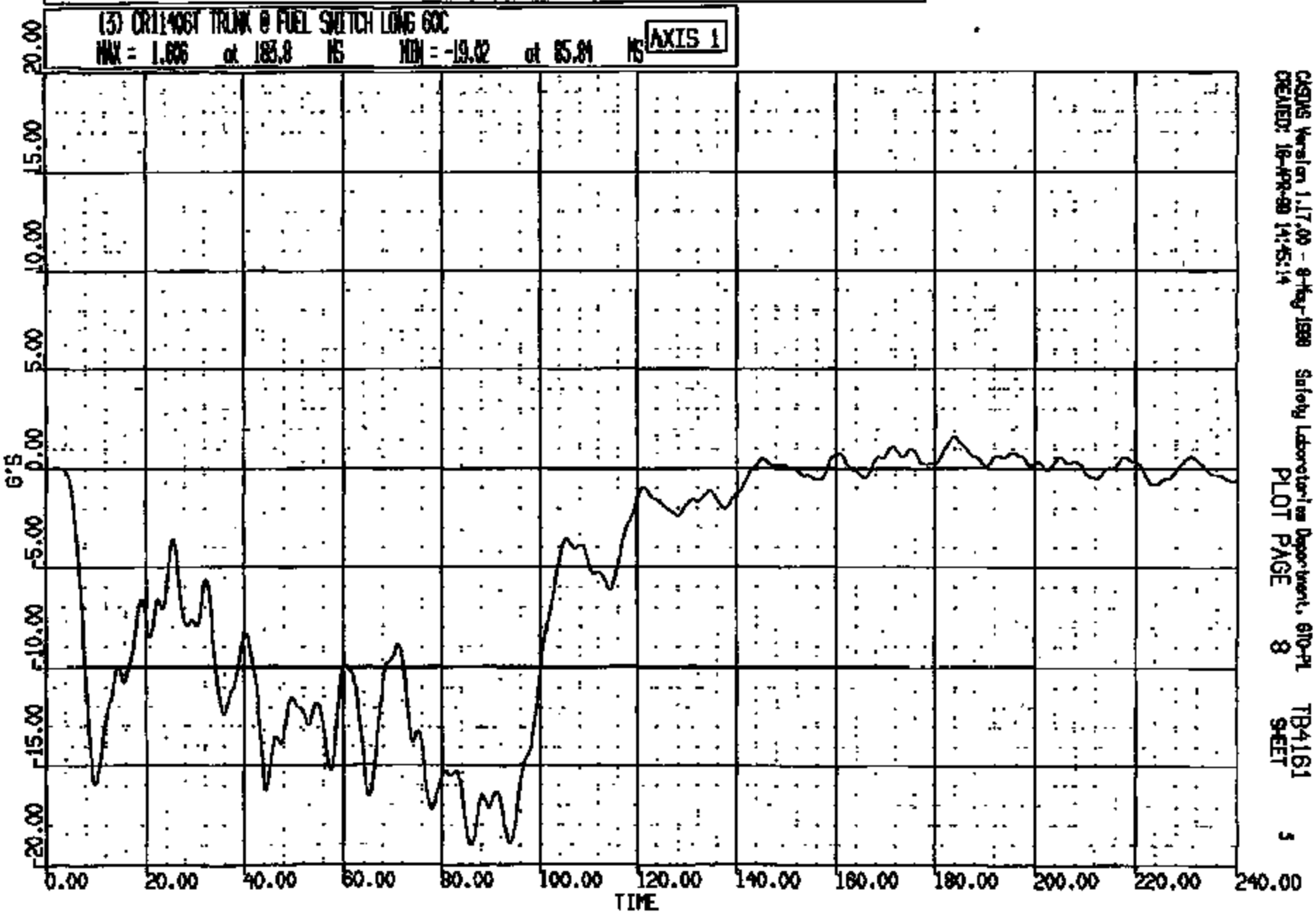
- There was spillage from the rollover valve during impact, estimated to be 0.1 ounces.
- There was no fuel system spillage during the post-crash static rollover test.

2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

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

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

CR R: 11406 TO: TB4161 DATE: 990416 14:38:57
2001 D-188

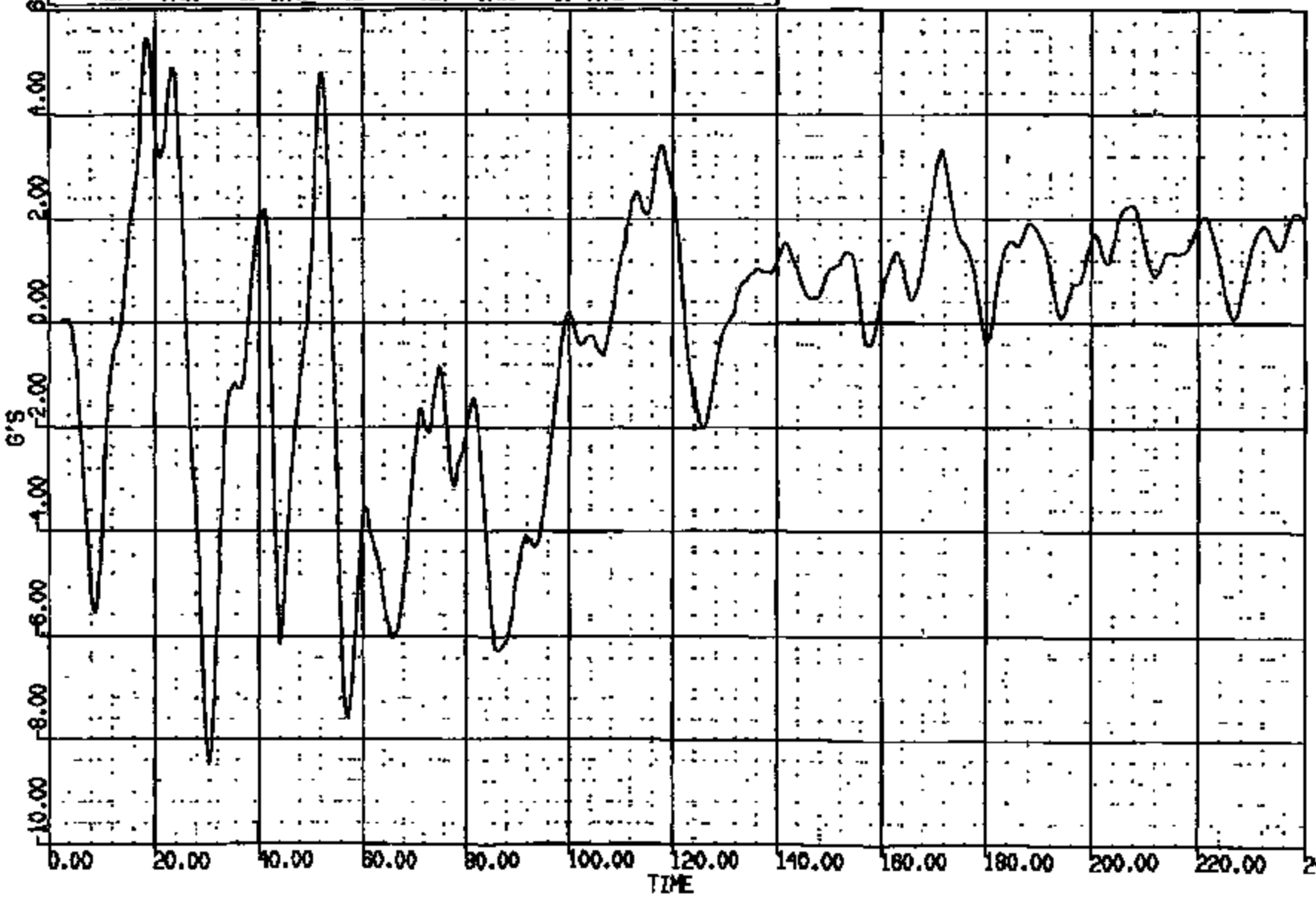


CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6170-PL
CREATED: 16-APR-99 14:45:14
PLOT PAGE 8
TB4161
SHEET 5

CRTS 011406

CR R= 11406 TO: TB4161 DATE: 990416 14:52:57
2001 0-186

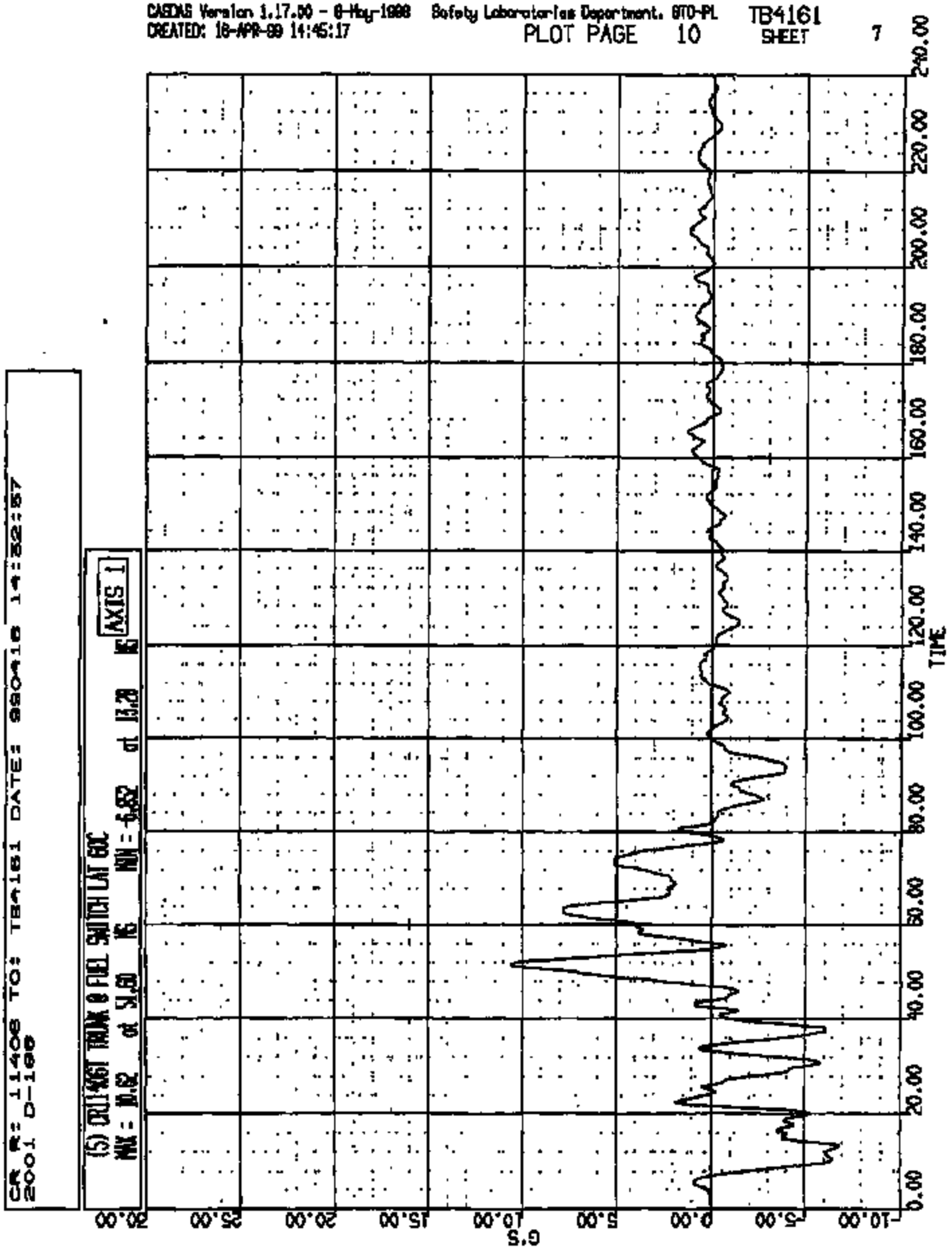
(4) CRL1406T TRUNK @ FUEL SWITCH VERT GOC
MAX = 5.455 at 18.48 MS MIN = -8.478 at 30.40 MS AXIS 1

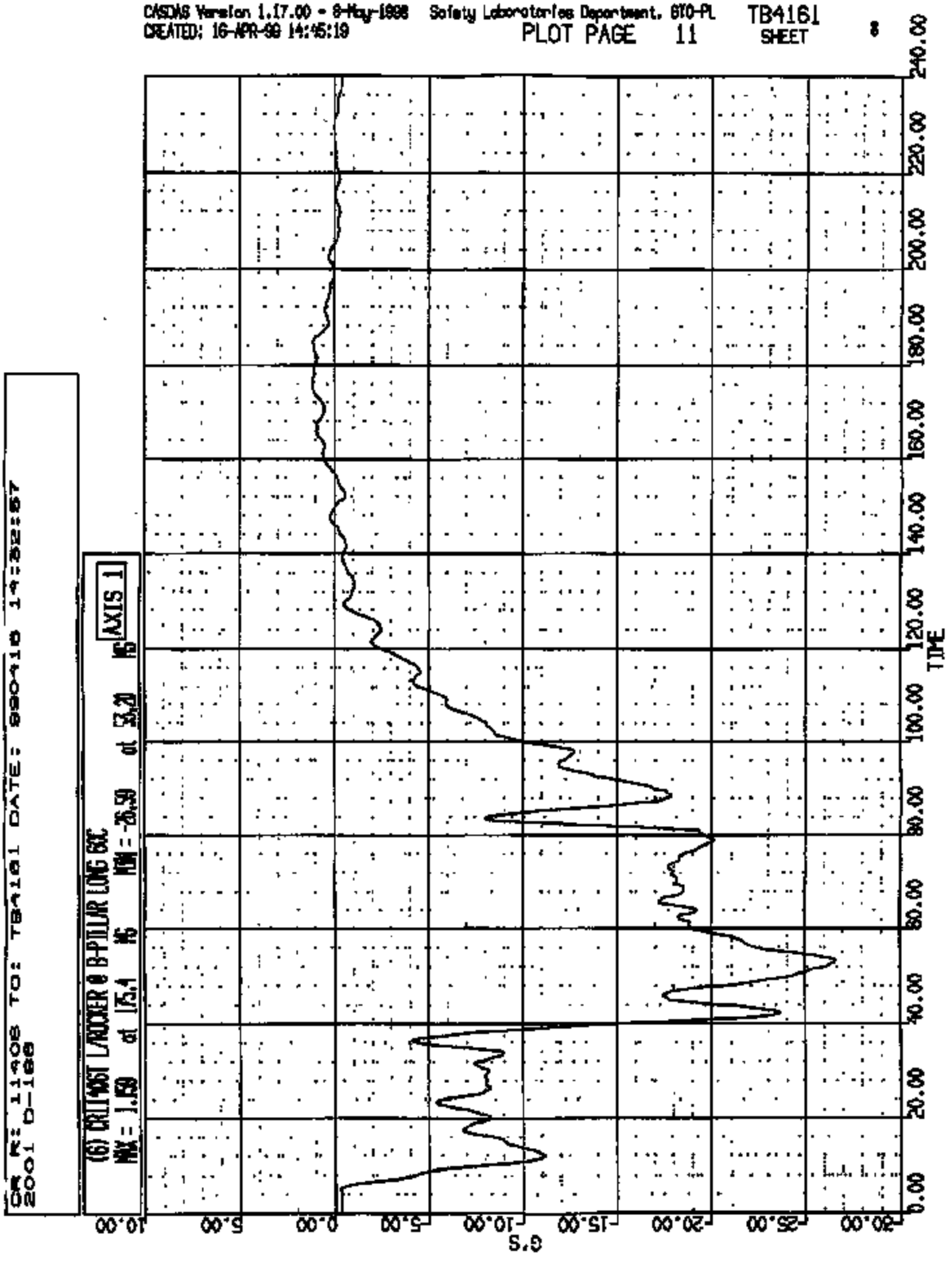


CRASHS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 6170-PL
CREATED: 16-APR-99 14:45:16

PLOT PAGE 9 TB4161 SHEET 6

CRTS 011406


CR R: 11406 TO: TB4161 DATE: 980416 14:32:57
2001 D-166
(5) CRU1406T TRUNK @ FUEL SWITCH LAT GOC
MAX = 10.62 at 54.80 MS MIN = -6.82 at 13.20 MS AXIS 1
20.00
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
G'S
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


CR R: 11406 TO: TB4161 DATE: 990416 14:32:57
2001 D-188
(6) DRIVER'S L/ROCKER @ B-PILLAR LONG 60G
MAX = 1.59 at 175.4 MS MIN = -26.59 at 53.20 MS AXIS 1
10.00
5.00
0.00
5.00
10.00
15.00
20.00
25.00
G'S
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

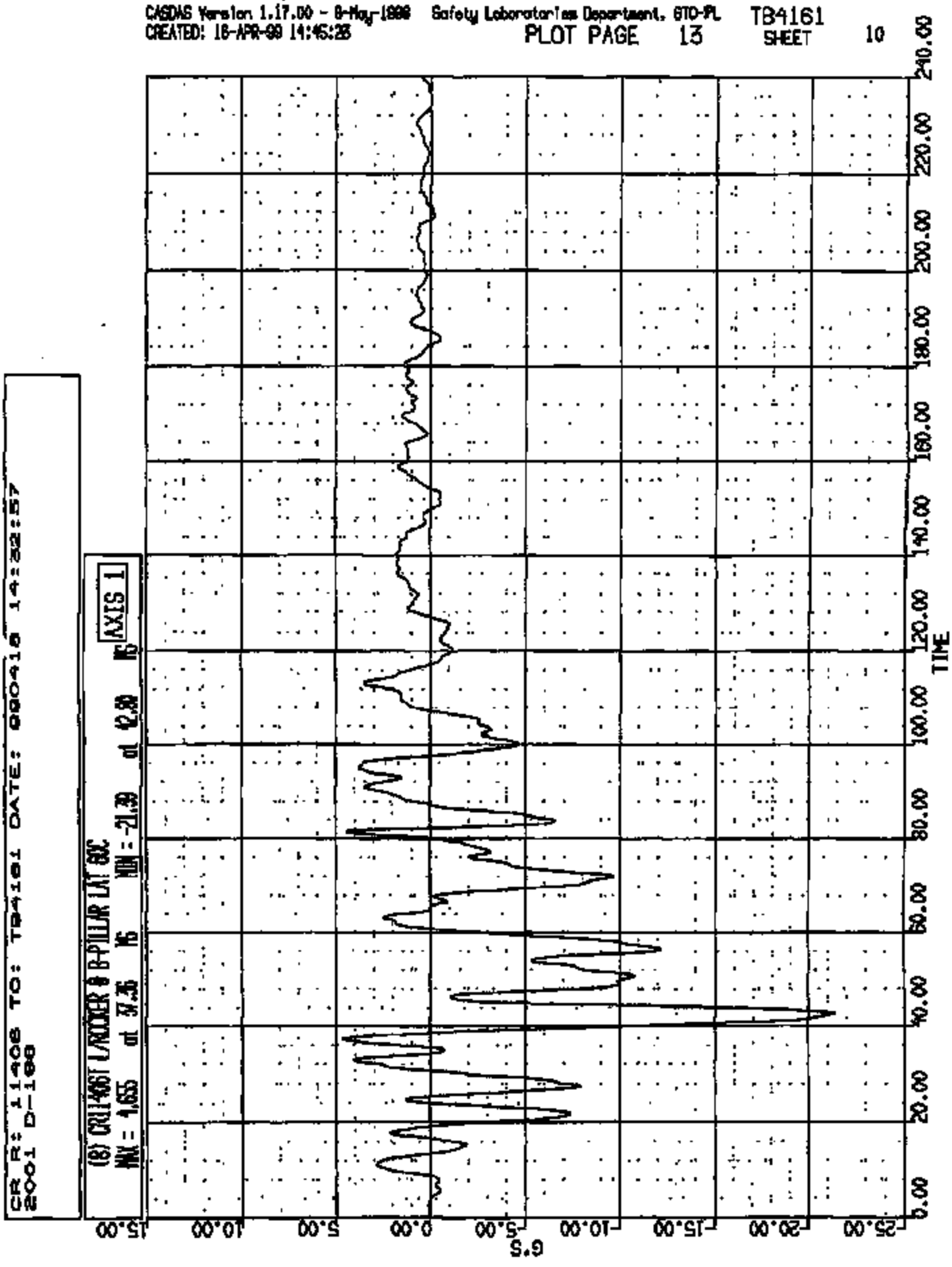
CR R: 11405 TO: TB4161 DATE: 990416 14:52:57
2001 D-185

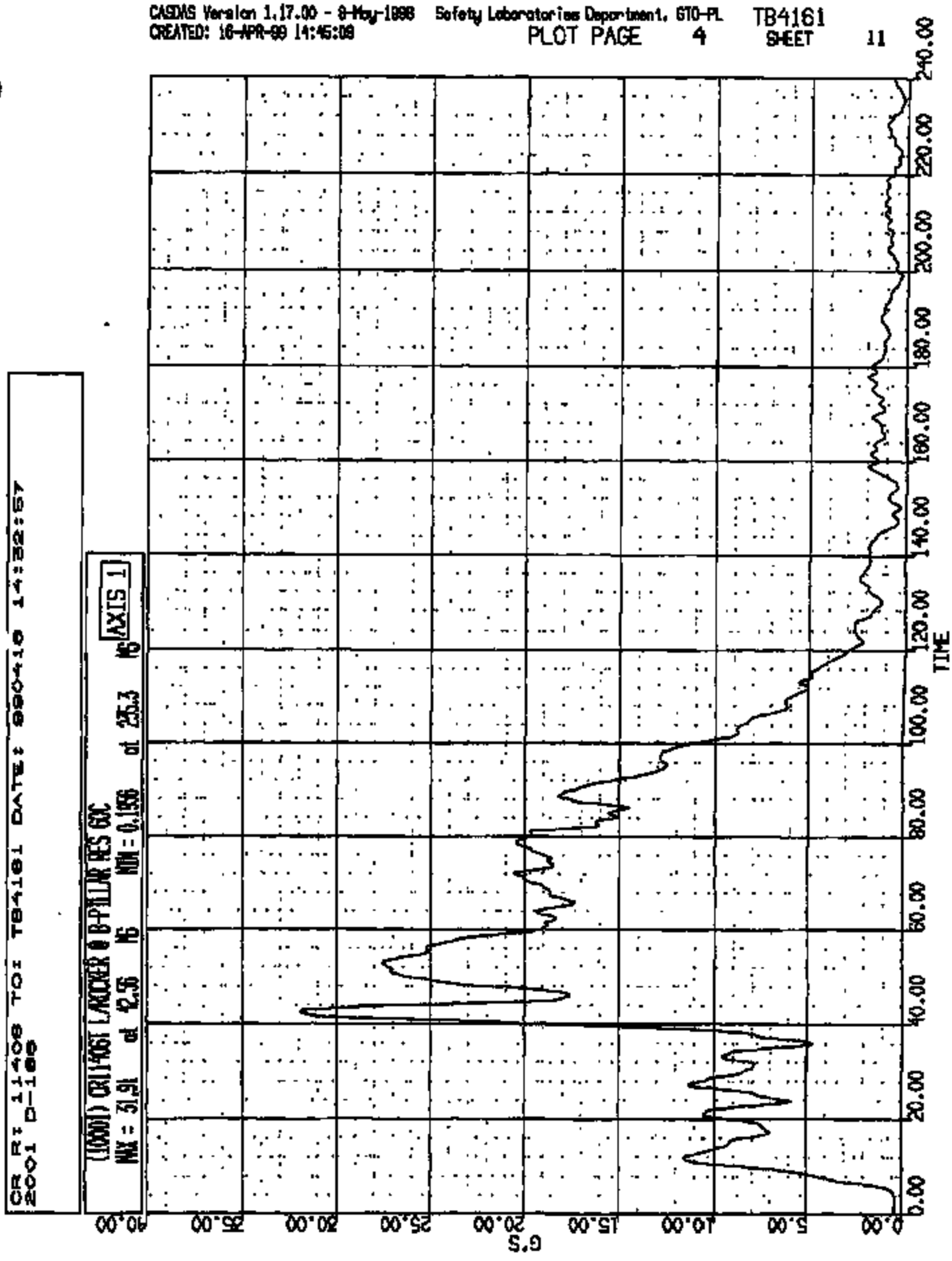
(7) CRIT40ST LANDOVER B B-PILLAR VERT 60C
MAX = 12.26 at 85.20 MS MIN = -3.486 at 76.16 MS AXIS 1

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6110-PL
CREATED: 16-APR-99 14:45:21

PLOT PAGE 12 TB4161 SHEET 9

CRTS 0011406


CR R: 11406 TO: TB4161 DATE: 990416 14:22:57
2001 D-168
(8) CRU11406T L/ADDER & B-PILLAR LAT 80C
MAX = 4.655 at 37.36 MS MIN = -21.39 at 42.80 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
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
G's


CR R: 11406 TO: TB4161 DATE: 990410 14:32:57
2001 D-166
(10000) CR11406T L/ANCHOR @ B-PILLAR RES GDC
MAX = 31.91 at 42.56 MS MIN = 0.156 at 235.3 MS
AXIS 1
0.00
5.00
10.00
15.00
20.00
25.00
30.00
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

CR R: 11406 TO: TB4161 DATE: 990418 14:52:57
2001 0-199

(9) CRIT406T R/ROCKER @ B-PILLAR LONG 60C
MAX = 1.024 at 171.7 MS MIN = -19.46 at 82.46 MS AXIS 1

S.G

00.02
00.01
00.0
00.0
00.0
00.0
00.0
-00.01
-00.01
-00.02

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

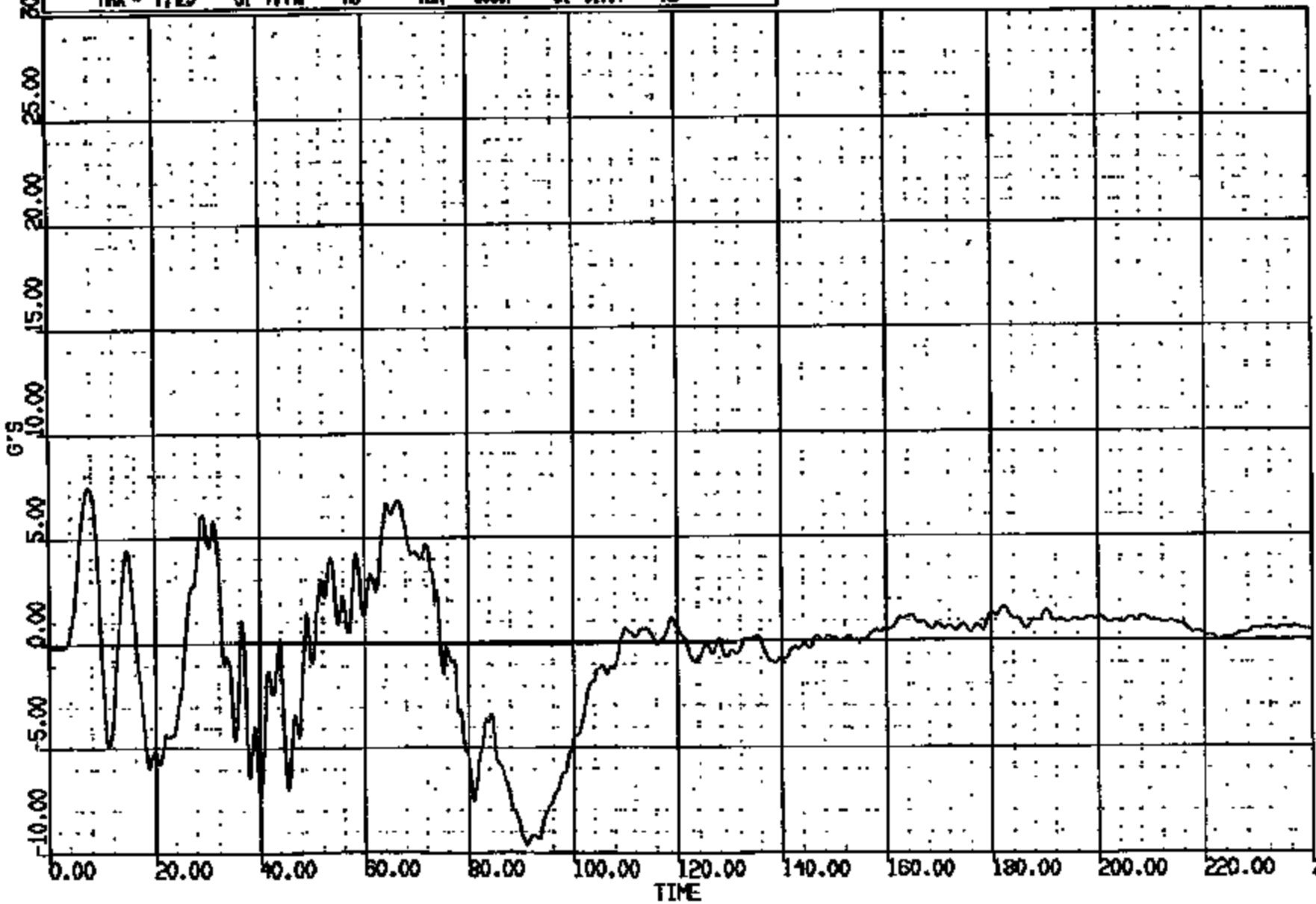
TIME

CASDAS Version 1.17.00 - 8-May-1998 Society Laboratories Department, GTD-PL TB4161
CREATED: 16-APR-99 14:45:25 PLOT PAGE 14 SHEET 12

CRTS 0011406

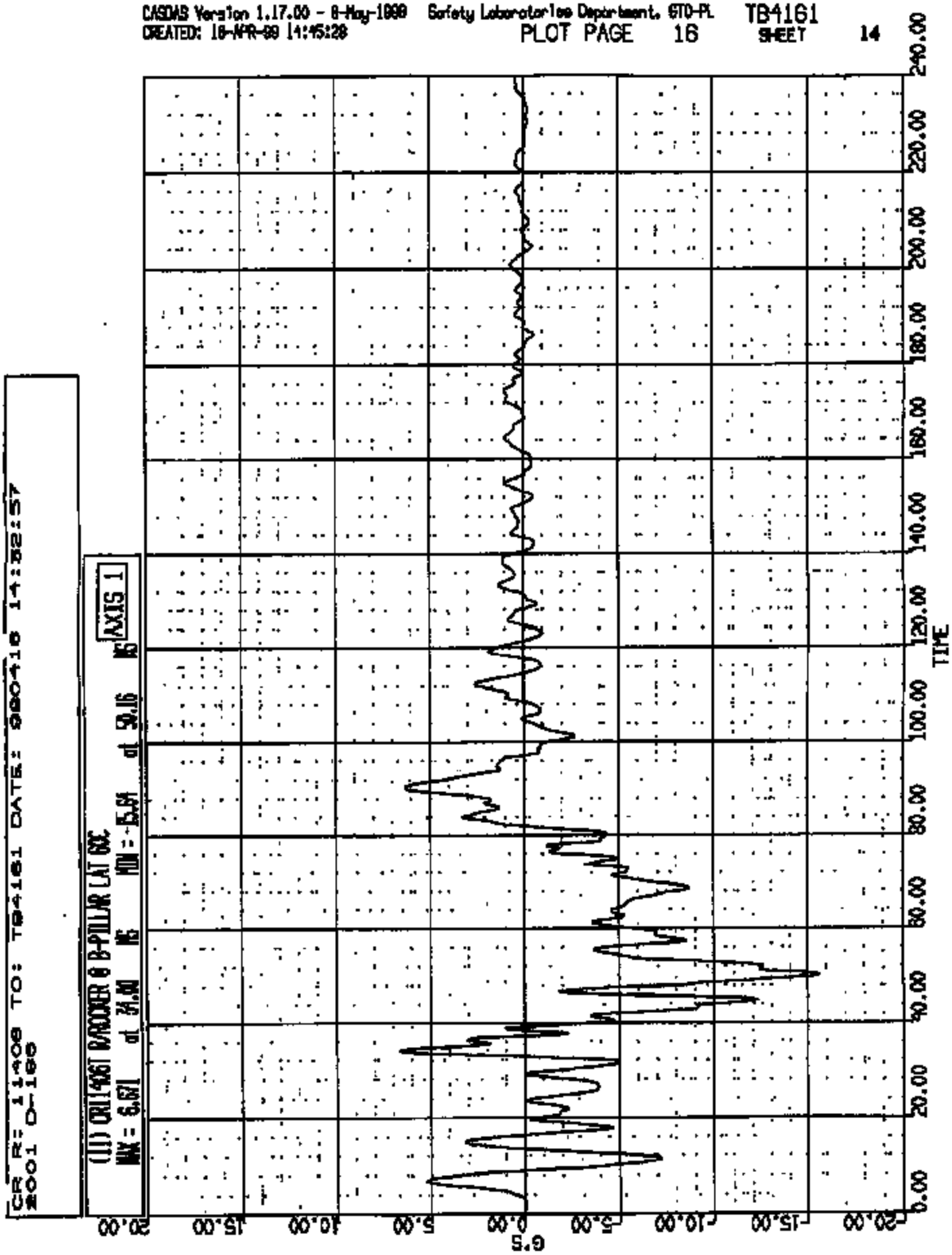
CR R: 11406 TO: TB4161 DATE: 990416 14:32:57
2001 D-196

(10) CRT1406T R/ROCKER @ B-PILLAR VERT GOC
MAX = 7.423 at 7.440 MS MIN = -9.867 at 91.04 MS AXIS 1



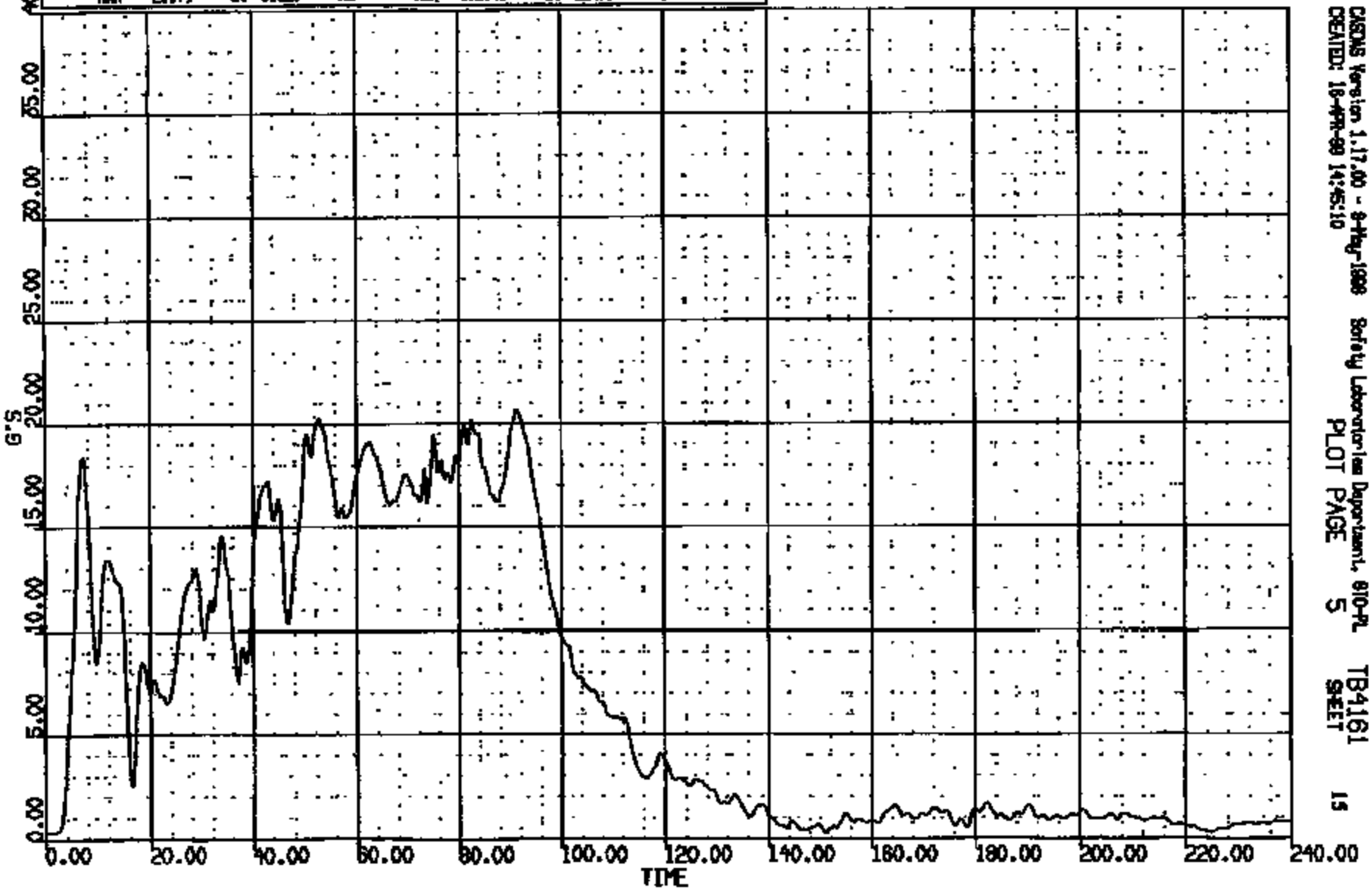
CARDAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 670-PL TB4161
CREATED: 16-APR-99 14:45:28 PLOT PAGE 15 SHEET 13

CRTS 0011406


CR R= 11406 TO: TB4161 DATE: 990416 14:52:57
2001 D-185
(11) CRI1406T RADDOWN @ B-PILLAR LAT ACC
MAX = 6.671 at 24.00 MS MIN = -15.64 at 30.16 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
20.00
15.00
10.00
5.00
0.00
5.00
10.00
15.00
20.00
G'S

CR R: 11406 TO: TB4161 DATE: 990416 14:32:57
2001 D-196

(10002) CR114067 R/ROCKER @ B-PILLAR RES 60C
MAX = 20.71 at 94.20 MS MIN = 0.2698 at 224.6 MS AXIS 1



CRASMS Version 1.17.00 - 9-May-1999 Safety Laboratories Department, 810-PL TB4161
CREATED: 16-APR-99 14:45:10 PLOT PAGE 5 SHEET 15

CRTS 0011406

CR R: 11406 TO: TB4161 DATE: 890418 14:32:57
2001 D-188

(1) CR11406T ALTERNATE T-ZERO SN 4008C
MAX = 0.9570 at -.7625E-05 MS MIN = -.4395E-01 at 141.2 MS

AXIS 1

SLTDA

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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 1.17.00 - 8-May-1988 Sandia Laboratories Department, 6110-PL
CREATED: 18-APR-89 14:45:12

PLOT PAGE 8 TB4161 SHEET 16

CRTS 001406

CR R: 11406 TO: TB4161 DATE: 980416 14:52:57
2001 D-180

(2) CR11406T FUEL SHUT OFF (INERTIA) SN 4000C
MAX = 0.9570 at -.7629E-05 MS MIN = 0.9570 at -.7629E-05 MS AXIS 1

SLTOA

8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

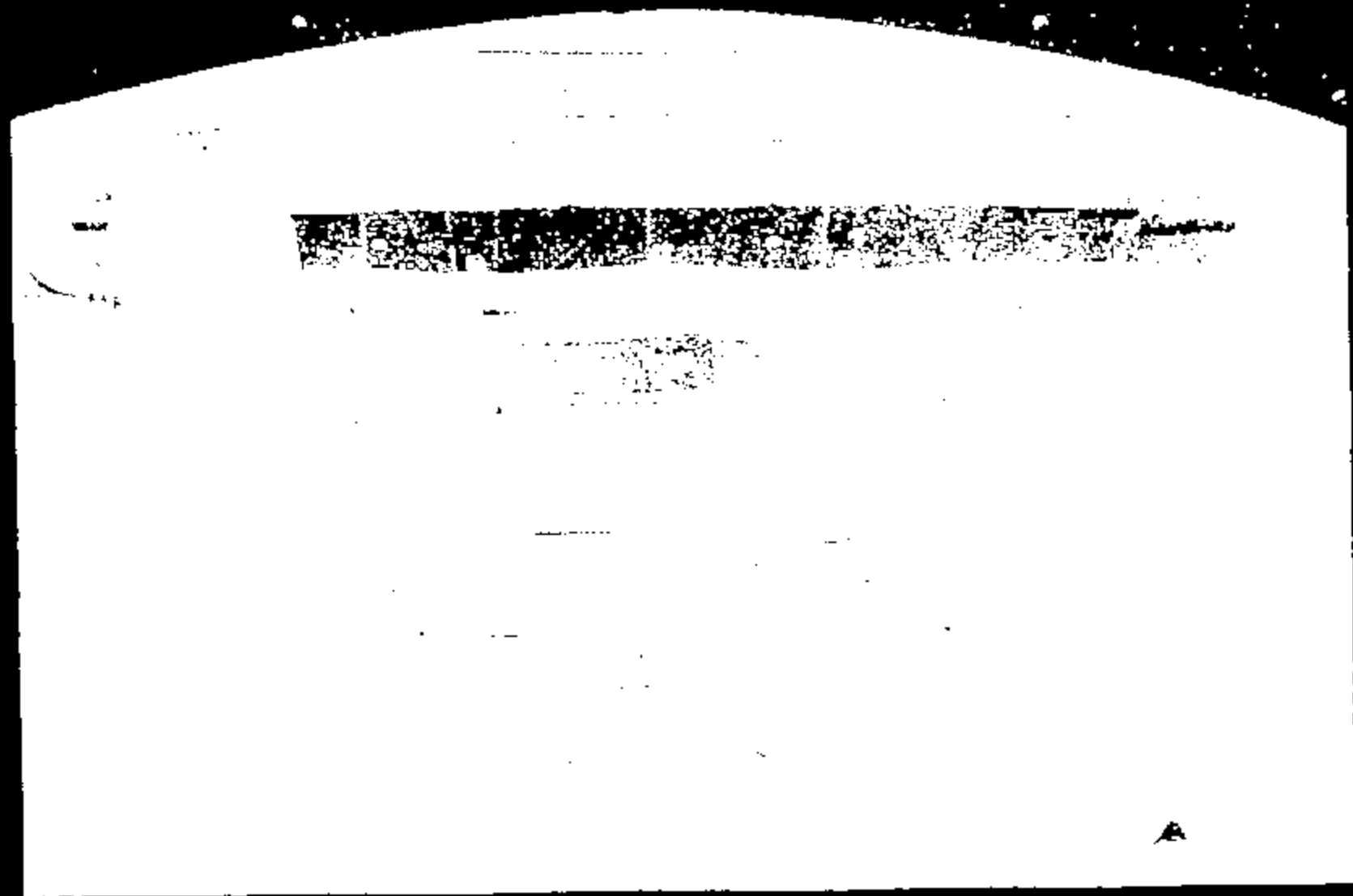
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6T0-PL
CREATED: 16-APR-98 14:45:12

PLOT PAGE 7 TB4161 17
9-FEB

CRTS 011406



Name: 11406001.JPG

Name: 11406002.JPG

Name: 11406003.JPG

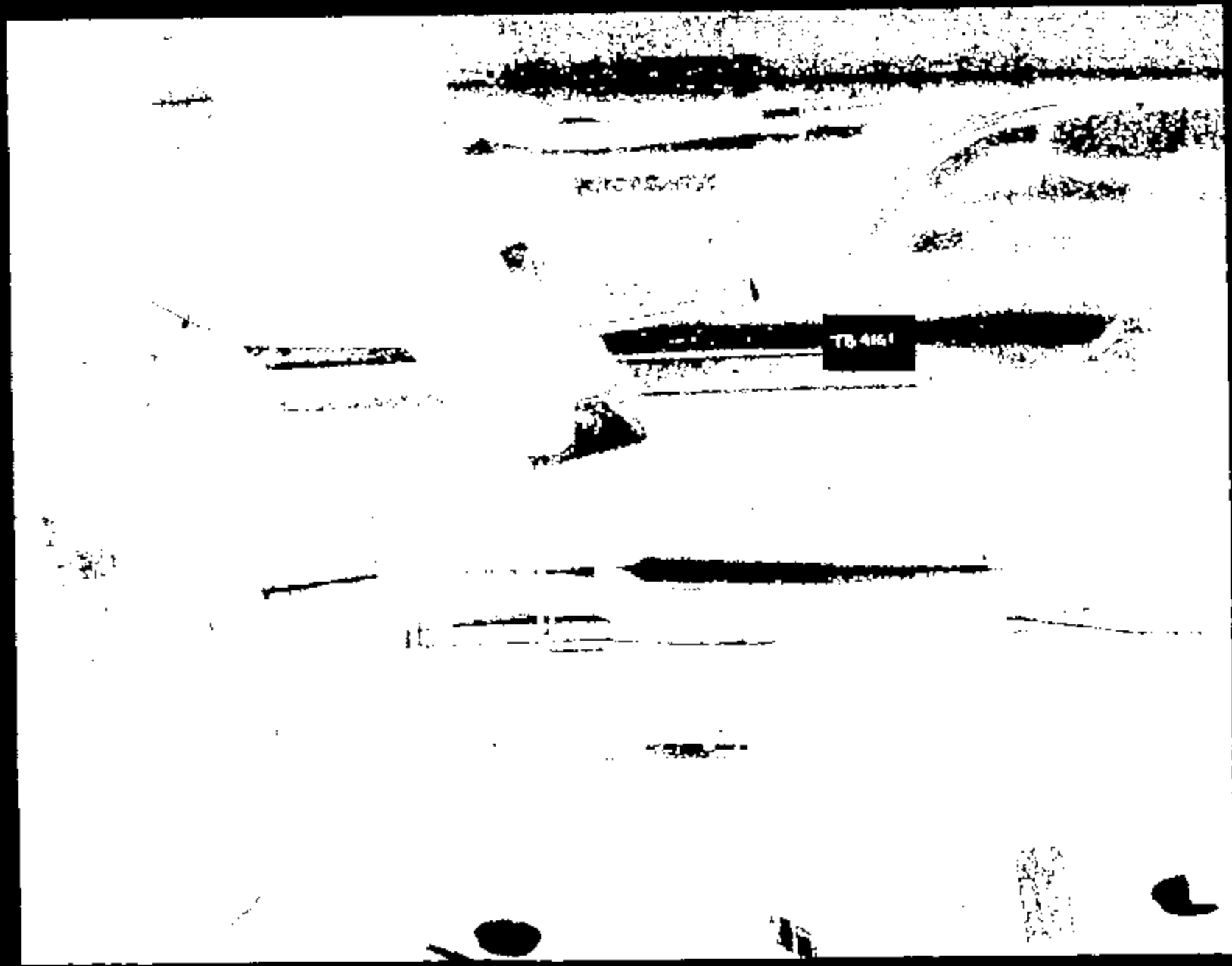
CRTS 0011406

Name: 11406004.JPG

CRTS 0011406

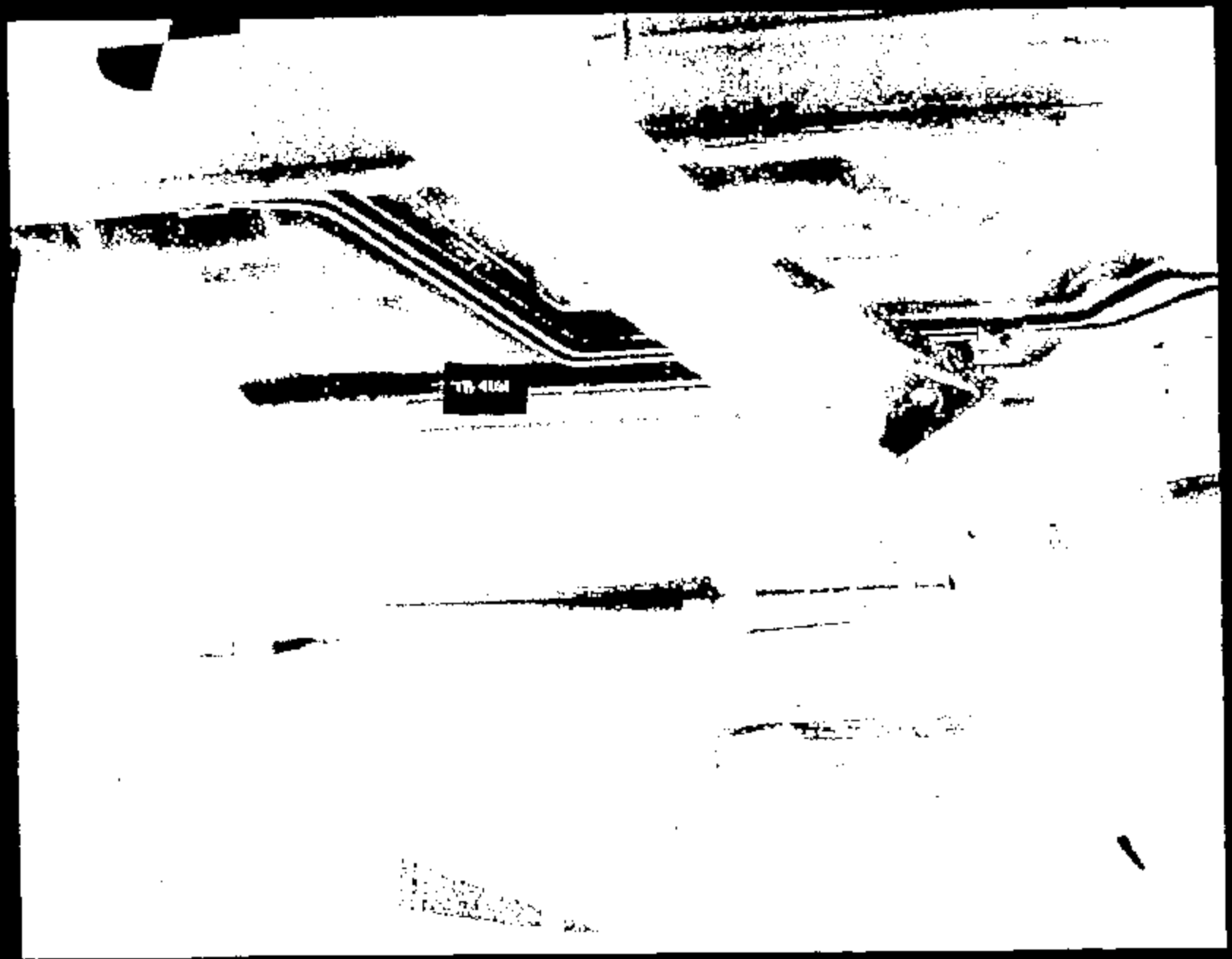
Name: 11406005.JPG

CRTS 0011406



Name: 11406006.JPG

Name: 11406007.JPG



Name: 11406008.JPG

Name: 11406009.JPG

CRTS 0011406

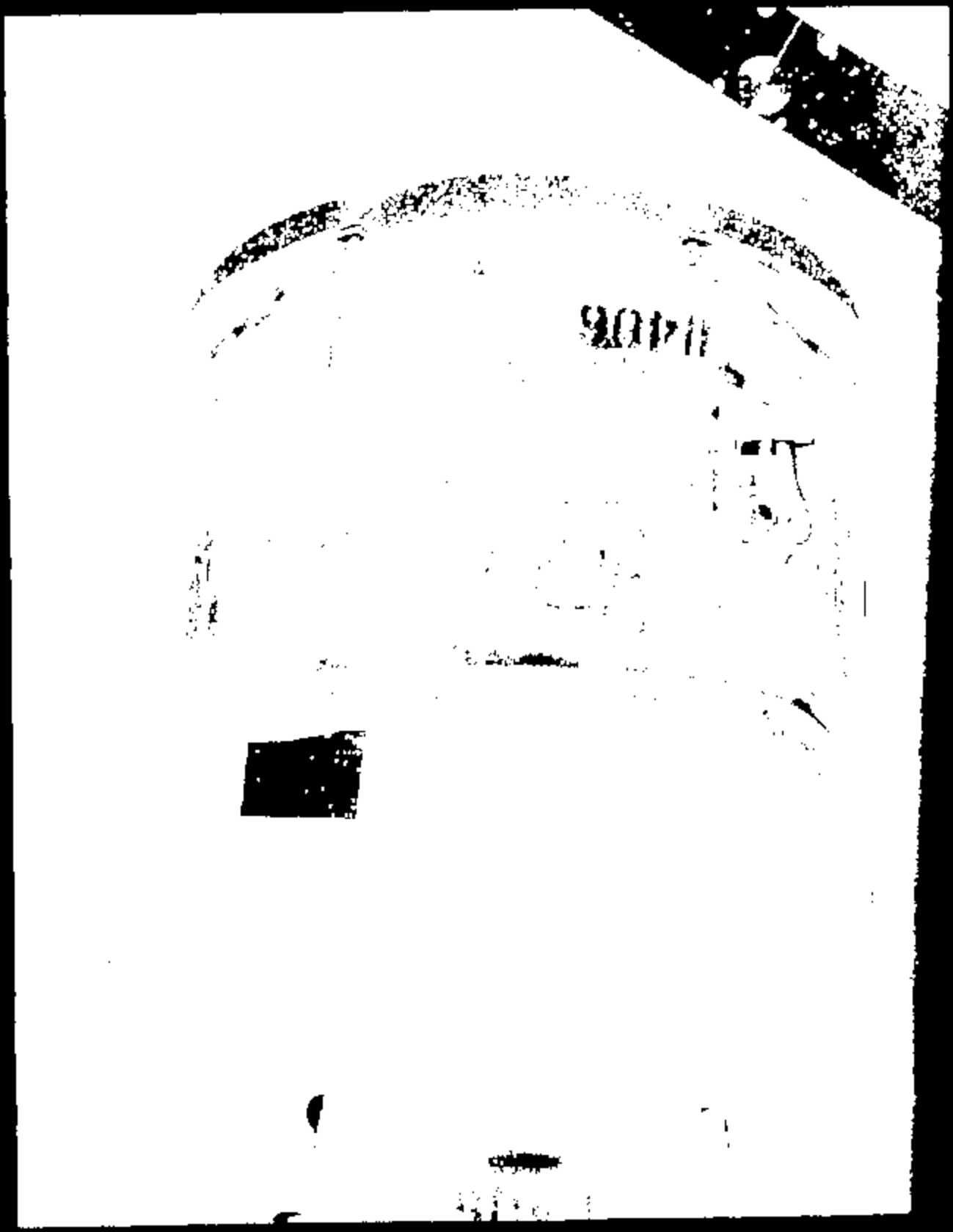
Name: 11406010.JPG

Name: 11406011.JPG

CRTS 0011406

Name : 11406012.JPG

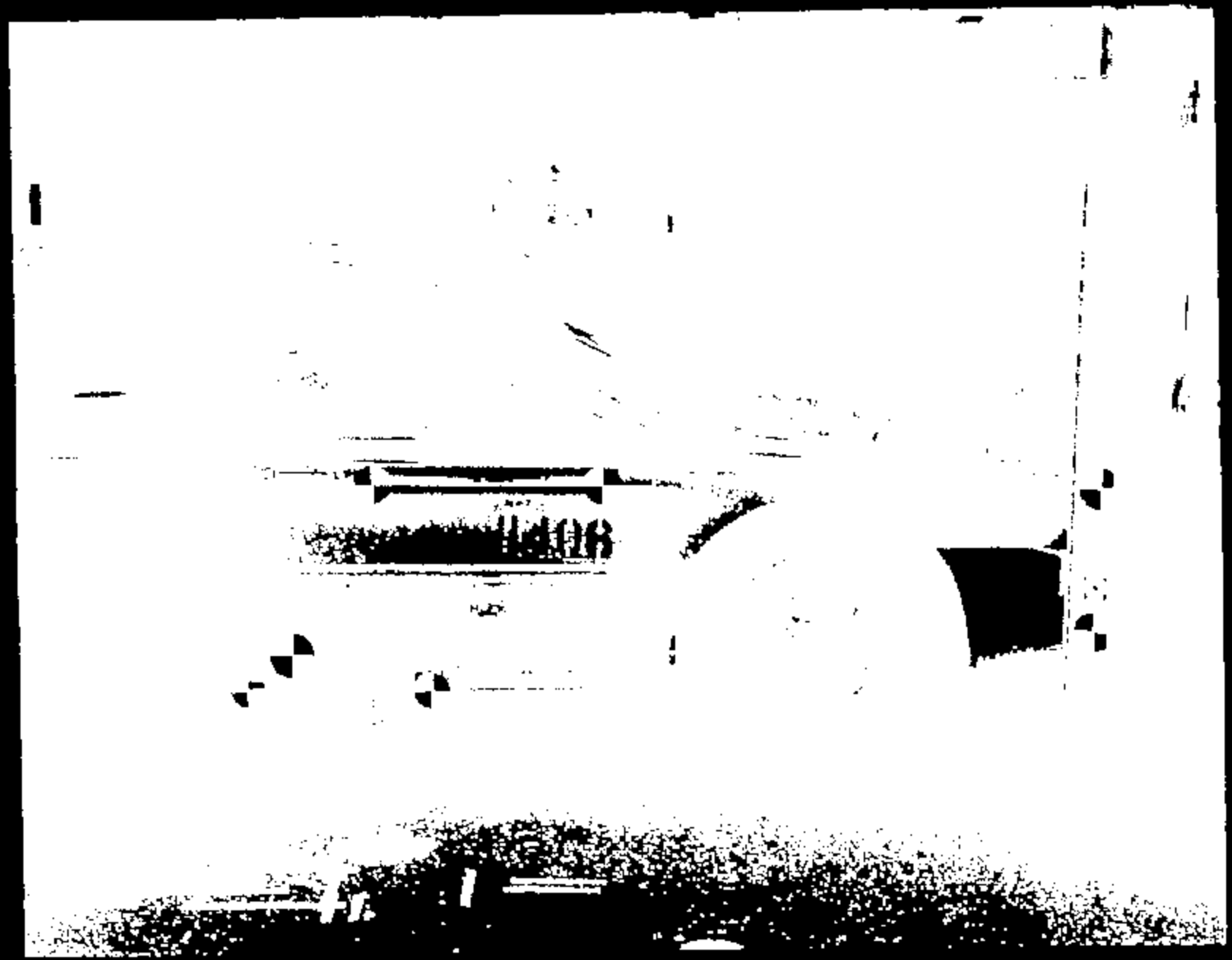
CRTS 0011406



CRTS 0011406

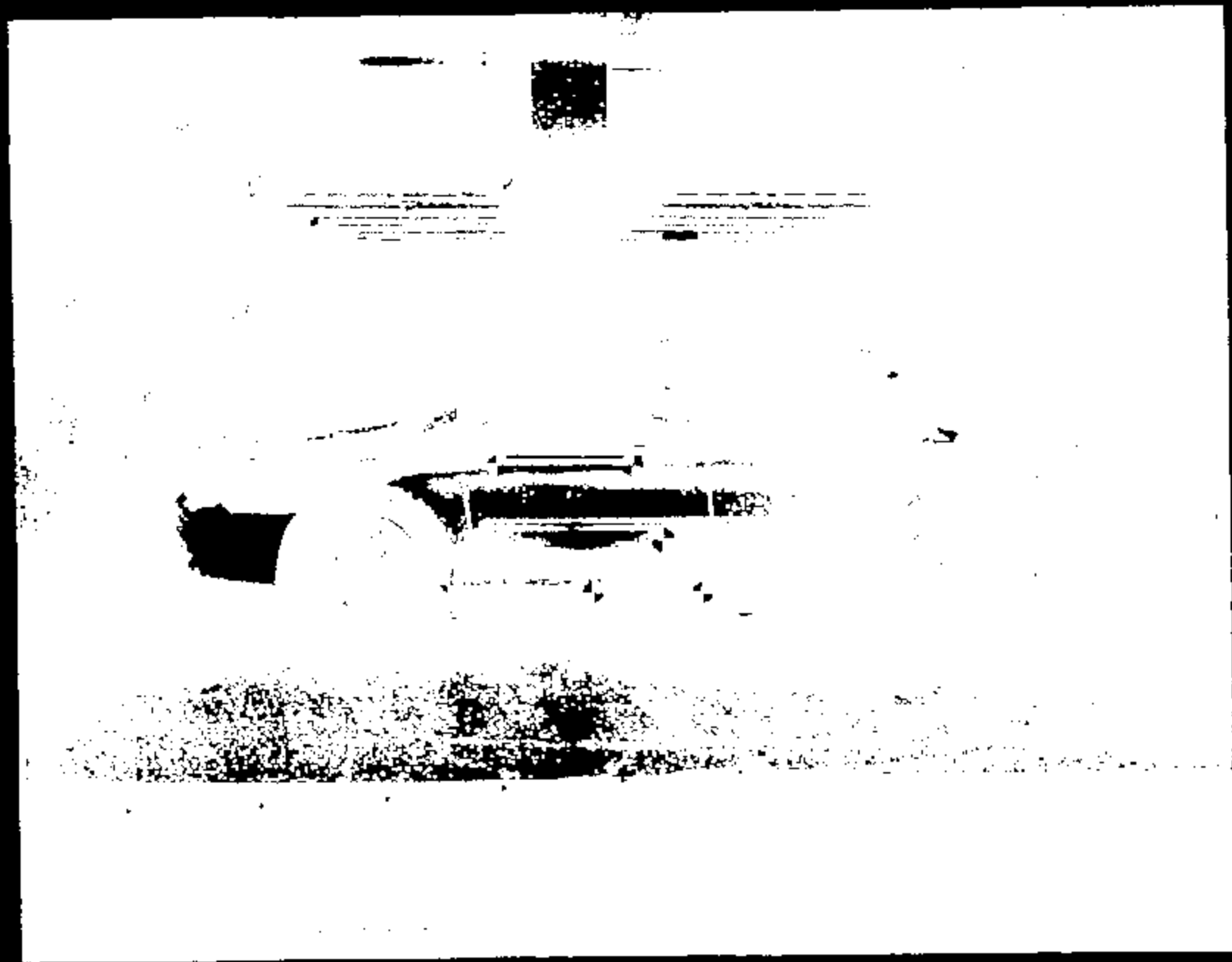
Name: 11406014.JPG

CRTS 0011406



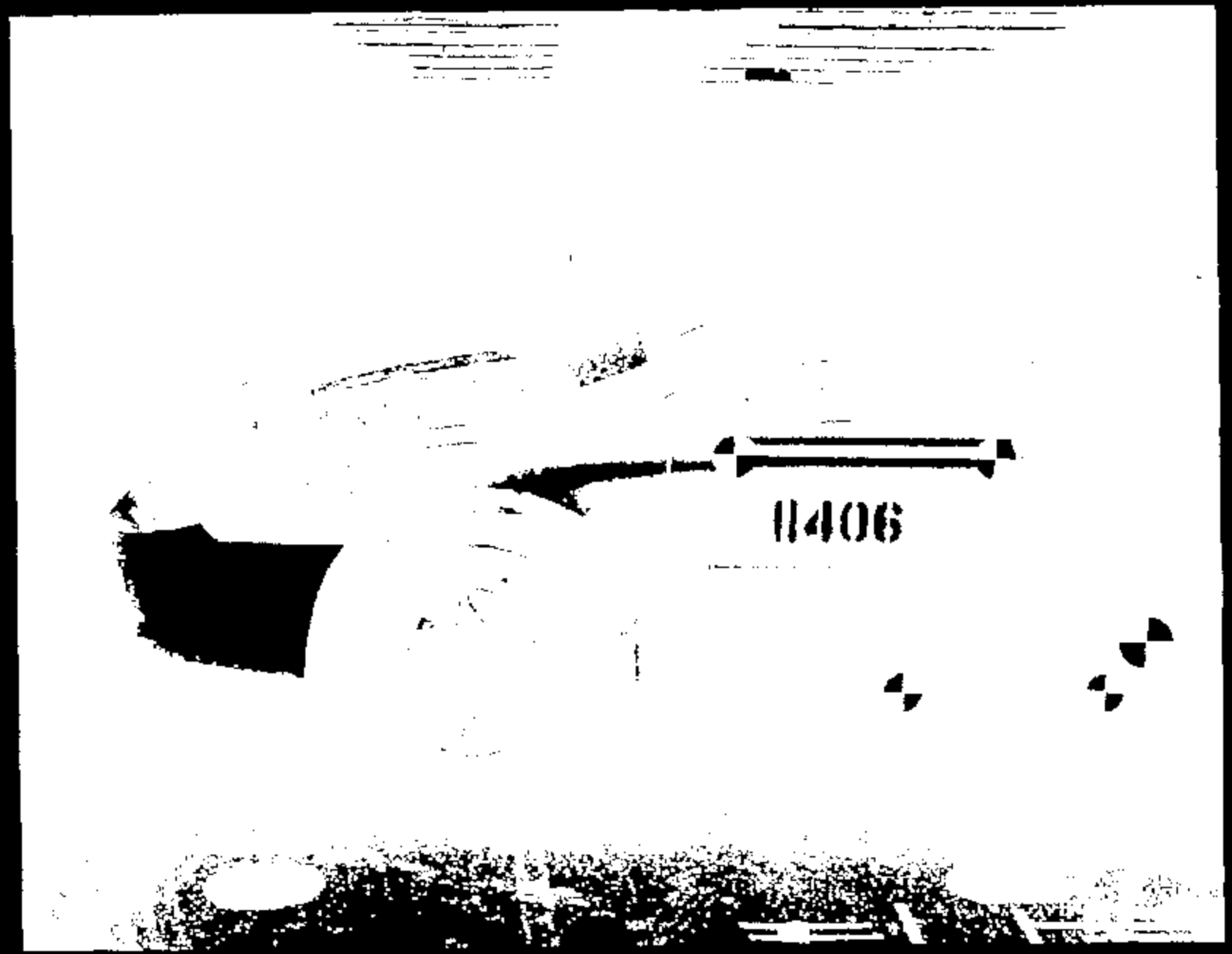
Name: 11406015.JPG

CRTS 0011406



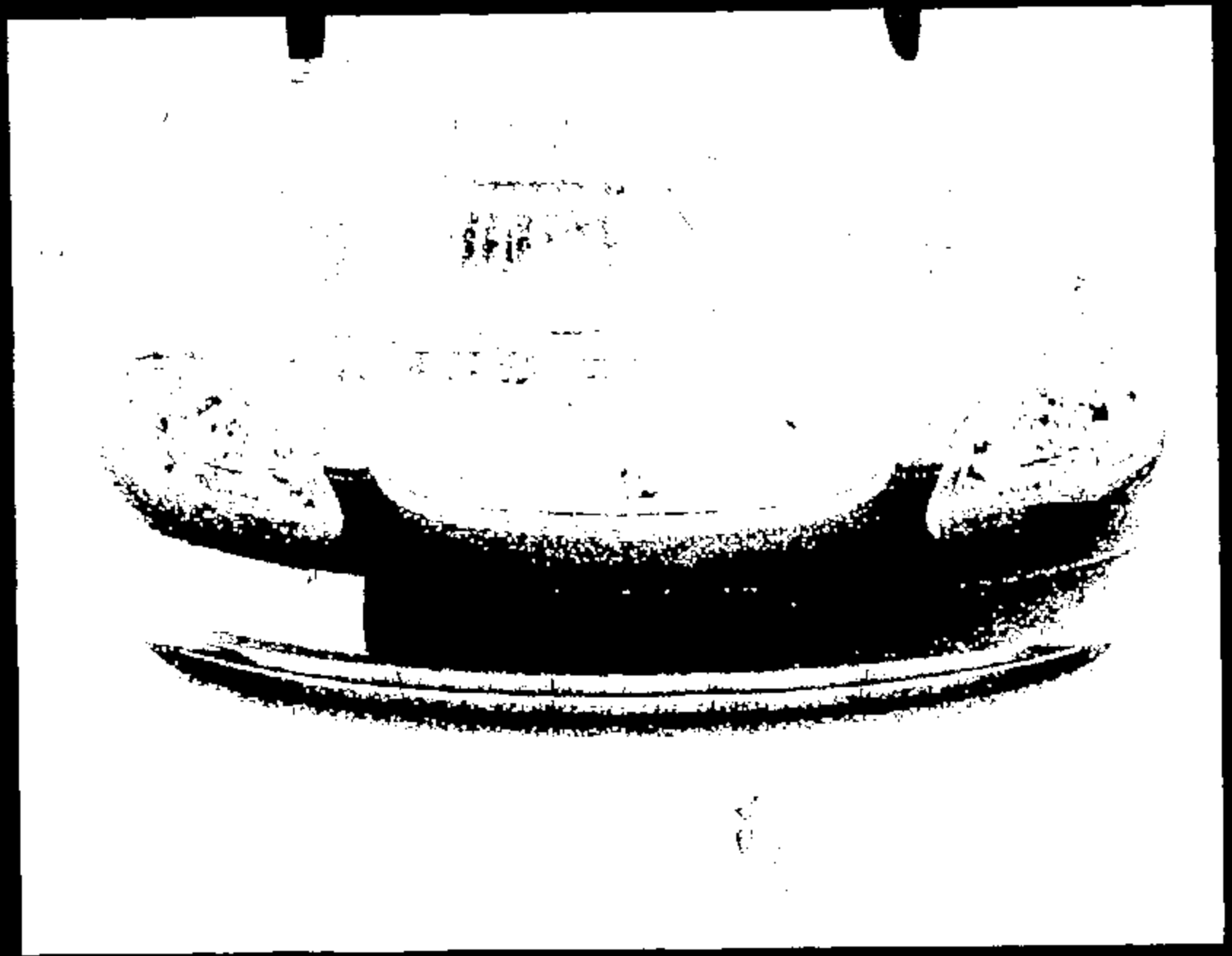
Name: 11406016.JPG

CRTS 0011406



Name: 11406017.JPG

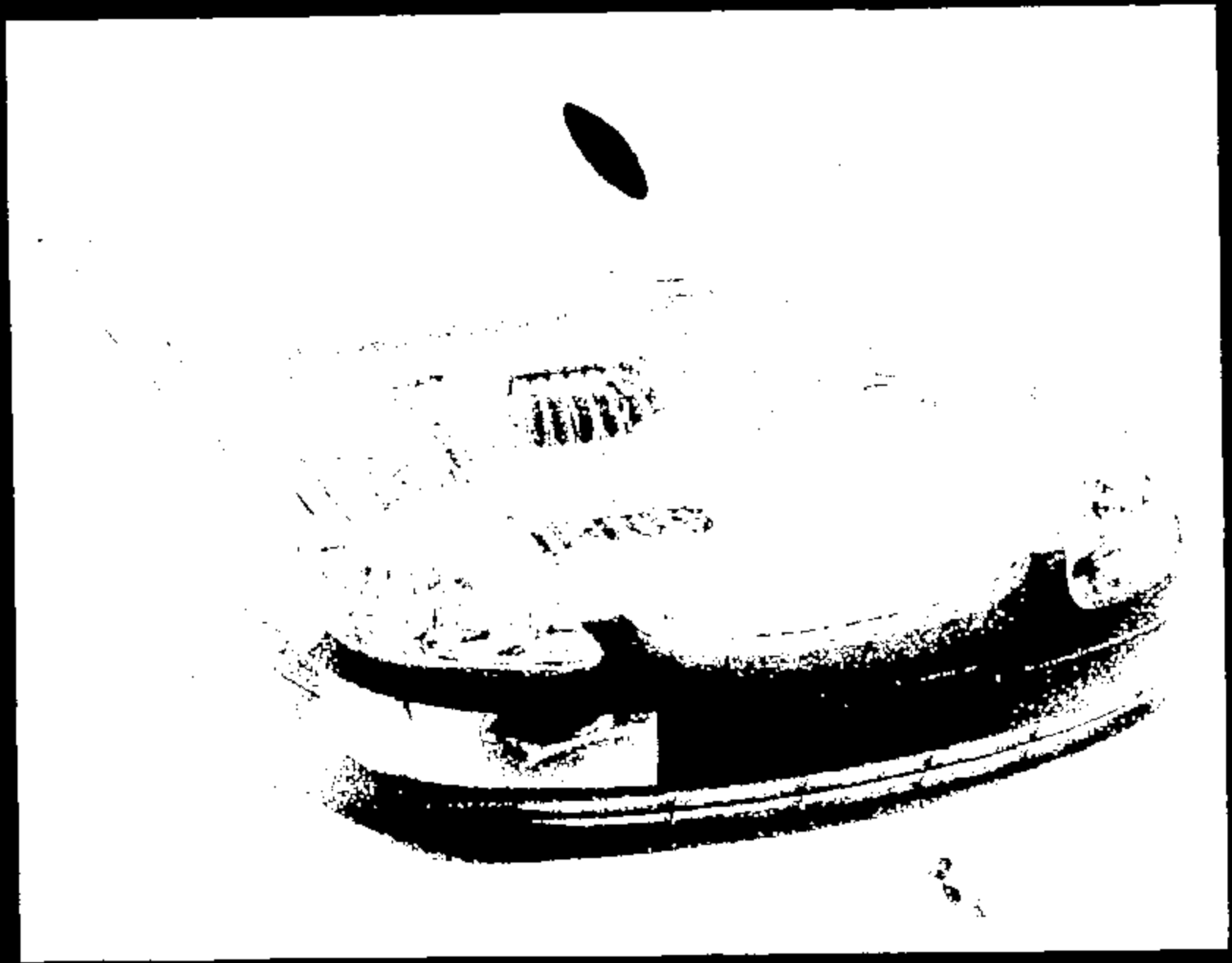
GRIS 001406



Name: 11406018.JPG

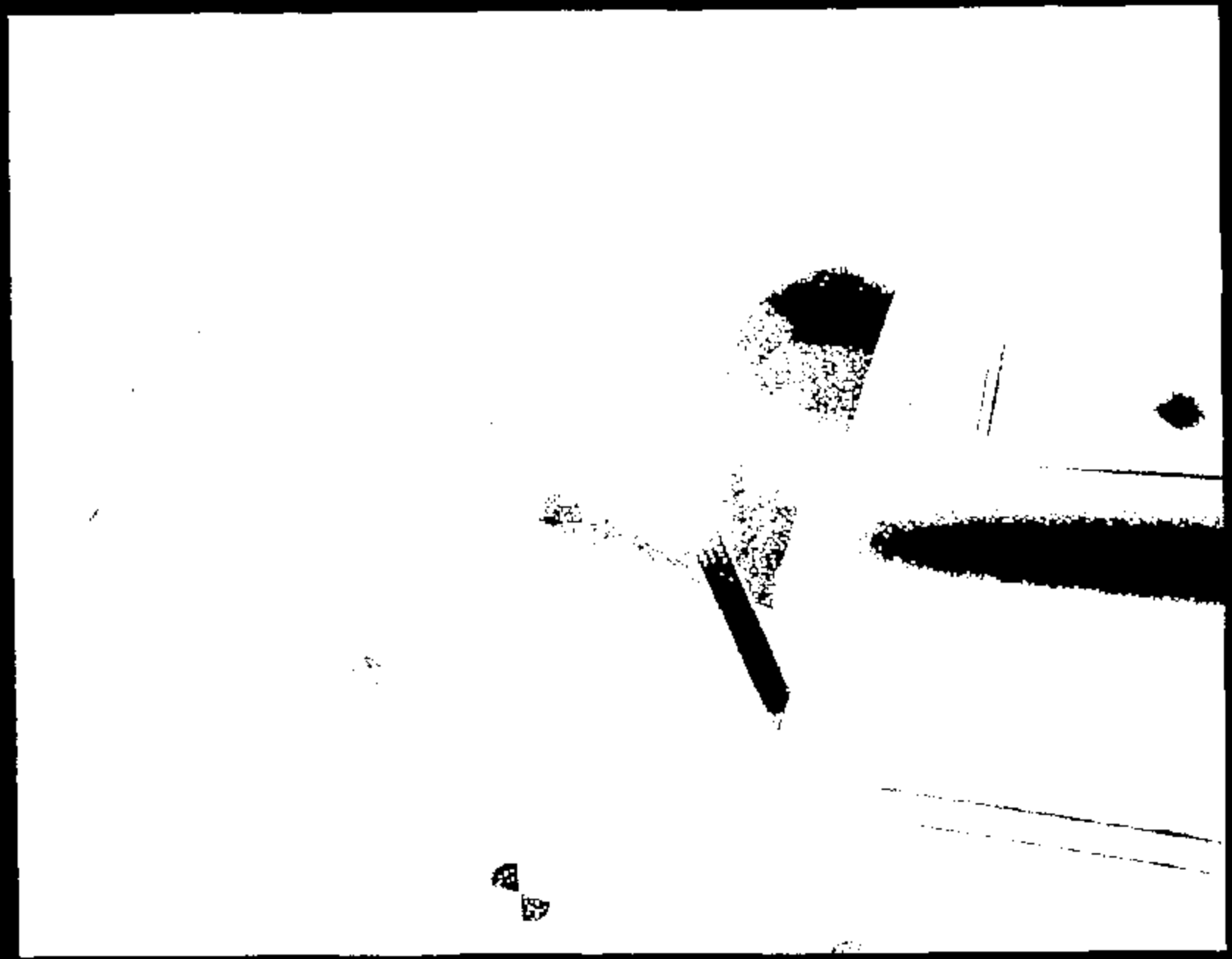
Name : 11406019.JPG

CRTS 0011406



Name: 11406020.JPG

CRTS 0011406



Name: 11406021.JPG

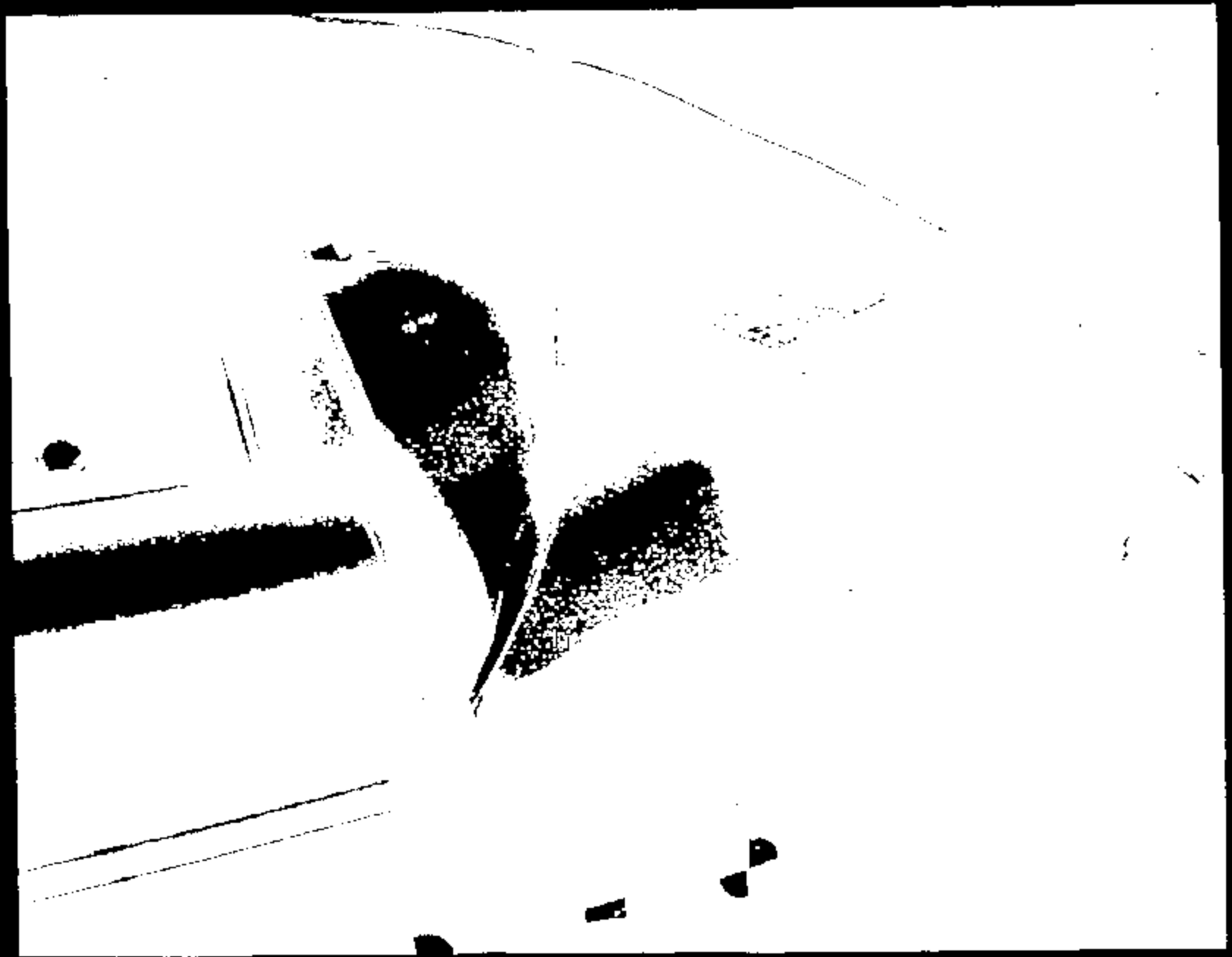
CRTS 011406

Name: 11406022.JPG

CRTS 0011406

Name: 11406023.JPG

CRTS 0011406



Name: 11406024.JPG

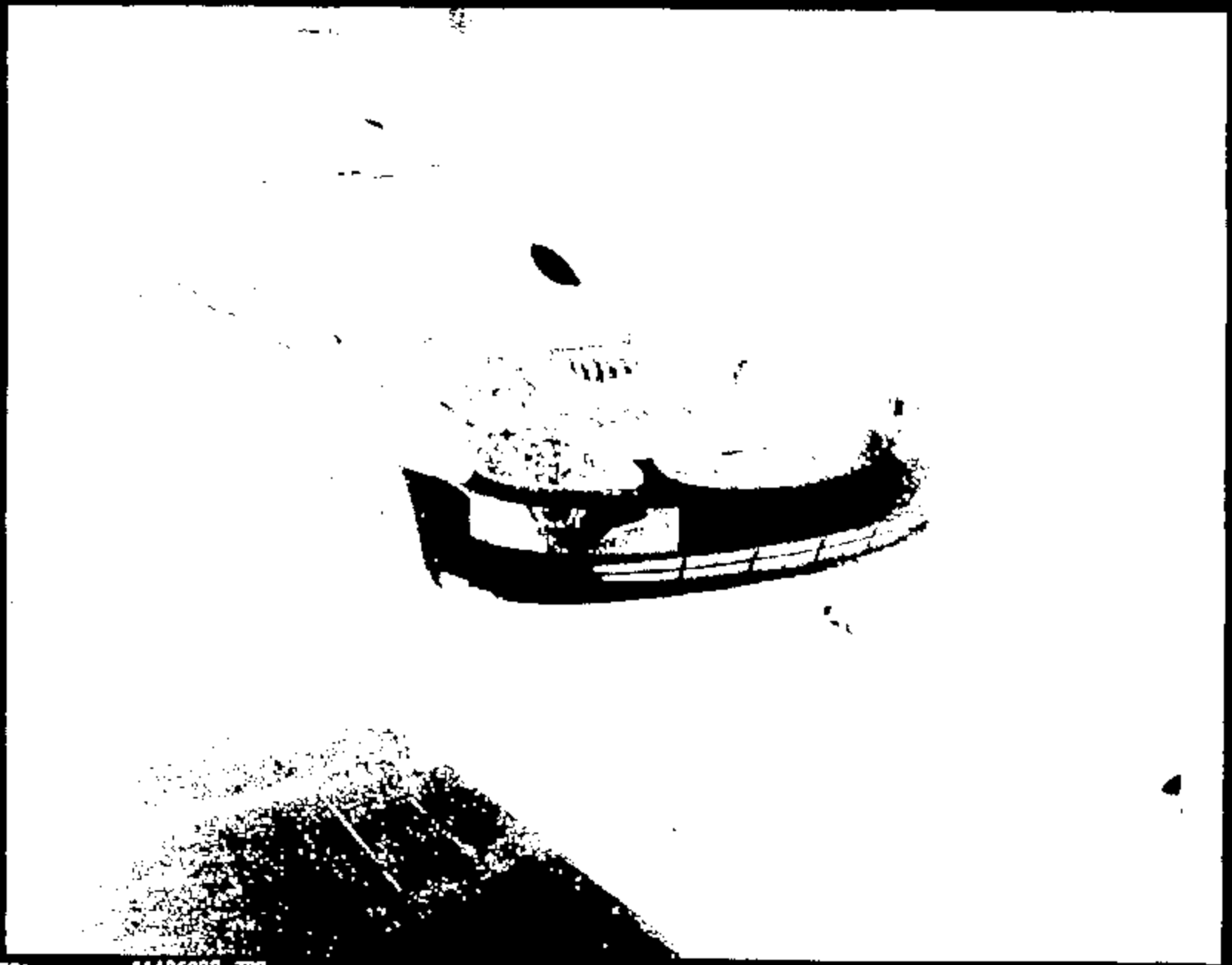
CRTS 0011406

Name: 11406025.JPG

CRTS 0011406

Name: 11406026.JPG

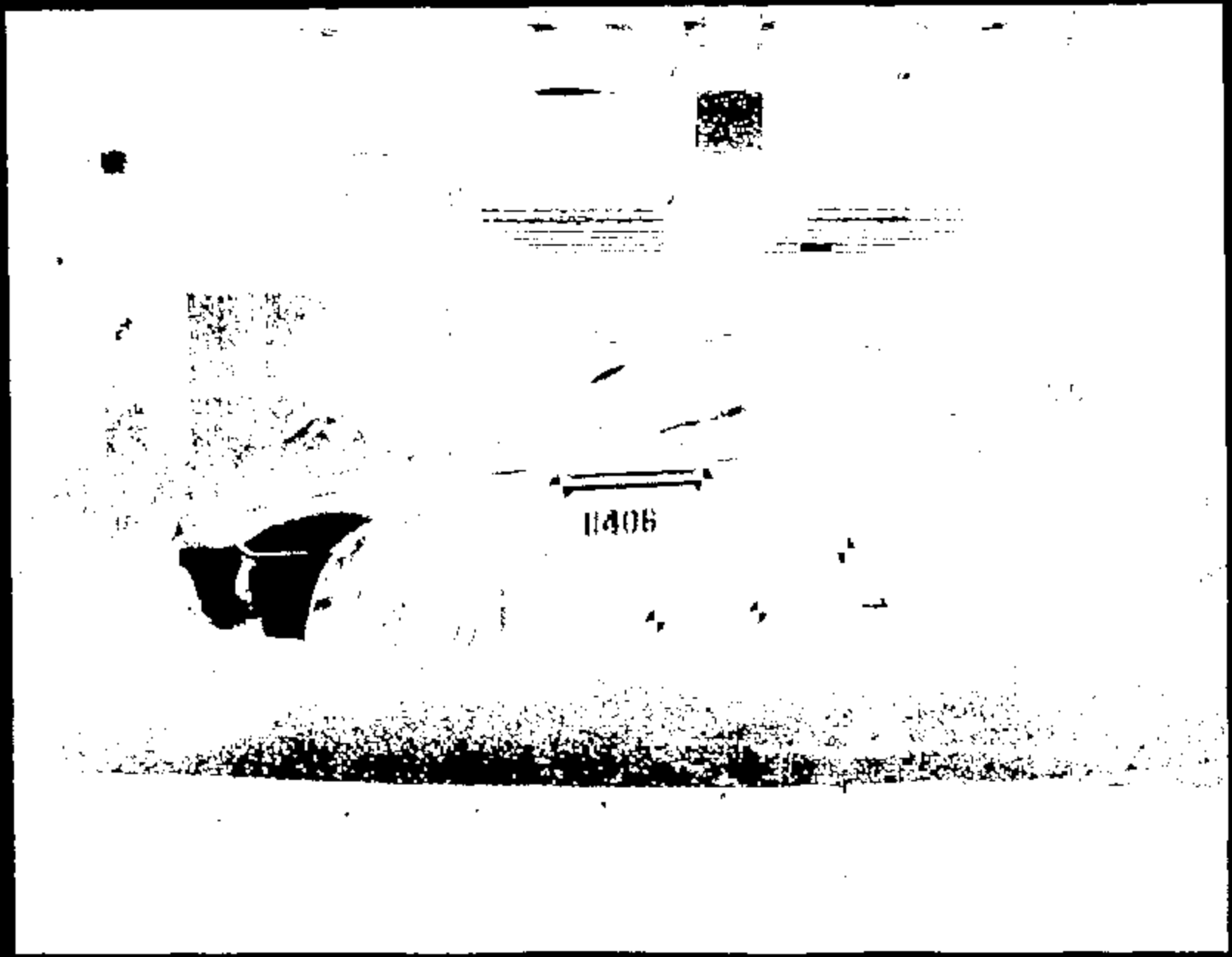
CRTS 00111406



Name: 11406027.JPG

CRTS 0011406

Name: 11406028.JPG



Name: 11406029.JPG

Name: 11406030.JPG

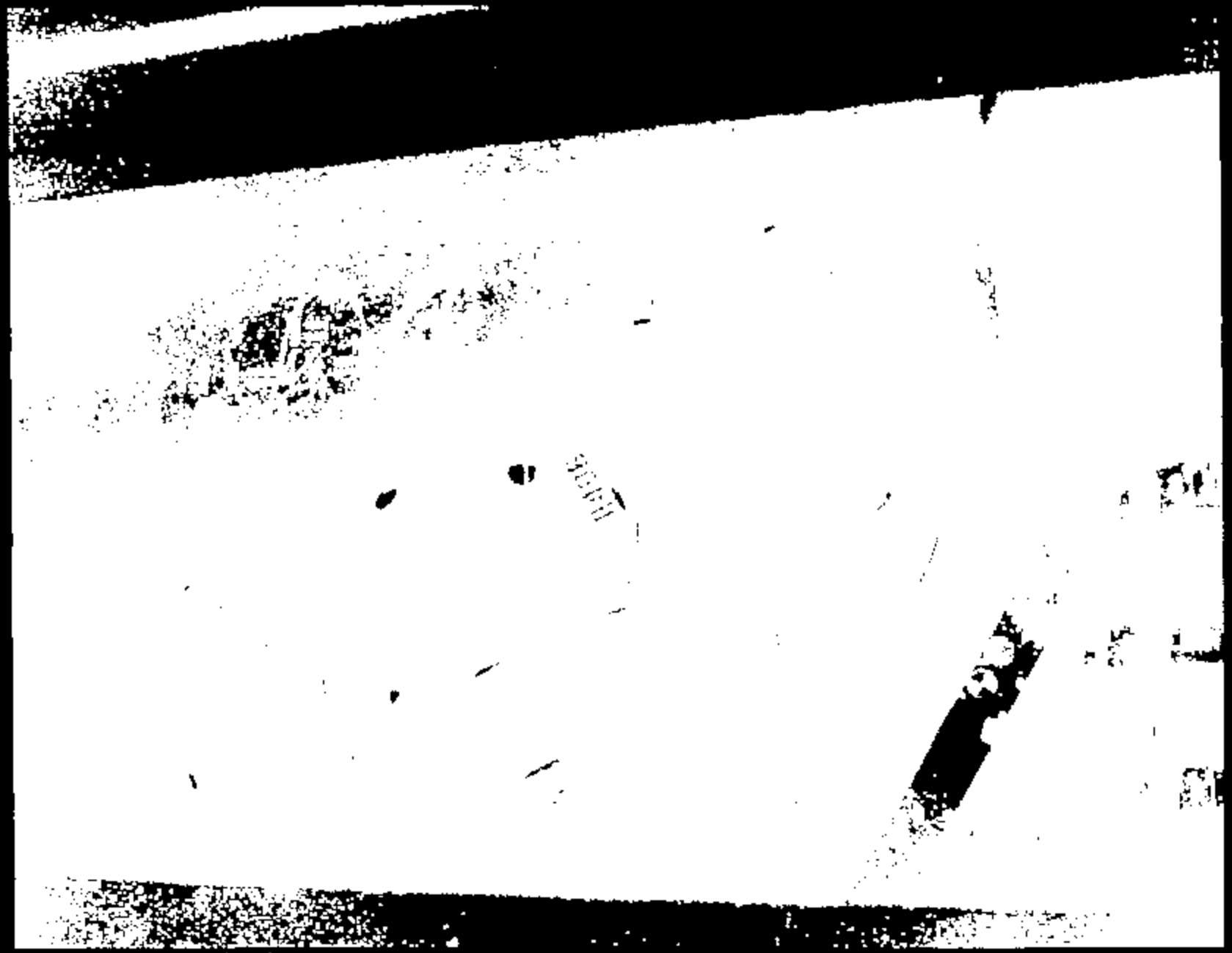
Name: 11406031.JPG

Name: 11406032.JPG

CRTS 0011406

Name: 11406033.JPG

CRTS 0011406



Name: 21406034.JPG

CRTS 0011406

Name: 11406035.JPG

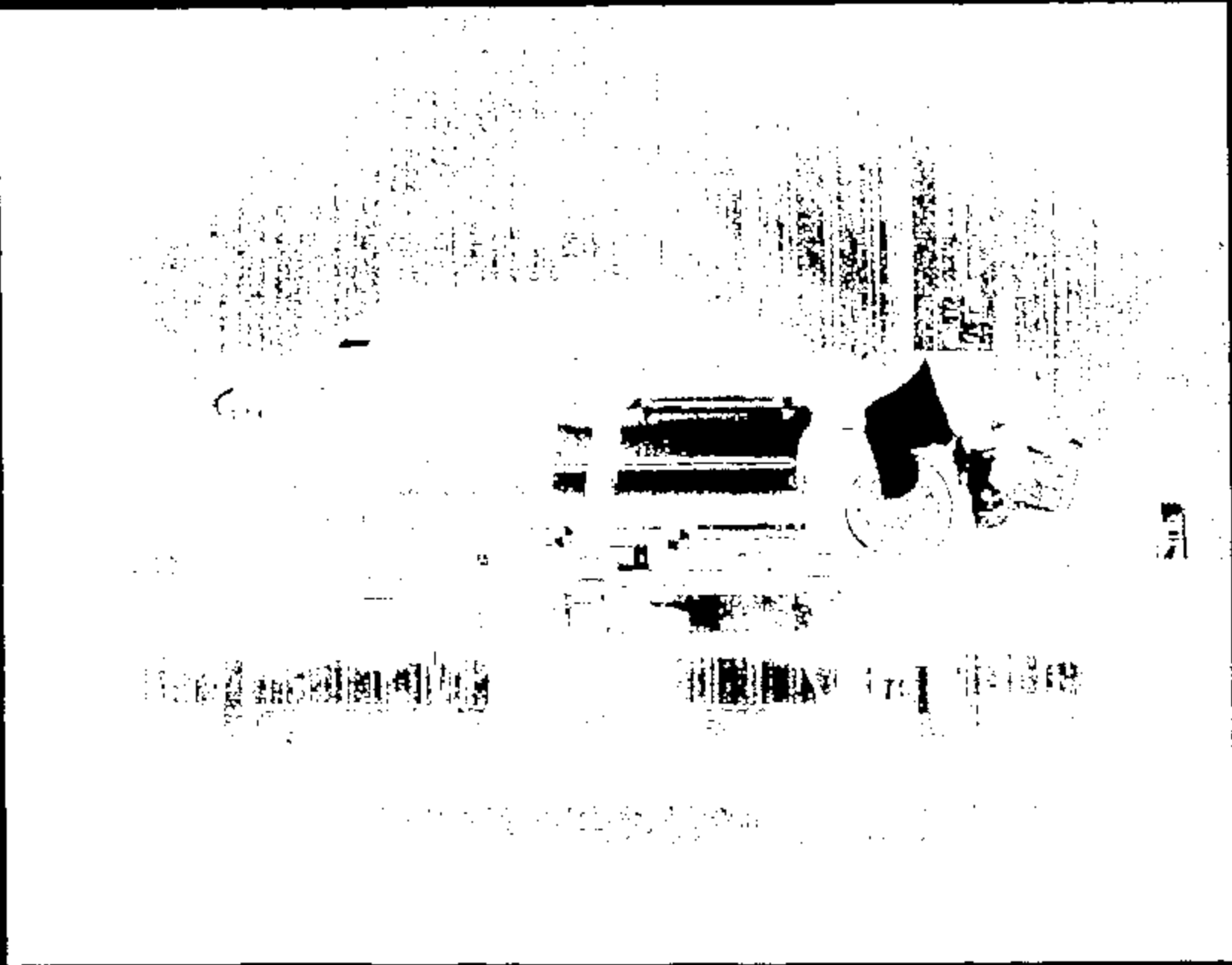
CRTS 0011406

Name: 11406036.JPG

CRTS 0011406

Name: 11406037.JPG

CRTS 0011406



Name: 11406038.JPG

Name: 11406039.JPG

CRTS 0011406

Name: 11406040.JPG

CRTS 011406

Name: 11406041.JPG

CRTS 0011406

Name: 11406042.JPG

CRTS 0011406

Name: 11406043.JPG

CRTS 0011406

Name: 11406044.JPG

CRTS 0011406

Name: 11406045.JPG

CRTS 001406

Name: 11406046.JPG

CRTS 0011406

CRTS 0114405

Name: 11406047.JPG

Name: 11406048.JPG

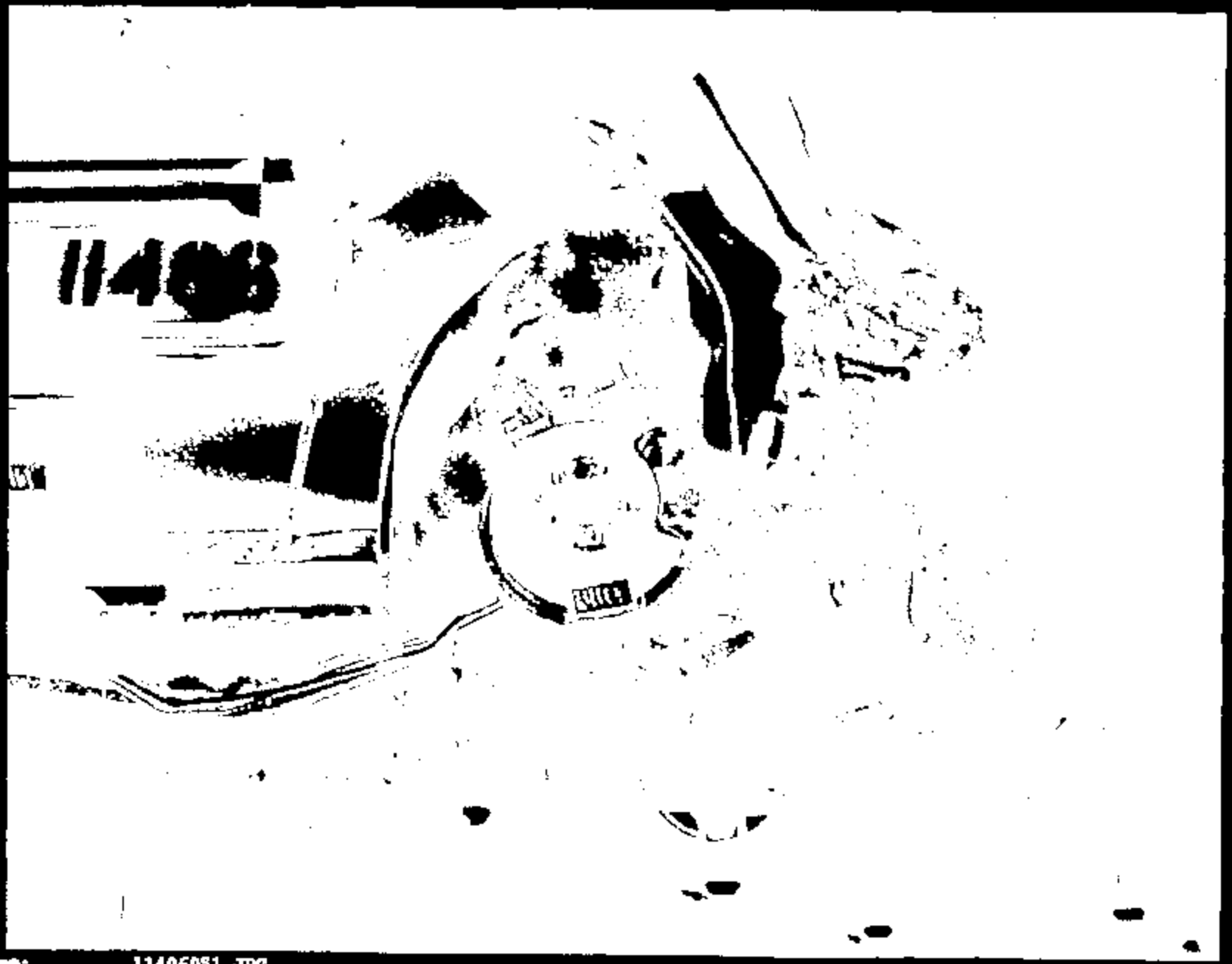
CRTS 011406

Name: 11406049.JPG

CRTS 0011406

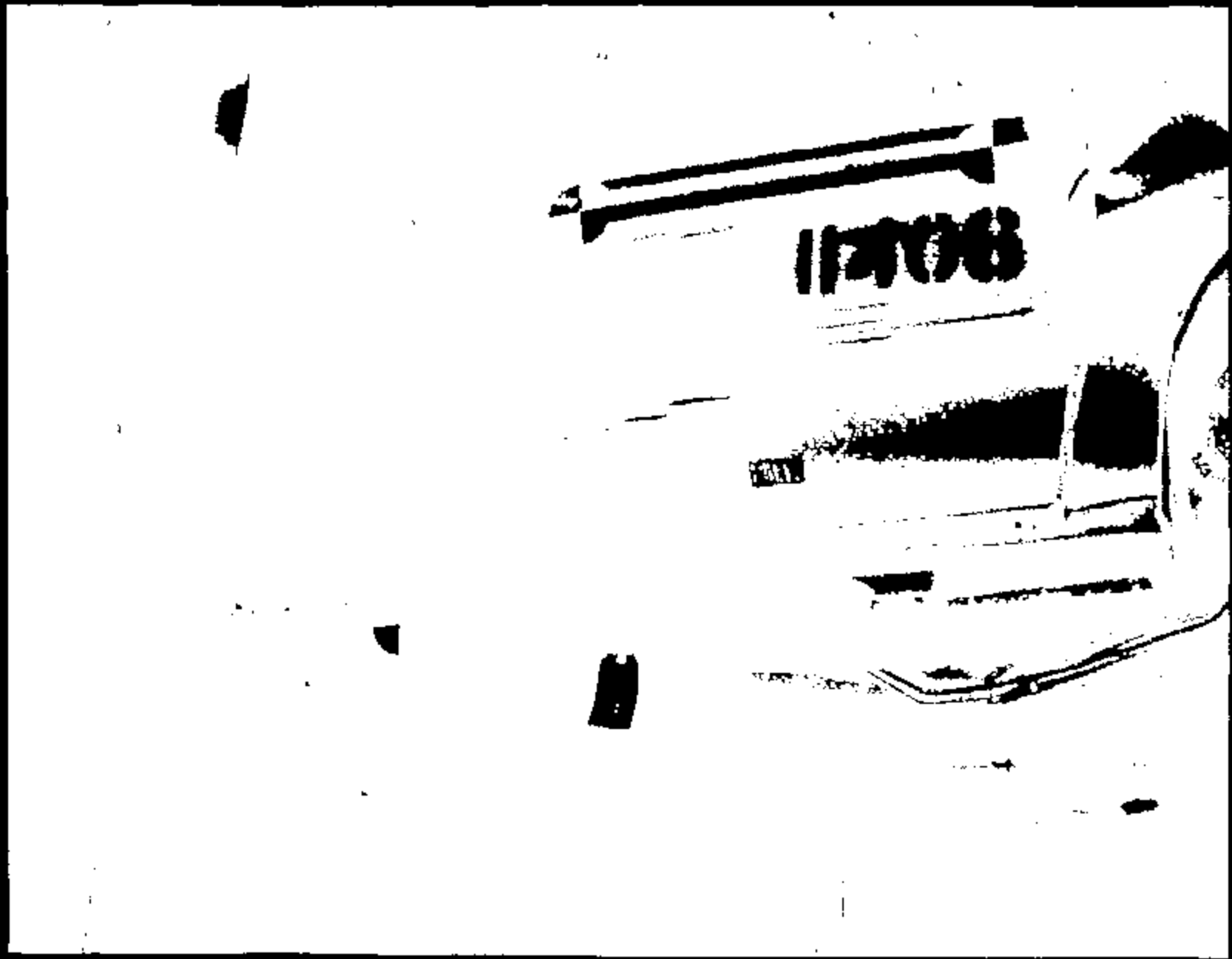
Name: 11406050.JPG

CRTS 001



Name: 11406051.JPG

CRTS 0011406



Name: 11406052.JPG

CRTS 0011406

Name: 11406053.JPG

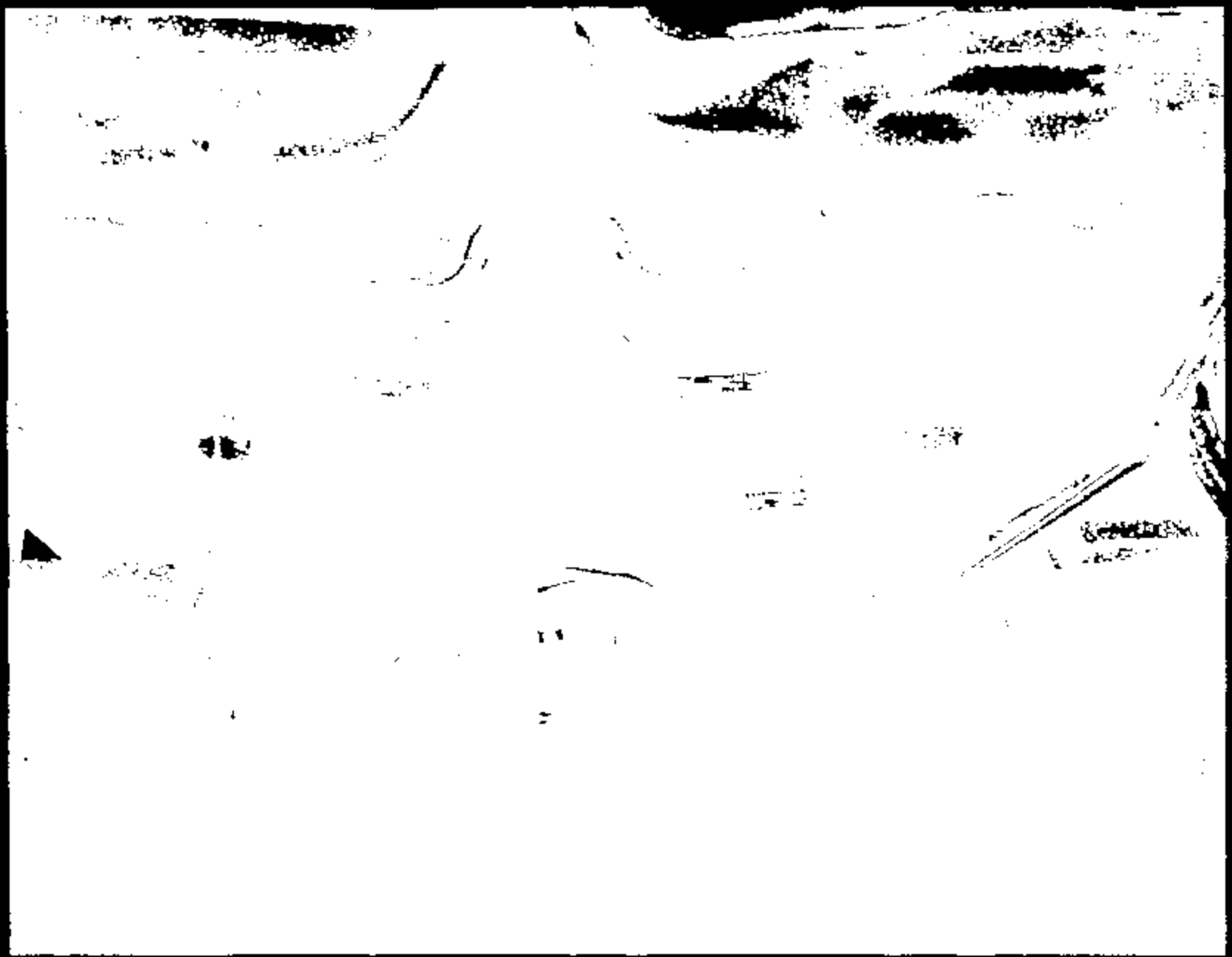
CRTS 0011406

Name: 11406054.JPG

CRTS 0011406

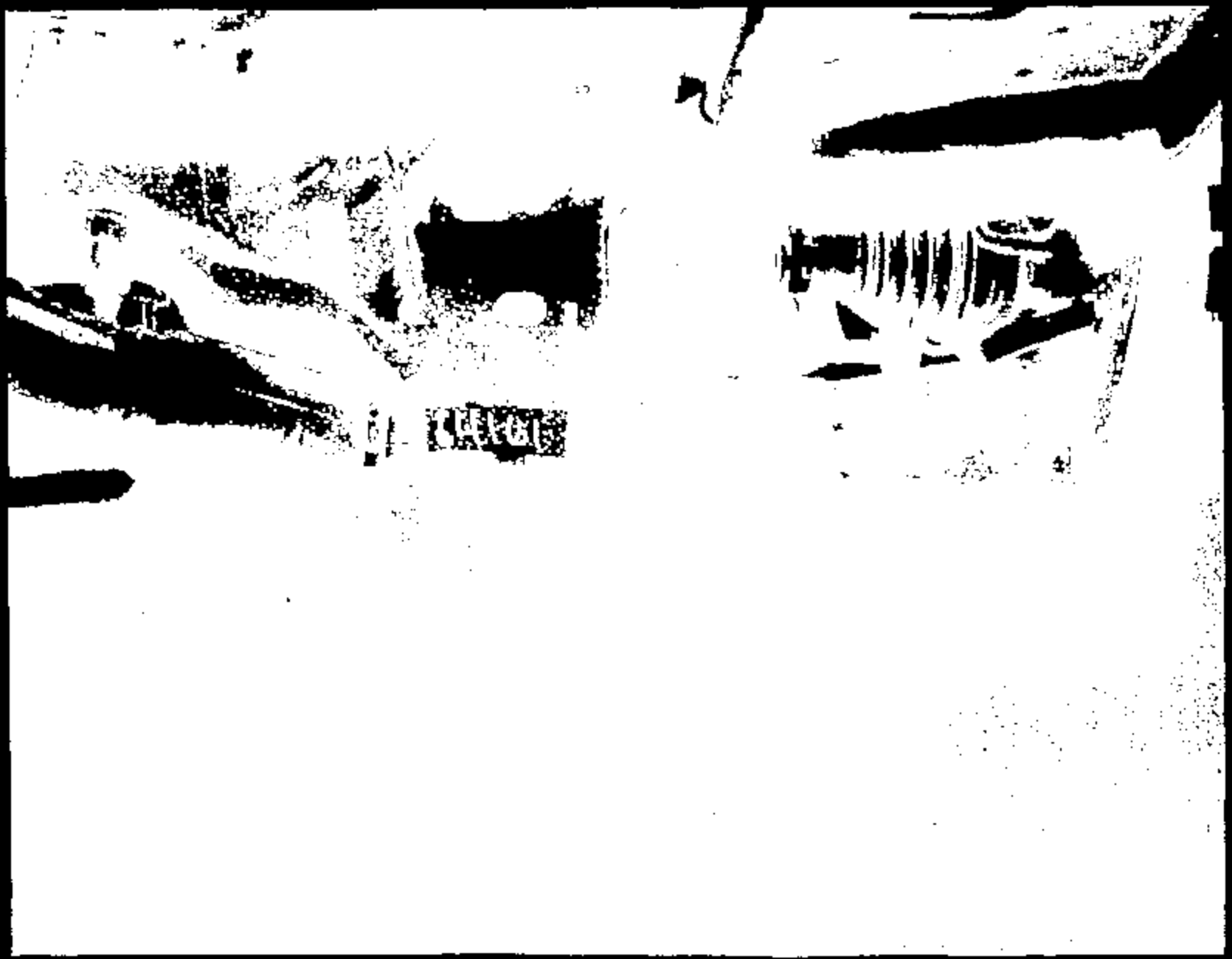
Name: 11406055.JPG

CRTS 0011406



Name: 11406056.JPG

CRTS 011406



Name: 11406057.JPG

CRTS 0011406

TEST AUTHORIZATION — **TEST AUTHORIZATION NUMBER: TB4161**

TO: Safety Lab Department
CC: K. Arthurs

REQUEST DATE: 03/22/1999 | REQUESTED COMPLETION DATE: 03/22/1999
REQUEST NUMBER: n/a | PROBLEM NUMBER: n/a
REQUESTING ACTIVITY: Vehicle Crash Safety

TITLE OF TEST:	(speed)	(test description)	PARTS DUE DATE:
2001 D186	31 MPH	30 Degree Right Angled Barrier	n/a

TYPE OF TEST:	VIN # or IDENTIFICATION	VEHICLE MODEL & YEAR:	PROD. OR ENG. LETTER:
[X] VEHICLE [ ] BENCH [ ] LABORATORY [ ] OTHER	DD190000 – 6000716 1FAFP6536X5116826	2001 D186	n/a

ENGINE NO. DISPL. CARB:	TRANS / DRIVETRAIN:	AXLE RATIO:	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOV. REGULATIONS:	DISPOSITION OF PARTS:
3.0L/2V V6 FFV		n/a		n/a

TYPE OF FUEL:	CONVERTER:	IGNITION TIMING		PROCUREMENT REQ ?
Stoddard -	n/a	n/a	Yes / X No	[ ] YES [ ] NO IF YES,GIVE CODE

CRANKCASE OIL AND CAPACITY (L):	TIRE SIZE AND PLY RATING: P205/65R15 85T	REPORT CATEGORIES:	MAIL REPORT TO:
n/a		[X] ENGINEERING [X] DATA [X] RAWDATA	BLDG: MAIL DROP: ADDRESS:

VEHICLE TEST WEIGHT:			TIRE PRESSURE (psi):	
FRONT	REAR	TOTAL	FRONT	REAR
2362	1660	4252	30	30

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

1) Conduct: (speed) 31 MPH (year) 2001 (vehicle) D186 (level) # CPI
(mode) 30 Degree Right Angled Barrier

2) Velocity At Impact: 31 MPH
Remote Fire Time: N/A
Positioning procedure: N/A

3) Vehicle Year: 2001
Vehicle Line: D186
Vehicle Level: CPI

"RECORD COPY"
Schedule No. 7-7-12
Retain Until 2019

	(name)	(phone)	(pager number)
Test Requester:	D. Perrigo	84-66018	DPER
Build Coordinator:	B. Pagano	32-66045	BPAG
Additional Contacts:			

Estimated test cost = $30,000.00

Test Dev. Engineer

REQUESTING SECT. NO:	WORK ORDER/ WORK TASK:	ISSUED/ REQUESTED BY:	PHONE:	APPROVAL:	TEST TYPE:	RISK:	SIGN OFF DATE:
TB81	P18	D. Perrigo	84-66018	K. Arthurs	n/a	n/a	n/a

COMPLETE THE FOLLOWING TWO QUESTIONS AS INDICATED:

(Check appropriate boxes)

1 - Rational for not replacing this test by CAE analysis:
- __ No CAE Methodology or process available
- __ No CAE Correlation
- __ Insufficient confidence in CAE.
- __ To obtain basic data for CAE
- __ Replacement or improvement of existing Test.
- __ Testing is Quicker.
- X Mandatory or Regulatory
- __ Certification
- __ Development test for FSS
- __ Not applicable.
- __ Other

(Check appropriate boxes)

2 - What is the expected Test Outcome:
- __ Results will meet DVPWCR requirements.
- __ System Component will not meet Test specification.
- X Unknown.
- __ Above is Based on CAE?
- __ Other:

General Request Information

TA#: TB4161

Test Mode

35 MPH
30 Degree Right Angled Barrier

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

REGULATORY:

_____ FMVSS 204 - Steering Wheel Displacement
_____ FMVSS 208 - Frontal Occupant Protection
_____ FMVSS 212 - Wind Shield Retention
_____ FMVSS 214 - Side Impact Protection
_____ FMVSS 219 - Windshield Zone Intrusion
_____ Film Analysis
_____ Template
__D__ FMVSS 301 - Fuel System Integrity
__X__ Rollover
__X__ Pressure Check
_____ FMVSS 303 - NGV Fuel System Integrity
_____ ECE 12 (74/297/EEC) - Protection of the Driver Against Steering Mechanism
_____ ECE 32 Rear Impact - Structural Performance
_____ ECE 33 Frontal Impact - Structural Performance
_____ ECE 34 Fuel System Integrity
_____ ECE 94 Step II Frontal Offset - Occupant Performance
_____ ECE 95 Step II 300mm Barrier Side Impact - Occupant Performance
_____ 96/79/EC - Frontal Offset
_____ 96/27/EC - Side Impact

FORD AUTOMOTIVE OPERATIONS SAFETY DESIGN GUIDELINES:

_____ Front Impact FAO Safety Design Guidelines
_____ Offset Frontal FAO Safety Design Guidelines
_____ Side Impact Protection FAO Safety Design Guidelines
_____ Rear Impact Fuel System Performance FAO Safety Design Guidelines

OTHER:

_____ Sensor Development
_____ Other, Specify: _____

Primary Test Vehicle Information

Use (Target/Bullet):	BULLET
Model Year:	2001
Vehicle Program:	D186
Vehicle Name:	TAURUS
Body / Cab Style:	SEDAN
Build Number:	DD190000
Tag Number:	690W718
VIN Number:	1FAFP53U8XG116223
Fuel System Rated Capacity(Gal):	16
Prototype Level:	CPT
Drive Side:	LH

Special Prep/Build Instructions
Primary Vehicle

TA#: TB4101

Special Build Instructions

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

Other, Specify:
__X__ May remove deckid, door glass, interior trim
_____

Pryo Restraints Usage

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

Other, Specify:

_____
_____

__N/A__ Remote Fire Time:
(No fire time listed if sensor fired OR if no pyro restraints are used)
_____ Remote back-up Fire Time:

Special Pre-Test Preparation

Other, Specify:

_____
_____

Occupant / ATD Request
Primary Vehicle

TA#: TB4181

	Occupant 1	Occupant 2
Type	Water Bottle	Water Bottle
Instrumentation Level*		
In-Vehicle Location	LF	RF
Verify: Seat Position Long		
Seat Position Vert	FULL DOWN	FULL DOWN
Seat Back Angle		
Positioning Procedure	N/A	N/A
Use Foot Rest	N/A	N/A
Take Seat Track Video		
Special Positioning Instructions		
Dummy Adjustment (arm angle)		
Occupant Belted	Belt 04/01/94 YES	YES

*See instrumentation request for detailed instrumentation information.

Test Conditions - Final Prep

TA#: TB4161

Final Prep Contacts

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

	Test Engineer	Request Engineer	Build Coordinator
Name:		D. Perrico	B. Pagano
Phone:		84-66018	32-36046
Pager:		DPER	BPAG

Test Weight

____ Minumum Option Weight
____ 33% Option Weight
__X__ Maximum Option Weight

GVWR: _____
Wheelbase: _____

Tire Pressure

Front: 30 psi Rear: 30 psi

Fuel System

Fuel Tank & System to Contain: Stoddard

17.1 gallons / Fill Level	=	85 % / %	x	19.0 gallons / Capacity
	=	%	x	

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:		2,362 lbs	13 lbs	0 lbs	
Rear:		1,860 lbs	13 lbs	0 lbs	
Total:		4,222 lbs	26 lbs	0 lbs	

Rated Luggage Load: 0 lbs

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
____ Battery
__X__ Bottle - Coolant
__X__ Bottle - Washer
____ Engine
____ Fan Box/Shroud
__X__ Headlamp Opngs
__X__ Radiator
____ Doors
____ Foot Wells - Front
____ Foot Wells - Rear
____ Quarter Panels
____ Trunk Floor

Other: _____

Ride Heights

Measure @ Test Weight	Measure
Front:	From: Rocker Level to Ground
Rear:	To: Rocker Level to Ground

Additional Remarks

____ DO NOT fill tank with stoddard until weigh-up

Dimensional Analysis Request
Primary Vehicle

TA#: TB4161

Frontal Impacts

	74		
	81		
	106	Control Points (CAR)	Exterior
	107		
	128	Collapse Distance Points	Exterior
	129	Frame/ SL Obl/ Eng. for Graphs (CAR)	Exterior
	130	Frame Standard Bottom (CAR)	Exterior
	132	Unibeam Standard Bottom (CAR)	Exterior
	134	Drive Shaft Collapse	Exterior
	136	Standard Body Relative	Exterior/Interior
	138	Windshield (CAR)-Rail TC	Exterior
	140	Sill & Pillar	Exterior
	142	Shot-Guns	Exterior
	148	Header	Interior
	150	Steering Wheel Deformation/ Periphery	Interior
	152	Steering Column Mounts	Interior
	154	Steering Column Targets	Interior
	156		
	158	Seat Track to Floor Mounts	Exterior
	159	Seat to Track Mounts	Exterior
	160	Cowl Rotation	Exterior
	162	Floorpan Points	Exterior
	164	Knee Bolster	Interior
	166	Seat Belt Mounts	Interior
	168	Diagonal Strut	Interior
	170	Tunnel Hinge Pillar	Exterior
	172	Brake Bracket (ONLY if you can reach it)	Interior
	174	Instrument Panel Mounts	Exterior
	176	CH-T Targets	Exterior/Interior
	177	Toe Non-Sided & Body Sided	Exterior/Interior
	225	Rear Door Aperature Reduction	
	300		
	302		
	340		
	360		
	364		
	376		
	455	Plot 9 Sectional Profiles	
	606	Decoupling Column Collapse	Exterior
	607	P.R. Steering Column Collapse	Exterior
	608		
	609	TR Steering Column Collapse & Intermediate Shaft	Interior
	640	Dash Profile @ Driver Centerline	Interior
	641	Dash Profile @ Vehicle Centerline	Interior
	642	Dash Profile @ Passenger Centerline	Interior
	647	Footwell Reduction	Interior
	660	1) Driver/Passenger - A & B-Pillar points 100mm above the sill and 100mm below the window aperture. (NOTE: all points should be as close as possible to the rubber sealing strip around the door aperture) 2) Dash Panel Point which is logitudinally in line with the center of the break pedal 3) Dash Panel Points 200mm inboard/outboard of brake pedal center point (NOTE: Carpet will either have to be folded back or two small diagonal intersecting slits may be made in the carpet)	

Film Analysis & Photographic Services Request

Front Impact Film Analysis

TA#: TB4181

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

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

__2__ 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 Impact

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
__X__ Overall Left
_____ Barrier to B-Pillar Left
_____ Dummy Kinematics & Velocity Left
__X__ 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
__X__ Top of Barrier - Engine Close-up
__X__ Top of Barrier - Fuel Sensor Close-Up
__X__ In lights - Close-up of Fuel Sensor from left side
__X__ In lights - Close-up of Engine/Fuel Rail from right side
_____ Left Front Rail Extension Bumper Close-up
_____ Right Front Rail Extension Bumper Close-up

Overhead Coverage

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

Pit Coverage

_____ Pit - Overall
__X__ 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.

All Other High Speed Photography

_____
_____

Instrumentation and Data Processing Request

TA#: TB4151

Primary Vehicle Structural Instrumentation - Frontal Impact

	ACCELEROMETERS:	Long	Vert	Lat
____	Engine/Trans Upper	____	____	____
____	Engine/Trans Lower	____	____	____
____	Left Rocker at A-Pillar	____	____	____
____	Right Rocker at A-Pillar	____	____	____
X	Left Rocker at B-Pillar	X	X	X
X	Right Rocker at B-Pillar	X	X	X
____	Left Rocker at C-Pillar	____	____	____
____	Right Rocker at C-Pillar	____	____	____
____	Left Frame at A-Pillar	____	____	____
____	Right Frame at A-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 # 84	____	____	____
X	Next to Fuel Inertia Switch	X	X	X
____	Top of Battery	____	____	____
____	Near ACS Bypass Switch	____	____	____

OTHER STRUCTURAL ACCELS:	Long	Vert	Lat
_____	____	____	____
_____	____	____	____

Primary Vehicle Systems Instrumentation

TA#: TB4161

SENSOR ACCELS:

_____ See Sensor Map

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

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
_____ Other _____
_____
_____

FUEL SYSTEM:

__X__ Inertia Fuel System Cut-Off Switch

ANGULAR MOTION SENSORS:

_____
_____

VEHICLE STRING POTS:

_____
_____

OTHER VEHICLE SYSTEM INSTRUMENTATION:

_____ A/B Bypass Driver (ace) Switch

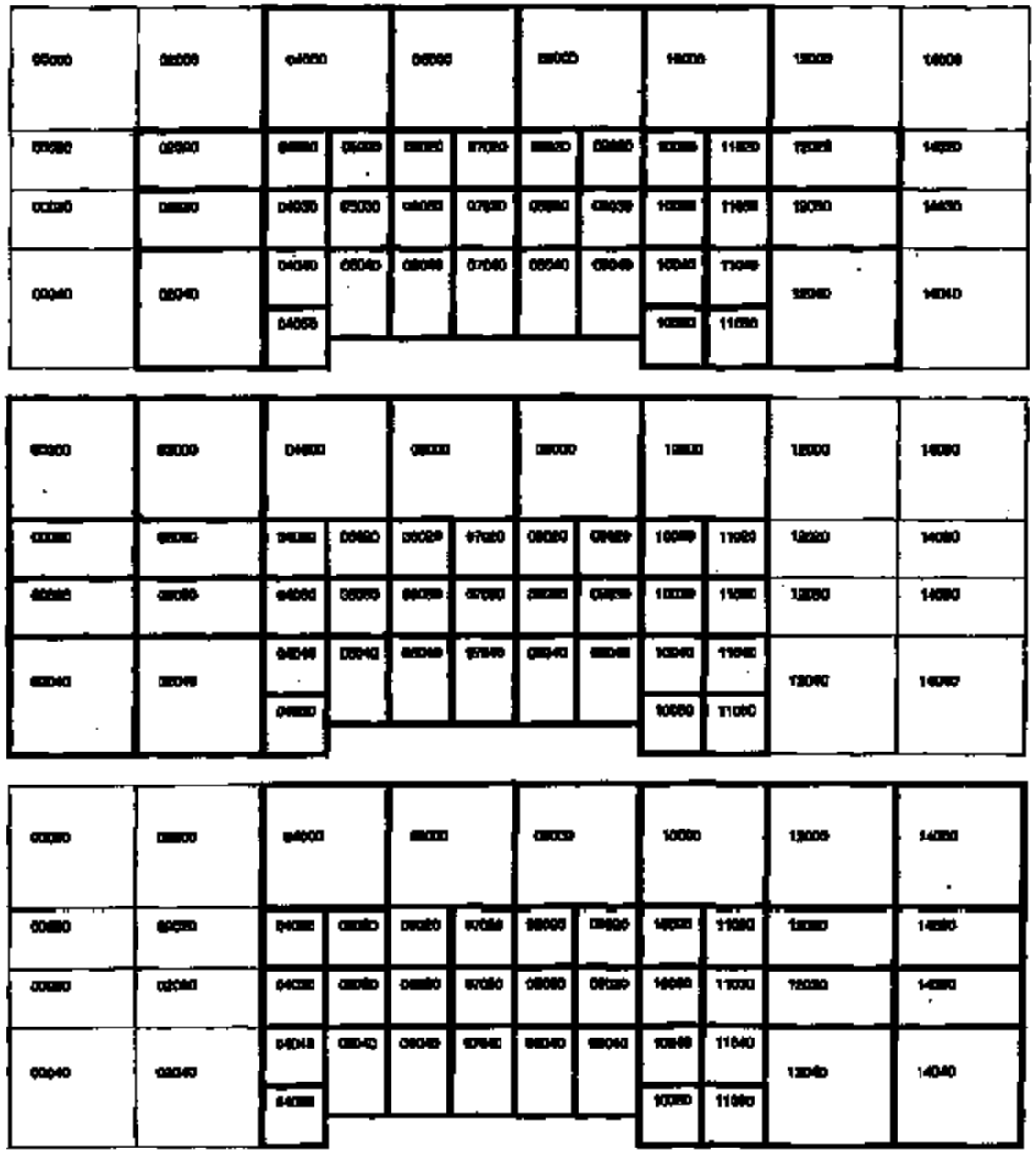
RESTRAINT LOADS:

_____ 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
_____ Lightweight Left Lap Belt at Anchor Load
_____ Lightweight Left Torso Belt at Retr. Load
_____ Lightweight Left Torso Belt at D-ring Load
_____ Lightweight Right Lap Belt at Anchor Load
_____ Lightweight Right Torso Belt at Retr. Load
_____ Lightweight Right Torso Belt at D-ring Load

_____A/B Bypass Passenger (acs) Switch
_____A/B Bypass Loop (acs) Switch

Barrier Load Cell Request

TA#: TB4161



90 Degree Full Frontal Impact

___ All Barrier Load Cells (see diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

___ Partial Barrier Load Cells (see bolded diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

30 Degree Left Full Frontal Impact

___ All Barrier Load Cells (see diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

___ Partial Barrier Load Cells (see bolded diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

30 Degree Right Full Frontal Impact

___ All Barrier Load Cells (see diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

___ Partial Barrier Load Cells (see bolded diagram left)
- ___ X Channels Only
- ___ X,Y Channels Only
- ___ X, Z Channels Only
- ___ All X,Y,Z Channels

List of T.)Contacts

TA#: TB4161

	Last name	Phone	Pager	Profs
Requestor	D. Perrigo	84-56016	DPER	DPERRIGO
Aproving supervisor	K. Arthurs	39-05156	KART	KARTHURS
Build coordinator	B. Pagano	32-36045	BPAG	BPAGANO
Test engineer				
Sensor Engineer	F. Volpe	69-43499	FVOLPE1	FVOLPE1
Other				

	Last name	Phone	Pager	Profs
Seats	M. Jessup	84-51691	MJESSUP1	MJESSUP1
Instrument panel	M. Keranen	39-74146	NONE	MKERANEN
Restraints	N. Desai	39-06145	NDESAI	NDESAI
Air bag (driver)	R. Ruthinowski	62-16978	RRUTHINO	RRUTHINO
Air bag (passenger)	R. Ruthinowski	62-16978	RRUTHINO	RRUTHINO
Steering column				

Revisions List

TA#: TB4161

DATE	AUTHORIZATION	DESCRIPTION	PAGE #'s

VEHICLE SAFETY PACKAGE LAB WORK ORDER

TA#: TB4161

DATE	MODEL	YEAR	CARLINE	WORK ORDER NO.
03/23/1999	DD190000	2001	D186	TB4161

ENGINEER	PHONE	DEPT	TEST MODE
D. Perrigo	84-56018	T551	F16

COORDINATOR	PHONE	TEST MODE
B. Pagano	32-36045	30 Degree Right Angled Barrier

VIN NUMBER	VEHICLE NO.	TAG NUMBER
1FAFP5326XG118223	DD190000	590W716

TYPE OF MAT	TA NUMBER	DATE BUILT

SEAT POSITION

SORP		MID POINT		FULL REAR	

SEATBELTS TO BE CHECKED

LH FRT		CENTER FRT		RH FRT	
LH REAR		CENTER REAR		RH REAR	
VEHICLE DELIVERED TO	D/A		BARRIER		BUILD SITE	

ANY QUESTIONS CONTACT:

PETER J. SIMONE
PHONE: (313) 60-46909
PAGER: (313) 705-9957

DESCRIPTION OF JOB TO BE PERFORMED:

"RECORD COPY"
Schedule No. 7-7-12
Retain Until 2019

CONFIDENTIAL

FINAL TEST REPORT

Global Test Operations
Advanced Vehicle Technology

		Test Order No.	T-B6565
		Work Task W. O. No.	F09
TO:	**K. Arthurs**	Test Date	6/16/99
		Date Reported	8/6/99
		Sheet	1 of 91

SUBJECT: Crash Test 11504 (90° Front Fixed Barrier Impact at 30.0 ± 0.4 mph, 48.3 ± 0.6 km/h) - 2000 Taurus (D186) 4-Door Sedan

REQUESTED BY: Vehicle Crash Safety Department, Advanced Vehicle Technology - D. Perrigo

OBJECT: To obtain development data relative to the preview of the NHTSA test.

SUMMARY OF TEST RESULTS: See Section 1.0 for injury criteria data.

R. Ochs
Engineering Data Control Analysis

Concur: S. Lesh
Section Supervisor
Operations Engineering Section

VEHICLE DATA:

Make and Model	2000 Taurus (D186) 4-Door Sedan (1PP Prototype)
ID Numbers	1FAFP55U3YA100006, 311-W-618
Power Train	3.0L, EFI, Automatic (AX4S) Transaxle
Fuel Tank(s)	Usable Capacity: 16.0 gal. (60.6L) Test Condition: The "run dry" tank was filled with red-dyed Stoddard solvent to 95% of its rated usable capacity.
Front Seat(s)	Type: Bucket Cover: Cloth Tracks/Position: LF: 6-Way Power/Mechanical Mid and Down RF: Manual/Mechanical Mid Seat Backs/Position: Adjustable/LF: 18.6° Rear of Vertical, RF: 17.8° Rear of Vertical Head Restraints/Position: Adjustable/Down
Restraint System	LF: Steering Wheel Air Bag RF: Instrument Panel Air Bag
Occupants	LF & RF: 5th Percentile Female, Hybrid III, Instrumented
Test Weight	Front: 2309 lb (1047 kg) Rear: 1633 lb (743 kg) Total: 3946 lb (1790 kg)
Tires	Front: P215/60R16 30 psi (207 kPa) Rear: P215/60R16 30 psi (207 kPa) Spare: Removed
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel

GENERAL TEST COMMENTS:

1. Test Procedure

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

- Occupant Crash Protection, T657-ST-25 dated July 17, 1996.
- NPRM - Proposed FMVSS 208 Advanced Technology Air Bag Performance Tests.

2. Remarks

- Crash movies, pre- and post- crash still images of the test vehicle and copies of this report are available through the Operations Engineering Section, Safety Laboratories Department, GTO. The crash still images are stored and archived on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 11504001 through 11504073.

TEST RESULTS:

1.0 Occupant Injury Data (FMVSS 208)

		L.F. Dummy	R.F. Dummy
Head Injury Criteria (HIC)		173	269
Interval	t1	67 ms	49 ms
	t2	103 ms	84 ms
Chest resultant acceleration level at 3 ms cumulative duration		47 g	52 g
Chest Deflection (Hybrid III)		2.1 in	0.8 in
Peak axial compression load:			
	Left femur	883 lb	964 lb
	Right femur	930 lb	1169 lb
Peak axial tension load:			
	Left femur	28 lb	16 lb
	Right femur	1 lb	13 lb
Dummy contained within the vehicle during the crash		Yes	Yes
Dummy Chest -CTI		1.218 mm	0.8016 mm
Dummy Neck Upper Load-NTB (NPRM)		0.5503	0.5724
Dummy Neck Upper Load-NTF (NPRM)		0.3715	0.3705
Dummy Neck Upper Load-NCB (NPRM)		0.3197	0.5182
Dummy Neck Upper Load-NCF (NPRM)		0.9240E-01	0.5512

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.

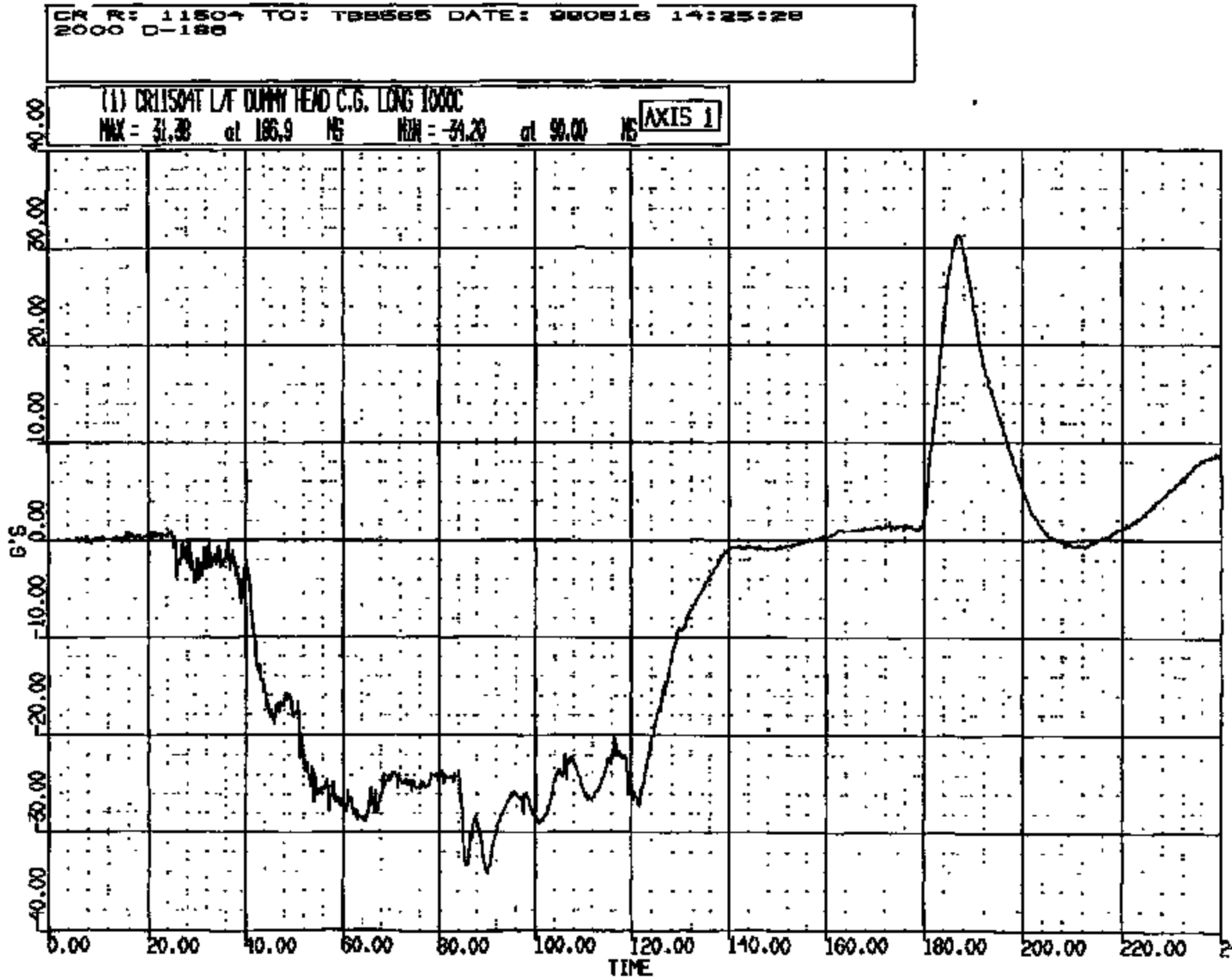
2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

	Maximum Dynamic Longitudinal Crush in.	(mm)
Left Side	23.1	(587)
Right Side	22.9	(582)

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

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

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


CR R: 11504 TO: TB6565 DATE: 980818 14:25:28
2000 D-180
(1) CR11504T LAT DUMMY HEAD C.G. LONG 1000C
MAX = 31.38 at 186.9 MS MIN = -34.20 at 90.00 MS
AXIS 1
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
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
CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 18-JUN-98 15:38:05
PLOT PAGE 37
TB6565
SHEET 5
CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 000618 14:25:28
2000 D-198

(2) CRITSAT L/F DUMMY HEAD C.G. VERT 1000C
MAX = 22.11 at 87.84 MS MIN = -4.198 at 112.3 MS AXIS 1

G's

25.00
20.00
15.00
10.00
5.00
0.00
-5.00

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

CADAM Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 16-JUN-00 15:38:07

PLOT PAGE 38 TB6565 SHEET 6

CRTS 0011504

CR R: 11504 TO: TB6585 DATE: 000616 14:25:29
2000 D-180

(5) CRUISMT L/F DUMMY HEAD C.G. LAT 1000C
MAX = 15.63 at 185.8 MS MIN = -12.34 at 112.3 MS AXIS 1

S.g

25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00

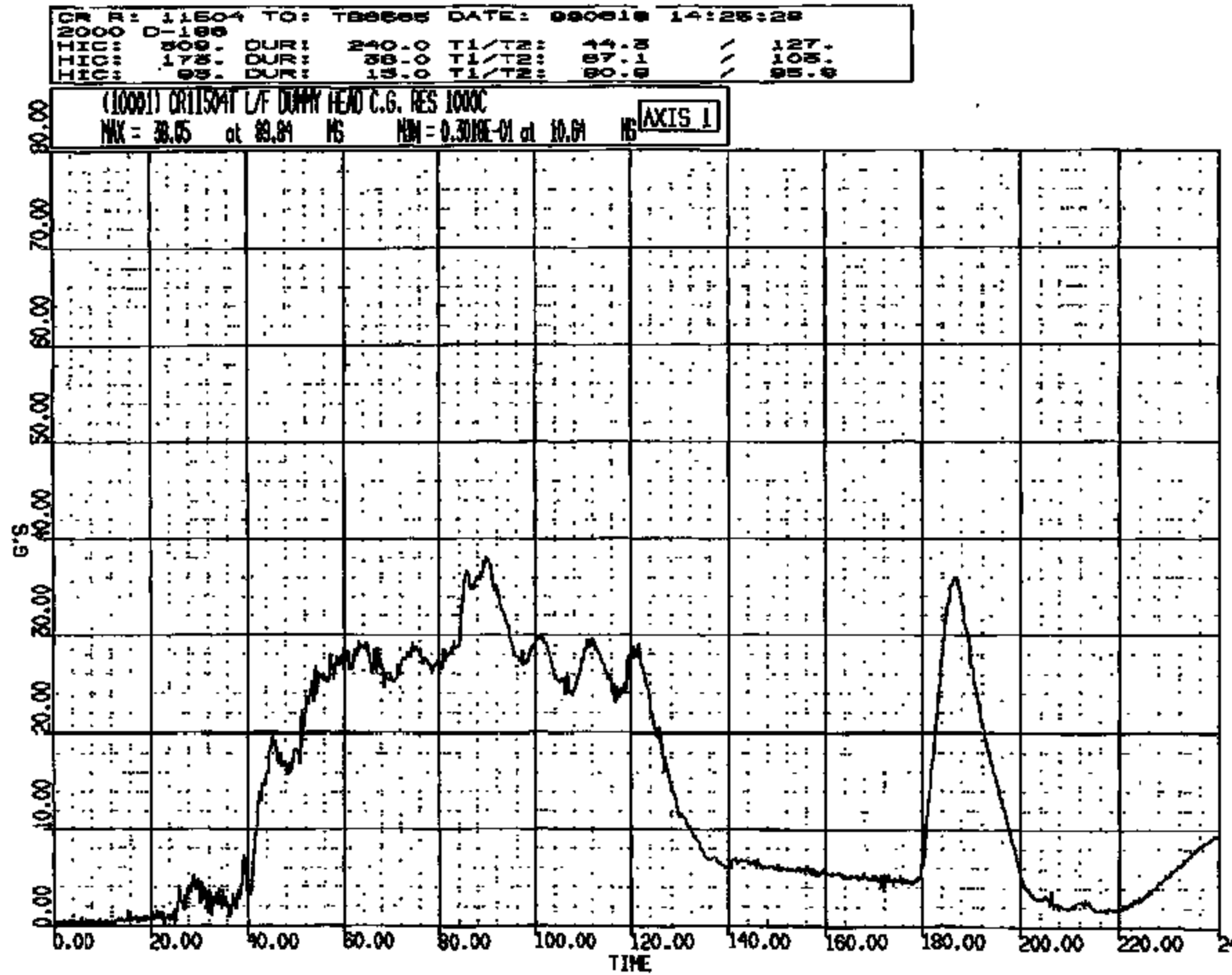
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

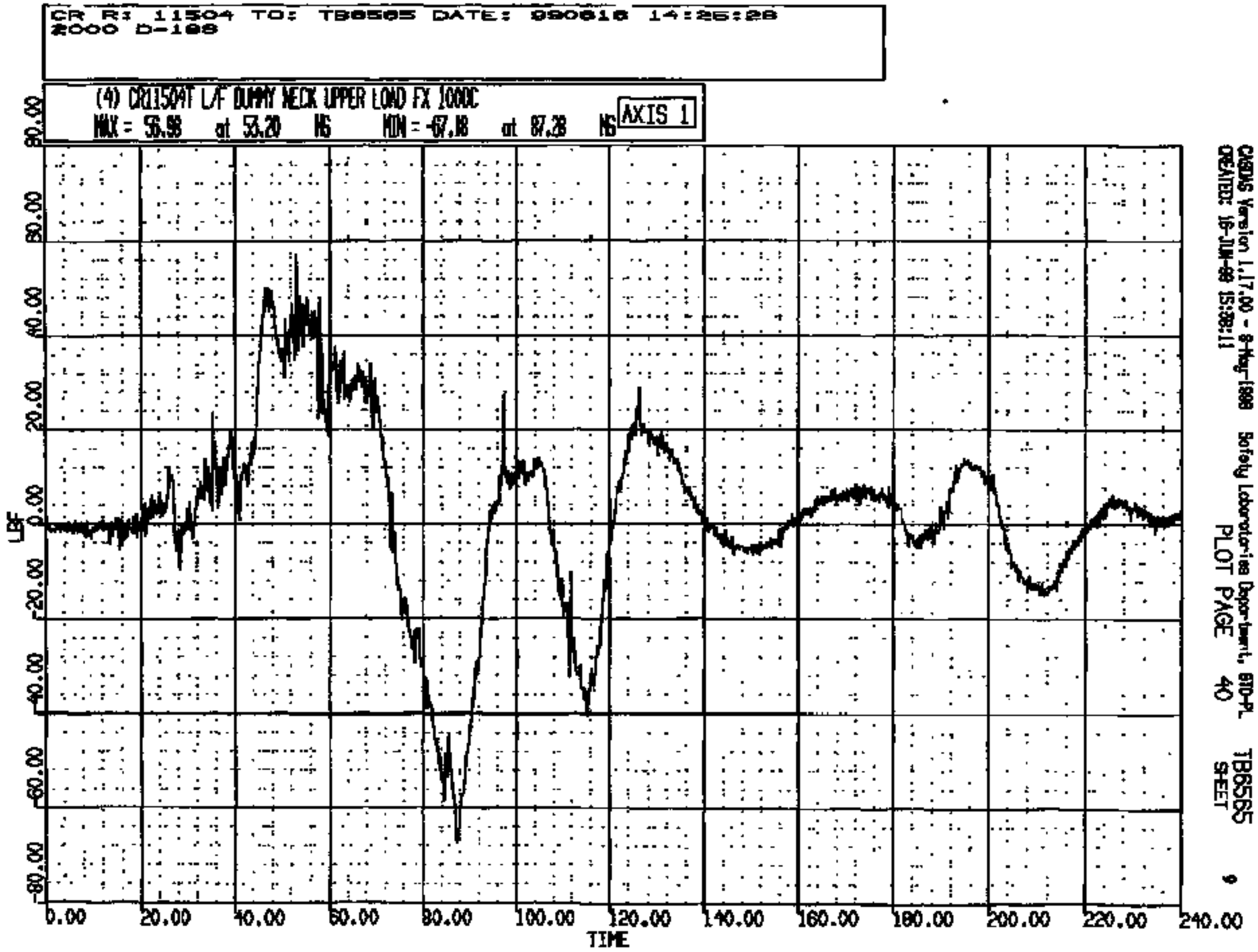
CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 870-PL
CREATED: 15-JUN-99 15:39:09

PLOT PAGE 39 TB6585 SHEET 7

CRTS 0011504



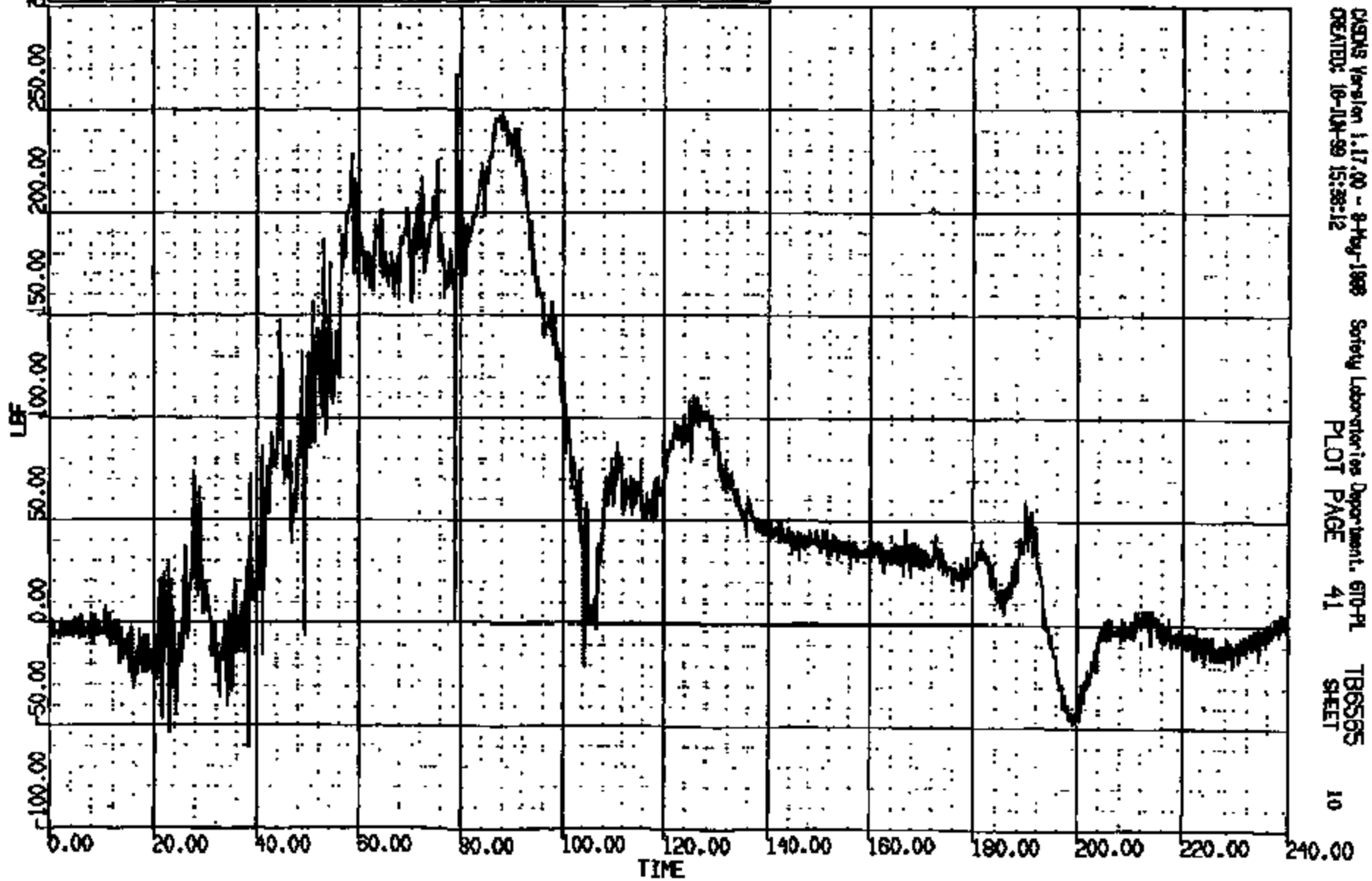
CRTS 0011504



CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990818 14:28:28
2000 D-185

(5) CRUISOMT LAF DUMMY NECK UPPER LOAD FZ 1000C
MAX = 267.2 at 79.12 MS MIN = -60.57 at 36.10 MS AXIS 1

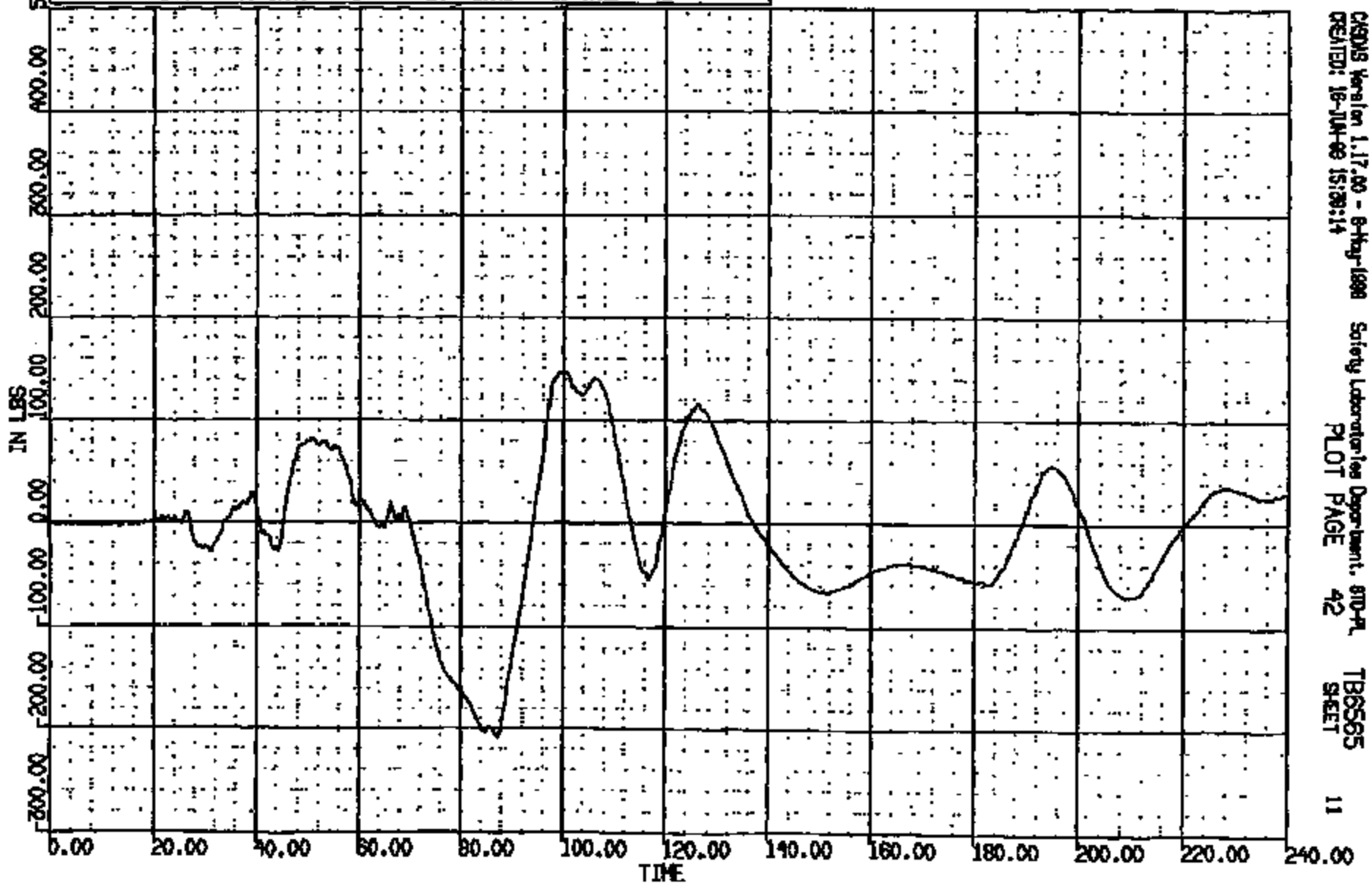


CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL TB6565
CREATED: 18-JUN-99 15:38:12 PLOT PAGE 41 SHEET 10

CRTS 011504

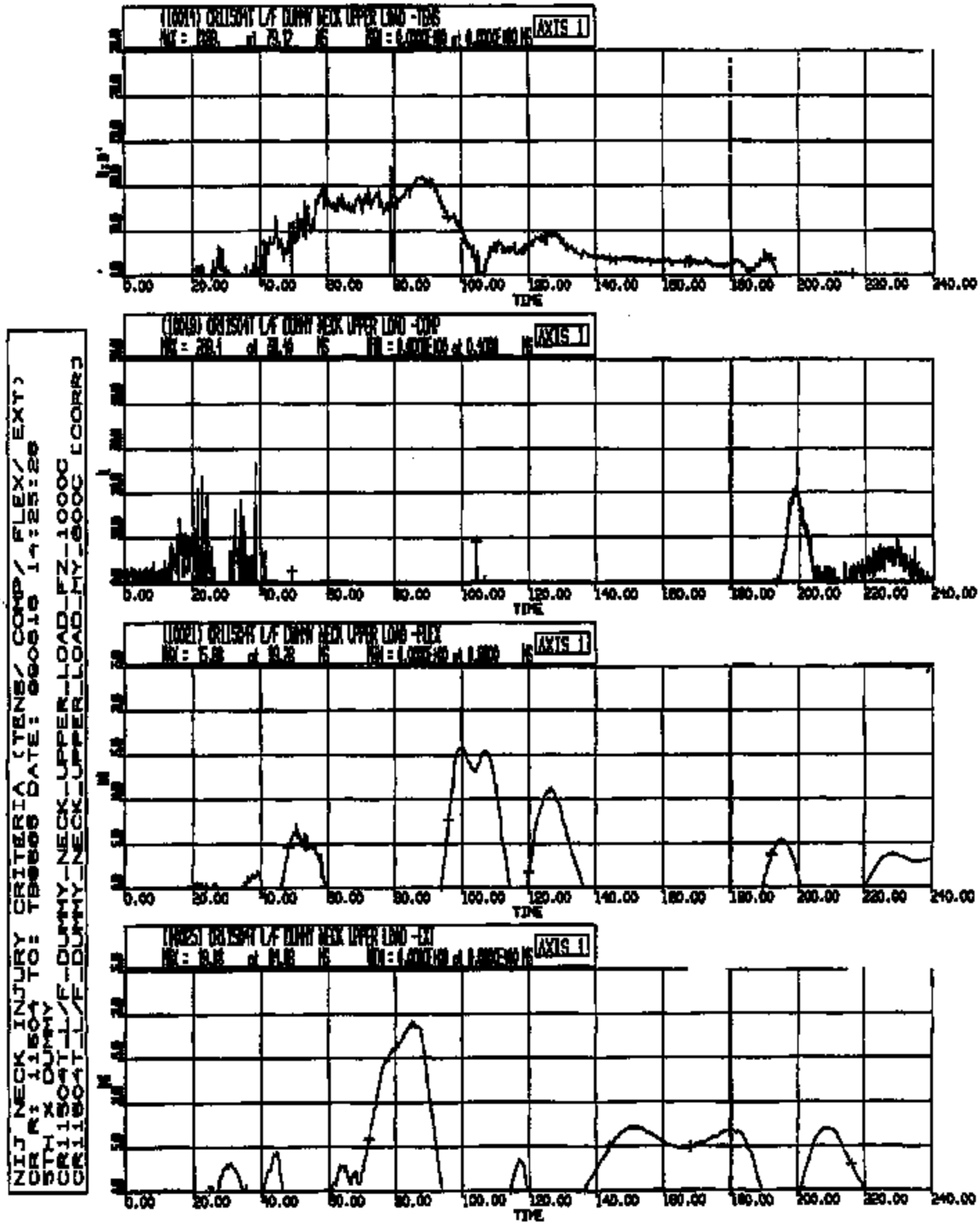
CR R: 11504 TO: TB6565 DATE: 980618 14:25:28
2000 D-166

(6) CRITSDAT L/F DUMMY NECK UPPER LOAD MY 600C
MAX = 147.5 at 100.3 MS MIN = -209.2 at 87.28 MS AXIS 1



CRTS 0011504

CASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, BTD-HL
CREATED: 16-JUN-98 15:38:14 PLOT PAGE 42 TB6565 SHEET 11


NIJ NECK INJURY CRITERIA (TENS/ COMP/ FLEX/ EXT)
CAR R: 11504 TO: TB6565 DATE: 990818 14:25:25
5TH %ILE DUMMY
CR11504T_L/F_DUMMY_NECK_UPPER_LOAD_FZ_1000C
CR11504T_L/F_DUMMY_NECK_UPPER_LOAD_MY_800C (COR&C)
AXIS 1
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

NIJ NECK INJURY CRITERIA CORRIDOR PLOT
CR: R: 115047 TO: TB6565 DATE: 980610 14:25:29
5TH %ile DUMMY
CR115047_L/F_DUMMY_NECK_UPPER_LOAD_FZ_1000C
CR115047_L/F_DUMMY_NECK_UPPER_LOAD_MY_800C (CORR)

FORCE

AXIS 1 (1008),(1007) NECK TENSION EXTENSION
@ TIME OF MAX MOE
MAX = 1092, at -18.54
MIN = 1092, at -18.54

AXIS 1 (1007),(1005) NECK TENSION FLEXION
@ TIME OF MAX MOF
MAX = 1189, at 0.0000E+00
MIN = 1189, at 0.0000E+00

AXIS 1 (1002),(1008) NECK COMPRESSION
EXTENSION @ TIME OF MAX MOE
MAX =0.0000E+00 at -19.18
MIN =0.0000E+00 at -19.18

AXIS 1 (1008),(1007) NECK COMPRESSION
FLEXION @ TIME OF MAX MOF
MAX =-91.58 at 13.39
MIN =-91.58 at 13.39

AXIS 1 (0,0) NIJ CORRIDOR
MAX = 3200, at 0.0000E+00
MIN =-3200, at 0.0000E+00

AXIS 1 (1007),(1008) 1.4 * NIJ CORRIDOR
MAX = 4480, at 0.0000E+00
MIN =-4480, at 0.0000E+00

AXIS 1 (0,0) X AXIS
MAX =0.0000E+00 at -5700.
MIN =0.0000E+00 at -5700.

AXIS 1 (0,0) Y AXIS
MAX = 5695, at 0.0000E+00
MIN =-5700, at 0.0000E+00

TENSION × 10³ (N)
440.00
330.00
220.00
110.00
0.00

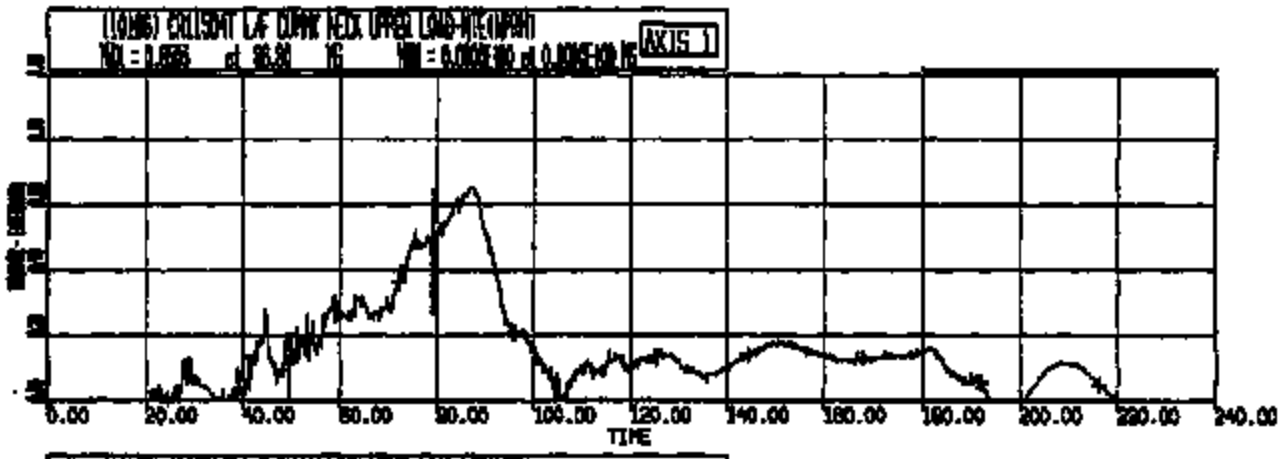
AXIAL LOAD (N)
0.00
110.00
220.00
330.00
440.00

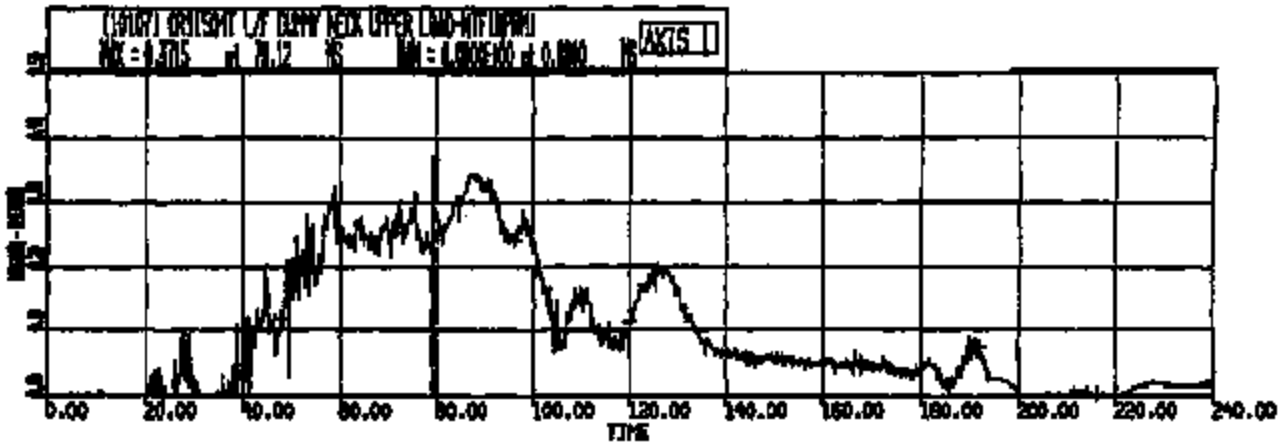
COMPRESSION

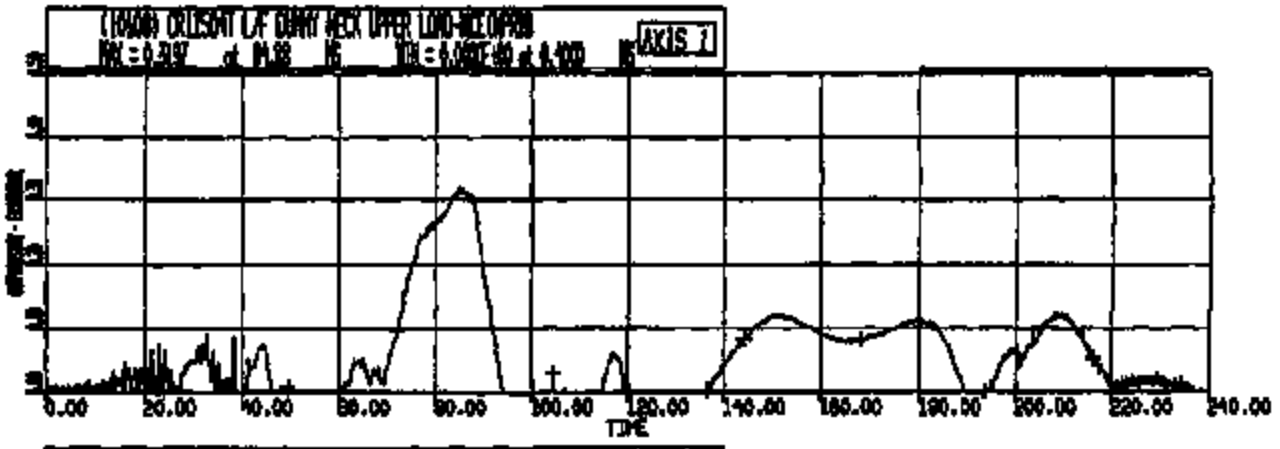
MOMENT (NM)
300.00
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00

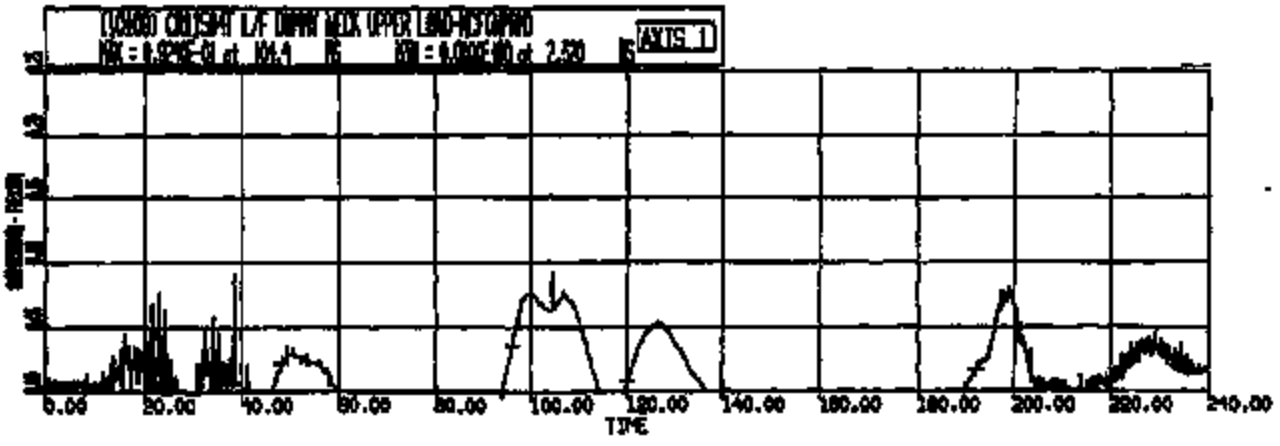
EXTENSION
FLEXION

NIJ NECK INJURY CRITERIA (DATA NORMALIZED)
CR R: 11504 TO: T86565 DATE: 990816 14:25:28
5TH %ILE DUMMY
CR11504T_L/F_DUMMY_NECK_UPPER_LOAD_FZ_1000C
CR11504T_L/F_DUMMY_NECK_UPPER_LOAD_MY_800C (CORR)









CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-169

(7) CRIISOAT L/F DUMMY CHEST LONG 180C
MAX = 7.134 at 169.0 MS MIN = -50.17 at 71.69 MS AXIS 1

S.G

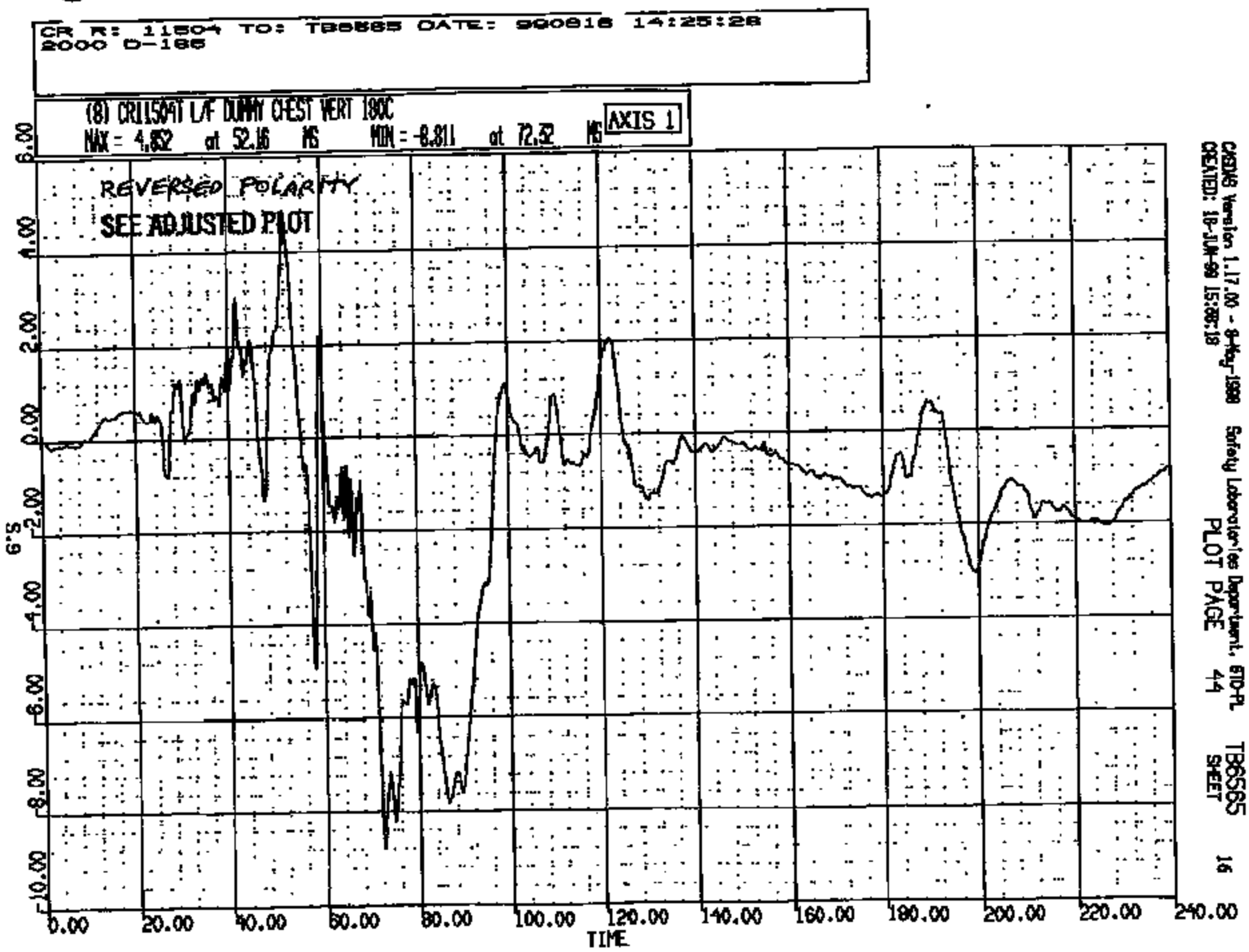
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
-50.00
-60.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 18-JUN-99 15:39:18

PLOT PAGE 43 TB6565 SHEET 15

CRIS 0011504

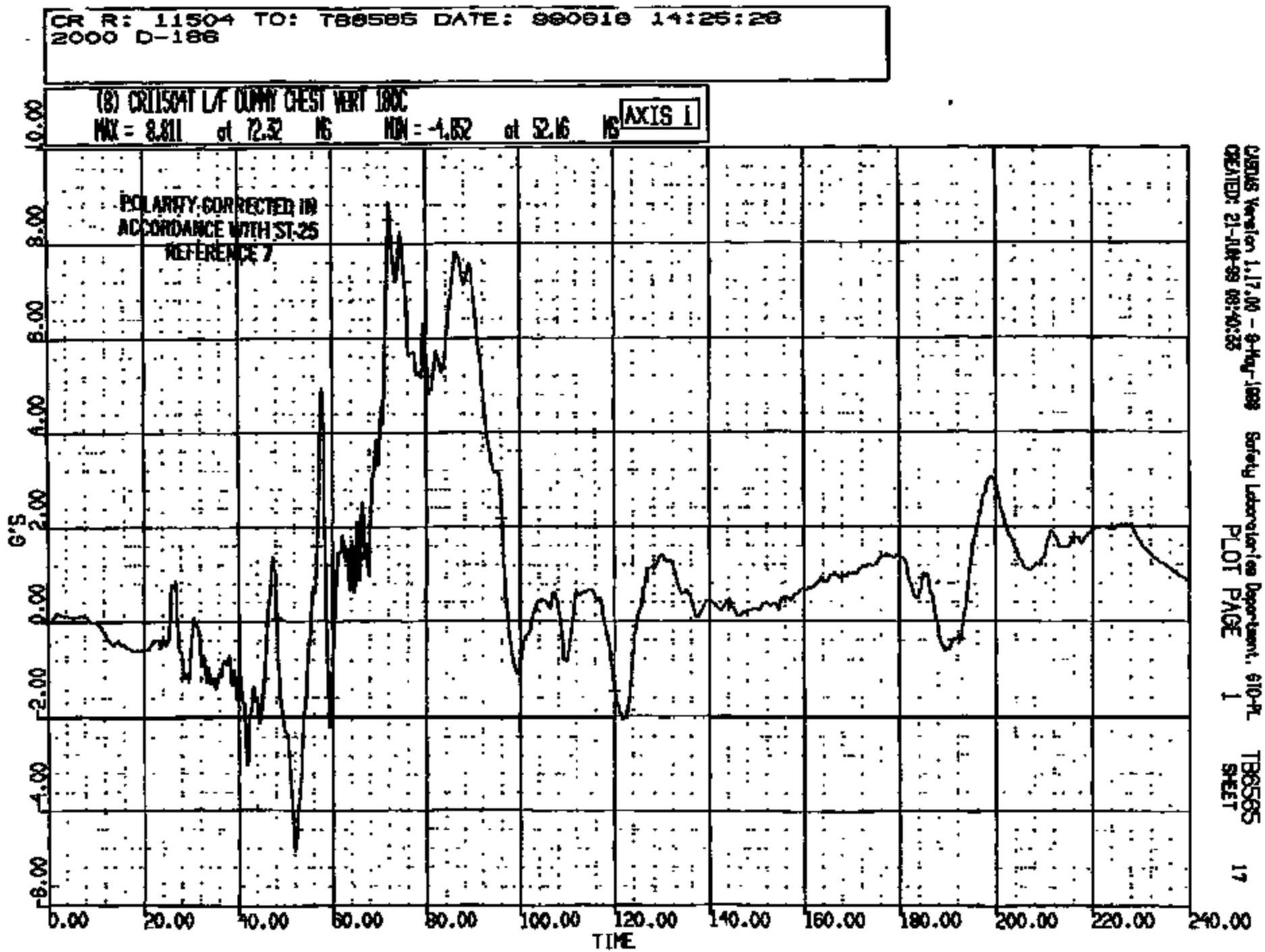


CRTS 0011504

CARDAS Version 1.17.00 - 6-May-1998 Sofety Laboratories Department, 6110-PL
CREATED: 18-JUN-99 15:07:19

PLOT PAGE 44

TB6565 SHEET 16



CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 980818 14:25:28
2000 D-185

(9) CRIISOAT L/F DUMMY CHEST LAT 180C
MAX = 5.446 at 53.76 MS MIN = -5.851 at 72.24 MS AXIS 1

S.9

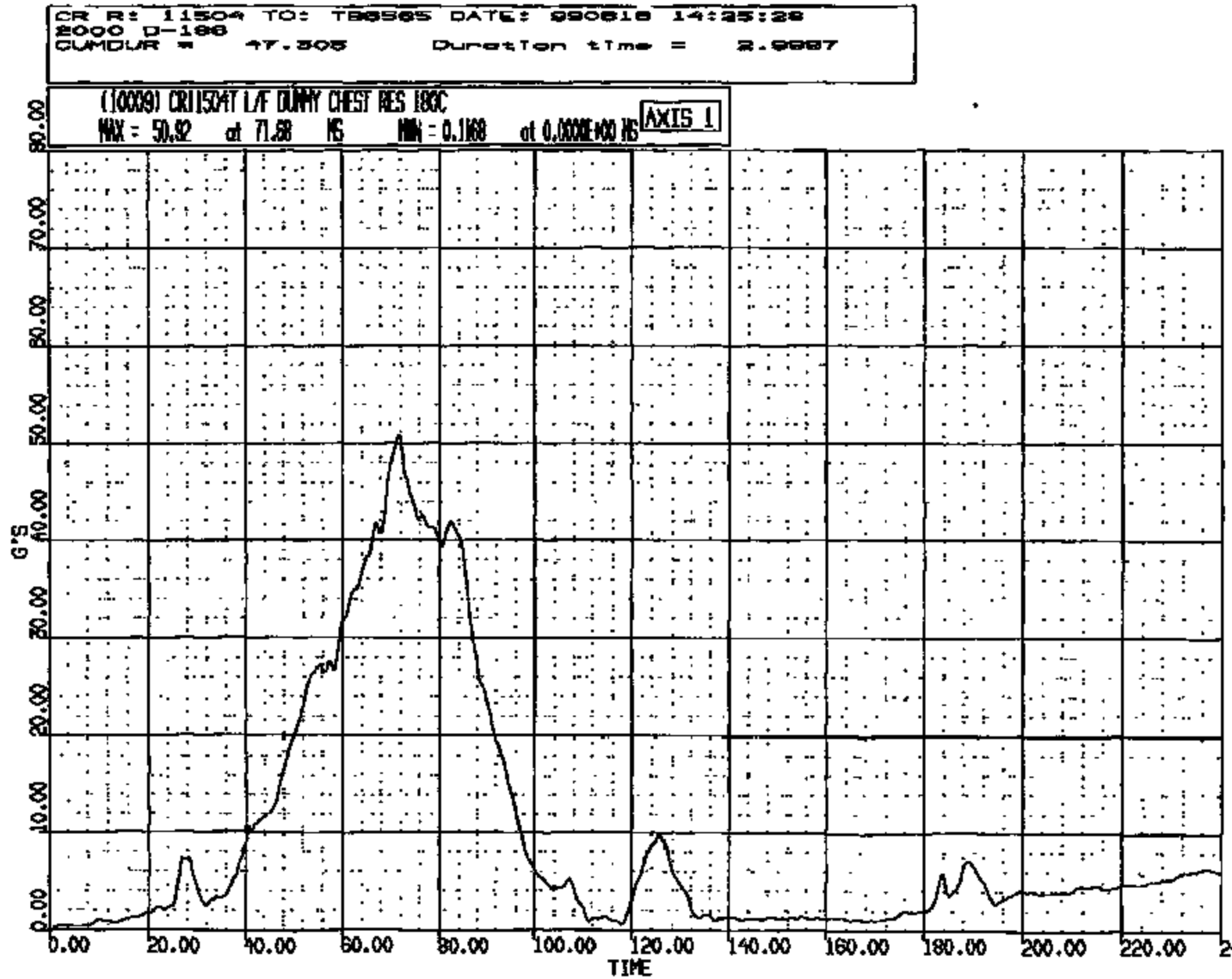
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00

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

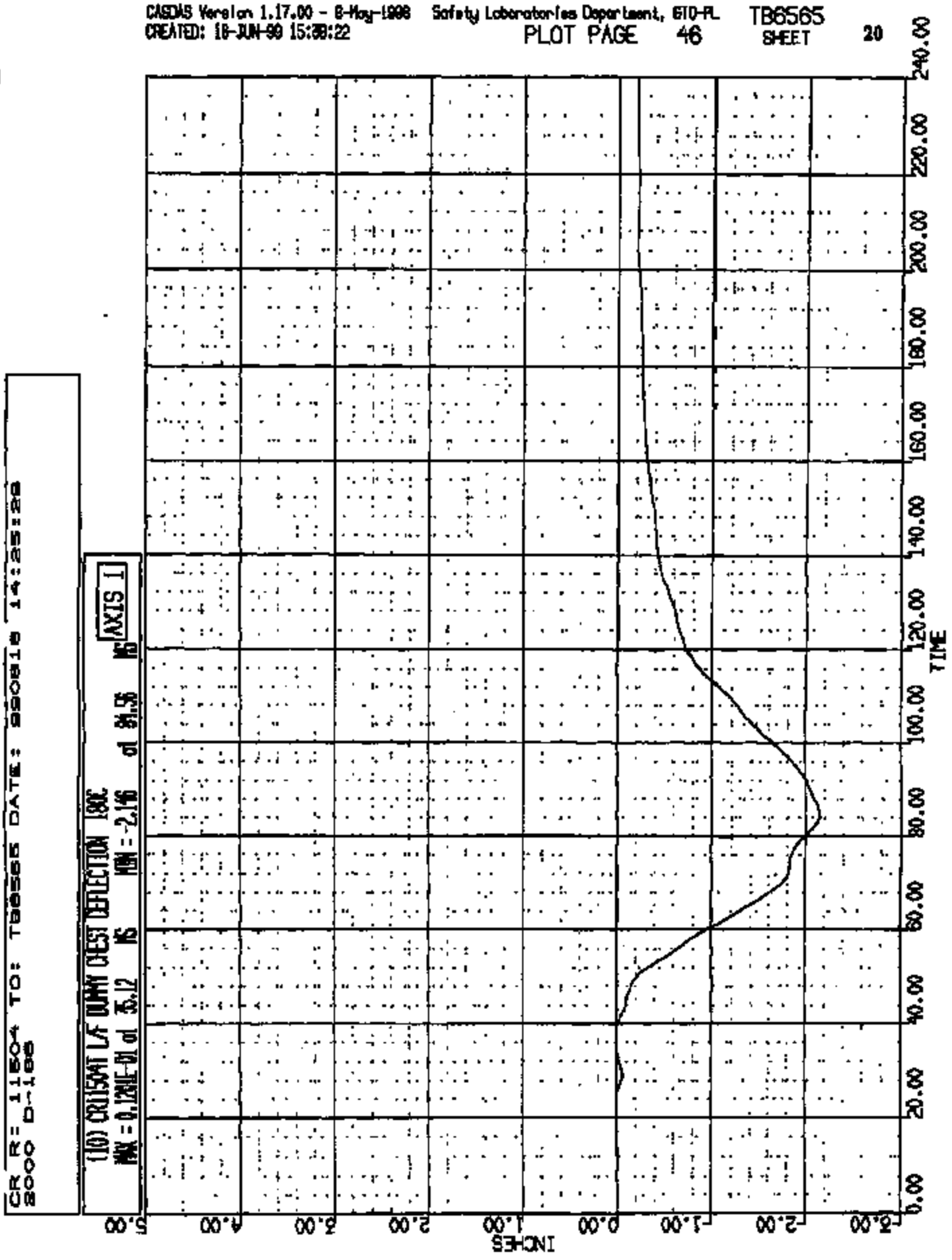
TIME

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB6565
CREATED: 18-JAN-99 15:08:20 PLOT PAGE 45 SHEET 18

CRTS 0011504


CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-180
CUMDUR = 47.305 Duration time = 2.9987
(10009) CR11504T L/F DUMMY CHEST RES 180C
MAX = 50.92 at 71.68 MS MIN = 0.1168 at 0.0000E+00 MS
AXIS 1
S.G
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
CRASH Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-R
CREATED: 16-JUN-99 15:55:53
PLOT PAGE 19
TB6565
SHEET 19

CRTS 011504


CR R= 11504 TO: T6656 DATE: 990618 14:25:28
2000 D-185
(10) CRUISCAT L/F DUMMY CHEST DEFLECTION 180C
MAX = 0.128E-01 at 35.12 MS MIN = -2.146 at 84.56 MS AXIS 1
INCHES
TIME
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
-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

CR R: 11504 TO: TB6565 DATE: 990618 14:25:26
2000 D-185

(11) CRUISOAT L/F DUMMY PELVIS LONG 1600C
MAX = 3.252 at 126.4 MS MIN = -51.04 at 68.88 MS AXIS 1

S.9

00.02
00.01
00.0
-00.01
-00.02
-00.03
-00.04
-00.05
-00.06

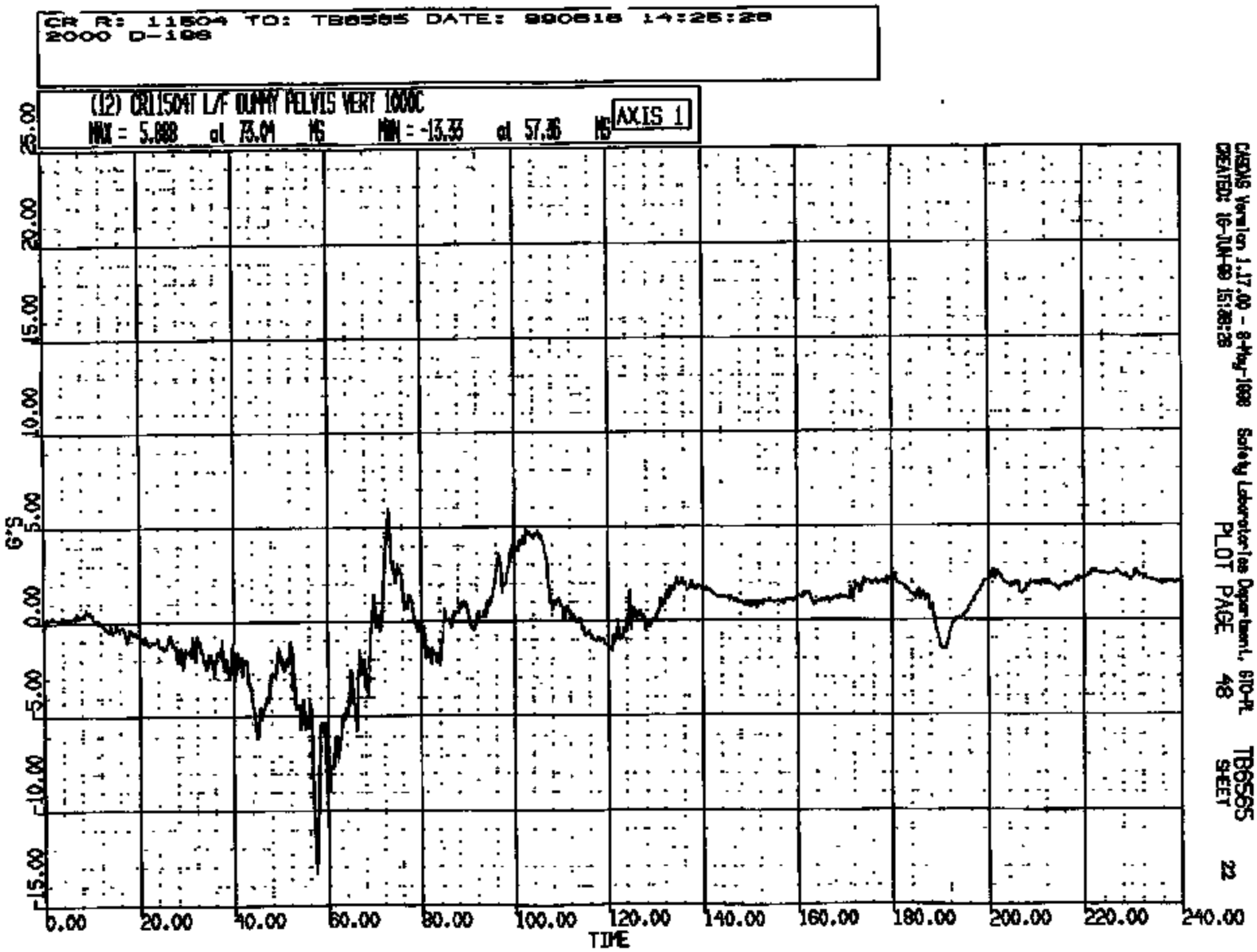
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

CASDAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 070-PL
CREATED: 18-JUN-99 15:38:24

PLOT PAGE 47 TB6565 SHEET 21

CRTS 0011504


CR R: 11504 TO: TB6585 DATE: 990618 14:25:28
2000 D-196
(12) CRUISON1 L/F DUMMY PELVIS VERT 1000C
MAX = 5.888 at 73.04 MS MIN = -13.35 at 57.36 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
CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 16-JUN-99 15:36:28
PLOT PAGE 48
TB6585
SHEET 22
CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990818 14:25:28
2000 D-196

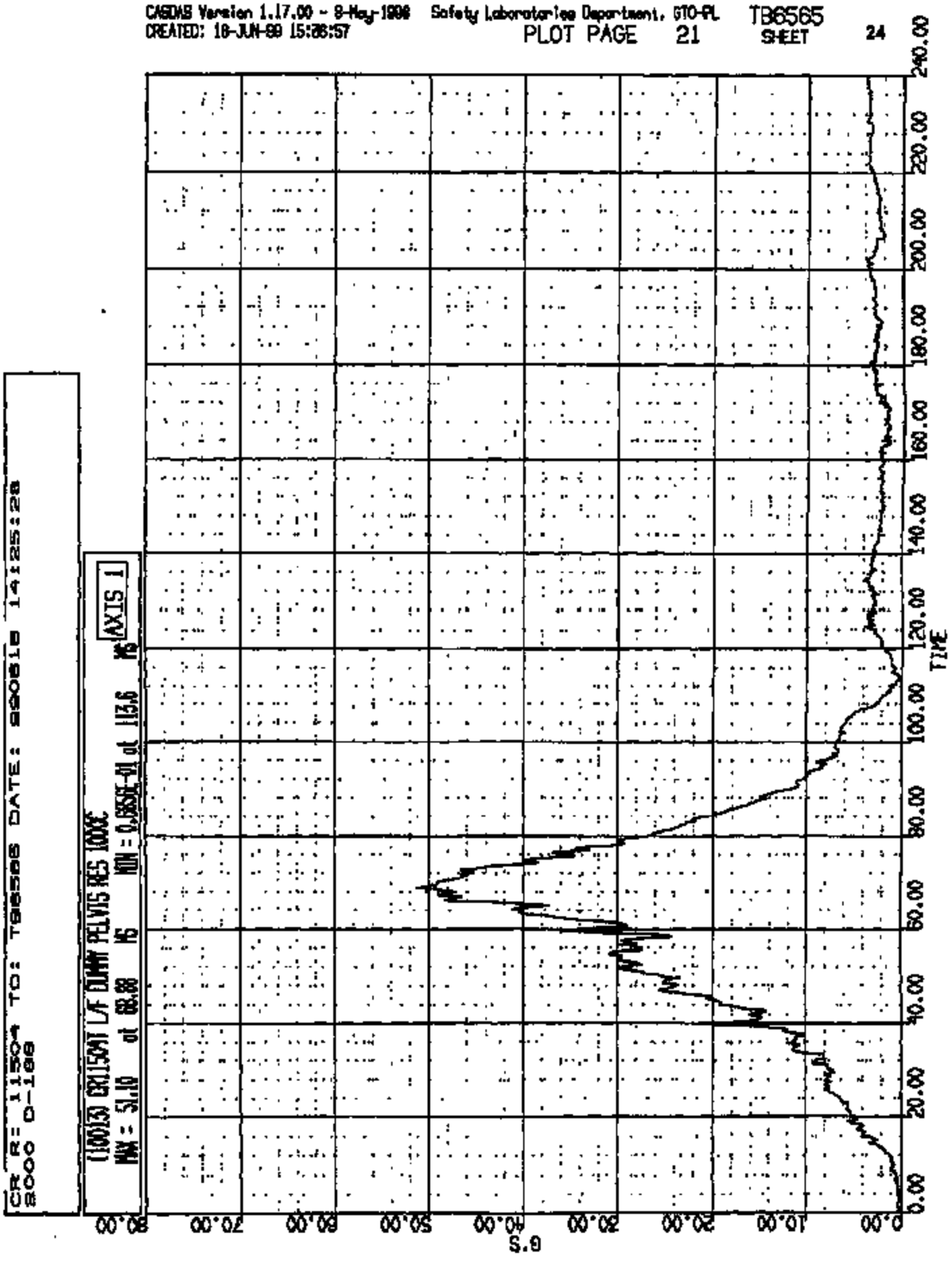
(13) CRLTSOAT LAT DUMMY PELVIS LAT 1000C
MAX = 6.770 at 46.69 MS MIN = -5.635 at 79.20 MS AXIS 1

10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
5.9

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

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 8110-PL
CREATED: 18-JUN-99 15:38:28
PLOT PAGE 49 TB6565 SHEET 23

CRTS 0011504


CR R= 11504 TO: T6555 DATE: 990618 14:25:28
2000 0-199
(10013) CR11504T L/F OLMW PELVIS RES 100GC
MAX = 51.10 at 68.88 MS MIN = 0.6836E-01 at 113.6 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
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
S.D

CR R: 11504 TO: TB6565 DATE: 990618 14:26:28
2000 D-186

(352) CRITSDMY L/F DUMMY PELVIS S.P. 60C
MAX = 5.433 at 81.68 MS MIN = -.5501 at 236.2 MS AXIS 1

CMSDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, BIO-PL
CREATED: 18-JUN-99 15:30:09

PLOT PAGE 68 TB6565 SHEET 25

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 980618 14:25:28
2000 D-180

(14) CRUISAT L/F DUMMY LATERAL LOAD FZ 600C
MAX = 29.77 at 51.91 MS MIN = -882.8 at 67.12 MS AXIS 1

LBF x 10^1

80.00
60.00
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00

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

CADAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 810-PL
CREATED: 18-JUN-98 15:38:28

PLOT PAGE 50

TB6565
SHEET 26

CRTS 0011504

CR R: 11504 TO: T86565 DATE: 890616 14:25:28
2000 D-166

(15) CRI150AT L/F DUMMY R/FEMUR LOAD FZ 600C
MAX = -1.471 at 0.0000E+00 MS MIN = -930.2 at 70.00 MS AXIS 1

CARDAS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 670-PL
CREATED: 16-JUN-89 15:26:21

PLOT PAGE 51 TB6565 SHEET 27

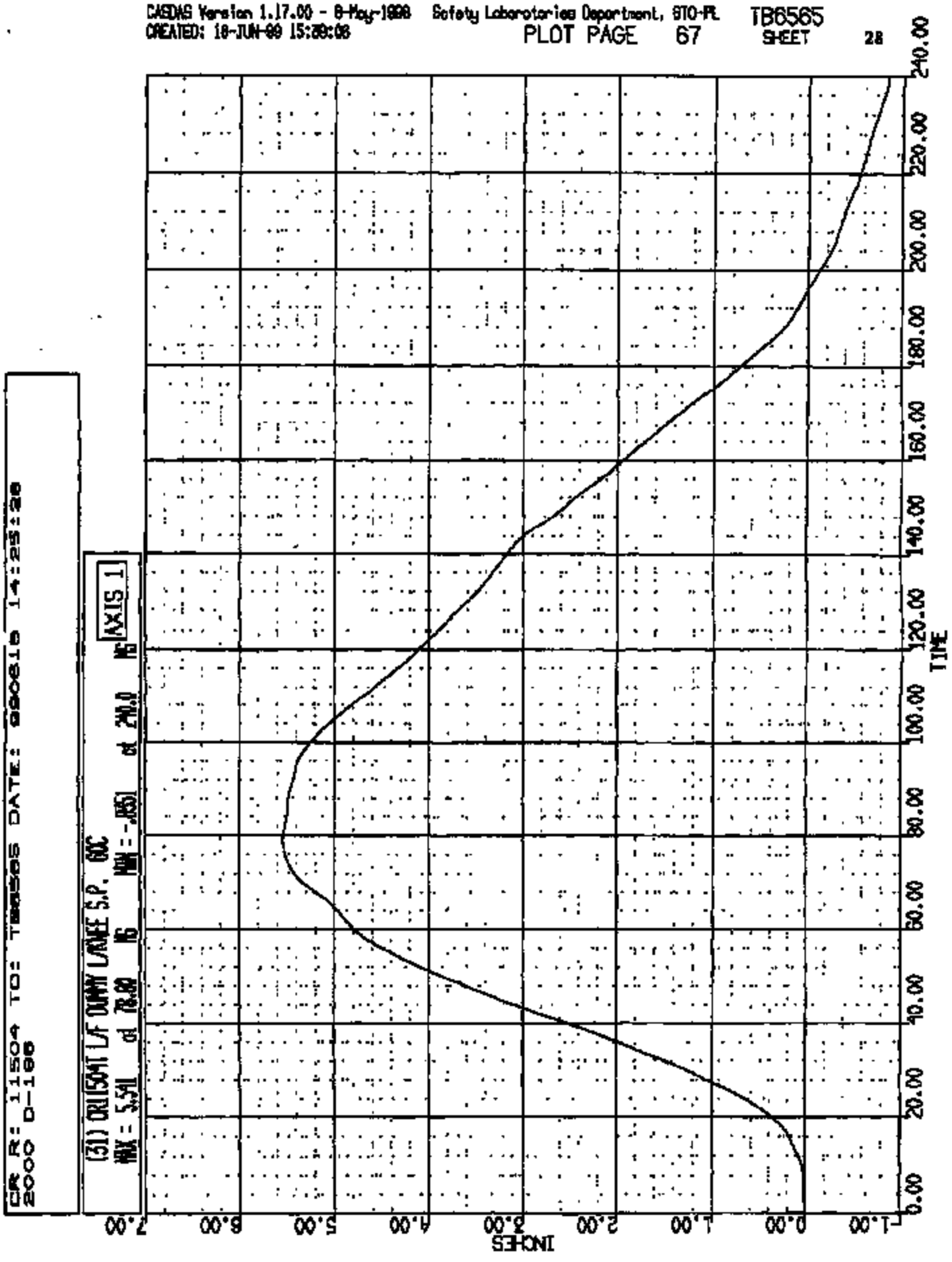
FORCE (LBF) x 10^1

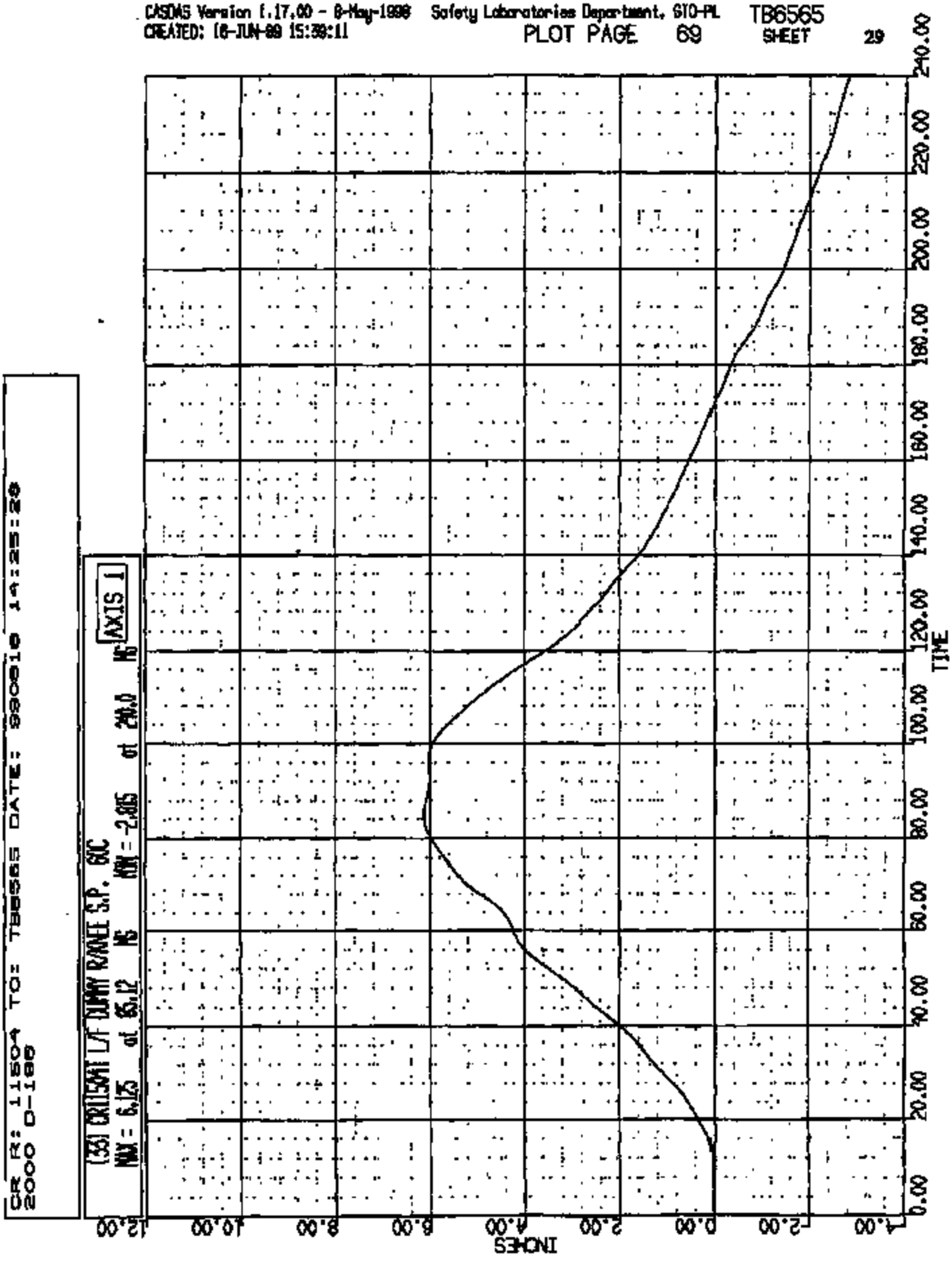
80.00
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00

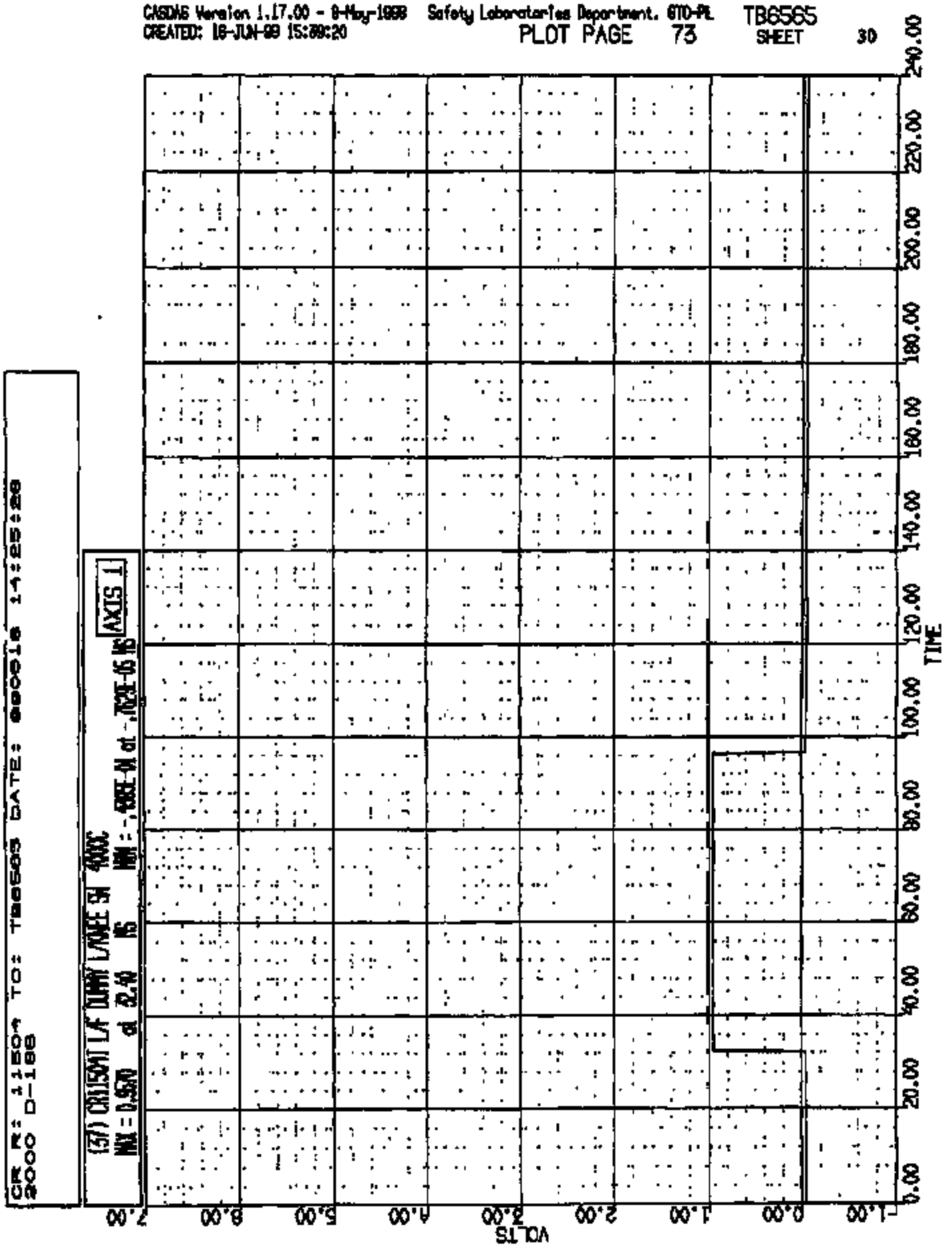
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

CRTS 001504


CR R: 11504 TO: TB6565 DATE: 990616 14:25:28
2000 D-186
(31) CRITERION L/F DUMMY LAMEE S.P. 60C
MAX = 5.541 at 78.80 MS MIN = -.065 at 240.0 MS
AXIS 1
INCHES
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
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00


CR R: 11504 TC: TB6565 DATE: 980616 14:25:28
2000 0-180
[35] CRITERION L/F DUMMY RANGE S.P. 60C
MAX = 6.125 at 65.12 MS MIN = -2.085 at 240.0 MS
AXIS 1
INCHES
TIME
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
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


CR R: 11504 TO: TB6565 DATE: 980616 14:25:28
2000 D-188
(37) CRUISOMT L/F DUMMY LVAHEE SH 4000C
MAX = 0.9570 at 22.40 MS MIN = -.4882-01 at -.7023E-05 MS
AXIS 1
VOLTS
TIME
2.00
8.00
5.00
4.00
2.00
1.00
0.00
-1.00
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

CR R: 11504 TO: TB6565 DATE: 990618 14:25:26
2000 D-198

(38) CR1550AT L/F DUMMY RANGE SN 4030C
MAX = 0.9570 at -.7625E-05 MS MIN = -.6885E-01 at 114.4 MS AXIS 1

NOT VALID DATA

VOLTS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CASNS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTDAL TB6565
CREATED: 16-JUN-99 15:30:21 PLOT PAGE 74 SHEET 31

CRTS 011504

DR R: 11504 TO: TB6565 DATE: 990818 14:25:29
2000 D-186

(0) CRC11504 L S HEAD DRVR MRT L INR AT B PL LONG DISP
MAX = 14.48 at 101.0 MS MIN = -.9000E-02 at 185.0 MS AXIS 1

INCHES

35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
-5.00

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

CADMS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 670-PL
CREATED: 18-JUN-99 14:16:48

PLOT PAGE 2 TB6565 SHEET 32

CRTS 011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-189

(0) CRC11504 L S HEAD DRVR ART L MKR AT 0 PL VERT DISP
MAX = 2.813 at 113.0 MS MIN = -2.015 at 183.0 MS AXIS 1

INCHES

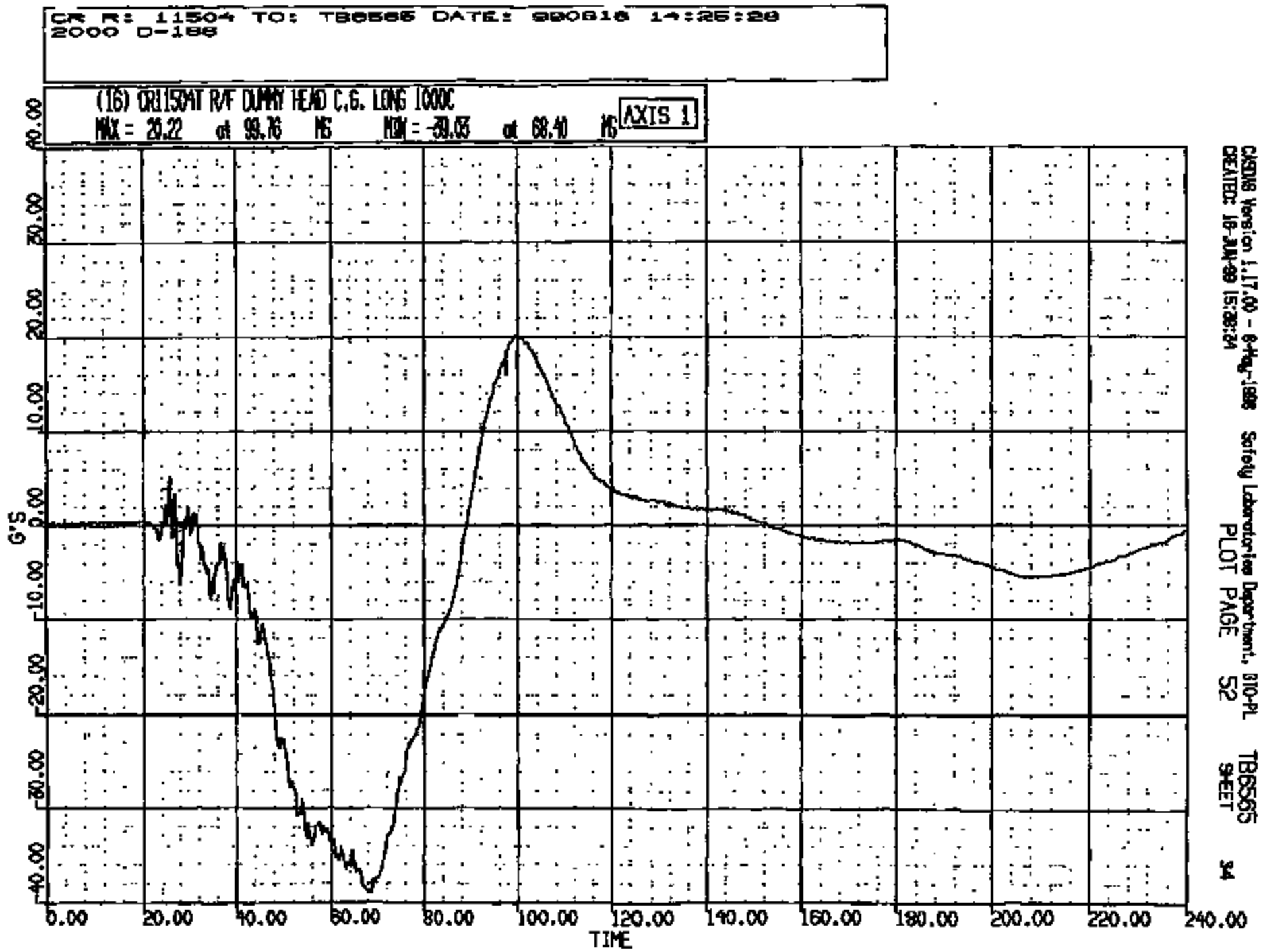
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00

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

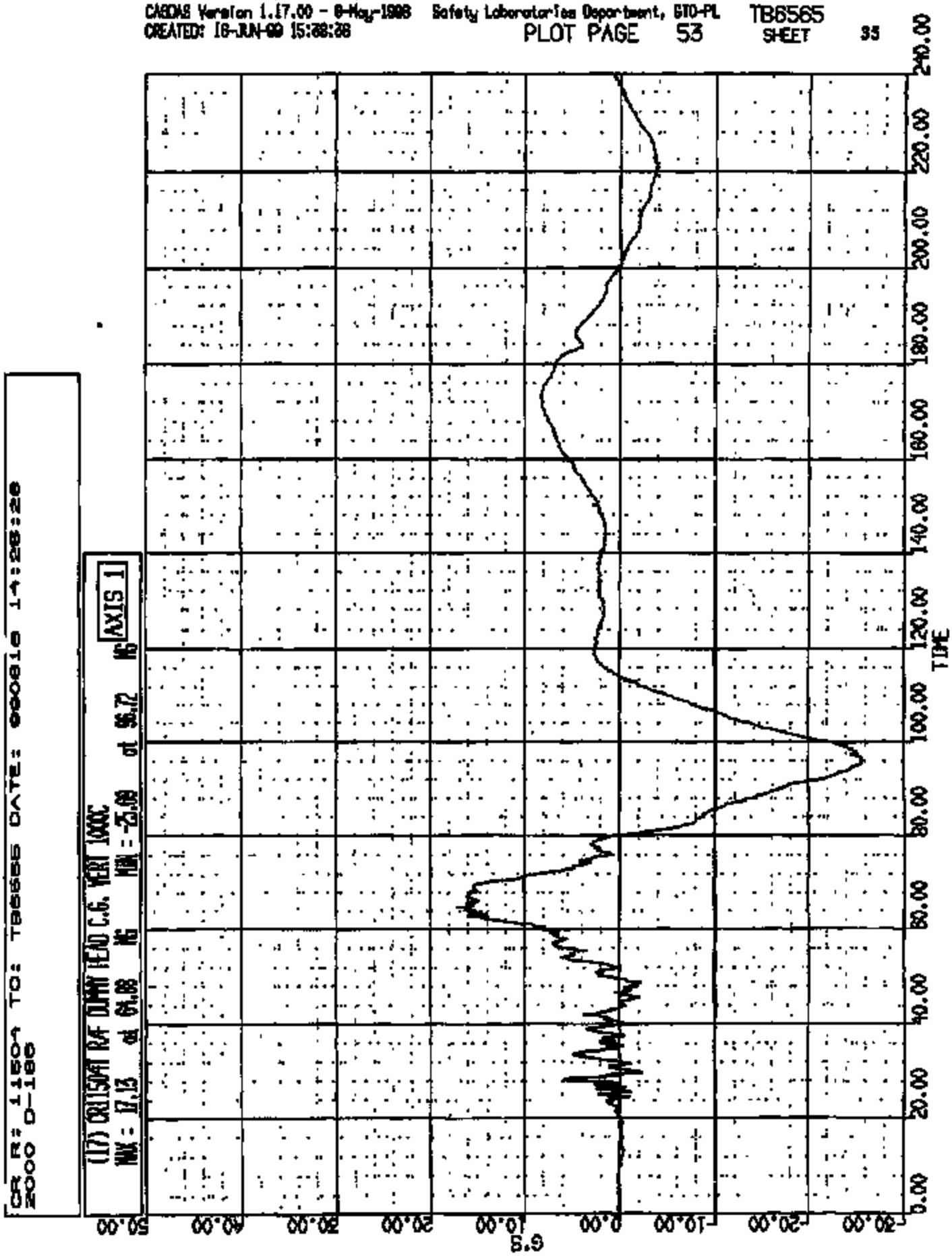
TIME

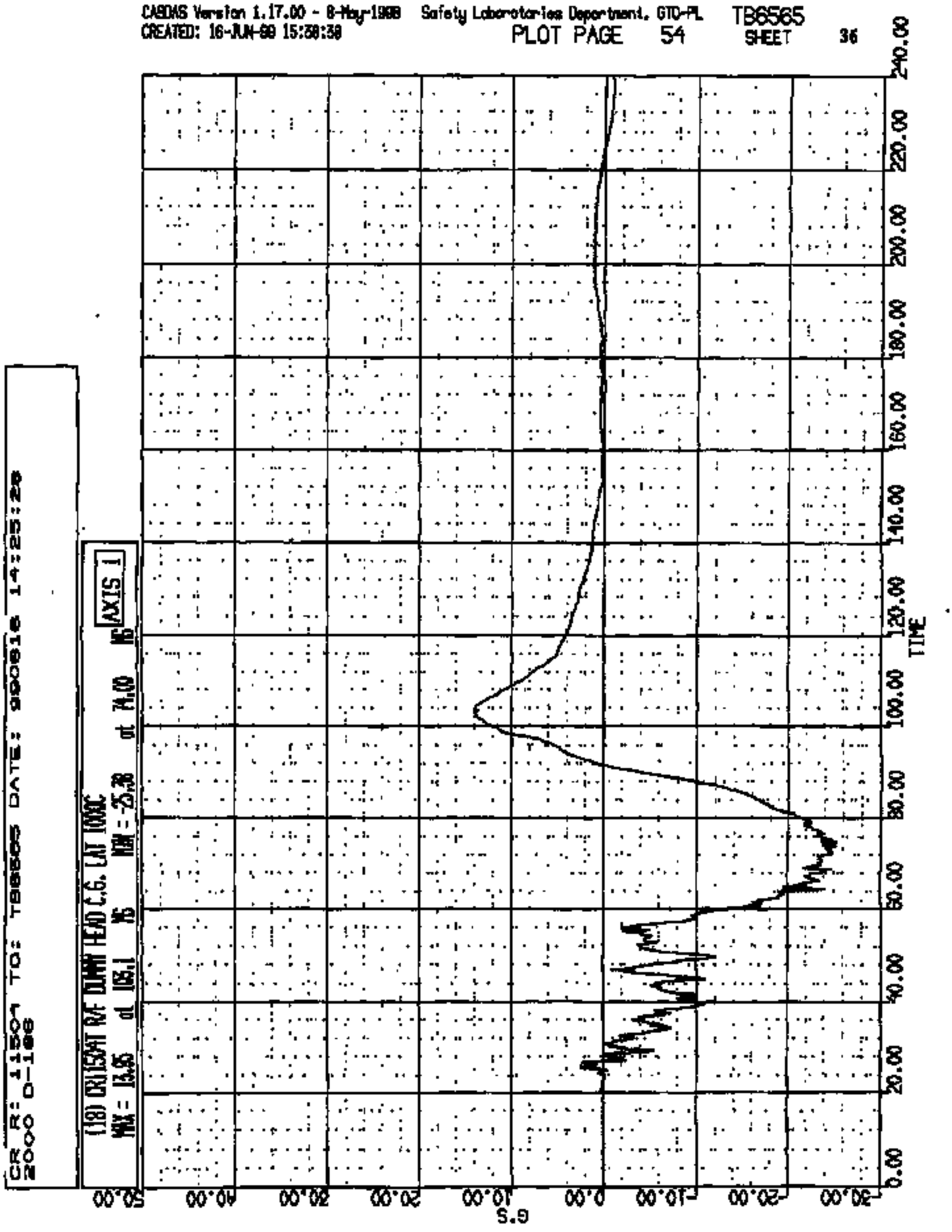
CRTS 011504

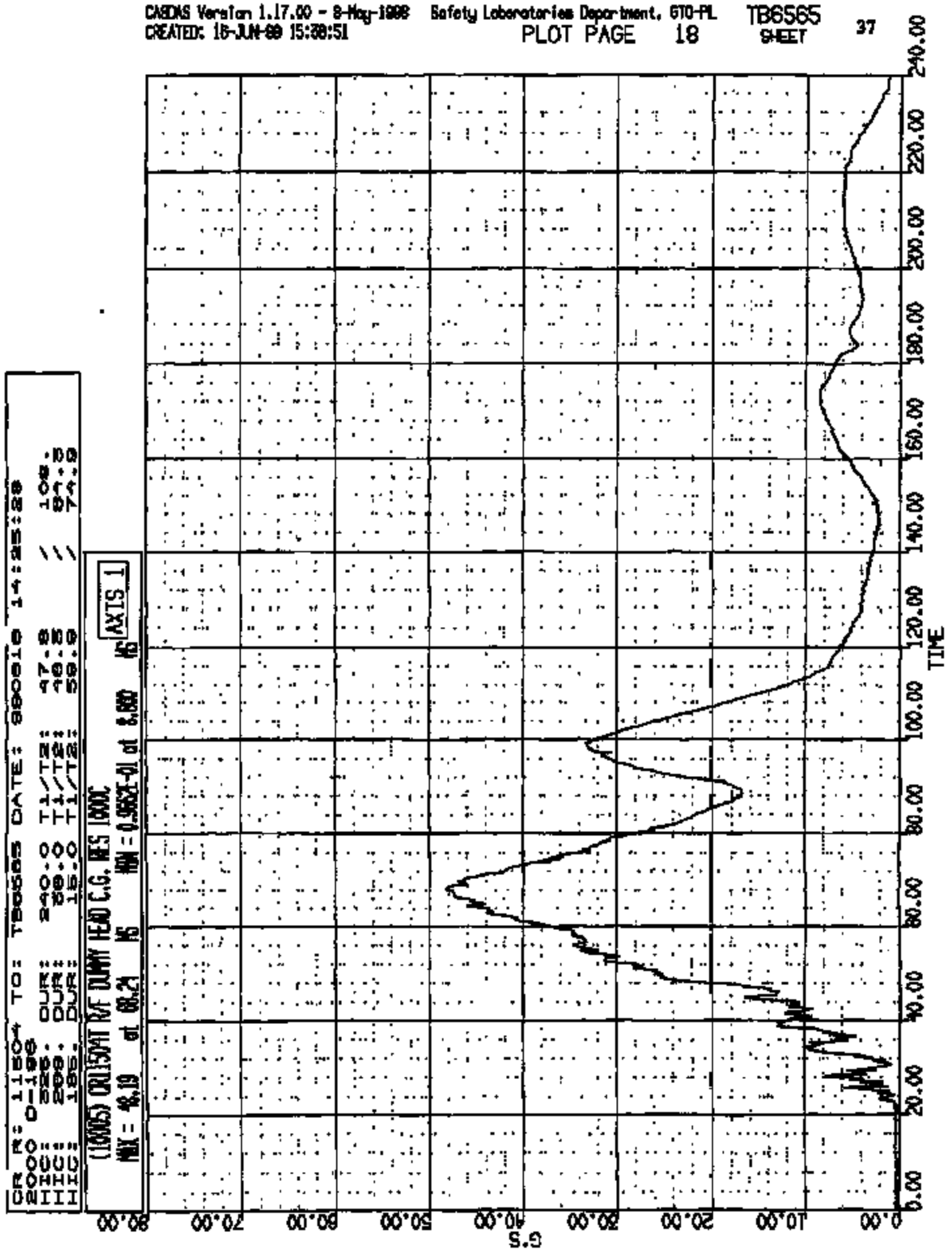
CASDAS Version 1.17.00 - 6-May-1999 Safety Laboratories Department, 6710-PL TB6565
CREATED: 18-JUN-99 14:10:51 PLOT PAGE 5 SHEET 33



CRTS 0011504

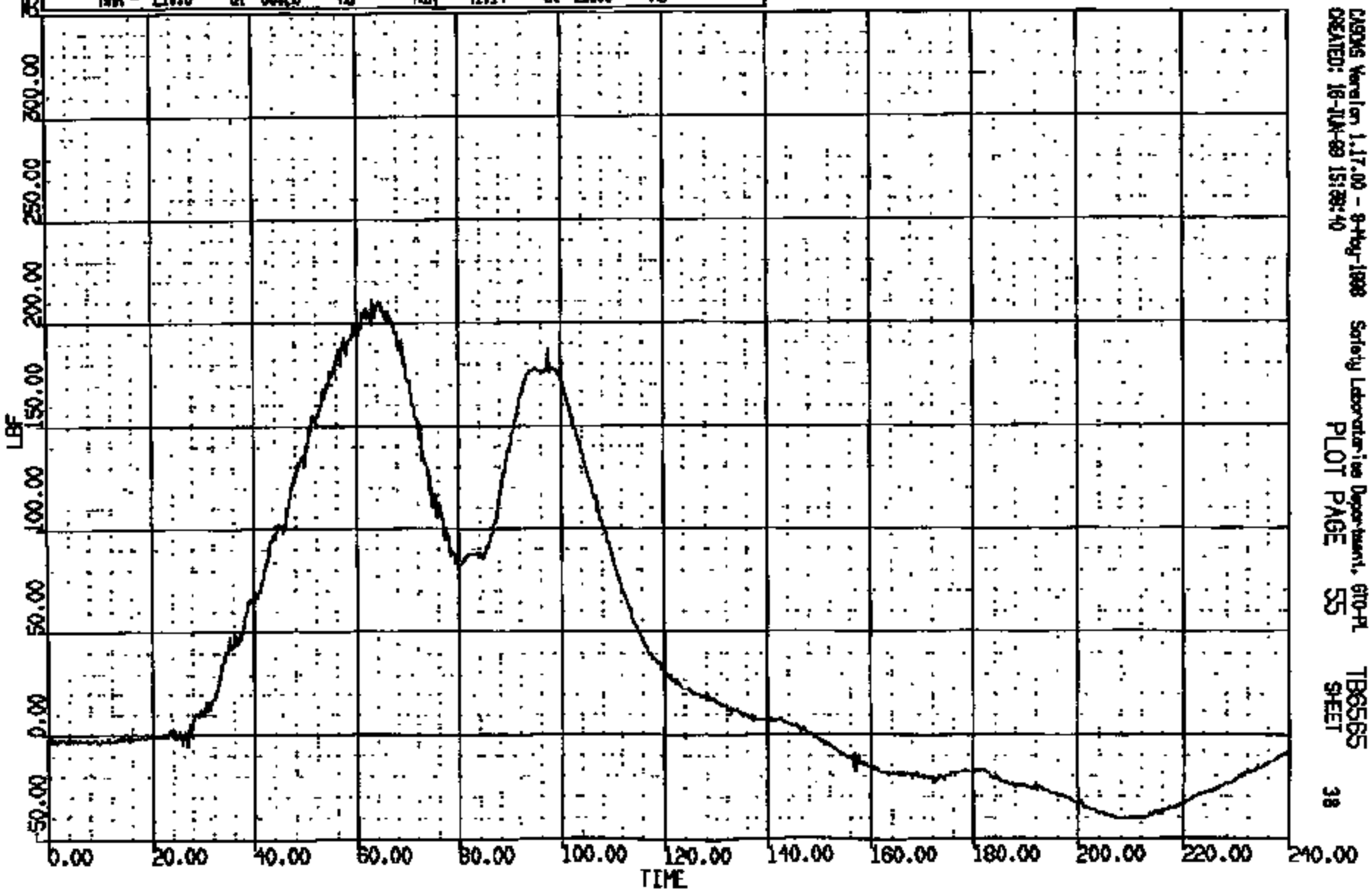

CR R: 11504 TO: TB6565 DATE: 990816 14:28:28
2000 D-186
(17) CRITICAL RAF DUMMY HEAD C.G. VERT 1000C
MAX = 17.13 at 64.08 MS MIN = -25.89 at 96.72 MS
AXIS 1
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
TIME
60.00
40.00
20.00
0.00
20.00
40.00
60.00
S.9


CR R: 11504 TO: TB6565 DATE: 980616 14:25:28
2000 0-168
(18) CRUISCRAT R/F DUMMY HEAD C.G. LAT 100DC
MAX = 13.65 at 106.1 MS MIN = -25.38 at 74.00 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
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
G's


CR #: 11504 TO: TB6565 DATE: 990616 14:25:28
2000 0-198
2HHCG: 225. DUR: 240.00 T1/T2: 47.8 // 105.
2000: 209. DUR: 88.00 T1/T2: 46.5 // 94.9
1HHCG: 185. DUR: 15.00 T1/T2: 59.9 // 74.9
(1000) CRITERIA R/F DUMMY HEAD C.G. MES 1000C
MAX = 48.19 at 68.21 MS MIN = 0.9862E-01 at 8.680 MS AXIS 1
G.S
TIME
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

CR R: 11504 TO: TB6565 DATE: 990816 14:25:28
2000 D-166

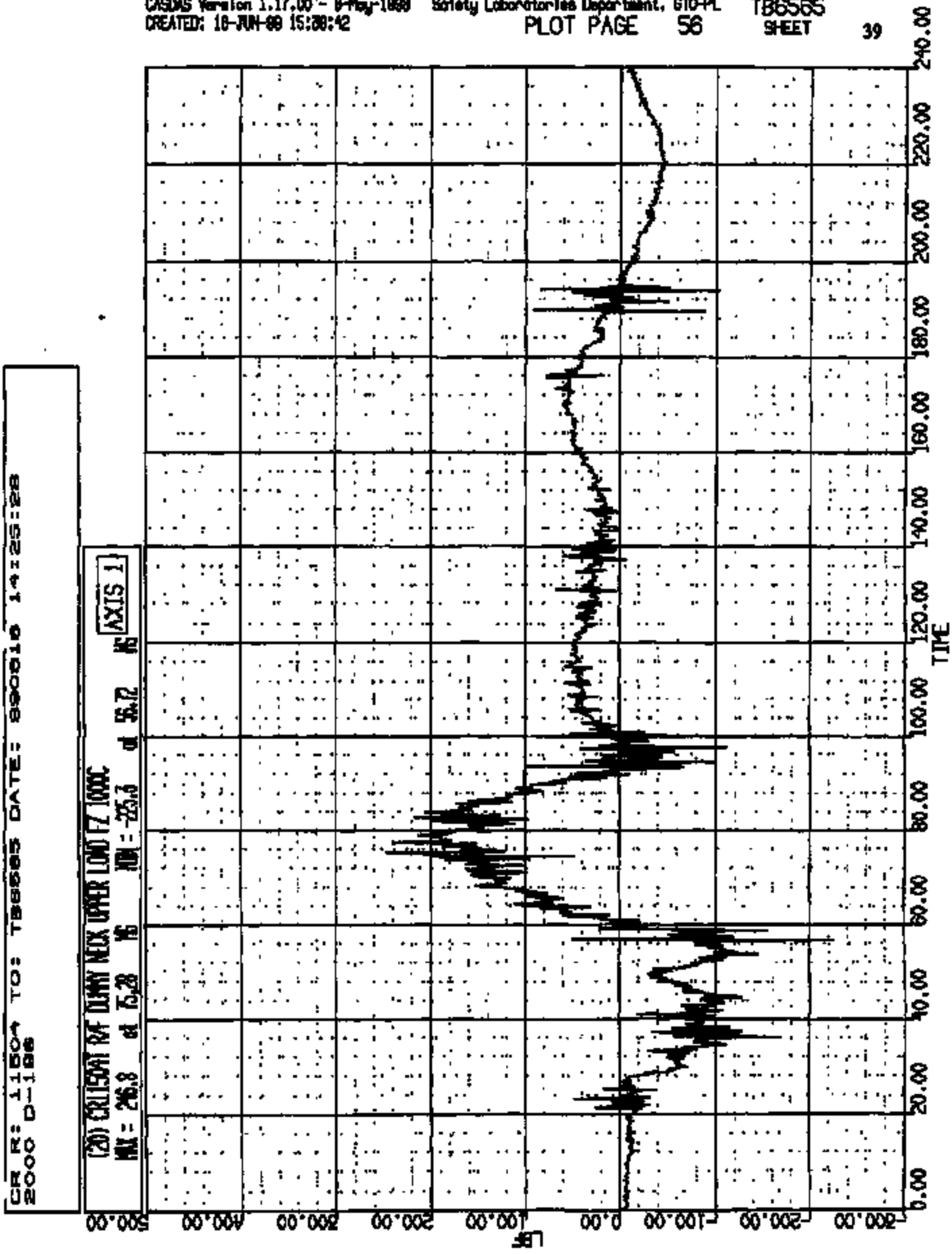
(19) CRL150AT R/F DUMMY NECK UPPER LOAD FX 1000C
MAX = 210.3 at 65.28 MS MIN = -41.14 at 208.8 MS AXIS 1



CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 16-JUN-99 15:08:40

PLOT PAGE 55 TB6565 SHEET 38

CRTS 0011504


CR R: 11504 TO: TB6565 DATE: 980616 14:25:28
2000 D-186
(20) CRUISOAT R/F DUMMY NECK UPPER LOAD FZ 1000C
MAX = 246.8 at 75.28 MS MIN = -225.3 at 56.72 MS
AXIS 1
LBF
TIME
500.00
400.00
300.00
200.00
100.00
0.00
-100.00
-200.00
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

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-168

(21) CR11504T RAF DUMMY NECK UPPER LOAD MY 600C
MAX = 596.4 at 58.56 MS MIN = -181.9 at 107.7 MS AXIS 1

CARDAS Version 1.17.00 - 6-May-1999 Safety Laboratories Department, 6170-PL
CREATED: 16-JUN-99 15:38:49

PLOT PAGE 57 TB6565 SHEET 40

FORCE LBS x 10^1

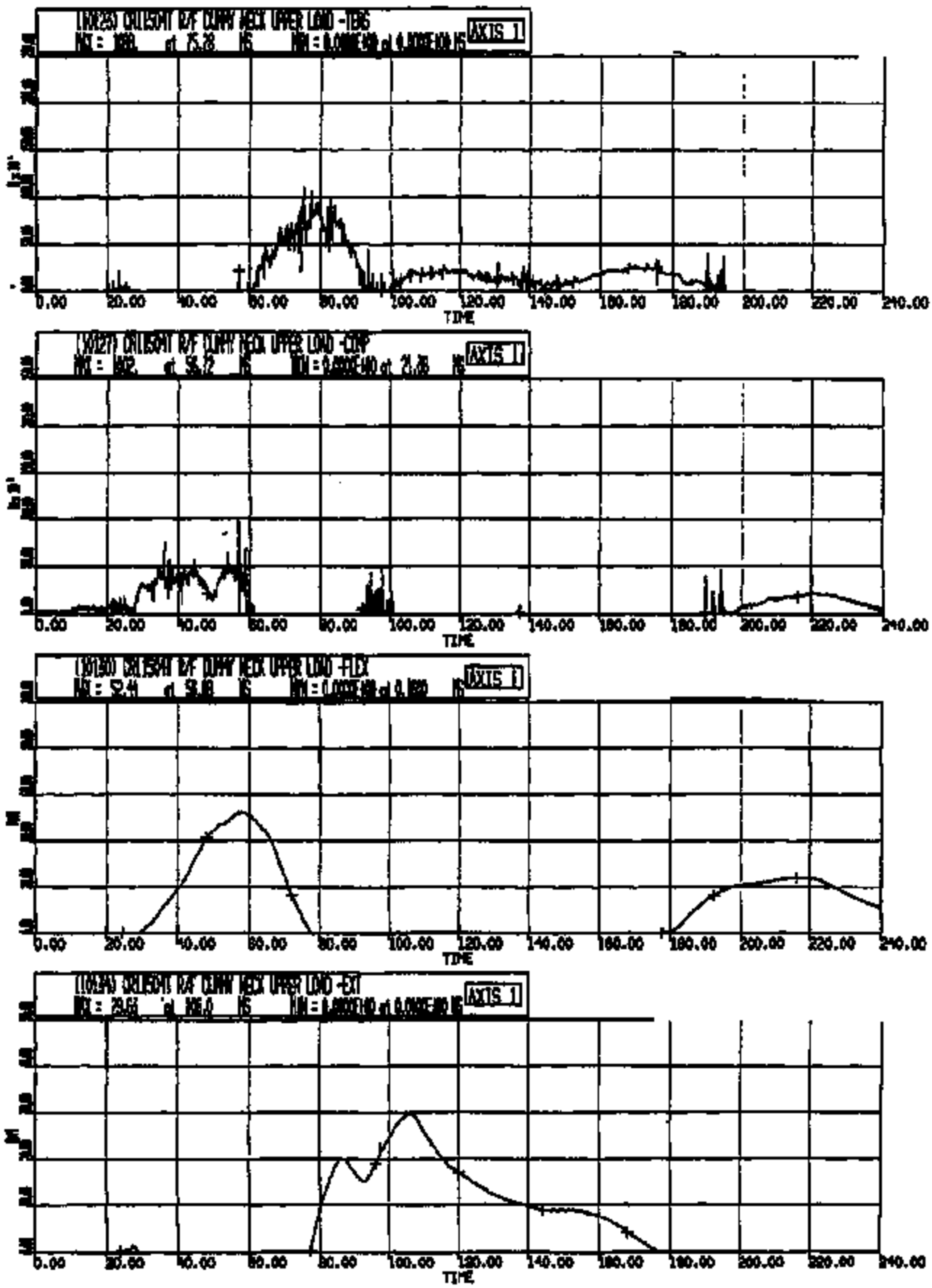
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
-20.00

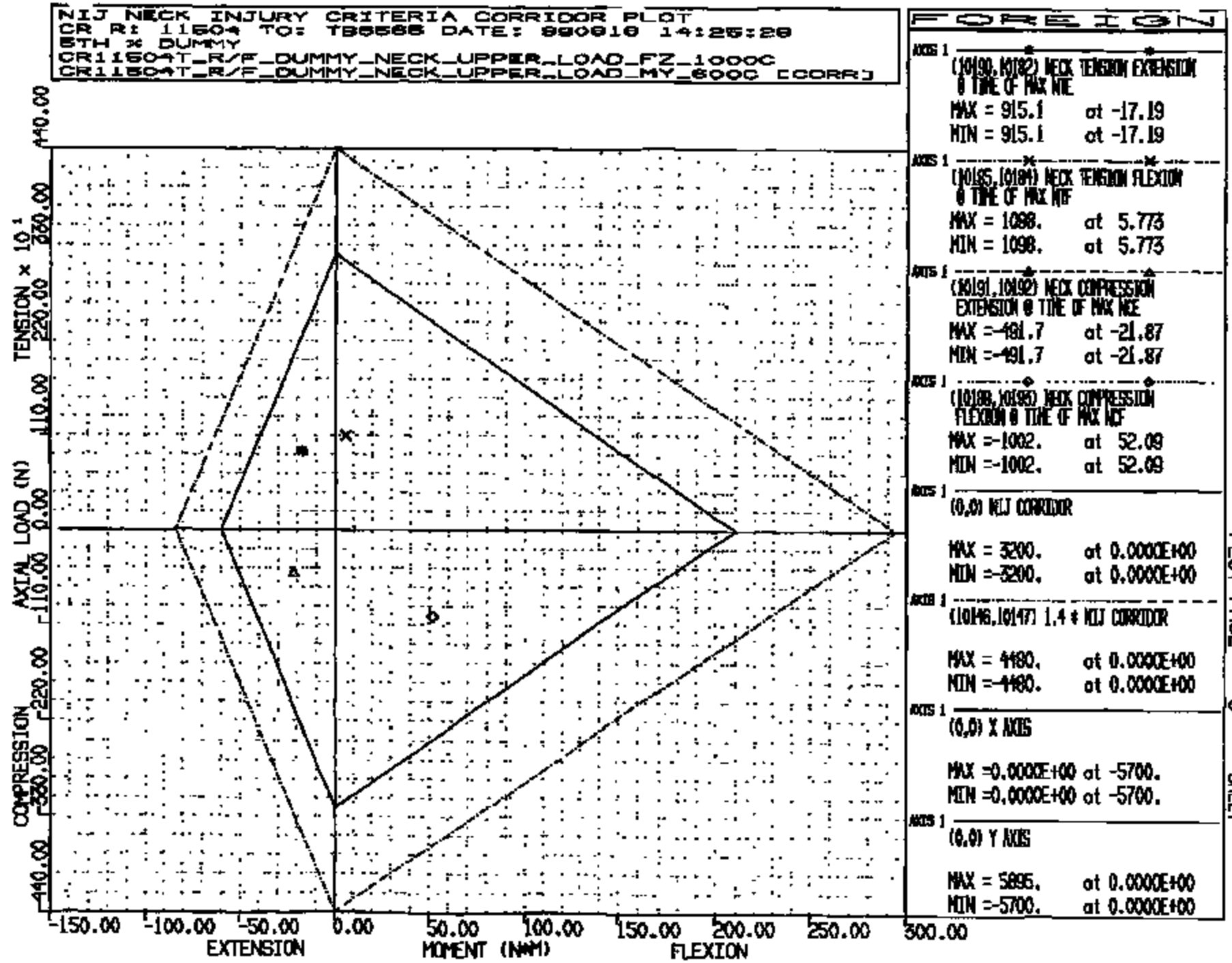
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

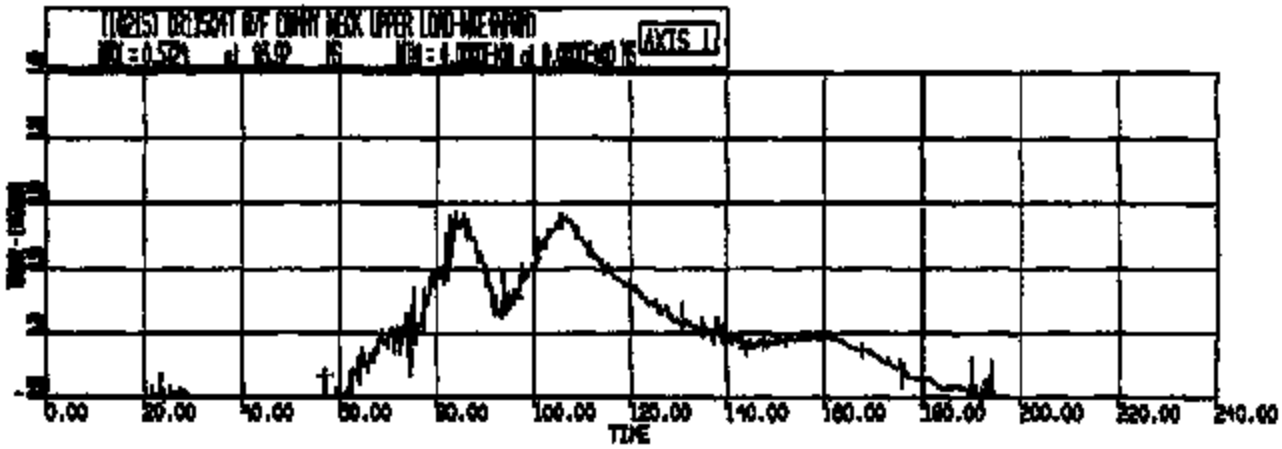
CRTS 0011504

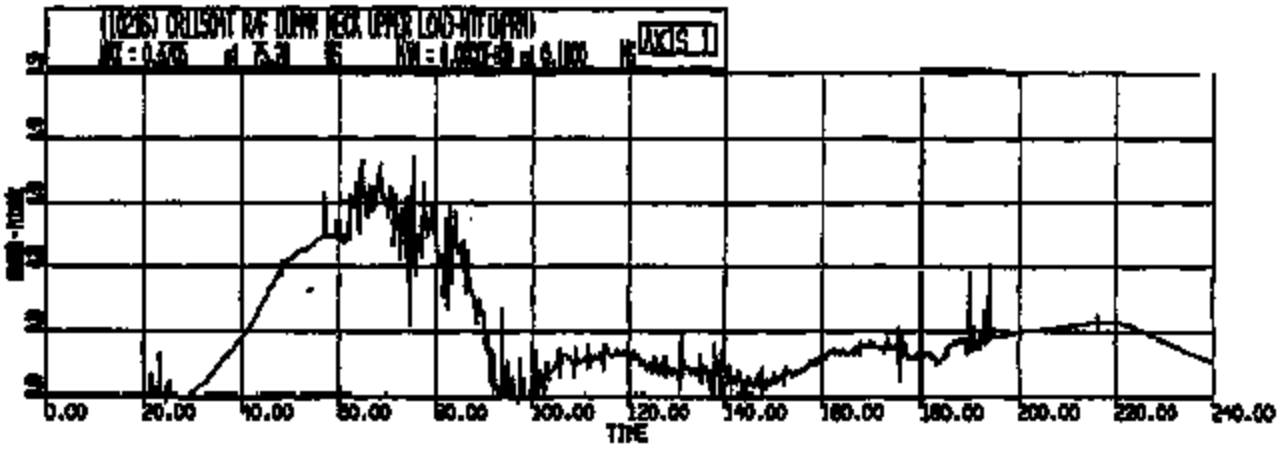
NIJ NECK INJURY CRITERIA (TENS/ COMP/ FLEX/ EXT)
CR R: 11504 TO: TB6565 DATE: 8900810 14:25:28
6TH %: DUMMY
CR11504T_R/F_DUMMY_NECK_UPPER_LOAD_FZ_1000C
CR11504T_R/F_DUMMY_NECK_UPPER_LOAD_MY_600C (CORR2

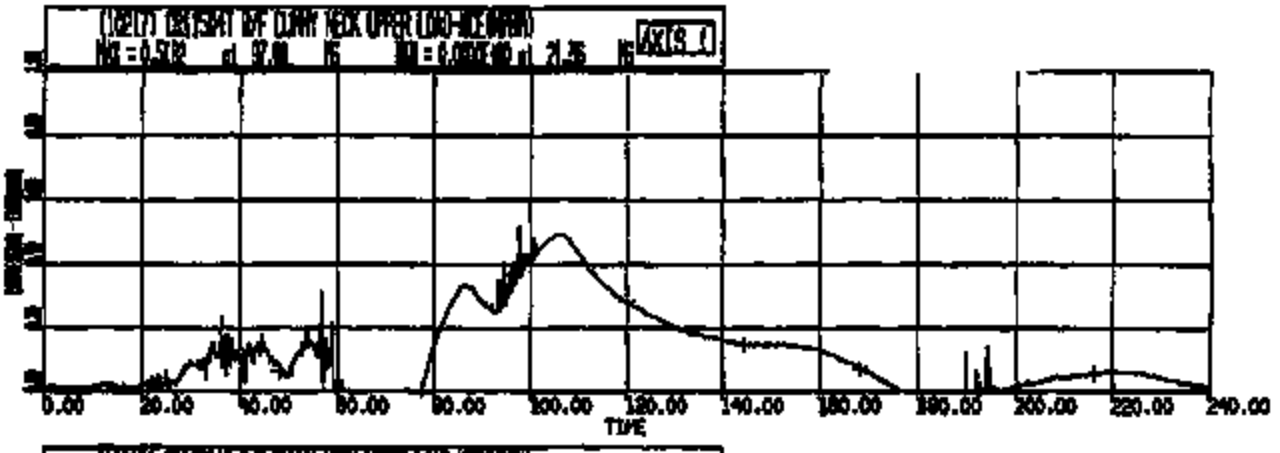


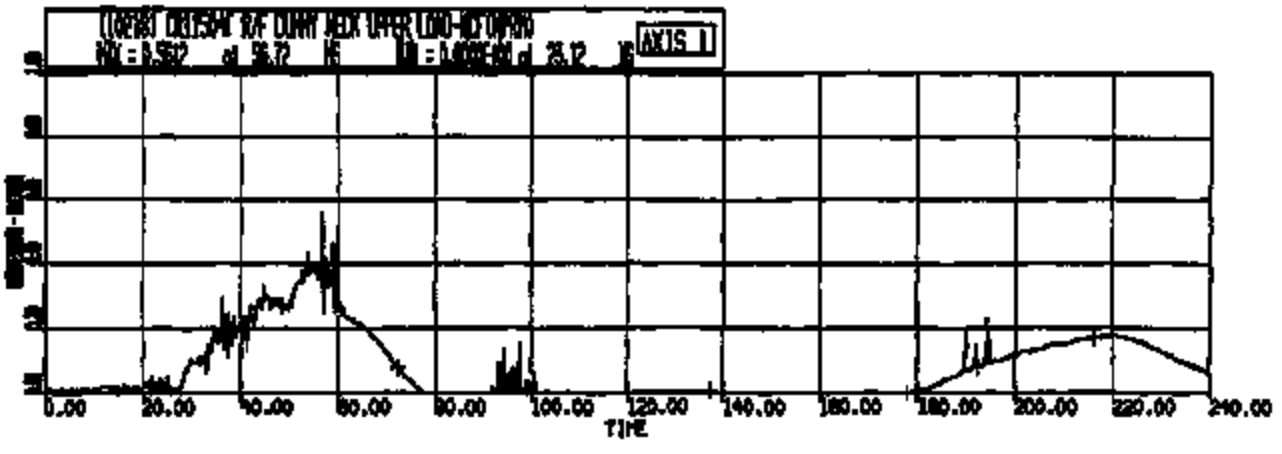

NIJ NECK INJURY CRITERIA CORRIDOR PLOT
CR R: 11504 TO: TB6566 DATE: 980818 14:25:28
5TH % DUMMY
CR11504T_R/F_DUMMY_NECK_UPPER_LOAD_FZ_1000C
CR11504T_R/F_DUMMY_NECK_UPPER_LOAD_MY_600C [CORR]
TENSION x 10
AXIAL LOAD (N)
COMPRESSION
440.00
330.00
220.00
110.00
0.00
-110.00
-220.00
-330.00
-440.00
-150.00
-100.00
-50.00
0.00
50.00
100.00
150.00
200.00
250.00
300.00
EXTENSION
MOMENT (NMM)
FLEXION
FOREIGN
AXIS 1
(10190,10182) NECK TENSION EXTENSION
@ TIME OF MAX NTE
MAX = 915.1 at -17.19
MIN = 915.1 at -17.19
AXIS 1
(10185,10184) NECK TENSION FLEXION
@ TIME OF MAX NTF
MAX = 1098. at 5.773
MIN = 1098. at 5.773
AXIS 1
(10191,10192) NECK COMPRESSION
EXTENSION @ TIME OF MAX NCE
MAX =-491.7 at -21.87
MIN =-491.7 at -21.87
AXIS 1
(10188,10195) NECK COMPRESSION
FLEXION @ TIME OF MAX NCF
MAX =-1002. at 52.09
MIN =-1002. at 52.09
AXIS 1
(0,0) NIJ CORRIDOR
MAX = 3200. at 0.0000E+00
MIN =-3200. at 0.0000E+00
AXIS 1
(10146,10147) 1.4 * NIJ CORRIDOR
MAX = 4480. at 0.0000E+00
MIN =-4480. at 0.0000E+00
AXIS 1
(0,0) X AXIS
MAX =0.0000E+00 at -5700.
MIN =0.0000E+00 at -5700.
AXIS 1
(0,0) Y AXIS
MAX = 5895. at 0.0000E+00
MIN =-5700. at 0.0000E+00
CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-RL
CREATED: 4-AUG-98 08:50:40
PLOT PAGE 5
TB6565
SHEET 42
CRTS 001504

NIJ NECK INJURY CRITERIA (DATA NORMALIZED)
CR R: 11804 TO: TB6565 DATE: 990618 14:23:28
5TH %ile DUMMY
CR11804T_R/F_DUMMY_NECK_UPPER_LOAD_FZ_1000C
CR11804T_R/F_DUMMY_NECK_UPPER_LOAD_MY_800C (CORR)









CR R: 11504 TO: TB6585 DATE: 980618 14:25:28
2000 D-186

(22) CRUSH1 R/F DUMMY CHEST LONG 180C
MAX = 5.125 at 220.8 MS MIN = -51.16 at 87.28 MS AXIS 1

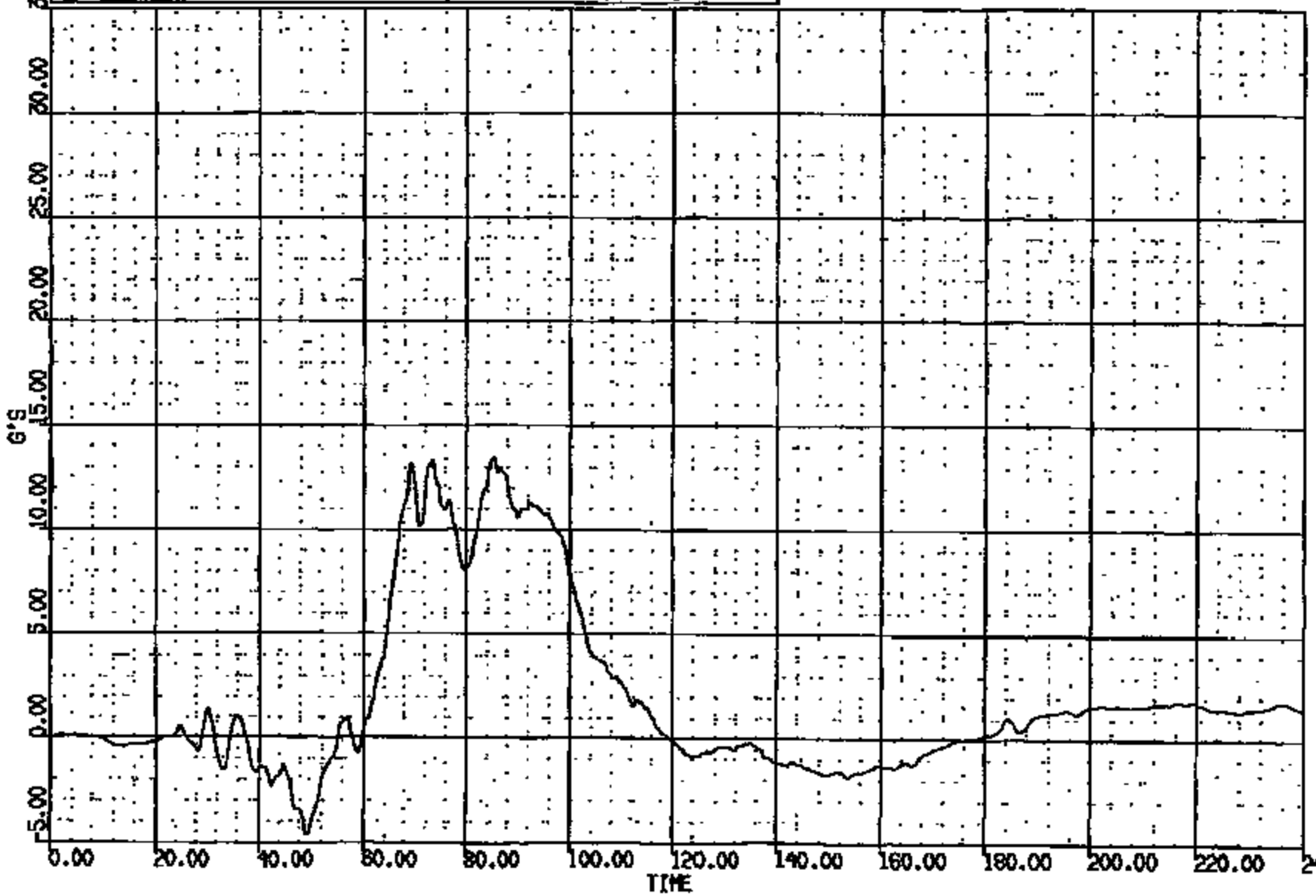
CARDAS Version 5.17.00 - 6-May-1998 Safety Laboratories Department, STD-RL
CREATED: 18-JUN-98 15:28:45

PLOT PAGE 58 TB6585 SHEET 44

CRTS 001504

CR R: 11504 TO: TB6565 DATE: 990616 14:25:28
2000 D-196

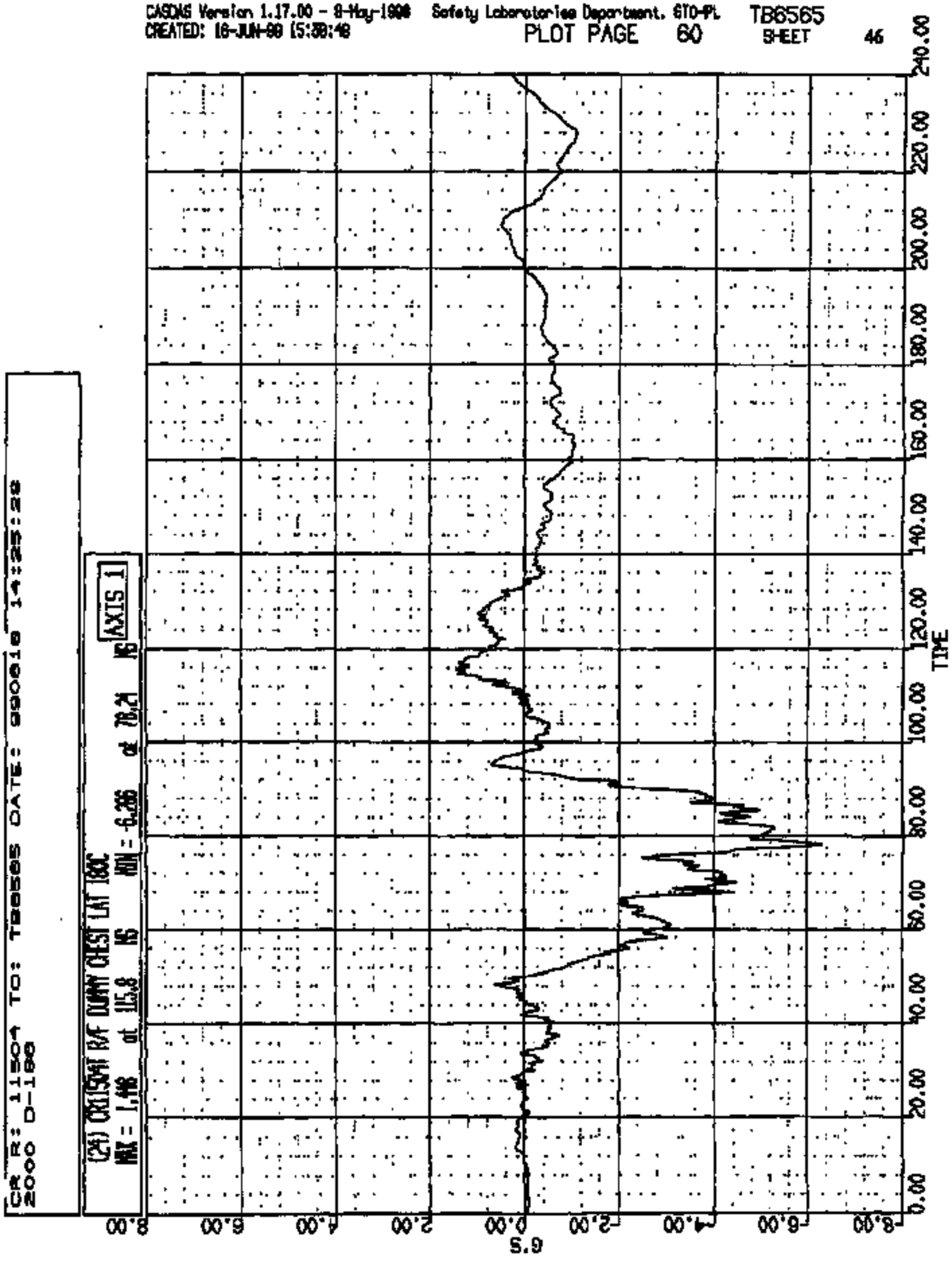
(25) CRI1504T R/F DUMMY CHEST VERT 180C
MAX = 13.49 at 85.36 MS MIN = -4.716 at 49.11 MS AXIS 1

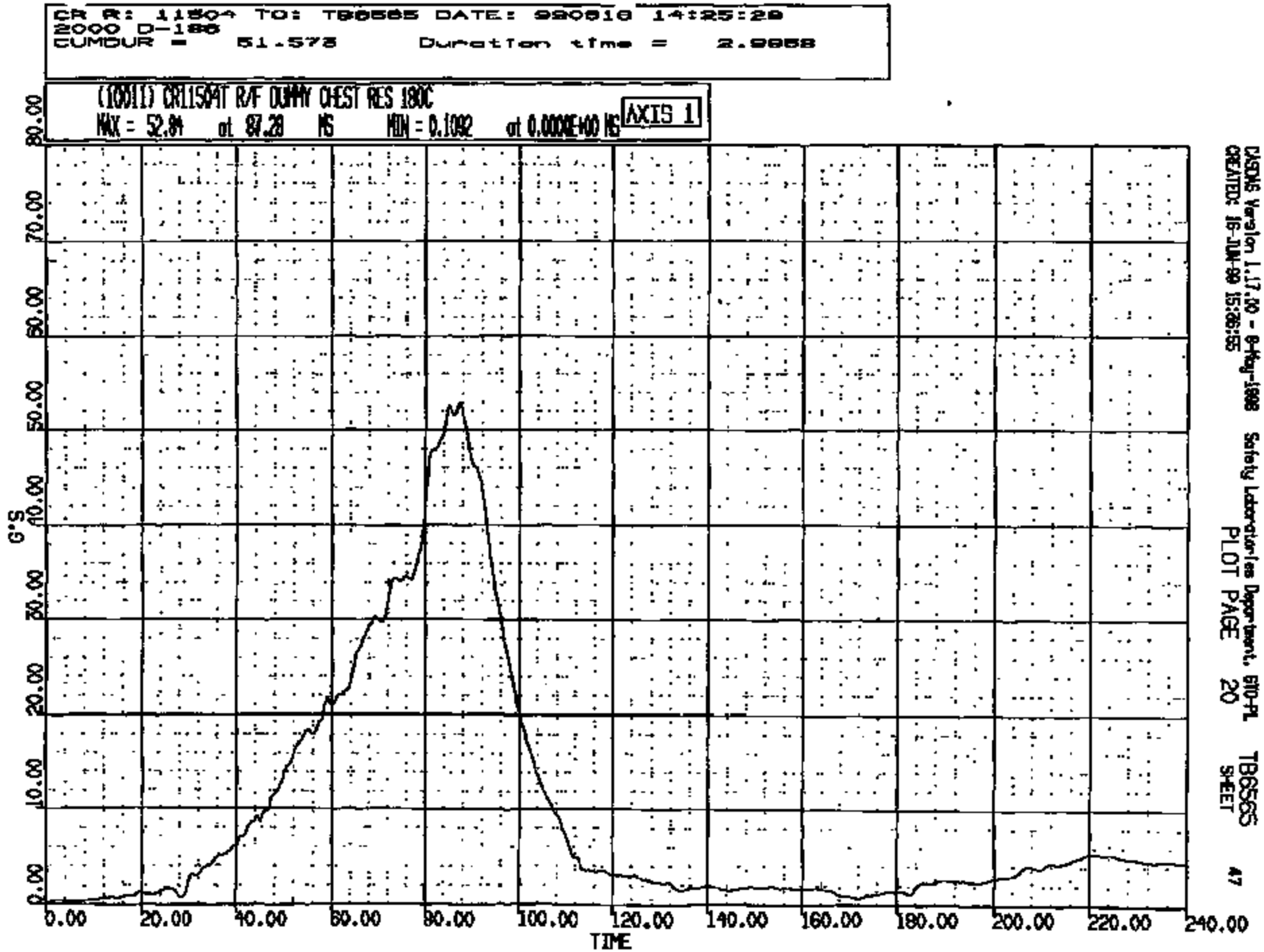


CRASHS Version 1.17.00 - 6-May-1999 Safety Laboratories Department, 070-PL
CREATED: 16-JUN-99 15:38:47

PLOT PAGE 59 TB6565 SHEET 45

CRTS 011504


CR R: 11504 TO: TB6565 DATE: 980616 14:25:28
2000 D-189
(24) CRITICAL RAF DUMMY CHEST LAT 180C
MAX = 1.448 at 115.8 MS MIN = -6.286 at 70.24 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
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00
G.9


CR R: 11504 TO: TB6565 DATE: 980910 14:25:29
2000 D-186
CUMDUR = 51.575 Duration time = 2.9668
(10011) CRITSDAT R/F DUMMY CHEST RES 180C
MAX = 52.84 at 87.28 MS MIN = 0.1092 at 0.0000E+00 MS
AXIS 1
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.0
S.G
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
DASDAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-PL
CREATED: 16-JUN-98 15:36:55
PLOT PAGE 20
TB6565
SHEET 47
CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:26
2000 D-189

(25) CR11504T R/F DUMMY CHEST DEFLECTION 180C
MAX = 9.808E-01 at 56.04 MS MIN = -.6866 at 91.32 MS

AXIS 1

CASDNB Version 1.17.00 - 6-May-1999 Safety Laboratories Department, 610-PL
CREATED: 16-JUN-99 15:38:51

PLOT PAGE 61

TB6565
SHEET 48

METERS/SEC

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 0011504

CR R: 11504 TO: TB6585 DATE: 990818 14:25:28
2000 D-180

* (26) CRI1504I R/F DUMMY PELVIS LONG 1000C
MAX = 3,082 at 139.8 MS MIN = -130.5 at 80.40 MS

AXIS 1

ANOMALY KEY:
* = Wideband data exceeded full-scale
B = Wideband data 200.0% of full scale
A = All data < 22.5% of full scale
M = [illegible] at T-zero

CADAS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, BTD-PL
CREATED: 18-JUN-99 15:26:52

PLOT PAGE 62 TB6585 SHEET 49

G's

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

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

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-196

(27) CR11504T R/F DUMMY PELVIS VERT 1000C
MAX = 196.1 at 71.20 MS MIN = -92.29 at 62.00 MS AXIS 1

CARDS Version 1.17.00 - 6-May-1999 Safety Laboratories Department, 610-PL
CREATED: 18-JUN-99 15:38:55

PLOT PAGE 63 TB6565 SHEET 50

S.G

TIME

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 890818 14:25:28
2000 D-188

(28) CR11504T R/F DUMMY PELVIS LAT 100C
MAX = 18.39 at 59.12 MS MIN = -173.4 at 61.21 MS
AXIS 1

ANOMALY KEY:
* - Wideband data exceeded full scale
* - Wideband data >80.0% of full scale
* - All data < 12.5% of full scale
* - 24 point(s) offset at T=zero

CRDAS Version 1.17.00 - 9-May-1988 Safety Laboratories Department, 8110-PL
CREATED: 18-JUN-89 15:38:57

PLOT PAGE 64 TB6565 SHEET 51

G's

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

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

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:29
2000 D-166

* (10014) CR11504T R/F DUMMY PELVIS RES 1000C AXIS 1

MAX = 290.6 at 70.40 MS MIN = 0.1307 at 1.350 MS

ANOMALY KEY:
a = Hiddenrd data exceeded full scale
b = Hiddenrd data >20.0% of full scale
c = All data < 10.0% of full scale
d = >1 percent of data at T-zero

NOT VALID DATA

G's

400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00

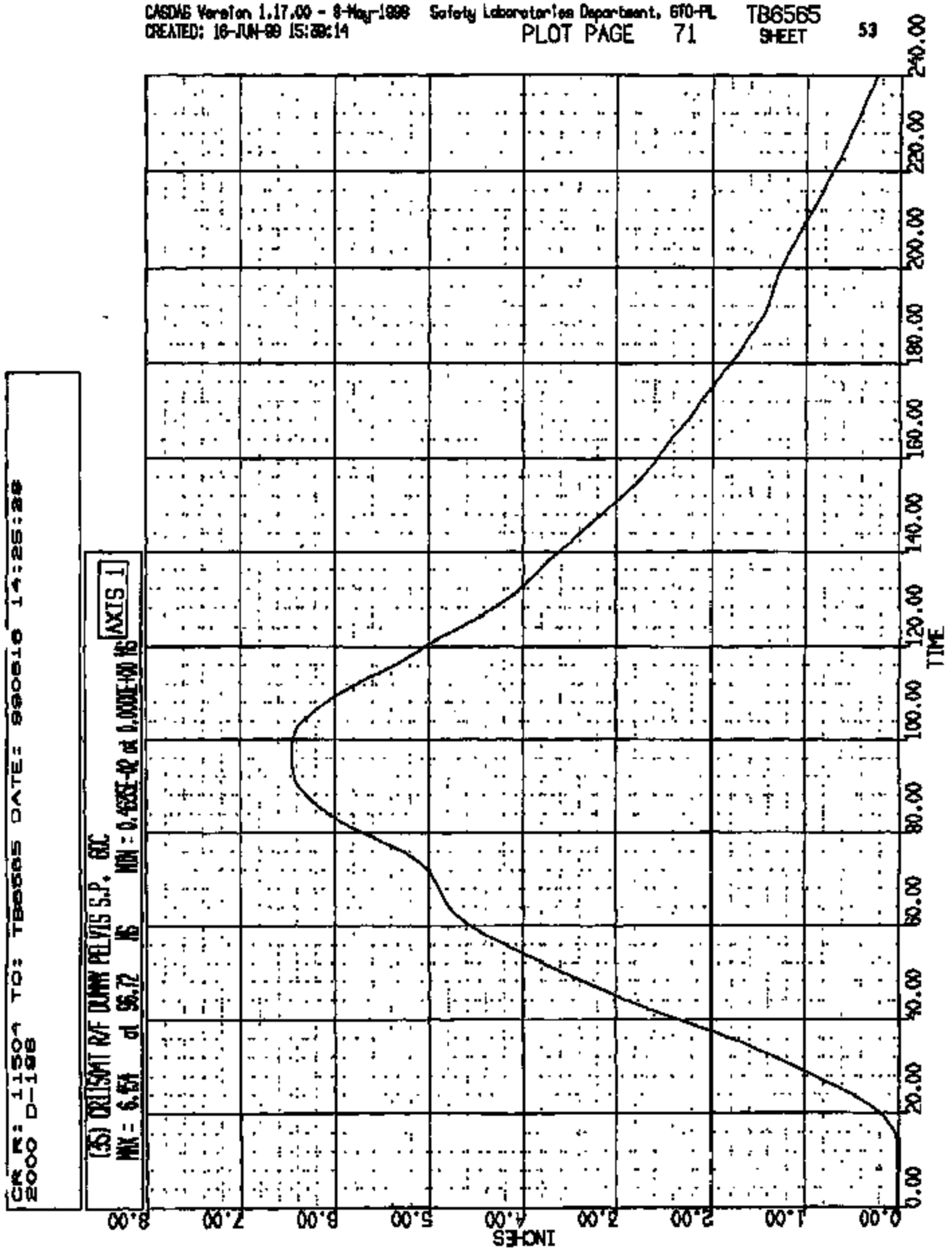
0.00 20.00 40.00 60.00 80.00 100.00 120.00 140.00 160.00 180.00 200.00 220.00 240.00

TIME

CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, OTO-PL
CREATED: 18-JAN-99 15:28:59

PLOT PAGE 22 TB6565 SHEET 52

CRTS 011504


CR R: 11504 TO: TB6565 DATE: 990610 14:25:28
2000 D-198
(35) OXISORBT R/F DUMMY PELVIS S.P. GDC
MAX = 6.654 at 96.72 MS MIN = 0.4635E-02 at 0.0000E+00 MS
AXIS 1
INCHES
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
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

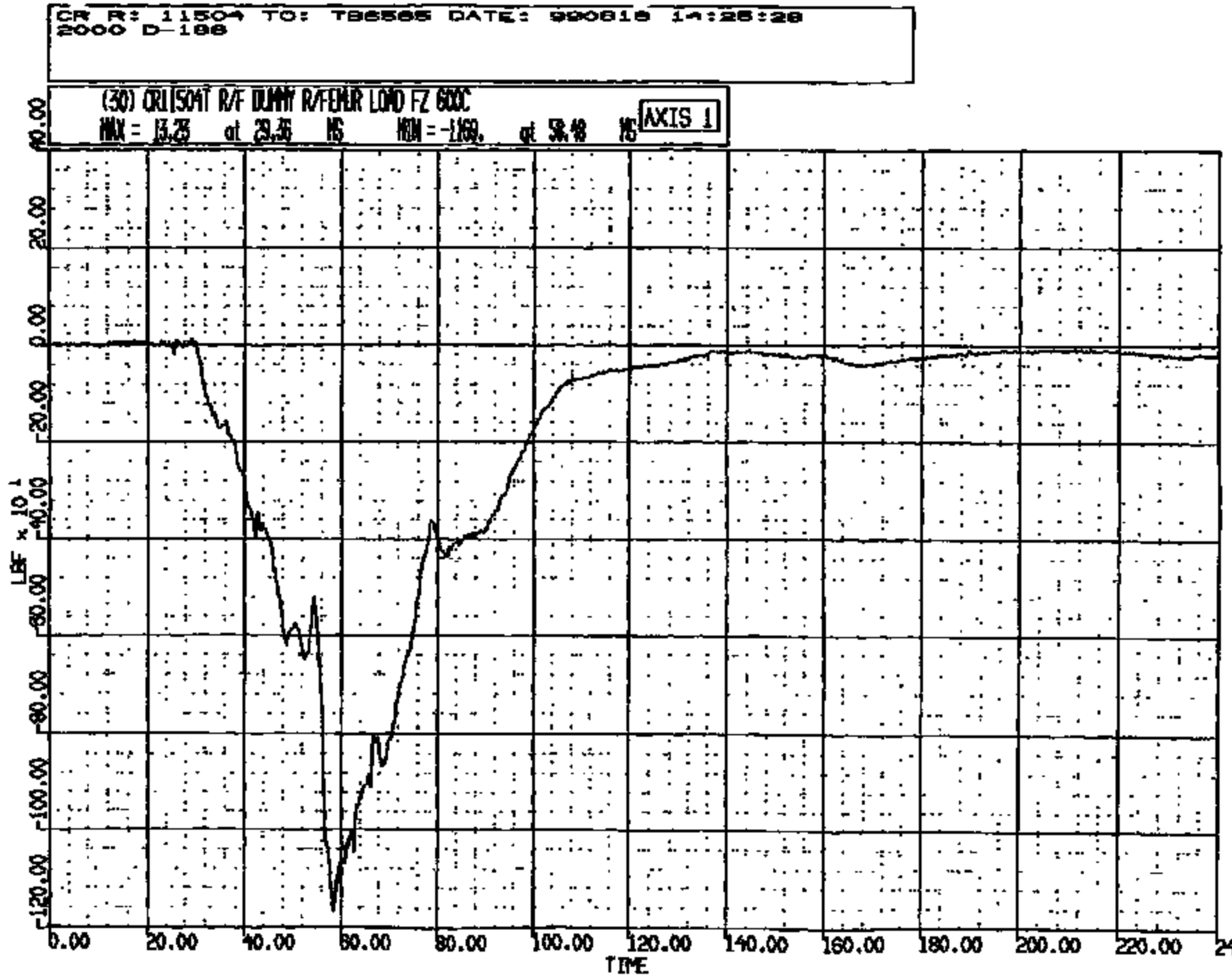
CR R: 11504 TO: TB6565 DATE: 000618 14:25:28
2000 D-185

(29) CR11504T R/F DUMMY L/FEMUR LOAD FZ 600C
MAX = 16.47 at 29.52 MS MIN = -951.0 at 61.68 MS AXIS 1

CARS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6104-PL
CREATED: 18-JUN-98 15:55:00

PLOT PAGE 65 TB6565 SHEET 54

CRTS 0011504



CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990818 14:25:28
2000 D-166

(3A) CRI1504T R/F DUMMY L/KNEE S.P. 60C
MAX = 5.986 at 99.44 MS MIN = -1.966 at 240.0 MS AXIS 1

CHSWB Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 810-PL
CREATED: 18-JUN-99 15:30:12

PLOT PAGE 70 TB6565
SHEET 96

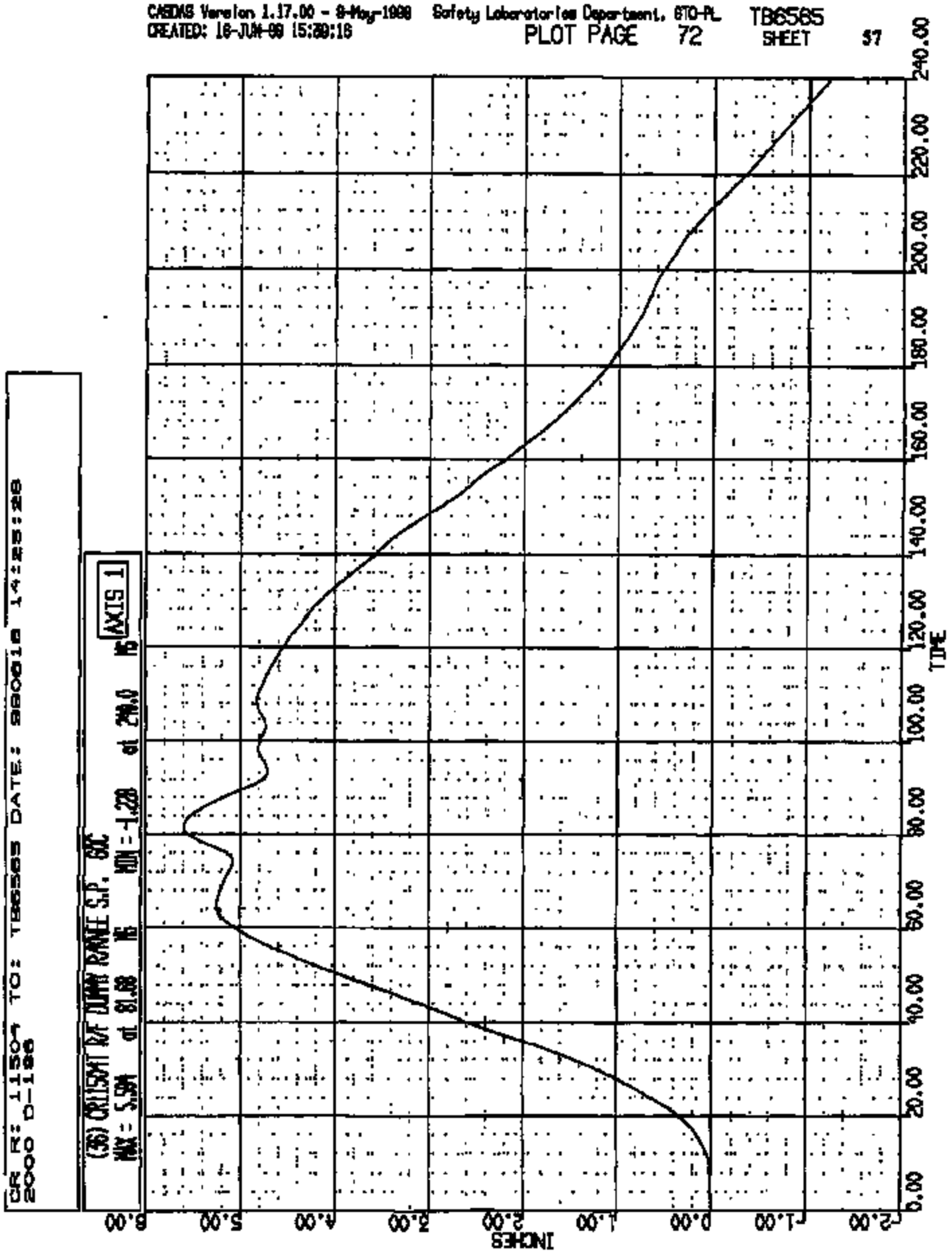
SECN

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

CRTS 0011504


CR R: 11504 TO: TB6585 DATE: 980618 14:25:28
2000 D-196
(36) CRITICAL RF DUMMY RANGE S.P. 60C
MAX = 5.394 at 81.88 MS MIN = -1.228 at 290.0 MS
AXIS 1
INCHES
TIME
8.00
5.00
4.00
2.00
1.00
0.00
-1.00
-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

CR R: 11804 TO: TB6565 DATE: 000618 14:25:28
2000 D-165

(39) CRUISCRAFT R/F DUMMY L/KNEE SN 4000C
MAX = 0.9570 at 30.80 MS MIN = -.4886E-01 at -.7629E-05 MS AXIS 1

CADAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 6TO-PL
CREATED: 18-JUN-99 15:39:28

PLOT PAGE 75 TB6565 SHEET 58

CRTS 001504

CR #: 11504 TO: TB6565 DATE: 990616 14:25:28
2000 D-196

(40) CRUISOMT R/F DUMMY RANGE SM 4000C
MAX = 0.9570 at 30.00 MS MIN = -.4955E-01 at -.7629E-05 MS

AXIS 1

SL TOA

0.7
0.6
0.5
0.4
0.2
0.1
0.0
-0.1

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 011504

CHDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 16-JUN-99 15:38:24

PLOT PAGE 76

TB6565
SHEET 59

CR R: 11504 TO: TB6565 DATE: 920618 14:25:28
2000 D-188

(0) CRC11504 R S HEAD PASS WRT R RKR AT B PL LONG DISP
MAX = 5.973 at 18.00 MS MIN = -.2400E-01 at 2.000 MS AXIS 1

INCHES

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 0011504

CNSDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 19-JUN-98 14:11:00

PLOT PAGE 19 TB6565 SHEET 60

CR R: 11504 TO: TB8585 DATE: 990618 14:25:28
2000 D-198

(0) CRC11504 R S HEAD PASS HRT R RWR AT B PL VERT DISP
MAX = 0.2040 at 2.000 MS MIN = -.3290 at 28.00 MS AXIS 1

INCH

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CADDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 18-JUN-99 14:11:00

PLOT PAGE 20 TB6585 SHEET 61

CRTS 011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-186

(48) CRT1504T DRIVER SOUTB VOLTAGE 1ST ST 4000C
MAX = 9.131 at 13.68 MS MIN = -.2197 at 17.04 MS AXIS 1

CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 18-JUN-99 15:38:43

PLOT PAGE 84 TB6565 SHEET 62

SLTOA

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

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990818 14:23:28
2000 D-188

(49) CR11504T DRIVER SOUTB VOLTAGE 240 ST 4000C
MAX = 22.19 at 109.9 MS MIN = -2.905 at 113.0 MS AXIS 1

VOLTS

25.00
20.00
15.00
10.00
5.00
0.00
-5.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 810-PL
CREATED: 18-JUN-99 15:28:44

PLOT PAGE 85

TB6565 SHEET 63

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990615 14:25:29
2000 D-195

(50) CR11504 DRIVER SOLID CURRENT 1ST ST 4000C
MAX = 2.069 at 13.60 MS MIN = -.1953 at 13.84 MS AXIS 1

CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 6TD-PL
CREATED: 16-JUN-99 15:38:46

PLOT PAGE 86 TB6565 SHEET 64

SAW

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 0011504

CR #: 11504 TO: TB6565 DATE: 990818 14:25:29
2000 D-188

(51) CR11504 DRIVER SQUIB CURRENT 2ND ST 4000C
MAX = 2.754 at 109.5 MS MIN = -.1851 at 133.0 MS AXIS 1

CASDAS Version 1.17.00 - 8-May-1998 Sofeby Laboratories Department, 870-PL
CREATED: 18-JAN-99 15:36:48

PLOT PAGE 87 TB6565 SHEET 63

AMPS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CRTS 0011504

CR R: 11504 TO: TB8585 DATE: 990616 14:25:28
2000 D-188

(52) CR11504T PASSENGER SQUIB VOLTAGE 1ST ST 4000C
MAX = 25.51 at 14.29 MS MIN = -2.563 at 17.04 MS AXIS 1

VOLTS

25.00
20.00
15.00
10.00
5.00
0.00
-5.00

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

CHRONS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB8585
CREATED: 18-JUN-99 15:03:48 PLOT PAGE 88 SHEET 66

CRTS 001504

CR R: 11504 TO: TB6566 DATE: 990618 14:25:28
2000 D-188

(53) CRIT504T PASSENGER 900TB VOLTAGE 2ND ST 4000C
MAX = 27.81 at 16.80 MS MIN = -2.295 at 17.01 MS AXIS 1

CISDRS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 16-JUN-99 15:28:51

PLOT PAGE 89 TB6565 SHEET 67

VOLTS

25.00
20.00
15.00
10.00
5.00
0.00
-5.00

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

CRTS 001504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:29
2000 D-196

(51) CR11504T PASSENGER SQUAB CURRENT 1ST ST 4000C
MAX = 2.649 at 13.60 MS MIN = -.2075 at 17.04 MS AXIS 1

AMPS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 870-PL TB6565
CREATED: 18-JUN-99 15:39:53 PLOT PAGE 90 SHEET 68

CRTS 0011504

CR R: 11504 TO: TB6585 DATE: 000818 14:25:28
2000 D-186

(55) CR11504T PASSENGER SOUTH CURRENT 240 ST 4000C
MAX = 2.612 at 16.32 MS MIN = -.3662E-01 at 18.56 MS AXIS 1

AMPS

7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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

CADDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-RL TB6565
CREATED: 18-JUN-00 15:38:58 PLOT PAGE 91 SHEET 69

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990816 14:25:29
2000 D-166

(42) CR11504T C/RMD LONG 60C
MAX = 126.0 at 21.04 MS MIN = -352.2 at 15.44 MS AXIS 1

CASDAS Version 1.17.00 - 9-May-1999 Berkeley Laboratories Department, 6110-PL
CREATED: 16-JUN-99 15:03:29

PLOT PAGE 78 TB6565 SHEET 70

S.G

00.400
00.002
00.002
00.001
00.0
00.001
00.002
00.002
00.400

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 011504

CR R: 11504 TO: T86565 DATE: 990618 14:25:28
2000 D-196

(43) CRI1504T C/MMO VERT 60C
MAX = 138.0 at 28.56 MS MIN = -162.1 at 22.80 MS AXIS 1

g's

TIME

CADAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 6ND-PL
CREATED: 18-JUN-98 15:28:31

PLOT PAGE 79 TB6565 SHEET 71

CRTS 001504

CR R: 11504 TO: TB6565 DATE: 990616 14:26:28
2000 D-185

(44) CR11504T C/RAD LAT SOC
MAX = 53.62 at 30.16 MS MIN = -66.25 at 27.28 MS AXIS 1

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

S.G

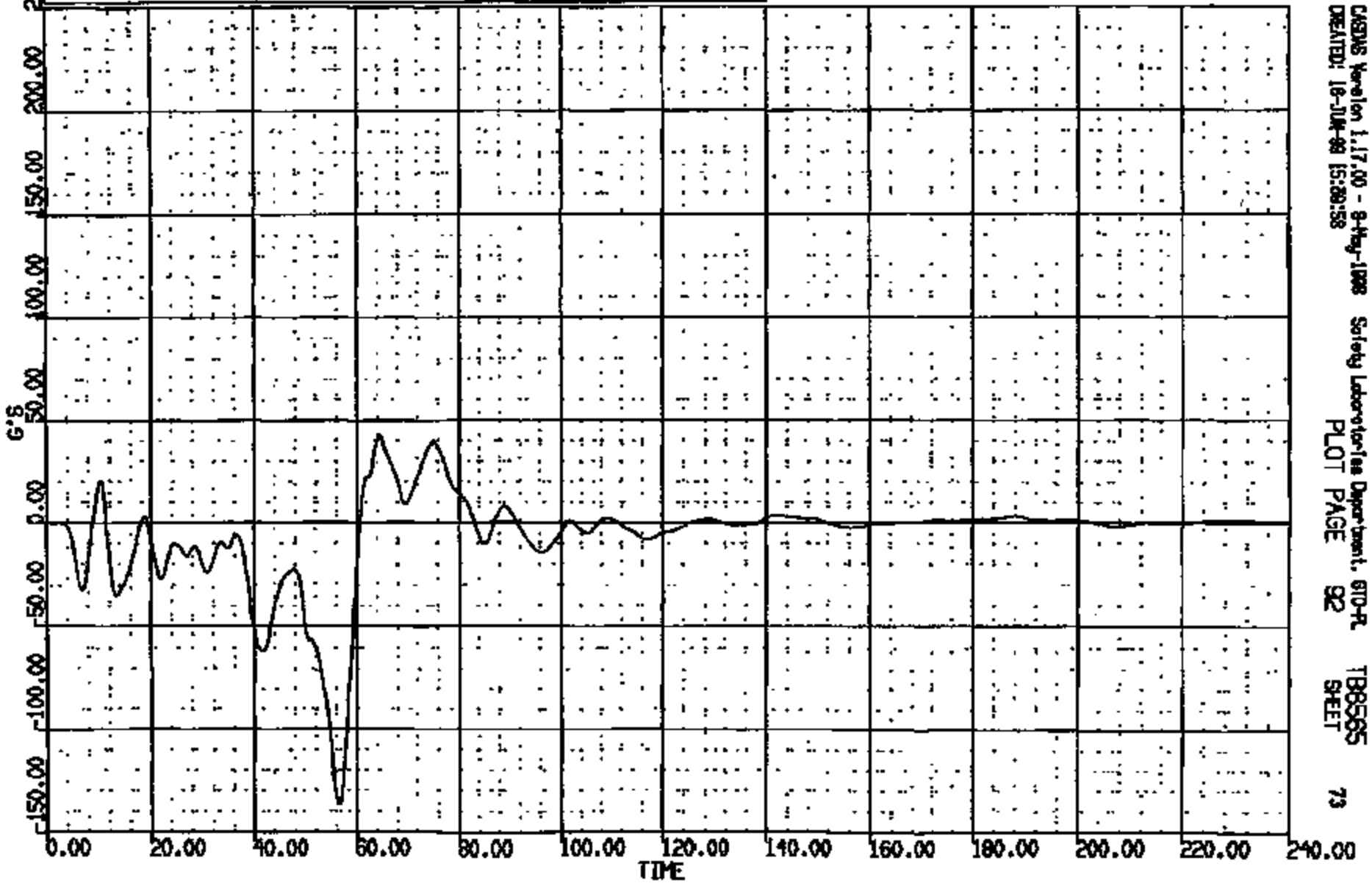
CRTS 0011504

CREATED: 16-JUN-99 15:39:34 CHDAS Version 1.17.09 - 8-May-1998 Safety Laboratories Department, 070-PL

PLOT PAGE 80 TB6565 SHEET 72

CR R: 11504 TO: TB6565 DATE: 990615 14:25:28
2000 D-166

(56) CR11504T C/F FLOOR PAN @ RCH #1 LONG 60C
MAX = 42.65 at 61.48 MS MIN = -157.1 at 56.56 MS AXIS 1



CADAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 610-HR
CREATED: 16-JUN-99 15:30:58
PLOT PAGE 92
TB6565
SHEET 73

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-186

(57) CRITICAL C/F FLOOR PAN @ RCH #1 VERT 60C
MAX = 31.52 at 40.08 MS MIN = -36.07 at 63.68 MS AXIS 1

CADDS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 18-JUN-99 15:40:01

PLOT PAGE 93 TB6565 SHEET 74

G's

TIME

CRTS 0011504

CR R: 11504 TO: TB6585 DATE: 980818 14:25:28
2000 D-188

(58) ORITSOAT C/F FLOOR PAN @ RCM #1 LAT 60C
MAX = 37.10 at 52.24 MS MIN = -29.55 at 36.24 MS AXIS 1

G's

50.00
40.00
30.00
20.00
10.00
0.0
-10.00
-20.00
-30.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 810-PL
CREATED: 18-JUN-98 15:40:03

PLOT PAGE 94 TB6585 SHEET 15

CRTS 011504

CR R: 11504 TO: TB6565 DATE: 990616 14:25:25
2000 D-196

(45) CR11504T ENGINE TRANS TOP LONG 60C
MAX = 35.14 at 49.92 MS MIN = -135.1 at 32.08 MS AXIS 1

CRASHG Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL TB6565
CREATED: 16-JUN-99 15:38:38 PLOT PAGE 81 SHEET 76

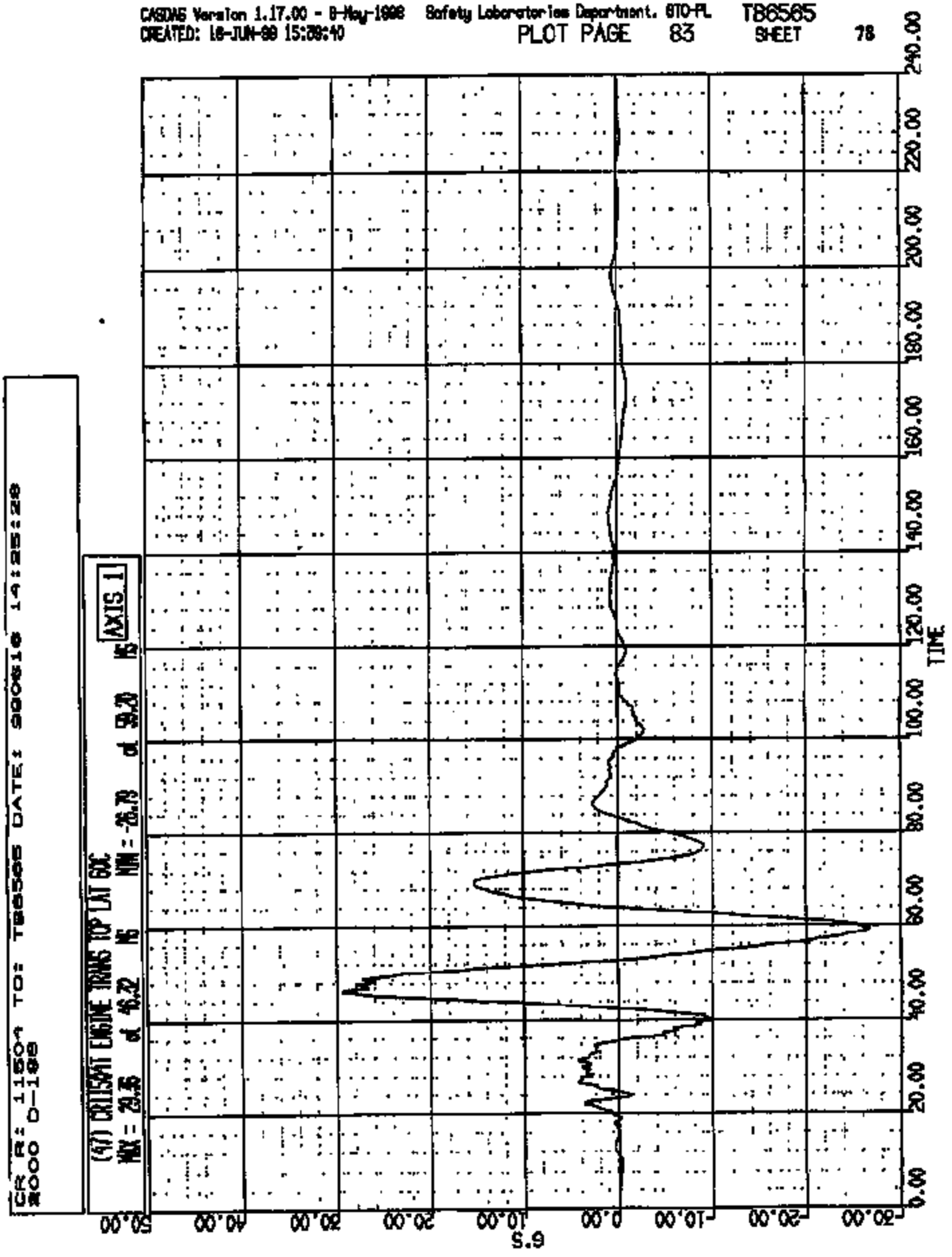
CRTS 0011504

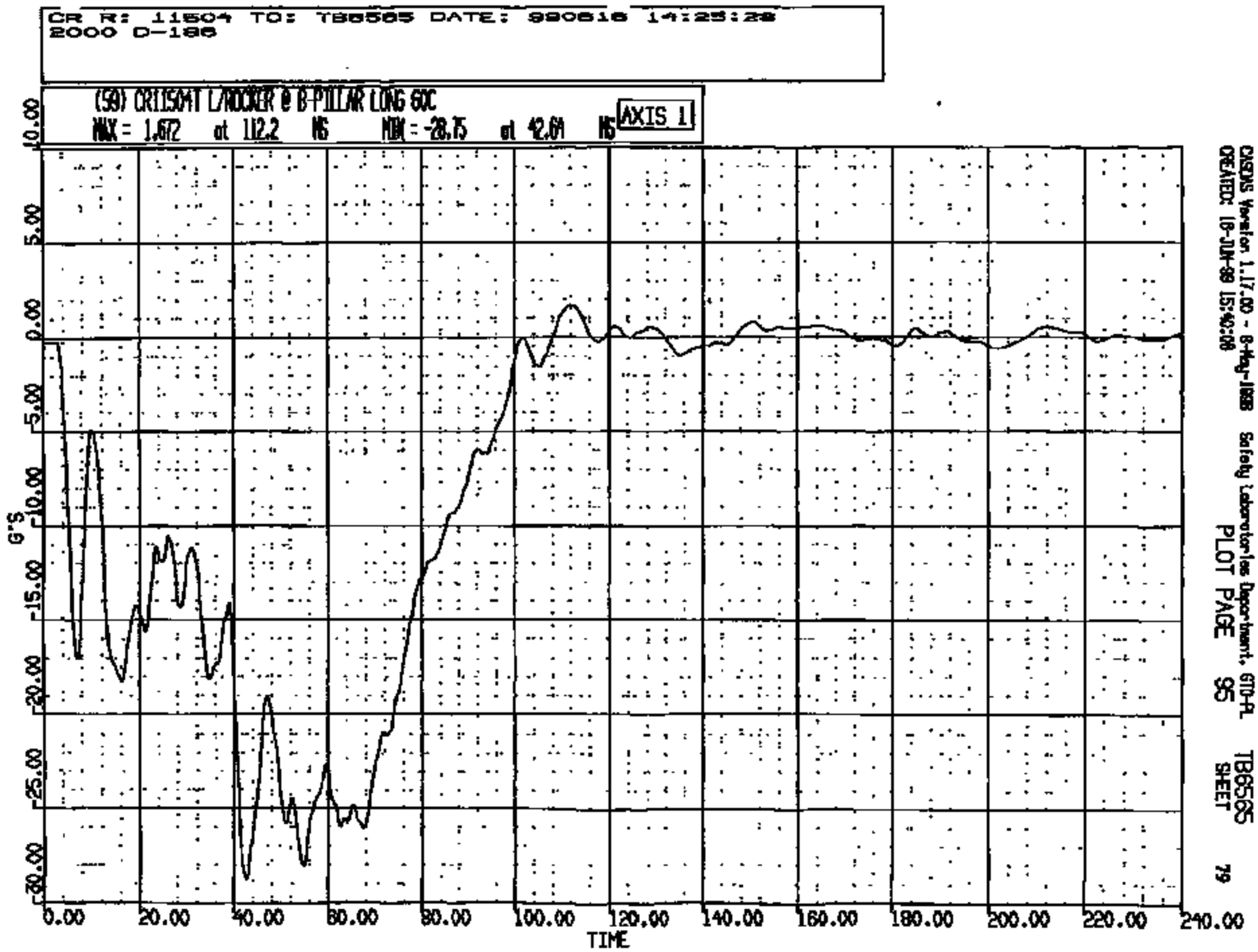
CR R: 11504 TO: TR8565 DATE: 980616 14:25:28
2000 D-188

(46) CR11504T ENGINE MRANS TOP VERT 60C
MAX = 23.63 at 37.20 MS MIN = -16.66 at 30.56 MS AXIS 1

CRASHS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TR8565
CREATED: 16-JUN-98 15:28:39 PLOT PAGE 82 SHEET 77

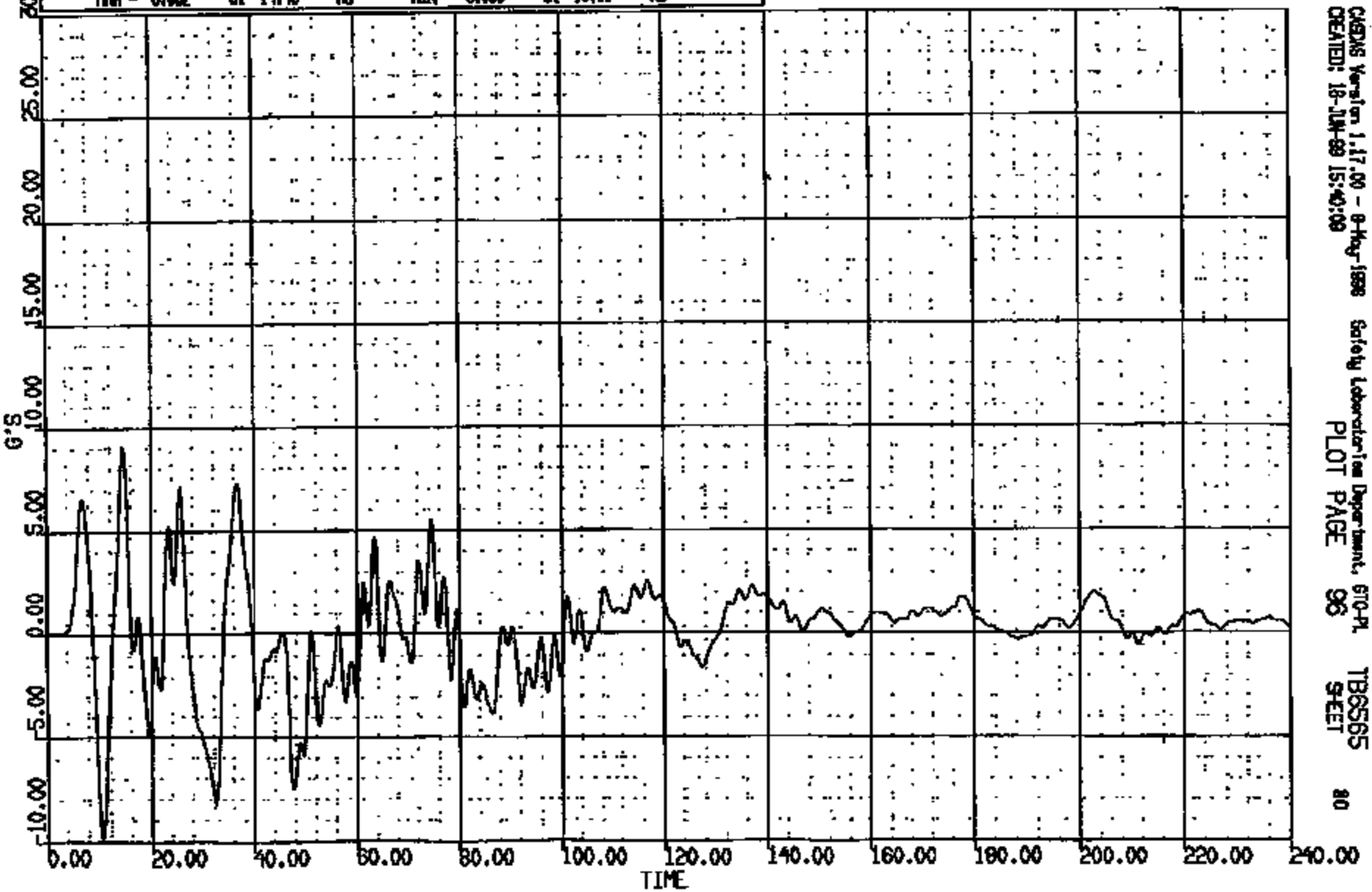
CRTS 0011504


CR R: 11504 TO: T86565 DATE: 980618 14:25:28
2000 D-198
(47) CRUISMAT ENGINE TRANS TOP LAT 60C
MAX = 29.36 at 46.32 MS MIN = -26.79 at 89.20 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
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
S.9


CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-186
(59) CRITSMT L/ROCKER @ B-PILLAR LONG 60C
MAX = 1.672 at 112.2 MS MIN = -28.75 at 42.69 MS
AXIS 1
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
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 011504
CASDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 18-JUN-98 15:40:08
PLOT PAGE 95
TB6565
SHEET 79

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-186

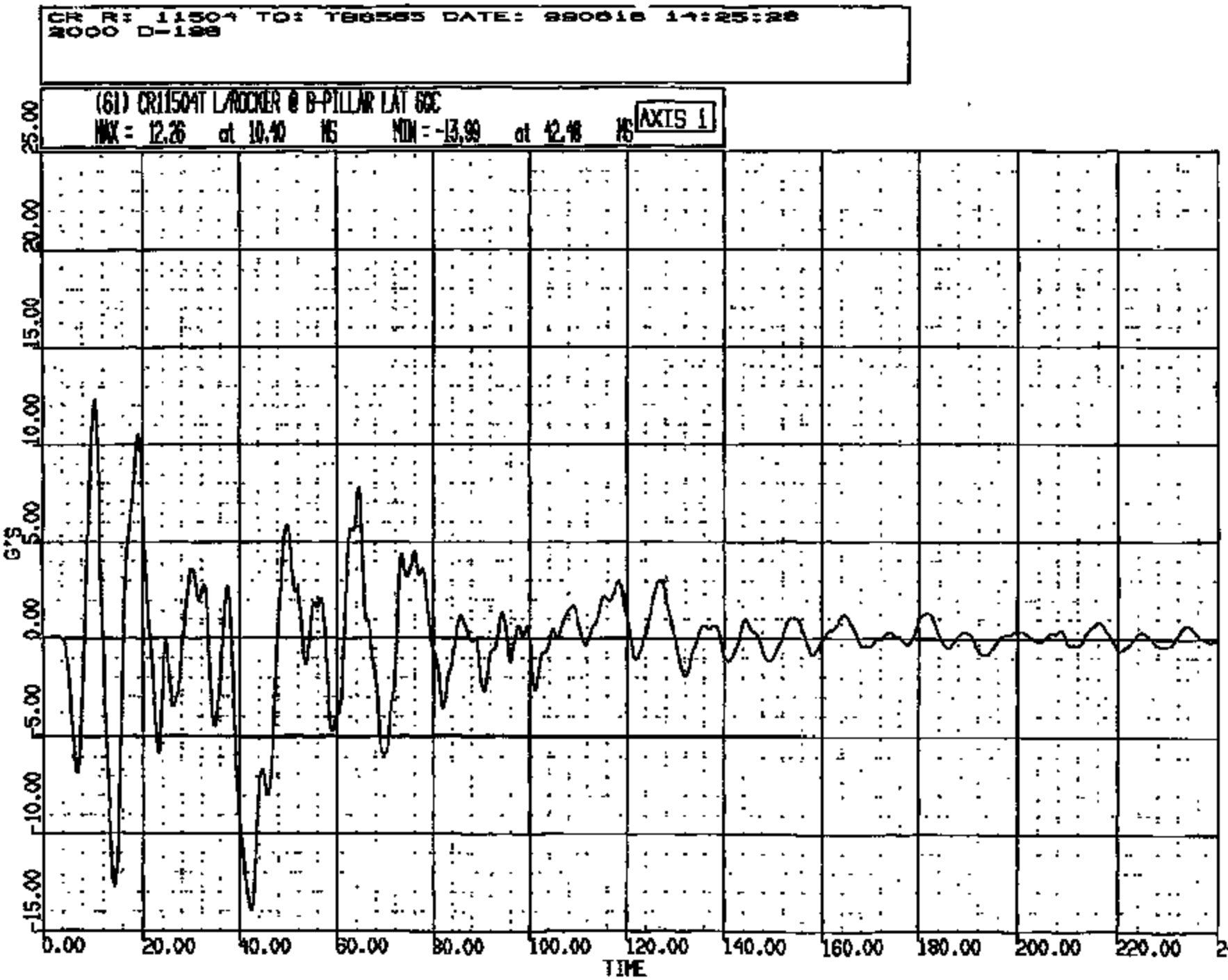
(60) CRITSDAT L/HOCKER @ B-PILLAR VERT 60C
MAX = 9.082 at 14.48 MS MIN = -9.869 at 10.56 MS AXIS 1



CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 18-JUN-99 15:40:09

PLOT PAGE 96 TB6565 SHEET 80

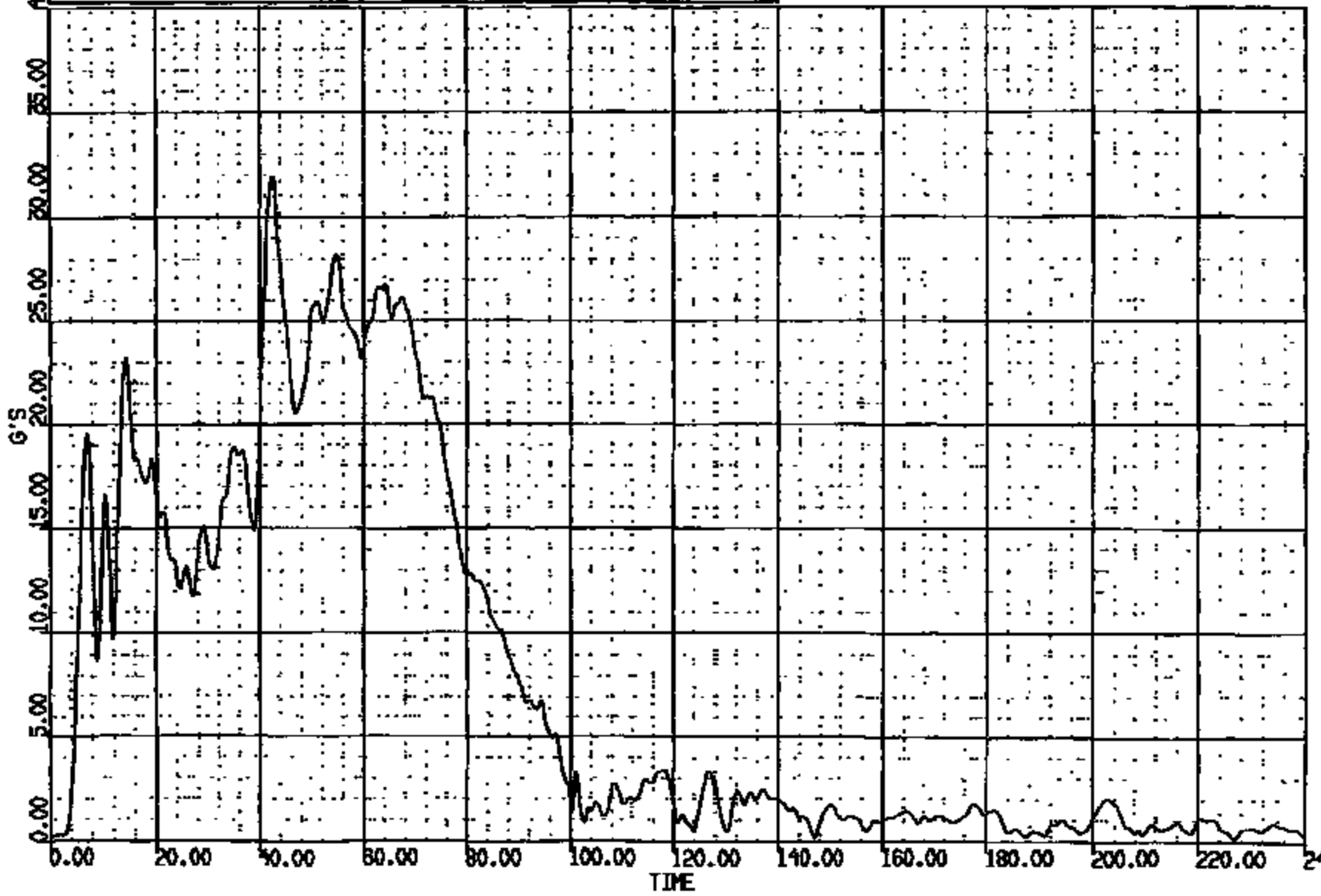
CRTS 011504


CR R: 11504 TO: TB6565 DATE: 980618 14:25:28
2000 D-198
(61) CR11504T LAROCKER @ B-PILLAR LAT 60C
MAX = 12.26 at 10.40 MS MIN = -13.99 at 12.46 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
CARDS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 15-JUN-98 15:40:12
PLOT PAGE 97
TB6565
SHEET 81

CRTS 011504

CR R: 11504 TO: TB6565 DATE: 930618 14:25:28
2000 0-180

(10015) CR11504T L/ROCKER @ B-PILLAR RES 60C
MAX = 31.96 at 42.56 MS MIN = 0.1502 at 147.0 MS AXIS 1



CARDS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL
CREATED: 18-JUN-98 15:37:01
PLOT PAGE 23 TB6565 SHEET 82

CRTS 011504

CR R: 11504 TO: TB6585 DATE: 980618 14:25:28
2000 D-186

(62) CR11504T R/ROCKER @ B-PILLAR LONG GOC
MAX = 0.3807 at 111.6 MS MIN = -32.57 at 54.16 MS AXIS 1

G's

5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
-35.00

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

CARDS Version 1.17.09 - 8-May-1998 Safety Laboratories Department, 810-AL
CREATED: 18-JUN-98 15:40:13 PLOT PAGE 98 TB6585 SHEET 83

CRTS 001504

CR R: 11504 TO: TB6565 DATE: 990818 14:25:28
2000 D-188

(63) CR11504T R/ROCKER @ B-PILLAR VERT 60C
MAX = 11.09 at 14.56 MS MIN = -10.35 at 10.88 MS AXIS 1

G's

25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00

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

CHEKMS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 870-PL
CREATED: 18-JUN-99 15:40:15

PLOT PAGE 99 TB6565 SHEET 84

CRTS 0011504

CR R: 11504 TO: TB6585 DATE: 990618 14:25:28
2000 D-180

(64) CR11504T R/ROCKER @ B-PILLAR LAT 60C
MAX = 14.67 at 56.88 MS MIN = -15.69 at 10.88 MS AXIS 1

20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
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

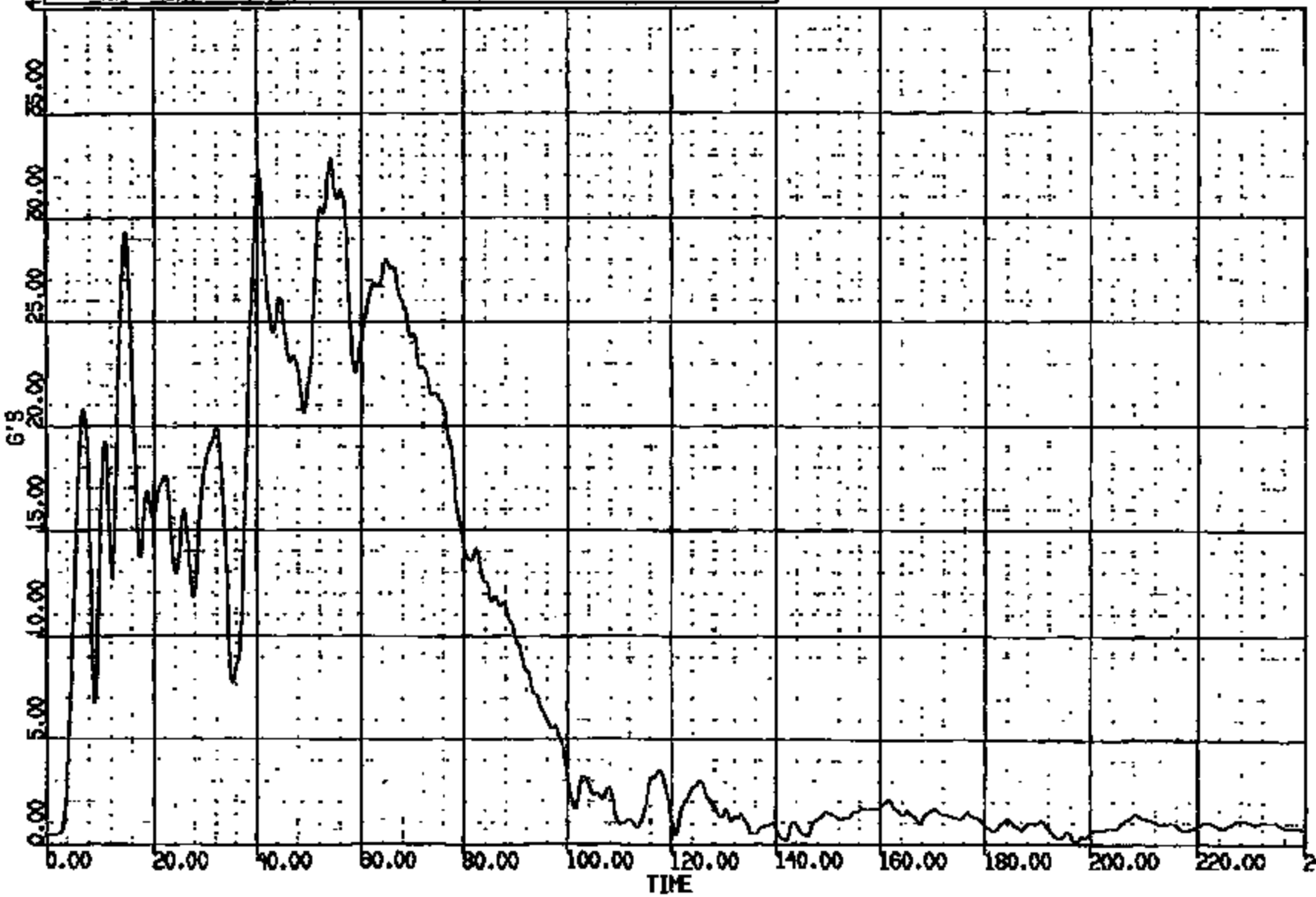
CRDAS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 610-PL
CREATED: 18-JUN-99 15:40:18

PLOT PAGE 100 TB6585
SHEET 85

CRTS 011504

CR #: 11504 TO: TB6565 DATE: 990616 14:25:28
2000 D-188

(10016) DRIVER RH ROCKER @ B-PILLAR RES 60C
MAX = 32.85 at 54.21 MS MIN = 0.9705E-01 at 196.7 MS AXIS 1



CARDS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 670-PL
CREATED: 18-JUN-99 15:37:02 PLOT PAGE 24 TB6565 SHEET 56

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 890818 14:25:28
2000 D-188

(41) CR11504T ALTERNATE T-ZERO SN 4010C
MAX = 0.3570 at -.7629E-05 MS MIN = -.4385E-01 at 153.6 MS

AXIS 1

SLTOA

7.00
8.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00

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 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 18-JUN-99 15:58:28

PLOT PAGE 77 TB6565 SHEET 87

CRTS 011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:28
2000 D-185

(0) CRC11504 L ARR AT B PLR PART L GND REF LONG DISP
MAX = 25.08 at 77.00 MS MIN = 0.0000E+00 at 0.0000E+00 MS AXIS 1

INCHES

0.00
5.00
10.00
15.00
20.00
25.00
30.00
35.00
40.00

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 1.17.00 - 9-May-1999 Safety Laboratories Department, 970-PL TB6565
CREATED: 18-JUN-99 14:10:50 PLOT PAGE 3 SHEET 88

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 980618 14:25:28
2000 D-188

(0) CRC11504 L RWR AT B PLR WRT L GND REF VERT DISP
MAX = 0.2650 at 40.00 MS MIN = -1.570 at 181.0 MS AXIS 1

INCHES
0.3
0.2
0.1
0.0
-0.1
-0.2

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

CASIAS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, GTO-PL
CREATED: 18-JUN-98 14:10:52

PLOT PAGE 6

TB6565
SHEET 89

CRTS 0011504

CR R: 11504 TO: TB6565 DATE: 990618 14:25:29
2000 D-186

(0) CRC11504 R INR AT B PLR MRT R END REF LONG DISP
MAX = 22.86 at 76.00 MS MIN = 0.000E+00 at 0.000E+00 MS AXIS 1

INCHES

40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00

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

CRTS 0011504

CASDYNA Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL TB6565
CREATED: 16-JUN-99 14:10:49 PLOT PAGE 1 SHEET 90

CR R: 11504 TO: T86503 DATE: 990818 14:25:28
2000 D-166

(0) CRC11504 R RRR AT B PLR HRT R GND REF VERT DISP
MAX = 0.4390 at 78.00 MS MIN = -1.855 at 187.0 MS AXIS 1

INCHES

8.00
5.00
4.00
2.00
2.00
1.00
0.00
-1.00
-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

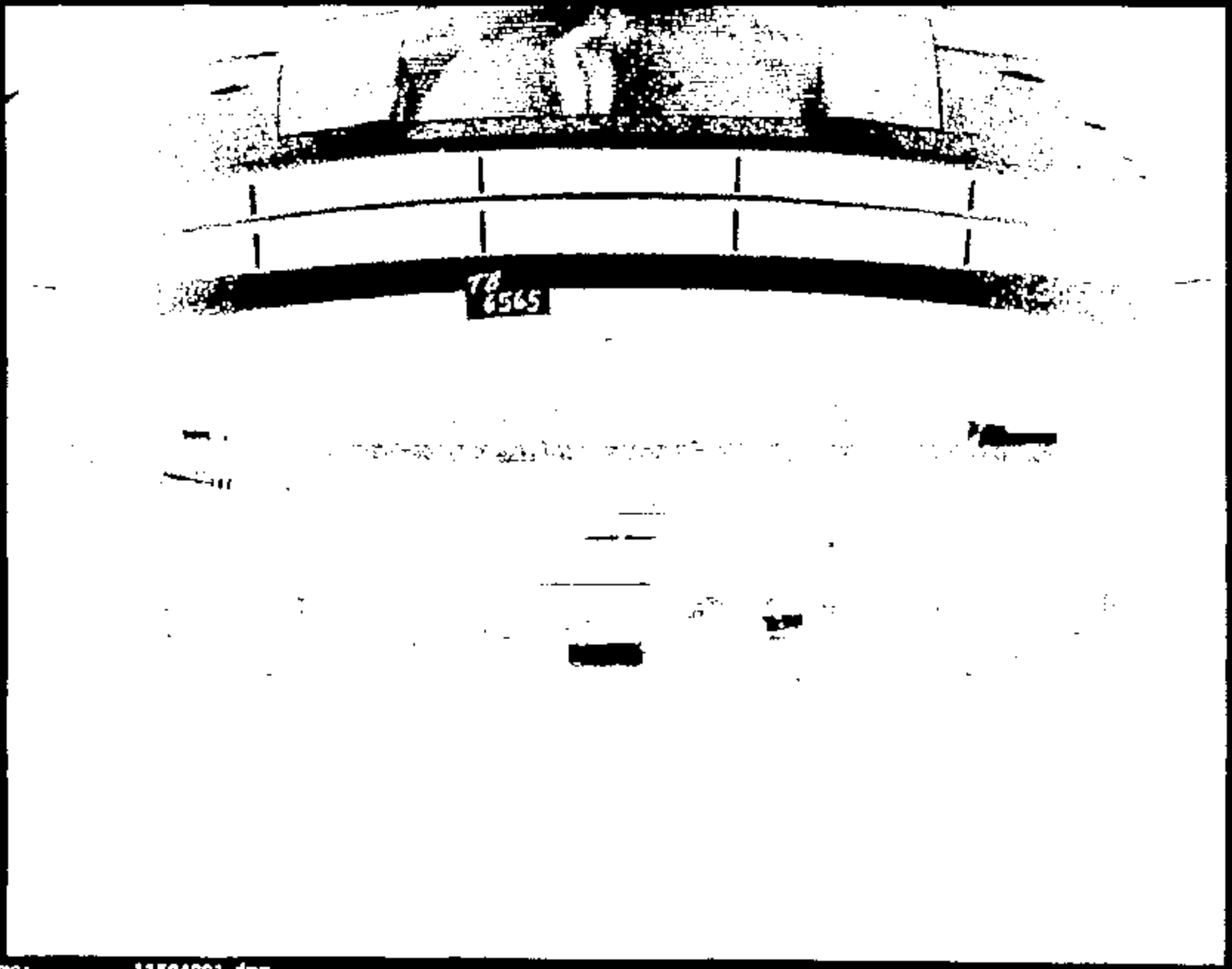
TIME

CRASH Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 670-PL
CREATED: 18-AUG-99 14:10:50

PLOT PAGE 4

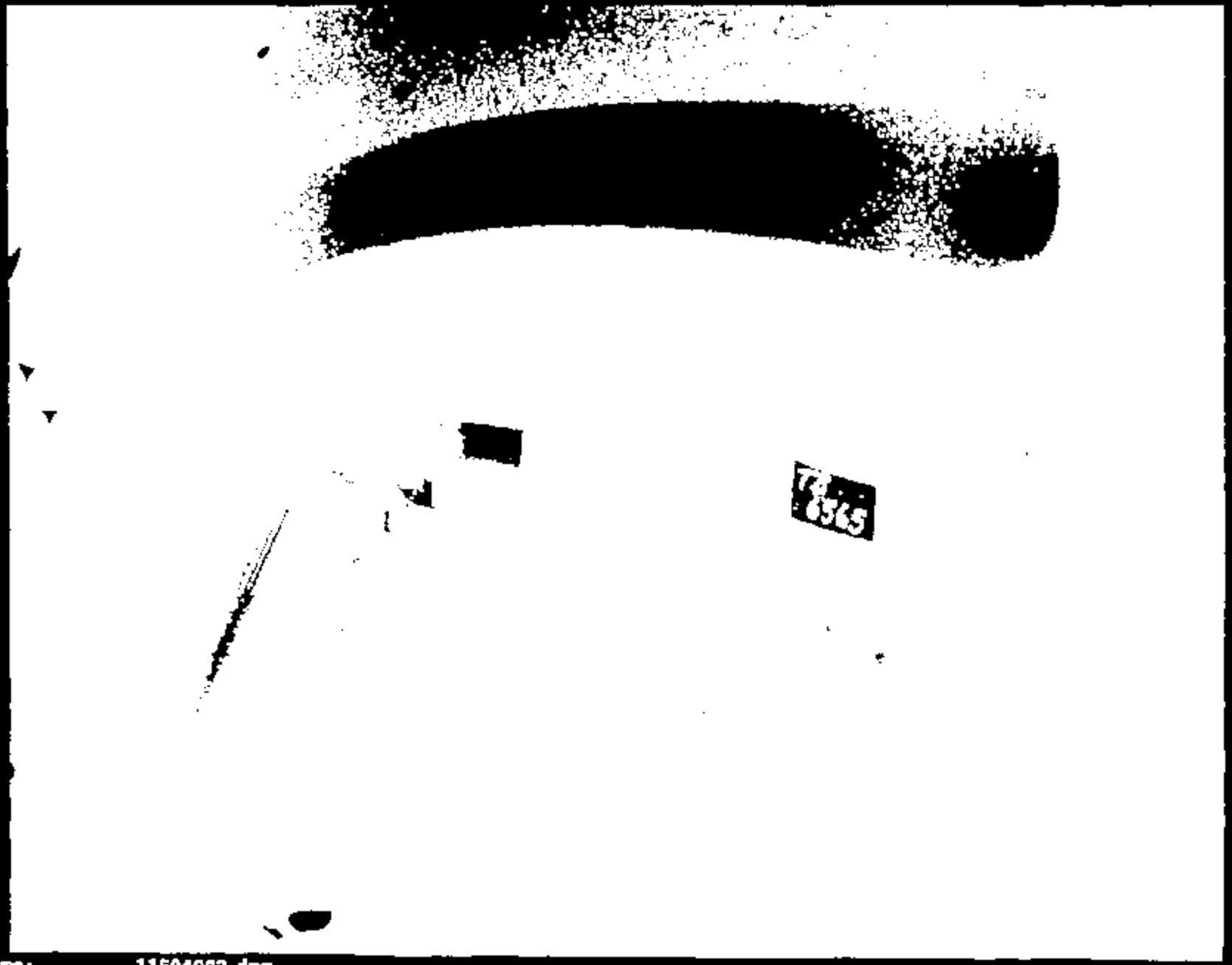
T86565
SHEET 91

CRTS 0011504



Name: 11504001.jpg

CRTS 0011504



Name: 11504002.jpg

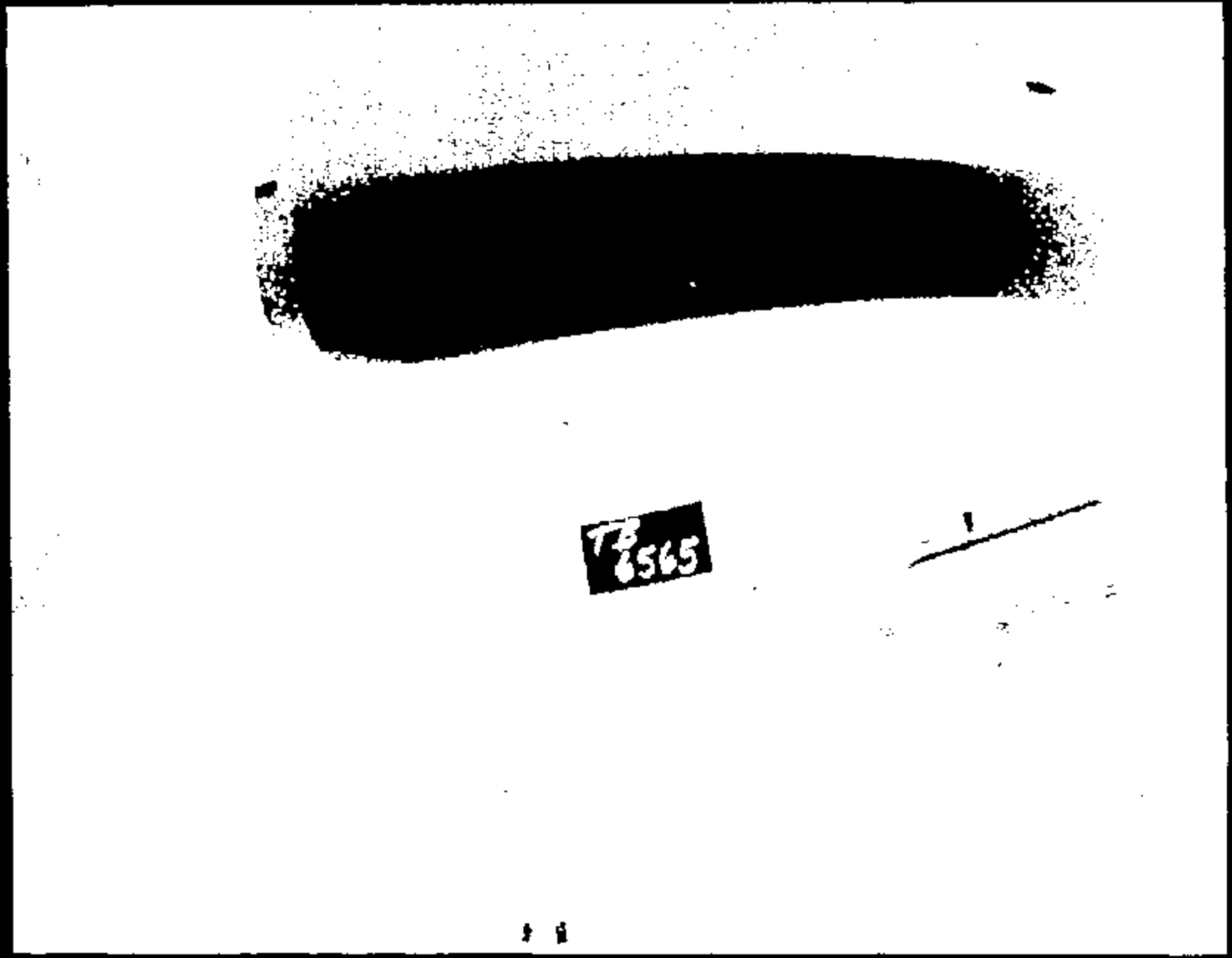
CRTS 0011504

Name: 11504003.jpg

CRTS 0011504

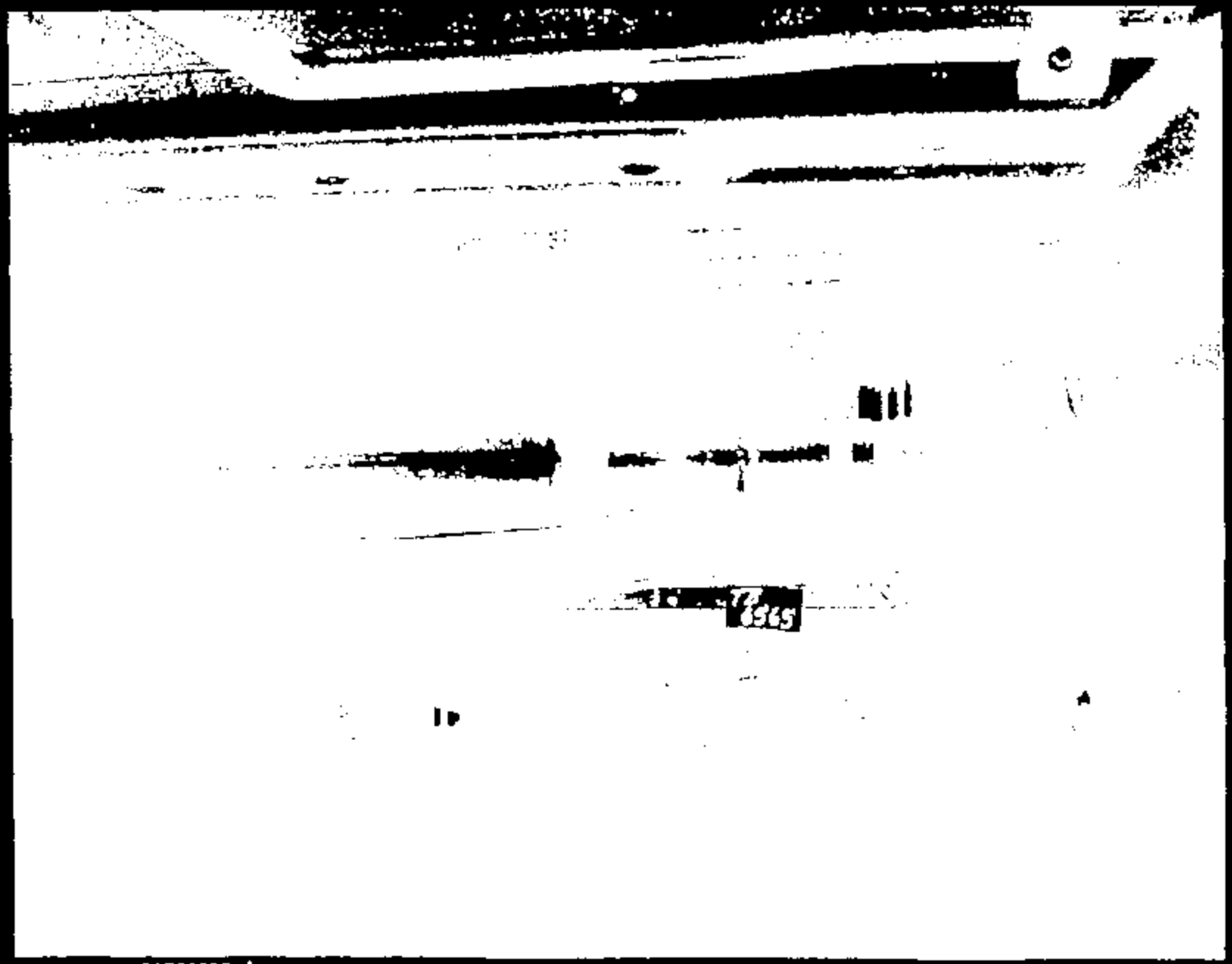
Name: 11504004.jpg

CRTS 0011504



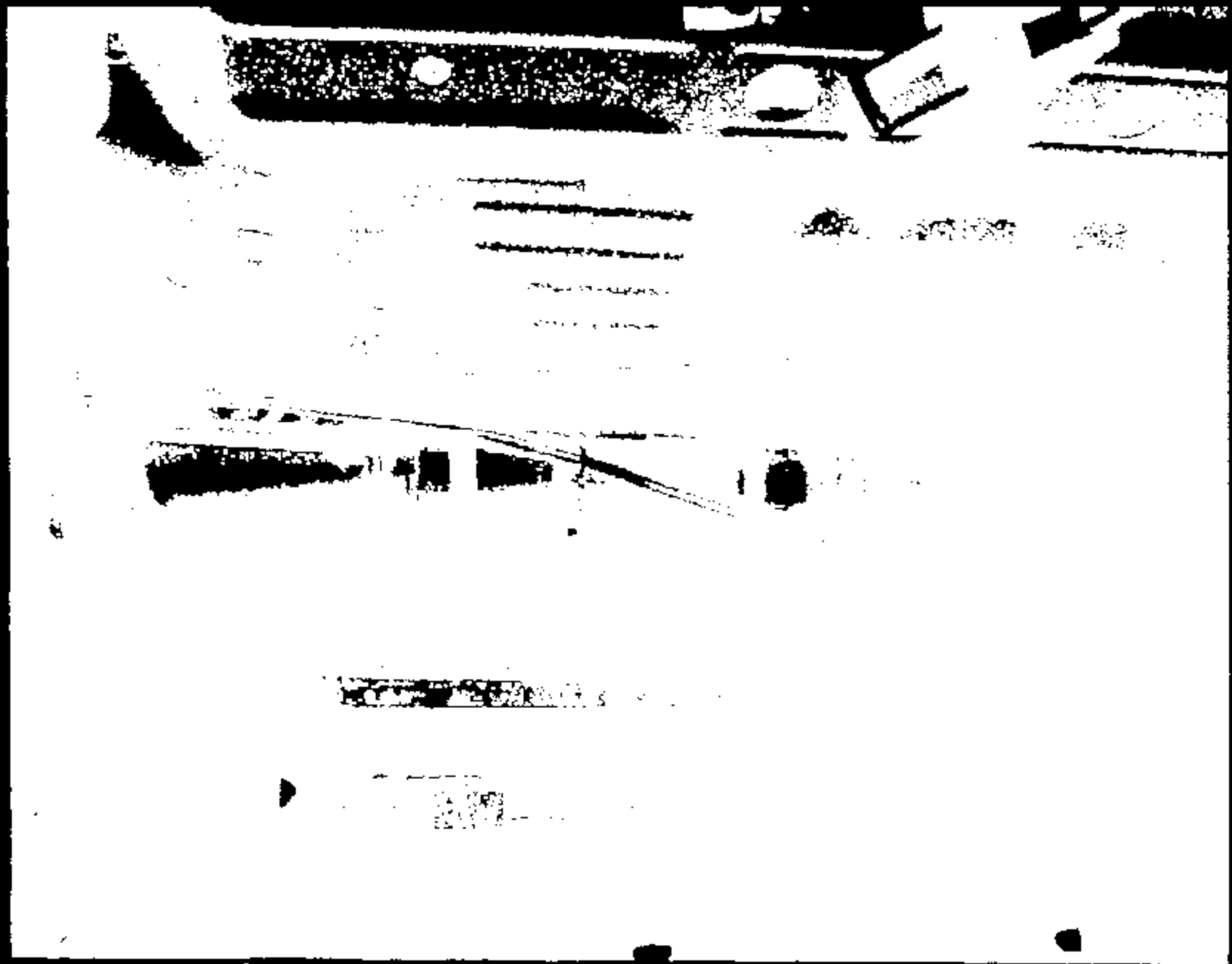
Name: 11504005.jpg

CRTS 001504

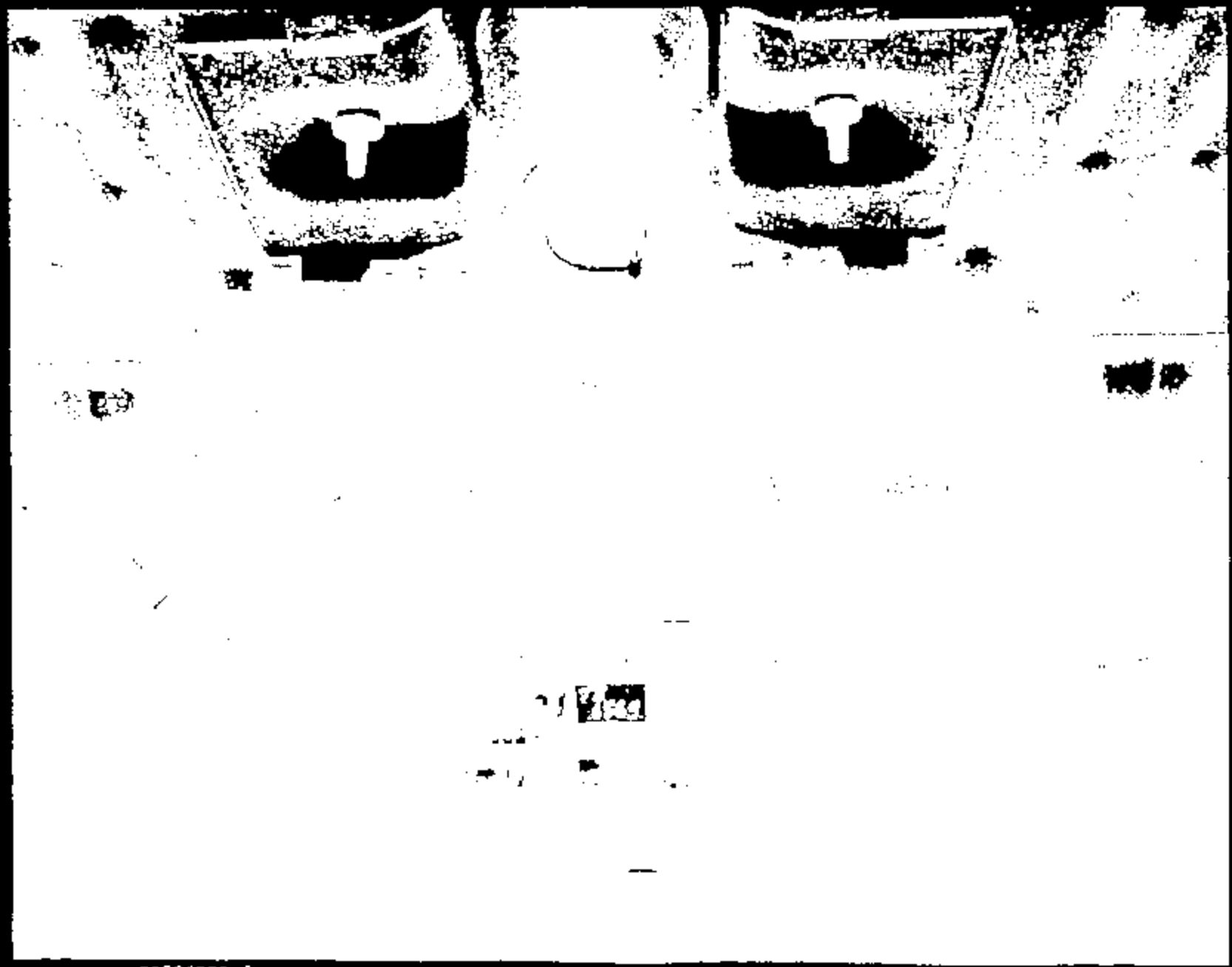


Name: 11504006.jpg

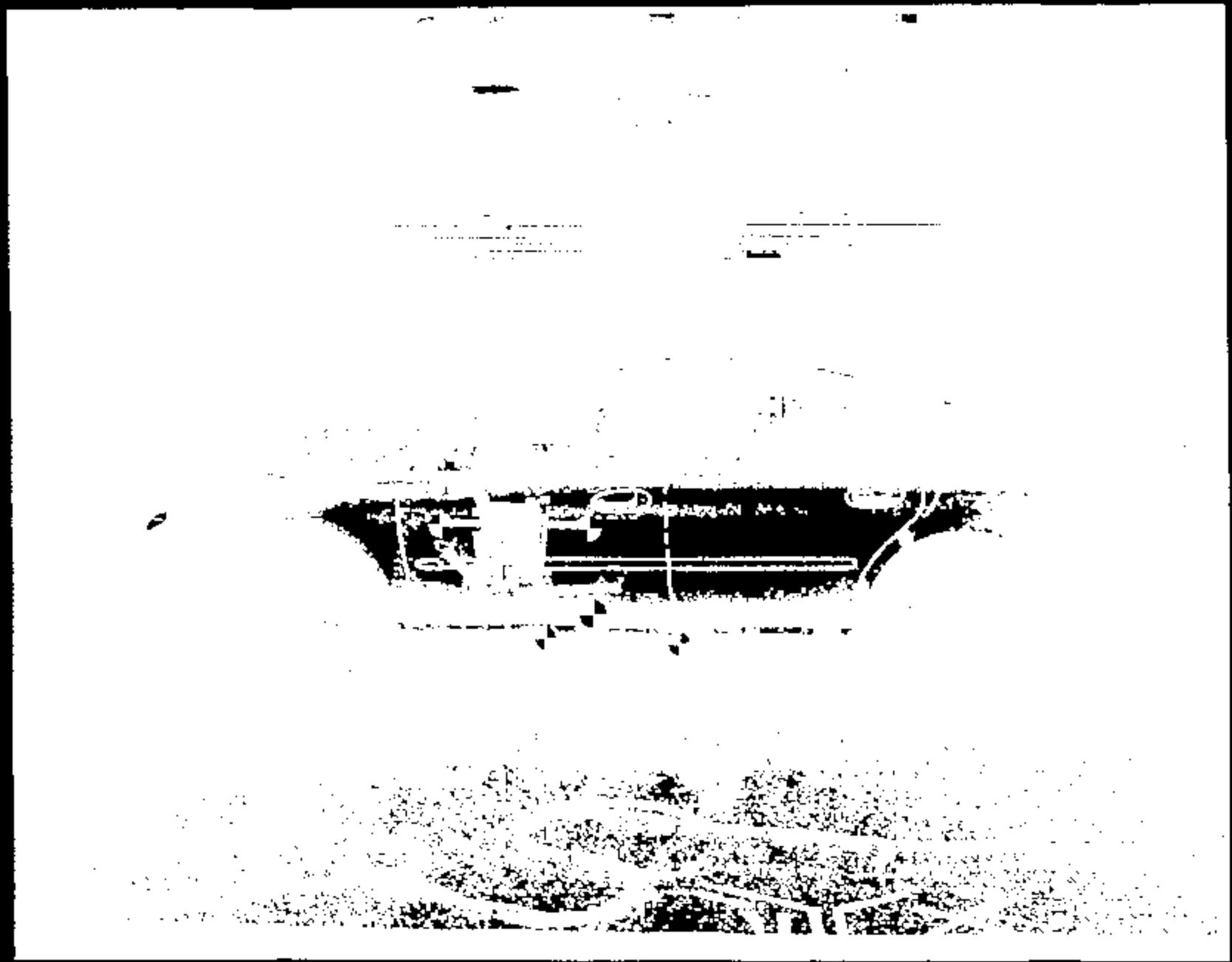
CRTS 011504



Name: 11504007.jpg



Name: 11504008.jpg

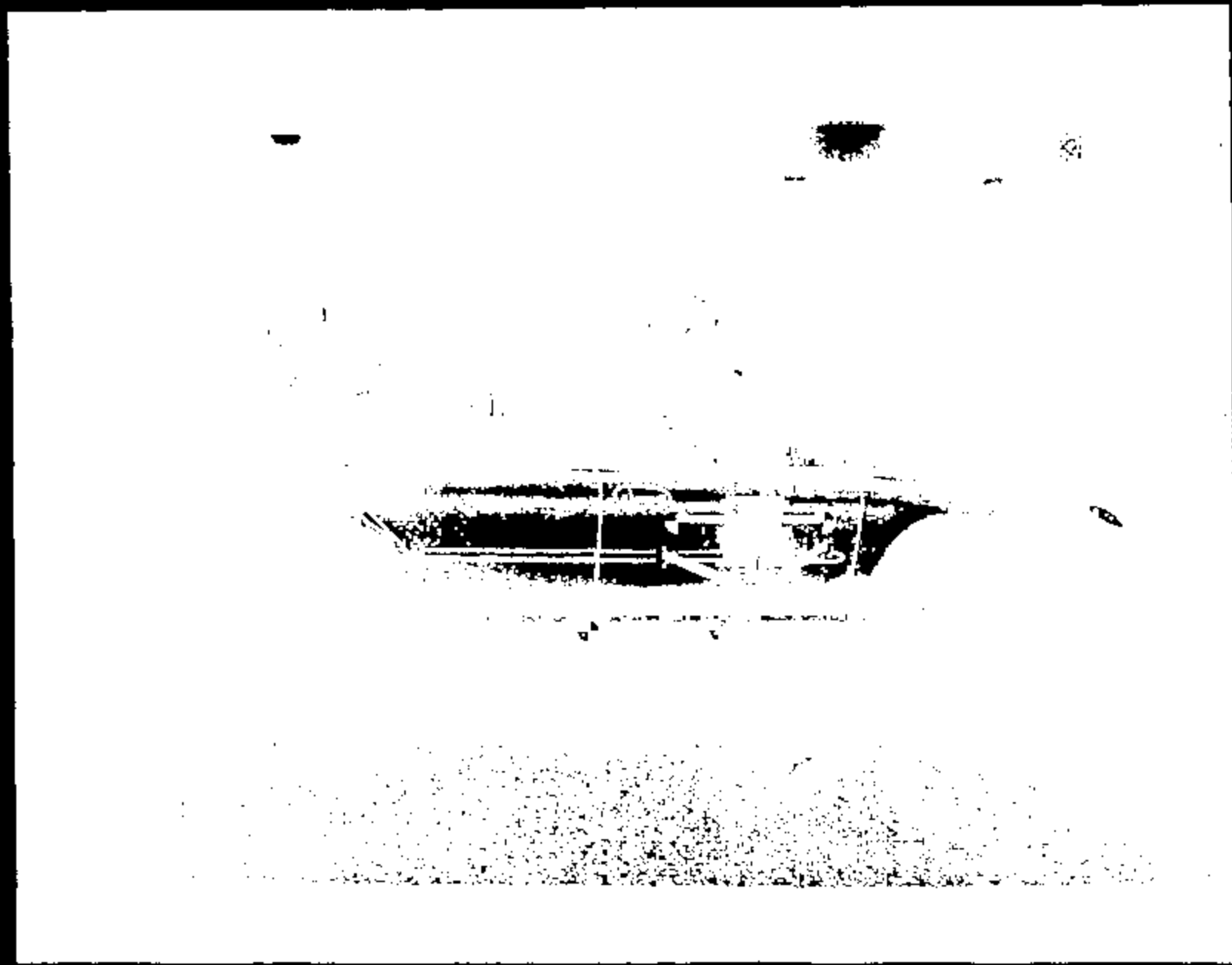


Name: 11504009.jpg

CRTS 001504

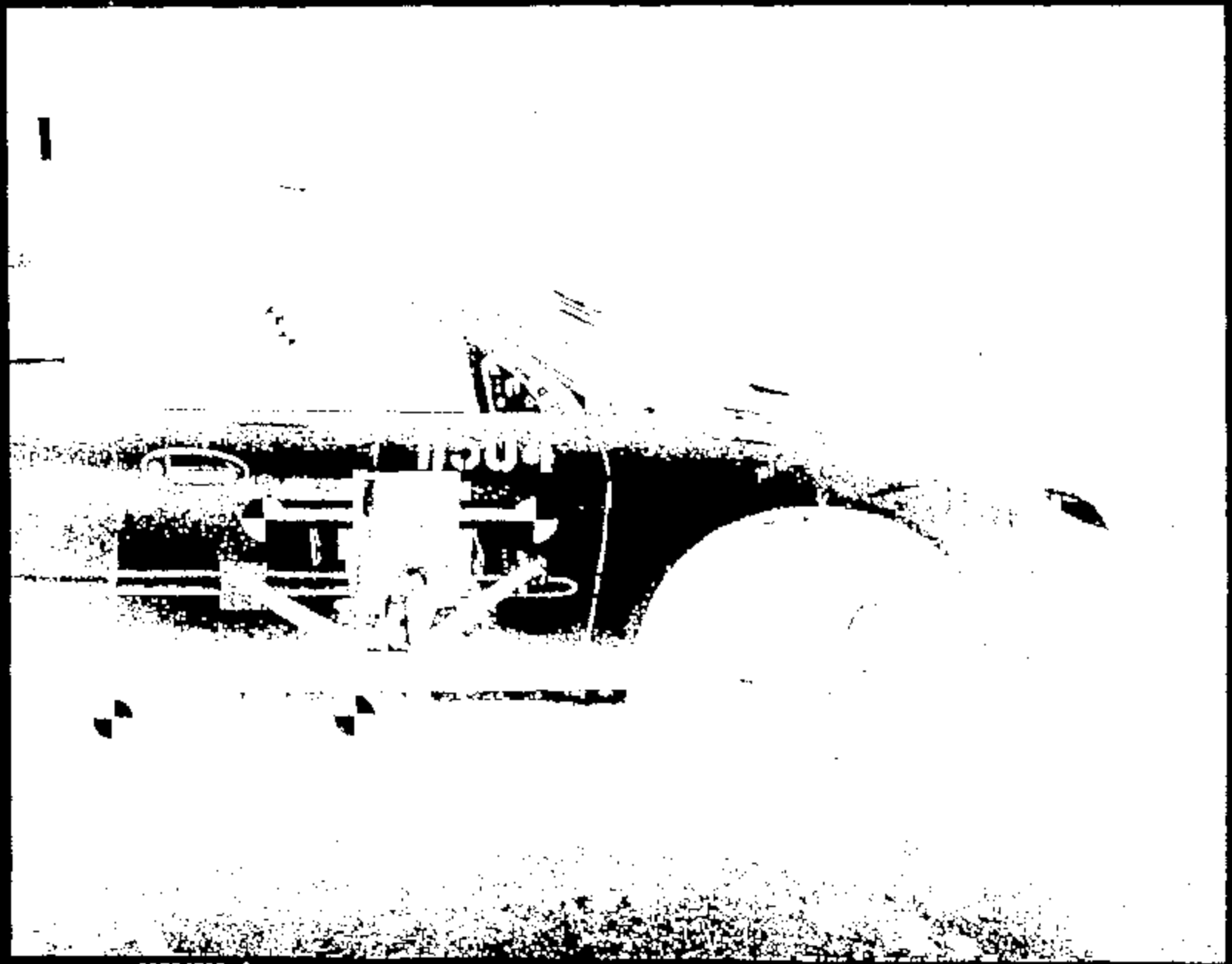
Name: 11504010.jpg

CRTS 001504



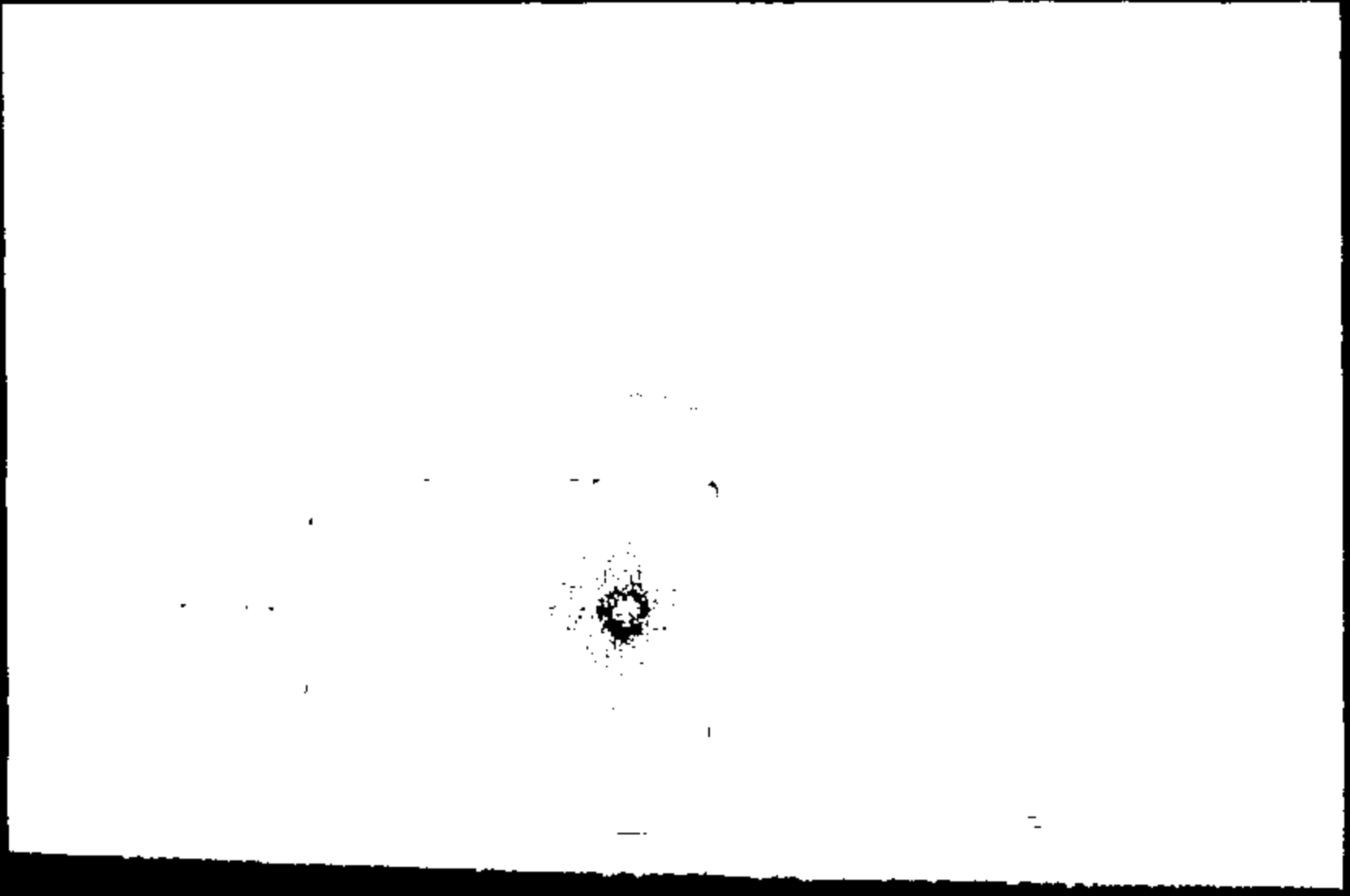
Name: 11504011.jpg

CRTS 0011504



Name: 11504012.jpg

CRTS 0011504

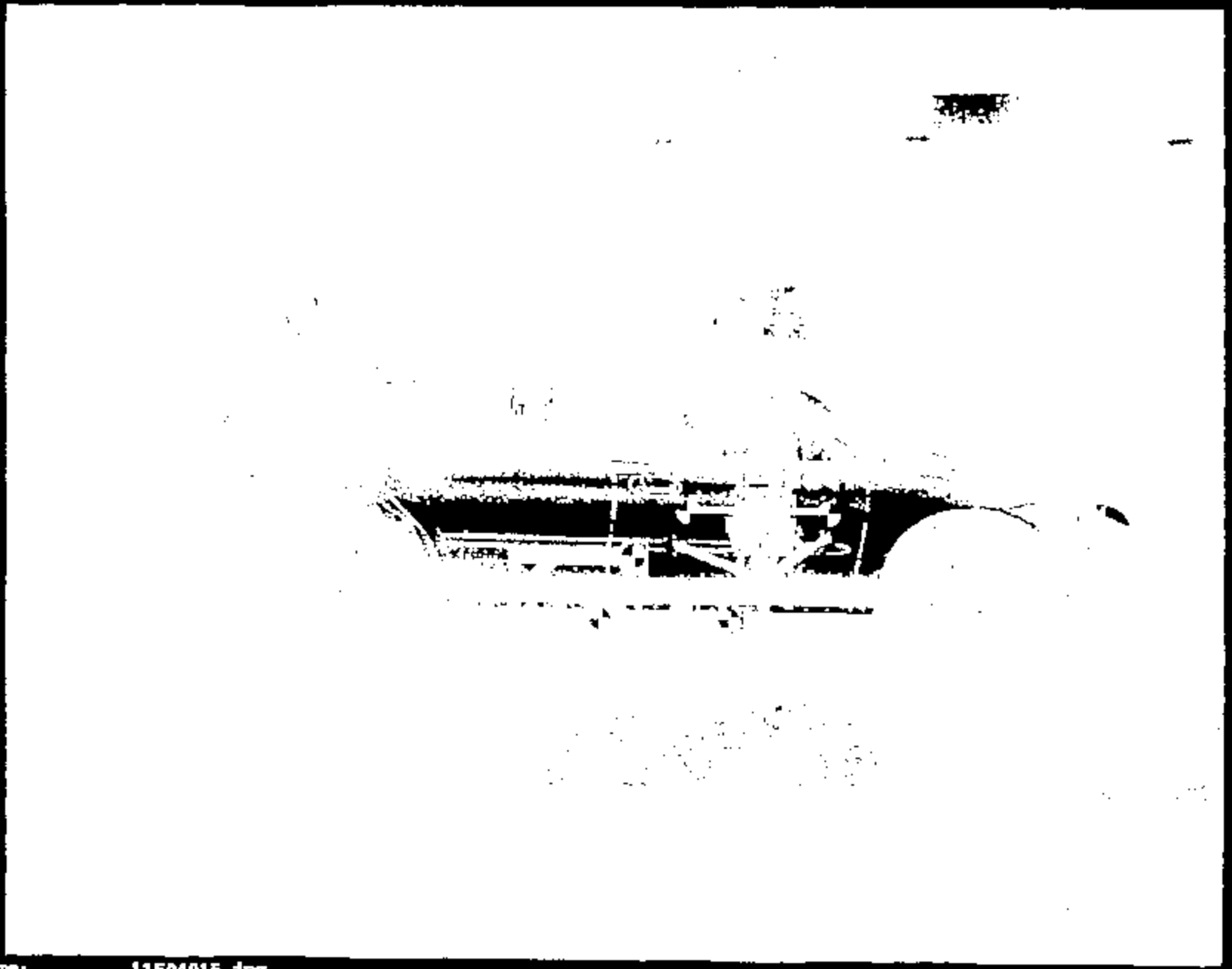


Name: 11504013.jpg

CRTS 0011504

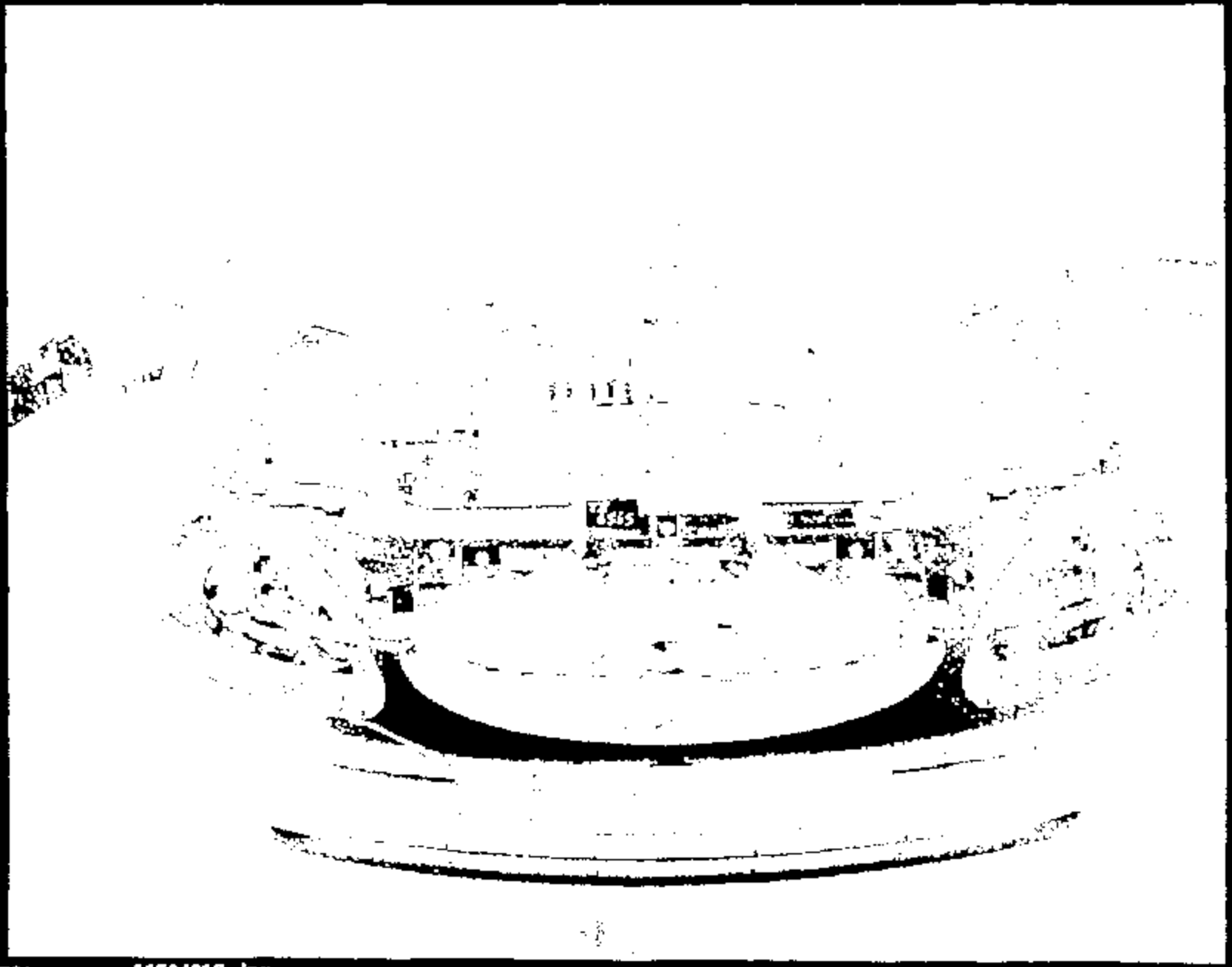
Name: 11504014.jpg

CRTS 0011504



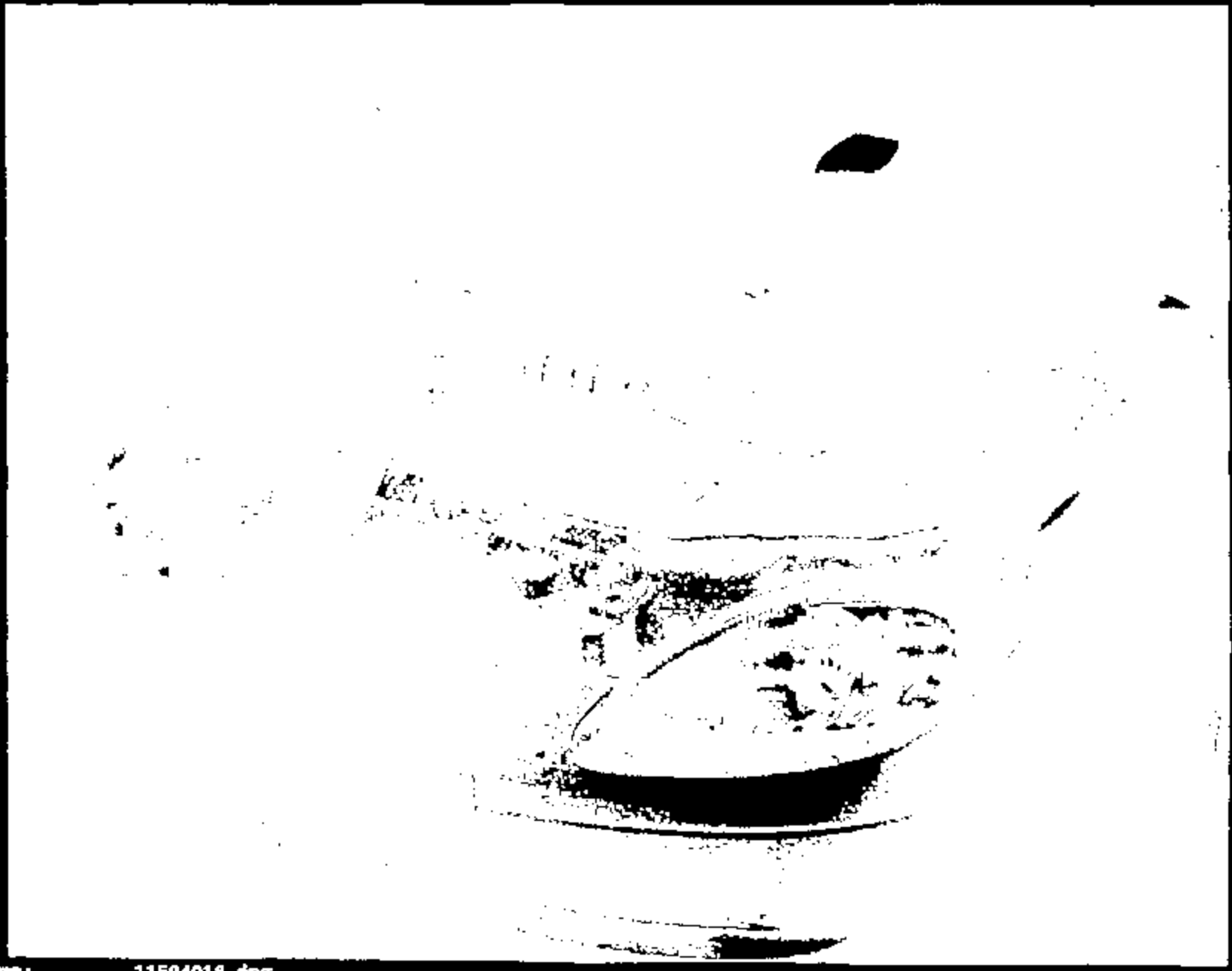
Name: 11504015.jpg

Name: 11504016.jpg



Name: 11504017.jpg

CRTS 0011504



Name: 11504018.jpg

CRTS 0011504

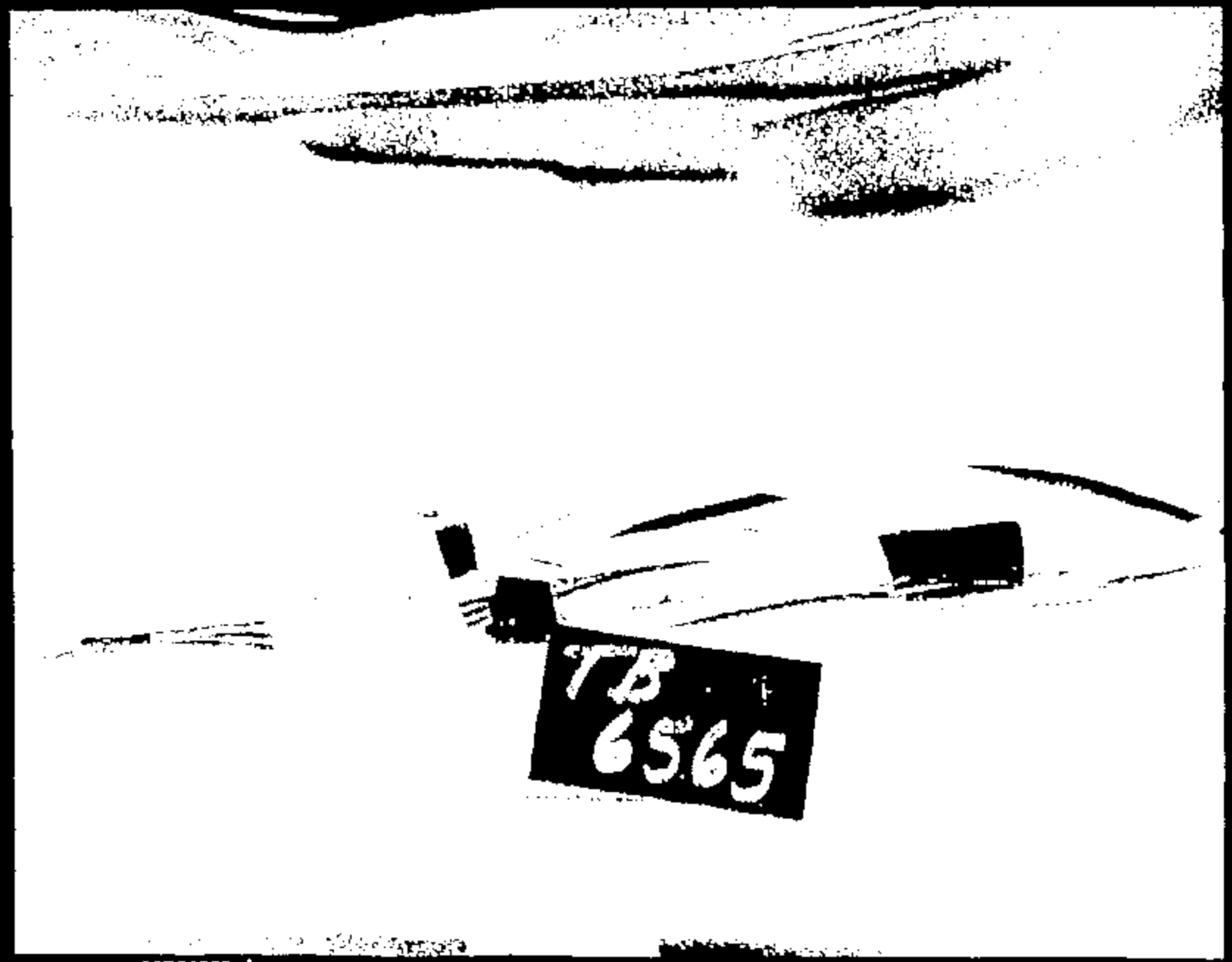
Name: 11504019.jpg

CRTS 0011504

Name: 11504020.jpg

CRTS 0011504

Name: 11504021.jpg



Name: 11504022.jpg

CRTS 001504

Name: 115040023.jpg

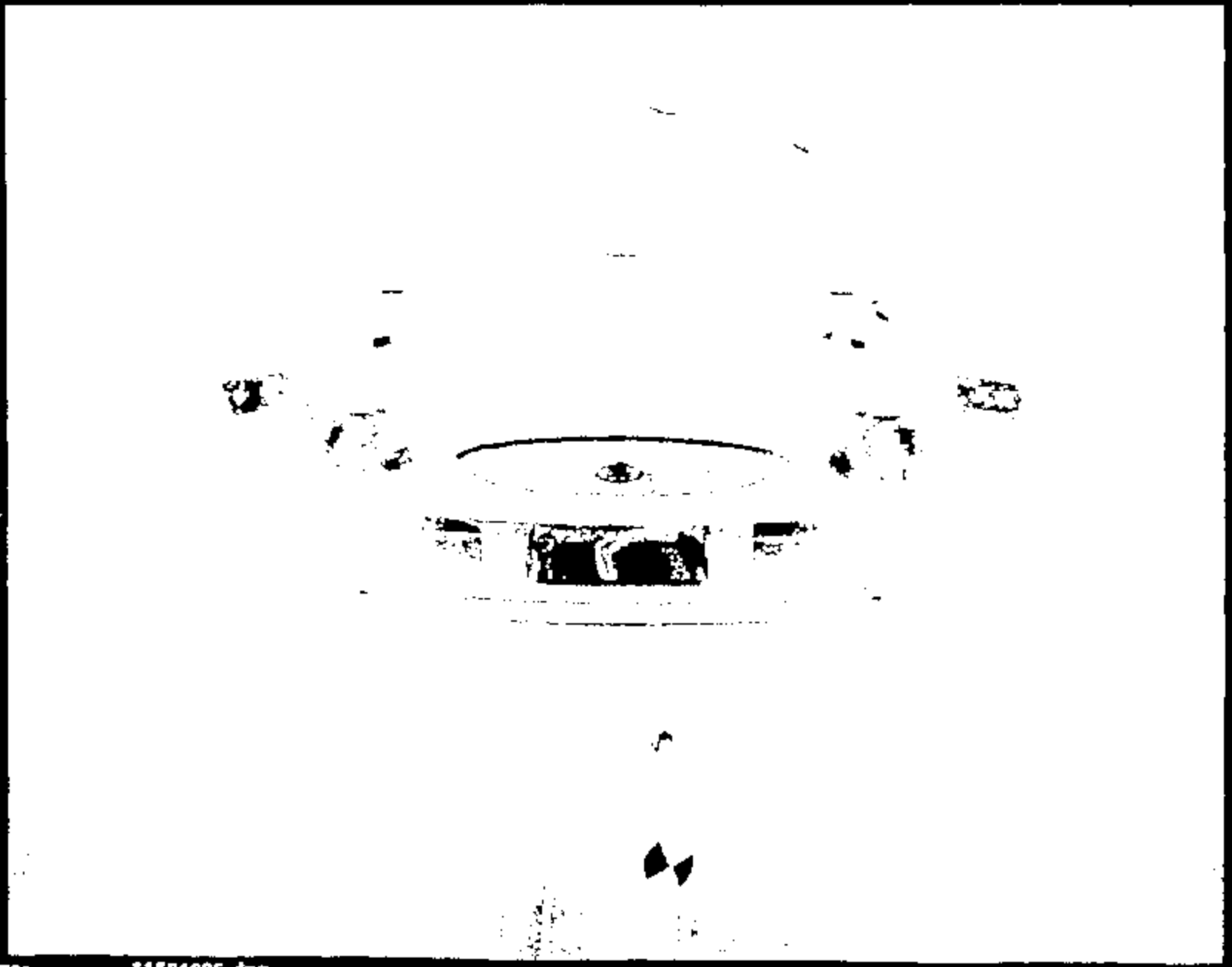
CRTS 001504

Name : 11504024.jpg

CRTS 0011504

Name: 11504025.jpg

CRTS 011504



Name: 11504026.jpg

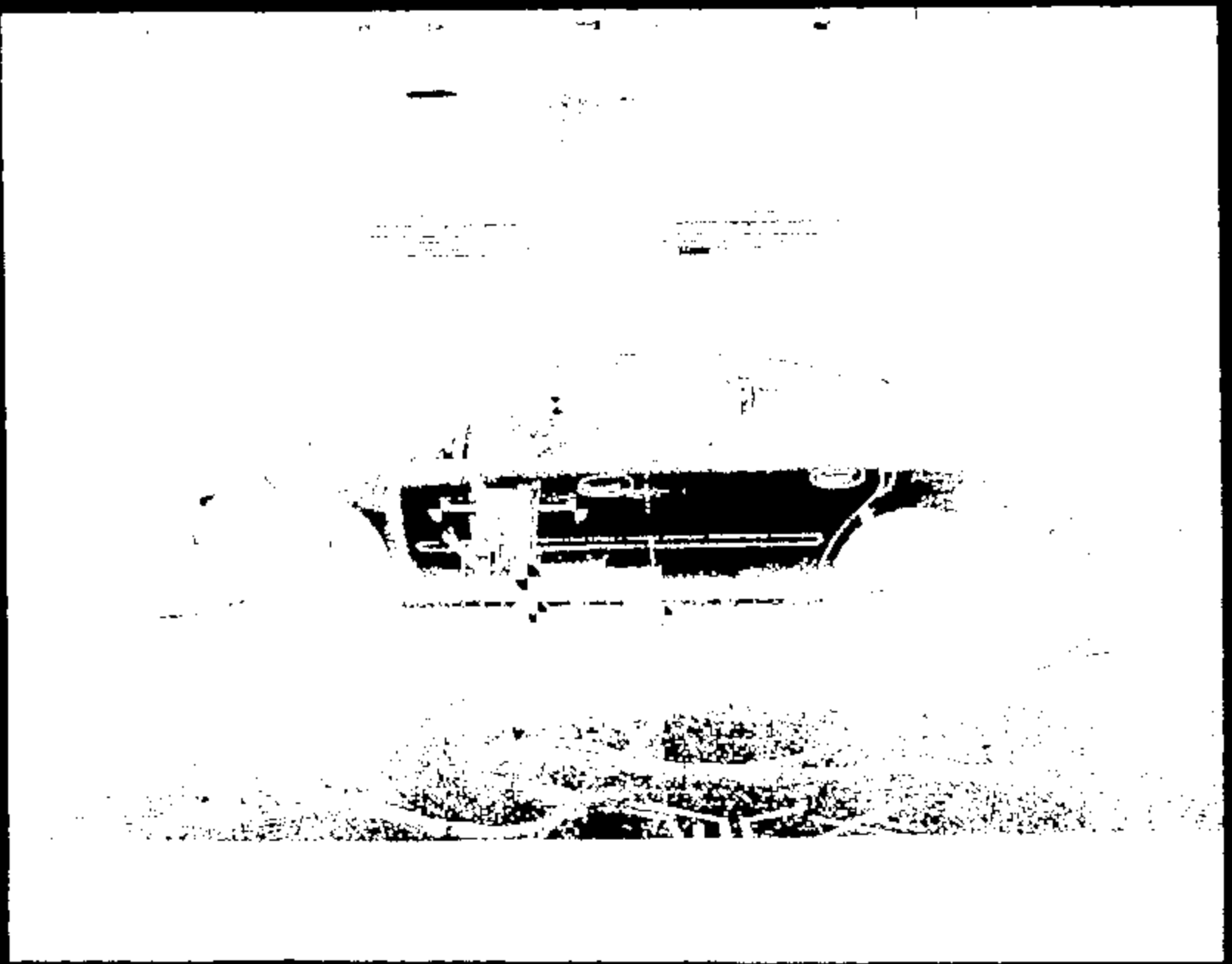
CRTS 0011504

Name: 11504027.jpg

CRTS 001504

Name: 11504028.jpg

CRTS 0011504



Name: 11504029.jpg

CRTS 0011504

Name: 11504030.jpg

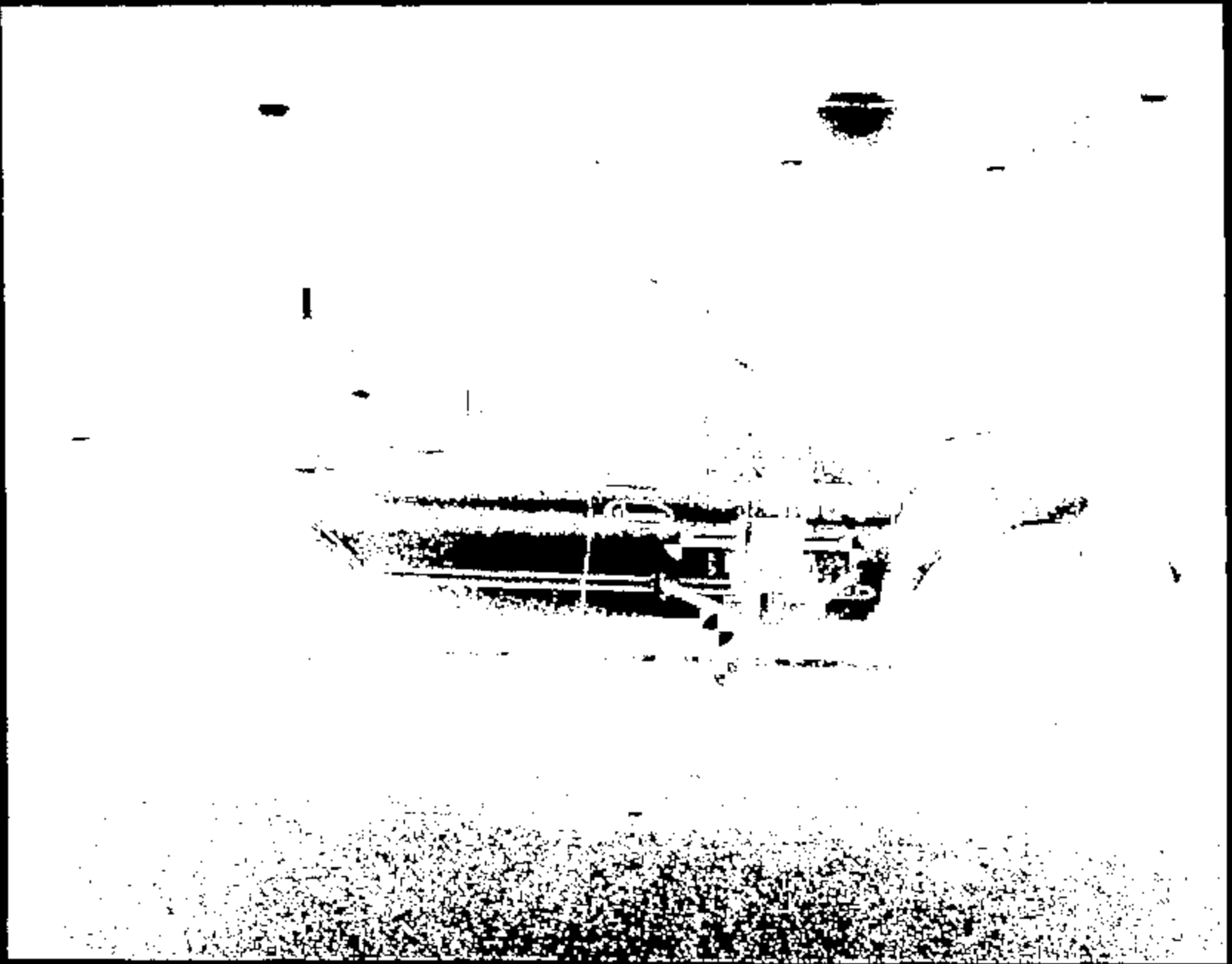
CRTS 001504

Name: 11504031.jpg

CRTS 0011504

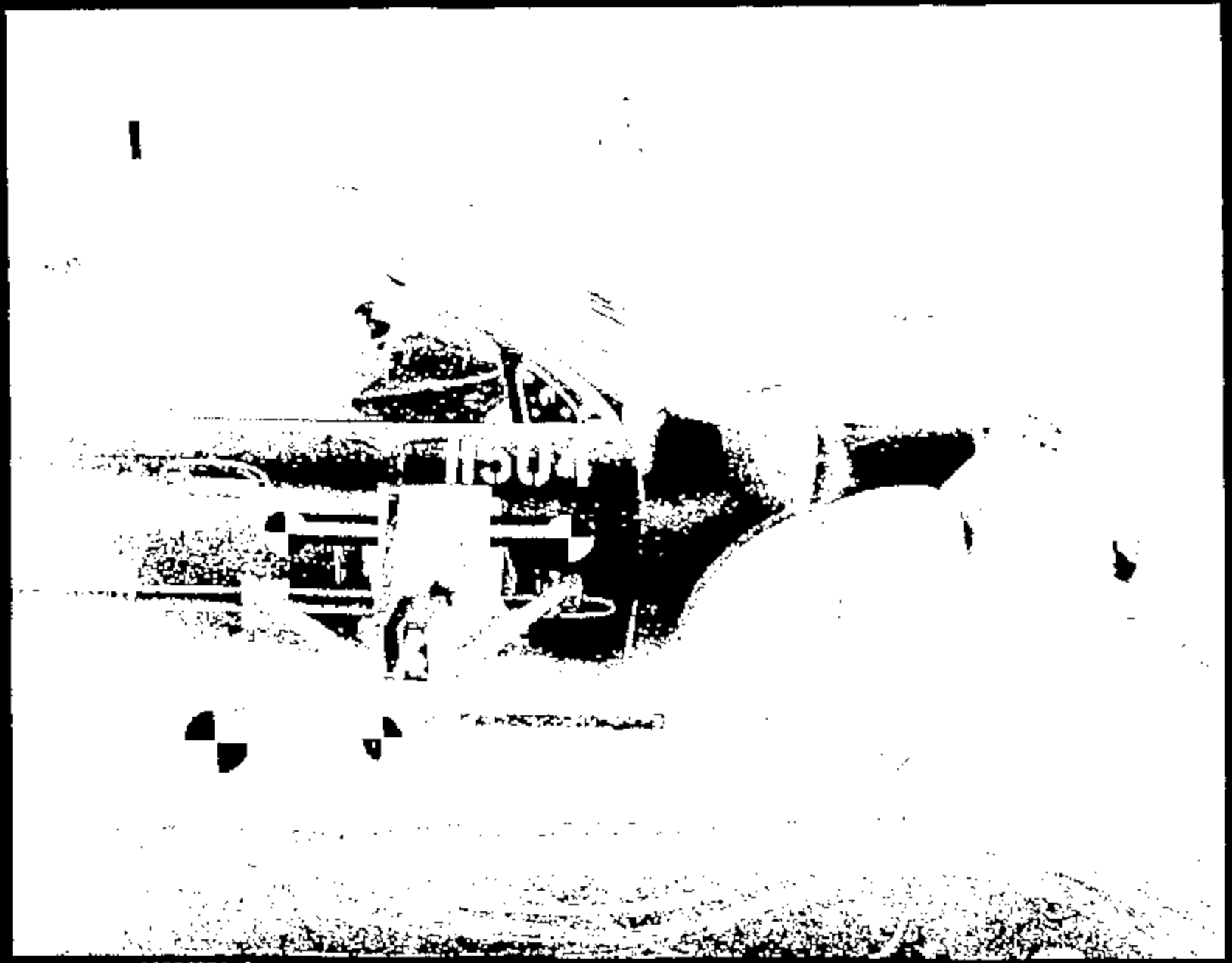
Name: 11504032.jpg

CRTS 001504



Name: 11504033.jpg

CRTS 001504



Name: 11504D36.jpg

CRTS 001504

Name: 11504035.jpg

CRTS 0011504

Name: 11504036.jpg

CRTS 0011504

Name: 11504037.jpg

CRTS 0011504

Name: 11504038.jpg

CRTS 0011504

Name: 11504039.jpg

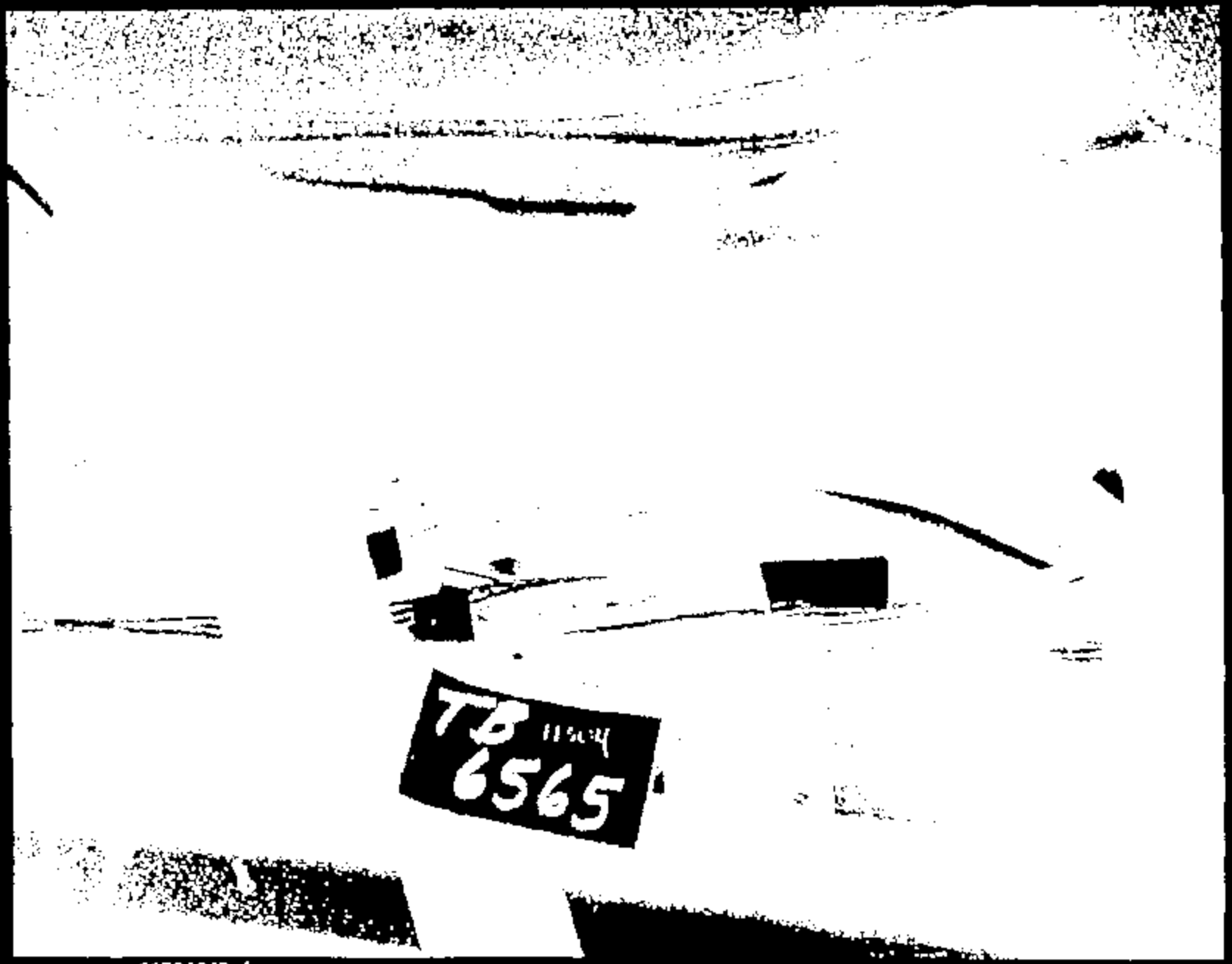
CRTS 0011504

Name: 11504040.jpg

CRTS 001504

Name: 11504041.jpg

CRTS 0011504



Name: 11504042.jpg

CRTS 001504

Name: 11504043.jpg

CRTS 0011504

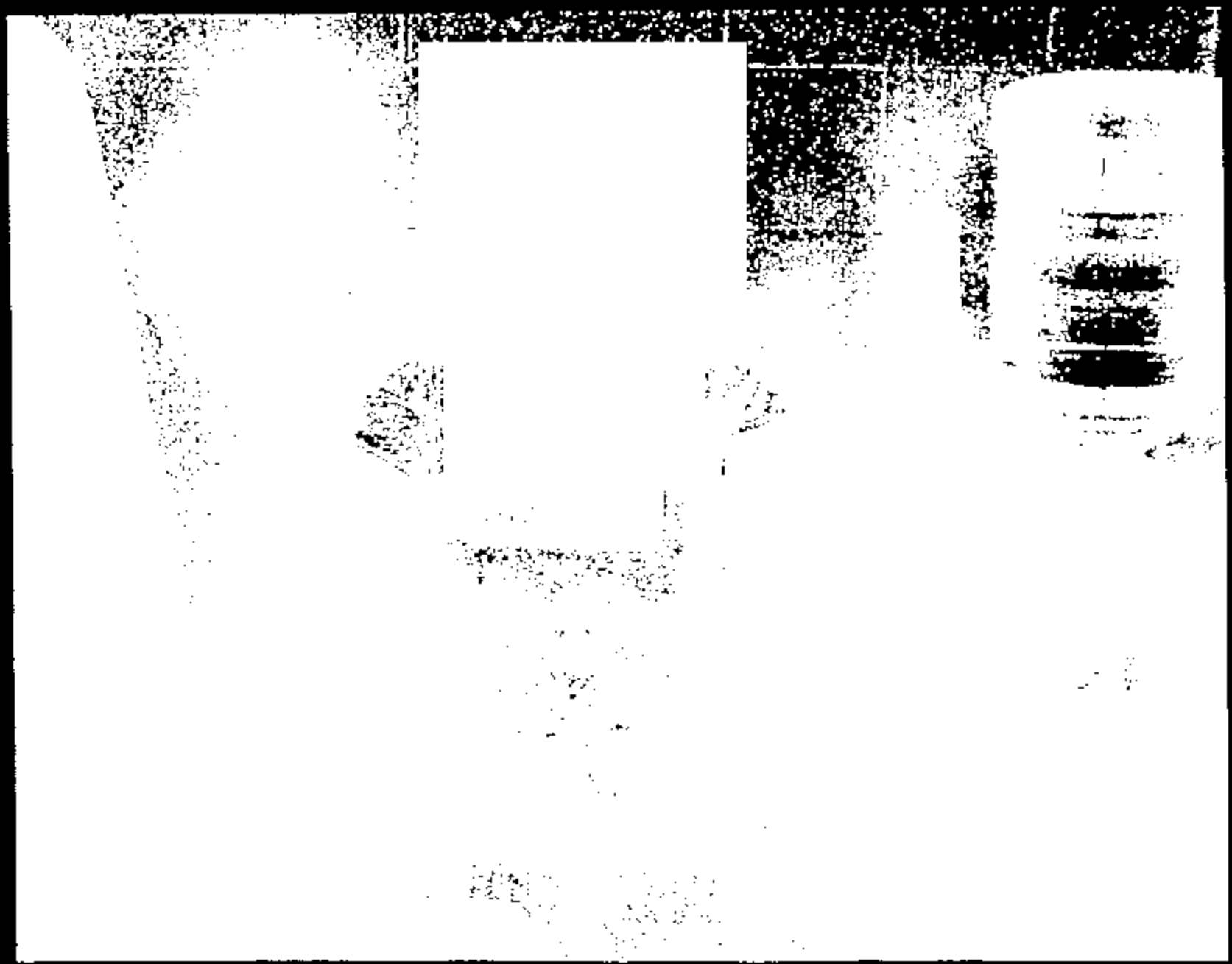
Name: 11504044.jpg

CRTS 0011504

Name: 11504045.jpg

CRTS 0011504

Name: 11504046.jpg



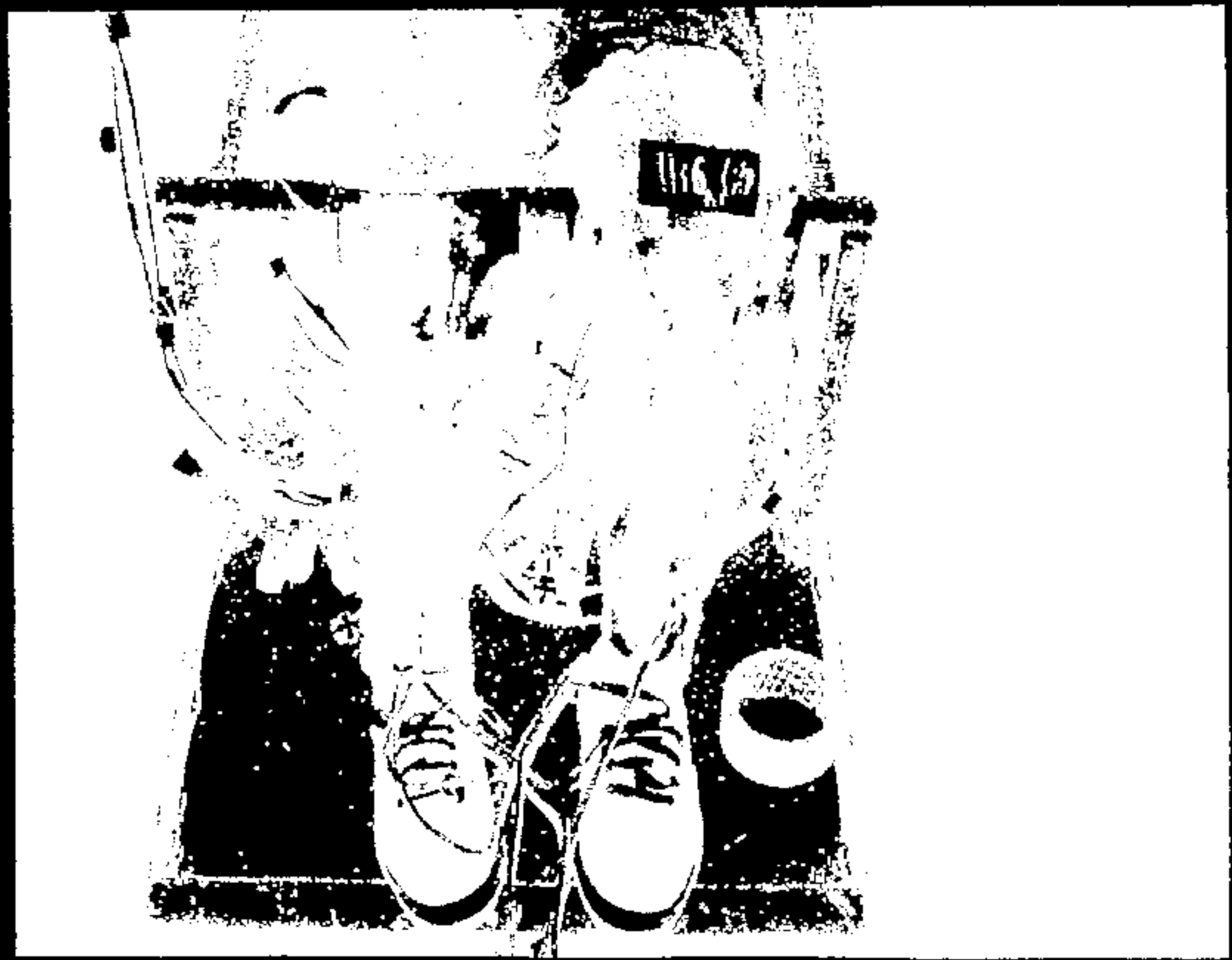
Name: 11504047.jpg

CRTS 0011504

Name: 11504048.jpg

CRTS 0011504

Name: 11504049.jpg



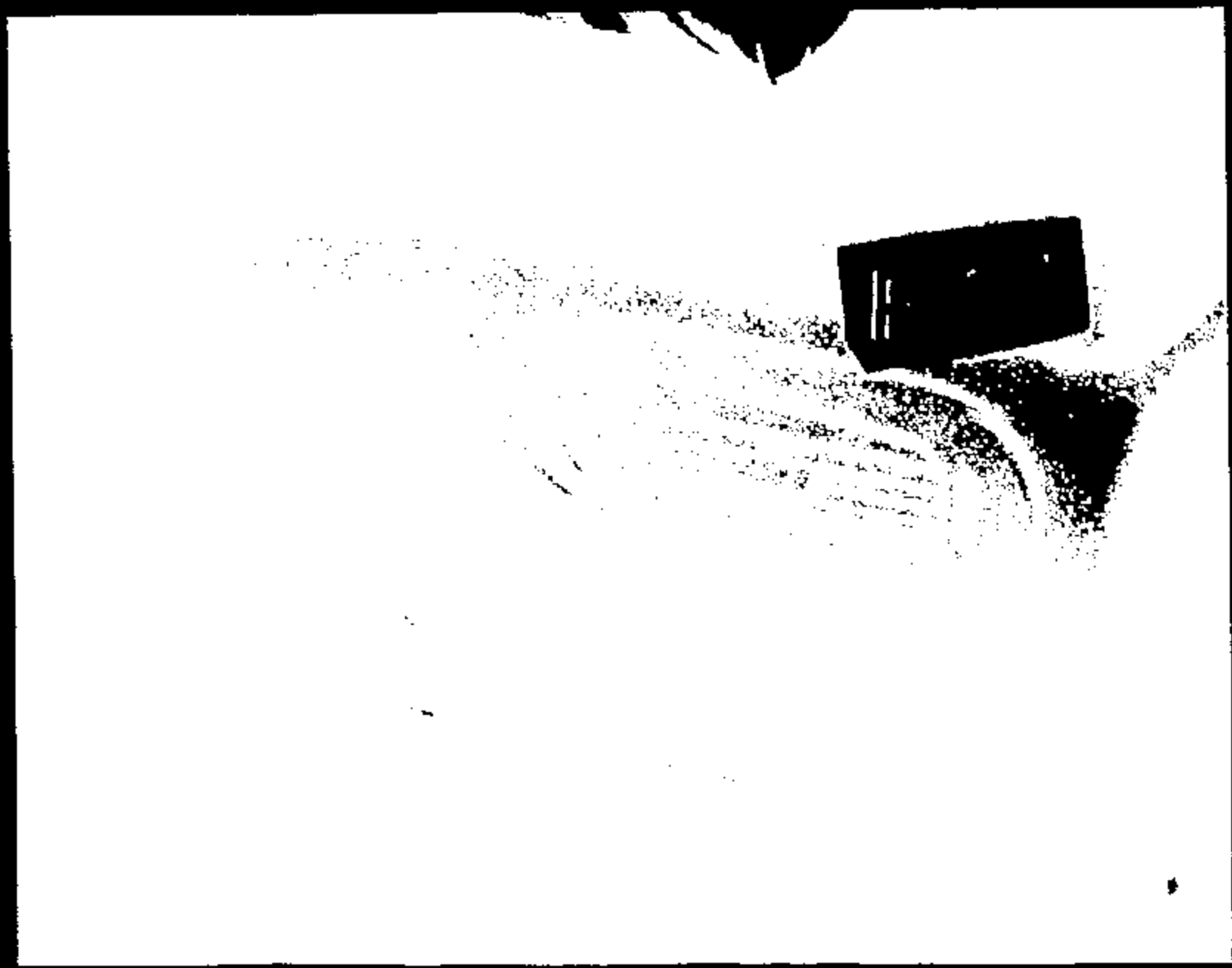
Name: 11504050.jpg

Name: 11504051.jpg

CRTS 0011504

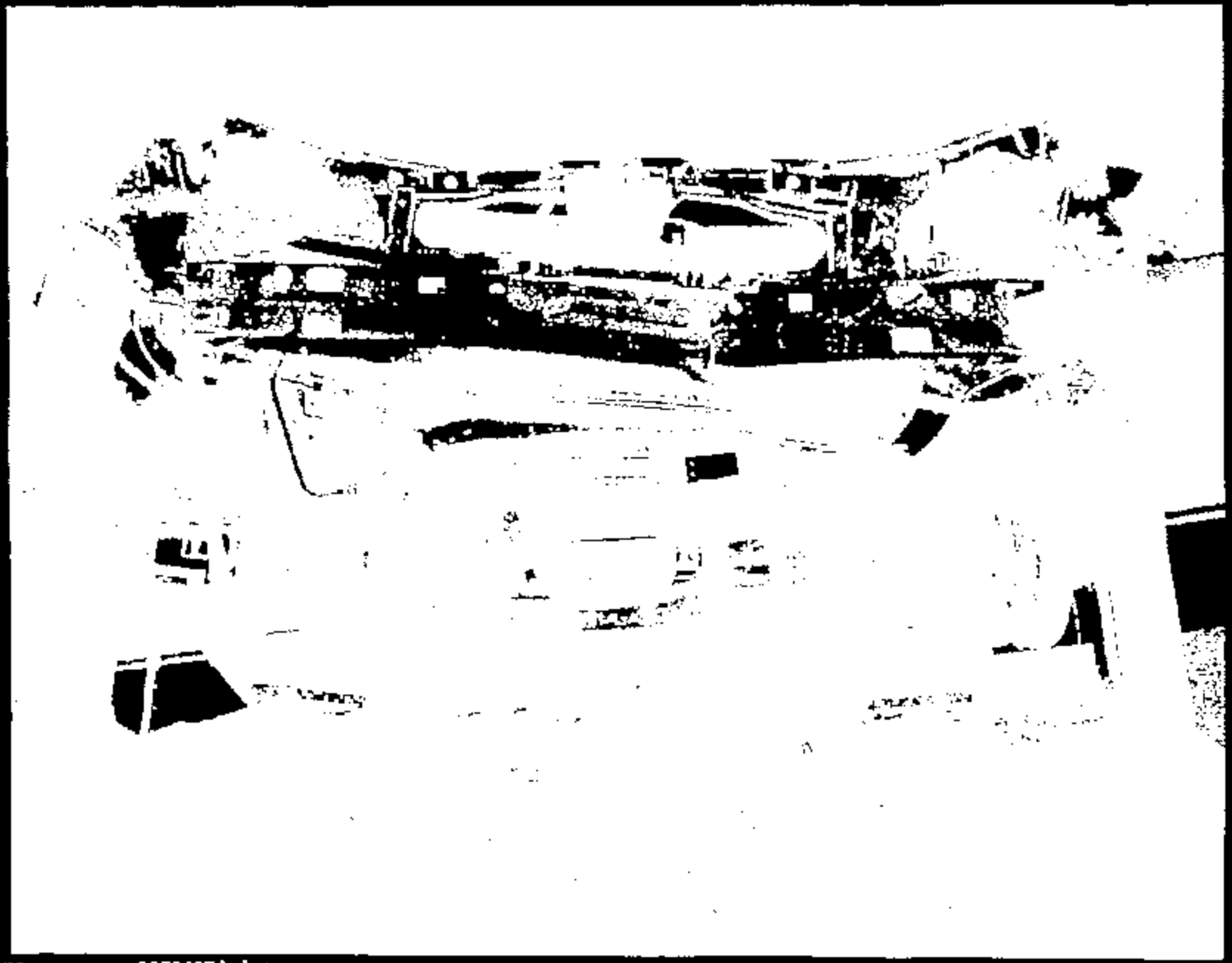
Name: 11504052.jpg

CRTS 0011504



Name: 11504053.jpg

CRTS 0011504



Name: 11504054.jpg

CRTS 0011504

Name: 11504055.jpg

CRTS 0011504

Name: 11504056.jpg

CRTS 0011504

Name: 11504057.jpg

CRTS 0011504

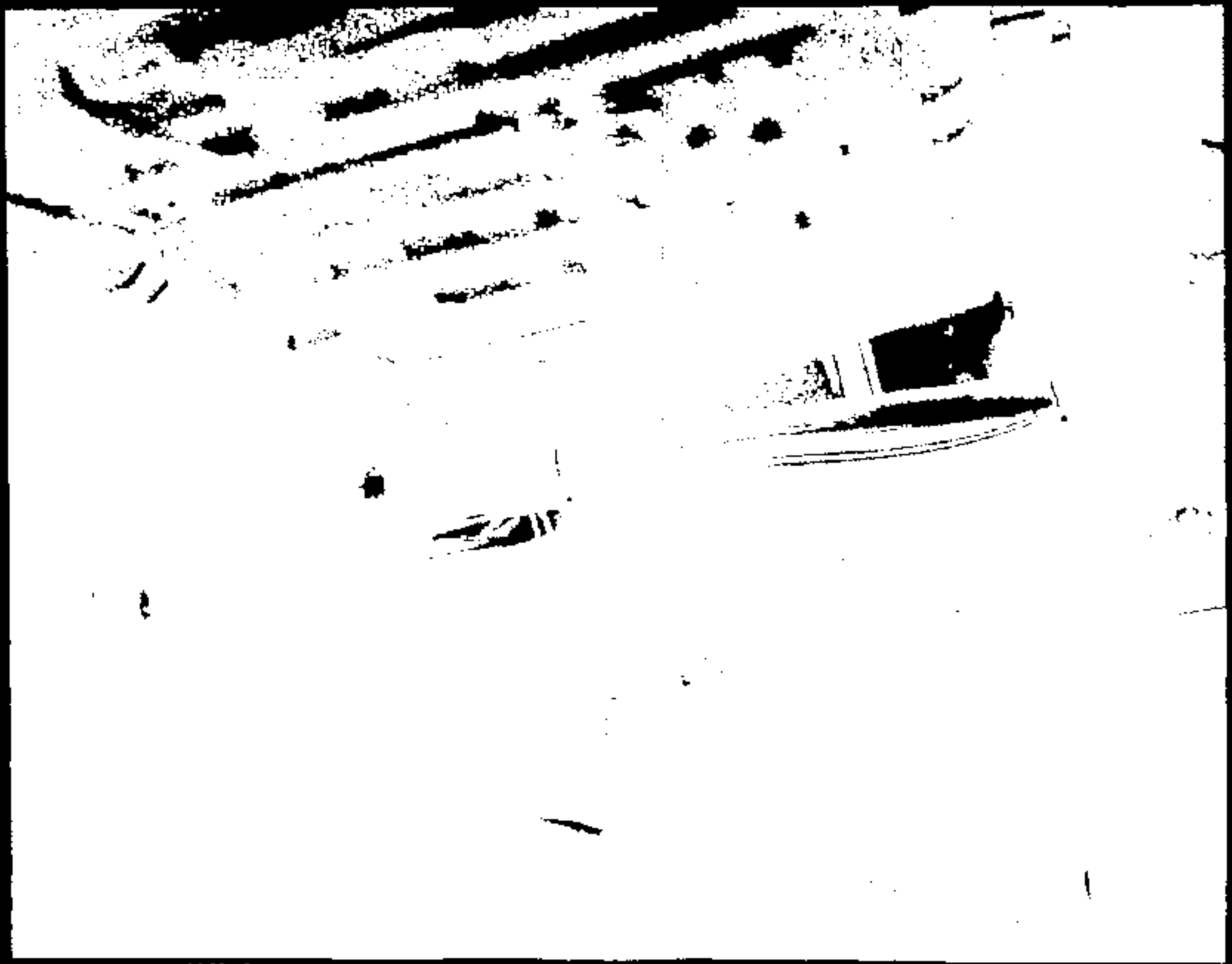
Name: 11504058.jpg

CRTS 0011504

Name: 11504059.jpg

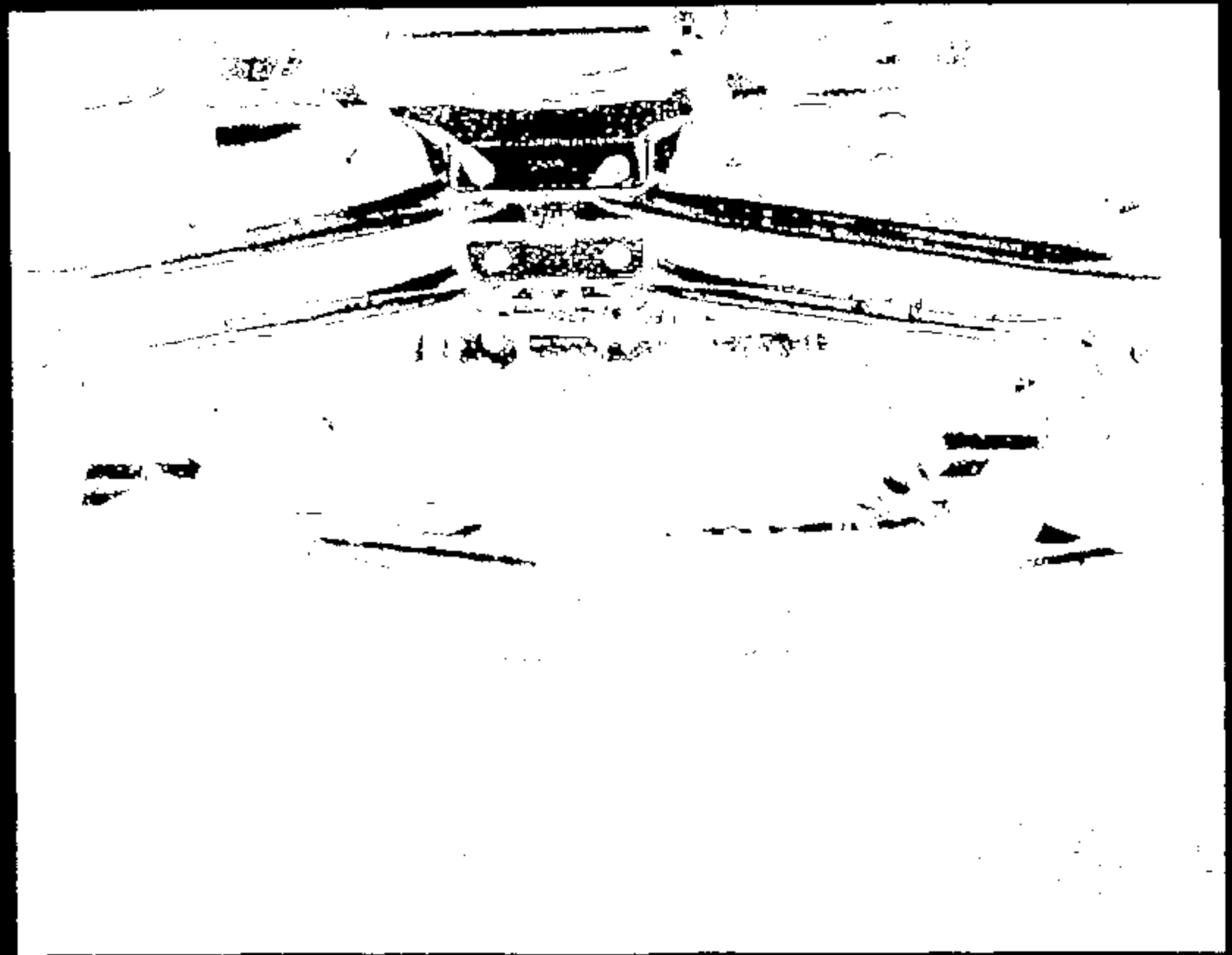
Name: 11504060.jpg

Name: 11504061.jpg



Name: 11504062.jpg

CRTS 011504



Name: 11504063.jpg

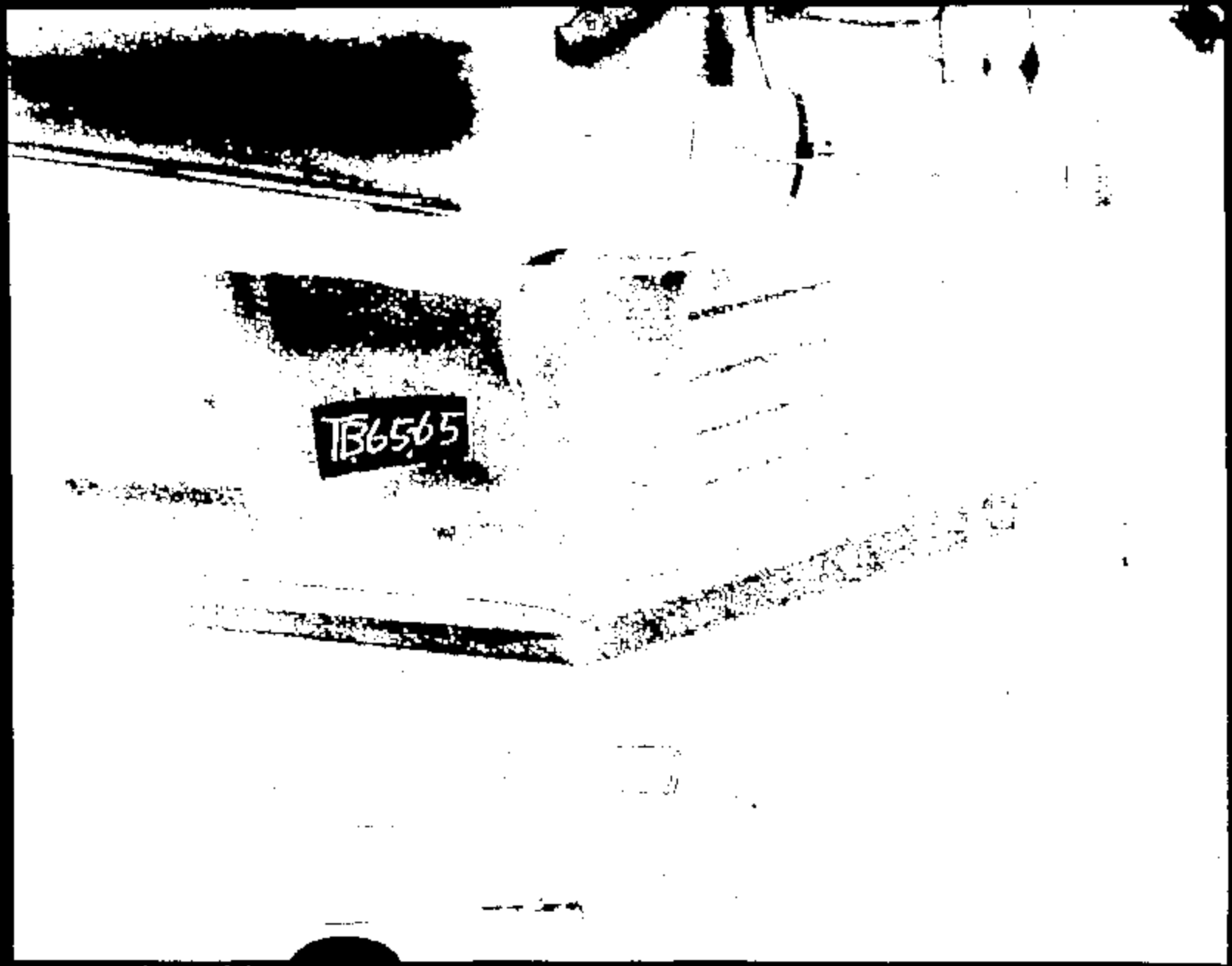
CRTS 011504

Name: 11504064.jpg

CRTS 0011504

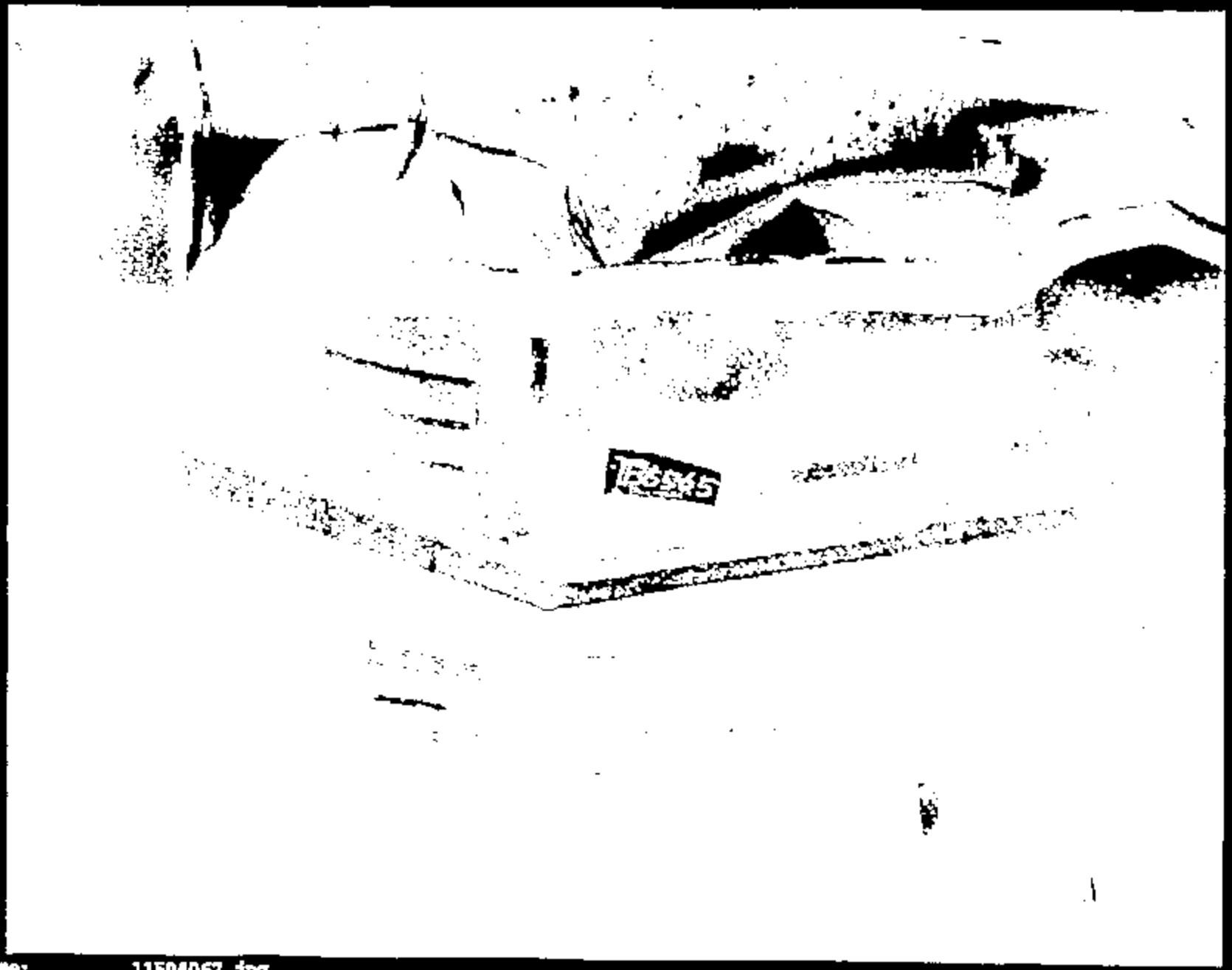
Name: 11504065.jpg

CRTS 0011504



Name: 11504066.jpg

CRTS 0011504



Name: 11504067.jpg

Name: 11504068.jpg

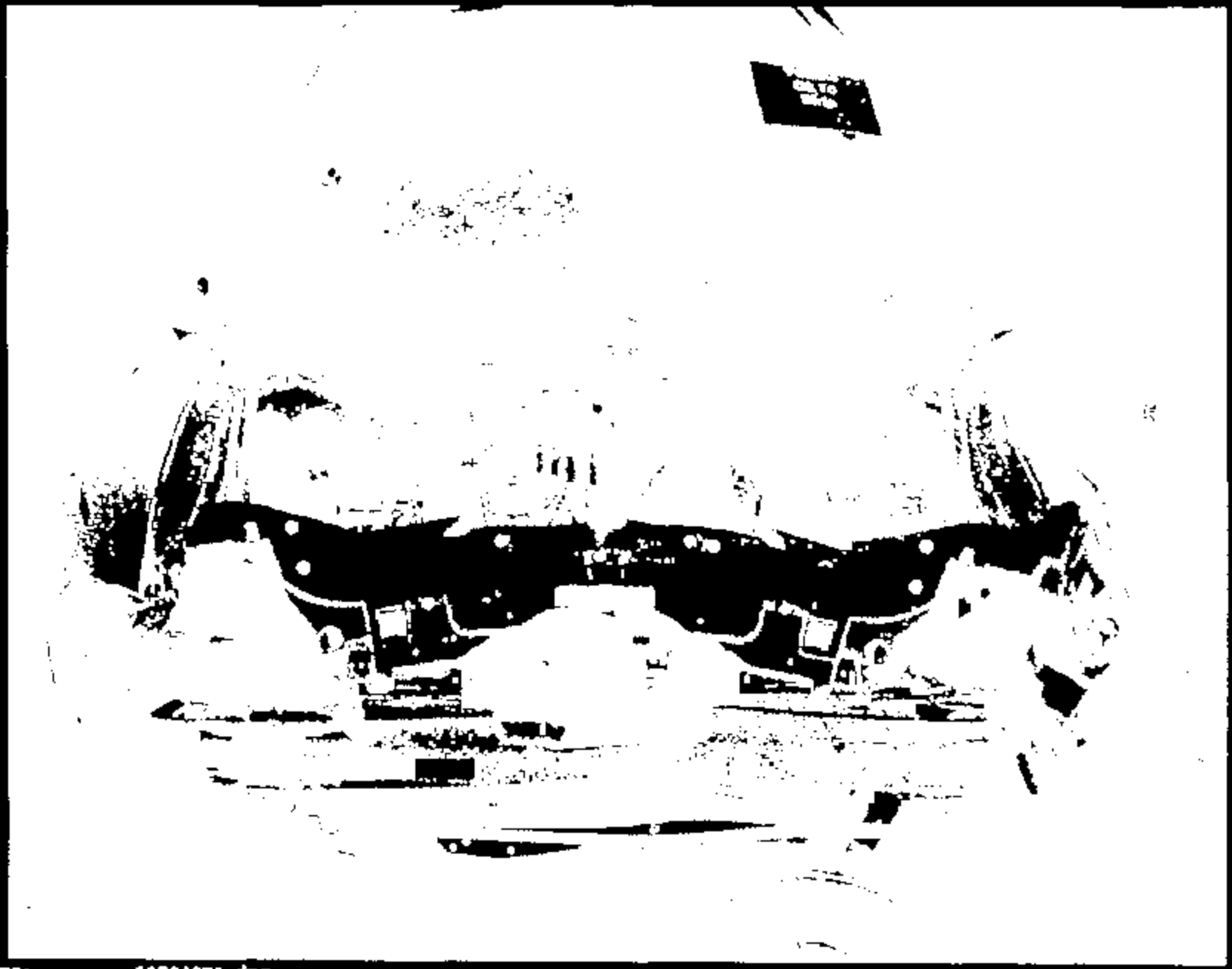
CRTS 0011504

Name: 11504069.jpg

CRIS 011504

Name: 11504070.jpg

CRTS 0011504



Name: 11504071.jpg

CRTS 001504

Name : 11504072.jpg

CRTS 0011504

Name: 11504073.jpg

CRTS 0011504

TEST AUTHORIZATION

TEST AUTHORIZATION NUMBER: TB6686

TO: Safety Lab Department

CC: K. Arthurs

REQUEST DATE: 08/07/1999

REQUESTED COMPLETION DATE: 09/14/1999

REQUEST NUMBER: n/a

PROBLEM NUMBER: n/a

REQUESTING ACTIVITY: Vehicle Crash Safety

TITLE OF TEST:	(speed)	(test description)	PARTS DUE DATE:
2000 D186	30 MPH	90 Degree Frontal Barrier	n/a

TYPE OF TEST:	VIN # or IDENTIFICATION	VEHICLE MODEL & YEAR:	PROD. OR ENG. LETTER:
[X] VEHICLE [ ] BENCH [ ] LABORATORY [ ] OTHER	- 9TTW618 1FAFP6[illegible]Y[illegible]100000	2000 D186	n/a

ENGINE NO. DISPL. CARB:	TRANS / DRIVETRAIN:	AXLE RATIO:	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOV. REGULATIONS: Yes X No	DISPOSITION OF PARTS: n/a
3.0L/2V V6 FFV	AX4S	n/a		PROCUREMENT REQ ? [ ] YES [ ] NO IF YES,GIVE CODE
TYPE OF FUEL: Stoddard	CONVERTER: n/a	IGNITION TIMING n/a		
CRANKCASE OIL AND CAPACITY (L): n/a	TIRE SIZE AND PLY RATING:			MAIL REPORT TO:

VEHICLE TEST WEIGHT:			TIRE PRESSURE (psi):		REPORT DATA RECEIVED:	BLDG:
FRONT	REAR	TOTAL	FRONT	REAR	[X] ENGINEERING	
2216	1525	3741	30	30	[X] DATA	MAIL DROP:
					[X] RAWDATA	ADDRESS:

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

"RECORD COPY"
Schedule No. 1-1-12
Retain Until 2019

1) Conduct: (speed) 30 MPH (year) 2000 (vehicle) D186 (level) # 1PP (mode) 90 Degree Frontal Barrier

2) Velocity At Impact: 30 MPH
Remote Fire Time: N/A
Positioning procedure: NPRM

3) Vehicle Year: 2000
Vehicle Line: D186
Vehicle Level: 1PP

	(name)	(phone)	(pager number)
Test Requester:	D. Perrigo	84-66016	DPER
Build Coordinator:	B. Pagano	32-36045	BPAG
Additional Contacts:			

Estimated test cost = $90,000.00

Test Dev. Engineer

REQUESTING SECT. NO:	WORK ORDER/ WORK TASK:	ISSUED/ REQUESTED BY:	PHONE:	APPROVAL:	TEST TYPE:	RISK:	SIGN OFF DATE:
TBS1	FB9	D. Perrigo	84-66016	K. Arthurs	n/a	n/a	n/a

COMPLETE THE FOLLOWING TWO QUESTIONS AS INDICATED:

(Check appropriate boxes)

1 - Rational for not replacing this test by CAE analysis:

- __ No CAE Methodology or process available
- __ No CAE Correlation
- __ Insufficient confidence in CAE.
- __ To obtain basic data for CAE
- __ Replacement or Improvement of existing Test.
- __ Testing is Quicker.
- __ Mandatory or Regulatory
- __ Certification
- __ Development test for FBS
- __ Not applicable.
- X Other Preview of NHTSA test

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- __ Results will meet DVP/WOR requirements.
- __ System Component will not meet Test specification.
- X Unknown.
- __ Above is Based on CAE?
- __ Other: _____

General Request Information

TA#: TB9595

Test Mode

30 MPH
90 Degree Frontal Barrier

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

REGULATORY:

_____ FMVSS 204 - Steering Wheel Displacement
_____ FMVSS 208 - Frontal Occupant Protection
_____ FMVSS 212 - Wind Shield Retention
_____ FMVSS 214 - Side Impact Protection
_____ FMVSS 219 - Windshield Zone Intrusion
_____ Film Analysis
_____ Template
_____ FMVSS 301 - Fuel System Integrity
_____ Rollover
_____ Pressure Check
_____ FMVSS 303 - NGV Fuel System Integrity
_____ ECE 12 (74/297/EEC) - Protection of the Driver Against Steering Mechanism
_____ ECE 32 Rear Impact - Structural Performance
_____ ECE 33 Frontal Impact - Structural Performance
_____ ECE 34 Fuel System Integrity
_____ ECE 94 Step II Frontal Offset - Occupant Performance
_____ ECE 95 Step II 800mm Barrier Side Impact - Occupant Performance
_____ 96/79/EC - Frontal Offset
_____ 96/27/EC - Side Impact

FORD AUTOMOTIVE OPERATIONS SAFETY DESIGN GUIDELINES:

_____ Front Impact FAO Safety Design Guidelines
_____ Offset Frontal FAO Safety Design Guidelines
_____ Side Impact Protection FAO Safety Design Guidelines
_____ Rear Impact Fuel System Performance FAO Safety Design Guidelines

OTHER:

_____ Sensor Development
__X__ Other, Specify: Preview of NHTSA Test

Primary Test Vehicle Information

Use (Target/Build):	BUILT
Model Year:	2000
Vehicle Program:	D166
Vehicle Name:	TAURUS
Body / Cab Style:	SEDAN
Build Number:	0
Tag Number:	911W818
VIN Number:	1FAFP53U3YA100008
Fuel System Rated Capacity(Gal):	16
Prototype Level:	1PP
Drive Side:	LH

General Specifications
Secondary Vehicle or Cart

TA#: TB6585

Hardware (Vehicle or Cart)

Use (Target/Bullet):	
Type (Vehicle/Cart):	
Model Year:	
Vehicle Line:	
Model:	
Tag Number:	
VIN Number:	
Prototype Level:	
Drive Side:	

Occupants

		Occupant 1	Occupant 2
Type			
In-Vehicle Location			
Verify:	Seat Position Long		
	Seat Position Vert		
	Seat Back Angle		
Occupant Belted			

Target Conditions

Weight	Target	Acceptable Variance (+)	Acceptable Variance (-)
Front			
Rear			
Total			

Ride Height @ Test Weight		Measured	
Front:		From:	
Rear:		To:	

Special Instructions

Special Prep/Build Instructions
Primary Vehicle

TA#: TB6585

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__ May remove trim from B-Pillar rearward, if needed
_____

Pryo Restraints Usage

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

Other, Specify:

_____
_____

__N/A__ Remote Fire Time:
(No fire time listed if sensor fired OR if no pyro restraints are used)
_____ Remote back-up Fire Time:

Special Pre-Test Preparation

Other, Specify:

_____
__X__ Ensure RCM is updated
_____

Occupant / ATD Request
Primary Vehicle

TA#: TB6565

		Occupant 1	Occupant 2
Type		5th Hill	5th Hill
*Instrumentation Level**			
In-Vehicle Location		LF	RF
Verify:	*Seat Position Long*	FULL FORWARD	FULL FORWARD
	Seat Position Vert	N/A full up	N/A full up
	Seat Back Angle	18 23.7 degrees	18 23.7 degrees
Positioning Procedure		RBP 6/11/99 97-25 NPRM	RBP 6/11/99 97-25 NPRM
Use Foot Rest		YES	N/A
Take Seat Track Video		NO	NO
Special Positioning Instructions			
Dummy Adjustment	(arm angle)		
Occupant Belted		NO	NO

*See instrumentation request for detailed instrumentation information.

Test Conditions - Final Prep

TA#: TB0885

Final Prep Contacts

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

	Test Engineer	Request Engineer	Build Coordinator
Name:		D. Perico	B. Pagano
Phone:		84-86018	32-35048
Pager:		DPER	BPAG

Test Weight

____ Minimum Option Weight
__X__ 33% Option Weight
____ Maximum Option Weight

GVWR: _____
Wheelbase: _____

Tire Pressure

Front: 30. psi Rear: 30. psi

Fuel System

Fuel Tank & System to Contain: STODDARD

15.2 gallons / Fill Level = 95 % / % x 16.0 gallons / 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:	2,136 lbs	2,309 lbs	13 lbs	0 lbs	
Rear:	1,195 lbs	1,628 lbs	15 lbs	0 lbs	
Total:	3,331 lbs	3,937 lbs	28 lbs	0 lbs	

Rated Luggage Load: 300 lbs

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

Other: ____
____

Ride Heights

Measure @ Test Weight
Front: _____
Rear: _____

Measure
From: ROCKER LEVEL TO GROUND
To: ROCKER LEVEL TO GROUND

Additional Remarks

____ DO NOT fill tank with stoddard until weigh-up

Dimensional Analysis Request
Primary Vehicle

Frontal Impacts

TA#: TB6505

	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-Guns	Exterior
	150	Steering Wheel Deformation/ Periphery (Just stg whl hub)	Interior
	153	Steering Column Mounts	Interior
	154	Steering Column Targets	Interior
	155		
	156	Seat Track to Floor Mounts (LHS front seat only)	Exterior
	159	Seat to Track Mounts	Exterior
	160	Cowl Rotation	Exterior
	162	Floorpan Points	Exterior
	164	Knee Bolster	Interior
	165	Seat Belt Mounts	Interior
	166	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		
	348		
	356		
	364		
	376		
	485	Plot 9 Sectional Profiles	
	506	Decoupling Column Collapse	Exterior
	507	P.R. Steering Column Collapse	Exterior
	508		
	640		
	641		
	642		
	647	Footwell Reduction—Geometric center of footrest, brake pedal, accel pedal. Section through floor at center of brake pedal and +/- 150 mm y from there. Vert. Section through IP lower at +/- 150mm y from stg whl hub, plus Horiz. section at 450mm above floor.	

Film Analysis & Photographic Services Request

TA#: TB8565

Front Impact Film Analysis

X Head WRT Vehicle
____ Shoulder WRT Vehicle
X Rocker WRT Ground

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 (standard)
____

High Speed Photographic Requirements

2 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 Impact

On-Board Vehicle

X Onboard - LEFT Occupant Over Shoulder
X Onboard - RIGHT Occupant Over Shoulder
____ Onboard - Driver "D" Ring
____ Onboard - Driver Retractor (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)
X Onboard - Driver Door (Left Knee to Bolster)
X 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

X Overall Left
X Left Dummy Kinematics
_____ Dummy Kinematics & Velocity Left
X Overall Right
X Right Dummy Kinematics
_____ 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

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

Pit Coverage

_____ Pit - Overall
X 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.

All Other High Speed Photography

_____
_____

Instrumentation and Data Processing Request

TA#: TB6585

Primary Vehicle Structural Instrumentation - Frontal Impact

	ACCELEROMETERS:	Long	Vert	Lat
X	Engine/Trans Upper	X	X	X
	Engine/Trans Lower			
	Left Rocker at A-Pillar			
	Right Rocker at A-Pillar			
X	Left Rocker at B-Pillar	X	X	X
X	Right Rocker at B-Pillar	X	X	X
	Left Rocker at C-Pillar			
	Right Rocker at C-Pillar			
	Left Frame at A-Pillar			
	Right Frame at A-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 # 84			
	Next to Fuel Inertia Switch			
	Top of Battery			
	Near ACS Bypass Switch			

OTHER STRUCTURAL ACCELS:	Long	Vert	Lat

Primary Vehicle Systems Instrumentation

TA#: TB5555

SENSOR ACCELS:

__X__ See Sensor Map

MONITOR AIR BAG SENSORS:

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

MONITOR AIR BAGS STATUS:

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

STEERING COLUMN:

_____ Stroke Break Wires
_____ Tilt Mechanism Break Wires
__X__ String Pot (Stroke)
_____ Load Cell (6 Axis)
_____ String Pot (Telescope)
_____

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
_____ Lightweight Left Lap Belt at Anchor Load
_____ Lightweight Left Torso Belt at Retr. Load
_____ Lightweight Left Torso Belt at D-ring Load
_____ Lightweight Right Lap Belt at Anchor Load
_____ Lightweight Right Torso Belt at Retr. Load
_____ Lightweight Right Torso Belt at D-ring Load
_____ Lightweight Left Torso Belt at Buckle Load
_____ Lightweight Right Torso Belt at Buckle Load

SWITCHES:

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

FUEL SYSTEM:

_____ Inertia Fuel System Cut-Off Switch

ANGULAR MOTION SENSORS

_____

VEHICLE STRING POTS

_____

OTHER VEHICLE SYSTEM INSTRUMENTATION

_____
_____
_____

TA#: TB6565

Dummy Instrumentation - Internal

5HS L/F

ACCELS:

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

LOAD CELLS:

X	Neck Upper Load	X	Fx		Fy	X	Fz
X	Neck Upper Moment		Mx	X	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
X	L/Femur Load					X	Fz
	L/Femur Moment		Mx		My		Mz
X	R/Femur Load					X	Fz
	R/Femur Moment		Mx		My		Mz
	L/Up/Tibia Load		Fx		Fy		Fz
	L/Up/Tibia Moment		Mx		My		Mz
	R/Up/Tibia Load		Fx		Fy		Fz
	R/Up/Tibia Moment		Mx		My		Mz
	L/Low/Tibia Load		Fx		Fy		Fz
	L/Low/Tibia Moment		Mx		My		Mz
	R/Low/Tibia Load		Fx		Fy		Fz
	R/Low/Tibia Moment		Mx		My		Mz

POTENTIOMETERS:

X	Chest Deflection			
	Left Knee Slider	Ball Bearing	Std	Disp
	Right Knee Slider	Ball Bearing	Std	Disp

OTHER INTERNAL DUMMY INSTRUMENTATION:

	L/R Femur Accels	Long	Vert	Lat
	L/R Ankle soft bumper to foot stern			

Dummy Instrumentation - External

CONTACT SWITCHES:

- X L / Knee Contact
- X R / Knee Contact
- Header

STRING POTS:

- X Pelvis
- X L / Knee
- X R / Knee

OTHER EXTERNAL DUMMY INSTRUMENTATION:

- Please color contrast Driver left and right shoes

CRTS 0011504

TA#: TB6565

Dummy Instrumentation - Internal

6HS R/F

ACCELS:

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

LOAD CELLS:

X	Neck Upper Load	X Fx	Fy	X Fz
X	Neck Upper Moment	Mx	X 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
X	L/Femur Load			X Fz
	L/Femur Moment	Mx	My	Mz
X	R/Femur Load			X Fz
	R/Femur Moment	Mx	My	Mz
	L/Up/Tibia Load	Fx	Fy	Fz
	L/Up/Tibia Moment	Mx	My	Mz
	R/Up/Tibia Load	Fx	Fy	Fz
	R/Up/Tibia Moment	Mx	My	Mz
	L/Low/Tibia Load	Fx	Fy	Fz
	L/Low/Tibia Moment	Mx	My	Mz
	R/Low/Tibia Load	Fx	Fy	Fz
	R/Low/Tibia Moment	Mx	My	Mz

POTENTIOMETERS:

X	Chest Deflection			Disp
	Left Knee Slider	Ball Bearing	Std	Disp
	Right Knee Slider	Ball Bearing	Std	Disp

OTHER INTERNAL DUMMY INSTRUMENTATION:

	L/R Femur Accels	Long	Vert	Lat
	L/R Ankle soft bumper to foot stem			

Dummy Instrumentation - External

CONTACT SWITCHES:

- X L / Knee Contact
- X R / Knee Contact
- Header

STRING POTS:

- X Pelvis
- X L / Knee
- X R / Knee

OTHER EXTERNAL DUMMY INSTRUMENTATION:

- Please color contrast Driver left and right shoes

List of 1 Contacts

TA#: TB6586

	Last name	Phone	Pager	Profs
Requestor	D. Perrigo	84-58018	DPER	DPERRIGO
Aproving supervisor	K. Arthurs	39-05156	KART	KARTHURS
Build coordinator	B. Pagano	32-36045	BPAG	BPAGANO
Test engineer				
Sensor Engineer	M. Rucker	31-79180	MRUCKER	MRUCKER
Other				

	Last name	Phone	Pager	Profs
Seats	M. Jessup	84-61891	MJESSUP1	MJESSUP1
Instrument panel	M. Keranen	33-74148	NONE	MKERANEN
Restraints	N. Desai	39-05145	NDESAI	NDESAI
Air bag (driver)	R. Ruthinowski	82-16978	RRUTHINO	RRUTHINO
Air bag (passenger)	R. Ruthinowski	82-16978	RRUTHINO	RRUTHINO
Steering column				

CRTS 0011504

Revisions List

TAR: TB6585

DATE	AUTHORIZATION	DESCRIPTION	PAGE #s
4/4/01	D. Rossiyo	Replaced pages 1+4.	1, 4

CRTS 0011504

VEHICLE SAFETY PACKAGE LAB WORK ORDER

TAB: TB6585

06/07/1999	SEDAN 2000	D186	TB6585
D. Perrigo	84-56018	T551	F09
B. Pagano	32-36045	90 Degree Frontal Barrier	
1FAFP53U3YA100008	0	311W818	

SGRP		MID POINT		FULL REAR	
LH FRT	✓	CENTER FRT		RH FRT	✓
LH REAR		CENTER REAR		RH REAR	
VEHICLE DELIVERED TO		D/A	BARRIER	BUILD SITE	

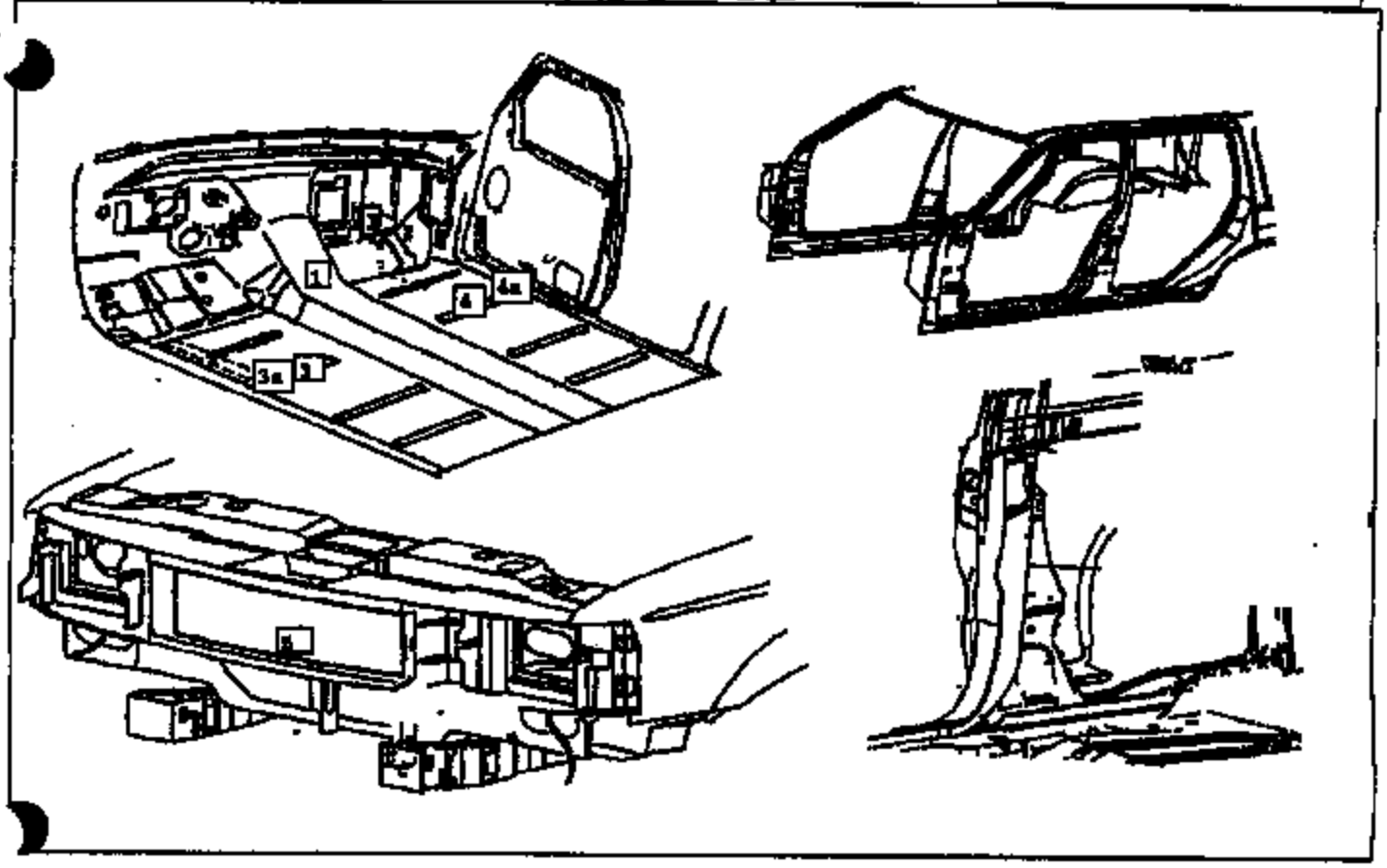
ANY QUESTIONS CONTACT:

PETER J. SIMONIS
PHONE: (313) 59-46809
PAGER: (313) 705-0053

DESCRIPTION OF JOB TO BE PERFORMED:

Burn Stress fuel furnace 6/7/99

Vehicle ID: 511W918 Build level: 1PP	**SENSOR MAP** TB6565	Program: D188 Test Mode: 35/30 BARRIER TA No.: TB6565



Sensor Channels only

	Location Name		Supplier	Output	Nominal (+/-)	Max/Min	Serial #
1	C/F_FLOOR_PAN_RCH	[redacted]	VISTEON	DAB1_OUT	0	10	[redacted]
	(LHD MIRON Location)	[redacted]		DAB2_OUT	0	10	
		[redacted]		PAB1_OUT	0	10	
		[redacted]		PAB2_OUT	0	10	
		[redacted]		D_PSP_OUT	0	10	
		[redacted]		P_PSP_OUT	0	10	
		[redacted]		D_SABI_OUT	0	10	
		[redacted]		P_SABI_OUT	0	10	
		[redacted]		Status	5	10	
1	C/F_FLOOR_PAN_S_RCH — YES		accel	TRIAX	On sgvcm		NA
2a	[redacted]		VISTEON	SENSOR			
3	[redacted]		accel	TRIAX			NA
4a	[redacted]		VISTEON	SENSOR			
6	[redacted]		accel	TRIAX			NA
8	C/BAD		ECC	[redacted]			
5	C/BAD YES		accel	TRIAX	Next to FCS		NA

3 OBP 6/11/99

DBP 6/11/99

T zero required; Assumed system power from vehicle wiring and battery - use provided harness

REVISION LOG

DESCRIPTION	DATE	PAGE AFFECT	ADPN

DUMMY MEASUREMENT REPORT
CRASH BARRIER

W NUMBER 11504 DUMMY POSITION LEFT FRONT
LAST ORDER NUMBER T86565 DUMMY ABBREV 5H3

ABSOLUTE MEASUREMENTS(INCH)	MEASUREMENT
LEG(HYB II)/KNEE(HYB III) TO INST PANEL LEFT	1.20
LEG(HYB II)/KNEE(HYB III) TO INST PANEL RIGHT	0.00
ROCKER TARGETS TO GROUND FRONT	7.10
ROCKER TARGETS TO GROUND REAR	6.80
NOSE TO STEERING WHEEL	9.90
NOSE TO INSTRUMENT PANEL	
INSTRUMENT PANEL TO TORSO	
STEERING WHEEL TO TORSO	3.20
STEERING WHEEL TOP LEGS	2.20
KNEE SPREAD OS-OS(HYB II)/CL-CL(HYB III)	8.90
SEAT BACK ANGLE	18.60
PELVIC ANGLE	22.40
HEAD ANGLE	0.40
ROCKER ANGLE	0.40
NECK BRACKET ANGLE	
BUMPER TARGET TO GROUND	

RELATIVE MEASUREMENTS(INCH)	WRT FRT RKR TGT
HEAD LAT	14.50
HEAD VERT	36.10
HEAD LONG	6.60
SHOULDER LAT	
SHOULDER VERT	
SHOULDER LONG	
H-POINT LAT	12.10
H-POINT VERT	14.00
H-POINT LONG	4.10
O/S KNEE BOLT LAT	11.10
O/S KNEE BOLT VERT	16.50
O/S KNEE BOLT LONG	-8.80

DUMMY MEASUREMENT REPORT
CRASH BARRIER

RUN NUMBER 11504 DUMMY POSITION RIGHT FRONT
TEST ORDER NUMBER TB6565 DUMMY ABBREV 5H3

ABSOLUTE MEASUREMENTS(INCH)	MEASUREMENT
LEG(HYB II)/KNEE(HYB III) TO INST PANEL LEFT	1.30
LEG(HYB II)/KNEE(HYB III) TO INST PANEL RIGHT	1.50
ROCKER TARGETS TO GROUND FRONT	7.30
ROCKER TARGETS TO GROUND REAR	7.00
NOSE TO STEERING WHEEL	
NOSE TO INSTRUMENT PANEL	14.20
INSTRUMENT PANEL TO TORSO	12.70
STEERING WHEEL TO TORSO	
STEERING WHEEL TOP LEGS	
KNEE SPREAD OS-OS(HYB II)/CL-CL(HYB III)	6.50
SEAT BACK ANGLE	17.80
PELVIC ANGLE	19.90
HEAD ANGLE	0.30
ROCKER ANGLE	0.20
NECK BRACKET ANGLE	
BUMPER TARGET TO GROUND	

RELATIVE MEASUREMENTS(INCH)	WRT FRT RKR TGT
HEAD LAT	14.40
HEAD VERT	35.90
HEAD LONG	7.10
SHOULDER LAT	
SHOULDER VERT	
SHOULDER LONG	
H-POINT LAT	11.80
H-POINT VERT	13.20
H-POINT LONG	4.10
O/S KNEE BOLT LAT	12.40
O/S KNEE BOLT VERT	15.70
O/S KNEE BOLT LONG	-9.00