



INFORMATION BULLETIN

MOTOR VEHICLE MANUFACTURERS ASSOCIATION OF THE UNITED STATES, INC. • 7430 SECOND AVENUE, SUITE 300 • DETROIT, MICHIGAN 48202 • 872-4311 AREA 313

V1478

August 27, 1990

TO: Side Impact Subcommittee
FROM: Ronald J. Wasko
SUBJECT: MVMA Full Vehicle BioSID Test Report - Test 6P

Attached for information is a copy of the final report for one of the twelve MVMA Full Vehicle Side Impact Tests. The tests were conducted during February to April, 1990 at the General Motors Proving Grounds, using the BioSID dummy. The calibration procedures and results will be transmitted in a separate bulletin.

Attachment

cc: Engineering Research Subcommittee
Vehicle Safety Development Subcommittee

**MVMA FULL VEHICLE BIOSID SIDE IMPACT
TEST SERIES**

FEBRUARY-APRIL, 1990

USING PROPOSED NHTSA FULL VEHICLE SIDE IMPACT TEST PROCEDURE

TEST NUMBER 6P*

(B= Baseline door interior; P= Padded door interior)

TYPE IMPACT:

- REAR MOVING BARRIER
- LEFT SIDE MOVING BARRIER
- RIGHT SIDE MOVING BARRIER
- OTHER

TEST REPORT

REPORT NO. PG _____

SRDL TEST NO. C8006

TEST DATE MAR 13, 1990

BARRIER TYPE:

- FLAT FACE
- CONTOURED
- OTHER

OTHER:

CRABBED DEFORMABLE BARR AT 27 DEG _____

VEHICLE DESCRIPTION

MAKE	YEAR	BODY TYPE	BODY STYLE	DIVISION CAR NO.	BUILD STATUS	
PONTIAC	90	A	2AF69	MVMA6P	MODIFIED PRODUCTION	
ENGINE	CONFIGURATION	L4	DISPLACEMENT	2.5 L	PREVIOUS IMPACTS	NONE
	FUEL	GASOLINE	TRAILER HITCH			YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> TYPE
	FUEL INDUCTION	THROTTLE BODY INJECTORS	SPARE TIRE TYPE			COMPACT
FUEL TANK	USABLE CAPACITY	N/A L	UNUSABLE CAPACITY	N/A L	AC	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
SPECIAL FEATURES:						
VEHICLE TESTED FOR EVALUATION OF BIOSID AND SID.						
PADDING ADDED TO LEFT SIDE FRONT AND REAR DOORS.						

TEST CONDITIONS

MOVING BARRIER			
VELOCITY AT IMPACT	53.5 km/h	LOCATION	VEHICLE <input type="checkbox"/> DRIVER SRP <input type="checkbox"/> OTHER <input checked="" type="checkbox"/>
TEST MASS	1360 kg	AT IMPACT	

VEHICLE		DUMMIES	
TEST MASS	FRONT 922 kg	LEFT FRONT	MAKE SID NO. 3
LESS DUMMIES <input checked="" type="checkbox"/>	REAR 671 kg		TYPE 50TH %ILE MALE MASS 78.5 kg
INCLUDING DUMMIES <input type="checkbox"/>	TOTAL 1593 kg		RESTRAINT NONE
FUEL TANK	TEST VOLUME: CONTENTS WATER BALLAST	LEFT REAR	MAKE BIOSID NO 1
	N/A % OF USABLE CAPACITY= N/A L		TYPE 50TH %ILE MALE MASS 77.3 kg
FUEL LINES AND SYSTEM FILLED	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		RESTRAINT NONE
VEHICLE SERVICE BRAKES ON @ IMPACT	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
SEAT POSITION	MID		
VEHICLE ATTITUDE			
J= DRIVER SIDE	191 mm	PASSENGER SIDE	191 mm
K= DRIVER SIDE	176 mm	PASSENGER SIDE	171 mm
COMMENTS:			
LEFT SIDE OF MOVING BARRIER FACE WAS POSITIONED			
940 MM FORWARD OF VEHICLE WHEELBASE CENTERLINE.			
SEE PAGE FOUR. FUEL TANK WAS FILLED WITH WATER.			

	TEST CONFIGURATION:

PHOTOGRAPHIC COVERAGE

RECORDED DATA

OFFBOARD	OVER ALL	<input checked="" type="checkbox"/>	FUEL TANK	
	REAR HALF		OVERHEAD	<input checked="" type="checkbox"/>
	PIT			
OTHER	OFFBD-DR SIDE	<input checked="" type="checkbox"/>	ON MOB-IMPACT	<input checked="" type="checkbox"/>
	ONBD-DRIVER	<input checked="" type="checkbox"/>		
	ONBD-LR OCCUP	<input checked="" type="checkbox"/>		

FLOOR PAN ACCEL.	LONG <input type="checkbox"/>	LAT <input type="checkbox"/>	TRIAX <input type="checkbox"/>
FRAME ACCEL	LONG <input type="checkbox"/>	LAT <input type="checkbox"/>	TRIAX <input type="checkbox"/>
ROCKER PANEL ACCEL.	LONG <input type="checkbox"/>	LAT <input type="checkbox"/>	TRIAX <input checked="" type="checkbox"/>
VEHICLE ACCELS	<input checked="" type="checkbox"/>	BIOSID DATA	<input checked="" type="checkbox"/>
MOVING BARR ACCELS	<input checked="" type="checkbox"/>		
SID DATA	<input checked="" type="checkbox"/>		

N/A NOT APPLICABLE N/D NOT DETERMINED

DUMMY LOCATION IN VEHICLE

The following values reflect the dummy location in the test vehicle in corporate body coordinates. The location is determined relative to the vehicle front fiducial mark (front outboard seat anchor stud).

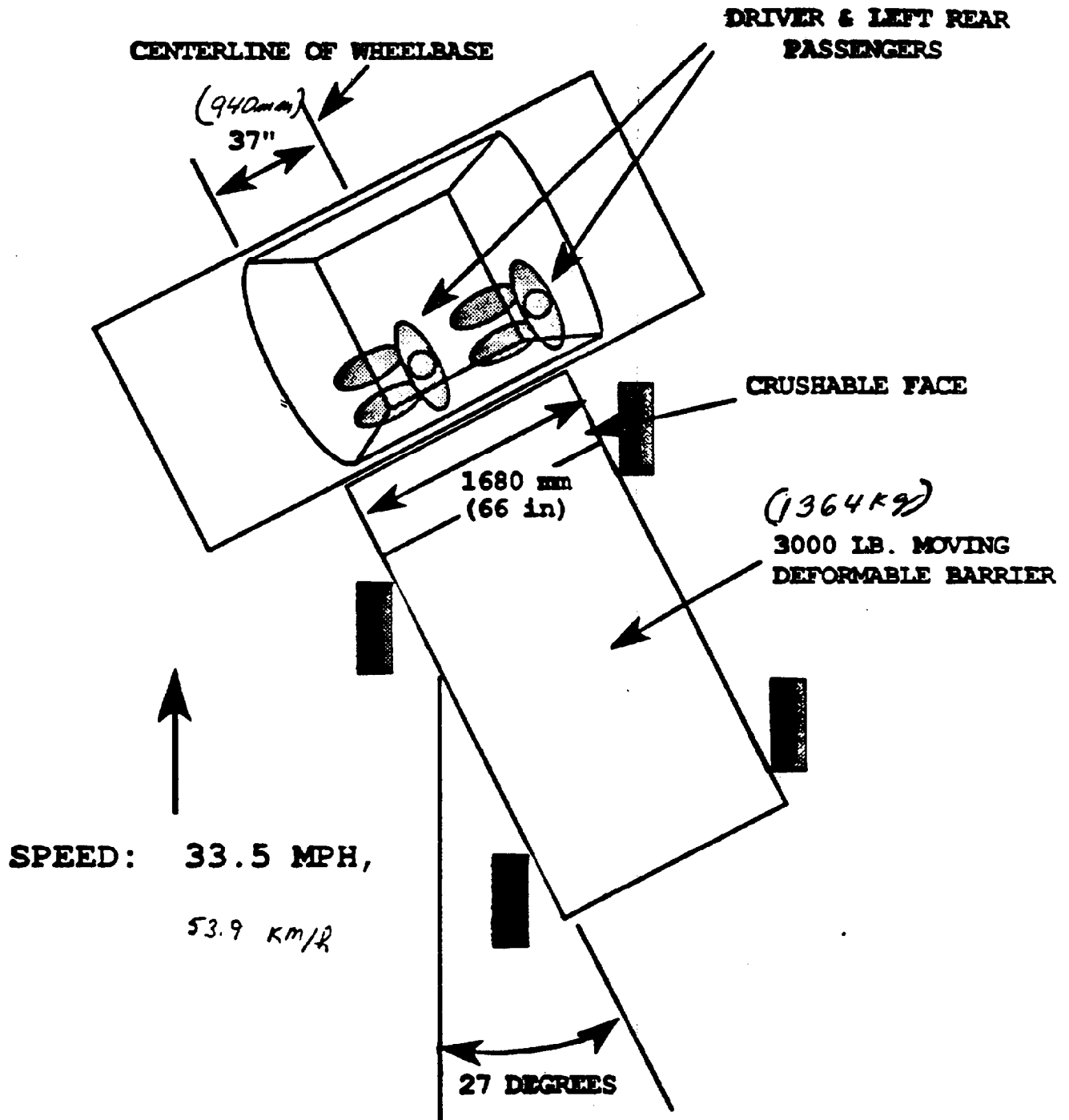
BODY COORDINATES (mm)

	LONGITUDINAL	VERTICAL
<u>LEFT FRONT PASSENGER</u>		
HEAD	<u>3261</u>	<u>1112</u>
HIP	<u>3069</u>	<u>457</u>
KNEE	<u>2674</u>	<u>557</u>
PELVIC ANGLE	<u>26</u>	SEAT BACK ANGLE <u>24</u>
<u>RIGHT FRONT PASSENGER</u>		
HEAD	<u>4149</u>	<u>1100</u>
HIP	<u>3934</u>	<u>446</u>
KNEE	<u>3573</u>	<u>590</u>
PELVIC ANGLE	<u>27</u>	SEAT BACK ANGLE <u>N/D</u>

Dummy lateral location: 343 mm relative to VEHICLE C/L

Comments: HEAD ANGLE: LF= -2 DEGREE; LR= -12 DEGREES

NHTSA TEST CONFIGURATION



**27 DEGREE CRASHED MOVING DEFORMABLE BARRIER TO CAR SIDE IMPACT
TEST VEHICLE PRE-TEST, POST-TEST, AND STATIC CRUSH MEASUREMENTS (in mm)**

TEST NUMBER: C8006

TEST DATE:

LOCATION			WINDOW TOP			WINDOW SILL			MID DOOR			H - POINT			AXLE CL		
HEIGHT (in mm)			-			806			-			450			208		
TIME & CRUSH	PRE TEST	POST TEST	RSDL. CRUSH	PRE TEST	POST TEST	RSDL. CRUSH	PRE TEST	POST TEST	RSDL. CRUSH	PRE TEST	POST TEST	RSDL. CRUSH	PRE TEST	POST TEST	RSDL. CRUSH		
M F 610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
E R 457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A W 305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
B D 152	-	-	-	414	413	-1	-	-	-	-	-	-	-	-	-		
U 0°	-	-	-	407	412	5	-	-	-	357	339	-18	464	462	-2		
R 152	-	-	-	406	529	123	-	-	-	358	638	280	466	546	80		
E 305	-	-	-	404	585	181	-	-	-	355	697	342	466	582	116		
M 457	-	-	-	401	611	210	-	-	-	353	710	357	461	595	134		
E 610	-	-	-	399	625	226	-	-	-	351	726	375	458	621	163		
M R 762	-	-	-	397	641	244	-	-	-	350	744	394	457	645	188		
T E 914	-	-	-	396	662	266	-	-	-	348	756	408	452	666	214		
A 1067	-	-	-	395	678	283	-	-	-	347	765	418	451	691	240		
L R 1219	-	-	-	396	707	311	-	-	-	348	775	427	450	709	259		
O W 1372	-	-	-	396	716	320	-	-	-	347	795	448	448	621	173		
C A 1524	-	-	-	397	728	331	-	-	-	347	801	454	445	558	113		
A R 1676	-	-	-	398	736	338	-	-	-	348	804	456	448	516	68		
T D 1829	-	-	-	398	637	239	-	-	-	349	706	357	443	464	21		
I 1981	-	-	-	399	514	115	-	-	-	-	-	-	-	-	-		
O 2134	-	-	-	399	459	60	-	-	-	-	-	-	-	-	-		
M 2286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2438	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

(in mm)

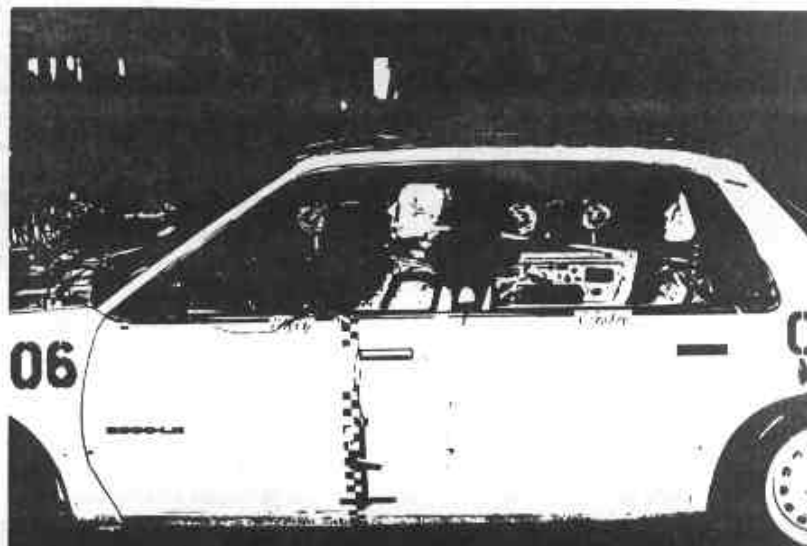
• IMPACT POINT- MOVING DEFORMABLE BARRIER LEADING EDGE

**27 DEGREE CRABBED MOVING DEFORMABLE BARRIER TO CAR SIDE IMPACT
STRIKING VEHICLE PRE-TEST, POST-TEST, AND STATIC CRUSH MEASUREMENTS (in mm)**

TEST NUMBER: C8006
TEST DATE: MAR. 13.1990

LOCATION	HEIGHT	TIME/CRUSH	MEASUREMENT LOCATION (in mm)																		
			DISTANCE LEFT OF CENTER**									DISTANCE RIGHT OF CENTER**									
			813	711	610	508	406	305	203	102	0	102	203	305	406	508	610	711	813		
TOPOF		POST-TEST																			
STACK LEVEL	813	PRE-TEST	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276			
		STATIC CRUSH	48	5	4	4	5	6	6	8	8	9	9	11	12	14	18	23	44	81	117
MID-STACK		POST-TEST	296	278	279	280	280	280	280	280	280	281	281	281	282	284	285	286	292	329	385
LEVEL	686	PRE-TEST	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
		STATIC CRUSH	20	2	3	4	4	4	4	4	4	5	5	5	6	8	9	10	16	53	109
BOTTOM OF		POST-TEST	290	287	286	285	284	285	281	281	281	281	281	281	282	283	283	284	287	300	329
STACK LEVEL	559	PRE-TEST	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
		STATIC CRUSH	14	11	10	9	8	9	5	5	5	5	5	5	6	7	7	8	11	24	53
BUMPER LEVEL	432	POST-TEST	207	188	186	187	187	193	189	183	184	185	185	188	190	191	193	201	234	266	
		PRE-TEST	193	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	193
		STATIC CRUSH	14	14	12	13	13	19	15	9	10	11	11	14	16	17	19	27	60	73	

* HEIGHTS MEASURED ABOVE GROUND LEVEL
** LOOKING AT THE FACE OF THE BARRIER.



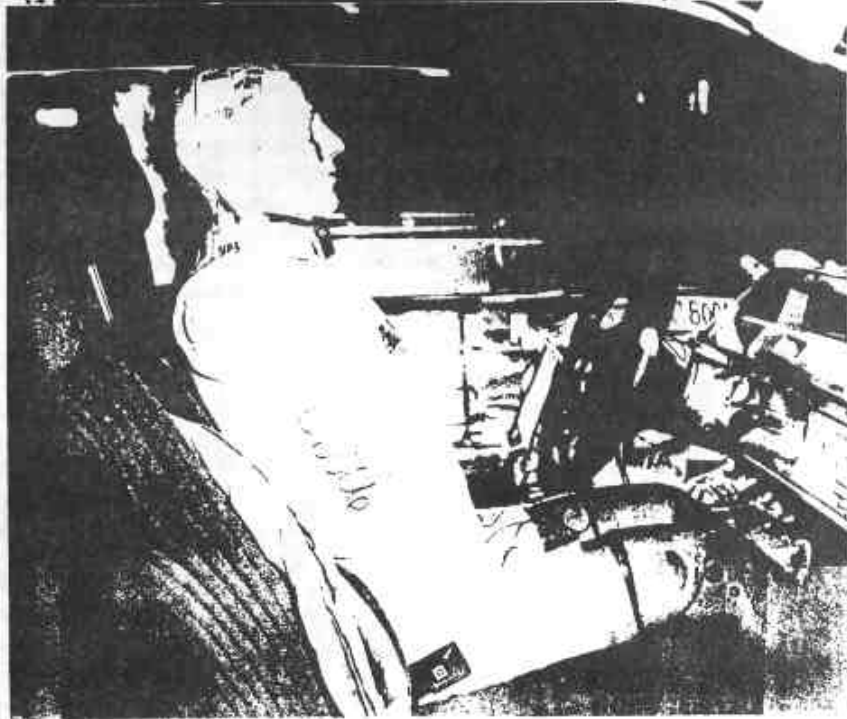
Document No.	Fig. No.
55396	128



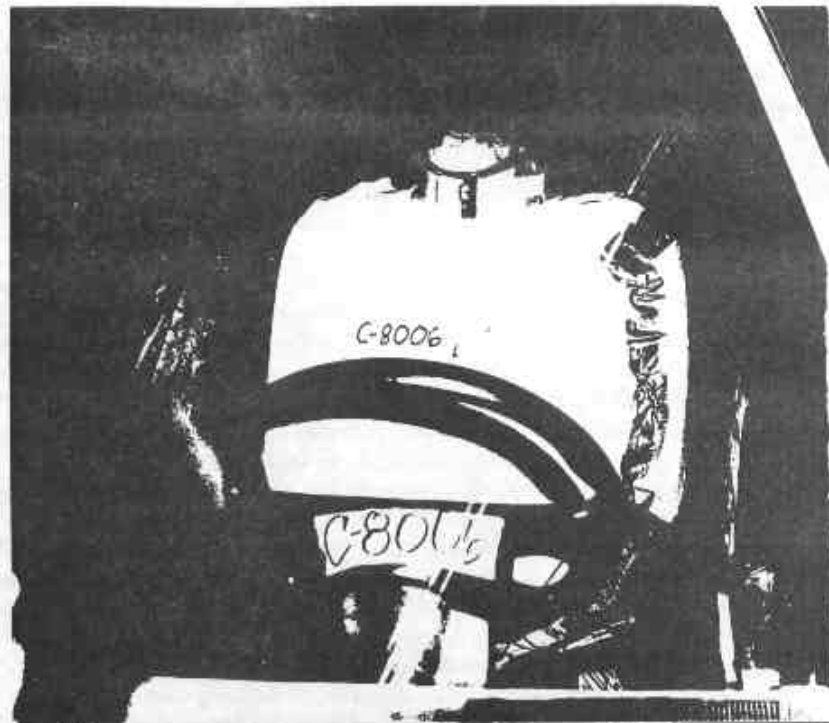
Document No.	Fig. No.
55396	129



Document No.	Fig. No.
55396	130



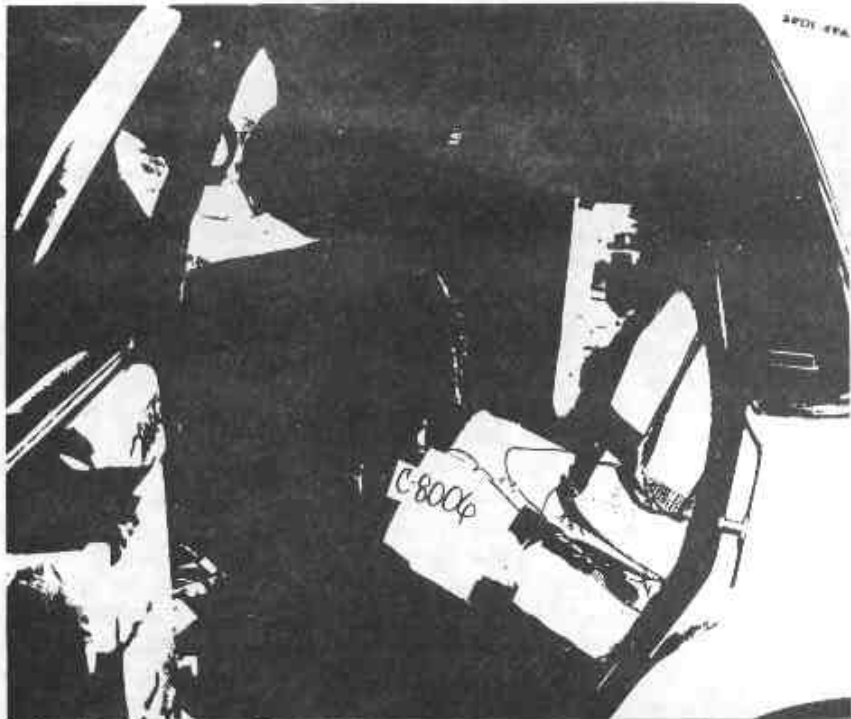
Document No.	Fig. No.
55396	131



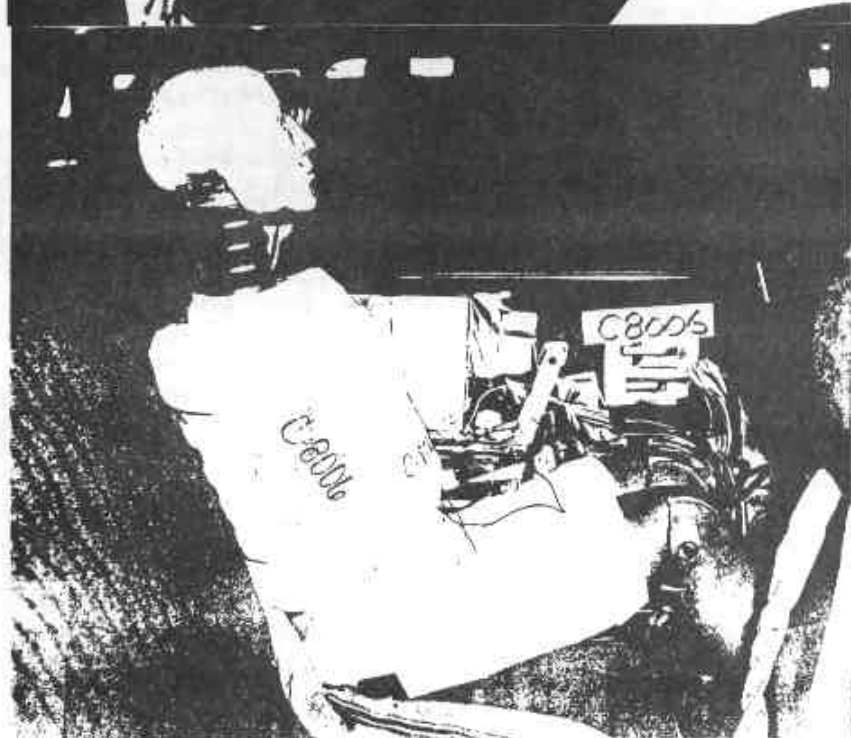
Document No.	Fig. No.
55396	132



Document No.	Fig. No.
55396	133

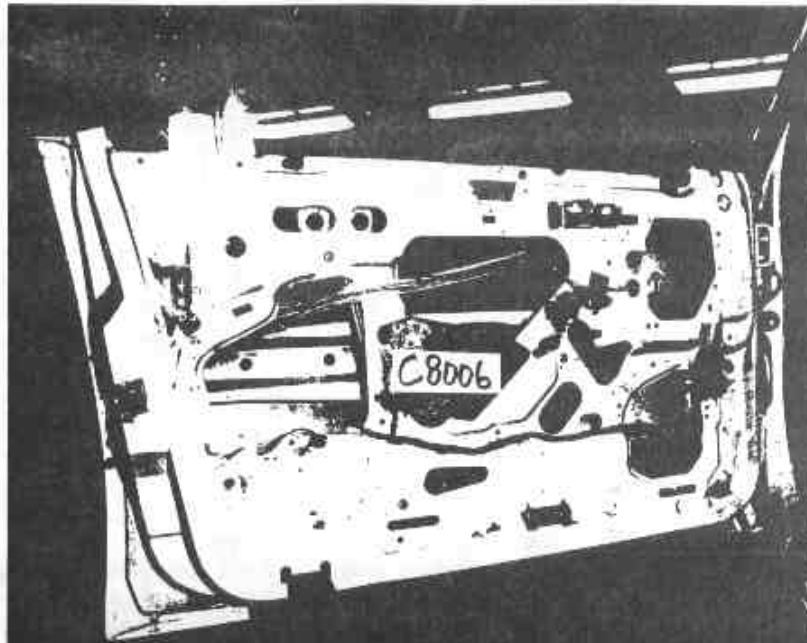


Document No.	Fig. No.
55396	134

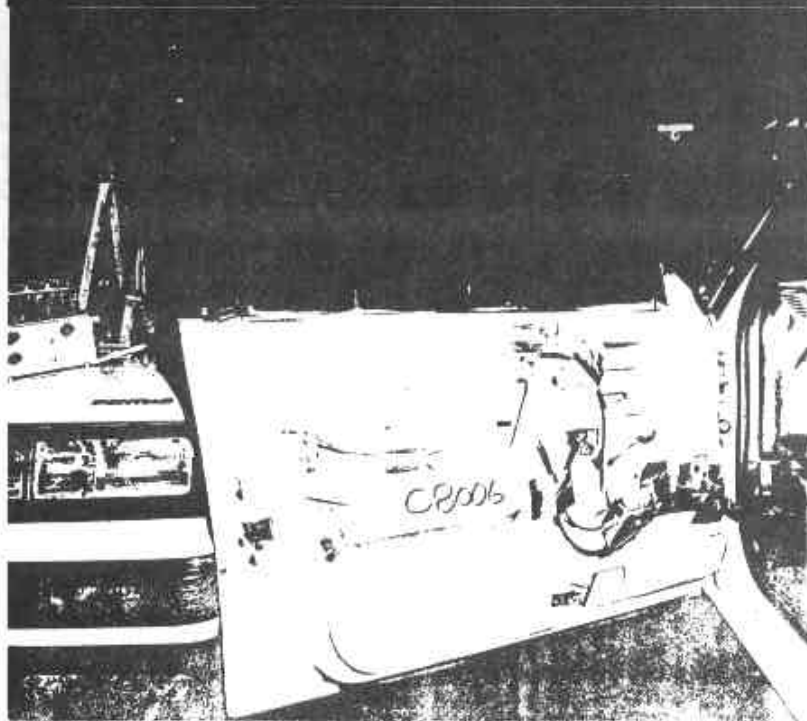


Document No.	Fig. No.
5-396	135

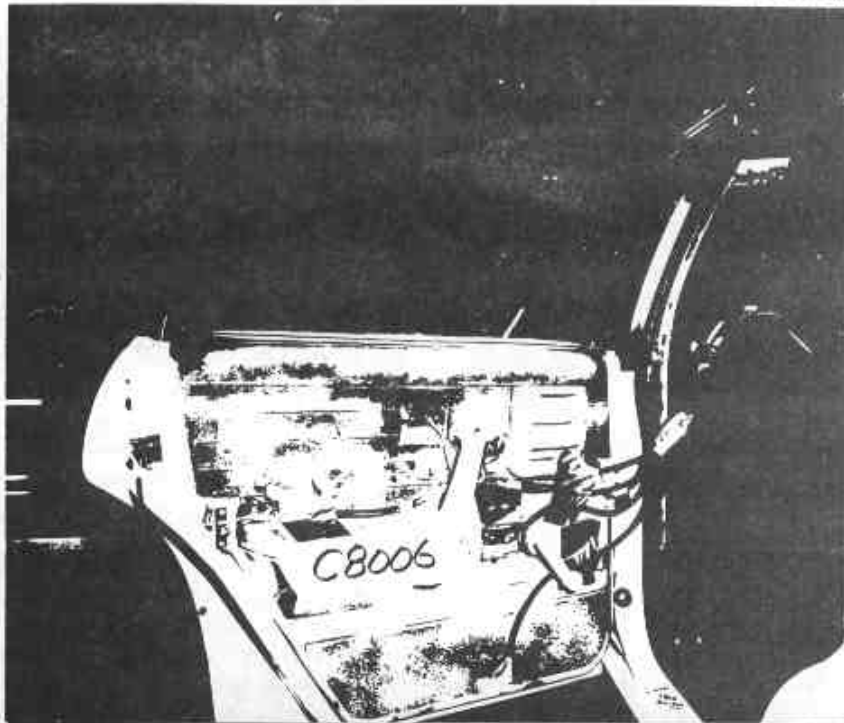
Document No.	Fig. No.
55396	136



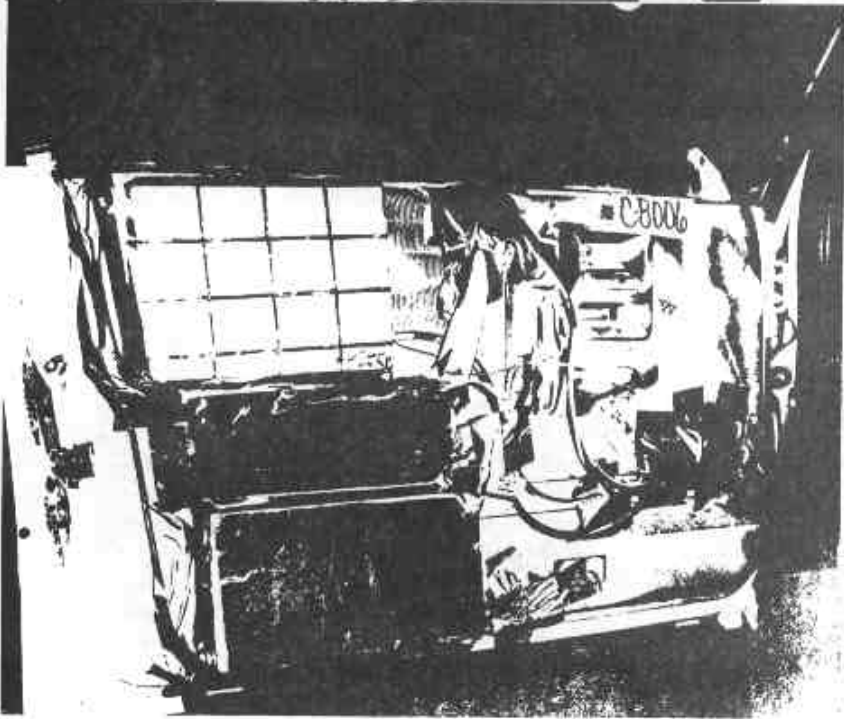
Document No.	Fig. No.
55396	137



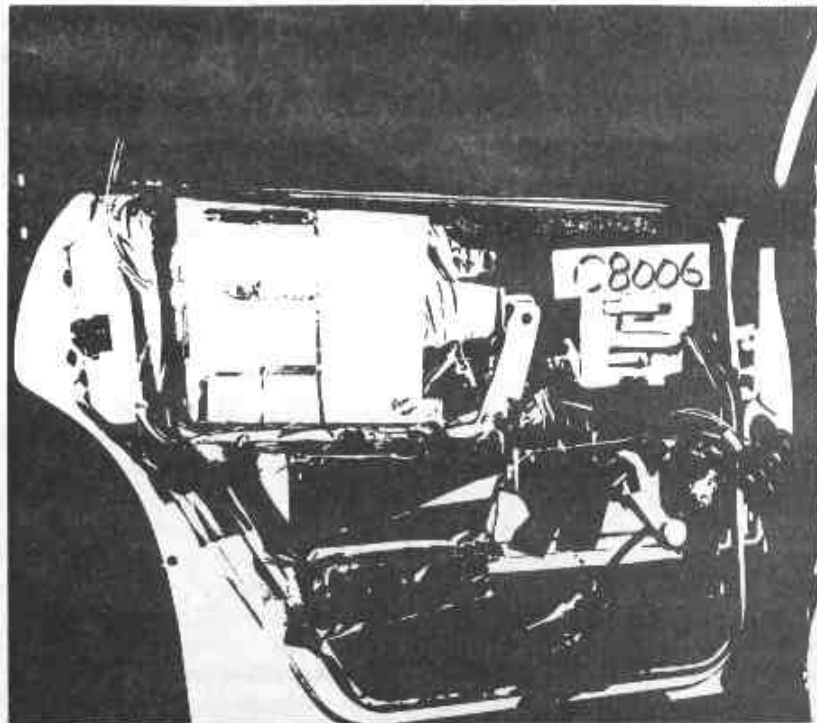
Document No.	Fig. No.
55396	138



Document No.	Fig. No.
55396	139



Document No.	Fig. No.
55396	140



Document No.	Fig. No.
55396	141



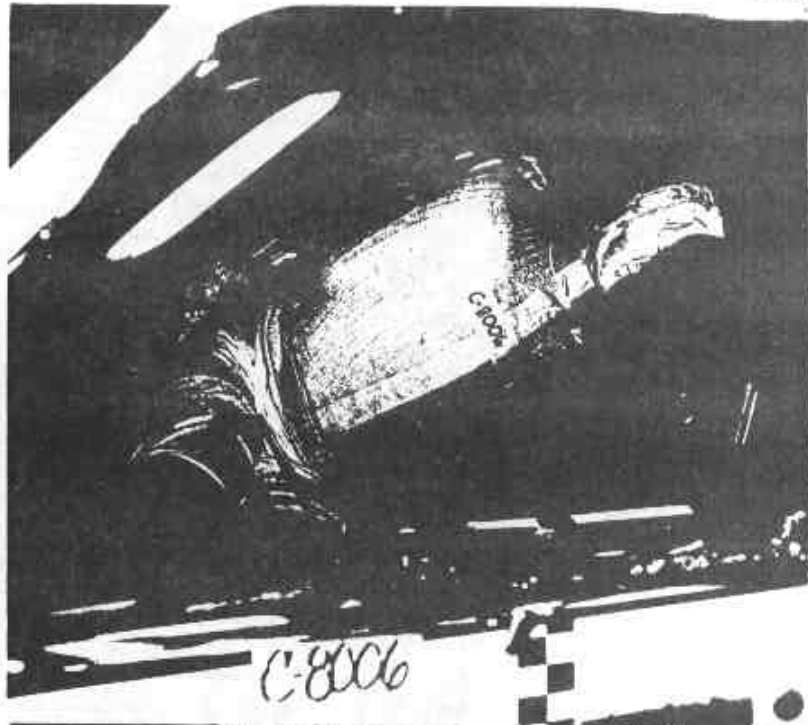


Document No.	Fig No.
55396	142

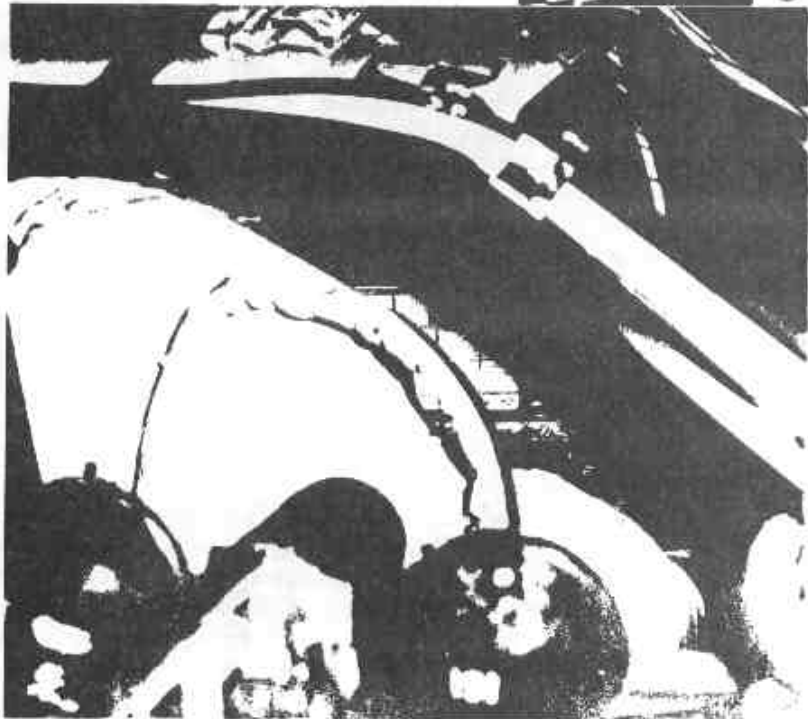


Document No.	Fig No.
5 396	143

CPE 05

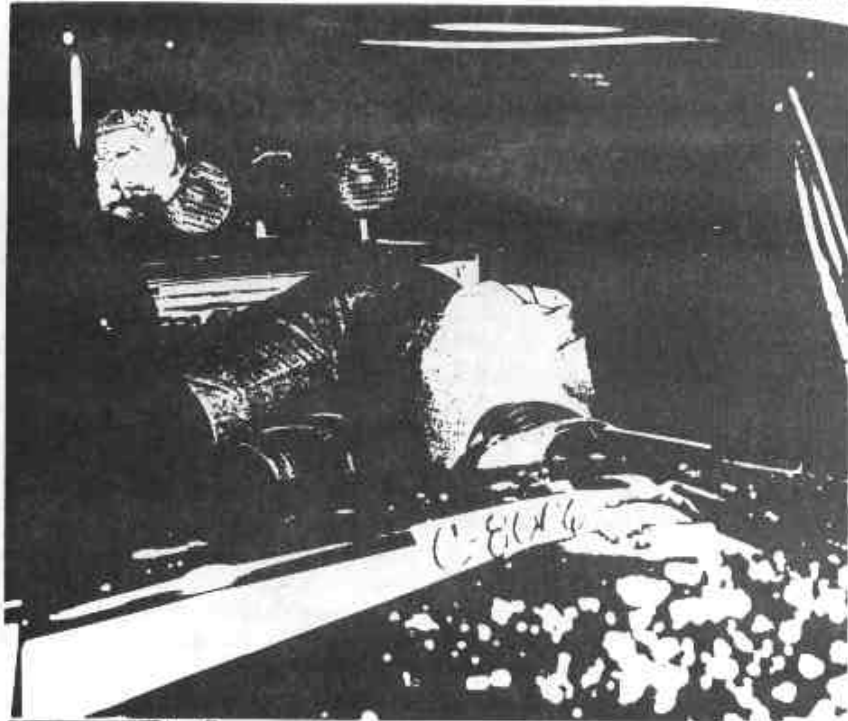


Document No.	Fig. No.
55396	144

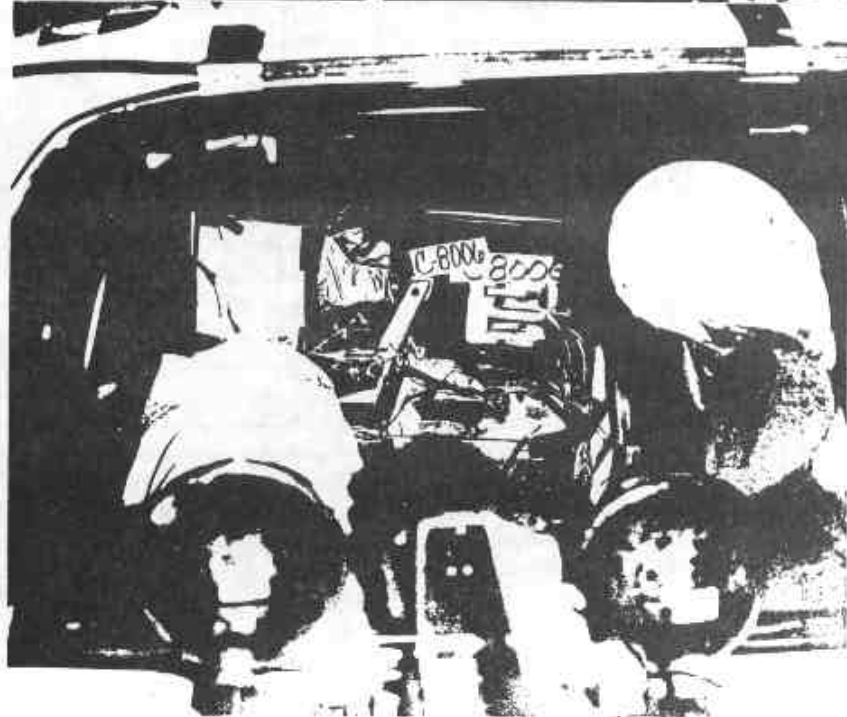


Document No.	Fig. No.
55396	145

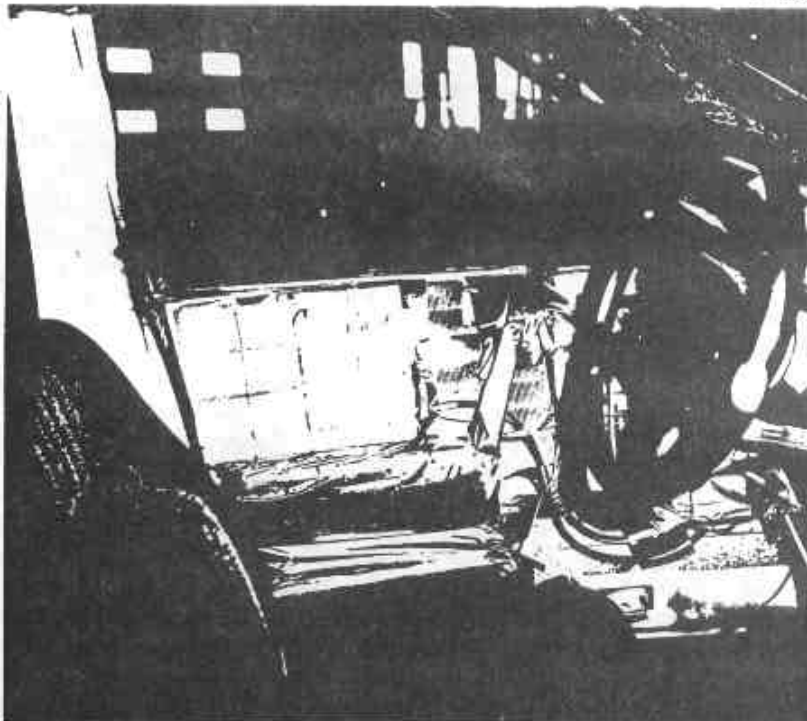
Document No.	Fig. No.
55396	146



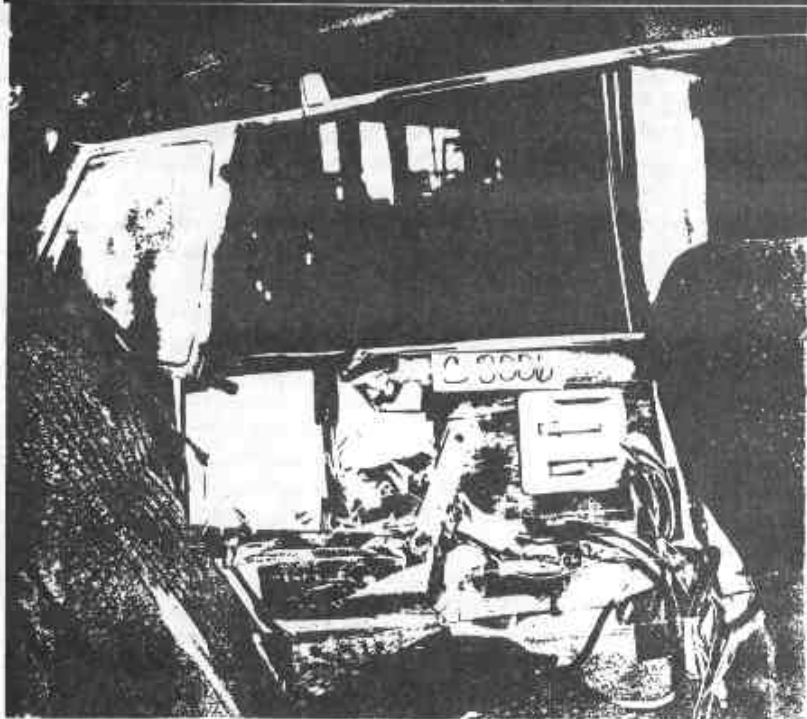
Document No.	Fig. No.
5 396	147



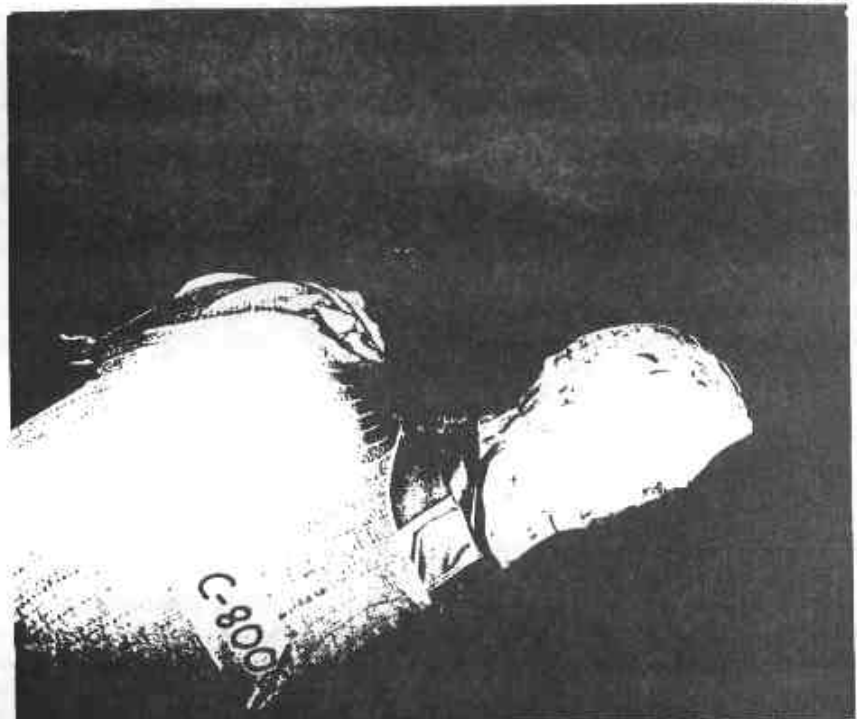
Document No.	Fig. No.
55396	148



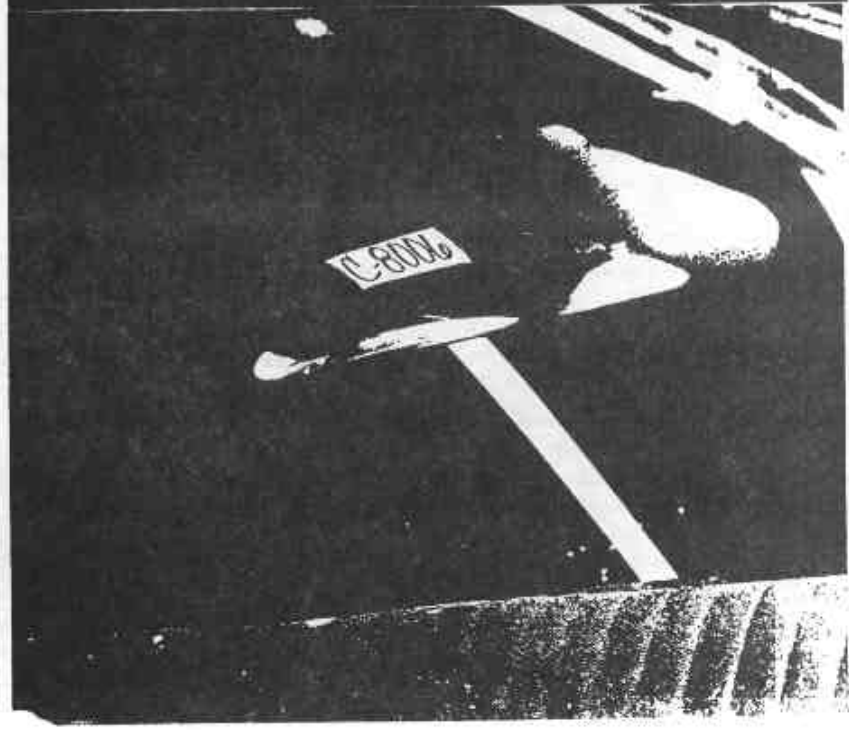
Document No.	Fig. No.
55396	149



Document No.	Fig. No.
55396	151



Document No.	Fig. No.
55396	151



**GENERAL MOTORS PROVING GROUND
TEST OR WORK REQUEST**

REQUESTING DIVISION
Please fill in
Applicable
Unshaded Spaces

REPORT NO.
PG **55396**
AUTHOR

PG-8763

PROJECT, TEST, WORK ORDER, OR P.O. NO.	CL	PURCHASE ORDER	PG TEST NO.	PG JOB NUMBER
				3868-905

NAME OF TEST OPERATION OR PROJECT REQUESTED

TO: GENERAL MOTORS PROVING GROUND
L-97 DEPARTMENT DATE **1-29-90**

REQUESTED BY: **MVMA** DIVISION

DIVISION CONTACT: **Anthony Melocchi**

NAME OF TEST: **Moving Crabbed Barrier to Parked Veh.** PROCEDURE REPORT NO. PG.

DESIRED COMPLETION DATE: _____ OVERTIME AUTHORIZED? _____

PRELIMINARY DATA BY: _____ (DATE) SEND _____ COPIES TO _____ PHONE NO. _____

FINAL REPORT SEND _____ COPIES TO _____

SPECIAL REPORT DISTR. SEND _____ COPIES TO _____

TEST OBJECTIVES (USE EXTRA SHEETS AS REQUIRED):
Compare the SID and BIOSIA in the proposed full scale side impact test.

VEHICLE DESCRIPTION

ESSENTIAL DATA

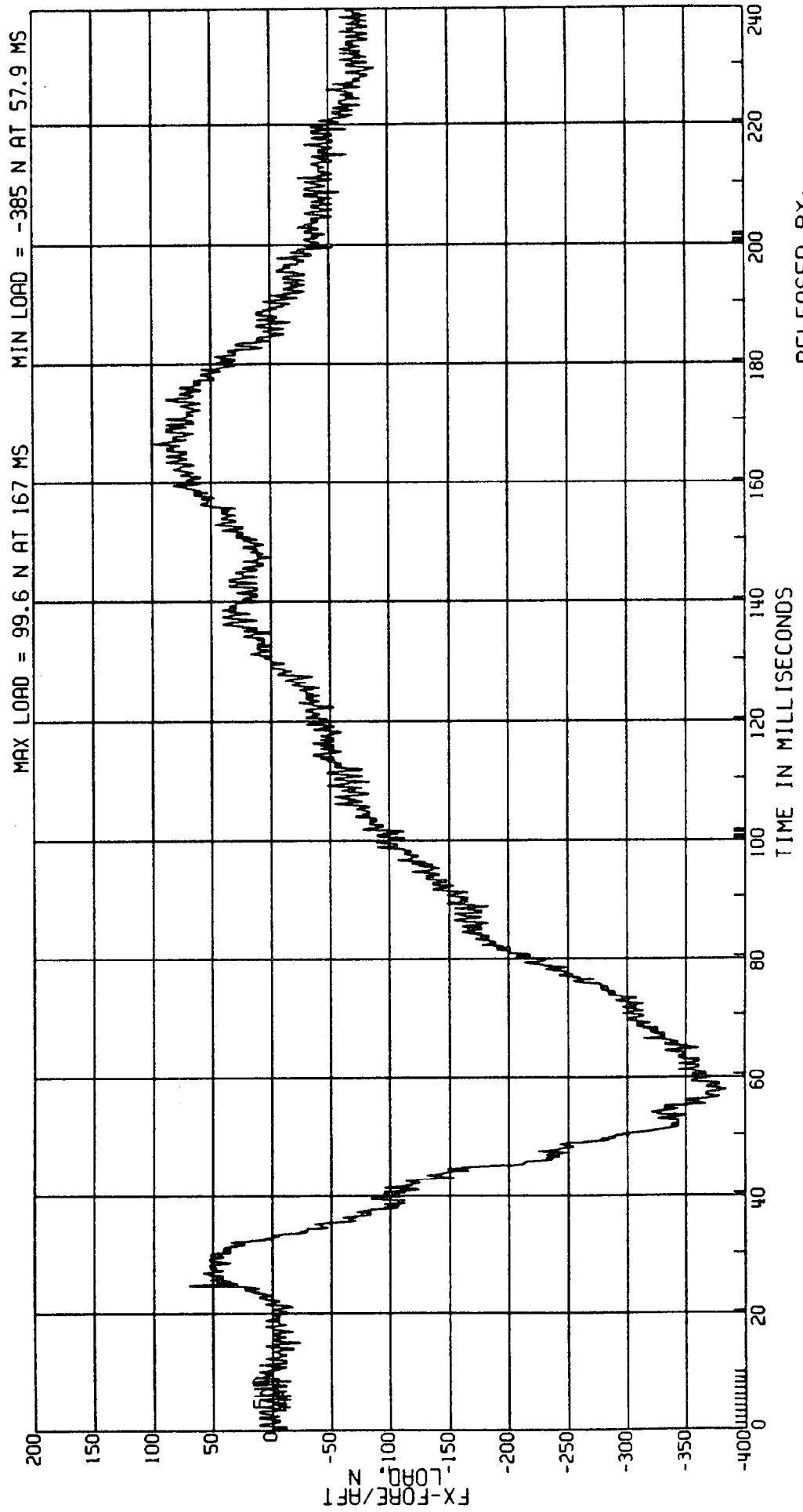
VEHICLE NO.	MVMA 6P			
MAKE	Pontiac	Vehicles		
YEAR	1990			
MODEL (BODY STYLE)	2AF69	MVMA 1 Thru MVMA 12		
TRANSMISSION	Automatic			
AXLE RATIO				
TIRE MAKE				
SIZE				
PRESSURE (COLD)	F _____ R _____	F _____ R _____	F _____ R _____	F _____ R _____
FUEL TYPE				
ENGINE OIL BRAND AND WEIGHT				
VEHICLE WEIGHT				
TEST WEIGHT				

SPECIAL DATA

ENGINE DISPLACEMENT				
BORE X STROKE				
NOMINAL COMPRESSION RATIO	_____ X _____	_____ X _____	_____ X _____	_____ X _____
FIRING ORDER				

AUTHORIZED SIGNATURE: **Anthony S. Melocchi** POSITION: _____ DIVISION: _____

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR NECK LOADING ON HEAD, UPPER LOAD TEST DATE:03-13-90
ELEC DATA, SAE CLASS 1000



RELEASED BY:
3 PROCESSED 4 MT 90 13:43

M9B6UAG#

C8006B

05/04/90

13:42:53

NUMBER OF PLOTS = 77

XOFF = 10.10

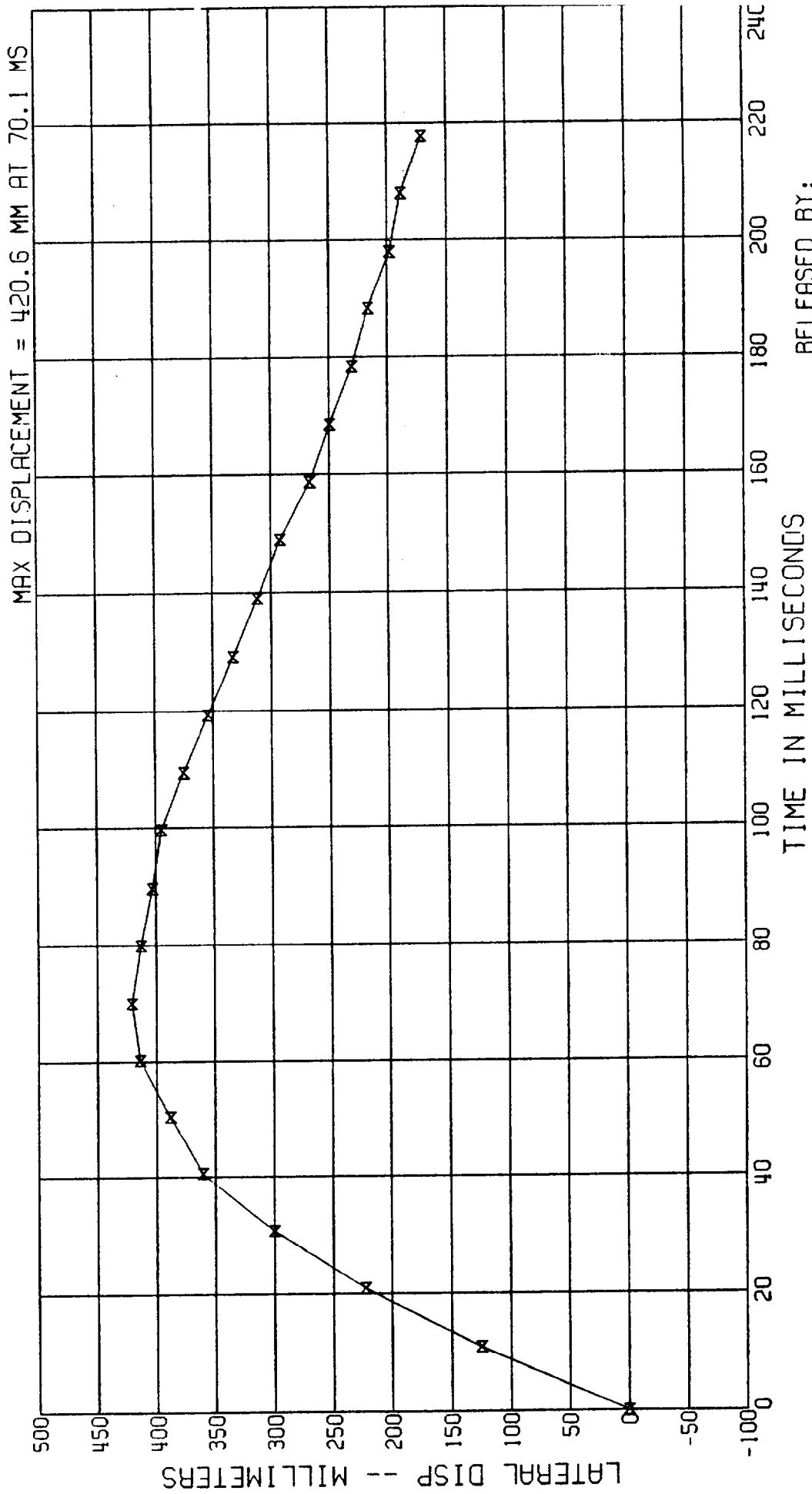
YOFF = 0.75

Good 1A-A

1A

C8C06 L SIDE IMPACT AT 27DEG MOVING CRABBED BARR. TO PARKED VEH, 53.5KM/H FIGURE 2
 3868-905
 CPE MVMREP 2AF69
 FILM DATA
 OVERHEAD VIEW
 TEST DATE: 03-13-90

STRIKING BARRIER RELATIVE TO STRUCK VEHICLE



RELEASED BY:
 1 PROCESSED 19 MAR 90 13:51

3868-905

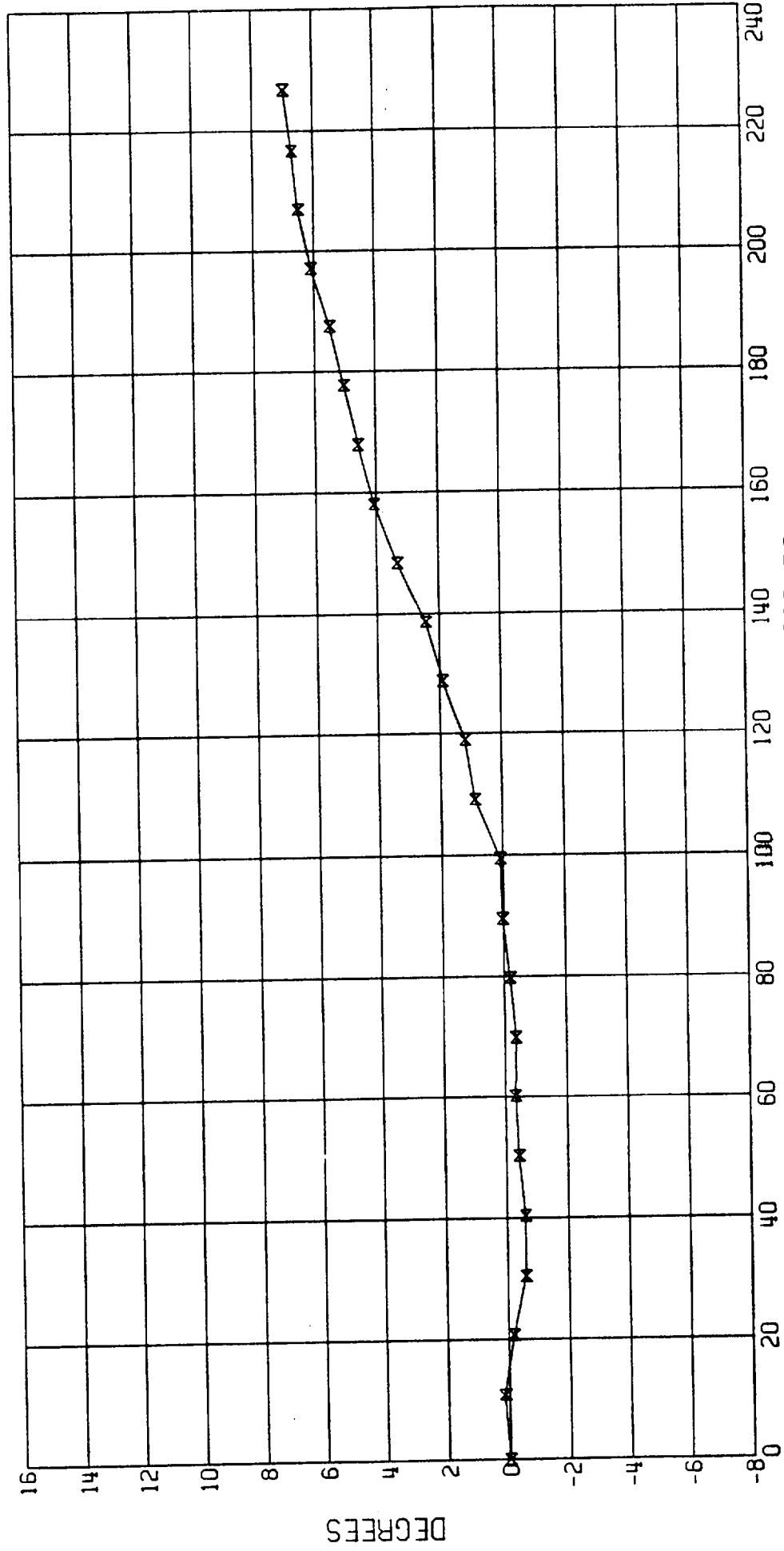
CPE MVMA6P 2AF69

FILM DATA

REAR VIEW

TEST DATE:03-13-90

STRUCK VEHICLE ROLL RELATIVE TO GROUND REFERENCE



RELEASED BY:

13 PROCESSED 19 MAR 90 11:19

C8006 L SIDE IMPACT AT 27DEG MOVING CRABBED BARR. TO PARKED VEH. 53.5KM/H FIGURE 4

3868-905

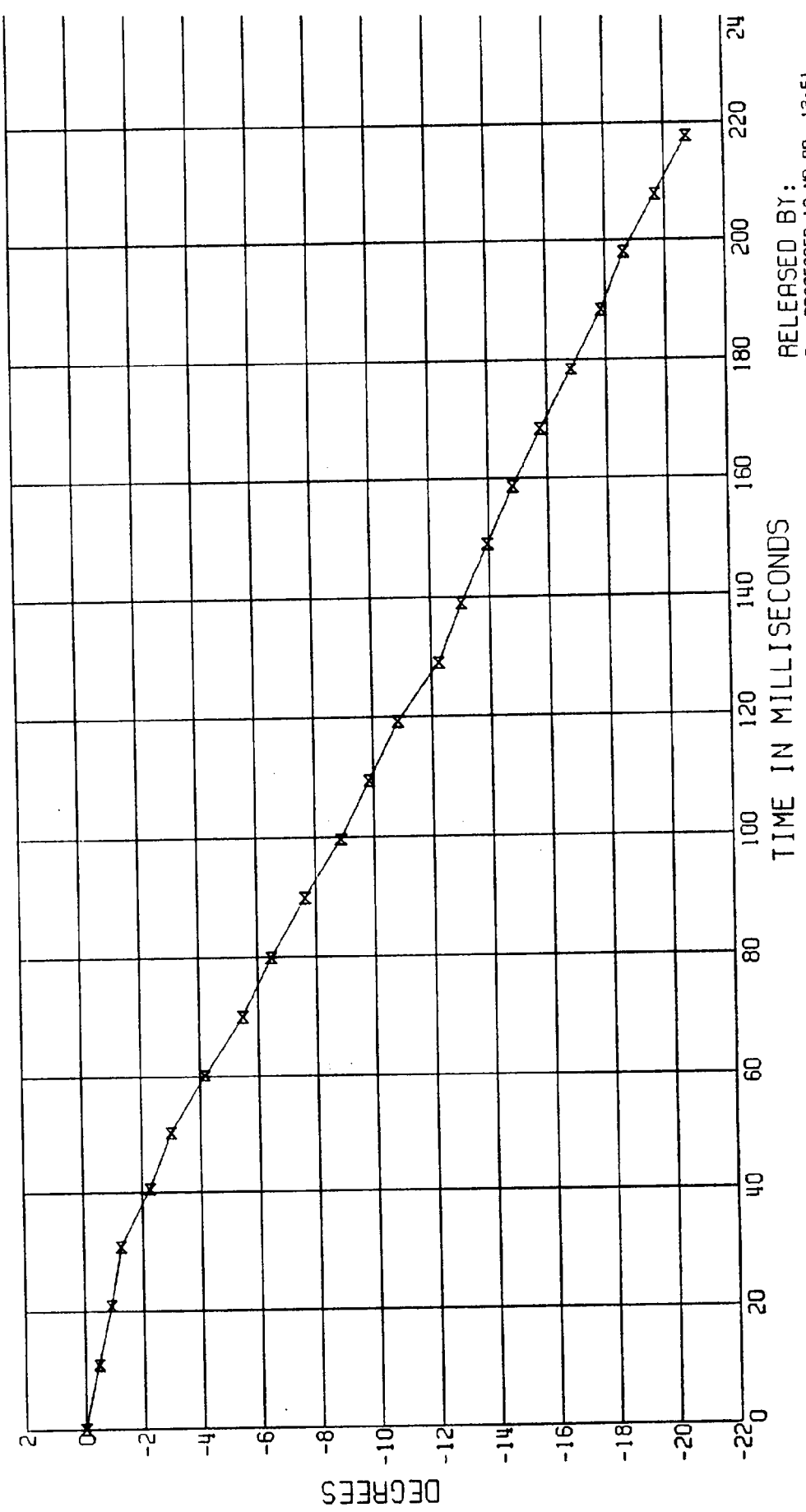
CPE MVMR6P 29F63

FILM DATA

OVERHEAD VIEW

TEST DATE:03-13-90

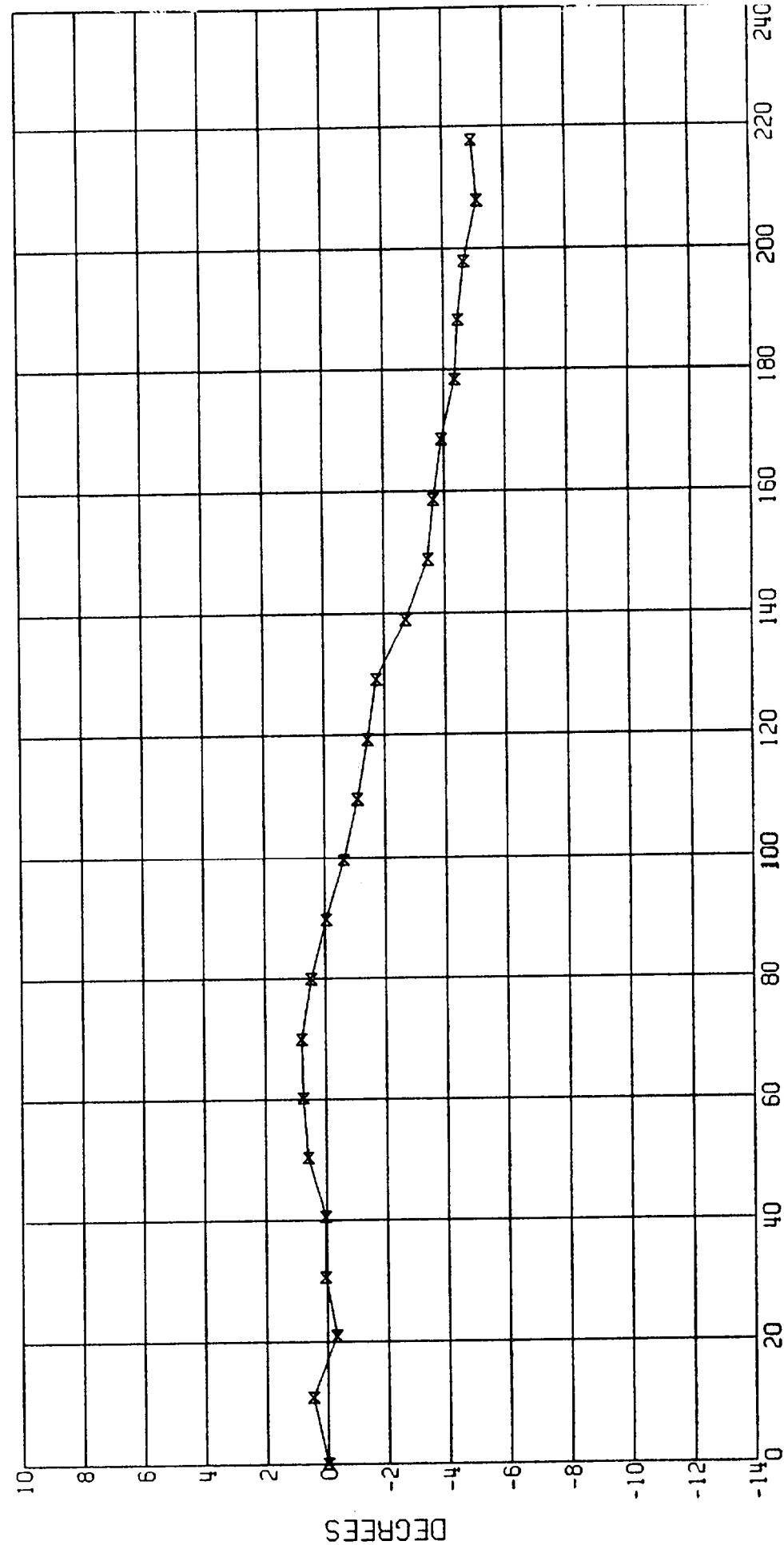
STRIKING BARRIER YAW RELATIVE TO GROUND REFERENCE



RELEASED BY:
3 PROCESSED 19 MAR 90 13:51

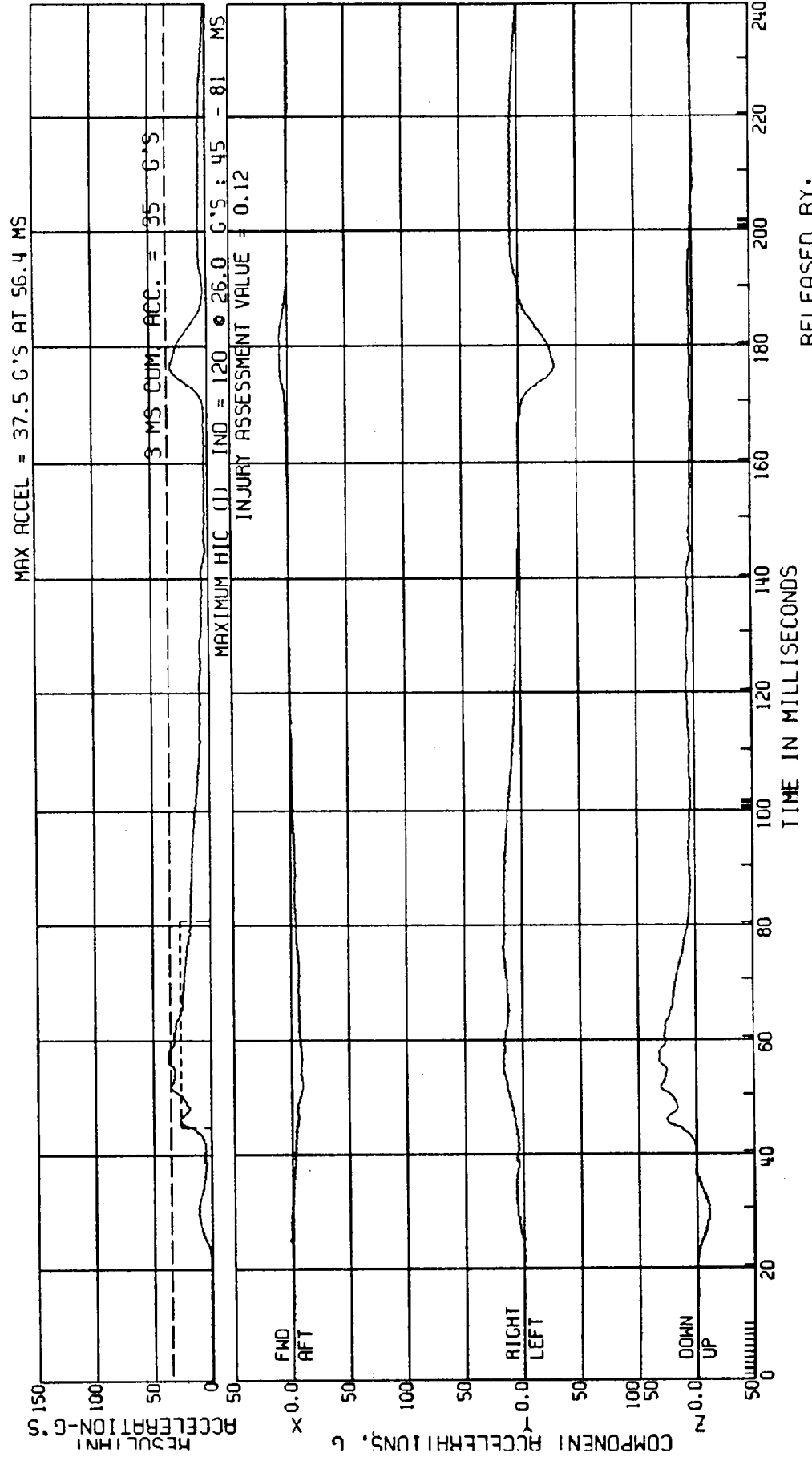
C8006 L SIDE IMPACT AT 27DEG MOVING CRABBED BARR. TO PARKED VEH. 53.5KM/H FIGURE 5
3868-305
CFE MVMA6F 2AF59
FILM DATA
CYBERHEAD VIEW
TEST DATE: 03-13-90

STRUCK VEHICLE YAW RELATIVE TO GROUND REFERENCE



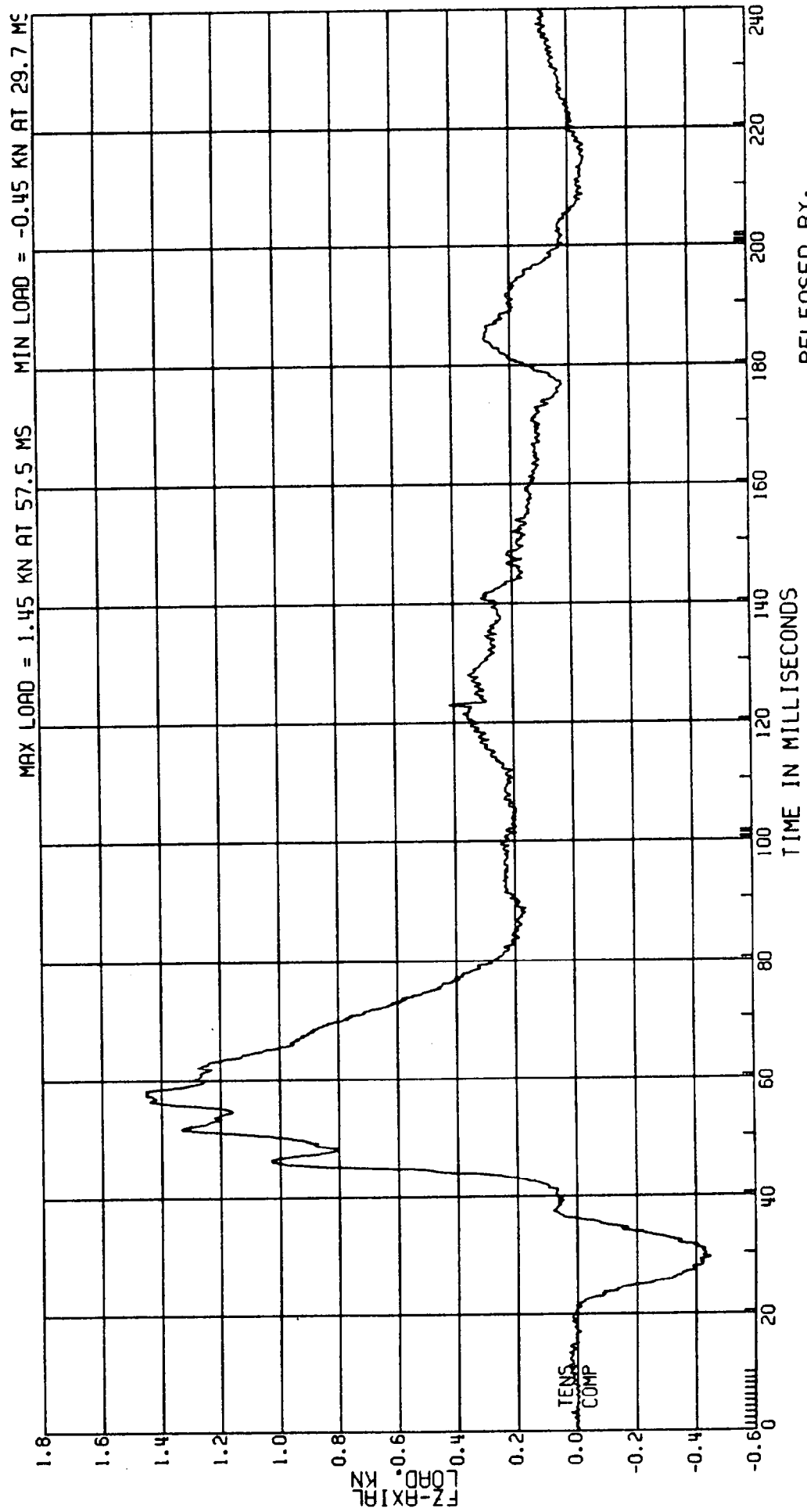
RELEASED BY:
4 PROCESSED 19 MAR 90 13:51

80068 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 6
 868-905 ATD TYPE: BIOSID
 PE MVMA 6P 2AF69 TEST DATE: 03-13-90
 LEC DATA, SAE CLASS 1000 L. REAR HEAD ACCEL.
 (HIC I LIMITED TO 36MS)



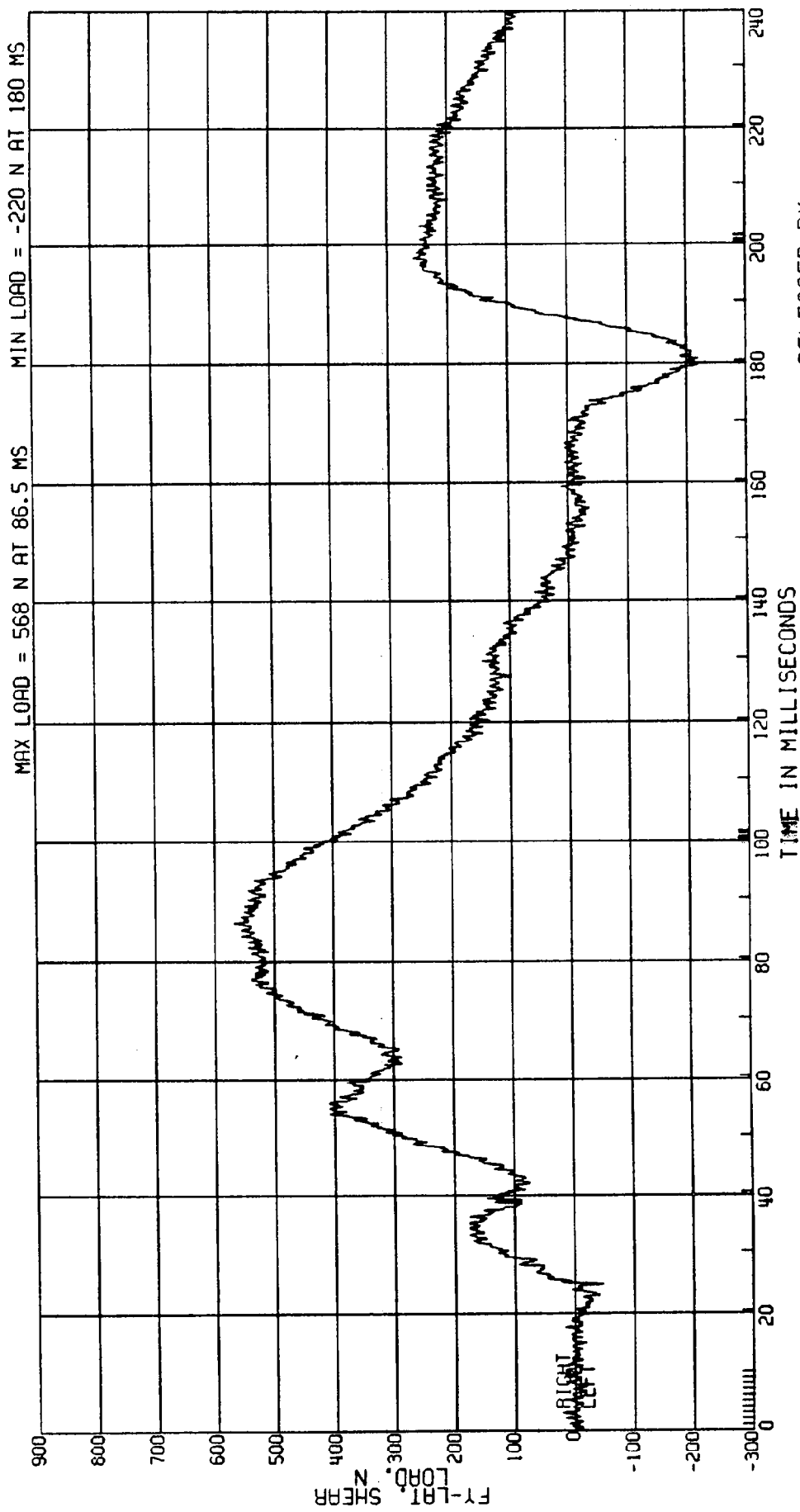
RELEASED BY:
 2 PROCESSED 4 M1 90 13:43

C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 7
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR NECK LOADING ON HEAD, UPPER LOAD TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 1000



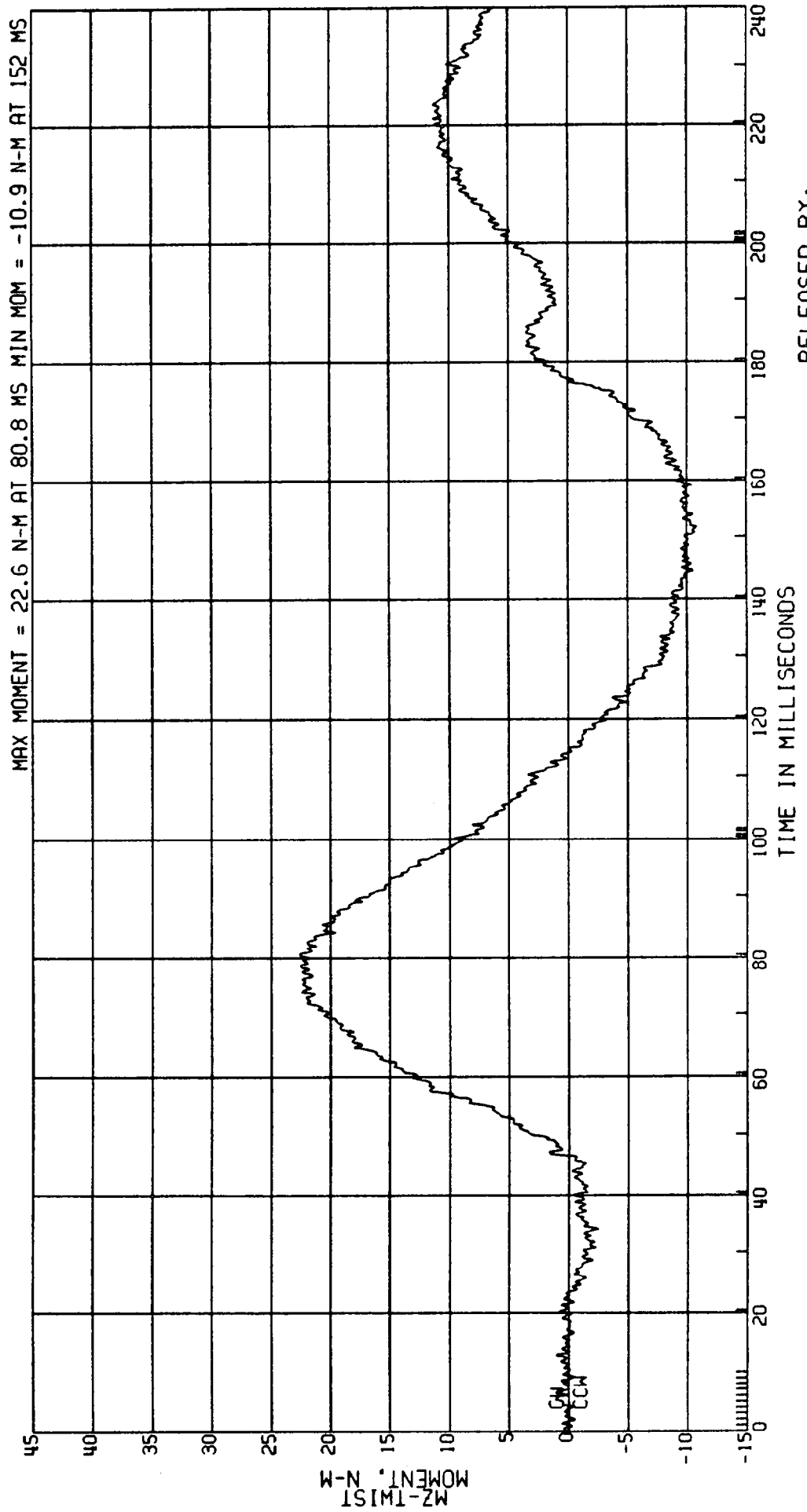
RELEASED BY:
 5 PROCESSED 4 MY 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 8
 3868-905 AID TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR NECK LOADING ON HEAD, UPPER LOAD TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 1000



RELEASED BY:
 4 PROCESSED 4 MY 90 13:43

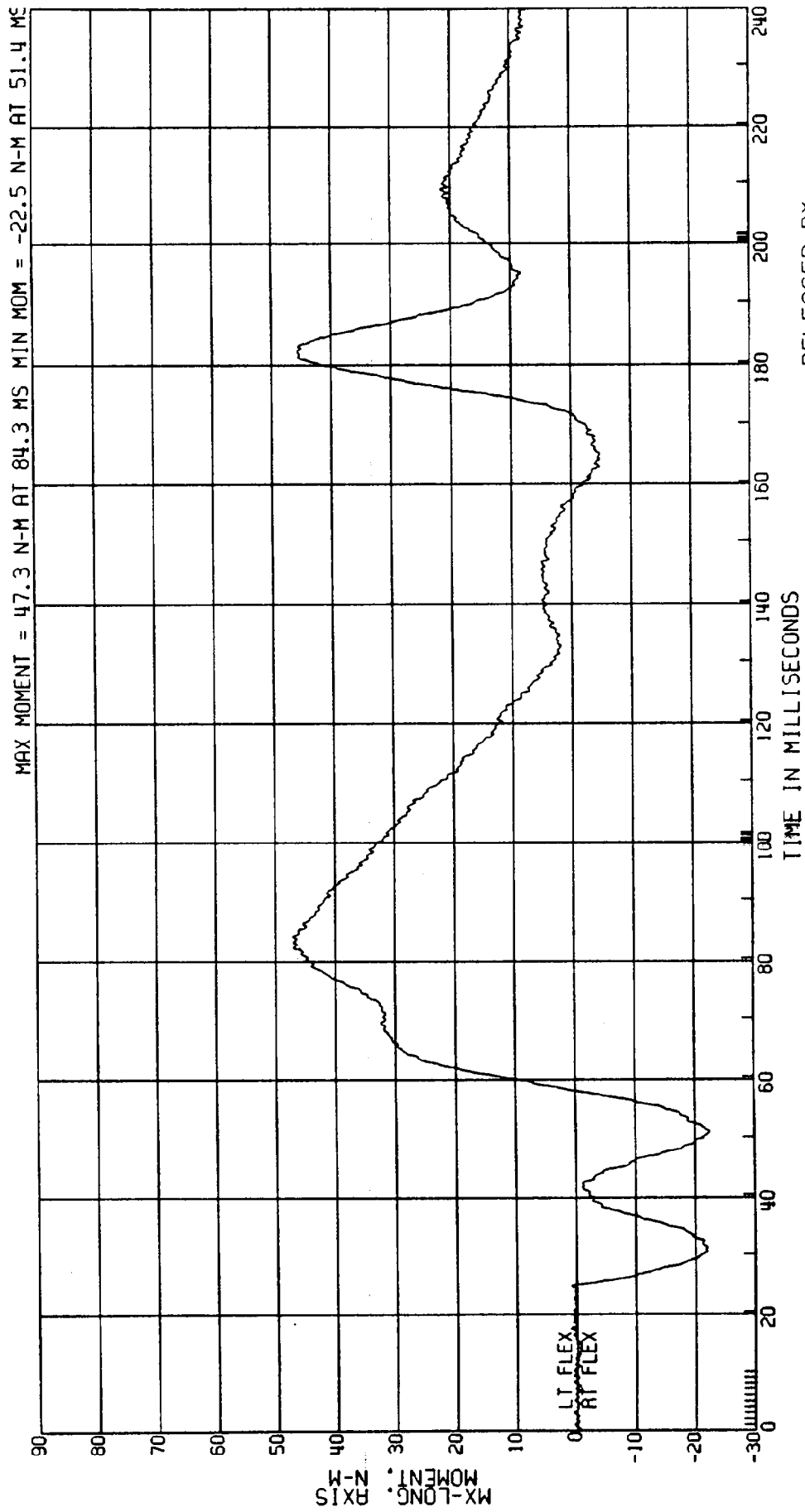
C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 9
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR NECK LOADING ON HEAD, UPPER TEST DATE:03-13-90
ELEC DATA, SAE CLASS 600



RELEASED BY:

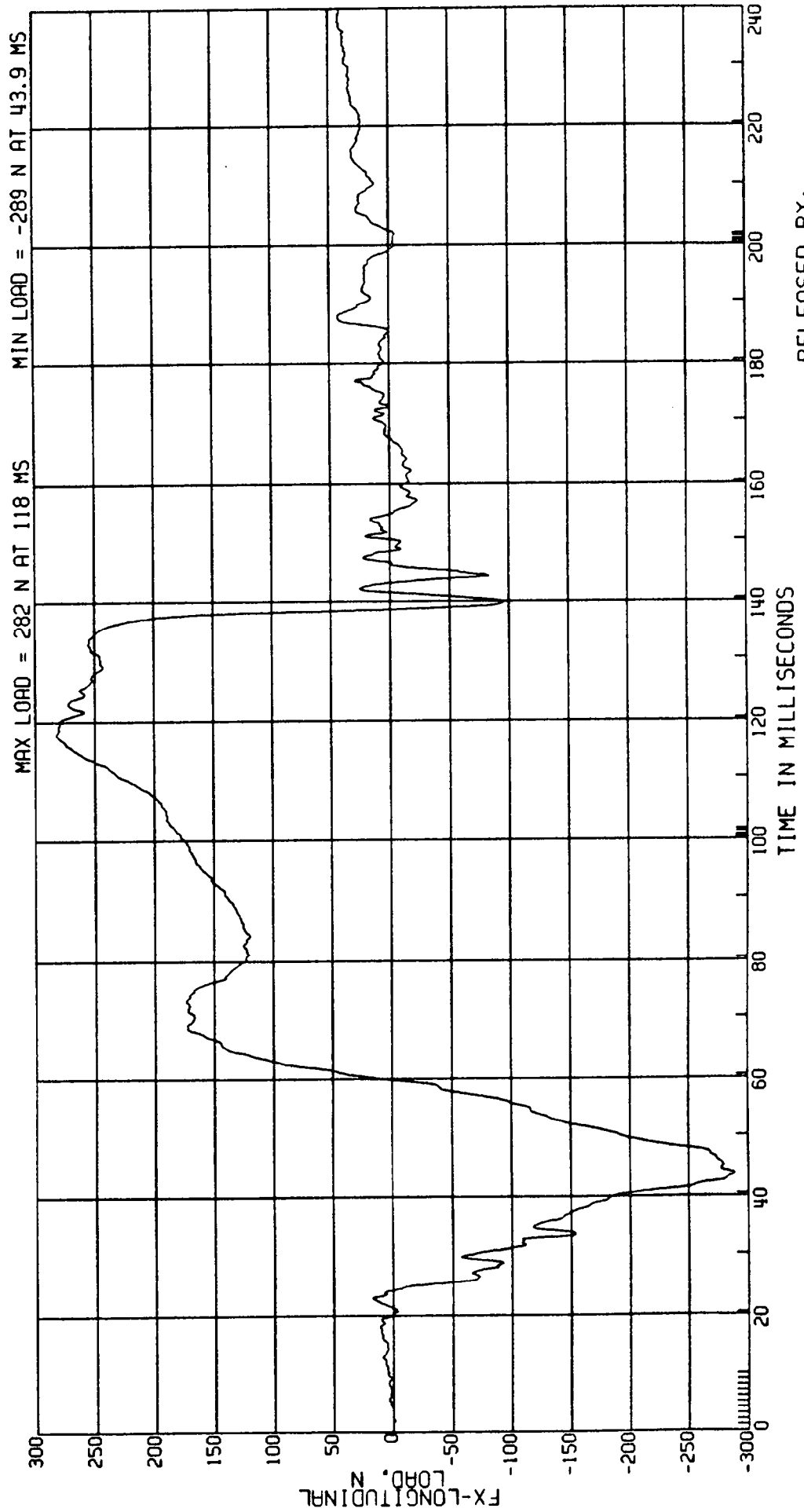
7 PROCESSED 4 MY 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /0
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR NECK LOADING ON HEAD, UPPER
 ELEC DATA, SAE CLASS 600 TEST DATE:03-13-90



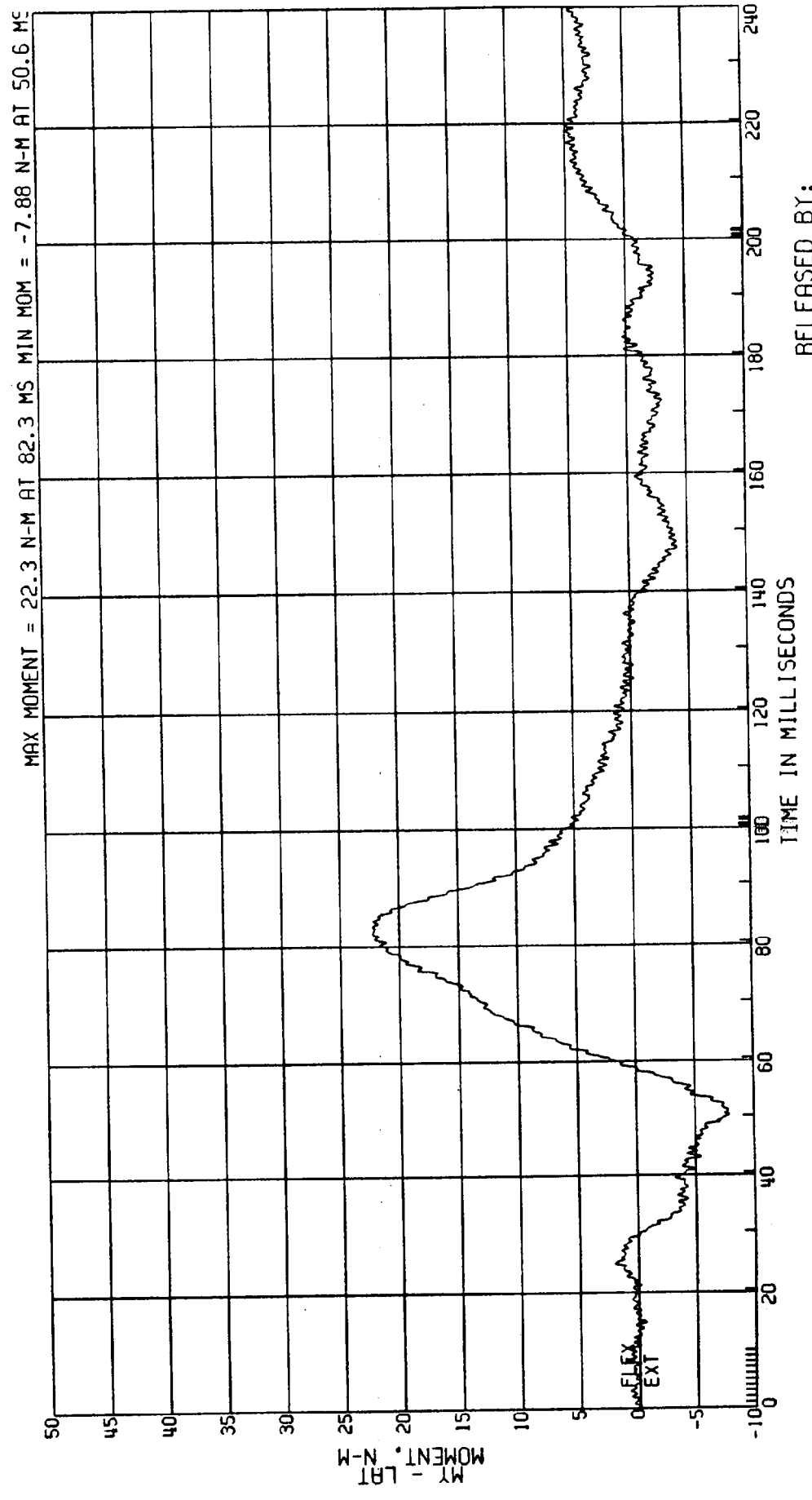
RELEASED BY:
 6 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE //
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 L. REAR SHOULDER LOAD



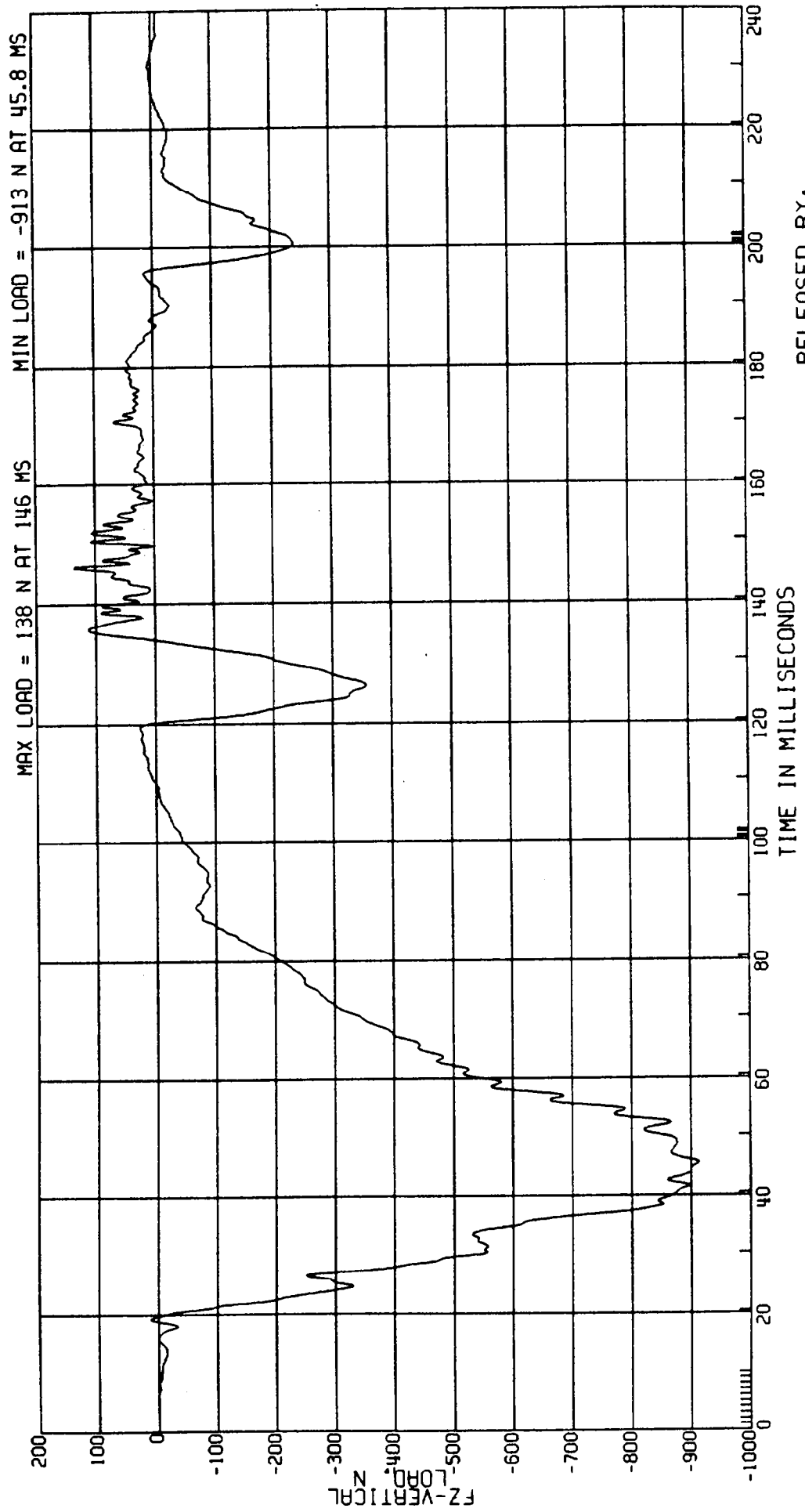
RELEASED BY:
9 PROCESSED 4 MT 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 12
 3868-905 AID TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 600 L. REAR NECK LOADING ON HEAD



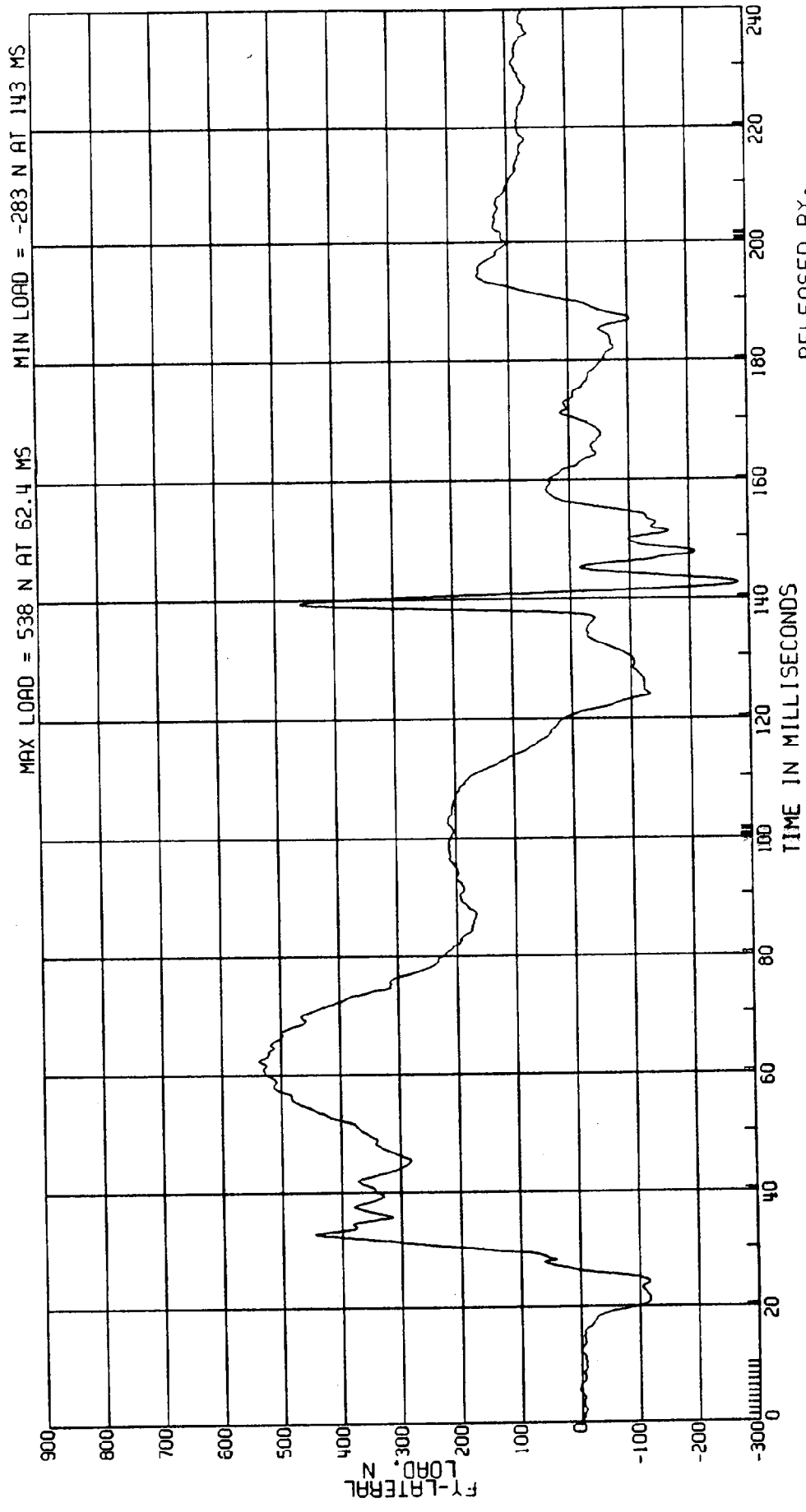
RELEASED BY:
 8 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 13
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 L. REAR SHOULDER LOAD



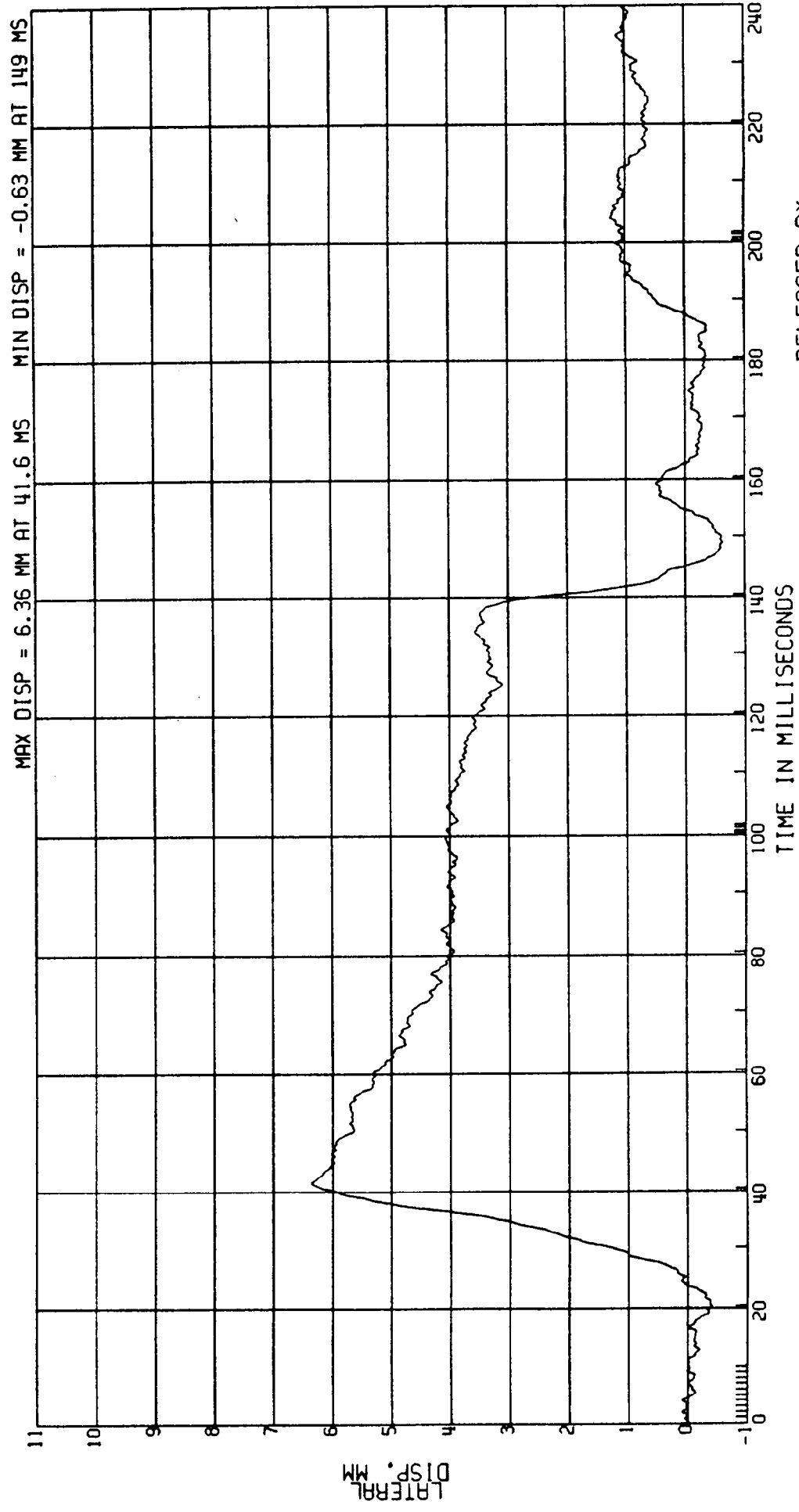
RELEASED BY:
11 PROCESSED 4 MT 90 13:43

C8005B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 14
 3868-905 MVMA 6P 2AF69
 CPE ELEC DATA, SAE CLASS 180
 L. REAR SHOULDER LOAD
 ATD TYPE: BIOSID
 TEST DATE: 03-13-90



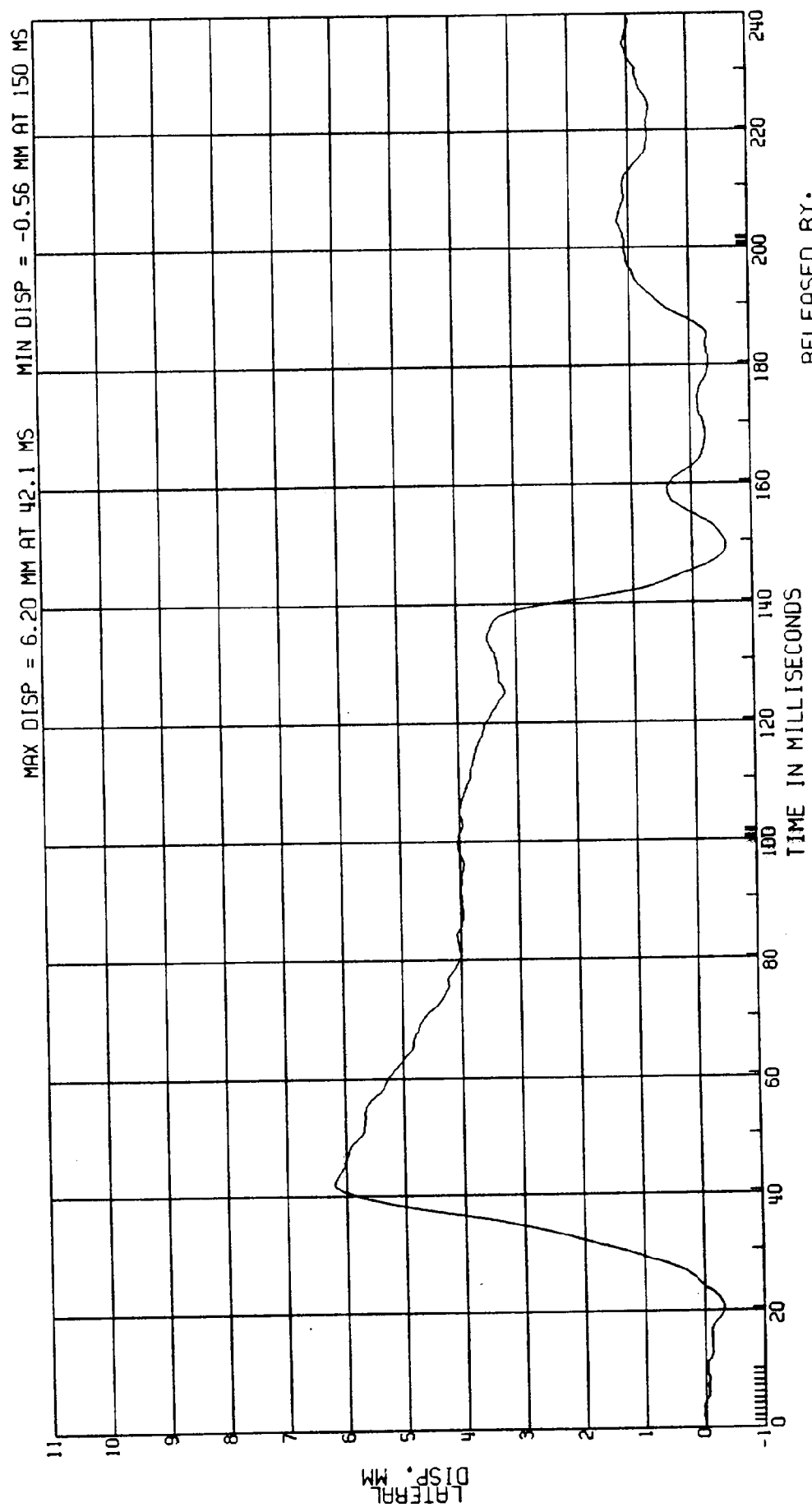
RELEASED BY:
 10 PROCESSED 4 MAY 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 15
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR SHOULDER DISP.
ELEC DATA, SAE CLASS 180 TEST DATE:03-13-90



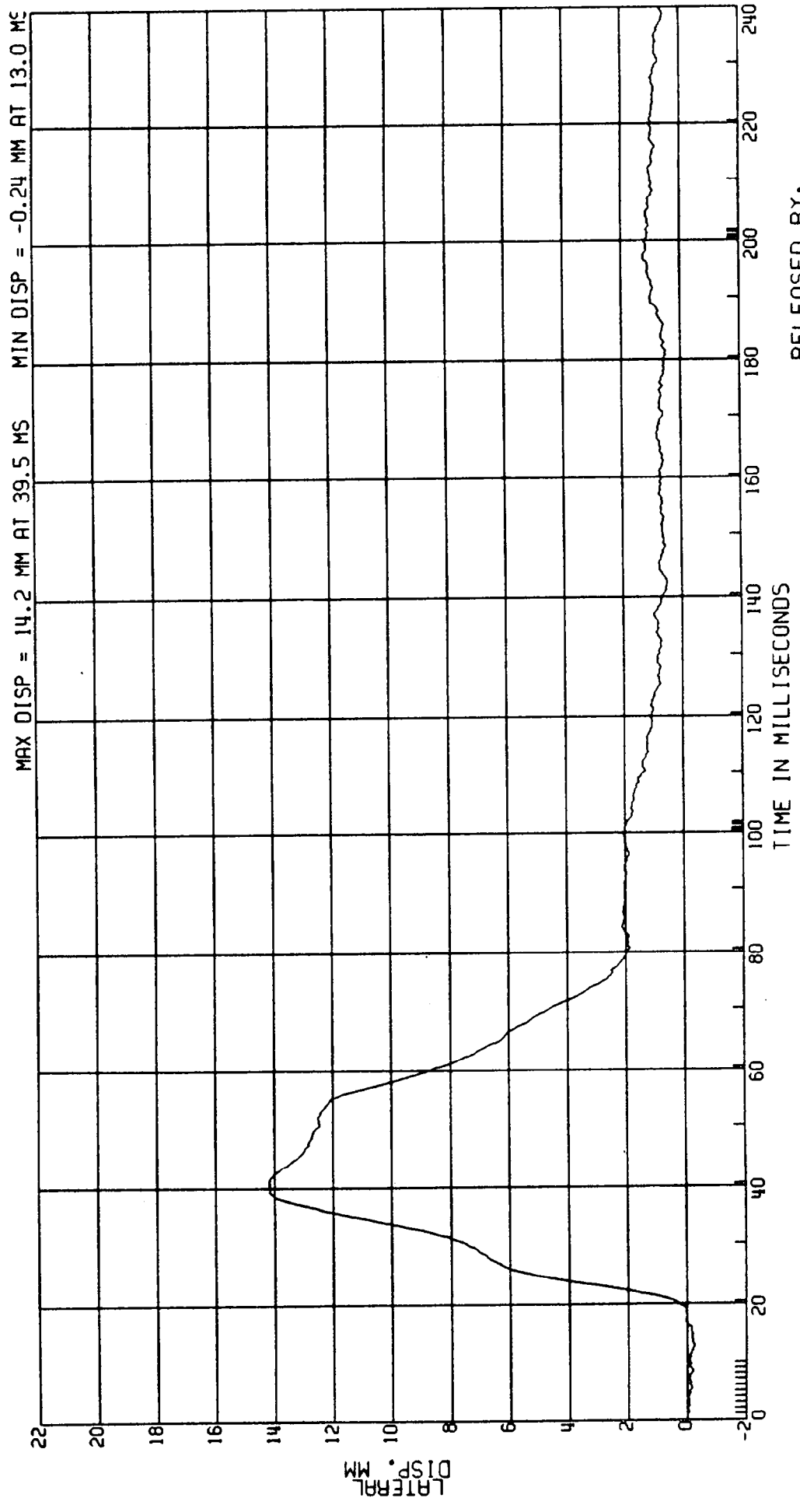
RELEASED BY:
13 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 16
3868-905 MVMA 6P 2AF69
CPE ELEC DATA, SAE CLASS 60 L. REAR SHOULDER DISP. TEST DATE:03-13-90



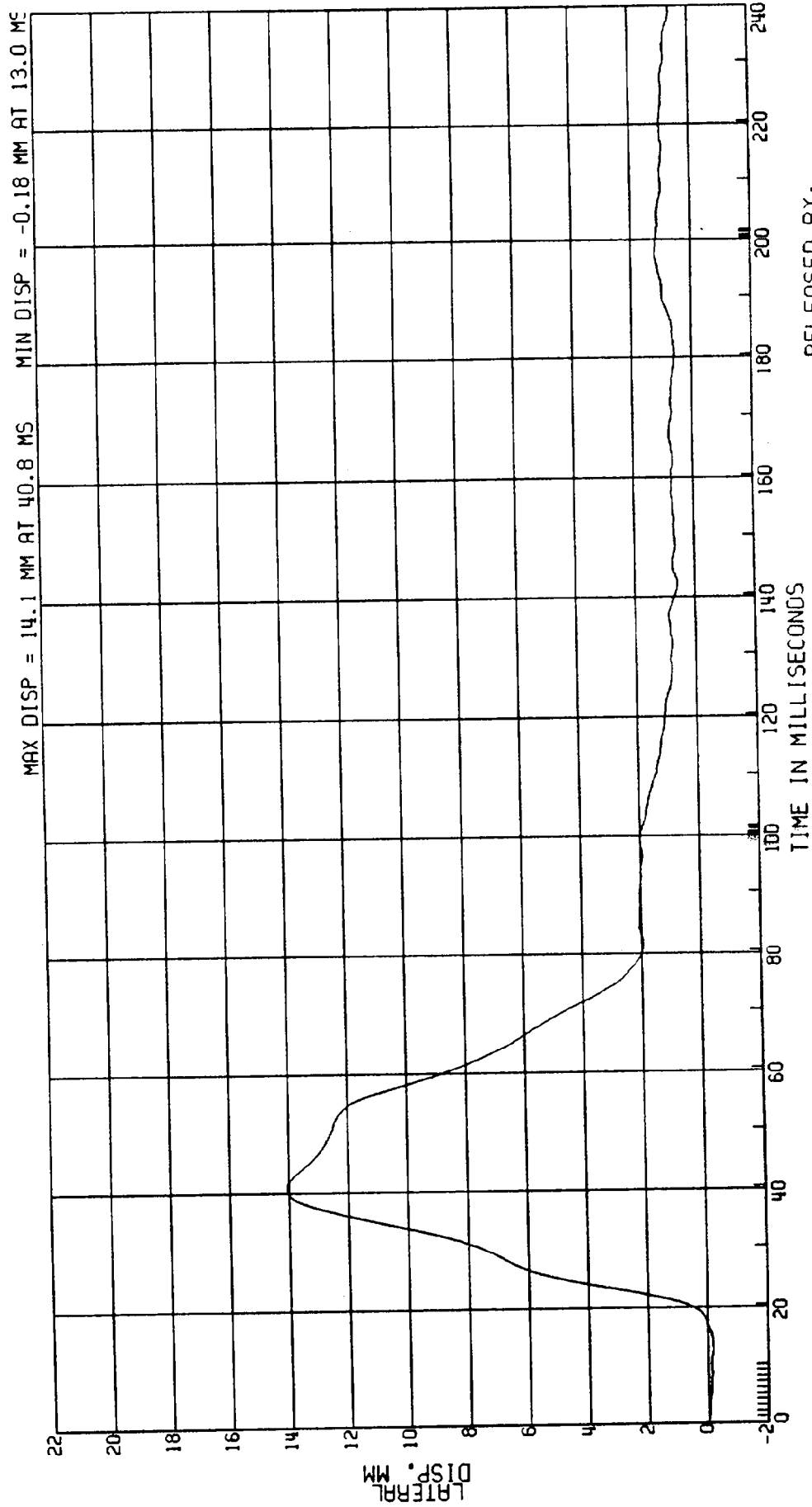
RELEASED BY:
12 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 17
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR FIRST THORACIC RIB DISP. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180



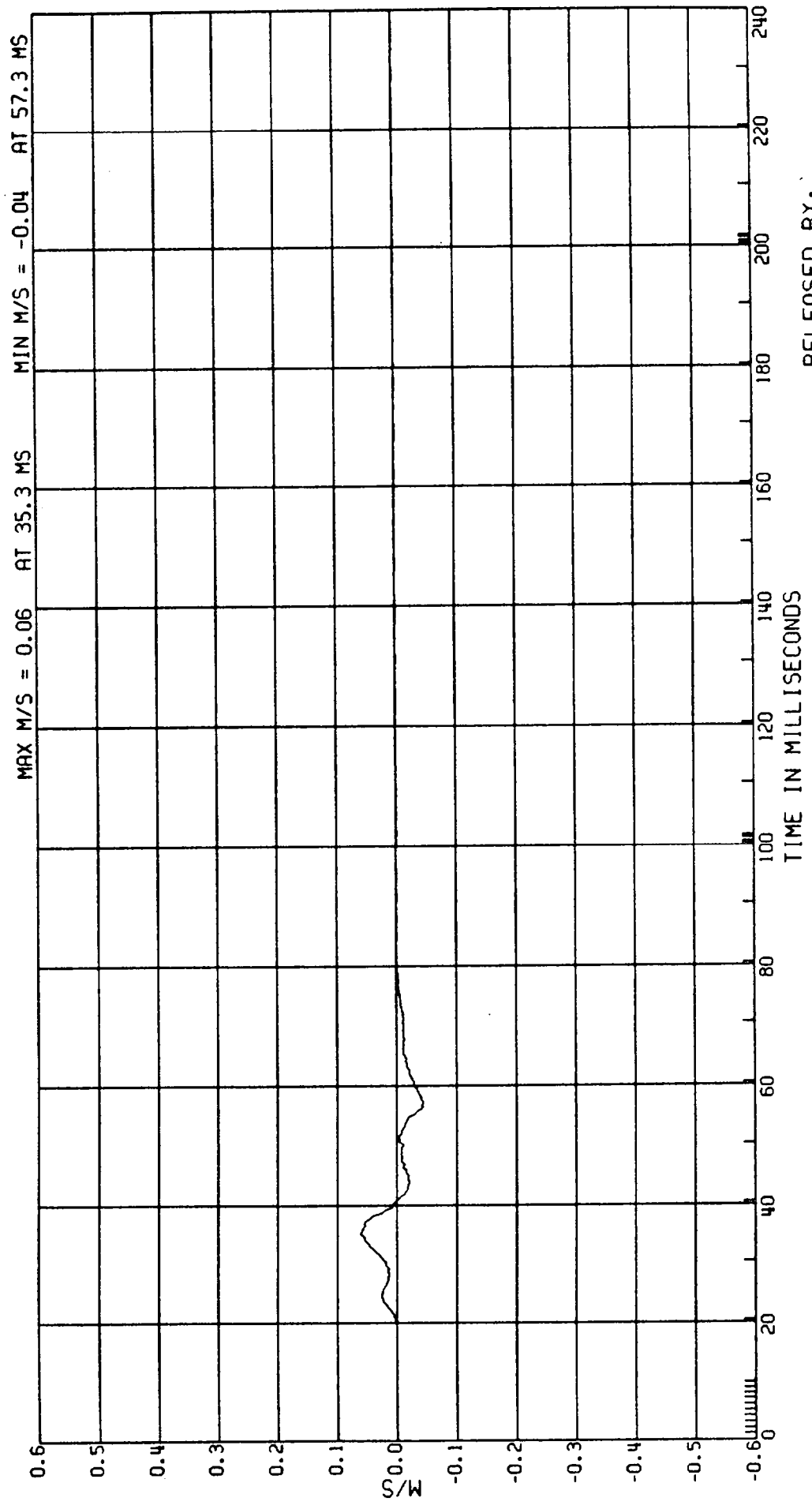
RELEASED BY:
15 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /8
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 60 L.REAR FIRST THORACIC RIB DISP.



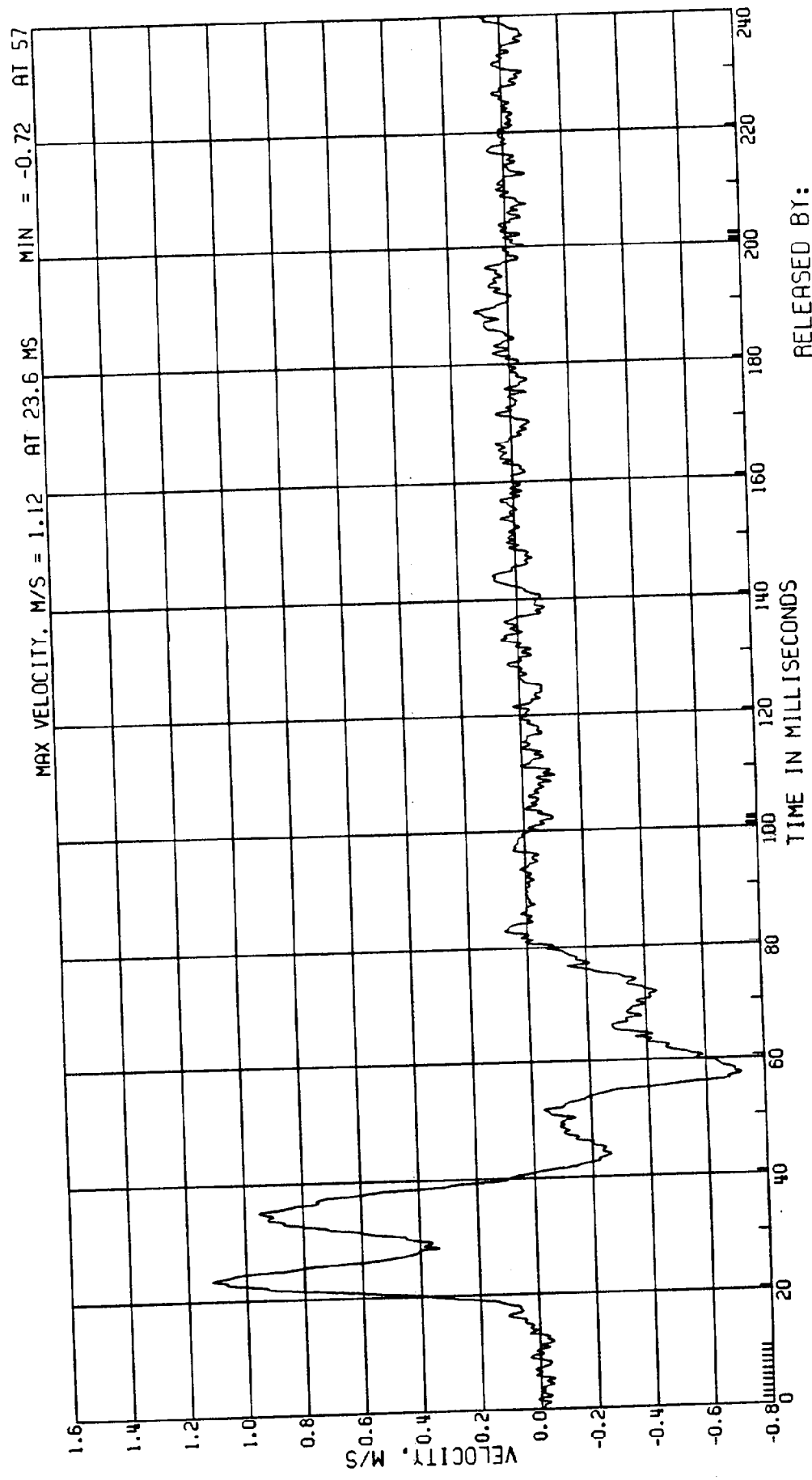
RELEASED BY:
14 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 19
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 60 (1ST RIB DISP*1ST RIB VEL)/175MM
 VISCOUS RESPONSE OF 1ST THORACIC RIB



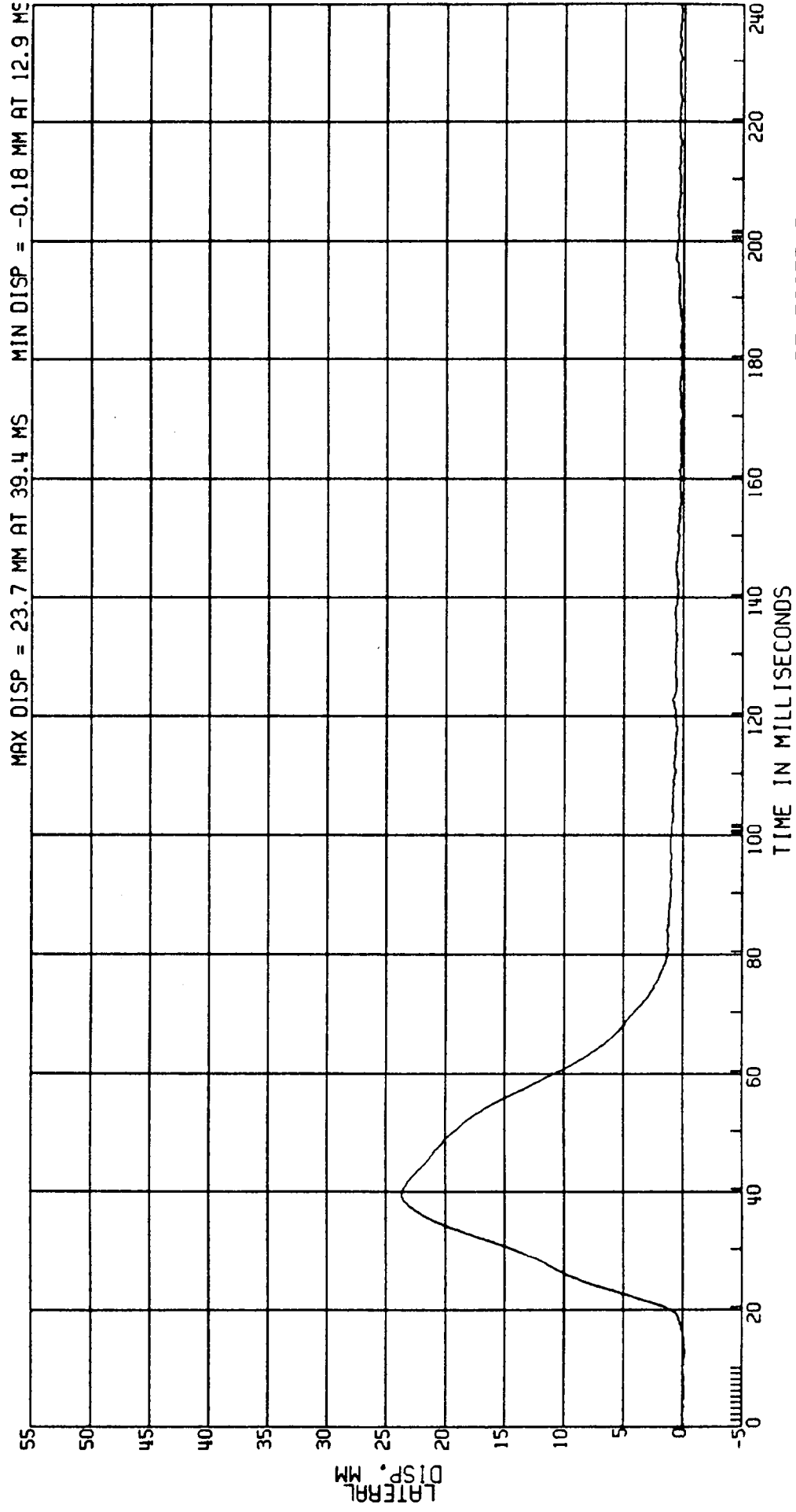
RELEASED BY:
 17 PROCESSED 4 MY 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 20
 3868-905 MVMA 6P 2AF69 ATD TYPE: BIOSID
 CPE L. REAR 1ST THORACIC RIB VELOCITY TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 60 (DIFF OF 1ST RIB DISP)



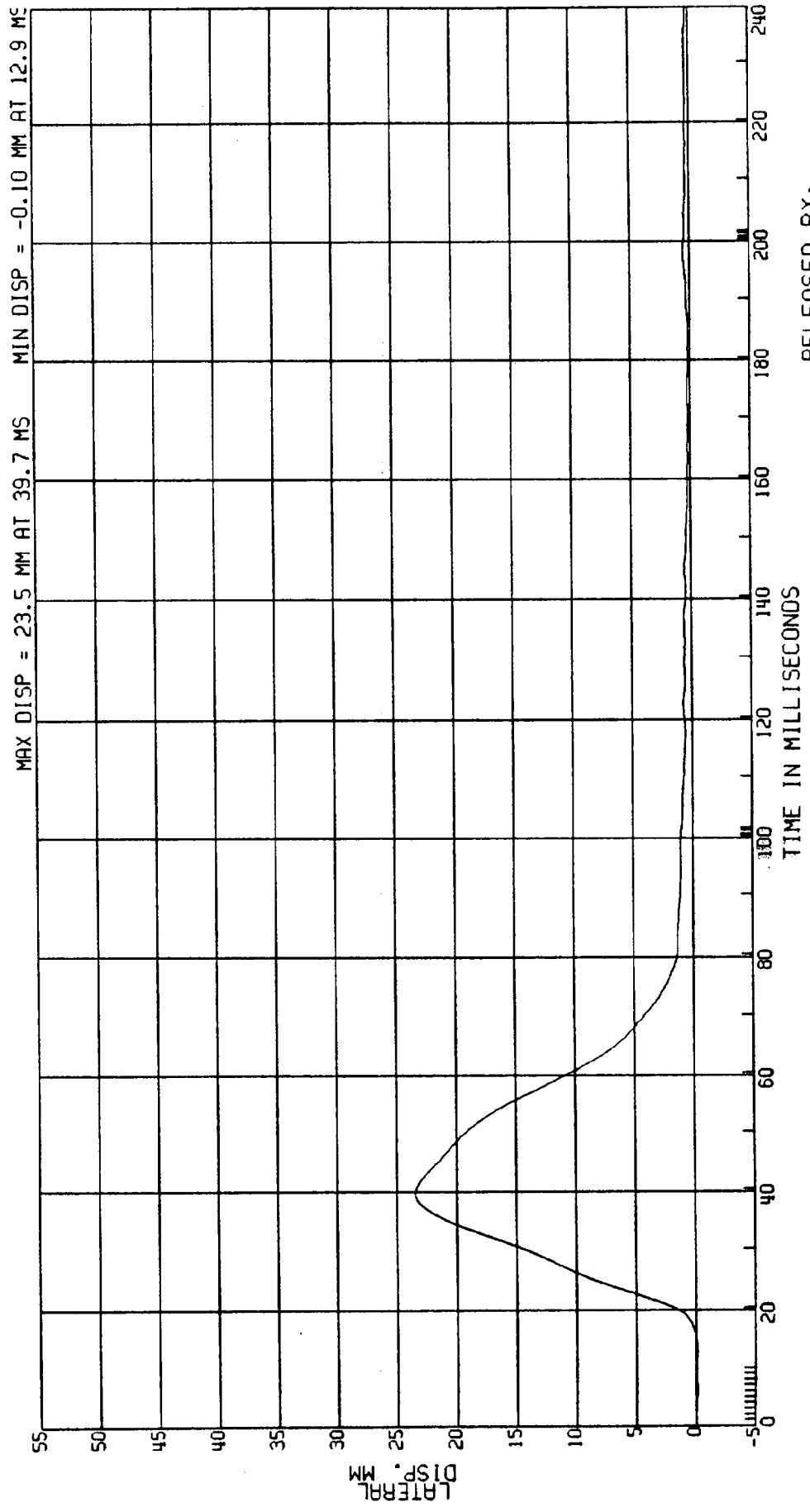
RELEASED BY:
 16 PROCESSED 4 MY 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 2/
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR SECOND THORACIC RIB DISP. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180



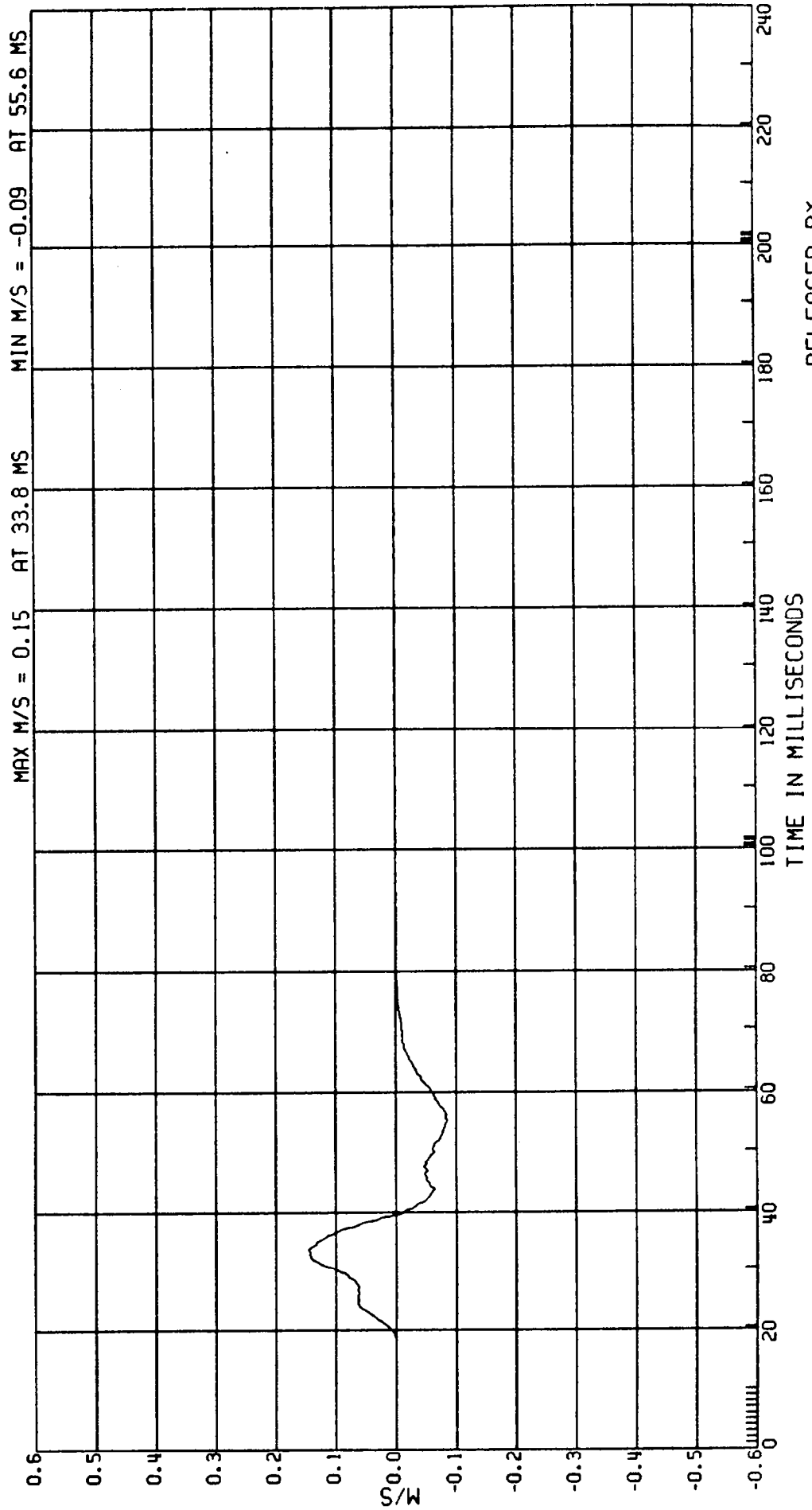
RELEASED BY:
19 PROCESSED 4 MY 90 13:43

C80068 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 2a
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR SECOND THORACIC RIB DISP. TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 60



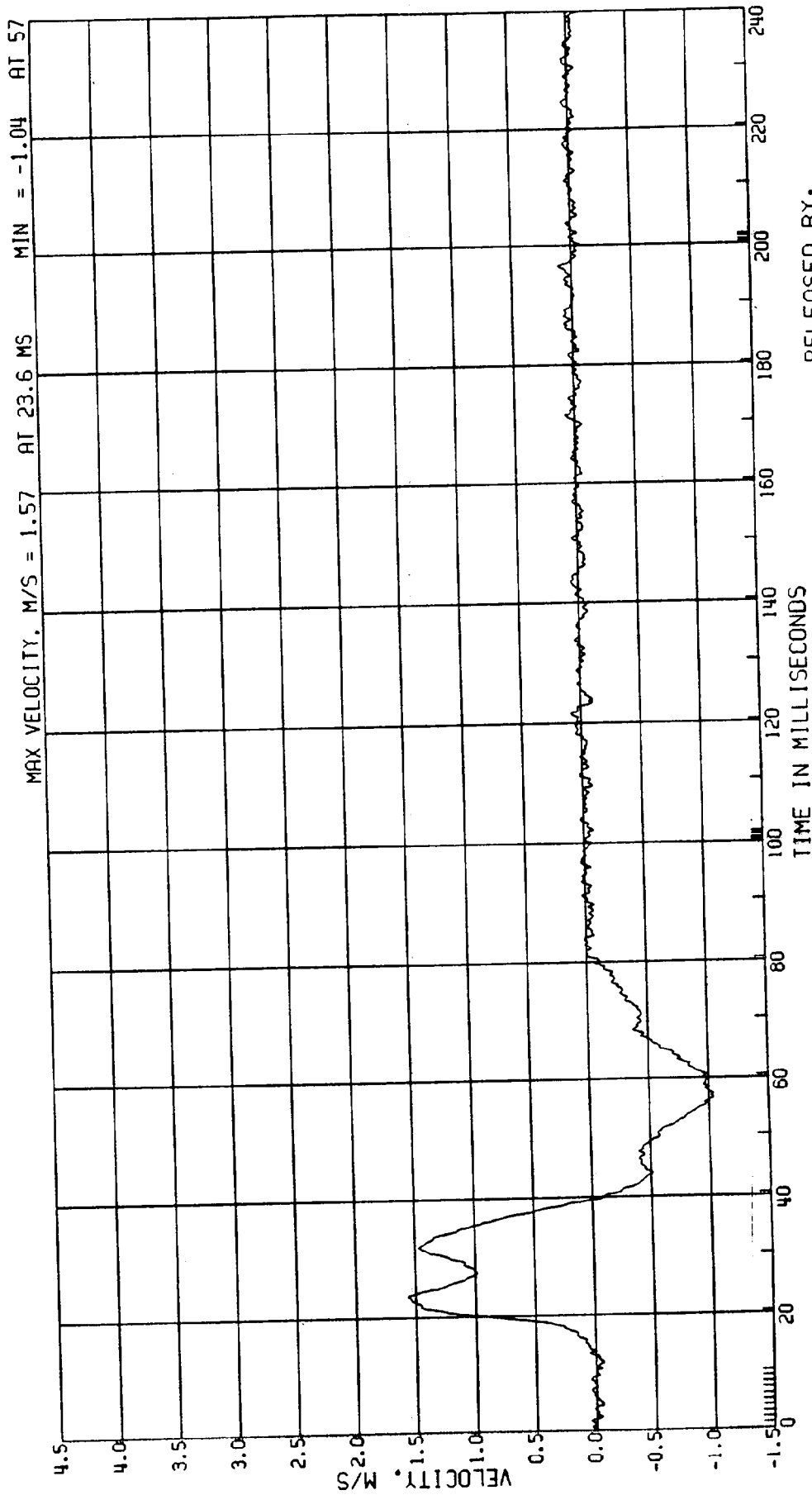
RELEASED BY:
18 PROCESSED 4 MAY 90 13:43

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 23
3868-905 AID TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 60 (2ND RIB DISP*2ND RIB VEL)/175MM



RELEASED BY:
21 PROCESSED 4 MY 90 13:44

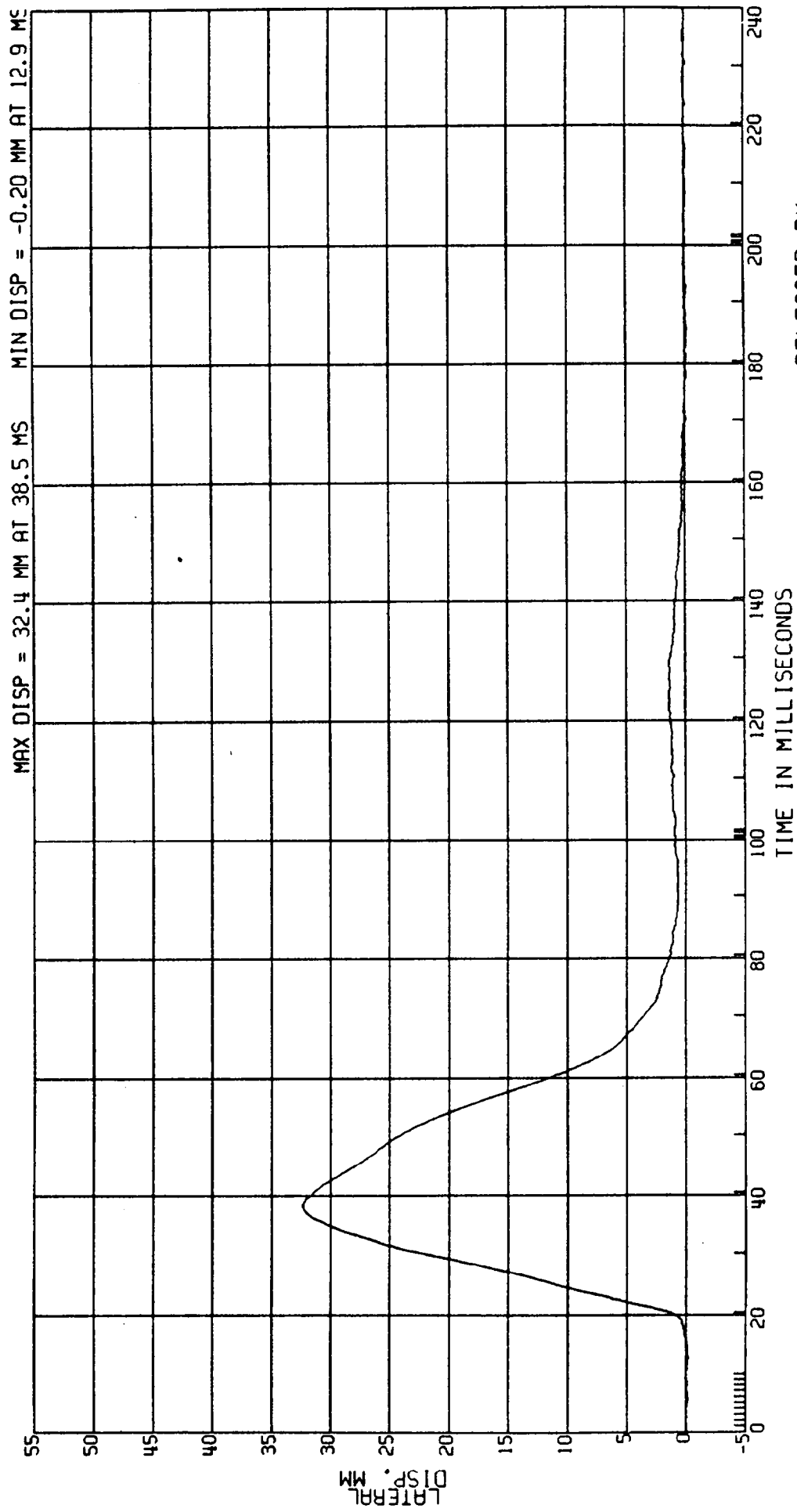
C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 24
 3868-905 MVMA 6P 2AF69 AID TYPE: BIOSID
 CPE L. REAR 2ND THORACIC RIB VELOCITY TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 60 (DIFF OF 2ND RIB DISP)



RELEASED BY:

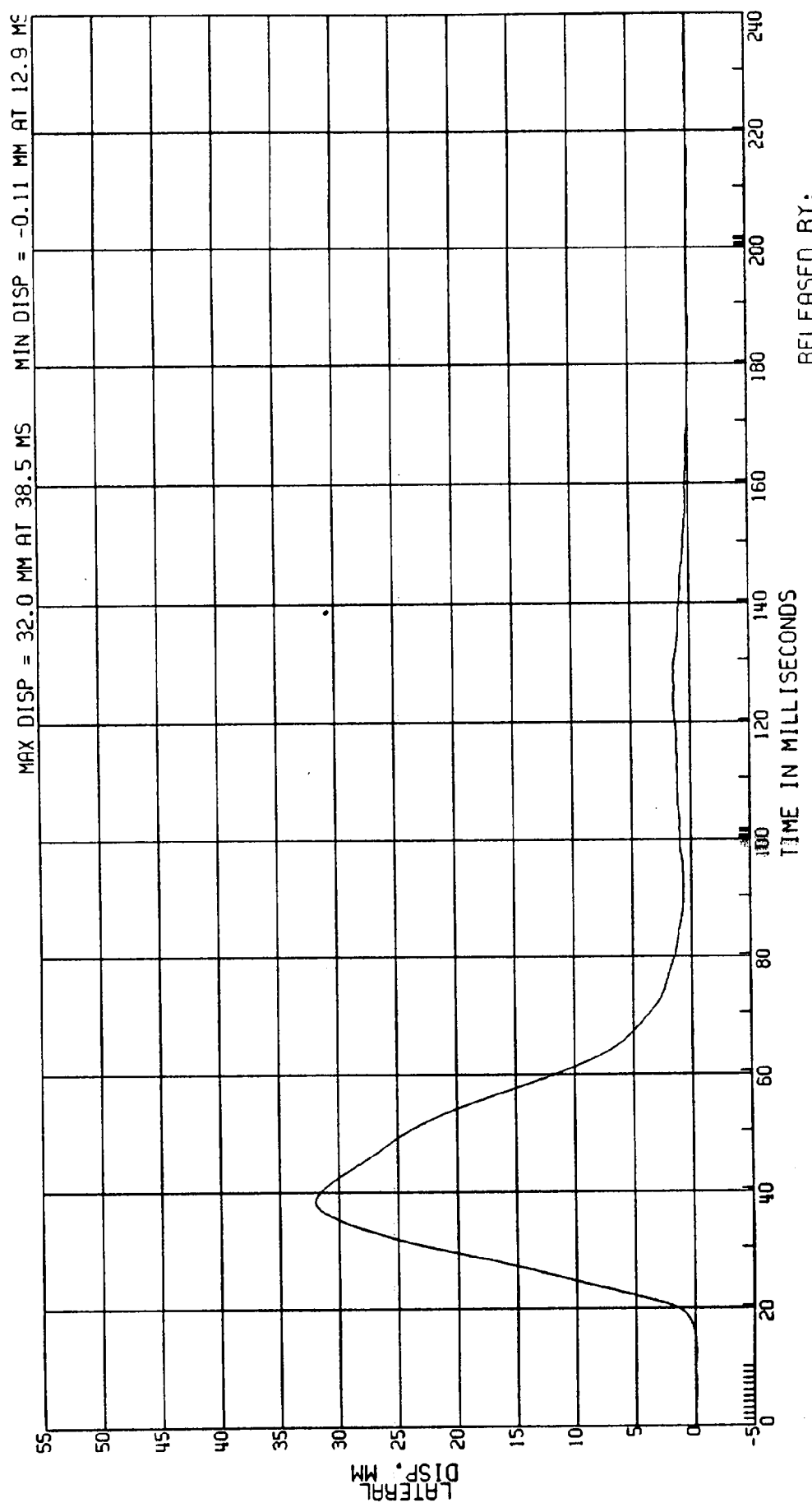
20 PROCESSED 4 MY 90 13:43

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 25
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR THIRD THORACIC RIB DISP. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180

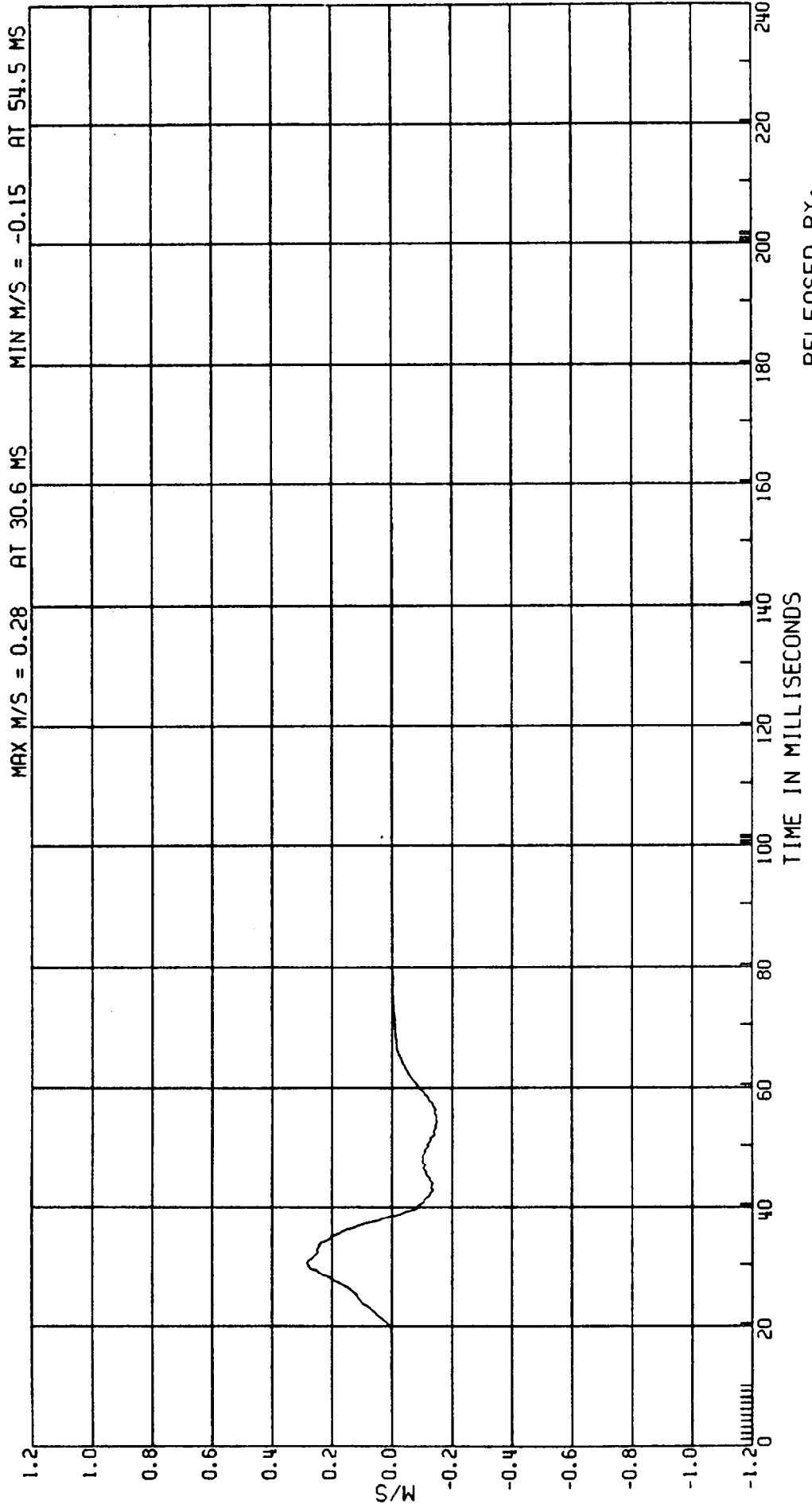


RELEASED BY:
23 PROCESSED 4 MT 90 13:44

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 26
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L.REAR THIRD THORACIC RIB DISP. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 60

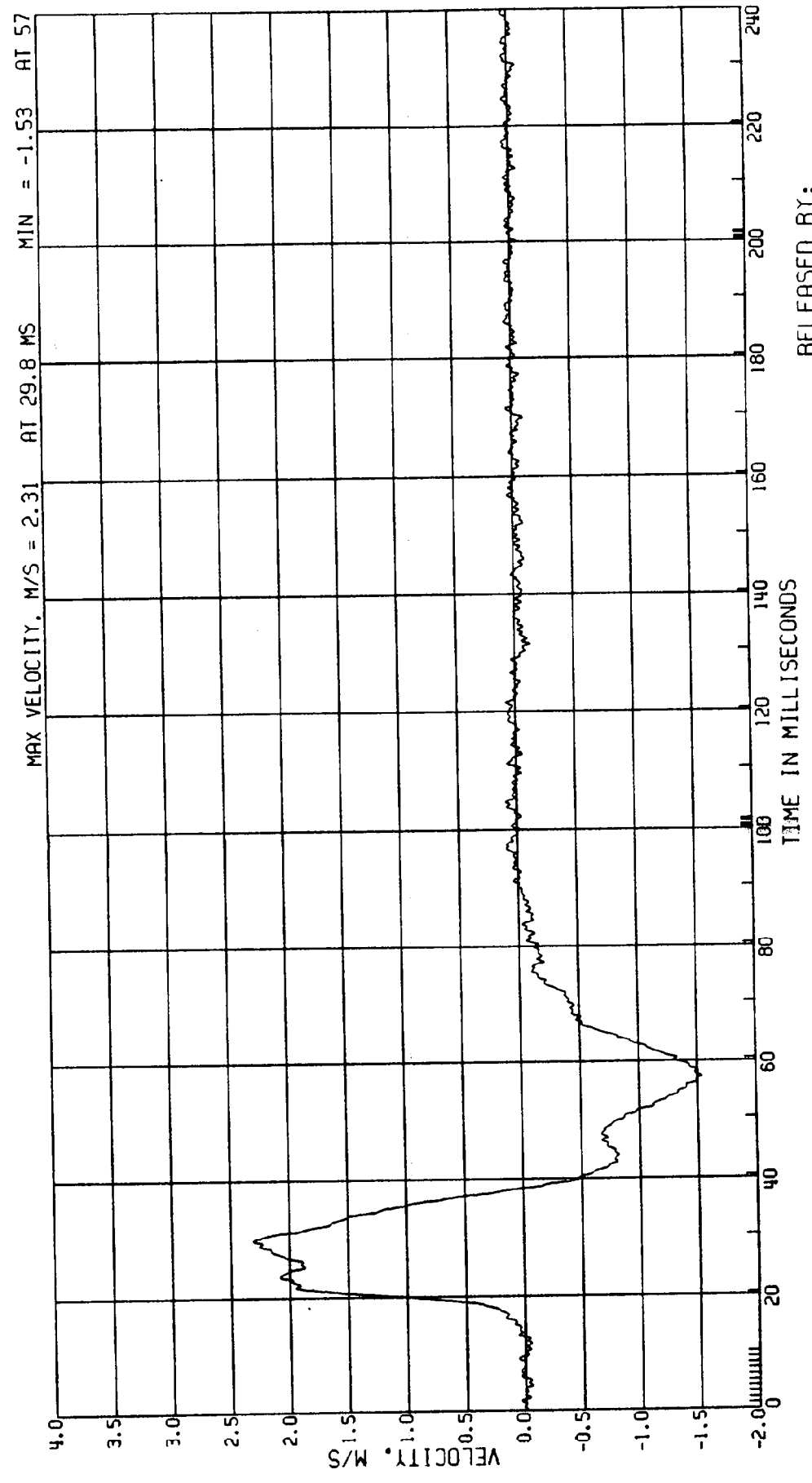


C80068 L: SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 27
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 60 (3RD RIB DISP*3RD RIB VEL) /175MM



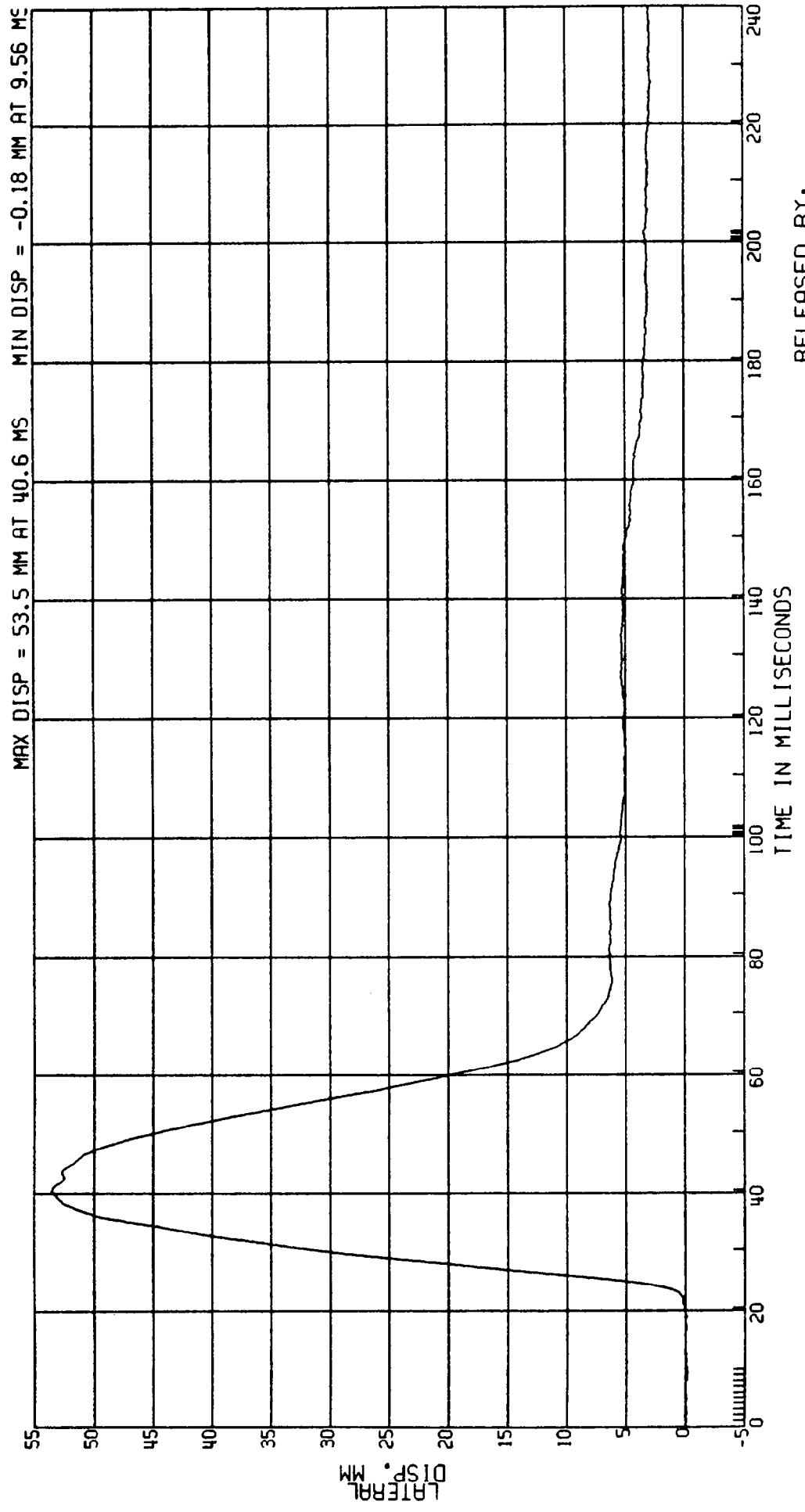
RELEASED BY:
25 PROCESSED 4 MY 90 13:44

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 28
3868-905 AID TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 60 L. REAR 3RD THORACIC RIB VELOCITY
(DIFF OF 3RD RIB DISP)



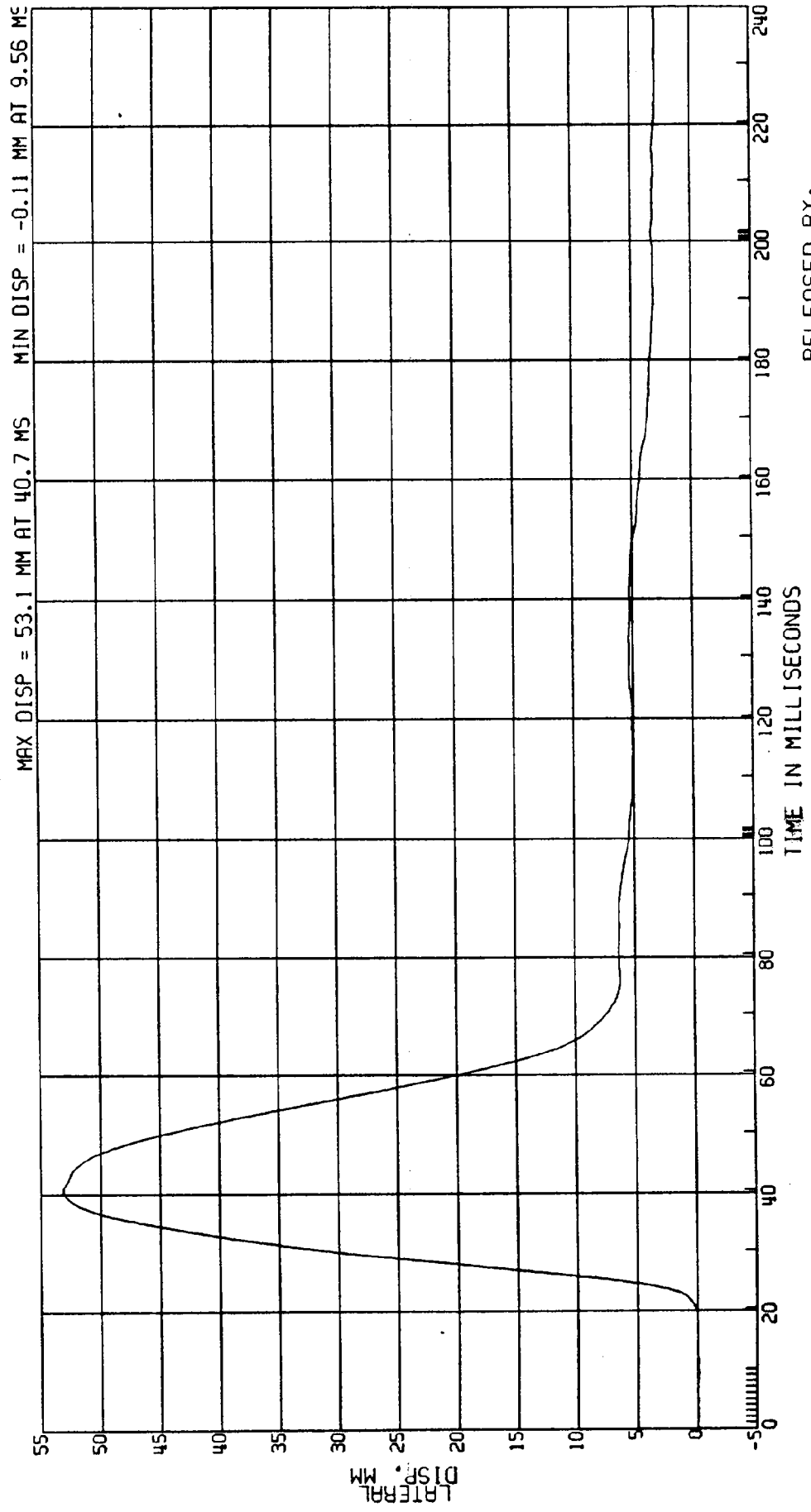
RELEASED BY:
24 PROCESSED 4 MY 90 13:44

C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 29
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR FIRST ABDOMINAL RIB DISP. TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180



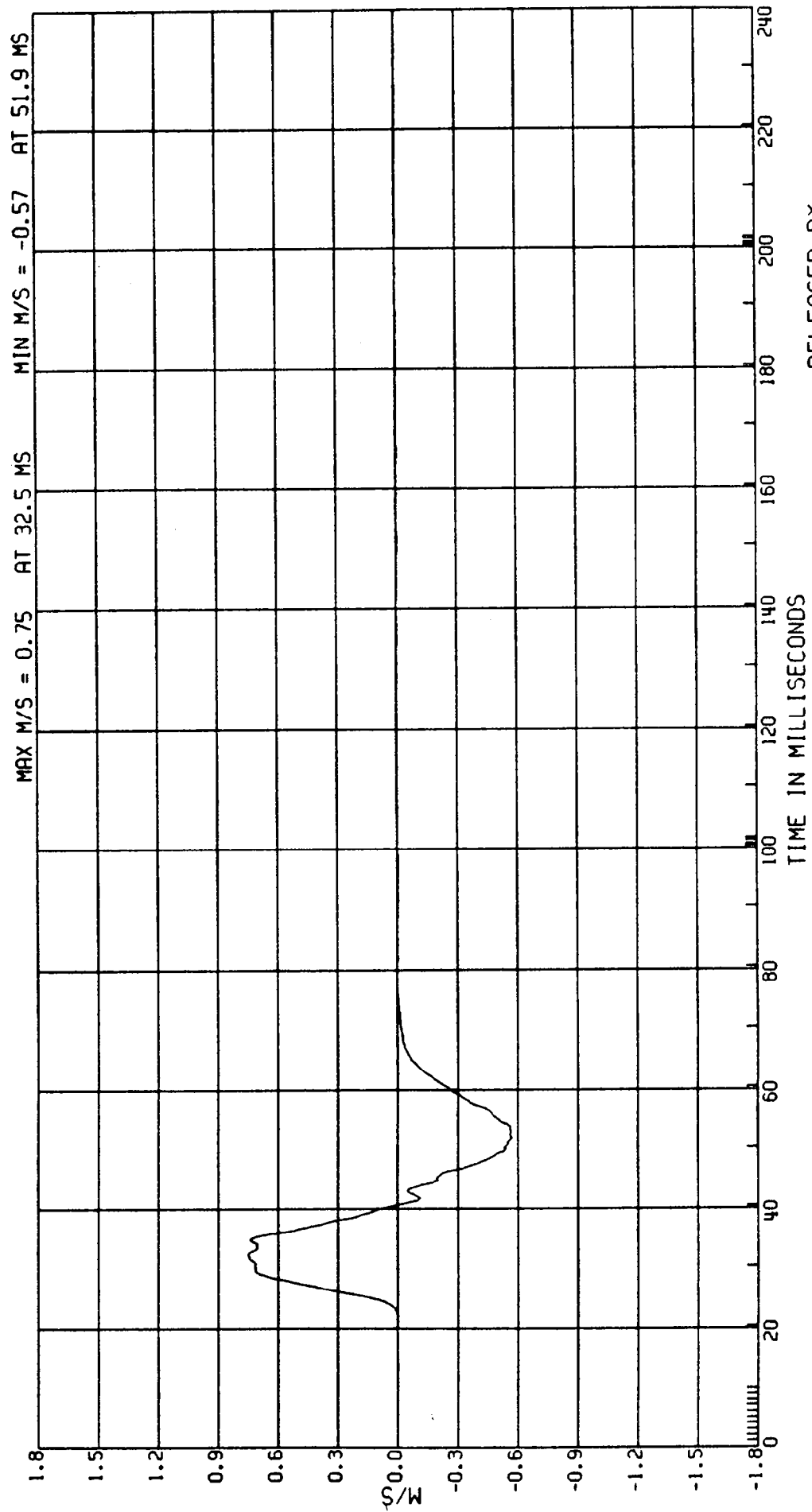
RELEASED BY:
27 PROCESSED 4 MY 90 13:44

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 30
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR FIRST ABDOMINAL RIB DISP. TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 60



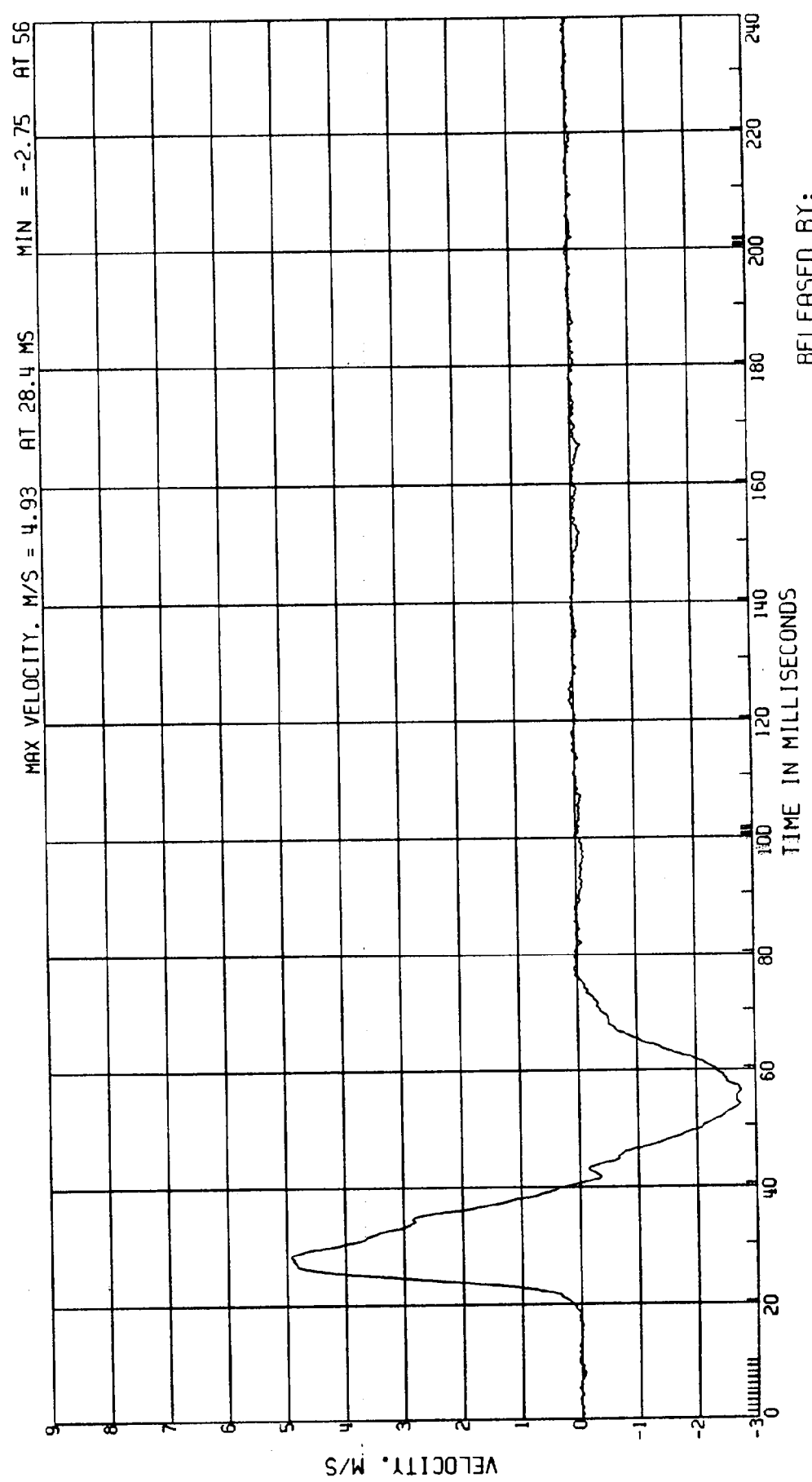
RELEASED BY:
26 PROCESSED 4 MY 90 13:44

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 31
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 VISCOUS RESPONSE OF 1ST ABDOMINAL RIB
 ELEC DATA. SAE CLASS 60 (1ST RIB DISP*1ST RIB VEL)/175MM
 TEST DATE:03-13-90



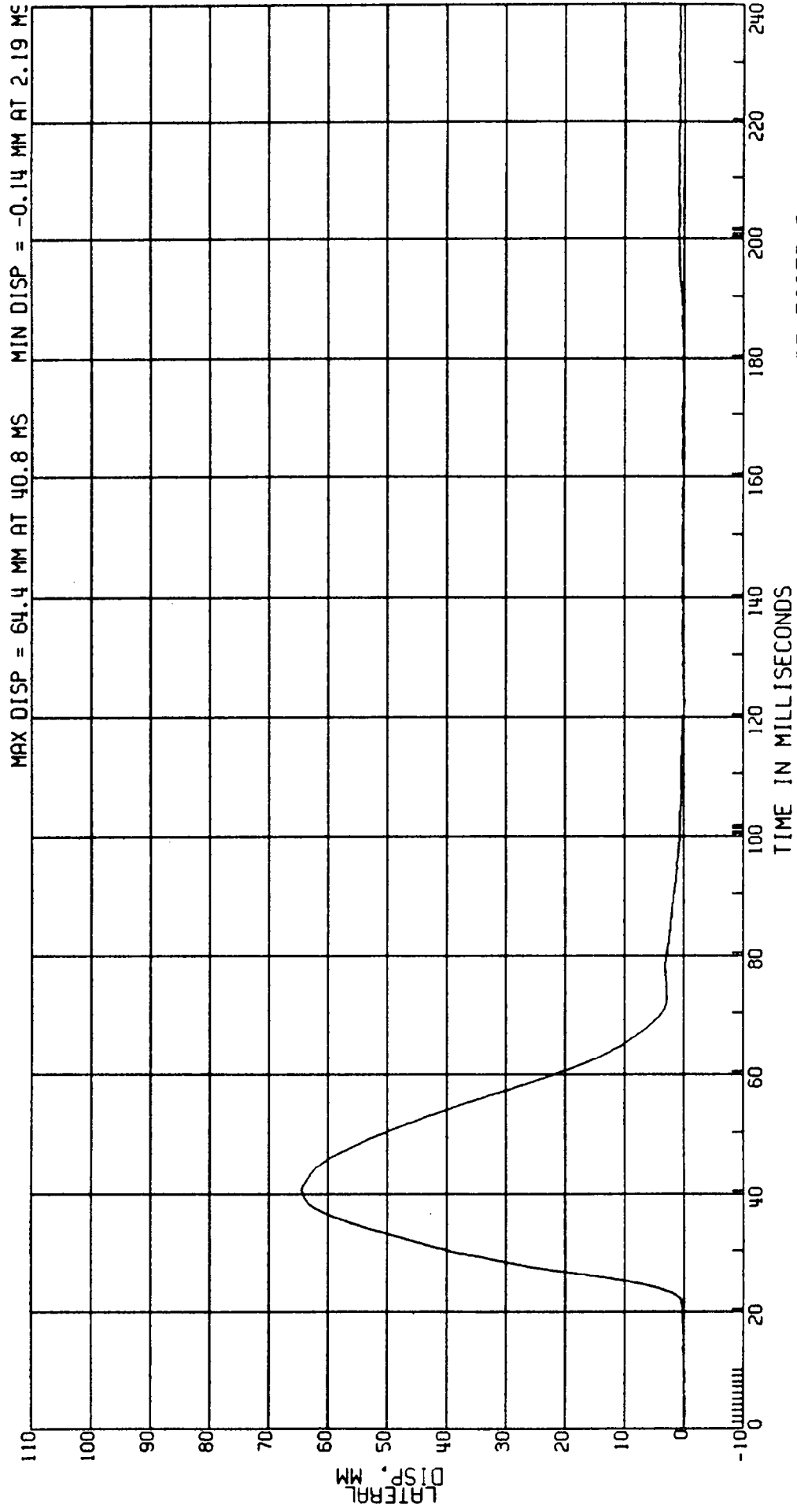
RELEASED BY:
 29 PROCESSED 4 MT 90 13:44

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 32
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 60 L. REAR 1ST ABDOMINAL RIB VELOCITY
(DIFF OF 1ST RIB DISP)



RELEASED BY:
28 PROCESSED 4 MY 90 13:44

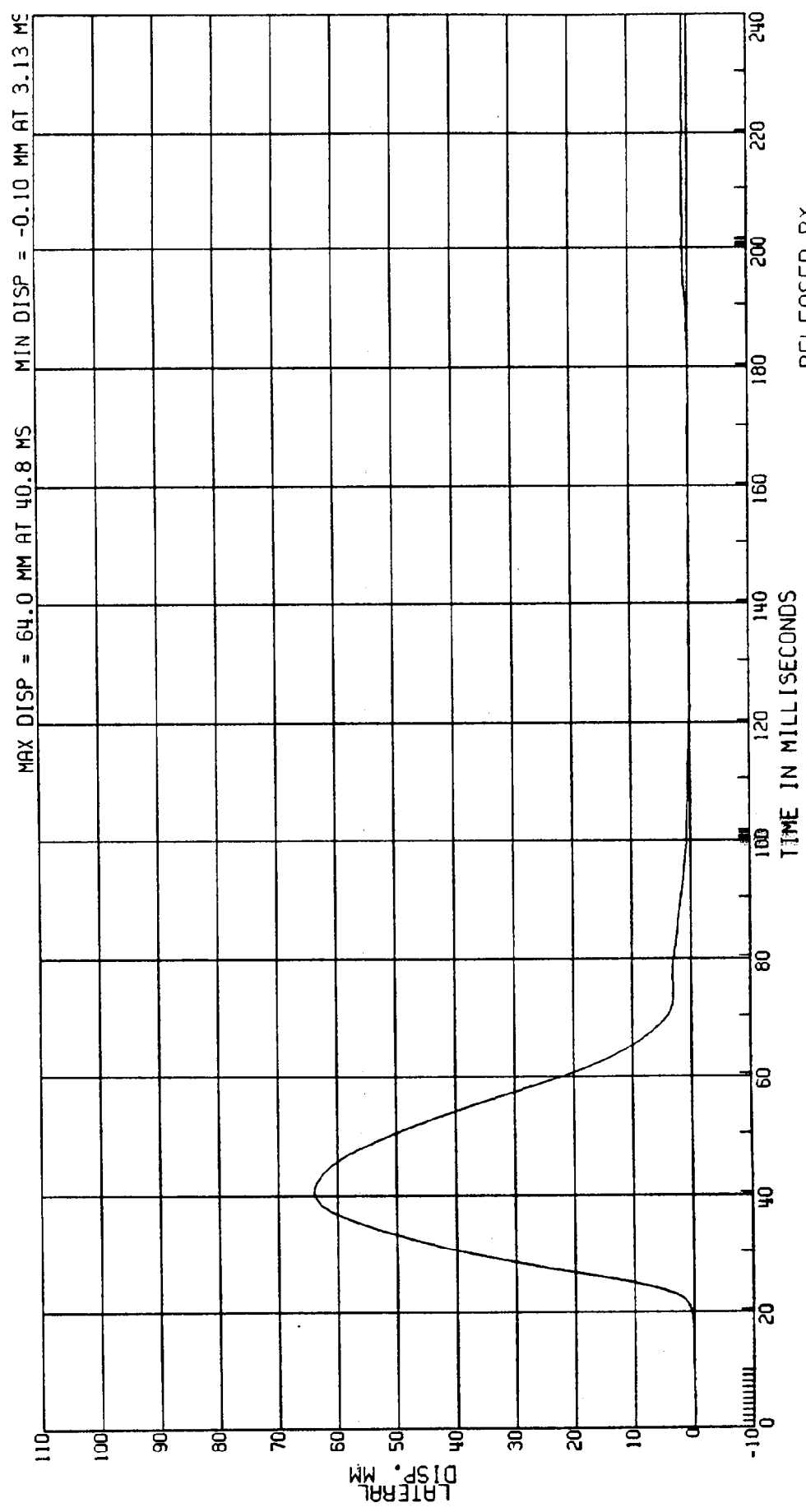
C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 33
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 180
L. REAR SECOND ABDOMINAL RIB DISP.
ATD TYPE: BIOSID
TEST DATE: 03-13-90



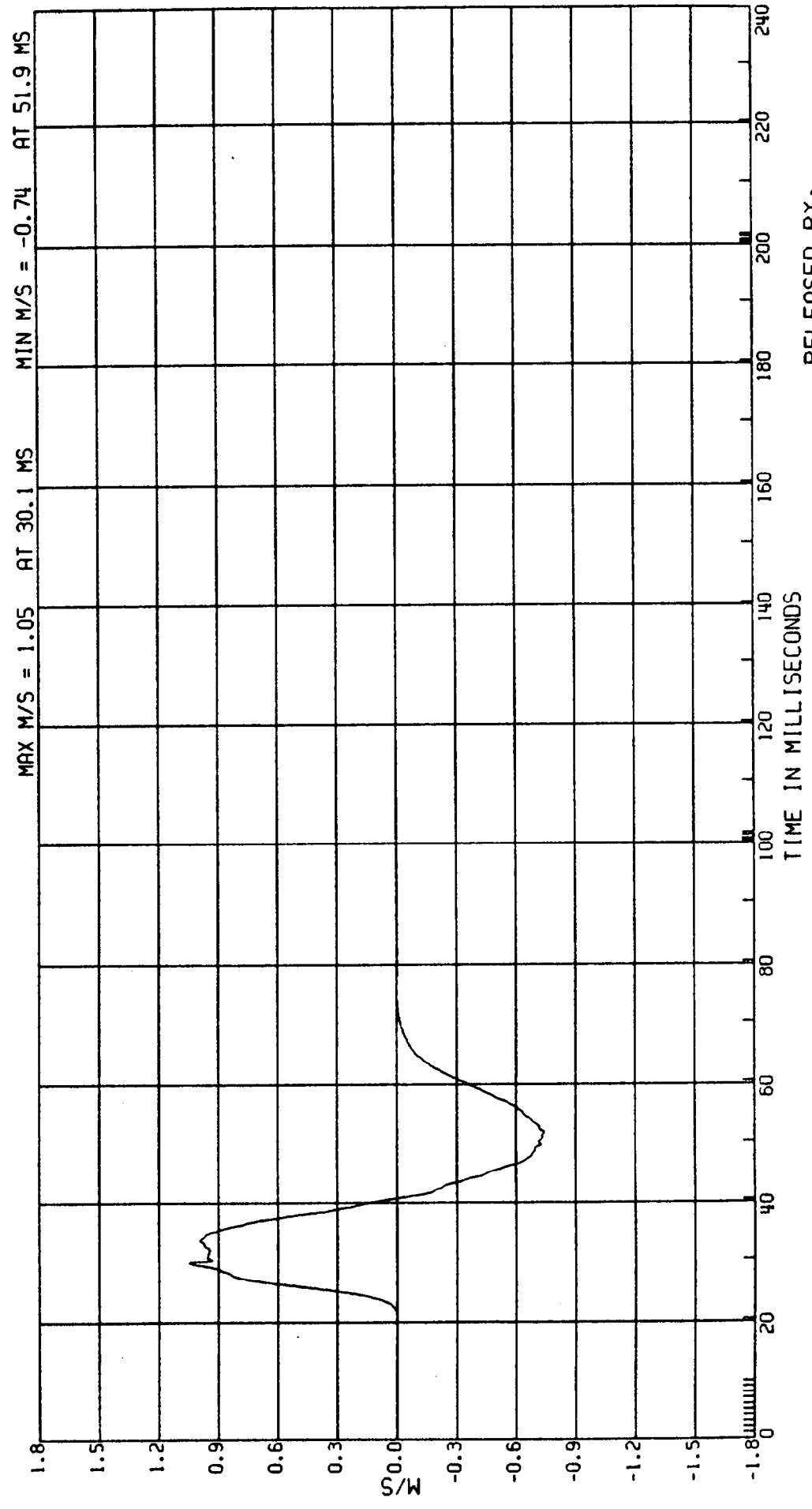
RELEASED BY:

31 PROCESSED 4 MY 90 13:44

C8005B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 34
3868-905 AID TYPE: BIOSID
CPE MVMA 6P 2AF69 L.REAR SECOND ABDOMINAL RIB DISP.
ELEC DATA, SAE CLASS 60 TEST DATE:03-13-90



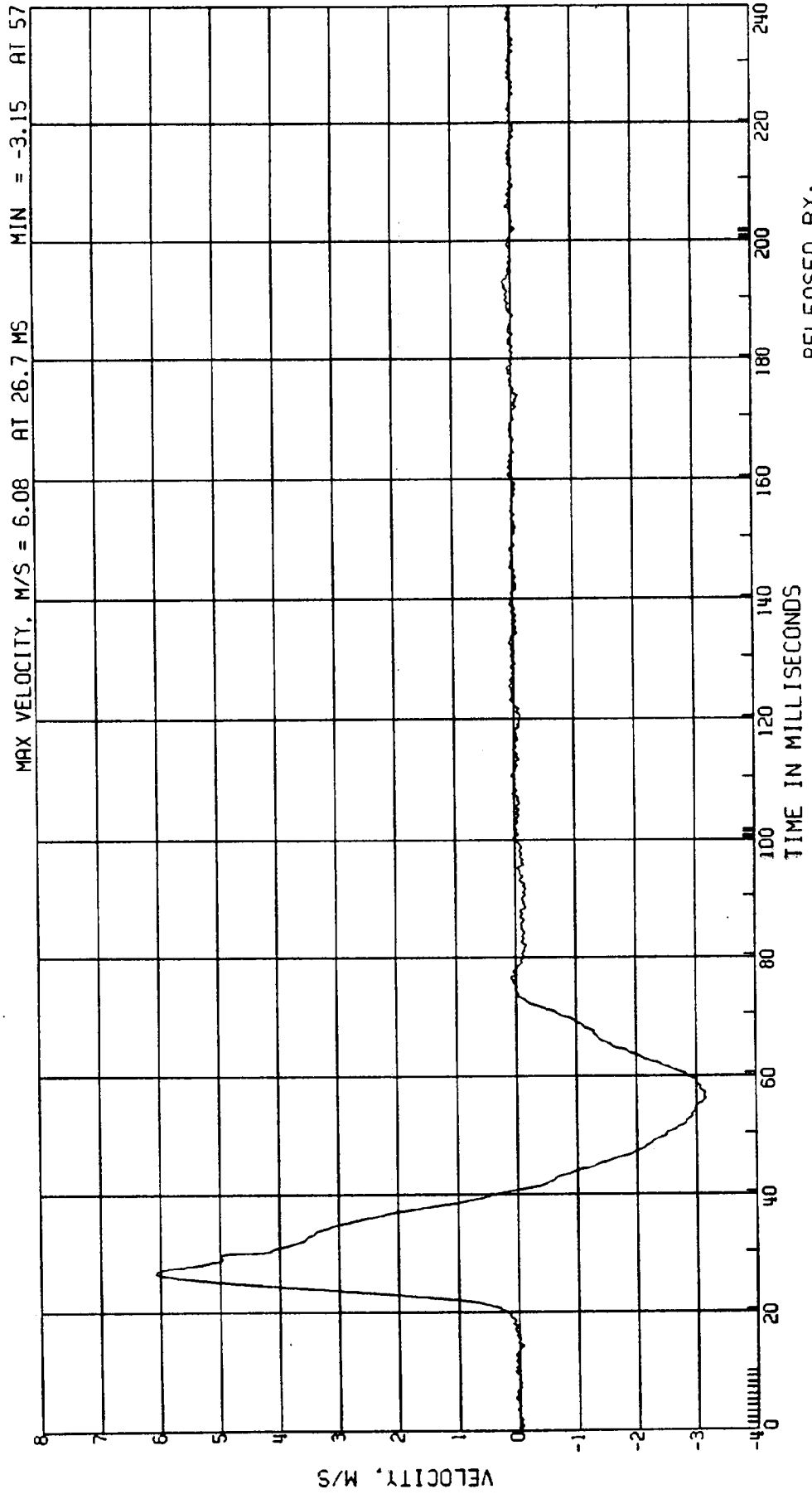
C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 35
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 60 (2ND RIB DISP*2ND RIB VEL) /175MM



RELEASED BY:
33 PROCESSED 4 MT 90 13:44

)

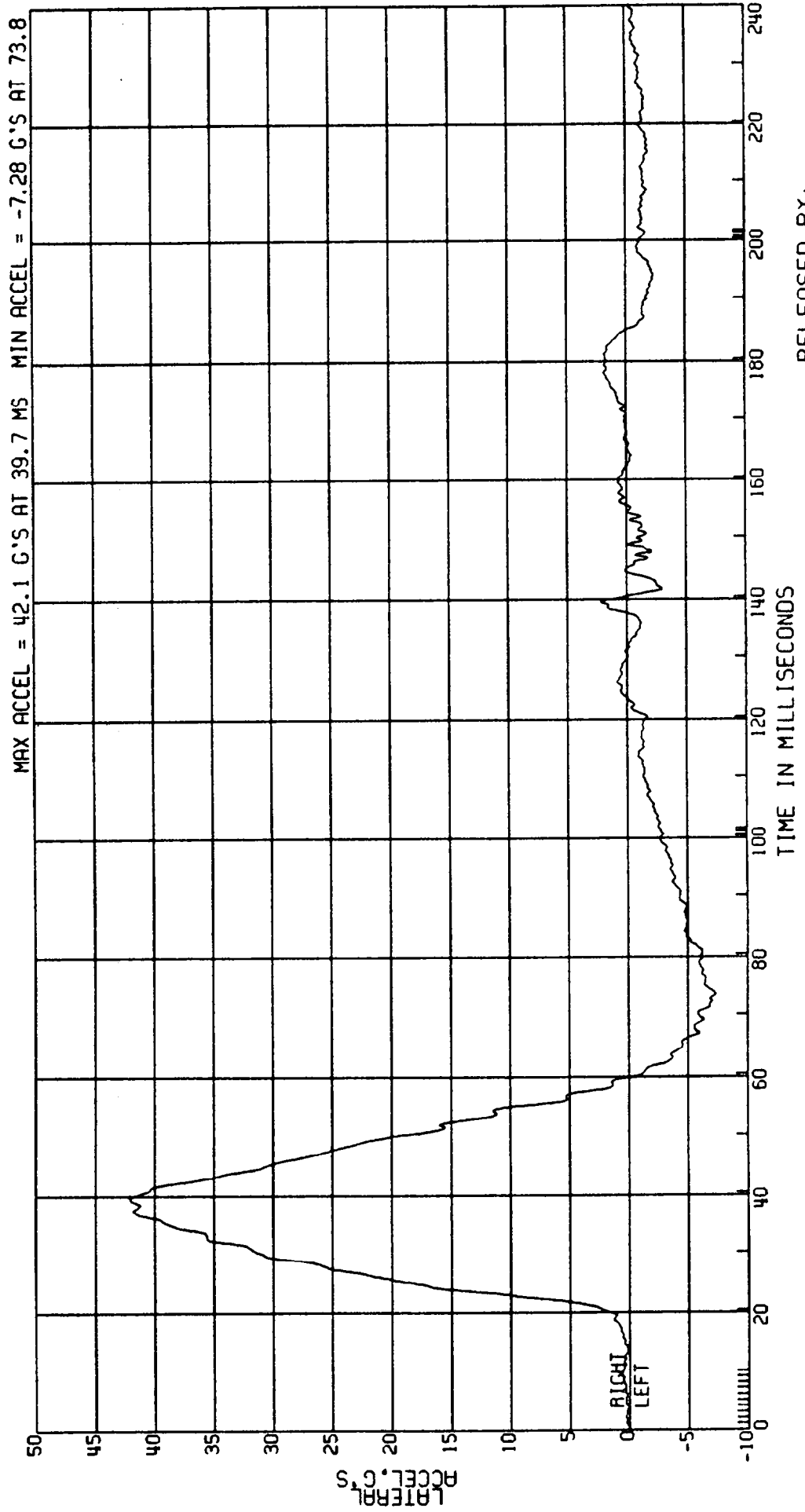
C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 36
3868-905 ATD TYPE: B10SID
CPE MVMA 6P 2AF69 L. REAR 2ND ABDOMINAL RIB VELOCITY TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 60 (DIFF OF 2ND RIB DISP)



RELEASED BY:

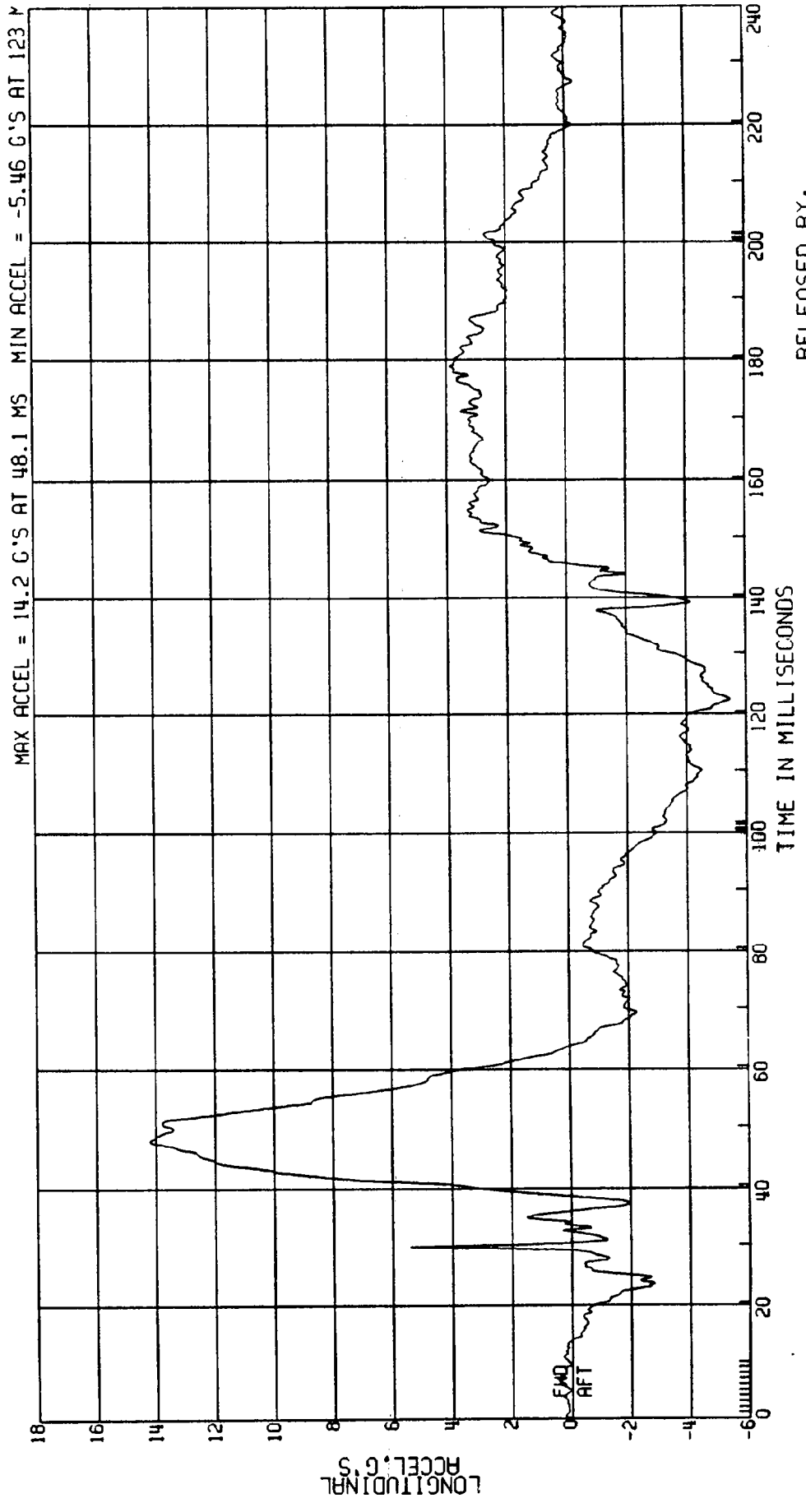
32 PROCESSED 4 MAY 90, 13:44,

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 37
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 L.REAR UPPER SPINE ACCEL.



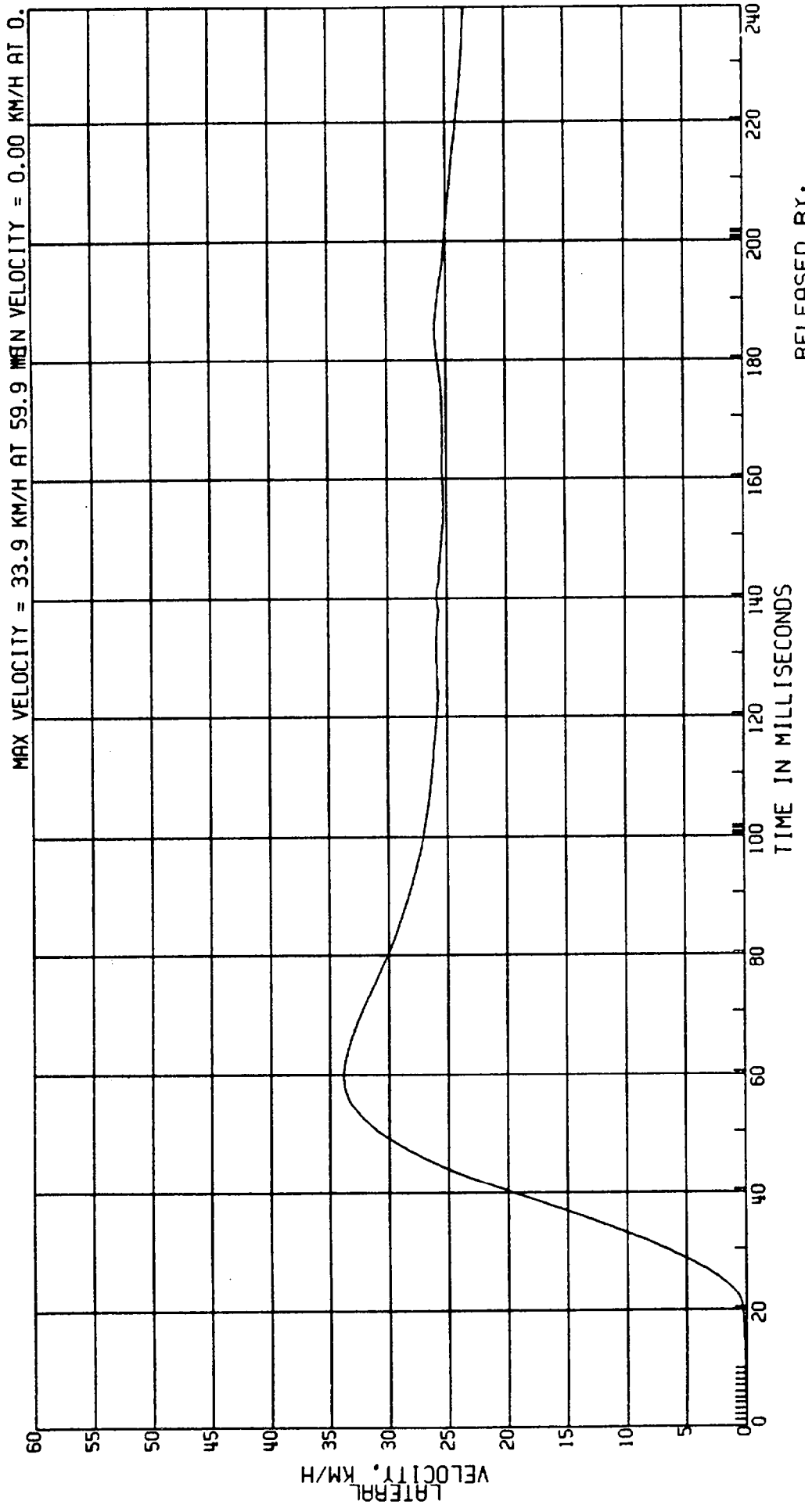
RELEASED BY:
35 PROCESSED 4 MY 90 13:44

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 38
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR UPPER SPINE ACCEL.
 ELEC DATA, SAE CLASS 180 TEST DATE:03-13-90

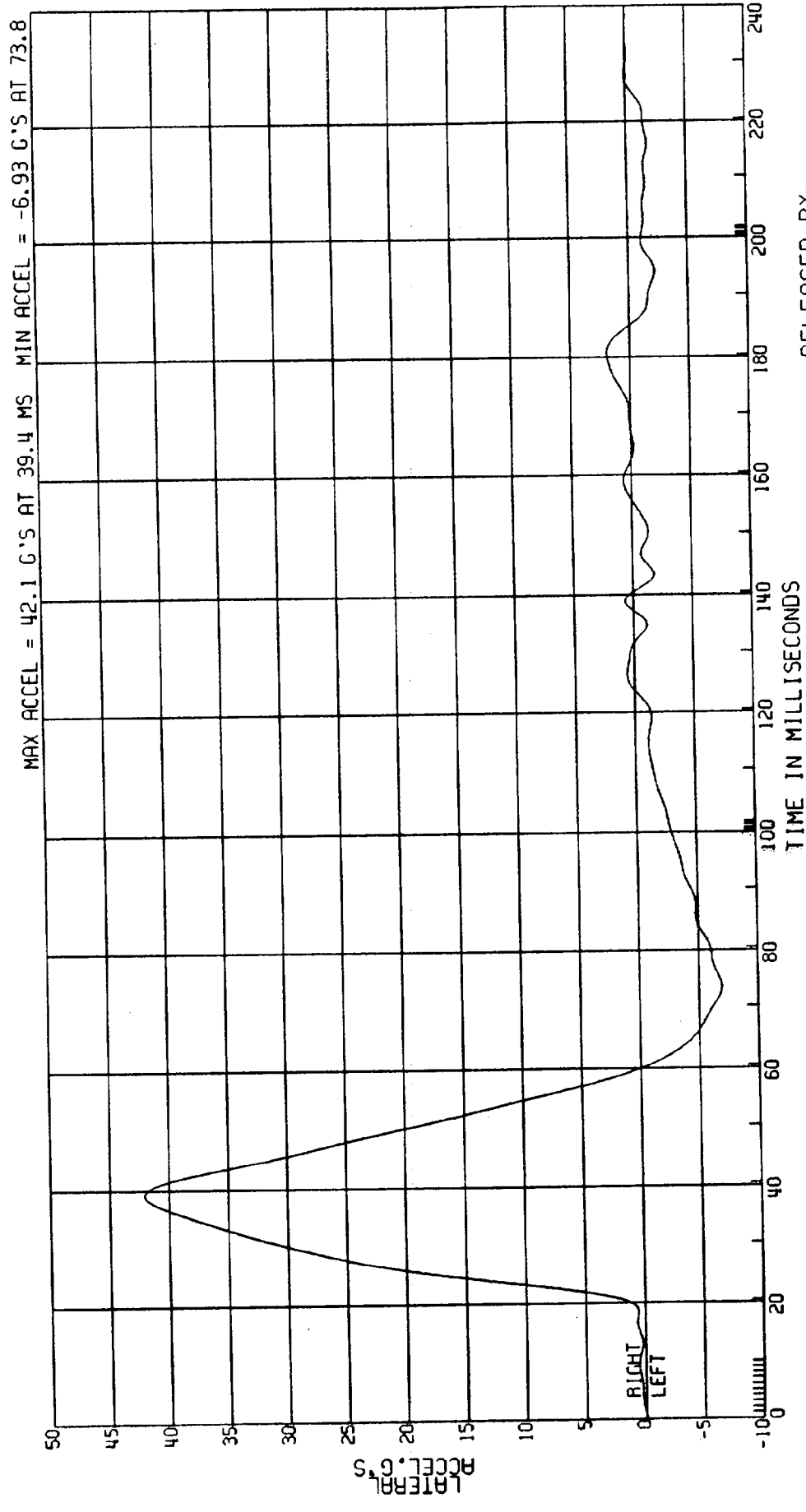


RELEASED BY:
 34 PROCESSED 4 MY 90 13:44

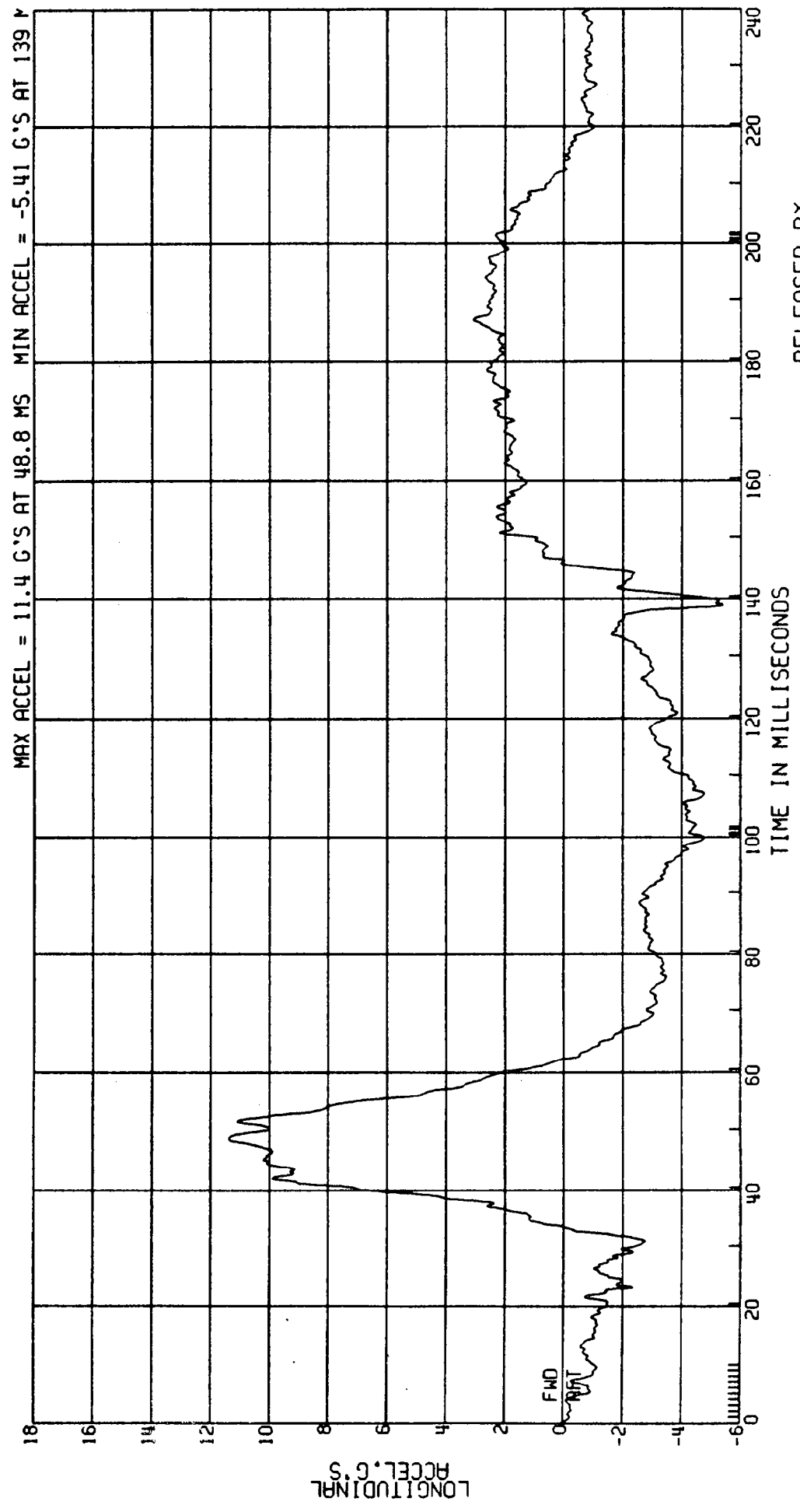
C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 39
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 COMPUTED UPPER SPINE VELOCITY TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L.REAR ACCELERATION)



C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 46
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, NHTSA FIR FILTER F. I. R. FILTER, CLASS 300 BUTTERWORTH L. REAR UPPER SPINE ACCEL.

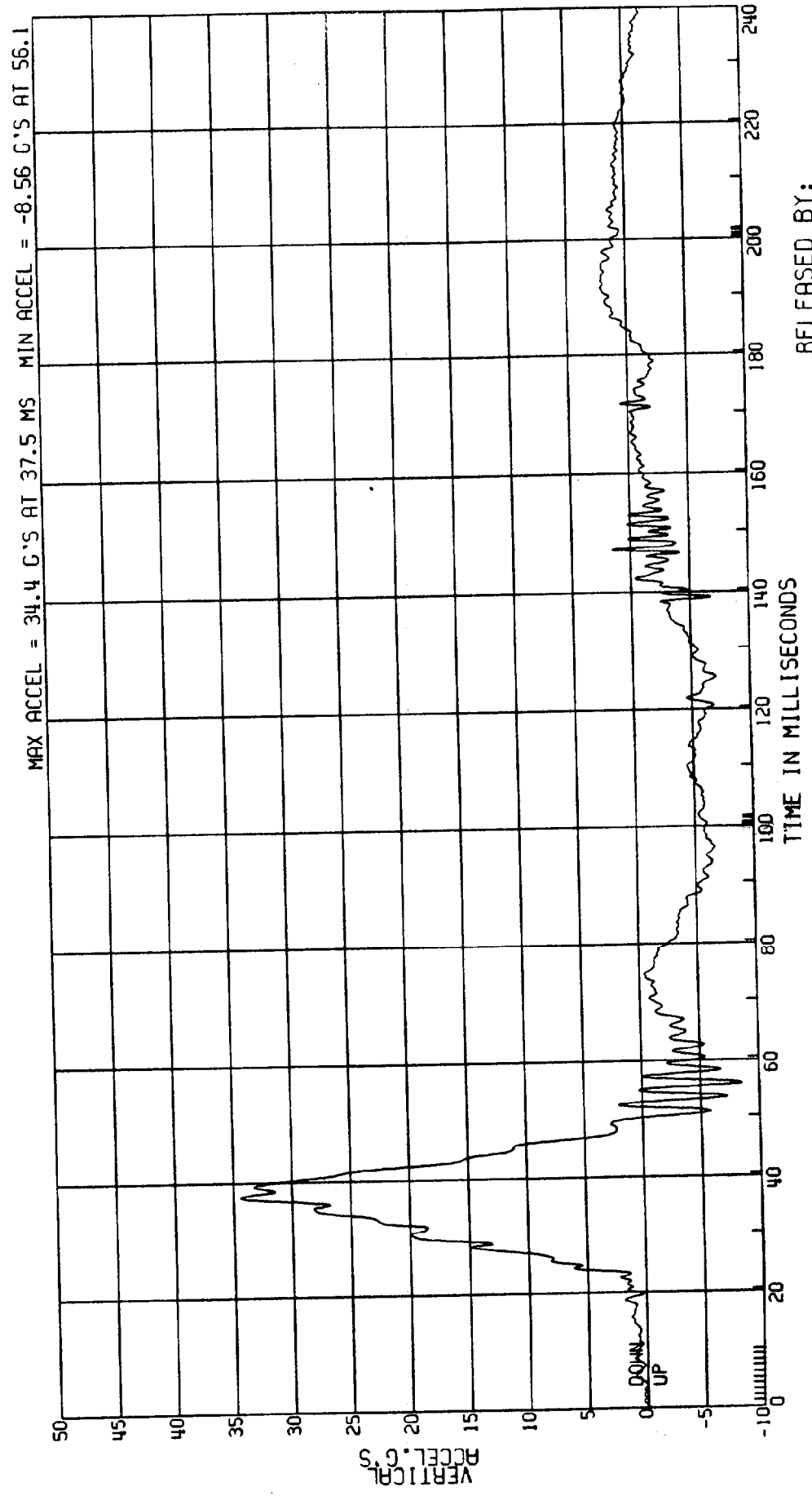


C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 41
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR LOWER SPINE ACCEL. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180



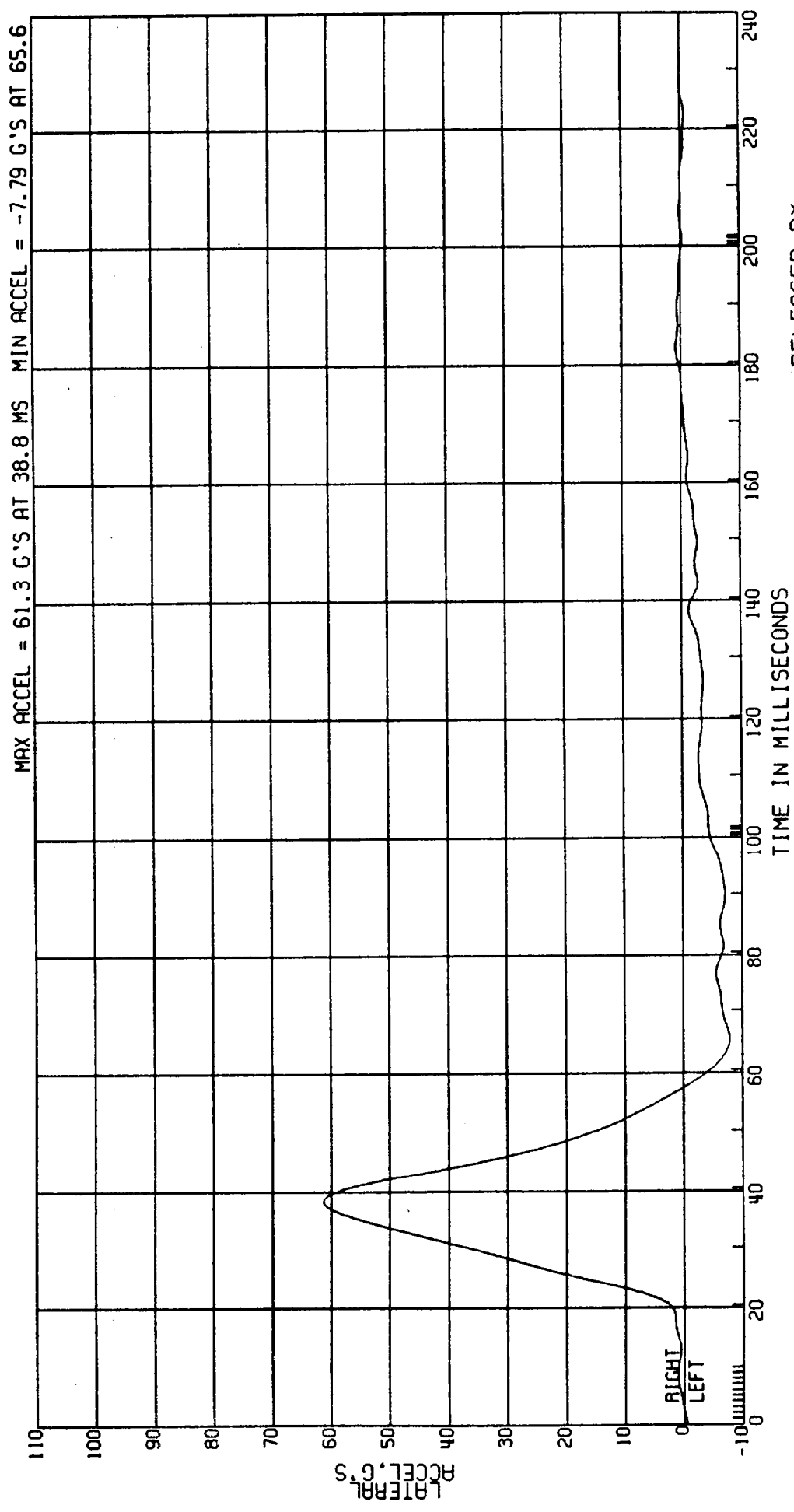
RELEASED BY:
39 PROCESSED 4 MY 90 13:44

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 42
3868-905 MVMA 6P 2AF69
CPE ELEC DATA, SAE CLASS 180
L. REAR UPPER SPINE ACCEL.
TEST DATE: 03-13-90



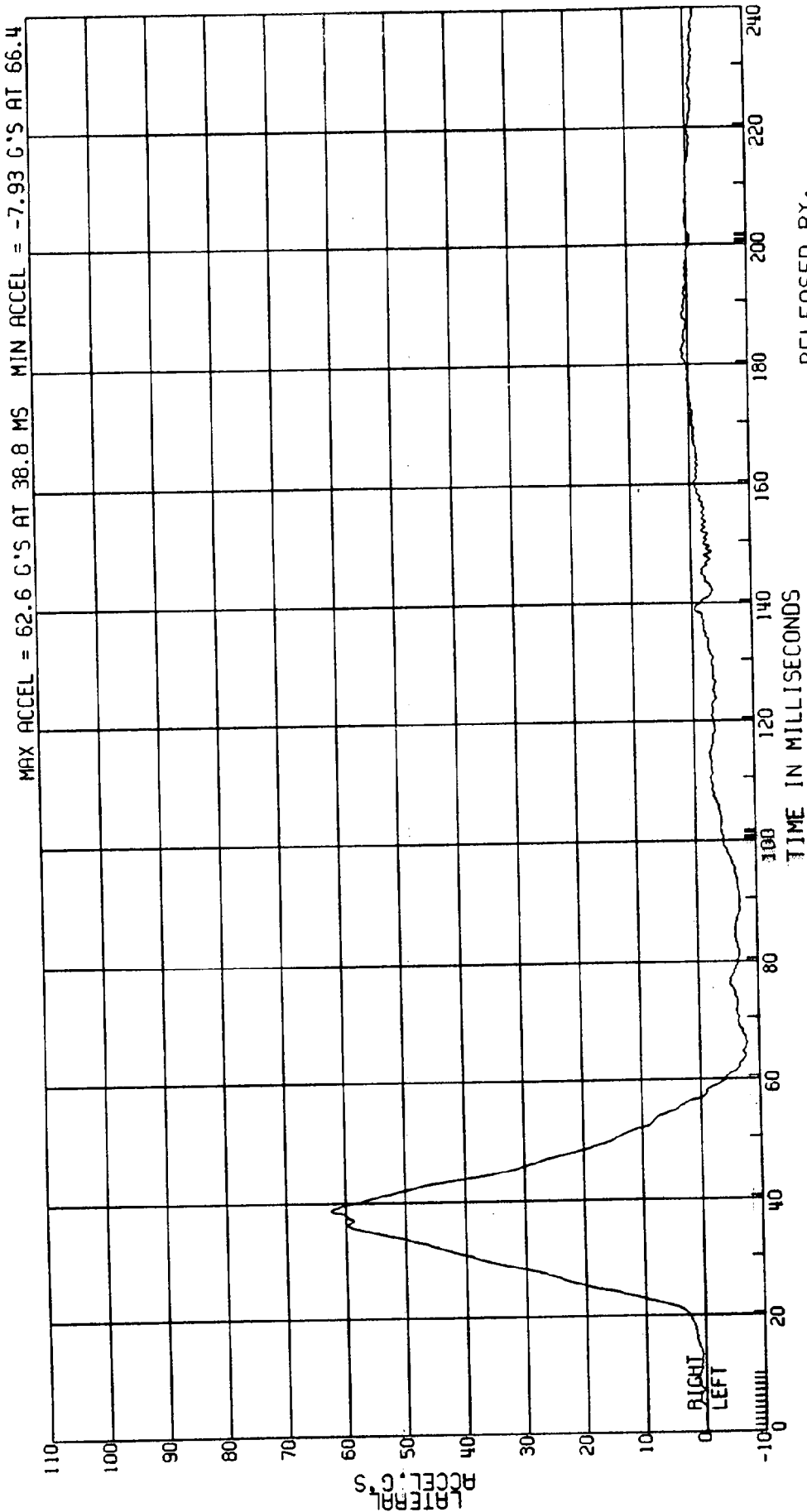
RELEASED BY:
38 PROCESSED 4 MT 90 13:44

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 43
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, NHTSA FIR FILTER L. REAR LOWER SPINE ACCEL.
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



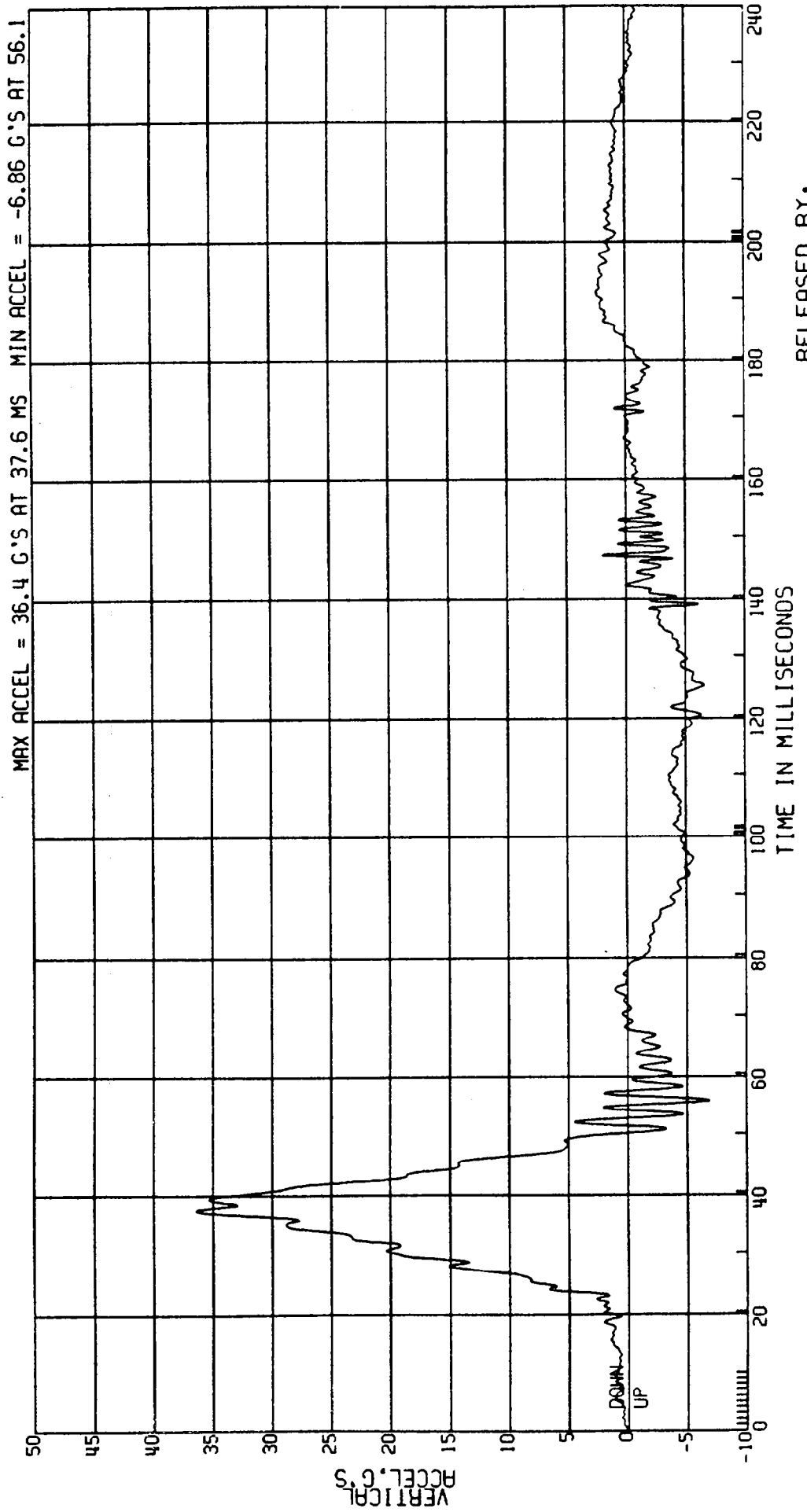
RELEASED BY:
 41 PROCESSED 4 MY 90 13:45

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 44
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180 L. REAR LOWER SPINE ACCEL.



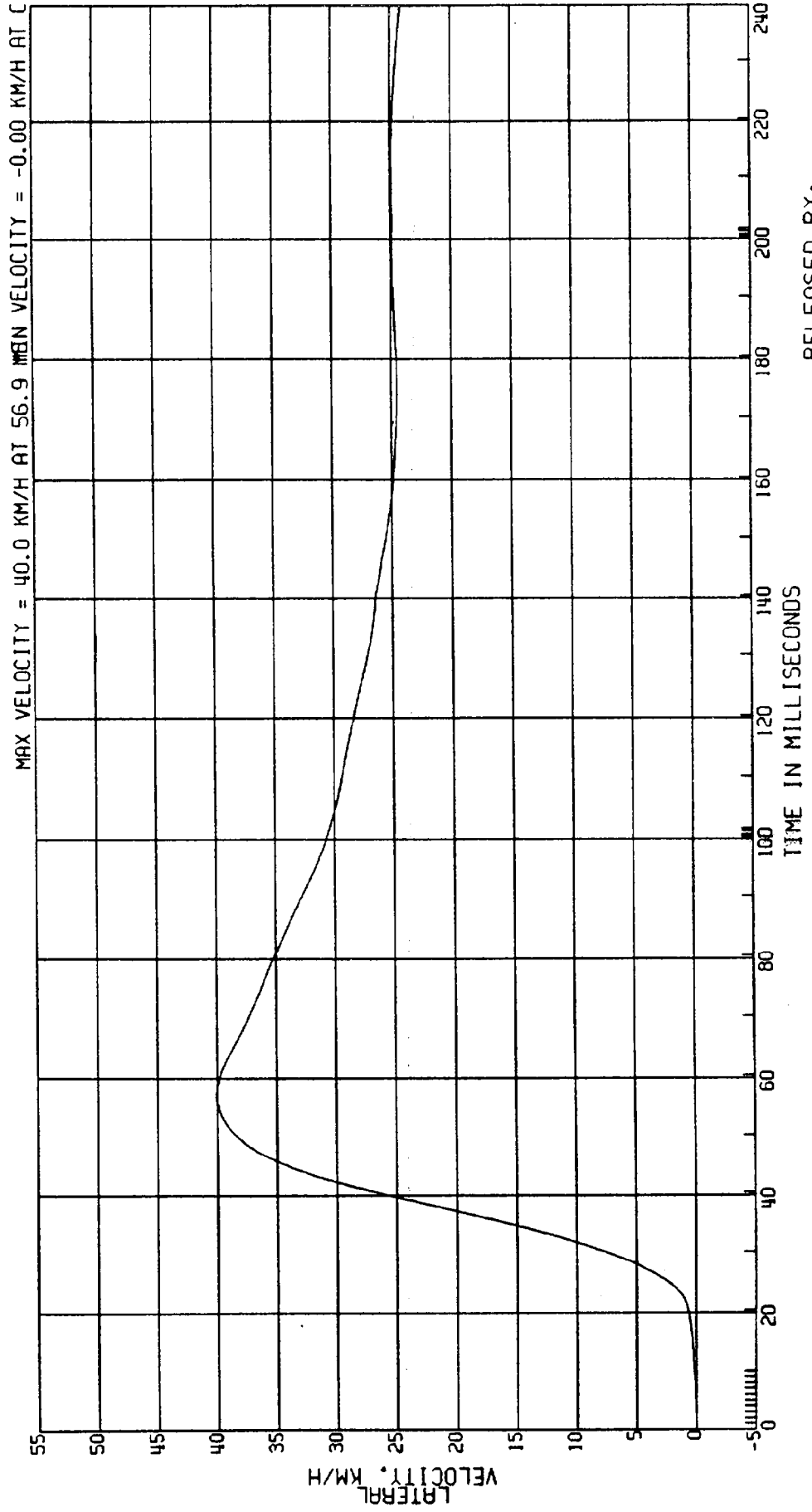
RELEASED BY:
40 PROCESSED 4-MT-90 13:44

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 45
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR LOWER SPINE ACCEL.
ELEC DATA, SAE CLASS 180 TEST DATE: 03-13-90



RELEASED BY:
43 PROCESSED 4 MY 90 13:45

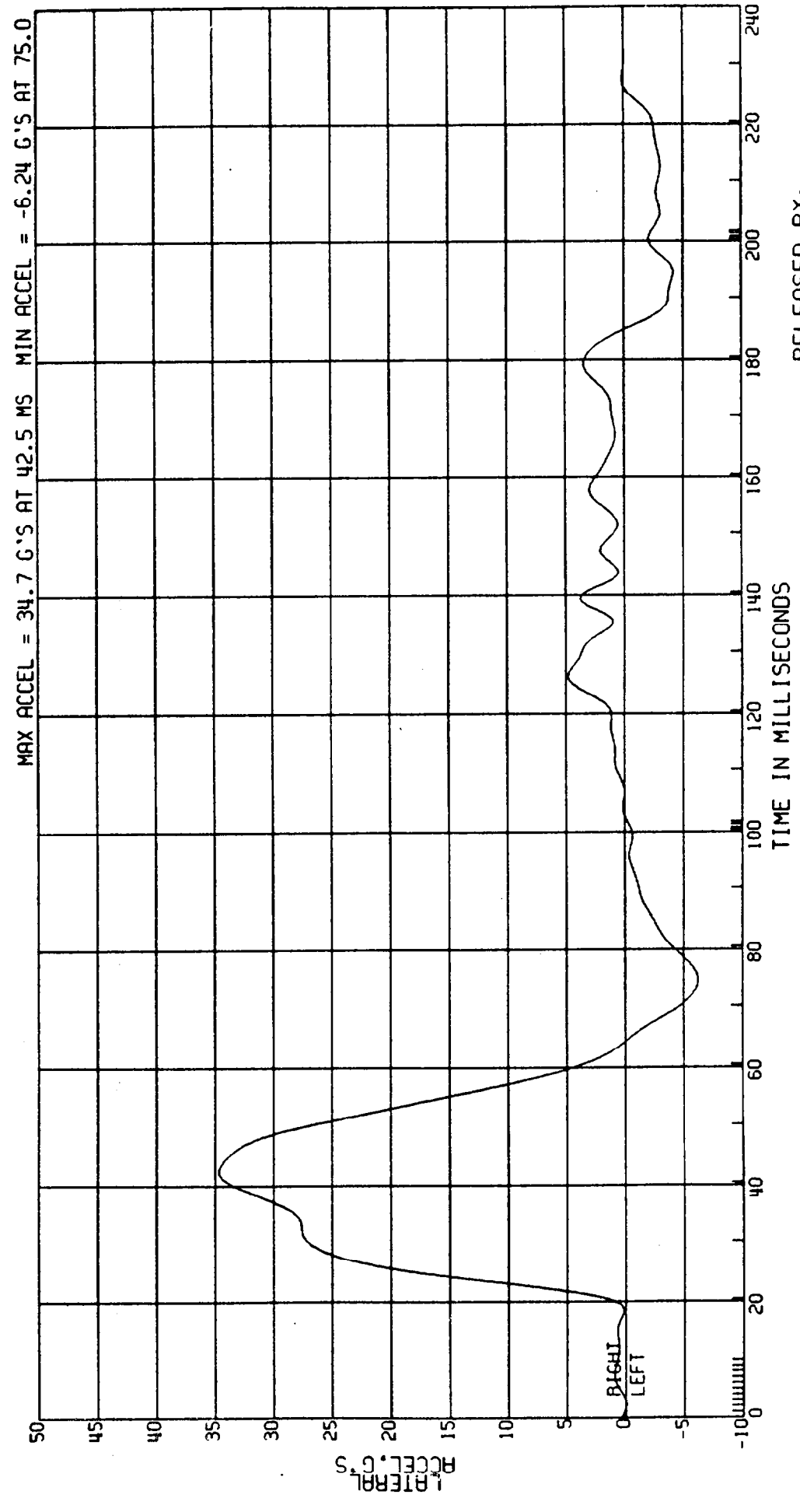
C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 46
 3868-905 MVMA 6P 2AF69 ATD TYPE: BIOSID
 CPE ELEC DATA, SAE CLASS 180 COMPUTED LOWER SPINE VELOCITY TEST DATE:03-13-90
 (1ST INTEGRAL L.REAR ACCELERATION)



RELEASED BY:

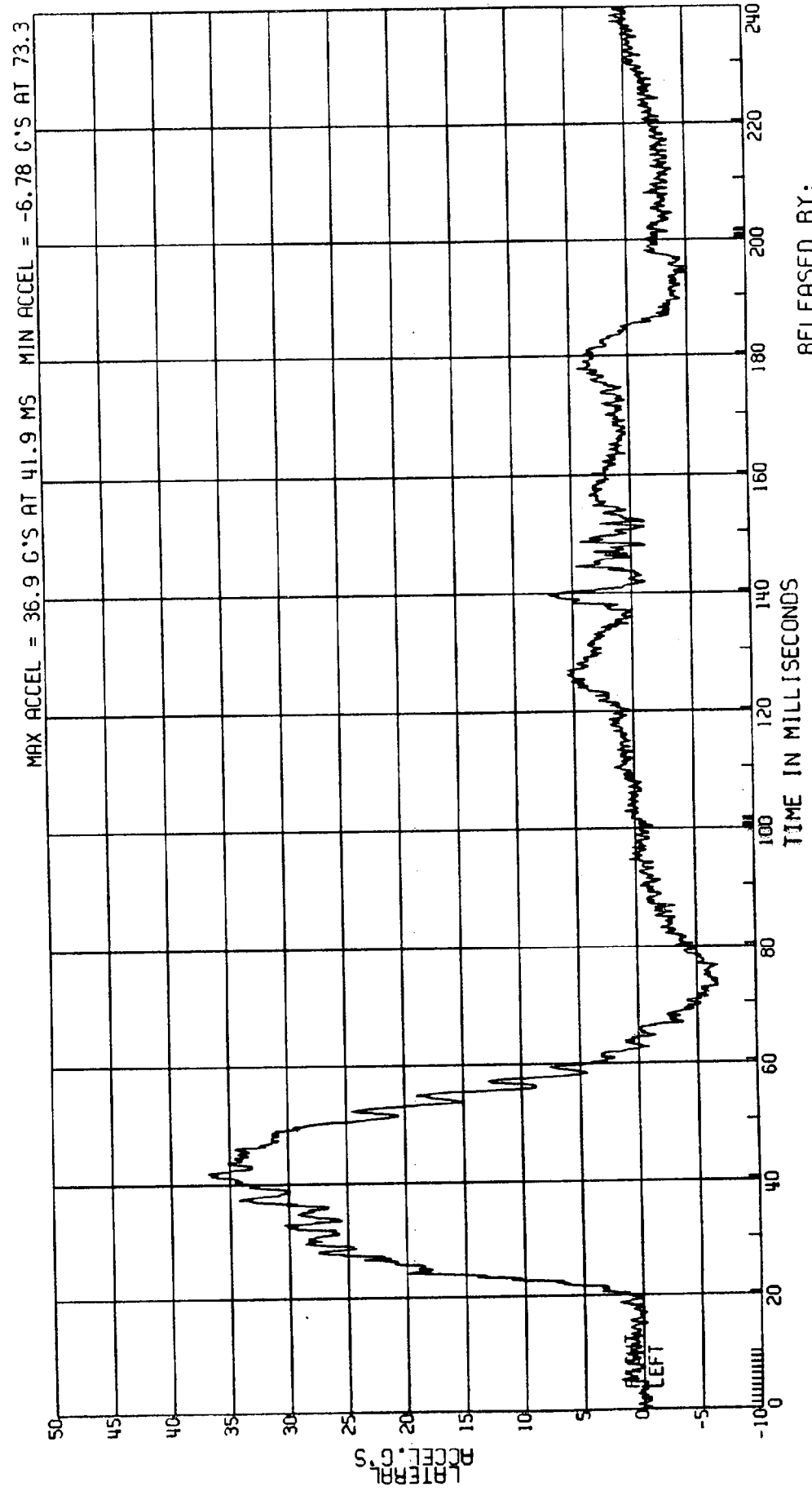
42 PROCESSED 4 MY 90 13:45

C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 47
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, NHTSA FIR FILTER L. REAR T1 ACCEL.
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



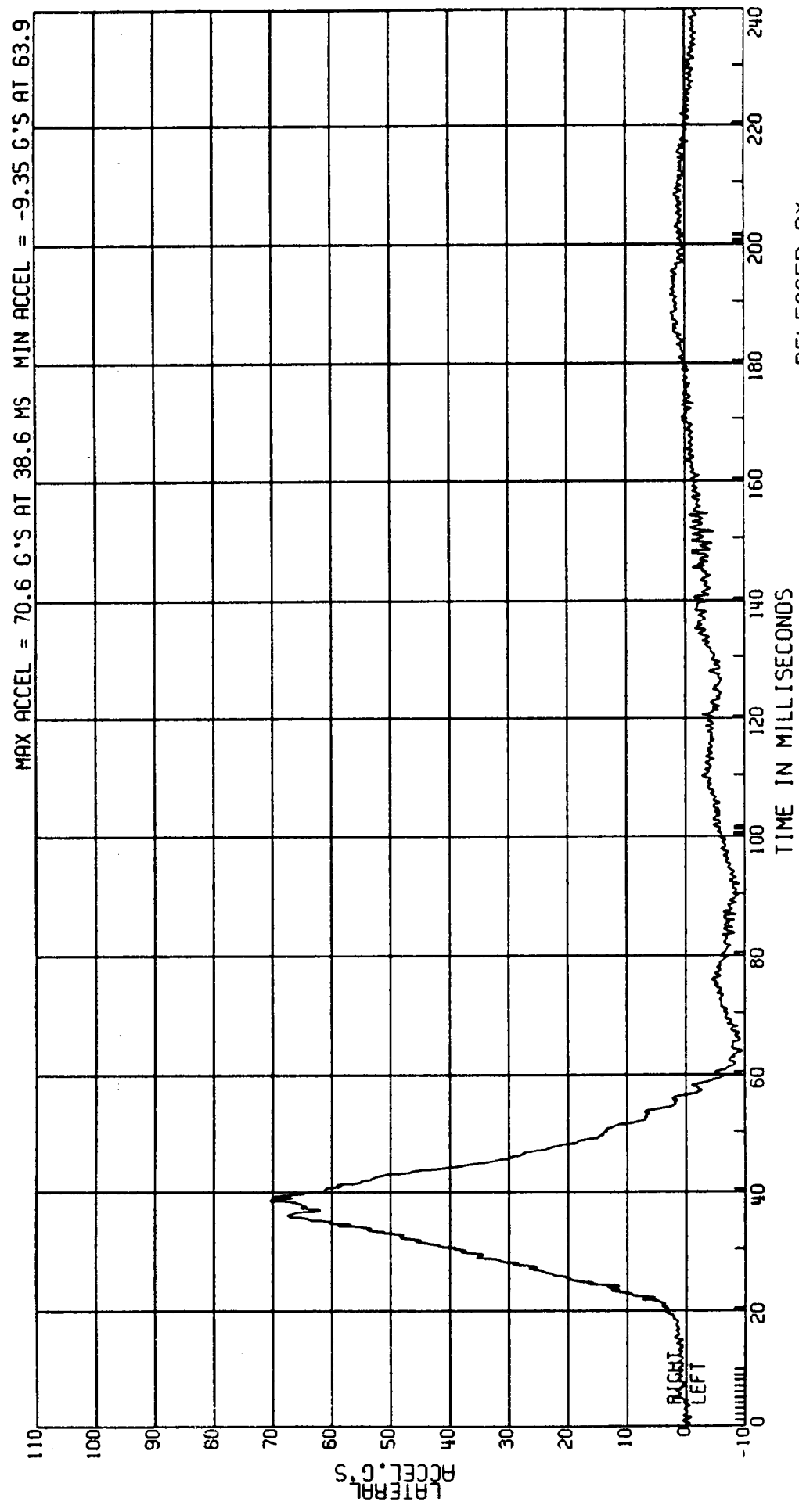
RELEASED BY:
 45 PROCESSED 4 MT 90 13:45

C80068 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 48
 3868-905 ATD TYPE: BIOSID
 CPE MVMR 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 1000 L. REAR T1 ACCEL.



RELEASED BY:
 44 PROCESSED 4 MY 90 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 49
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 1000 L. REAR T12 ACCEL.

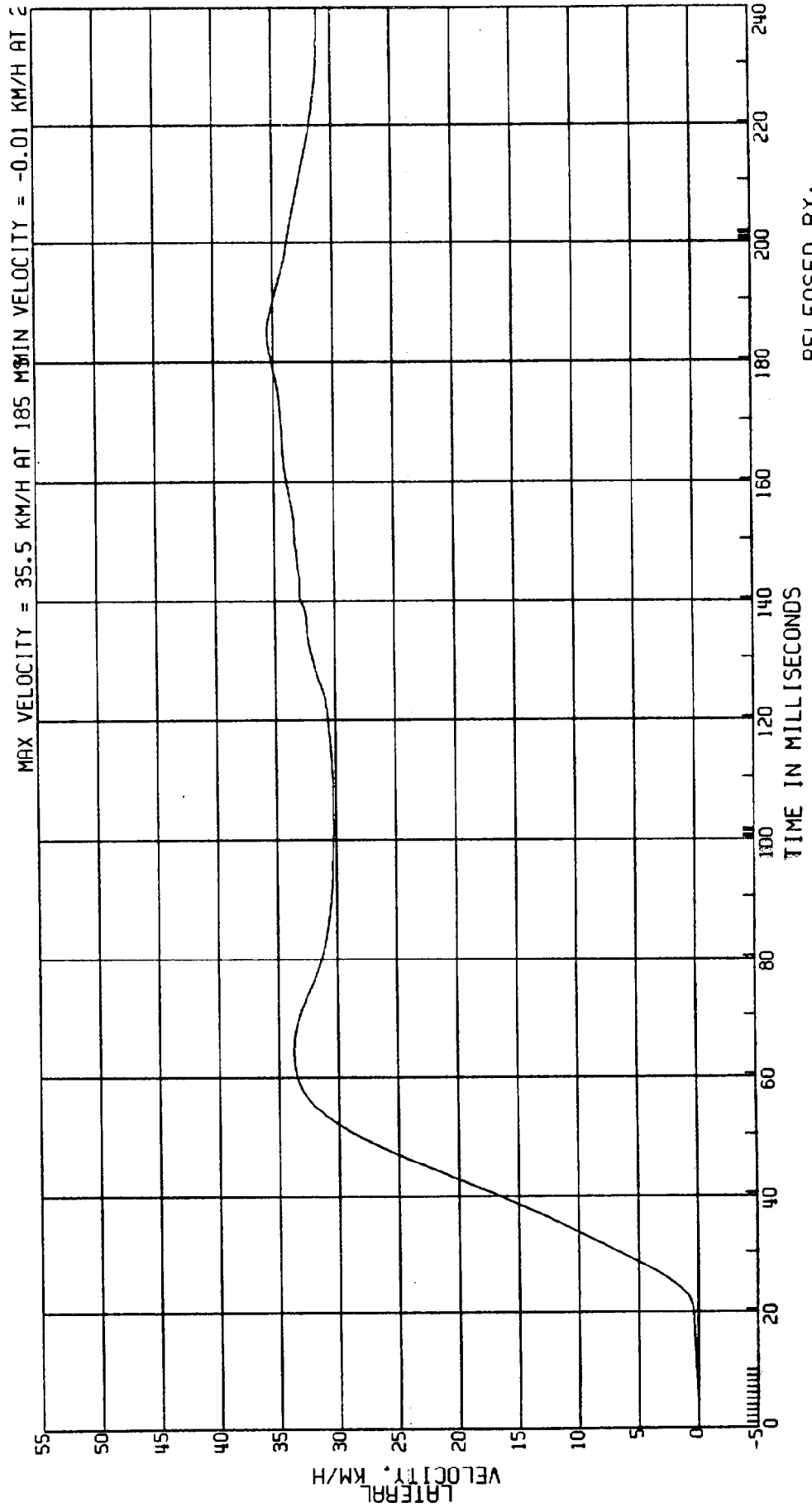


RELEASED BY:
 47 PROCESSED 4 MT 90 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 50
3868-905 MVMA 6P 2AF69 ATD TYPE: BIOSID
CPE TEST DATE: 03-13-90

COMPUTED T1 VELOCITY

ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)

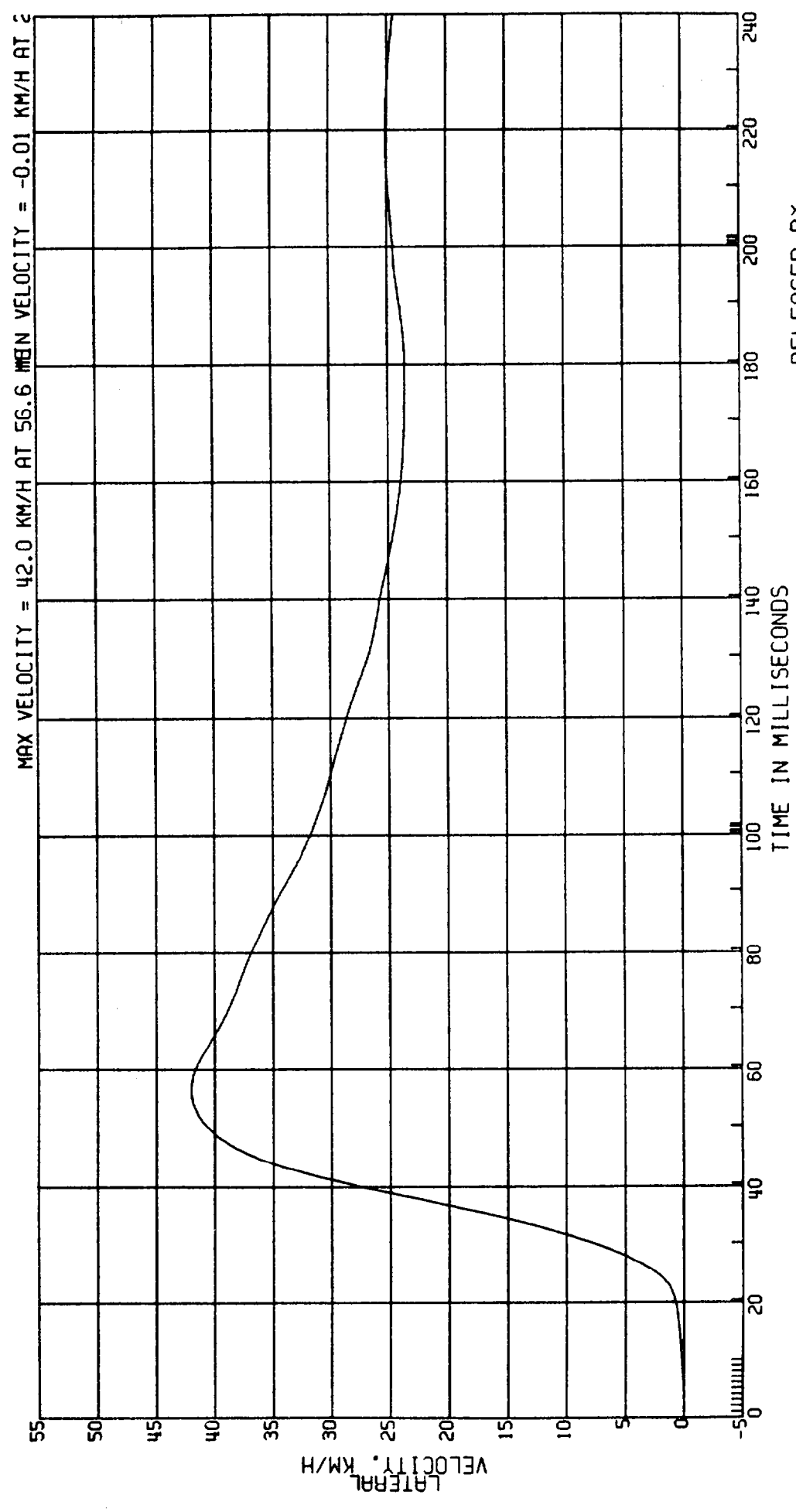


RELEASED BY:
46 PROCESSED 4 MY 90, 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 5/
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90

COMPUTED T12 VELOCITY
(1ST INTEGRAL L.REAR ACCELERATION)

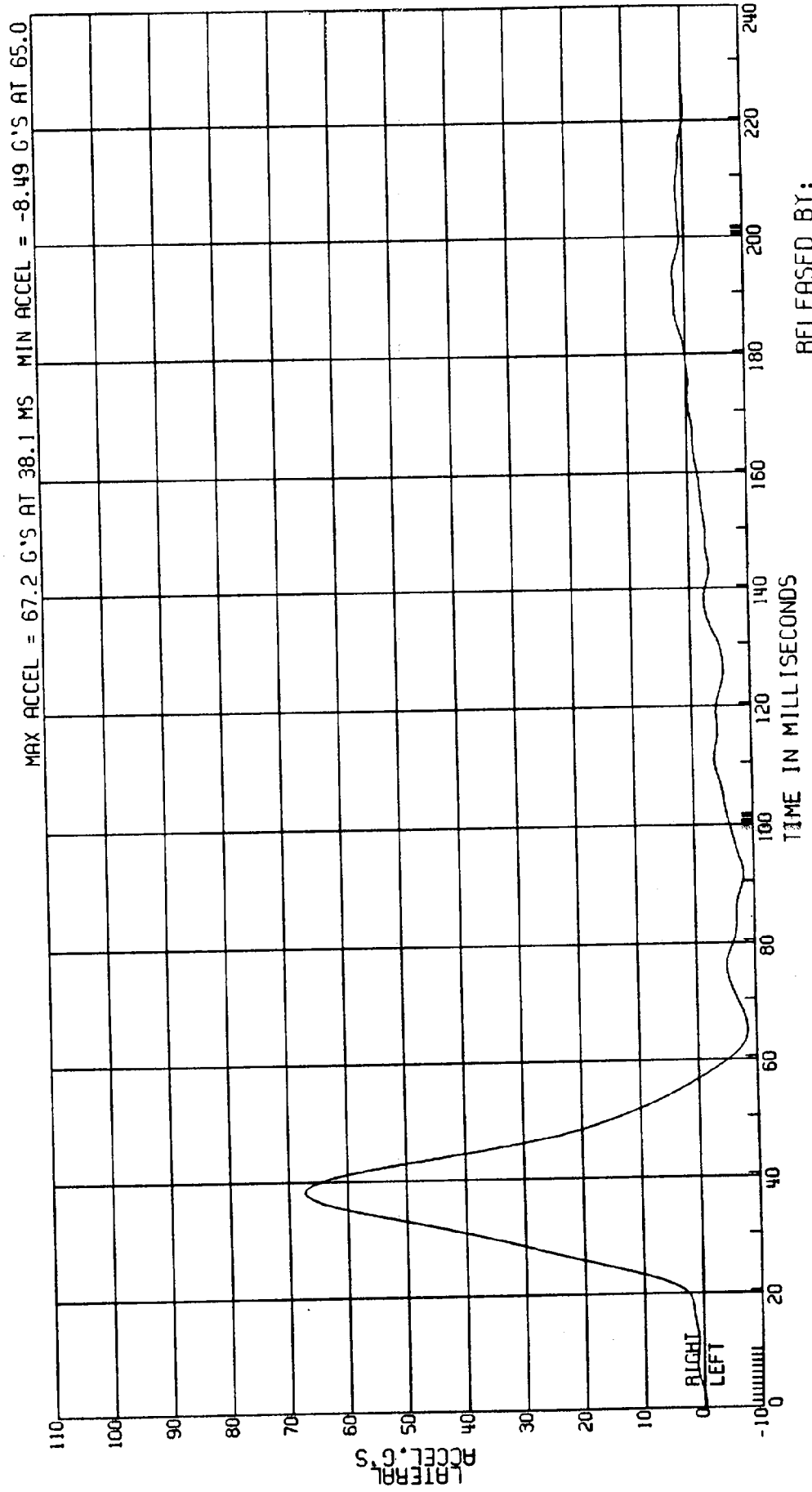
ELEC DATA, SAE CLASS 180



C8006B L. SIDE IMPACT- 27 DEG
MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 52
AID TYPE: BIOSID
TEST DATE:03-13-90

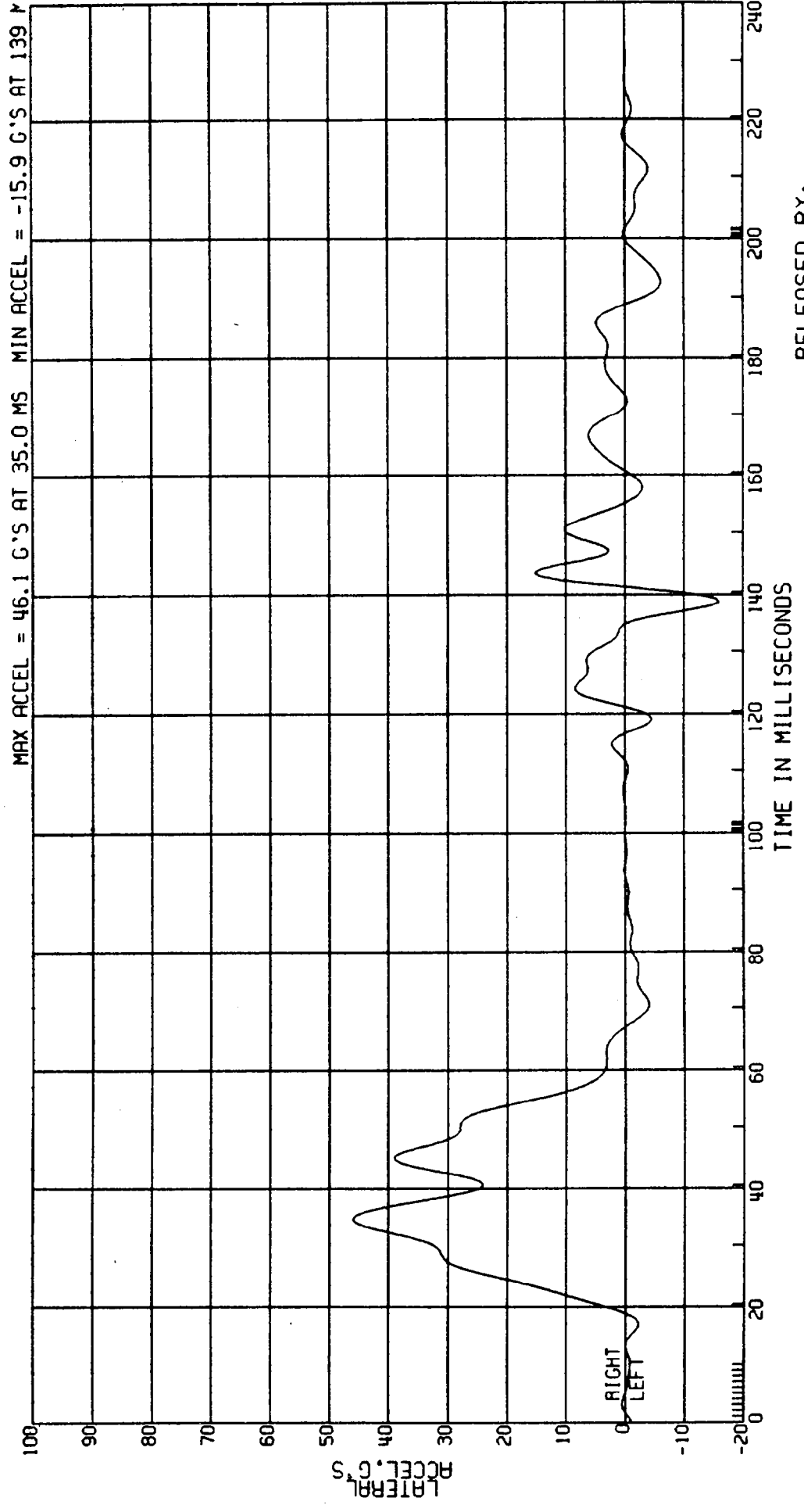
L.REAR T12 ACCEL.
F.I.R. FILTER, CLASS 300 BUTTERWORTH

3868-905
MVMA 6P 2AF69
ELEC DATA, NHTSA FIR FILTER



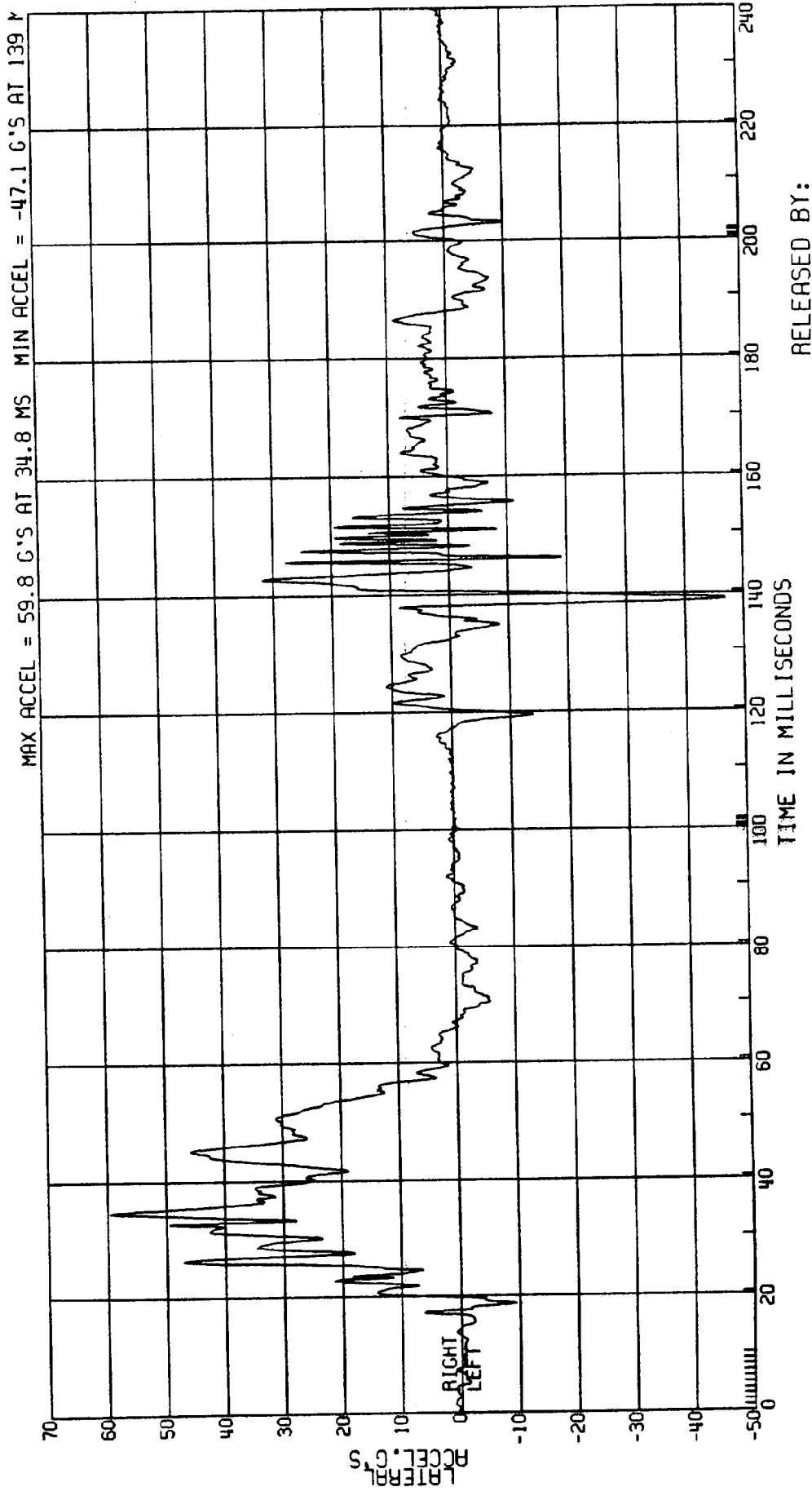
RELEASED BY:
48 PROCESSED 4 MY 90 13:45

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 53
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR SHOULDER ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE: 03-13-90



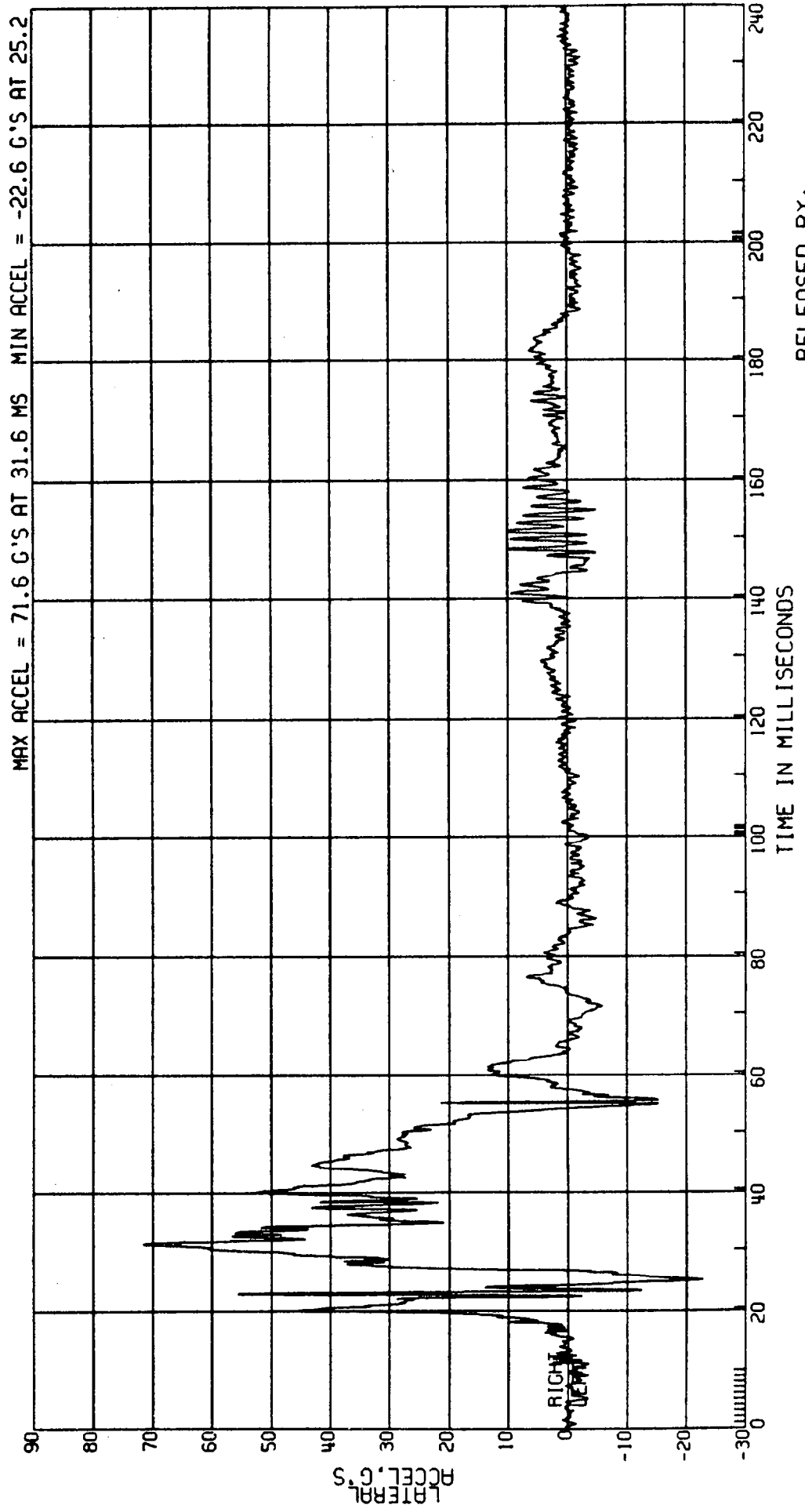
RELEASED BY:
 51 PROCESSED 4 MY 90 13:45

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 54
 3868-905 ATD TYPE: B10S10
 CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 600 L. REAR SHOULDER ACCEL.



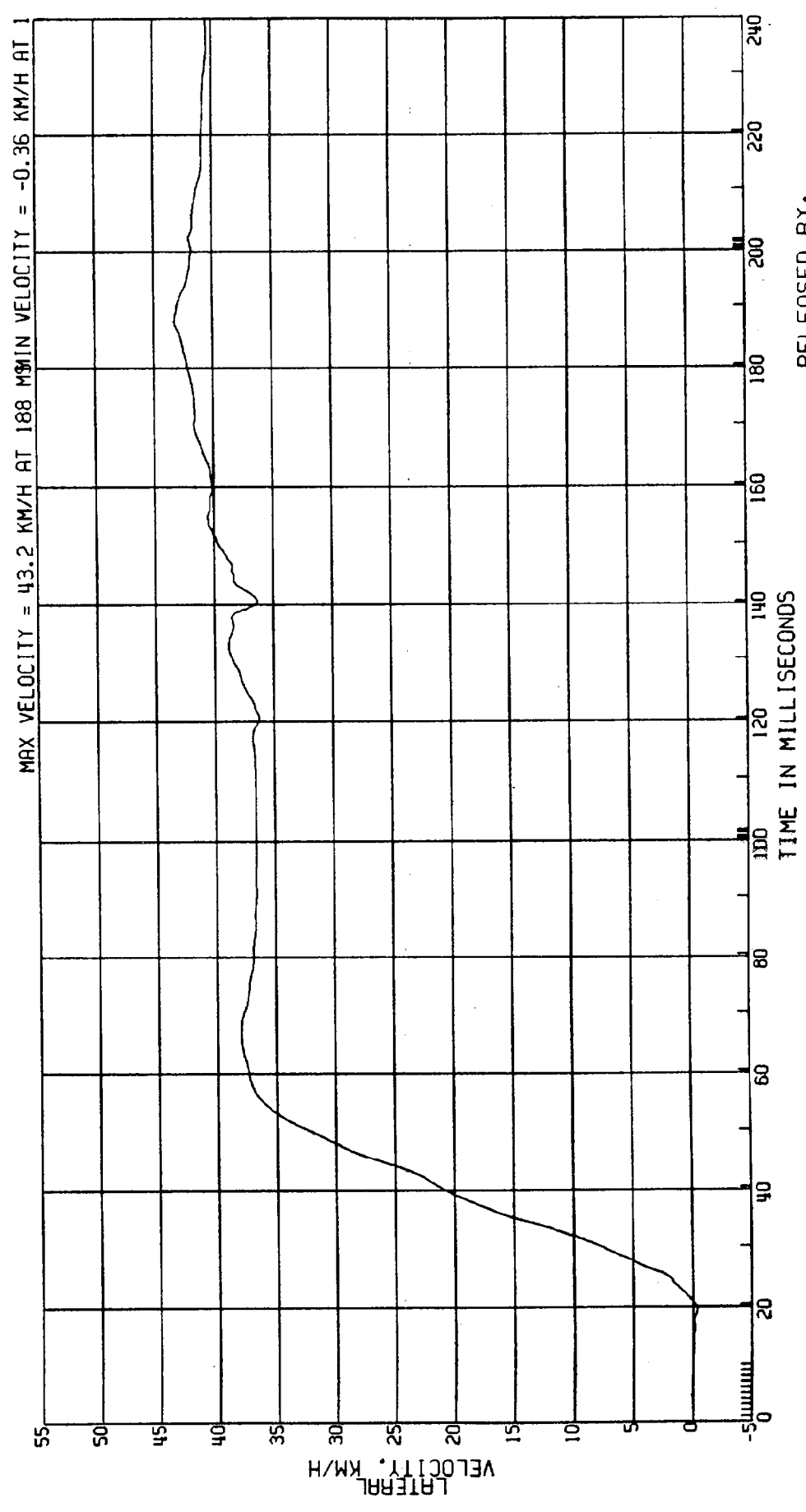
RELEASED BY:
 50 PROCESSED 4-MY 90 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 55
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR FIRST THORACIC RIB ACCEL. TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 1000



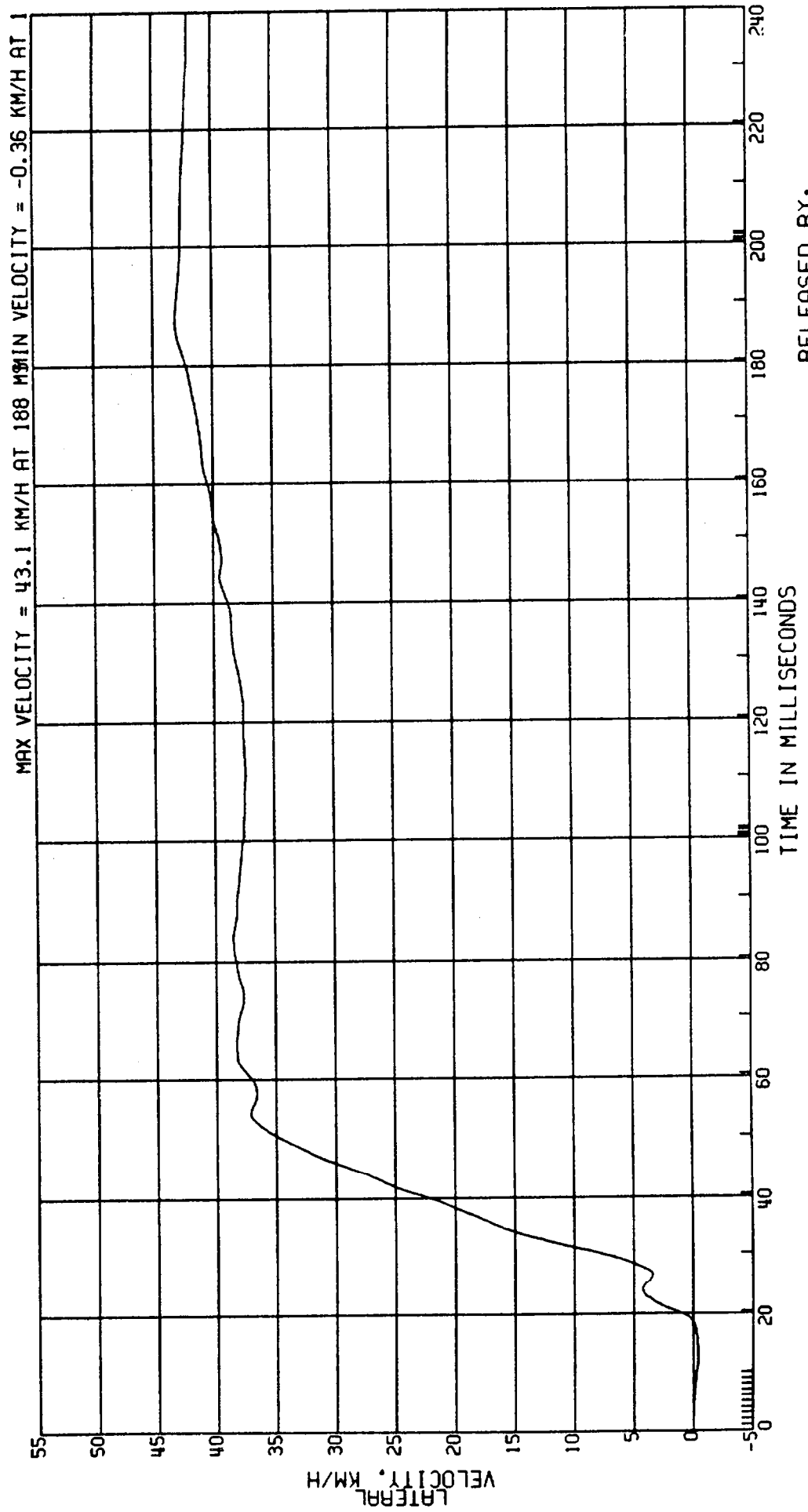
RELEASED BY:
 53 PROCESSED 4 MY 90 13:45

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 56
3868-905 AID TYPE: BIOSID
CPE MVMA 6P 2AF69 COMPUTED SHOULDER VELOCITY TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)



RELEASED BY:
52 PROCESSED 4 MY 90 13:45

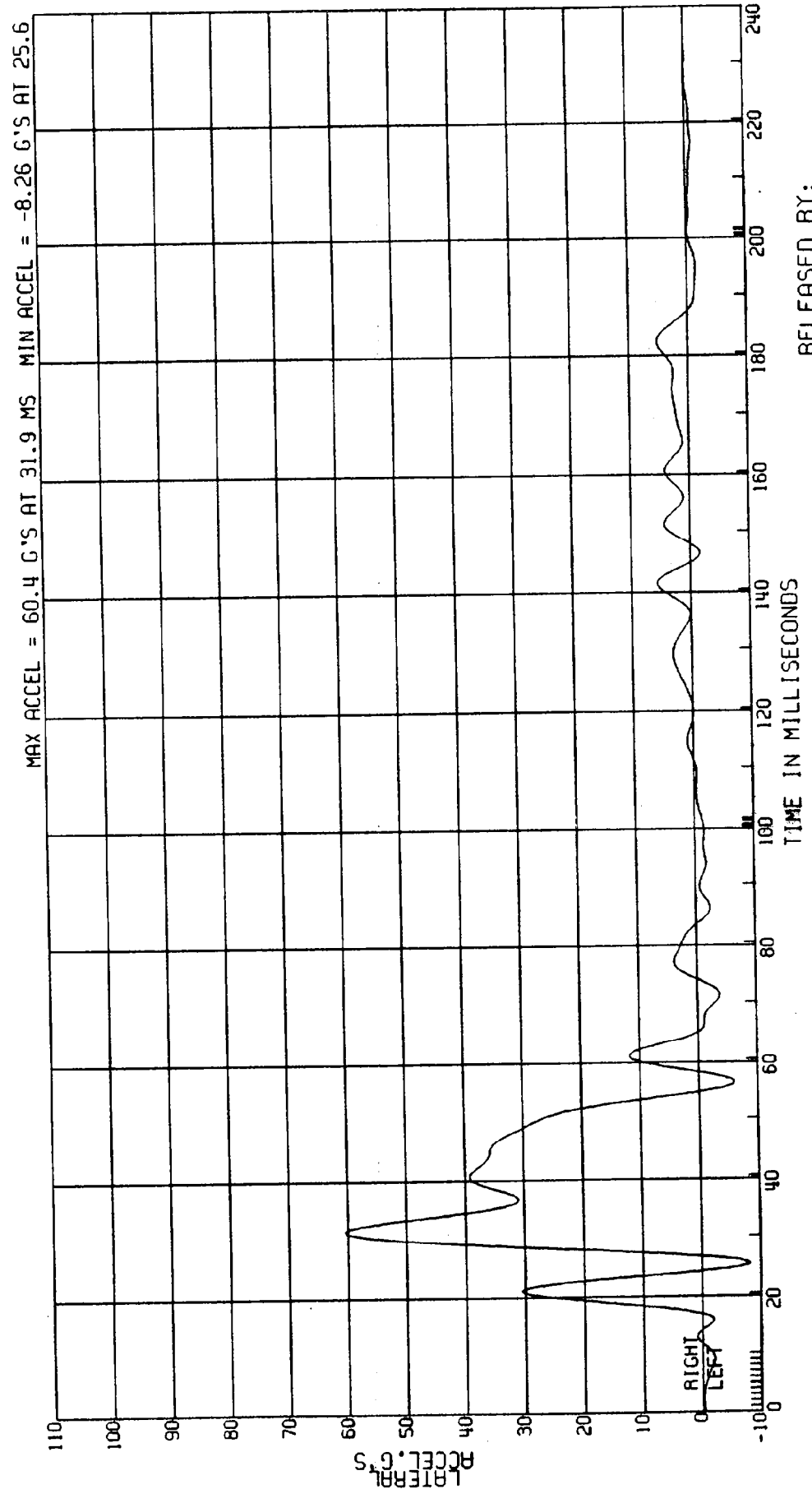
C80068 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 57
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)



RELEASED BY:

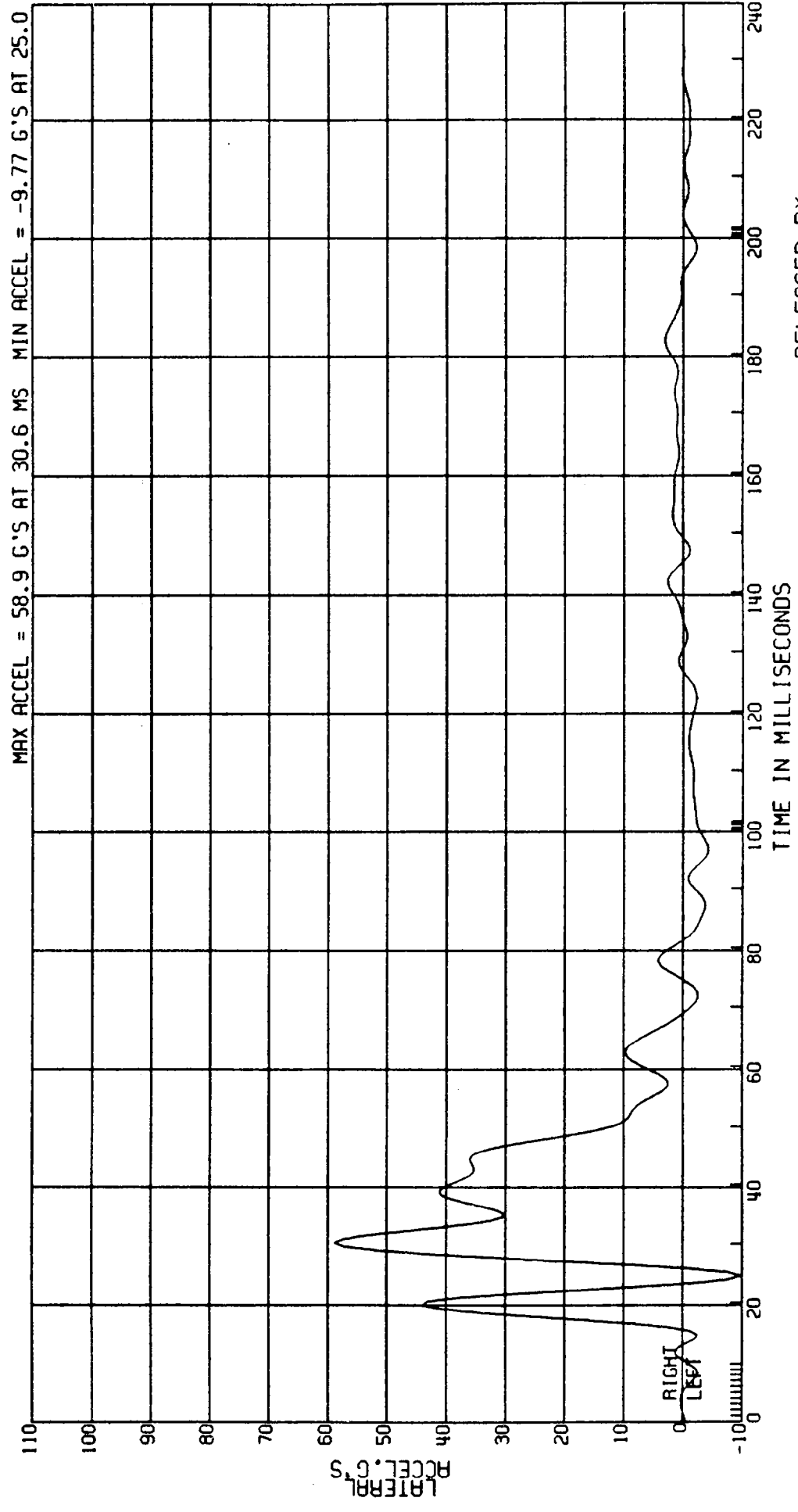
55 PROCESSED 4 MY 90 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 58
 3868-905 MVMA 6P 2AF69 ATD TYPE: BIOSID
 CPE L. REAR FIRST THORACIC RIB ACCEL. TEST DATE: 03-13-90
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH



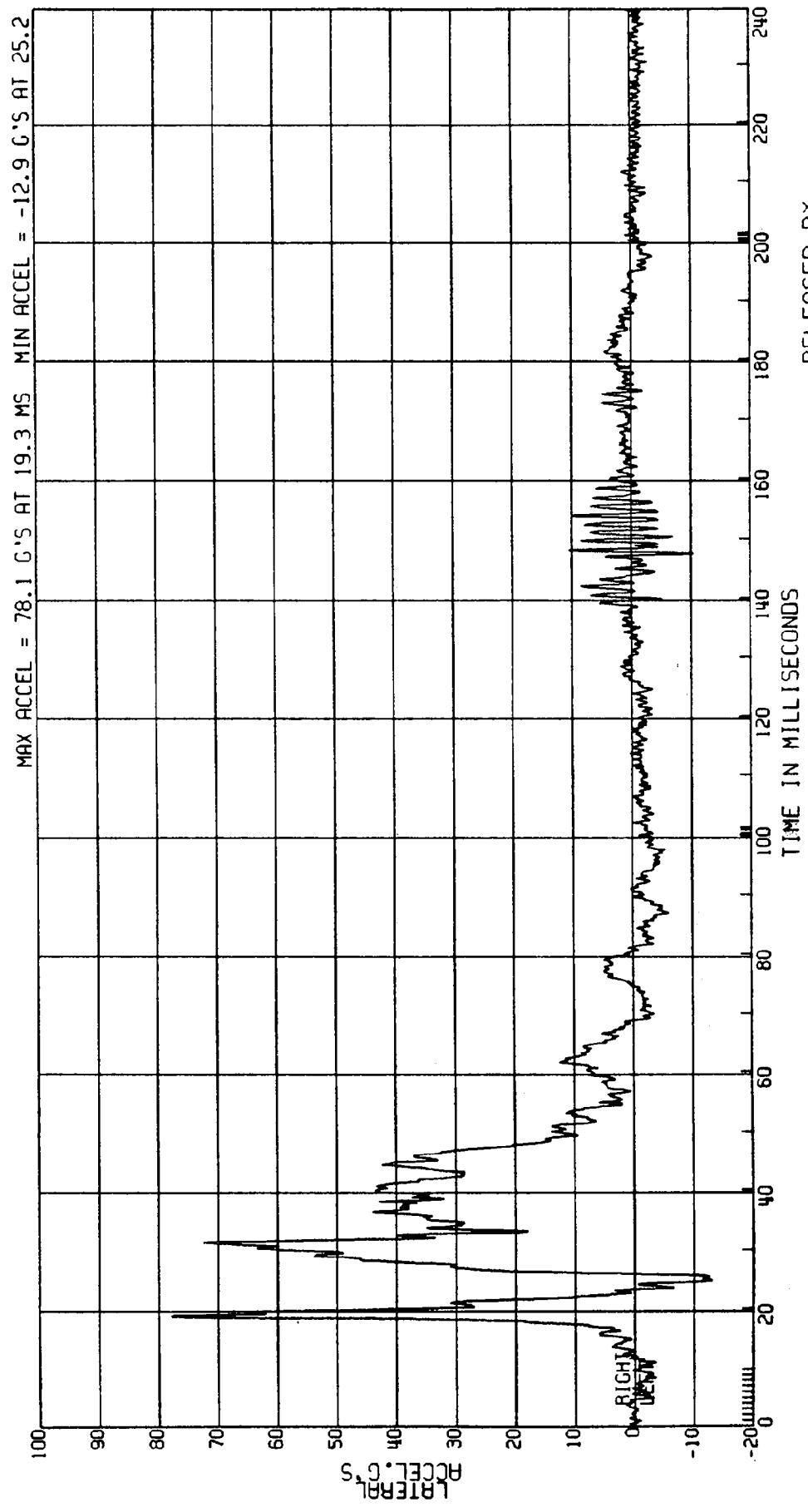
RELEASED BY:
 54 PROCESSED 4 MY 90 13:45

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 59
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR SECOND THORACIC RIB ACCEL. TEST DATE: 03-13-90
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH



RELEASED BY:
 57 PROCESSED 4 MT 90 13:45

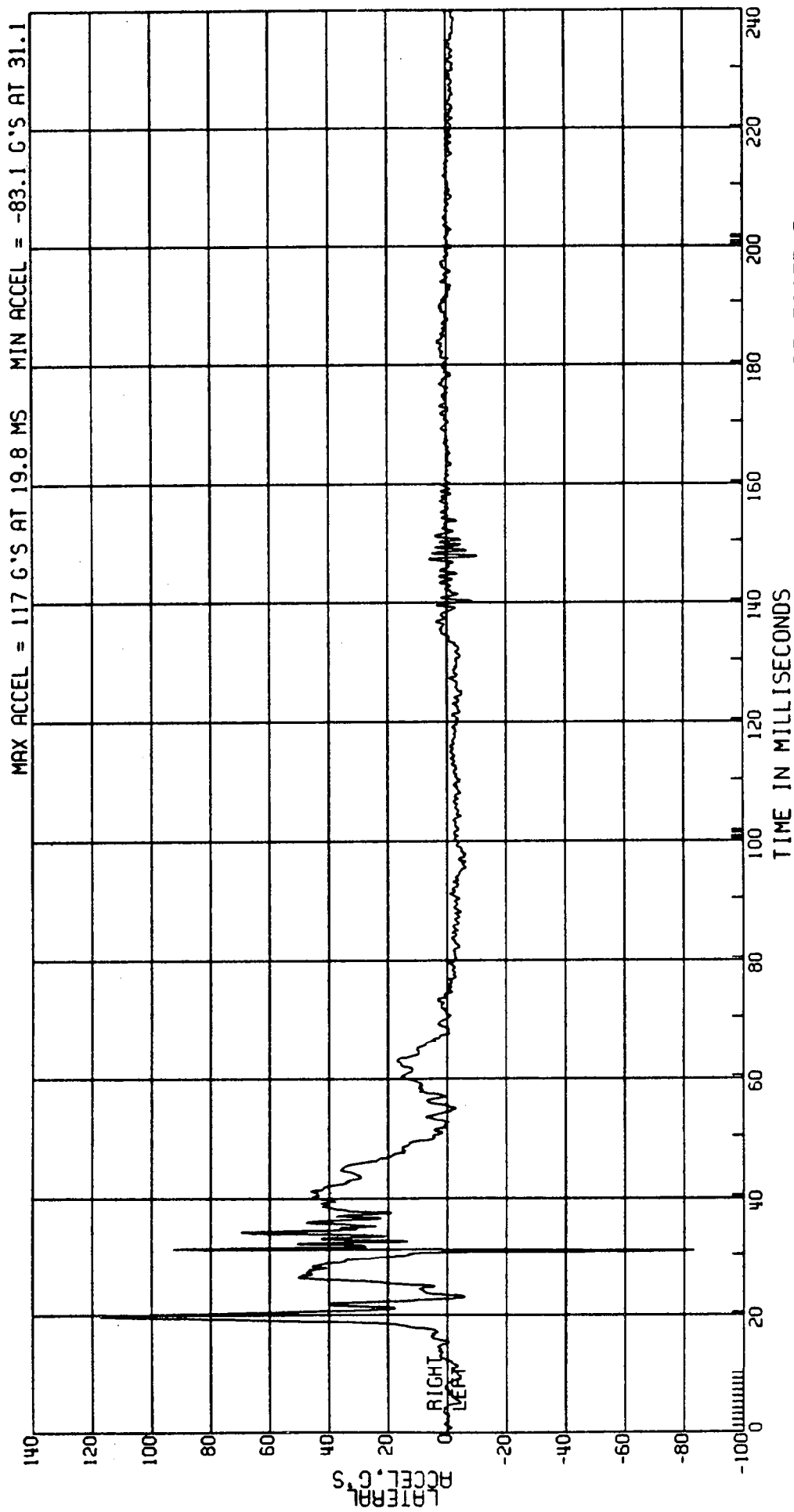
C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 6d
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR SECOND THORACIC RIB ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE:03-13-90



RELEASED BY:

56 PROCESSED 4 MY 90 13:45

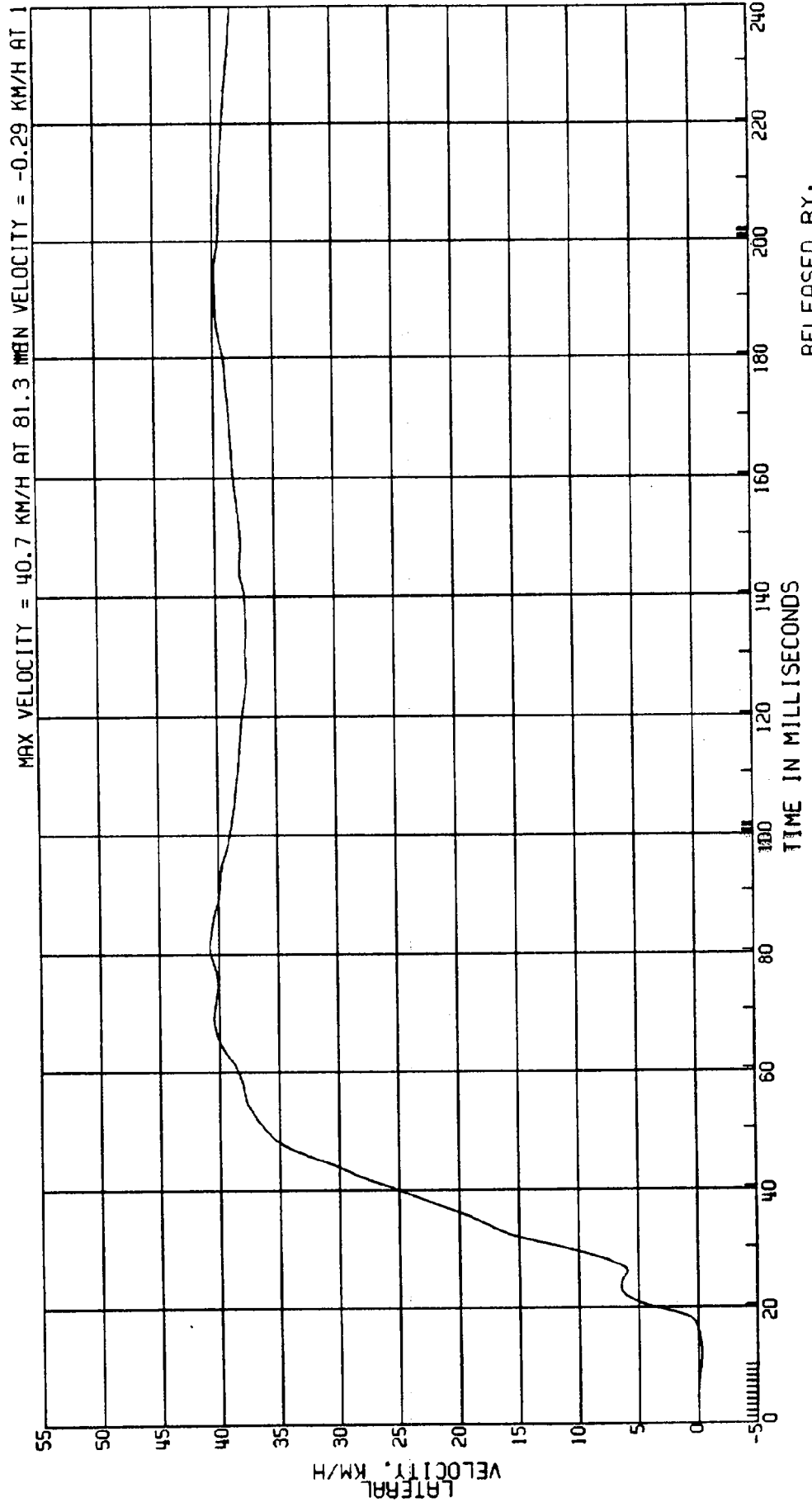
C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 67
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR THIRD THORACIC RIB ACCEL. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 1000



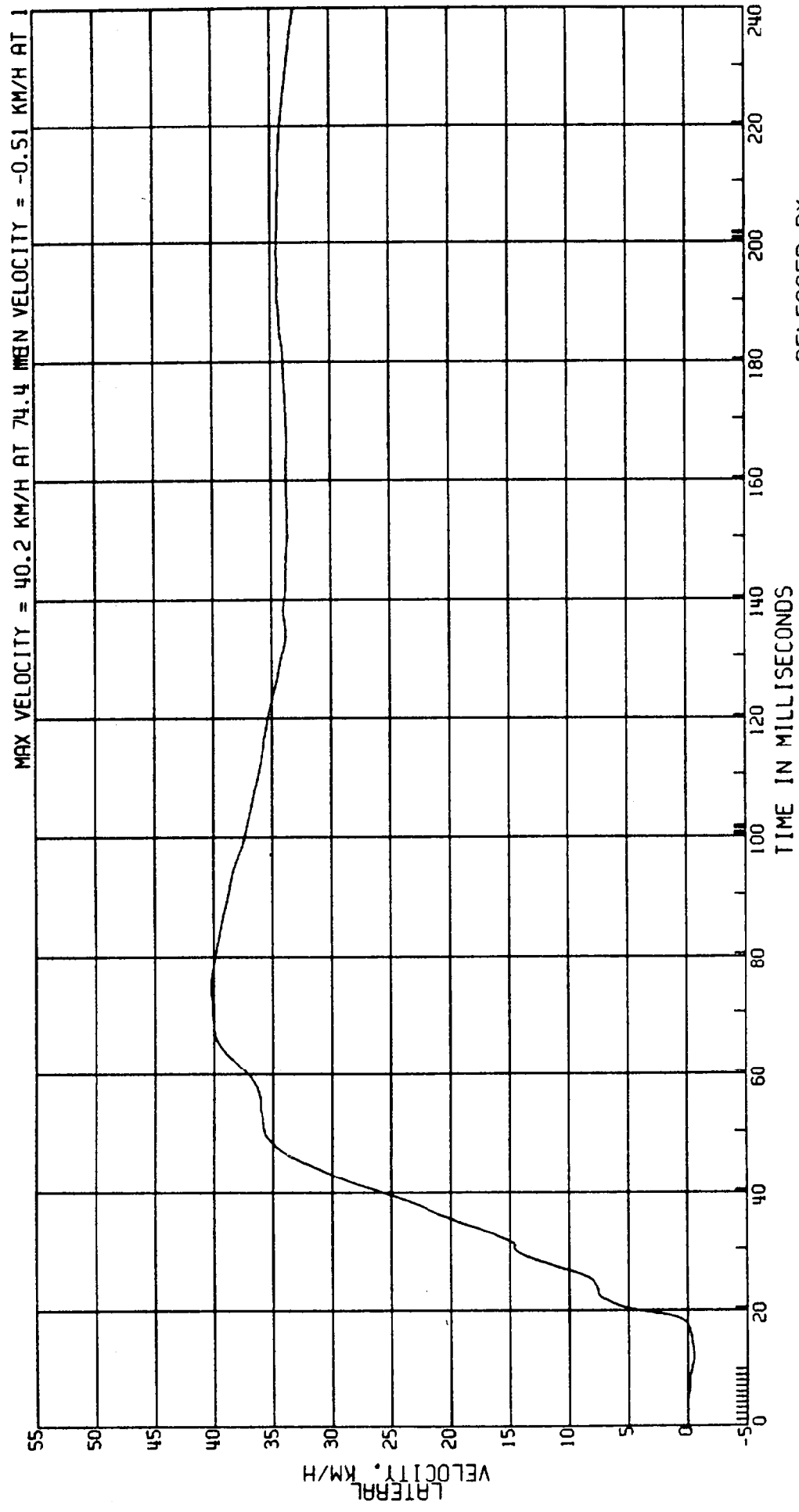
RELEASED BY:

59 PROCESSED 4 MY 90 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 62
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180 COMPUTED 2ND THORACIC RIB VELOCITY
 (1ST INTEGRAL L. REAR ACCELERATION)

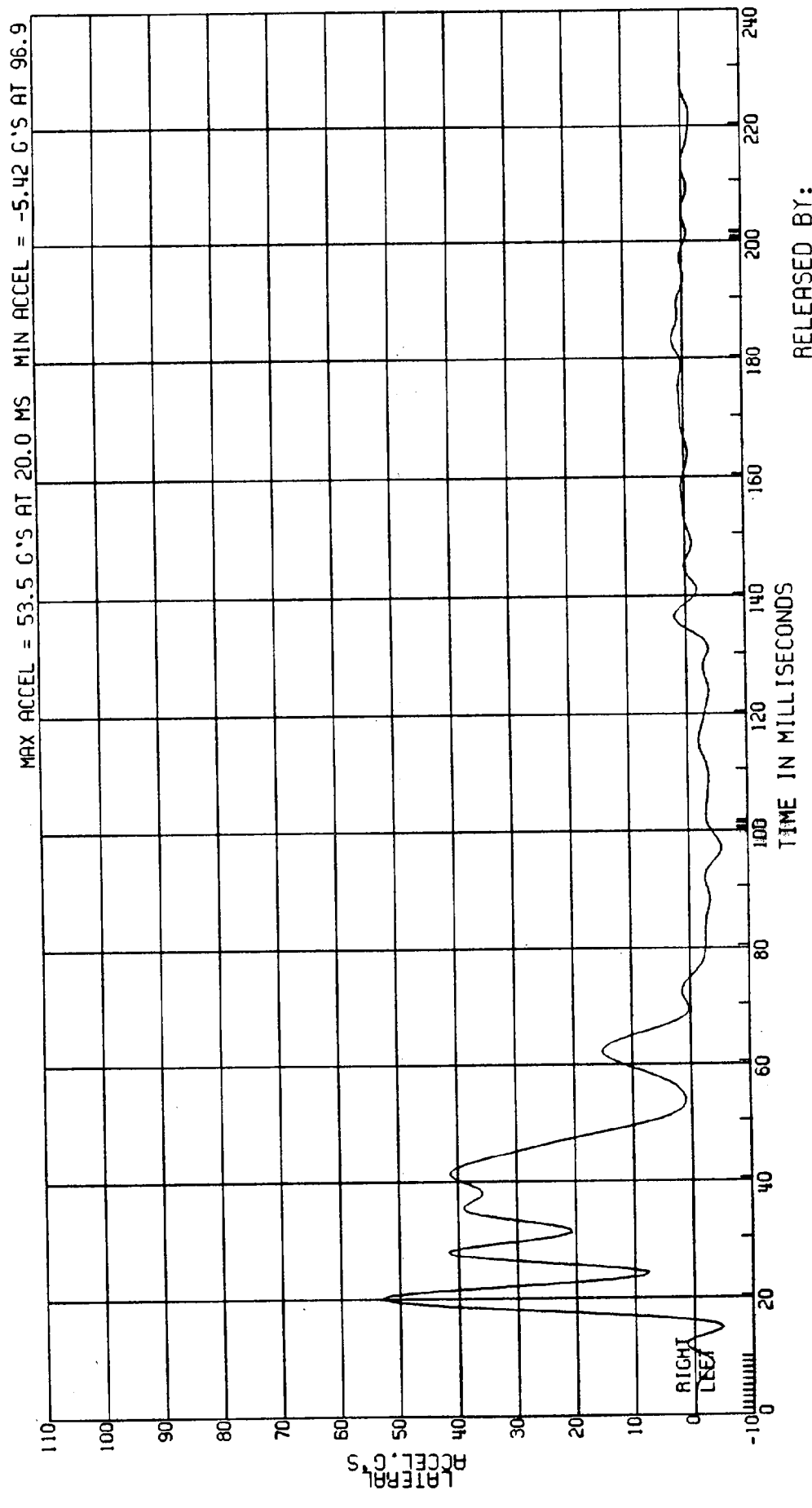


C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 63
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 COMPUTED 3RD THORACIC RIB VELOCITY TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)



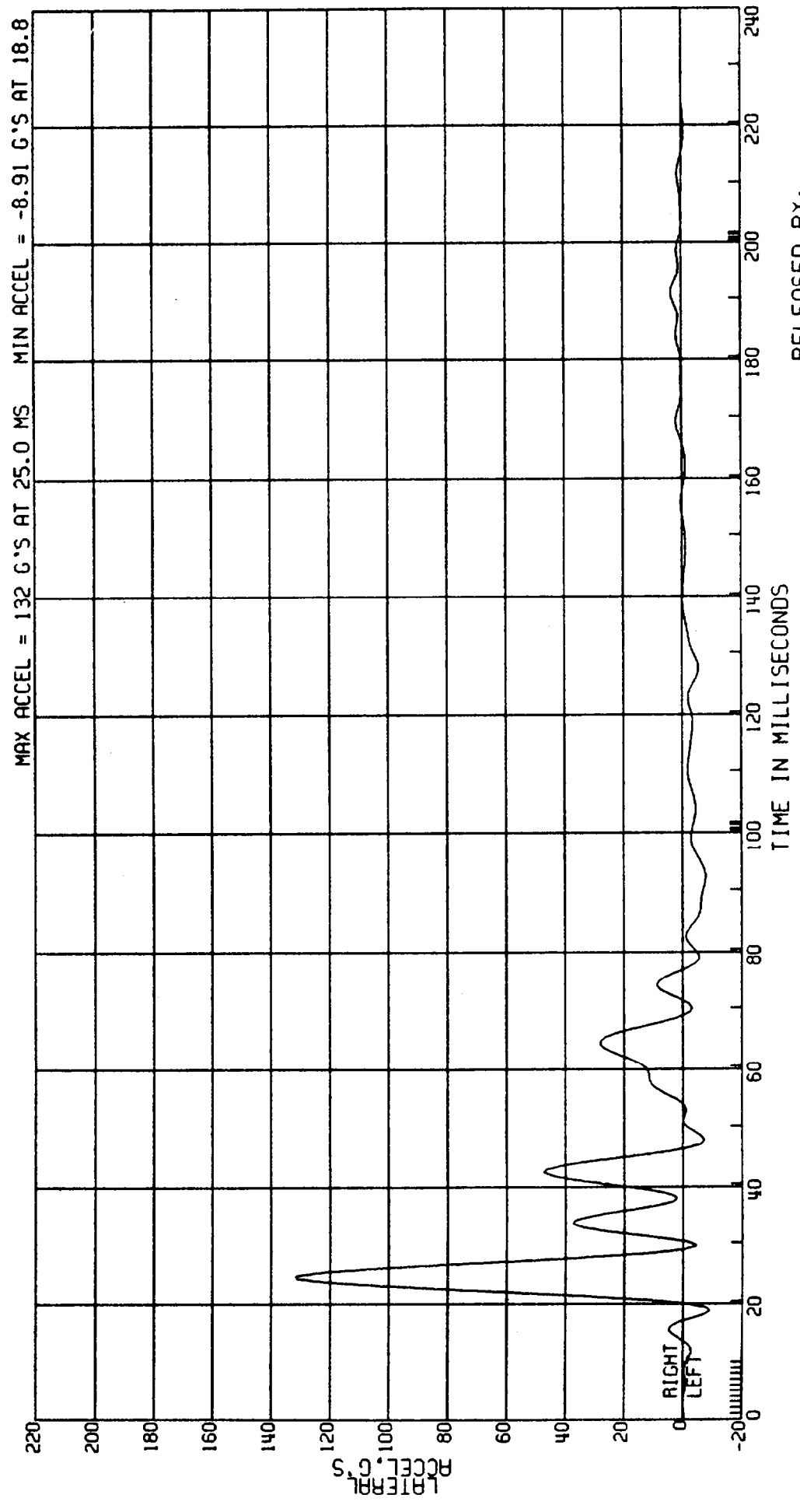
RELEASED BY:
 61 PROCESSED 4 MY 90 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 64
 3868-905 MVMA 6P 2AF69 ATD TYPE: BIOSID
 CPE L.REAR THIRD THORACIC RIB ACCEL. TEST DATE:03-13-90
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH



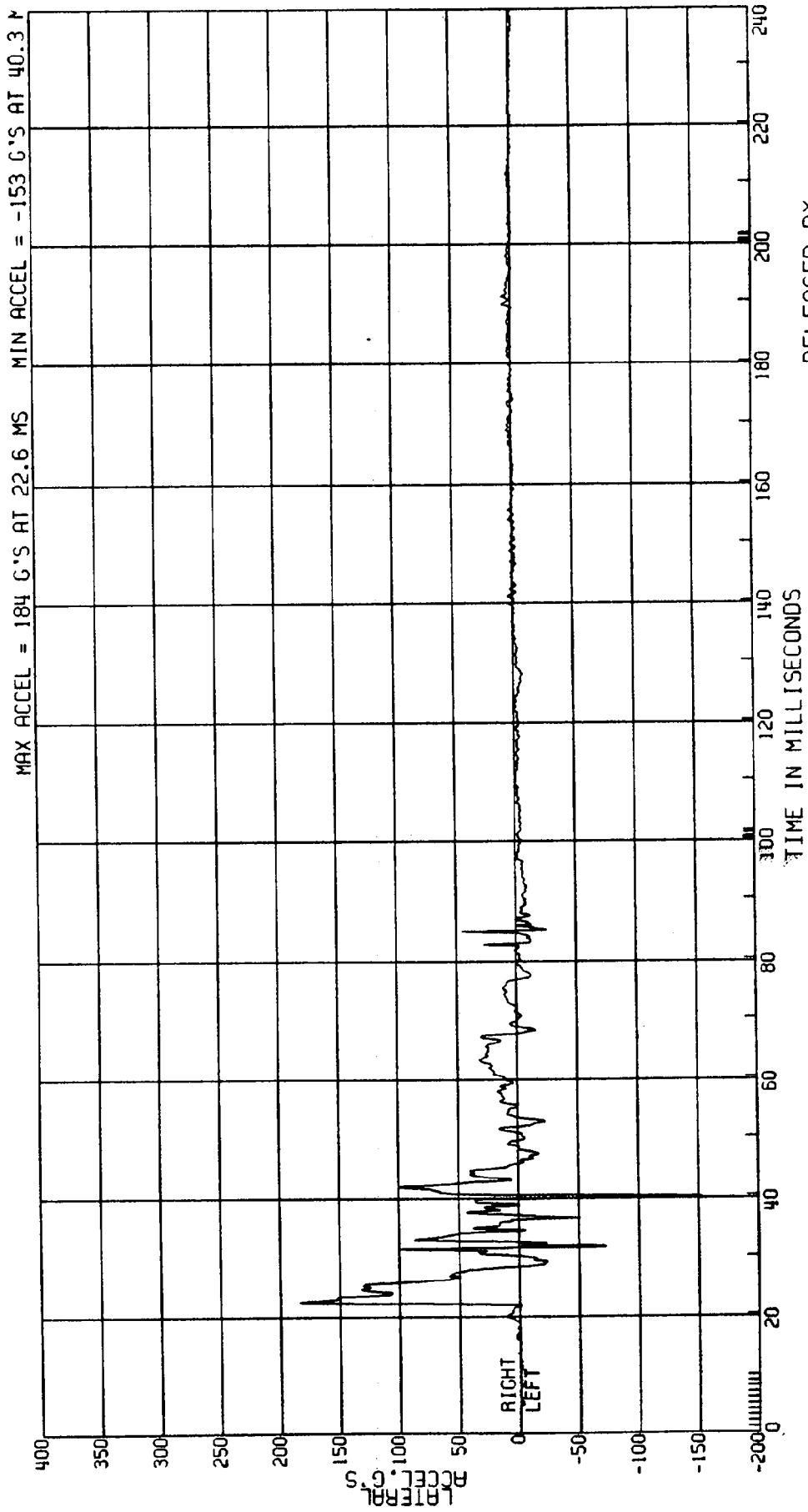
RELEASED BY:
 60 PROCESSED 4 MY 90, 13:45

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 65
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, NHTSA FIR FILTER L. REAR FIRST ABDOMINAL RIB ACCEL.
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



RELEASED BY:
 63 PROCESSED 4 MY 90 13:45

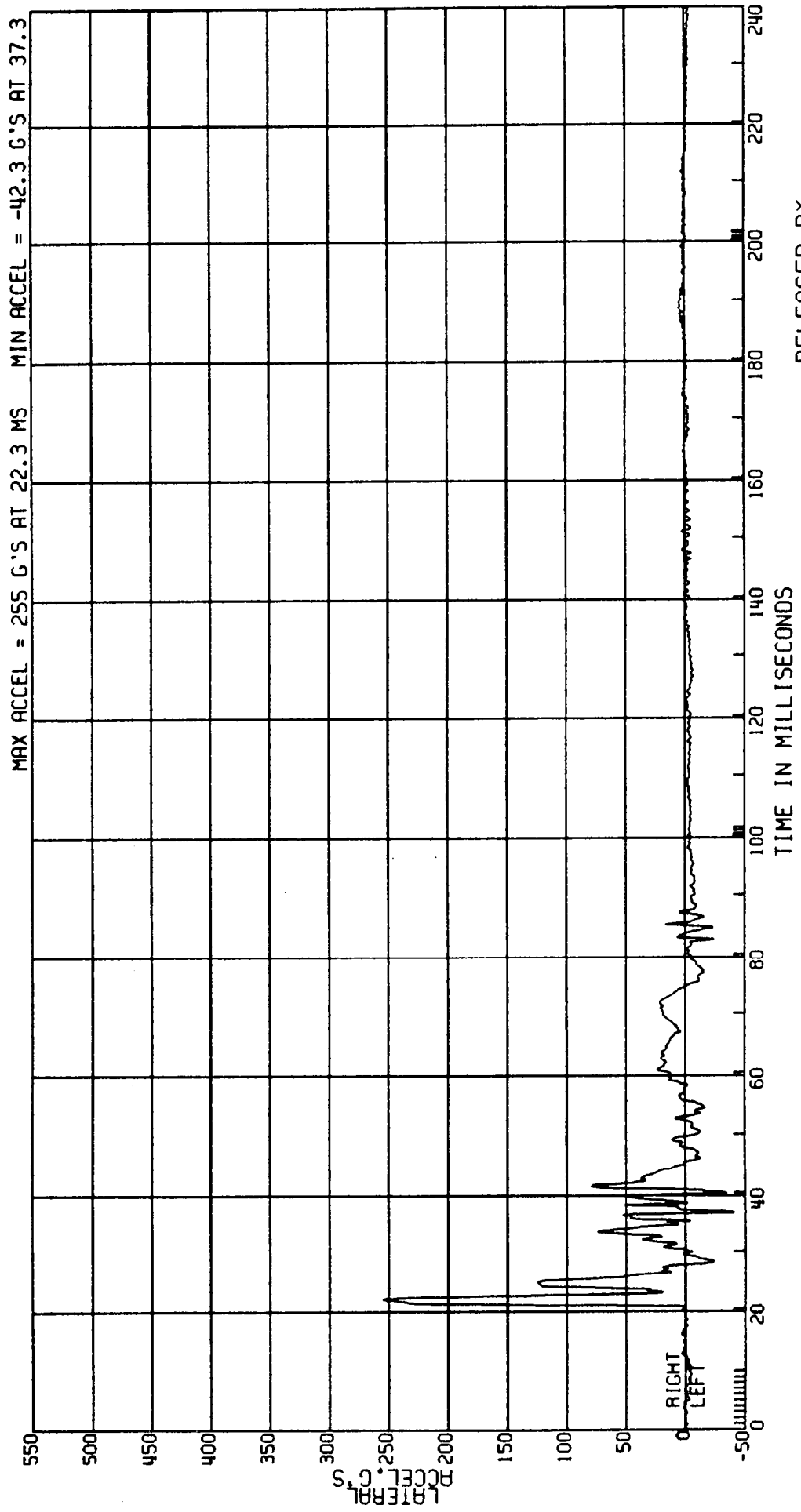
C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 66
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR FIRST ABDOMINAL RIB ACCEL. TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 1000



RELEASED BY:

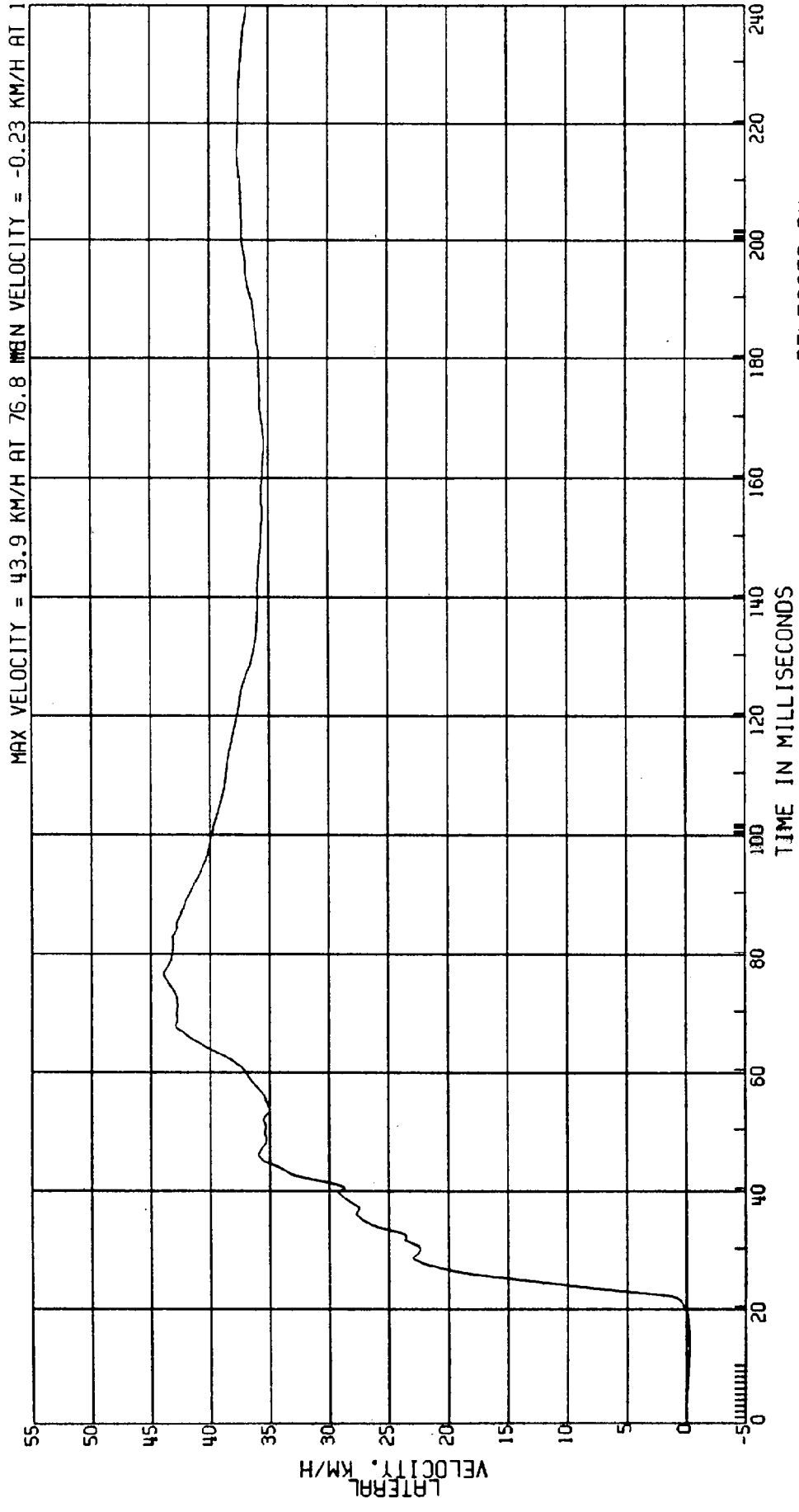
62 PROCESSED 4 MY 90, 13:45

C8006B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 67
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 1000 L. REAR SECOND ABDOMINAL RIB ACCEL. TEST DATE: 03-13-90



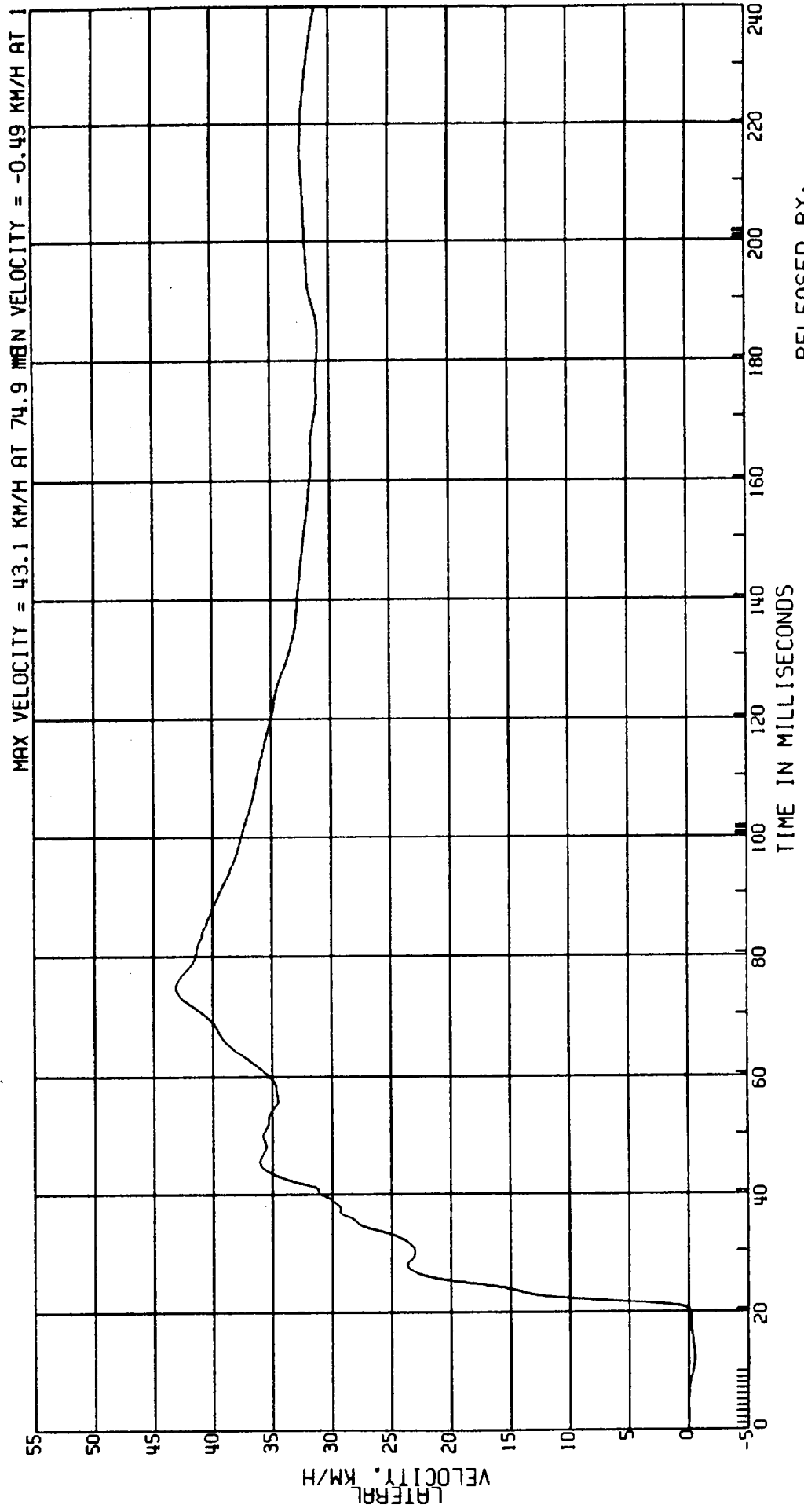
RELEASED BY:
65 PROCESSED 4 MY 90 13:46

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 68
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 COMPUTED 1ST ABDOMINAL RIB VELOCITY
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)

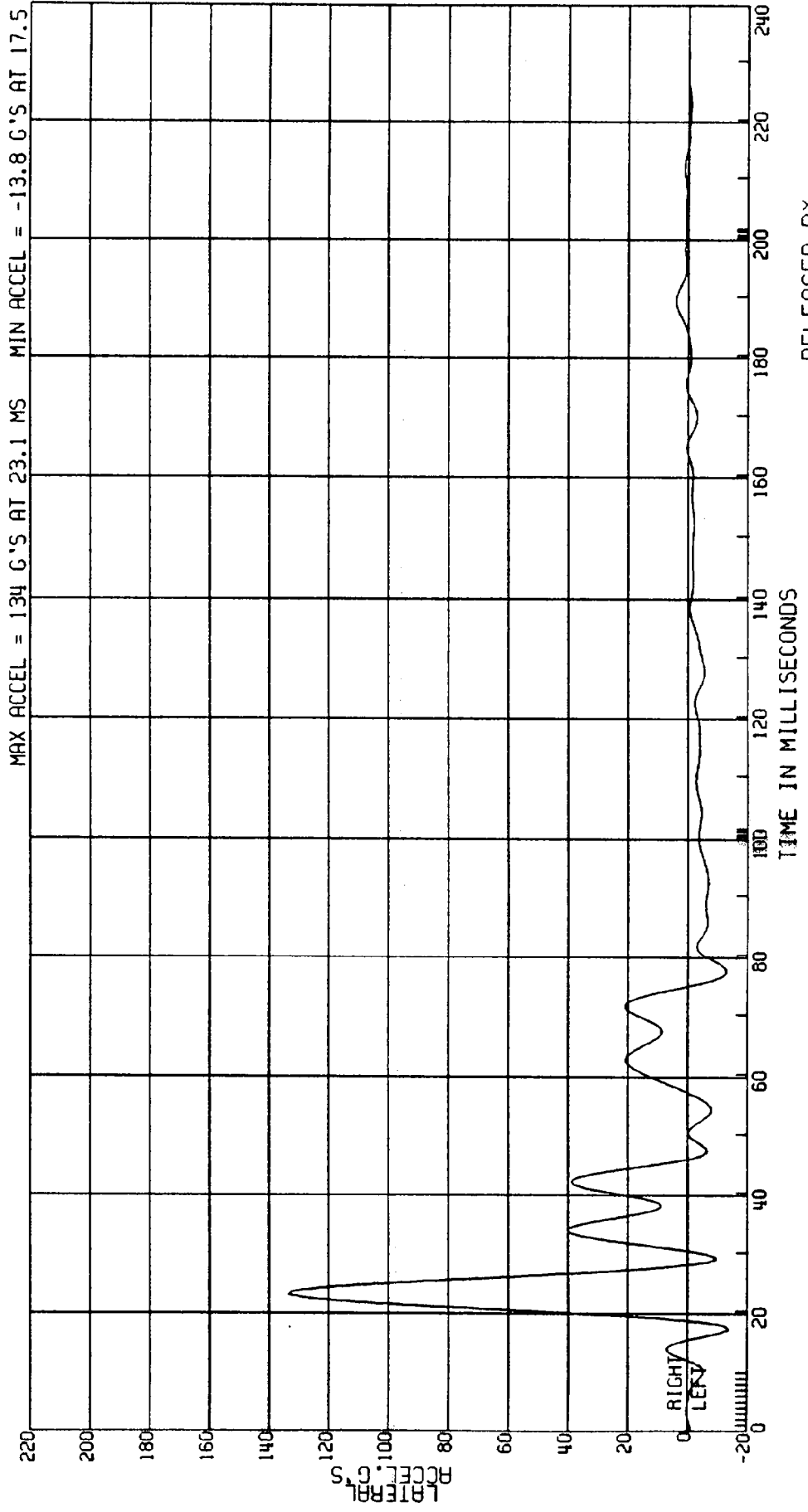


RELEASED BY:
64 PROCESSED 4 MY 90 13:46

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 69
 3868-905 AID TYPE: BIOSID
 CPE MVMA 6P 2AF69 COMPUTED 2ND ABDOMINAL RIB VELOCITY TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)



C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 70
 3868-905
 CPE MVMA 6P 2AF69 L. REAR SECOND ABDOMINAL RIB ACCEL. TEST DATE: 03-13-90
 ELEC DATA, NHTSA FIR FILTER F. I. R. FILTER, CLASS 300 BUTTERWORTH



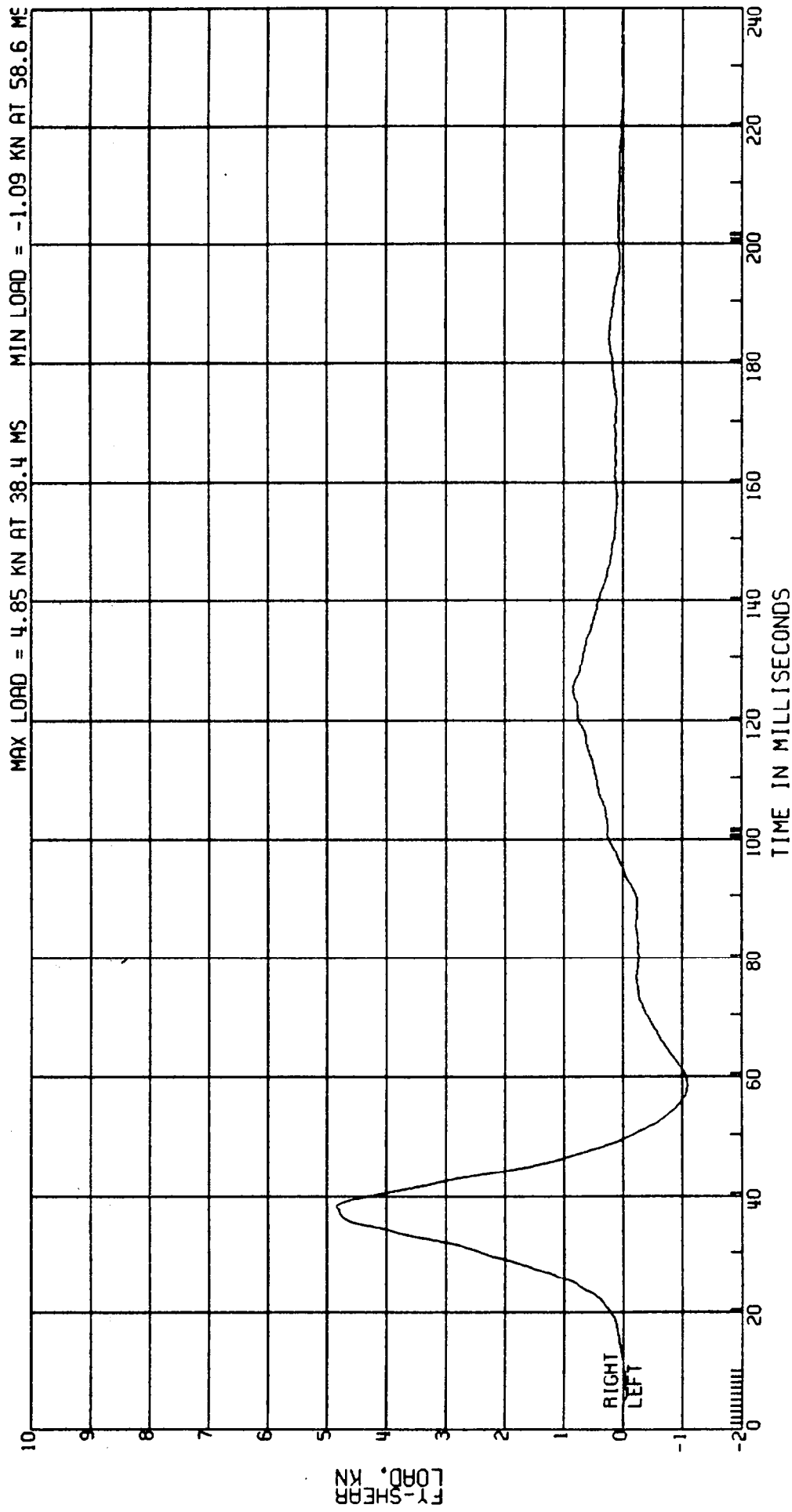
RELEASED BY:

66 PROCESSED 4 MY 90 13:46

C80068 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 71
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 180

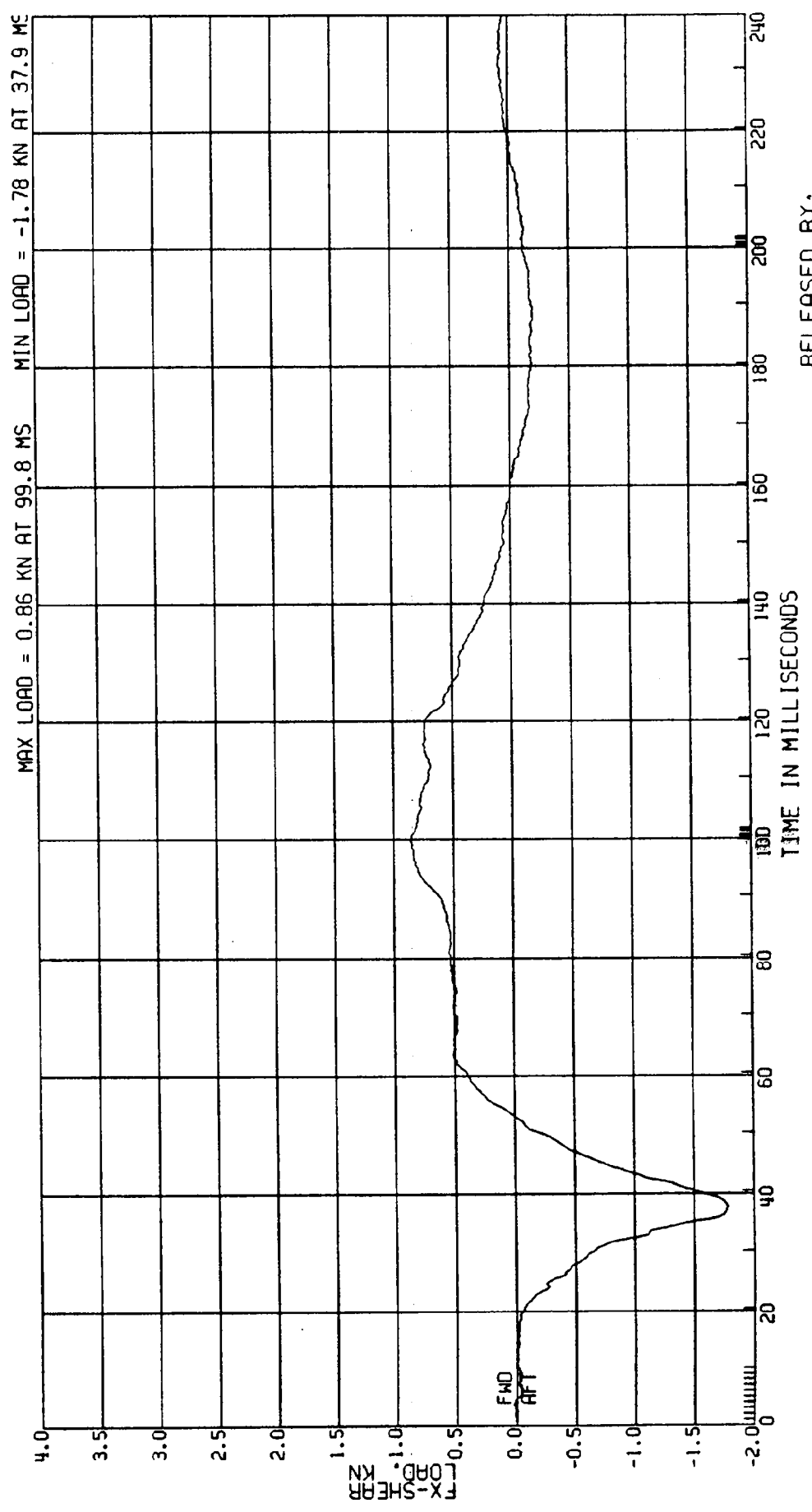
ATD TYPE: BIOSID
TEST DATE: 03-13-90

L. REAR LOWER LUMBAR LOAD



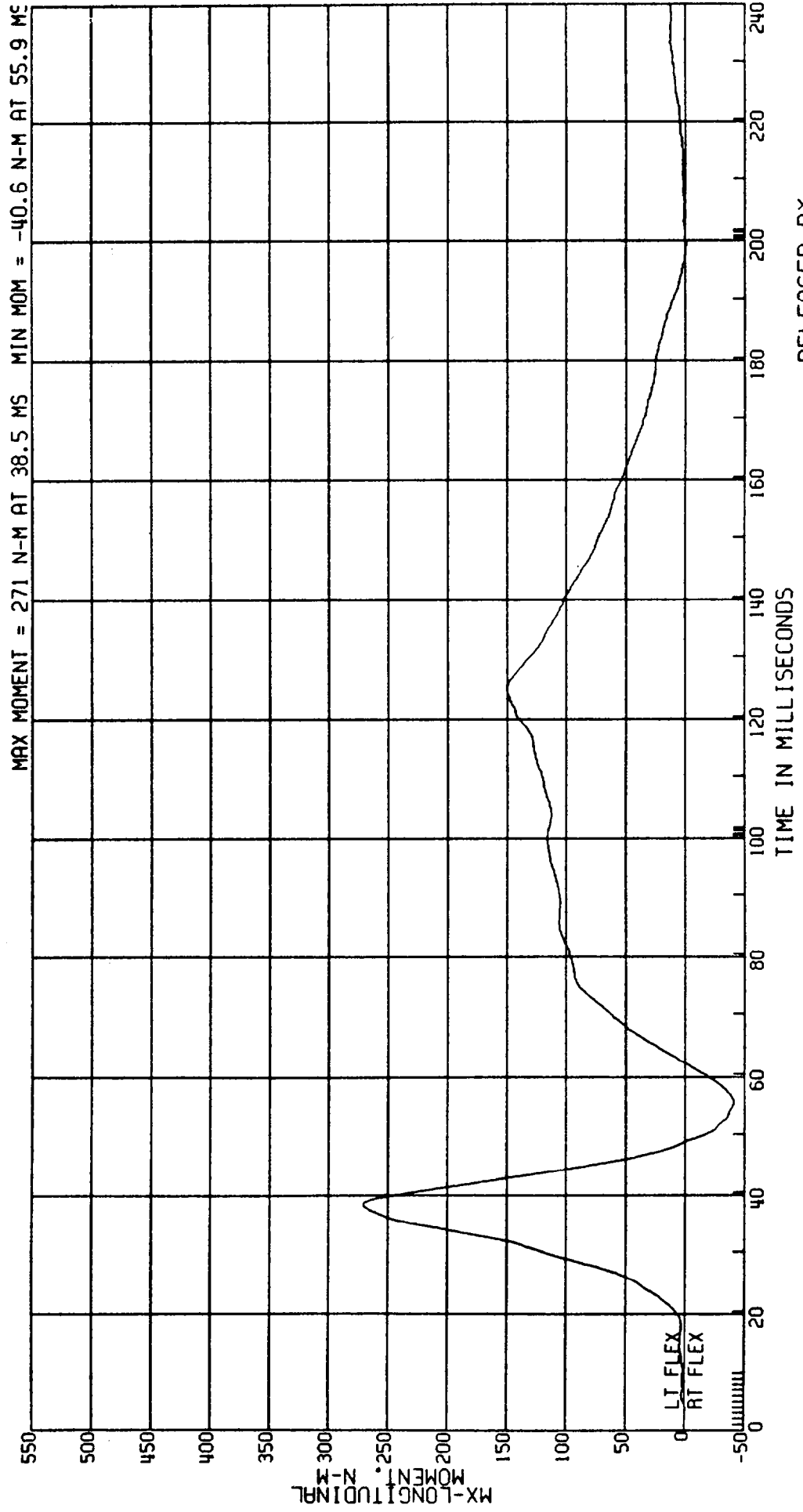
RELEASED BY:
69 PROCESSED 4 MY 90 13:46

C80068 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 7a
 3868-905 MVMA 6P 2AF69 ATD TYPE: BIOSID
 CPE L. REAR LOWER LUMBAR LOAD TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180



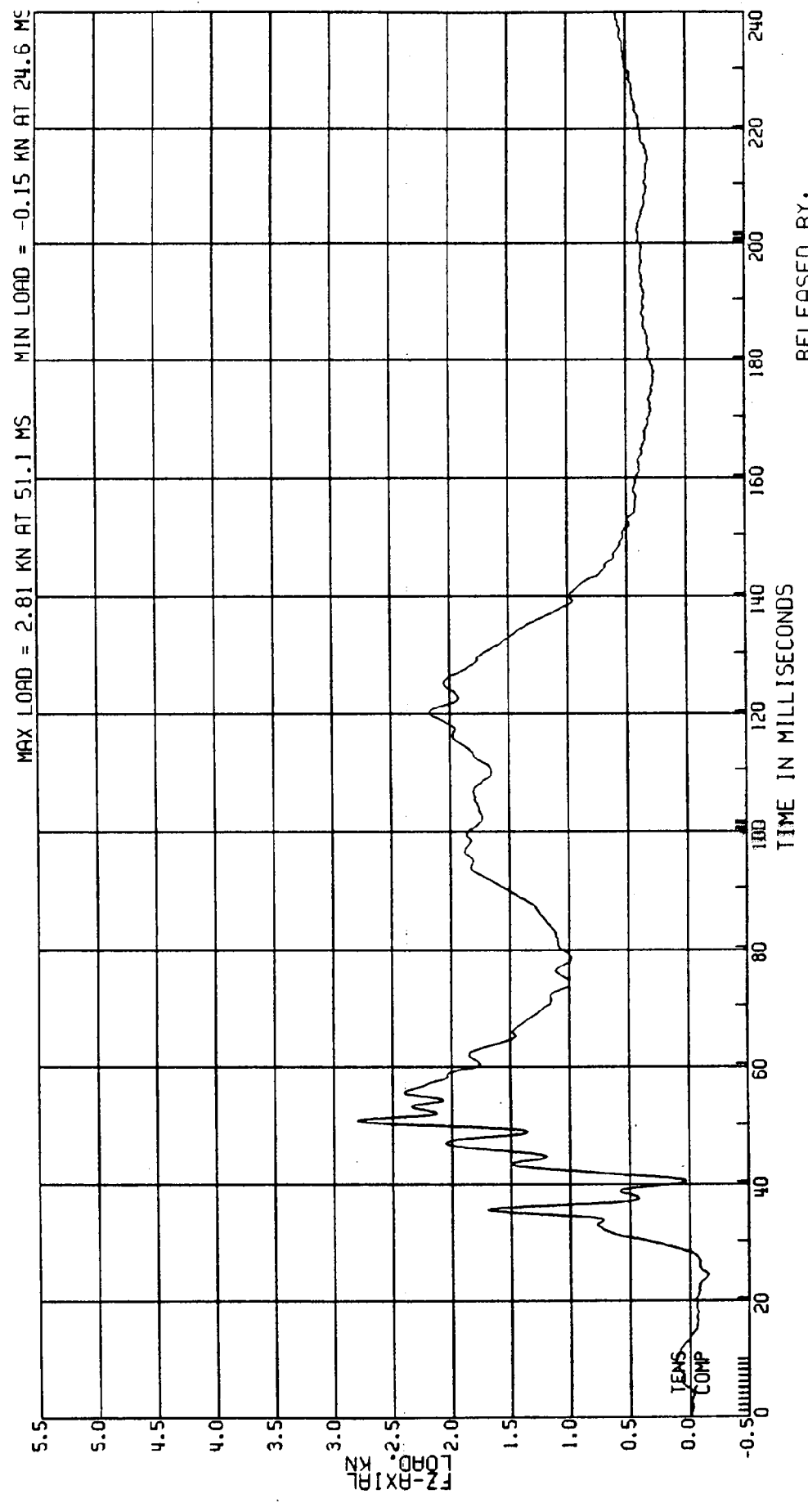
RELEASED BY:
 68 PROCESSED 4 MY 90 13:46

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 73
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR LOWER LUMBAR MOMENT TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 180



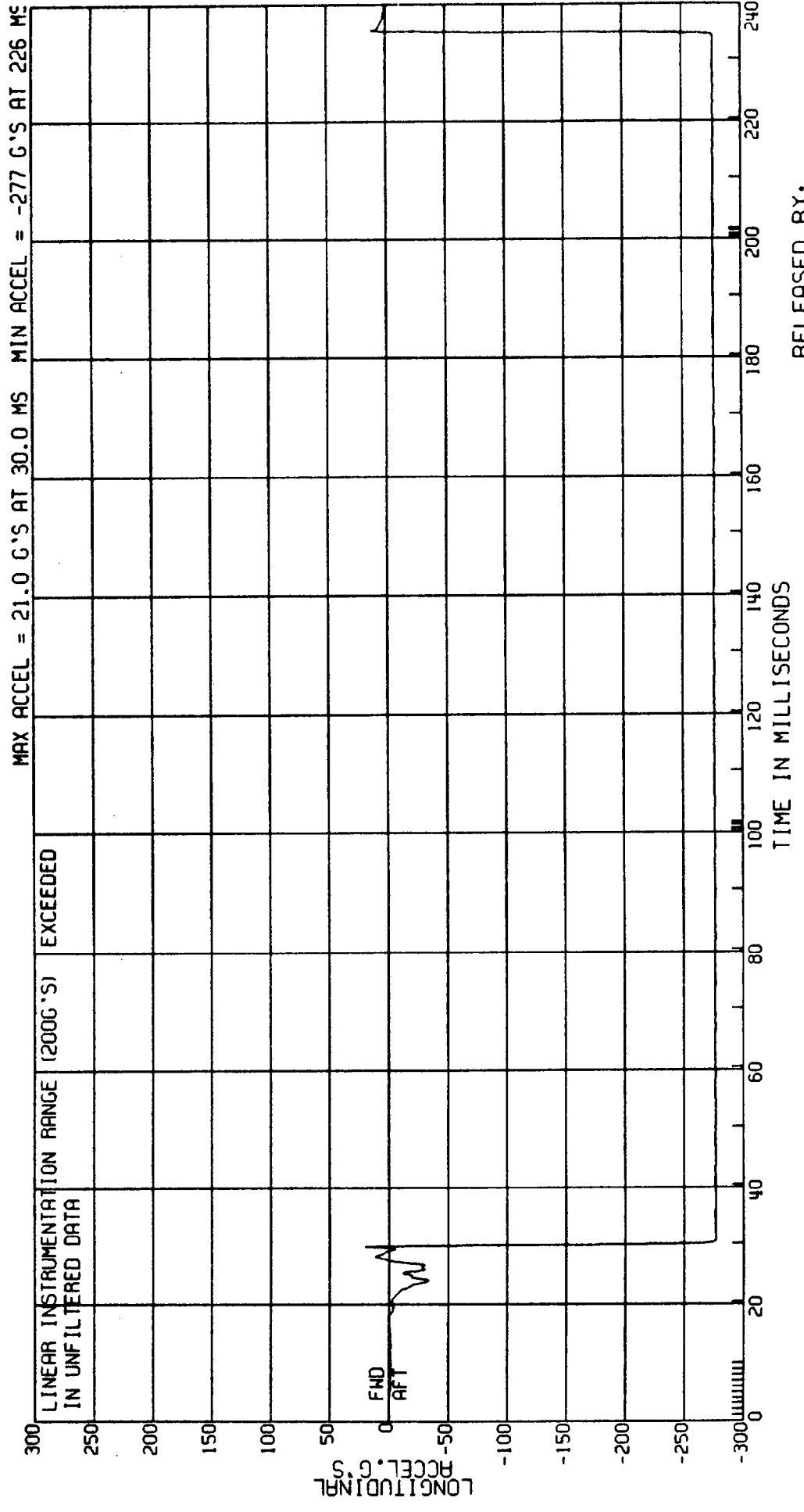
RELEASED BY:
 71 PROCESSED 4 MY 90 13:46

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 74
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR LOWER LUMBAR LOAD TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180



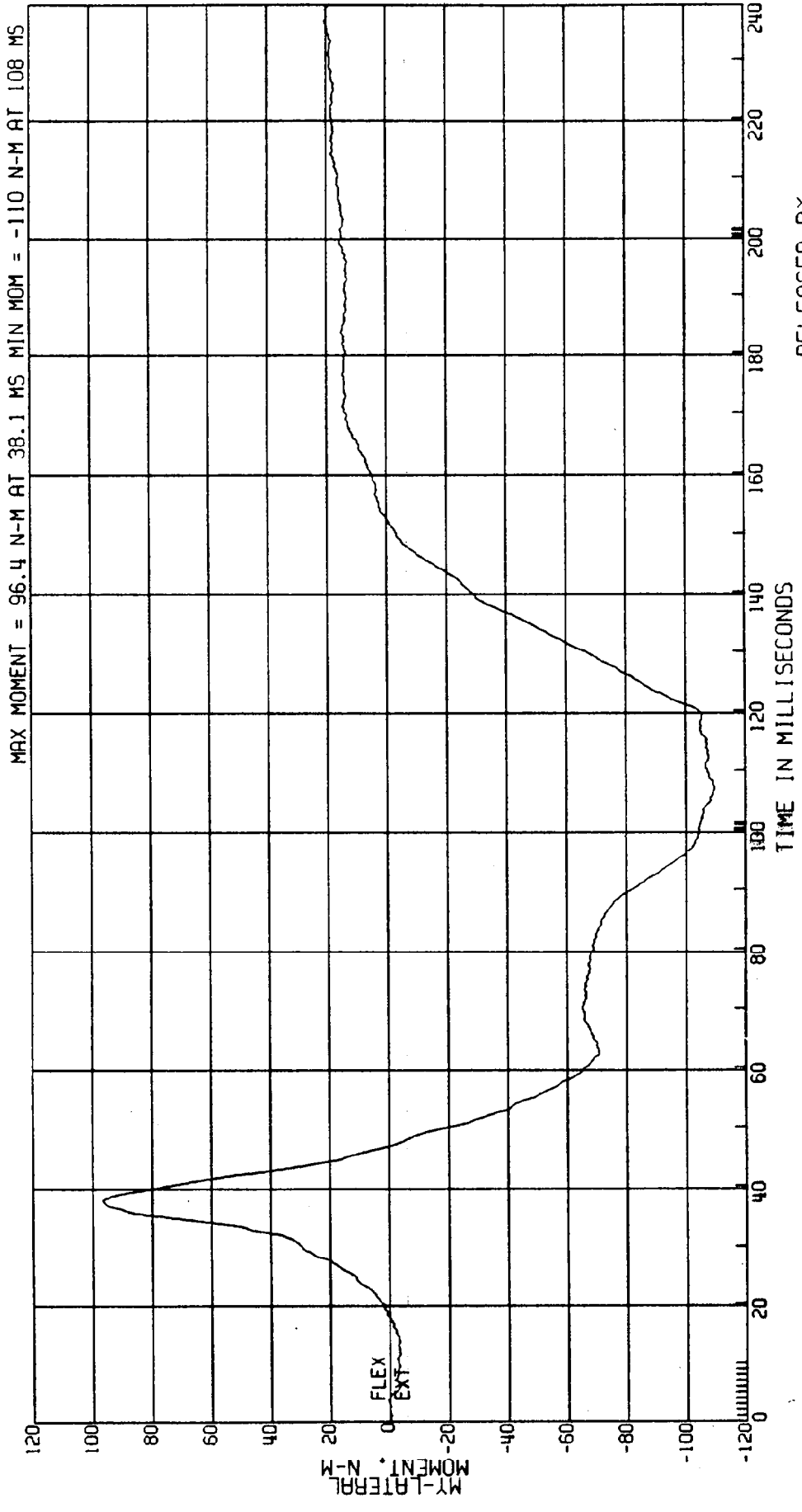
RELEASED BY:
 70 PROCESSED 4 MY 90 .13:46

C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 75
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR PELVIC ACCEL.
 ELEC DATA, SAE CLASS 600 TEST DATE: 03-13-90



RELEASED BY:
 73 PROCESSED 4 MY 90 13:46

C8006B L. SIDE IMPACT--27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 76
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR LOWER LUMBAR MOMENT TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 180

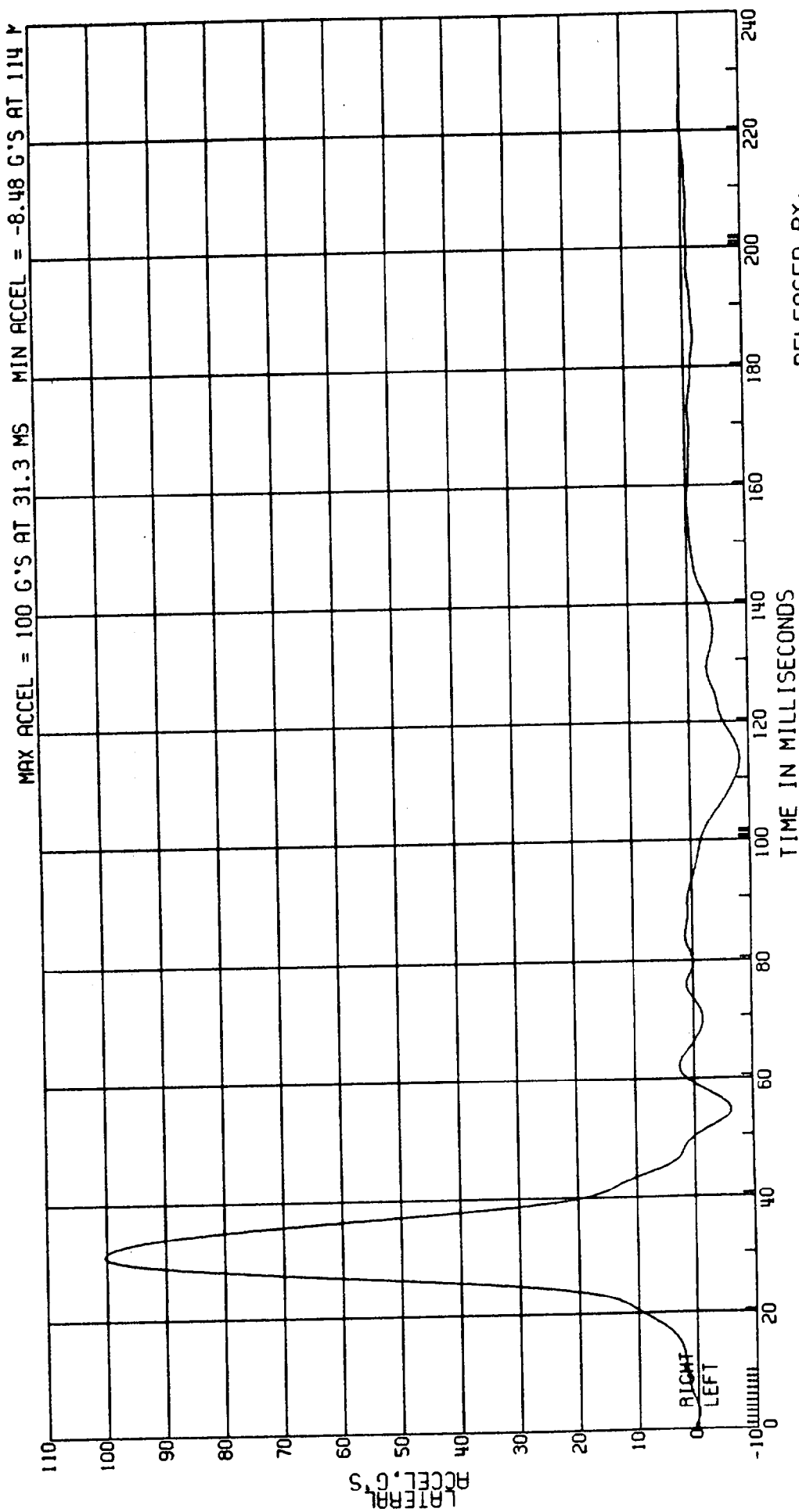


RELEASED BY:
 72 PROCESSED 4 MY 90 13:46

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 77
ATD TYPE: BIOSID
TEST DATE:03-13-90

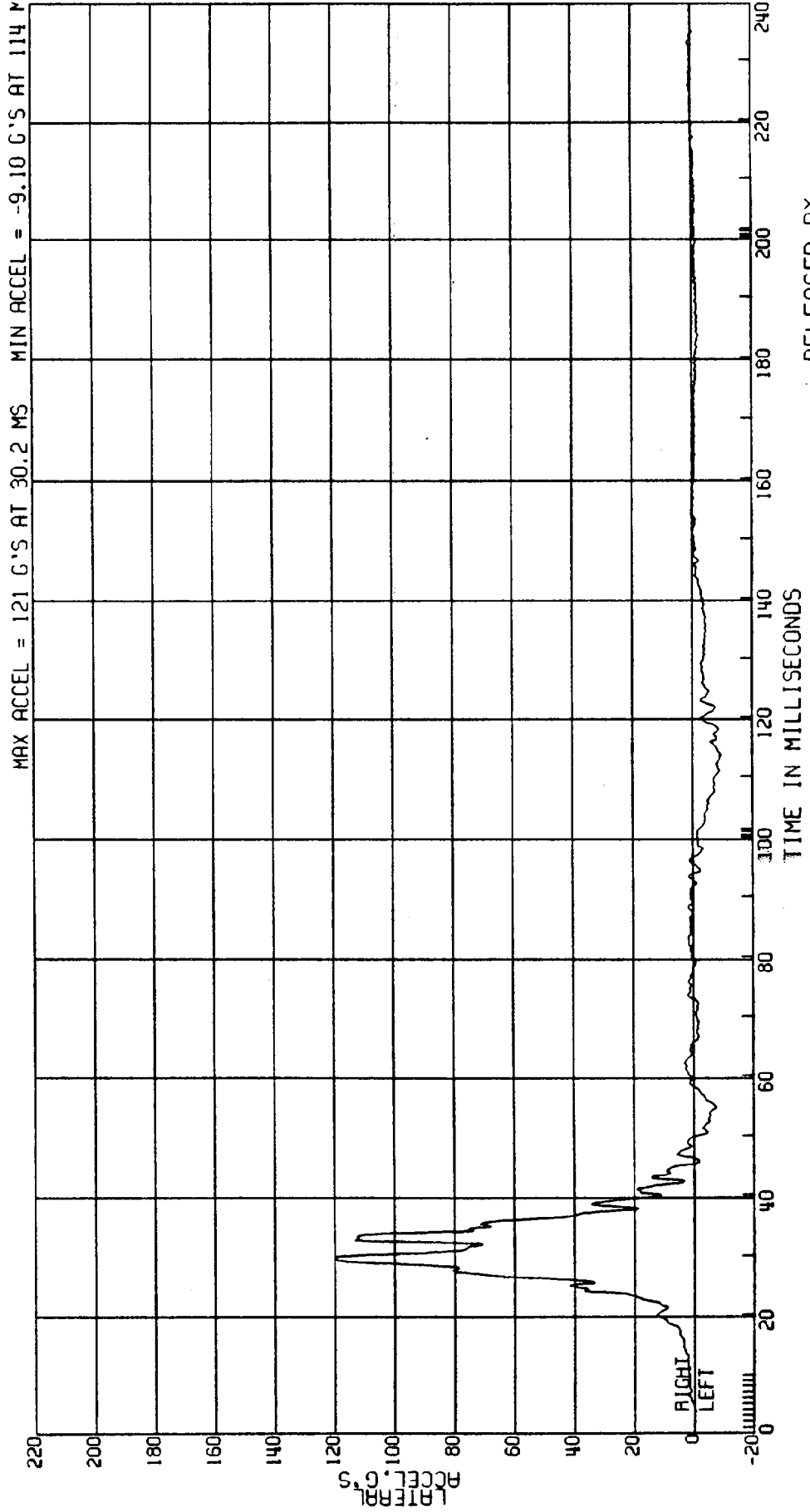
L.REAR PELVIC ACCEL.
F.I.R. FILTER, CLASS 300 BUTTERWORTH

3868-905 MVMA 6P 2AF69
CPE ELEC DATA, NHTSA FIR FILTER



RELEASED BY:
75 PROCESSED 4 MY 90 13:46

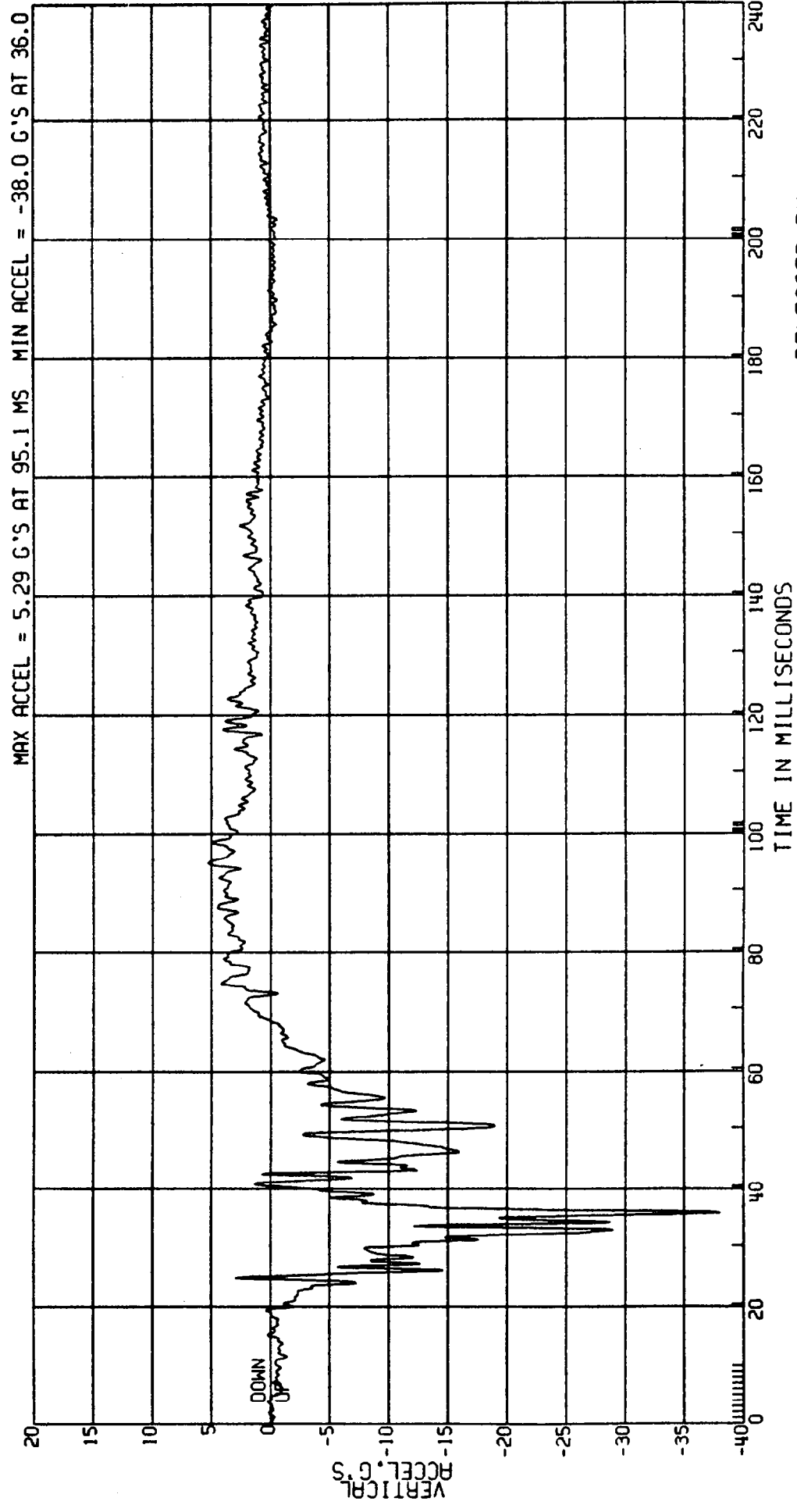
C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 78
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 600 L. REAR PELVIC ACCEL.



RELEASED BY:

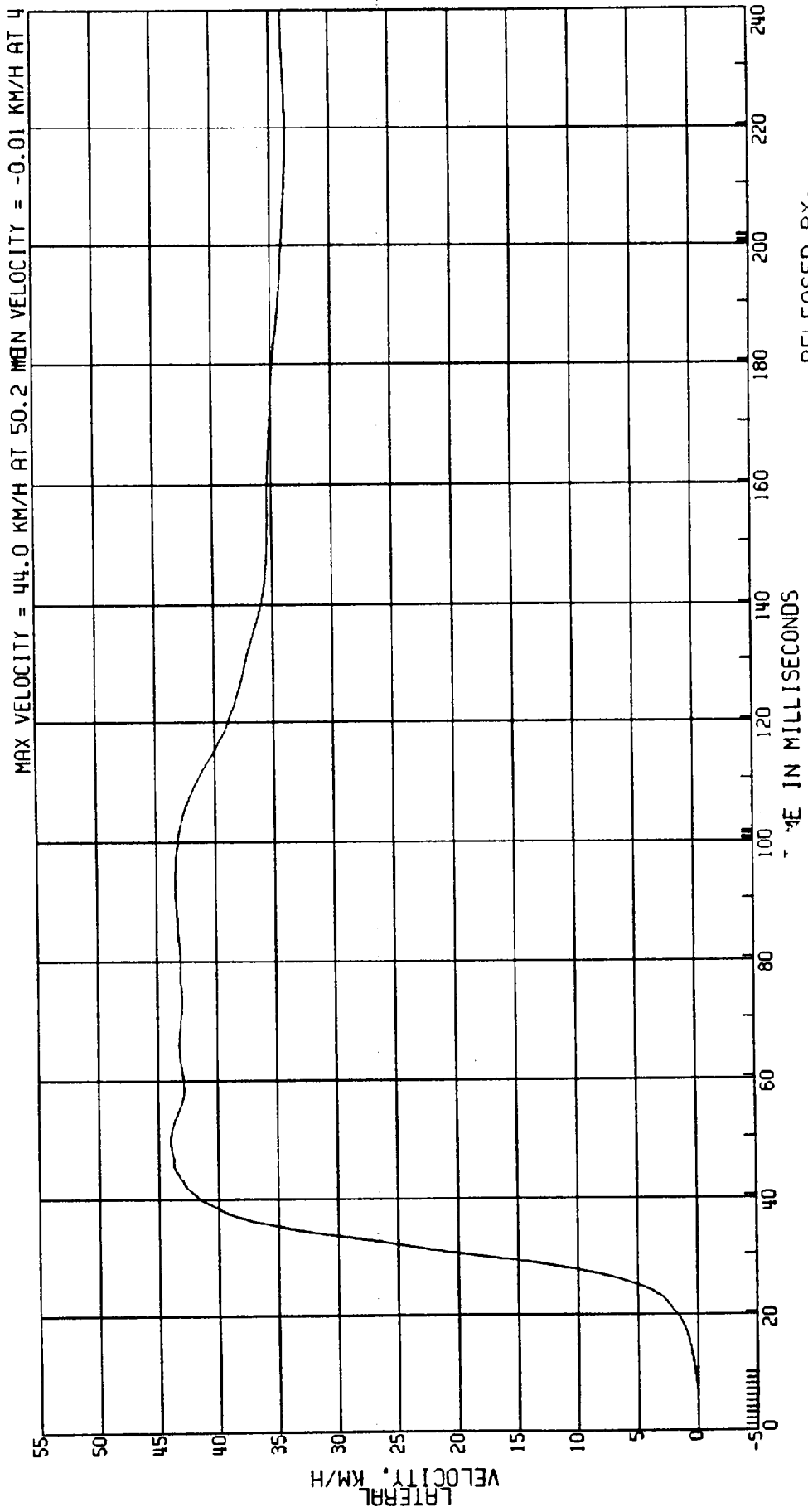
74 PROCESSED BY MY 90 13:46

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 79
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 600 L. REAR PELVIC ACCEL.



C80068 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 80
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 COMPUTED PELVIC VELOCITY TEST DATE: 03-13-90

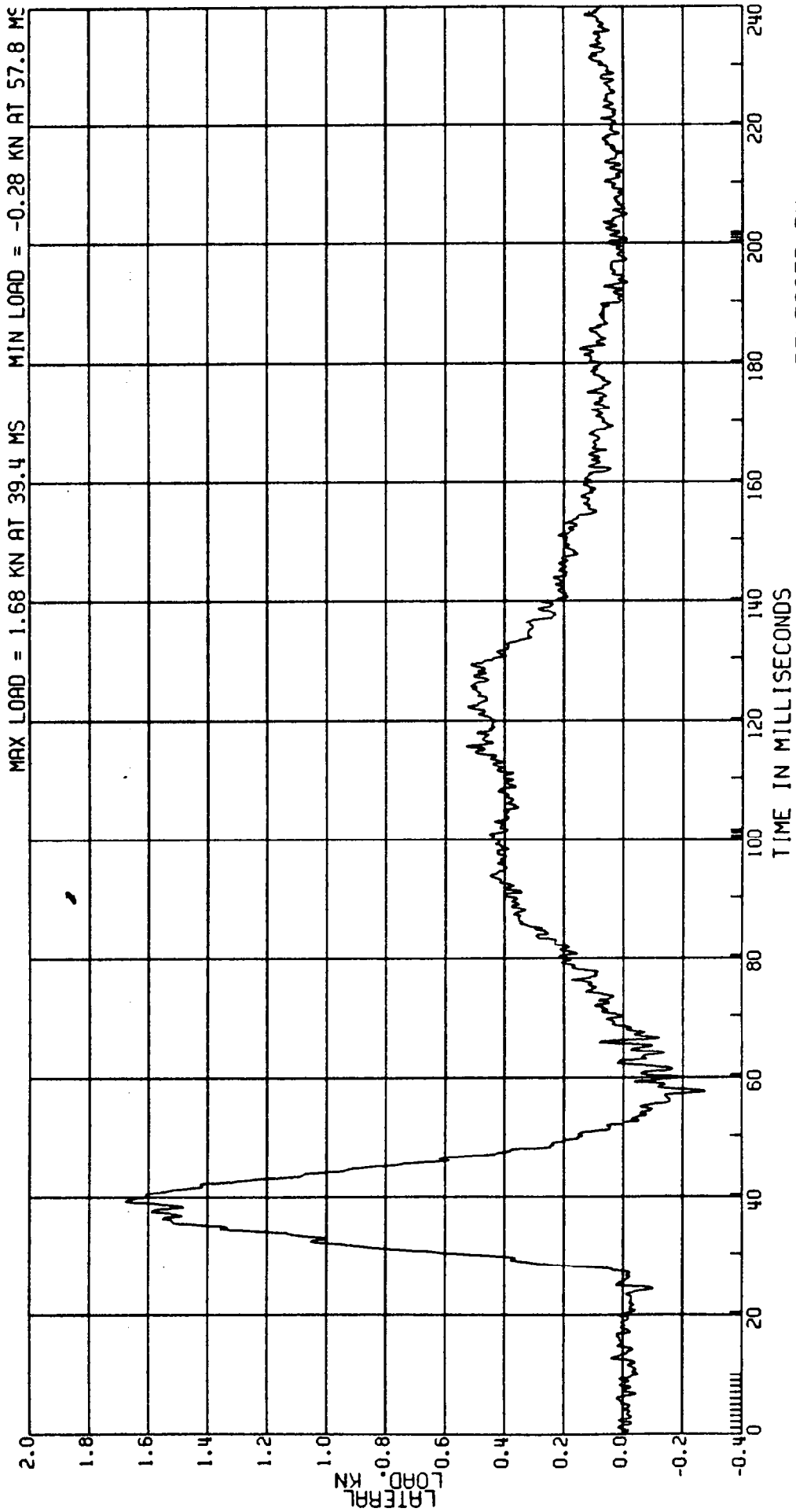
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL L. REAR ACCELERATION)



RELEASED BY:

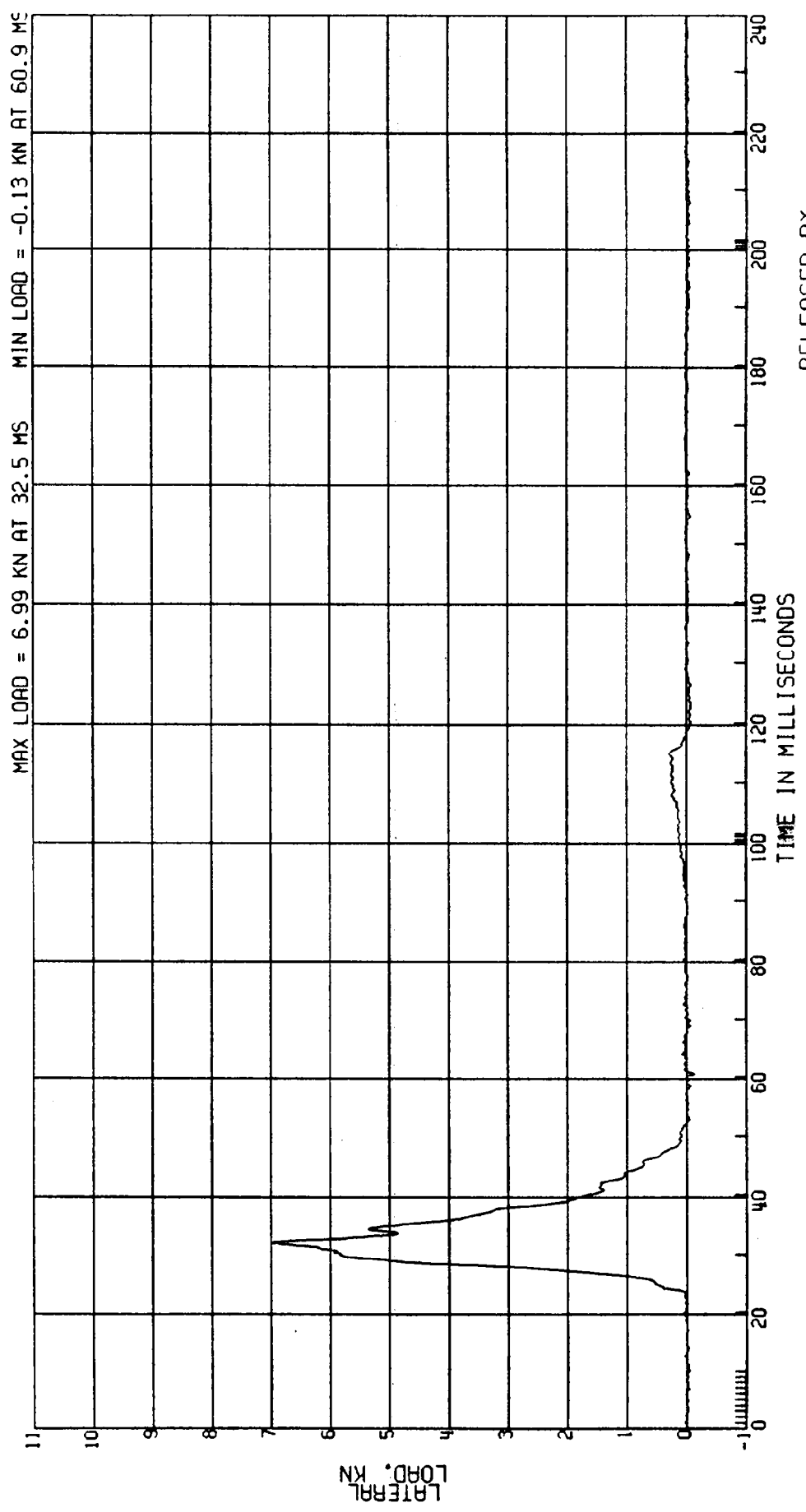
76 PROCESSED 4 MY 90 13:46

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 81
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR ILIAC LOAD TEST DATE:03-13-90
ELEC DATA, SAE CLASS 600



RELEASED BY:
30 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 8a
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR PUBIC SYMPHYSIS LOAD TEST DATE:03-13-90
ELEC DATA, SAE CLASS 600



83

53.5 KM/H FIGURE

ATD TYPE: BIOSID
TEST DATE: 03-13-90

MOVING CRABBED BARR TO PRK VEHICLE

L. REAR SACRUM LOAD

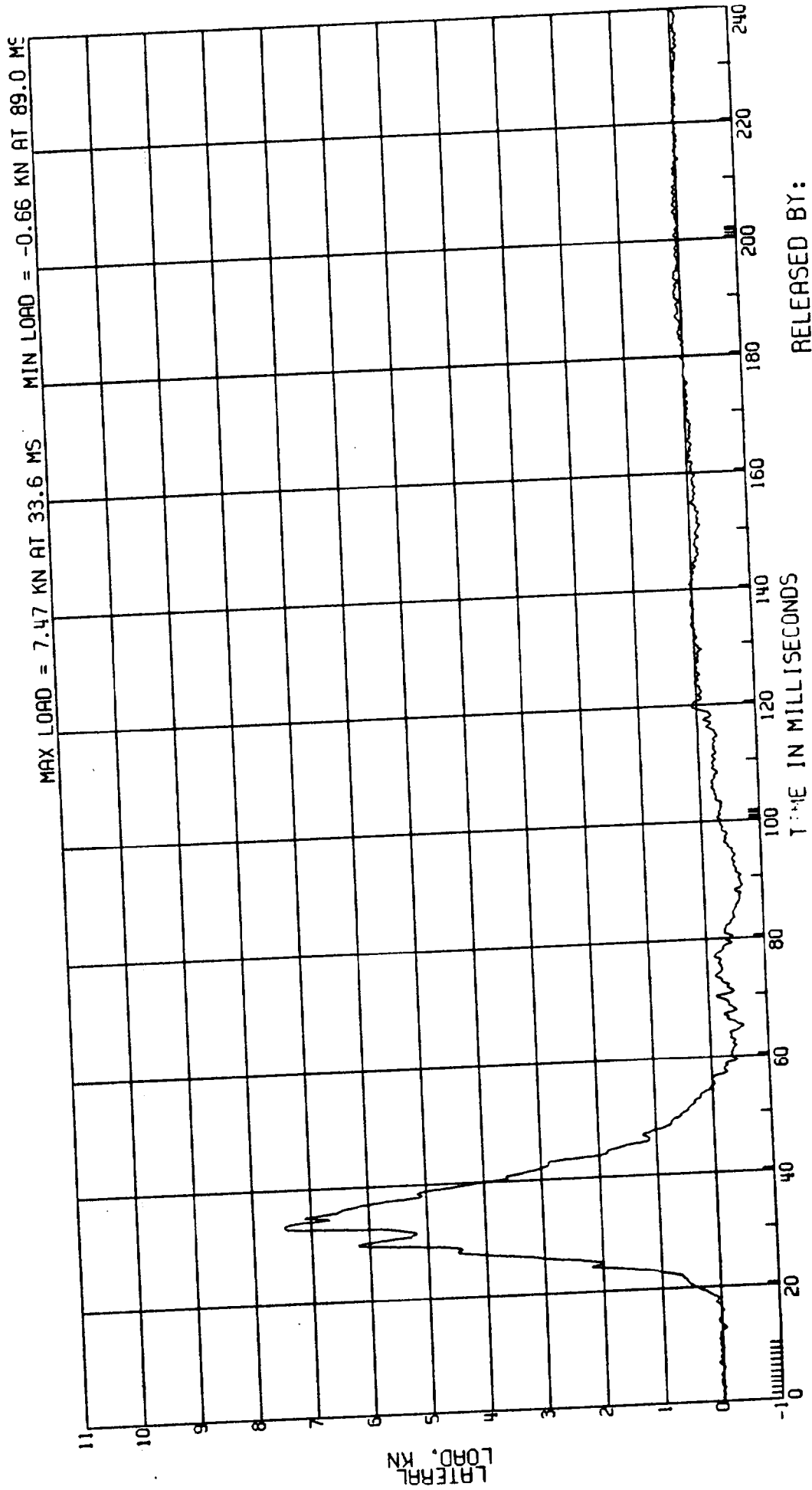
C8006A L. SIDE IMPACT- 27 DEG

3868-905

MVMA 6P 2AF69

CPE

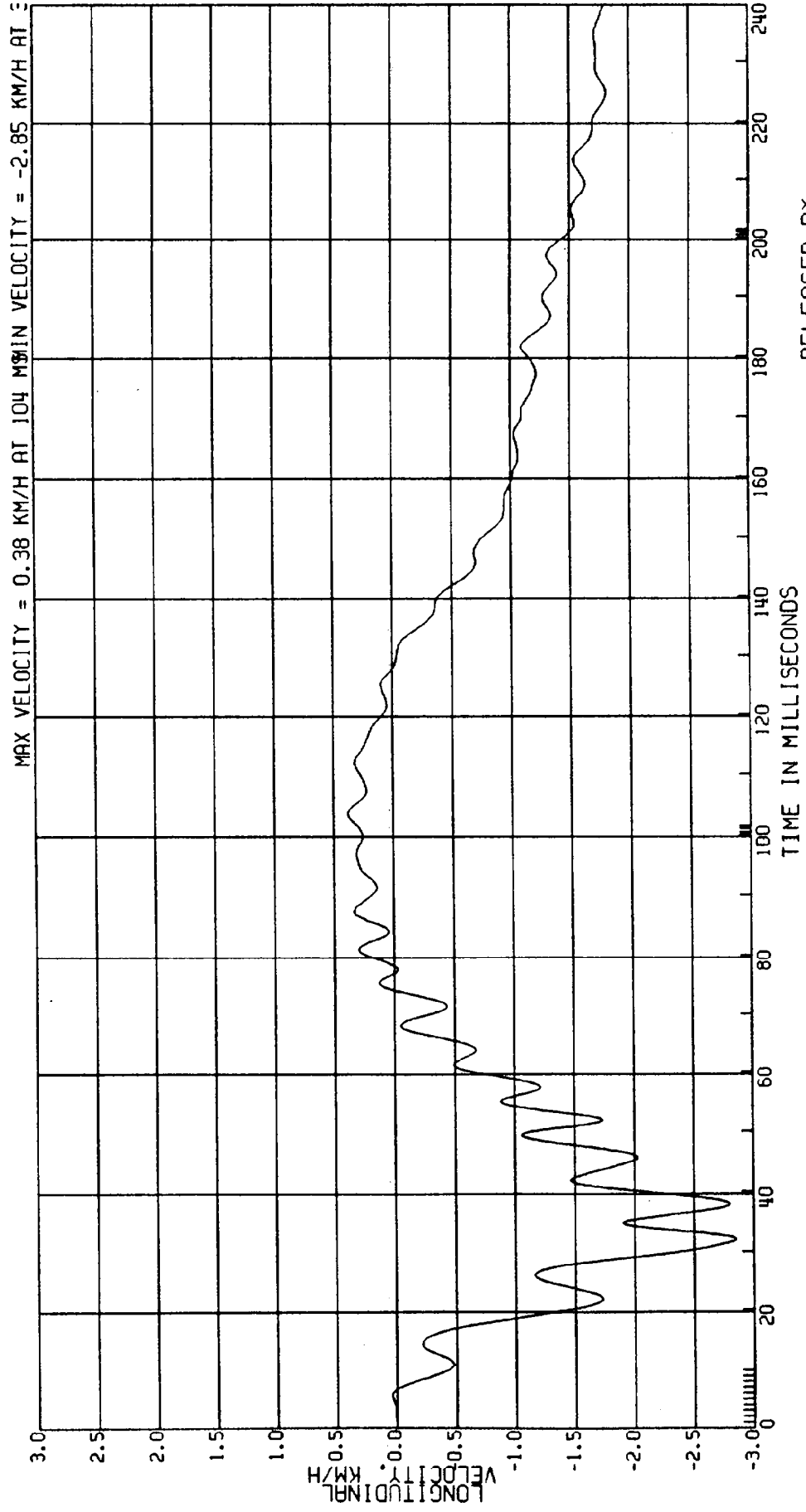
ELEC DATA, SAE CLASS 600



RELEASED BY:

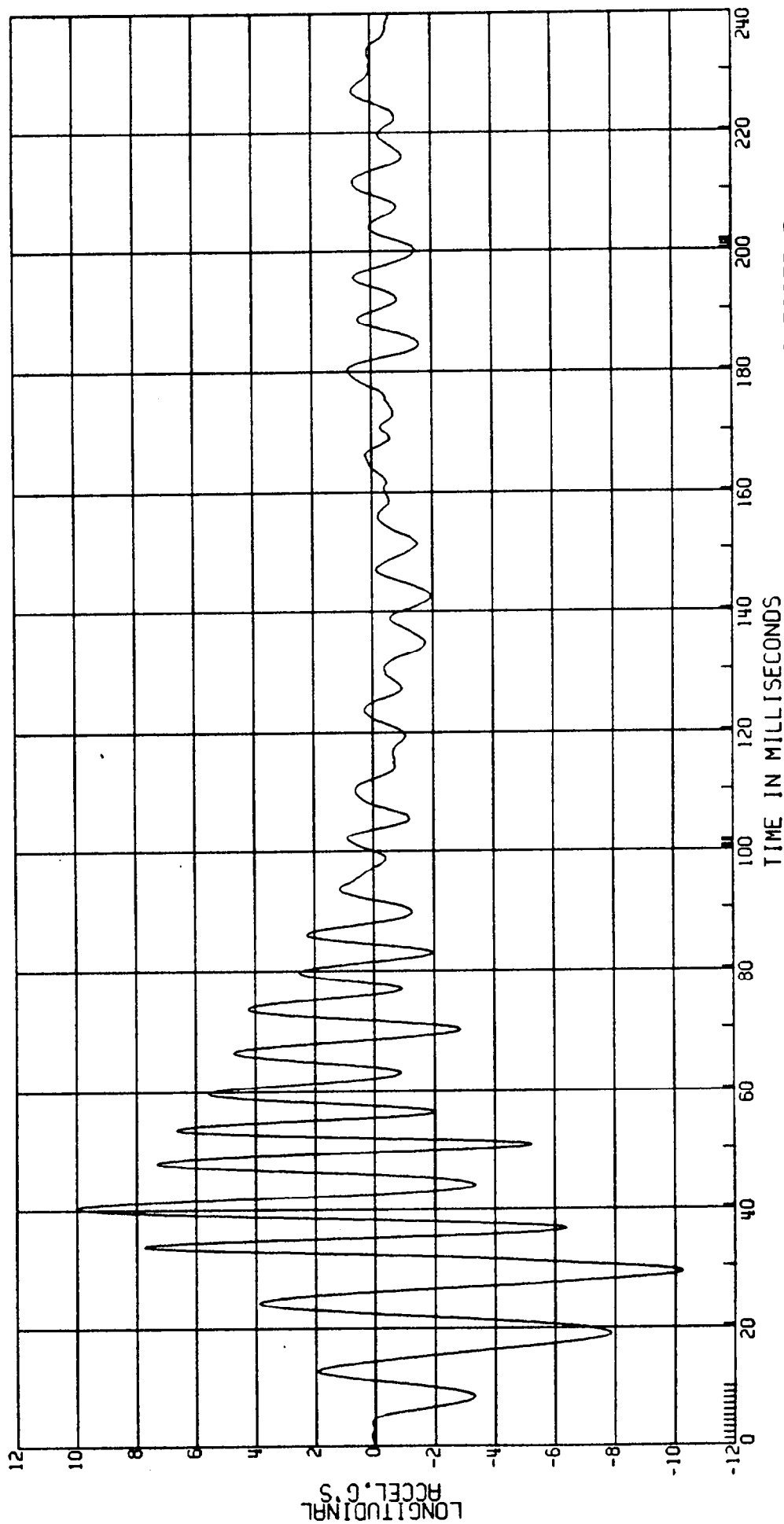
31 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 84
3868-905
CPE MVMA 6P 2AF69 COMPUTED ROCKER AT CTR OF IMPACT VEL TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF PASS-SIDE ACCELERATION)



RELEASED BY:
4 PROCESSED 4 MY 90 13:36

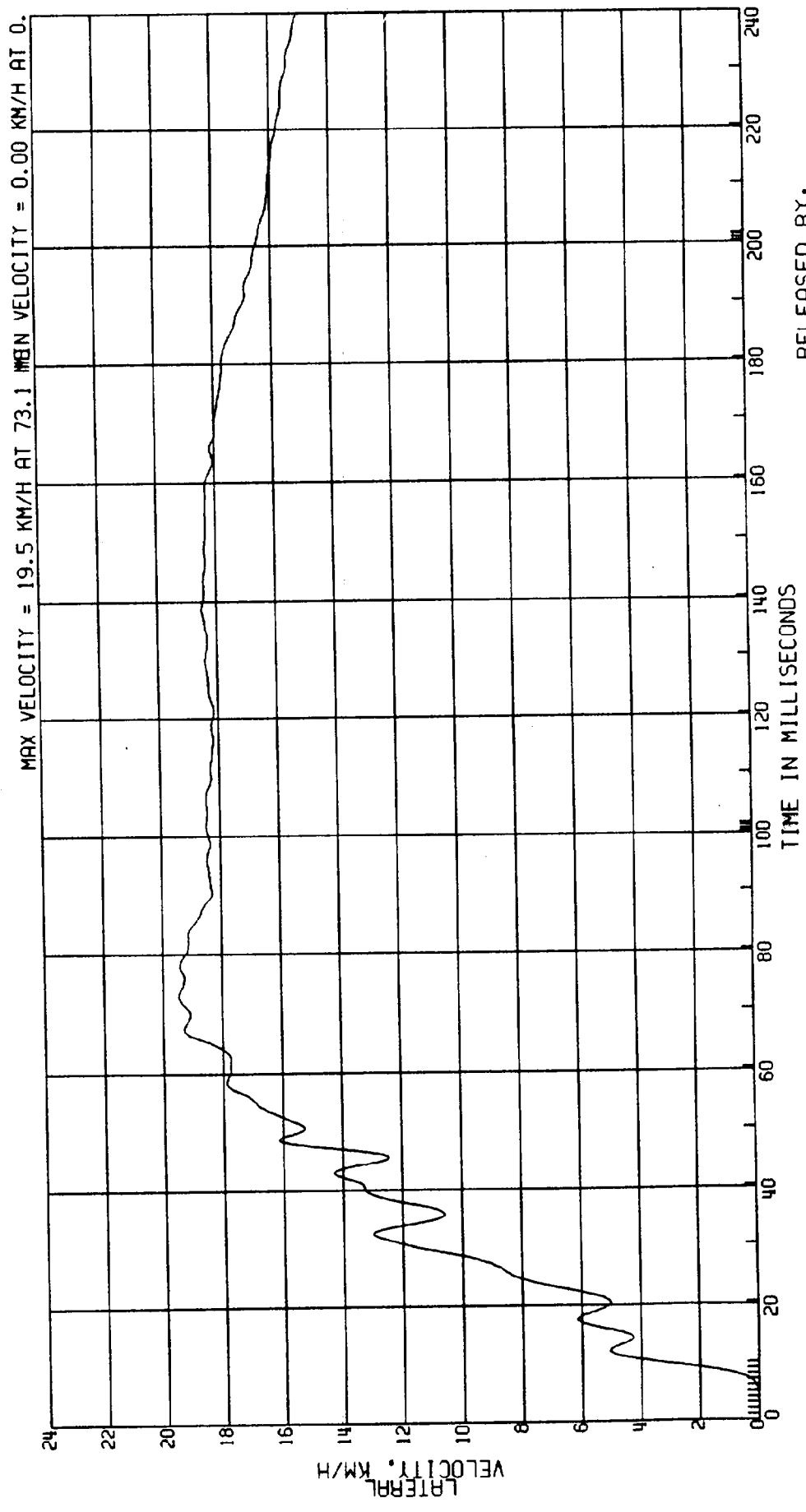
C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 85
3868-905
CPE MVMA 6P 2AF69 PASS-SIDE ROCKER AT CTR OF IMPACT ACCEL. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 60



RELEASED BY:

3 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 86
 3868-905
 CPE MVMA 6P 2AF69
 ELEC DATA, SAE CLASS 180 COMPUTED ROCKER AT CTR OF IMPACT VEL TEST DATE: 03-13-90
 (1ST INTEGRAL OF PASS-SIDE ACCELERATION)

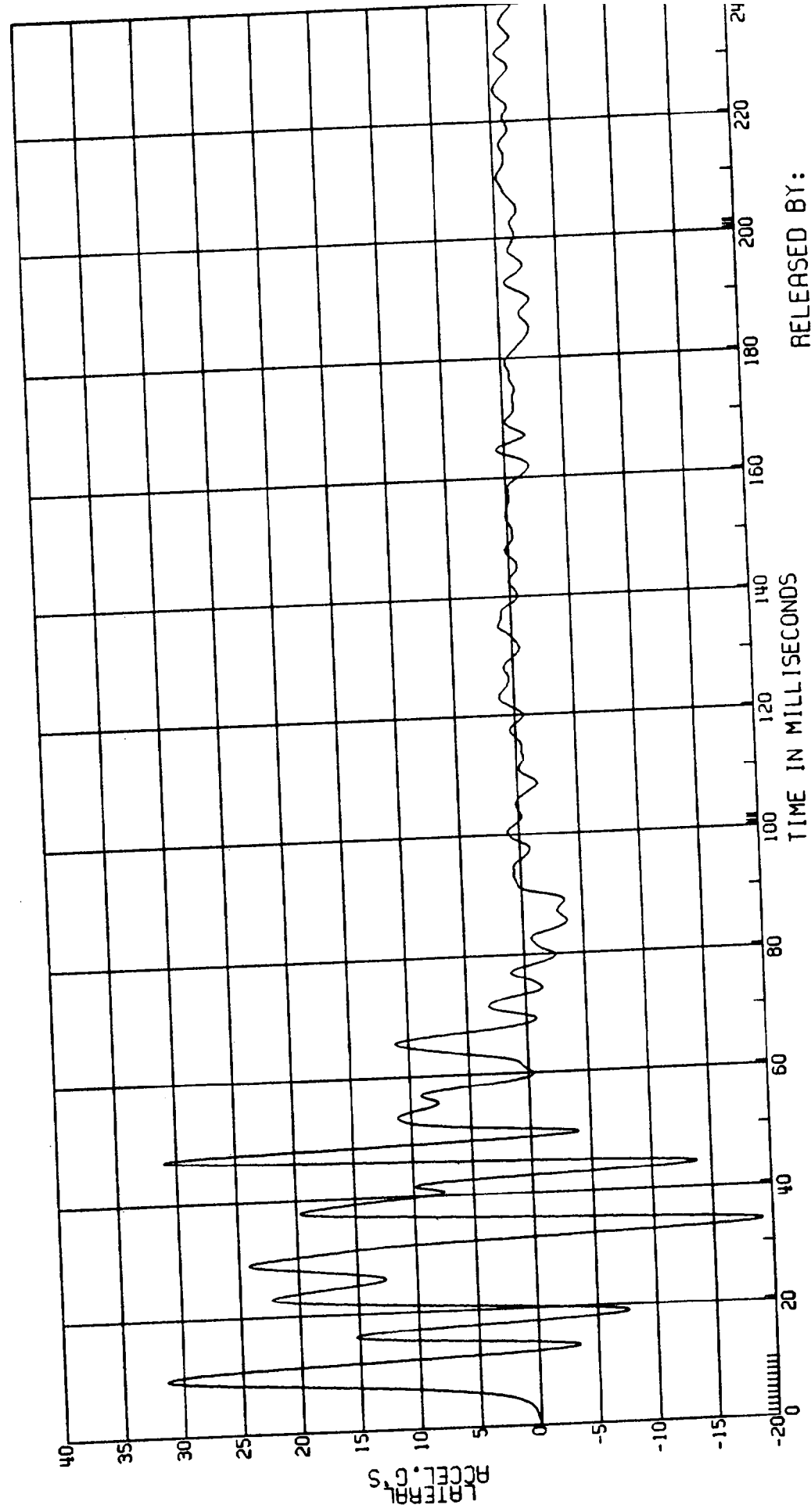


RELEASED BY:
 6 PROCESSED 4 MY 90 13:36

MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE

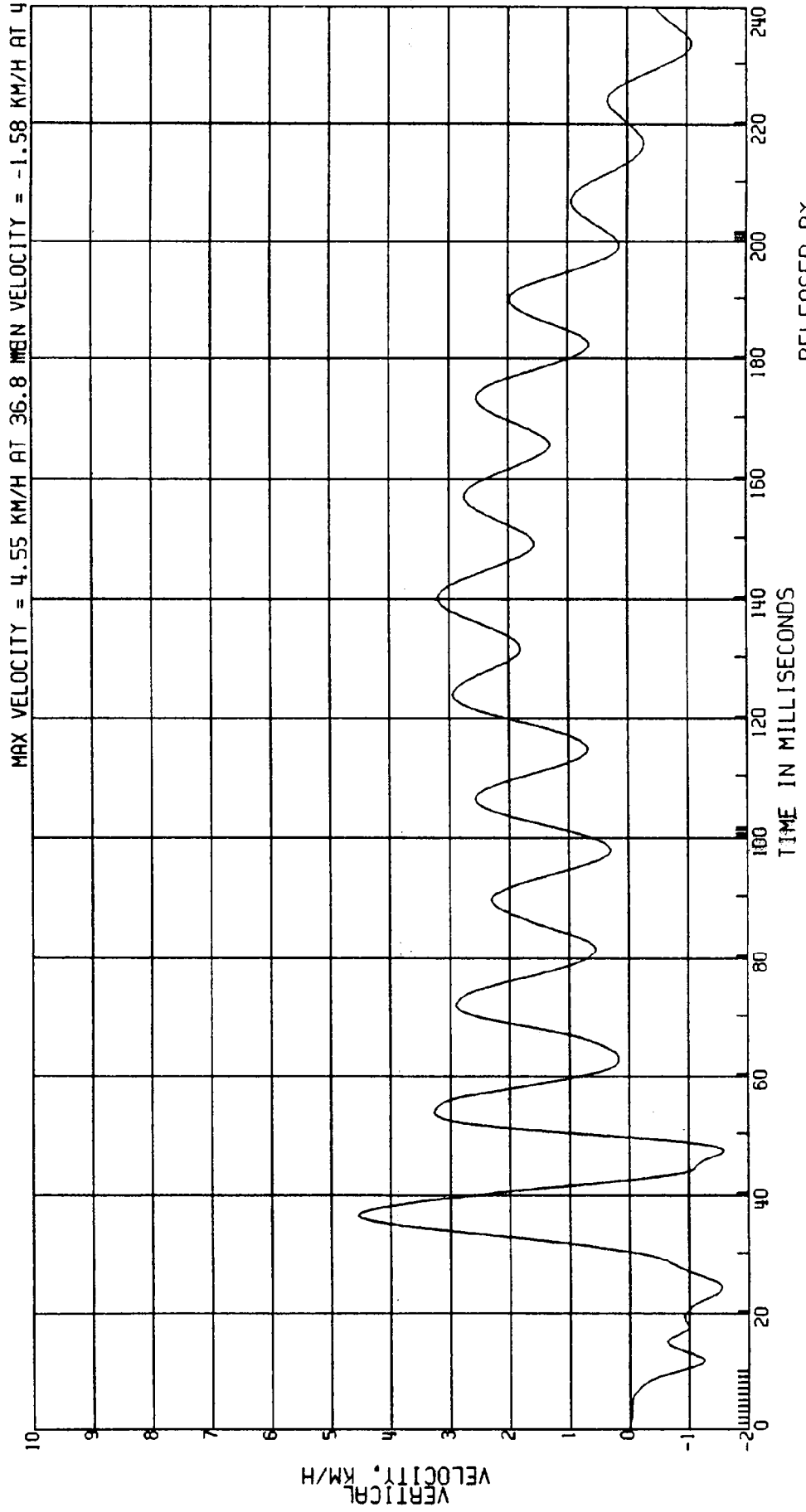
C8006A L. SIDE IMPACT- 27 DEG PASS-SIDE ROCKER AT CTR OF IMPACT ACCEL. TEST DATE:03-13-90

3868-905
MVMA 6P 2AF69
CPE
ELEC DATA, SAE CLASS 60



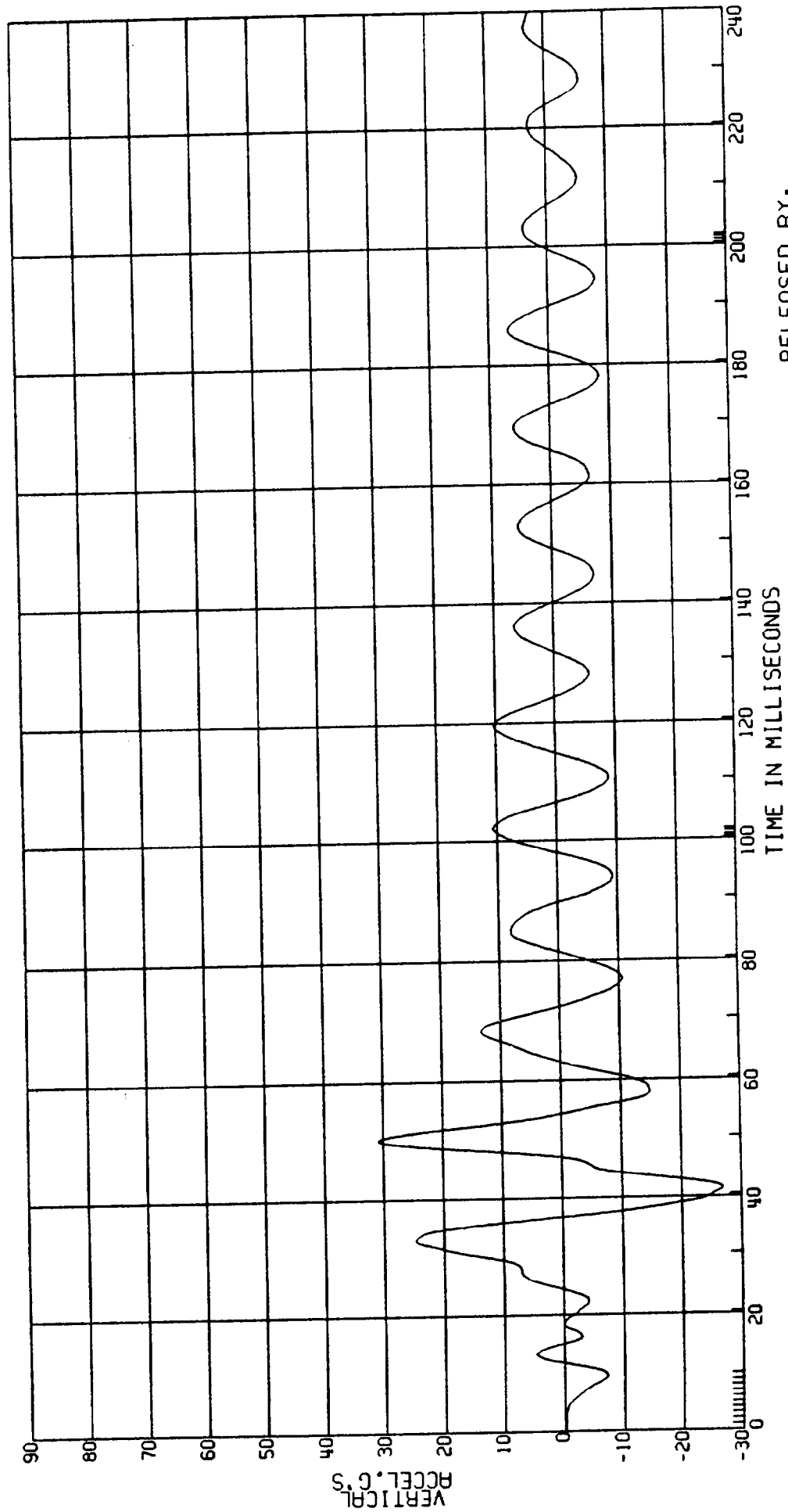
RELEASED BY:
5 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 88
3868-905
CPE MVMA 6P 2AF69 COMPUTED ROCKER AT CTR OF IMPACT VEL TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF PASS-SIDE ACCELERATION)



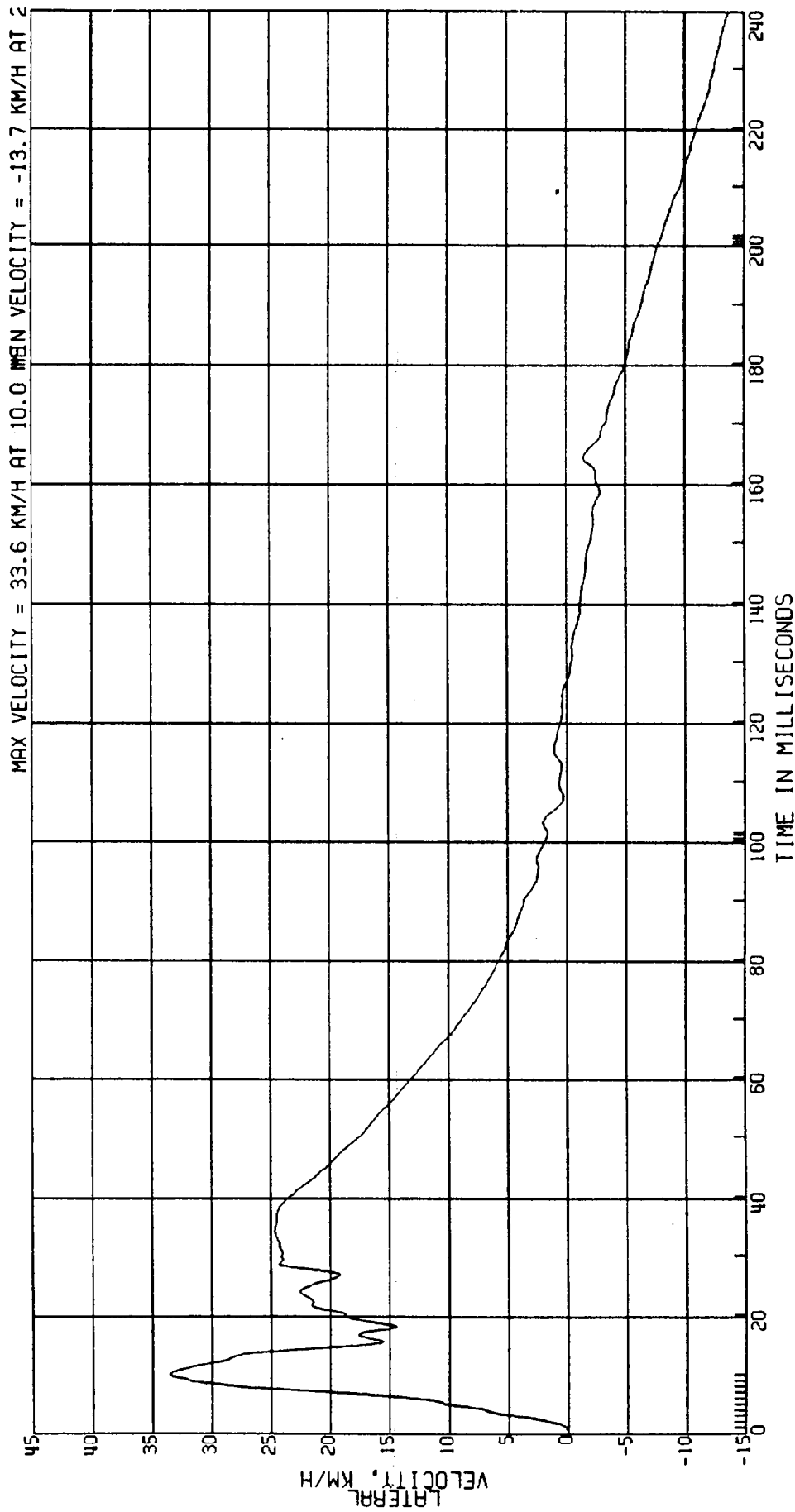
RELEASED BY:
8 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 89
3868-905 PASS-SIDE ROCKER AT CTR OF IMPACT ACCEL. TEST DATE:03-13-90
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60



RELEASED BY:
7 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 90
3868-905
CPE MVMA 6P 2AF69 COMPUTED FRT. DOOR NO. 1 VELOCITY TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



RELEASED BY:
10 PROCESSED 4 MY 90 13:36

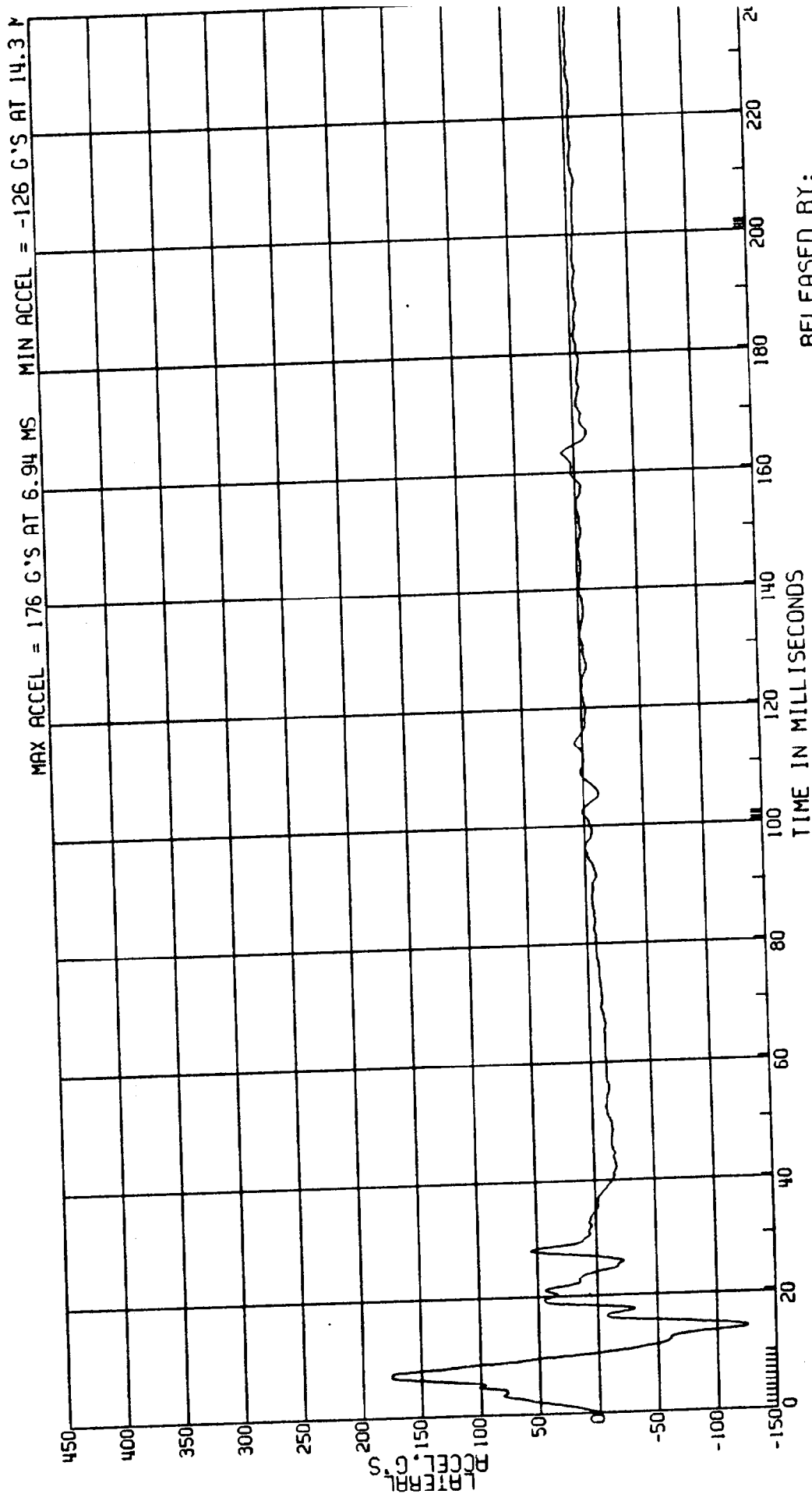
C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 91

DR-SIDE FRT. DOOR NO. 1 ACCEL. TEST DATE:03-13-90

3868-905

CPE MVMA 6P 2AF69

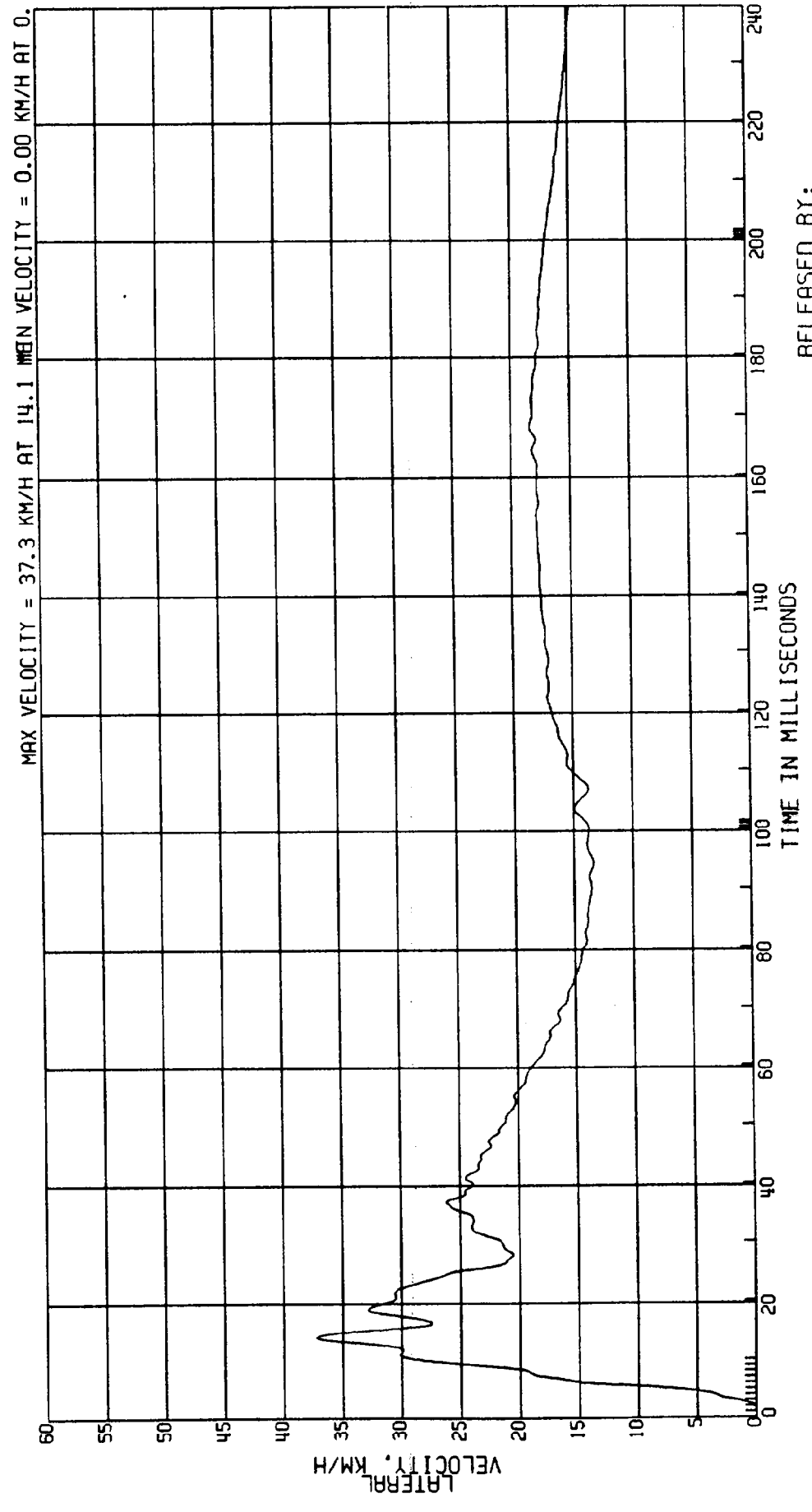
ELEC DATA, SAE CLASS 60



RELEASED BY:

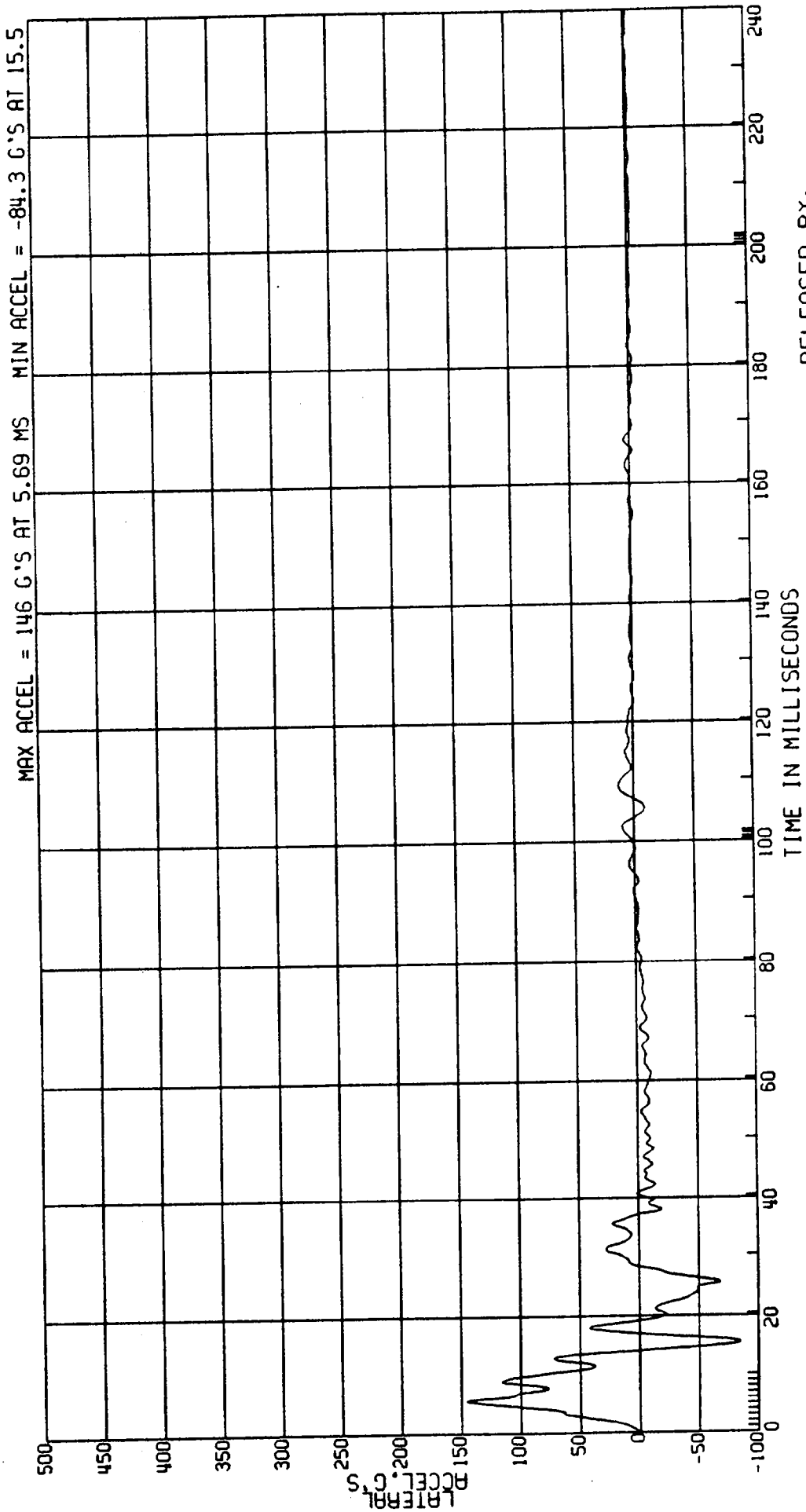
9 PROCESSED 4 MT 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 92
3868-905
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



RELEASED BY:
12 PROCESSED 4 MY 90 13:36

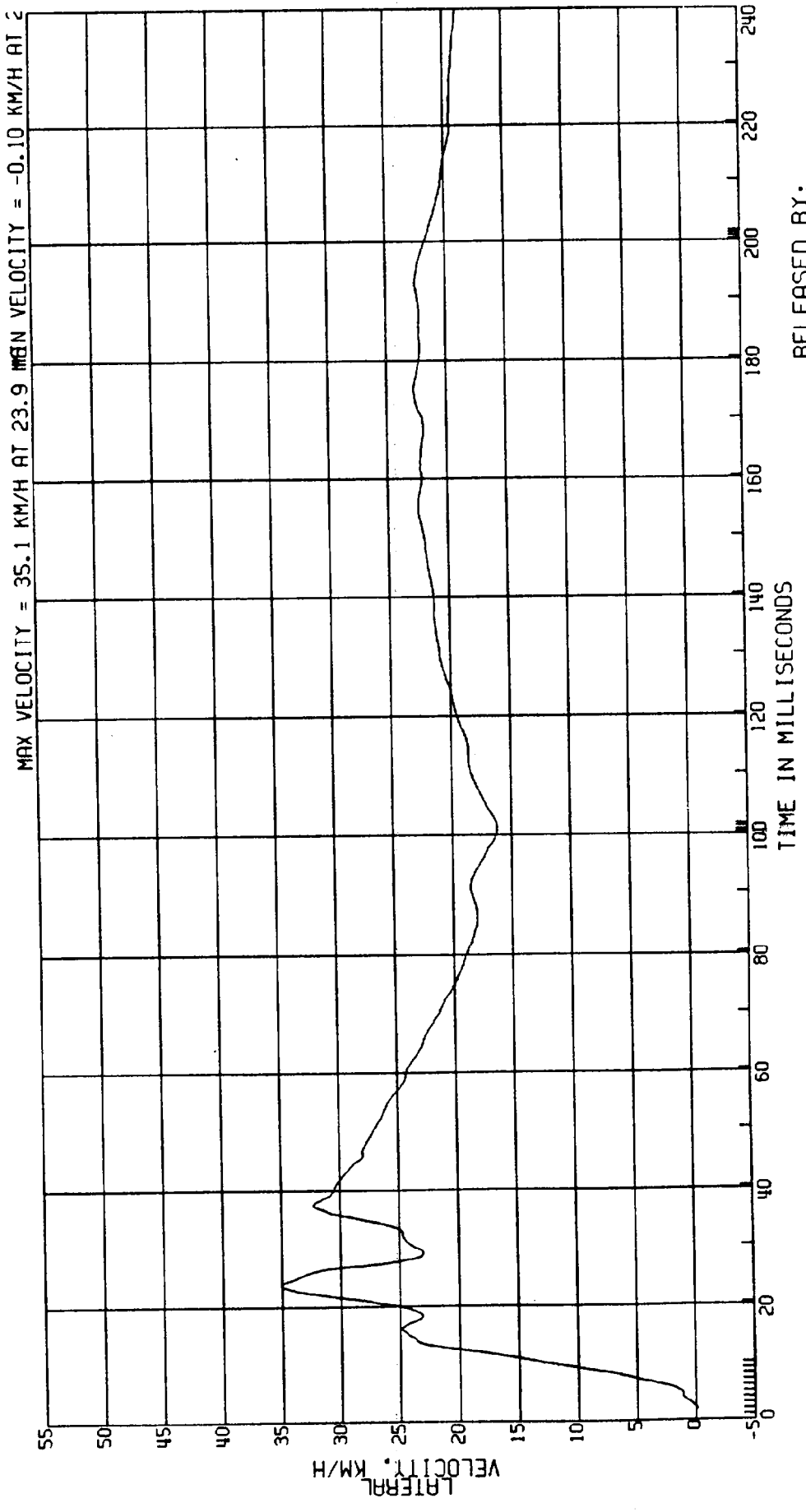
C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 93
3868-905 DR-SIDE FRT. DOOR NO. 2 ACCEL. TEST DATE:03-13-90
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60



RELEASED BY:

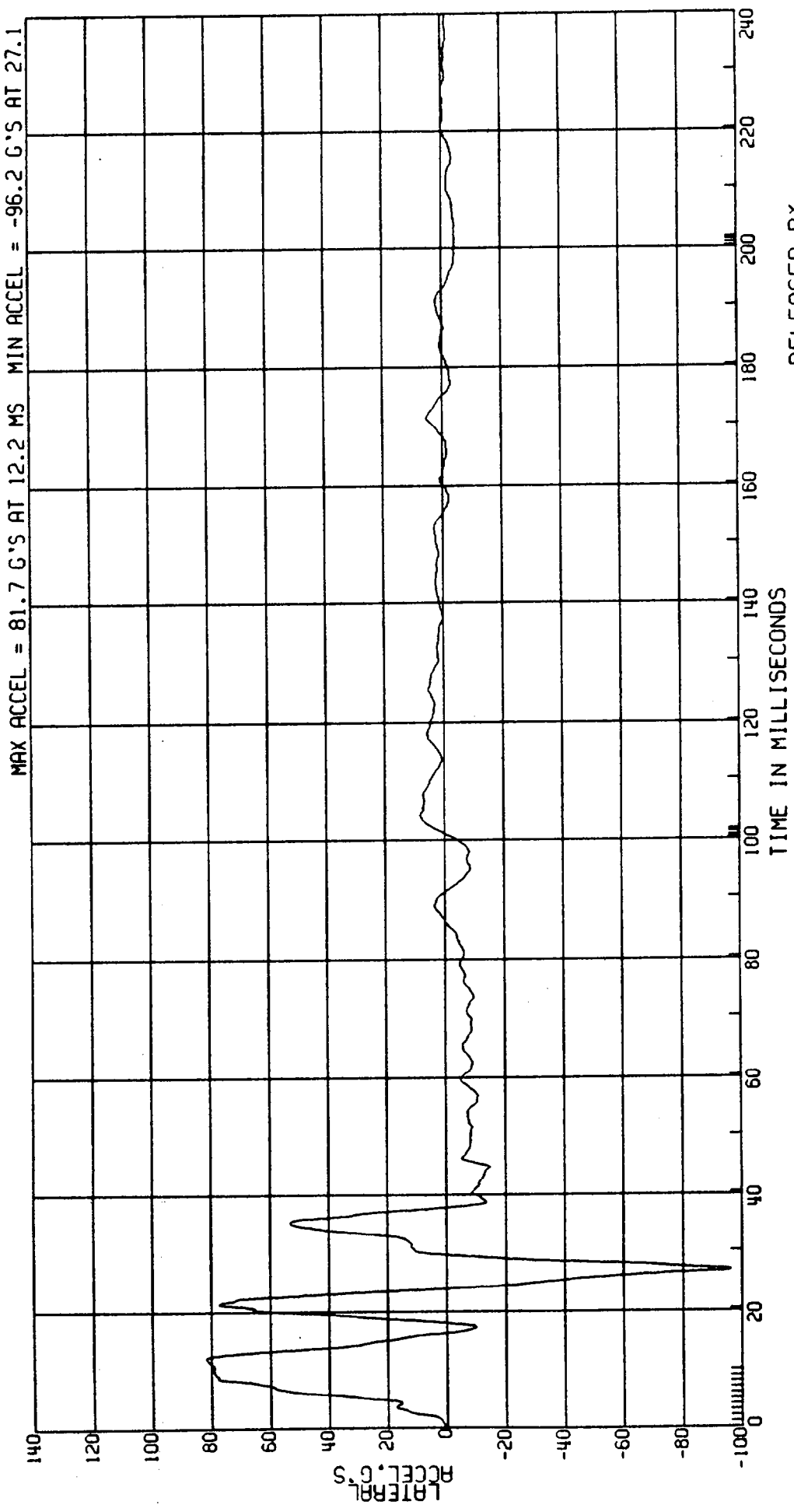
11 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 94)
 3868-905 MVMA 6P 2AF69 COMPUTED FRT. DOOR NO. 3 VELOCITY TEST DATE:03-13-90
 CPE ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



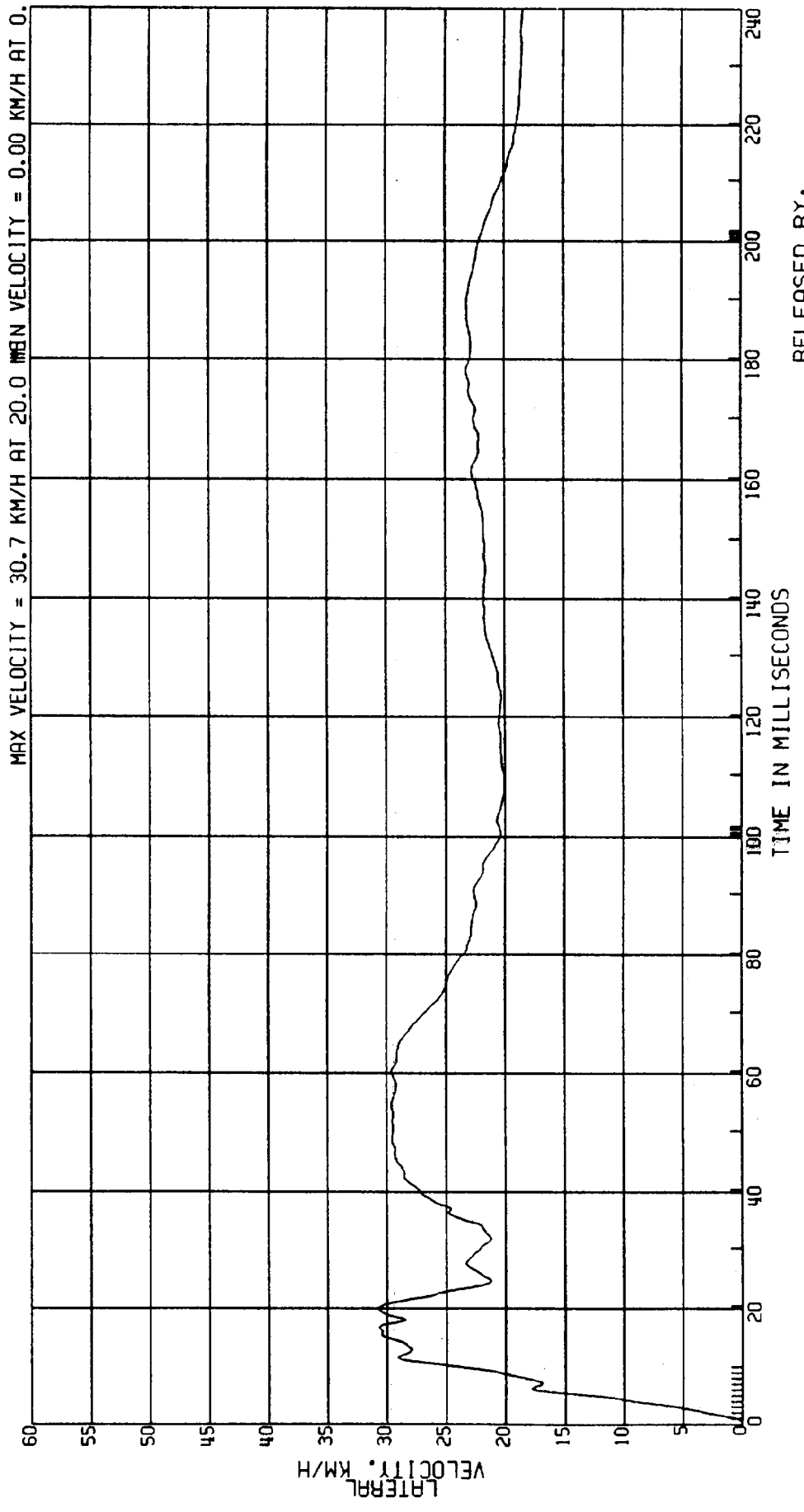
RELEASED BY:
 14 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 9S
3868-905 MVMA 6P 2AF69 DR-SIDE FRT. DOOR NO. 3 ACCEL. TEST DATE:03-13-90
CPE ELEC DATA, SAE CLASS 60



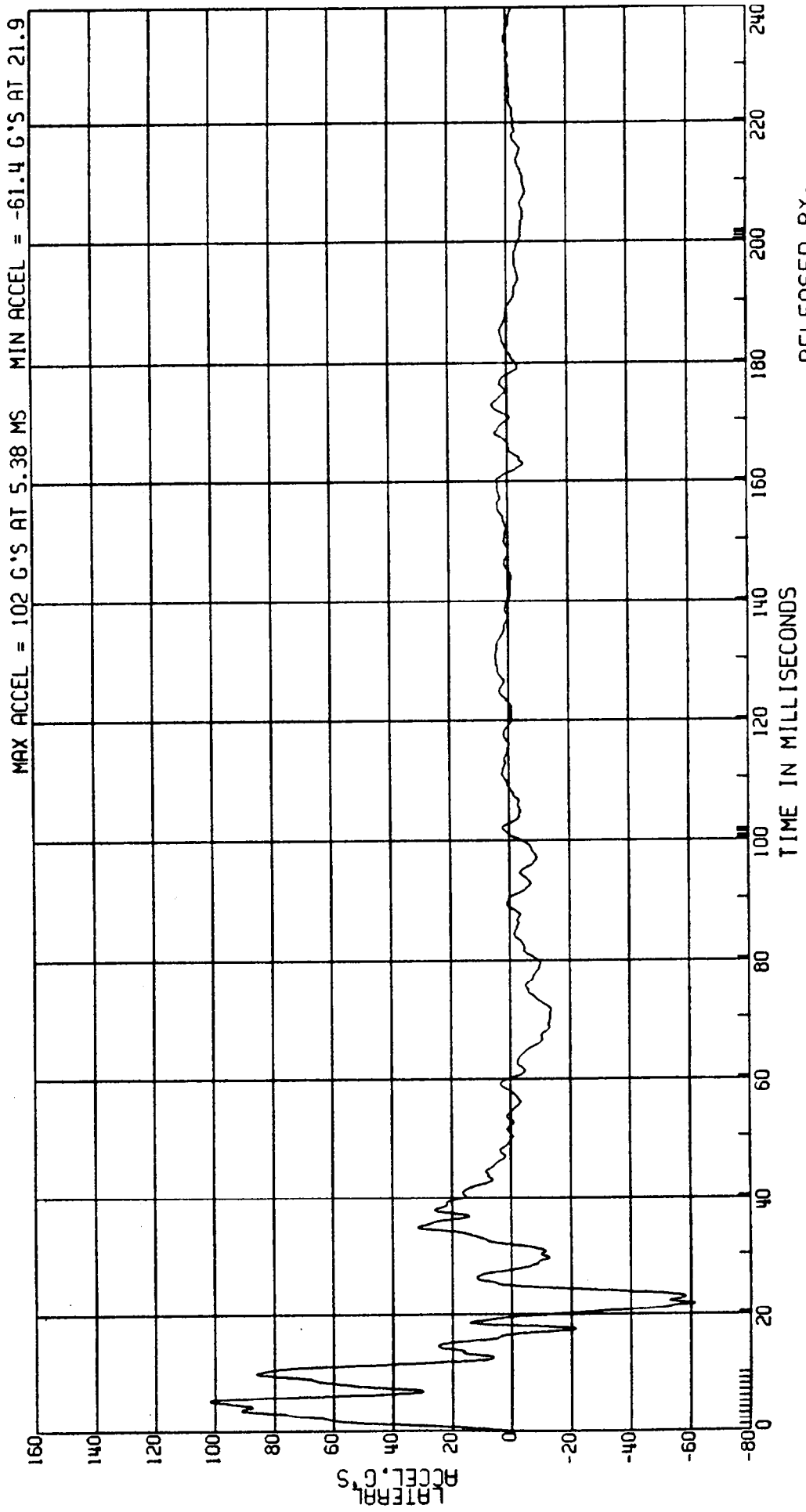
RELEASED BY:
13 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 96
 3868-905
 CPE MVMA 6P 2AF69 COMPUTED FRT. DOOR NO. 4 VELOCITY TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



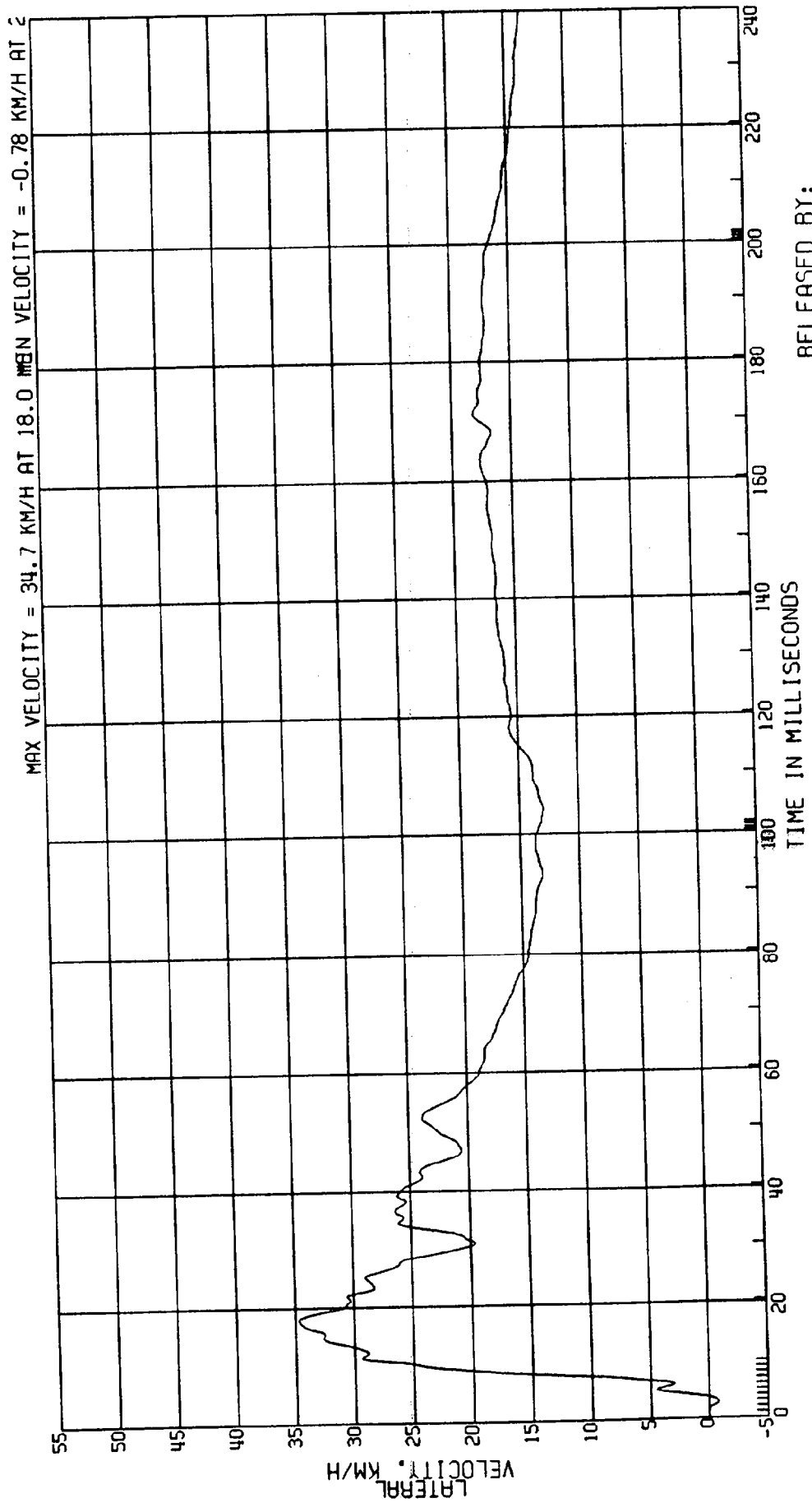
RELEASED BY:
 16 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 97
3868-905 MVMA GP 2AF69 DR-SIDE FRT. DOOR NO. 4 ACCEL. TEST DATE:03-13-90
CPE ELEC DATA, SAE CLASS 60



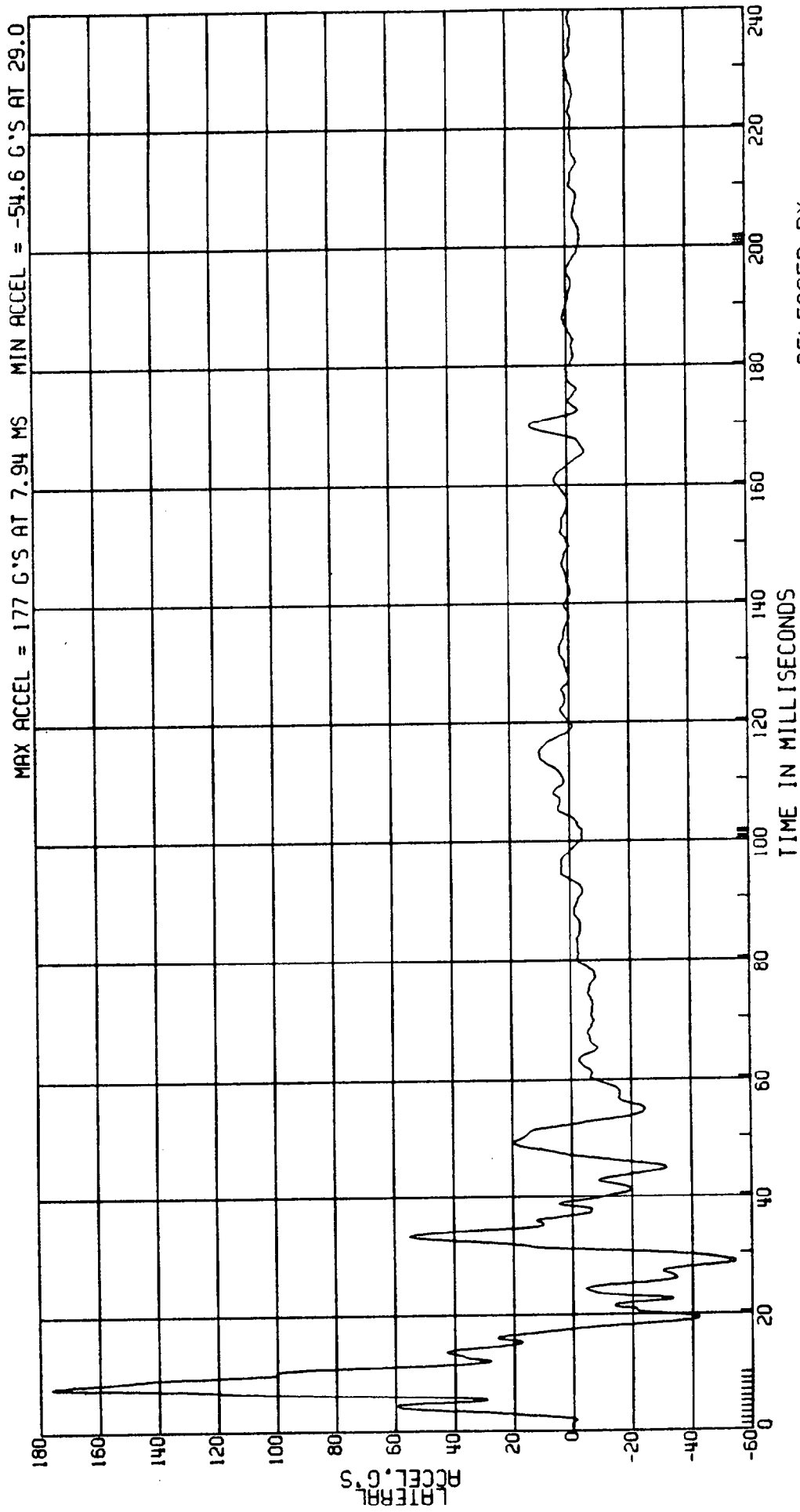
RELEASED BY:
15 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 98
3868-905 COMPUTED FRT. DOOR NO. 5 VELOCITY TEST DATE:03-13-90
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



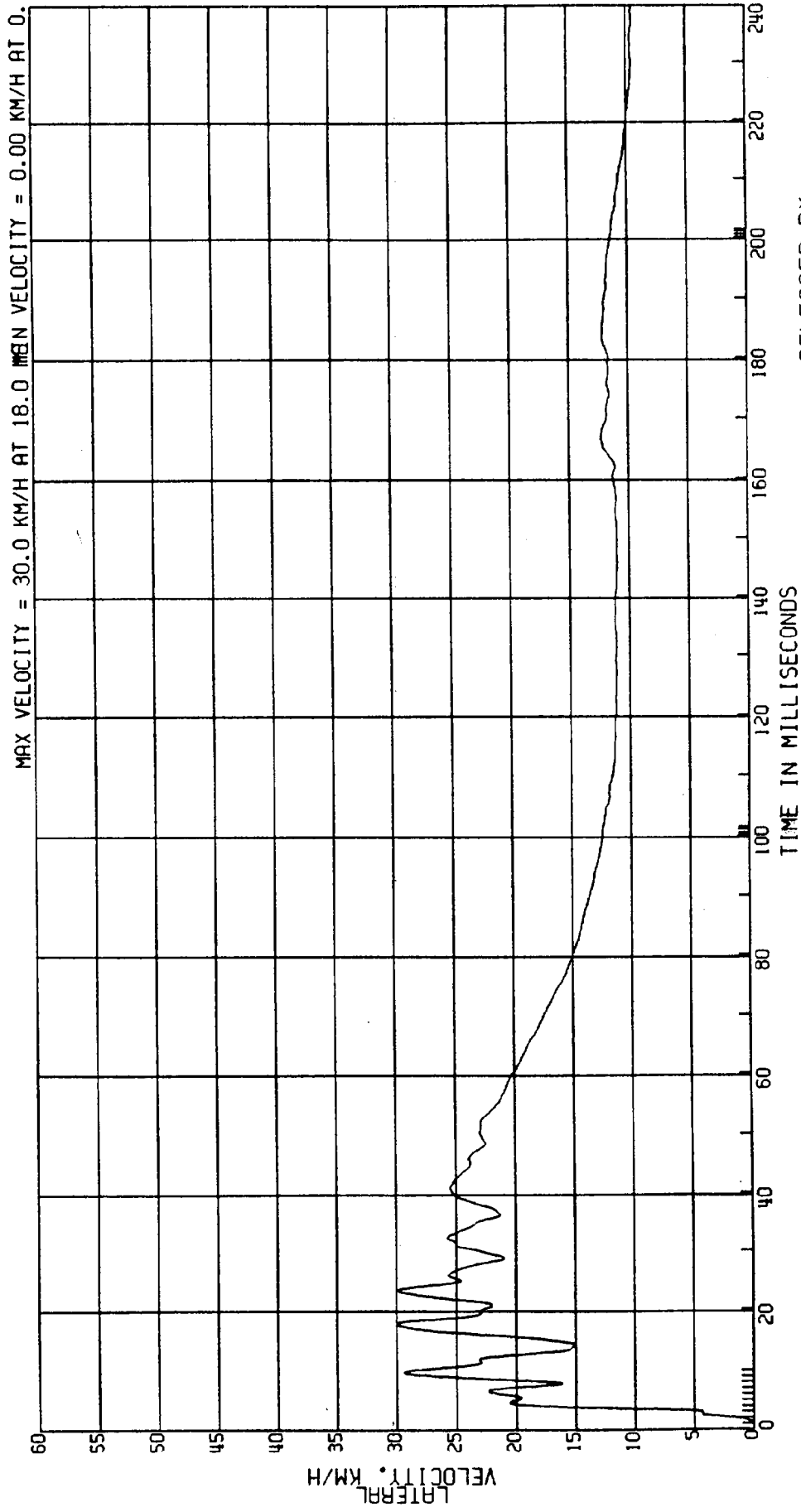
RELEASED BY:
18 PROCESSED 4-MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 99
3868-905
CPE MVMA 6P 2AF69 DR-SIDE FRT. DOOR NO. 5 ACCEL. TEST DATE:03-13-90
ELEC DATA, SAE CLASS 60



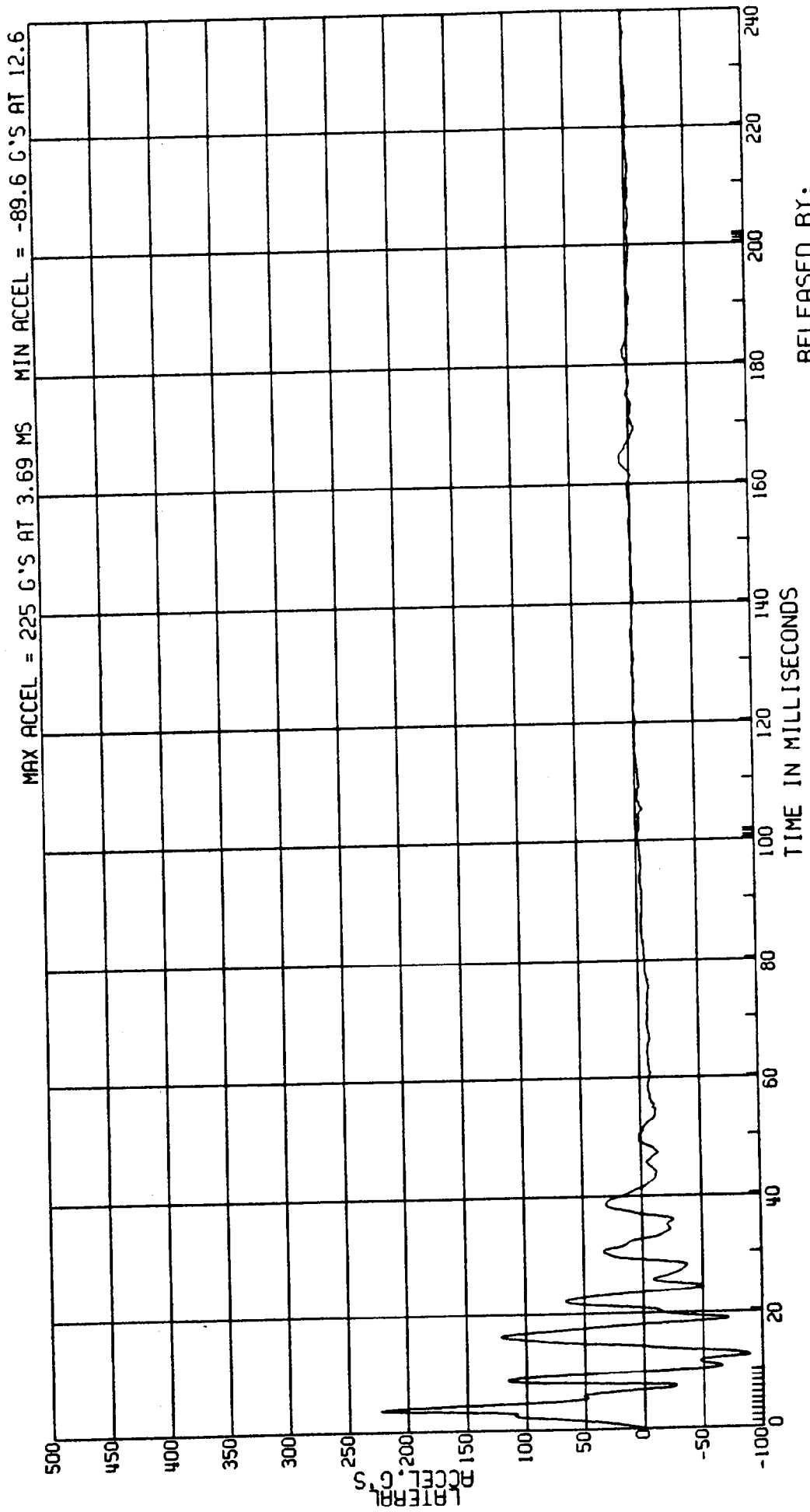
RELEASED BY:
17 PROCESSED 4 MT 90 13:36

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /00
3868-905 MVMA 6P 2AF69 TEST DATE:03-13-90
CPE COMPUTED REAR DOOR NO. 1 VELOCITY
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



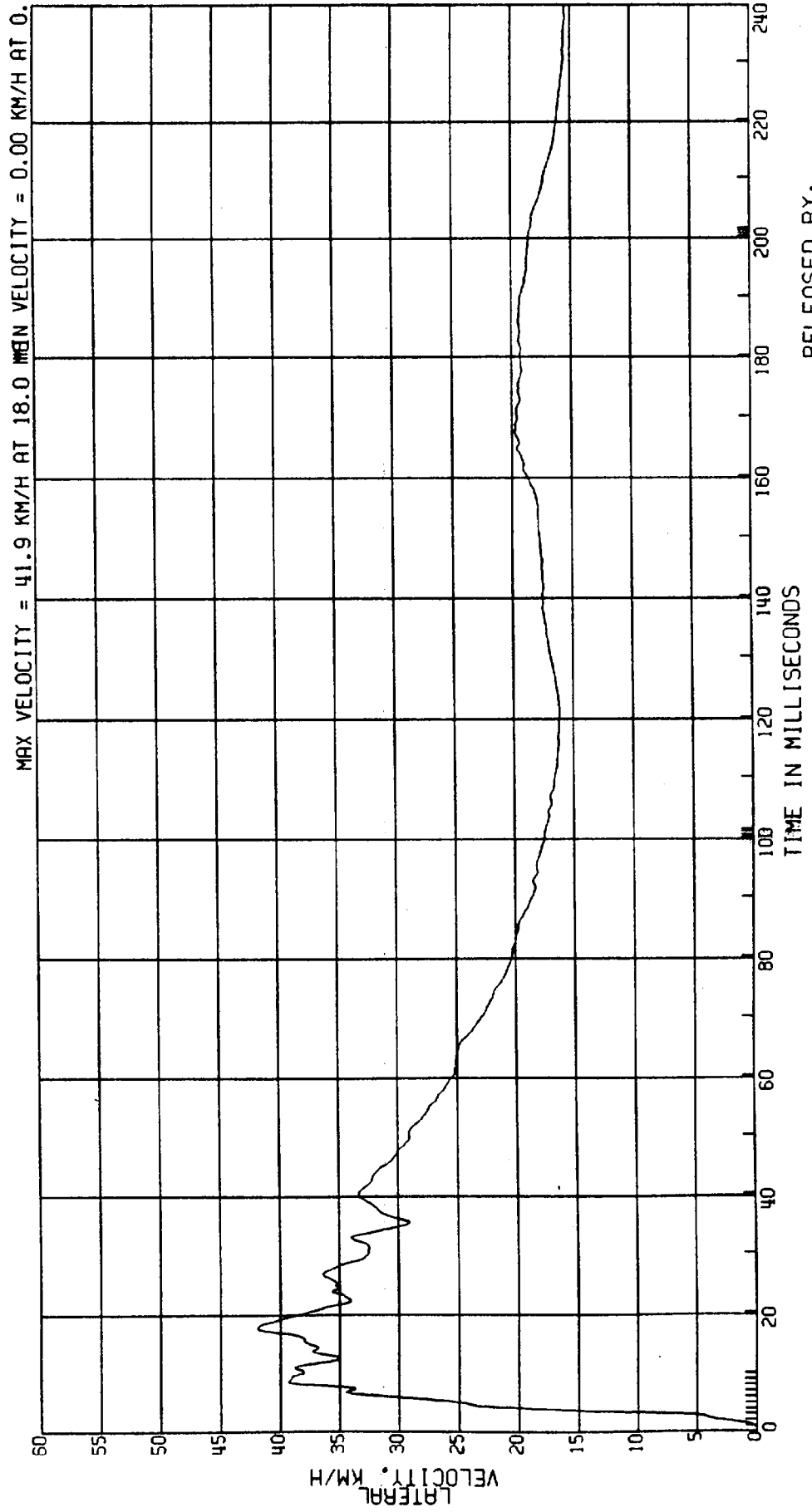
RELEASED BY:
20 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /01
3868-905 DR-SIDE REAR DOOR NO. 1 ACCEL. TEST DATE:03-13-90
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60

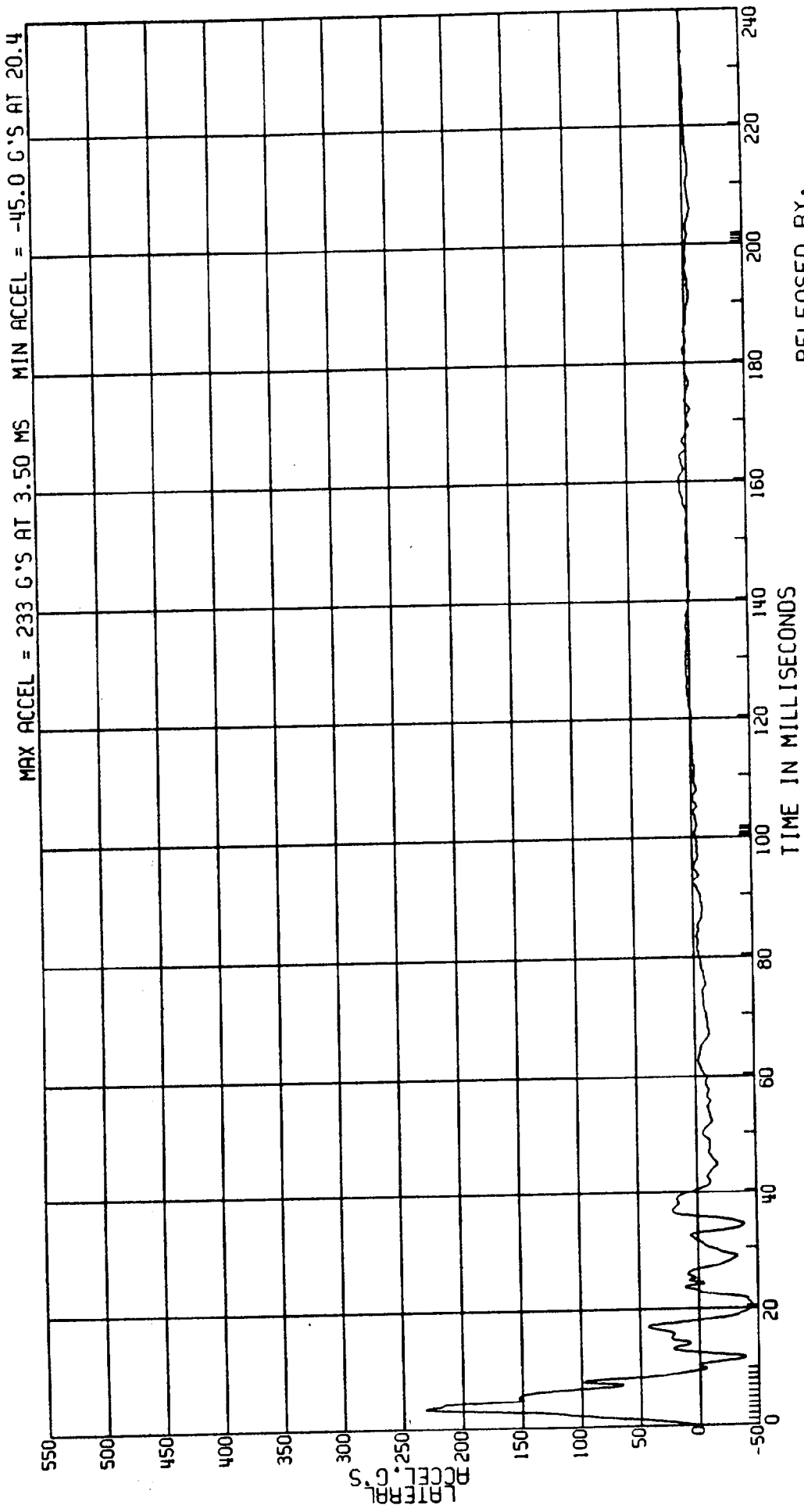


RELEASED BY:
19 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 102
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION) TEST DATE:03-13-90

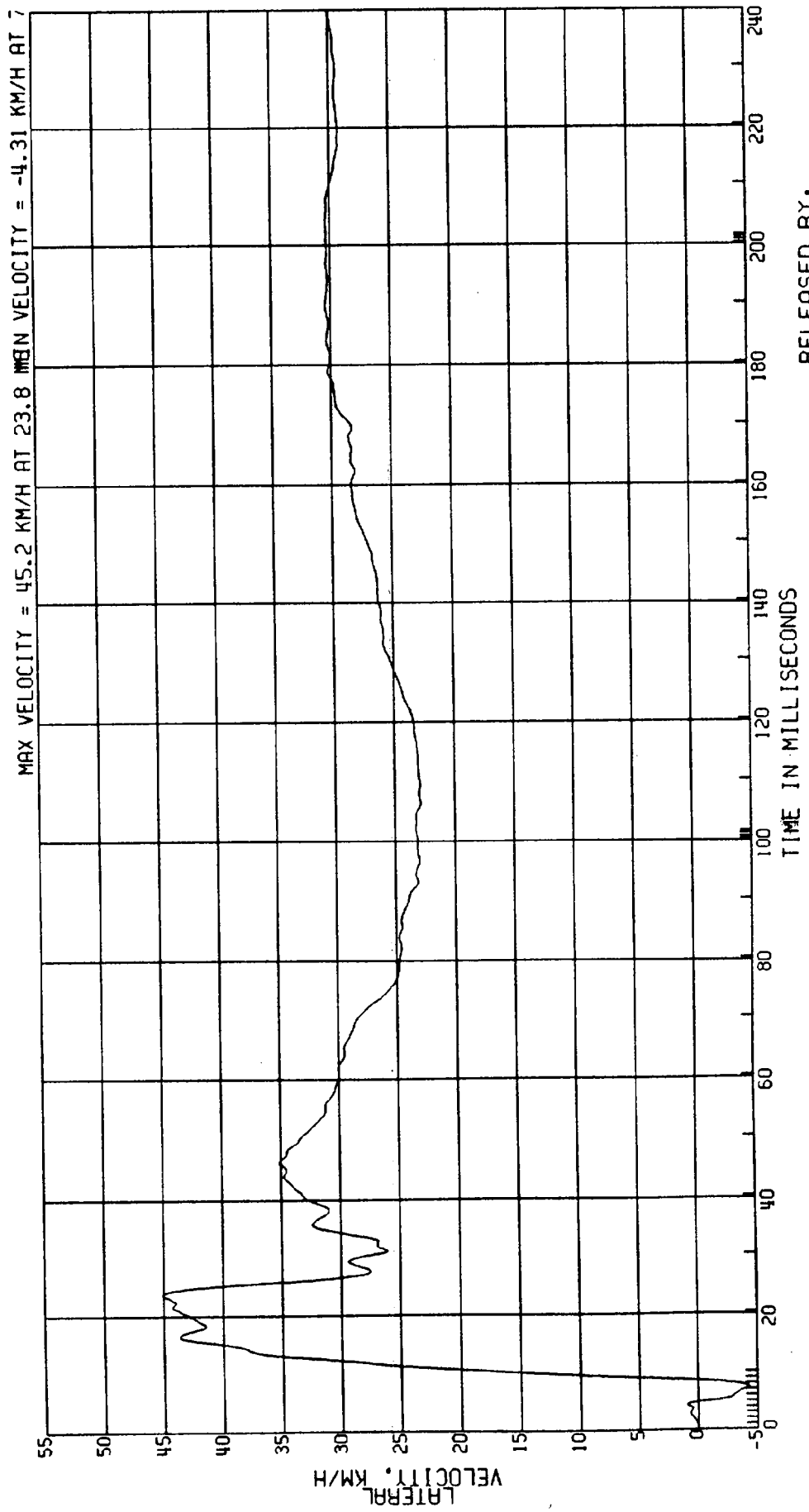


C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE / 63
3868-905 DR-SIDE REAR DOOR NO. 2 ACCEL. TEST DATE:03-13-90
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60

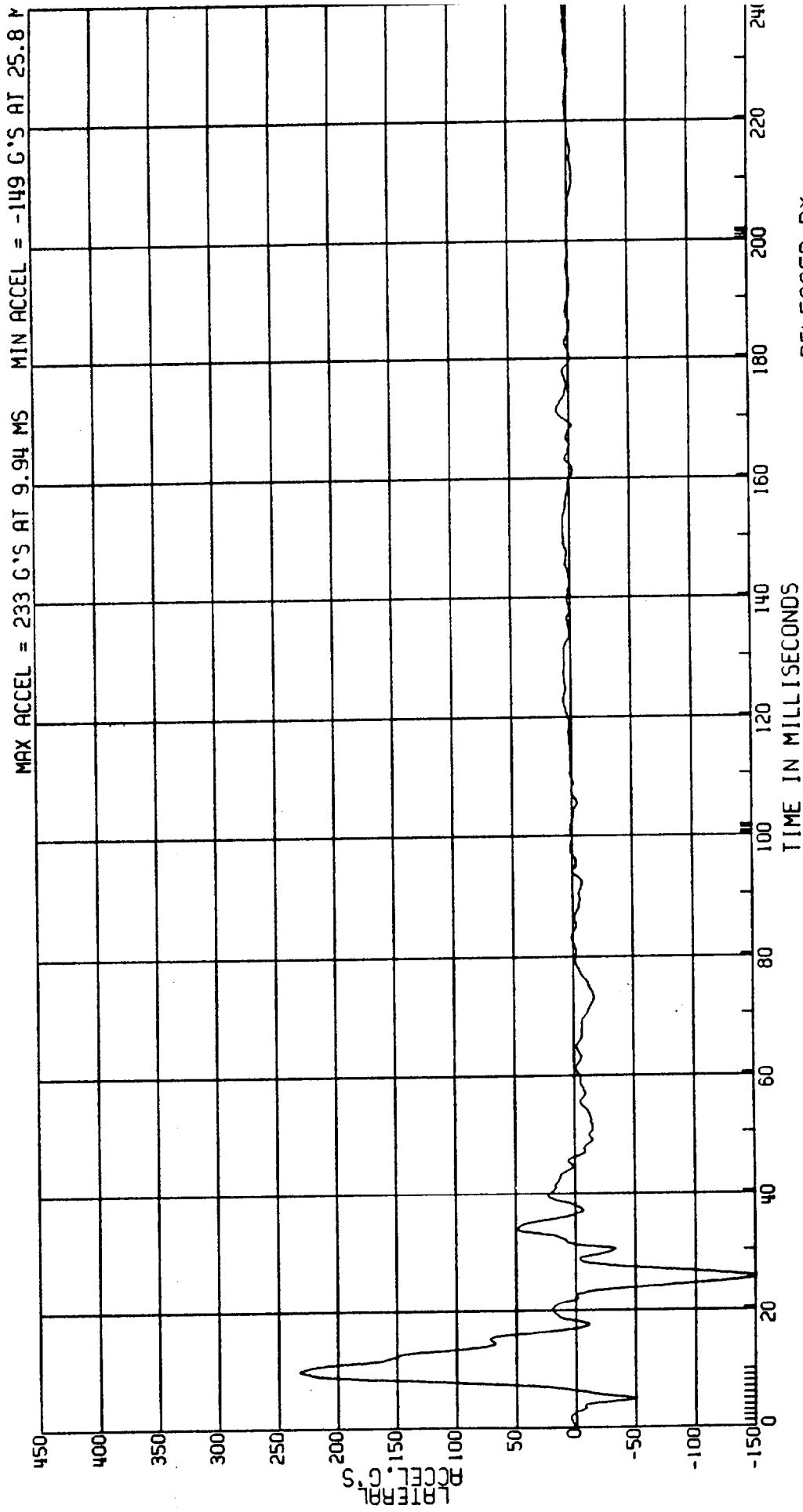


RELEASED BY:
21 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 104
3868-905
CPE MVMA 6P 2AF69 COMPUTED REAR DOOR NO. 3 VELOCITY TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)

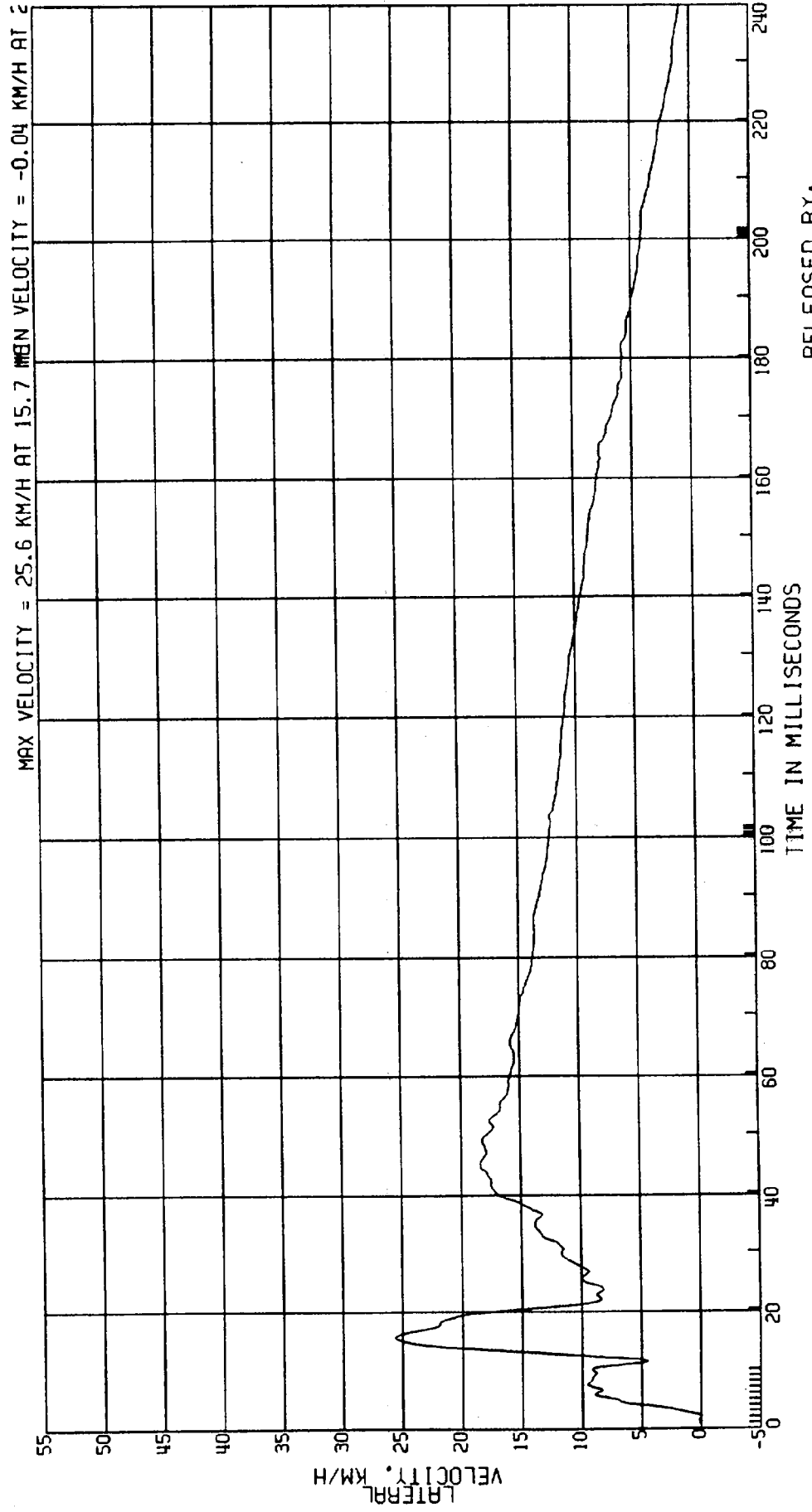


C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 105
3868-905 DR-SIDE REAR DOOR NO. 3 ACCEL. TEST DATE:03-13-90
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60

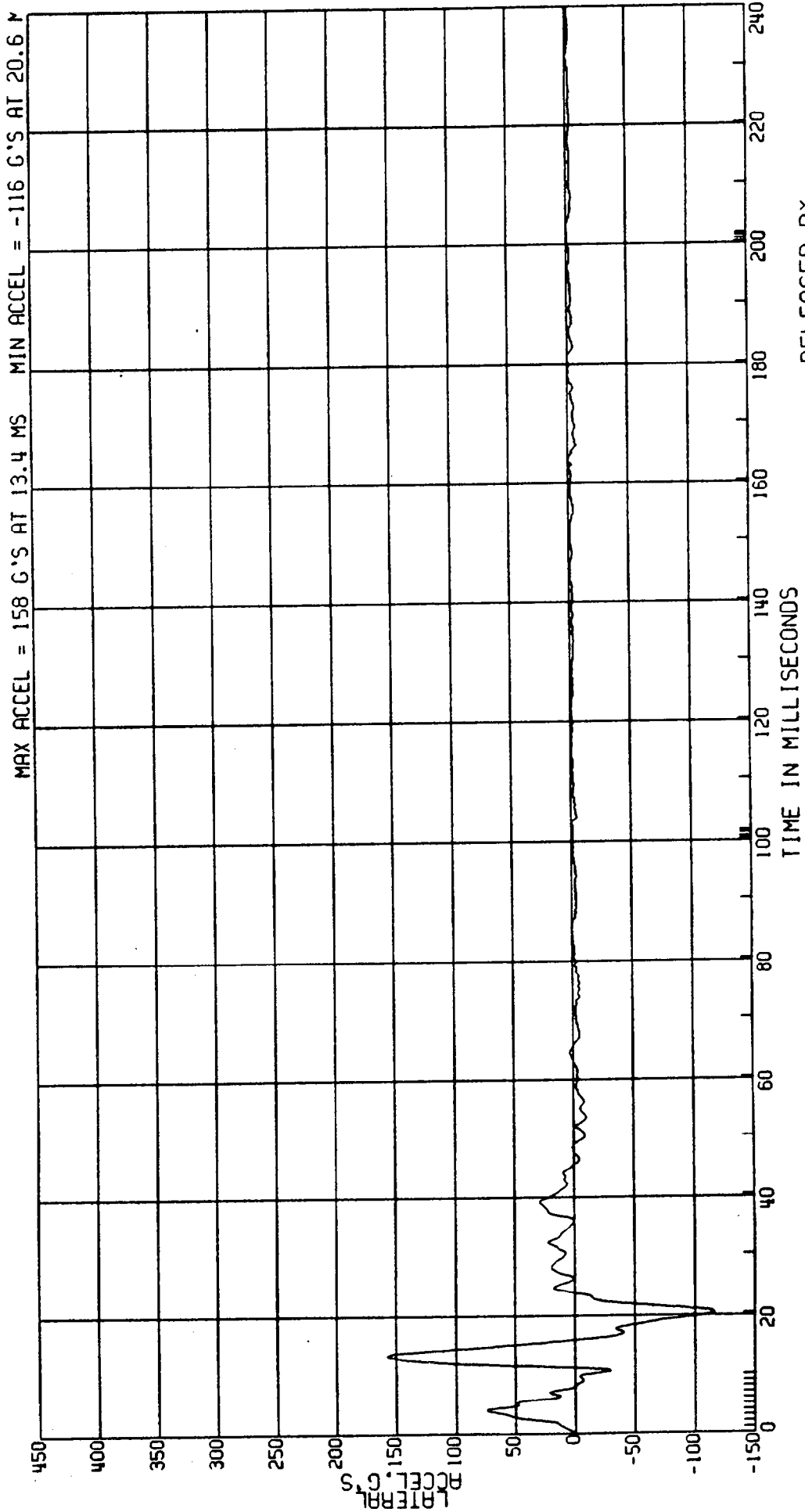


RELEASED BY:
23 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 106
3868-905 MVMA 6P 2AF69 COMPUTED REAR DOOR NO. 4 VELOCITY TEST DATE: 03-13-90
CPE ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)

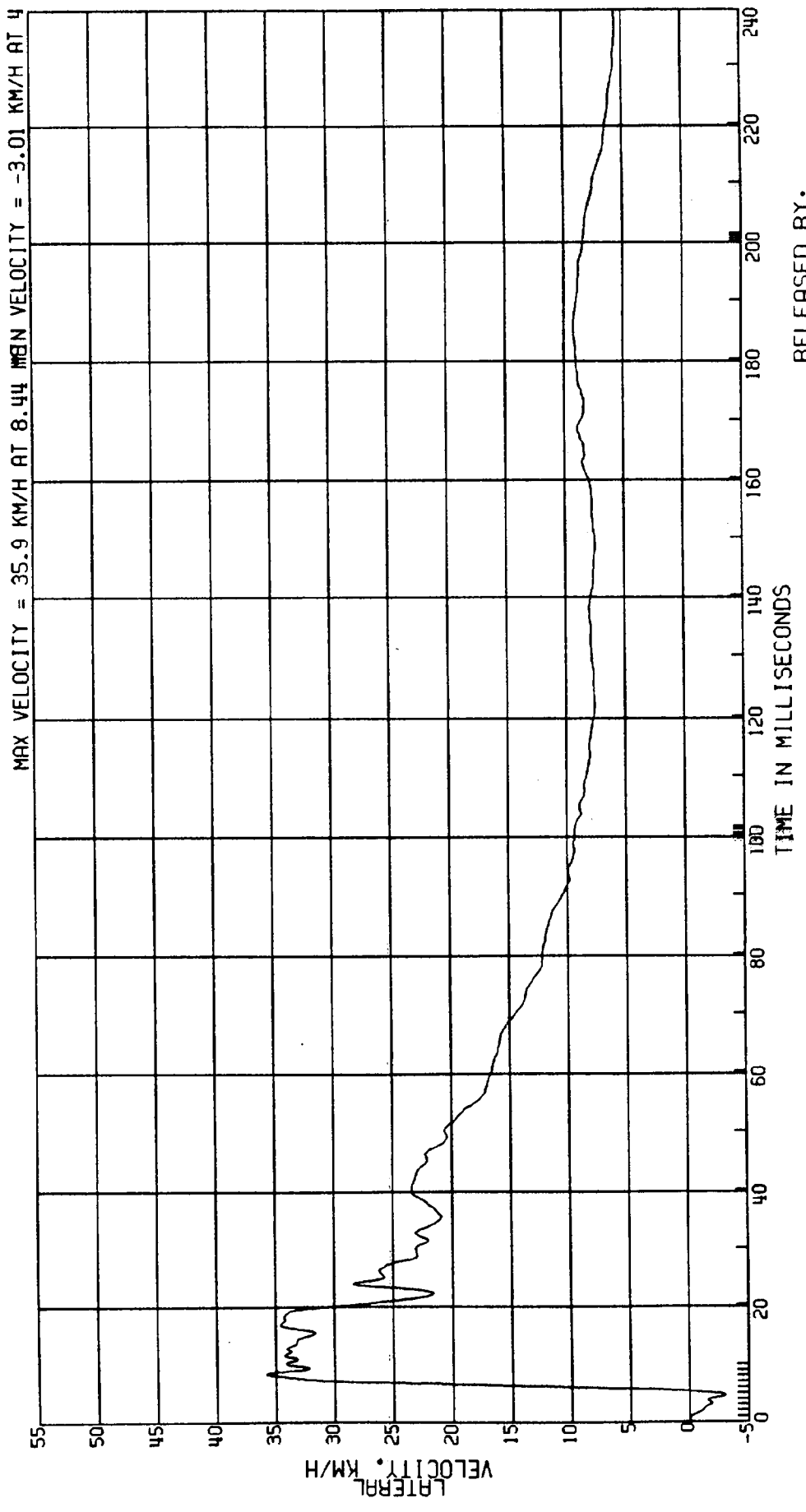


C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /07
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60 DR-SIDE REAR DOOR NO. 4 ACCEL. TEST DATE:03-13-90



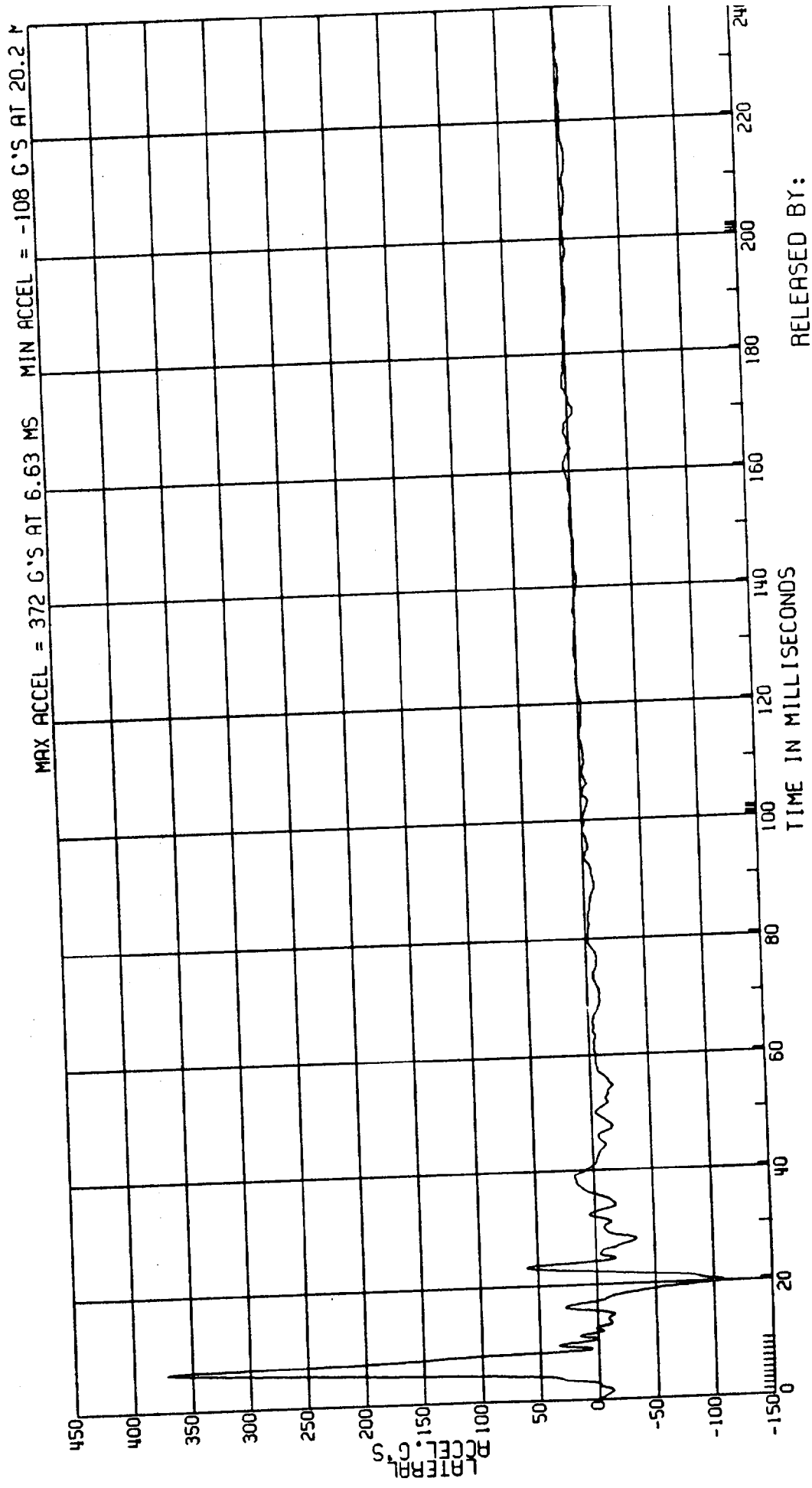
RELEASED BY:
25 PROCESSED 4 MY 90 13:36

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 108
3868-905 MVMA 6P 2AF69 COMPUTED REAR DOOR NO. 5 VELOCITY TEST DATE: 03-13-90
CPE ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 109
3868-905 DR-SIDE REAR DOOR NO. 5 ACCEL. TEST DATE:03-13-90

CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60

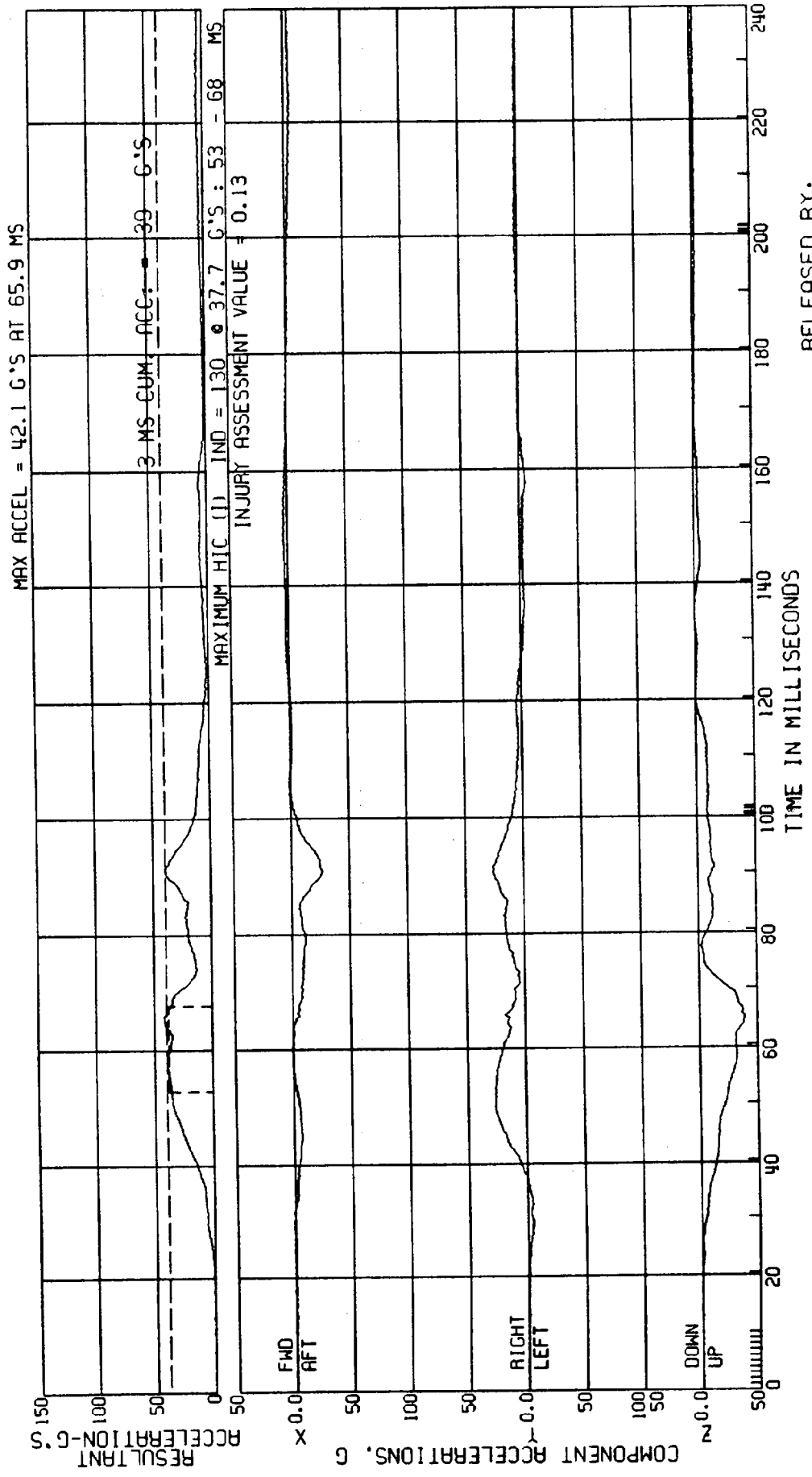


RELEASED BY:
27 PROCESSED 4 MT 90 13:36

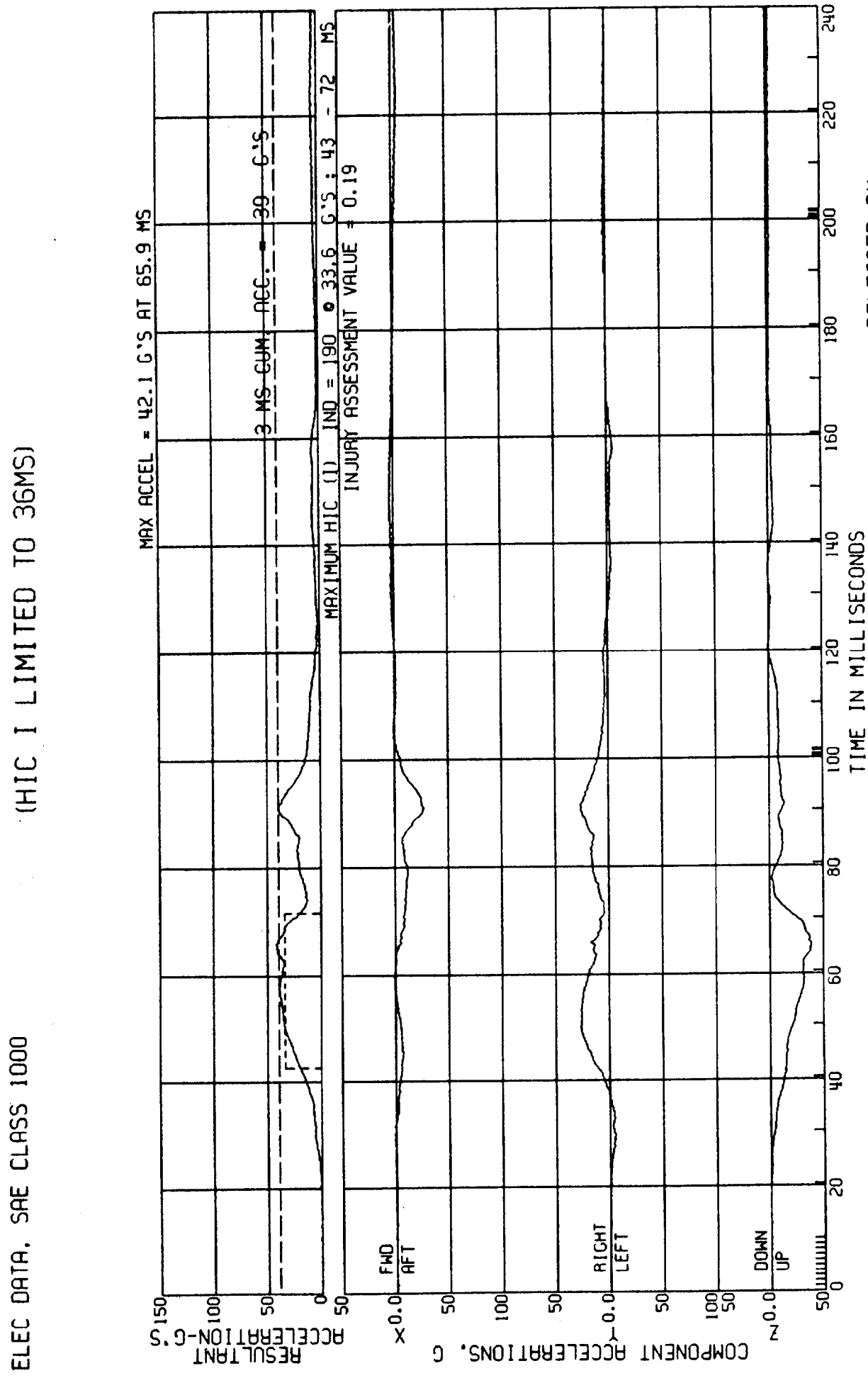
C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 1/10
ATD TYPE: SID
TEST DATE: 03-13-90

DRIVER HEAD ACCEL.
(HIC 1 LIMITED TO 15MS)

3868-905 MVMA 6P 2AF69
CPE ELEC DATA, SAE CLASS 1000



C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE / / /
 3868-905 ATD TYPE: SID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 DRIVER HEAD ACCEL.
 (HIC 1 LIMITED TO 36MS)

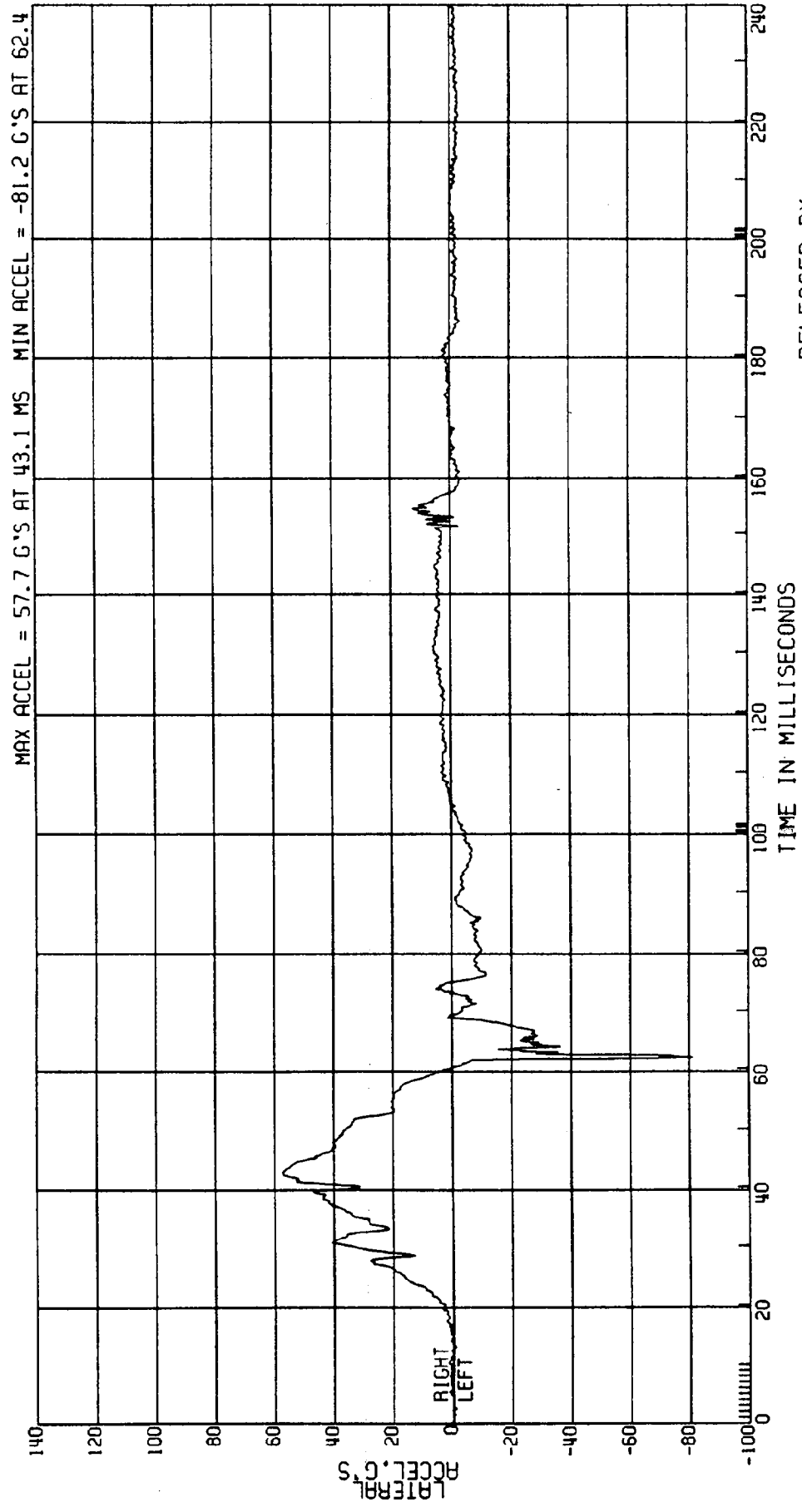


RELEASED BY:
 2 PROCESSED 4 MT 90 13:36

C8006A L. SIDE IMPACT- 27 DEG
MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 1/2
ATD TYPE: SID
TEST DATE:03-13-90

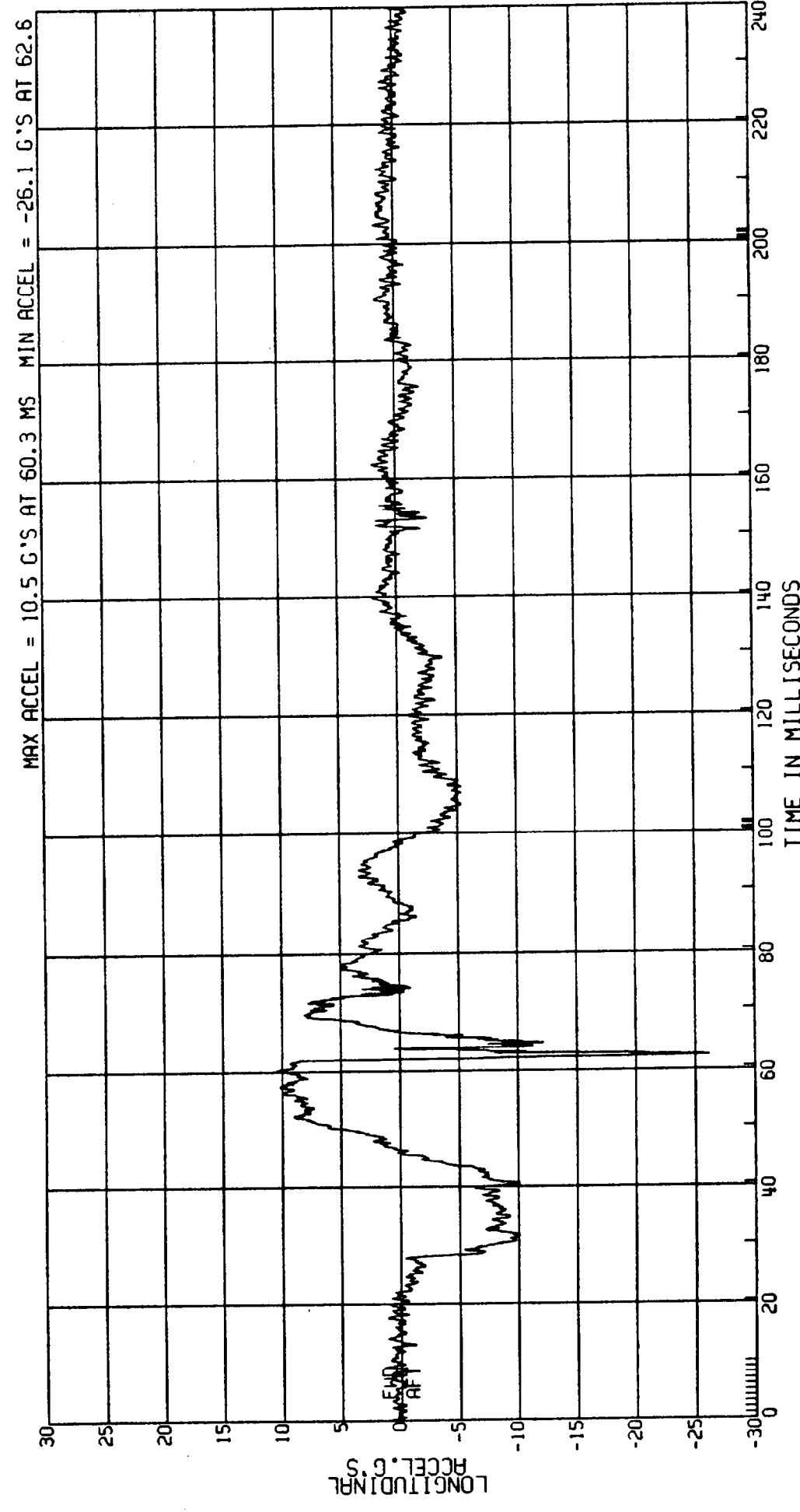
DRIVER UPPER SPINE ACCEL.

3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 1000



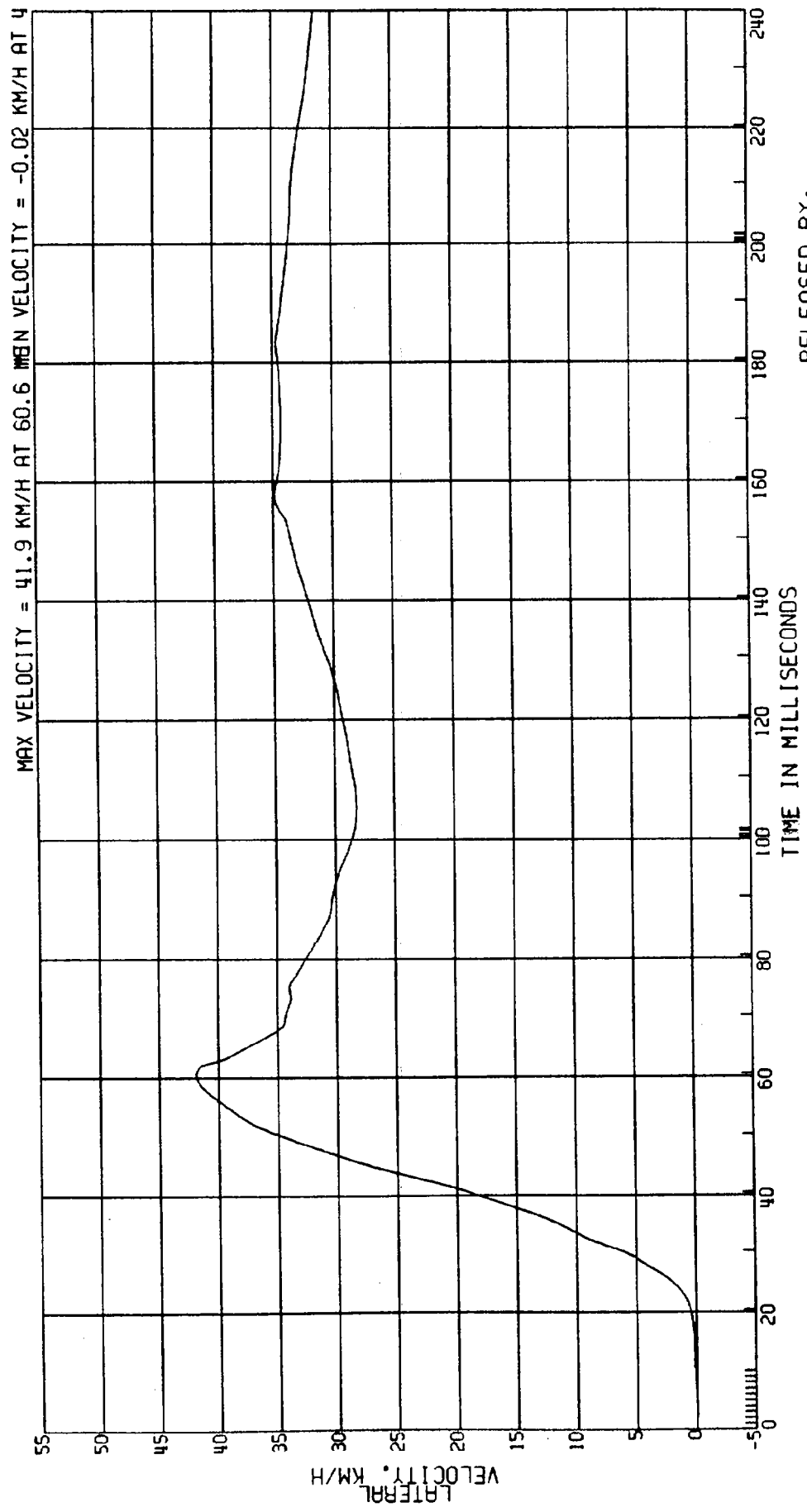
RELEASED BY:
33 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 1/3
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 DRIVER UPPER SPINE ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE:03-13-90



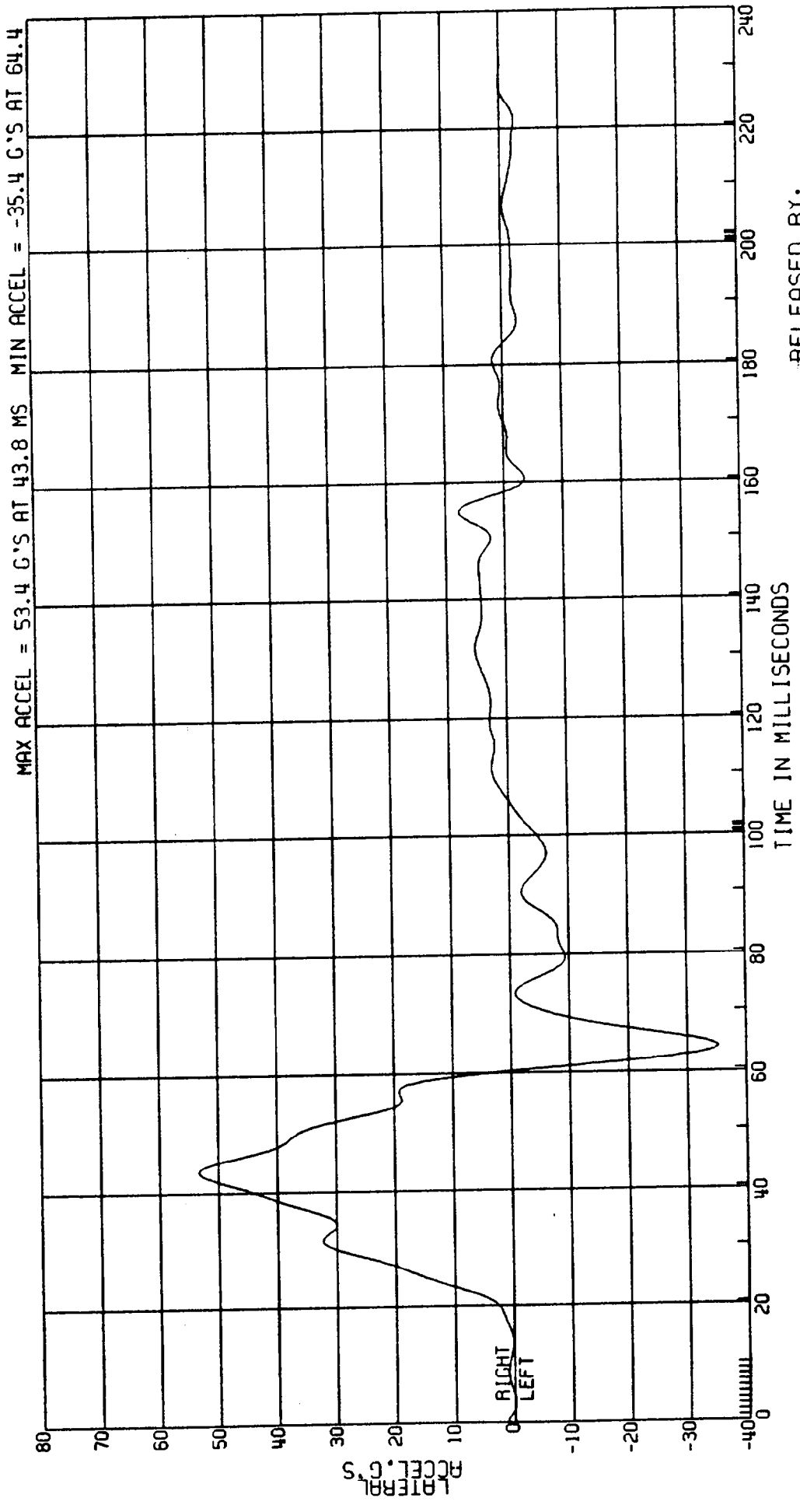
RELEASED BY:
32 PROCESSED 4 MT 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 114
 3868-905 ATD TYPE: SID
 CPE MVMA 6P 2AF69 COMPUTED UPPER SPINE VELOCITY TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180 (1ST INT OF DRIVER ACCELERATION)



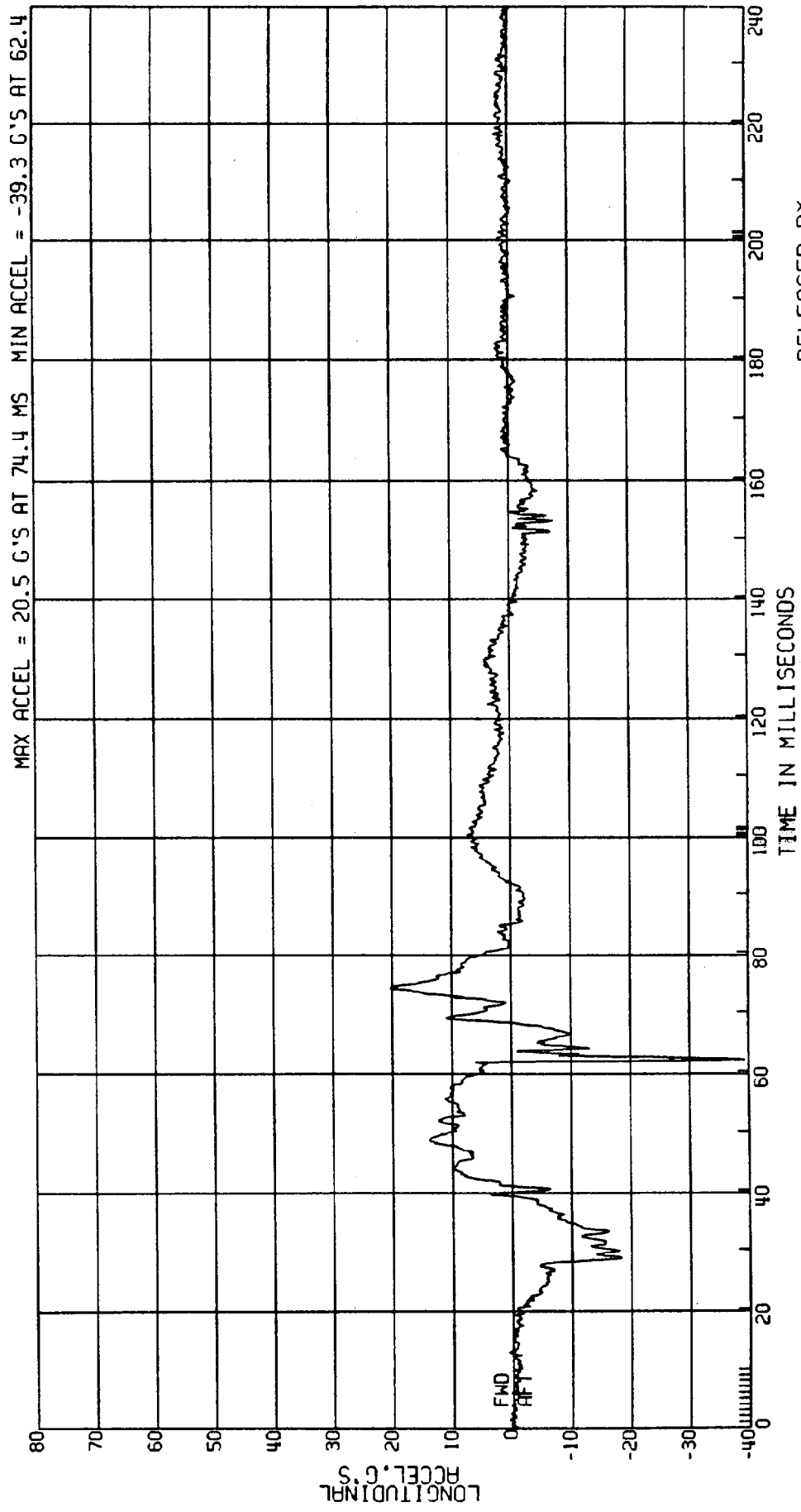
RELEASED BY:
 35 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 115
 3868-905 ATD TYPE: SID
 TEST DATE:03-13-90
 CPE MVMA 6P 2AF69
 ELEC DATA, NHTSA FIR FILTER DRIVER UPPER SPINE ACCEL.
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



RELEASED BY:
 34 PROCESSED 4 MT 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 116
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 1000 DRIVER LOWER SPINE ACCEL.
ATO TYPE: SID
TEST DATE:03-13-90



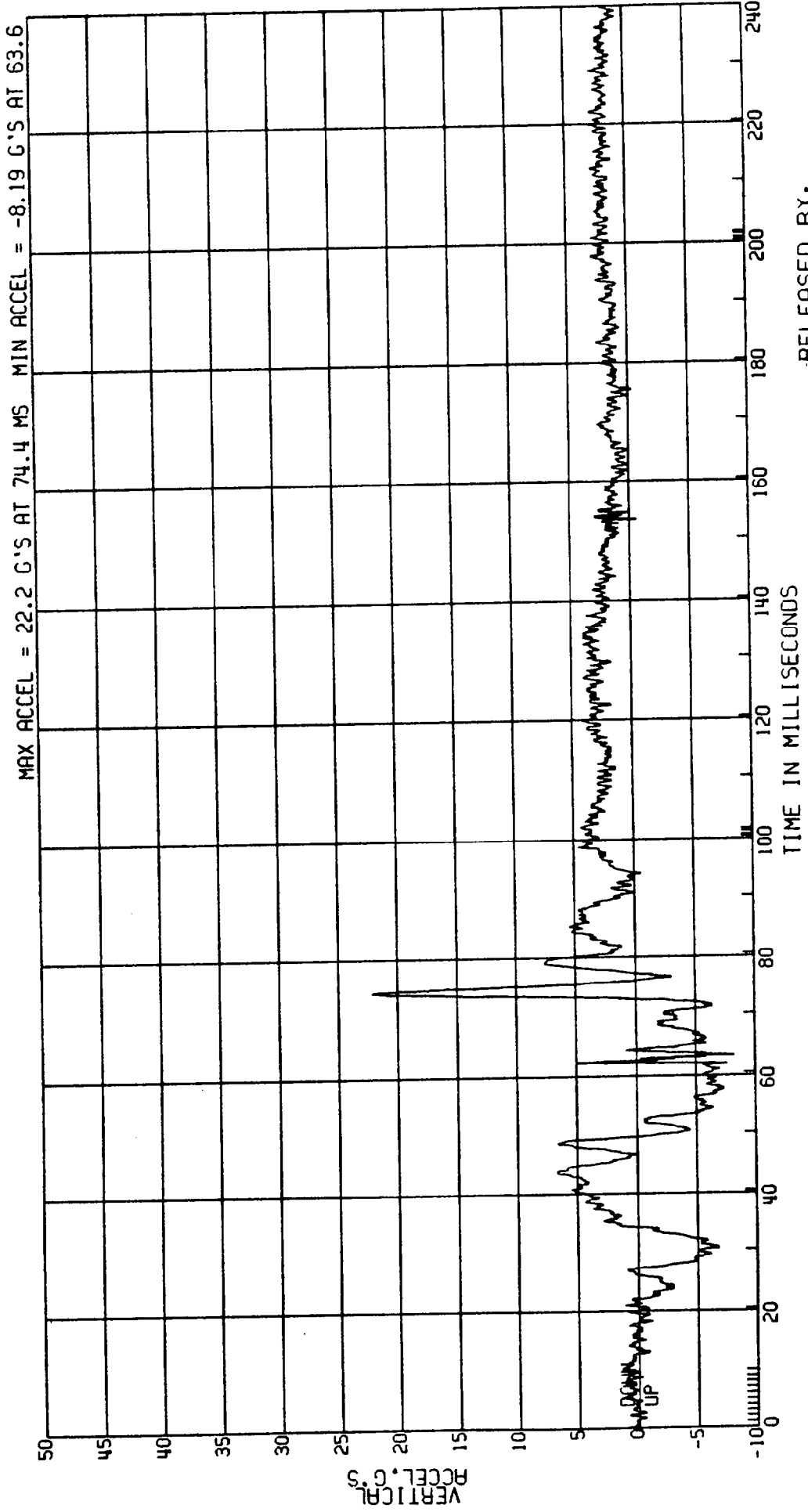
RELEASED BY:

37 PROCESSED 4 MT 90 13:37

C8006A L. SIDE IMPACT- 27 DEG
MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 1/7
AID TYPE: SID
TEST DATE:03-13-90

DRIVER UPPER SPINE ACCEL.

3868-905
CPE
ELEC DATA, SAE CLASS 1000
MVMA 6P 2AF69

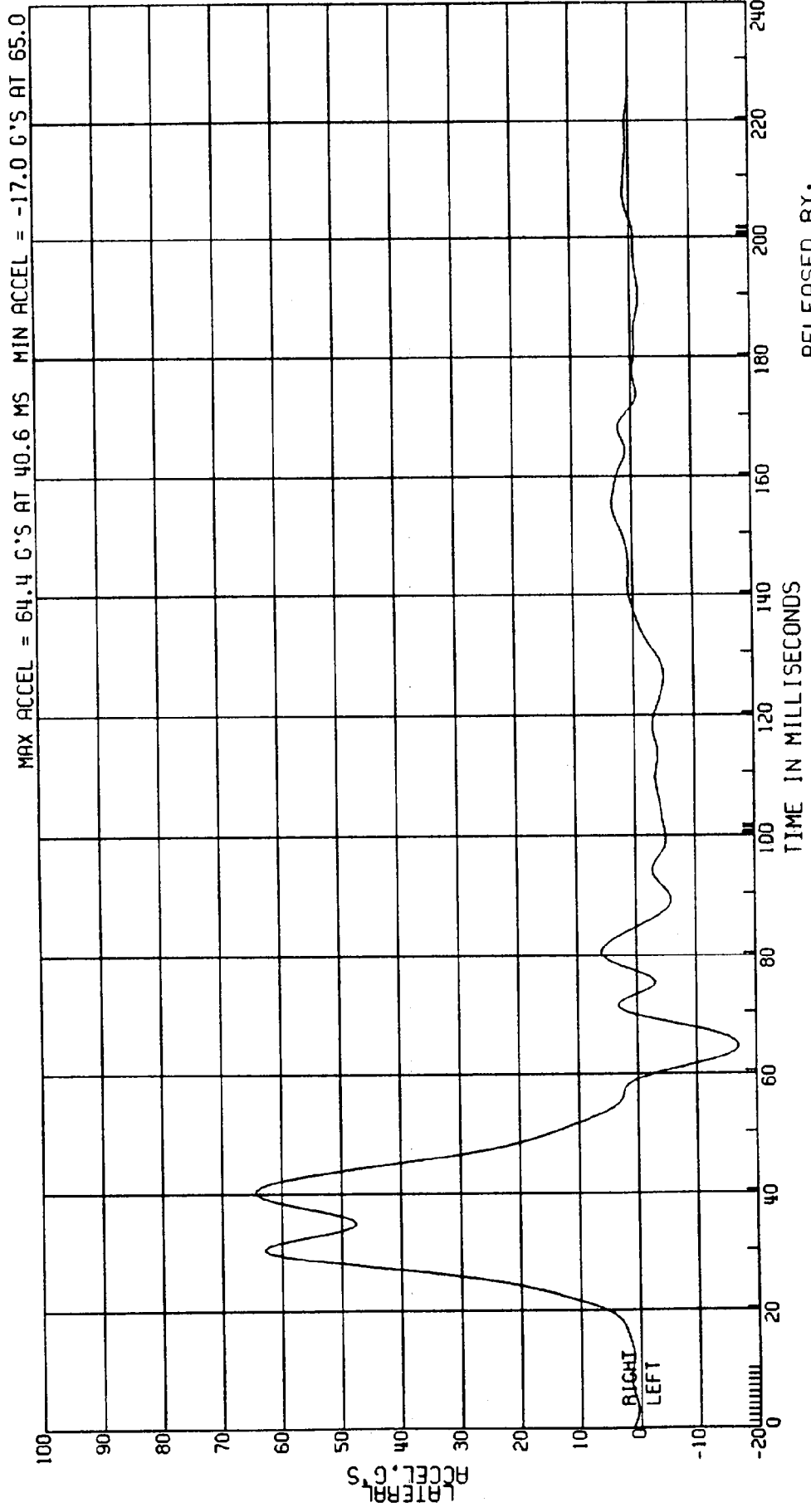


RELEASED BY:
36 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 118
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90

DRIVER LOWER SPINE ACCEL.

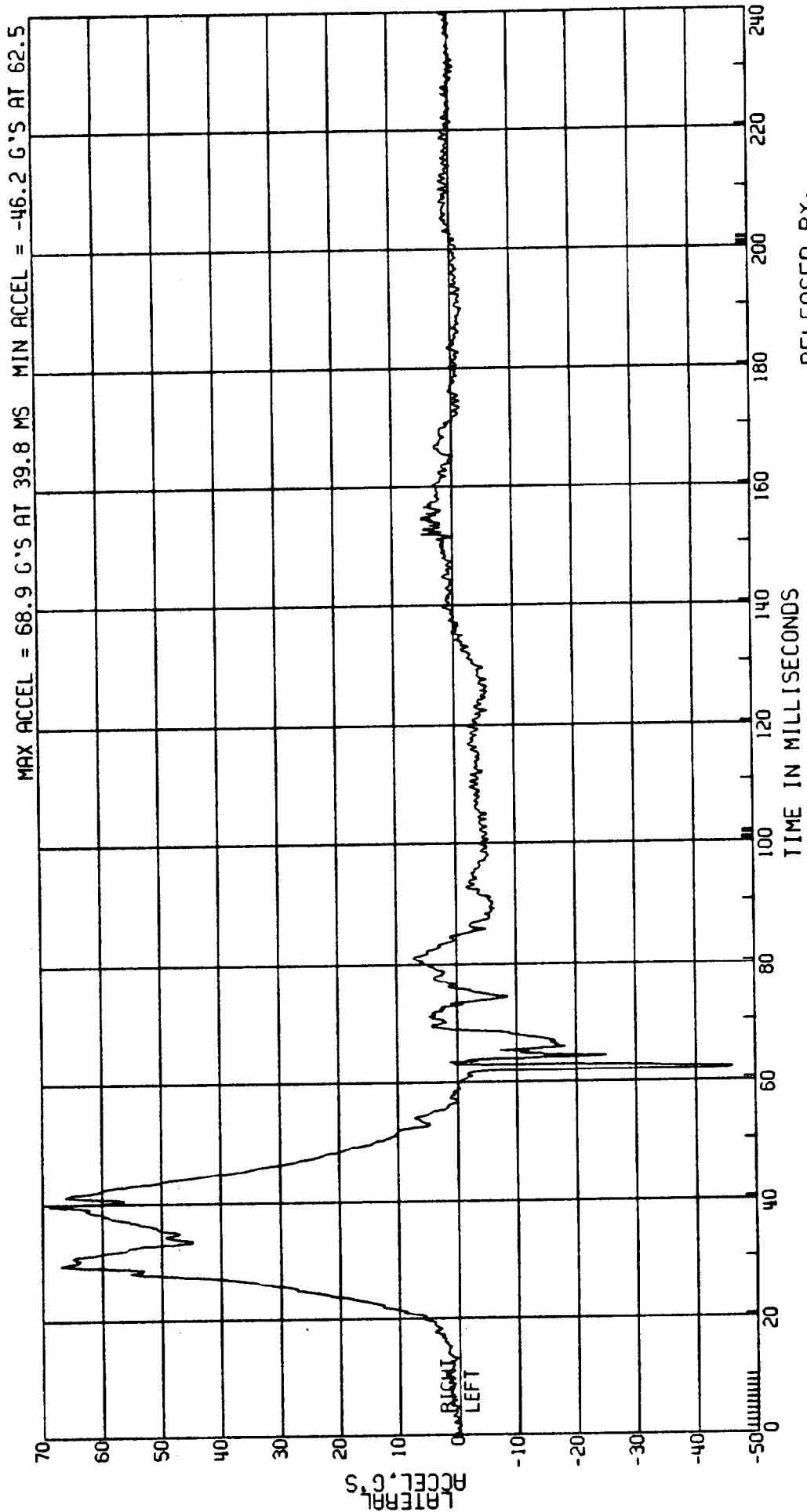
ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH



RELEASED BY:

39 PROCESSED 4 MY 90 13:37

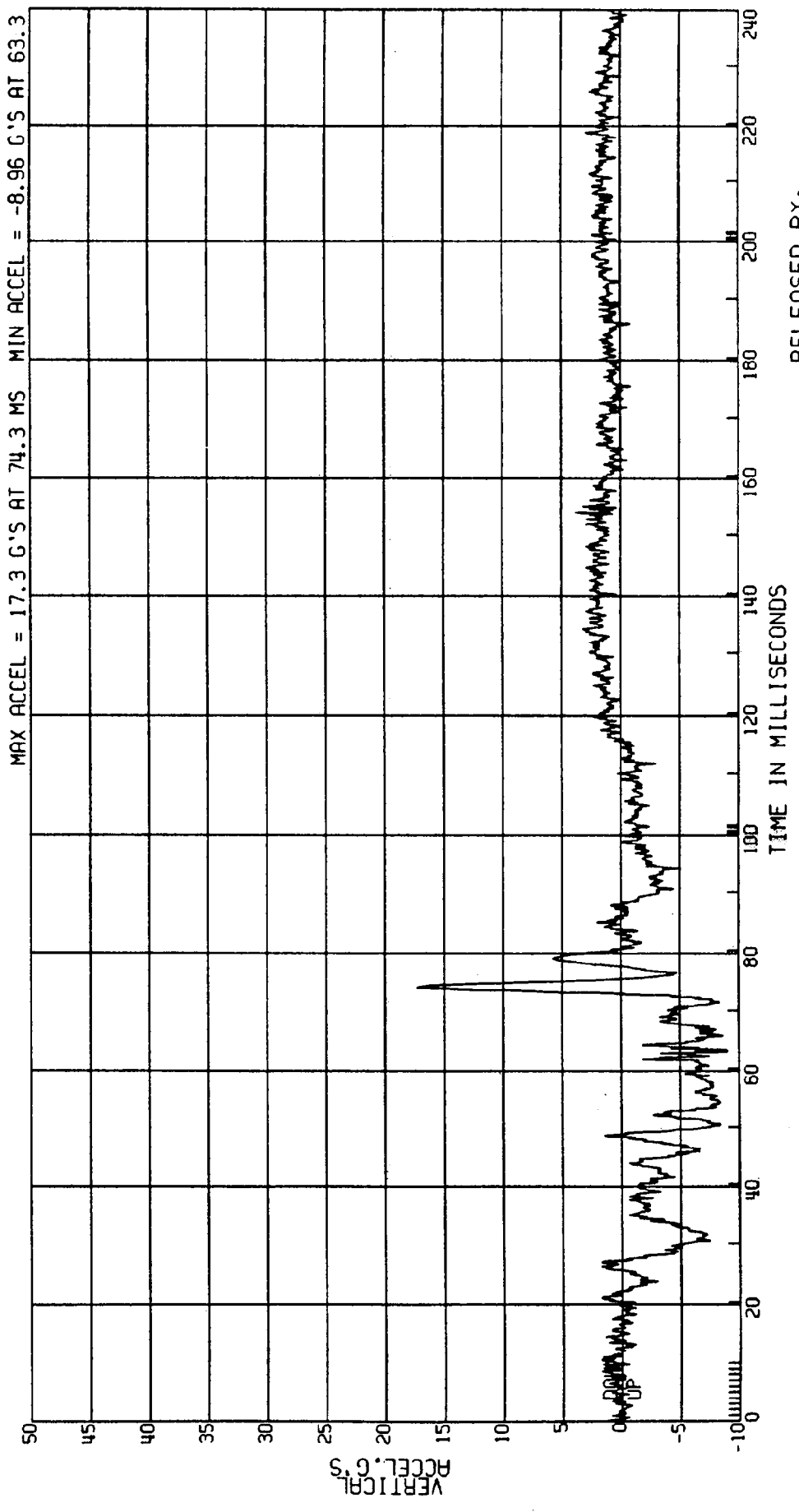
C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 119
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 DRIVER LOWER SPINE ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE: 03-13-90



RELEASED BY:

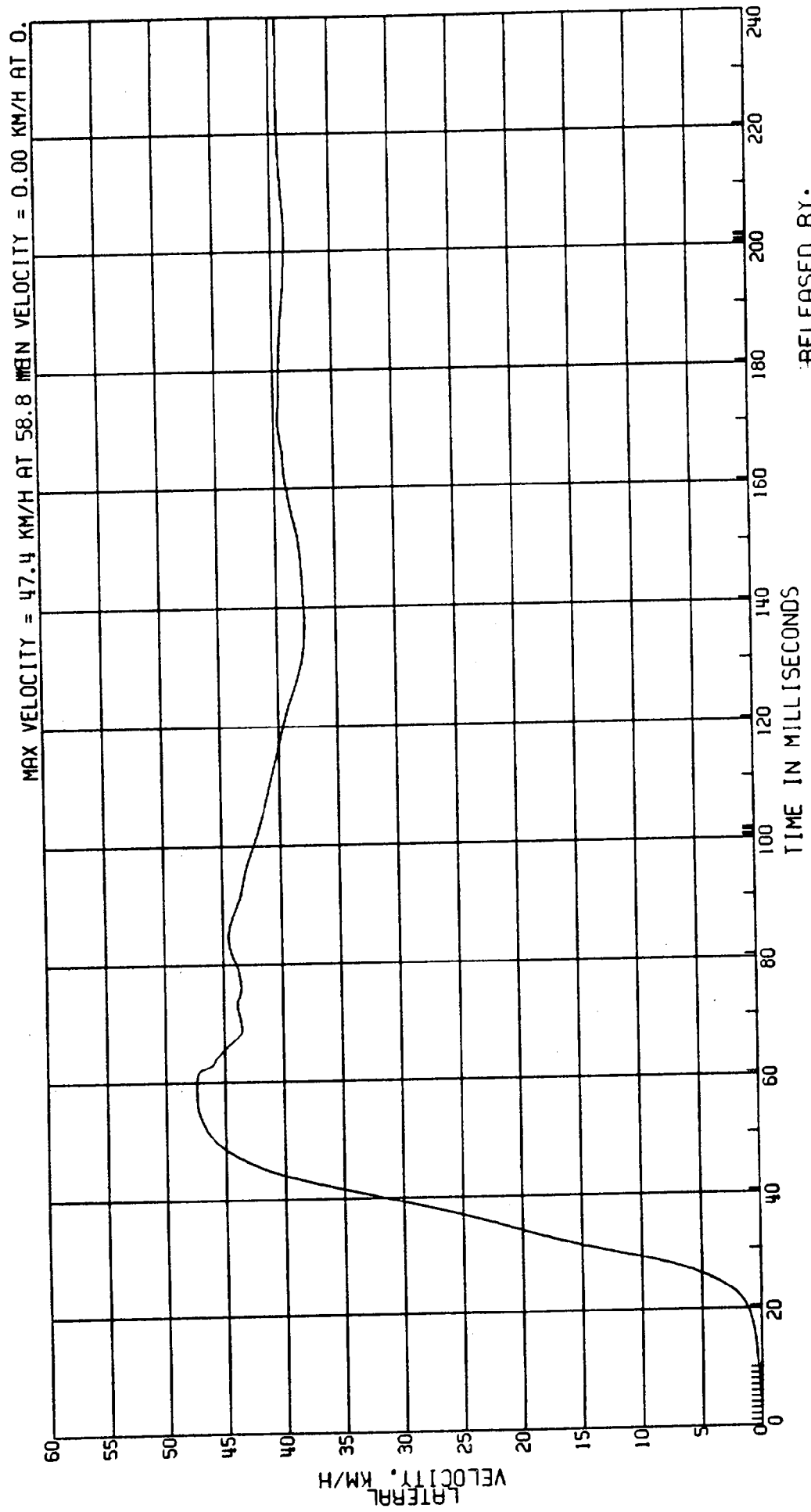
38 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 120
3868-905 MVMA 6P 2AF69
CPE DRIVER LOWER SPINE ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE:03-13-90



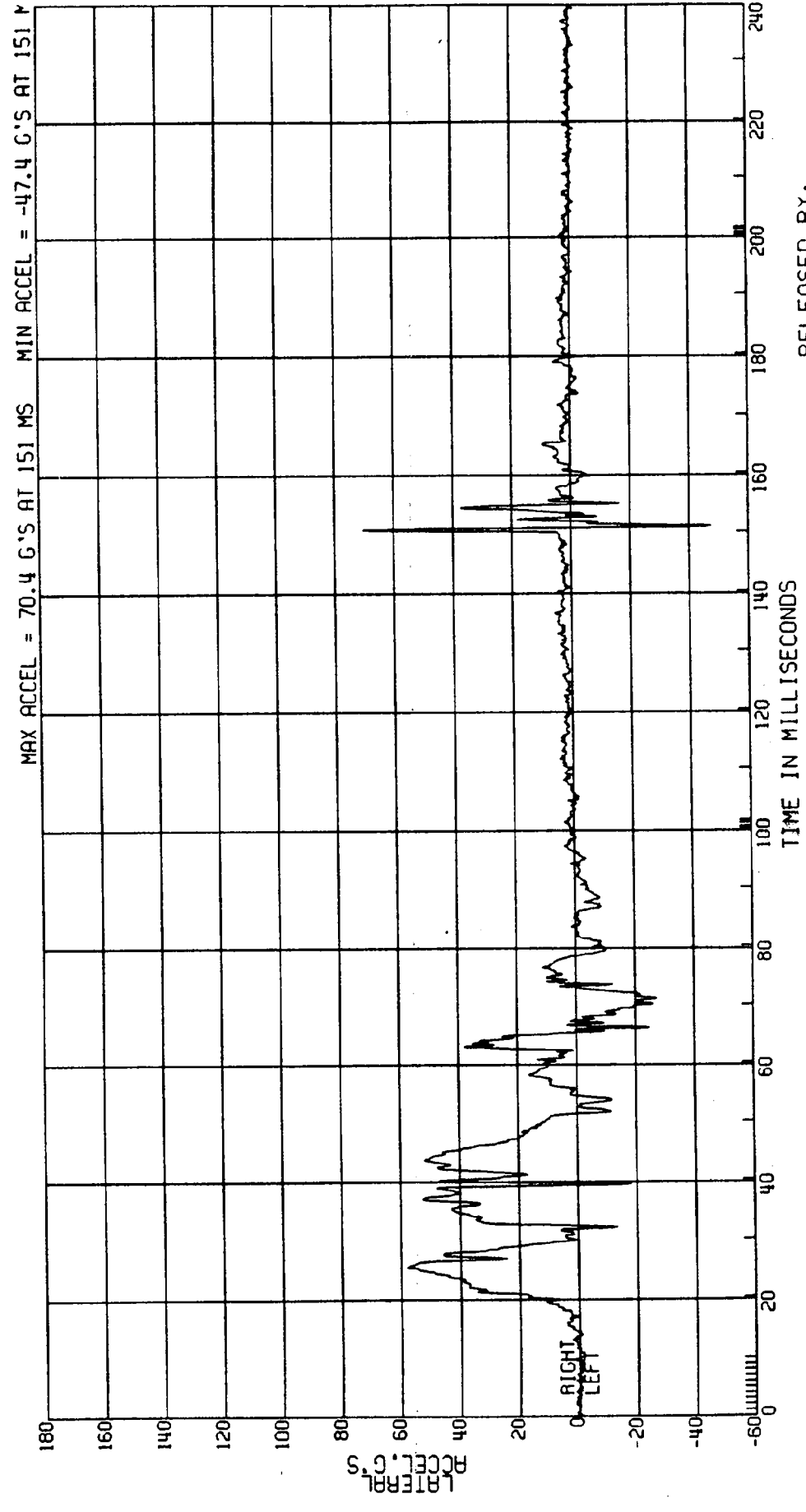
RELEASED BY:
41 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 12/
 3868-905 AID TYPE: SID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 180 COMPUTED LOWER SPINE VELOCITY
 (1ST INT OF DRIVER ACCELERATION)



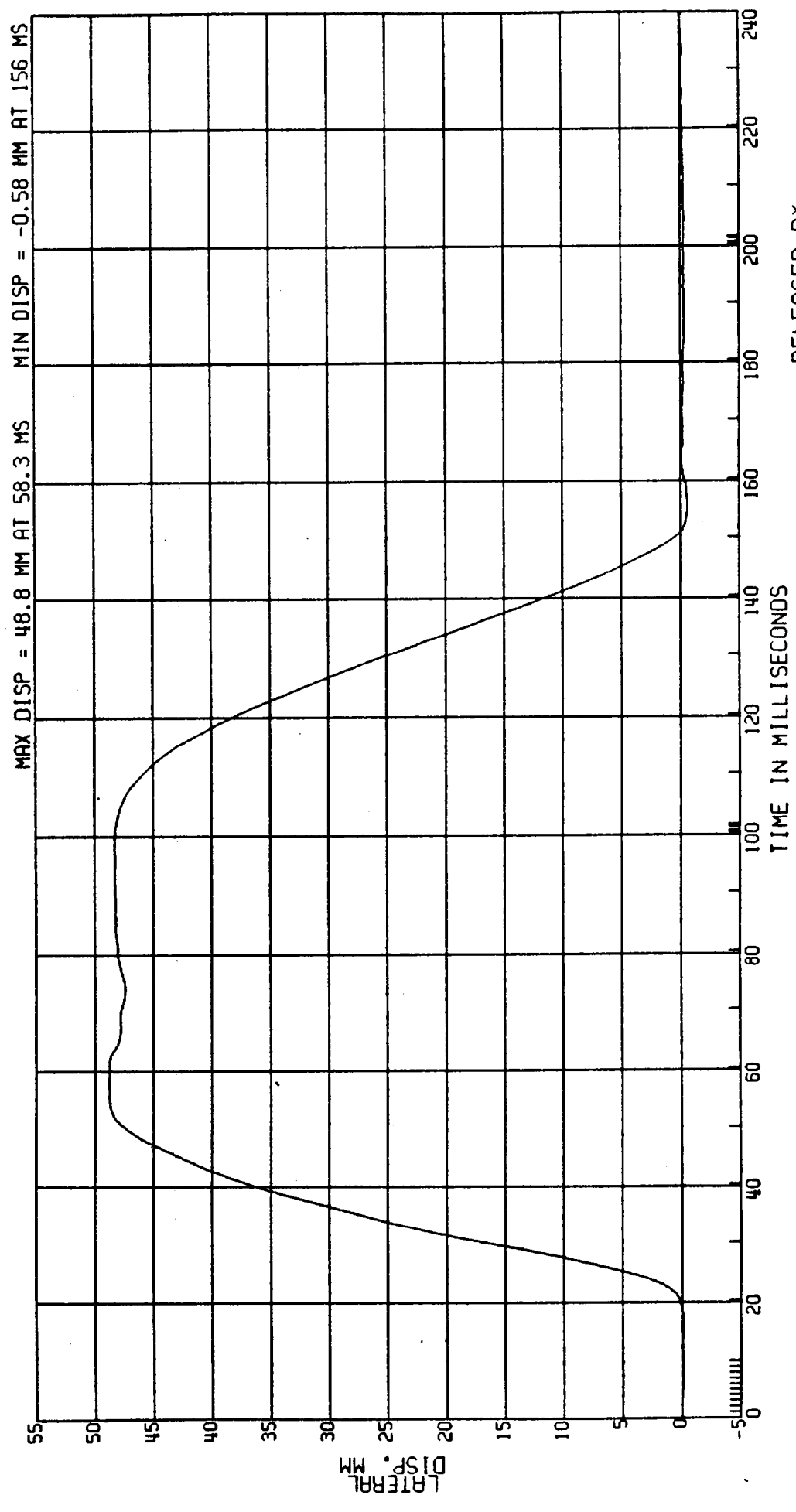
RELEASED BY:
 40 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 122
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 1000 DRIVER LEFT UPPER RIB ACCEL.



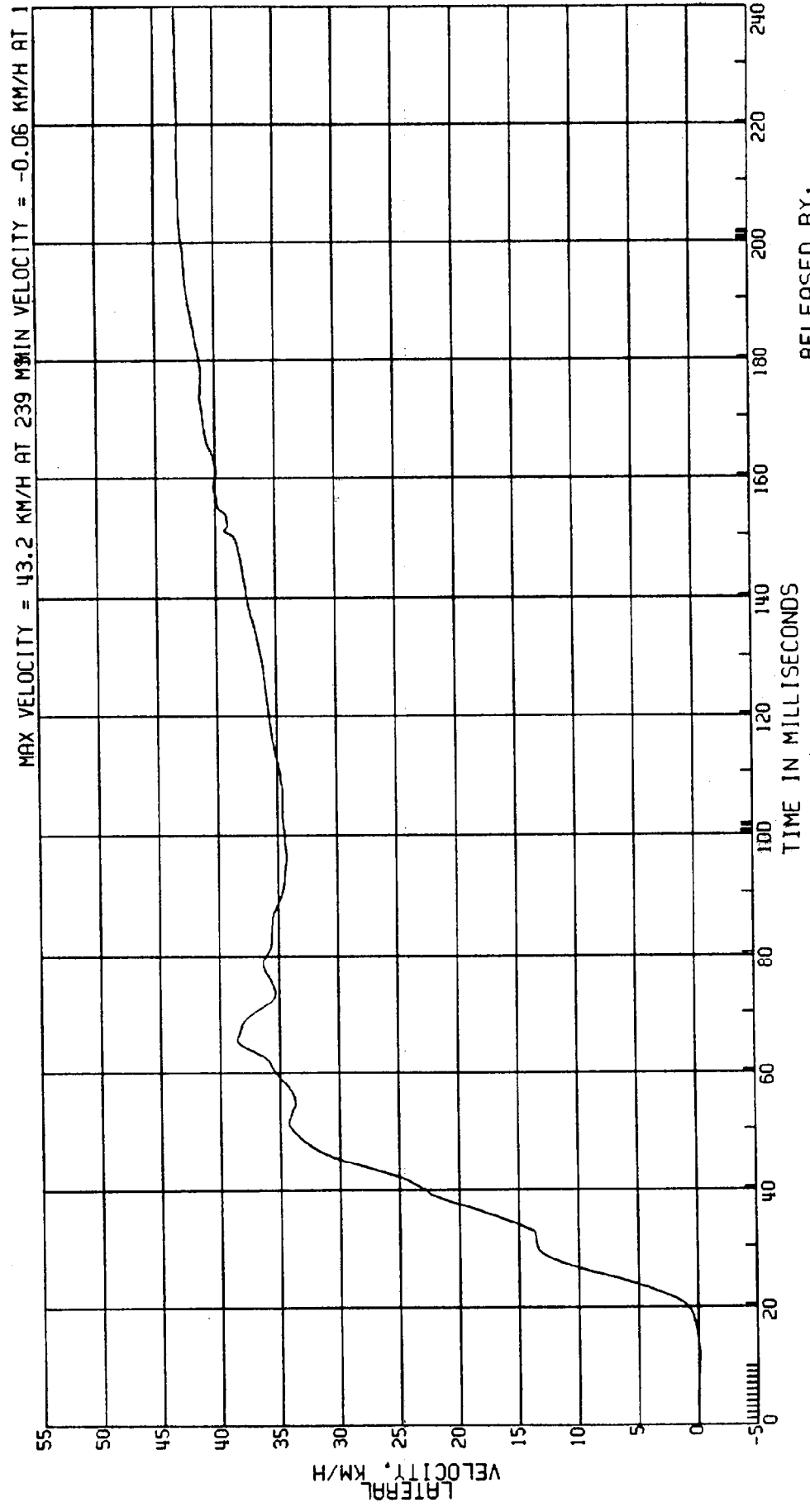
RELEASED BY:
43 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /23
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 DRIVER THORAX DISP.
ELEC DATA, SAE CLASS 60 TEST DATE:03-13-90



RELEASED BY:
42 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 124
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 COMPUTED LEFT UPPER RIB VELOCITY
ELEC DATA, SAE CLASS 180 (1ST INT OF DRIVER ACCELERATION) TEST DATE: 03-13-90



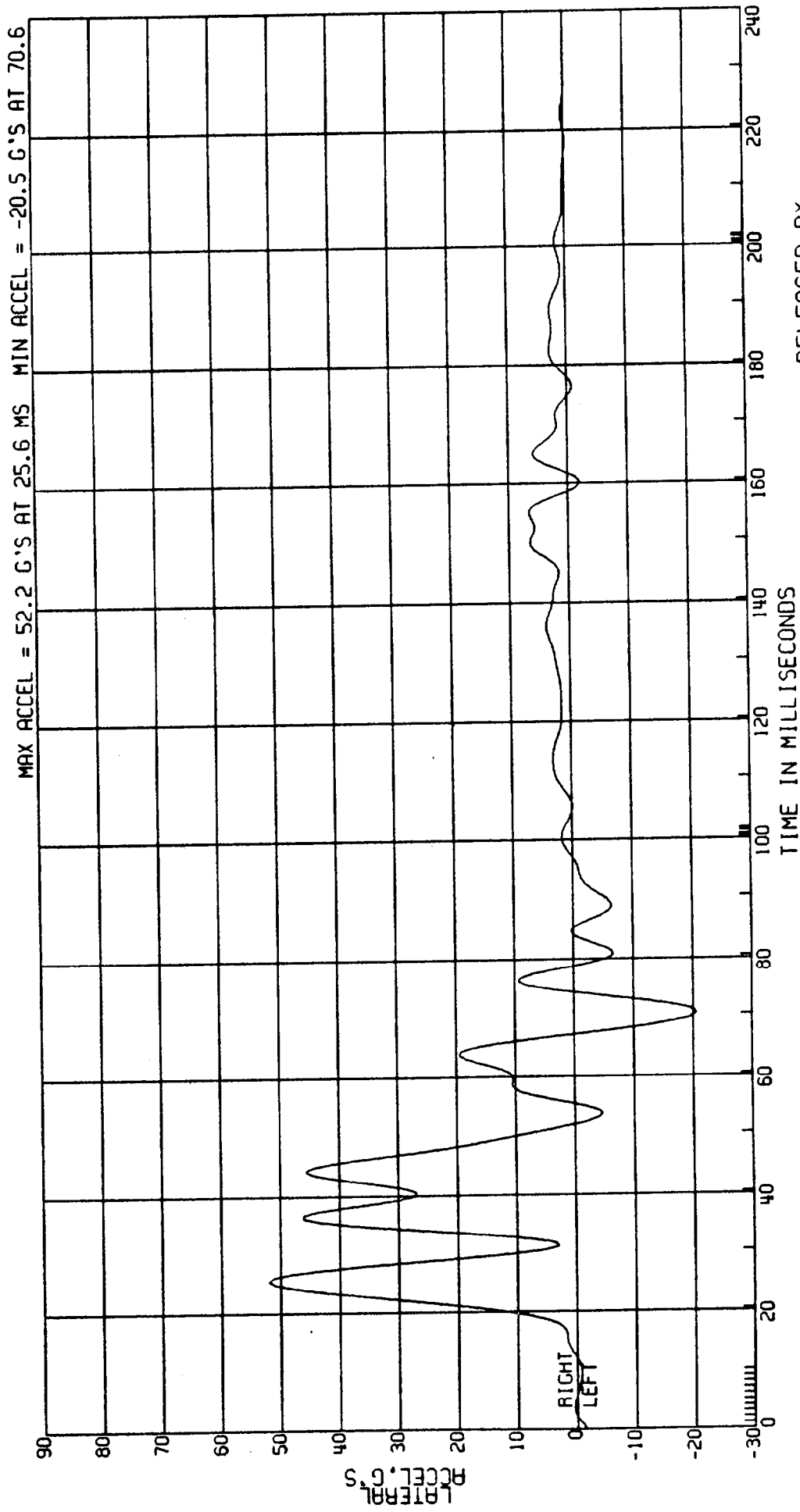
RELEASED BY:
45 PROCESSED 4 MAY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG
3868-905
CPE

MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /25
ATD TYPE: SID
TEST DATE:03-13-90

MVMA 6P 2AF69
ELEC DATA, NHTSA FIR FILTER

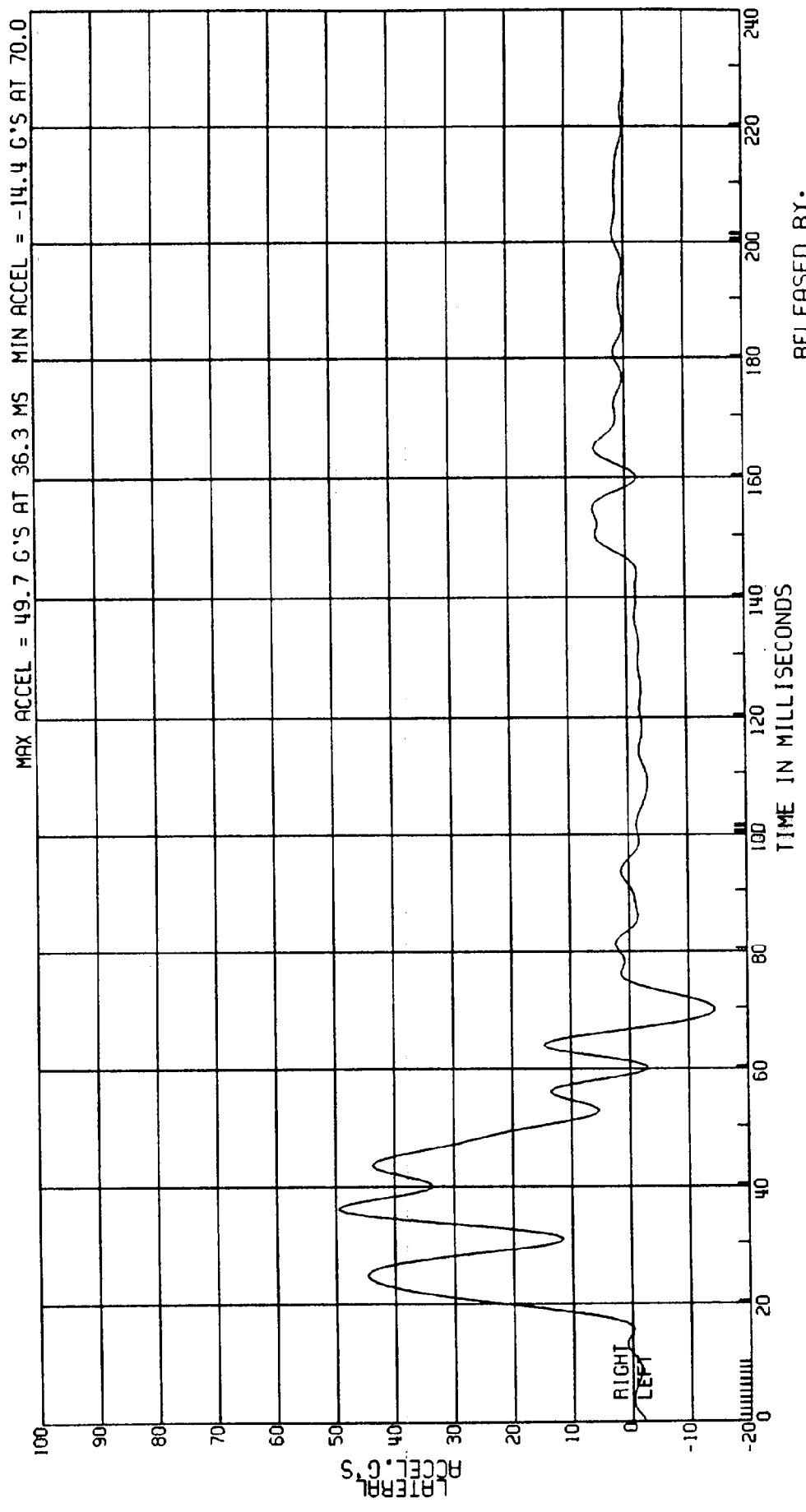
F.I.R. FILTER, CLASS 300 BUTTERWORTH



RELEASED BY:

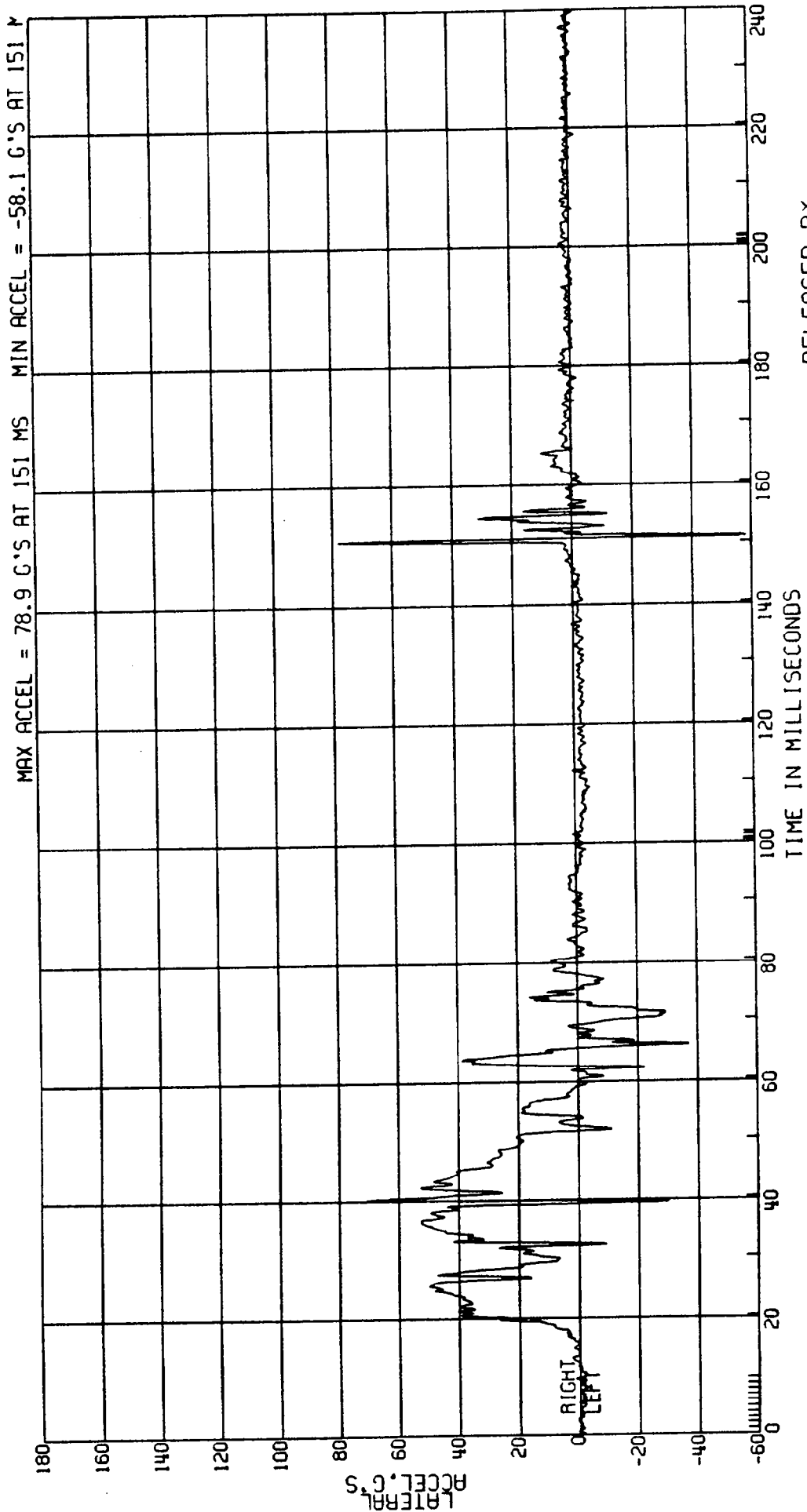
44 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 126
 3868-905 CPE MVMA 6P 2AF69 ATD TYPE: SID
 ELEC DATA, NHTSA FIR FILTER DRIVER LEFT LOWER RIB ACCEL. TEST DATE: 03-13-90
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



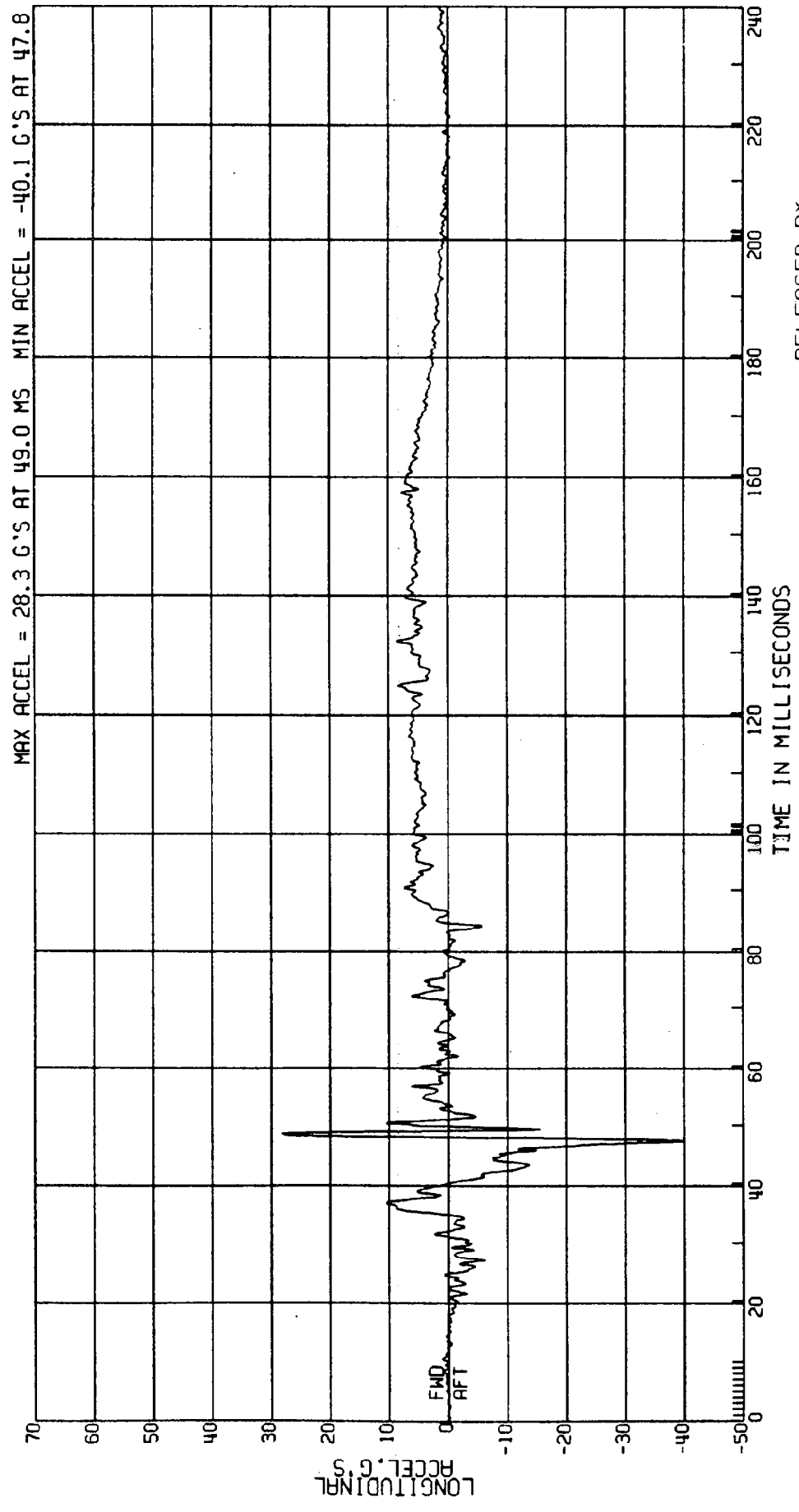
RELEASED BY:
 47 PROCESSED 4 MAY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 1 of 7
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 DRIVER LEFT LOWER RIB ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE: 03-13-90



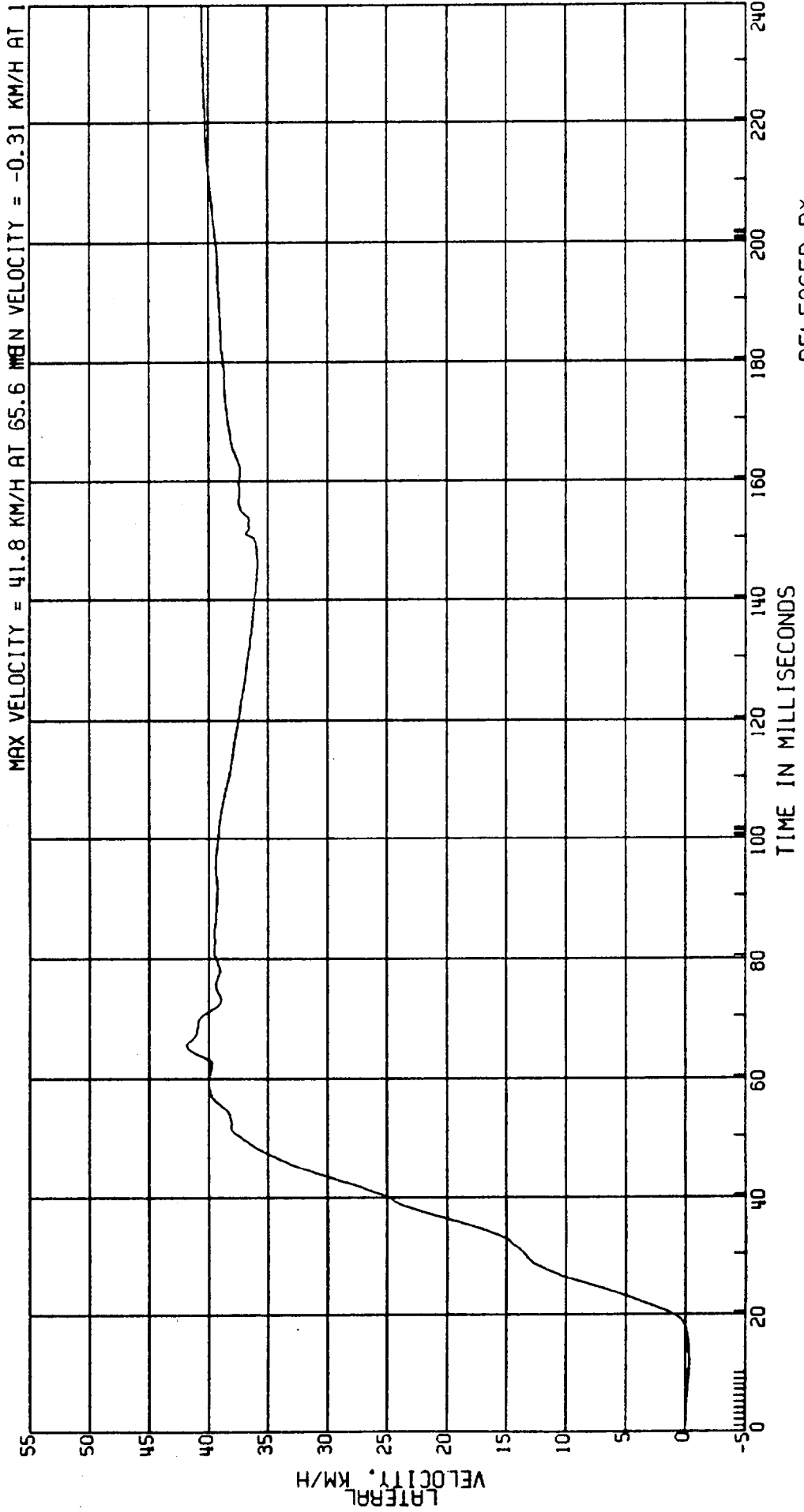
RELEASED BY:
46 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 128
 3868-905
 CPE MVMA 6P 2AF69
 ELEC DATA, SAE CLASS 600
 DRIVER PELVIC ACCEL.
 ATD TYPE: SID
 TEST DATE:03-13-90



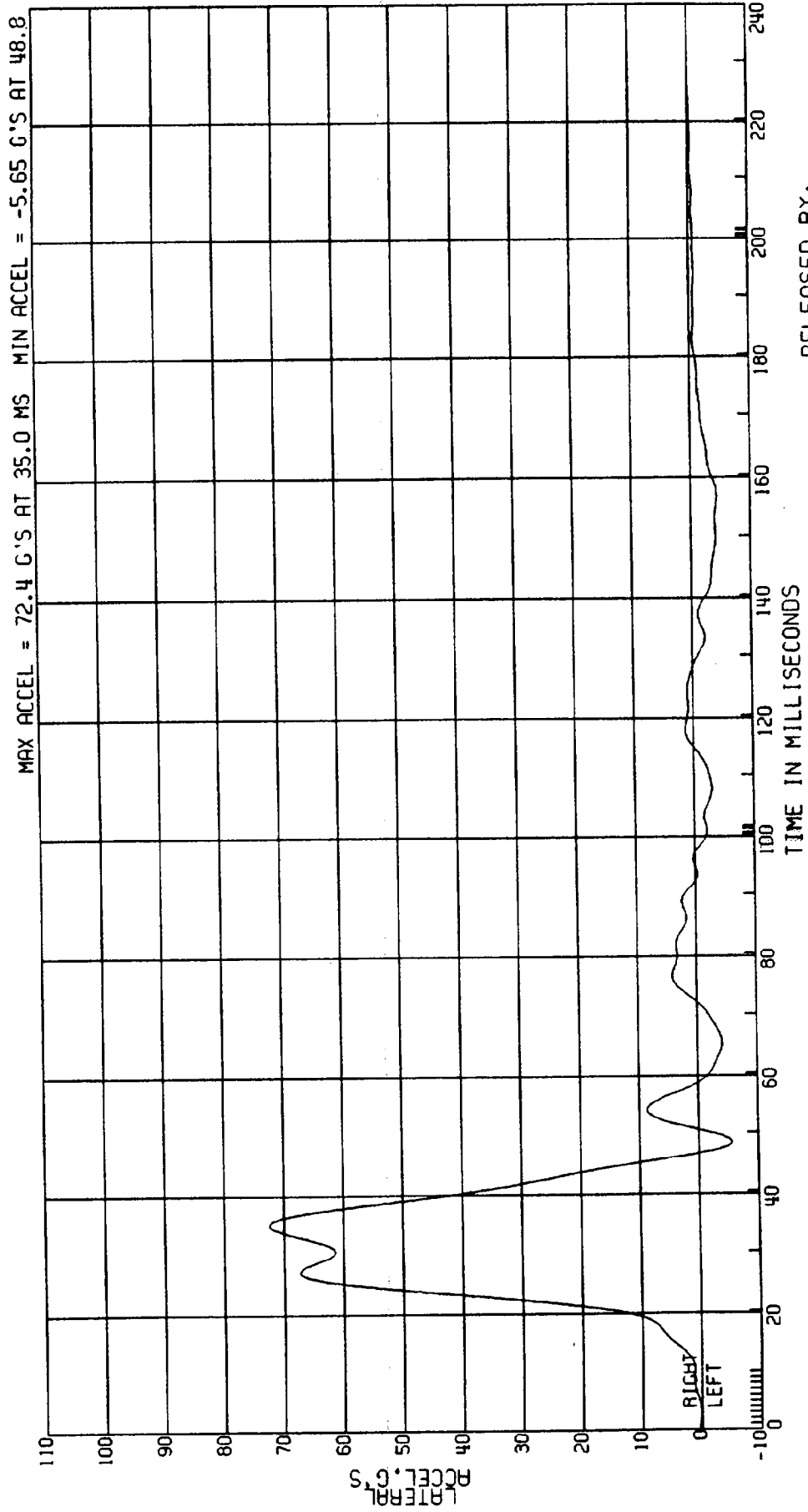
RELEASED BY:
 49 PROCESSED 4 MAY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE /a9
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 180
COMPUTED LEFT LOWER RIB VELOCITY
(1ST INT OF DRIVER ACCELERATION)



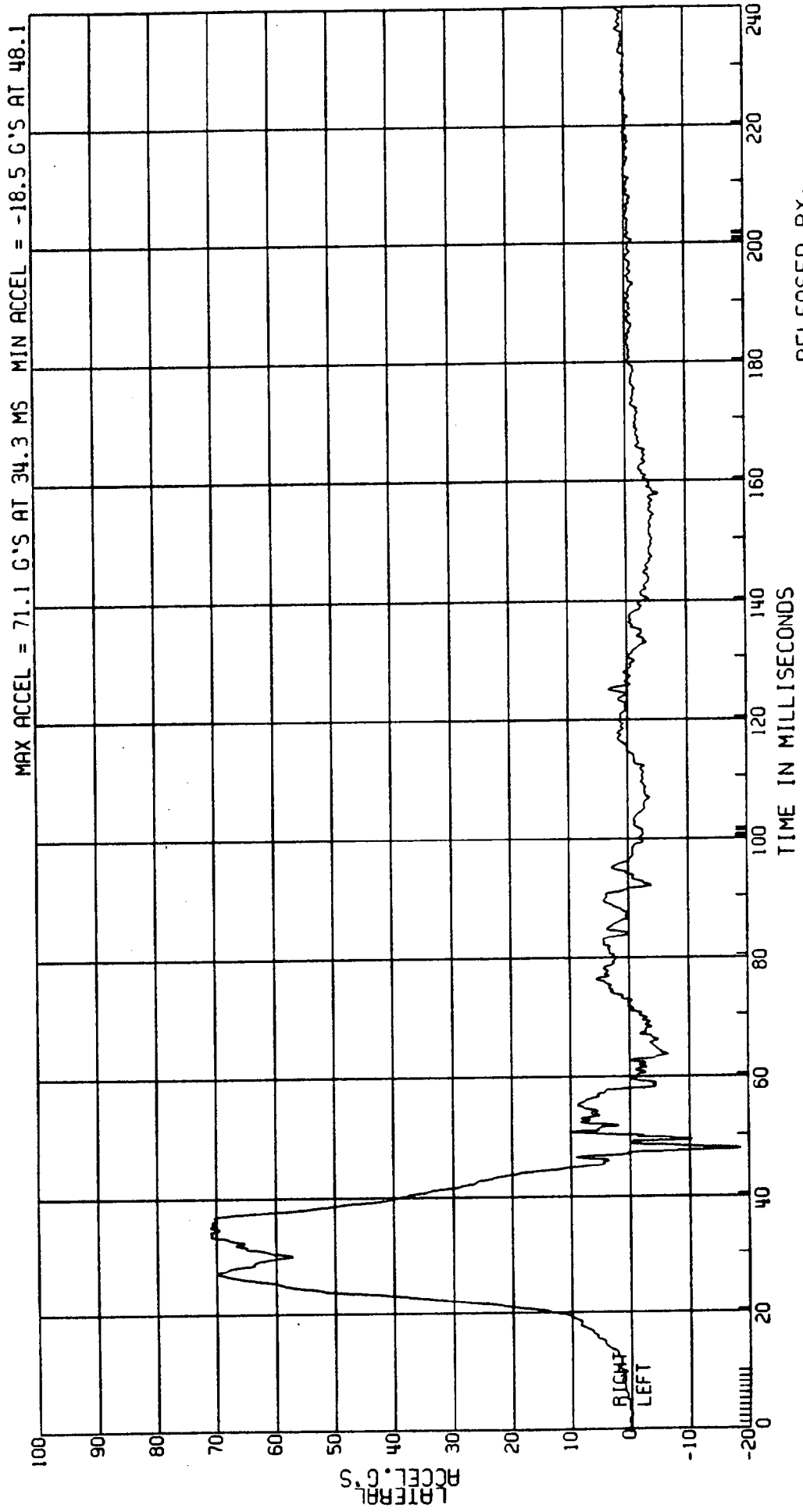
RELEASED BY:
48 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 130
 3868-905 ATD TYPE: SID
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, NHTSA FIR FILTER DRIVER PELVIC ACCEL.
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



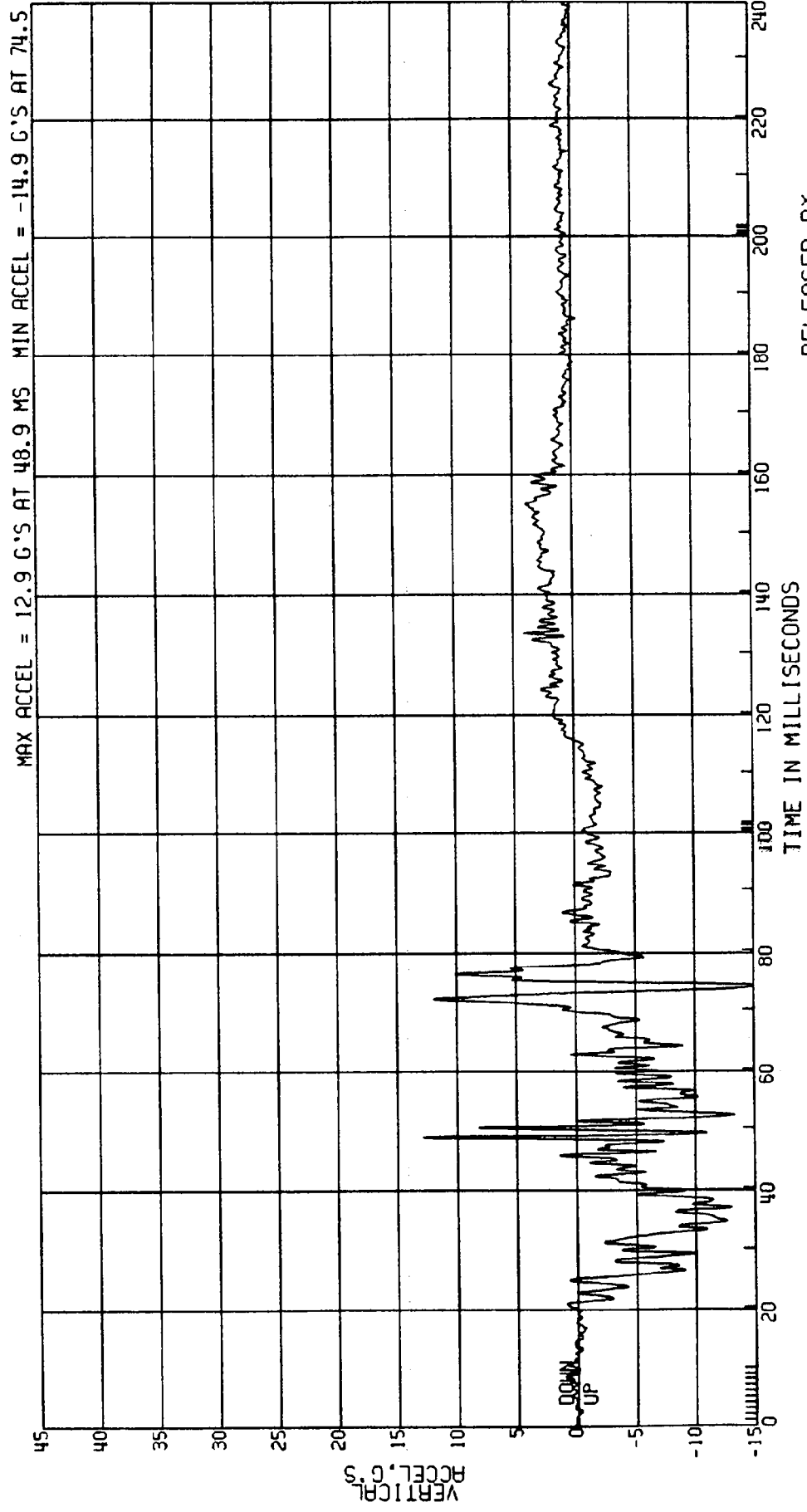
RELEASED BY:
 51 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 131
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 DRIVER PELVIC ACCEL.
ELEC DATA, SAE CLASS 600 TEST DATE:03-13-90



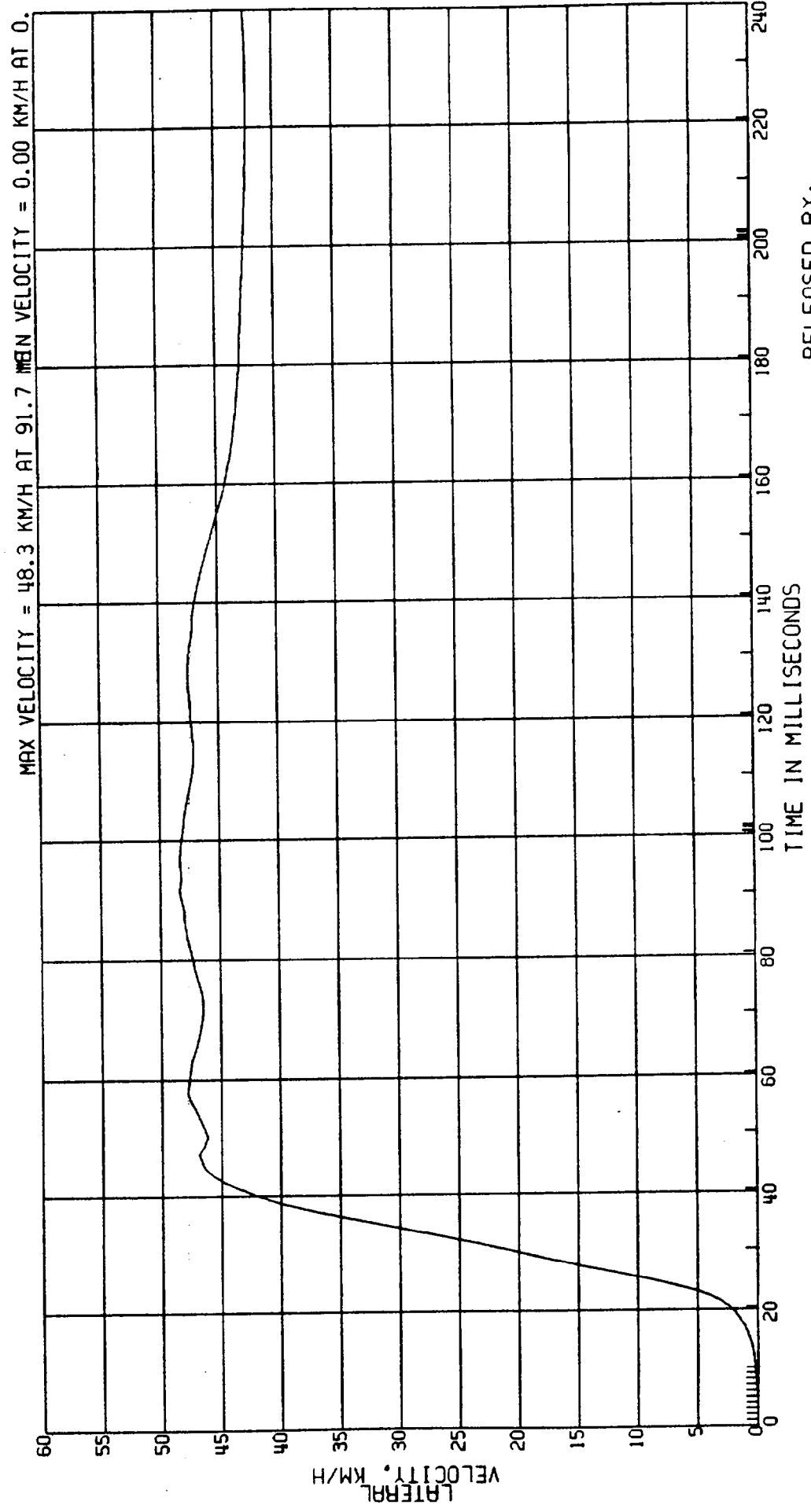
RELEASED BY:
50 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 132
3868-905 ATD TYPE: SID
CPE MVMA GP 2AF69 DRIVER PELVIC ACCEL.
ELEC DATA, SAE CLASS 600 TEST DATE: 03-13-90



RELEASED BY:
53 PROCESSED 4 MY 90 13:37

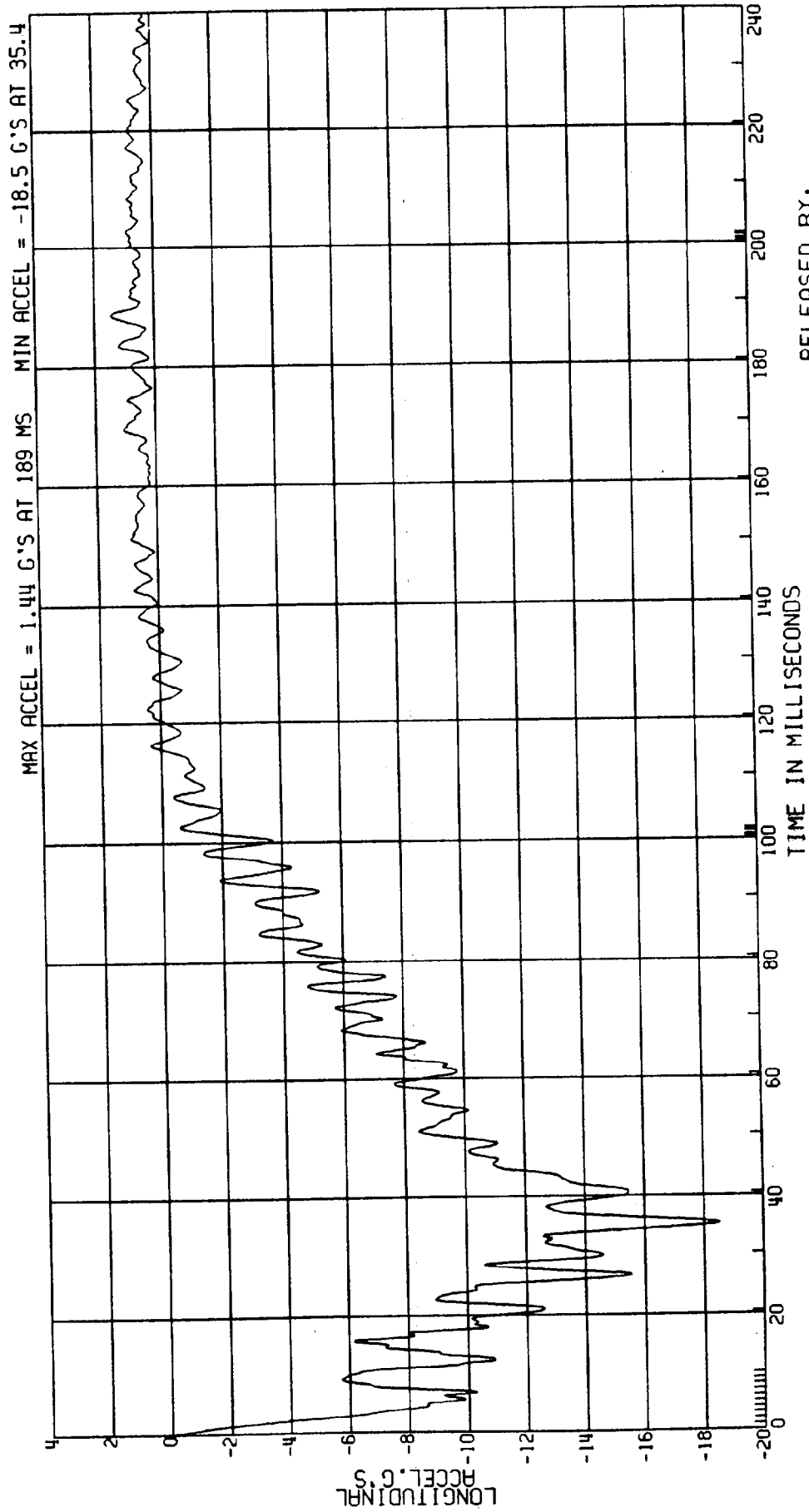
C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE / 3-3
 3868-905 ATD TYPE: SID
 CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
 ELEC DATA, SAE CLASS 180 COMPUTED PELVIC VELOCITY
 (1ST INT OF DRIVER ACCELERATION)



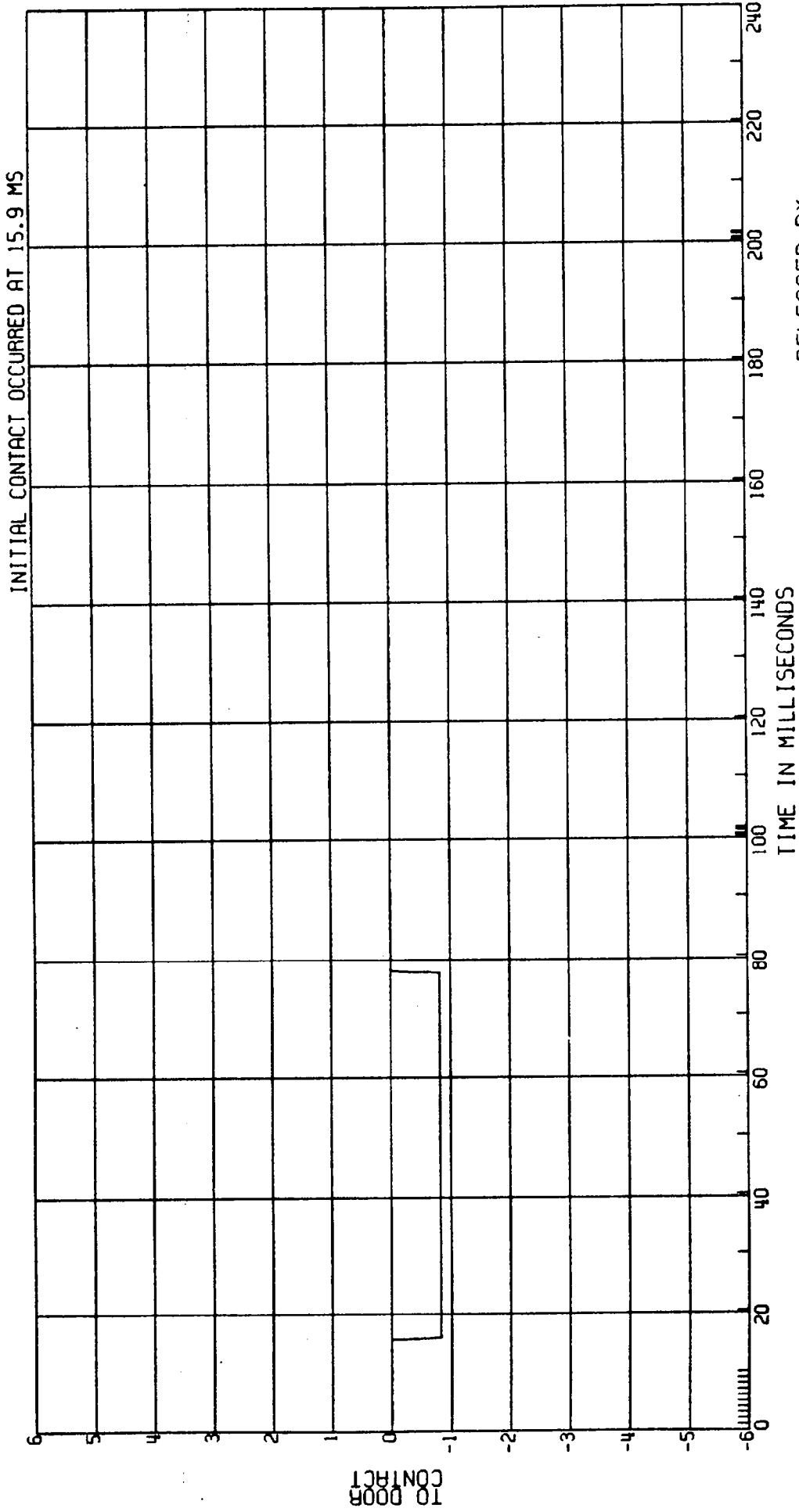
RELEASED BY:
 52 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 134
3868-905 M.V.M.A 6P 2AF69 TEST DATE:03-13-90
CPE M.D.B. AT C.G. ACCEL.

ELEC DATA, SAE CLASS 60

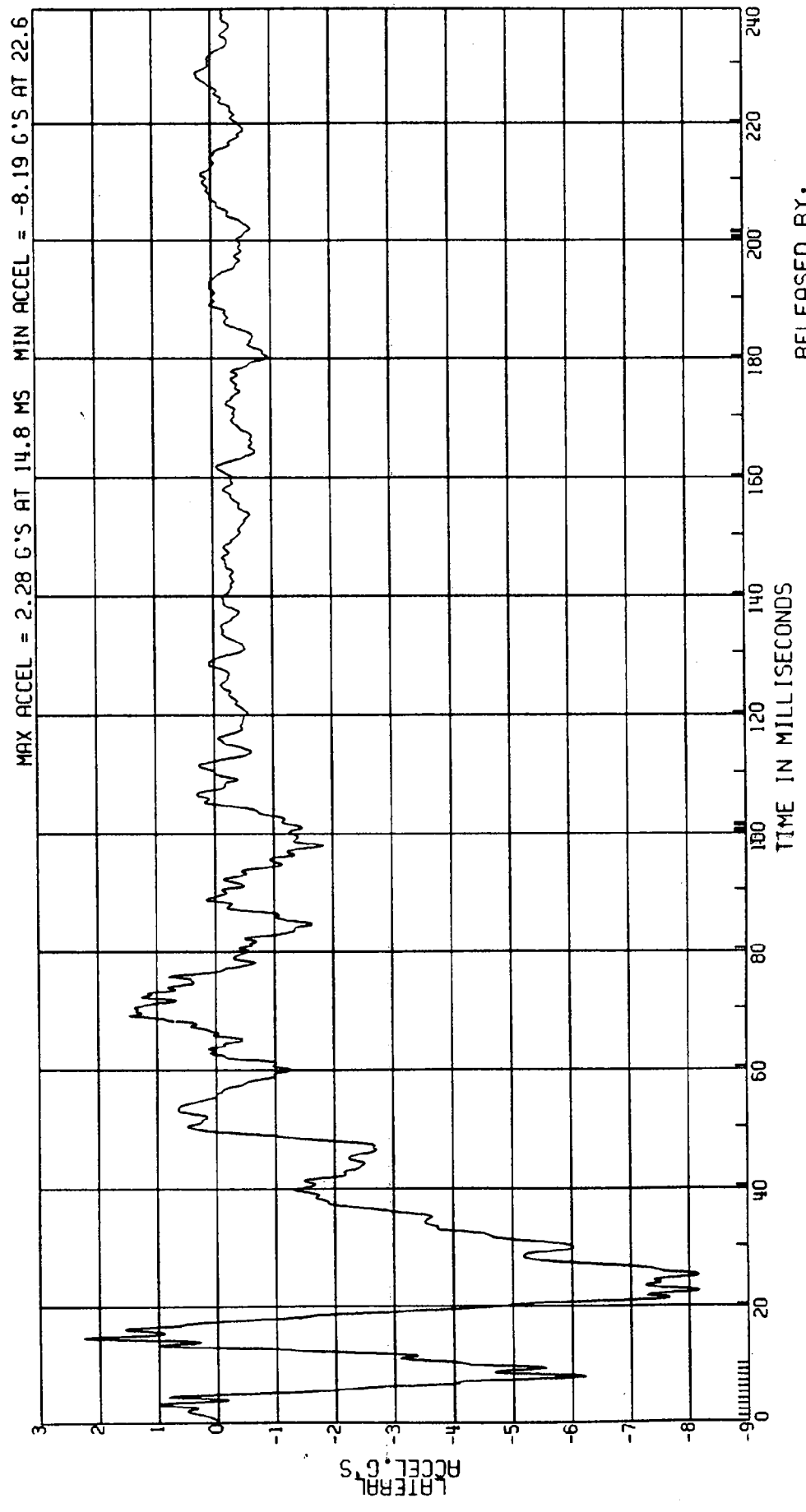


C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /35
3868-905 ATD TYPE: BIOSID
CPE MVMA 6P 2AF69 L. REAR PELVIC-LEFT SIDE CONTACT TEST DATE:03-13-90
ELEC DATA, SAE CLASS 1000



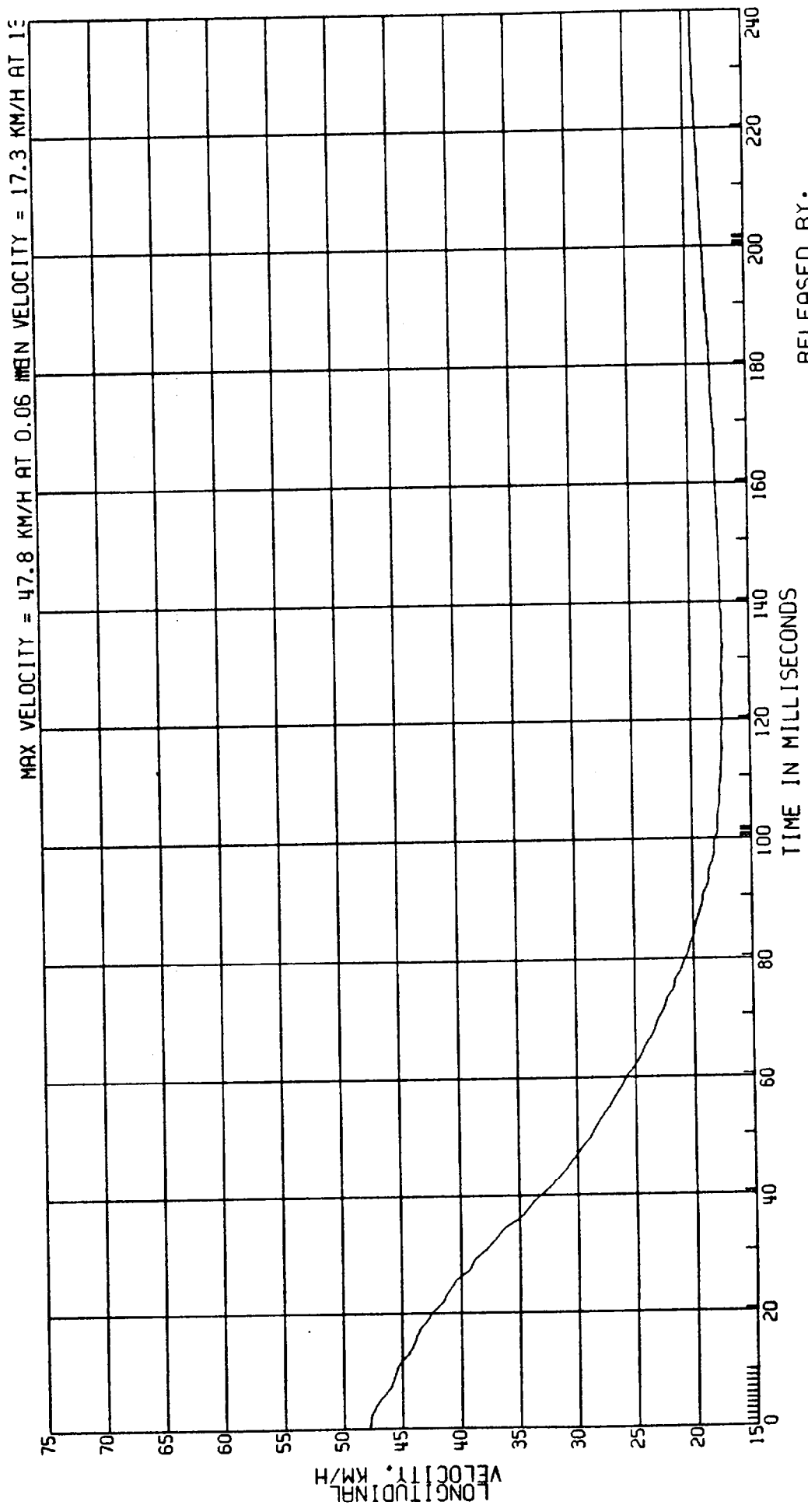
RELEASED BY:
54 PROCESSED 4 MT 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 136
3868-905 MVMA 6P 2AF69
CPE M.D.B. AT C.G. ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE:03-13-90



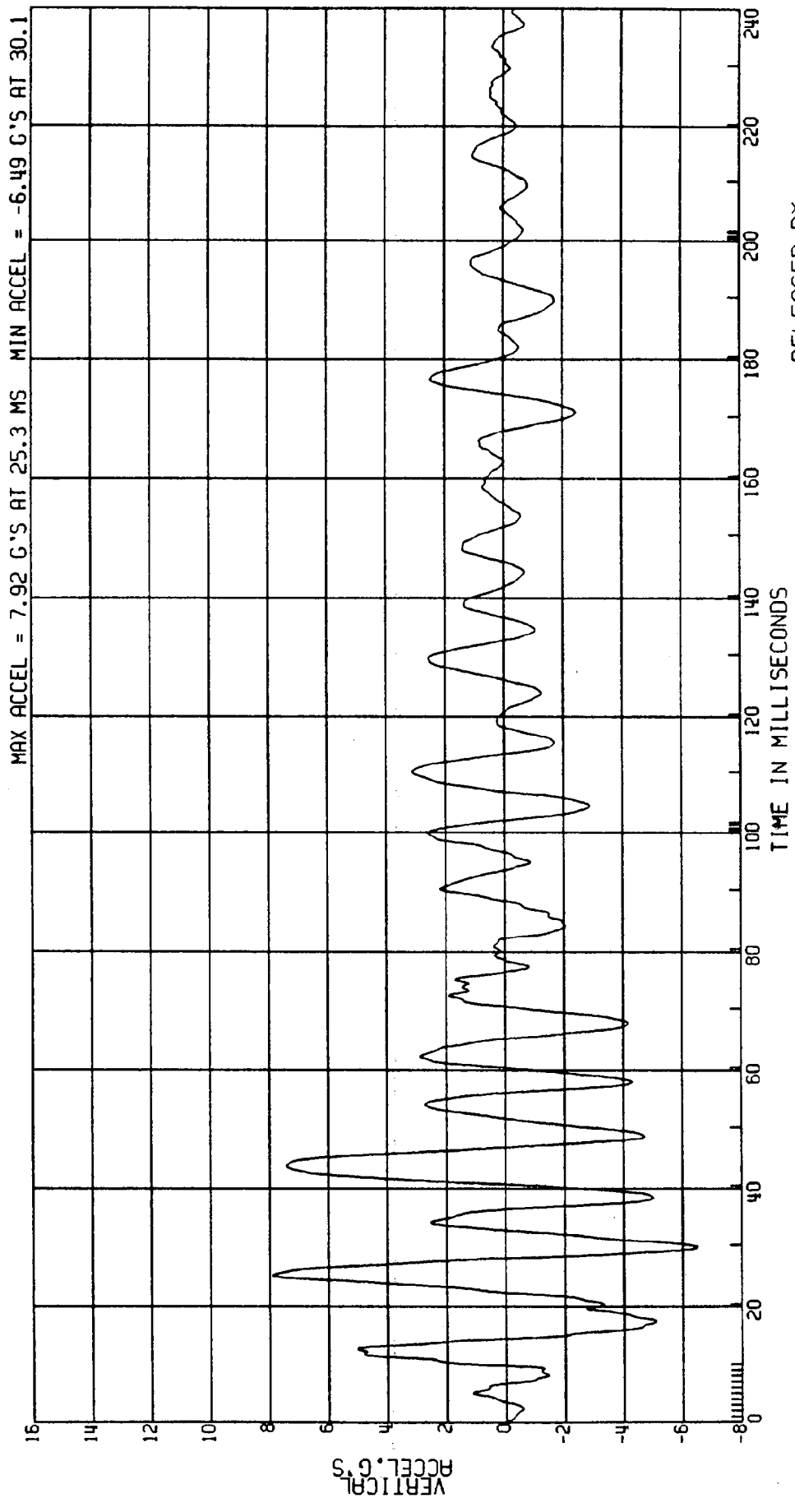
RELEASED BY:
57 PROCESSED 4 MT 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /37
 3868-905 MVMA 6P 2AF69 COMPUTED M.D.B. AT C.G. VELOCITY TEST DATE:03-13-90
 CPE ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.5KPH* $\cos 27$ DEG)



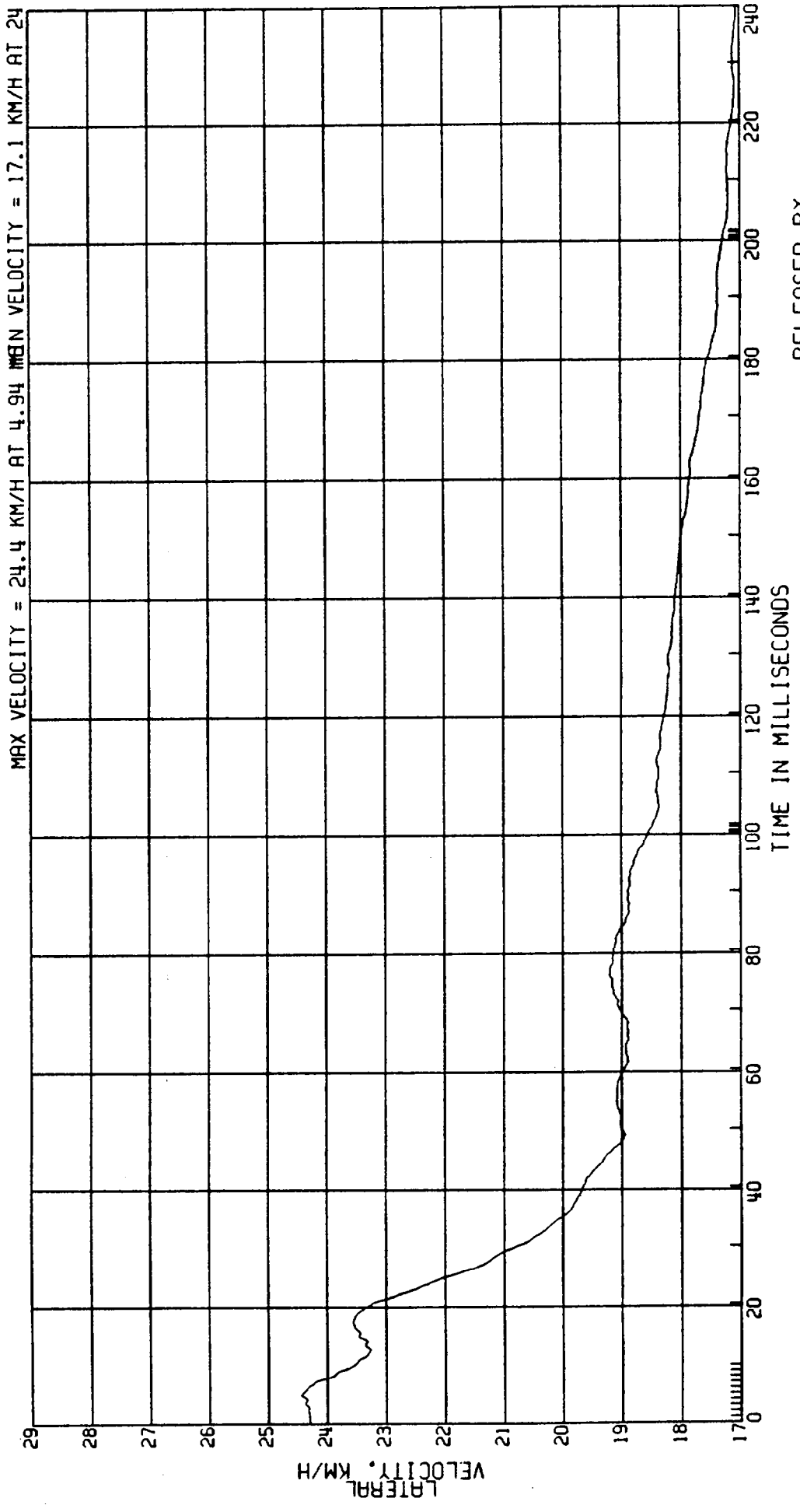
RELEASED BY:
 56 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 138
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 60 M.D.B. AT C.G. ACCEL. TEST DATE:03-13-90



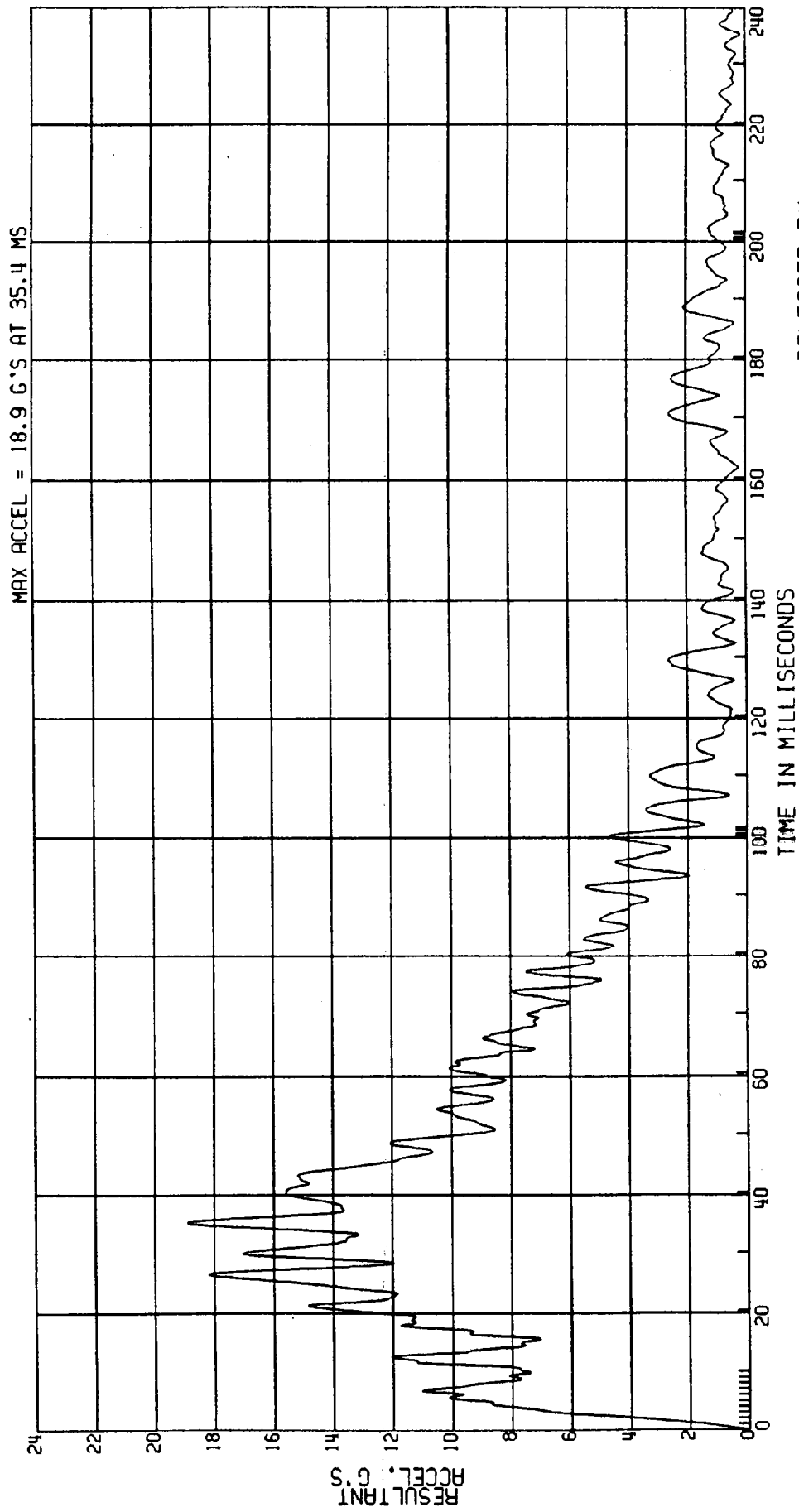
RELEASED BY:
59 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE /39
3868-905
CPE MVMA 6P 2AF69 TEST DATE:03-13-90
ELEC DATA, SAE CLASS 180 COMPUTED M.D.B. AT C.G. VELOCITY
(1ST INT OF ACCEL 53.5KPH*SIN27DEG)



RELEASED BY:
58 PROCESSED 4 MY 90 13:37

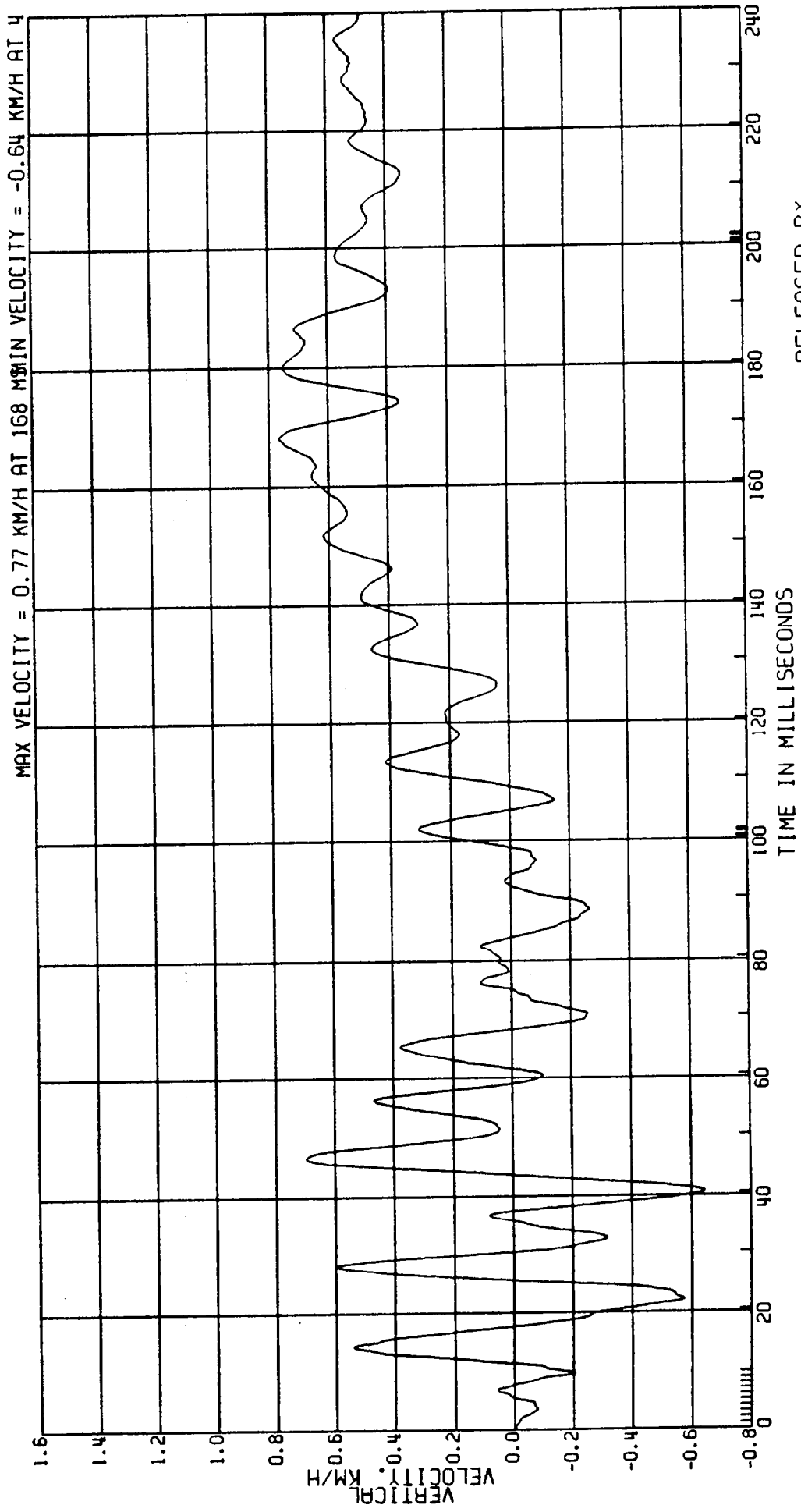
C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 140
3868-905
CPE MVMA 6P 2AF69 M.D.B. AT C.G. ACCEL. TEST DATE:03-13-90
ELEC DATA. SAE CLASS 60 (VEC SUM OF C.G. ACCELERATIONS)



RELEASED BY:

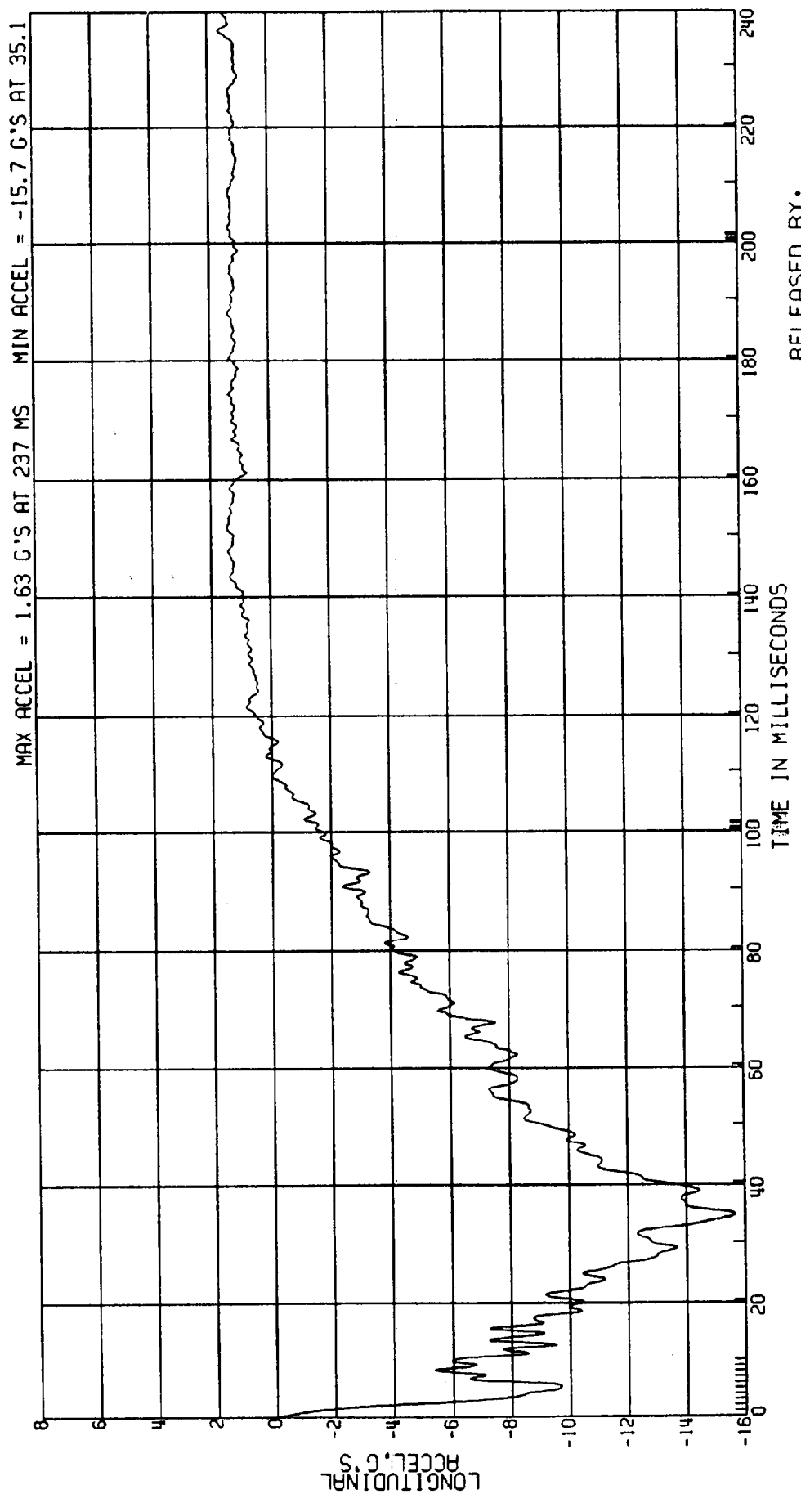
61 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5 KM/H FIGURE 141
3868-905
CPE MVMA 6P 2AF69 TEST DATE: 03-13-90
ELEC DATA, SAE CLASS 180 (1ST INT OF ACCELERATION)



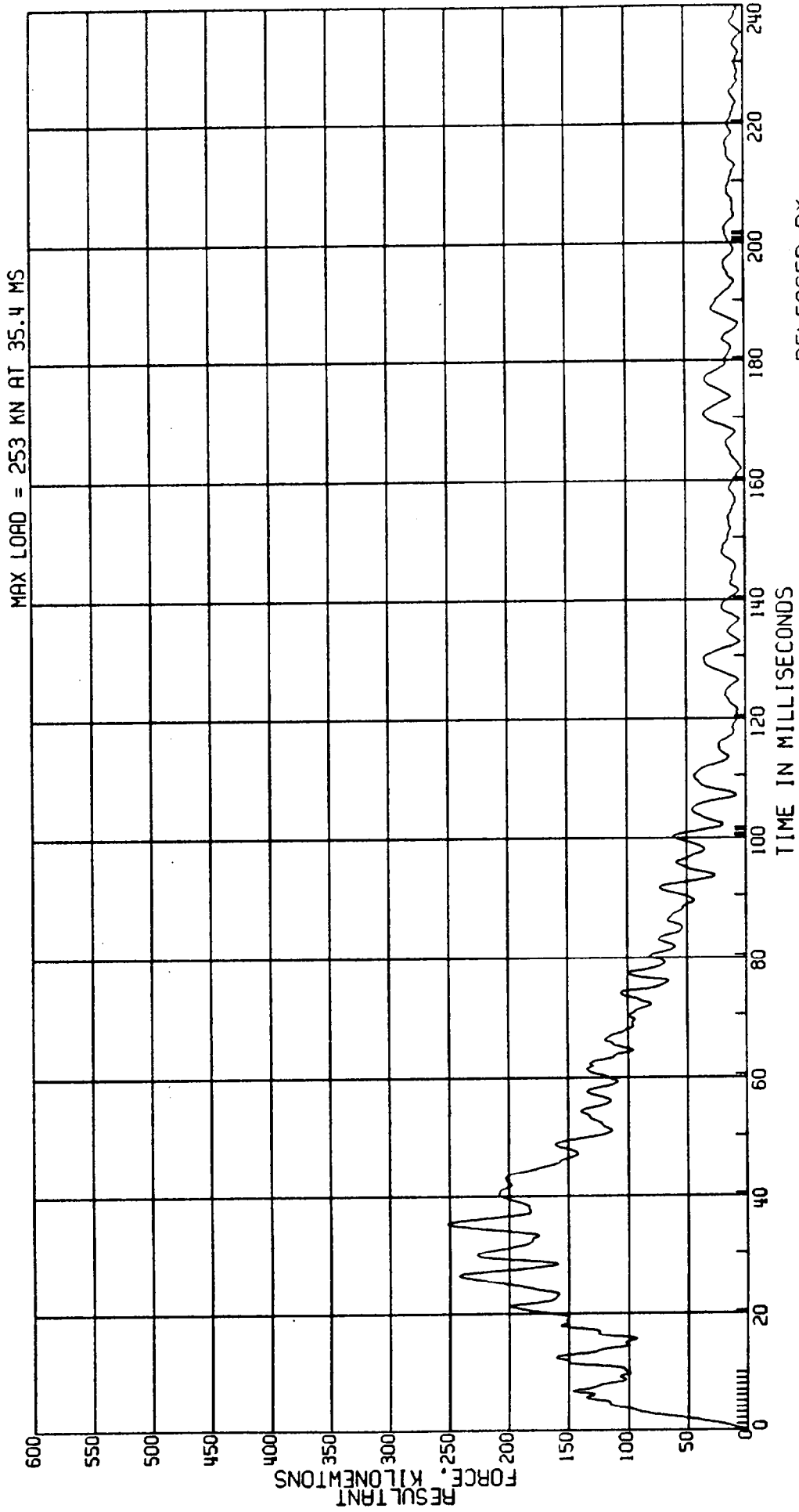
RELEASED BY:
60 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 142
3868-905 MVMA 6P 2AF69 TEST DATE:03-13-90
CPE M.D.B. REAR CROSS MEMBER ACCEL.
ELEC DATA, SAE CLASS 60



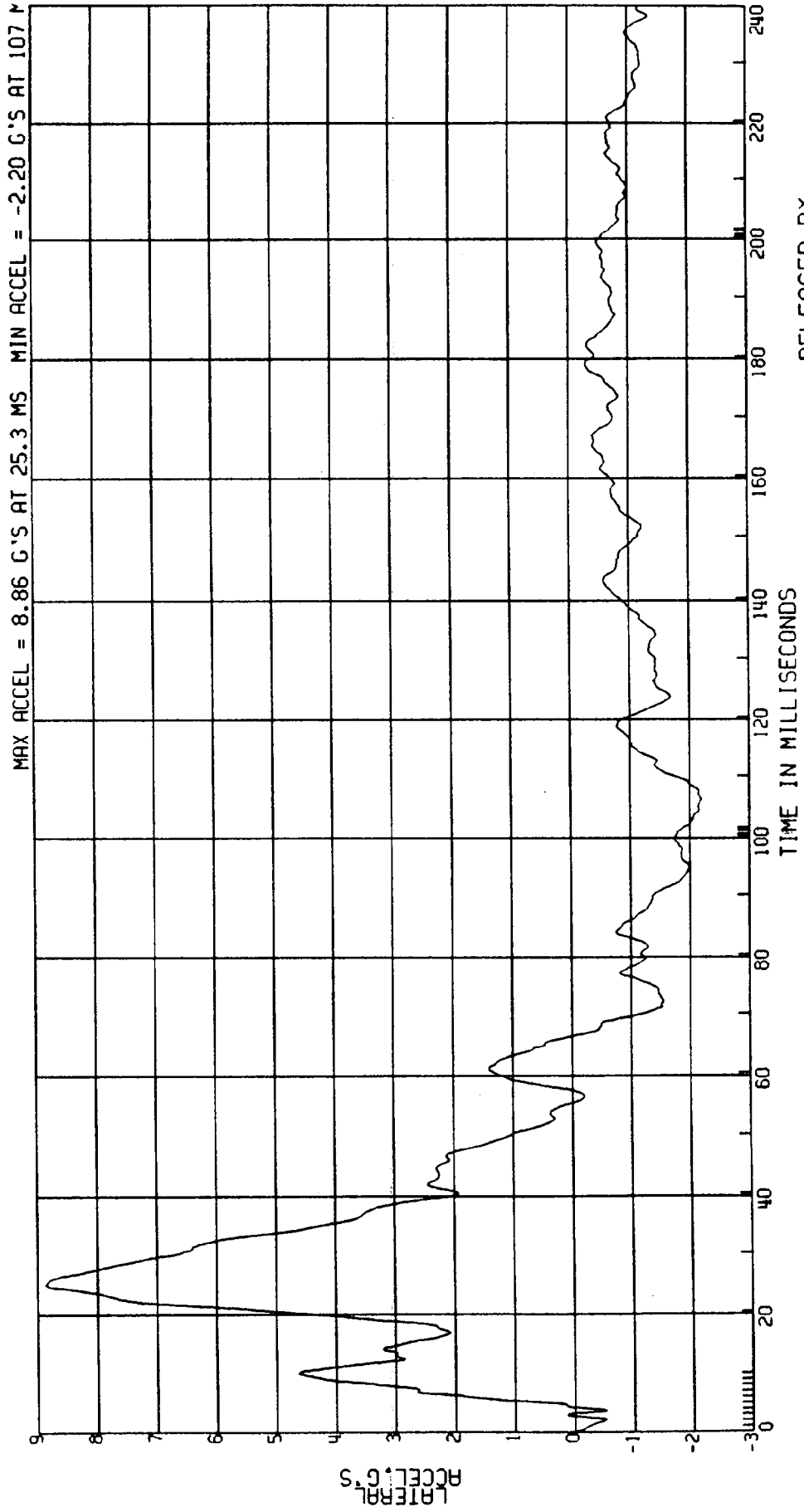
RELEASED BY:
63 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 143
 3868-905
 CPE MVMA 6P 2AF69 COMPUTED M.D.B. AT C.G. FORCE TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 60 (1359.5KG) (9.807) (RESULTANT ACCEL)



RELEASED BY:
 62 PROCESSED 4 MY 90 13:37

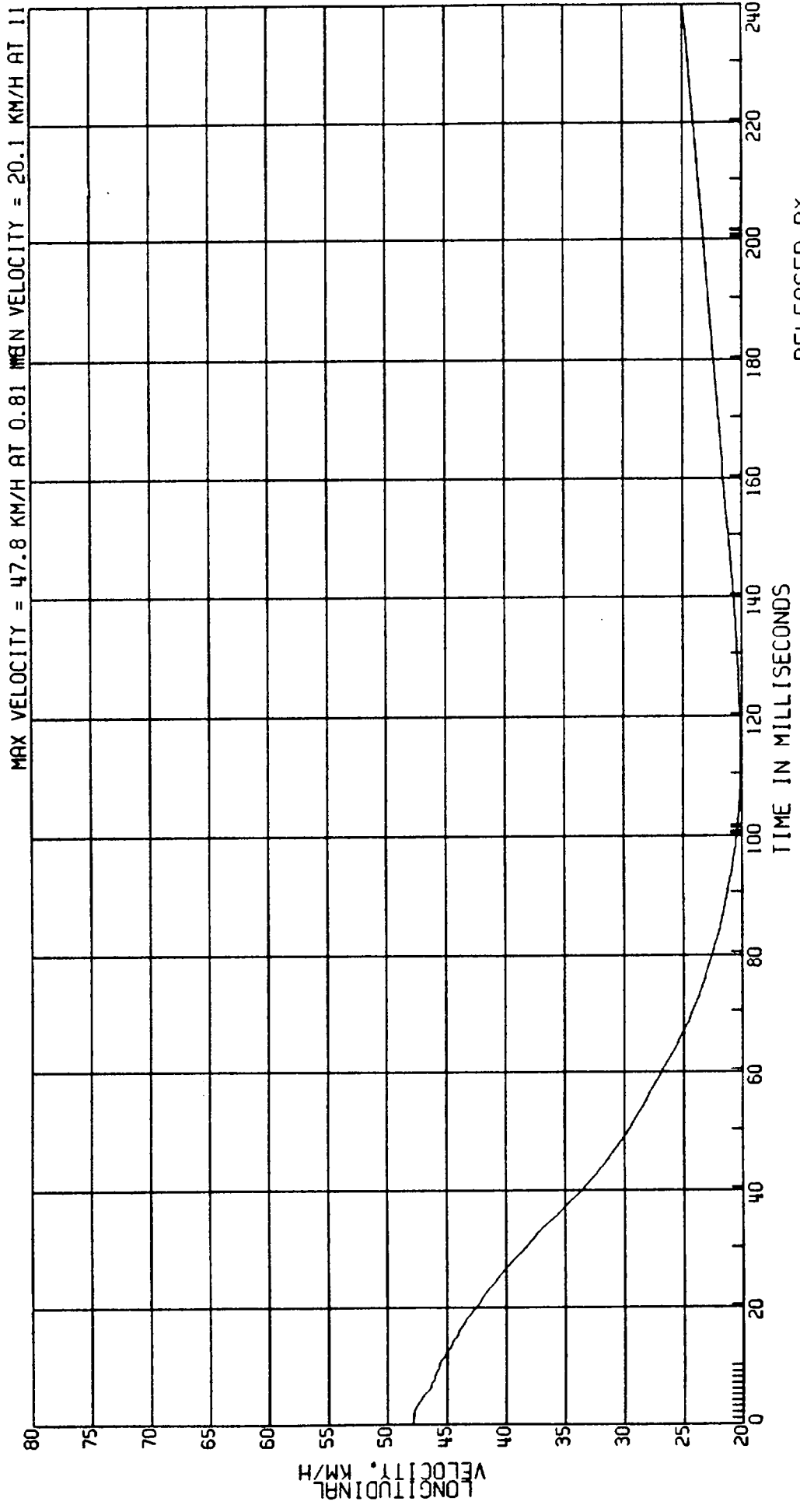
C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 144
3868-905 MVMA 6P 2AF69 TEST DATE:03-13-90
CPE M.D.B. REAR CROSS MEMBER ACCEL.
ELEC DATA, SAE CLASS 60



RELEASED BY:

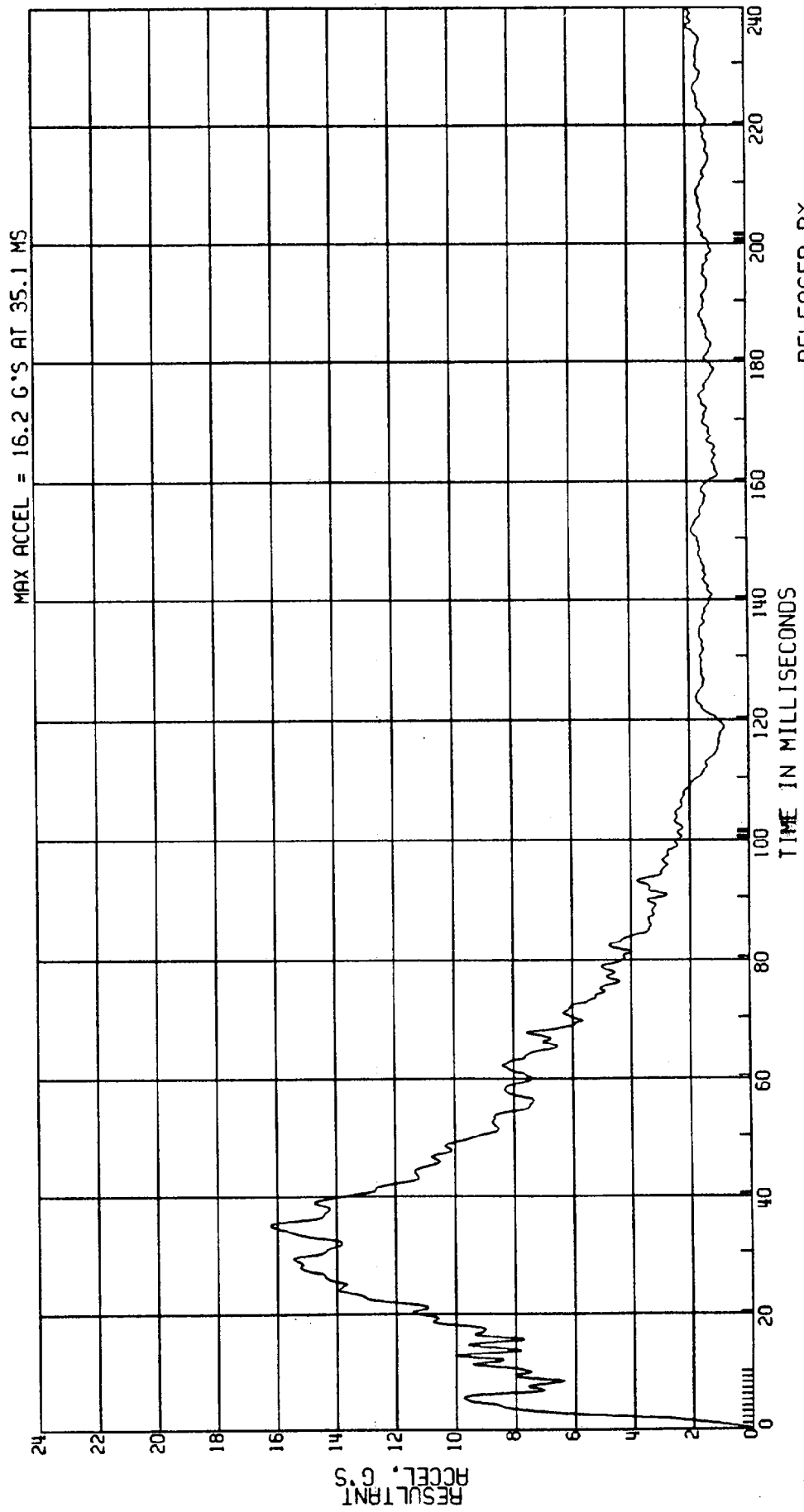
65 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 145
 3868-905
 CPE MVMA 6P 2AF69 TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.5KPH* $\cos 27$ DEG)



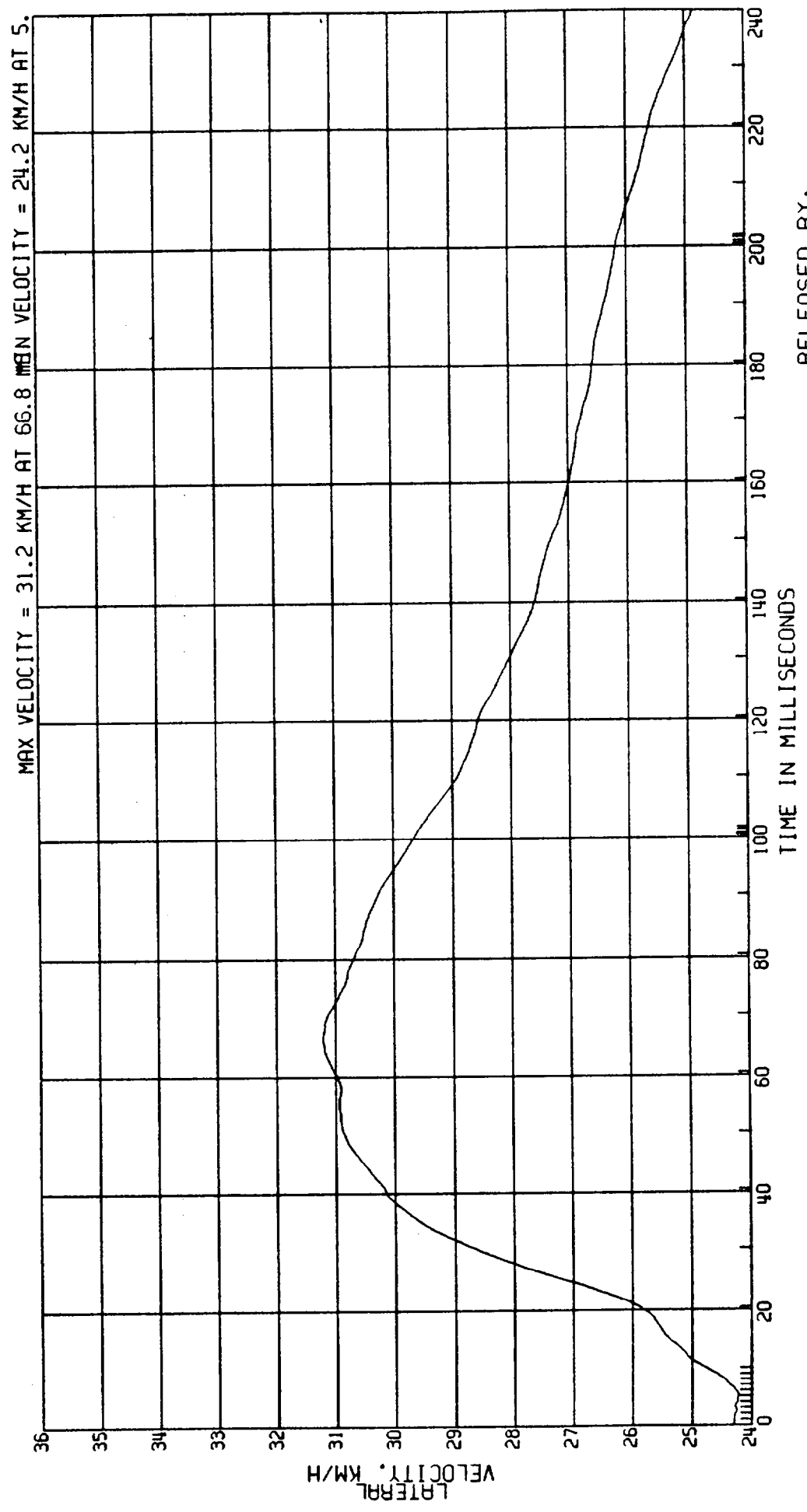
RELEASED BY:
 64 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 146
3868-905 MVMA 6P 2AF69 M.D.B. REAR CROSS MEMBER ACCEL. TEST DATE:03-13-90
CPE ELEC DATA, SAE CLASS 60 (VEC SUM OF LONG. & LAT X-MEMBER ACCELS)



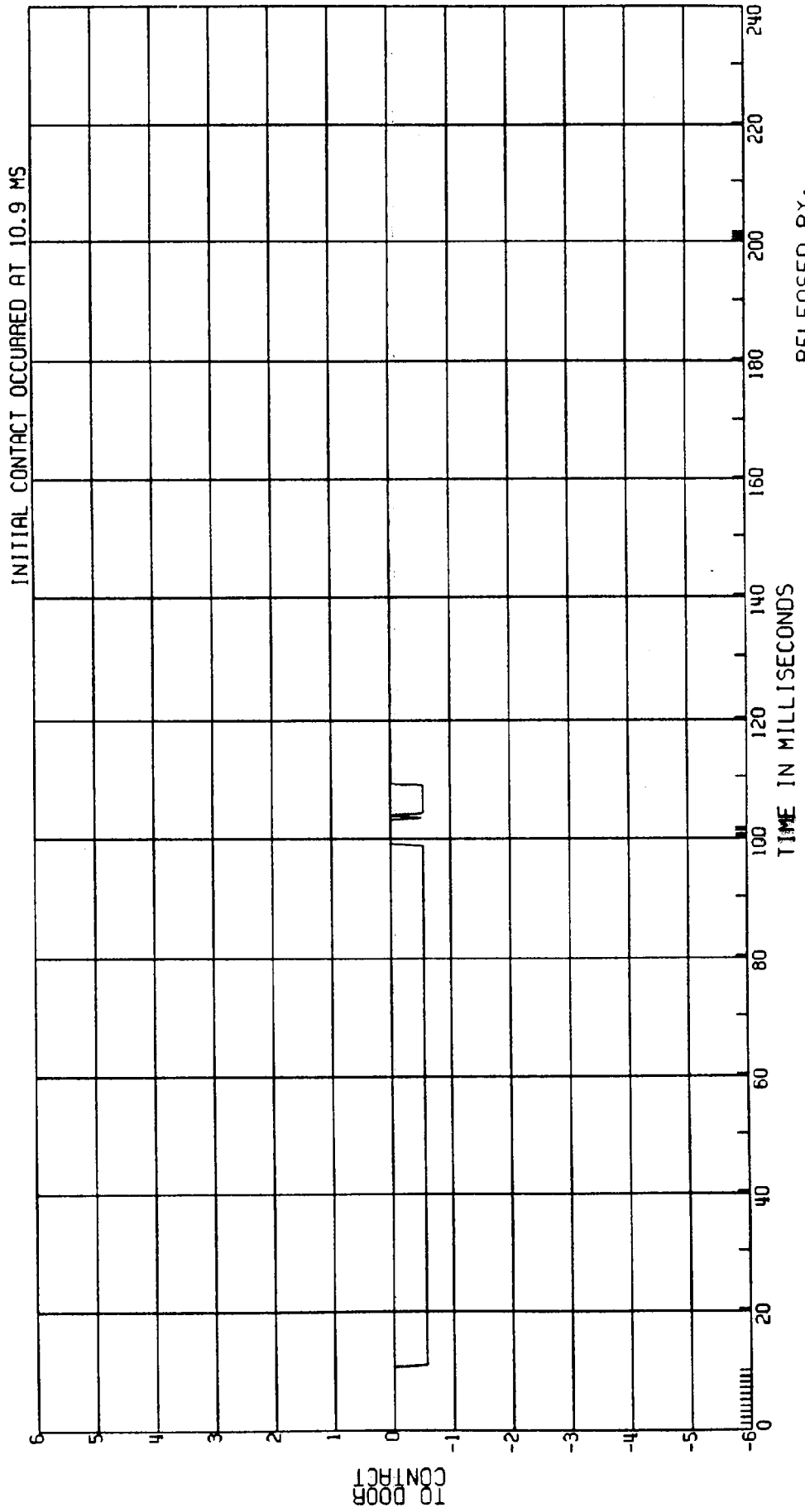
RELEASED BY:
67 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 147
 3868-905
 CPE MVMA 6P 2AF69
 ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.5KPH*SIN27DEG) TEST DATE:03-13-90
 COMPUTED M.D.B. REAR CROSS MEMBER VEL



RELEASED BY:
 66 PROCESSED 4 MT 90 13:37

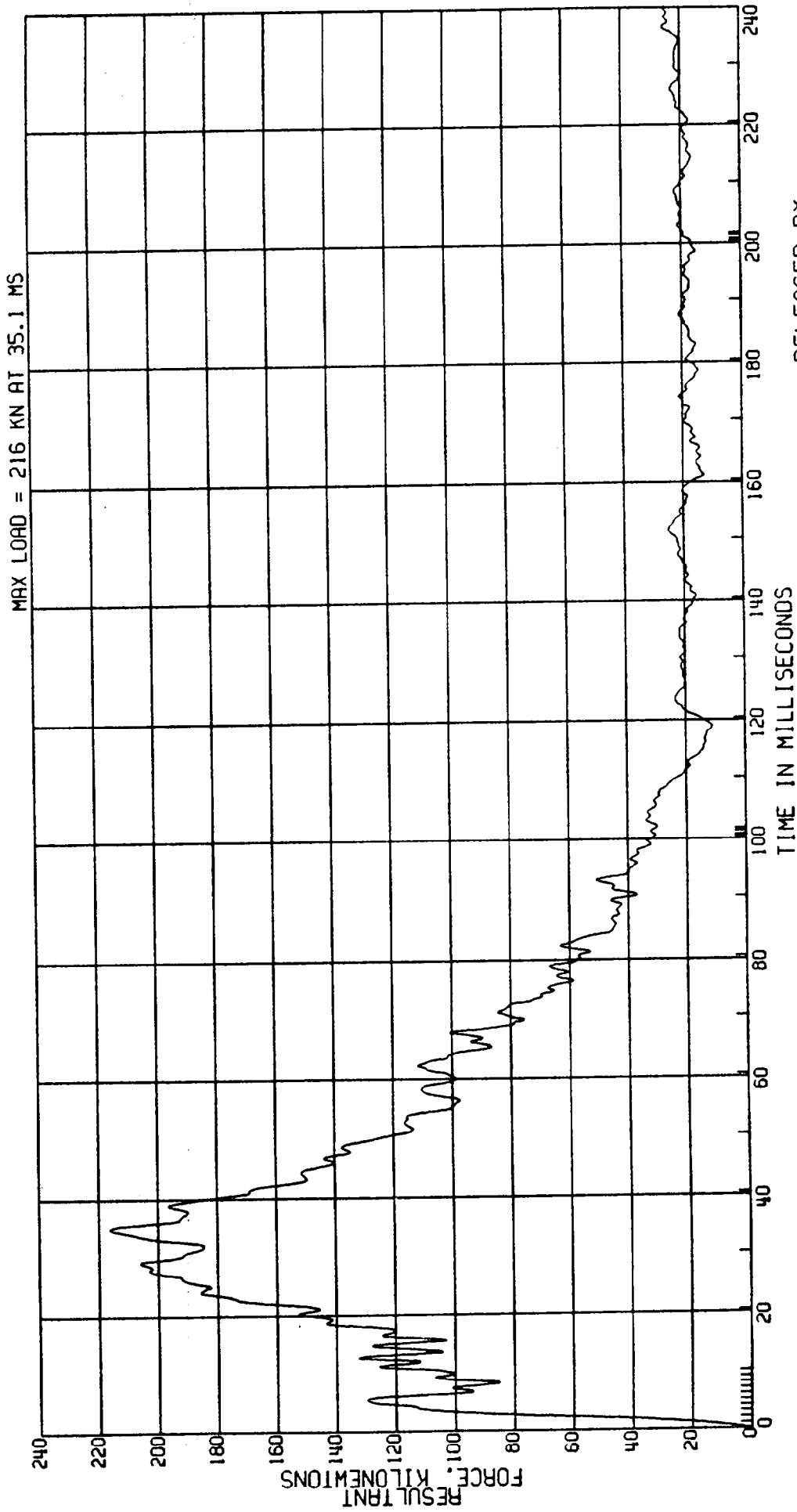
C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 148
3868-905 ATD TYPE: SID
CPE MVMA 6P 2AF69 DRIVER THORAX-LEFT SIDE CONTACT TEST DATE:03-13-90
ELEC DATA, SAE CLASS 1000



RELEASED BY:

69 PROCESSED 4 MAY 90 13:37

C8006A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 149
 3868-905 MVMA 6P 2AF69 COMPUTED M.D.B. REAR CROSS MEMBER FORCE TEST DATE: 03-13-90
 CPE (1359.5 KG) (9.807) (RESULTANT ACCEL)
 ELEC DATA, SAE CLASS 60



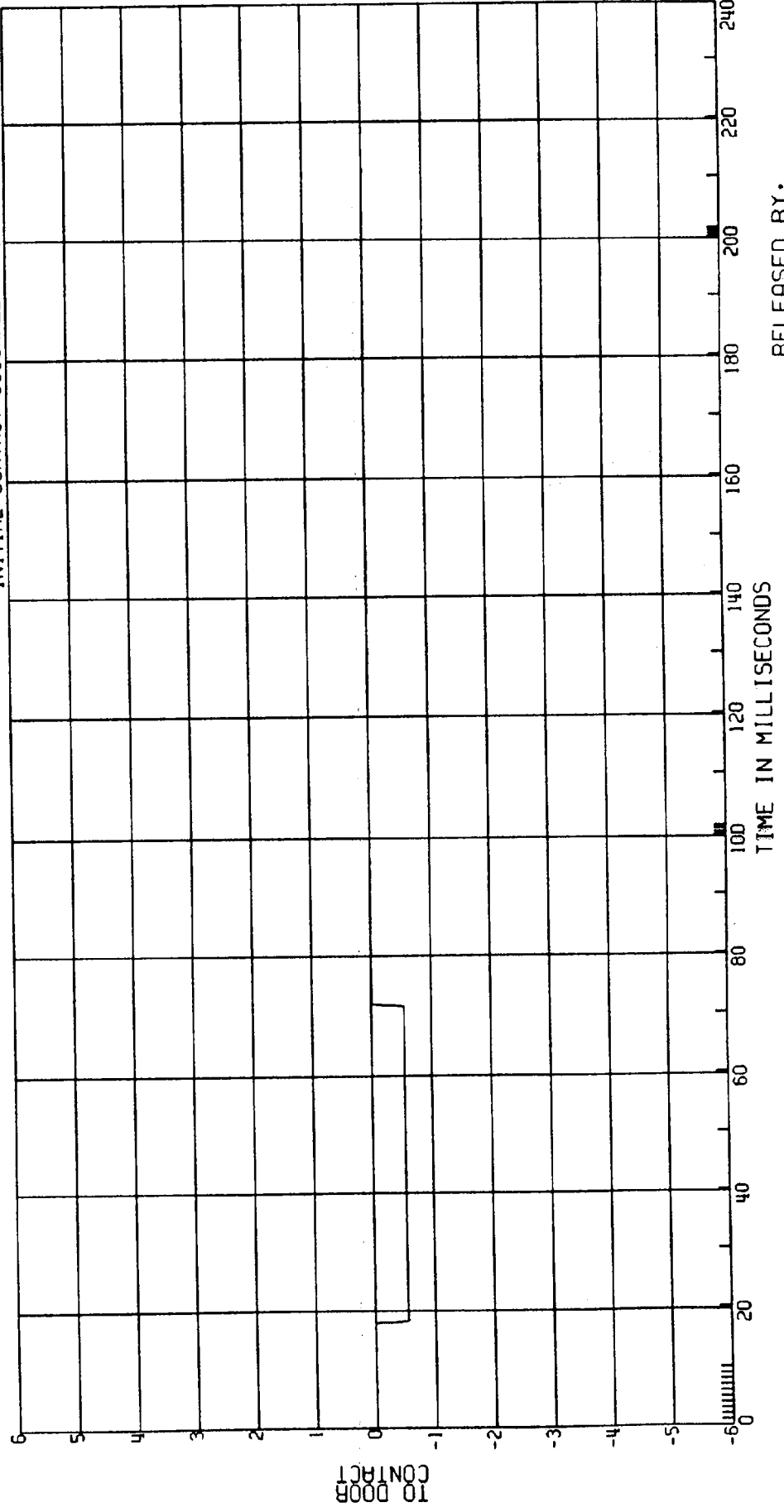
RELEASED BY:
 68 PROCESSED 4 MT 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 150
3868-905
CPE MVMA 6P 2AF69
ELEC DATA, SAE CLASS 1000

DRIVER PELVIC-LEFT SIDE CONTACT

TEST DATE:03-13-90

INITIAL CONTACT OCCURRED AT 18.3 MS



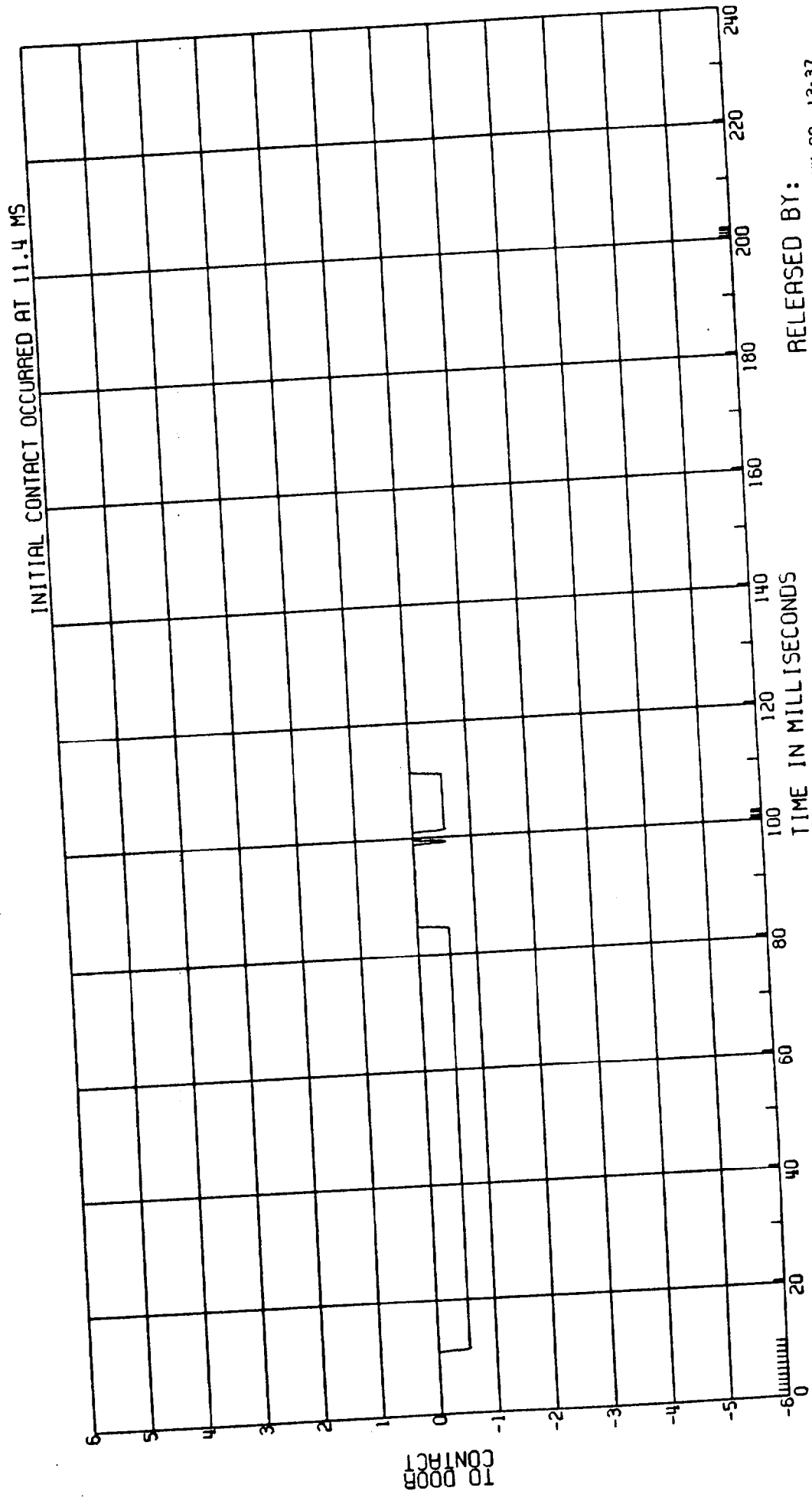
RELEASED BY:

71 PROCESSED 4 MY 90 13:37

151
ATD TYPE: BIOSID
TEST DATE: 03-13-90

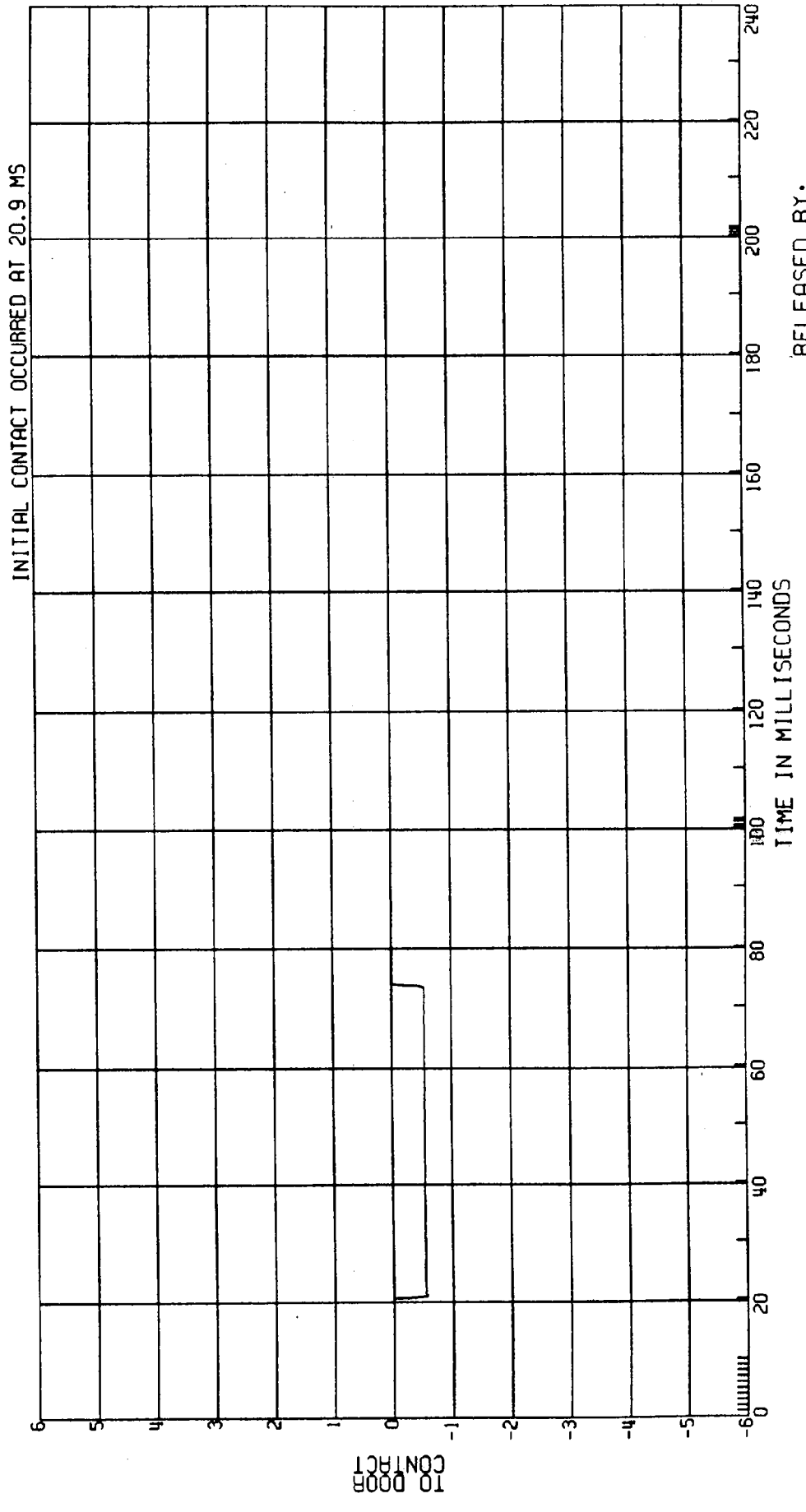
MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE
L. REAR THORAX-LEFT SIDE CONTACT

C8006A L. SIDE IMPACT- 27 DEG
3868-905
MVMA 6P 2AF69
CPE
ELEC DATA, SAE CLASS 1000



RELEASED BY:
72 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE / 52
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 6P 2AF69 L. REAR ABDOMEN-LEFT SIDE CONTACT TEST DATE:03-13-90
 ELEC DATA, SAE CLASS 1000

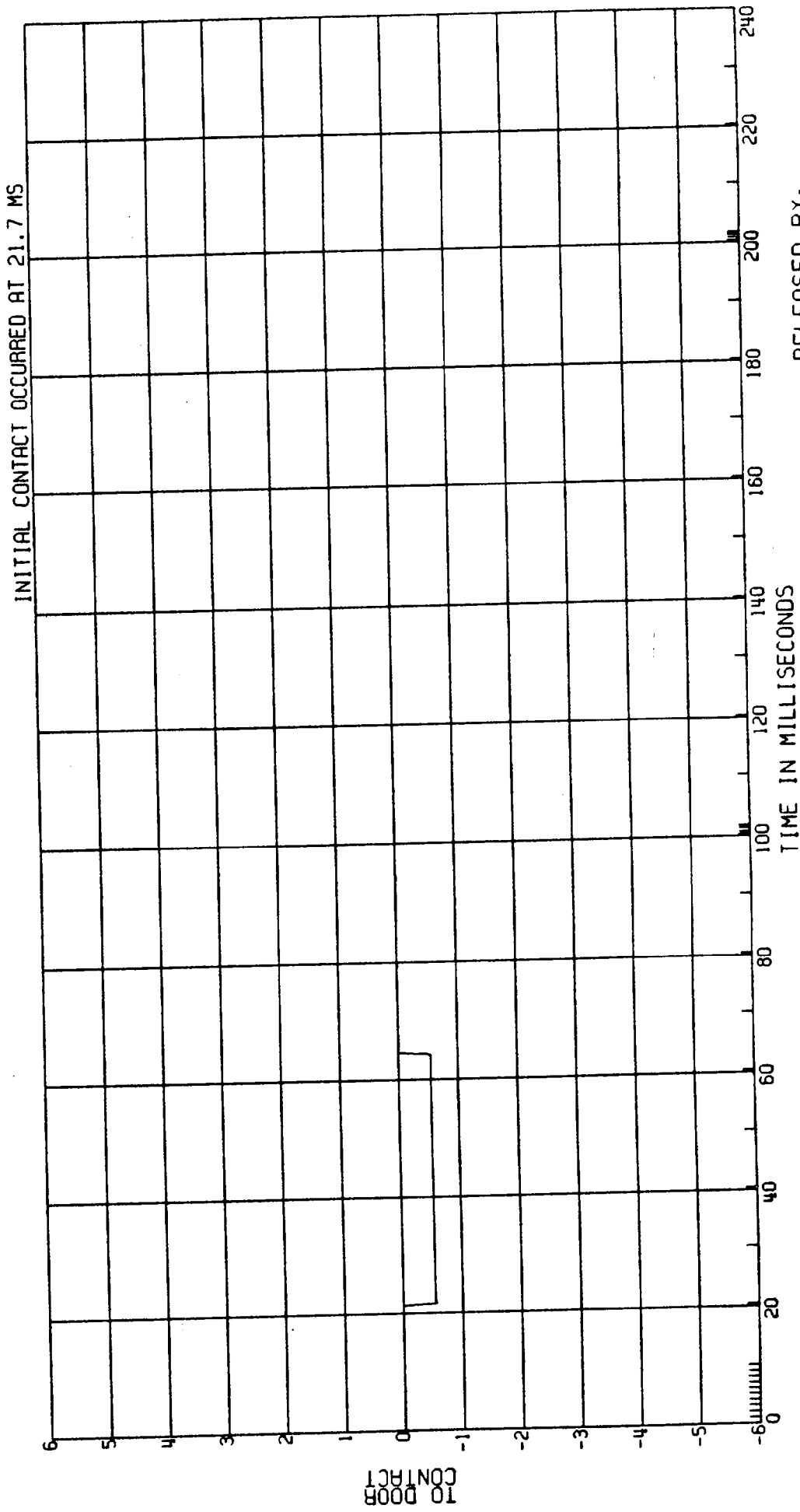


RELEASED BY:
 73 PROCESSED 4 MY 90 13:37

C8006A L. SIDE IMPACT- 27 DEG
MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE / 53
ATD TYPE: SID
TEST DATE:03-13-90

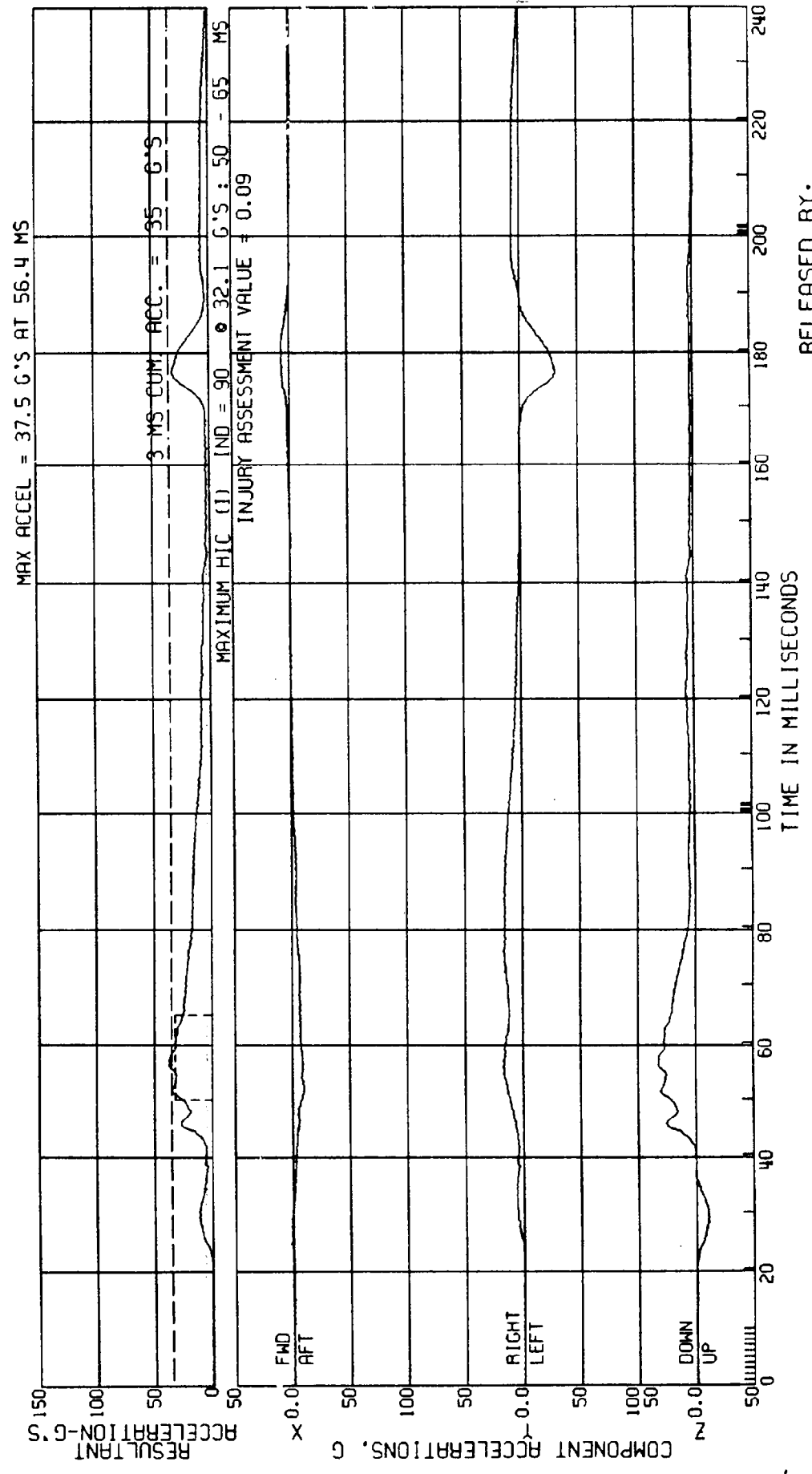
DRIVER ABDOMEN-LEFT SIDE CONTACT

3868-905
CPE
MVMA 6P 2AF69
ELEC DATA, SAE CLASS 1000



RELEASED BY:
70 PROCESSED 4 MT 90 13:37

C8006B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.5KM/H FIGURE 154
 3868-905 MVMA 6P 2AF69
 CPE ELEC DATA, SAE CLASS 1000
 L. REAR HEAD ACCEL.
 (HIC 1 LIMITED TO 15MS)



RELEASED BY:
 1 PROCESSED 4 MY 90 13:42