



INFORMATION BULLETIN

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

V1480

August 27, 1990

TO: Side Impact Subcommittee
FROM: Ronald J. Wasko
SUBJECT: MVMA Full Vehicle BioSID Test Report - Test 8P

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 8P*

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

TEST REPORT

REPORT NO. PG _____
 SRDL TEST NO. C8008
 TEST DATE MAR 20, 1990

TYPE IMPACT:

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

BARRIER TYPE:

- FLAT FACE
- CONTOURED
- OTHER

OTHER:

CRASHED DEFORMABLE BARR AT 27 DEG.

VEHICLE DESCRIPTION

MAKE	YEAR	BODY TYPE	BODY STYLE	DIVISION CAR NO.	BUILD STATUS	
PONTIAC	90	A-BODY	2AF69	MVMA 8P	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	ELECTRONIC FUEL INJECTION		SPARE TIRE TYPE		COMPACT
FUEL TANK	USABLE CAPACITY	N/D L	UNUSABLE CAPACITY	N/D L	AC	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
SPECIAL FEATURES:						
VEHICLE TESTED FOR MVMA FOR EVALUATION OF BIOSID DUMMY AND SID DUMMY.						
PADDING PLACED ON LEFT FRONT AND REAR DOOR.						

TEST CONDITIONS

MOVING BARRIER			
VELOCITY AT IMPACT	53.6 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 REAR 672 kg TOTAL 1594 kg	LEFT FRONT	MAKE BIOSID NU. 1 TYPE 50TH %ILE MALE MASS 77.3 kg RESTRAINT UNBELTED
FUEL TANK	TEST VOLUME: CONTENTS WATER N/D % OF USABLE CAPACITY = 64.4 L	LEFT REAR	MAKE SID NU. 3 TYPE 50TH %ILE MALE MASS 78.5 kg RESTRAINT UNBELTED
FUEL LINES AND SYSTEM FILLED	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
VEHICLE SERVICE BRAKES ON @ IMPACT	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
SEAT POSITION	MID		
VEHICLE ATTITUDE			
J= DRIVER SIDE	196 mm	PASSENGER SIDE	191 mm
K= DRIVER SIDE	176 mm	PASSENGER SIDE	171 mm
COMMENTS:			
LEFT SIDE OF MOVING BARRIER FACE WAS POSITIONED 980MM FORWARD OF VEHICLE WHEELBASE CENTERLINE.			
SEE PAGE 4. FUEL TANK WAS FILLED WITH WATER.			
TEST CONFIGURATION:			

PHOTOGRAPHIC COVERAGE

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 MDB - IMPACT	<input checked="" type="checkbox"/>
	ONBD - DRIVER	<input checked="" type="checkbox"/>		
	ONBD - LR OCCUP.	<input checked="" type="checkbox"/>		

RECORDED DATA

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

N/A NOT APPLICABLE N/D NOT DETERMINED

POST-TEST OBSERVATIONS

		YES	NO	N/A	N/D	FIG.	NOTE			
D O O R S	ALL EXTERIOR DOORS REMAINED CLOSED	X								
	ALL EXTERIOR DOORS REMAINED LATCHED	X								
	ALL EXTERIOR DOOR HINGES REMAINED INTACT	X								
		LATCH OPERABLE		(1) DISTANCE MEASURED BETWEEN DOOR OUTER SURFACE AND ADJACENT BODY OUTER SURFACE WHEN 450 N PULL IS APPLIED TO HANDLE.						
		YES	NO					OTHER		
	LEFT FRONT		X						0	mm
	RIGHT FRONT	X							FULL	mm
LEFT REAR		X						0	mm	
RIGHT REAR	X			FULL	mm					
B O D Y		YES	NO	N/A	N/D	FIG.	NOTE			
	BODY TO-FRAME OR CRADLE MOUNTS REMAINED ATTACHED	X								
	SPARE TIRE REMAINED IN PLACE	X								
	TRUNK LID OR REAR HATCH REMAINED INTACT	X								
	TRUNK LID OR REAR HATCH REMAINED CLOSED	X								
D R I V E	REAR AXLE INTACT			X			1			
	REAR AXLE DEFORMED			X			1			
	DRIVESHAFT INTACT	X					1			
	DRIVESHAFT DEFORMED			X			1			
F U E L	FUEL TANK RETAINED	X								
	FILLER TUBE INTACT	X								

NOTE: 1. FRONT WHEEL DRIVE.

NOTE: VEHICLE AND BARRIER FACE RESIDUAL CRUSH MEASUREMENTS ON PAGES 5 & 6.

VEHICLE DATA

REAR IMPACT							
VEHICLE	DRIVER SIDE	_____	mm	FUEL TANK	DRIVER SIDE	_____	mm
RESIDUAL CRUSH	PASSENGER SIDE	_____	mm	RESIDUAL CRUSH	PASSENGER SIDE	_____	mm
VEHICLE	DRIVER SIDE	_____	mm	FUEL TANK	DRIVER SIDE	_____	mm
DYNAMIC CRUSH	PASSENGER SIDE	_____	mm	RESIDUAL DISP	PASSENGER SIDE	_____	mm
SIDE IMPACT							
VEHICLE RESIDUAL CRUSH				FUEL TANK LATERAL RESIDUAL CRUSH			
FRONT	_____	mm		FRONT	N/D	mm	REAR N/D mm
MID	_____	mm		FUEL TANK LATERAL RESIDUAL DISPLACEMENT			
REAR	_____	mm		FRONT	N/D	mm	REAR N/D mm

NOTE: (A) RESIDUAL CRUSH MEASUREMENTS +OR- 25mm, OTHER RESIDUAL MEASUREMENTS +OR- 5mm
 (B) GENERALIZED TOLERANCE CANNOT BE SPECIFIED FOR DYNAMIC MEASUREMENTS BECAUSE OF ACCURACY VARIATIONS DUE TO DIFFERENCES IN ANALYSIS TECHNIQUES.

* TOLERANCE FOR SPECIFIC TEST DATA CAN BE FURNISHED ON REQUEST.

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)

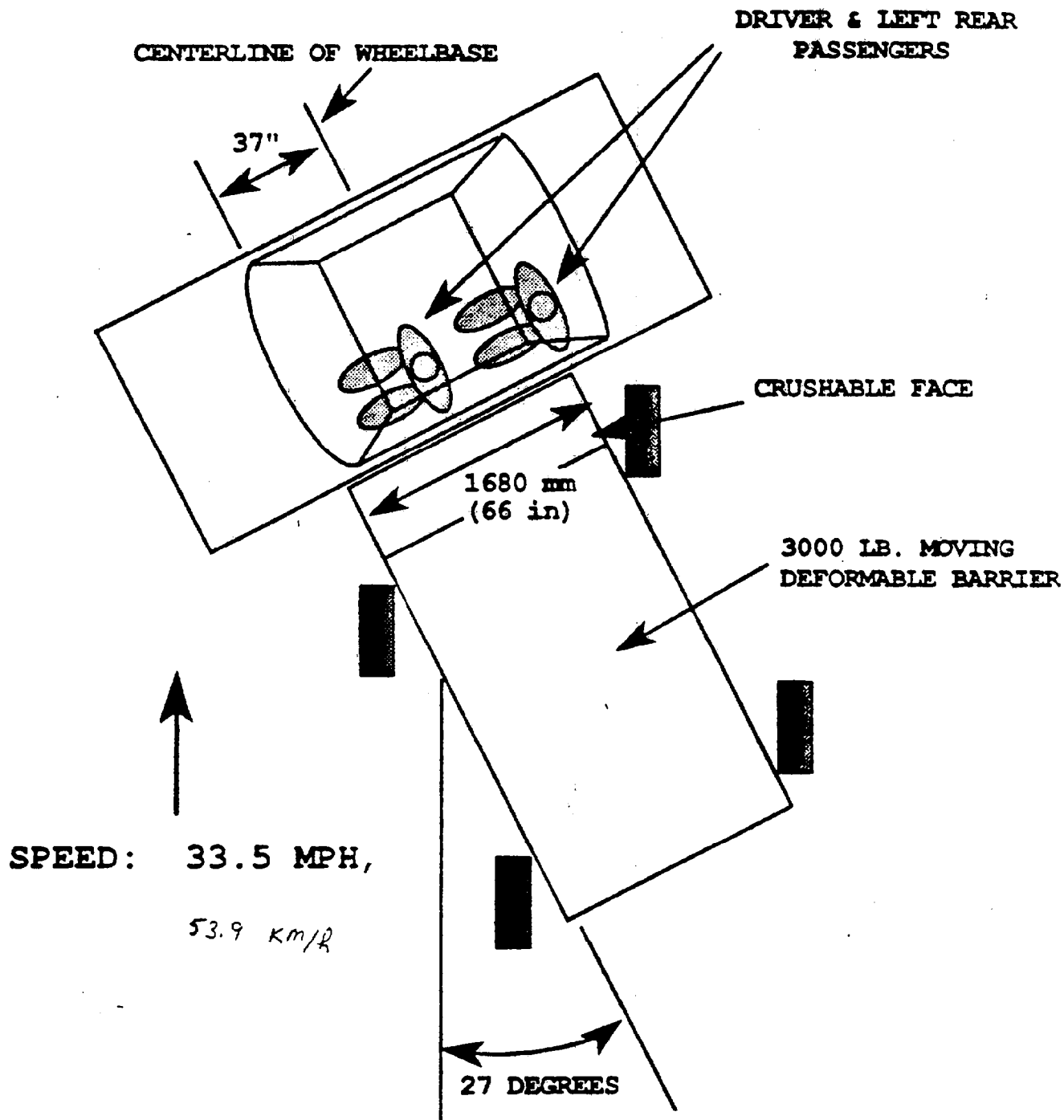
	LONGITUDINAL	VERTICAL
<u>LEFT FRONT PASSENGER</u>		
HEAD	<u>3211</u>	<u>1138</u>
HIP	<u>3073</u>	<u>462</u>
KNEE	<u>2689</u>	<u>563</u>
PELVIC ANGLE	<u>21.0</u>	SEAT BACK ANGLE <u>24.0</u>
<u>LEFT REAR PASSENGER</u>		
HEAD	<u>4179</u>	<u>1090</u>
HIP	<u>3047</u>	<u>450</u>
KNEE	<u>3537</u>	<u>618</u>
PELVIC ANGLE	<u>17</u>	SEAT BACK ANGLE <u>N/D</u>

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

Comments: DUMMY HEAD ANGLE IN DEGREES - DR=8.0, LR=10.0

NHTSA TEST CONFIGURATION

C-1



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

TEST NUMBER: CB008

TEST DATE:

LOCATION			WINDOW TOP			WINDOW BILL			MID DOOR			M - POINT			AXCLE CL		
HEIGHT (in mm)			-			812			-			457			220		
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
N	F	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	R	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A	M	305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	D	152	-	-	-	405	421	16	-	-	-	-	-	-	-	-	-
U		0*	-	-	-	399	418	19	-	-	-	353	350	-3	457	459	2
R		152	-	-	-	398	516	118	-	-	-	353	608	255	454	534	80
E		305	-	-	-	396	576	180	-	-	-	350	685	335	450	558	108
M		457	-	-	-	396	604	208	-	-	-	349	703	354	450	580	130
E		610	-	-	-	395	613	218	-	-	-	347	714	367	446	603	157
N	R	762	-	-	-	393	626	233	-	-	-	346	731	385	445	625	180
T	E	914	-	-	-	392	644	252	-	-	-	346	741	395	454	648	194
	A	1067	-	-	-	392	653	261	-	-	-	345	749	404	451	669	218
L	R	1219	-	-	-	392	681	289	-	-	-	346	757	411	449	710	261
O	M	1372	-	-	-	394	693	299	-	-	-	345	777	432	448	615	167
C	A	1524	-	-	-	394	703	309	-	-	-	345	788	443	444	554	110
A	R	1676	-	-	-	396	714	318	-	-	-	346	794	448	444	505	61
T	D	1829	-	-	-	396	656	260	-	-	-	347	719	372	443	463	20
I		1981	-	-	-	398	623	125	-	-	-	-	-	-	-	-	-
O		2134	-	-	-	400	635	35	-	-	-	-	-	-	-	-	-
N		2286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		2438	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(in mm)

* IMPACT POINT- MOVING DEFORMABLE BARRIER LEADING EDGE

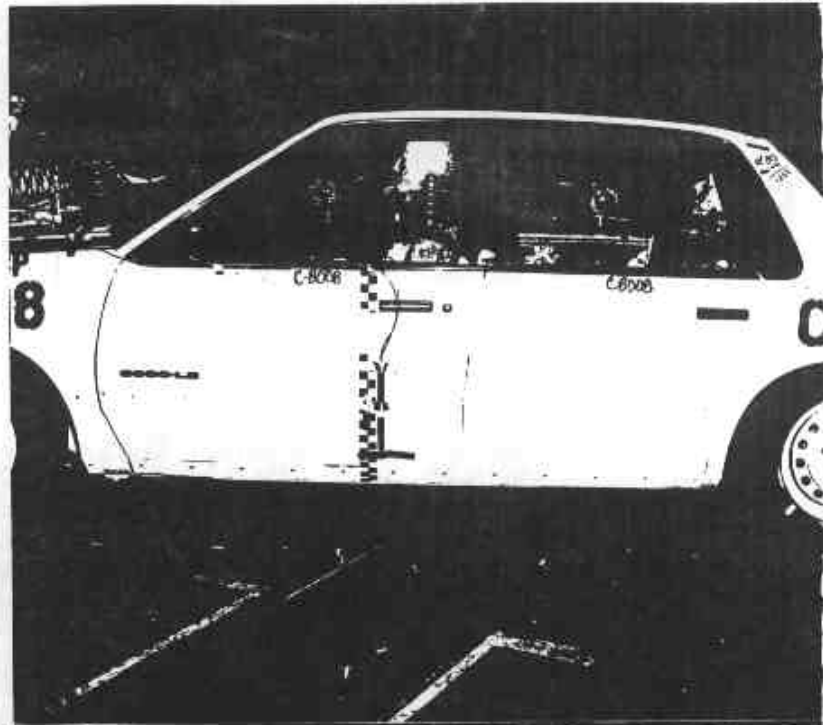
**27 DEGREE CRABBED MOVING DEFORMABLE BARRIER TO CAR SIDE IMPACT
STRIKING VEHICLE PRE-TEST, POST-TEST, AND STATIC CRUSH MEASUREMENTS (in mm)**

TEST NUMBER: C8008

TEST DATE: MARCH 20, 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
TOPOF		POST-TEST	320	282	282	281	282	282	282	283	283	287	288	290	298	312	350	393
STACK LEVEL	813	PRE-TEST	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
		STATIC CRUSH	44	6	6	5	6	6	6	7	9	11	12	14	22	36	74	117
MID-STACK		POST-TEST	280	280	280	280	280	280	280	280	280	282	282	283	284	287	311	364
LEVEL	686	PRE-TEST	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
		STATIC CRUSH	4	4	4	4	4	4	4	4	4	6	6	7	8	11	35	88
BOTTOM OF		POST-TEST	285	283	280	280	280	281	281	280	280	280	280	281	283	283	294	326
STACK LEVEL	559	PRE-TEST	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
		STATIC CRUSH	9	7	4	4	4	5	5	4	4	4	4	5	7	18	50	
BUMPER LEVEL	432	POST-TEST	203	183	180	181	182	186	186	182	181	185	188	190	192	200	220	277
		PRE-TEST	193	174	174	174	174	174	174	174	174	174	174	174	174	174	174	193
		STATIC CRUSH	10	9	6	7	8	12	12	8	7	9	11	14	18	26	46	84

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



Document No.	Fig. No.
55309	128



Document No.	Fig. No.
55309	129

C-8008

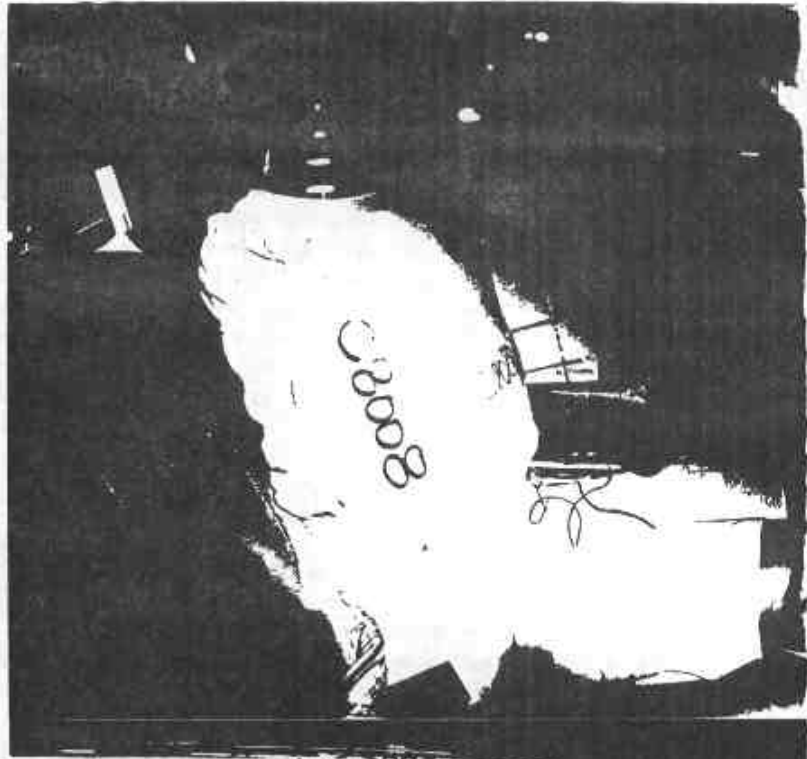
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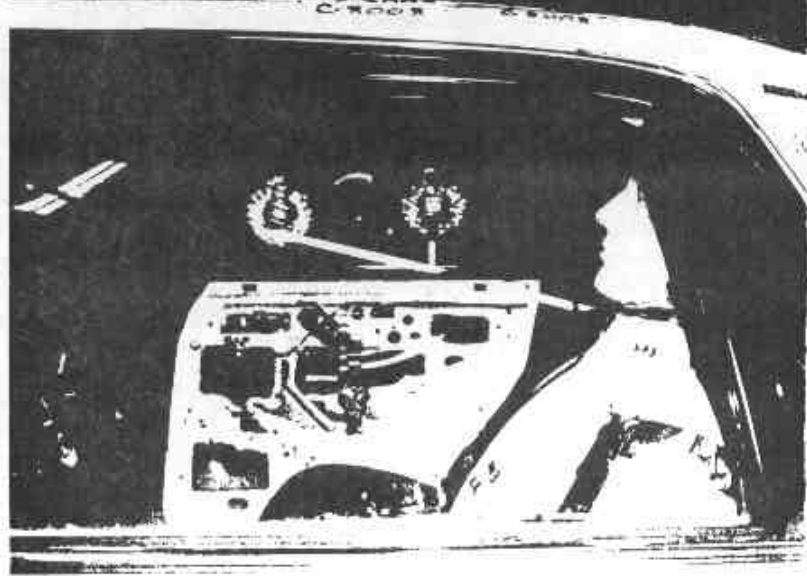
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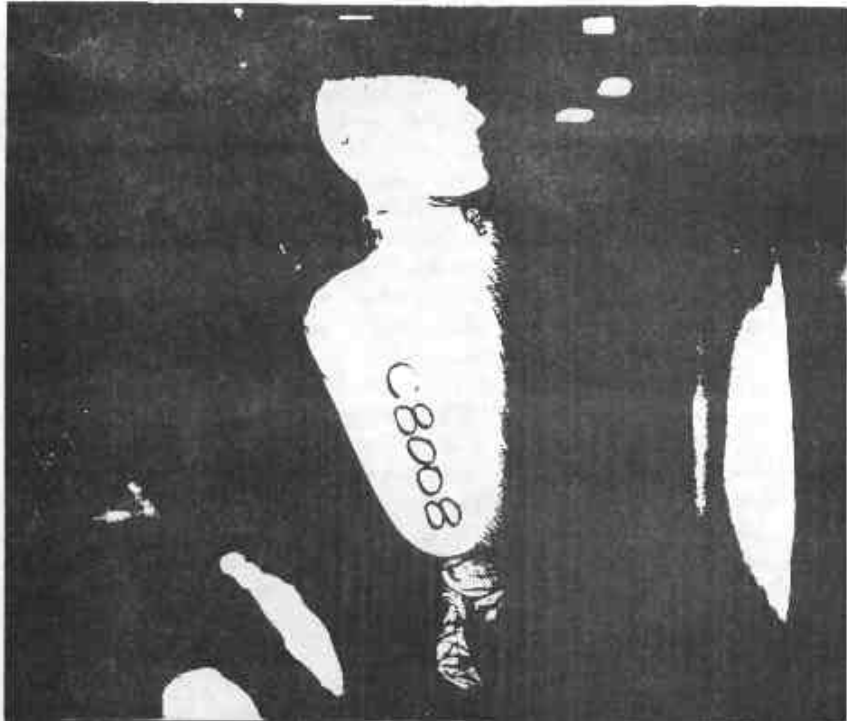
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Document No.	Fig. No.
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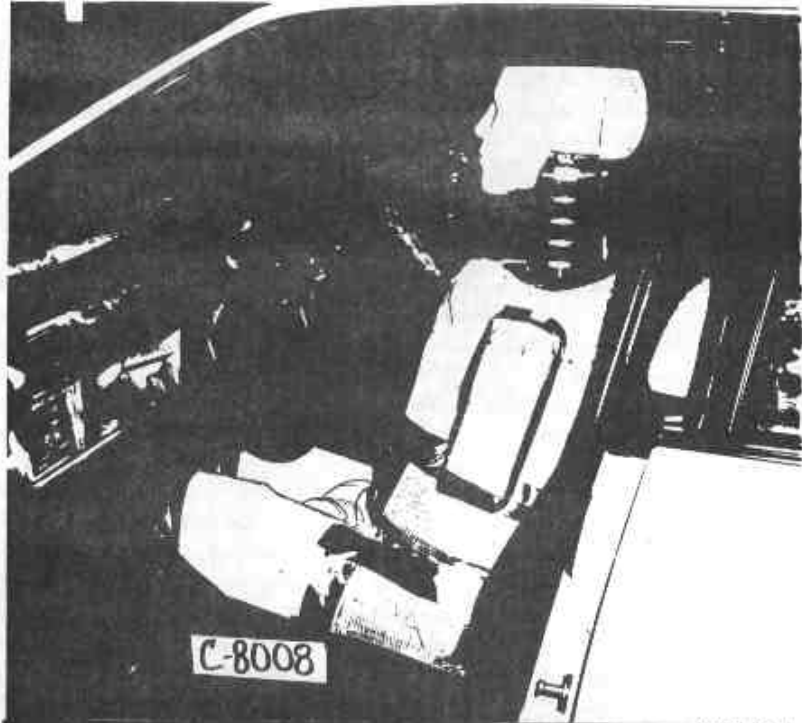


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55309	134



Document No.	Fig. No.
55309	135



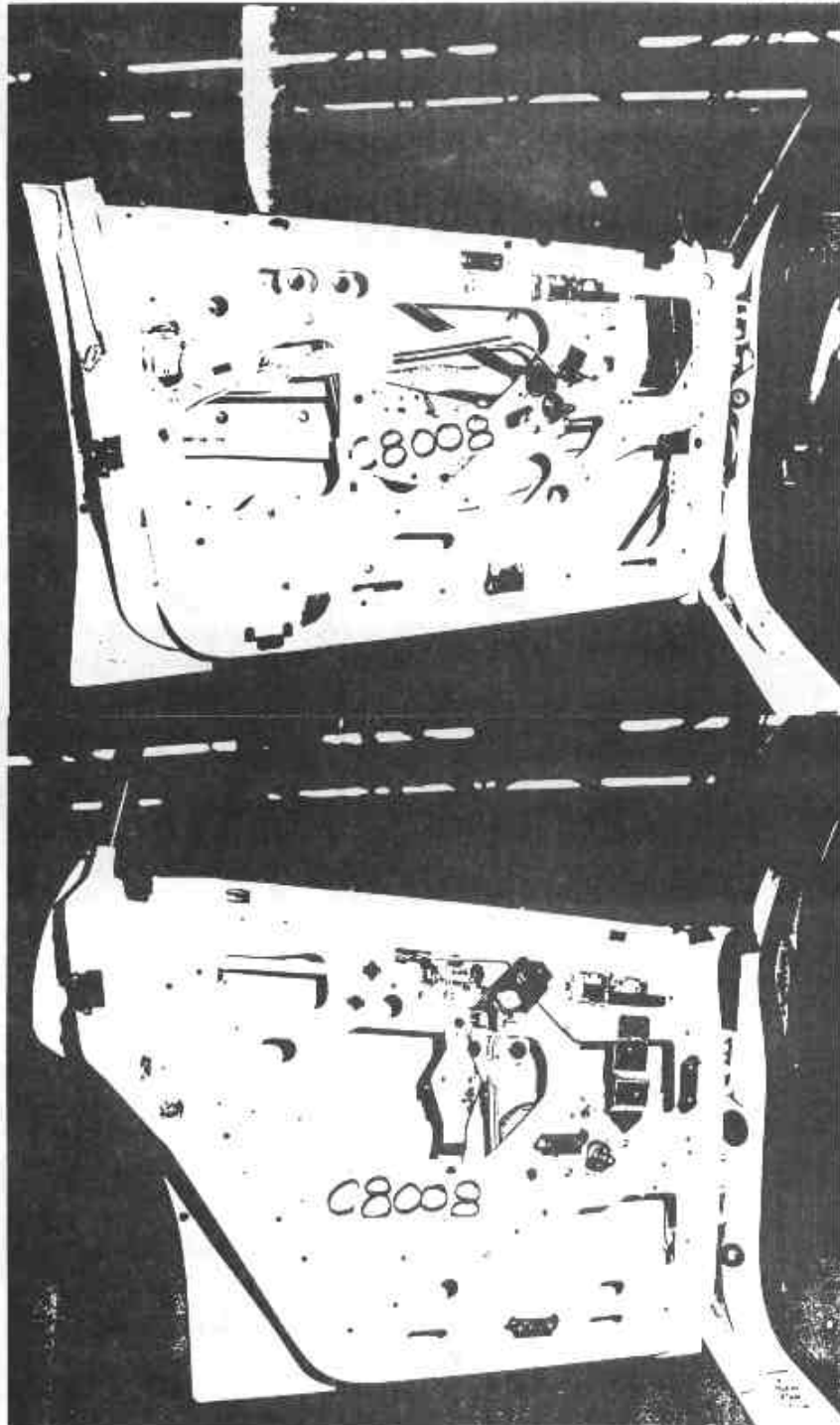


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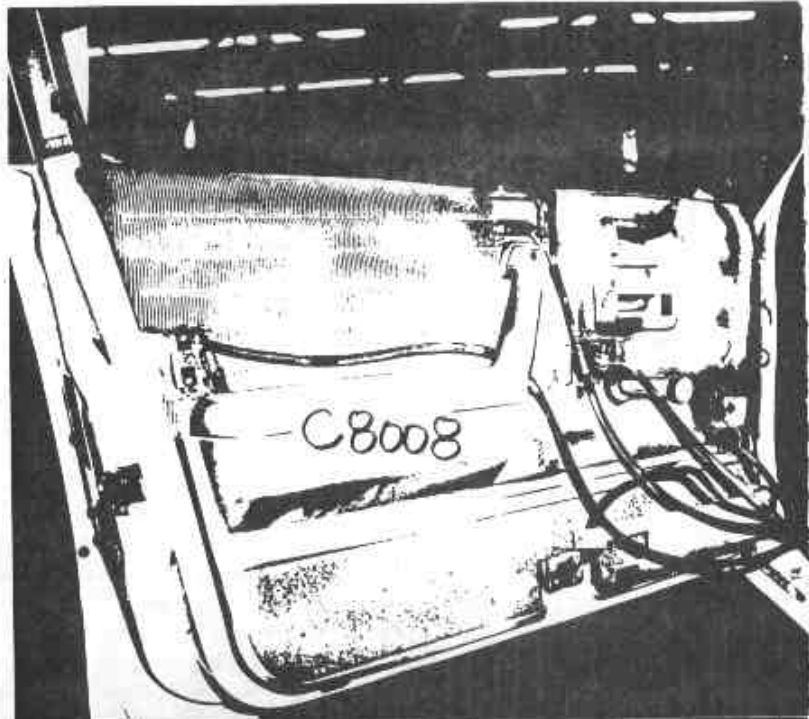


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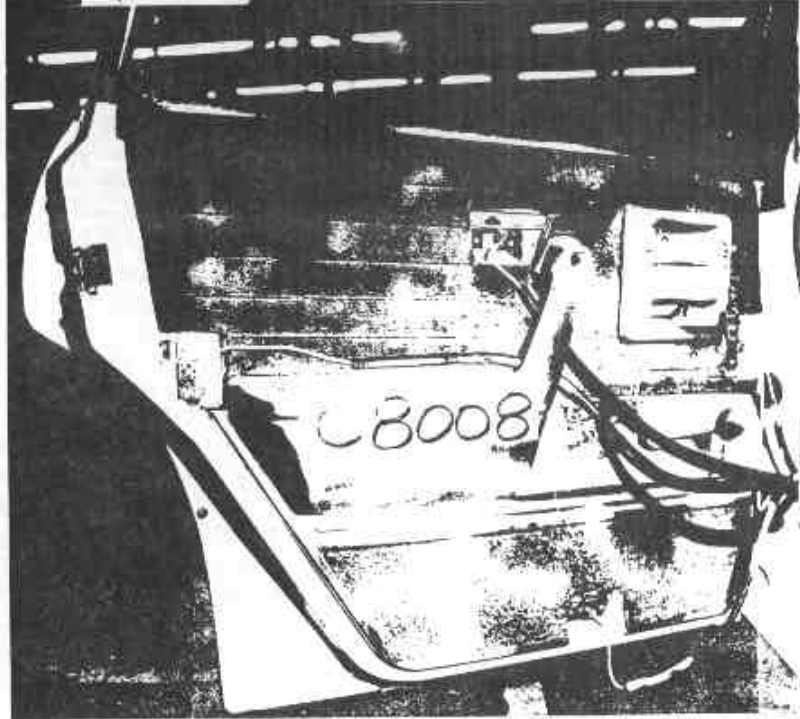
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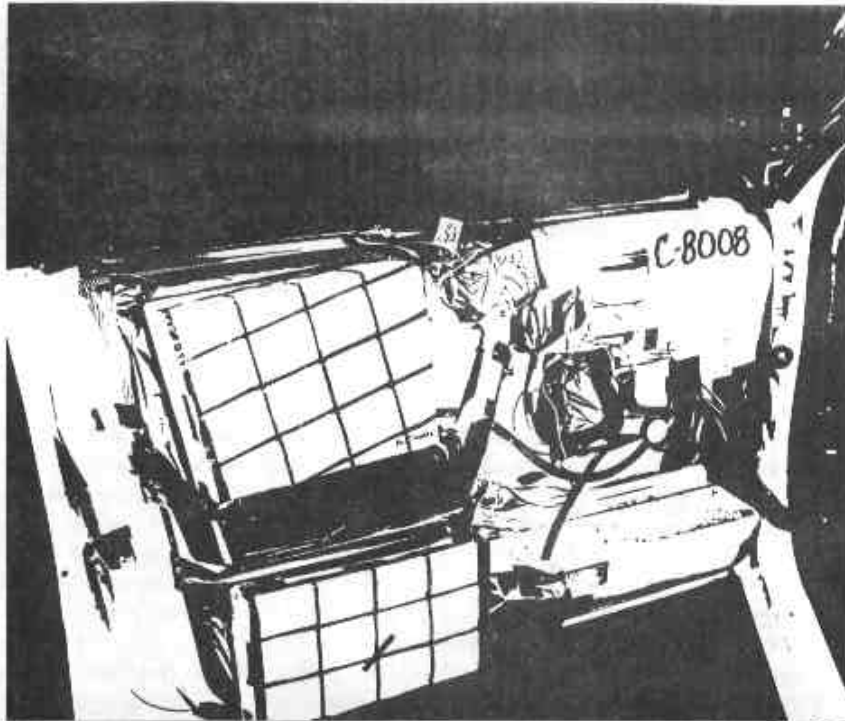


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55309	141

Document No.	Fig. No.
55309142	



Document No.	Fig. No.
55309143	





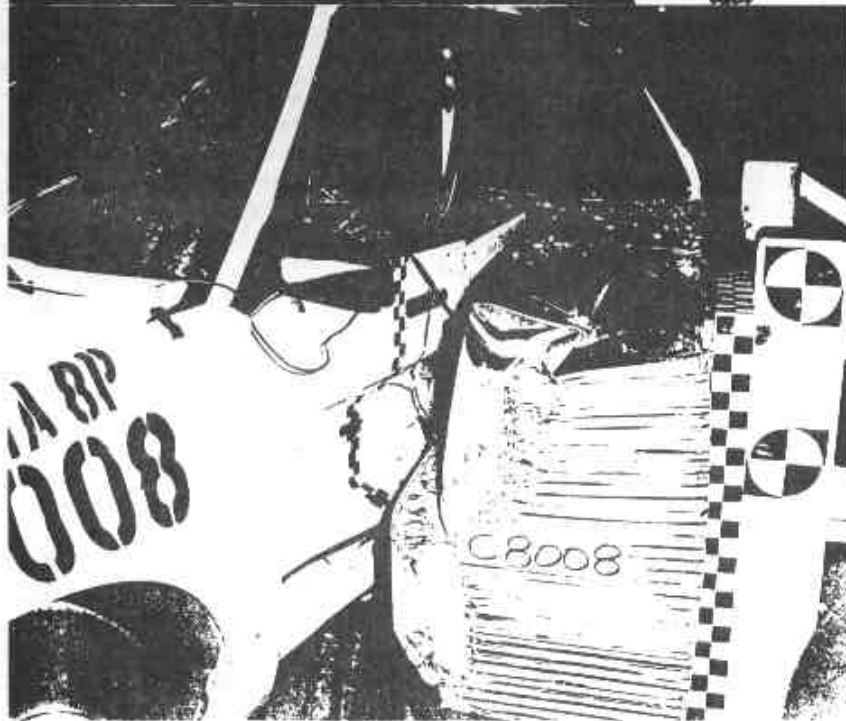
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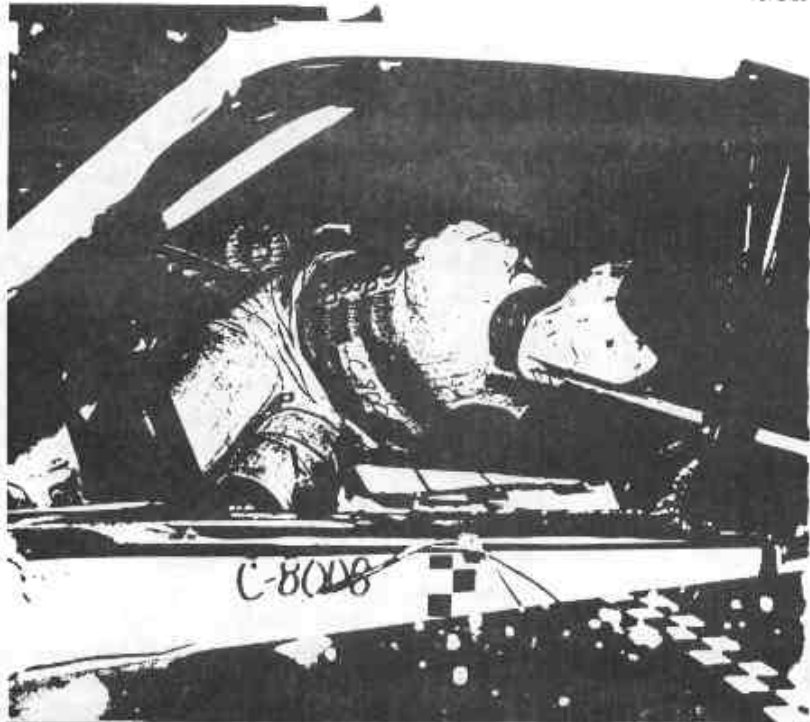


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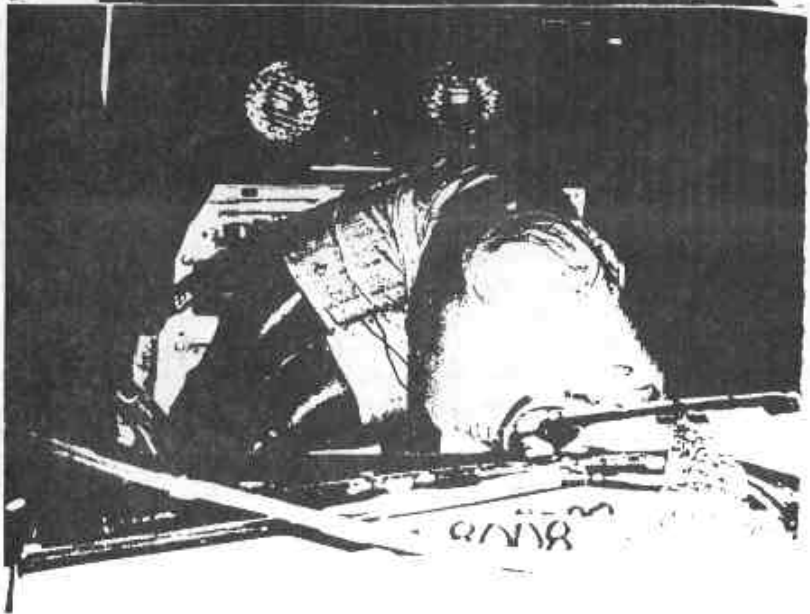


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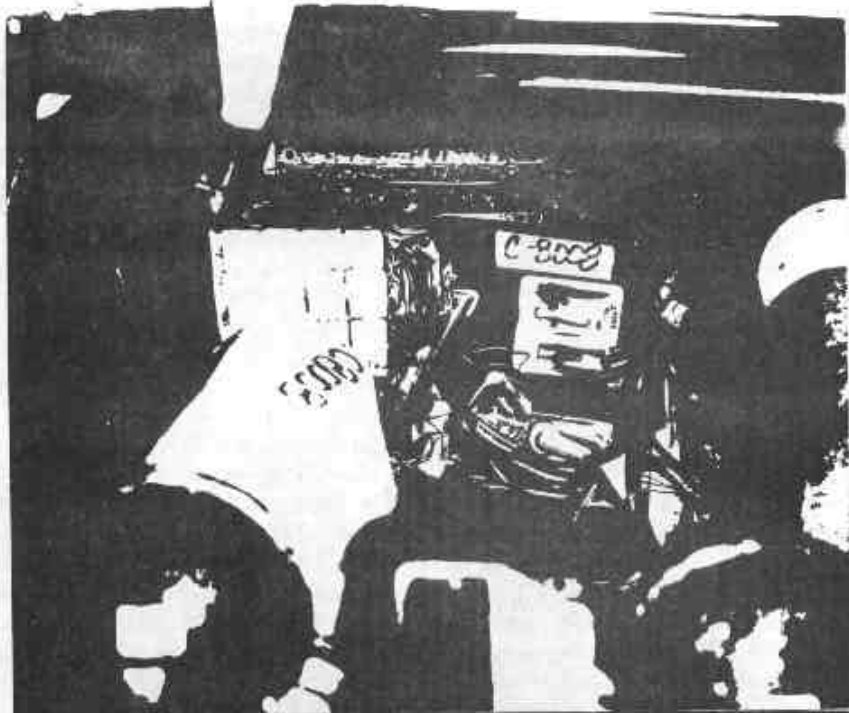
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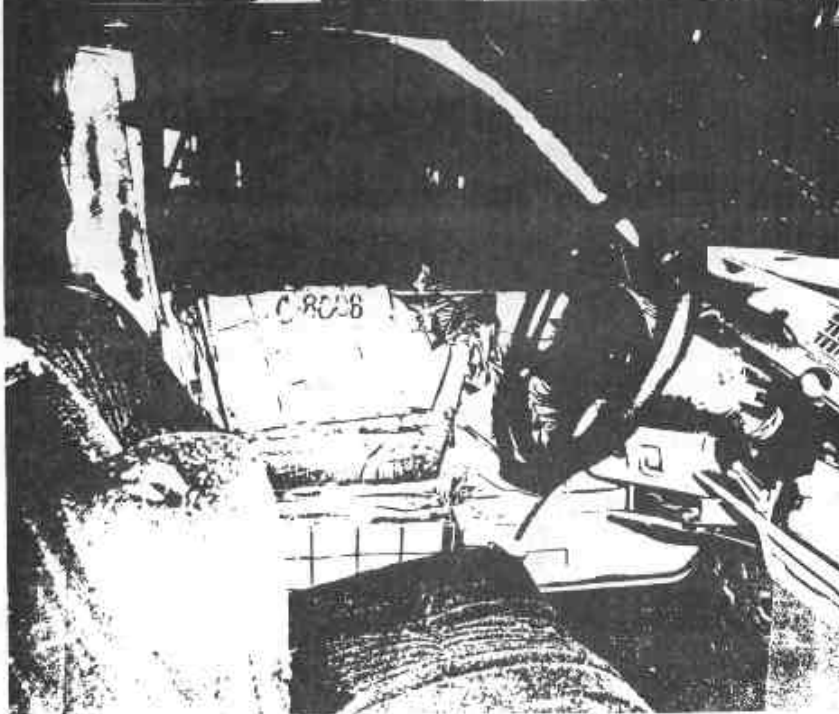
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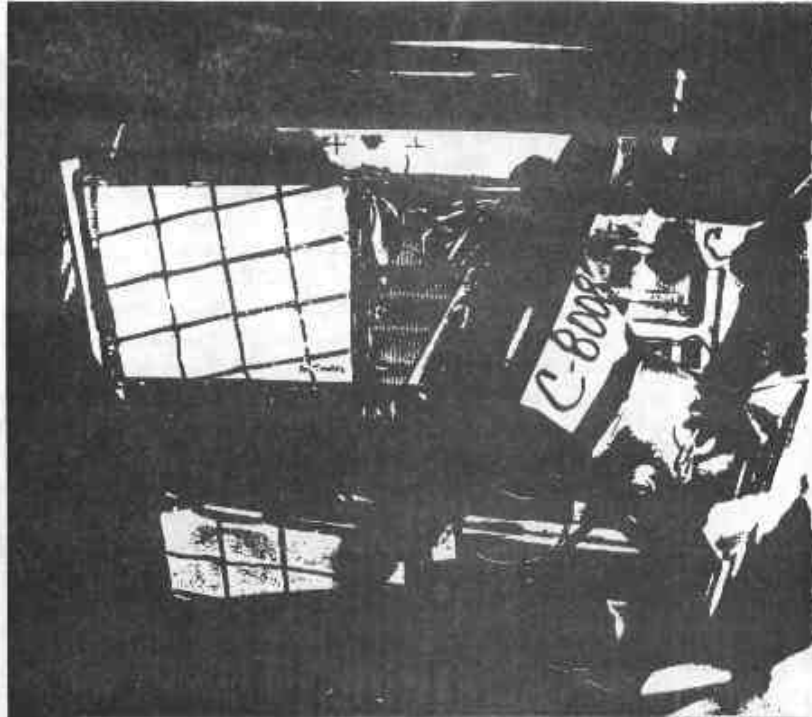
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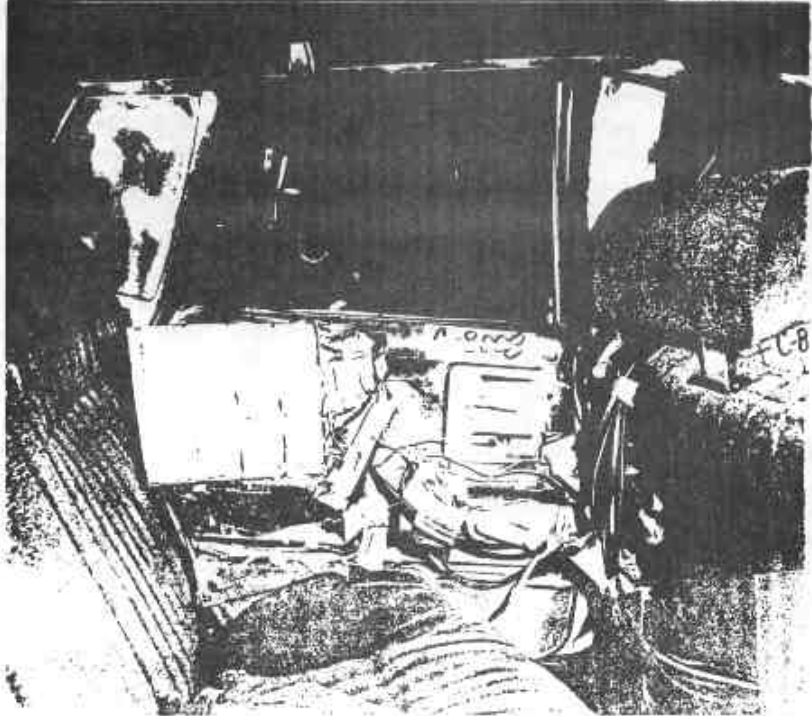
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5 309	151



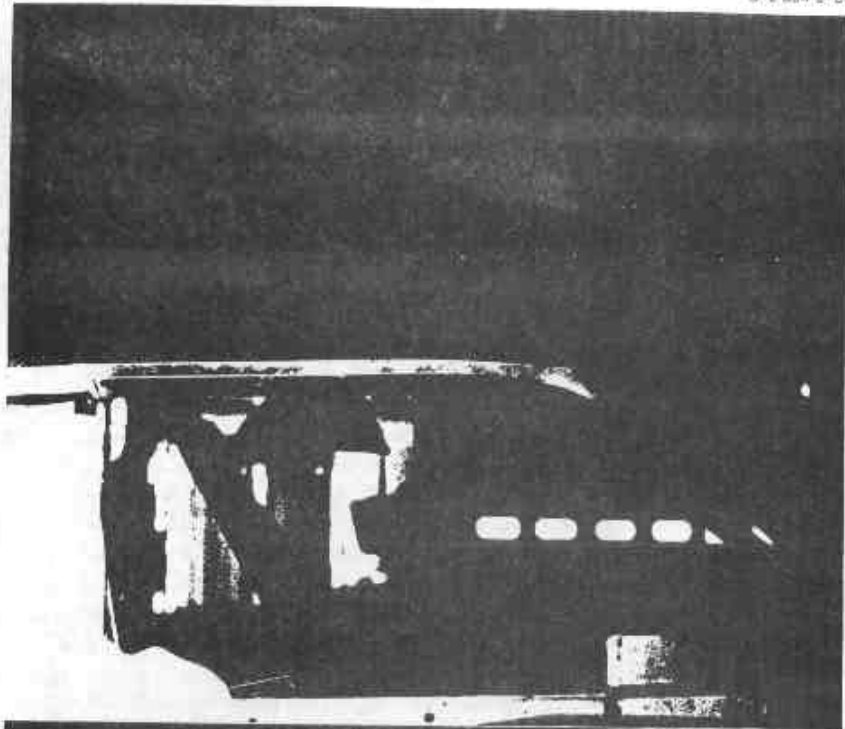
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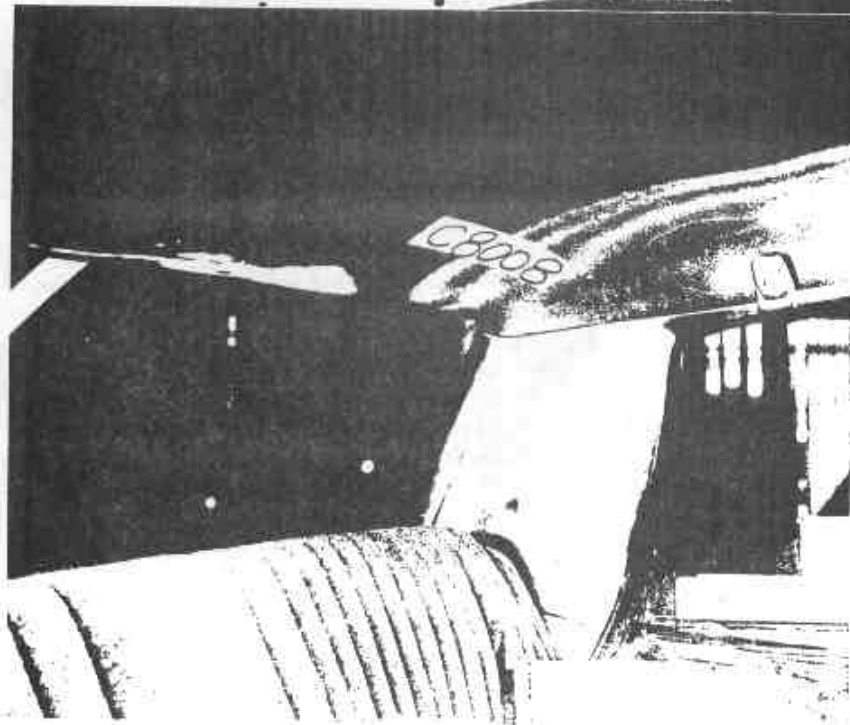
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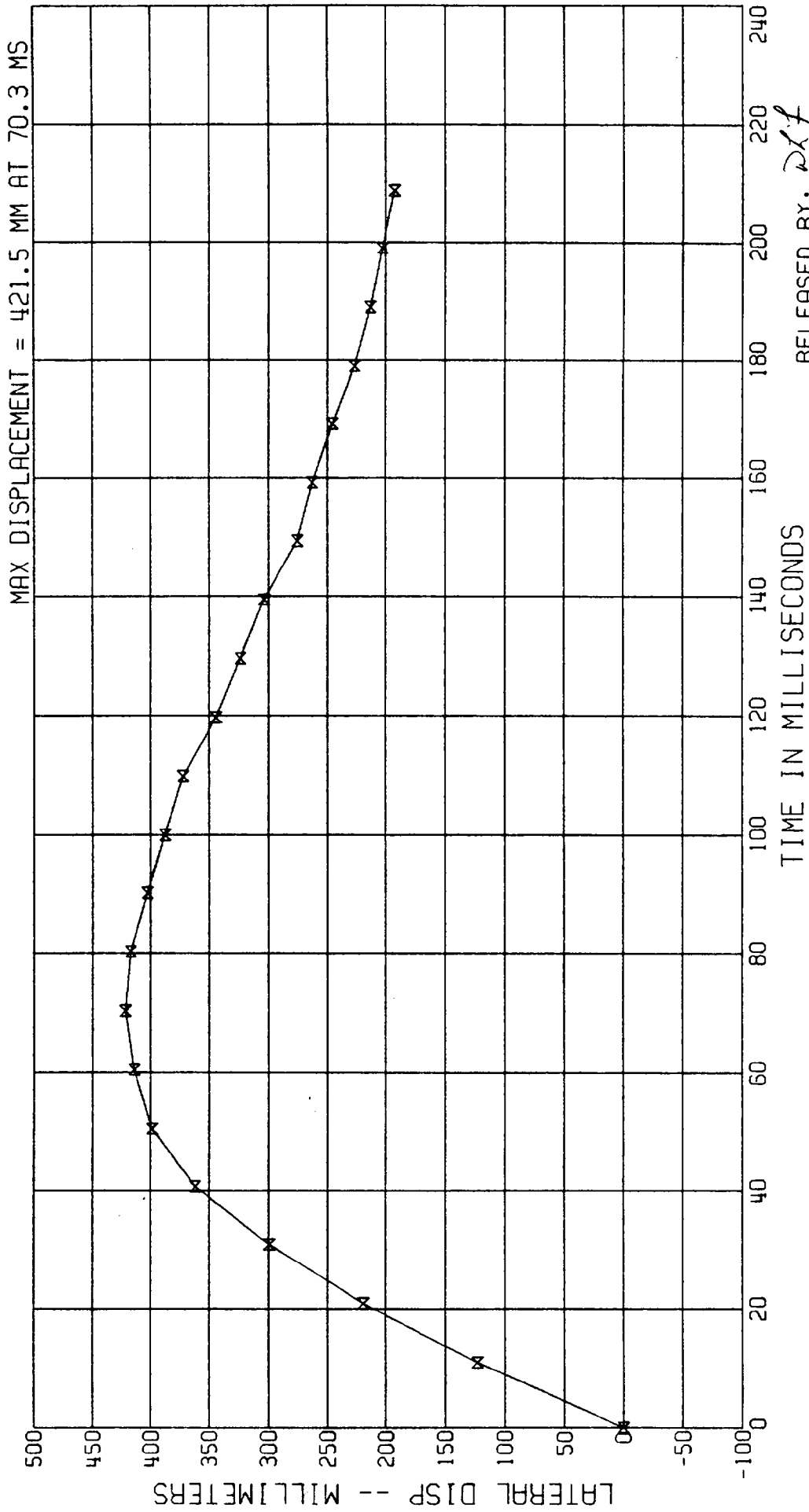


Document No.	Fig. No.
55309	155



C8008 L.SIDE IMPACT AT 27DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 1
 3868-905
 CPE MVMA 8P 2AF69
 FILM DATA
 OVERHEAD VIEW
 TEST DATE: 03-20-90

STRIKING BARRIER RELATIVE TO STRUCK VEHICLE



RELEASED BY: *DLF*
 1 PROCESSED 22 MAR 90 14:28

C8008 L.SIDE IMPACT AT 27DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 2

3868-905

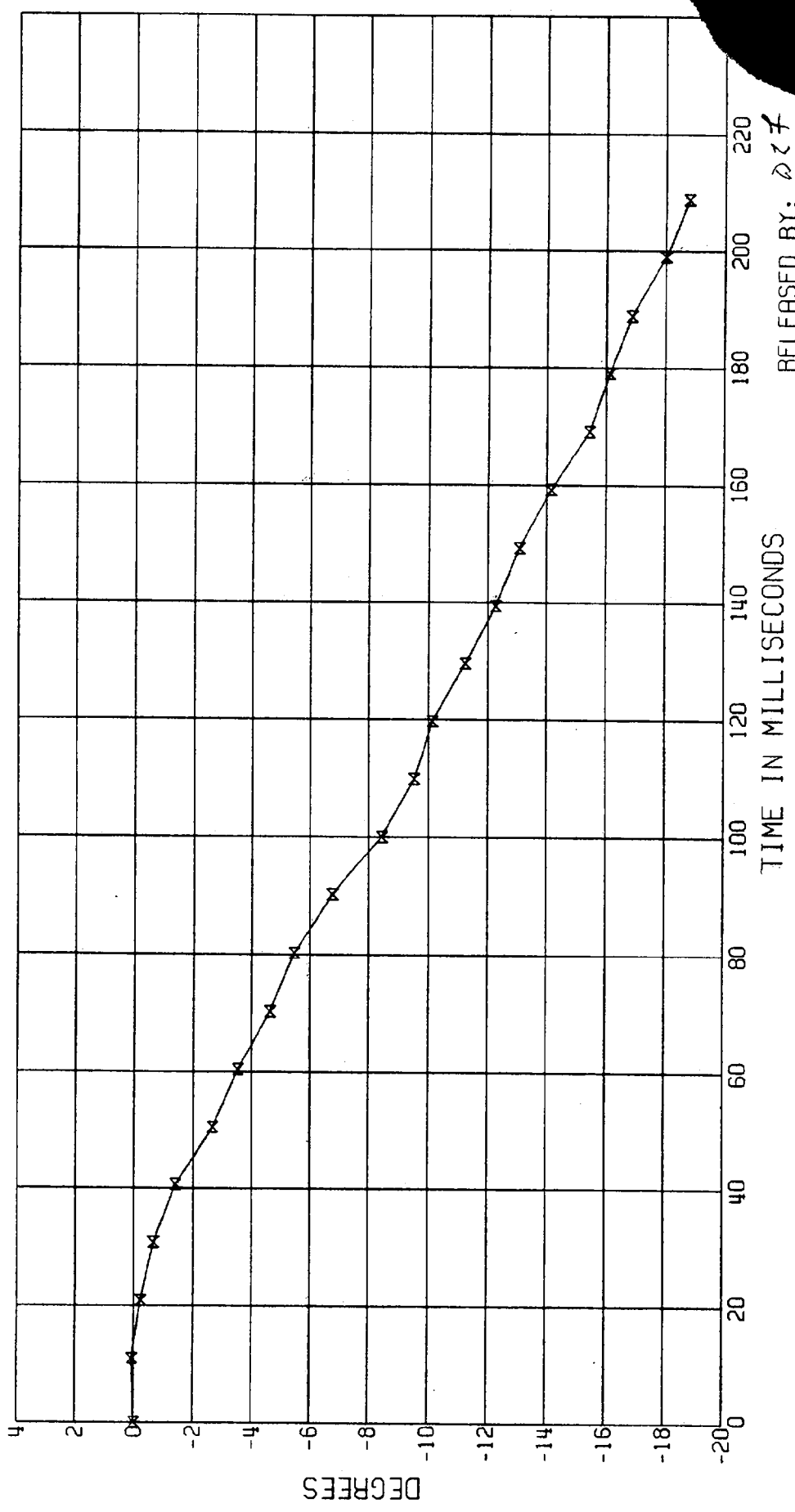
CPE MVMA 8P 2AF69

FILM DATA

OVERHEAD VIEW

TEST DATE:03-20-90

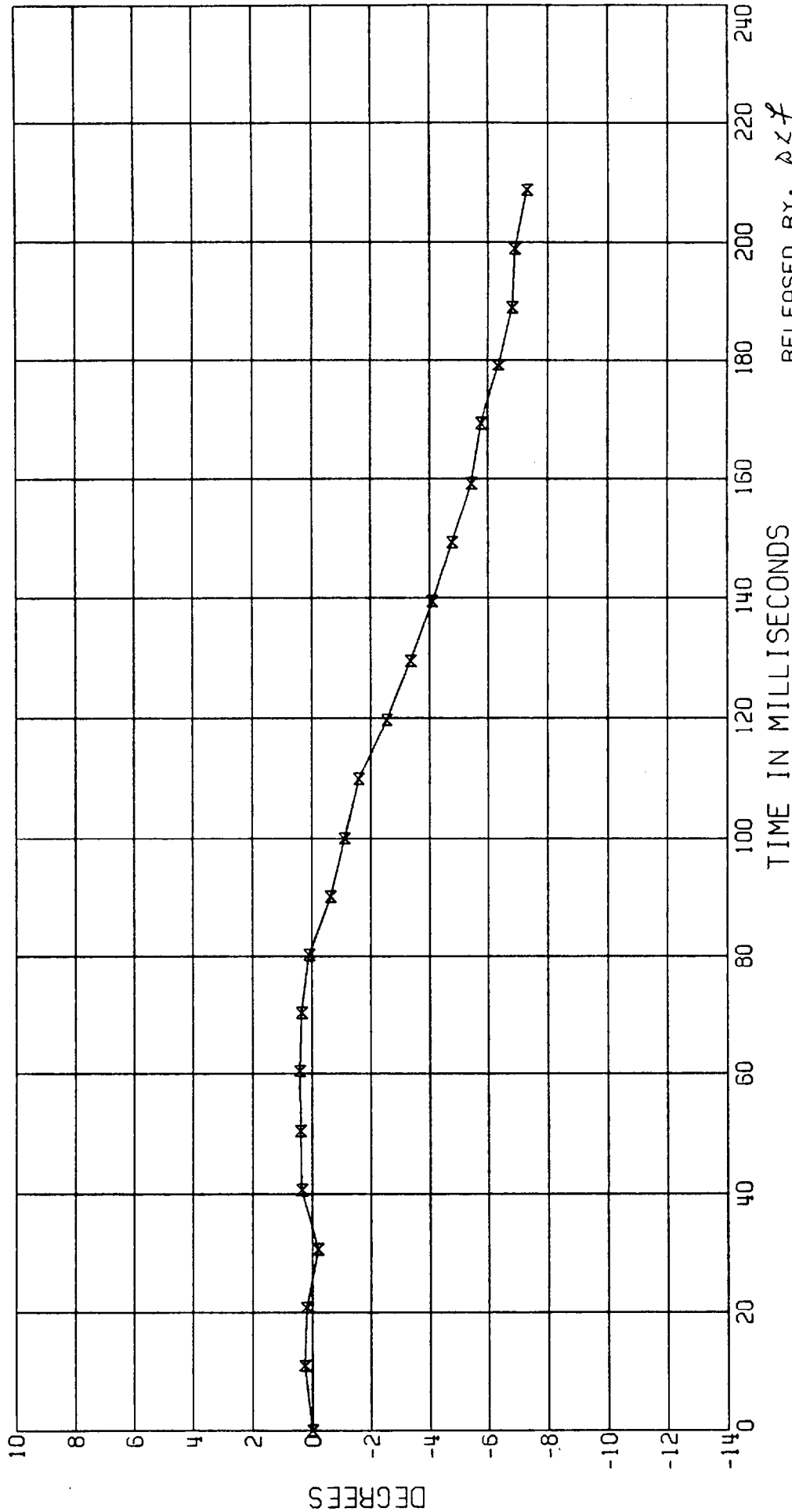
STRIKING BARRIER YAW RELATIVE TO GROUND REFERENCE



RELEASED BY: DJF
3 PROCESSED 22-MAR 90 14:2

C8008 L.SIDE IMPACT AT 27DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 3
3868-905
CPE MVMA 8P 2AF69
FILM DATA OVERHEAD VIEW TEST DATE: 03-20-90

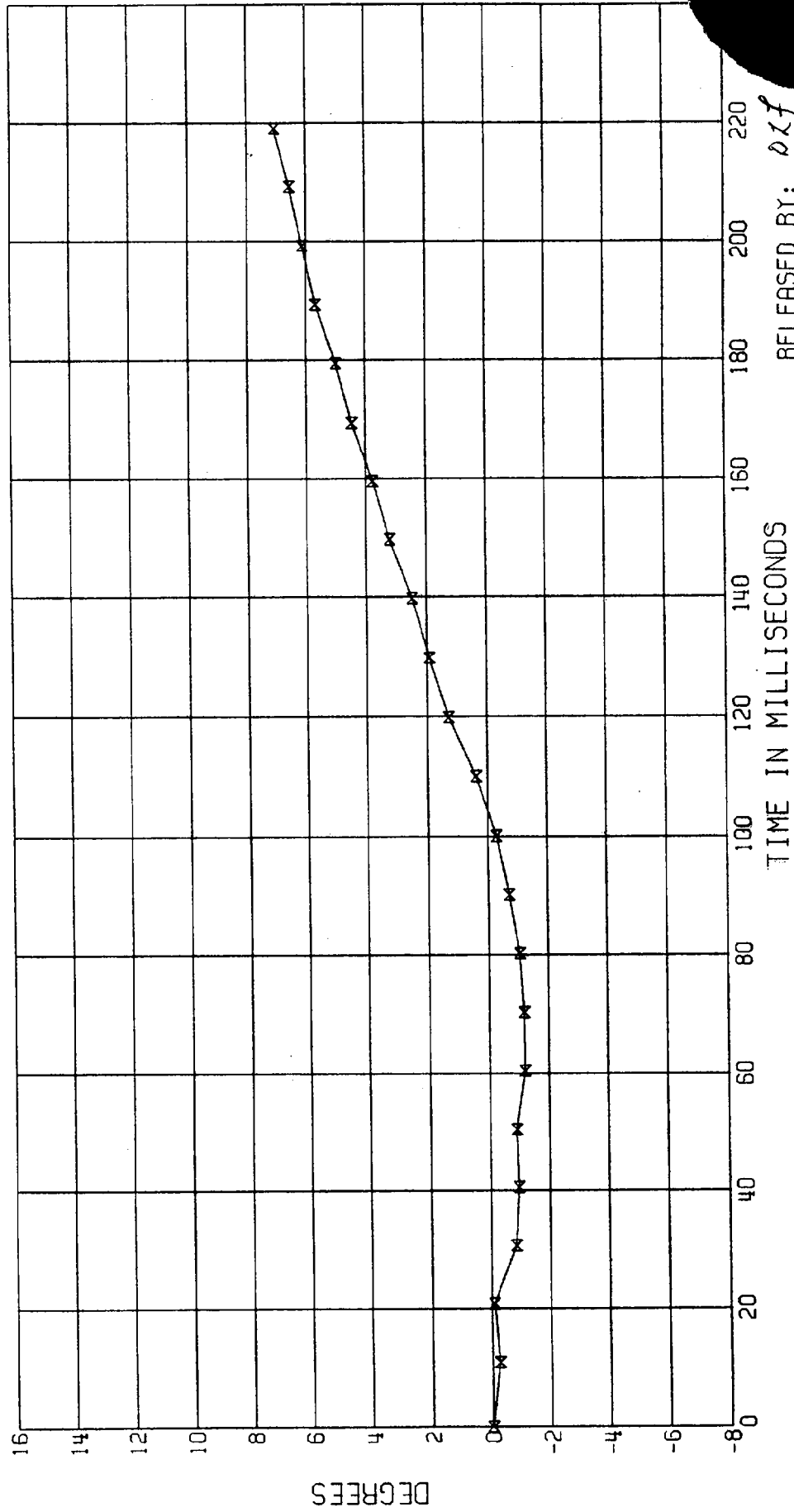
STRUCK VEHICLE YAW RELATIVE TO GROUND REFERENCE



RELEASED BY: DLZ
4 PROCESSED 22 MAR 90 14:28

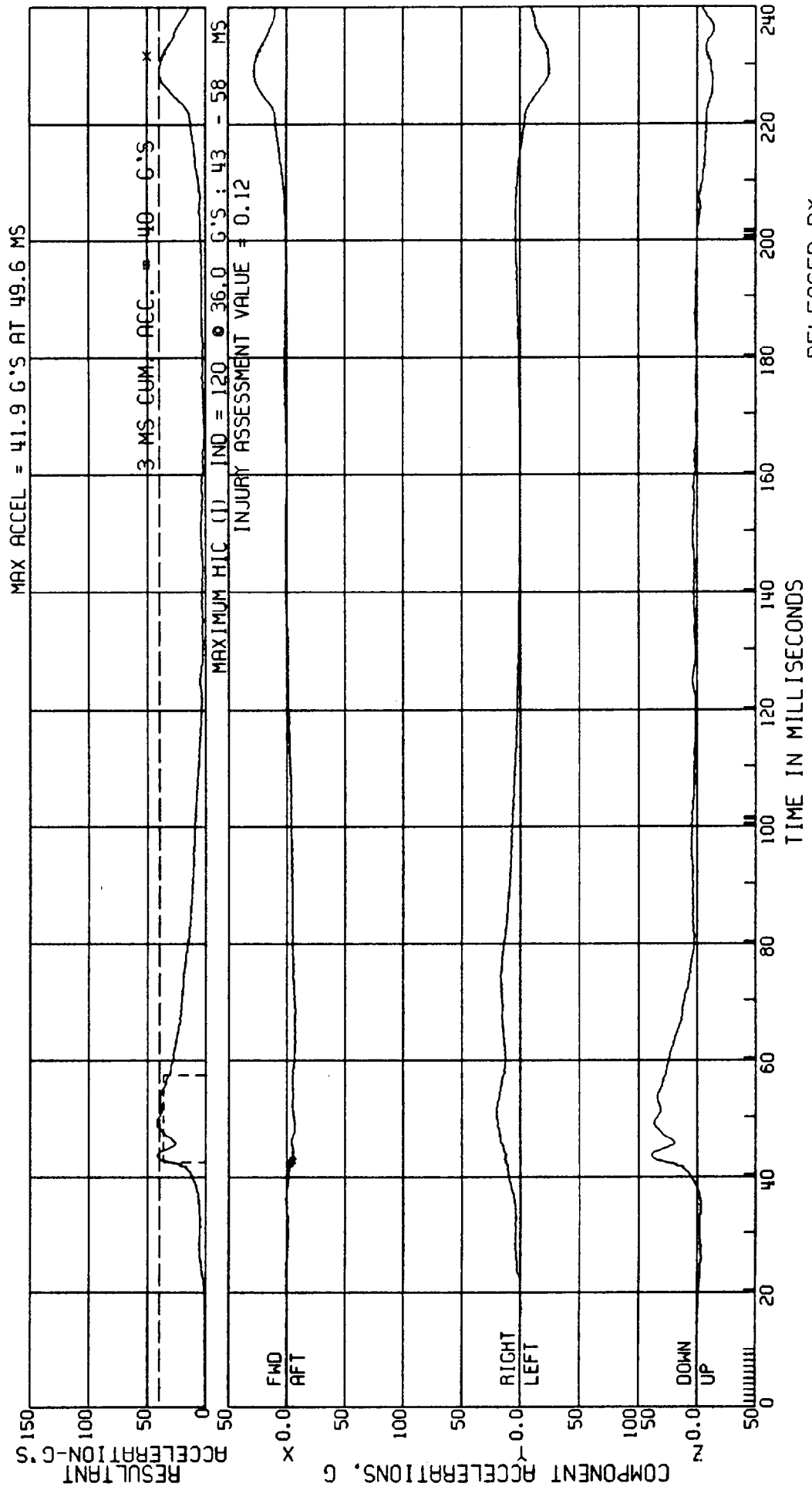
C8008 L.SIDE IMPACT AT 27DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 7
3868-905 REAR VIEW TEST DATE: 03-20-90
CPE MVMA 8P 2AF69
FILM DATA

STRUCK VEHICLE ROLL RELATIVE TO GROUND REFERENCE



RELEASED BY: *DLF*
1 PROCESSED 22 MAR 90 14

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 5
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER HEAD ACCEL.
 ELEC DATA, SAE CLASS 1000 (HIC 1 LIMITED TO 15MS)



RELEASED BY:
 1 PROCESSED 3 MY 90 11:48

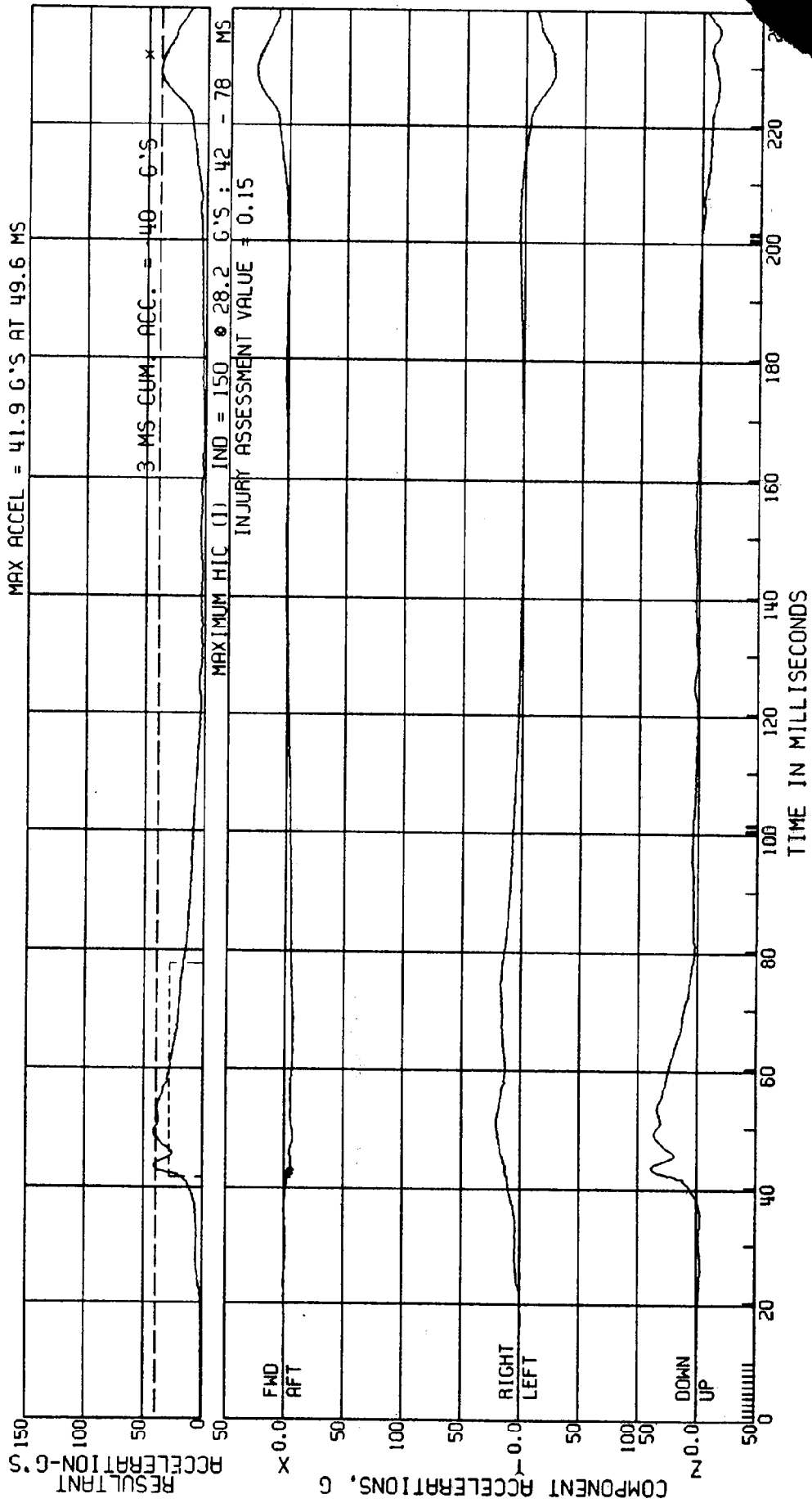
5a.

Great Deal
SOS

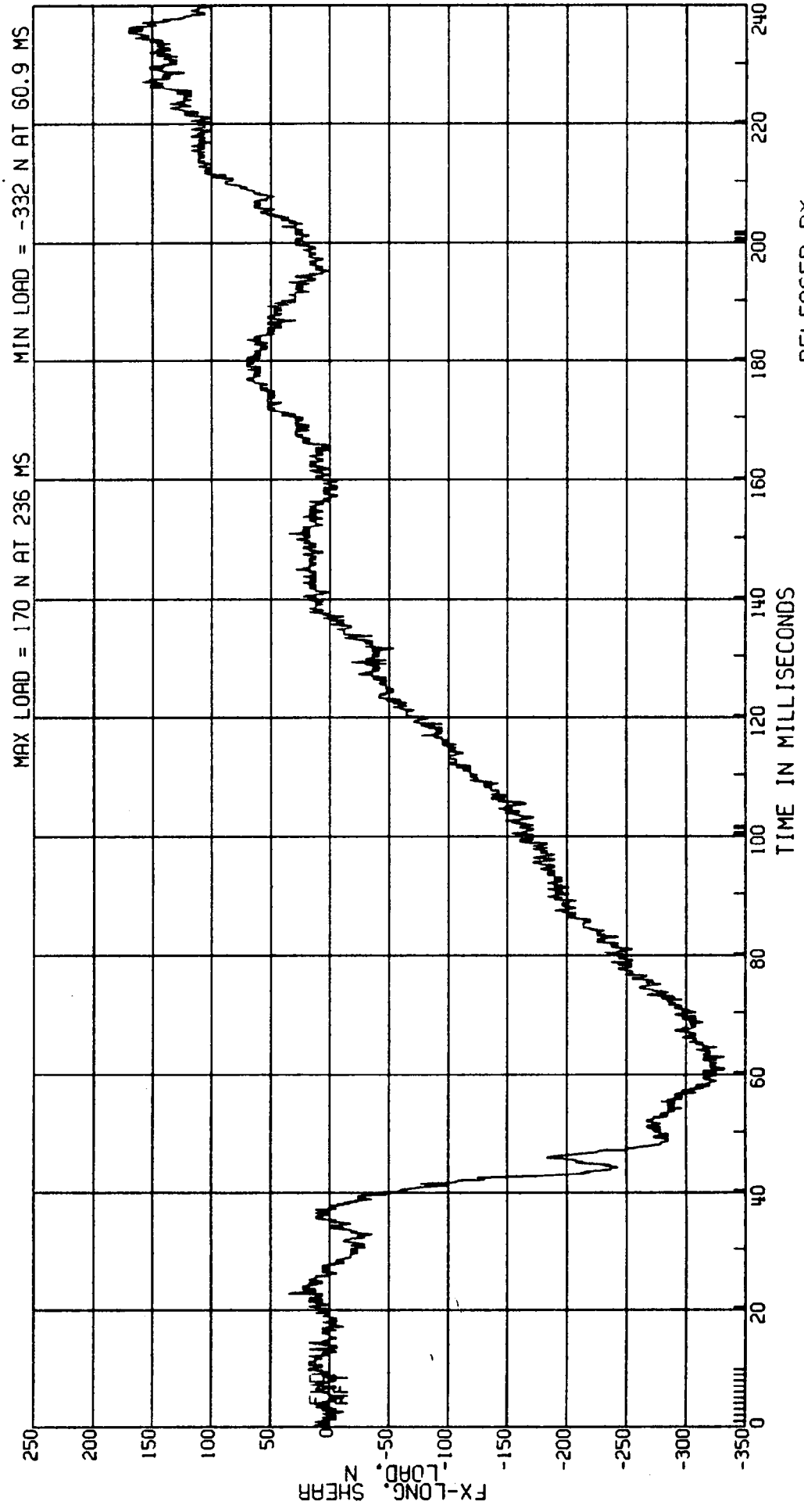
DF PLOTS = 77
10.10
0.75

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 6
 3868-905
 CPE MVMA 8P 2AF69
 ELEC DATA, SAE CLASS 1000
 DRIVER HEAD ACCEL.
 (HIC I LIMITED TO 36MS)

ATD TYPE: BIOSID
 TEST DATE: 03-20-90

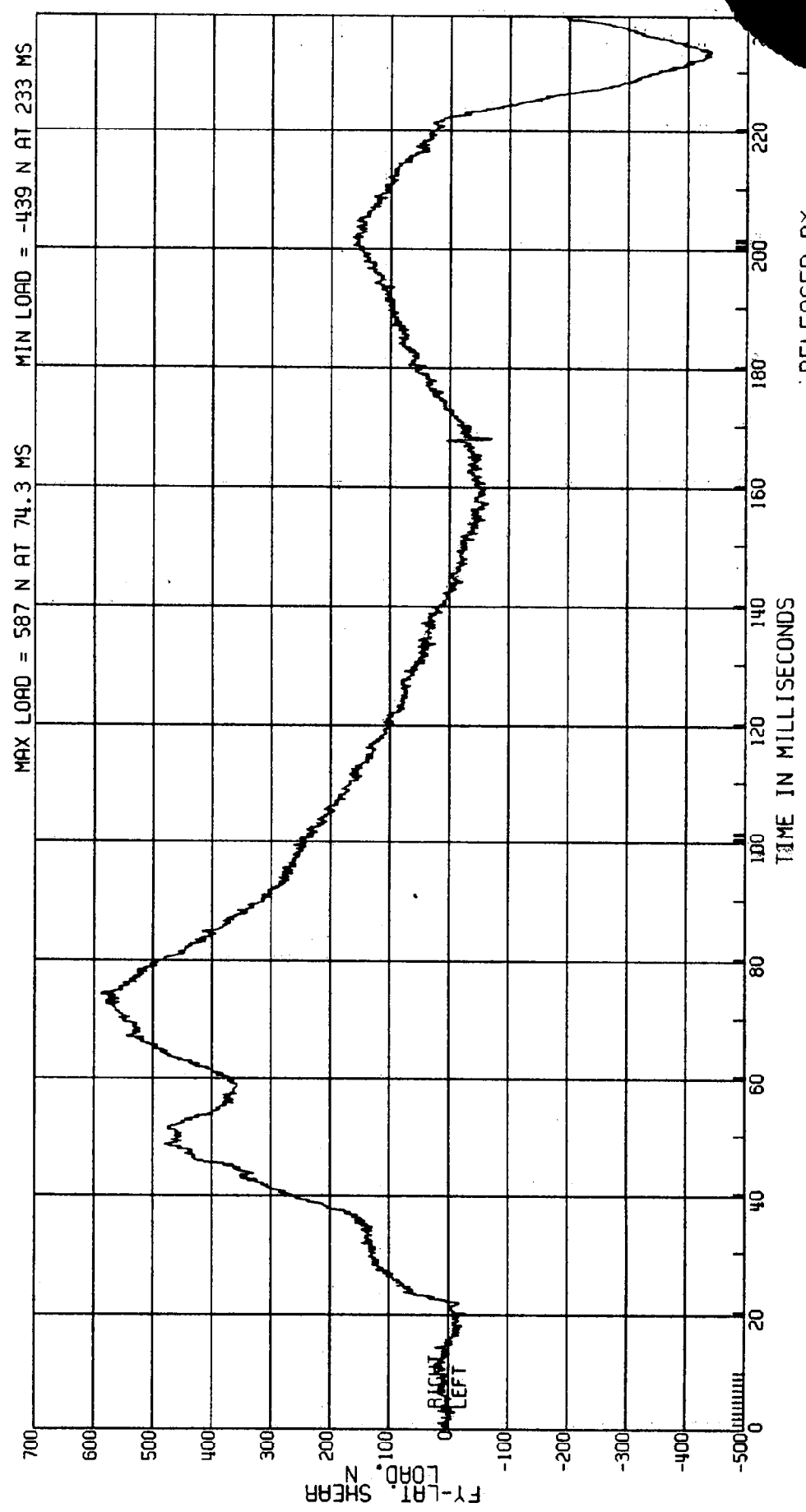


C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 7
3868-905 AID TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER NECK LOADING ON HEAD, UPPER LOAD TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 1000



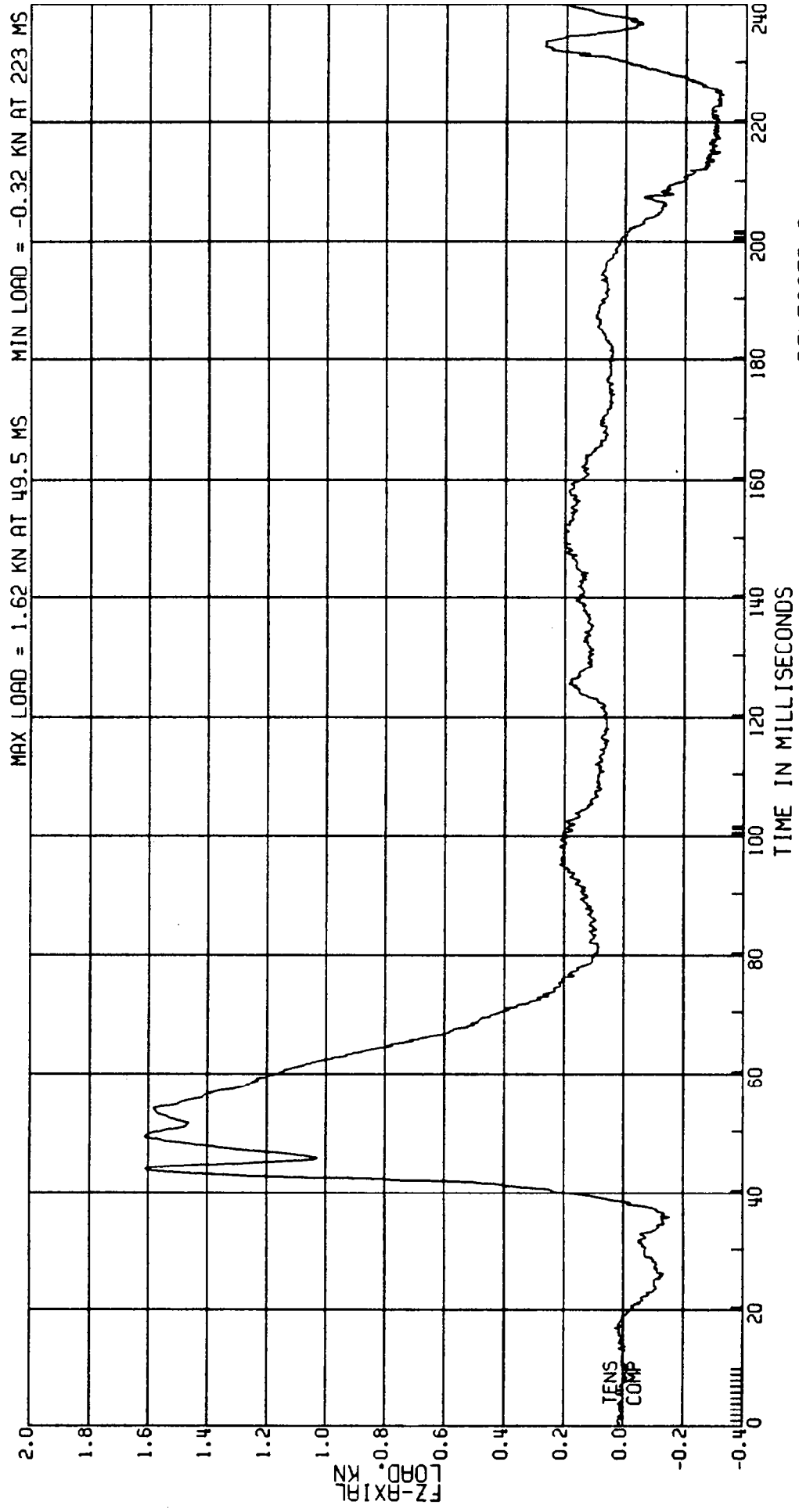
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C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 8
 3868-905
 CPE MVMA 8P 2AF69 DRIVER NECK LOADING ON HEAD, UPPER LOAD
 ELEC DATA, SAE CLASS 1000
 ATD TYPE: BIOSID
 TEST DATE: 03-20-90



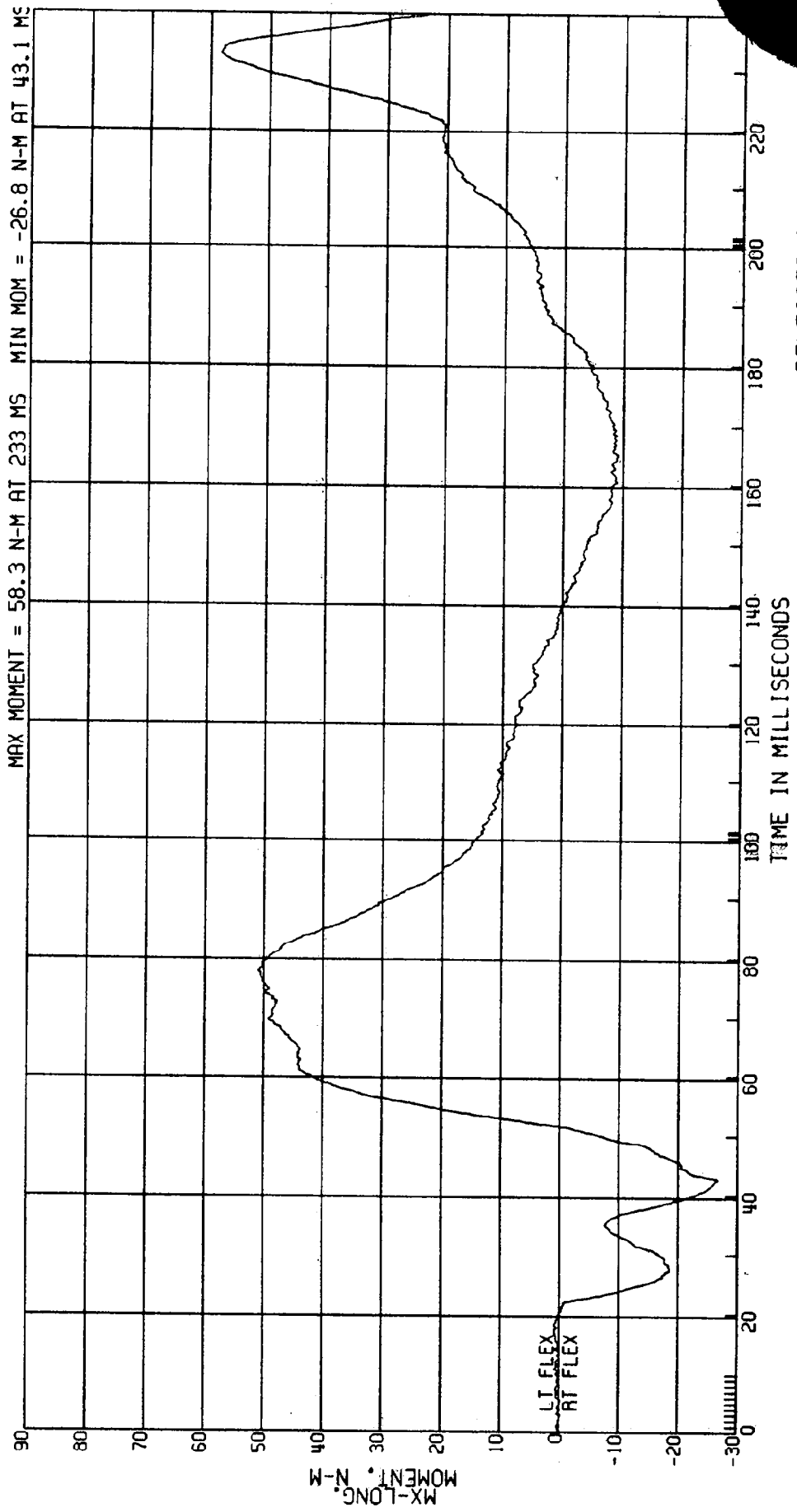
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 4 PROCESSED 3 MY 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 9
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER NECK LOADING ON HEAD, UPPER LOAD TEST DATE: 03-20-90
 ELEC DATA, SAE CLASS 1000



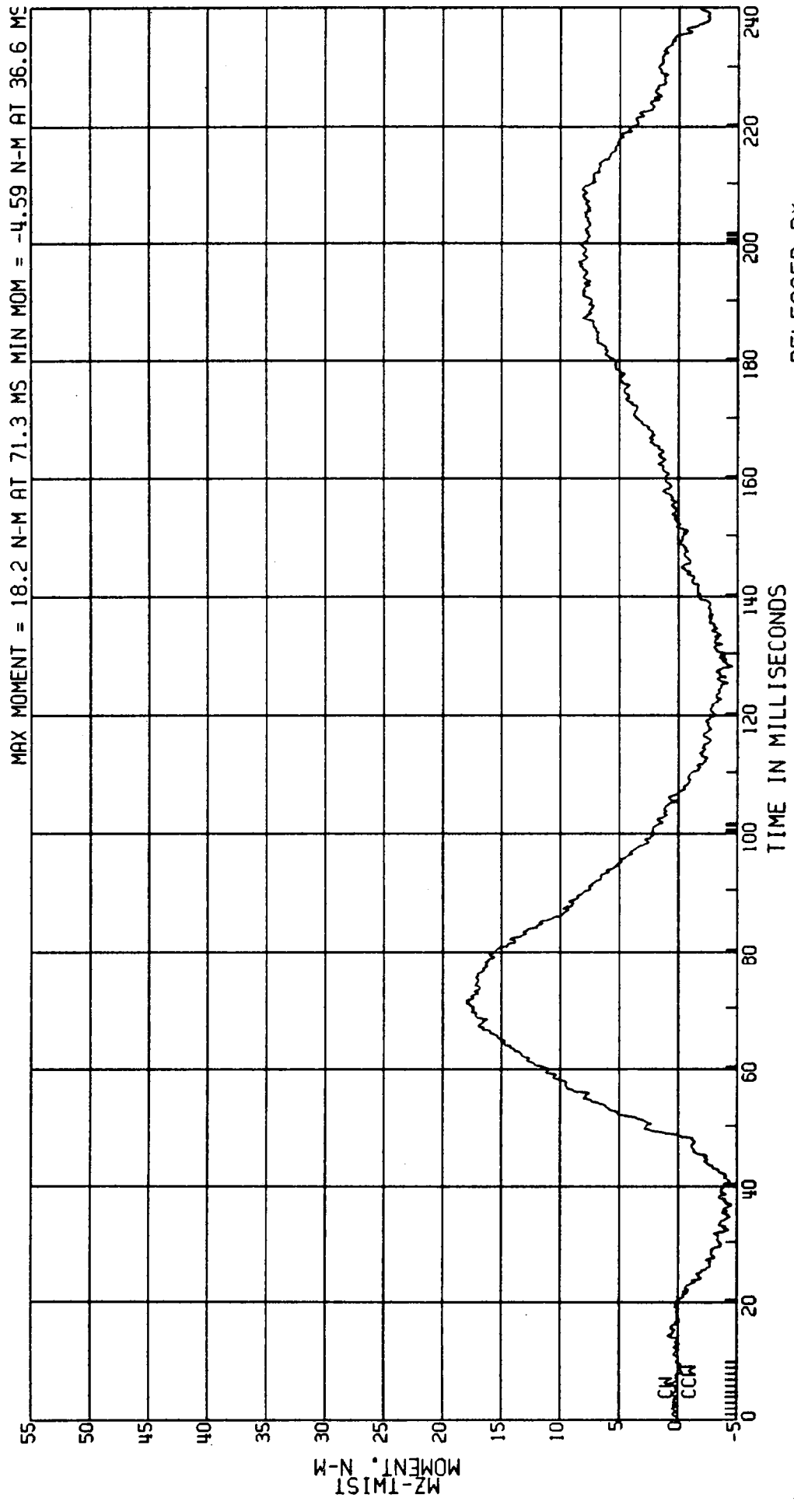
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C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /0
3868-905
CPE MVMA 8P 2AF69 DRIVER NECK LOADING ON HEAD, UPPER
ELEC DATA, SAE CLASS 600



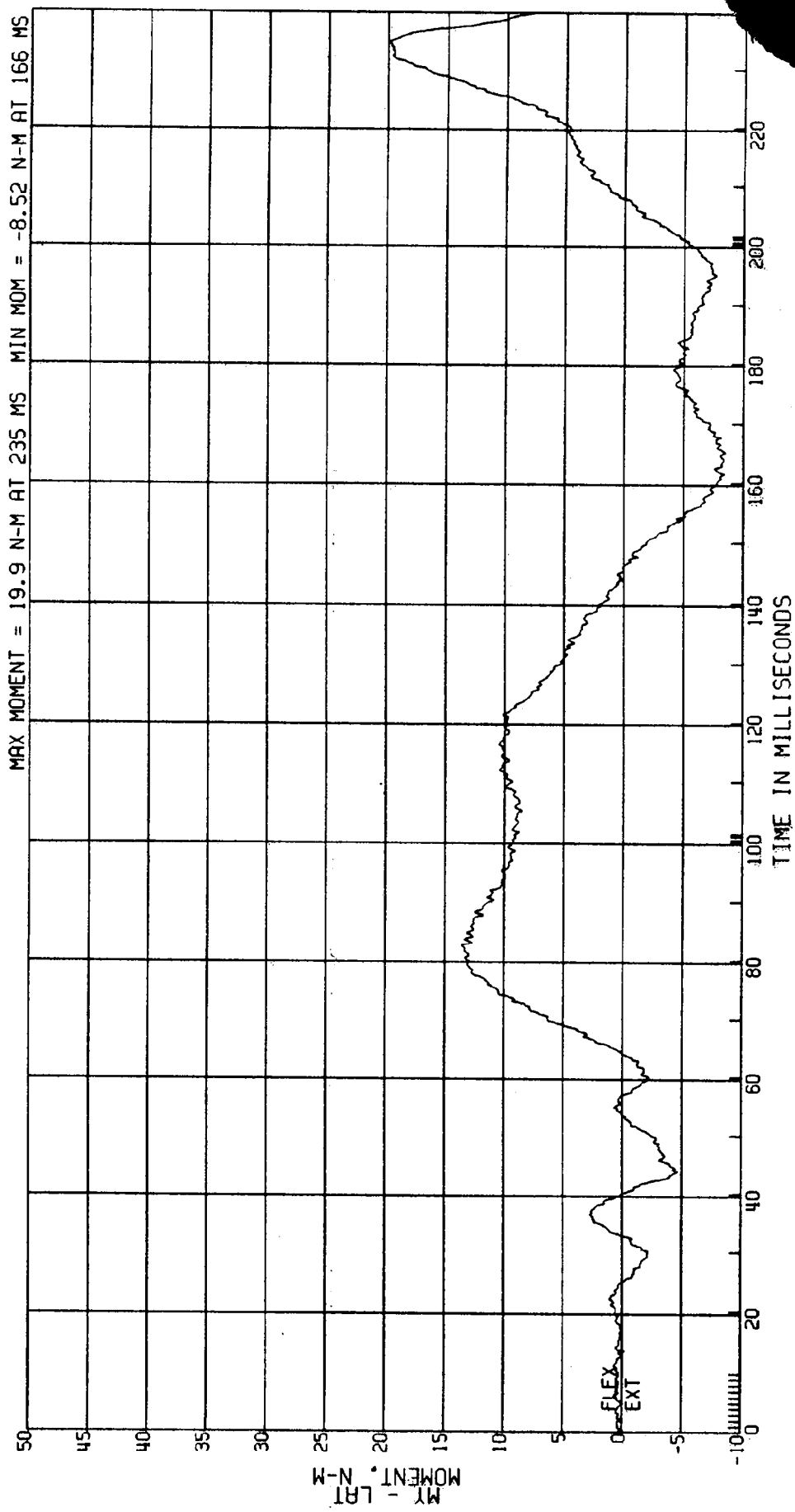
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C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE //
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER NECK LOADING ON HEAD, UPPER
 ELEC DATA, SAE CLASS 600 TEST DATE:03-20-90



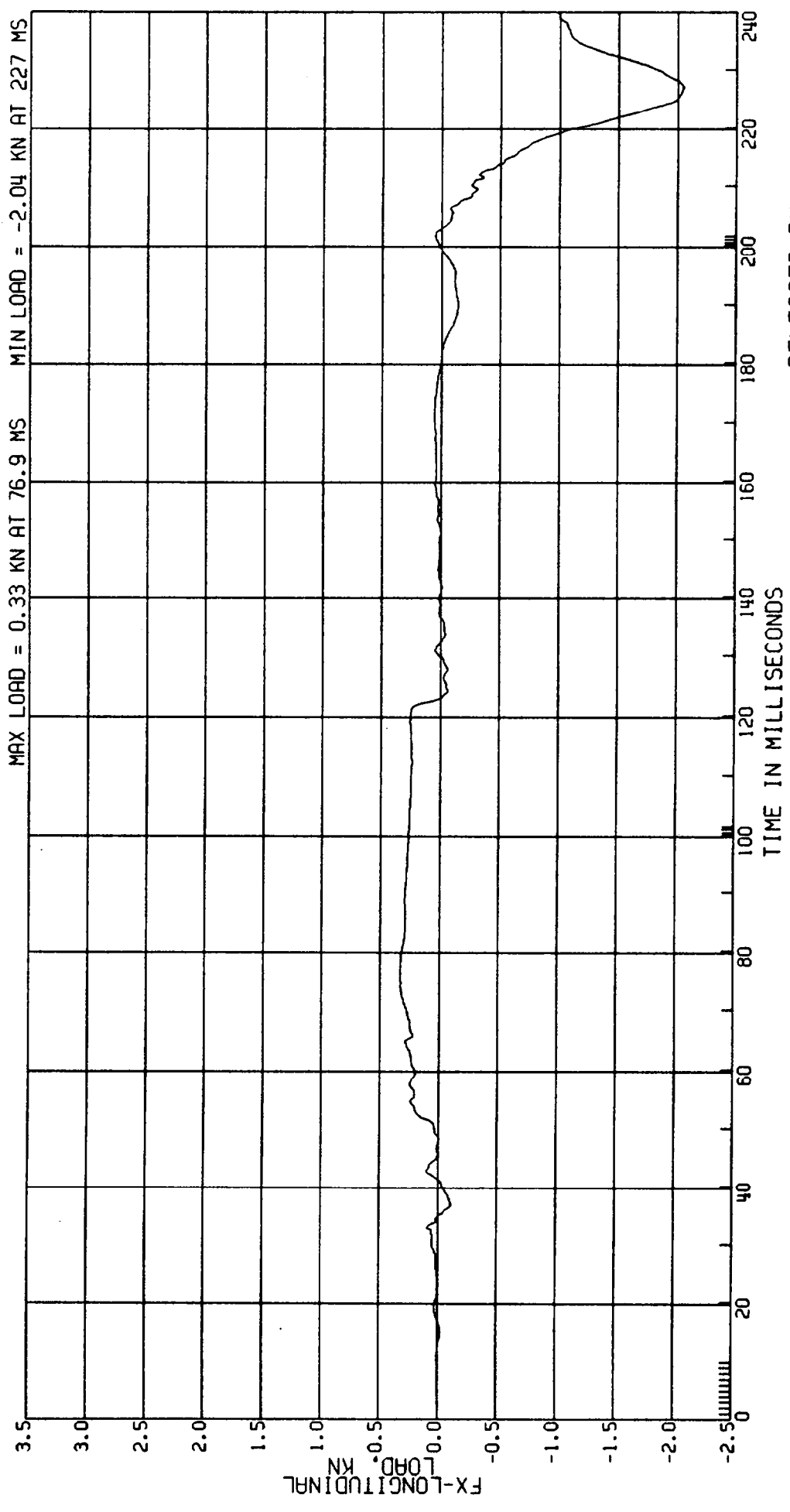
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 7 PROCESSED 3 MT 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /2
 3868-905
 CPE MVMA 8P 2AF69 DRIVER NECK LOADING ON HEAD
 ELEC DATA, SAE CLASS 600
 ATD TYPE: BIOSID
 TEST DATE: 03-20-90



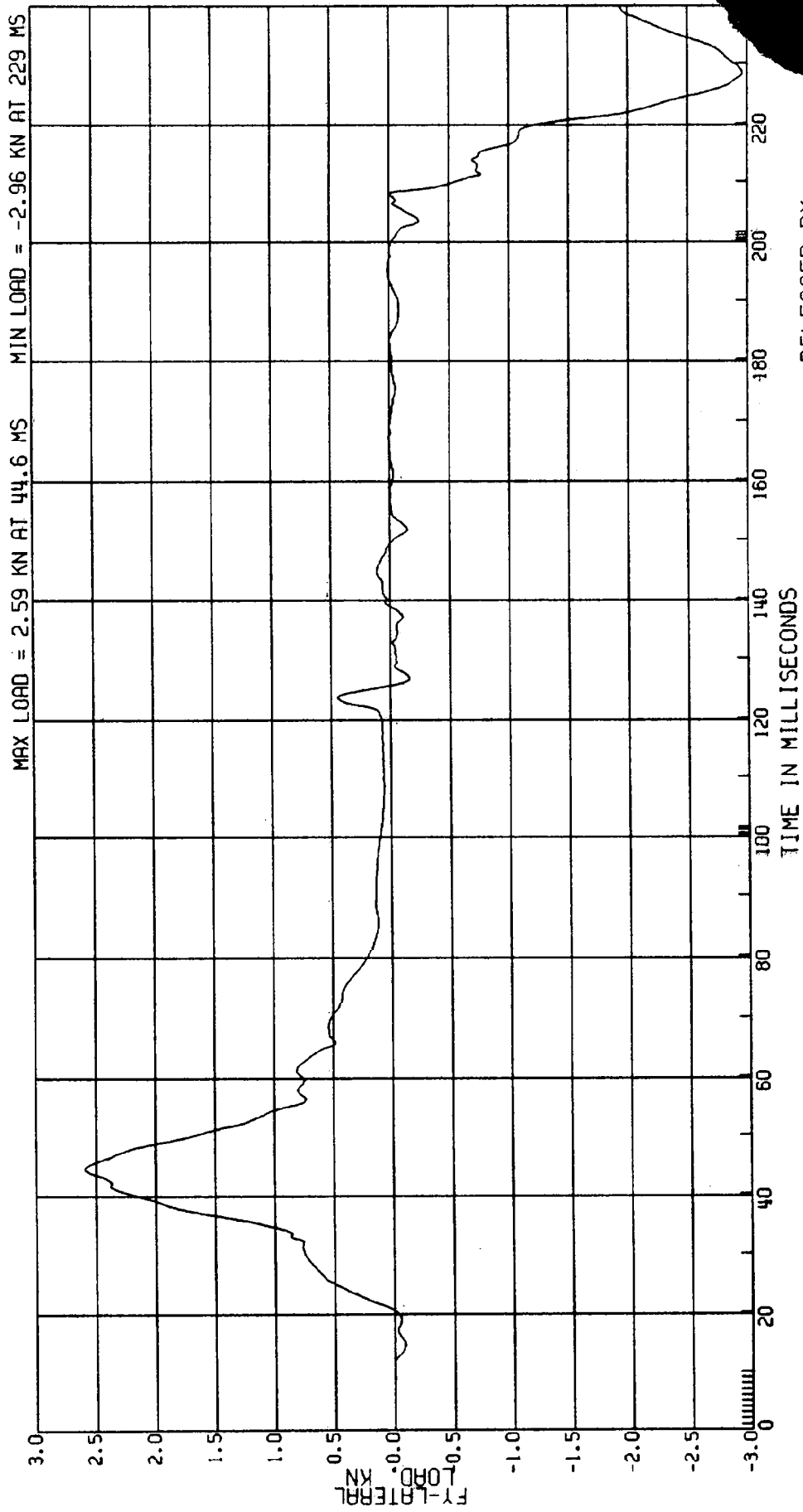
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C8008B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /3
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER SHOULDER LOAD TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180



RELEASED BY:
9 PROCESSED 3 MT 90 11:48

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 14
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER SHOULDER LOAD TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180



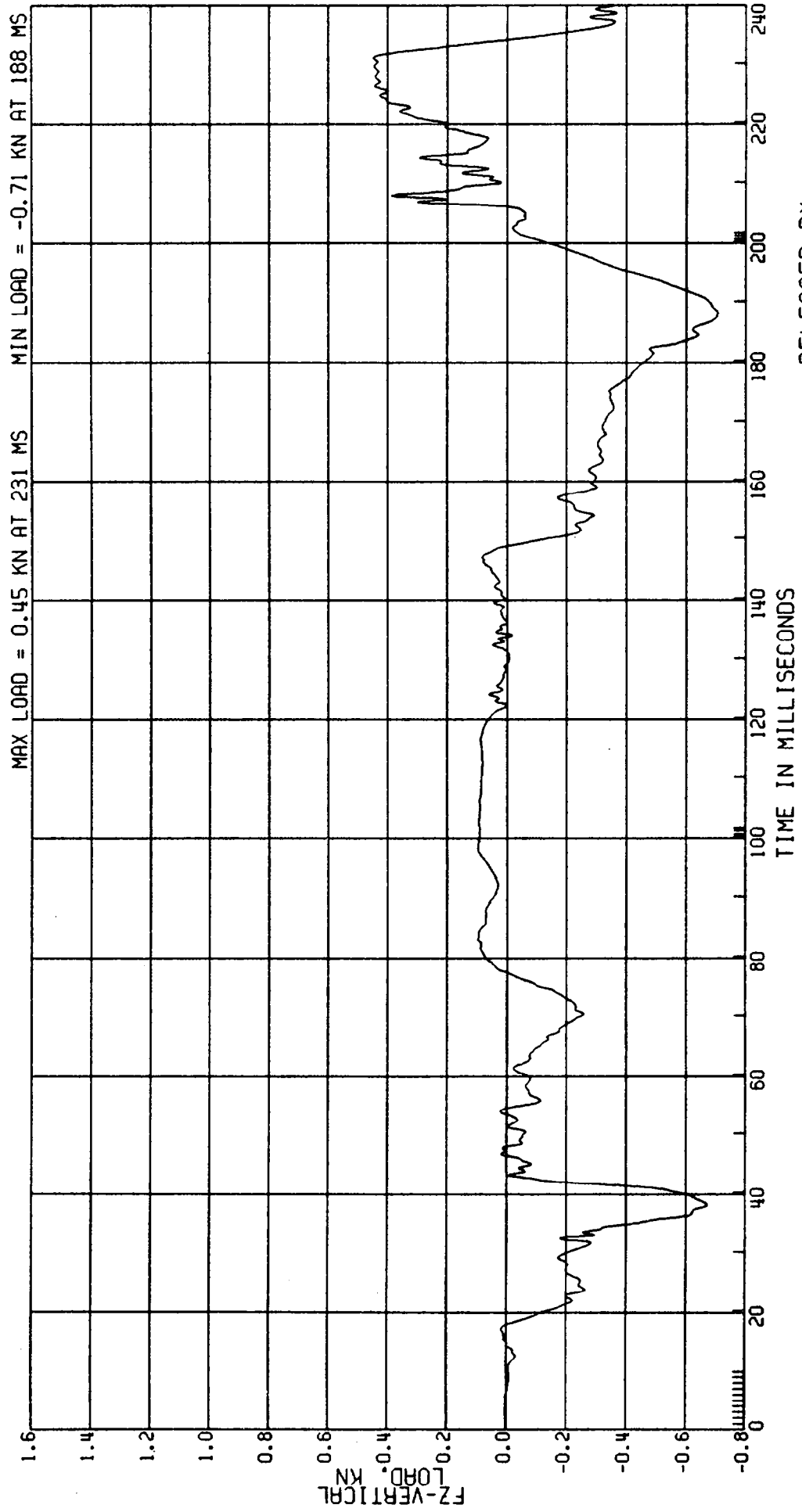
RELEASED BY:
10 PROCESSED 3 MAY 90, 11

C80088 L. SIDE IMPACT- 27 DEG
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180

MOVING CRABBED BARR TO PRK VEHICLE
DRIVER SHOULDER LOAD

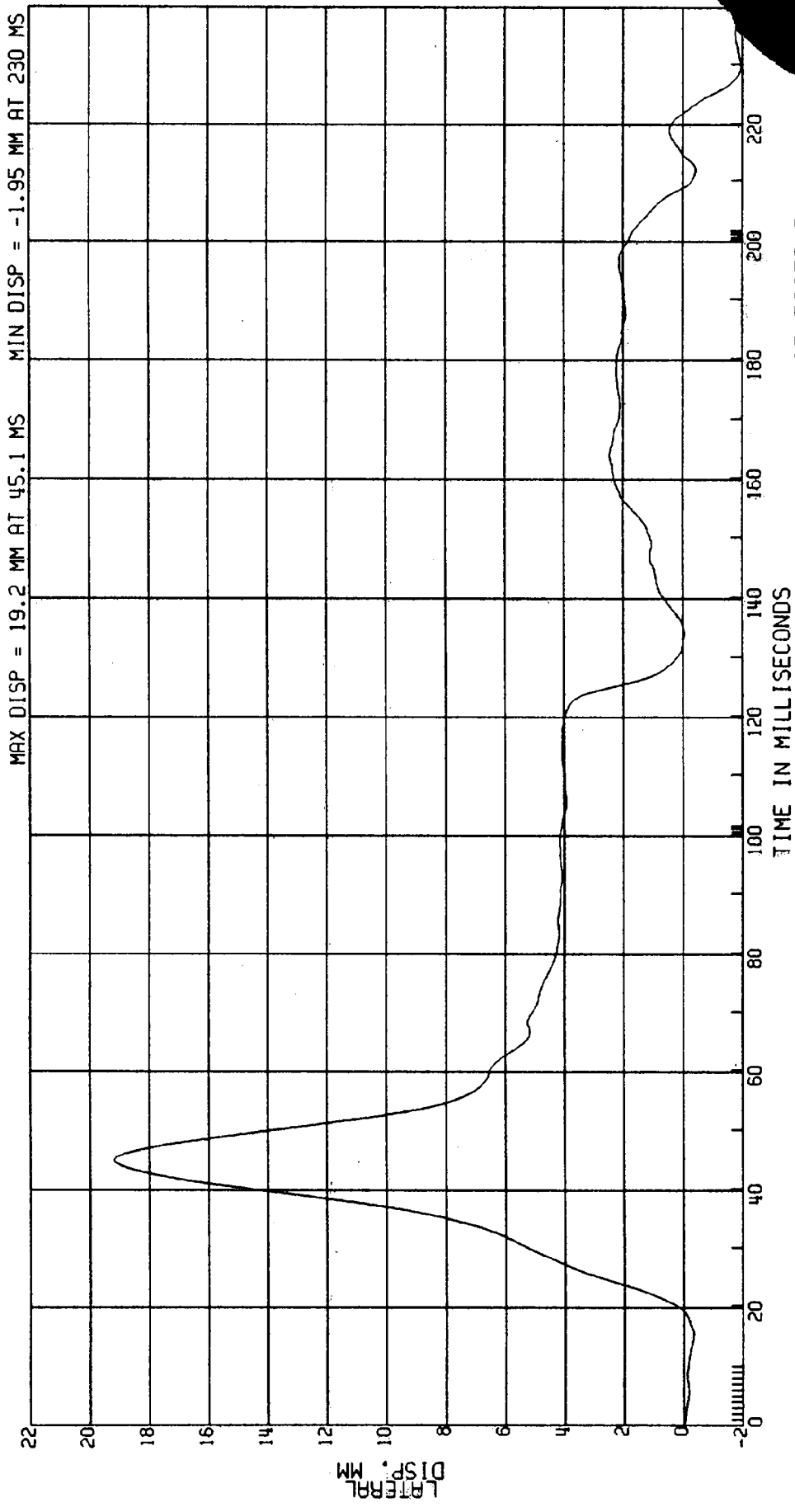
53.6KM/H FIGURE 15

ATD TYPE: BIOSID
TEST DATE:03-20-90



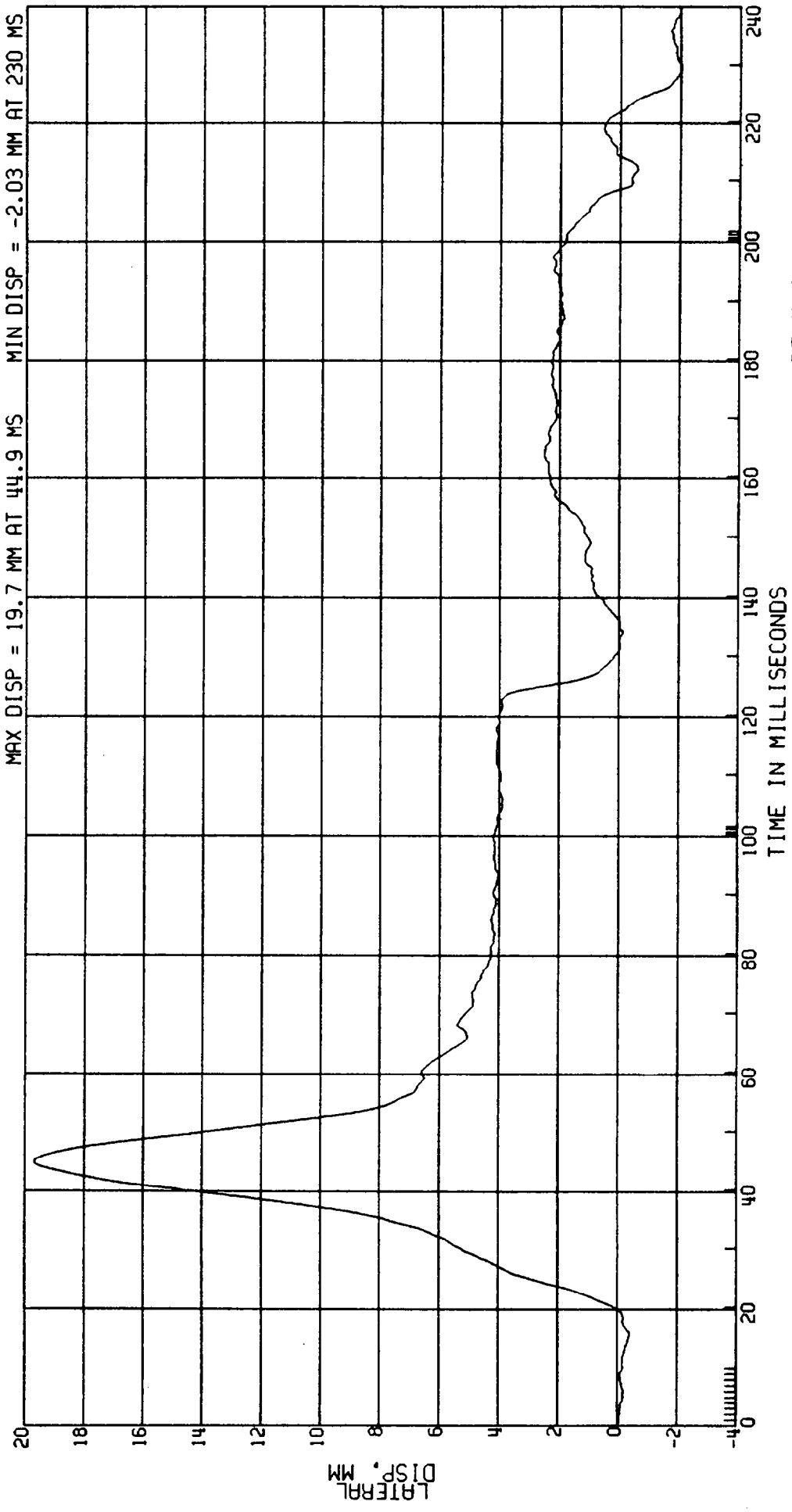
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11 PROCESSED 3 MY 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /6
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER SHOULDER DISP.
ELEC DATA, SAE CLASS 60 TEST DATE:03-20-90



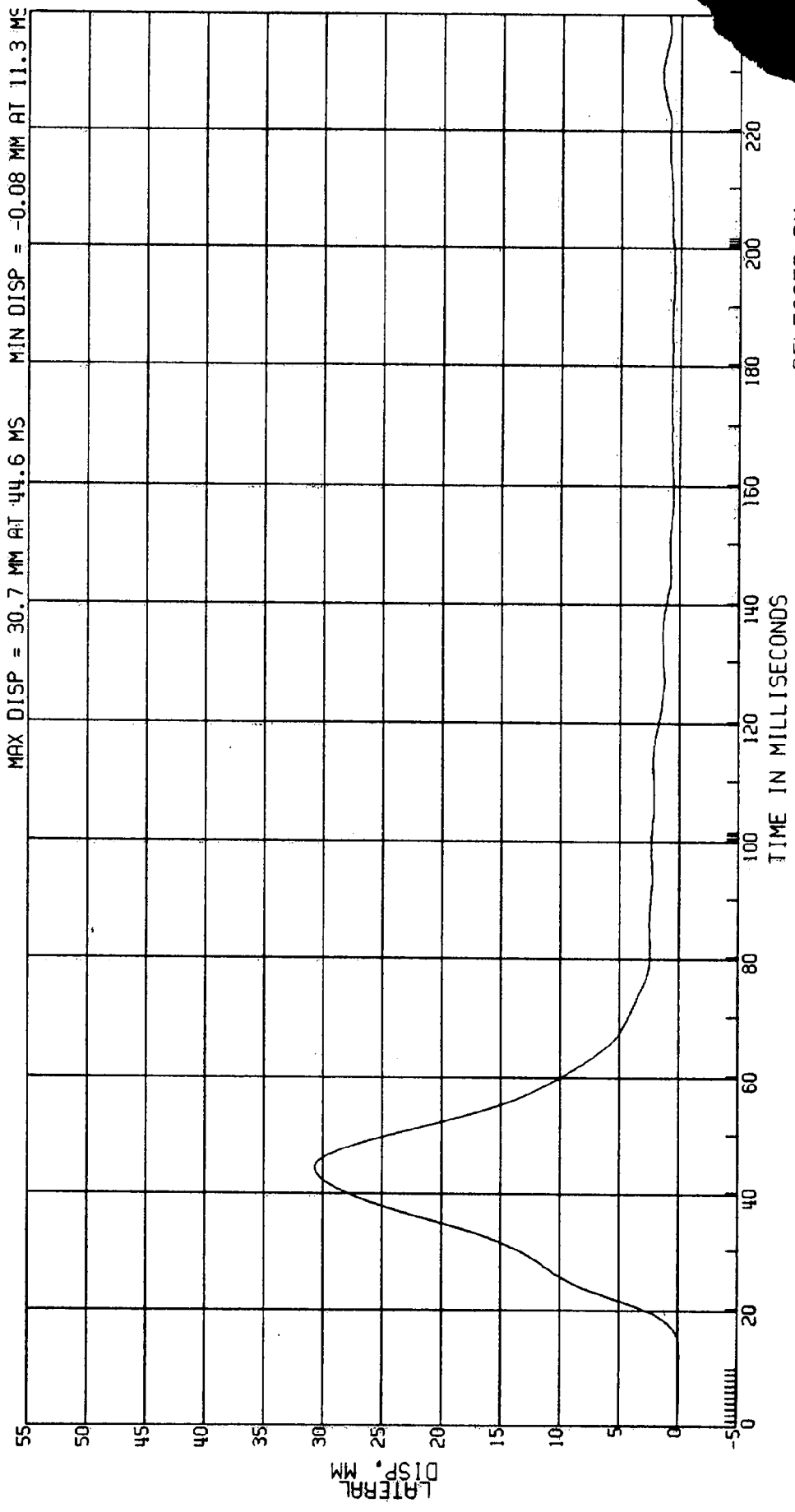
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12 PROCESSED 3 MY 90 11

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 17
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER SHOULDER DISP. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180



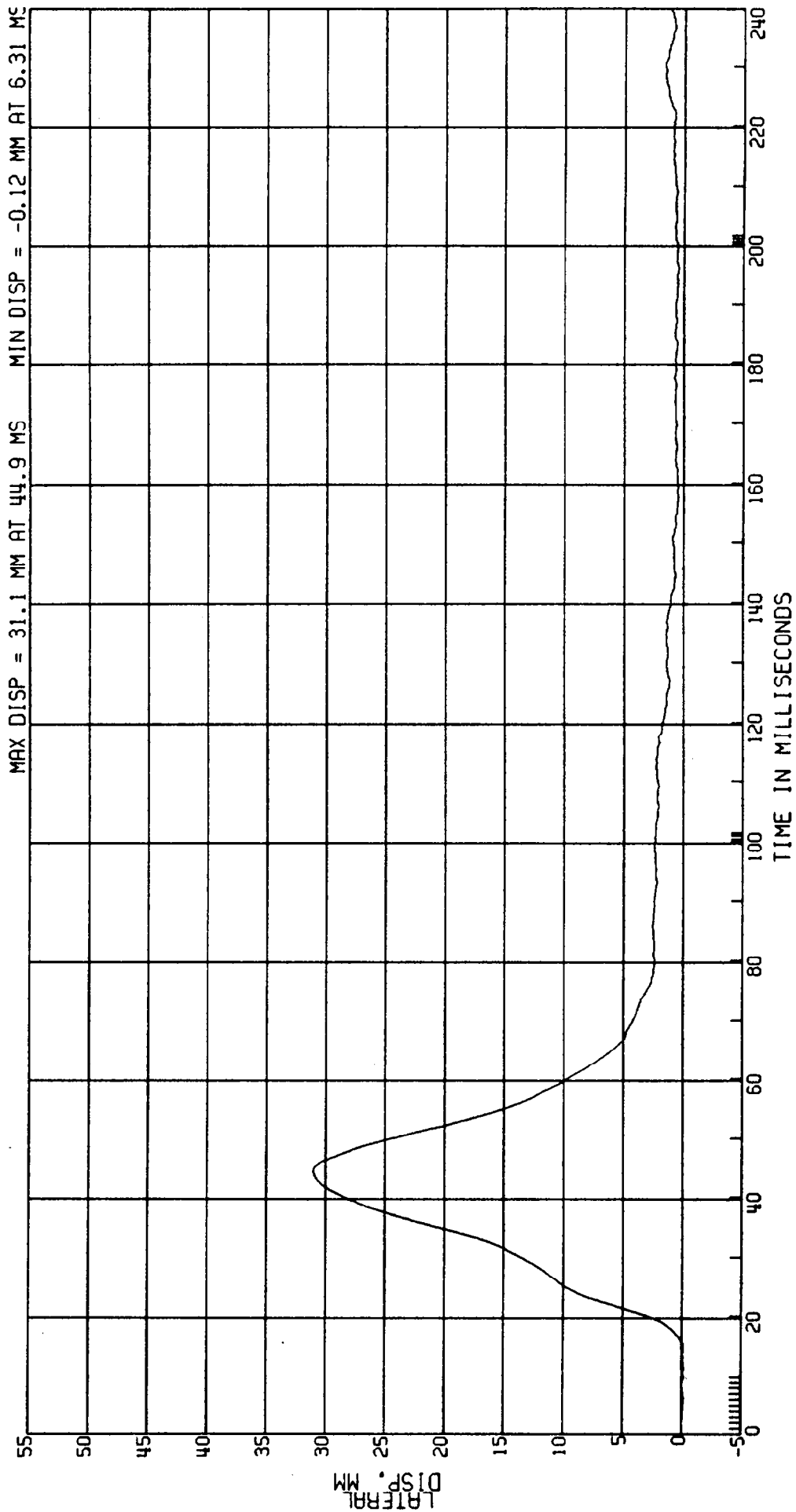
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C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 18
3868-905
CPE MVMA 8P 2AF69 DRIVER FIRST THORACIC RIB DISP.
ELEC DATA, SAE CLASS 60
ATD TYPE: BIOSID
TEST DATE: 03-20-90



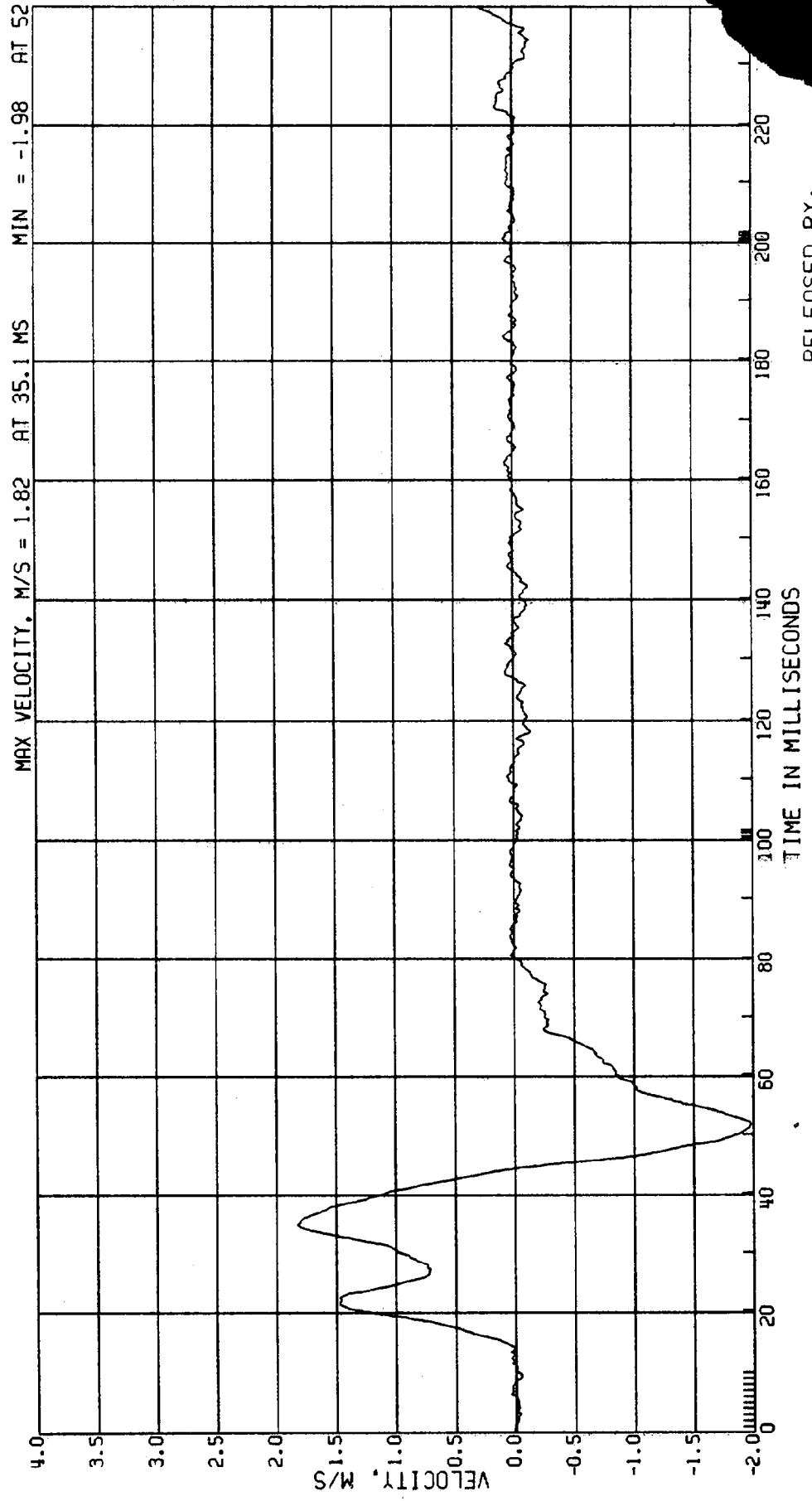
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C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE /9
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER FIRST THORACIC RIB DISP. TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180



RELEASED BY:
15 PROCESSED 3 MY 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 20
3868-905 AID TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER 1ST THORACIC RIB VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60 (DIFF OF 1ST RIB DISP)

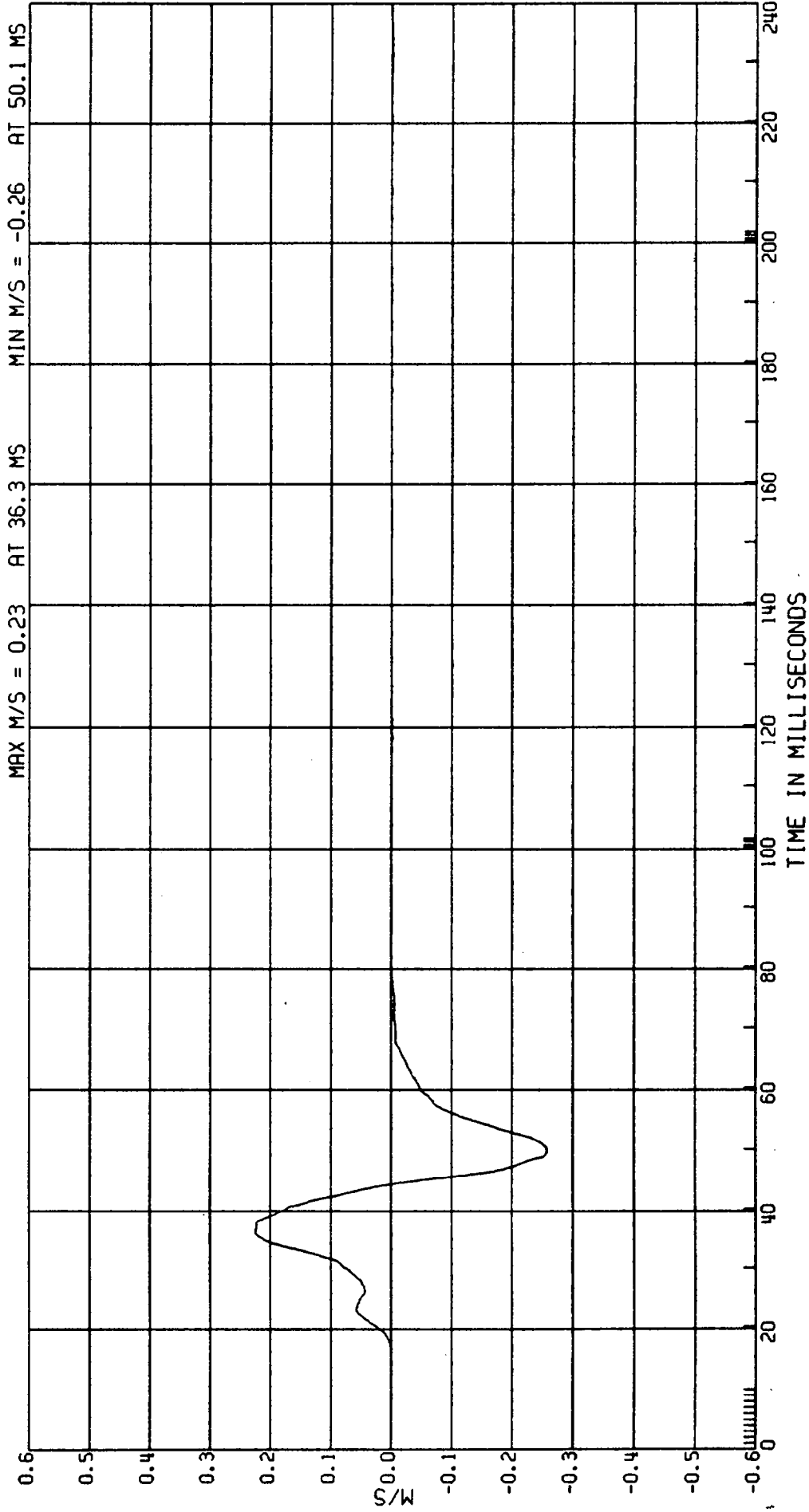


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C8008B L. SIDE IMPACT- 27 DEG
3868-905
CPE MVMA 8P 2AF69
ELEC DATA. SAE CLASS 60

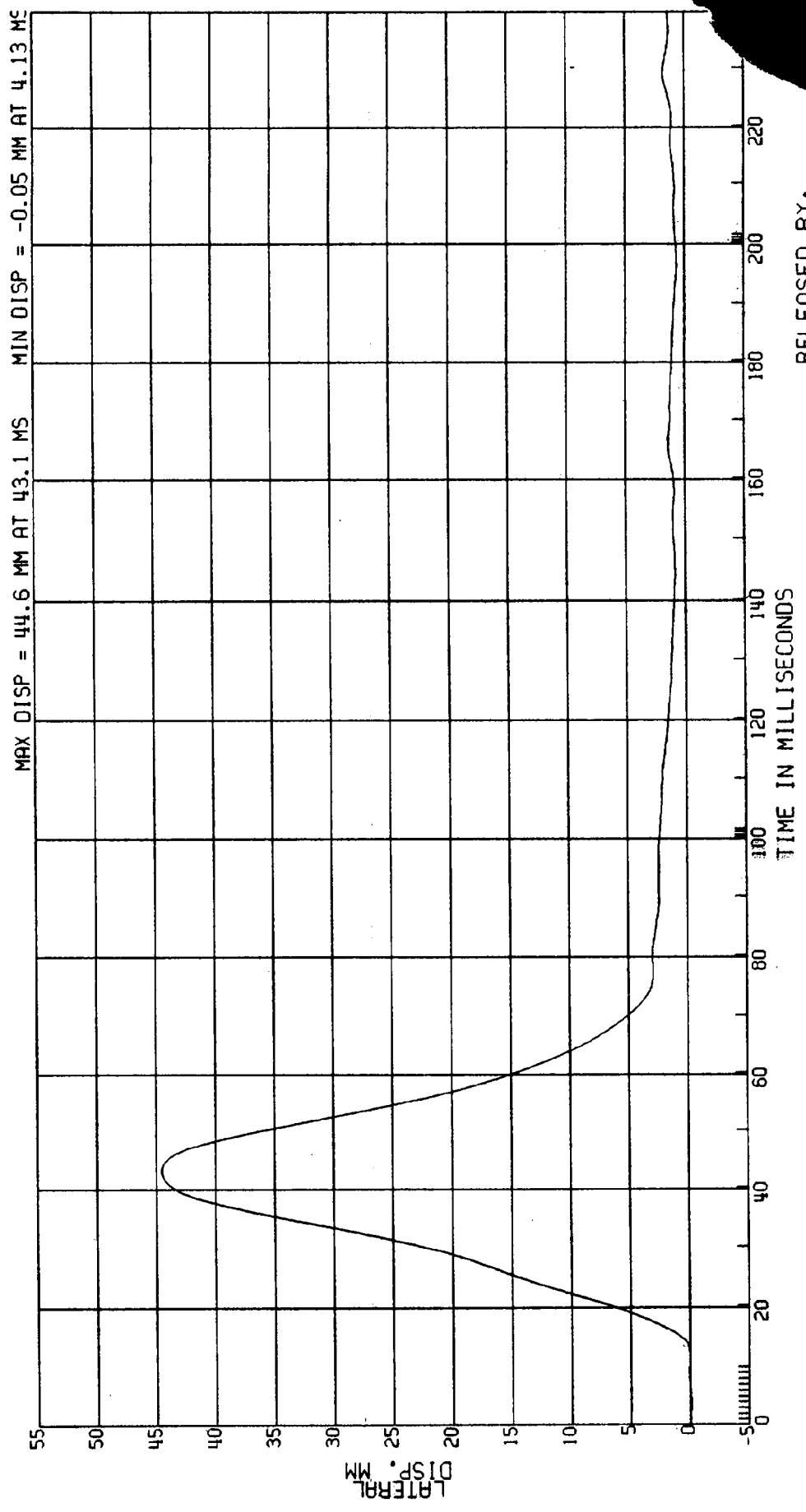
MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 2/
VISCOUS RESPONSE OF 1ST THORACIC RIB
(1ST RIB DISP*1ST RIB VEL) /175MM

ATD TYPE: BIOSID
TEST DATE:03-20-90



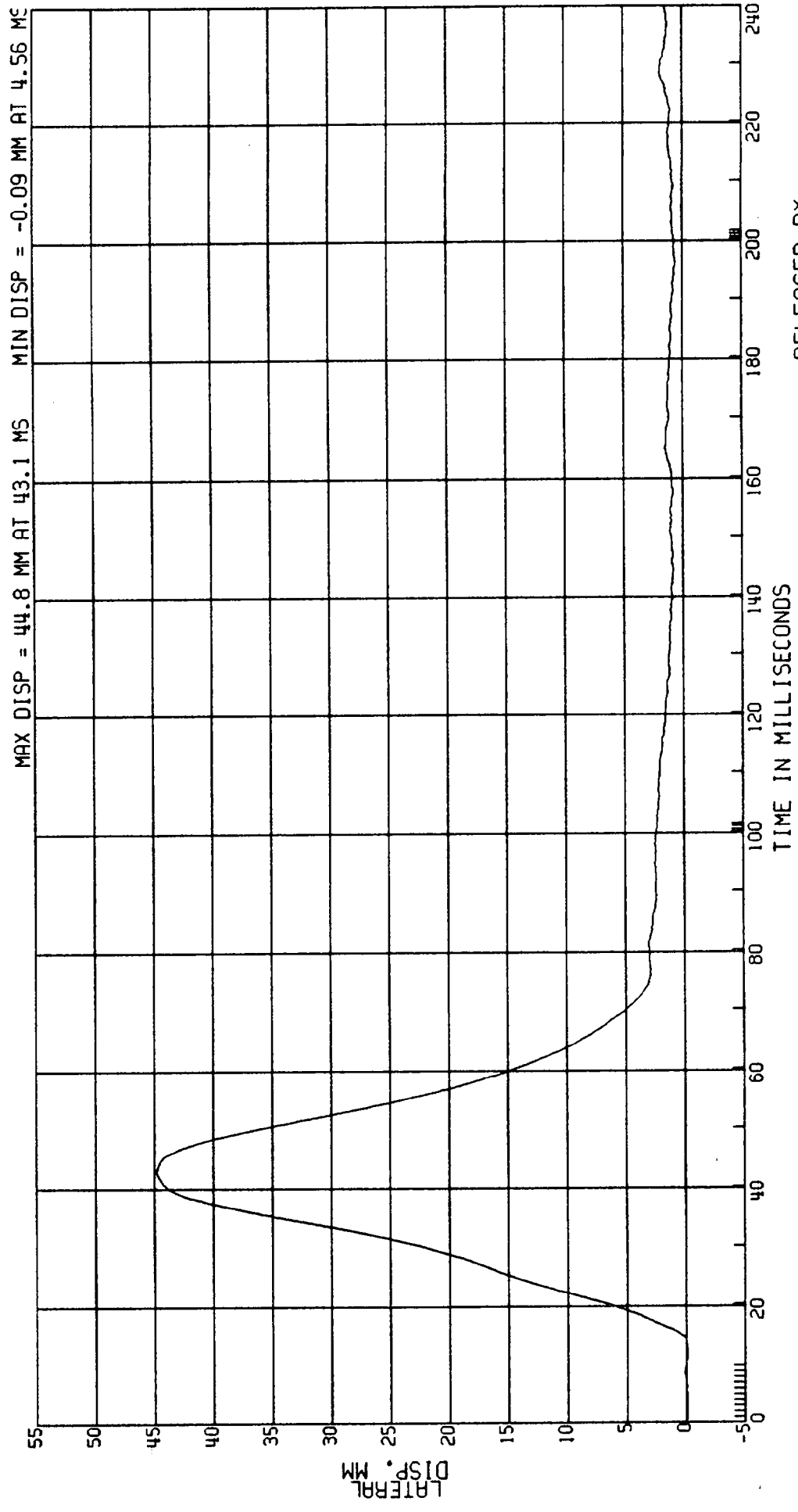
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17 PROCESSED 3 MY 90 11:48

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 22
3868-905 ATD TYPE: B10SID
CPE MVMA 8P 2AF69 DRIVER SECOND THORACIC RIB DISP. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60



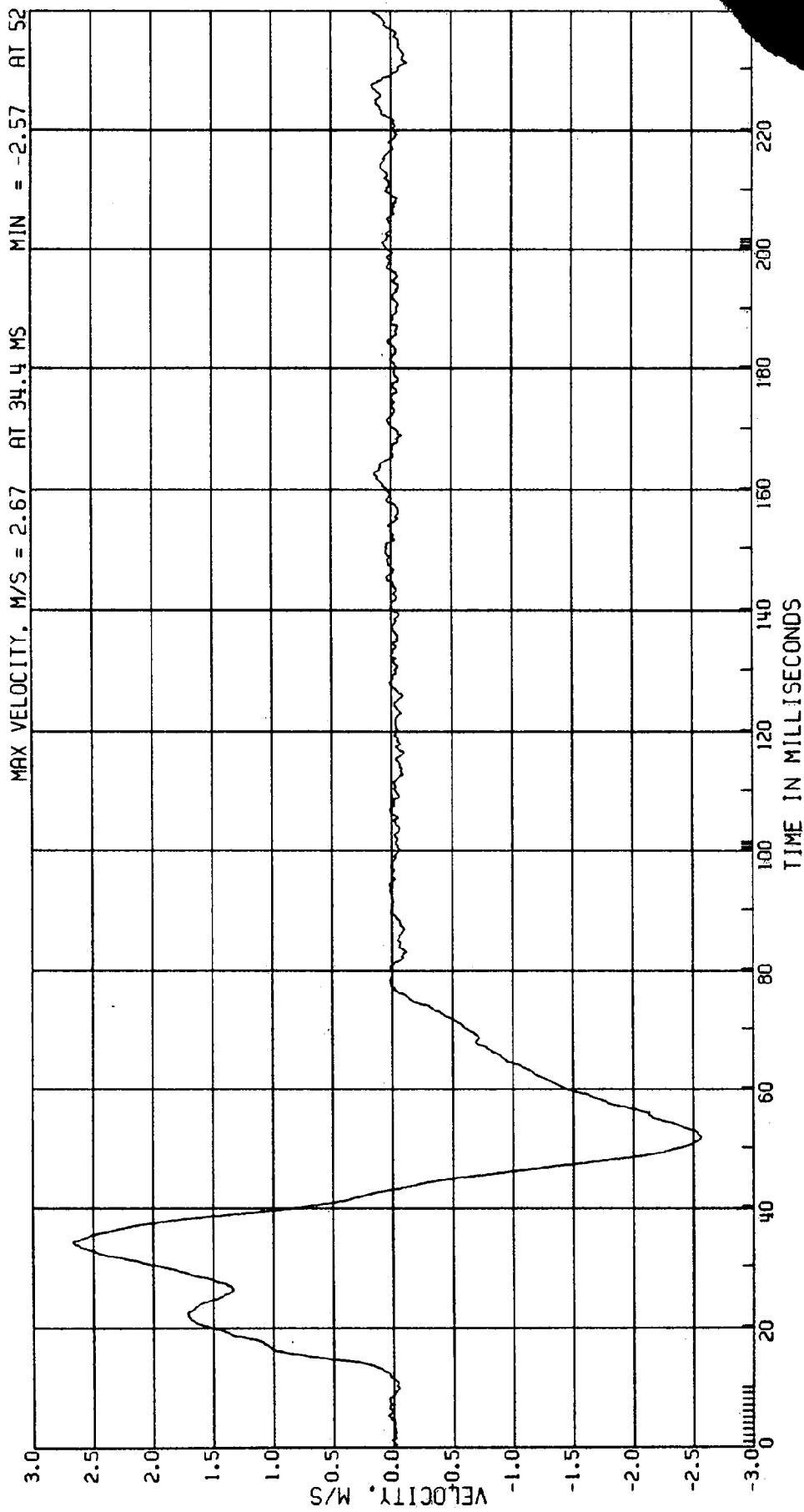
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18 PROCESSED 3 MAR 90 11:4

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 23
3868-905 ATD TYPE: BIOSIG
CPE MVMA 8P 2AF69 DRIVER SECOND THORACIC RIB DISP.
ELEC DATA, SAE CLASS 180 TEST DATE: 03-20-90



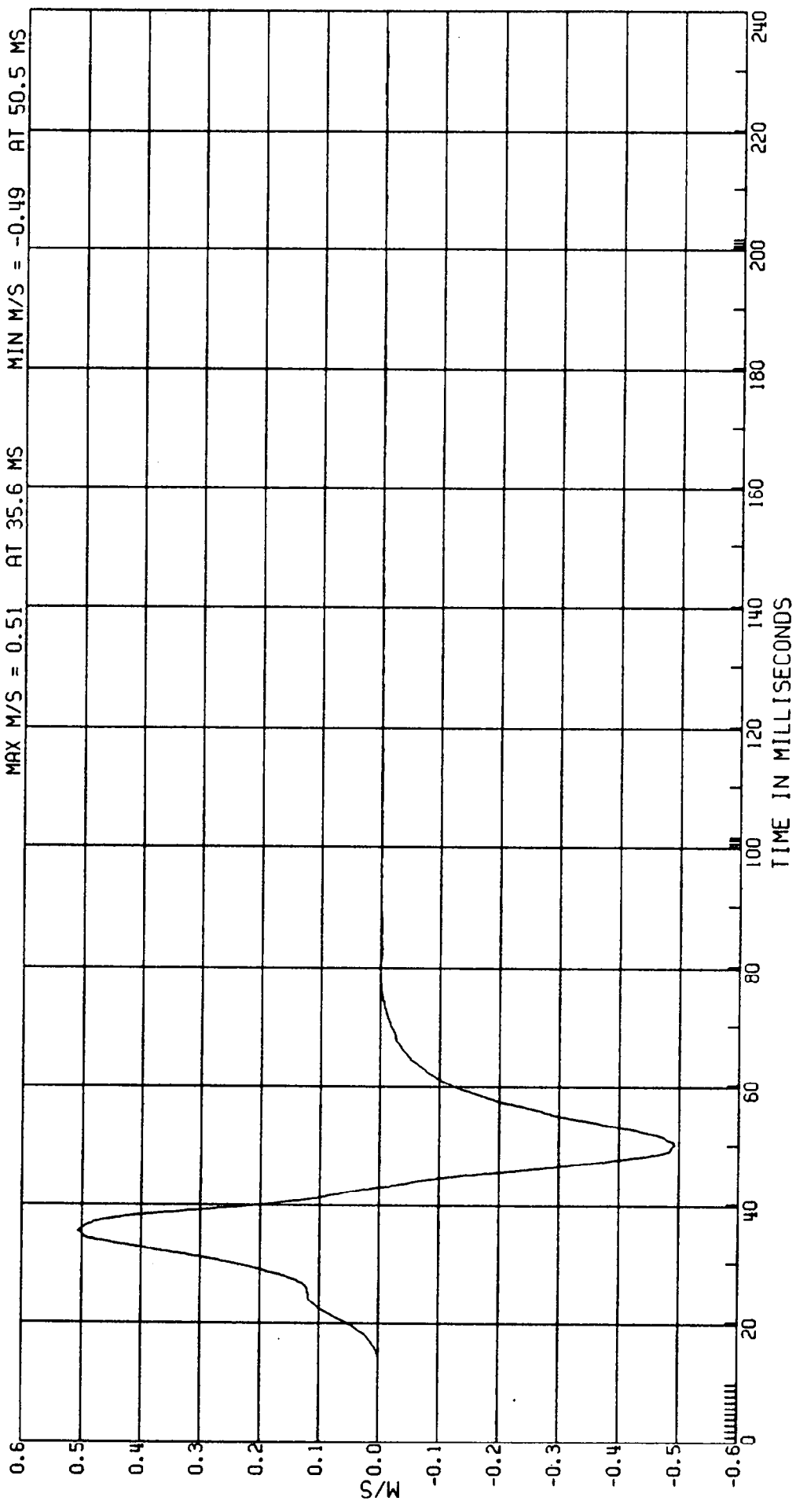
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19 PROCESSED 3 MY 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 24
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER 2ND THORACIC RIB VELOCITY
ELEC DATA, SAE CLASS 60 (DIFF OF 2ND RIB DISP)



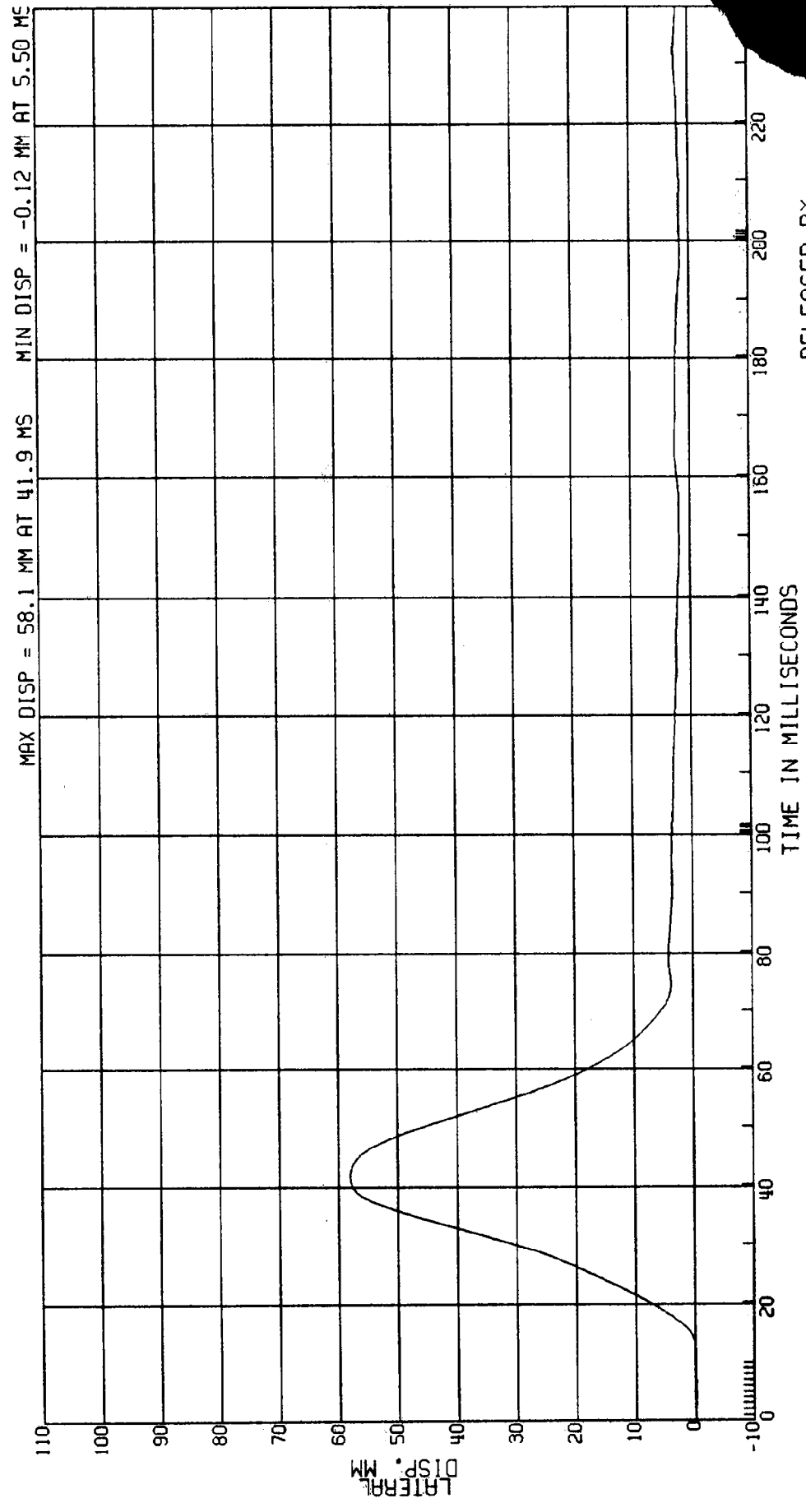
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20 PROCESSED 3 MAR 90 11:4

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 25
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 TEST DATE: 03-20-90
ELEC DATA. SAE CLASS 60 (2ND RIB DISP*2ND RIB VEL) /175MM



RELEASED BY:
21 PROCESSED 3 MY 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 2
3868-905 AFD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER THIRD THORACIC RIB DISP. TEST DATE:03-20-90
ELEC DATA. SAE CLASS 60

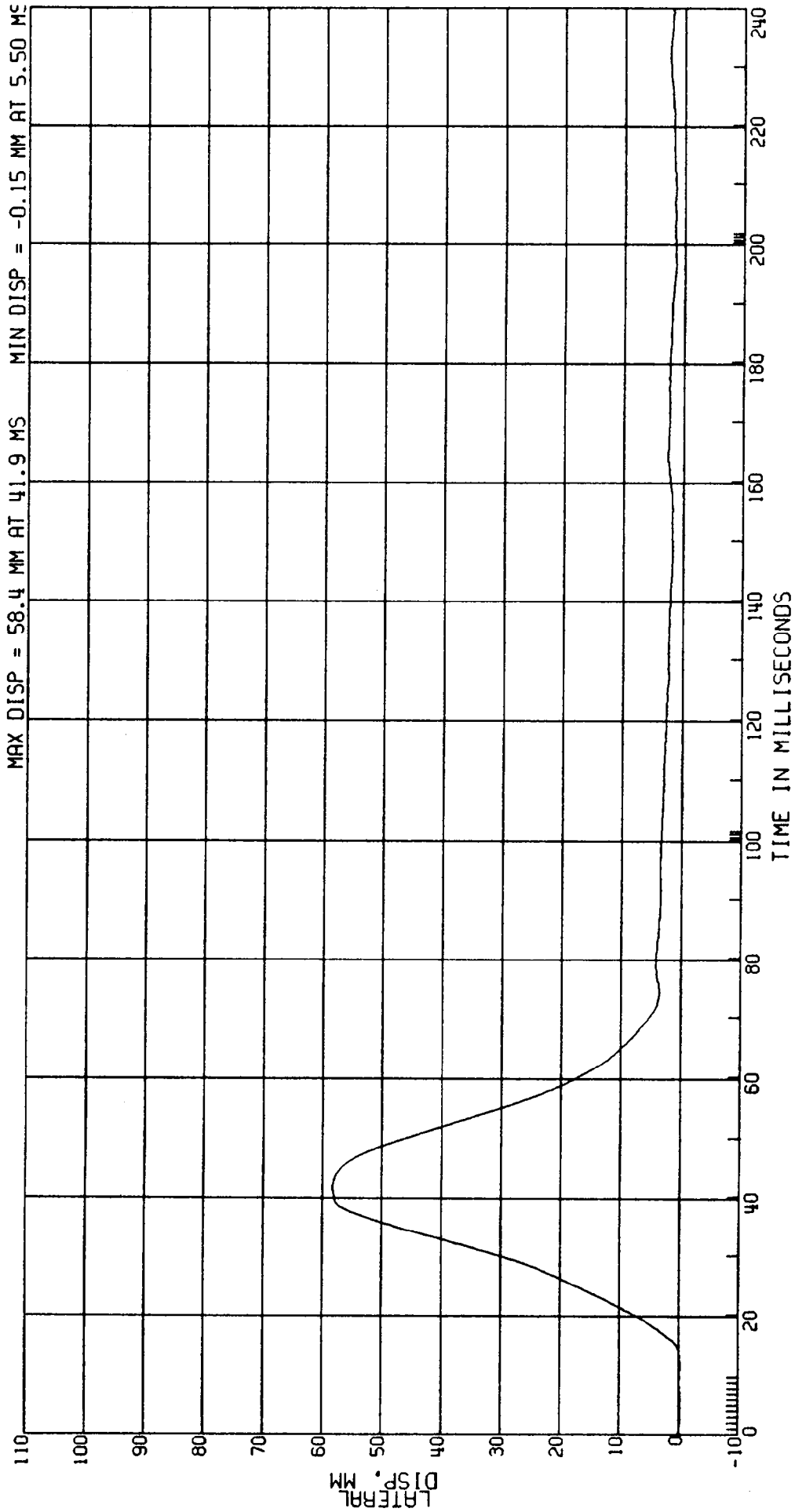


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C8008B L. SIDE IMPACT- 27 DEG
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180

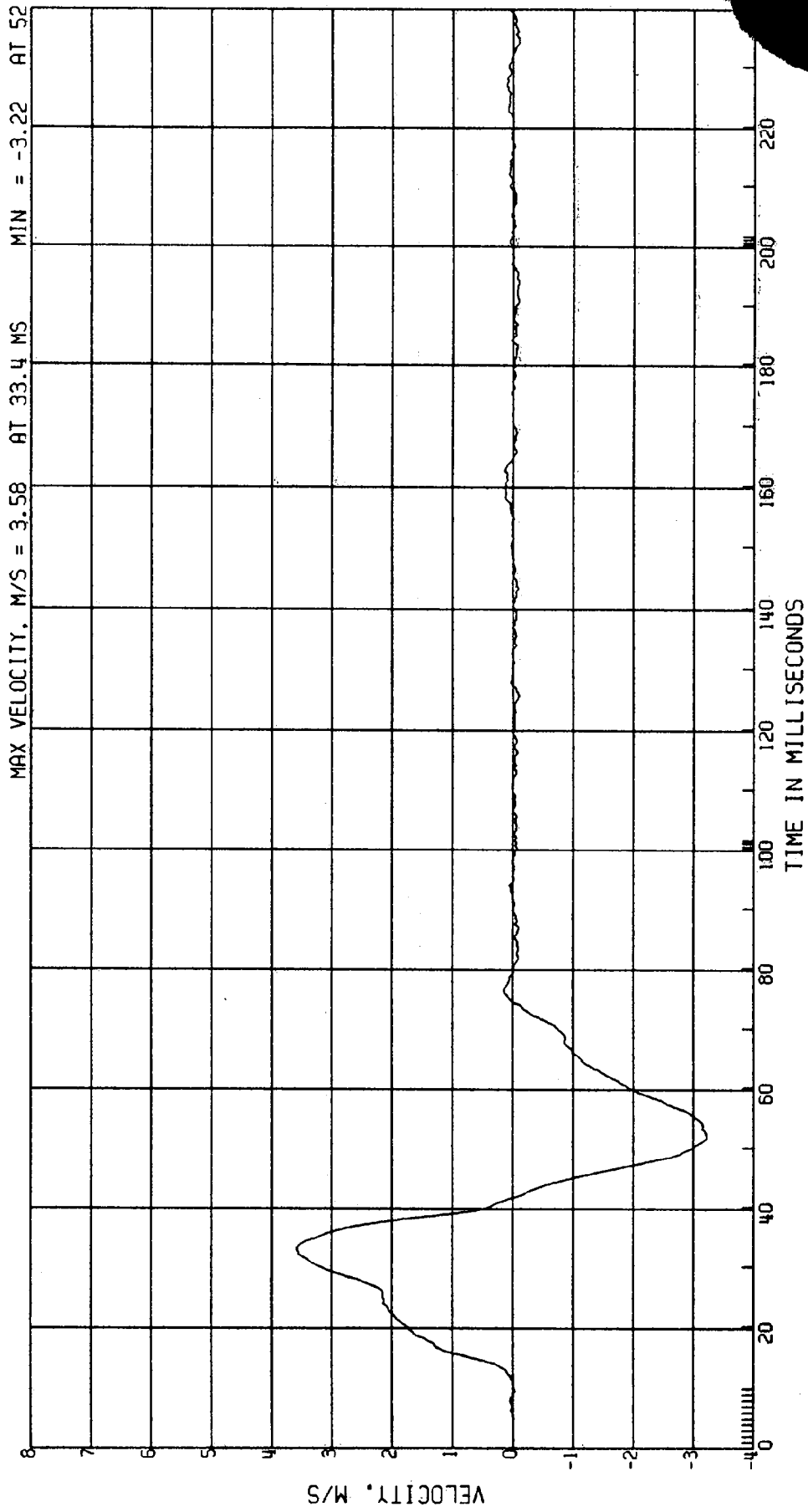
MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 27
DRIVER THIRD THORACIC RIB DISP.

ATD TYPE: BIOSID
TEST DATE: 03-20-90



RELEASED BY:
23 PROCESSED 3 MT 90 11:48

C80088 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 28
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 60
DRIVER 3RD THORACIC RIB VELOCITY
(DIFF OF 3RD RIB DISP)

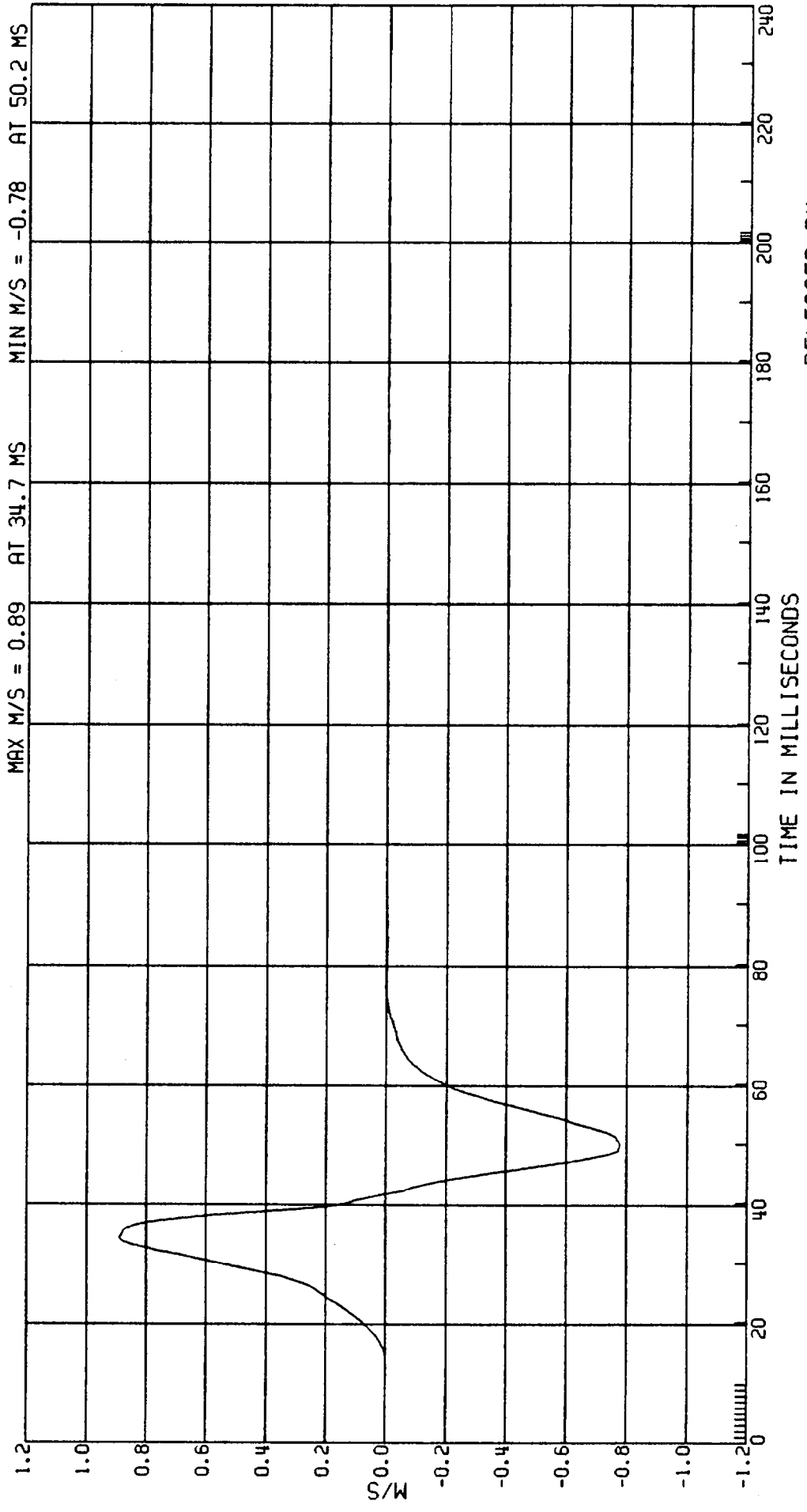


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1/24 PROCESSED 3 ME 90 11:4

C80088 L. SIDE IMPACT- 27 DEG
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 60

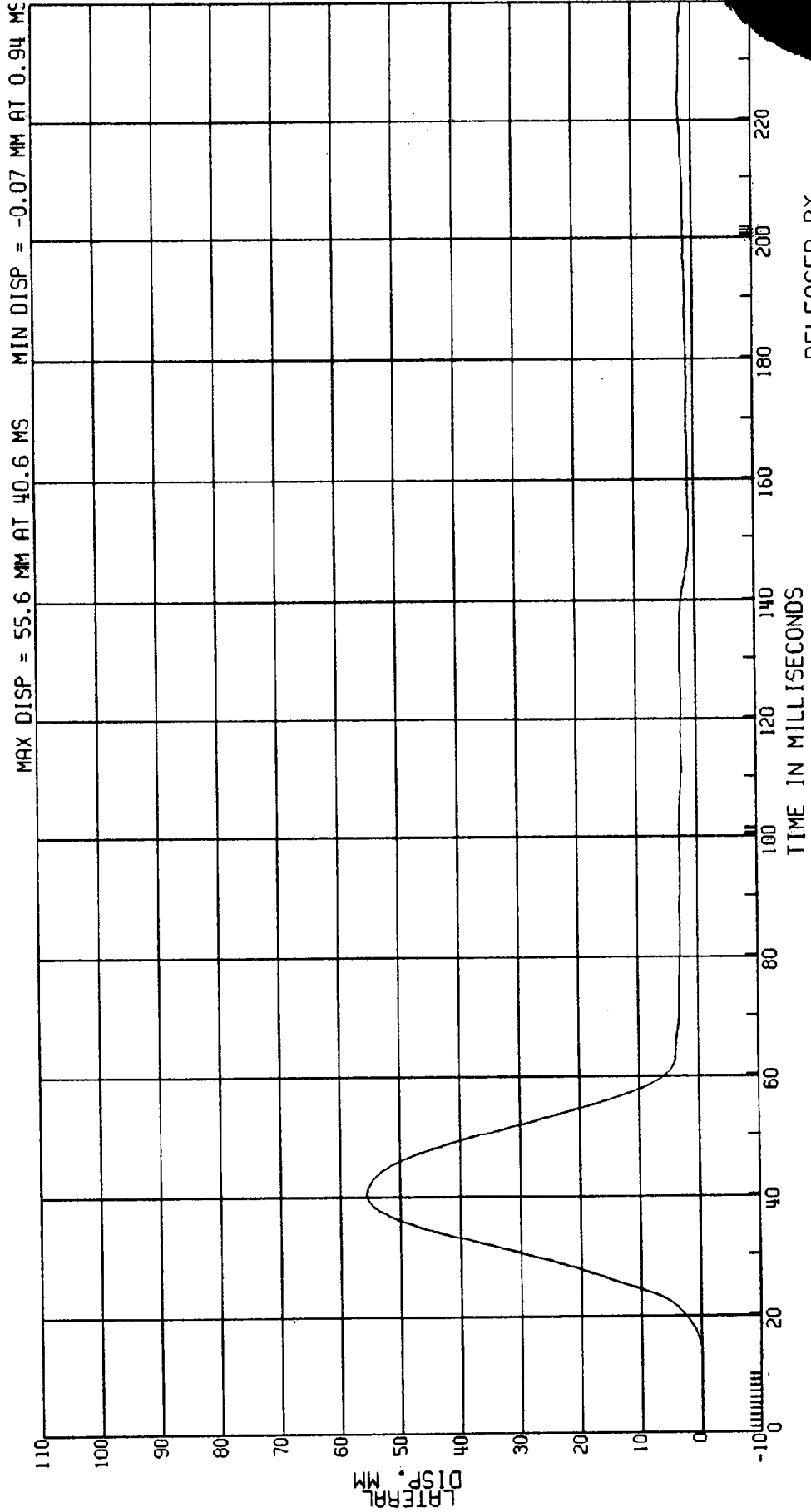
MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 29
VISCIOUS RESPONSE OF 3RD THORACIC RIB
(3RD RIB DISP*3RD RIB VEL) /175MM

ATD TYPE: BIOSID
TEST DATE: 03-20-90



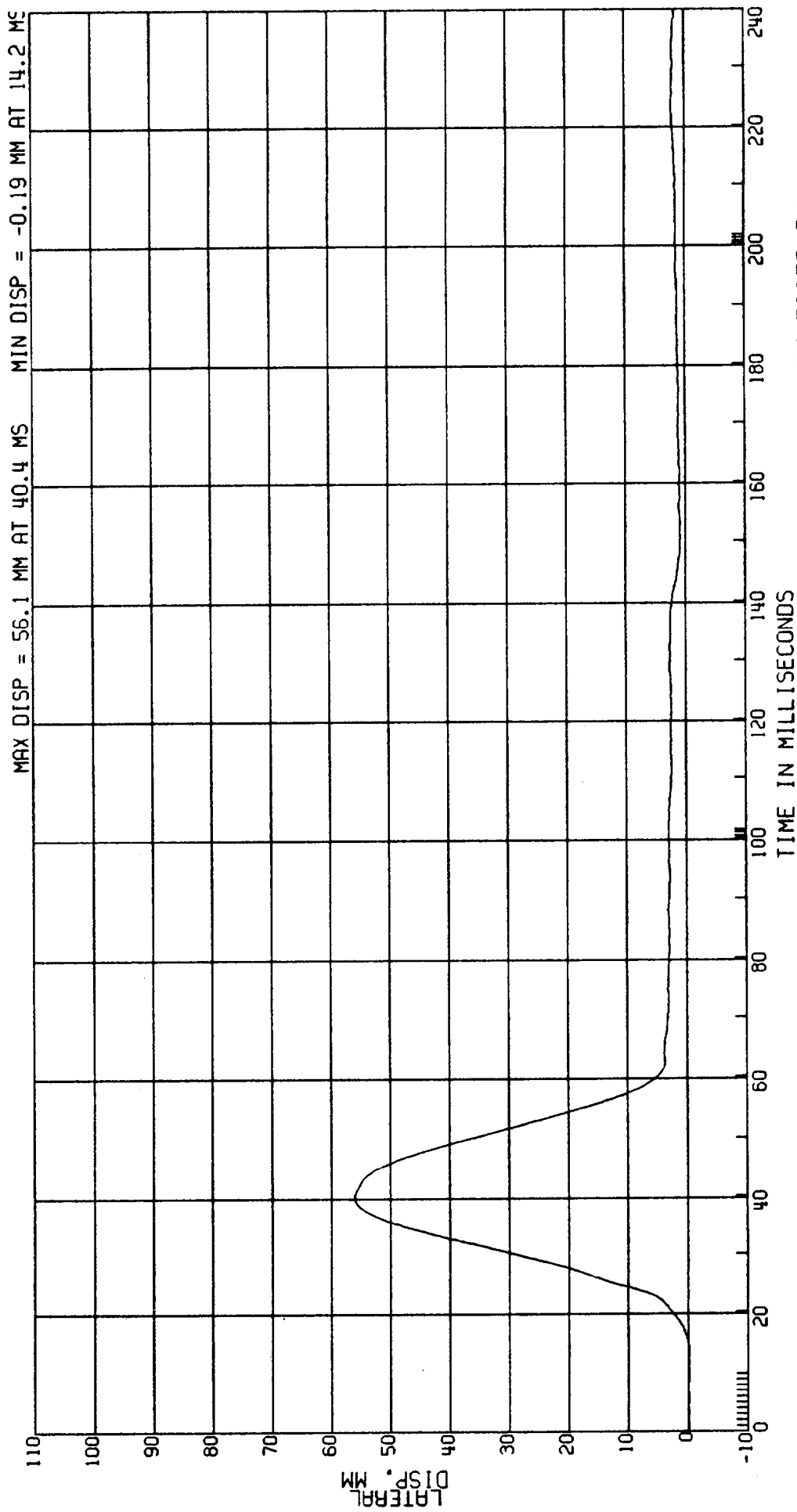
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25 PROCESSED 3 MY 90 11:48

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 30
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER FIRST ABDOMINAL RIB DISP.
ELEC DATA, SAE CLASS 60 TEST DATE: 03-20-90



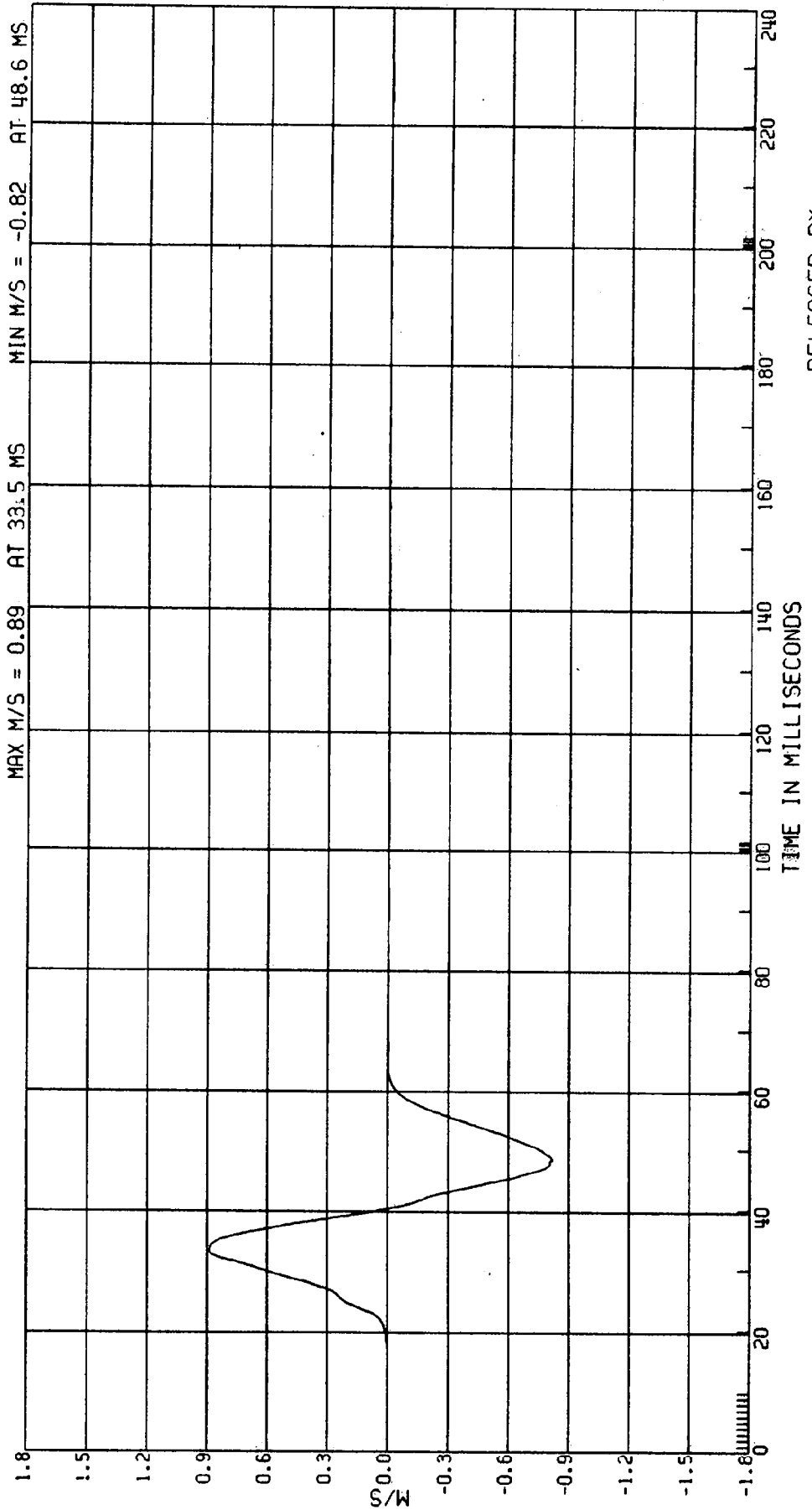
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26 PROCESSED 3 MY 90 11:48

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 31
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER FIRST ABDOMINAL RIB DISP. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180

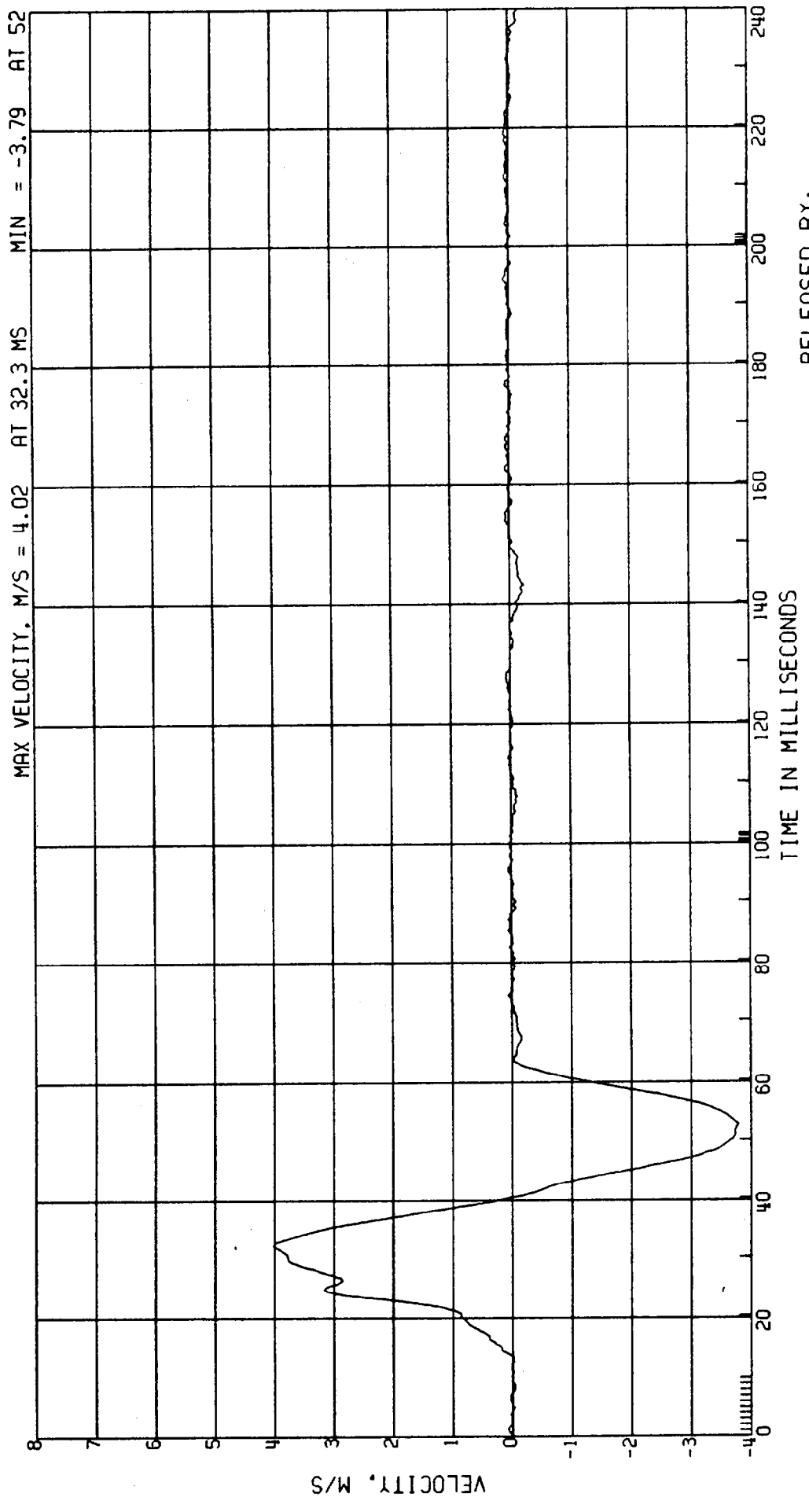


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27 PROCESSED 3 MY 90 11:48

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 32
3868-905
CPE MVMA 8P 2AF69 ATD TYPE: BIOSID
ELEC DATA, SAE CLASS 60 (1ST RIB DISP*1ST RIB VEL) /175MM TEST DATE:03-20-90

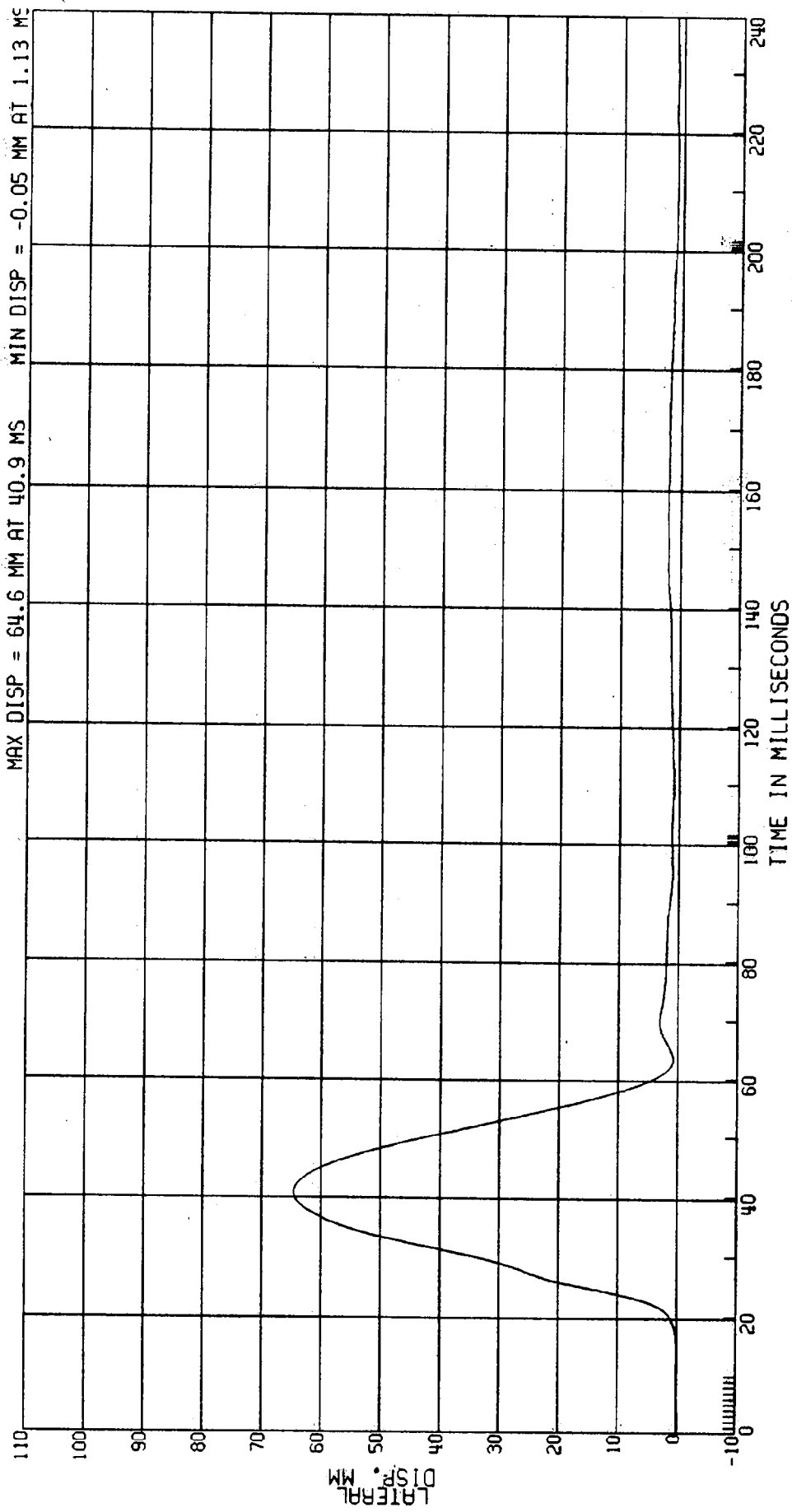


C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 33
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER 1ST ABDOMINAL RIB VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60 (DIFF OF 1ST RIB DISP)



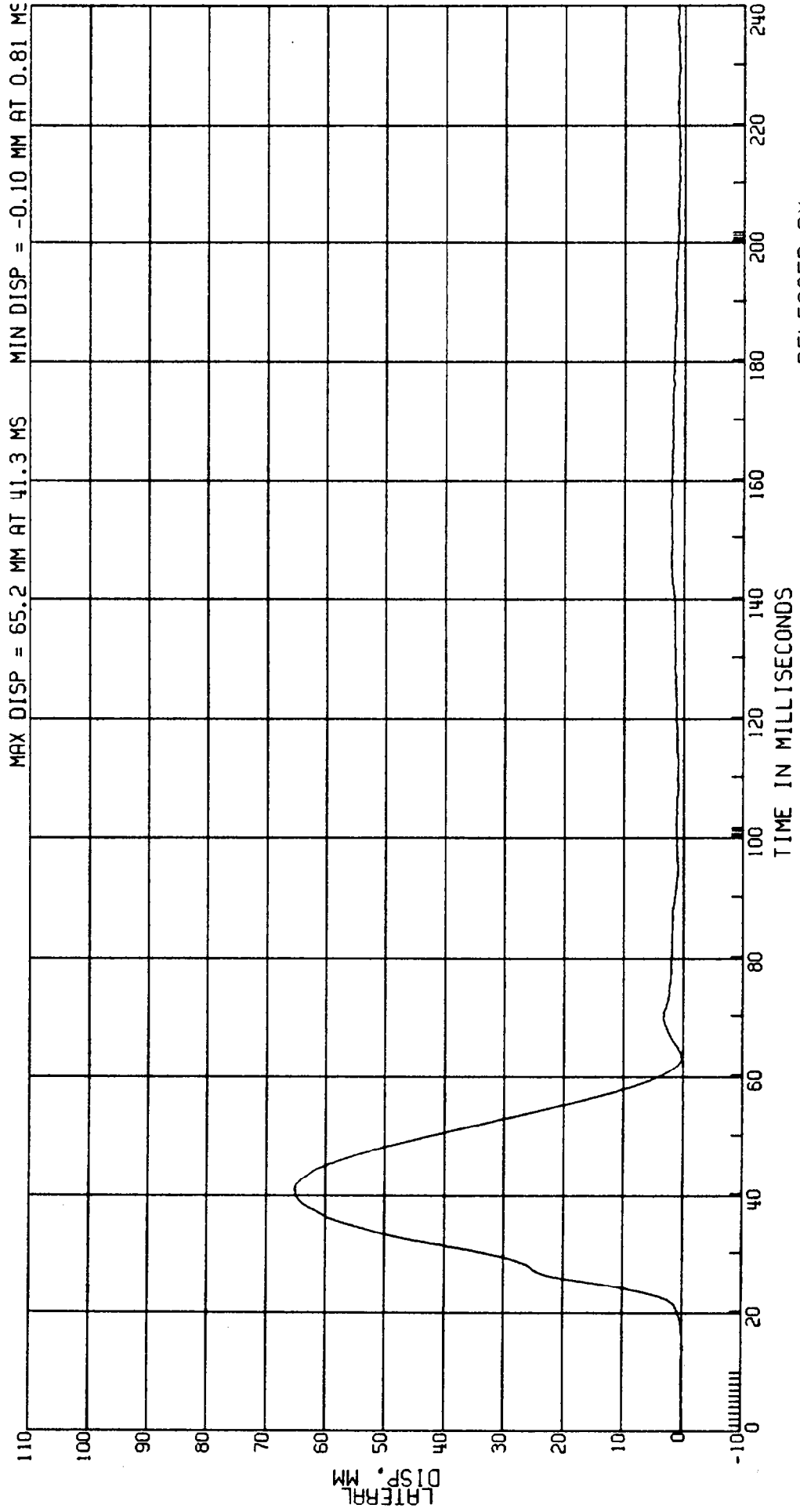
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C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 34
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 60
DRIVER SECOND ABDOMINAL RIB DISP.
ATD TYPE: BIOSID
TEST DATE: 03-20-90



RELEASED BY: [Signature]
30 PROCESSED 3 MY 90 11:49

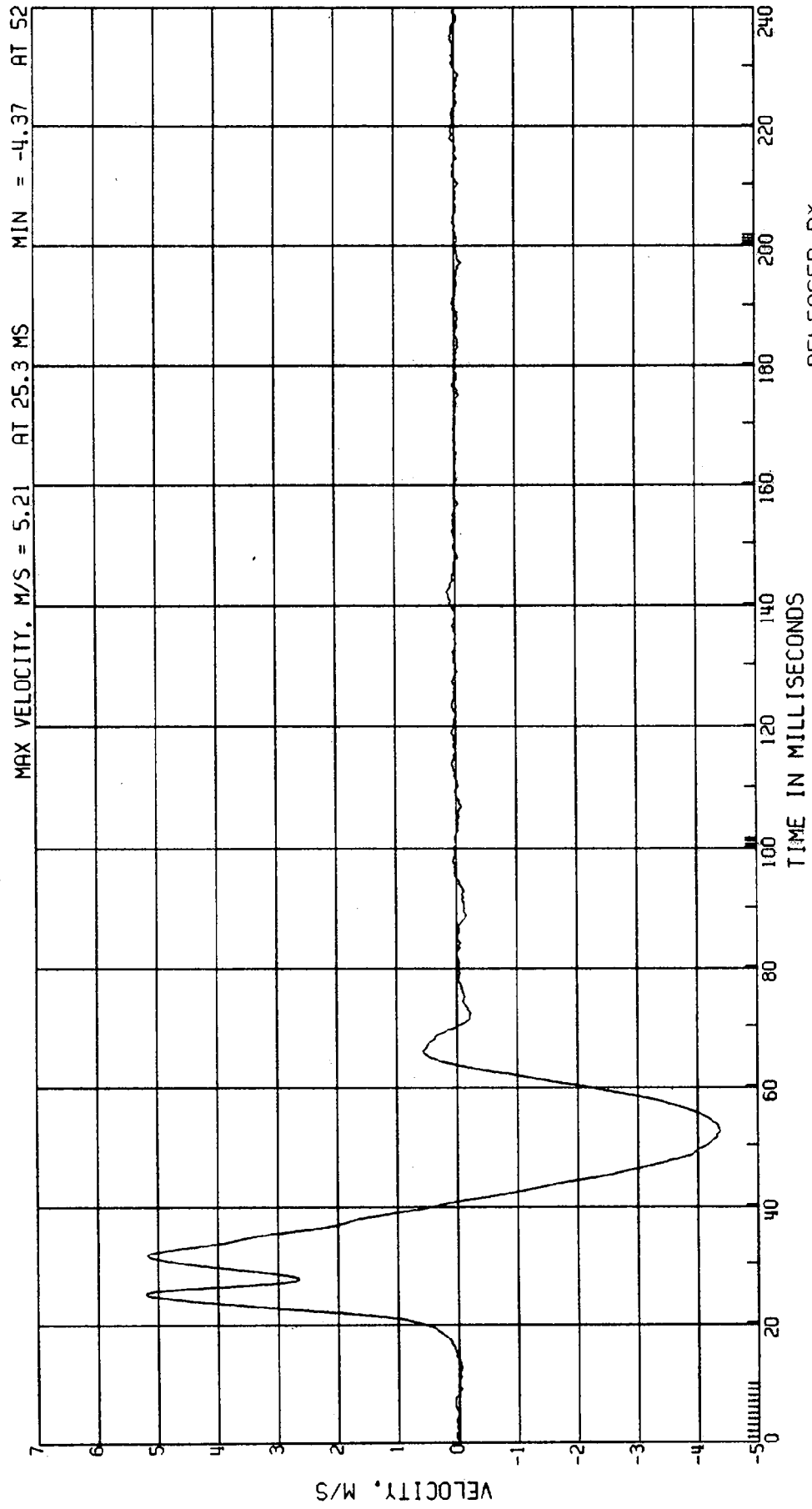
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 35
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER SECOND ABDOMINAL RIB DISP.
ELEC DATA, SAE CLASS 180 TEST DATE:03-20-90



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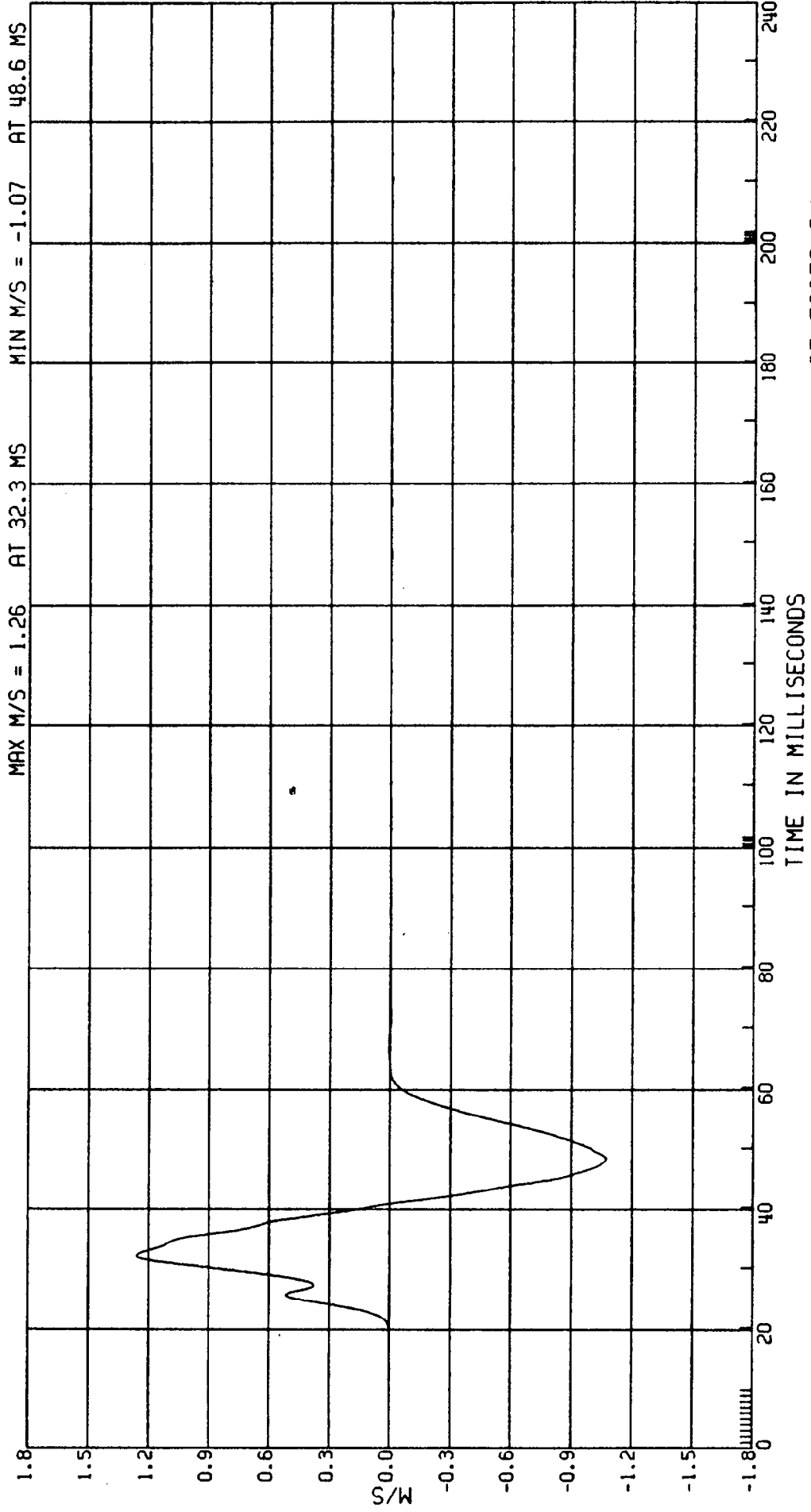
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 36
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 60
DRIVER 2ND ABDOMINAL RIB VELOCITY
(DIFF OF 2ND RIB DISP)



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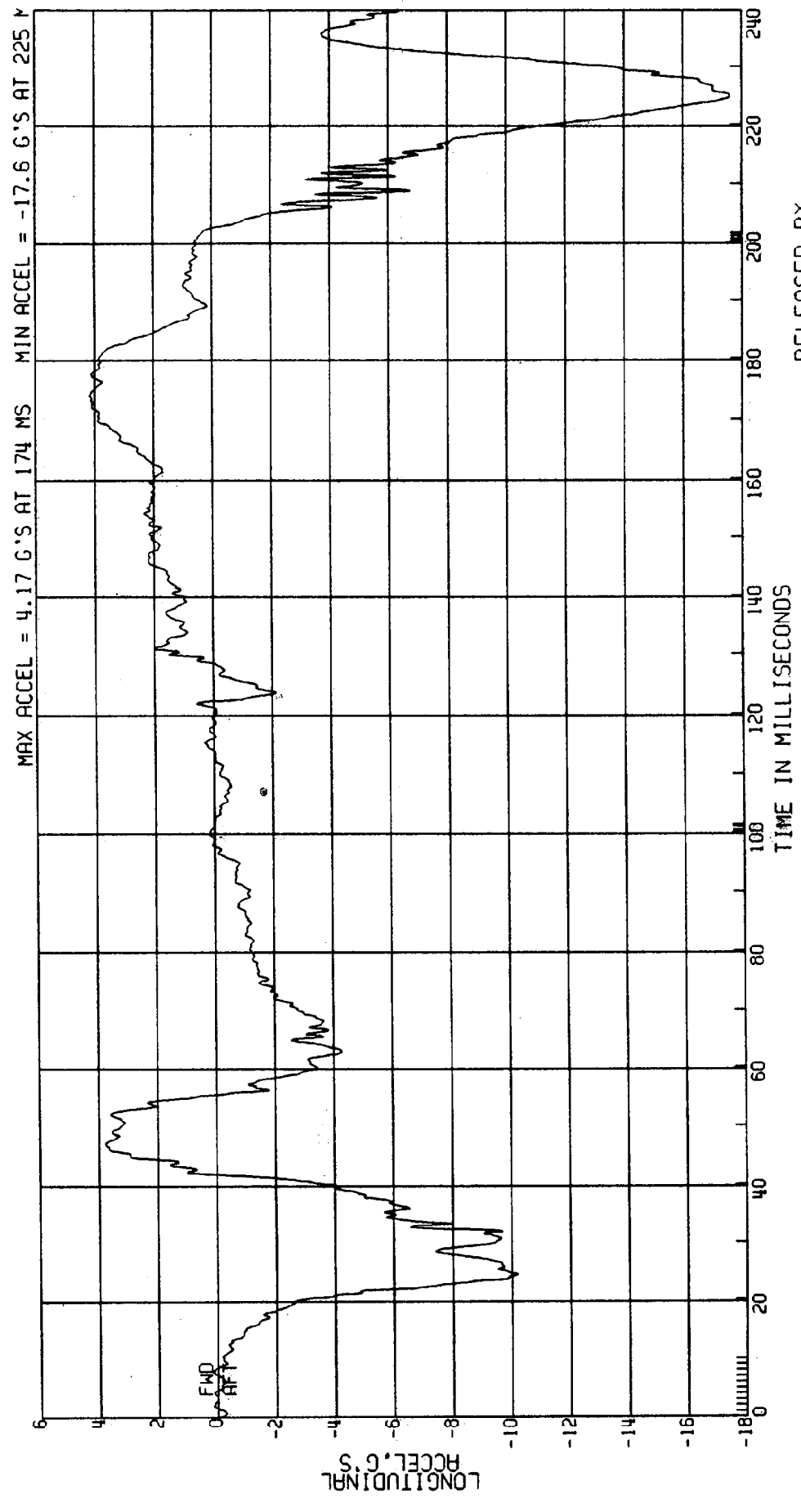
32 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 37
3868-905
CPE MVMA 8P 2AF69 ATD TYPE: BIOSID
ELEC DATA. SAE CLASS 60 TEST DATE:03-20-90
(2ND RIB DISP*2ND RIB VEL) /175MM



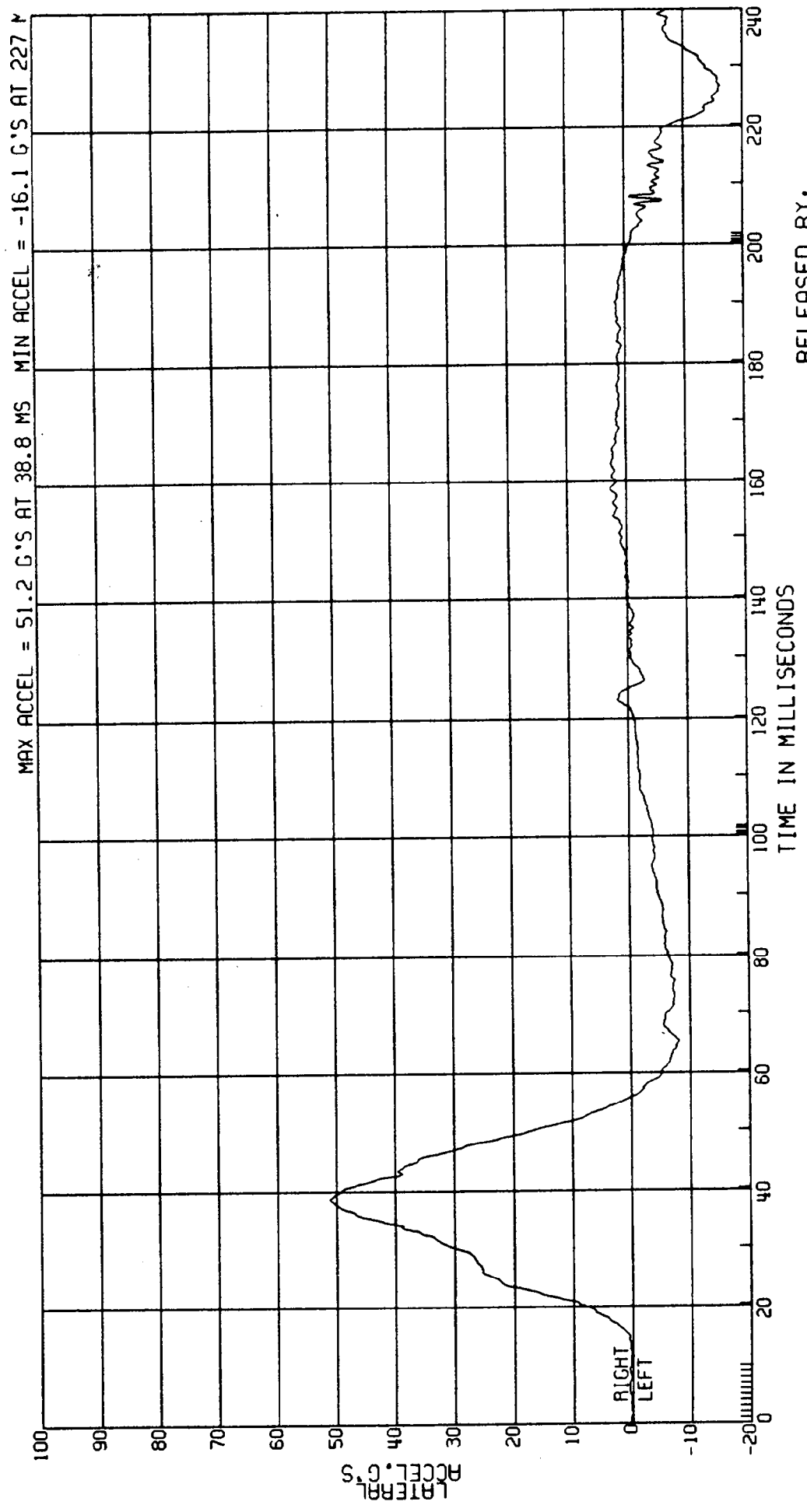
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33 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 38
3868-905 AID TYPE: B10SID
CPE MVMA 8P 2AF69 DRIVER UPPER SPINE ACCEL.
ELEC DATA, SAE CLASS 180 TEST DATE: 03-20-90



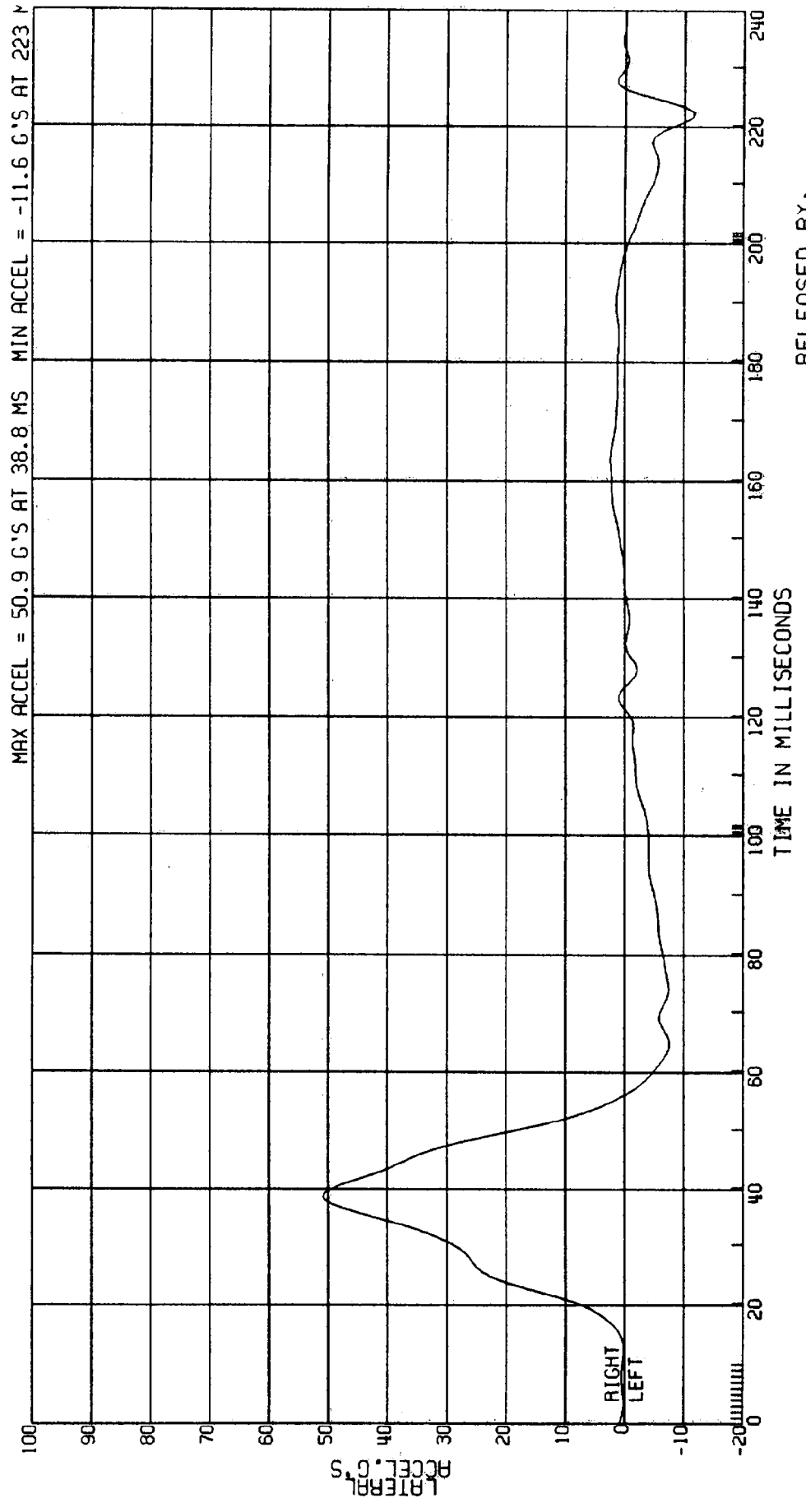
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34 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 39
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER UPPER SPINE ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180



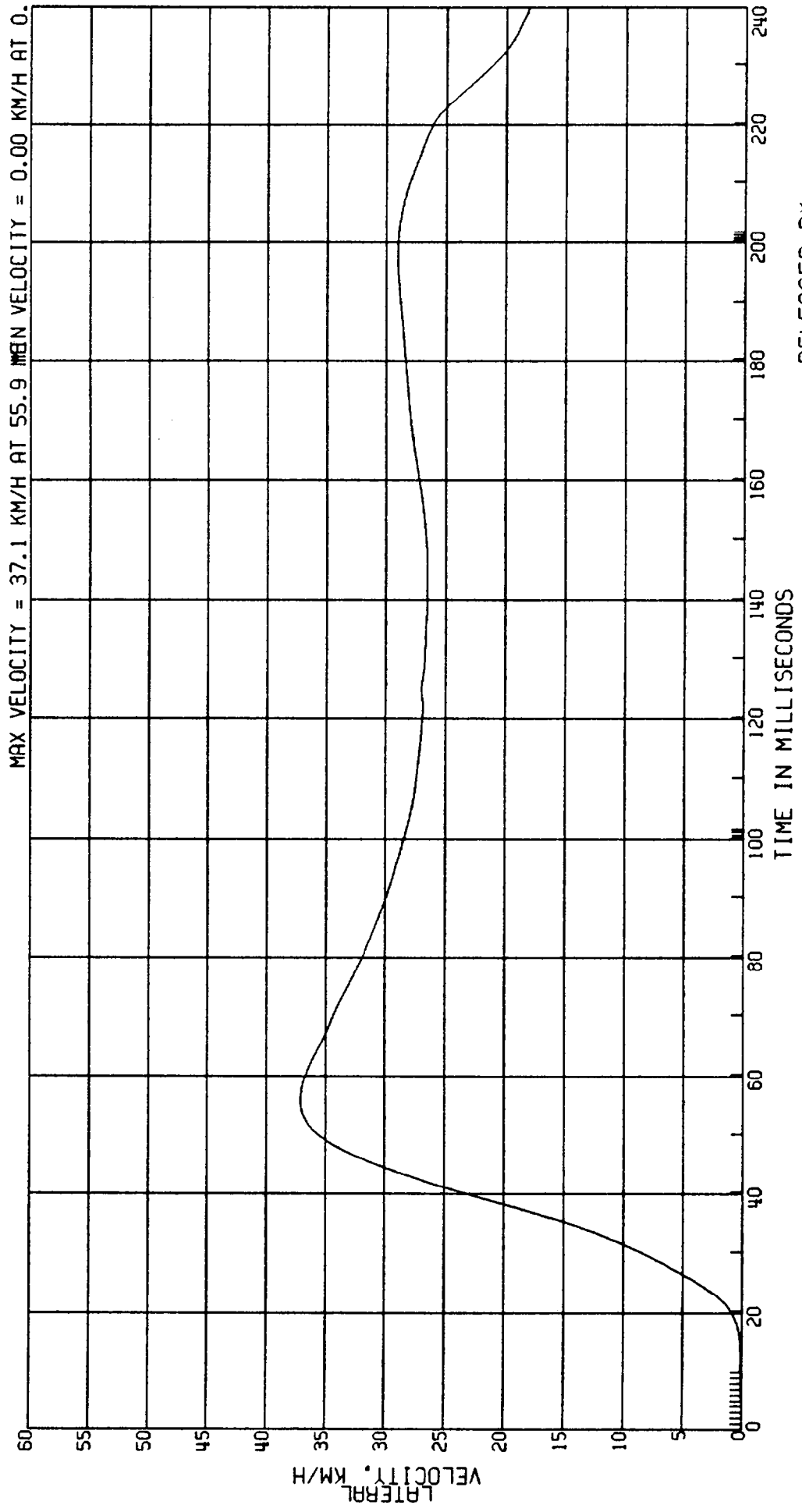
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35 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 40
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER UPPER SPINE ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH
 TEST DATE: 03-20-90

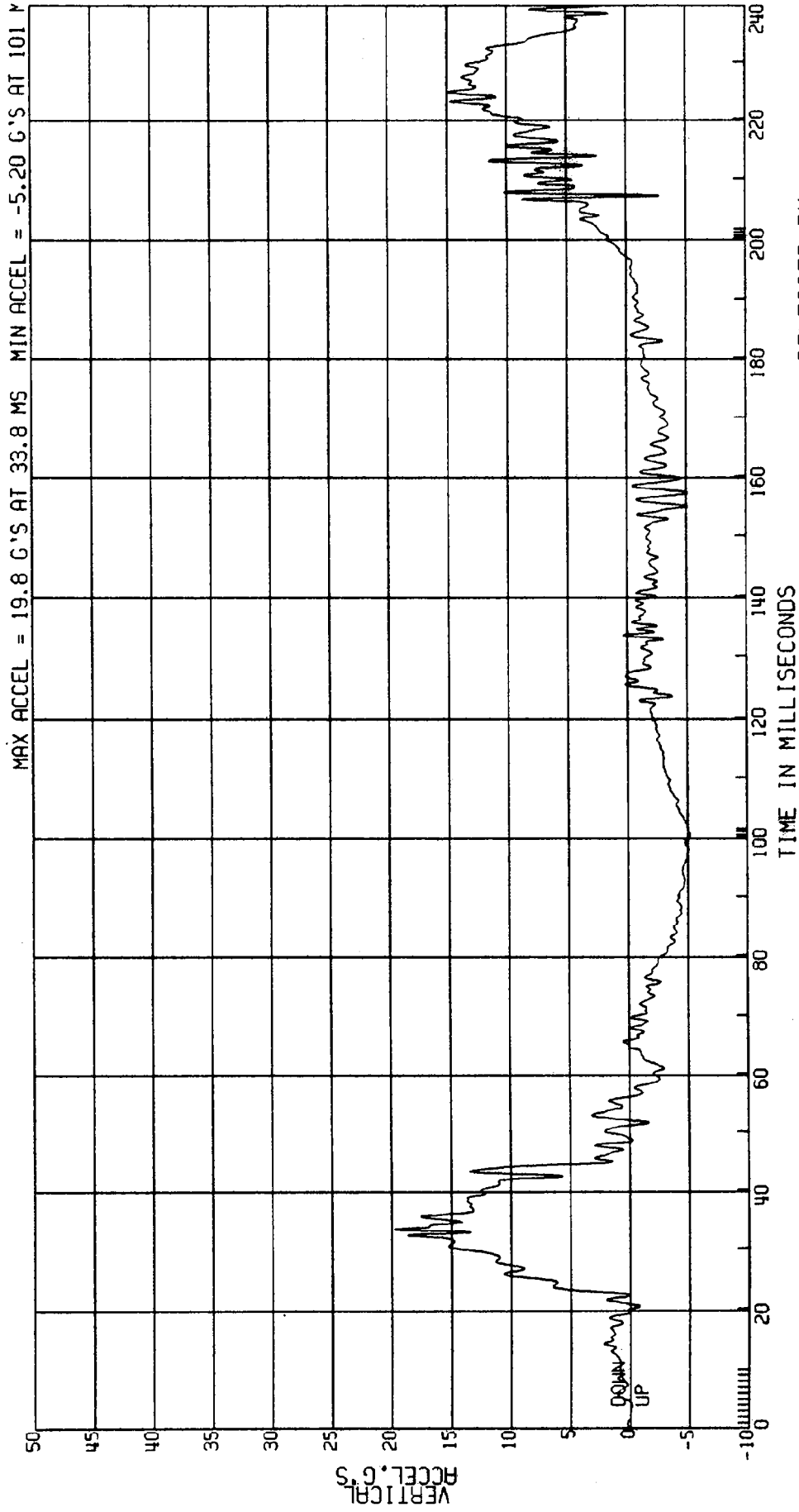


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 36 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 41
3868-905 ATD TYPE: B10SID
CPE MVMA 8P 2AF69 COMPUTED UPPER SPINE VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION)



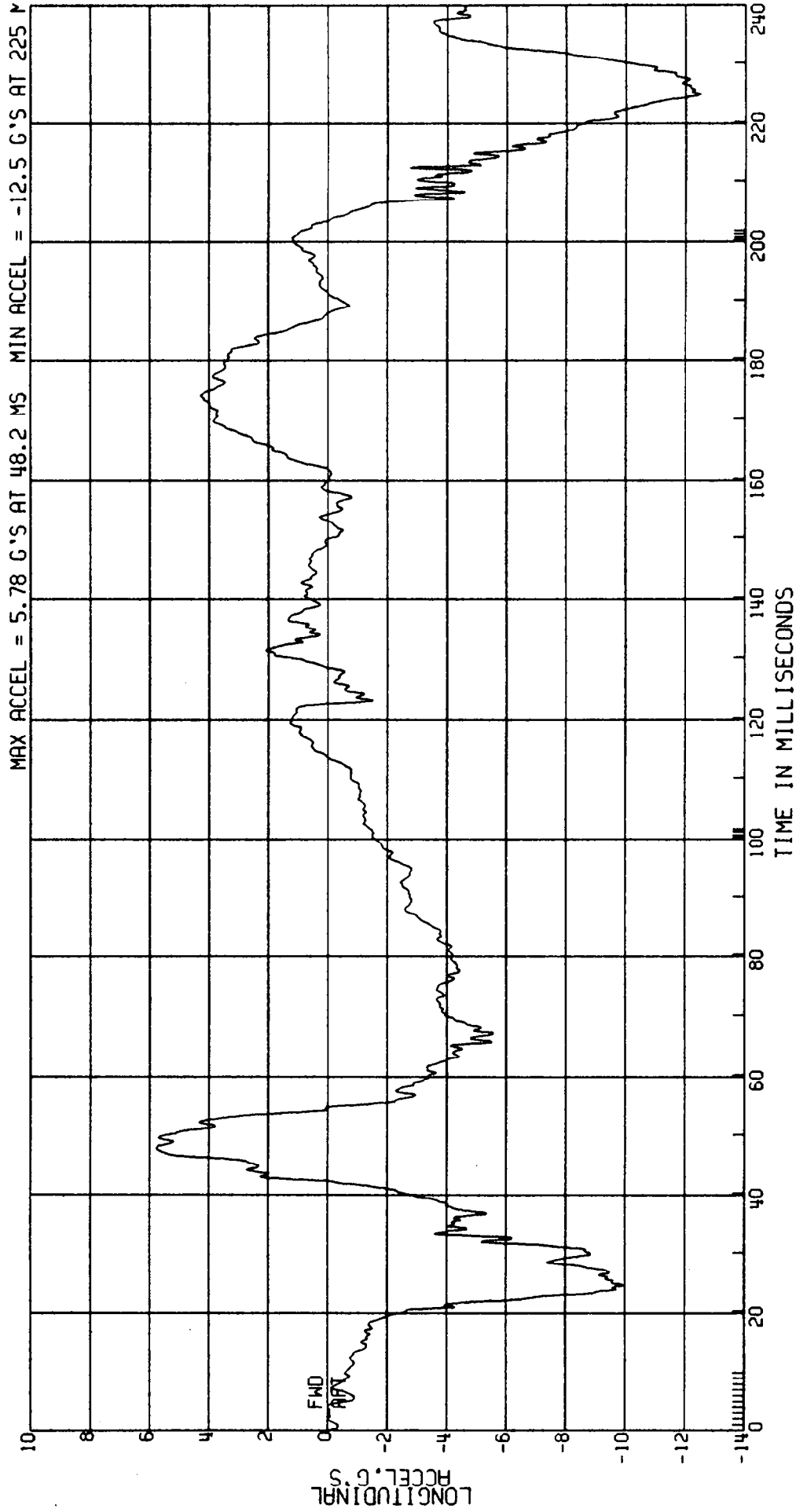
C80088 L: SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 42
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER UPPER SPINE ACCEL.
 ELEC DATA, SAE CLASS 180 TEST DATE: 03-20-90



RELEASED BY:

38 PROCESSED 3 MAR 90 11:49

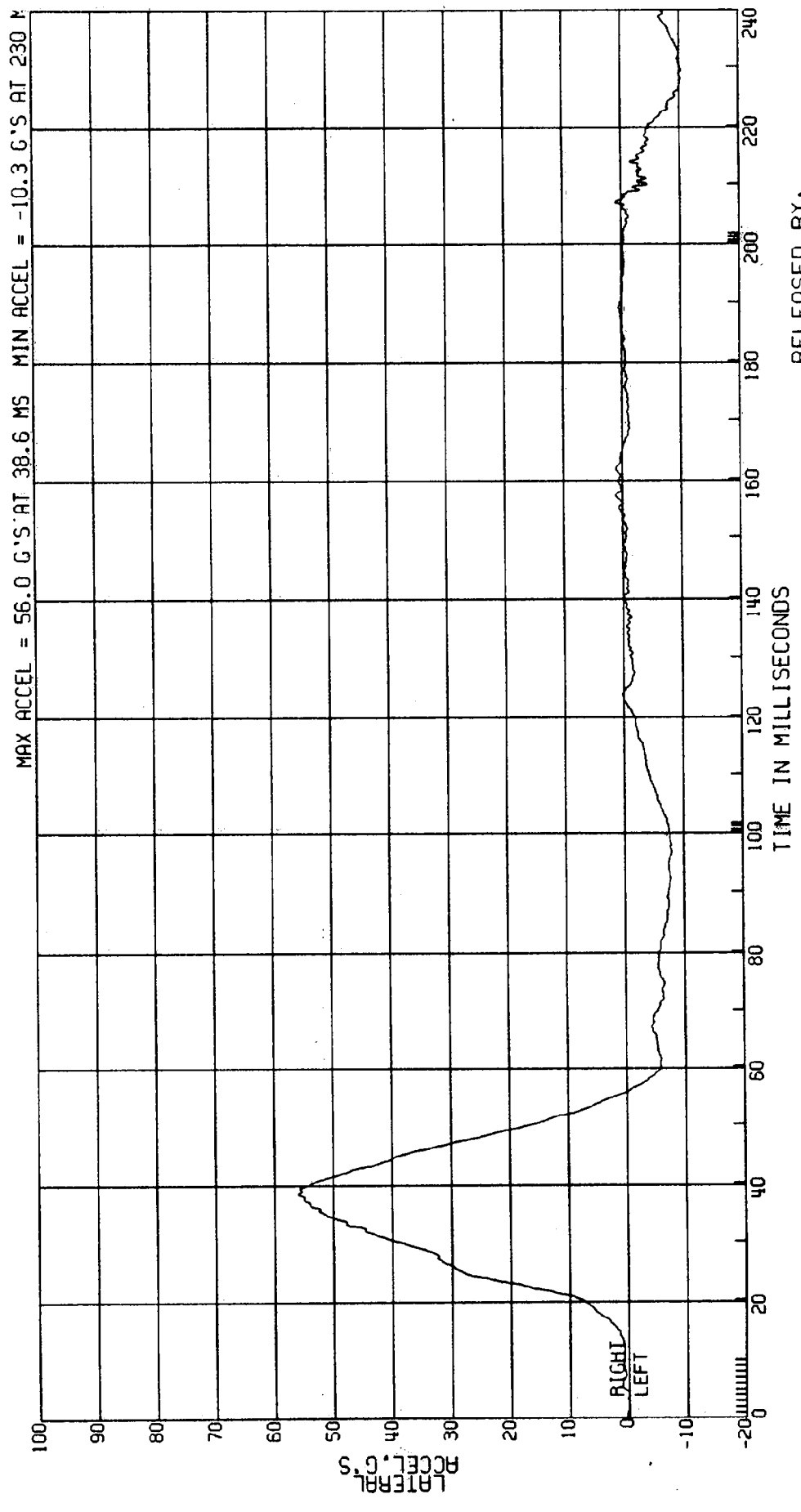
C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 43
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER LOWER SPINE ACCEL.
ELEC DATA, SAE CLASS 180 TEST DATE: 03-20-90



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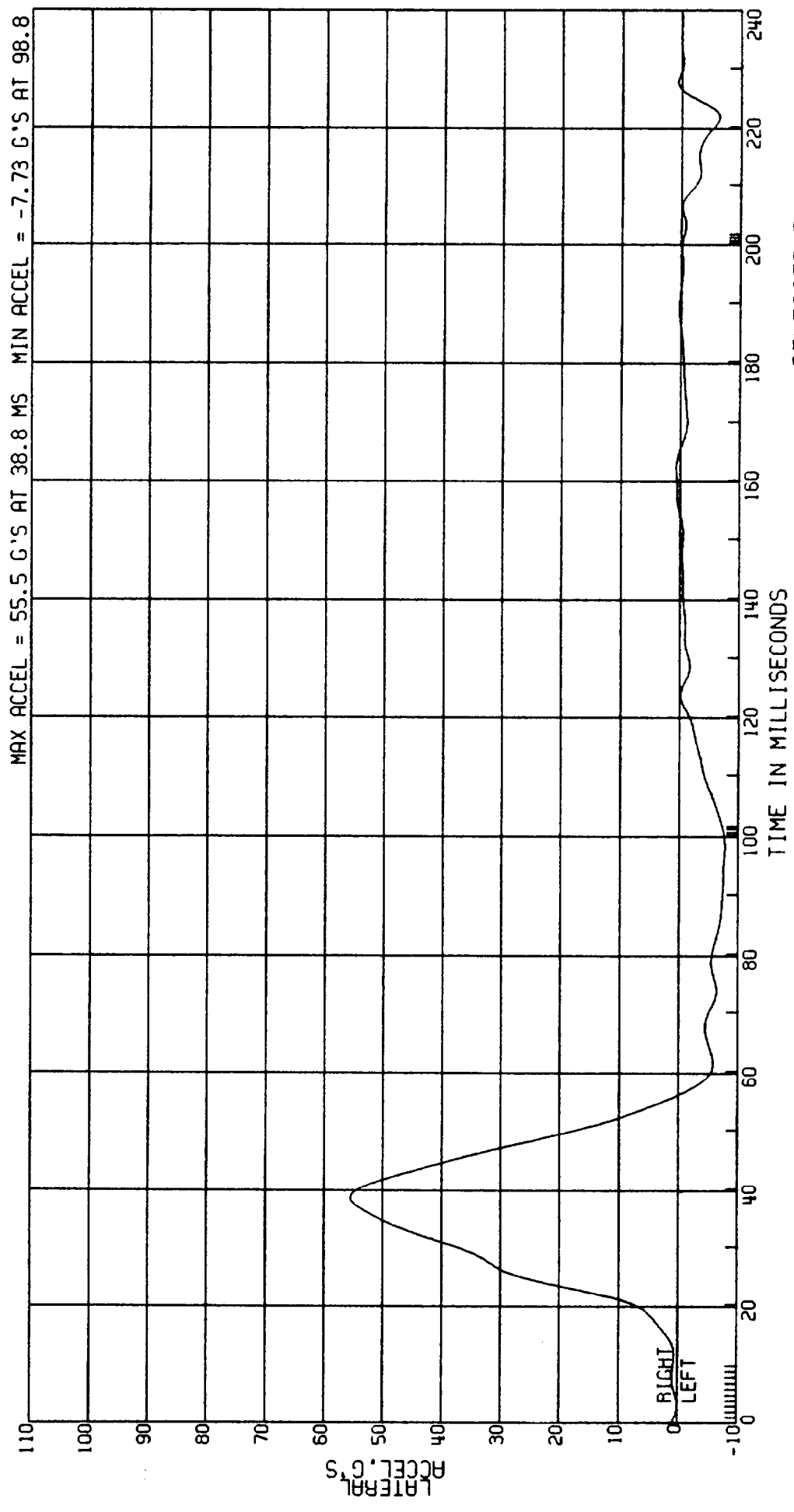
39 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 44
3868-905 ATD TYPE: BLOSID
CPE MVMA 8P 2AF69 DRIVER LOWER SPINE ACCEL.
ELEC DATA, SAE CLASS 180 TEST DATE: 03-20-90



RELEASED BY:
40 PROCESSED 3 MY 90 11:49

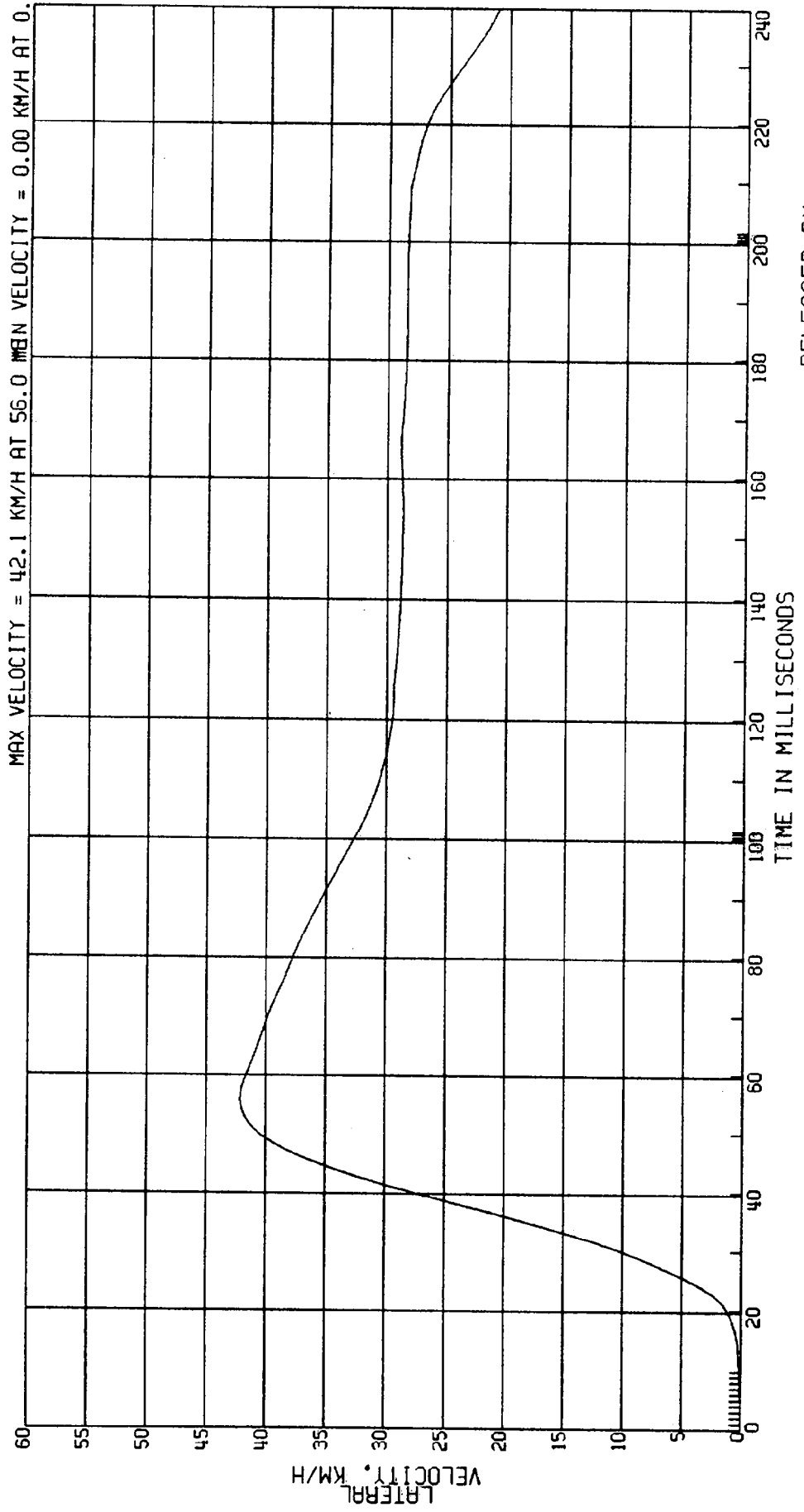
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 45
 3868-905
 CPE MVMA 8P 2AF69
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH
 AID TYPE: BIOSID
 TEST DATE:03-20-90



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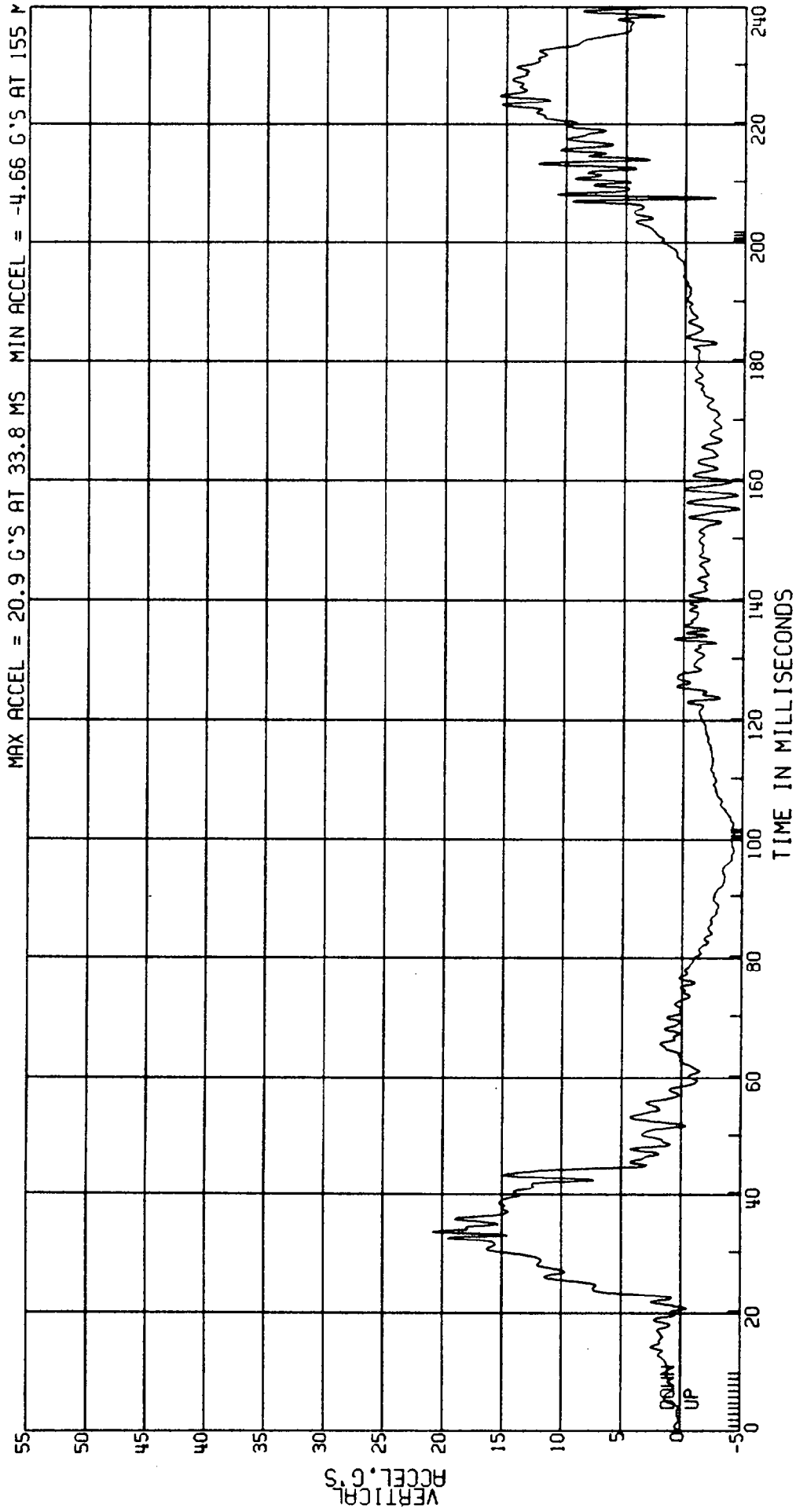
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 46
 3868-905 MVMA 8P 2AF69
 CPE COMPUTED LOWER SPINE VELOCITY
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION)

AID TYPE: BIOSID
 TEST DATE: 03-20-90



RELEASED BY:
 42 PROCESSED 3 MYS90 11:49

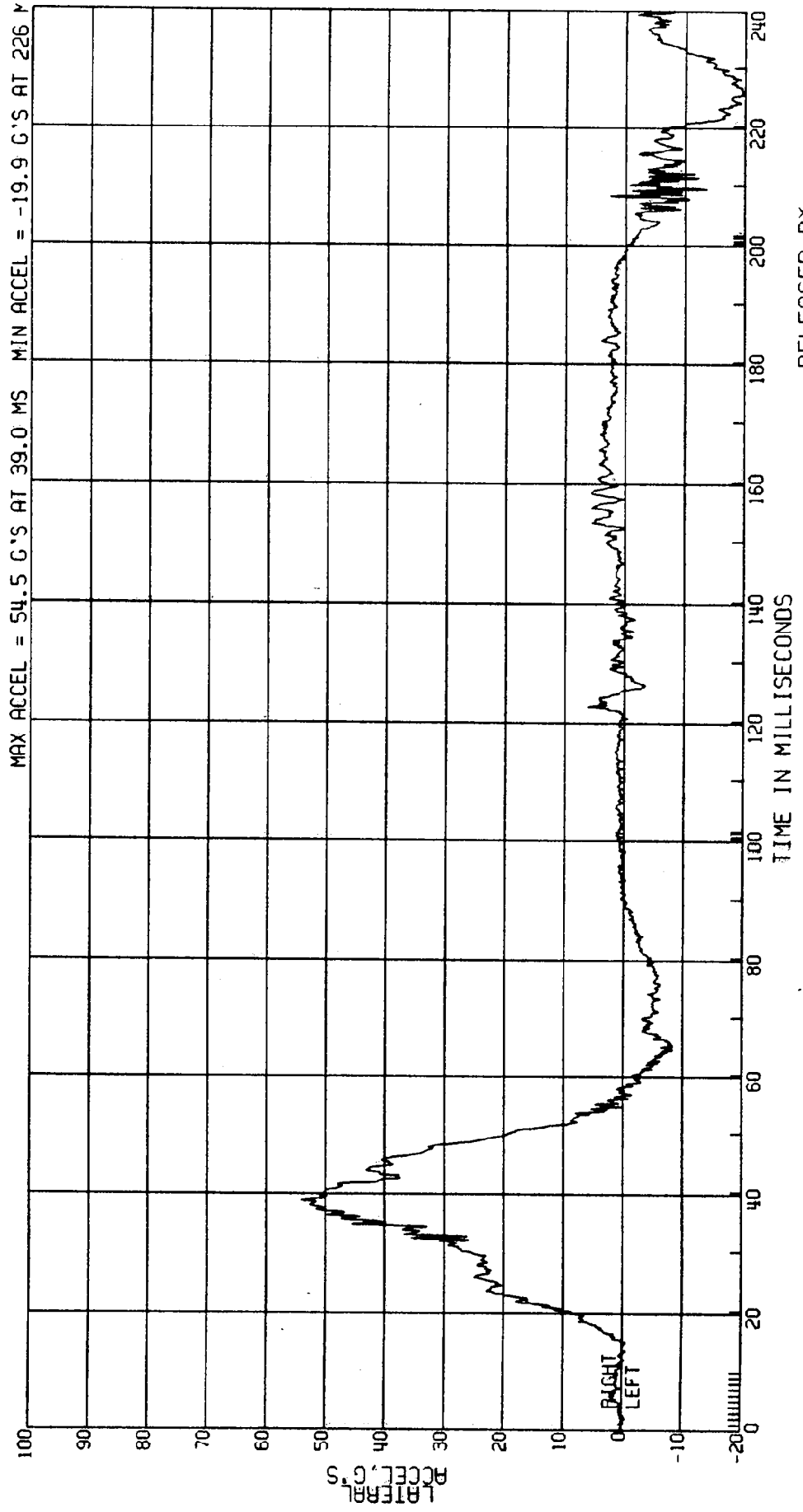
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 47
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER LOWER SPINE ACCEL.
ELEC DATA, SAE CLASS 180 TEST DATE:03-20-90



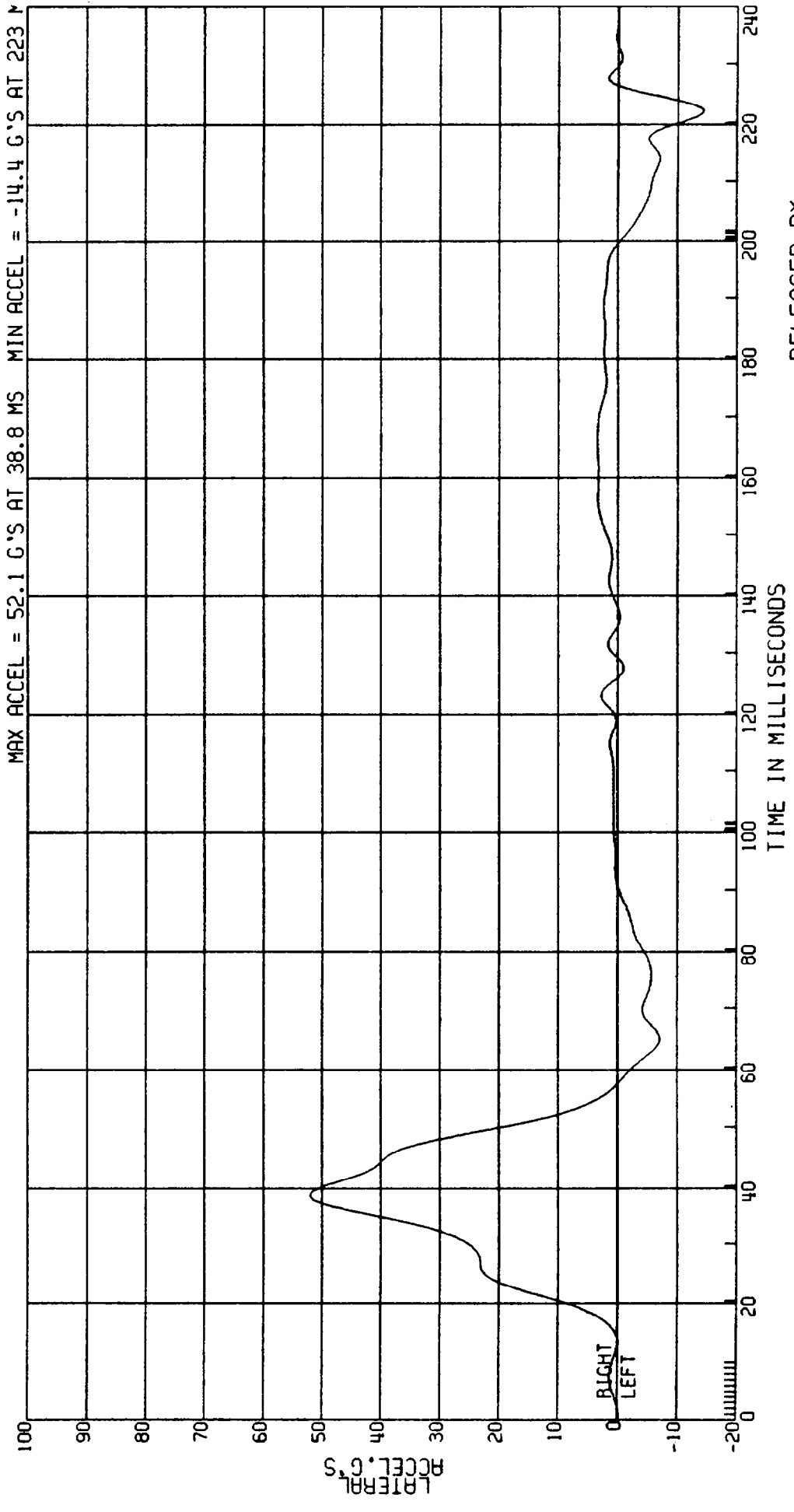
RELEASED BY:

43 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 48
3868-905 AID TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER T1 ACCEL.
ELEC DATA. SAE CLASS 1000 TEST DATE: 03-20-90

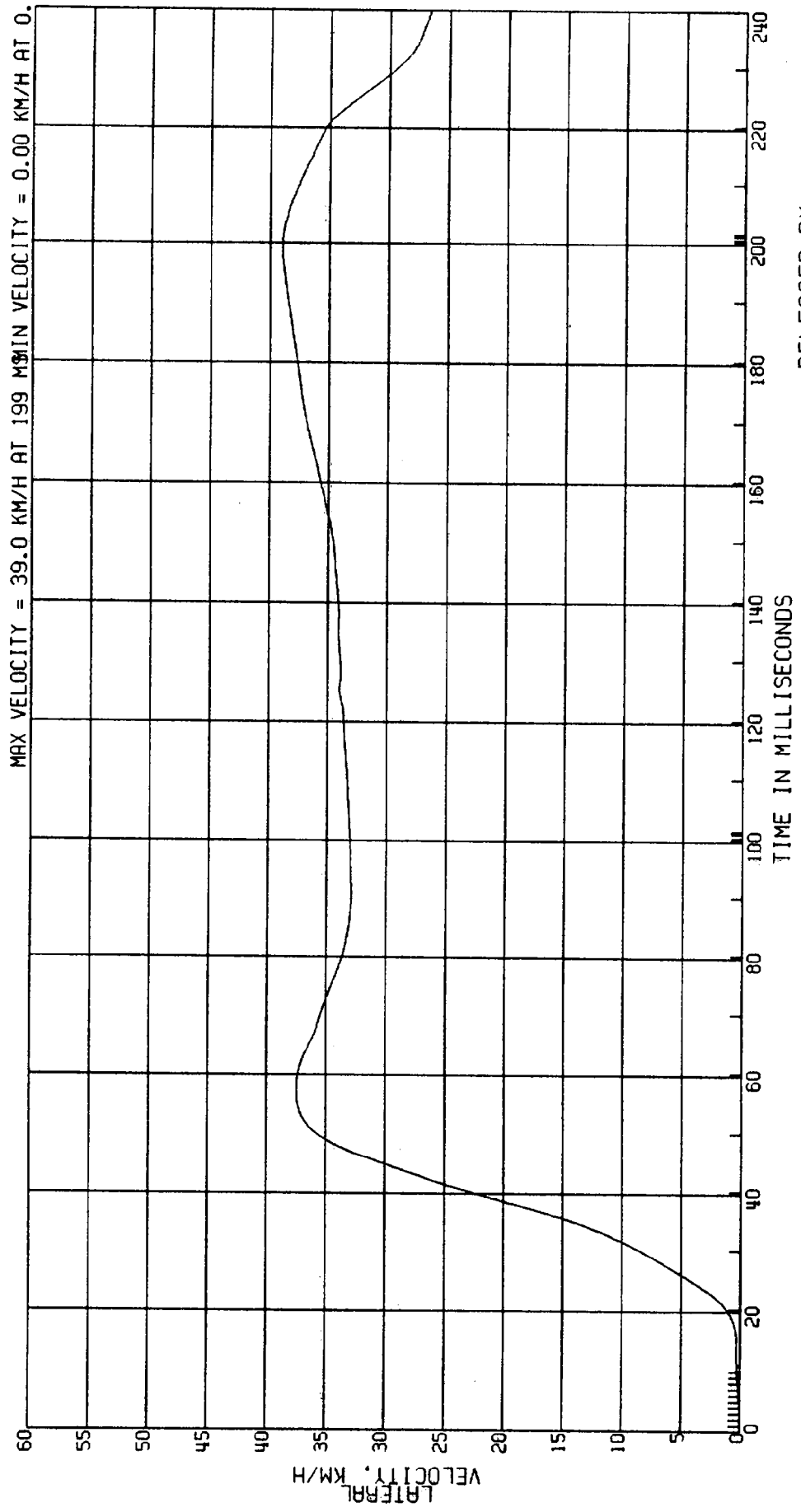


C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 49
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER T1 ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE:03-20-90



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 45 PROCESSED 3 MY 90 11:49

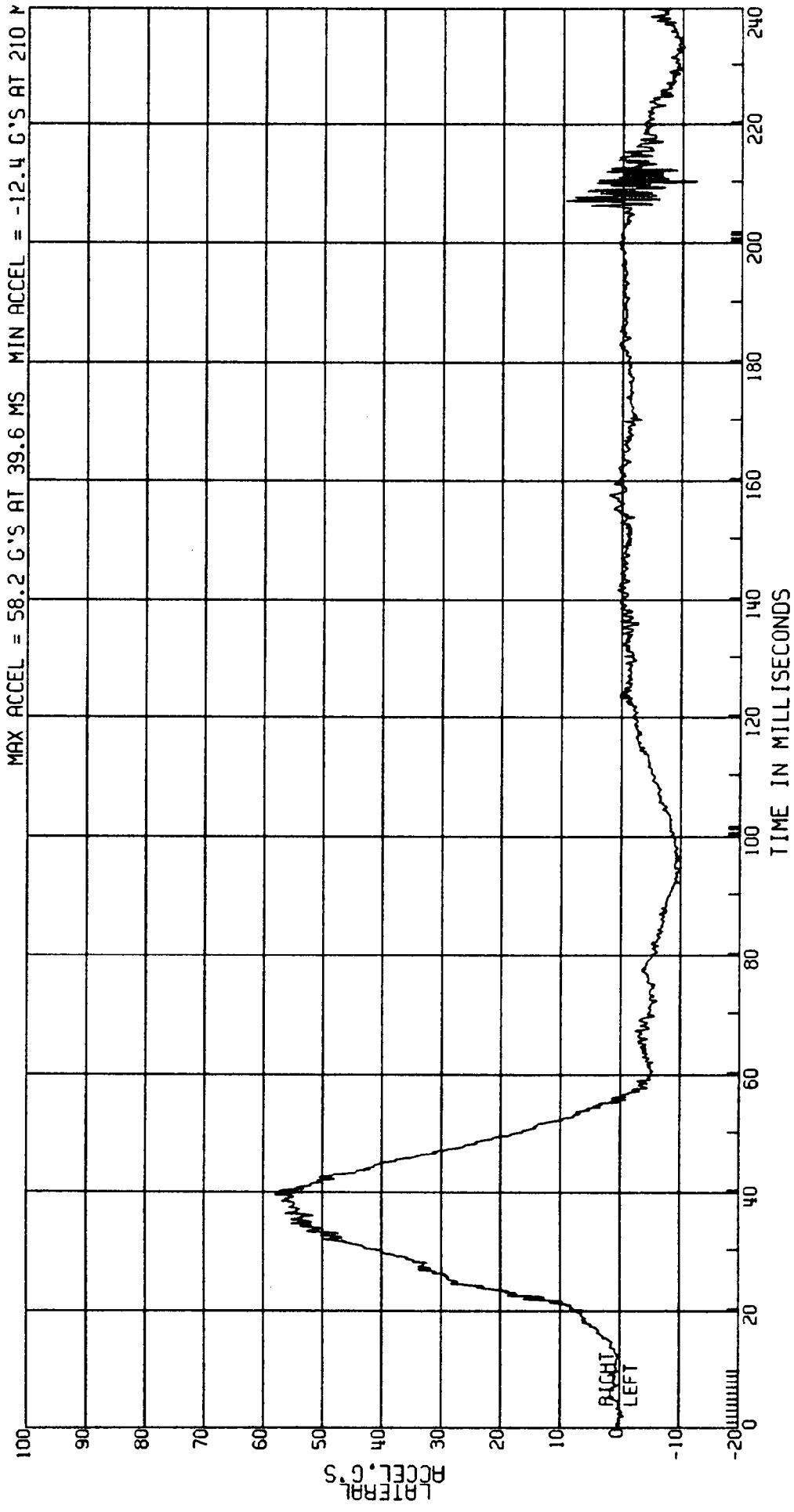
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 50
3868-905
CPE MVMA 8P 2AF69 COMPUTED T1 VELOCITY
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION)



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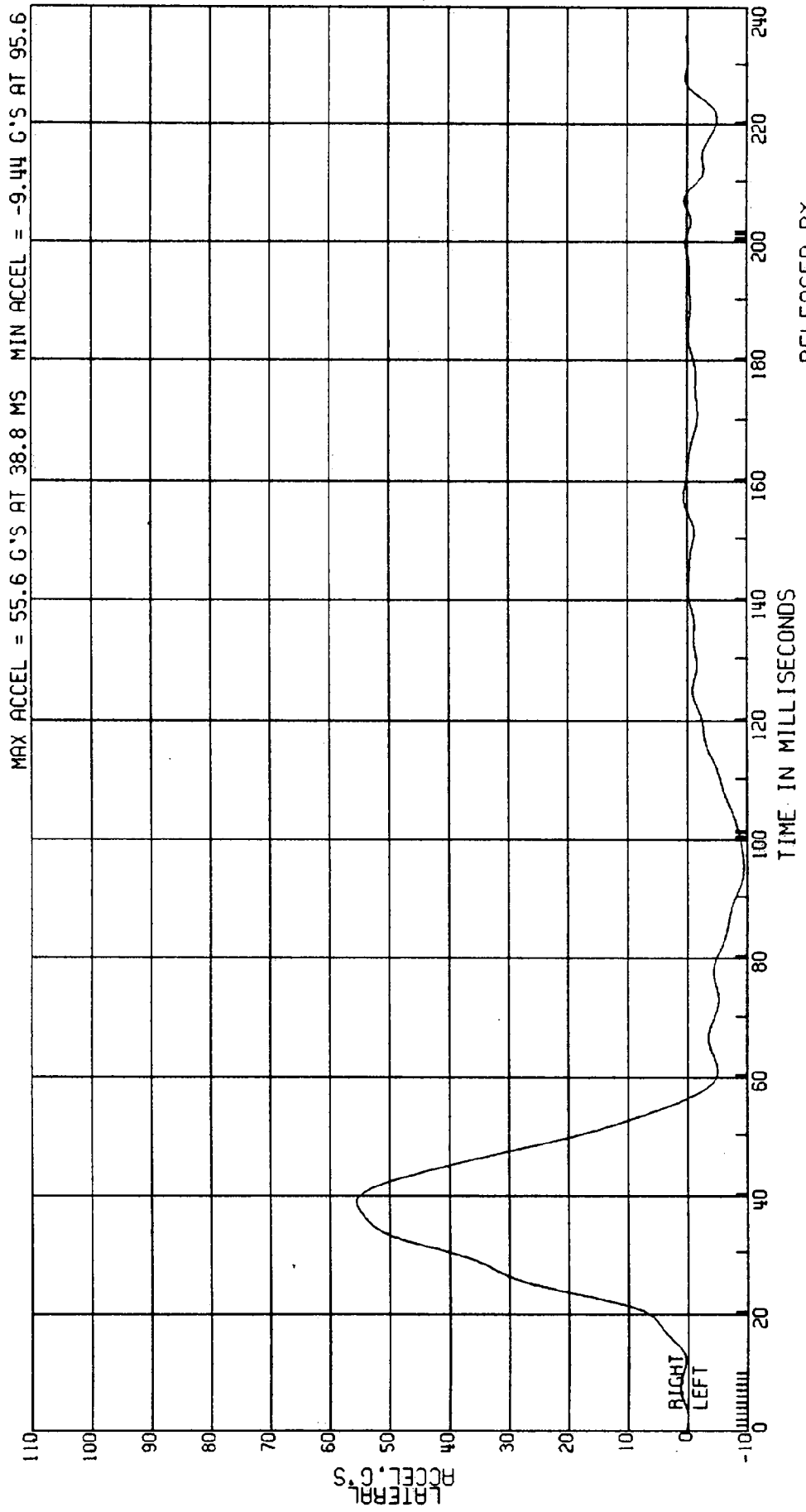
3 46 PROCESSED 3 MY:90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 5/
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER T12 ACCEL.
 ELEC DATA, SAE CLASS 1000 TEST DATE:03-20-90



RELEASED BY:
 47 PROCESSED 3 MY 90 11:49

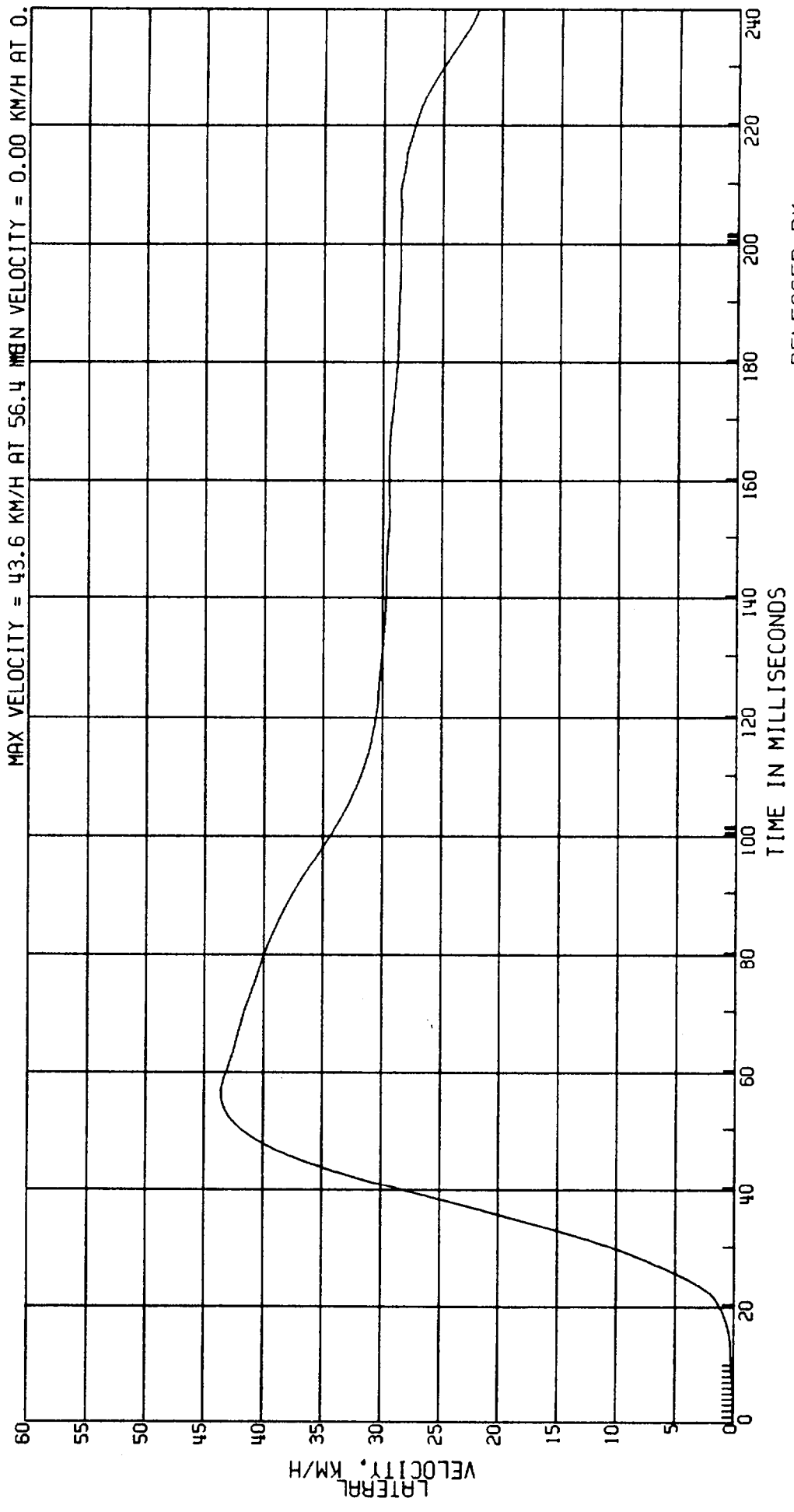
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 5a
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER T12 ACCEL.
ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE:03-20-90



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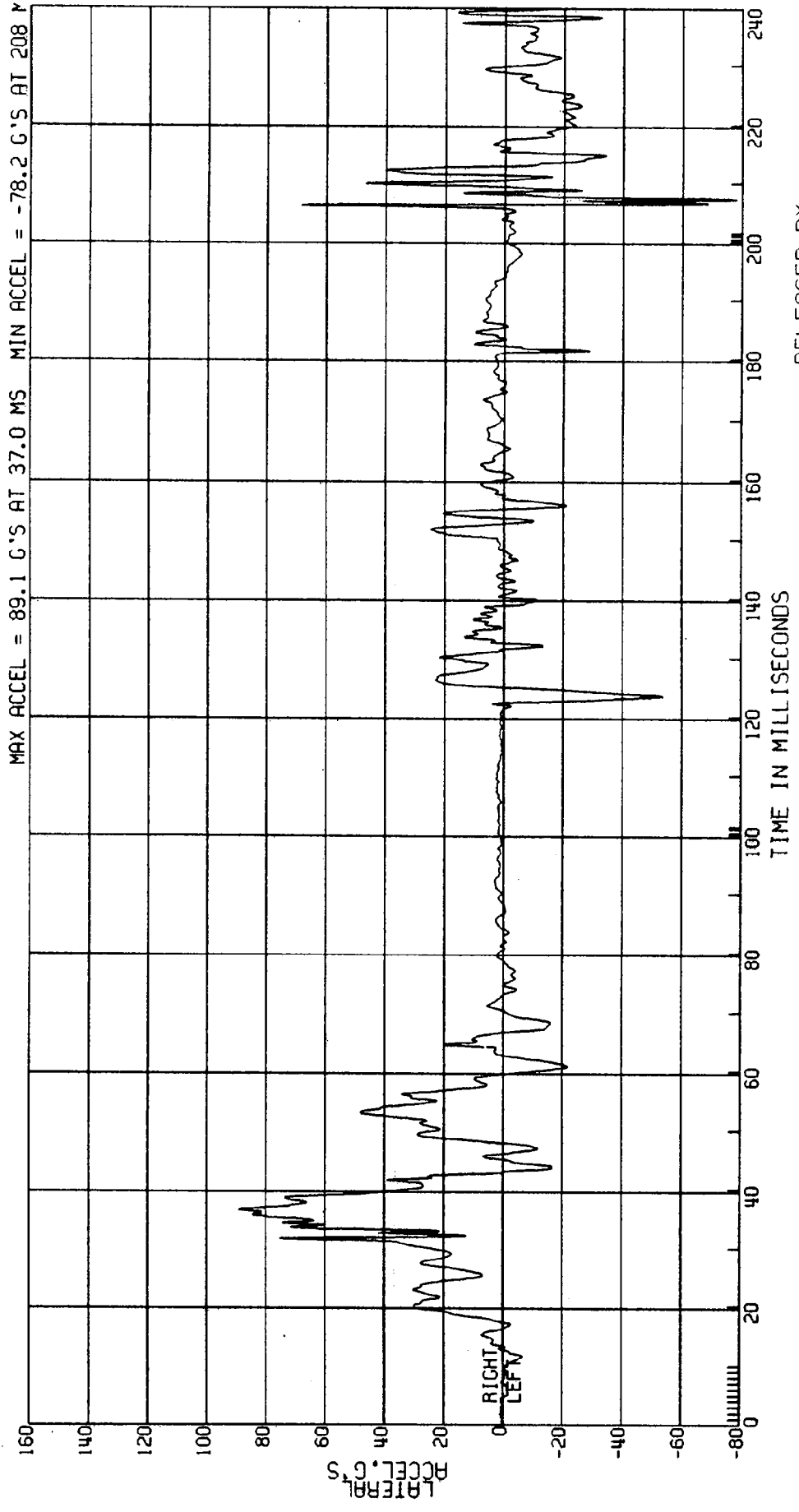
488 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 53
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 COMPUTED T12 VELOCITY
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION) TEST DATE: 03-20-90



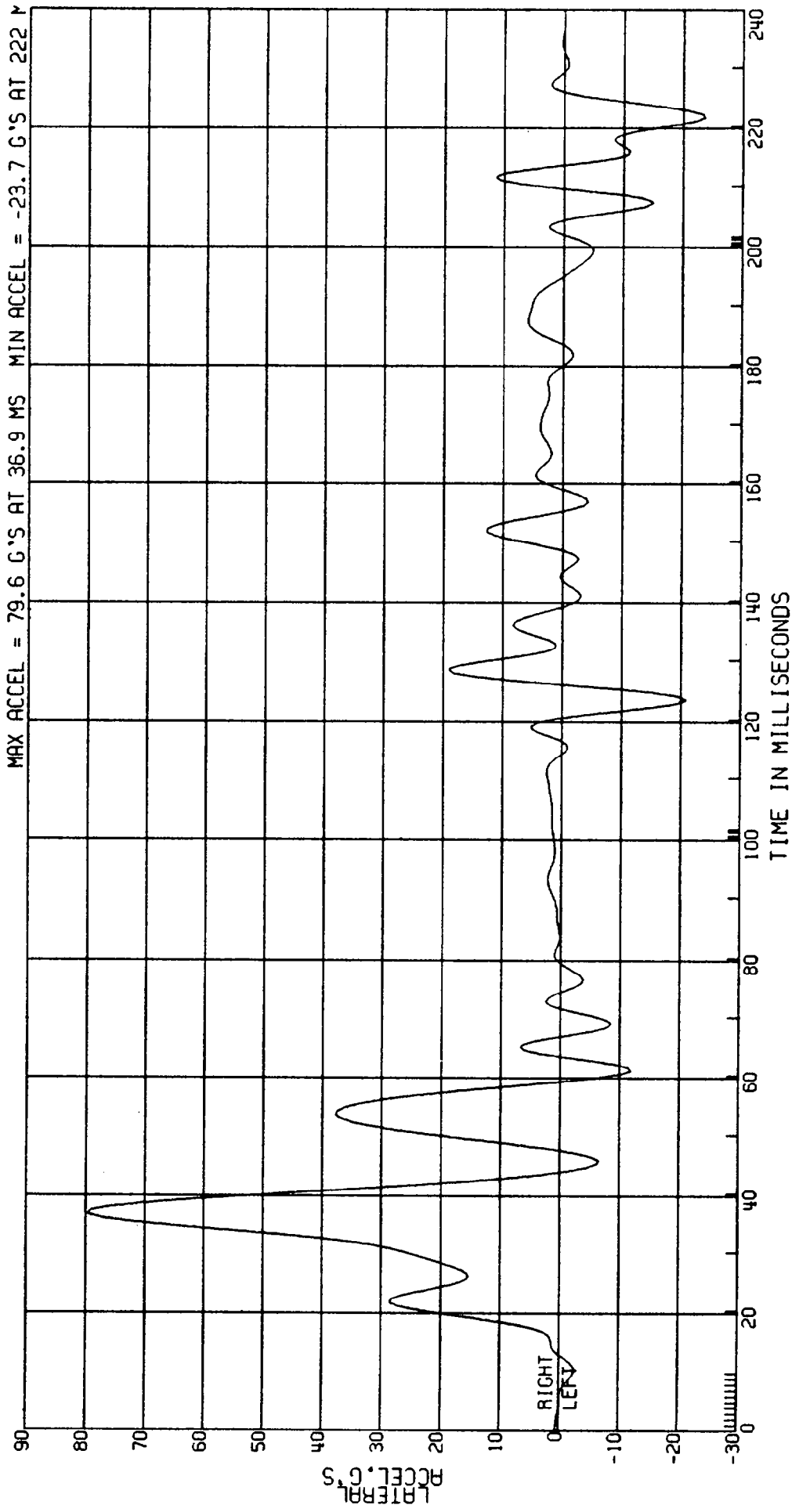
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C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 54
 3868-905 AID TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER SHOULDER ACCEL.
 ELEC DATA, SAE CLASS 600 TEST DATE:03-20-90



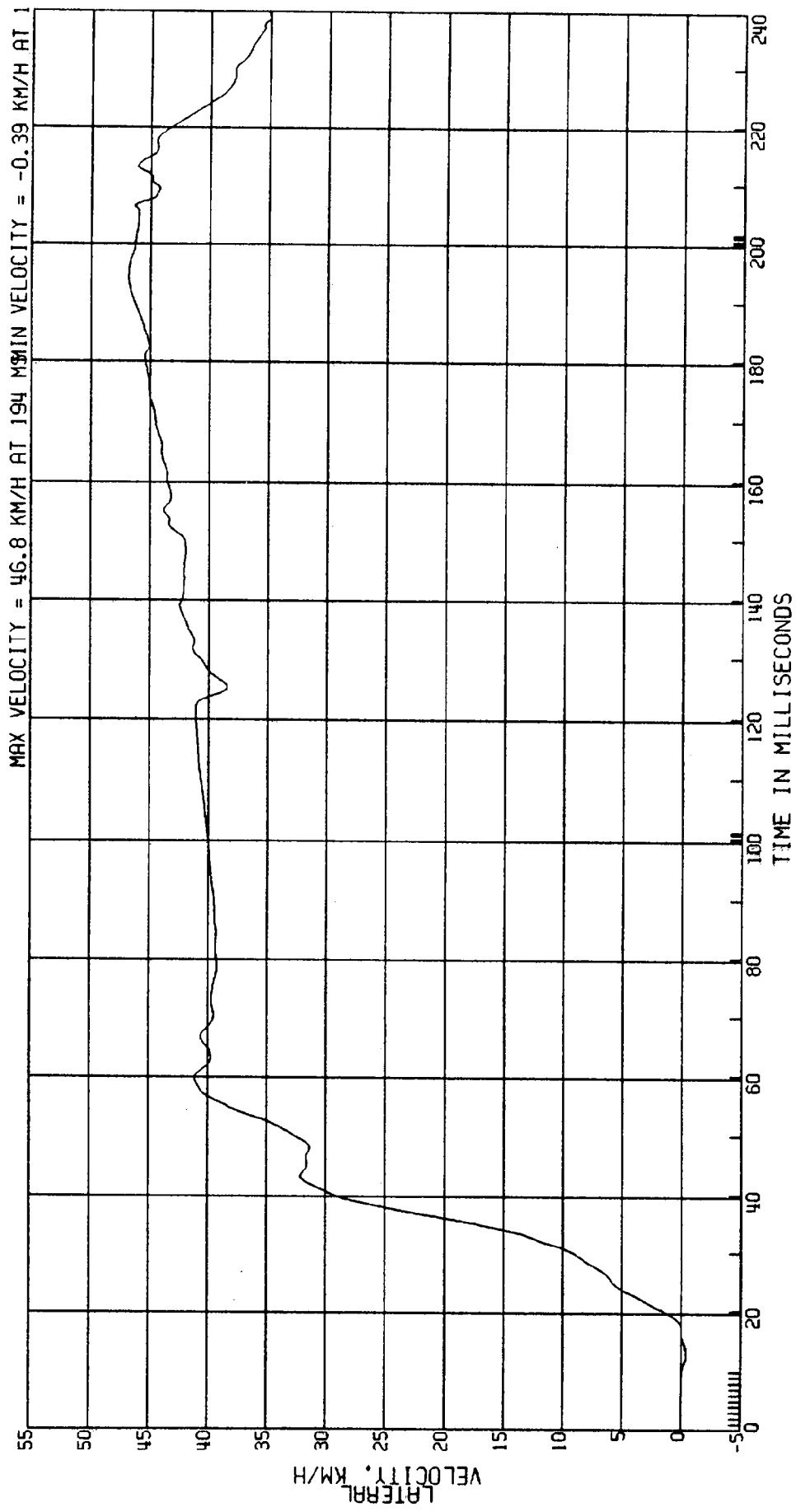
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C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 55
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, NHTSA FIR FILTER DRIVER SHOULDER ACCEL.
F.I.R. FILTER, CLASS 300 BUTTERWORTH



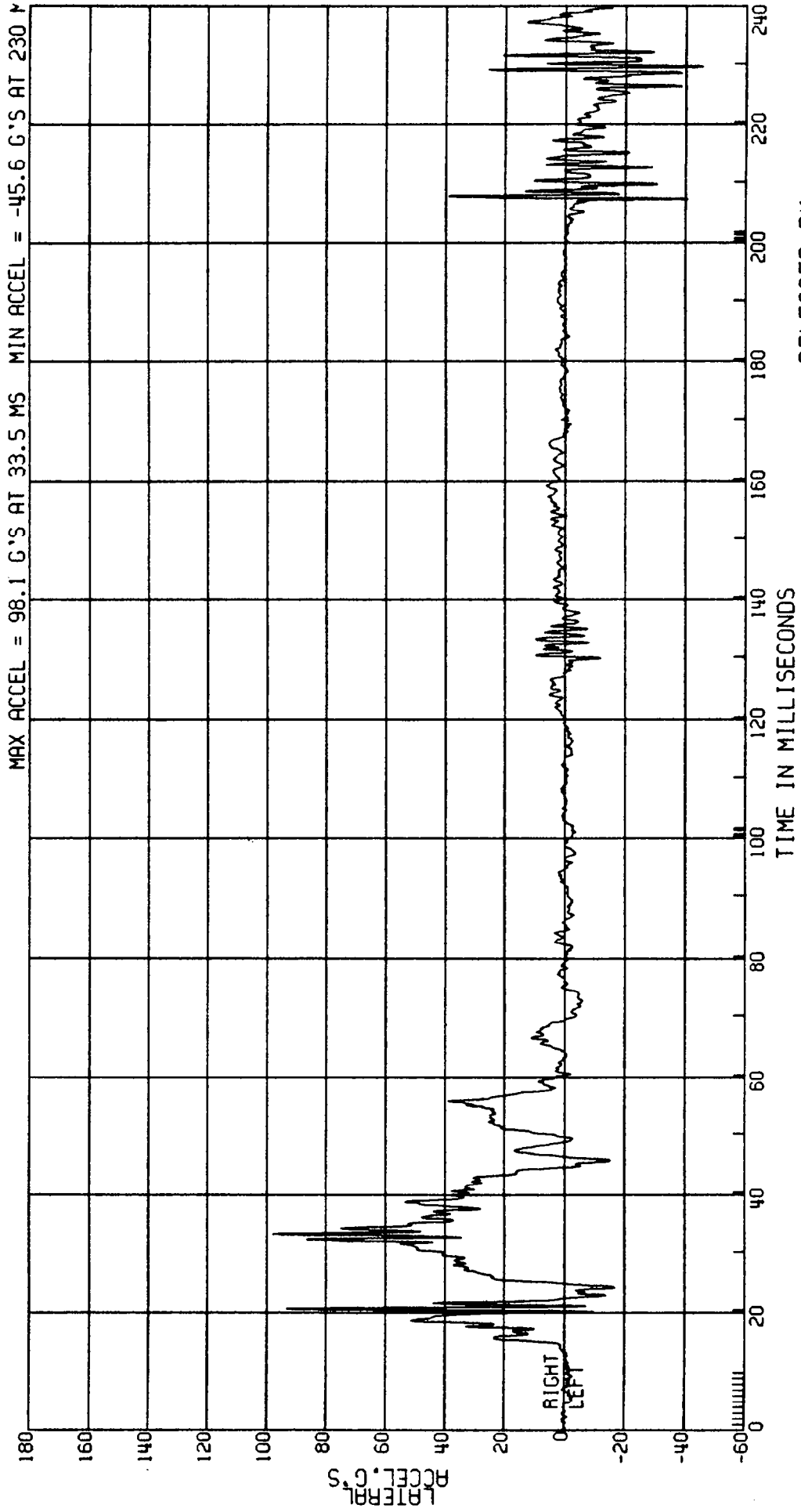
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51 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 56
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180
COMPUTED SHOULDER VELOCITY
(1ST INTEGRAL DRIVER ACCELERATION)
ATD TYPE: BIOSID
TEST DATE: 03-20-90



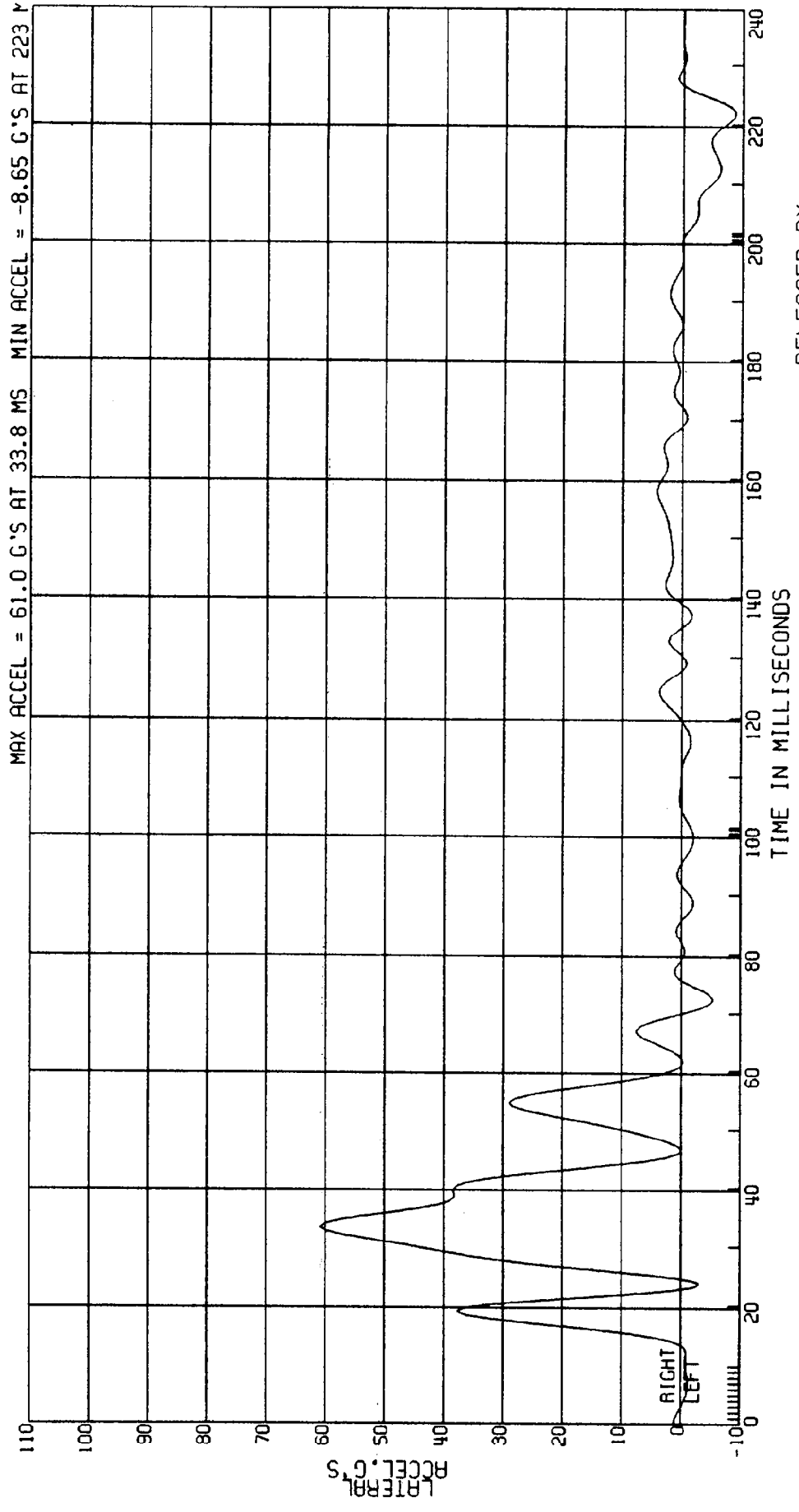
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C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 57
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER FIRST THORACIC RIB ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE:03-20-90



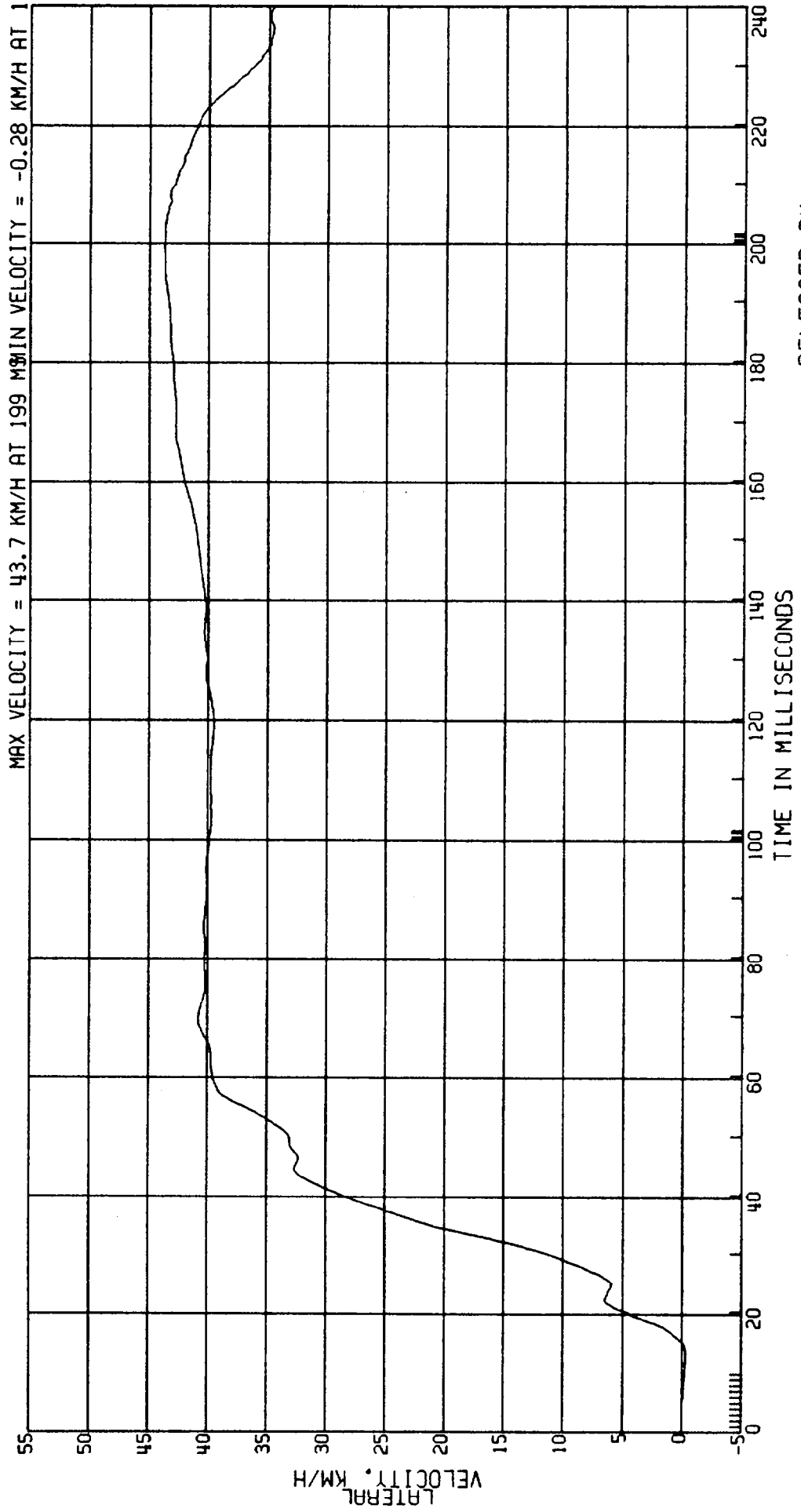
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53 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 58
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER FIRST THORACIC RIB ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE: 03-20-90



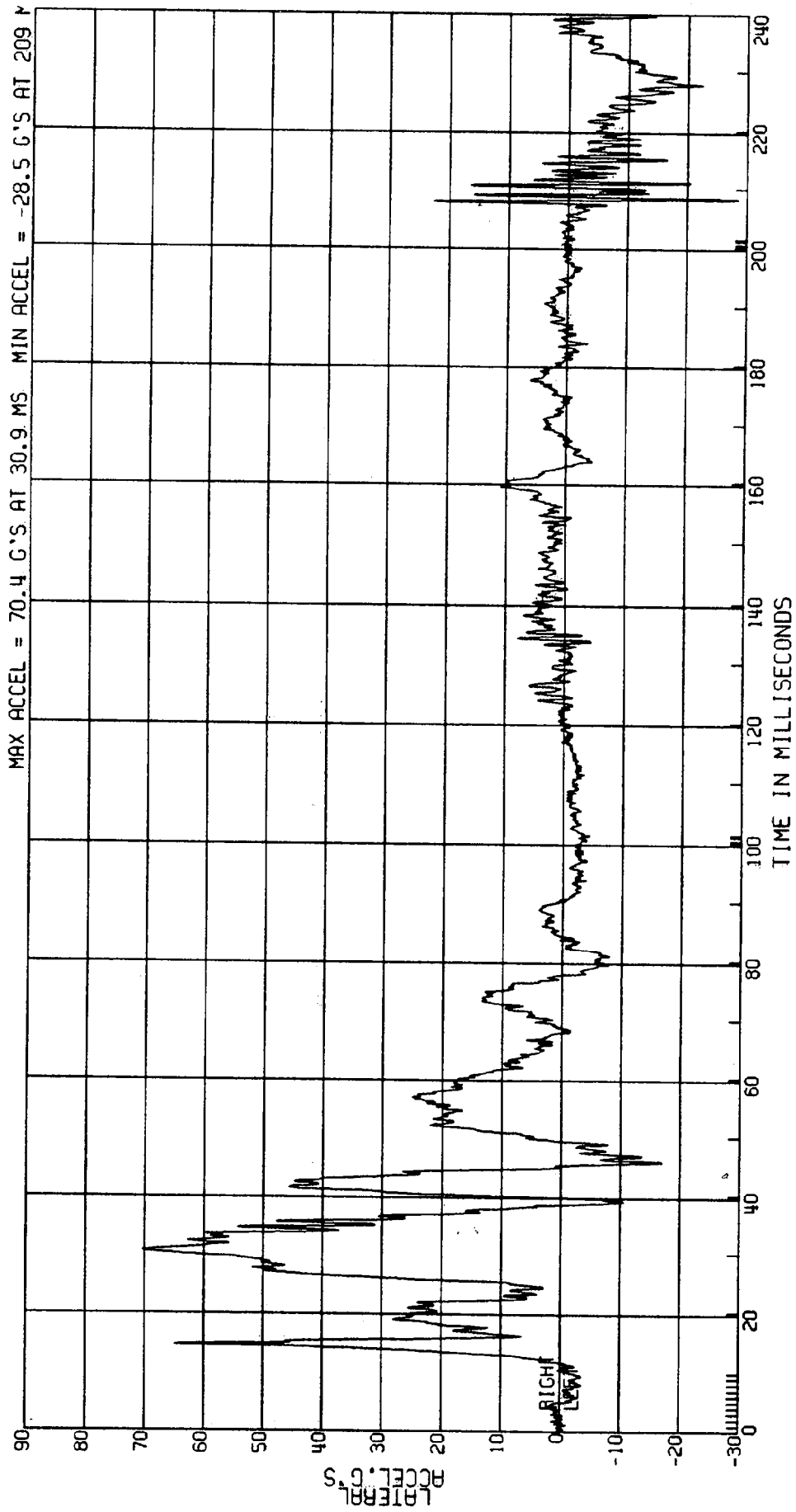
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 54 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 59
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 COMPUTED 1ST THORACIC RIB VELOCITY
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION) TEST DATE:03-20-90



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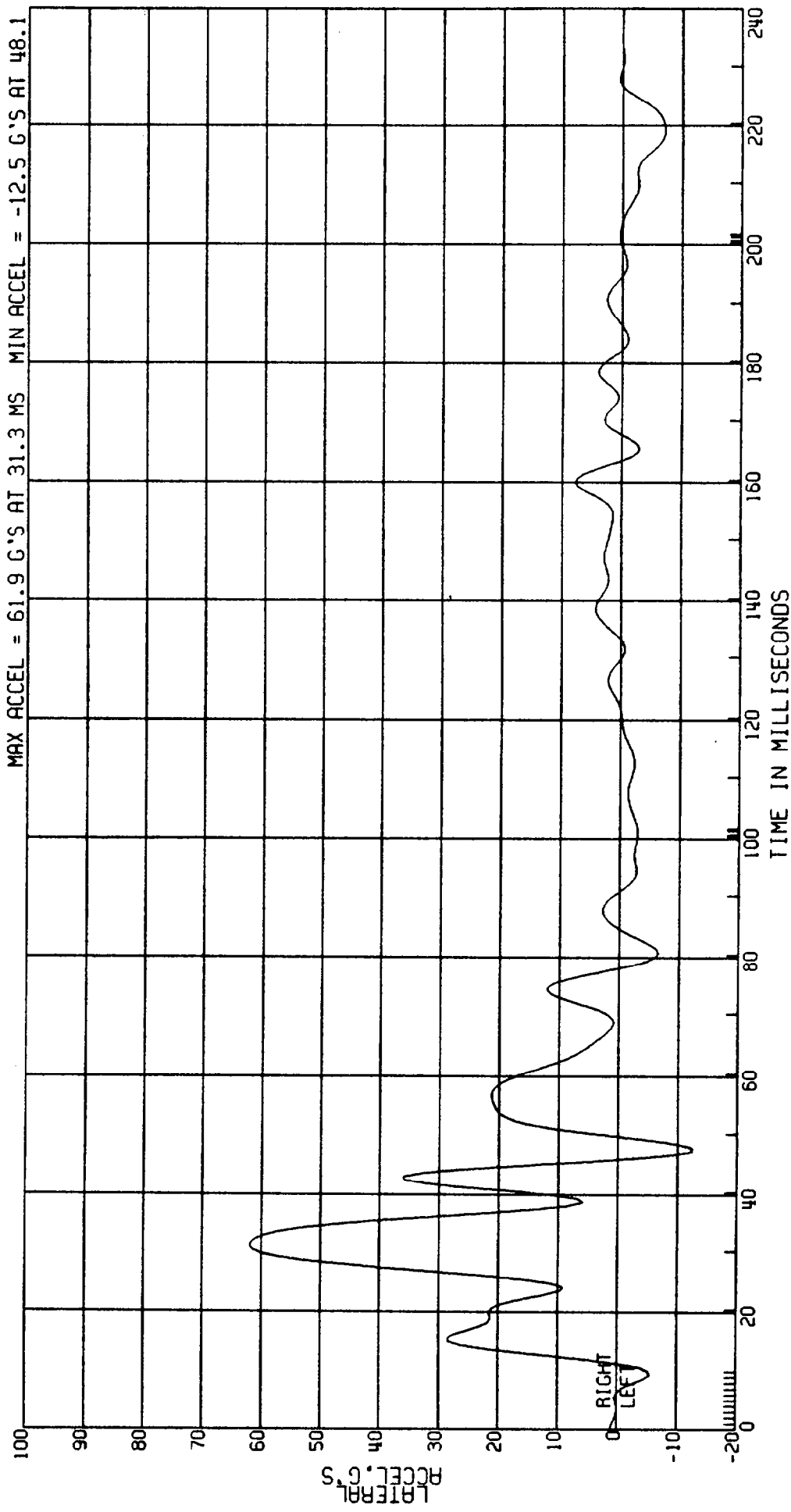
C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 60
3868-905
CPE MVMA 8P 2AF69 DRIVER SECOND THORACIC RIB ACCEL.
ELEC DATA, SAE CLASS 1000
ATD TYPE: BIOSID
TEST DATE:03-20-90



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56 PROCESSED 3 MY 90 11:49

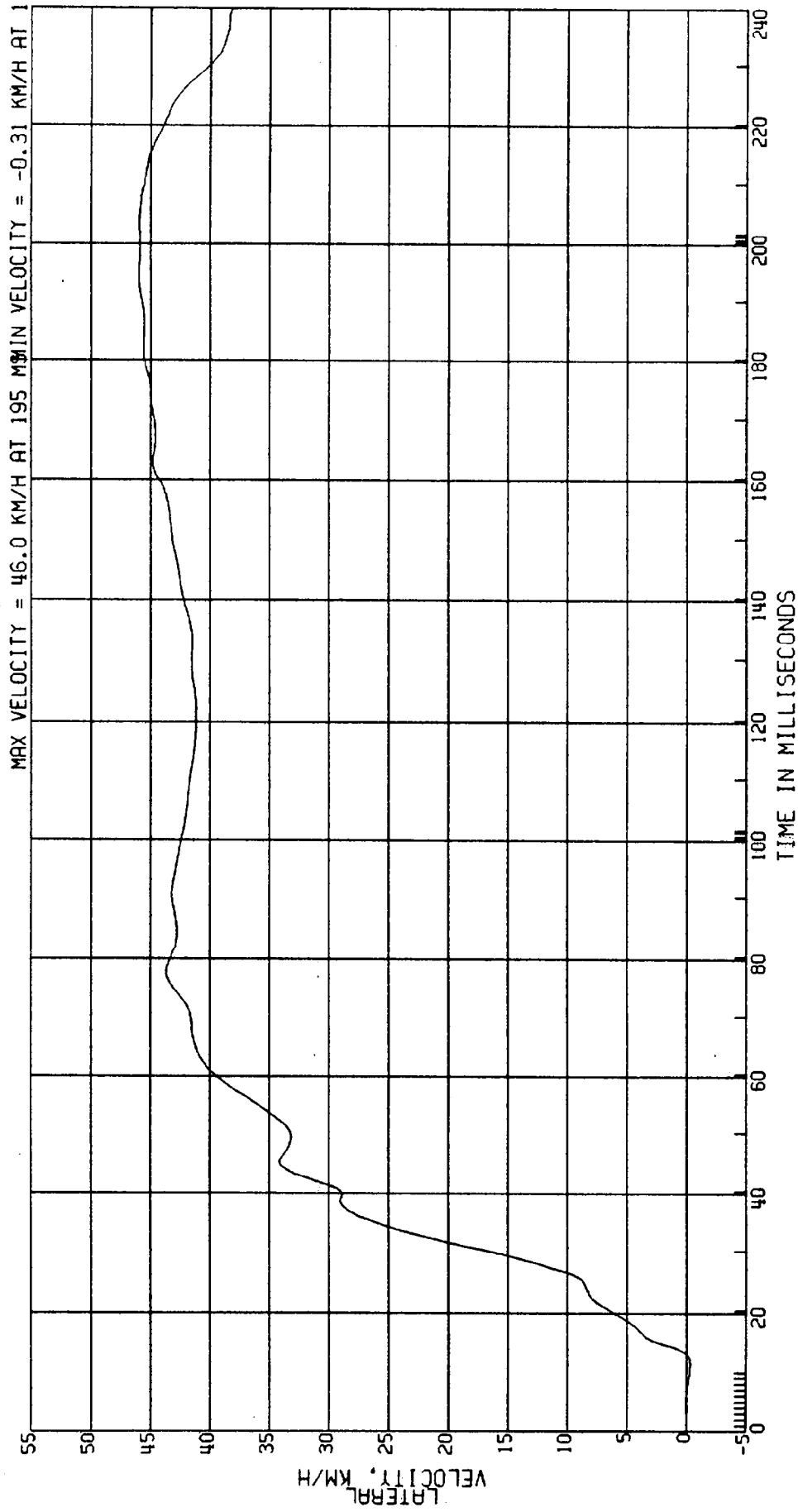
C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 6 /
3868-905 ATD TYPE: B10SID
CPE MVMA 8P 2AF69 DRIVER SECOND THORACIC RIB ACCEL.
ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE:03-20-90



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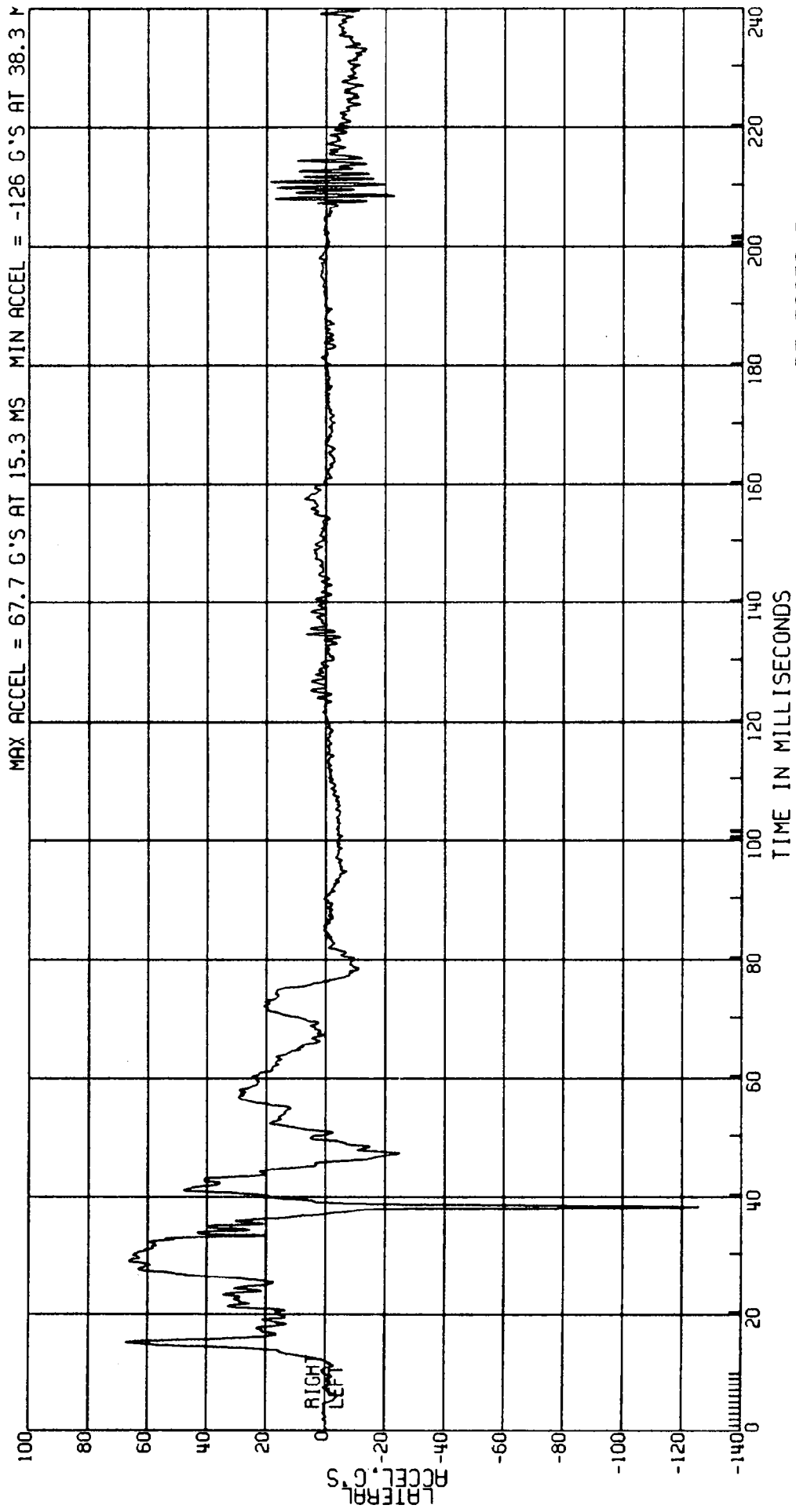
57 PROCESSED 3 MT, 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 62
3868-905 AID TYPE: BIOSID
CPE MVMA 8P 2AF69 COMPUTED 2ND THORACIC RIB VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION)



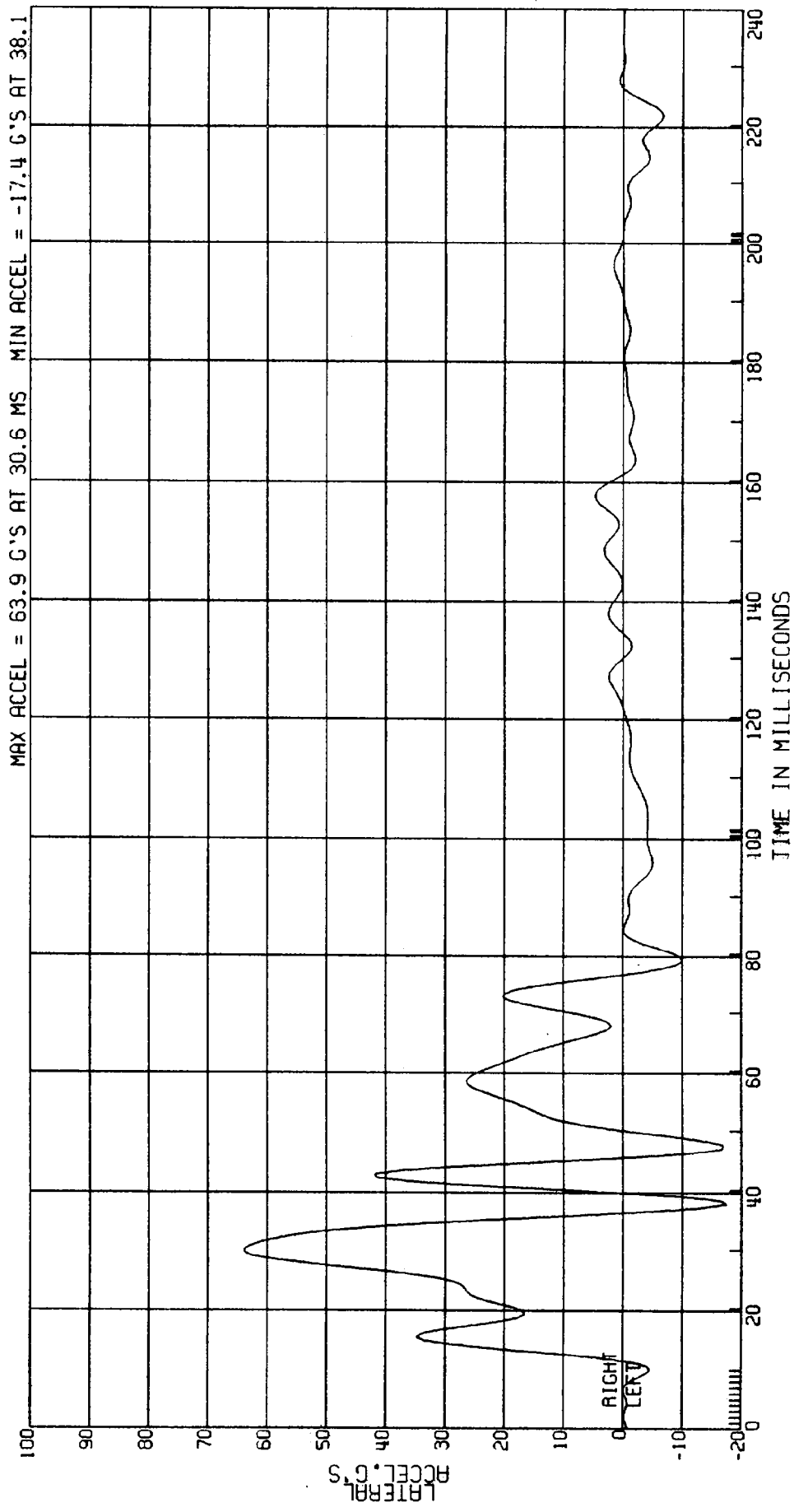
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58 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 6.3
3868-905 AID TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER THIRD THORACIC RIB ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE:03-20-90



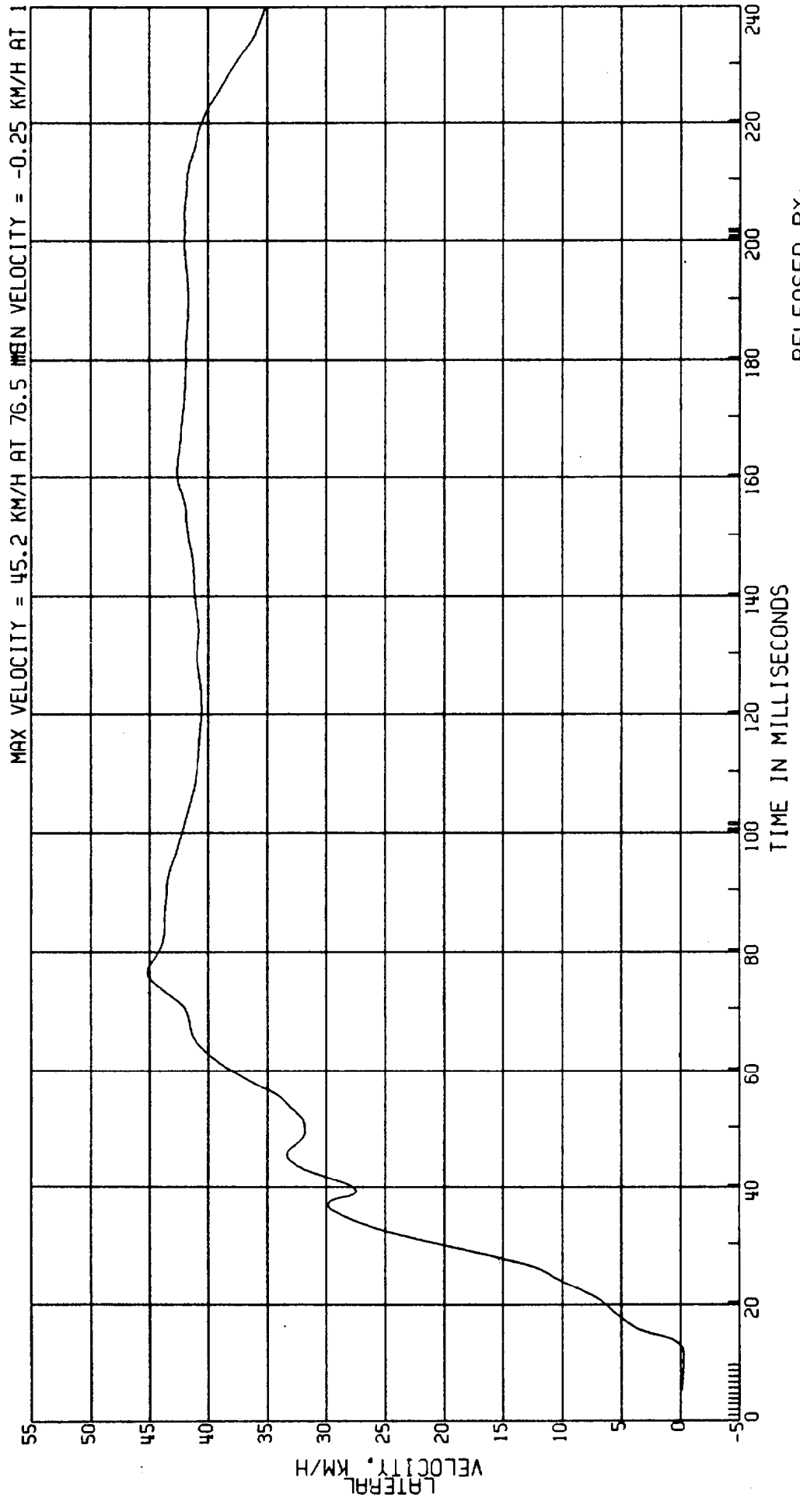
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59 PROCESSED 3 MAY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 64
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 TEST DATE: 03-20-90
 ELEC DATA, NHTSA FIR FILTER DRIVER THIRD THORACIC RIB ACCEL.
 F.I.R. FILTER, CLASS 300 BUTTERWORTH



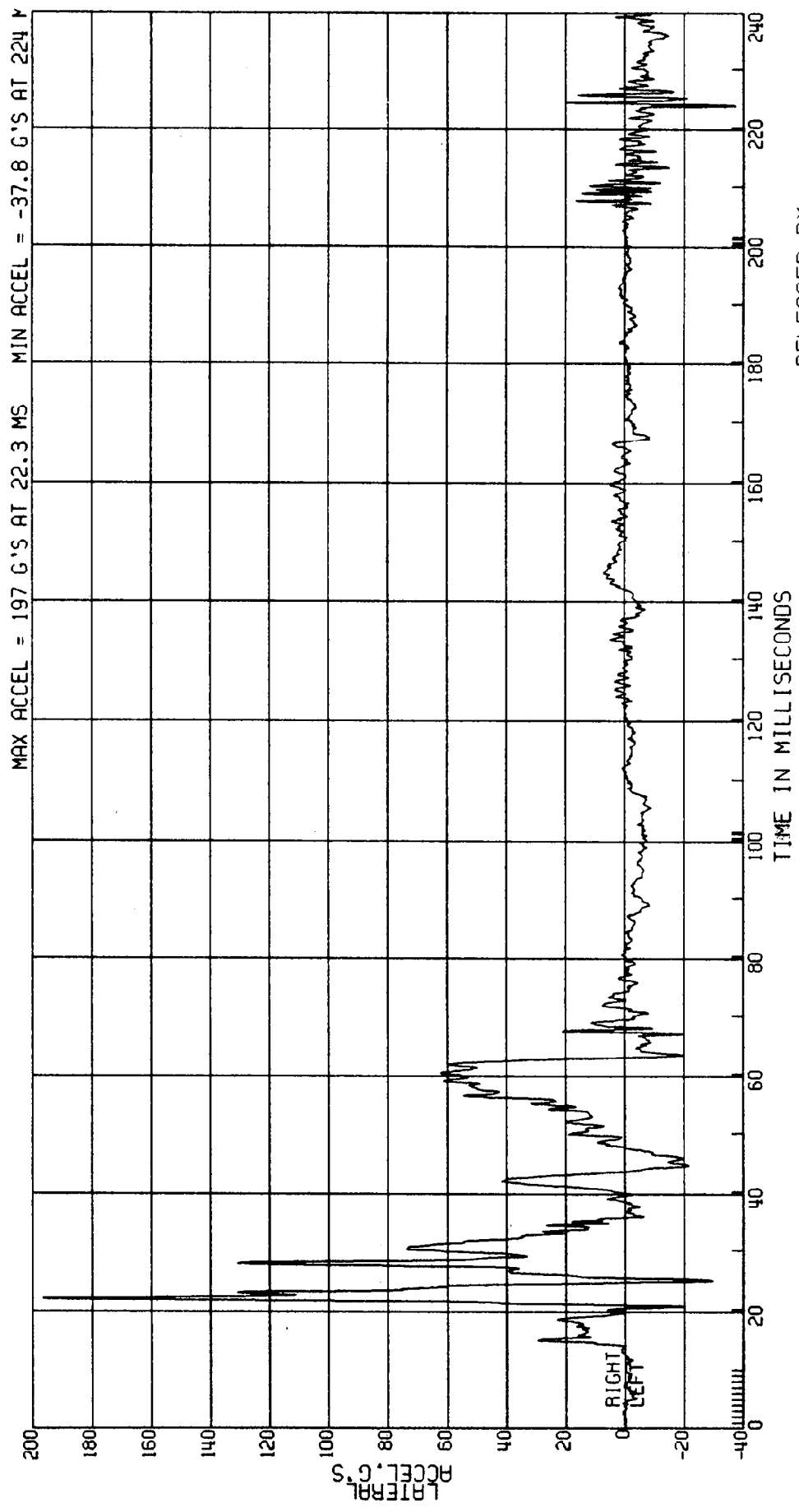
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C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 65
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 COMPUTED 3RD THORACIC RIB VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION)



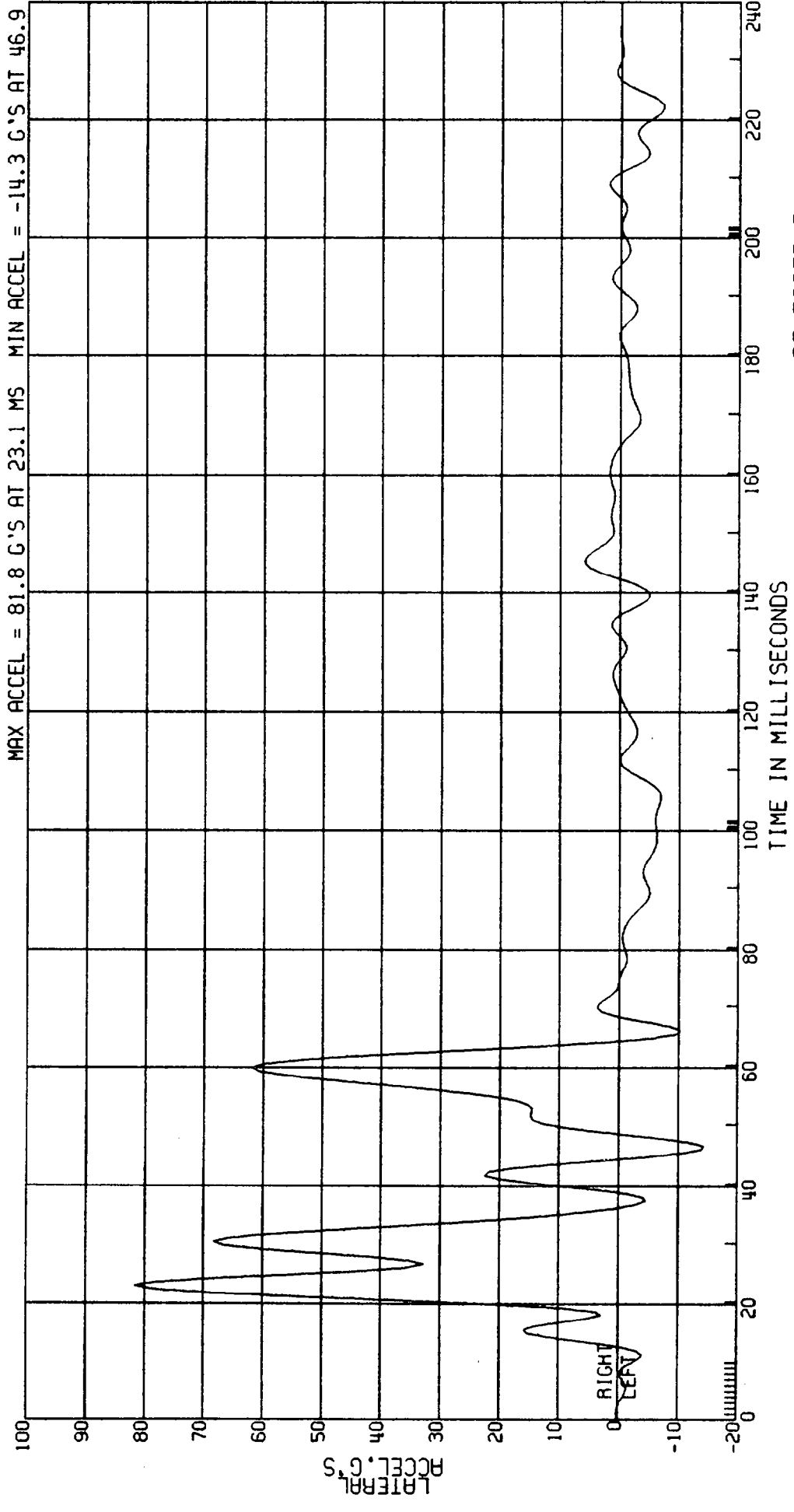
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61 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 66
 3868-905 AID TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER FIRST ABDOMINAL RIB ACCEL.
 ELEC DATA, SAE CLASS 1000 TEST DATE:03-20-90



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 62 PROCESSED 3 MY 90 11:49

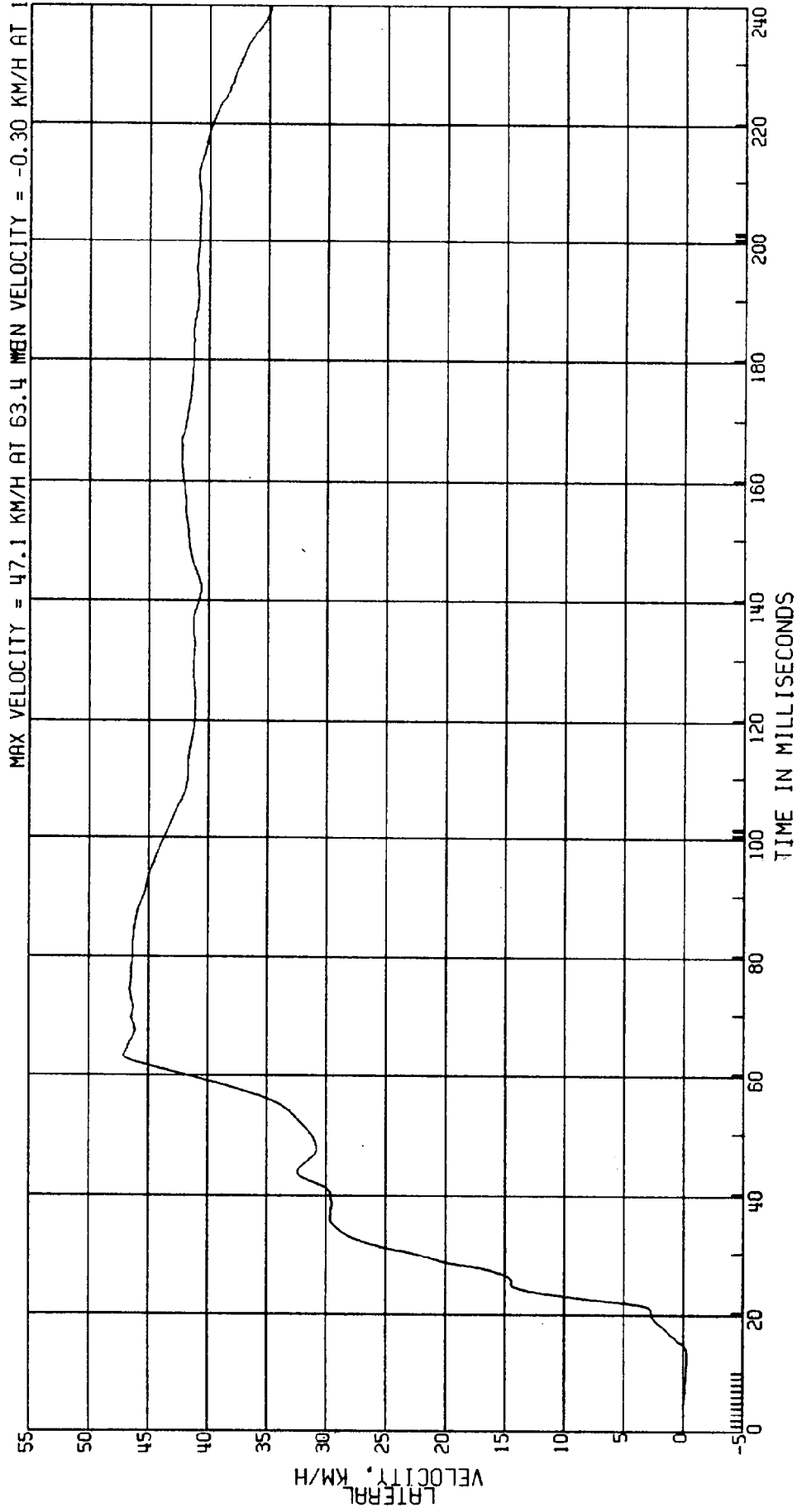
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 67
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER FIRST ABDOMINAL RIB ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE: 03-20-90



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 63 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180

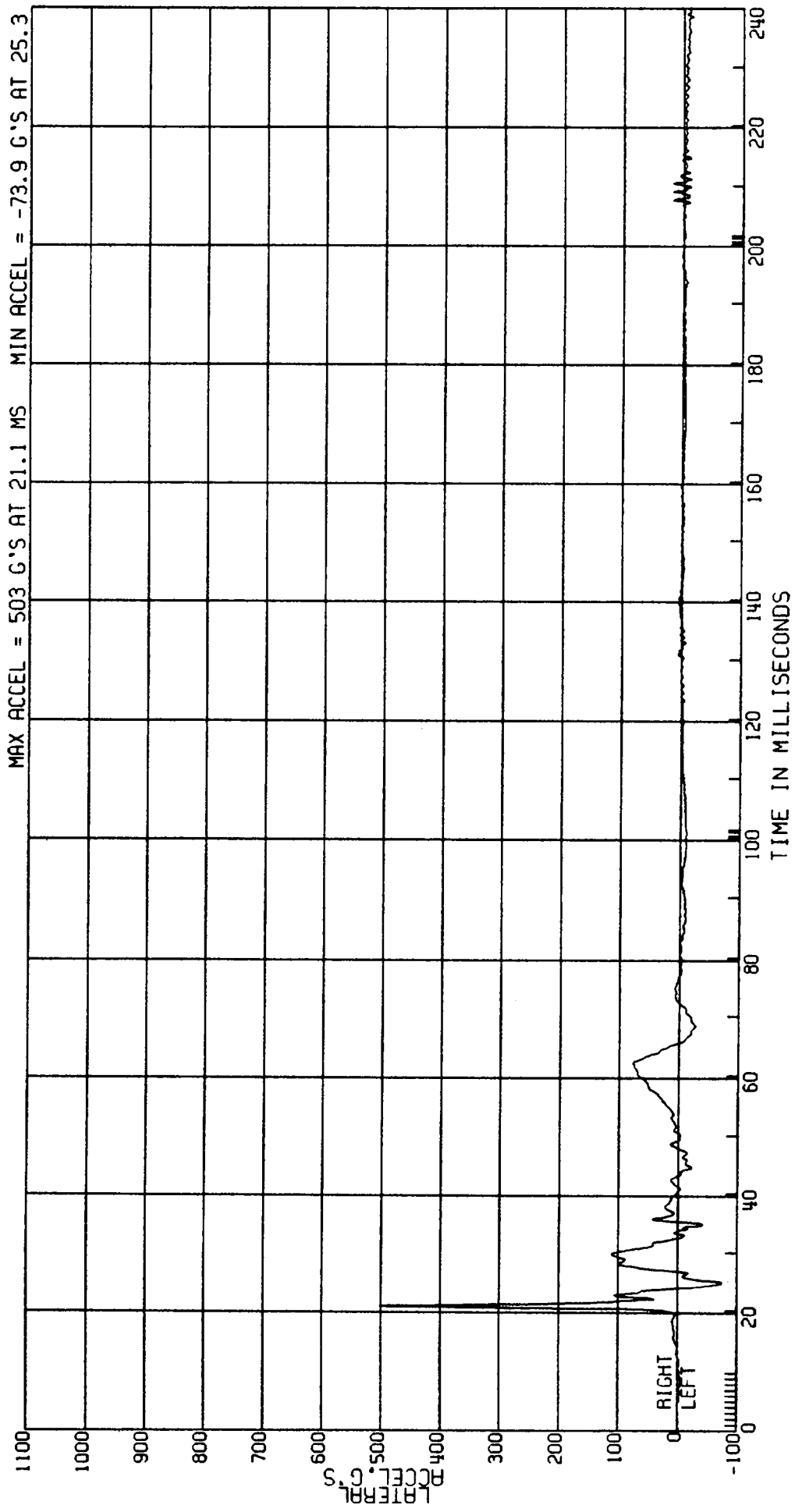
MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 68
ATD TYPE: BIOSID
TEST DATE: 03-20-90
COMPUTED 1ST ABDOMINAL RIB VELOCITY
(1ST INTEGRAL DRIVER ACCELERATION)



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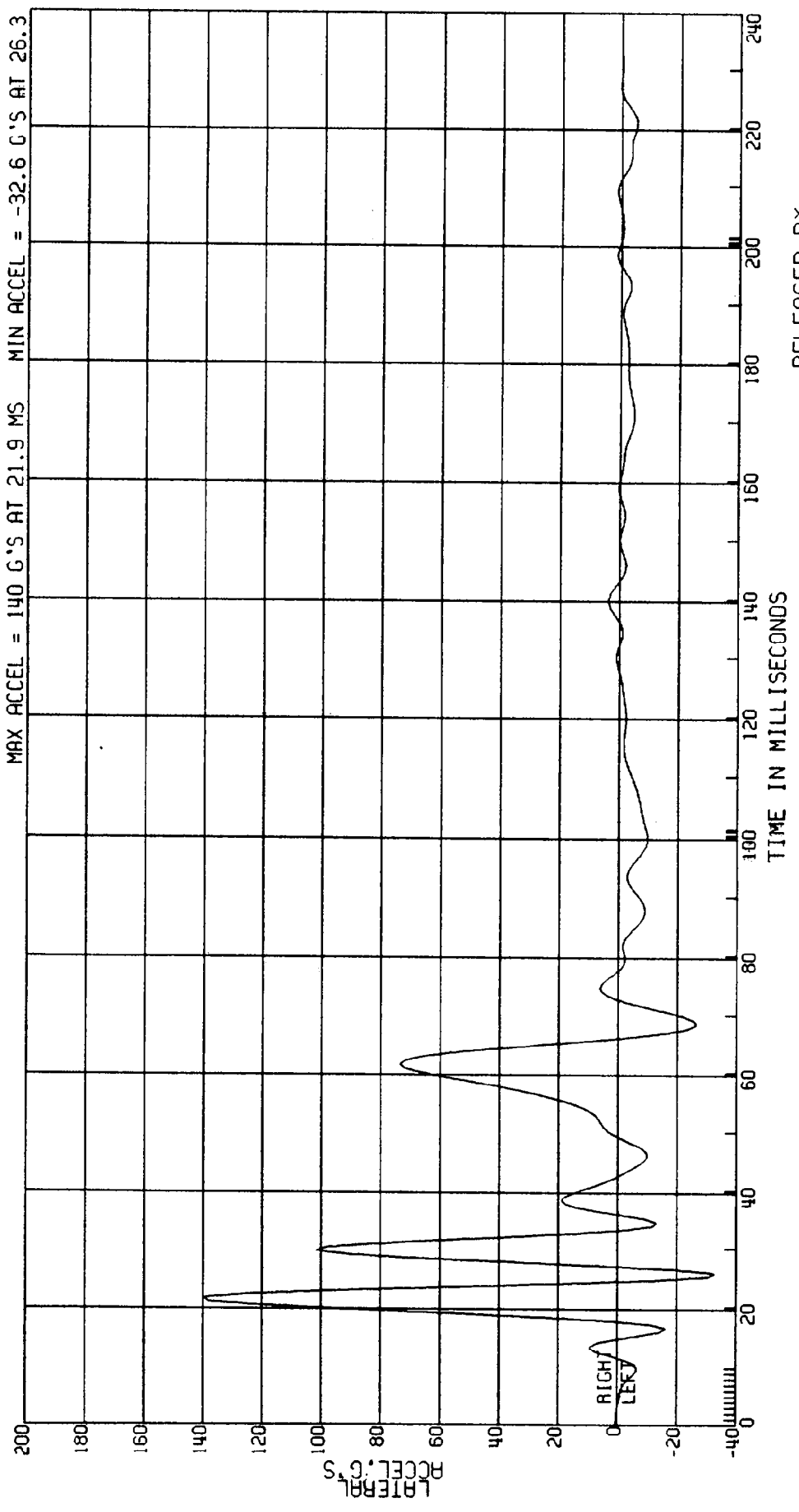
64 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 69
3868-905
CPE MVMA 8P 2AF69 DRIVER SECOND ABDOMINAL RIB ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE: 03-20-90



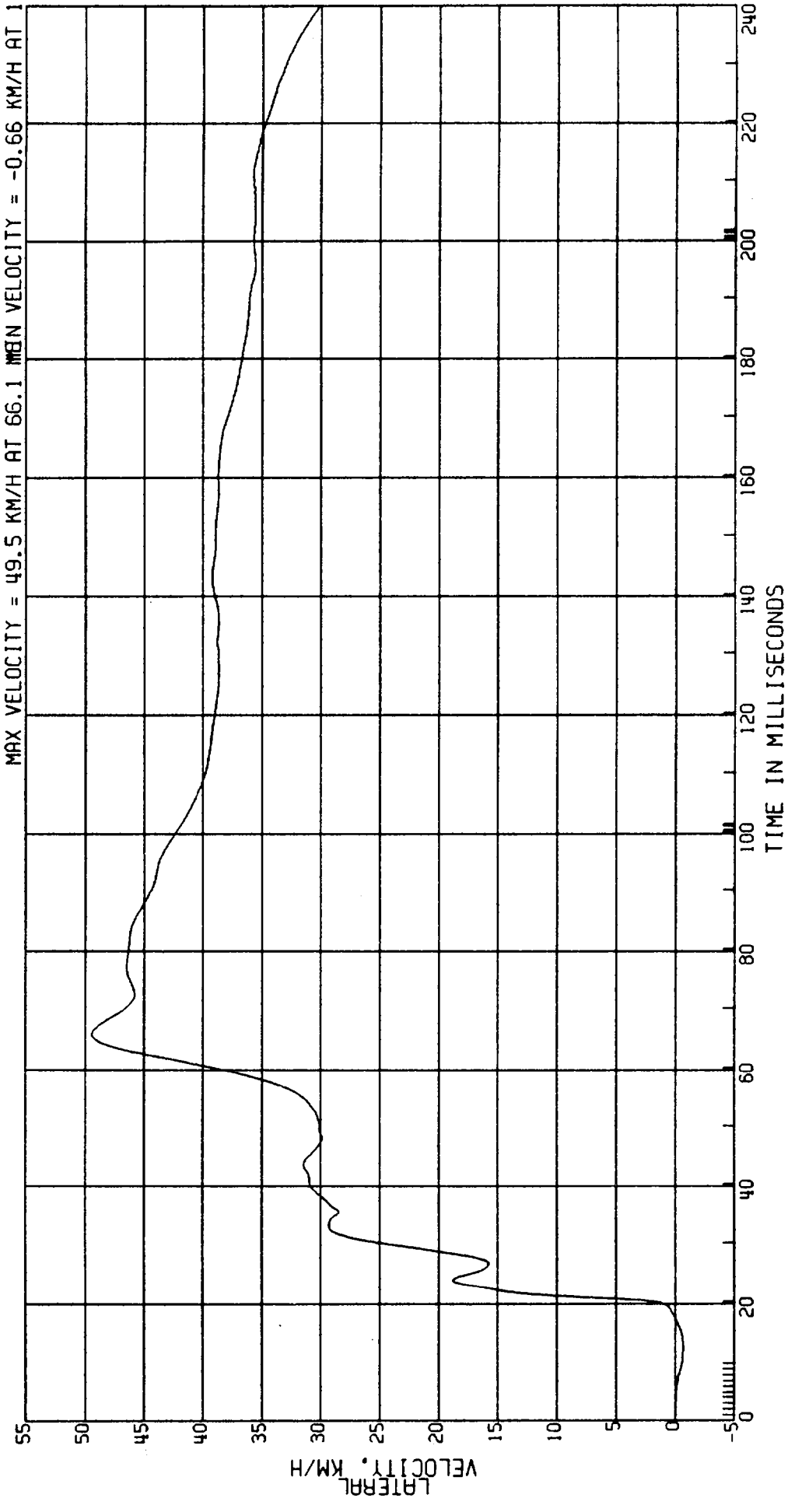
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65 PROCESSED 3 MT 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 70
 3868-905
 CPE MVMA 8P 2AF69 DRIVER SECOND ABDOMINAL RIB ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE:03-20-90



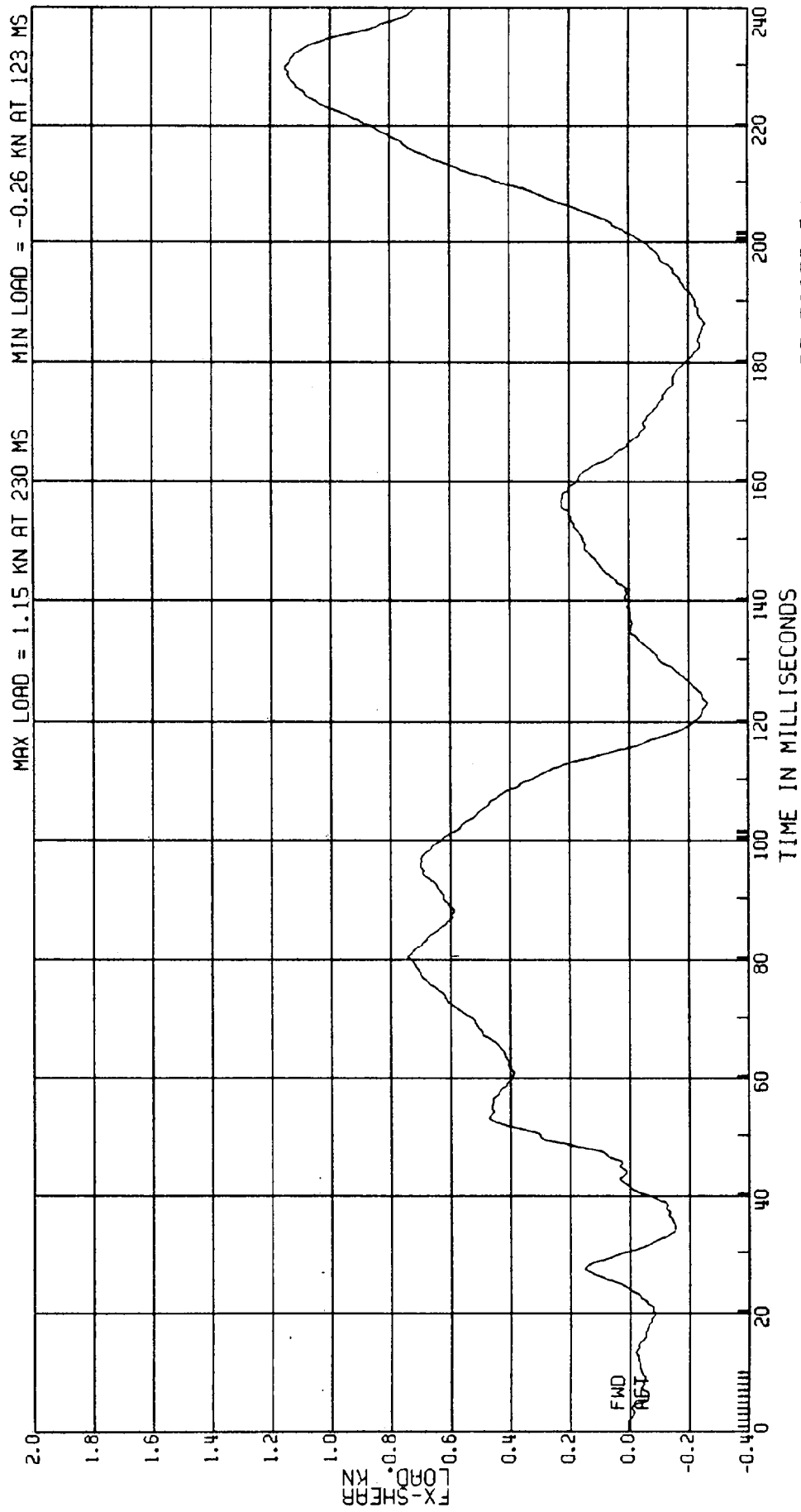
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C8008B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 71
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 COMPUTED 2ND ABDOMINAL RIB VELOCITY TEST DATE: 03-20-90
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL DRIVER ACCELERATION)



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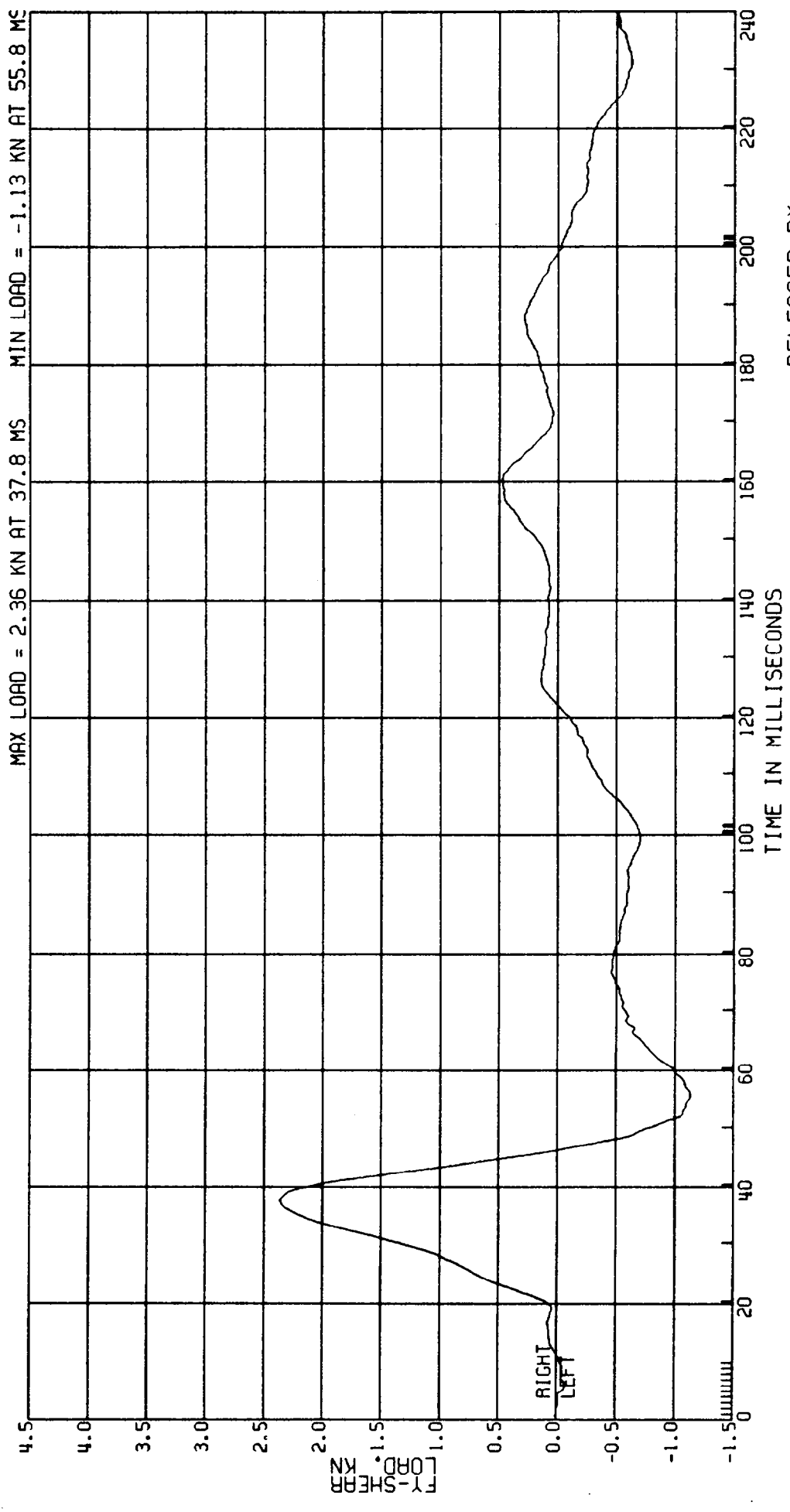
C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 7
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER LOWER LUMBAR LOAD TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 180



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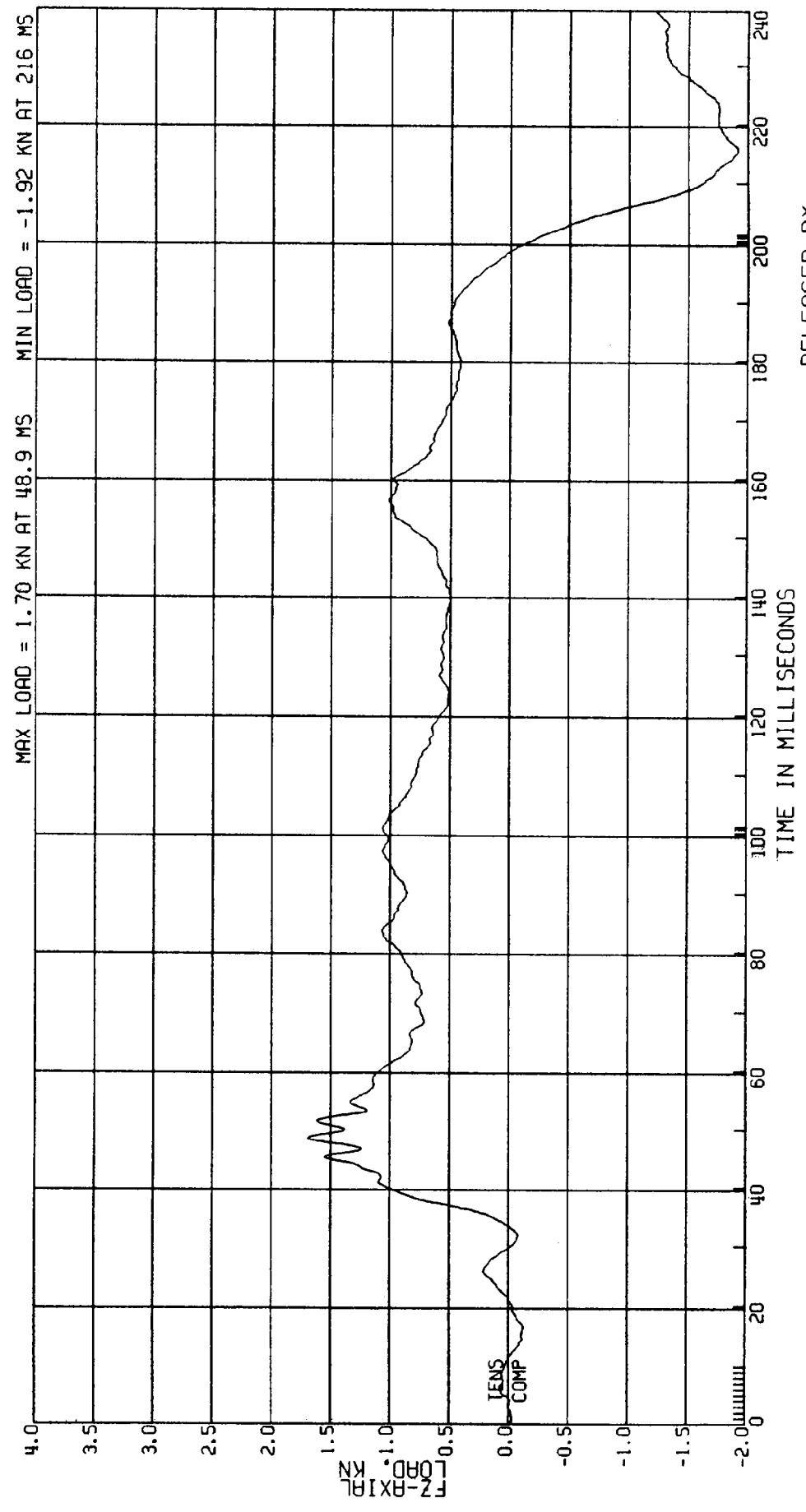
1 PROCESSED 4 MAR 90 10:08

C8008B L. SIDE IMPACT- 27 DEC MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 73
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER LOWER LUMBAR LOAD
 ELEC DATA, SAE CLASS 180 TEST DATE:03-20-90



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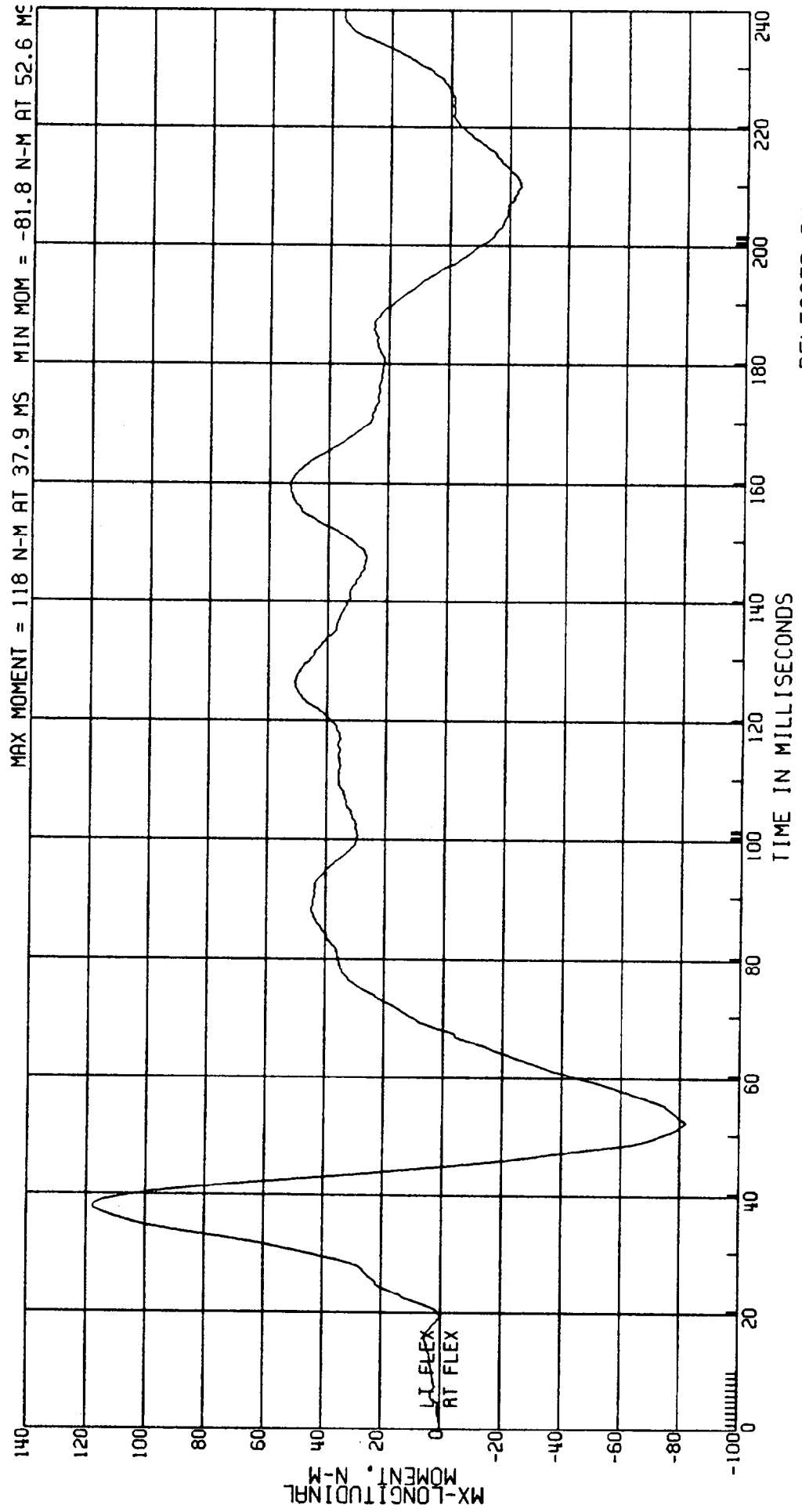
C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 74
 3868-905
 CPE MVMA 8P 2AF69
 ELEC DATA, SAE CLASS 180
 DRIVER LOWER LUMBAR LOAD
 ATD TYPE: BIOSID
 TEST DATE: 03-20-90



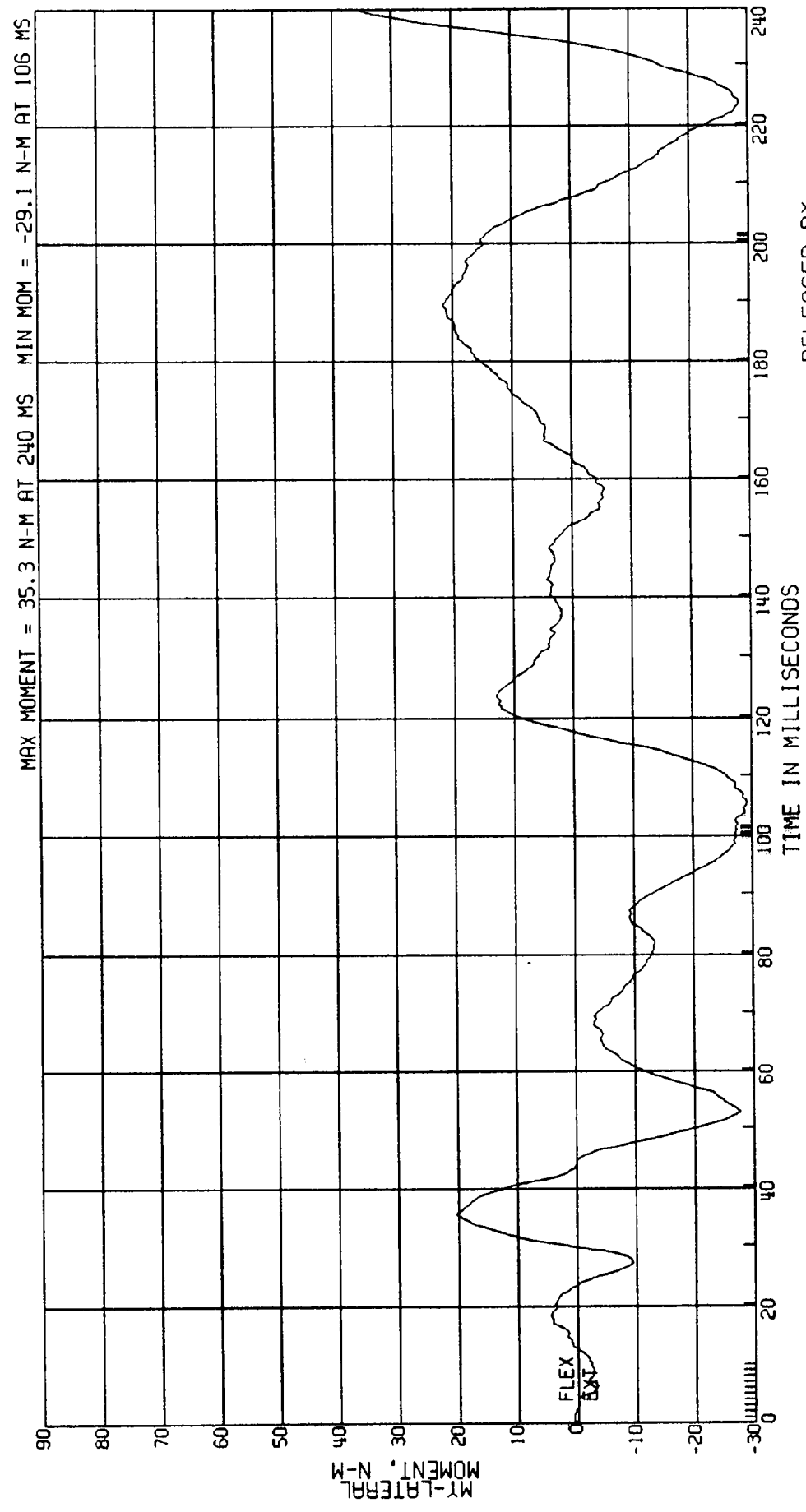
C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 75
 3868-905
 CPE MVMA 8P 2AF69
 ELEC DATA, SAE CLASS 180

ATD TYPE: BIOSID
 TEST DATE: 03-20-90

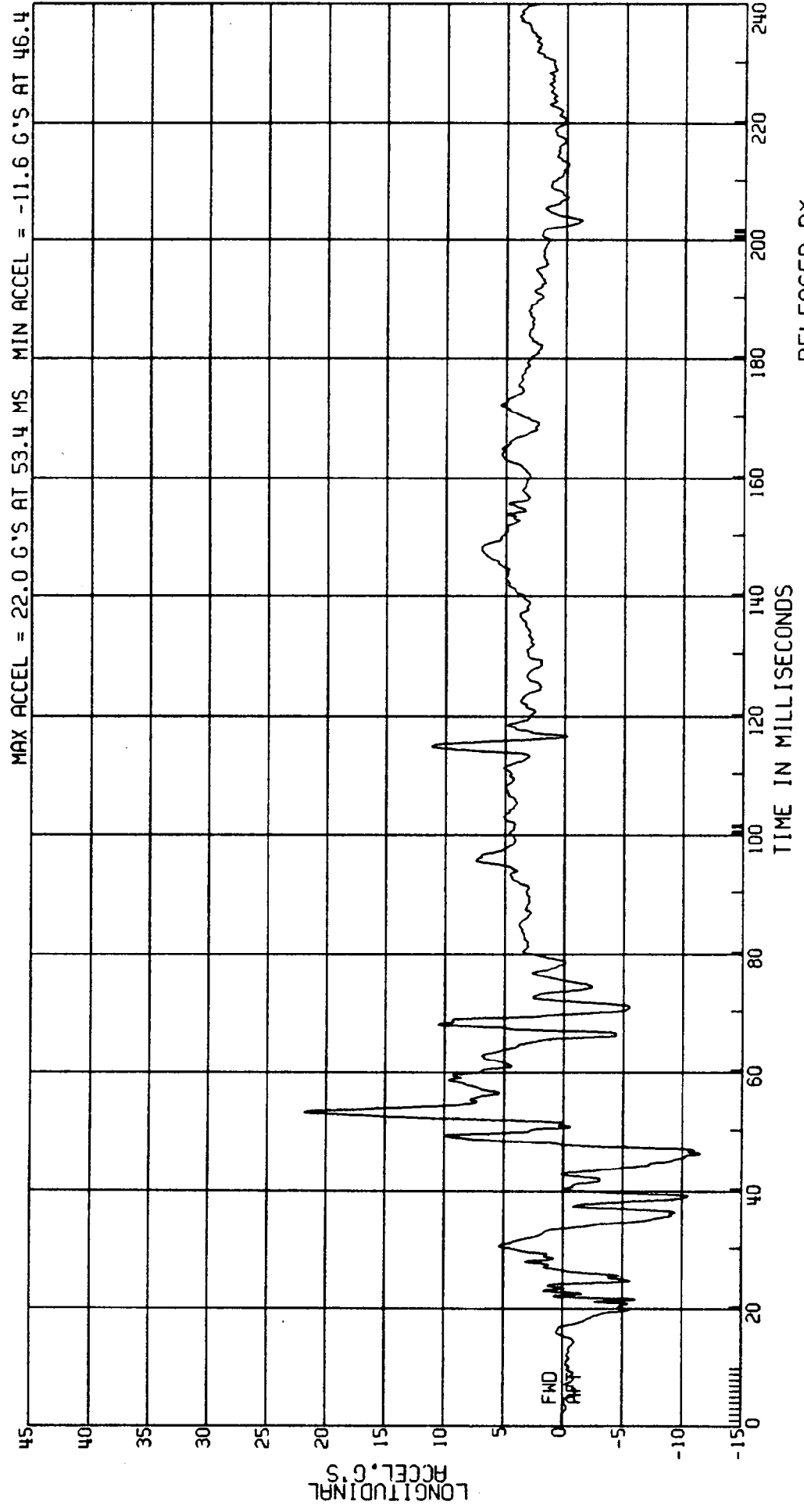
DRIVER LOWER LUMBAR MOMENT



C80088 L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 76
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER LOWER LUMBAR MOMENT TEST DATE: 03-20-90
 ELEC. DATA, SAE CLASS 180

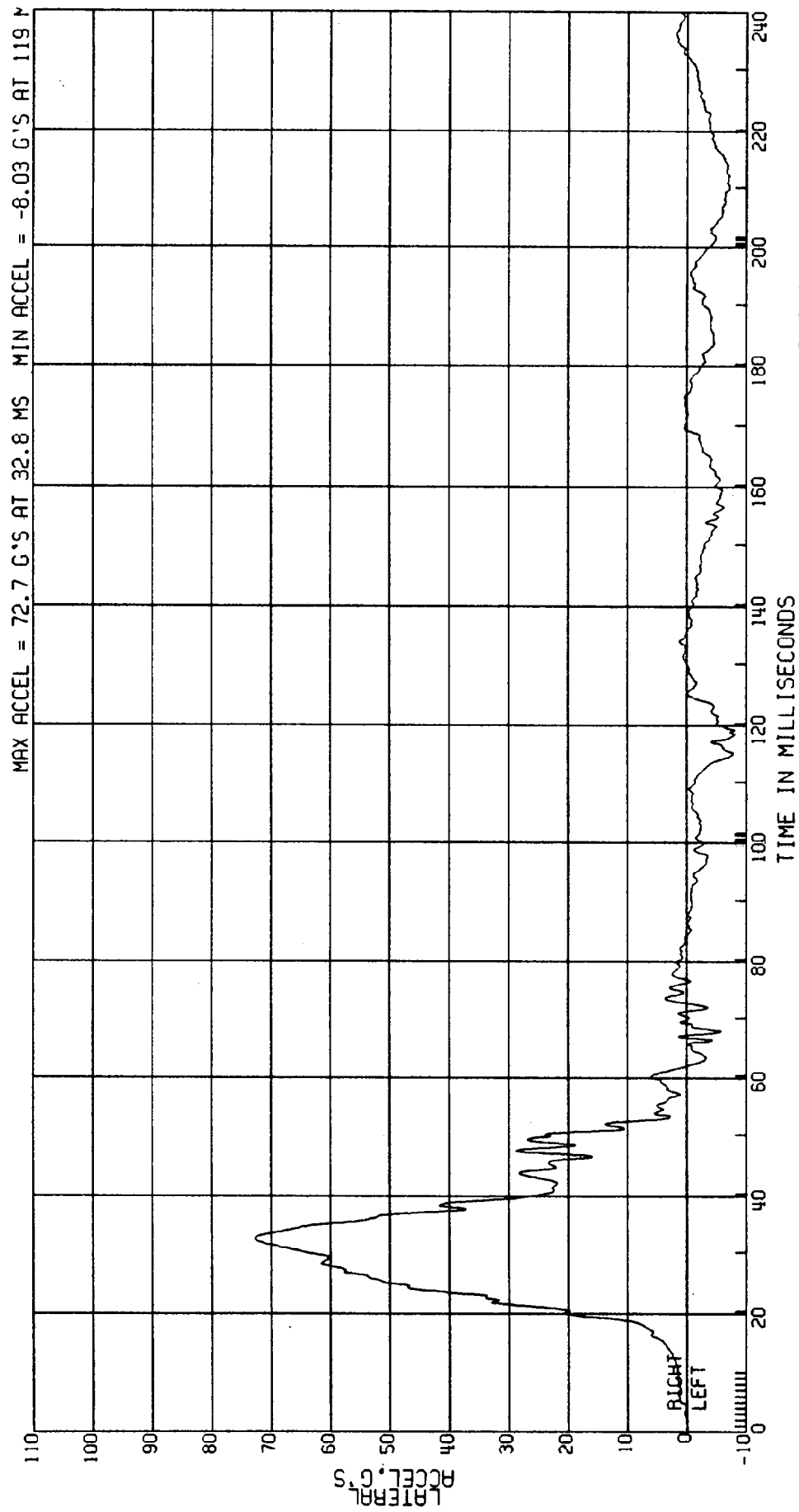


C8008B L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 77
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER PELVIC ACCEL.
ELEC DATA, SAE CLASS 600 TEST DATE: 03-20-90

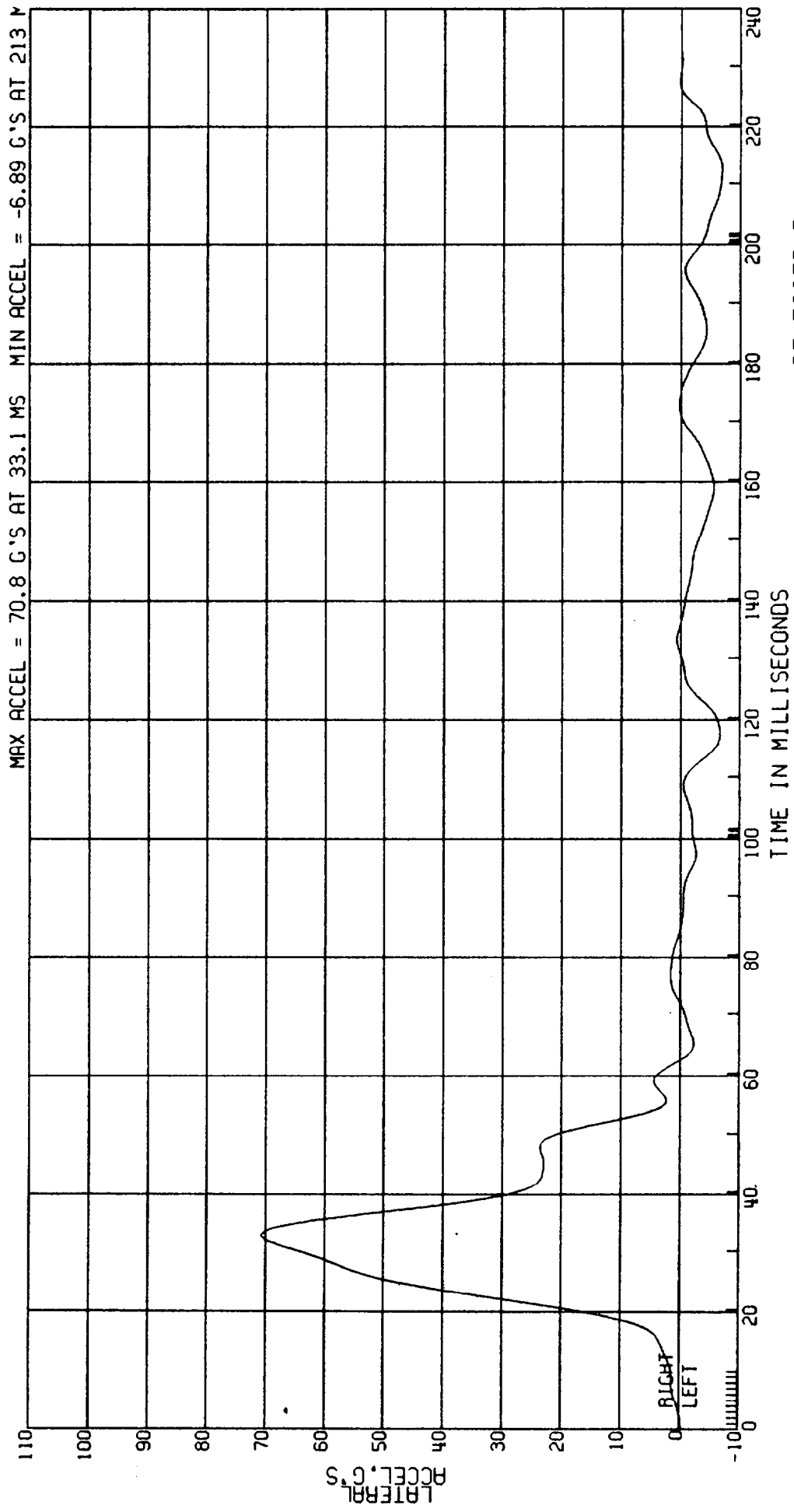


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73 PROCESSED 3 MY 90 11:49

C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 78
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 600 DRIVER PELVIC ACCEL. TEST DATE:03-20-90

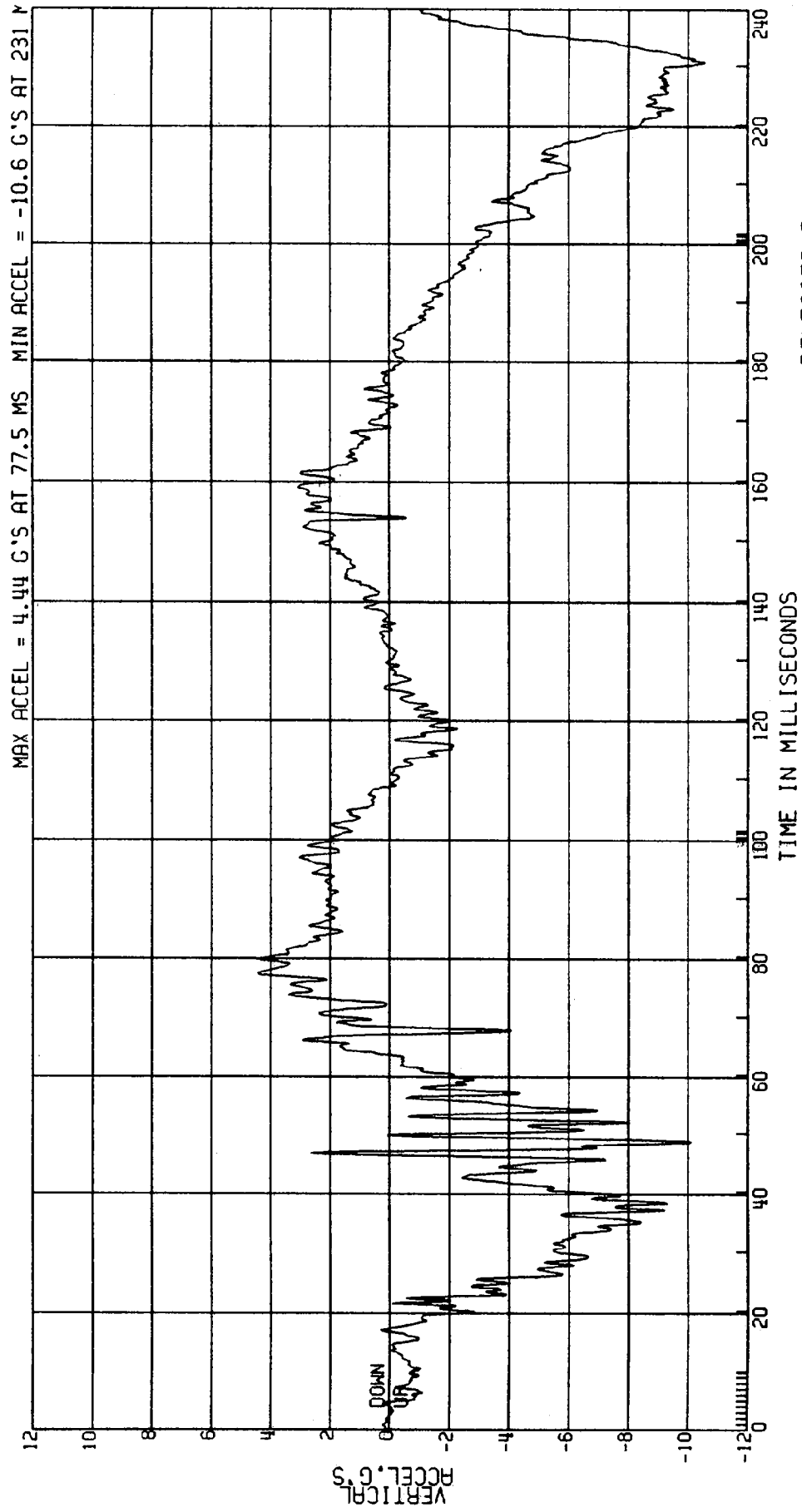


C8008B L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 79
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER PELVIC ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE:03-20-90



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 75 PROCESSED 3 MY 90 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 80
3868-905 ATD TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER PELVIC ACCEL.
ELEC DATA, SAE CLASS 600 TEST DATE:03-20-90

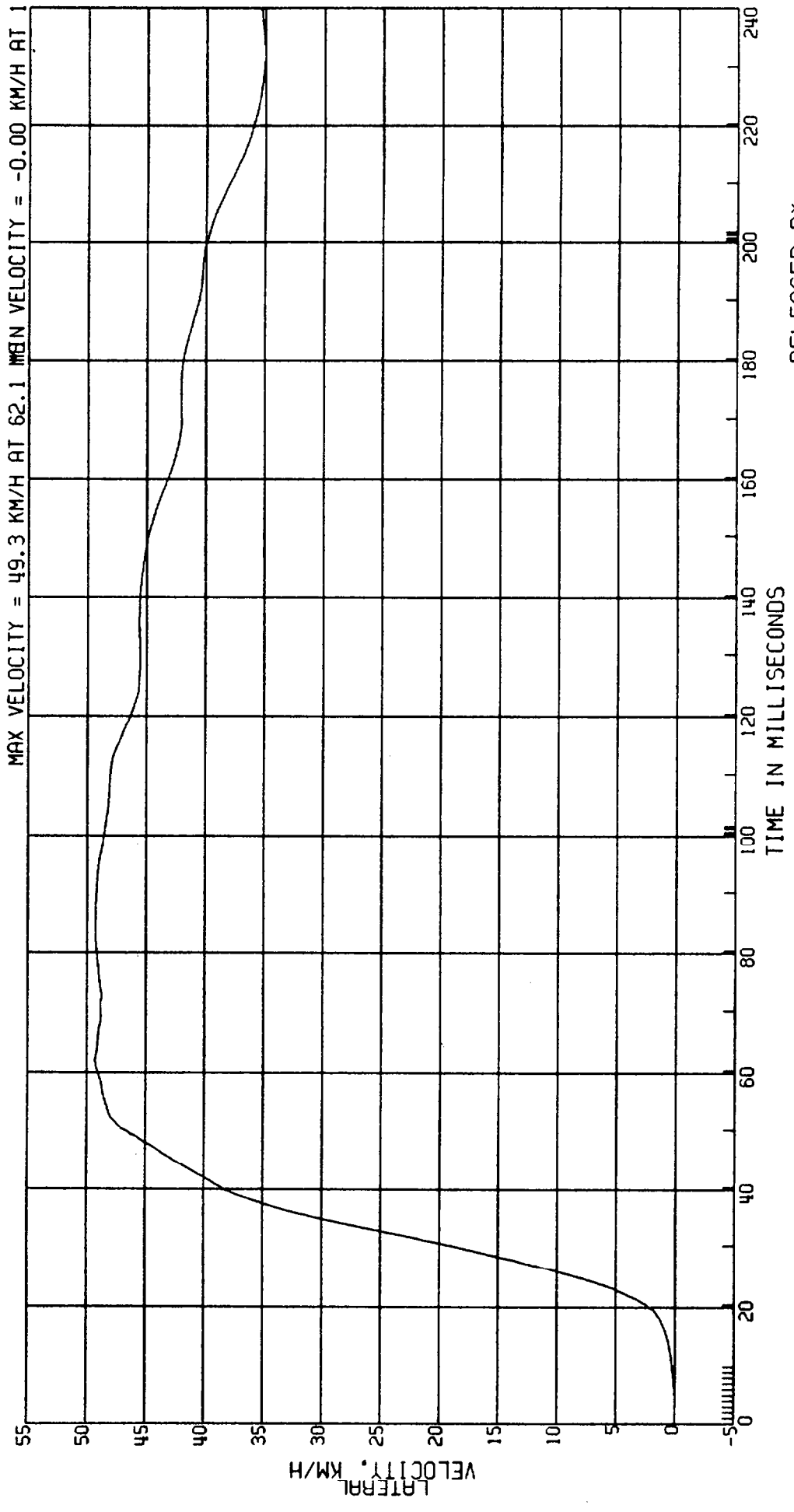


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77 PROCESSED 3 MY 90- 11:49

C80088 L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 8/
3868-905
CPE MVMA 8P 2AF69
ELEC DATA. SAE CLASS 180

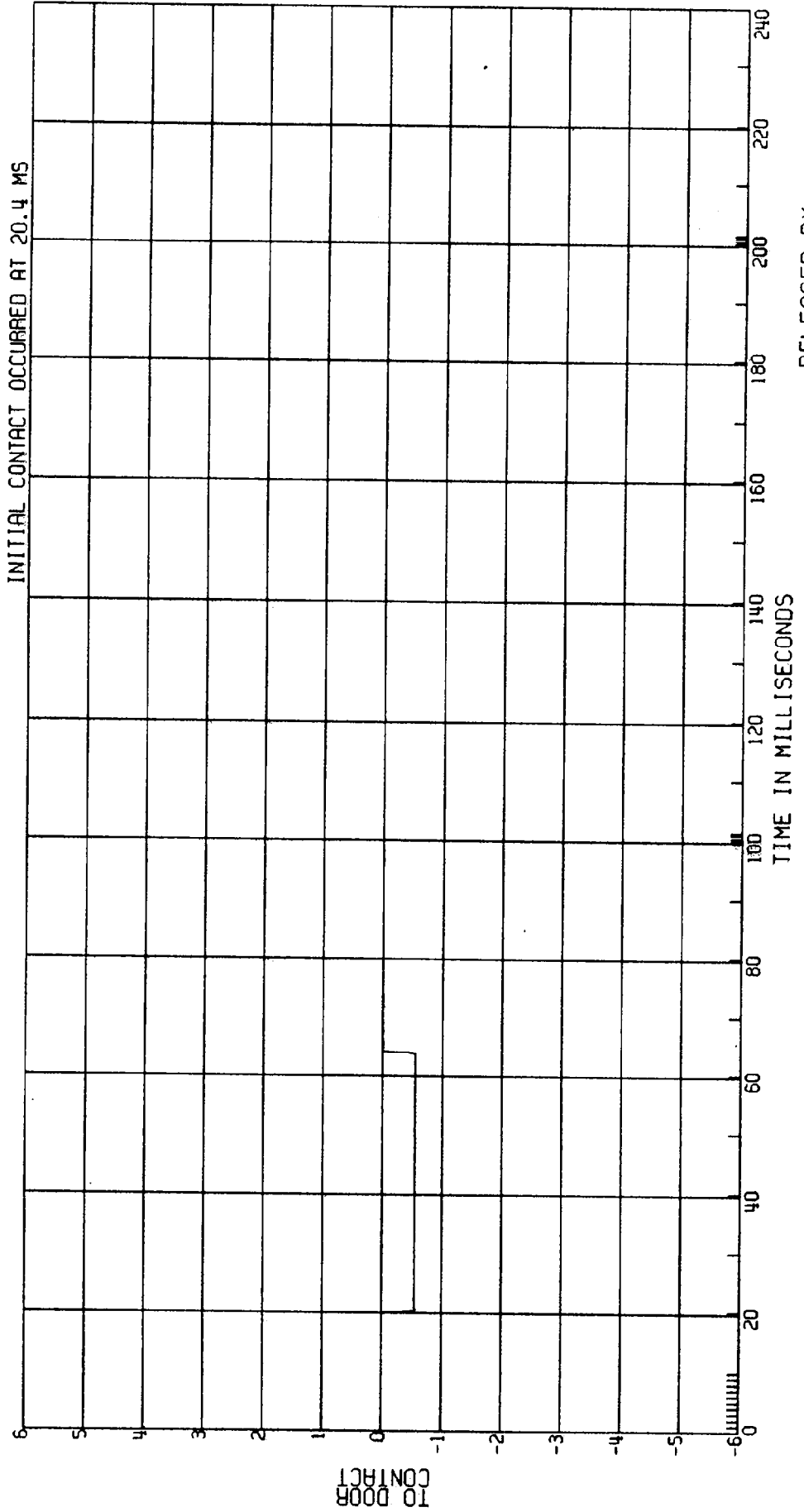
COMPUTED PELVIC VELOCITY
(1ST INTEGRAL DRIVER ACCELERATION)

ATD TYPE: BIOSID.
TEST DATE: 03-20-90

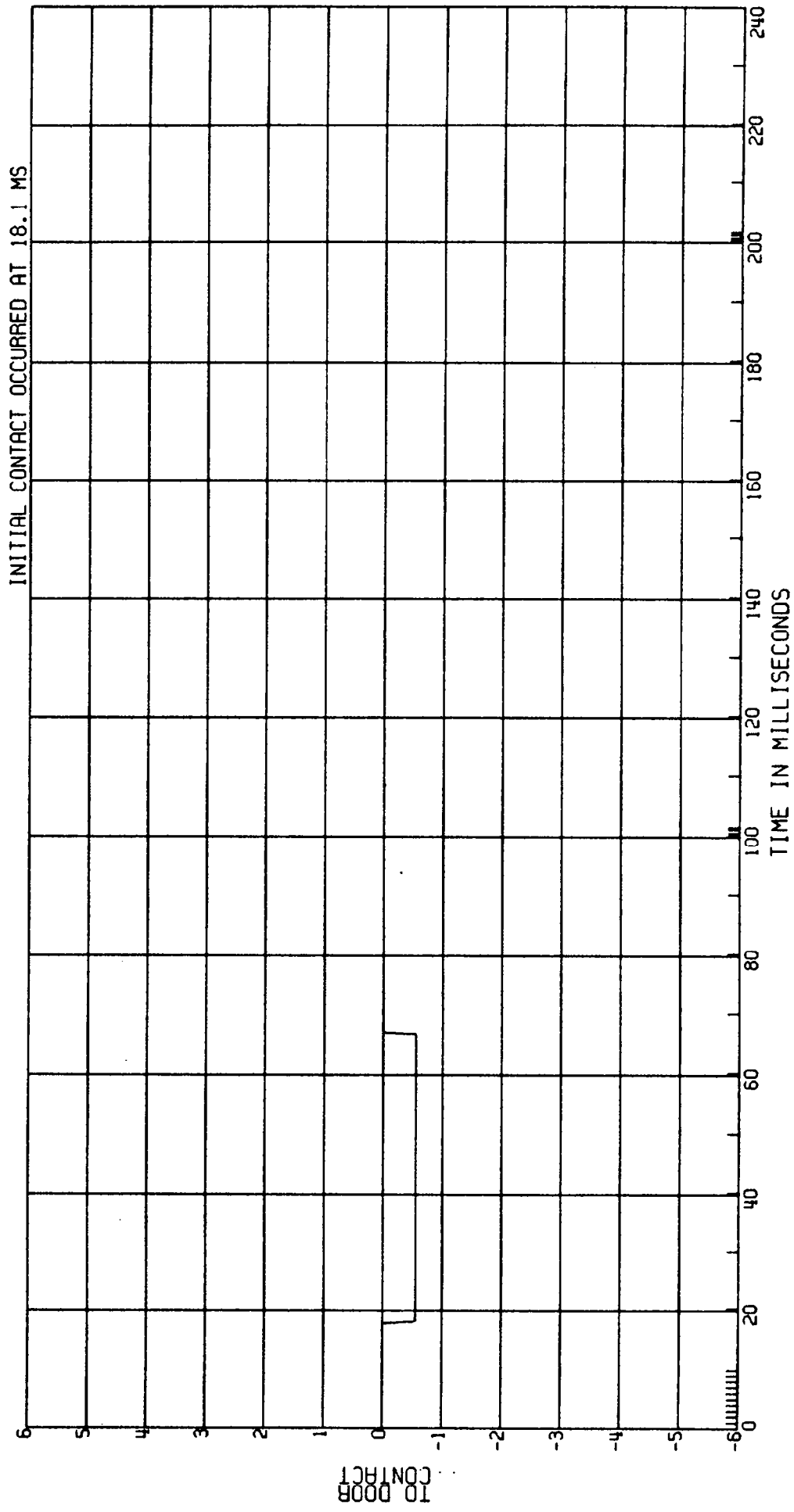


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76 PROCESSED 3 MY 90 11:49

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 82
3868-905
CPE MVMA 8P 2AF69
ELEC DATA. SAE CLASS 1000
ATD TYPE: BIOSIO
TEST DATE: 03-20-90

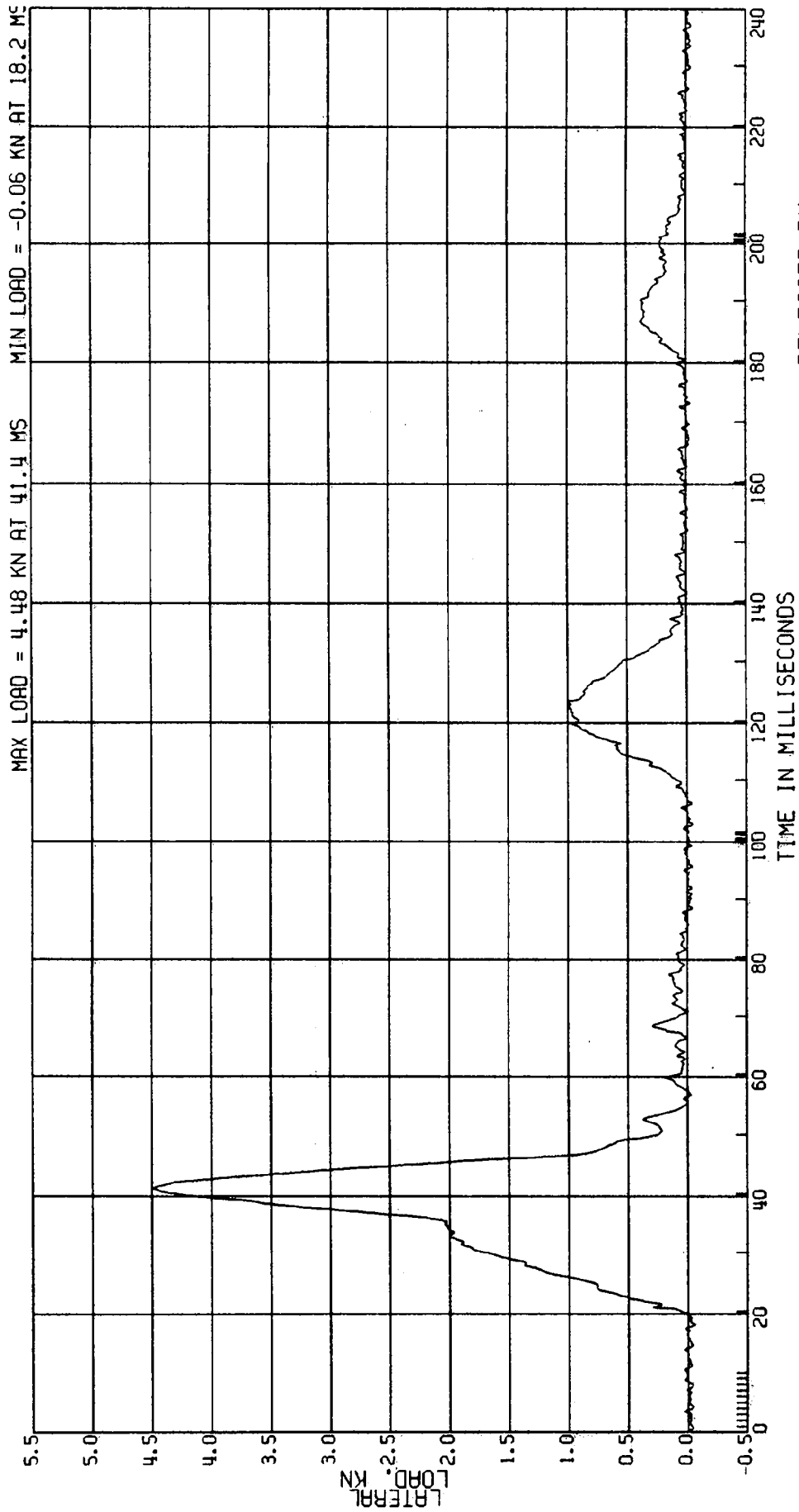


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 83
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER PELVIS-LEFT SIDE CONTACT TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 1000



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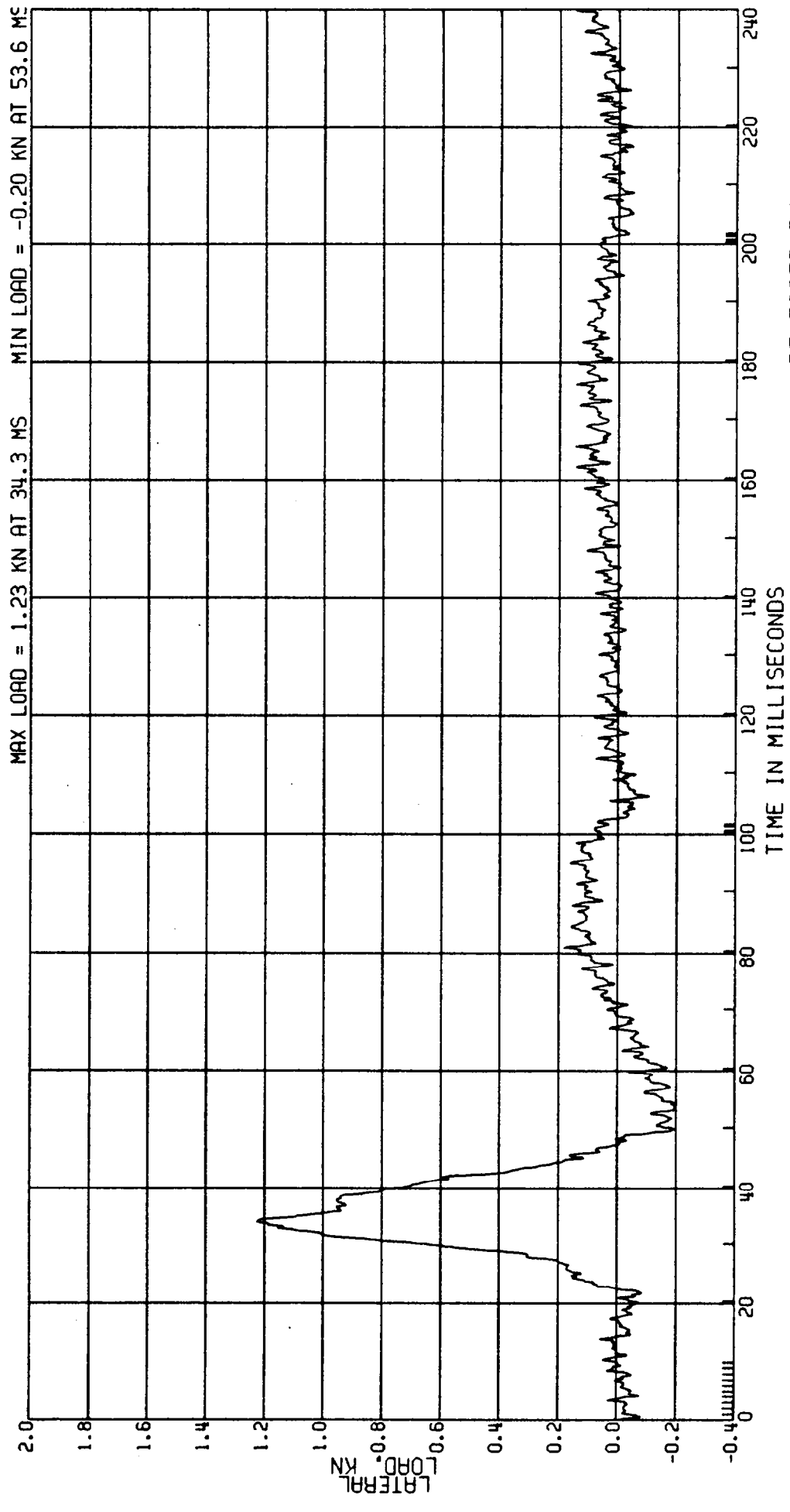
C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 84
3868-905 ATO TYPE: BIOSID
CPE MVMA 8P 2AF69 DRIVER PUBIC SYMPHYSIS LOAD TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 600



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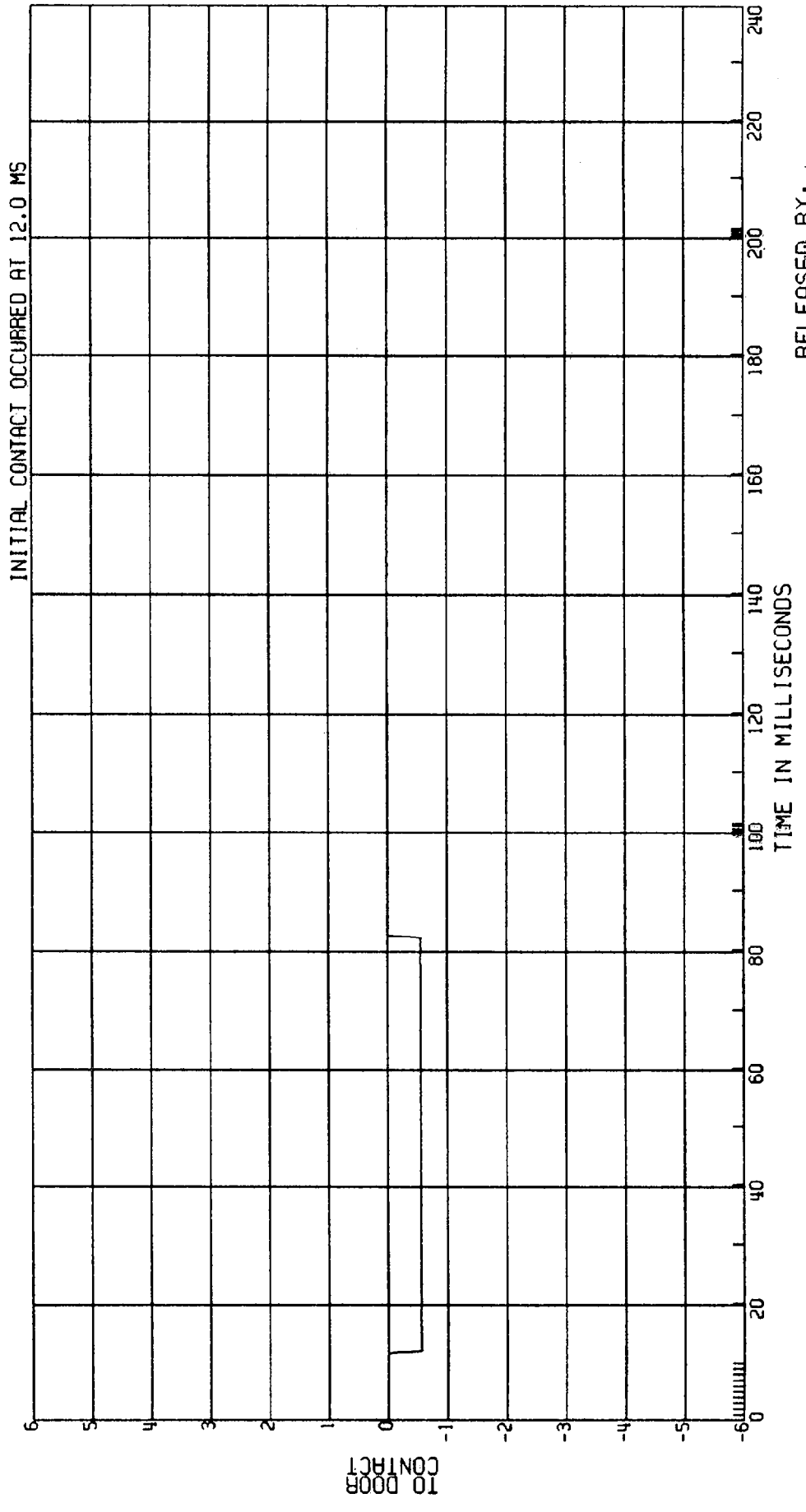
3 29 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 85
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER ILIAC LOAD TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 600



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 30 PROCESSED 3 MY 90 11:43

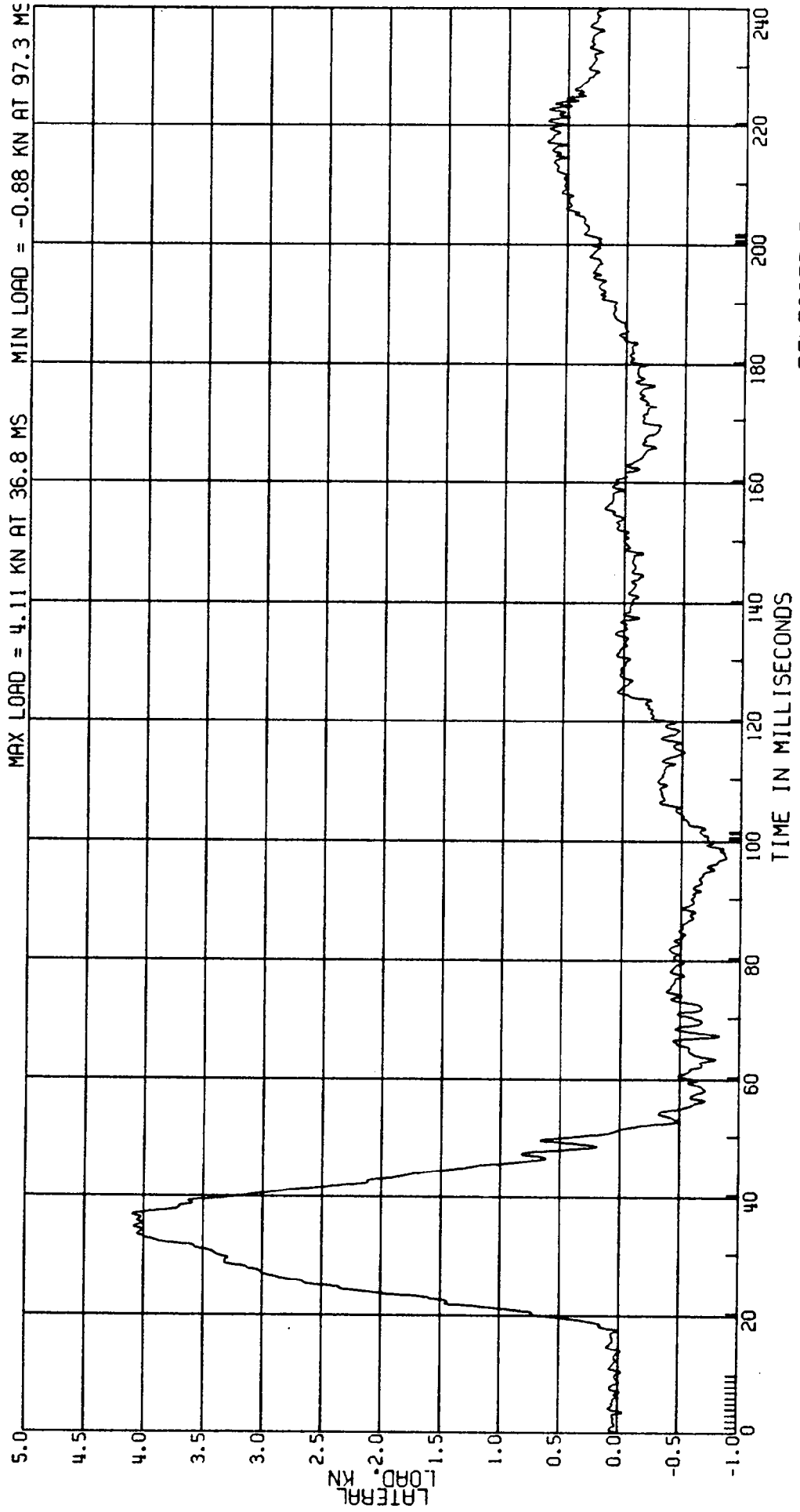
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 86
 3868-905 ATD TYPE: BIOSID
 CPE MVMA 8P 2AF69 DRIVER THORAX-LEFT SIDE CONTACT TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 1000



C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 87
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 600

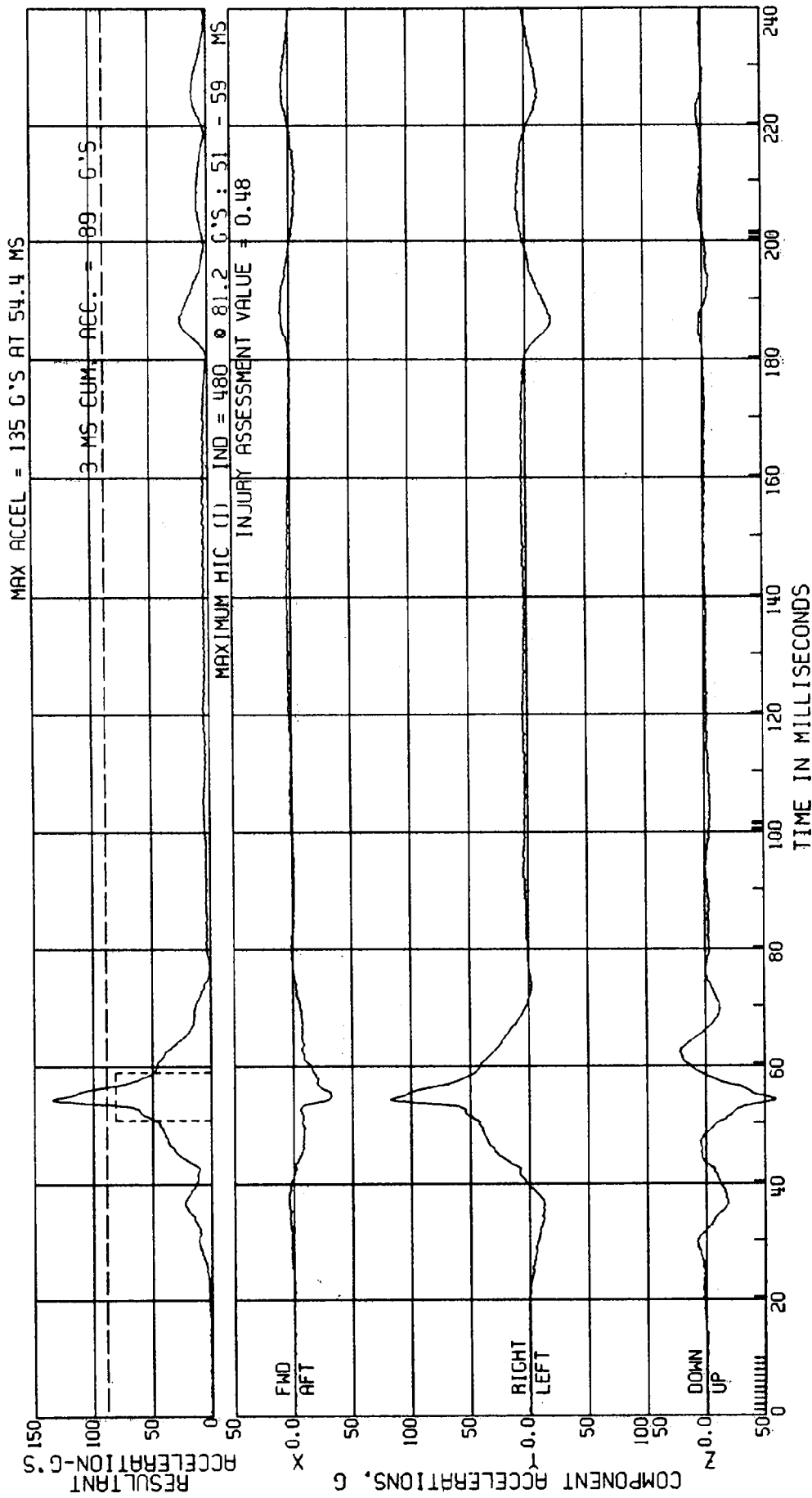
ATD TYPE: BIOSID
TEST DATE:03-20-90

DRIVER SACRUM LOAD



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31 PROCESSED 3 MY 90 11:43

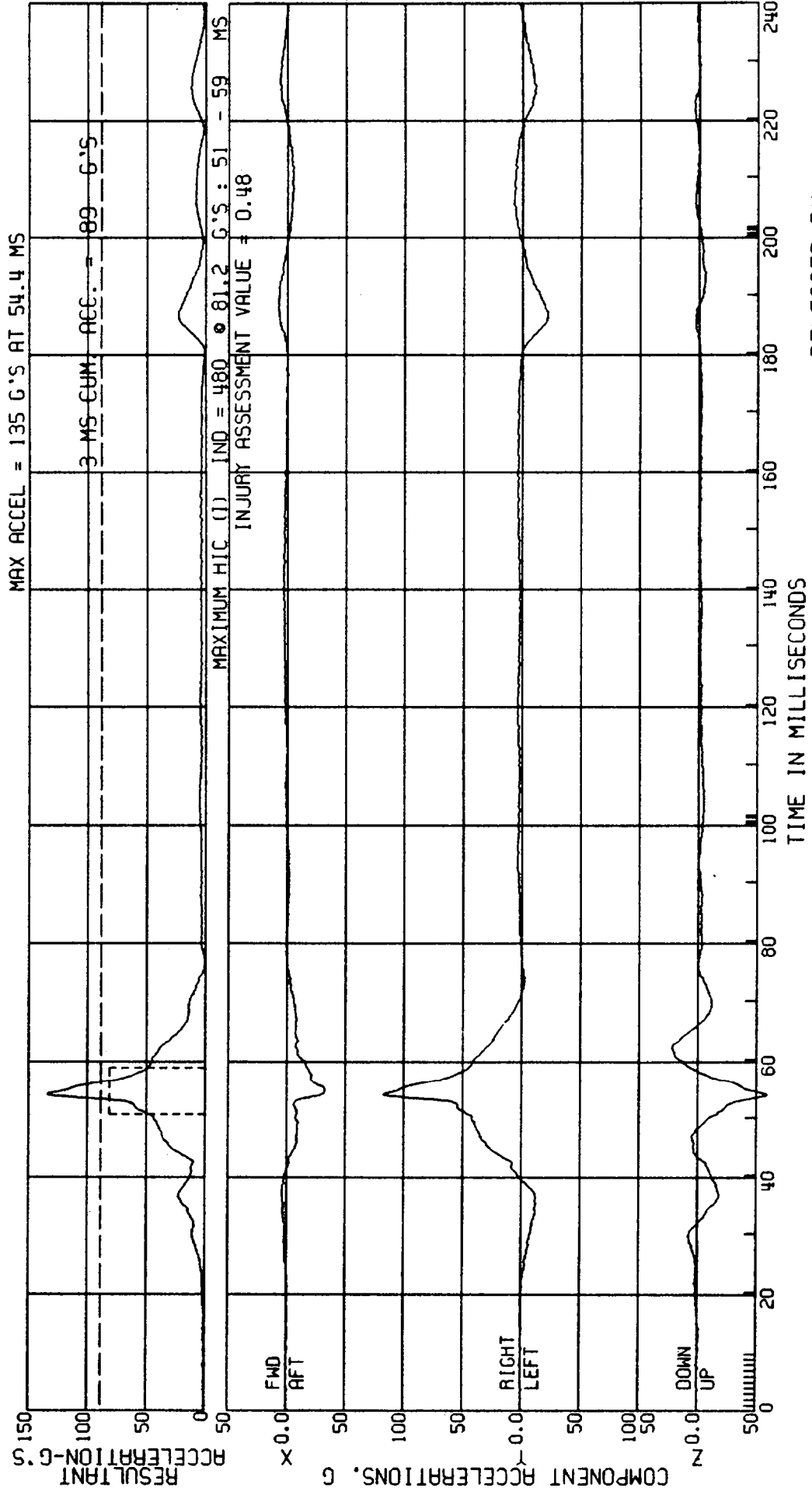
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 88
 3868-905 ATD TYPE: SID
 CPE MVMA 8P 2AF69 TEST DATE: 03-20-90
 ELEC DATA, SAE CLASS 1000 L. REAR HEAD ACCEL.
 (HIC I LIMITED TO 15MS)



RELEASED BY:

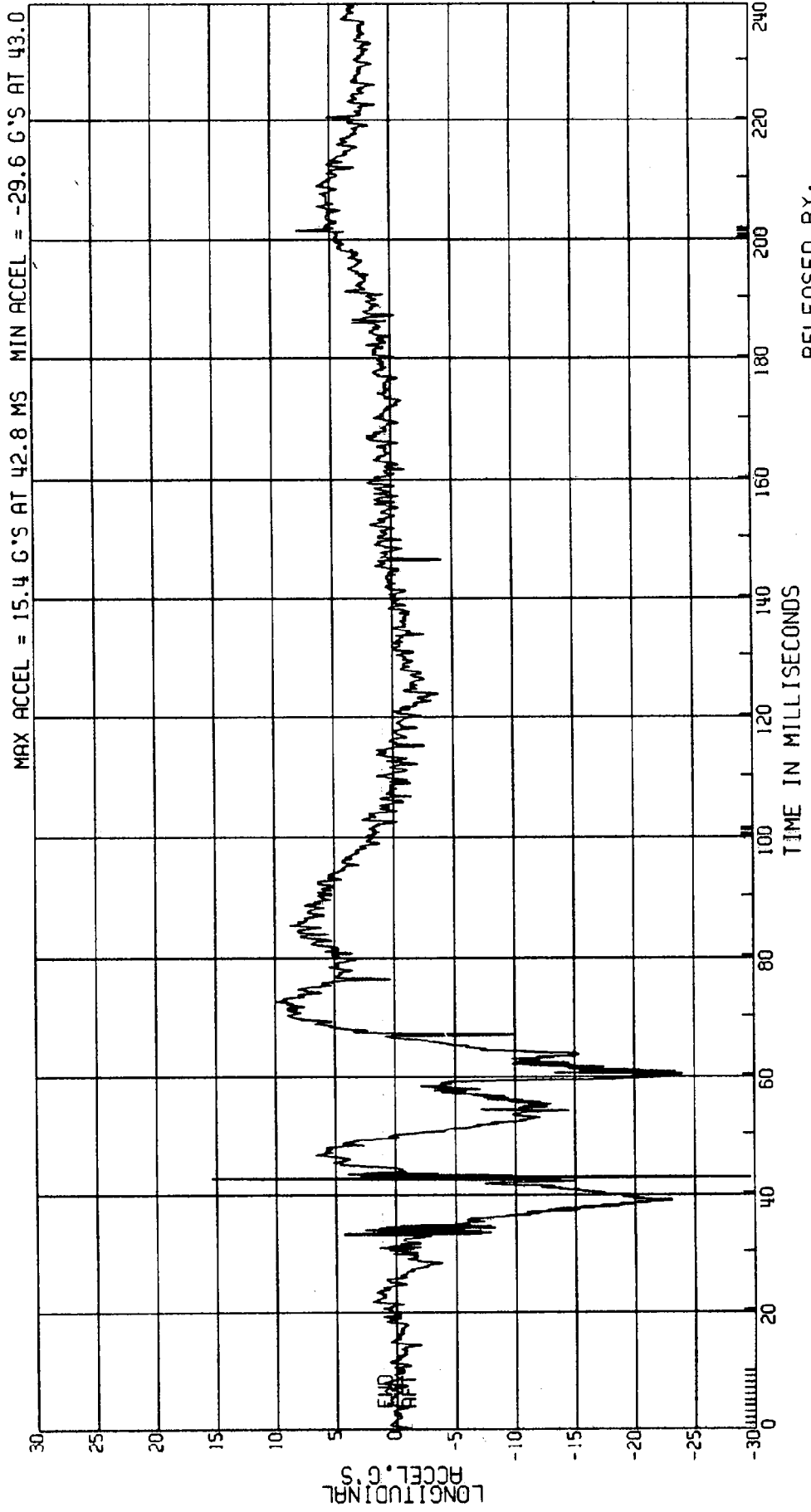
1 PROCESSED 3 MI 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 89
 3868-905 ATD TYPE: SID
 MVMA 8P 2AF69 TEST DATE: 03-20-90
 CPE L. REAR HEAD ACCEL.
 ELEC DATA, SAE CLASS 1000 (HIC I LIMITED TO 36MS)

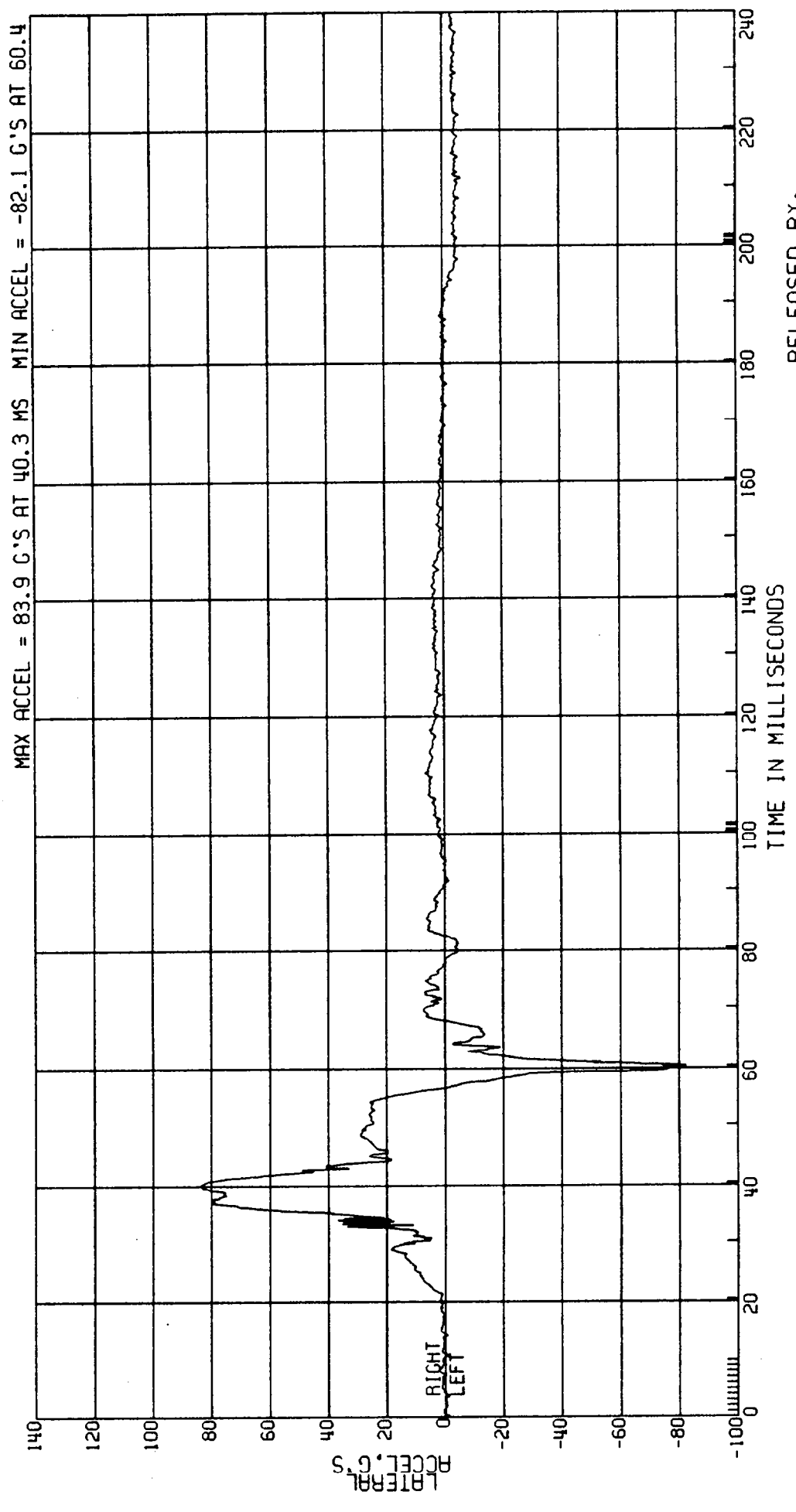


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 2 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 90
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 L. REAR UPPER SPINE ACCEL.
ELEC DATA, SAE CLASS 1000 TEST DATE: 03-20-90

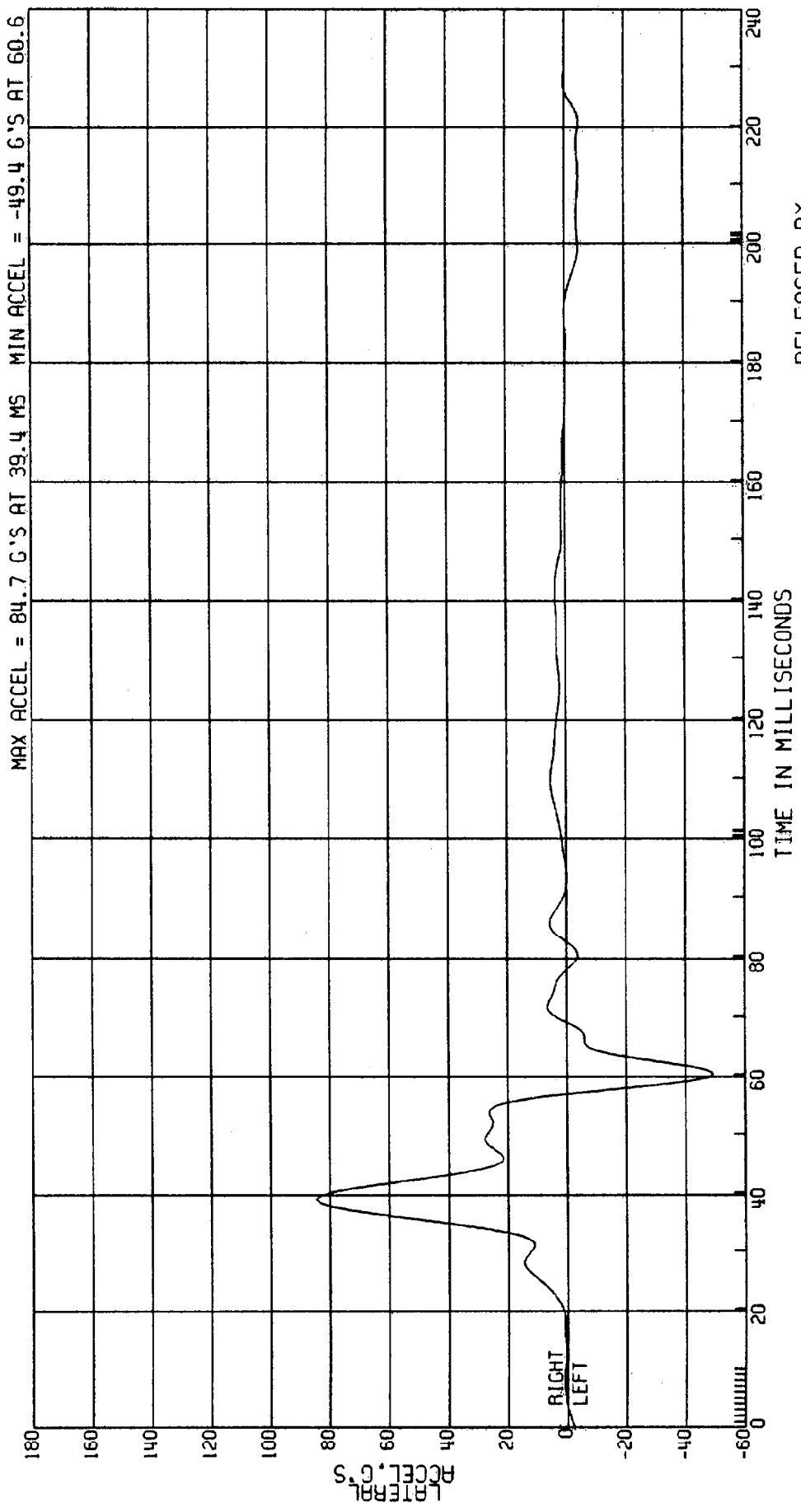


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 91
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 L. REAR UPPER SPINE ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 1000

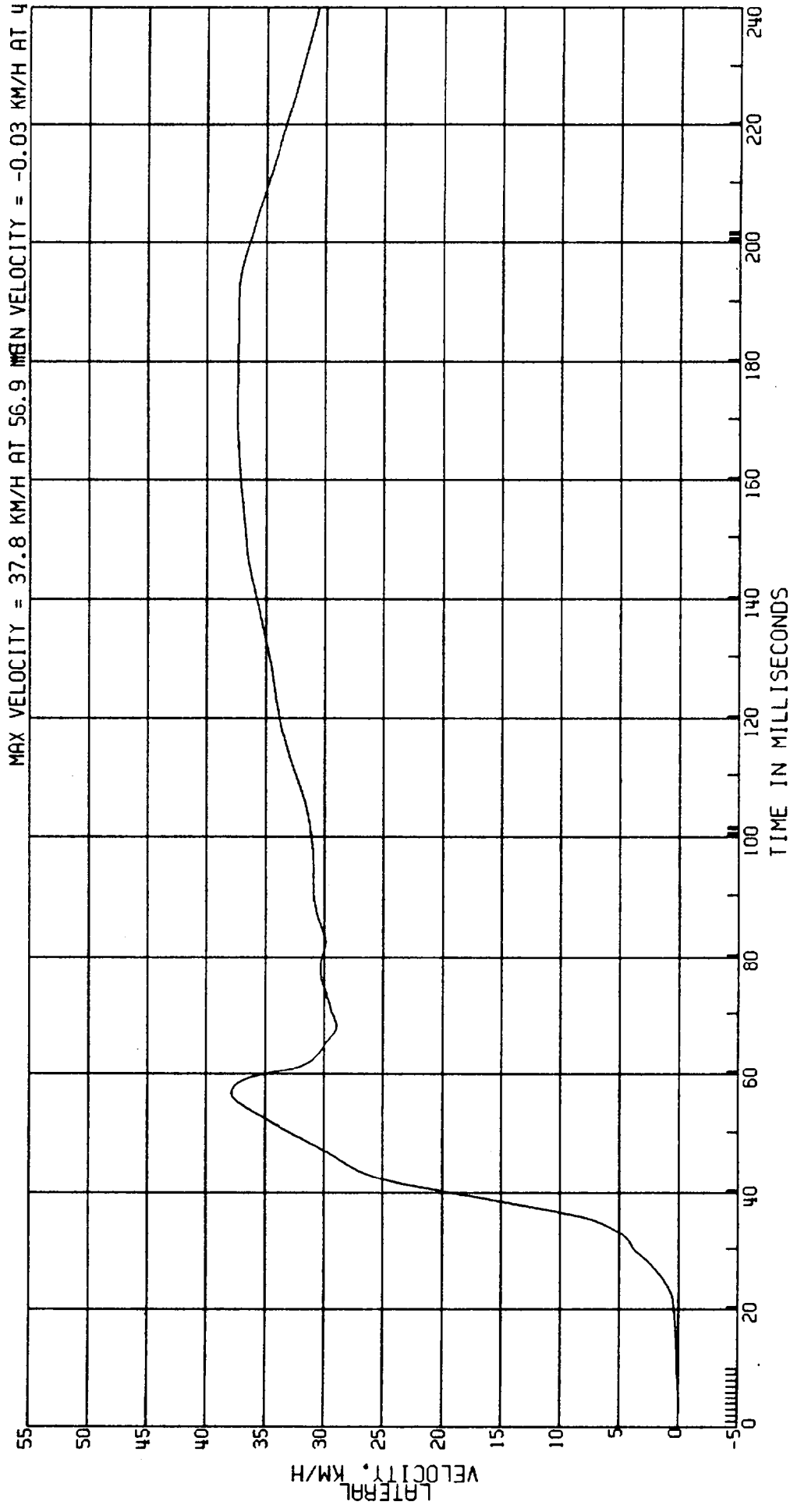


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33 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 92
 3868-905 ATD TYPE: SID
 CPE MVMA 8P 2AF69 L. REAR UPPER SPINE ACCEL.
 ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE: 03-20-90

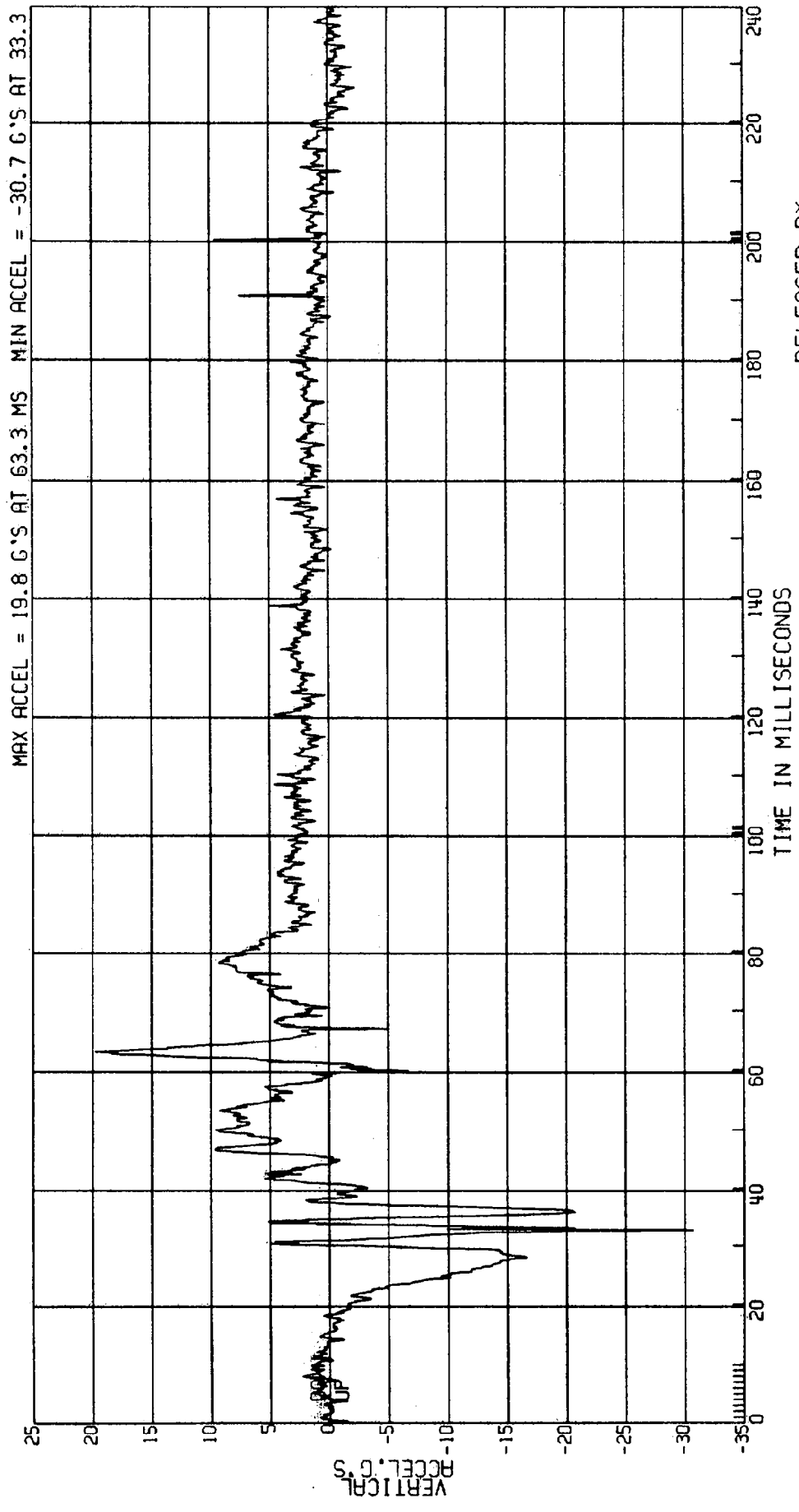


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 93
 3868-905 ATD TYPE: SID
 TEST DATE: 03-20-90
 CPD MVMA 8P 2AF69 COMPUTED UPPER SPINE VELOCITY
 ELEC DATA, SAE CLASS 180 (1ST INT OF L. REAR ACCELERATION)

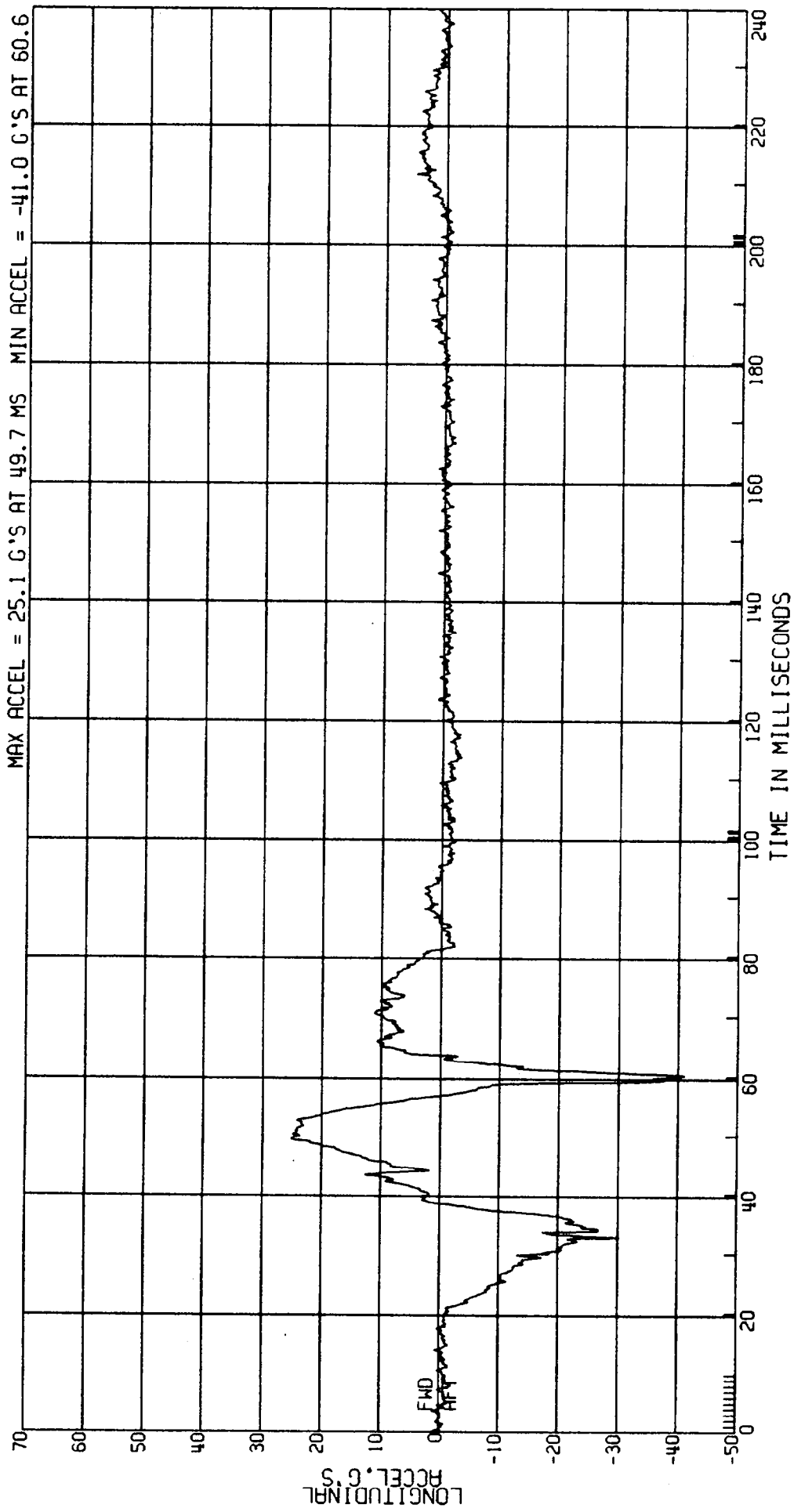


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 35 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 94
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 L.REAR UPPER SPINE ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 1000



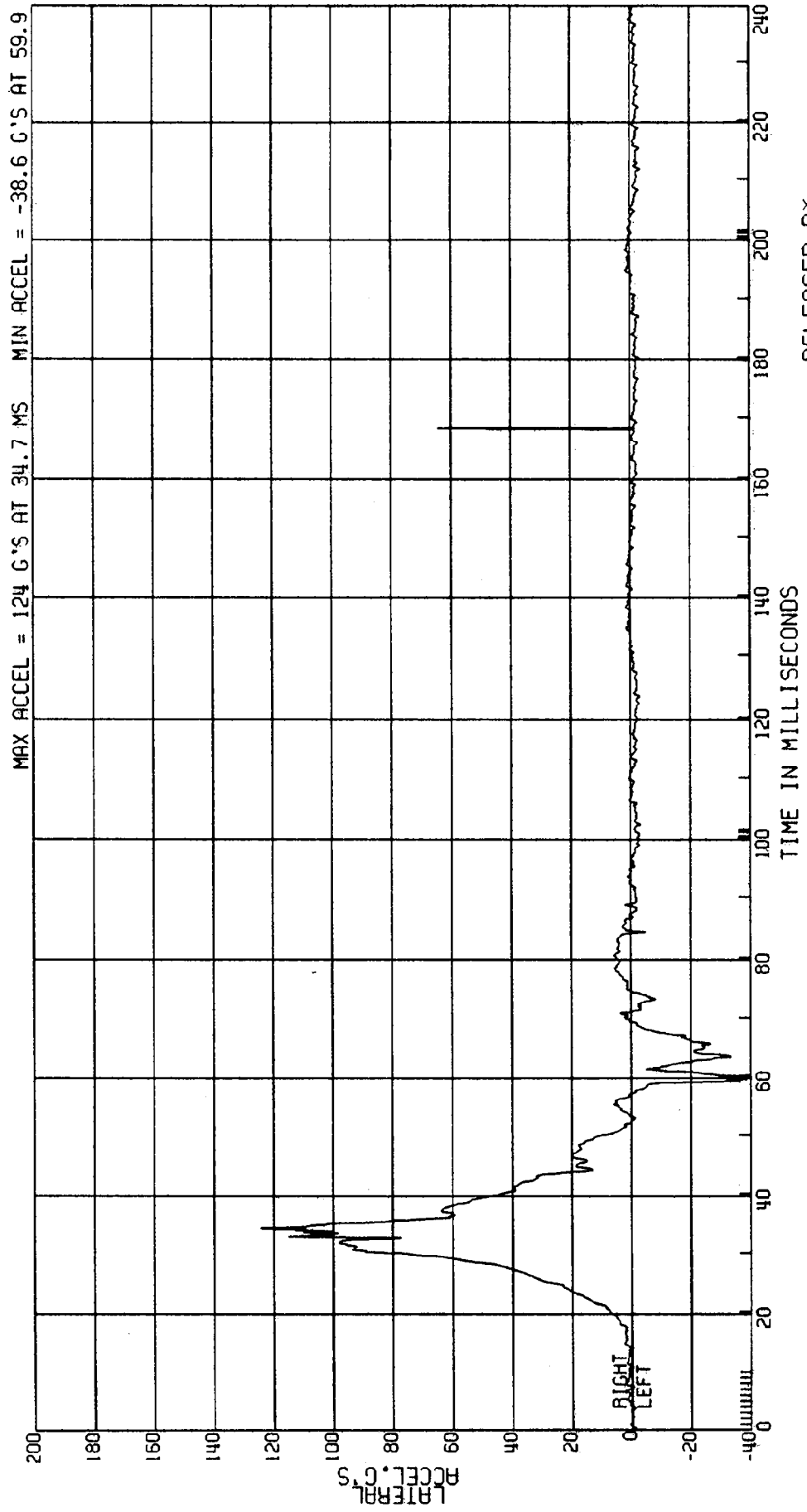
C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 95
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 1000 L. REAR LOWER SPINE ACCEL.
ATD TYPE: SID
TEST DATE: 03-20-90



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37 PROCESSED 3 MT 90 11:43

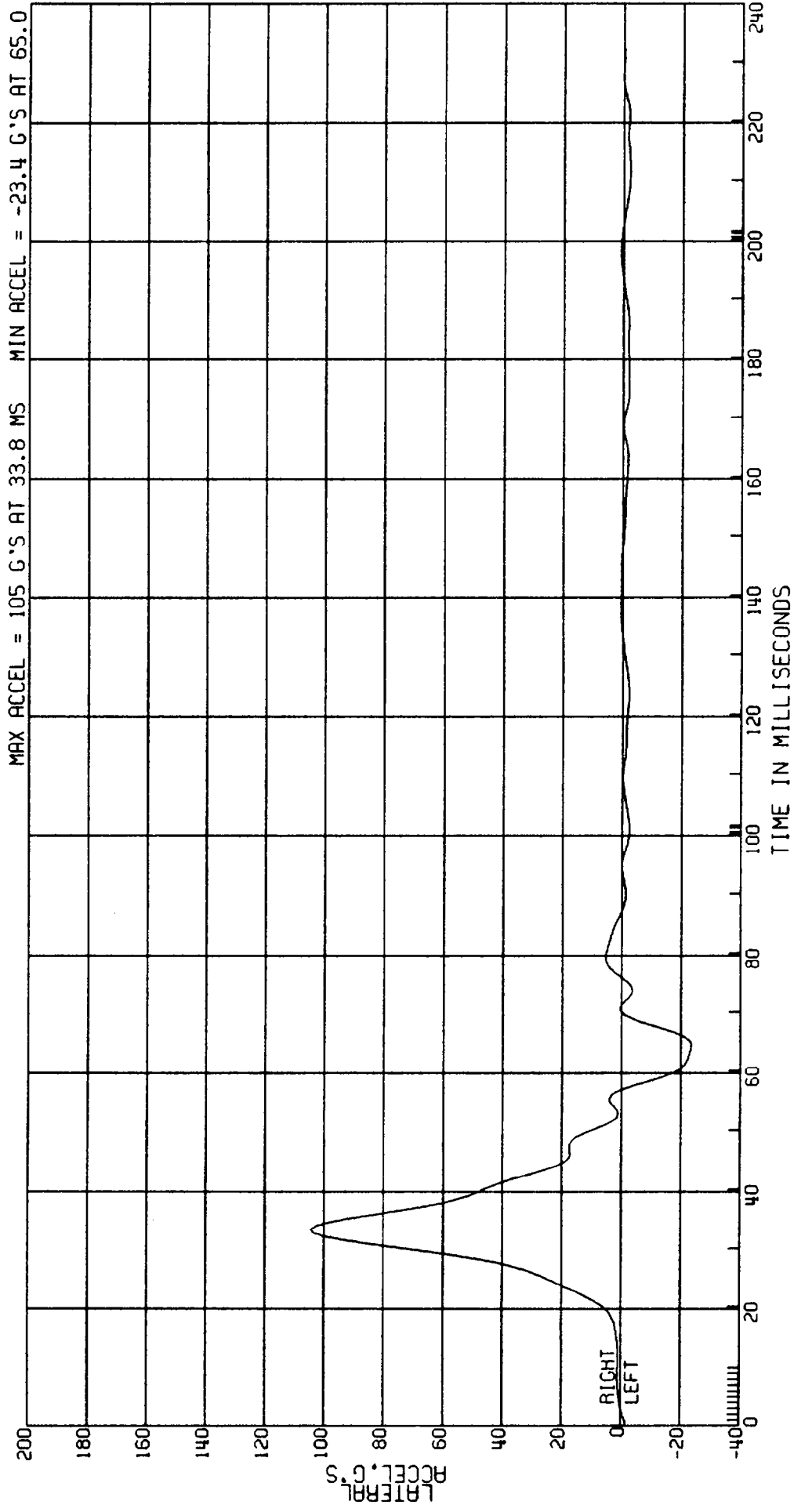
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 96
 3868-905 ATD TYPE: SID
 CPE MVMA 8P 2AF69 L. REAR LOWER SPINE ACCEL.
 ELEC DATA, SAE CLASS 1000 TEST DATE: 03-20-90



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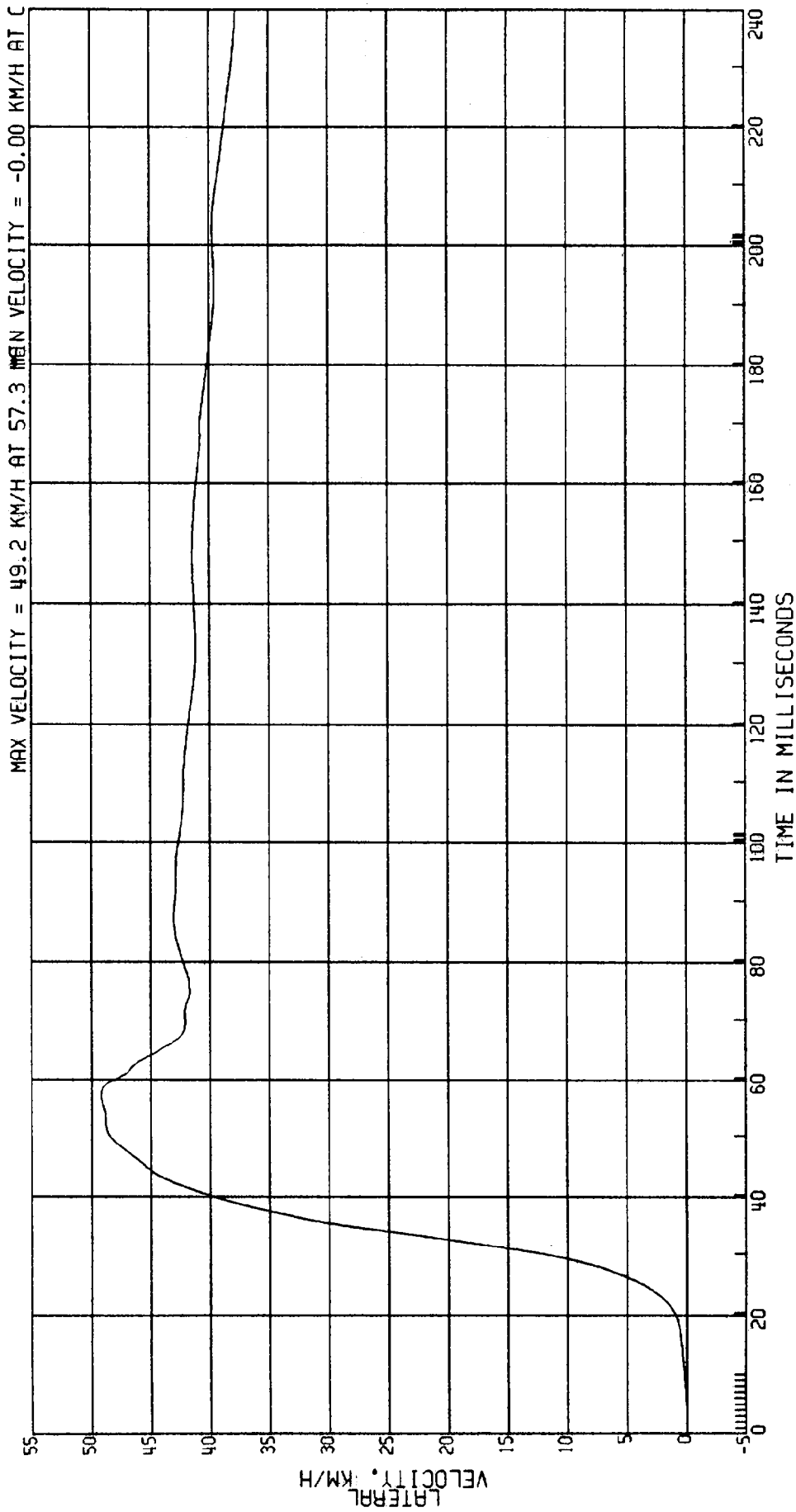
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C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 97
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 L.REAR LOWER SPINE ACCEL.
ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH TEST DATE:03-20-90



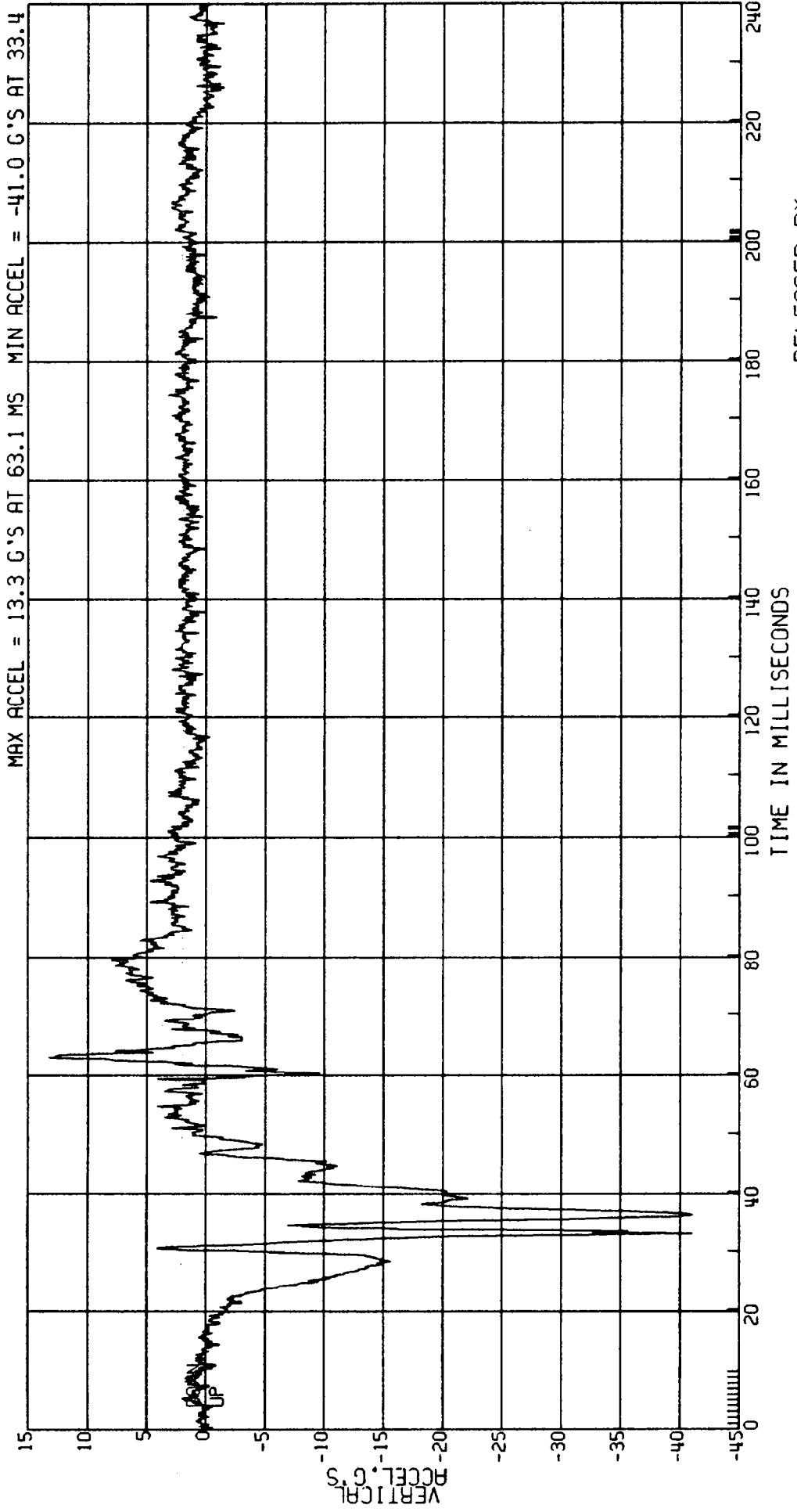
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39 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 98
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180
COMPUTED LOWER SPINE VELOCITY
(1ST INT OF L.REAR ACCELERATION)
ATD TYPE: SID
TEST DATE:03-20-90



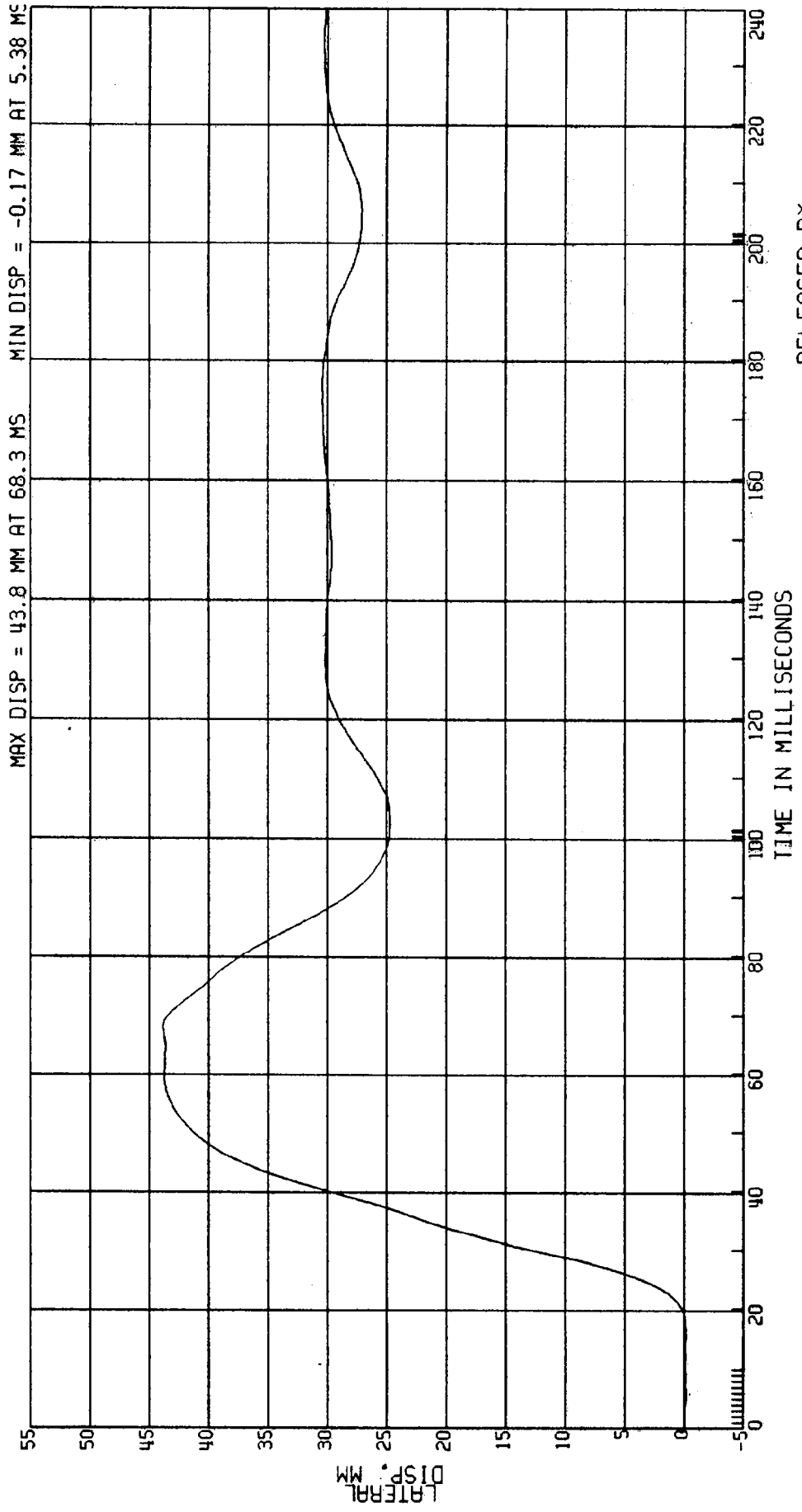
RELEASED BY:
40 PROCESSED 3 MAY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 99
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 L.REAR LOWER SPINE ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 1000



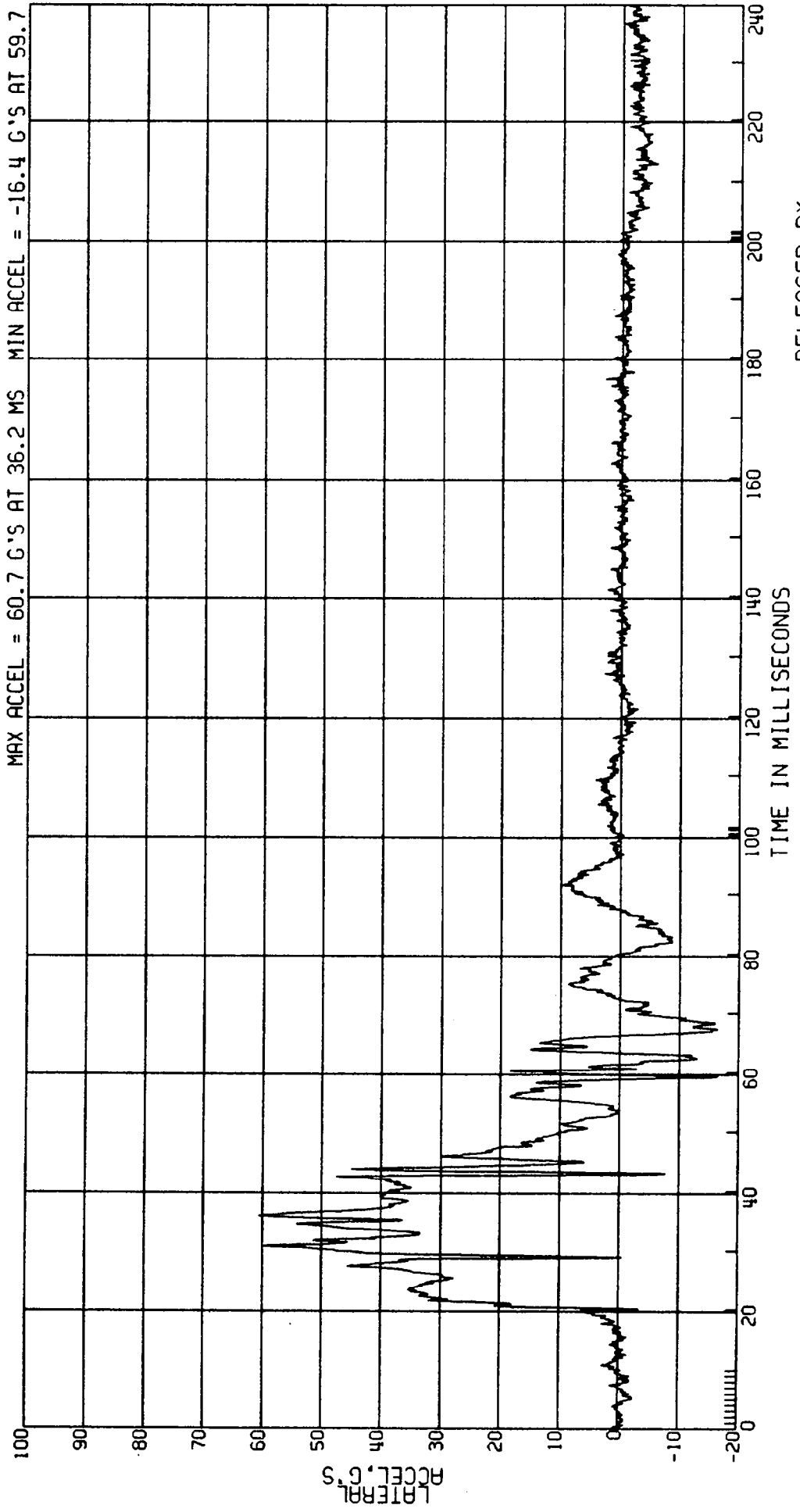
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41 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE /00
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 60
L. REAR THORAX DISP.
ATD TYPE: SID
TEST DATE: 03-20-90

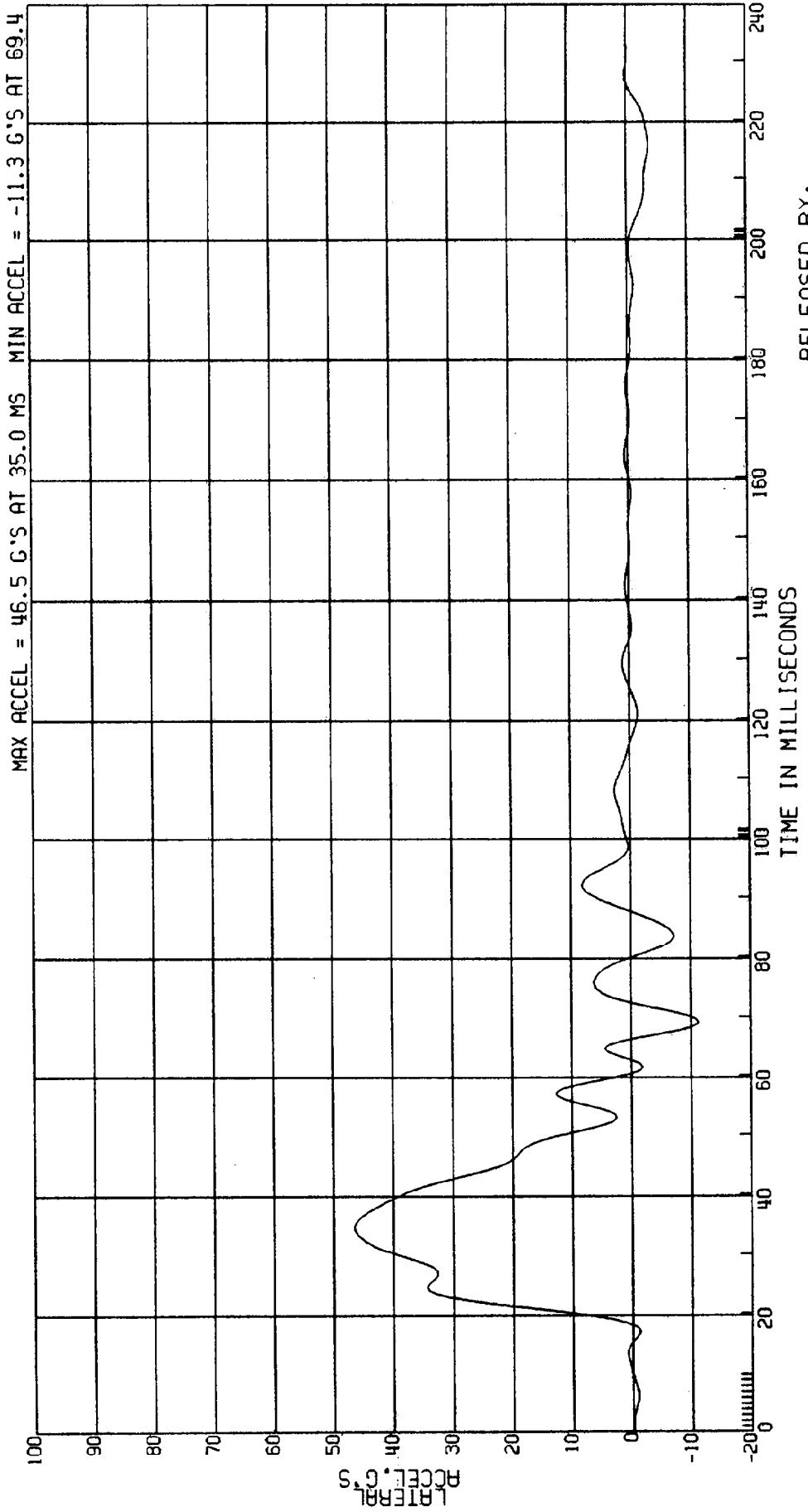


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C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /01
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 1000
L. REAR LEFT UPPER RIB ACCEL.
ATD TYPE: SID
TEST DATE: 03-20-90



C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 102
3868-905 MVMA 8P 2AF69 ATD TYPE: SID
CPE L. REAR LEFT UPPER RIB ACCEL. TEST DATE: 03-20-90
ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH

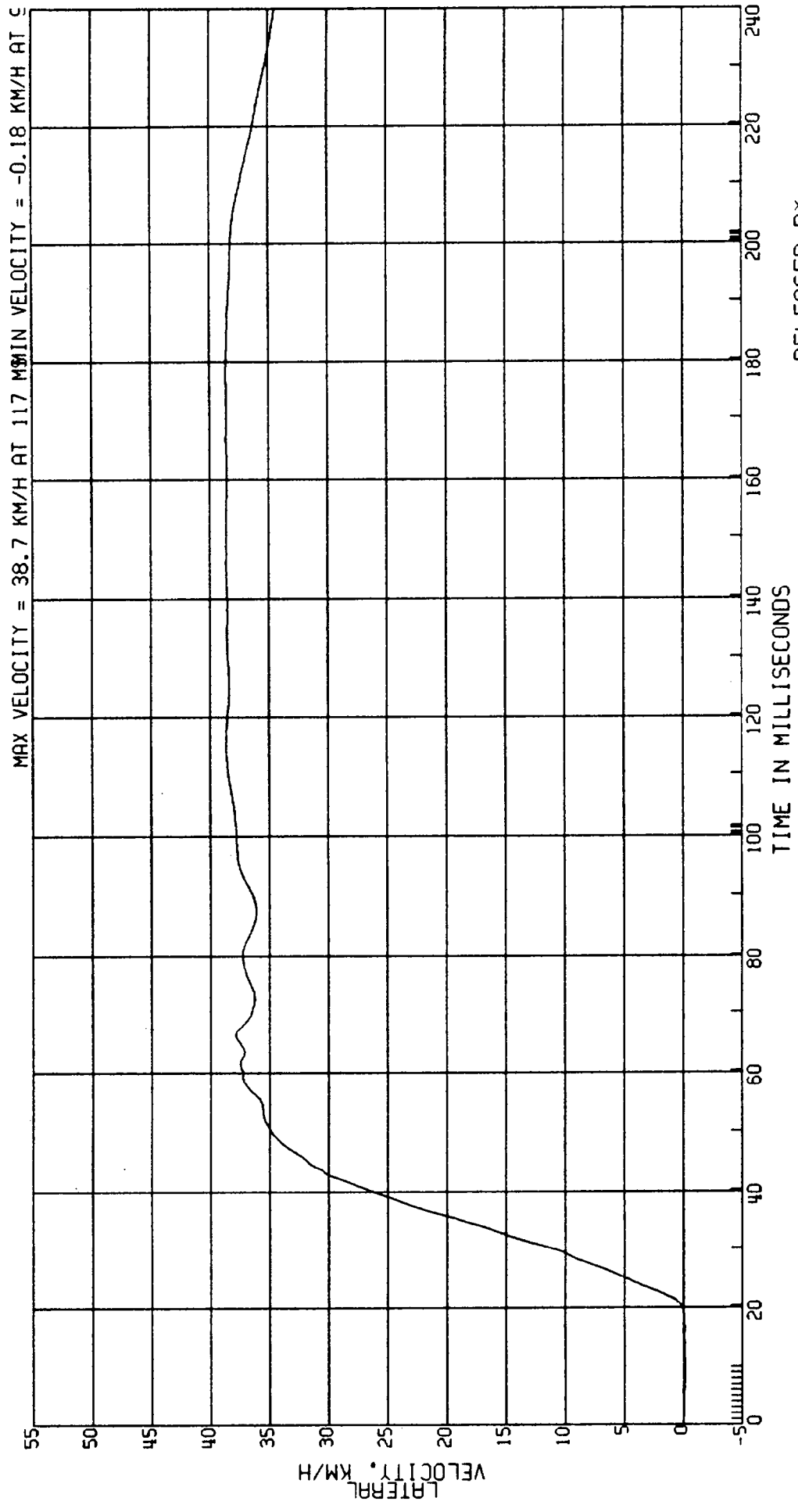


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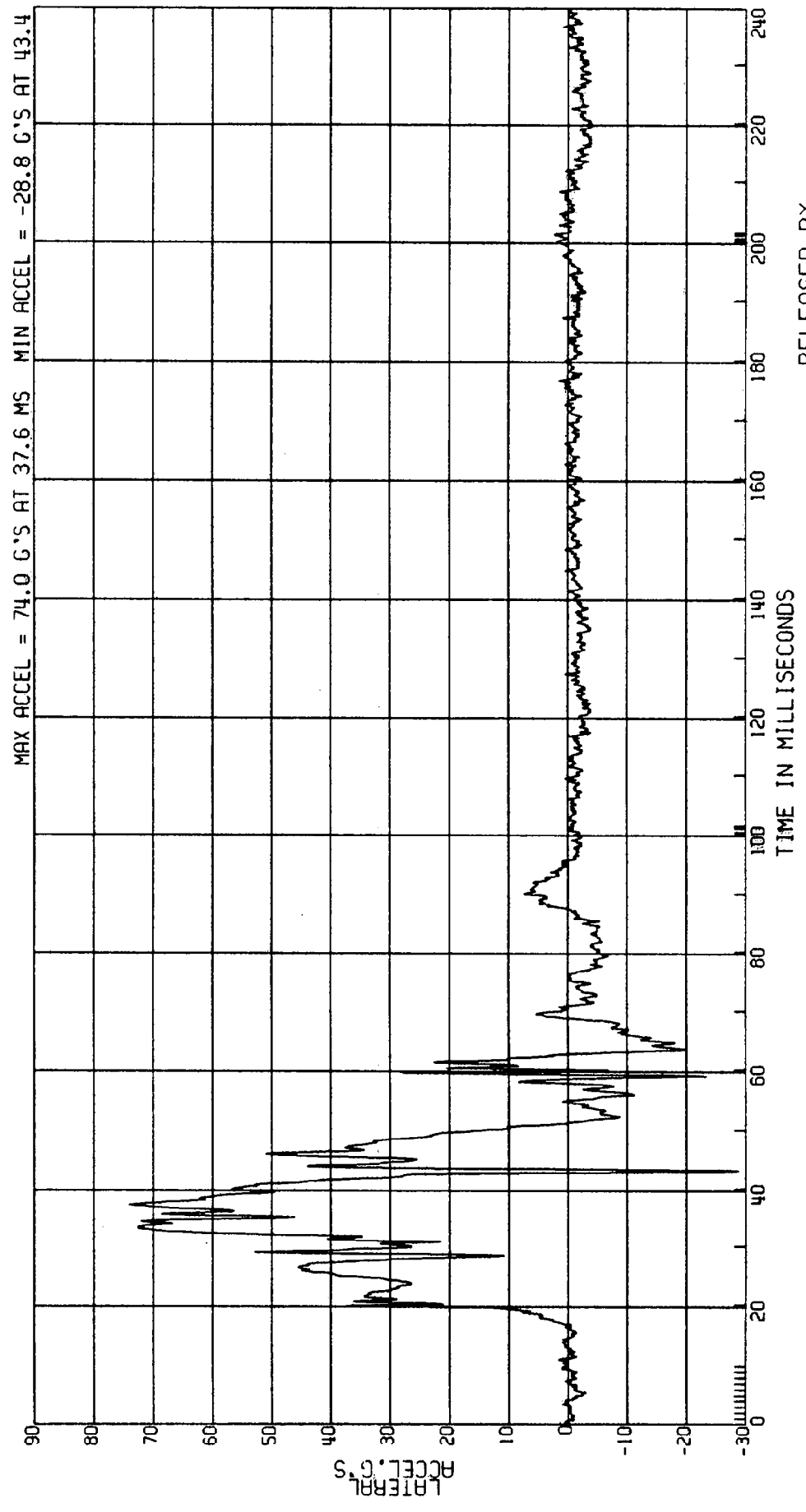
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 103
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180
COMPUTED LEFT UPPER RIB VELOCITY
(1ST INT OF L.REAR ACCELERATION)

ATD TYPE: SID
TEST DATE:03-20-90



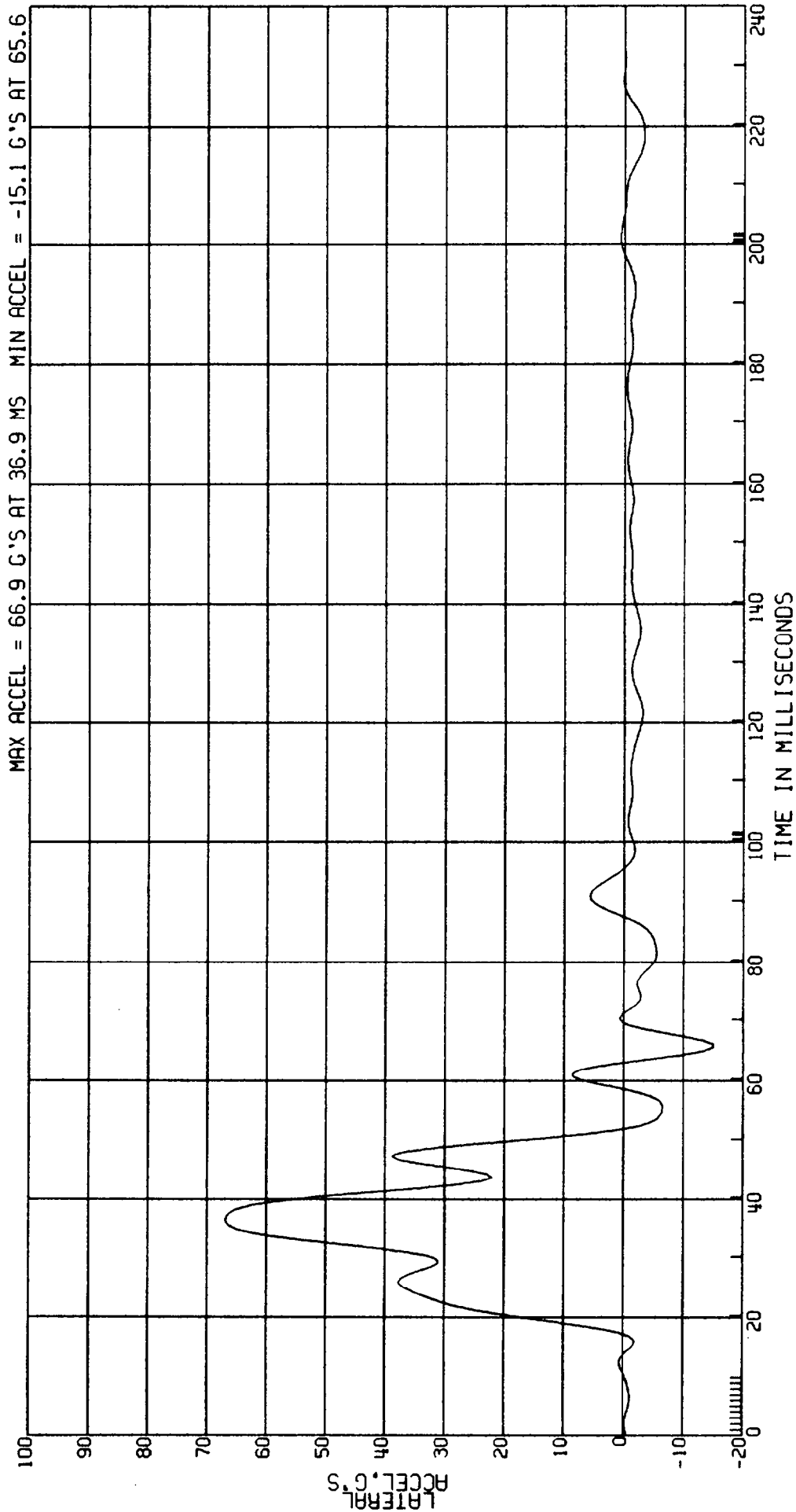
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45 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 104
3868-905
CPE MVMA 8P 2AF69 L. REAR LEFT LOWER RIB ACCEL.
ELEC DATA, SAE CLASS 1000 ATD TYPE: SID TEST DATE: 03-20-90



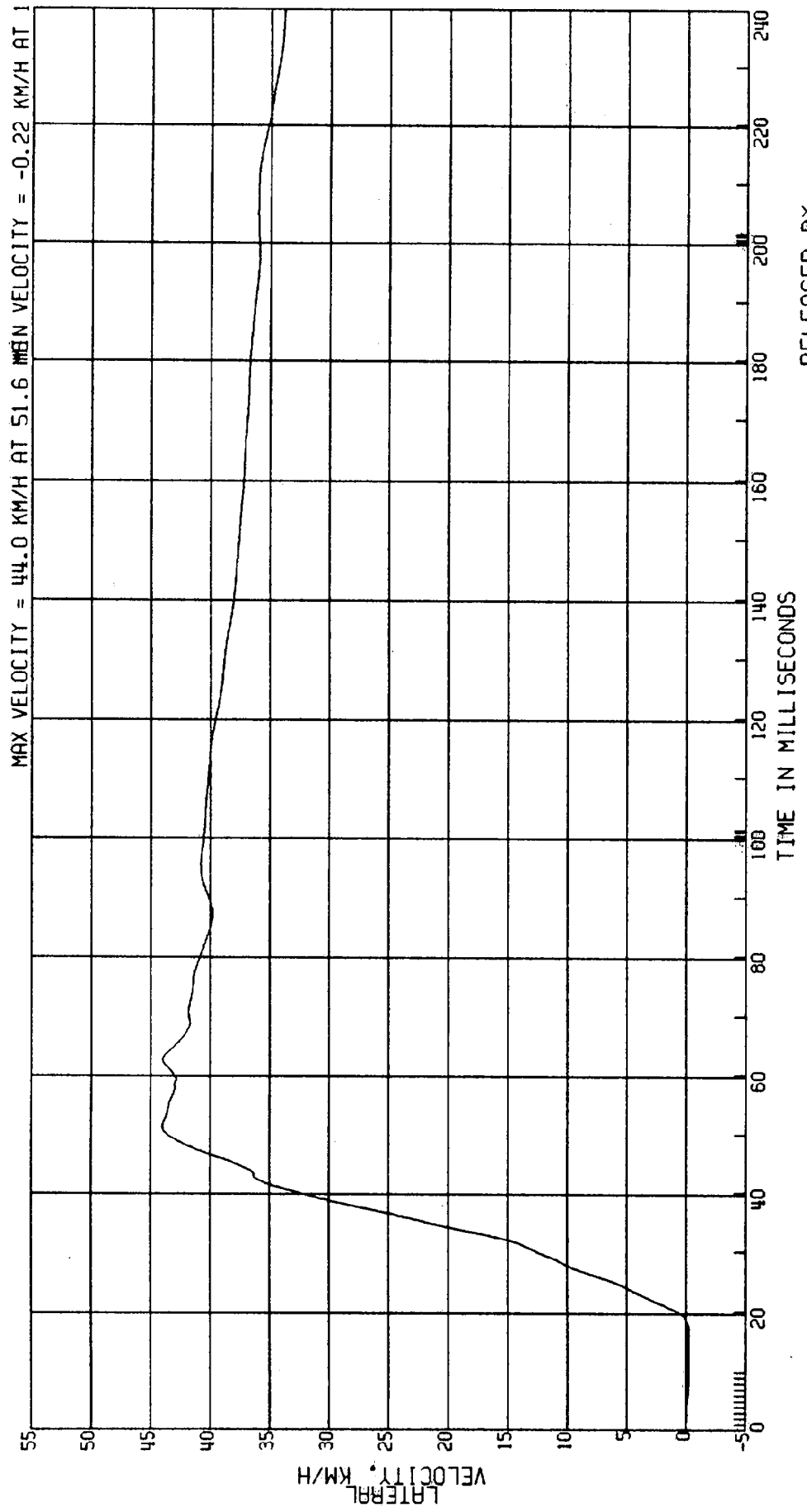
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /05
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, NHTSA FIR FILTER F.I.R. FILTER, CLASS 300 BUTTERWORTH

ATD TYPE: SID
TEST DATE:03-20-90

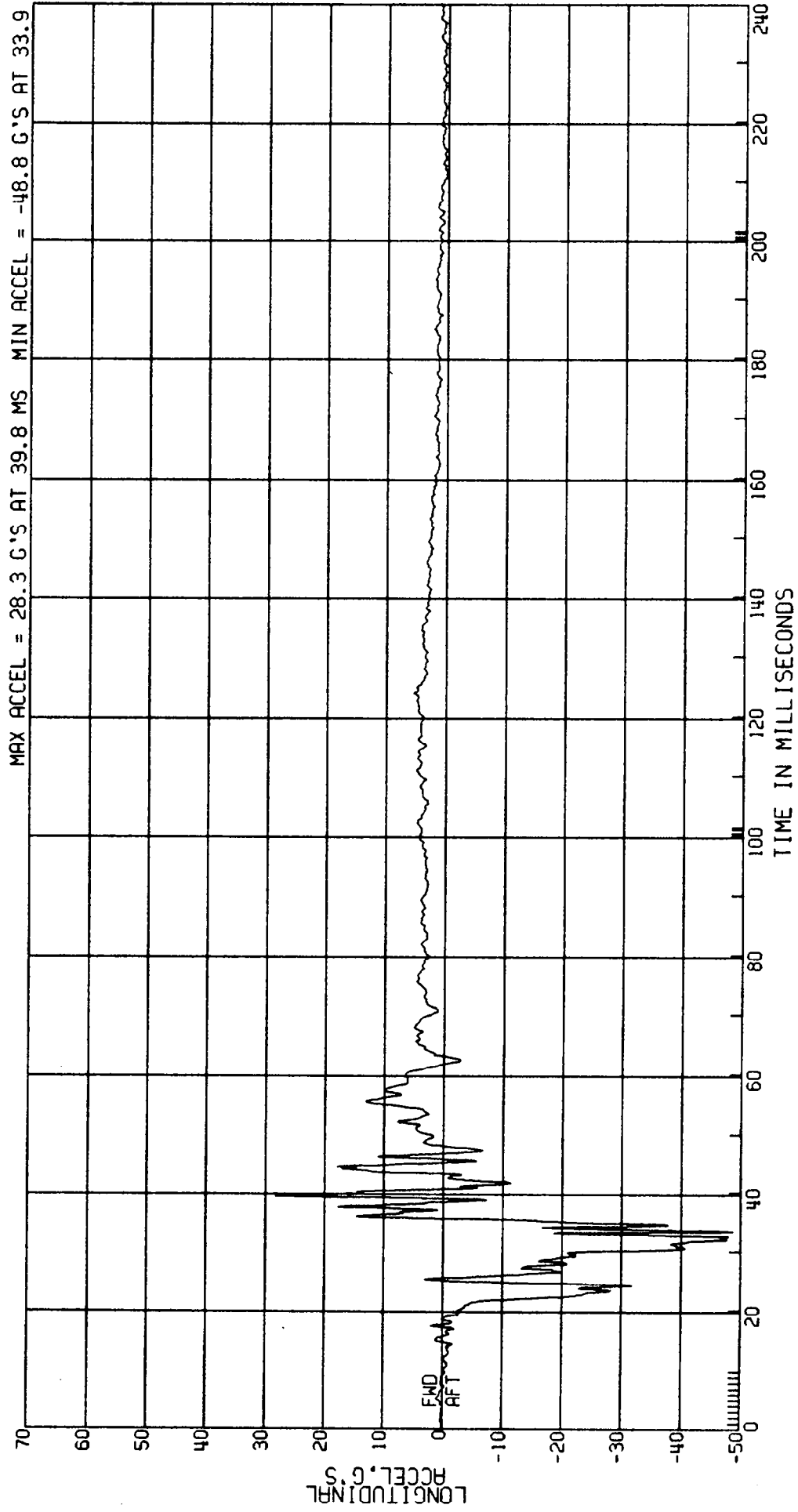


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C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 106
 3868-905
 CPE MVMA 8P 2AF69
 ELEC DATA, SAE CLASS 180
 ATD TYPE: SID
 TEST DATE: 03-20-90
 COMPUTED LEFT LOWER RIB VELOCITY
 (1ST INT OF L. REAR ACCELERATION)

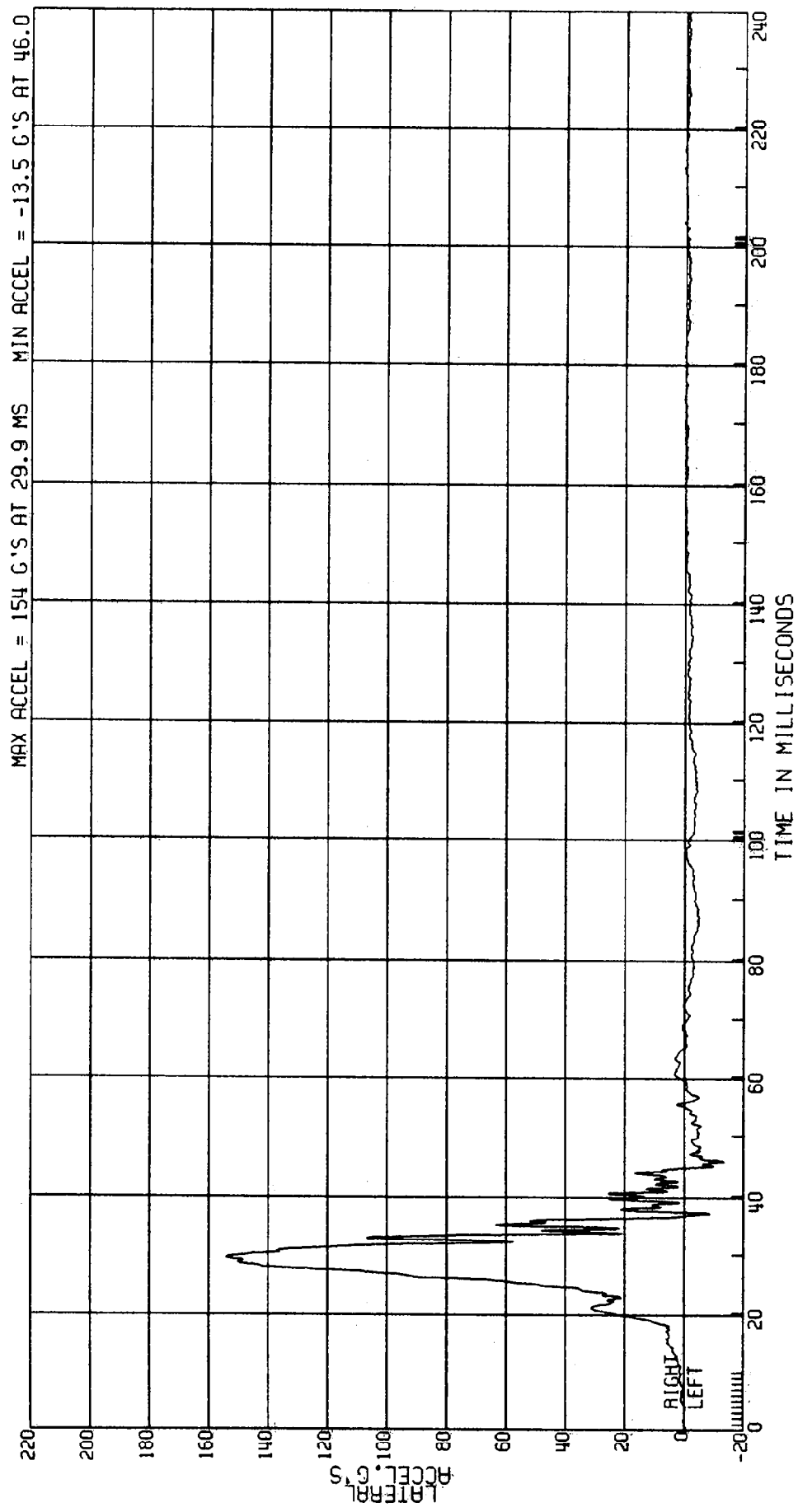


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 107
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 TEST DATE:03-20-90
ELEC DATA, SAE CLASS 600 L.REAR PELVIC ACCEL.



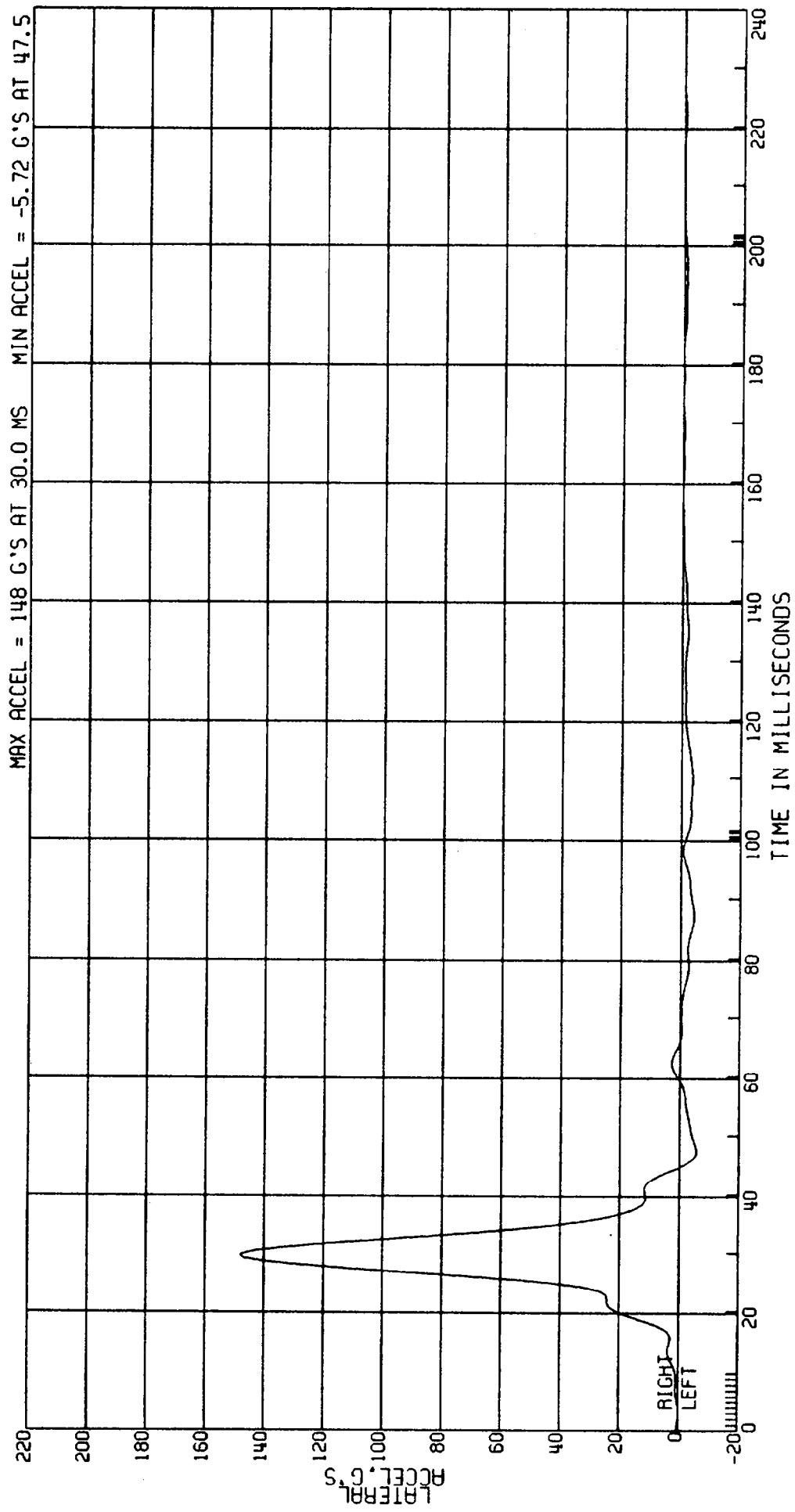
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49 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 108
3868-905
CPE MVMA 8P 2AF69 L. REAR PELVIC ACCEL.
ELEC DATA, SAE CLASS 600
ATD TYPE: SID
TEST DATE: 03-20-90



C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 109
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, NHTSA FIR FILTER L. REAR PELVIC ACCEL.
ATD TYPE: SID
TEST DATE:03-20-90

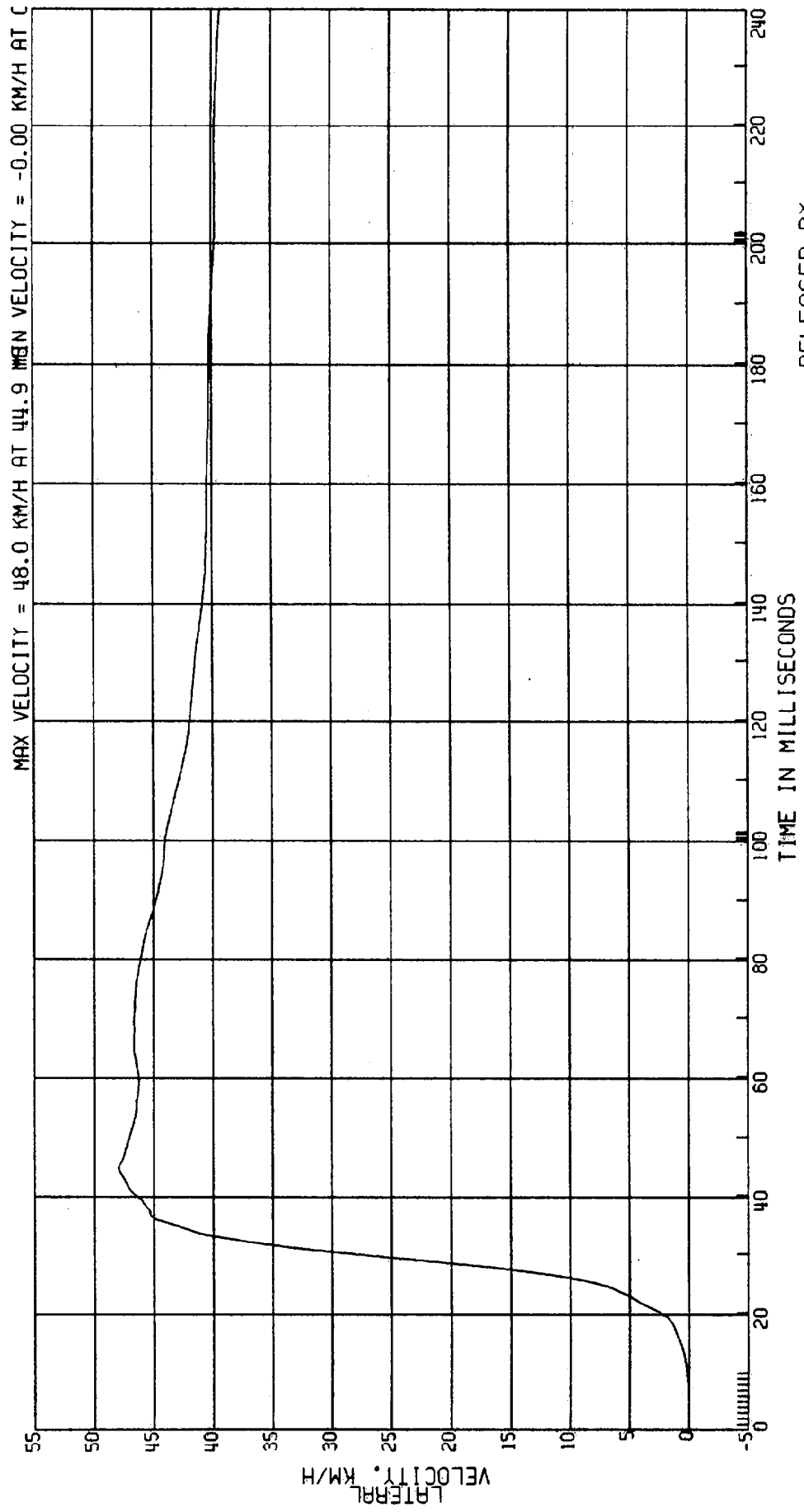
F.I.R. FILTER, CLASS 300 BUTTERWORTH



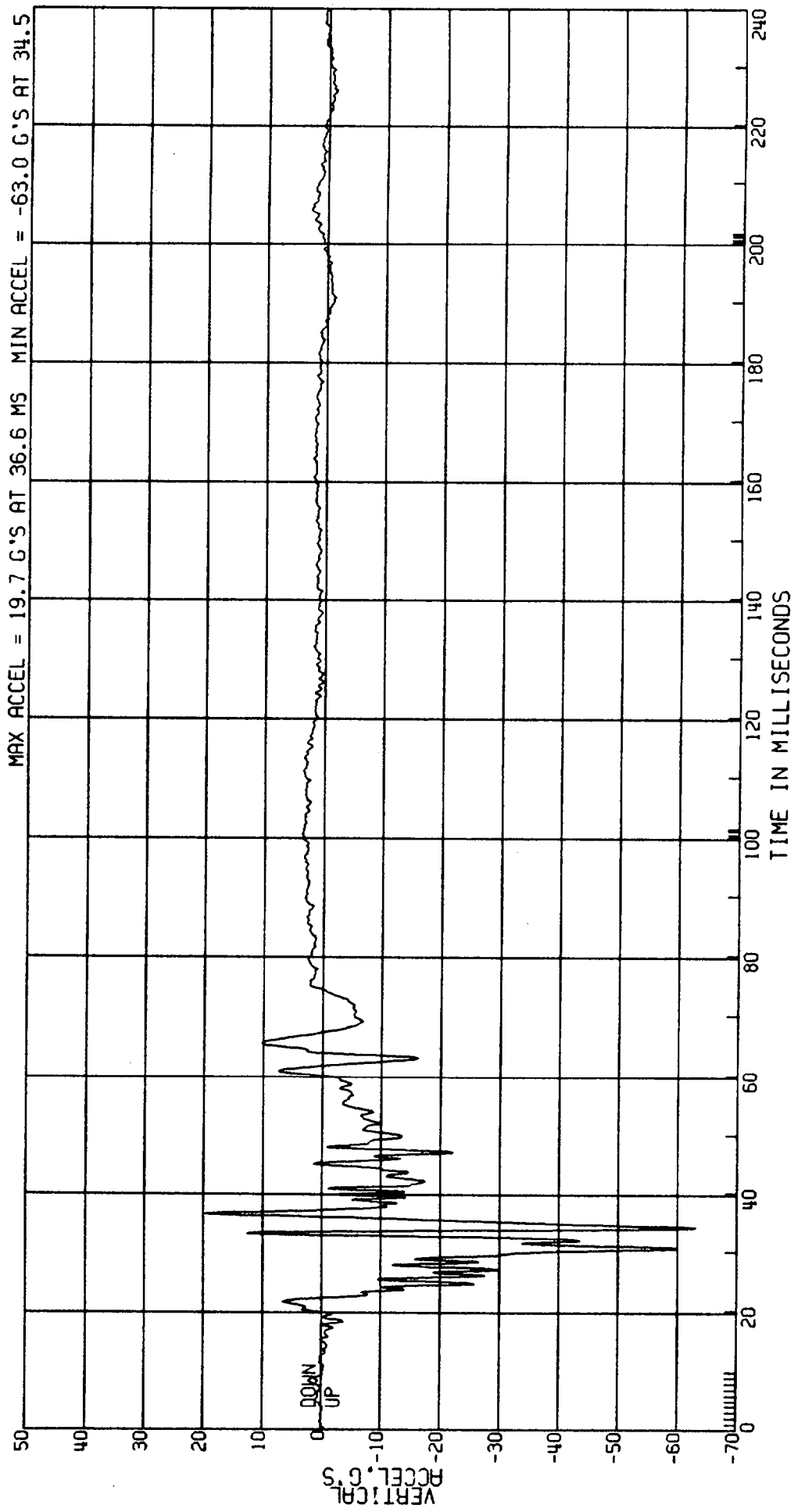
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C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE /10
3868-905 AID TYPE: SID
CPE MVMA 8P 2AF69 COMPUTED PELVIC VELOCITY
ELEC DATA, SAE CLASS 180 (1ST INT OF L. REAR ACCELERATION)
TEST DATE: 03-20-90



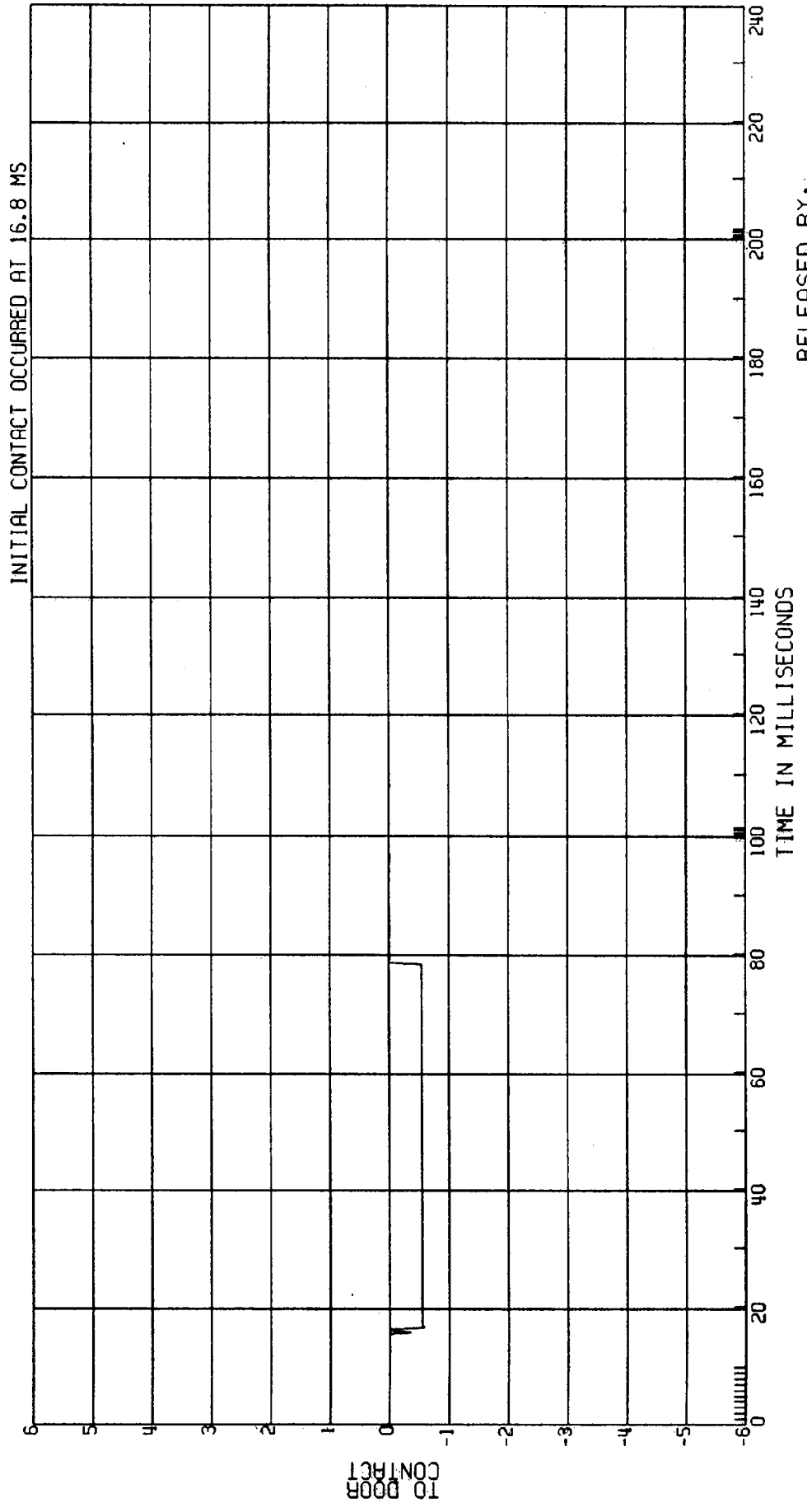
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 1/1
3868-905
CPE MVMA 8P 2AF69 L. REAR PELVIC ACCEL.
ELEC DATA, SAE CLASS 600 TEST DATE:03-20-90



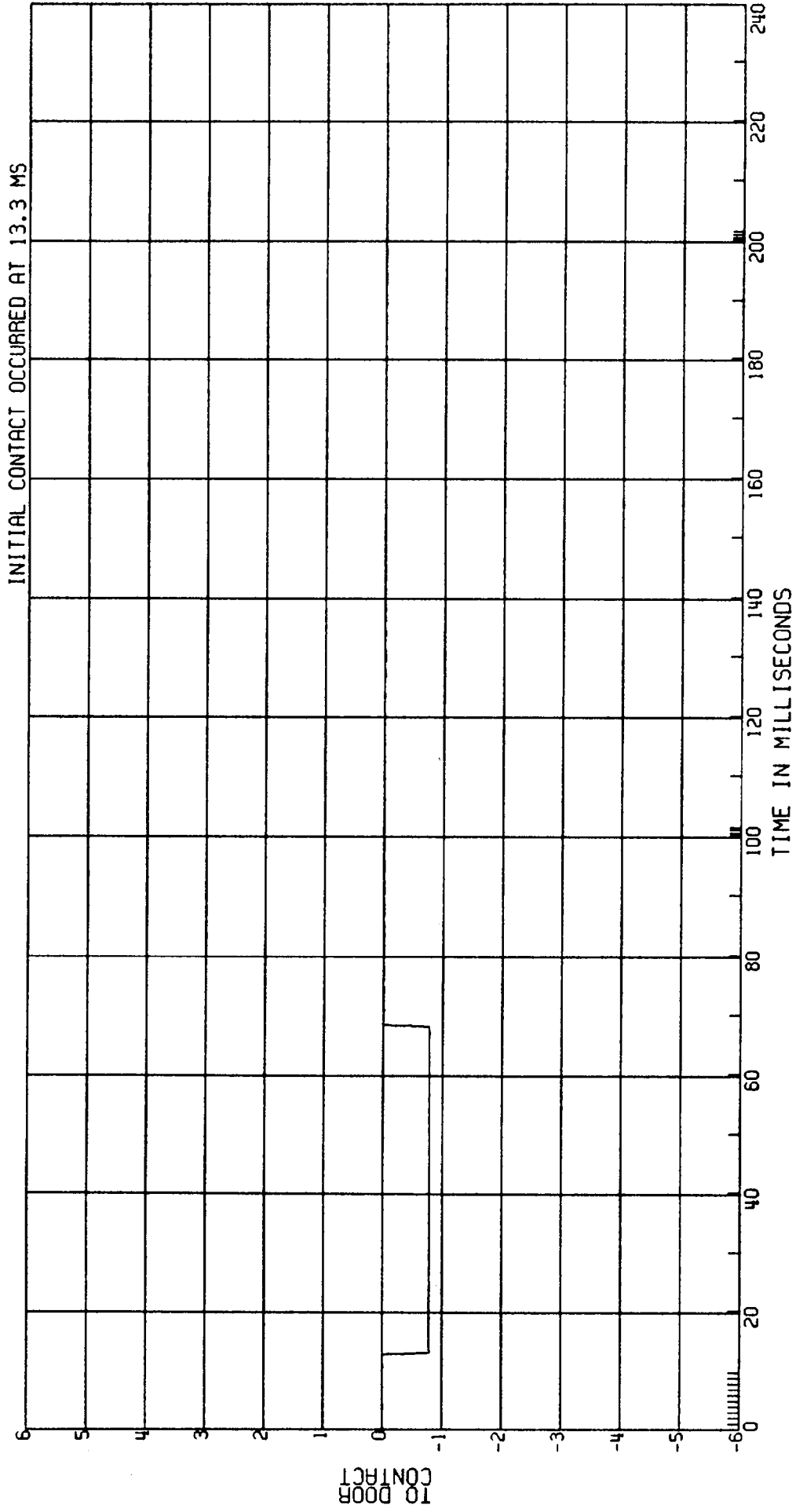
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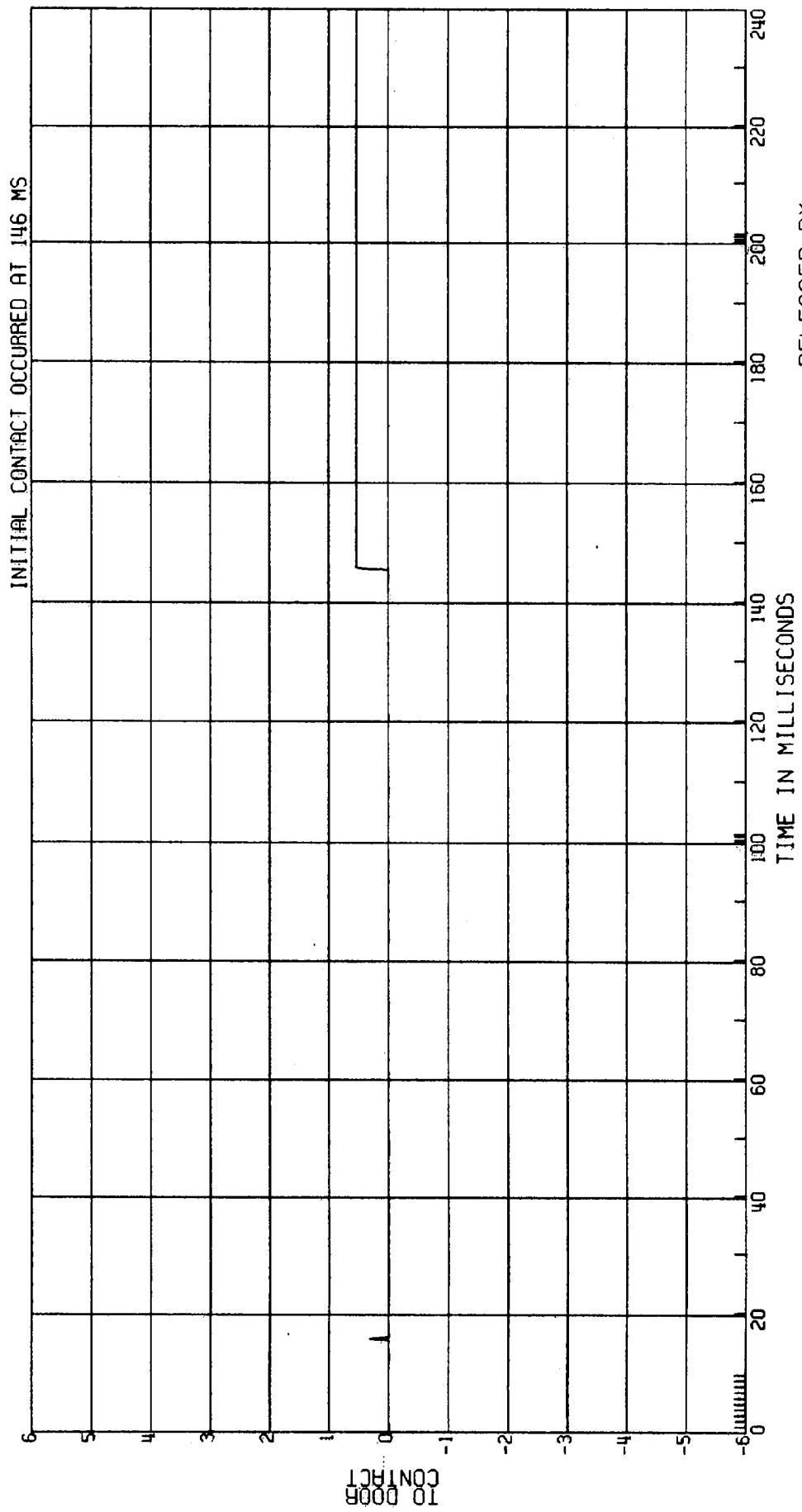
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 1/2
3868-905 ATD TYPE: SID
CPE MVMA 8P 2AF69 L. REAR ABDOMEN-LEFT SIDE CONTACT TEST DATE:03-20-90
ELEC DATA, SAE CLASS 1000



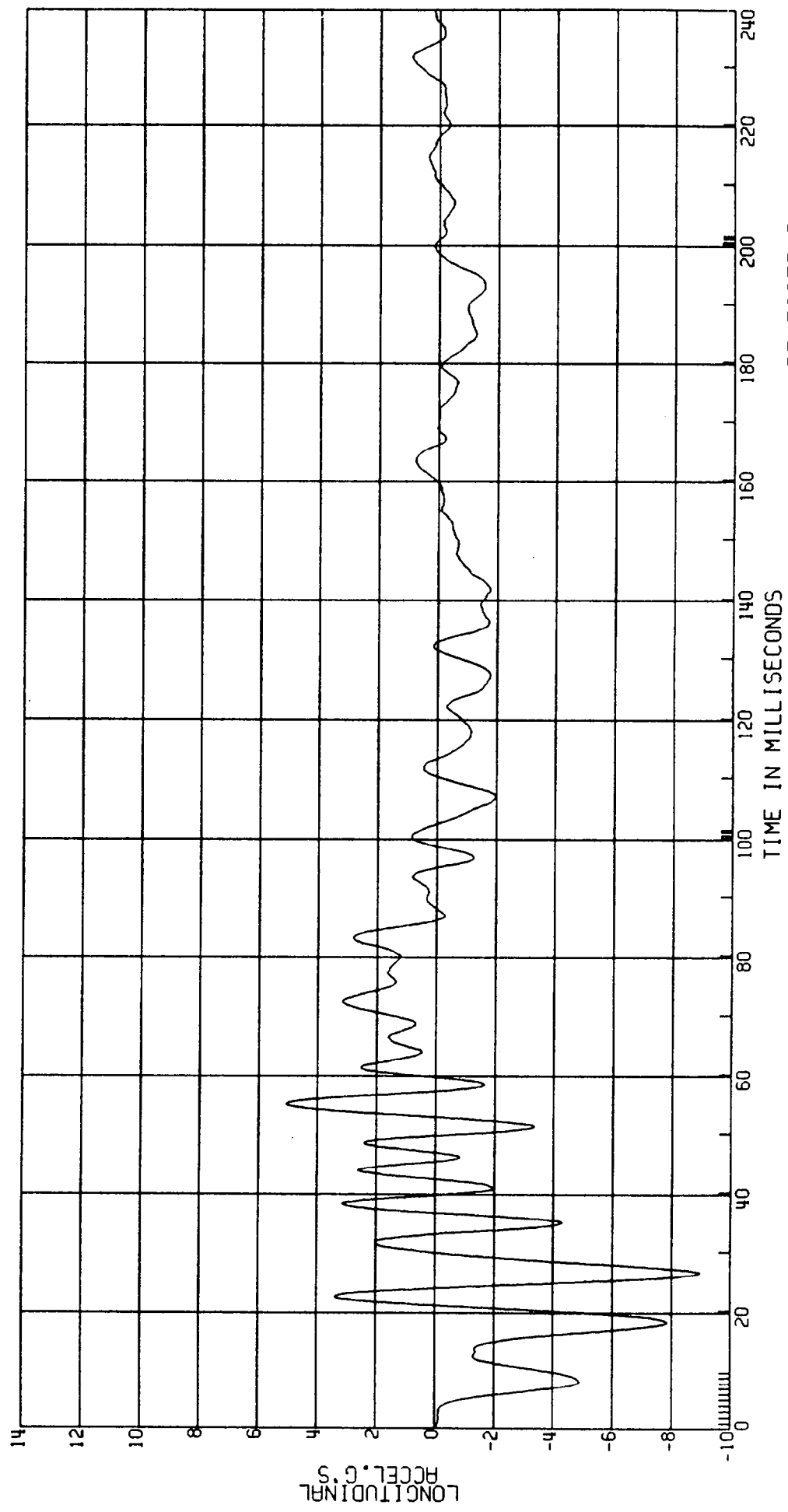
C8008A L. SIDE IMPACT- 27 DEG : MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /13
3868-905
CPE MVMA 8P 2AF69 L. REAR PELVIC-LEFT SIDE CONTACT
ELEC DATA, SAE CLASS 1000 ATD TYPE: SID
TEST DATE:03-20-90



C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 114
 3868-905
 CPE MVMA 8P 2AF69
 ELEC DATA. SAE CLASS 1000
 ATD TYPE: SID
 TEST DATE: 03-20-90

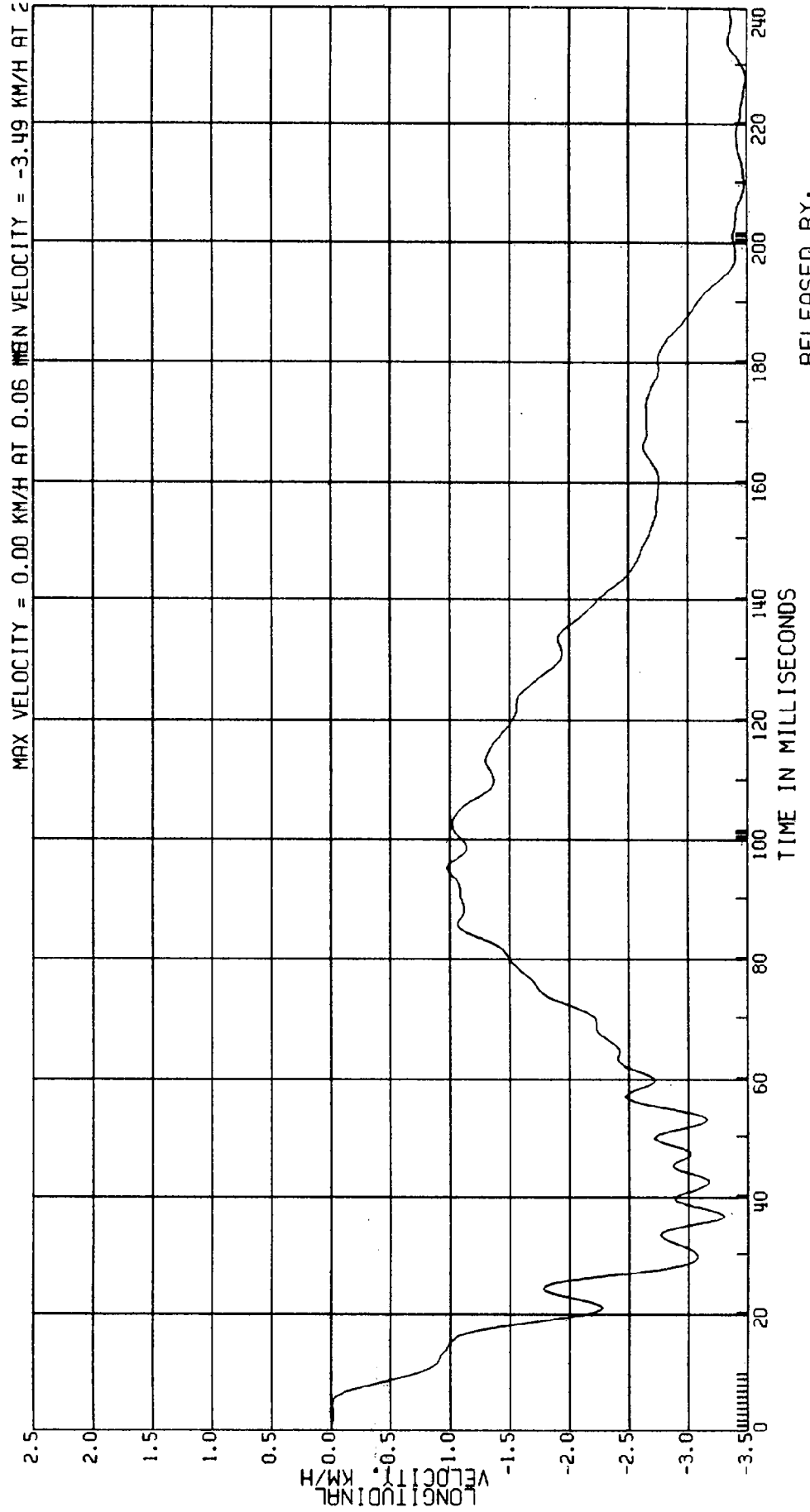


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE / / 5
3868-905
CPE MVMA 8P 2AF69 PASS-SIDE ROCKER AT CTR OF IMPACT ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60

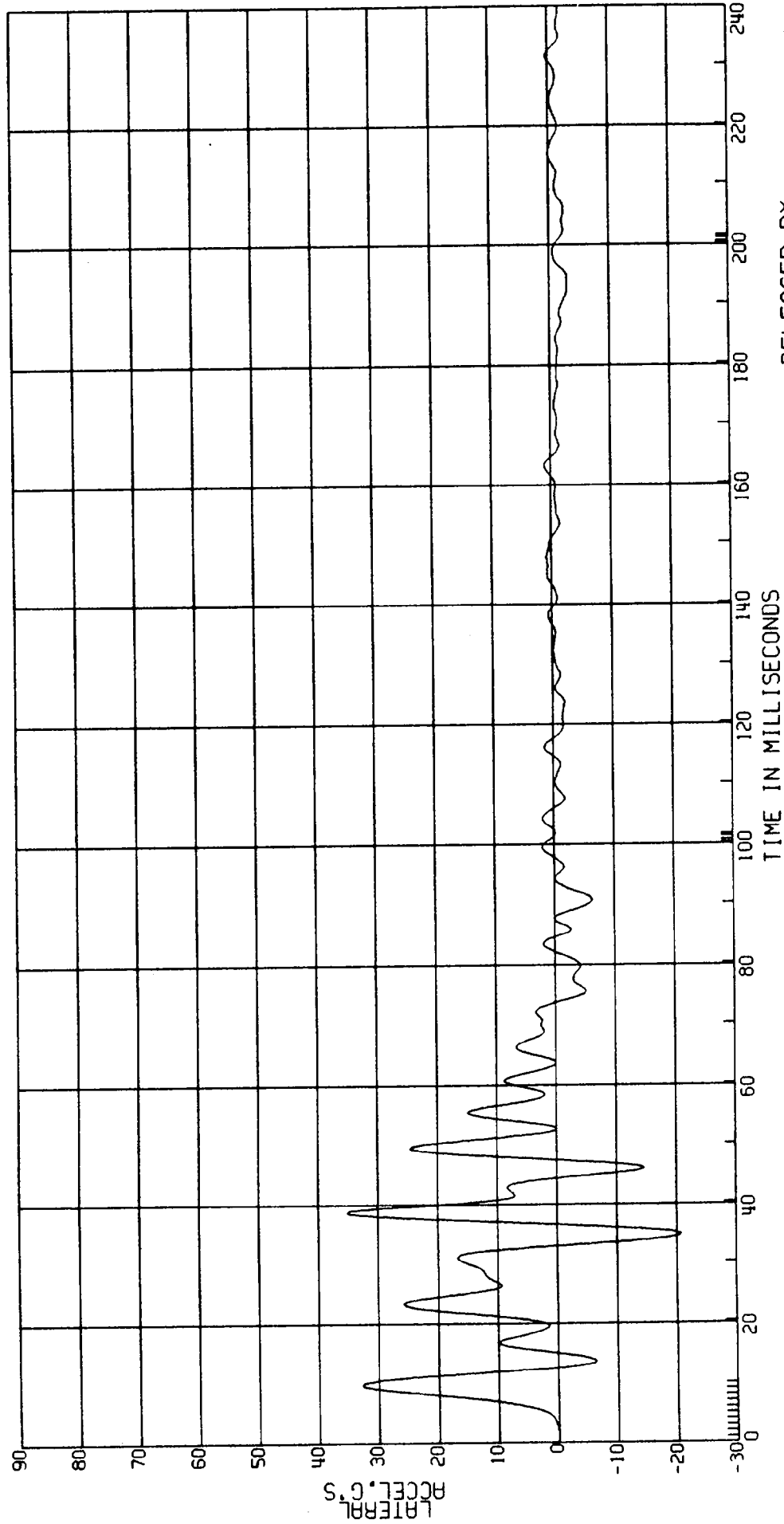


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38008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 116
 3868-905
 CPE MVMA 8P 2AF69 COMPUTED ROCKER AT CTR OF IMPACT VEL TEST DATE: 03-20-90
 ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF PASS-SIDE ACCELERATION)

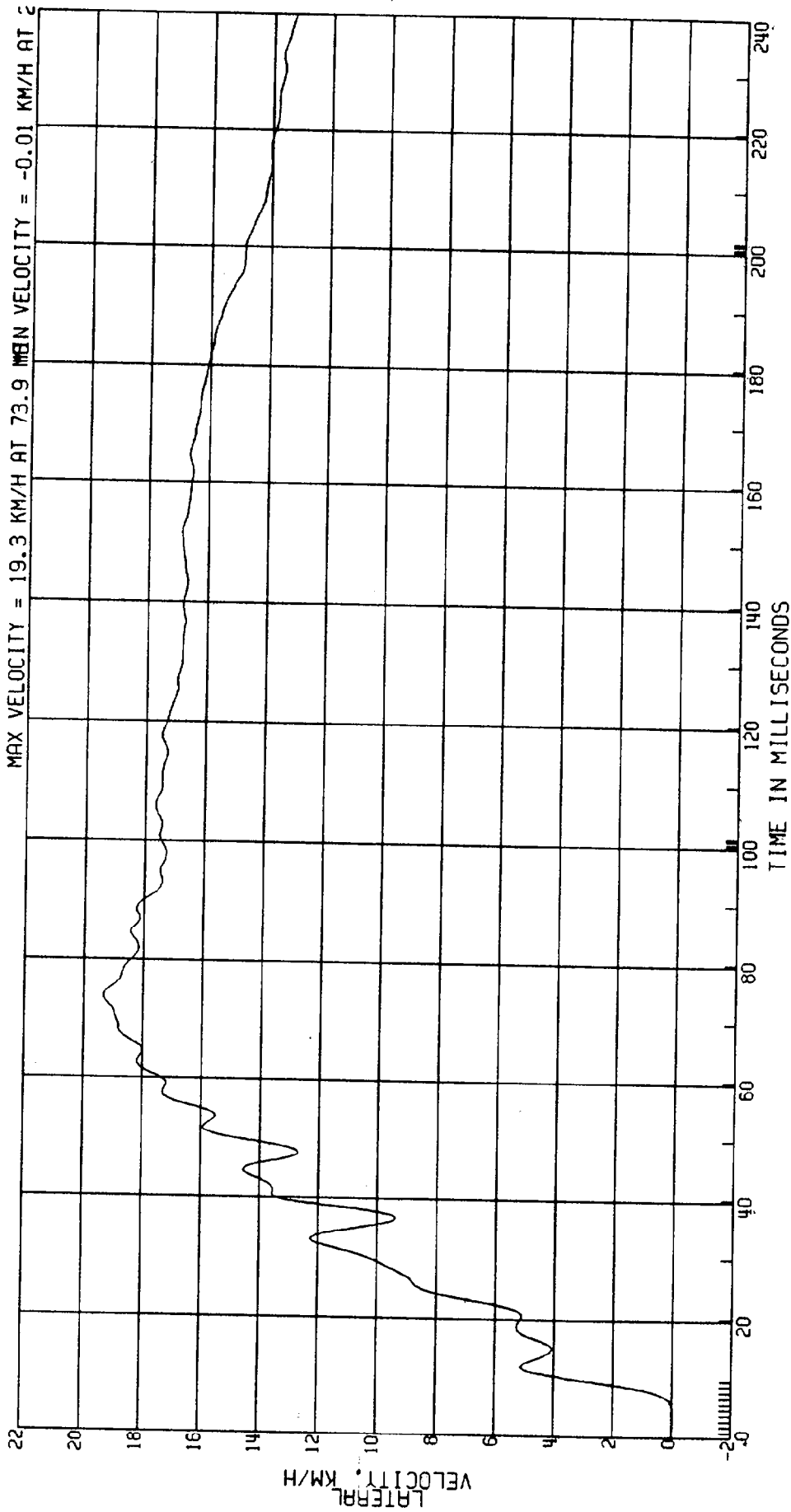


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 117
3868-905
CPE MVMA 8P 2AF69 PASS-SIDE ROCKER AT CTR OF IMPACT ACCEL. TEST DATE:03-20-90
ELEC DATA. SAE CLASS 60



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5 PROCESSED 3 MY 90 11:42

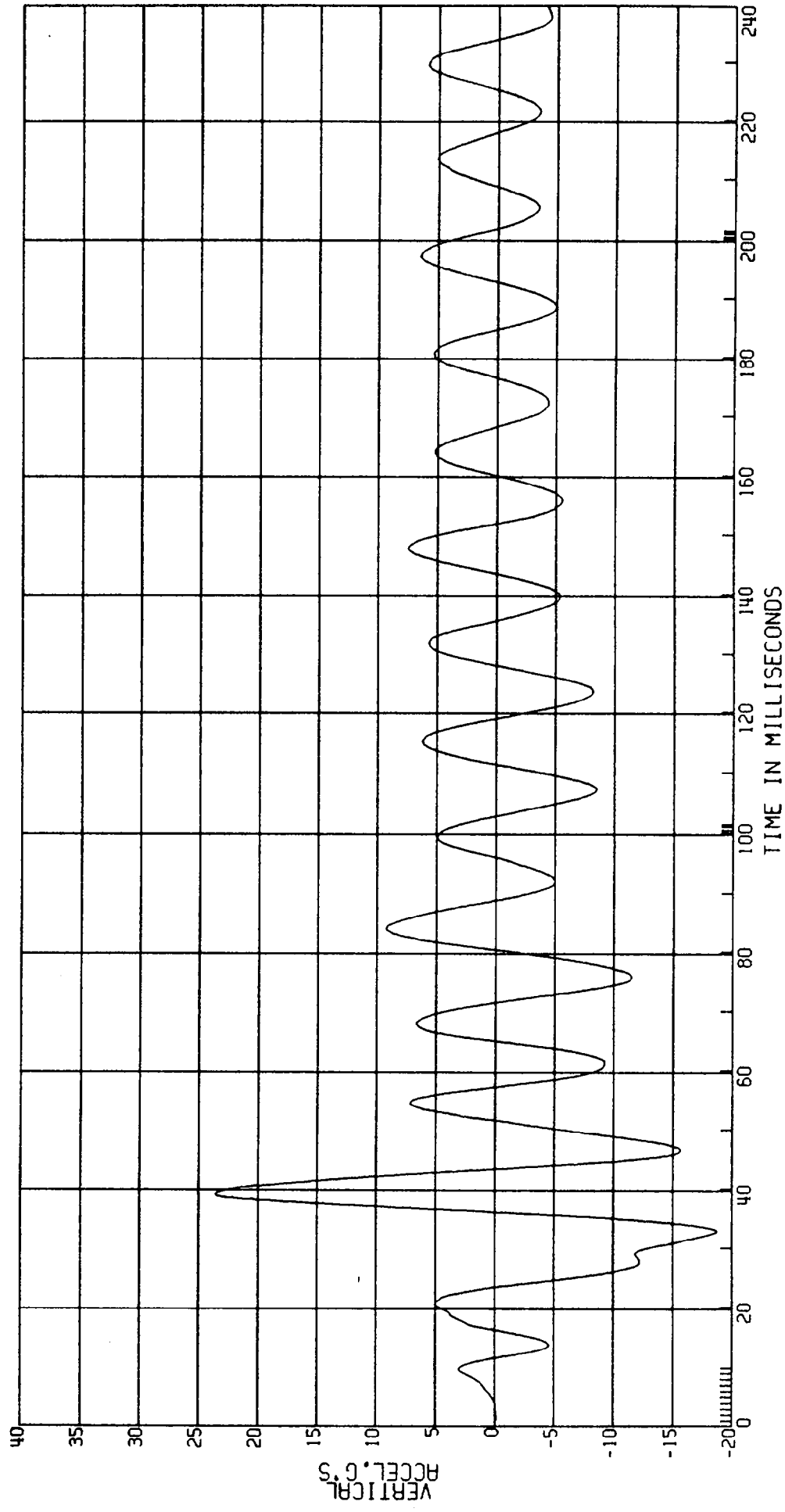
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 1/8
3868-905
CPE MVMA 8P 2AF69 COMPUTED ROCKER AT CTR OF IMPACT VEL
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF PASS-SIDE ACCELERATION) TEST DATE:03-20-90



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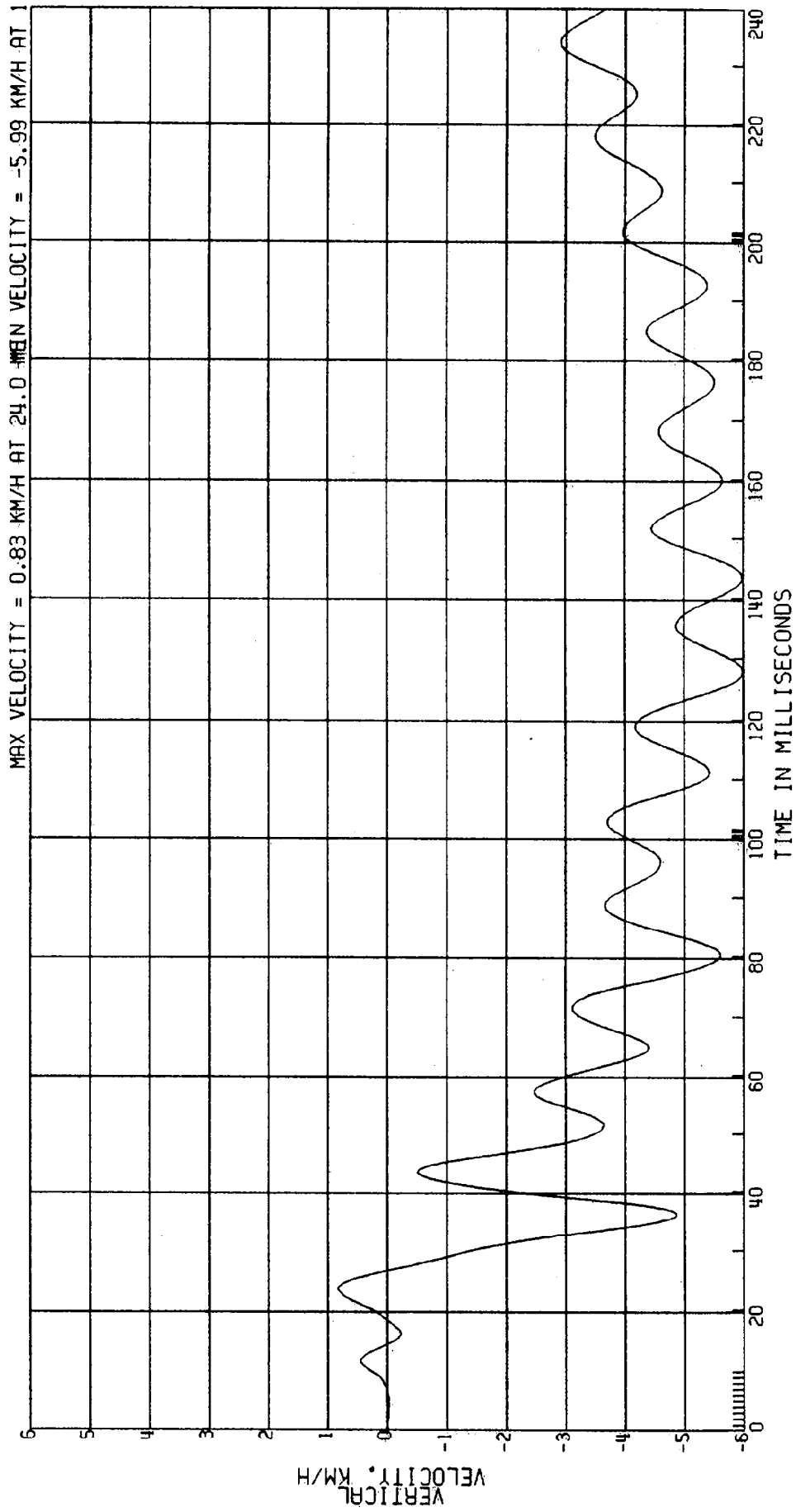
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C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE //9
3868-905
CPE MVMA 8P 2AF69 PASS-SIDE ROCKER AT CTR OF IMPACT ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60

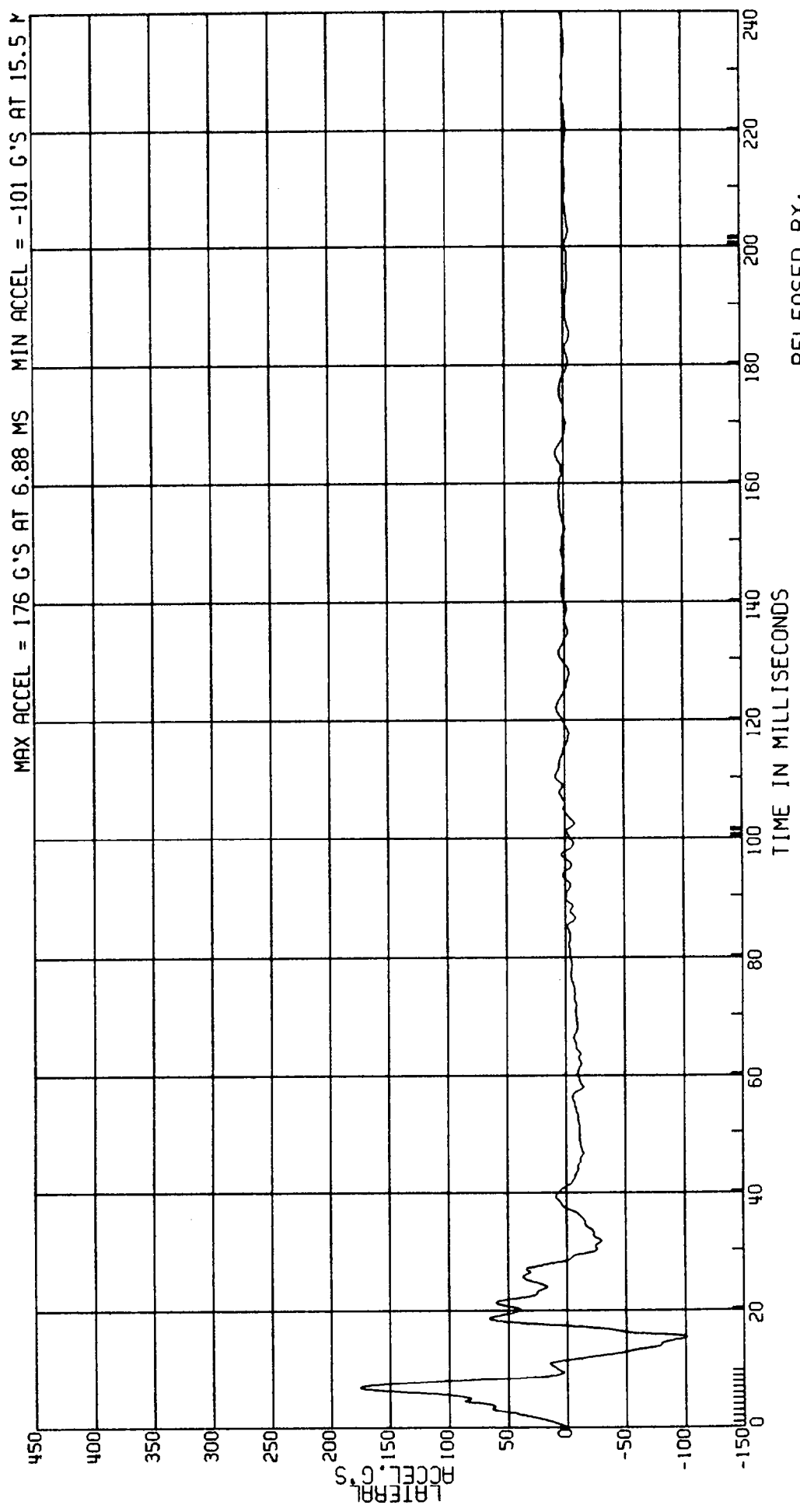


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C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 120
3868-905
CPE MVMA 8P 2AF69 COMPUTED ROCKER AT CTR OF IMPACT VEL TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF PASS-SIDE ACCELERATION)

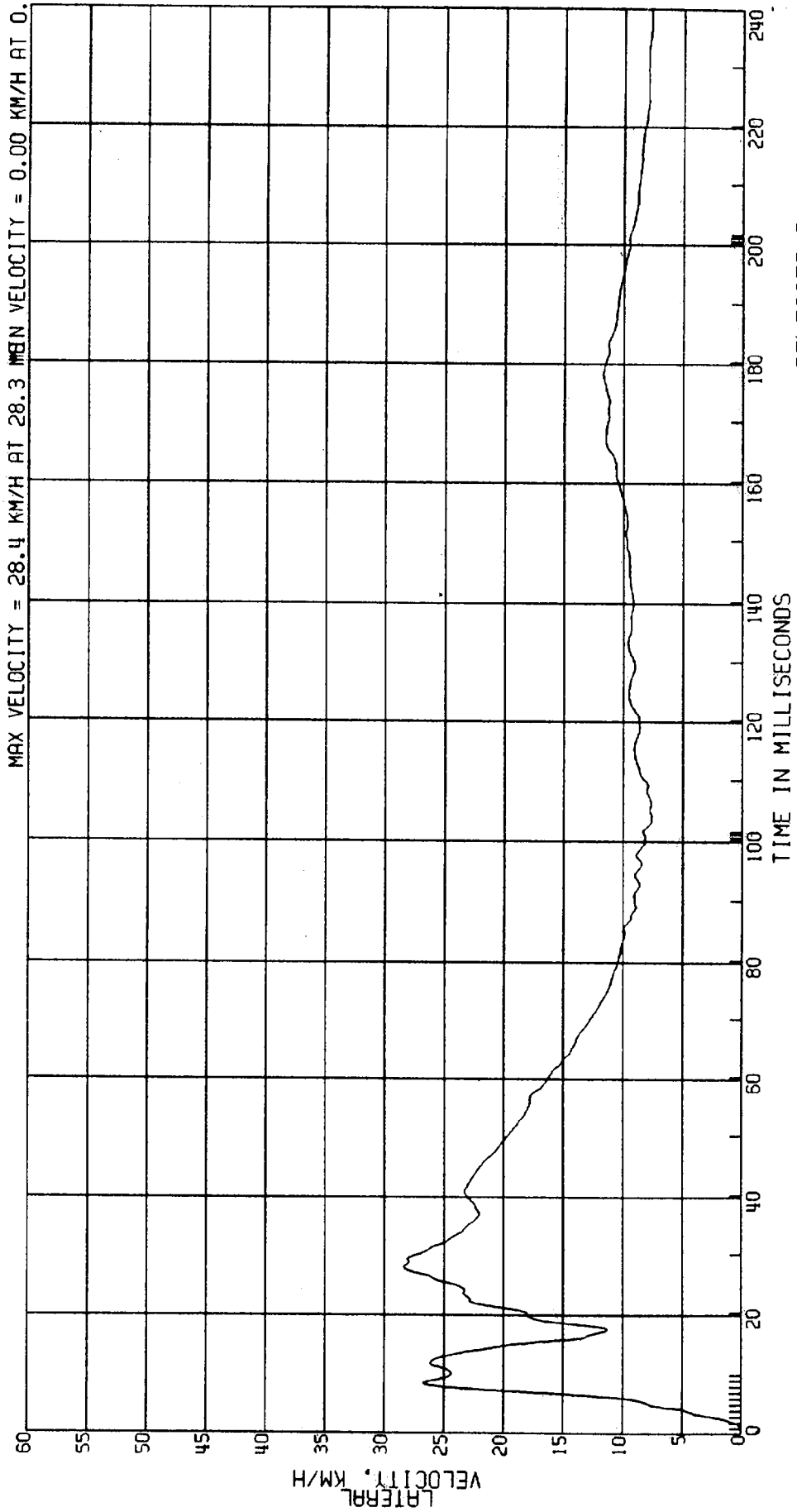


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /2/
3868-905
CPE MVMA 8P 2AF69 DR-SIDE FRT. DOOR NO. 1 ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60

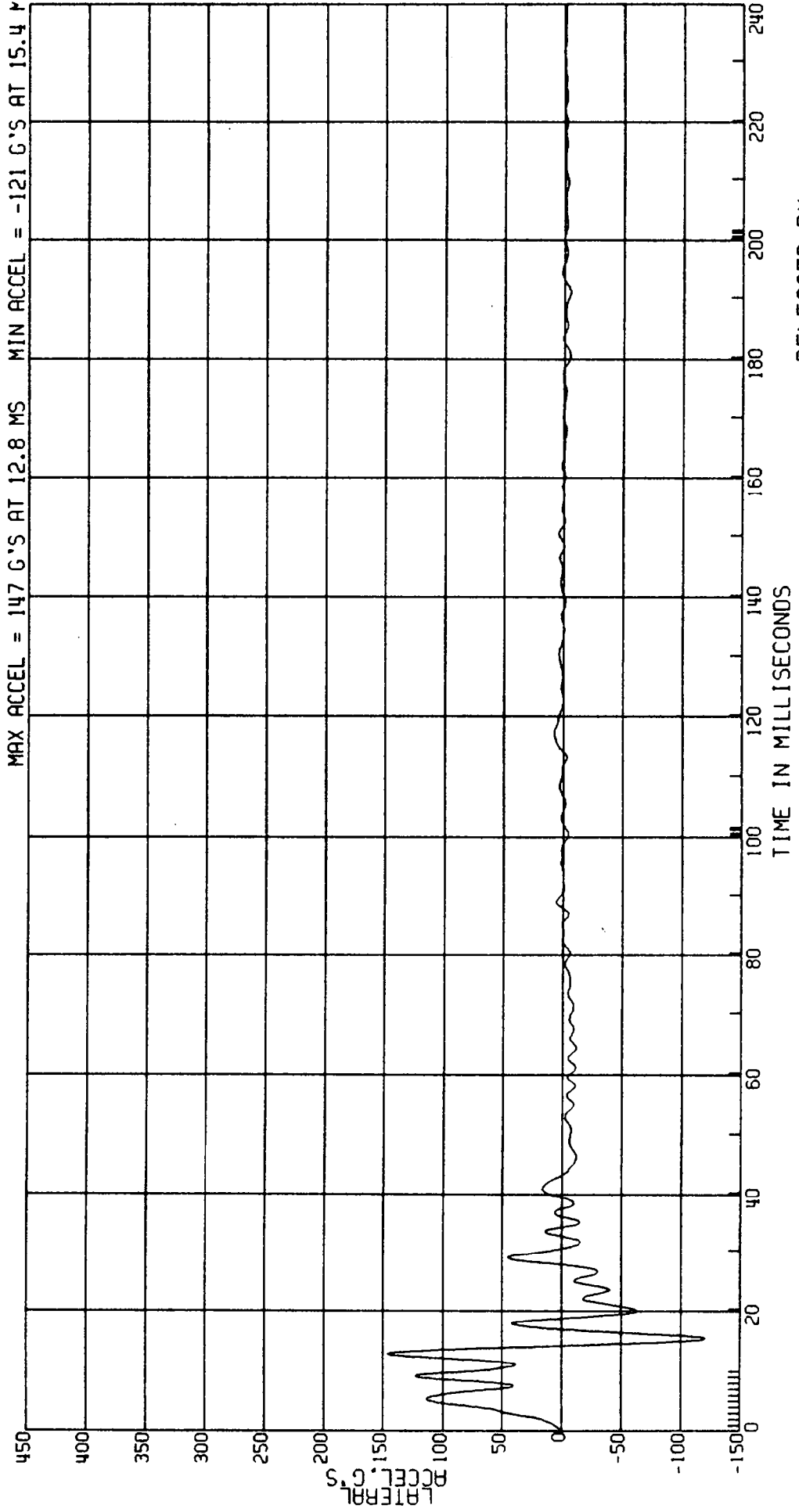


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C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 122
3868-905
CPE MVMA 8P 2AF69 COMPUTED FRT. DOOR NO. 1 VELOCITY TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)

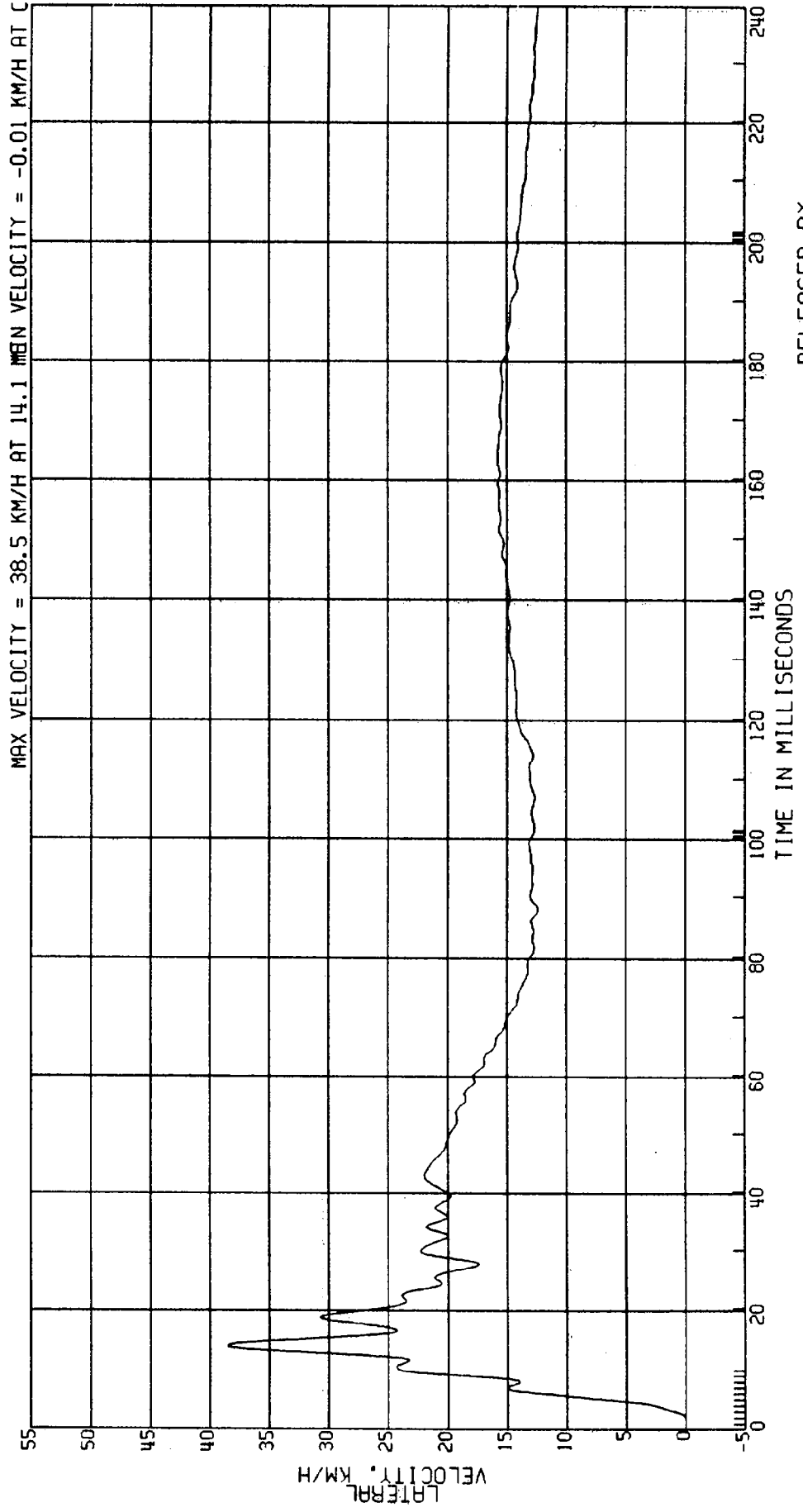


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE / 23
3868-905
CPE MVMA 8P 2AF69 DR-SIDE FRT. DOOR NO. 2 ACCEL. TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 60



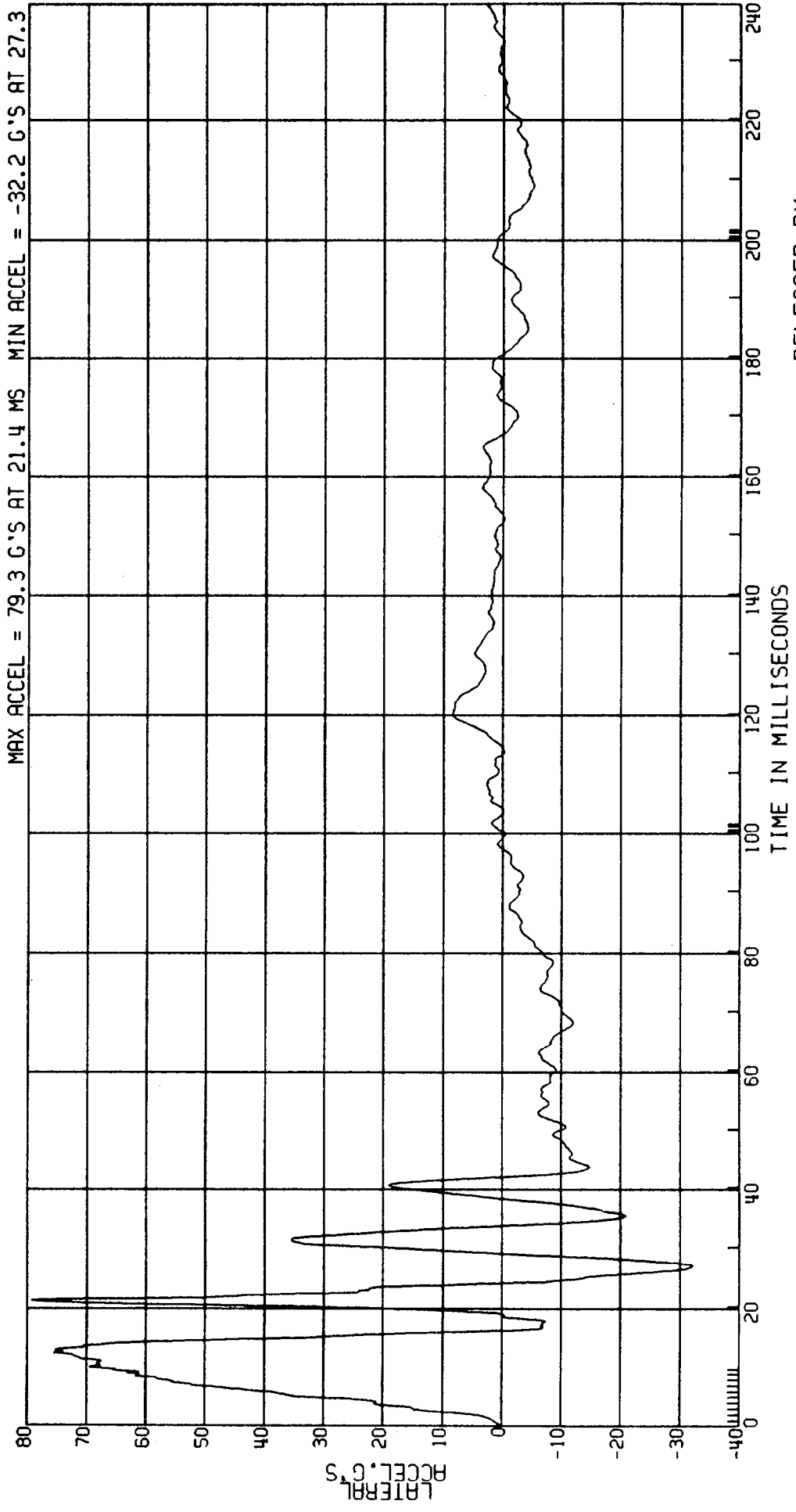
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11 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 124
3868-905
CPE MVMA 8P 2AF69 COMPUTED FRT. DOOR NO. 2 VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



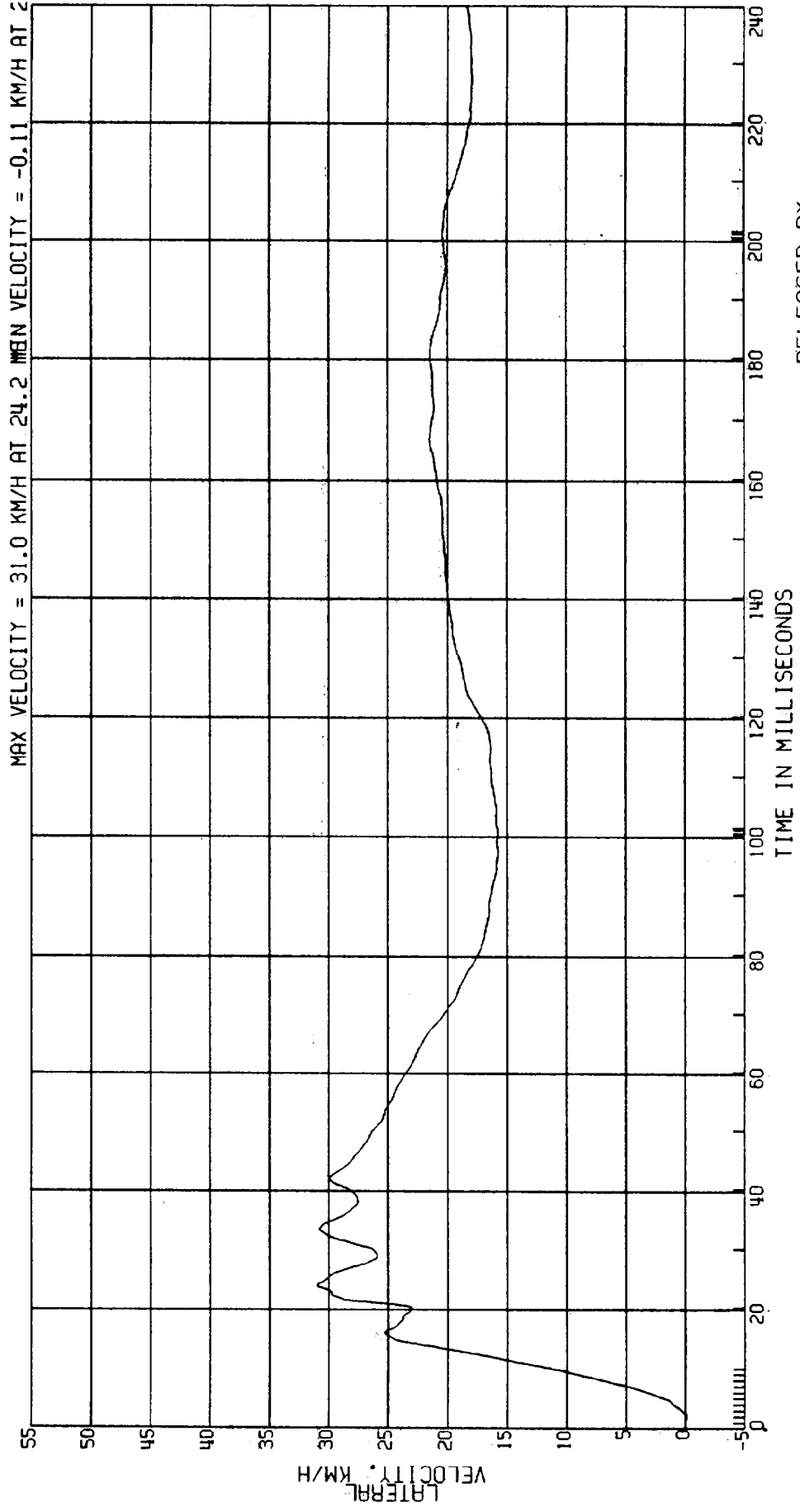
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12 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /25
3868-905
CPE MVMA 8P 2AF69 DR-SIDE FRT. DOOR NO. 3 ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE:03-20-90



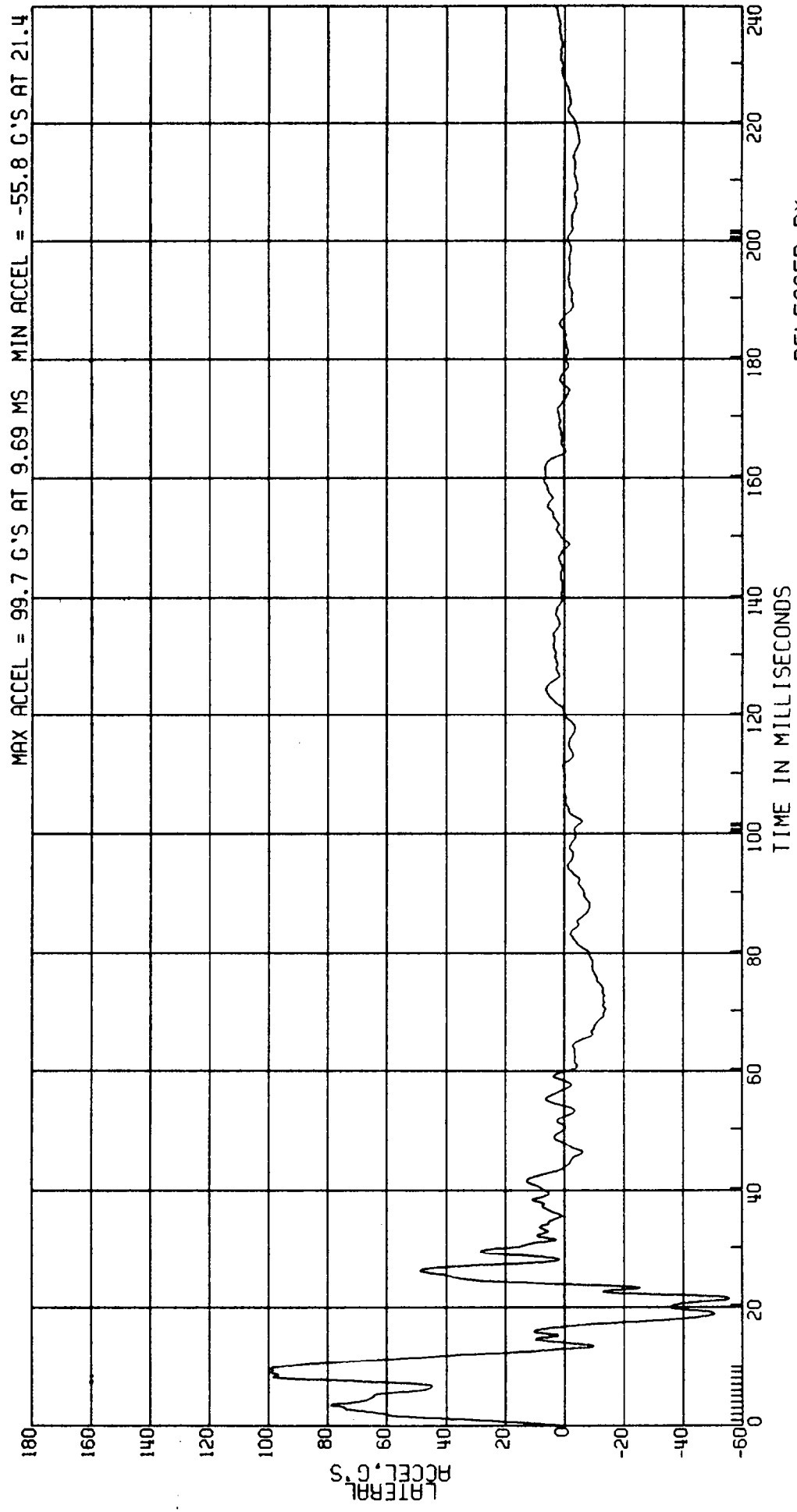
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13 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 126
3868-905
CPE MVMA 8P 2AF69 COMPUTED FRT. DOOR NO. 3 VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



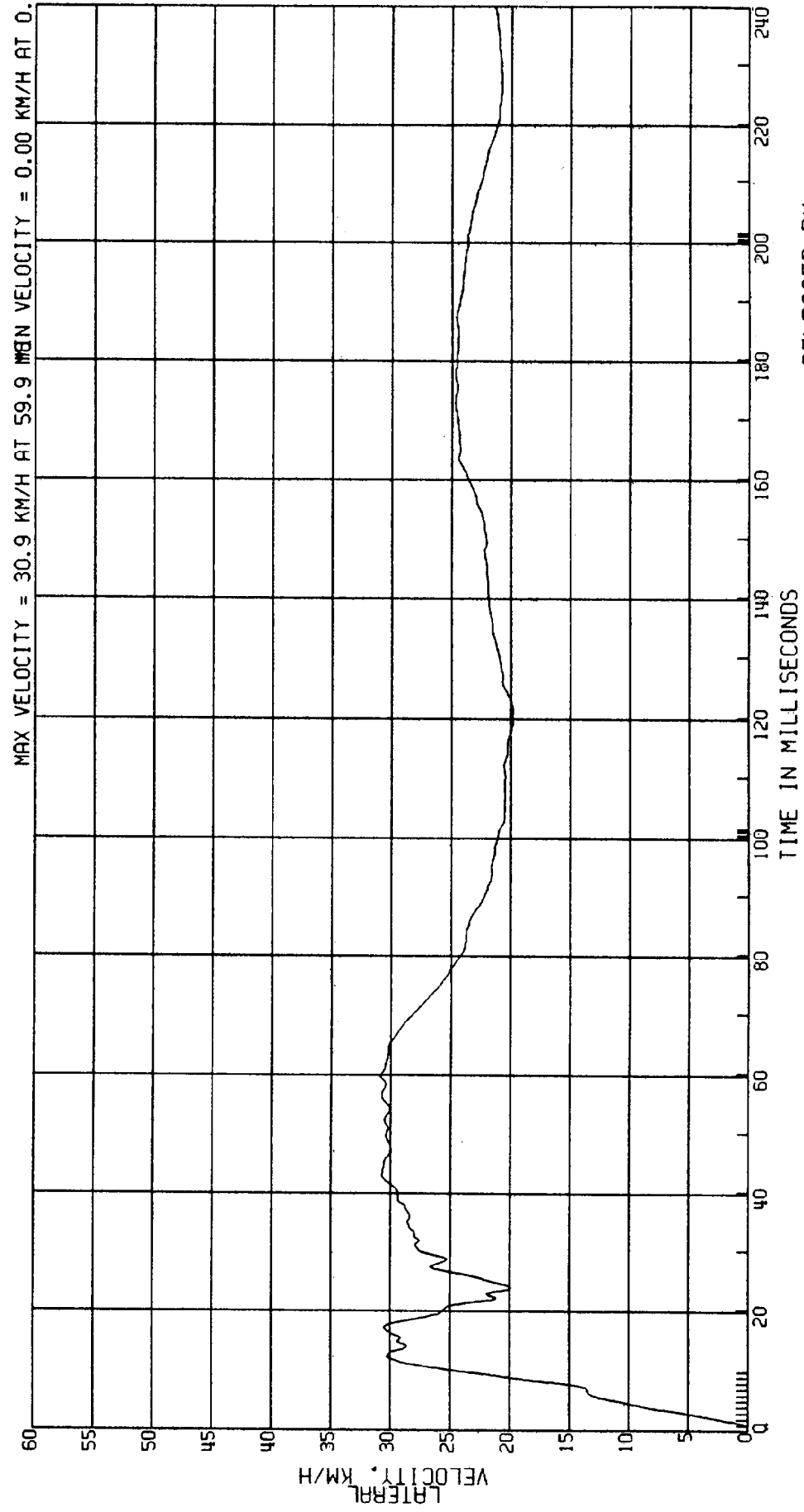
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14 PROCESSED 31MAY90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /27
3868-905
CPE MVMA 8P 2AF69 DR-SIDE FRT. DOOR NO. 4 ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE:03-20-90



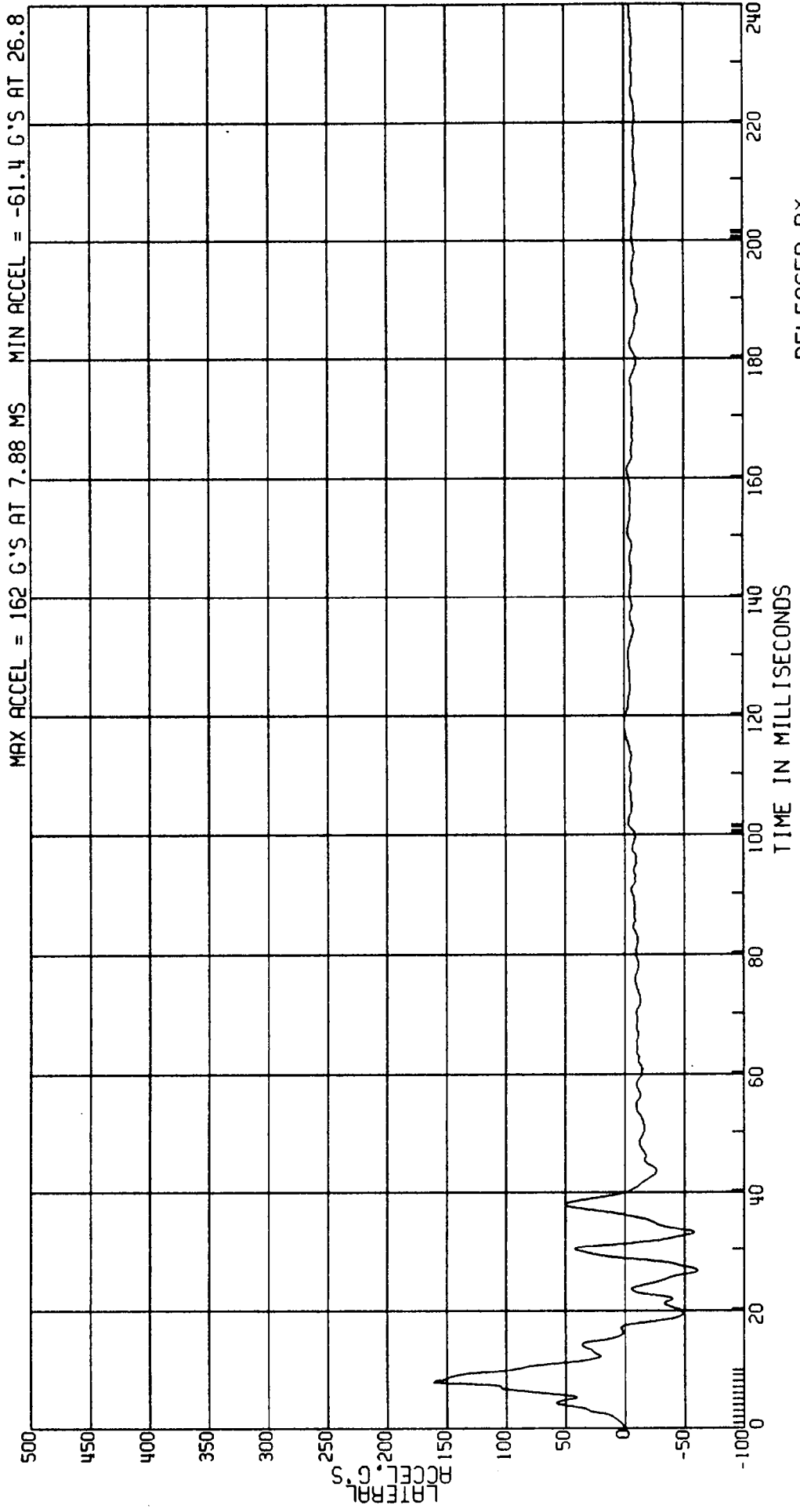
RELEASED BY:
15 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 128
3868-905
CPE MVMA 8P 2AF69 COMPUTED FRT. DOOR NO. 4 VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



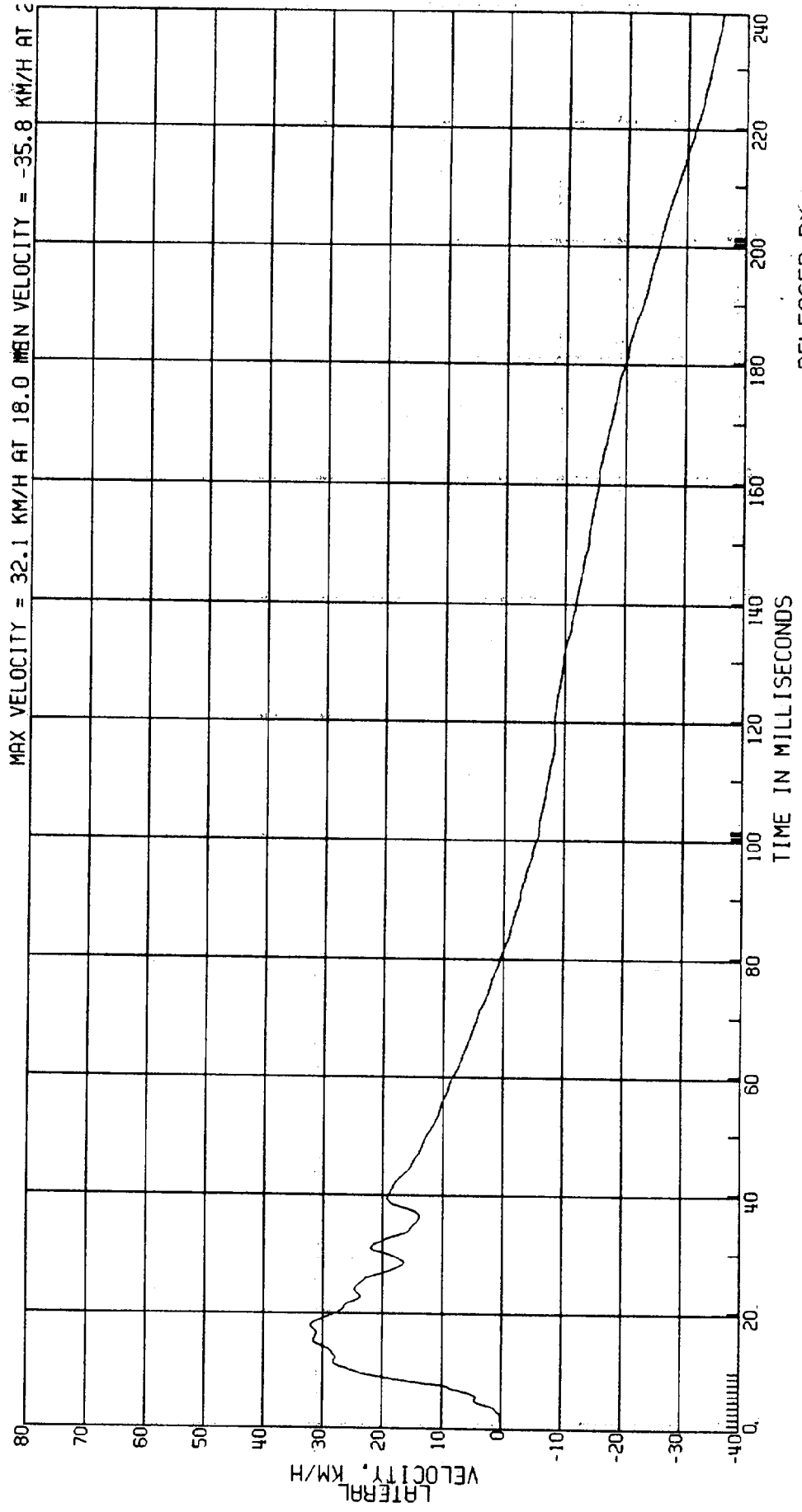
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16 PROCESSED 3-MY-90 11:42

C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 129
3868-905
CPE MVMA 8P 2AF69 DR-SIDE FRT. DOOR NO. 5 ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60

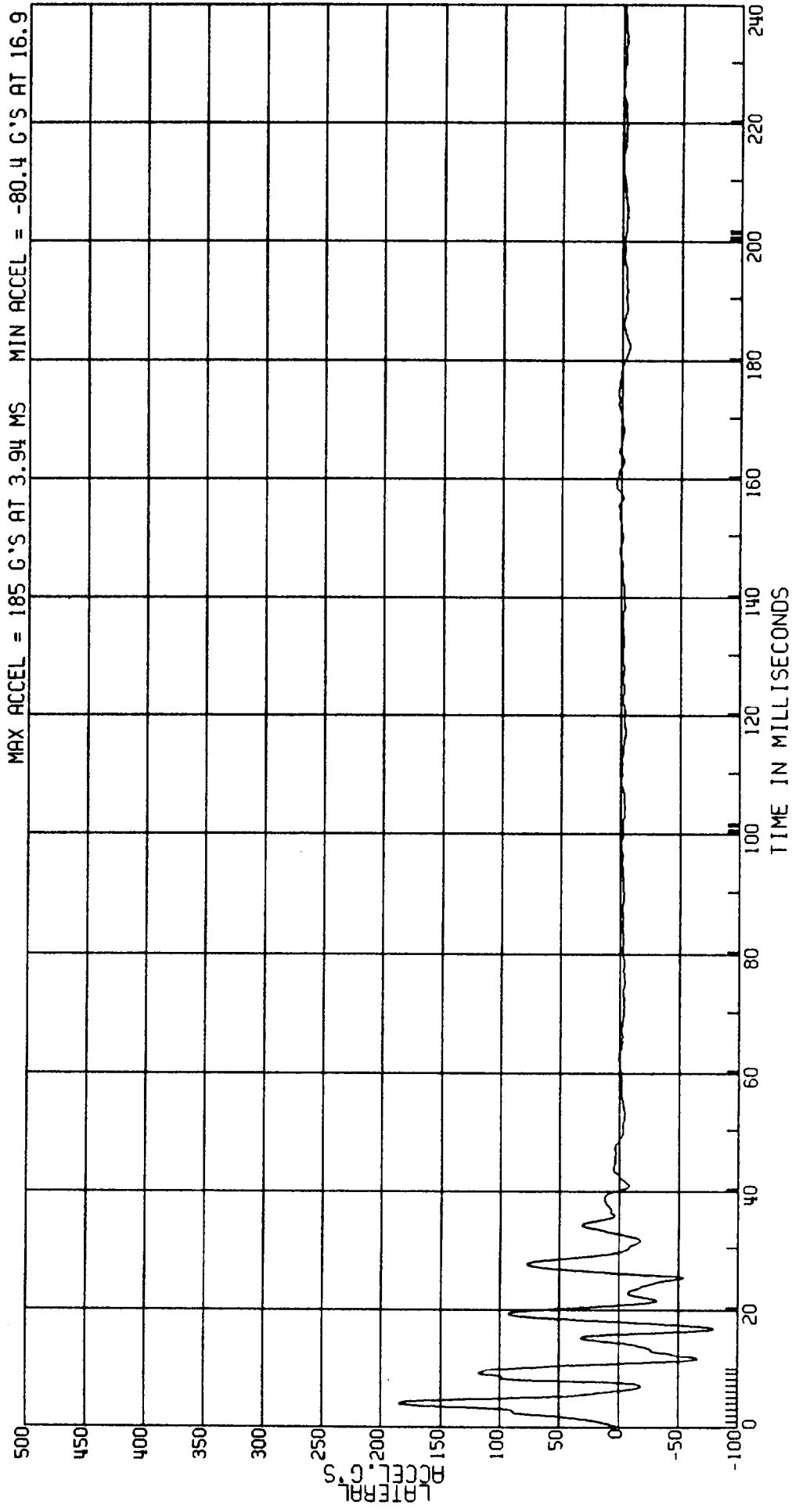


RELEASED BY:
17 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 130
3868-905
CPE MVMA 8P 2AF69 COMPUTED FRT. DOOR NO. 5 VELOCITY TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)

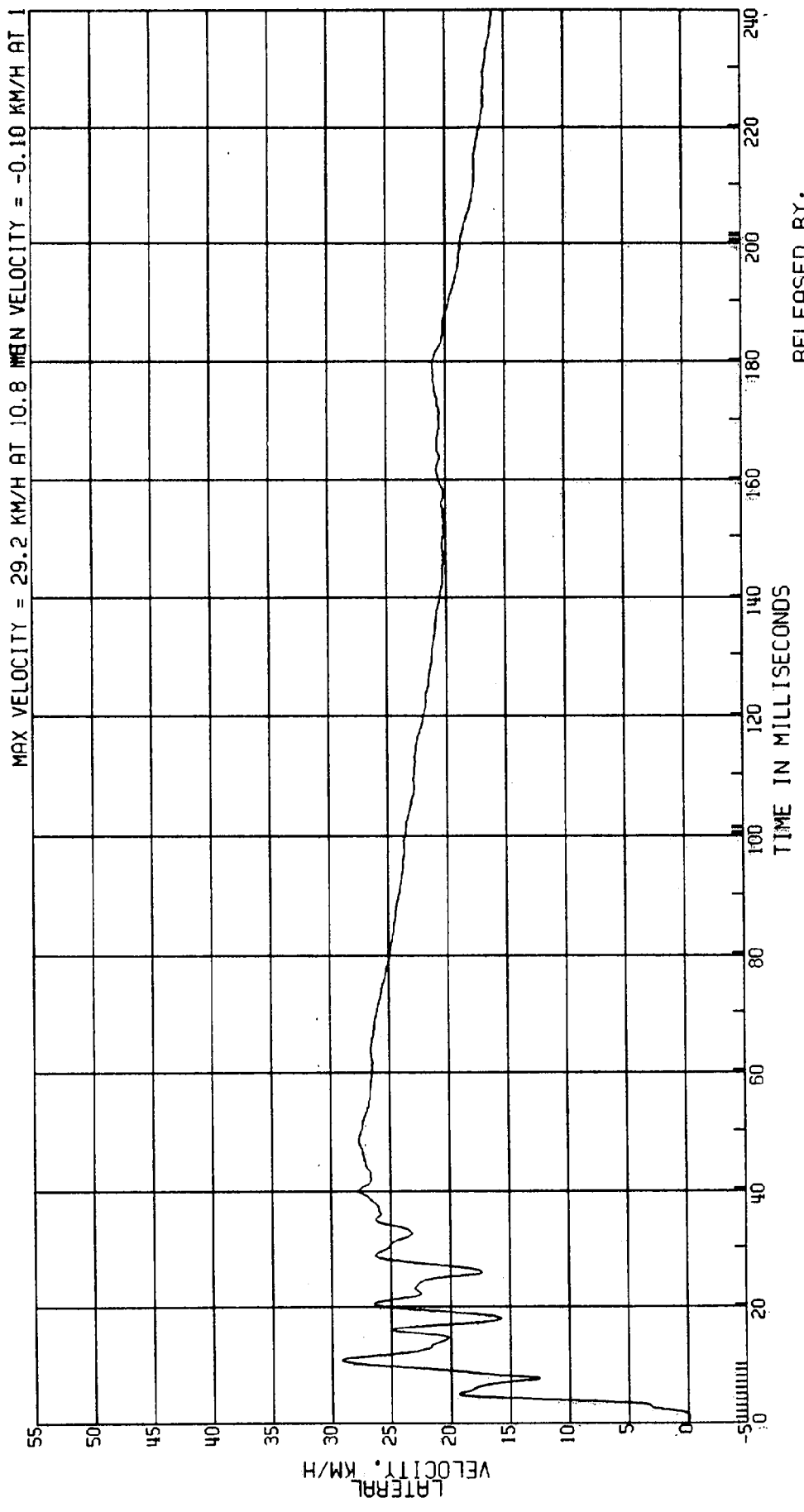


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 13 /
3868-905
CPE MVMA 8P 2AF69 DR-SIDE REAR DOOR NO. 1 ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60



RELEASED BY:
19 PROCESSED 3 MY 90 11:42

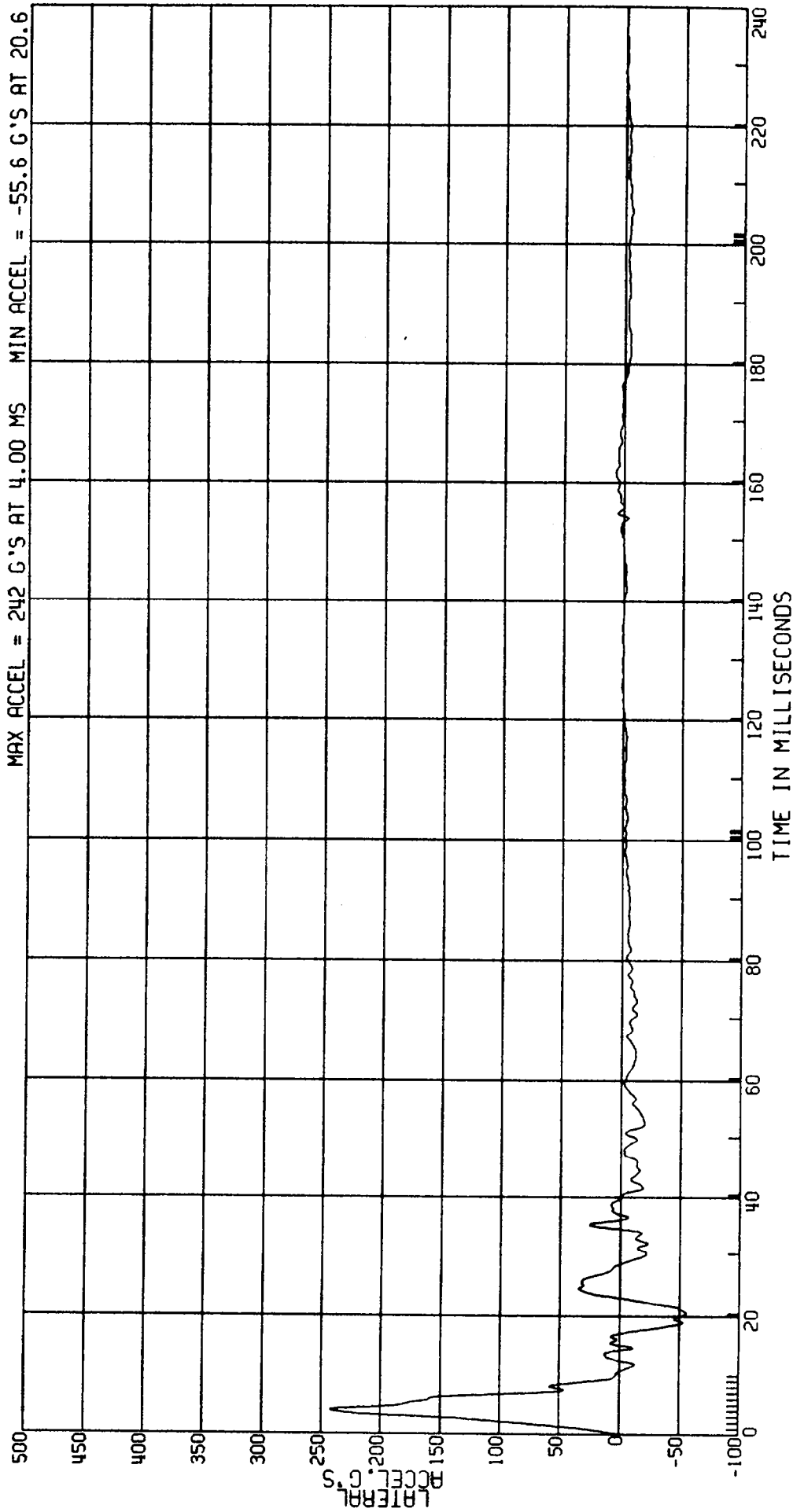
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 132
3868-905
CPE MVMA 8P 2AF69 COMPUTED REAR DOOR NO. 1 VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



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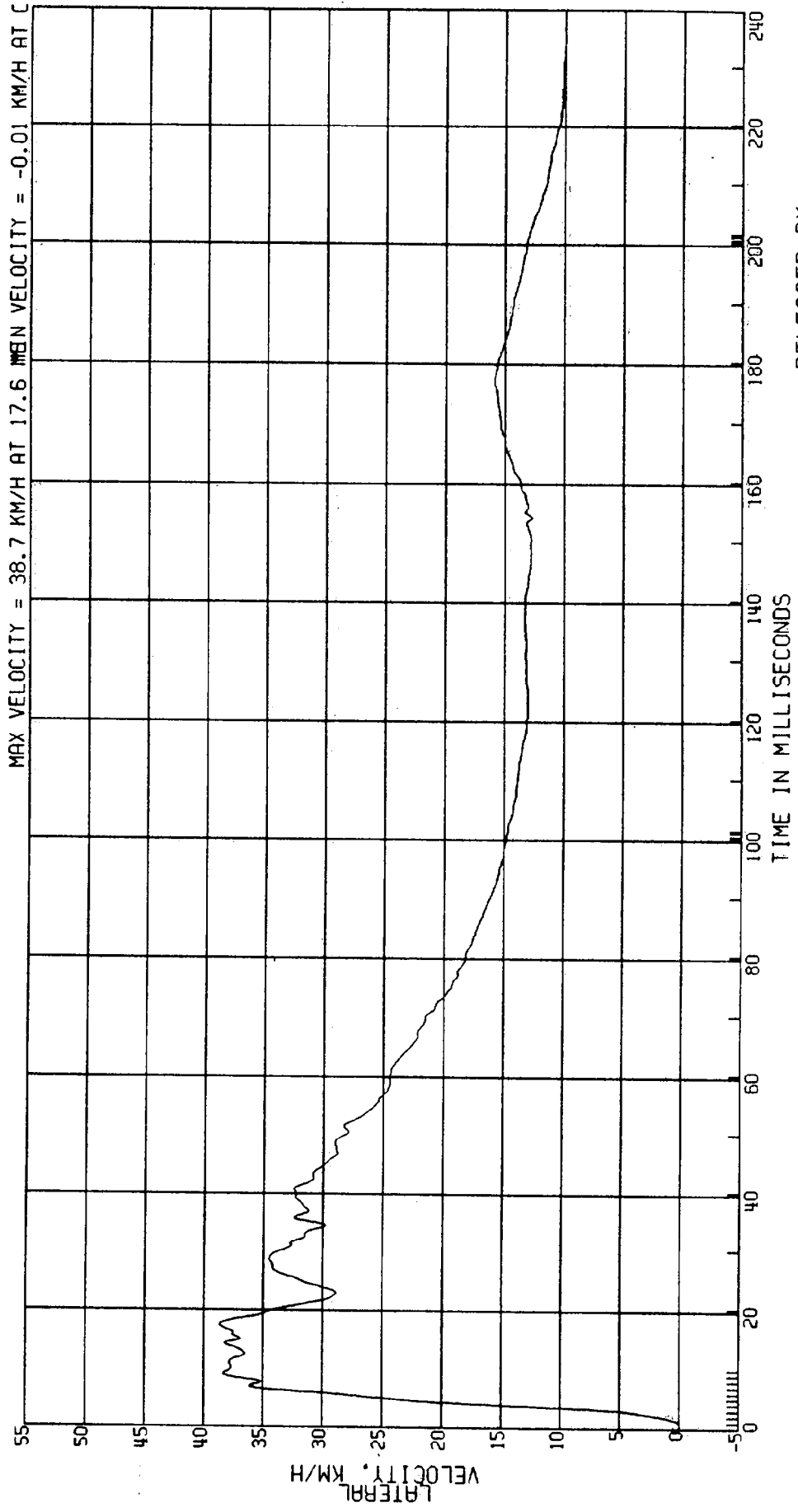
20 PROCESSED 3 MY 90 11:42 AM

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE / 33
3868-905
CPE MVMA 8P 2AF69 DR-SIDE REAR DOOR NO. 2 ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE: 03-20-90



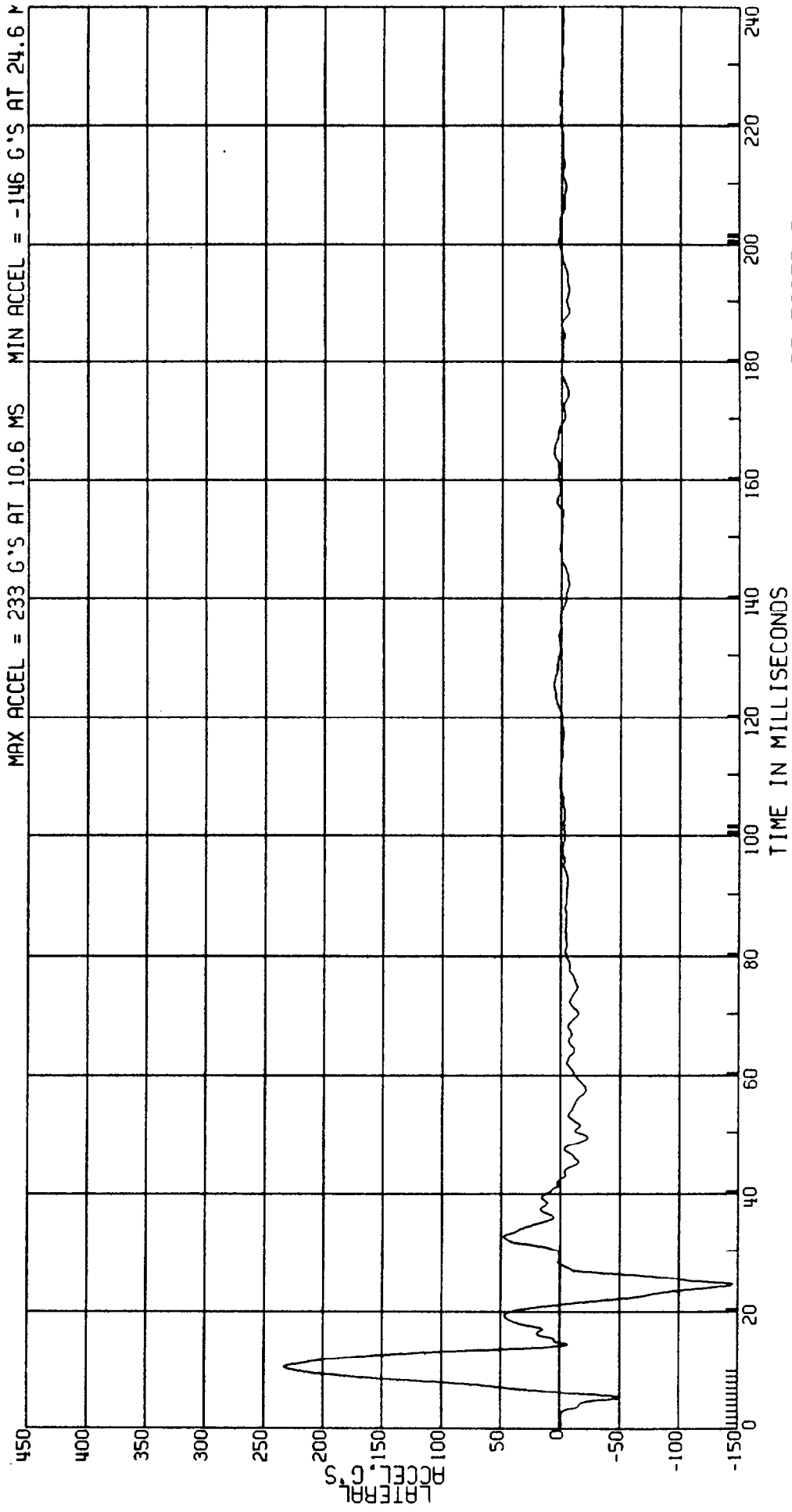
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21 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 134
3868-905
CPE MVMA 8P 2AF69 TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



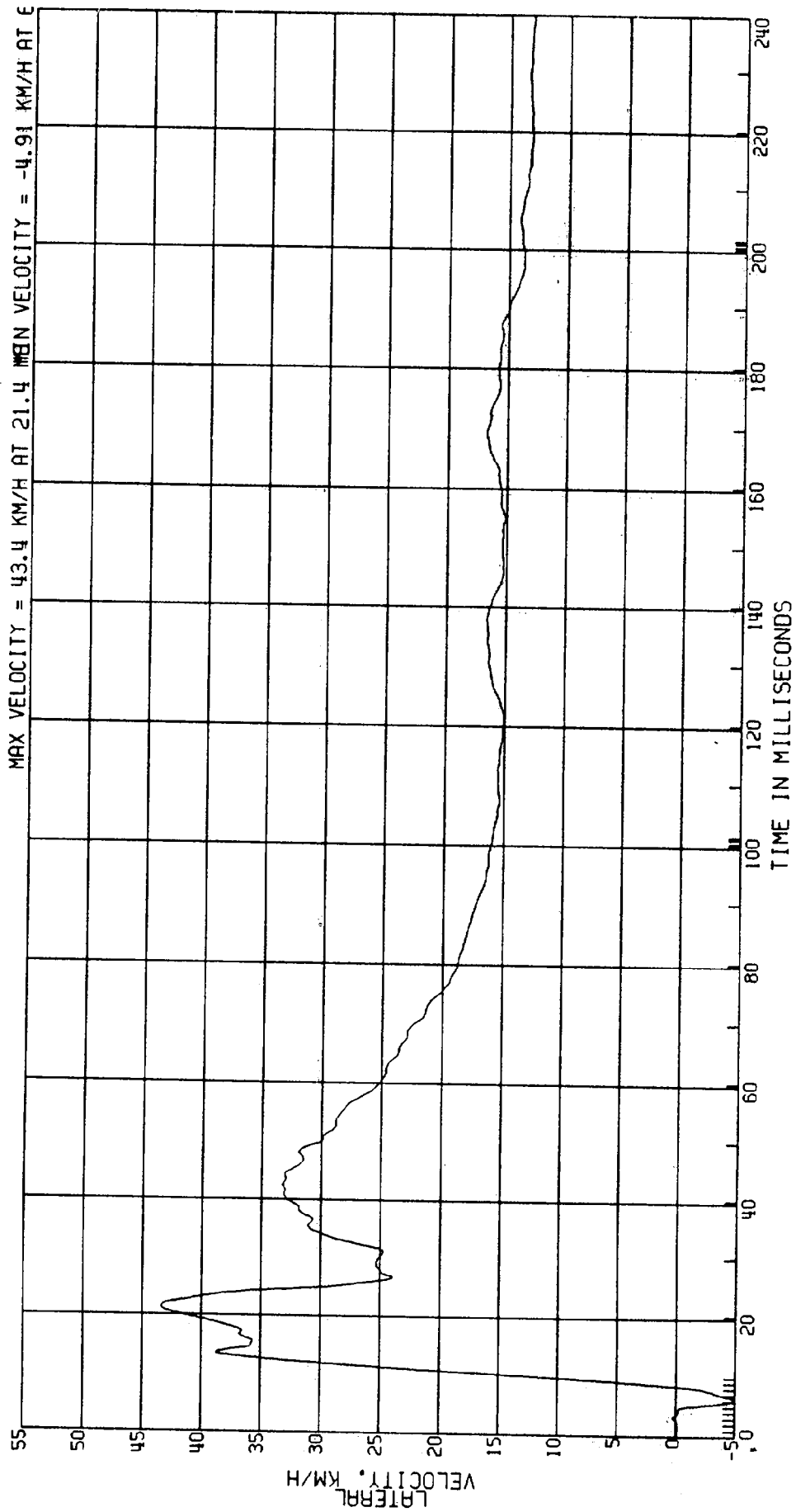
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22 PROCESSED 3 MY 90 11:42:50

C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE /35
3868-905
CPE MVMA 8P 2AF69 DR-SIDE REAR DOOR NO. 3 ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60



RELEASED BY:
23 PROCESSED 3 MY 90 11:42

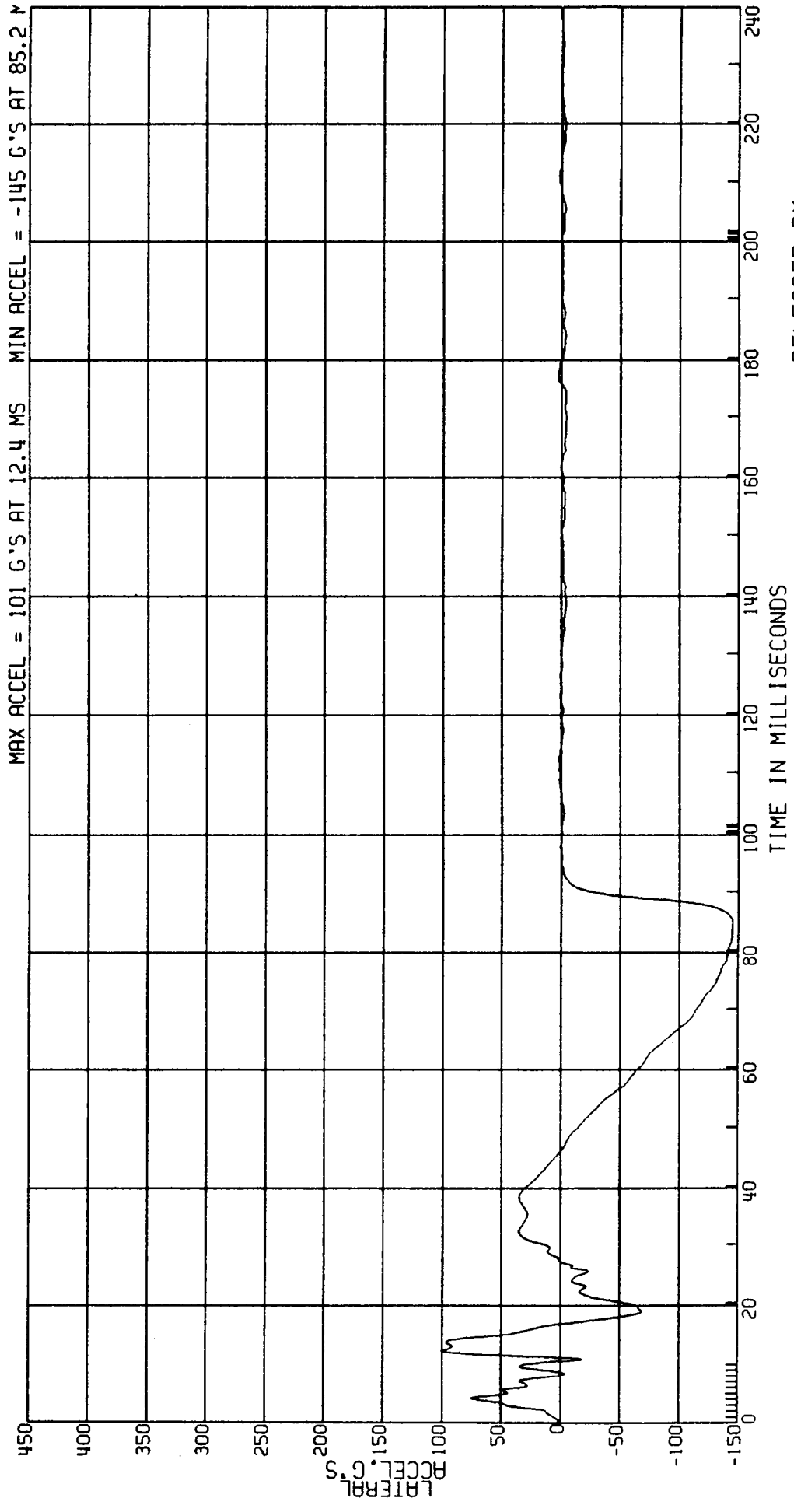
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 136
3868-905
CPE MVMA 8P 2AF69 COMPUTED REAR DOOR NO. 3 VELOCITY TEST DATE:03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



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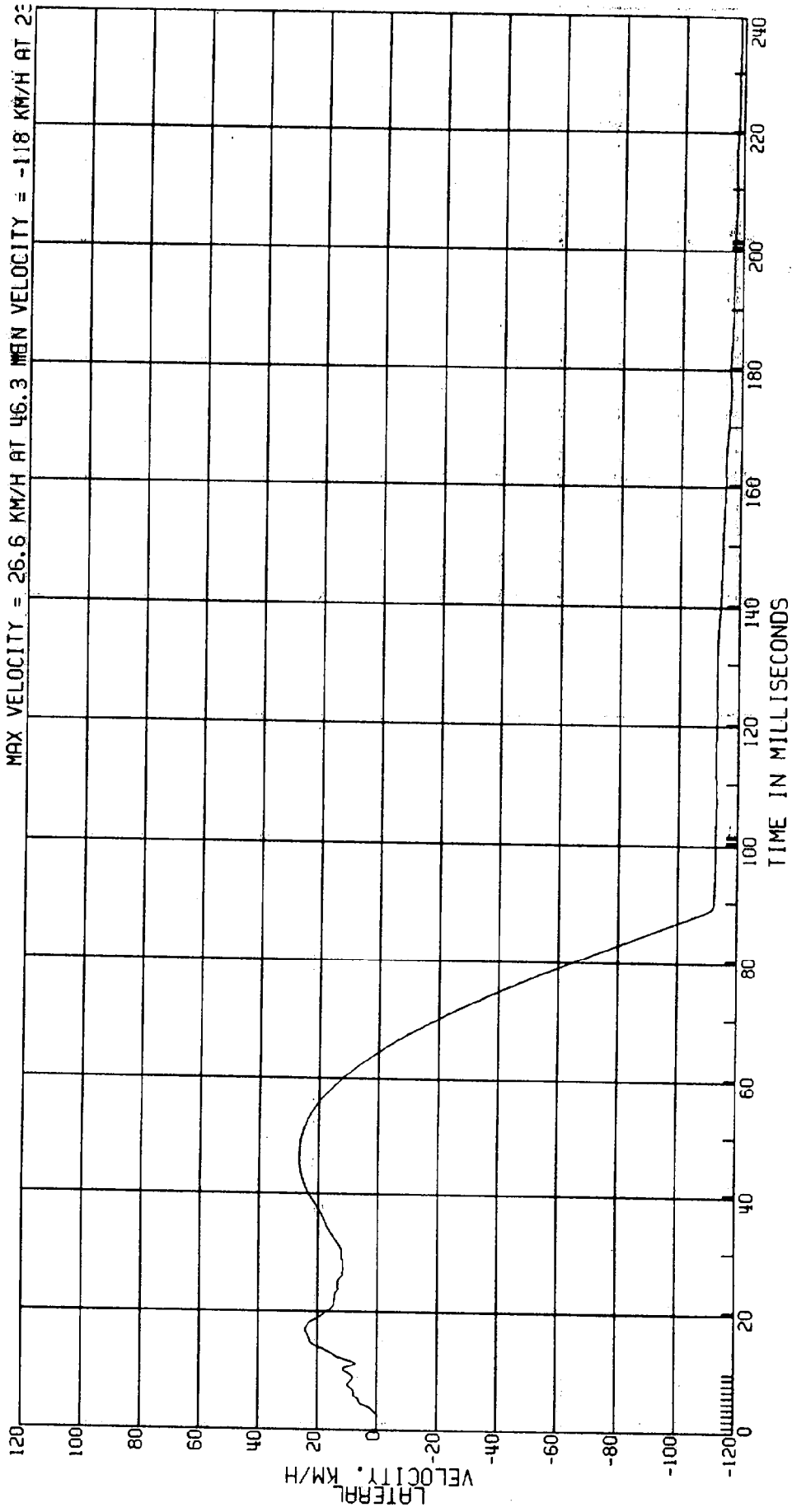
24 PROCESSED 3 MY 90 11:42

C8008A L. SIDE IMPACT - 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 137
3868-905
CPE MVMA 8P 2AF69 DR-SIDE REAR DOOR NO. 4 ACCEL. TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 60

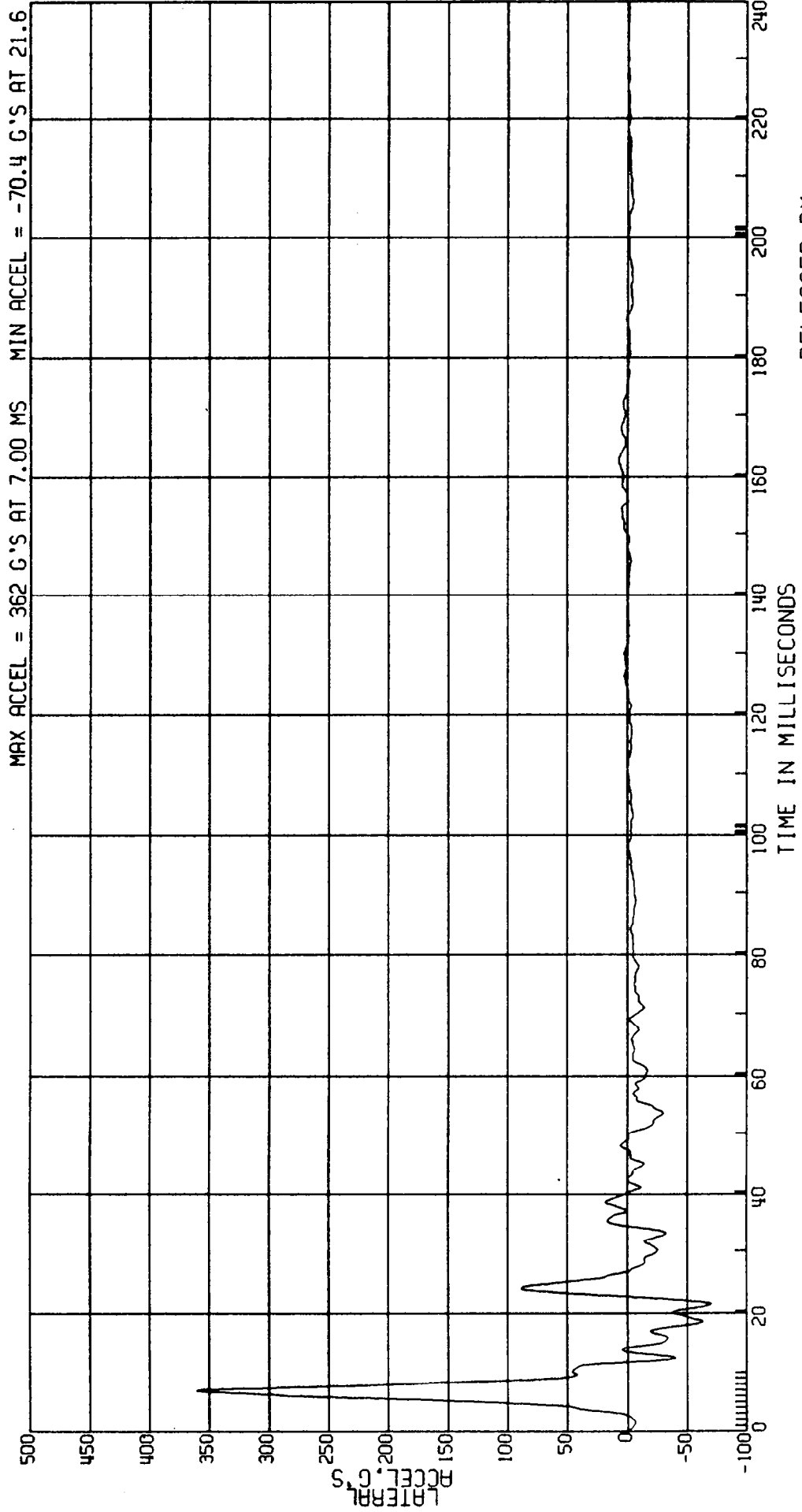


RELEASED BY:
25 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 138
3868-905
CPE MVMA 8P 2AF69 COMPUTED REAR DOOR NO. 4 VELOCITY TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)

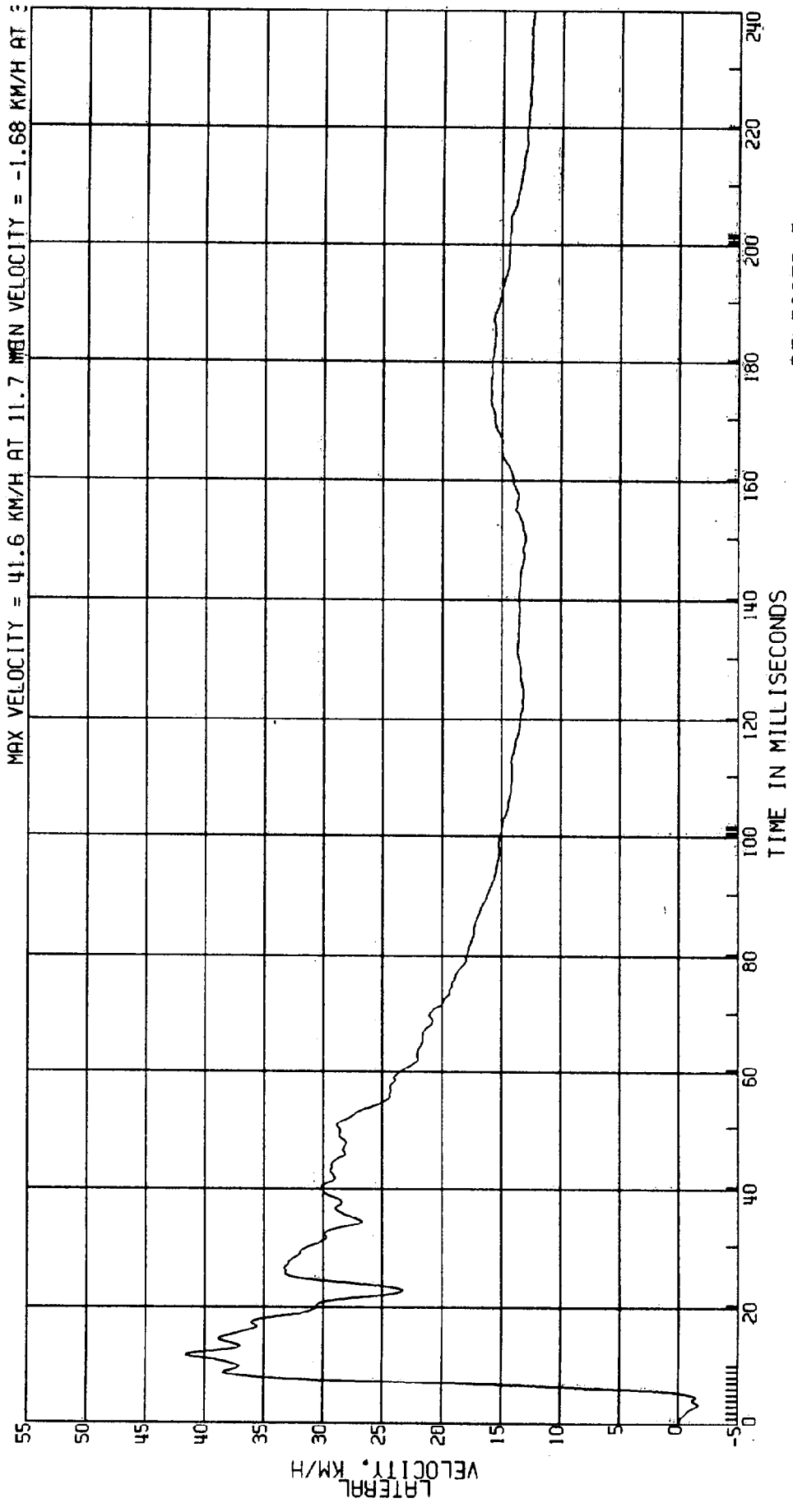


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 139
3868-905
CPE MVMA 8P 2AF69 DR-SIDE REAR DOOR NO. 5 ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60



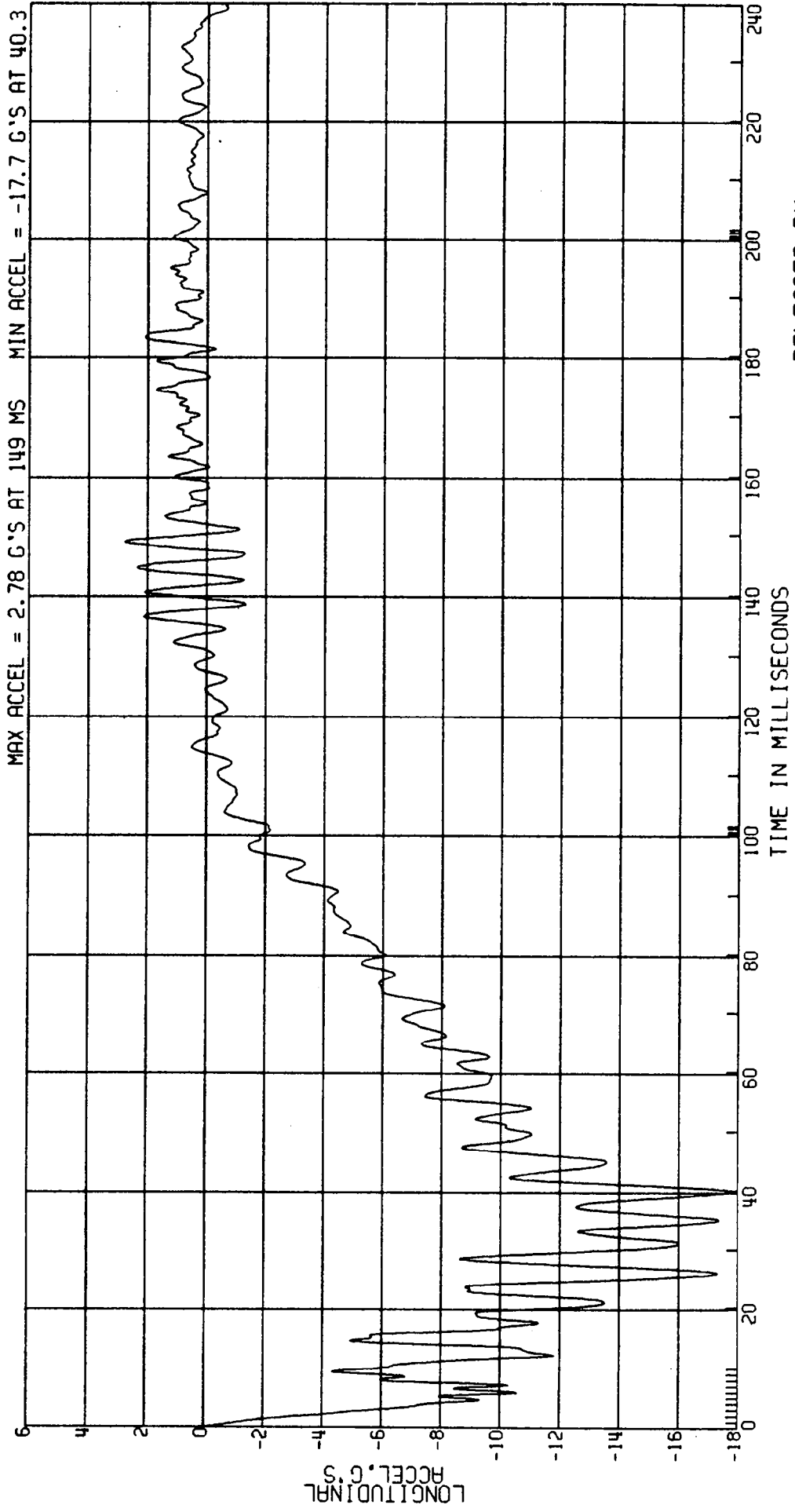
RELEASED BY:
27 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 140
3868-905
CPE MVMA 8P 2AF69 COMPUTED REAR DOOR NO. 5 VELOCITY TEST DATE: 03-20-90
ELEC DATA, SAE CLASS 180 (1ST INTEGRAL OF DR-SIDE ACCELERATION)



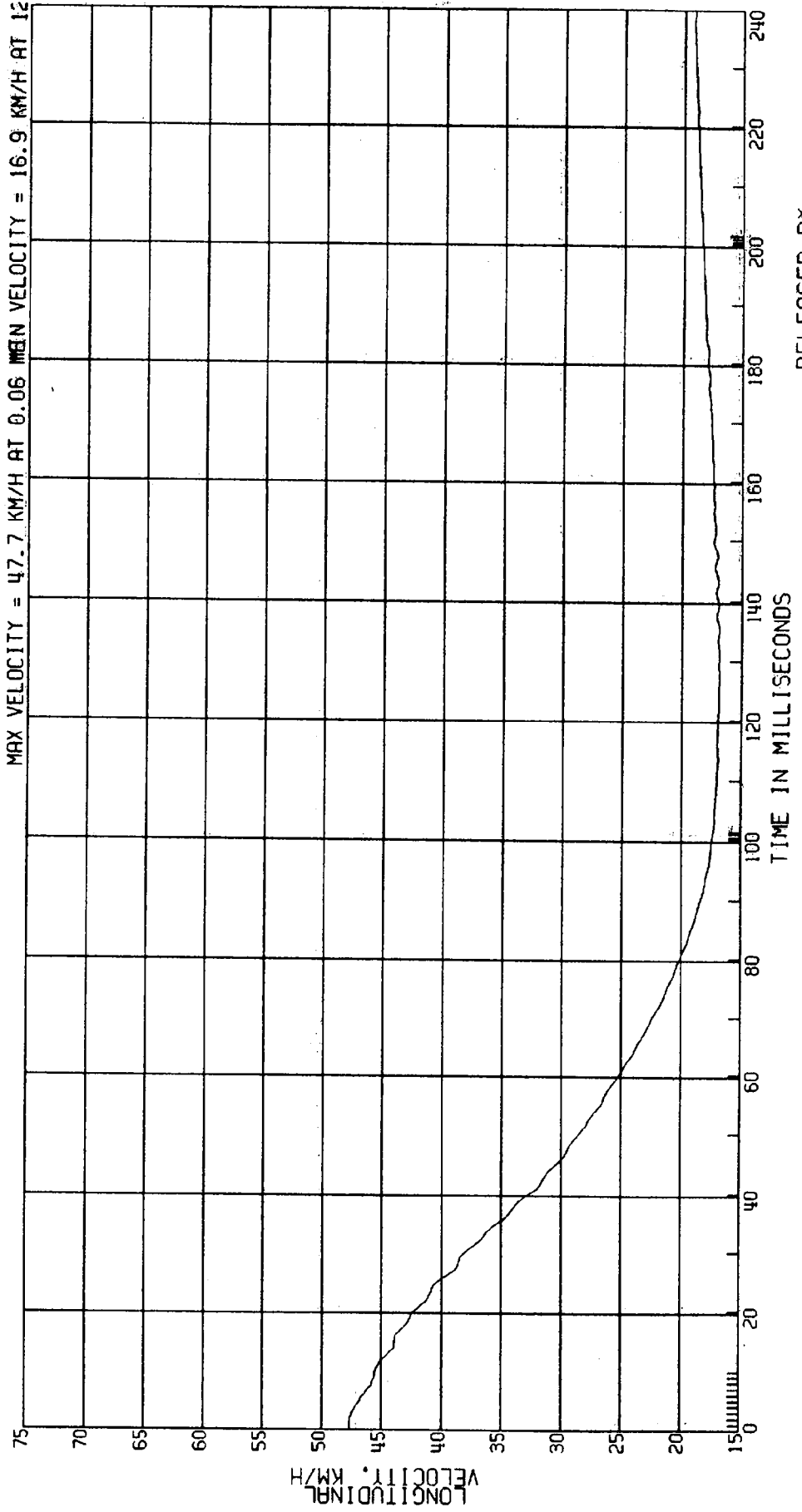
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28 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 14/
3868-905
CPE MVMA 8P 2AF69 M.D.B. AT C.G. ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE:03-20-90



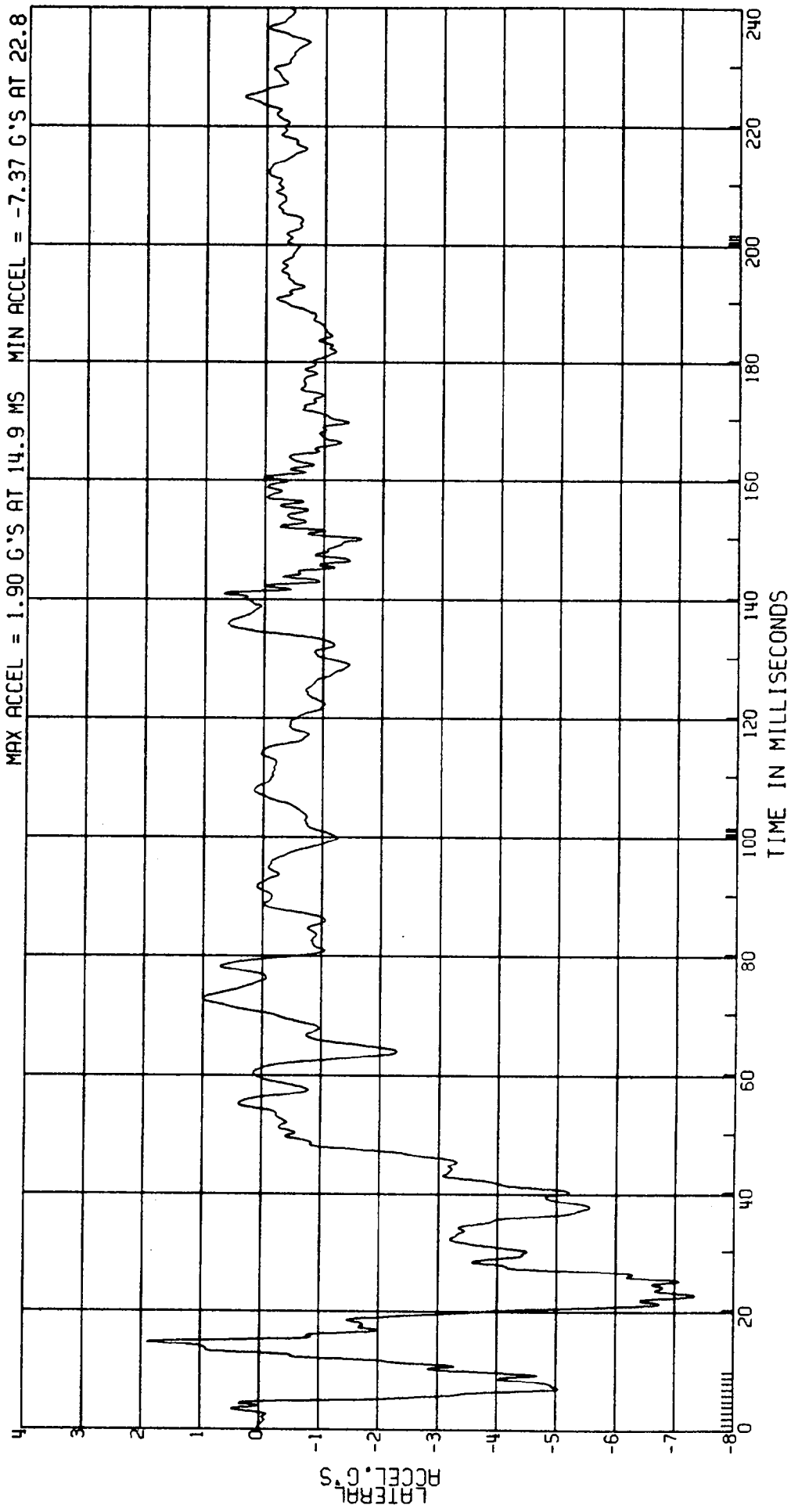
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55 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 14a
 3868-905
 CPE MVMA 8P 2AF69 COMPUTED M.D.B. AT C.G. VELOCITY TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.6KPH* $\cos 27$ DEG)



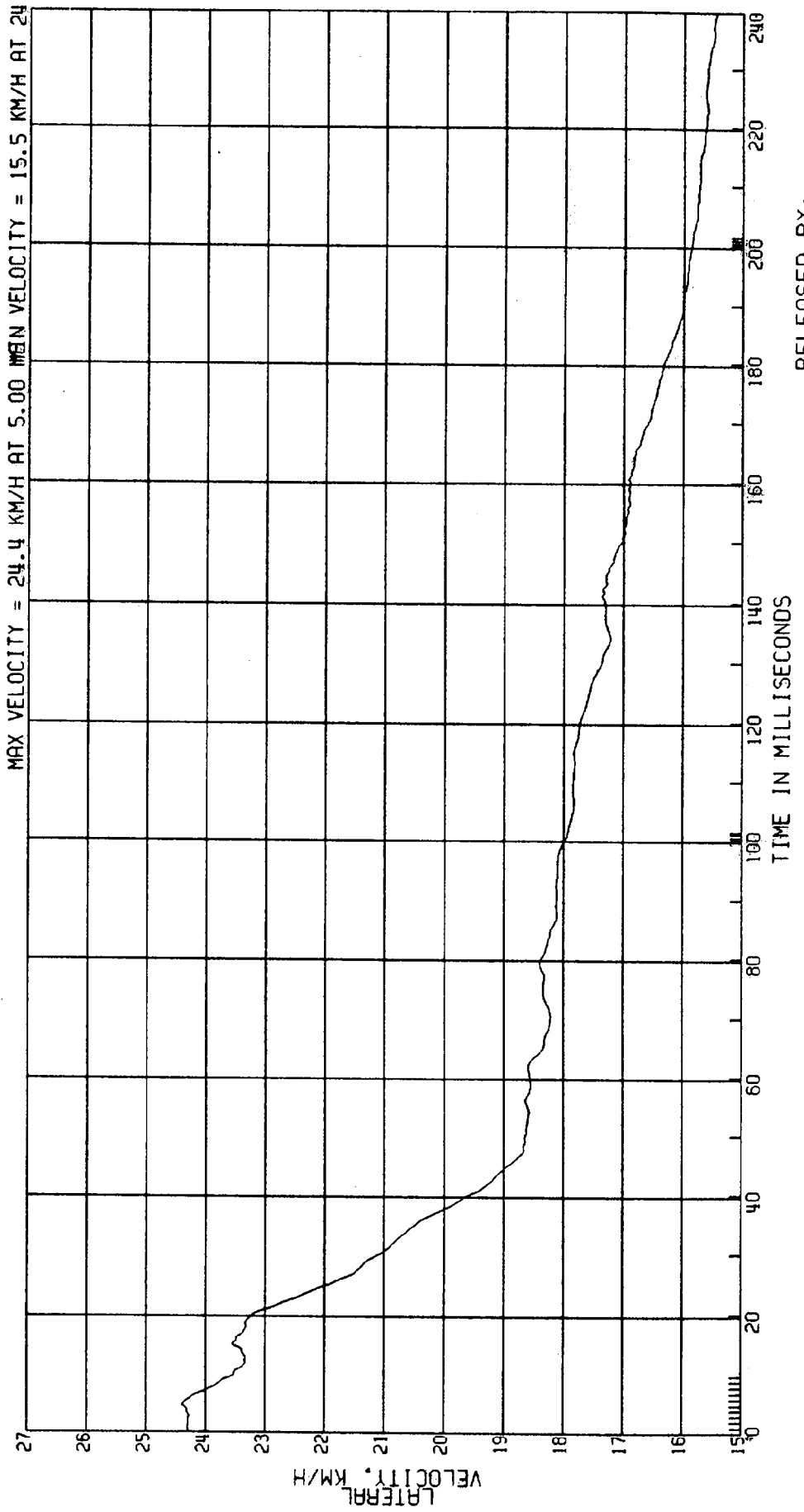
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 561 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 143
3868-905
CPE MVMA 8P 2AF69 M.D.B. AT C.G. ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE:03-20-90



RELEASED BY:
57 PROCESSED 3 MY 90 11:43

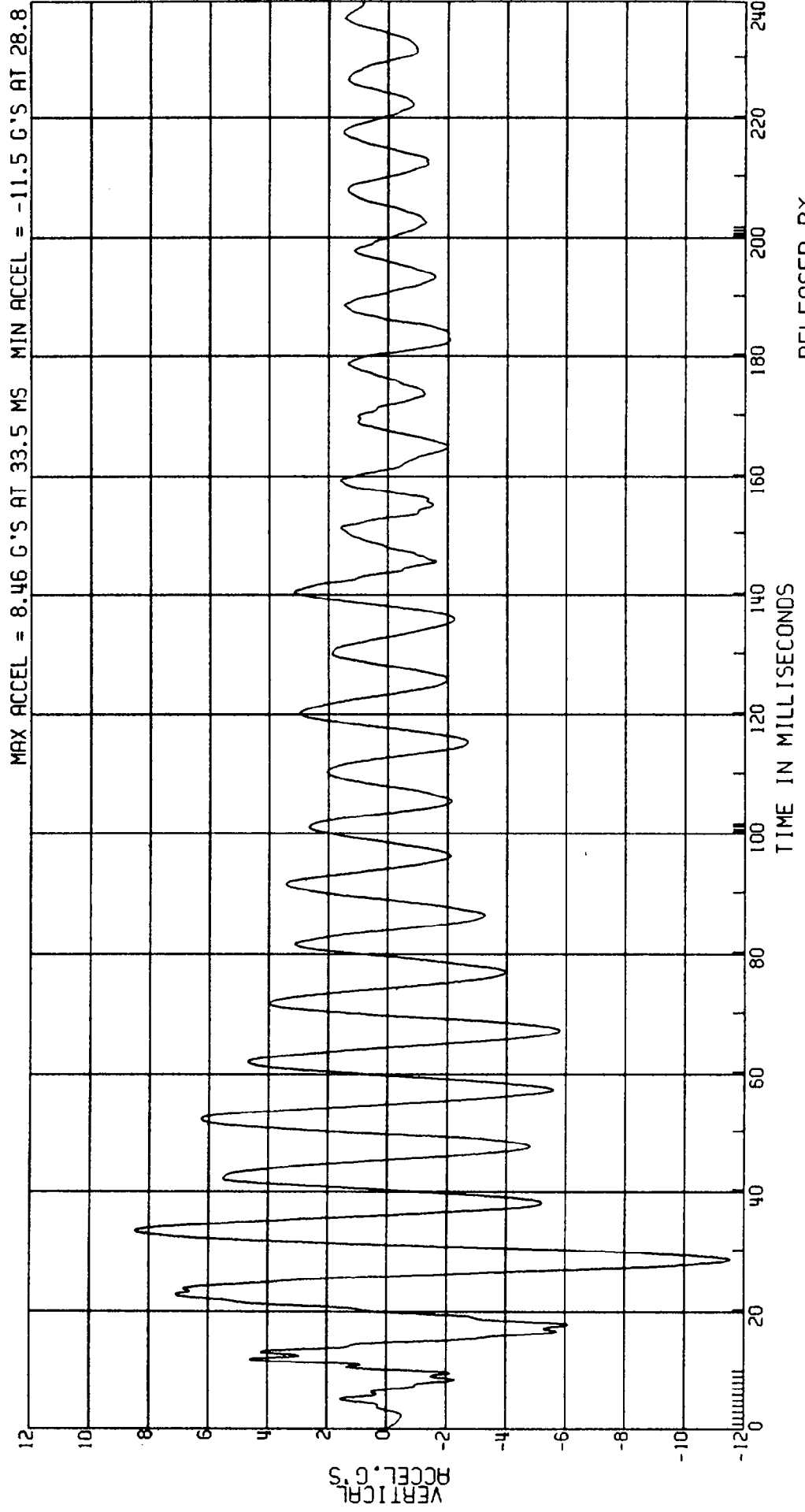
C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 144
 3868-905
 CPE MVMA 8P 2AF69 COMPUTED M.D.B. AT C.G. VELOCITY TEST DATE: 03-20-90
 ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.6 KPH * SIN 27 DEG)



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58 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 145
3868-905
CPE MVMA 8P 2AF69 M.D.B. AT C.G. ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60

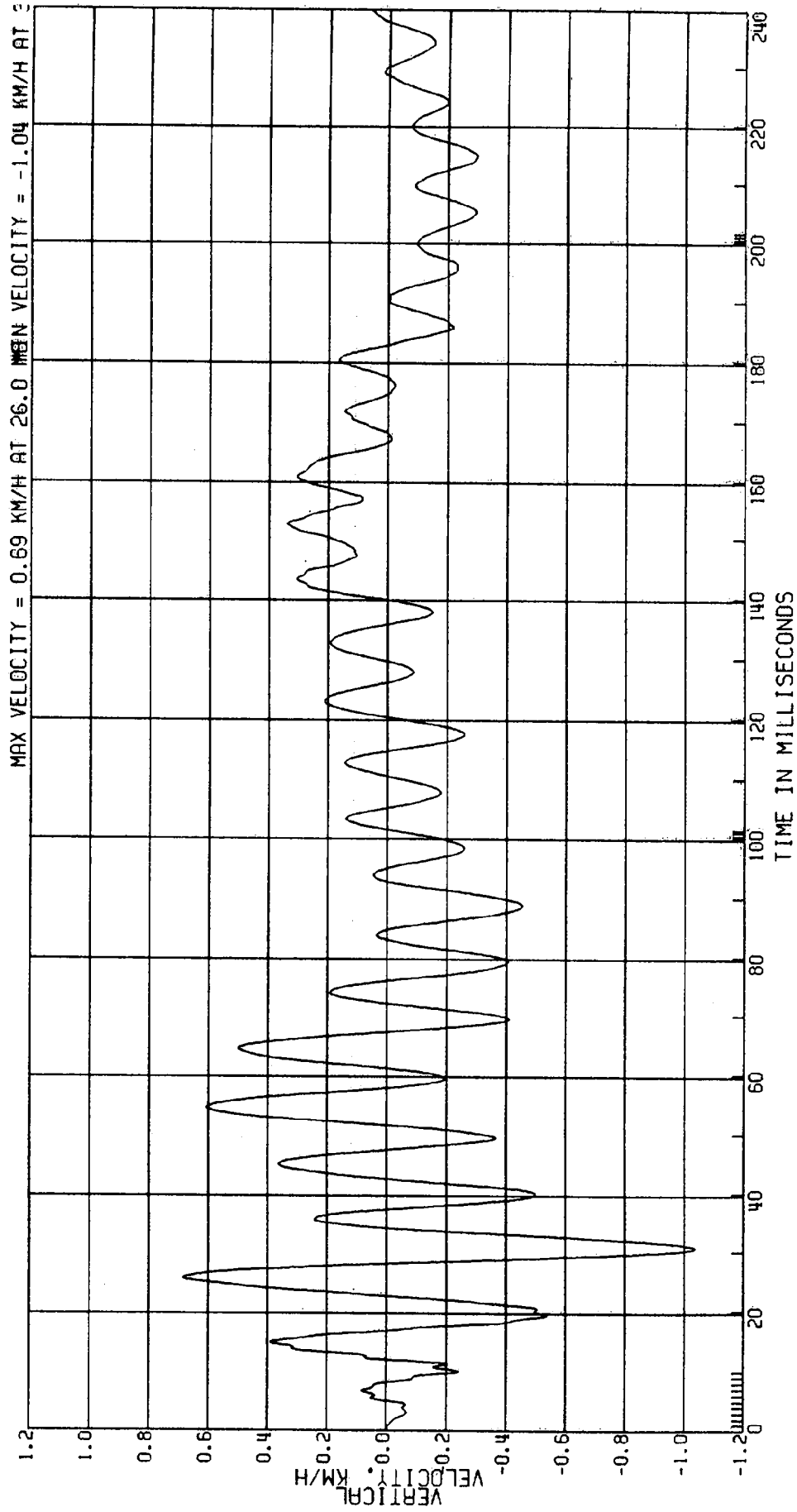


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59 PROCESSED 3 MY 90 11:43

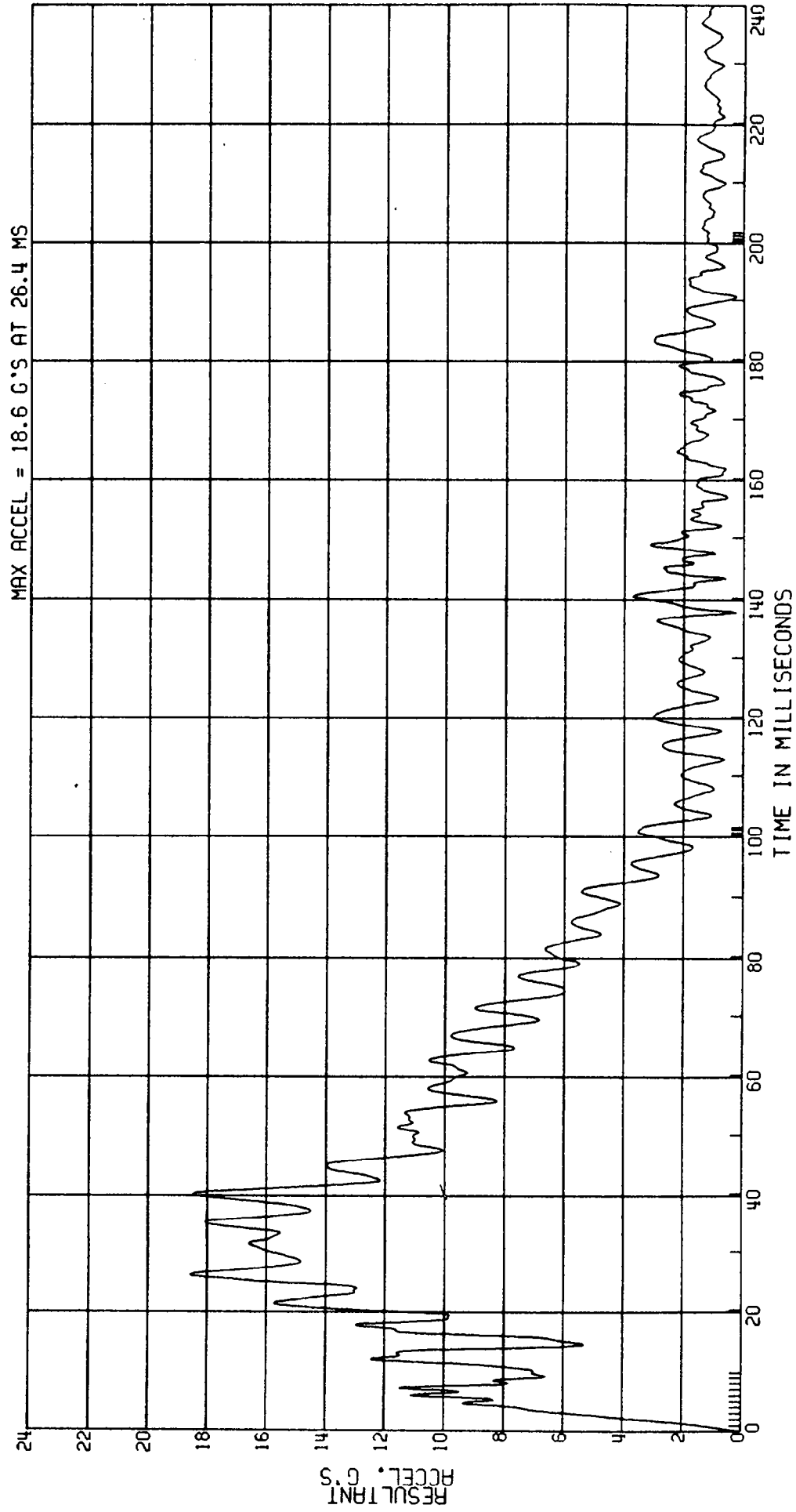
38008A L. SIDE IMPACT- 27 DEG
3868-905
CPE MVMA 8P 2AF69
ELEC DATA, SAE CLASS 180

MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE 146
COMPUTED M.D.B. AT C.G. VELOCITY
(1ST INT OF ACCELERATION)

TEST DATE: 03-20-90

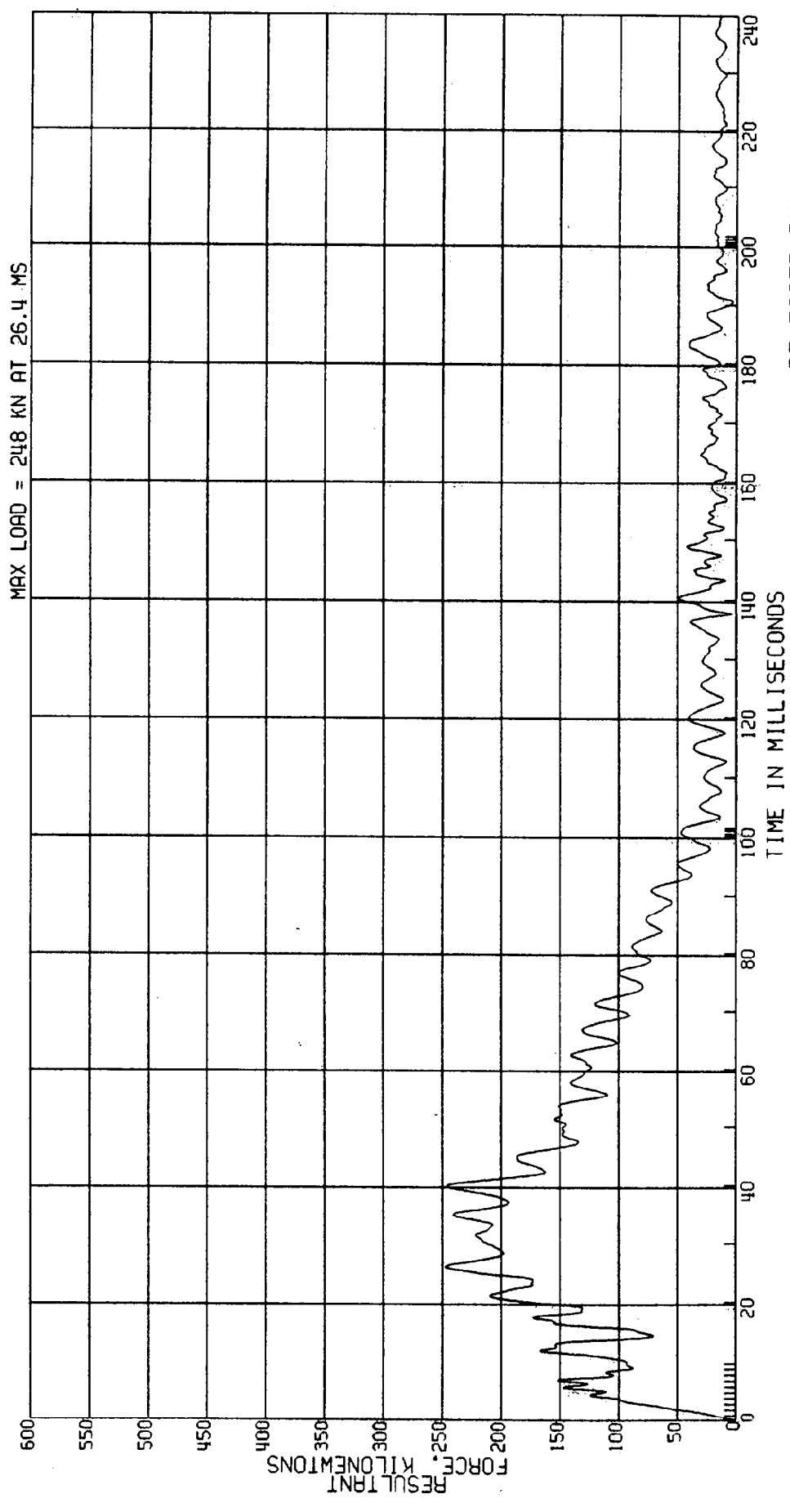


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 147
3868-905
CPE MVMA 8P 2AF69 M.D.B. AT C.G. ACCEL.
ELEC DATA, SAE CLASS 60 (VEC SUM OF C.G. ACCELERATIONS) TEST DATE:03-20-90



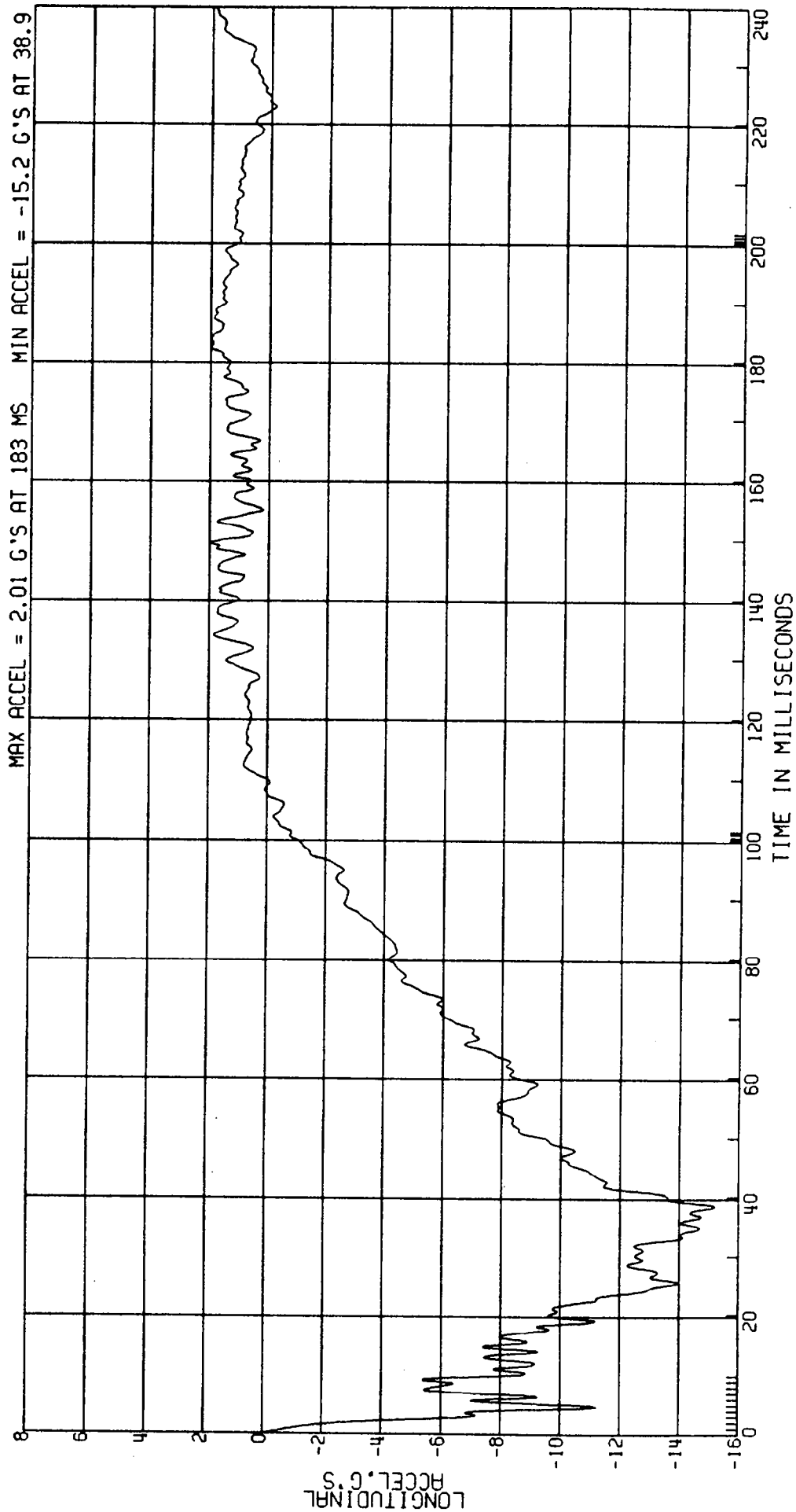
RELEASED BY:
61 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 148
 3868-905
 CPE MYMA 8P 2AF69 COMPUTED M.D.B. AT C.G. FORCE TEST DATE:03-20-90
 ELEC DATA. SAE CLASS 60 (1359.5KG) (9.807) (RESULTANT ACCEL)



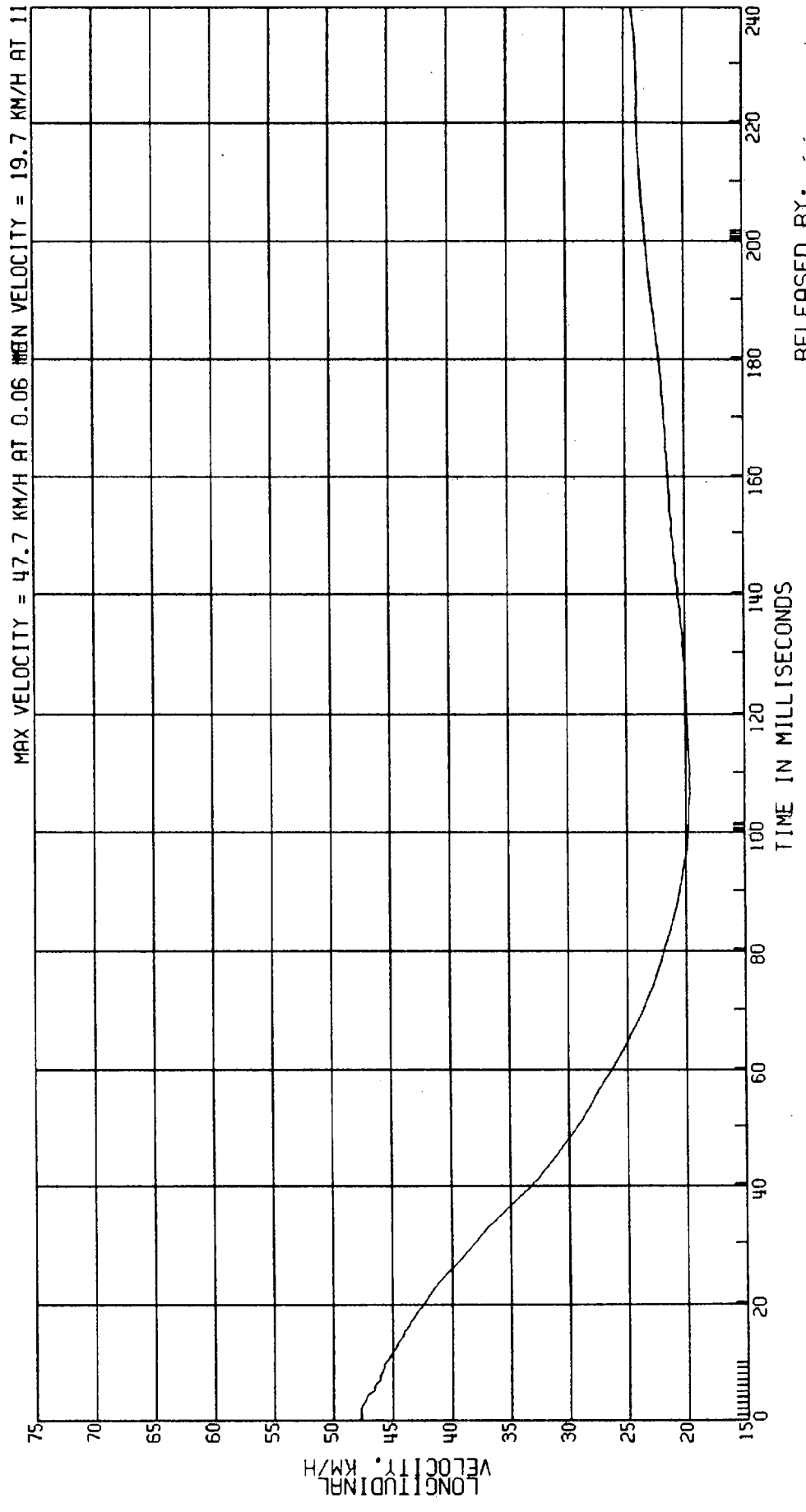
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 62 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 149
3868-905
CPE MVMA 8P 2AF69 M.D.B. REAR CROSS MEMBER ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE:03-20-90

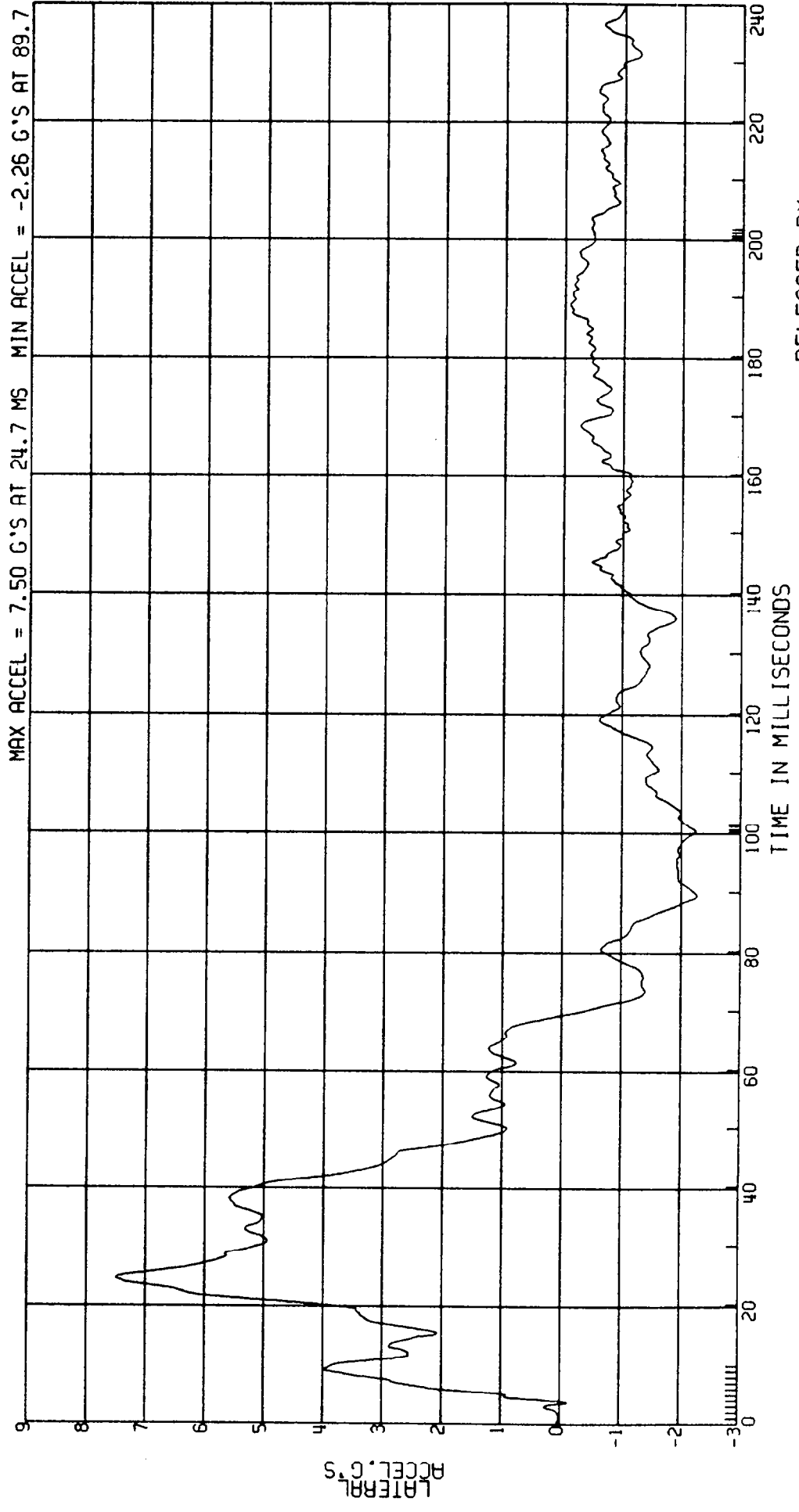


RELEASED BY:
63 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 150
 3868-905
 CPE MVMA 8P 2AF69 COMPUTED M.D.B. REAR CROSS MEMBER VEL TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.6KPH×COS27DEG)

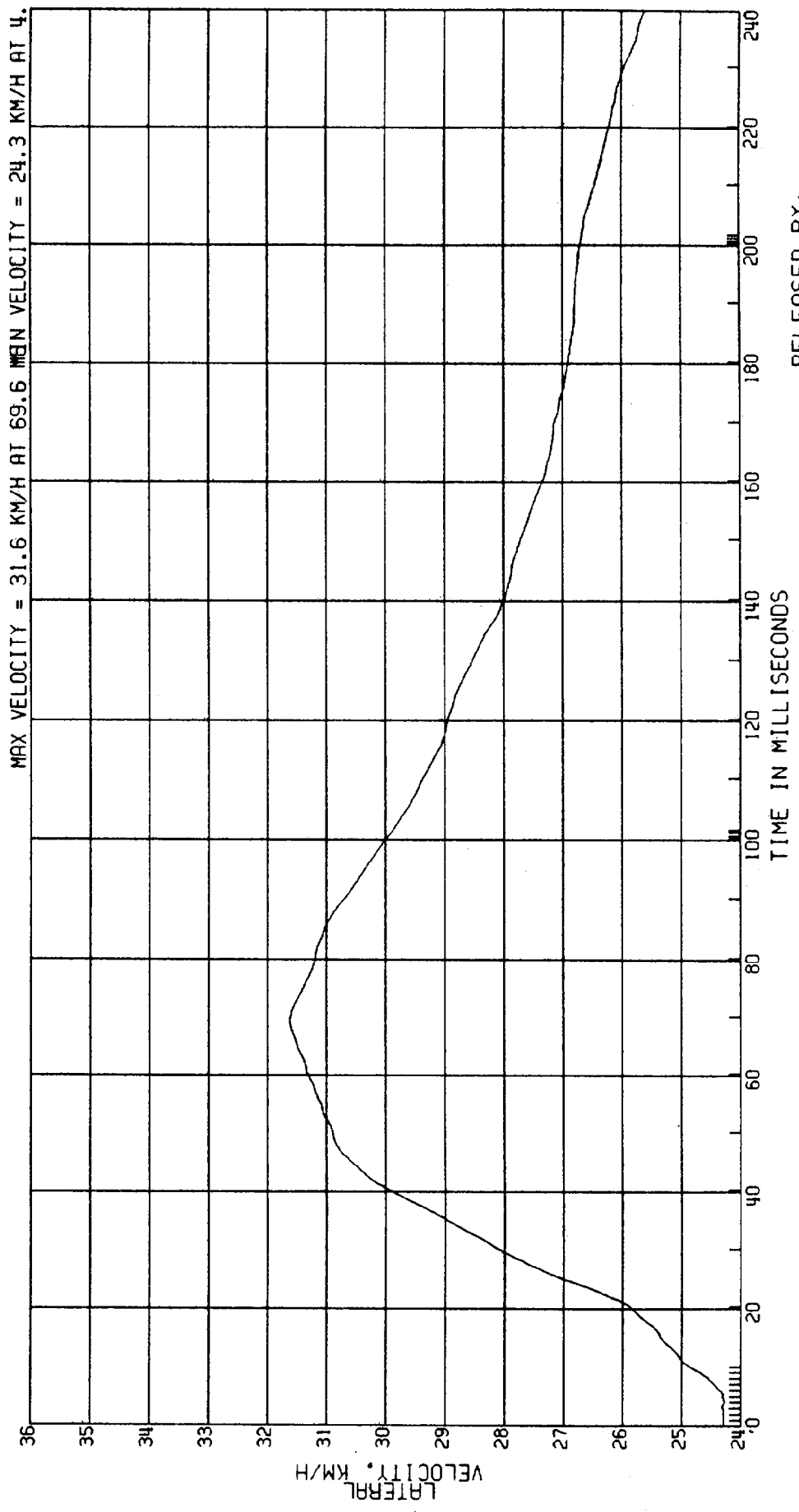


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6 KM/H FIGURE / 5/
3868-905
CPE MVMA 8P 2AF69 M.D.B. REAR CROSS MEMBER ACCEL.
ELEC DATA, SAE CLASS 60 TEST DATE: 03-20-90

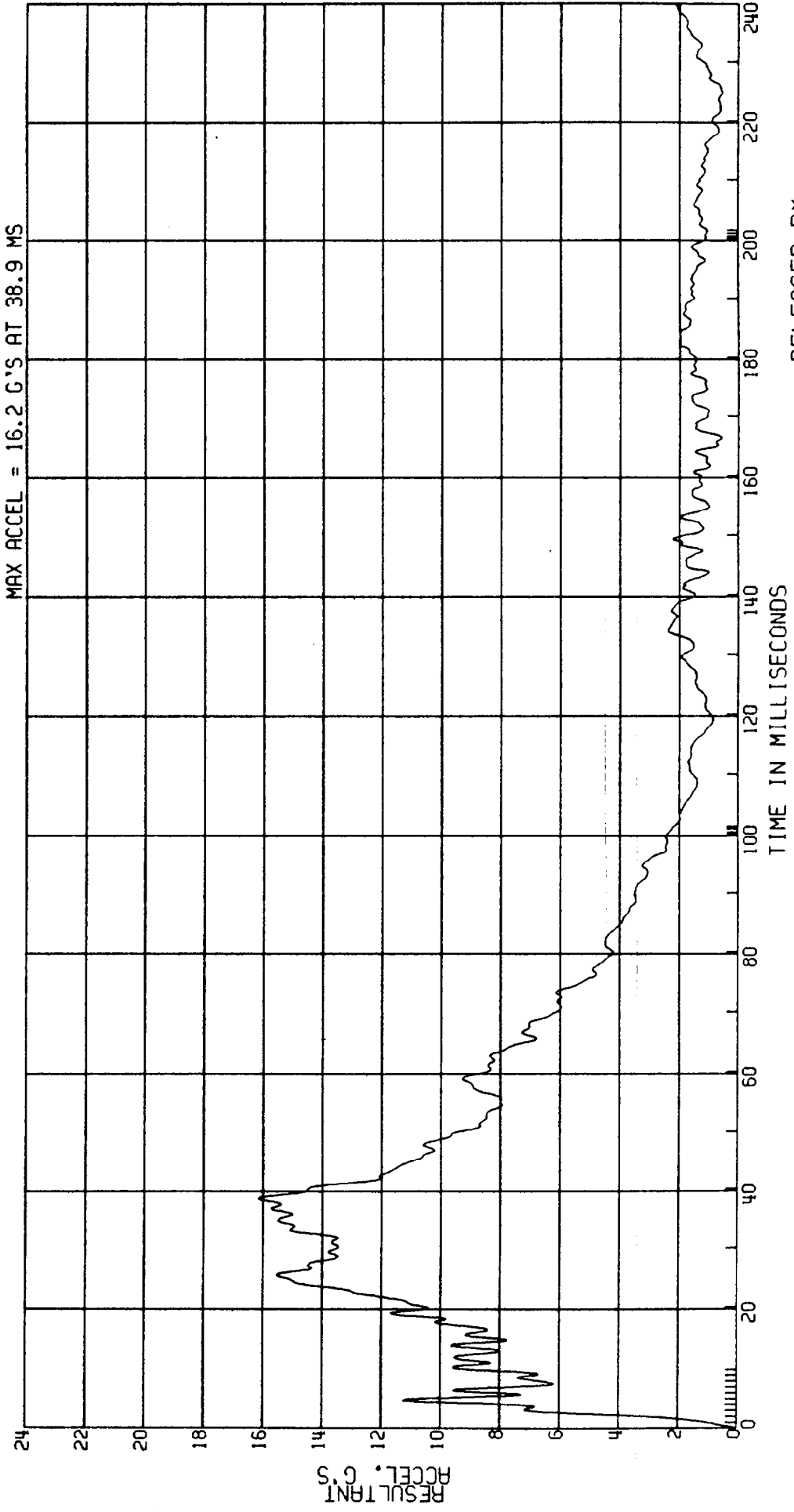


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65 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 152
 3868-905
 CPE MVMA 8P 2AF69 COMPUTED M.D.B. REAR CROSS MEMBER VEL TEST DATE:03-20-90
 ELEC DATA, SAE CLASS 180 (1ST INT OF ACCEL 53.6KPH*SIN27DEG)

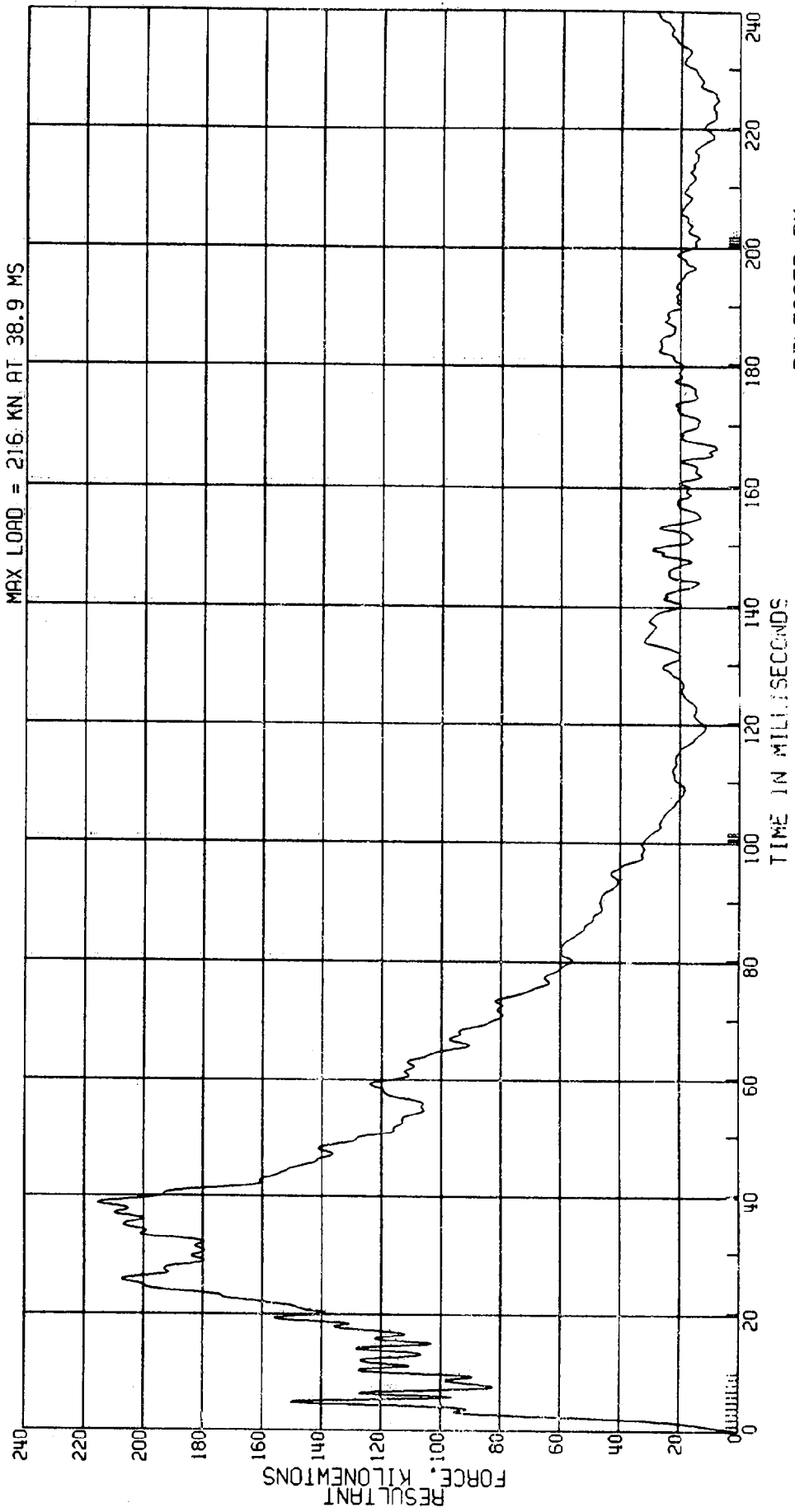


C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE / 53
3868-905
CPE MVMA 8P 2AF69 M.D.B. REAR CROSS MEMBER ACCEL. TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60 (VEC SUM OF LONG. & LAT X-MEMBER ACCELS)



RELEASED BY:
67 PROCESSED 3 MY 90 11:43

C8008A L. SIDE IMPACT- 27 DEG MOVING CRABBED BARR TO PRK VEHICLE 53.6KM/H FIGURE 154
3868-905
CPE MVMA 8P 2AF69 COMPUTED M.D.B. REAR CROSS MEMBER FORCE TEST DATE:03-20-90
ELEC DATA, SAE CLASS 60 (1359.5 KG) (9.807) (RESULTANT ACCEL)



RELEASED BY:
66 PROCESSED 3 MY 90 11:43