

V991

Page No. 1

Report No. PG

SRDL Test No. C-5854Test Date 1-17-86TEST REPORTTYPE IMPACT: NHTSA CRUSHABLE MOVING BARRIER TO PARKED LOAD CELL BARRIER - 90° FRONTVEHICLE DESCRIPTION:STRUCK VEHICLE

SRDL'S LIGHT WEIGHT MOVING BARRIER WITH LOAD CELLS AND A FLAT FACE FIXTURE MOUNTED TO THE FRONT. THE FLAT FACE WAS DESIGNED TO CONTACT THE BUMPER AND UPPER FRONT SHEET METAL OF A 1980 GM X-BODY. FOUR LOAD CELLS WERE MOUNTED TO THE BACK OF THE FLAT FACE, TWO ON EACH END POSITIONED TOP AND BOTTOM. THE FLAT FACE FIXTURE WAS DIVIDED INTO TWO SECTIONS, EACH BEING 356 mm IN HEIGHT AND 1780 mm IN LENGTH. THESE SECTIONS WERE MOUNTED LATERAL ACROSS THE FRONT OF THE BARRIER WITH A 6.4 mm VERTICAL SEPARATION BETWEEN THEM, THIS ALLOWED FOR SEPARATE READINGS OF THE UPPER AND LOWER FORCES APPLIED TO THE BARRIER. FROM THE GROUND TO THE BOTTOM OF THE FIRST LOAD CELL SECTION WAS 250 mm. SEE FIGURE 44-46.

STRIKING VEHICLE

NHTSA CRUSHABLE MOVING BARRIER WITH ENERGY ABSORBING FACE. THE ABSORBING FACE IS MADE OF HEXCELL AND WAS DEVELOPED TO GIVE THE SAME CHARACTERISTICS AS THE CRUSH OF A 1980 GM X-BODY SEE FIGURE 44-46.

TEST CONDITIONS: STRIKING VELOCITY AT IMPACT 48.4 km/h

STRUCK VEHICLE MASS	FRONT <u>1030</u> kg	REAR <u>332</u> kg	TOTAL <u>1362</u> kg
STRIKING VEHICLE MASS	FRONT <u>854</u> kg	REAR <u>466</u> kg	TOTAL <u>1350</u> kg

RECORDED DATASTRUCK VEHICLE

FRONT LONGITUDINAL ACCELERATIONS
MID LONGITUDINAL ACCELERATIONS
VEHICLE KINEMATICS ACCELERATIONS
UPPER BARRIER TRIAX LOADS
LOWER BARRIER TRIAX LOADS

STRIKING VEHICLE

FRONT LONGITUDINAL ACCELERATIONS
MID LONGITUDINAL ACCELERATIONS

PHOTOGRAPHIC COVERAGE

OVERHEAD
UNDERBODY
DRIVER SIDE CLOSEUP
PASSENGER SIDE CLOSEUP

INSTRUMENTATION AND FILM ANALYSIS DATA INDEXFIGURE
NUMBERSTRUCK VEHICLE:

1-3 BARRIER FRONT LONGITUDINAL ACCELERATION
4 COMPUTED AVERAGE BARRIER FRONT LONGITUDINAL VELOCITY
5 COMPUTED AVERAGE BARRIER FRONT LONGITUDINAL DISPLACEMENT

6-8 BARRIER MID LONGITUDINAL ACCELERATION
9 COMPUTED AVERAGE BARRIER MID LONGITUDINAL VELOCITY
10 COMPUTED AVERAGE BARRIER MID LONGITUDINAL DISPLACEMENT

11-16 LOWER BARRIER LONGITUDINAL LOADS
17-22 UPPER BARRIER LONGITUDINAL LOADS

23-31 YAW FIXTURE ACCELERATIONS

STRIKING VEHICLE:

32-34 BARRIER FRONT LONGITUDINAL ACCELERATION
35 COMPUTED AVERAGE BARRIER FRONT LONGITUDINAL VELOCITY
36 COMPUTED AVERAGE BARRIER FRONT LONGITUDINAL DISPLACEMENT

37-39 BARRIER MID LONGITUDINAL ACCELERATION
40 COMPUTED AVERAGE BARRIER MID LONGITUDINAL VELOCITY
41 COMPUTED AVERAGE BARRIER MID LONGITUDINAL DISPLACEMENT

FILM ANALYSIS:

42 NHTSA BARRIER RELATIVE TO LOAD CELL BARRIER - DRIVER SIDE
43 NHTSA BARRIER RELATIVE TO LOAD CELL BARRIER - PASSENGER SIDE

REPORT NO. PG _____
SBDL TEST NO. C-5854

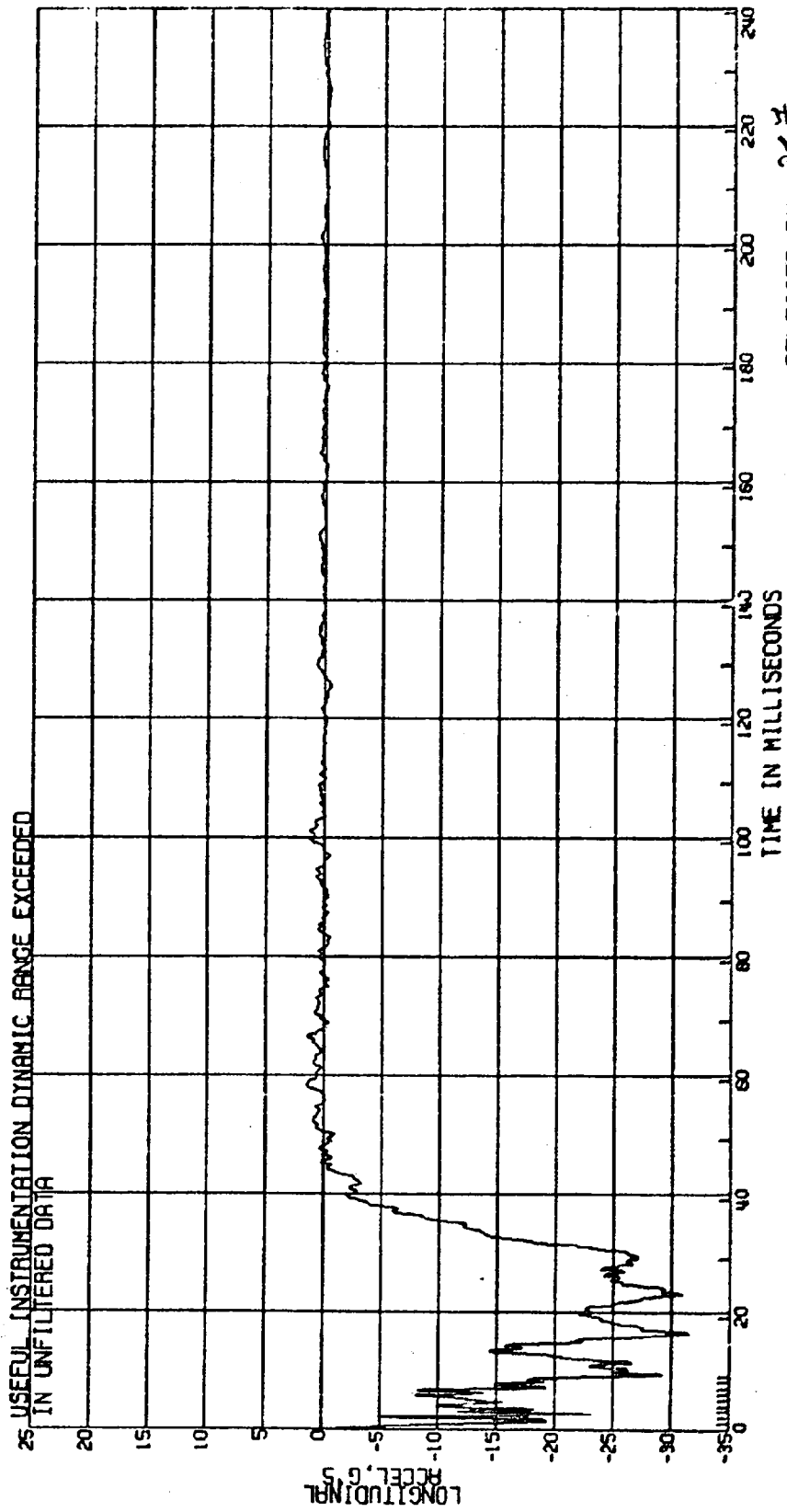
PHOTOGRAPH INDEX

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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 1
DR-SIDE STRUCK BARRIER FRONT ACCEL. TEST DATE:01-17-84

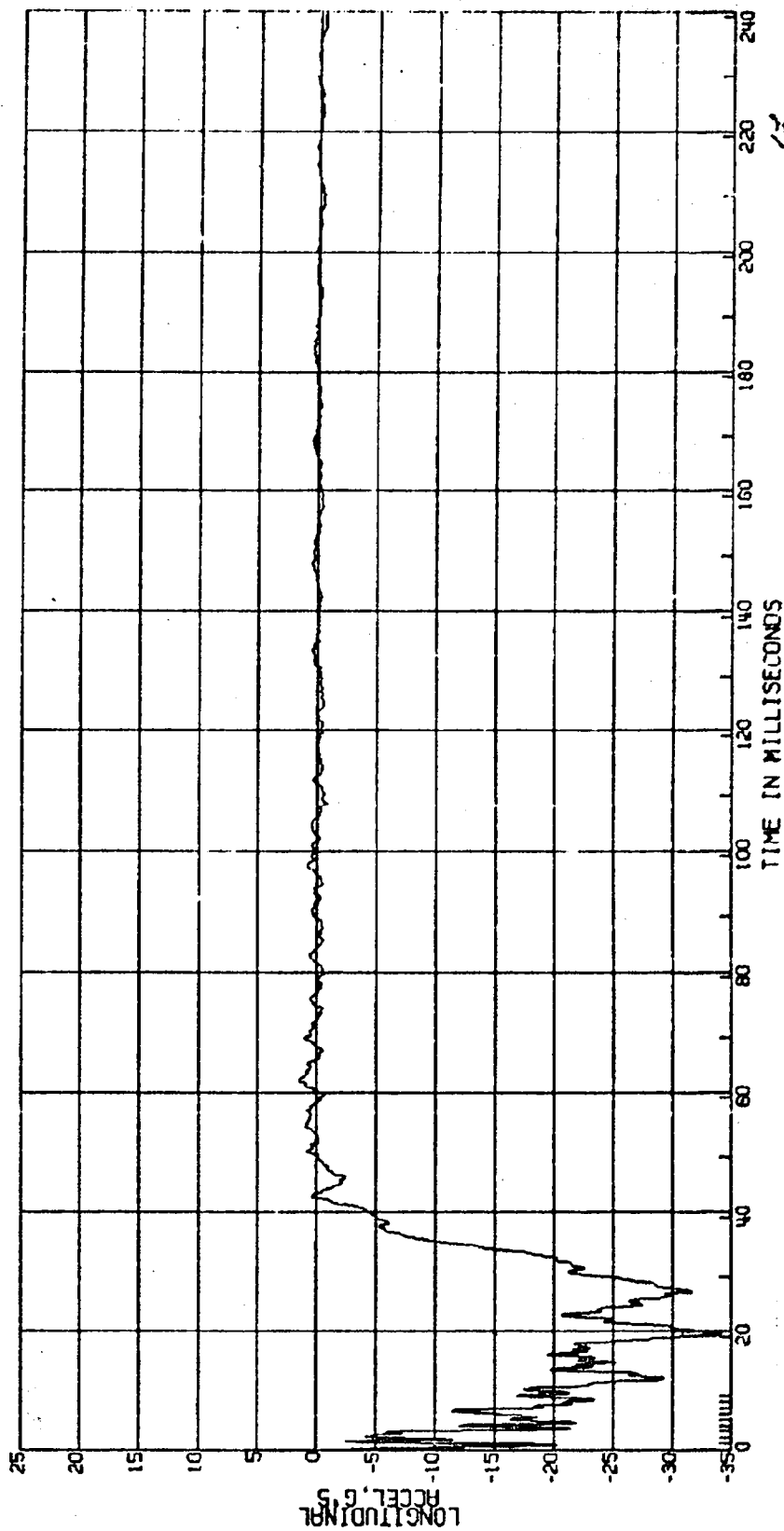
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11 FEBRUARY 1984

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3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

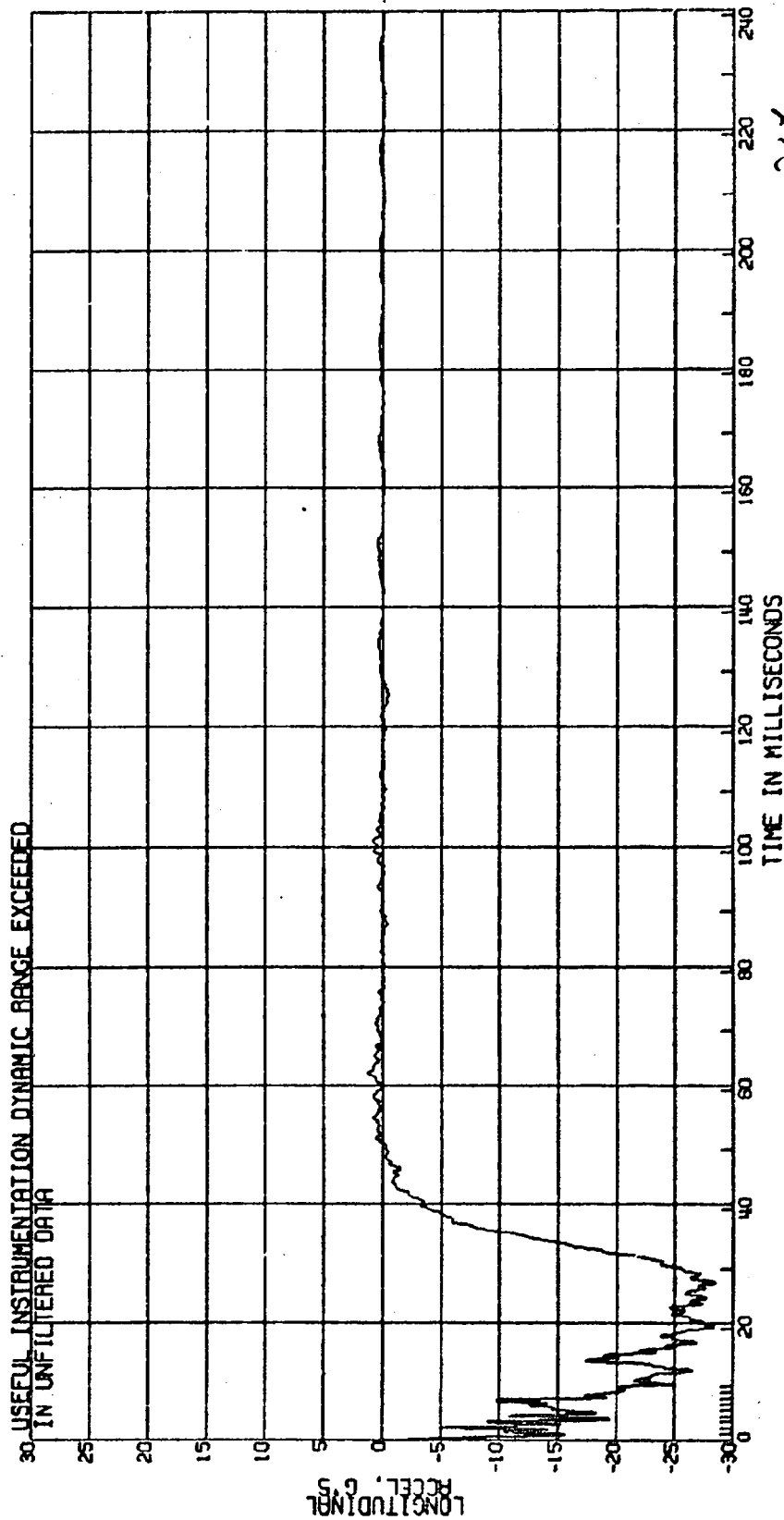
DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 2
PASS-SIDE STRUCK BARRIER FRONT ACCEL. TEST DATE:01-17-84



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3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

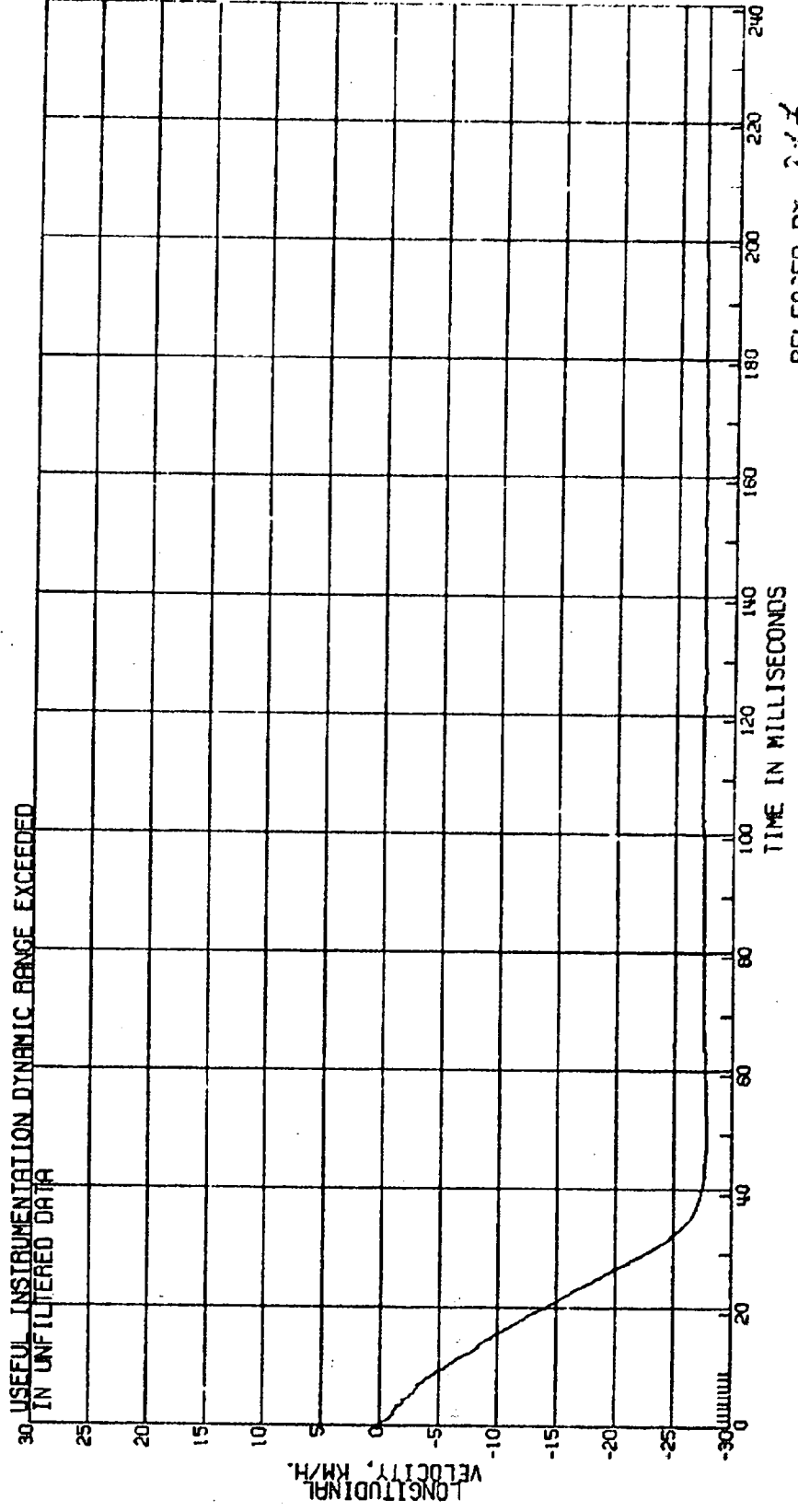
DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 3
AVERAGED DRIVER & PASSENGER SIDE
STRUCK BARRIER FRONT ACCELERATION
TEST DATE: 01-17-84



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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA -SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 4
COMPUTED STRUCK BARRIER FRONT VELOCITY
(1ST INTEGRAL AVE DR & PASS ACCEL)
TEST DATE: 01-17-84

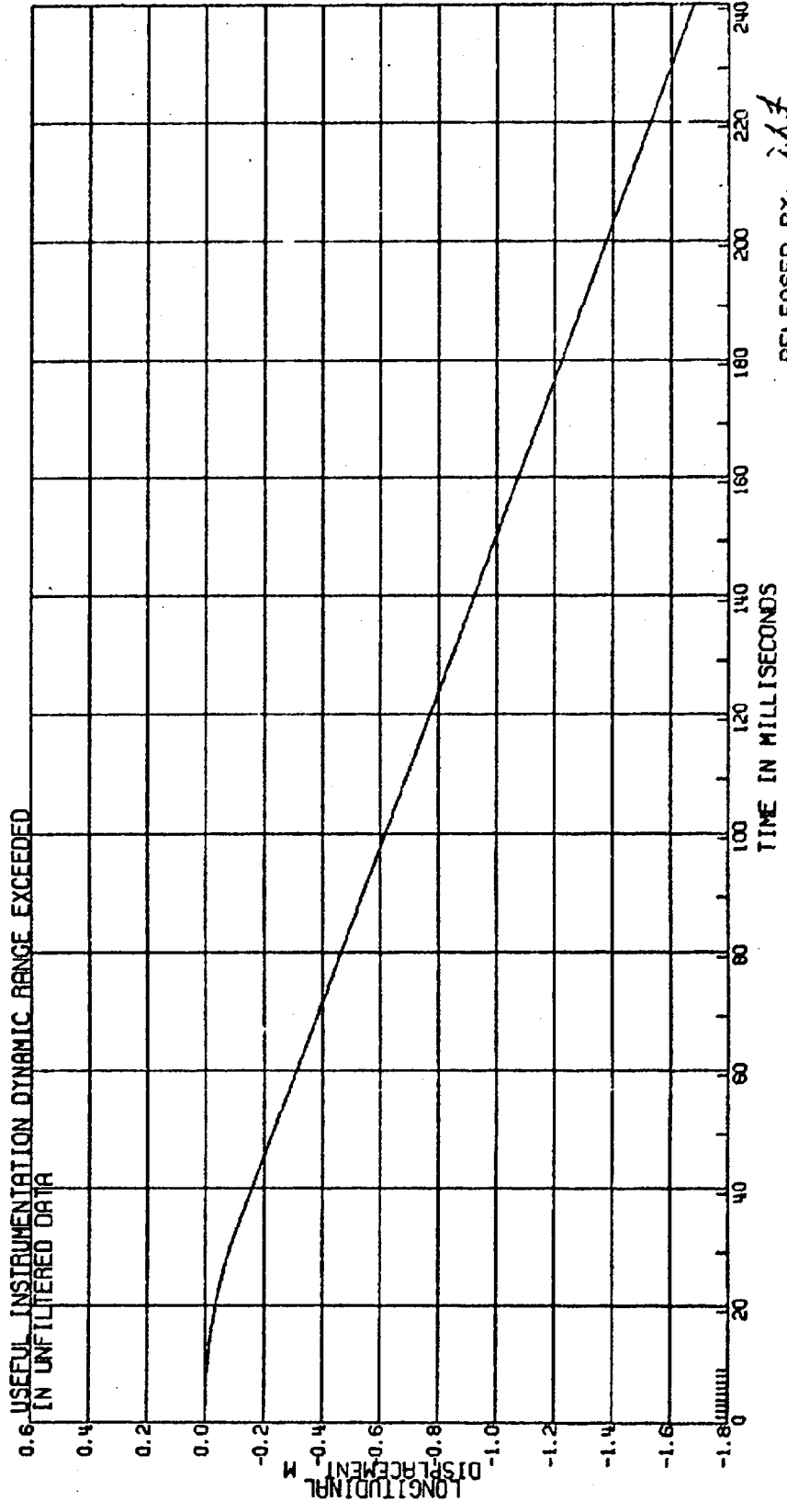


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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D OATP SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 5
COMPUTED STRUCK BARRIER FRONT DISPL
(2ND INTEGRAL AVE DR & PASS ACCEL)

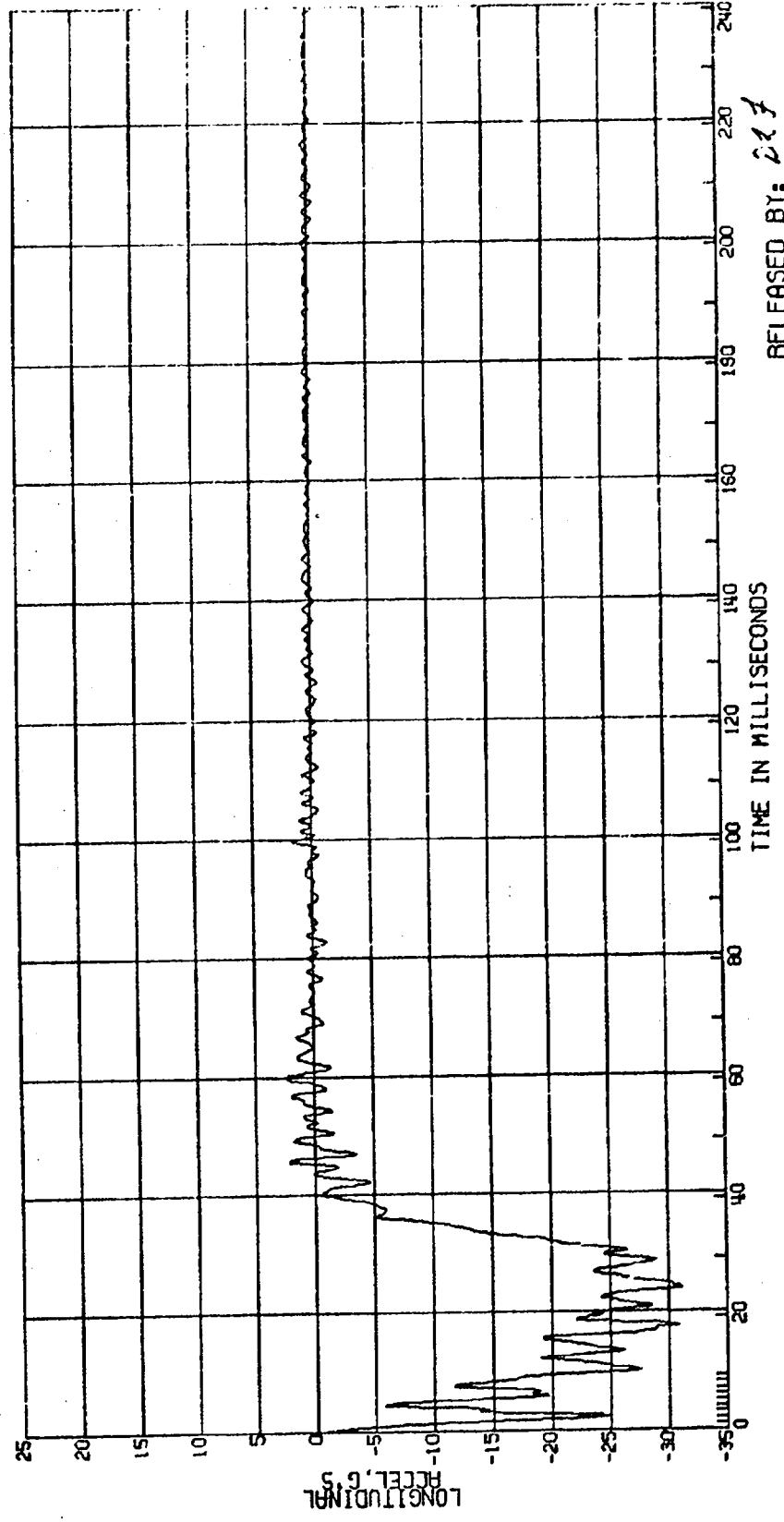
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* FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

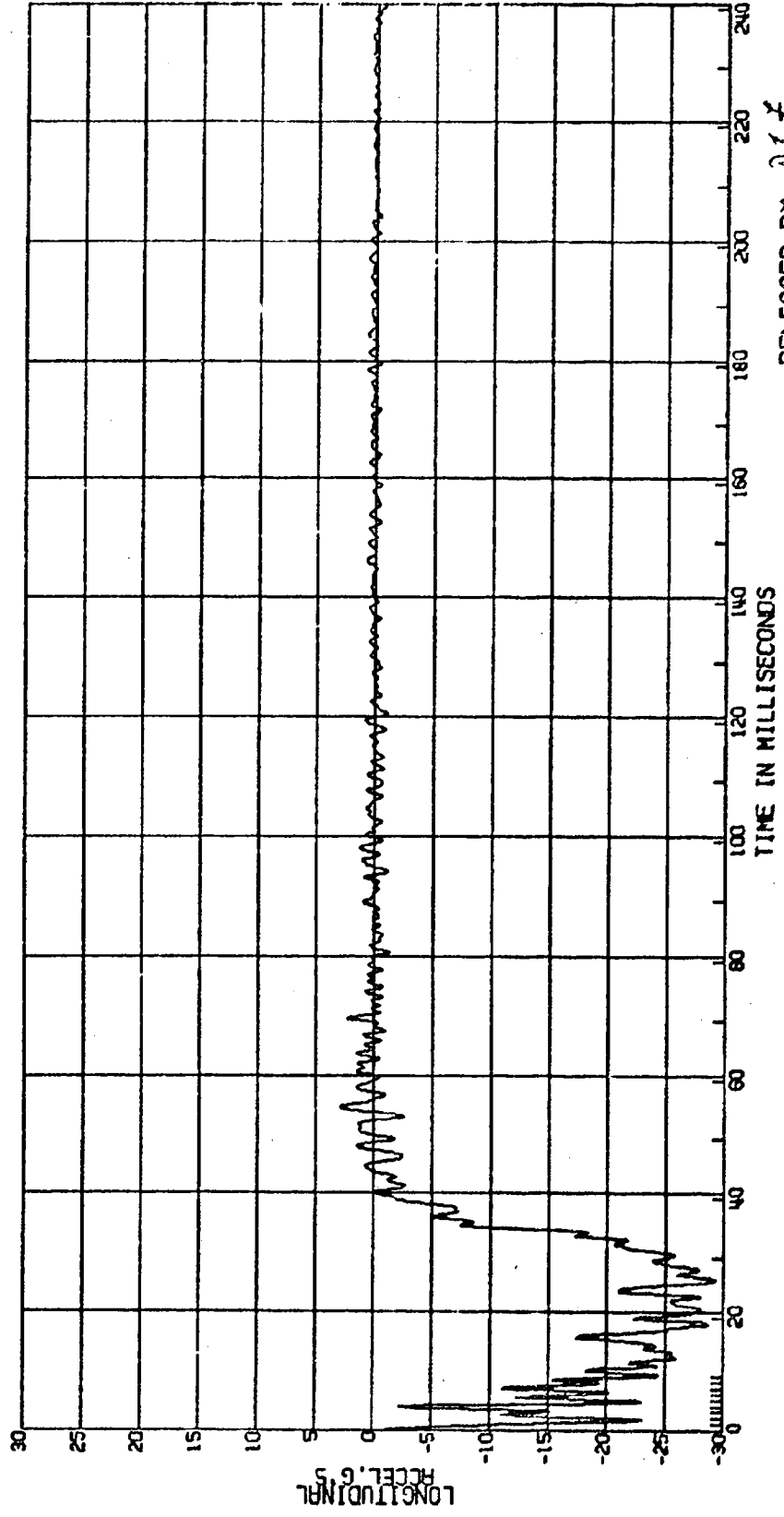
DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 6
DR-SIDE STRUCK BARRIER MID ACCEL. TEST DATE: 01-17-84



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3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 7
PASS-SIDE STRUCK BARRIER MID ACCEL. TEST DATE: 01-17-84

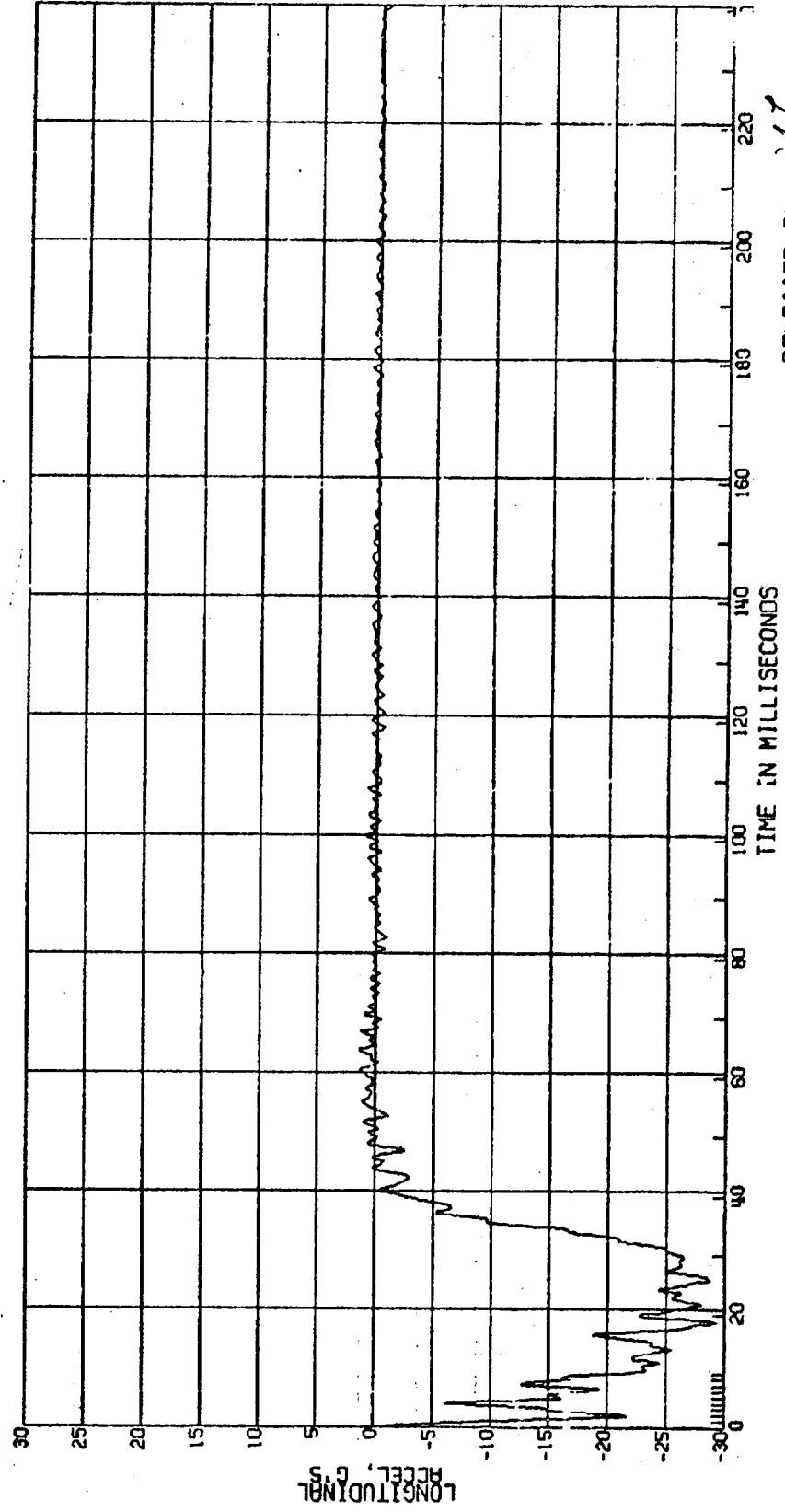


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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 8
AVERAGED DRIVER & PASSENGER SIDE
STRUCK BARRIER MID ACCELERATION

TEST DATE: 01-17-84



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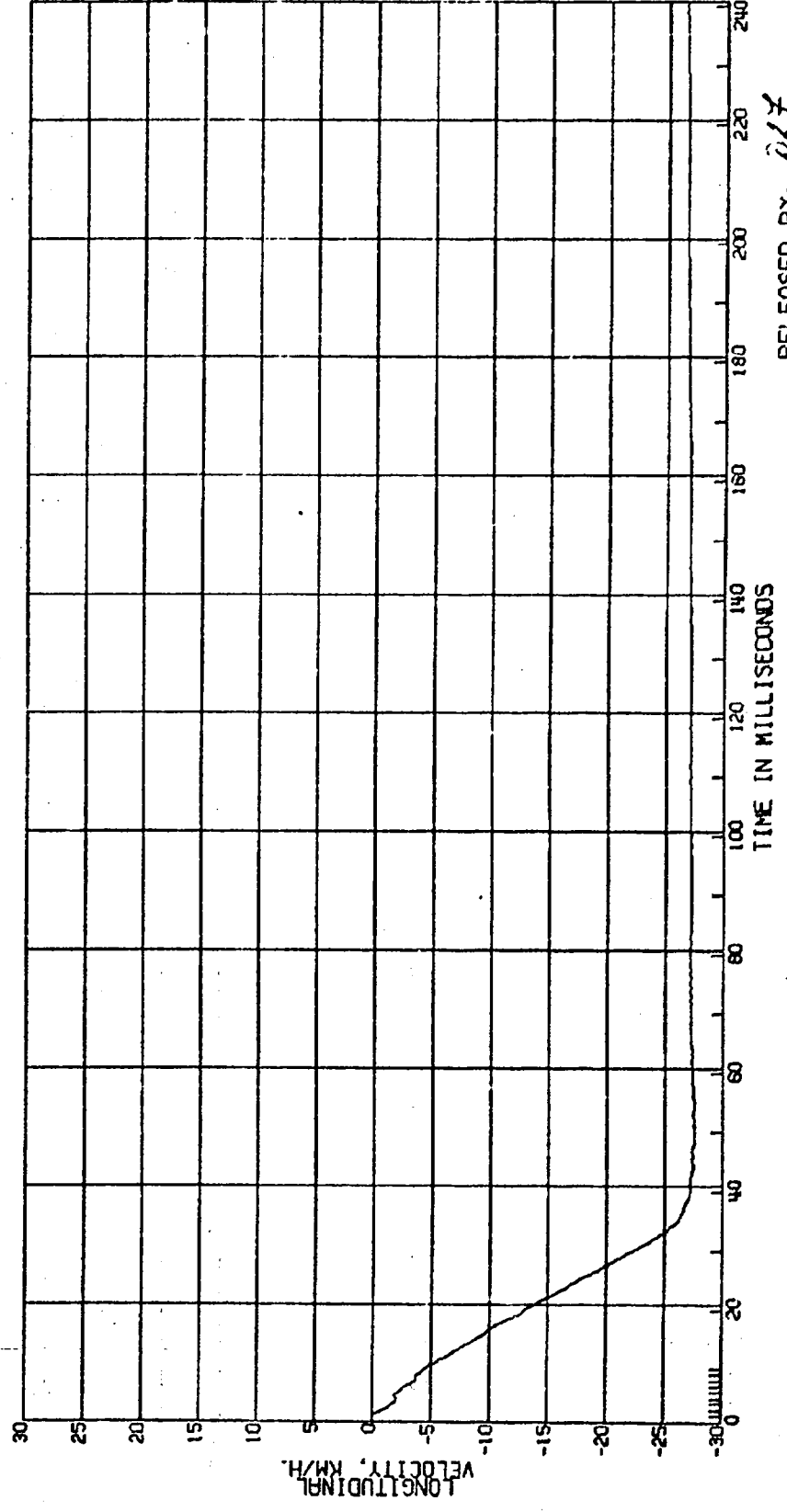
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FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 9

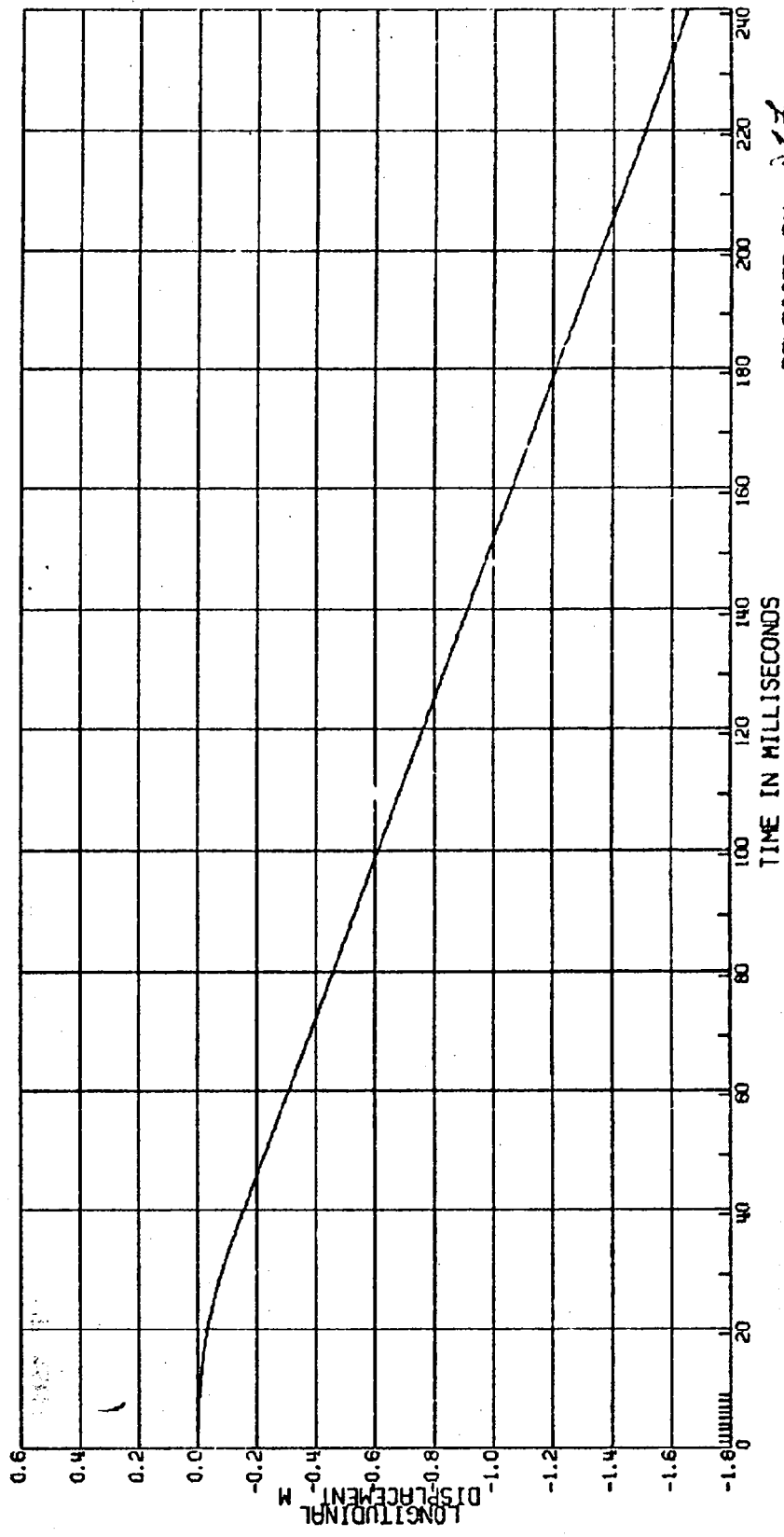
COMPUTED STRUCK BARRIER MID VELOCITY

TEST DATE: 01-17-84

(1ST INTEGRAL AVE DR & PASS ACCEL)



C58548 BARRIER TO BARRIER DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 10
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 180
COMPUTED STRUCK BARRIER MID DISPL
(2ND INTEGRAL AVE DR & PASS ACCEL)
TEST DATE:01-17-84



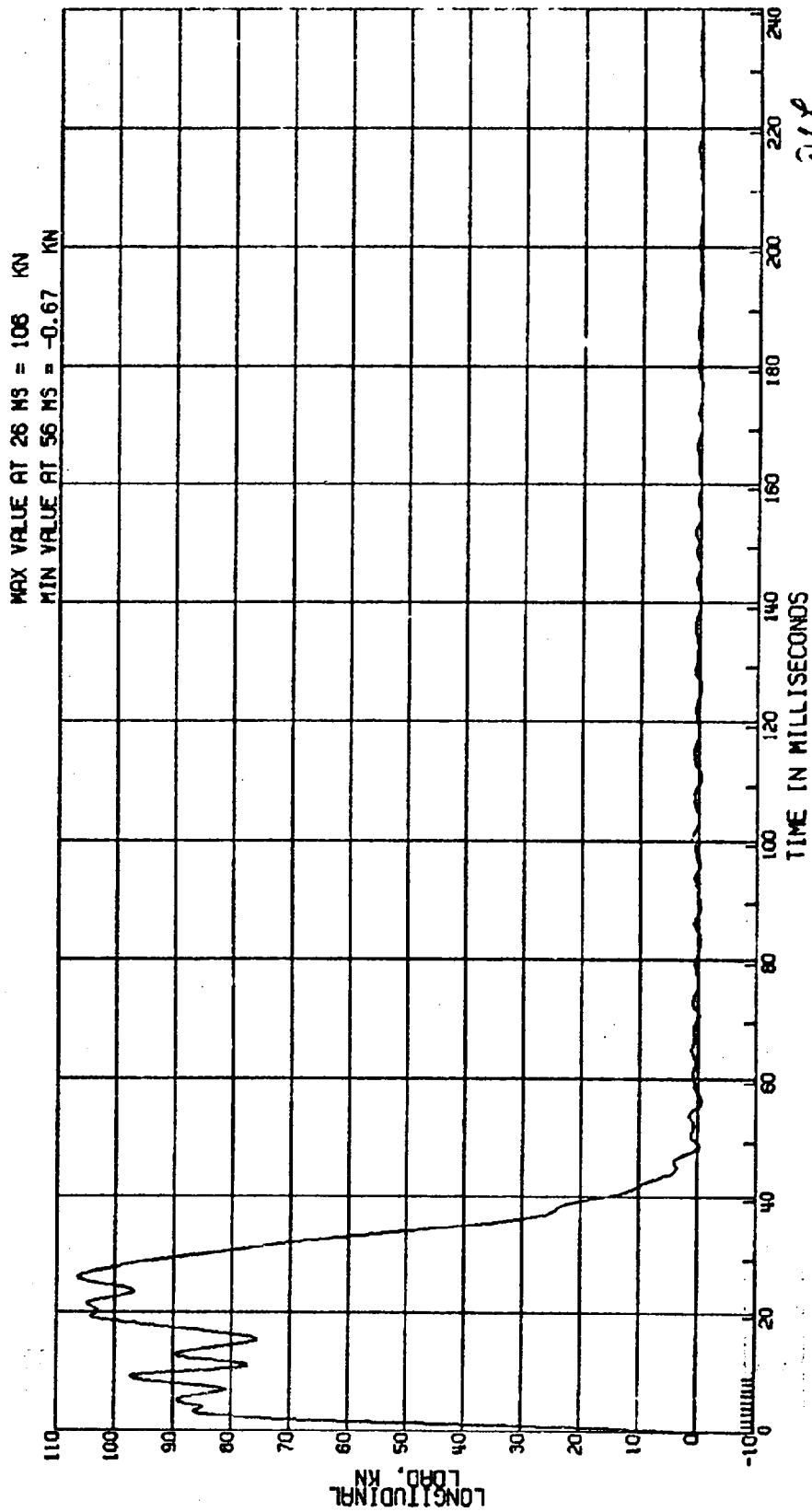
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FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 11

DR-SIDE STRUCK LOWER BARRIER LOAD

TEST DATE: 01-17-84

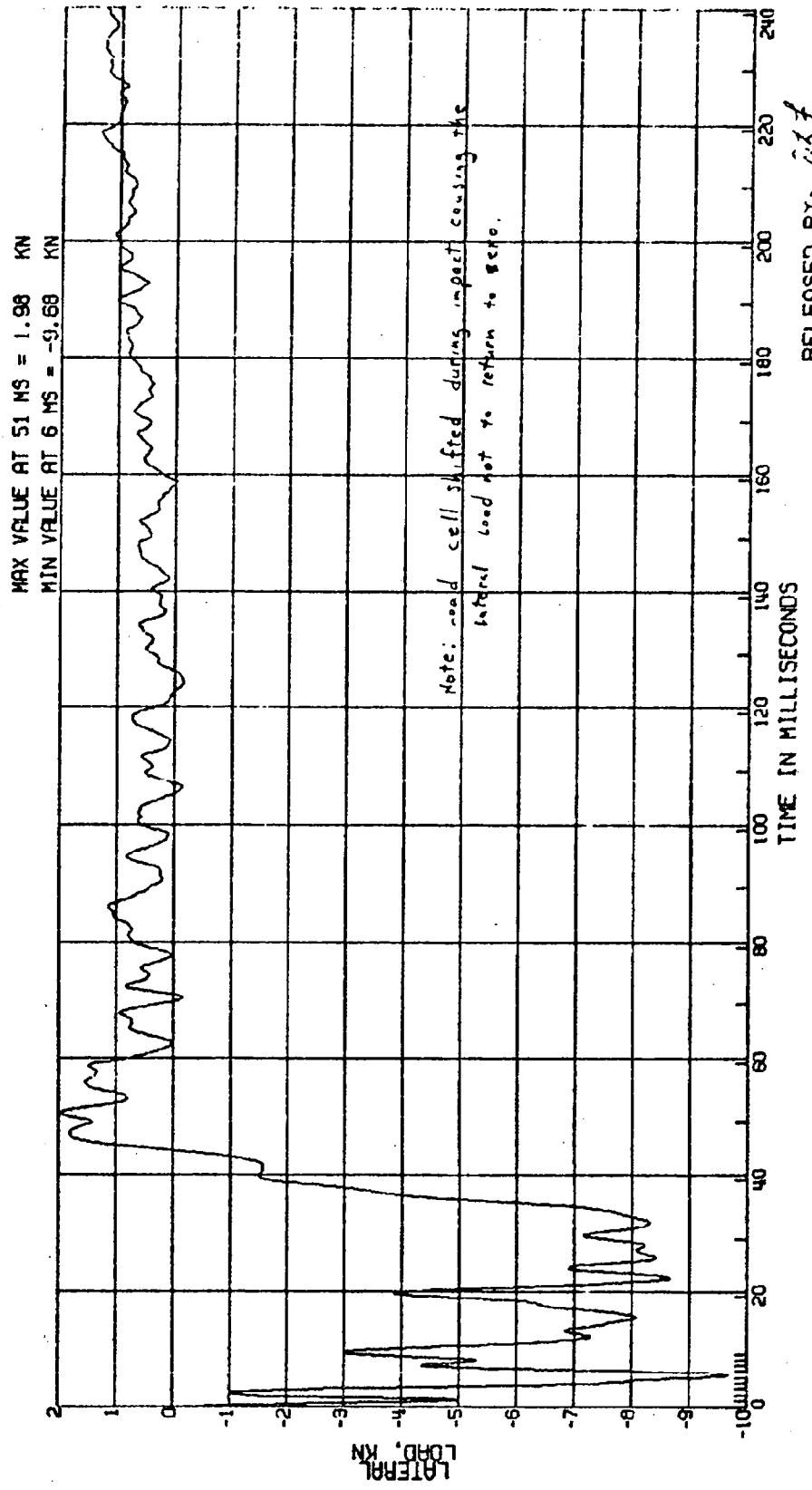


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3865-448 FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 1/2
DR-SIDE STRUCK LOWER BARRIER LOAD

TEST DATE: 01-17-84



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C58548 BARRIER TO BARRIER DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 13

3865-448

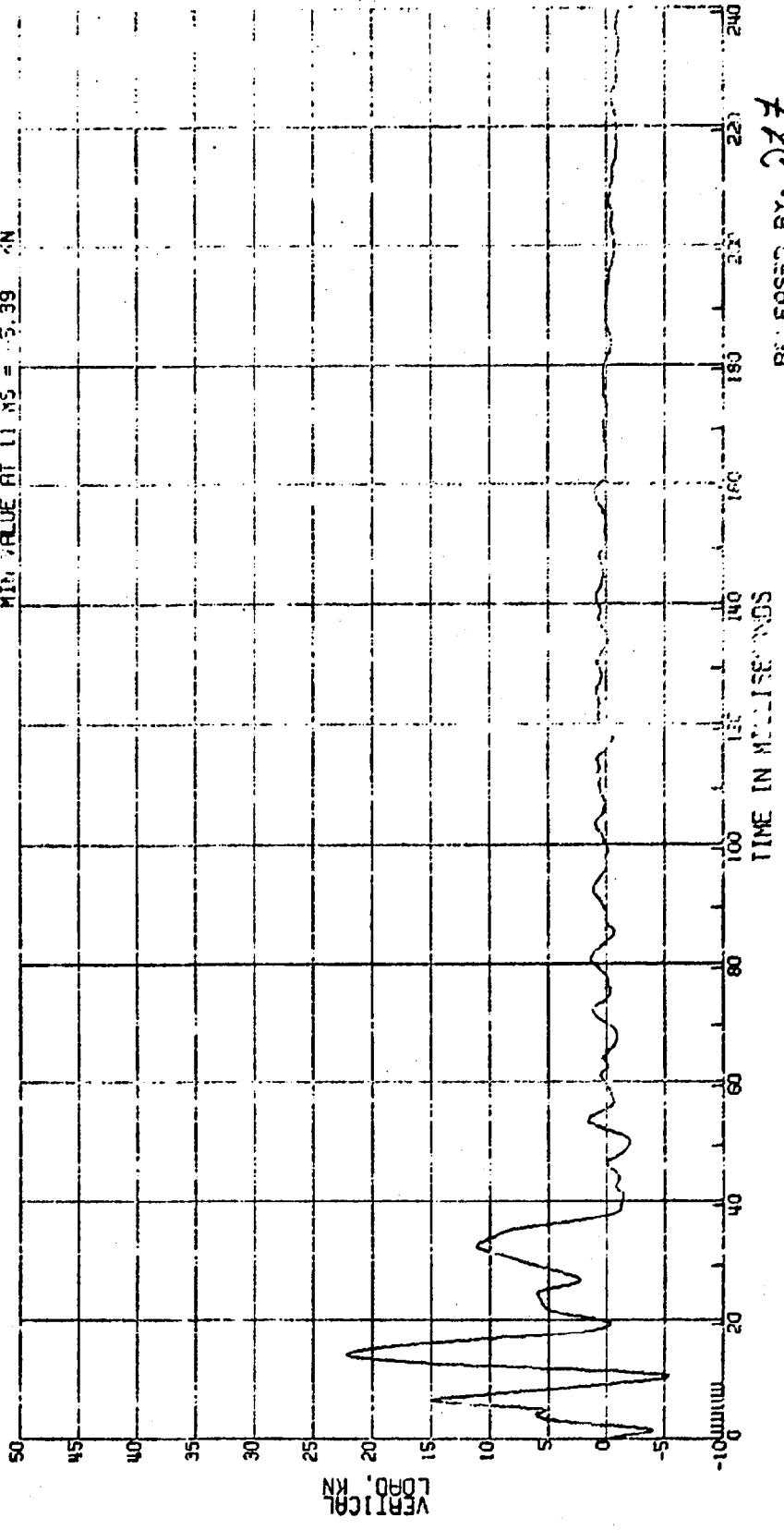
FISHER BODY STRUCK BARRIER

A-D DATA SAE CLASS 60

DR-SIDE STRUCK LOWER BARRIER LOAD

TEST DATE: 01-17-84

MAX VALUE AT 14 MS = 22.2 KN
MIN VALUE AT 11 MS = -5.39 KN

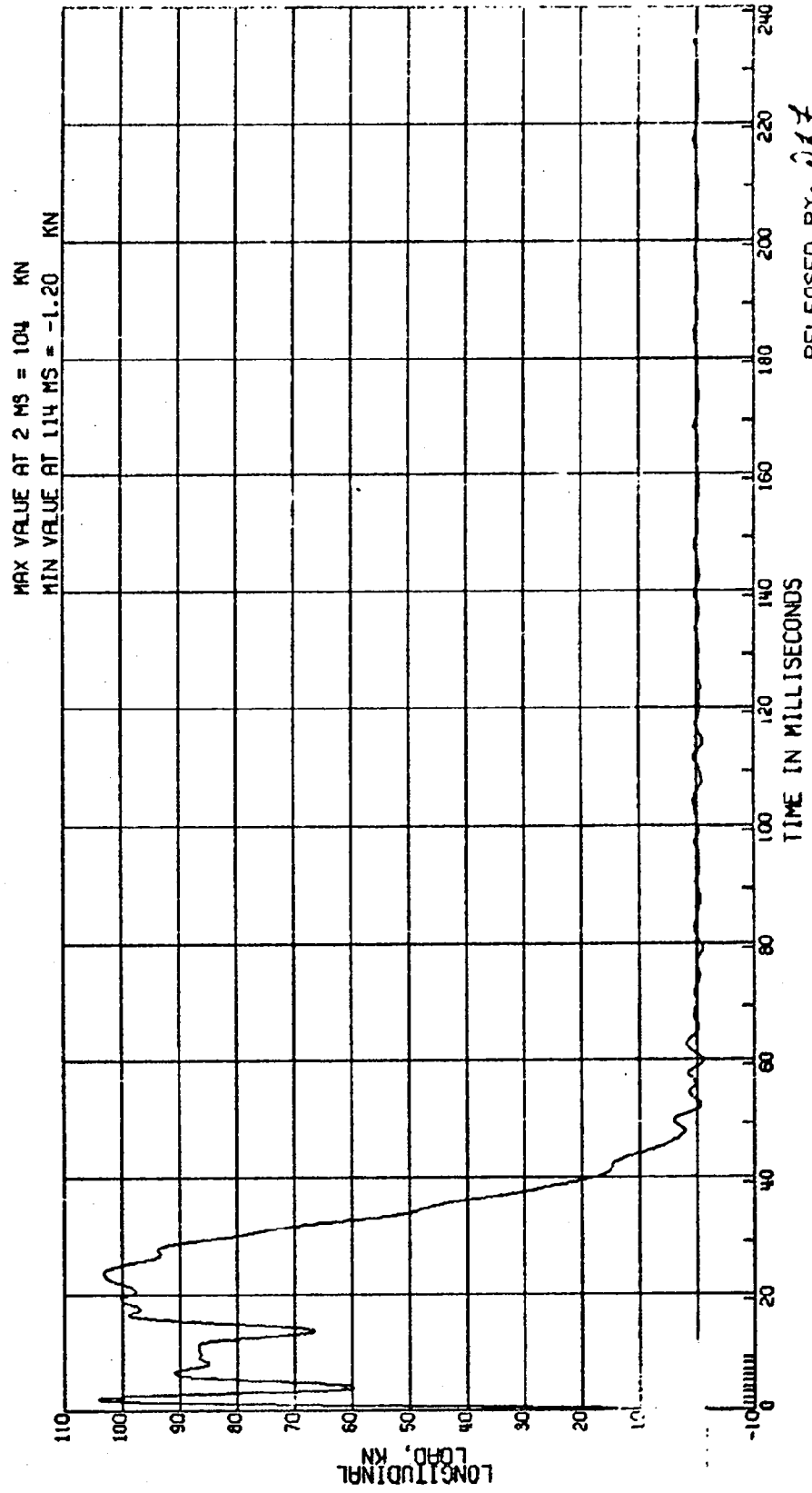


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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 14
PASS-SIDE STRUCK LOWER BARRIER LOAD
TEST DATE: 01-17-84



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C5854B BARRIER TO BARRIER DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 15

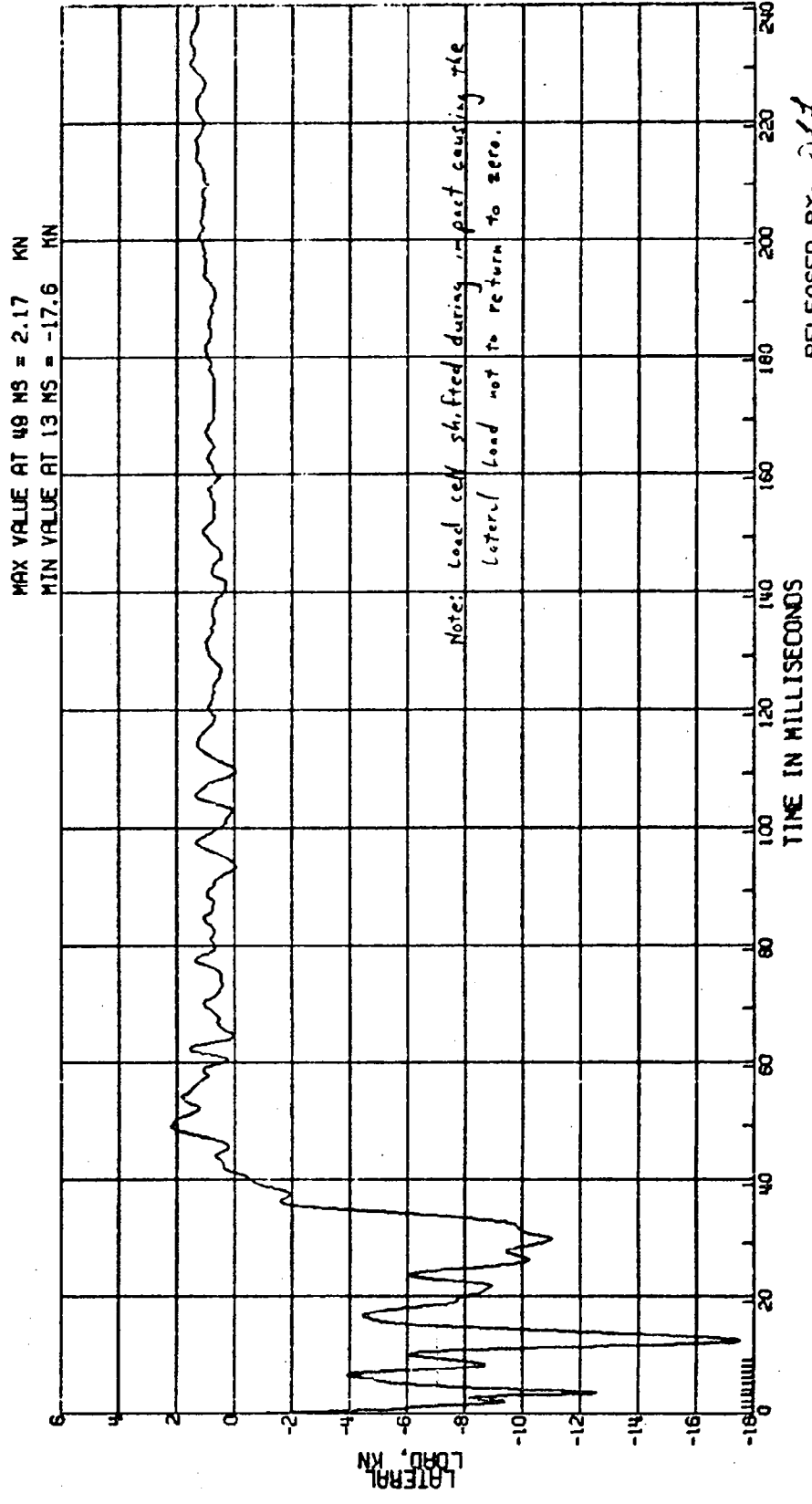
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FISHER BODY STRUCK BARRIER

A-D DATA SAE CLASS 60

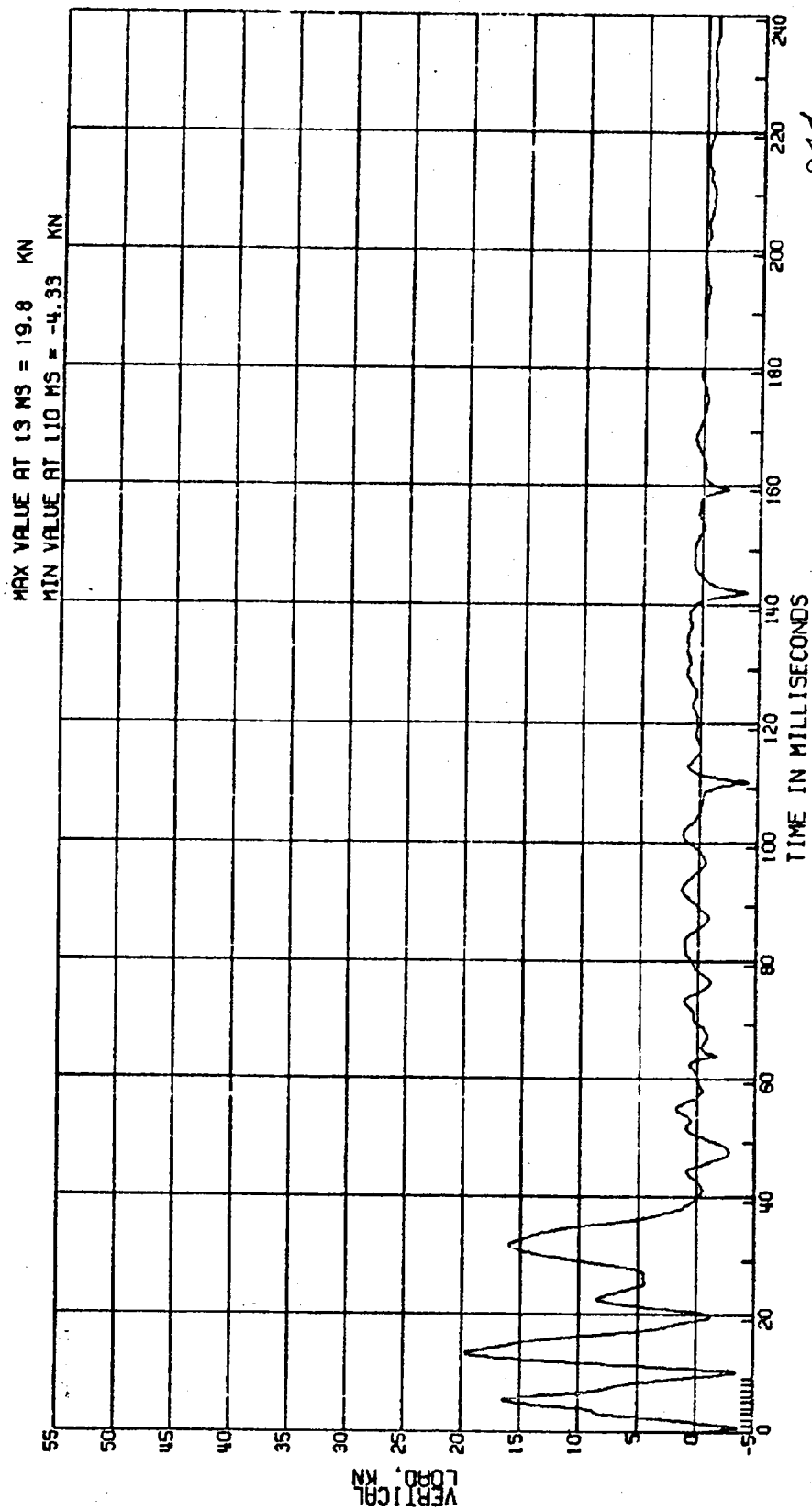
PASS-SIDE STRUCK LOWER BARRIER LOAD

TEST DATE: 01-17-84



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3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

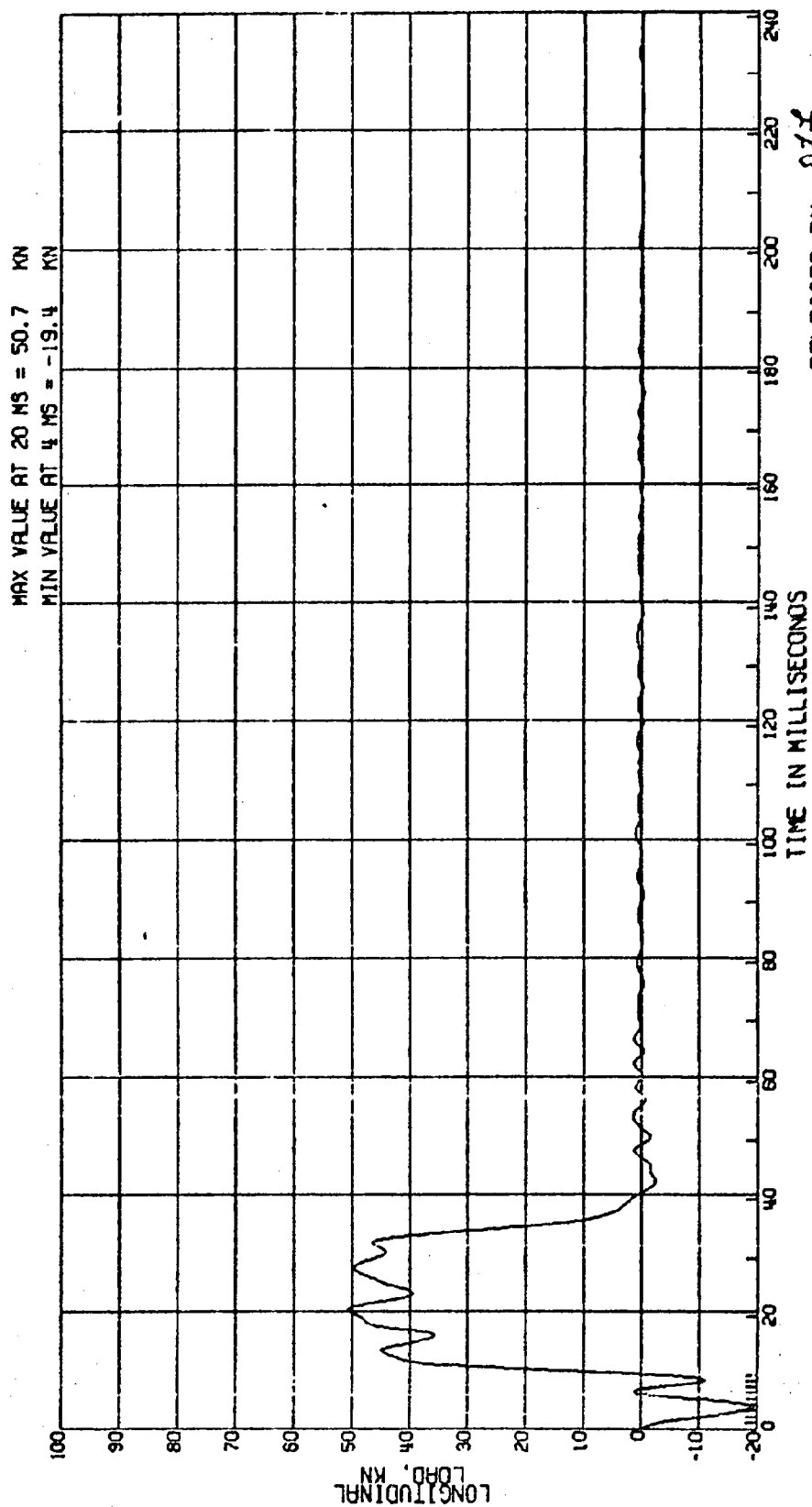
DEFORMABLE BARR TO LOAD CELL BARR 46.4 KM/H FIGURE 16
PASS-SIDE STRUCK LOWER BARRIER LOAD
TEST DATE: 01-17-84



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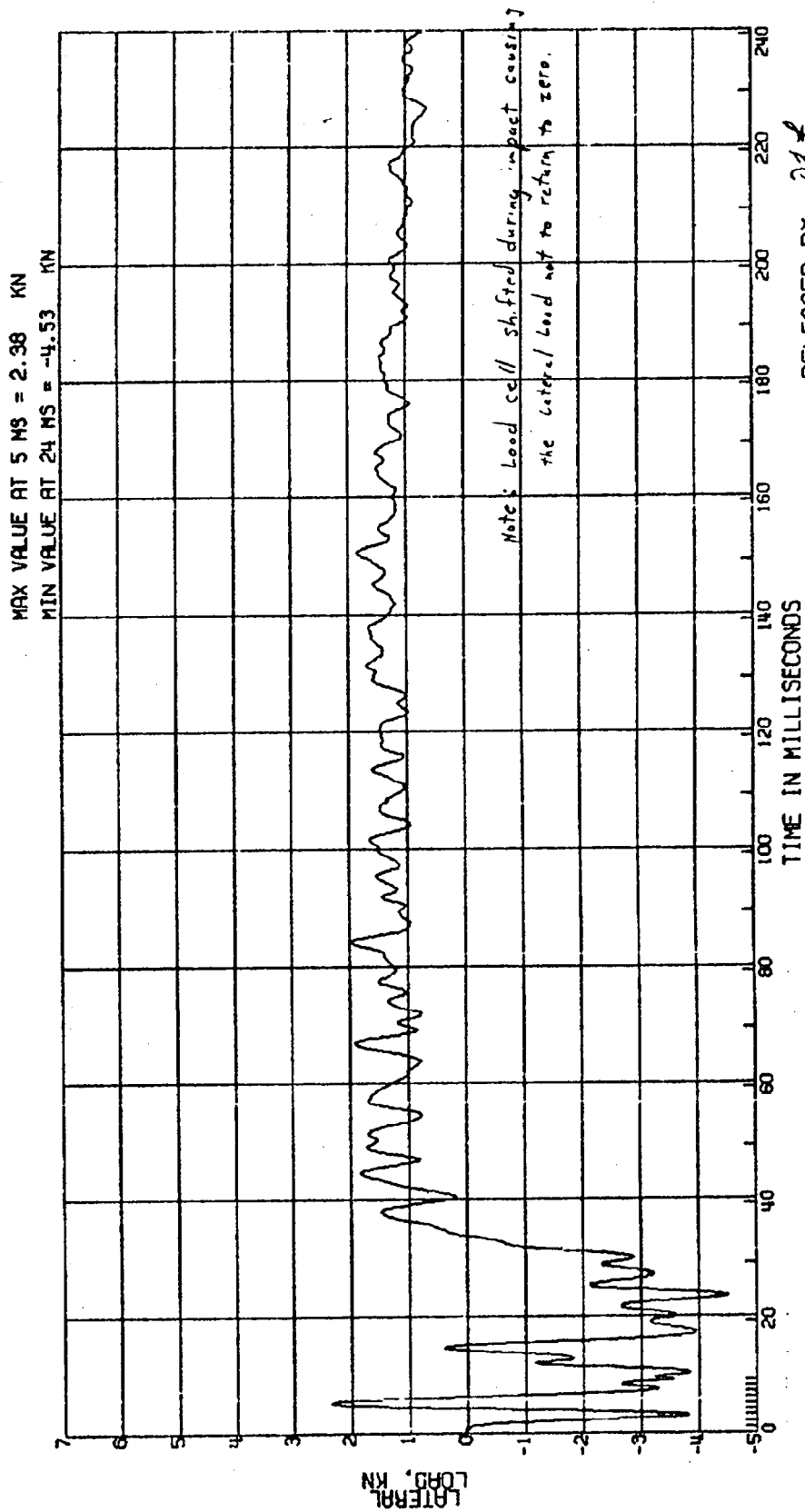
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3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 17
DR-SIDE STRUCK UPPER BARRIER LOAD
TEST DATE: 01-17-84



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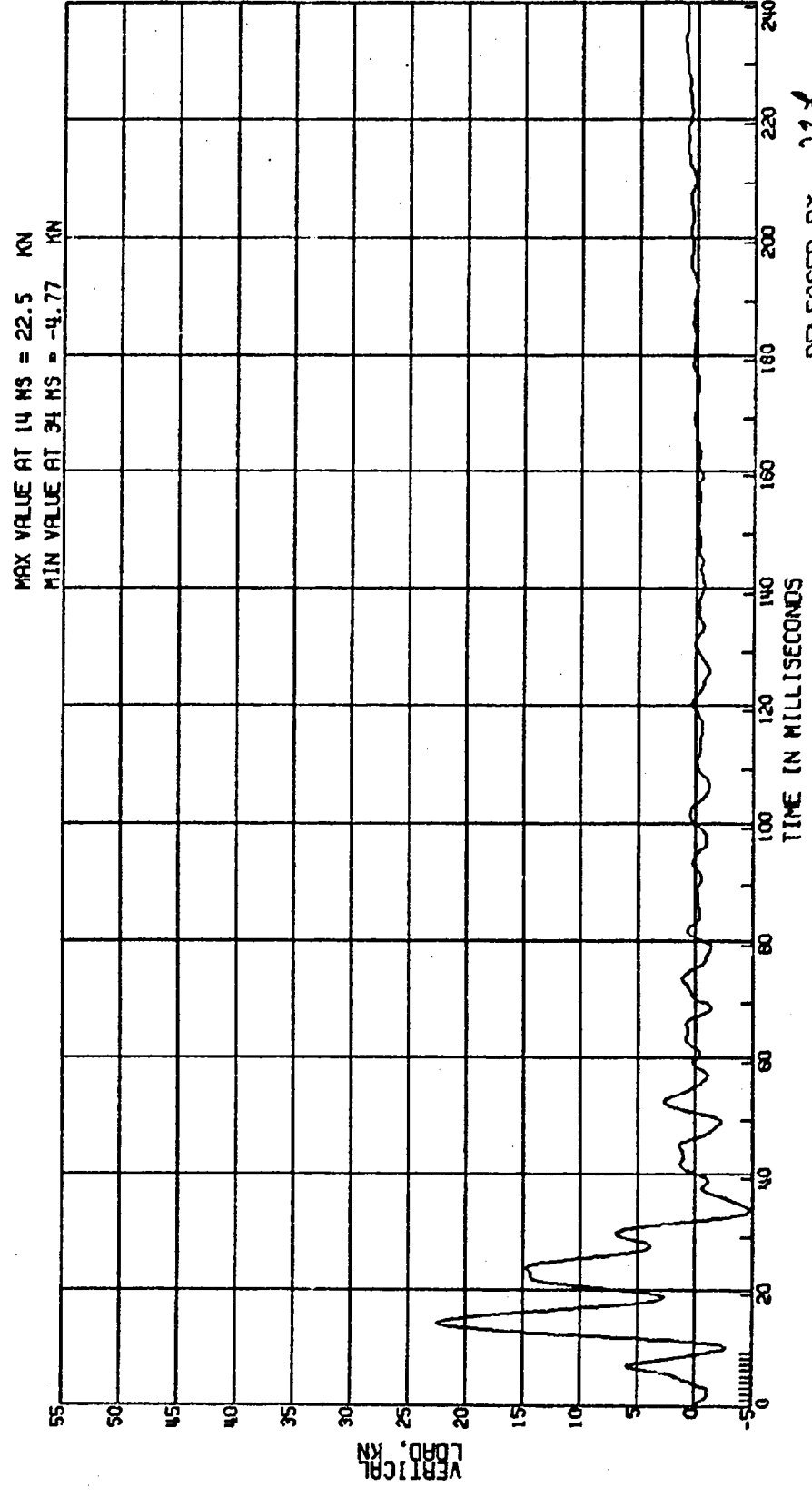
C5854B BARRIER TO BARRIER
 3865-443
 FISHER BODY STRUCK BARRIER
 A-D DATA SAE CLASS 60
 DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 18
 OR-SIDE STRUCK UPPER BARRIER LOAD
 TEST DATE: 01-17-84



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3865-448 FISHER BODY STRUCK BARRIER
R-D DATA SAE CLASS '60

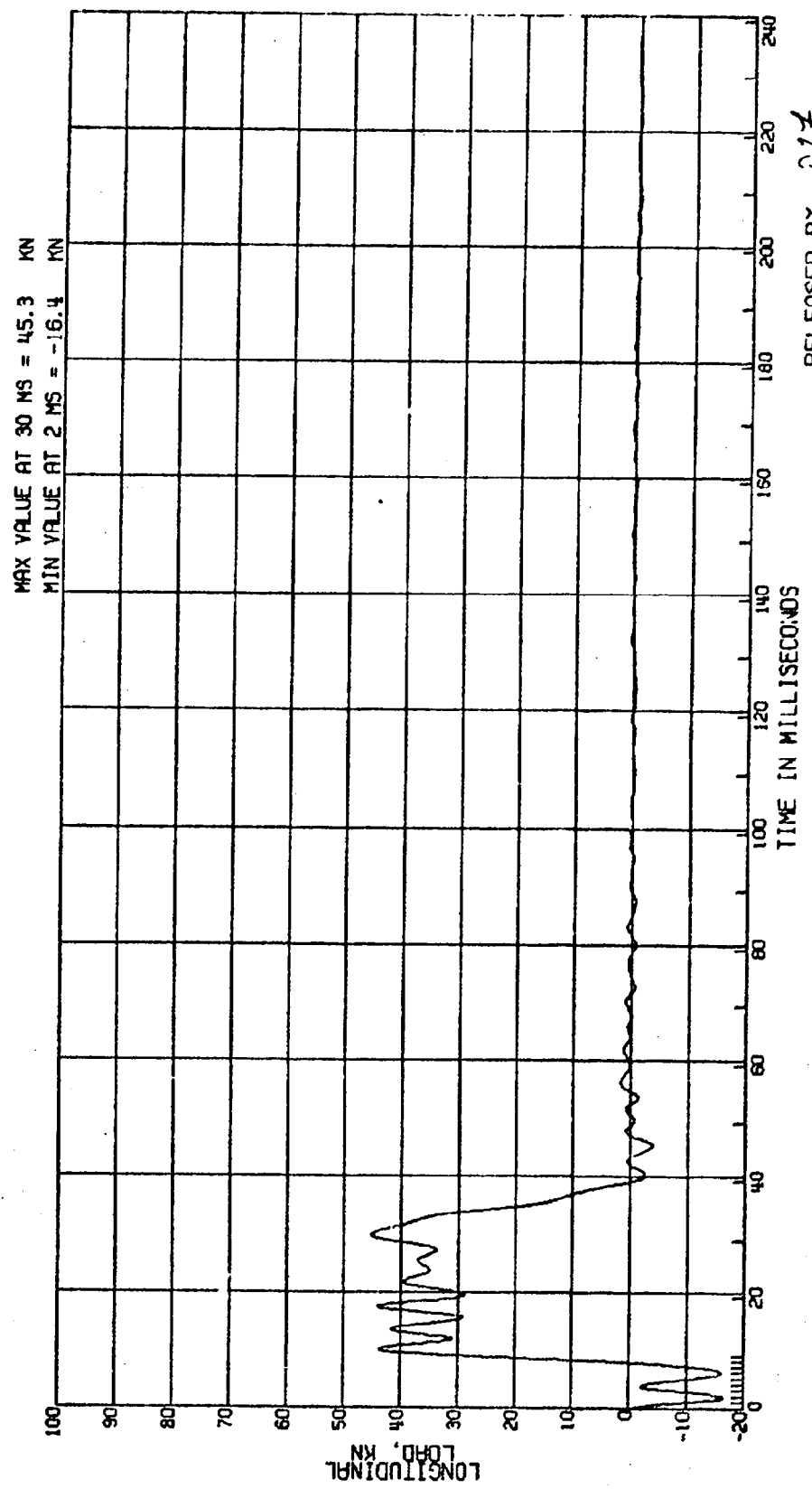
DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 19
DR-SIDE STRUCK UPPER BARRIER LOAD
TEST DATE: 01-17-84



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3865-448
FISHER BODY STRUCK BARRIER
R-D DATA SAE CLASS 60

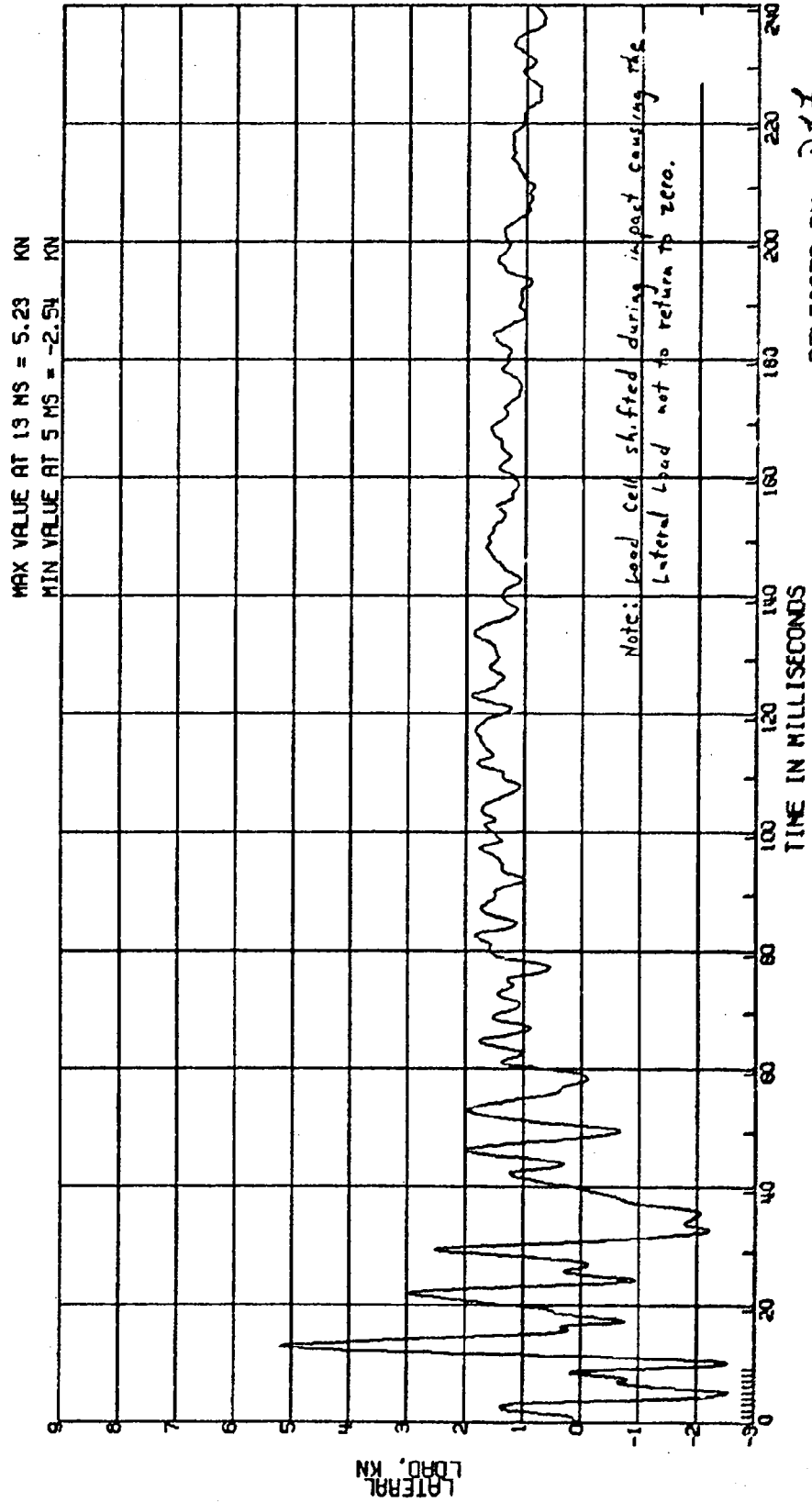
DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 20
PASS-SIDE STRUCK UPPER BARRIER LOAD
TEST DATE: 01-17-84



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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 2/
PASS-SIDE STRUCK UPPER BARRIER LOAD
TEST DATE: 01-17-84

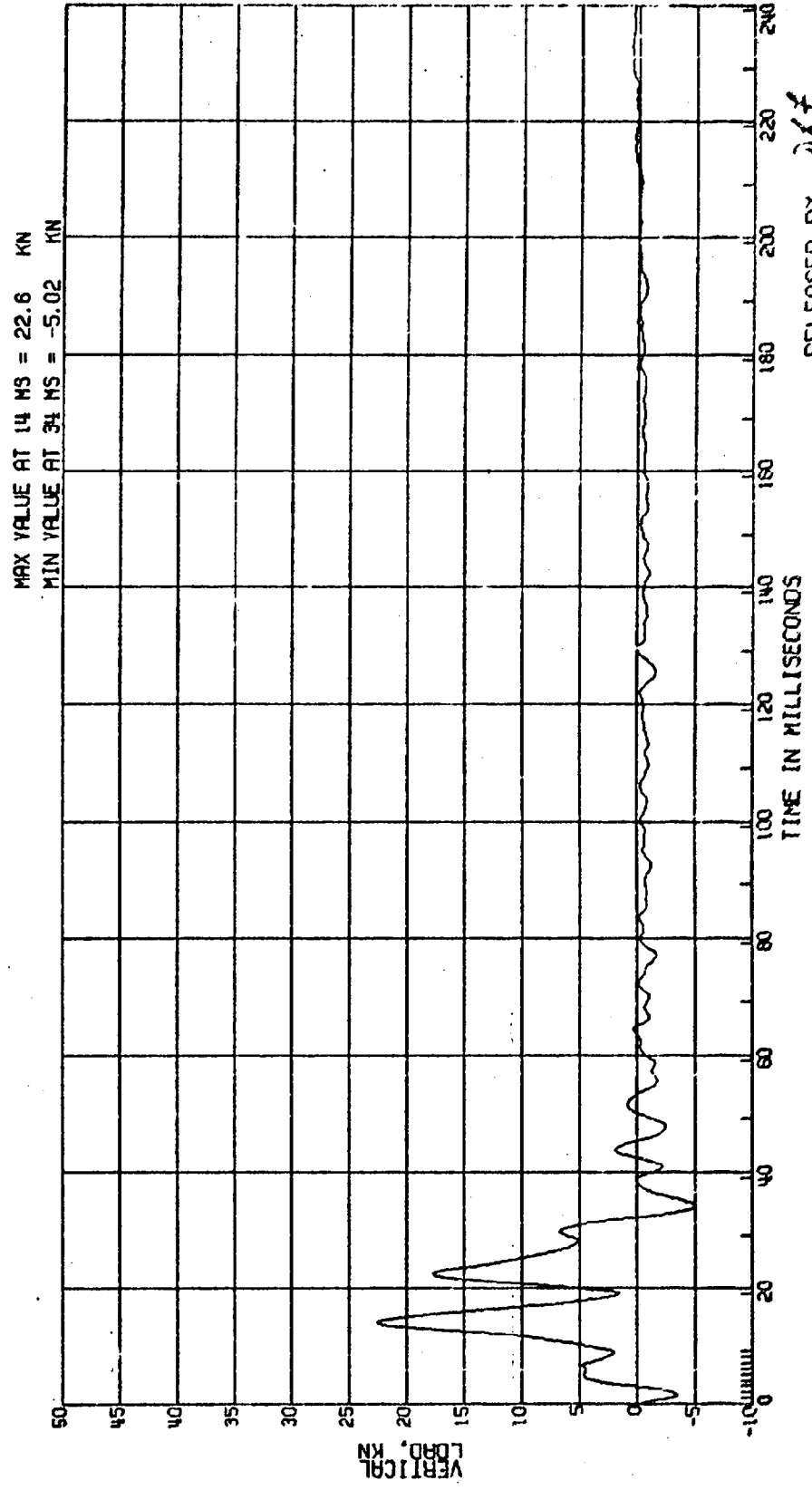


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3 PREPARED IN A.M. 10.51

C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 22
PASS-SIDE STRUCK UPPER BARRIER LOAD

TEST DATE: 01-17-84

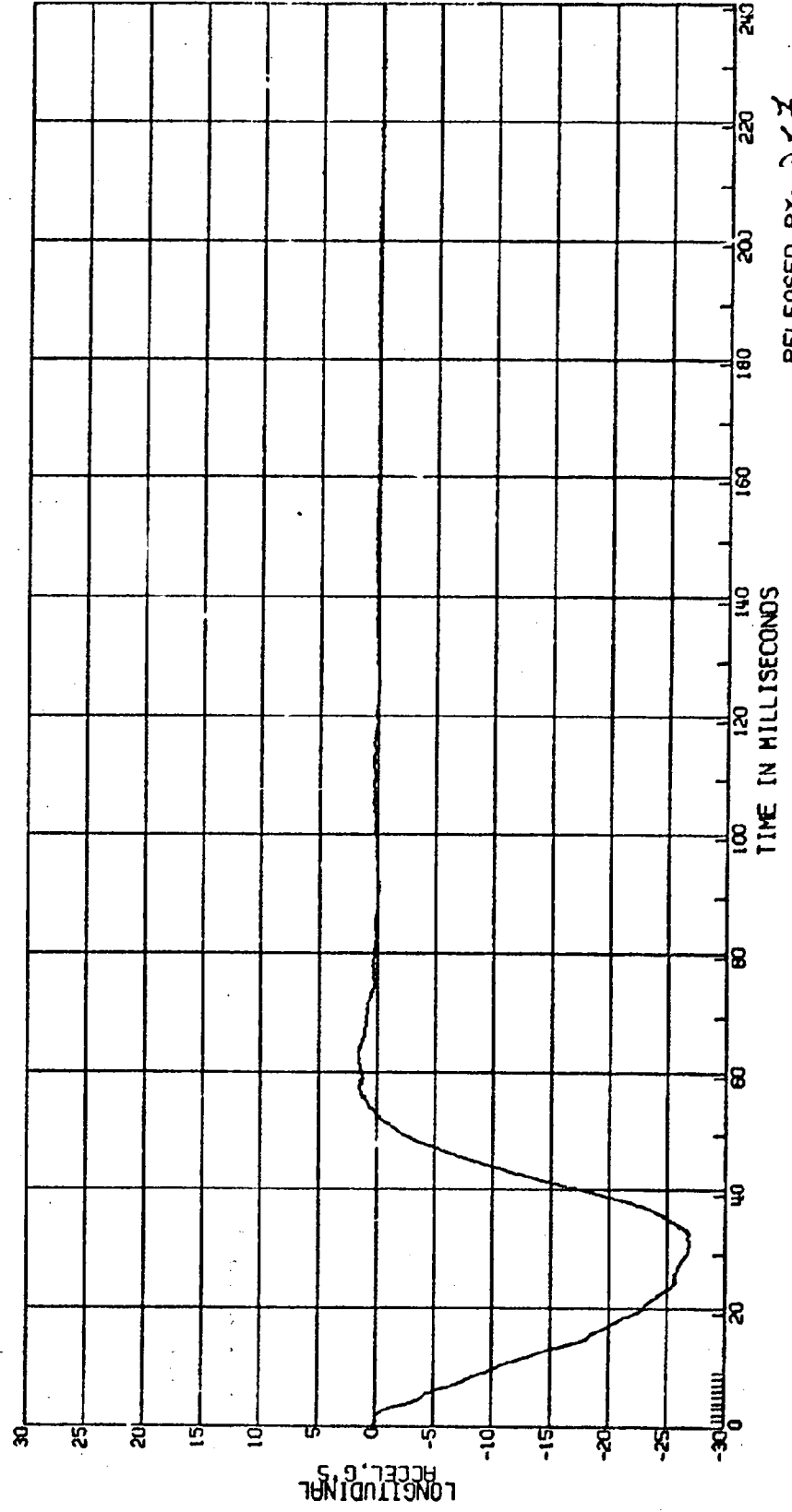


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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 23
YAW FIXTURE AXO ACCEL.

TEST DATE: 01-17-84



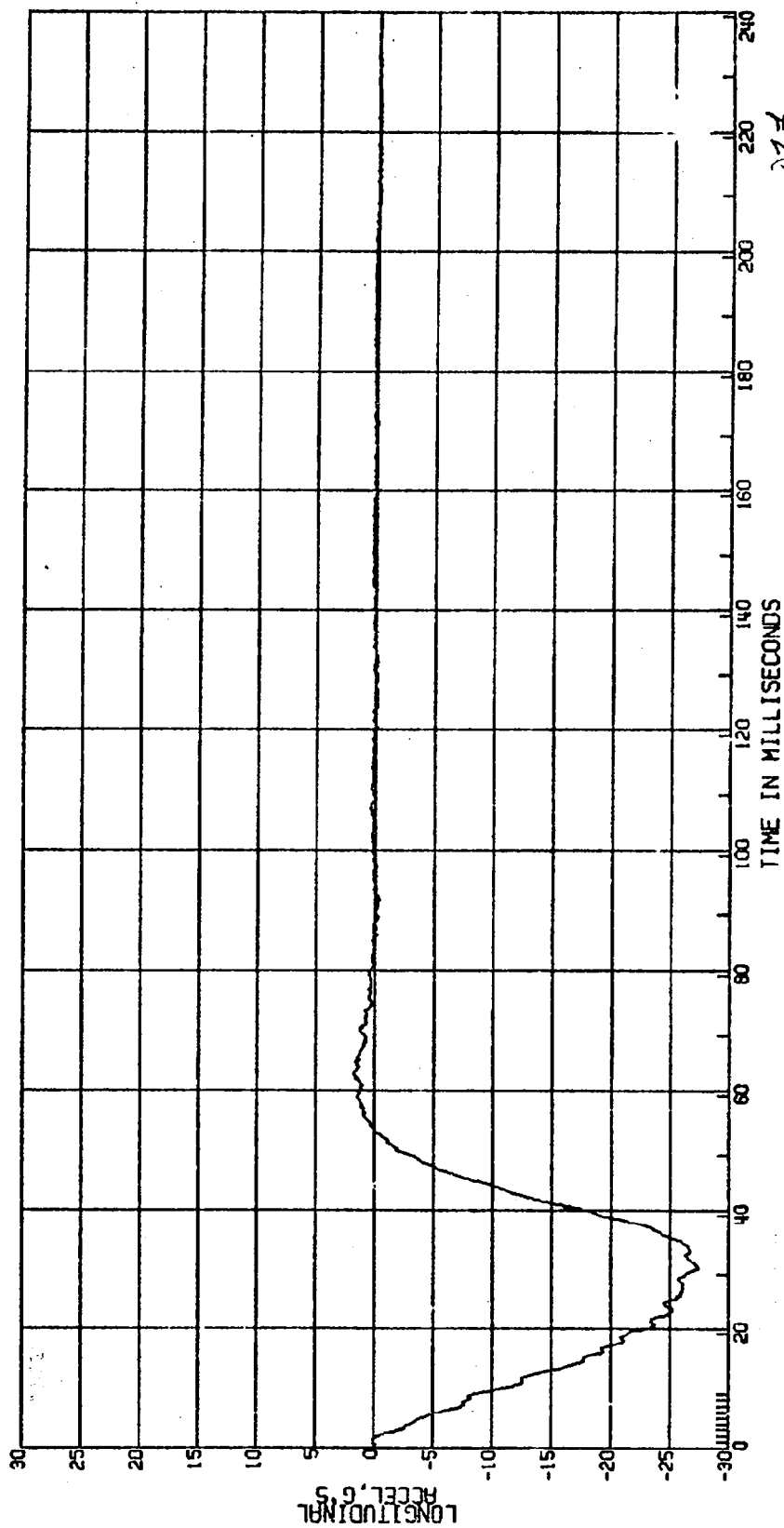
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3865-448 FISHER BODY STRUCK BARRIER
A-D DATA

DEFORMABLE BARR TO LOAD CELL BARR
YAW FIXTURE AX1 ACCEL.

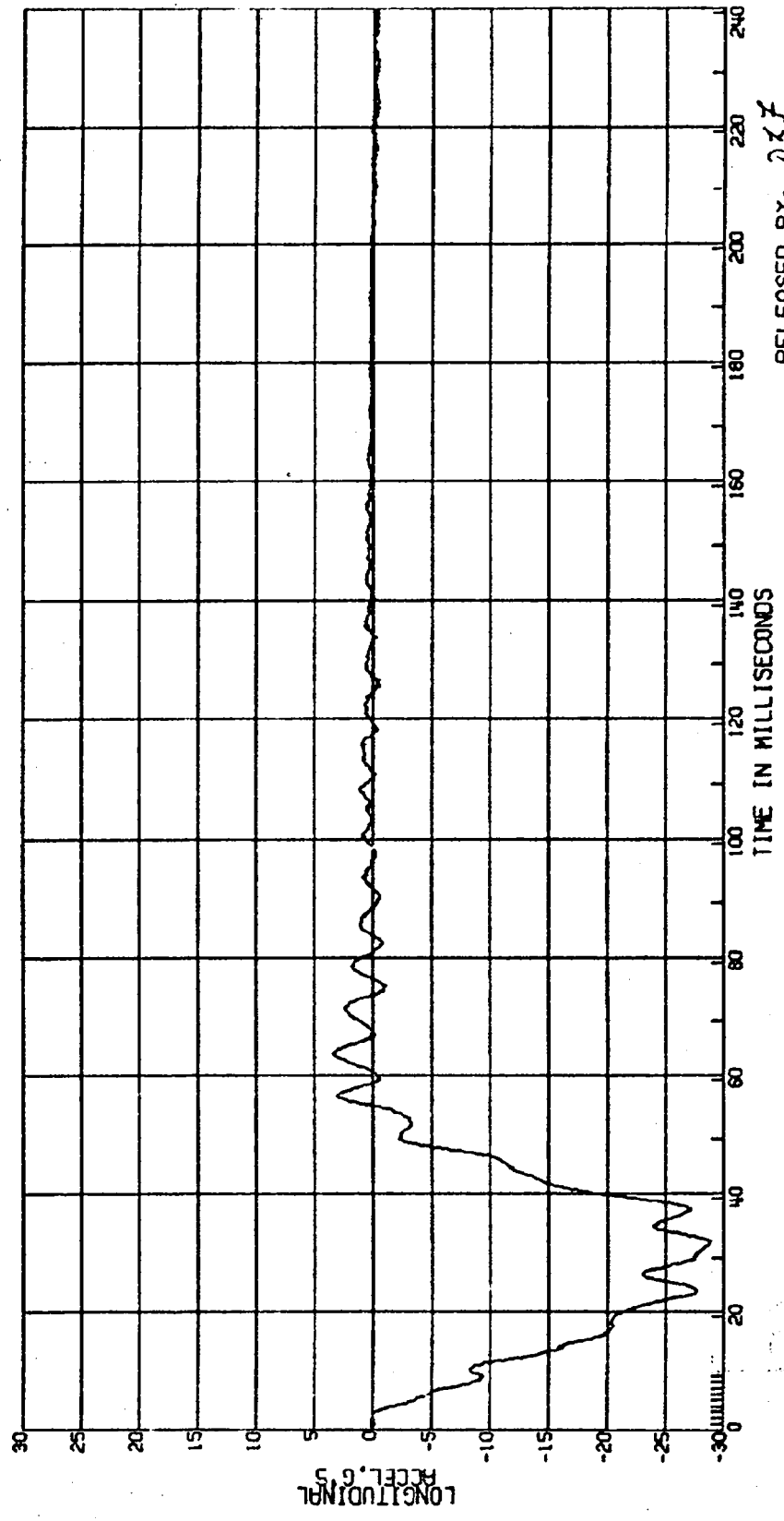
48.4 KM/H FIGURE 24

TEST DATE: 01-17-84



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C58548 BARRIER TO BARRIER DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 25
 3865-448
 FISHER BODY STRUCK BARRIER YAW FIXTURE AX3 ACCEL. TEST DATE: 01-17-84
 A-D DATA



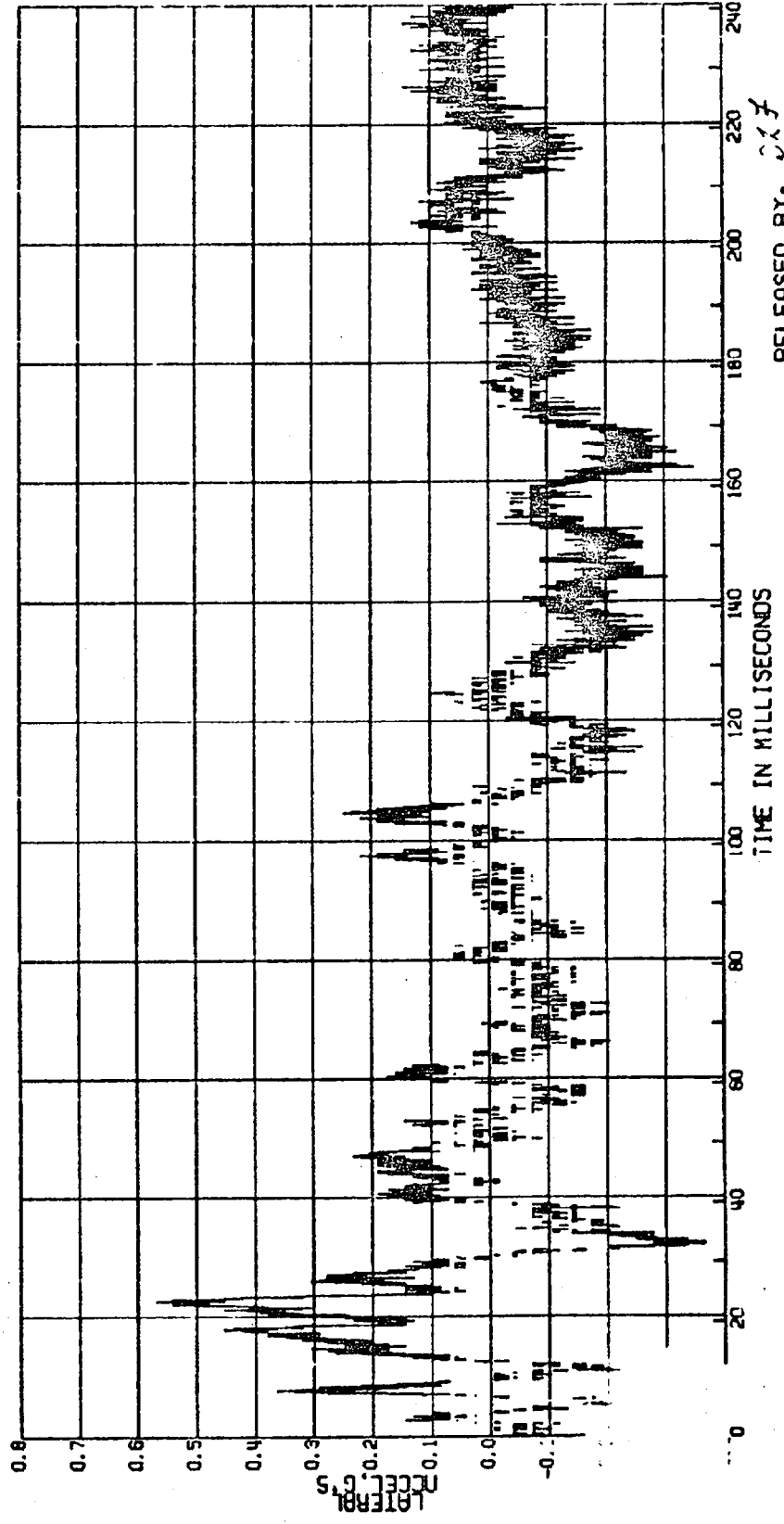
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2965-448
FISHER BODY STRUCK BARRIER
A-D DATA

DEFORMABLE BARR TO LOAD CELL BARR
YAW FIXTURE AYO ACCEL.

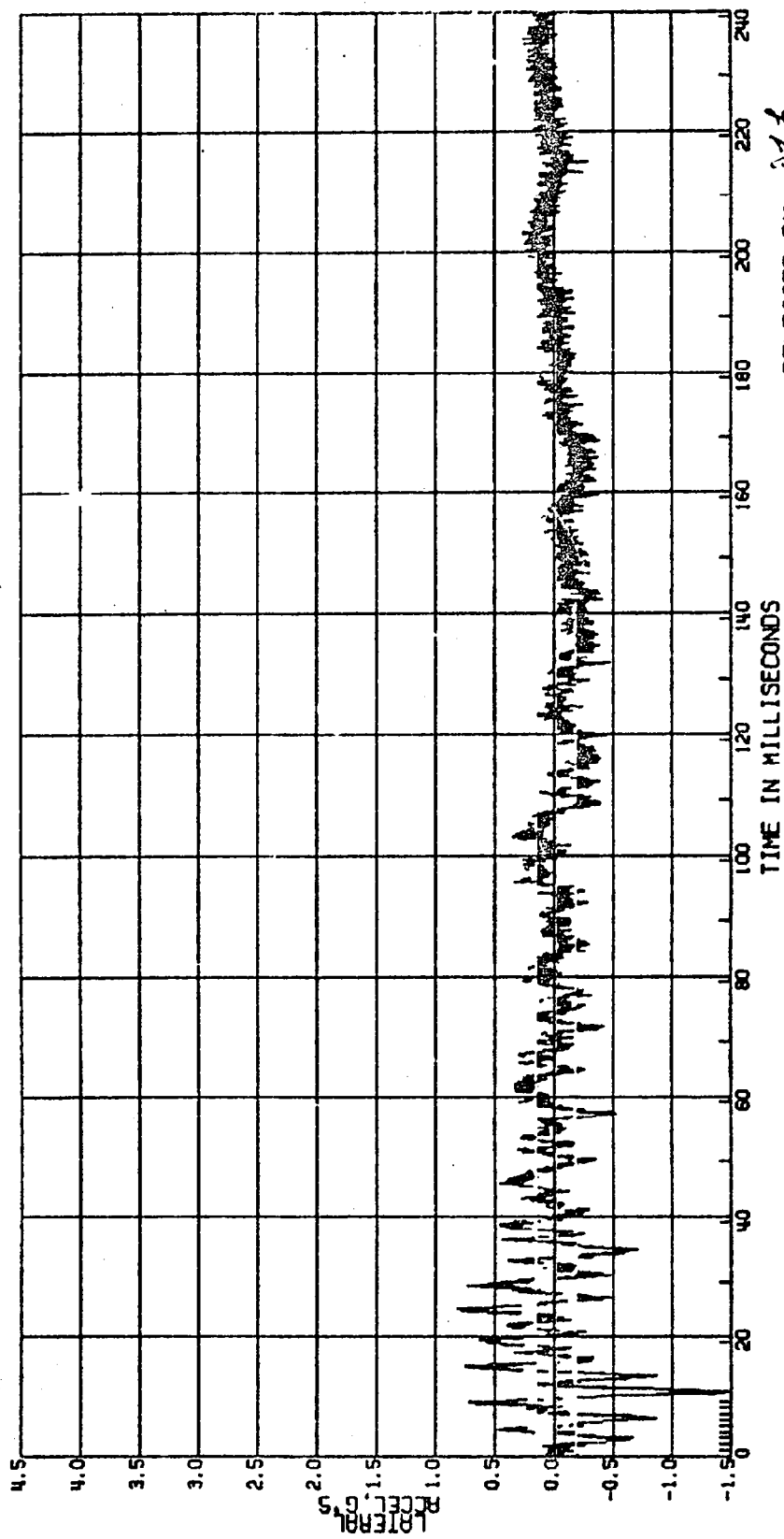
46.4 KM/H FIGURE 24

TEST DATE: 01-17-84



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C5854B BARRIER TO BARRIER DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 27
 3865-448
 FISHER BODY STRUCK BARRIER
 A-0 DATA
 YAW FIXTURE AY2 ACCEL.
 TEST DATE: 01-17-84

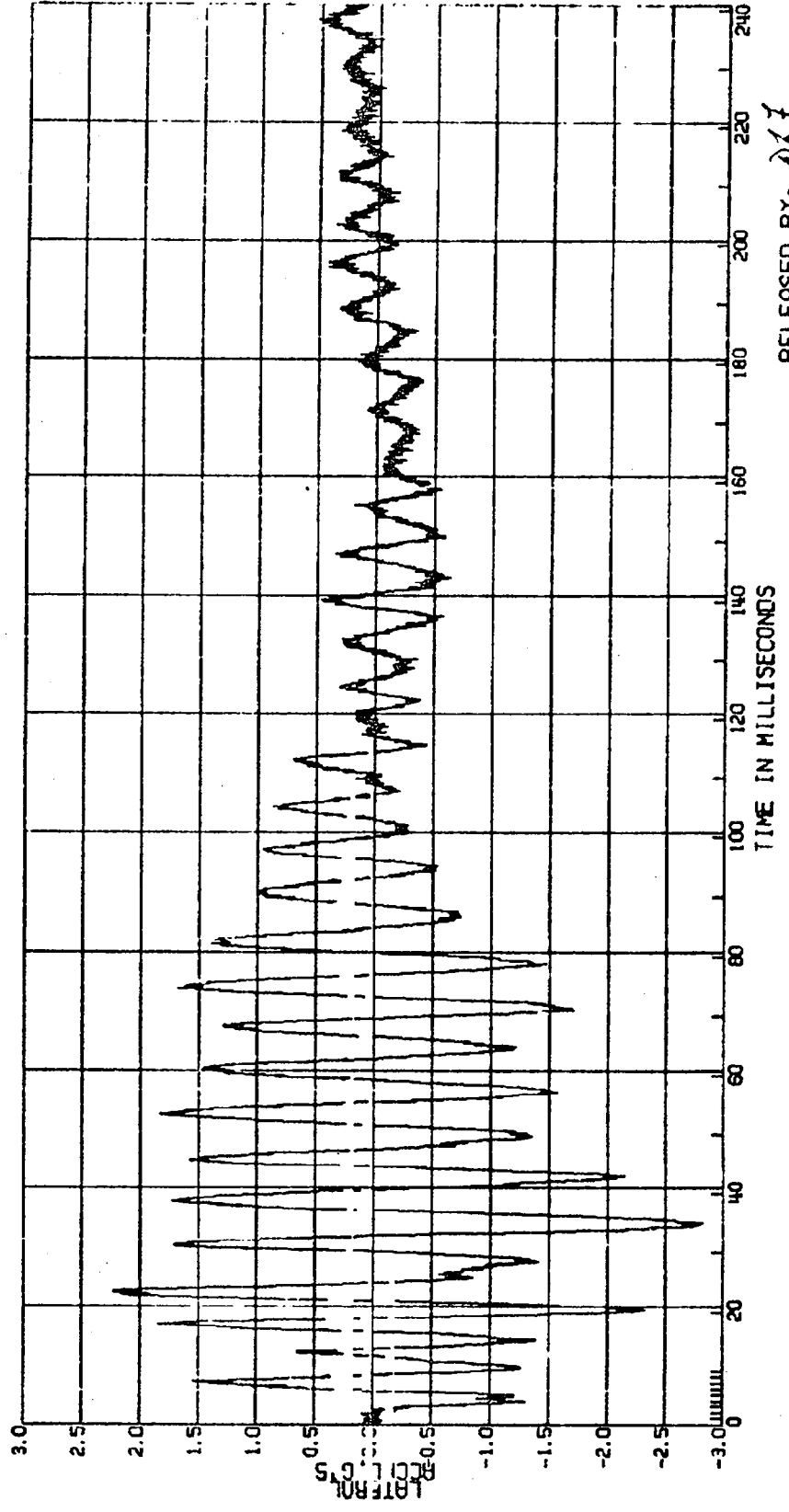


C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA

DEFORMABLE BARR TO LOAD CELL BARR
YAW FIXTURE AY3 ACCEL.

48.4 KM/H FIGURE 28

TEST DATE: 01-17-84

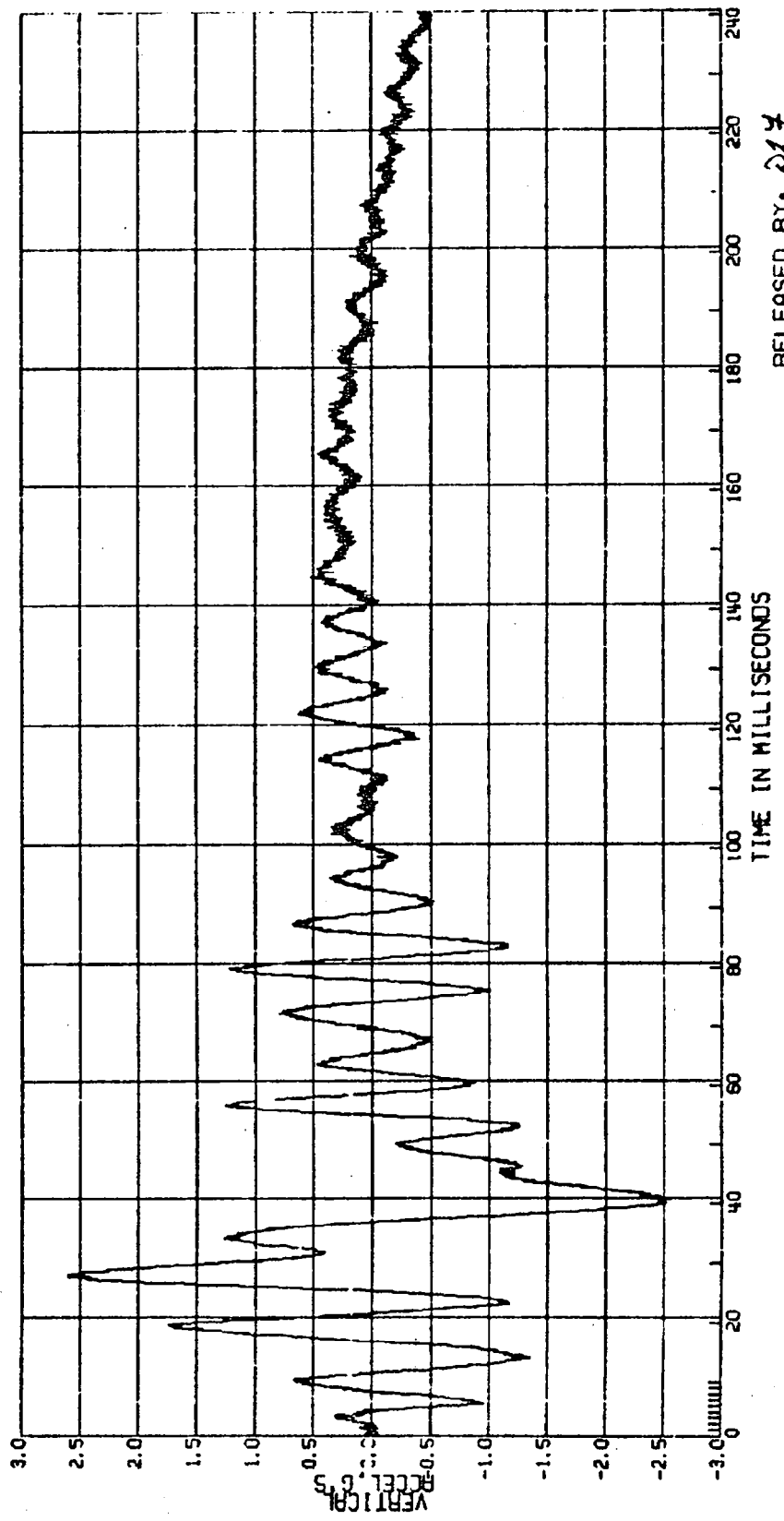


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C58548 BARRIER TO BARRIER
3865-448
FISHER BODY STRUCK BARRIER
A-D DATA

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 29
YAW FIXTURE AZO ACCEL.

TEST DATE: 01-17-84

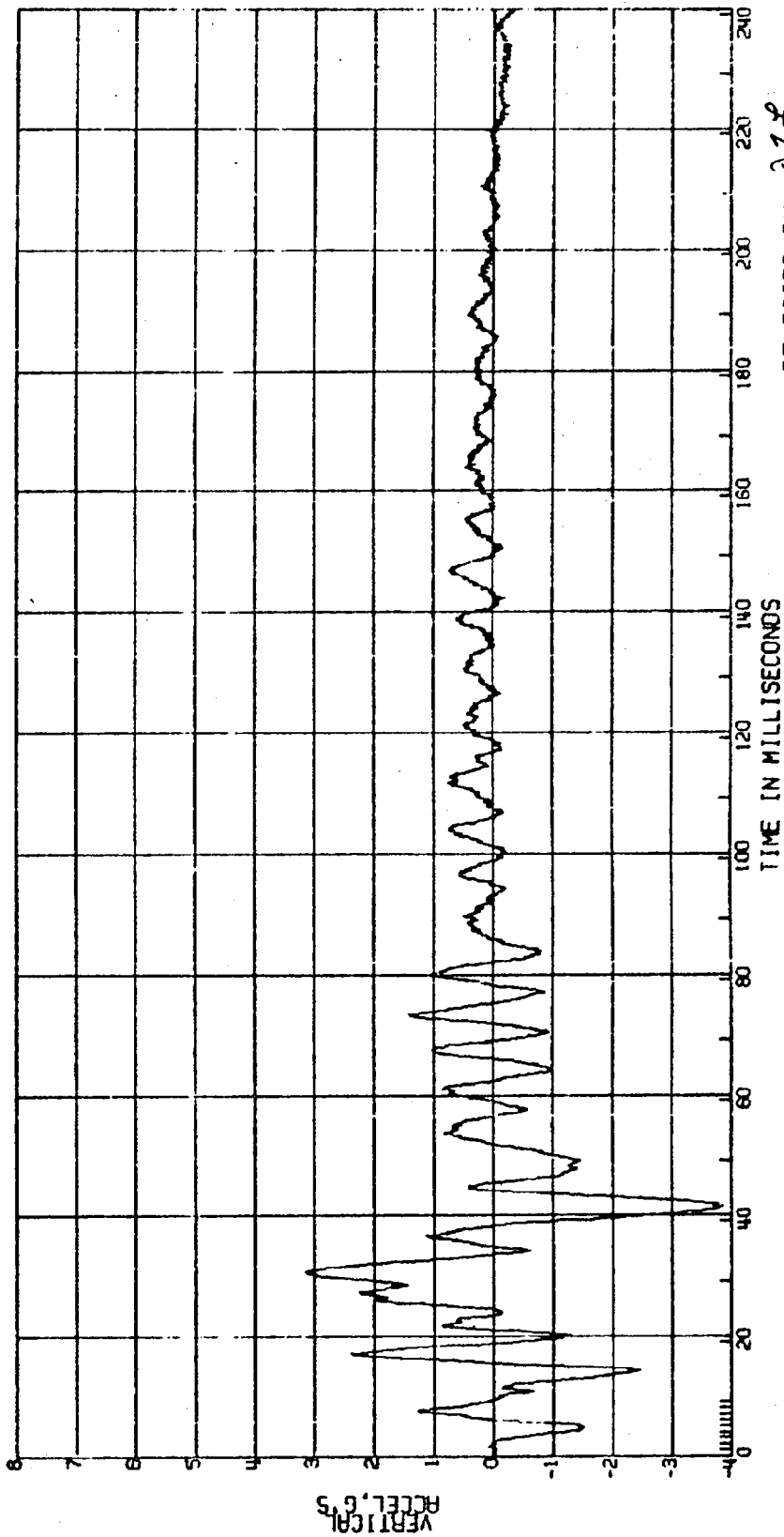


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CS8548 BARRIER TO BARRIER
3865-448 FISHER BODY STRUCK BARRIER
A-O DATA

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 30
YAW FIXTURE AZ1 ACCEL.

TEST DATE: 01-17-84



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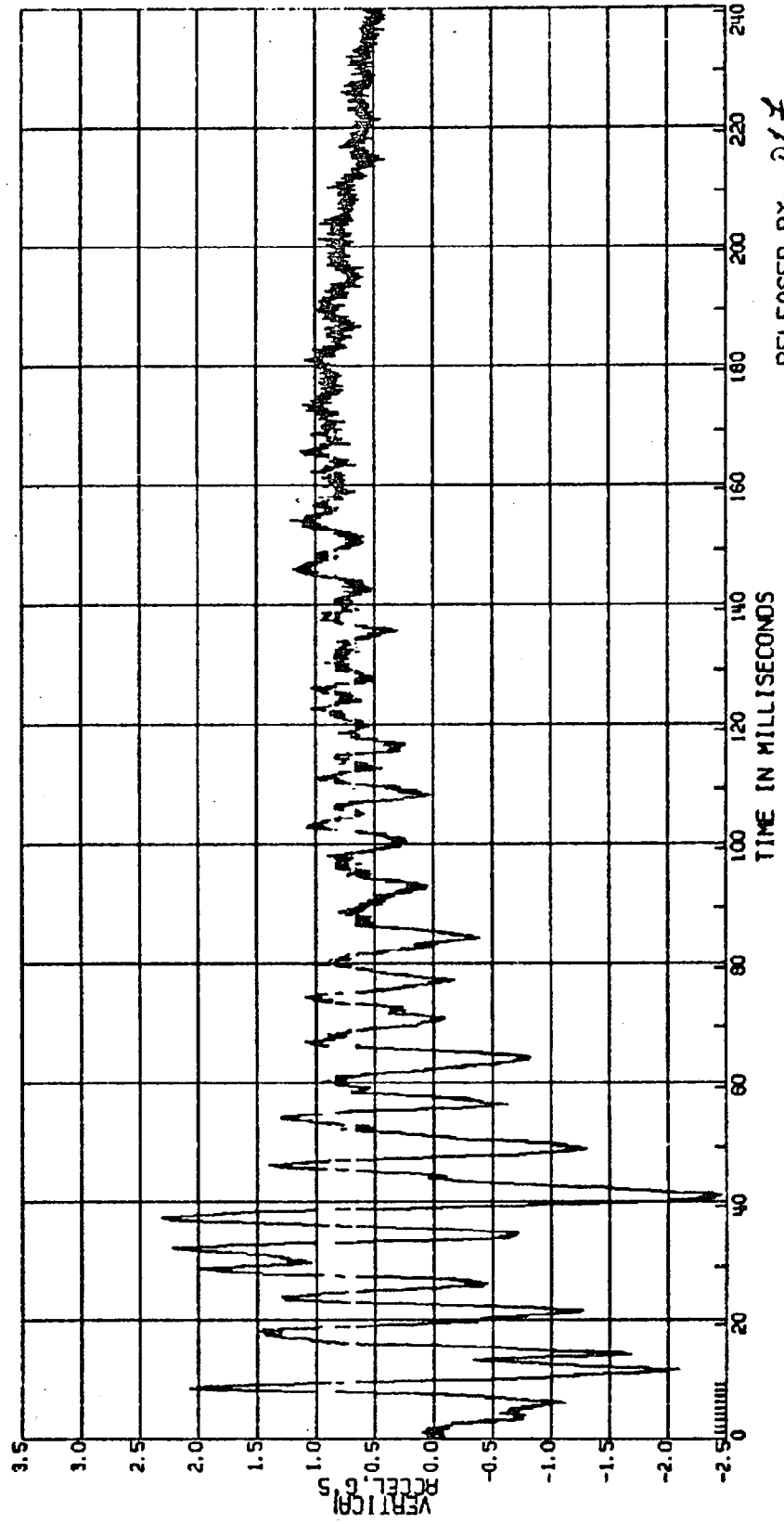
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3865-448
FISHER BODY STRUCK BARRIER
A-D DATA

DEFORMABLE BARR TO LOAD CELL BARR

48.4 KM/H FIGURE 3/

YAW FIXTURE AZ2 ACCEL.

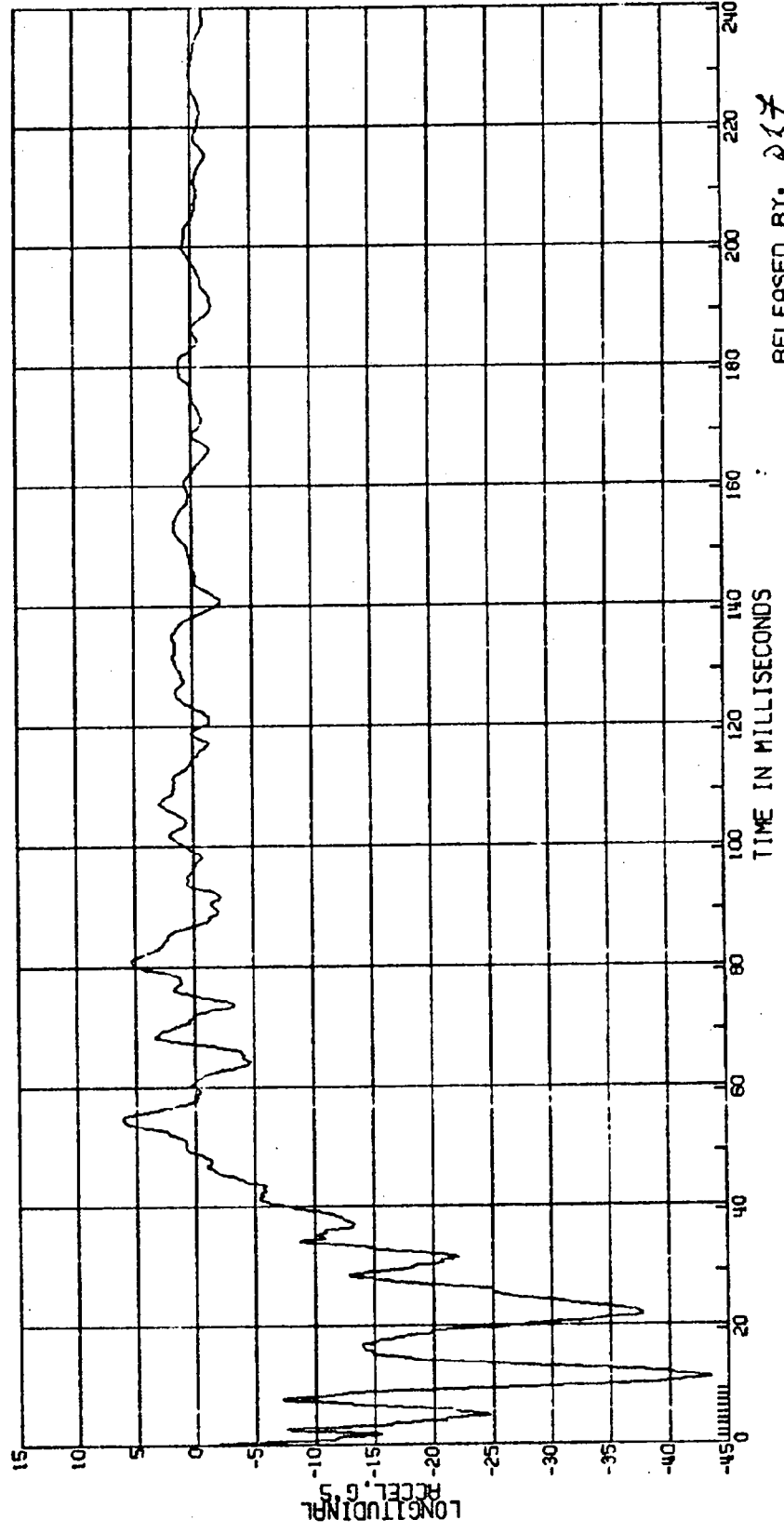
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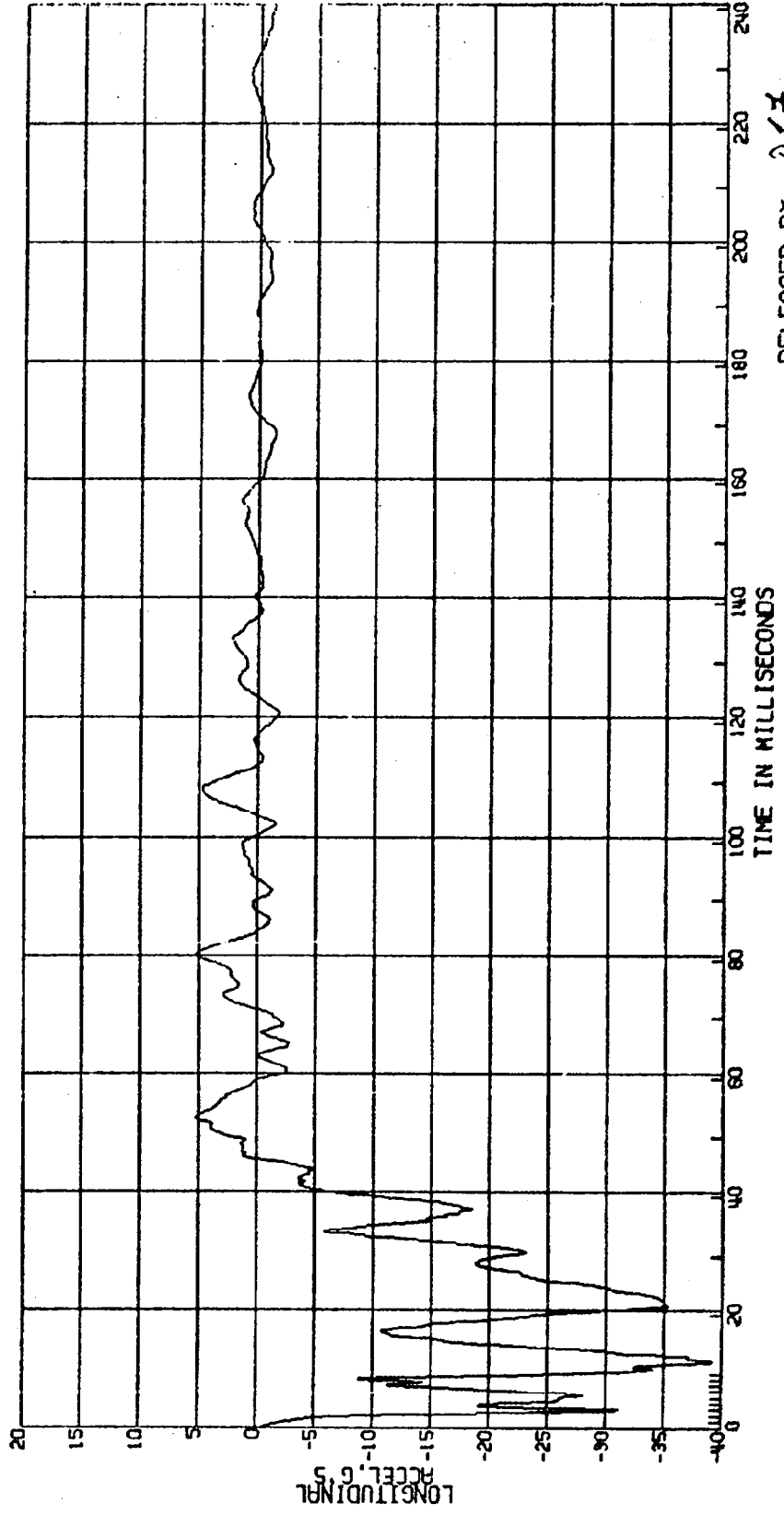
C5854A BARRIER TO BARRIER
3865-448 FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 32
DR-SIDE STRIKING BARRIER FRONT ACCEL. TEST DATE:01-17-84



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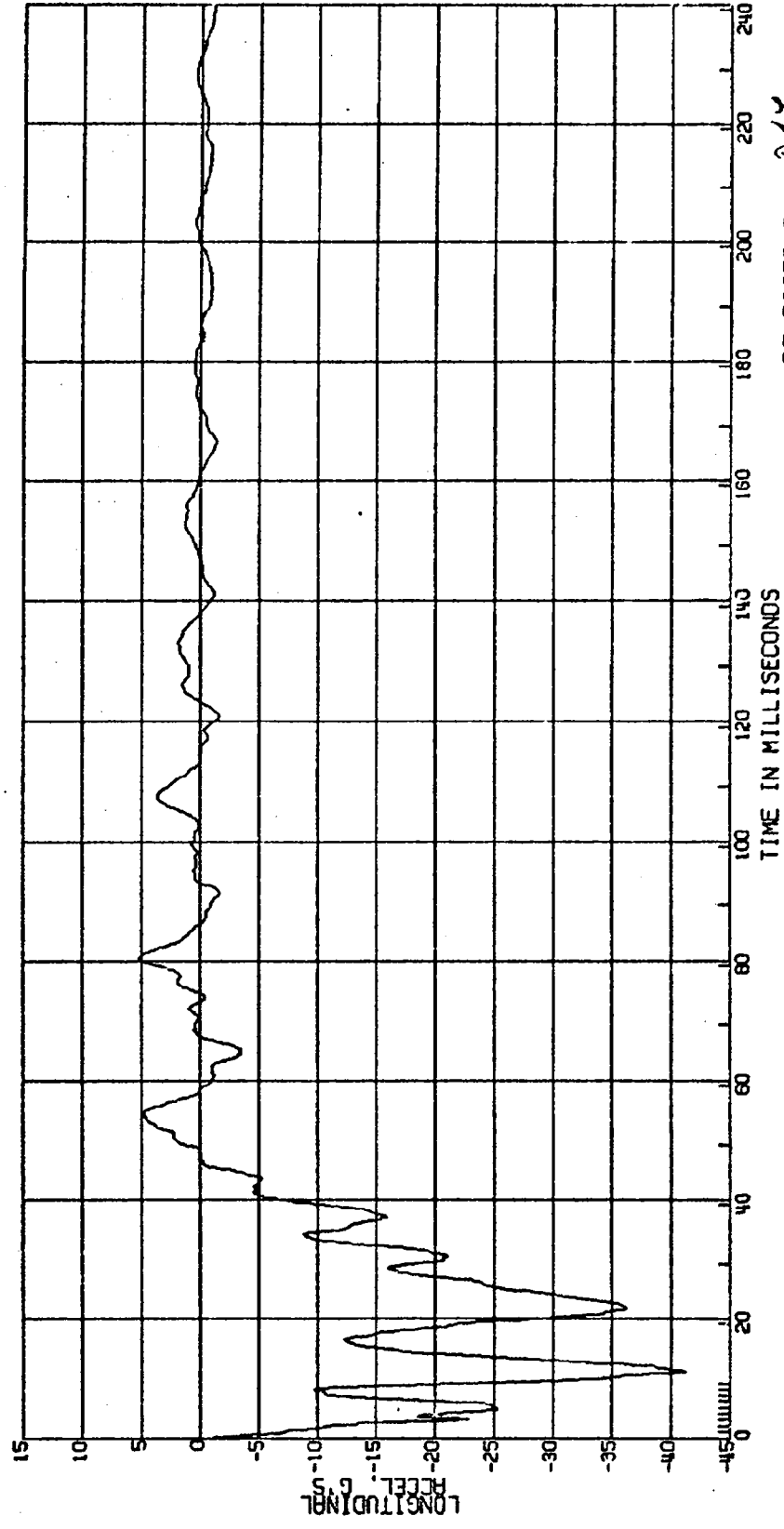
CS854A BARRIER TO BARRIER DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 33
 3865-448
 FISHER BODY STRIKING BARRIER PASS-SIDE STRIKING BARRIER FRONT ACCEL. TEST DATE: 01-17-84
 A-D DATA SAE CLASS 60



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C5854A BARRIER TO BARRIER
3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARRA TO LOAD CELL BARRA 48.4KM/H FIGURE 34
AVERAGED DRIVER & PASSENGER SIDE
STRIKING BARRIER FRONT ACCELERATION
TEST DATE: 01-17-84

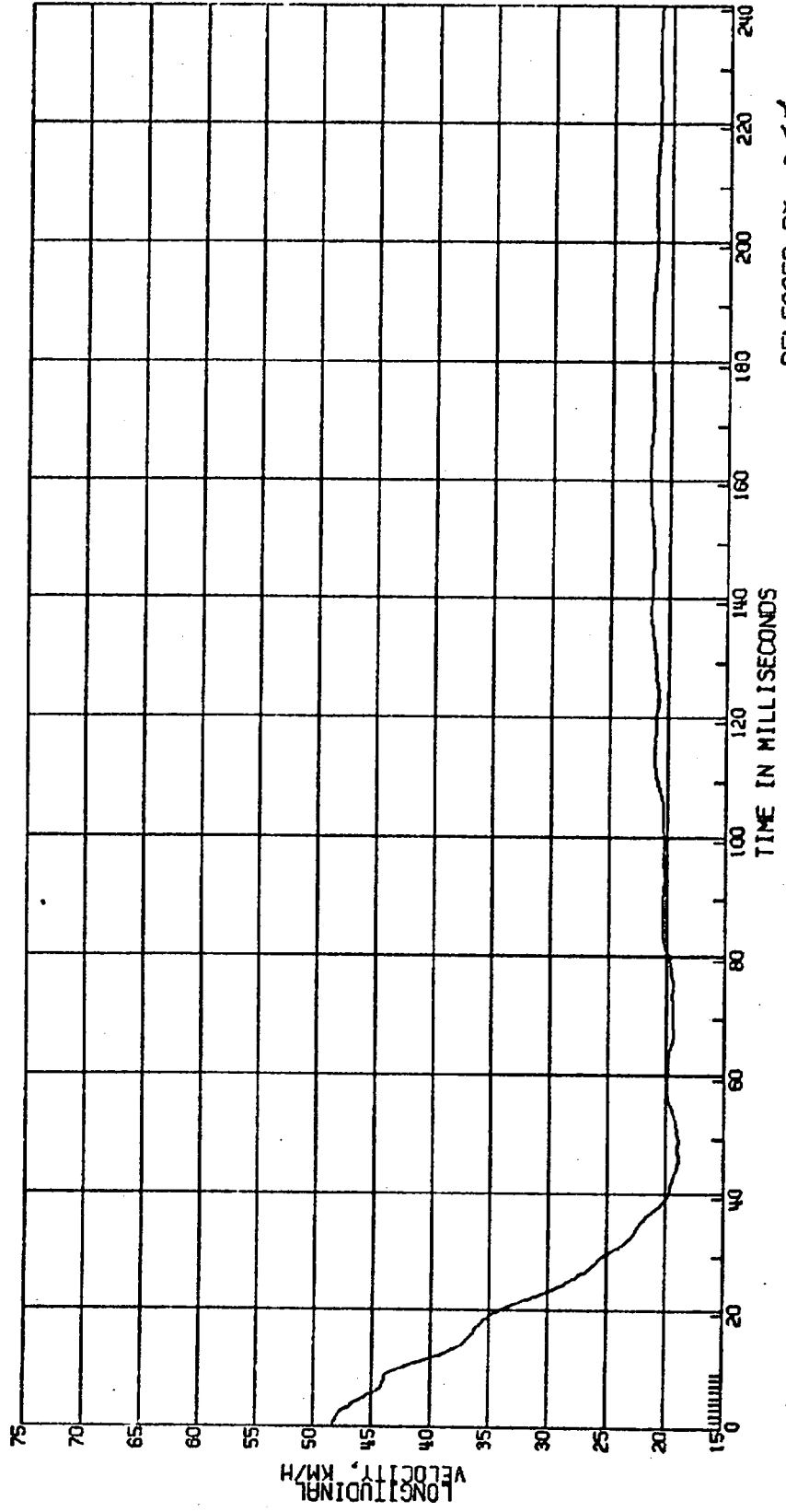


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C5854A BARRIER TO BARRIER
3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 35
COMPUTED STRIKING BARRIER VELOCITY
(1ST INTEGRAL AVE DR & PASS FRT ACCEL)

TEST DATE: 01-17-84

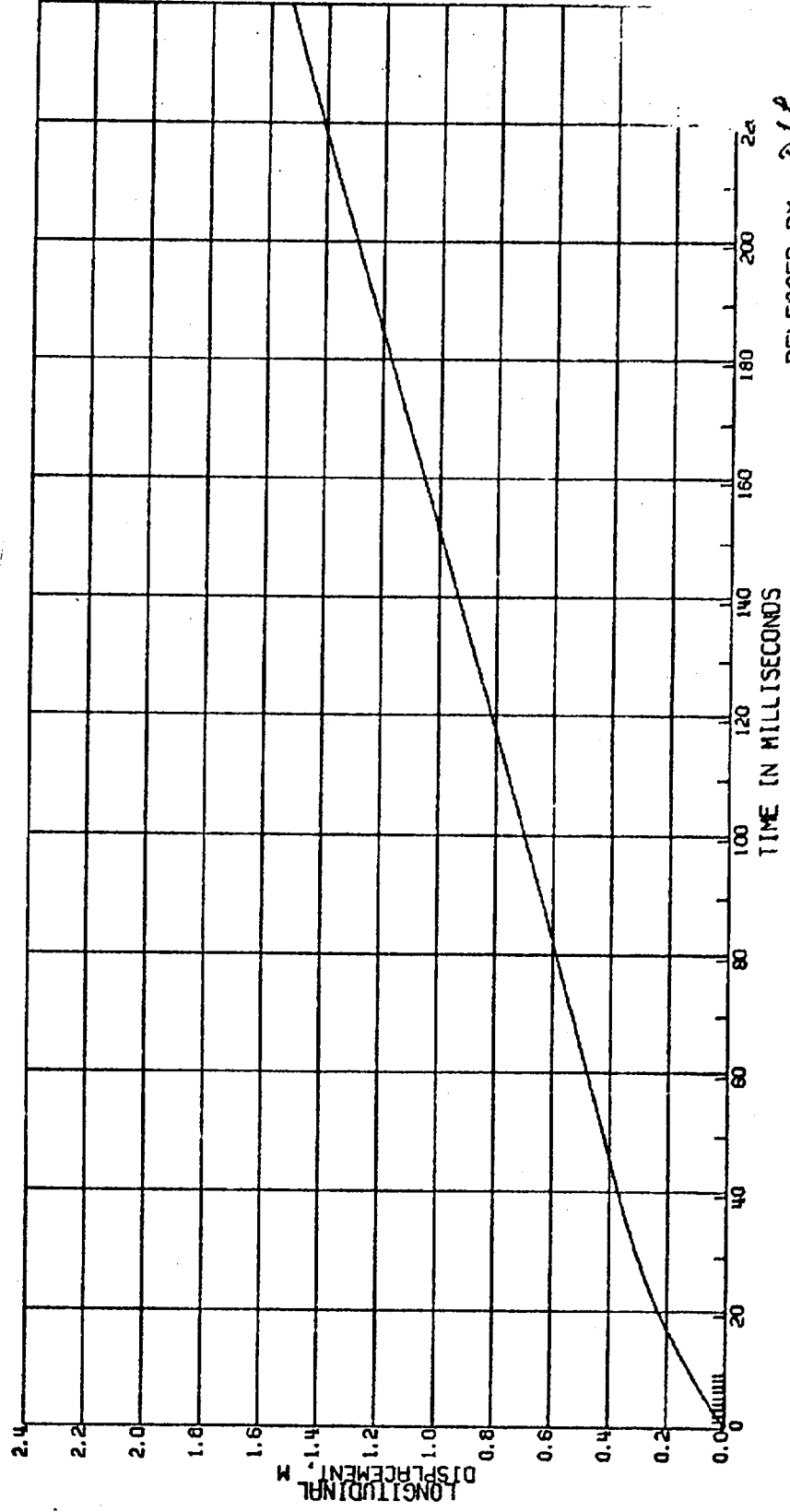


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3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 36
COMPUTED MOVING BARRIER DISPLACEMENT
(2ND INTEGRAL AVE DR & PASS FRT ACCEL)

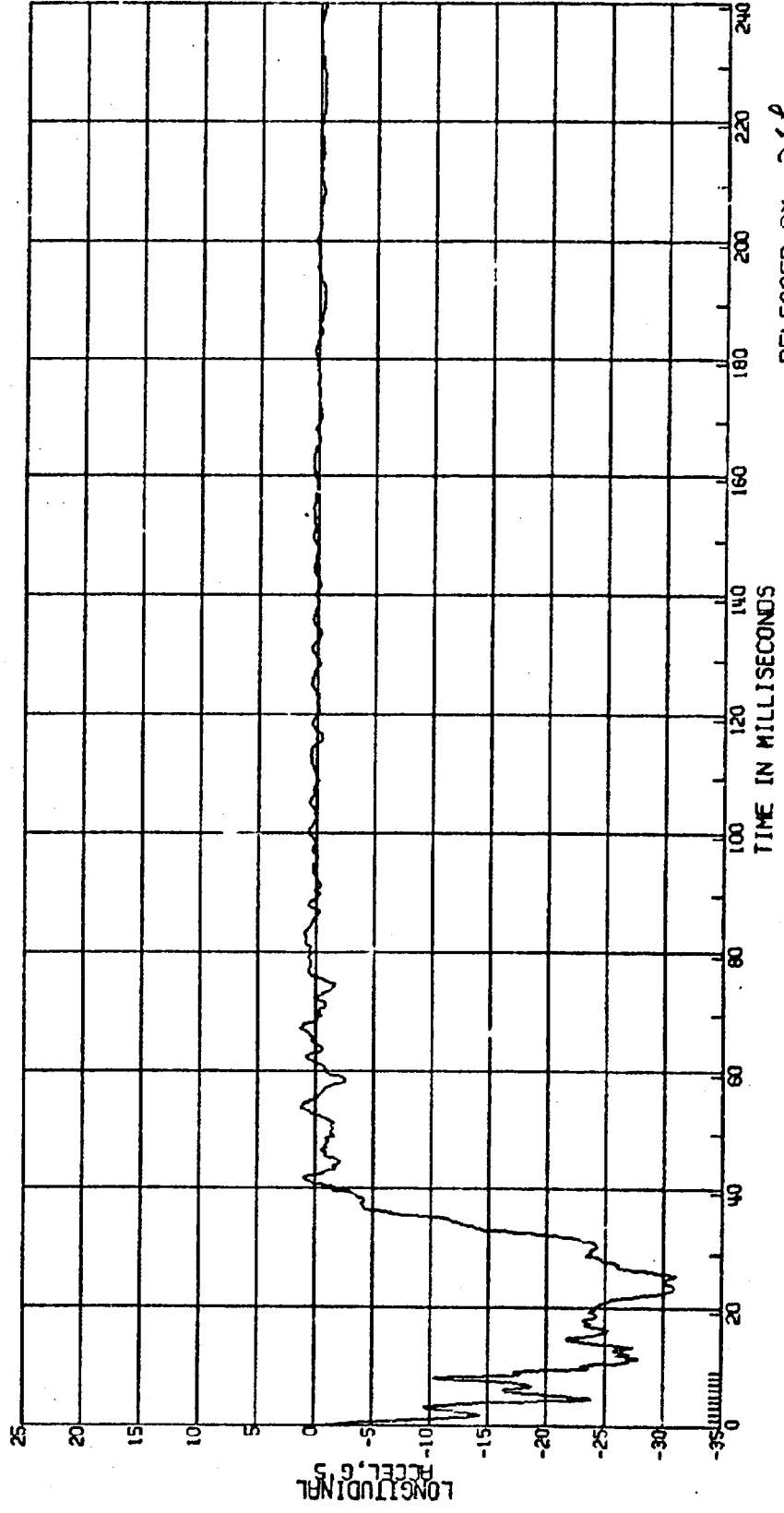
TEST DATE: 01-17-84



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9 PROCESSED 19 JAN 1982

CS854A BARRIER TO BARRIER
3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS GO

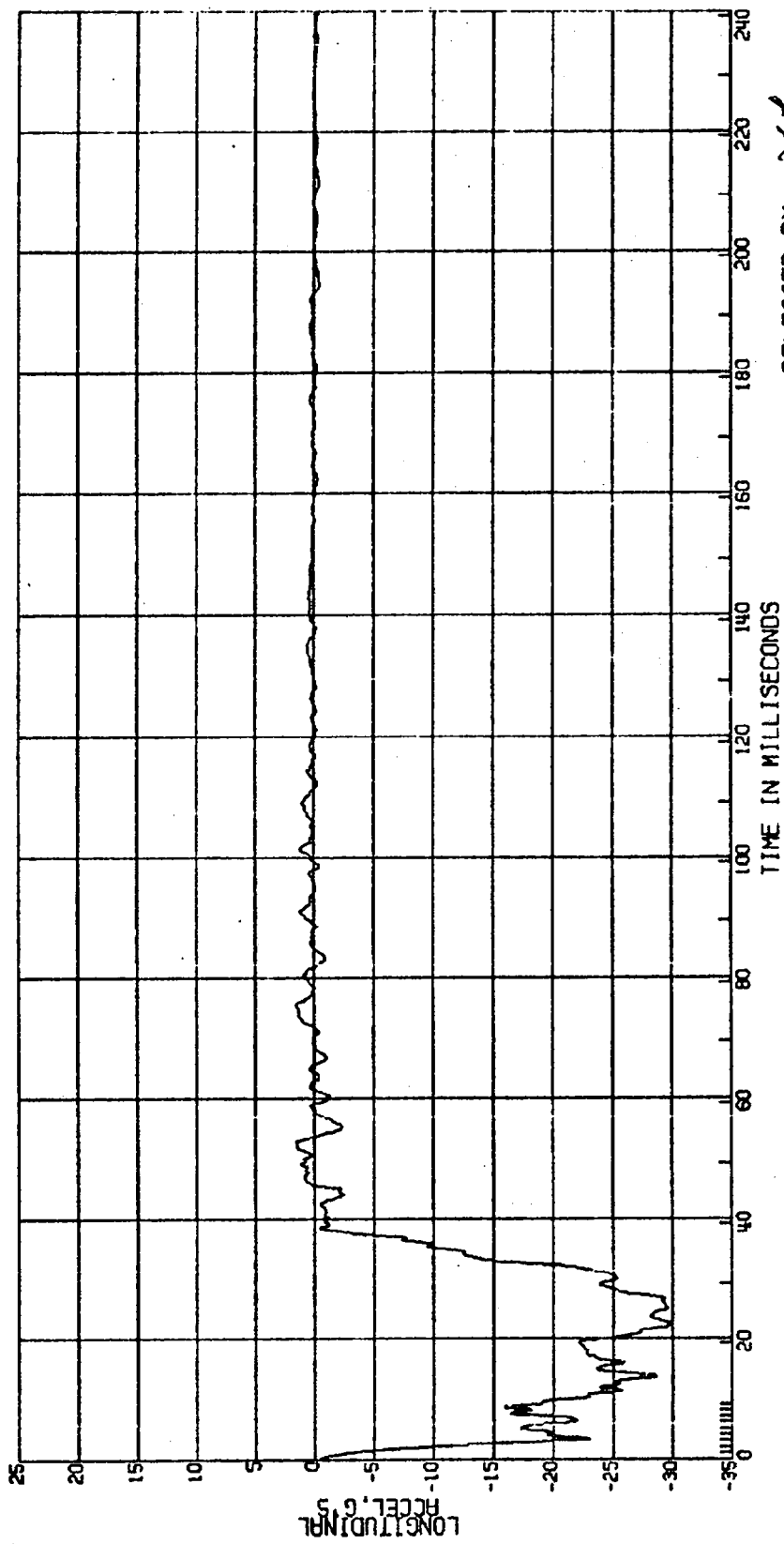
DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 37
OR-SIDE STRIKING BARRIER MID ACCEL. TEST DATE:01-17-84



RELEASED BY: *dlf*
10 PROCESSED 18 JAN 1984

C5854A BARRIER TO BARRIER
3835-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 60

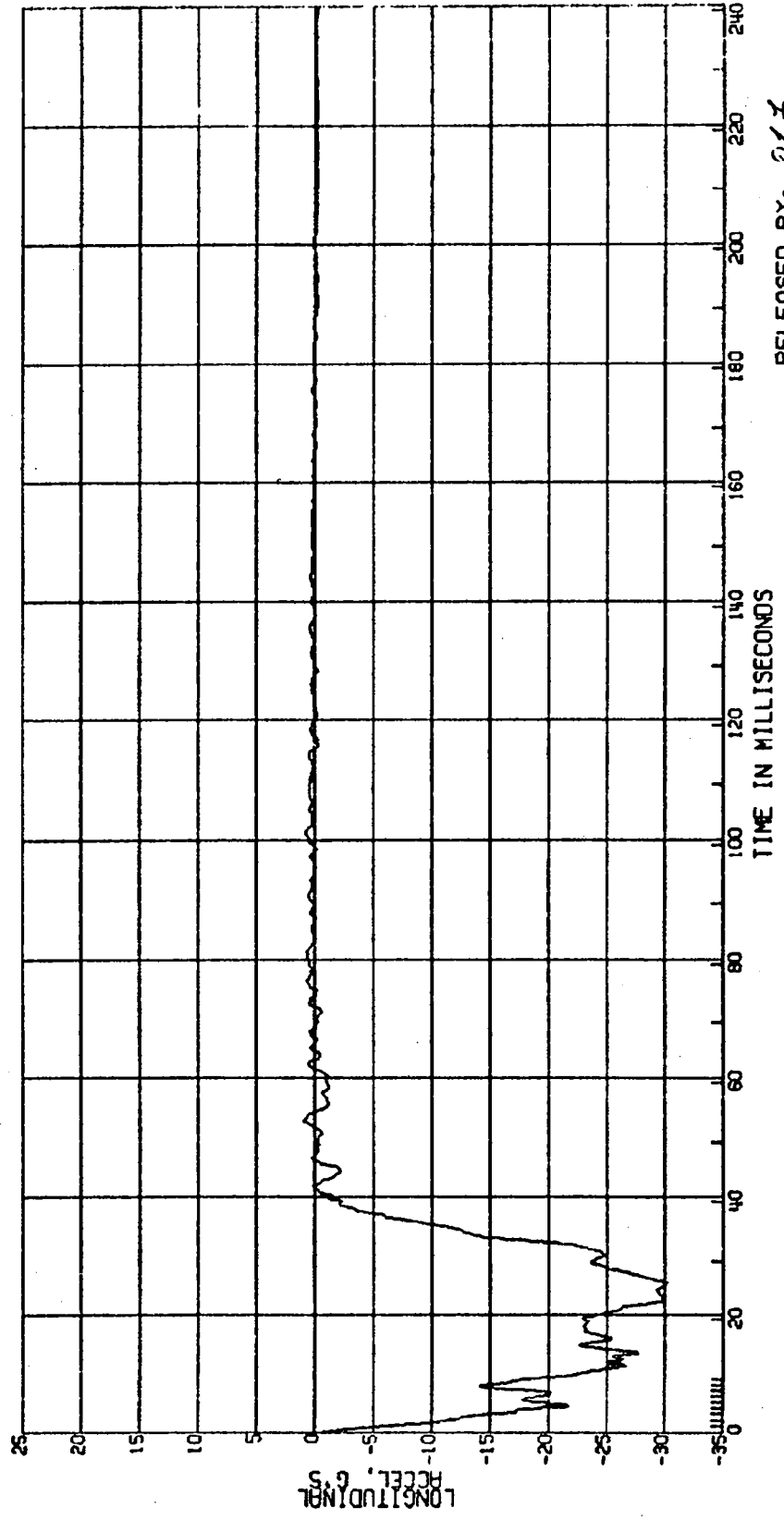
DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 38
PASS-SIDE STRIKING BARRIER MID ACCEL. TEST DATE:01-17-84



RELEASED BY: *DLF*
13 PROCESSED 18 JAN 84 19:52

C5854A BARRIER TO BARRIER
3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 60

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 39
AVERAGED DRIVER & PASSENGER SIDE
STRIKING BARRIER MID ACCELERATION
TEST DATE:01-17-84

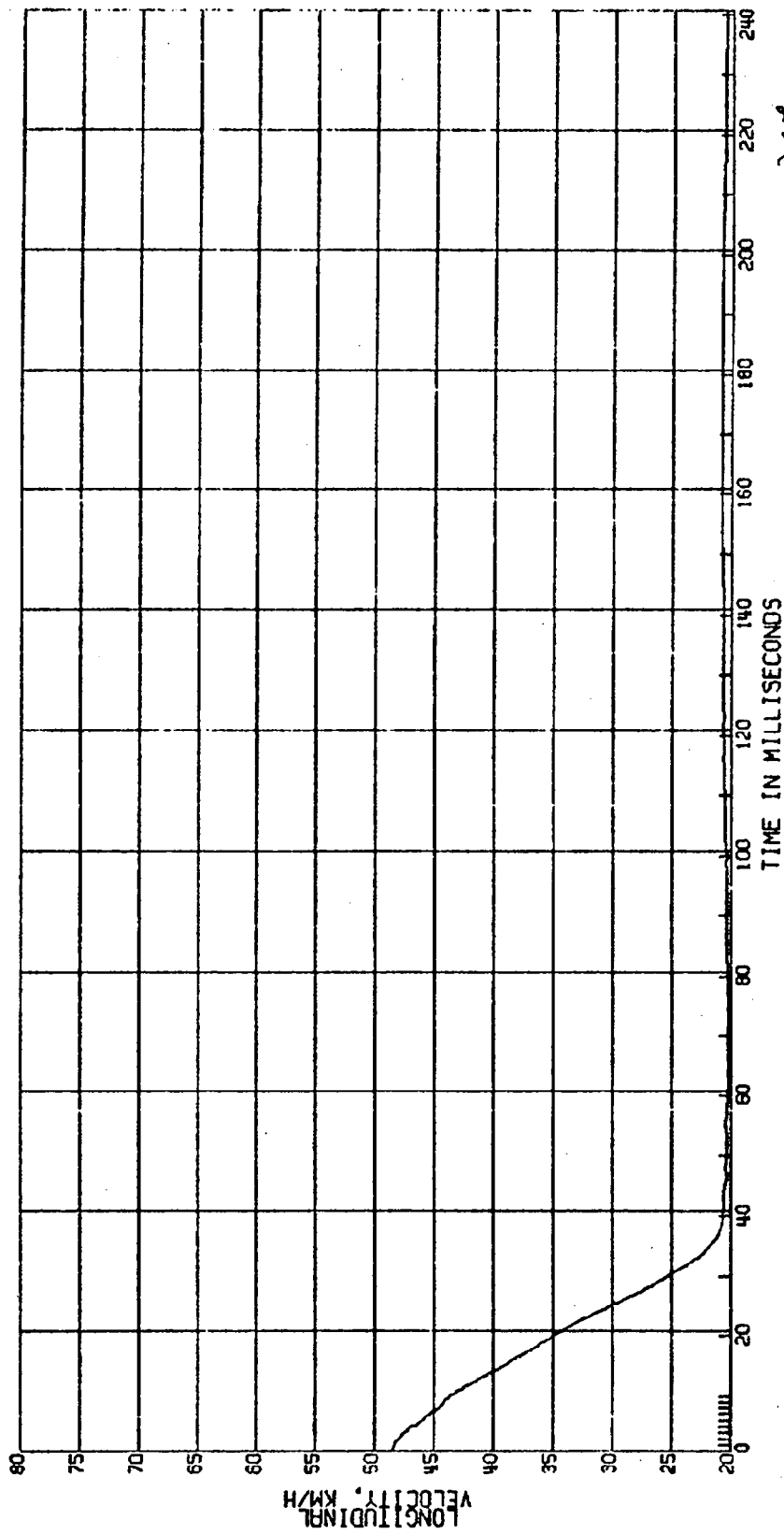


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16 PROCESSED 16 JAN 84 15:53

C5854A BARRIER TO BARRIER
3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4KM/H FIGURE 40
COMPUTED STRIKING BARRIER VELOCITY
(1ST INTEGRAL AVE DR & PASS MID ACCEL)

TEST DATE:01-17-84

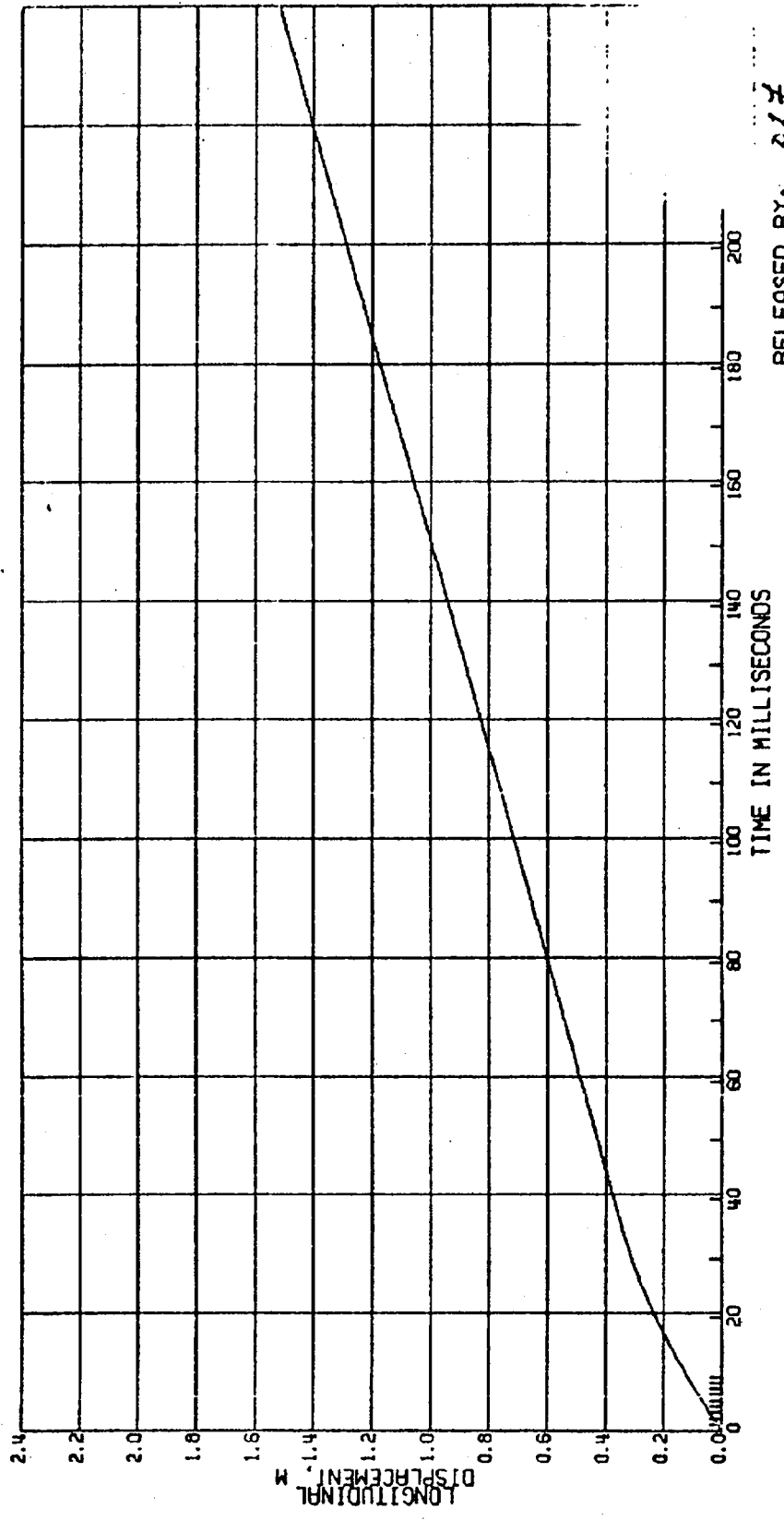


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C5854A BARRIER TO BARRIER
3865-448
FISHER BODY STRIKING BARRIER
A-D DATA SAE CLASS 180

DEFORMABLE BARR TO LOAD CELL BARR 48.4 KM/H FIGURE 4/1
COMPUTED MOVING BARRIER DISPLACEMENT
(2ND INTEGRAL AVE DR & PASS MID ACCEL)

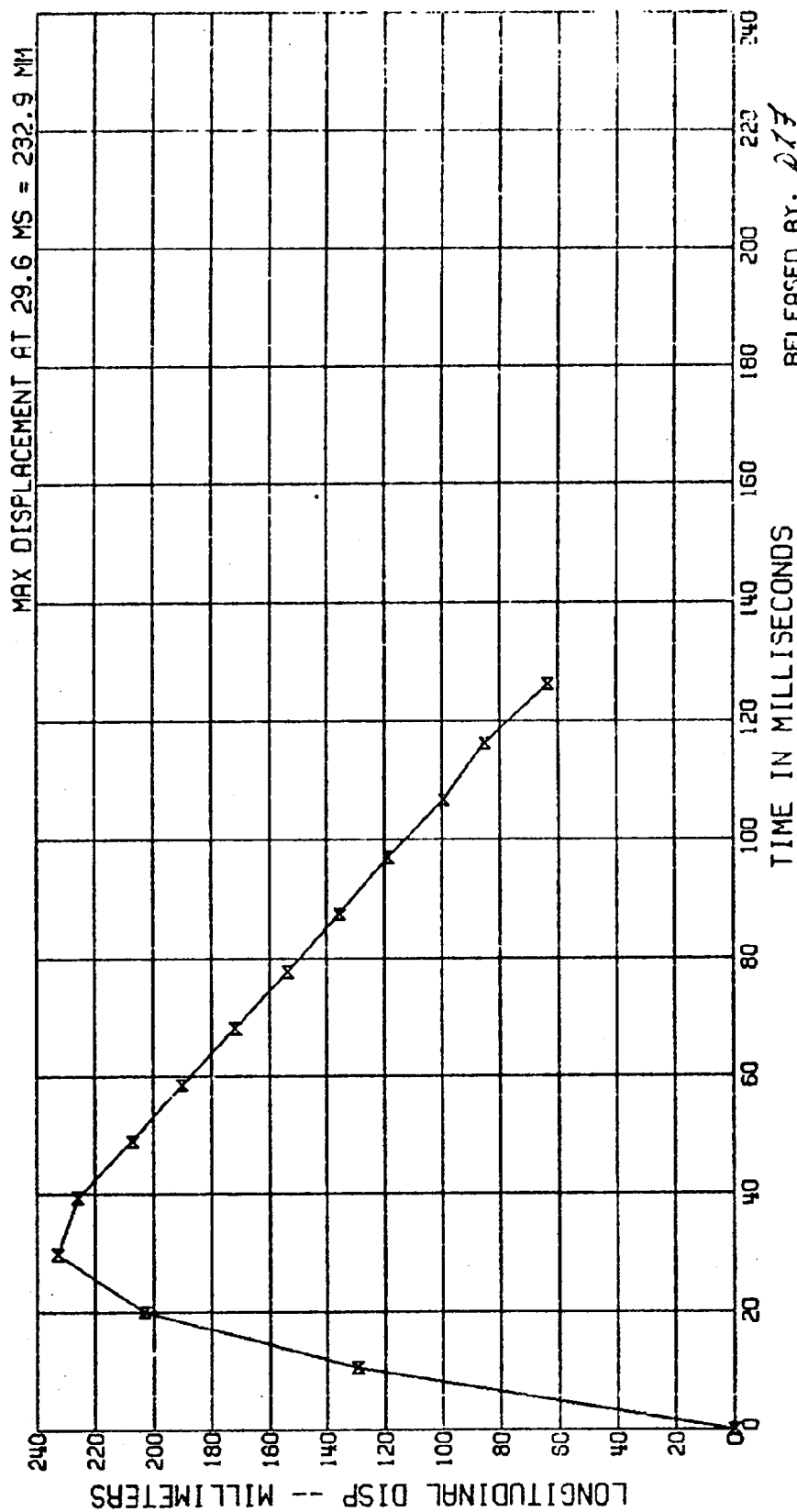
TEST DATE: 01-17-84



C5854 BARRIER TO BARRIER NHTSA BARRIER TO LOAD CELL BARR (DS) FIGURE 42
3865-448
FISHER BODY
FILM DATA

TEST DATE: 01-17-84

NHTSA BARRIER RELATIVE TO LOAD CELL BARRIER



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1 PROCESSED 1 FEB 84 12:12

C5954 BARRIER TO BARRIER

3865-448

FISHER BODY

FILM DATA

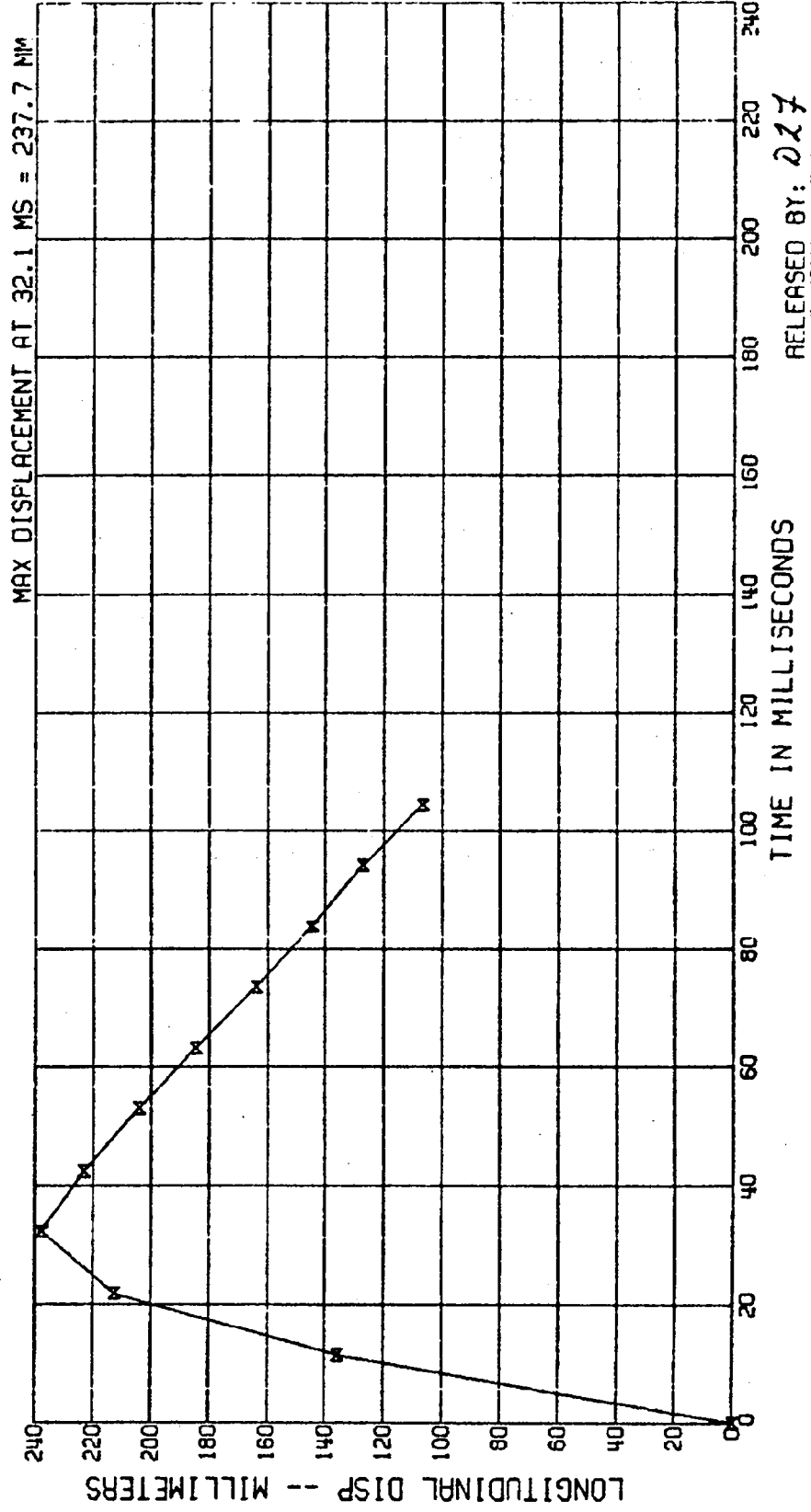
NHTSA BARRIER TO LOAD CELL BARR (PS)

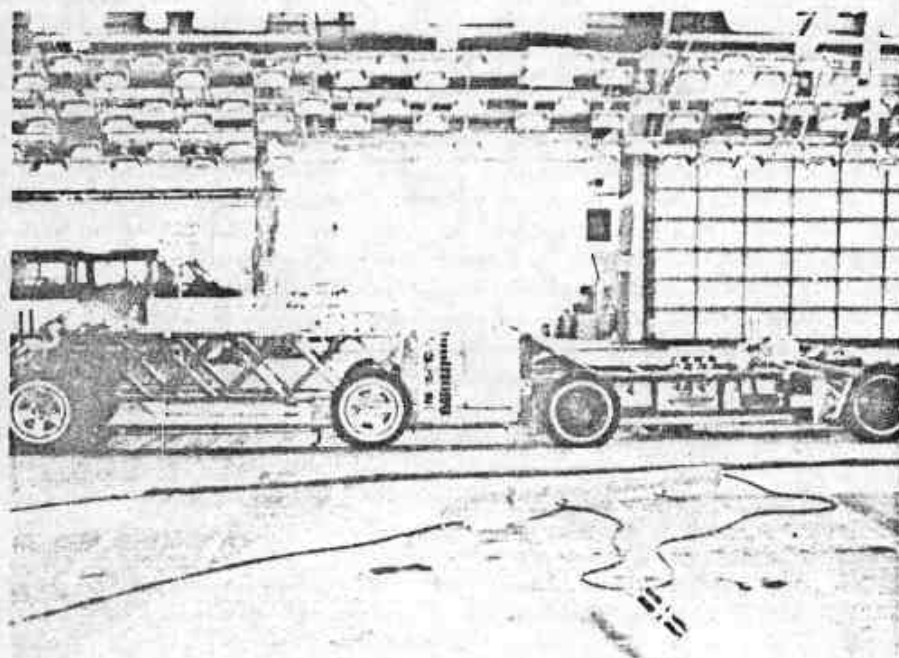
REFERENCED TO MOVING BARRIER

FIGURE 43

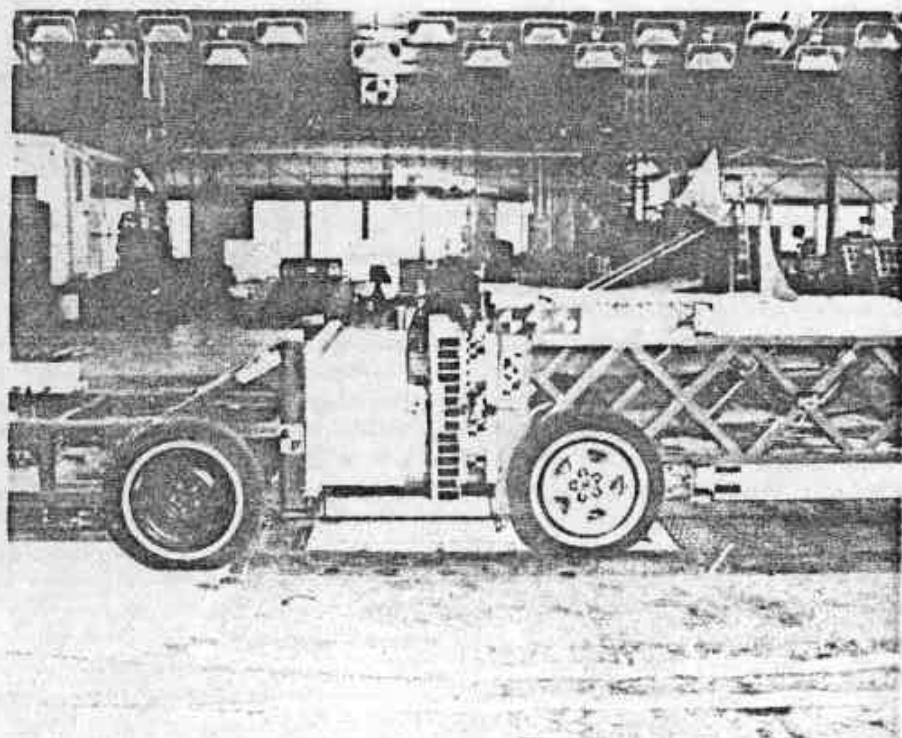
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NHTSA BARRIER RELATIVE TO LOAD CELL BARRIER

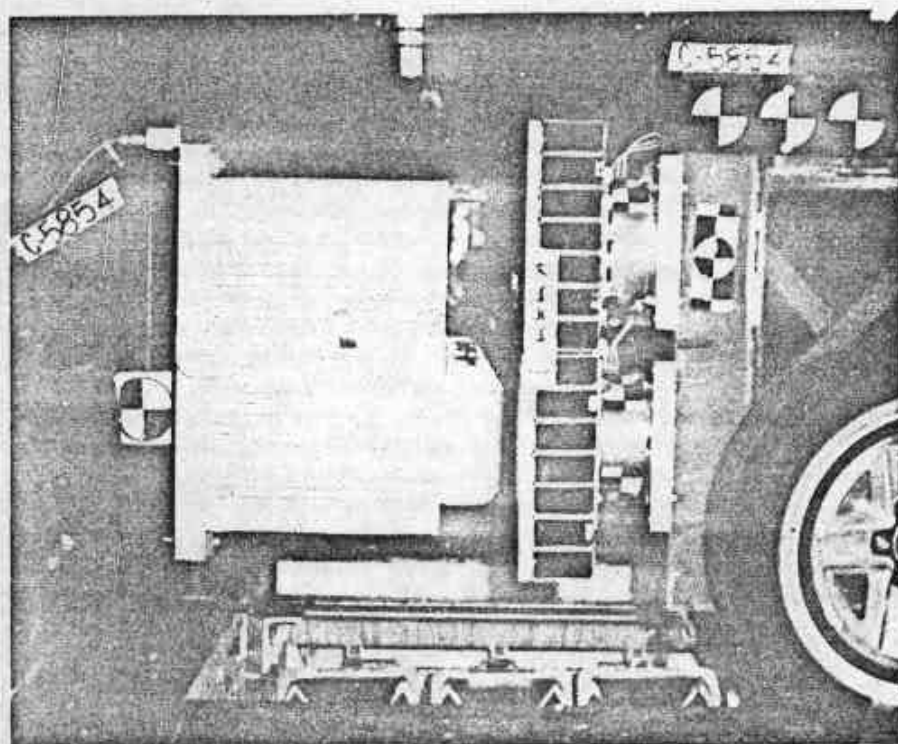




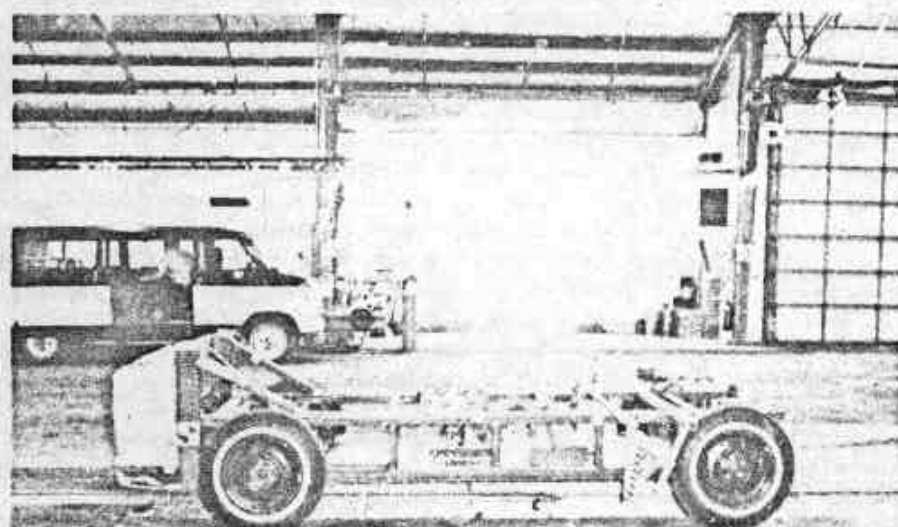
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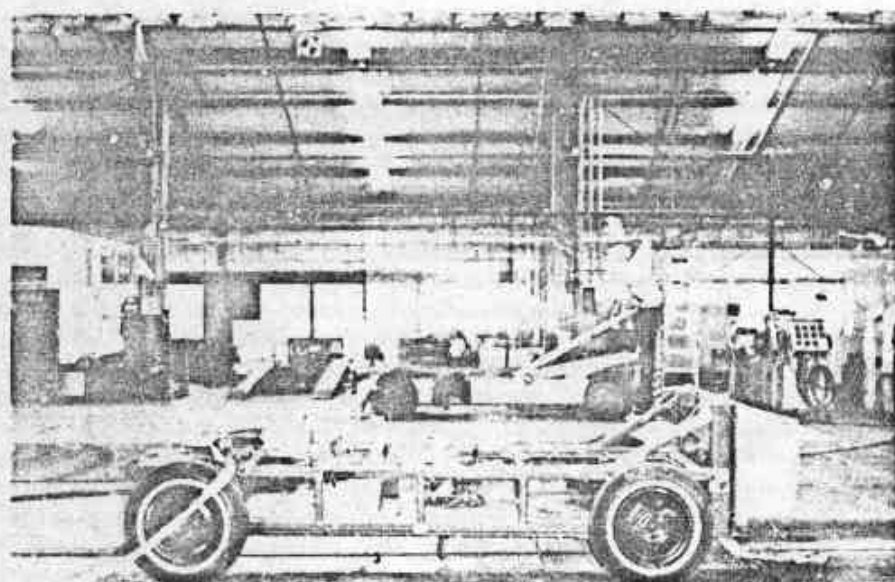
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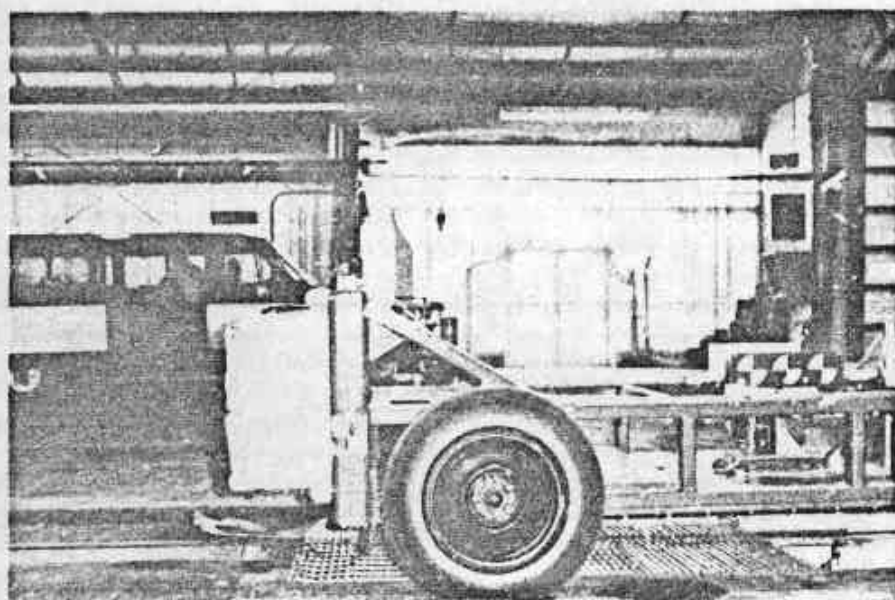
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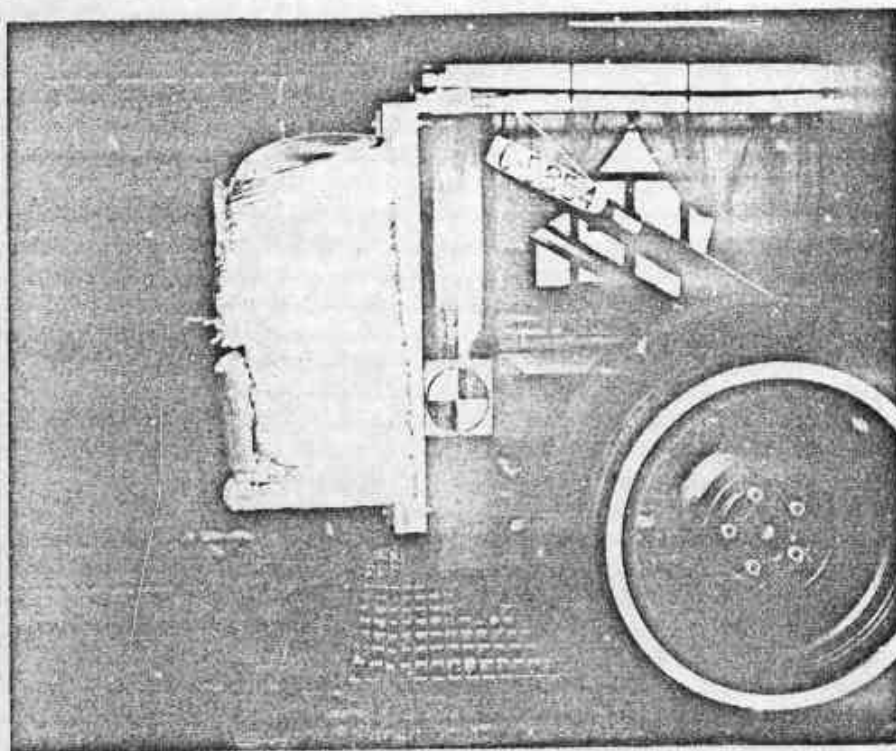


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1077	



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