

SAFETY TEST  
VEHICLE CRASH TEST LETTER

PAGE 01

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
TEST DATE 03/23/96

TEST PURPOSE PRIMARY, 1997 USA 301 DEVELOPMENT.  
OBSERVE FUEL SYSTEM INTEGRITY.

IMPACT TYPE TARGET SPEED; 30.1 MPH  
DAMAGE LOCATION; REAR  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; ZJ  
CAR LINE; J  
BODY; 74  
ENGINE; 5.2 LITRE  
ENGINE NOTE; ELECTRONIC FUEL INJECTION  
TRANSMISSION; 4 SPEED AUTO 4x4  
TRANS. NOTE;  
VIN AS TESTED; 1J4EZ78Y5?C126642 MOD.  
VIN AS BUILT; 1J4EZ78Y5TC126642 MOD.

TEST SPEED 30.3 MPH BY ELECTRONIC TRAP.

TEST WEIGHT (LBS) 4859 TOTAL, 2799 FRONT, 2060 REAR

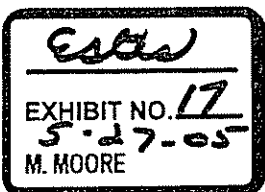
OCCUPANTS LEFT FRONT, HYB II, BALLAST. AD-63  
RESTRAINT-BELTS ONLY.  
RIGHT FRONT, HYB II, BALLAST. AD-67  
RESTRAINT-BELTS ONLY.

BUILD CONDITION 1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997.  
5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4,  
POWER STEERING, ABS BRAKES, AIR CONDITIONING.  
FULL CENTER CONSOLE AND OVERHEAD CONSOLE.  
P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE  
SPARE.  
1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN.

TARGET WEIGHT (LBS) 4185 TOTAL, 2336 FRONT, 1849 REAR, REP MAX OPT WT.  
NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.

FUEL AND BALLAST 21.5 GALLONS OF STODDARD SOLVENT.  
300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.  
NO ADDITIONAL BALLAST.

POST TEST REMARKS FUEL LEAKAGE AT IMPACT EXCEEDED ALLOWABLE LIMITS.



DC 04441

SAFETY TEST  
VEHICLE CRASH TEST LETTER

PAGE 02

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
TEST DATE 03/23/96

REPORT CODES

A = TRANSDUCER DATA	B = ALL FILM DATA
C = HIGH SPEED FILM	D = ENGINEER'S REPORT
E = DUMMY KINEMATICS	F = STEERING COLUMN
G = UNDERBODY	H = A-POST
I = DYNAMIC CRUSH	J = ENGINE COMPARTMENT
K = DOOR CRUSH	L = FORCE/CRUSH/ENERGY
M = SPECIAL	N = CATALOG EDP DATA
* = REPORT REQUESTOR	

DISTRIBUTION

D.J. MCKENZIE	422-05-01 (AB)
J.B. ESTES	514-15-58 (AB)

DATE 03/25/96

TIME 07.44.30.

DC 04442

CHRYSLER MOTORS  
SAFETY TEST  
VEHICLE CRASH TEST REQUEST

SUPPLEMENT NO. 06

ITEM ZJ8209R CHARGE NO. MASTERCARD ISSUE DATE 03/13/96

VC-5854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI.  
1997 MVSS DEVELOPMENT - 301.

TEST DATE 3, 23, 96 ENGINEER Collings  
SPEED 30.3 MPH SOURCE TAP

TEST PURPOSE PRIMARY, 1997 USA 301 DEVELOPMENT.  
OBSERVE FUEL SYSTEM INTEGRITY.

IMPACT TYPE TARGET SPEED; 30.1 MPH  
DAMAGE LOCATION; REAR  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; ZJ  
CAR LINE; J  
BODY; 74  
ENGINE; 5.2 LITRE  
ENGINE NOTE; ELECTRONIC FUEL INJECTION  
TRANSMISSION; 4 SPEED AUTO 4x4  
TRANS. NOTE;  
VIN AS TESTED; 1J4EZ78Y5?C126642 MOD.  
VIN AS BUILT; 1J4EZ78Y5TC126642 MOD.

VEHICLE CONDITION 1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997.  
5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4,  
POWER STEERING, ABS BRAKES, AIR CONDITIONING.  
FULL CENTER CONSOLE AND OVERHEAD CONSOLE.  
P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE  
SPARE.  
1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN.

TARGET WEIGHT (LBS) 4185 TOTAL, 2336 FRONT, 1849 REAR, REP MAX OPT WT.  
NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.

TEST WEIGHT (LBS) 4859 TOTAL, 2099 FRONT, 2060 REAR

FUEL BALLAST 21.5 GALLONS OF STODDARD SOLVENT.

LUGGAGE BALLAST 300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.

OTHER BALLAST No Added ballast.

TEST REMARKS

CHRYSLER MOTORS  
SAFETY TEST  
VEHICLE CRASH TEST REQUEST

SUPPLEMENT NO. 06

## OCCUPANTS

LEFT FRONT, HYB II, BALLAST.  
RESTRAINT-BELTS ONLY.  
RIGHT FRONT, HYB II, BALLAST.  
RESTRAINT-BELTS ONLY.

AD NO 63AD NO 67

## MECHANICAL REQ

PLACE SEAT IN MID TRACK POSITION.  
FUEL PUMP TO BE RUNNING DURING TEST.  
RUN FUEL PUMP PRE TEST TO CHECK CONNECTIONS.  
PRESSURE CHECK PRE AND POST TEST.  
STATIC ROLL POST TEST.  
ADD INCH TAPE DOWN ENTIRE LENGTH OF PROP SHAFT.  
PAINT REAR DIFFERENTIAL AND GAS TANK FOR VIEWING.  
PAINT TANK AND TARGET AS PER 3RD SHEET 106.  
PAINT FILLER NECK AREA FOR VISIBILITY.

## INSTRUMENTATION REQ

SEE 3RD SHEET NO. 106 FOR ACCELEROMETER REQUIREMENTS AND LOCATIONS (THE 4 SILL ACCELEROMETERS ARE TO BE BI-AXIAL).  
TRIAxIAL ON AECM BRACKET.  
4 PACK ACCELEROMETERS ON THE REAR AXLE, L & R  
PLACEMENT OF PACKS IS MARKED ON AXLES.  
4 PACK ACCELEROMETERS ON THE REAR SPRING SEAT, L&R  
INSURE AIRBAGS DO NOT FIRE.  
ADD Y AXIS ACCELEROMETERS AT FOUR(4) LOCATIONS AS MARKED IN THE VEHICLE. 3 ON B-PILLAR AND 1 ON THE FLOOR BEHIND THE DRIVER SEAT.

## PHOTOGRAPHIC REQ

1-LEFT SIDE OVERALL CAMERA TO VIEW ENTIRE VEHICLE.  
1-RIGHT SIDE OVERALL CAMERA TO VIEW ENTIRE VEHICLE  
1-CATWALK CAMERA TO VIEW ENTIRE VEHICLE.  
2-PIT CAMERAS FOR ANALYSIS OF REAR UNDERBODY.  
1-PI1 CAMERA CLOSE UP OF TRACK BAR BRACKET.  
PRE AND POST TEST PHOTOS OVERALL AND UNDERBODY ON 8 X 10 PAPER IN COLOR.  
1-VELOCITY CAMERA

## FILM ANALYSIS

VEHICLE VELOCITY, ONLY IF REQUESTED.  
DYNAMIC CRUSH.

## REMARKS

MAKE 1 FILM COPY AND 1 VHS COPY, SEND TO:  
J.B. ESTES 514-15-58  
PLEASE RETURN VEHICLE POST TEST TO JTE.  
ATTENTION PAM MORTON @ 733-8727

## E. REPORT

301 FUEL SYSTEMS REPORT REQUIRED.

CHRYSLER MOTORS  
SAFETY TEST  
VEHICLE CRASH TEST REQUEST

SUPPLEMENT NO. 06

## REPORT CODES

A = TRANSDUCER DATA	B = ALL FILM DATA
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M = SPECIAL	N = CATALOG EDP DATA
* = REPORT REQUESTOR	

## DISTRIBUTION

D.J. MCKENZIE	422-05-01 (AB)
J.B. ESTES	514-15-58 (AB)

DC 04445

CHRYSLER MOTORS  
SAFETY TEST  
VEHICLE CRASH TEST REQUEST

SUPPLEMENT NO. 06

\*\*\*\*\*CHANGED 03/18 '96 AT 12.30.31. SUPPLEMENT NO. 01

INSTRUMENTATION REQ

MODIFY MONITOR AECM SAFING, SQUIB AND INT. ACC OUTPUTS.  
TO READ 9 AXIS ACCELEROMETER PACKS ON THE REAR AXLE, L & R  
ADD PLACEMENT OF PACKS IS MARKED ON AXLES.  
ADD TRIAXIAL ACCELEROMETERS ON THE REAR SPRING SEATS  
ADD LEFT AND RIGHT. ON TOP OF SPRING MOUNT BRACKET.

\*\*\*\*\*CHANGED 03/18/96 AT 12.34.30. SUPPLEMENT NO. 02

VEHICLE

MODIFY VIN AS TESTED; 1J4EZ788Y6?C126642 MOD.  
TO READ VIN AS TESTED; 1J4EZ78Y6?C126642 MOD.

MECHANICAL REQ

ADD ADD INCH TAPE DOWN ENTIRE LENGTH OF PROP SHAFT.

REMARKS

ADD ATTENTION PAM MORTON @ 733-8727

\*\*\*\*\*CHANGED 03/18/96 AT 12.49.24. SUPPLEMENT NO. 03

PHOTOGRAPHIC REQ

MODIFY 1-PIT CAMERA TO VIEW UNDERBODY, AXLE TO BUMPER.  
TO READ 2-PIT CAMERAS FOR ANALYSIS OF REAR UNDERBODY.  
ADD 1-VELOCITY CAMERA

\*\*\*\*\*CHANGED 03/20/96 AT 10.41.52. SUPPLEMENT NO. 04

INSTRUMENTATION REQ

MODIFY 9 AXIS ACCELEROMETER PACKS ON THE REAR AXLE, L & R  
TO READ 4 PACK ACCELEROMETERS ON THE REAR AXLE, L & R  
MODIFY TRIAXIAL ACCELEROMETERS ON THE REAR SPRING SEATS  
TO READ 4 PACK ACCELEROMETERS ON THE REAR SPRING SEAT, L&R  
DELETE LEFT AND RIGHT. ON TOP OF SPRING MOUNT BRACKET.

\*\*\*\*\*CHANGED 03/22/96 AT 14.00.13. SUPPLEMENT NO. 05

VEHICLE

MODIFY VIN AS TESTED; 1J4EZ78Y6?C126642 MOD.  
TO READ VIN AS TESTED; 1J4EZ78Y5?C16642 MOD.

\*\*\*\*\*CHANGED 03/22/96 AT 14.15.04. SUPPLEMENT NO. 06

CHRYSLER MOTORS  
SAFETY TEST  
VEHICLE CRASH TEST REQUEST

SUPPLEMENT NO. 06

VEHICLE

MODIFY	VIN AS TESTED;	1J4EZ78Y5?C16642	MOD.
TO READ	VIN AS TESTED;	1J4EZ78Y5?C126642	MOD.

DC 04447

X, Y, Z DIMENSIONS

TEST NUMBER VC5854

TEST ENGINEER COLLINGS

ITEM NUMBER ZJ8209R V.I.N. 1J4EZ78Y5?C126642 TEST DATE 3/23/96

TEST TYPE: 30 MPH REAR TYPE IV MOVING BARRIER IMPACT

LOCATION	X	Y	Z	LOCATION	X	Y	Z
BC1	0.0	0.0	XXXX	BC2	XXXX	0.0	XXXX
B1	160.6	16.3	XXXX	B2	159.6	16.2	XXXX
U1	93.2	19.3	12.6	U2	93.3	16.6	13.3
U3	111.3	16.8	17.5	U4	111.9	15.5	18.3
U5	126.5	16.7	20.4	U6	119.7	3.0	7.9
U7	111.9	16.7	12.4	U8	126.6	16.6	21.3
U9	115	16.5	20.8	U10	111.9	5.6	12.8
U11	116.1	5.7	15.2	U12	138.3	19.7	21.2
U13	110.0	16.6	20.9	U14	146.0	5.3	15.2
U15	111.1	XXXX	11.4	U16	150.2	16.1	21.4
LFS	47.1	44-39.6	11.6			44-	
LMS	94.0	44-50	12.7			44-	
LRA	130.6	44-31.8	13.5			44-	
LAP	39.9	44-31.5	41.5			44-	
LCP	115.5	44-17.17	50.0			44-	

TRAMMEL DIMENSIONS:

LMS-LRS PRE 21.7 POST 30.04

U1 -U2 21.02

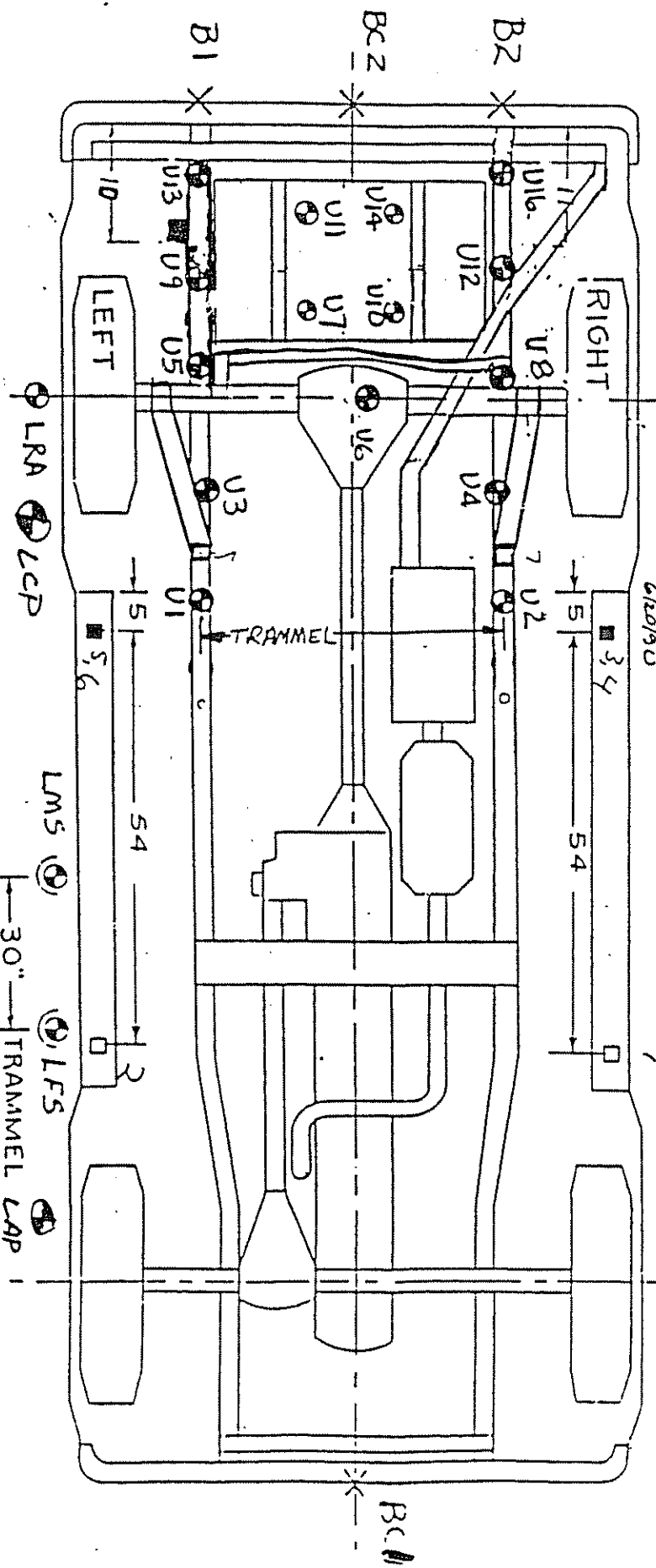


THIRD SHEET 106, ITEM 258209 5854  
 JEEP ZJ 4x4  
 TARGET AND ACCELEROMETER LOCATIONS  
 FOR REAR IMPACTS

ZENONS REQD ON ROOF

ELEC FUEL PUMP TO BE  
 RUNNING DURING IMPACT

ACCEL. LOCATIONS ARE XJ (REF. SHEET 102)  
 ACTUAL LOCATIONS PER T.MRULE



TARGETS

X PUNCH POINT  
 ⊙ UNDERBODY  
 ⊙ SIDE VIEW

NOTES -

1. PRE AND POST DIMENSIONS ARE REQUIRED PER BREITMOSER LETTER OF 01-04-88
2. NUMBERS ASSIGNED TO EACH TARGET ARE PERMANENT
3. TARGETS MAY BE DELETED BY NUMBER PER TR.
4. ADDITIONAL TARGETS MAY BE REQUESTED BY TR.
5. LOCATIONS SHOWN ARE APPROX TO ± 0.5 IN.

LEGEND

ACCELEROM - □ SINGLE AXIS, X  
 ETTERS ■ BIAXIAL, X & Z

TUBE COLOR Blue

FRONT SILL

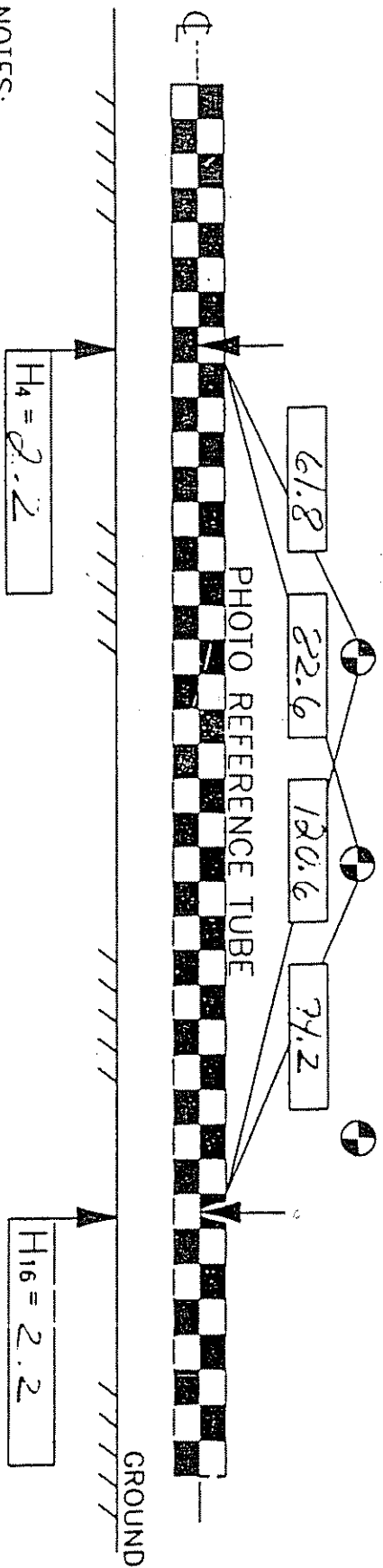
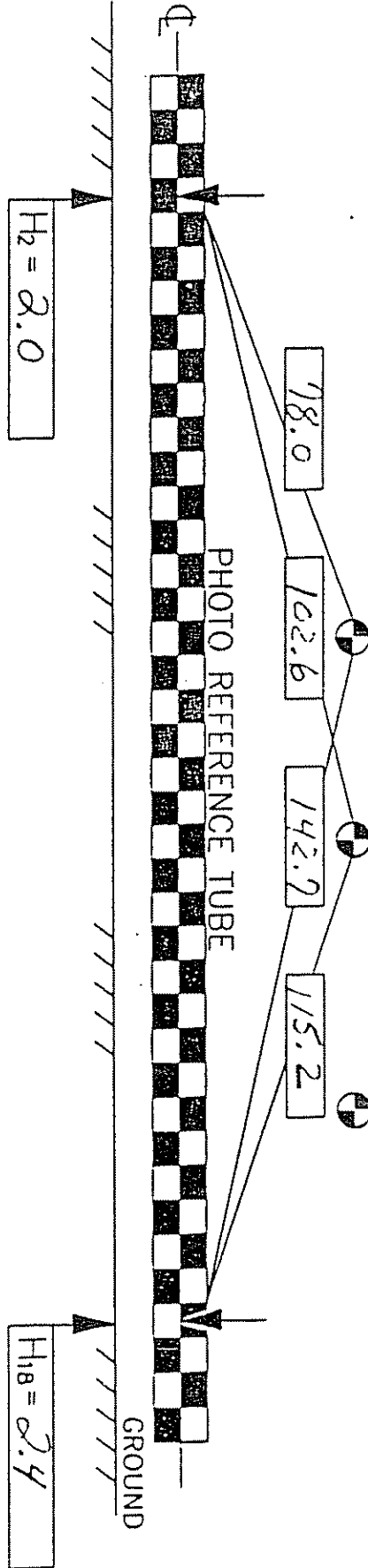
X =	49.1
Y =	-34.6
Z =	11.8

REAR SILL

X =	94.8
Y =	-35.0
Z =	12.9

REAR AXLE

X =	120.6
Y =	-31.6
Z =	13.9



NOTES:

1. THE Z DIMENSION FOR THE SILL TARGETS AND REAR AXLE MUST BE RETAKEN AT THE TEST SITE
2. IF OTHER TUBE POINTS ARE USED, SO INDICATE

FOR REAR IMPACT TESTS - DIMENSIONING BETWEEN SILL TARGETS AND PHOTO REFERENCE TUBE TEST ENGR Collings VC 5854

VEHICLE ATTITUDE

TEST NUMBER VC5854

TEST ENGINEER COLLINGS

ITEM NUMBER ZJ8209R

TEST DATE 3/23/76

X FENDER/WHEELWELL HEIGHTS

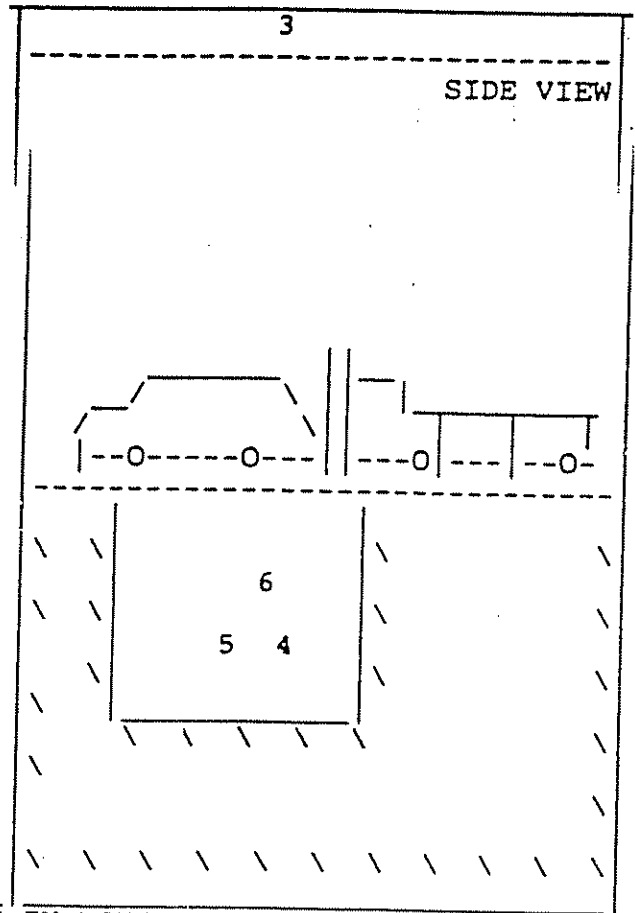
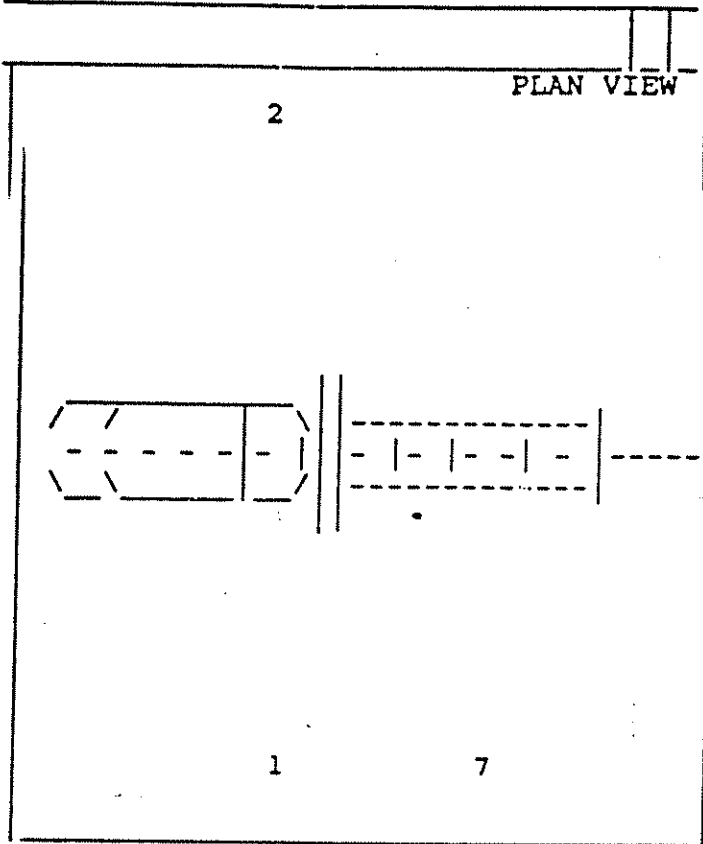
\_\_\_\_\_ SILL HEIGHTS

AS RECEIVED

AS BUILT-UP

AS TESTED

	LF	LR	RF	RR
AS RECEIVED	31.5	32.5	31.5	32.9
AS BUILT-UP	30.2	31.0	31.3	31.8
AS TESTED	30.2	31.0	31.3	31.8



TEST NUMBER VC5854 TEST TYPE: 30 MPH TYPE IV MOVING BARRIER REAR IMPACT  
 TEST ENGINEER COLLINGS REQUEST DATE : 3/18/96 VEHICLE BODY CLASS : ZJ

#	VIEW DESCRIPTION A=ANALYSIS	CAM S/N	LENS P.L.	LENS S/N	LENS MFG.	F- STOP	PNL	SKT	CBL	CAM MFG
1	A LEFT - DYNAMIC CRUSH	428	25mm	110905	111					
2	RIGHT OVERALL	37	13mm	105450						
3	CATWALK OVERALL	52	12mm	107273	1					
4	A PIT - REAR	-32	7mm		111					
5	A PIT - MID	-21	3mm	7						
6	PIT-TRACK BAR BRACKET	287	5mm	0 2-						
7	A VELOCITY	791	10mm	B2092	11117					

DC 04452

SATURDAY

FUEL SYSTEM AND STATIC ROLLOVER SUMMARY

TEST NUMBER VC5854 ITEM NUMBER ZJ8209R TEST ENGINEER COLLINGS

V.I.N. 1J4EZ78Y5?C126642, TEST DATE 3/23/96 ROLL DATE   /  /  

TEST TYPE; 30 MPH REAR TYPE IV MOVING BARRIER IMPACT

FUEL; TYPE AND QUANTITY - .767 S.G. STODDARD SOLVENT, 21.5 GALLONS

TEST SPEED 30.3 MPH, TEST WEIGHT 4257 POUNDS.

POST TEST FUEL SYSTEM OBSRVATIONS Fuel leak at impact  
Leakage around fuel tank

POST IMPACT LEAKAGE(OZ); AT IMPACT > 502  
 1ST 5 MIN.             
 NEXT 25 MIN.           

POST TEST PRESSURE CHECK N/A

ELECTRIC FUEL PUMP RUN N/A

STATIC ROLL LEAKAGE WITH VEHICLE N/A SIDE DOWN FIRST

FUEL LEAKAGE LOCATIONS DURING STATIC ROLL

ROLL TIME					TOTAL
0-90	1ST 5 MIN				*
	POST 5 MIN				**
90-180	1ST 5 MIN				*
	POST 5 MIN				**
180-270	1ST 5 MIN				*
	POST 5 MIN				**
270-360	1ST 5 MIN				*
	POST 5 MIN				**

\* OUNCES IN 5 MINUTES, \*\* OUNCES PER MINUTE

LAST FORM MODIFICATION 5/27/93 - GAB

DATE 03/27/96  
TIME 10.20.44.

ELECTRONIC DATA PROCESSING  
EDP TEST LETTER

VEHICLE CRASH ENGINEERING  
DEPT 5320

VC05854 ITEM ZJ8209R  
VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
TEST DATE 03/23/96

TEST PURPOSE PRIMARY, 1997 USA 301 DEVELOPMENT.  
OBSERVE FUEL SYSTEM INTEGRITY.

IMPACT TYPE TARGET SPEED; 30.1 MPH  
DAMAGE LOCATION; REAR  
BARRIER TYPE; REAR TYPE IV  
BARRIER SURFACE; PLYWOOD

VEHICLE BODY CLASS; ZJ  
CAR LINE; J  
BODY; 74  
ENGINE; 5.2 LITRE  
ENGINE NOTE; ELECTRONIC FUEL INJECTION  
TRANSMISSION; 4 SPEED AUTO 4x4  
TRANS. NOTE;  
VIN AS TESTED; 1J4EZ78Y5?C126642 MOD.  
VIN AS BUILT; 1J4EZ78Y5TC126642 MOD.

TEST SPEED 30.3 MPH BY ELECTRONIC TRAP.

TEST WEIGHT (LBS) 4859 TOTAL, 2799 FRONT, 2060 REAR

OCCUPANTS LEFT FRONT, HYB II, BALLAST. AD-63  
RESTRAINT-BELTS ONLY.  
RIGHT FRONT, HYB II, BALLAST. AD-67  
RESTRAINT-BELTS ONLY.

BUILD CONDITION 1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997.  
5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4.  
POWER STEERING, ABS BRAKES, AIR CONDITIONING.  
FULL CENTER CONSOLE AND OVERHEAD CONSOLE.  
P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE  
SPARE.  
1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN.

TARGET WEIGHT (LBS) 4185 TOTAL, 2336 FRONT, 1849 REAR, REP MAX OPT WT.  
NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.

FUEL AND BALLAST 21.5 GALLONS OF STODDARD SOLVENT.  
300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.  
NO ADDITIONAL BALLAST.

POST TEST REMARKS FUEL LEAKAGE AT IMPACT EXCEEDED ALLOWABLE LIMITS.

DC 04454

DATE 03/27/96  
TIME 10.20.44.

ELECTRONIC DATA PROCESSING  
EDP TEST LETTER

VEHICLE CRASH ENGINEERING  
DEPT 5320

.VC05854 ITEM ZJ8209R  
VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
TEST DATE 03/23/96

EDP TECHNICIAN S. MARCHENIA

No. of Pages 62  
CC

J. B. ESTES 514-15-58  
D. J. MCKENZIE 422-05-01

DC 04455

TITLE: Page Index of EDP plots

Pages 001 - 062

\*\*\*\*\* VC05854A \*\*\*\*\*

Page I-01

TITLE: Transducer Summary Reports

Pages 001 - 005

PAGE: 001 TSR Channels 001 - 008  
PAGE: 002 TSR Channels 009 - 016  
PAGE: 003 TSR Channels 017 - 024  
PAGE: 004 TSR Channels 025 - 032  
PAGE: 005 TSR Channels 033 - 037



TITLE: Vehicle Channels

- PAGE: 006 Average of Sill Chls 1, 3, 5, & 7
- PAGE: 007 Average of Frt Sill Chls 1 & 3
- PAGE: 008 LEFT FRONT SILL X, Chl 1
- PAGE: 009 LEFT FRONT SILL X, Chl 1, VD
- PAGE: 010 LEFT FRONT SILL Z, Chl 2
- PAGE: 011 RIGHT FRONT SILL X, Chl 3
- PAGE: 012 RIGHT FRONT SILL X, Chl 3, VD
- PAGE: 013 RIGHT FRONT SILL Z, Chl 4
- PAGE: 014 LEFT REAR SILL X, Chl 5
- PAGE: 015 LEFT REAR SILL X, Chl 5, VD
- PAGE: 016 LEFT REAR SILL Z, Chl 6
- PAGE: 017 RIGHT REAR SILL X, Chl 7
- PAGE: 018 RIGHT REAR SILL X, Chl 7, VD
- PAGE: 019 RIGHT REAR SILL Z, Chl 8
- PAGE: 020 LT RAIL TRAIL ARM PIV X, Chl 9
- PAGE: 021 LT RAIL TRAIL ARM PIV X, Chl 9, VD
- PAGE: 022 RT RAIL TRAIL ARM PIV X, Chl 10
- PAGE: 023 RT RAIL TRAIL ARM PIV X, Chl 10, VD
- PAGE: 024 RT REAR RAIL MID TANK X, Chl 11
- PAGE: 025 RT REAR RAIL MID TANK X, Chl 11, VD
- PAGE: 026 RT REAR RAIL MID TANK Z, Chl 12
- PAGE: 027 AECM EXTERN X, Chl 13
- PAGE: 028 AECM EXTERN X, Chl 13, VD
- PAGE: 029 AECM EXTERN Y, Chl 14
- PAGE: 030 AECM EXTERN Z, Chl 15
- PAGE: 031 LT B PILLAR MID Y, Chl 16
- PAGE: 032 LT B PILLAR LWR Y, Chl 17
- PAGE: 033 LT B PILLAR AT FLOOR Y, Chl 18
- PAGE: 034 FLOOR BEHIND DRV SEAT Y, Chl 19
- PAGE: 035 LT RR AXLE UPR X, Chl 20
- PAGE: 036 LT RR AXLE UPR X, Chl 20, VD
- PAGE: 037 LT RR AXLE UPR Z, Chl 21
- PAGE: 038 LT RR AXLE LWR X, Chl 22
- PAGE: 039 LT RR AXLE LWR X, Chl 22, VD
- PAGE: 040 LT RR AXLE LWR Z, Chl 23
- PAGE: 041 RT RR AXLE UPR X, Chl 24
- PAGE: 042 RT RR AXLE UPR X, Chl 24, VD
- PAGE: 043 RT RR AXLE UPR Z, Chl 25
- PAGE: 044 RT RR AXLE LWR X, Chl 26
- PAGE: 045 RT RR AXLE LWR X, Chl 26, VD
- PAGE: 046 RT RR AXLE LWR Z, Chl 27
- PAGE: 047 LT RR SPRING UPR X, Chl 28
- PAGE: 048 LT RR SPRING UPR X, Chl 28, VD
- PAGE: 049 LT RR SPRING UPR Z, Chl 29
- PAGE: 050 LT RR SPRING LWR X, Chl 30
- PAGE: 051 LT RR SPRING LWR X, Chl 30, VD
- PAGE: 052 LT RR SPRING LWR Z, Chl 31
- PAGE: 053 RT RR SPRING UPR X, Chl 32
- PAGE: 054 RT RR SPRING UPR X, Chl 32, VD
- PAGE: 055 RT RR SPRING UPR Z, Chl 33
- PAGE: 056 RT RR SPRING LWR X, Chl 34
- PAGE: 057 RT RR SPRING LWR X, Chl 34, VD
- PAGE: 058 RT RR SPRING LWR Z, Chl 35

\*\*\*\*\* VC05854C \*\*\*\*\*

Page I-03

TITLE: Moving barrier Channels

Pages 059 - 062

PAGE: 059 LT RAIL MBAR MID X Chl 36

PAGE: 060 LT RAIL MBAR MID X , Chl 36, VD

PAGE: 061 RT RAIL MBAR MID X Chl 37

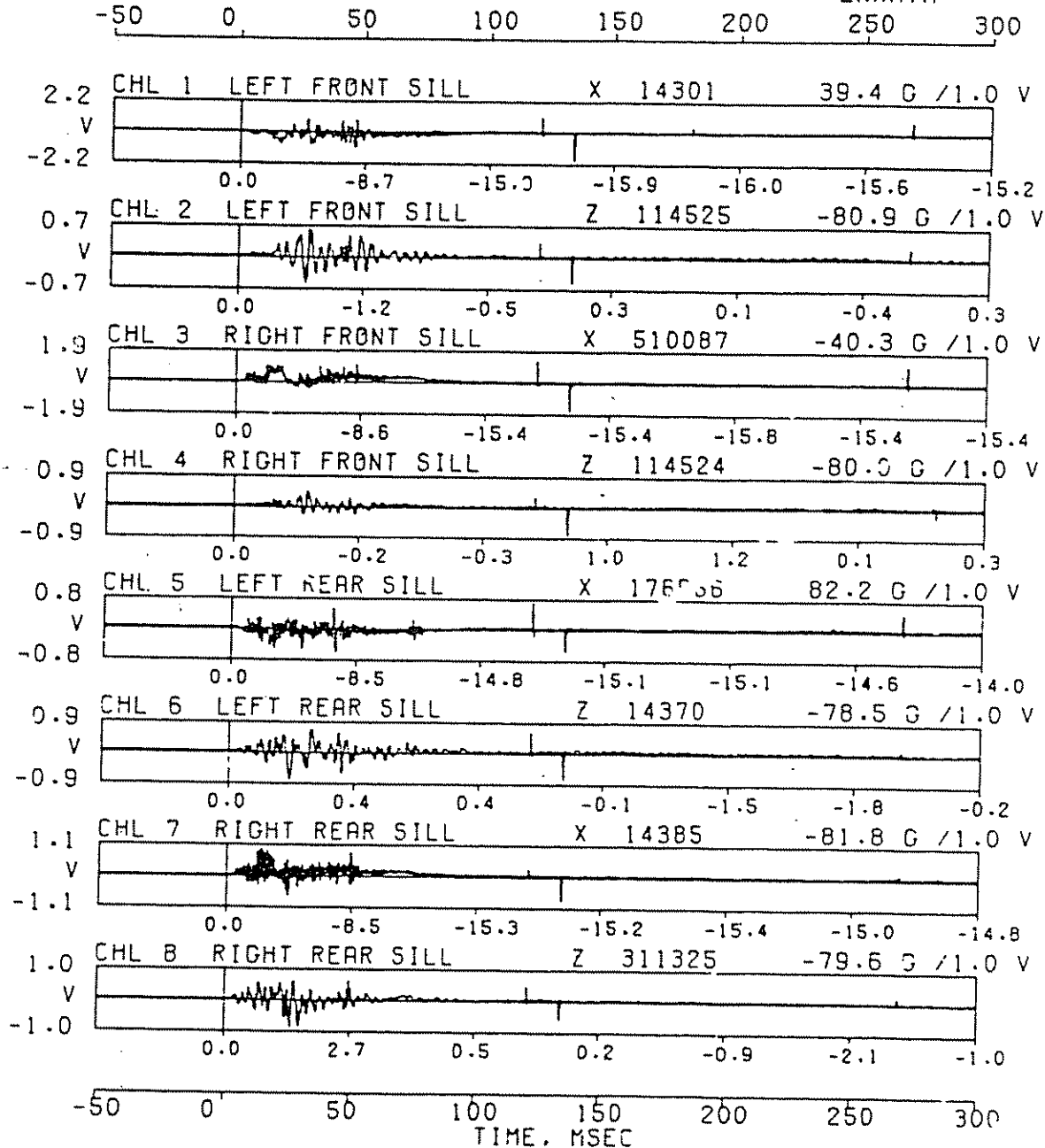
PAGE: 062 RT RAIL MBAR MID X , Chl 37, VD

DC 04458

TRANSDUCER SUMMARY REPORT

VC05854 30 MPH REAR BARRIER, ZJJ74. 5.2L MPI. ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.  
 IMPACT ANALYSIS DEPT. 5320  
 MAR 27.1996

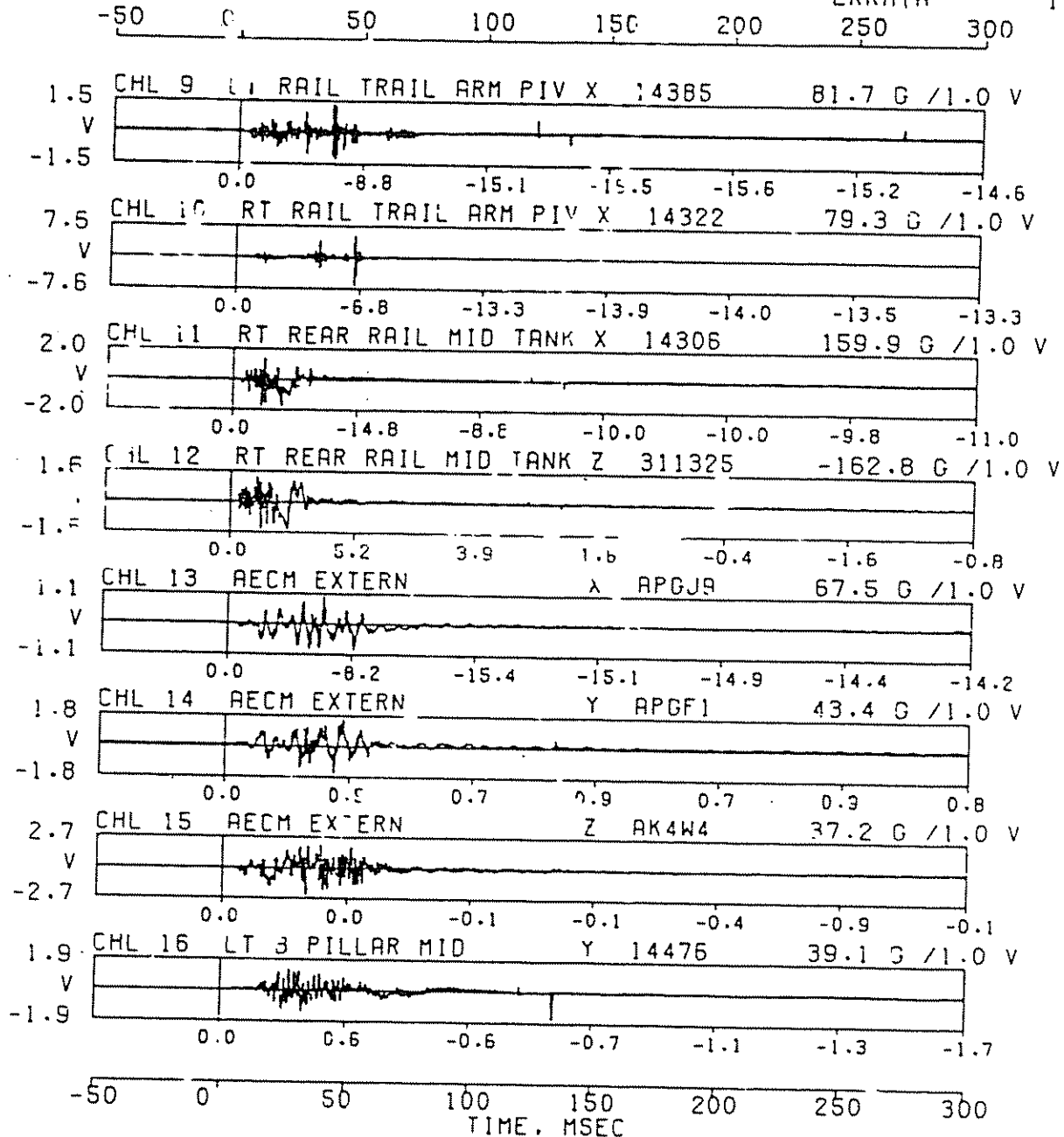
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 OF 062  
 DATA SET 03/23/96BE  
 ERRATA 1



### TRANSDUCER SUMMARY REPORT

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
 1997 MVSS DEVELOPMENT - 301.  
 IMPACT ANALYSIS DEPT. 5320  
 MAR 27, 1996

PAGE 002  
 OF 062  
 DATA SET 03/23/96BE  
 ERRATA 1

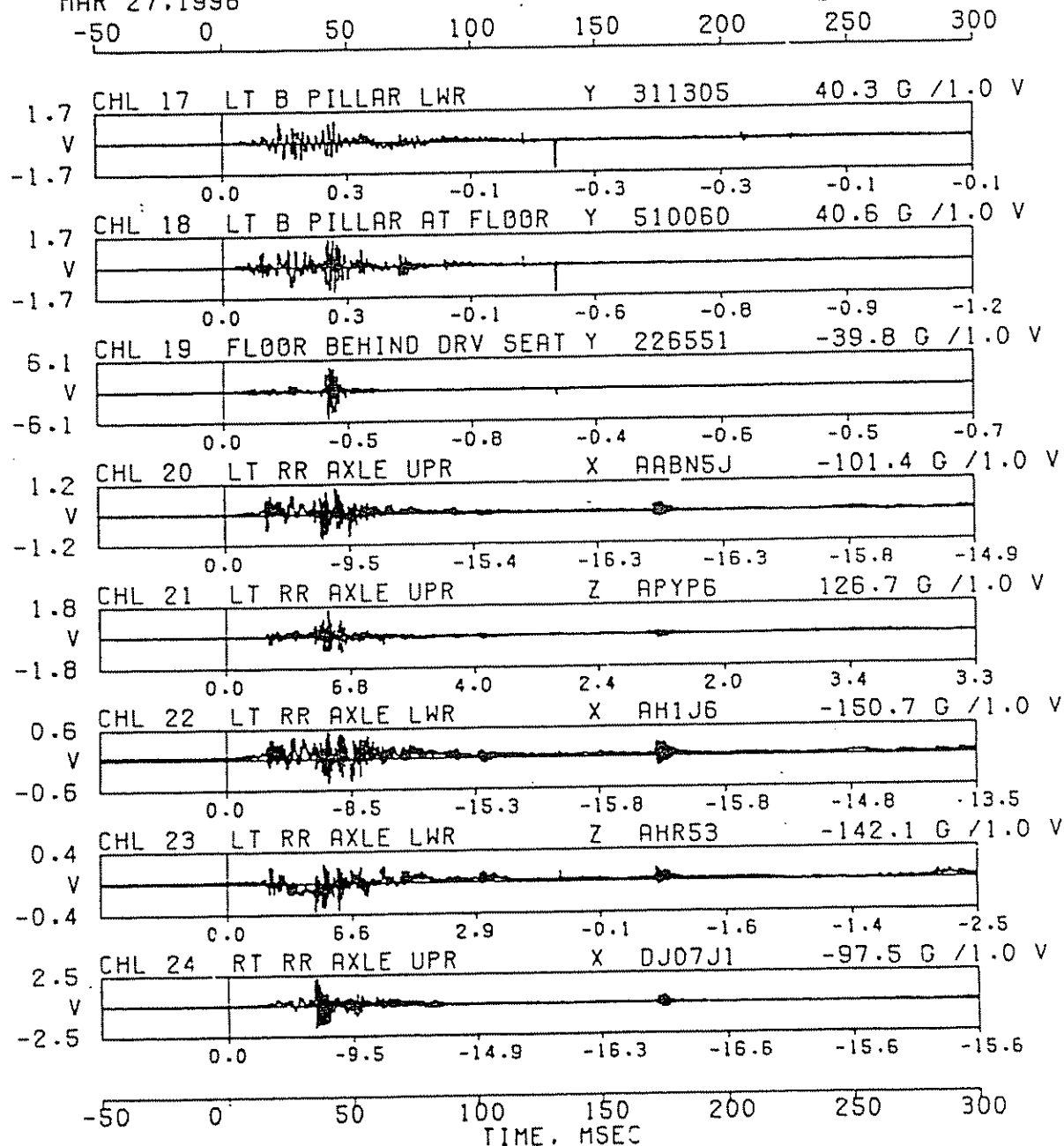


NOTE: COMPUTED FIRST INTEGRAL VALUES ARE INDICATED BELOW EACH CHANNEL AND BRIDGED DATA IS INDICATED BY A -B-.

TRANSDUCER SUMMARY REPORT

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI. ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.  
 IMPACT ANALYSIS DEPT. 5320  
 MAR 27, 1996

PAGE 003  
 OF 062  
 DATA SET 03/23/96BF  
 ERRATA 1



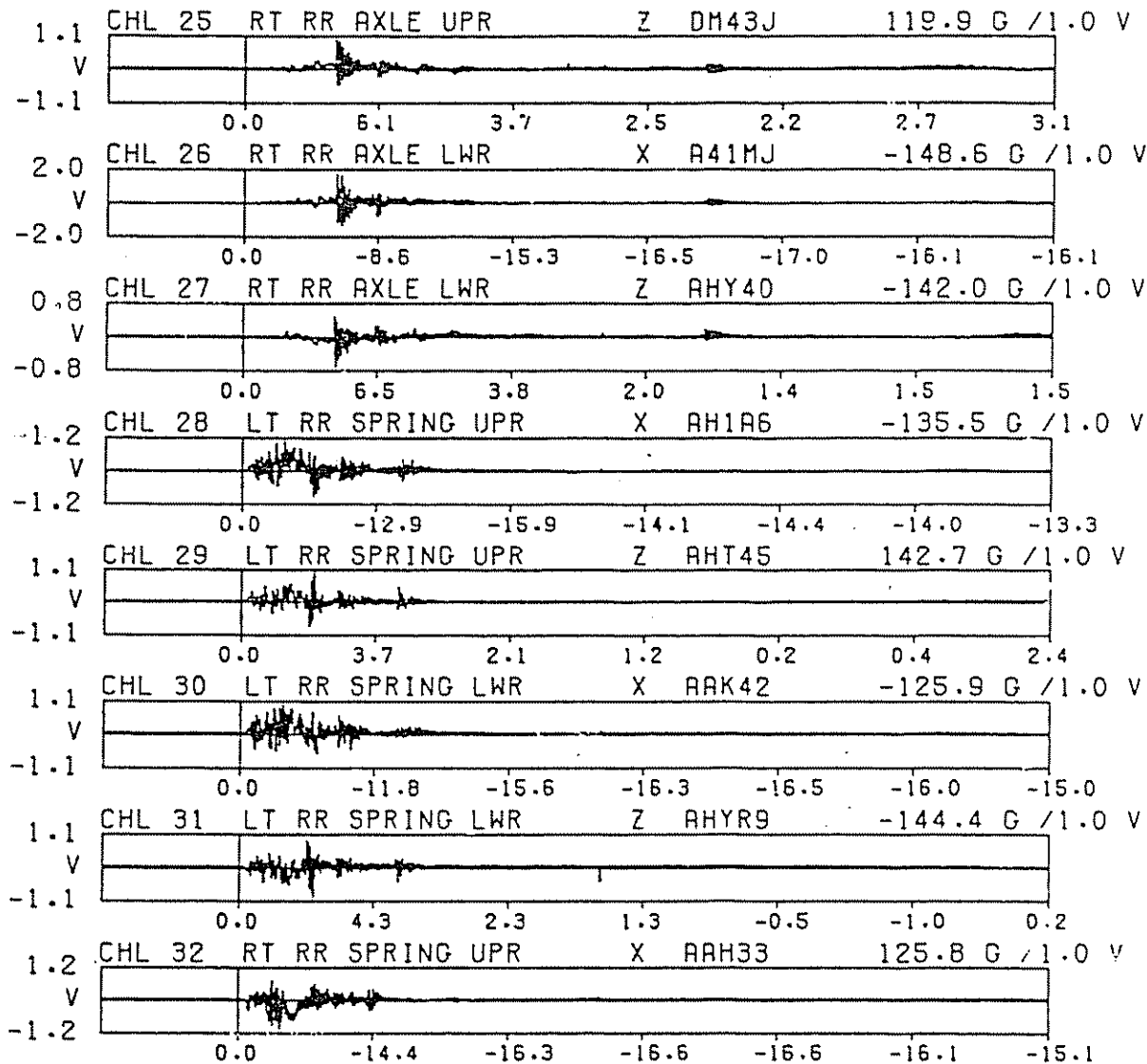
NOTE COMPUTED FIRST INTEGRAL VALUES ARE INDICATED BELOW EACH CHANNEL AND BRIDGED DATA IS INDICATED BY A -B-.

TRANSDUCER SUMMARY REPORT

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI. ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.  
 IMPACT ANALYSIS DEPT. 5320  
 MAR 27.1996

PAGE 004  
 OF 062  
 DATA SET 03/23/96BF  
 ERRATA 1

-50 0 50 100 150 200 250 300



-50 0 50 100 150 200 250 300  
 TIME, MSEC

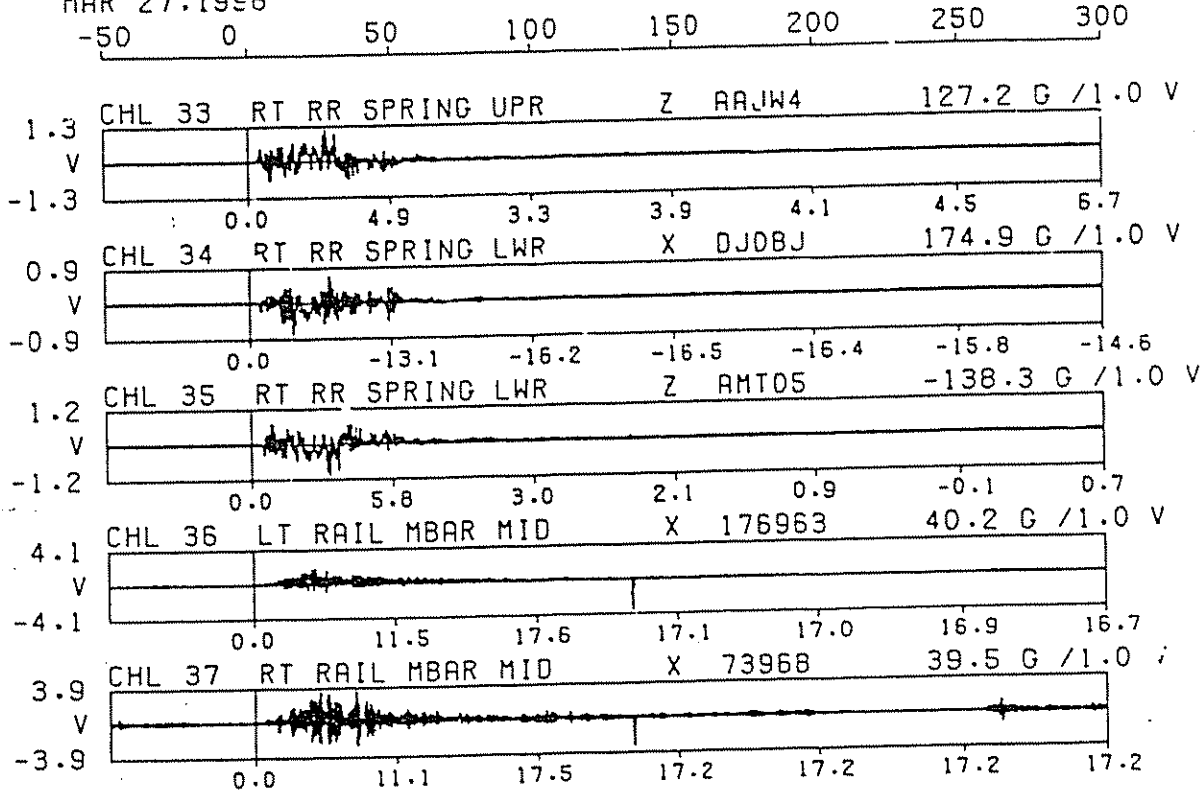
NOTE COMPUTED FIRST INTEGRAL VALUES ARE INDICATED BELOW  
 EACH CHANNEL AND BRIDGED DATA IS INDICATED BY A -B-.

TRANSDUCER SUMMARY REPORT

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.  
 IMPACT ANALYSIS DEPT. 5320  
 MAR 27, 1996

PAGE 005  
 OF 062

DATA SET 03/23/96BG  
 ERRATA 1



-50 0 50 100 150 200 250 300  
 TIME, MSEC

NOTE COMPUTED FIRST INTEGRAL VALUES ARE INDICATED BELOW  
 EACH CHANNEL AND BRIDGED DATA IS INDICATED BY A -B-.

VC05B54 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 006  
OF 062

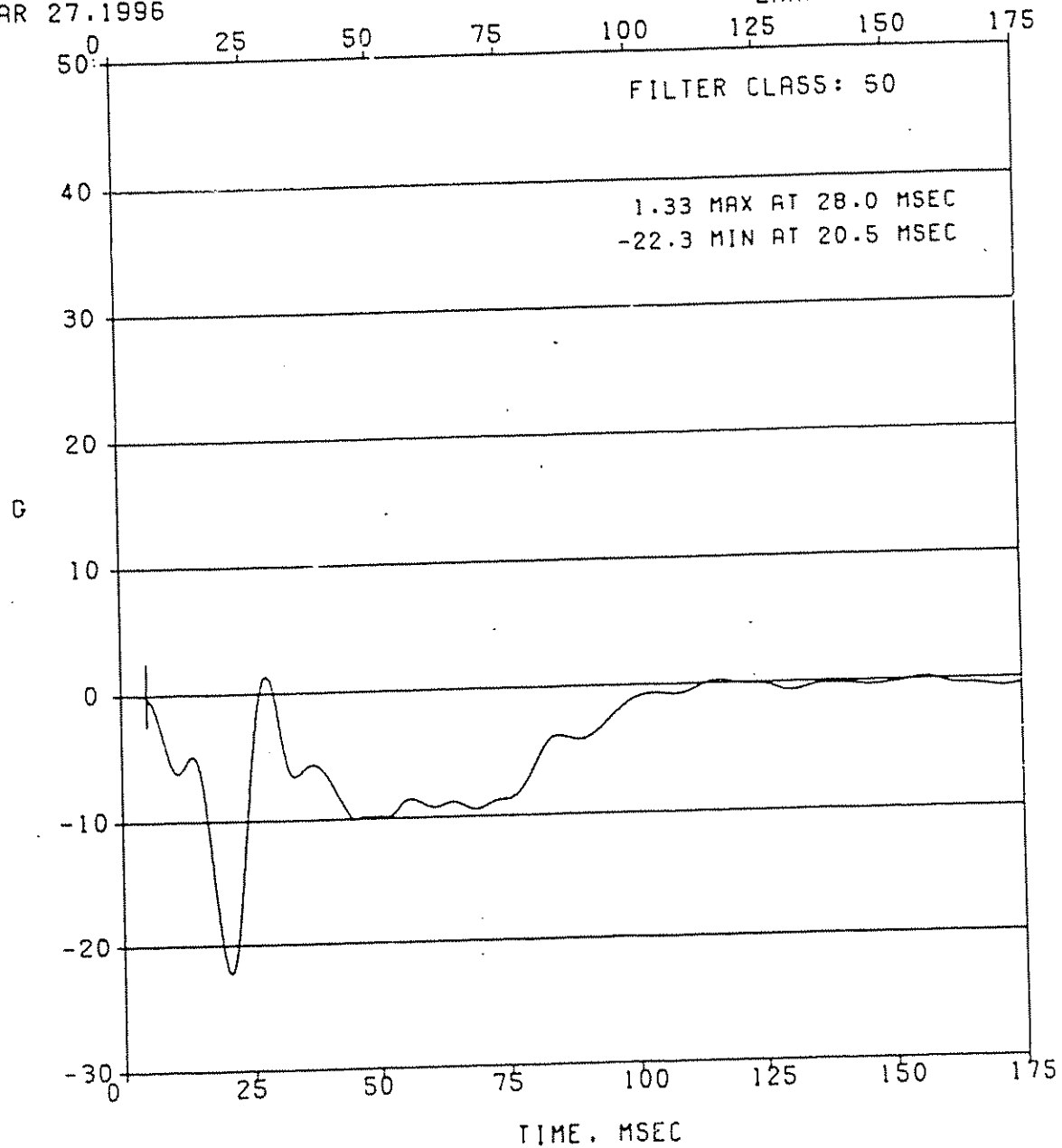
AVERAGE OF

CHANNEL 001 LEFT FRONT SILL	X	14301
CHANNEL 003 RIGHT FRONT SILL	X	510087
CHANNEL 005 LEFT REAR SILL	X	176966
CHANNEL 007 RIGHT REAR SILL	X	14385

FILTER TYPE: SAE J211B/80 DC C60(TPF-R) EFF 3/24/86  
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE  
ERRATA 1

MAR 27.1996



DC 04464



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 HVSS DEVELOPMENT - 301.

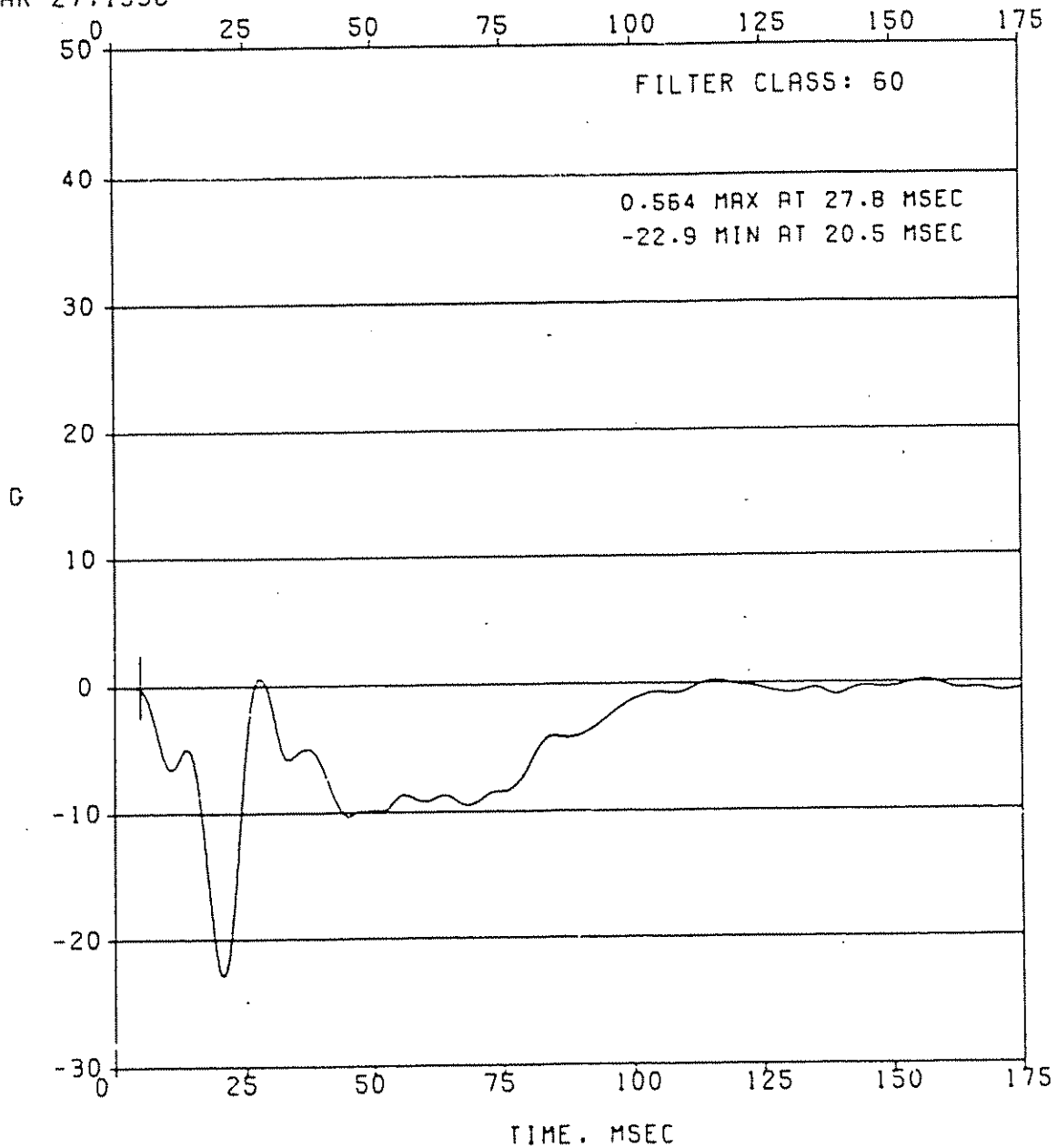
PAGE 007  
OF 062

AVERAGE OF

CHANNEL 001 LEFT FRONT SILL X 14301  
CHANNEL 003 RIGHT FRONT SILL X 510087

FILTER TYPE: SAE J211B/80 DC C60(TPF-R) EFF 3/24/86  
IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BE  
ERRATA 1



DC 04465

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 008  
OF 062

CHANNEL 001 LEFT FRONT SILL X 14301

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

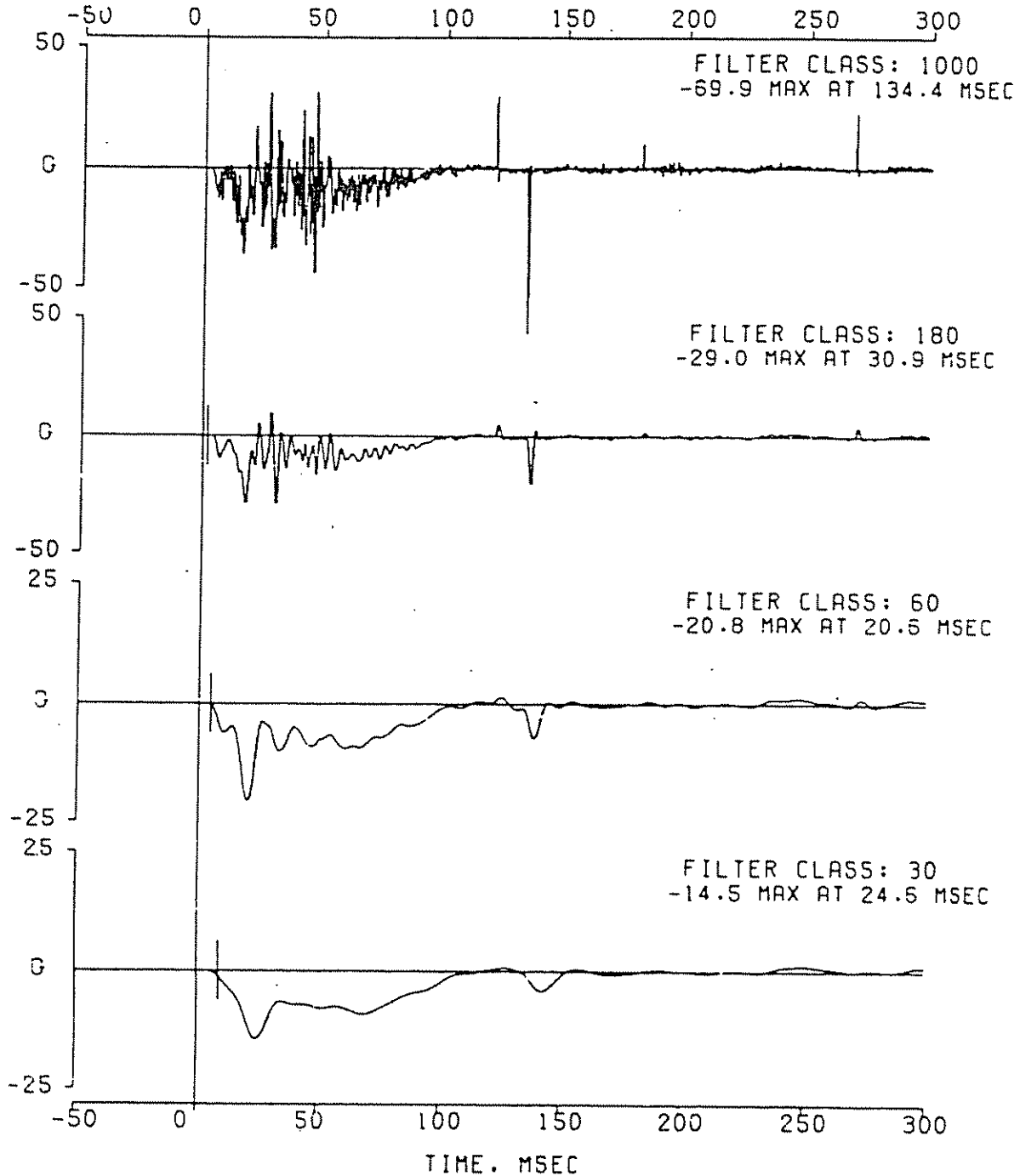
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27, 1996

ERRATA

1



DC 04466

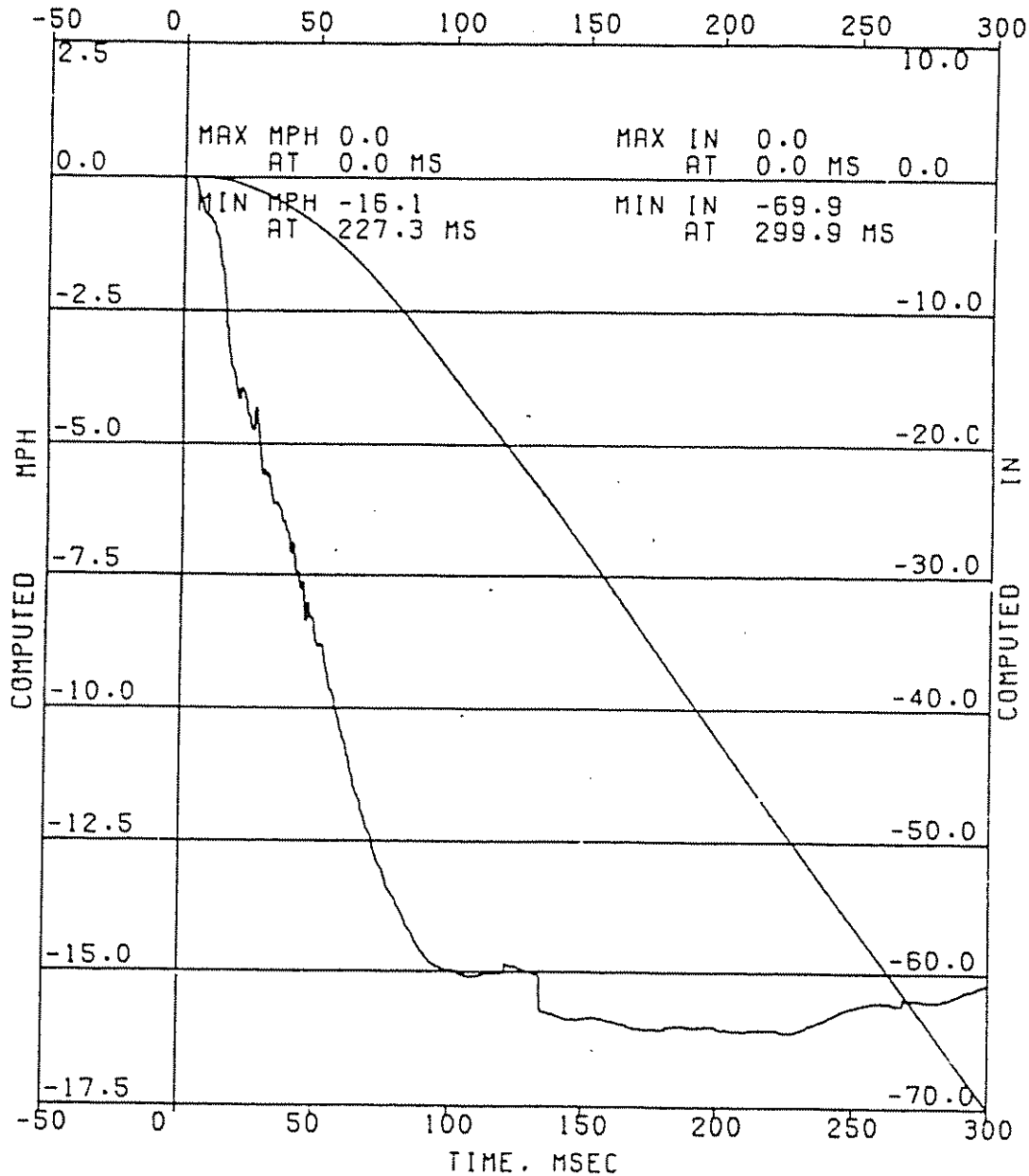
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 001 LEFT FRONT SILL X 14301

PAGE 009  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04467

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 010  
OF 062

CHANNEL 002 LEFT FRONT SILL Z 114525

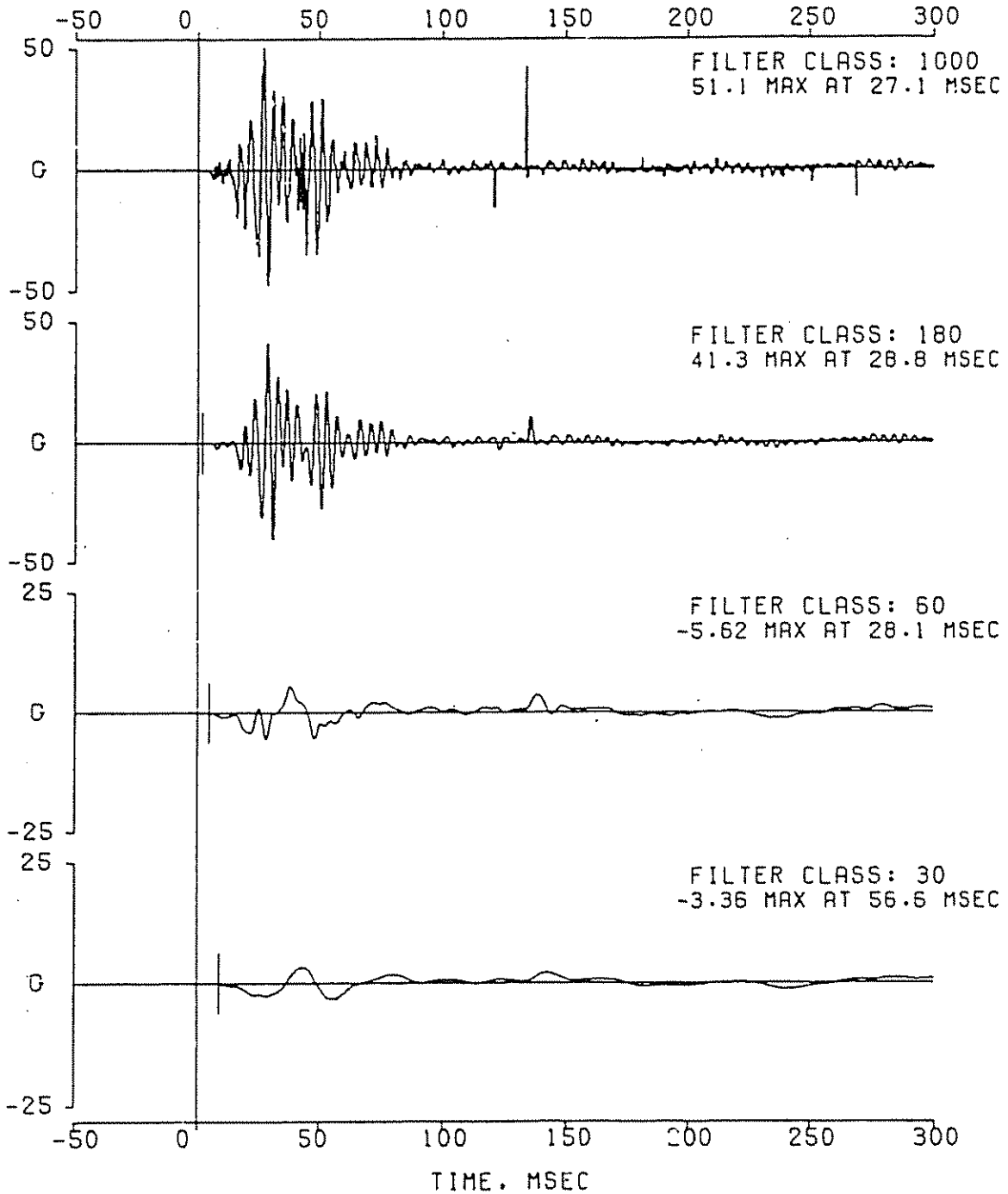
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27, 1996

ERRATA 1



VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 011  
OF 062

CHANNEL 003 RIGHT FRONT SILL X 510087

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

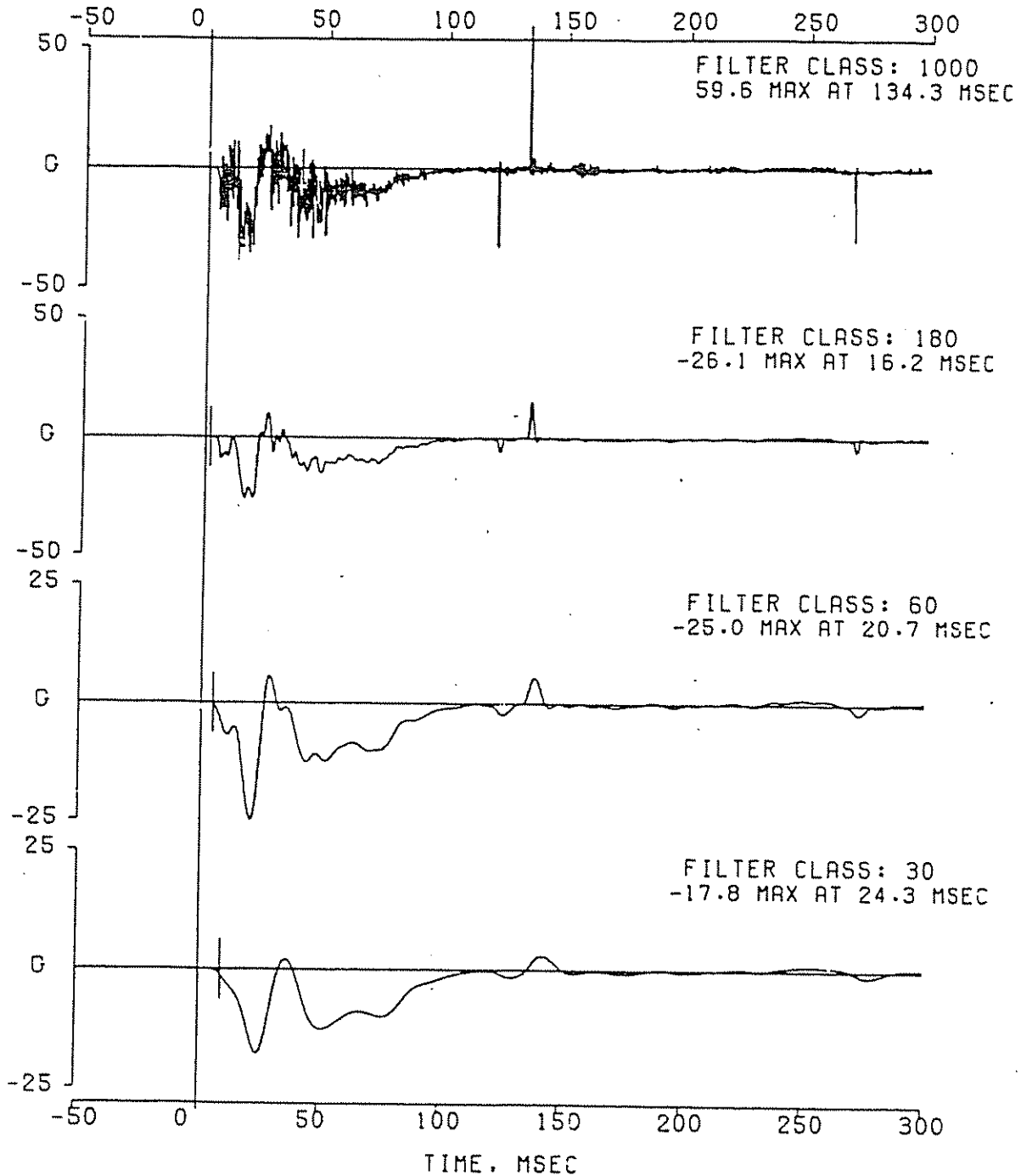
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA

1



DC 04469

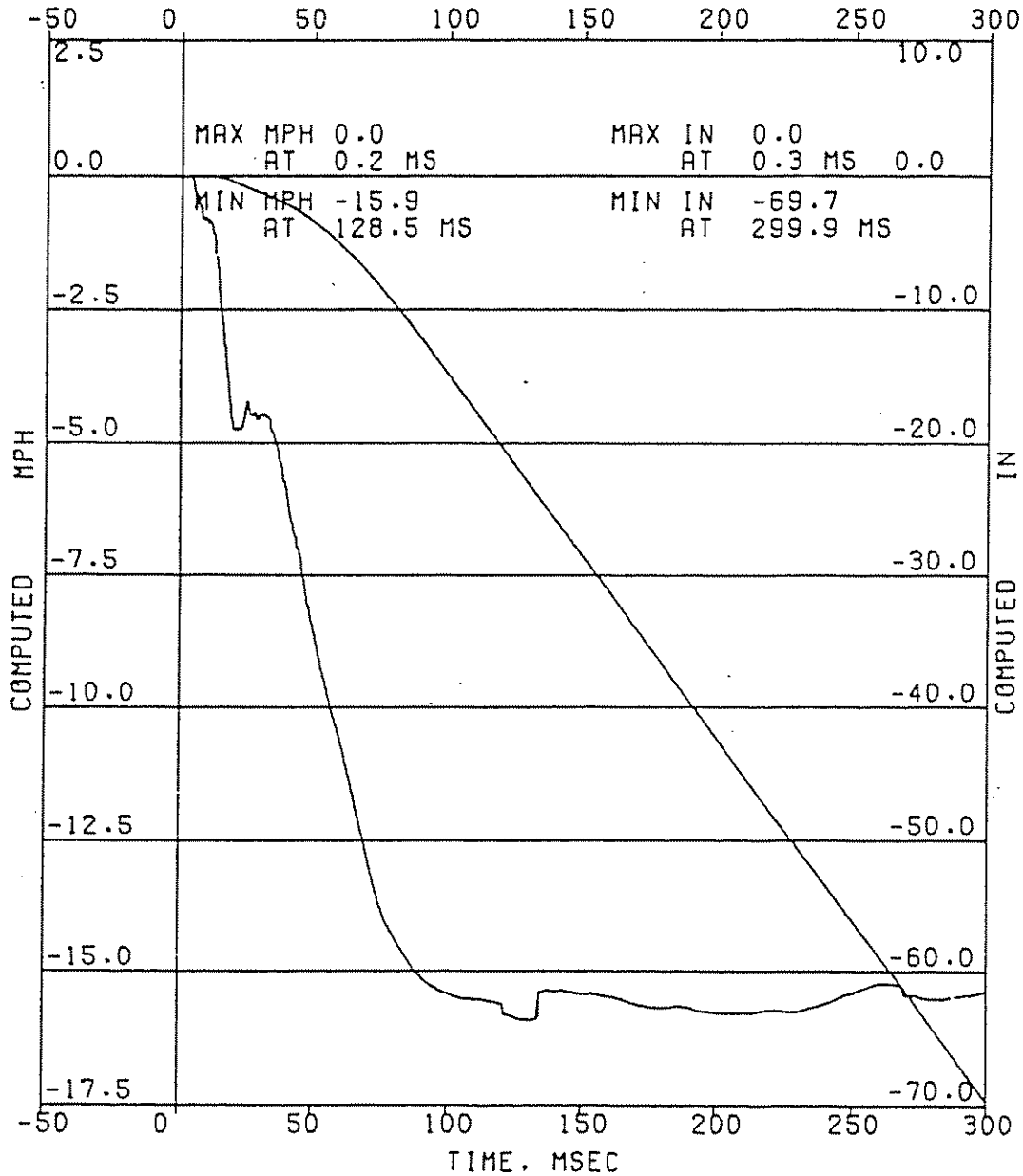
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 003 RIGHT FRONT SILL X 510087

PAGE 012  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04470

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R

PAGE 013

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 004 RIGHT FRONT SILL. Z 114524

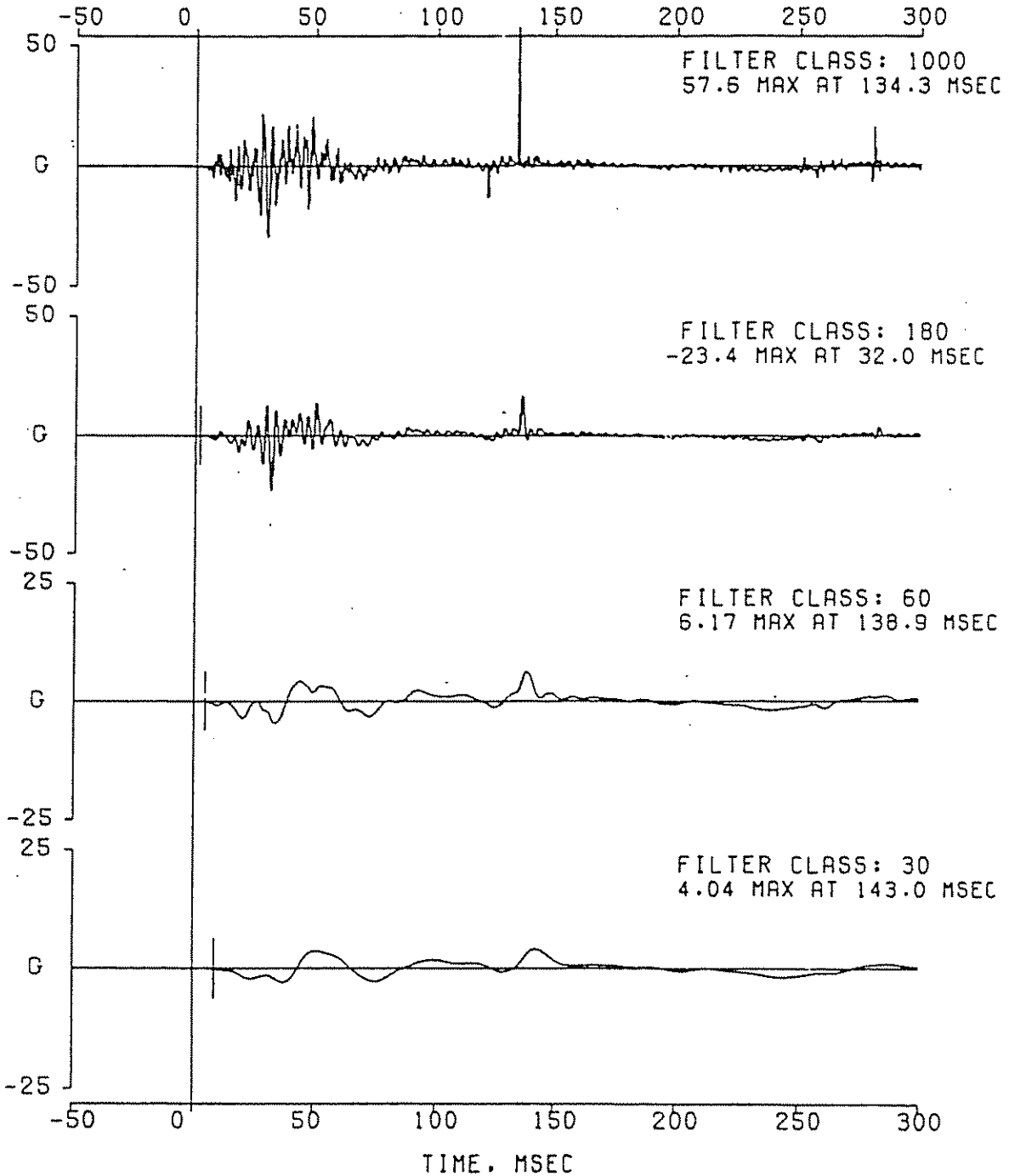
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27, 1996

ERRATA 1

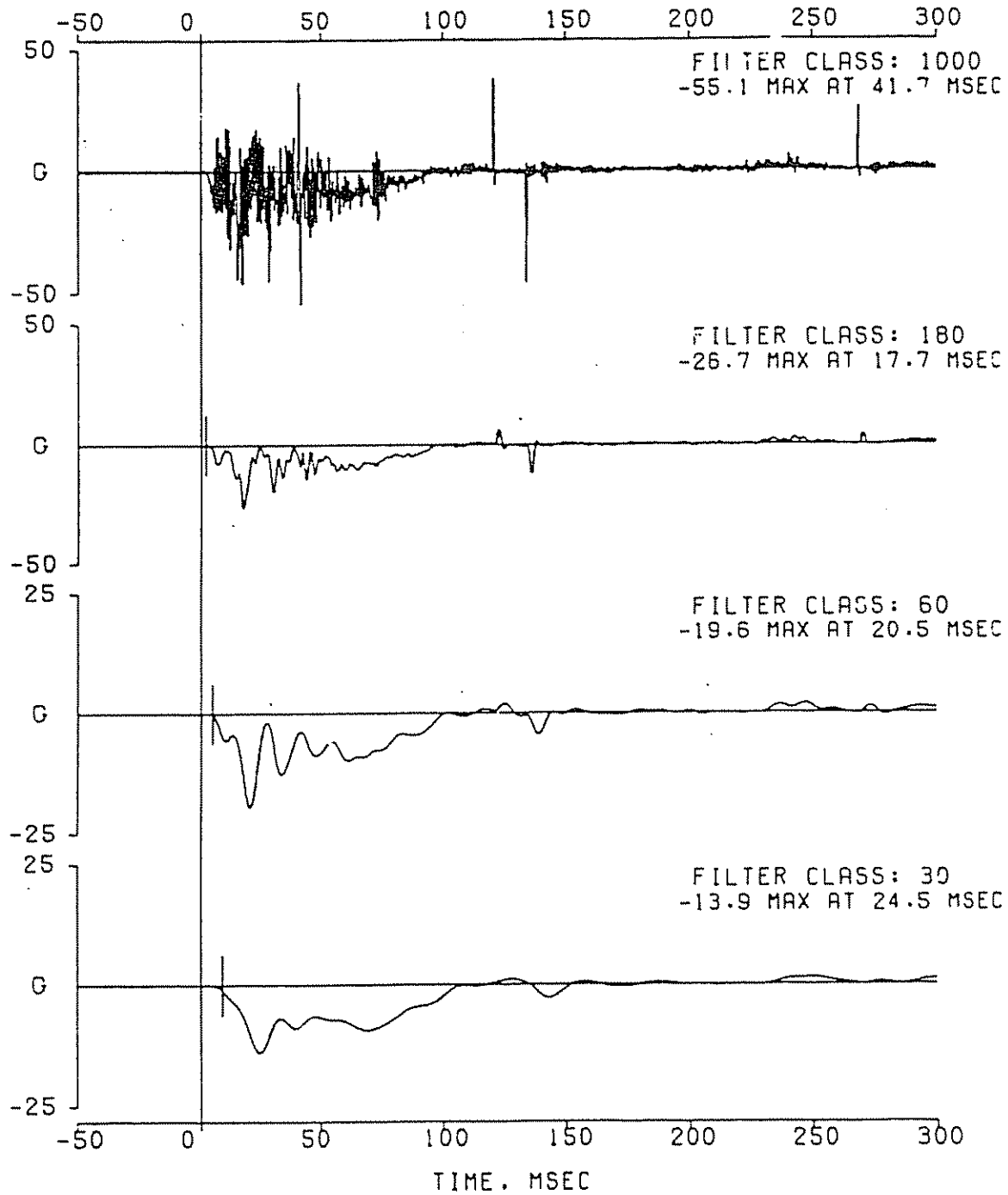


DC 04471

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 005 LEFT REAR SILL X 176966  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27,1996

PAGE 014  
OF 062

DATA SET 03/23/96BE  
ERRATA 1





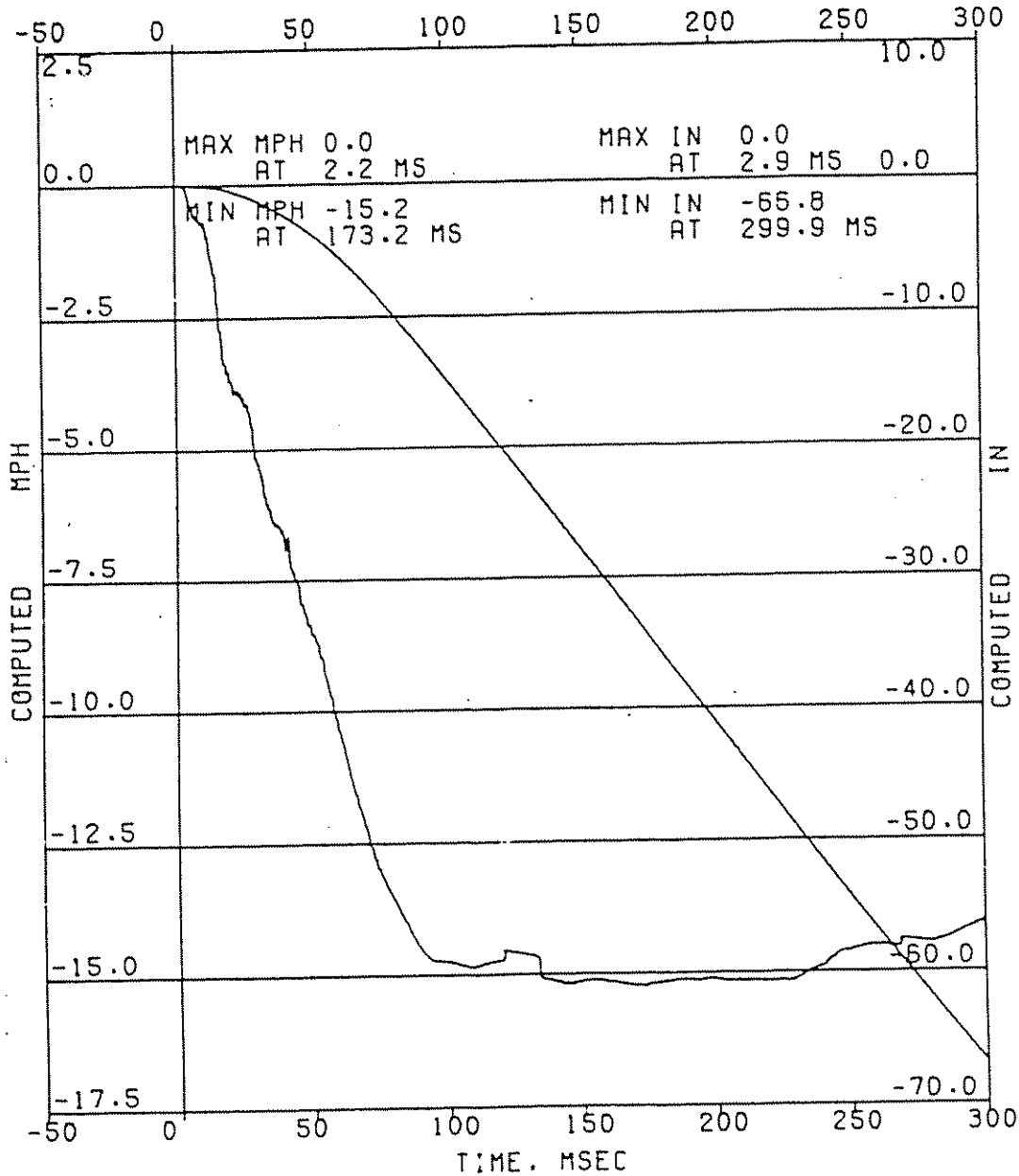
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 005 LEFT REAR SILL X 176966

PAGE 015  
OF 062

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04473

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 016  
OF 062

CHANNEL 006 LEFT REAR SILL Z 14370

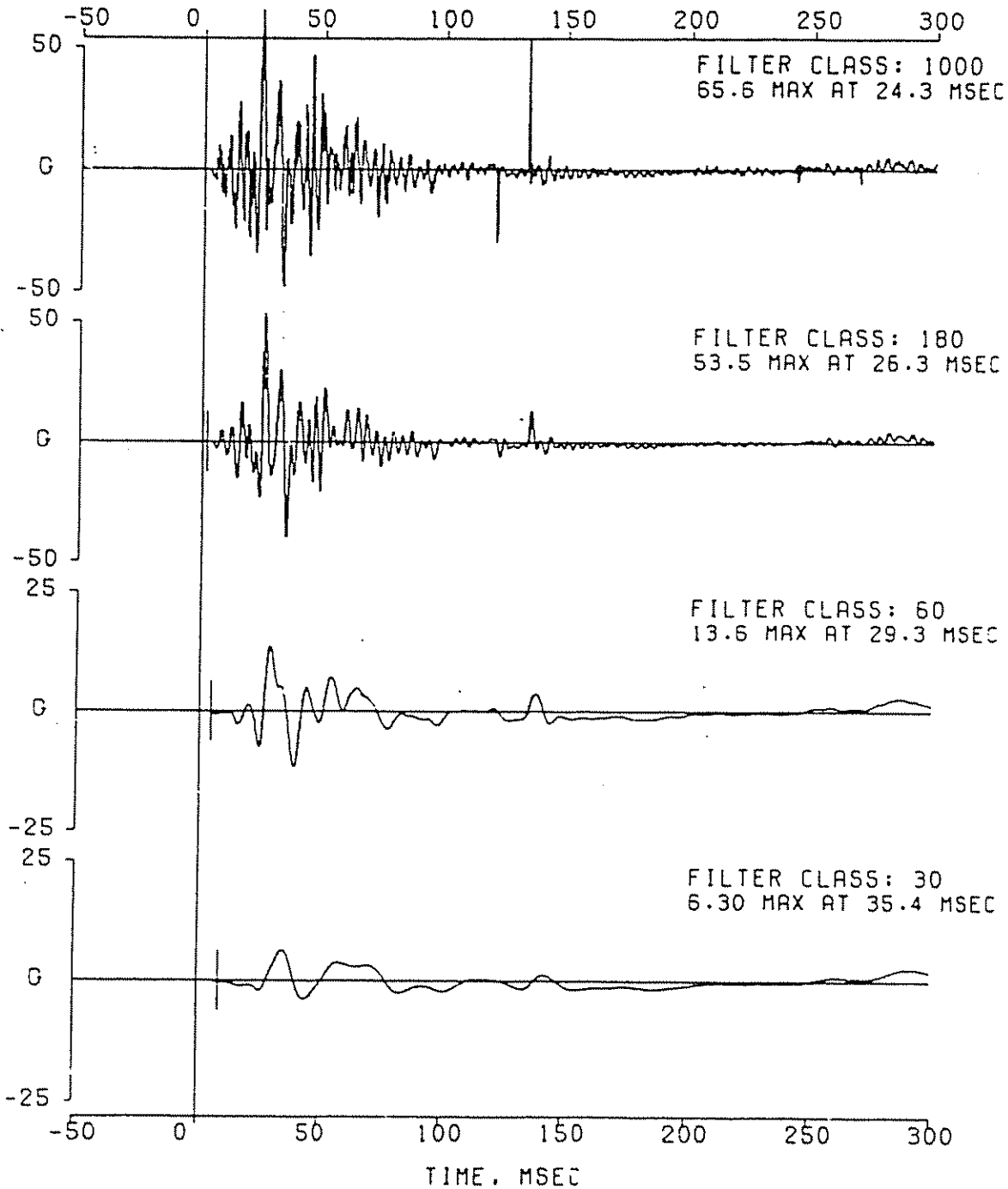
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA 1

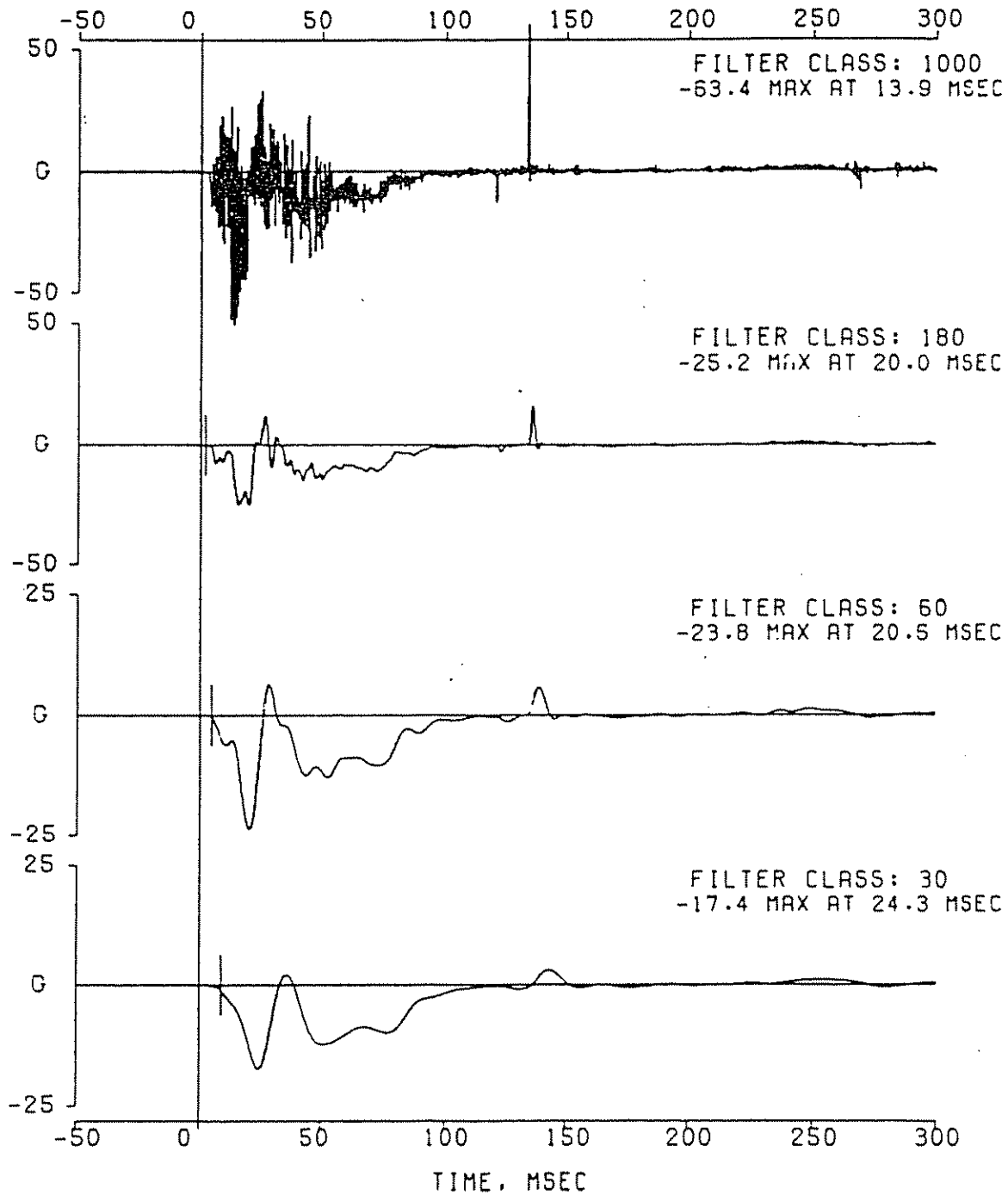


DC 04474

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 007 RIGHT REAR SILL X 14385  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

PAGE 017  
OF 062

DATA SET 03/23/96BE  
ERRATA 1



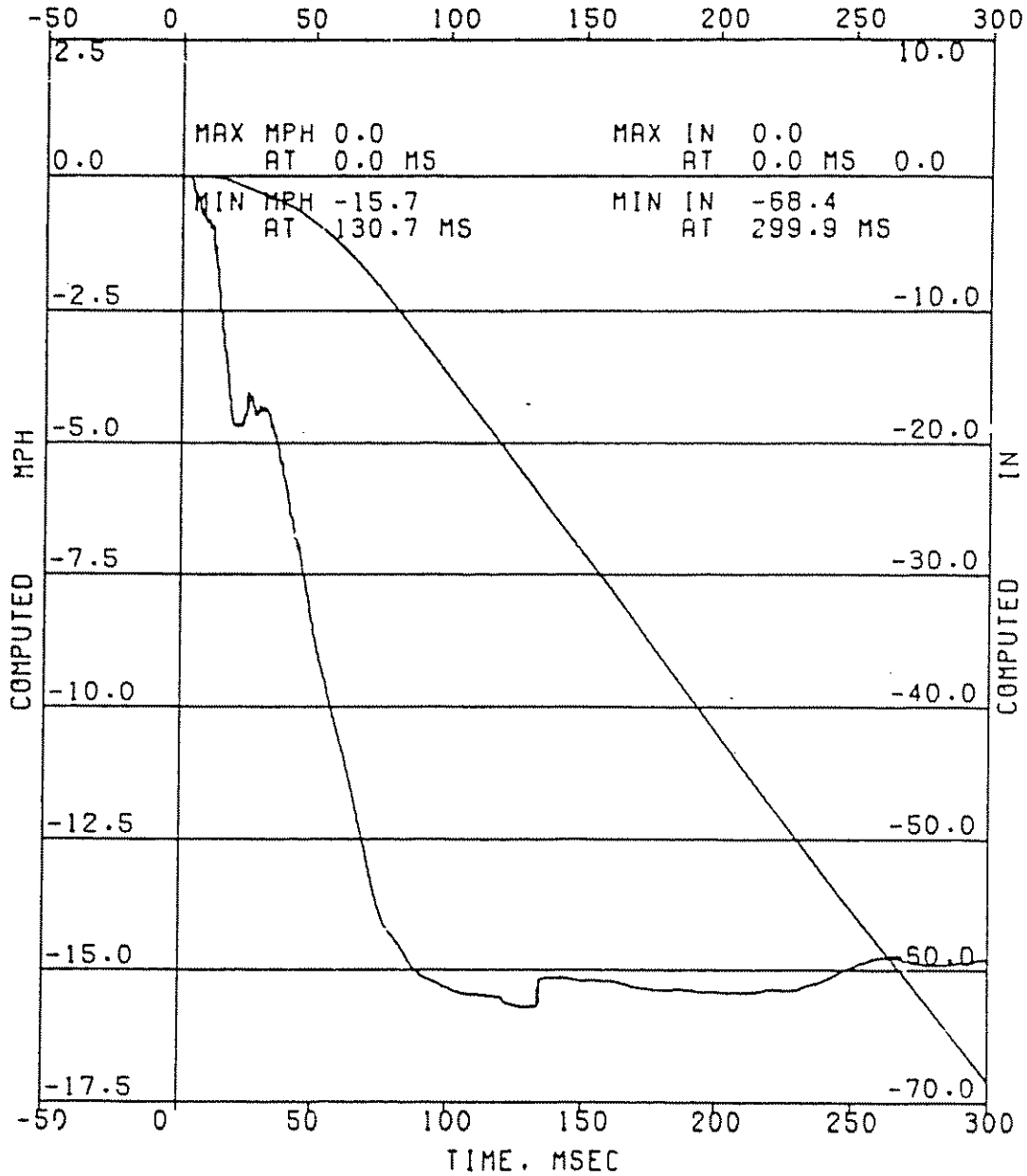
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 007 RIGHT REAR SILL X 14385

PAGE 018  
OF 062

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04476

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 019  
OF 062

CHANNEL 008 RIGHT REAR SILL Z 311325

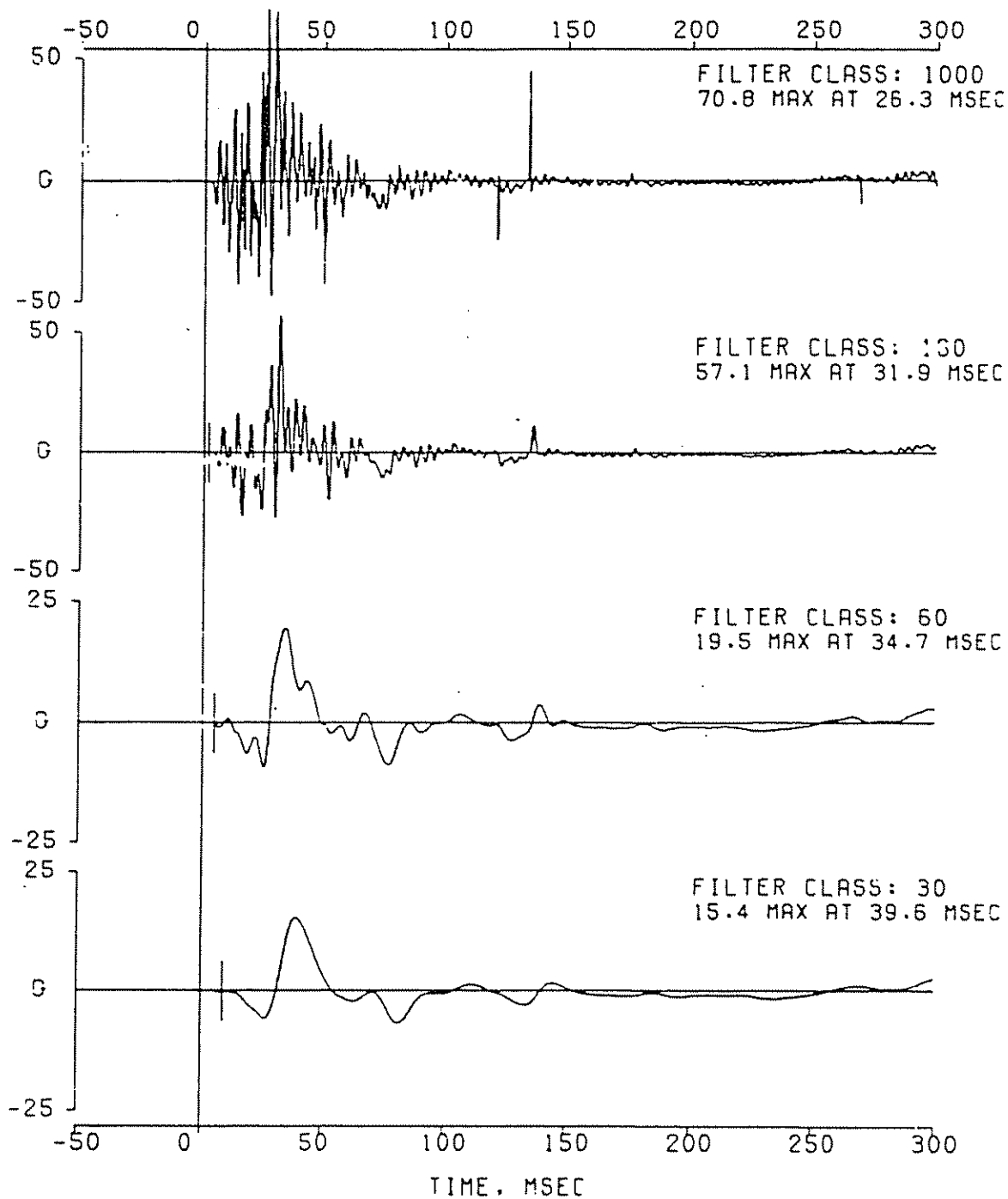
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA 1



DC 04477

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT 301.

PAGE 020  
OF 062

CHANNEL 009 LT RAIL TRAIL ARM PIV X 14385

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

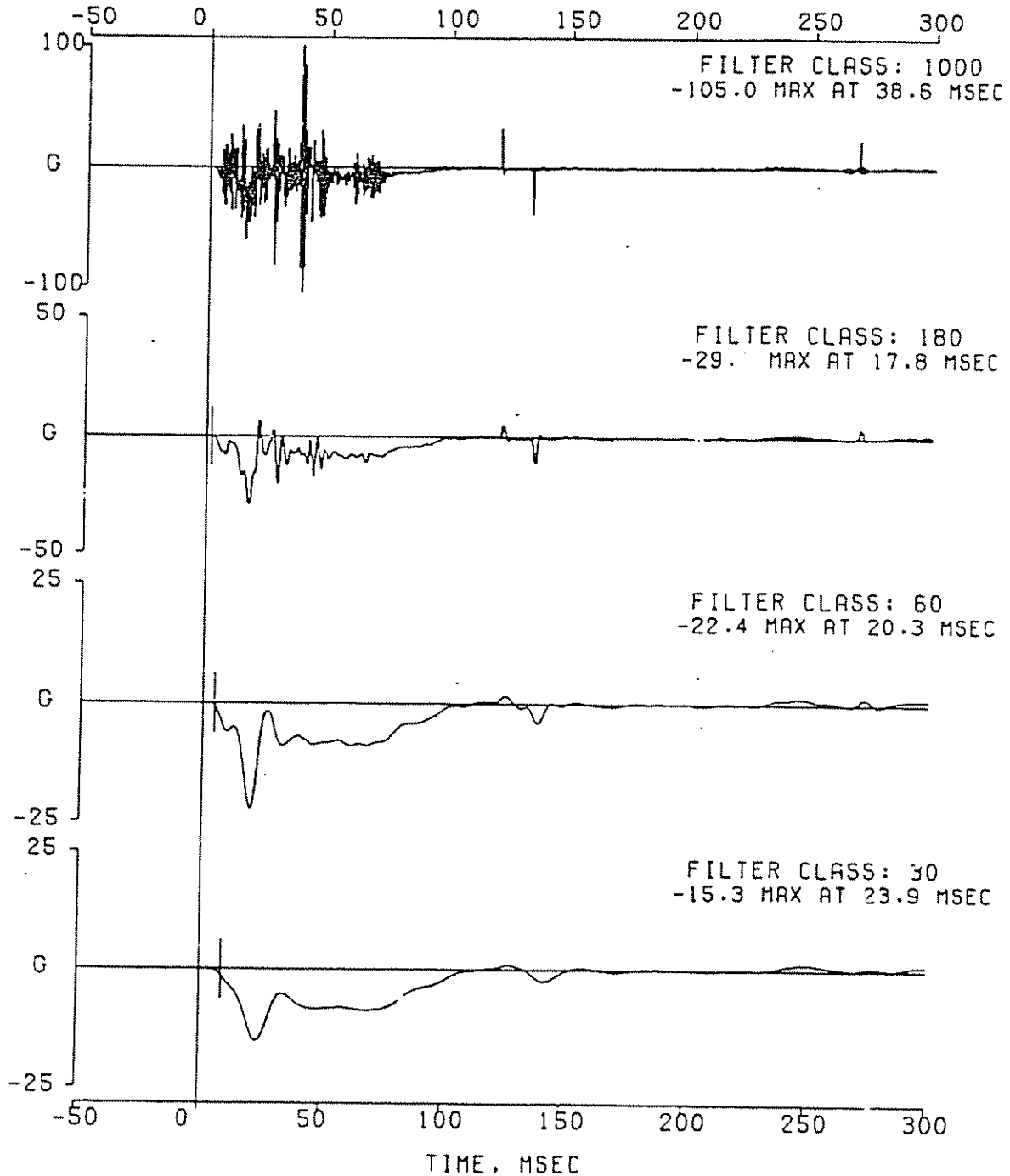
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA

1



DC 04478

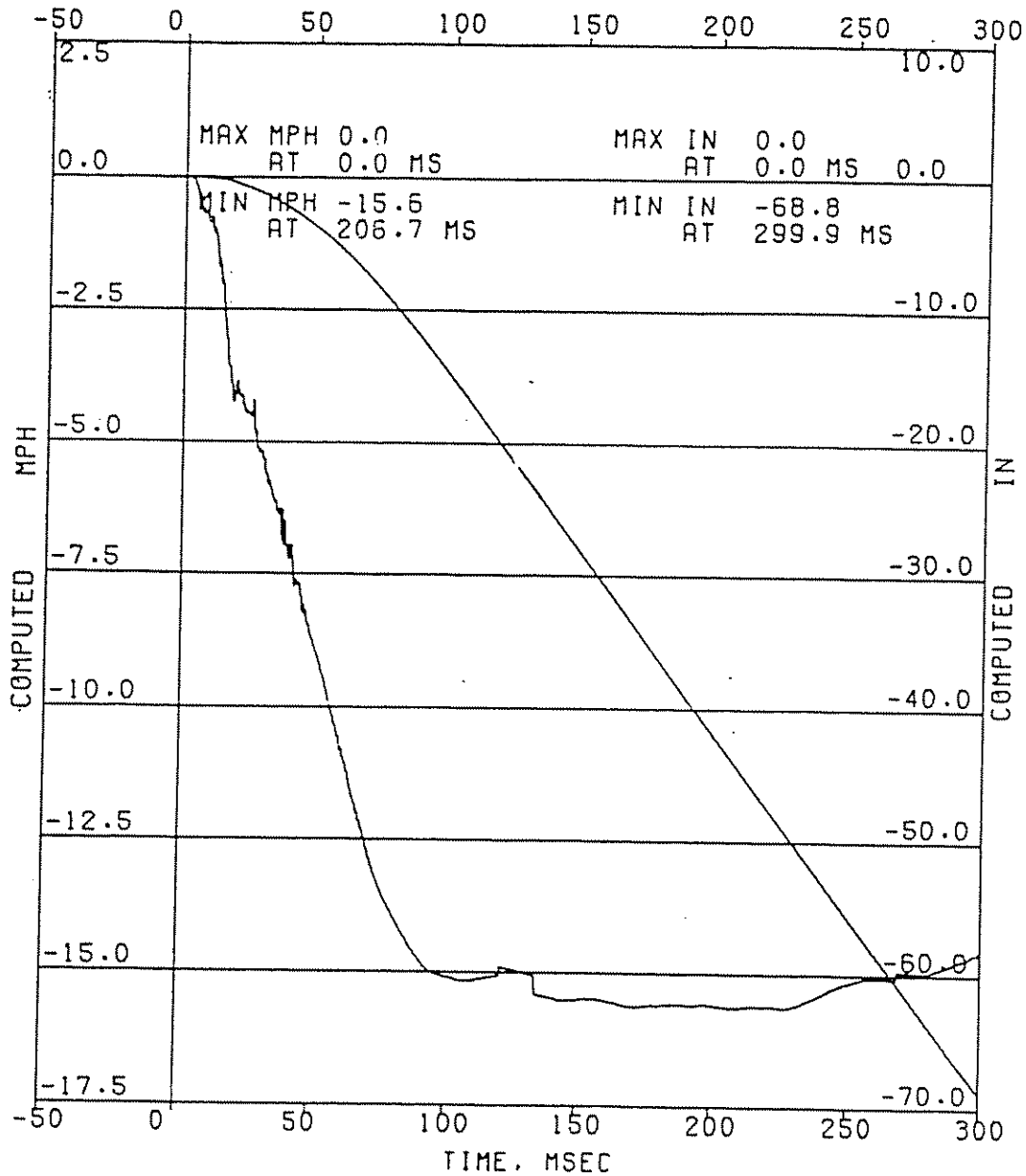
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 009 LT RAIL TRAIL ARM PIV X 14385

PAGE 021  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BE  
ERRATA 1



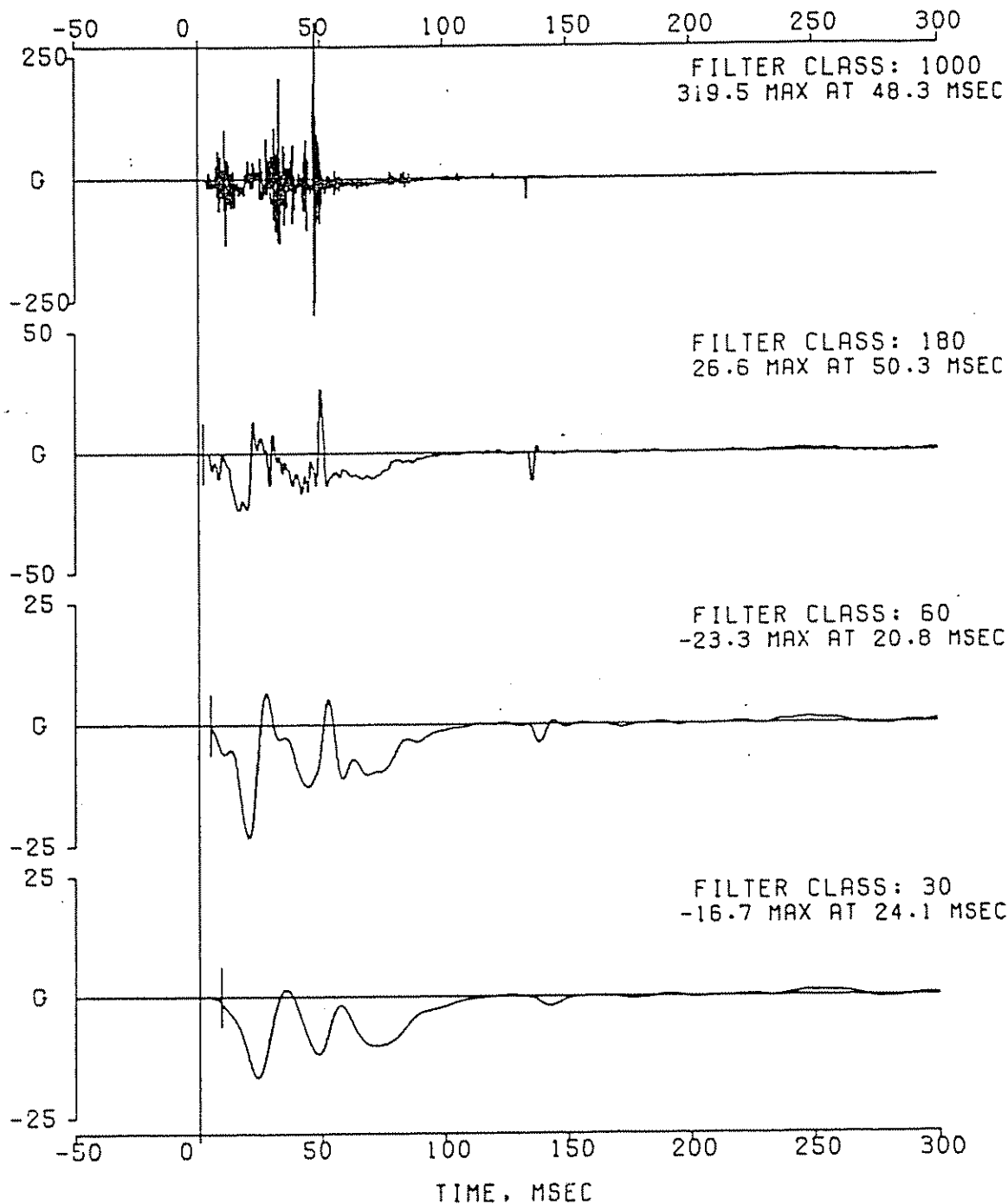
COMPUTED MPH  
COMPUTED IN

DC 04479

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJ6207R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 010 RT RAIL TRAIL ARM PIV X 14322  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

PAGE 022  
OF 062

DATA SET 03/23/96BE  
ERRATA 1



DC 04480



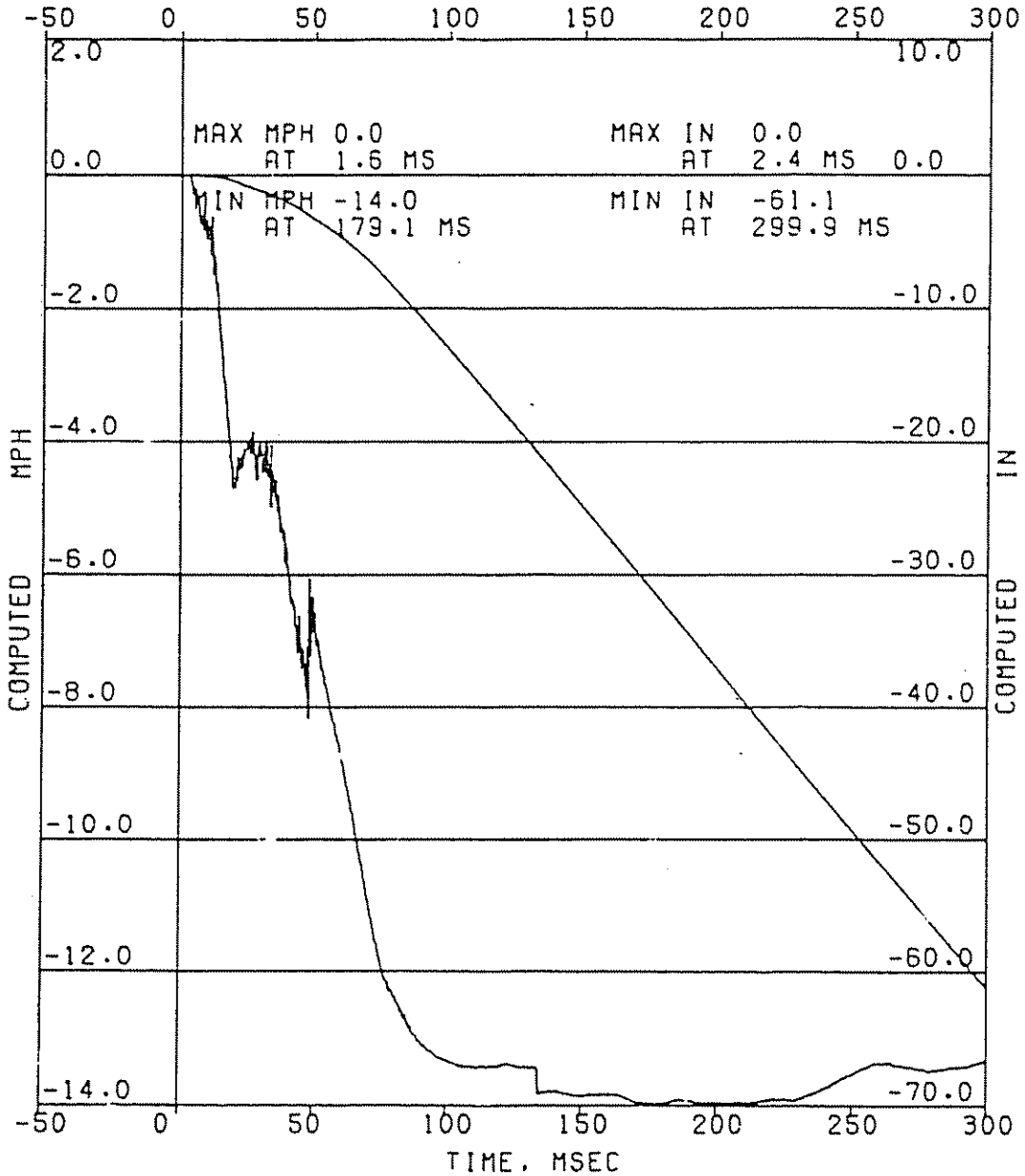
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 010 RT RAIL TRAIL ARM PIV X 14322

PAGE 023  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(165C)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04481

VC05654 30 MPH REAR BARRI FR. ZJJ74. S.2L MPI. ITEM ZJB209R

PAGE 024

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 011 RT REAR RAIL MID TANK X 14306

FILTER TYPE: OBCAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

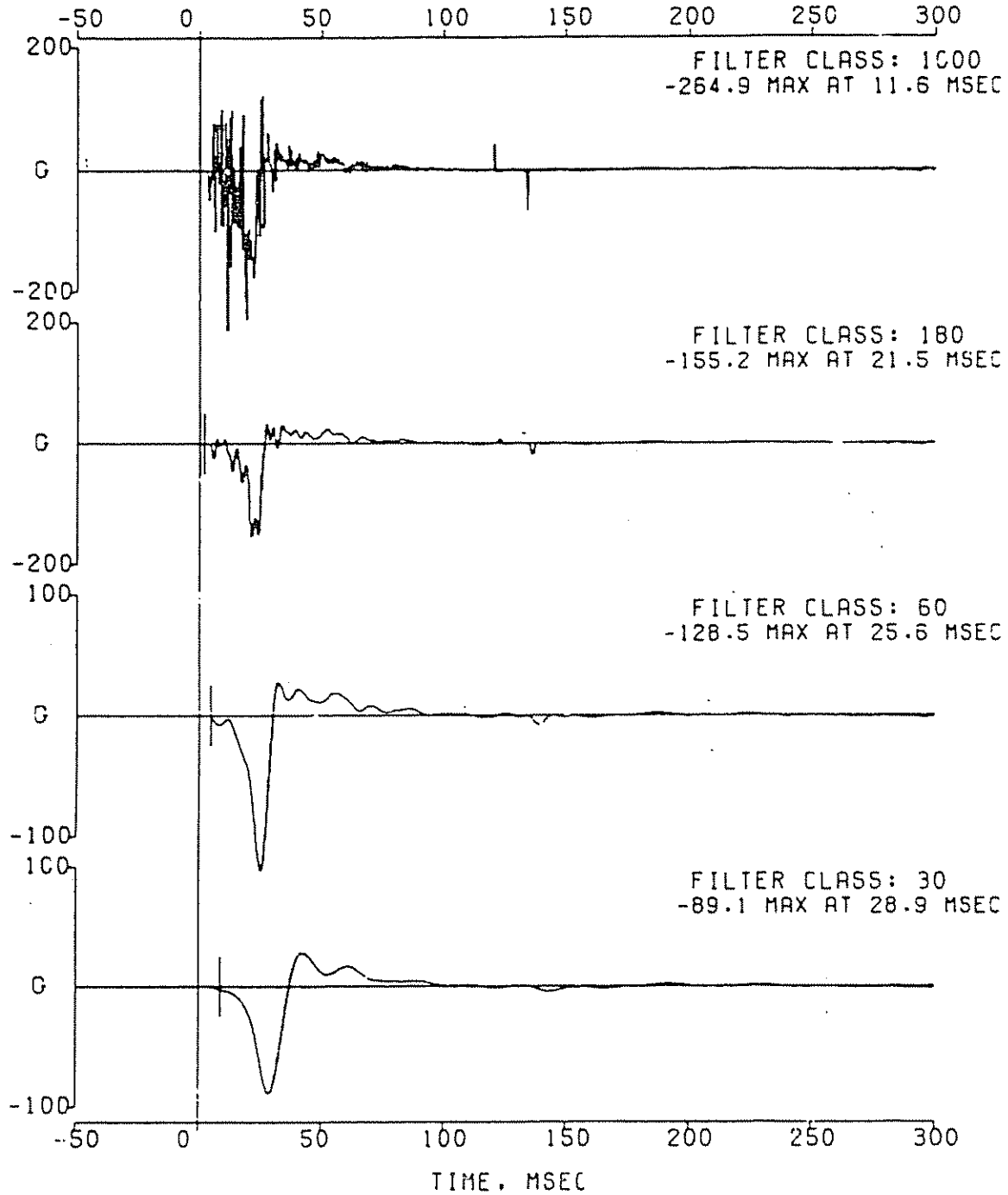
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA

1



DC 04482

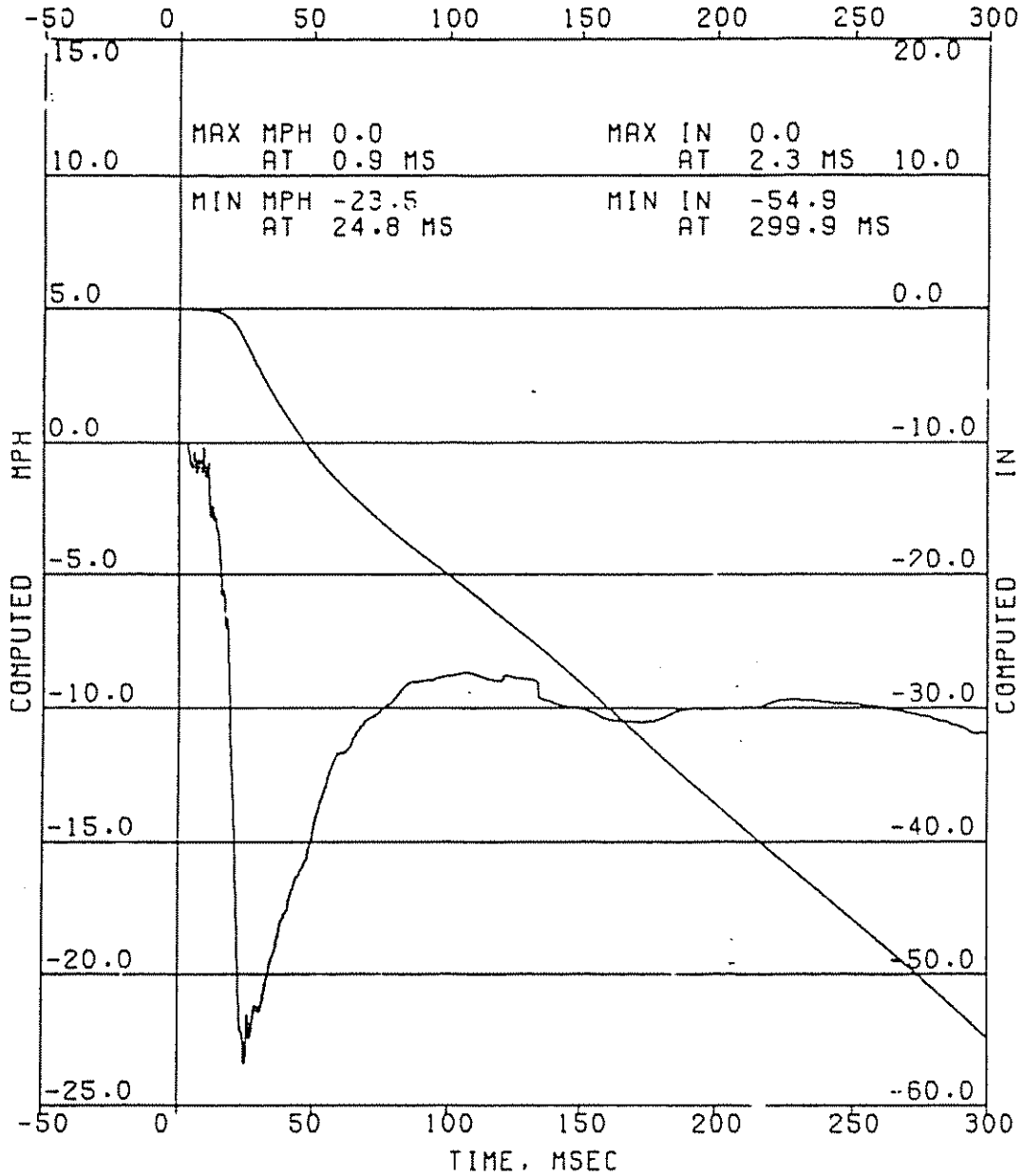
VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 011 RT REAR RAIL MID TANK X 14306

PAGE 025  
OF 062

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04483

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 026  
OF 062

CHANNEL 012 RT REAR RAIL MID TANK Z 311325

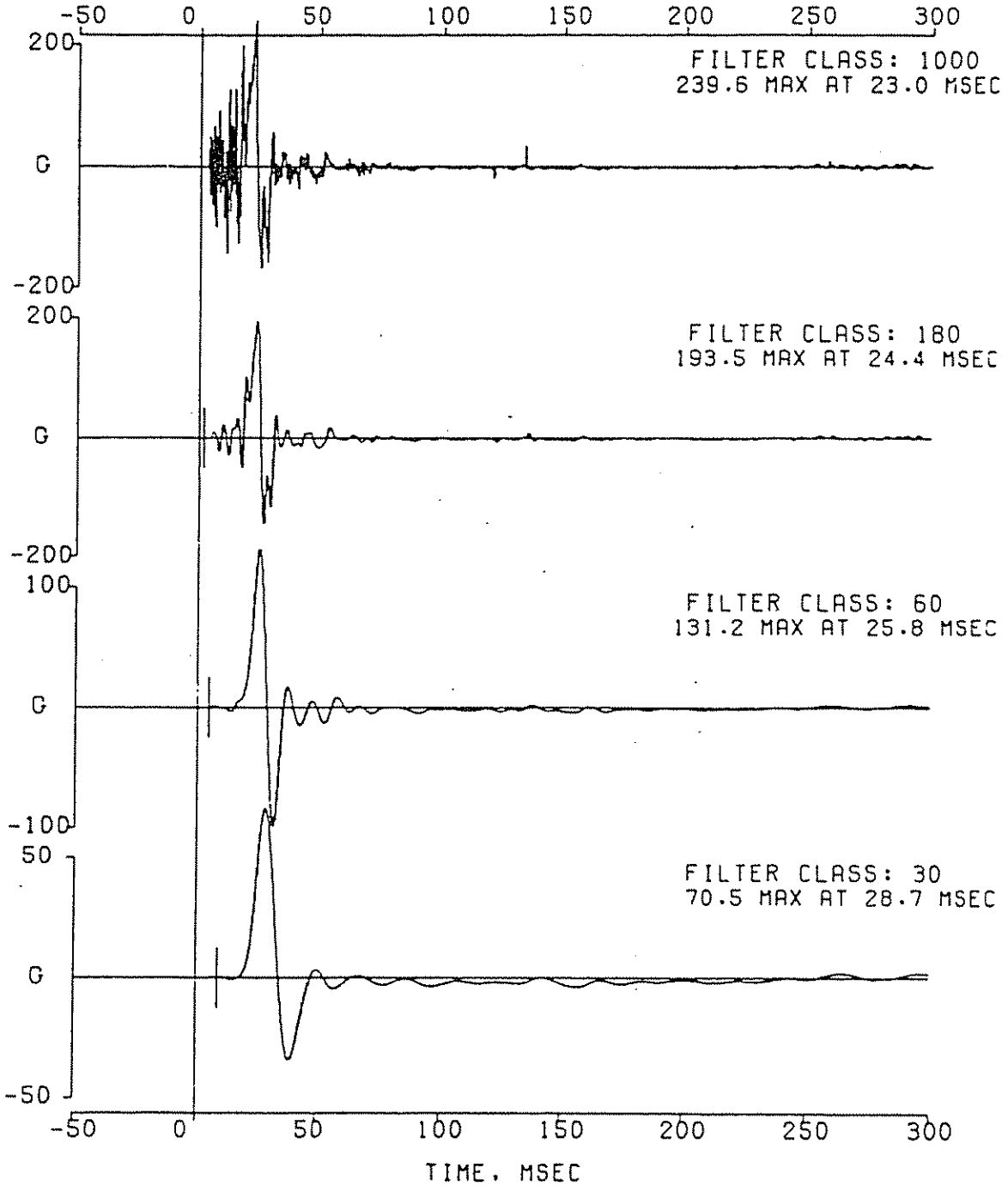
FILTER TYPE: 0BDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27,1996

ERRATA 1



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 027  
OF 062

CHANNEL 013 RECM EXTERN

X APGJ9

FILTER TYPE: CSDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

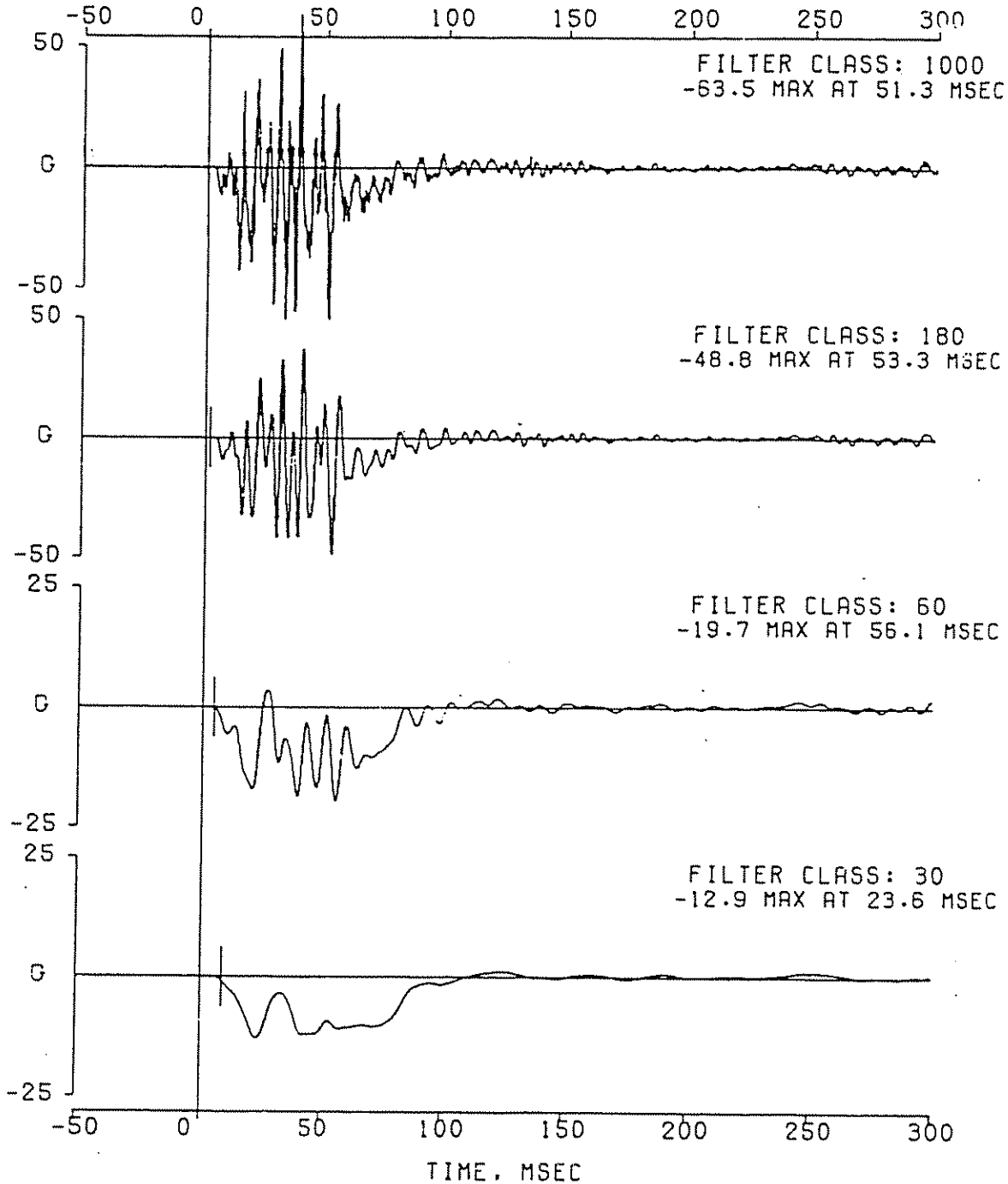
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA

1



DC 04485

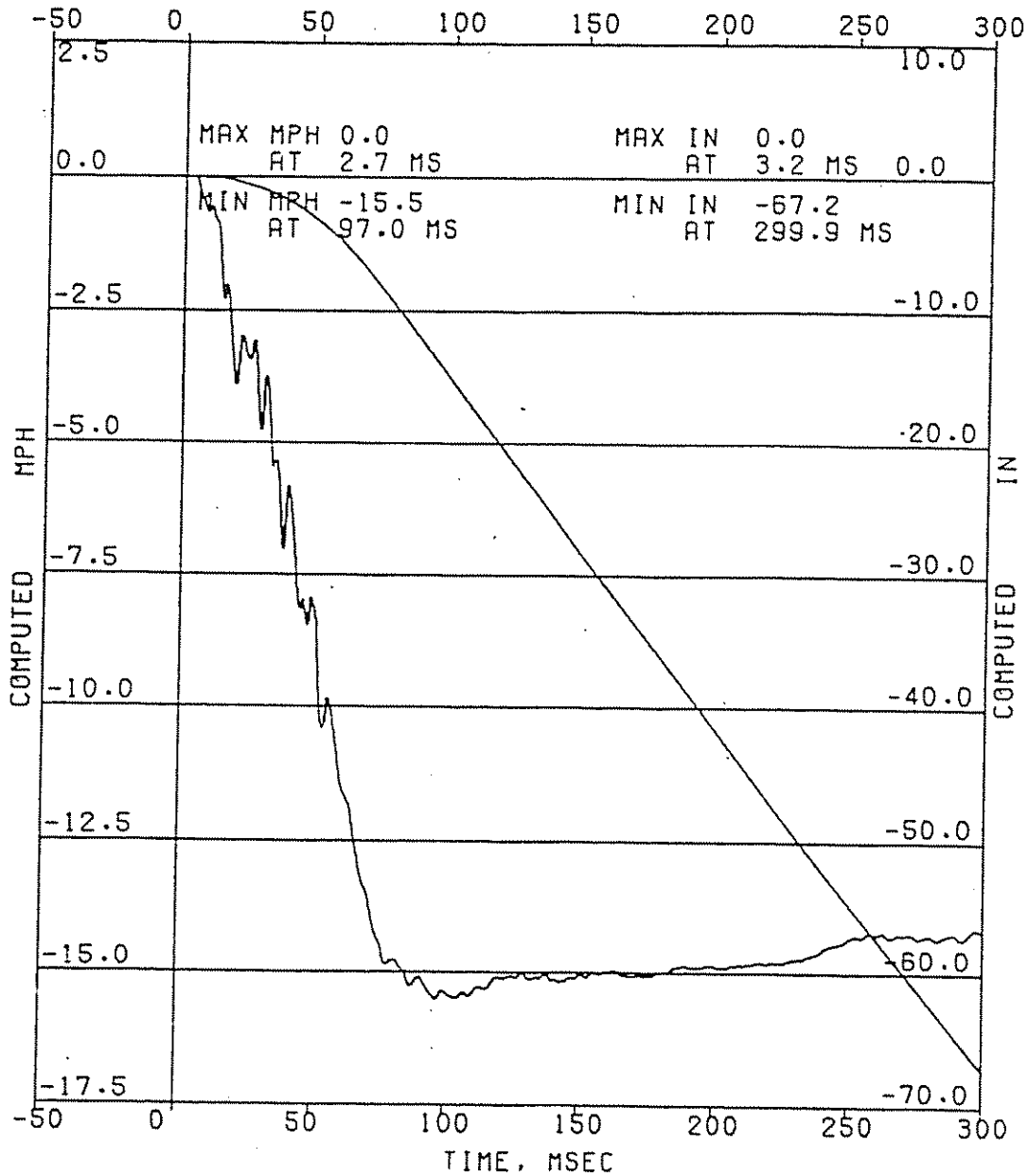
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 013 RECH EXTERN X APGJ9

PAGE 028  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BE  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04486

VC05B54 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R

PAGE 029

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 014 RECM EXTERN

Y APGF1

FILTER TYPE: 08DAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

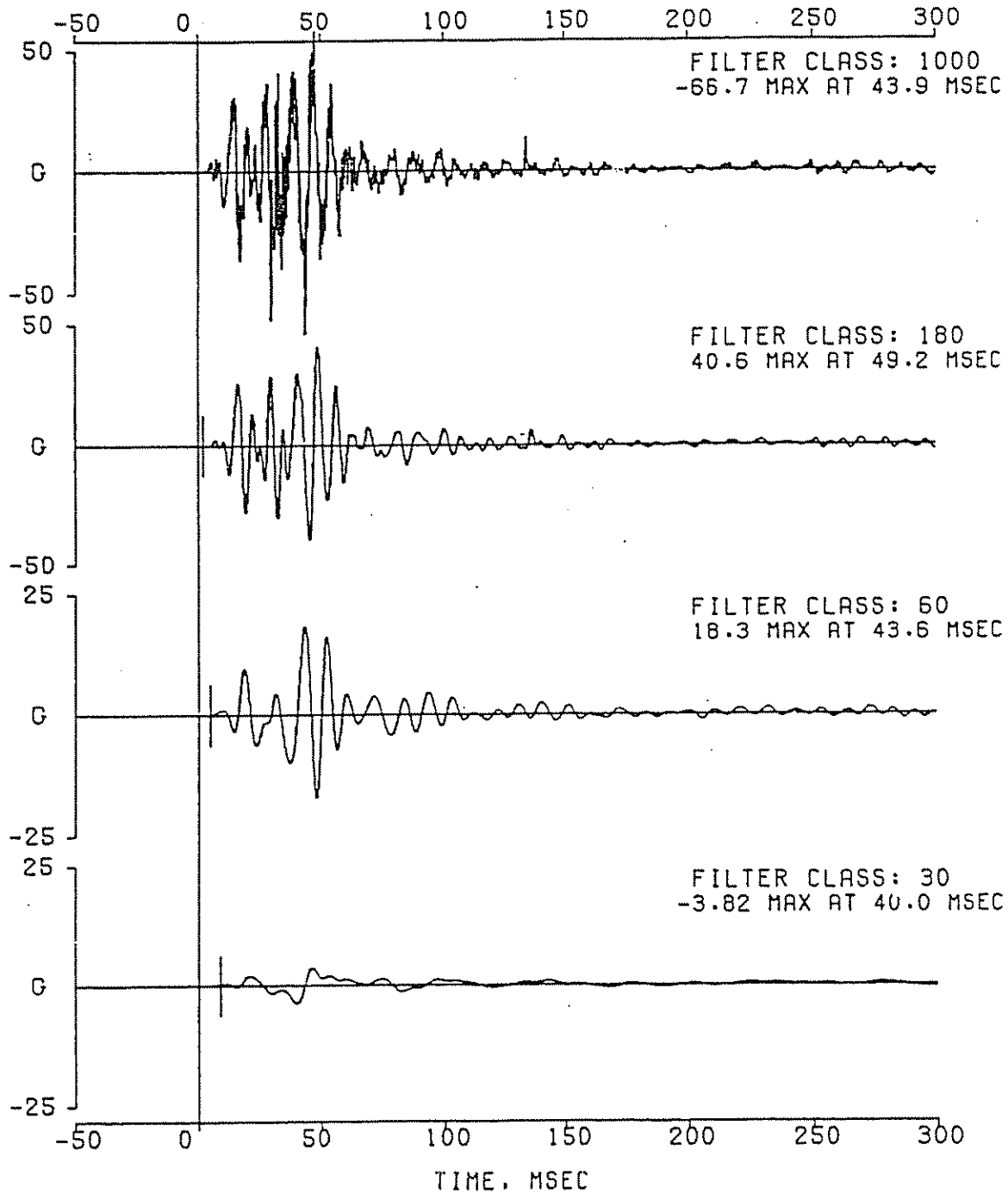
DATA SET 03/23/96BE

IMPACT ANALYSIS DEPT. 5320

ERRATA

1

MAR 27, 1996

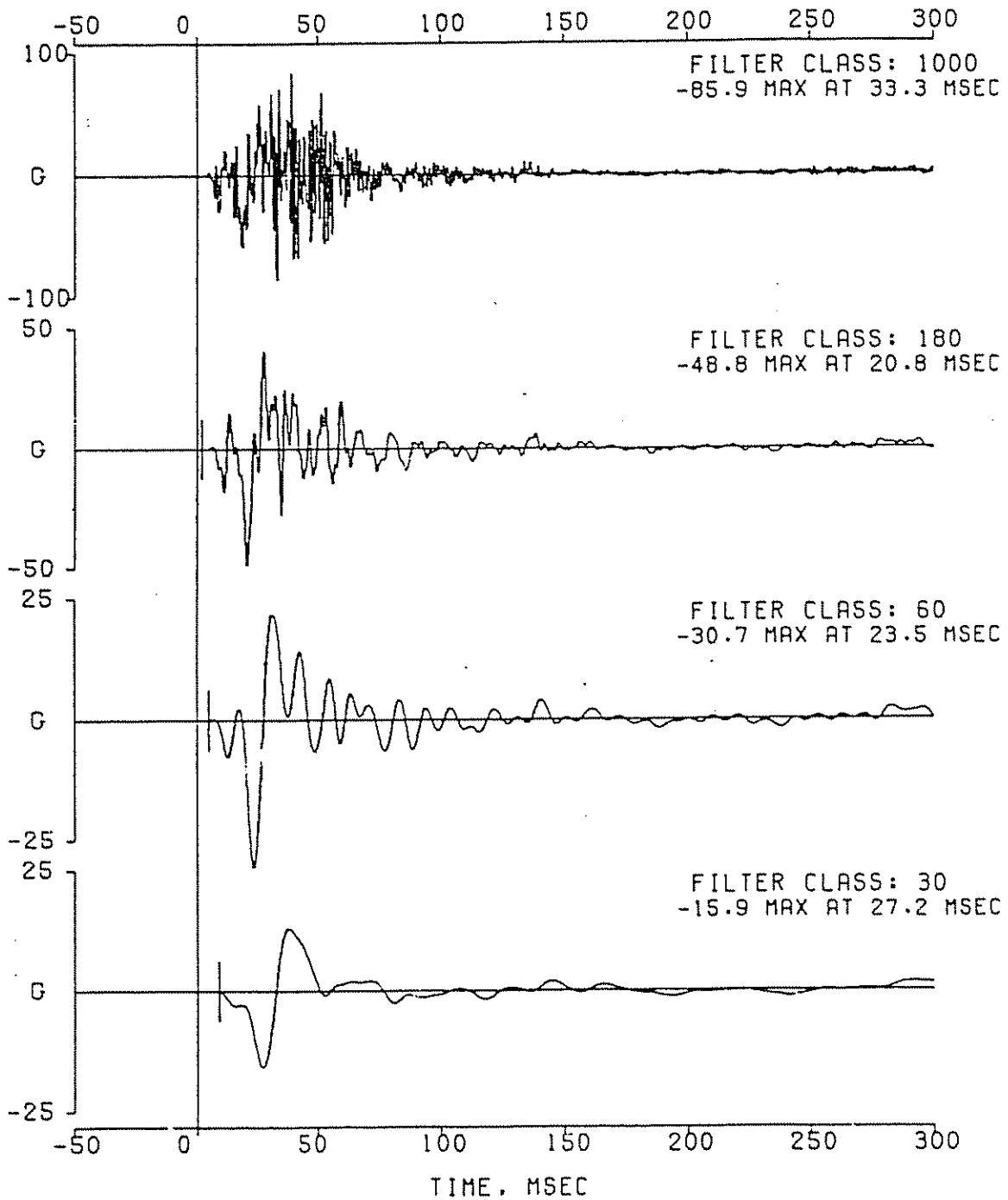


DC 04487

VC05B54 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJ6209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 015 RECM EXTERN Z AK4W4  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

PAGE 030  
OF 062

DATA SET 03/23/96BE  
ERRATA 1



DC 04488



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 031  
OF 062

CHANNEL 016 LT B PILLAR MID Y 14476

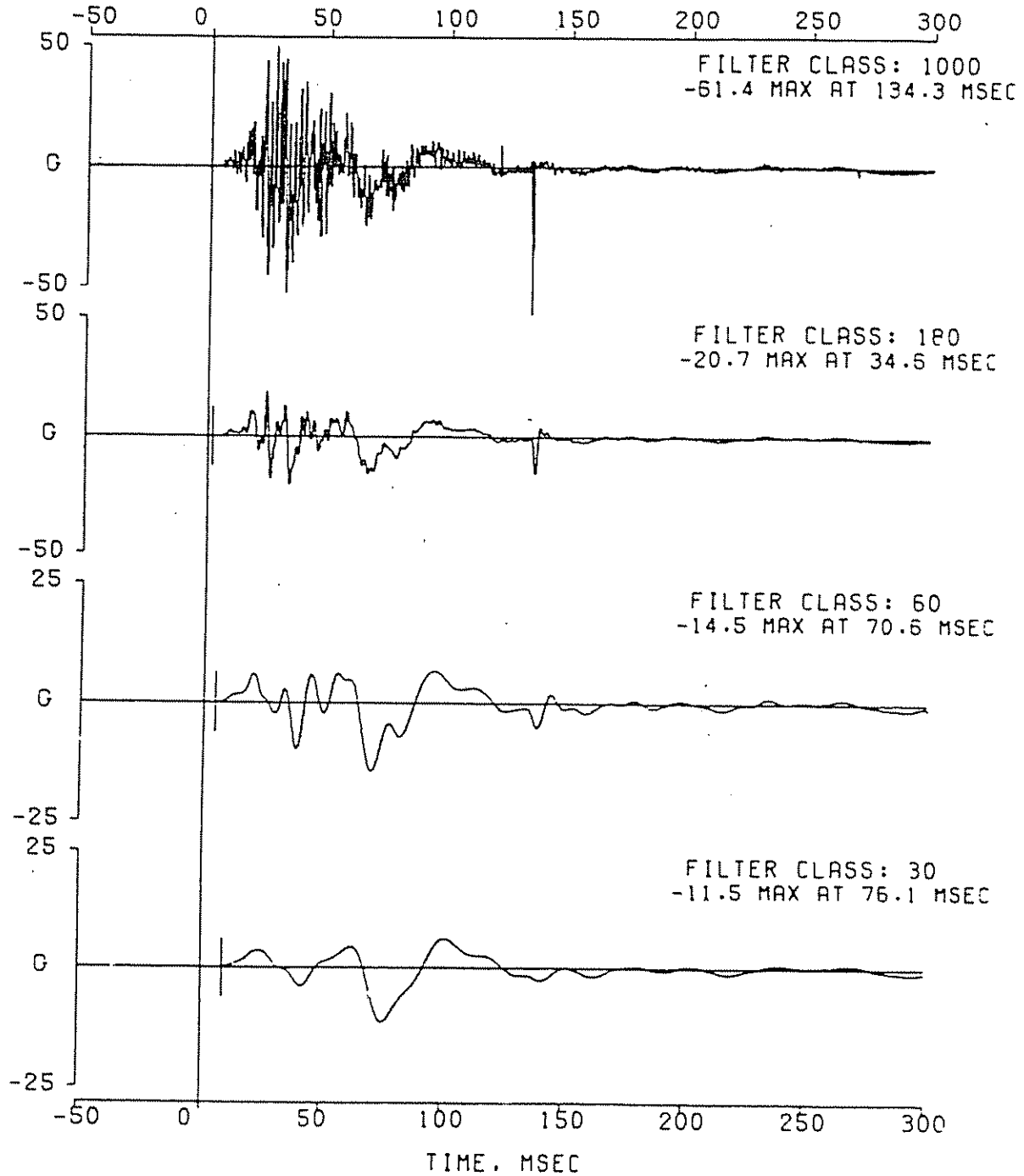
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BE

MAR 27.1996

ERRATA 1

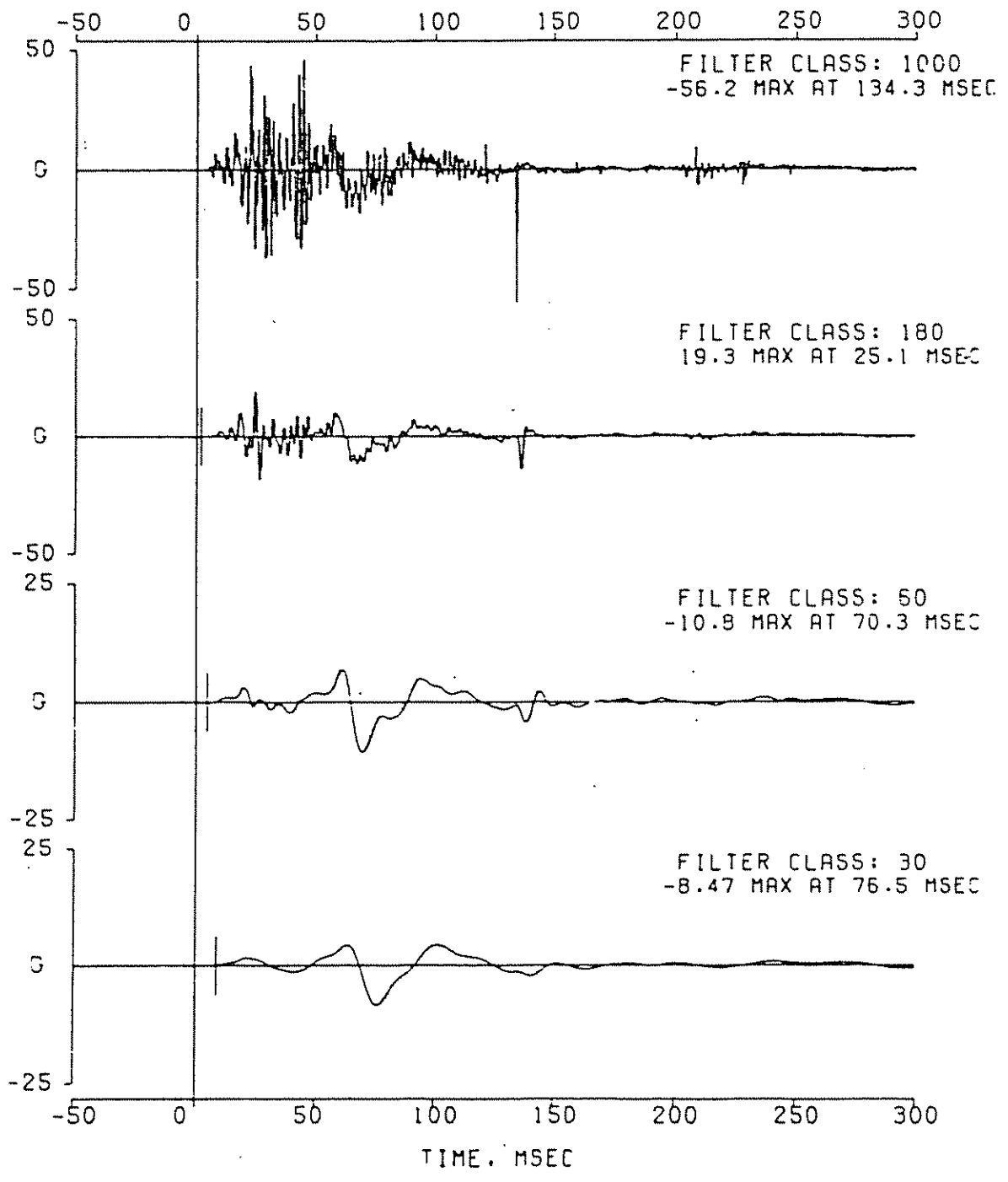


DC 04489

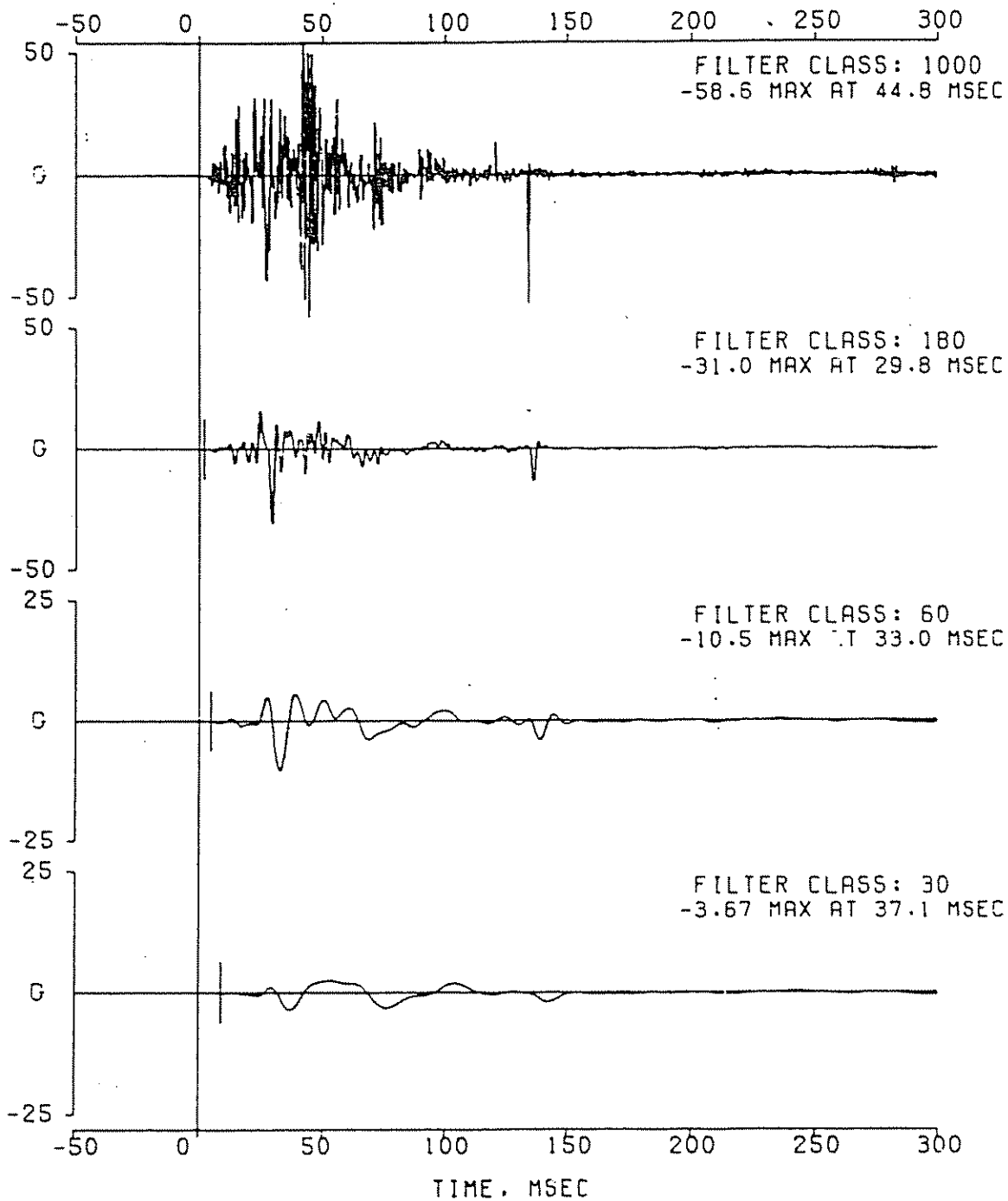
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 017 LT B PIELAR LWR Y 311305  
FILTER TYPE: OBDAS-111 RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

PAGE 032  
OF 062

DATA SET 03/23/96BF  
ERRATA 1



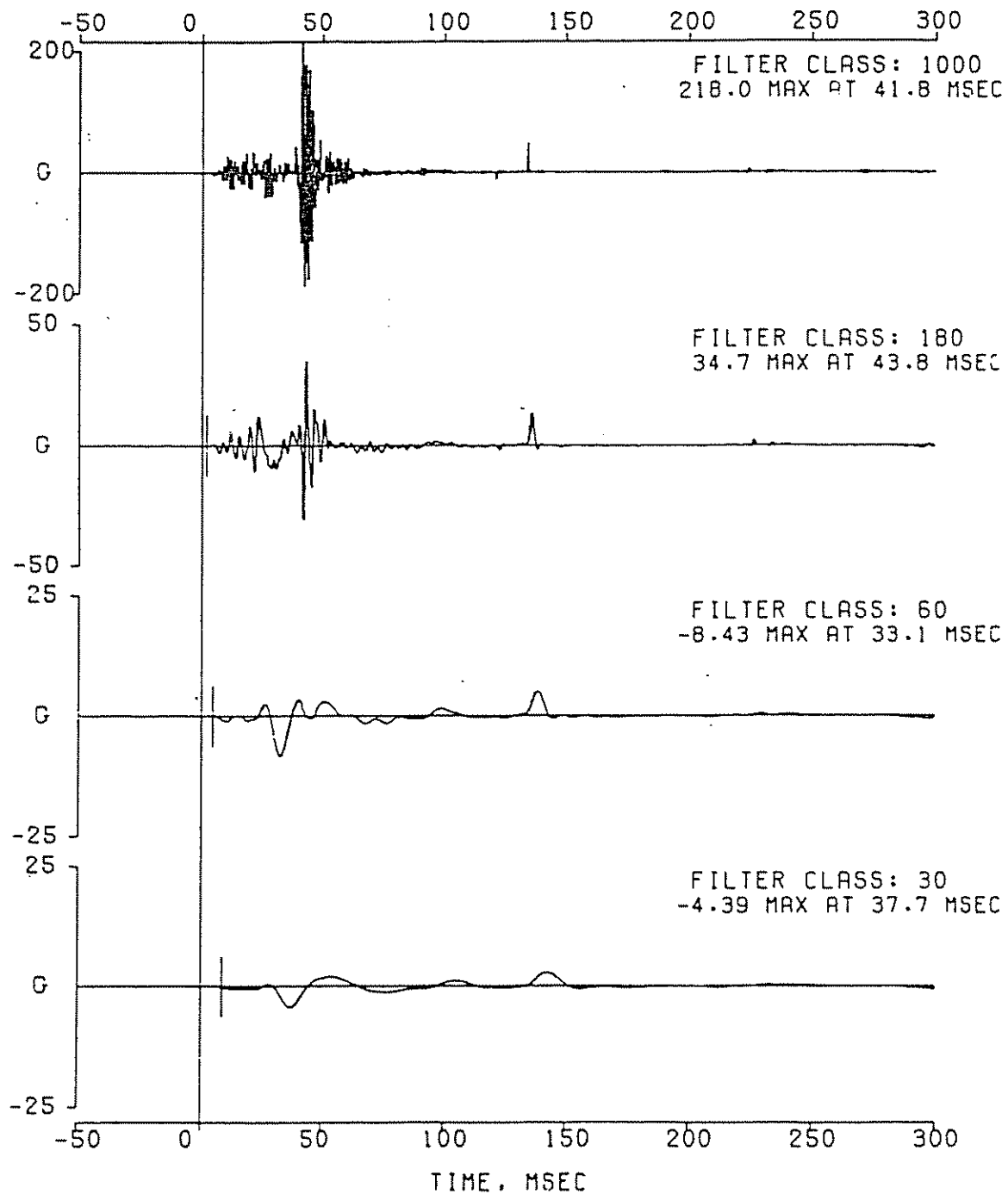
VC05B54 30 MPH REAR BARRIER, ZJJ74. 5.2L MPI. ITEM ZJB209R PAGE 033  
1997 MVSS DEVELOPMENT - 301. OF 062  
CHANNEL 018 LT B PILLAR AT FLOOR Y 510060  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320 DATA SET 03/23/96BF  
MAR 27,1996 ERRATA 1



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 019 FLOOR BEHIND DRV SEAT Y 226551  
FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

PAGE 034  
OF 062

DATA SET 03/23/96BF  
ERRATA 1



VC05B54 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R

PAGE 035

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 020 LT RR AXLE UPR

X AABNSJ

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

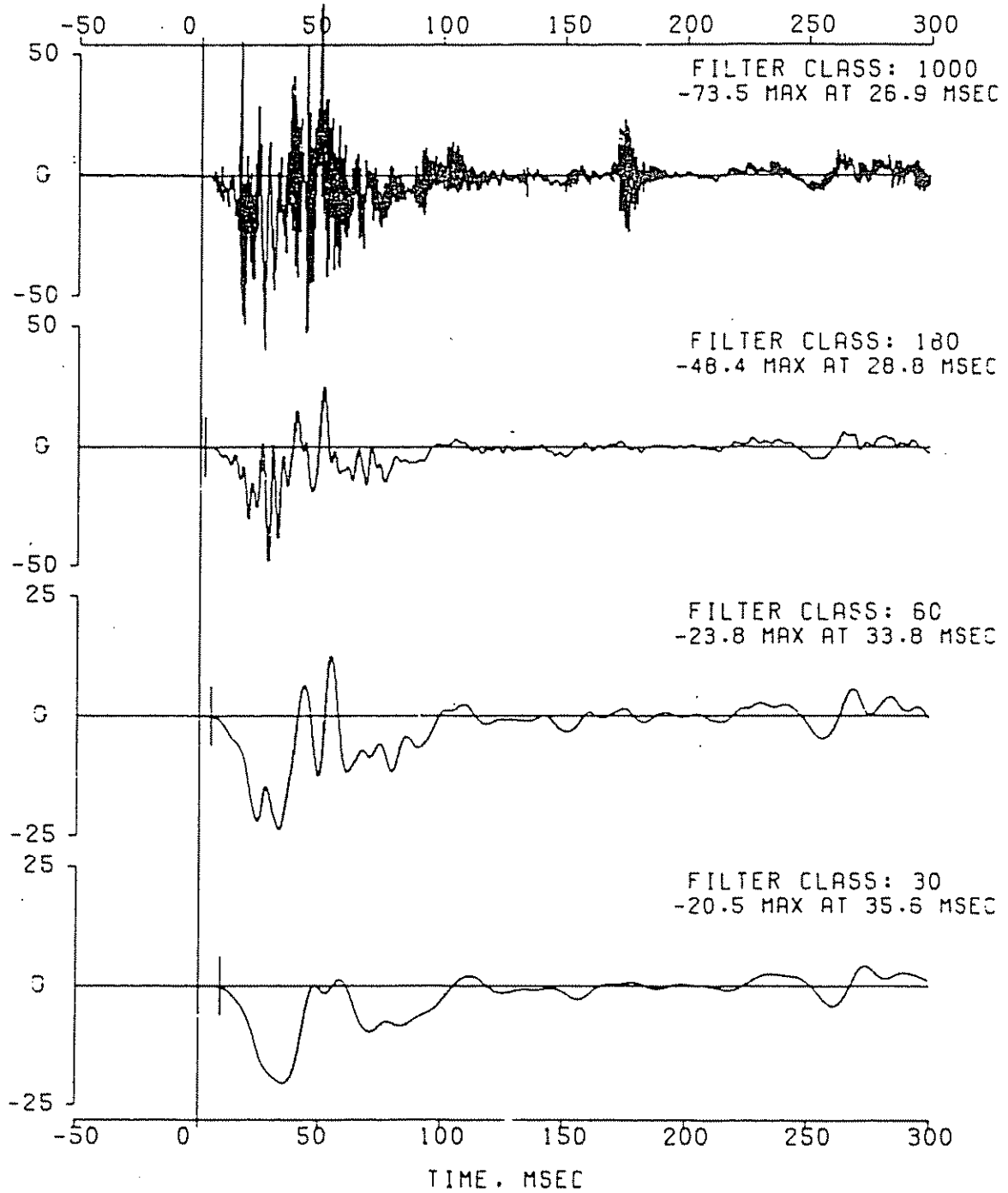
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27.1996

ERRATA

1

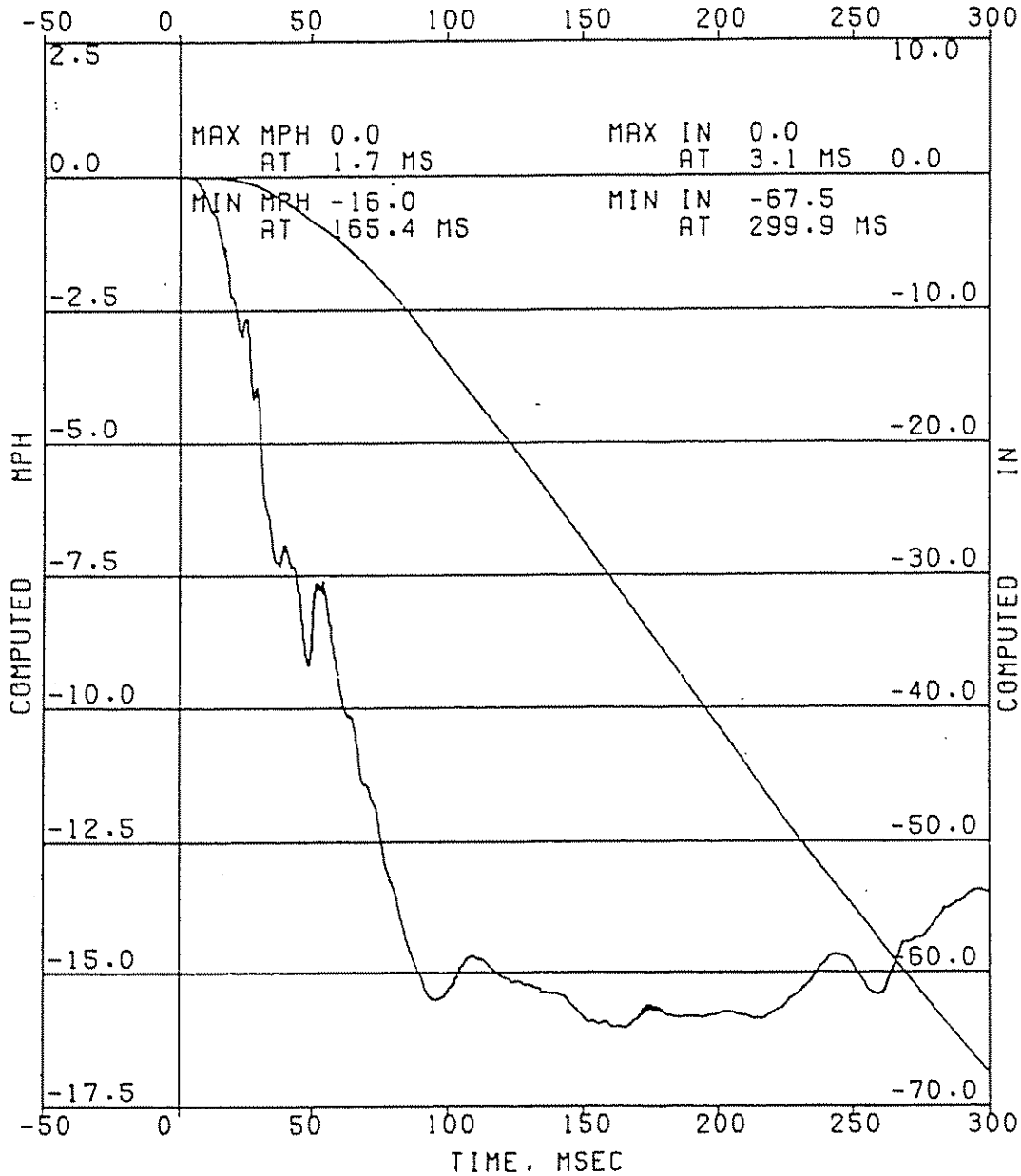


DC 04493

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BF  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 040  
OF 062

CHANNEL 023 LT RR AXLE LWR

Z AHR53

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

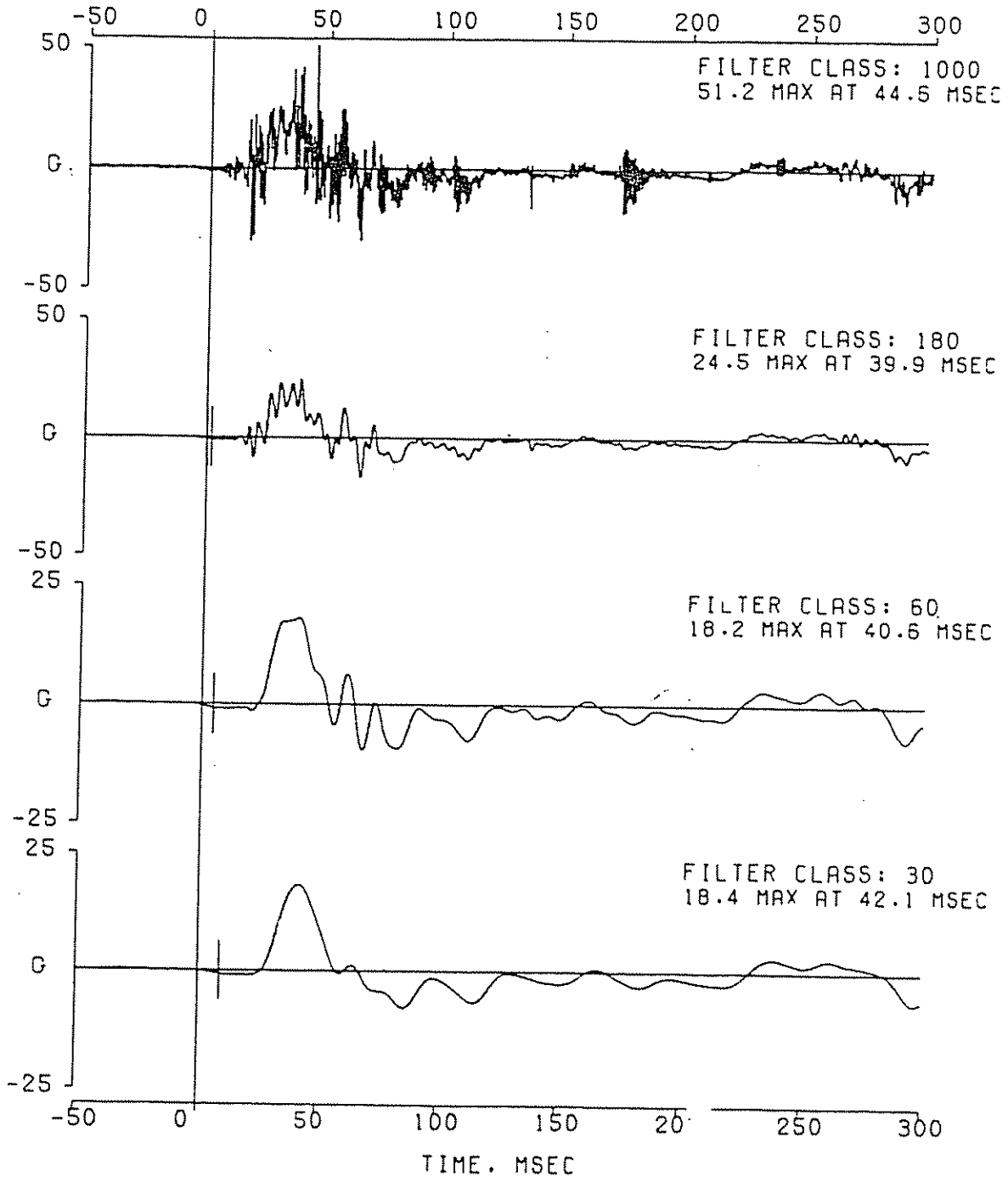
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27,1996

ERRATA

1



DC 04495

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R

PAGE 041

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 024 RT RR AXLE UPR

X DJ07J1

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

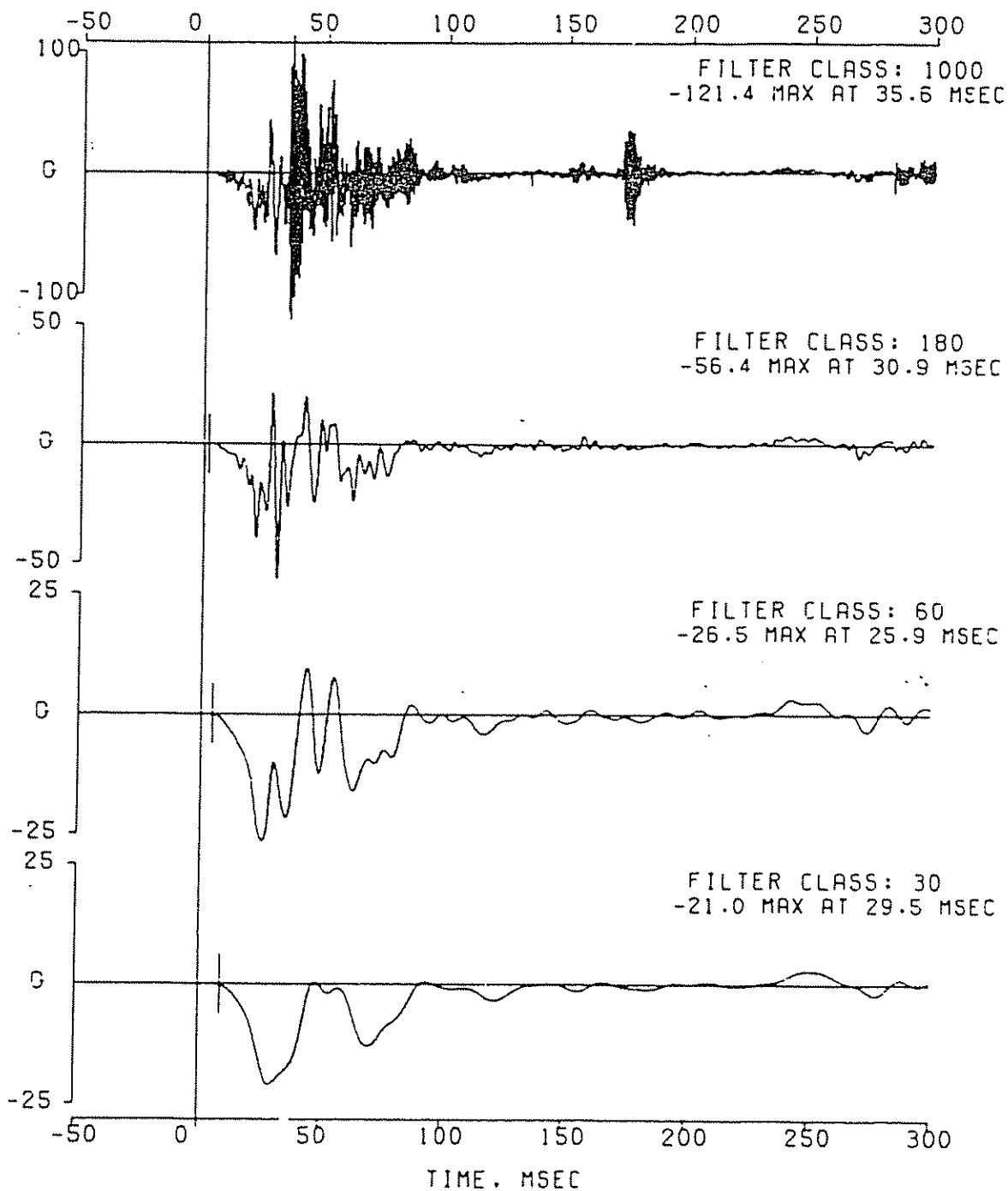
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27.1996

ERRATA

1



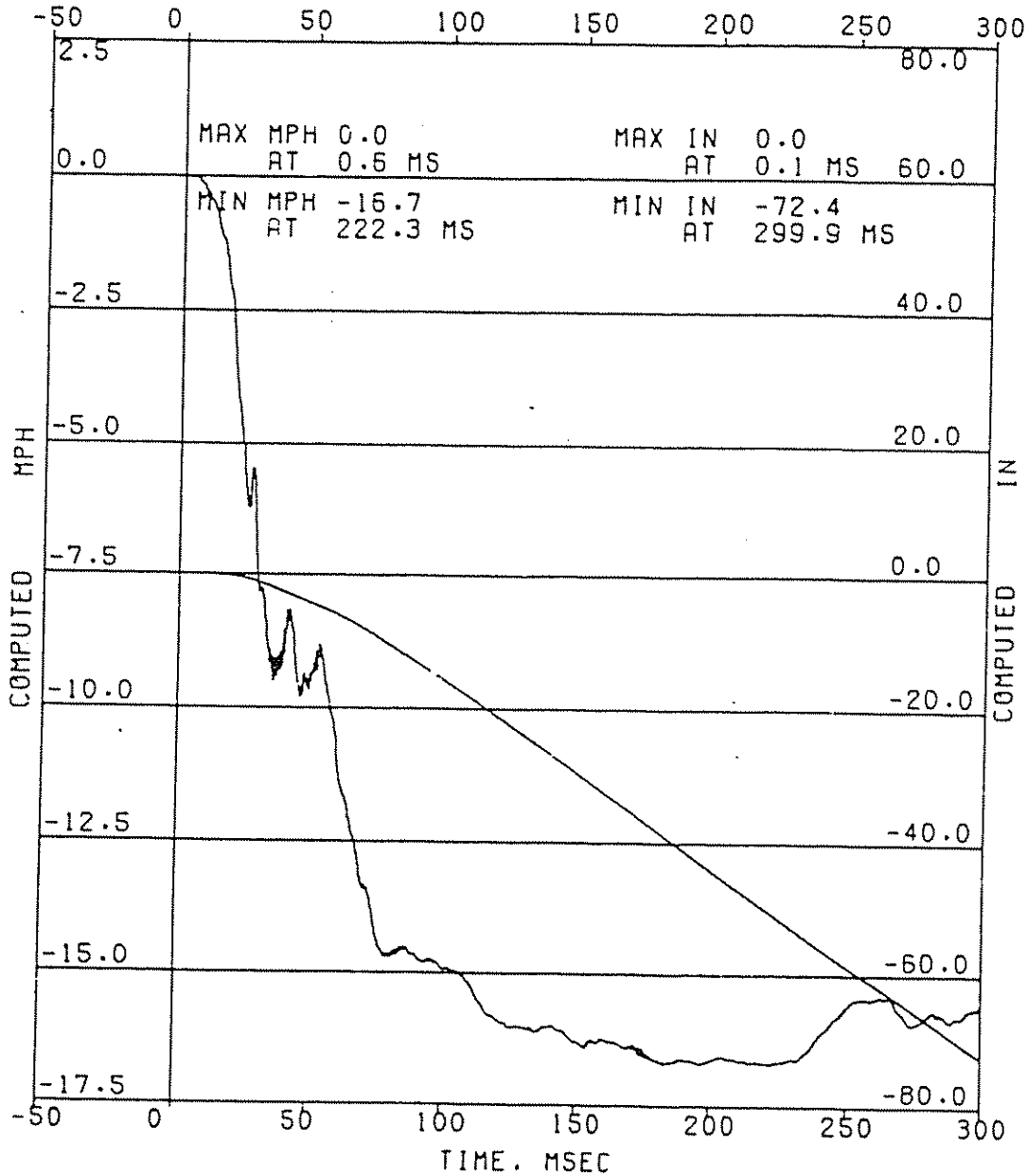
DC 04496



FILTER TYPE: 0BDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BF  
ERRATA 1



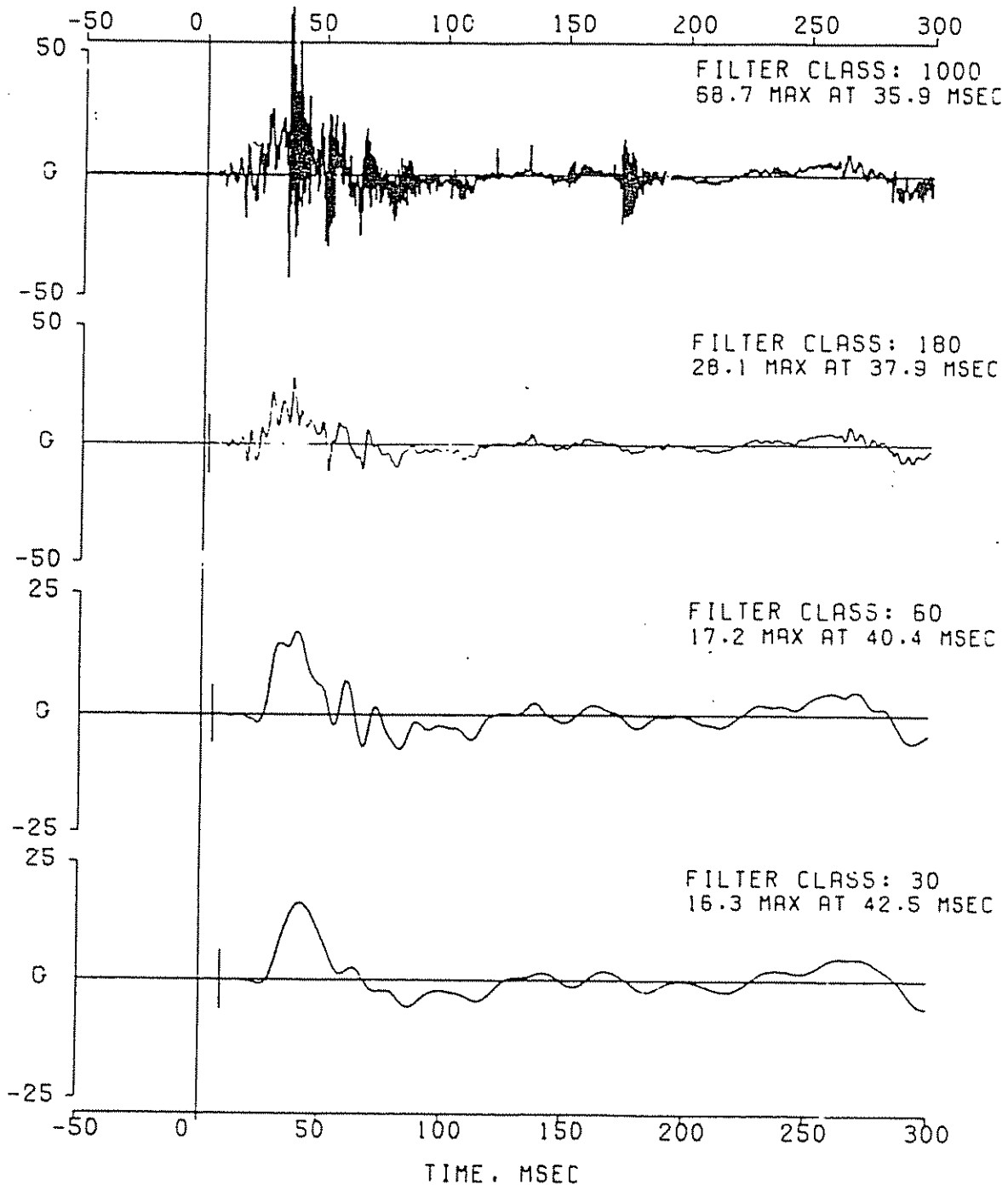
COMPUTED MPH  
COMPUTED IN

DC 04497

VC05B54 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 025 RT RR AXLE UPR Z DM43J  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

PAGE 043  
OF 062

DATA SET 03/23/96BF  
ERRATA 1



VC05B54 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R

PAGE 044

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 026 RT RR AXLE LWR

X A41MJ

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

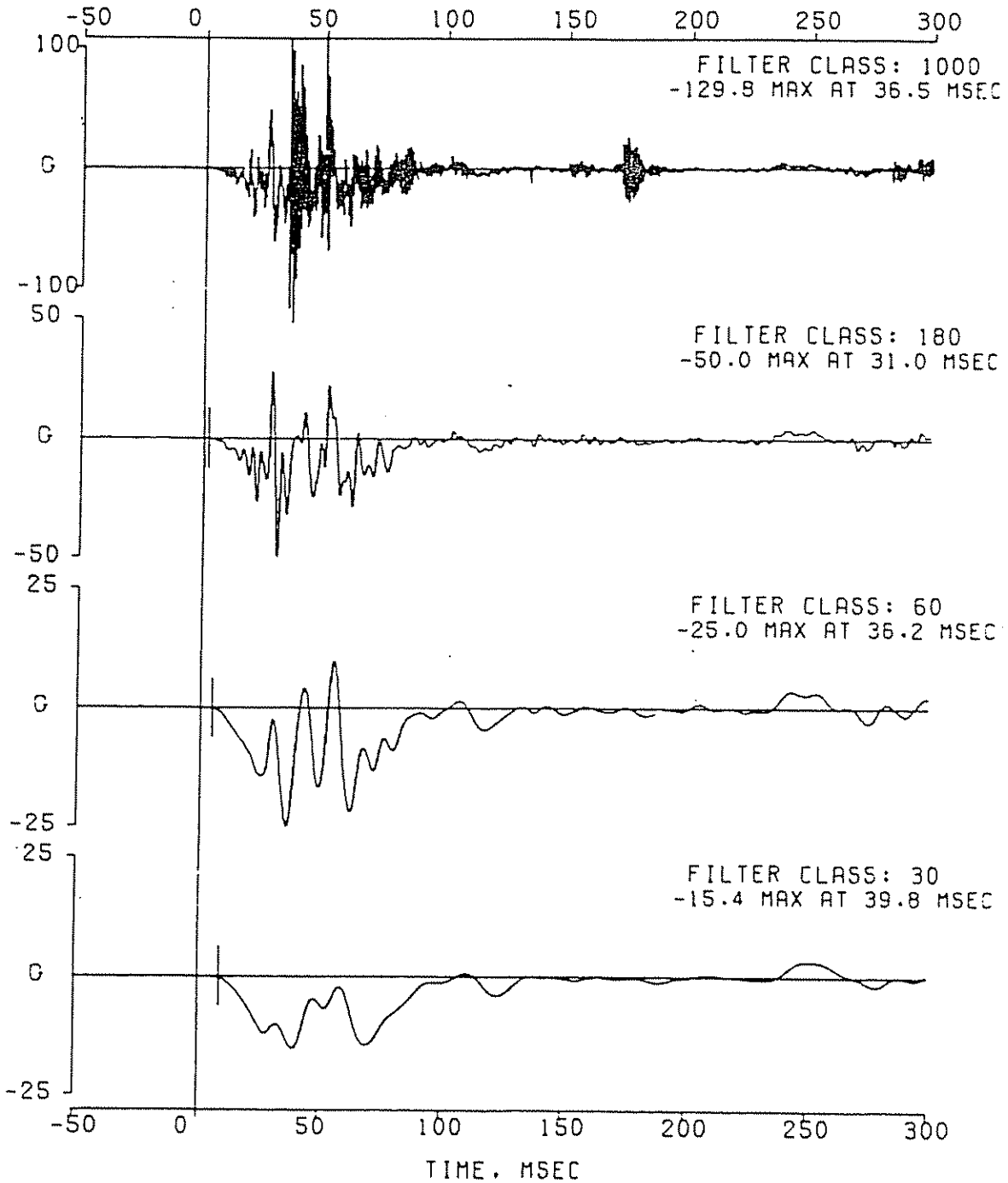
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27.1996

ERRATA

1



DC 04499

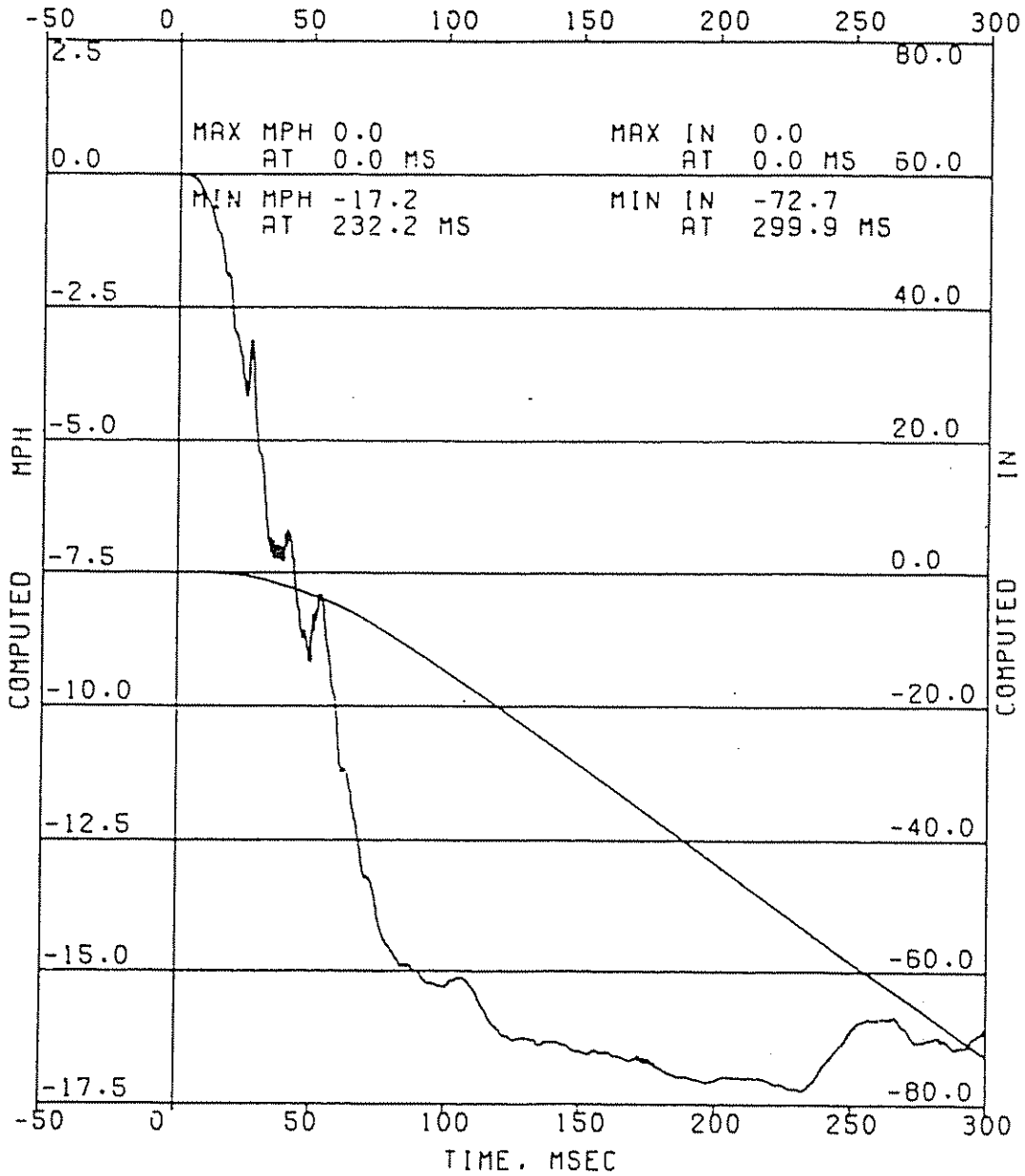
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 026 RT RR AXLE LWR X R41MJ

PAGE 045  
OF 062

FILTER TYPE: OBDAS-!!! RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BF  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04500

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R

PAGE 046

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 027 RT RR AXLE LWR

Z AHY40

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

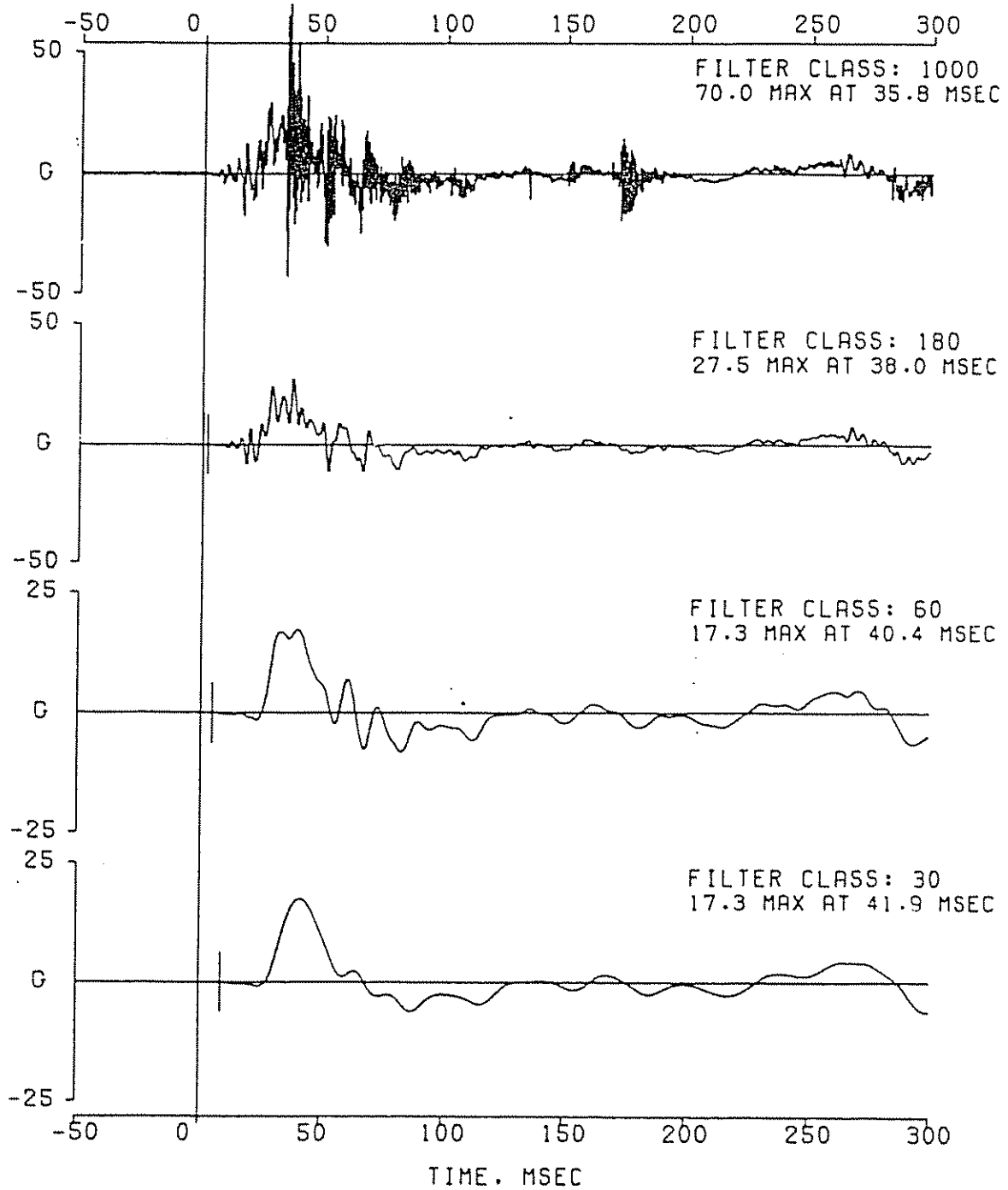
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27, 1996

ERRATA

1



DC 04501

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 047  
OF 062

CHANNEL 028 LT RR SPRING UPR X AH1A6

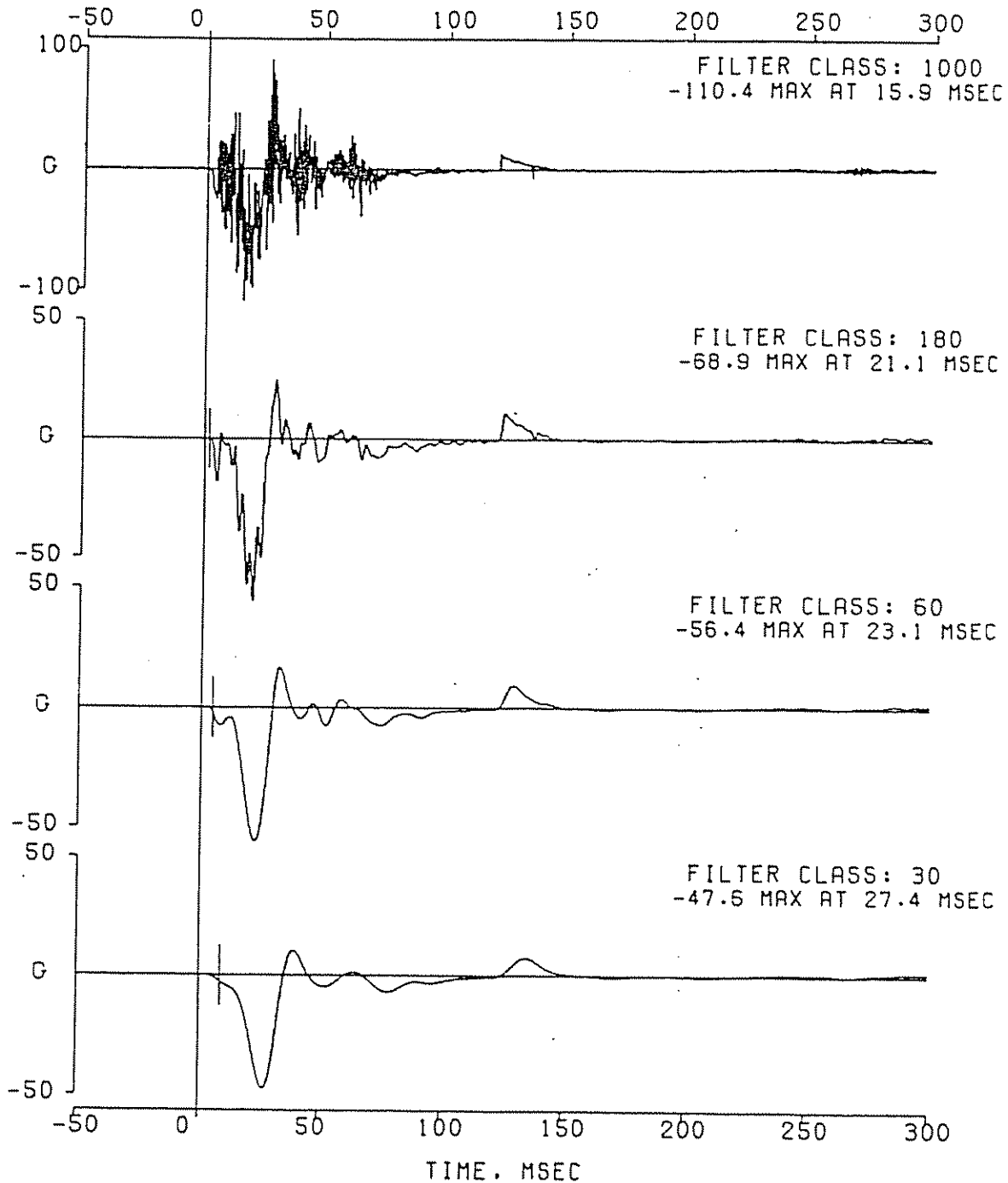
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27, 1996

ERRATA 1



DC 04502

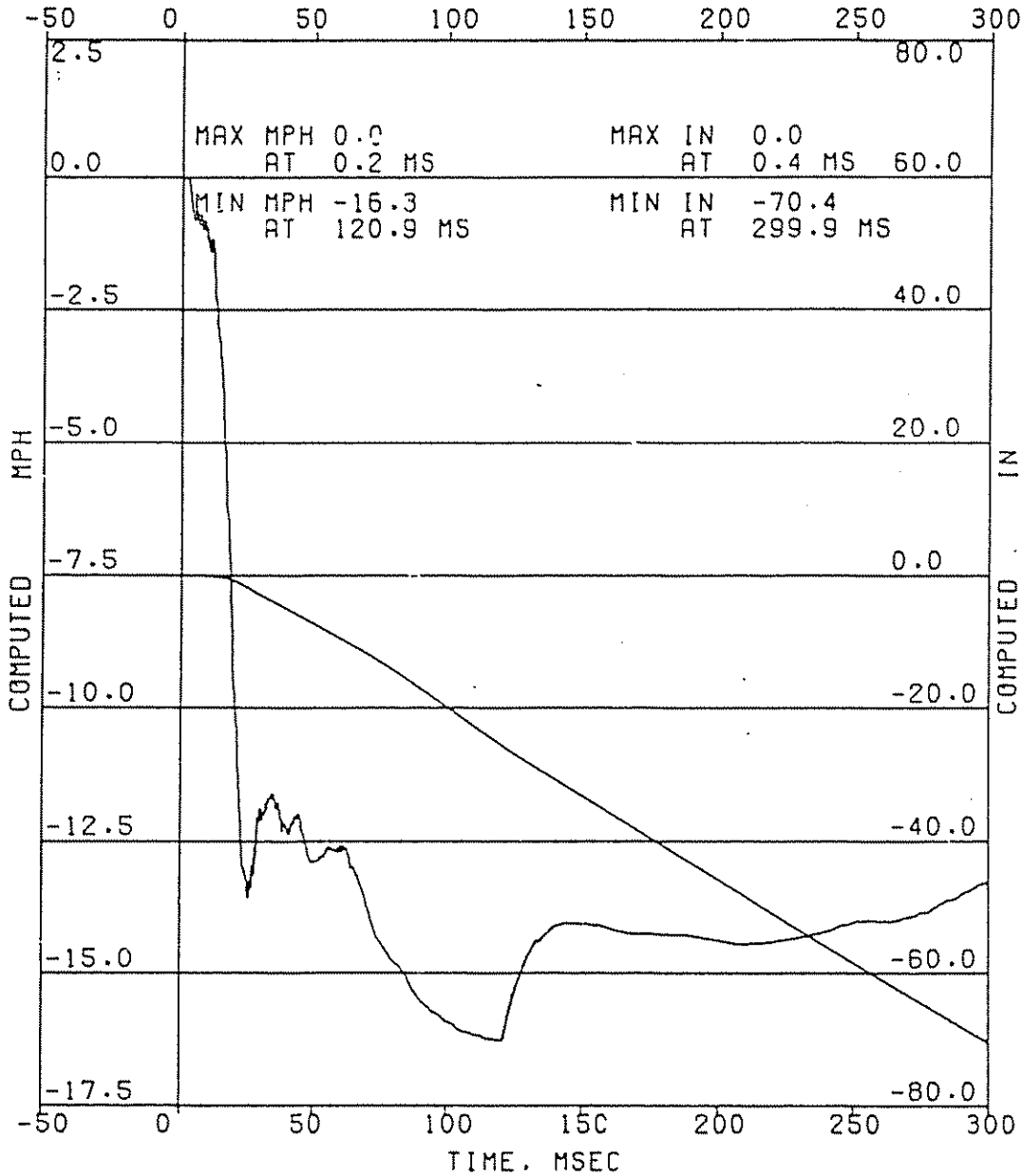
VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 028 LT RR SPRING UPR X AH1A6

PAGE 048  
OF 062

FILTER TYPE: 08DAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BF  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04503

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 049  
OF 062

CHANNEL 029 LT RR SPRING UPR Z AHT45

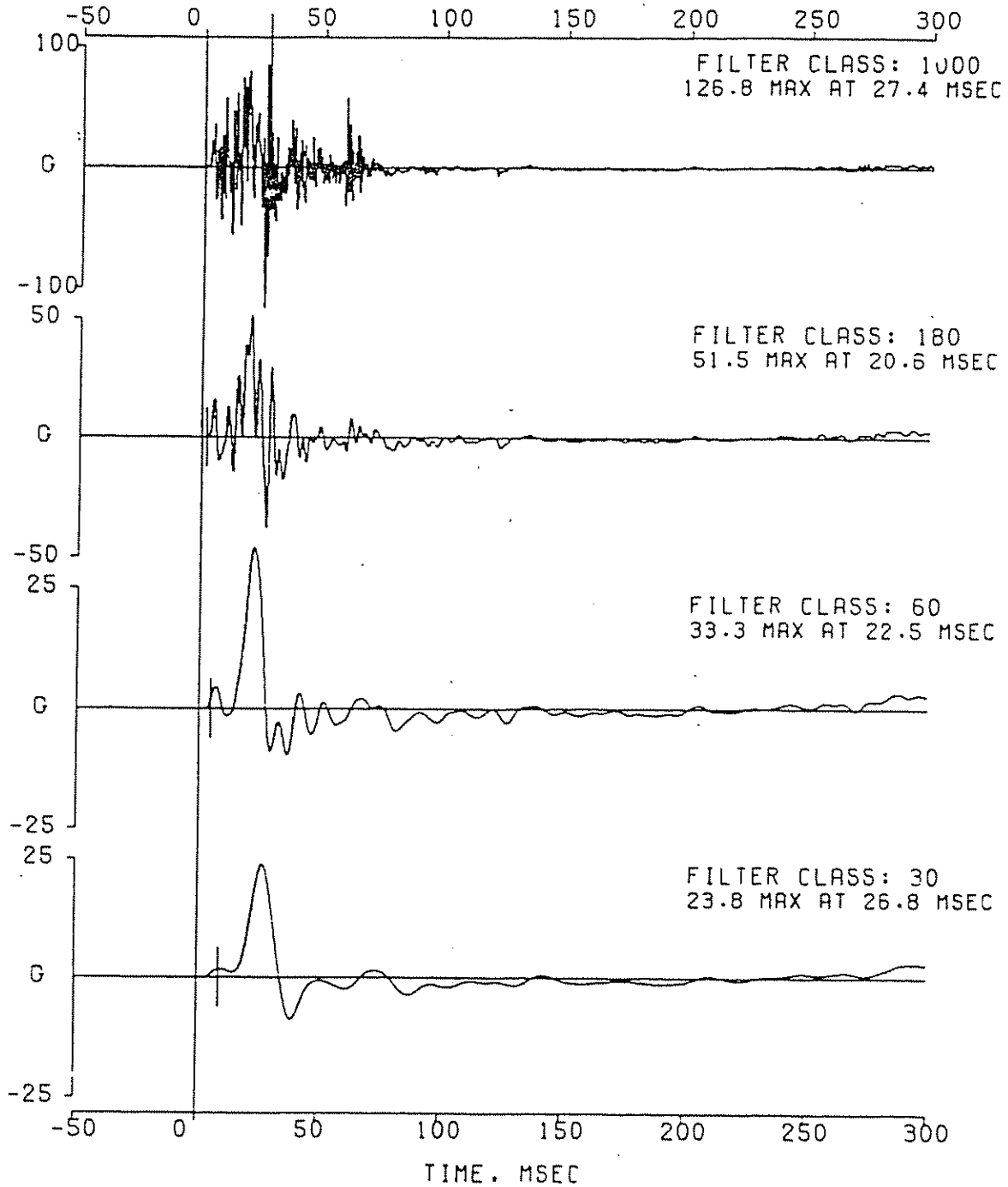
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27.1995

ERRATA 1



DC 04504



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 050  
OF 062

CHANNEL 030 LT RR SPRING LWR X AAK42

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

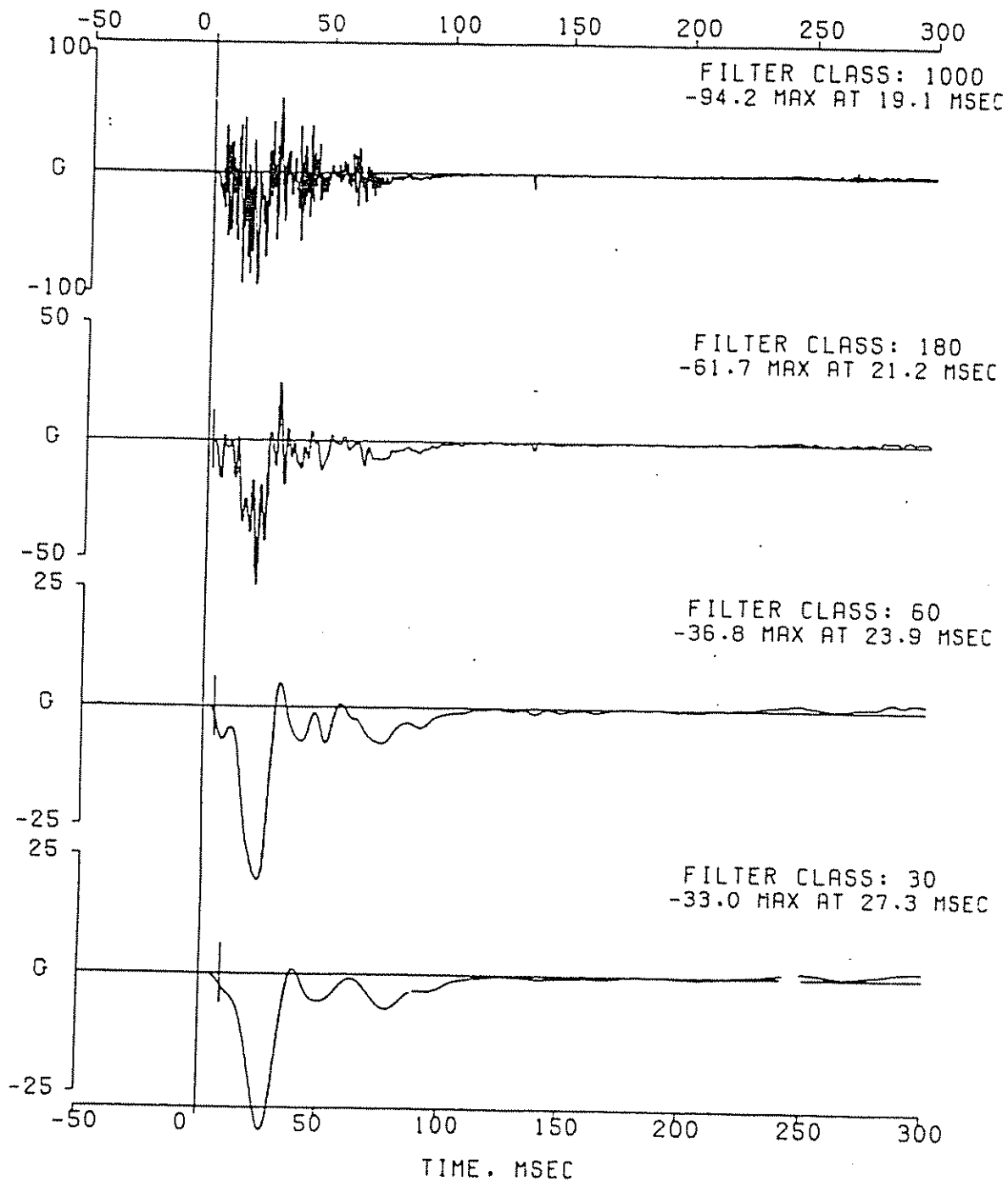
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27.1996

ERRATA

1



DC 04505

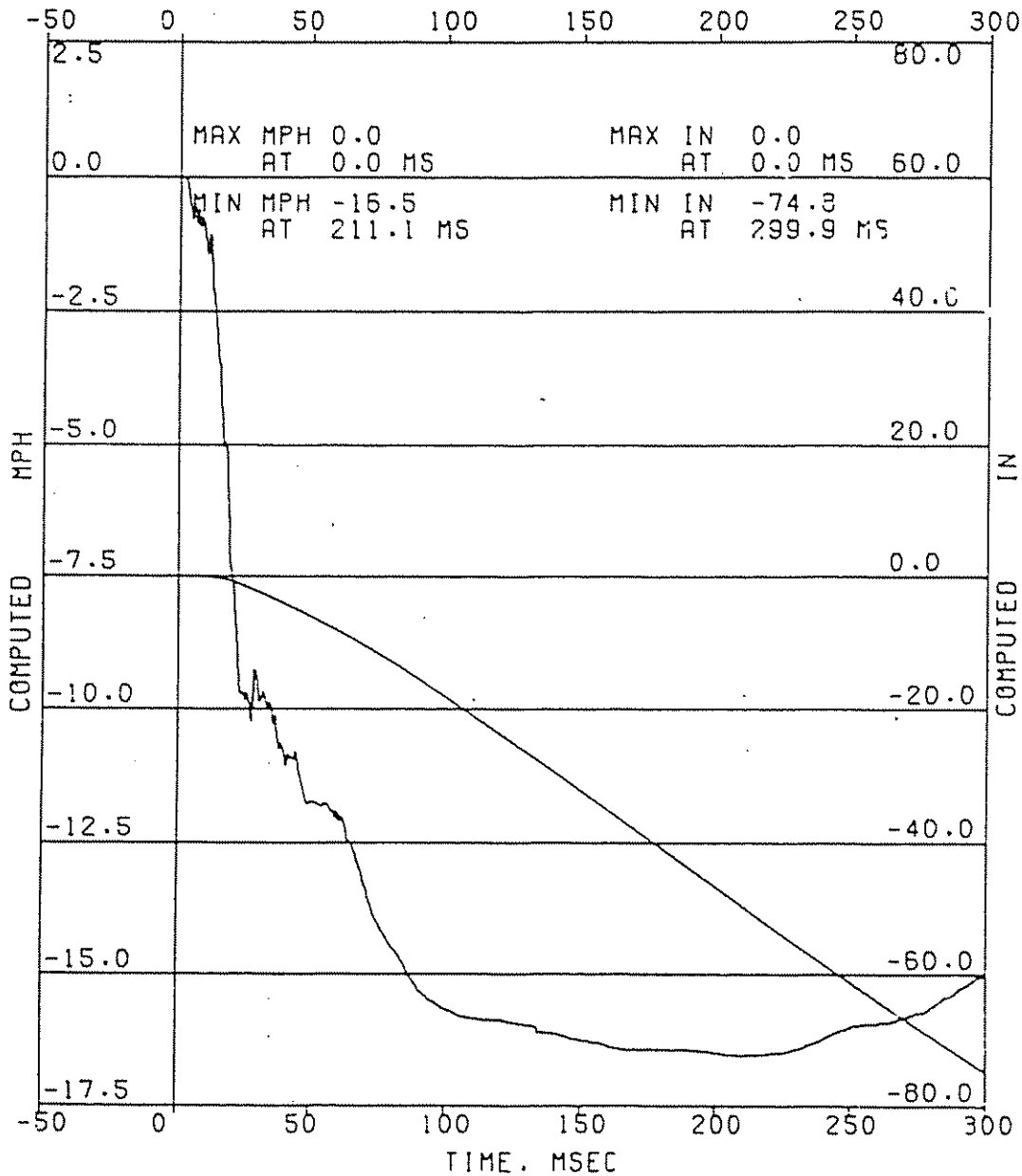
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 030 LT RR SPRING LWR X AAK42

PAGE 051  
OF 062

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BF  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04506

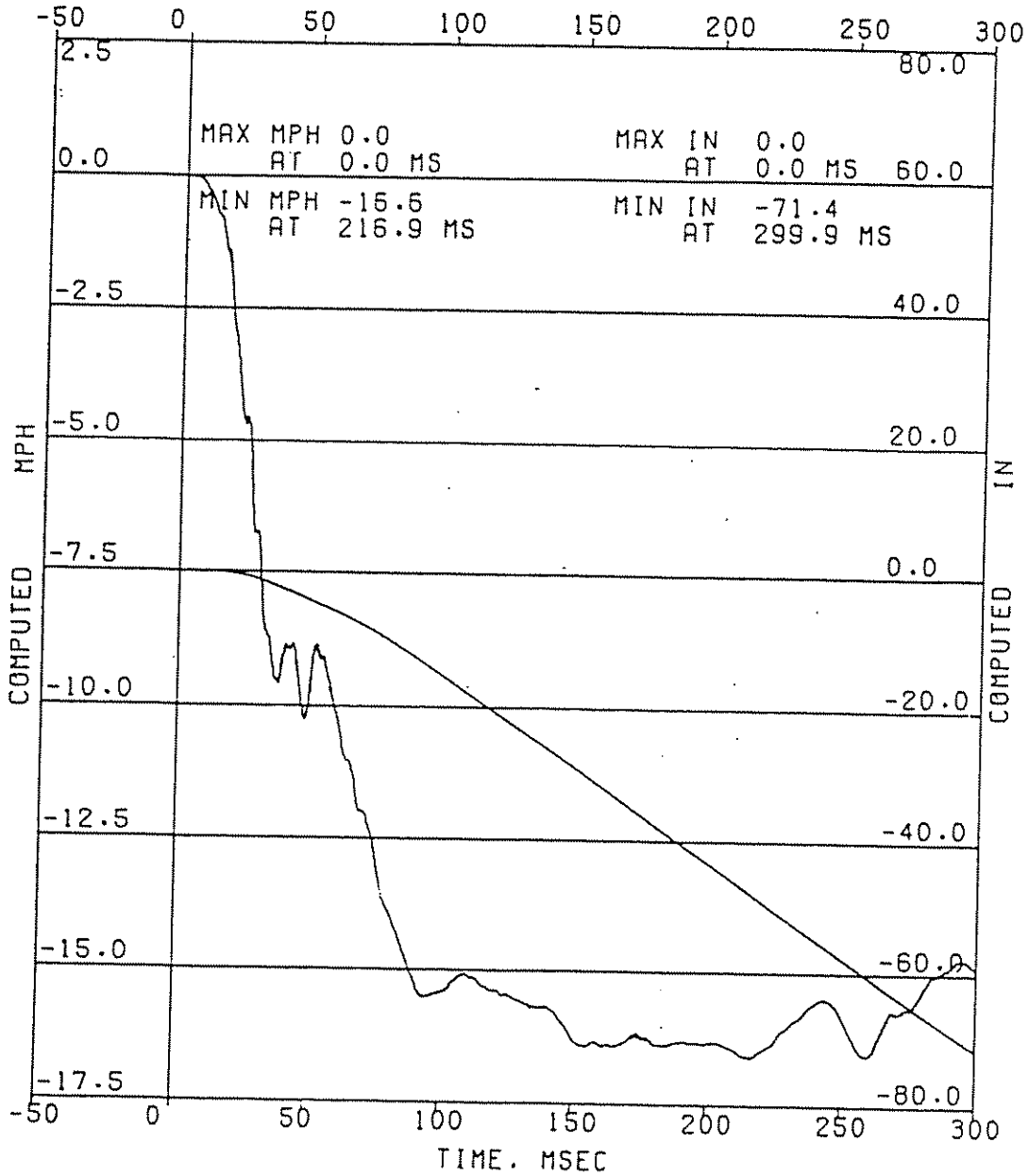
VC05B54 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 020 LT RR AXLE UPR X AABN5J

PAGE 036  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BF  
ERRATA 1



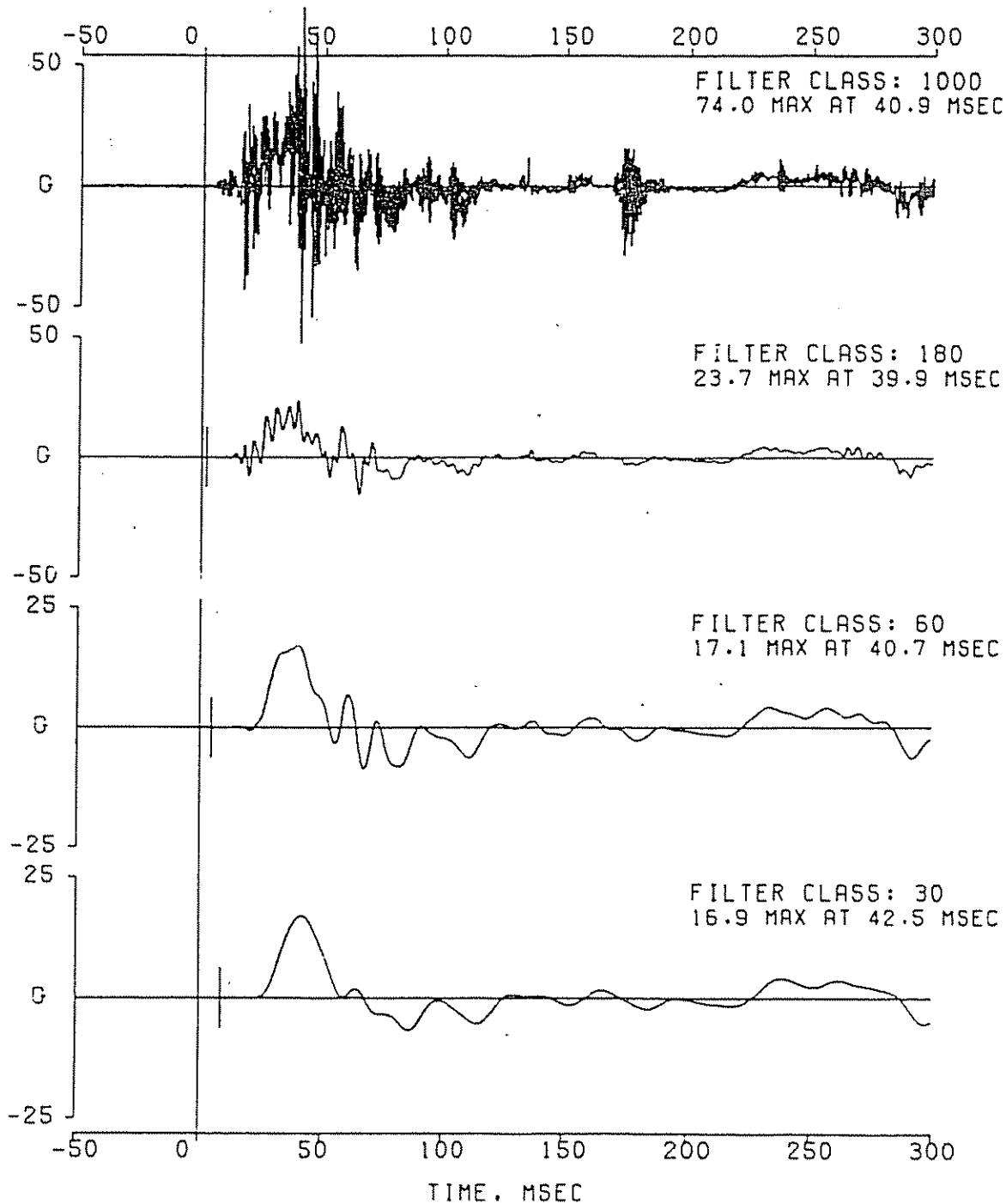
COMPUTED MPH  
COMPUTED IN

DC 04507

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 021 LT RR AXLE UPR Z APYPS  
FILTER TYPE: 0BDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

PAGE 037  
OF 062

DATA SET 03/23/96BF  
ERRATA 1



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 038  
OF 062

CHANNEL 022 LT RR AXLE LWR

X AH1J6

FILTER TYPE: 0BDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

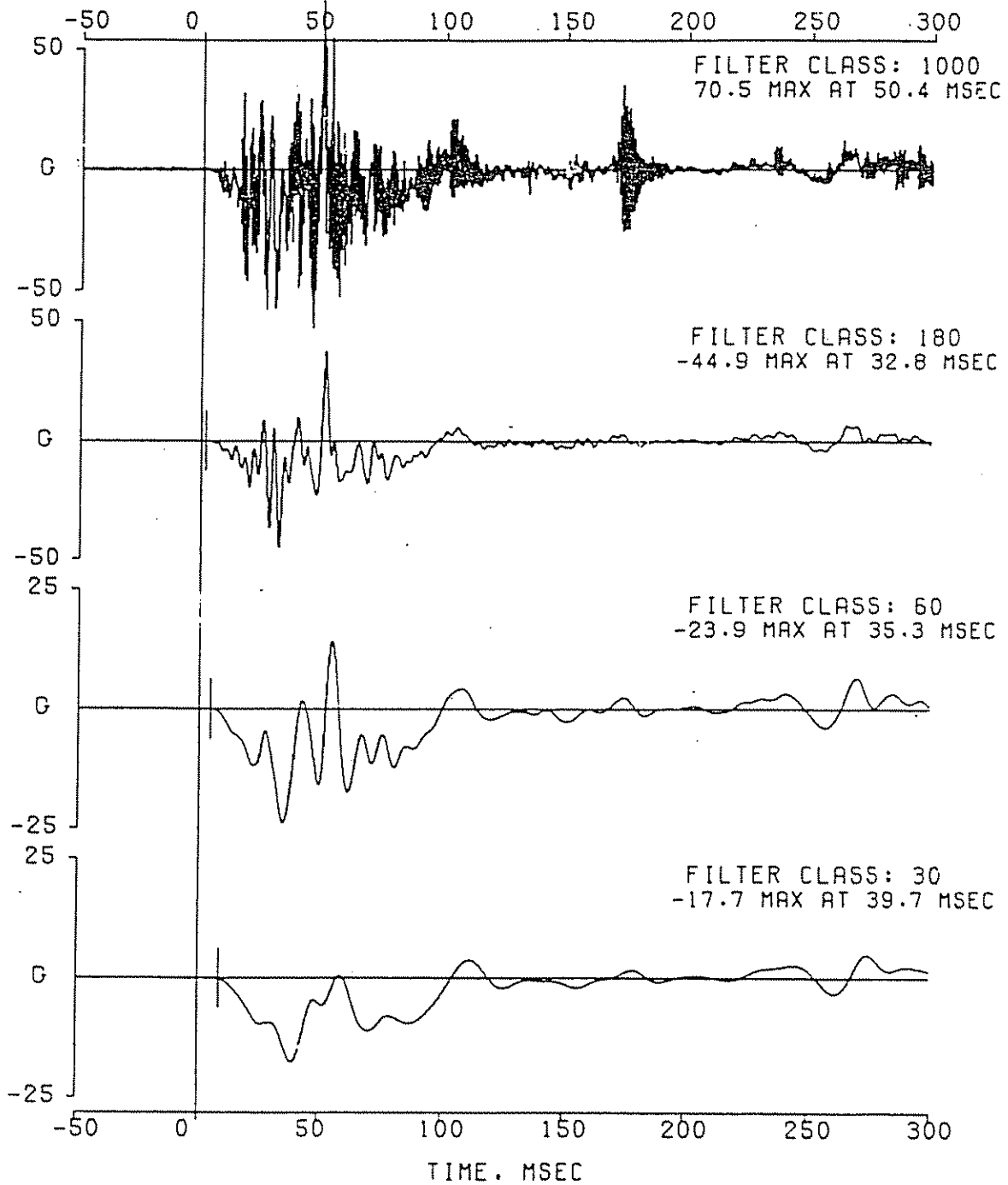
DATA SET 03/23/96BF

IMPACT ANALYSIS DEPT. 5320

ERRATA

1

MAR 27, 1996



DC 04509

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 052  
OF 062

CHANNEL 031 LT RR SPRING LWR Z AHYR9

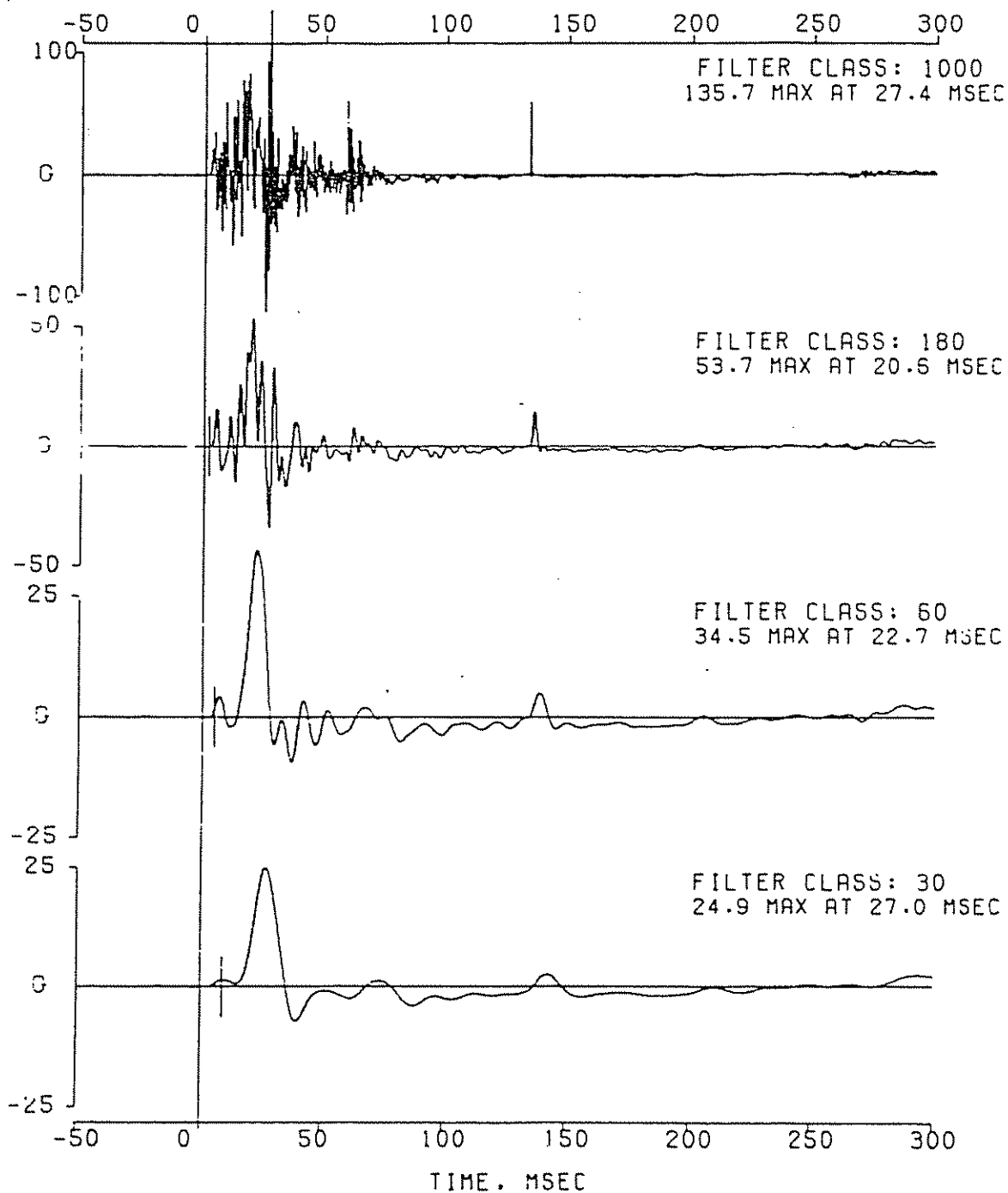
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27.1996

ERRATA 1



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJB209R

PAGE 053

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 032 RT RR SPRING UPR X AAH33

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

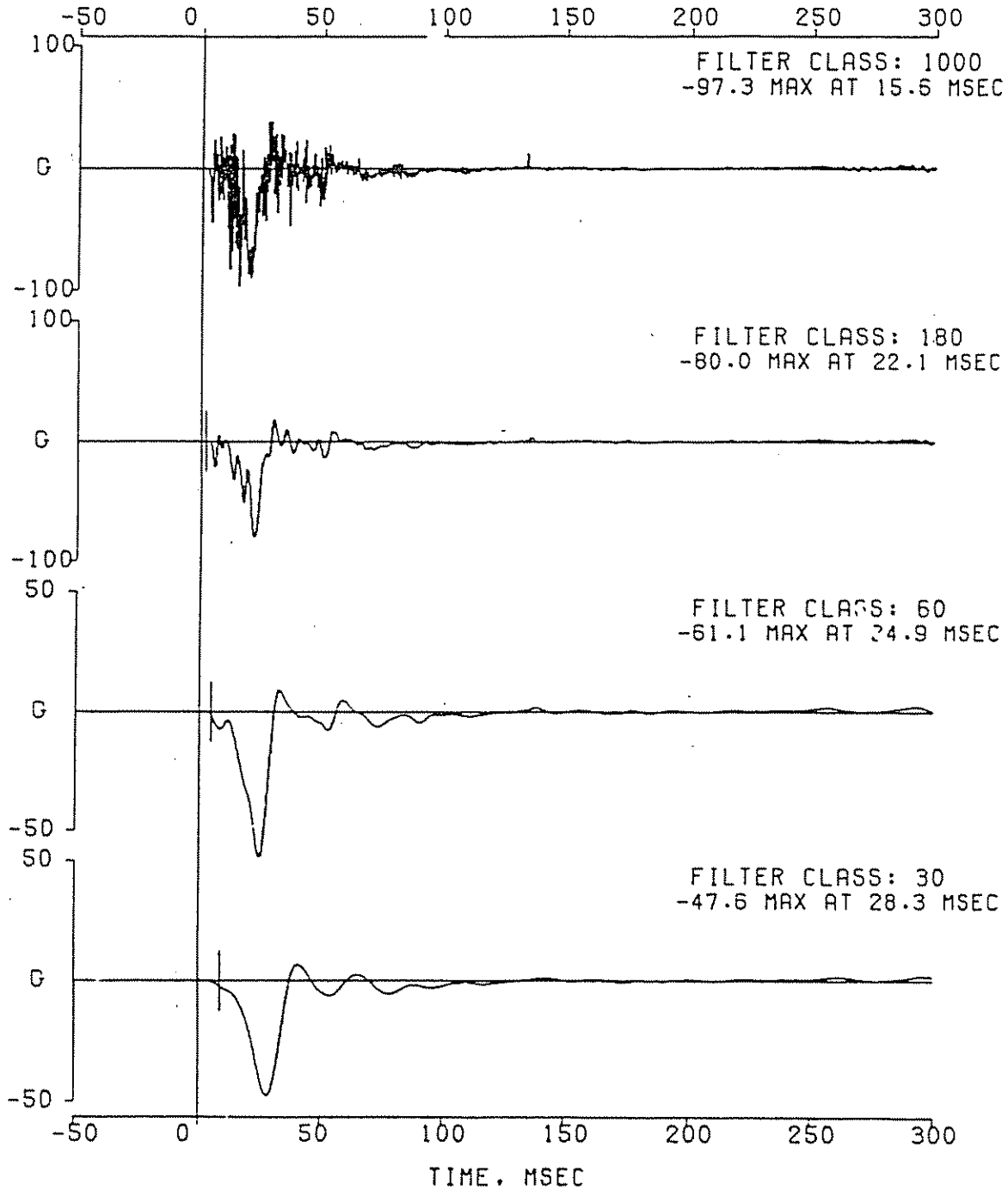
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BF

MAR 27, 1996

ERRATA

1



DC 04511

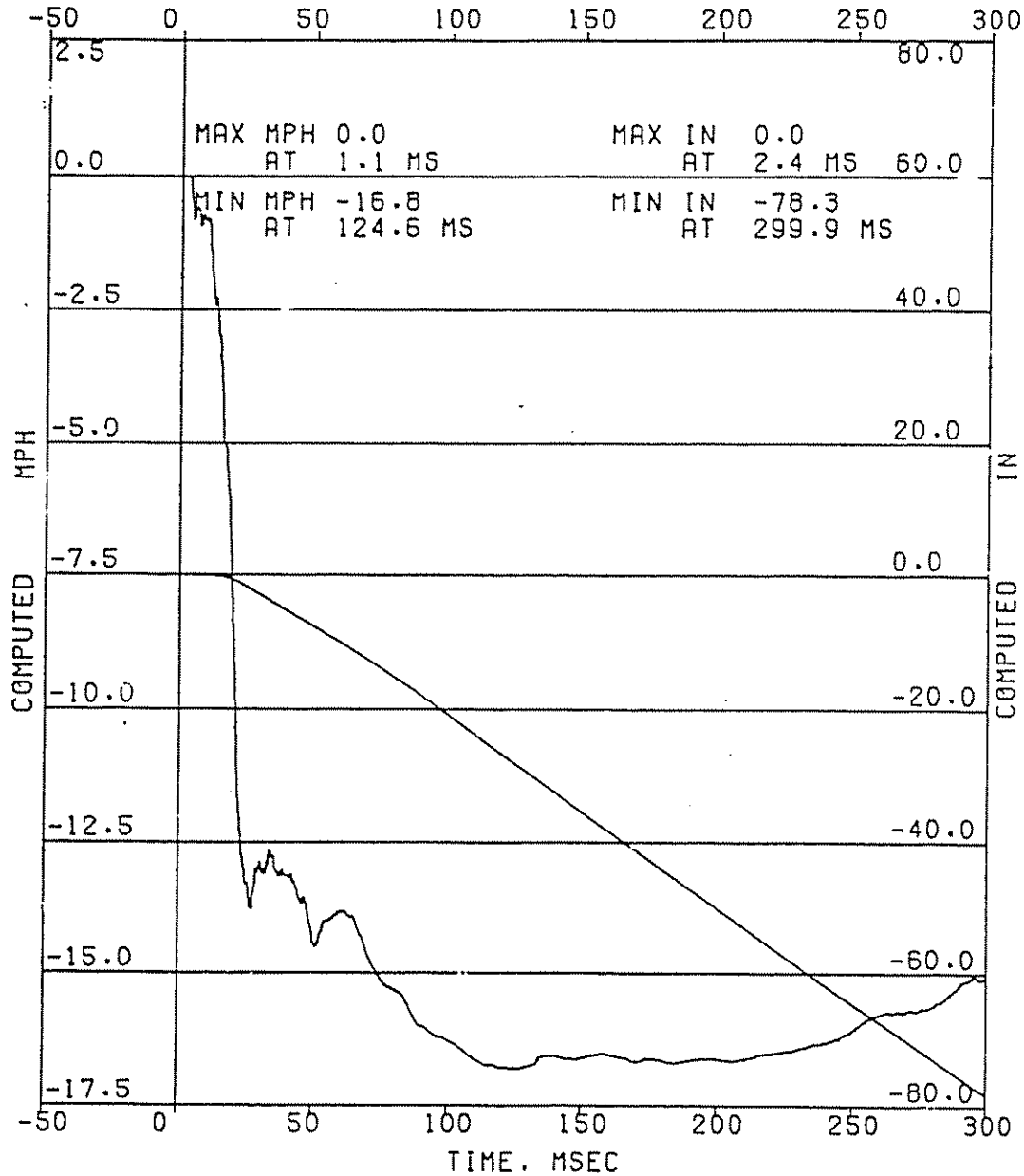
VC05B54 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 032 RT RR SPRING UPR X AAH33

PAGE 054  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BF  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04512



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L HPT. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.

PAGE 055  
OF 062

CHANNEL 033 RT RR SPRING UPR Z RAJW4

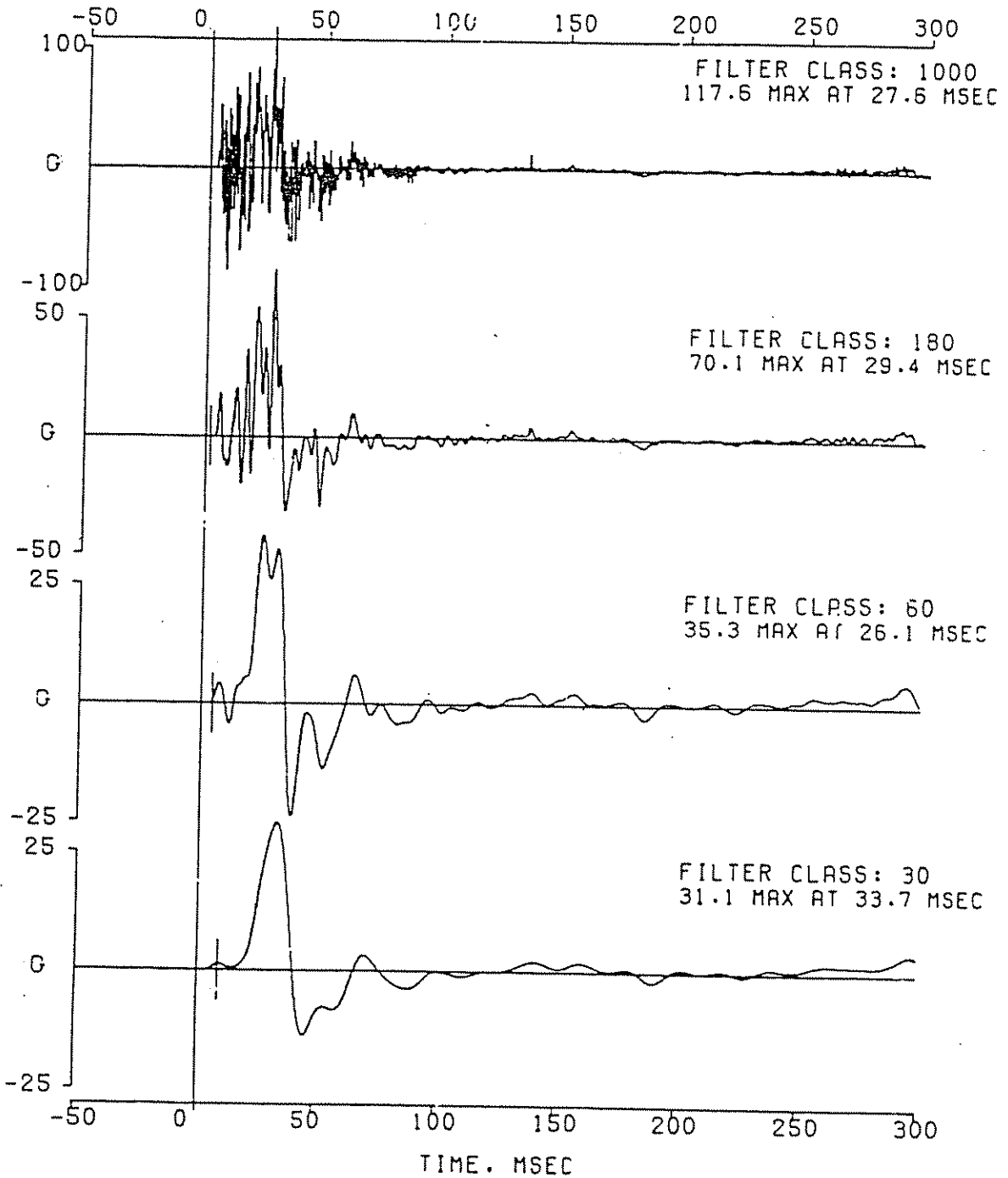
FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BG

MAR 27.1996

ERRATA 1

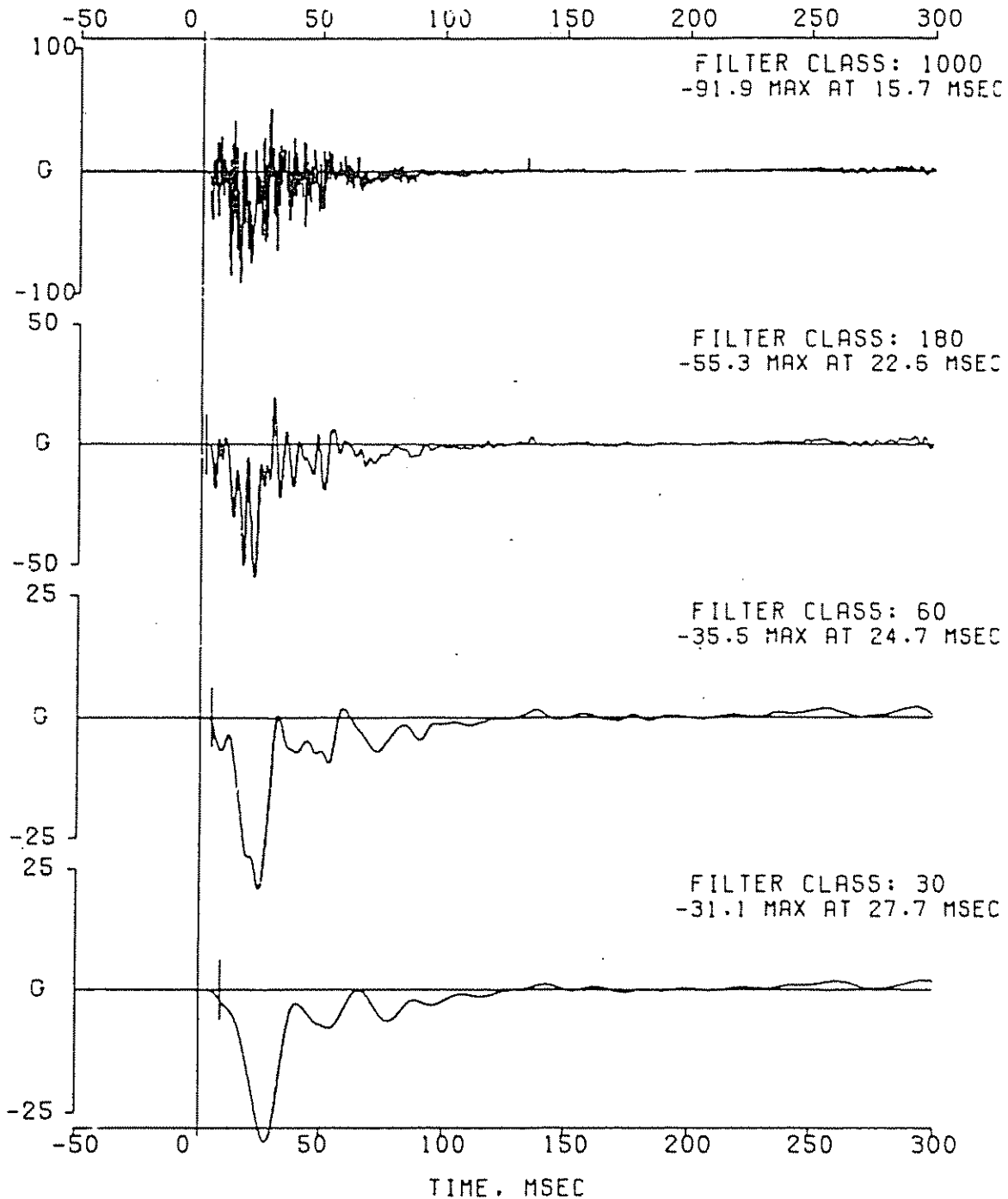


DC 04513

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 034 RT RR SPRING LWR X DJ08J  
FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

PAGE 056  
OF 062

DATA SET 03/23/96BG  
ERRATA 1



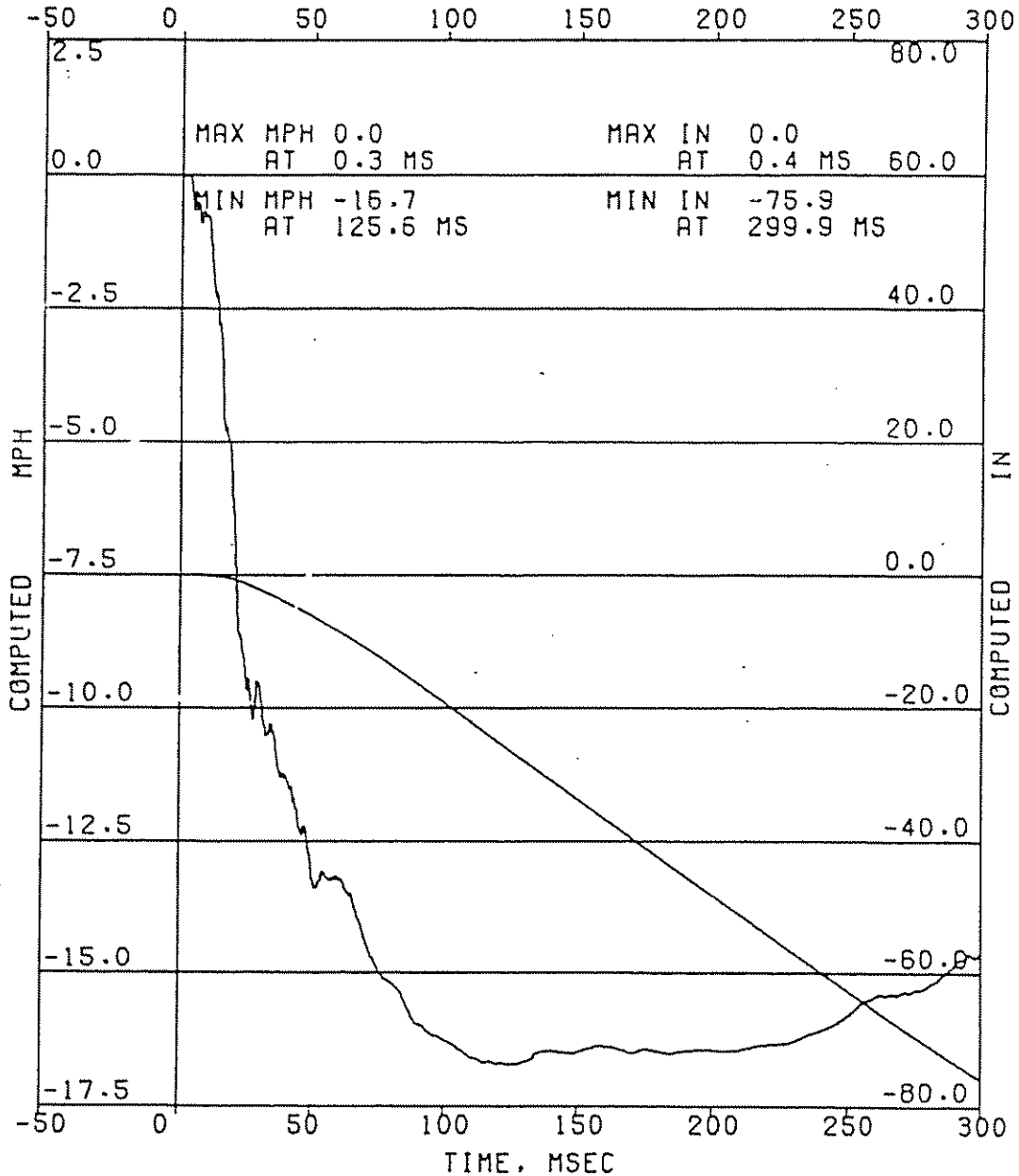
VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 034 RT RR SPRING LWR X DJ0BJ

PAGE 057  
OF 062

FILTER TYPE: 08DAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BG  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04515

VC05B54 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI. ITEM ZJ8209R

PAGE 058

1997 MVSS DEVELOPMENT - 301.

OF 062

CHANNEL 035 RT RR SPRING LWR Z AMT05

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)

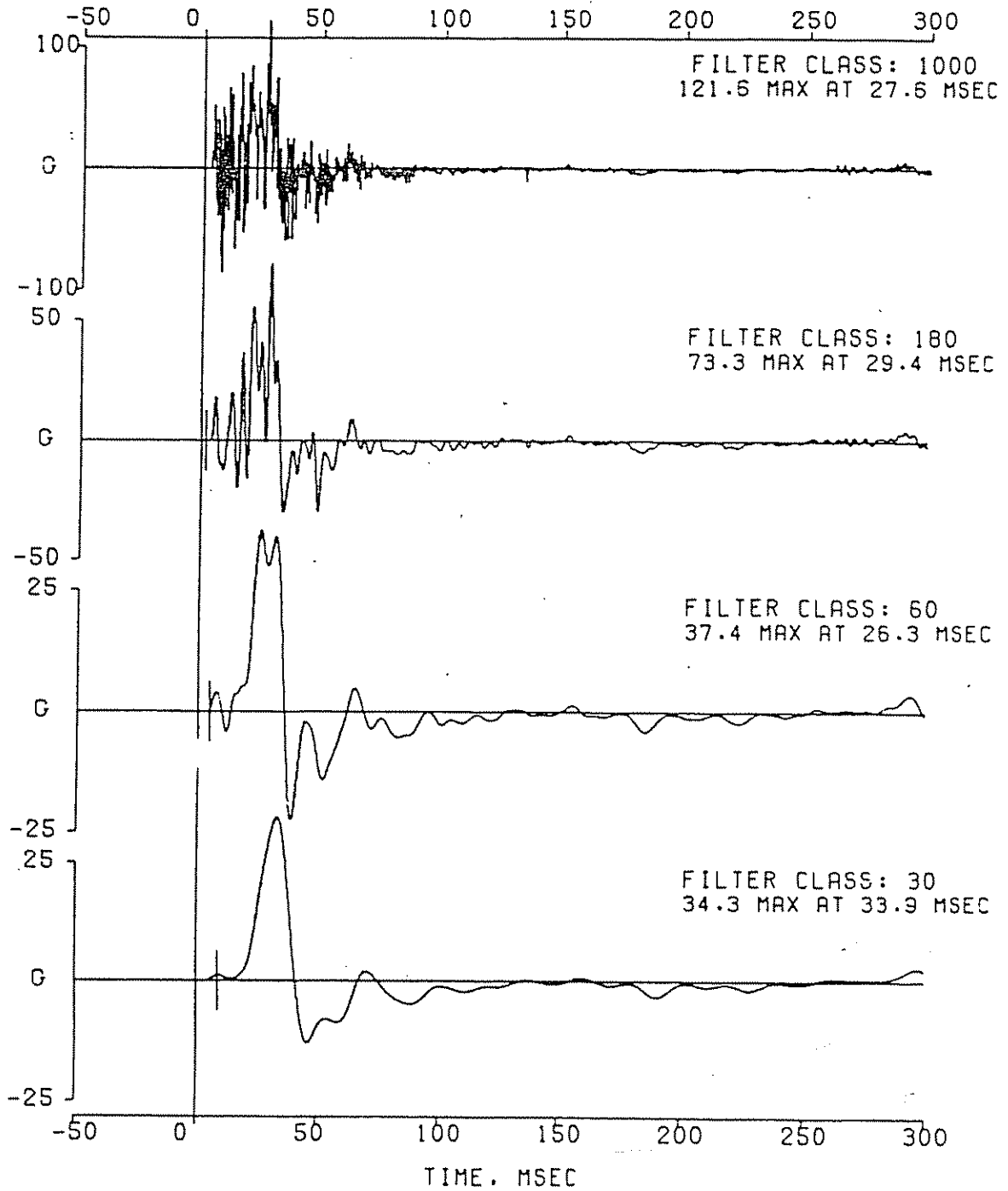
IMPACT ANALYSIS DEPT. 5320

DATA SET 03/23/96BG

MAR 27.1996

ERRATA

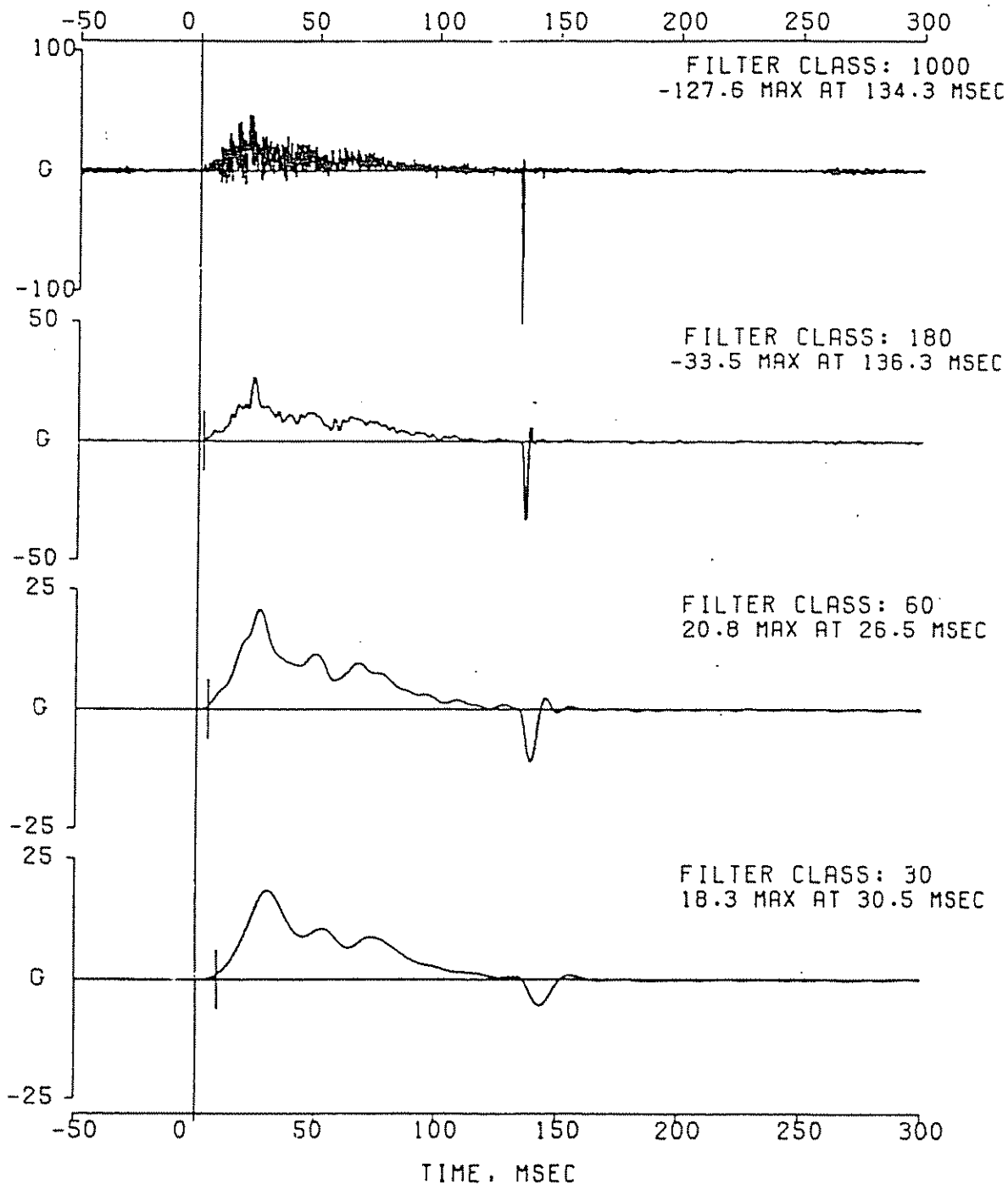
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VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 036 LT RAIL MBAR MID N 176963  
FILTER TYPE: 0BDAS-III RESPONSE CORRECTION, CLASS 1000, FILTER(1650)  
IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

PAGE 059  
OF 062

DATA SET 03/23/96BG  
ERRATA 1



DC 04517

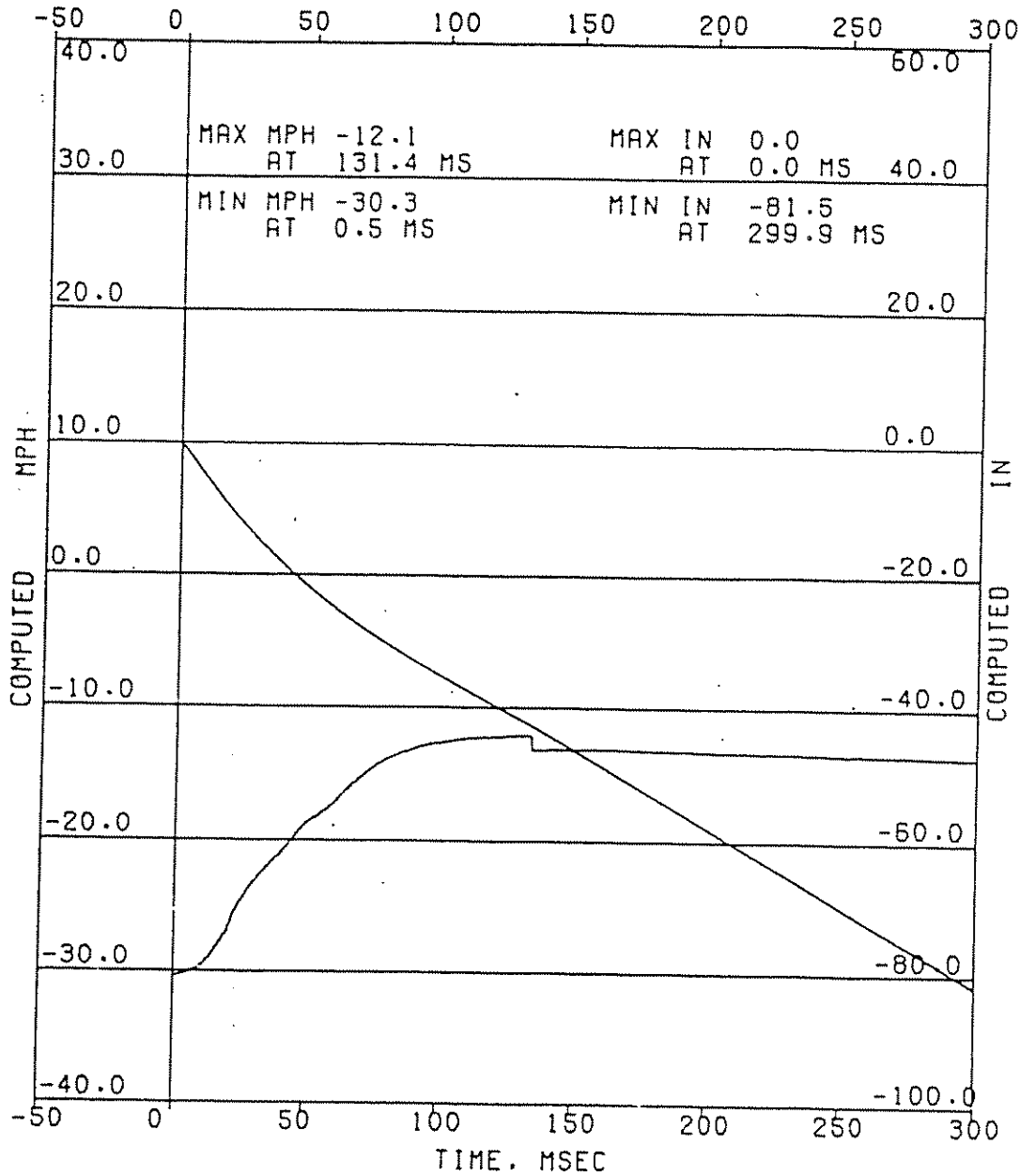
VC05854 30 MPH REAR BARRIER, ZJJ74. 5.2L MPI. ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
CHANNEL 036 LT RAIL MBAR MID X 176963

PAGE 060  
OF 062

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27.1996

DATA SET 03/23/96BG  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04518

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MPI, ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.

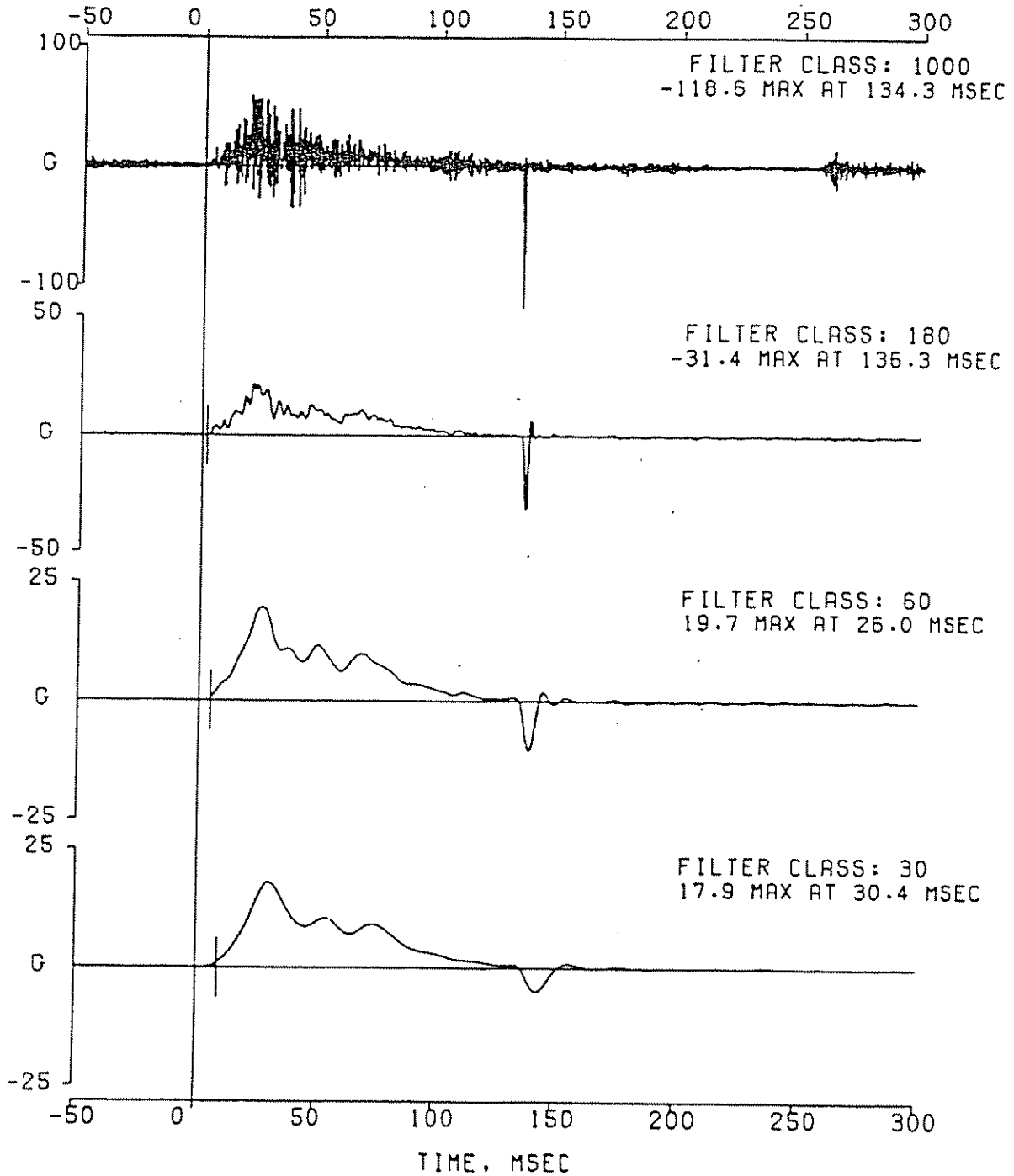
PAGE 061  
OF 062

CHANNEL 037 RT RAIL MBAR MID X 73968

FILTER TYPE: OBDAS-III RESPONSE CORRECTION, CLASS 1000 FILTER(1650)

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/968G  
ERRATA 1

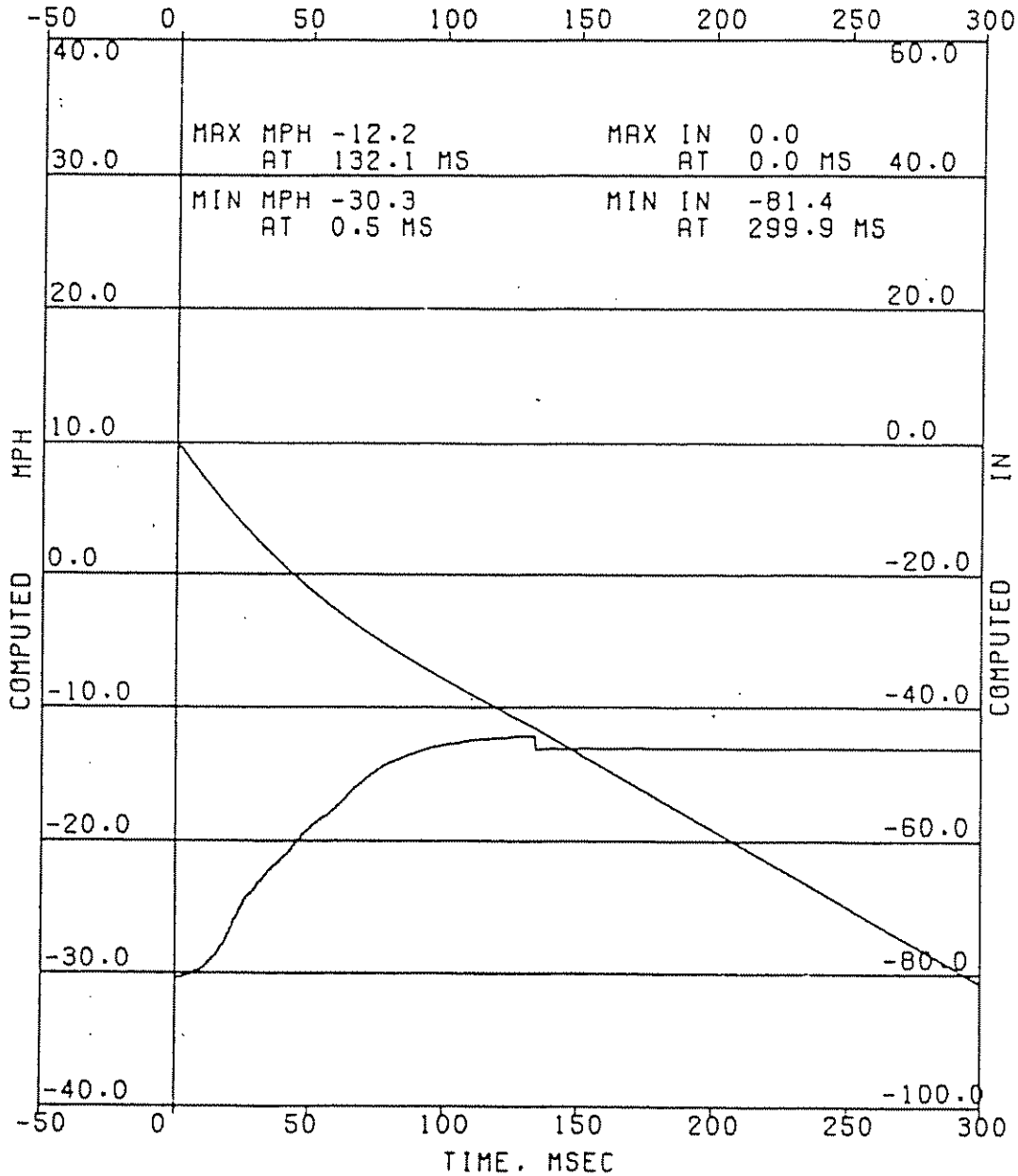


DC 04519

FILTER TYPE: OBDAS-III RESPONSE CORRECTION. CLASS 1000 FILTER(1650)  
FILTER CLASS: 1000

IMPACT ANALYSIS DEPT. 5320  
MAR 27, 1996

DATA SET 03/23/96BG  
ERRATA 1



COMPUTED MPH  
COMPUTED IN

DC 04520



INTER COMPANY CORRESPONDENCE

DATE 04/01/96

TO  
DISTRIBUTION

FROM  
K. M. HAUT

DEPARTMENT  
5320

PLANT/OFFICE  
CTC

CIMS NUMBER  
481-02-18

SUBJECT:

REAR DYNAMIC CRUSH ANALYSIS  
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI ITEM ZJ8209R  
1997 MVSS DEVELOPMENT - 301.  
TEST DATE 03/23/96

TEST PURPOSE            PRIMARY. 1997 USA 301 DEVELOPMENT.  
OBSERVE FUEL SYSTEM INTEGRITY.

IMPACT TYPE            TARGET SPEED:     30.1 MPH  
DAMAGE LOCATION: REAR  
BARRIER TYPE:    REAR TYPE IV  
BARRIER SURFACE: PLYWOOD

VEHICLE                BODY CLASS:       ZJ  
CAR LINE:           J  
BODY:                74  
ENGINE:              5.2 LITRE  
ENGINE NOTE:        ELECTRONIC FUEL INJECTION  
TRANSMISSION:       4 SPEED AUTO 4x4  
TRANS. NOTE:  
VIN AS TESTED:     1J4EZ78Y57C126642     MOD.  
VIN AS BUILT:       1J4EZ78Y5TC126642     MOD.

TEST SPEED             30.3 MPH BY ELECTRONIC TRAP.

TEST WEIGHT (LBS)     4859 TOTAL. 2799 FRONT. 2060 REAR

OCCUPANTS             LEFT FRONT, HYB II, BALLAST.            AD-63  
RESTRAINT-BELTS ONLY.  
RIGHT FRONT, HYB II, BALLAST.           AD-67  
RESTRAINT-BELTS ONLY.

BUILD CONDITION       1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997.  
5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4,  
POWER STEERING, ABS BRAKES, AIR CONDITIONING.  
FULL CENTER CONSOLE AND OVERHEAD CONSOLE.  
P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE  
SPARE.  
1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN!

TARGET WEIGHT (LBS) 4185 TOTAL. 2336 FRONT, 1849 REAR, REP MAX OPT WT.  
NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.

FUEL AND BALLAST      21.5 GALLONS OF STODDARD SOLVENT.  
300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.  
NO ADDITIONAL BALLAST.

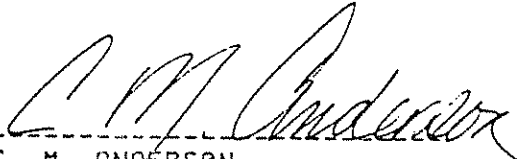
TEST VC05854     04/01/96   13.57     PAGE 1 OF 2

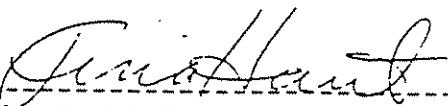
DC 04521

POST TEST REMARKS FUEL LEAKAGE AT IMPACT EXCEEDED ALLOWABLE LIMITS.

DYNAMIC CRUSH, PITCH, AND REAR WHEEL MOTION RELATIVE TO THE FRONT SILL HAVE BEEN DETERMINED BY FILM ANALYSIS. TIME WAS BASED ON CAMERA TIMING DATA.

DYNAMIC CRUSH 20.3 +0R- 1 INCH AT 78. +0R- 5 MSEC.

  
C. M. ANDERSON

  
K. M. HAUT

GRAPHS - 4

G L O S S A R Y   O F   T E R M S

U S E D   I N   S T A N D A R D   R E P O R T S

AD	ANTHROPOMORPHIC DEVICE
ADT	ANTHROPOMORPHIC TEST DEVICE
BASE COORD	BASE COORDINATE SYSTEM
C/L	CENTERLINE
CAR COORD	CAR COORDINATE SYSTEM
CCW	COUNTER CLOCKWISE
CORR-IN	SEPARATION IN INCHES (MINUS INITIAL LENGTH)
CORR-MM	SEPARATION IN MM (MINUS INITIAL LENGTH)
CORR-P	CORRECTED (ZEROED) PITCH
CORR-R	CORRECTED (ZEROED) ROLL
CORR-Y	CORRECTED (ZEROED) YAW
CH	CLOCKWISE
EFI	ELECTRONIC FUEL INJECTOR
ENG	ENGINE
ENOPY	ENGINE PITCH AND YAW
FESH	FRONT END SHEET METAL
FIDUCIAL	REFERENCE POINT OR TARGET
FS	FRONT SILL TARGET
FWD	FORWARD
IP	INSTRUMENT PANEL TARGET
LBS	POUNDS
LCP,LQP	LEFT C-POST & QUARTER PANEL TARGETS
LFS,LMS,LRS	LEFT FRONT SILL, MID SILL, & REAR SILL TARGETS
LT	LEFT
MS	MID SILL TARGET
NORMALIZE	PUT ON A COMMON BASIS
NOSE-DOWN	LEADING END BELOW TRAILING
NOSE-UP	LEADING END ABOVE TRAILING
PERF	PERFORMANCE
REF	REFERENCE
REL	RELATIVE TO (ONE-DIMENSIONAL)
RCP,RQP	RIGHT C-POST & QUARTER PANEL TARGETS
RFS,RMS,RRS	RIGHT FRONT, MID, & REAR SILL TARGETS
ROLL-LEFT	LEFT SIDE LOWER THAN RIGHT
ROLL-RIGHT	RIGHT SIDE LOWER THAN LEFT
RS	REAR SILL TARGET
RT	RIGHT
SEP	SEPARATION OF (THREE-DIMENSIONAL)
SYS	SYSTEM
TBI	THROTTLE BODY INJECTOR
TIME.MS	TIME IN MILLISECONDS
U/B	UNDERBODY
VS	VERSUS
X	LONGITUDINAL AXIS (INCREASING TOWARD TRAILING EDGE)
XF	X-FILTERED
Y	LATERAL AXIS (INCREASING TO THE RIGHT)
YAW-LEFT	LEADING EDGE TO LEFT
YAW-RIGHT	LEADING EDGE TO RIGHT
Z	VERTICAL AXIS (INCREASING UPWARD)
ZEROED	SHIFTED TO START AT ZERO
ZERO-IN	ZEROED INCHES
ZERO-MM	ZEROED MILLIMETERS

IMPACT ANALYSIS  
DEPARTMENT 5320  
04/01/96 13.57  
TEST VC05854

DC 04523

VC05854 30 MPH REAR BARRIER. ZJJ74. S.2L MP1 ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X MOTION OF F3 REL TO LFS IN BASE COORD SYS  
 VERSUS TIME IN MILLISECOND

REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

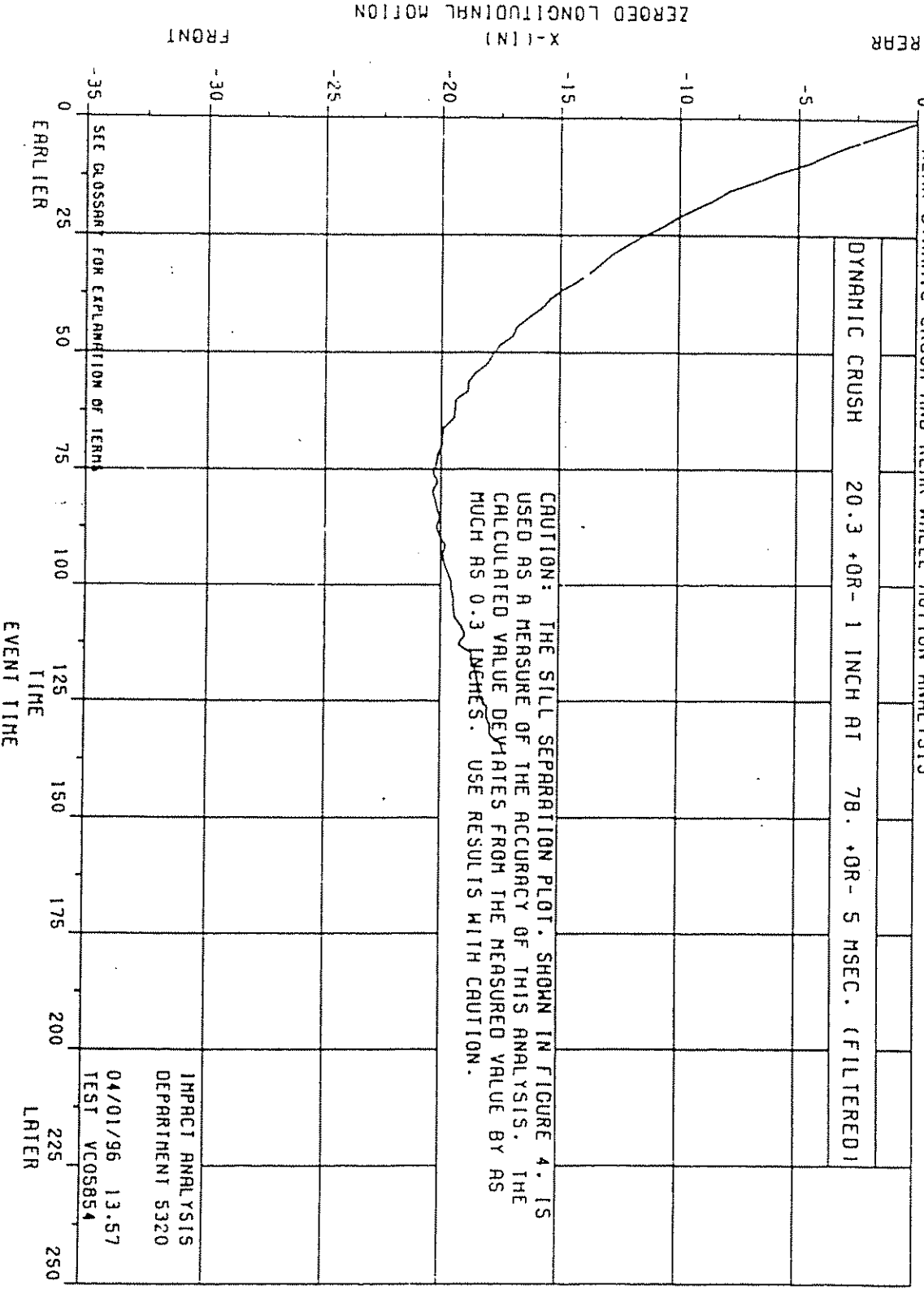


FIGURE 1

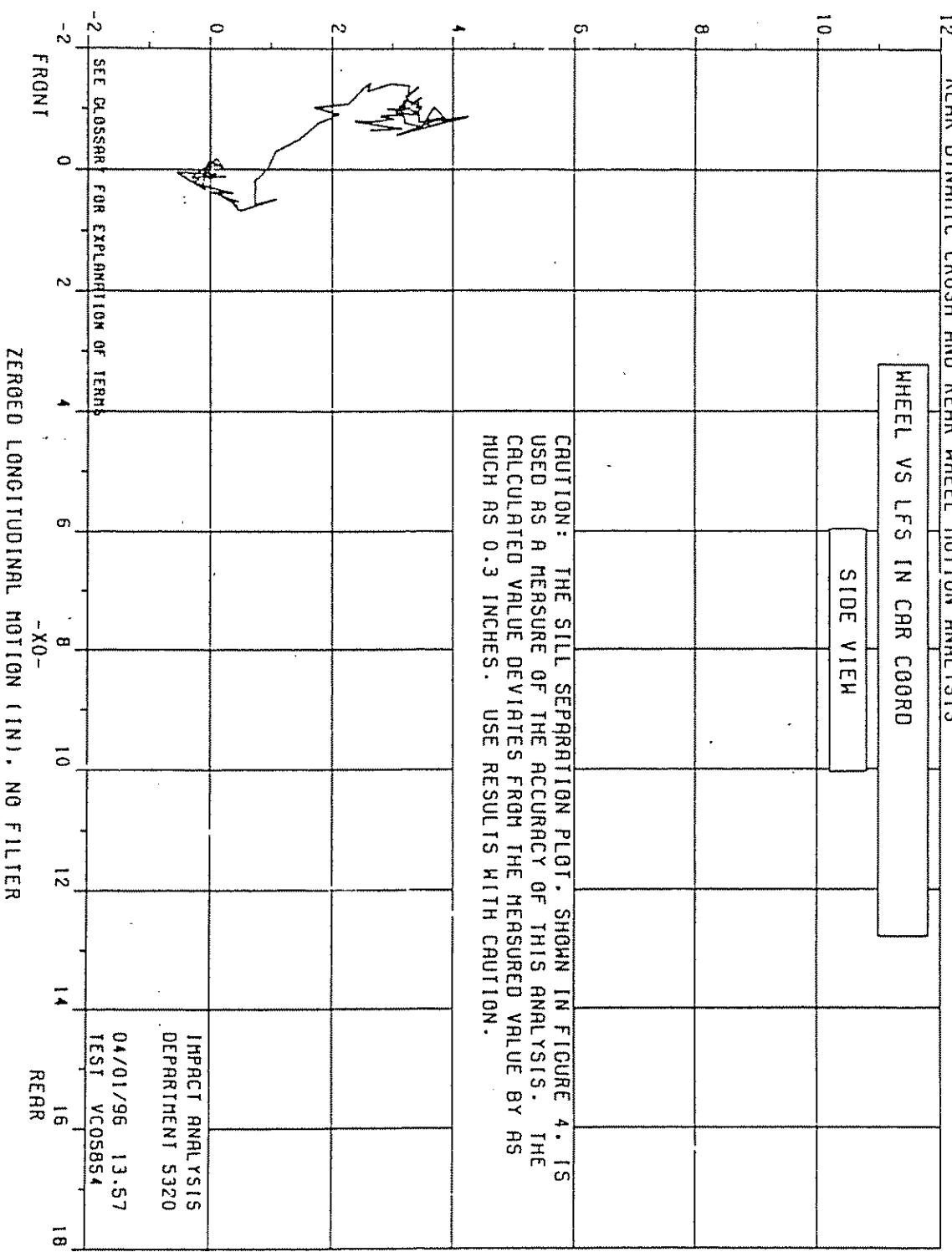
VC05854 30 MPH REAR BARRIER. ZJ74. S.2L HPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED Z OF WHEEL RELATIVE TO LFS IN CAR COORD  
 VERSUS ZERGED X OF WHEEL RELATIVE TO LFS IN CAR COORD  
 REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

WHEEL VS LFS IN CAR COORD

SIDE VIEW

CAUTION: THE SILL SEPARATION PLOT, SHOWN IN FIGURE 4. IS  
 USED AS A MEASURE OF THE ACCURACY OF THIS ANALYSIS. THE  
 CALCULATED VALUE DEVIATES FROM THE MEASURED VALUE BY AS  
 MUCH AS 0.3 INCHES. USE RESULTS WITH CAUTION.

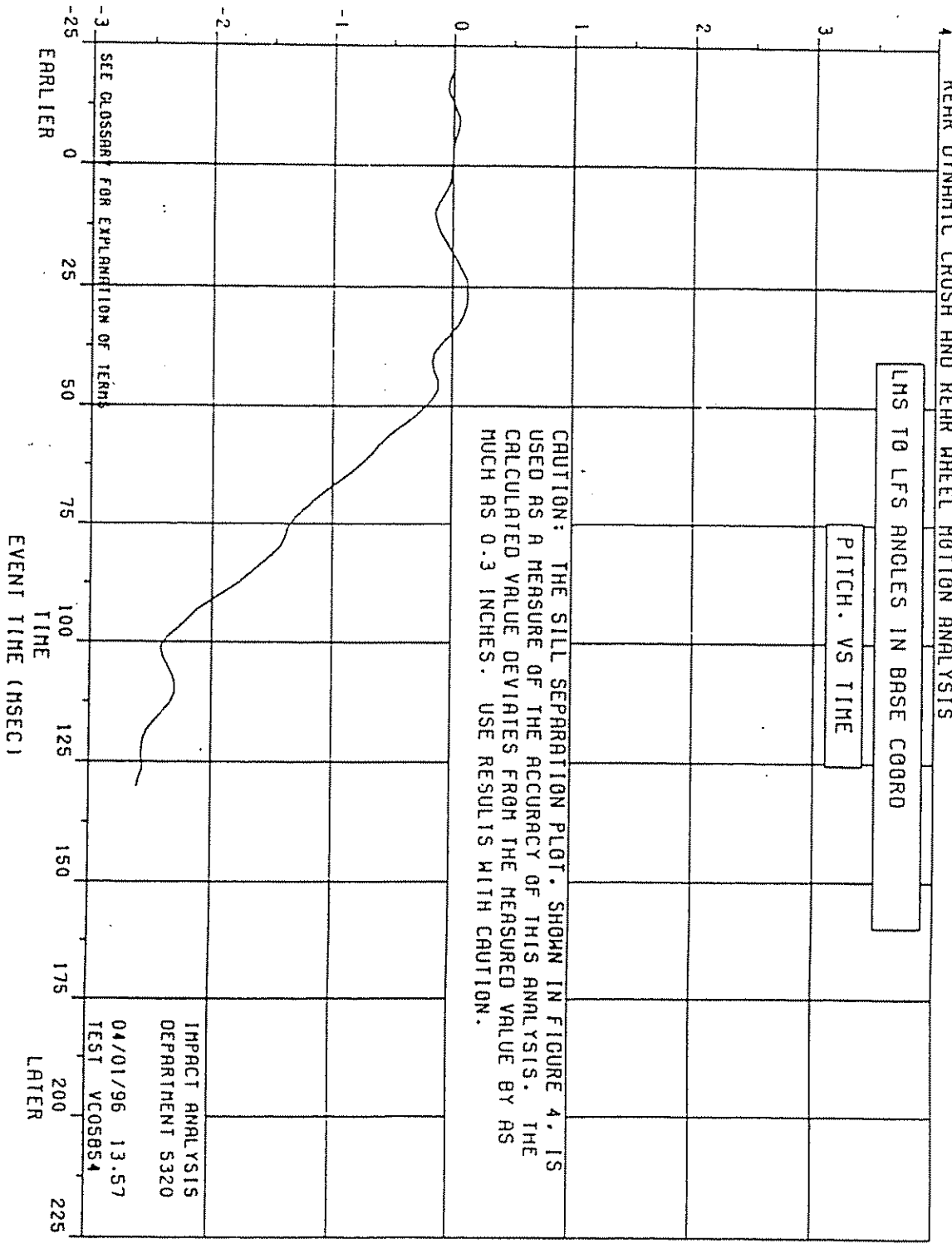


IMPACT ANALYSIS  
 DEPARTMENT 5320  
 04/01/96 13.57  
 TEST VC05854

FIGURE 2

VC05854 30 MPH REAR BARRIER, ZJ74, 5.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZEROED PITCH OF LMS TO LFS IN BASE COORD SYSTEM  
 VERSUS TIME IN MILLISECONDS  
 REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS



VCOS854 30 MPH REAR BARRIER. ZJJ74. 5.2L HP1 ITEM ZJB209R  
 1997 HVSS DEVELOPMENT - 301.

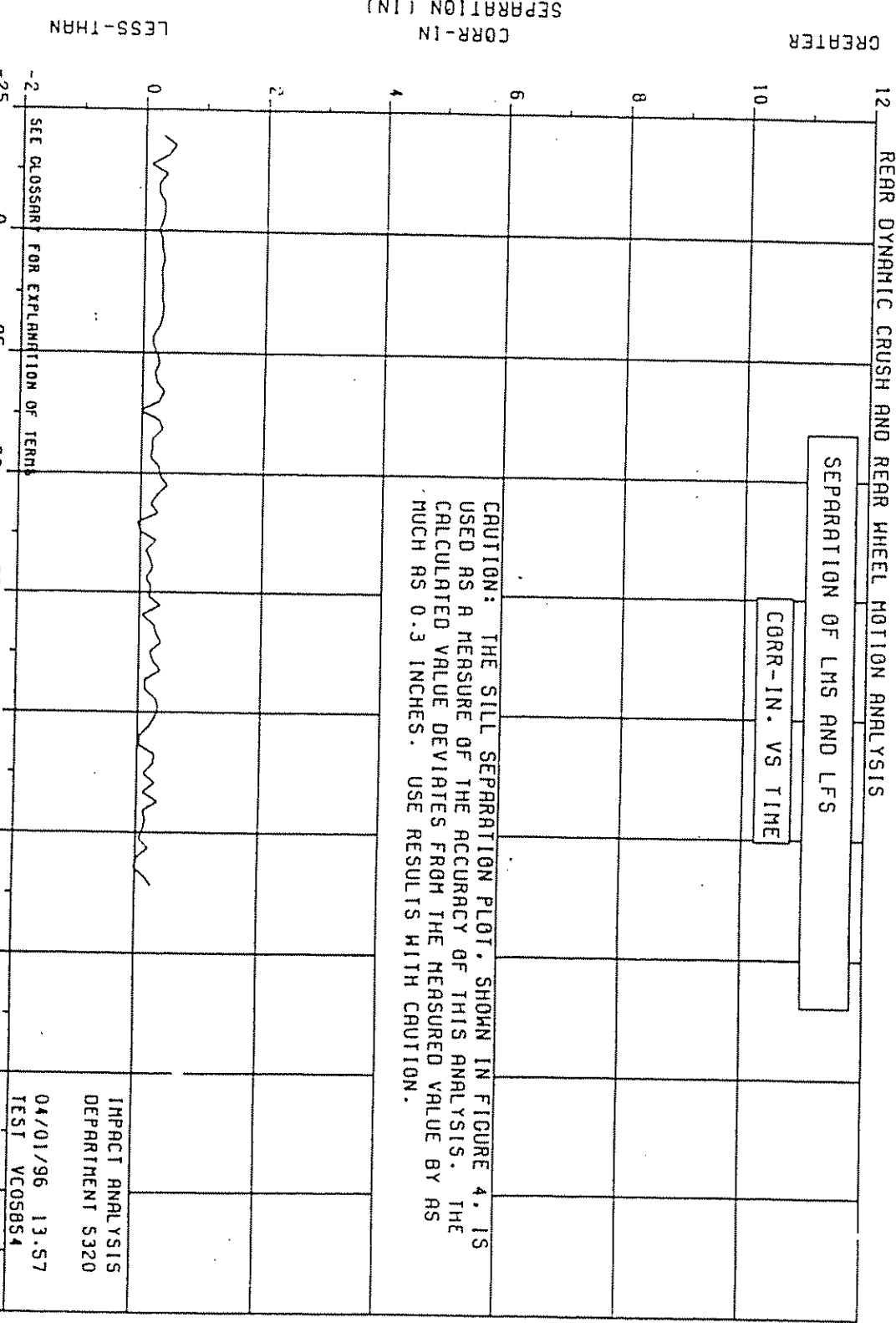
LMS TO LFS DISTANCE -30.04 INCHES (INITIAL DIST) (IN)  
 VERSUS TIME IN HILLISECONDS

REAR DYNAMIC CRUSH AND REAR WHEEL MOTION ANALYSIS

SEPARATION OF LMS AND LFS

CORR-IN. VS TIME

CAUTION: THE STILL SEPARATION PLOT, SHOWN IN FIGURE 4, IS  
 USED AS A MEASURE OF THE ACCURACY OF THIS ANALYSIS. THE  
 CALCULATED VALUE DEVIATES FROM THE MEASURED VALUE BY AS  
 MUCH AS 0.3 INCHES. USE RESULTS WITH CAUTION.



SEE GLOSSARY FOR EXPLANATION OF TERMS

IMPACT ANALYSIS  
 DEPARTMENT 5320

04/01/96 13.57  
 TEST VCOS854

FIGURE 4

1996

INTER COMPANY CORRESPONDENCE

DATE 04/22/96

TO  
DISTRIBUTION

FROM  
B. S. COVAL

DEPARTMENT  
5320

PLANT/OFFICE  
CTC

CIMS NUMBER  
481-02-18

SUBJECT:  
REAR UNDERBODY MOTION ANALYSIS  
VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI ITEM ZJB209R  
1997 MVSS DEVELOPMENT - 301.  
TEST DATE 03/23/96

TEST PURPOSE            PRIMARY. 1997 USA 301 DEVELOPMENT.  
OBSERVE FUEL SYSTEM INTEGRITY.

IMPACT TYPE            TARGET SPEED:        30.1 MPH  
DAMAGE LOCATION:    REAR  
BARRIER TYPE:       REAR TYPE IV  
BARRIER SURFACE:   PLYWOOD

VEHICLE                BODY CLASS:           ZJ  
CAR LINE:             J  
BODY:                  74  
ENGINE:                5.2 LITRE  
ENGINE NOTE:          ELECTRONIC FUEL INJECTION  
TRANSMISSION:        4 SPEED AUTO 4x4  
TRANS. NOTE:  
VIN AS TESTED:        1J4EZ78Y57C126642        MOD.  
VIN AS BUILT:          1J4EZ78Y5TC126642        MOD.

TEST SPEED             30.3 MPH BY ELECTRONIC TRAP.

TEST WEIGHT (LBS)     4859 TOTAL. 2799 FRONT. 2060 REAR

OCCUPANTS             LEFT FRONT. HYB II. BALLAST.            AD-63  
RESTRAINT-BELTS ONLY.  
RIGHT FRONT. HYB II. BALLAST.           AD-67  
RESTRAINT-BELTS ONLY.

BUILD CONDITION       1996 PRODUCTION ZJ MODIFIED TO REPRESENT 1997.  
5.2 LITRE (V8) ENGINE, 4 SPEED AUTO TRANS, 4X4.  
POWER STEERING, ABS BRAKES, AIR CONDITIONING.  
FULL CENTER CONSOLE AND OVERHEAD CONSOLE.  
P225/70 R16 TIRES ON ALUMINUM RIMS & FULL SIZE  
SPARE.  
1997 FUEL SENDING UNIT AND 1997 FUEL TANK DESIGN.

TARGET WEIGHT (LBS) 4185 TOTAL. 2336 FRONT. 1849 REAR. REP MAX OPT WT.  
NOT INCLUDING OCCUPANTS OR LUGGAGE BALLAST.

FUEL AND BALLAST      21.5 GALLONS OF STODDARD SOLVENT.  
300 LBS OF LUGGAGE BALLAST SECURED IN CARGO AREA.  
NO ADDITIONAL BALLAST.

TEST VC05854        04/22/96    14.22    PAGE 1 OF 2


DC 04528



POST TEST REMARKS FUEL LEAKAGE AT IMPACT EXCEEDED ALLOWABLE LIMITS.

THE RELATIVE MOTIONS OF SELECTED REAR UNDERBODY TARGETS HAVE BEEN DETERMINED BY FILM ANALYSIS. TIME WAS BASED ON CAMERA TIMING DATA.

  
-----  
C. M. ANDERSON

  
-----  
B. S. COVAL

GRAPHS - 24

G L O S S A R Y   O F   T E R M S

U S E D   I N   S T A N D A R D   R E P O R T S

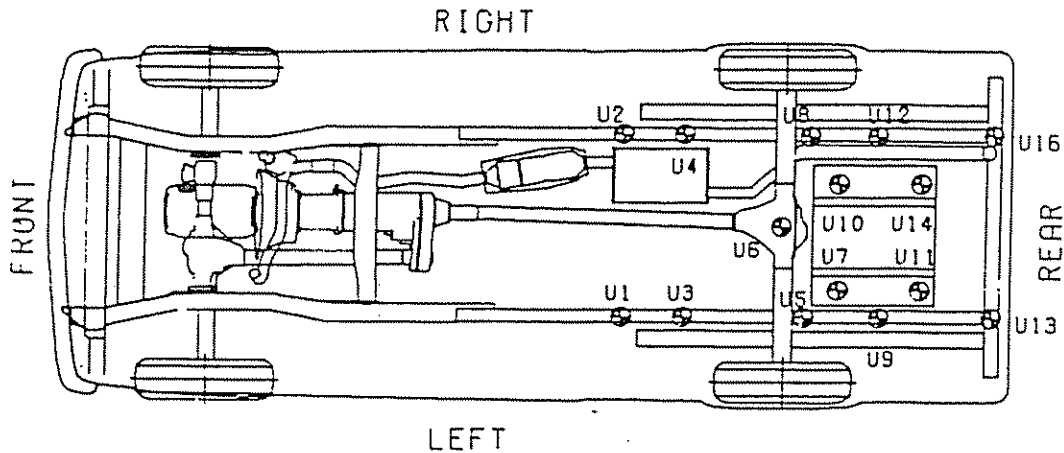
AD	ANTHROPOMORPHIC DEVICE
ADT	ANTHROPOMORPHIC TEST DEVICE
BASE COORD	BASE COORDINATE SYSTEM
C/L	CENTERLINE
CAR COORD	CAR COORDINATE SYSTEM
CCW	COUNTER CLOCKWISE
CORR-IN	SEPARATION IN INCHES (MINUS INITIAL LENGTH)
CORR-MM	SEPARATION IN MM (MINUS INITIAL LENGTH)
CORR-P	CORRECTED (ZEROED) PITCH
CORR-R	CORRECTED (ZEROED) ROLL
CORR-Y	CORRECTED (ZEROED) YAW
CW	CLOCKWISE
EFI	ELECTRONIC FUEL INJECTOR
ENG	ENGINE
ENGPY	ENGINE PITCH AND YAW
FESM	FRONT END SHEET METAL
FIDUCIAL	REFERENCE POINT OR TARGET
FS	FRONT SILL TARGET
FWD	FORWARD
IP	INSTRUMENT PANEL TARGET
LBS	POUNDS
LCP.LOP	LEFT C-POST & QUARTER PANEL TARGETS
LFS.LMS.LRS	LEFT FRONT SILL, MID SILL, & REAR SILL TARGETS
LT	LEFT
MS	MID SILL TARGET
NORMALIZE	PUT ON A COMMON BASIS
NOSE-DOWN	LEADING END BELOW TRAILING
NOSE-UP	LEADING END ABOVE TRAILING
PERF	PERFORMANCE
REF	REFERENCE
REL	RELATIVE TO (ONE-DIMENSIONAL)
RCP.RQP	RIGHT C-POST & QUARTER PANEL TARGETS
RFS.RMS.RRS	RIGHT FRONT, MID, & REAR SILL TARGETS
ROLL-LEFT	LEFT SIDE LOWER THAN RIGHT
ROLL-RIGHT	RIGHT SIDE LOWER THAN LEFT
RS	REAR SILL TARGET
RT	RIGHT
SEP	SEPARATION OF (THREE-DIMENSIONAL)
SYS	SYSTEM
TBI	THROTTLE BODY INJECTOR
TIME.MS	TIME IN MILLISECONDS
U/B	UNDERBODY
VS	VERSUS
X	LONGITUDINAL AXIS (INCREASING TOWARD TRAILING EDGE)
XF	X-FILTERED
Y	LATERAL AXIS (INCREASING TO THE RIGHT)
YAW-LEFT	LEADING EDGE TO LEFT
YAW-RIGHT	LEADING EDGE TO RIGHT
Z	VERTICAL AXIS (INCREASING UPWARD)
ZEROED	SHIFTED TO START AT ZERO
ZERO-IN	ZEROED INCHES
ZERO-MM	ZEROED MILLIMETERS

IMPACT ANALYSIS  
DEPARTMENT 5320  
04/22/96 14.22  
TEST VC05854

DC 04530

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MFI ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.

PLAN VIEW



LEGEND OF STANDARD ZJ-BODY REAR U/B TARGETS

TARGET DESIGNATION	TARGET DESCRIPTION
U1	LEFT FORE RAIL TARGET
U2	RIGHT FORE RAIL TARGET
U3	LEFT MID RAIL TARGET
U4	RIGHT MID RAIL TARGET
U5	LEFT KICKUP TARGET
U6	REAR DIFFERENTIAL TARGET
U7	LEFT FORE TANK COVER TARGET
U8	RIGHT KICKUP TARGET
U9	LEFT MID REAR RAIL TARGET
U10	RIGHT FORE TANK COVER TARGET
U11	LEFT AFT TANK COVER TARGET
U12	RIGHT MID REAR RAIL TARGET
U13	LEFT REAR RAIL TARGET
U14	RIGHT AFT TANK COVER TARGET
U16	RIGHT REAR RAIL TARGET

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 04/22/96 14.22  
 TEST VC05854

VC05854 30 MPH REAR BARRIER. ZJ74. 5.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

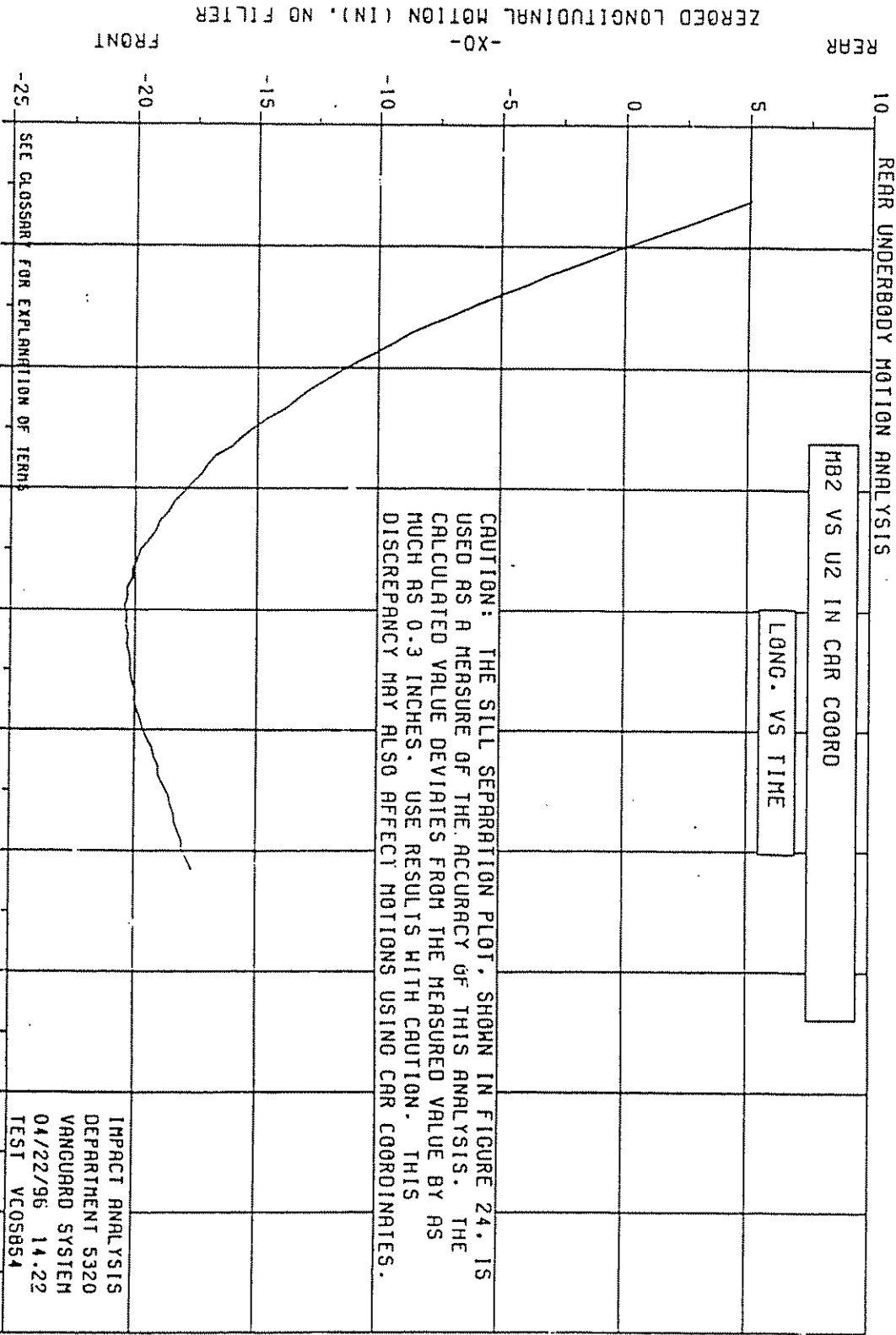
ZERGED X OF MB2 RELATIVE TO U2 IN CAR COORD  
 VERSUS TIME IN HILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

MB2 VS U2 IN CAR COORD

LONG. VS TIME

CAUTION: THE SILL SEPARATION PLOT, SHOWN IN FIGURE 24, IS  
 USED AS A MEASURE OF THE ACCURACY OF THIS ANALYSIS. THE  
 CALCULATED VALUE DEVIATES FROM THE MEASURED VALUE BY AS  
 MUCH AS 0.3 INCHES. USE RESULTS WITH CAUTION. THIS  
 DISCREPANCY MAY ALSO AFFECT MOTIONS USING CAR COORDINATES.



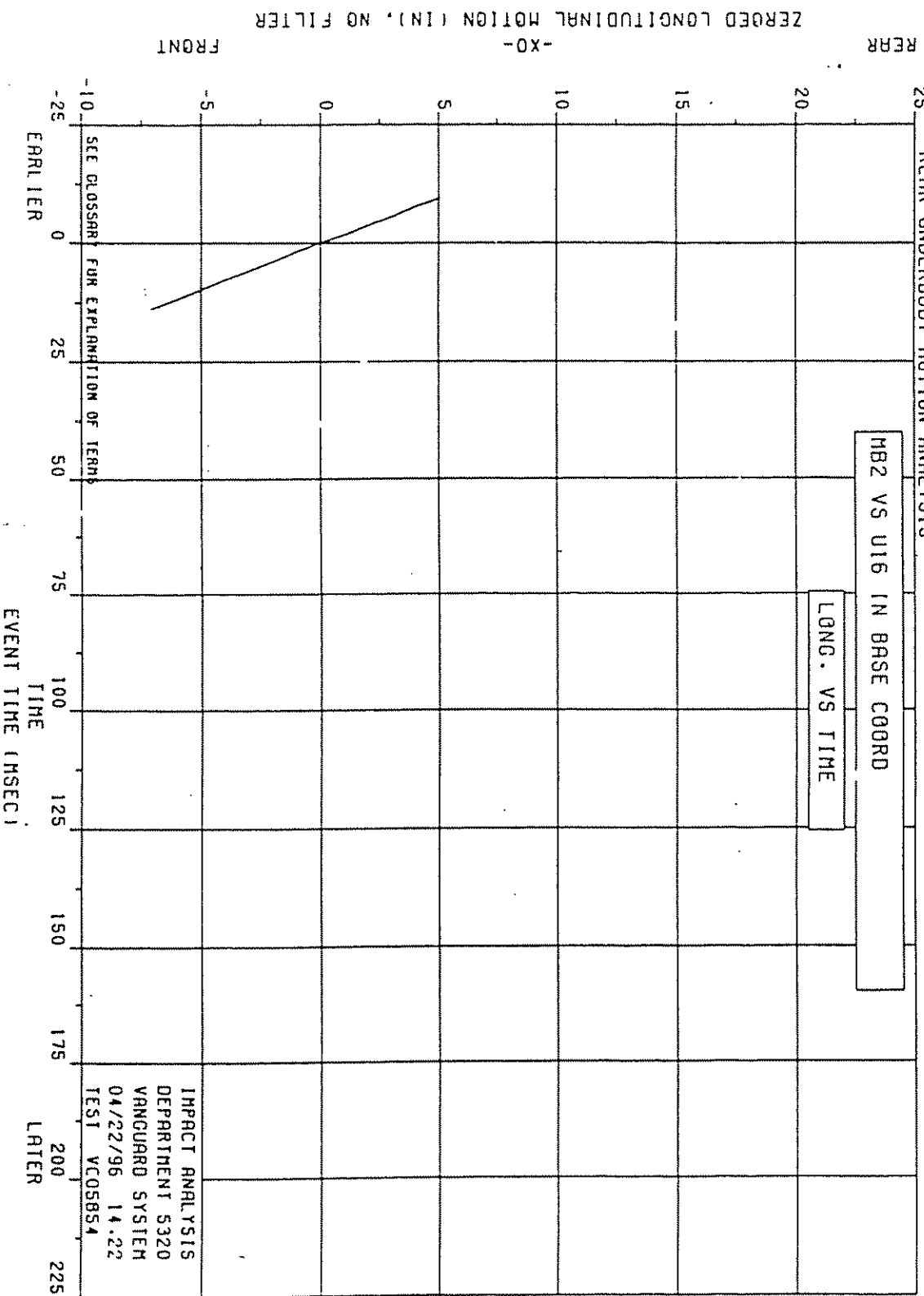
SEE GLOSSARY FOR EXPLANATION OF TERMS

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

FIGURE 1

VC05854 30 MPH REAR BARRIER, ZJ74. S.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X OF MB2 RELATIVE TO U16 IN BASE COORD  
 VERSUS TIME IN MILLISEC  
 REAR UNDERBODY MOTION ANALYSIS



ZERGED LONGITUDINAL MOTION (IN), NO FILTER

FIGURE 2

VC05854 30 MPH REAR BARRIER, ZJ774, 5.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X OF U16 RELATIVE TO U12 IN CAR COORD  
 VERSUS TIME IN HILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS

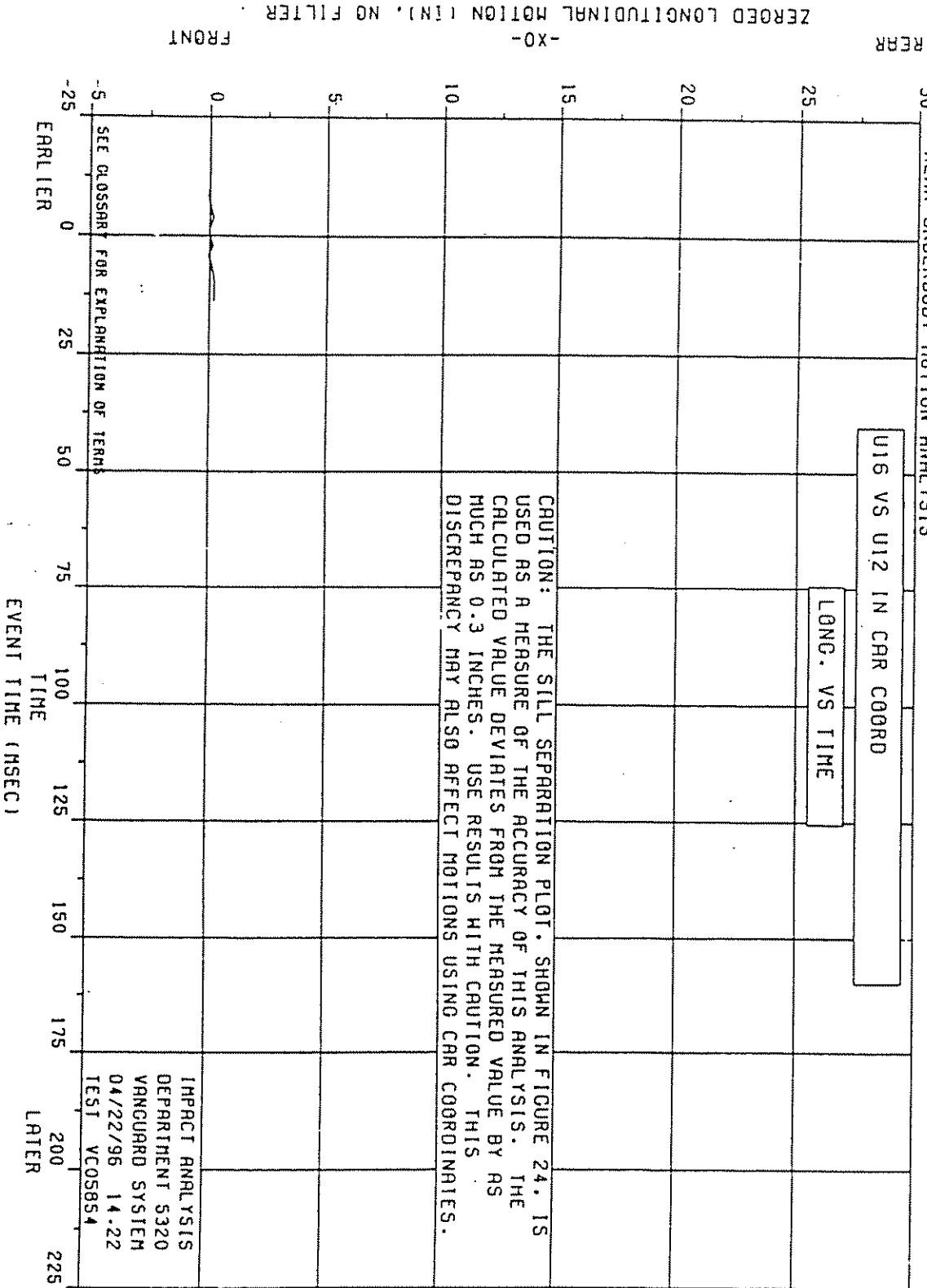


FIGURE 3

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L NPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

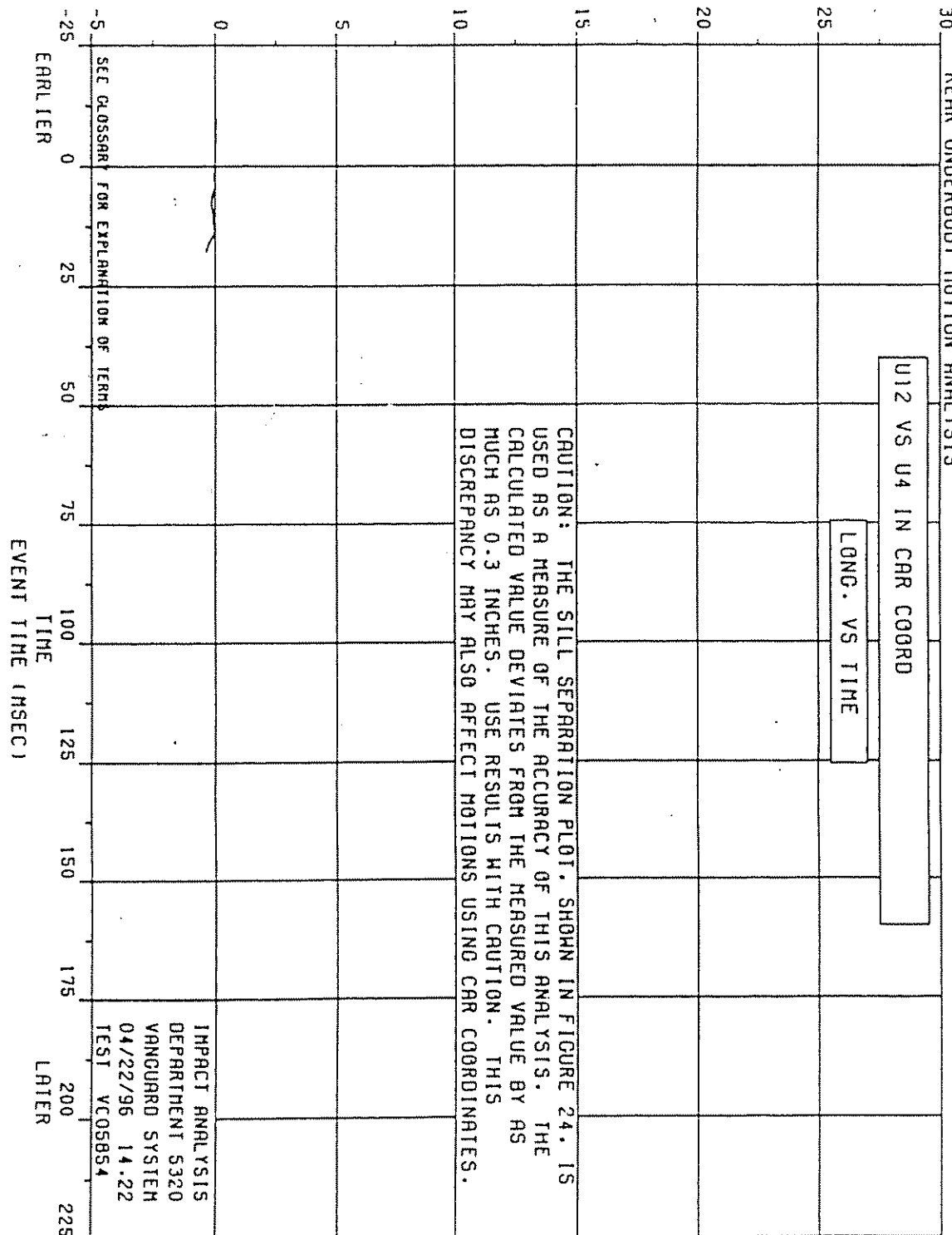
ZERGED X OF U12 RELATIVE TO U4 IN CAR COORD  
 VERSUS TIME IN HILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

REAR

-X0-

FRONT



IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

FIGURE 4

VC05854 30 MPH REAR BARRIER. ZJ774. 5.2L MPI ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.

ZEREO X OF U4 RELATIVE TO U2 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

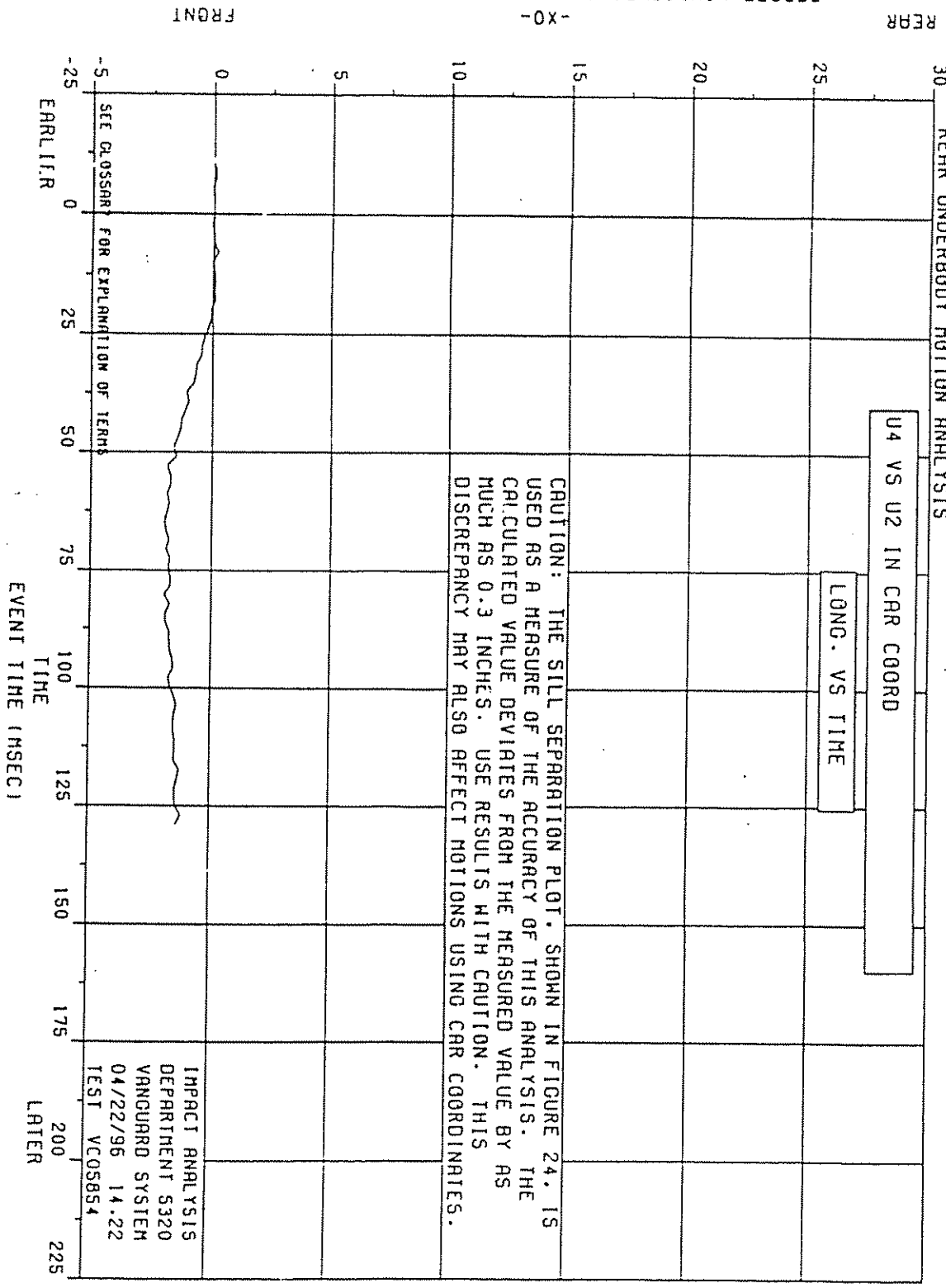


FIGURE 5

ZEREO LONGITUDINAL MOTION (IN), NO FILTER

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854



VC05854 30 MPH REAR BARRIER, ZJJ74, S.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZEROED X OF MBI RELATIVE TO U1 IN BASE COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

REAR

-X0-

ZEROED LONGITUDINAL MOTION (IN), NO FILTER

FRONT

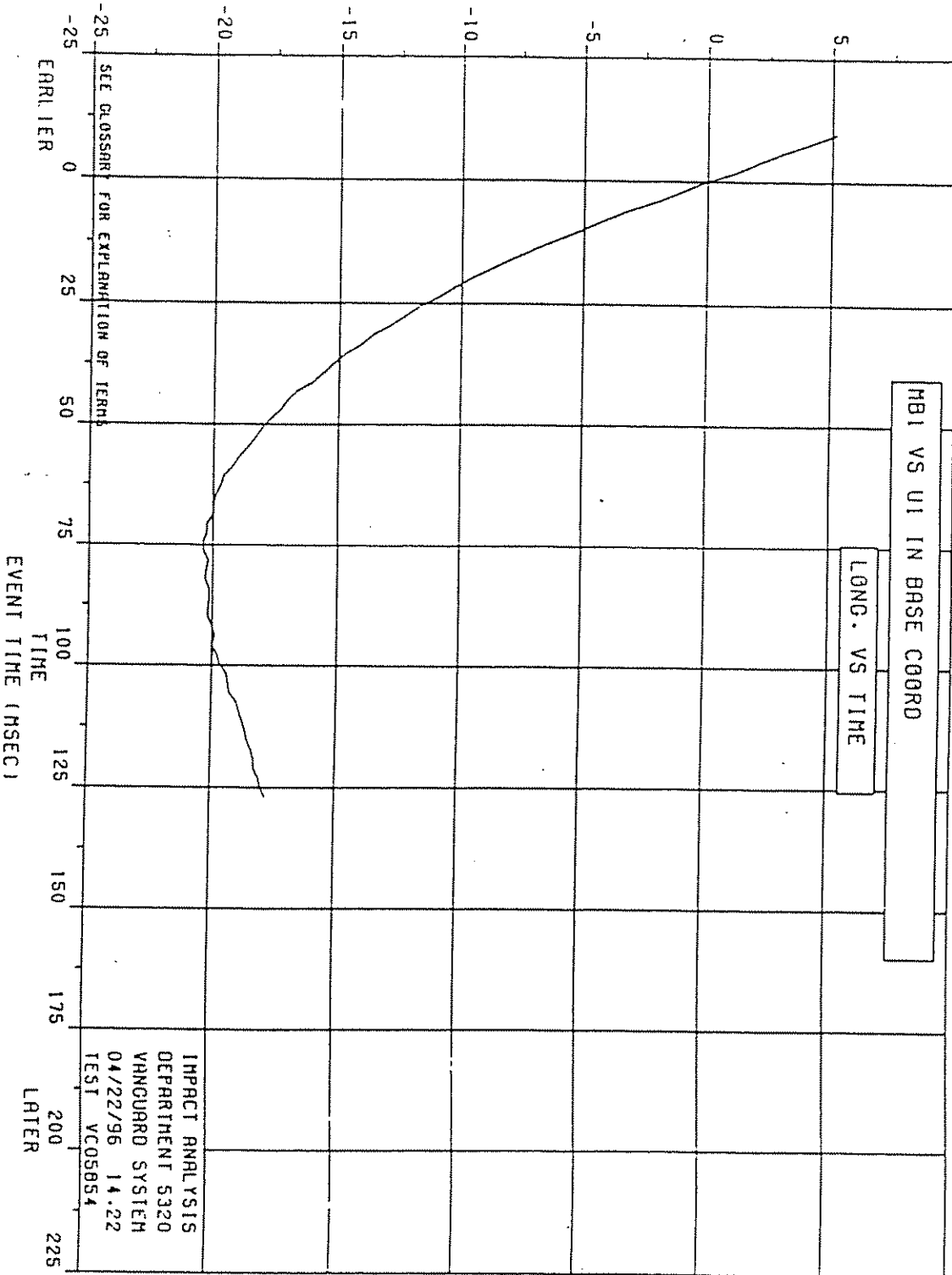


FIGURE 6

VC05854 30 MPH REAR BARRIER, ZJJ74. S.2L MPI ITEM ZJ8209R  
 1997 NVSS DEVELOPMENT - 301.

ZERGED X OF MBI RELATIVE TO U13 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS

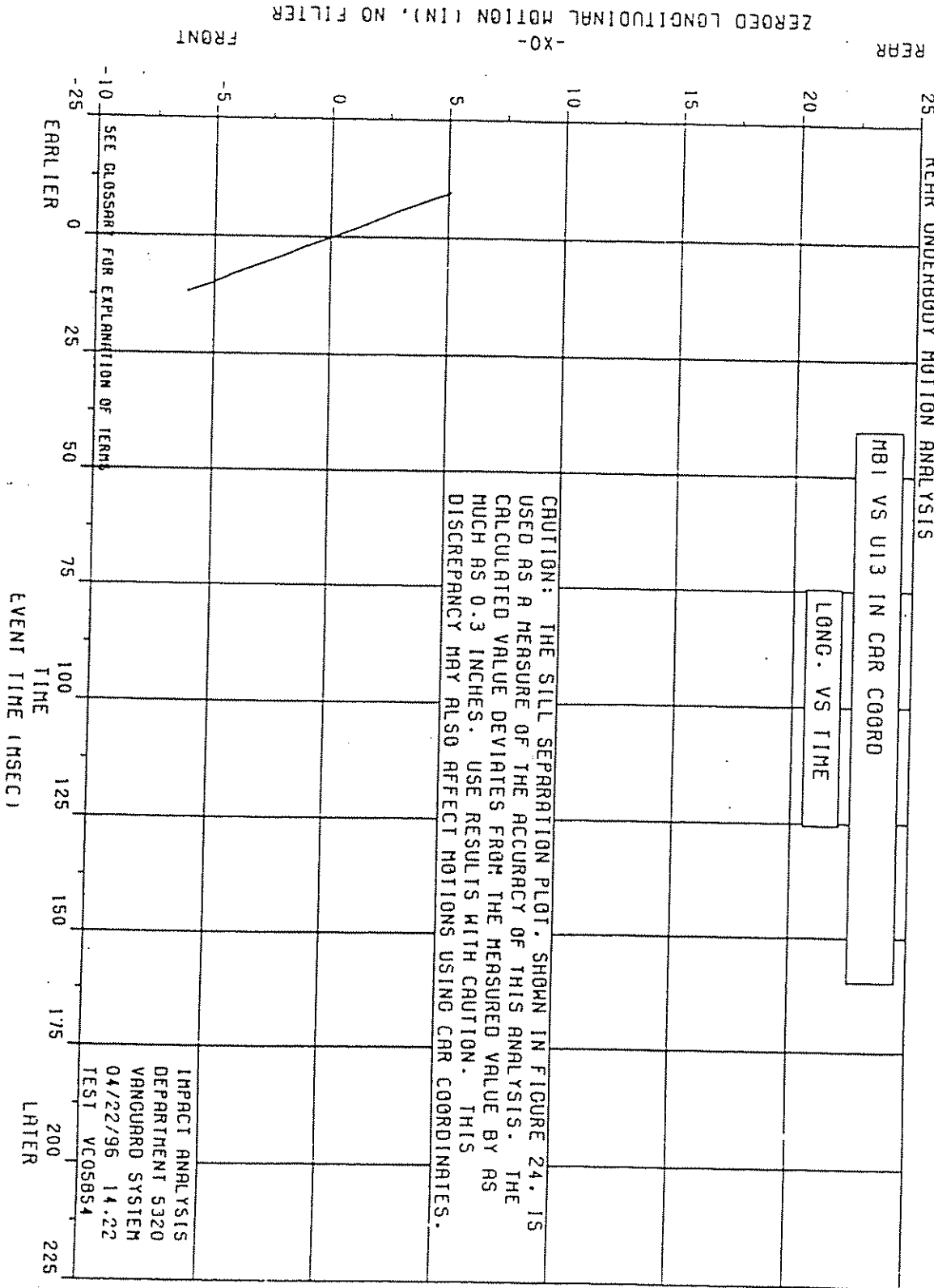


FIGURE 7  
 -XO-  
 ZEROED LONGITUDINAL MOTION (IN.), NO FILTER

VC05854 30 MPH REAR BARRIER. ZJJ74. S.2L HP1 ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.

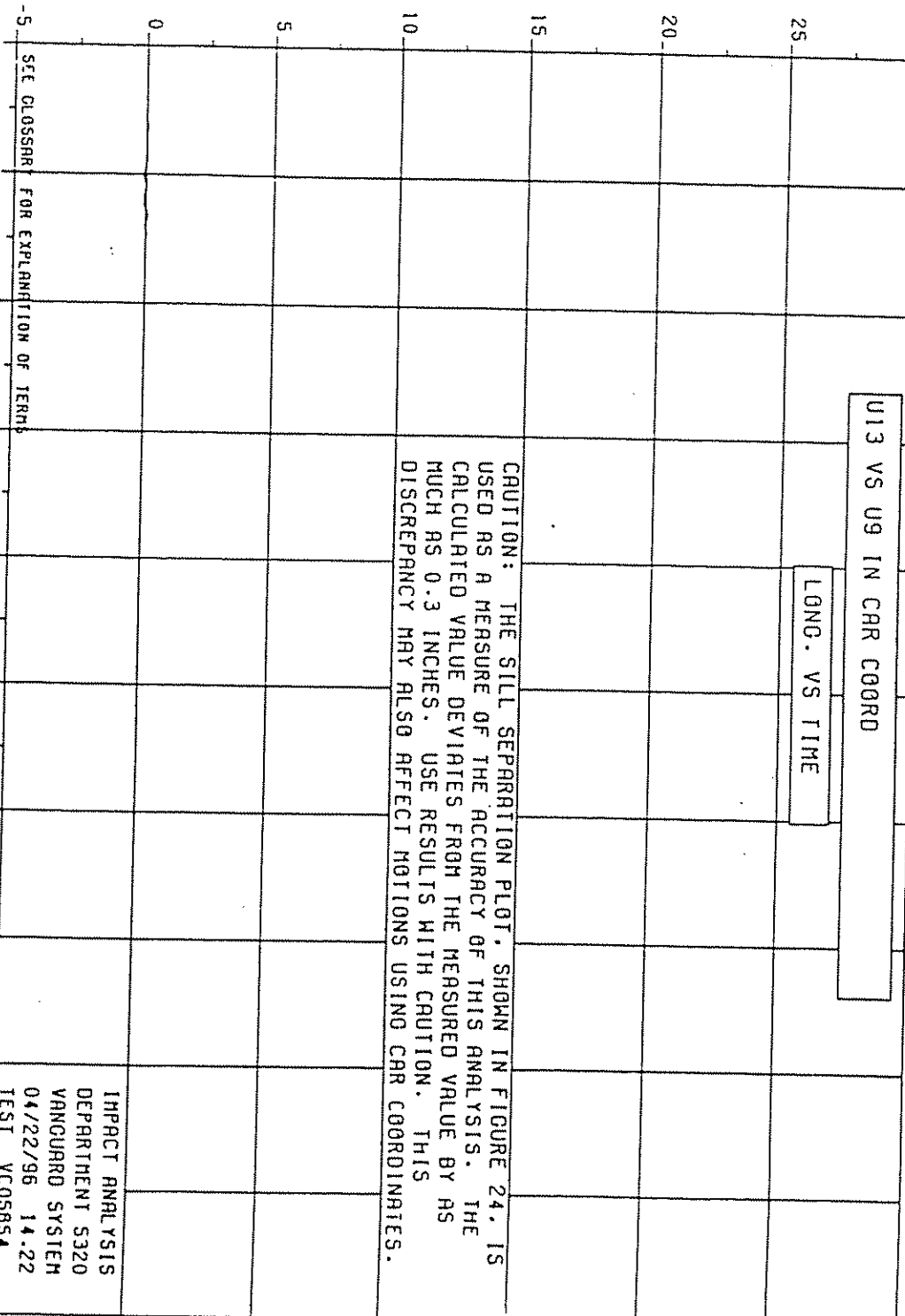
ZERED X OF U13 RELATIVE TO U9 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

U13 VS U9 IN CAR COORD

LONG. VS TIME

CAUTION: THE SILL SEPARATION PLOT, SHOWN IN FIGURE 24, IS  
 USED AS A MEASURE OF THE ACCURACY OF THIS ANALYSIS. THE  
 CALCULATED VALUE DEVIATES FROM THE MEASURED VALUE BY AS  
 MUCH AS 0.3 INCHES. USE RESULTS WITH CAUTION. THIS  
 DISCREPANCY MAY ALSO AFFECT MOTIONS USING CAR COORDINATES.



-XO-  
 ZEROED LONGITUDINAL MOTION (IN), NO FILTER  
 FRONT

EARLIER 0 25 50 75 100 125 150 175 200 225 LATER  
 EVENT TIME (MSEC)

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

FIGURE 8

VC05854 30 MPH REAR BARRIER, ZJJ74. 5.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZEREO X OF U9 RELATIVE TO US IN CAR COORD  
 VERSUS TIME IN HILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

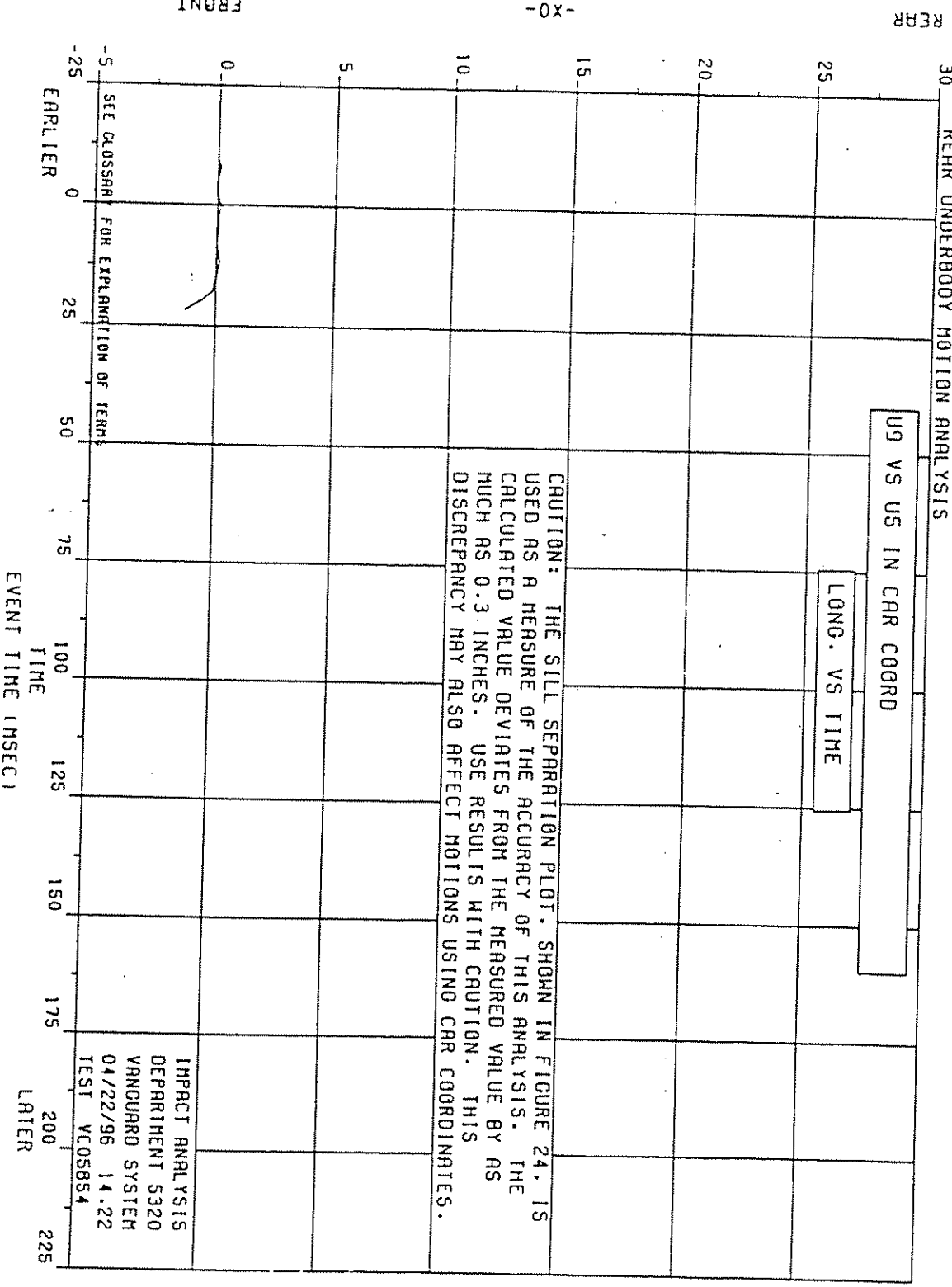


FIGURE 9  
 ZEREO LONGITUDINAL MOTION (IN), NO FILTER

VC05854 30 MPH REAR BARRIER. ZJ74. S.2L MPL ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X OF US RELATIVE TO U3 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

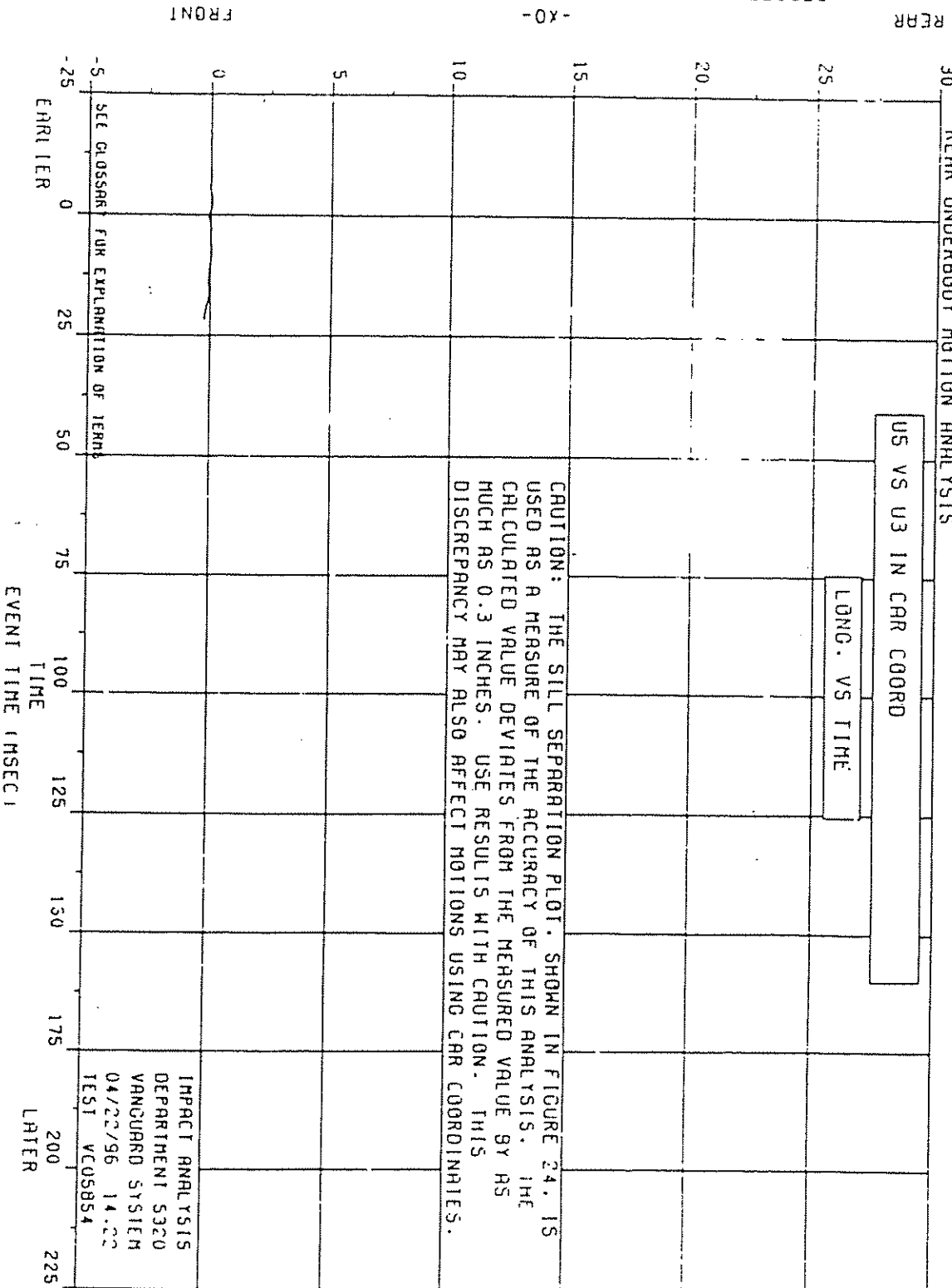


FIGURE 10  
 ZERGED LONGITUDINAL MOTION (IN), NO FILTER

VC05854 30 MPH REAR BARRIER. 21074. 5.2L MP1 ITEM Z08209R  
 1997 HVSS DEVELOPMENT - 301.

ZEROED X OF U3 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN HILLISECONDS

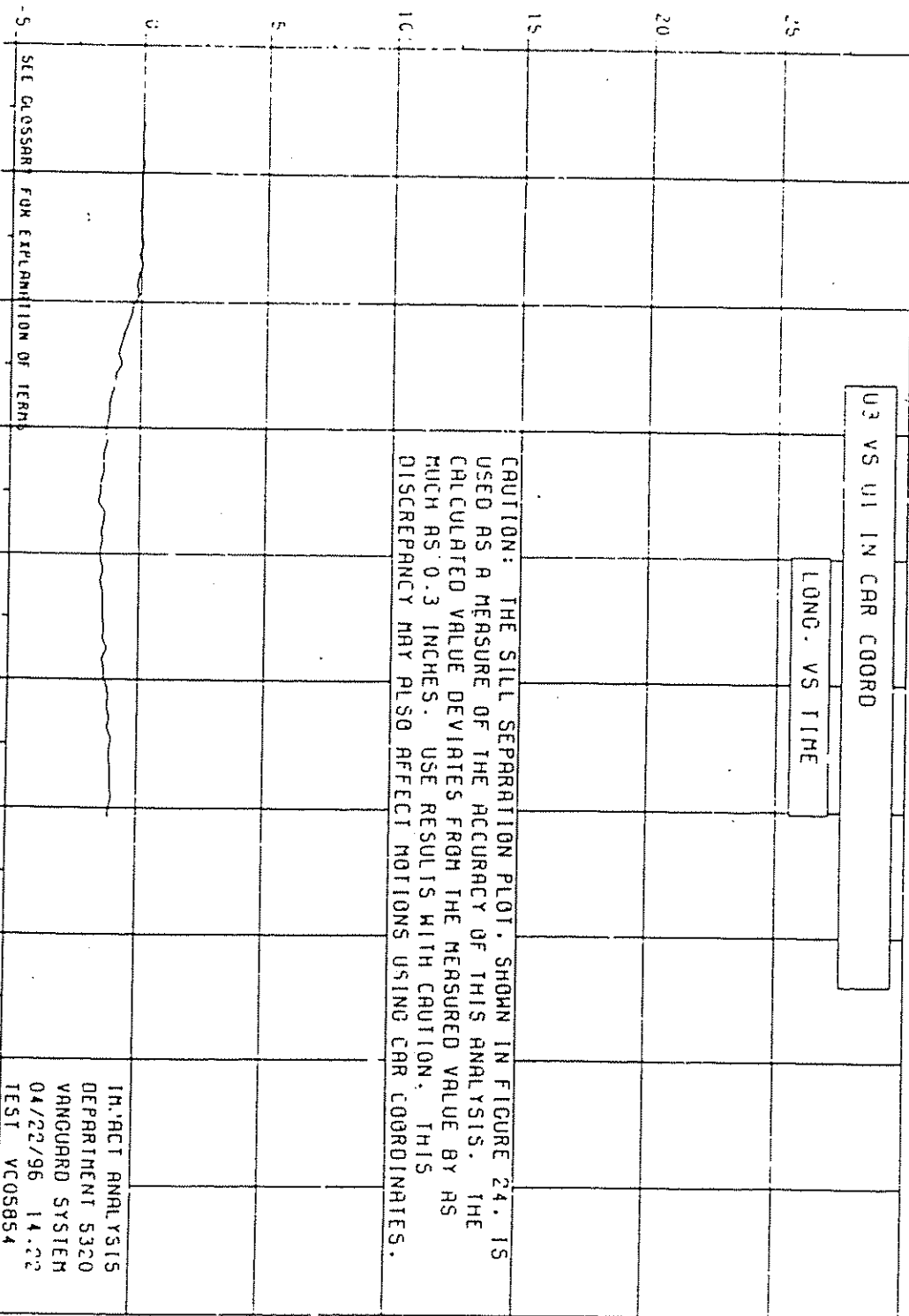
REAR UNDERBODY MOTION ANALYSIS

REAR

U3 VS U1 IN CAR COORD

LONG. VS TIME

CAUTION: THE SILL SEPARATION PLOT, SHOWN IN FIGURE 24. IS  
 USED AS A MEASURE OF THE ACCURACY OF THIS ANALYSIS. THE  
 CALCULATED VALUE DEVIATES FROM THE MEASURED VALUE BY AS  
 MUCH AS 0.3 INCHES. USE RESULTS WITH CAUTION. THIS  
 DISCREPANCY MAY ALSO AFFECT MOTIONS USING CAR COORDINATES.



IMMEDIATE ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

LATER

FIGURE 11  
 ZEROED LONGITUDINAL MOTION (IN) NO FILTER

VC05854 30 MPH REAR BARRIER, ZJ774, S.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X OF U6 RELATIVE TO U12 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

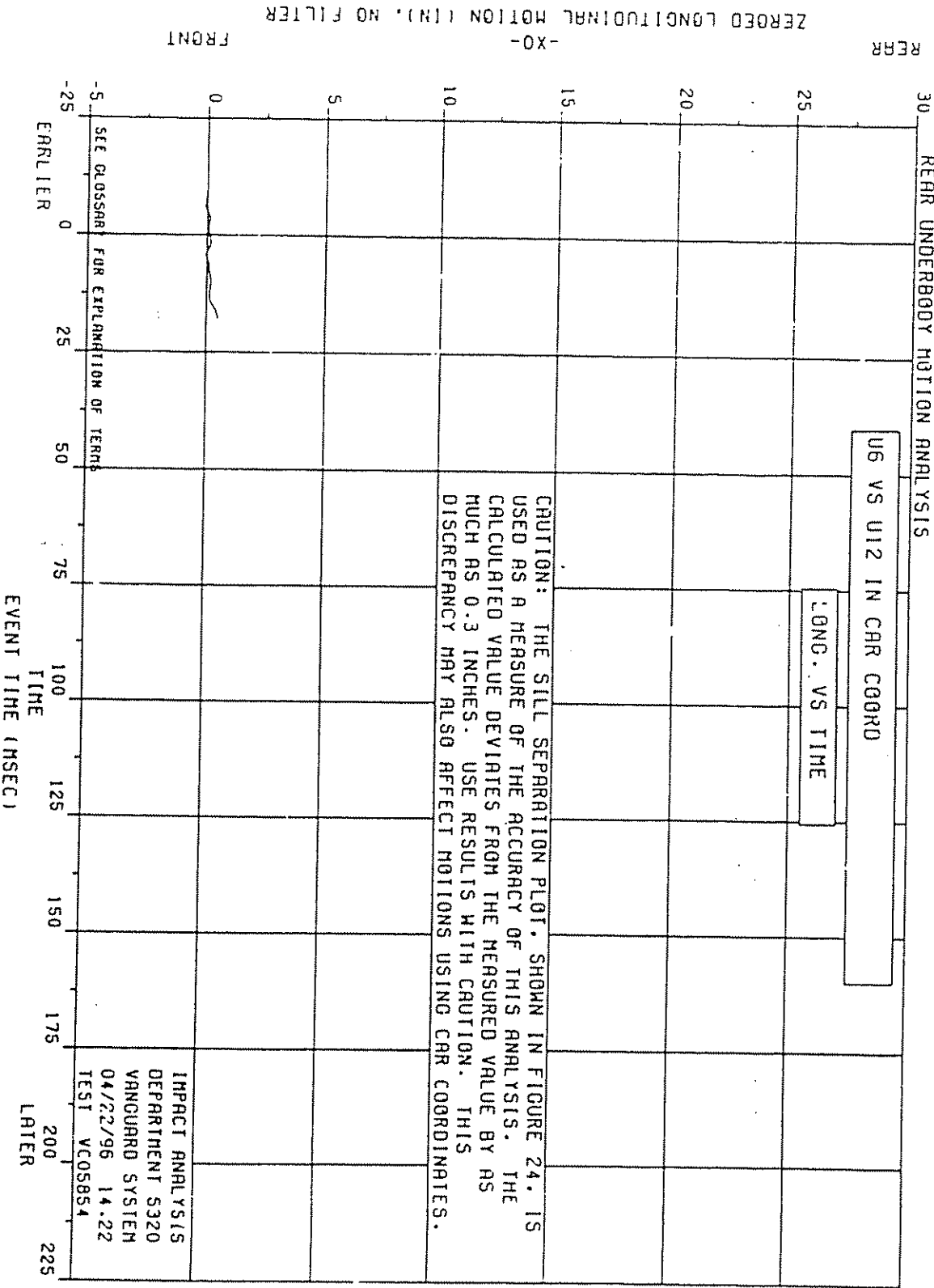


FIGURE 12

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L MP; ITEX ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.

ZEROED X OF MB2 RELATIVE TO U6 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS

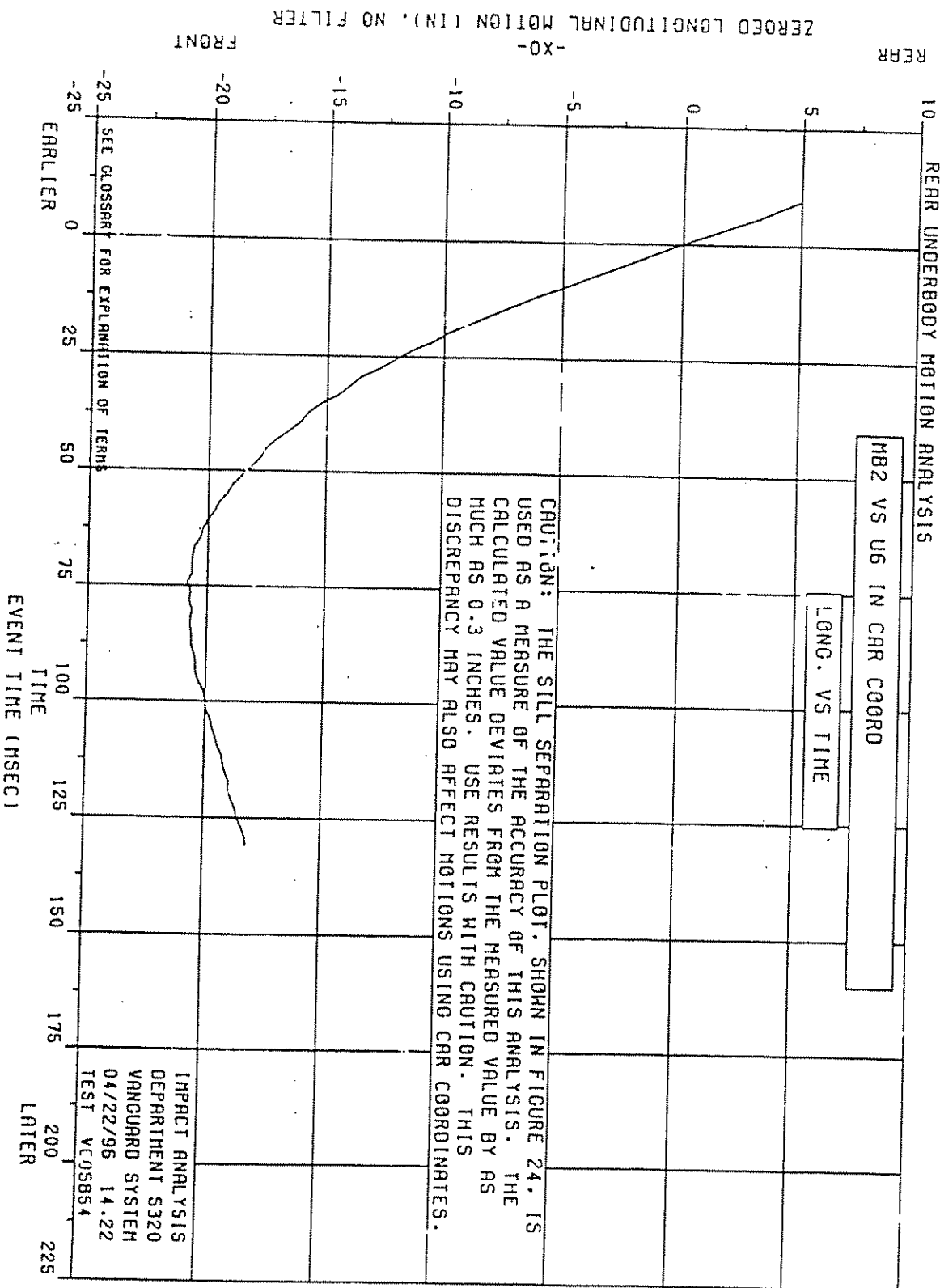


FIGURE 13

ZEROED LONGITUDINAL MOTION (IN.), NO FILTER



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X (IF U10 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

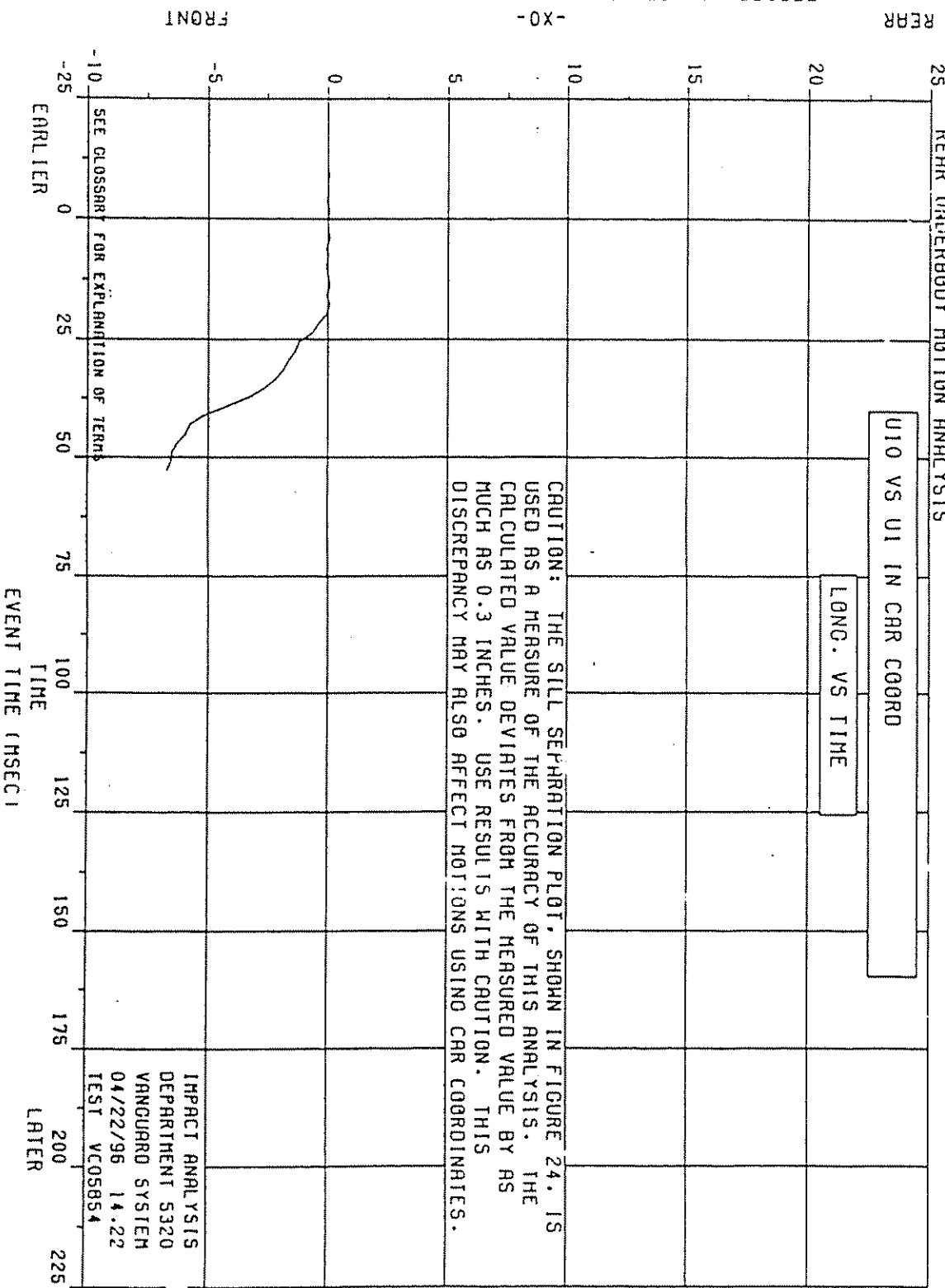
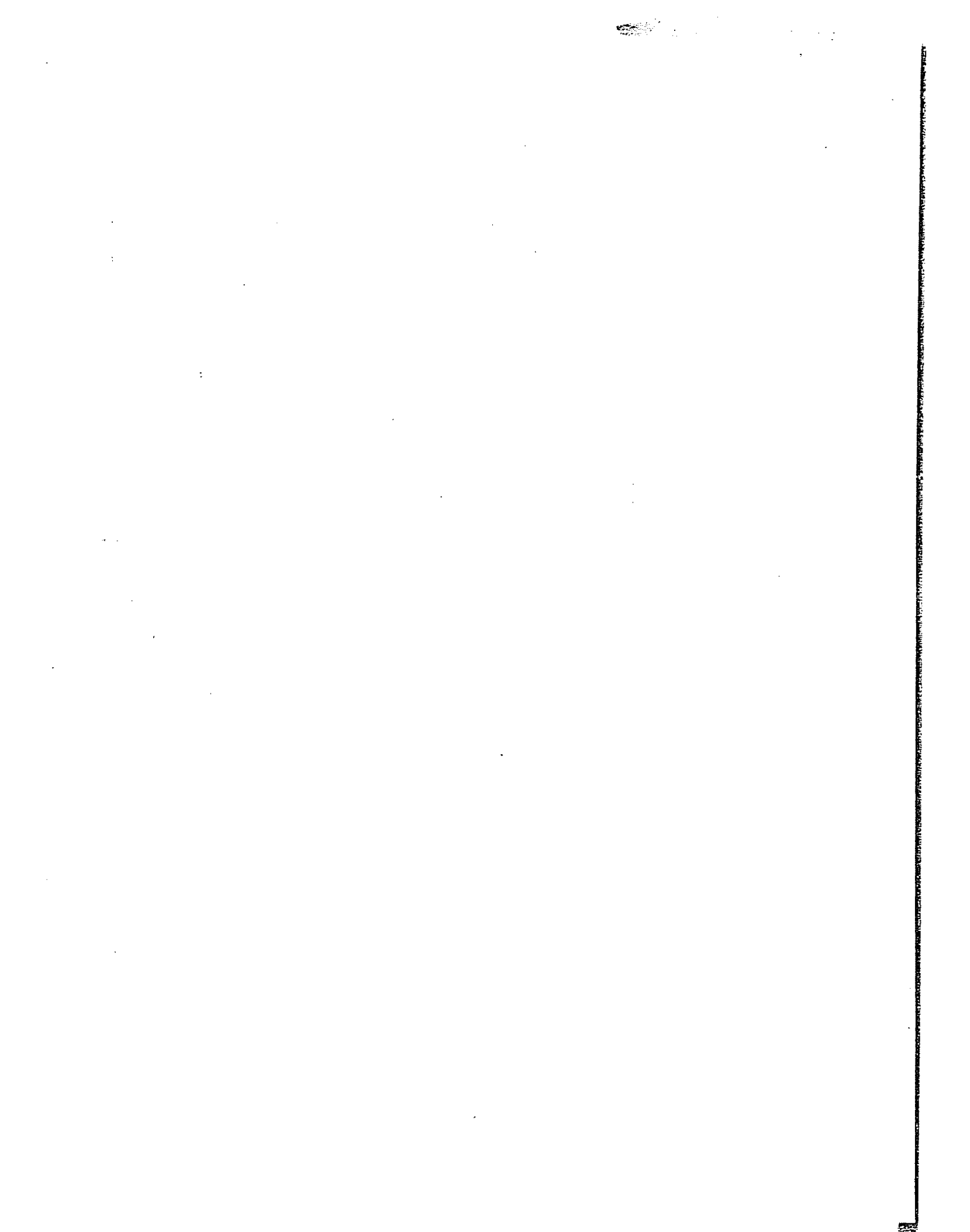


FIGURE 14

ZERGED LONGITUDINAL MOTION (IN). NO FILTER



VC05854 30 MPH REAR BARRIER. ZJ74. S-2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED X OF U7 RELATIVE TO U1 IN CAR COORD  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

REAR

-XO-

ZERGED LONGITUDINAL MOTION (IN), NO FILTER

FRONT

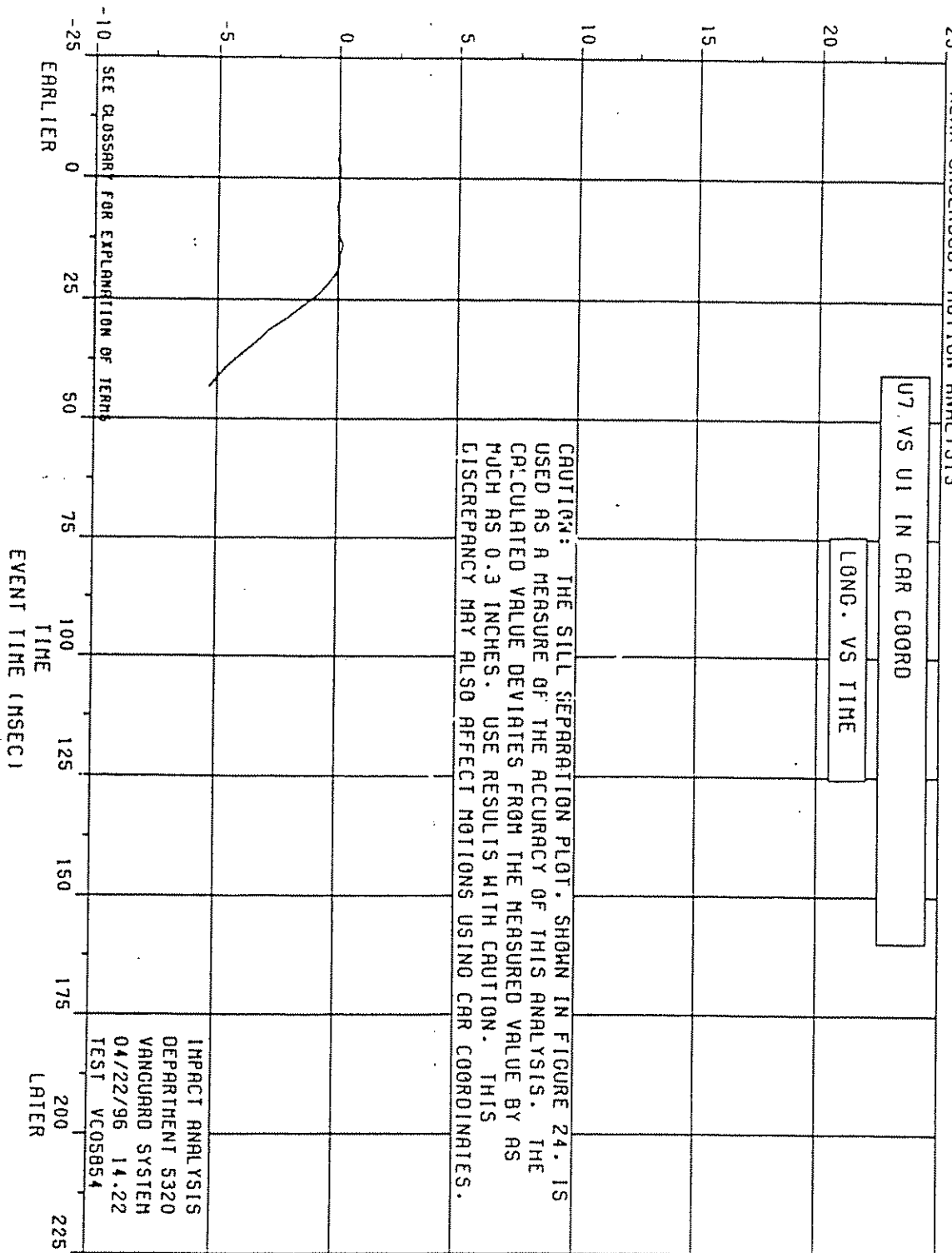


FIGURE 15

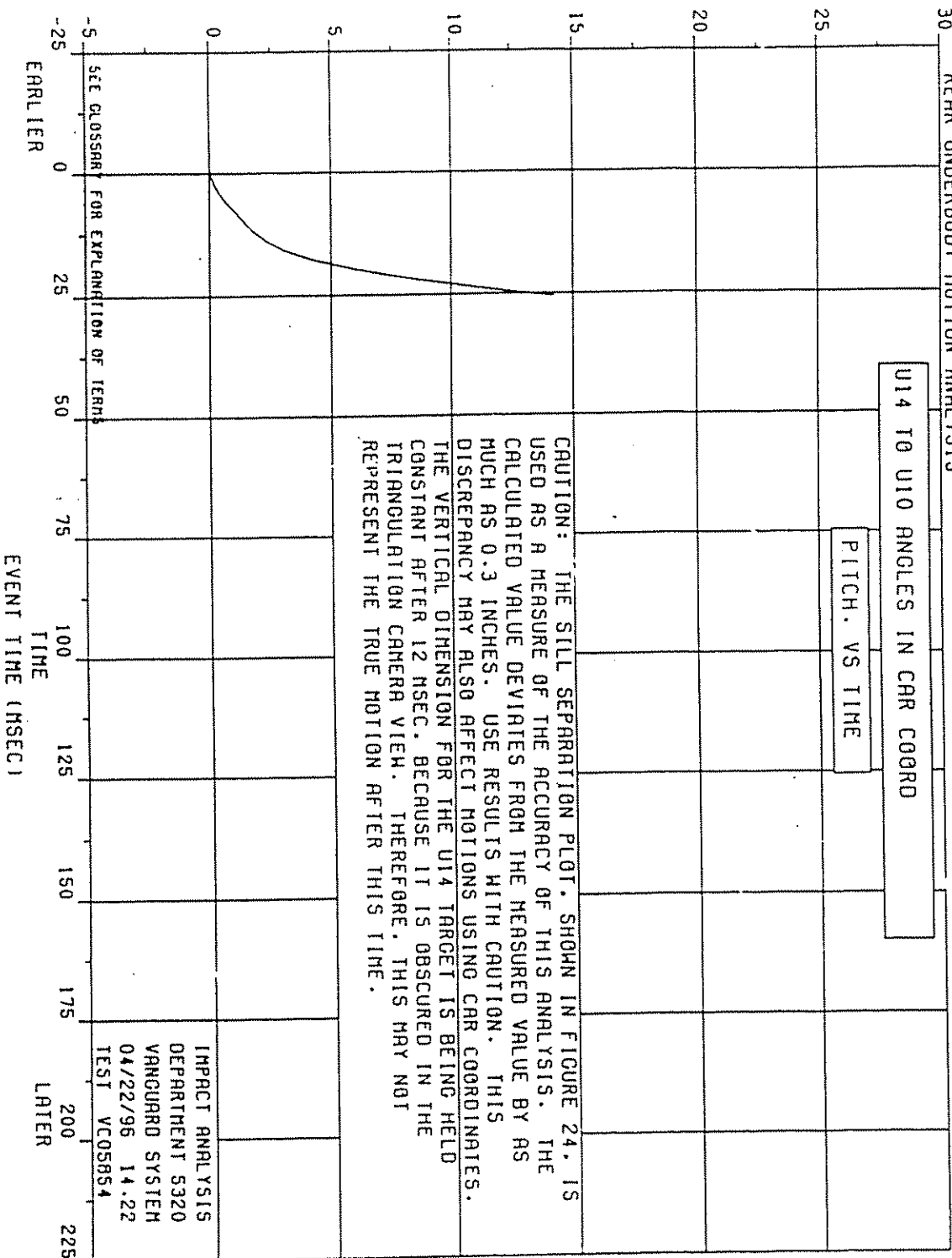
VC05854 30 MPH REAR BARRIER, ZJ74. S-2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZEROED PITCH OF U14 TO U10 IN CAR COORD SYSTEM  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

U14 TO U10 ANGLES IN CAR COORD

PITCH. VS TIME



NOSE-UP  
 CORR-P  
 DEGREES CCW AROUND Y RELATIVE TO X (RT SIDE VIEW) 50HZ FILTER

FIGURE 16

NOSE-DOWN

SEE GLOSSARY FOR EXPLANATION OF TERMS

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

VC05854 30 MPH REAR BARRIER, ZJJ74, 5.2L HPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZEROED SEPARATION OF U14 AND U10 (IN)  
 VERSUS TIME IN MILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

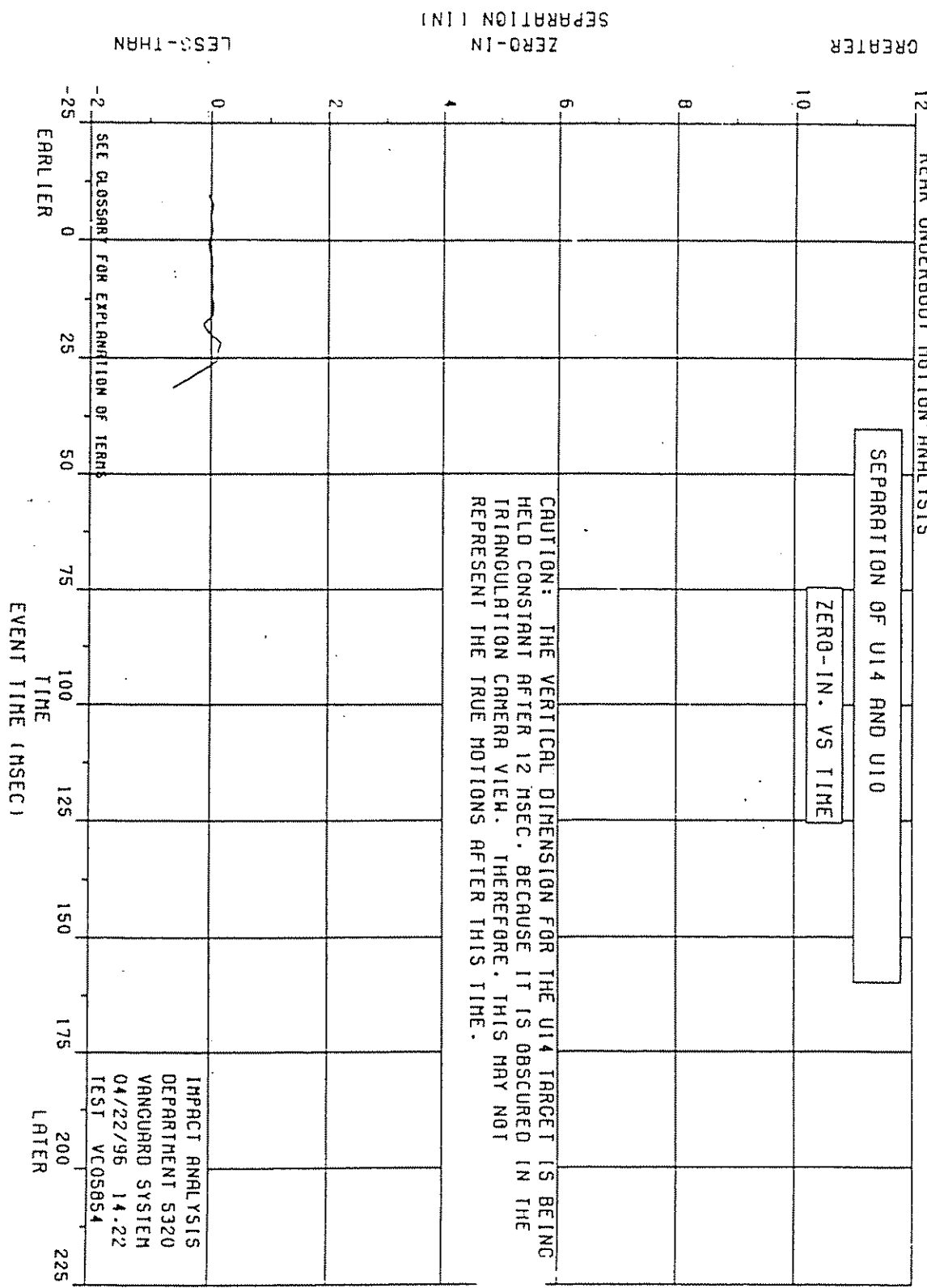


FIGURE 17

VC05854 30 MPH REAR BARRIER. ZJJ74. S.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED PITCH OF U11 TO U7 IN CAR COORD SYSTEM  
 VERSUS TIME IN MILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS

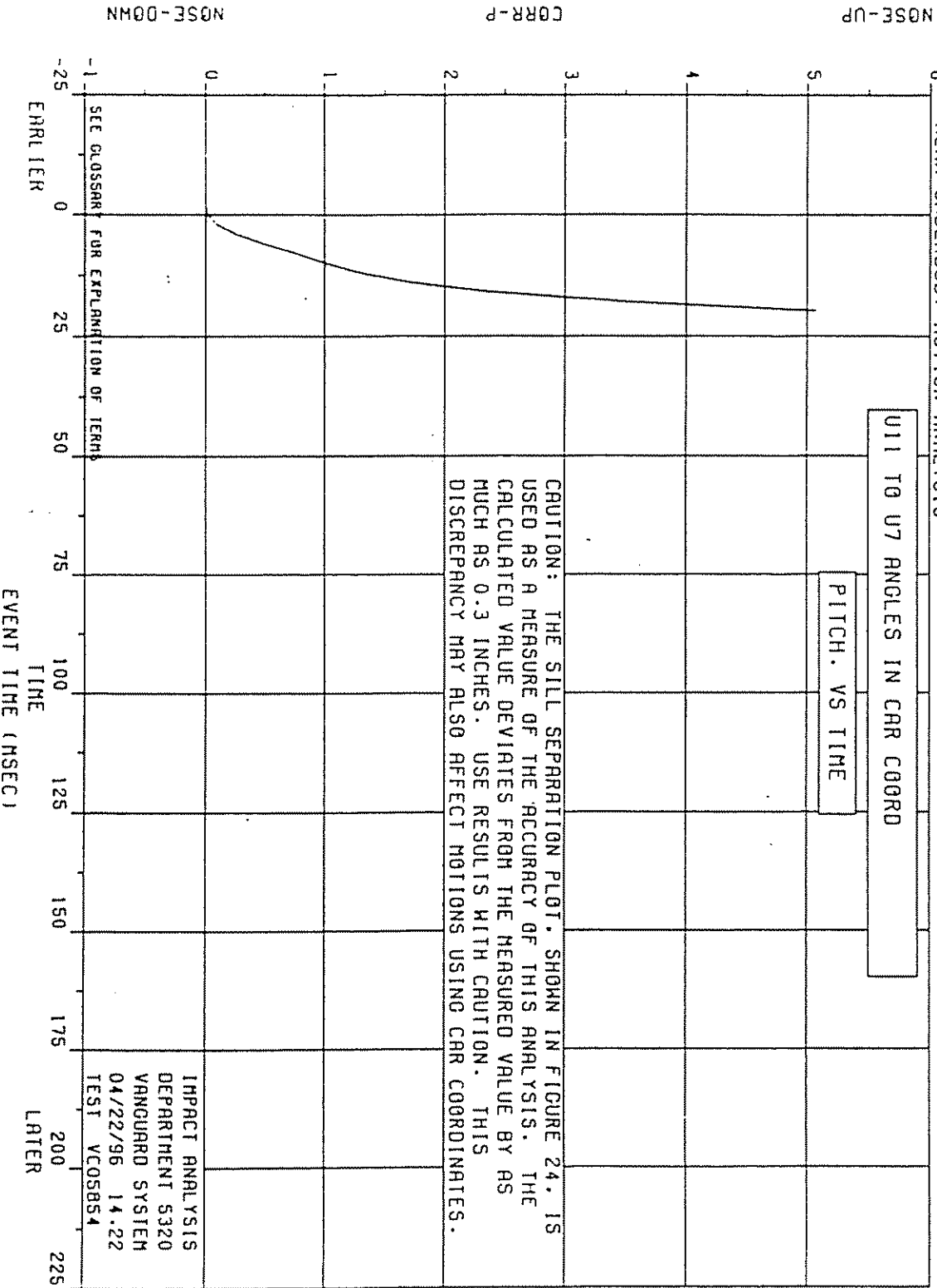


FIGURE 18

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L HPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZEROED SEPARATION OF U11 AND U7 (IN)  
 VERSUS TIME IN HILLISECONDS

REAR UNDERBODY MOTION ANALYSIS

SEPARATION OF U11 AND U7

ZERO-IN. VS TIME

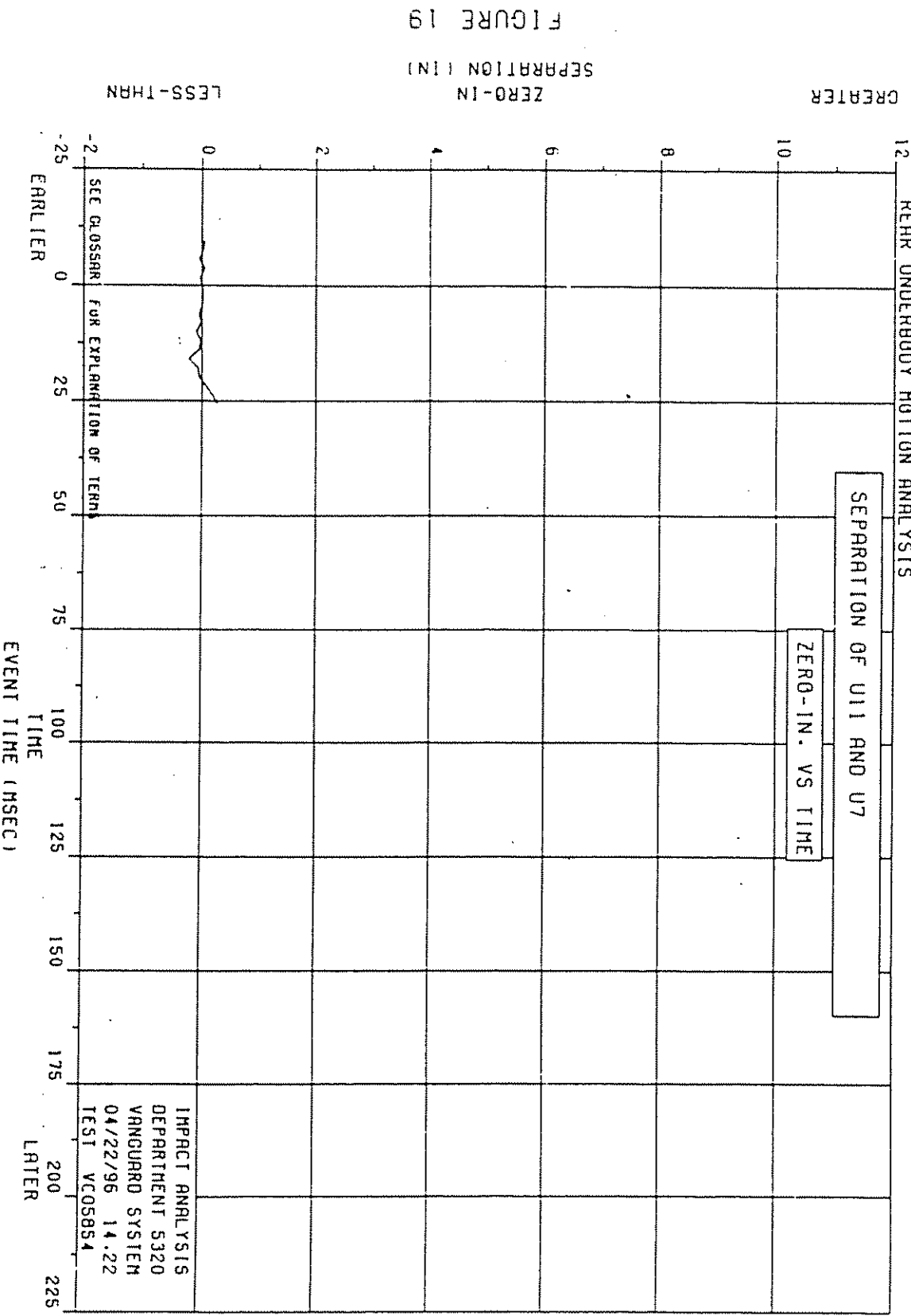


FIGURE 19

ZERO-IN (IN)  
 SEPARATION (IN)

GREATER  
 LESS-THAN

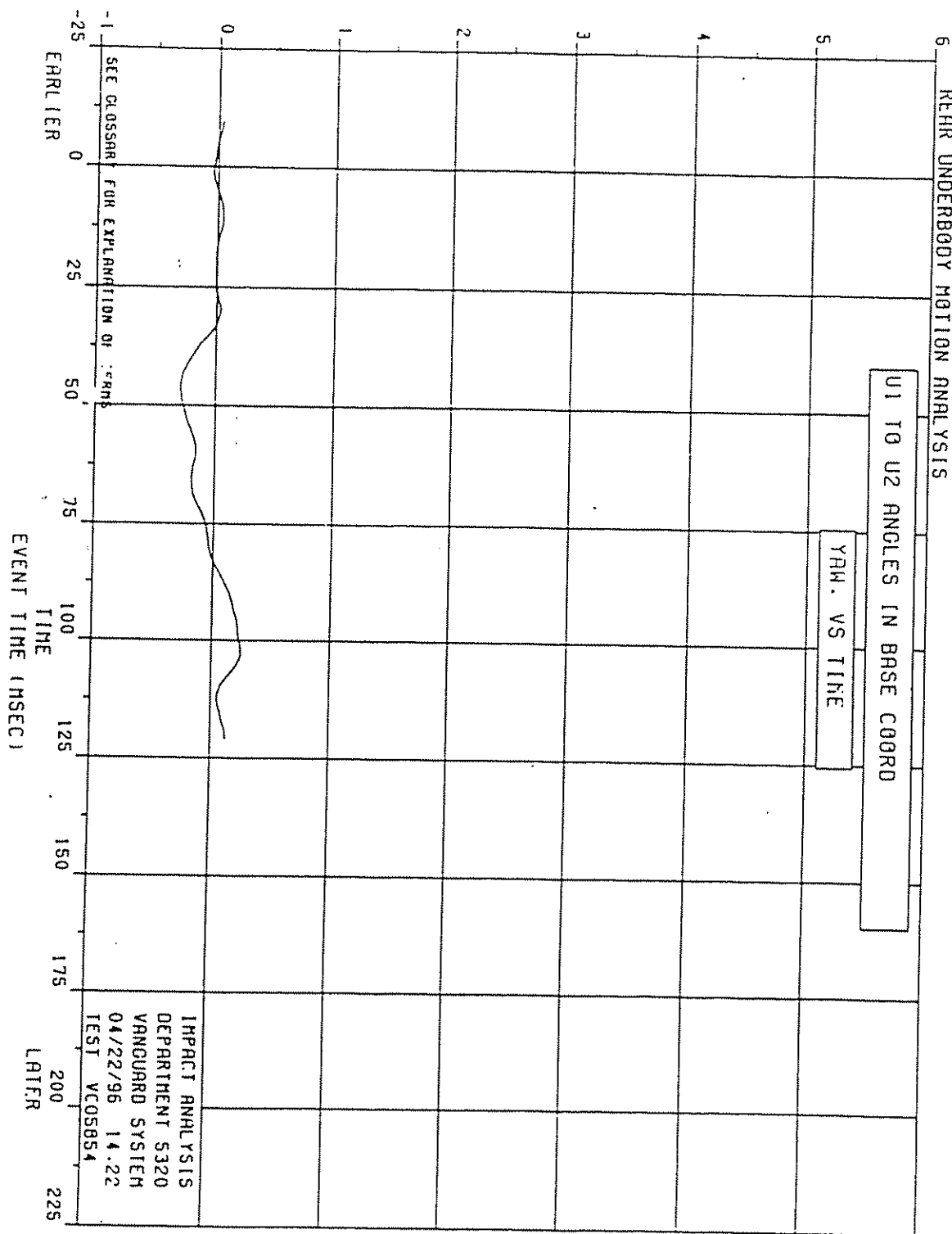
EARLIER  
 LATER

EVENT TIME (MSEC)

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.

ZERGED YAW OF U1 TO U2 IN BASE COORD SYSTEM  
 VERSUS TIME IN MILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS



YAW-LEFT  
 DEGREES CCW AROUND Z RELATIVE TO X (PLAN VIEW) 50HZ FILTER  
 CORR-Y  
 YAW-RIGHT

SEE CROSSBAR FOR EXPLANATION OF YAW

U1 TO U2 ANGLES IN BASE COORD

YAW. VS TIME

IMPACT ANALYSIS  
 DEPARTMENT 5320  
 VANGUARD SYSTEM  
 04/22/96 14.22  
 TEST VC05854

FIGURE 20



VC05854 30 MPH REAR BARRIER. ZJJ74. 5.2L MPI ITEM ZJ8209R  
 1997 MVSS DEVELOPMENT - 301.

MB1 TO MB2 DISTANCE - 37.66 INCHES (INITIAL DIST) (IN)  
 VERSUS TIME IN HILLSECONDS  
 REAR UNDERBODY MOTION ANALYSIS

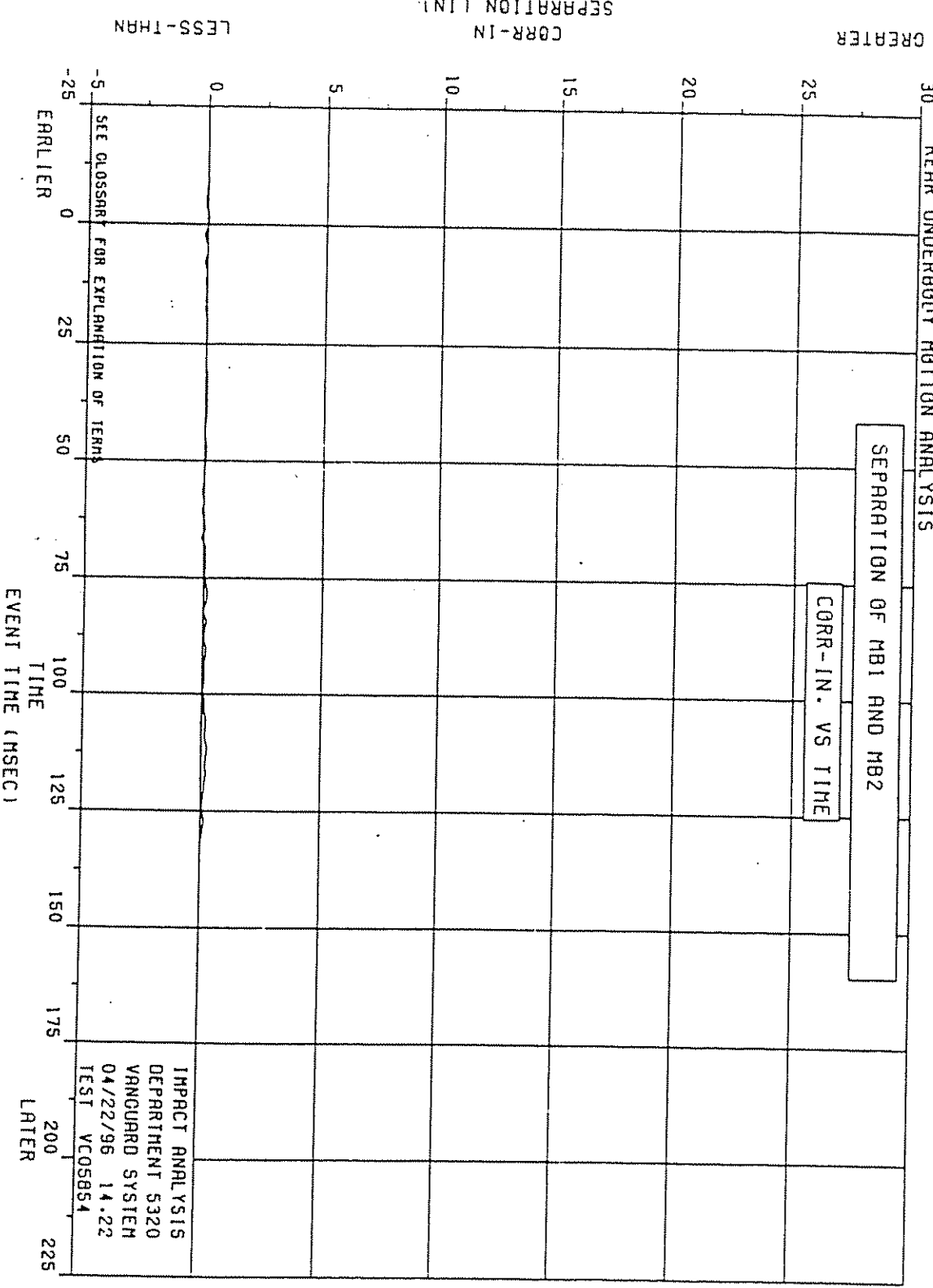


FIGURE 21

VC050854 30 MPH REAR BARRIER, ZJJ74. 5.2L HP1 ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

ZERGED PITCH OF SILL VECTOR IN BASE COORD SYSTEM  
 VERSUS TIME IN HILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS

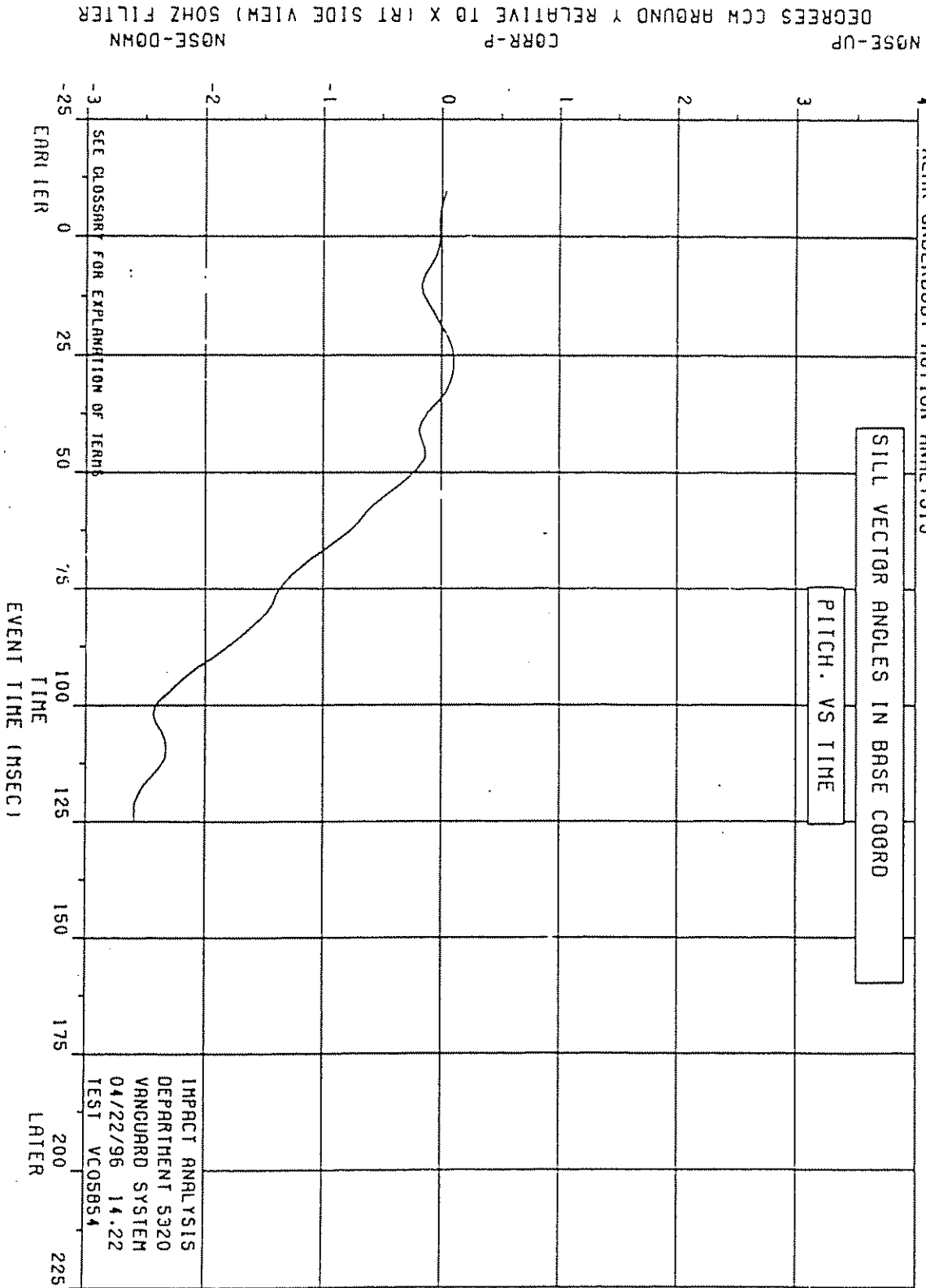
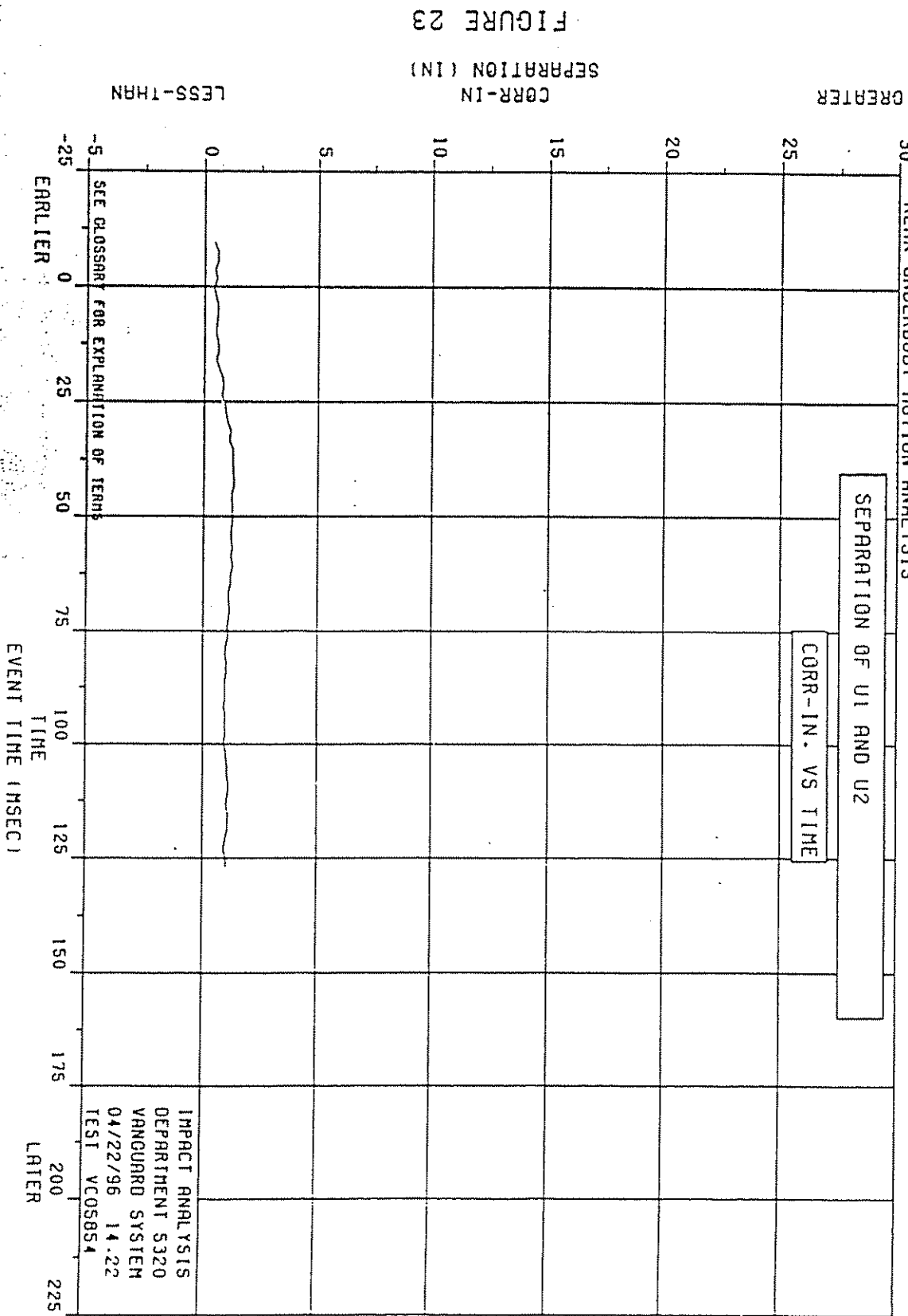


FIGURE 22

VC05854 30 MPH REAR BARRIER, ZJ774, 5.2L MPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

U1 TO U2 DISTANCE -34.33 INCHES (INITIAL DISI) (IN)  
 VERSUS TIME IN HILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS



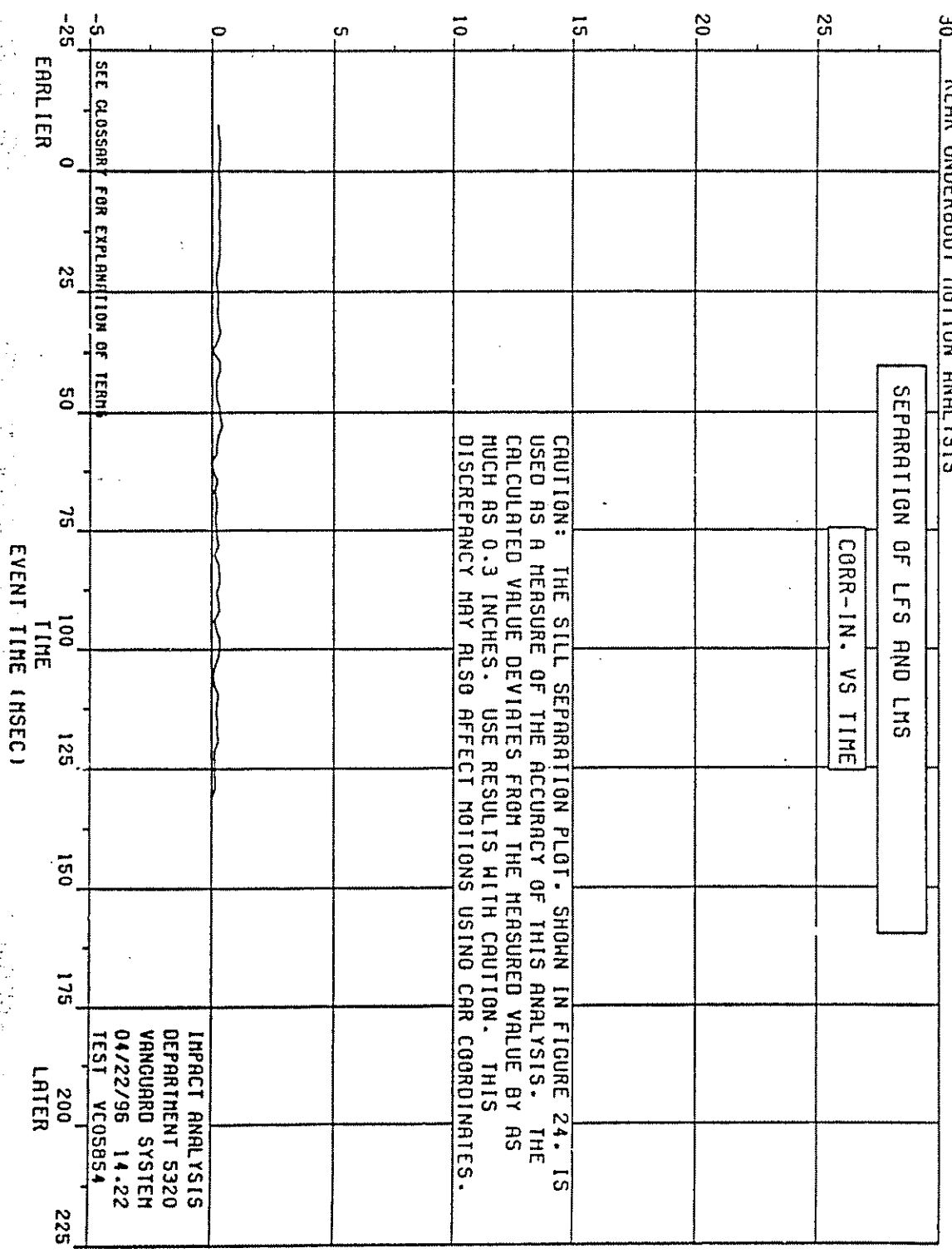
VC05854 30 MPH REAR BARRIER. ZJ774. 5-2L HPI ITEM ZJ8209R  
 1997 HVSS DEVELOPMENT - 301.

LFS 19 LMS DISTANCE - 30.04 INCHES (INITIAL DIST) (IN)  
 VERSUS TIME IN HILLISECONDS  
 REAR UNDERBODY MOTION ANALYSIS

FIGURE 24

CORR-IN  
 SEPARATION (IN)

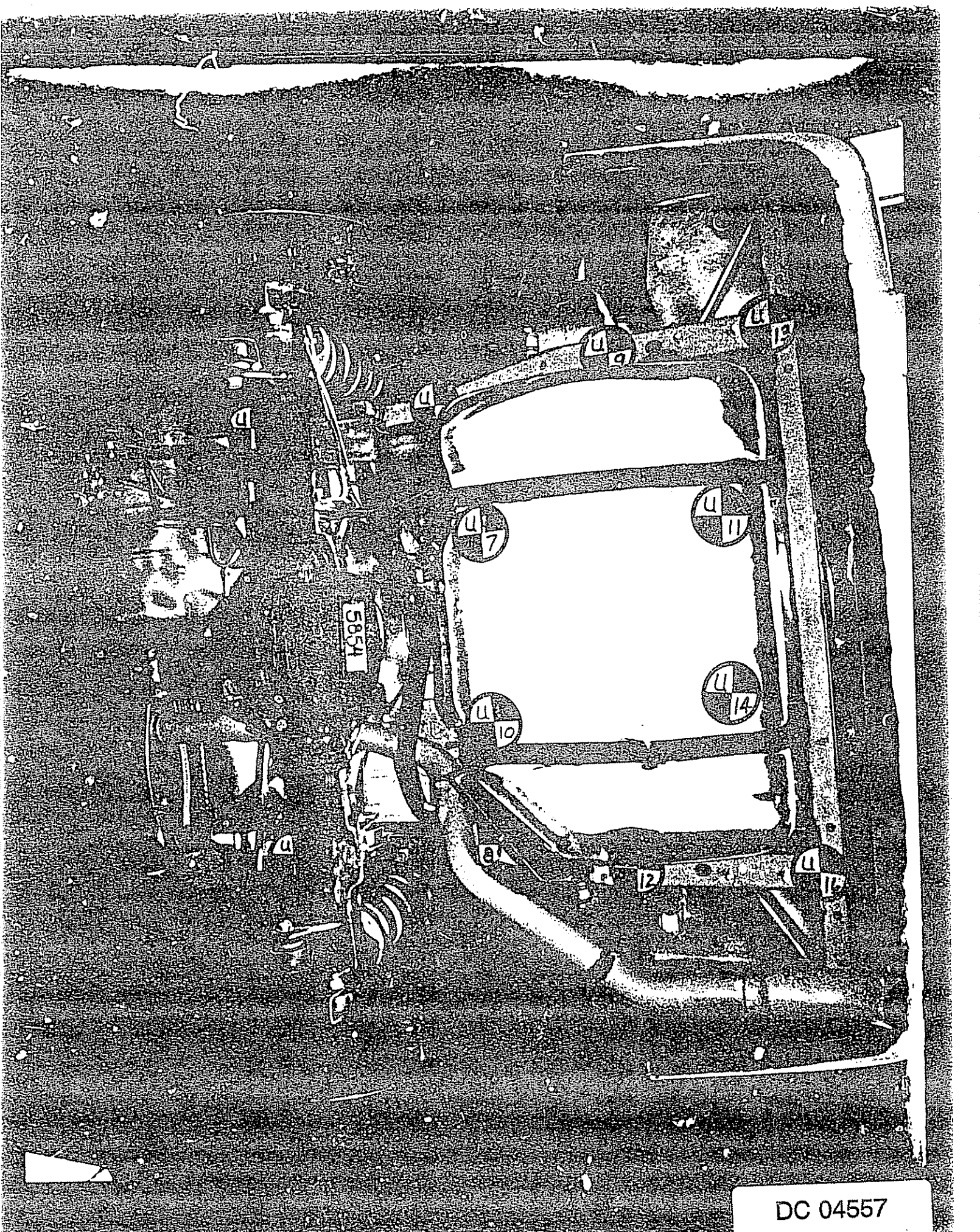
LESS-THAN



5854

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DC 04556



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DC 04557

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DC 04558

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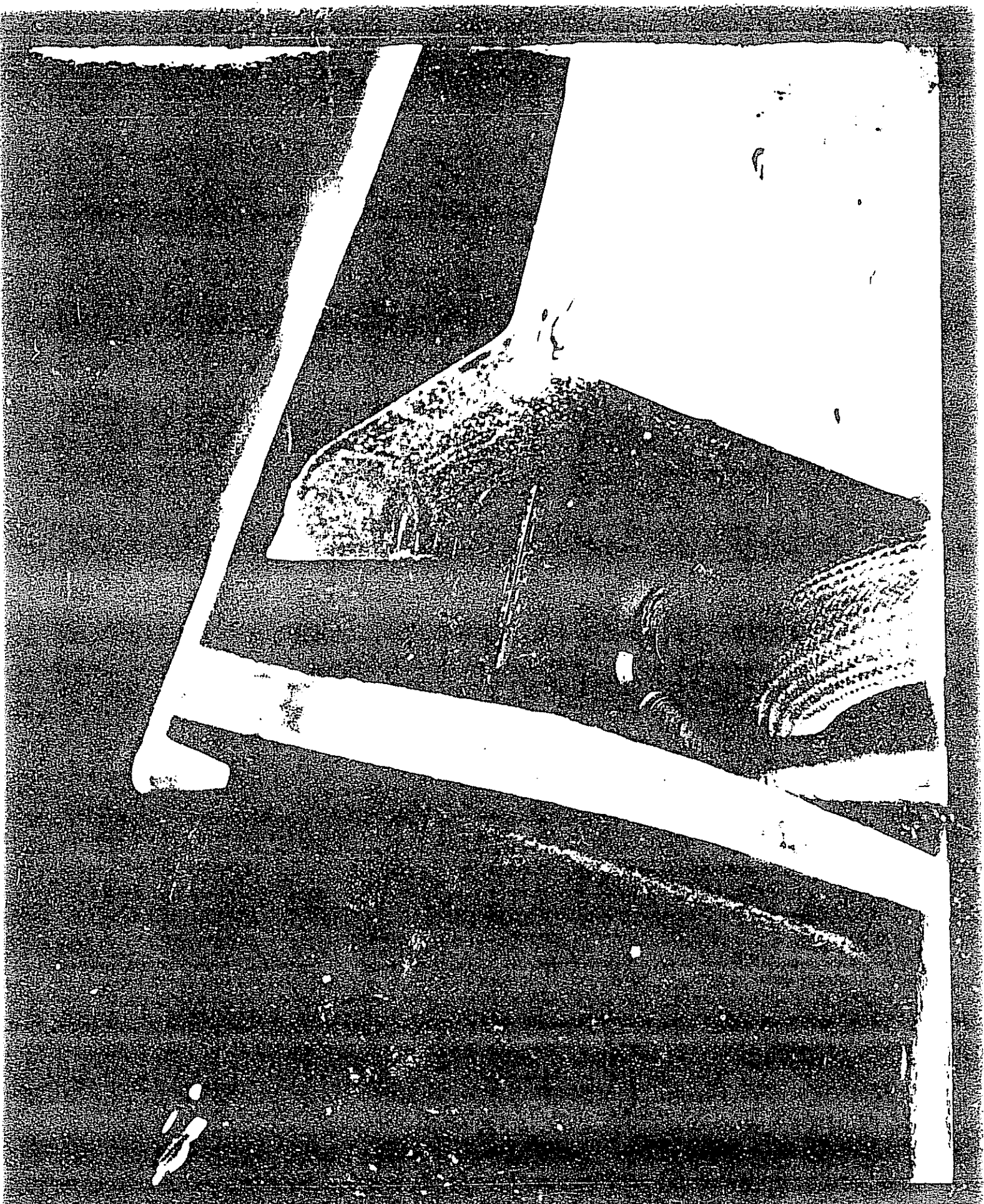
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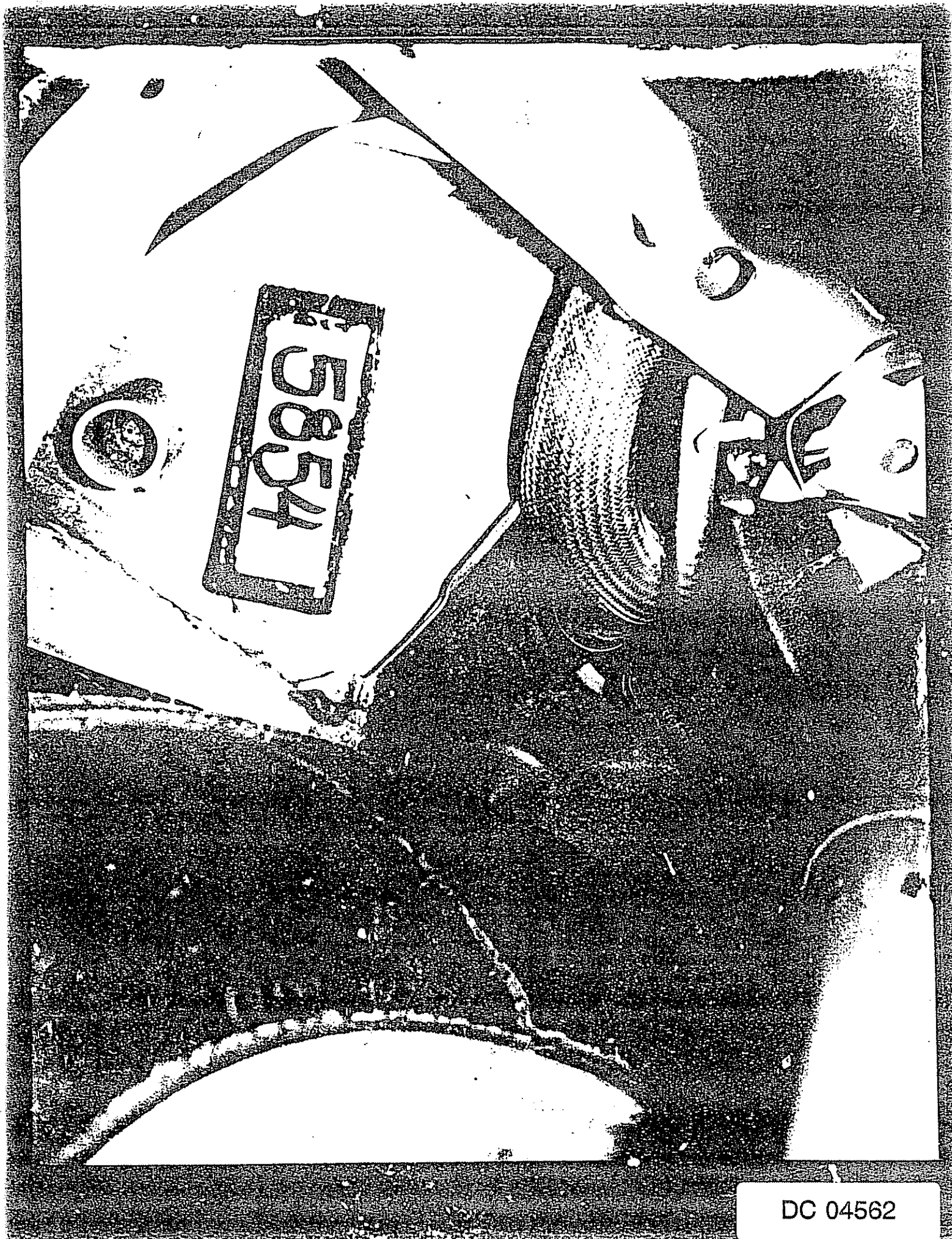


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DC 04560



DC 04561

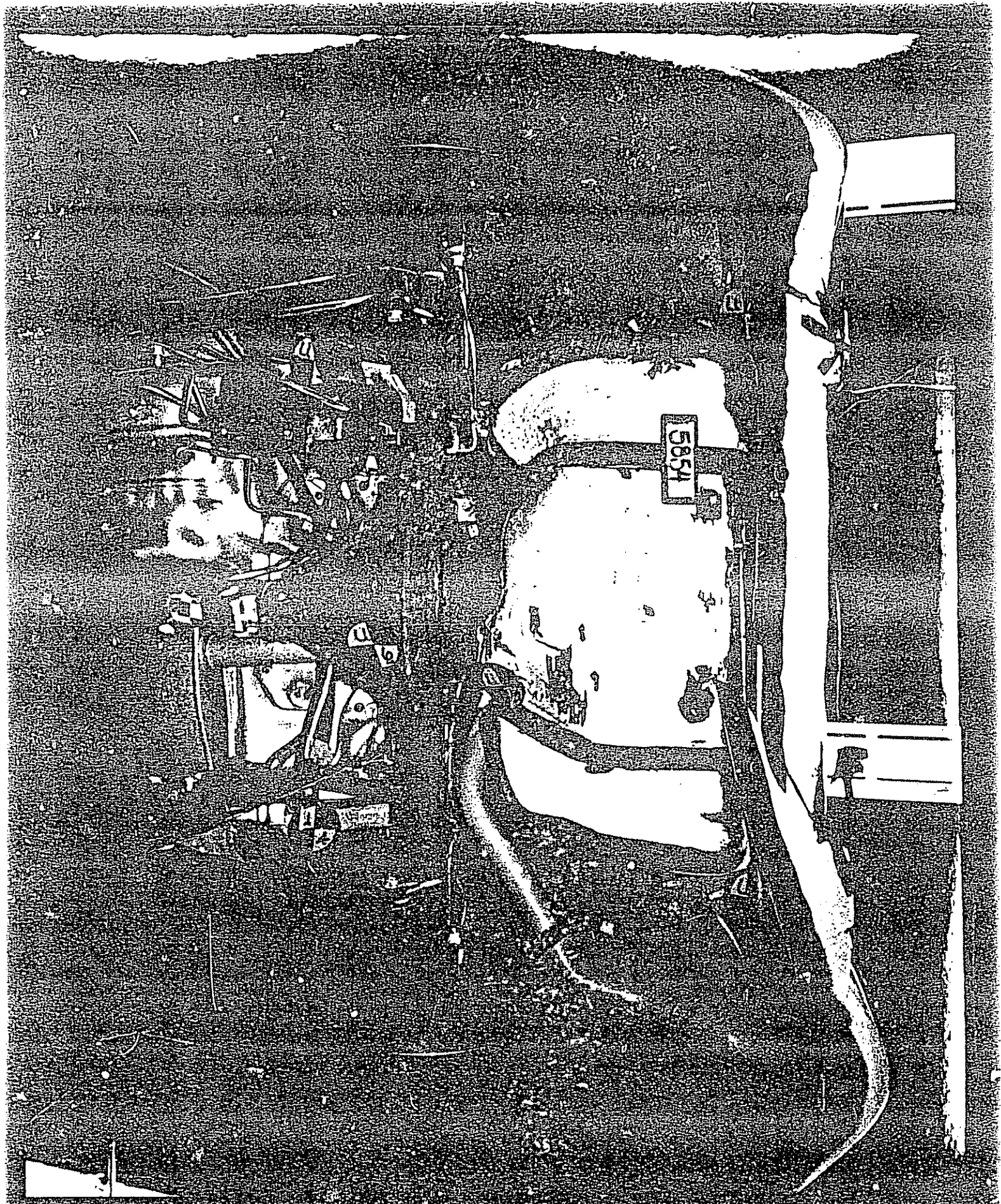


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DC 04562

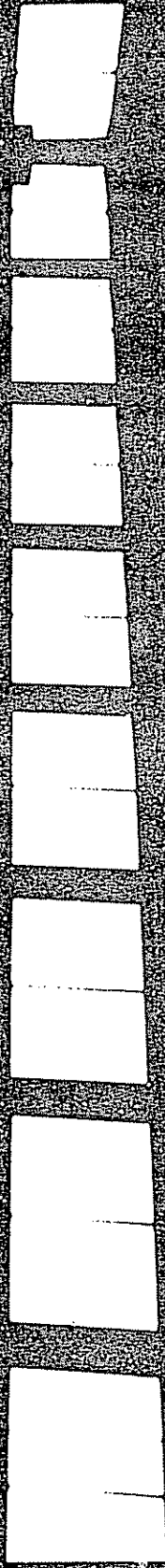
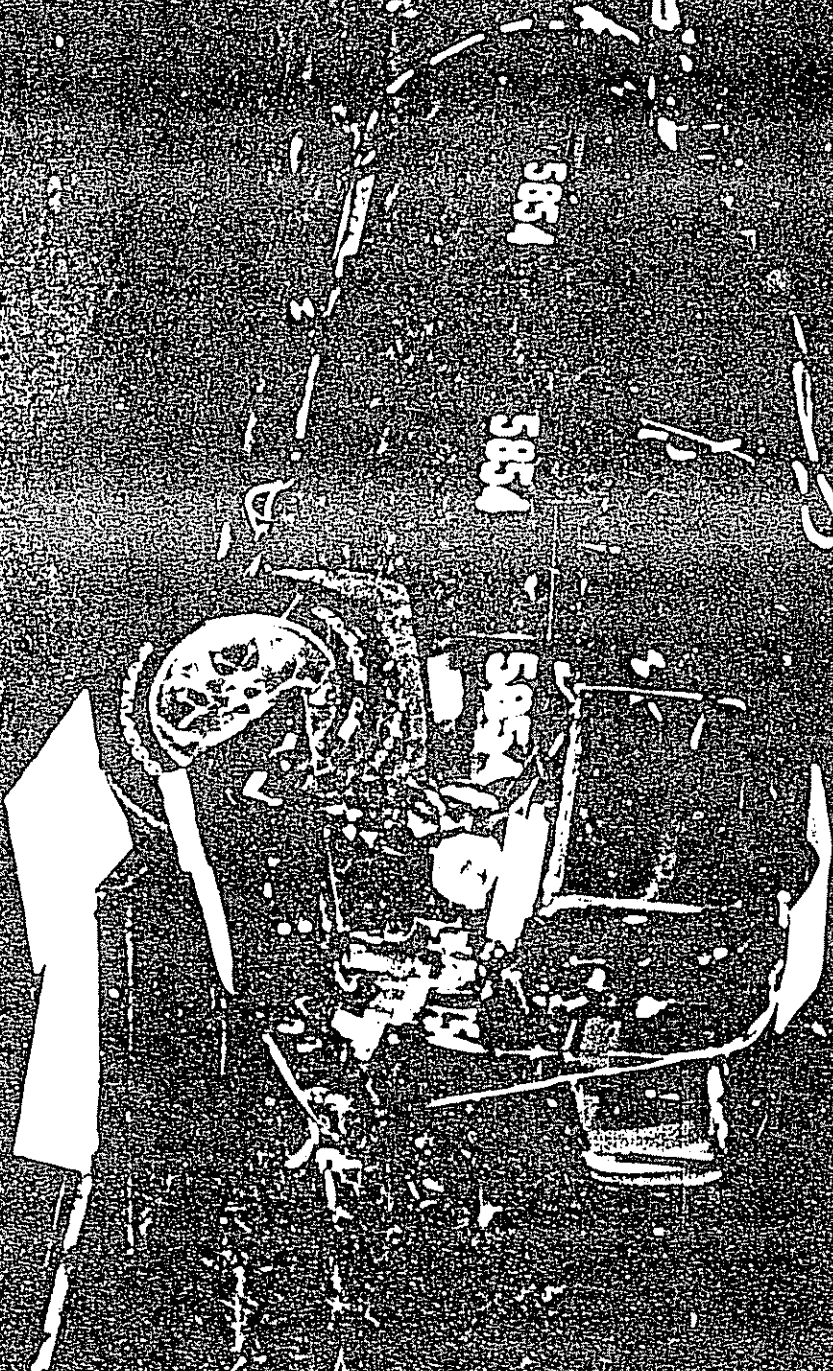
10  
10  
10

DC 04563

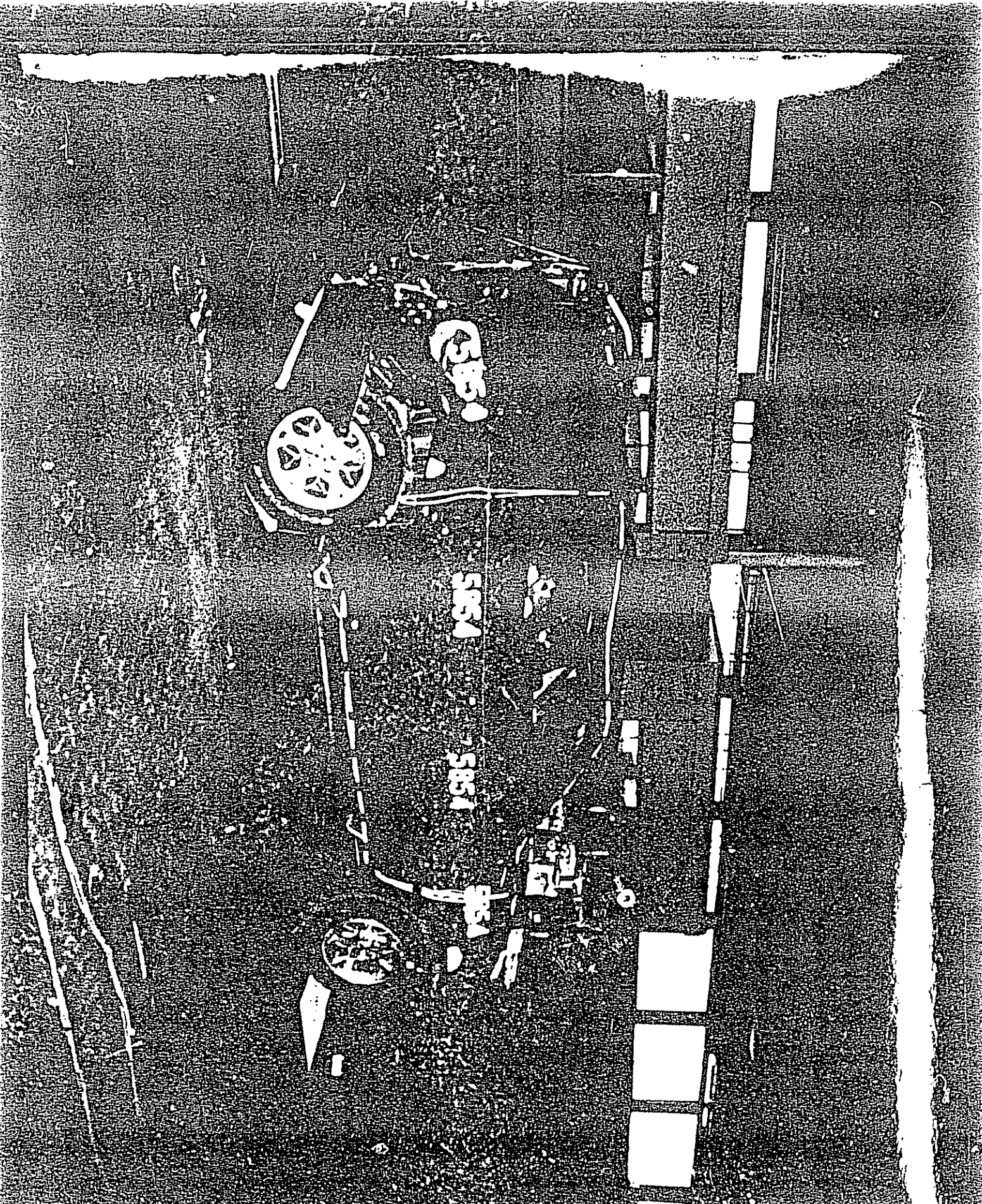


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DC 04564

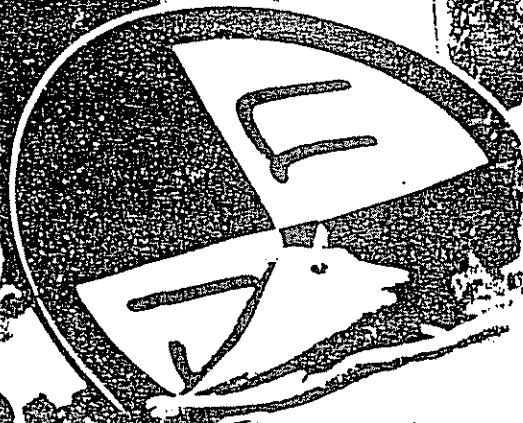


DC 04565



DC 04566

5854  
Post



DC 04567