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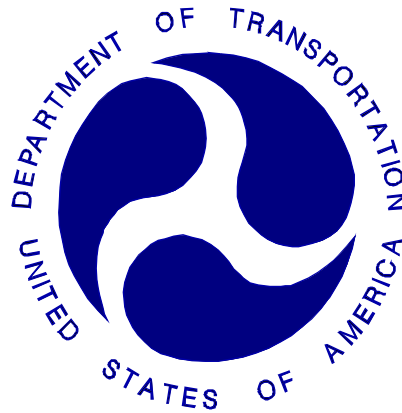
**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

GENERAL MOTORS OF CANADA, LTD.
2005 BUICK LACROSSE
FOUR DOOR SEDAN

NHTSA NUMBER: M50103

GENERAL DYNAMICS TEST NUMBER: 8765-SNCAP-08

ADVANCED INFORMATION ENGINEERING SERVICES
A GENERAL DYNAMICS COMPANY
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December 13, 2004

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Rulemaking
Office of Crashworthiness Standards
Mail Code: NVS-111
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-03-D-22005. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

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16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2005 Buick LaCrosse Four Door Sedan in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at the General Dynamics Advanced Information Engineering Services Crash Test Facility in Buffalo, New York, on December 13, 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 61.8 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21°C. The target vehicle post-test maximum crush was 301 mm at level 2. The test or target vehicle's performance is given below: <table border="0"> <thead> <tr> <th></th> <th><u>Front SID H3</u></th> <th></th> <th><u>Rear SID H3</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td>85.6</td> <td>g's</td> <td>91.6</td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td>88</td> <td>g's</td> <td>94.9</td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td>84.2</td> <td>g's</td> <td>75.8</td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td>86</td> <td>g's</td> <td>85</td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td>79</td> <td>g's</td> <td>77</td> <td>g's</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.					<u>Front SID H3</u>		<u>Rear SID H3</u>		Left Upper Rib Acceleration:	85.6	g's	91.6	g's	Left Lower Rib Acceleration:	88	g's	94.9	g's	Lower Spine Acceleration:	84.2	g's	75.8	g's	Thoracic Trauma Index (TTI):	86	g's	85	g's	Pelvis Acceleration (PEV):	79	g's	77	g's
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17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy Hybrid III (SID H3)		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division Room 5111 (NAD-52) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946 ATTN: Robert Hornicle																															
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY2004 New Car Assessment Program Side Impact Protection sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-03-D-22005. The purpose of this test was to generate comparative side impact performance in a 2005 Buick LaCrosse Four Door Sedan. The test was conducted in accordance with the Office of Crashworthiness Standards' Laboratory Test Procedure dated July 1997.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2005 Buick LaCrosse Four Door Sedan was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 61.8 kph (38.4 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the General Dynamics Advanced Information Engineering Services in Buffalo, New York on December 13, 2004. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the Side Impact Hybrid III Dummies (SID H3s) are included in Appendix A.

Two restrained Side Impact Hybrid III Dummies (SID H3s) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OCWS Side Impact Laboratory Test Procedure which is dated July, 1997. The side impact test was documented by one real-time camera and 10 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID H3s were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Head triaxial accelerometers (X-, Y- and Z-direction)
6. Upper neck force and moment (X-, Y and Z-direction) load cells

A summary of the Side Impact Hybrid III Dummy (SID H3) configuration and verification test data can be found in Appendix C. A total of 65 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID H3	Rear SID H3
TTI (g)	86	85
PEV (g)	79	77

AIR BAG DEPLOYMENT STATUS

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	Yes	Yes	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	N/A	N/A	N/A
Side Curtain Bag	N/A	N/A	N/A

AUTOMATIC DOOR LOCK SUMMARY

ADL Equipped Test Vehicle:	Yes
ADL Activation Status:	Deactivated
Struck Side Door Lock Condition:	Unlocked

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2005 Buick LaCrosse Four Door Sedan
 Vehicle Body Color: Silver VIN: 2G4WC532151204745
 Vehicle NHTSA No.: M50103 Month & Year of Manufacture: 11/04
 Engine Data: 6 Cylinders; - CID; 3.8 Liters; - cc
 Engine Placement: - Longitudinal; or X Lateral
 Transmission: 4 Speed; - Manual; X Automatic; X Overdrive
 Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive
 Odometer Reading 209 km
 Supplemental Airbag Restraints:
 Front Occupant: X Frontal; - Knee; - Side; - Curtain
 Rear Occupant: X Frontal; - Knee; - Side; - Curtain
 Options:
X ADL; X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P225 60R16
 *Recommended Cold Tire Pressure: 210 kPa FRONT; 210 kPa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P225 60R16 97S; Manufacturer: Goodyear
 Tire Pressure with Maximum Capacity Vehicle Load: Front: 300 kPa; Rear: 300 kPa
 Treadwear: 460; Traction: A; Temperature: B

VEHICLE CAPACITY DATA:

Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total
 Type of Front Seats: X Bucket; - Bench; - Split Bench
 Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
 Vehicle Max Capacity Loading = 416.0 kg (A)
 No. of Occupants x 68.04 kg. = 340.2 kg (B)
 Vehicle Cargo Capacity = 75.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 496.0 kg Left Rear = 301.0 kg
 Right Front = 523.0 kg Right Rear = 293.0 kg
 TOTAL FRONT = 1019.0 kg TOTAL REAR = 594.0 kg
 % of Total Weight = 63.2% % % of Total Weight = 36.8 %
 TOTAL WEIGHT = 1613.0 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1613.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>75.8</u>	kg (B)
Weight of instrumented SID H3 Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1851.2</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SID H3(s) + CARGO):

Left Front	=	<u>549.0</u>	kg	Left Rear	=	<u>410.0</u>	kg
Right Front	=	<u>531.0</u>	kg	Right Rear	=	<u>365.0</u>	kg
TOTAL FRONT	=	<u>1080.0</u>	kg	TOTAL REAR	=	<u>775.0</u>	kg
% of Total Weight	=	<u>58.2%</u>	%	% of Total Weight	=	<u>41.8%</u>	%
TOTAL TEST WEIGHT =		<u>1855.0</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (2 SID H3(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>543.0</u>	kg	Left Rear	=	<u>400.0</u>	kg
Right Front	=	<u>532.0</u>	kg	Right Rear	=	<u>367.5</u>	kg
TOTAL FRONT	=	<u>1075.0</u>	kg	TOTAL REAR	=	<u>767.5</u>	kg
% of Total Weight	=	<u>58.3%</u>	%	% of Total Weight	=	<u>41.7%</u>	%
TOTAL TEST WEIGHT =		<u>1842.5</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>746</u>	Right Front	<u>747</u>	Left Rear	<u>752</u>	Right Rear	<u>750</u>
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FULLY LOADED:

Left Front	<u>726</u>	Right Front	<u>737</u>	Left Rear	<u>708</u>	Right Rear	<u>717</u>
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READY FOR TEST:

Left Front	<u>730</u>	Right Front	<u>739</u>	Left Rear	<u>711</u>	Right Rear	<u>721</u>
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Test Vehicle Wheelbase: 2815 millimeters

C.G. = 1172.6 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side =	<u>4910</u>	millimeters
Left Side =	<u>4910</u>	millimeters
Centerline =	<u>5035</u>	millimeters

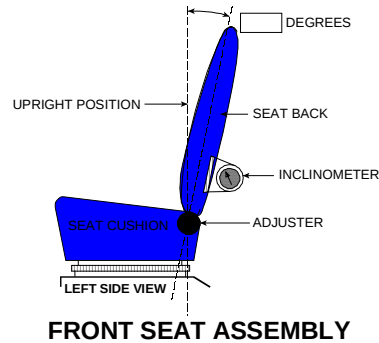
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT CUSHION PLACEMENT: Mid-position (123.5 mm)

Total Length of Adjustment Travel: 247 Millimeters

Total Number of Adjustment Positions or Detents: Electronic Adjuster

FRONT SEAT BACK ADJUSTMENT POSITION: Adjusted to detent 8 with forward-most detent 0.

Seat Back Torso Angle: 14.9 (15.5 w/ SID) degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Fixed

ADJUSTABLE STEERING COLUMN POSITION: Placed in Mid-Tilt (22°)

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Open Right Rear: Removed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AUTOMATIC DOOR LOCKS: Is test vehicle equipped with ADLs? X Yes - No

Does vehicle owner's manual describe how to deactivate ADLs? X Yes - No - N/A

Comments: ADL's can be disabled by vehicle operator.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

64.0 liters (Fuel Tank Usable Capacity)

59.8 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2815 millimeters

Impact Point is 467.5 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 462.5 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2005 Buick LaCrosse

Body Style: Four Door Sedan

VIN: 2G4WC532151204745

NHTSA No.: M50103

Test Date: December 13, 2004

Overall Length = 5035 millimeters; Overall Width = 1841 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 543.0 kg Left Rear = 400.0 kg

Right Front = 532.0 kg Right Rear = 367.5 kg

TOTAL FRONT = 1075.0 kg TOTAL REAR = 767.5 kg

TOTAL VEHICLE WEIGHT 1842.5 kg

Wheelbase = 2815 millimeters

Longitudinal C.G. from Center of Front Axle = 1172.6 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 5 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 0 mm On the nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (234 mm above ground) = 168 millimeters

2. LEVEL 2 (480 mm above ground) = 301 millimeters

3. LEVEL 3 (643 mm above ground) = 278 millimeters

4. LEVEL 4 (867 mm above ground) = 259 millimeters

5. LEVEL 5 (1377 mm above ground) = 81 millimeters

Maximum Post-Test Intrusion = 301 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification SID H3/269

SID H3/270

Restraints Used Three-point safety belt with
torso belt pretensioner and force
limiter.

Three-point safety belt.

INSTRUMENTATION:

Number of Vehicle Data Channels: = 26

Number of Cameras: Onboard = 3

Offboard = 8

TOTAL = 11

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore, Inc. 47A0504 059B0604-3

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT	=	<u>782.0</u>	kg	TOTAL REAR	=	<u>580.5</u>	kg
TOTAL MDB WEIGHT	=	<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>61.8</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>175</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>103</u>	millimeters
3. Row C at Mid Level	=	<u>103</u>	millimeters
4. Row D at Top of Stack Level	=	<u>111</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/269	SID H3/270
Head Contact:	The top of the head to the side window and the left side of the face to the top of the door trim.	The side and top of the head to the C-pillar and side header
Upper Torso Contact:	Door Trim Panel	Door Trim Panel
Lower Torso Contact:	Door Trim Panel	Door Trim Panel
Left Knee Contact:	Door Trim Panel	Door Trim Panel
Right Knee Contact:	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

DESCRIPTION	FRONT	REAR
Left Side Doors	Closed, latched and inoperable without tools	Closed, latched and inoperable without tools
Right Side Doors	Closed, latched and operable without tools	Closed, latched and operable without tools
Hatch/Other Door	N/A	N/A
Seat Movement (mm)	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

CRITICAL AREAS OF PERFORMANCE	
Pillar Performance	The A- and B- Pillars were moved inboard during the event with no visible tears or separations
Sill Separation	There were no visible tears or separations
Windshield Damage	Cracked along the A-Pillar after the event
Window Damage	The driver side window cracked and the rear passenger side window shattered during the event.
Other Notable Effects	The secondary impact point was 10 mm forward and 9 mm below the target line

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	Yes	Yes	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	N/A	N/A	N/A
Side Curtain Bag	N/A	N/A	N/A

MDB LEFT EDGE IMPACT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	± 50 mm	+5 mm (forward)
Vertical Offset	mm	± 20 mm	0

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

		Front Dummy ID# 269				Rear Dummy ID# 270			
		Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS:									
Longitudinal	X	‡	‡	‡	‡	7.6	54.7	-20.1	48.1
Lateral	Y	126.1	54.3	-5.9	176.9	131.2	47.6	-5.8	38.5
Vertical	Z	74.8	53.6	-5.1	101.8	10.4	43.1	-38.7	52.2
Resultant	R	141.2 ¹	54.2 ¹	0 ¹	-10.7 ¹	132.9	47.6	0.0	-20.0
HIC		§				664.8			
NECK FORCES:									
Longitudinal	X	169.5	196.8	-562.0	77.6	556.3	51.9	-40.5	108.8
Lateral	Y	619.7	59.2	-235.3	177.4	133.2	46.0	-947.7	53.0
Vertical	Z	2135.7	50.0	-808.8	56.1	496.3	42.2	-2232.2	52.1
Resultant	R	2240.4	50.0	0.1	-18.6	2474.6	52.2	0.1	-19.4
NECK MOMENTS:									
X		34.7	53.6	-68.6	40.0	17.2	118.2	-130.5	48.2
Y		48.6	100.2	-34.9	49.5	22.1	89.4	-17.7	67.5
Z		26.1	75.5	-11.6	37.6	6.9	104.2	-27.8	51.8
Resultant	R	69.6	40.0	0.0	-16.4	132.6	48.2	0.0	-12.5
RIB ACCELERATIONS:									
Upper Rib Lateral	Y	85.6	30.0	-11.0	36.2	91.6	36.2	-6.6	83.7
Upper Rib Lateral	Y(R)	87.5	30.0	-14.9	36.2	90.7	36.2	-6.8	83.7
Lower Rib Lateral	Y	88.0	30.6	-13.5	90.0	94.9	35.6	-12.7	61.2
Lower Rib Lateral	Y(R)	88.5	30.6	-13.5	90.0	93.0	35.6	-13.4	61.8
SPINE ACCELERATIONS:									
Lower Lateral	Y	84.2	32.5	-24.2	65.0	75.8	40.6	-21.3	65.7
Lower Lateral	Y(R)	84.3	32.5	-23.7	65.0	75.7	40.6	-21.7	65.7
PELVIC ACCELERATIONS:									
Lateral	Y	79.2	29.4	-19.0	55.6	77.3	33.7	-9.2	70.0
Lateral	Y(R)	78.2	30.0	-18.6	55.6	79.3	33.7	-9.4	68.8

REFERENCE: Positive Direction: Longitudinal (X) = forward; Lateral (Y) = to right; Vertical (Z) = down

Note: Rib, Spine and Pelvis data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.

Head Accelerations and Neck Forces are filtered at SAE Class 1000, Neck Moments are filtered at SAE Class 600.

‡ - Did Not Record

§ - Head Ax channel failed – HIC was not calculated

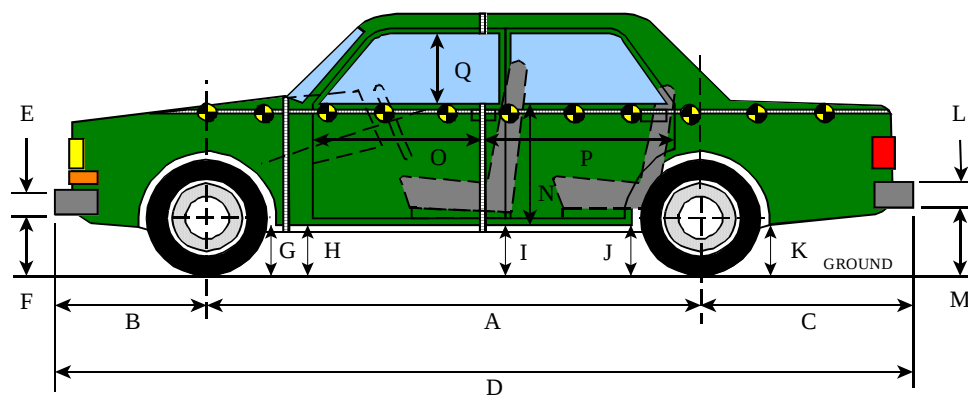
¹ - Calculated using Y and R Data Only

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



LEFT SIDE VIEW

NOTE: all dimensions are in millimeters with tolerance of ± 3 mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2809	2815	2790	-25
B	1119	-	1117	-2
C	1107	-	1123	16
D	5035	-	5030	-5
E	263	-	263	0
F	272	267	288	21
G	209	187	193	6
H	212	188	193	5
I	218	185	193	8
J1	208	169	202	33
J2	207	168	202	34
K	295	247	311	64
L	320	-	320	0
M	338	293	304	11
N	702	-	684	-18
O	818	-	739	-79
P	1220	-	1120	-100
Q	466	-	474	8
R	4910	-	4910	0
S	4910	-	4865	-45
T	1841	-	1630	-211

D = Length at Centerline

E&L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-Pillar

J1 = To Pinch Weld

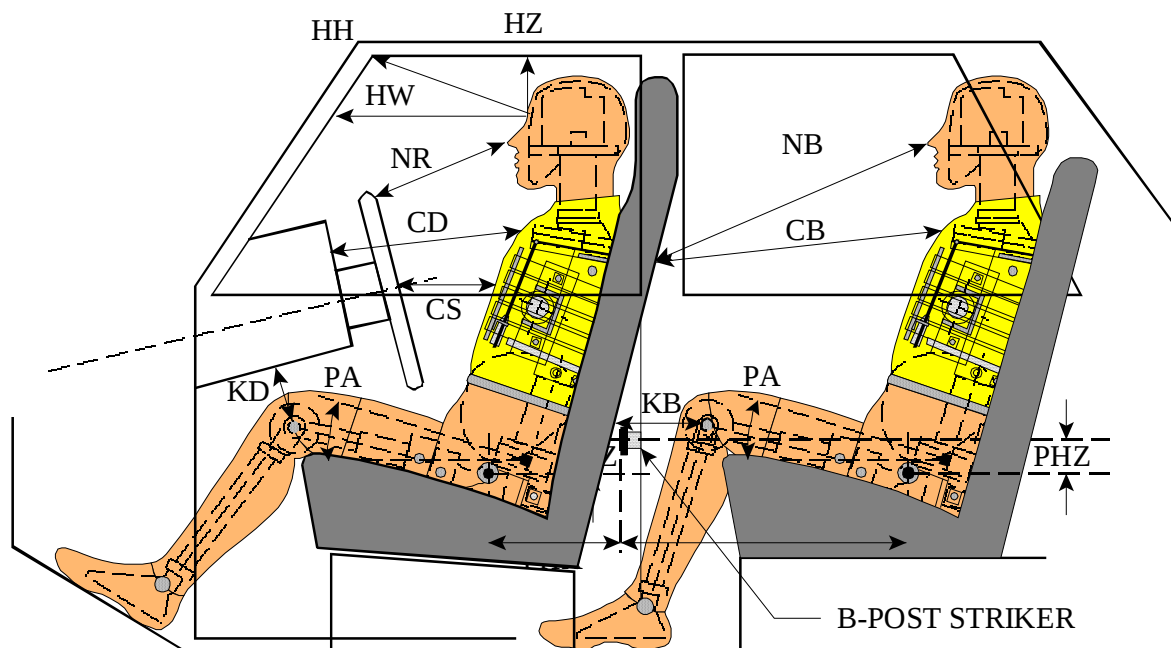
J2 = To Sill

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# 269	LEFT REAR PASS. ID# 270
HH	370	N/A
HW	631	N/A
HZ	167	128
NR/NB	394	694
CD/CB	515	591
CS	297	N/A
KDL(KDA°)/KBL(KDA°)	182 / (42 °)	228 / (30 °)
KDR(KBA°)/KBR(KBA°)	185 / (39 °)	232 / (32 °)
PA°	23.3 °	23.2 °
PHX	189	262
PHZ	115	275

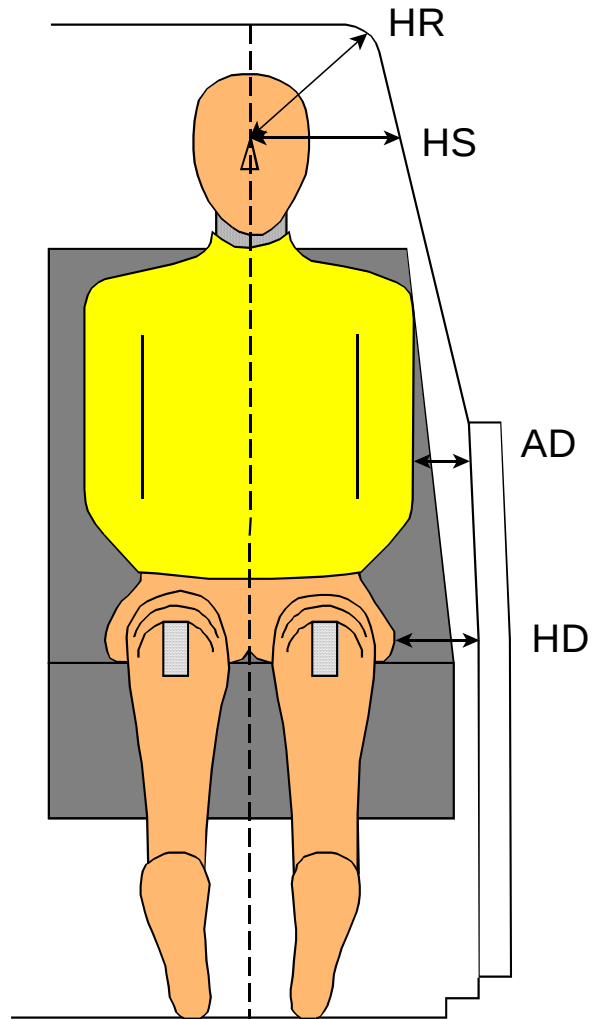
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID # 269				LEFT REAR PASS. ID # 270			
HR	177				145			
HS	305				210			
AD*	LOWER:	103	UPPER:	96	LOWER:	107	UPPER:	103
HD	123				134			

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

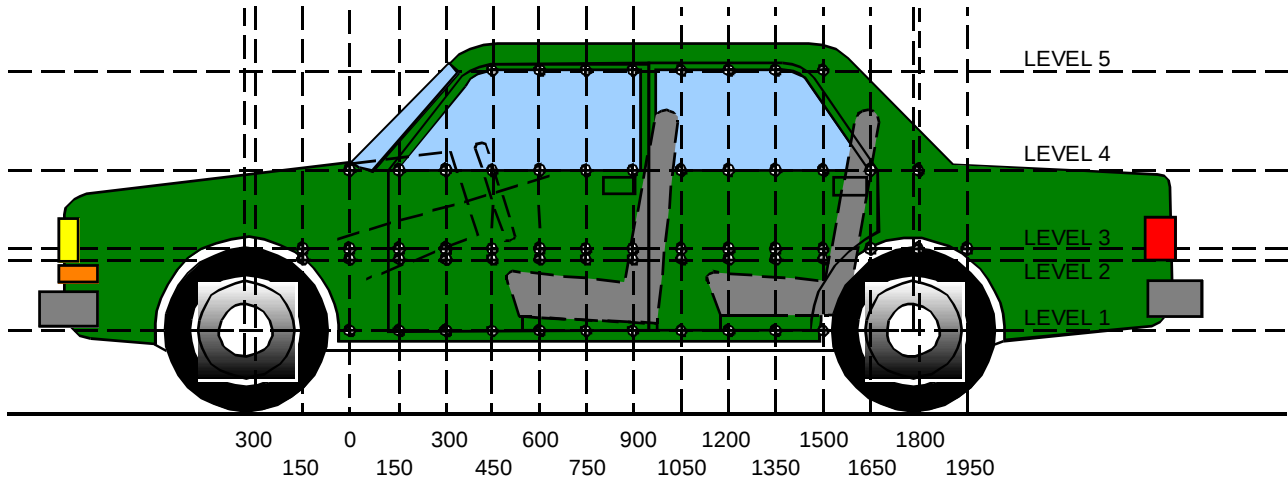
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

LEVEL 5 - WINDOW TOP
LEVEL 4 - WINDOW SILL
LEVEL 3 - MID-DOOR
LEVEL 2 - OCCUPANT H-POINT
LEVEL 1 - AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.

Measurements Along the Vertical 750 mm Line Shown Above:

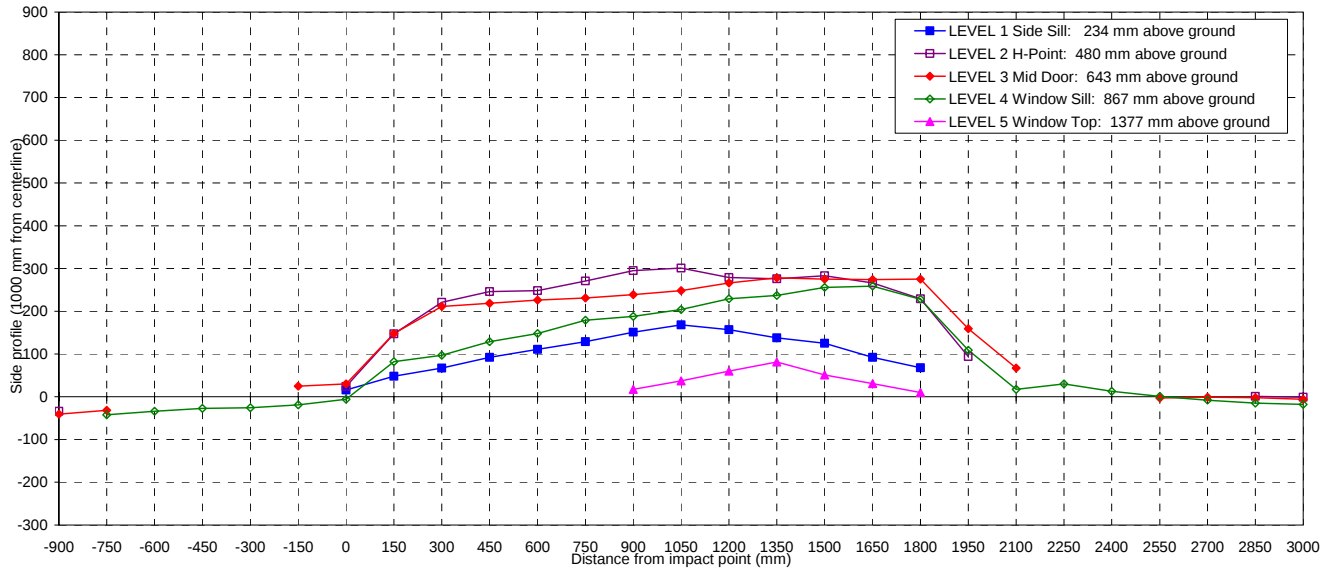
Level 5 @ Window Top	=	<u>1377</u>	millimeters
Level 4 @ Window Sill	=	<u>867</u>	millimeters
Level 3 @ Mid Door	=	<u>643</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>480</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>234</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

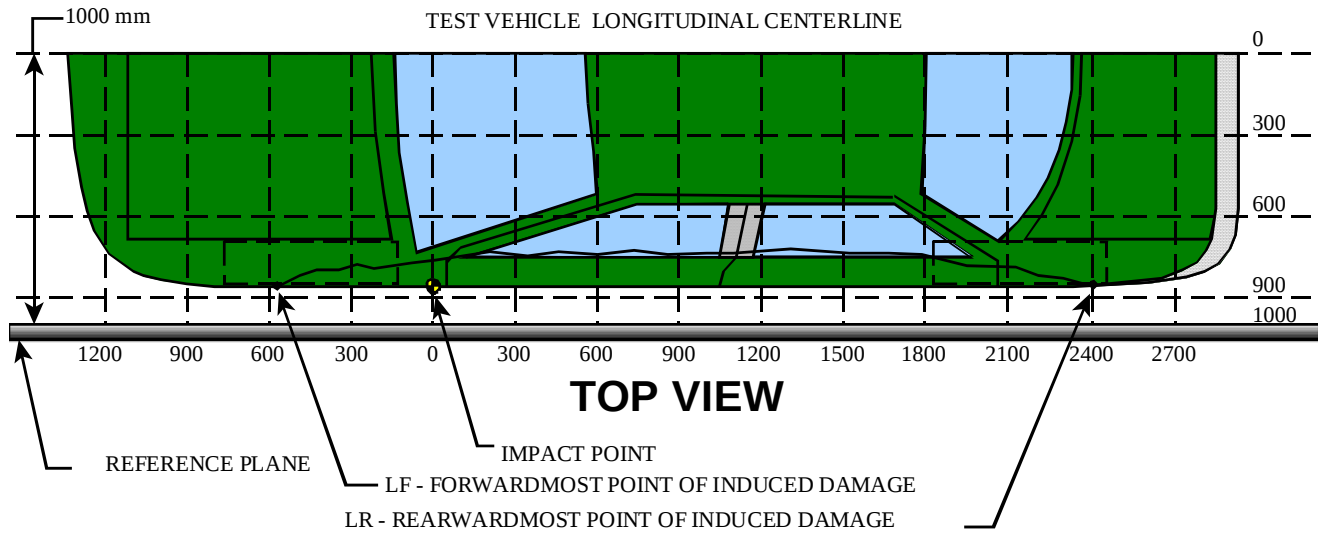
			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	234	PRE	--	--	--	--	--	--	150	147	149	152	152	154	152	151	149	150	144	150	143	--	--	--	--	--	--	--	--	--
		POST	--	--	--	--	--	--	166	195	216	244	263	283	303	319	306	288	269	242	211	--	--	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	16	48	67	92	111	129	151	168	157	138	125	92	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	480	PRE	124	--	--	--	--	--	107	107	106	103	102	103	101	98	101	100	100	99	99	94	--	--	--	--	--	140	166	
		POST	90	--	--	--	--	--	131	254	327	349	350	374	396	399	380	376	383	365	328	188	--	--	--	--	--	141	165	
		CRUSH	-34	N/A	N/A	N/A	N/A	N/A	24	147	221	246	248	271	295	301	279	276	283	266	229	94	N/A	N/A	N/A	N/A	N/A	N/A	1	-1
LEVEL 3 MID DOOR	643	PRE	132	104	--	--	--	90	94	98	99	100	98	97	98	98	97	97	95	97	94	91	91	--	--	97	113	139	172	
		POST	91	72	--	--	--	115	124	246	310	319	324	328	337	346	363	375	370	371	369	250	158	--	--	94	112	137	166	
		CRUSH	-41	-32	N/A	N/A	N/A	25	30	148	211	219	226	231	239	248	266	278	275	274	275	159	67	N/A	N/A	-3	-1	-2	-6	
LEVEL 4 WINDOW SILL	867	PRE	--	211	178	159	151	143	138	138	135	133	133	131	137	129	128	128	128	129	129	124	119	121	129	140	157	182	210	
		POST	--	169	144	132	125	124	132	220	232	262	281	310	325	333	357	365	384	388	357	233	136	151	142	141	149	167	192	
		CRUSH	N/A	-42	-34	-27	-26	-19	-6	82	97	129	148	179	188	204	229	237	256	259	228	109	17	30	13	1	-8	-15	-18	
LEVEL 5 WINDOW TOP	1377	PRE	--	--	--	--	--	--	--	--	--	--	--	--	424	416	415	417	423	432	459	--	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	--	--	--	--	--	--	--	--	441	453	475	498	474	463	469	--	--	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17	37	60	81	51	31	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (—).
Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm.

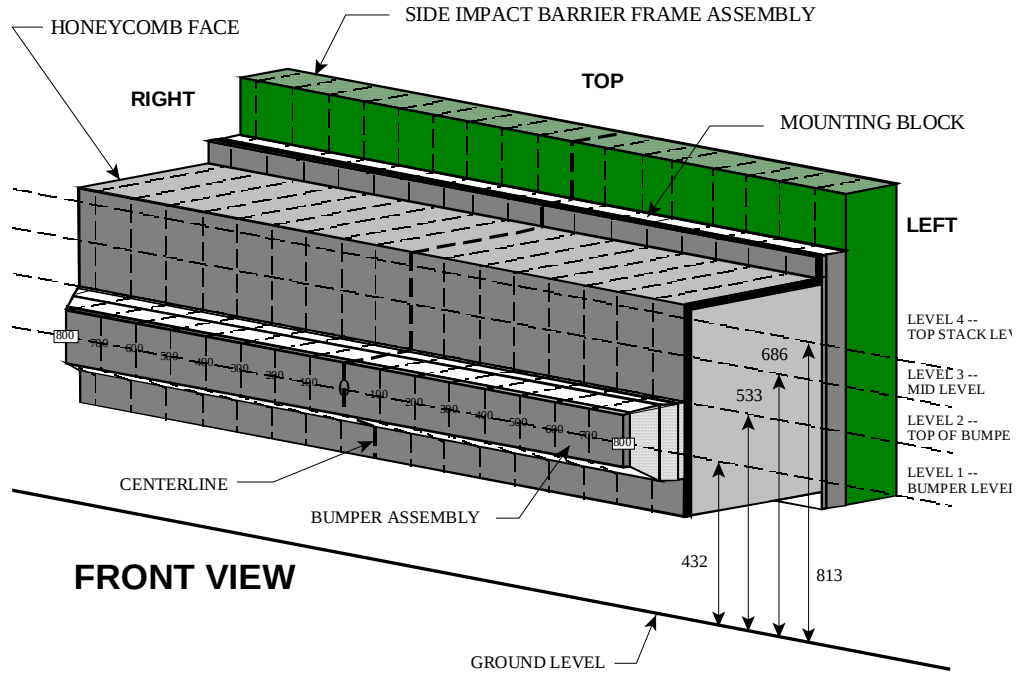
DPD MEASUREMENTS (mm)		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1 (LR)	2570	142	142	0
2	2024	205	91	114
3	1478	382	100	282
4	932	397	100	297
5	386	340	104	236
6 (LF)	-160	124	144	-20

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



NOTE: Dimensions are shown in millimeters, mm

NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			DISTANCE RIGHT OF CENTER (mm)										DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800	
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	646	619	601	597	599	610	634	638	634	632	621	629	641	662	677	693	730	
		CRUSH	27	0	-18	-22	-20	-9	15	19	15	13	2	10	22	43	58	74	111	
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	639	621	615	612	613	613	624	622	621	618	619	625	628	633	640	660	722	
		CRUSH	20	2	-4	-7	-6	-6	5	3	2	-1	0	6	9	14	21	41	103	
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	716	702	690	680	678	674	668	668	667	667	669	670	675	678	681	692	722	
		CRUSH	97	83	71	61	59	55	49	49	48	48	50	51	56	59	62	73	103	
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535	
		POST	710	679	644	629	616	617	606	597	601	597	588	592	598	600	609	629	677	
		CRUSH	175	160	126	111	98	99	88	79	83	79	70	74	80	82	91	110	142	

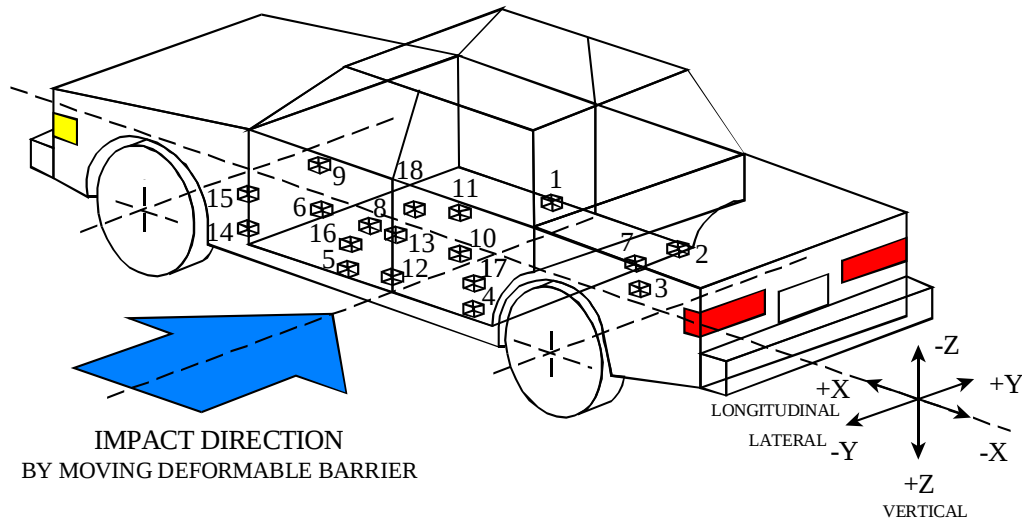
measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
						Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*									
1	Right Side Sill at Front Seat	3113	708	-240	pos. neg.	3.3 -3.0	58.9 17.0	28.7 -2.2	8.1 170.3	3.5 -8.8	72.1 9.6	29.8 0.0	8.2 -15.5
2	Right Side Sill at Rear Seat	2141	712	-222	pos. neg.	4.2 -3.4	59.3 5.7	21.4 -3.9	6.6 128.3	2.8 -7.4	80.4 17.2	21.8 0.0	6.6 -16.8
3	Rear Floorpan Above Axle	1220	31	-493	pos. neg.	‡ ‡	‡ ‡	‡ ‡	‡ ‡	‡ ‡	‡ ‡	‡ ‡	‡ ‡
4	Left Side Sill at Rear Seat	3149	-690	-240	pos. neg.	- -	- -	120.0 -11.7	3.3 19.8	- -	- -	- -	- -
5	Left Side Sill at Front Seat	2161	-701	-218	pos. neg.	- -	- -	141.4 -28.9	3.6 9.7	- -	- -	- -	- -
6	Left Front Door on Centerline	2714	-714	-910	pos. neg.	- -	- -	155.8 -98.7	14.4 21.2	- -	- -	- -	- -
7	Right Rear Occupant Compartment	2136	412	-175	pos. neg.	- -	- -	22.0 -3.3	7.0 128.9	- -	- -	- -	- -
8	Midrear of Left Front Door	2764	-756	-723	pos. neg.	- -	- -	92.2 -53.9	5.2 21.9	- -	- -	- -	- -
9	Left Front Door Upper Centerline	2831	-720	-902	pos. neg.	- -	- -	155.6 -88.0	14.4 21.4	- -	- -	- -	- -
10	Midrear of Left Rear Door	1873	-755	-679	Pos. neg.	- -	- -	90.3 -69.9	4.0 23.5	- -	- -	- -	- -
11	Left Rear Door Upper Centerline	1821	-726	-952	pos. neg.	- -	- -	142.3 -96.0	18.9 25.8	- -	- -	- -	- -

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

**Accelerometer was not requested by COTR.

‡ - Data is questionable

4-11

8765-SNCAP-08

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
						Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*									
12	Left Lower B-Pillar	2342	-692	-247	pos.	-	-	298.2	4.5	-	-	-	-
					neg.	-	-	-154.1	15.6	-	-	-	-
13	Left Middle B-Pillar	2275	-725	-662	pos.	-	-	216.0	5.8	-	-	-	-
					neg.	-	-	-161.2	11.5	-	-	-	-
14	Left Lower A-Pillar	3336	-662	-272	pos.	-	-	84.1	3.5	-	-	-	-
					neg.	-	-	-16.3	8.8	-	-	-	-
15	Left Middle A-Pillar	3266	-678	-944	pos.	-	-	25.4	10.8	-	-	-	-
					neg.	-	-	-3.3	91.8	-	-	-	-
16	Front Seat Track	2493	-582	-255	pos.	-	-	125.1	8.1	-	-	-	-
					neg.	-	-	-14.3	23.5	-	-	-	-
17	Rear Seat Track	1317	-480	-508	pos.	-	-	21.4	21.3	-	-	-	-
					neg.	-	-	-1.9	108.1	-	-	-	-
18	Vehicle CG	2703	23	-436	pos.	7.5	23.1	61.7	15.9	27.1	22.1	62.8	15.9
					neg.	-11.5	38.6	-6.4	21.2	-11.8	16.0	0.0	-10.7

*Reference: X - Rear Bumper (+ Forward)

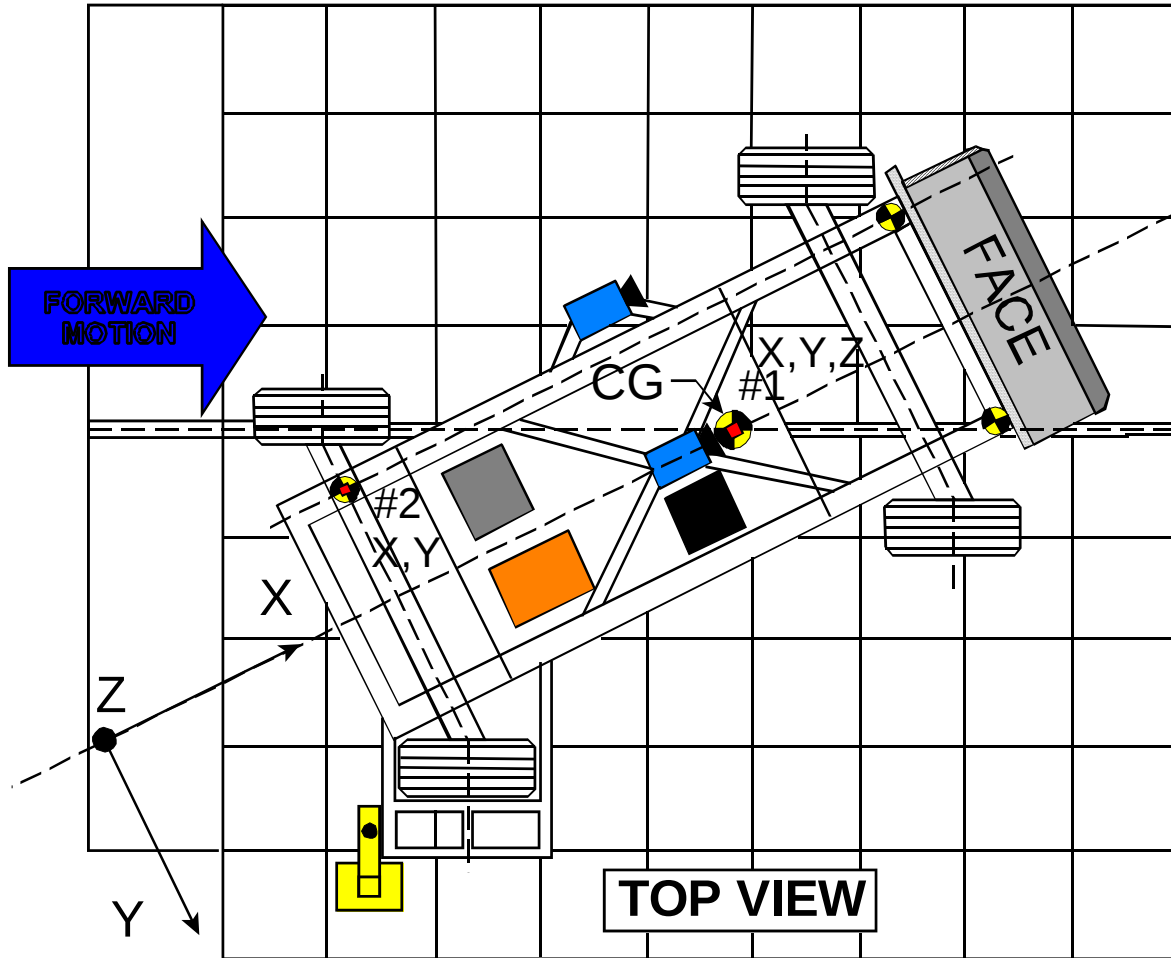
Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
					Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*				
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.3	106.5	-18.5	40.5
	Lateral..... Y				2.1	60.7	-8.6	41.2
	Vertical..... Z				11.9	54.2	-13.6	70.6
	Resultant..... R				20.4	40.7	0.1	180.5
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.5	154.8	-21.9	41.3
	Lateral..... Y				2.8	43.1	-2.0	162.8

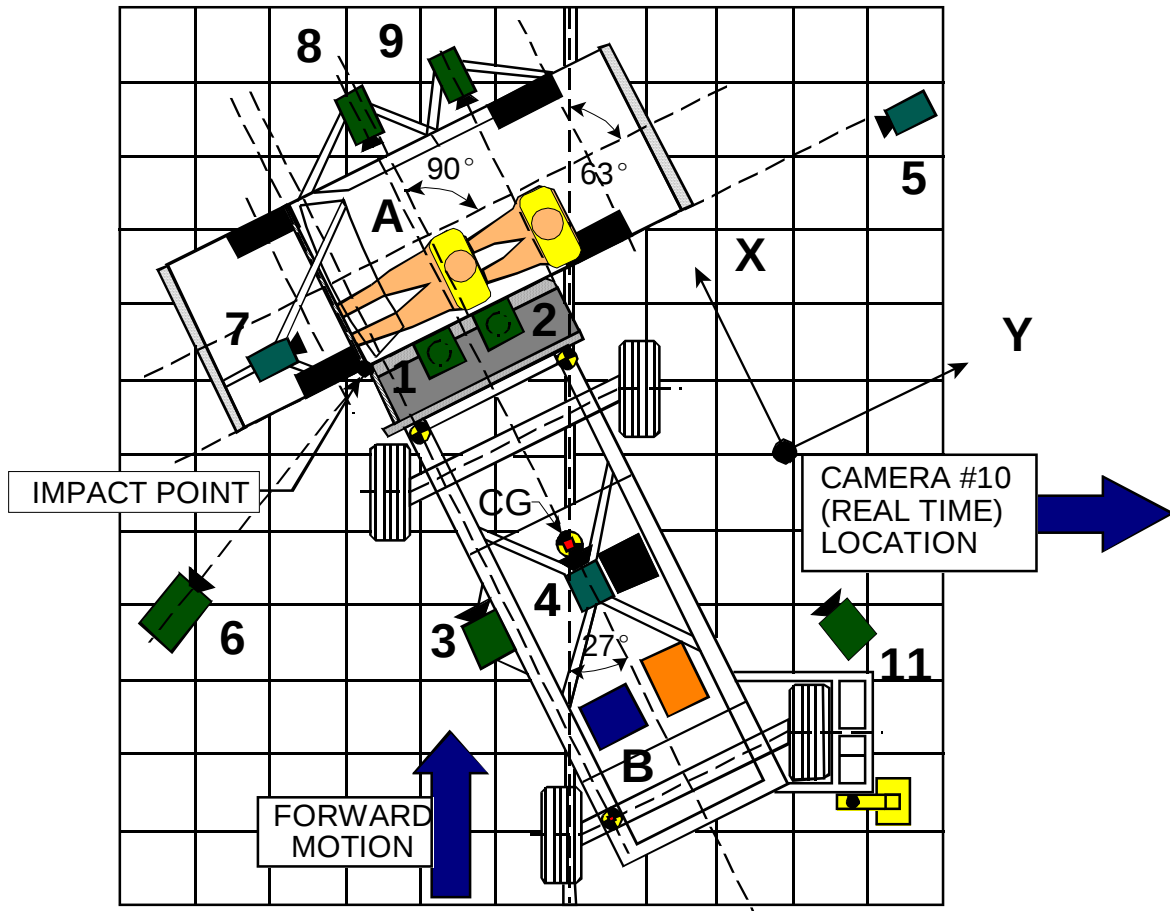
*Reference: X = Rear Bumper (+ Forward)
Y = Vehicle Centerline (+ To Right)
Z = Ground Level (+ Down)
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No. M50103



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	72	812	-4880	-90	8	500
2	Overhead closeup view of impact plane	195	855	-4880	-90	12.5	500
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	500
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	500
5	Right side ground level overall view	87	10590	-1012	-4	50	500
6	Left side ground level overall view	-1881	-1616	-908	-9	28	500
7	Test vehicle onboard driver front view	505	-402	-1261	-11	28	1000
8	Test vehicle onboard driver side view	1670	776	-1052	-8	12.5	1000
9	Test vehicle onboard passenger side view	1670	1621	-1048	-6	12.5	1000
10	Real time film coverage of test	-	-	-	-	-	30
11	Secondary impact point view	-3781	4035	-1650	-5	25	500

* Reference (from point of impact); all measurements accurate to within ± 6 mm.

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

Z = (Ground Level) + Down

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

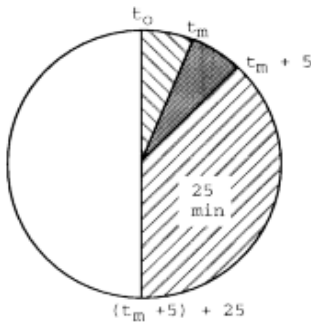
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.:	M50103	TEST DATE:	December 13, 2004
Vehicle Mfg./Make/Model:	General Motors of Canada, Ltd. 2005 Buick LaCrosse Four Door Sedan		

TEST VEHICLE IMPACT TYPE:

- Frontal (48.28 kph)
- Oblique (48.28 kph) with _____ ° barrier face first
contacting the _____ side
(driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.0 kph)
contacting the _____ driver side _____ side
(driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS:

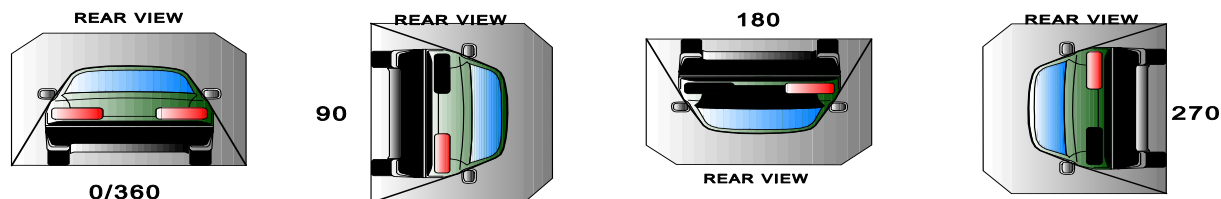
None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2005 Buick LaCrosse Four Door Sedan

NHTSA No.: M50103



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	12	seconds	5	minutes	6	minutes	12	seconds	7	minutes
90° - 180°	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes
180°-270°	1	minutes	05	seconds	5	minutes	6	minutes	5	seconds	7	minutes
270°-360°	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0° - 90°	None
90° - 180°	None
180°-270°	None
270°-360°	None

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

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Figure A- 17	PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 19
Figure A- 18	POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 20
Figure A- 19	PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 21
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Figure A- 25	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 27
Figure A- 26	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 28
Figure A- 27	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 29
Figure A- 28	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 30
Figure A- 29	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 31
Figure A- 30	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 32
Figure A- 31	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 33
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Figure A- 39	POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET	A- 41
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Figure A- 43	ROLLOVER 90 DEGREES	A- 45
Figure A- 44	ROLLOVER 180 DEGREES	A- 46
Figure A- 45	ROLLOVER 270 DEGREES	A- 47
Figure A- 46	ROLLOVER 360 DEGREES	A- 48



Figure A-1 PRE-TEST FRONTAL VIEW OF TEST VEHICLE

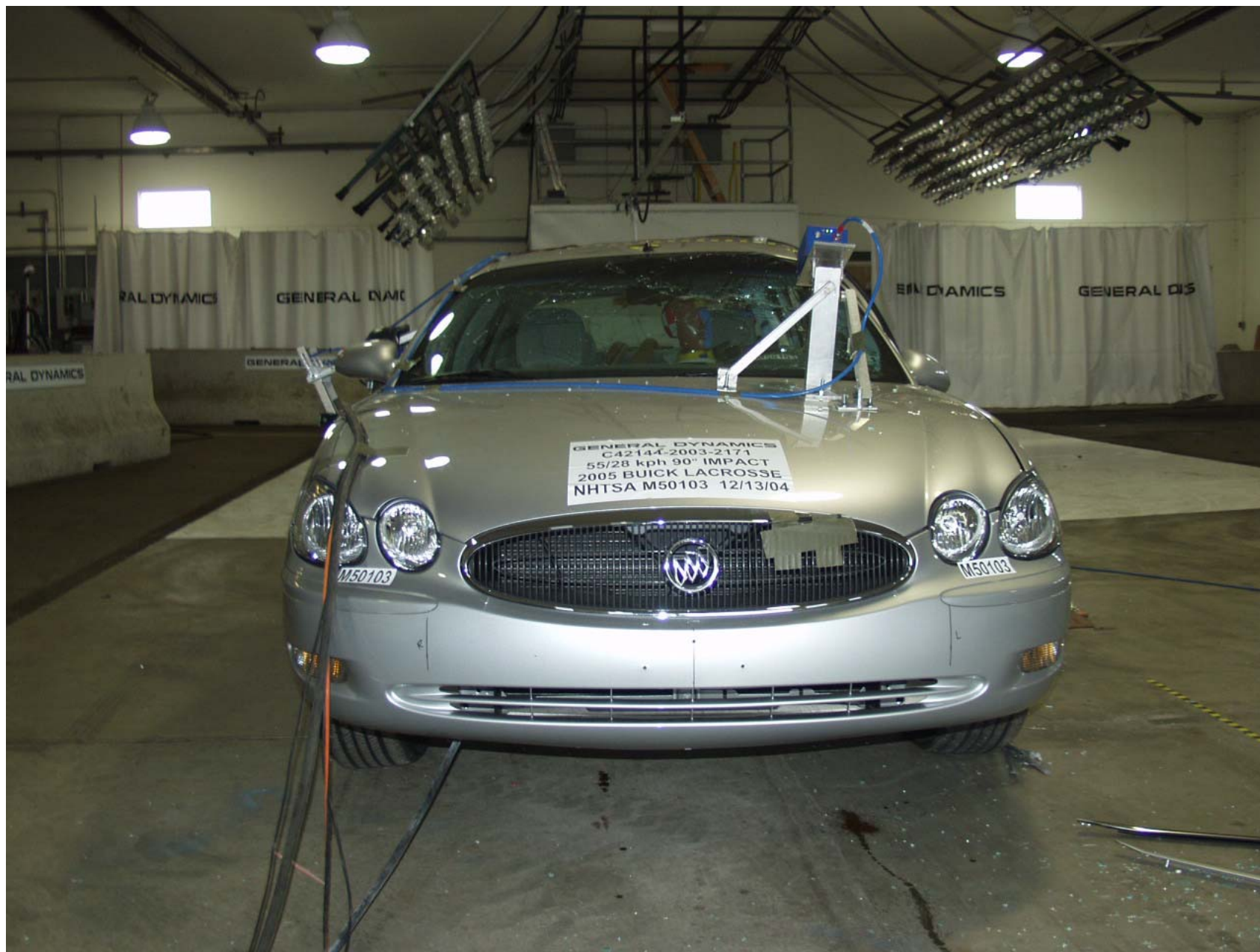


Figure A-2 POST-TEST FRONTAL VIEW OF TEST VEHICLE



Figure A-3 PRE-TEST REAR VIEW OF TEST VEHICLE



Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE



Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



Figure A-7 PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE



Figure A-8 POST-TEST LEFT FRONT VIEW OF TEST VEHICLE



Figure A-9 PRE-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-10 POST-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-11 PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE



Figure A-12 POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE



Figure A-13 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE



Figure A-14 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE

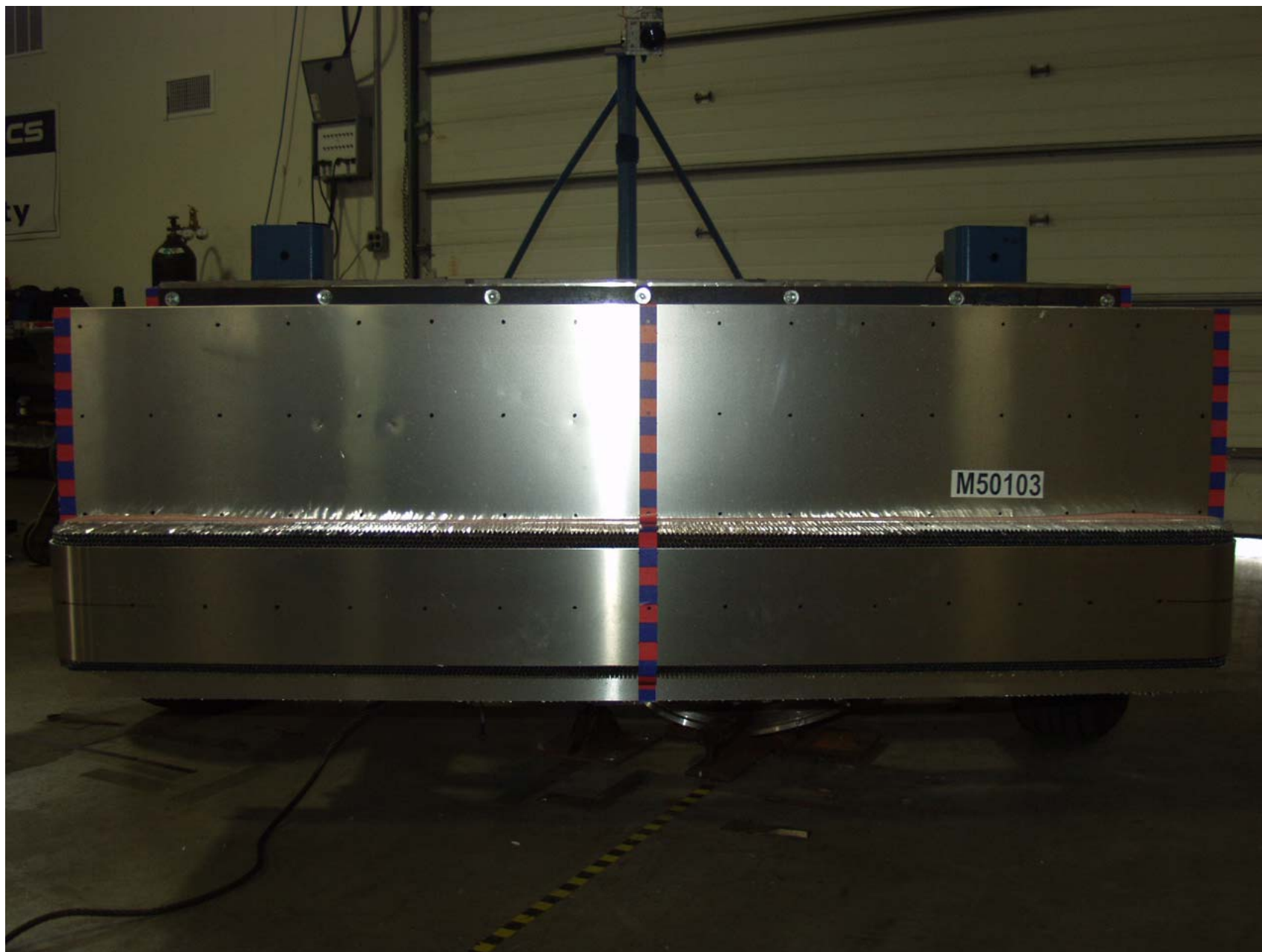


Figure A-15 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-16 POST-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-17 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-18 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-19 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-20 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-21 PRE-TEST TOP VIEW OF IMPACTOR FACE



Figure A-22 POST-TEST TOP VIEW OF IMPACTOR FACE



Figure A-23 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



Figure A-24 POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE



Figure A-25 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-26 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-27 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-28 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-29 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-30 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-31 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-32 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-33 PRE-TEST INTERIOR OF FRONT DOOR



Figure A-34 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-35 PRE-TEST INTERIOR OF REAR DOOR



Figure A-36 POST-TEST INTERIOR OF REAR DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-37 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-38 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-39 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET



Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL



Figure A-41 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL



Figure A-42 IMPACT PHOTO



Figure A-43 ROLLOVER 90 DEGREES



Figure A-44 ROLLOVER 180 DEGREES

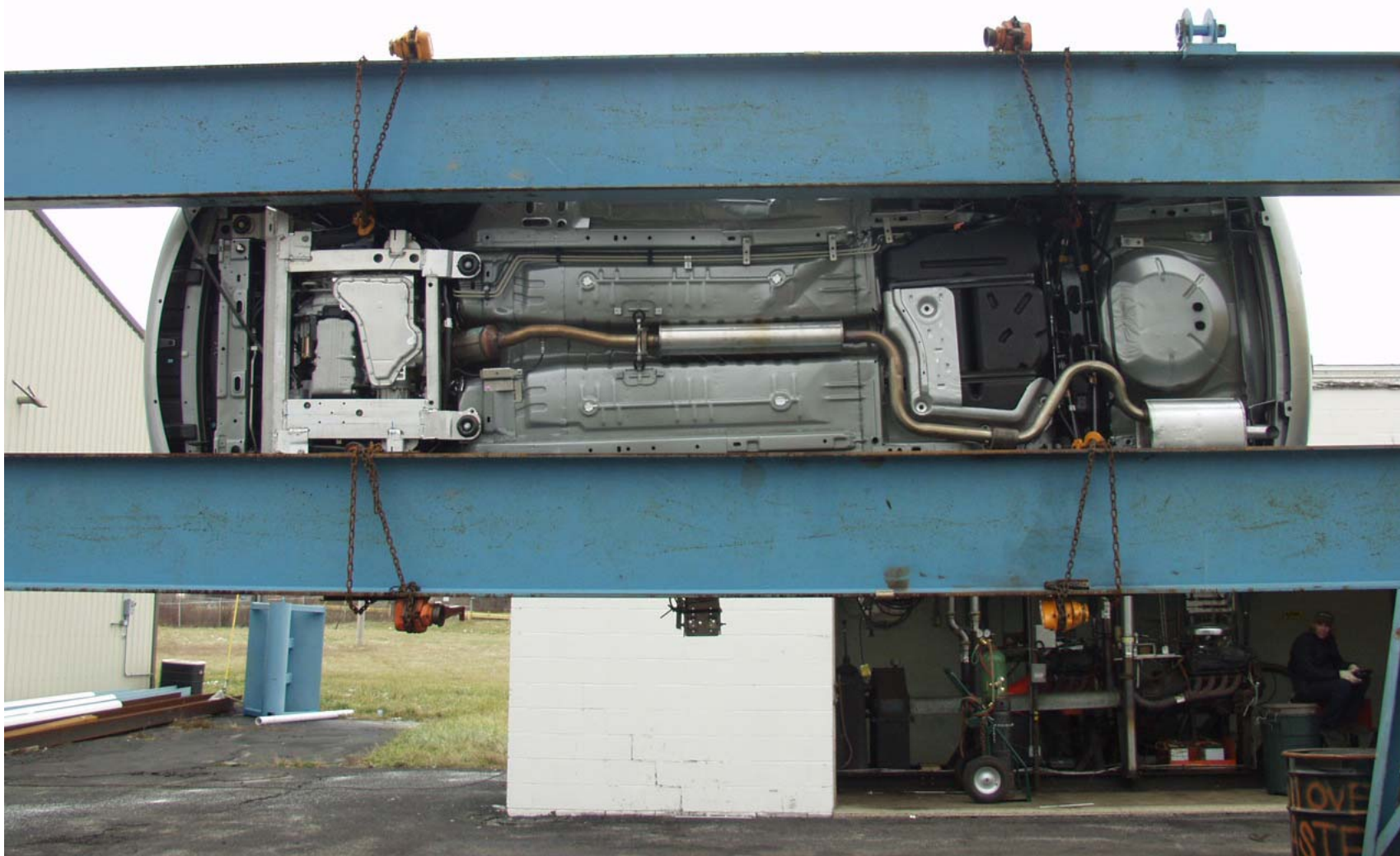


Figure A-45 ROLLOVER 270 DEGREES



Figure A-46 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID HYBRID III RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION, FORCE AND MOMENT DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD (X) ACCELERATION VS TIME	B- 6
2	DRIVER HEAD (X) VELOCITY VS TIME	B- 7
3	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD (Y) VELOCITY VS TIME	B- 9
5	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 10
6	DRIVER HEAD (Z) VELOCITY VS TIME	B- 11
7	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 12
8	DRIVER UPPER NECK (X) FORCE VS TIME	B- 13
9	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 14
10	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 15
11	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 16
12	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 17
13	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 18
14	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 19
15	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 20
16	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 21
17	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 22
18	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 23
19	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 24
20	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 25
21	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 26
22	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 27
23	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 28
24	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 29
25	PASSENGER HEAD (X) VELOCITY VS TIME	B- 30
26	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 31
27	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 32
28	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 33
29	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 34
30	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 35
31	PASSENGER UPPER NECK (X) FORCE VS TIME	B- 36
32	PASSENGER UPPER NECK (Y) FORCE VS TIME	B- 37
33	PASSENGER UPPER NECK (Z) FORCE VS TIME	B- 38
34	PASSENGER UPPER NECK RESULTANT FORCE VS TIME	B- 39
35	PASSENGER UPPER NECK (X) MOMENT VS TIME	B- 40
36	PASSENGER UPPER NECK (Y) MOMENT VS TIME	B- 41
37	PASSENGER UPPER NECK (Z) MOMENT VS TIME	B- 42
38	PASSENGER UPPER NECK RESULTANT MOMENT VS TIME	B- 43
39	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 44
40	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 45
41	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 46
42	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 47
43	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 48
44	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 49
45	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 50
46	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 51

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
47	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 52
48	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 53
49	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 54
50	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 55
51	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 56
52	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 57
53	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 58
54	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 59

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
55	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 60
56	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 61
57	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 62
58	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 63
59	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 64
60	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 65
61	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 66
62	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 67
63	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 68
64	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 69
65	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 70
66	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 71
67	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 72
68	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 73
69	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 74
70	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 75
71	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 76
72	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 77
73	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 78
74	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 79
75	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 80
76	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 81
77	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 82
78	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 83
79	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 84
80	LEFT FRONT DOOR ON CENTERLINE (Y) ACCELERATION VS TIME	B- 85
81	LEFT FRONT DOOR ON CENTERLINE (Y) VELOCITY VS TIME	B- 86
82	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 87
83	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 88
84	MID REAR OF LEFT FRONT DOOR (Y) ACCELERATION VS TIME	B- 89
85	MID REAR OF LEFT FRONT DOOR (Y) VELOCITY VS TIME	B- 90
86	LEFT FRONT DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 91
87	LEFT FRONT DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 92
88	MID REAR OF LEFT REAR DOOR (Y) ACCELERATION VS TIME	B- 93
89	MID REAR OF LEFT REAR DOOR (Y) VELOCITY VS TIME	B- 94
90	LEFT REAR DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 95
91	LEFT REAR DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 96
92	LOWER B-POST (Y) ACCELERATION VS TIME	B- 97
93	LOWER B-POST (Y) VELOCITY VS TIME	B- 98
94	UPPER B-POST (Y) ACCELERATION VS TIME	B- 99
95	UPPER B-POST (Y) VELOCITY VS TIME	B- 100
96	LOWER A-POST (Y) ACCELERATION VS TIME	B- 101

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
97	LOWER A-POST (Y) VELOCITY VS TIME	B- 102
98	UPPER A-POST (Y) ACCELERATION VS TIME	B- 103
99	UPPER A-POST (Y) VELOCITY VS TIME	B- 104
100	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 105
101	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 106
102	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 107
103	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 108
104	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 109
105	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 110
106	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 111
107	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 112
108	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 113
109	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 114
110	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 115

MDB INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
111	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 116
112	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 117
113	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 118
114	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 119
115	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 120
116	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 121
117	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 122
118	MDB REAR (X) ACCELERATION VS TIME	B- 123
119	MDB REAR (X) VELOCITY VS TIME	B- 124
120	MDB REAR (Y) ACCELERATION VS TIME	B- 125
121	MDB REAR (Y) VELOCITY VS TIME	B- 126

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
122	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 127
123	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 128
124	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 129
125	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 130
126	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 131
127	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 132
128	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 133
129	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 134
130	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 135
131	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 136
132	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 137
133	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 138
134	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 139
135	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 140
136	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 141
137	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 142

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
138	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 143
139	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 144
140	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 145
141	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 146
142	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 147
143	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 148
144	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 149
145	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 150

2005 SNCAP Test 3 2005 Buick Lacrosse

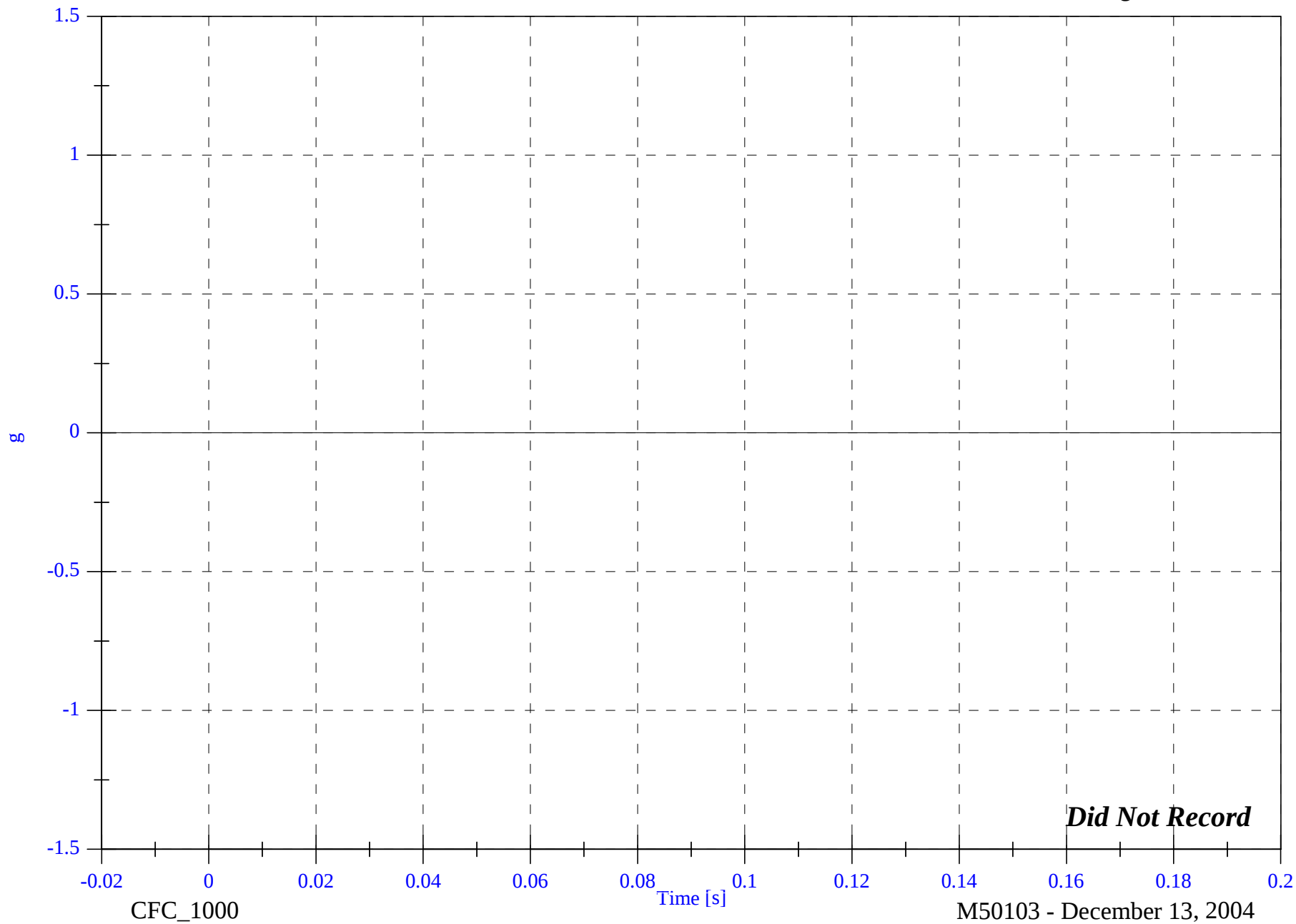
V2P1 Head x

Max: 0.0 [g] at -0.020 [s]

Min: 0.0 [g] at -0.020 [s]

B-6

8762-SNCAP-08

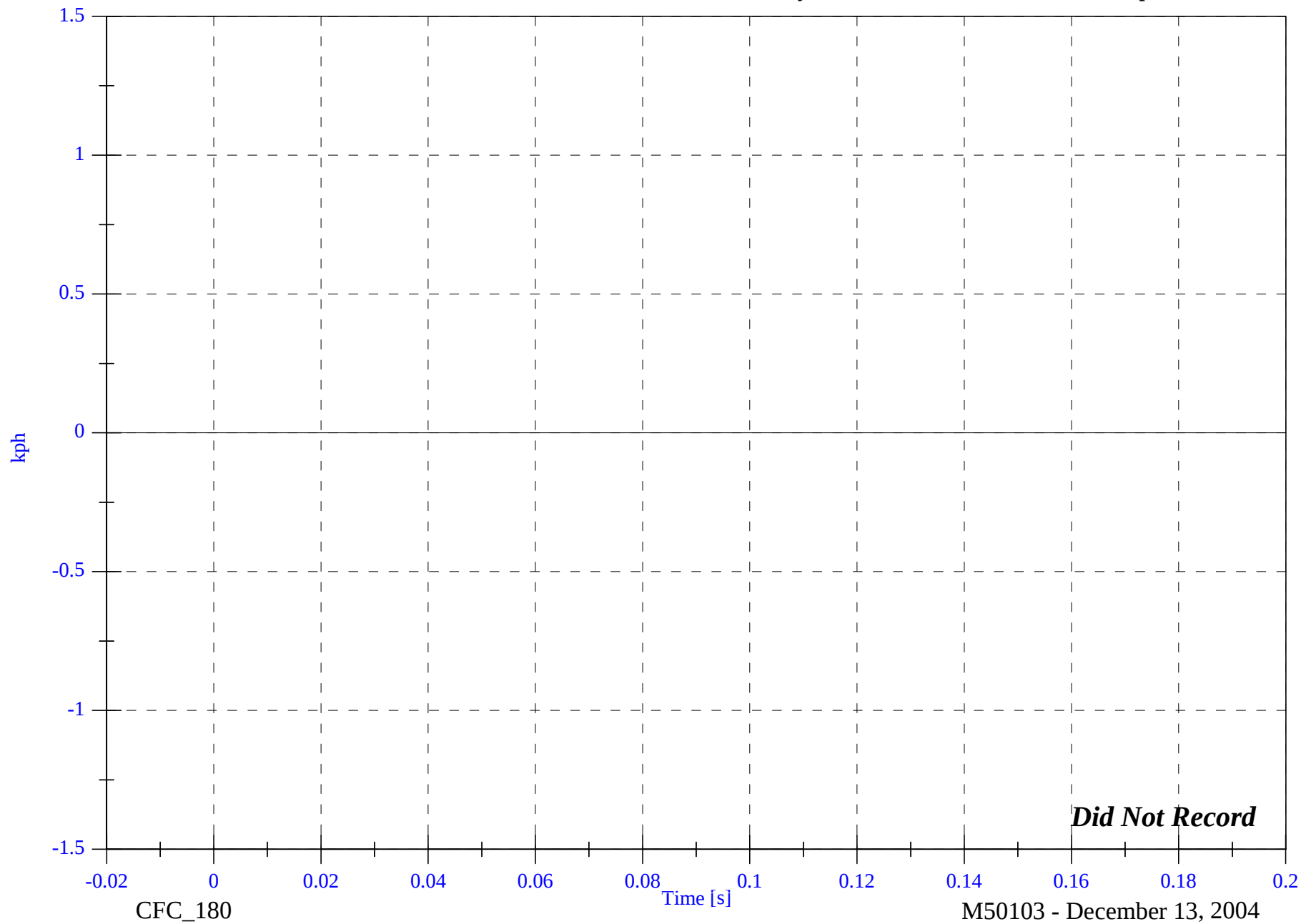


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Head x Velocity

Max: 0.0 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]

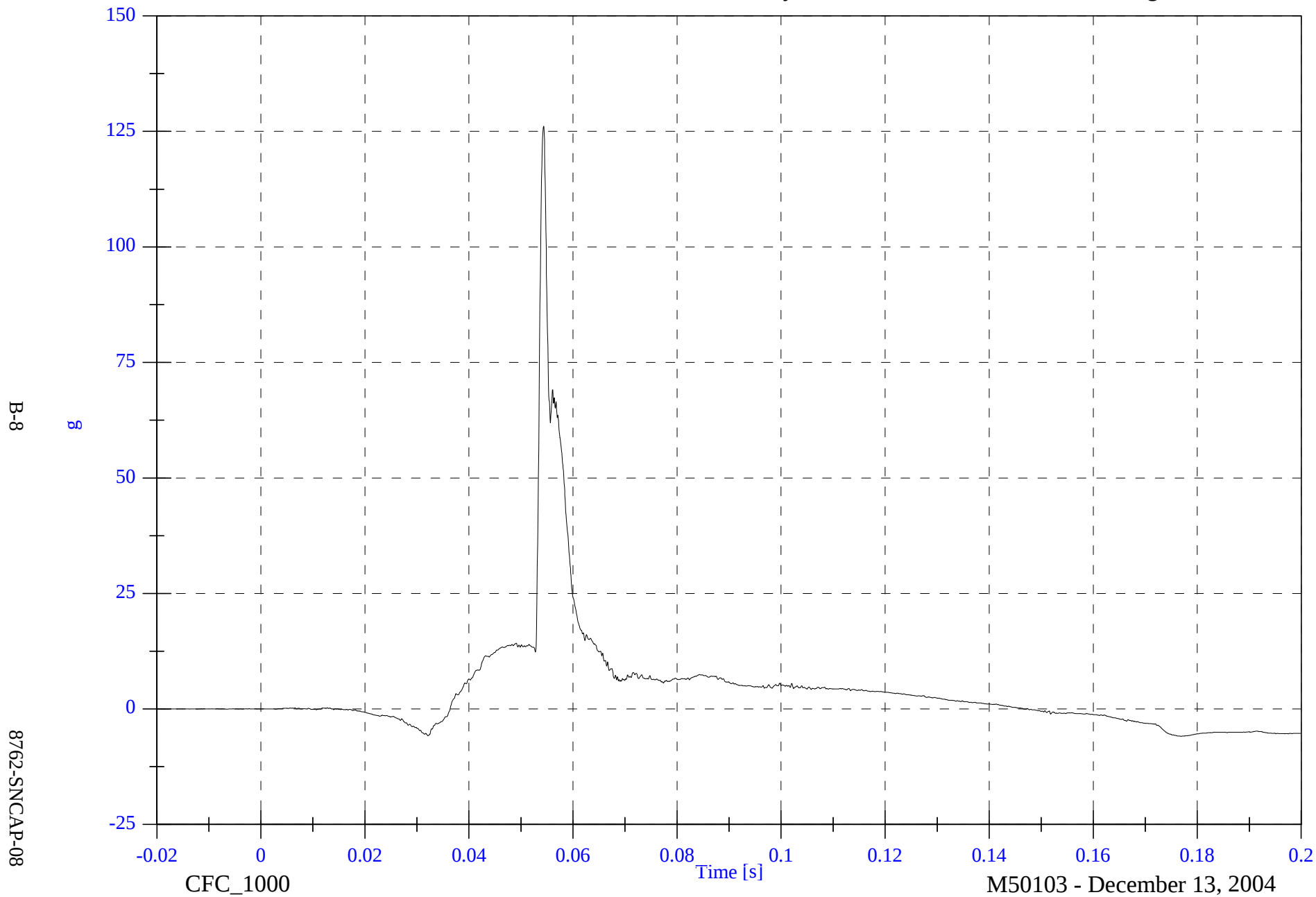


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Head y

Max: 126.1 [g] at 0.054 [s]

Min: -5.9 [g] at 0.177 [s]

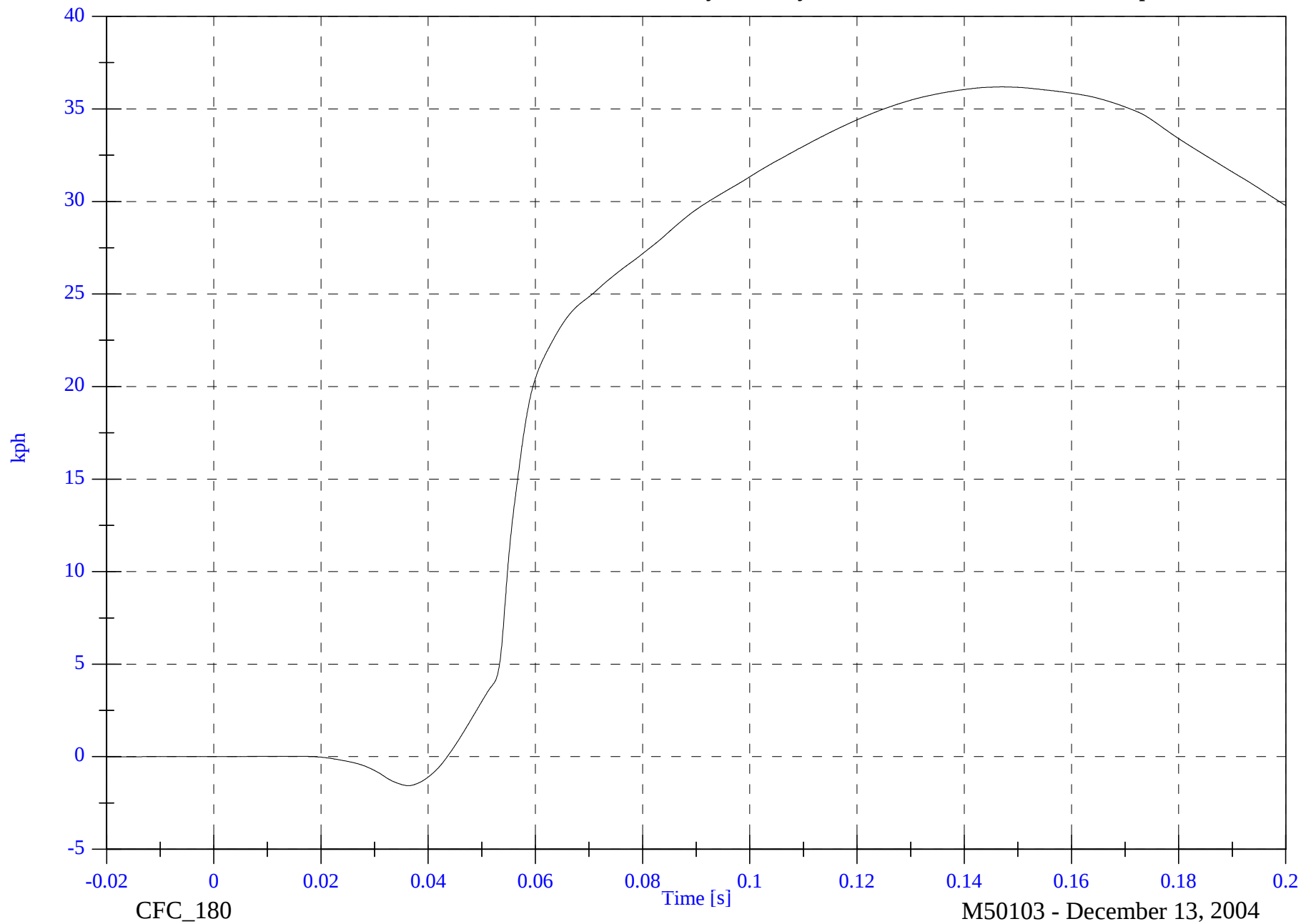


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Head y Velocity

Max: 36.2 [kph] at 0.147 [s]

Min: -1.6 [kph] at 0.036 [s]



B-9

8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Head z

Max: 74.8 [g] at 0.054 [s]

Min: -5.1 [g] at 0.102 [s]



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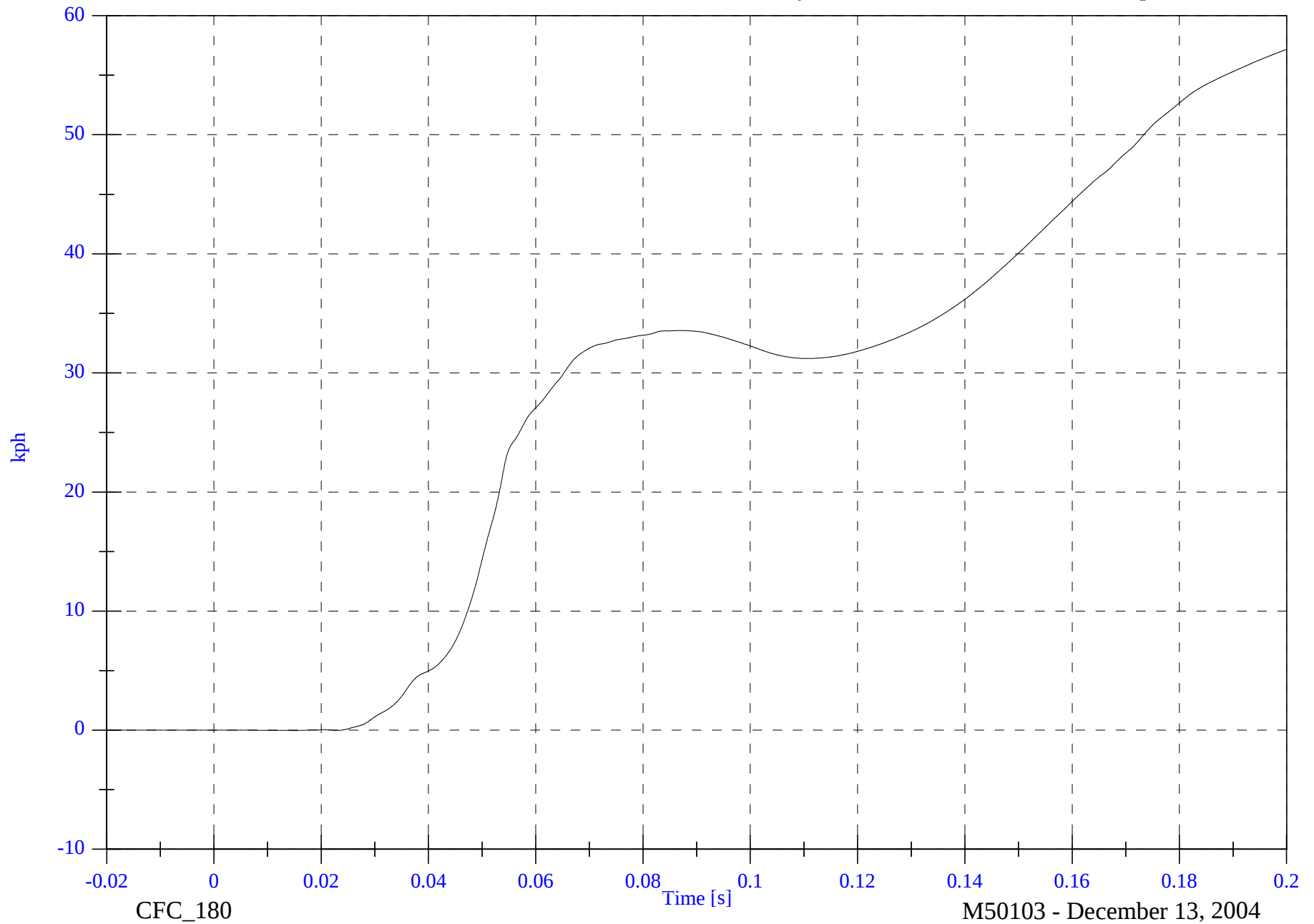
V2P1 Head z Velocity

Max: 57.2 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.015 [s]

B-11

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

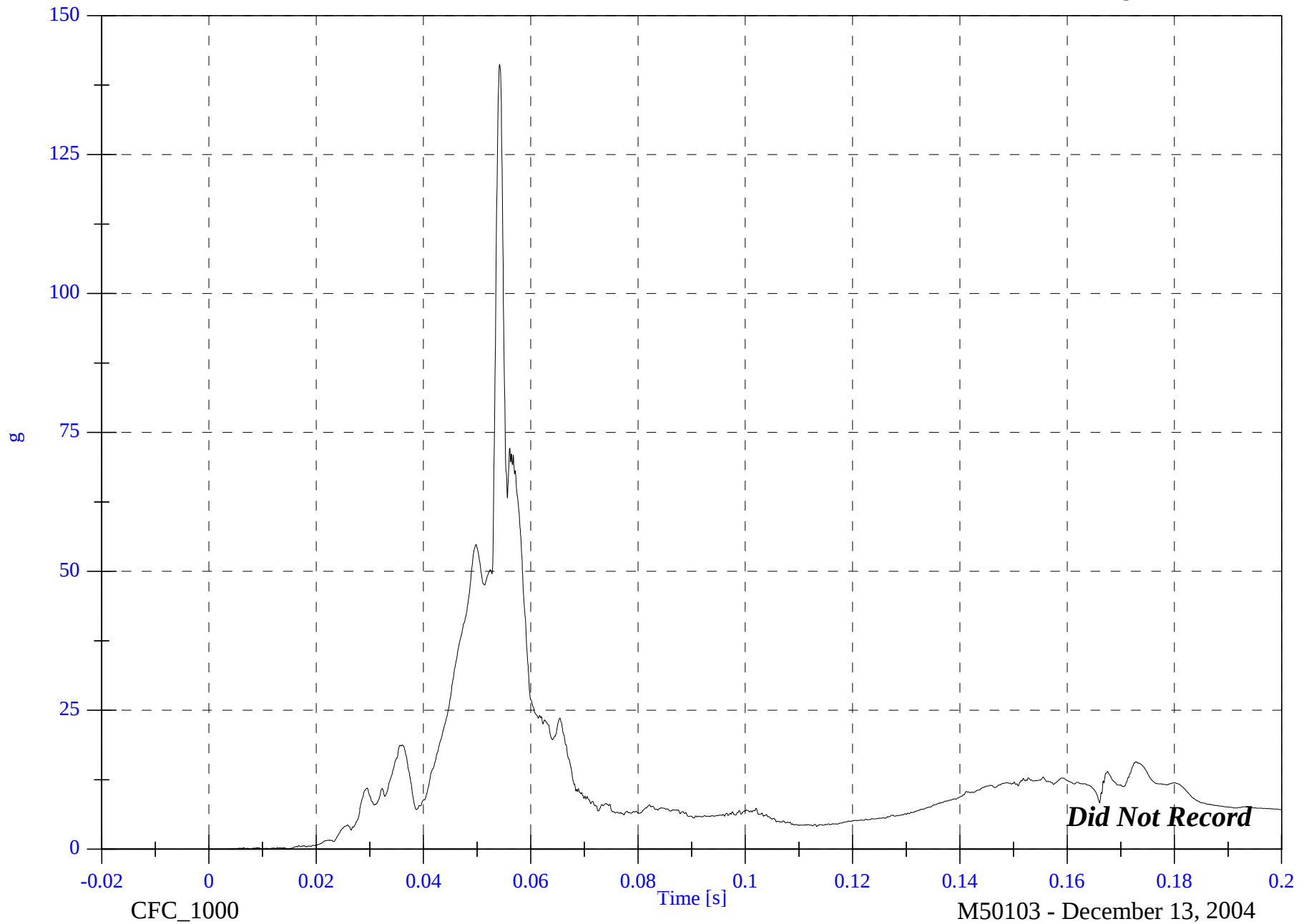
V2P1 Head Resultant

Max: 141.2 [g] at 0.054 [s]

Min: 0.0 [g] at -0.011 [s]

B-12

8762-SNCAP-08

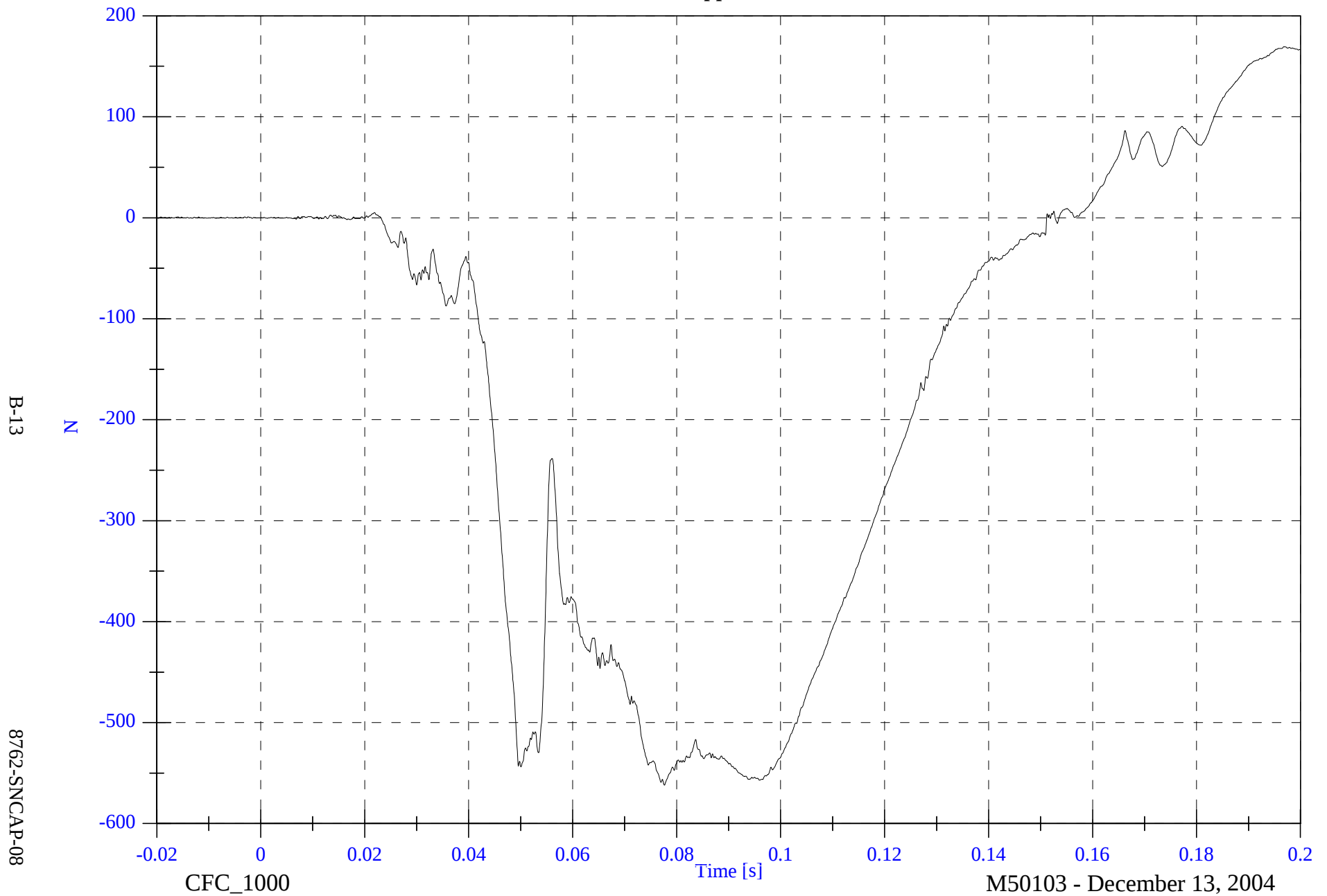


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Neck Fx

Max: 169.5 [N] at 0.197 [s]

Min: -562.0 [N] at 0.078 [s]

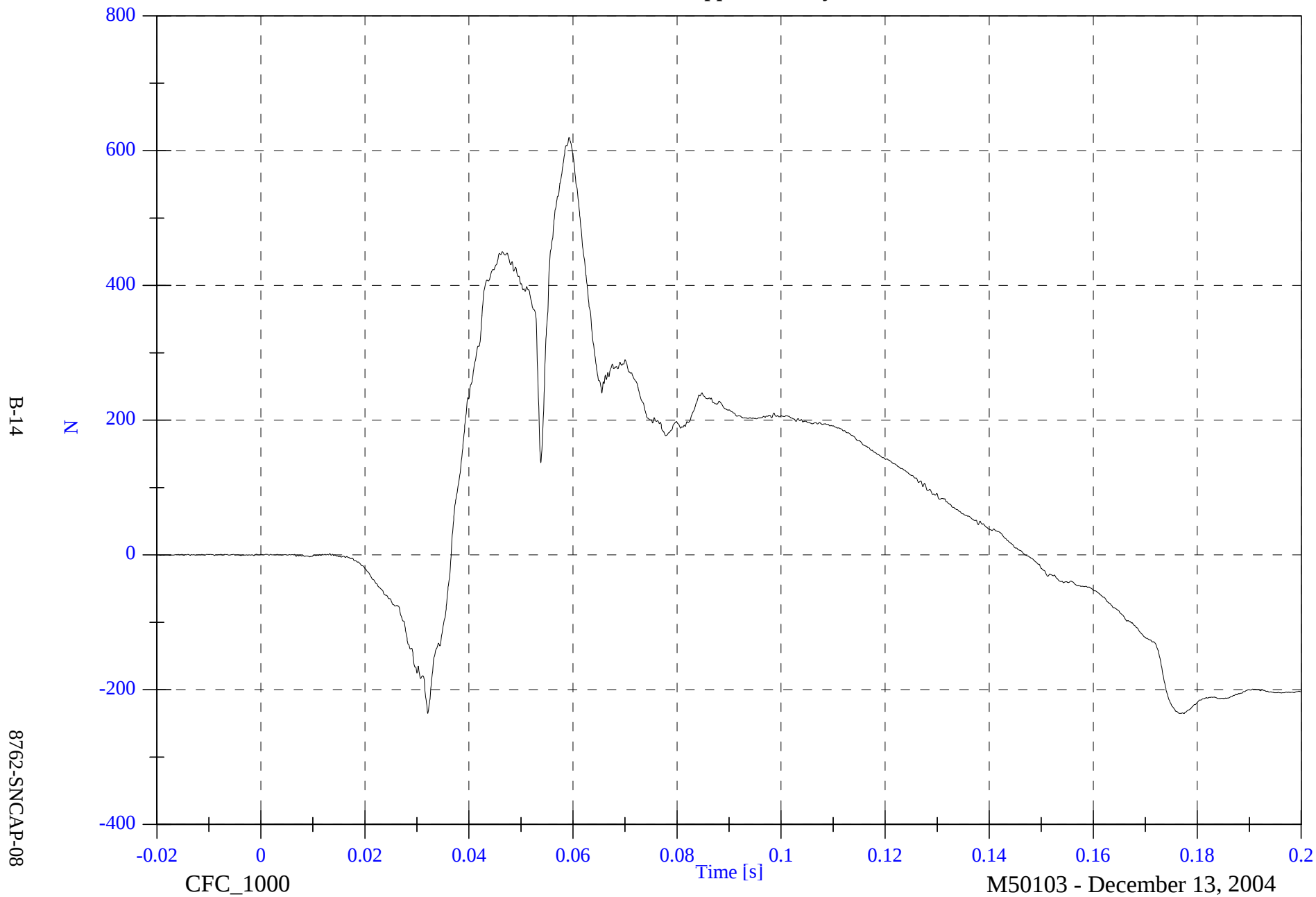


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Neck Fy

Max: 619.7 [N] at 0.059 [s]

Min: -235.3 [N] at 0.177 [s]

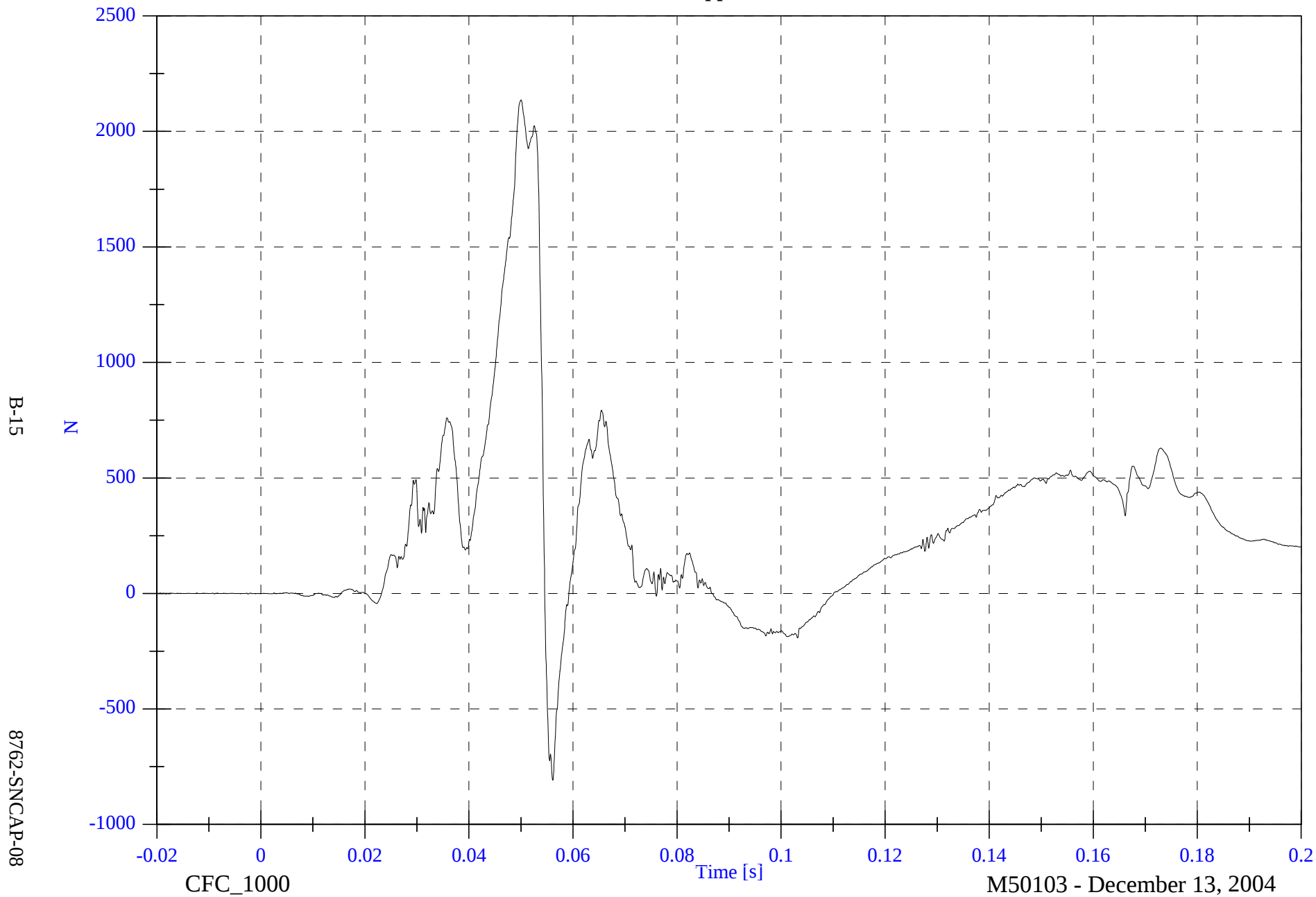


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Neck Fz

Max: 2135.7 [N] at 0.050 [s]

Min: -808.8 [N] at 0.056 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

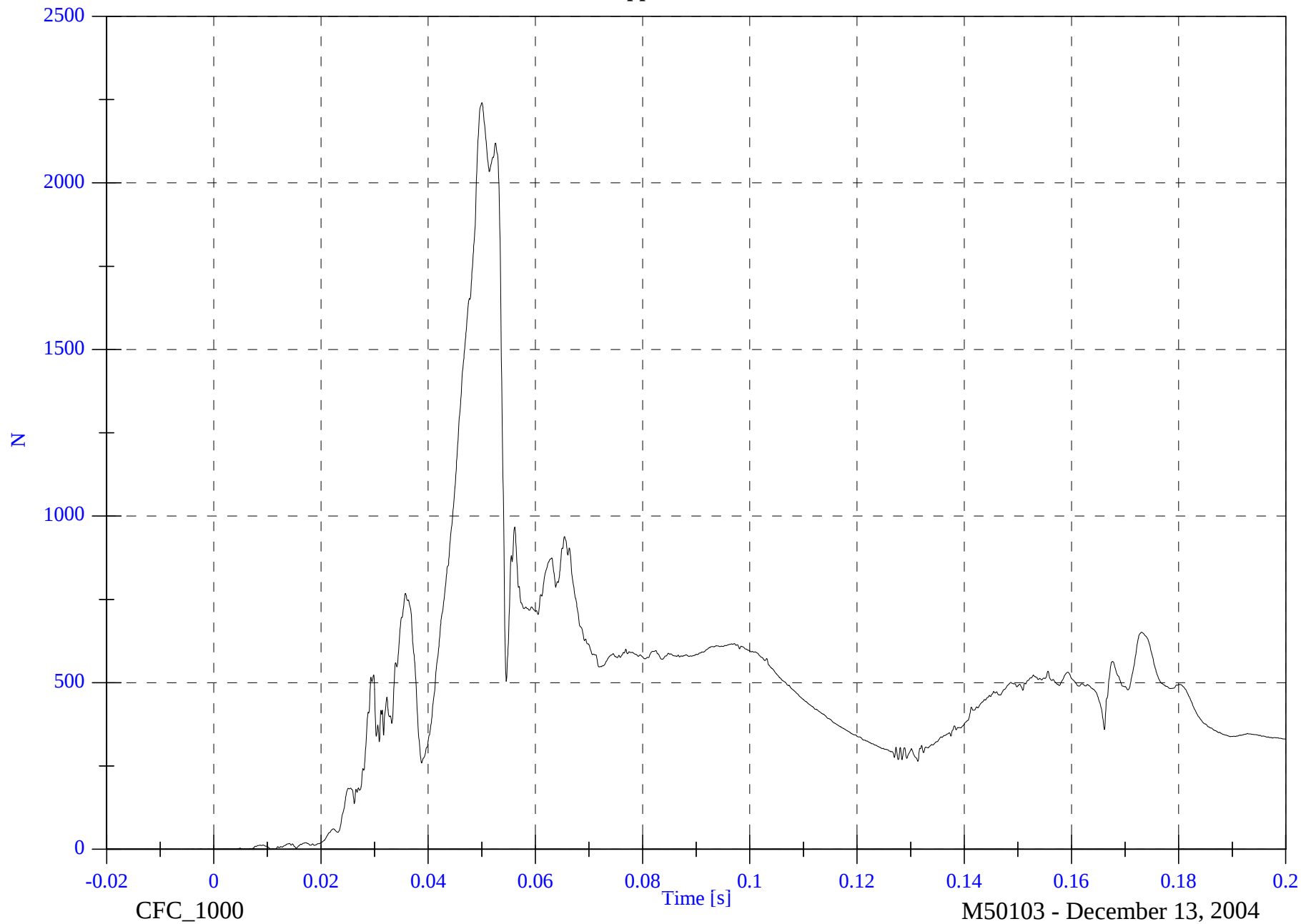
V2P1 Upper Neck F Resultant

Max: 2240.4 [N] at 0.050 [s]

Min: 0.1 [N] at -0.019 [s]

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8762-SNCAP-08

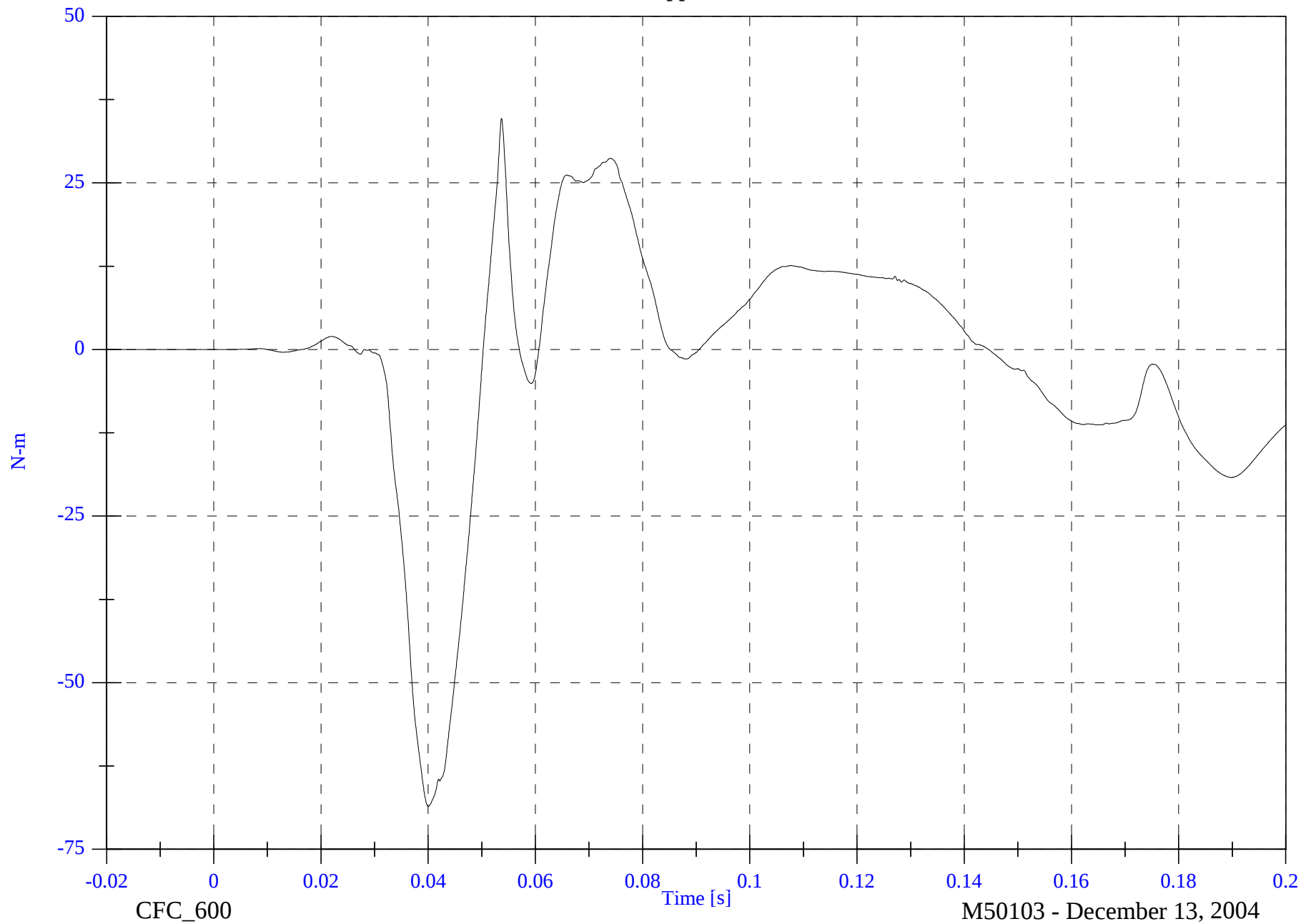


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Neck Mx

Max: 34.7 [N-m] at 0.054 [s]

Min: -68.6 [N-m] at 0.040 [s]



B-17

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M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Neck My

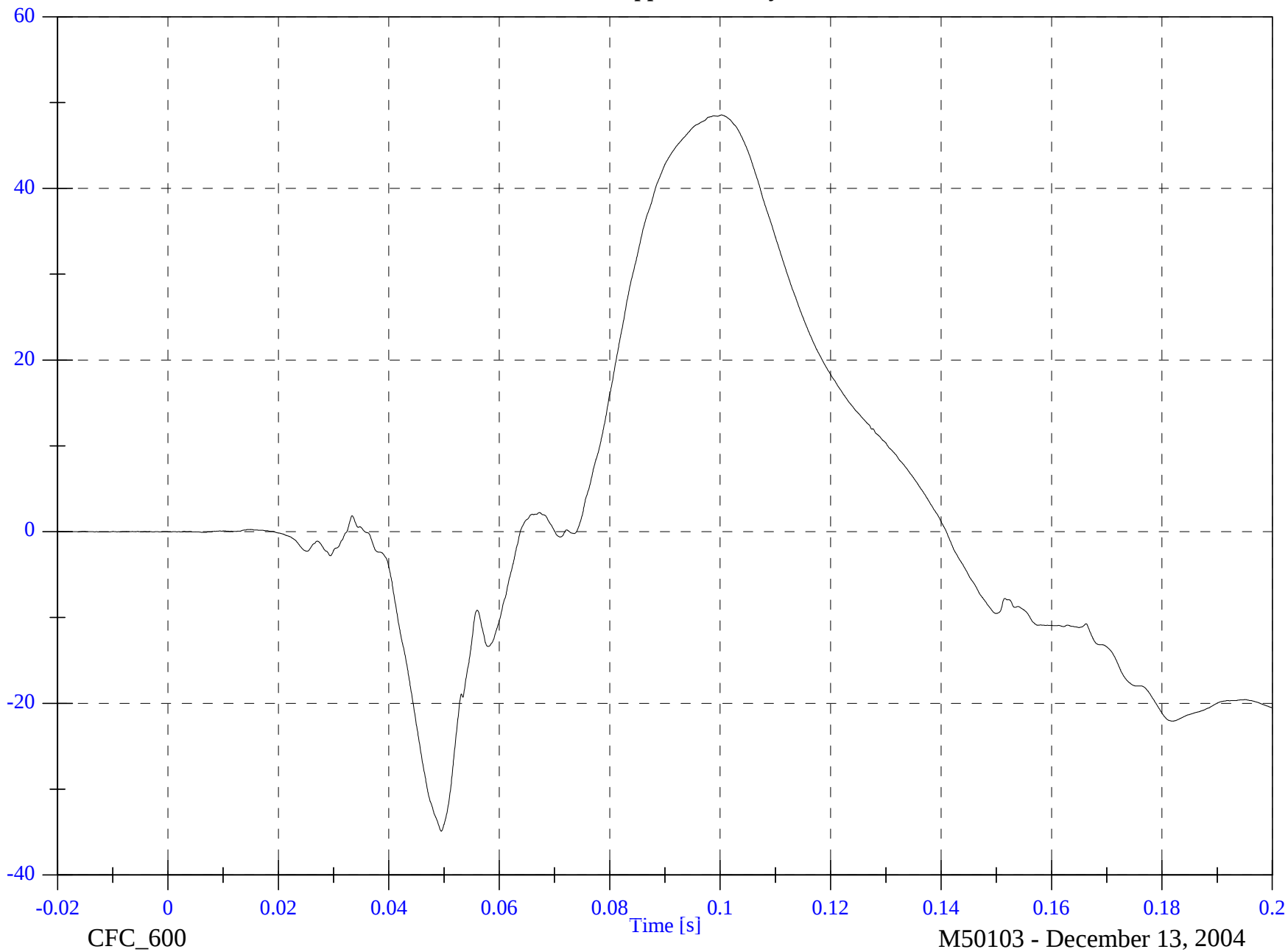
Max: 48.6 [N-m] at 0.100 [s]

Min: -34.9 [N-m] at 0.050 [s]

B-18

N-m

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

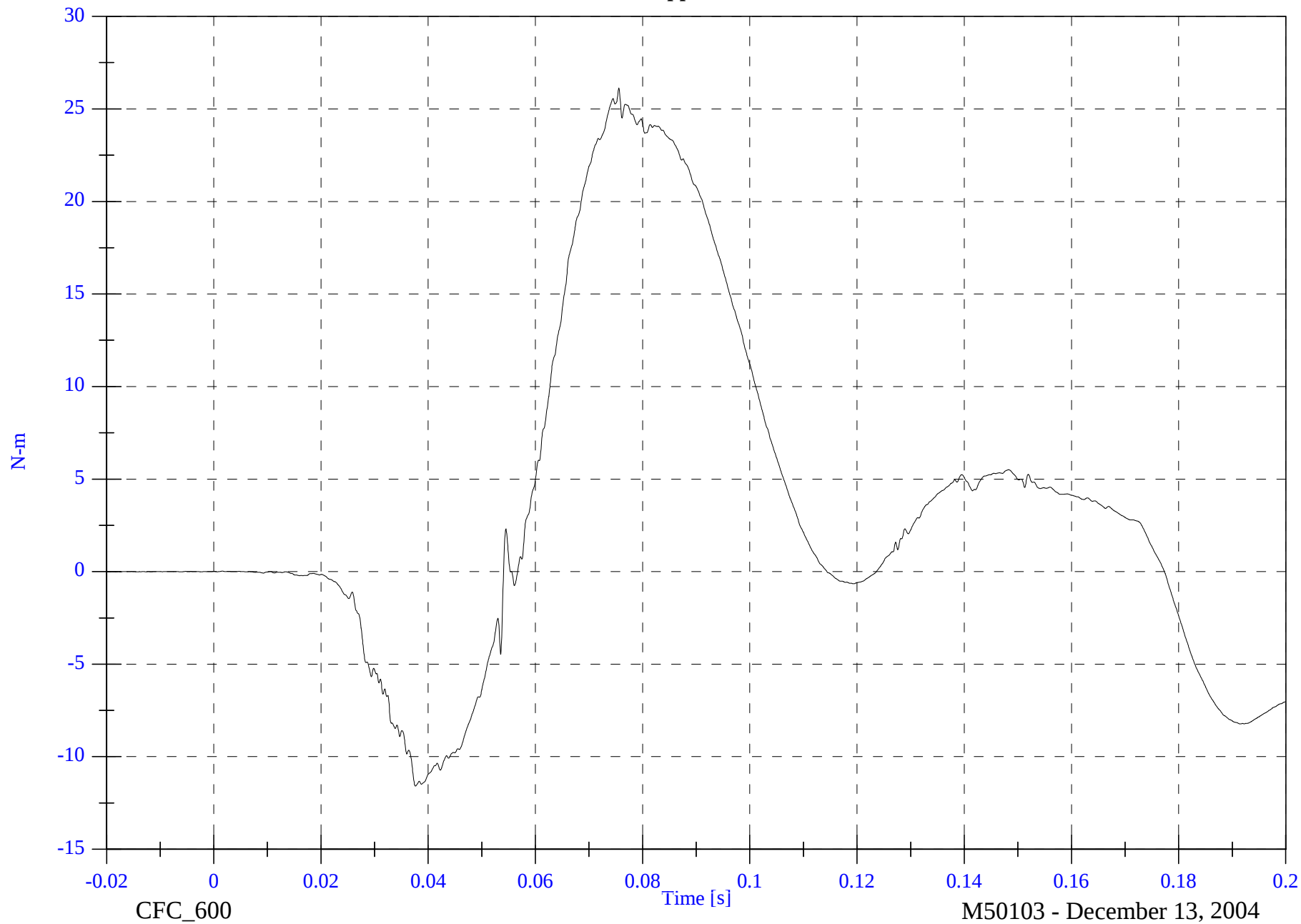
V2P1 Upper Neck Mz

Max: 26.1 [N-m] at 0.076 [s]

Min: -11.6 [N-m] at 0.038 [s]

B-19

8762-SNCAP-08

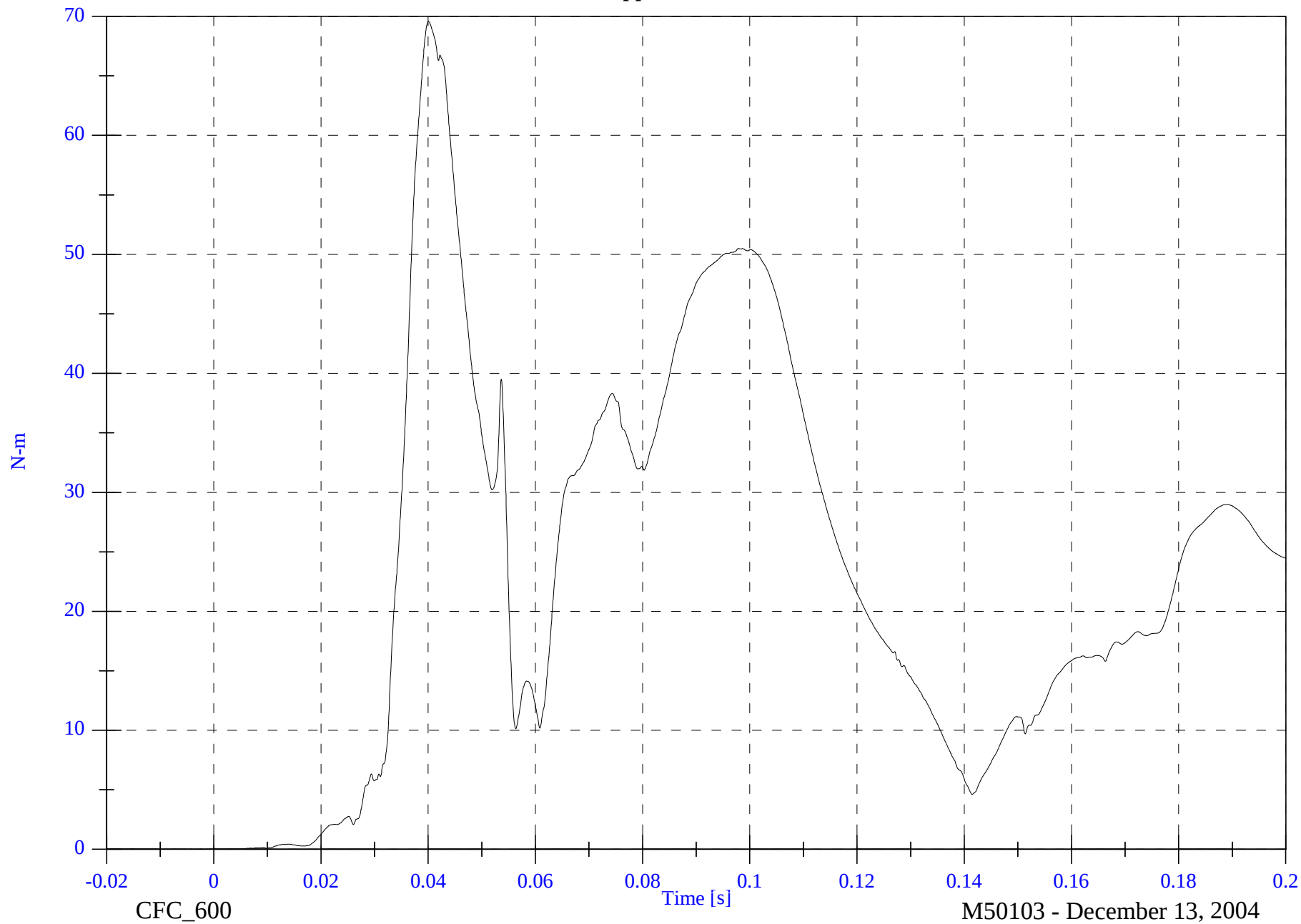


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Neck M Resultant

Max: 69.6 [N-m] at 0.040 [s]

Min: 0.0 [N-m] at -0.016 [s]



B-20

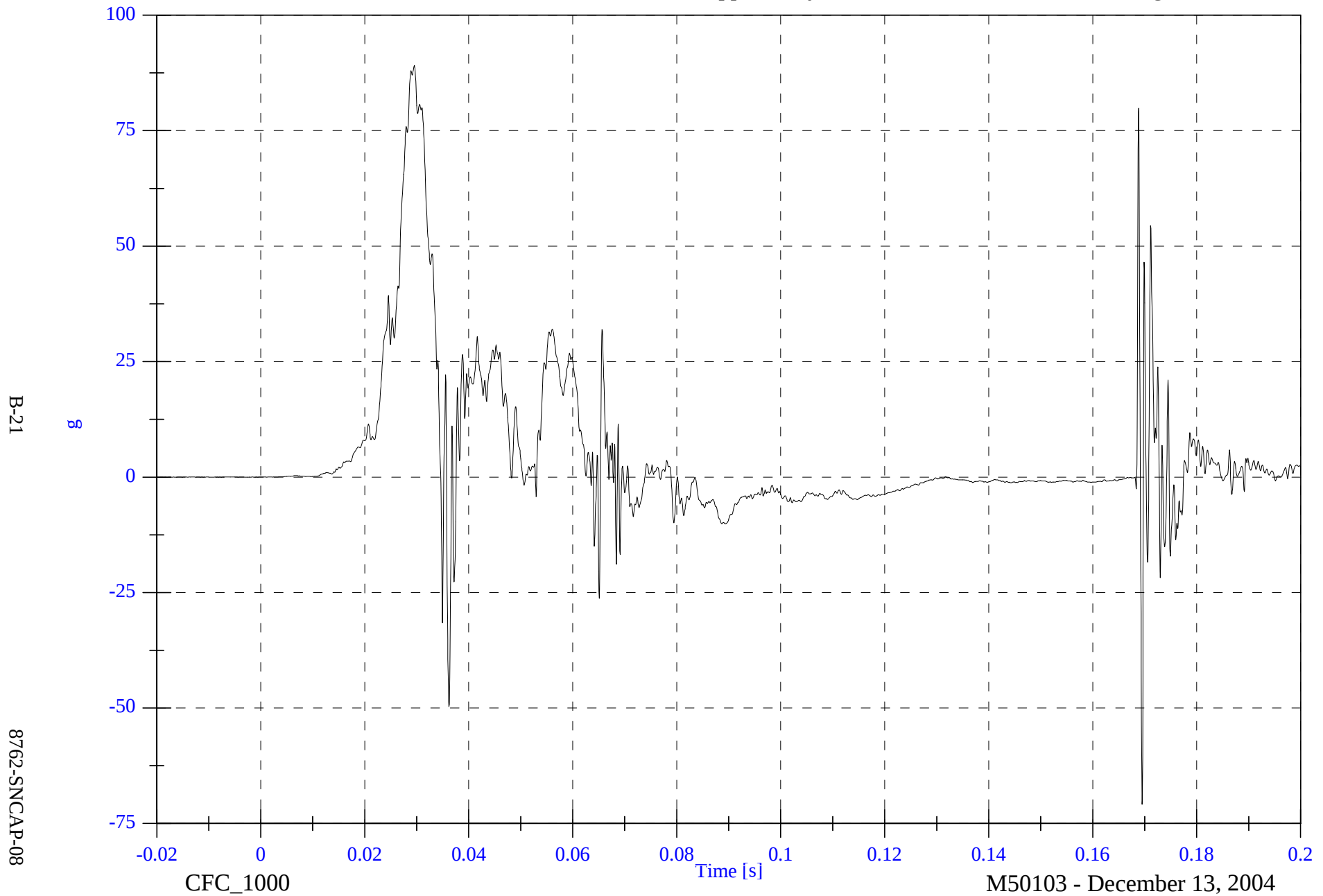
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Rib y

Max: 89.1 [g] at 0.030 [s]

Min: -70.9 [g] at 0.169 [s]

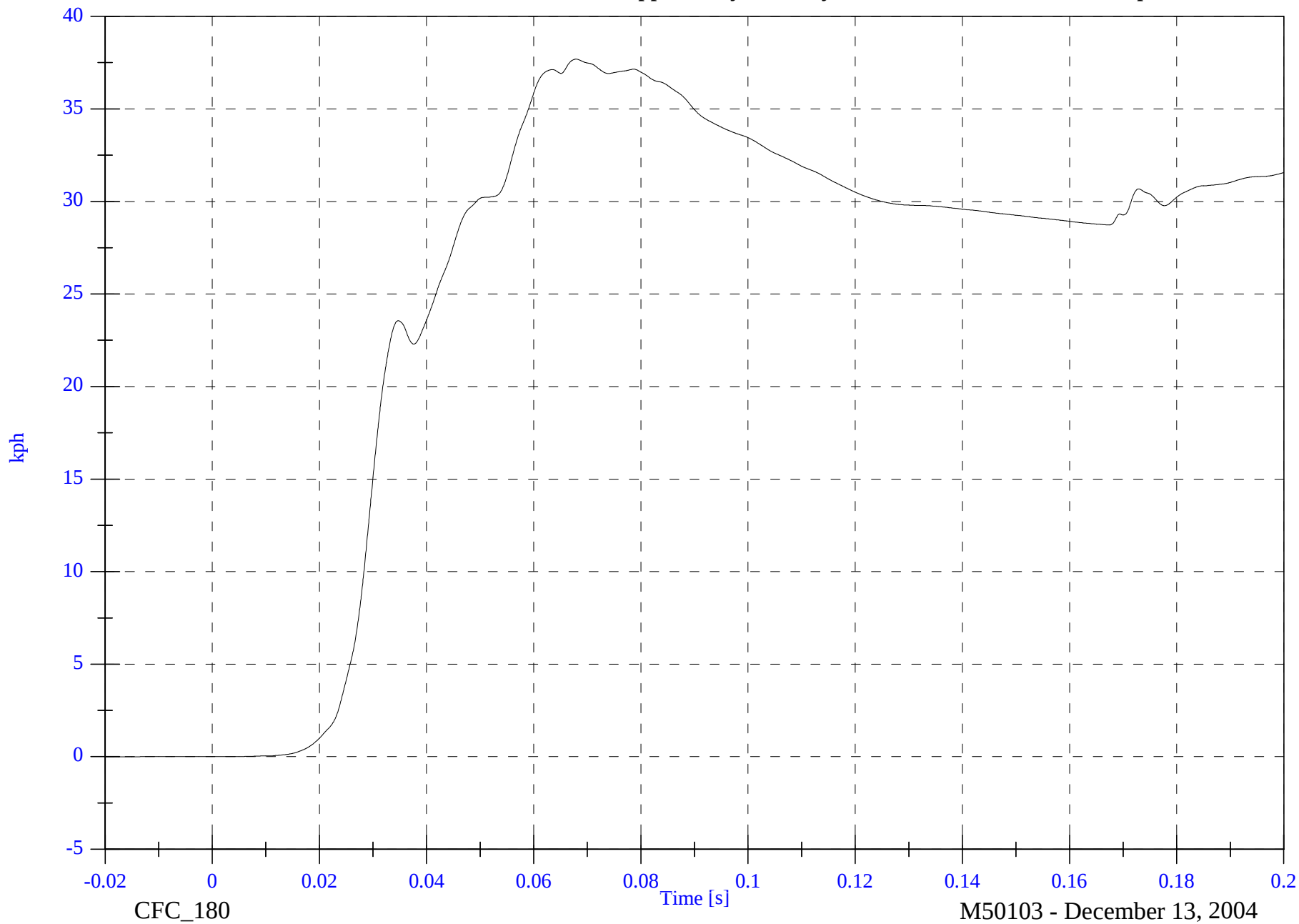


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Rib y Velocity

Max: 37.7 [kph] at 0.068 [s]

Min: -0.0 [kph] at -0.020 [s]



B-22

8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

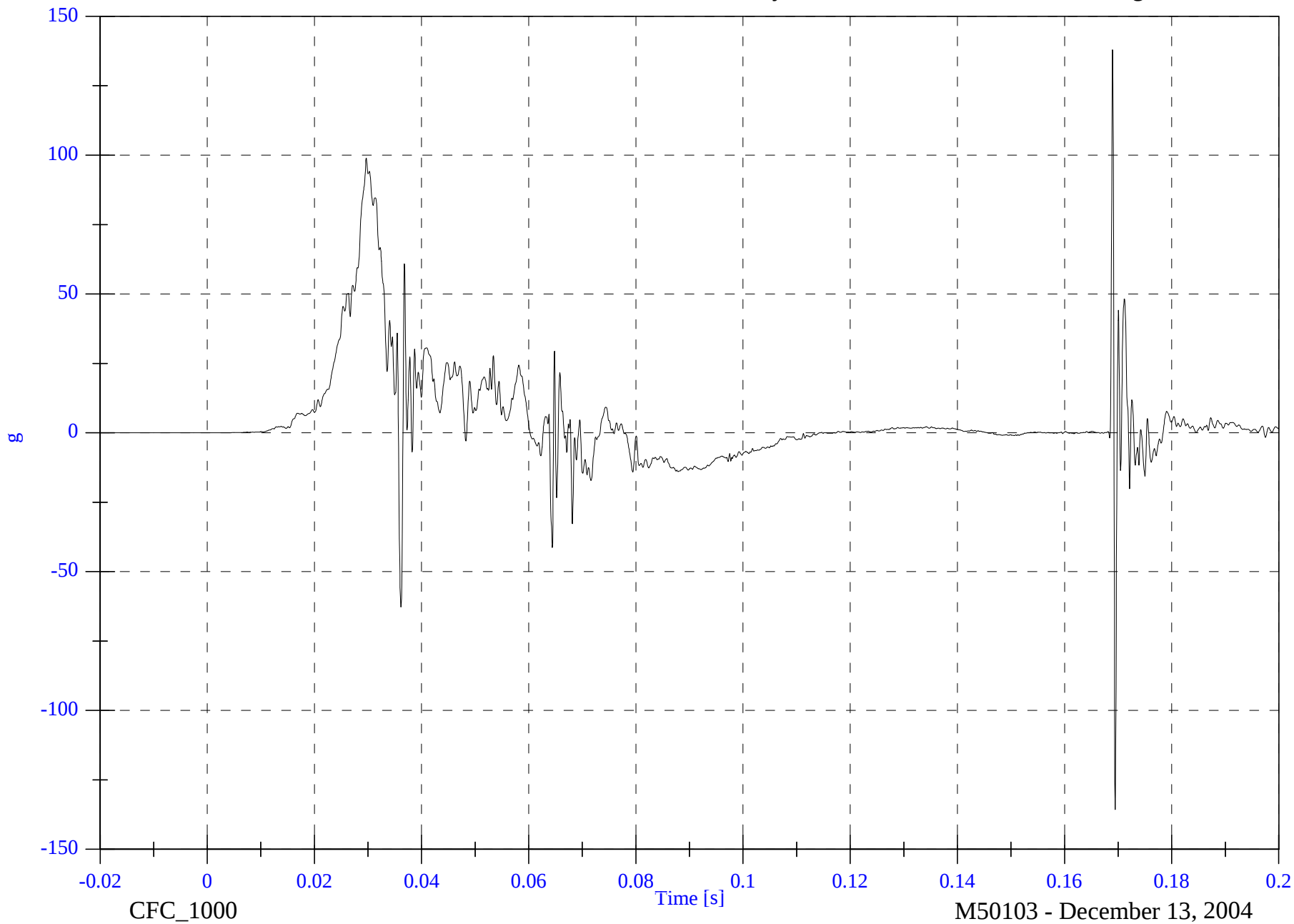
V2P1 Lower Rib y

Max: 137.9 [g] at 0.169 [s]

Min: -135.7 [g] at 0.169 [s]

B-23

8762-SNCAP-08

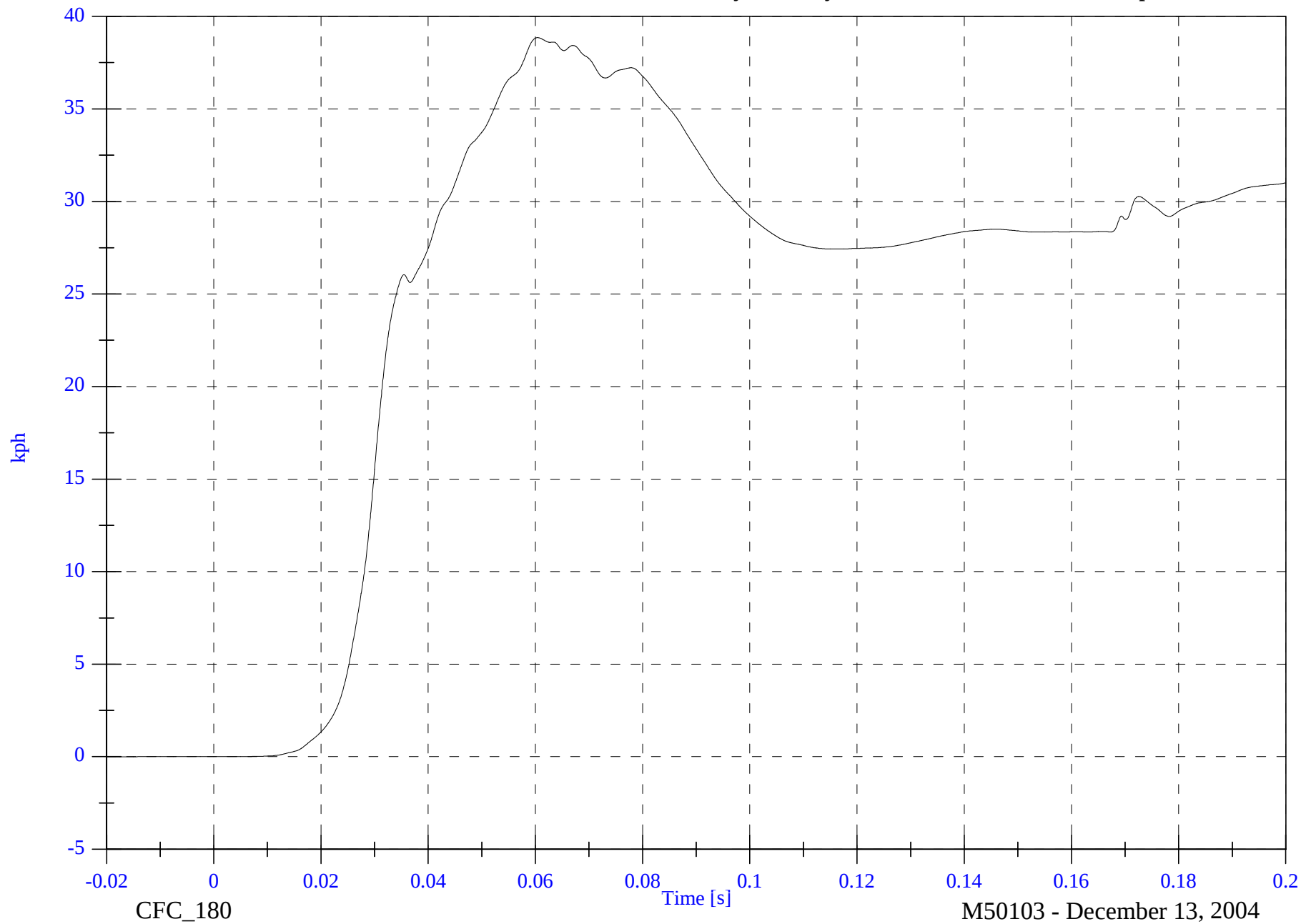


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Rib y Velocity

Max: 38.9 [kph] at 0.060 [s]

Min: -0.0 [kph] at -0.020 [s]



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2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Spine y

Max: 86.8 [g] at 0.033 [s]

Min: -31.5 [g] at 0.064 [s]

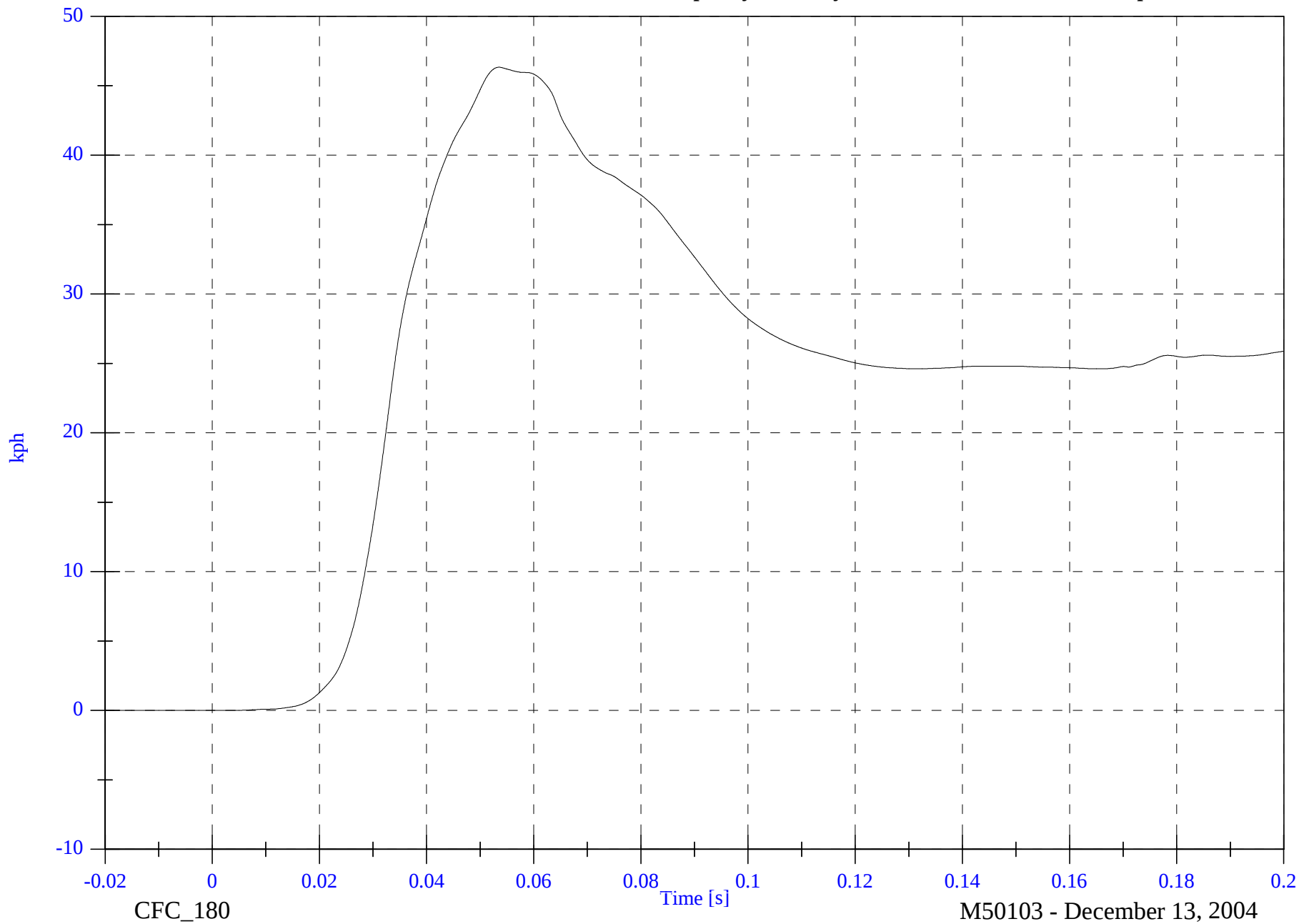


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Spine y Velocity

Max: 46.3 [kph] at 0.053 [s]

Min: -0.0 [kph] at -0.004 [s]



B-26

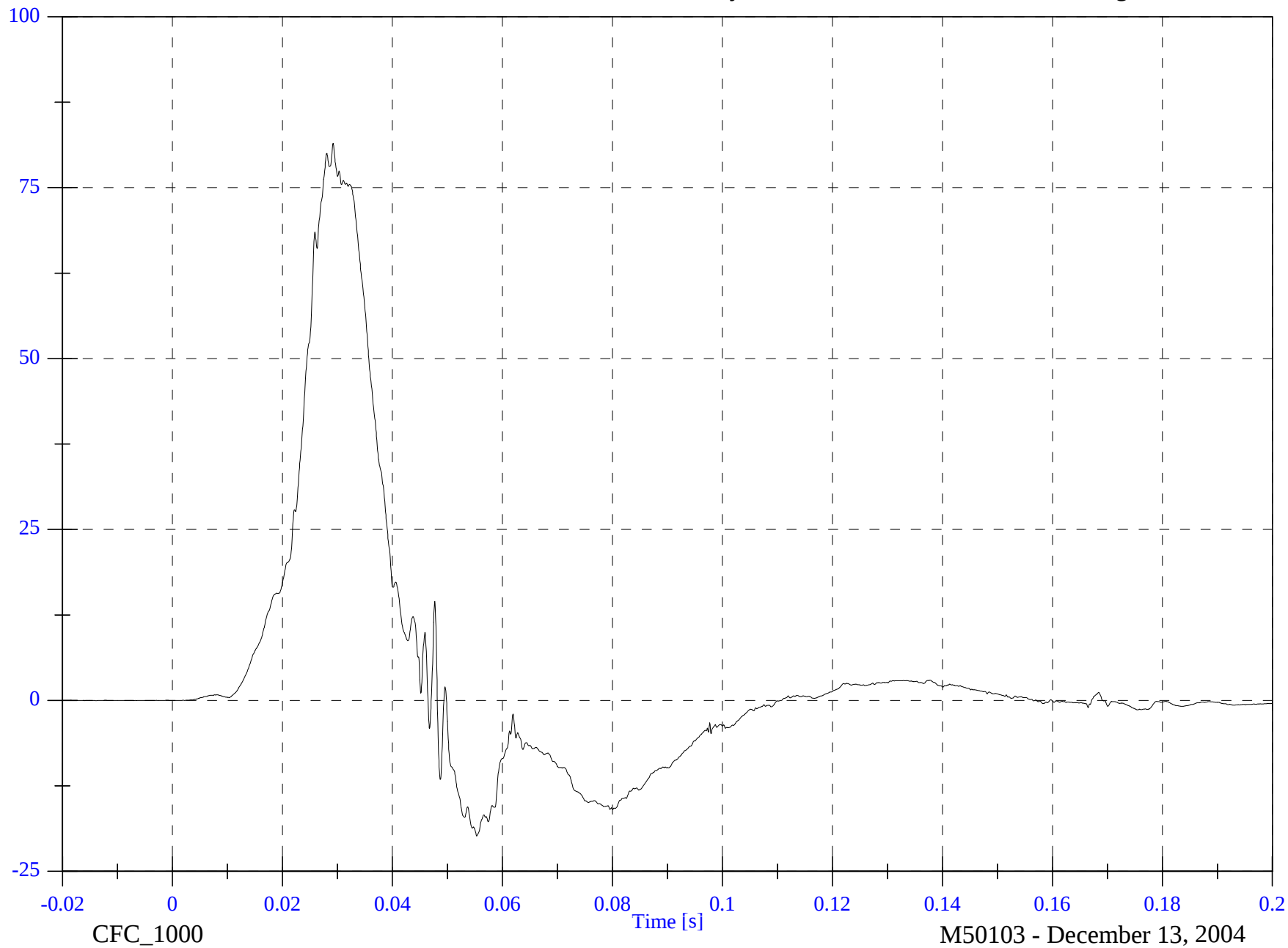
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Pelvic y

Max: 81.5 [g] at 0.029 [s]

Min: -19.8 [g] at 0.055 [s]



B-27

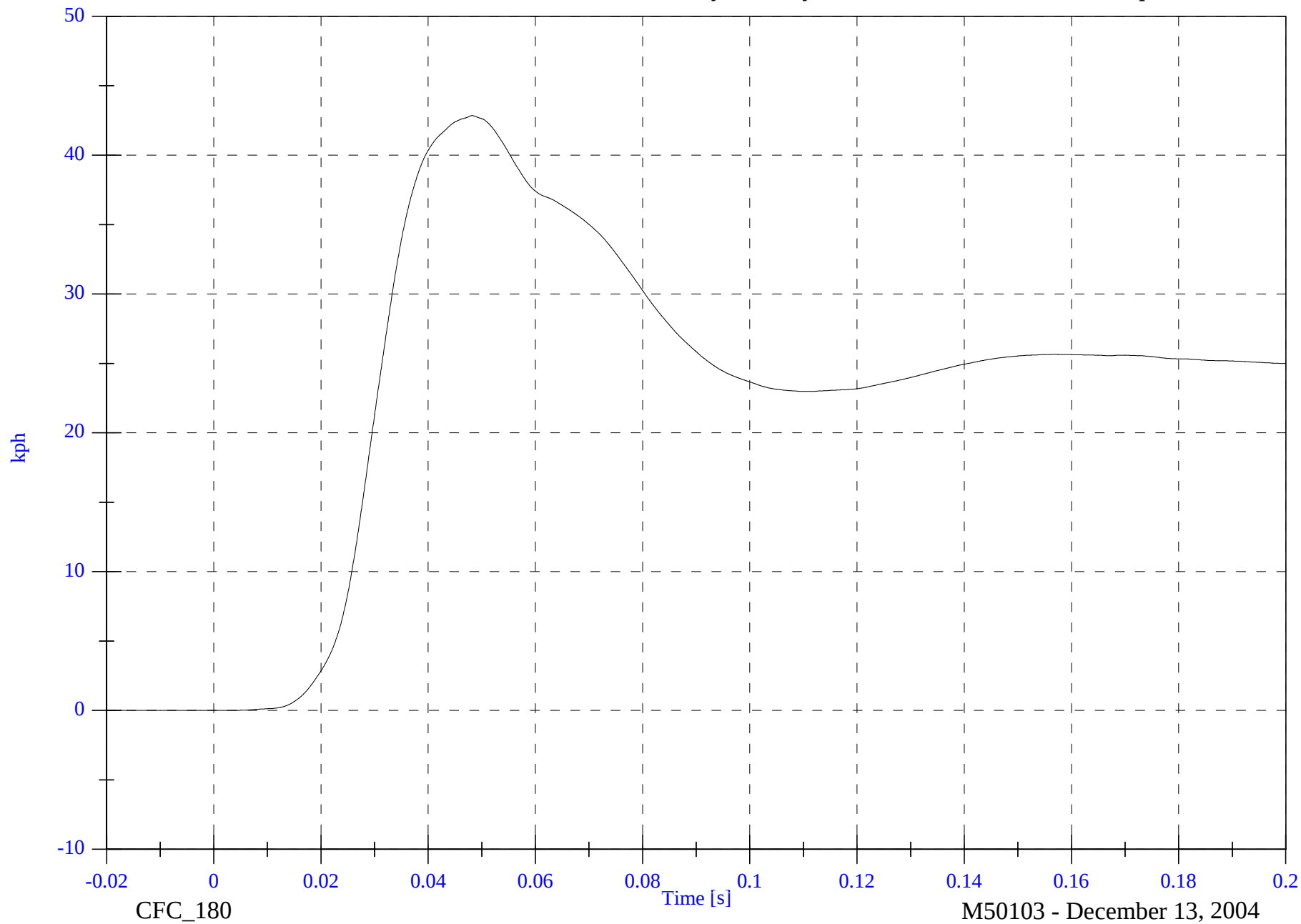
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Pelvic y Velocity

Max: 42.9 [kph] at 0.048 [s]

Min: -0.0 [kph] at -0.020 [s]



B-28

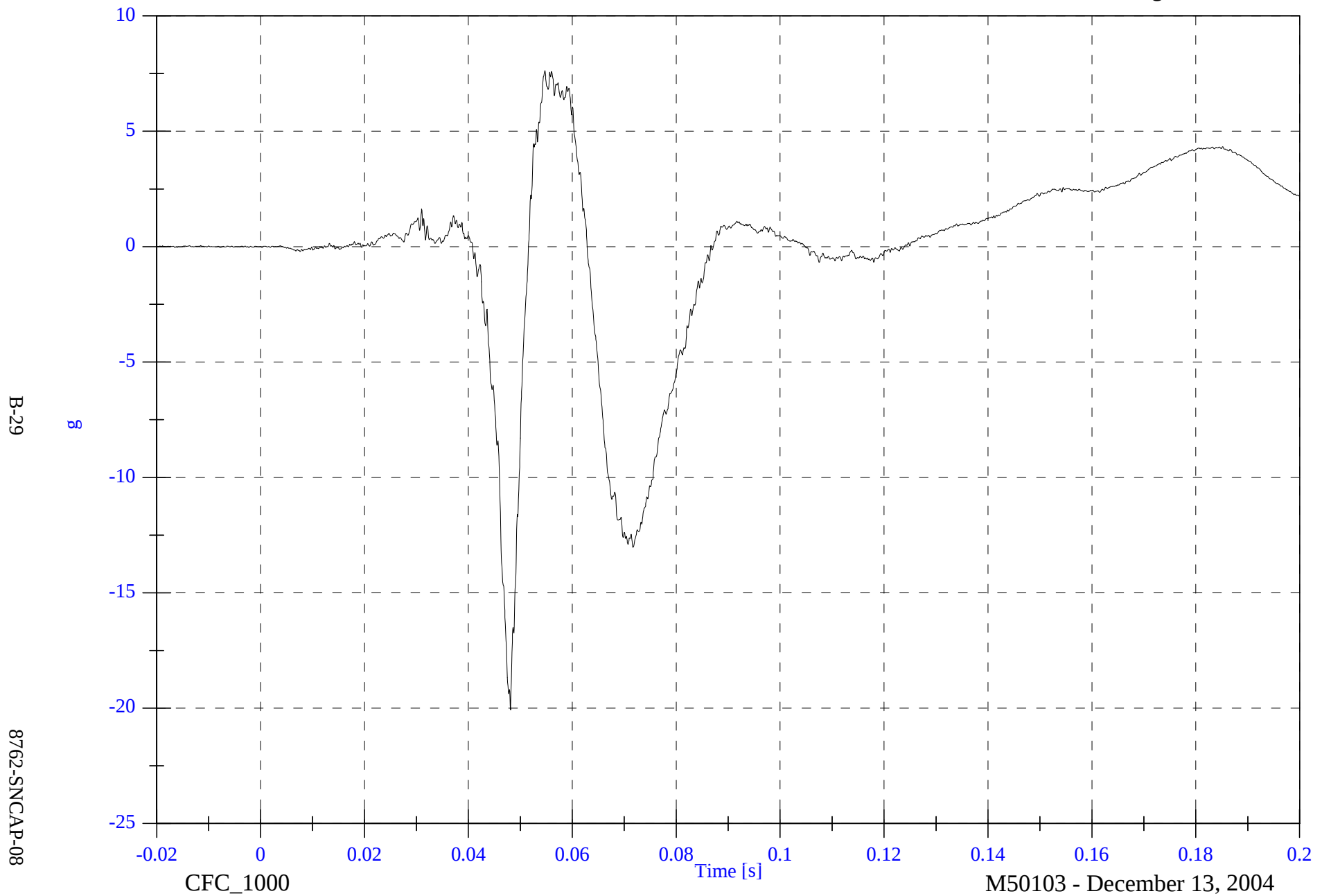
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Head x

Max: 7.6 [g] at 0.055 [s]

Min: -20.1 [g] at 0.048 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

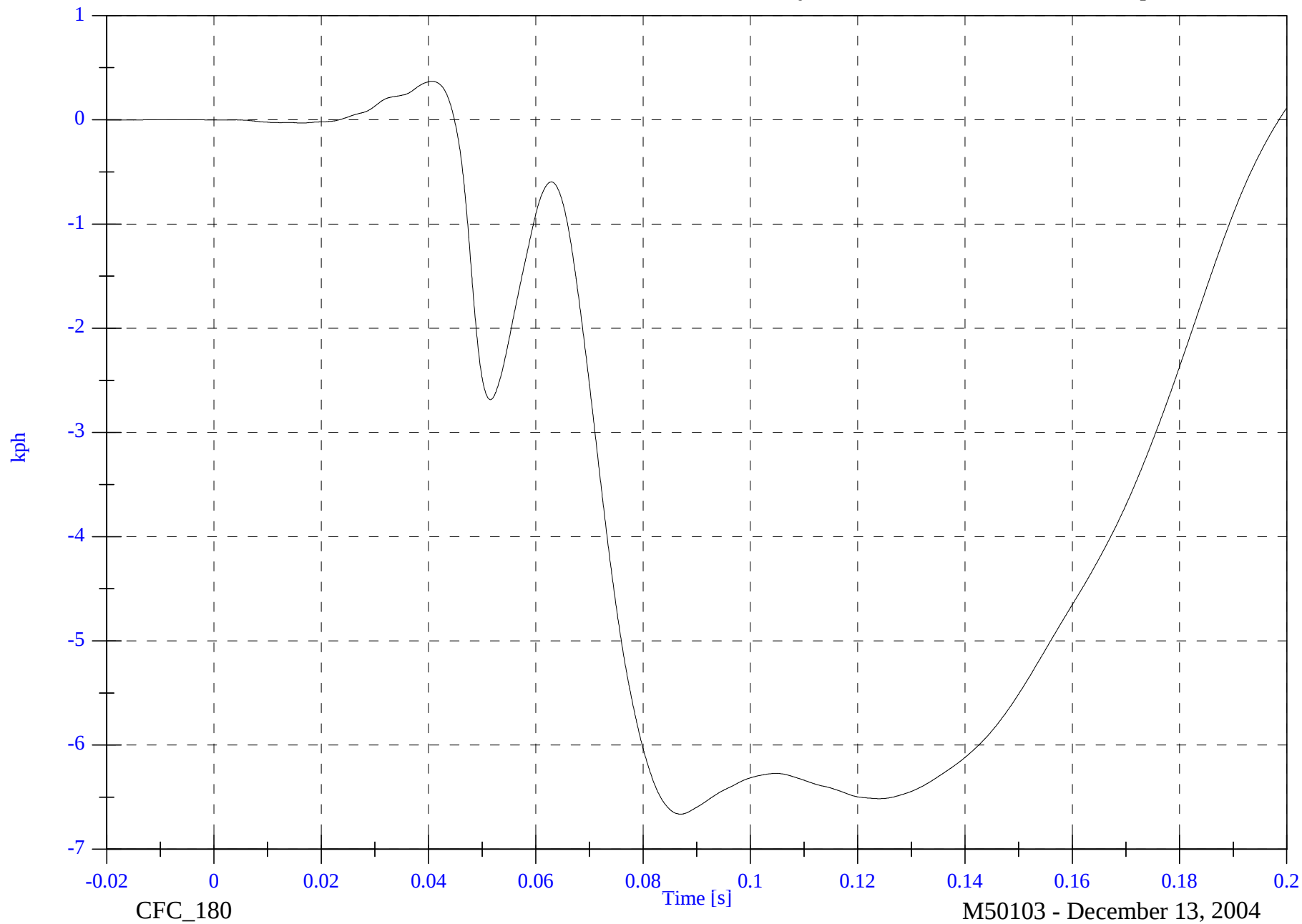
V2P4 Head x Velocity

Max: 0.4 [kph] at 0.041 [s]

Min: -6.7 [kph] at 0.087 [s]

B-30

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2005 SNCAP Test 3 2005 Buick Lacrosse

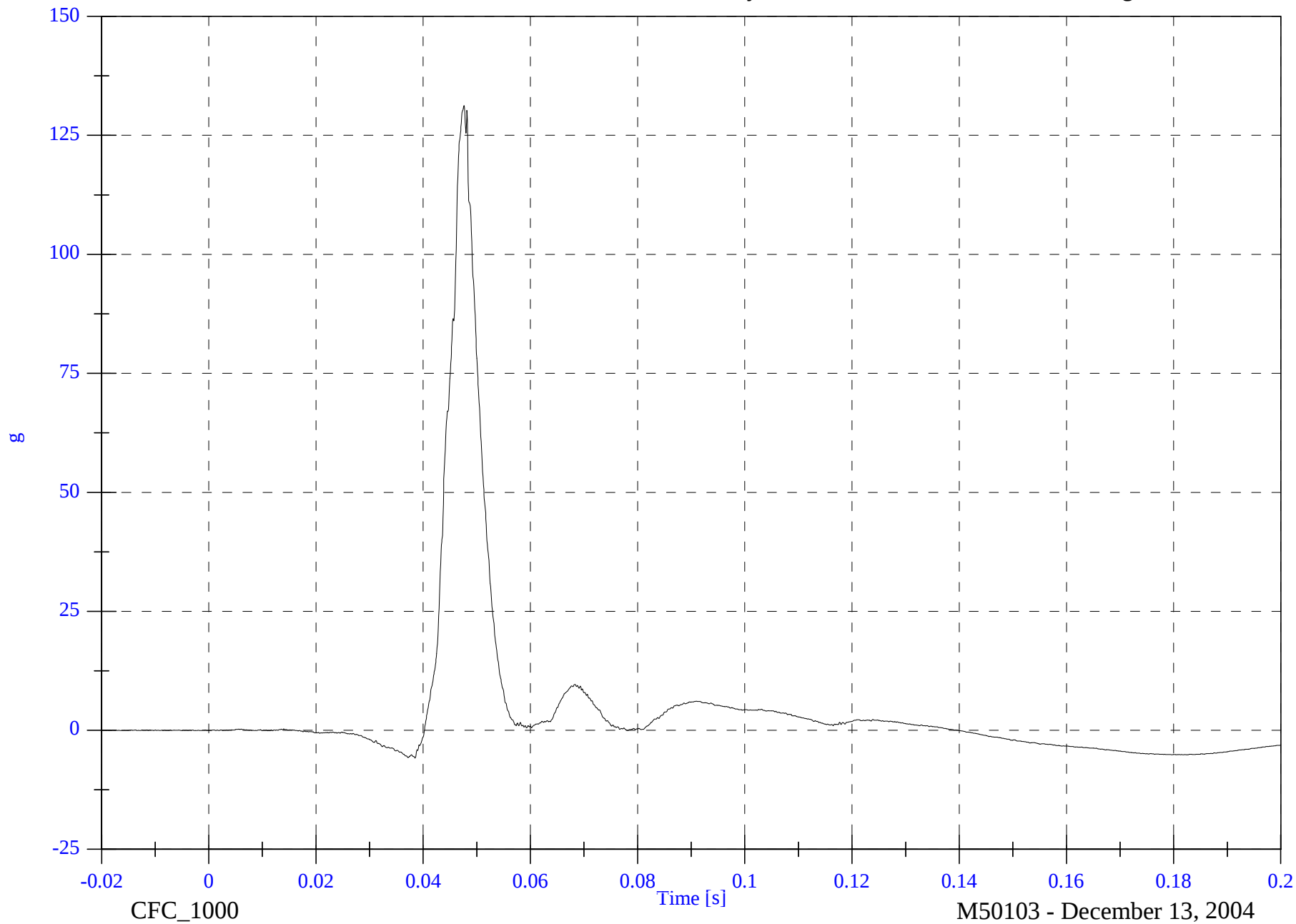
V2P4 Head y

Max: 131.2 [g] at 0.048 [s]

Min: -5.8 [g] at 0.038 [s]

B-31

8762-SNCAP-08

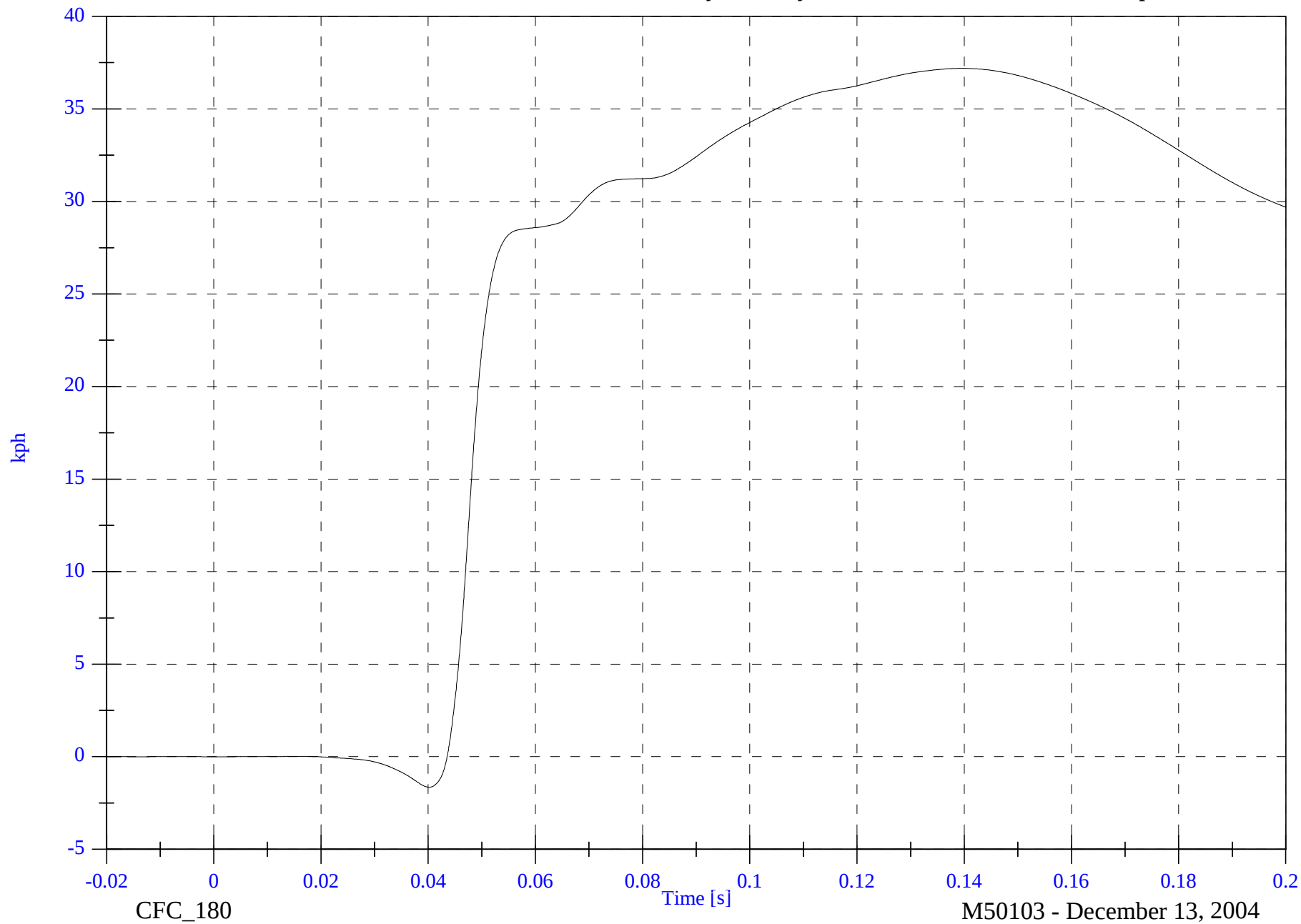


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Head y Velocity

Max: 37.2 [kph] at 0.140 [s]

Min: -1.6 [kph] at 0.040 [s]



B-32

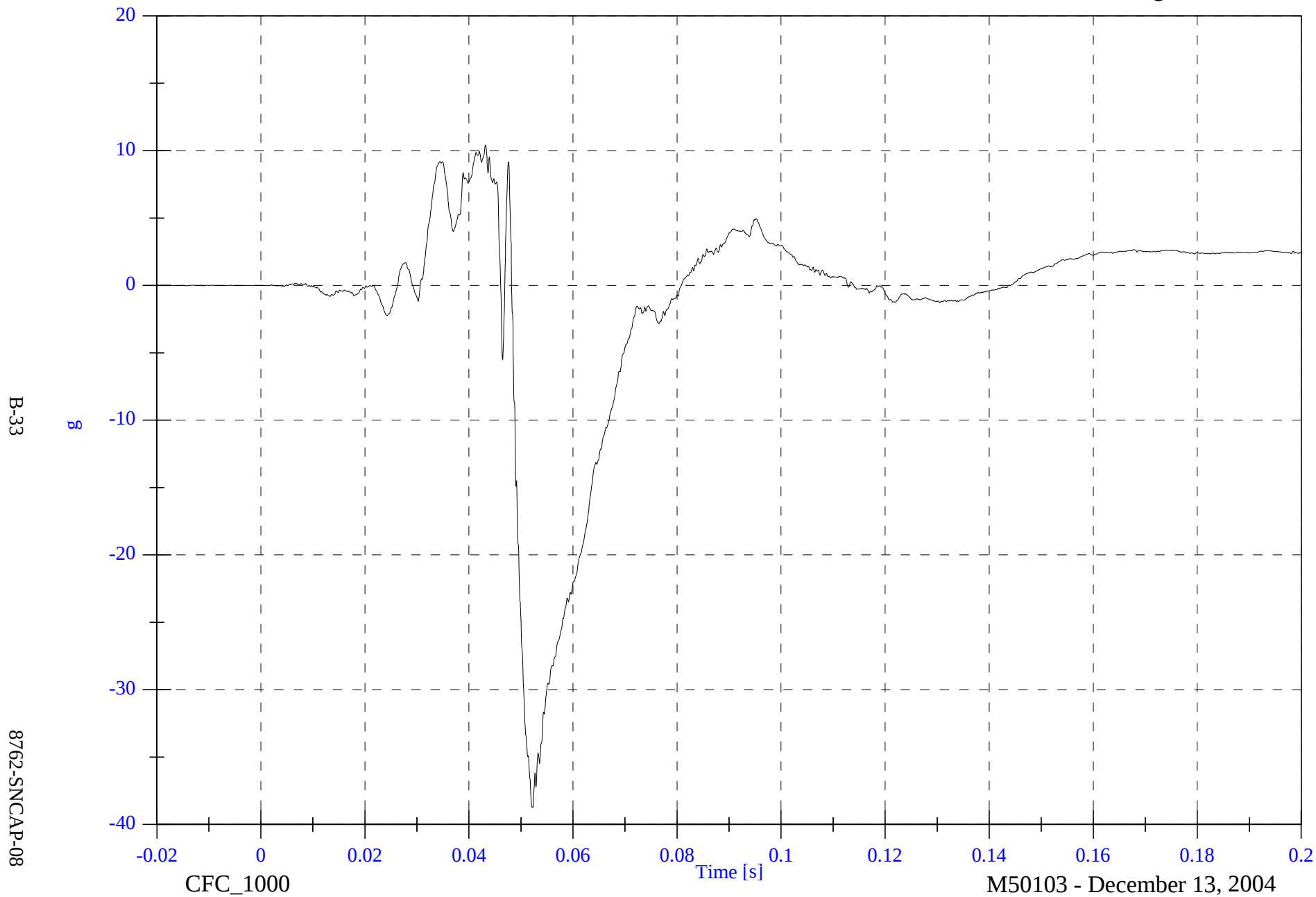
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Head z

Max: 10.4 [g] at 0.043 [s]

Min: -38.7 [g] at 0.052 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

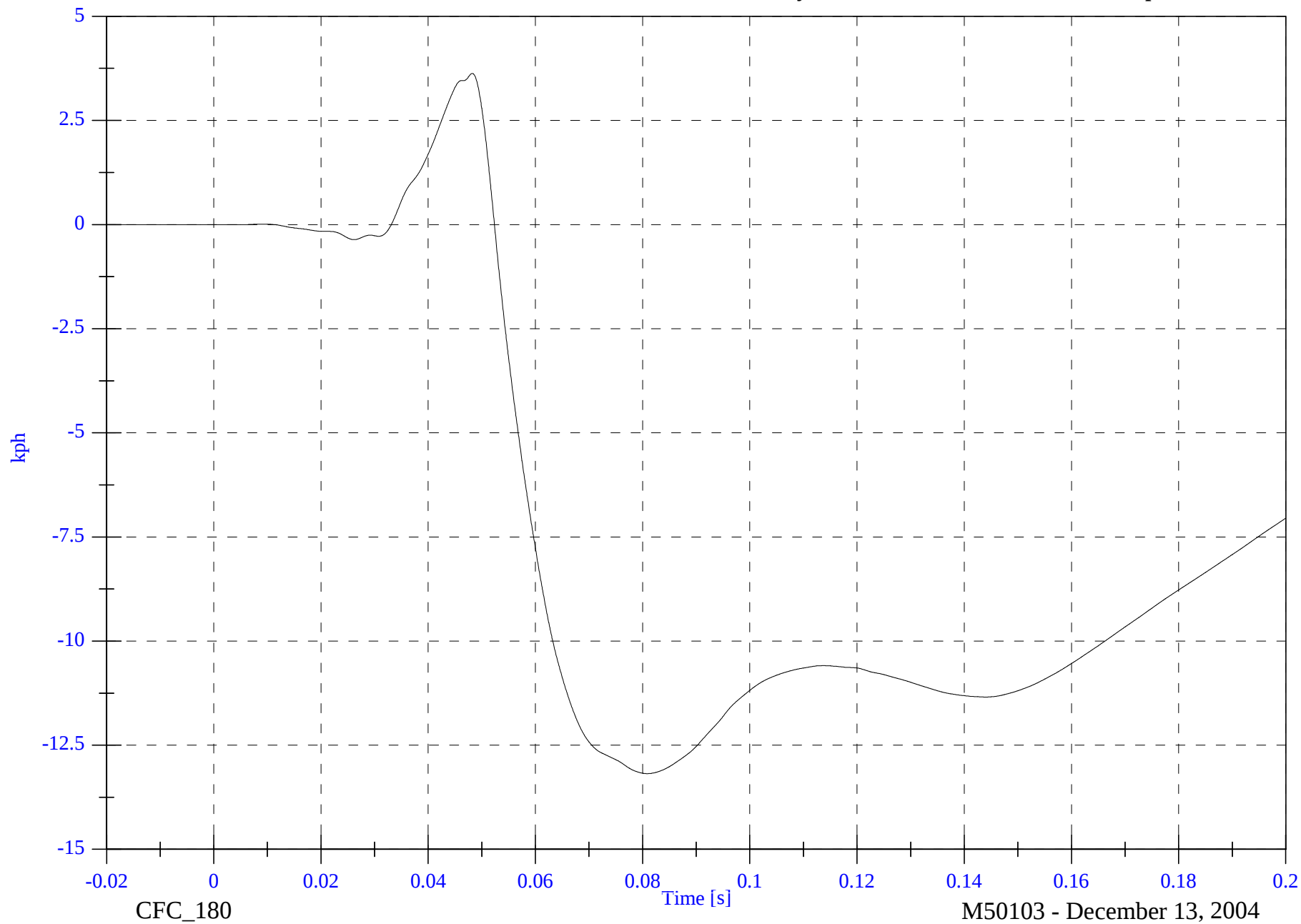
V2P4 Head z Velocity

Max: 3.6 [kph] at 0.048 [s]

Min: -13.2 [kph] at 0.081 [s]

B-34

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

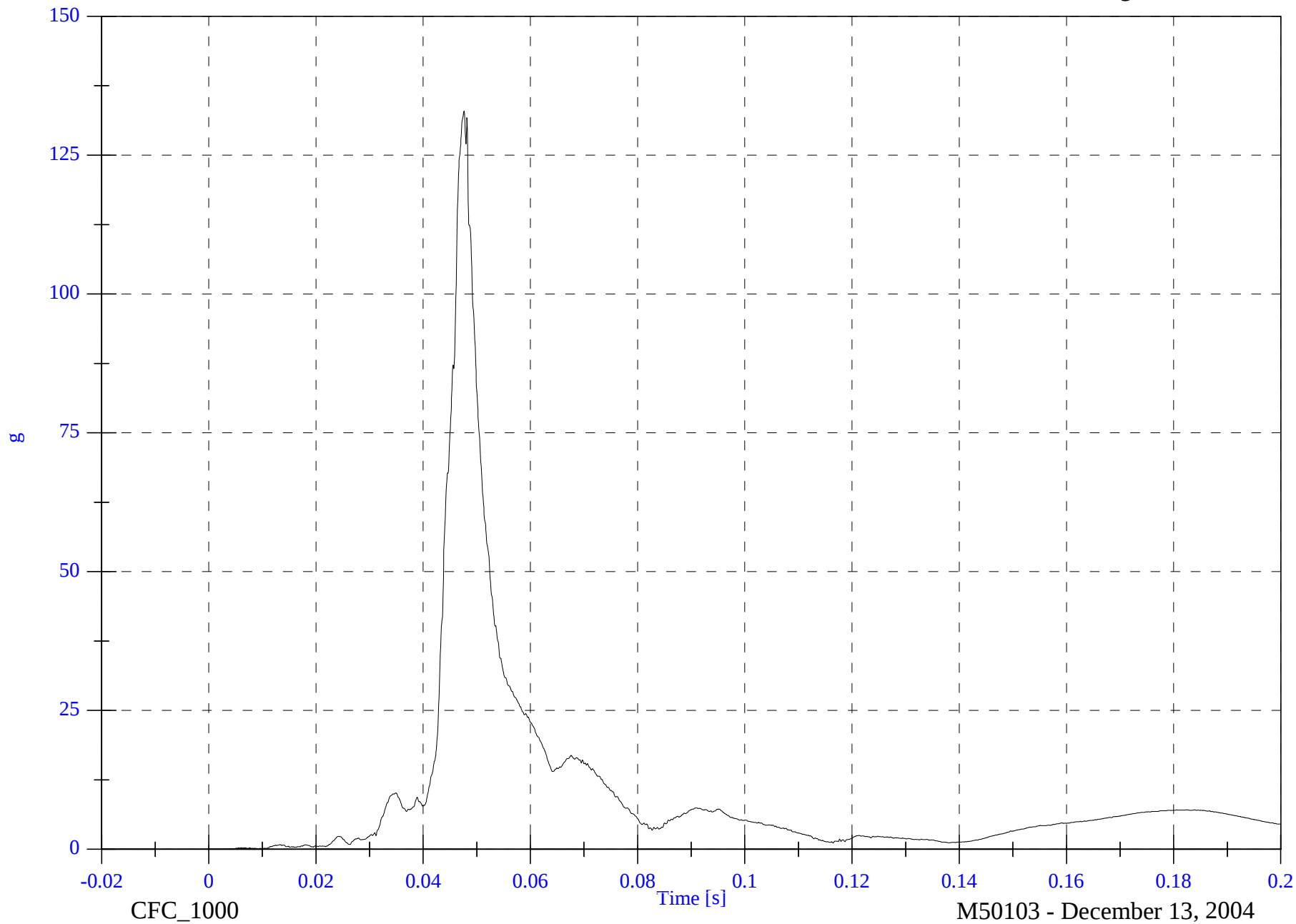
V2P4 Head Resultant

Max: 132.9 [g] at 0.048 [s]

Min: 0.0 [g] at -0.020 [s]

B-35

8762-SNCAP-08

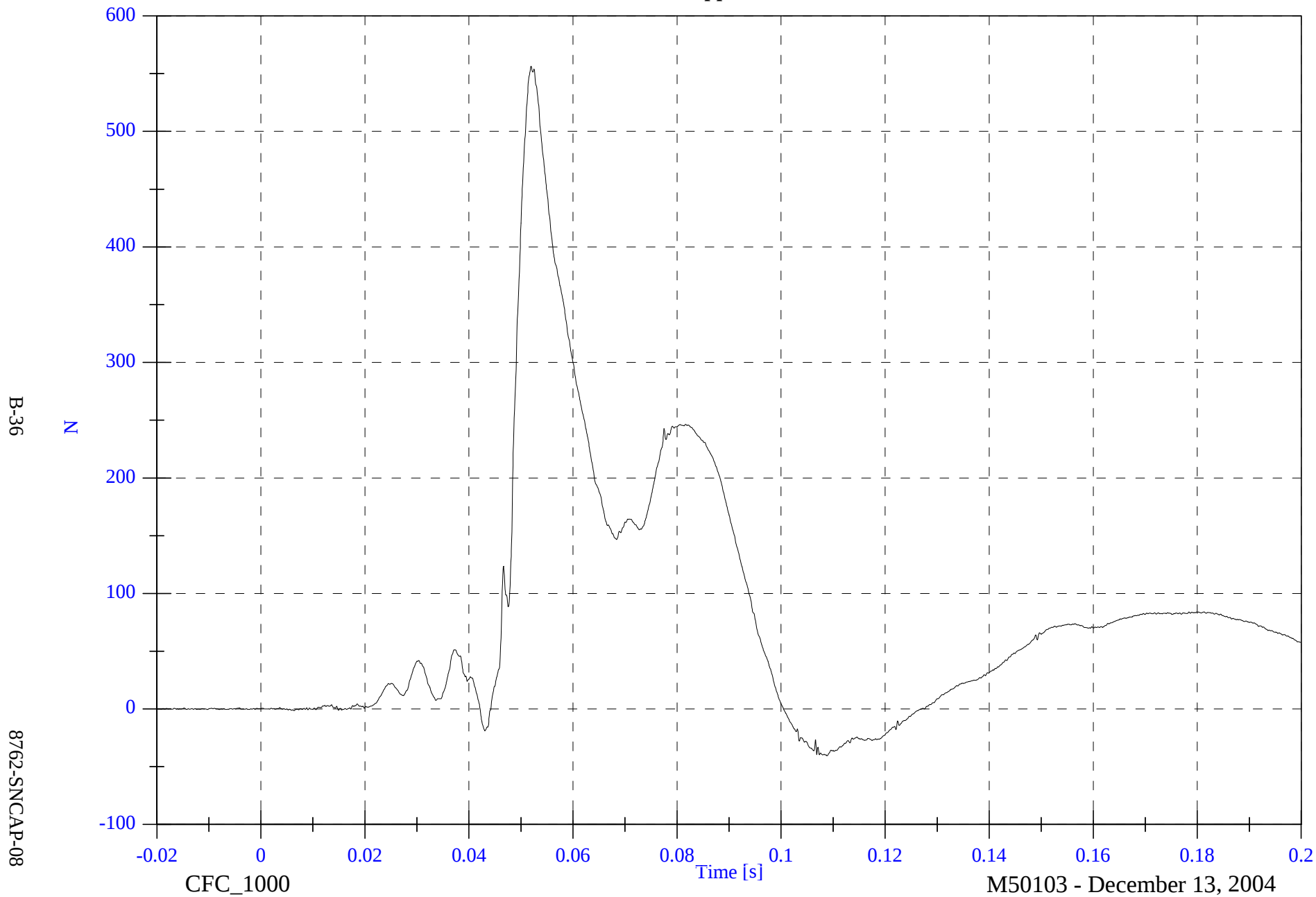


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck Fx

Max: 556.3 [N] at 0.052 [s]

Min: -40.5 [N] at 0.109 [s]

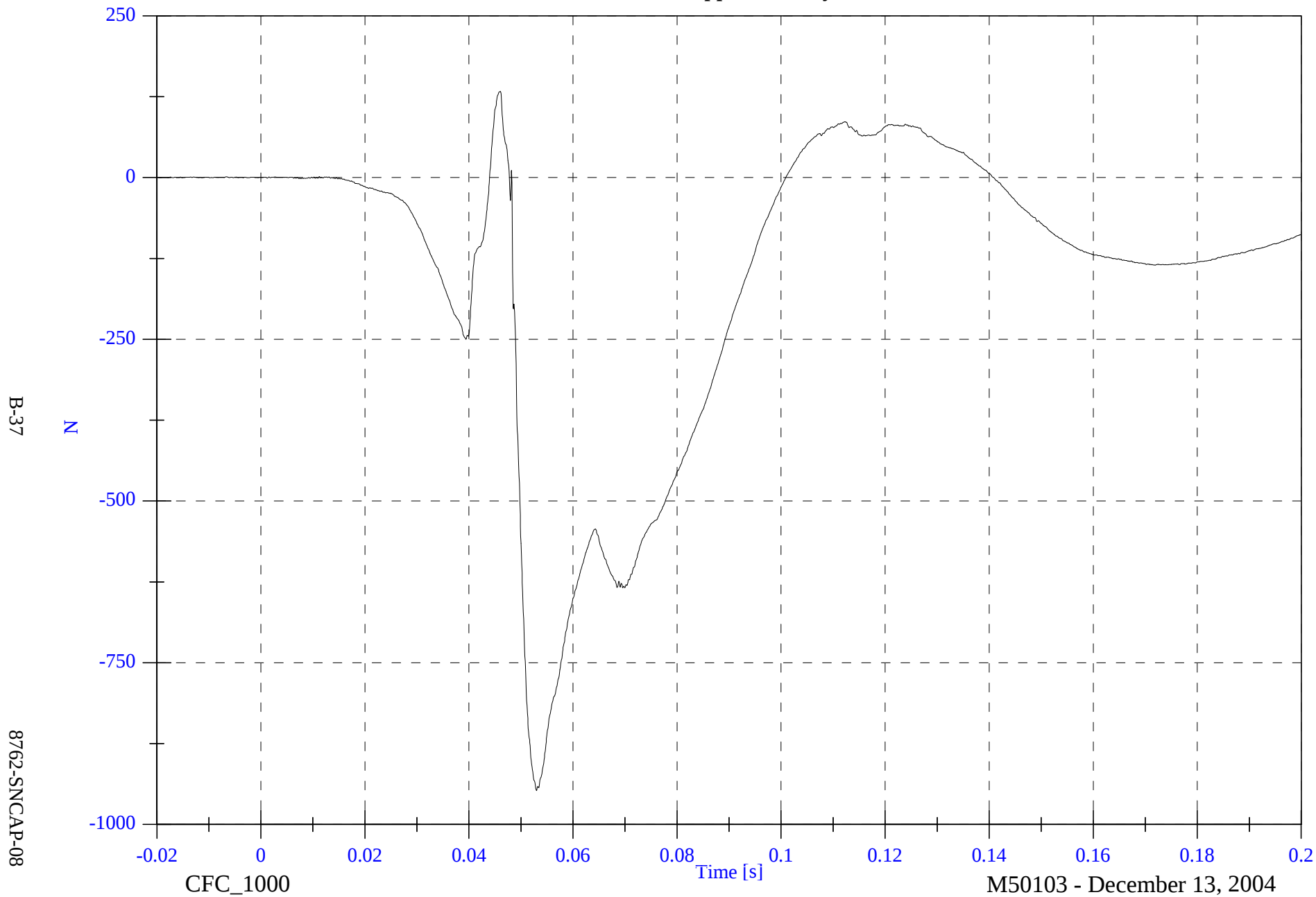


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck Fy

Max: 133.2 [N] at 0.046 [s]

Min: -947.7 [N] at 0.053 [s]

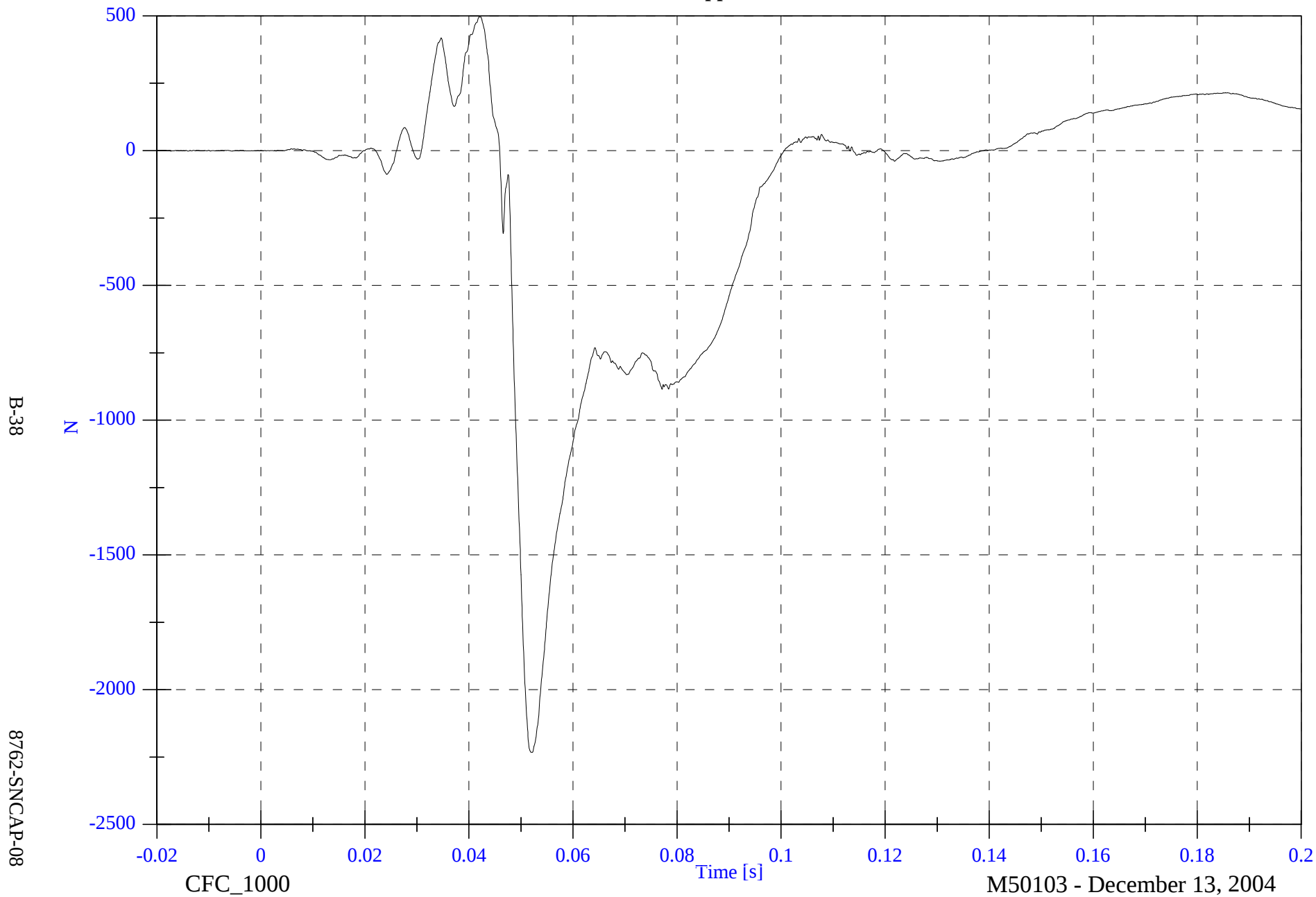


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck Fz

Max: 496.3 [N] at 0.042 [s]

Min: -2232.2 [N] at 0.052 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck F Resultant

Max: 2474.6 [N] at 0.052 [s]

Min: 0.1 [N] at -0.019 [s]

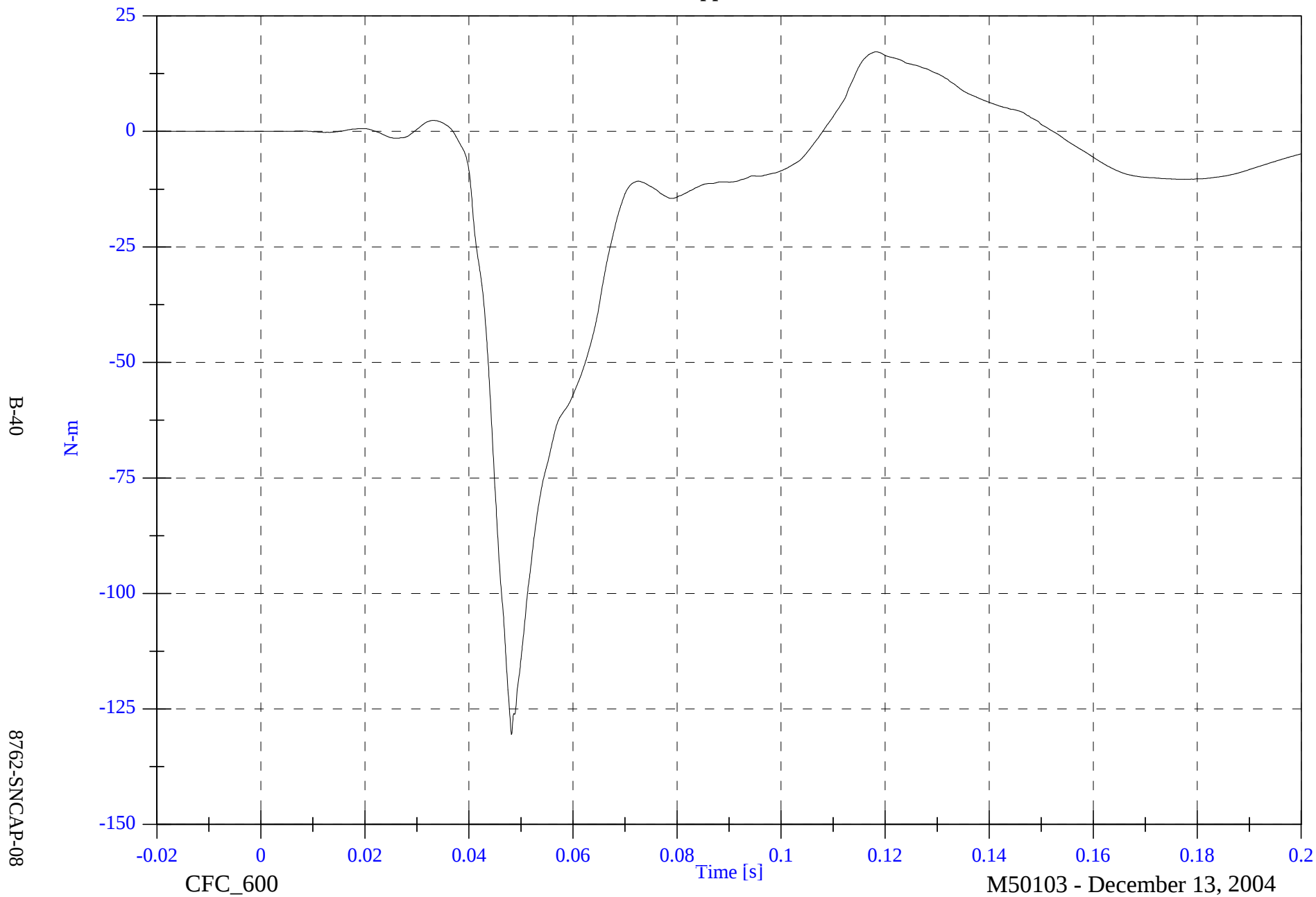


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck Mx

Max: 17.2 [N-m] at 0.118 [s]

Min: -130.5 [N-m] at 0.048 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

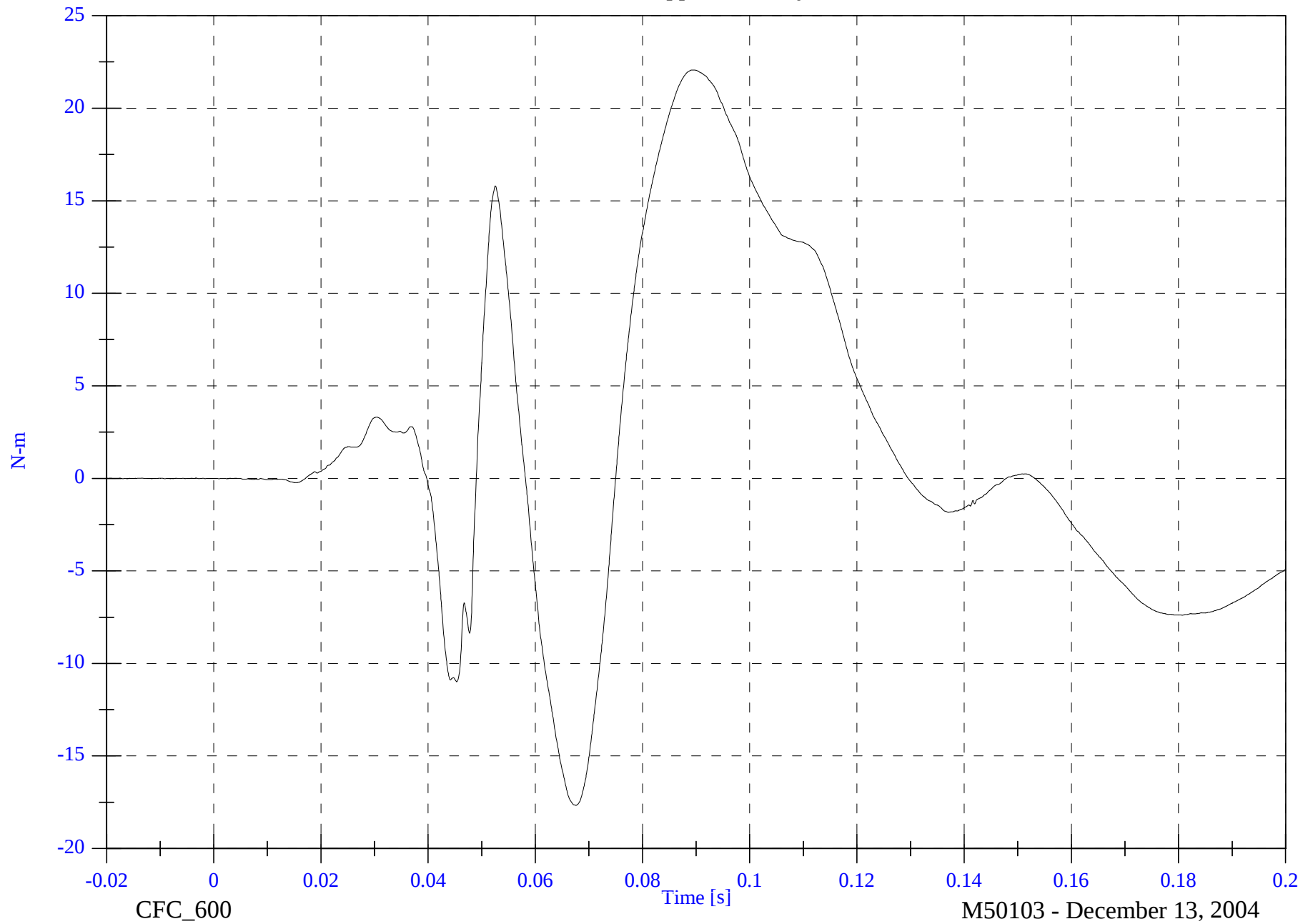
V2P4 Upper Neck My

Max: 22.1 [N-m] at 0.089 [s]

Min: -17.7 [N-m] at 0.068 [s]

B-41

8762-SNCAP-08

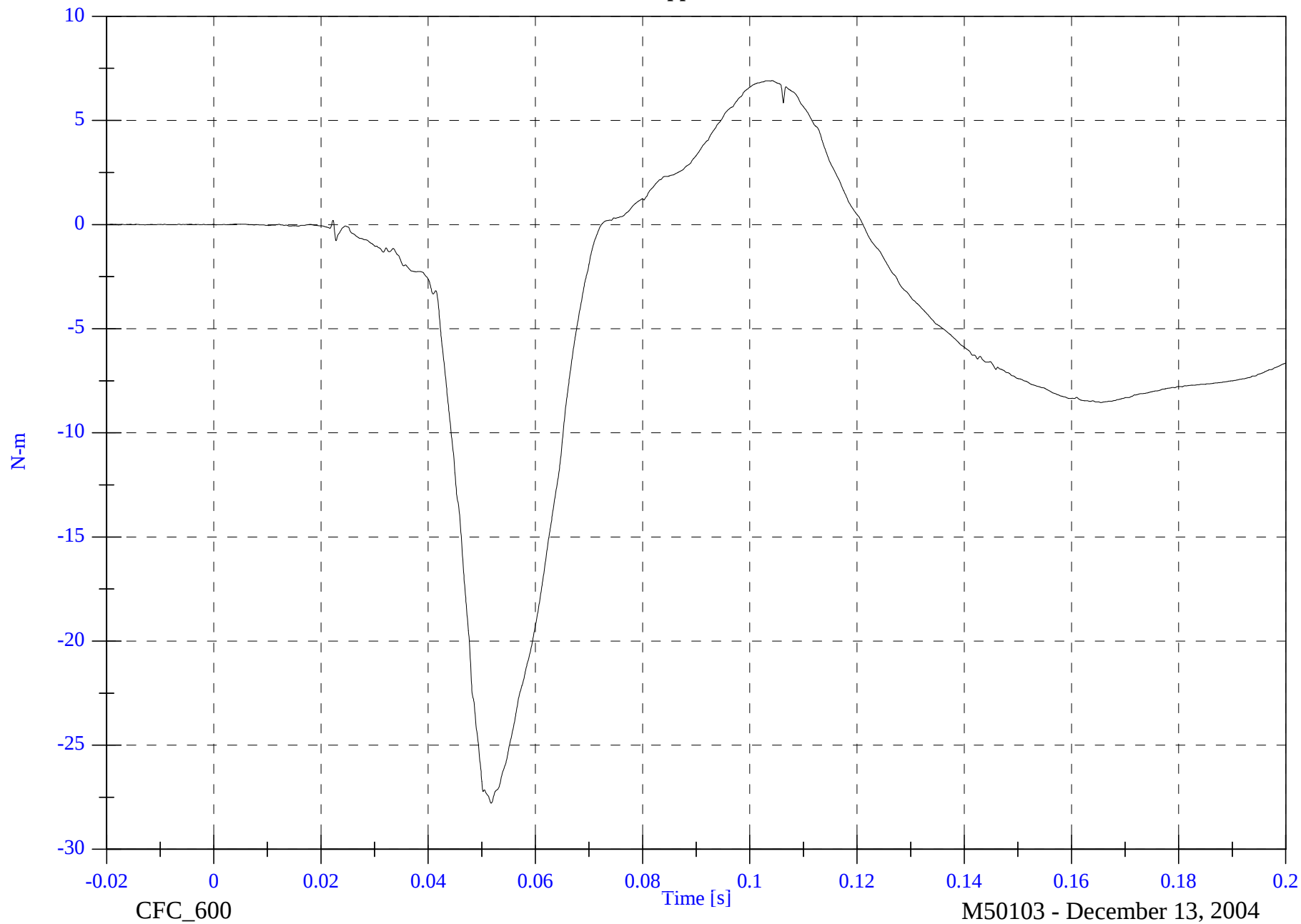


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck Mz

Max: 6.9 [N-m] at 0.104 [s]

Min: -27.8 [N-m] at 0.052 [s]



B-42

8762-SNCAP-08

CFC_600

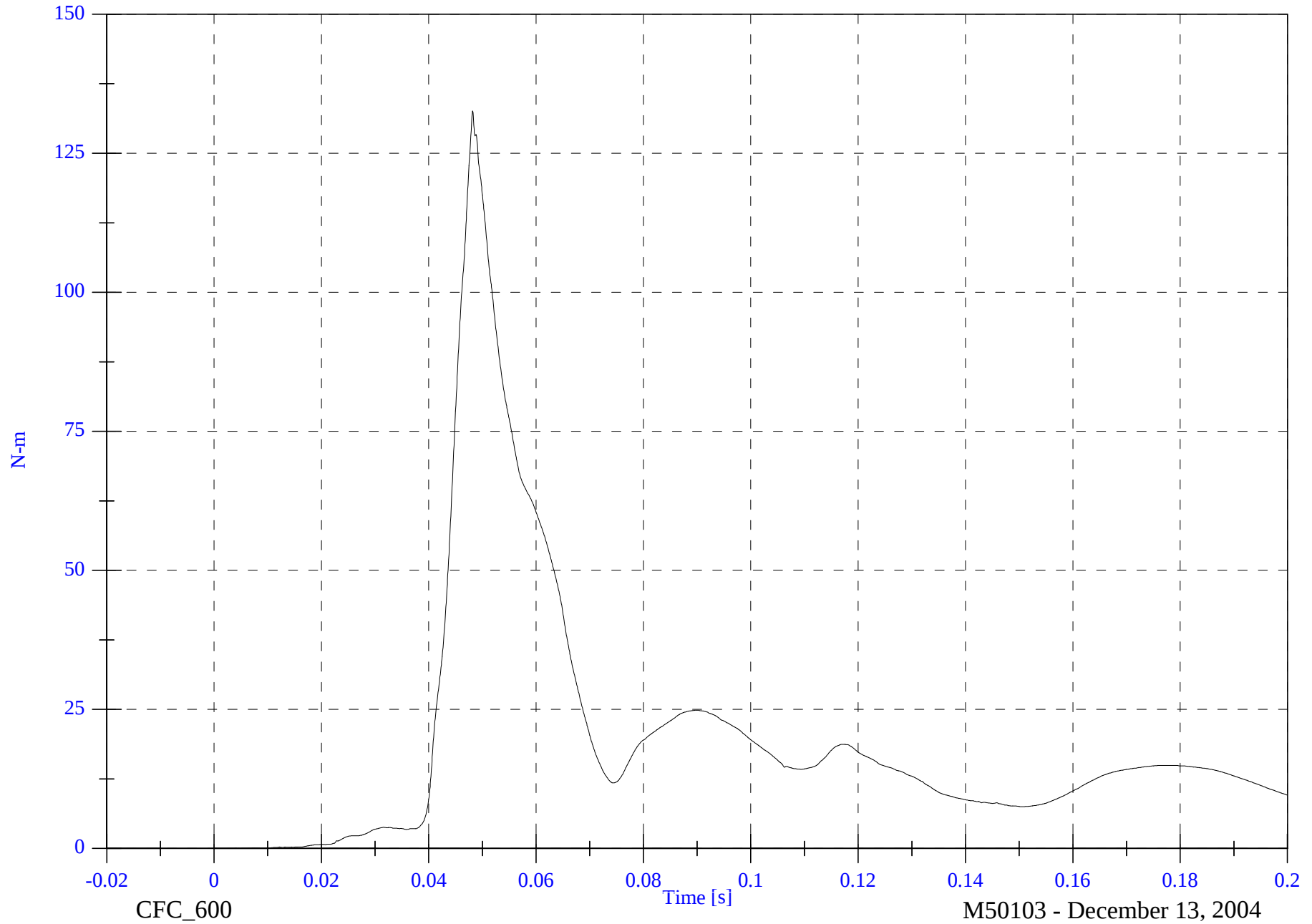
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Neck M Resultant

Max: 132.6 [N-m] at 0.048 [s]

Min: 0.0 [N-m] at -0.012 [s]

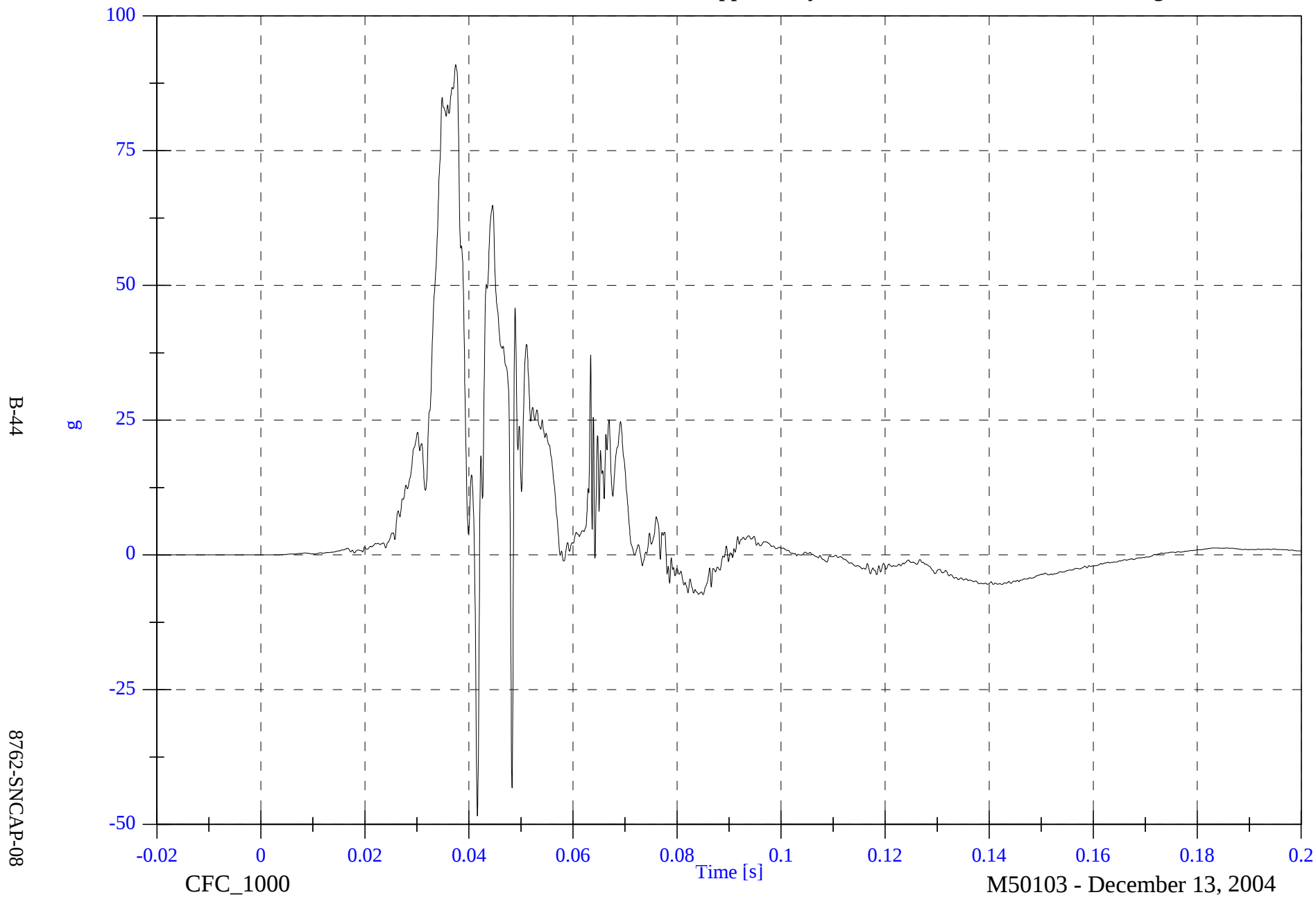


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Rib y

Max: 90.9 [g] at 0.037 [s]

Min: -48.4 [g] at 0.042 [s]

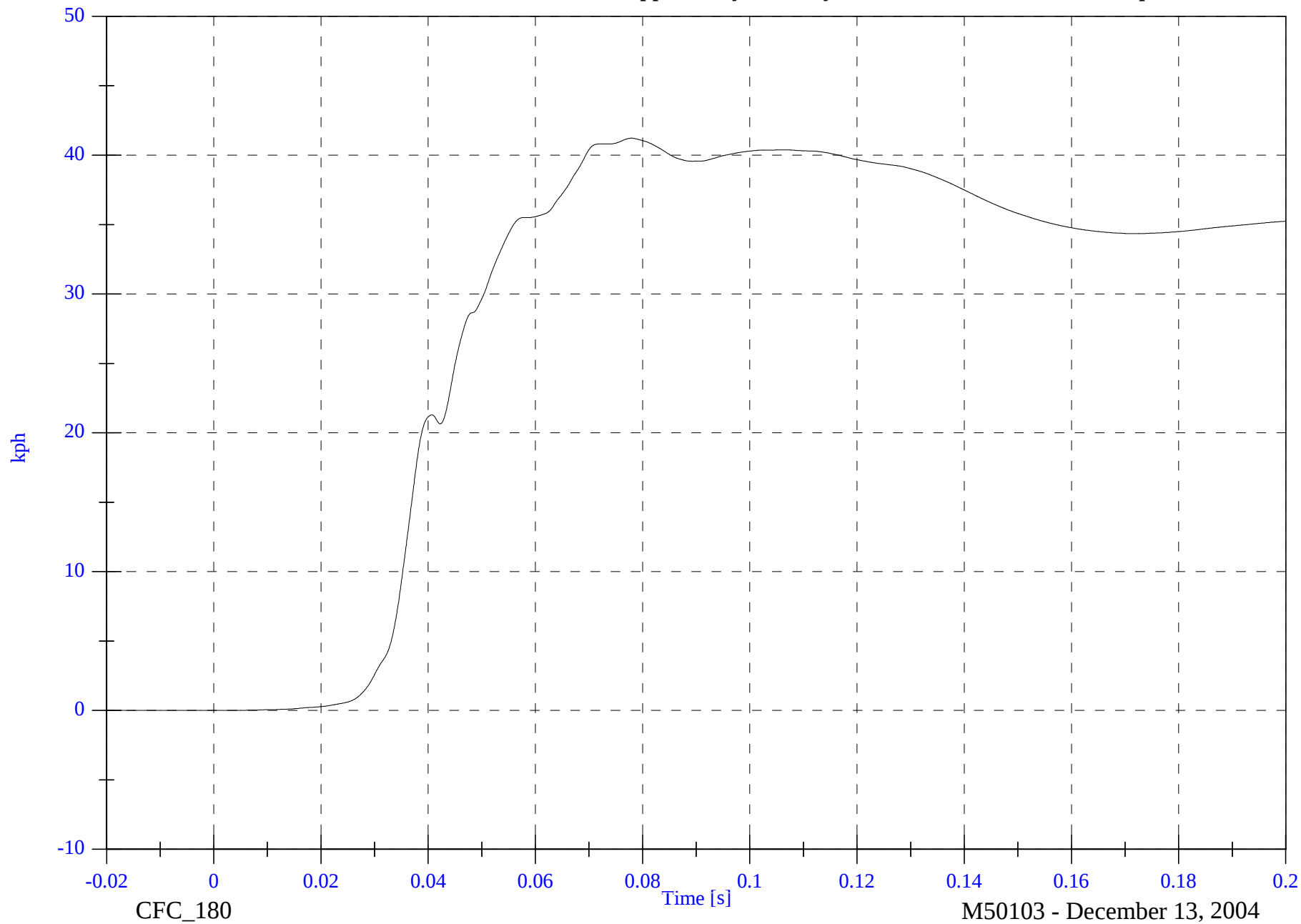


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Rib y Velocity

Max: 41.2 [kph] at 0.078 [s]

Min: -0.0 [kph] at -0.020 [s]



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8762-SNCAP-08

CFC_180

M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

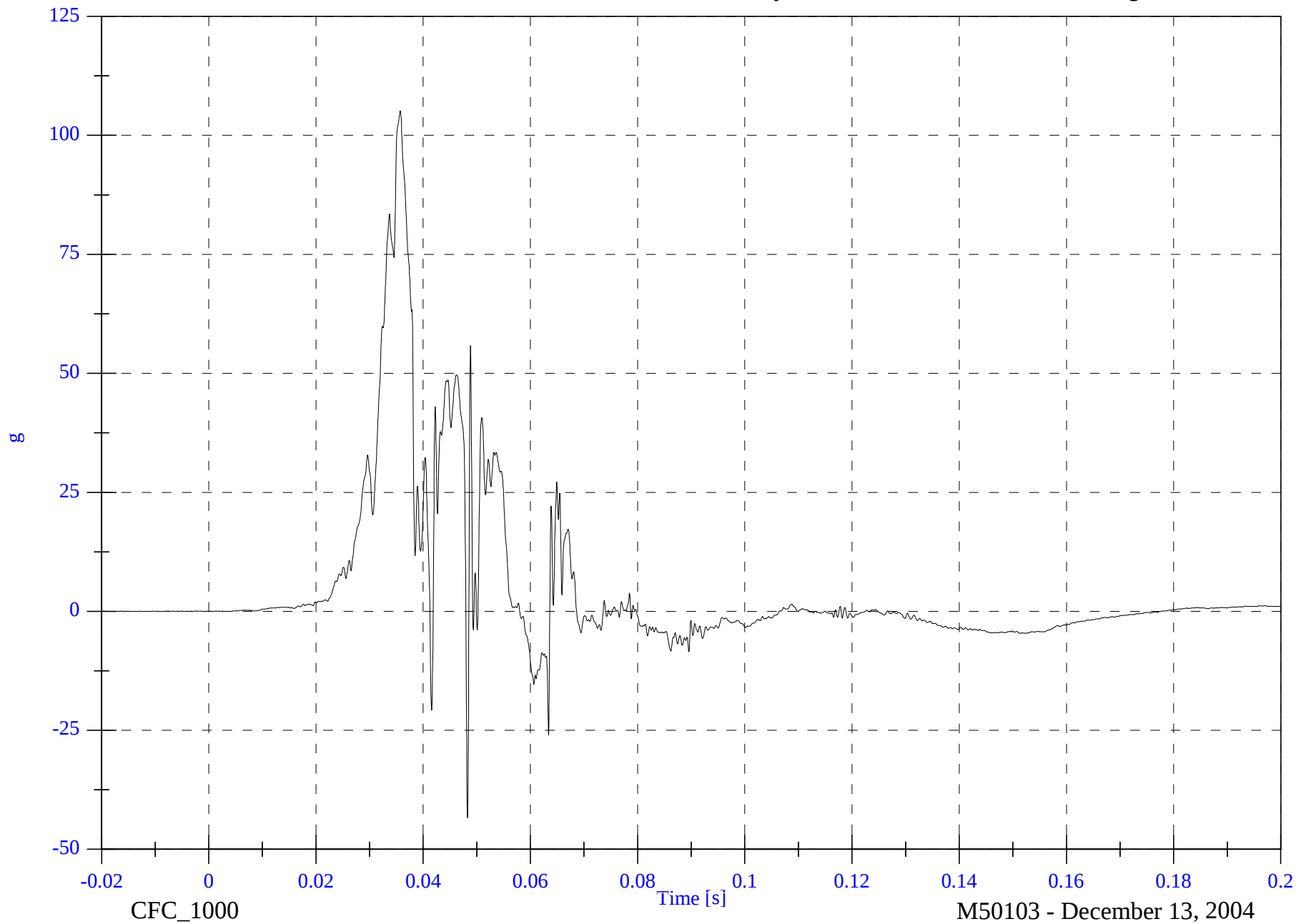
V2P4 Lower Rib y

Max: 105.2 [g] at 0.036 [s]

Min: -43.4 [g] at 0.048 [s]

B-46

8762-SNCAP-08

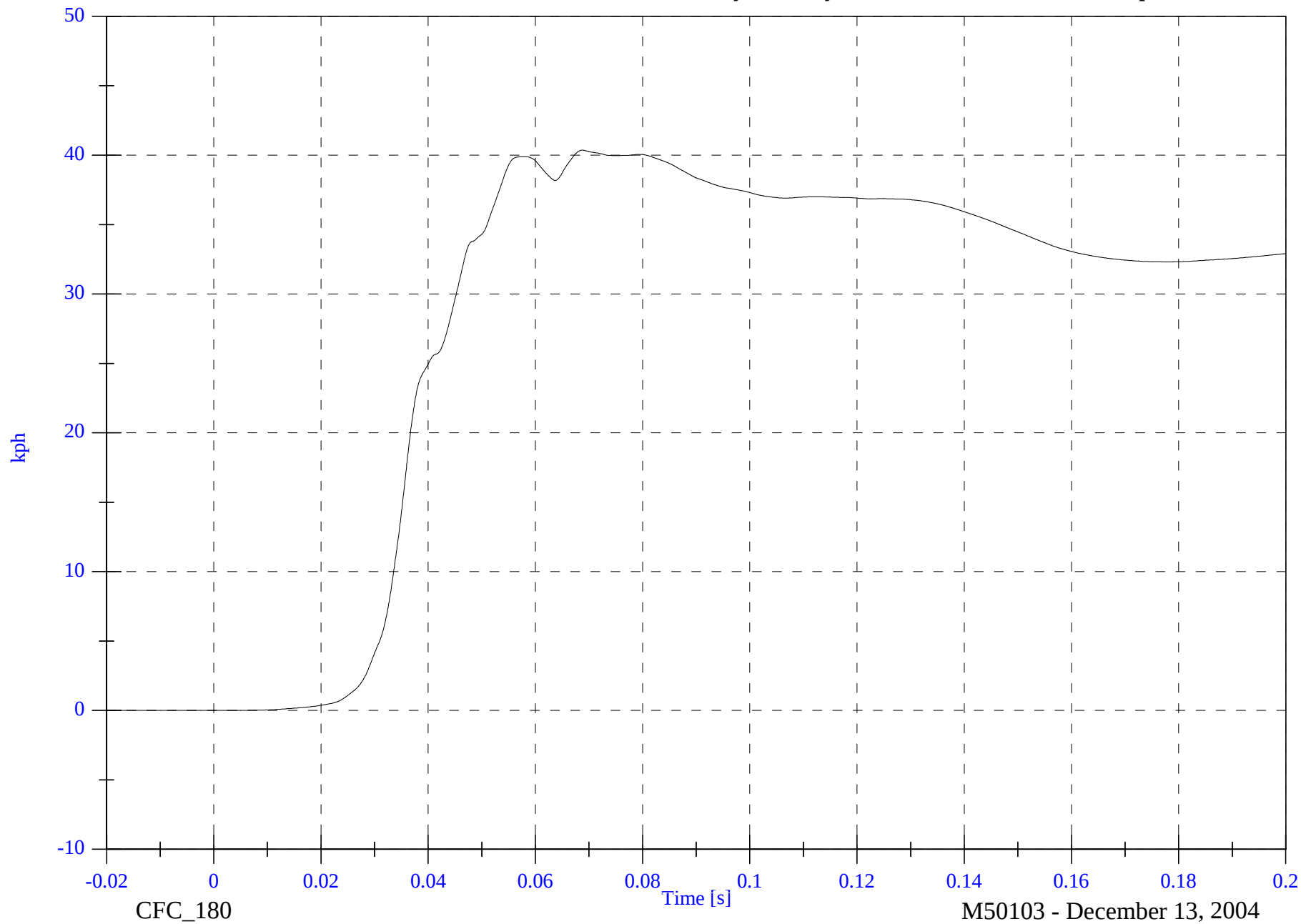


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Rib y Velocity

Max: 40.4 [kph] at 0.069 [s]

Min: -0.0 [kph] at -0.017 [s]



B-47

8762-SNCAP-08

CFC_180

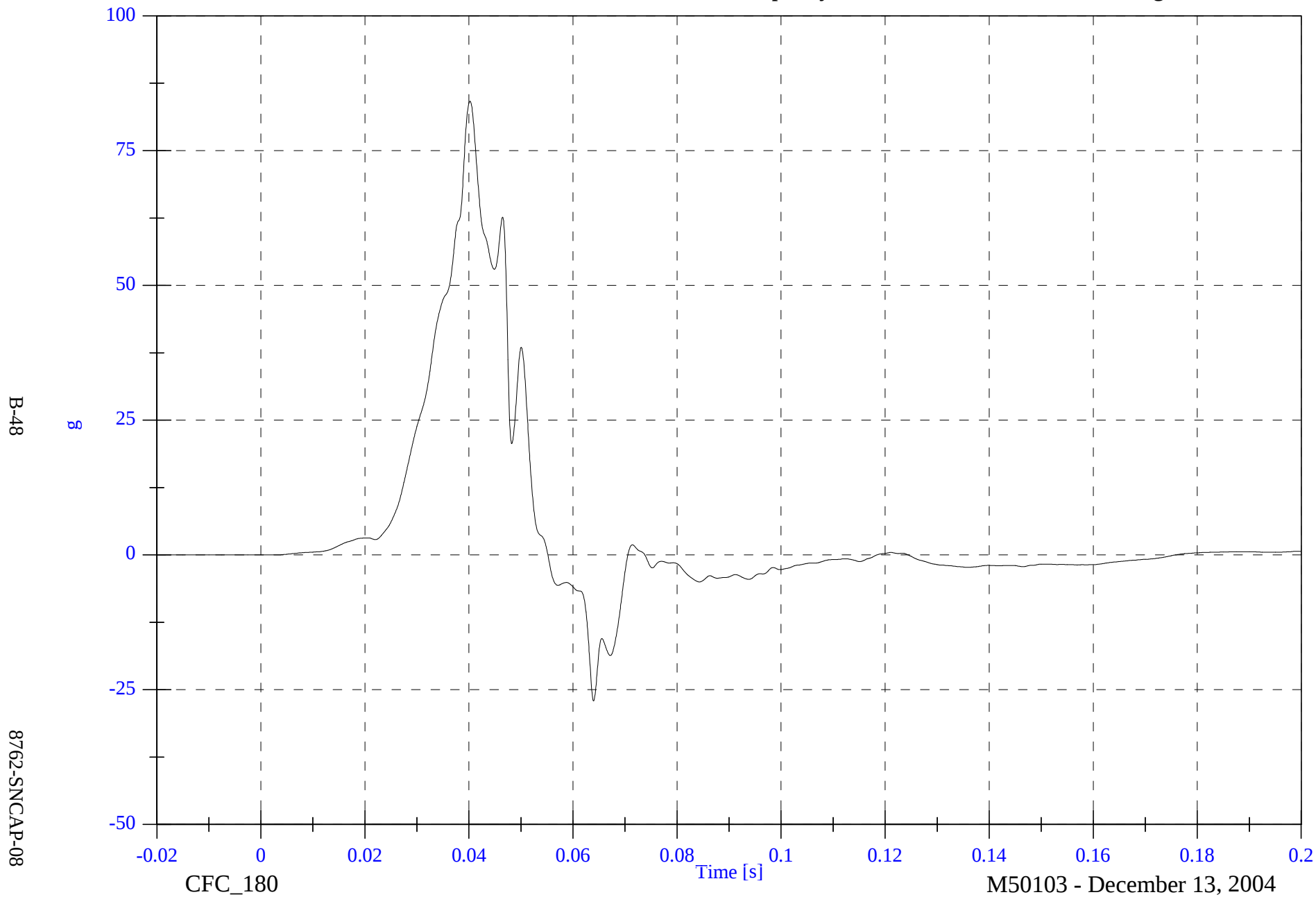
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Spine y

Max: 84.2 [g] at 0.040 [s]

Min: -27.1 [g] at 0.064 [s]

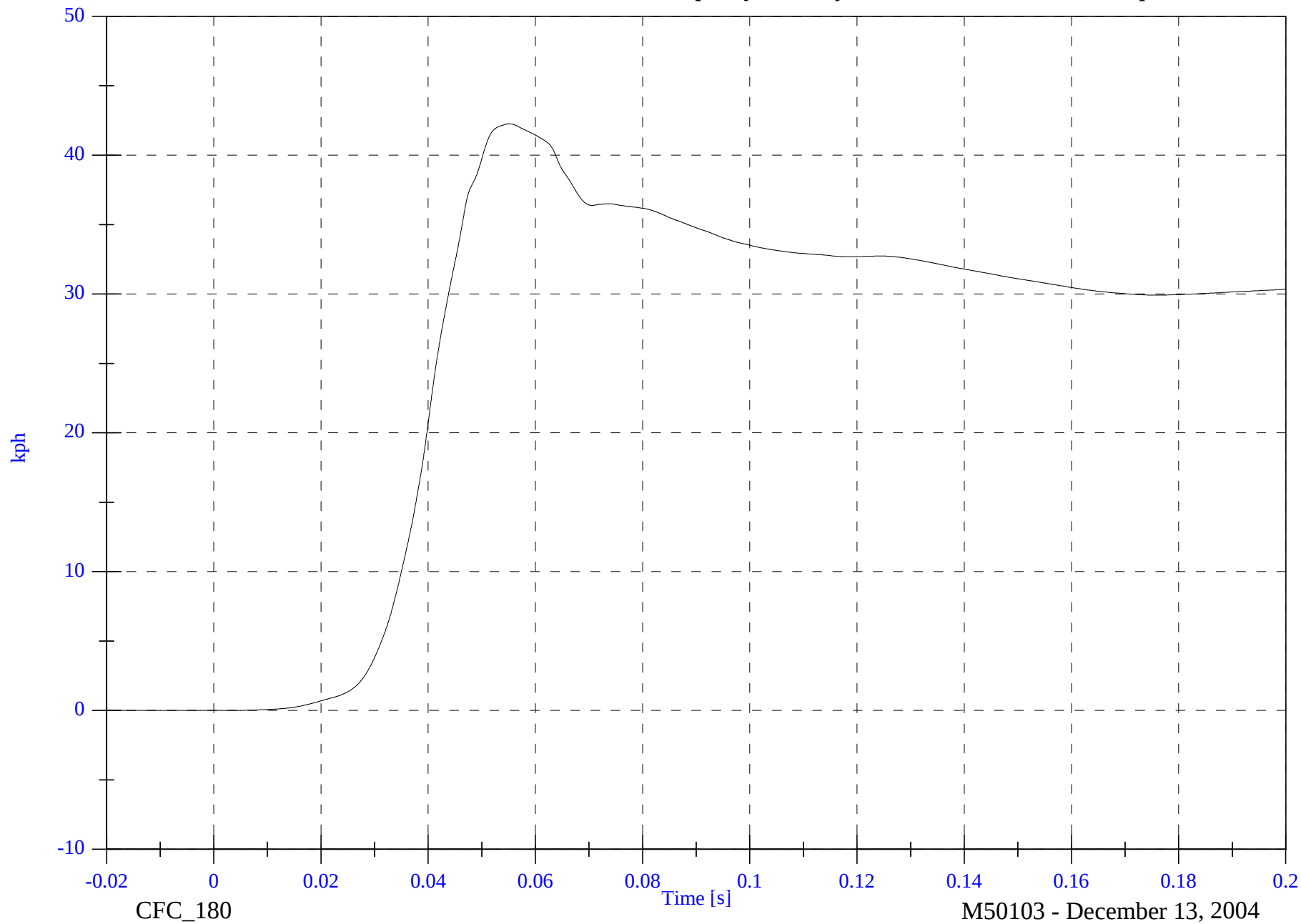


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Spine y Velocity

Max: 42.3 [kph] at 0.055 [s]

Min: -0.0 [kph] at -0.020 [s]



B-49

8762-SNCAP-08

CFC_180

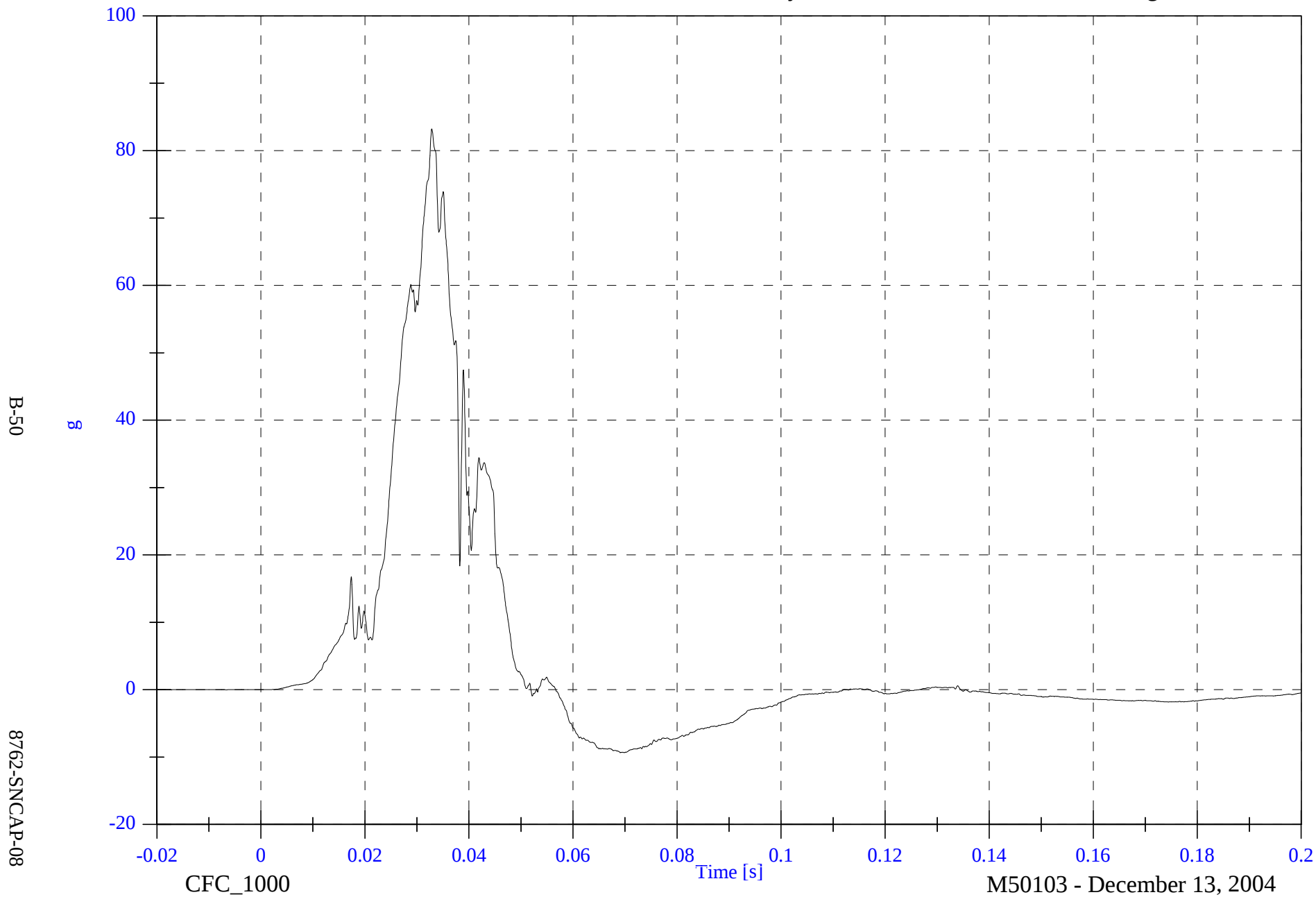
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Pelvic y

Max: 83.2 [g] at 0.033 [s]

Min: -9.3 [g] at 0.069 [s]

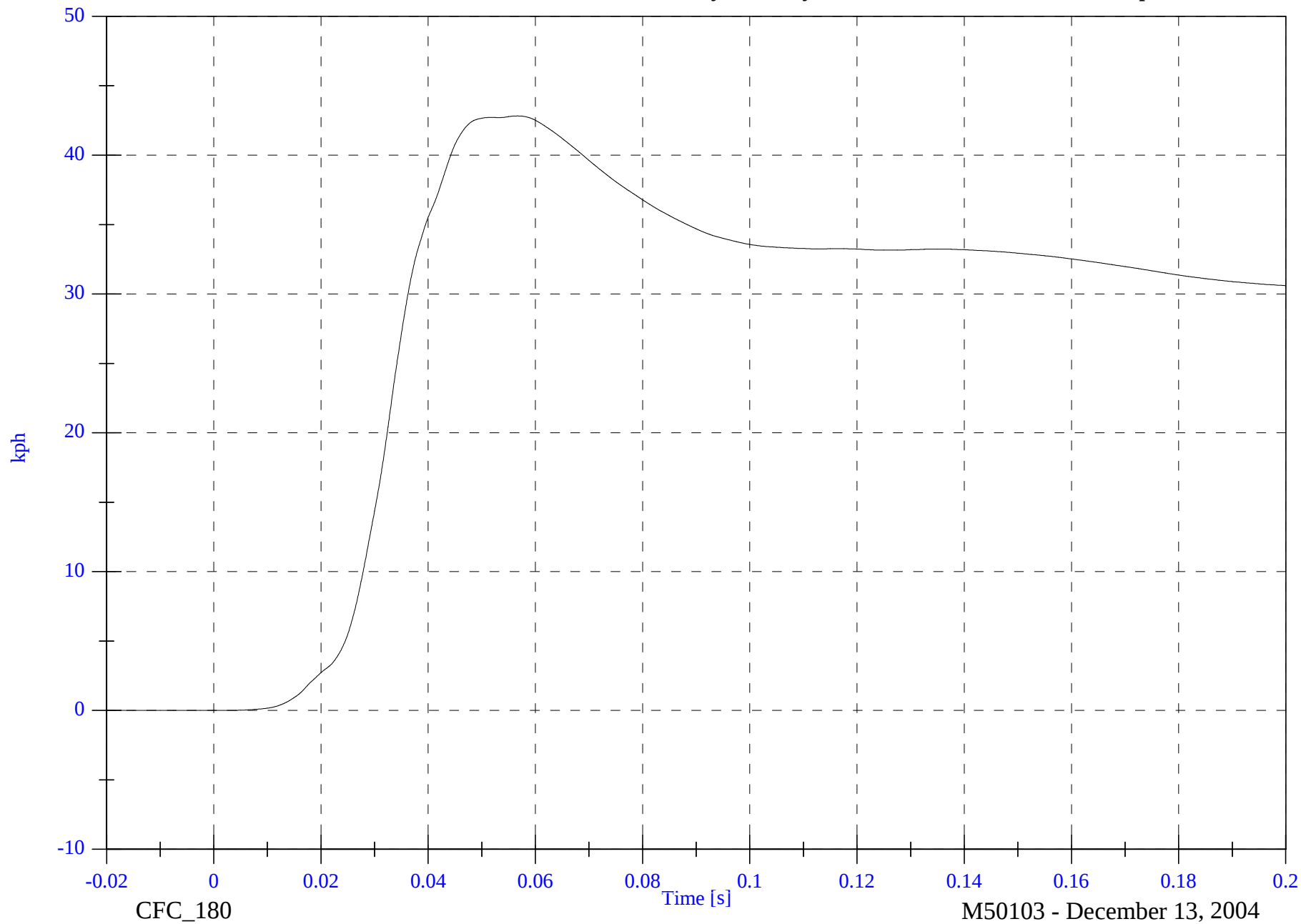


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Pelvic y Velocity

Max: 42.8 [kph] at 0.057 [s]

Min: -0.0 [kph] at -0.016 [s]



B-51

8762-SNCAP-08

CFC_180

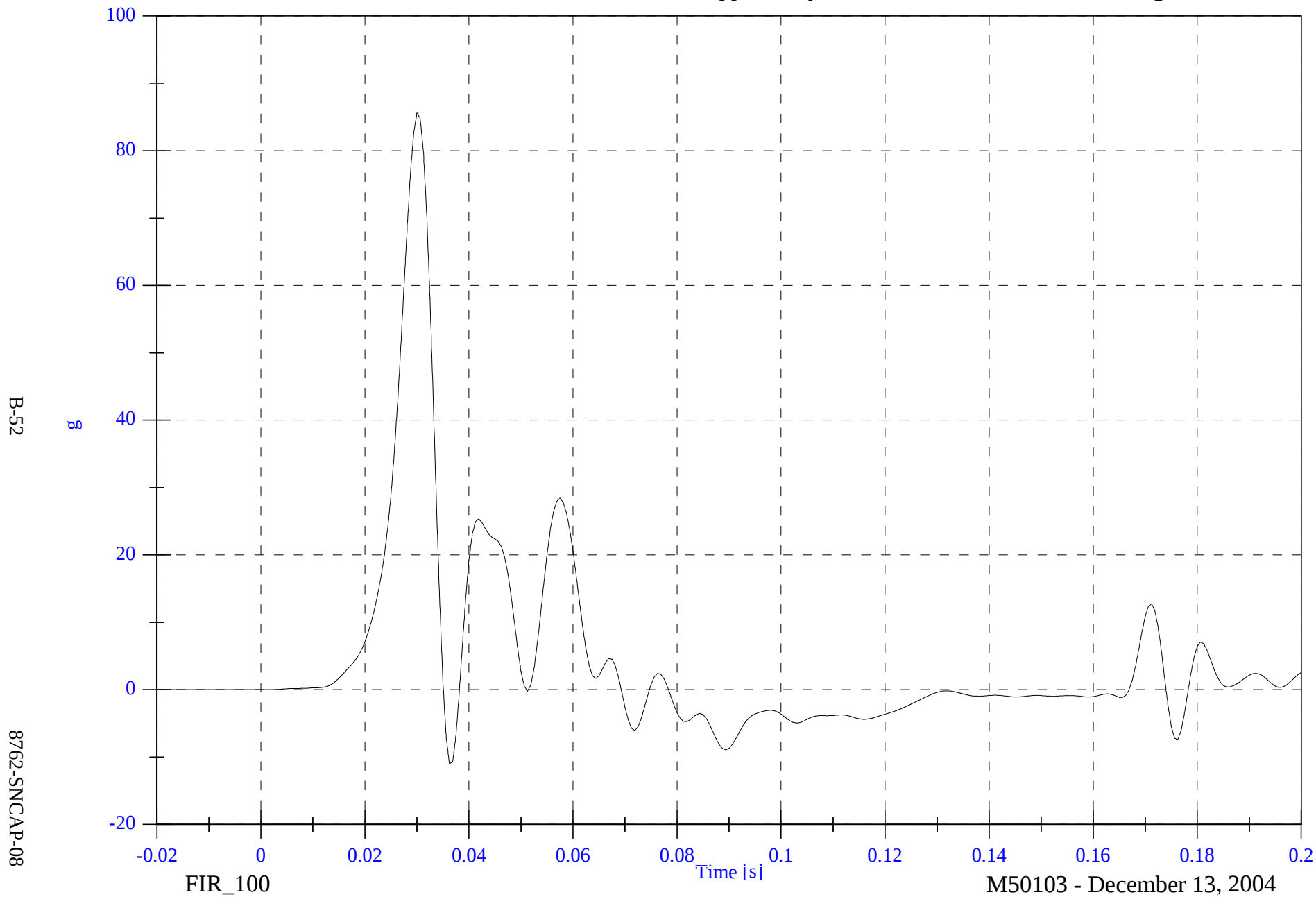
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Rib y

Max: 85.6 [g] at 0.030 [s]

Min: -11.0 [g] at 0.036 [s]

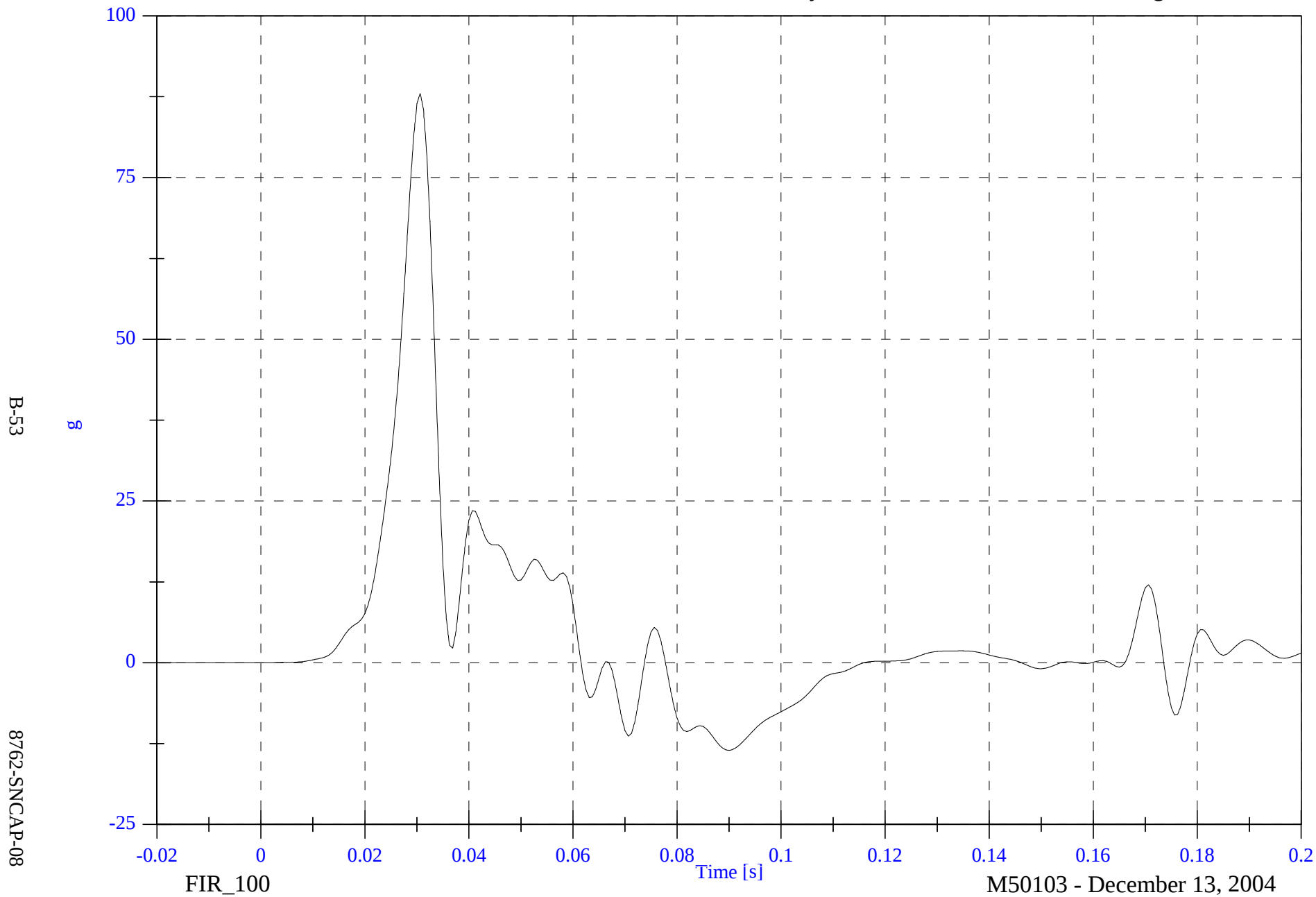


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Rib y

Max: 88.0 [g] at 0.031 [s]

Min: -13.5 [g] at 0.090 [s]

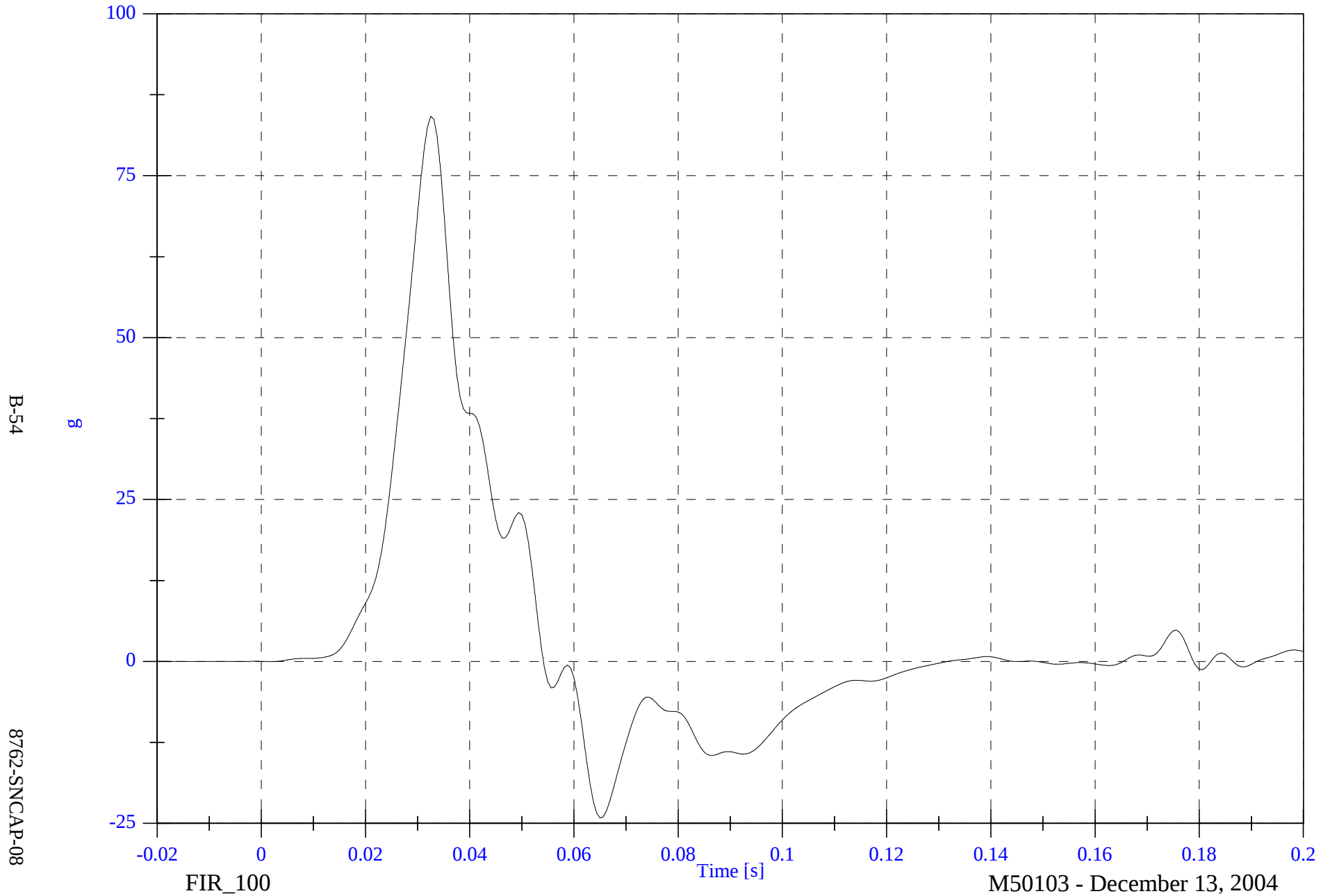


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Spine y

Max: 84.2 [g] at 0.032 [s]

Min: -24.2 [g] at 0.065 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

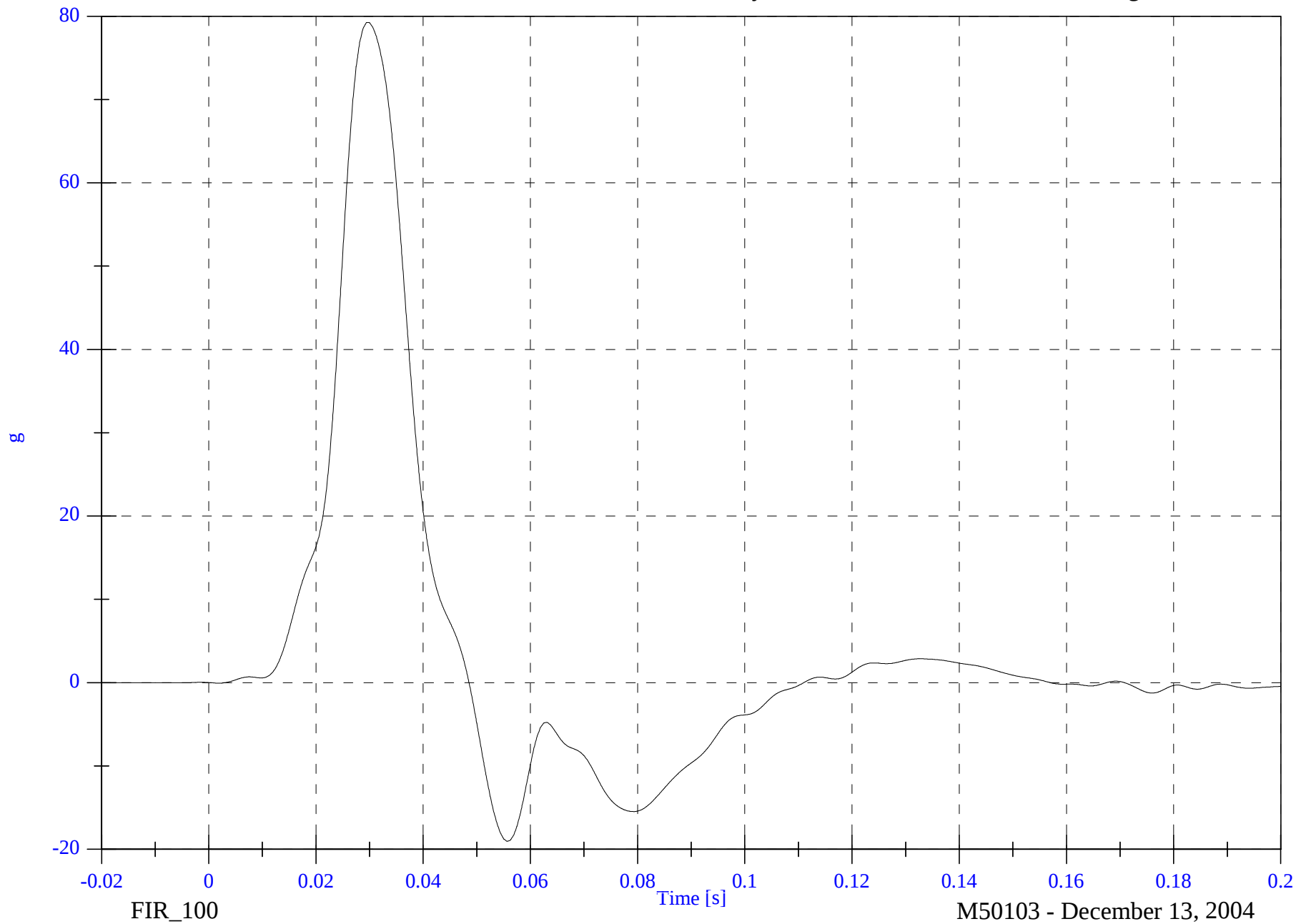
V2P1 Pelvic y

Max: 79.2 [g] at 0.029 [s]

Min: -19.0 [g] at 0.056 [s]

B-55

8762-SNCAP-08

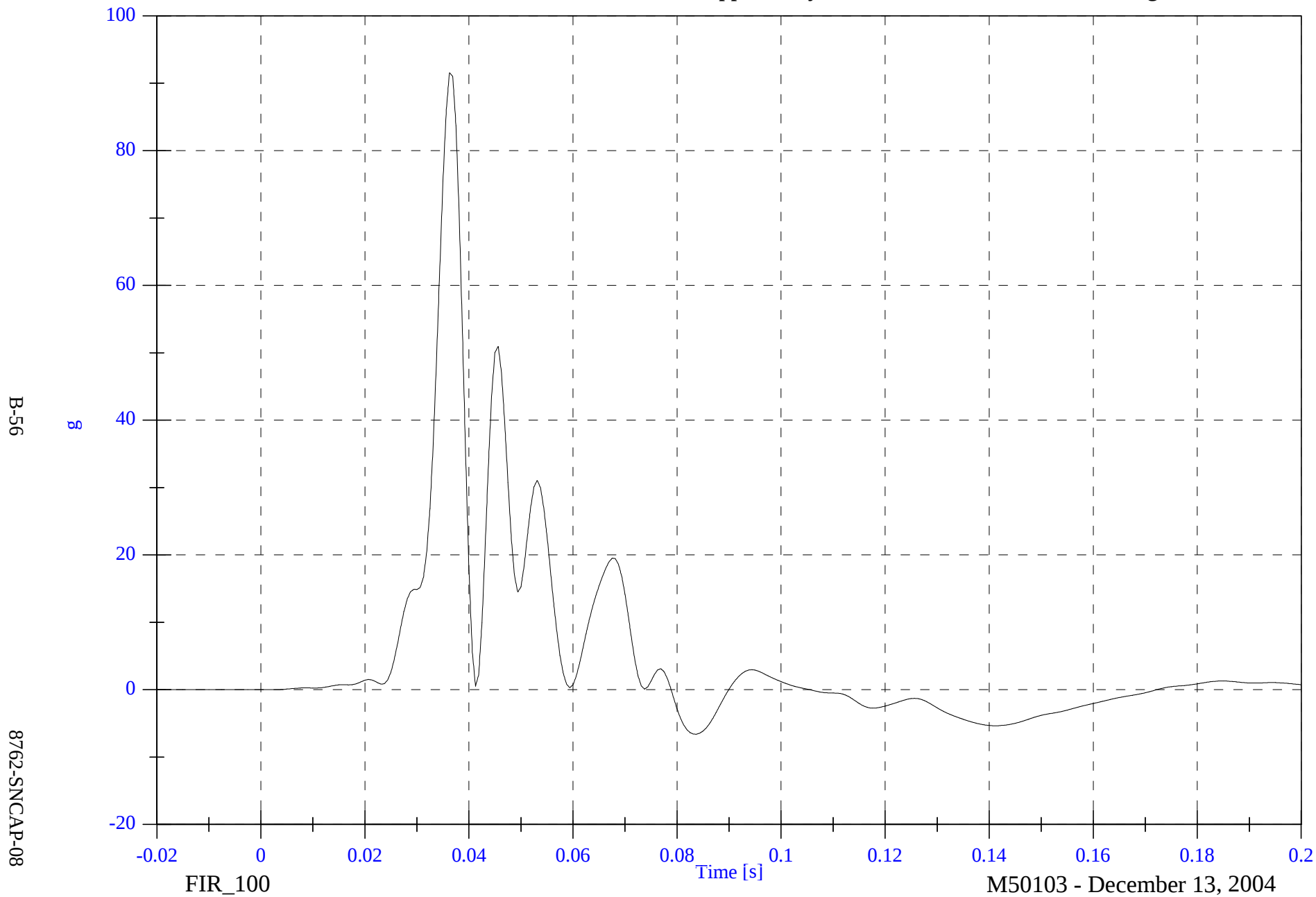


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Rib y

Max: 91.6 [g] at 0.036 [s]

Min: -6.6 [g] at 0.084 [s]

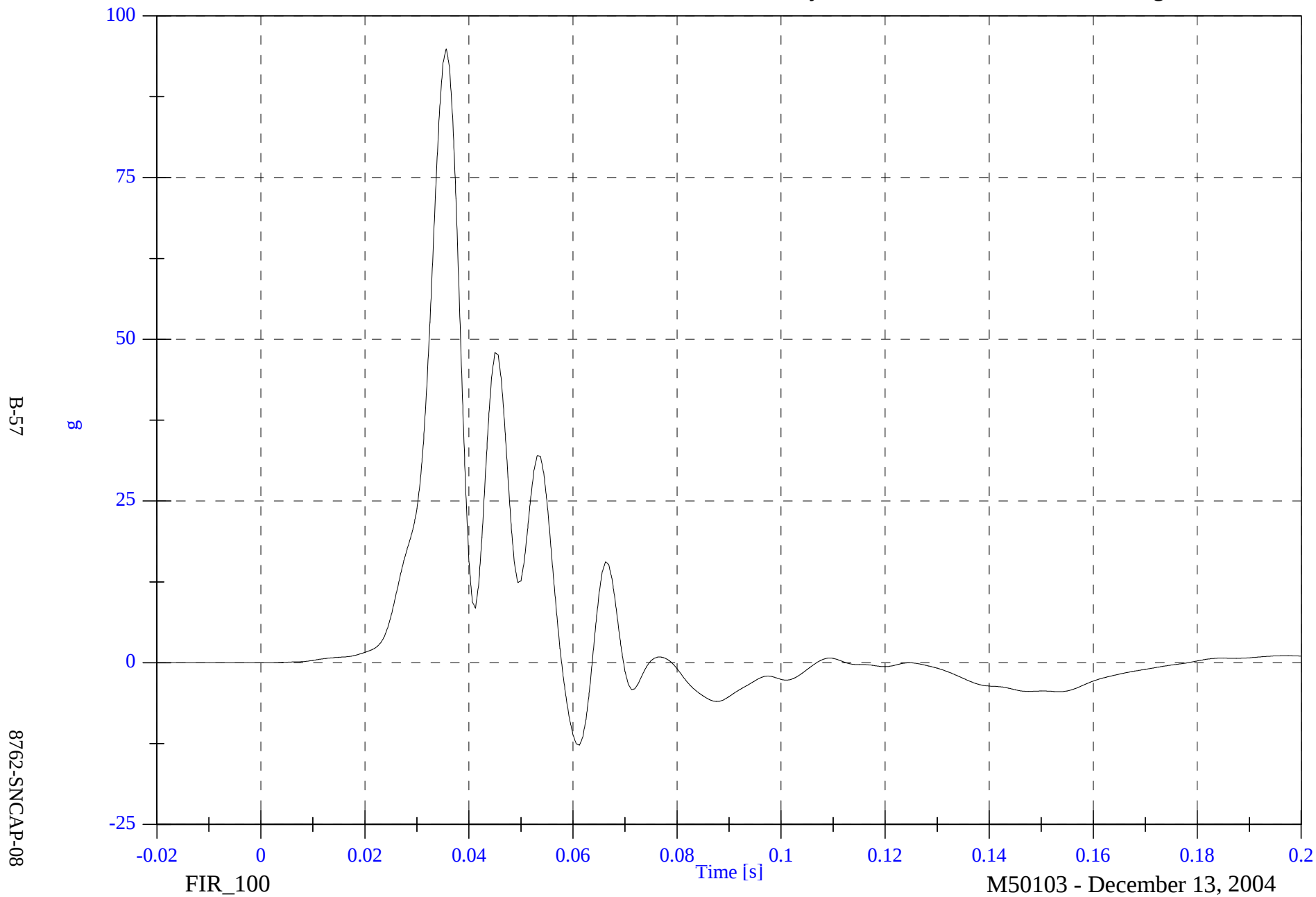


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Rib y

Max: 94.9 [g] at 0.036 [s]

Min: -12.7 [g] at 0.061 [s]

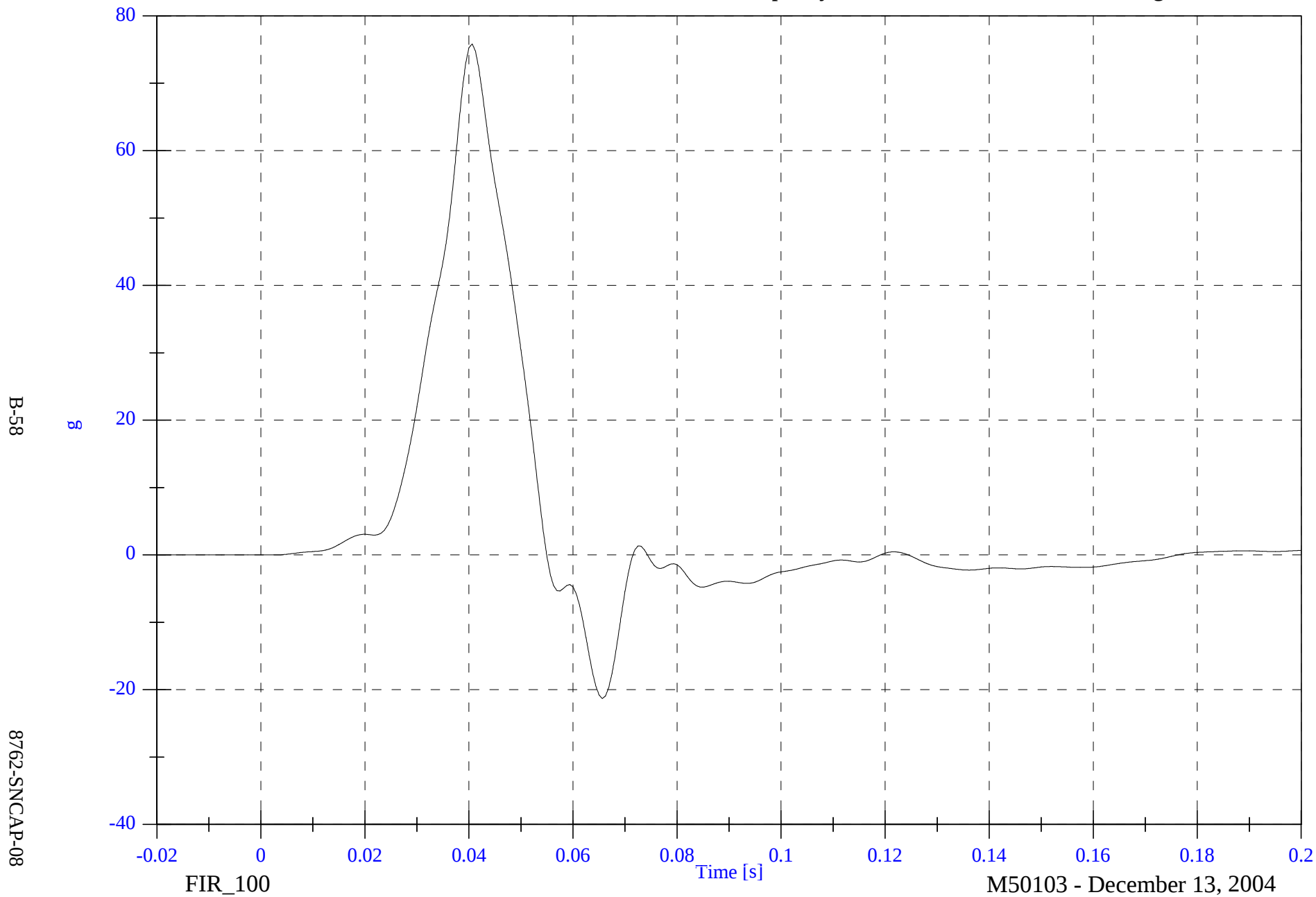


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Spine y

Max: 75.8 [g] at 0.041 [s]

Min: -21.3 [g] at 0.066 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

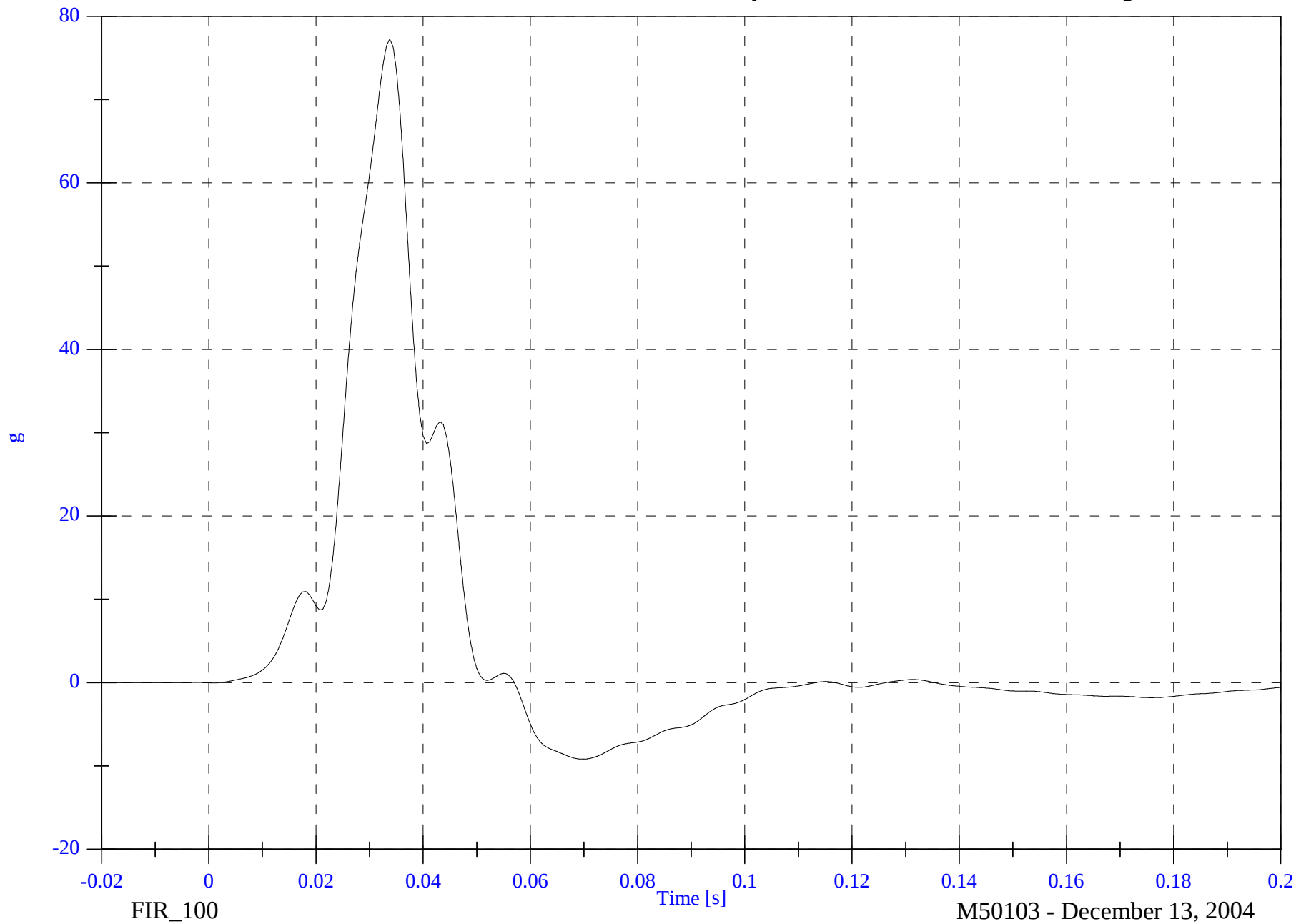
V2P4 Pelvic y

Max: 77.3 [g] at 0.034 [s]

Min: -9.2 [g] at 0.070 [s]

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2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A1 Right Front Sill X

Max: 3.3 [g] at 0.059 [s]

Min: -3.0 [g] at 0.017 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

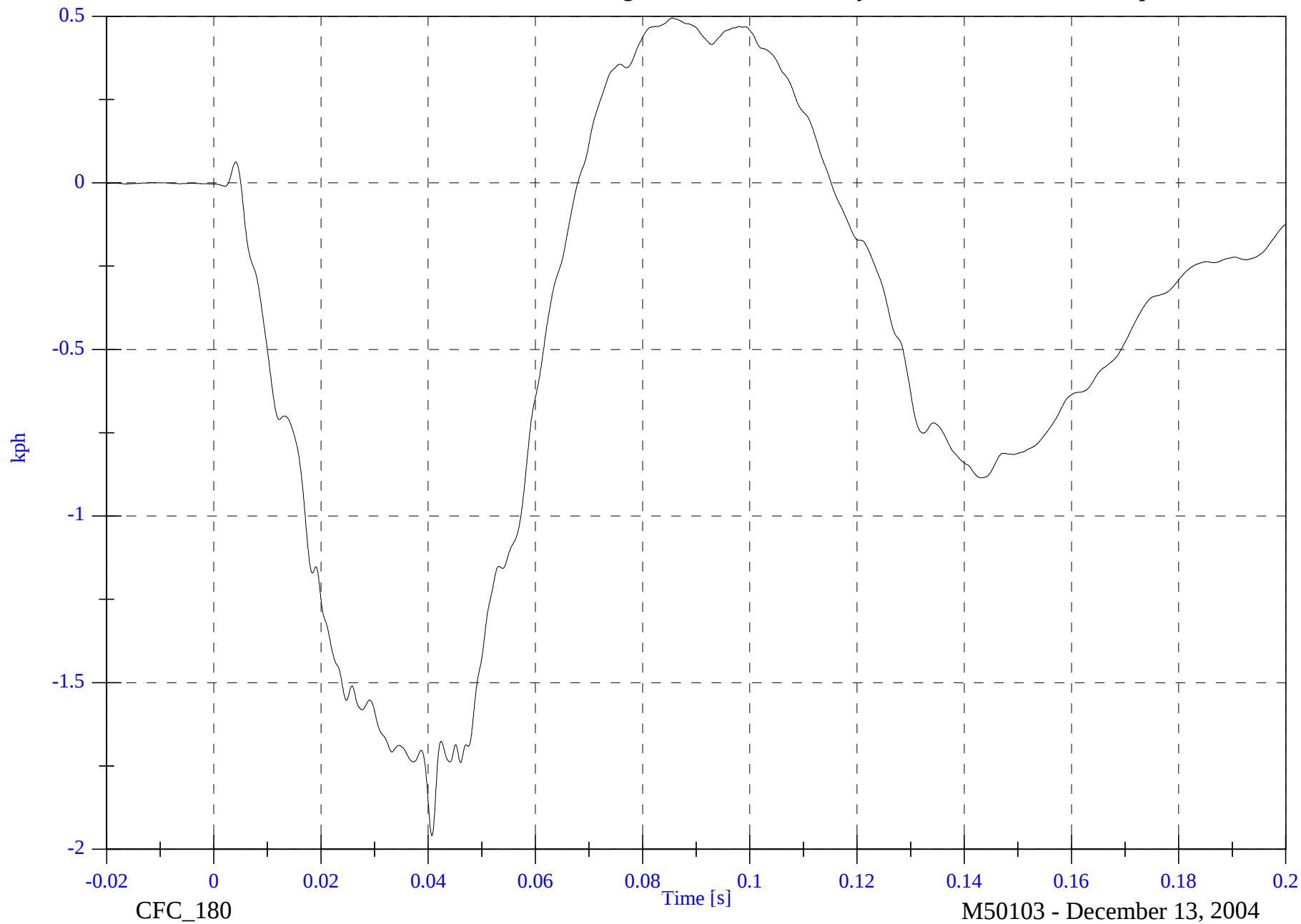
V2 A1 Right Front Sill X Velocity

Max: 0.5 [kph] at 0.085 [s]

Min: -2.0 [kph] at 0.041 [s]

B-61

8762-SNCAP-08

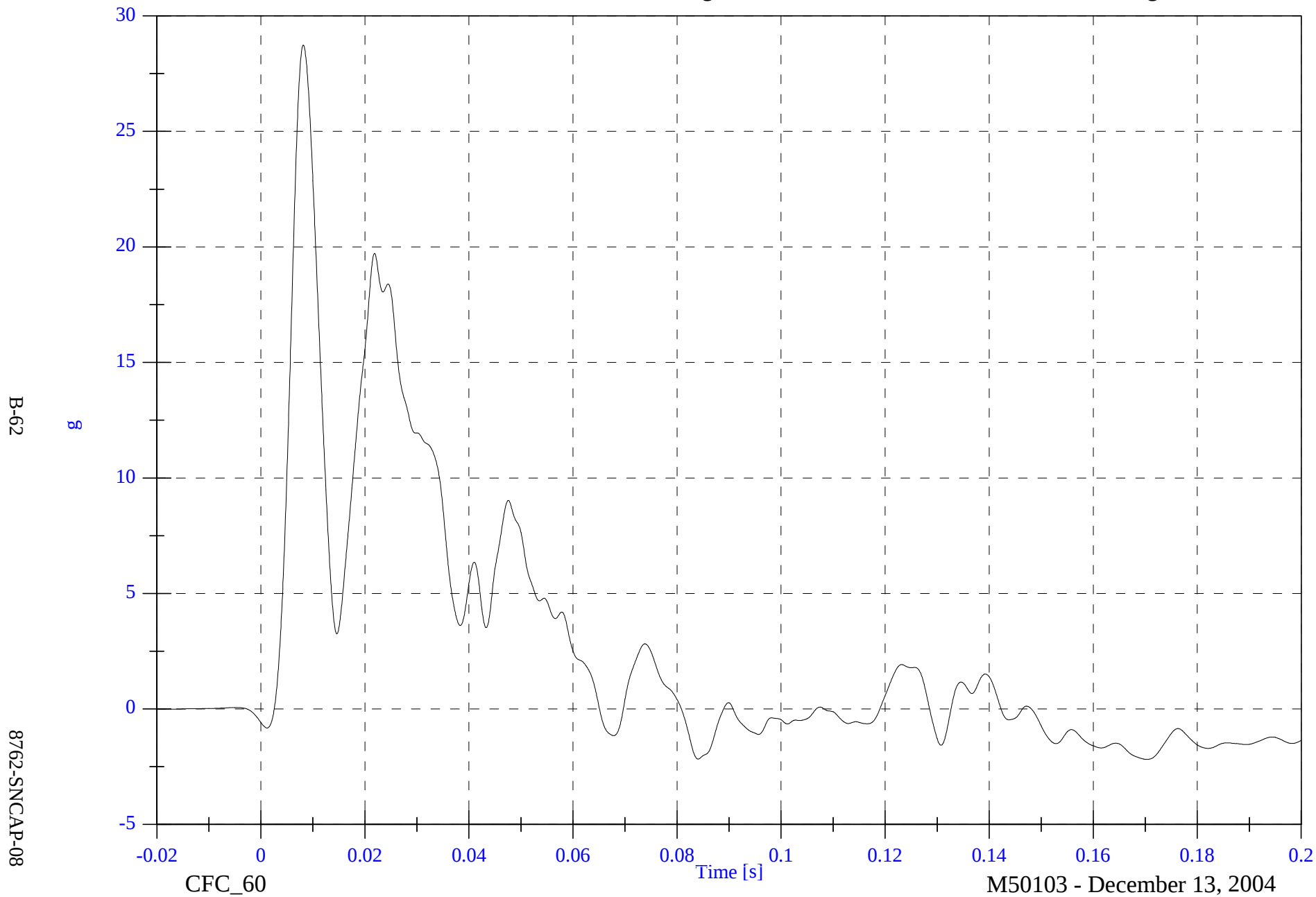


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A1 Right Front Sill Y

Max: 28.7 [g] at 0.008 [s]

Min: -2.2 [g] at 0.170 [s]

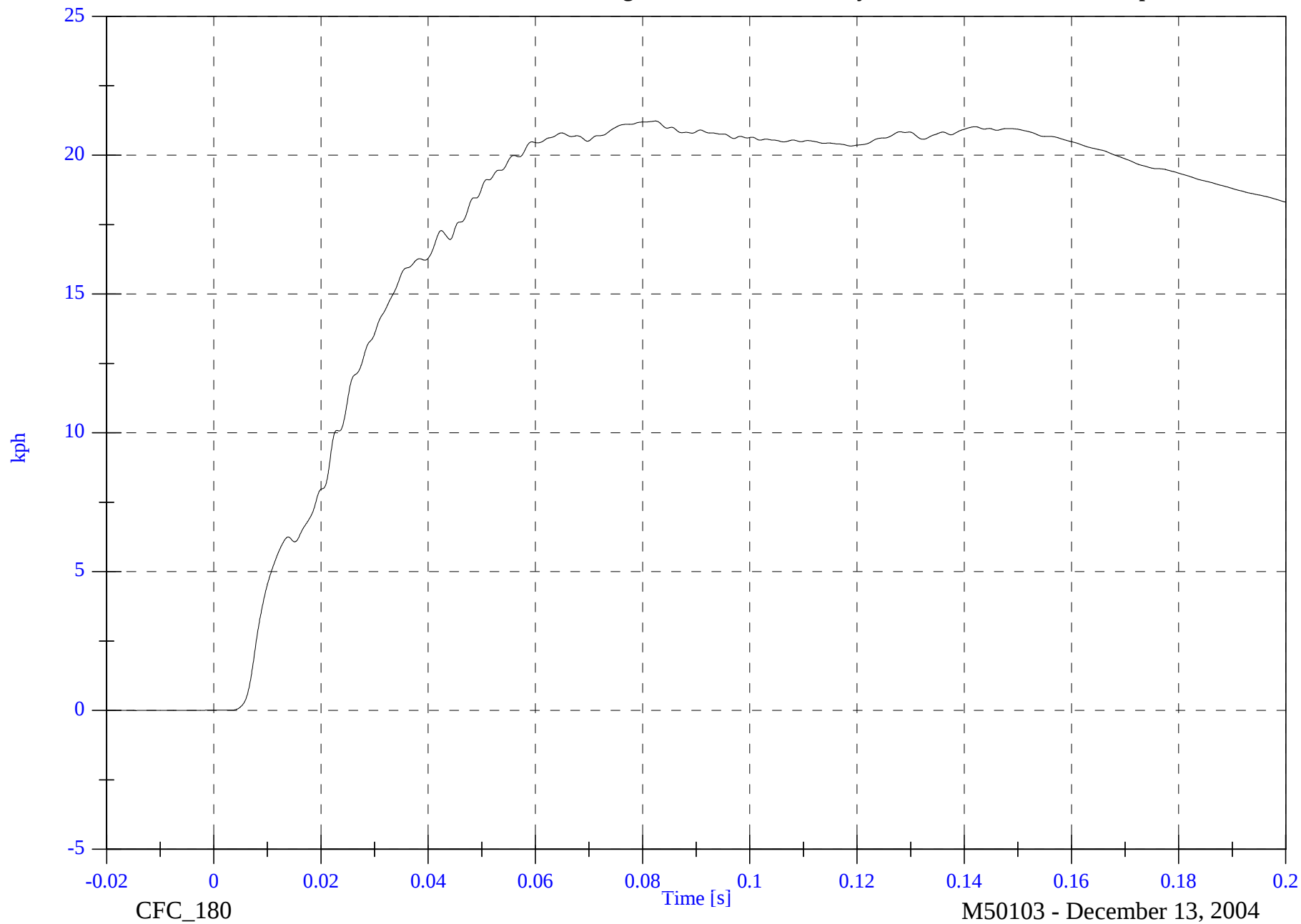


2005 SNCAP Test 3 2005 Buick Lacrosse

Max: 21.2 [kph] at 0.082 [s]

V2 A1 Right Front Sill Y Velocity

Min: -0.0 [kph] at -0.015 [s]



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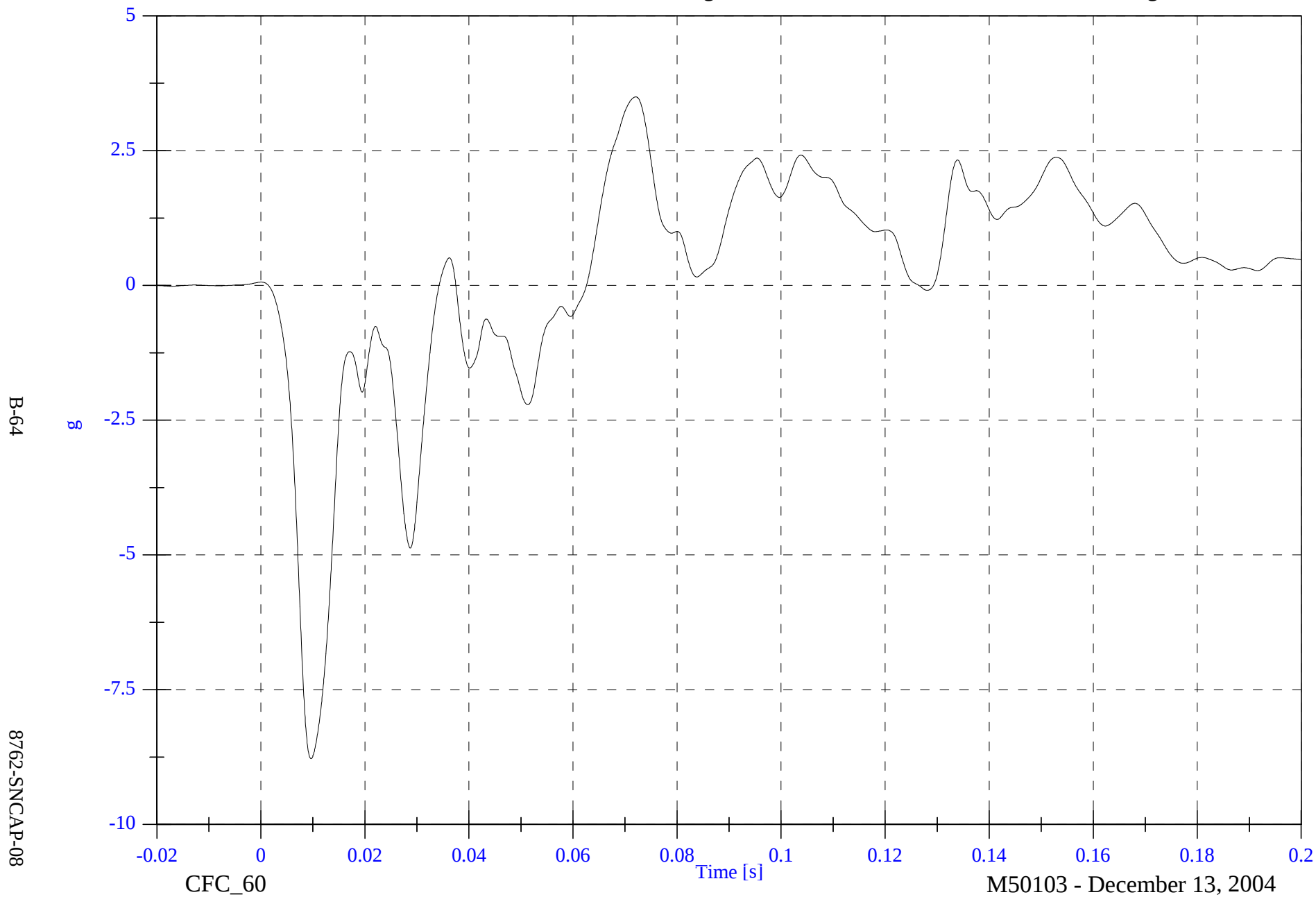
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A1 Right Front Sill Z

Max: 3.5 [g] at 0.072 [s]

Min: -8.8 [g] at 0.010 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

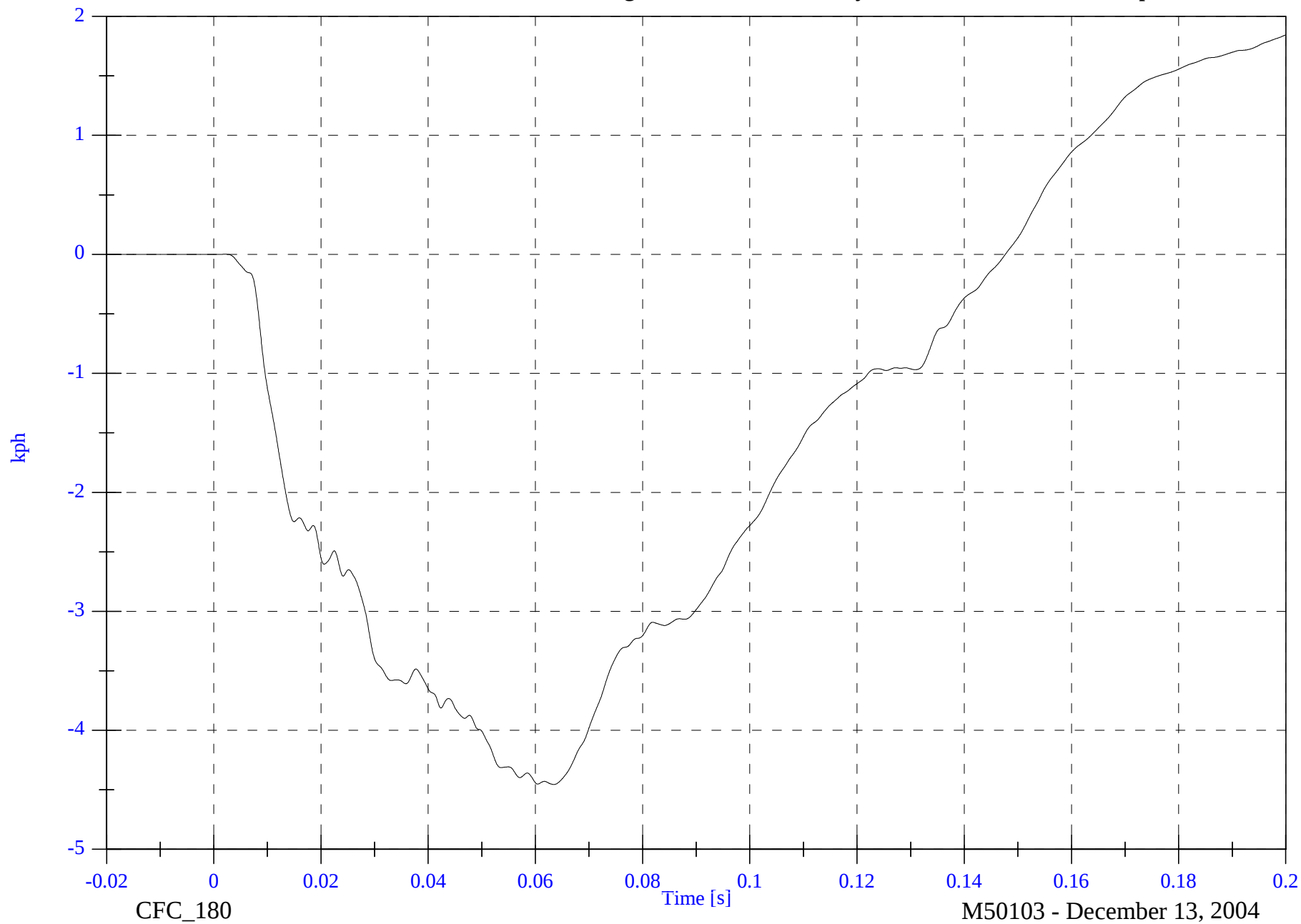
V2 A1 Right Front Sill Z Velocity

Max: 1.8 [kph] at 0.200 [s]

Min: -4.5 [kph] at 0.063 [s]

B-65

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

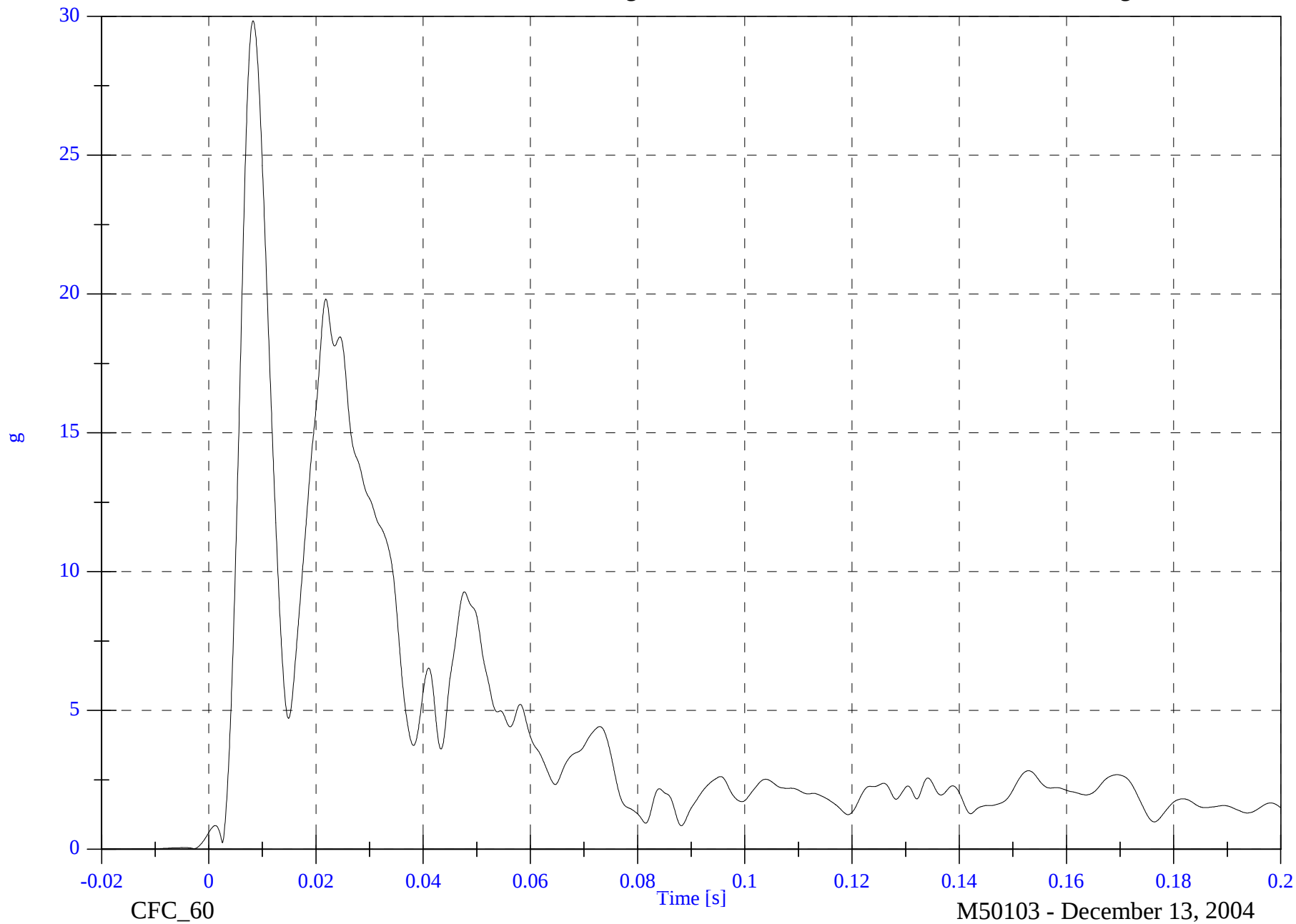
V2 A1 Right Front Sill Resultant

Max: 29.8 [g] at 0.008 [s]

Min: 0.0 [g] at -0.015 [s]

B-66

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

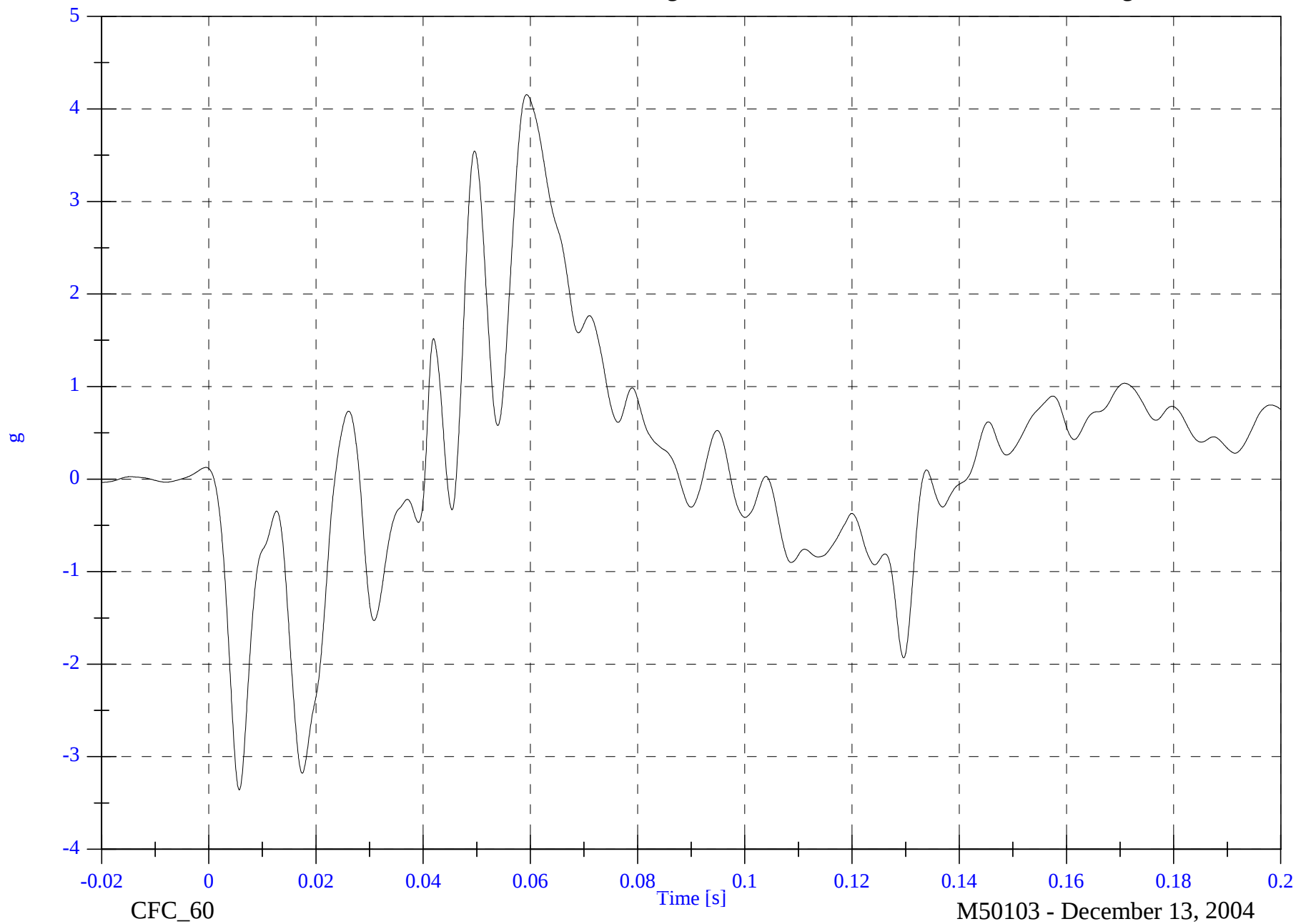
V2 A2 Right Rear Sill X

Max: 4.2 [g] at 0.059 [s]

Min: -3.4 [g] at 0.006 [s]

B-67

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2005 SNCAP Test 3 2005 Buick Lacrosse

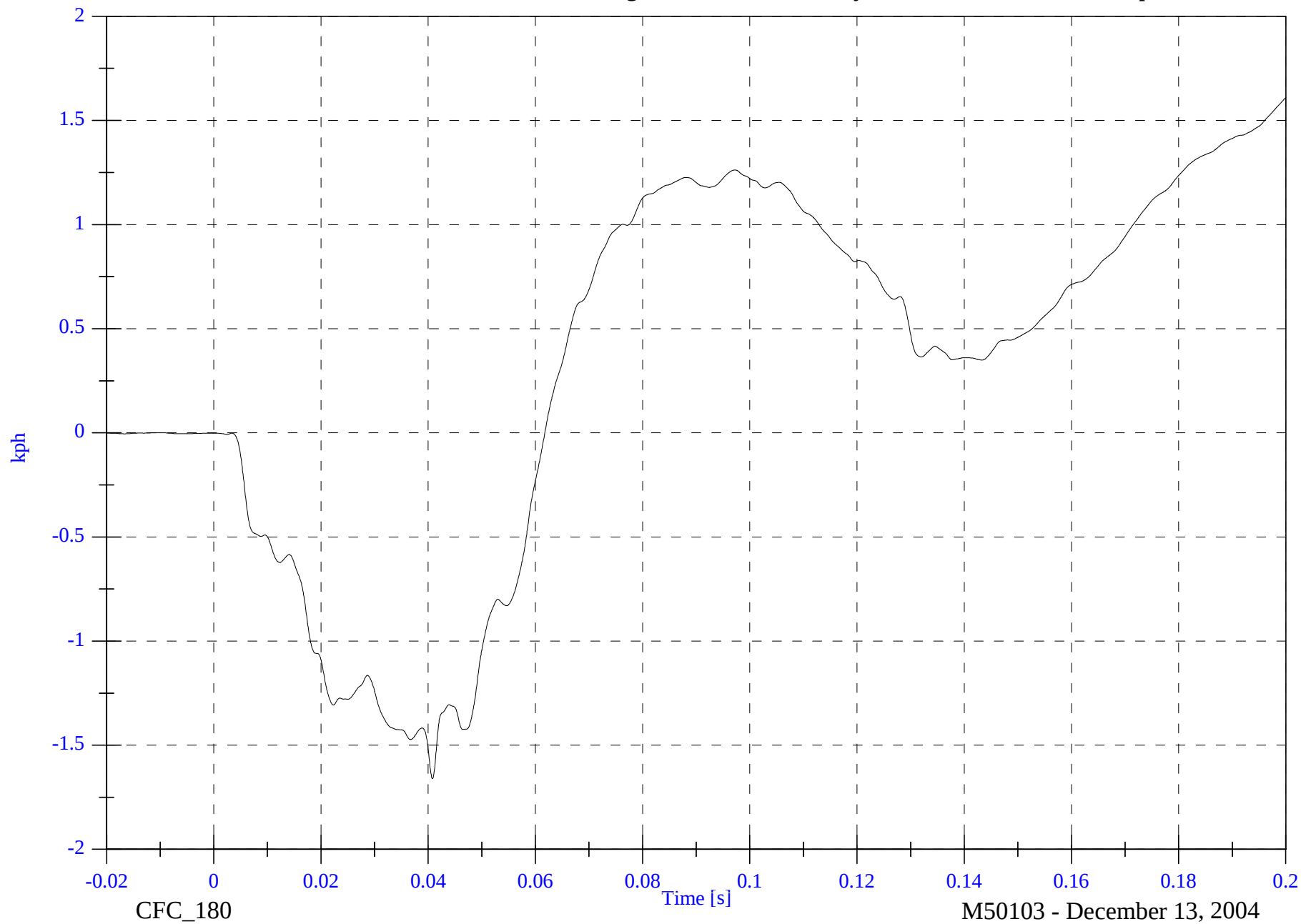
V2 A2 Right Rear Sill X Velocity

Max: 1.6 [kph] at 0.200 [s]

Min: -1.7 [kph] at 0.041 [s]

B-68

8762-SNCAP-08

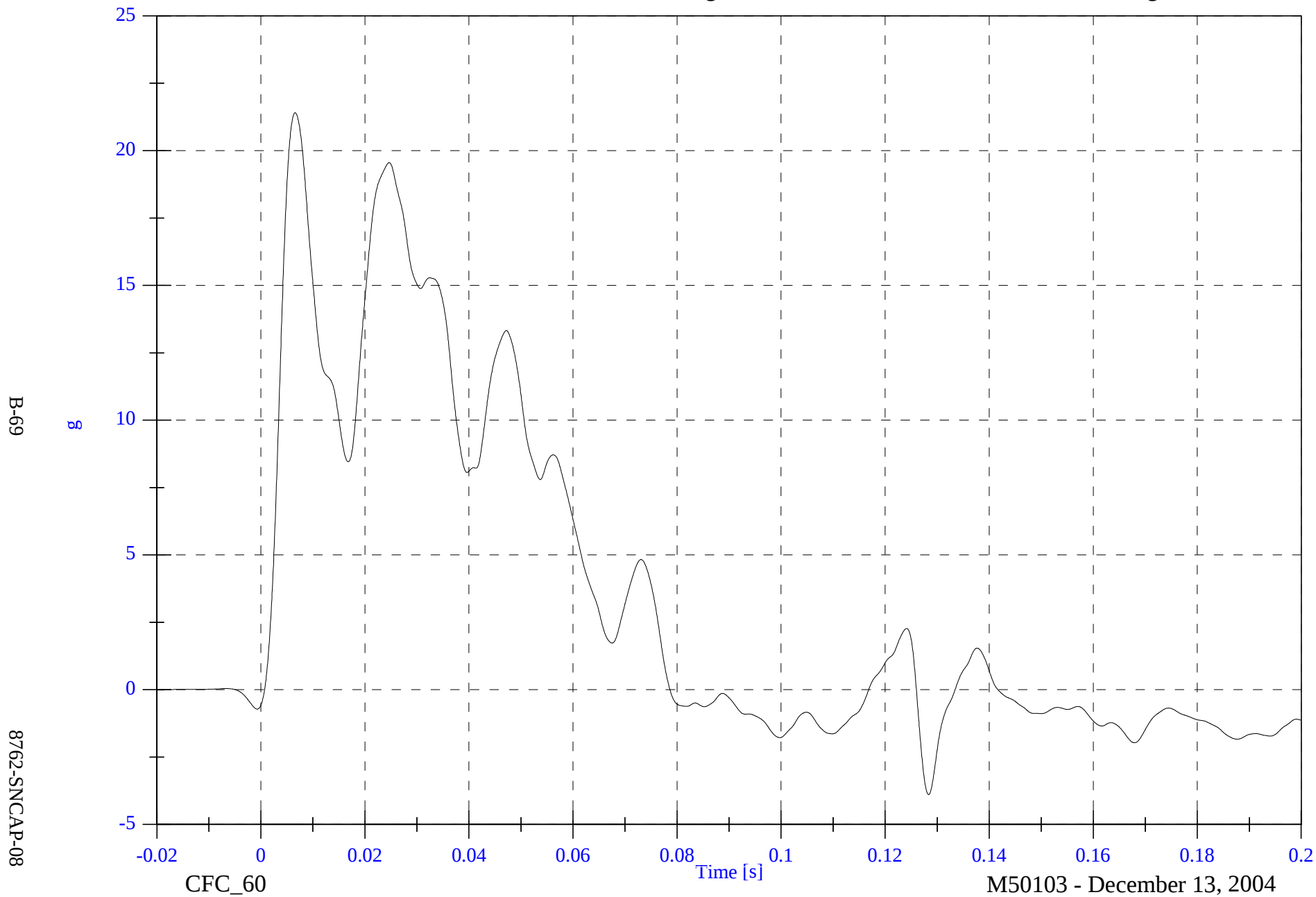


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A2 Right Rear Sill Y

Max: 21.4 [g] at 0.007 [s]

Min: -3.9 [g] at 0.128 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

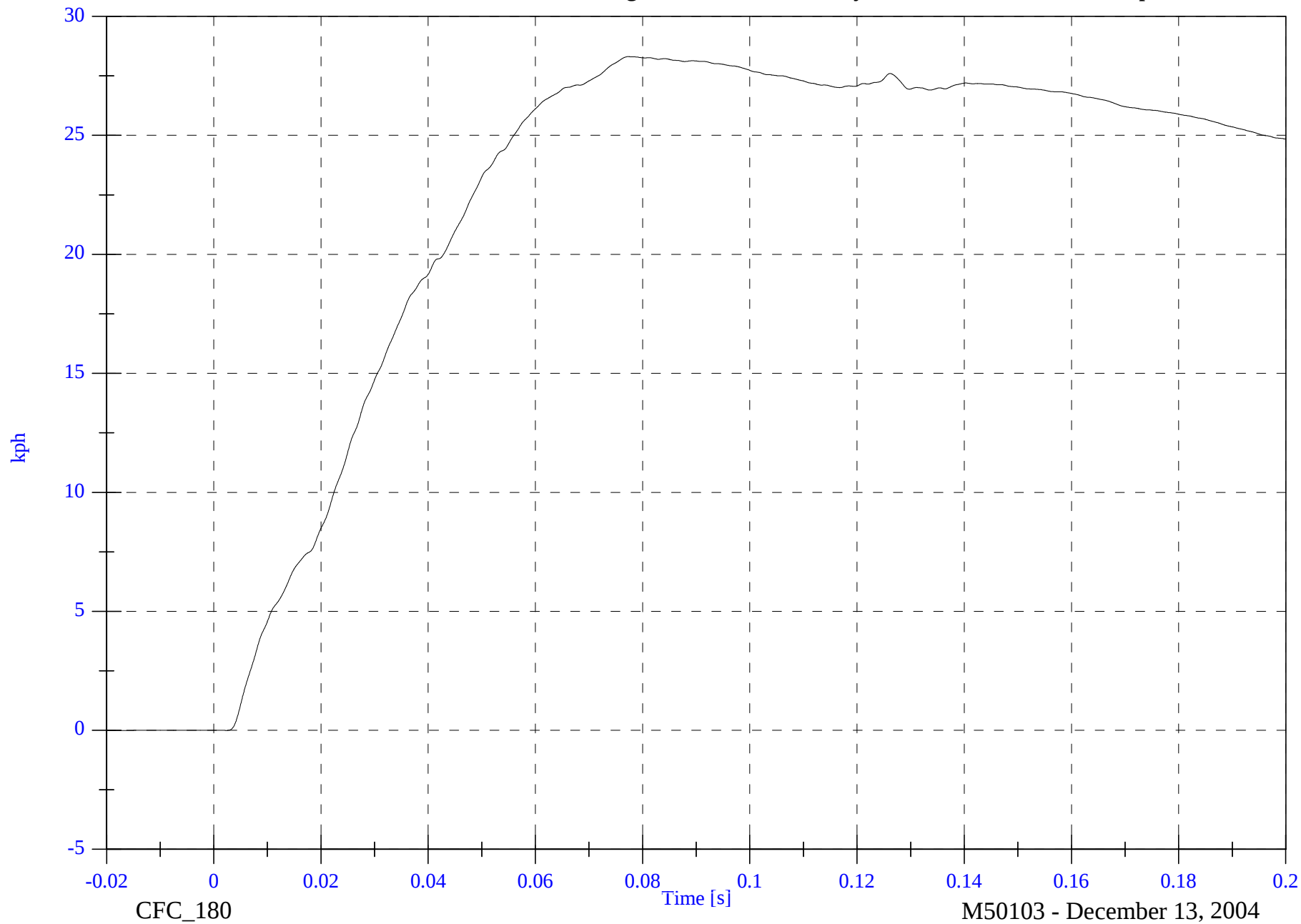
V2 A2 Right Rear Sill Y Velocity

Max: 28.3 [kph] at 0.077 [s]

Min: -0.0 [kph] at -0.018 [s]

B-70

8762-SNCAP-08

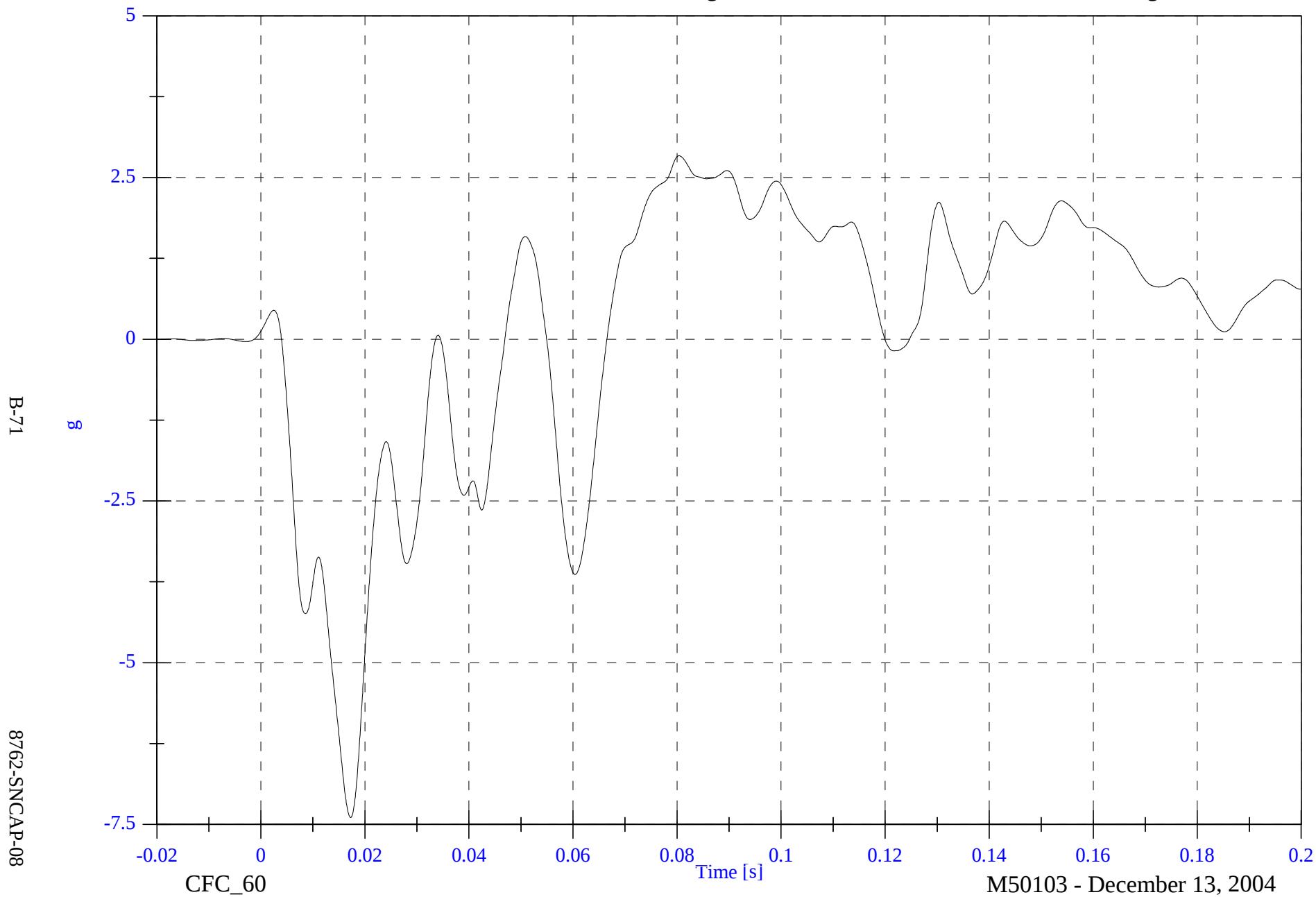


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A2 Right Rear Sill Z

Max: 2.8 [g] at 0.080 [s]

Min: -7.4 [g] at 0.017 [s]

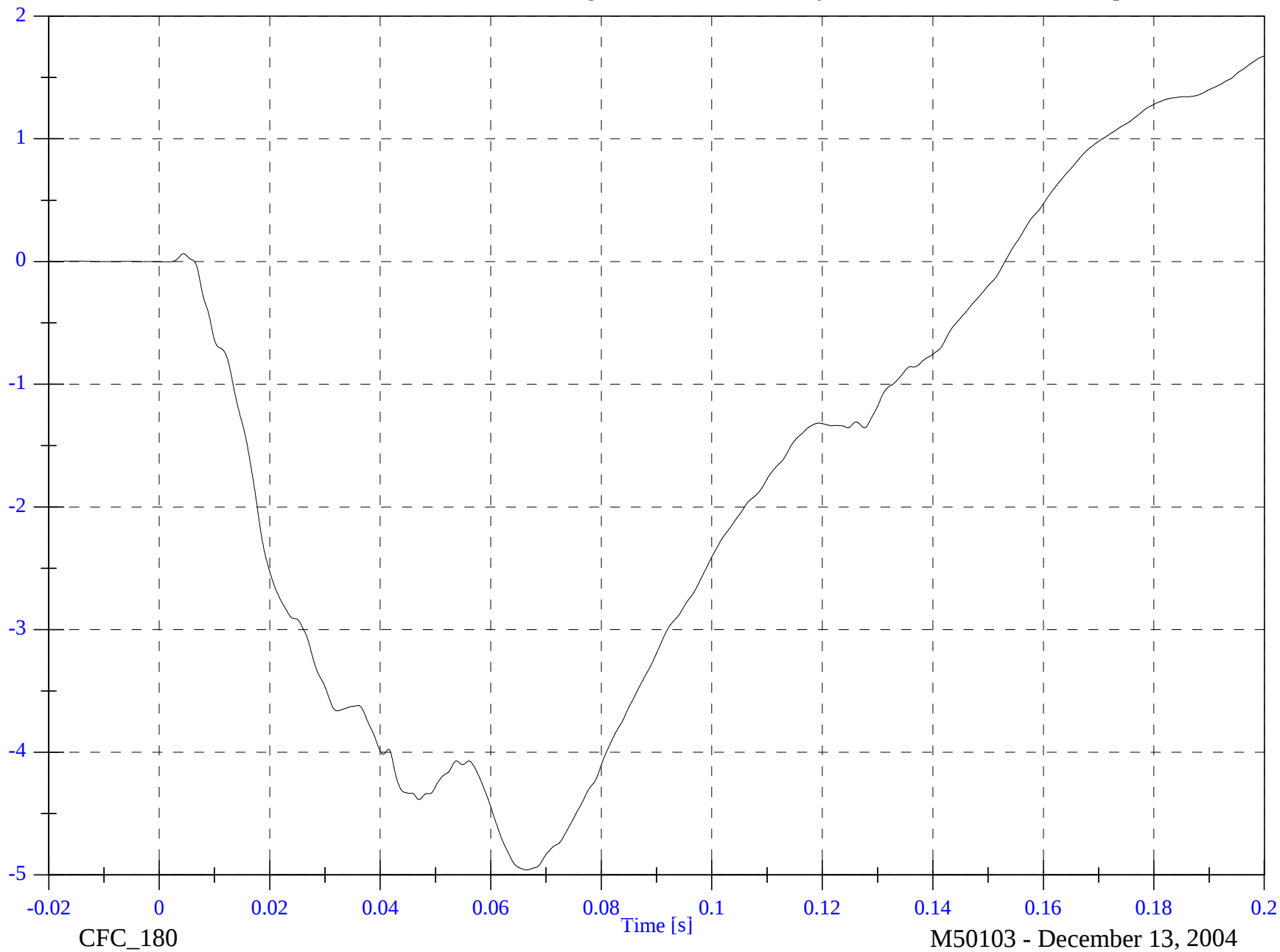


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A2 Right Rear Sill Z Velocity

Max: 1.7 [kph] at 0.200 [s]

Min: -5.0 [kph] at 0.066 [s]



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2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A2 Right Rear Sill Resultant

Max: 21.8 [g] at 0.007 [s]

Min: 0.0 [g] at -0.017 [s]

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2005 SNCAP Test 3 2005 Buick Lacrosse

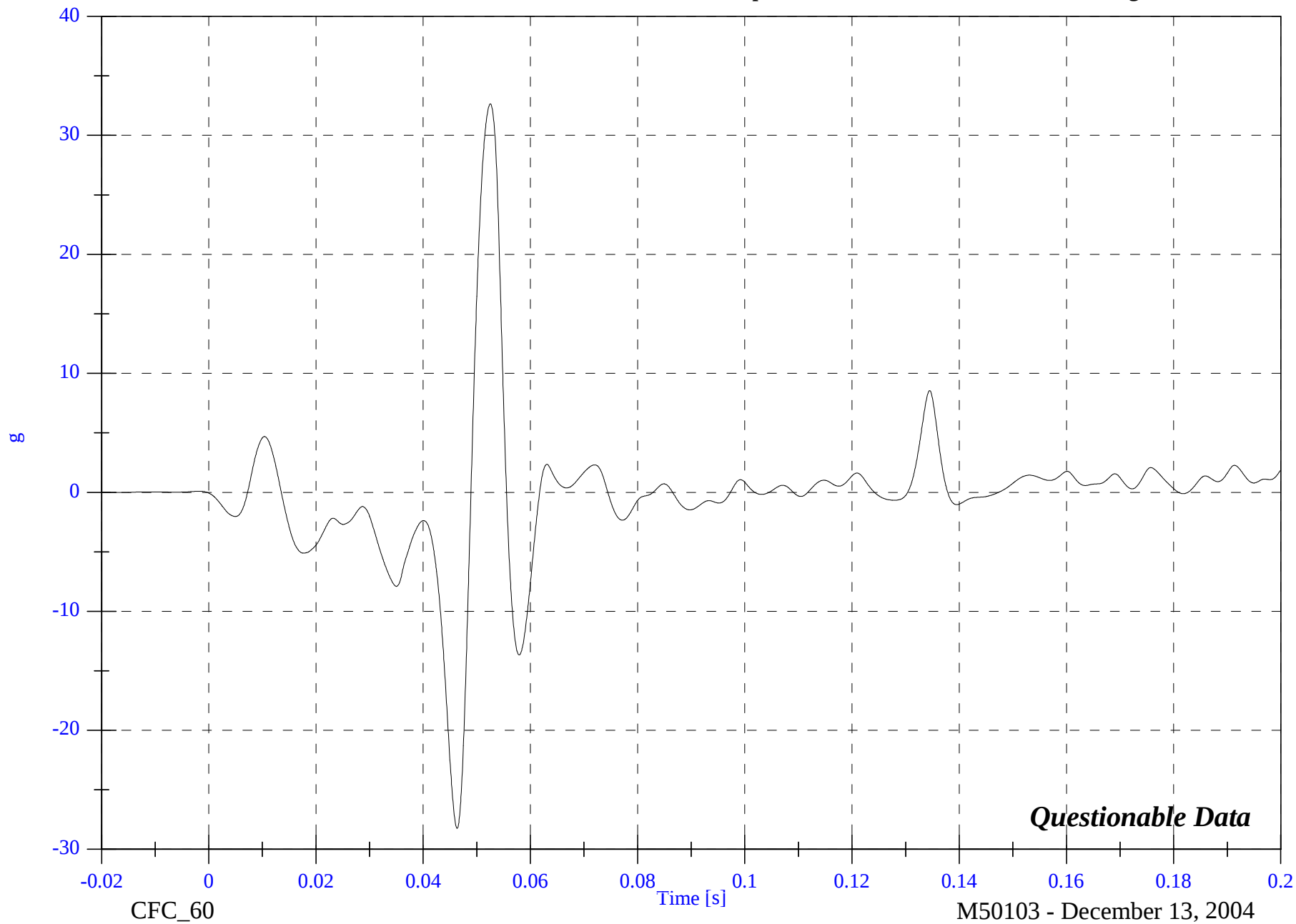
V2 A3 Rear Floorpan X

Max: 32.6 [g] at 0.052 [s]

Min: -28.2 [g] at 0.046 [s]

B-74

8762-SNCAP-08



M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

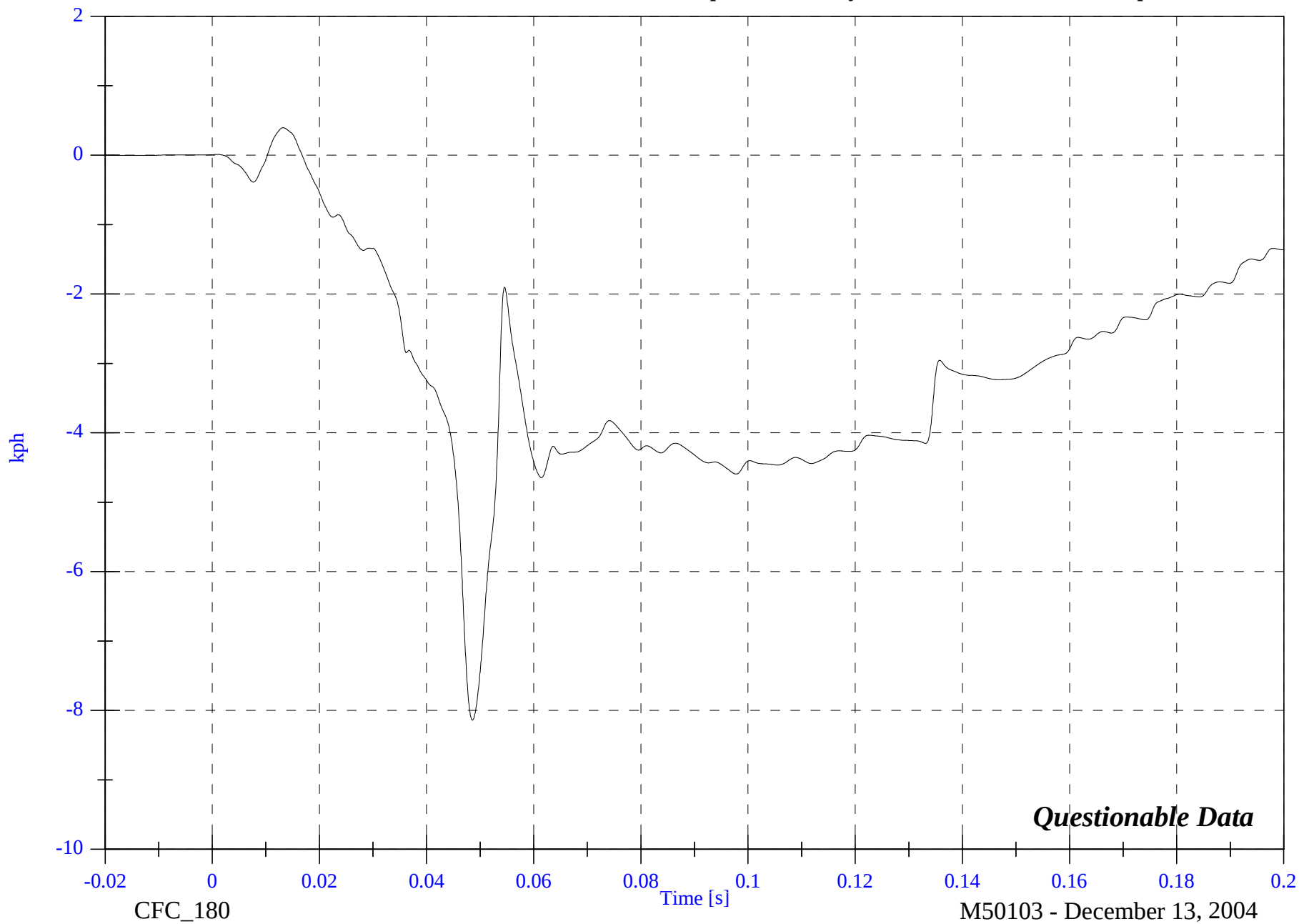
V2 A3 Rear Floorpan X Velocity

Max: 0.4 [kph] at 0.013 [s]

Min: -8.1 [kph] at 0.049 [s]

B-75

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

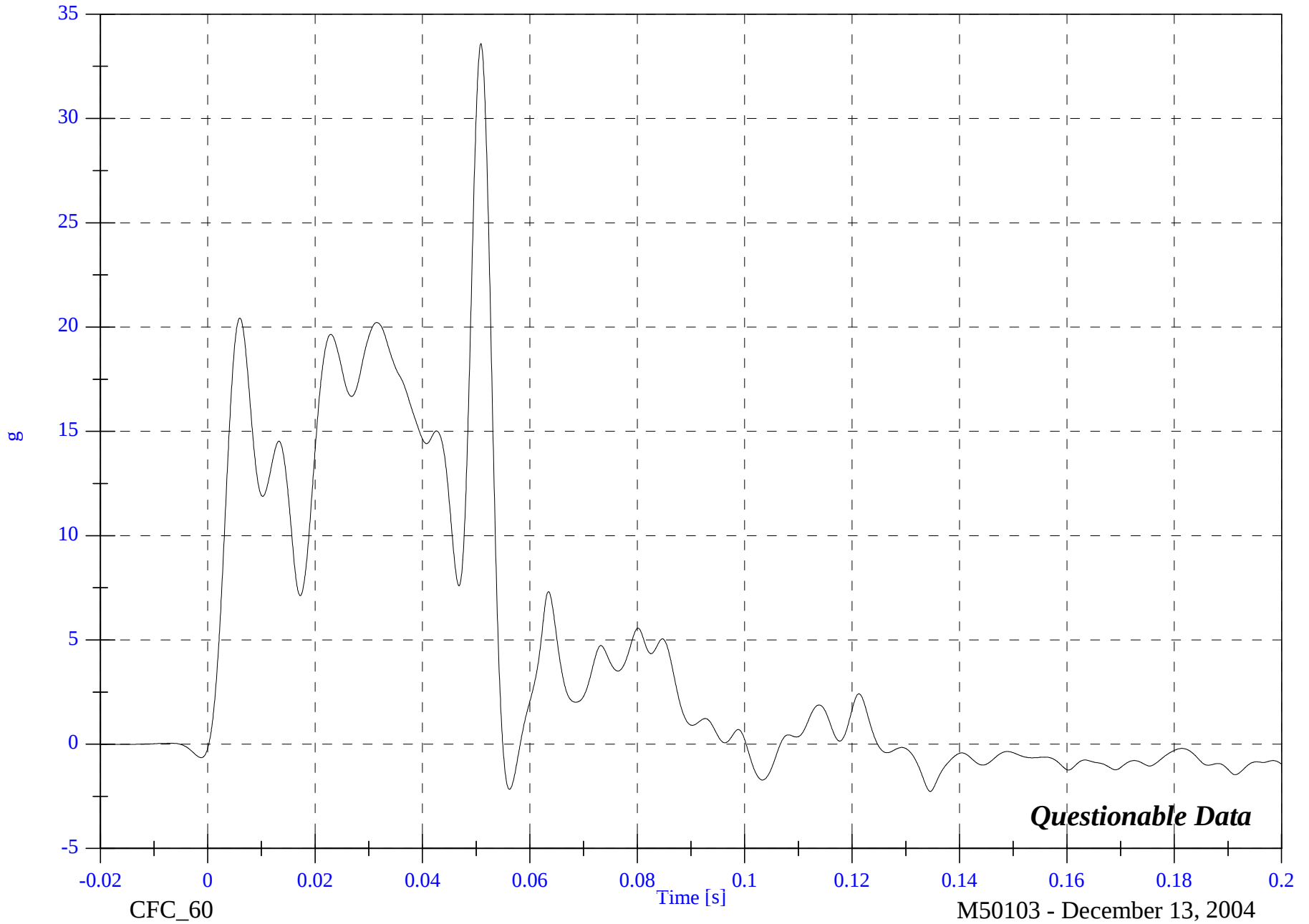
V2 A3 Rear Floorpan Y

Max: 33.6 [g] at 0.051 [s]

Min: -2.3 [g] at 0.135 [s]

B-76

8762-SNCAP-08

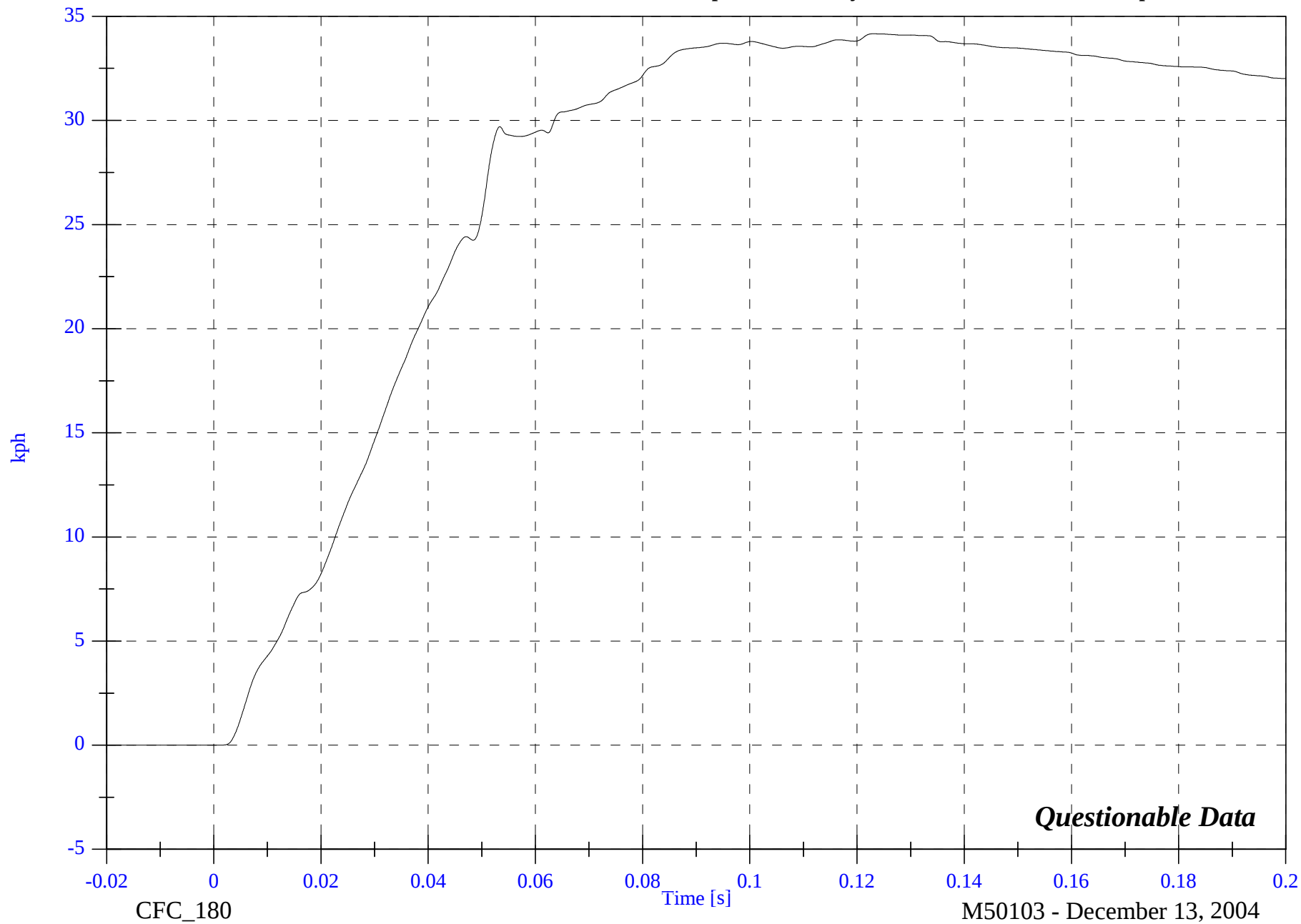


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A3 Rear Floorpan Y Velocity

Max: 34.2 [kph] at 0.123 [s]

Min: -0.0 [kph] at -0.014 [s]



B-77

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CFC_180

Time [s]

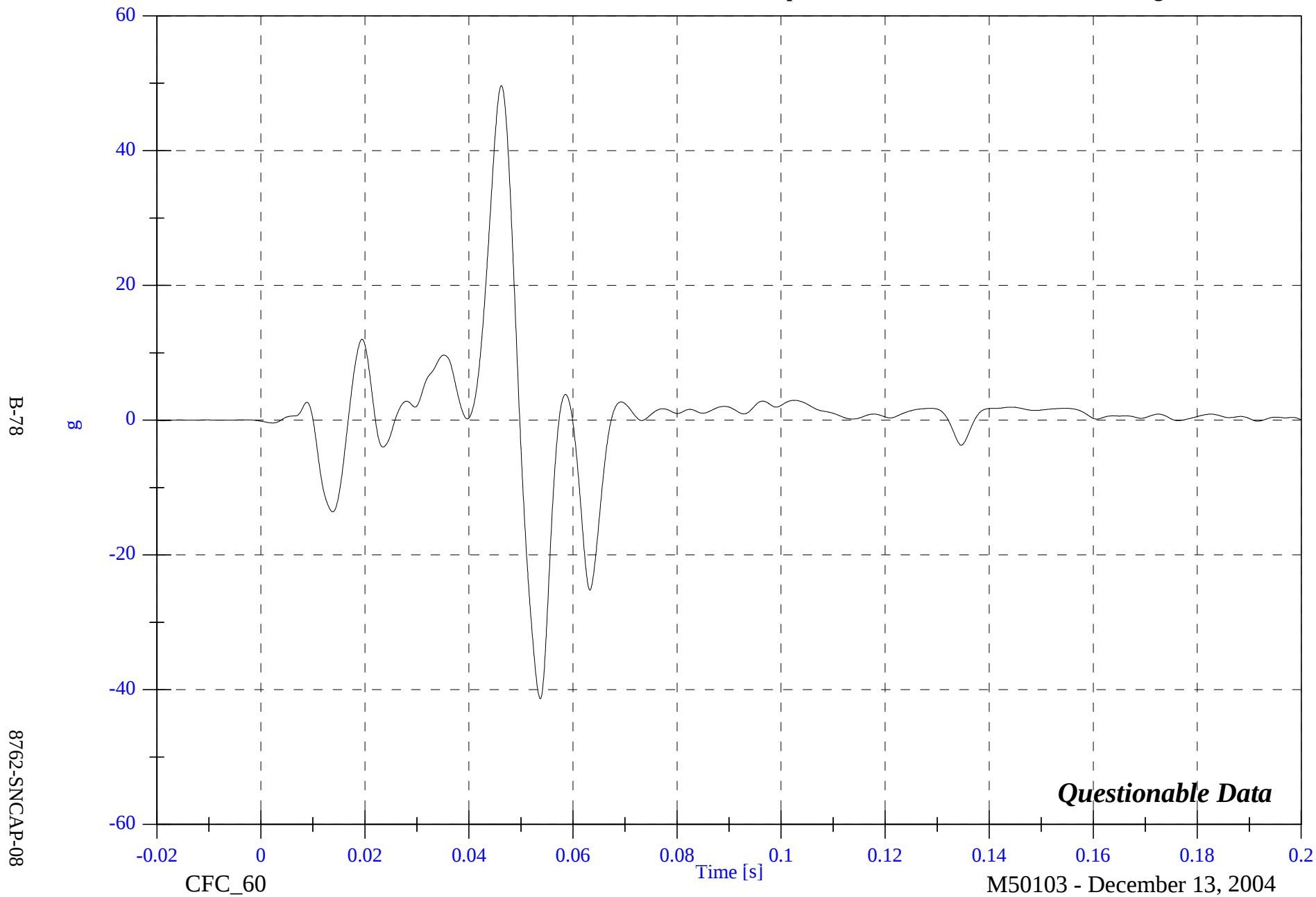
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A3 Rear Floorplan Z

Max: 49.6 [g] at 0.046 [s]

Min: -41.3 [g] at 0.054 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

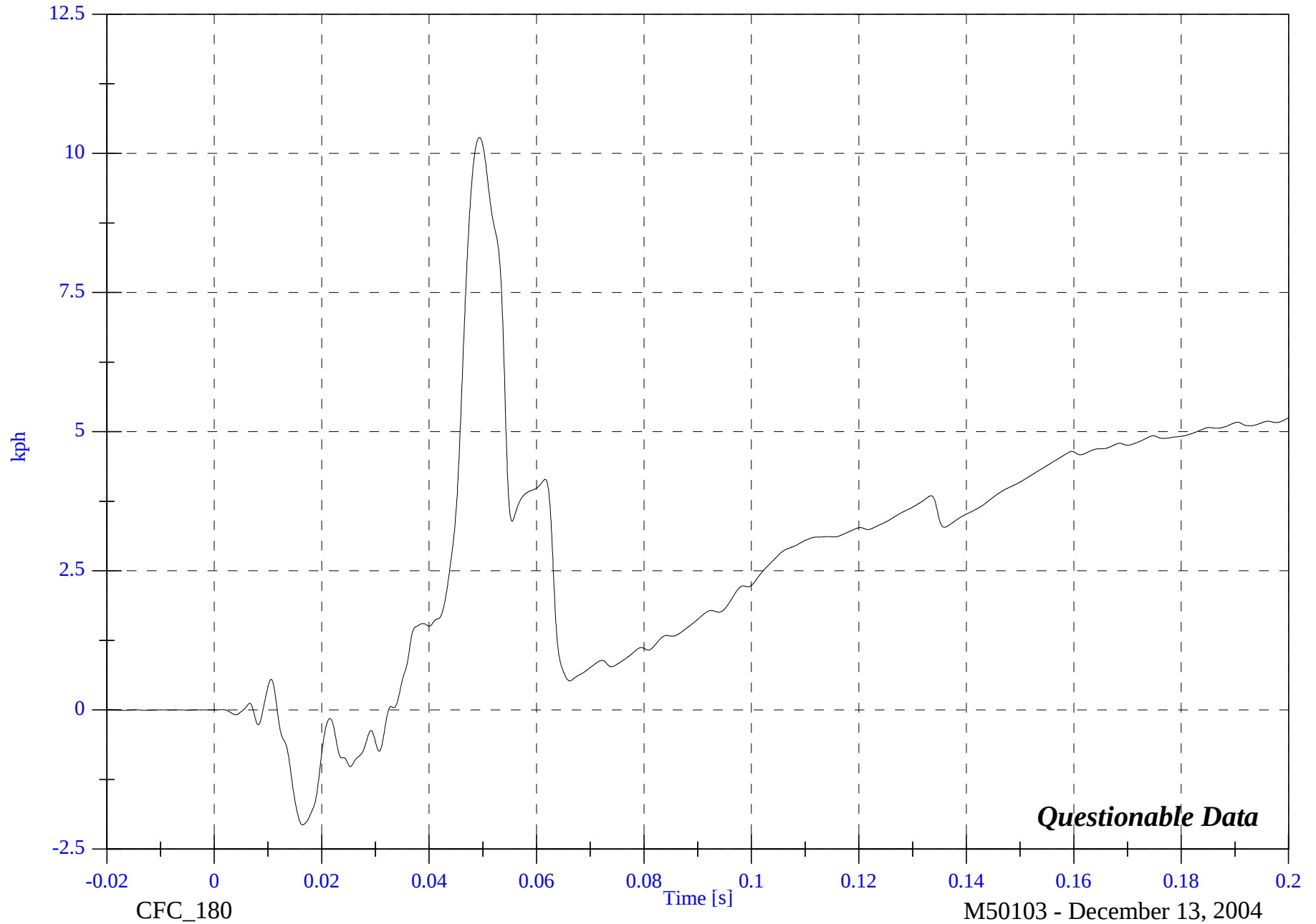
V2 A3 Rear Floorplan Z Velocity

Max: 10.3 [kph] at 0.049 [s]

Min: -2.1 [kph] at 0.016 [s]

B-79

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2005 SNCAP Test 3 2005 Buick Lacrosse

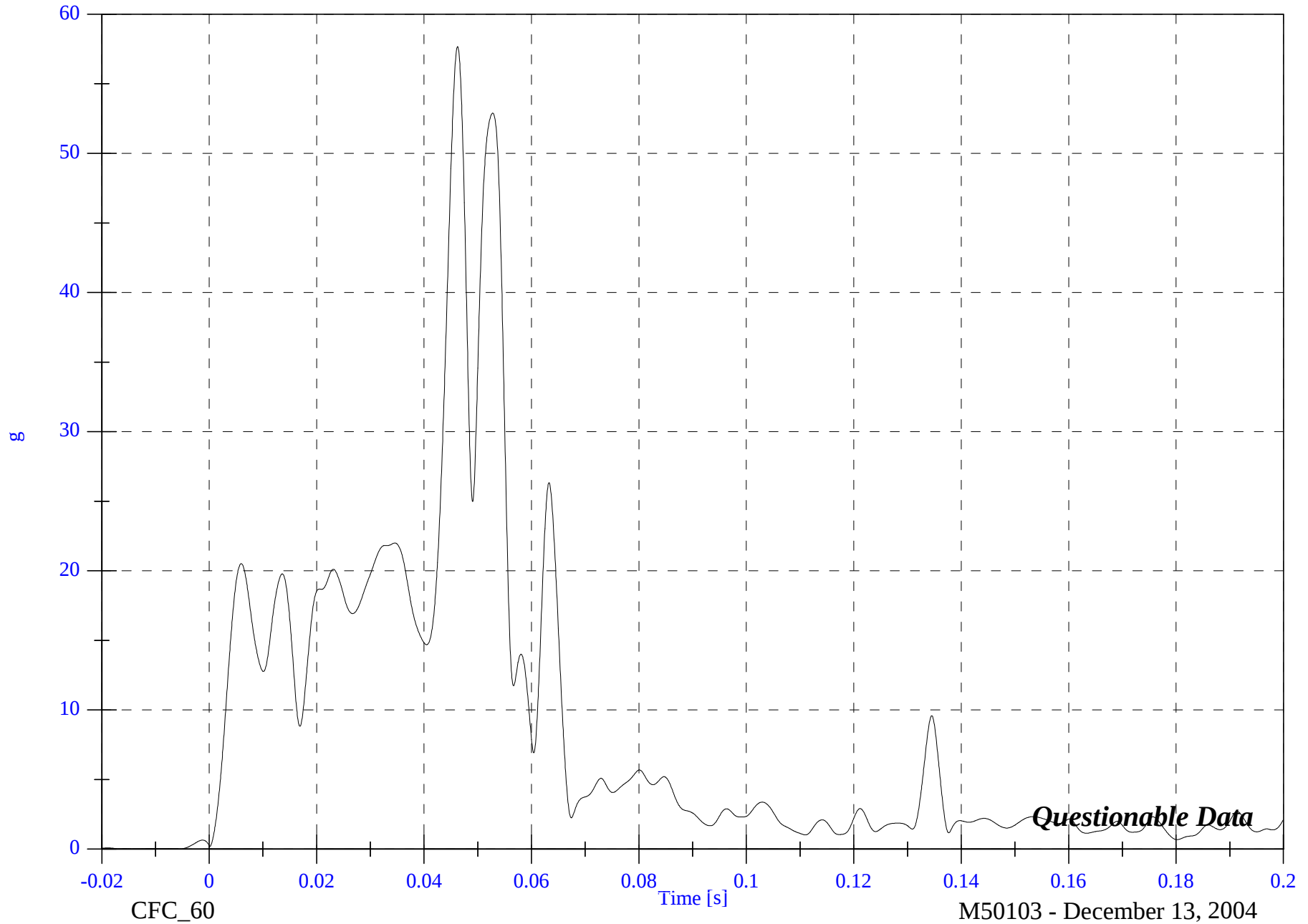
V2 A3 Rear Floorpan Resultant

Max: 57.7 [g] at 0.046 [s]

Min: 0.0 [g] at -0.014 [s]

B-80

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2005 SNCAP Test 3 2005 Buick Lacrosse

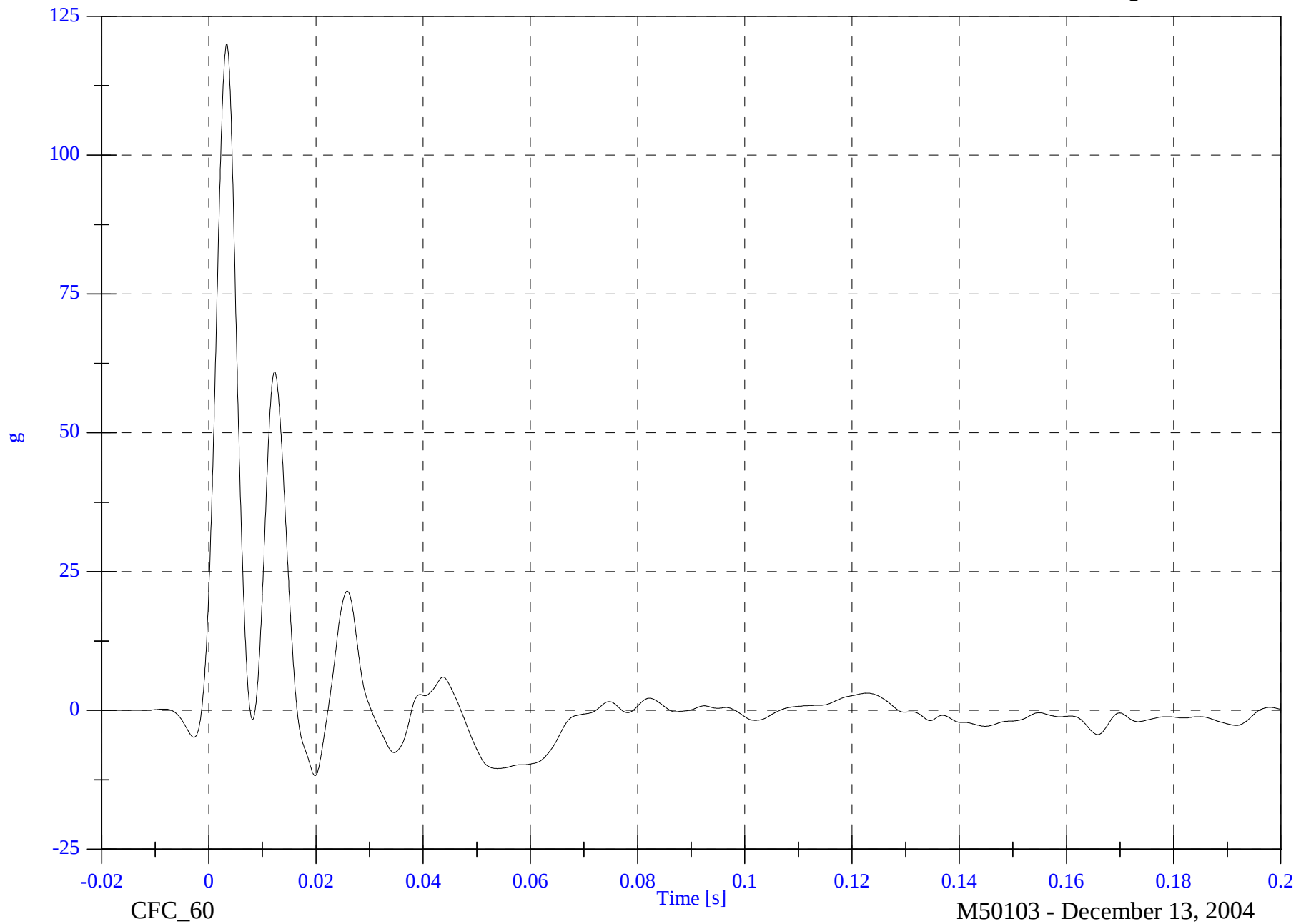
V2 A4 Left Rear Sill Y

Max: 120.0 [g] at 0.003 [s]

Min: -11.7 [g] at 0.020 [s]

B-81

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2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A4 Left Rear Sill Y Velocity

Max: 28.5 [kph] at 0.028 [s]

Min: -0.1 [kph] at 0.001 [s]



B-82

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2005 SNCAP Test 3 2005 Buick Lacrosse

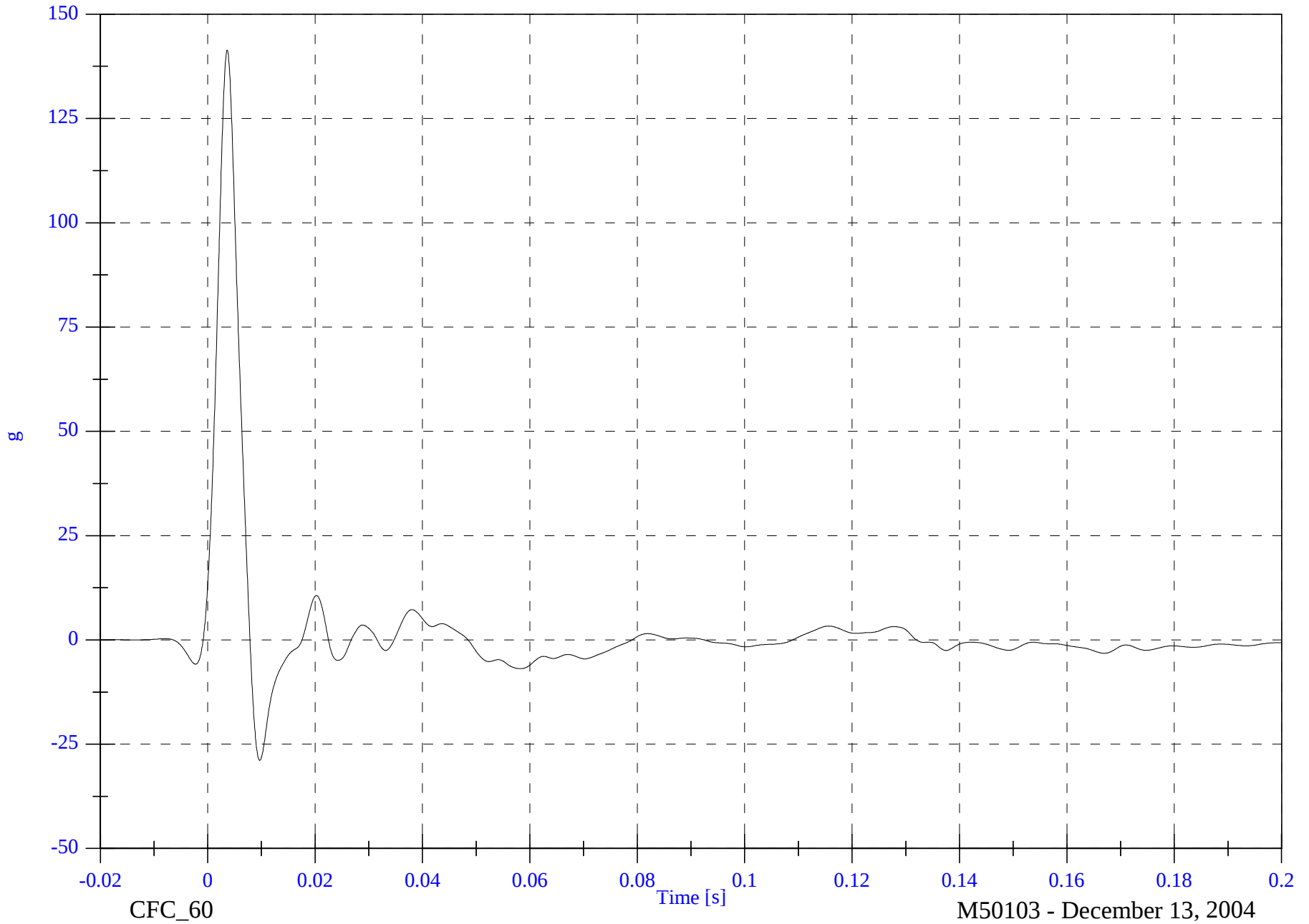
V2 A5 Left Front Sill Y

Max: 141.4 [g] at 0.004 [s]

Min: -28.9 [g] at 0.010 [s]

B-83

8762-SNCAP-08

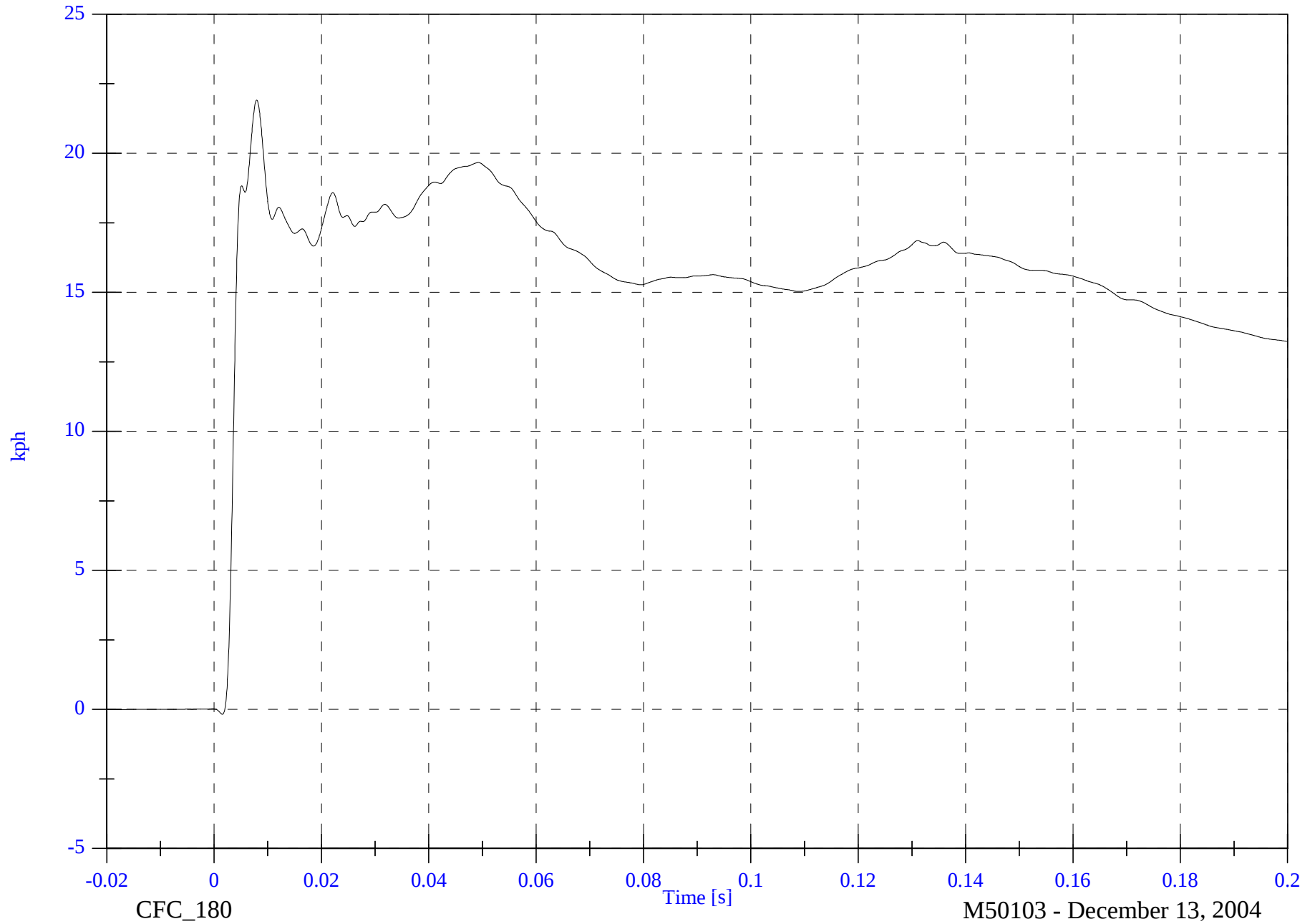


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A5 Left Front Sill Y Velocity

Max: 21.9 [kph] at 0.008 [s]

Min: -0.2 [kph] at 0.002 [s]



B-84

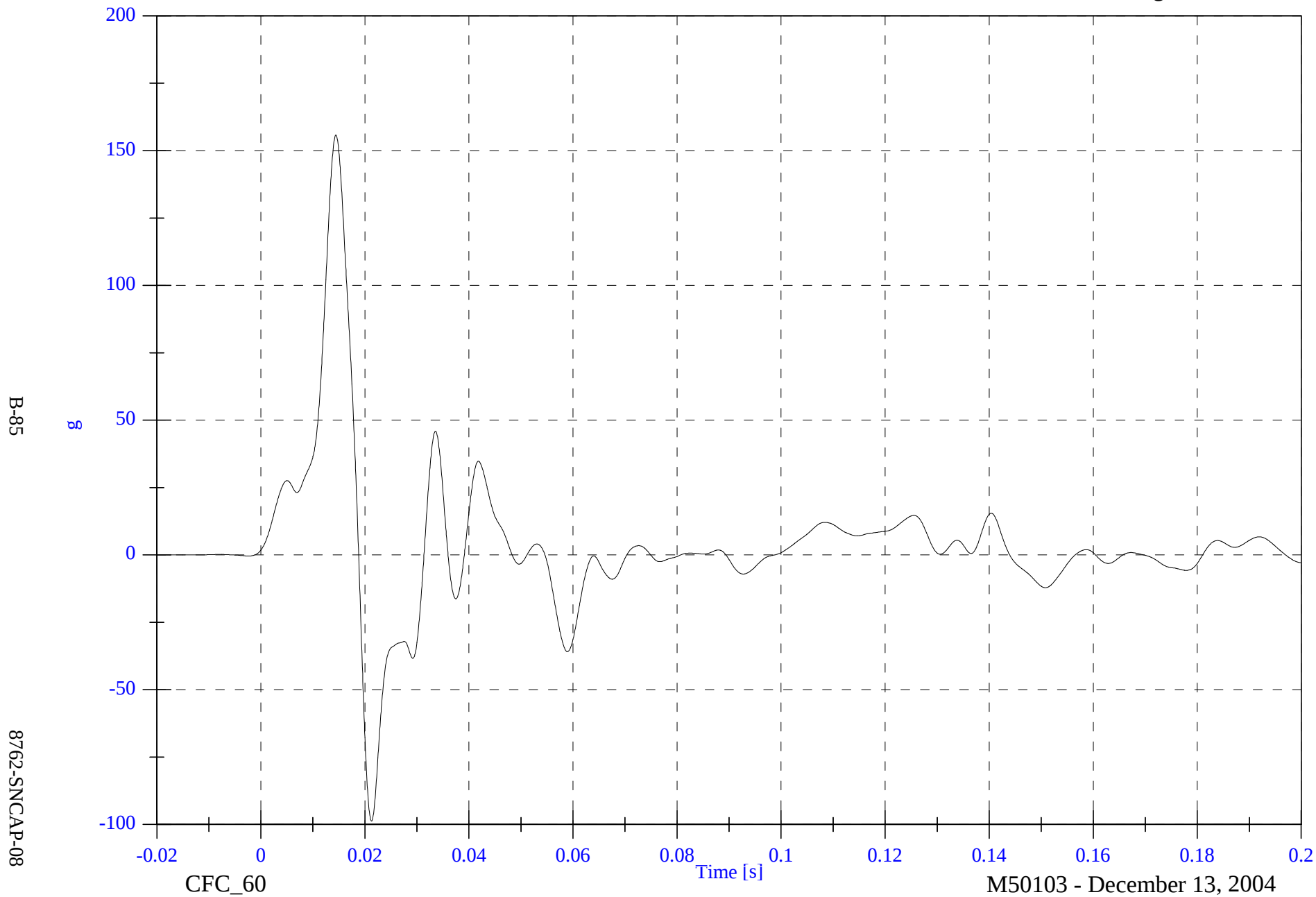
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A6 Left Front Door C/L Y

Max: 155.8 [g] at 0.014 [s]

Min: -98.7 [g] at 0.021 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A6 Left Front Door C/L Y Velocity

Max: 38.9 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.019 [s]

B-86

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2005 SNCAP Test 3 2005 Buick Lacrosse

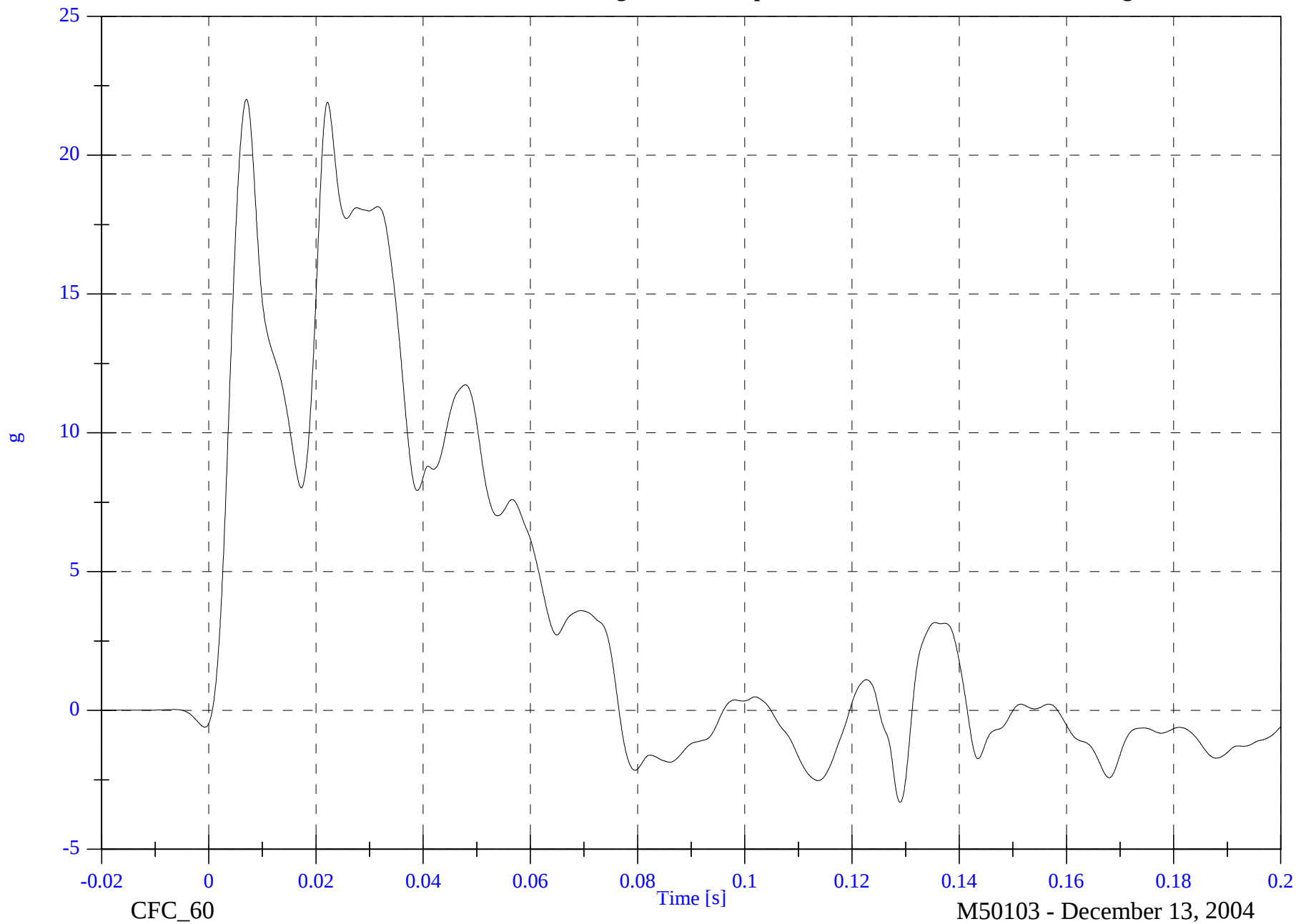
V2 A7 Right Rear Compartment Y

Max: 22.0 [g] at 0.007 [s]

Min: -3.3 [g] at 0.129 [s]

B-87

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2005 SNCAP Test 3 2005 Buick Lacrosse

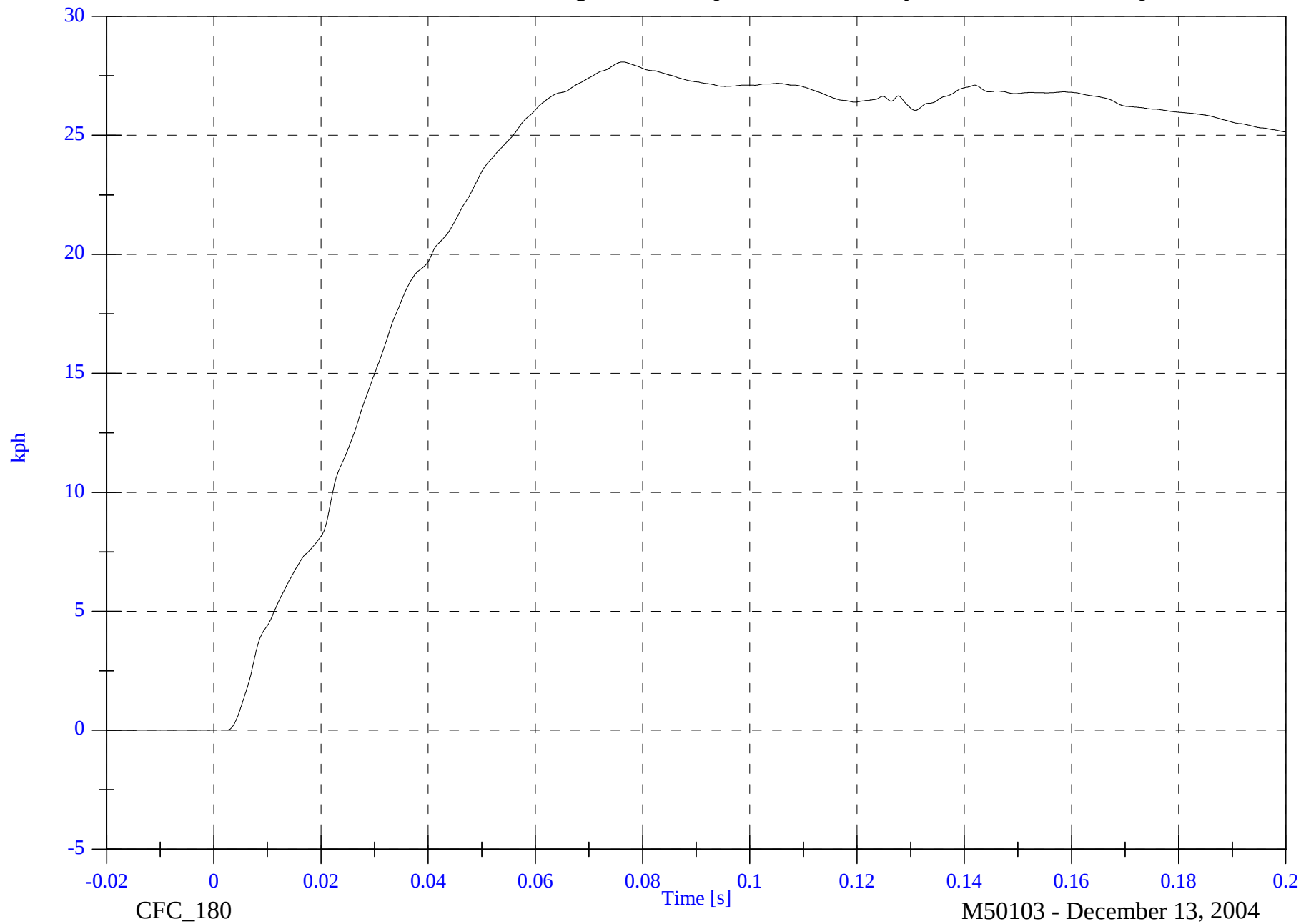
V2 A7 Right Rear Compartment Y Velocity

Max: 28.1 [kph] at 0.076 [s]

Min: -0.0 [kph] at -0.020 [s]

B-88

8762-SNCAP-08

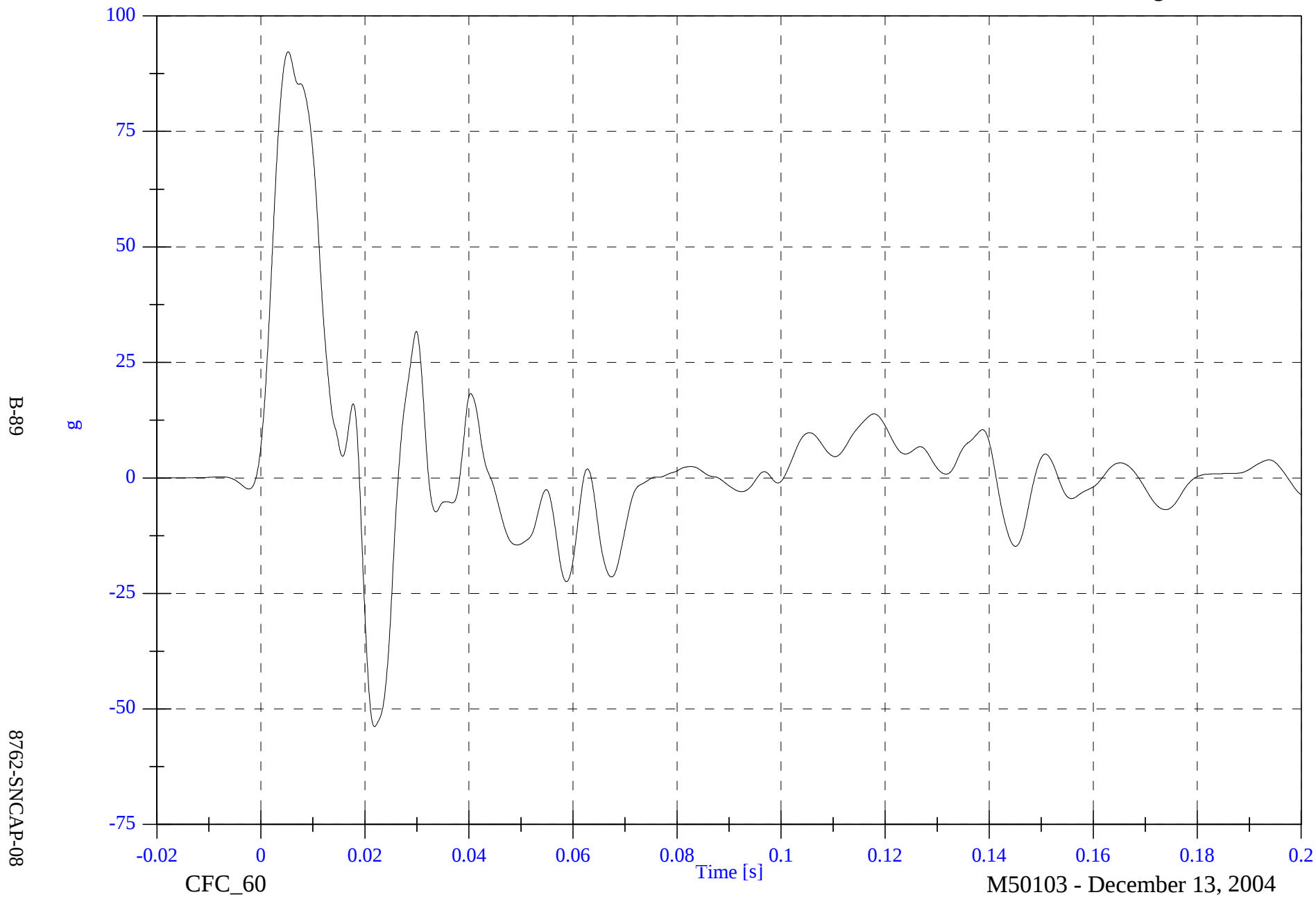


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A8 Left Front Door Midrear Y

Max: 92.2 [g] at 0.005 [s]

Min: -53.9 [g] at 0.022 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A8 Left Front Door Midrear Y Velocity

Max: 33.4 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.019 [s]

B-90

8762-SNCAP-08

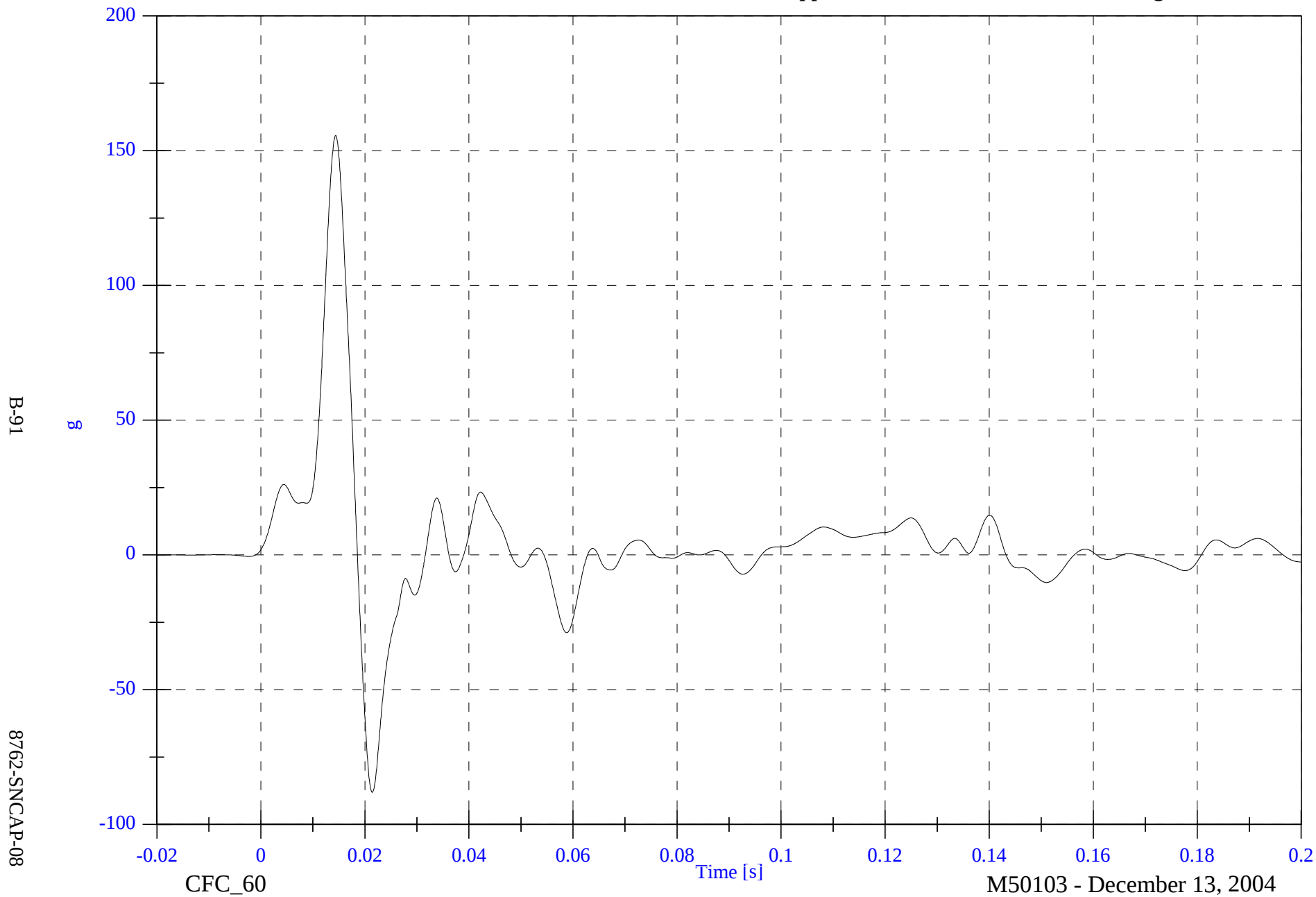


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A9 Left Front Door Upper C/L Y

Max: 155.6 [g] at 0.014 [s]

Min: -88.0 [g] at 0.021 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A9 Left Front Door Upper C/L Y Velocity

Max: 34.7 [kph] at 0.018 [s]

Min: -0.0 [kph] at -0.019 [s]



B-92

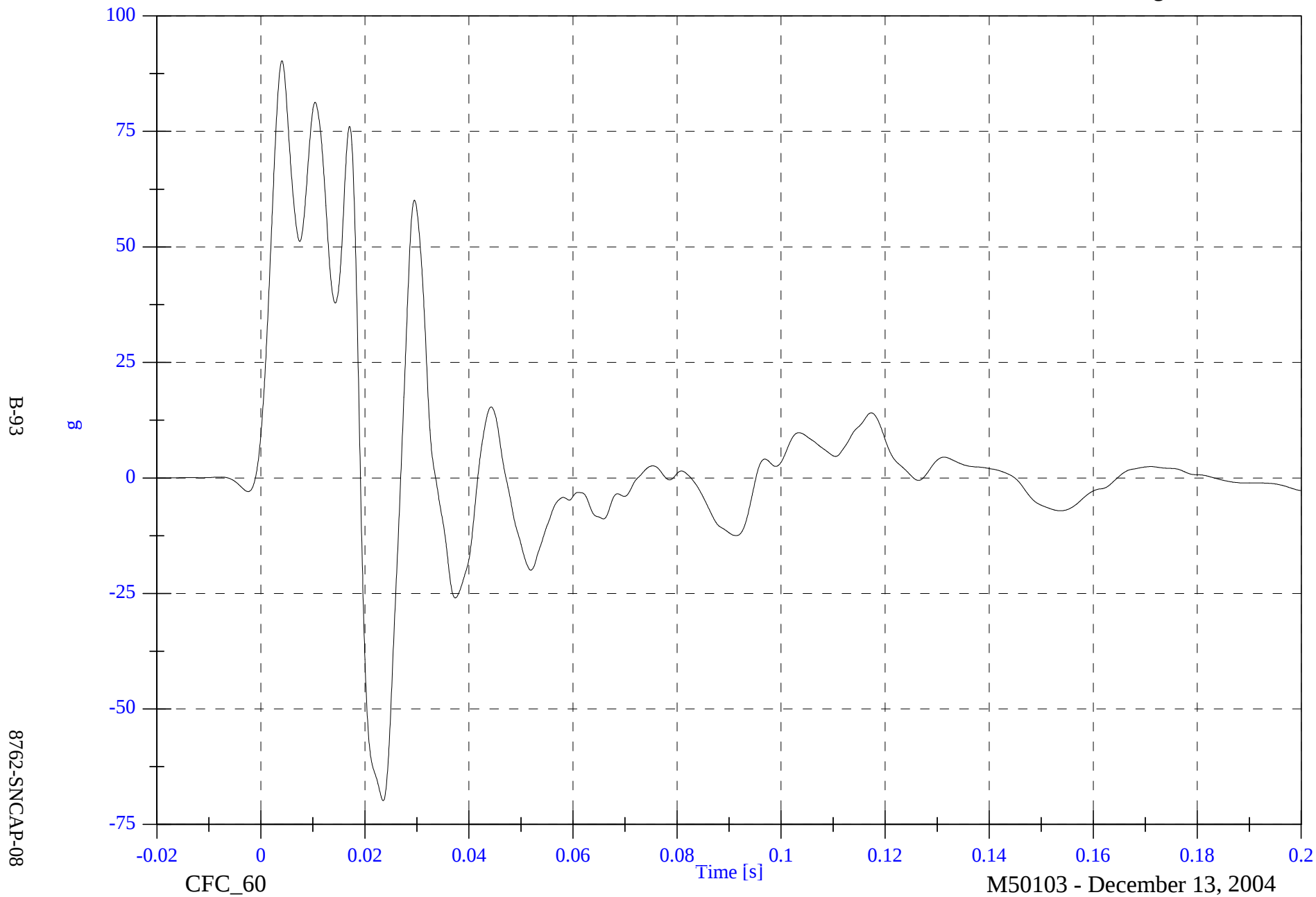
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A10 Left Rear Door Midrear Y

Max: 90.3 [g] at 0.004 [s]

Min: -69.9 [g] at 0.023 [s]

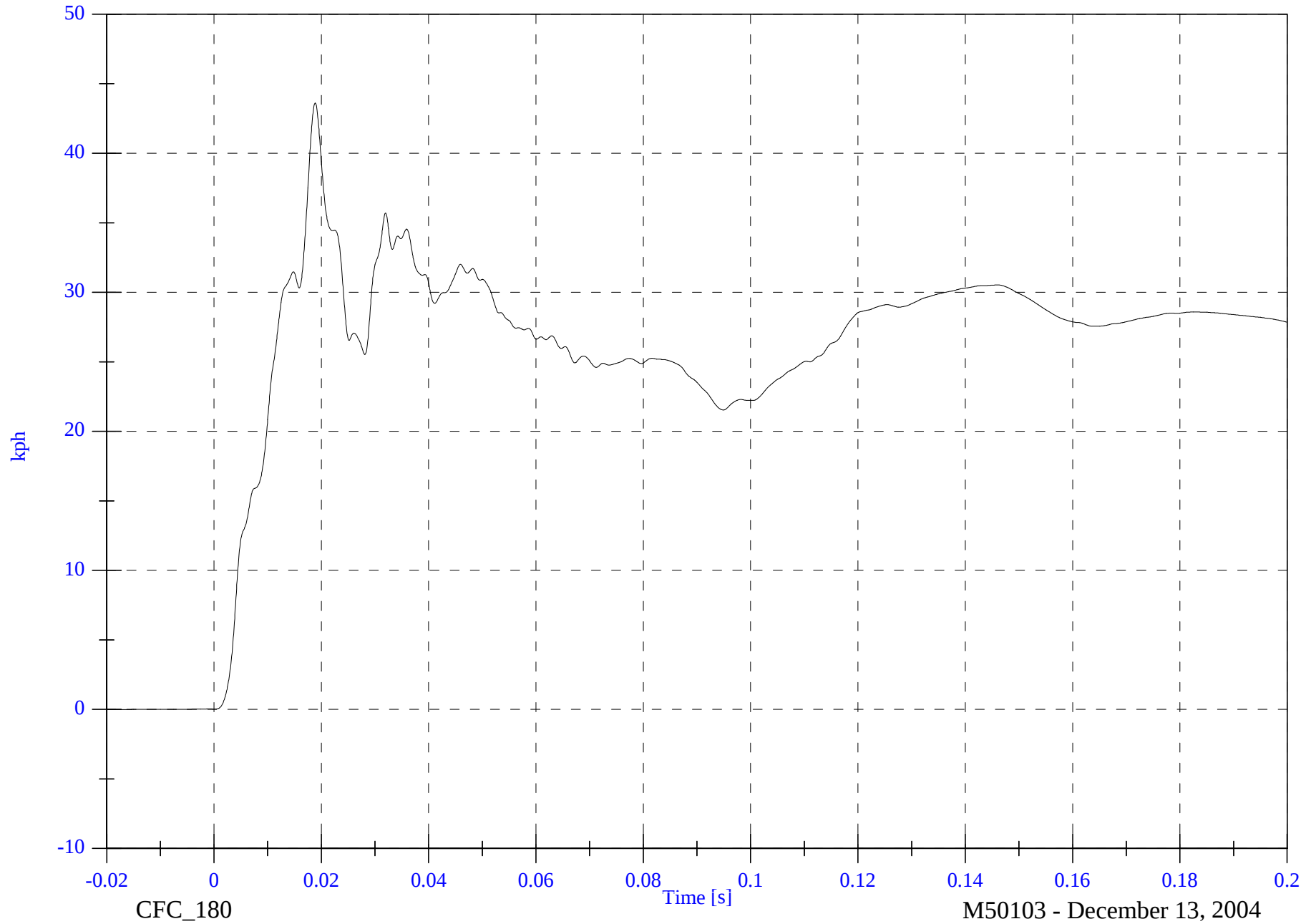


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A10 Left Rear Door Midrear Y Velocity

Max: 43.6 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.017 [s]



B-94

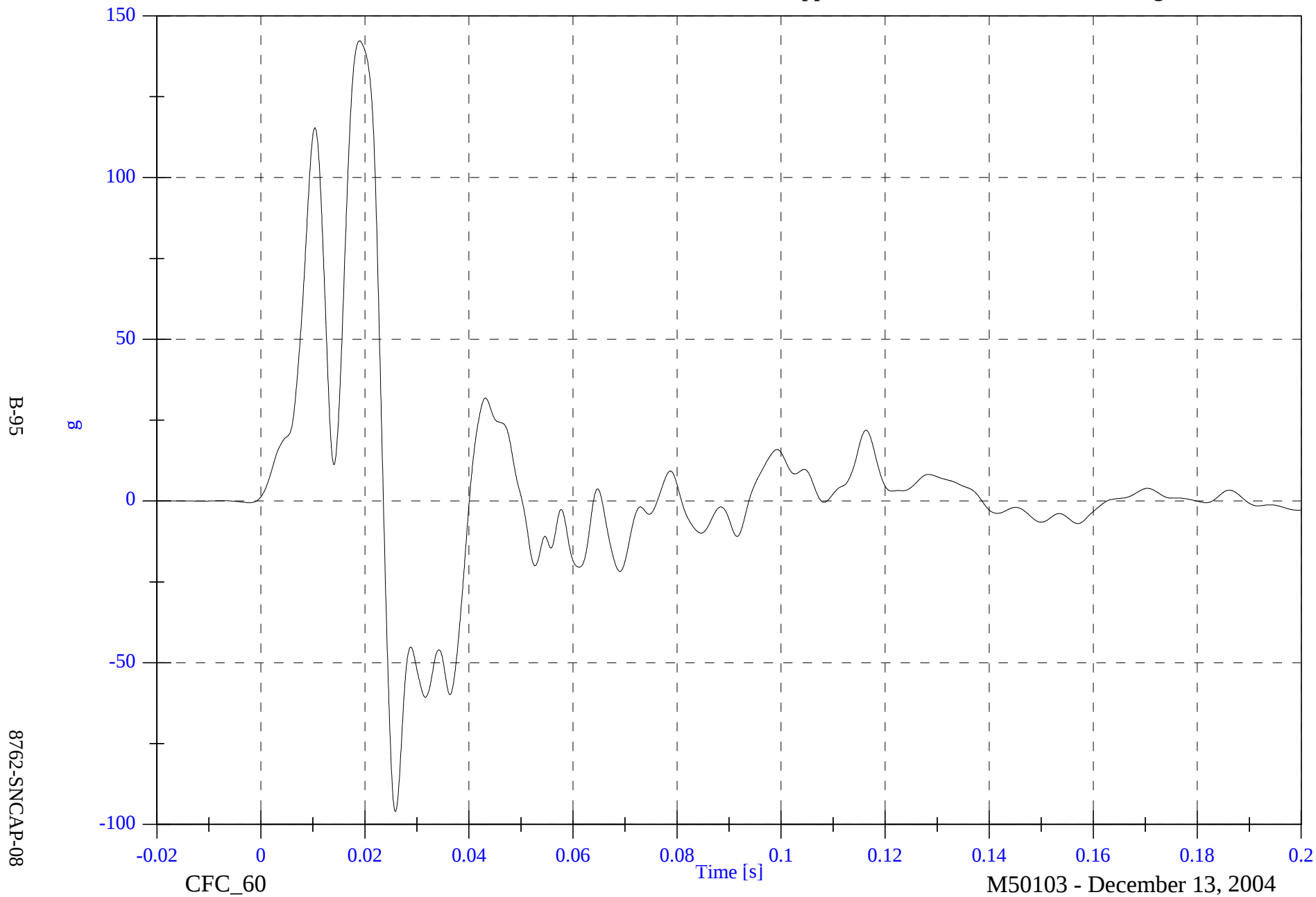
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A11 Left Rear Door Upper C/L Y

Max: 142.3 [g] at 0.019 [s]

Min: -96.0 [g] at 0.026 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A11 Left Rear Door Upper C/L Y Velocity

Max: 55.6 [kph] at 0.023 [s]

Min: -0.0 [kph] at -0.018 [s]

B-96

8762-SNCAP-08

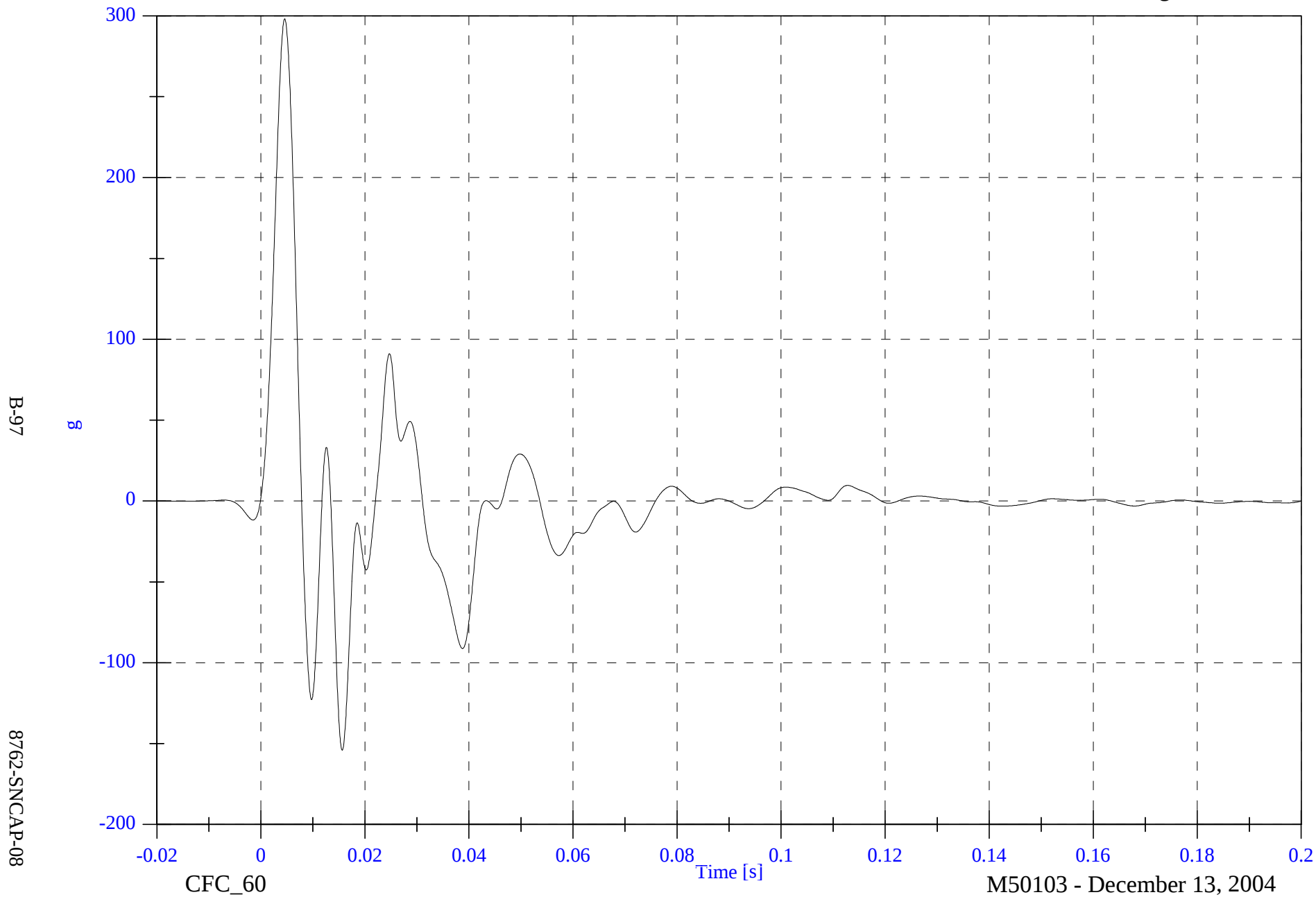


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A12 Left Lower B Post Y

Max: 298.2 [g] at 0.005 [s]

Min: -154.1 [g] at 0.016 [s]

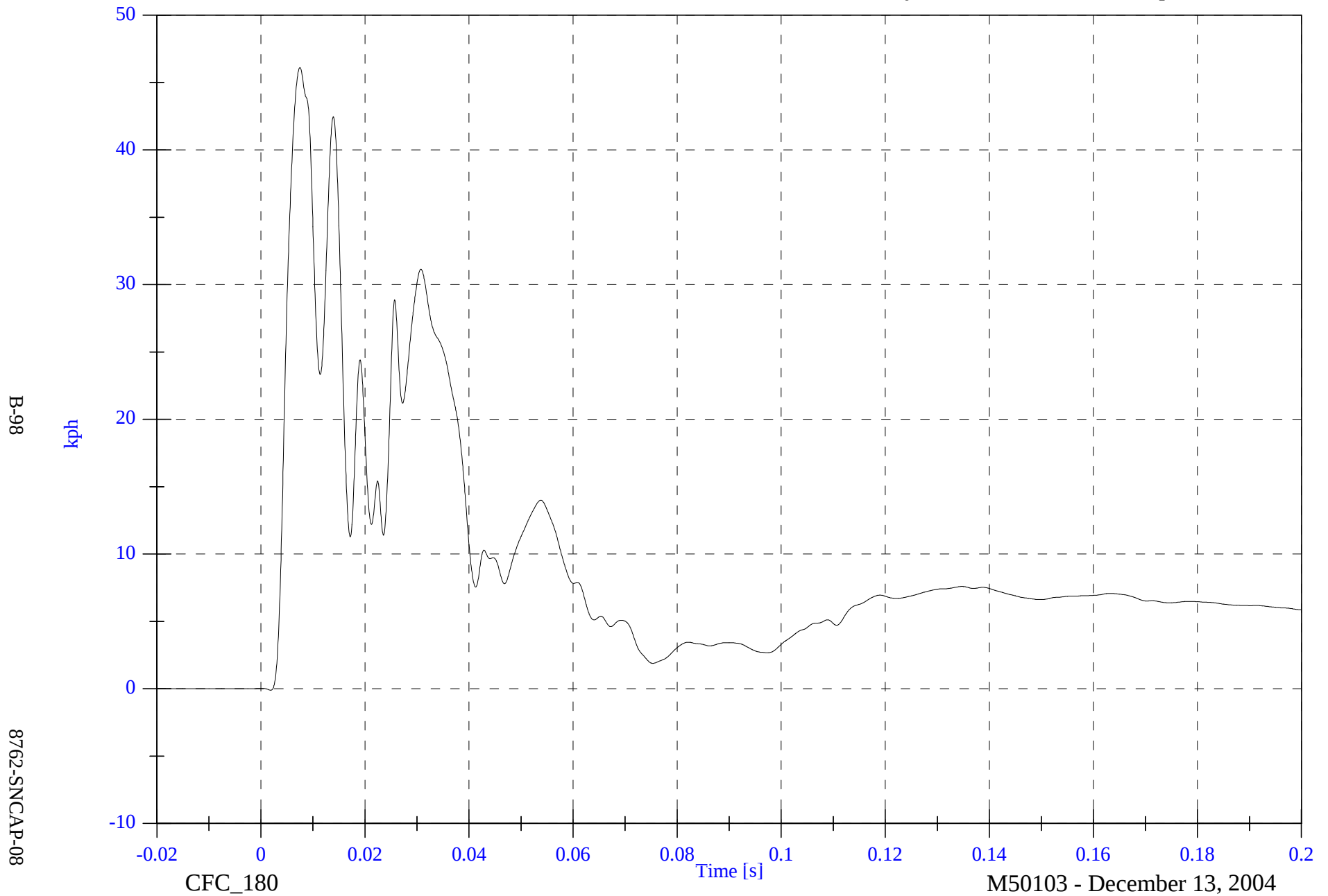


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A12 Left Lower B Post Y Velocity

Max: 46.1 [kph] at 0.007 [s]

Min: -0.1 [kph] at 0.002 [s]

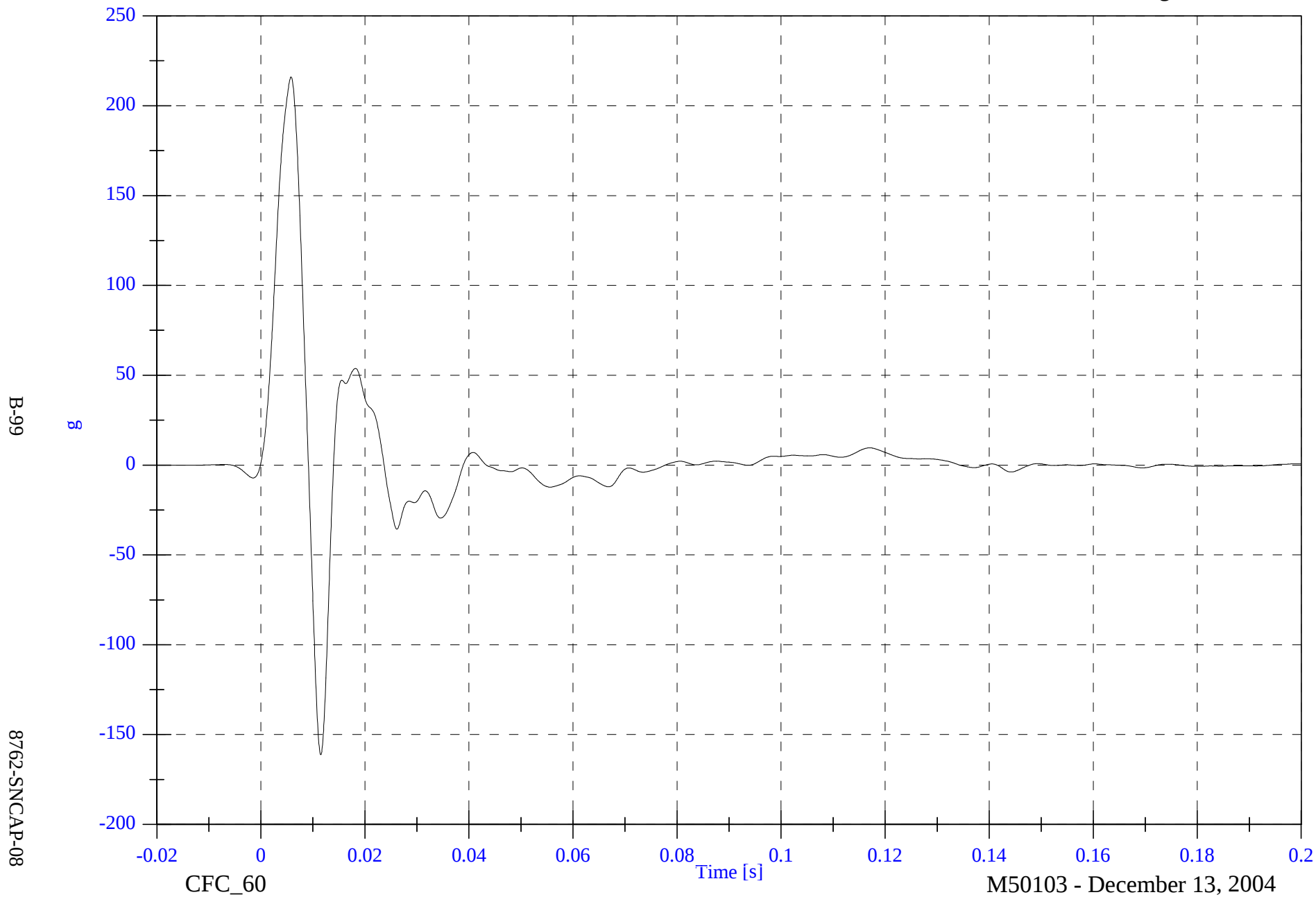


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A13 Left Mid B Post Y

Max: 216.0 [g] at 0.006 [s]

Min: -161.2 [g] at 0.011 [s]

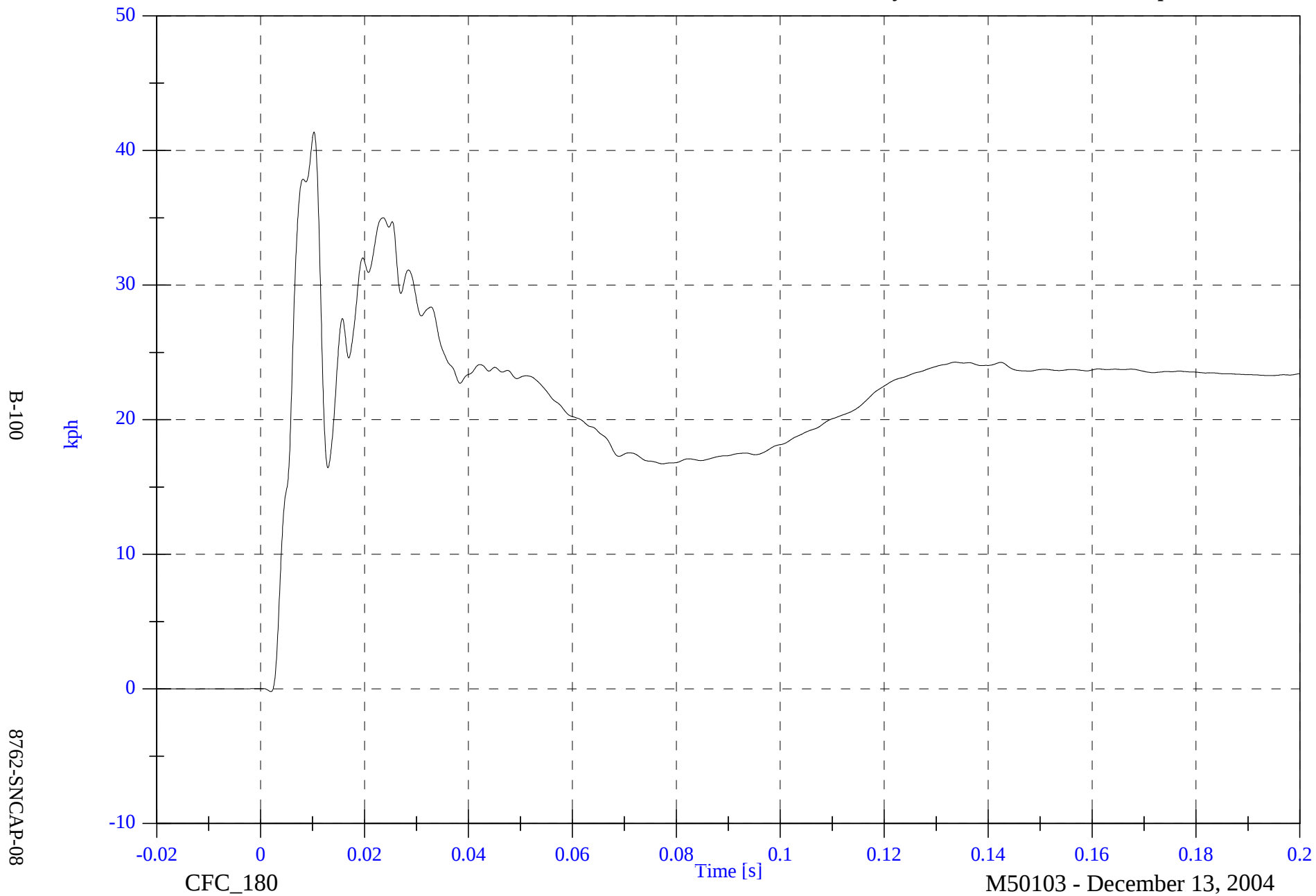


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A13 Left Mid B Post Y Velocity

Max: 41.4 [kph] at 0.010 [s]

Min: -0.2 [kph] at 0.002 [s]

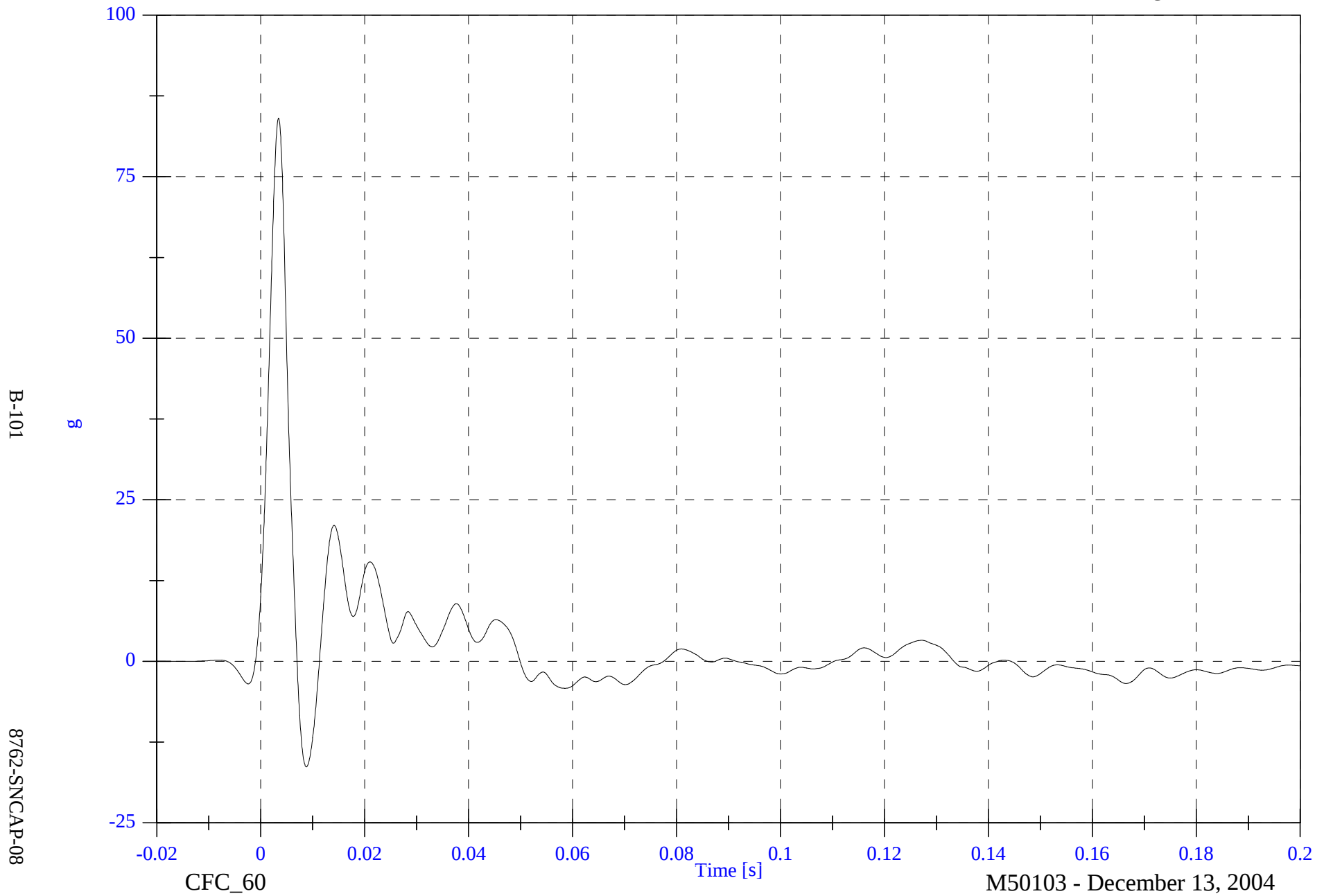


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A14 Left Lower A Post Y

Max: 84.1 [g] at 0.003 [s]

Min: -16.3 [g] at 0.009 [s]

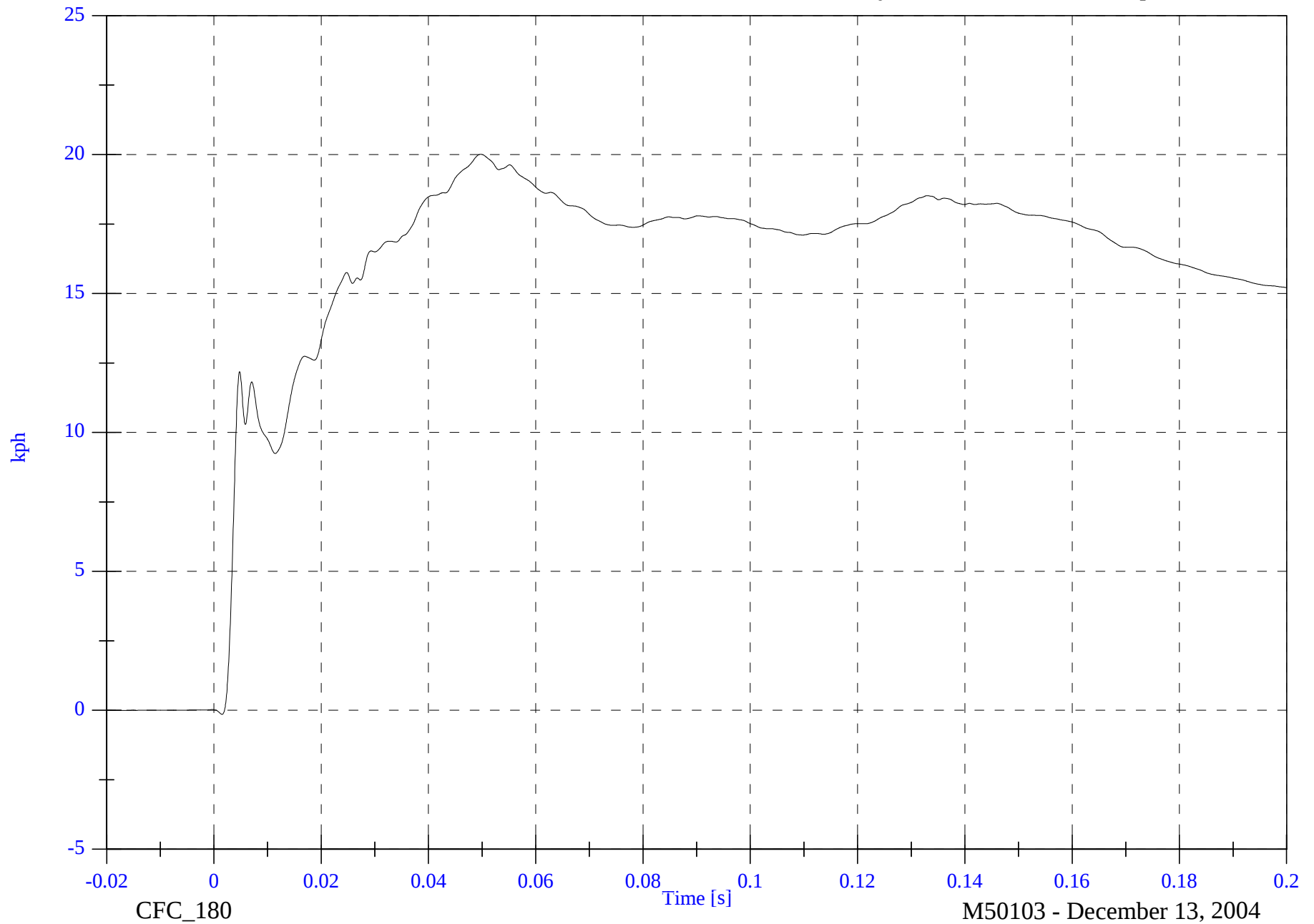


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A14 Left Lower A Post Y Velocity

Max: 20.0 [kph] at 0.050 [s]

Min: -0.1 [kph] at 0.001 [s]



B-102

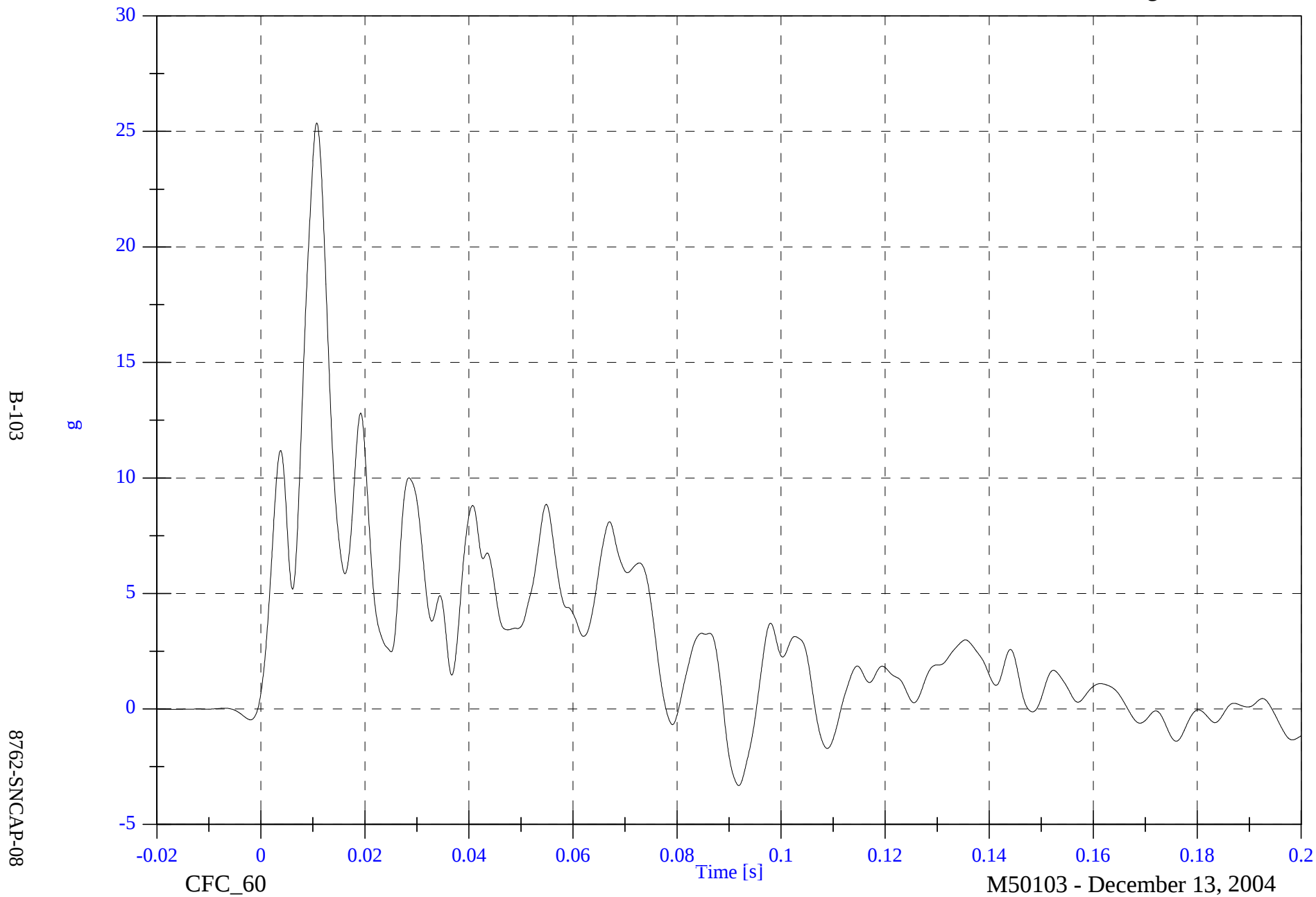
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A15 Left Mid A Post Y

Max: 25.4 [g] at 0.011 [s]

Min: -3.3 [g] at 0.092 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

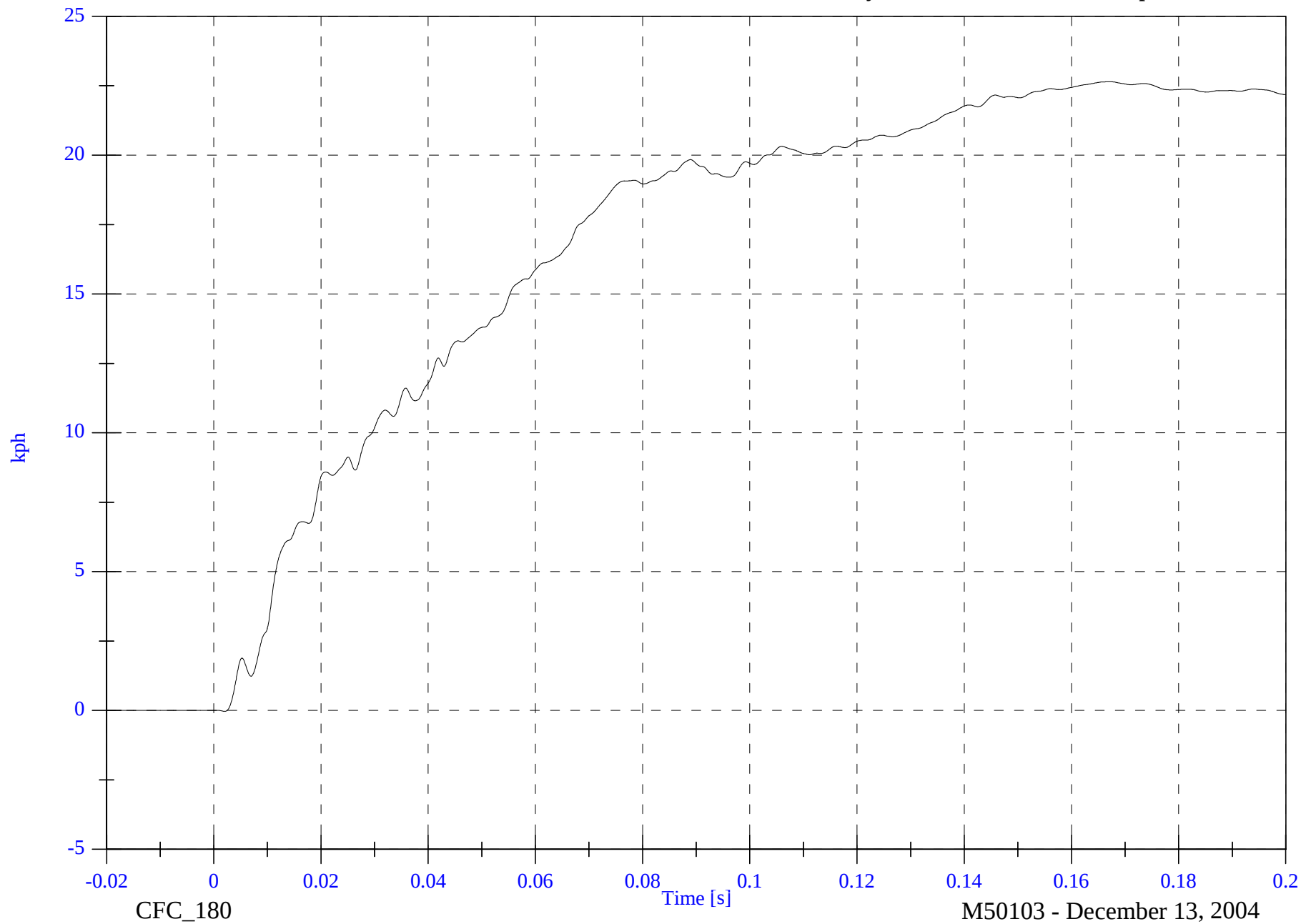
V2 A15 Left Mid A Post Y Velocity

Max: 22.6 [kph] at 0.167 [s]

Min: -0.0 [kph] at 0.002 [s]

B-104

8762-SNCAP-08

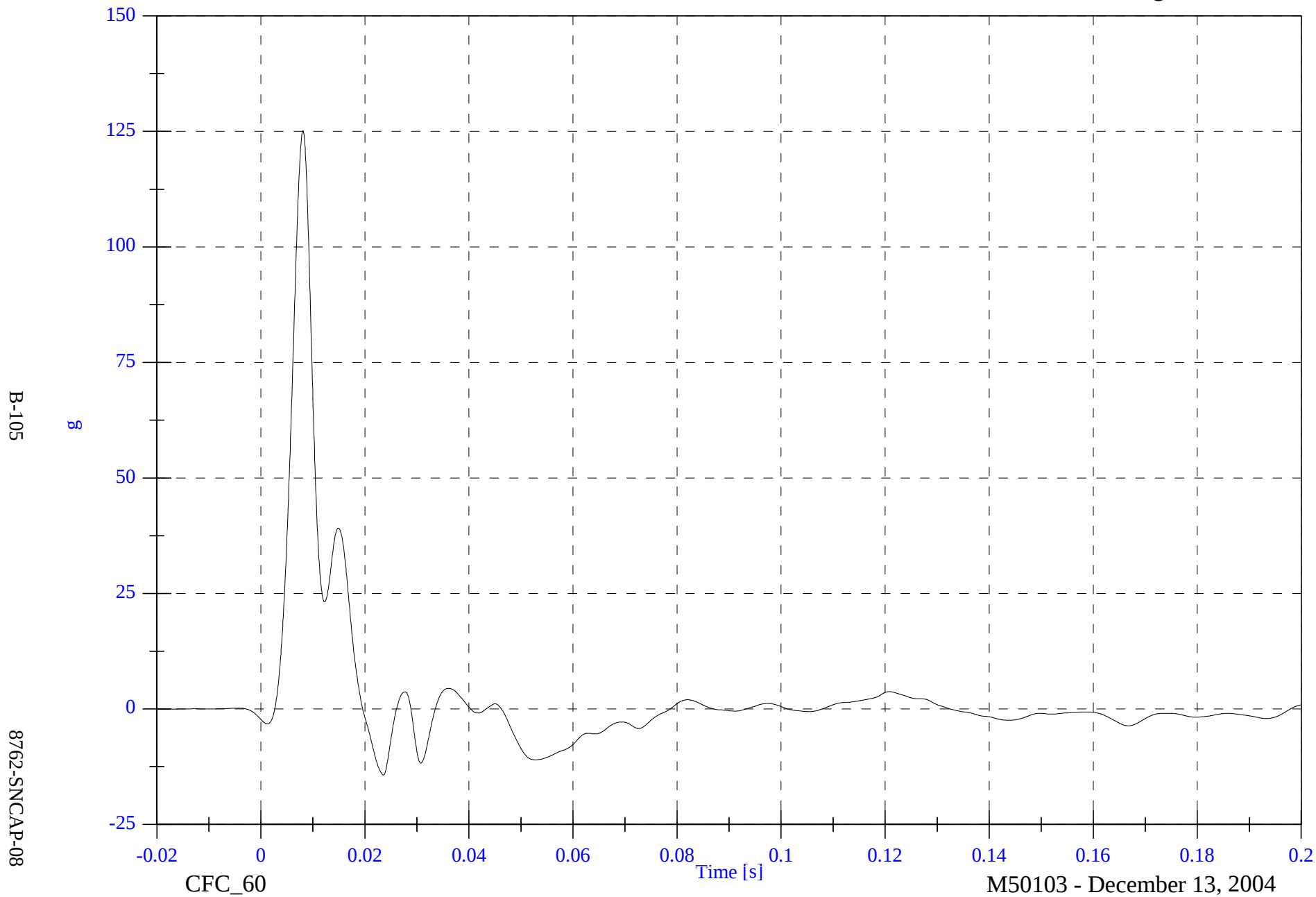


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A16 Front Seat Track Y

Max: 125.1 [g] at 0.008 [s]

Min: -14.3 [g] at 0.024 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

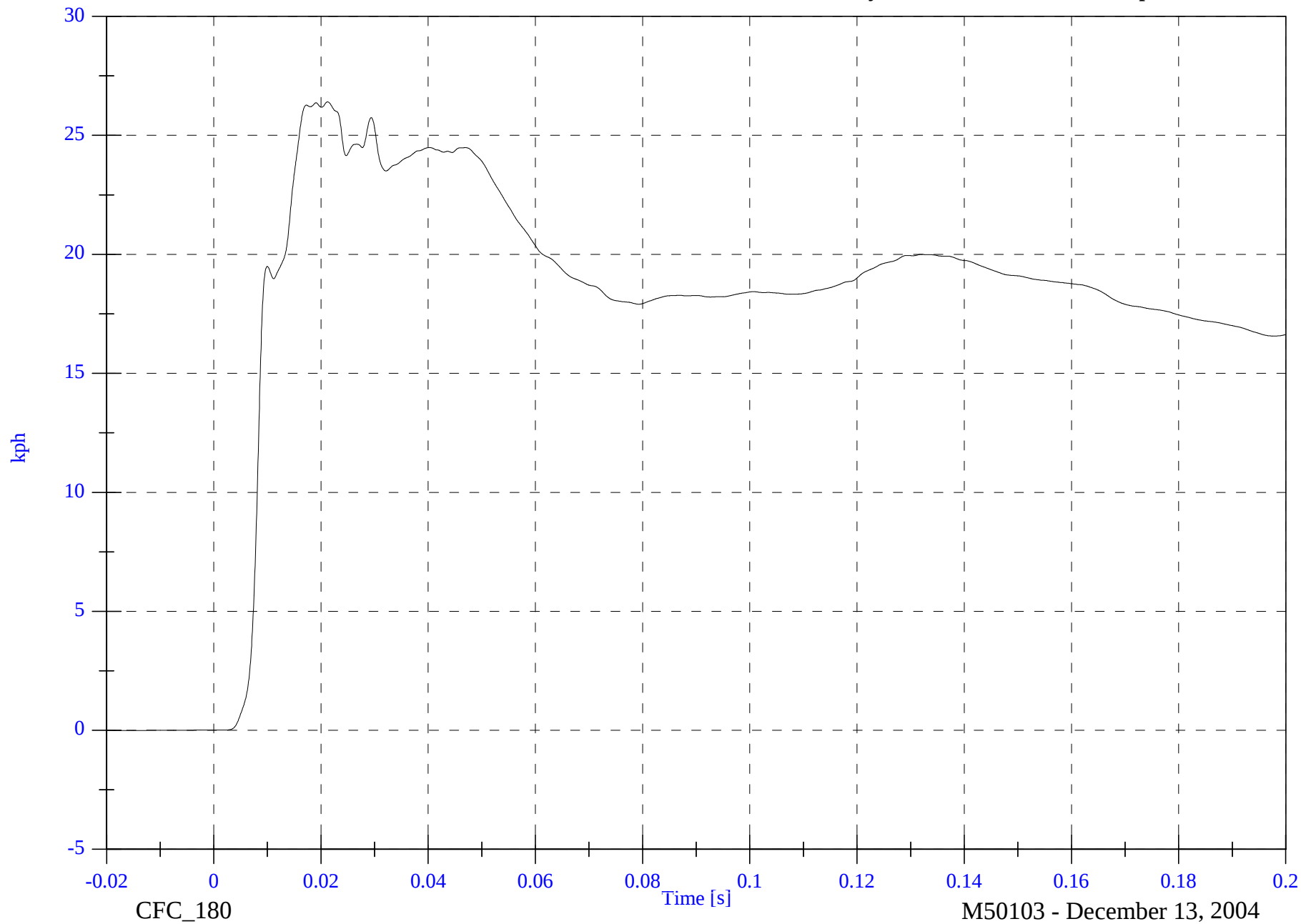
V2 A16 Front Seat Track Y Velocity

Max: 26.4 [kph] at 0.021 [s]

Min: -0.0 [kph] at -0.014 [s]

B-106

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2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A17 Rear Seat Track Y

Max: 21.4 [g] at 0.021 [s]

Min: -1.9 [g] at 0.108 [s]

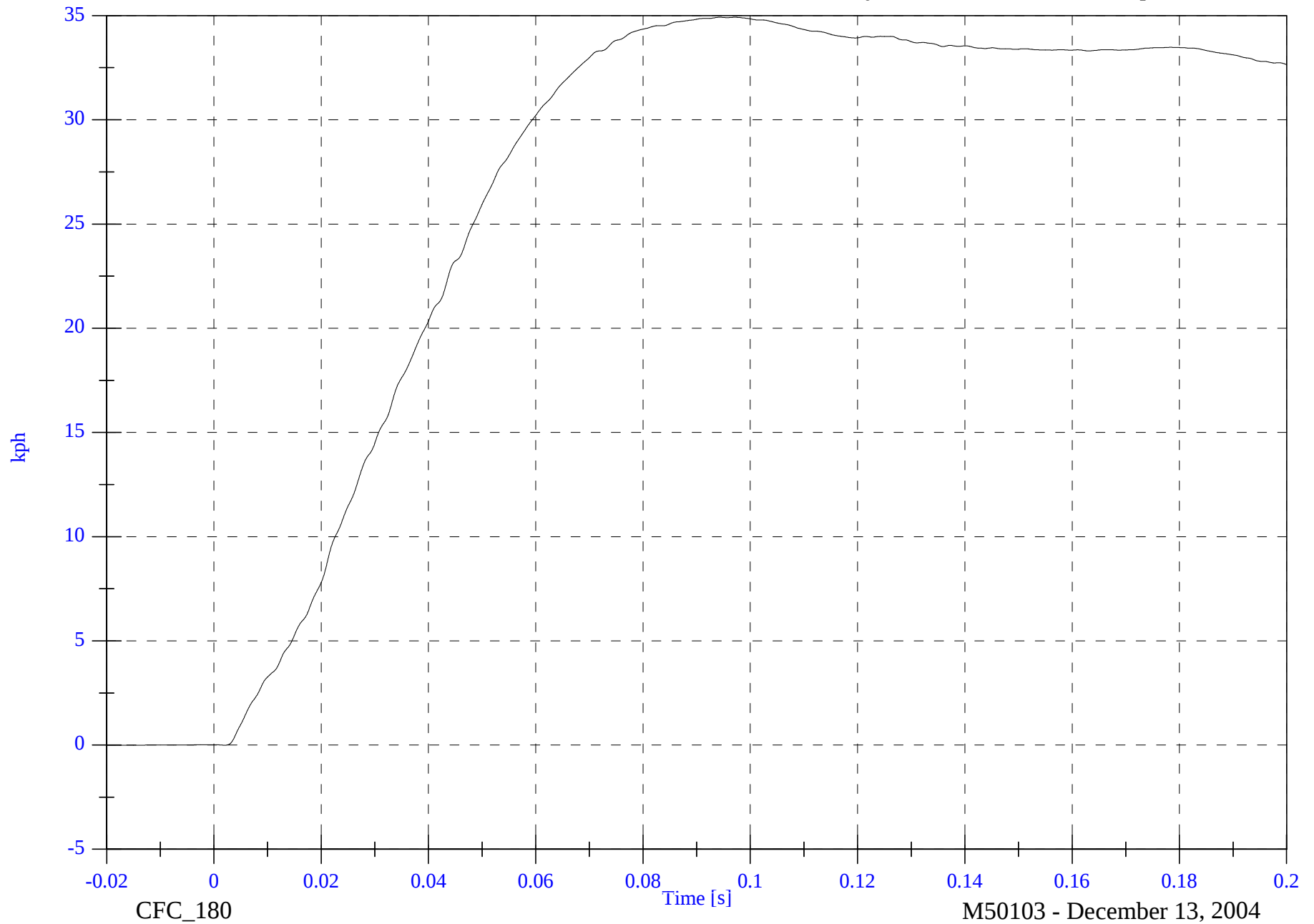


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A17 Rear Seat Track Y Velocity

Max: 34.9 [kph] at 0.094 [s]

Min: -0.0 [kph] at -0.019 [s]



B-108

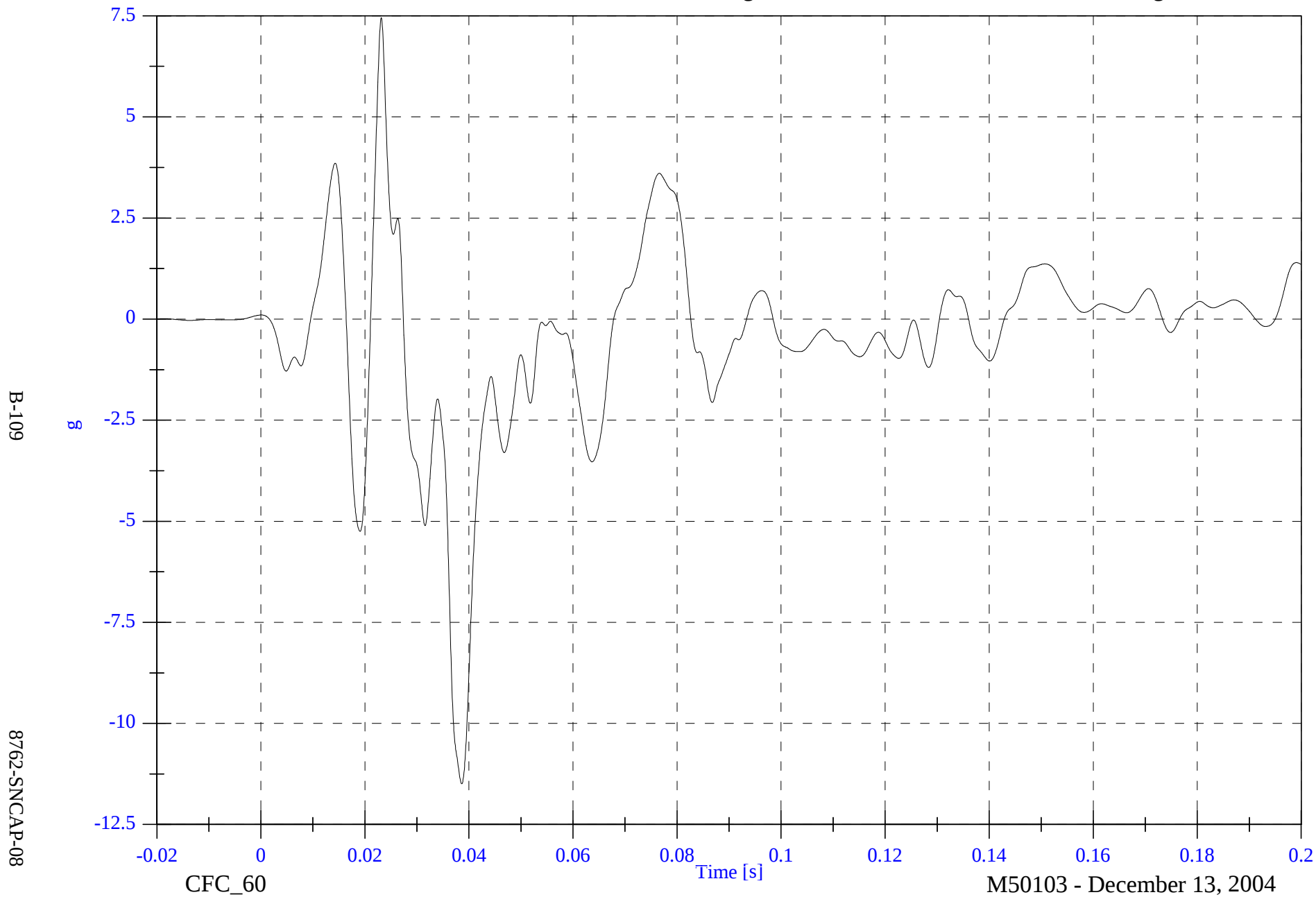
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A18 Target CG X

Max: 7.5 [g] at 0.023 [s]

Min: -11.5 [g] at 0.039 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

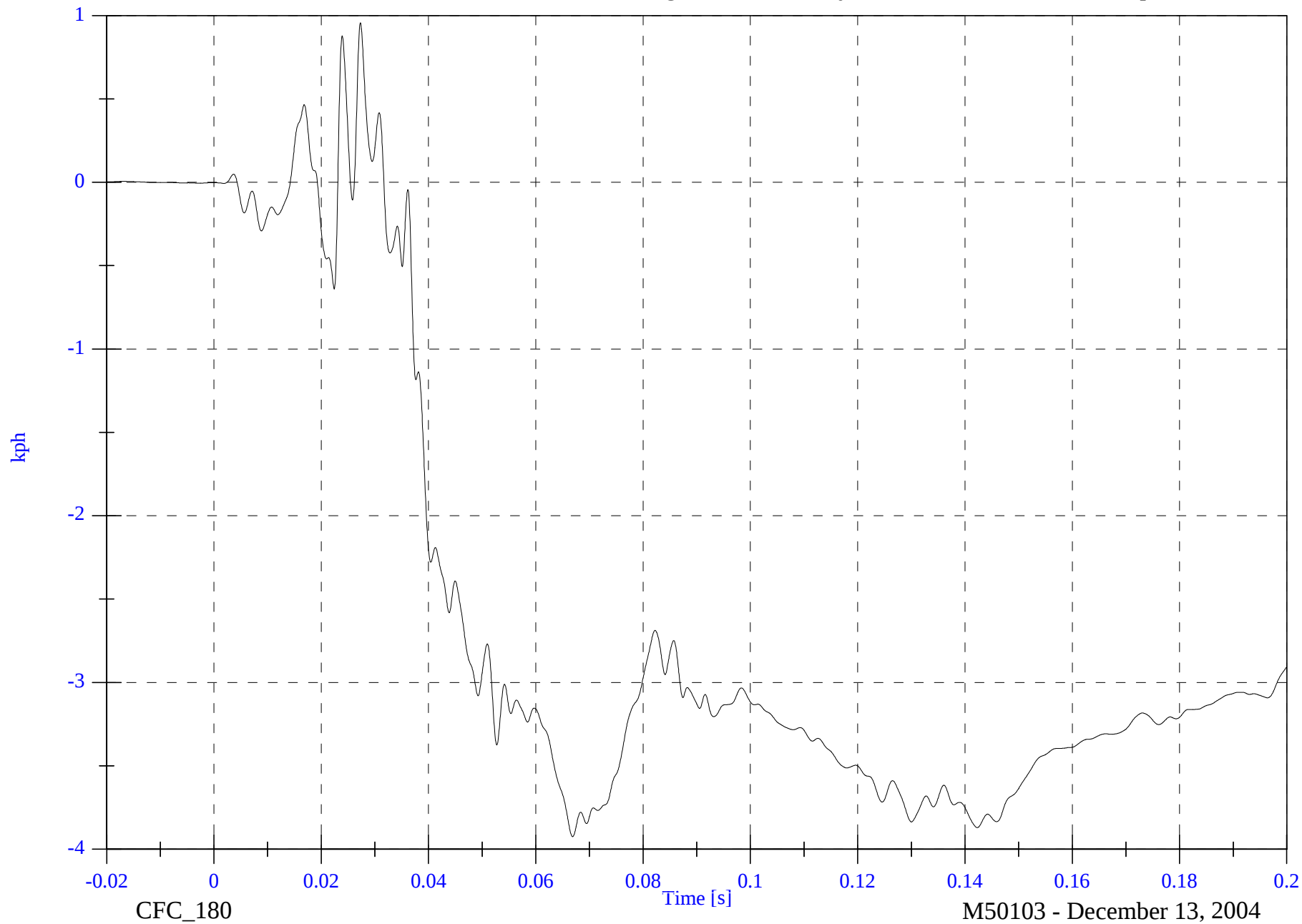
V2 A18 Target CG X Velocity

Max: 1.0 [kph] at 0.027 [s]

Min: -3.9 [kph] at 0.067 [s]

B-110

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2005 SNCAP Test 3 2005 Buick Lacrosse

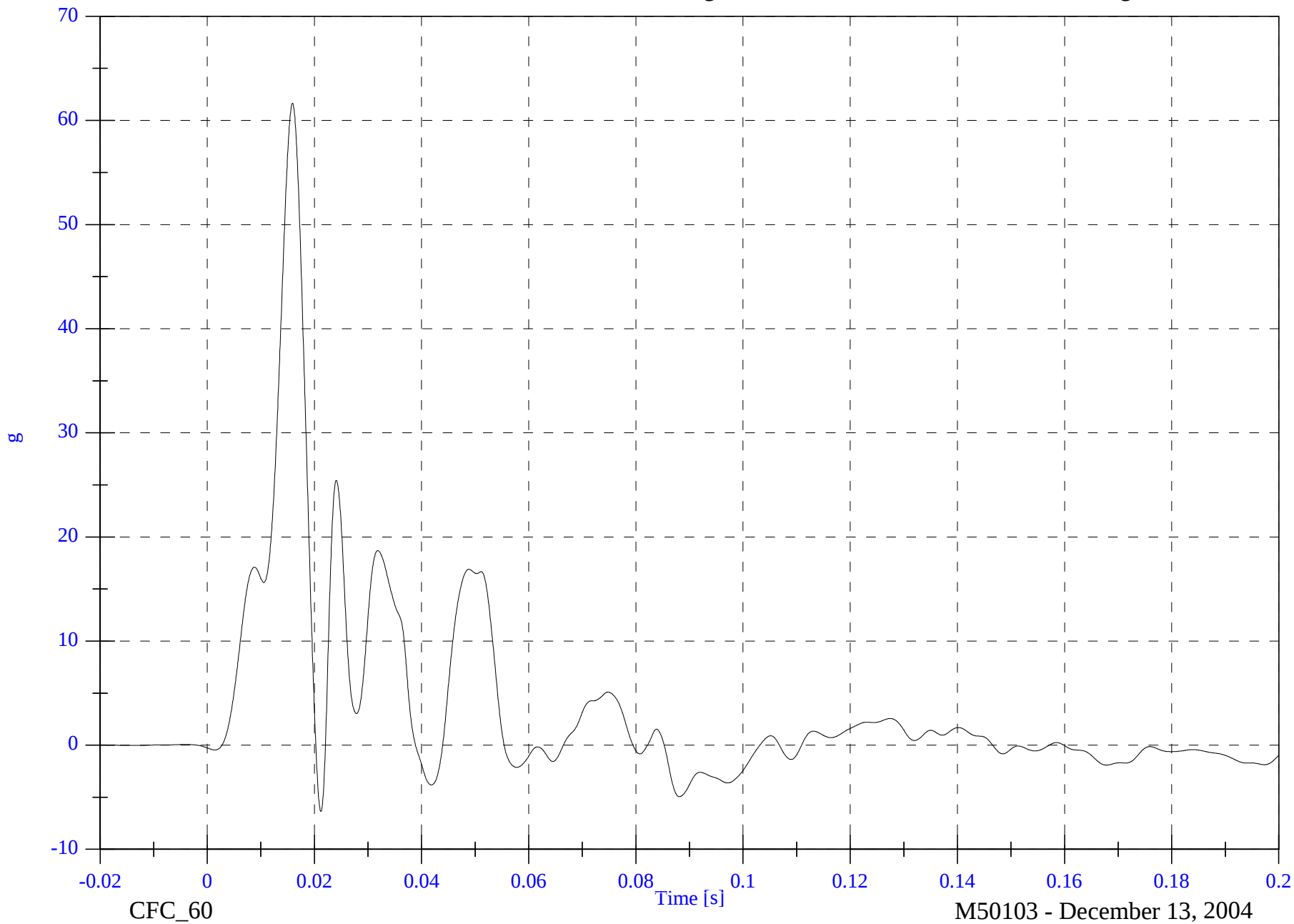
V2 A18 Target CG Y

Max: 61.7 [g] at 0.016 [s]

Min: -6.4 [g] at 0.021 [s]

B-111

8762-SNCAP-08

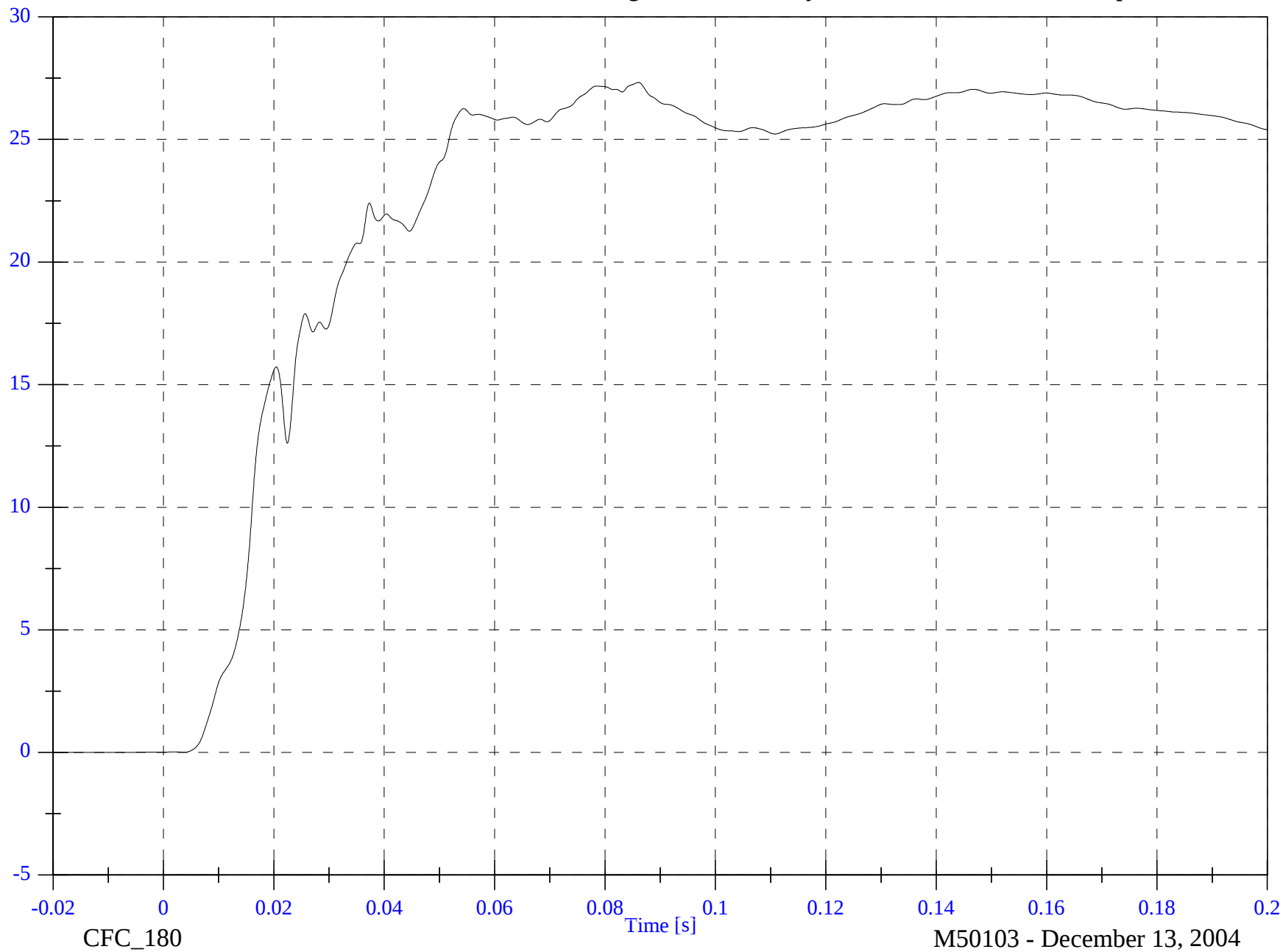


2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A18 Target CG Y Velocity

Max: 27.3 [kph] at 0.086 [s]

Min: -0.0 [kph] at -0.012 [s]



B-112

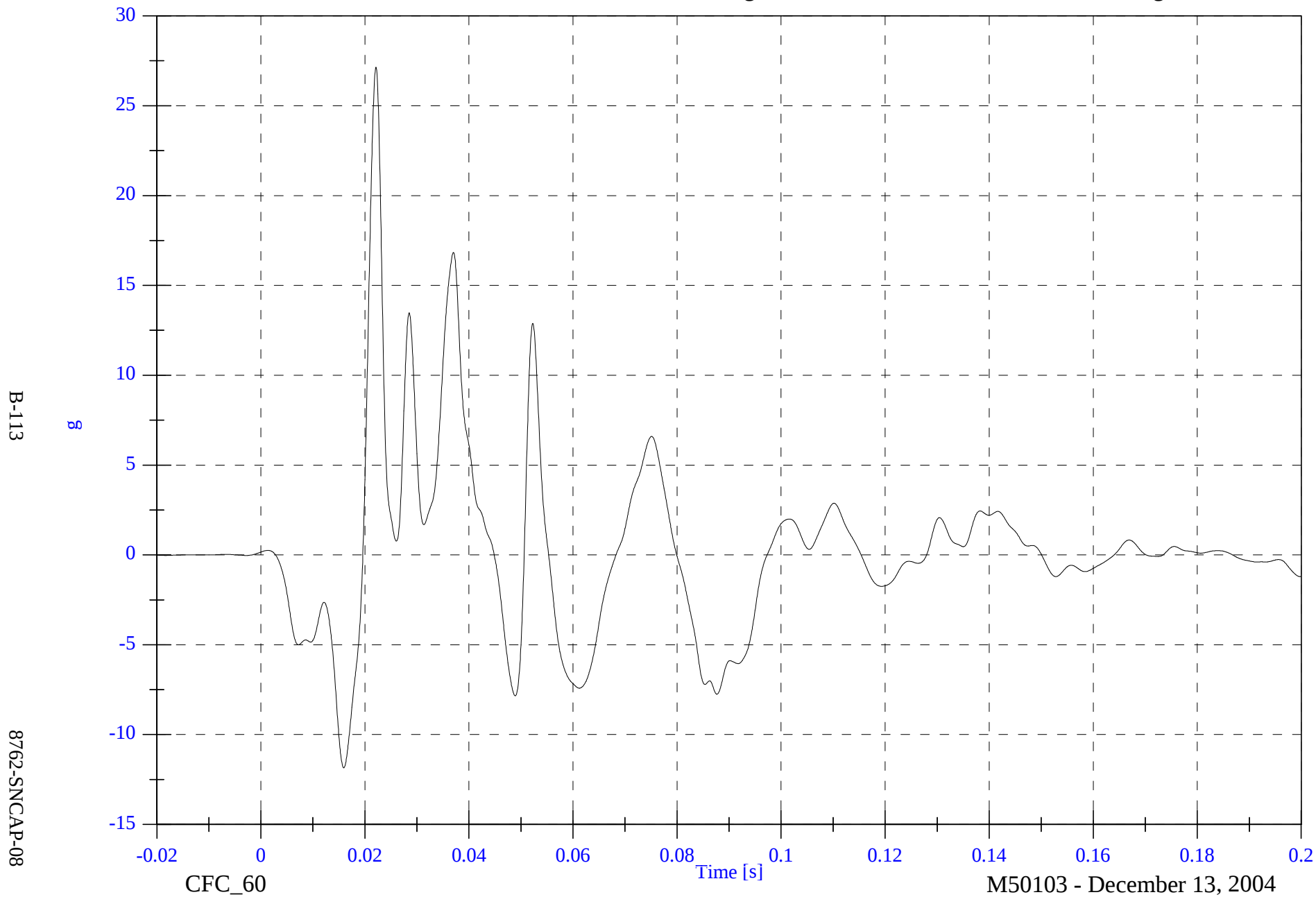
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2 A18 Target CG Z

Max: 27.1 [g] at 0.022 [s]

Min: -11.8 [g] at 0.016 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

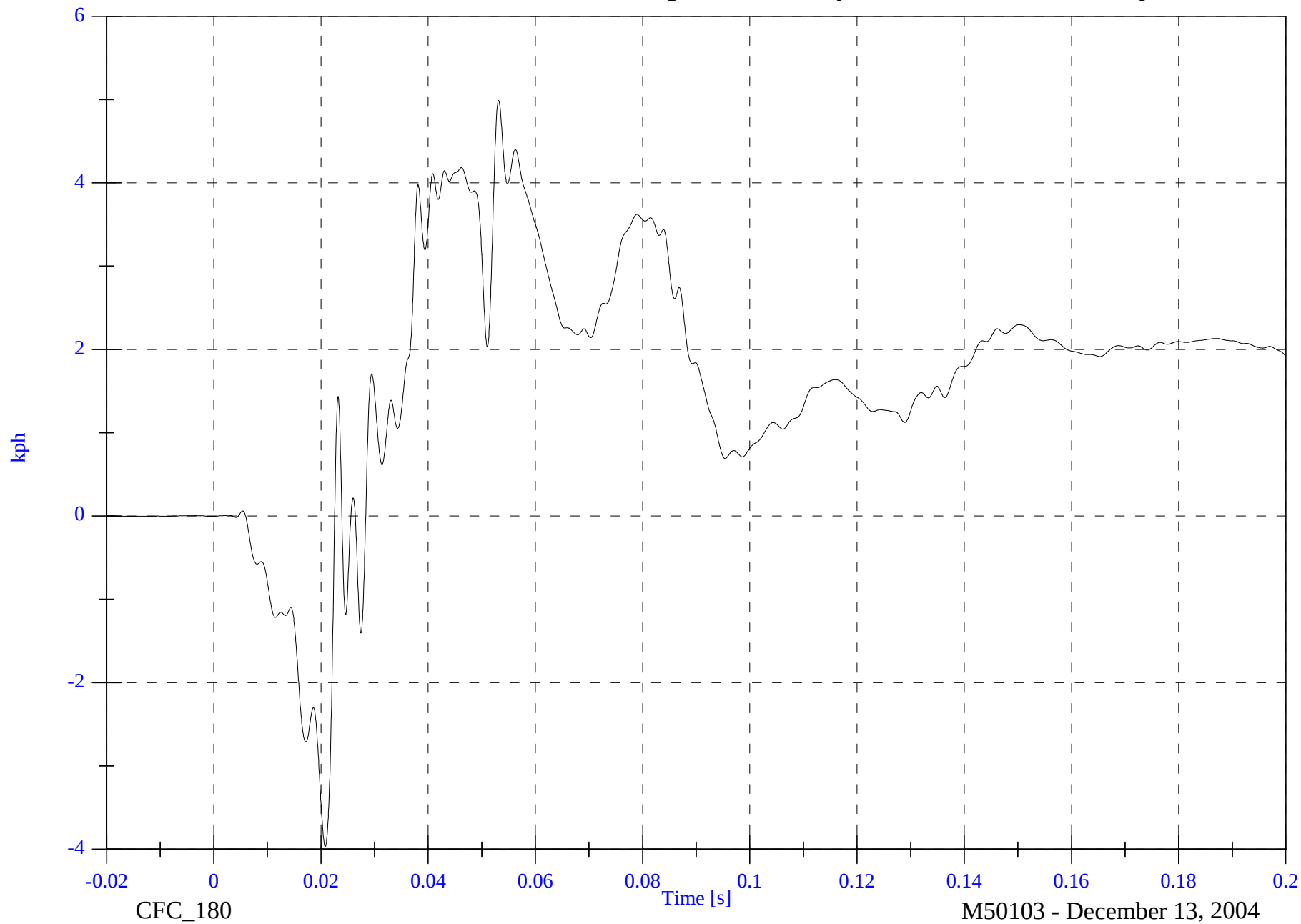
V2 A18 Target CG Z Velocity

Max: 5.0 [kph] at 0.053 [s]

Min: -4.0 [kph] at 0.021 [s]

B-114

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

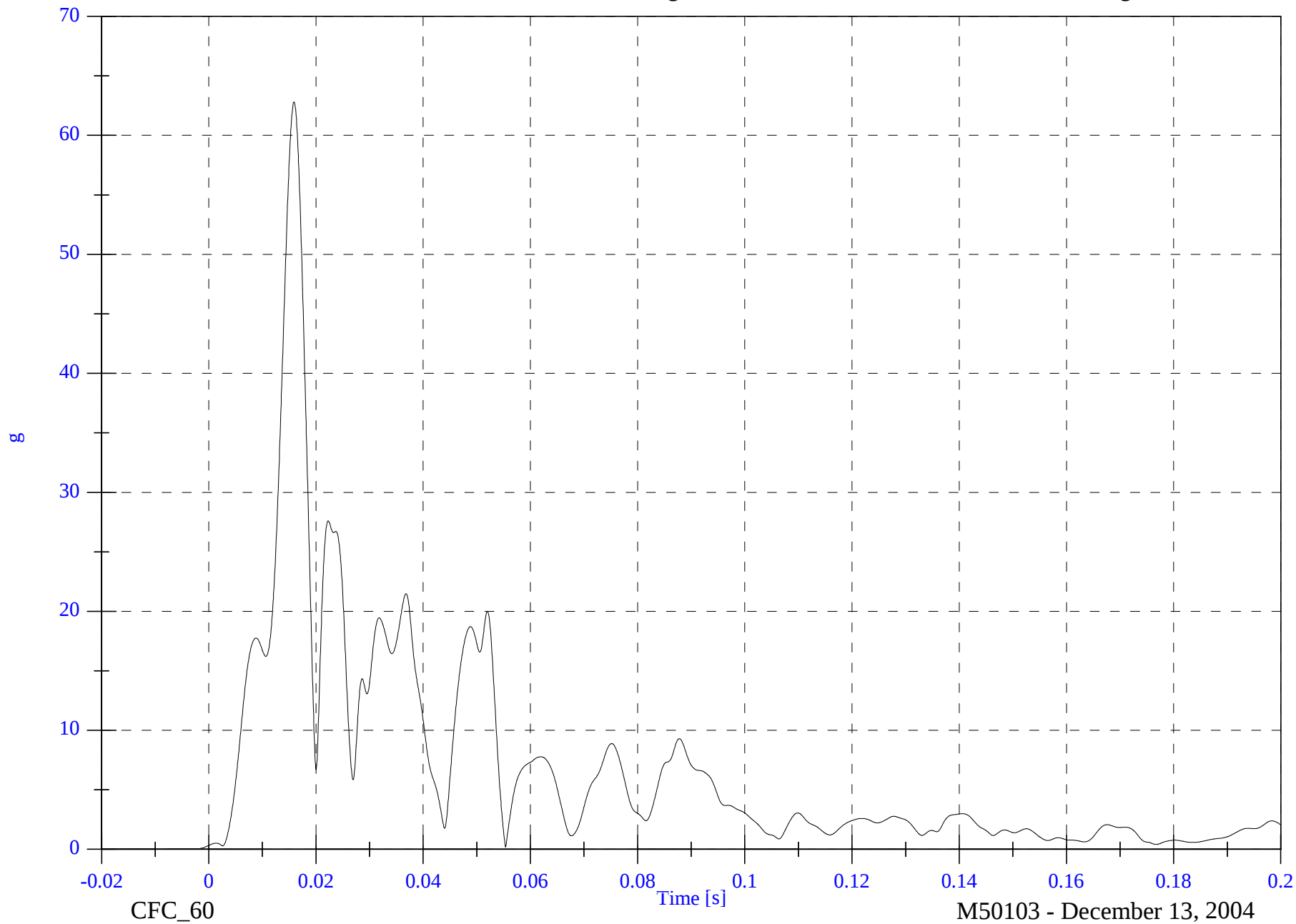
V2 A18 Target CG Resultant

Max: 62.8 [g] at 0.016 [s]

Min: 0.0 [g] at -0.011 [s]

B-115

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier CG X

Max: 1.3 [g] at 0.107 [s]

Min: -18.5 [g] at 0.041 [s]

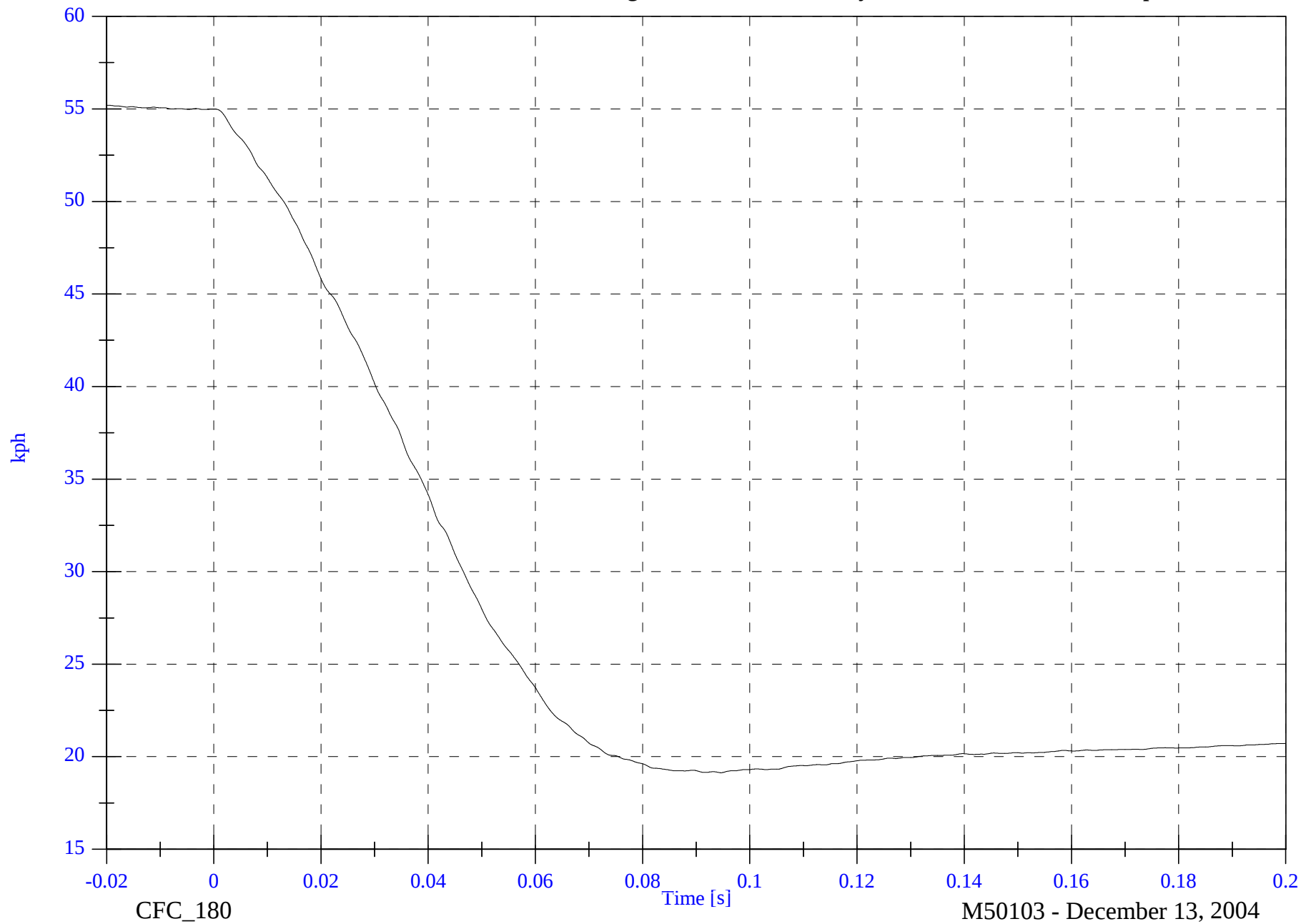


2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier CG X Velocity

Max: 55.2 [kph] at -0.020 [s]

Min: 19.1 [kph] at 0.095 [s]



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CFC_180

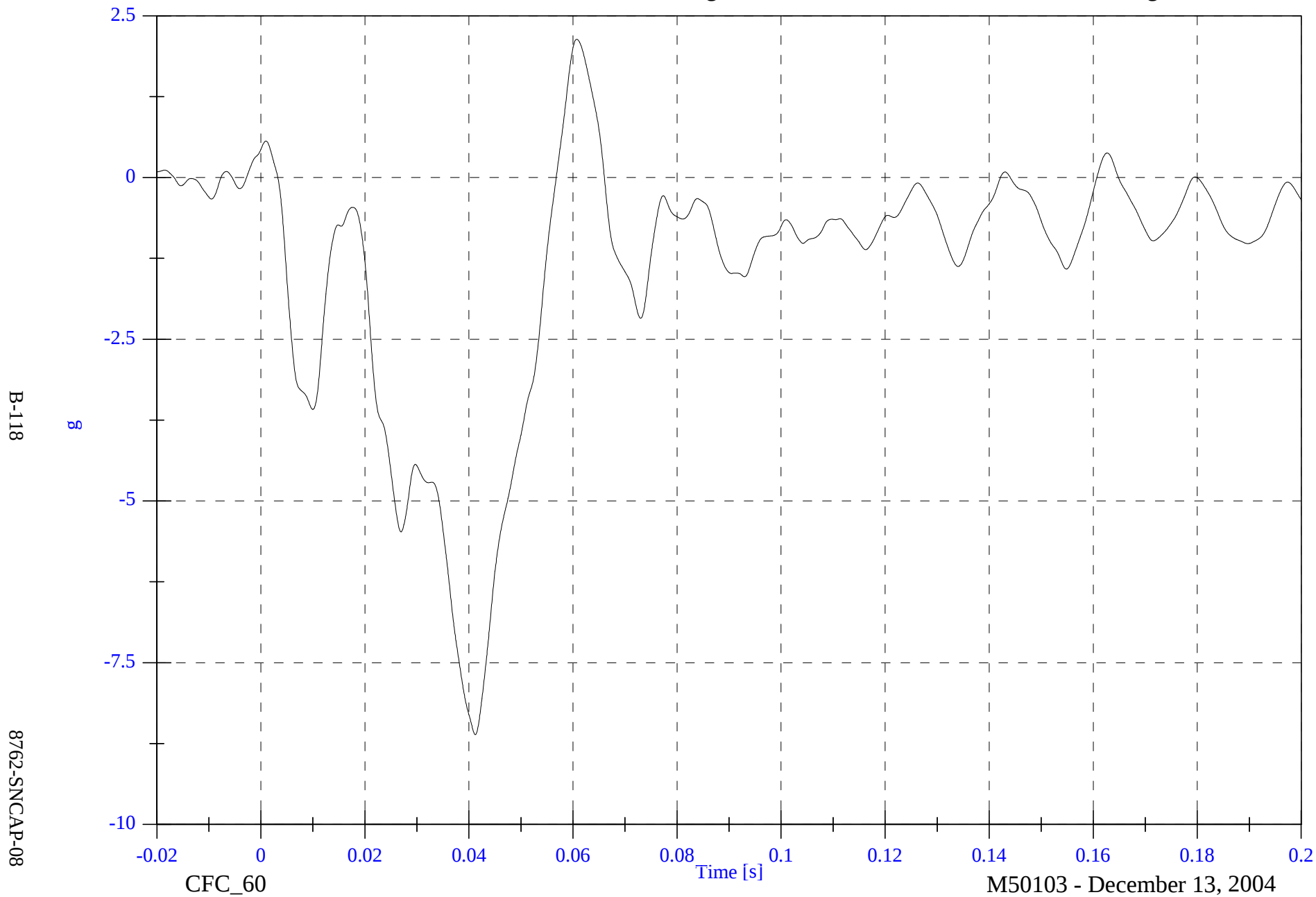
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier CG Y

Max: 2.1 [g] at 0.061 [s]

Min: -8.6 [g] at 0.041 [s]

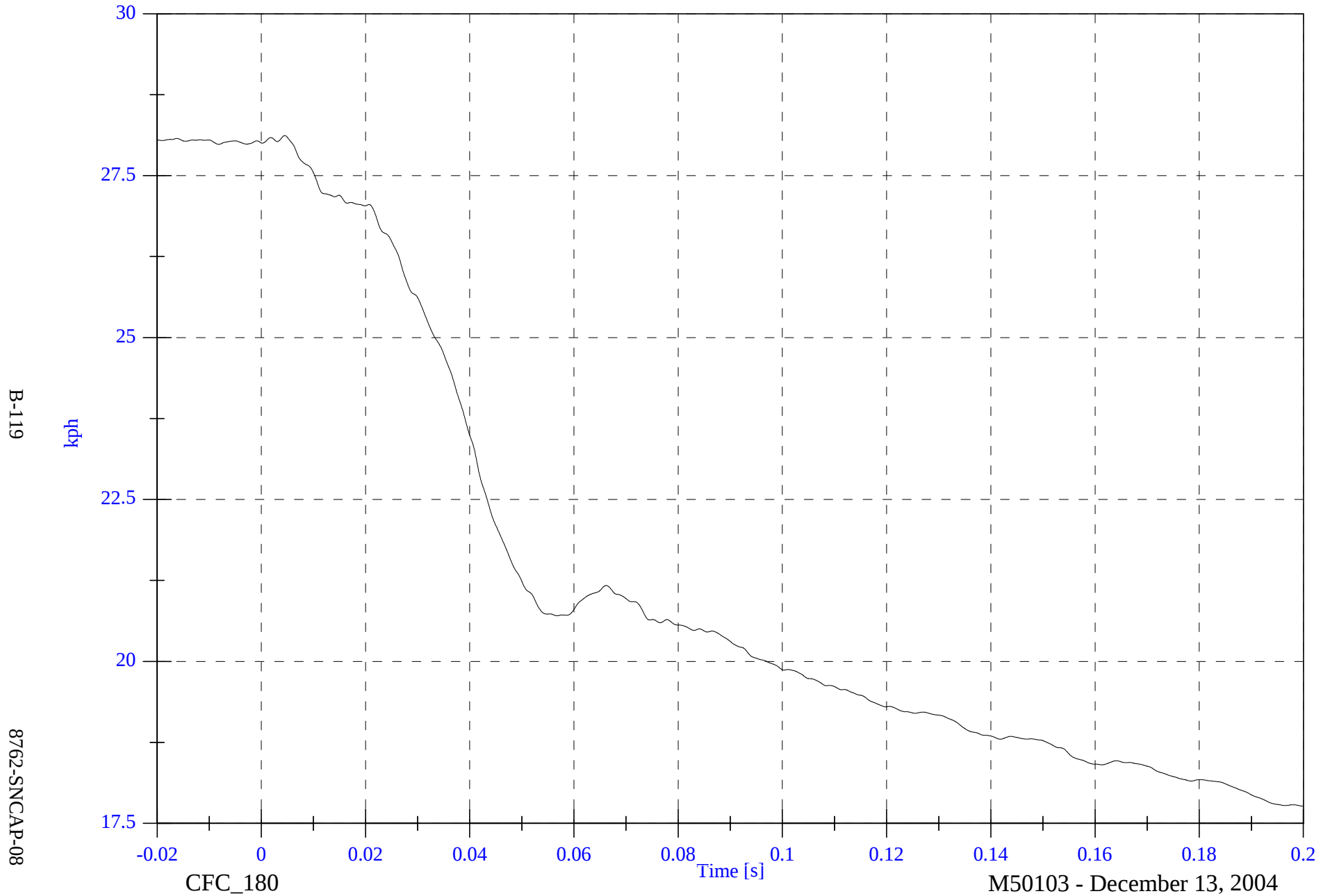


2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier CG Y Velocity

Max: 28.1 [kph] at 0.004 [s]

Min: 17.8 [kph] at 0.200 [s]

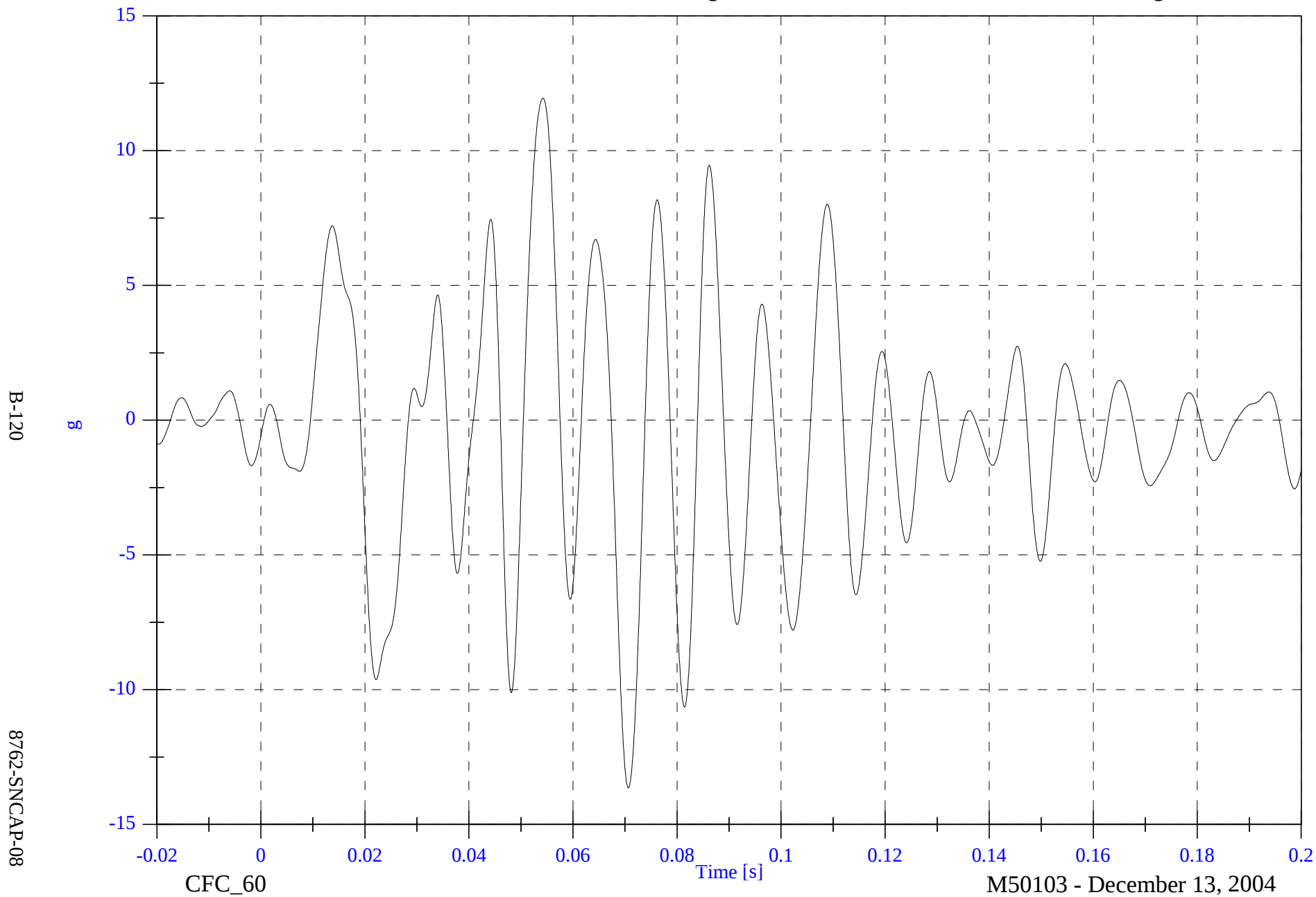


2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier CG Z

Max: 11.9 [g] at 0.054 [s]

Min: -13.6 [g] at 0.071 [s]

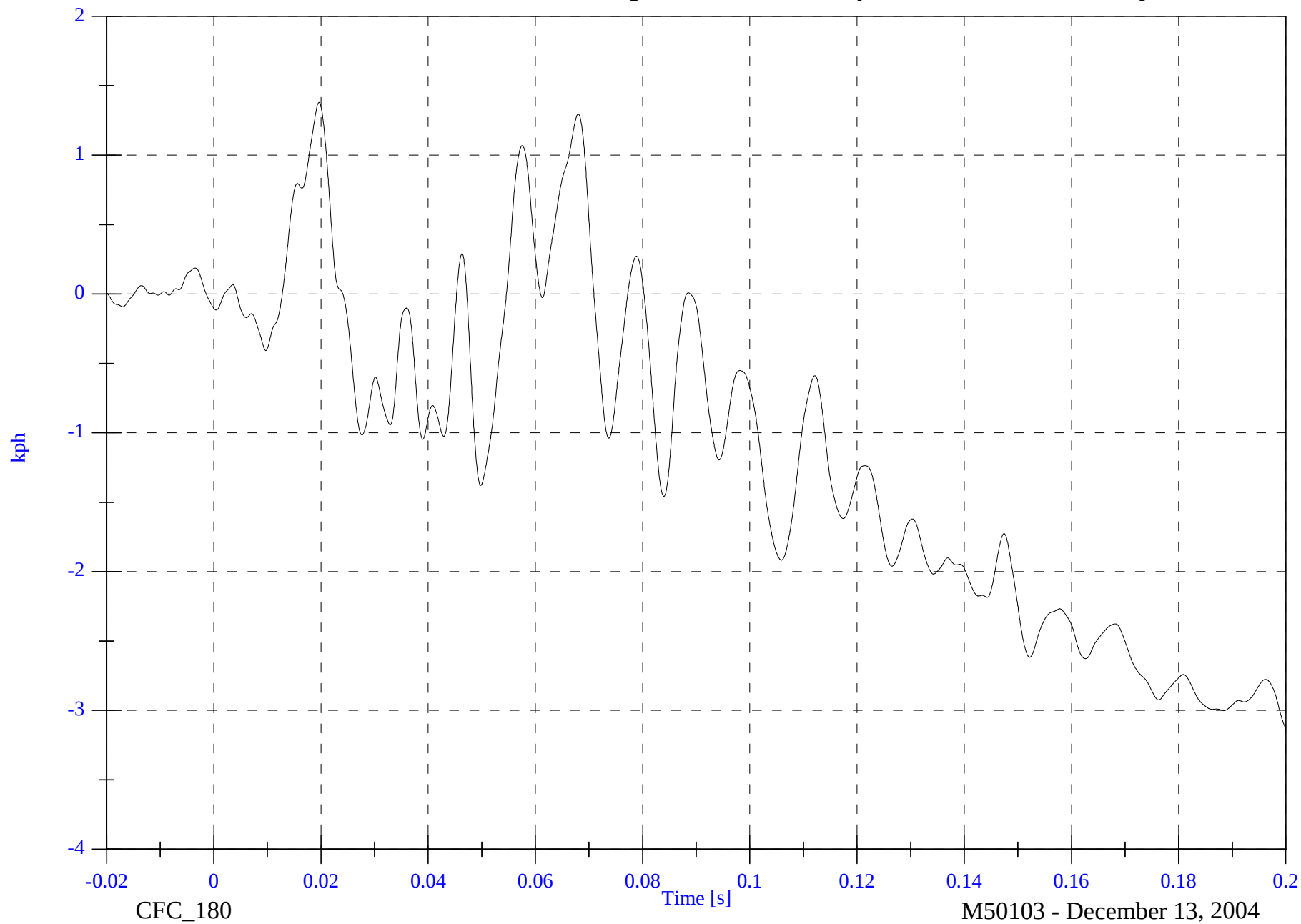


2005 SNCAP Test 3 2005 Buick Lacrosse

Max: 1.4 [kph] at 0.020 [s]

V1 Moving Barrier CG Z Velocity

Min: -3.1 [kph] at 0.200 [s]



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2005 SNCAP Test 3 2005 Buick Lacrosse

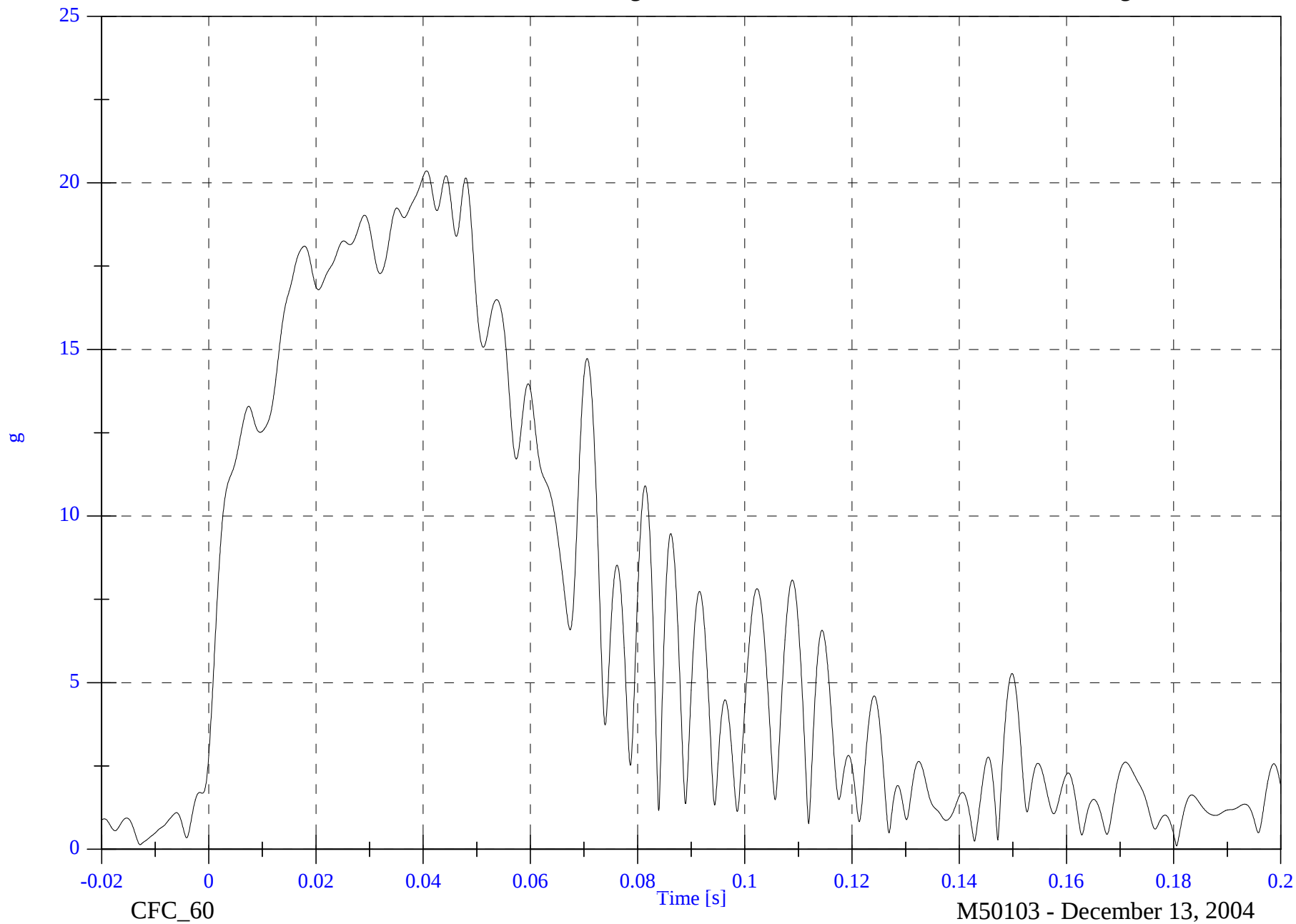
V1 Moving Barrier CG Resultant

Max: 20.4 [g] at 0.041 [s]

Min: 0.1 [g] at 0.181 [s]

B-122

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2005 SNCAP Test 3 2005 Buick Lacrosse

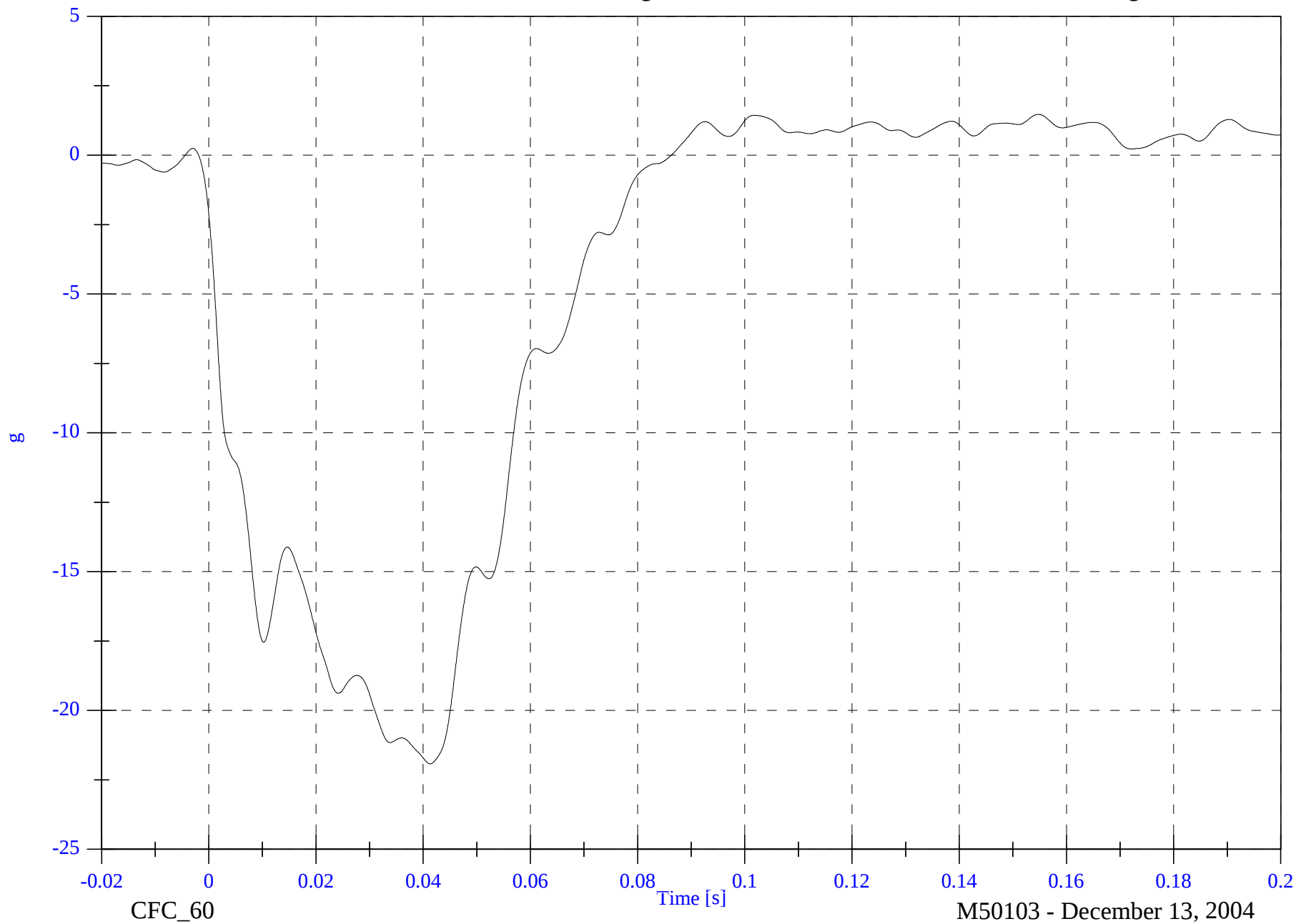
V1 Moving Barrier Left Rail X

Max: 1.5 [g] at 0.155 [s]

Min: -21.9 [g] at 0.041 [s]

B-123

8762-SNCAP-08

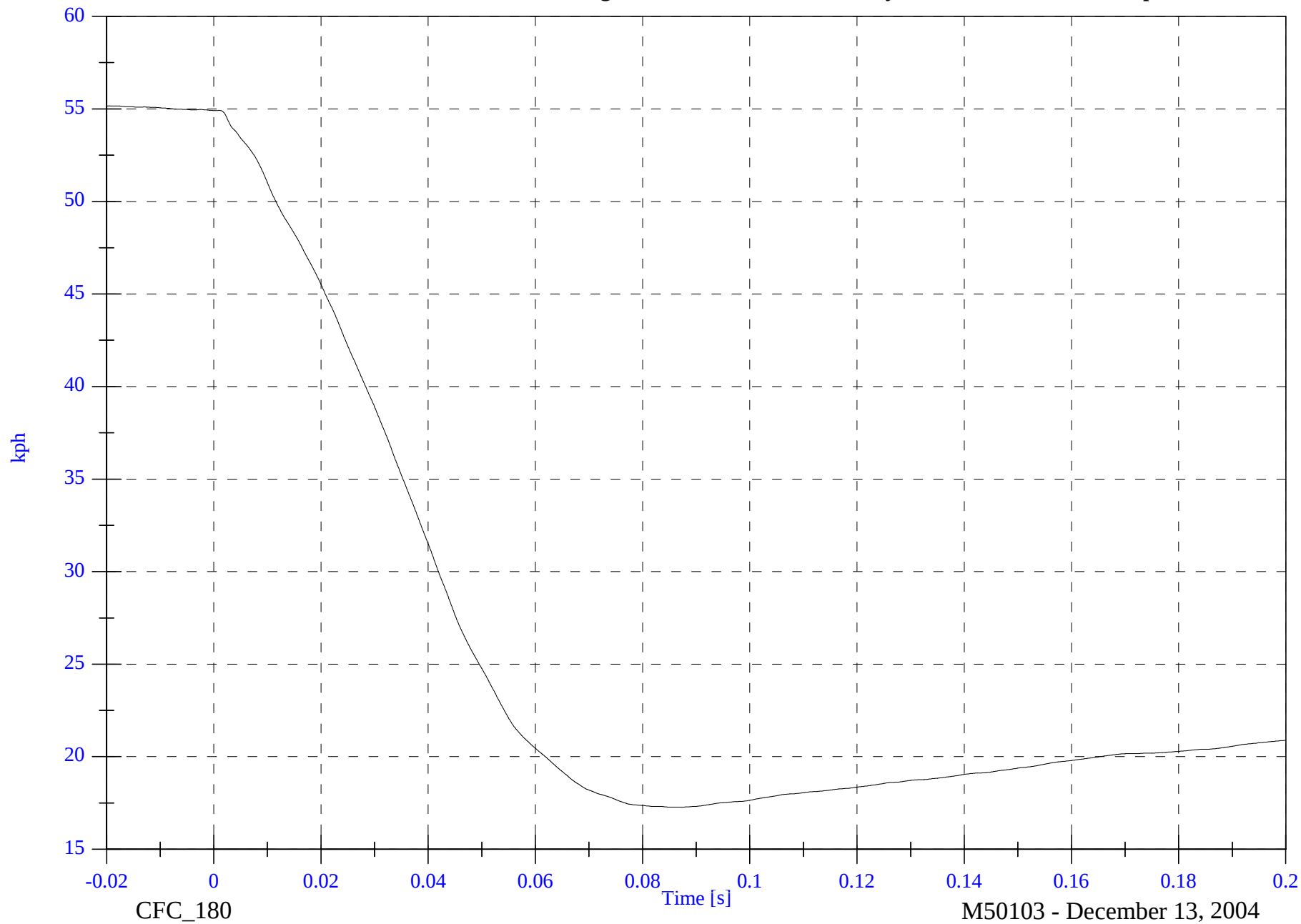


2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier Left Rail X Velocity

Max: 55.2 [kph] at -0.020 [s]

Min: 17.3 [kph] at 0.087 [s]



B-124

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CFC_180

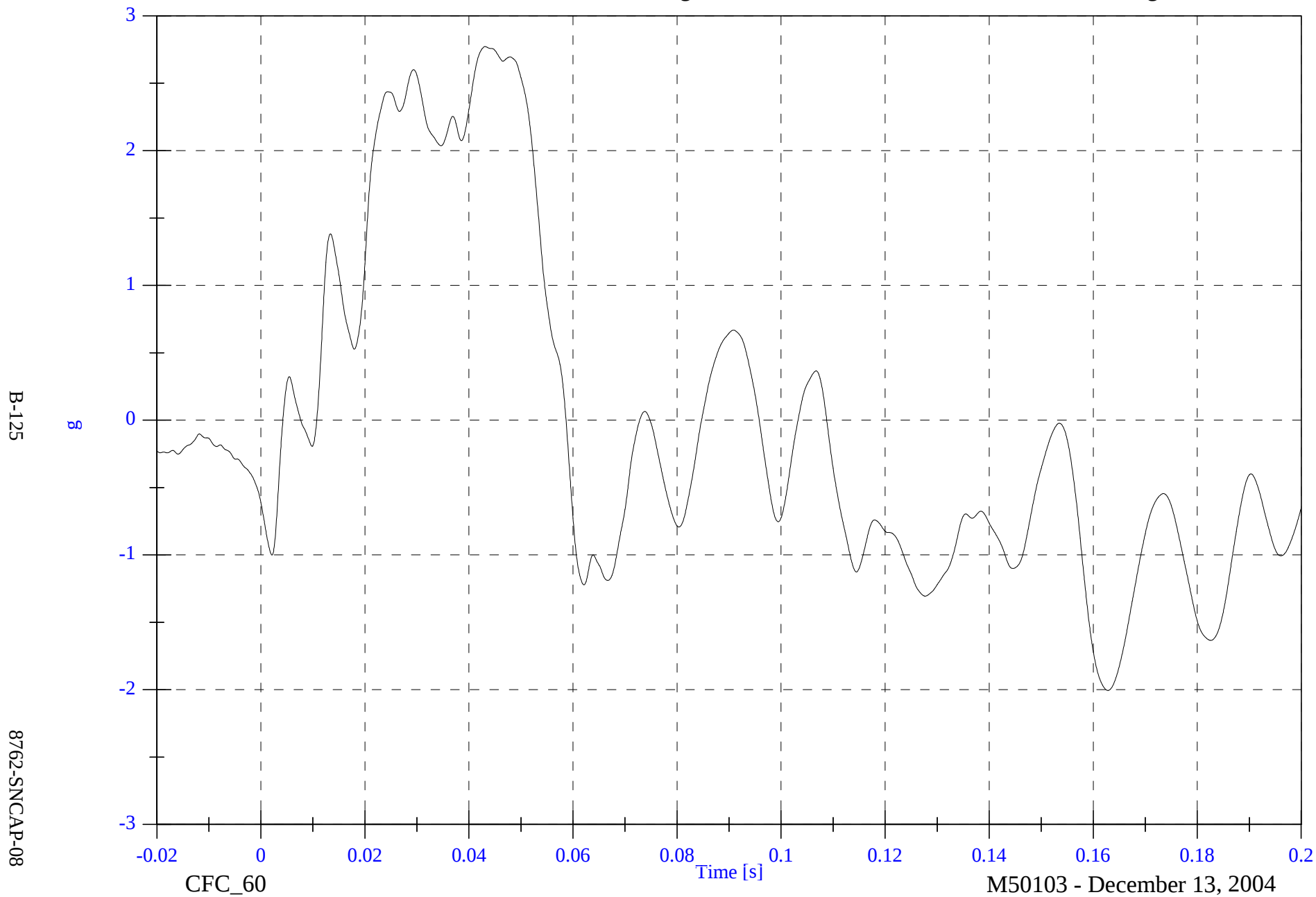
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier Left Rail Y

Max: 2.8 [g] at 0.043 [s]

Min: -2.0 [g] at 0.163 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

V1 Moving Barrier Left Rail Y Velocity

Max: 31.1 [kph] at 0.059 [s]

Min: 27.7 [kph] at 0.200 [s]

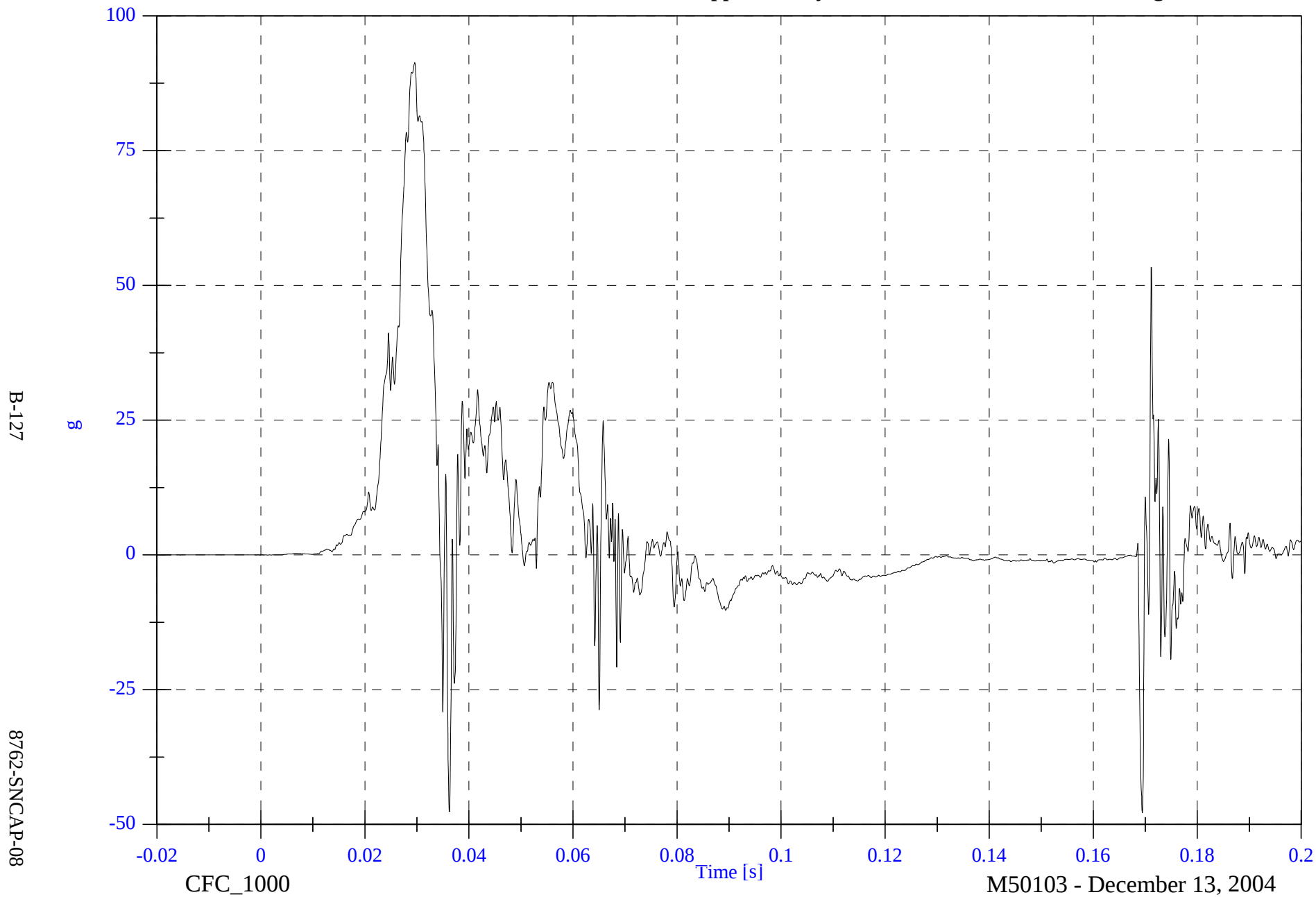


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Rib Ry

Max: 91.3 [g] at 0.030 [s]

Min: -47.9 [g] at 0.169 [s]

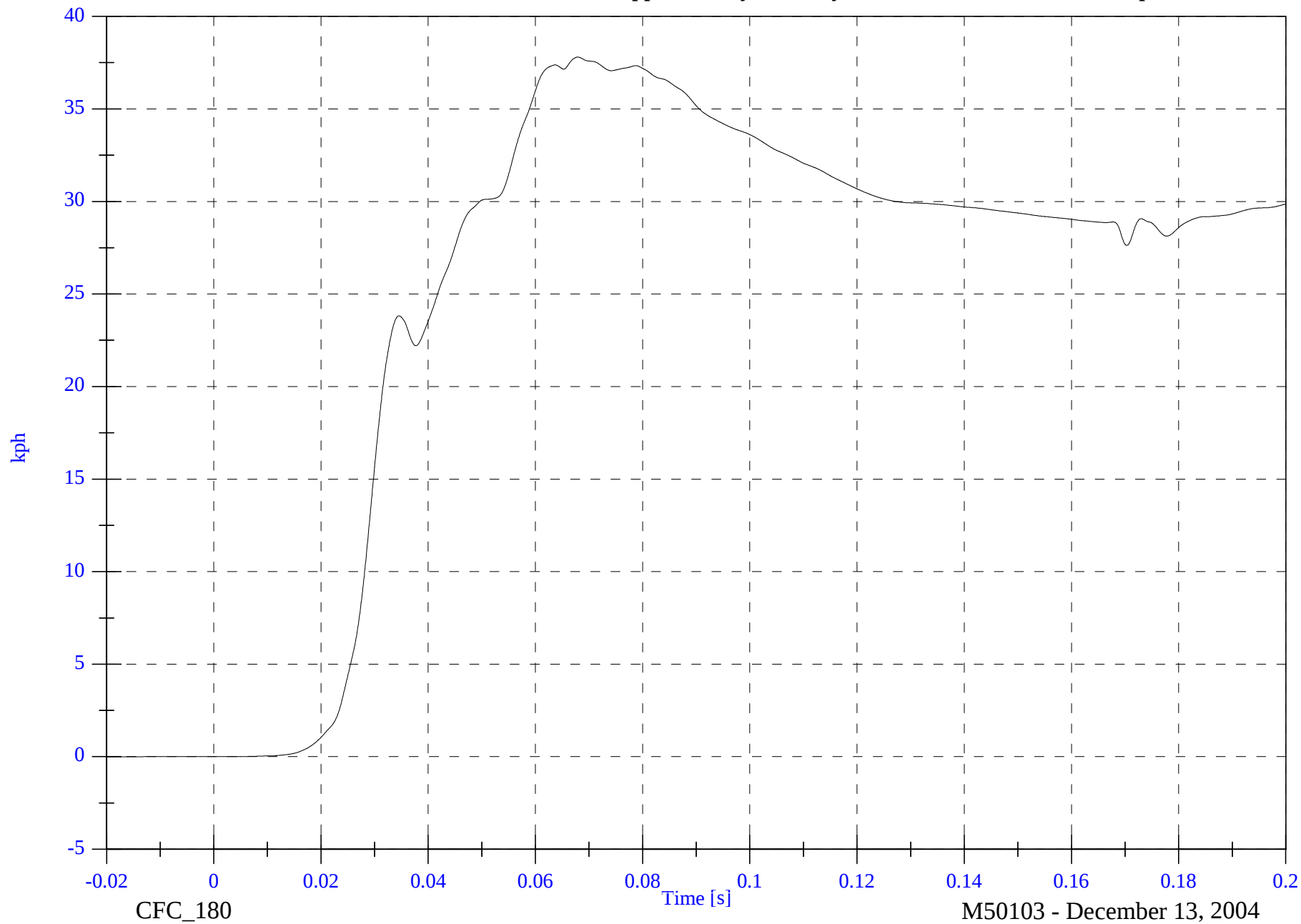


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Rib Ry Velocity

Max: 37.8 [kph] at 0.068 [s]

Min: -0.0 [kph] at -0.020 [s]



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2005 SNCAP Test 3 2005 Buick Lacrosse

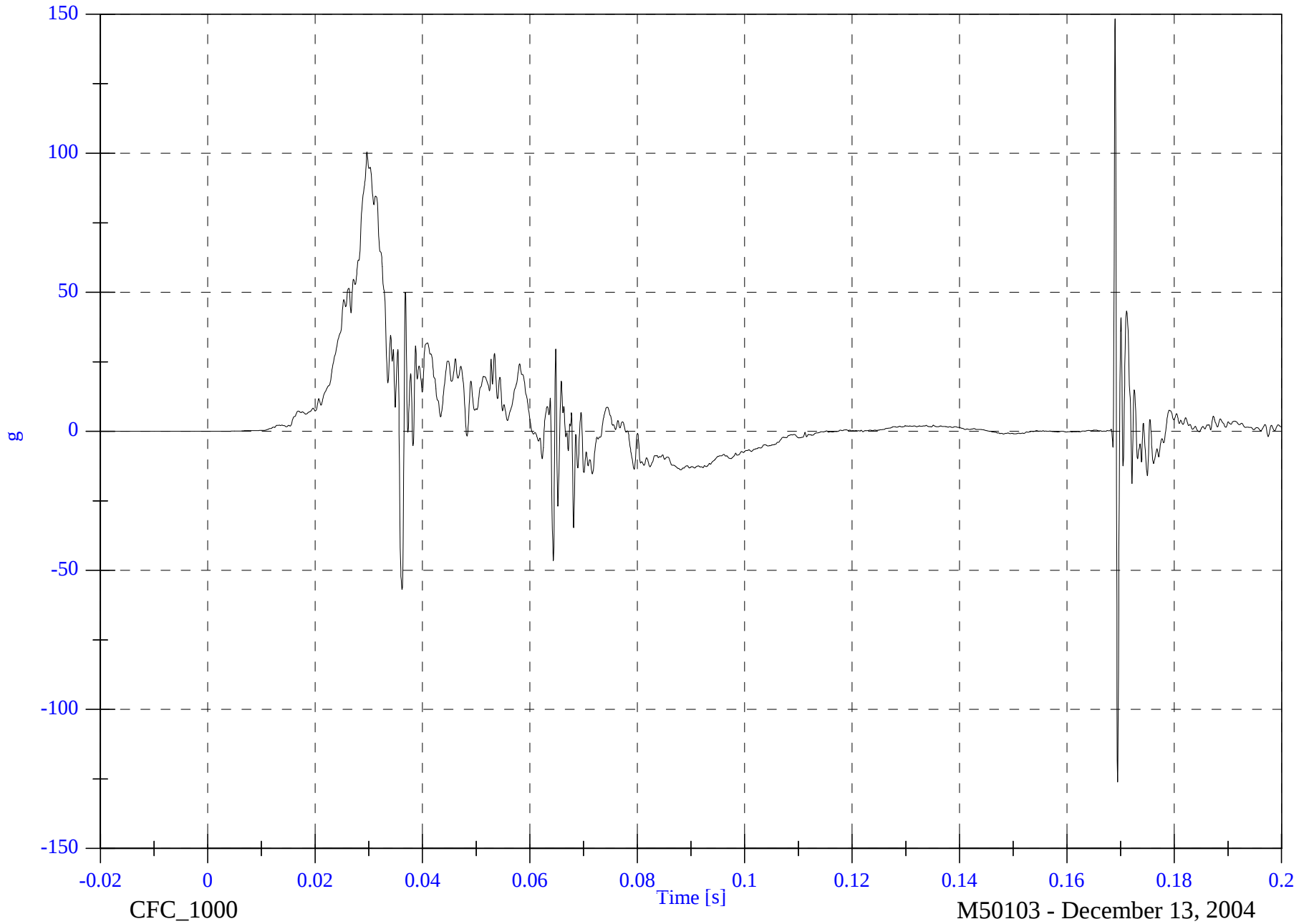
V2P1 Lower Rib Ry

Max: 148.3 [g] at 0.169 [s]

Min: -126.1 [g] at 0.169 [s]

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2005 SNCAP Test 3 2005 Buick Lacrosse

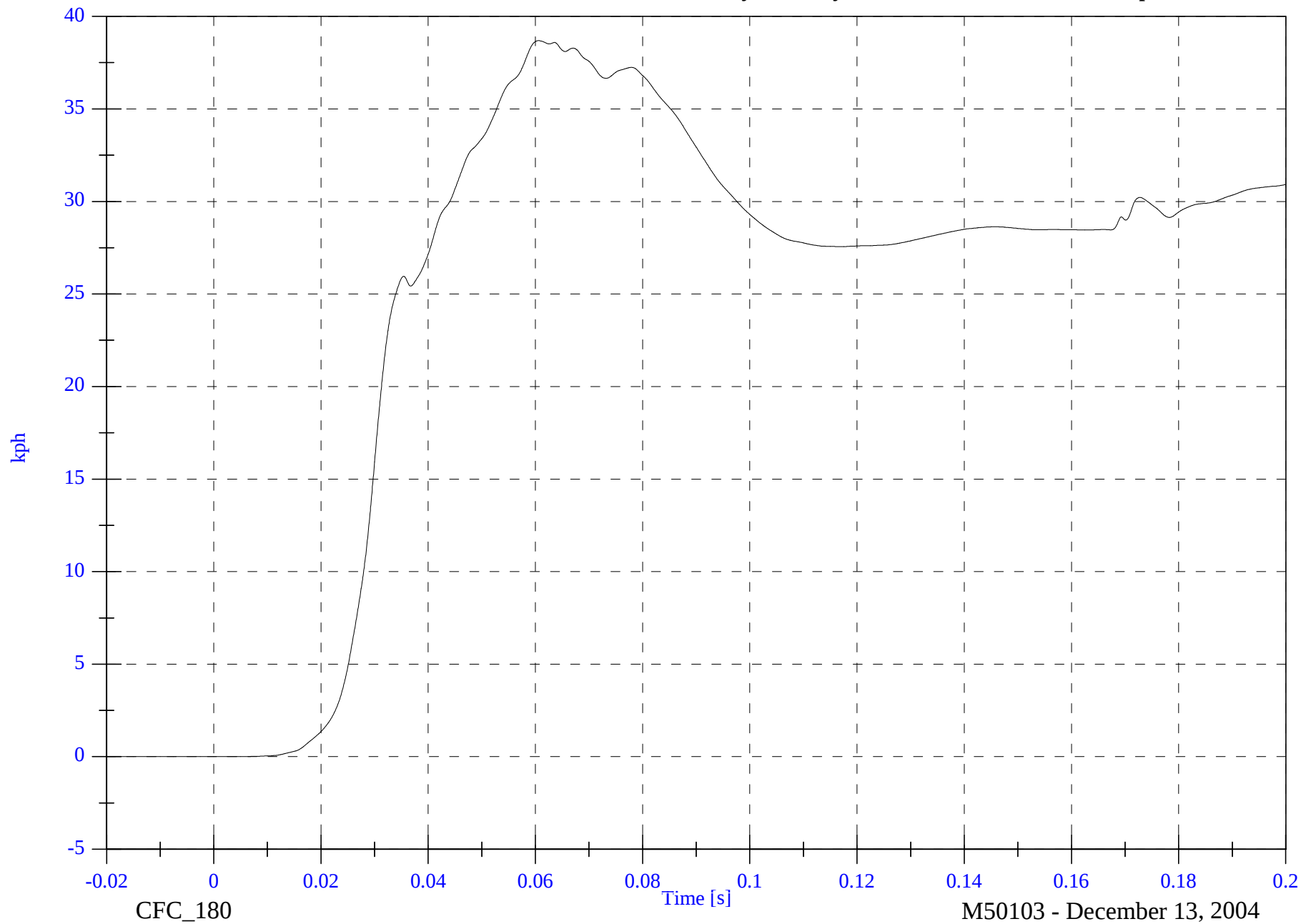
V2P1 Lower Rib Ry Velocity

Max: 38.7 [kph] at 0.061 [s]

Min: -0.0 [kph] at -0.020 [s]

B-130

8762-SNCAP-08

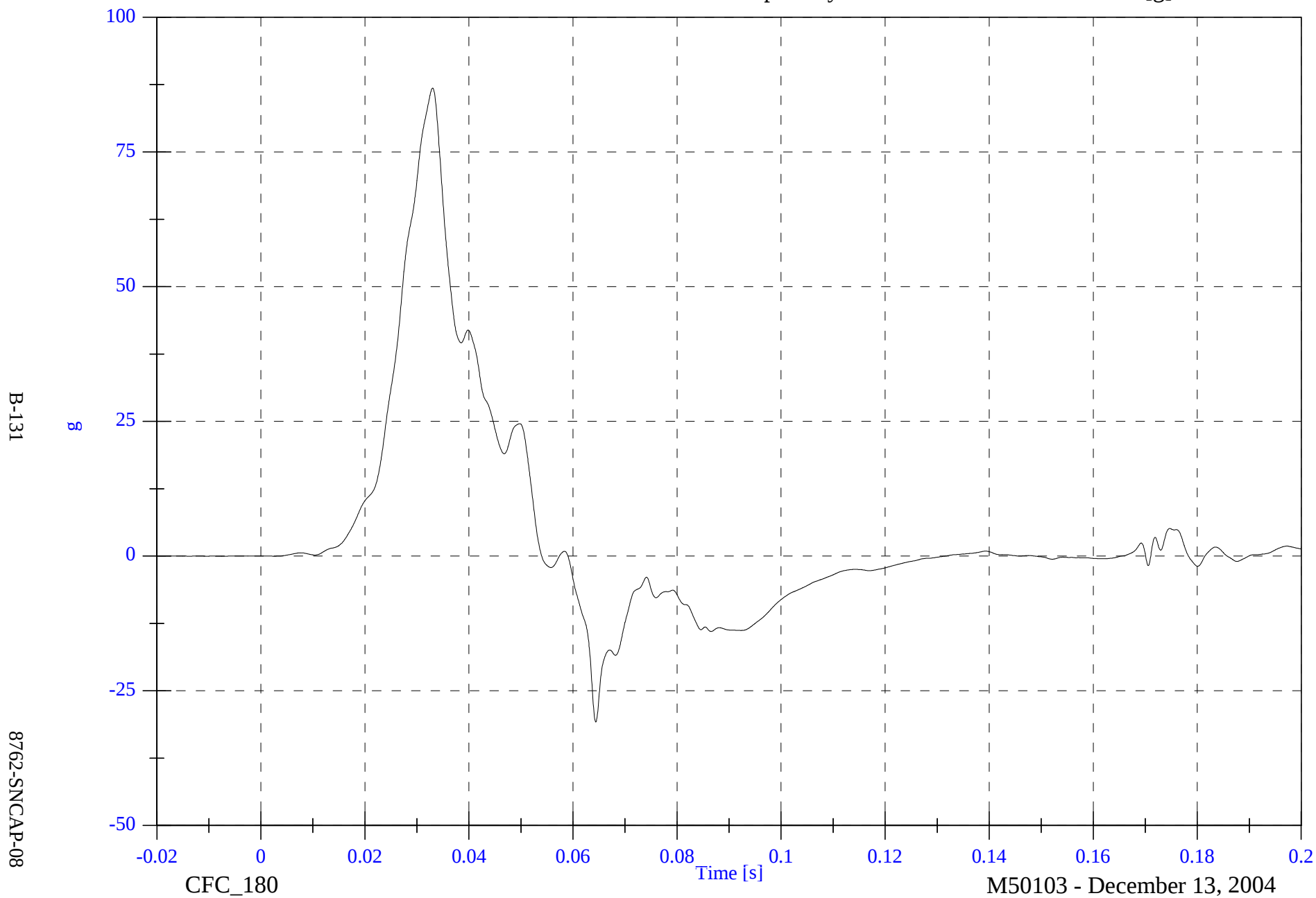


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Spine Ry

Max: 86.9 [g] at 0.033 [s]

Min: -30.8 [g] at 0.064 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

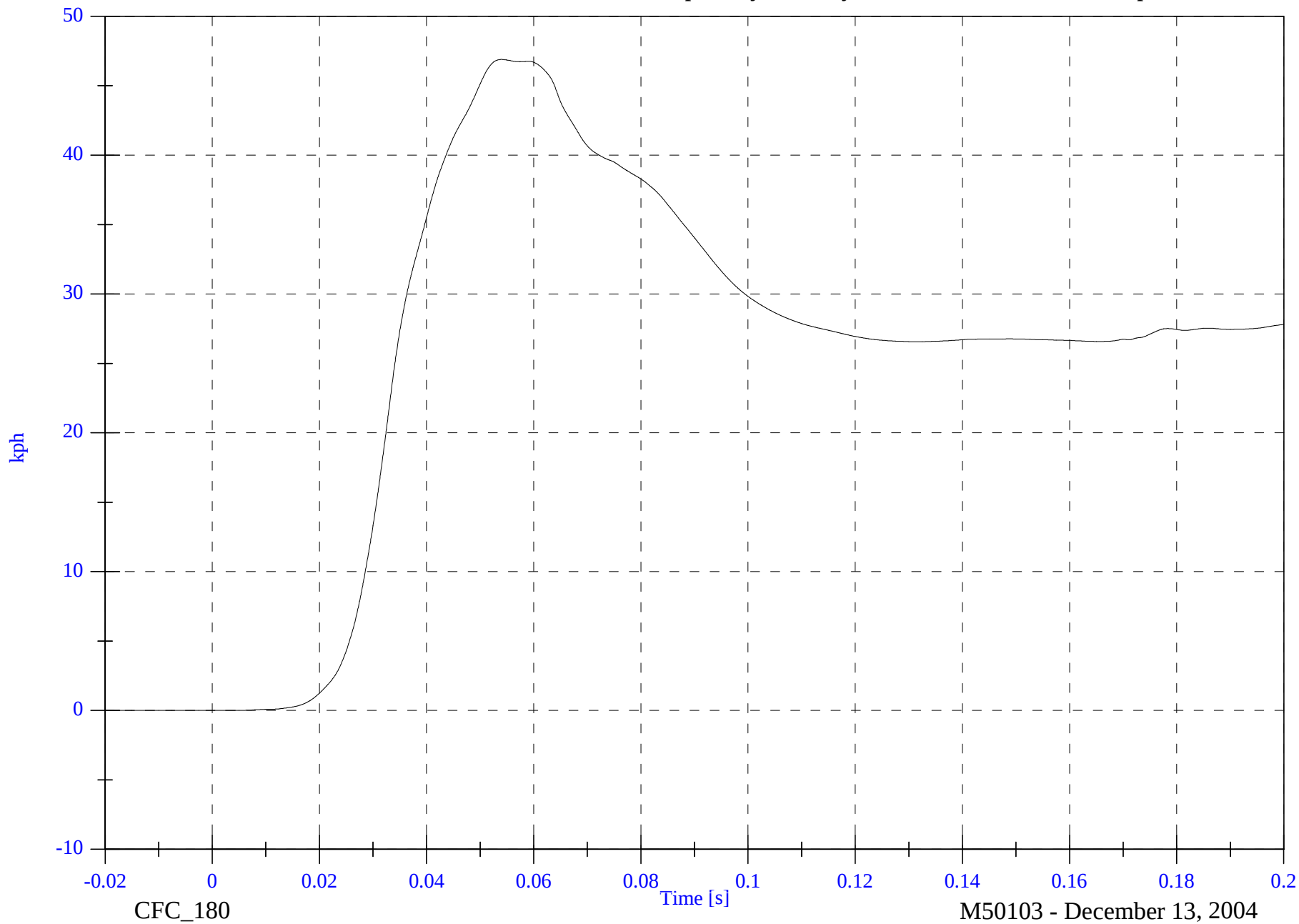
V2P1 Lower Spine Ry Velocity

Max: 46.9 [kph] at 0.054 [s]

Min: -0.0 [kph] at 0.003 [s]

B-132

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

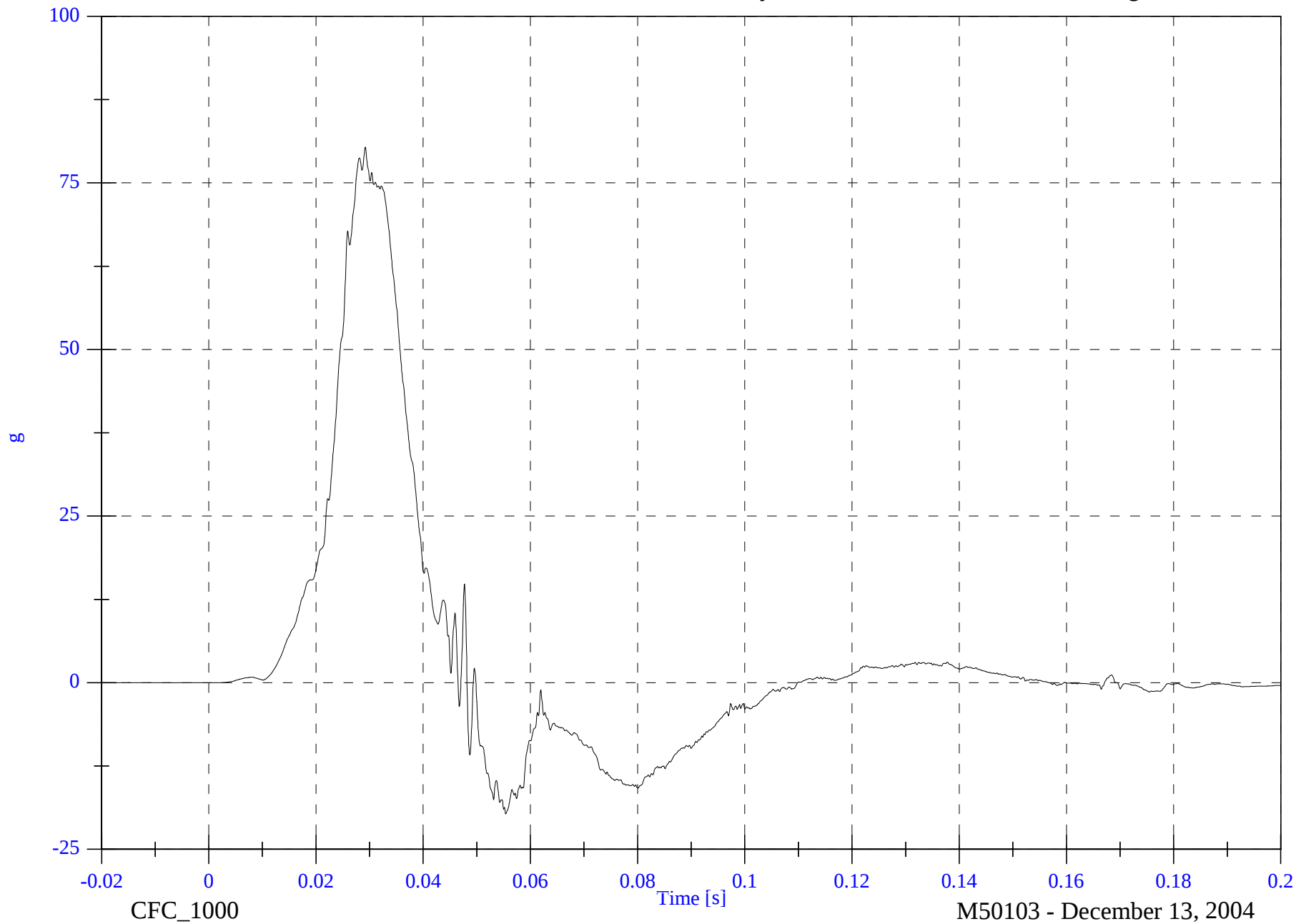
V2P1 Pelvic Ry

Max: 80.4 [g] at 0.029 [s]

Min: -19.7 [g] at 0.055 [s]

B-133

8762-SNCAP-08

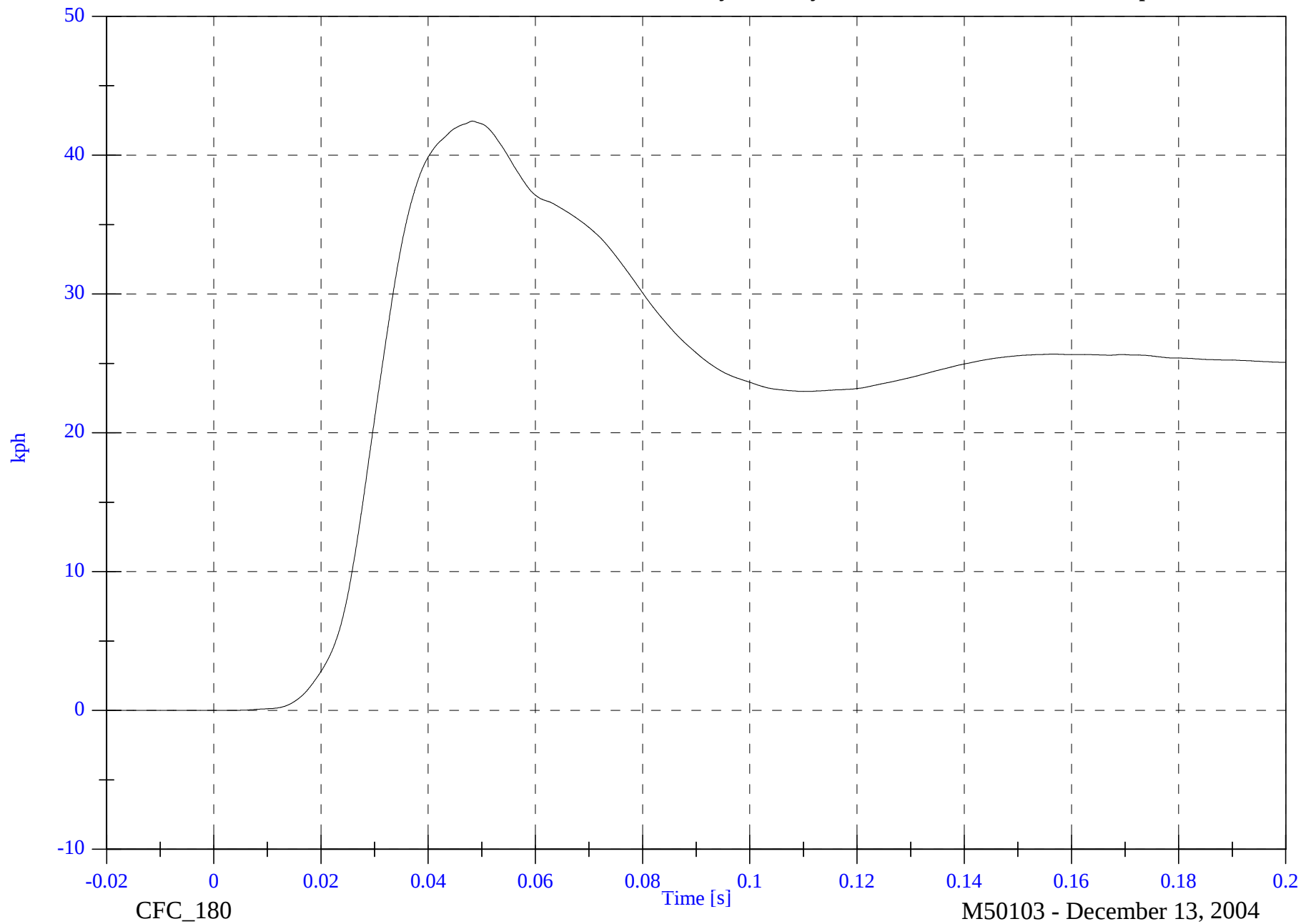


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Pelvic Ry Velocity

Max: 42.5 [kph] at 0.048 [s]

Min: -0.0 [kph] at -0.020 [s]



B-134

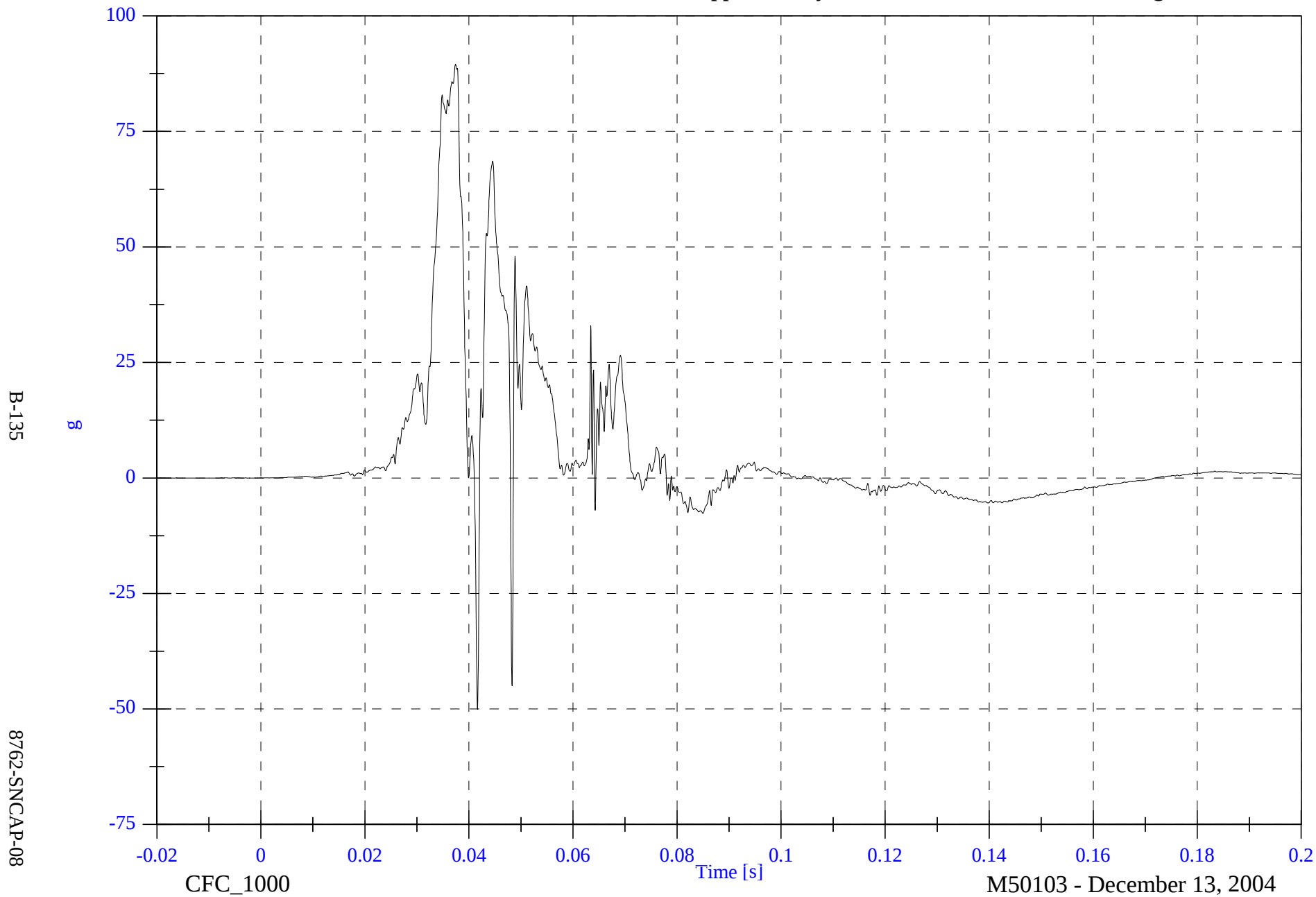
8762-SNCAP-08

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Rib Ry

Max: 89.6 [g] at 0.037 [s]

Min: -50.1 [g] at 0.042 [s]

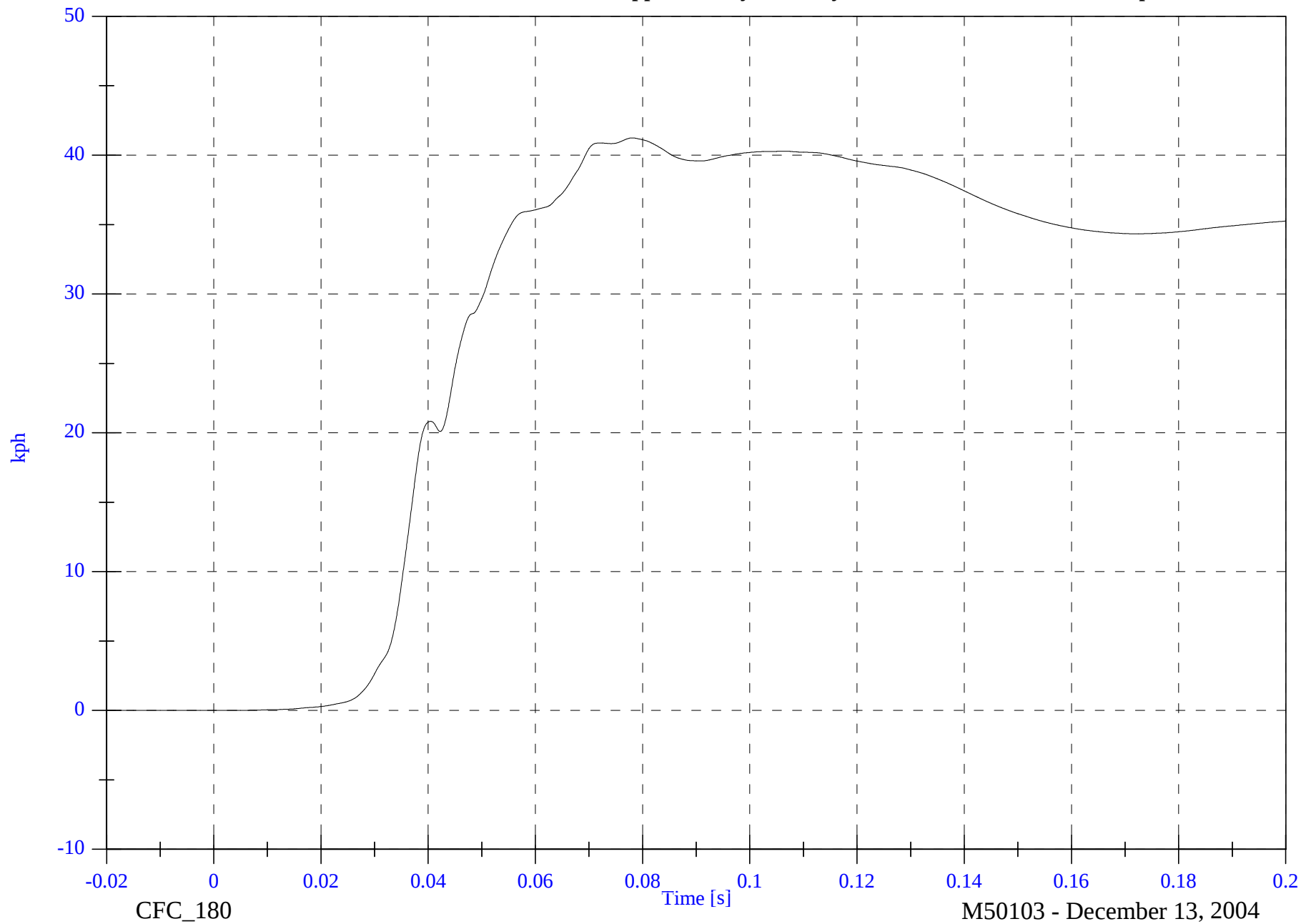


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Rib Ry Velocity

Max: 41.2 [kph] at 0.078 [s]

Min: -0.0 [kph] at -0.008 [s]



B-136

8762-SNCAP-08

CFC_180

M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

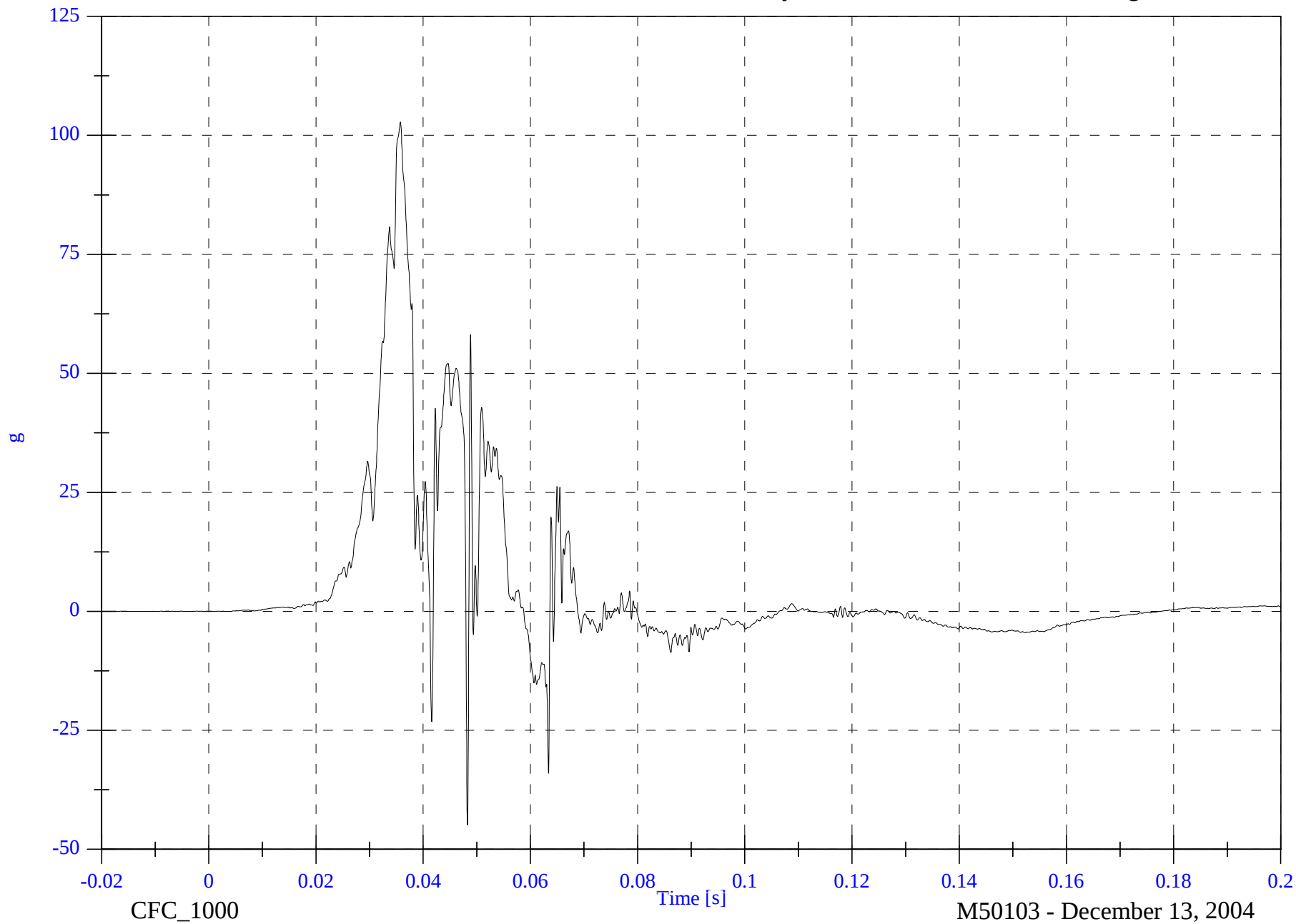
V2P4 Lower Rib Ry

Max: 102.8 [g] at 0.036 [s]

Min: -44.9 [g] at 0.048 [s]

B-137

8762-SNCAP-08



2005 SNCAP Test 3 2005 Buick Lacrosse

Max: 40.0 [kph] at 0.069 [s]

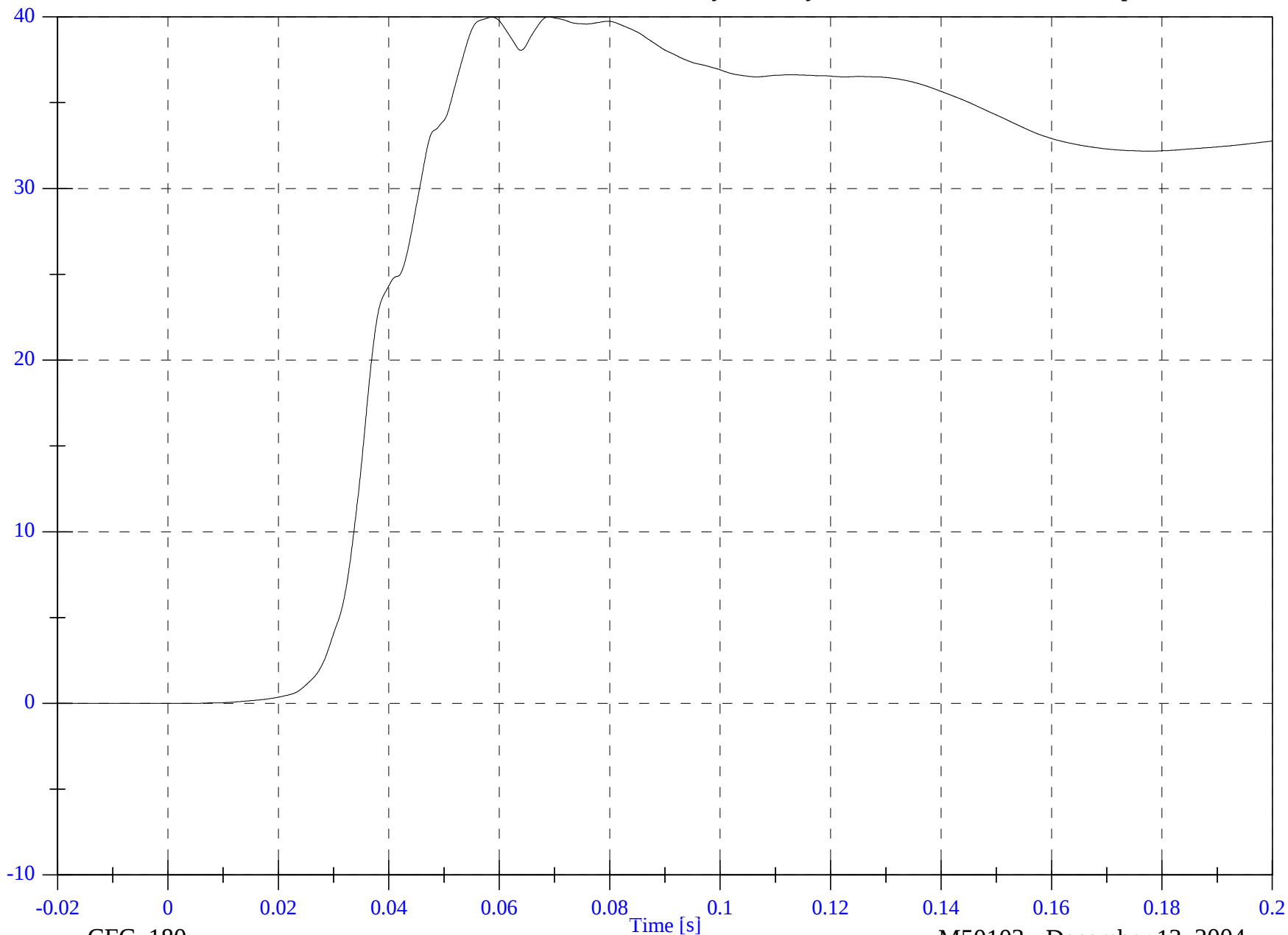
Min: -0.0 [kph] at -0.017 [s]

V2P4 Lower Rib Ry Velocity

B-138

8762-SNCAP-08

kph



CFC_180

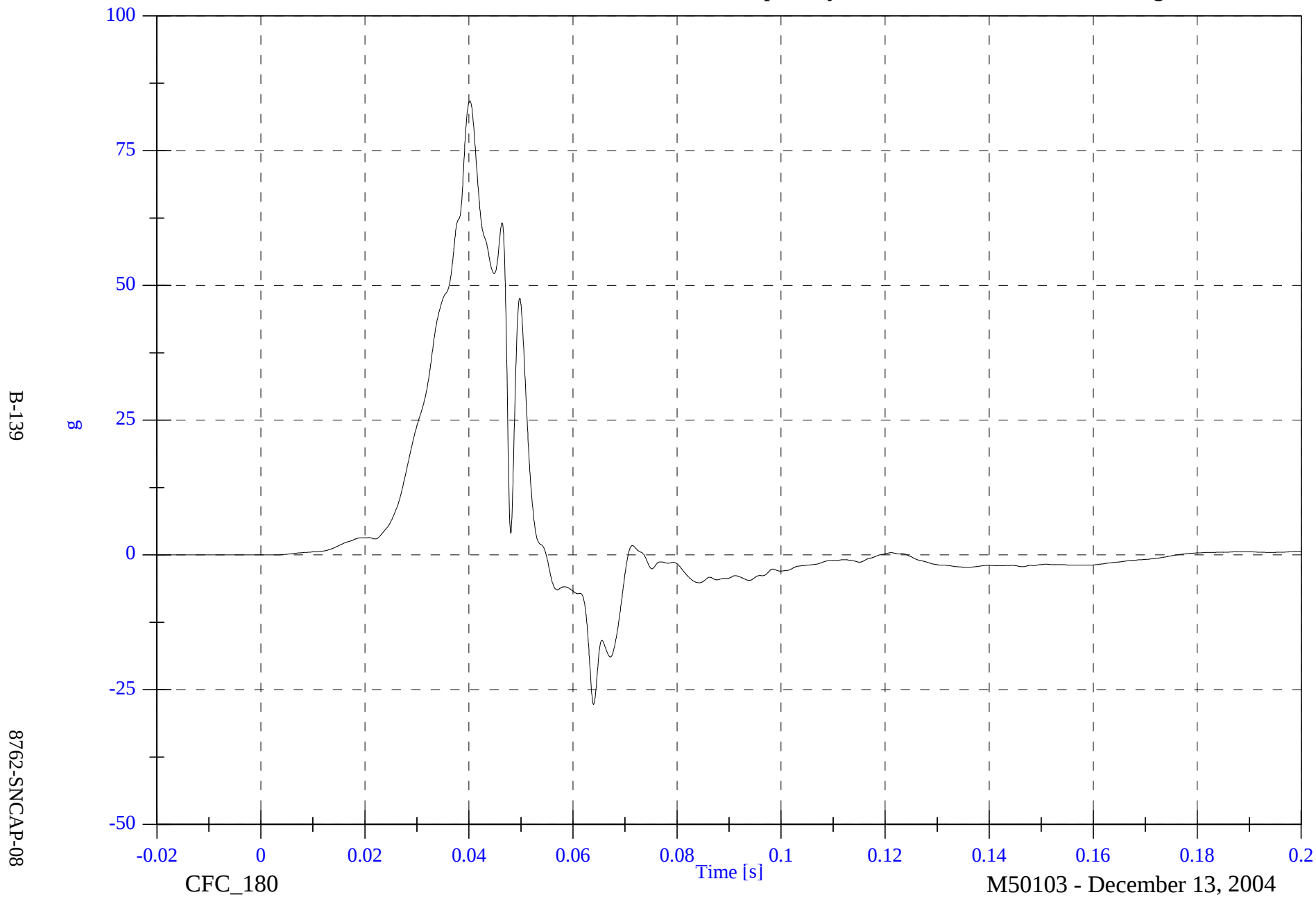
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Spine Ry

Max: 84.2 [g] at 0.040 [s]

Min: -27.7 [g] at 0.064 [s]

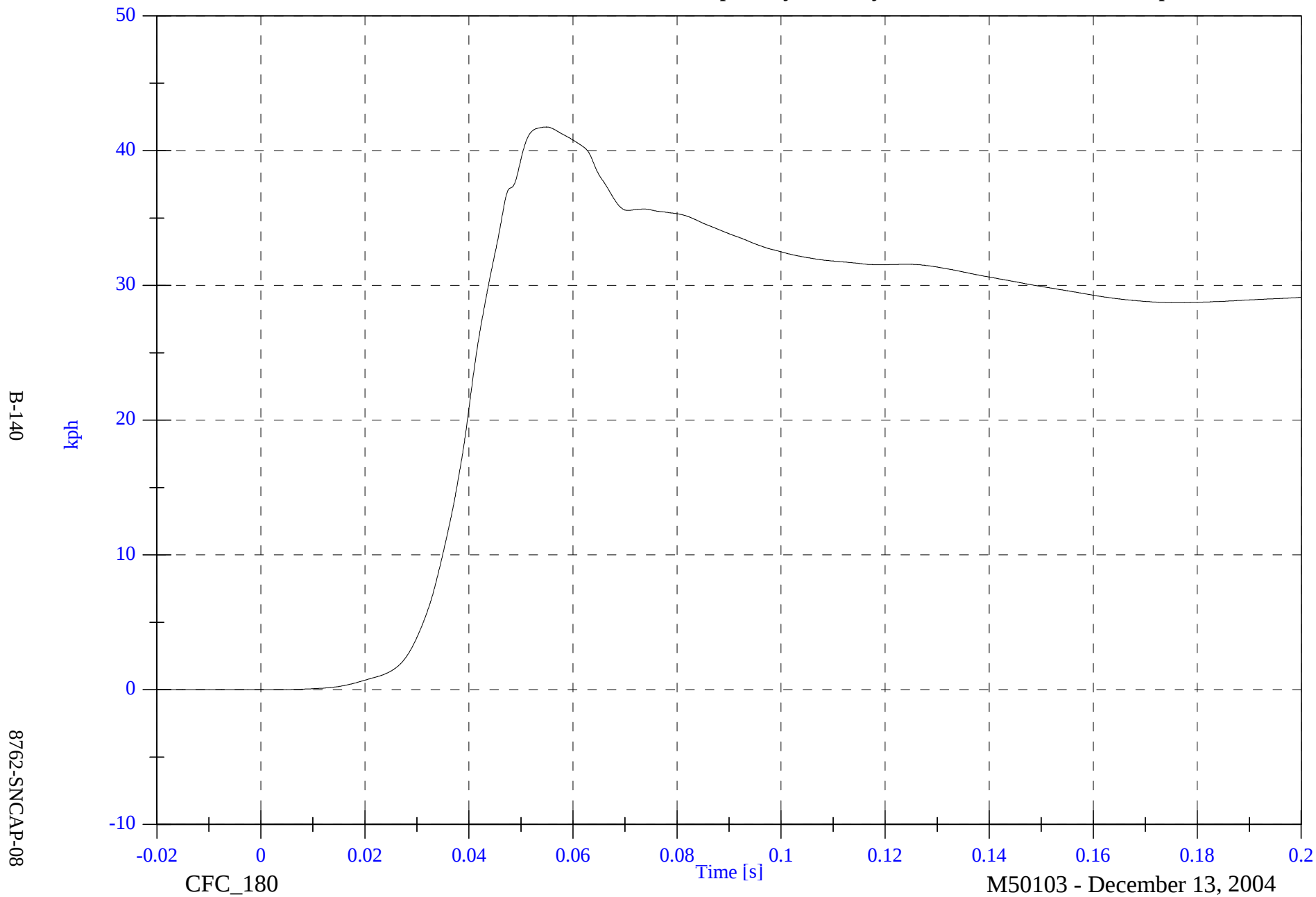


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Spine Ry Velocity

Max: 41.8 [kph] at 0.055 [s]

Min: -0.0 [kph] at -0.020 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

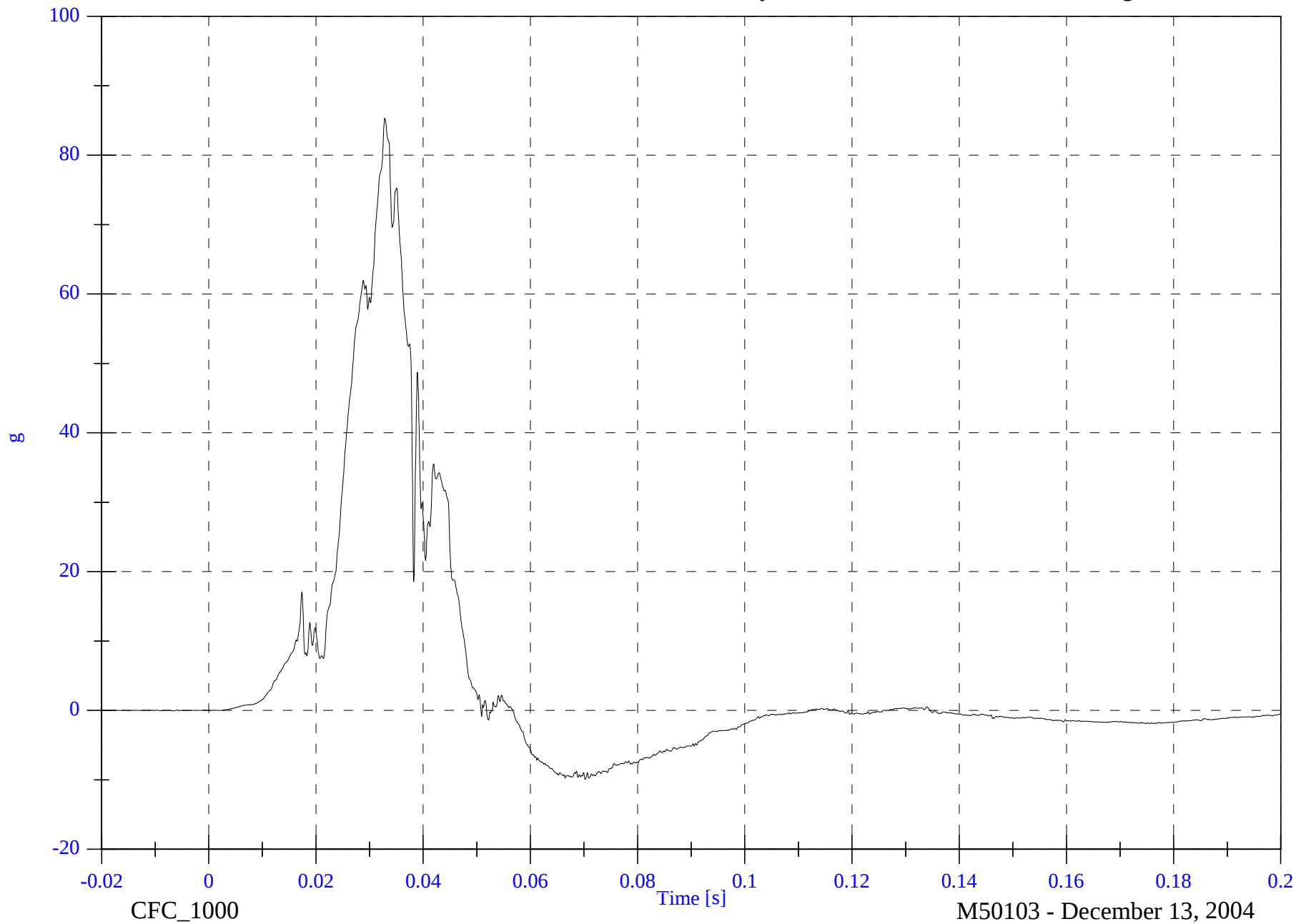
V2P4 Pelvic Ry

Max: 85.3 [g] at 0.033 [s]

Min: -9.9 [g] at 0.070 [s]

B-141

8762-SNCAP-08

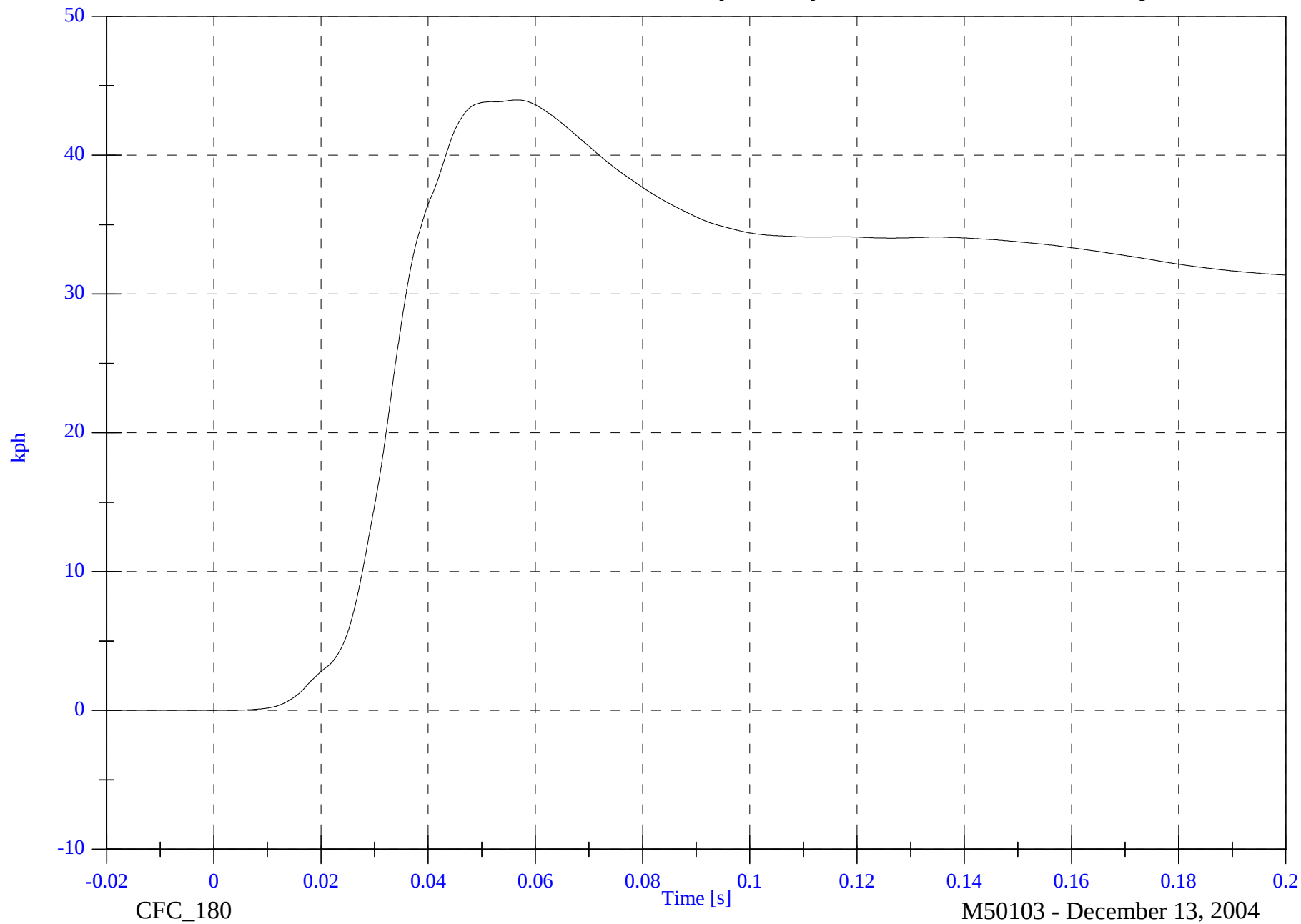


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Pelvic Ry Velocity

Max: 44.0 [kph] at 0.057 [s]

Min: -0.0 [kph] at -0.018 [s]



B-142

8762-SNCAP-08

CFC_180

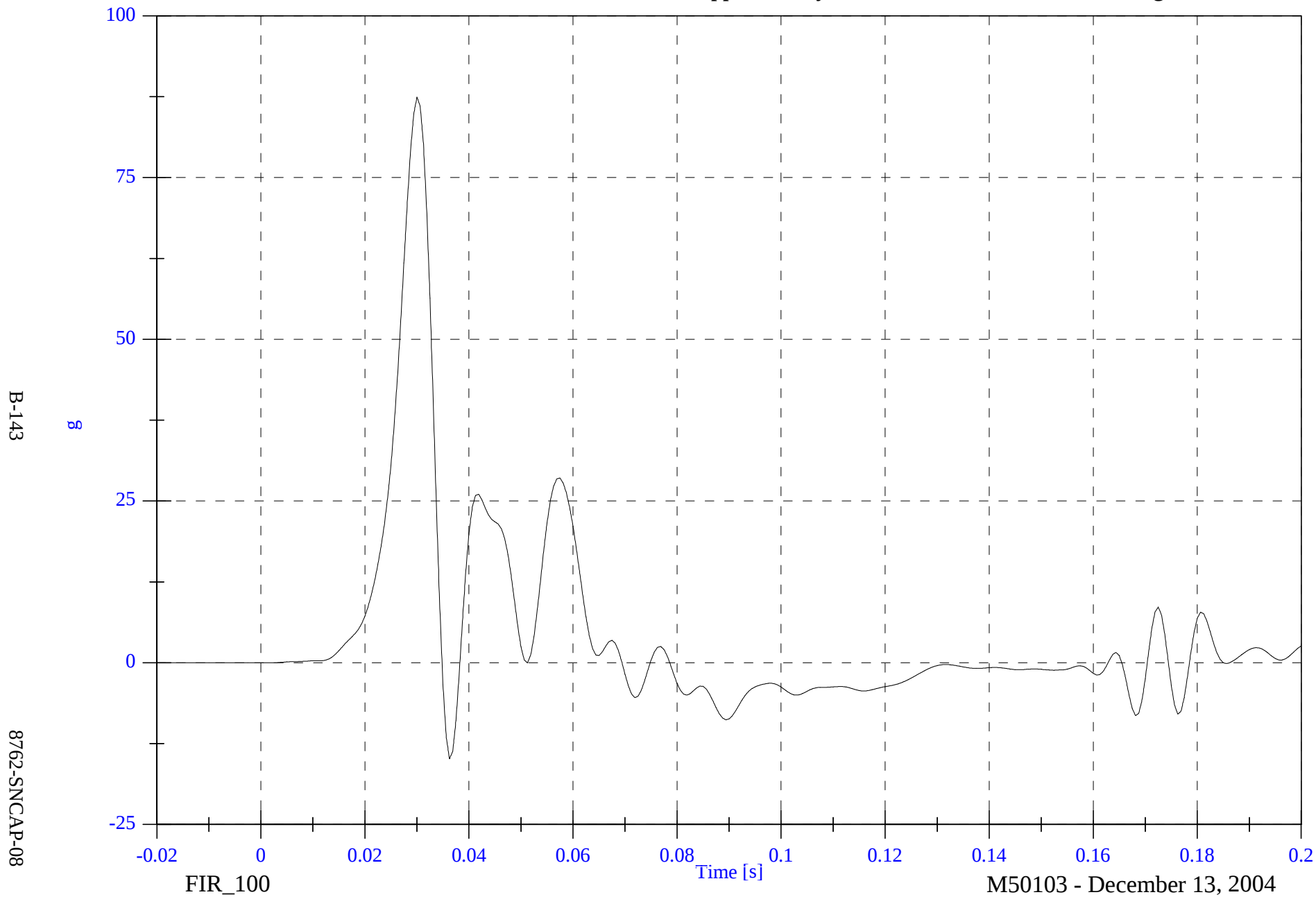
M50103 - December 13, 2004

2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Upper Rib Ry

Max: 87.5 [g] at 0.030 [s]

Min: -14.9 [g] at 0.036 [s]

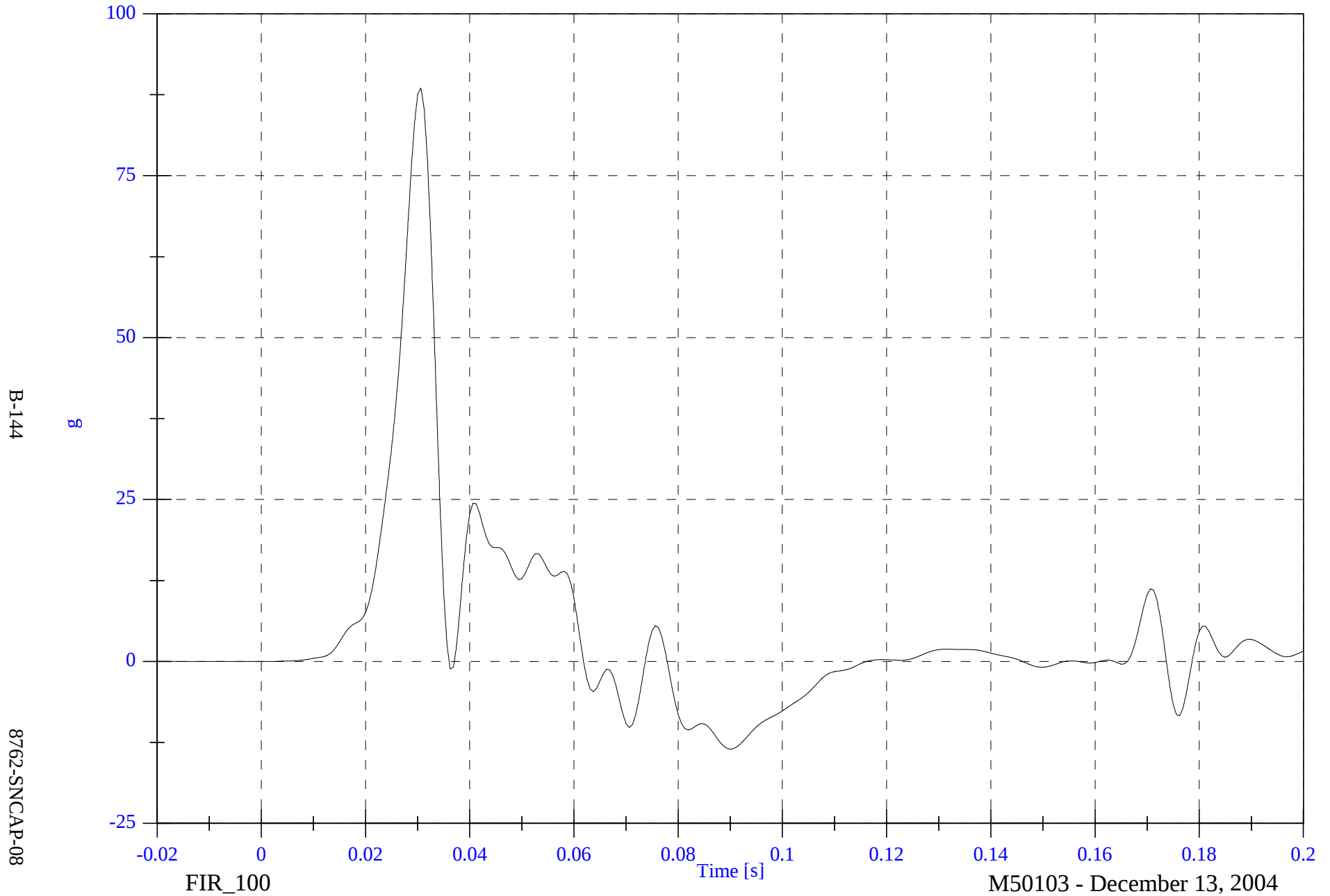


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Rib Ry

Max: 88.5 [g] at 0.031 [s]

Min: -13.5 [g] at 0.090 [s]

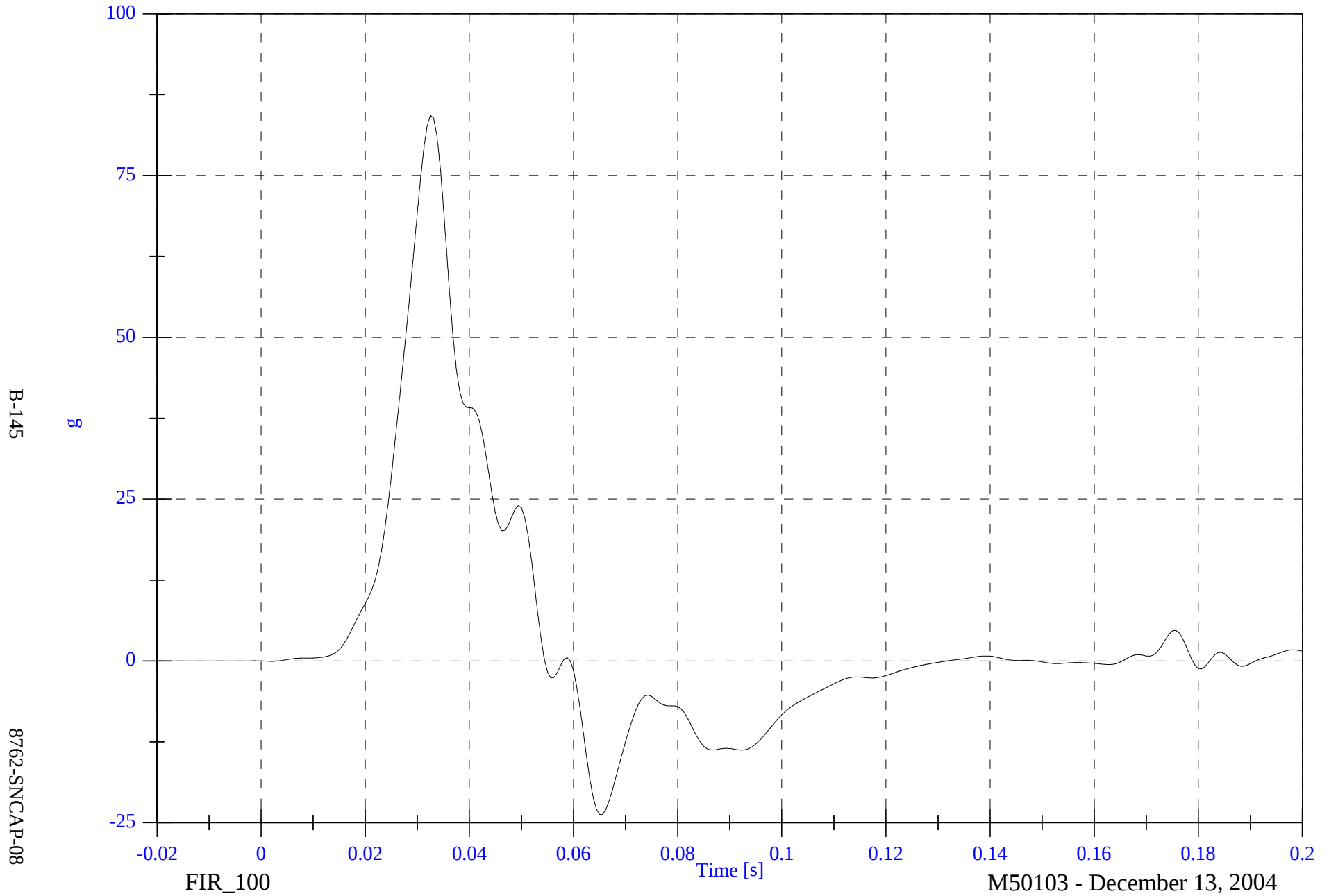


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P1 Lower Spine Ry

Max: 84.3 [g] at 0.032 [s]

Min: -23.7 [g] at 0.065 [s]



2005 SNCAP Test 3 2005 Buick Lacrosse

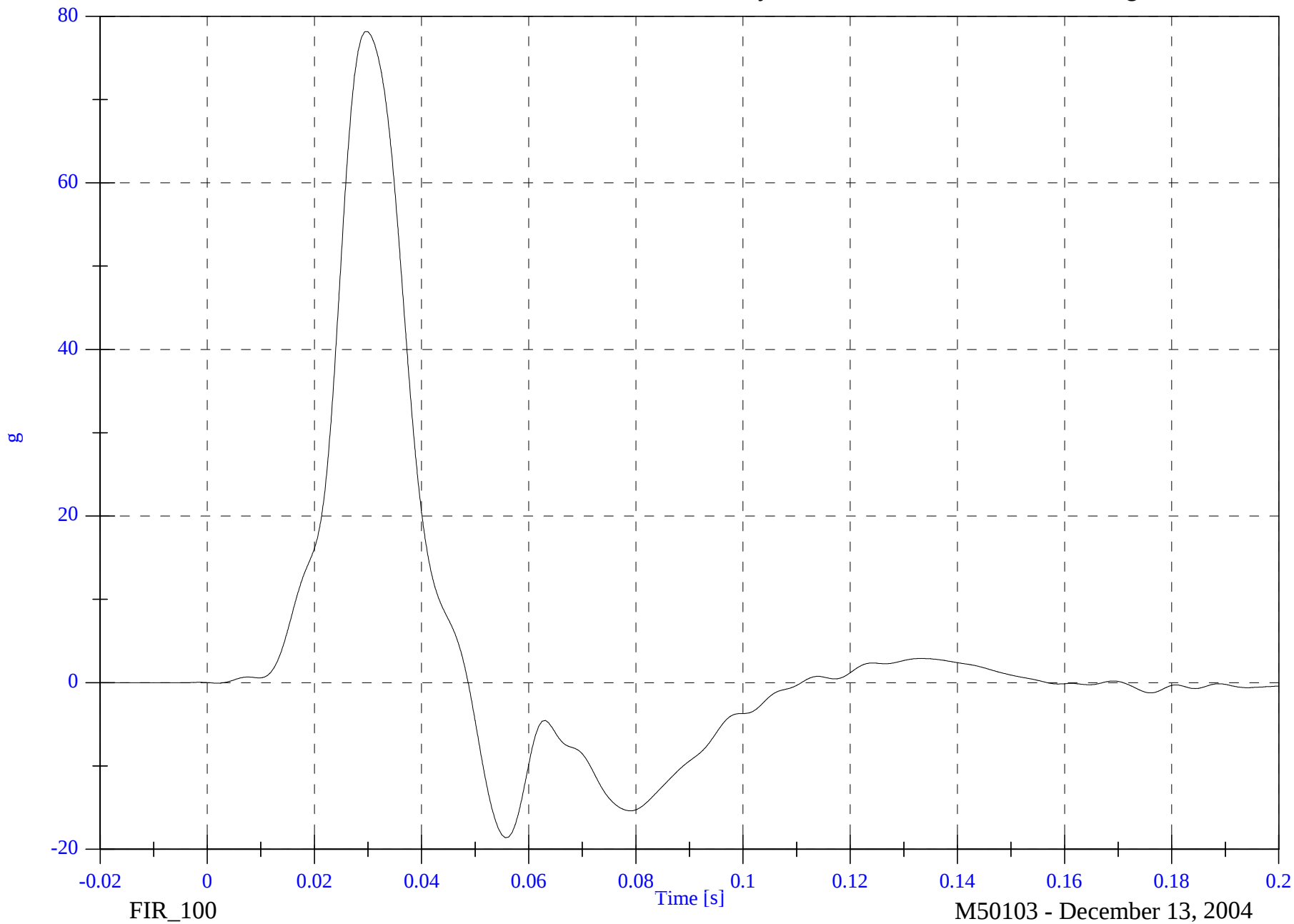
V2P1 Pelvic Ry

Max: 78.2 [g] at 0.030 [s]

Min: -18.6 [g] at 0.056 [s]

B-146

8762-SNCAP-08

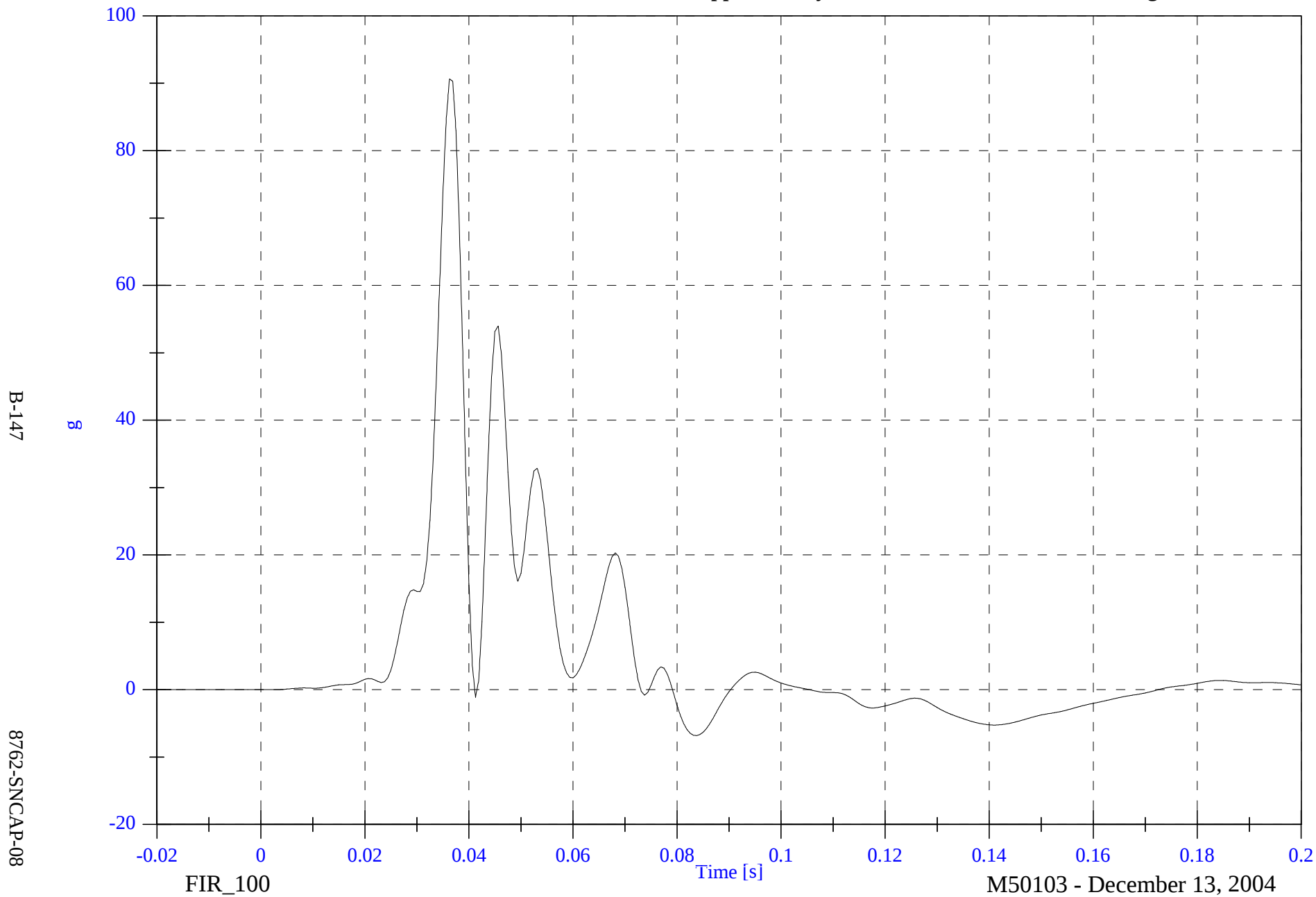


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Upper Rib Ry

Max: 90.7 [g] at 0.036 [s]

Min: -6.8 [g] at 0.084 [s]

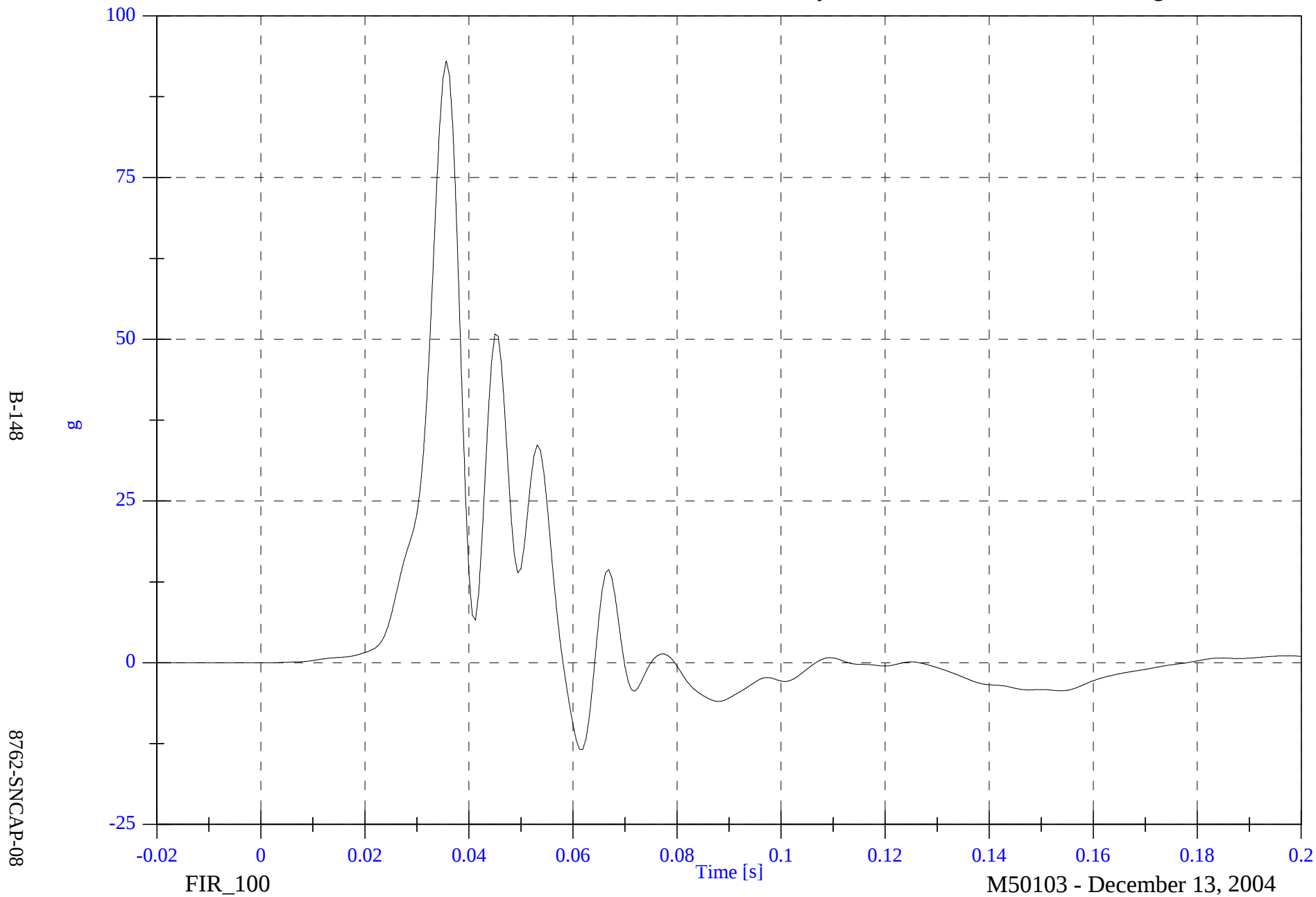


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Rib Ry

Max: 93.0 [g] at 0.036 [s]

Min: -13.4 [g] at 0.062 [s]

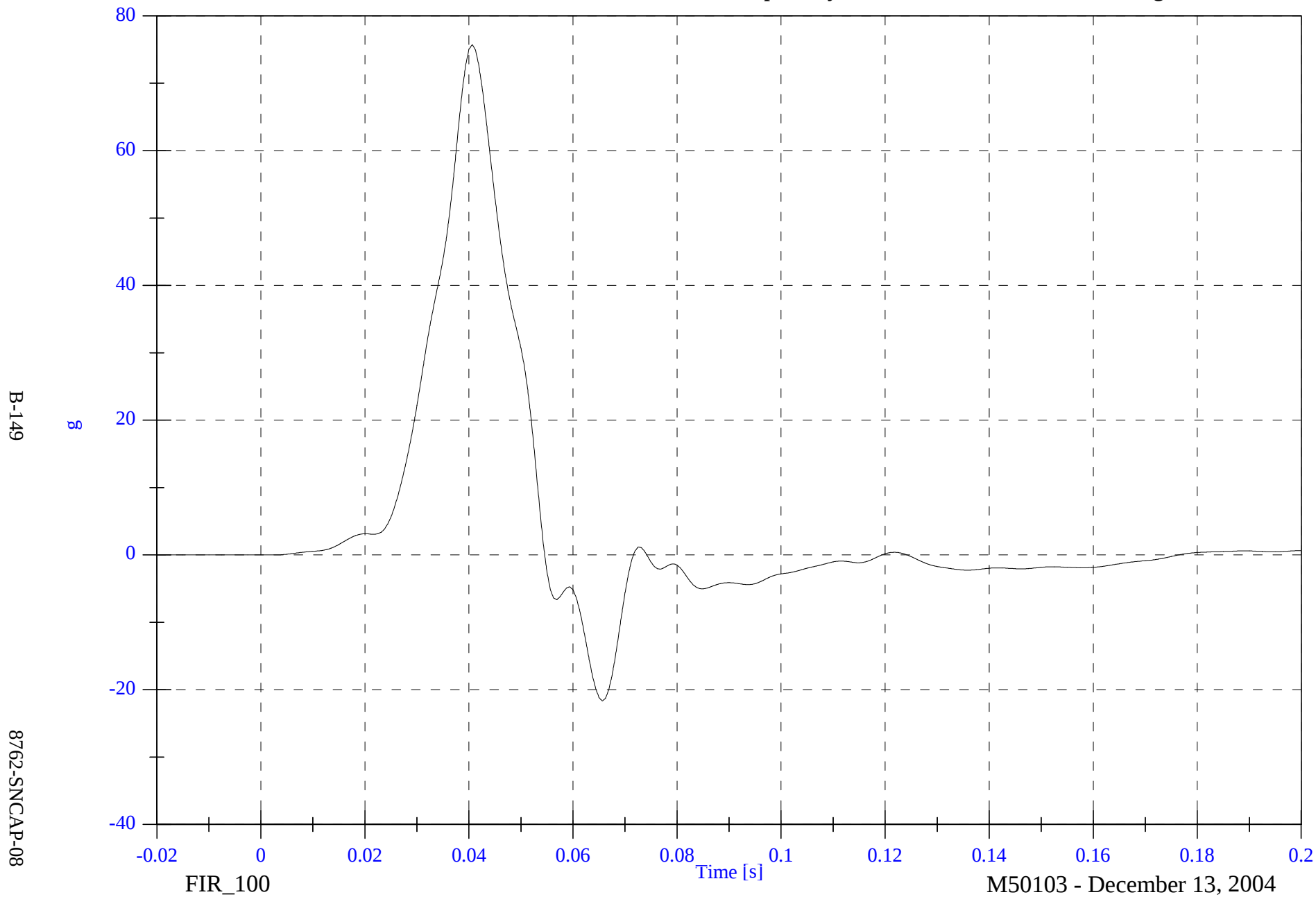


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Lower Spine Ry

Max: 75.7 [g] at 0.041 [s]

Min: -21.7 [g] at 0.066 [s]

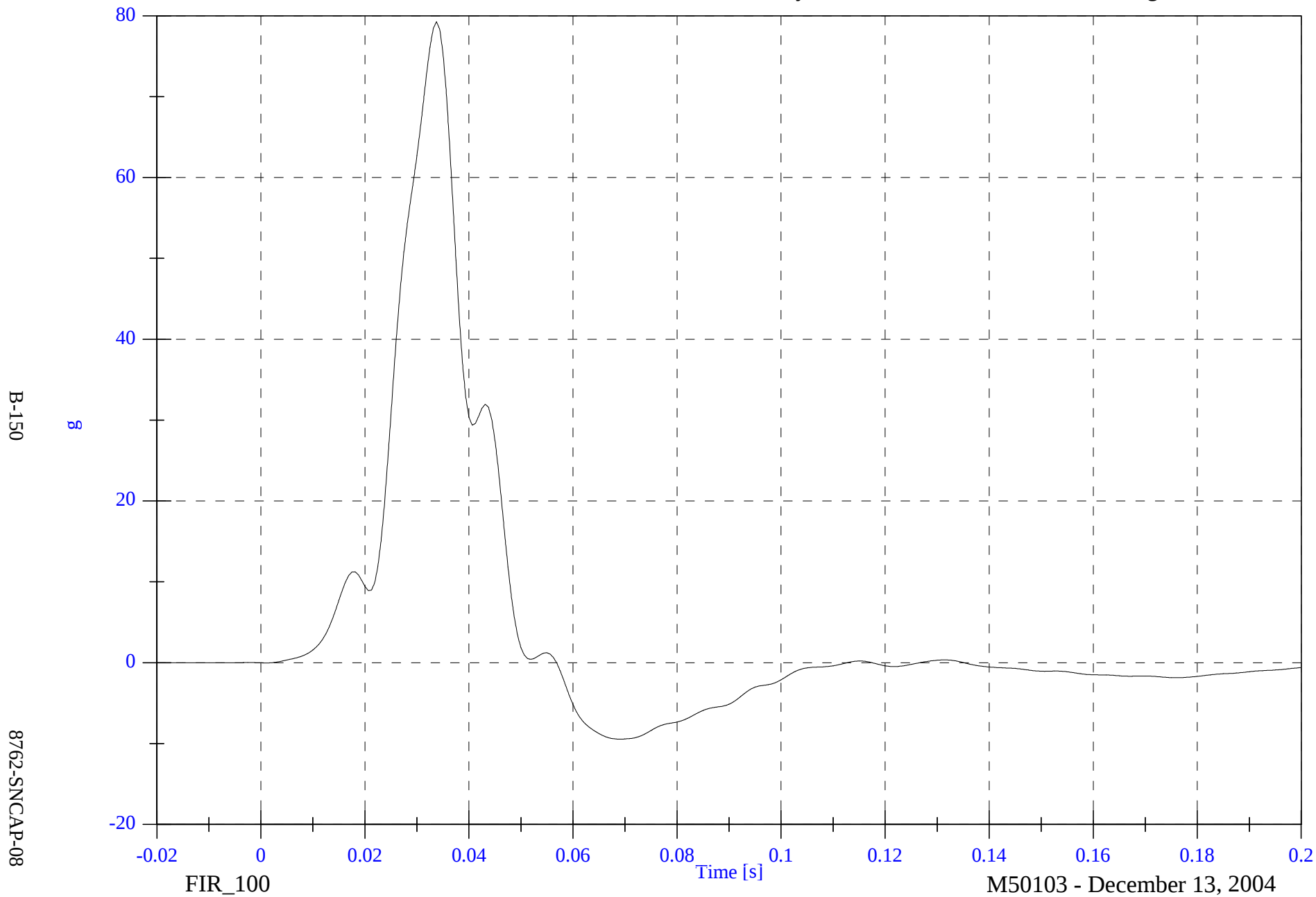


2005 SNCAP Test 3 2005 Buick Lacrosse

V2P4 Pelvic Ry

Max: 79.3 [g] at 0.034 [s]

Min: -9.4 [g] at 0.069 [s]



APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: December 9, 2004; January 17, 2005 Sequential Test Number: 5; 1
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 269 NO.:		SID H3 270 NO.:	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	899	902	899
RH- Rib Height (mm)	501 - 521	503	503	503	503
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	234	234
KV- Knee Pivot from Back Line (mm)	511 - 526	518	518	513	513
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	379	381	384	384
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	20.6
RELATIVE HUMIDITY (%)	10 -70	35.0	37.00	36.00	38.00
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.28	4.29	4.29
UPPER RIB (g's)	37 - 46	40.60	40.52	43.49	38.30
LOWER RIB (g's)	37 - 46	40.92	38.56	42.25	37.46
LOWER SPINE (g's)	15 -22	20.09	17.56	21.50	19.43
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	31.1
RELATIVE HUMIDITY (%)	10 - 70	34.0	36.00	35.00	37.00
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.28	4.29	4.28
PELVIS (g's)	40 -60	42.45	43.88	47.49	51.11

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 5
Date: December 9, 2004 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 5
Date: December 9, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	902
RH- Rib Height (mm)	502 – 520	503
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	234
KH- Knee Pivot from Back Line (mm)	511 – 526	518
KV- Knee Pivot to Floor (mm)	490 – 505	495
HW- Hip Width (mm)	356 - 391	379

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

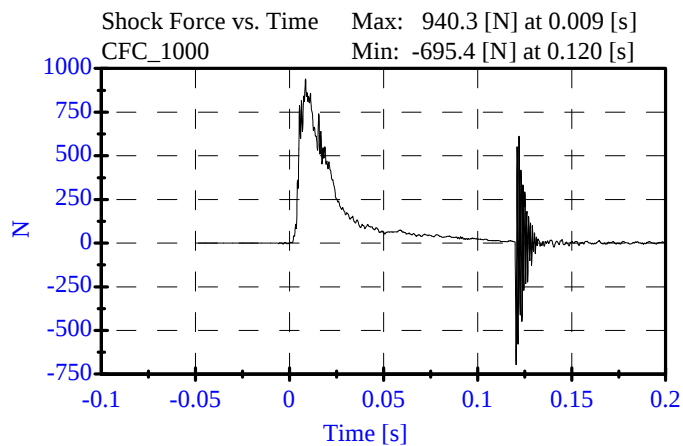
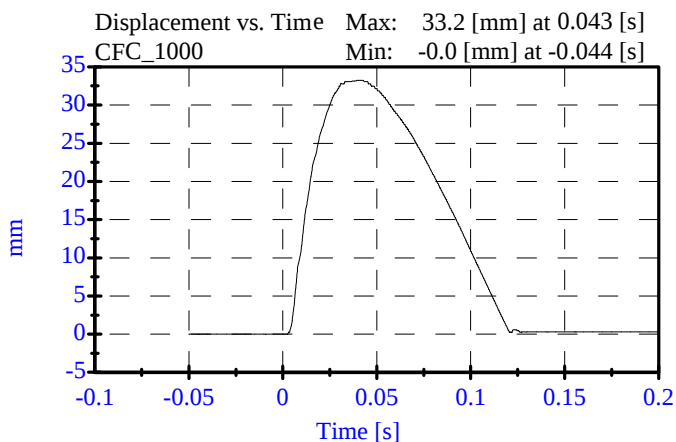
ATD Serial No: 269

Date: July 23, 2004

Sequential Test Number: 1 File: 269SL 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	30.00-35.00 mm	33.24 mm	Passed
Maximum Force:	836.00-1125.00 N	940.32 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Impact - Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

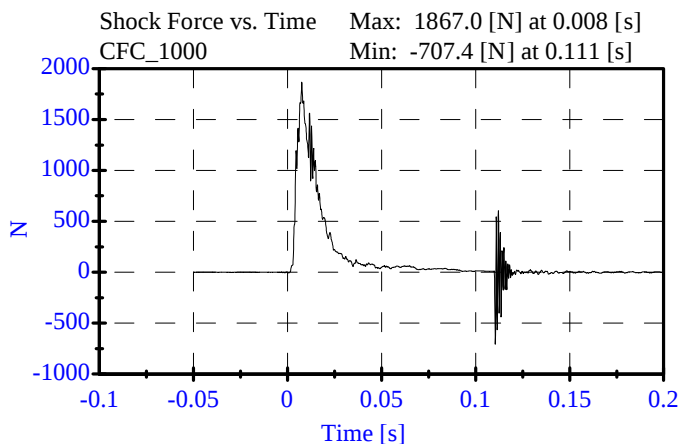
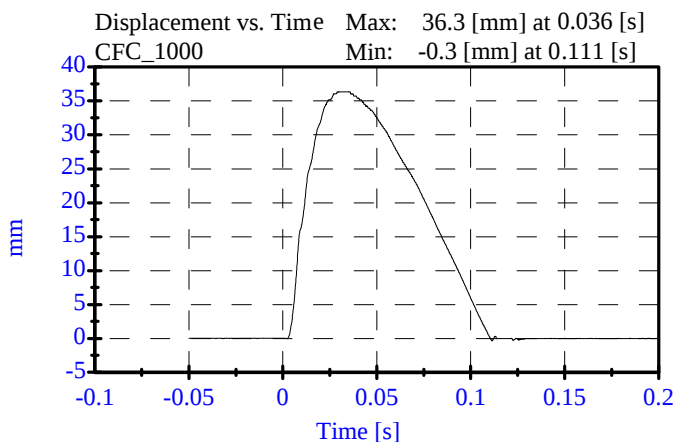
ATD Serial No: 269

Date: July 23, 2004

Sequential Test Number: 1 File: 269SM 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	32.00-37.00 mm	36.33 mm	Passed
Maximum Force:	1730.00-2099.00 N	1866.97 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Impact - High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

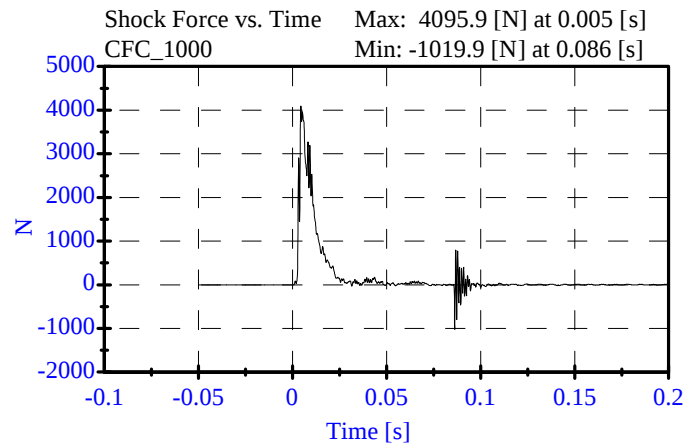
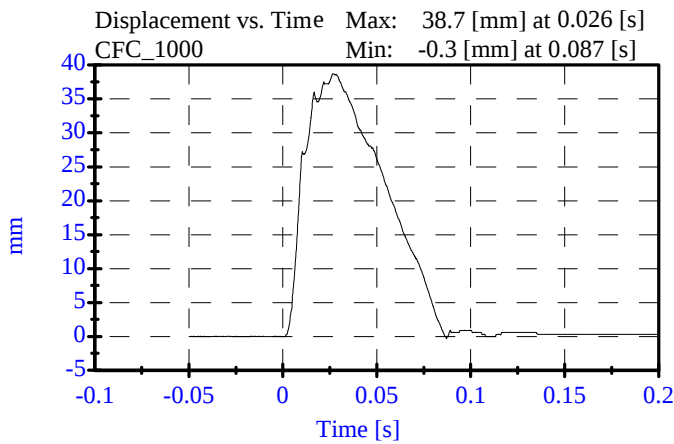
ATD Serial No: 269

Date: July 23, 2004

Sequential Test Number: 1 File: 269SH6 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	33.00-40.00 mm	38.71 mm	Passed
Maximum Force:	3741.00-4448.00 N	4095.92 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		

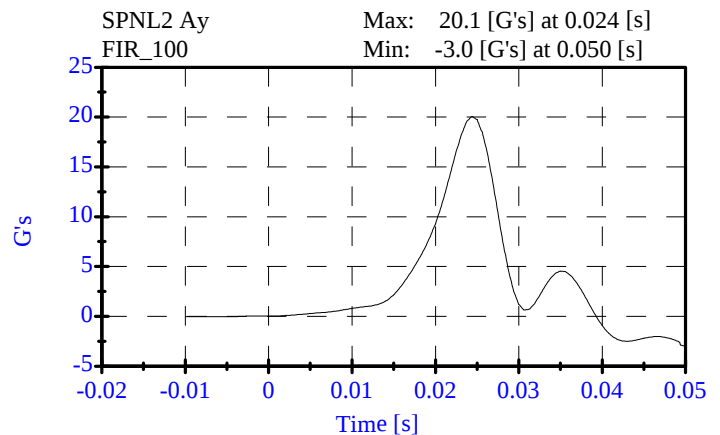
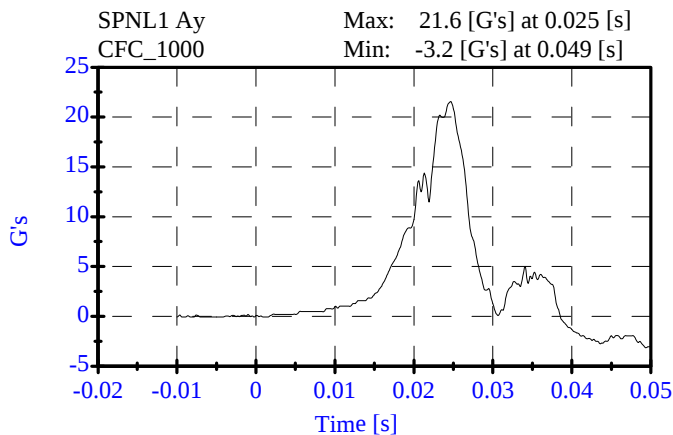
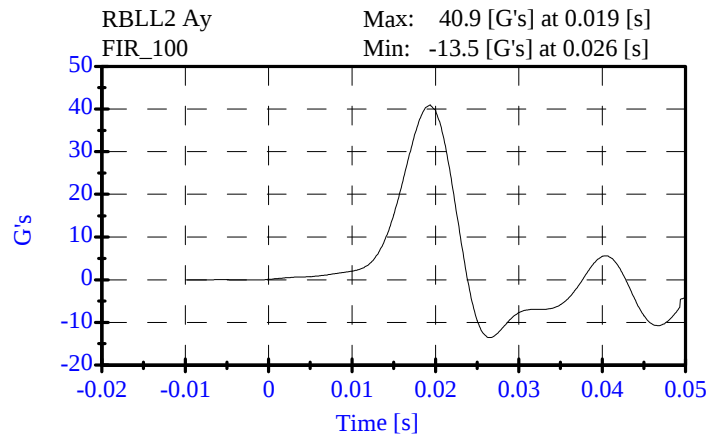
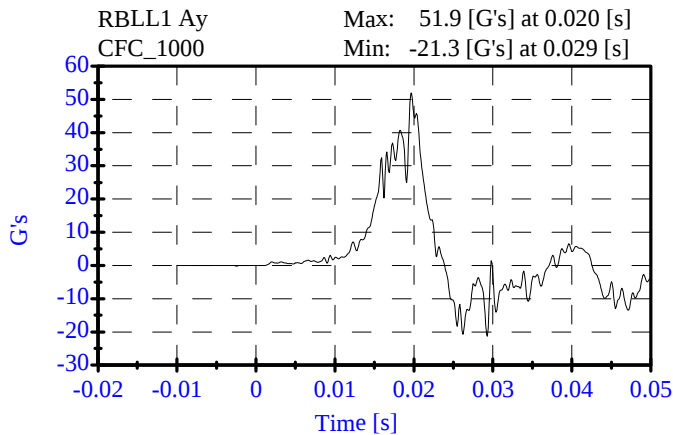
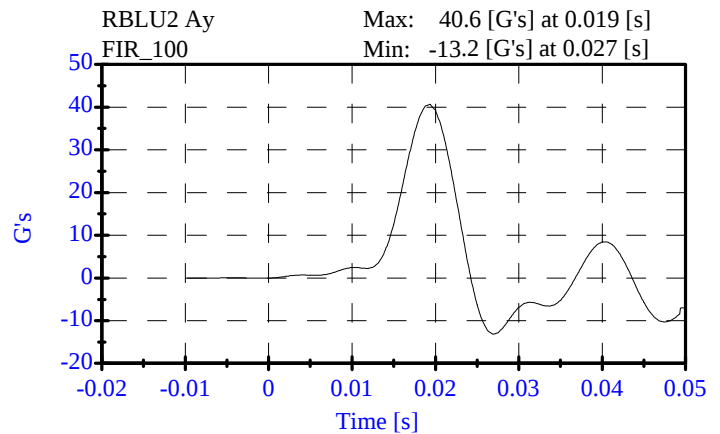
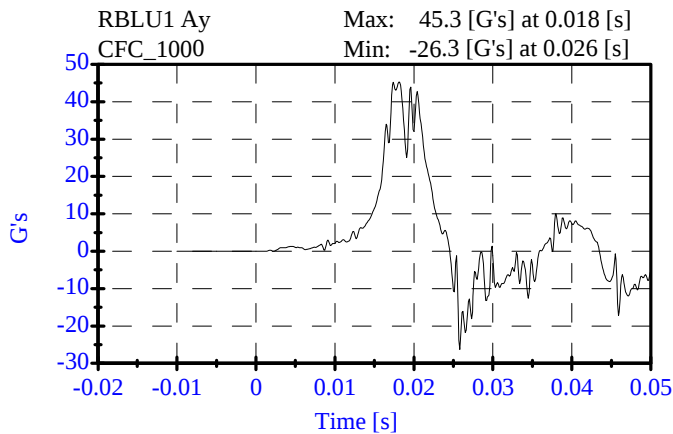


Thorax Impact Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: December 8, 2004

Sequential Test Number: 1 File: 269T 12-08-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.60 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.92 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.09 G's	Passed



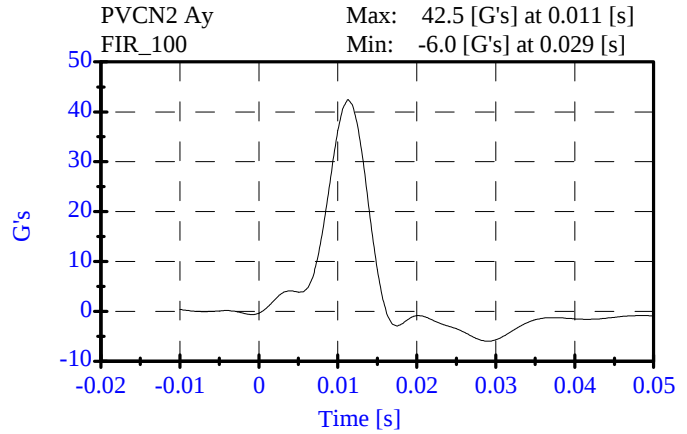
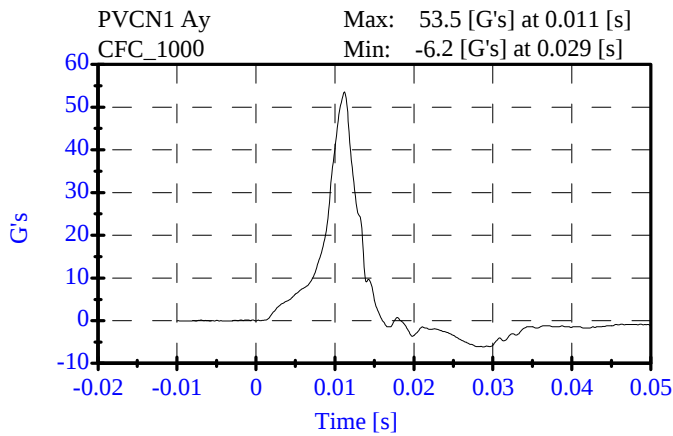
**Pelvic Test
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: Decmeber 8, 2004

Sequential Test Number: 1 File: 269P2 12-08-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	34.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	42.45 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



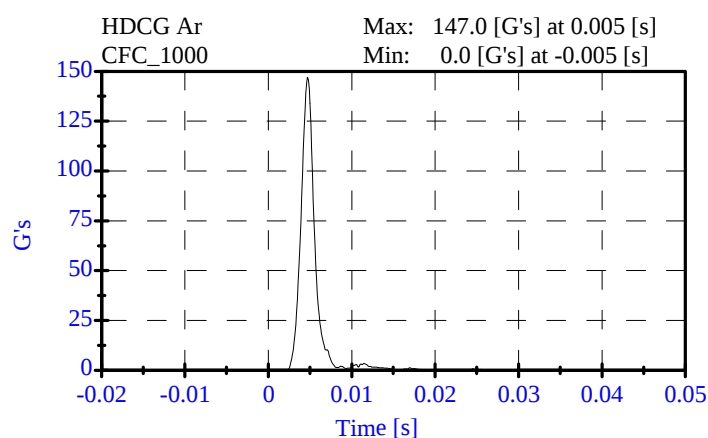
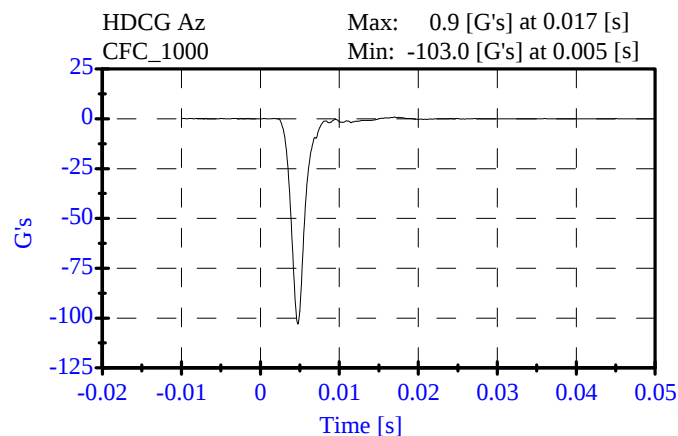
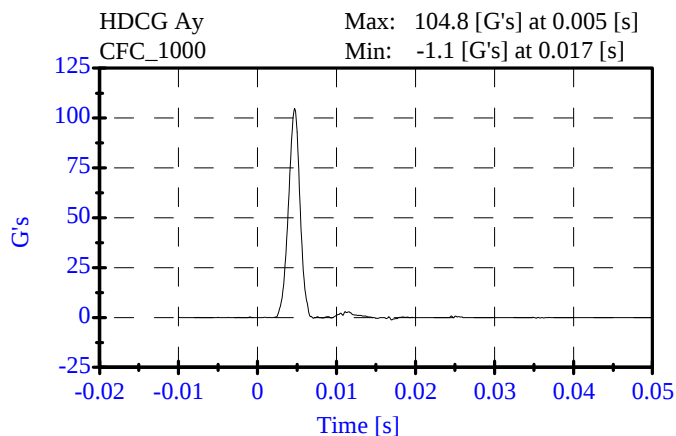
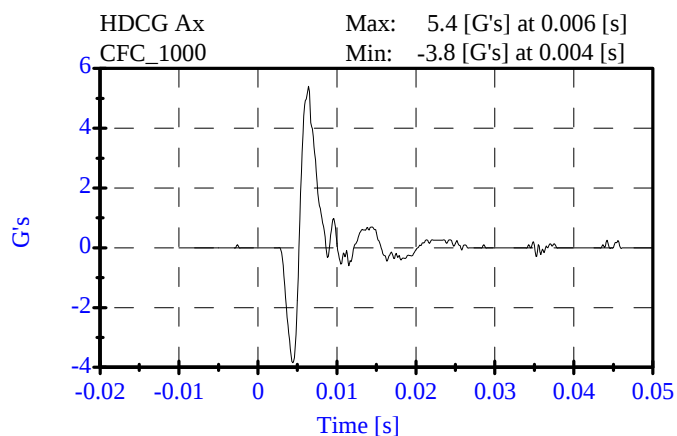
Head Drop Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: December 7, 2004

Sequential Test Number: 1 File: 269H 12-07-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	147.01 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.40 Gs	Passed
Curve PerCent NonModal:	< 15%	7.06 %	Passed



Neck Test**Pre-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 269
Date: December 8, 2004

Sequential Test Number: 1 File: 269N1 12-08-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.95 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.04 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.21 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.08 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.21 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.37 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.20 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	87.04 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	52.90 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.50 ms	Passed

Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

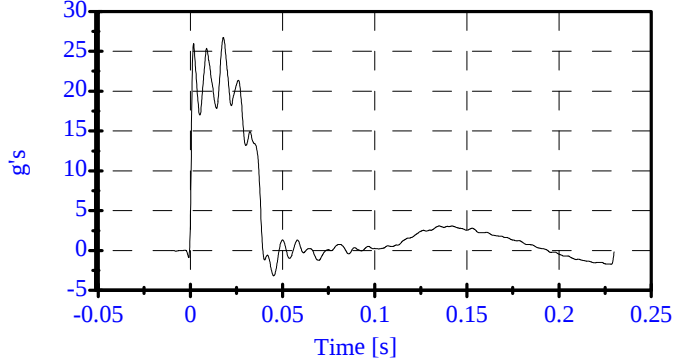
ATD Serial No: 269

Date: December 8, 2004

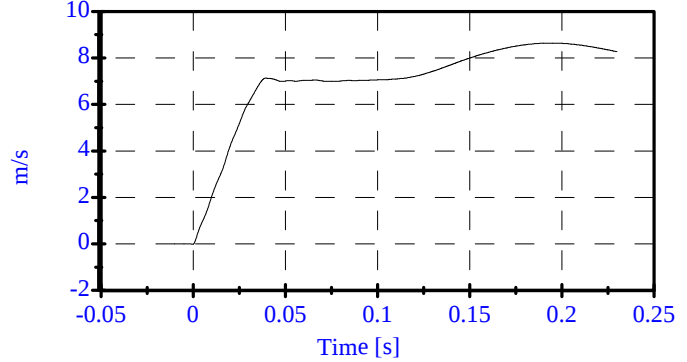
Sequential Test Number: 1 File: 269N1 12-08-04

Laboratory Technician: B. Swiecicki

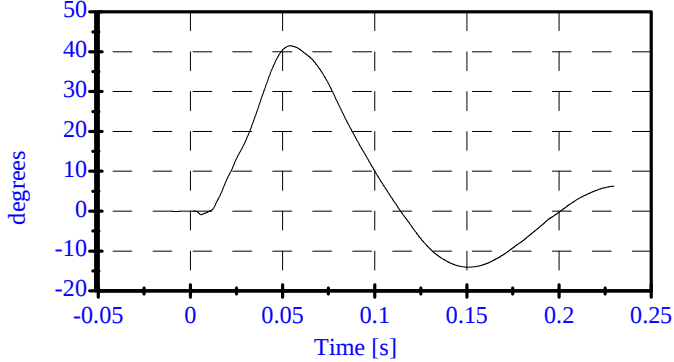
Pend Ax
CFC_180
Max: 26.8 [g's] at 0.018 [s]
Min: -3.2 [g's] at 0.045 [s]



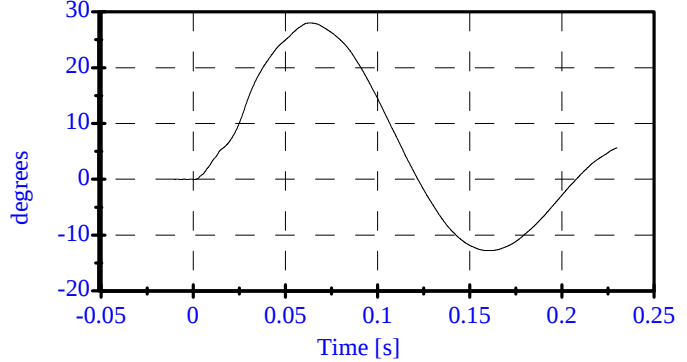
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



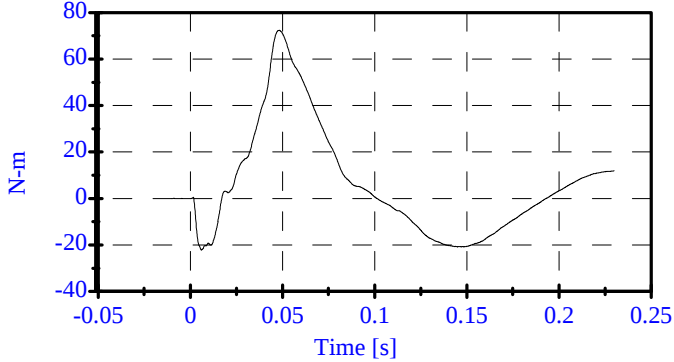
Head Rot
CFC_180
Max: 41.5 [degrees] at 0.054 [s]
Min: -14.0 [degrees] at 0.151 [s]



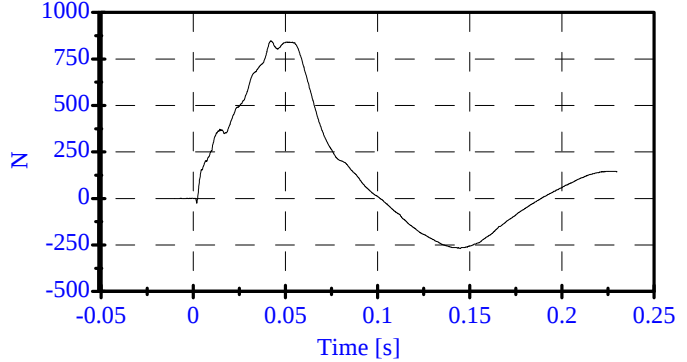
Arm Rot
CFC_180
Max: 28.0 [degrees] at 0.063 [s]
Min: -12.8 [degrees] at 0.160 [s]



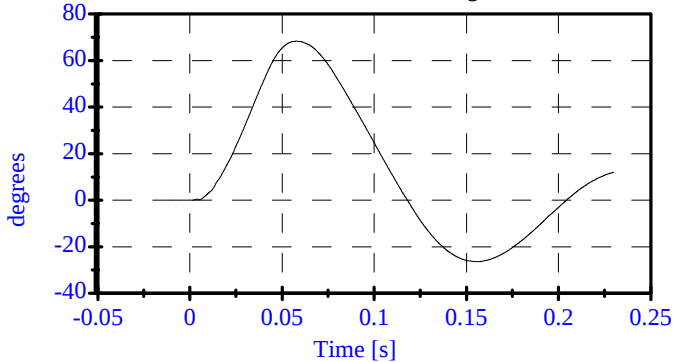
Neck Mx
CFC_600
Max: 72.3 [N-m] at 0.048 [s]
Min: -22.2 [N-m] at 0.006 [s]



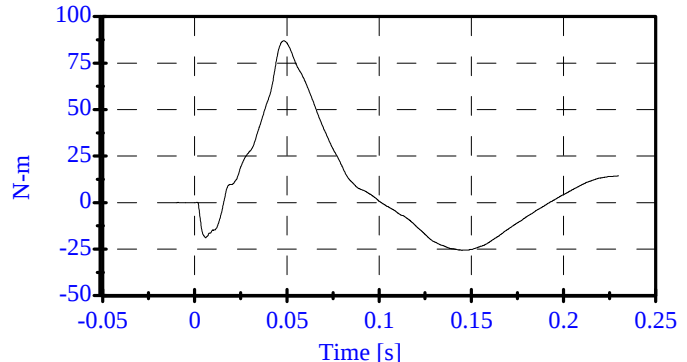
Neck Fy
CFC_1000
Max: 847.6 [N] at 0.042 [s]
Min: -270.7 [N] at 0.145 [s]



Tot Rot
CFC_180
Max: 68.4 [degrees] at 0.058 [s]
Min: -26.4 [degrees] at 0.156 [s]



MOCX
Max: 87.0 [N-m] at 0.048 [s]
Min: -25.6 [N-m] at 0.145 [s]



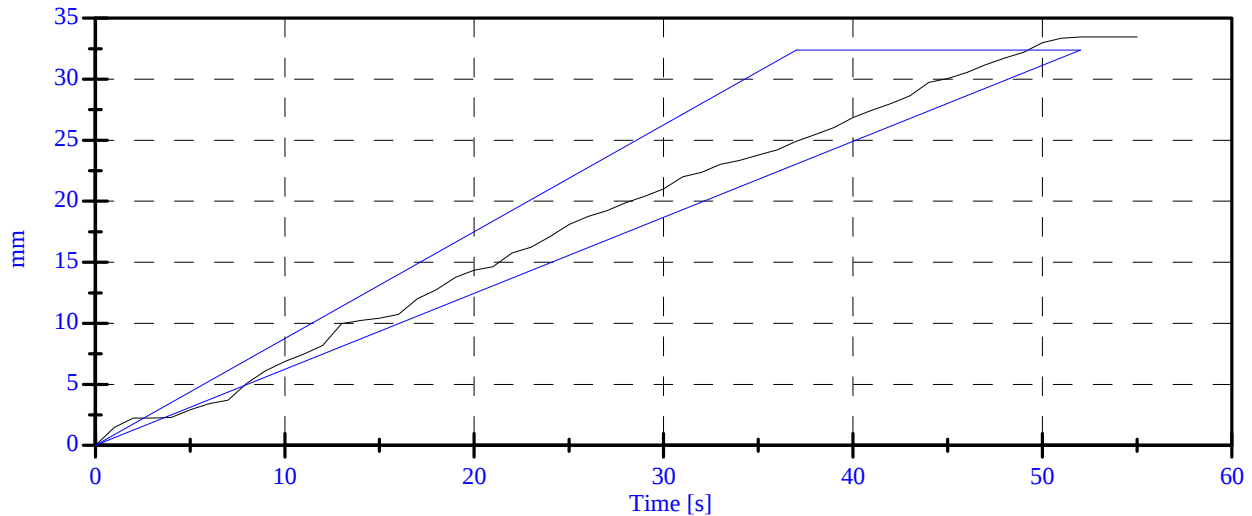
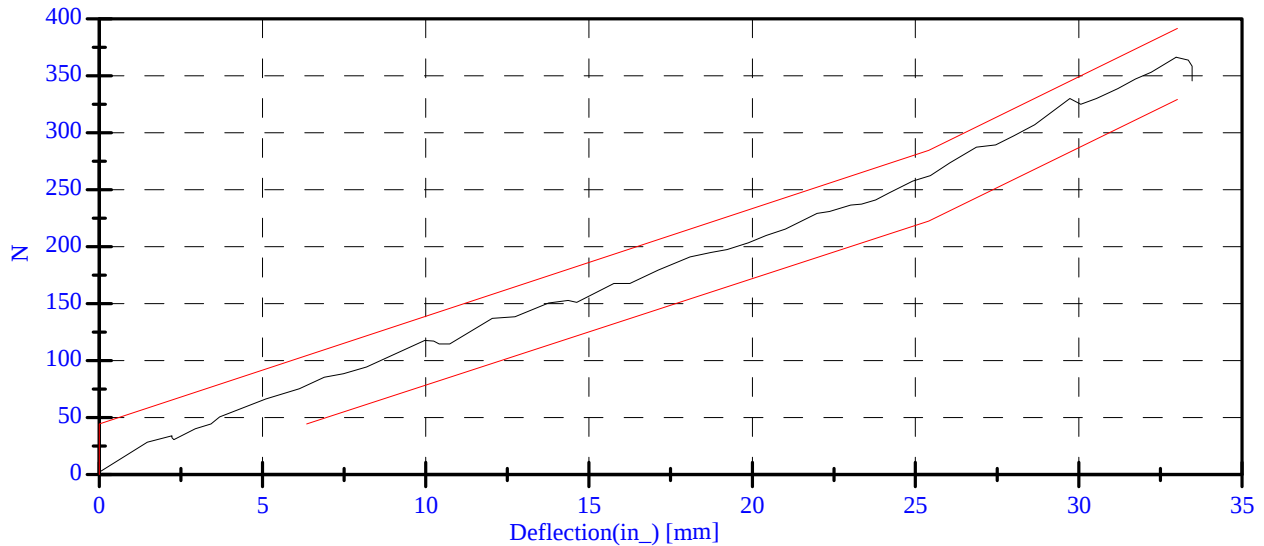
Abdomen Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: December 9, 2004

Sequential Test Number: 1 File: 269 Ab 12-09-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	138.61 N	Passed
Force at 19.05 mm :	162.98-220.99 N	197.46 N	Passed
Force at 25.40 mm :	221.97-280.02 N	262.52 N	Passed
Force at 33.02 mm :	324.99-391.00 N	366.33 N	Passed

ABDOMINAL COMPRESSION TEST



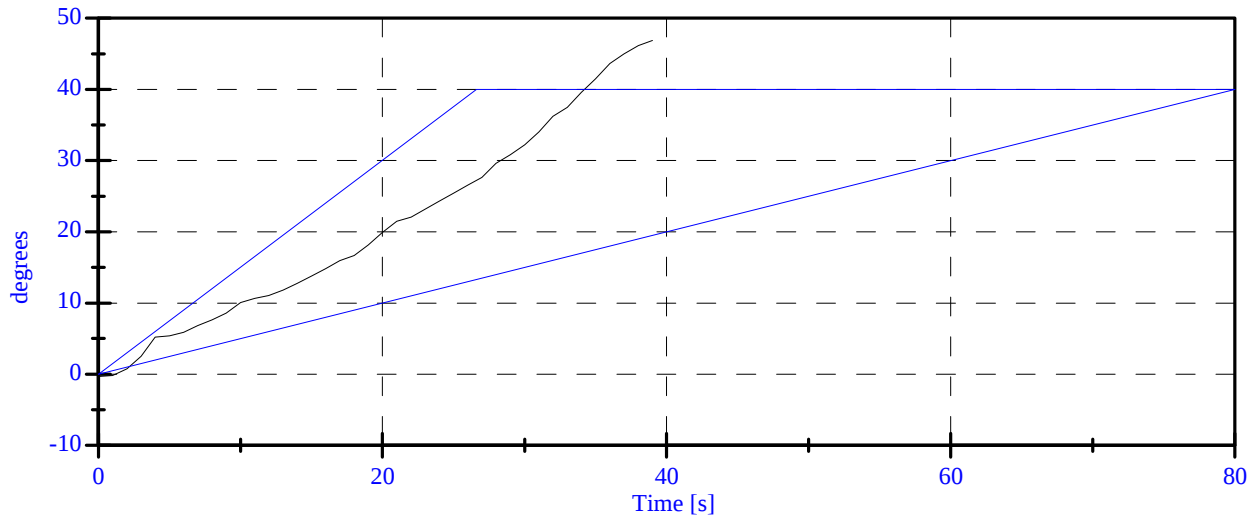
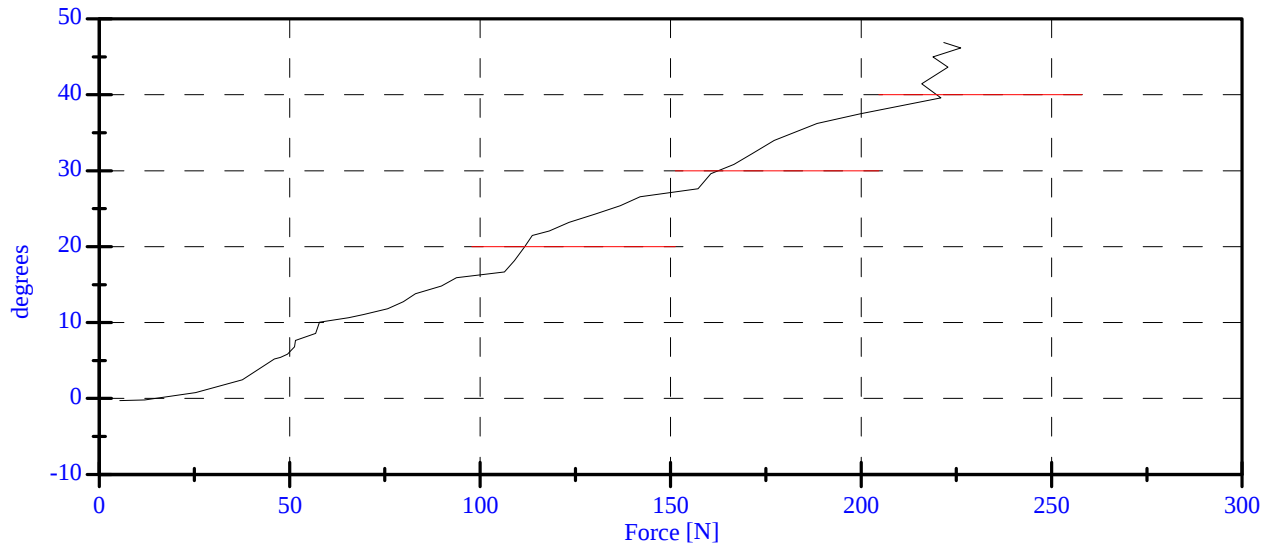
Lumbar Spine Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: December 9, 2004

Sequential Test Number: 1 File: 269 Spine 12-09-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	11.94 N	Passed
Force at 20 Deg:	97.86-151.24 N	111.58 N	Passed
Force at 30 Deg:	151.24-204.62 N	160.61 N	Passed
Force at 40 Deg:	204.62-258.00 N	220.92 N	Passed
Return Angle	12 Deg Max	7.89 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.:	<u>269</u>	Sequential Test Number:	<u>5</u>
Date:	<u>December 9, 2004</u>	Laboratory Technician:	<u>B. Swiecicki</u>

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 5
Date: December 9, 2004 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 5
Date: December 9, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	503
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	384

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

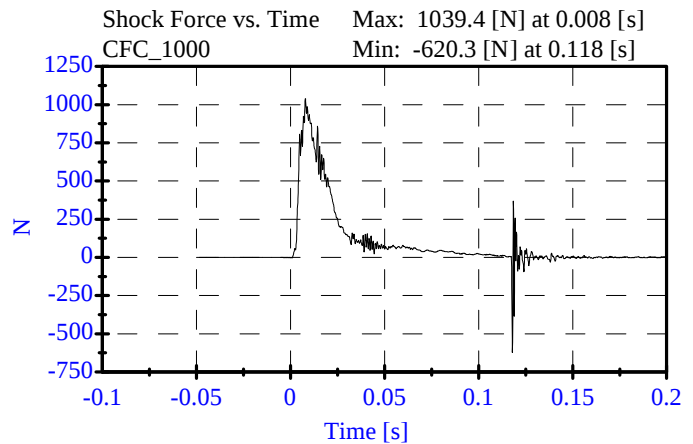
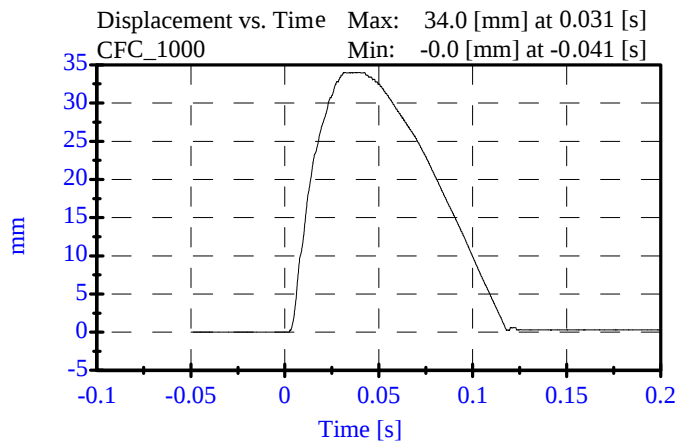
ATD Serial No: 270

Date: July 23, 2004

Sequential Test Number: 1 File: 270SL 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	30.00-35.00 mm	34.00 mm	Passed
Maximum Force:	836.00-1125.00 N	1039.45 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock Impact - Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

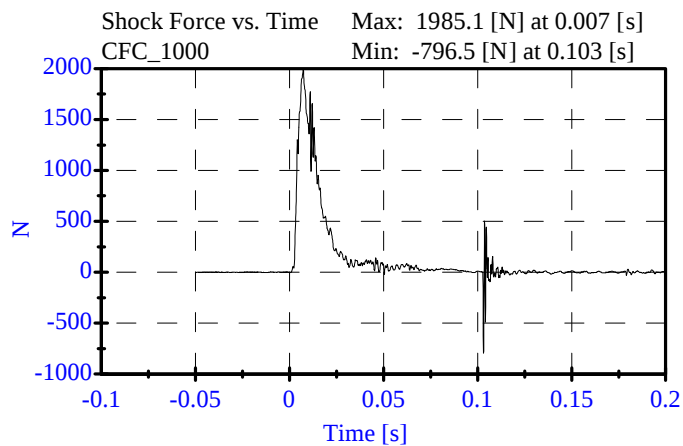
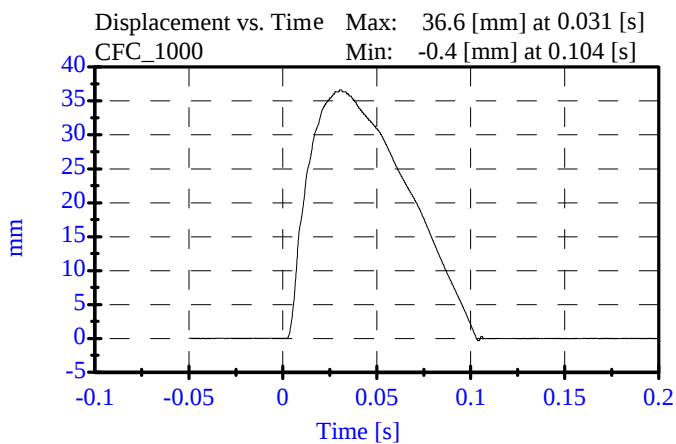
ATD Serial No: 270

Date: July 23, 2004

Sequential Test Number: 1 File: 270SM 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	32.00-37.00 mm	36.64 mm	Passed
Maximum Force:	1730.00-2099.00 N	1985.06 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock Impact - High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

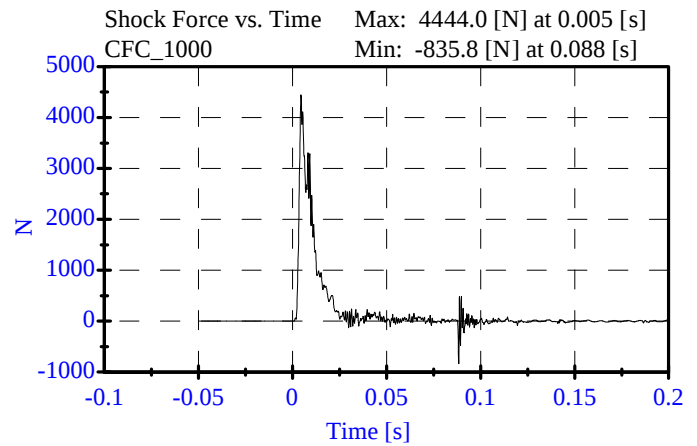
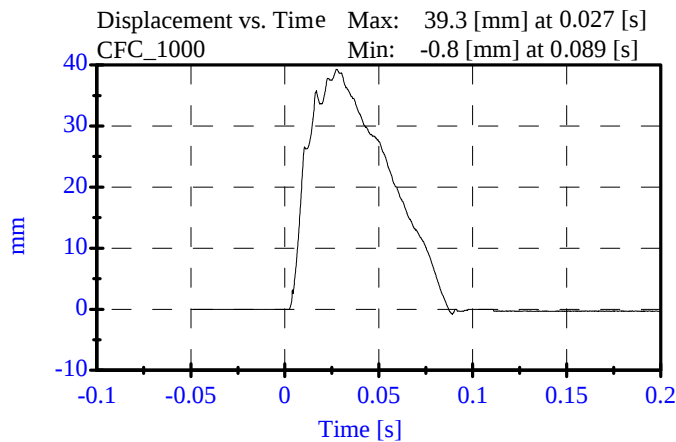
ATD Serial No: 270

Date: July 23, 2004

Sequential Test Number: 1 File: 270SH 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	33.00-40.00 mm	39.29 mm	Passed
Maximum Force:	3741.00-4448.00 N	4444.01 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		

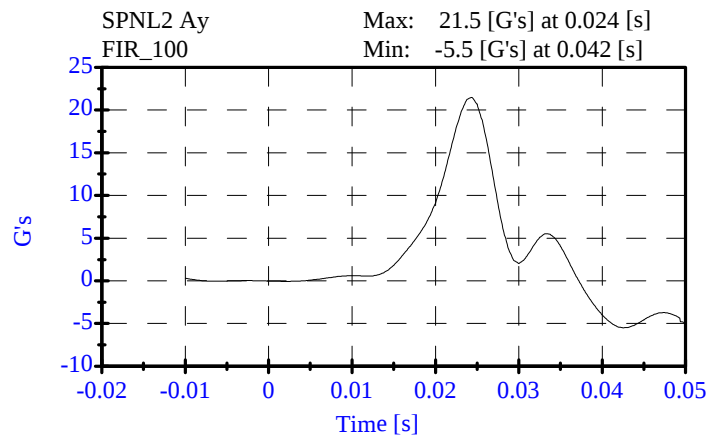
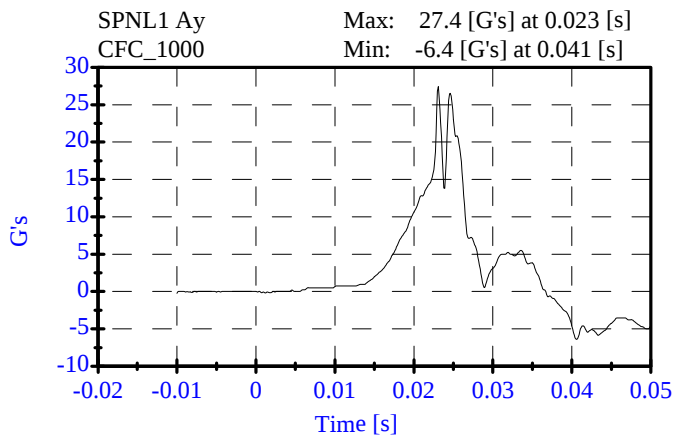
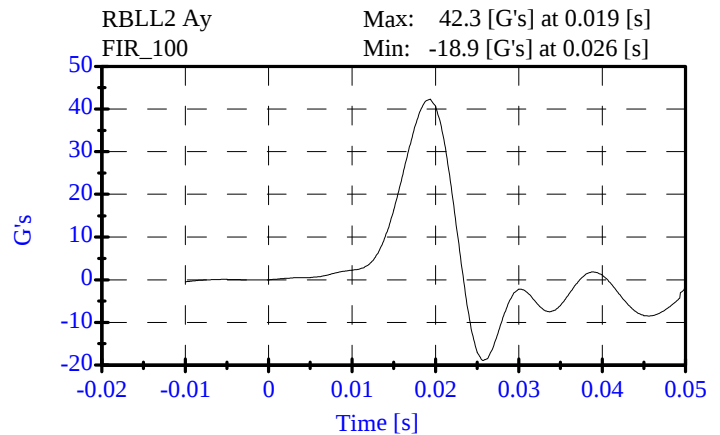
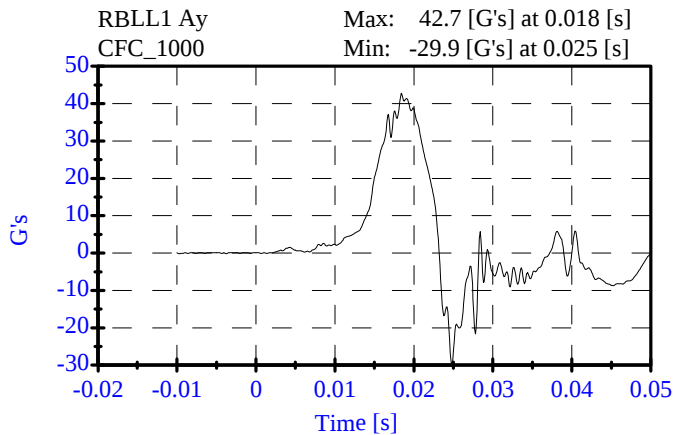
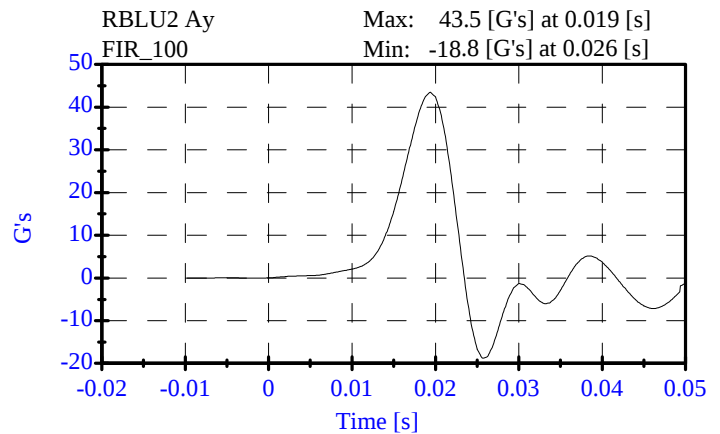
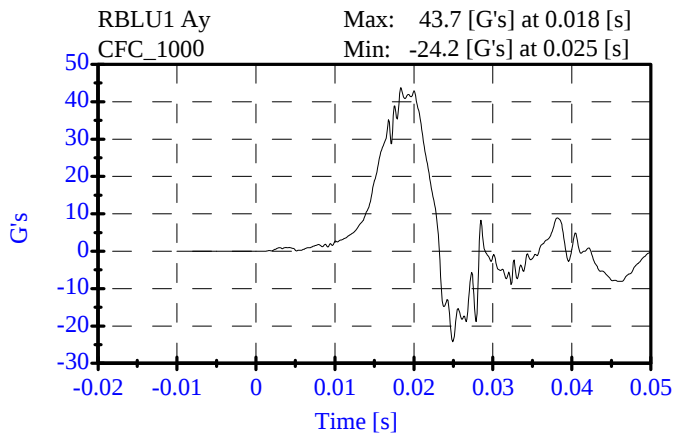


Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: December 8, 2004

Sequential Test Number: 1 File: 270T 12-08-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	43.49 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.25 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.50 G's	Passed



Pelvic Impact

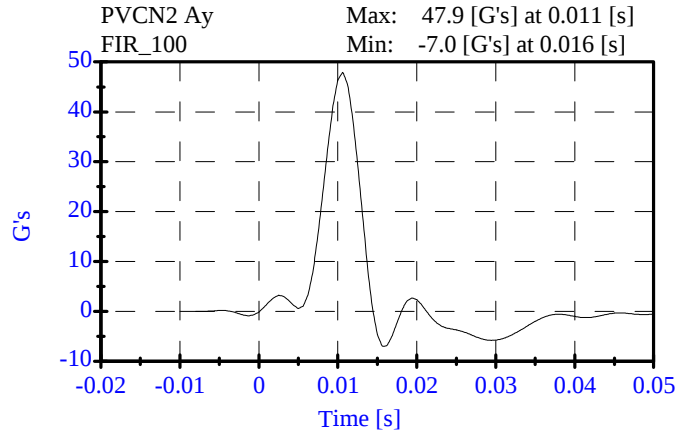
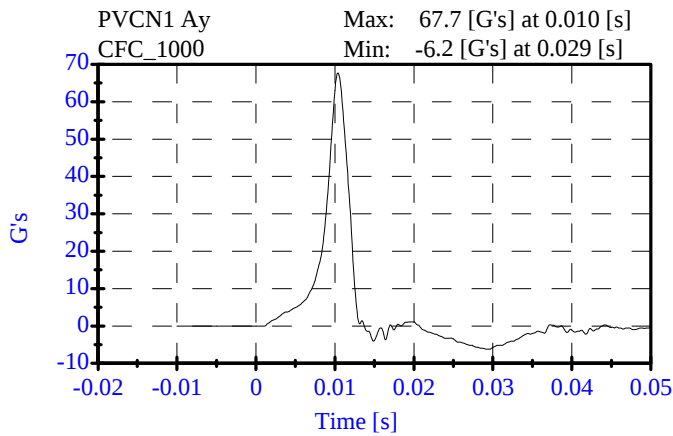
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: December 8, 2004

Sequential Test Number: 1 File: 270P 12-08-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	47.94 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.2 ms	Passed



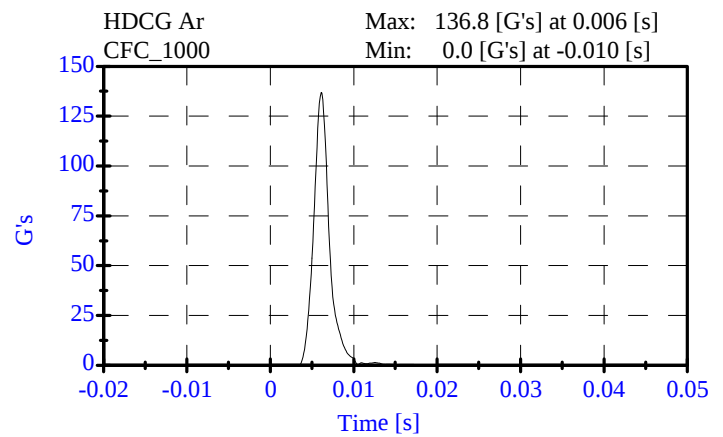
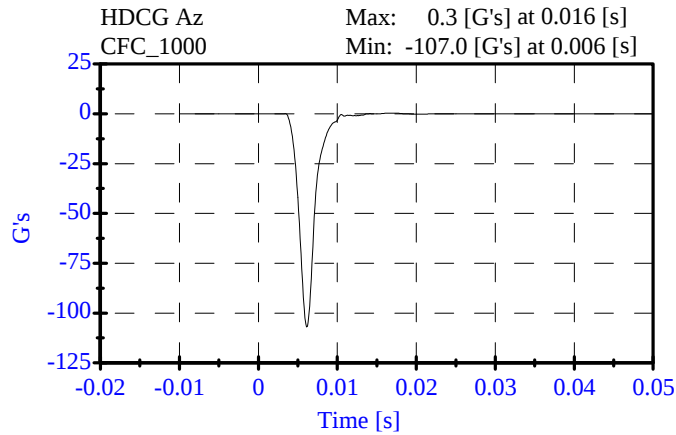
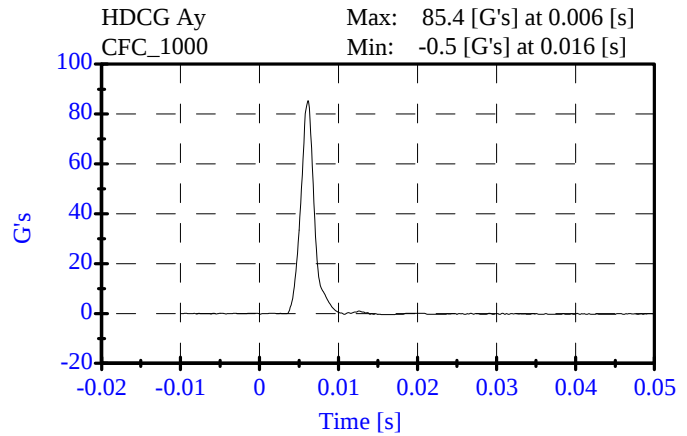
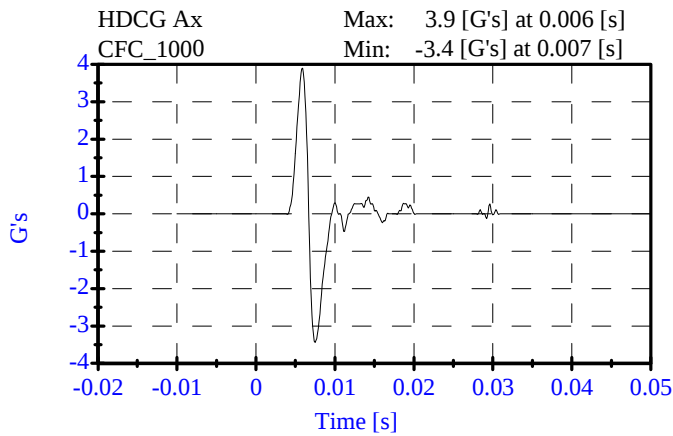
Head Drop Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: December 7, 2004

Sequential Test Number: 1 File: 270H1 12-07-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	136.84 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	3.90 Gs	Passed
Curve PerCent NonModal:	< 15%	1.06 %	Passed



Neck Test**Pre-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 270
Date: December 7, 2004

Sequential Test Number: 1 File: 270N 12-07-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.99 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.33 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.72 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.77 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.22 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	71.07 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.70 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.83 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.20 ms	Passed

Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

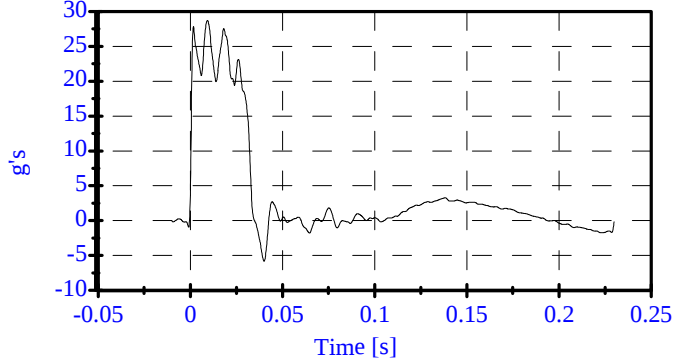
ATD Serial No: 270

Date: December 7, 2004

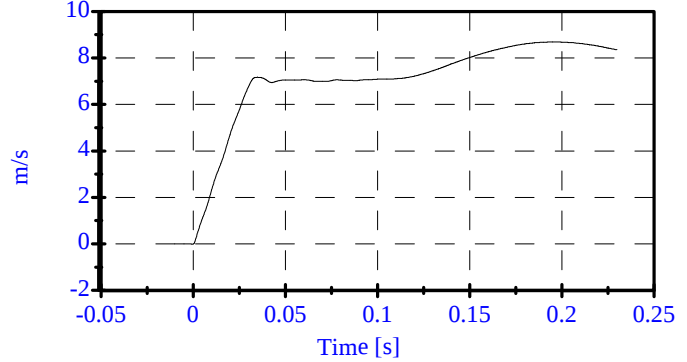
Sequential Test Number: 1 File: 270N 12-07-04

Laboratory Technician: B. Swiecicki

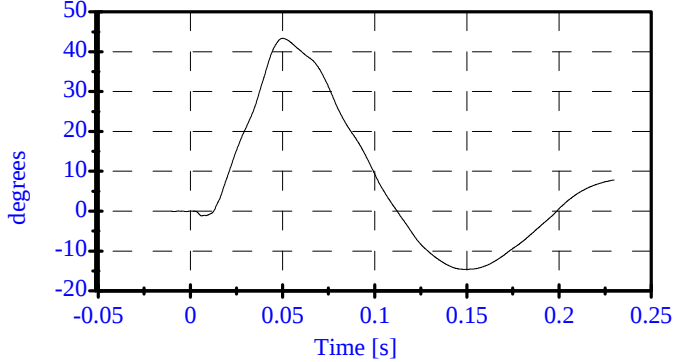
Pend Ax
CFC_180
Max: 28.7 [g's] at 0.009 [s]
Min: -5.8 [g's] at 0.040 [s]



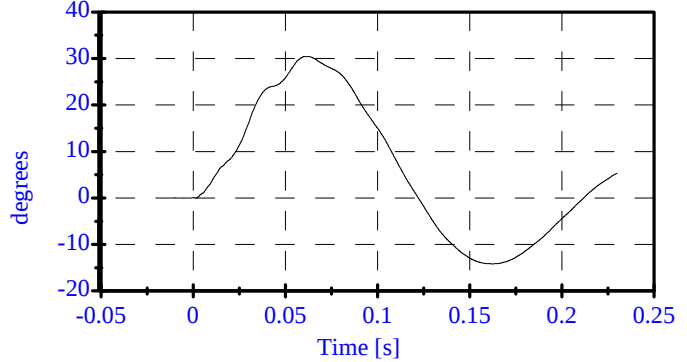
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.194 [s]
Min: -0.0 [m/s] at -0.000 [s]



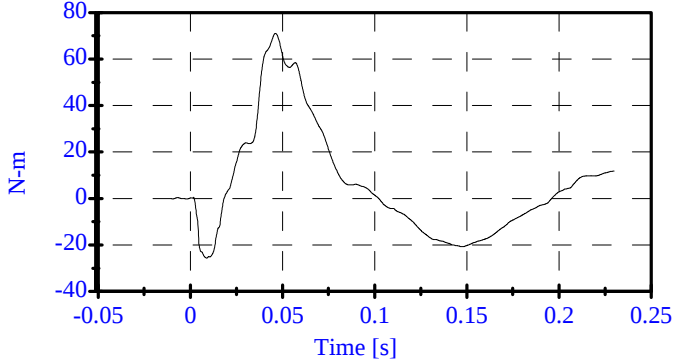
Head Rot
CFC_180
Max: 43.4 [degrees] at 0.050 [s]
Min: -14.6 [degrees] at 0.149 [s]



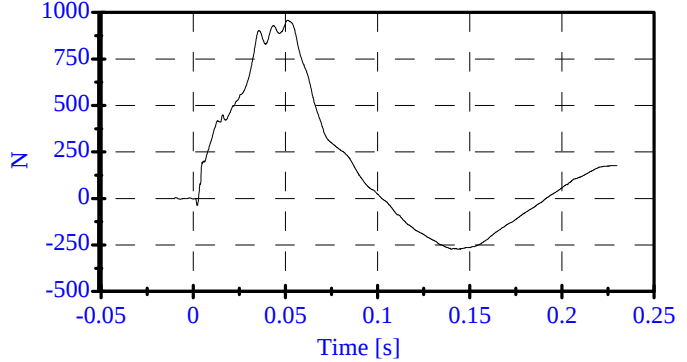
Arm Rot
CFC_180
Max: 30.4 [degrees] at 0.061 [s]
Min: -14.2 [degrees] at 0.162 [s]



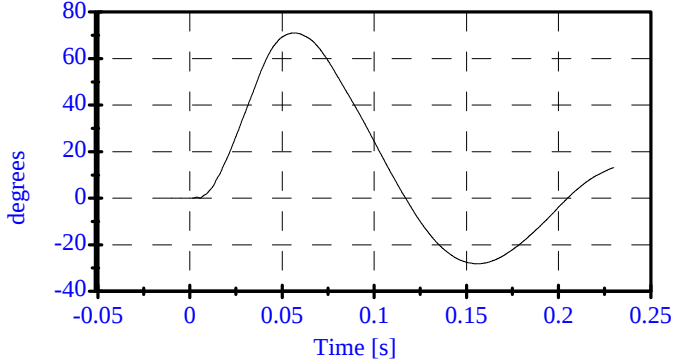
Neck Mx
CFC_600
Max: 71.0 [N-m] at 0.046 [s]
Min: -25.7 [N-m] at 0.009 [s]



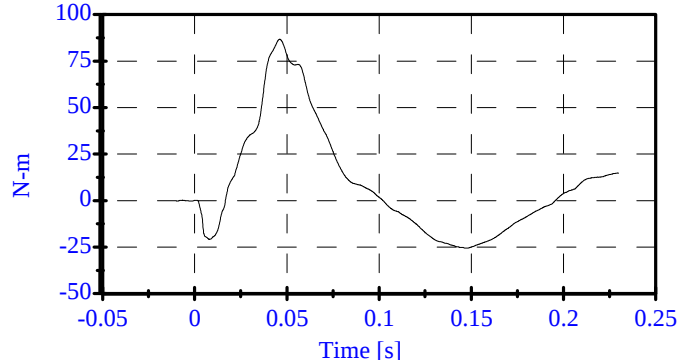
Neck Fy
CFC_1000
Max: 958.2 [N] at 0.051 [s]
Min: -273.1 [N] at 0.143 [s]



Tot Rot
CFC_180
Max: 71.1 [degrees] at 0.056 [s]
Min: -28.2 [degrees] at 0.155 [s]



MOCX
Max: 86.8 [N-m] at 0.046 [s]
Min: -25.5 [N-m] at 0.147 [s]



Abdomen Test

Pre-Test

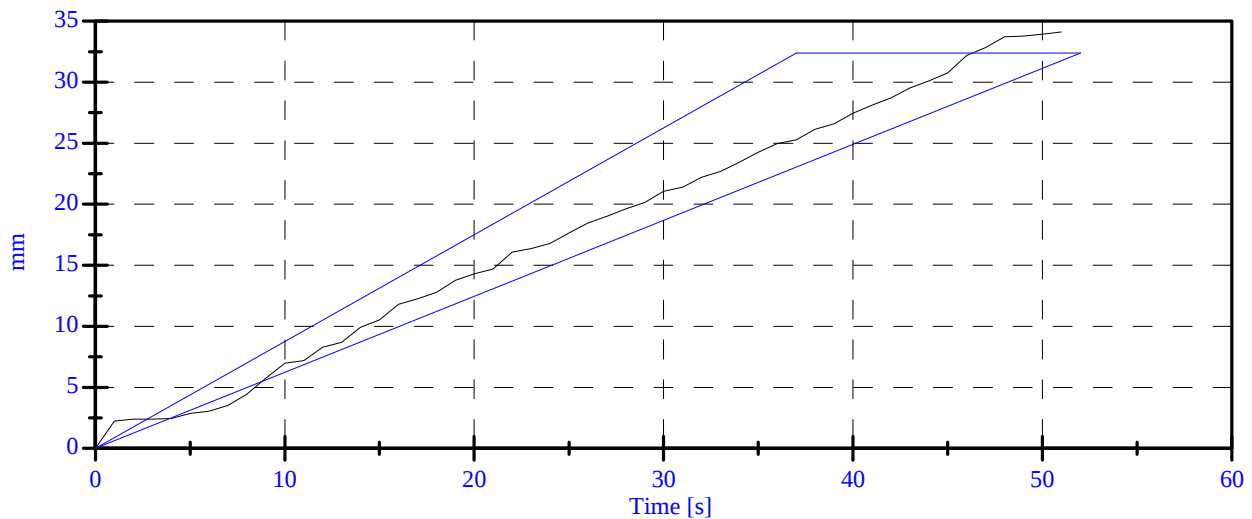
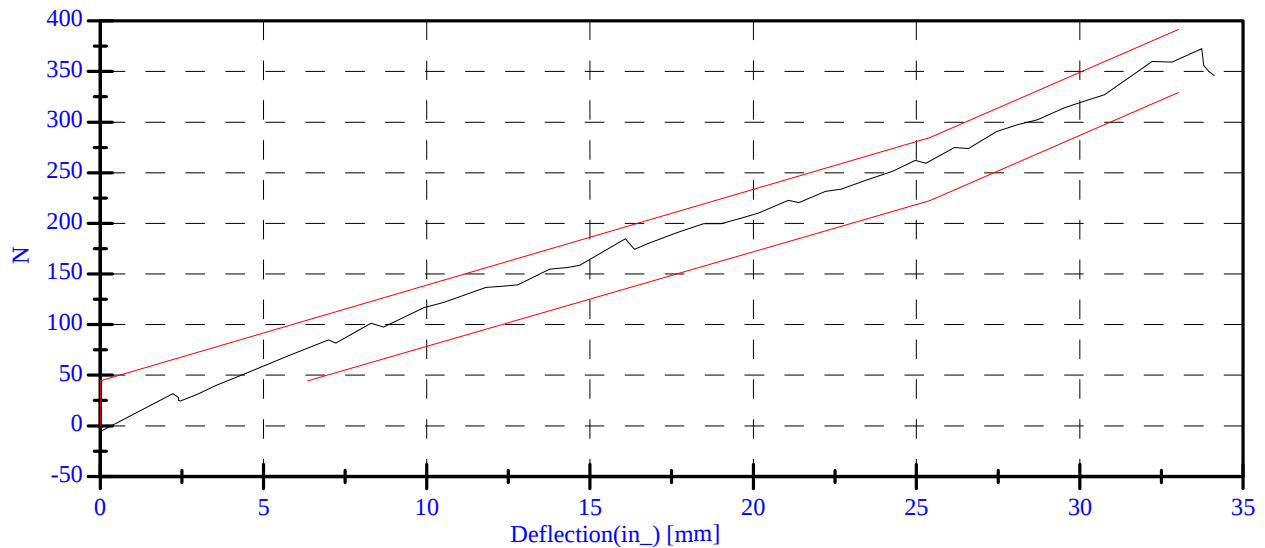
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: December 9, 2004

Sequential Test Number: 1 File: 270 Ab 12-09-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	139.34 N	Passed
Force at 19.05 mm :	162.98-220.99 N	199.65 N	Passed
Force at 25.40 mm :	221.97-280.02 N	259.23 N	Passed
Force at 33.02 mm :	324.99-391.00 N	359.39 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Pre-Test

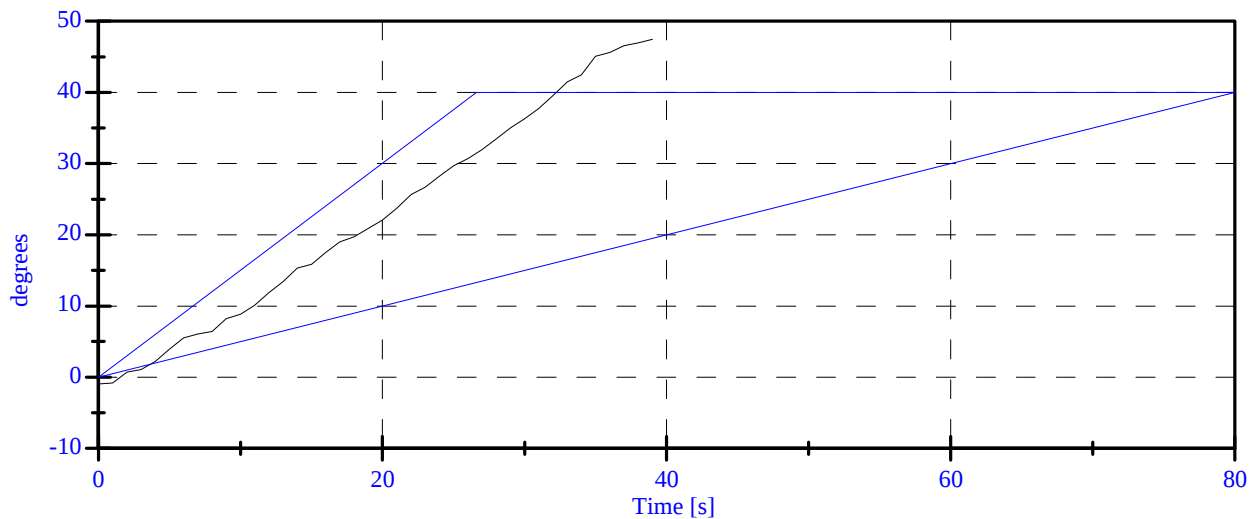
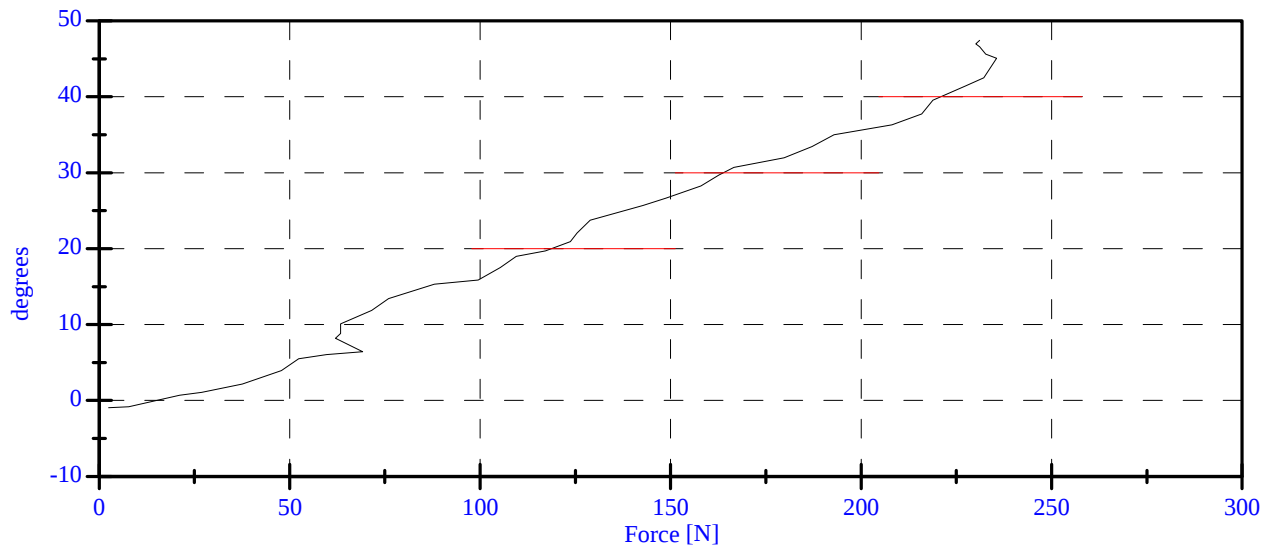
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: December 9, 2004

Sequential Test Number: 1 File: 270 Spine 12-09-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	21.11 N	Passed
Force at 20 Deg:	97.86-151.24 N	117.08 N	Passed
Force at 30 Deg:	151.24-204.62 N	162.71 N	Passed
Force at 40 Deg:	204.62-258.00 N	218.82 N	Passed
Return Angle	12 Deg Max	4.96 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.:	<u>270</u>	Sequential Test Number:	<u>5</u>
Date:	<u>December 9, 2004</u>	Laboratory Technician:	<u>B. Swiecicki</u>

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: January 17, 2005 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: January 17, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	503
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	381

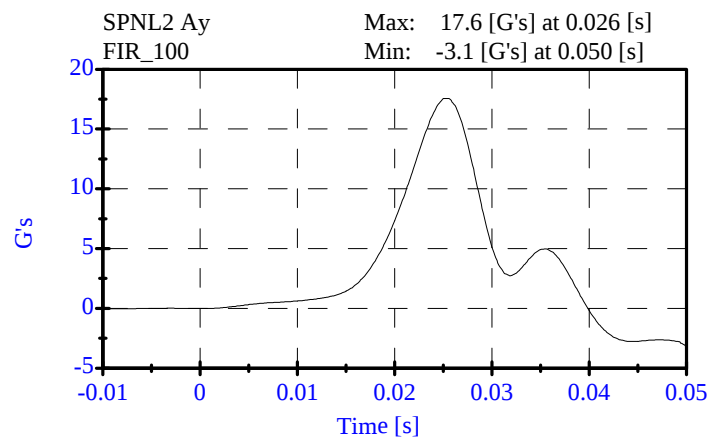
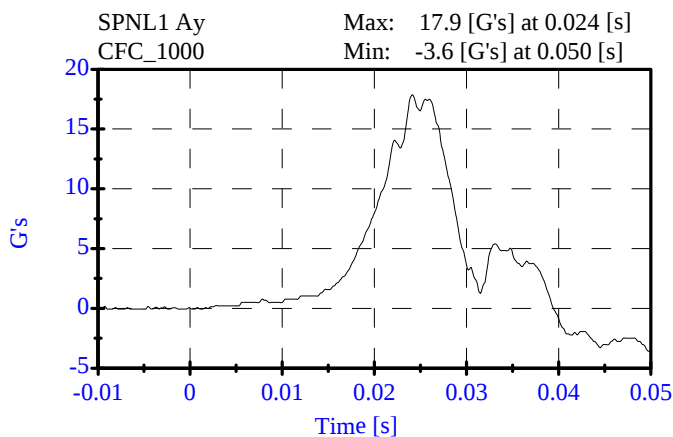
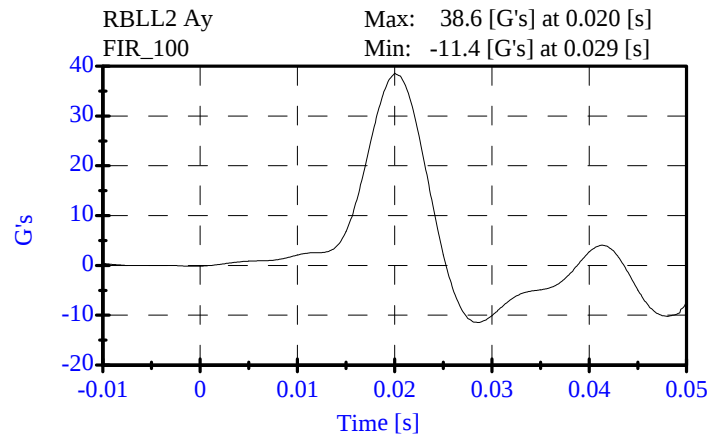
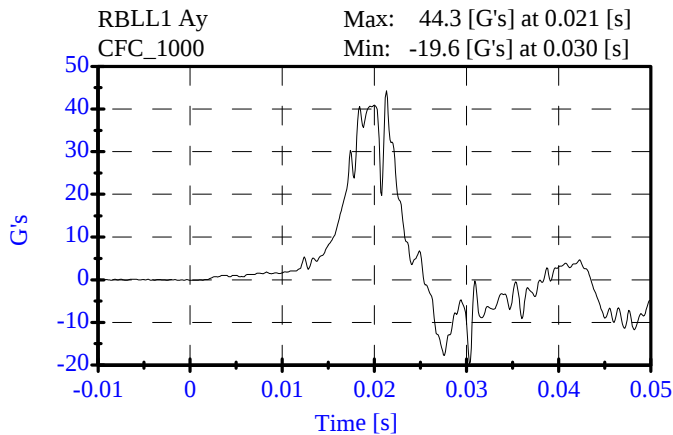
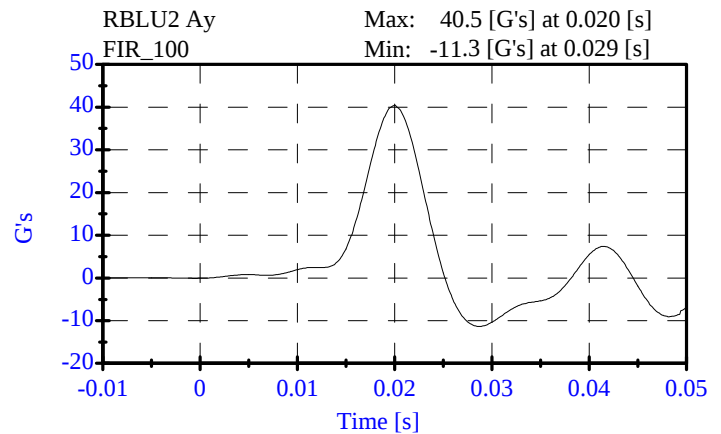
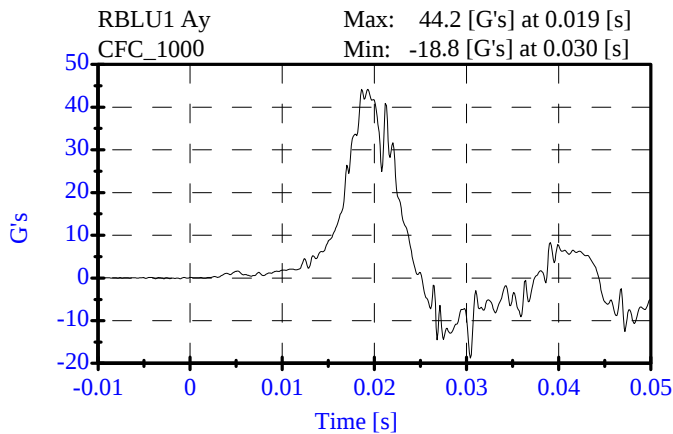
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: January 17, 2005

Sequential Test Number: 1 File: 269T 01-17-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.52 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.56 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	17.56 G's	Passed



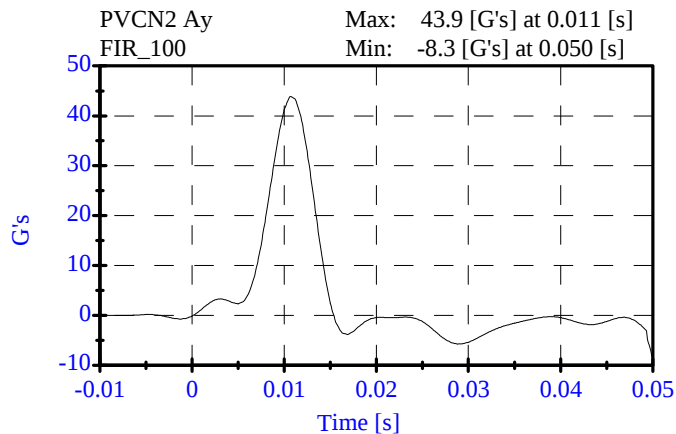
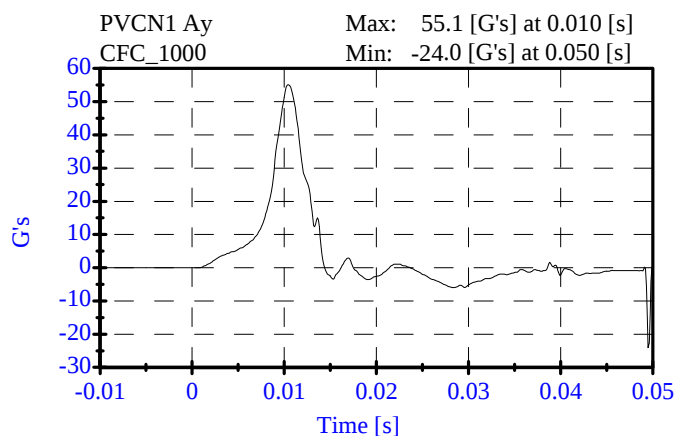
Pelvic Impact **Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: January 17, 2005

Sequential Test Number: 1 File: 269P 01-17-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	43.88 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



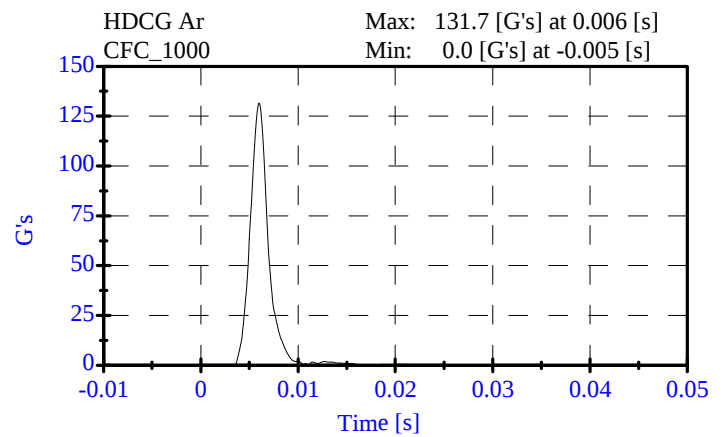
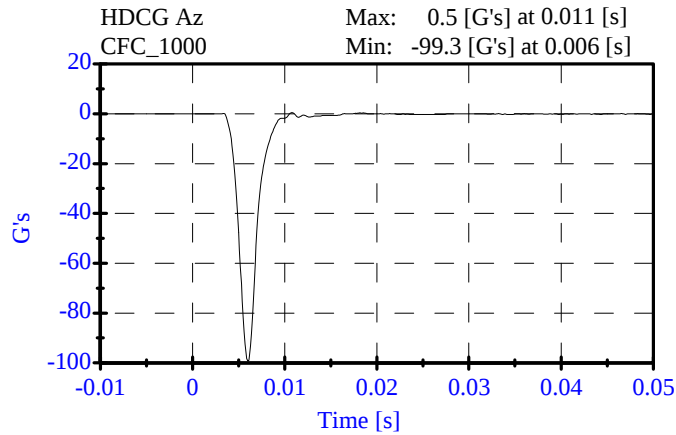
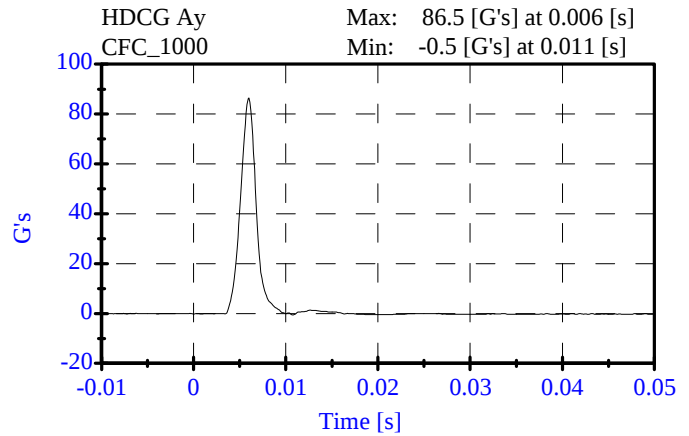
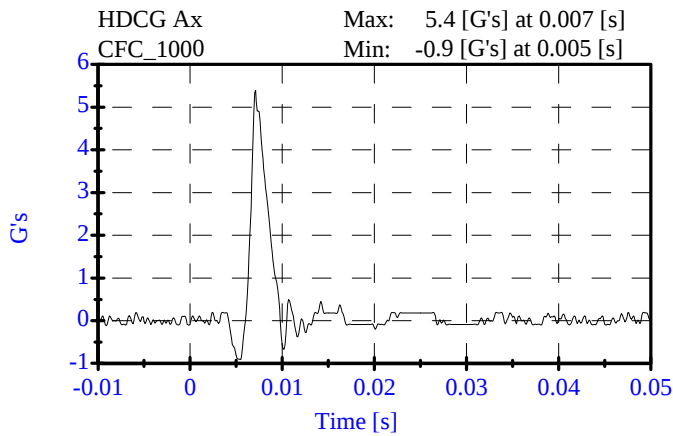
Head Drop Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: January 11, 2005

Sequential Test Number: 1 File: 269H 01-11-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	131.66 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.39 Gs	Passed
Curve PerCent NonModal:	< 15%	1.45 %	Passed



Neck Test**Post-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 269
Date: January 13, 2005

Sequential Test Number: 1 File: 269N1 01-13-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.90 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.27 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.66 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.63 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.31 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.67 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	78.61 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	54.10 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.80 ms	Passed

Neck Test
Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

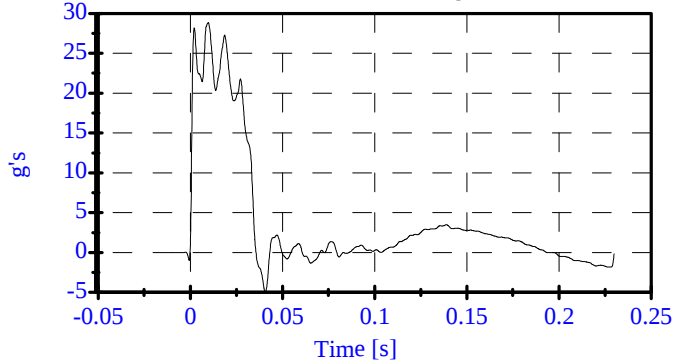
ATD Serial No: 269

Date: January 13, 2005

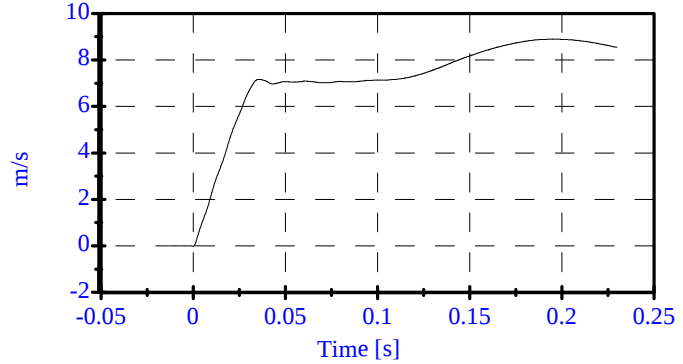
Sequential Test Number: 1 File: 269N1 01-13-05

Laboratory Technician: B. Swiecicki

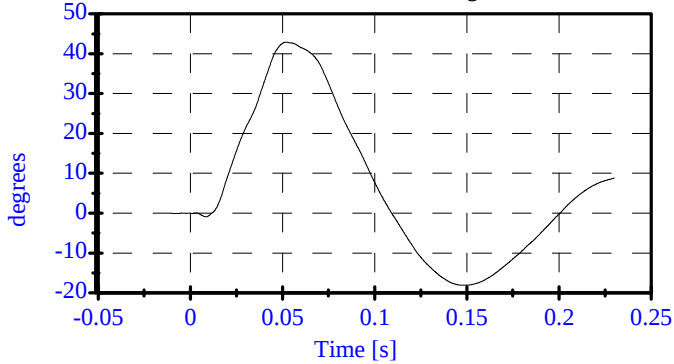
Pend Ax
CFC_180
Max: 28.9 [g's] at 0.010 [s]
Min: -5.0 [g's] at 0.041 [s]



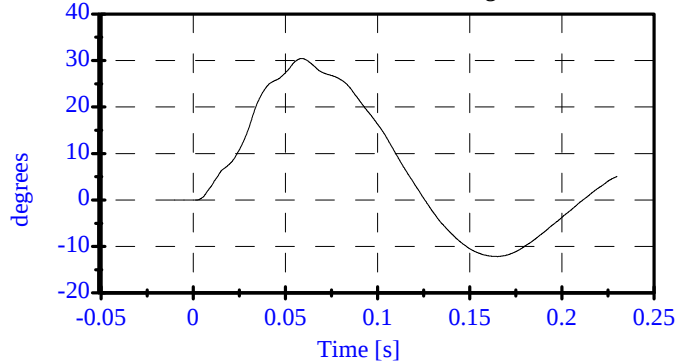
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.196 [s]
Min: -0.0 [m/s] at -0.000 [s]



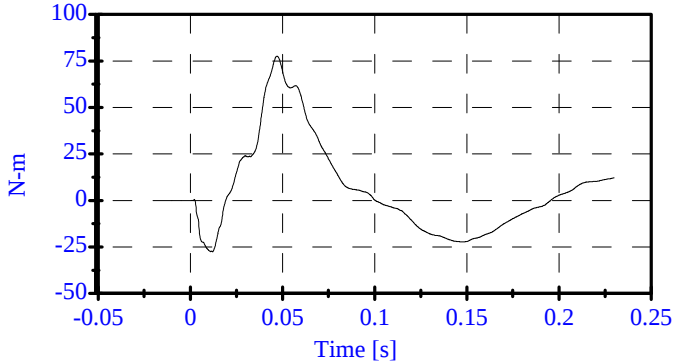
Head Rot
CFC_180
Max: 42.9 [degrees] at 0.052 [s]
Min: -18.1 [degrees] at 0.149 [s]



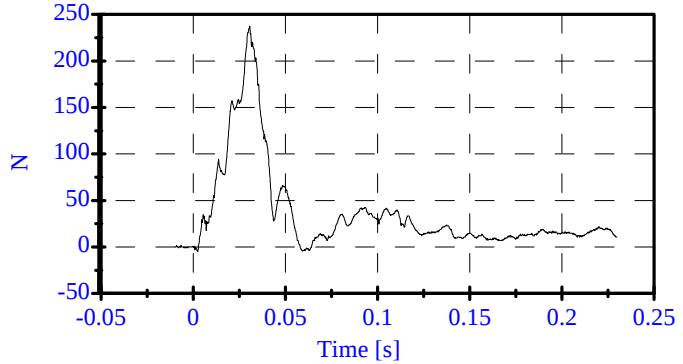
Arm Rot
CFC_180
Max: 30.4 [degrees] at 0.059 [s]
Min: -12.2 [degrees] at 0.165 [s]



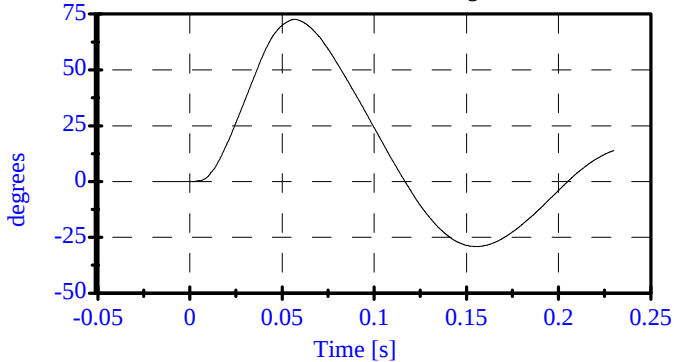
Neck Mx
CFC_600
Max: 77.5 [N-m] at 0.047 [s]
Min: -27.7 [N-m] at 0.012 [s]



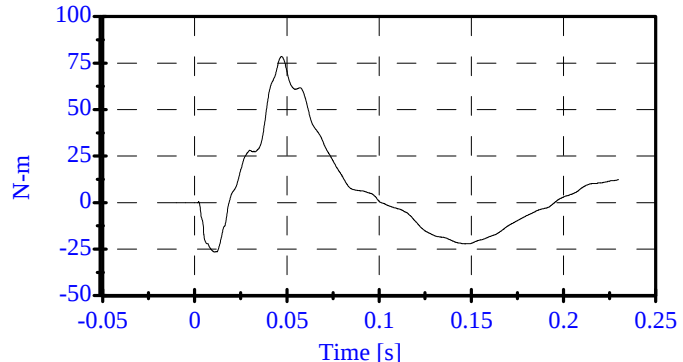
Neck Fy
CFC_1000
Max: 237.4 [N] at 0.031 [s]
Min: -5.0 [N] at 0.002 [s]



Tot Rot
CFC_180
Max: 72.7 [degrees] at 0.057 [s]
Min: -29.1 [degrees] at 0.156 [s]



MOCX
Max: 78.6 [N-m] at 0.047 [s]
Min: -26.6 [N-m] at 0.011 [s]



Abdomen Test

Post-Test

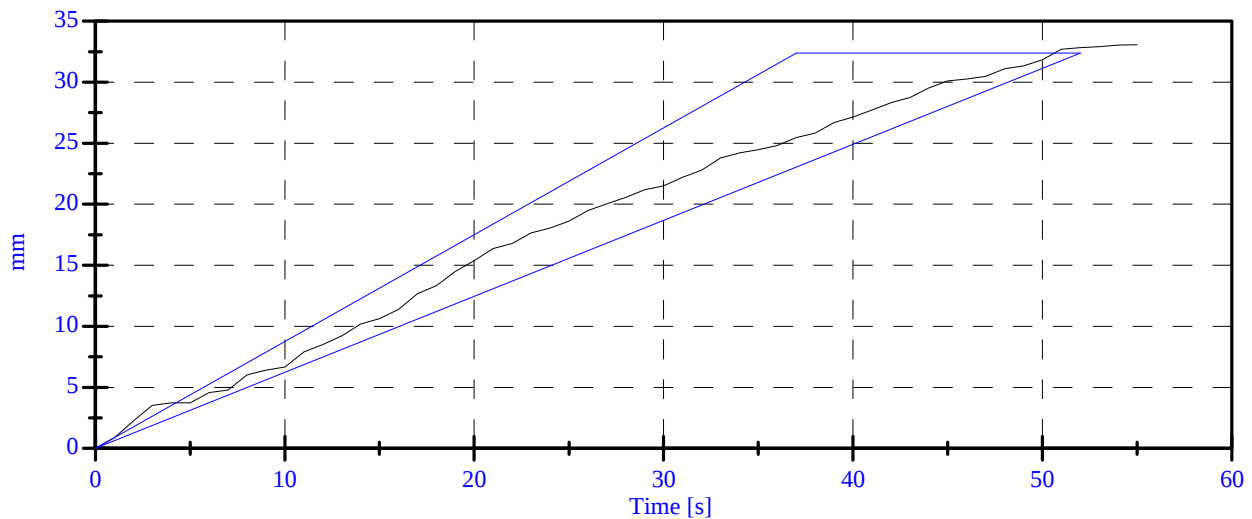
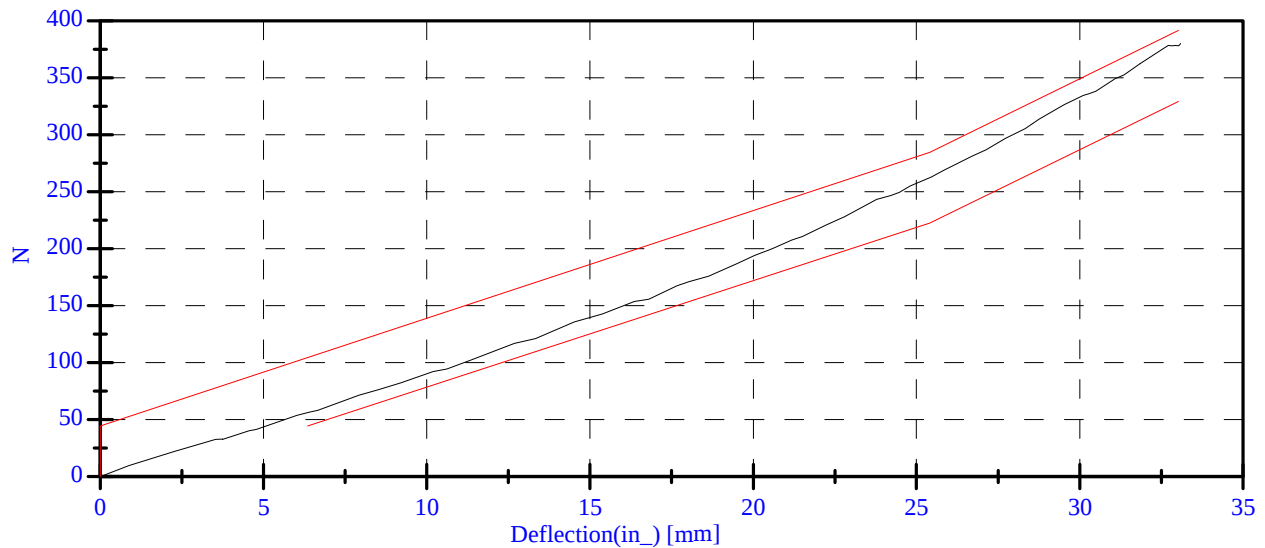
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: January 17, 2005

Sequential Test Number: 1 File: 269Ab 01-17-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	116.68 N	Passed
Force at 19.05 mm :	162.98-220.99 N	175.89 N	Passed
Force at 25.40 mm :	221.97-280.02 N	262.89 N	Passed
Force at 33.02 mm :	324.99-391.00 N	378.03 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

Post-Test

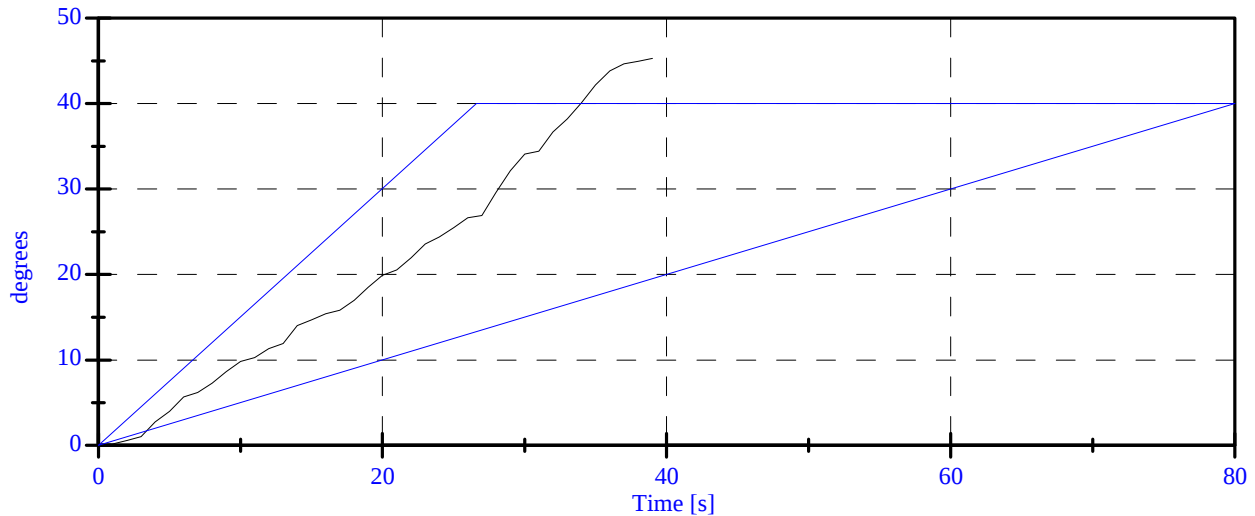
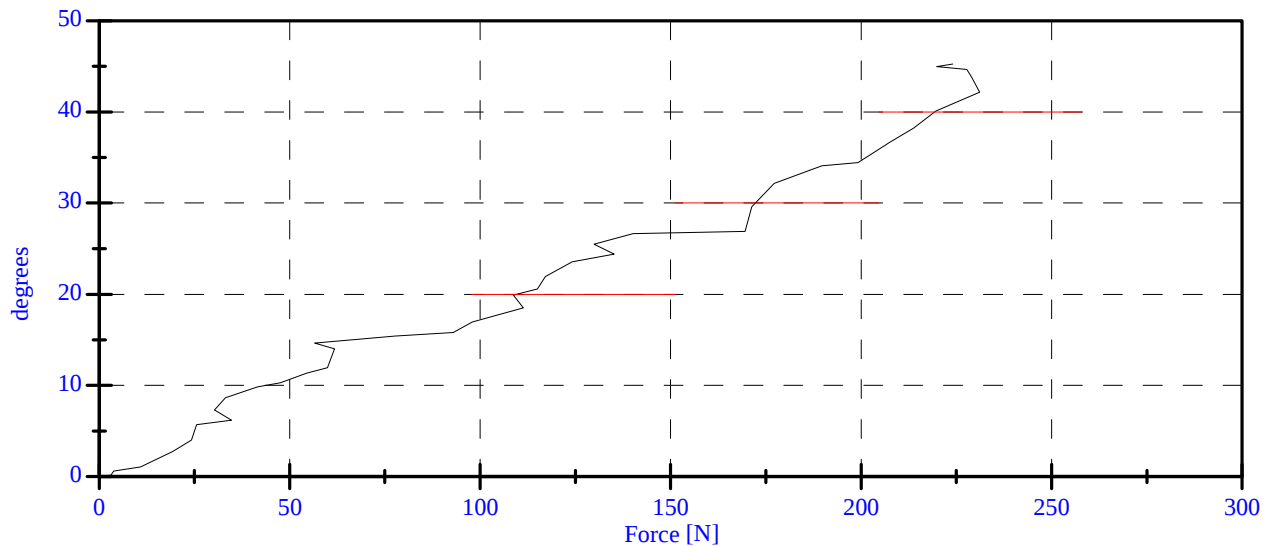
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: January 17, 2005

Sequential Test Number: 1 File: 269Spine1 01-17-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	1.97 N	Passed
Force at 20 Deg:	97.86-151.24 N	108.69 N	Passed
Force at 30 Deg:	151.24-204.62 N	171.36 N	Passed
Force at 40 Deg:	204.62-258.00 N	219.61 N	Passed
Return Angle	12 Deg Max	5.53 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: January 17, 2005 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: January 17, 2005 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: January 17, 2005 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	503
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	384

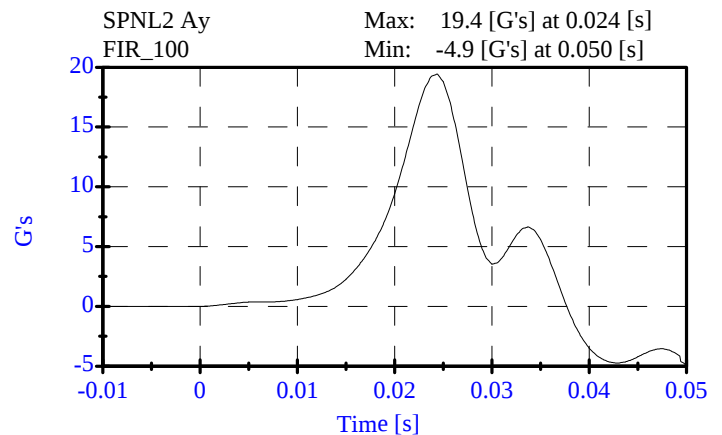
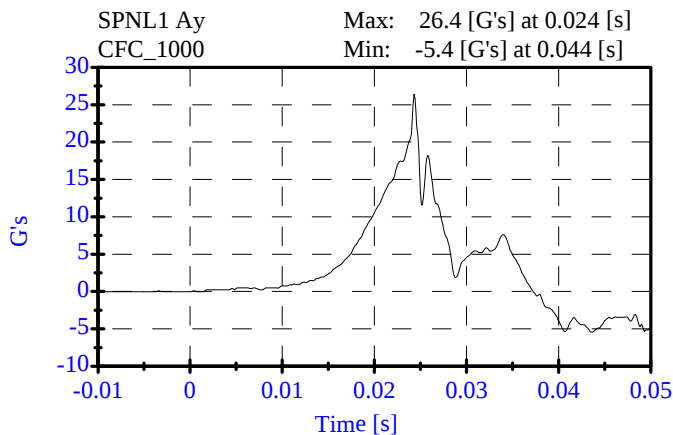
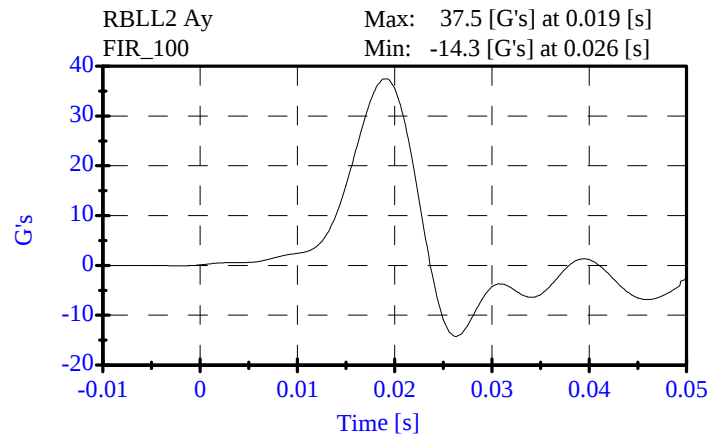
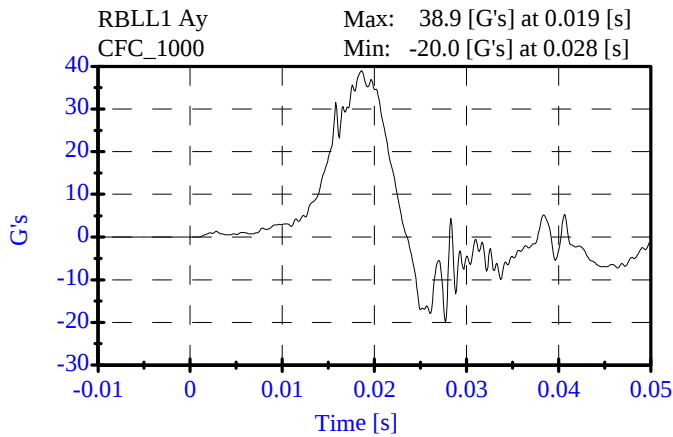
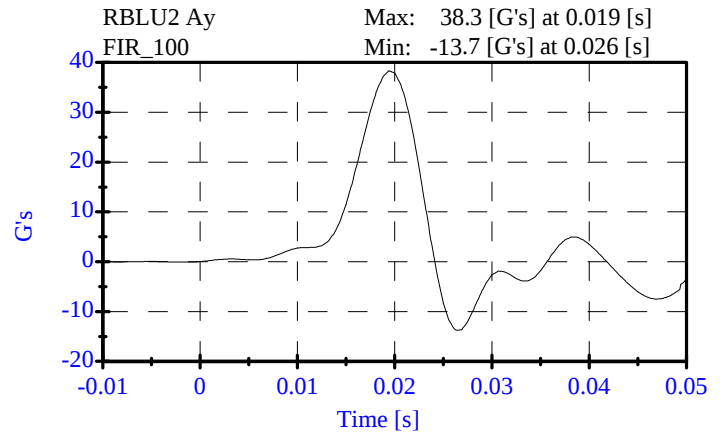
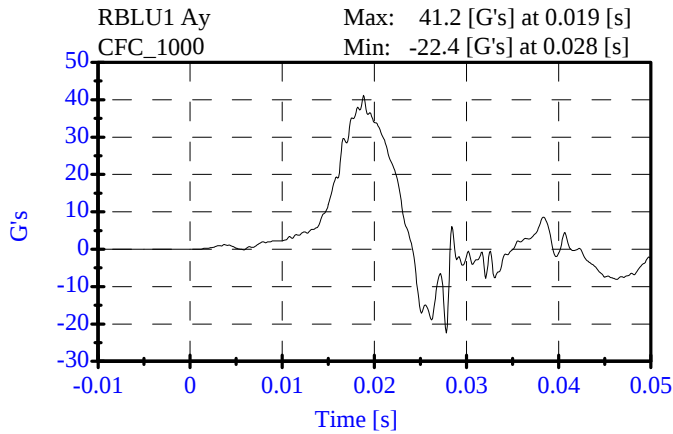
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: January 17, 2005

Sequential Test Number: 1 File: 270T 01-17-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	20.6 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.29 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.30 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.46 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.43 G's	Passed



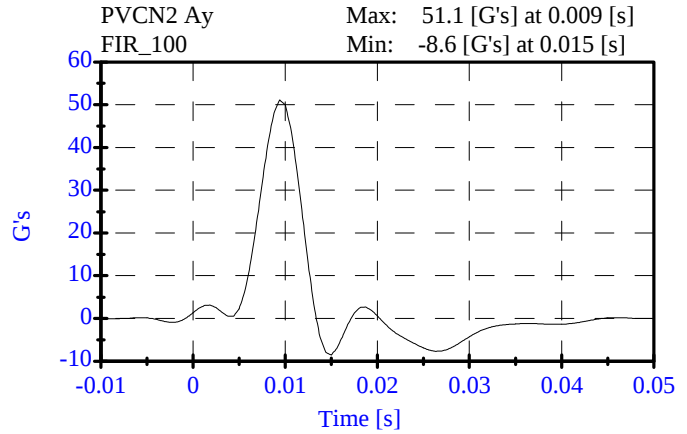
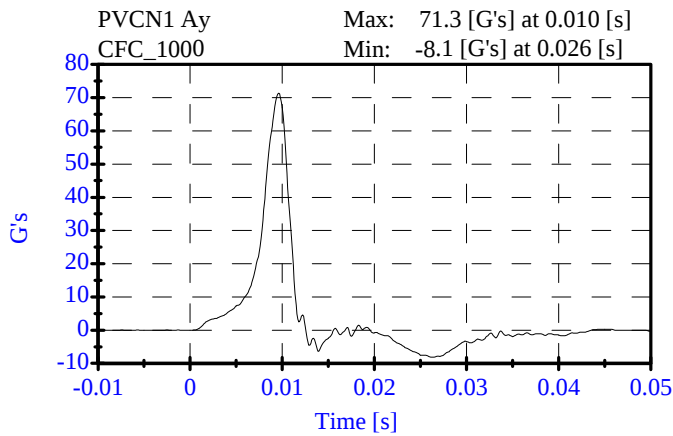
**Pelvic Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: January 17, 2005

Sequential Test Number: 1 File: 270P 01-17-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	51.11 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



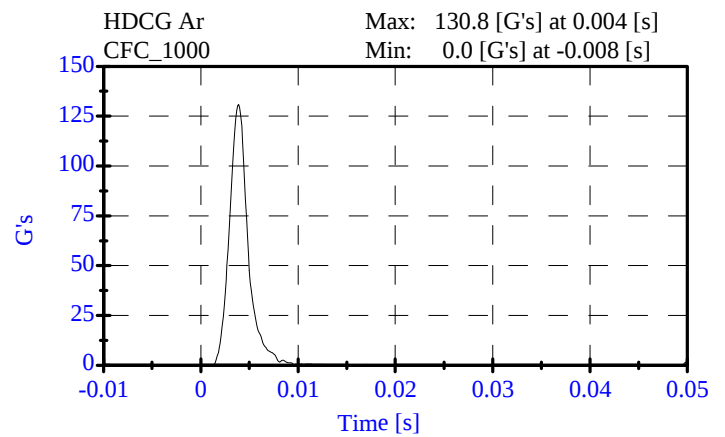
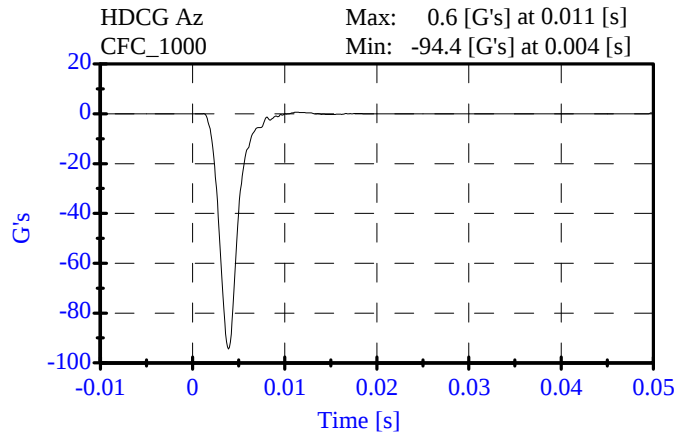
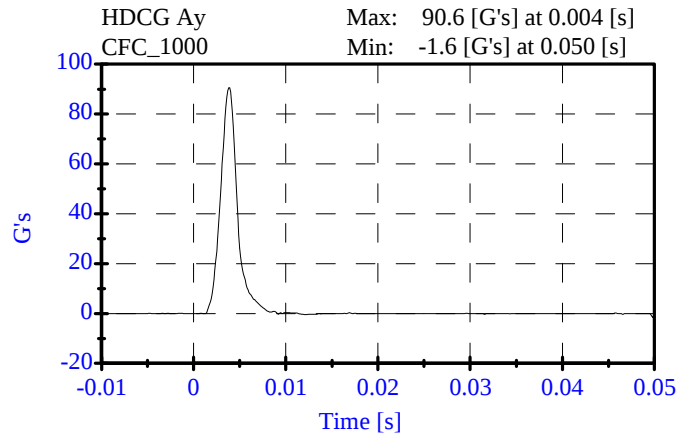
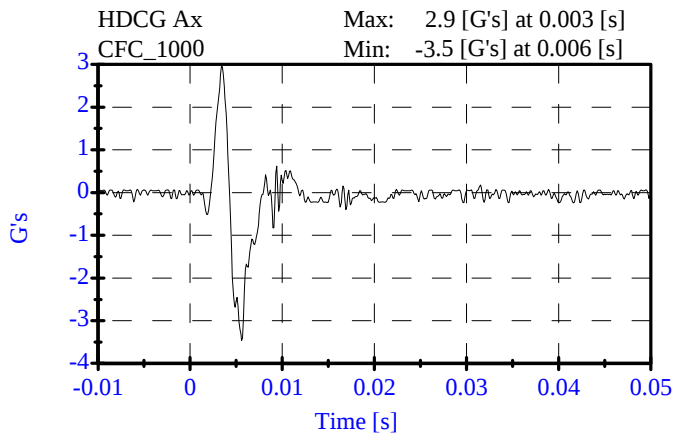
Head Drop Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: January 11, 2005

Sequential Test Number: 1 File: 270H1 01-11-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	34.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	130.77 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	2.95 Gs	Passed
Curve PerCent NonModal:	< 15%	2.01 %	Passed



Neck Test**Post-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 270
Date: January 12, 2005

Sequential Test Number: 1 File: 270N5 01-12-05
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.91 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.24 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.58 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.48 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.09 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.75 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.20 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	87.97 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	51.70 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.90 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

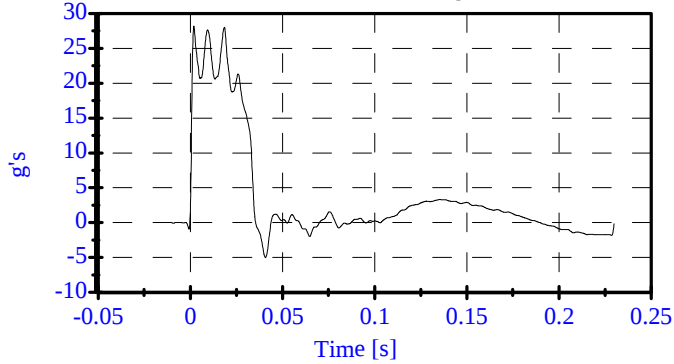
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Date: January 12, 2005

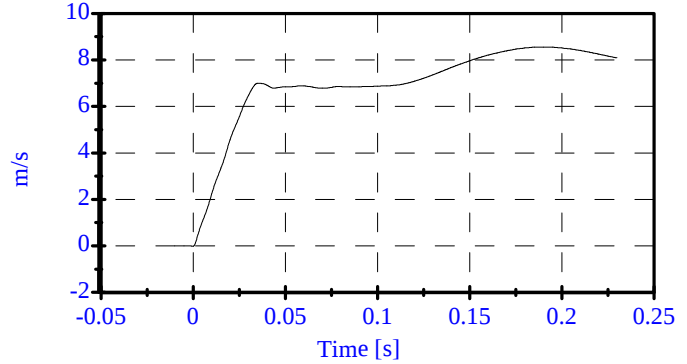
Sequential Test Number: 1 File: 270N5 01-12-05

Laboratory Technician: B. Swiecicki

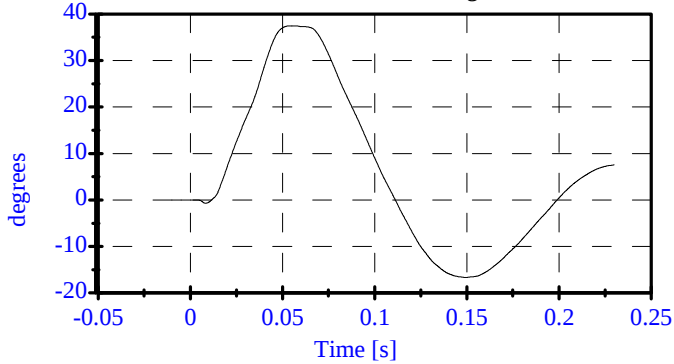
Pend Ax
CFC_180
Max: 28.2 [g's] at 0.002 [s]
Min: -5.0 [g's] at 0.041 [s]



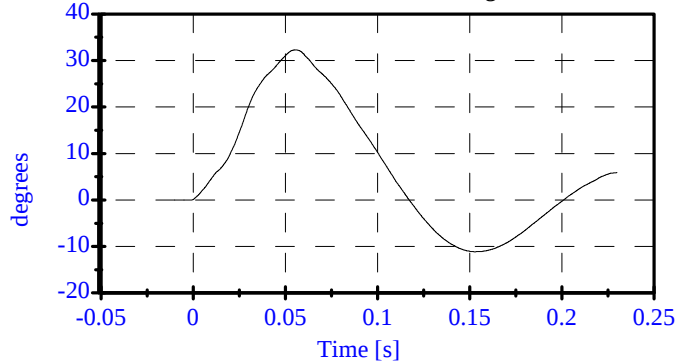
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.190 [s]
Min: -0.0 [m/s] at -0.000 [s]



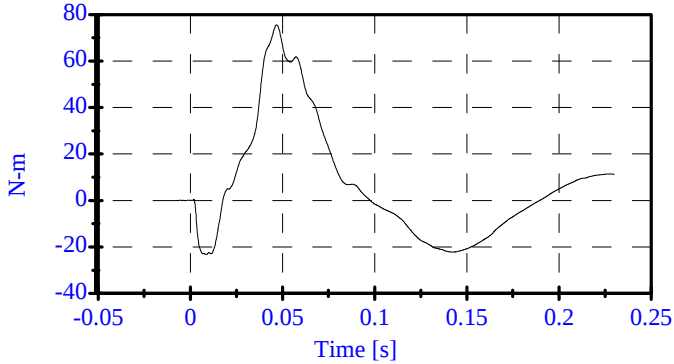
Head Rot
CFC_180
Max: 37.5 [degrees] at 0.055 [s]
Min: -16.6 [degrees] at 0.149 [s]



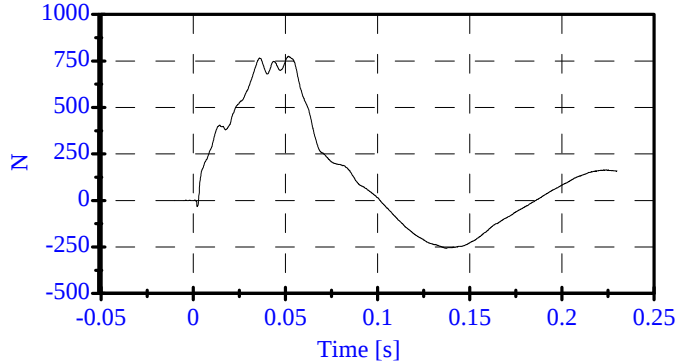
Arm Rot
CFC_180
Max: 32.3 [degrees] at 0.056 [s]
Min: -11.1 [degrees] at 0.153 [s]



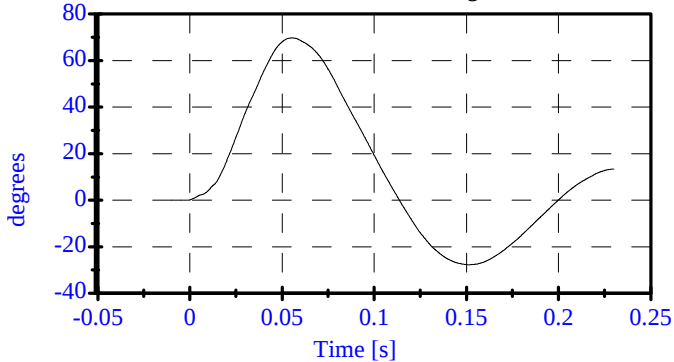
Neck Mx
CFC_600
Max: 75.5 [N-m] at 0.047 [s]
Min: -23.2 [N-m] at 0.008 [s]



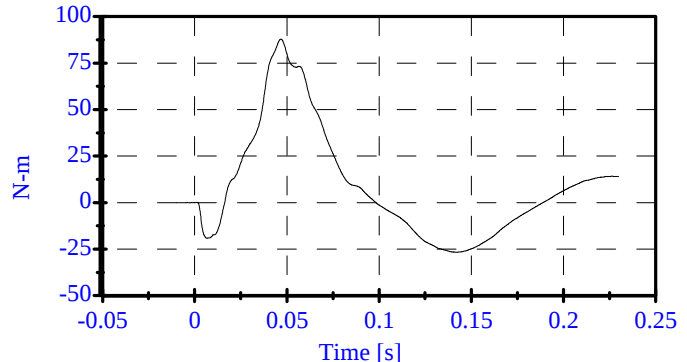
Neck Fy
CFC_1000
Max: 775.0 [N] at 0.052 [s]
Min: -257.0 [N] at 0.137 [s]



Tot Rot
CFC_180
Max: 69.7 [degrees] at 0.056 [s]
Min: -27.7 [degrees] at 0.151 [s]



MOCX
Max: 88.0 [N-m] at 0.047 [s]
Min: -26.7 [N-m] at 0.142 [s]



Abdomen Test

Post-Test

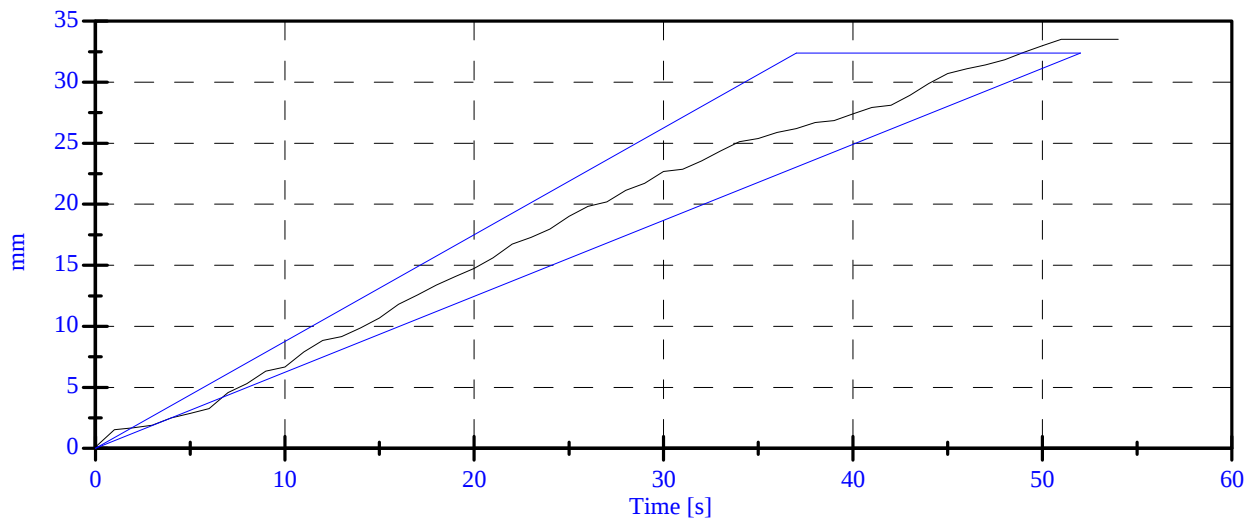
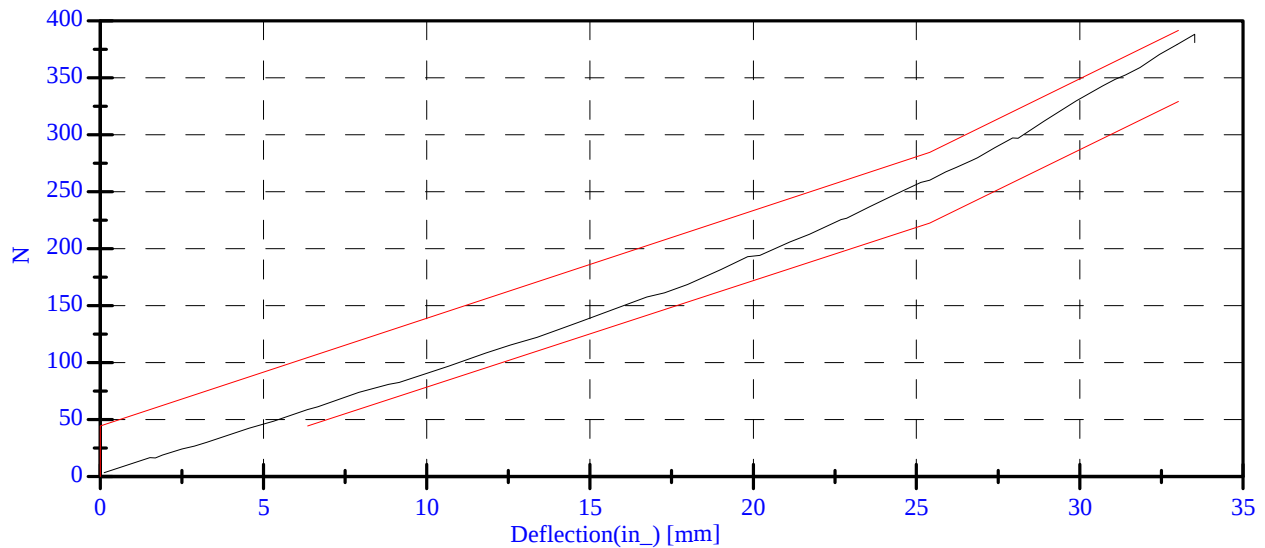
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: January 17, 2005

Sequential Test Number: 1 File: 270Ab 01-17-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	115.58 N	Passed
Force at 19.05 mm :	162.98-220.99 N	181.74 N	Passed
Force at 25.40 mm :	221.97-280.02 N	259.96 N	Passed
Force at 33.02 mm :	324.99-391.00 N	379.13 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine

Post-Test

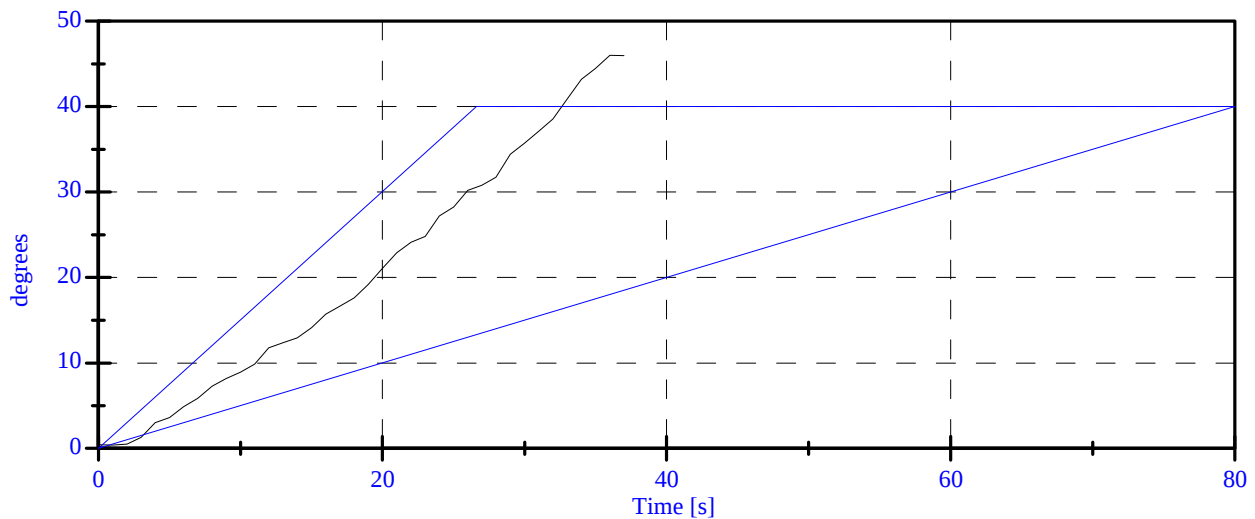
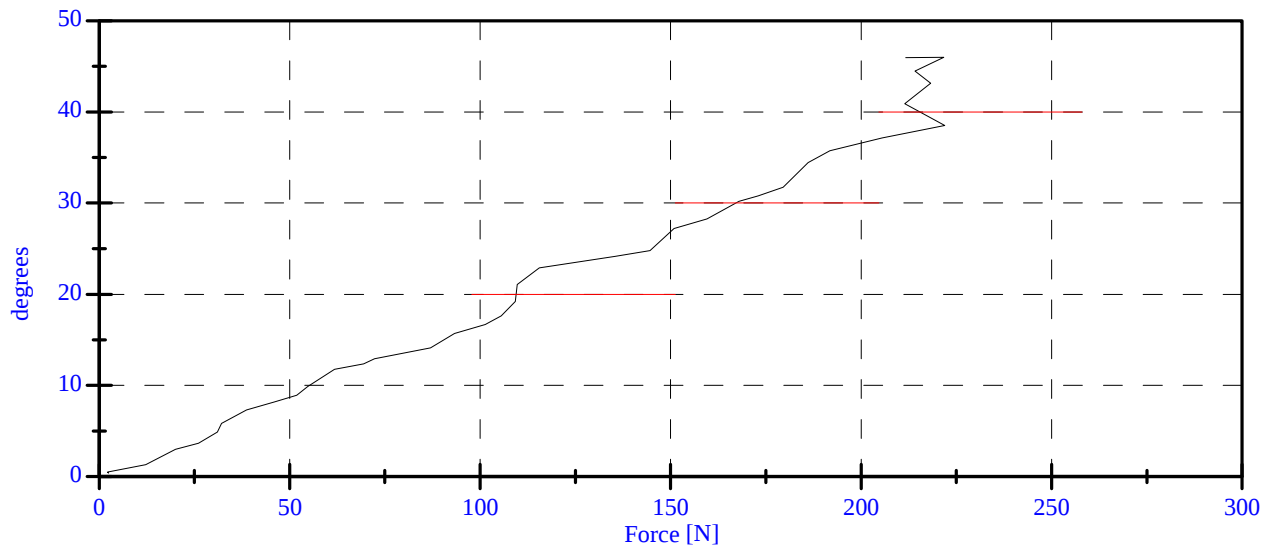
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: January 17, 2005

Sequential Test Number: 1 File: 270Spine 01-17-05
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.50 N	Passed
Force at 20 Deg:	97.86-151.24 N	109.22 N	Passed
Force at 30 Deg	151.24-204.62 N	167.95 N	Passed
Force at 40 Deg	204.62-258.00 N	211.48 N	Passed
Return Angle	12 Deg Max	7.33 deg	Passed

LUMBAR SPINE FLEXION TEST



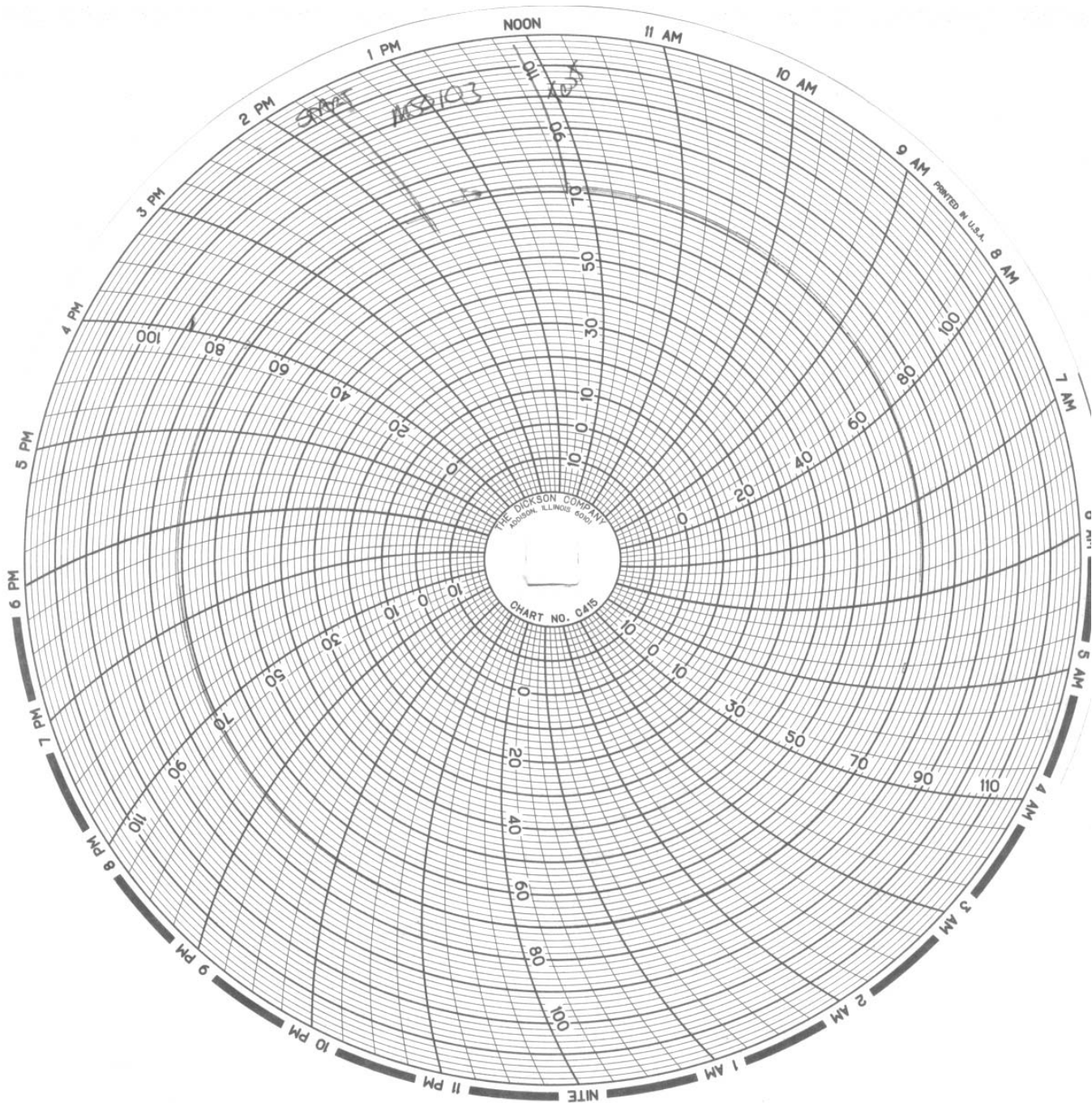
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: January 17, 2005 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

	FRONT SID NO.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P18738	ENDEVCO	13-Jul-04
HEAD AY	AC-P18739	ENDEVCO	13-Jul-04
HEAD AZ	AC-P19212	ENDEVCO	13-Jul-04
UPPER NECK FX	LC-440Fx	DENTON	06-Nov-04
UPPER NECK FY	LC-440Fy	DENTON	06-Nov-04
UPPER NECK FZ	LC-440Fz	DENTON	06-Nov-04
UPPER NECK MX	LC-440Mx	DENTON	06-Nov-04
UPPER NECK MY	LC-440My	DENTON	06-Nov-04
UPPER NECK MZ	LC-440Mz	DENTON	06-Nov-04
UPPER RIB	AC-P16862	ENDEVCO	07-Oct-04
LOWER RIB	AC-P23156	ENDEVCO	07-Oct-04
LOWER SPINE	AC-P16645	ENDEVCO	07-Oct-04
PELVIS	AC-P16843	ENDEVCO	07-Oct-04
UPPER RIB REDUNDANT	AC-P16866	ENDEVCO	07-Oct-04
LOWER RIB REDUNDANT	AC-P16656	ENDEVCO	07-Oct-04
LOWER SPINE REDUNDANT	AC-P19343	ENDEVCO	07-Oct-04
PELVIS REDUNDANT	AC-P16676	ENDEVCO	07-Oct-04

	REAR SID NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P16845	ENDEVCO	18-Aug-04
HEAD AY	AC-P23788	ENDEVCO	18-Aug-04
HEAD AZ	AC-P21393	ENDEVCO	18-Aug-04
UPPER NECK FX	LC-205Fx	DENTON	06-Nov-04
UPPER NECK FY	LC-205Fy	DENTON	06-Nov-04
UPPER NECK FZ	LC-205Fz	DENTON	06-Nov-04
UPPER NECK MX	LC-205Mx	DENTON	06-Nov-04
UPPER NECK MY	LC-205My	DENTON	06-Nov-04
UPPER NECK MZ	LC-205Mz	DENTON	06-Nov-04
UPPER RIB	AC-P15736	ENDEVCO	12-Jul-04
LOWER RIB	AC-P16289	ENDEVCO	12-Jul-04
LOWER SPINE	AC-P16761	ENDEVCO	13-Jul-04
PELVIS	AC-P32221	ENDEVCO	12-Jul-04
UPPER RIB REDUNDANT	AC-P16593	ENDEVCO	12-Jul-04
LOWER RIB REDUNDANT	AC-P23142	ENDEVCO	12-Jul-04
LOWER SPINE REDUNDANT	AC-P21516	ENDEVCO	12-Nov-04
PELVIS REDUNDANT	AC-P23960	ENDEVCO	12-Jul-04

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-J31011	ENDEVCO	04-Nov-04
RIGHT FRONT SILL (Y)	AC-J33071	ENDEVCO	29-Jun-04
RIGHT FRONT SILL (Z)	AC-J30491	ENDEVCO	20-Jul-04
RIGHT REAR SILL (X)	AC-J30041	ENDEVCO	01-Dec-04
RIGHT REAR SILL (Y)	AC-J32185	ENDEVCO	04-Nov-04
RIGHT REAR SILL (Z)	AC-J33843	ENDEVCO	08-Sep-04
REAR FLOORPAN ABOVE AXLE (X)	AC-J31020	ENDEVCO	04-Nov-04
REAR FLOORPAN ABOVE AXLE (Y)	AC-J31101	ENDEVCO	04-Nov-04
REAR FLOORPAN ABOVE AXLE (Z)	AC-J31059	ENDEVCO	04-Nov-04
LEFT REAR SILL (Y)	AC-FGP40	ICS	24-Aug-04
LEFT FRONT SILL (Y)	AC-FGP32	ICS	20-Aug-04
LEFT FRONT DOOR CENTERLINE (Y)	AC-FGP33	ICS	20-Aug-04
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-9440-045	GS SENSORS	01-Dec-04
MID REAR OF LEFT FRONT DOOR (Y)	AC-FGP35	ICS	20-Aug-04
LEFT FRONT DOOR UPPER C/L (Y)	AC-FGP25	ICS	24-Aug-04
MID REAR OF LEFT REAR DOOR (Y)	AC-FGP49	ICS	24-Aug-04
LEFT REAR DOOR UPPER C/L (Y)	AC-FGP46	ICS	24-Aug-04
LOWER LEFT B- PILLAR (Y)	AC-FGP42	ICS	20-Aug-04
MIDDLE LEFT B-PILLAR (Y)	AC-FGP18	ICS	20-Aug-04
LOWER LEFT A-PILLAR (Y)	AC-FGP12	ICS	27-Aug-04
UPPER LEFT A-PILLAR (Y)	AC-FGP39	ICS	27-Aug-04
FRONT SEAT TRACK (Y)	AC-FGP20	ICS	27-Aug-04
REAR SEAT TRACK (Y)	AC-FGP37	ICS	27-Aug-04
VEHICLE CG (X)	AC-P23873	ENDEVCO	28-Jul-04
VEHICLE CG (Y)	AC-P19246	ENDEVCO	28-Jul-04
VEHICLE CG (Z)	AC-J31034	ENDEVCO	28-Jul-04
MDB CG (X)	AC-C16433	ENDEVCO	31-Aug-04
MDB CG (Y)	AC-C16416	ENDEVCO	31-Aug-04
MDB CG (Z)	AC-C16499	ENDEVCO	31-Aug-04
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	31-Aug-04
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	31-Aug-04

REMARKS: None