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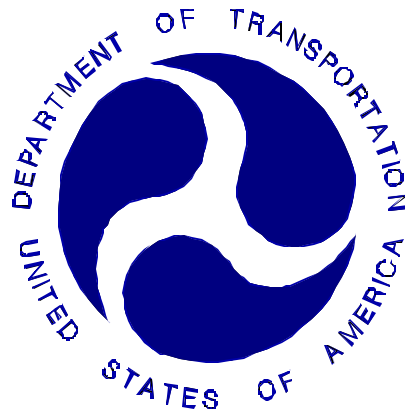
**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

VOLKSWAGEN AG GERMANY
2004 VOLKSWAGEN TOUAREG
MPV

NHTSA NUMBER: M45802

GENERAL DYNAMICS TEST NUMBER: 8725-SNCAP-02

ADVANCED INFORMATION ENGINEERING SERVICES
A GENERAL DYNAMICS COMPANY
P.O. BOX 400
BUFFALO, NEW YORK 14225



March 8, 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. DTNH22-98-D-02001. 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.

Prepared By:

Patrick G. MacDiarmid, Jr., Project Engineer

Approved By:

David J. Travale, Program Manager
Transportation Sciences Center

Approval Date:

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16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2004 Volkswagen Touareg MPV 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 March 8, 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 61.32 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 227 mm at level 2. The test or target vehicle's performance is given below: <table border="0"> <thead> <tr> <th></th> <th align="center"><u>Front SID H3</u></th> <th></th> <th align="center"><u>Rear SID H3</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td align="center">25.6</td> <td align="center">g's</td> <td align="center">34.2</td> <td align="center">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td align="center">27.4</td> <td align="center">g's</td> <td align="center">33.6</td> <td align="center">g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td align="center">37</td> <td align="center">g's</td> <td align="center">38.6</td> <td align="center">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td align="center">32</td> <td align="center">g's</td> <td align="center">36</td> <td align="center">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td align="center">30</td> <td align="center">g's</td> <td align="center">41</td> <td align="center">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:	25.6	g's	34.2	g's	Left Lower Rib Acceleration:	27.4	g's	33.6	g's	Lower Spine Acceleration:	37	g's	38.6	g's	Thoracic Trauma Index (TTI):	32	g's	36	g's	Pelvis Acceleration (PEV):	30	g's	41	g's
	<u>Front SID H3</u>		<u>Rear SID H3</u>																																
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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 2004 Volkswagen Touareg MPV. 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 2004 Volkswagen Touareg MPV 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 61.32 kph (38.1 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 March 8, 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)	32	36
PEV (g)	30	41

AIR BAG DEPLOYMENT STATUS

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

AUTOMATIC DOOR LOCK SUMMARY

ADL Equipped Test Vehicle:	Yes
ADL Activation Status:	Not Activated
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: 2004 Volkswagen Touareg MPV

Vehicle Body Color: Silver VIN: WVGBC77L54D049584

Vehicle NHTSA No.: M45802 Month & Year of Manufacture: 12/03

Engine Data: 6 Cylinders; - CID; 3.2 Liters; - cc

Engine Placement: X Longitudinal; or Lateral

Transmission: 5 Speed; - Manual; X Automatic; X Overdrive

Final Drive: - Rear Wheel Drive; - Front Wheel Drive; X Four Wheel Drive

Odometer Reading 114 km

Supplemental Airbag Restraints:

Front Occupant: X Frontal; - Knee; X Side; X Curtain

Rear Occupant: - Frontal; - Knee; - Side; X Curtain

Options:

X ADL; X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P255/60R17

* Recommended Cold Tire Pressure: 250 kpa FRONT; 300 kpa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P255/60R17 106H ; Manufacturer: Dunlop

Tire Pressure with Maximum Capacity Vehicle Load: Front: 350 kPa; Rear: 350 kPa

Treadwear: 200 ; Traction: A ; Temperature: A

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 = 461 kg (A)

No. of Occupants x 68.04 kg. = 340.2 kg (B)

Vehicle Cargo Capacity = 120.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 606.5 kg Left Rear = 556.5 kg

Right Front = 606.5 kg Right Rear = 562.0 kg

TOTAL FRONT = 1213.0 kg TOTAL REAR = 1118.5 kg

% of Total Weight = 52.0% % % of Total Weight = 48.0 %

TOTAL WEIGHT = 2331.5 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>2331.5</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>120.8</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>2614.7</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SID H3s + CARGO):

Left Front	=	<u>656.5</u>	kg	Left Rear	=	<u>690.0</u>	kg
Right Front	=	<u>612.0</u>	kg	Right Rear	=	<u>658.5</u>	kg
TOTAL FRONT	=	<u>1268.5</u>	kg	TOTAL REAR	=	<u>1348.5</u>	kg
% of Total Weight	=	<u>48.5%</u>	%	% of Total Weight	=	<u>51.5%</u>	%
TOTAL TEST WEIGHT =		<u>2617.0</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (2 SID H3s + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>653.5</u>	kg	Left Rear	=	<u>681.0</u>	kg
Right Front	=	<u>608.5</u>	kg	Right Rear	=	<u>664.0</u>	kg
TOTAL FRONT	=	<u>1262.0</u>	kg	TOTAL REAR	=	<u>1345.0</u>	kg
% of Total Weight	=	<u>48.4%</u>	%	% of Total Weight	=	<u>51.6%</u>	%
TOTAL TEST WEIGHT =		<u>2607</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>880</u>	Right Front	<u>876</u>	Left Rear	<u>892</u>	Right Rear	<u>894</u>
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FULLY LOADED:

Left Front	<u>866</u>	Right Front	<u>870</u>	Left Rear	<u>855</u>	Right Rear	<u>865</u>
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READY FOR TEST:

Left Front	<u>869</u>	Right Front	<u>875</u>	Left Rear	<u>860</u>	Right Rear	<u>865</u>
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Test Vehicle Wheelbase: 2855 millimeters

C.G. = 1472.95 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side =	<u>4615</u>	millimeters
Left Side =	<u>4615</u>	millimeters
Centerline =	<u>4760</u>	millimeters

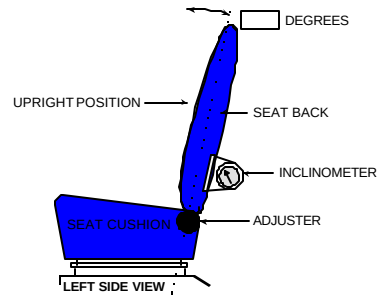
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802

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 ASSEMBLY

FRONT SEAT CUSHION PLACEMENT: Placed in Mid-Position (152.5 mm)

Total Length of Adjustment Travel: 305 millimeters

Total Number of Adjustment Positions or Detents: Electric Adjust

FRONT SEAT BACK ADJUSTMENT POSITION: _____

Seat Back Torso Angle: 66° degrees

SECOND POSITION SEAT: _____

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Not Adjustable

ADJUSTABLE STEERING COLUMN POSITION: Placed in mid-tilt (69°) and telescope (10 mm)

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: The vehicle was tested with the struck side doors in the unlocked state

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

99.9 liters (Fuel Tank Usable Capacity)

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

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

Wheelbase = 2855 millimeters

Impact Point is 487.5 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 488.5 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2004 Volkswagen Touareg

Body Style: MPV

VIN: WVGBC77L54D049584

NHTSA No.: M45802

Test Date: March 8, 2004

Overall Length = 4760 millimeters; Overall Width = 1890 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 653.5 kg Left Rear = 681.0 kg

Right Front = 608.5 kg Right Rear = 664.0 kg

TOTAL FRONT = 1262.0 kg TOTAL REAR = 1345.0 kg

TOTAL VEHICLE WEIGHT 2607.0 kg

Wheelbase = 2855 millimeters

Longitudinal C.G. from Center of Front Axle = 1472.95 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 1 mm rearward of nominal impact ref. line (Lateral)

Actual Impact Point is 7 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (433 mm above ground) = 134 millimeters

2. LEVEL 2 (720 mm above ground) = 227 millimeters

3. LEVEL 3 (758 mm above ground) = 219 millimeters

4. LEVEL 4 (1066 mm above ground) = 131 millimeters

5. LEVEL 5 (1622 mm above ground) = 13 millimeters

Maximum Post-Test Intrusion = 227 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification

SID H3/ 269

SID H3/ 270

Restraints Used

Three-point safety belt, side
airbag, side head curtain bag

Three-point safety belt, side head
curtain bag

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: 2004 Volkswagen Touareg MPV

NHTSA No. M45802

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore, Inc. 034A0703-3 003B0703

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>61.32</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>247</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>153</u>	millimeters
3. Row C at Mid Level	=	<u>154</u>	millimeters
4. Row D at Top of Stack Level	=	<u>177</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4**POST-TEST OBSERVATIONS**Vehicle: 2004 Volkswagen Touareg MPVNHTSA No. M45802TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/ 269	SID H3/ 270
Head Contact:	The top and side of the head to the side curtain airbag	The top and side of the head to the side curtain airbag and the top of the head to the roof rail.
Upper Torso Contact:	Side airbag	Door trim panel
Lower Torso Contact:	Side airbag	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	Closed, latched and inoperable
Right Side Doors	Closed, latched and operable without tools	Closed, latched and operable without tools
Hatch/Other Door	N/A	Closed, latched and operable without tools
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	No visible tears or separations
Windshield Damage	None
Window Damage	None
Other Notable Effects	The secondary impact point was 3 mm rearward and 4 mm above the target location.

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

MDB LEFT EDGE IMPACT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	? 50 mm	-1
Vertical Offset	mm	? 20 mm	-7

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802

		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	3.3	173.7	-14.0	64.1	4.7	61.2	-9.1	86.8
Lateral	Y	30.0	59.4	-4.2	148.6	15.2	61.8	-2.0	115.3
Vertical	Z	9.1	36.8	-3.1	71.6	7.3	49.3	-19.8	70.2
Resultant	R	32.5	59.5	0.0	-9.6	22.4	70.2	0.0	-17.8
HIC		100.0				35.5			
NECK FORCES:									
Longitudinal	X	47.7	172.7	-349.0	62.9	379.5	70.7	-80.8	150.0
Lateral	Y	315.6	60.0	-168.1	149.7	101.5	171.6	-681.0	67.6
Vertical	Z	428.3	52.5	-231.7	71.9	379.7	111.2	-824.7	70.5
Resultant	R	547.0	59.9	0.1	-10.7	1132.2	70.6	0.1	-2.7
NECK MOMENTS:									
X		10.3	123.5	-33.6	43.6	20.6	31.4	-22.0	65.7
Y		13.9	81.8	-15.2	61.0	11.1	120.2	-10.4	75.7
Z		24.5	73.5	-10.8	136.2	24.2	97.3	-9.7	163.1
Resultant	R	33.7	43.6	0.0	-5.1	25.5	97.3	0.0	-12.3
RIB ACCELERATIONS:									
Upper Rib Lateral	Y	25.6	30.6	-5.0	124.4	34.2	54.4	-5.7	115.0
Upper Rib Lateral	Y(R)	26.2	30.6	-5.4	125.0	33.7	55.0	-6.3	114.4
Lower Rib Lateral	Y	27.4	29.3	-5.6	124.4	33.6	55.0	-9.0	114.3
Lower Rib Lateral	Y(R)	27.7	29.4	-6.1	124.4	34.0	55.0	-7.9	114.4
SPINE ACCELERATIONS:									
Lower Lateral	Y	37.0	35.0	-3.8	73.7	38.6	56.3	-2.1	146.9
Lower Lateral	Y(R)	37.1	35.0	-3.8	73.7	38.3	56.3	-2.1	146.8
PELVIC ACCELERATIONS:									
Lateral	Y	30.3	36.8	-7.4	70.0	41.3	47.5	-2.7	66.8
Lateral	Y(R)	30.8	36.9	-7.5	70.0	40.9	47.5	-2.6	66.8

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.

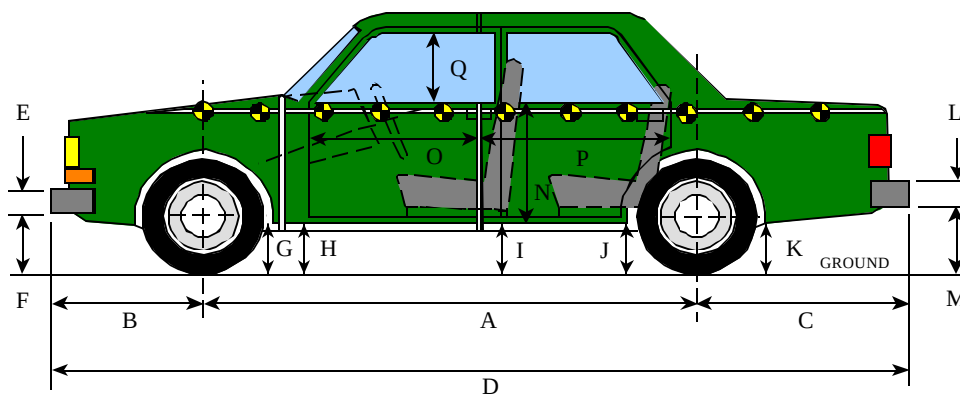
Head Accelerations and Neck Forces are filtered at SAE Class 1000, Neck Moments are filtered at SAE Class 600.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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)	▼ CHANGE
A	2850	2855	2852	-3
B	937	-	931	-6
C	973	-	971	-2
D	4760	-	4754	-6
E	262	-	262	0
F	495	496	500	4
G	357	337	280	-57
H	357	337	267	-70
I	372	344	271	-73
J1	293	263	273	10
J2	374	344	307	-37
K	386	344	350	6
L	160	-	160	0
M	500	459	469	10
N	657	-	668	11
O	728	-	709	-19
P	1249	-	1203	-46
Q	507	-	504	-3
R	4615	-	4610	-5
S	4615	-	4610	-5
T	1890	-	1800	-90

D = Length at Centerline
T = Width at B-Pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

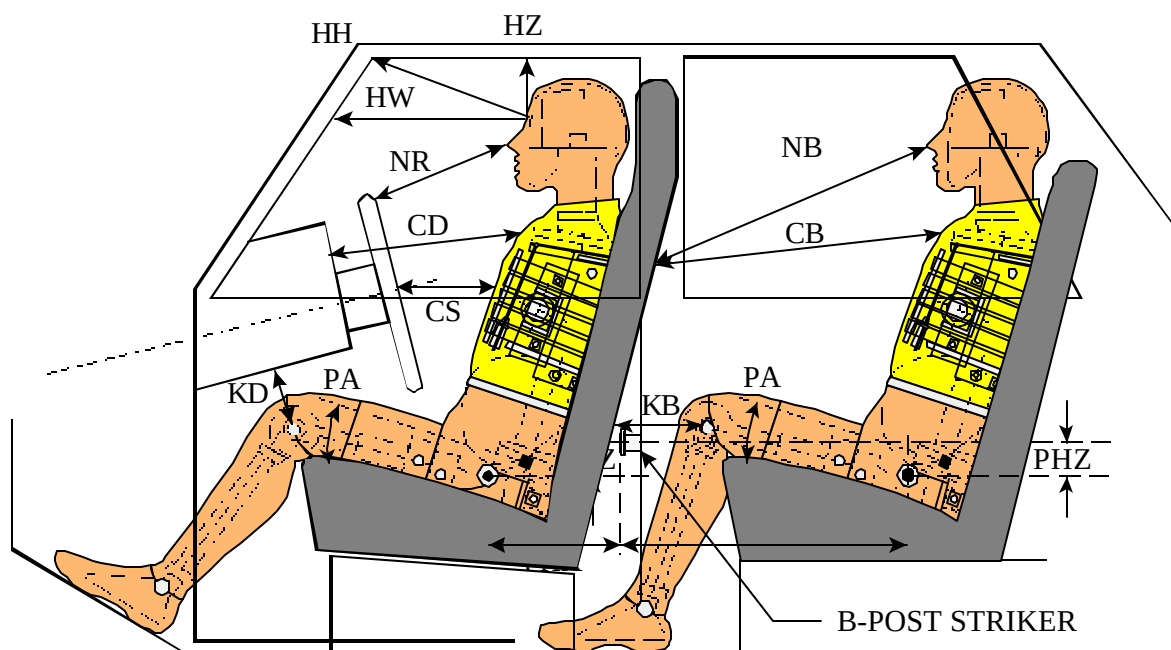
S = Left Side Length

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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	471	N/A
HW	753	N/A
HZ	178	176
NR/NB	468	575
CD/CB	554	518
CS	310	N/A
KDL(KDA°)/KBL(KDA°)	177 / (42 °)	224 / (28 °)
KDR(KBA°)/KBR(KBA°)	165 / (37 °)	225 / (27 °)
PA°	23.7 °	23.1 °
PHX	230	198
PHZ	173	166

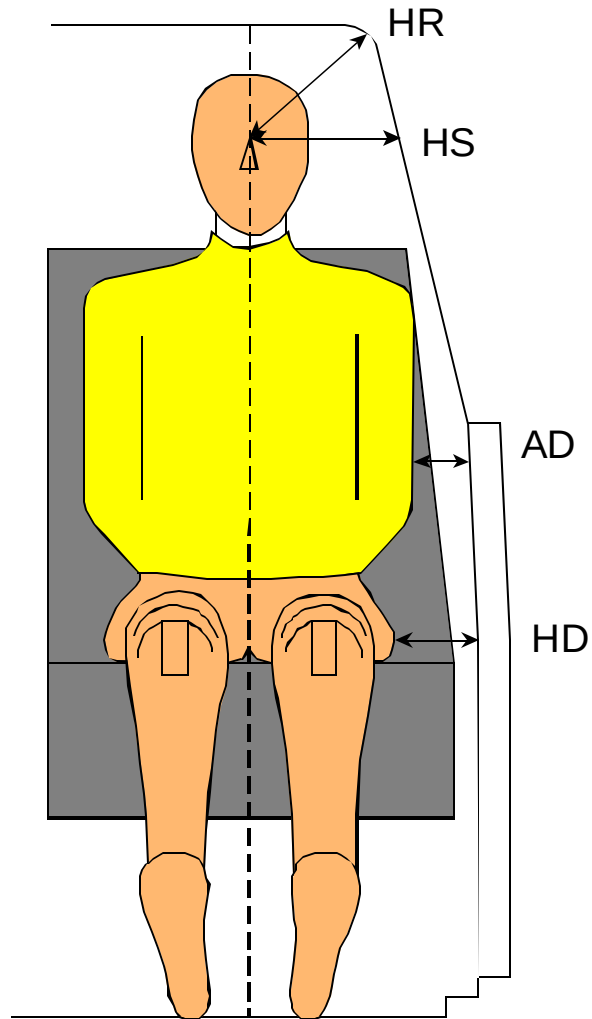
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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

	DRIVER ID # 269				LEFT REAR PASS. ID # 270			
HR	220				167			
HS	346				325			
AD*	LOWER:	147	UPPER:	107	LOWER:	98	UPPER:	98
HD	197				144			

* 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.

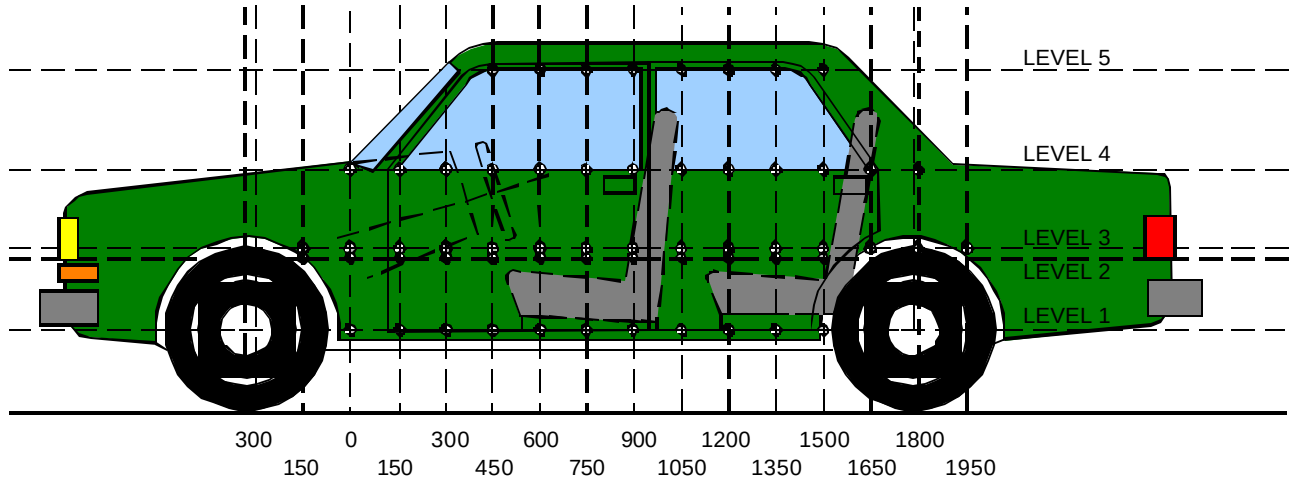
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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:

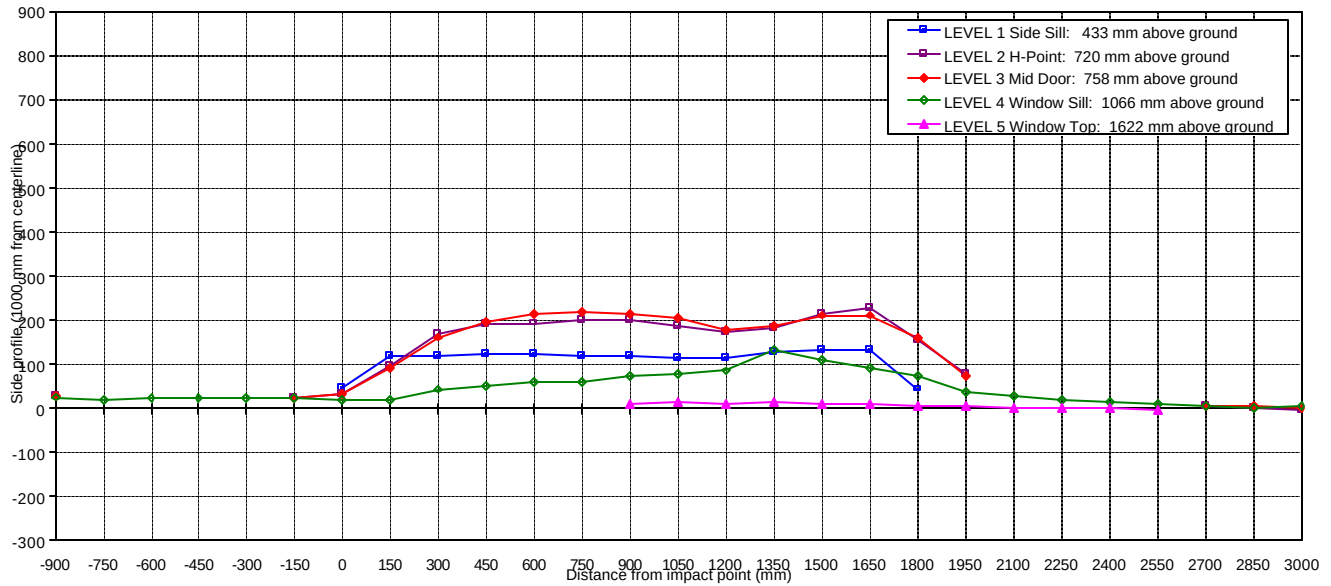
Level 5 @ Window Top	=	<u>1622</u>	millimeters
Level 4 @ Window Sill	=	<u>1066</u>	millimeters
Level 3 @ Mid Door	=	<u>758</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>720</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>433</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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

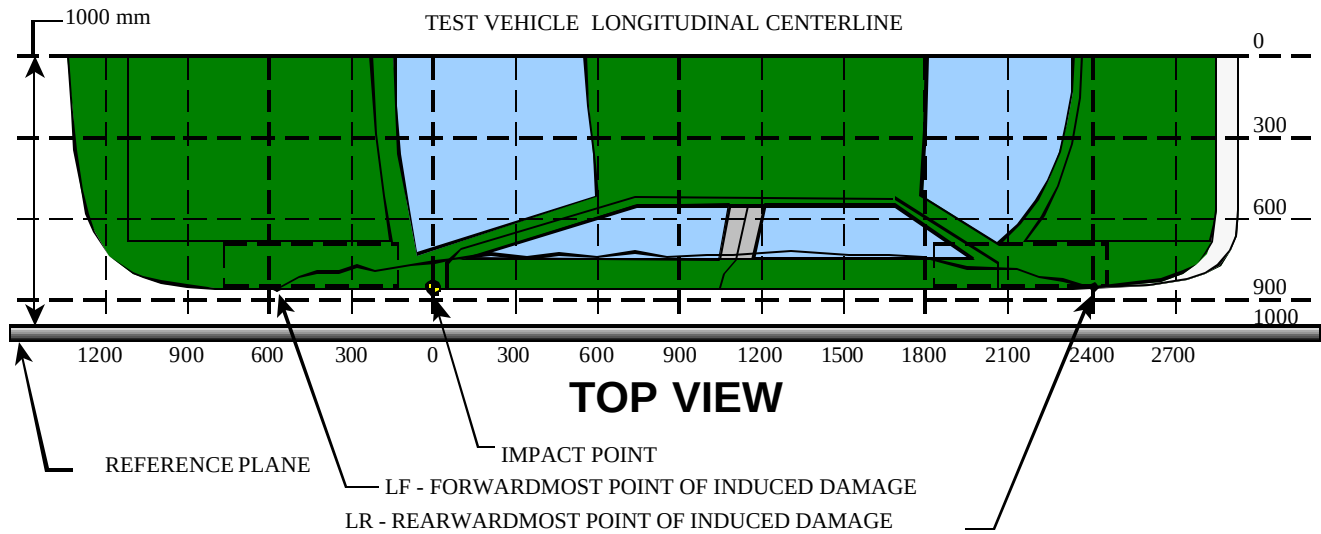
			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	433	PRE	-	-	--	--	-	-	55	55	50	49	48	48	48	48	51	57	60	59	68	--	--	-	-	--	--	-	-	
		POST	-	-	--	--	-	-	100	176	170	172	170	166	168	161	167	186	193	193	112	--	--	-	-	--	--	-	-	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	45	121	120	123	122	118	120	113	116	129	133	134	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	720	PRE	58	-	--	--	-	25	45	52	51	51	50	49	49	50	51	53	55	59	60	45	--	-	-	--	52	93	138	
		POST	85	-	--	--	-	51	79	147	222	244	244	248	251	236	224	234	269	286	214	123	--	-	-	--	59	94	133	
		CRUSH	27	N/A	N/A	N/A	N/A	26	34	95	171	193	194	199	202	186	173	181	214	227	154	78	N/A	N/A	N/A	N/A	N/A	7	1	-5
LEVEL 3 MID DOOR	758	PRE	64	-	--	--	-	24	46	54	55	51	51	50	50	51	52	55	59	60	60	48	--	-	-	--	48	91	137	
		POST	94	-	--	--	-	49	78	144	217	246	267	269	263	255	228	241	271	272	220	122	--	-	-	--	54	96	137	
		CRUSH	30	N/A	N/A	N/A	N/A	25	32	90	162	195	216	219	213	204	176	186	212	212	160	74	N/A	N/A	N/A	N/A	N/A	6	5	0
LEVEL 4 WINDOW SILL	1066	PRE	515	365	300	228	167	136	119	109	104	95	93	92	90	88	89	89	92	93	94	95	95	98	100	108	123	141	166	
		POST	541	386	324	250	190	159	140	127	148	148	151	153	164	167	174	220	201	184	166	133	125	118	114	118	128	144	170	
		CRUSH	26	21	24	22	23	23	21	18	44	53	58	61	74	79	85	131	109	91	72	38	30	20	14	10	5	3	4	
LEVEL 5 WINDOW TOP	1622	PRE	-	-	--	--	-	-	--	--	-	-	-	--	--	341	326	324	325	328	332	341	348	359	370	386	413	--	-	-
		POST	-	-	--	--	-	-	--	--	-	-	-	--	--	352	339	335	338	337	341	347	354	362	371	386	411	--	-	-
		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	11	13	11	13	9	9	6	6	3	1	0	-2	N/A	N/A	N/A	

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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.

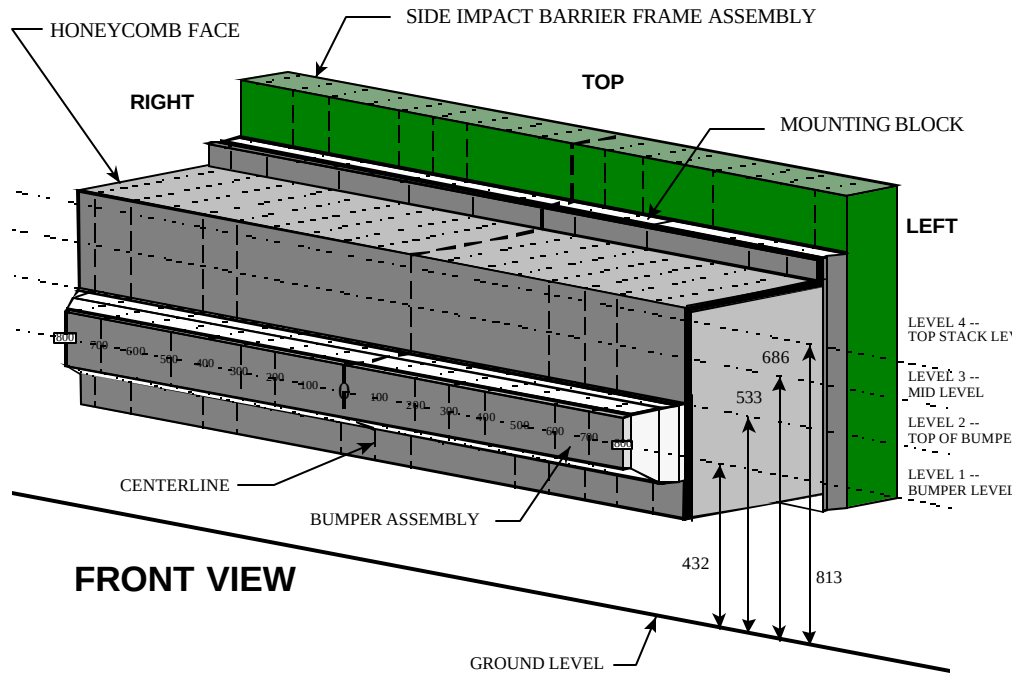
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = <u>2700</u> mm)	128	123	5
2	2060	127	95	32
3	1420	255	57	198
4	780	268	50	218
5	140	171	55	116
6	(LF = <u>-500</u> mm)	275	252	23

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



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	741	701	693	692	715	748	704	676	664	668	678	681	690	700	715	747	796									
		CRUSH	122	82	74	73	96	129	85	57	45	49	59	62	71	81	96	128	177									
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619									
		POST	748	695	692	700	719	743	704	692	674	669	676	672	664	670	686	716	773									
		CRUSH	129	76	73	81	100	124	85	73	55	50	57	53	45	51	67	97	154									
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619									
		POST	772	770	768	766	764	759	753	749	740	732	728	729	722	719	715	716	739									
		CRUSH	153	151	149	147	145	140	134	130	121	113	109	110	103	100	96	97	120									
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535									
		POST	781	766	758	754	752	745	737	733	730	724	728	714	712	708	705	709	719									
		CRUSH	246	247	240	236	234	227	219	215	212	206	210	196	194	190	187	190	184									

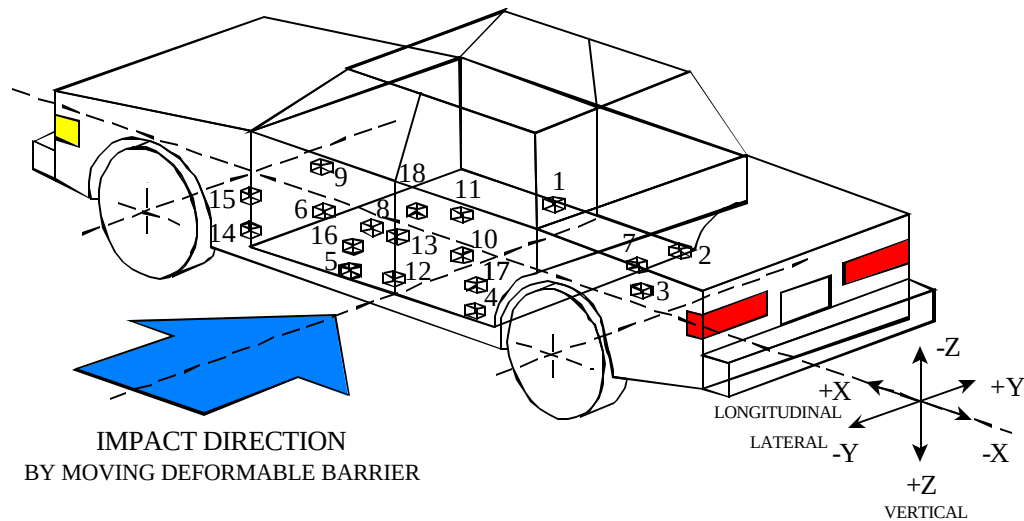
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



- 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: 2004 Volkswagen Touareg MPV

NHTSA No. M45802

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	2971	677	-422	pos.	2.2	62.1	31.7	10.2	6.7	17.7	32.3	10.3
					neg.	-7.4	11.5	-4.0	87.9	-10.0	14.1	0.0	-5.9
2	Right Side Sill at Rear Seat	1956	655	-424	pos.	2.4	63.6	35.2	9.9	6.6	79.9	35.4	9.9
					neg.	-3.9	12.7	-4.7	87.6	-14.7	14.8	0.0	-3.2
3	Rear Floorpan Above Axle	1139	-22	-717	pos.	§	§	25.4 ¹	7.8 ¹	40.7 ¹	31.5 ¹	41.8 ¹	31.6 ¹
					neg.	-22.6 ¹	37.7 ¹	-2.9 ¹	63.1 ¹	-14.7 ¹	37.9 ¹	0.0 ¹	-8.5 ¹
4	Left Side Sill at Rear Seat	1964	-696	-418	pos.	-	-	135.5	4.8	-	-	-	-
					neg.	-	-	-38.9	10.4	-	-	-	-
5	Left Side Sill at Front Seat	3052	-725	-432	pos.	-	-	142.4	5.0	-	-	-	-
					neg.	-	-	-53.9	13.2	-	-	-	-
6	Left Front Door on Centerline	2753	-725	-861	pos.	-	-	140.8	11.8	-	-	-	-
					neg.	-	-	-82.3	29.2	-	-	-	-
7	Right Rear Occupant Compartment	1908	433	-406	pos.	-	-	27.9	8.7	-	-	-	-
					neg.	-	-	-3.3	86.5	-	-	-	-
8	Midrear of Left Front Door	2399	-738	-935	pos.	-	-	59.7	14.8	-	-	-	-
					neg.	-	-	-59.3	30.7	-	-	-	-
9	Left Front Door Upper Centerline	2648	-746	-1104	pos.	-	-	96.9	20.2	-	-	-	-
					neg.	-	-	-50.9	33.5	-	-	-	-
10	Midrear of Left Rear Door	1467	-732	-966	Pos.	-	-	118.6	15.6	-	-	-	-
					neg.	-	-	-66.4	30.3	-	-	-	-
11	Left Rear Door Upper Centerline	1644	-772	-1140	pos.	-	-	117.0	16.3	-	-	-	-
					neg.	-	-	-36.0	7.3	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)

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

**Accelerometer was not requested by COTR.

§¹ - Data is Questionable after 194 ms.

4-11

8725-SNCAp-02

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802

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	2021	-713	-652	pos.	-	-	170.0	4.7	-	-	-	-
					neg.	-	-	-118.1	34.1	-	-	-	-
13	Left Middle B-Pillar	1967	-735	-1139	pos.	-	-	106.6	7.5	-	-	-	-
					neg.	-	-	-59.7	13.6	-	-	-	-
14	Left Lower A-Pillar	3197	-740	-575	pos.	-	-	108.6	4.9	-	-	-	-
					neg.	-	-	-47.3	15.9	-	-	-	-
15	Left Middle A-Pillar	3108	-703	-1208	pos.	-	-	16.3	50.4	-	-	-	-
					neg.	-	-	-4.1	24.6	-	-	-	-
16	Front Seat Track	2178	-656	-491	pos.	-	-	86.4	8.1	-	-	-	-
					neg.	-	-	-45.4	27.5	-	-	-	-
17	Rear Seat Track	1151	-608	-731	pos.	-	-	45.5	12.5	-	-	-	-
					neg.	-	-	-15.9	18.0	-	-	-	-
18	Vehicle CG	2466	5	-758	pos.	3.3	58.2	26.7	22.2	16.7	18.1	26.9	11.2
					neg.	-7.6	38.3	-13.3	16.7	-9.5	10.8	0.0	-7.6

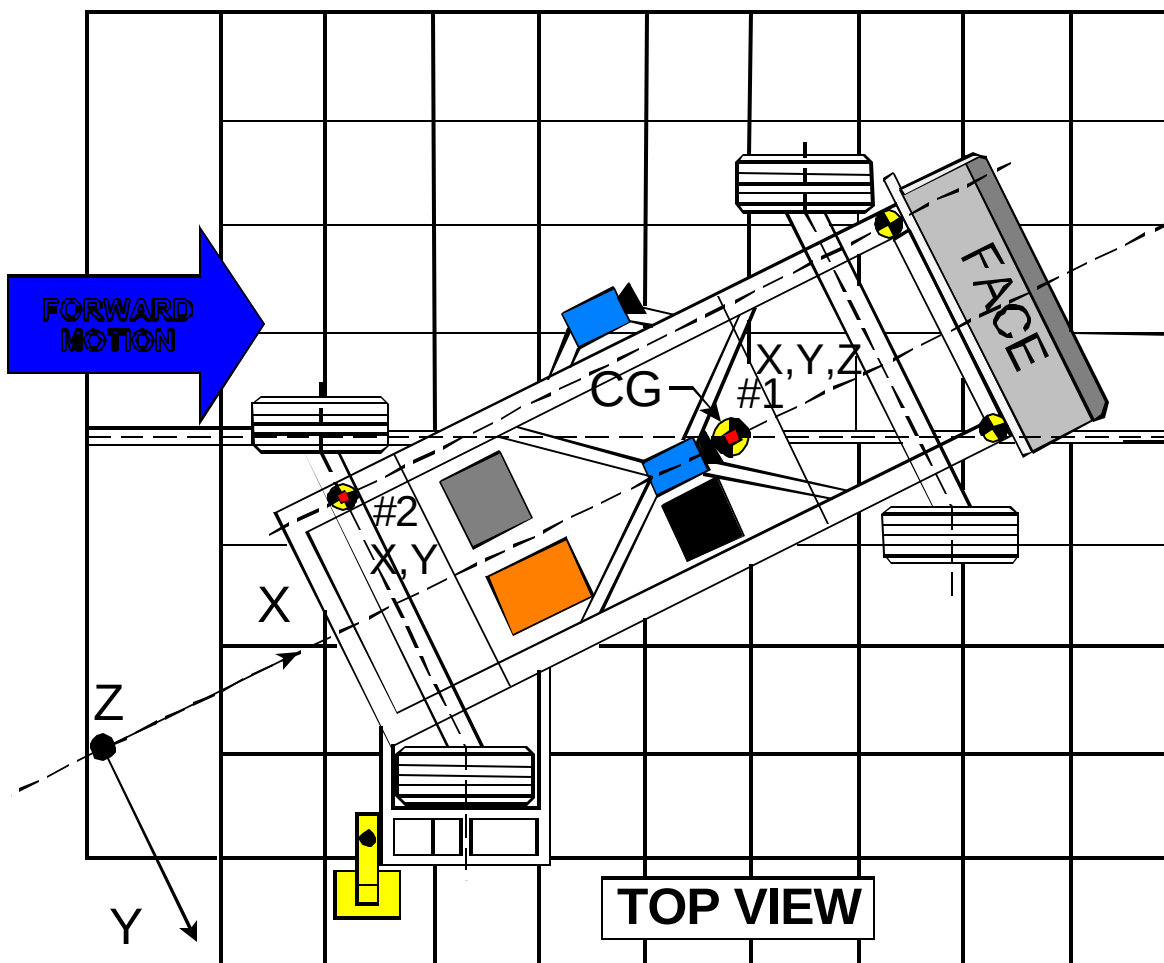
*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.4	99.7	-22.4	19.5
	Lateral..... Y				0.4	68.4	-7.3	41.7
	Vertical..... Z				11.9	12.8	-12.0	26.8
	Resultant..... R				25.5	26.6	0.1	167.3
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	2.1	90.3	-25.4	40.3
	Lateral..... Y				‡	‡	‡	‡

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

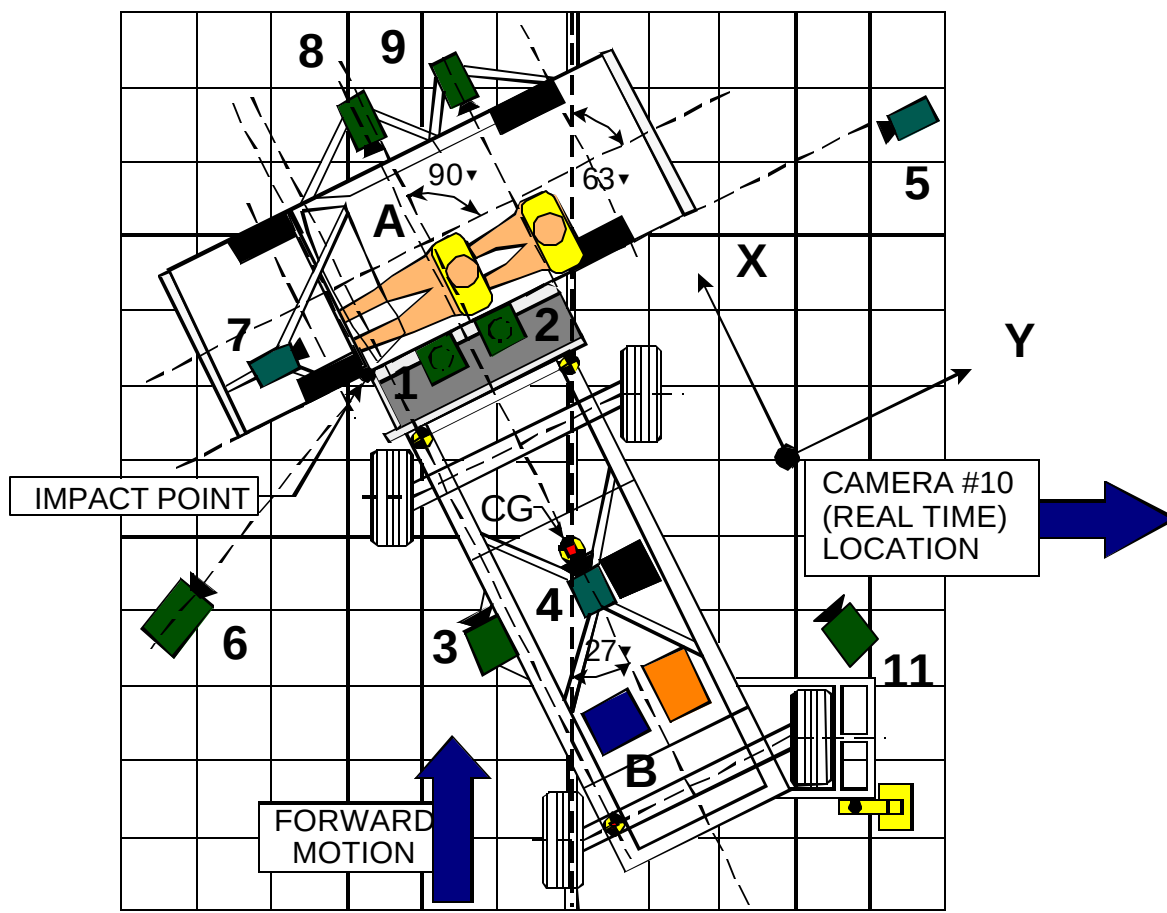
‡ - Questionable Data

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No. M45802



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	199	803	-4880	-90	8	1055
2	Overhead closeup view of impact plane	304	824	-4880	-90	12.5	1020
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	770
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	900
5	Right side ground level overall view	-130	9660	-1055	-4	25	1020
6	Left side ground level overall view	1926	-1742	-1091	-6	13	1020
7	Test vehicle onboard driver front view	-525	-476	-1441	-9	13	1020
8	Test vehicle onboard driver side view	1940	838	-1370	-10	8	1015
9	Test vehicle onboard passenger side view	1950	1748	-1320	-10	8	1020
10	Real time film coverage of test	-	-	-	-	-	24
11	Secondary impact point view	-4625	3423	-1091	-3	25	1005

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

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

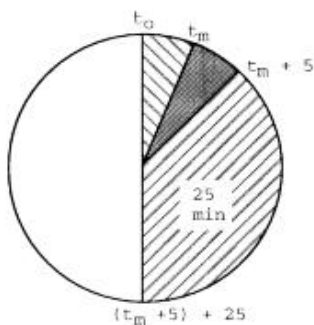
Z = (Ground Level) + Down

SECTION 5

FUEL SYSTEM INTEGRITY

FMVSS 301 FUEL SYSTEM INTEGRITY DATA

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.

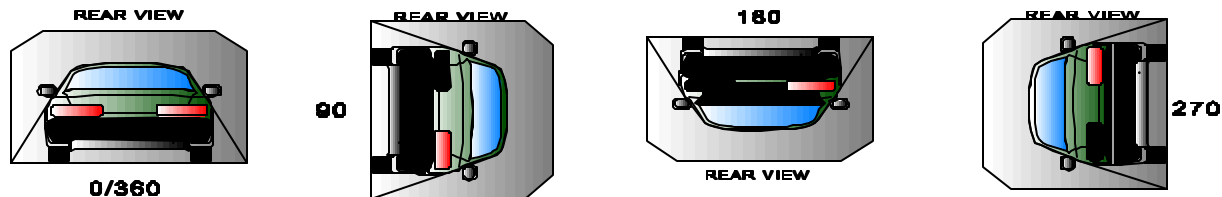
None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2004 Volkswagen Touareg MPV

NHTSA No.: M45802



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	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
90° - 180°	1	minutes	07	seconds	5	minutes	6	minutes	7	seconds	7	minutes
180°-270°	1	minutes	01	seconds	5	minutes	6	minutes	1	seconds	7	minutes
270°-360°	1	minutes	13	seconds	5	minutes	6	minutes	13	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

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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
Figure A- 20	POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 22
Figure A- 21	PRE-TEST TOP VIEW OF IMPACTOR FACE	A- 23
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Figure A- 23	PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE	A- 25
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Figure A- 25	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 27
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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
Figure A- 32	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 34
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Figure A- 38	PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION	A- 40
Figure A- 39	POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET	A- 41
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Figure A- 42	IMPACT PHOTO	A- 44
Figure A- 43	ROLLOVER 90 DEGREES	A- 45
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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

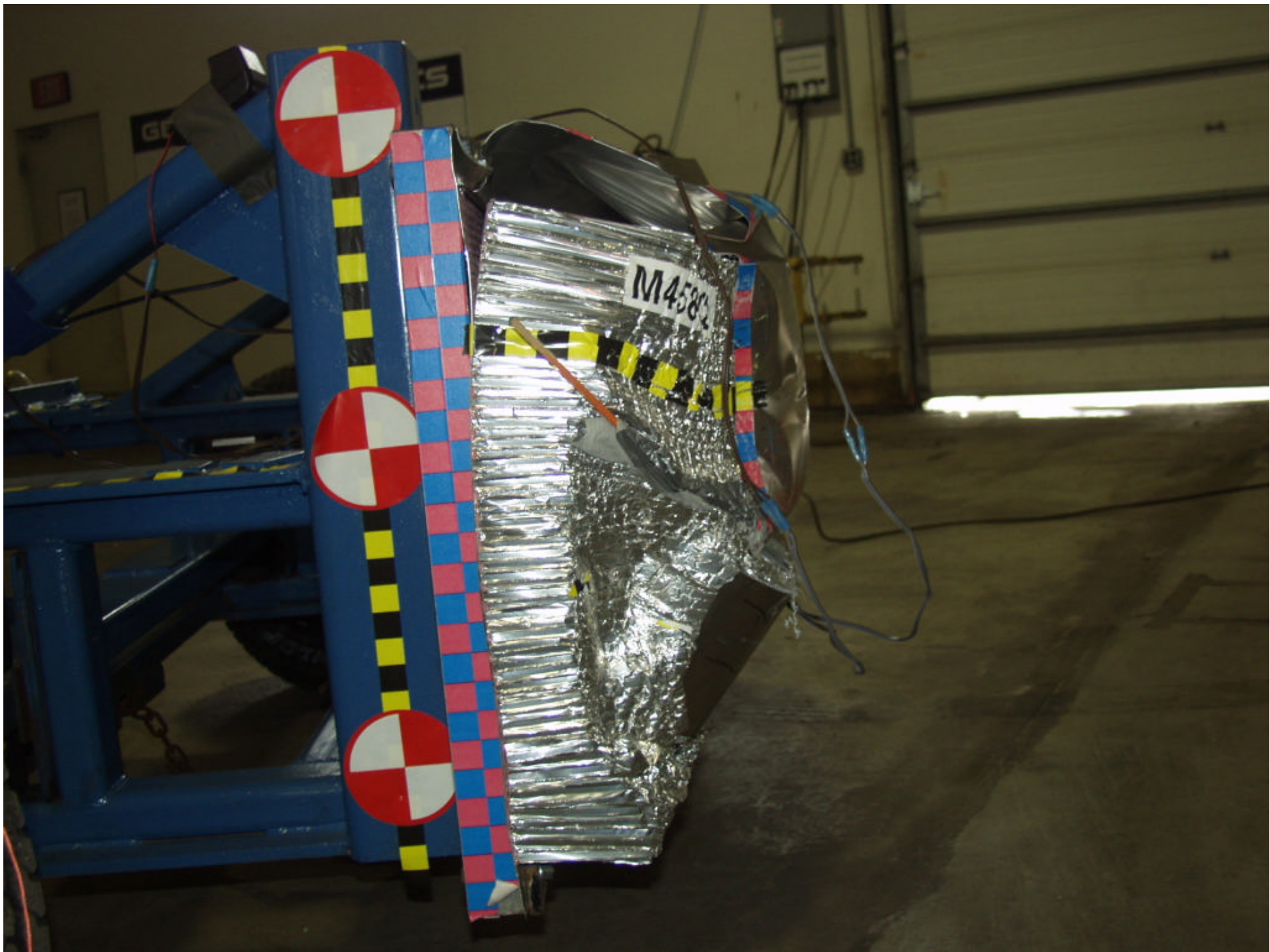


Figure A-20 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



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

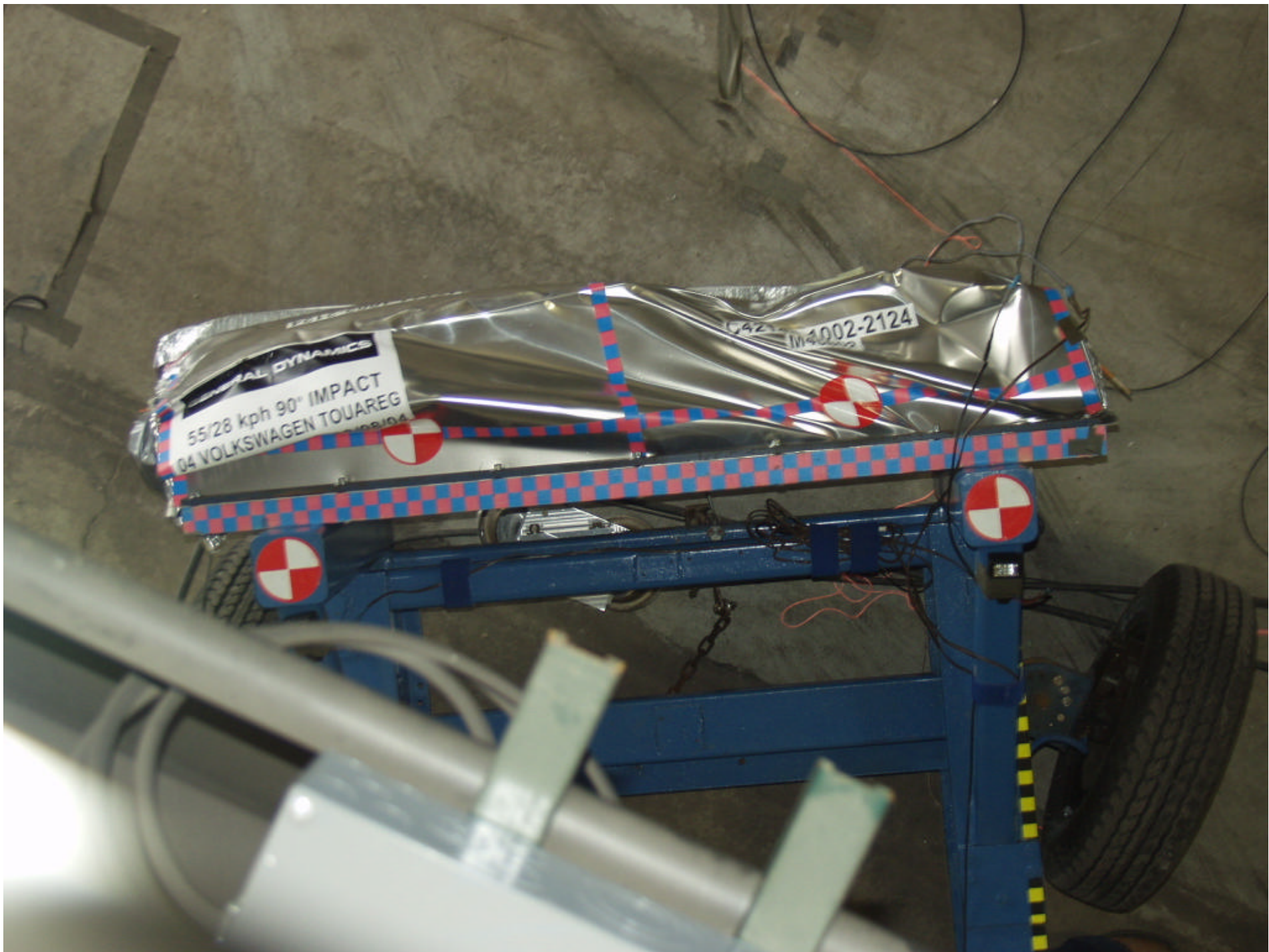


Figure A-22 POST-TEST TOP VIEW OF IMPACTOR FACE



Figure A-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

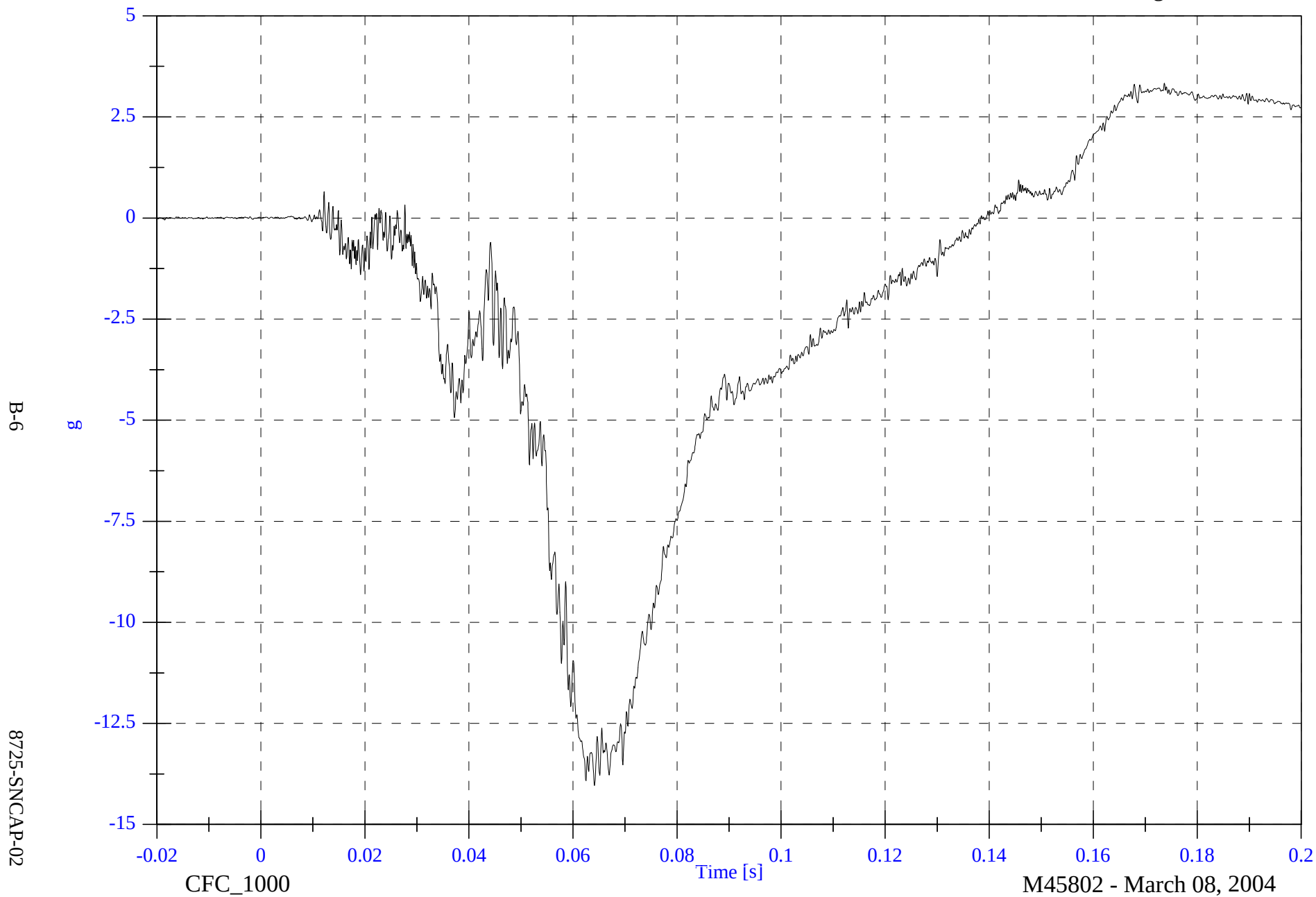
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
138	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 143
139	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 144
140	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 145
141	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 146
142	PASSENGER UPPER RIB (Y) ACCELERATION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

2004 SNCAP Test 2 2004 VW Touareg

V2P1 Head x

Max: 3.3 [g] at 0.174 [s]

Min: -14.0 [g] at 0.064 [s]

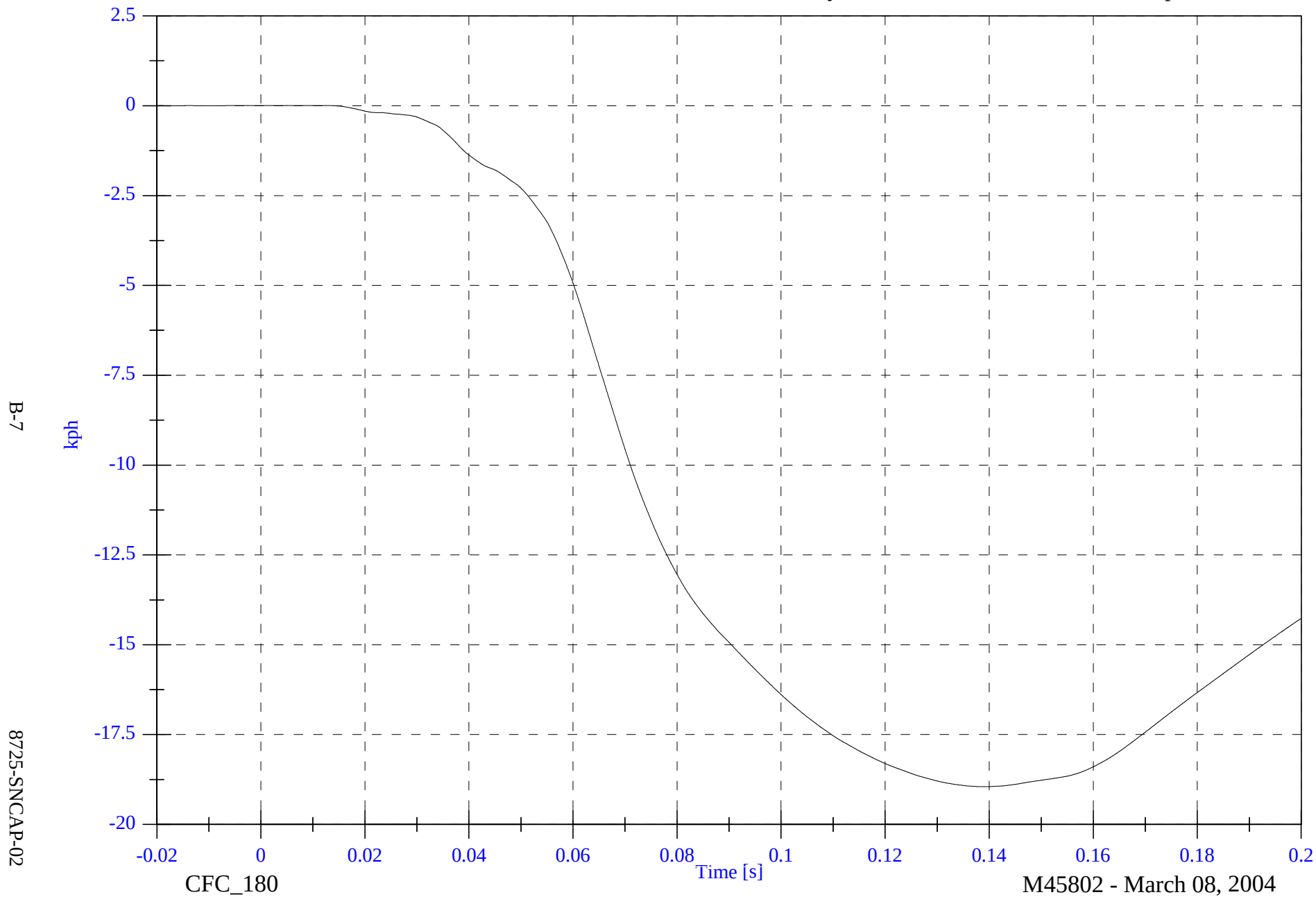


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Head x Velocity

Max: 0.0 [kph] at 0.012 [s]

Min: -18.9 [kph] at 0.139 [s]



2004 SNCAP Test 2 2004 VW Touareg

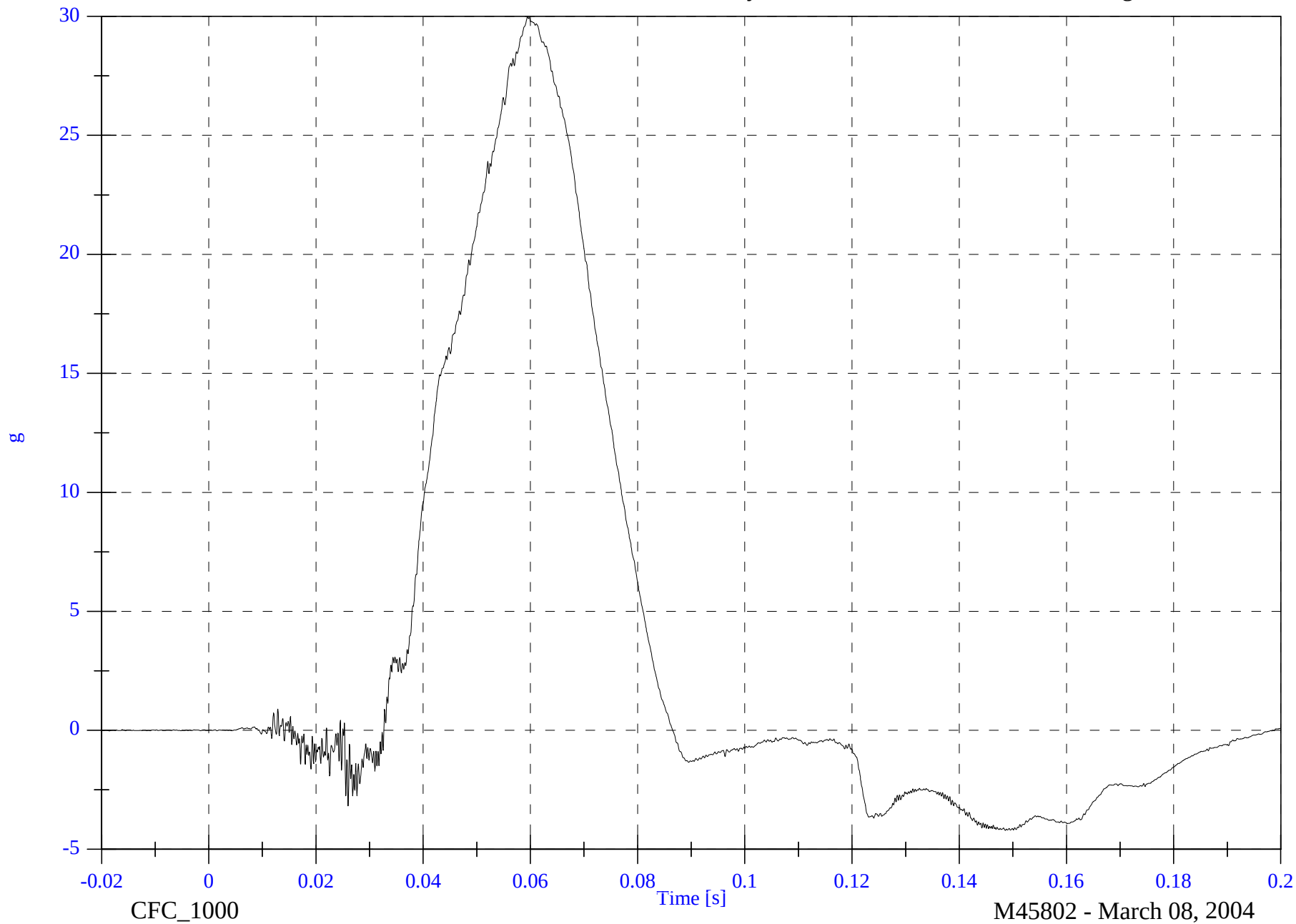
V2P1 Head y

Max: 30.0 [g] at 0.059 [s]

Min: -4.2 [g] at 0.149 [s]

B-8

8725-SNCAP-02

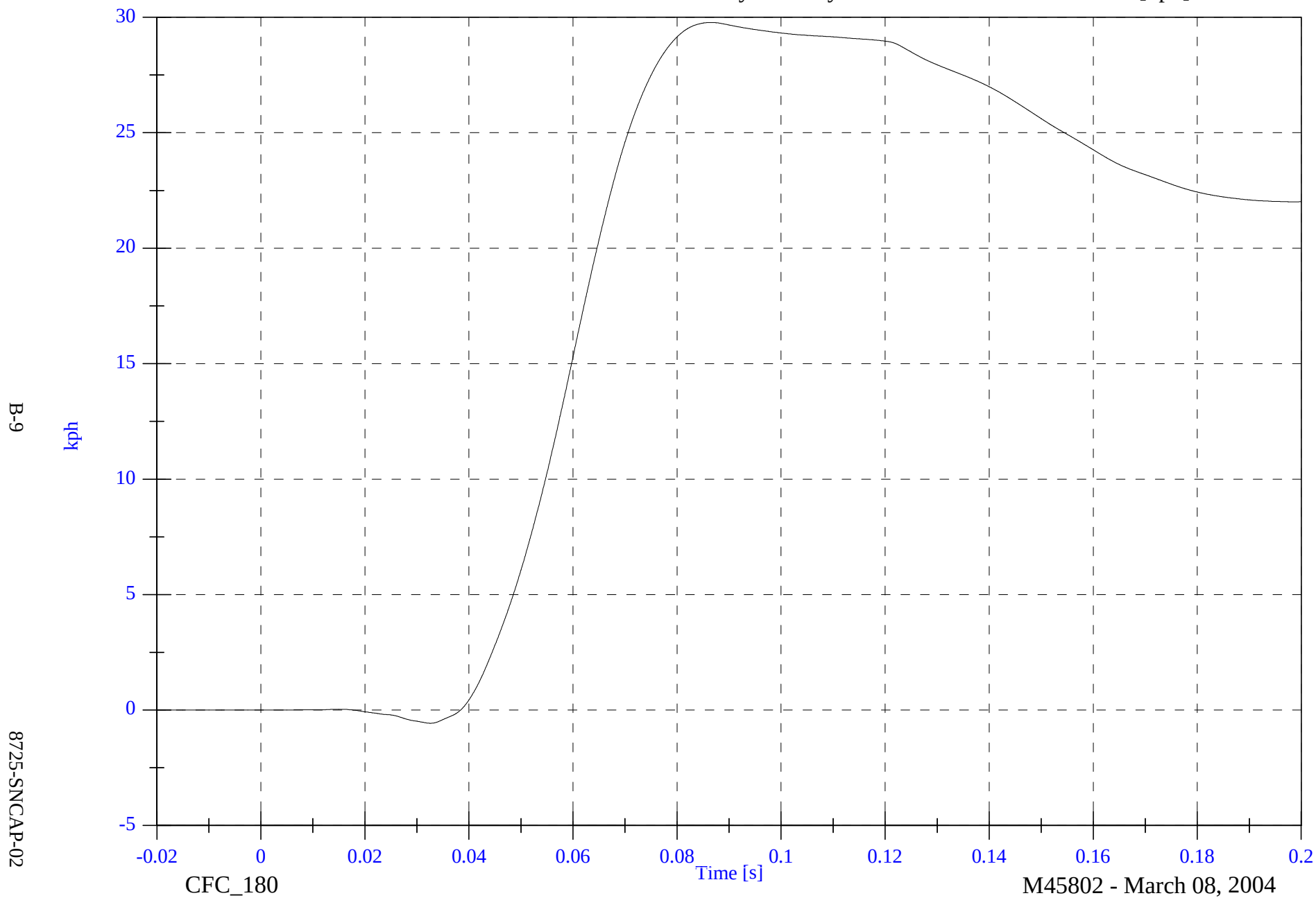


2004 SNCAP Test 2 2004 VW Touareg

Max: 29.8 [kph] at 0.087 [s]

Min: -0.6 [kph] at 0.033 [s]

V2P1 Head y Velocity



B-9

8725-SNCAP-02

CFC_180

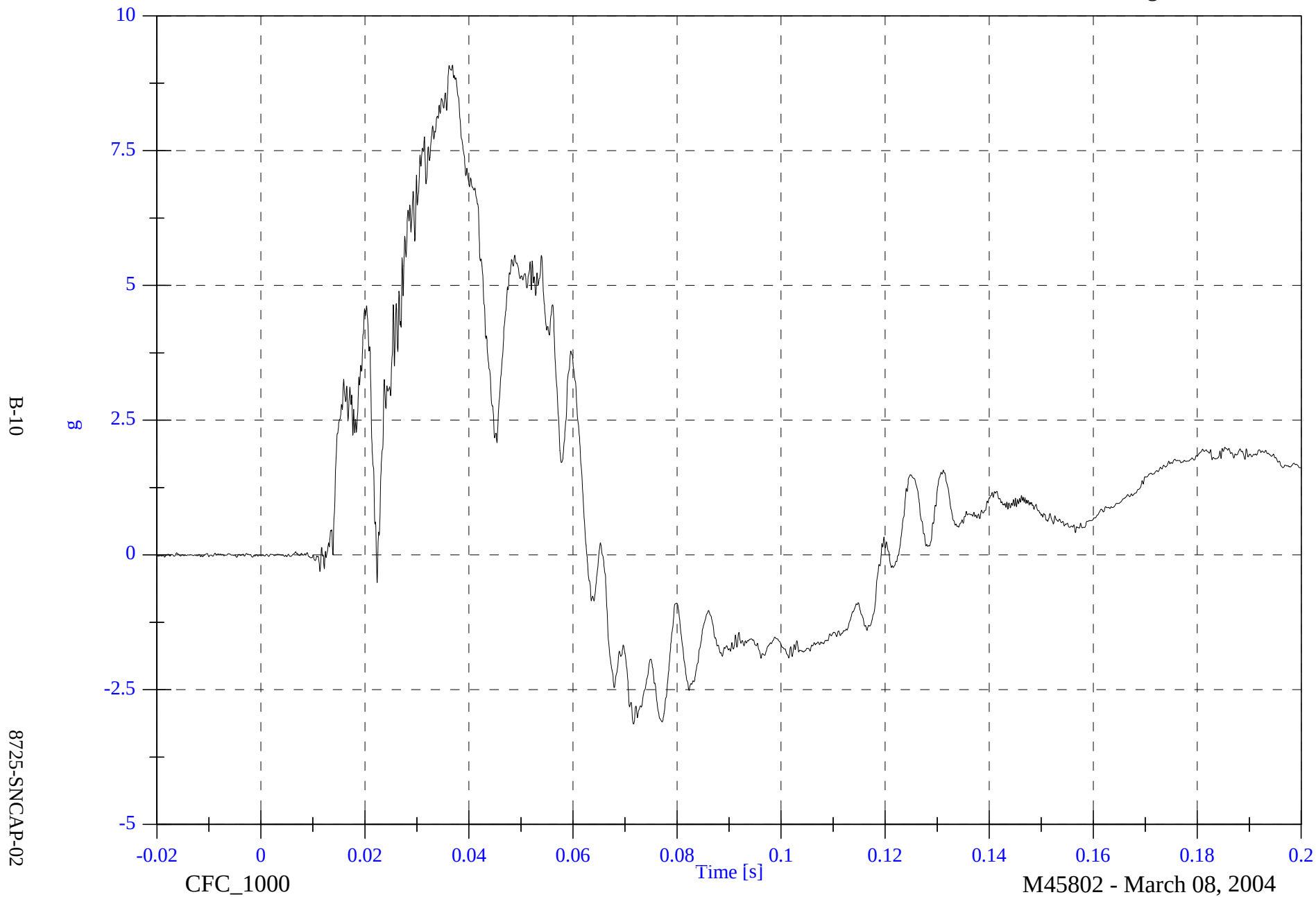
M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

V2P1 Head z

Max: 9.1 [g] at 0.037 [s]

Min: -3.1 [g] at 0.072 [s]

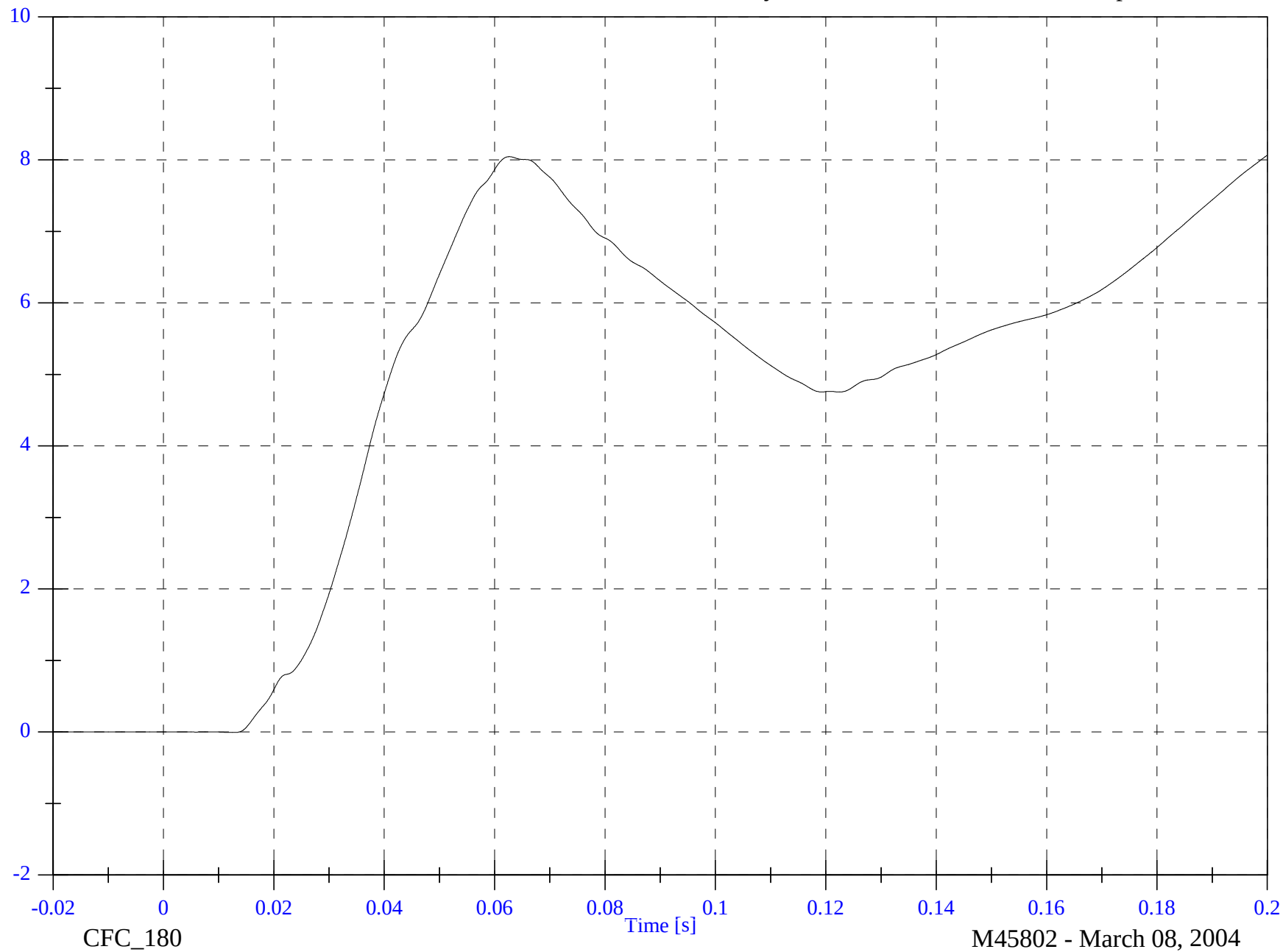


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Head z Velocity

Max: 8.1 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.013 [s]



B-11

8725-SNCAP-02

2004 SNCAP Test 2 2004 VW Touareg

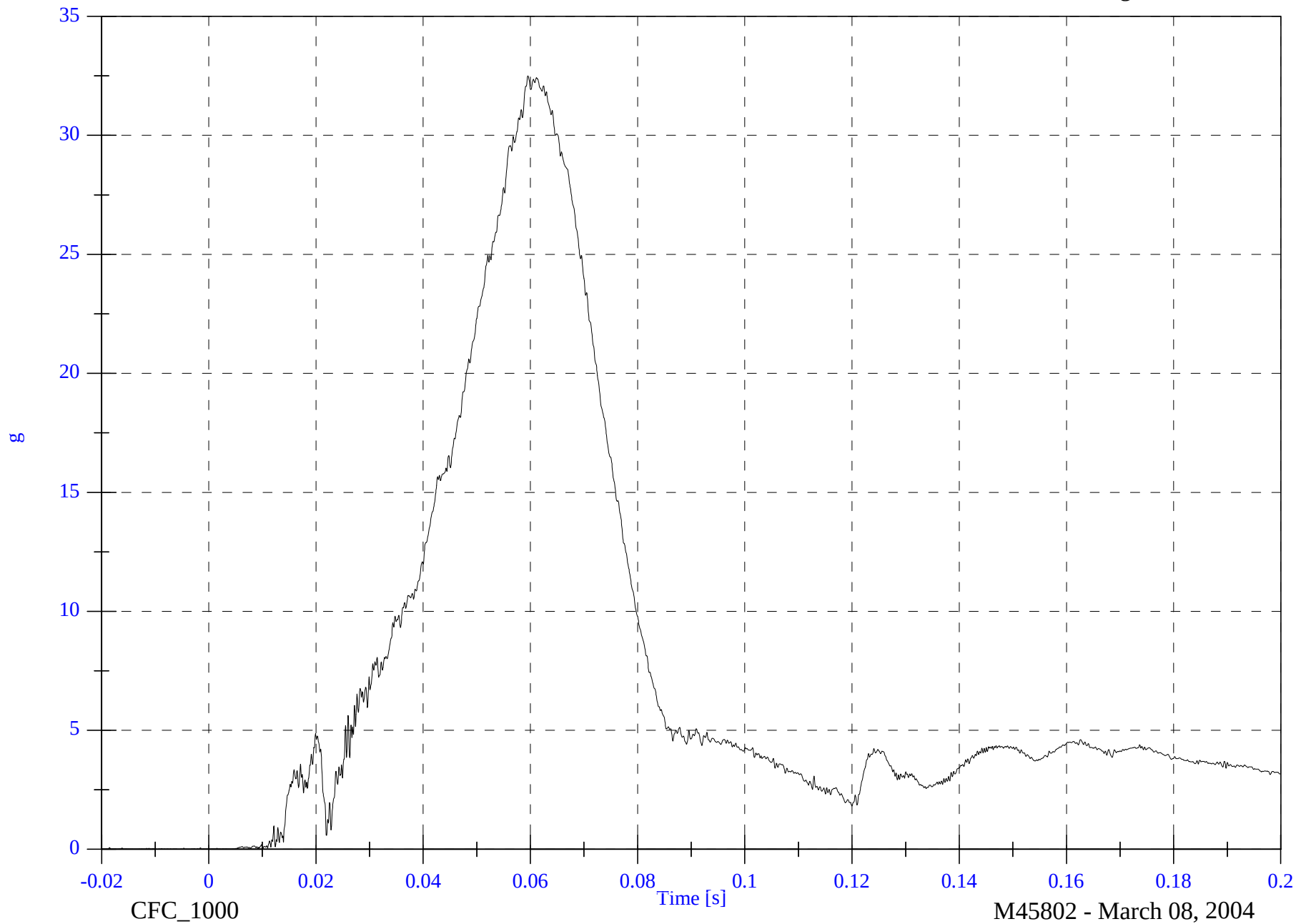
V2P1 Head Resultant

Max: 32.5 [g] at 0.059 [s]

Min: 0.0 [g] at -0.010 [s]

B-12

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

V2P1 Upper Neck Fx

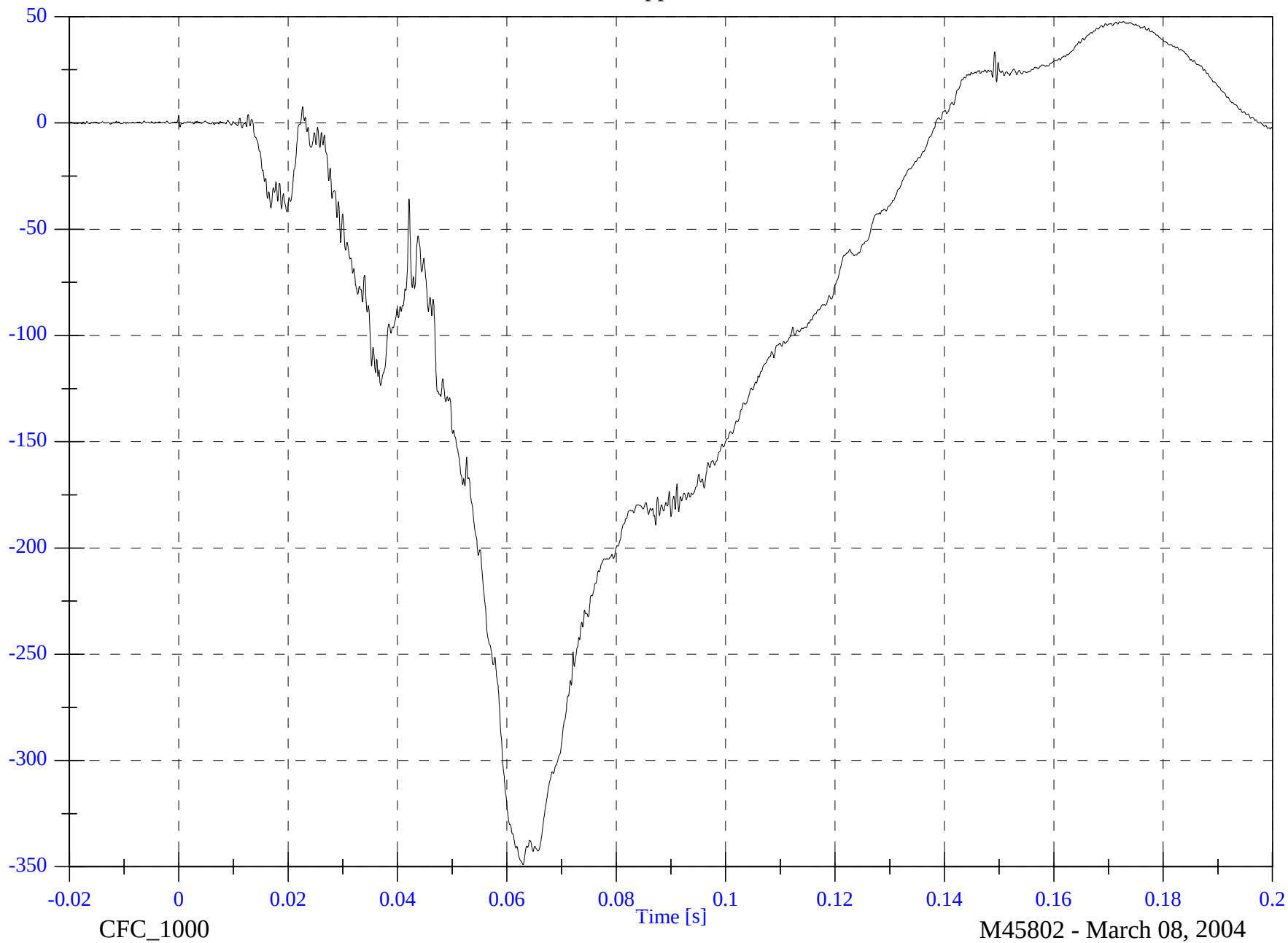
Max: 47.7 [N] at 0.173 [s]

Min: -349.0 [N] at 0.063 [s]

B-13

N

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

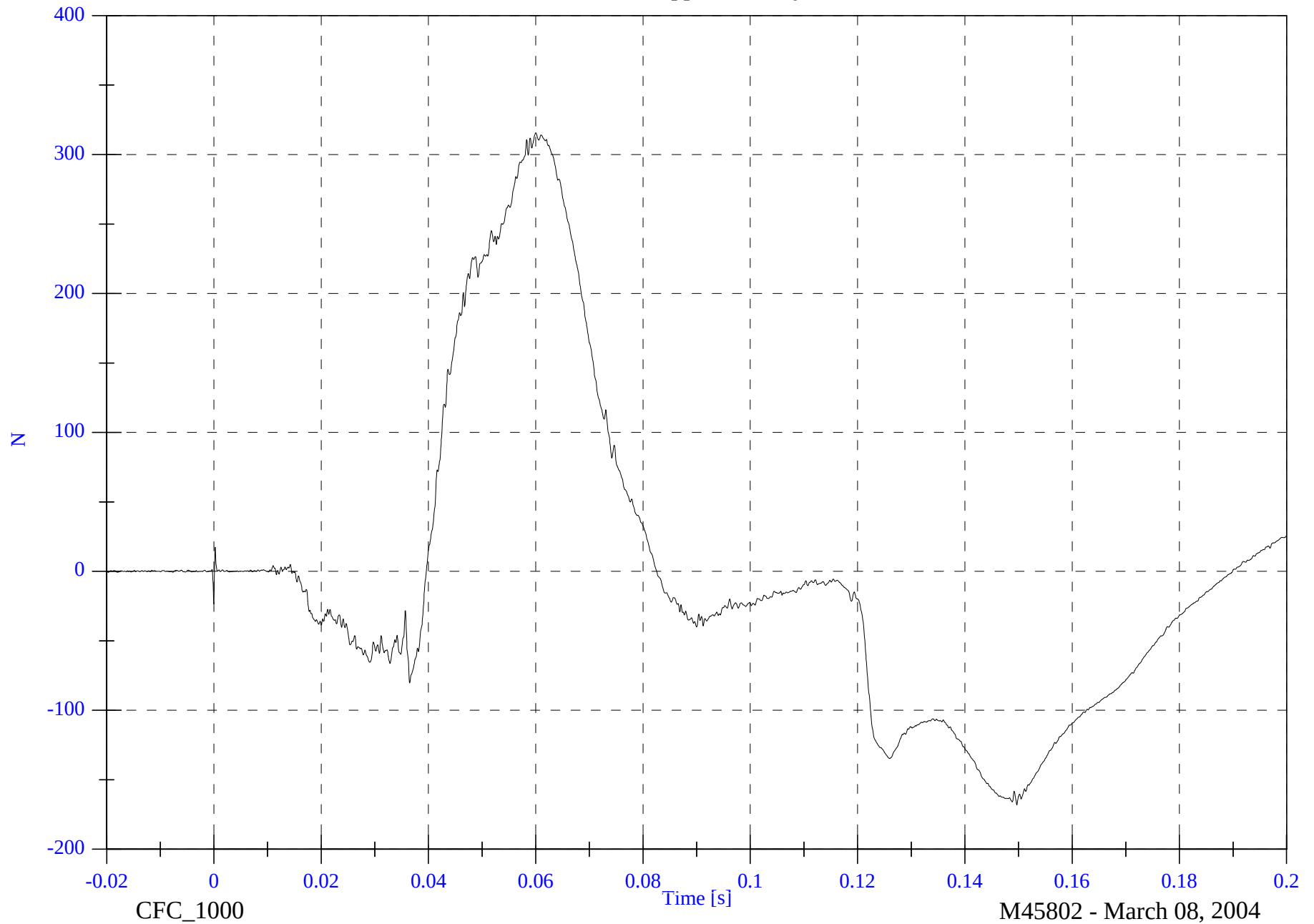
V2P1 Upper Neck Fy

Max: 315.6 [N] at 0.060 [s]

Min: -168.1 [N] at 0.150 [s]

B-14

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

V2P1 Upper Neck Fz

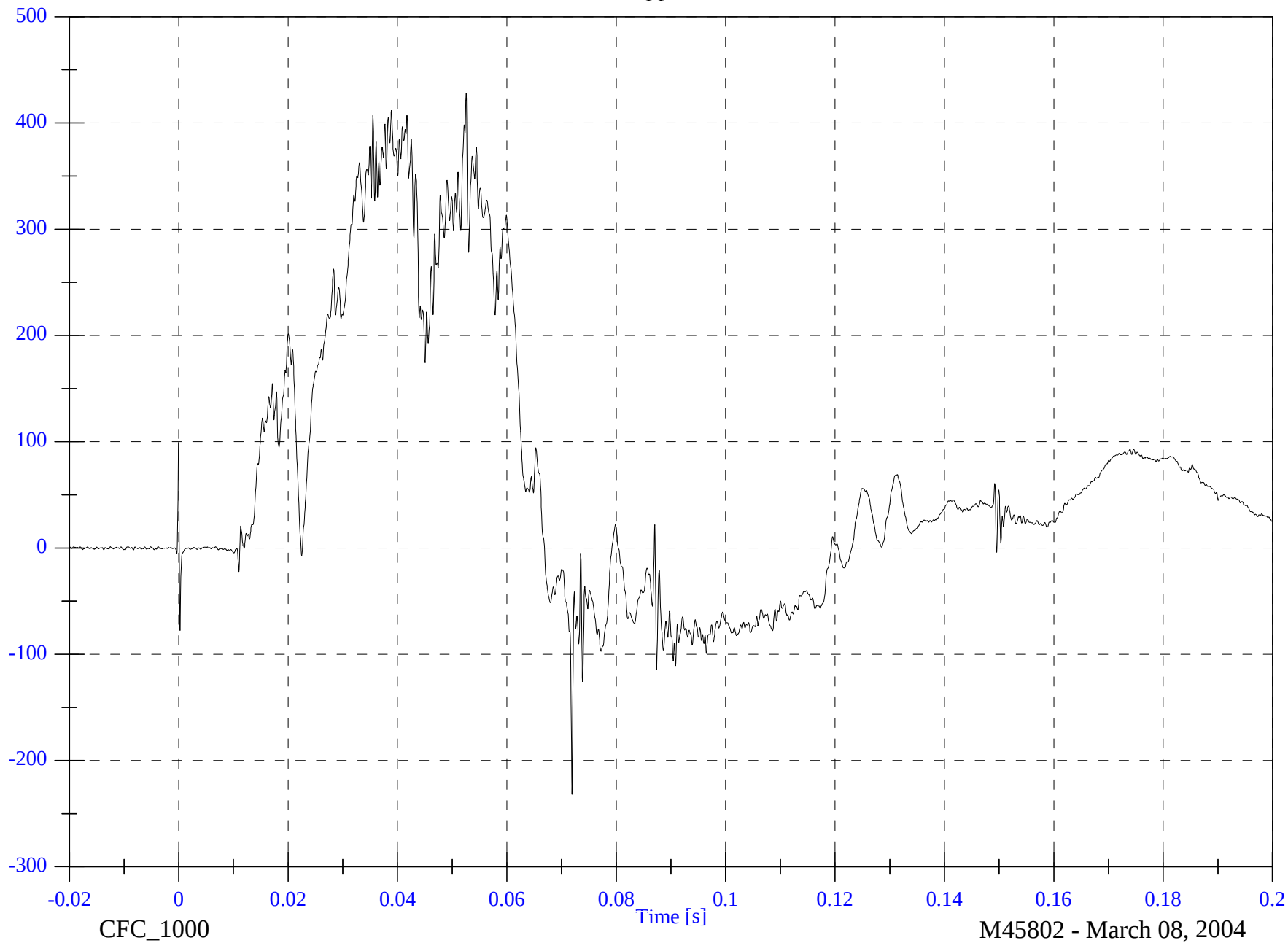
Max: 428.3 [N] at 0.053 [s]

Min: -231.7 [N] at 0.072 [s]

B-15

N

8725-SNCAP-02



2004 SENCAP Test 2 2004 VW Touareg

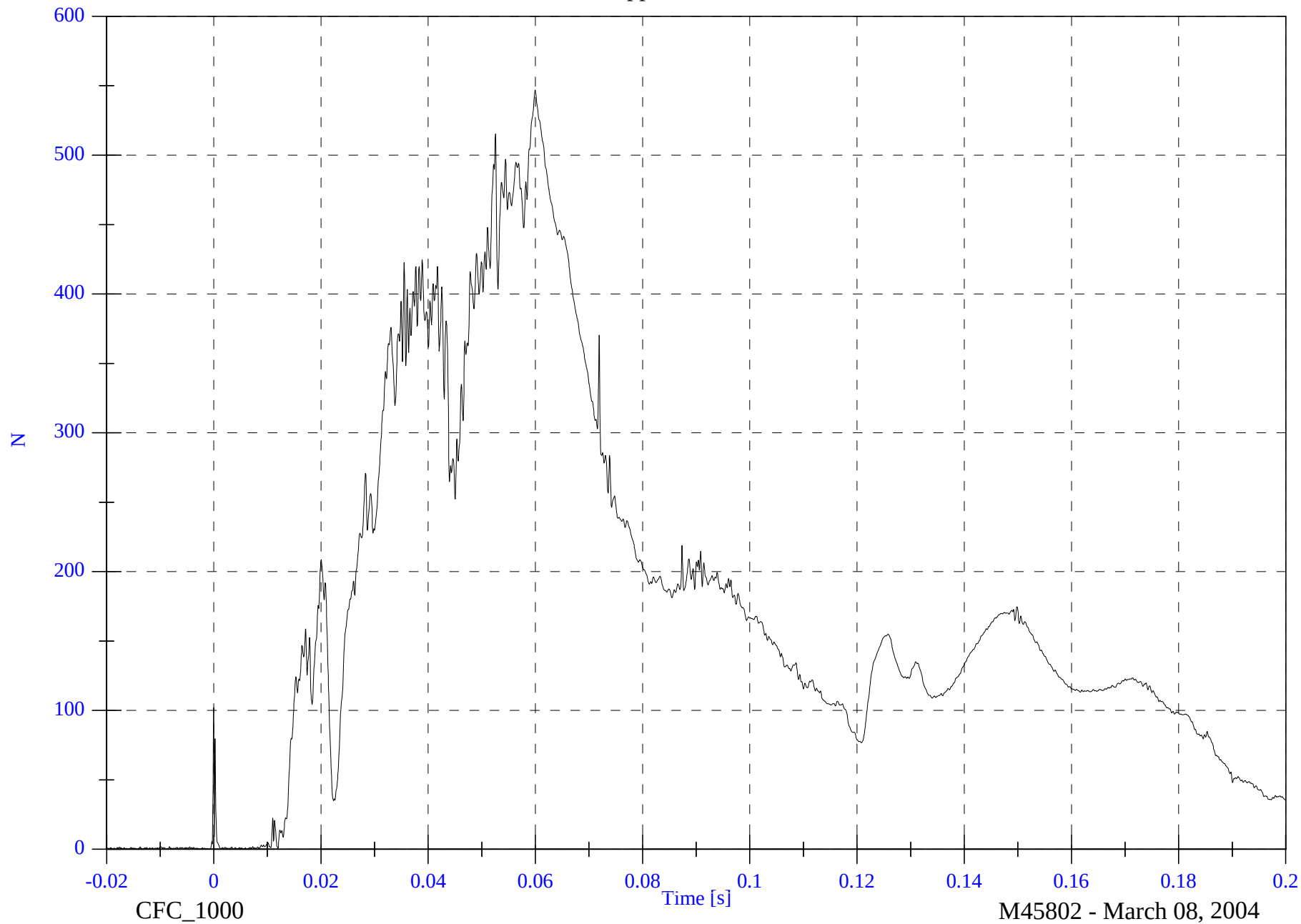
V2P1 Upper Neck F Resultant

Max: 547.0 [N] at 0.060 [s]

Min: 0.1 [N] at -0.011 [s]

B-16

8725-SENCAP-02

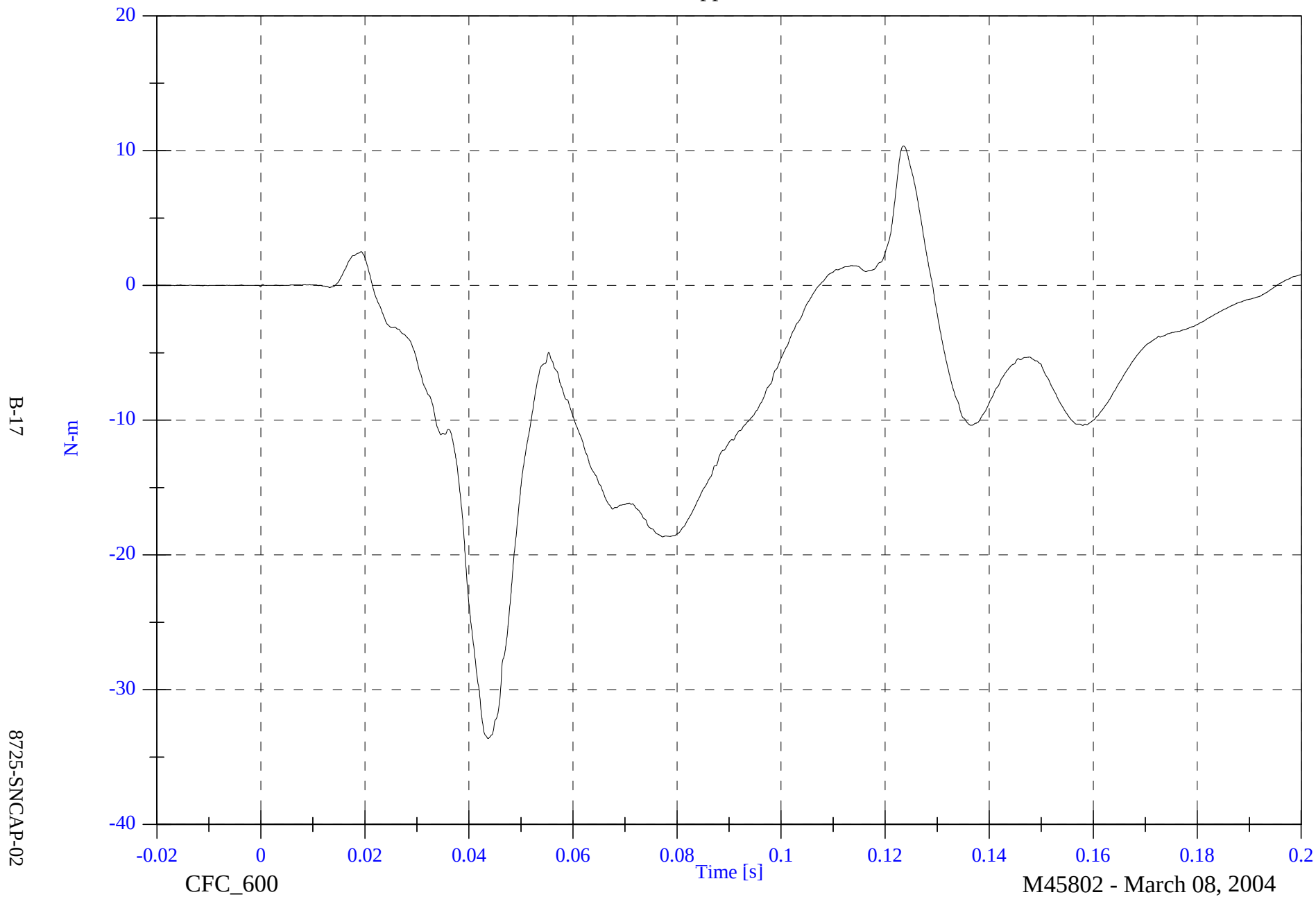


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Upper Neck Mx

Max: 10.3 [N-m] at 0.124 [s]

Min: -33.6 [N-m] at 0.044 [s]

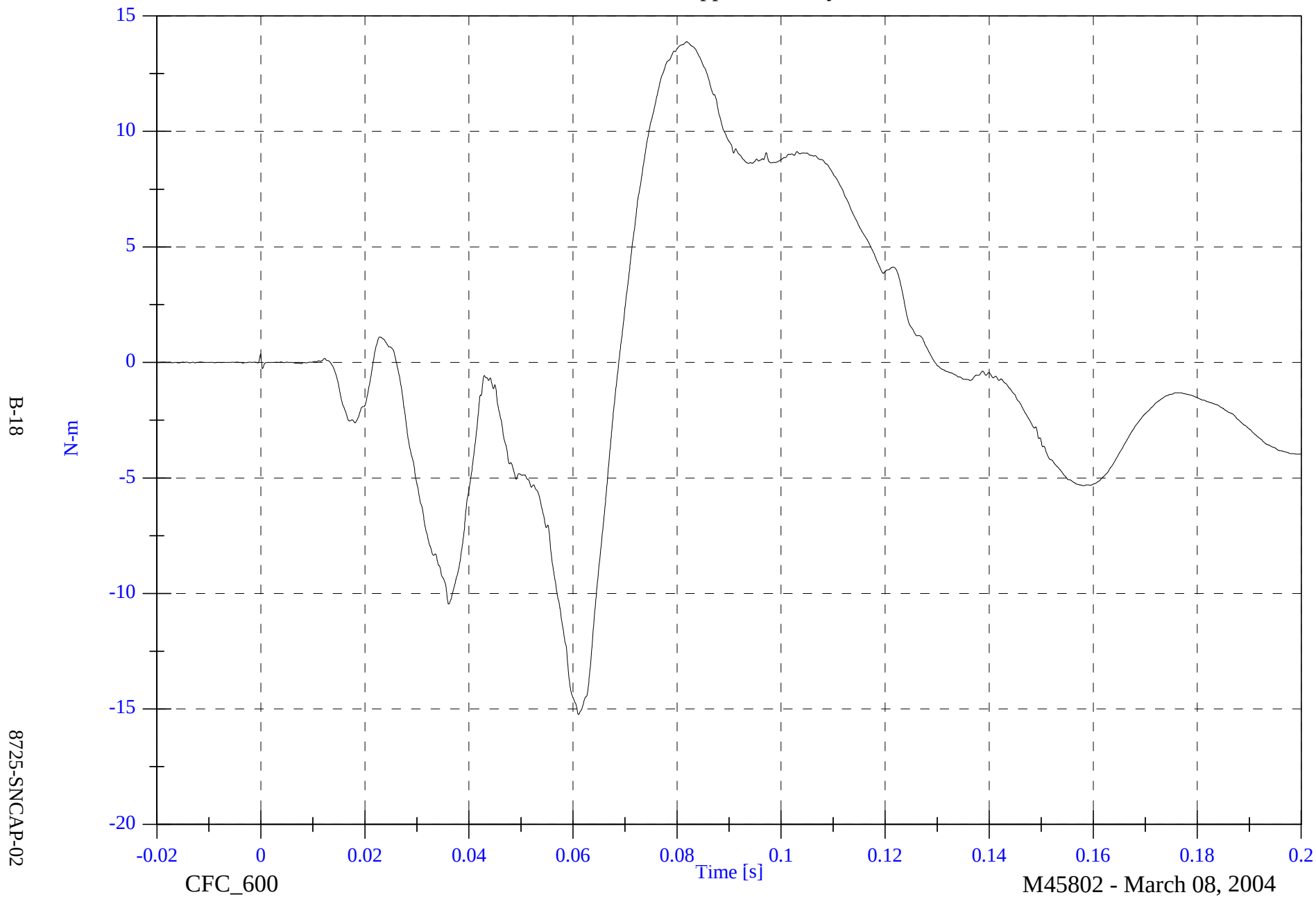


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Upper Neck My

Max: 13.9 [N-m] at 0.082 [s]

Min: -15.2 [N-m] at 0.061 [s]

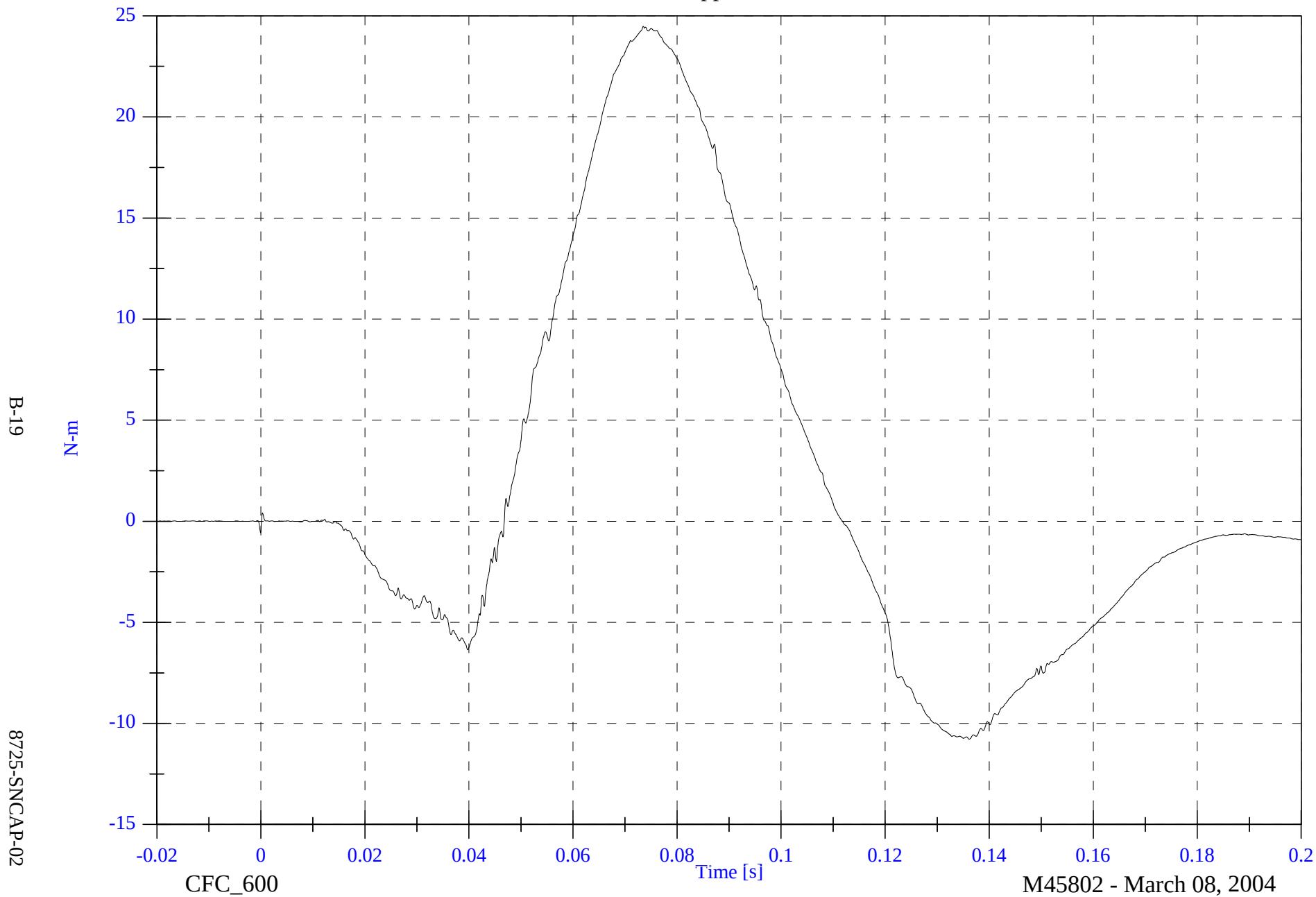


2004 SNCAP Test 2 2004 VW Touareg

Max: 24.5 [N-m] at 0.073 [s]

Min: -10.8 [N-m] at 0.136 [s]

V2P1 Upper Neck Mz



2004 SNCAP Test 2 2004 VW Touareg

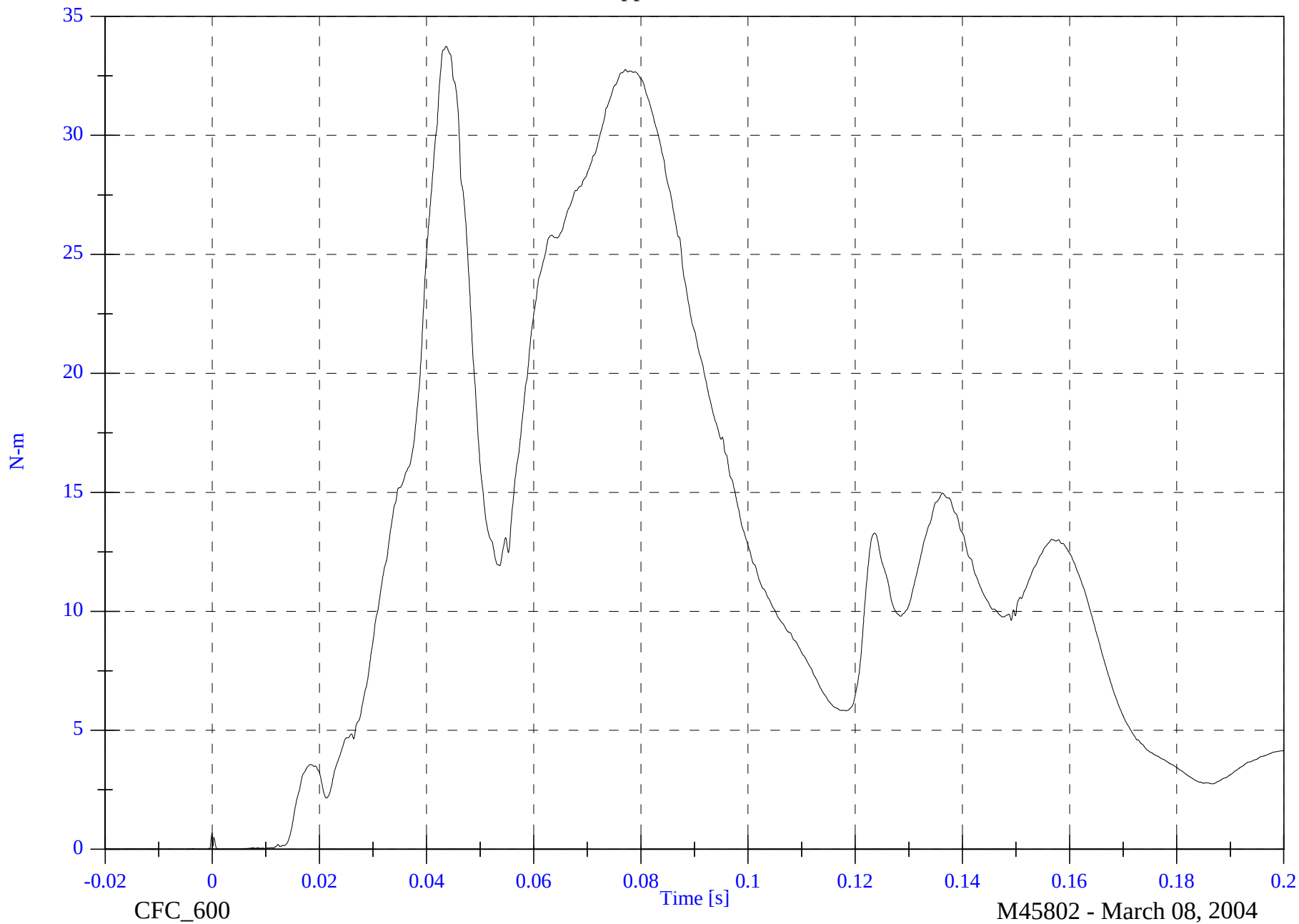
V2P1 Upper Neck M Resultant

Max: 33.7 [N-m] at 0.044 [s]

Min: 0.0 [N-m] at -0.005 [s]

B-20

8725-SNCAP-02



CFC_600

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

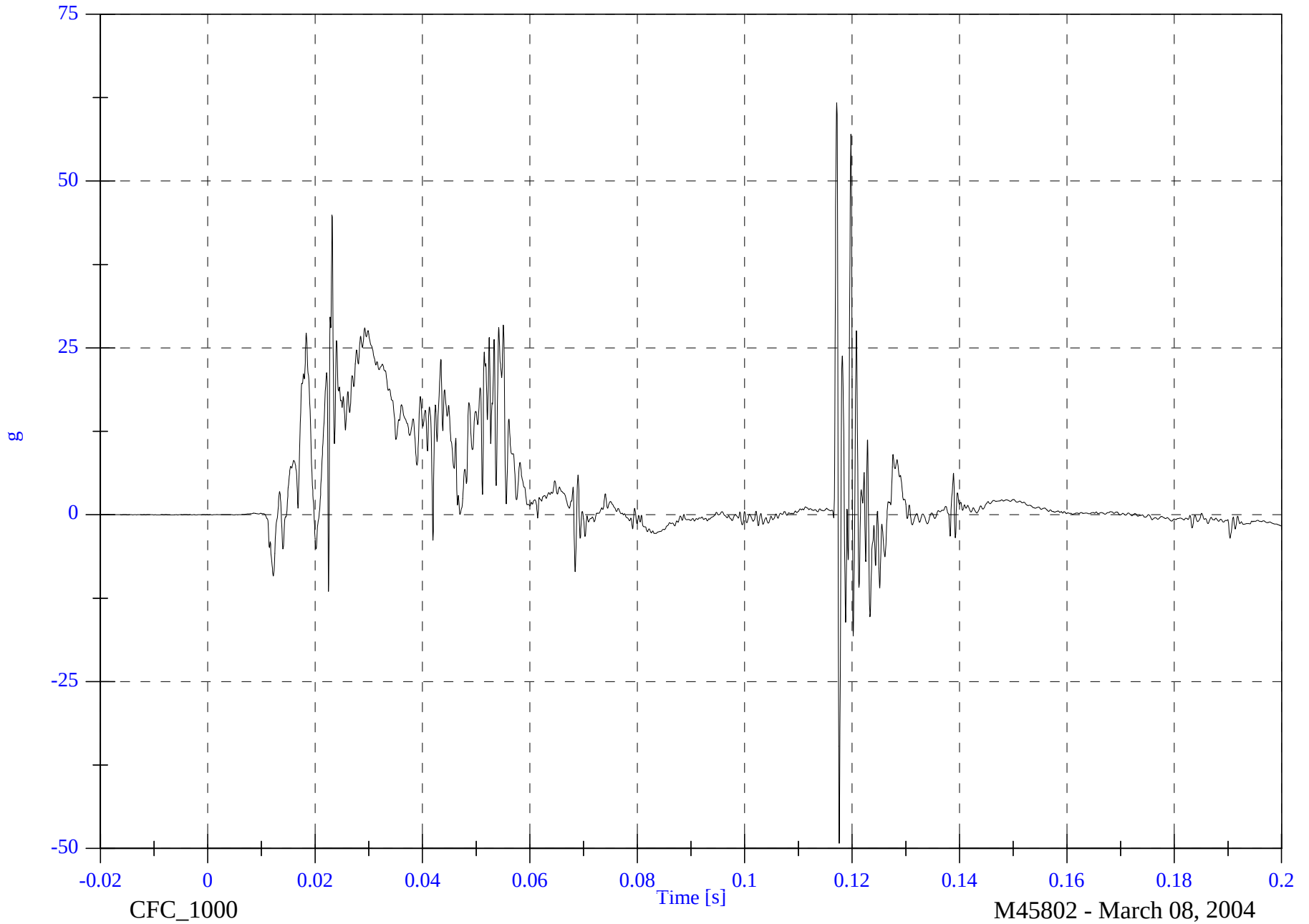
V2P1 Upper Rib y

Max: 61.7 [g] at 0.117 [s]

Min: -49.2 [g] at 0.118 [s]

B-21

8725-SNCAP-02

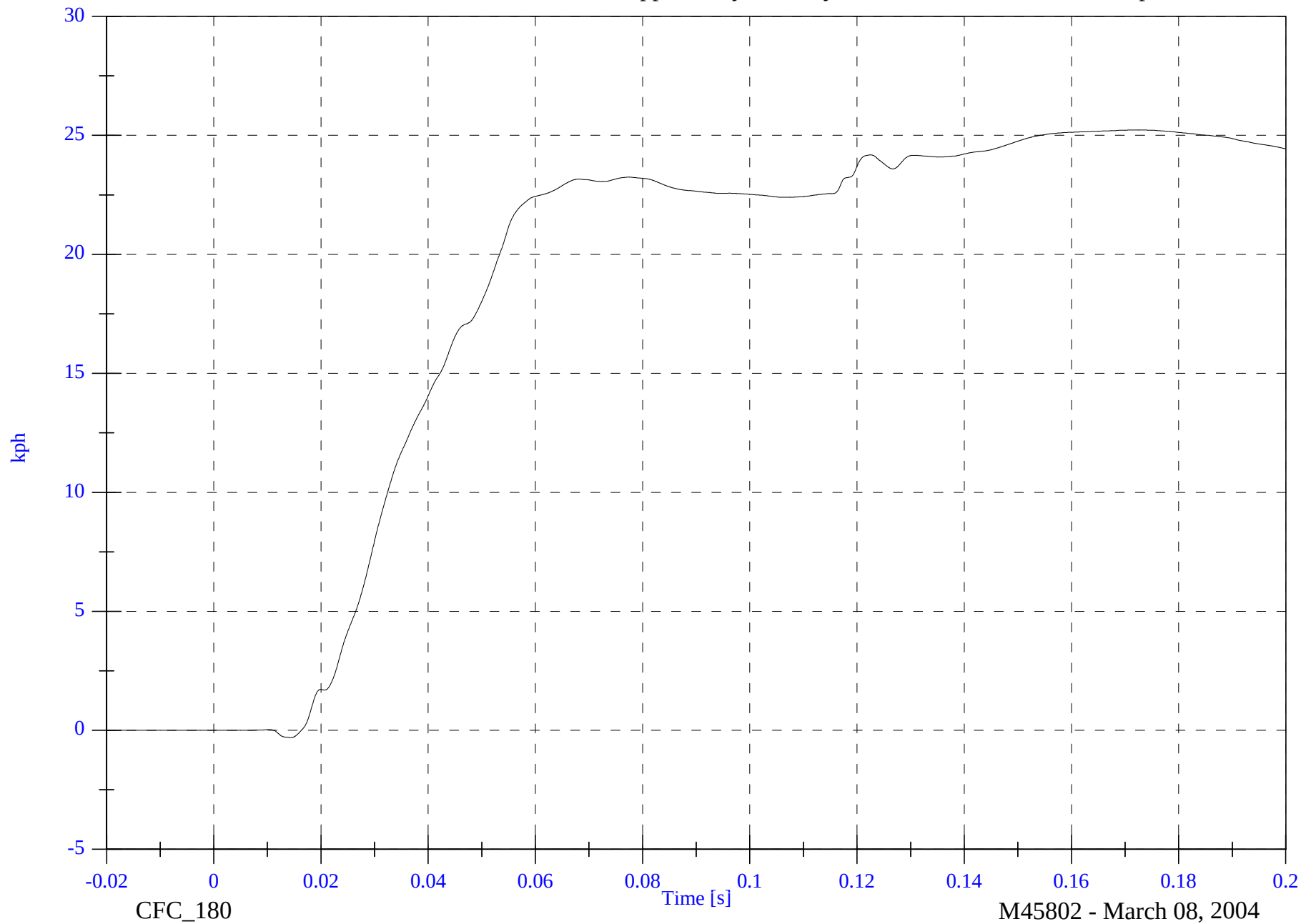


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Upper Rib y Velocity

Max: 25.2 [kph] at 0.173 [s]

Min: -0.3 [kph] at 0.014 [s]



B-22

8725-SNCAP-02

CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

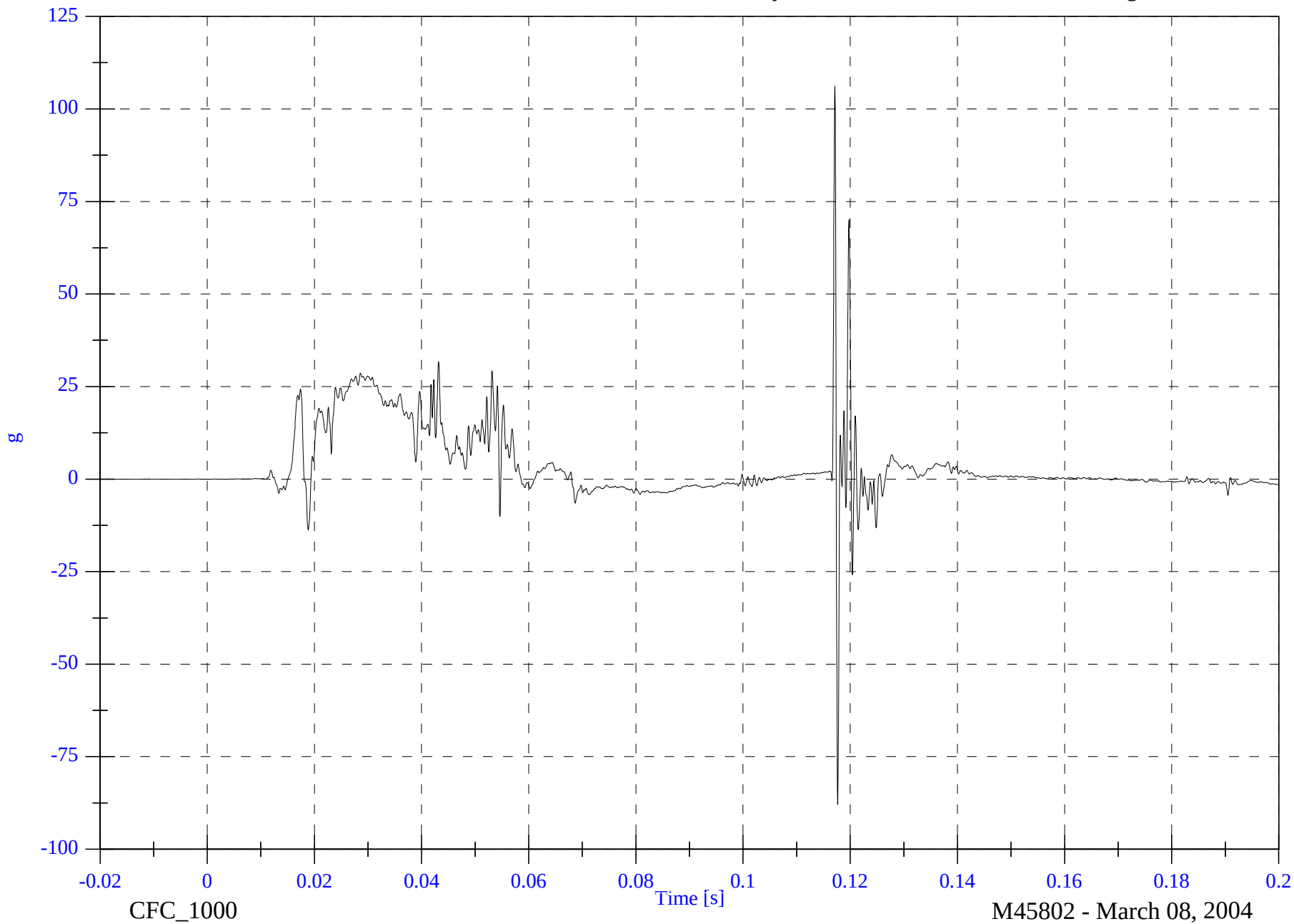
V2P1 Lower Rib y

Max: 106.1 [g] at 0.117 [s]

Min: -87.9 [g] at 0.118 [s]

B-23

8725-SNCAP-02

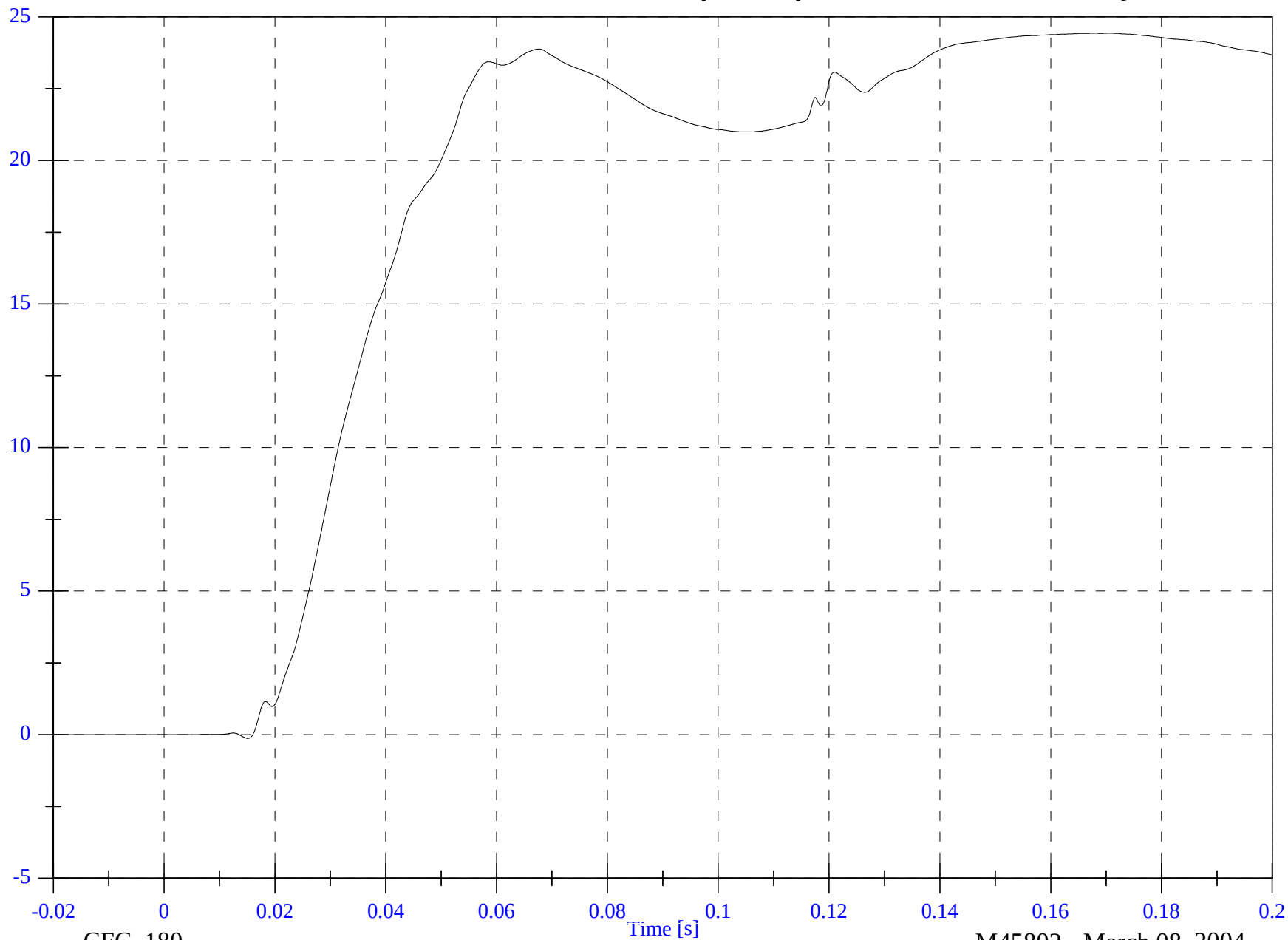


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Lower Rib y Velocity

Max: 24.4 [kph] at 0.171 [s]

Min: -0.1 [kph] at 0.015 [s]



B-24

8725-SNCAP-02

CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

V2P1 Lower Spine y

Max: 38.4 [g] at 0.035 [s]

Min: -4.0 [g] at 0.074 [s]

B-25

8725-SNCAP-02

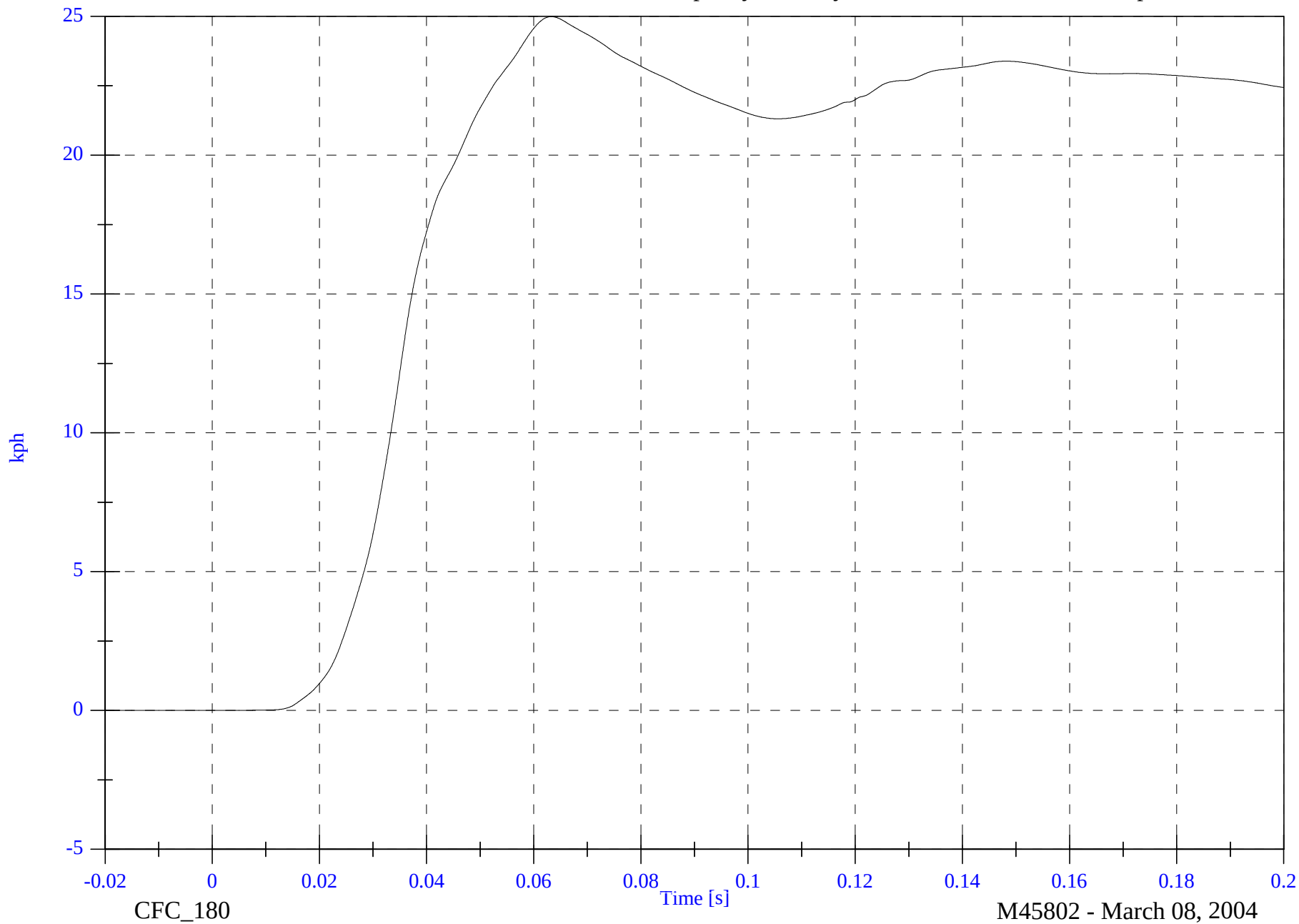


2004 SNCAP Test 2 2004 VW Touareg

Max: 25.0 [kph] at 0.063 [s]

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

V2P1 Lower Spine y Velocity



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8725-SNCAP-02

CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

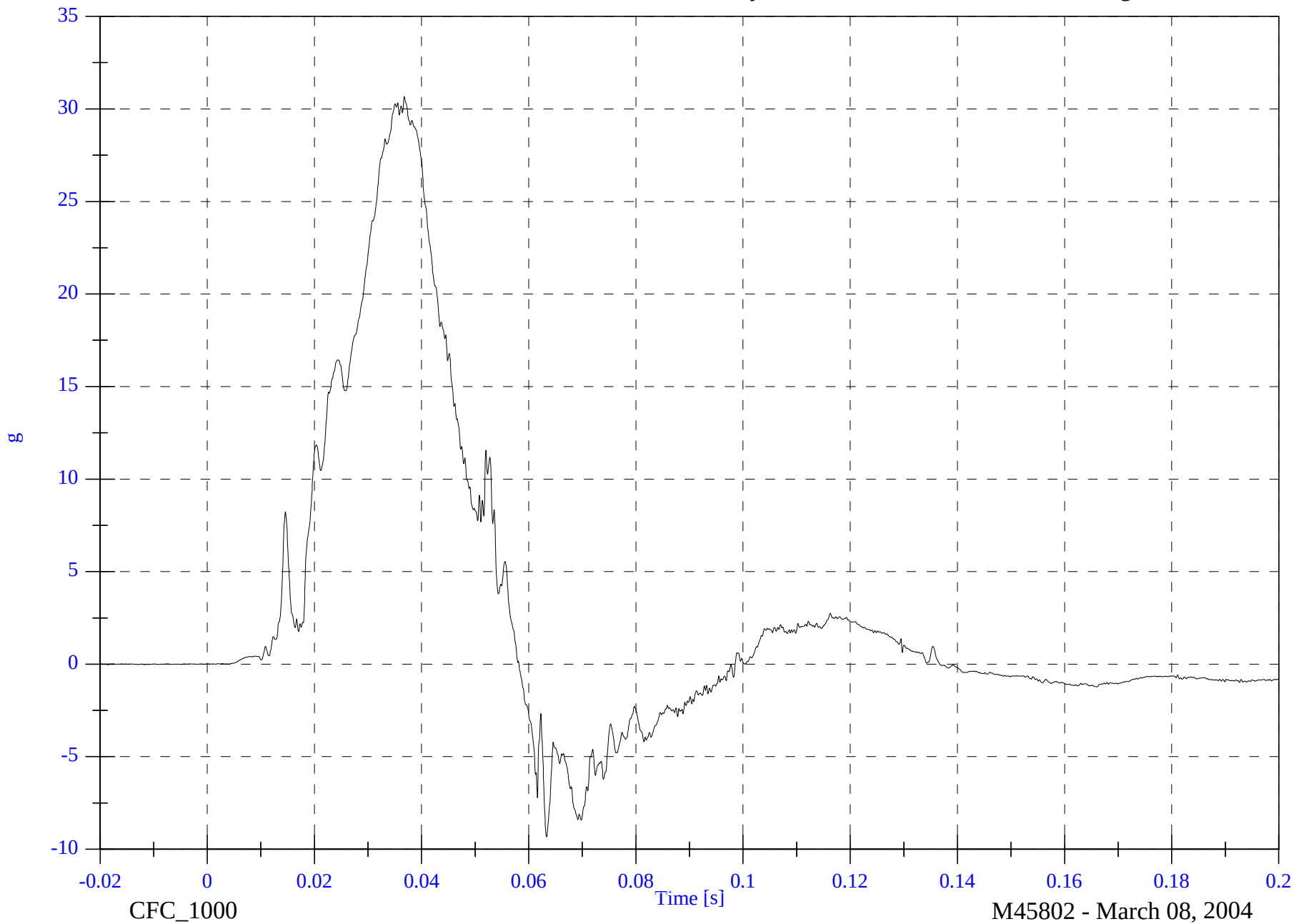
V2P1 Pelvic y

Max: 30.7 [g] at 0.037 [s]

Min: -9.3 [g] at 0.063 [s]

B-27

8725-SNCAP-02

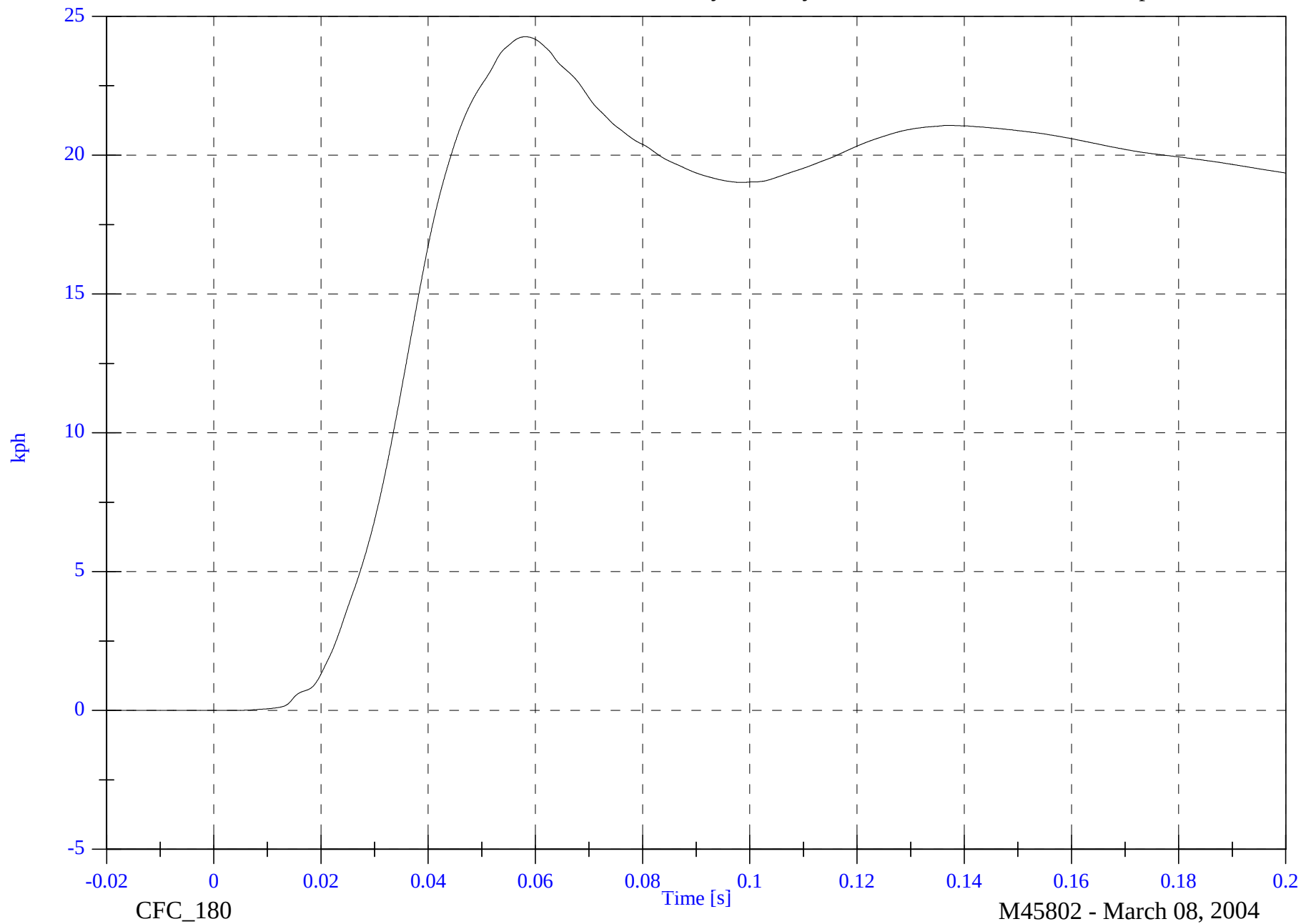


2004 SNCAP Test 2 2004 VW Touareg

Max: 24.3 [kph] at 0.058 [s]

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

V2P1 Pelvic y Velocity



B-28

8725-SNCAP-02

CFC_180

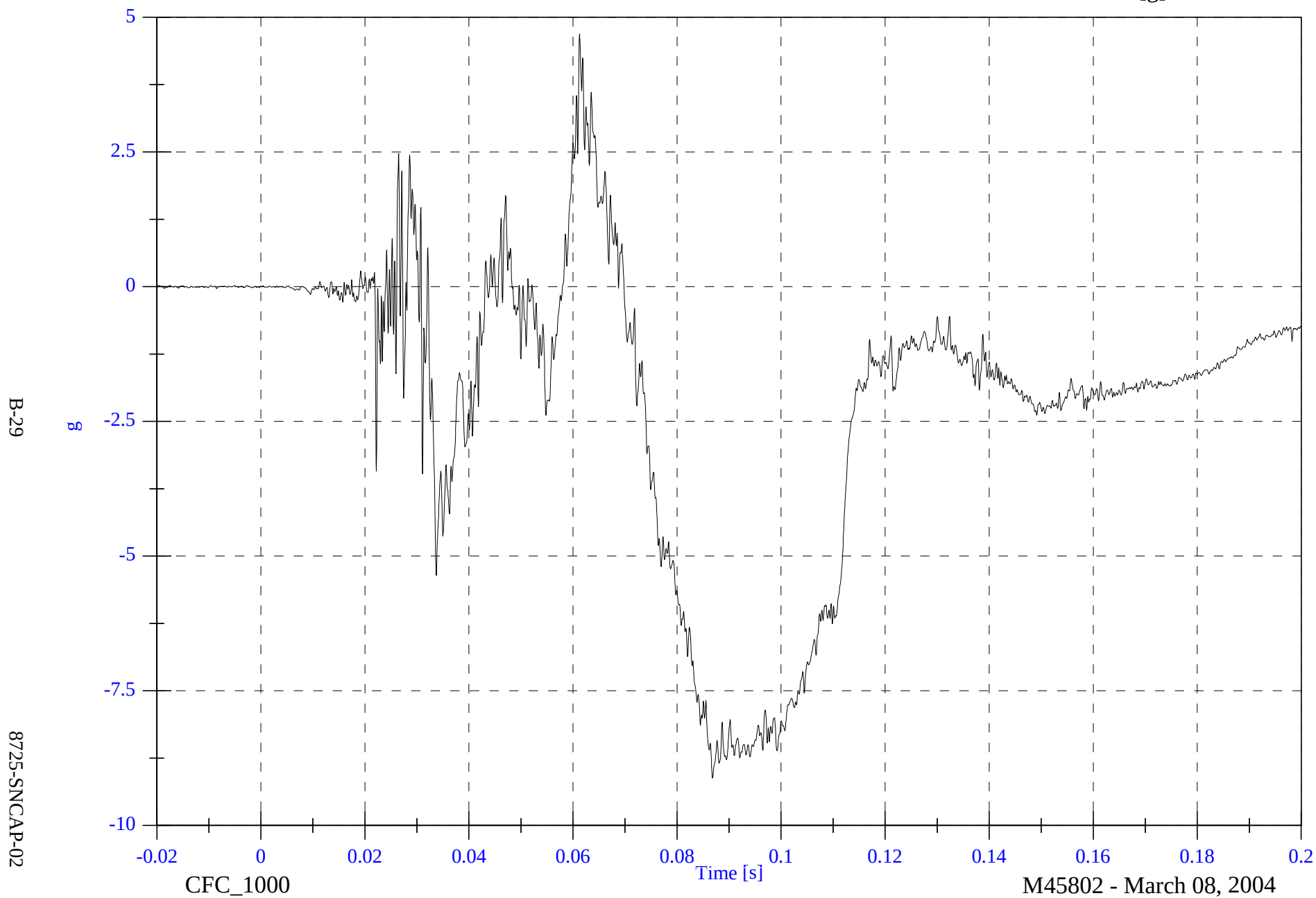
M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

Max: 4.7 [g] at 0.061 [s]

Min: -9.1 [g] at 0.087 [s]

V2P4 Head x

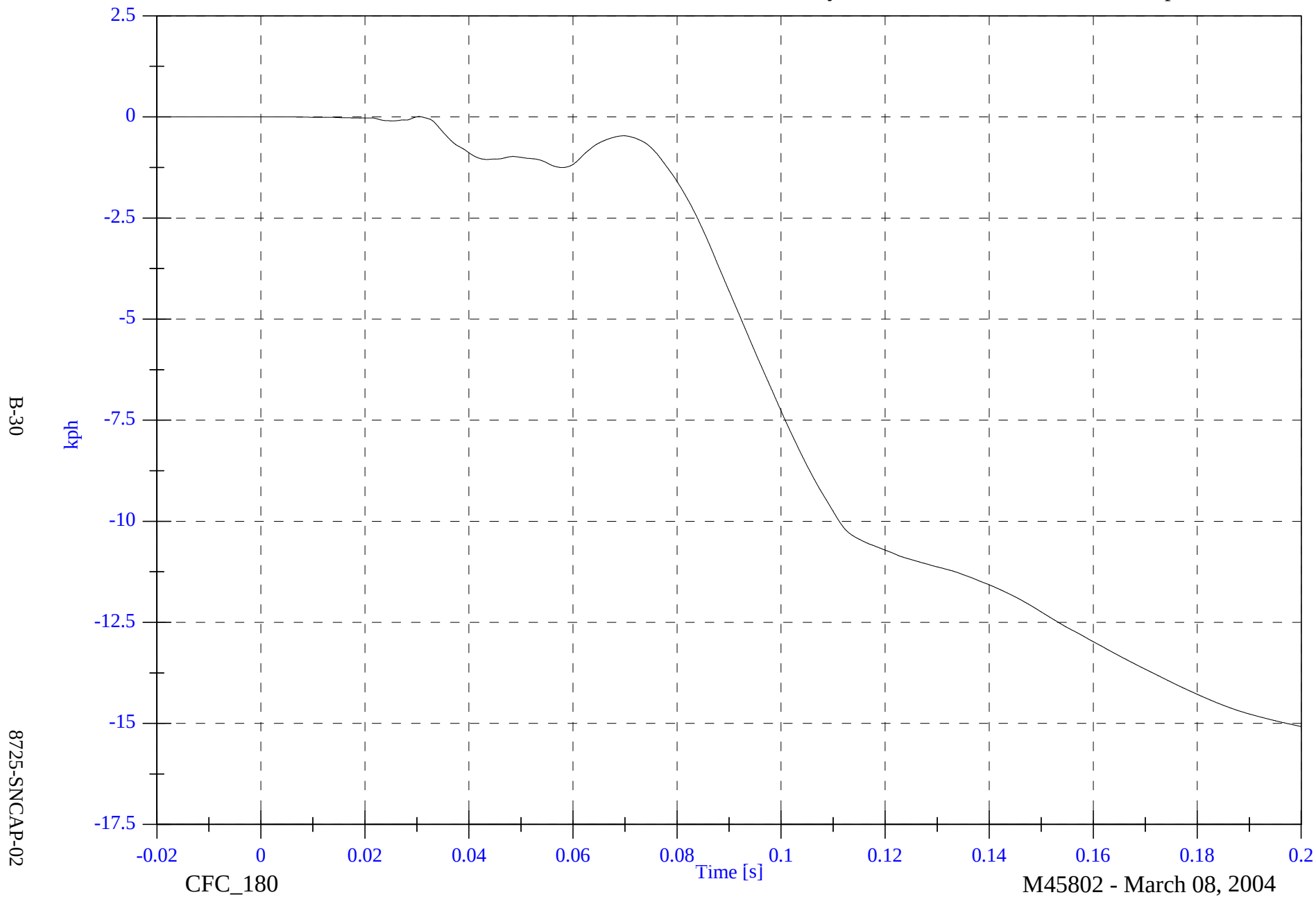


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Head x Velocity

Max: 0.0 [kph] at 0.030 [s]

Min: -15.1 [kph] at 0.200 [s]



2004 SNCAP Test 2 2004 VW Touareg

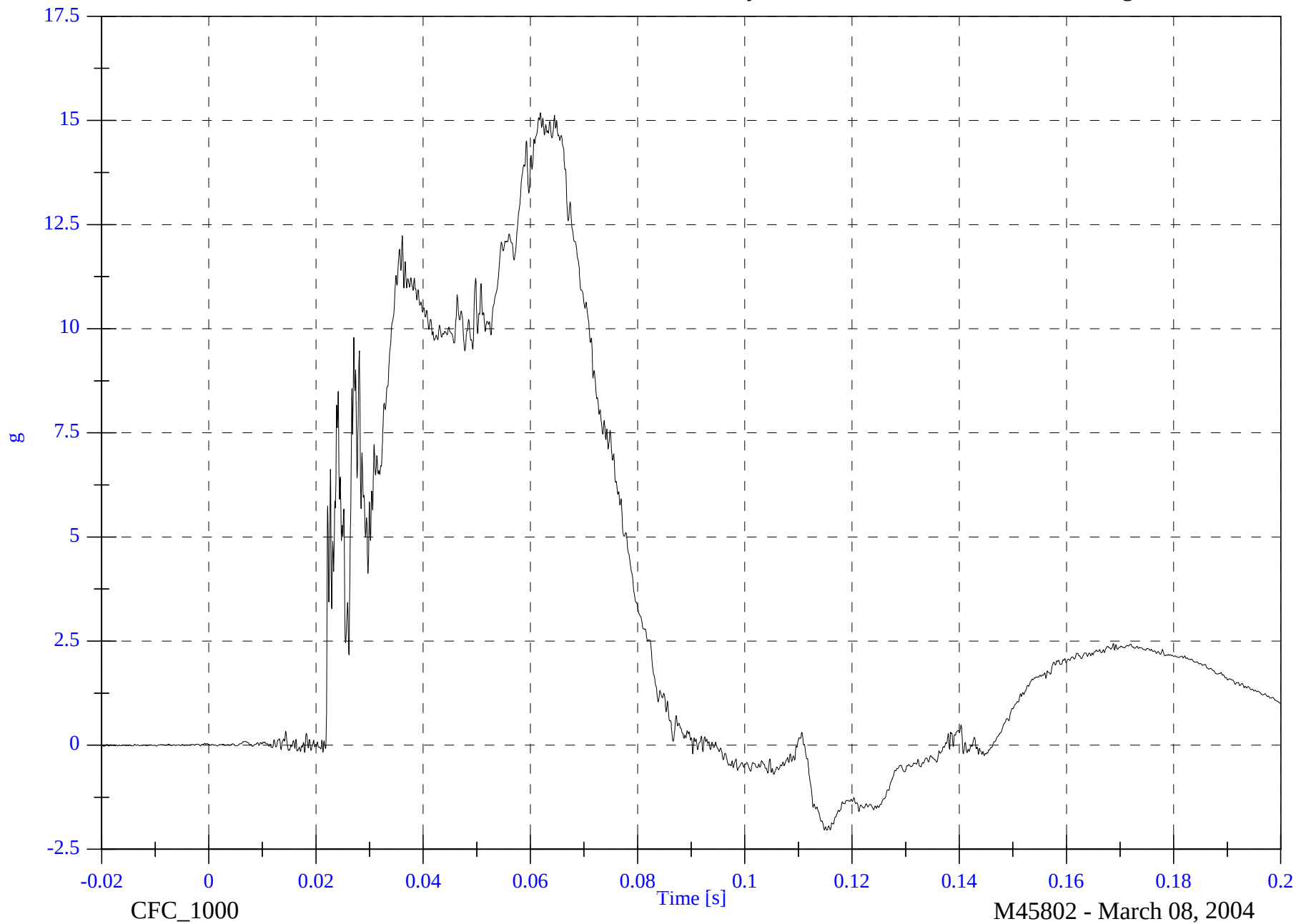
V2P4 Head y

Max: 15.2 [g] at 0.062 [s]

Min: -2.0 [g] at 0.115 [s]

B-31

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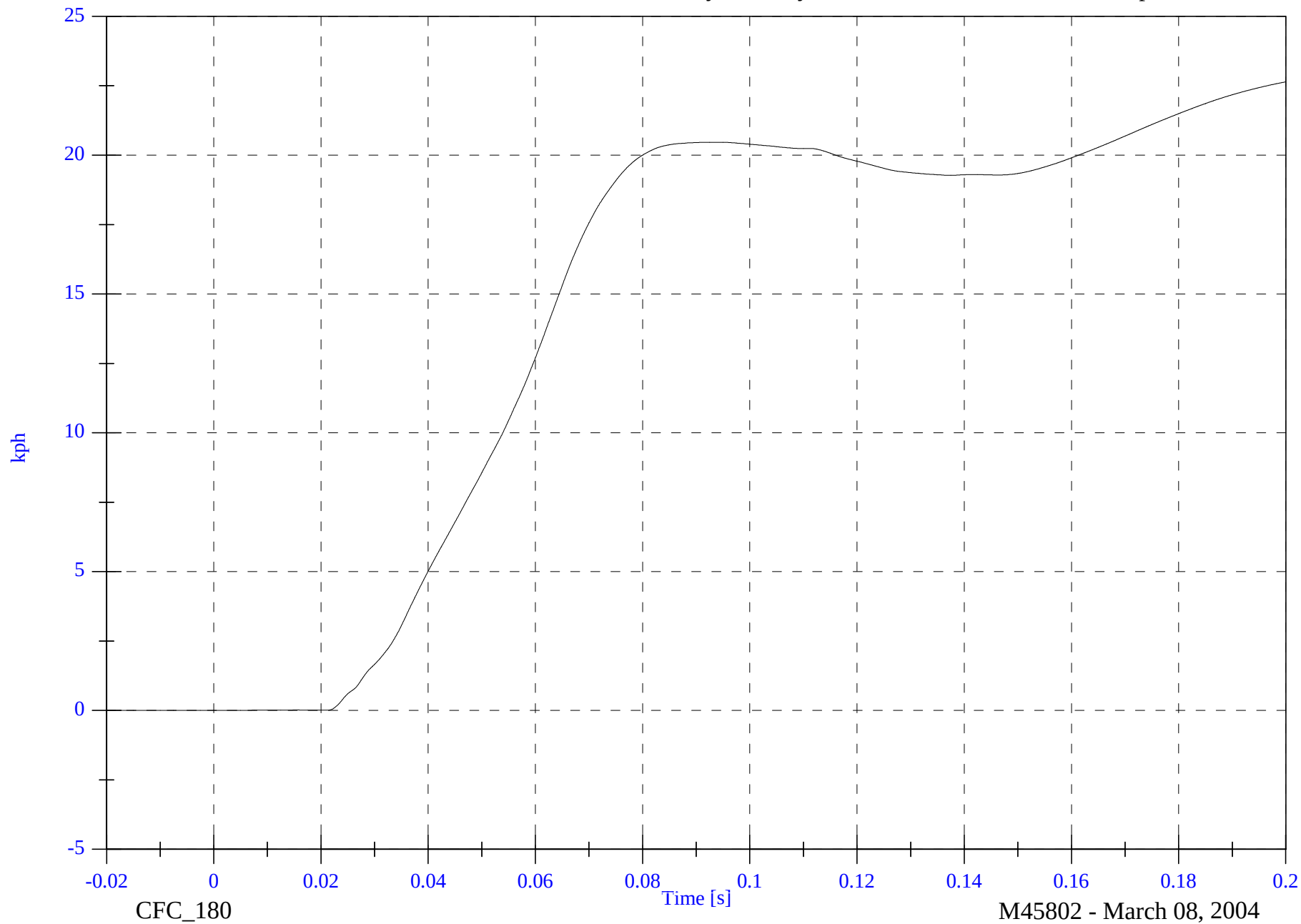


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Head y Velocity

Max: 22.6 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.009 [s]



B-32

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CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

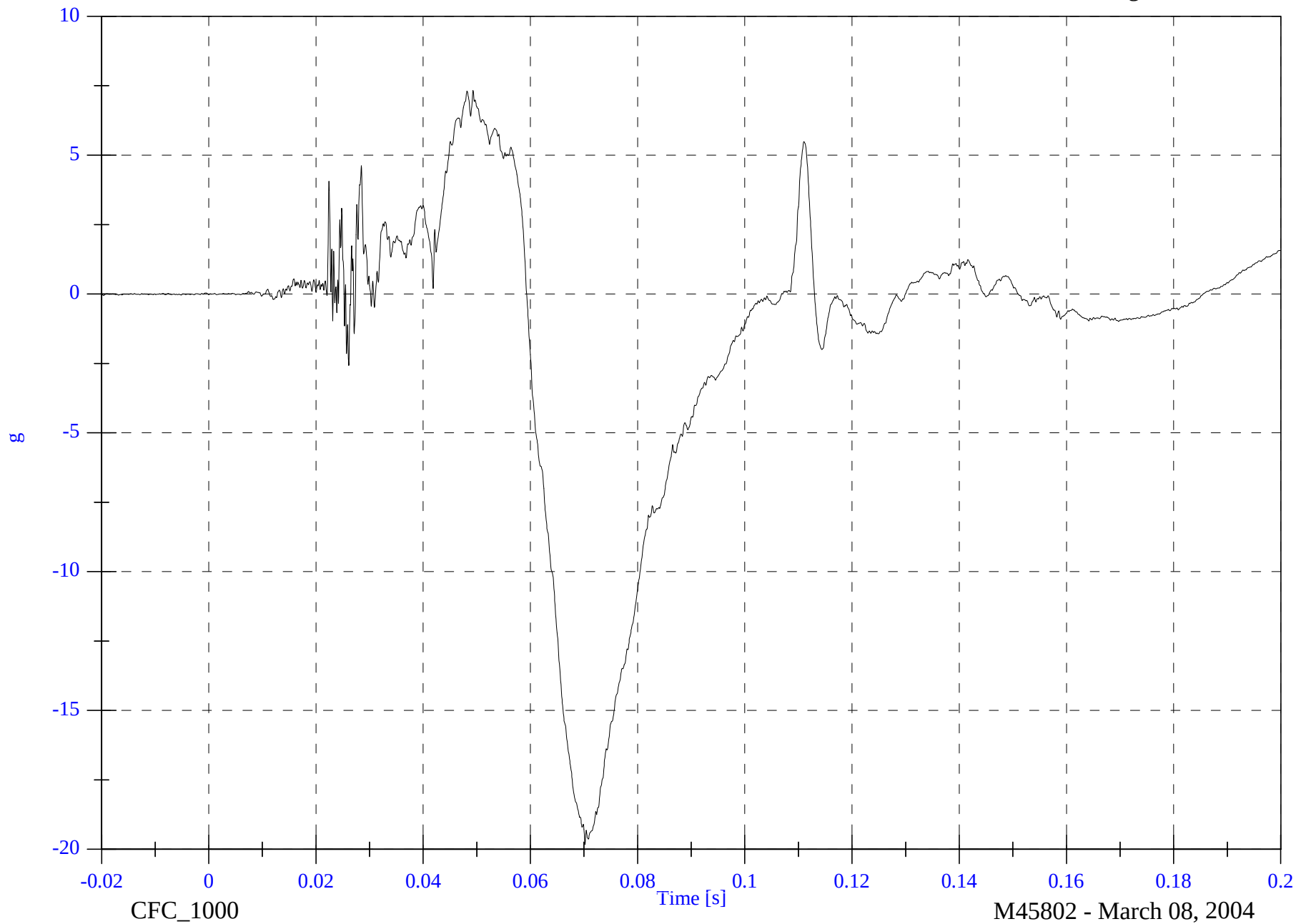
V2P4 Head z

Max: 7.3 [g] at 0.049 [s]

Min: -19.8 [g] at 0.070 [s]

B-33

8725-SNCAP-02

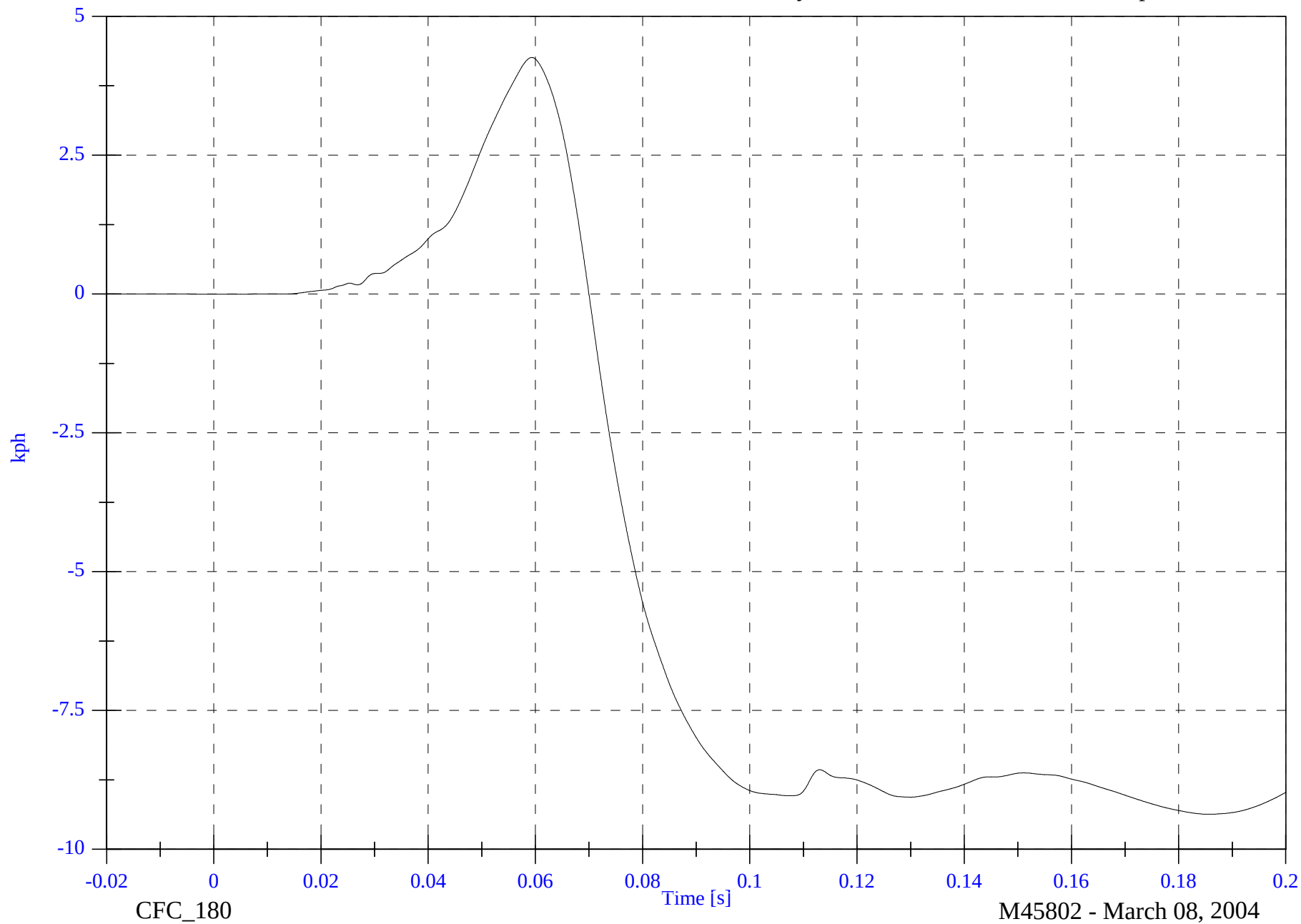


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Head z Velocity

Max: 4.3 [kph] at 0.059 [s]

Min: -9.4 [kph] at 0.186 [s]



B-34

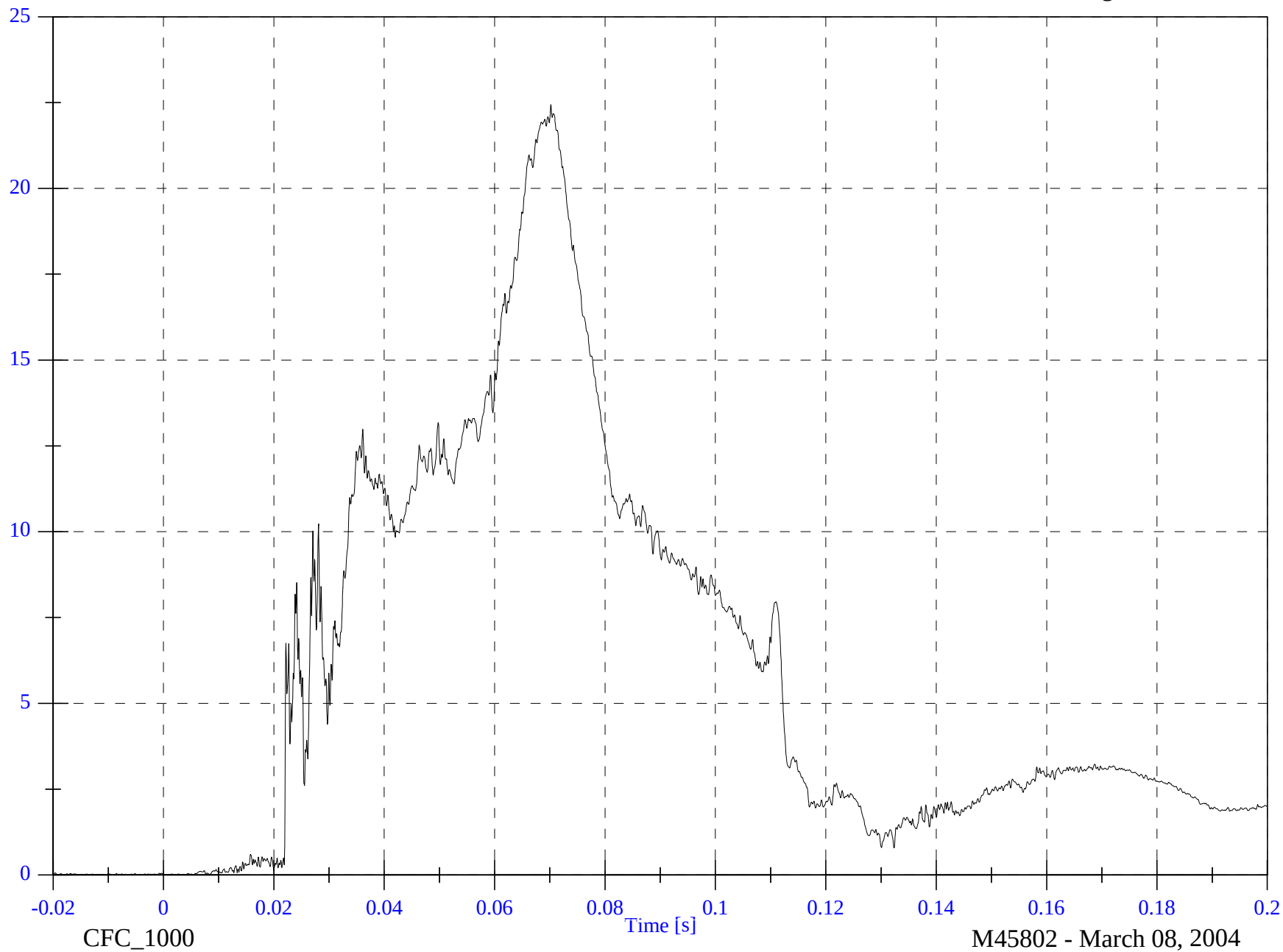
8725-SNCAP-02

2004 SNCAP Test 2 2004 VW Touareg

V2P4 Head Resultant

Max: 22.4 [g] at 0.070 [s]

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



B-35

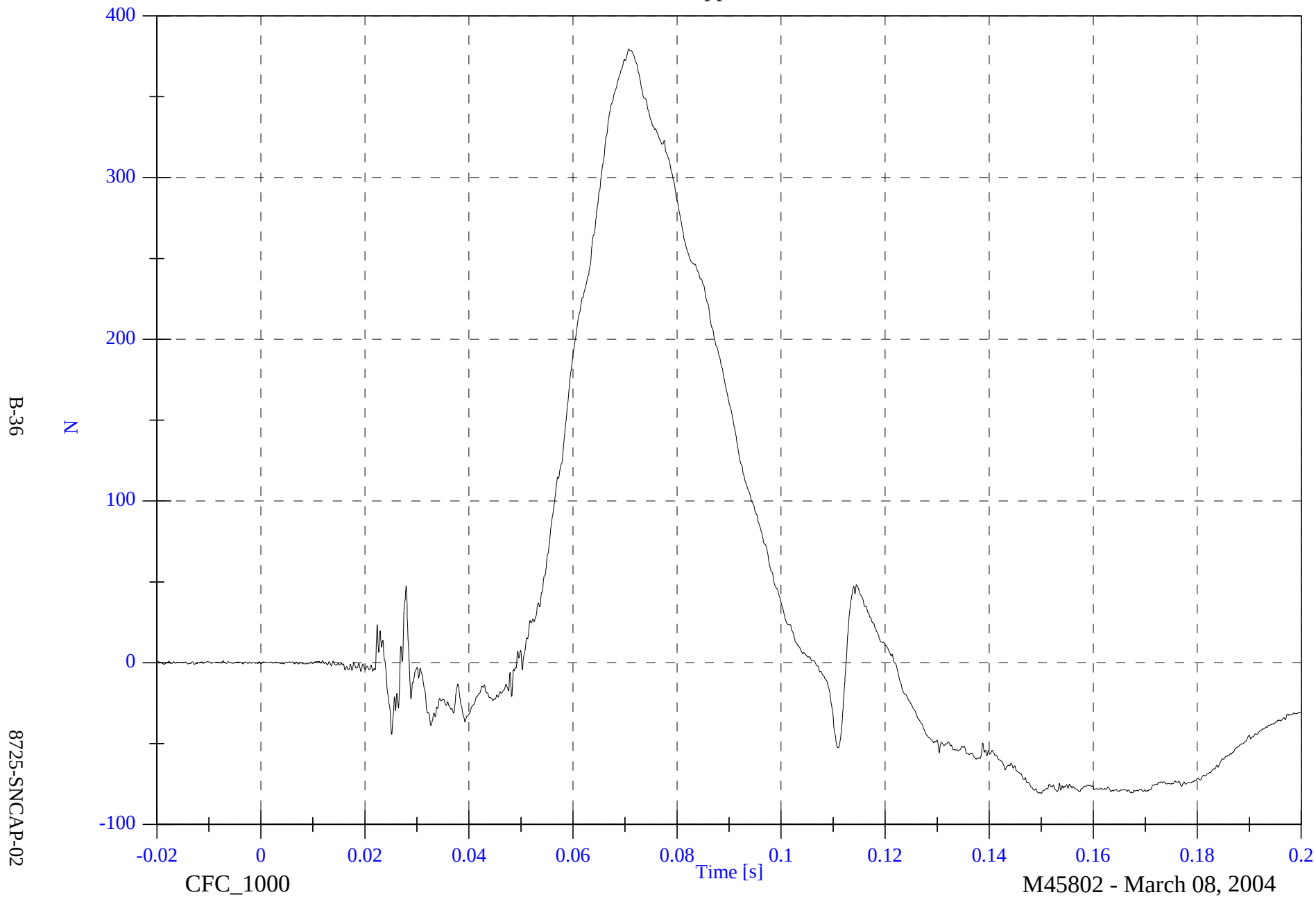
8725-SNCAP-02

2004 SNCAP Test 2 2004 VW Touareg

Max: 379.5 [N] at 0.071 [s]

Min: -80.8 [N] at 0.150 [s]

V2P4 Upper Neck Fx



2004 SNCAP Test 2 2004 VW Touareg

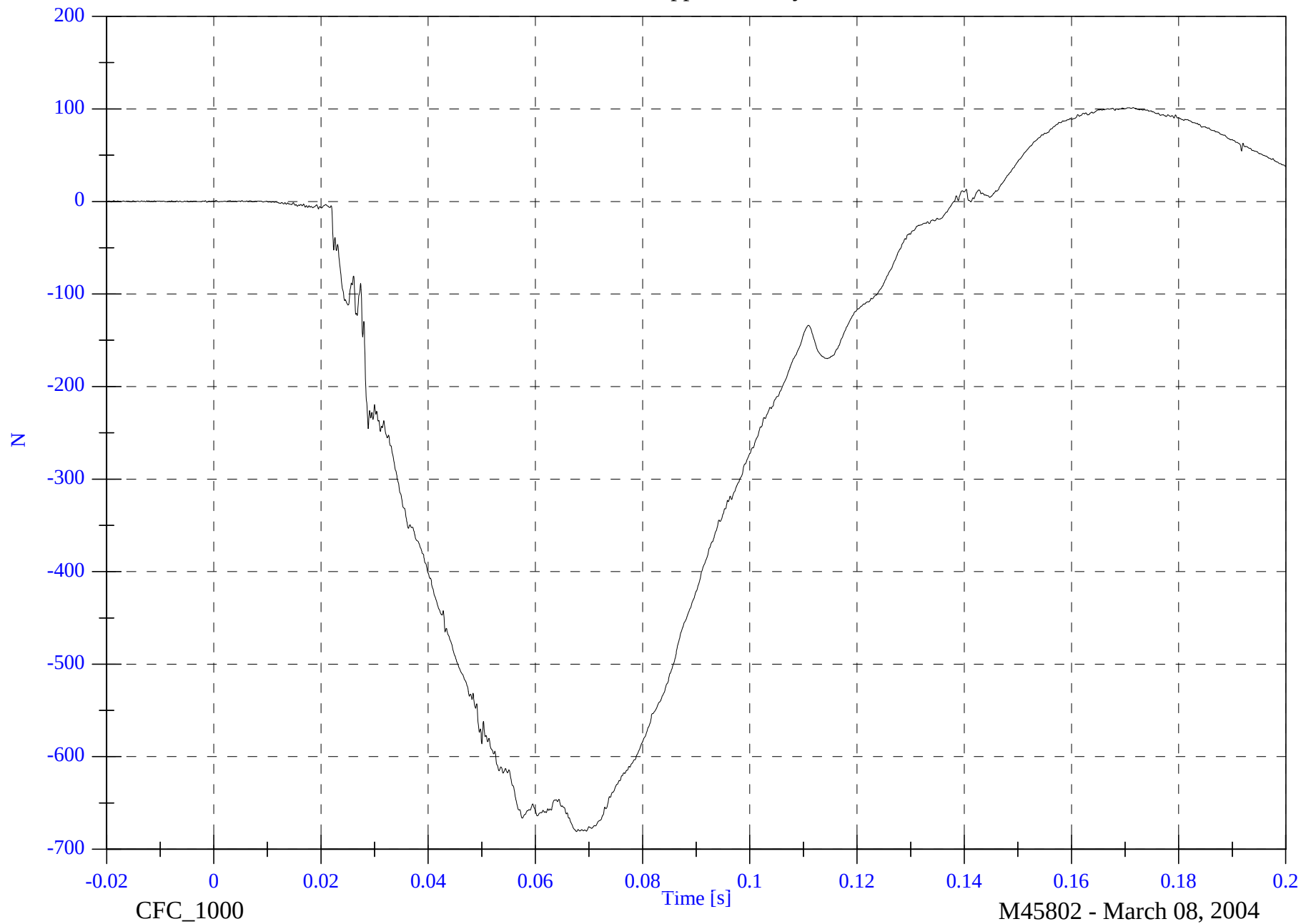
V2P4 Upper Neck Fy

Max: 101.5 [N] at 0.172 [s]

Min: -681.0 [N] at 0.068 [s]

B-37

8725-SNCAP-02

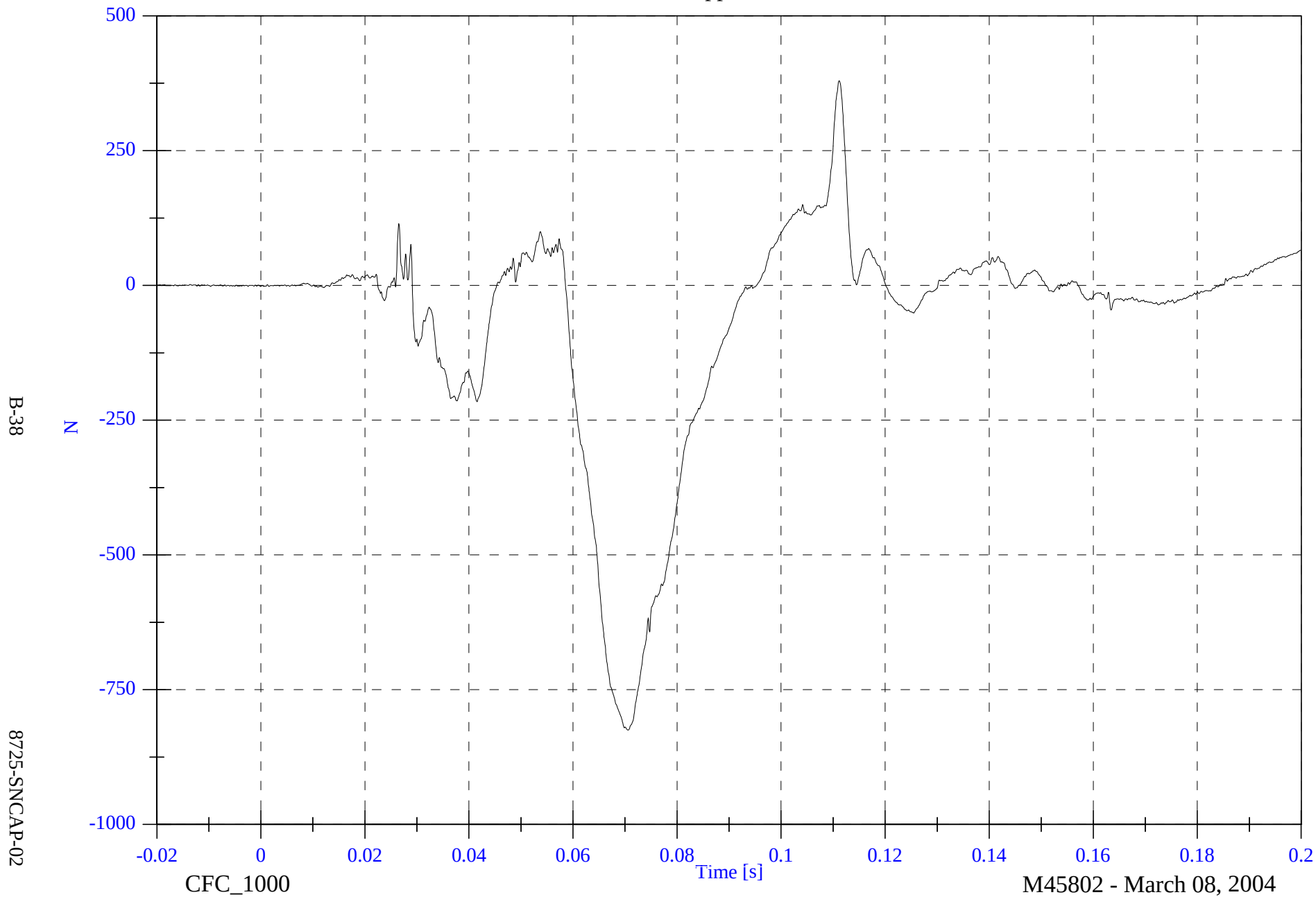


2004 SNCAP Test 2 2004 VW Touareg

Max: 379.7 [N] at 0.111 [s]

Min: -824.7 [N] at 0.071 [s]

V2P4 Upper Neck Fz



2004 SNCAP Test 2 2004 VW Touareg

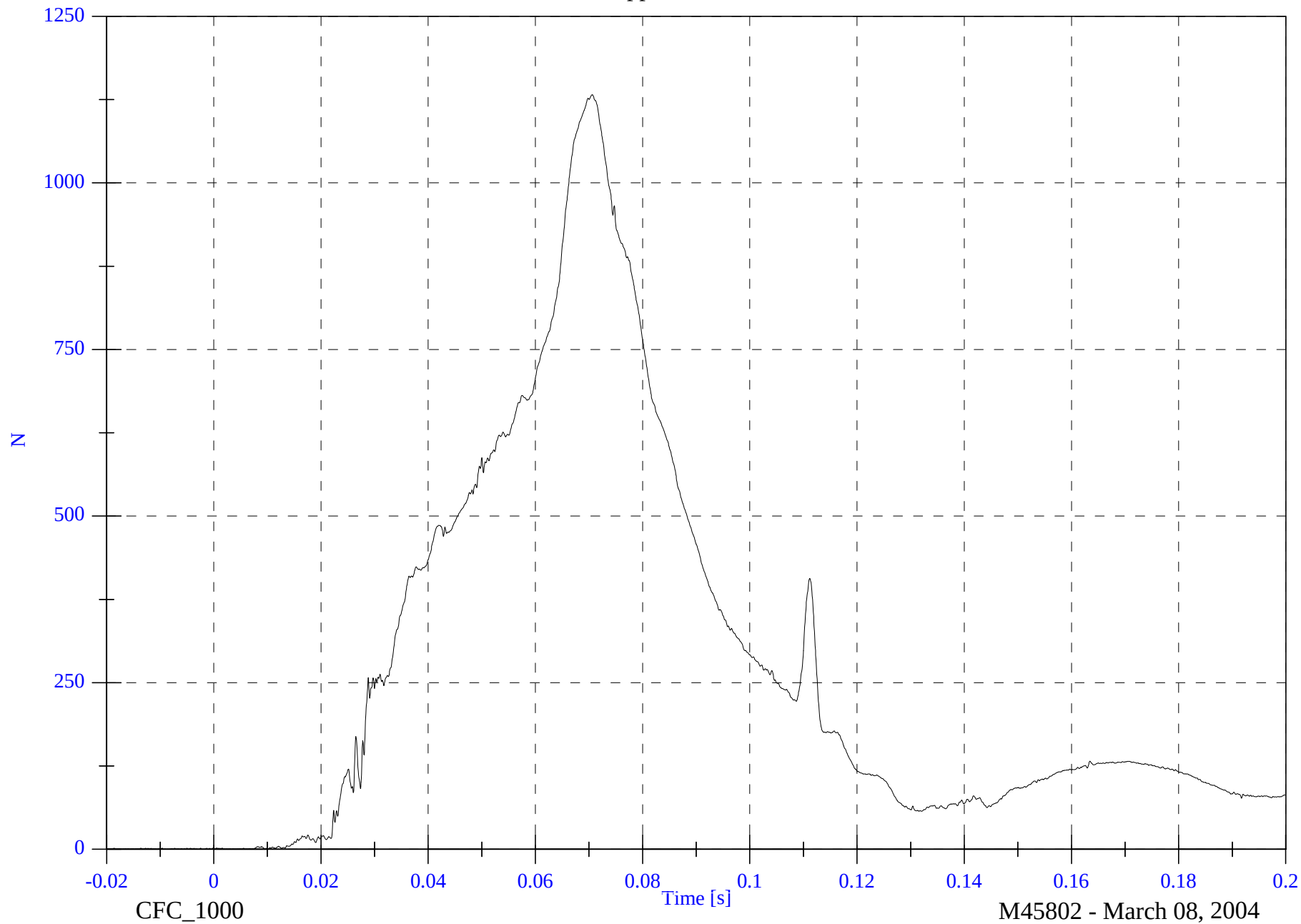
V2P4 Upper Neck F Resultant

Max: 1132.2 [N] at 0.071 [s]

Min: 0.1 [N] at -0.003 [s]

B-39

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

V2P4 Upper Neck Mx

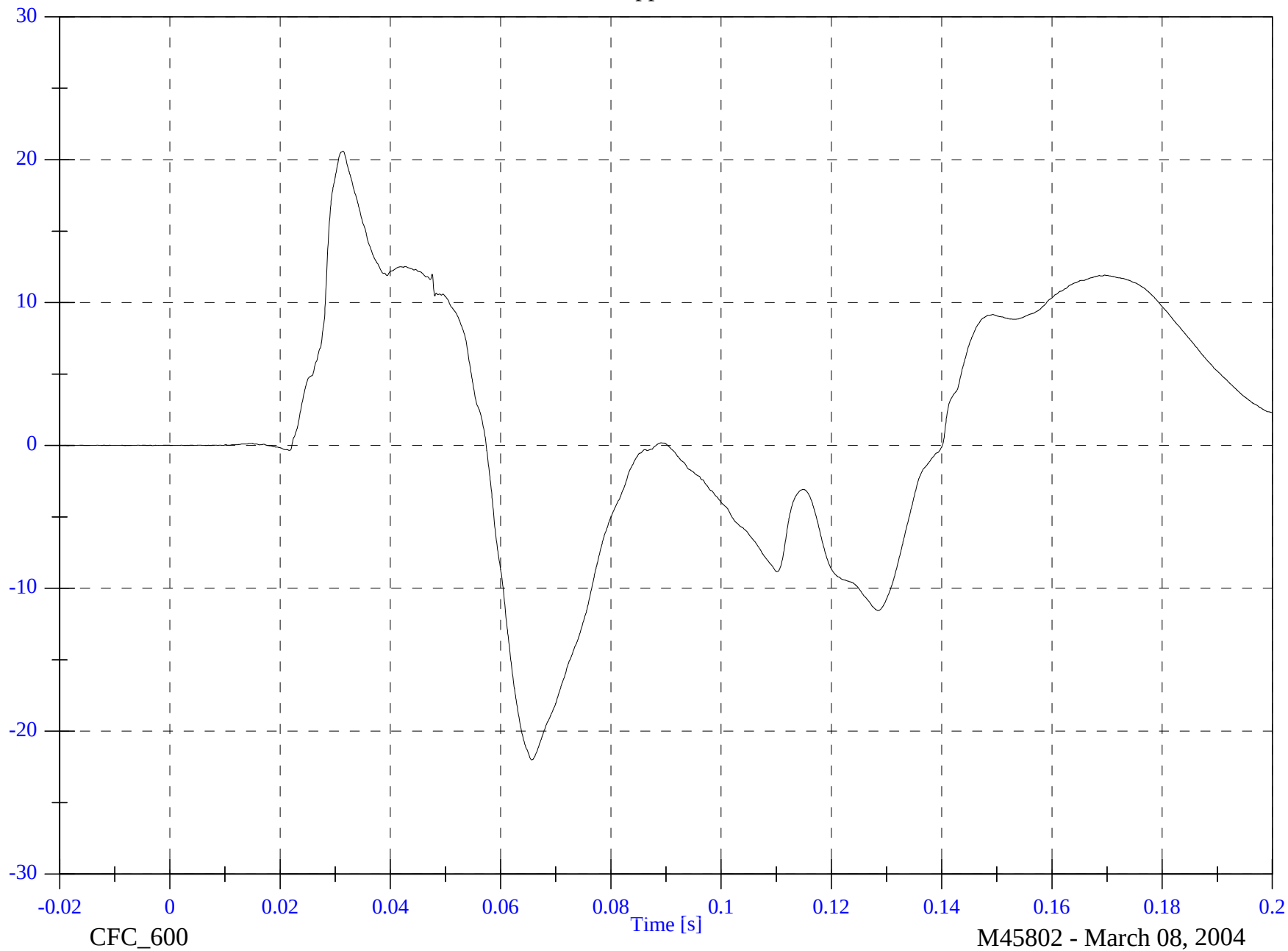
Max: 20.6 [N-m] at 0.031 [s]

Min: -22.0 [N-m] at 0.066 [s]

B-40

N-m

8725-SNCAP-02



M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

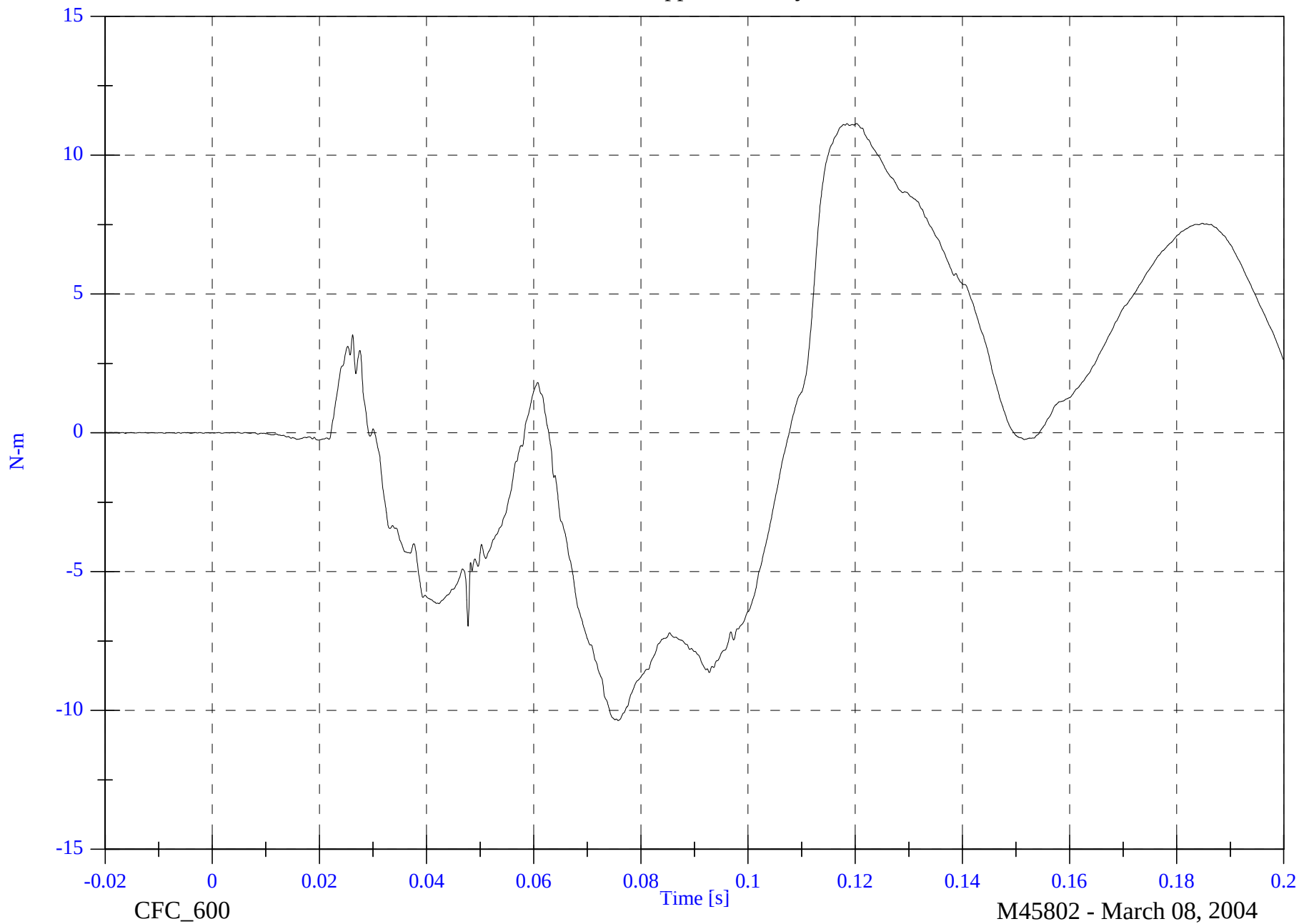
V2P4 Upper Neck My

Max: 11.1 [N-m] at 0.120 [s]

Min: -10.4 [N-m] at 0.076 [s]

B-41

8725-SNCAP-02



CFC_600

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

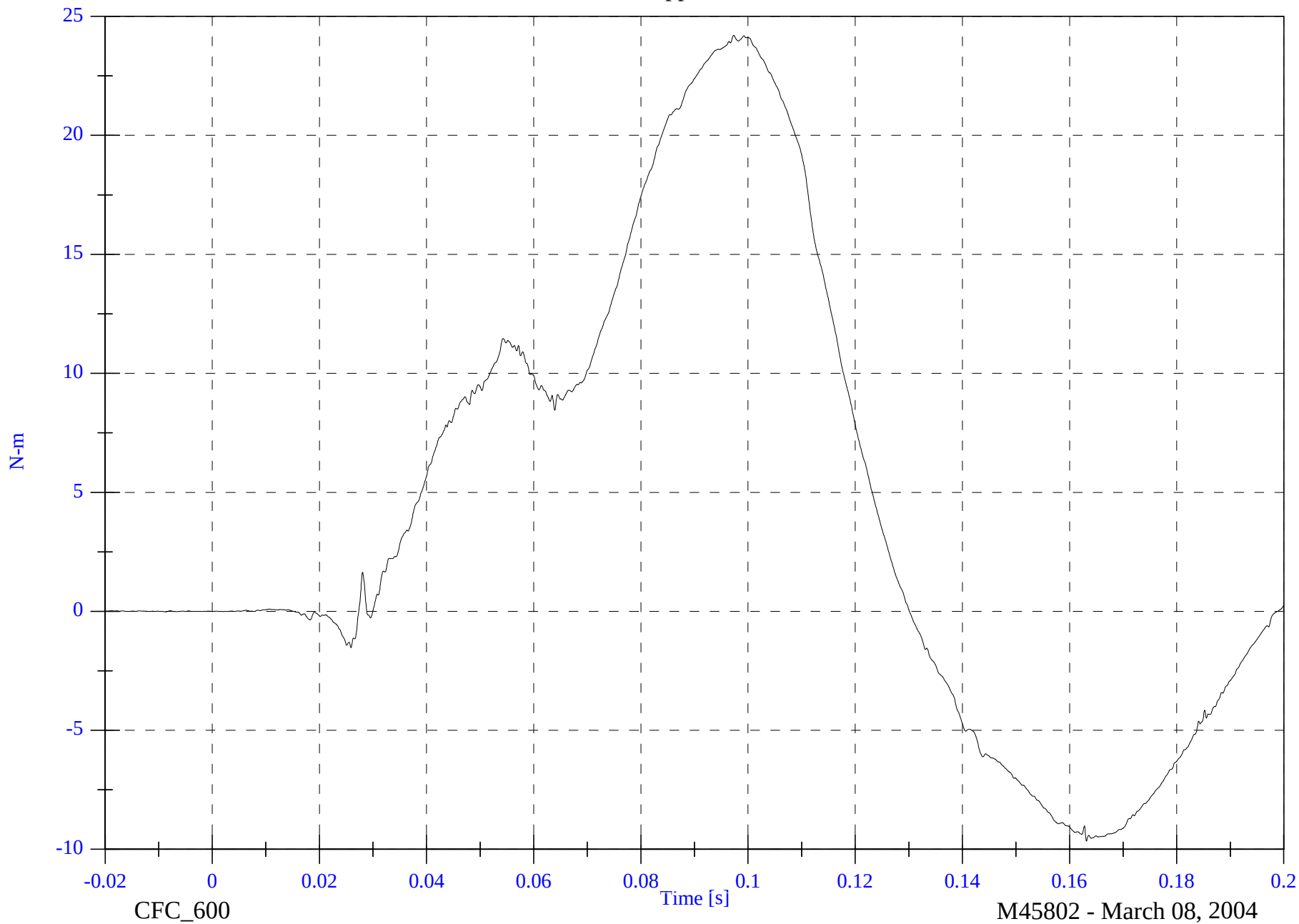
V2P4 Upper Neck Mz

Max: 24.2 [N-m] at 0.097 [s]

Min: -9.7 [N-m] at 0.163 [s]

B-42

8725-SNCAP-02



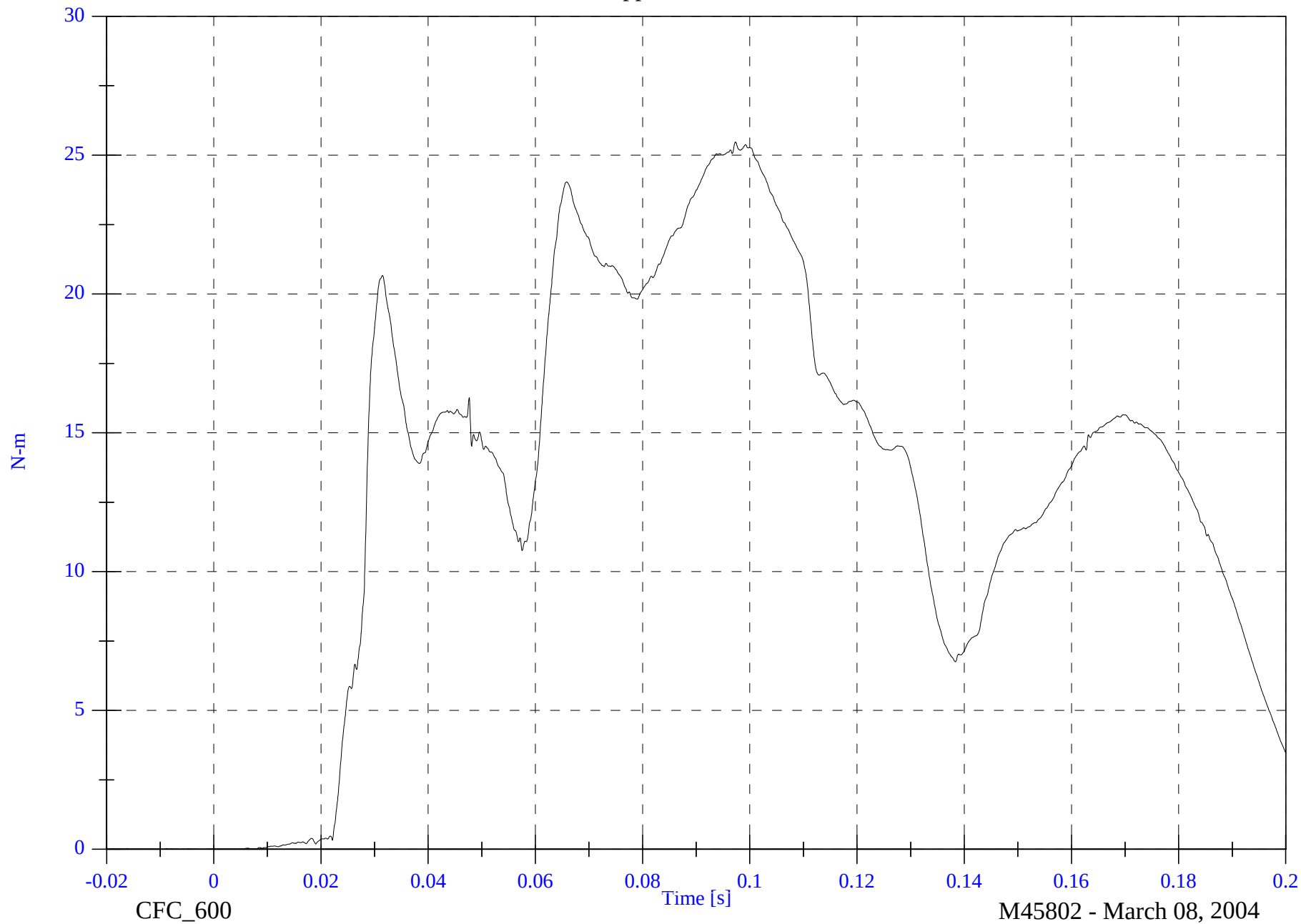
M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

V2P4 Upper Neck M Resultant

Max: 25.5 [N-m] at 0.097 [s]

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



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CFC_600

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

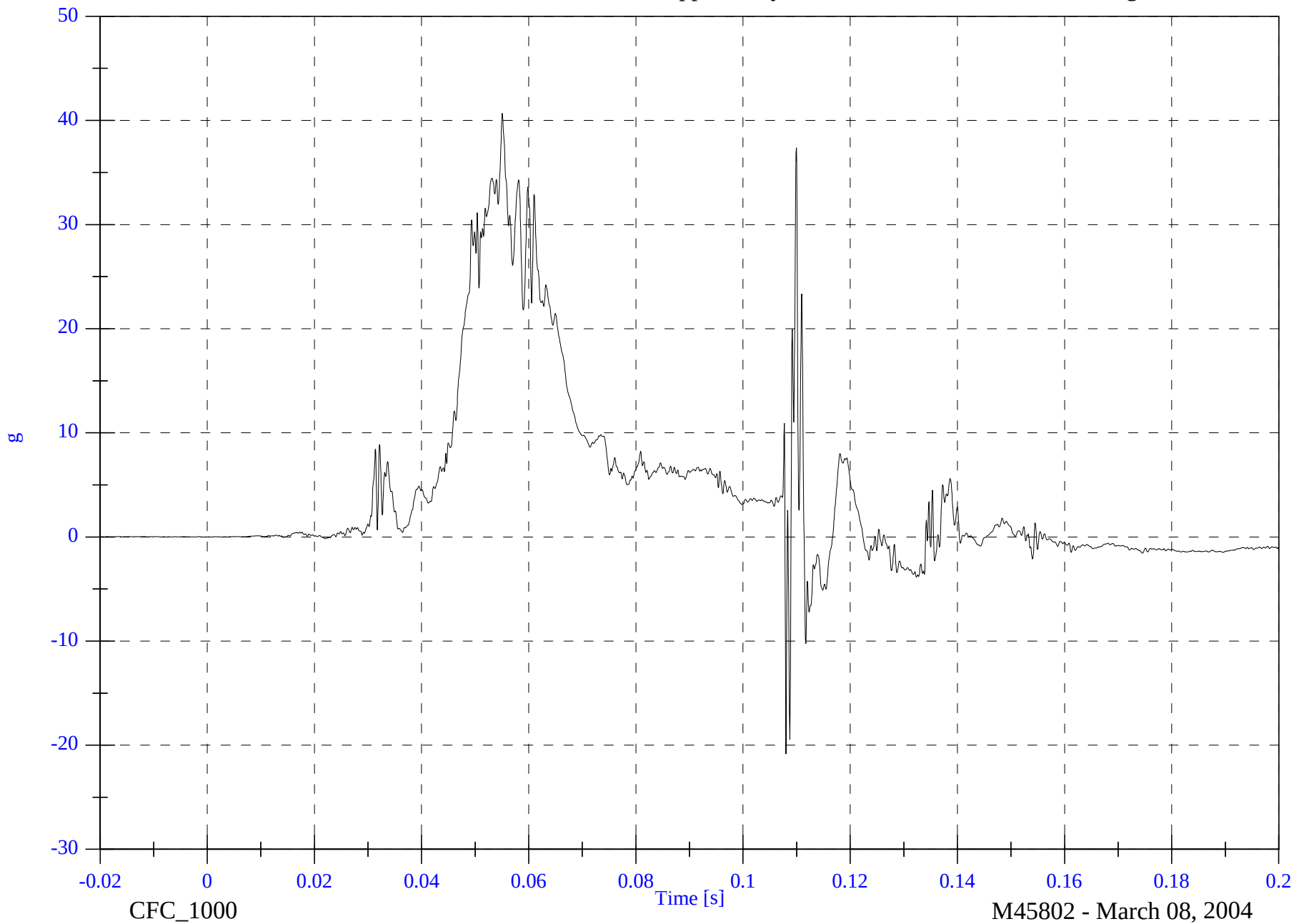
V2P4 Upper Rib y

Max: 40.7 [g] at 0.055 [s]

Min: -20.8 [g] at 0.108 [s]

B-44

8725-SNCAP-02

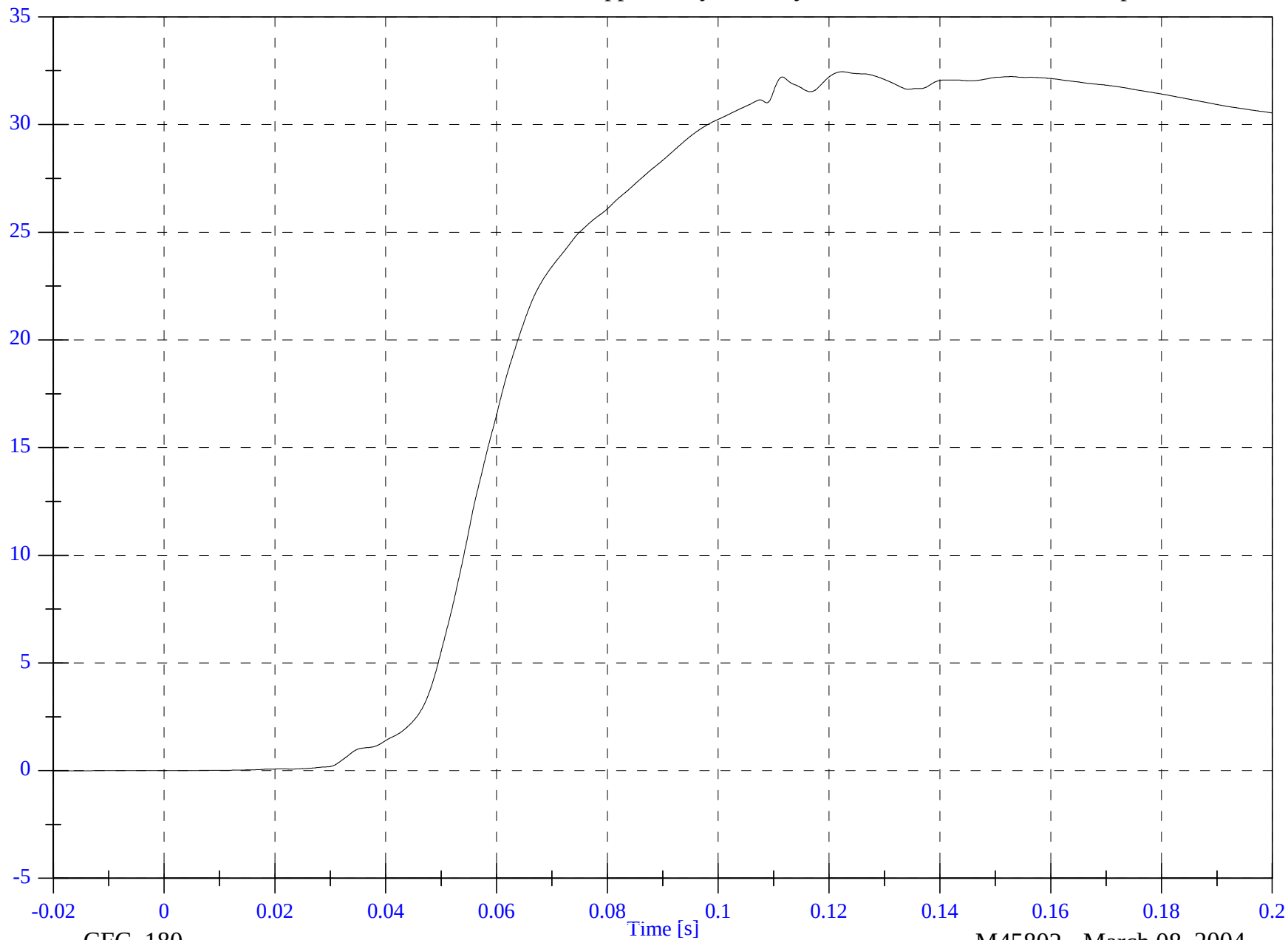


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Upper Rib y Velocity

Max: 32.5 [kph] at 0.122 [s]

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



B-45

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CFC_180

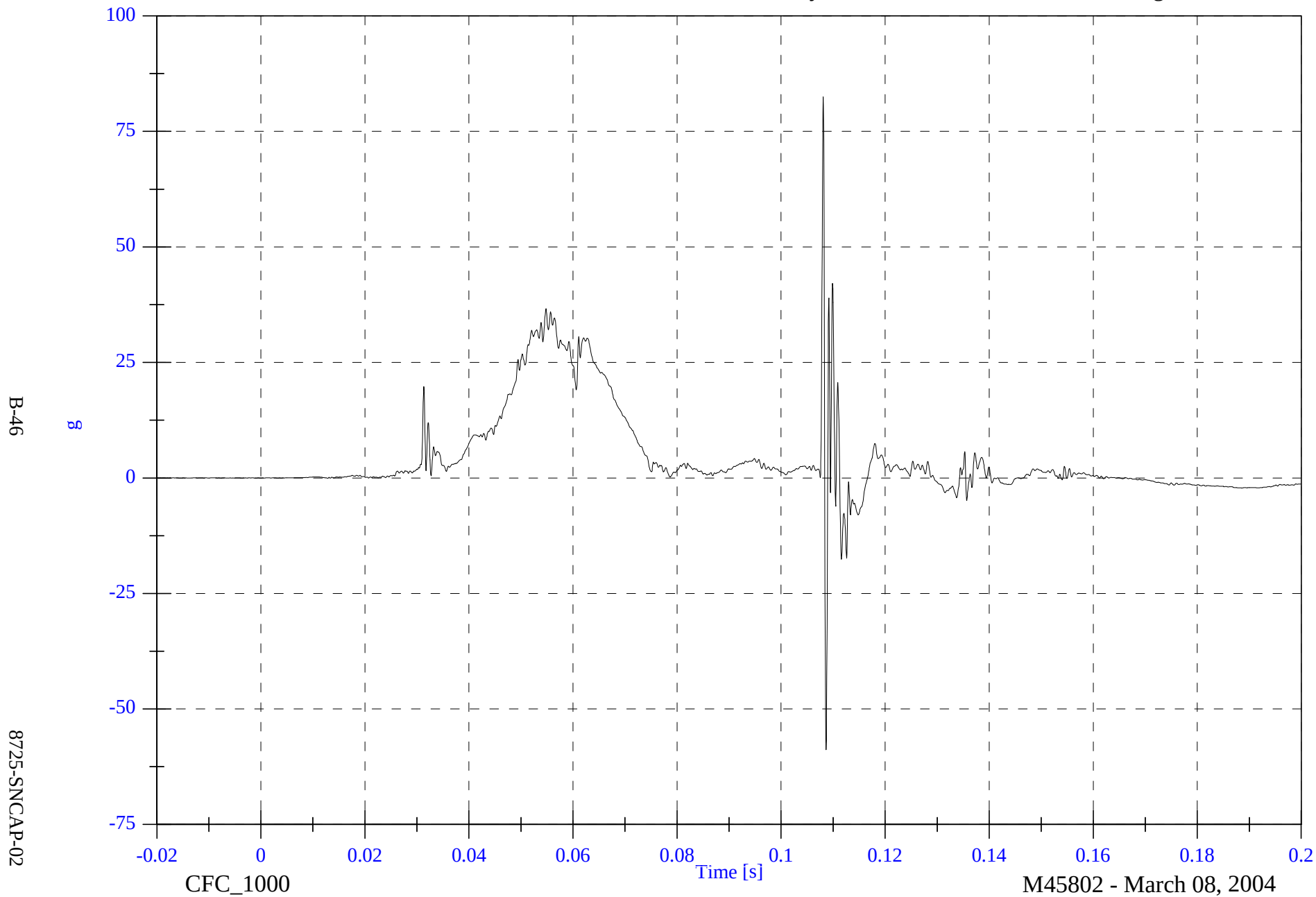
M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

V2P4 Lower Rib y

Max: 82.5 [g] at 0.108 [s]

Min: -58.8 [g] at 0.109 [s]

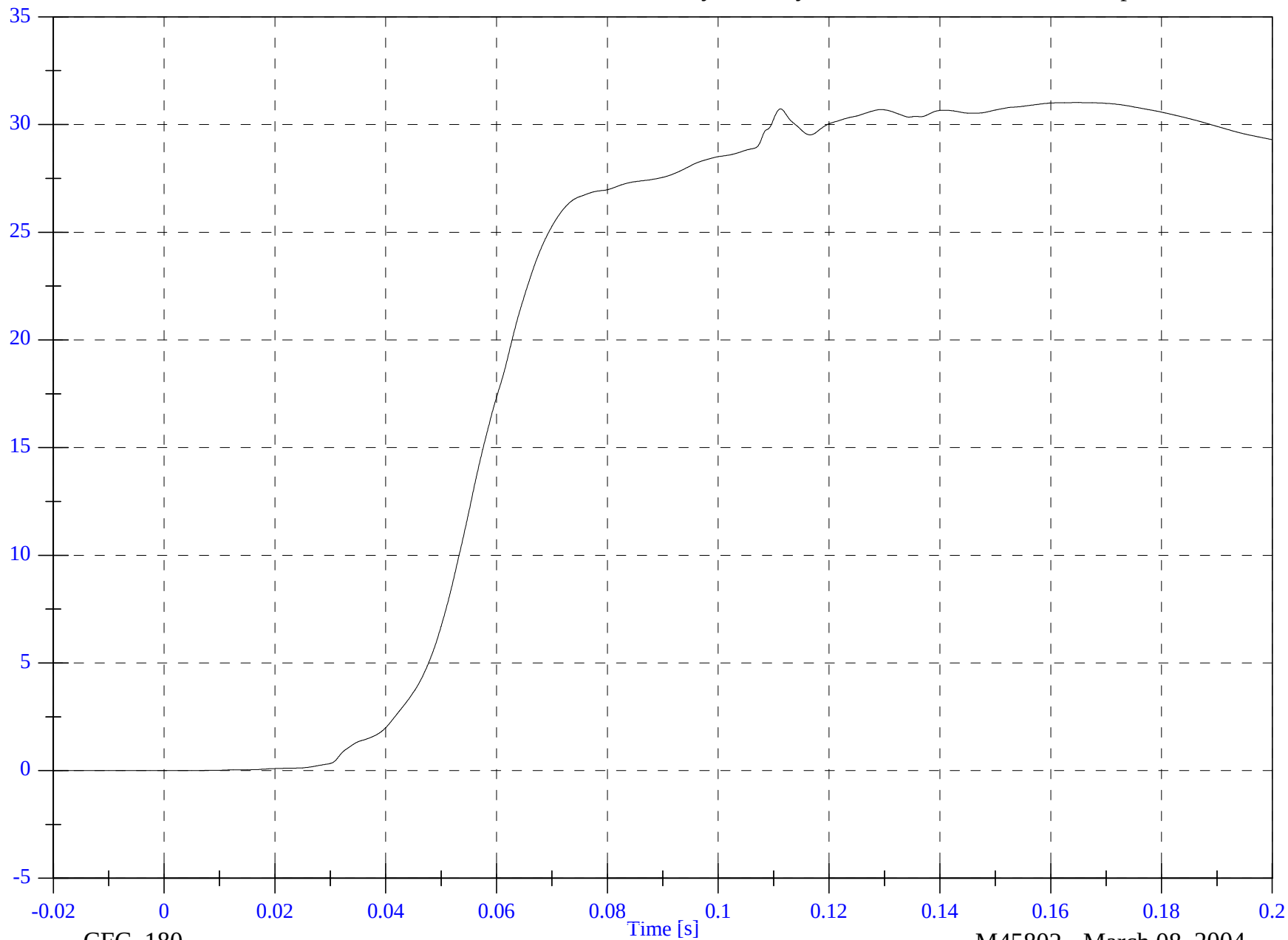


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Lower Rib y Velocity

Max: 31.0 [kph] at 0.165 [s]

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



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CFC_180

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2004 SNCAP Test 2 2004 VW Touareg

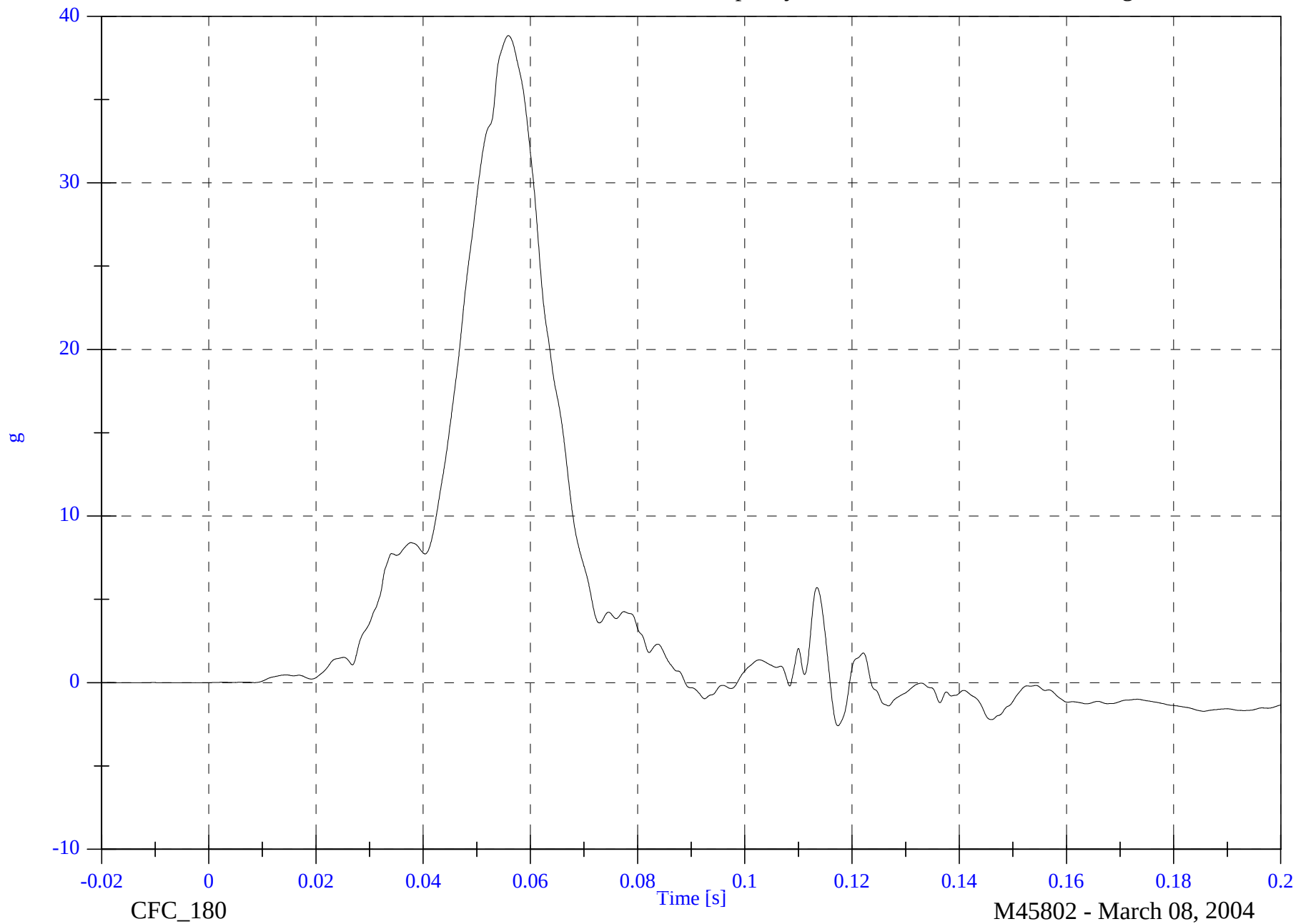
V2P4 Lower Spine y

Max: 38.8 [g] at 0.056 [s]

Min: -2.6 [g] at 0.117 [s]

B-48

8725-SNCAP-02

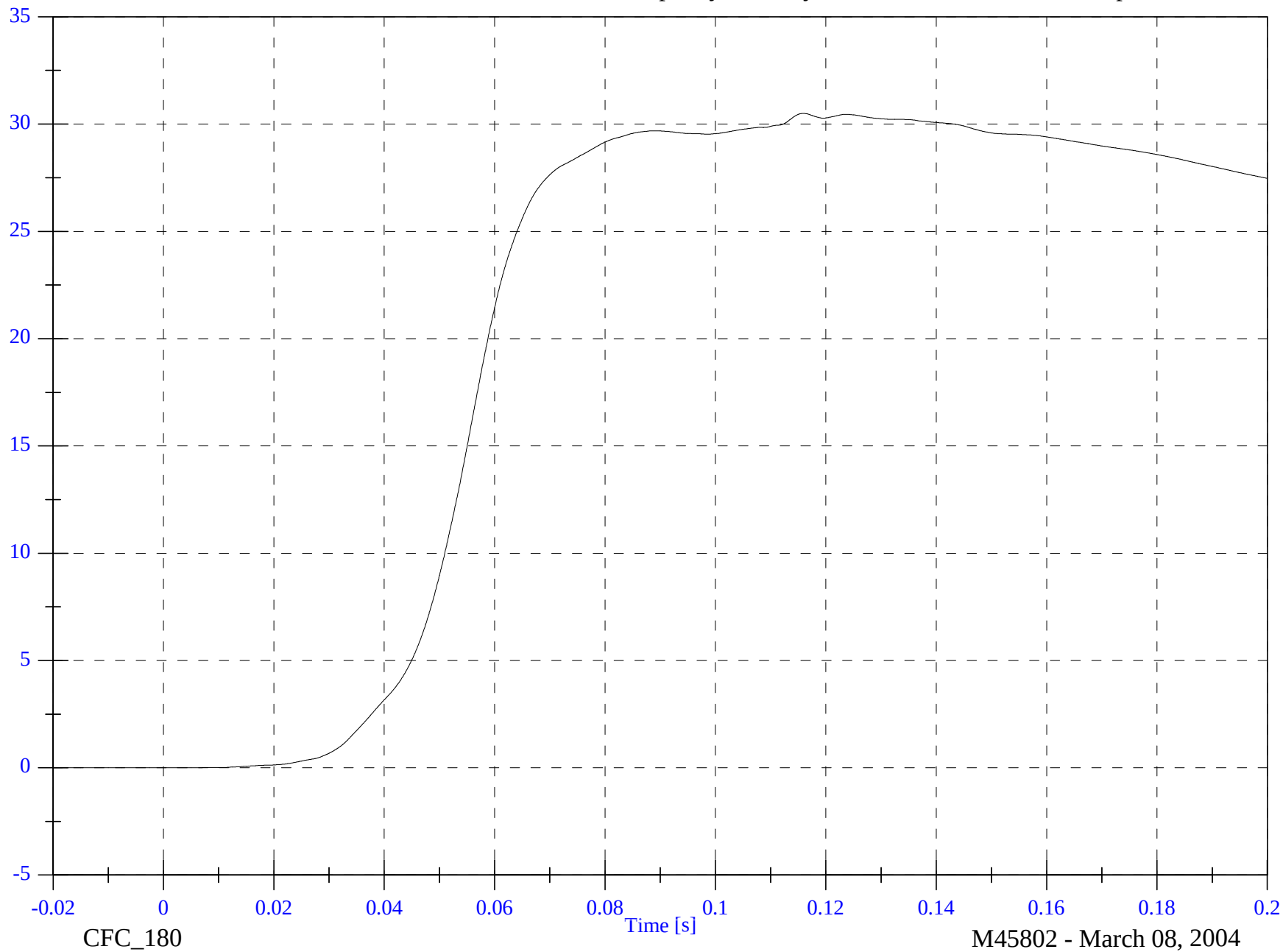


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Lower Spine y Velocity

Max: 30.5 [kph] at 0.116 [s]

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



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CFC_180

Time [s]

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

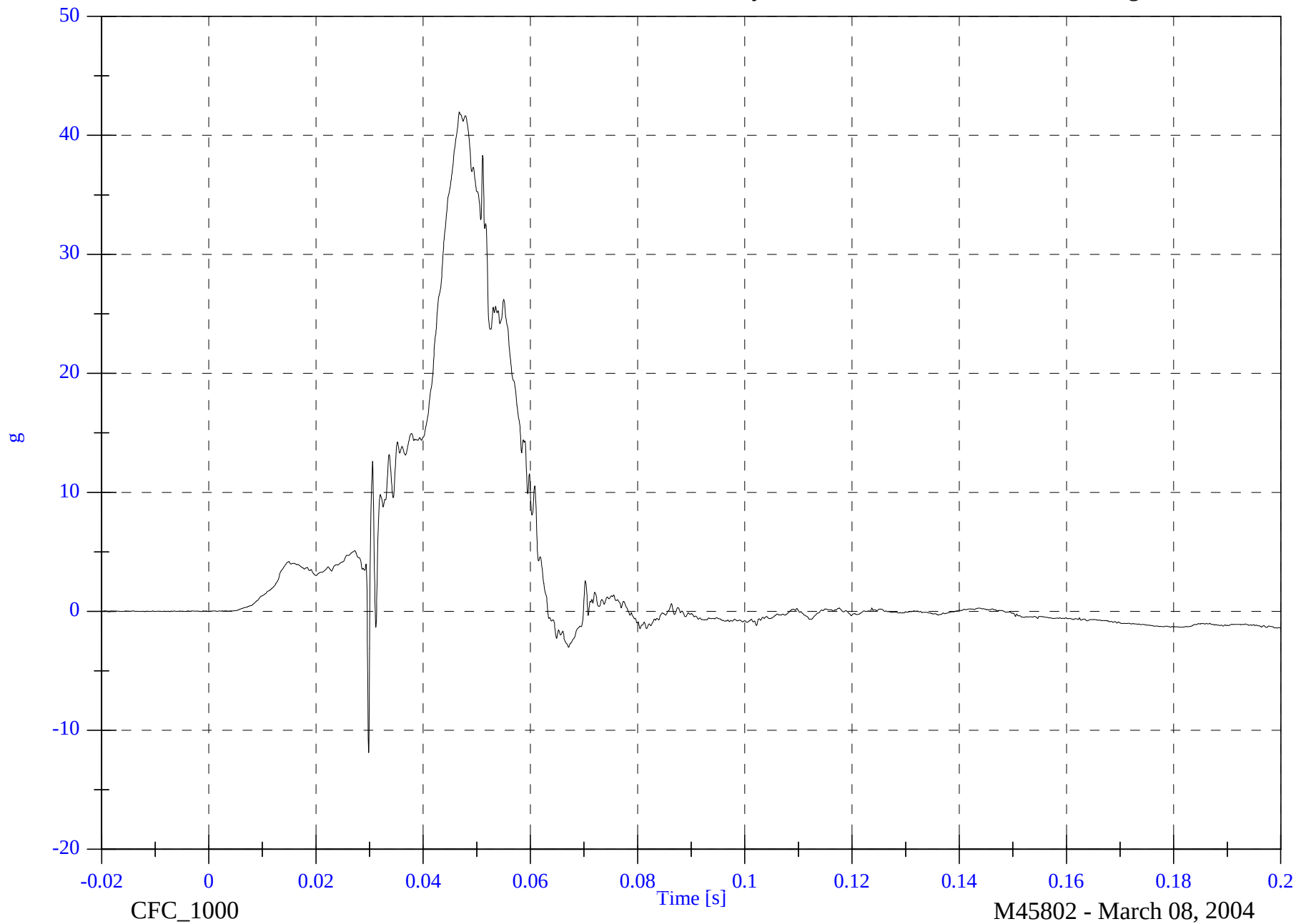
V2P4 Pelvic y

Max: 42.0 [g] at 0.047 [s]

Min: -11.9 [g] at 0.030 [s]

B-50

8725-SNCAP-02

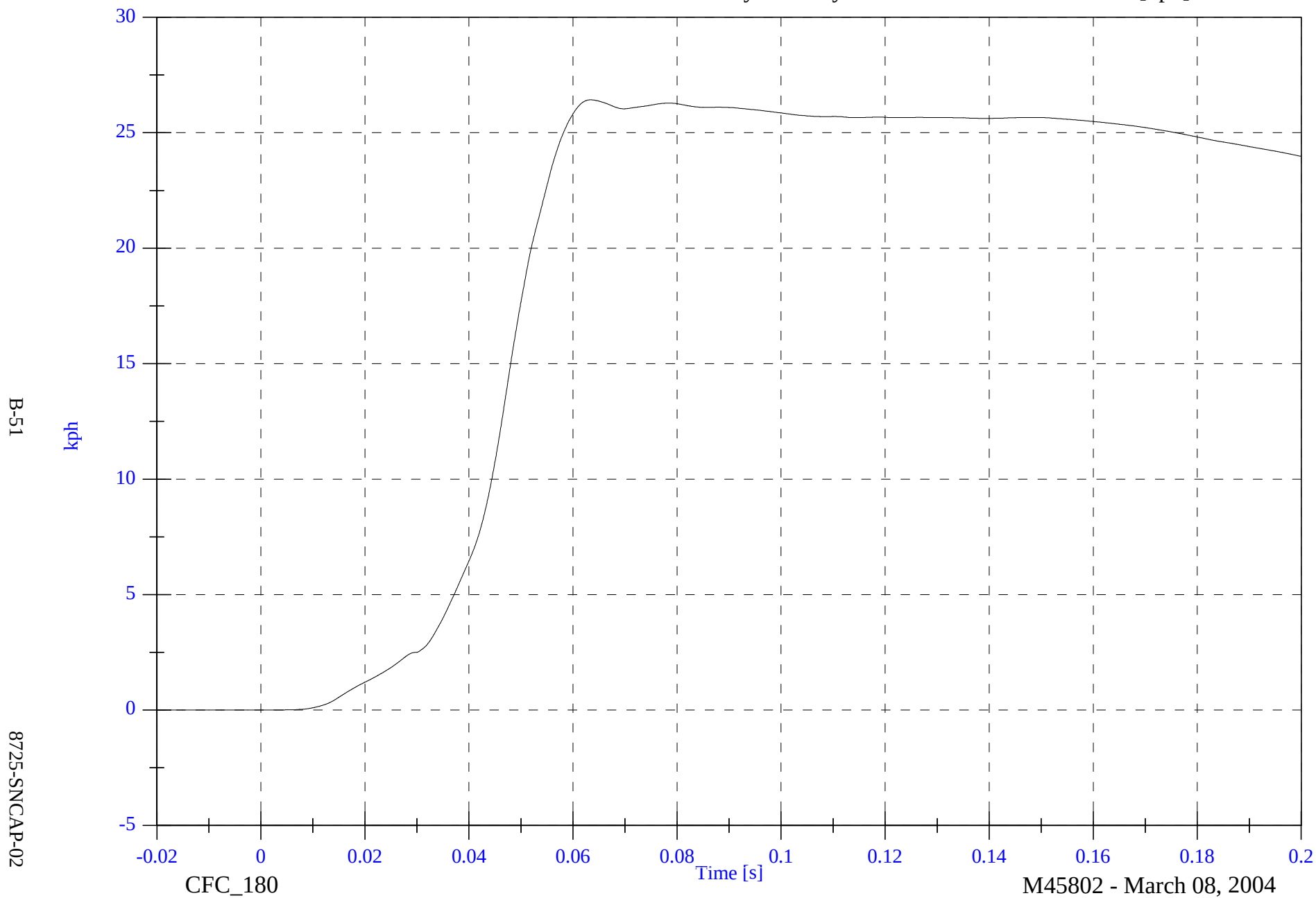


2004 SNCAP Test 2 2004 VW Touareg

Max: 26.4 [kph] at 0.063 [s]

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

V2P4 Pelvic y Velocity



2004 SNCAP Test 2 2004 VW Touareg

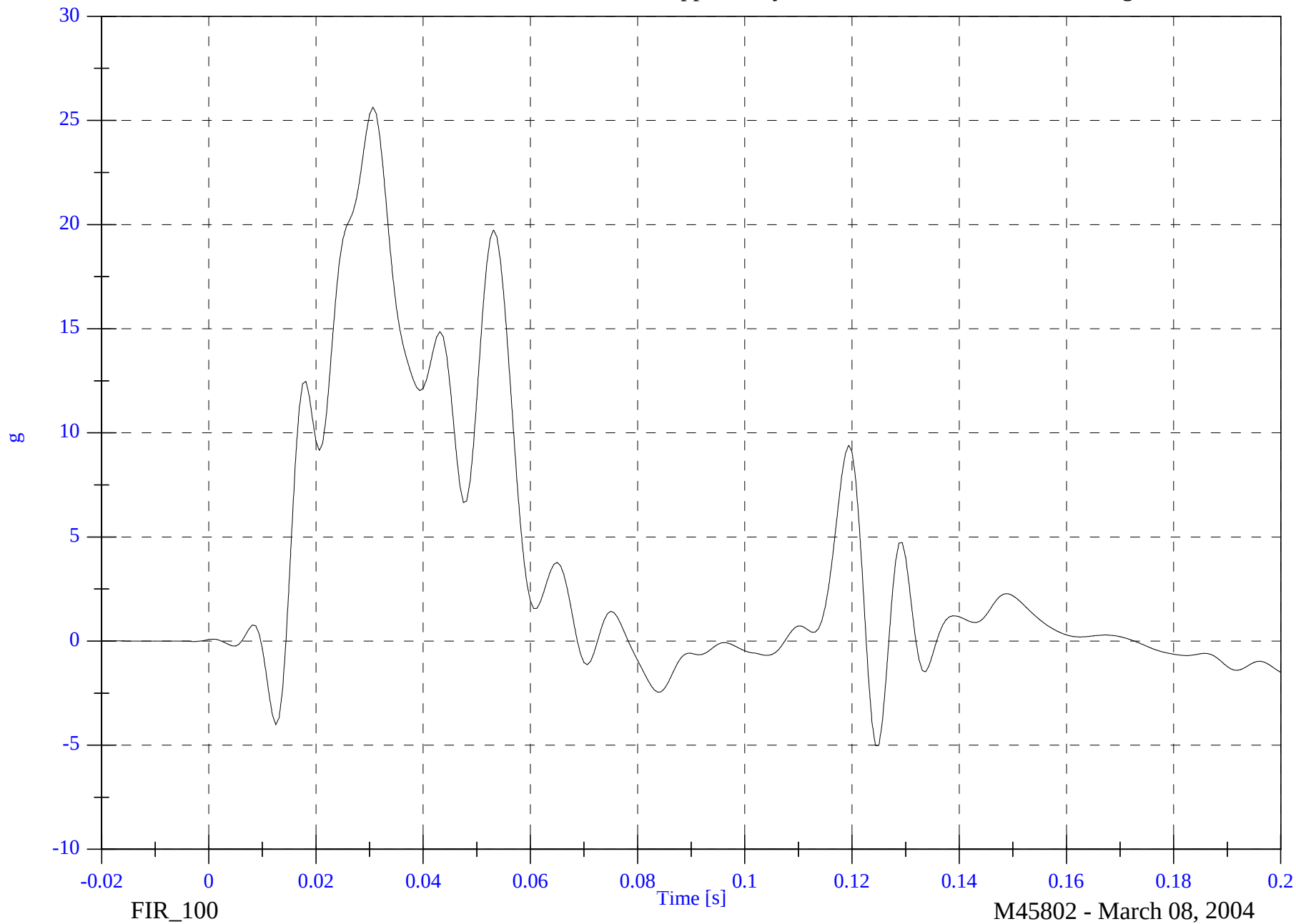
V2P1 Upper Rib y

Max: 25.6 [g] at 0.031 [s]

Min: -5.0 [g] at 0.124 [s]

B-52

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2004 SNCAP Test 2 2004 VW Touareg

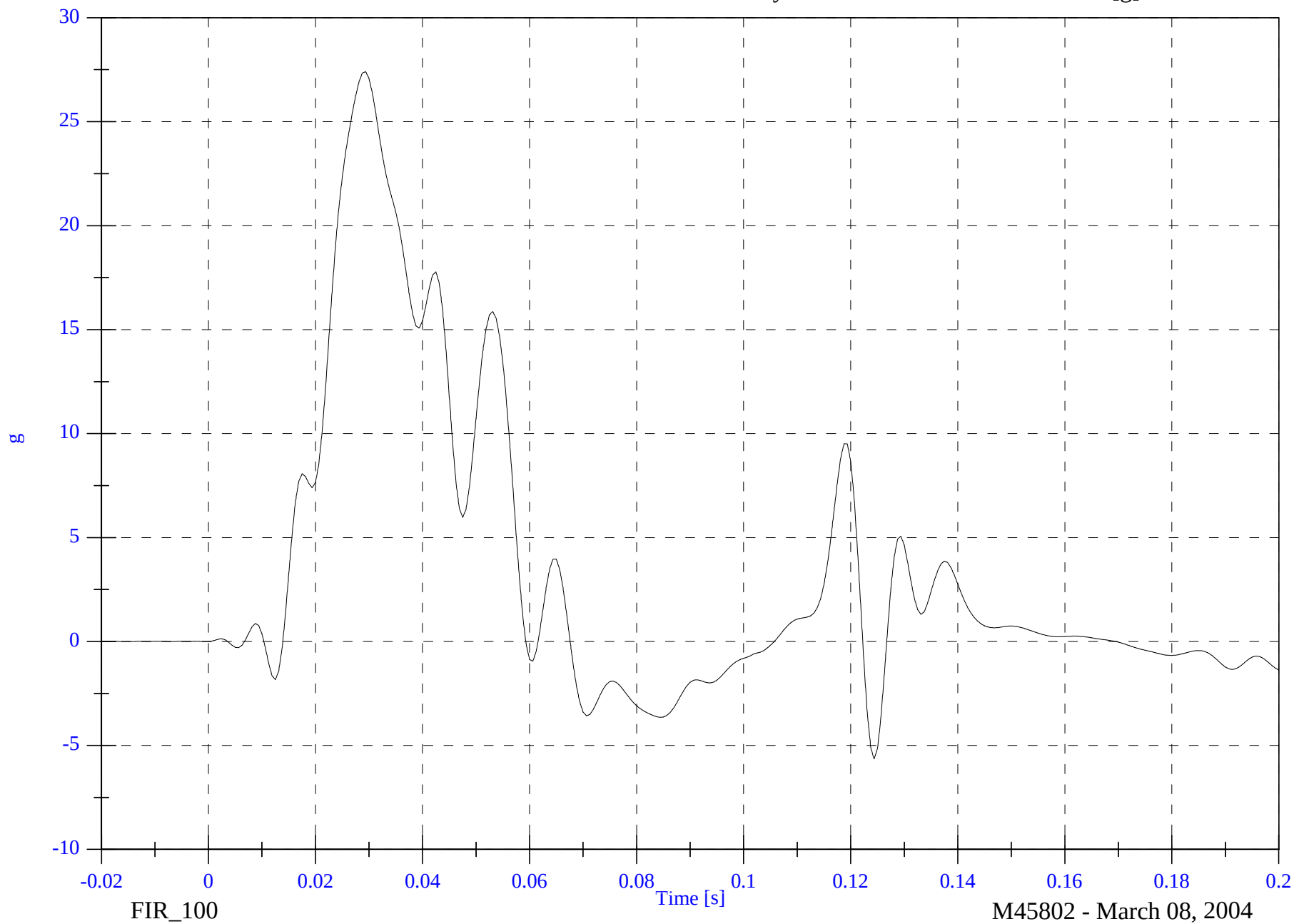
V2P1 Lower Rib y

Max: 27.4 [g] at 0.029 [s]

Min: -5.6 [g] at 0.124 [s]

B-53

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2004 SNCAP Test 2 2004 VW Touareg

V2P1 Lower Spine y

Max: 37.0 [g] at 0.035 [s]

Min: -3.8 [g] at 0.074 [s]

B-54

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2004 SNCAP Test 2 2004 VW Touareg

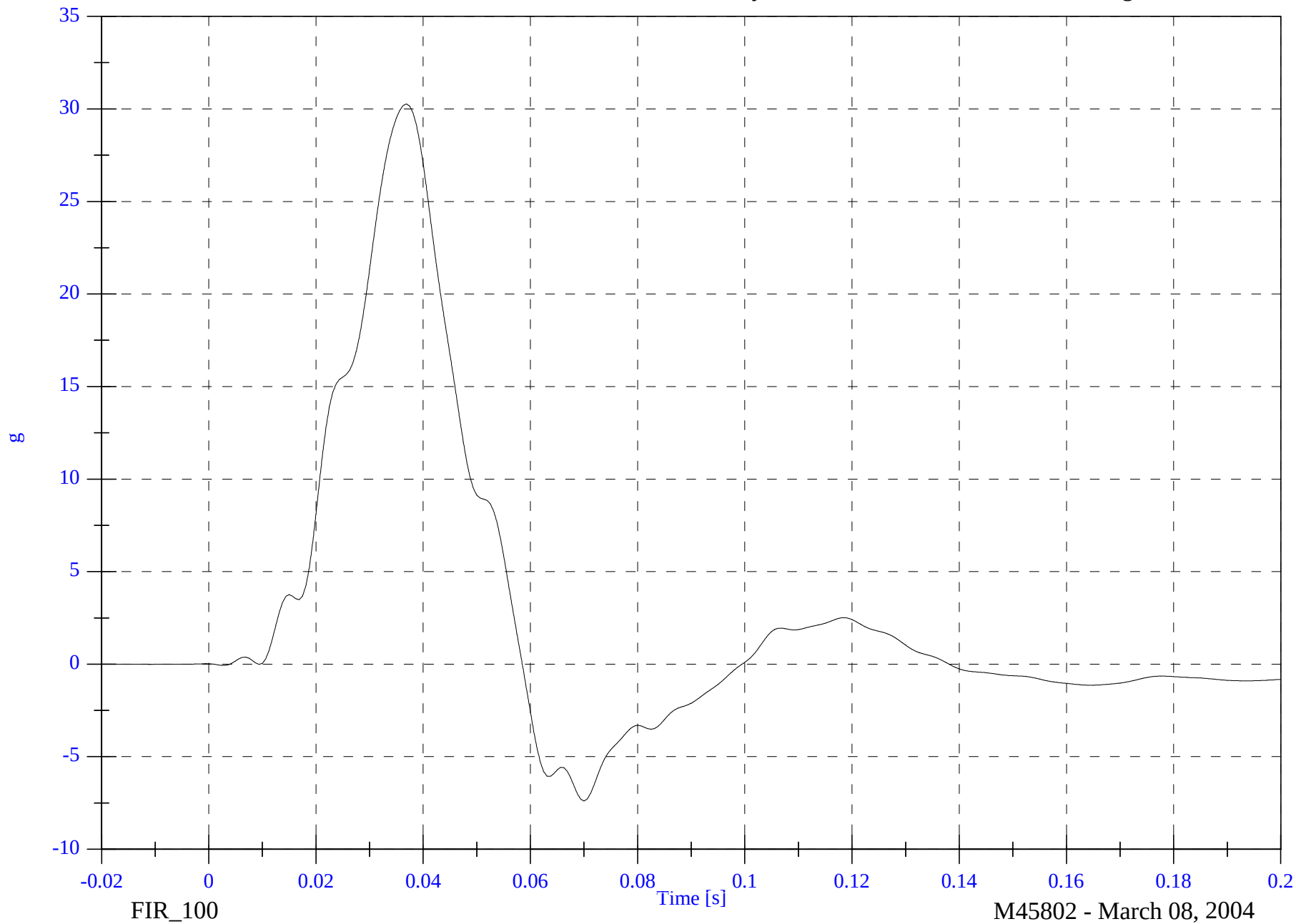
V2P1 Pelvic y

Max: 30.3 [g] at 0.037 [s]

Min: -7.4 [g] at 0.070 [s]

B-55

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

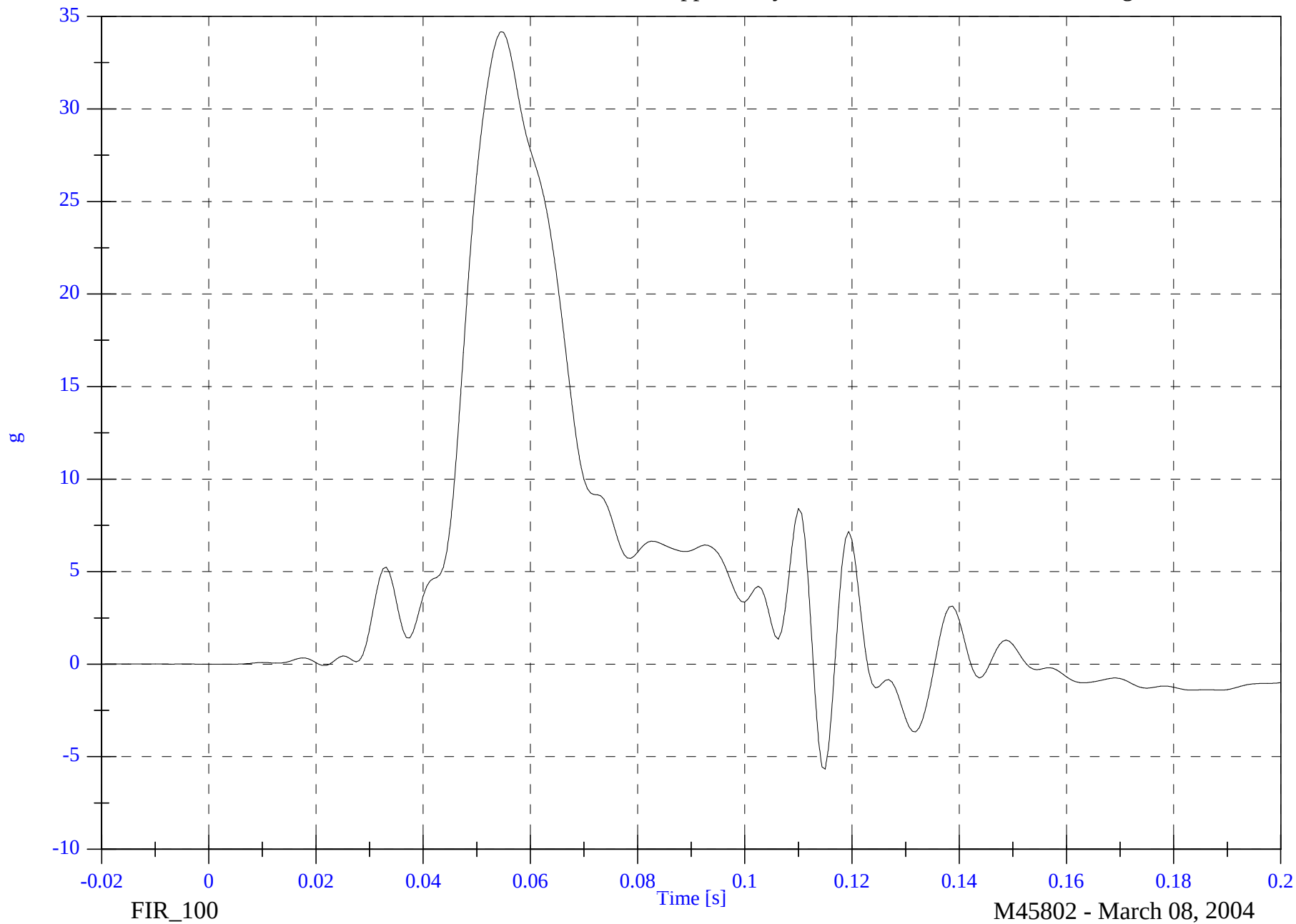
V2P4 Upper Rib y

Max: 34.2 [g] at 0.054 [s]

Min: -5.7 [g] at 0.115 [s]

B-56

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2004 SNCAP Test 2 2004 VW Touareg

V2P4 Lower Rib y

Max: 33.6 [g] at 0.055 [s]

Min: -9.0 [g] at 0.114 [s]

B-57

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2004 SNCAP Test 2 2004 VW Touareg

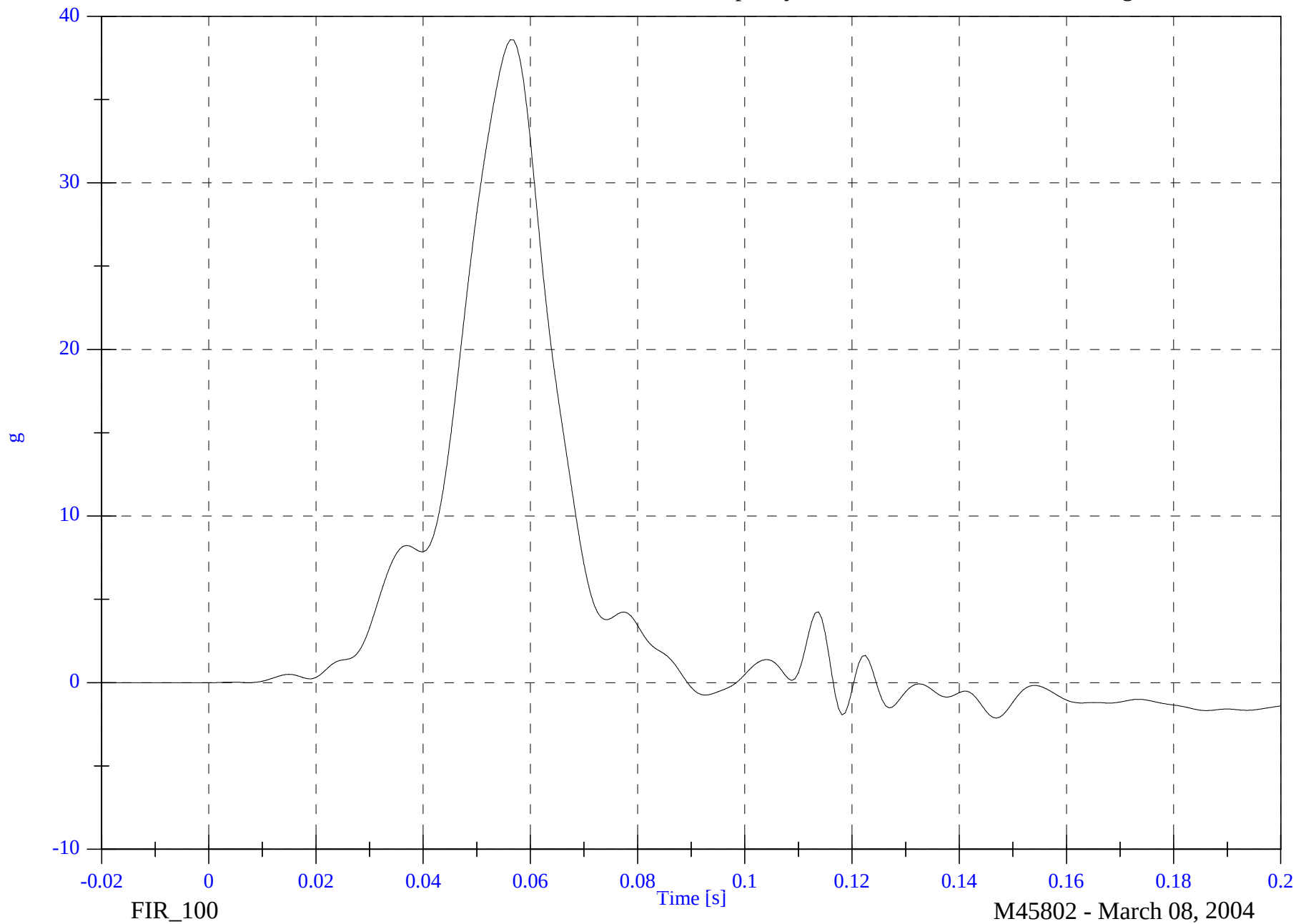
V2P4 Lower Spine y

Max: 38.6 [g] at 0.056 [s]

Min: -2.1 [g] at 0.147 [s]

B-58

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

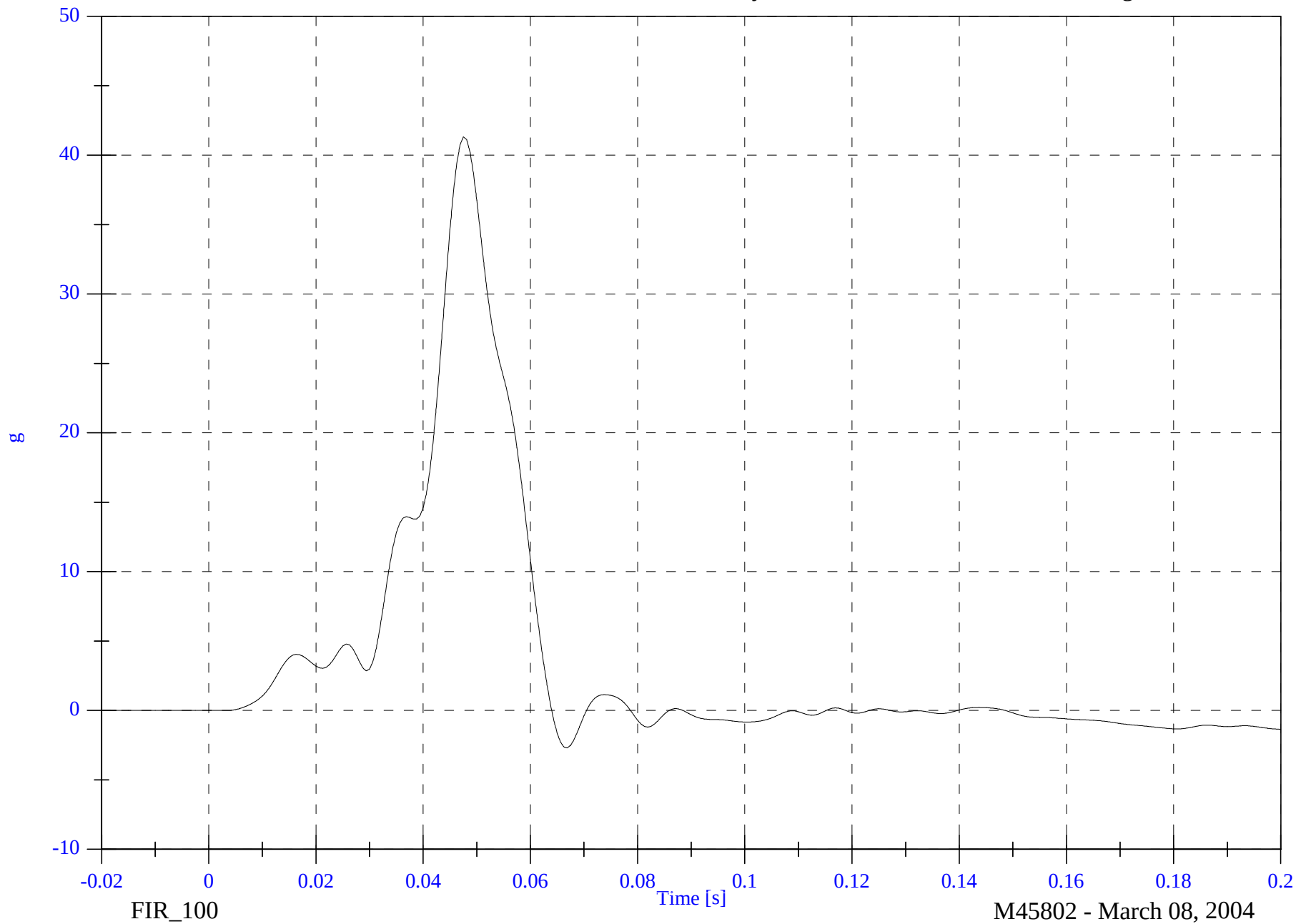
V2P4 Pelvic y

Max: 41.3 [g] at 0.047 [s]

Min: -2.7 [g] at 0.067 [s]

B-59

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

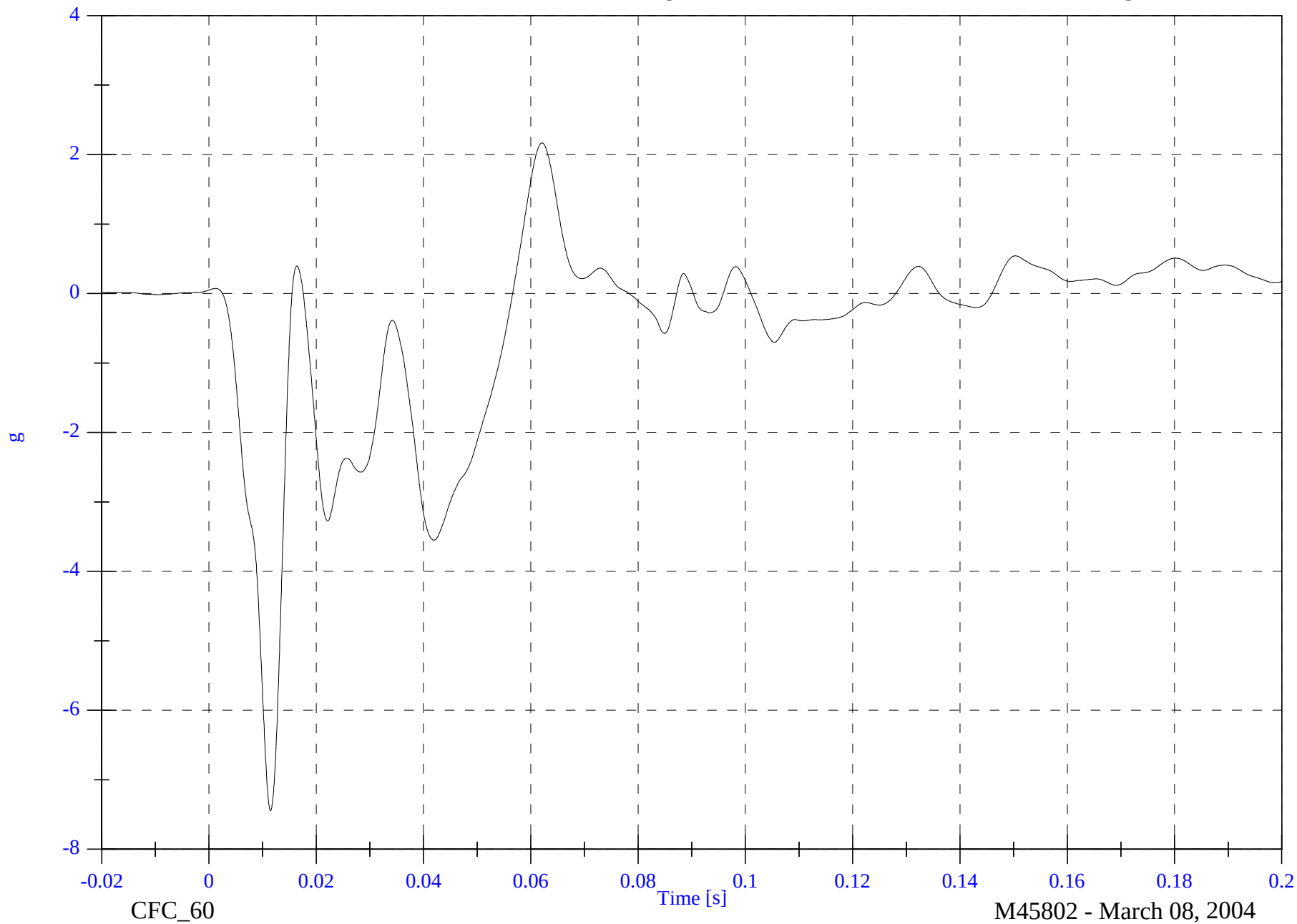
V2 A1 Right Front Sill X

Max: 2.2 [g] at 0.062 [s]

Min: -7.4 [g] at 0.011 [s]

B-60

8725-SNCAP-02

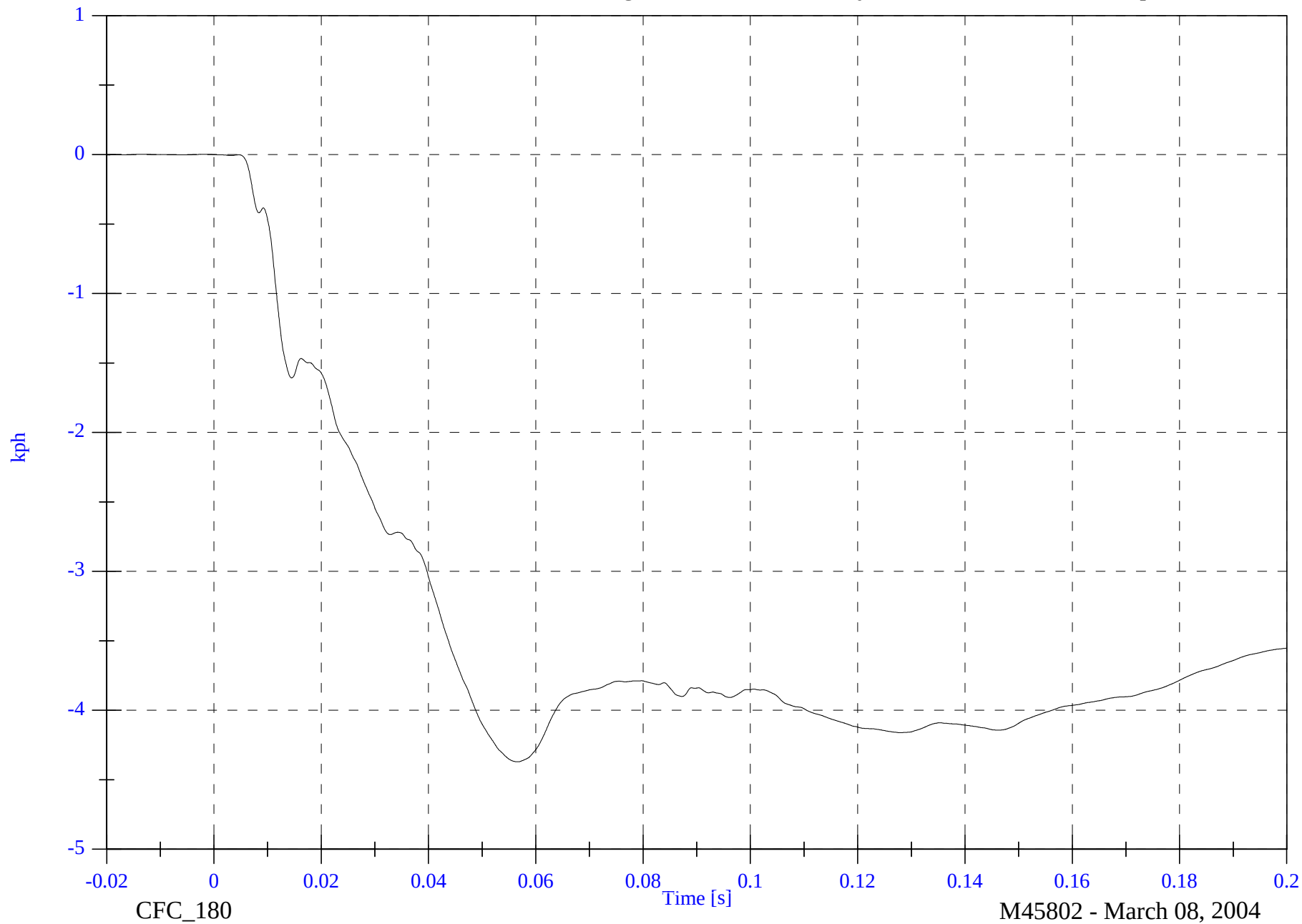


2004 SNCAP Test 2 2004 VW Touareg

V2 A1 Right Front Sill X Velocity

Max: 0.0 [kph] at -0.013 [s]

Min: -4.4 [kph] at 0.057 [s]



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CFC_180

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2004 SNCAP Test 2 2004 VW Touareg

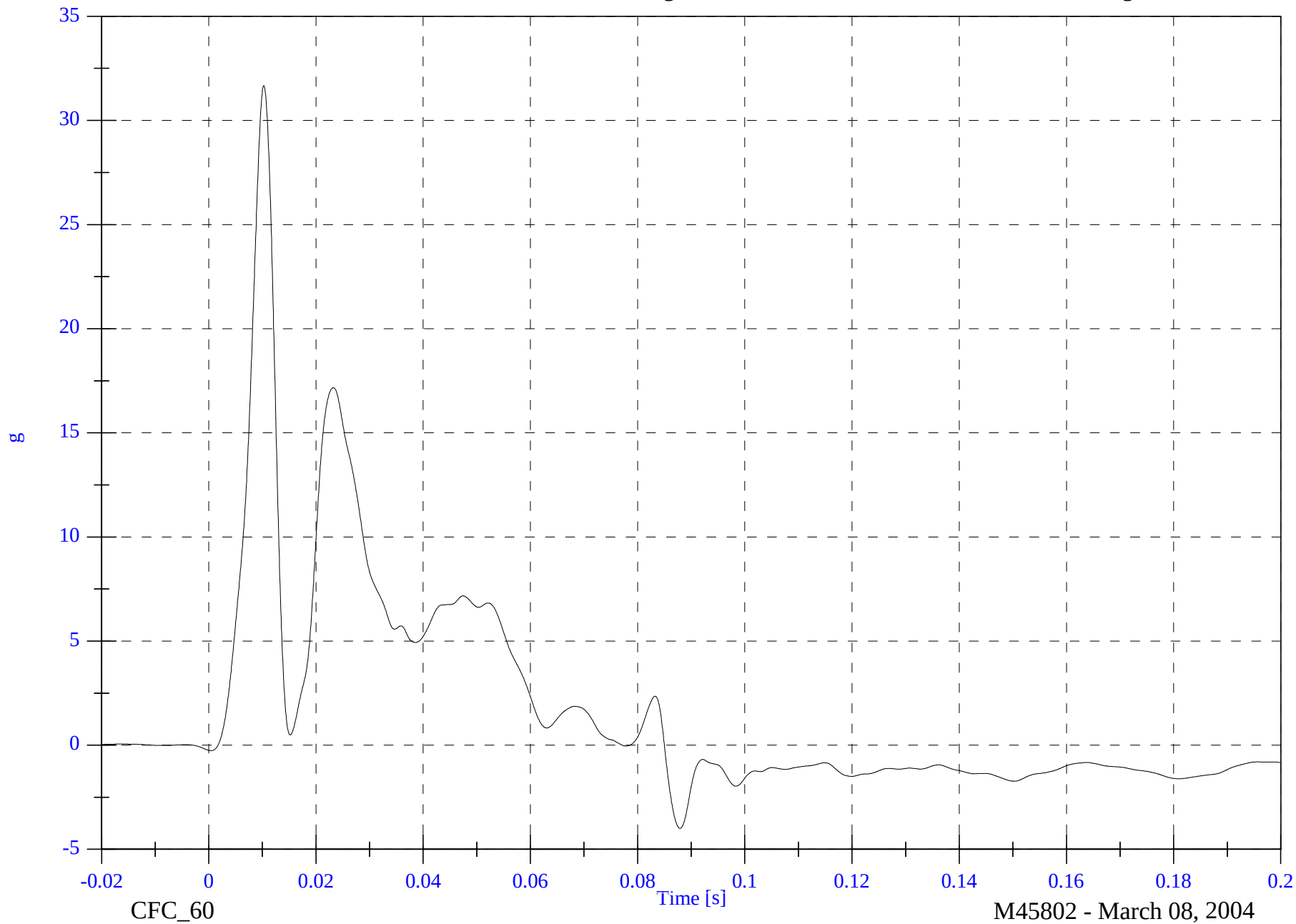
V2 A1 Right Front Sill Y

Max: 31.7 [g] at 0.010 [s]

Min: -4.0 [g] at 0.088 [s]

B-62

8725-SNCAP-02

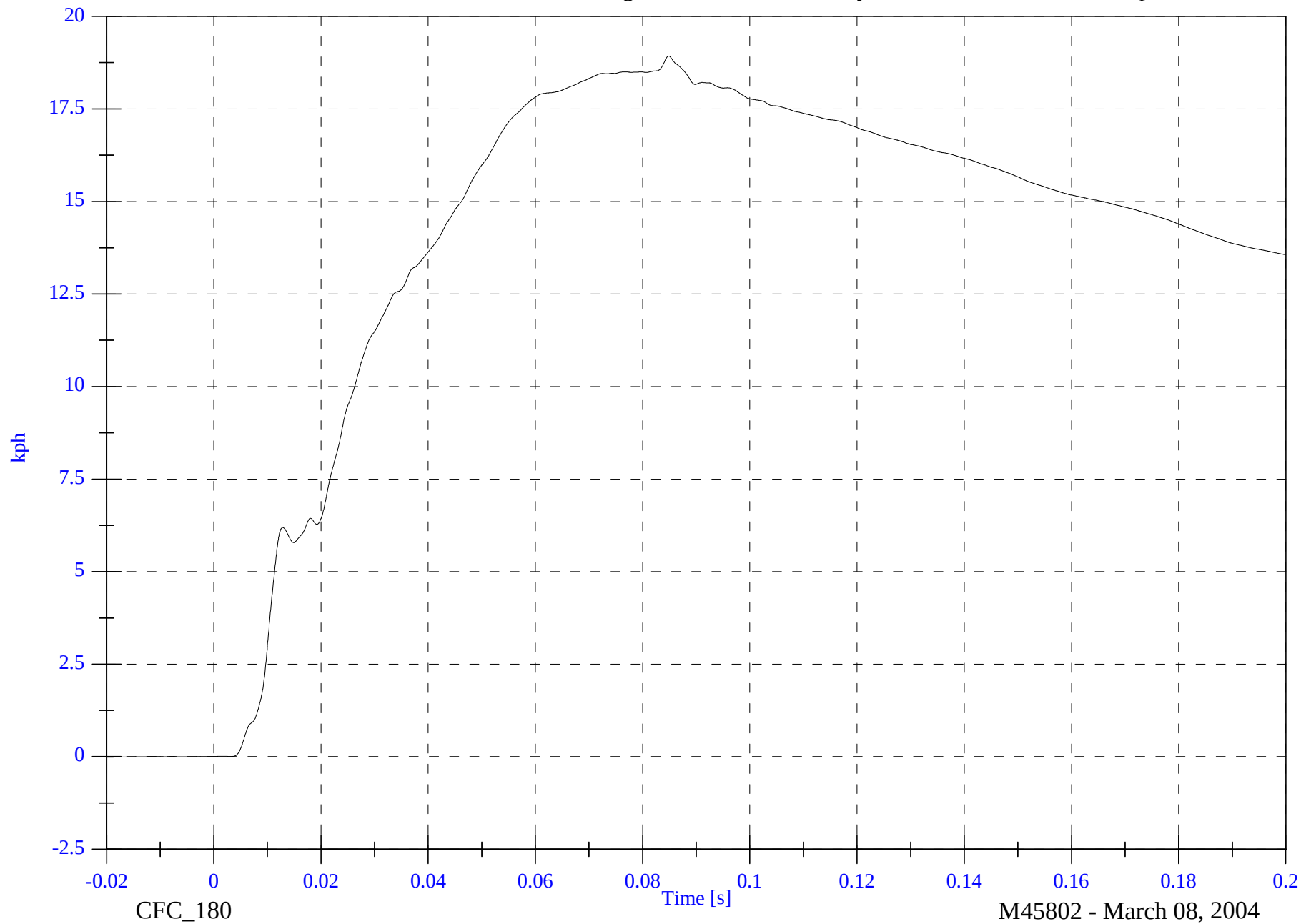


2004 SNCAP Test 2 2004 VW Touareg

V2 A1 Right Front Sill Y Velocity

Max: 18.9 [kph] at 0.085 [s]

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



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8725-SNCAP-02

CFC_180

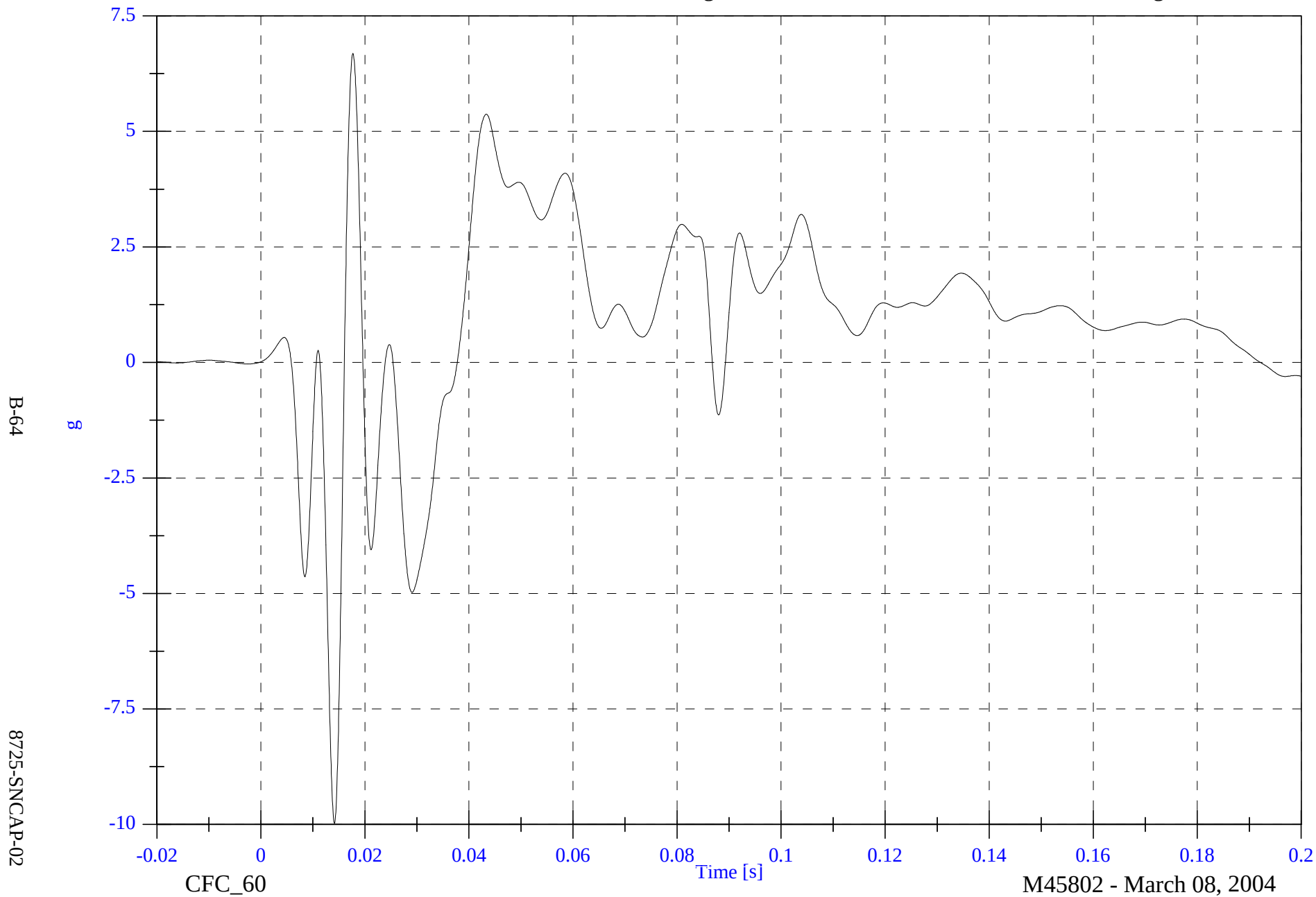
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V2 A1 Right Front Sill Z

Max: 6.7 [g] at 0.018 [s]

Min: -10.0 [g] at 0.014 [s]



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V2 A1 Right Front Sill Z Velocity

Max: 6.6 [kph] at 0.191 [s]

Min: -2.2 [kph] at 0.038 [s]

B-65

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2004 SNCAP Test 2 2004 VW Touareg

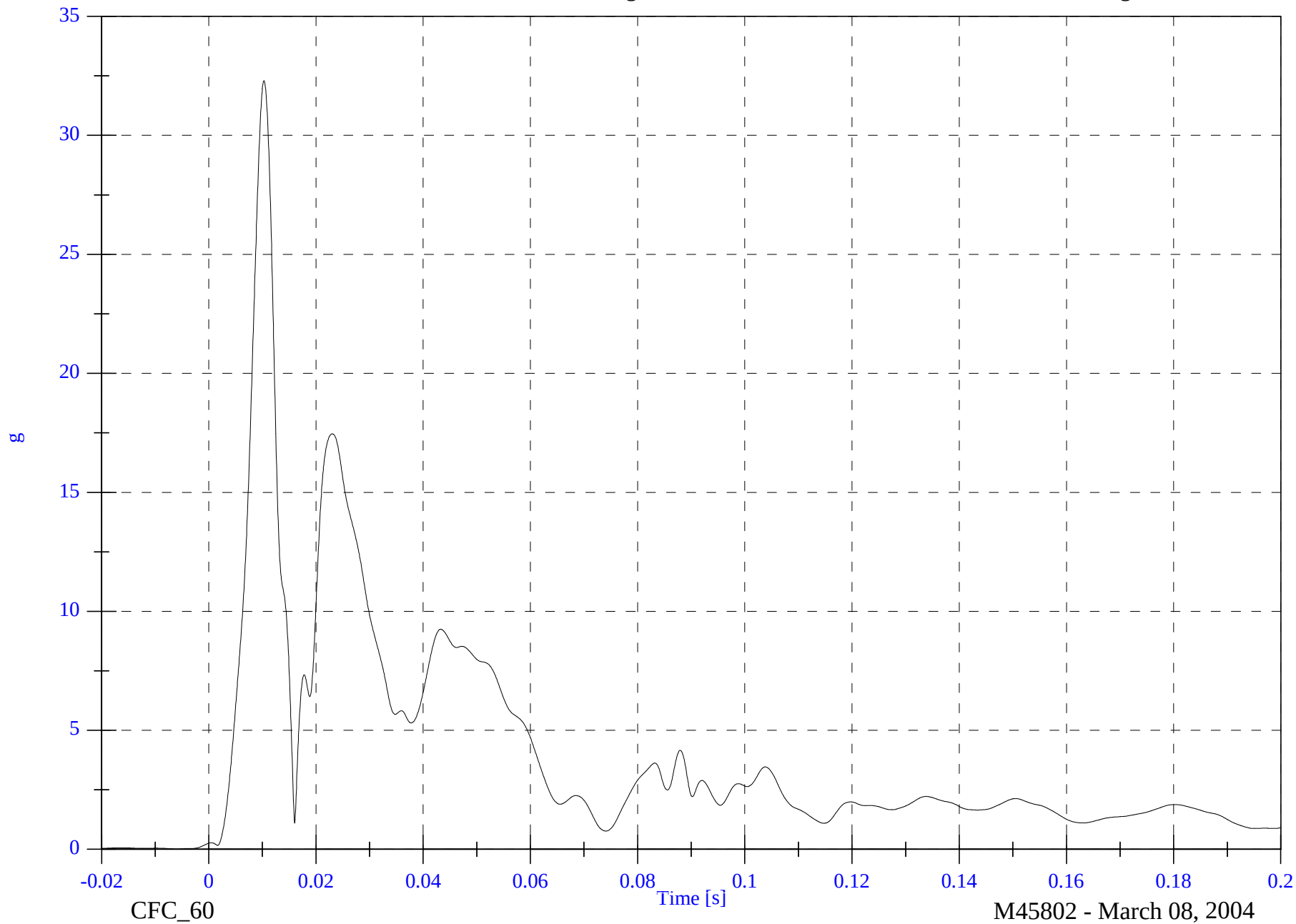
V2 A1 Right Front Sill Resultant

Max: 32.3 [g] at 0.010 [s]

Min: 0.0 [g] at -0.006 [s]

B-66

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2004 SNCAP Test 2 2004 VW Touareg

V2 A2 Right Rear Sill X

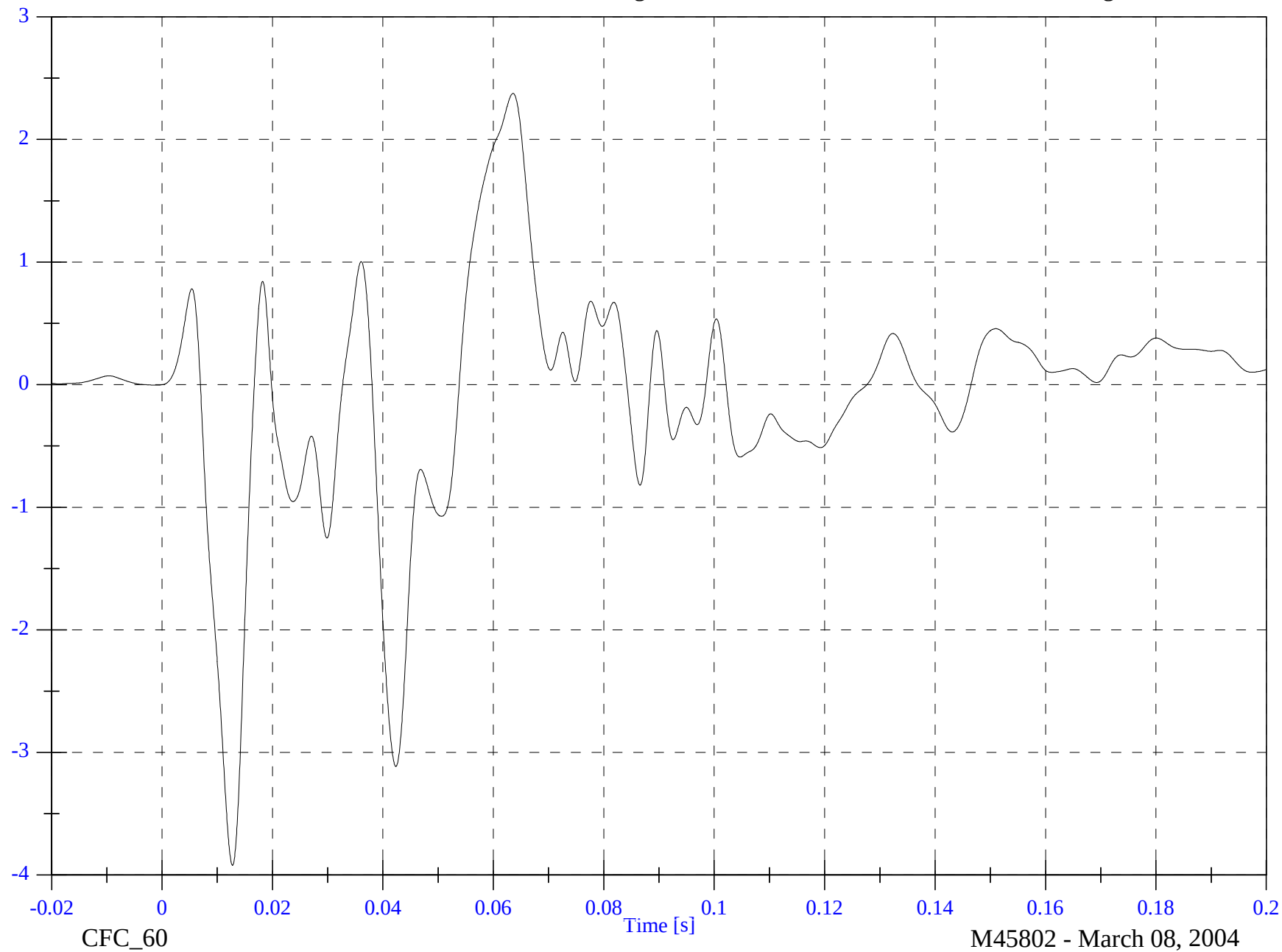
Max: 2.4 [g] at 0.064 [s]

Min: -3.9 [g] at 0.013 [s]

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g



CFC_60

Time [s]

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2004 SNCAP Test 2 2004 VW Touareg

V2 A2 Right Rear Sill X Velocity

Max: 0.2 [kph] at 0.007 [s]

Min: -1.6 [kph] at 0.054 [s]

B-68

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2004 SNCAP Test 2 2004 VW Touareg

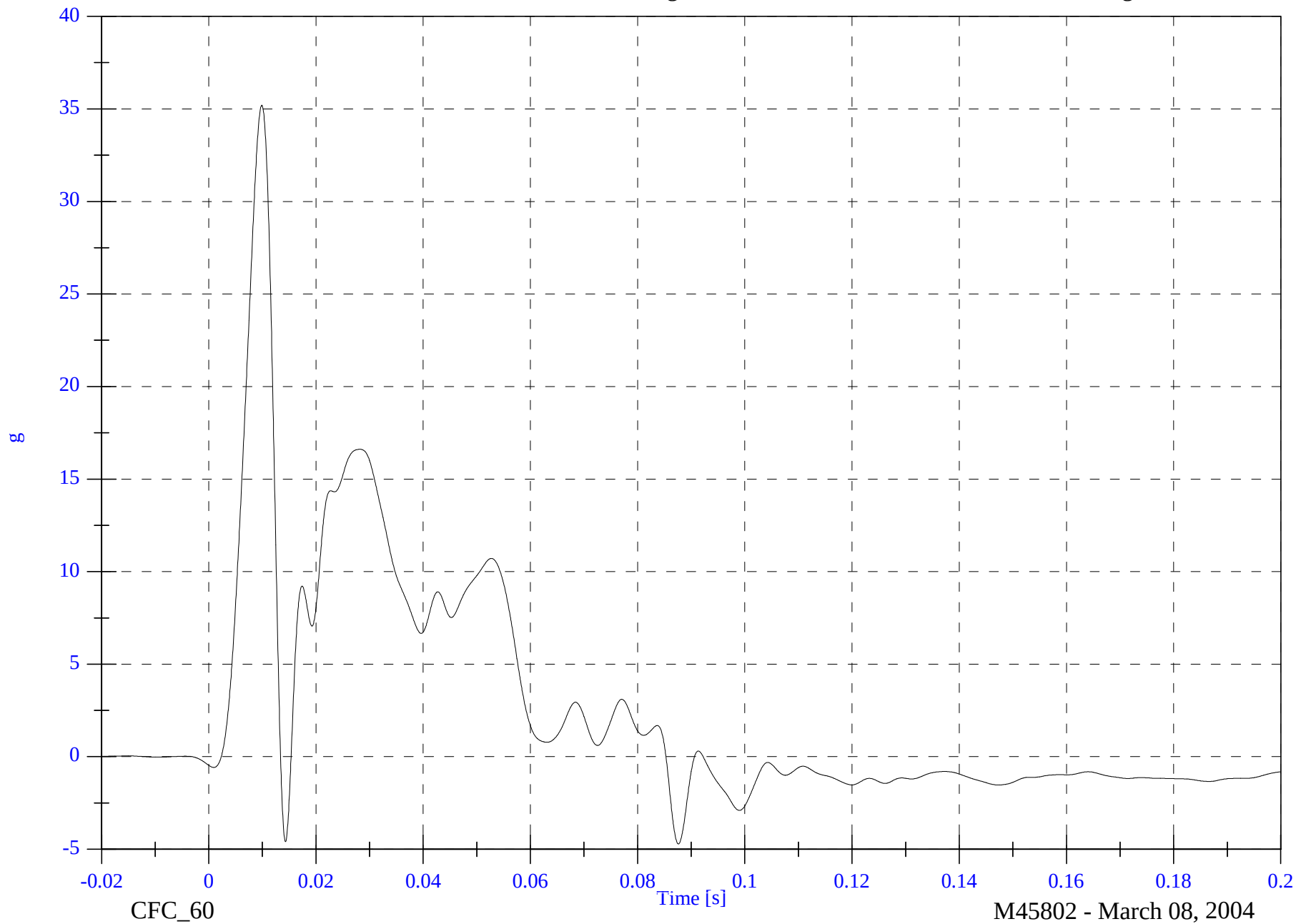
V2 A2 Right Rear Sill Y

Max: 35.2 [g] at 0.010 [s]

Min: -4.7 [g] at 0.088 [s]

B-69

8725-SNCAP-02

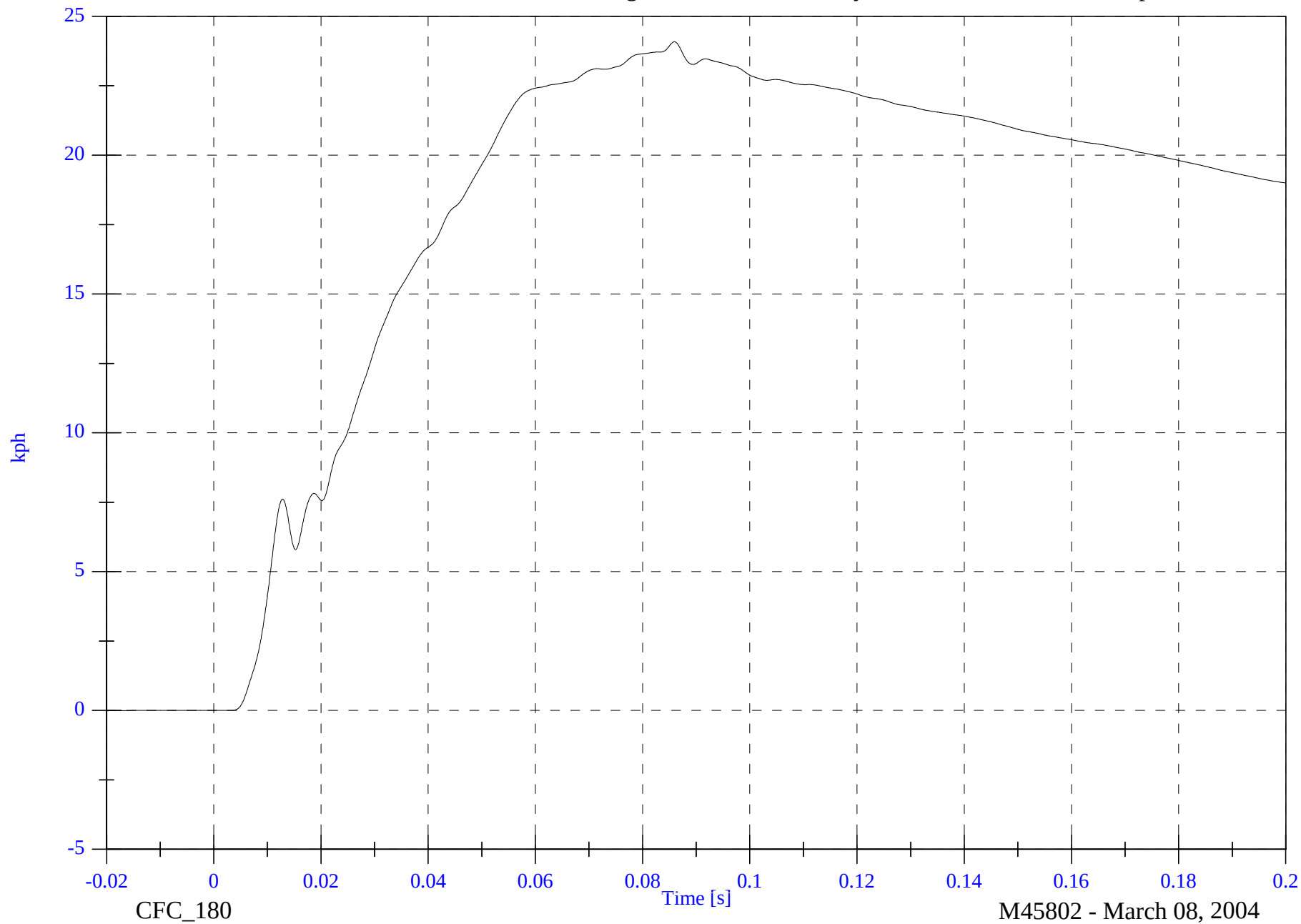


2004 SNCAP Test 2 2004 VW Touareg

Max: 24.1 [kph] at 0.086 [s]

V2 A2 Right Rear Sill Y Velocity

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



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CFC_180

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2004 SNCAP Test 2 2004 VW Touareg

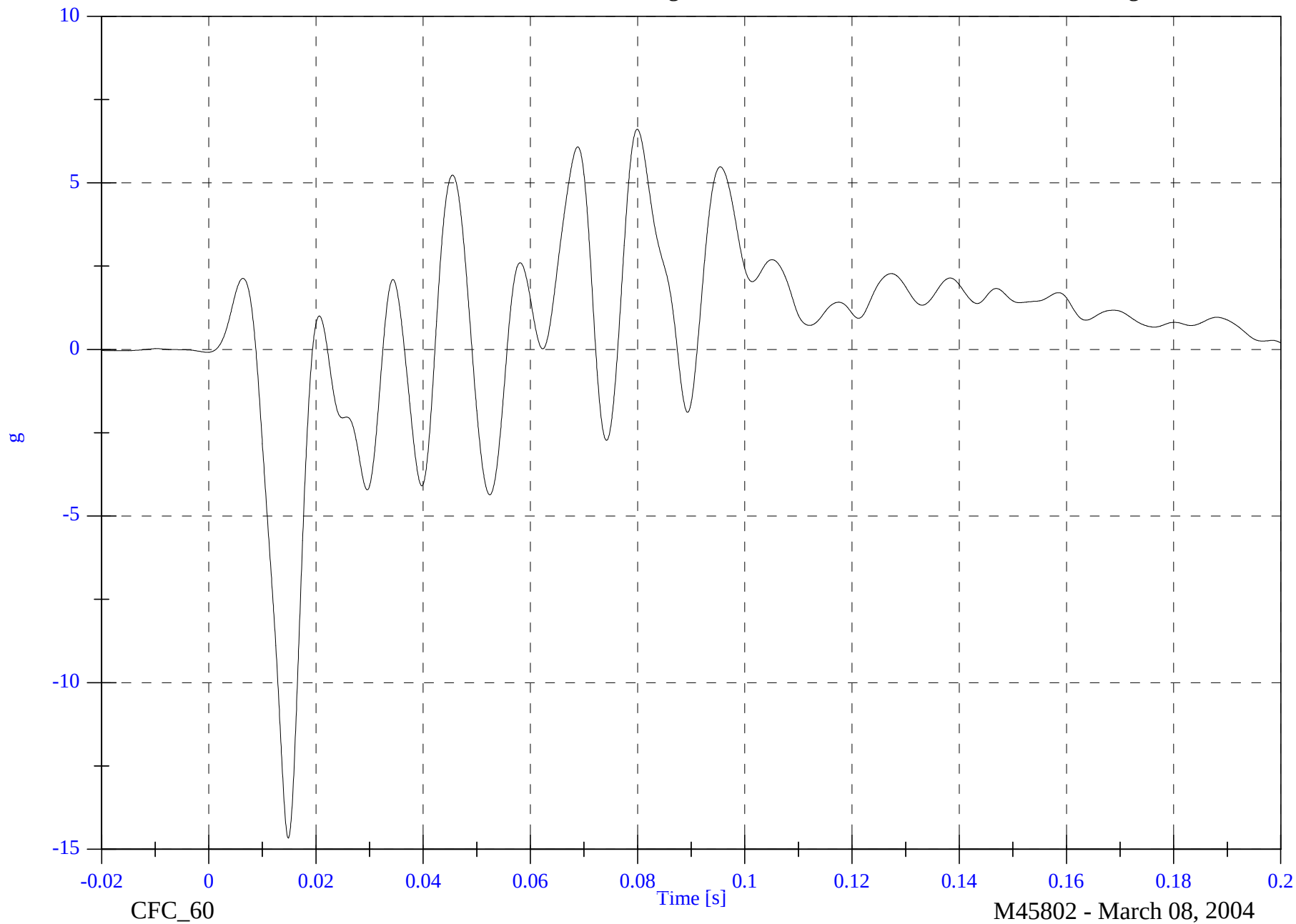
V2 A2 Right Rear Sill Z

Max: 6.6 [g] at 0.080 [s]

Min: -14.7 [g] at 0.015 [s]

B-71

8725-SNCAP-02

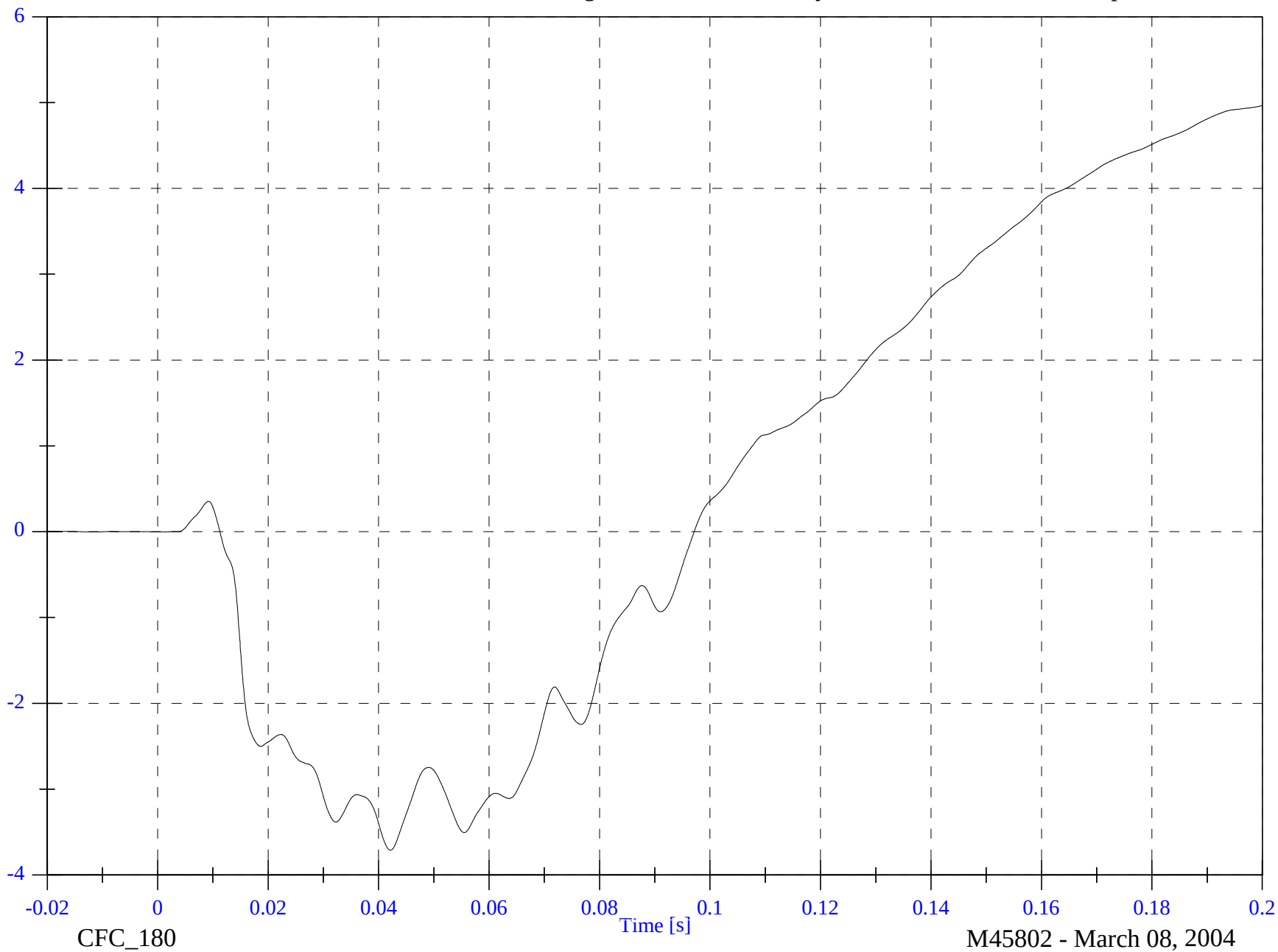


2004 SNCAP Test 2 2004 VW Touareg

V2 A2 Right Rear Sill Z Velocity

Max: 5.0 [kph] at 0.200 [s]

Min: -3.7 [kph] at 0.042 [s]



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CFC_180

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2004 SNCAP Test 2 2004 VW Touareg

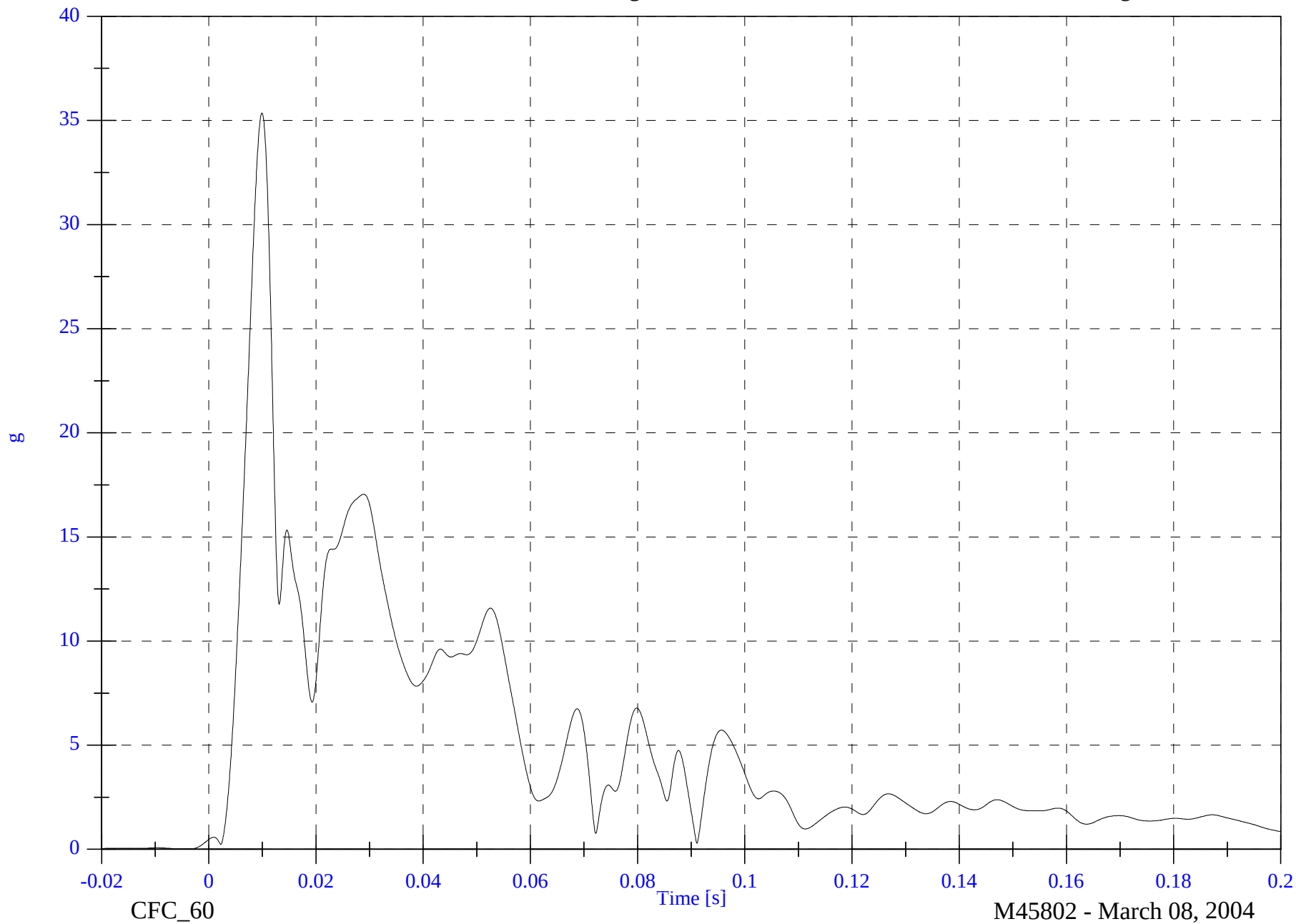
V2 A2 Right Rear Sill Resultant

Max: 35.4 [g] at 0.010 [s]

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

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2004 SNCAP Test 2 2004 VW Touareg

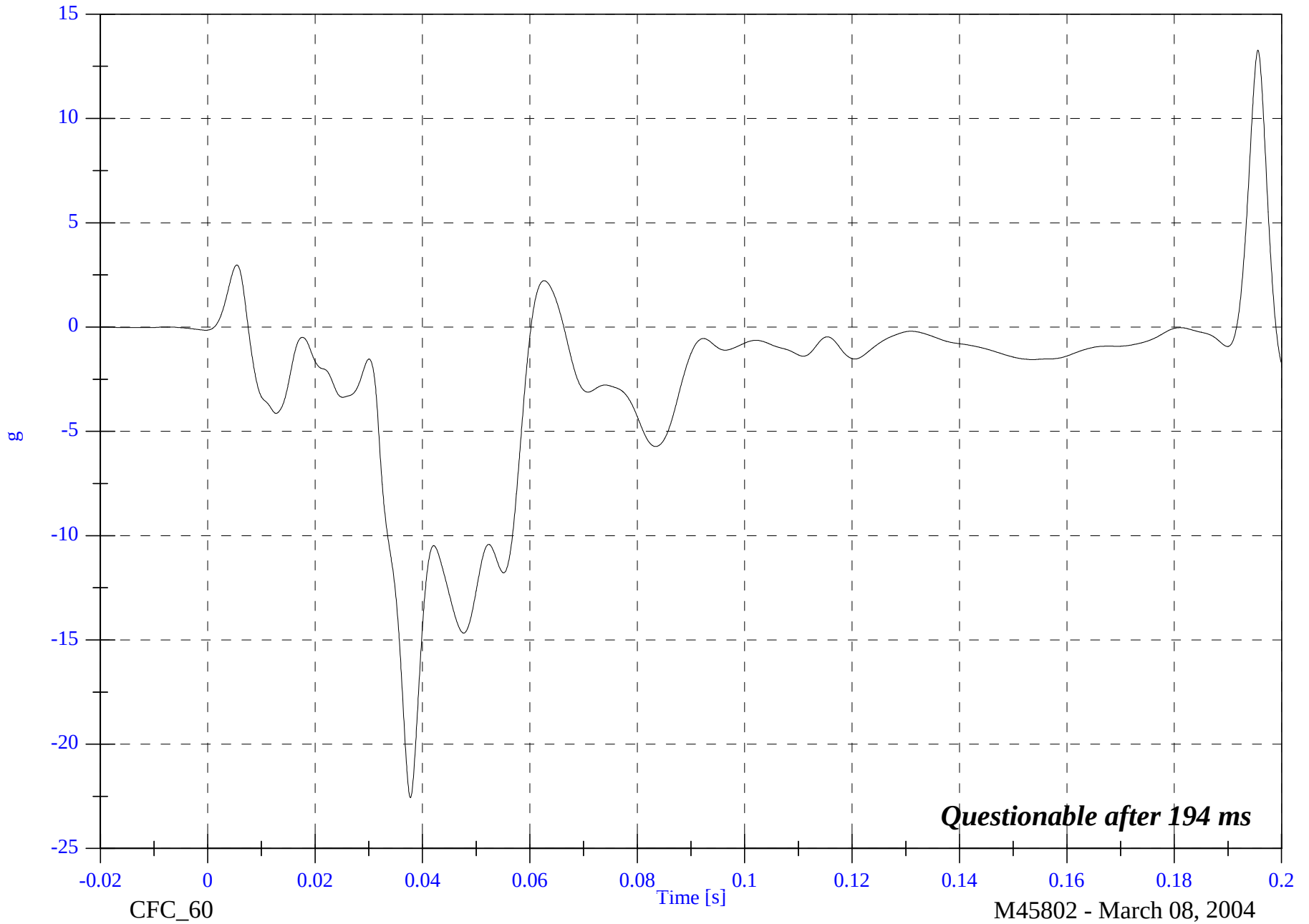
V2 A3 Rear Floorpan X

Max: 13.3 [g] at 0.196 [s]

Min: -22.6 [g] at 0.038 [s]

B-74

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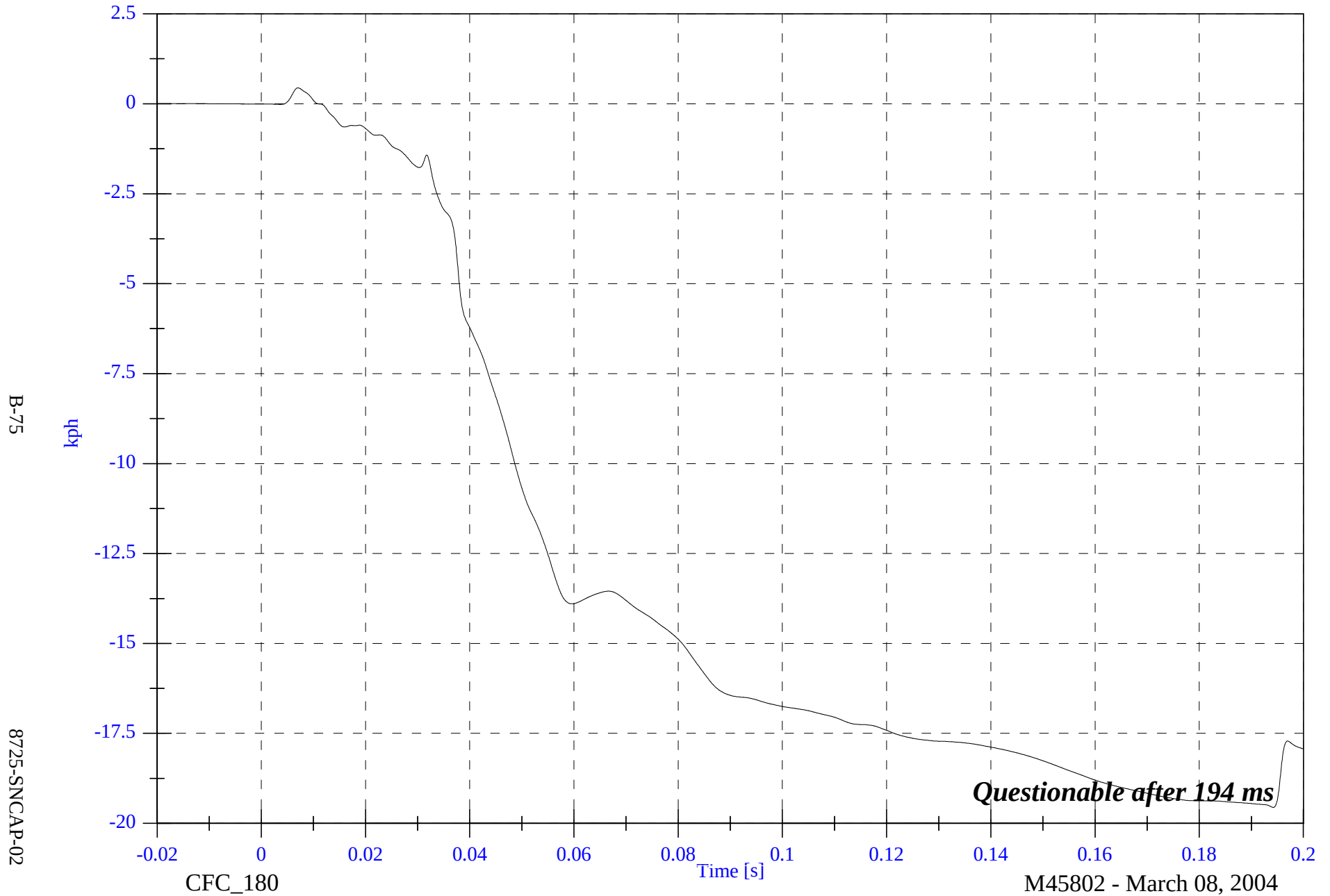


2004 SNCAP Test 2 2004 VW Touareg

V2 A3 Rear Floorpan X Velocity

Max: 0.4 [kph] at 0.007 [s]

Min: -19.6 [kph] at 0.194 [s]



2004 SNCAP Test 2 2004 VW Touareg

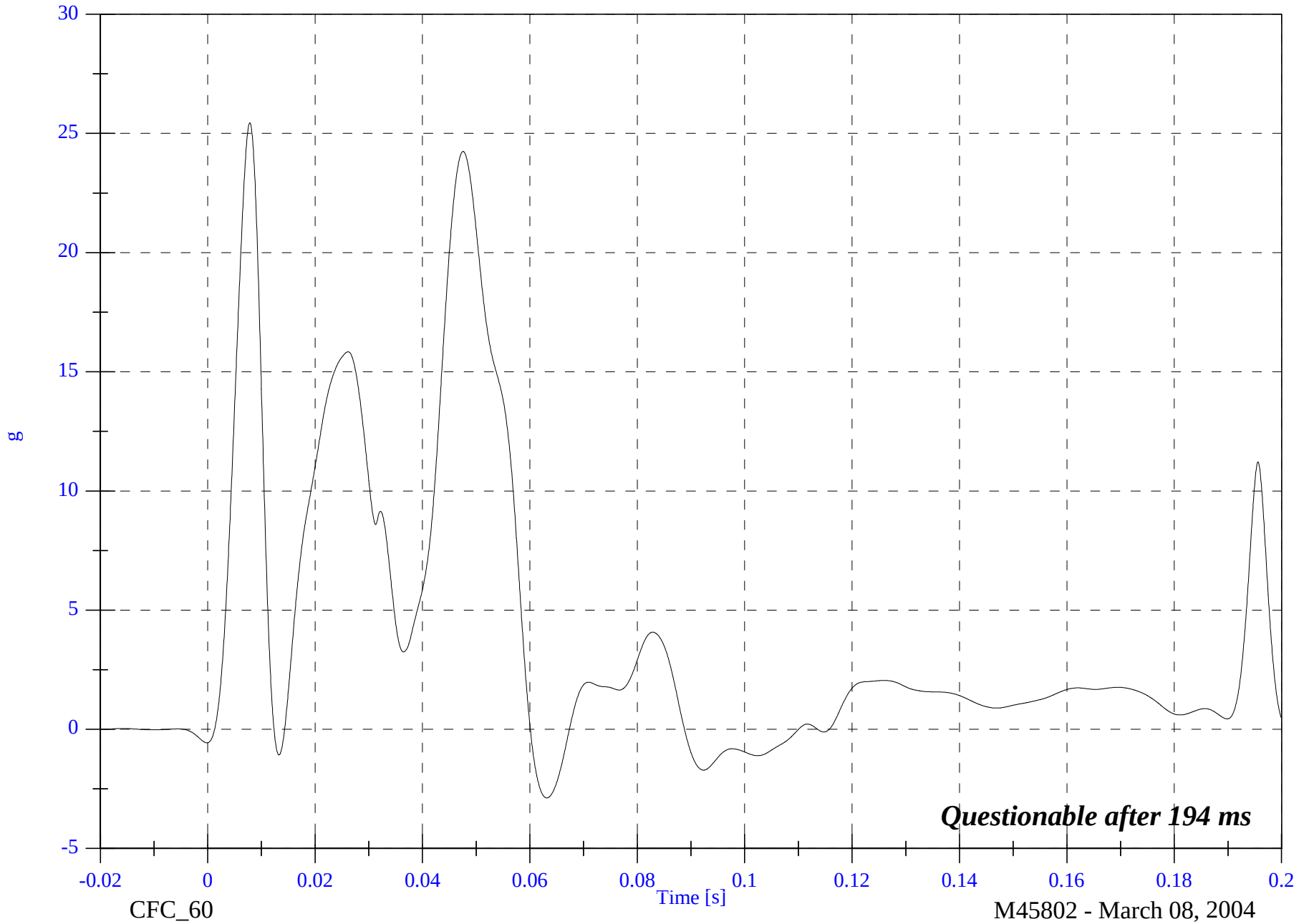
V2 A3 Rear Floorpan Y

Max: 25.4 [g] at 0.008 [s]

Min: -2.9 [g] at 0.063 [s]

B-76

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2004 SNCAP Test 2 2004 VW Touareg

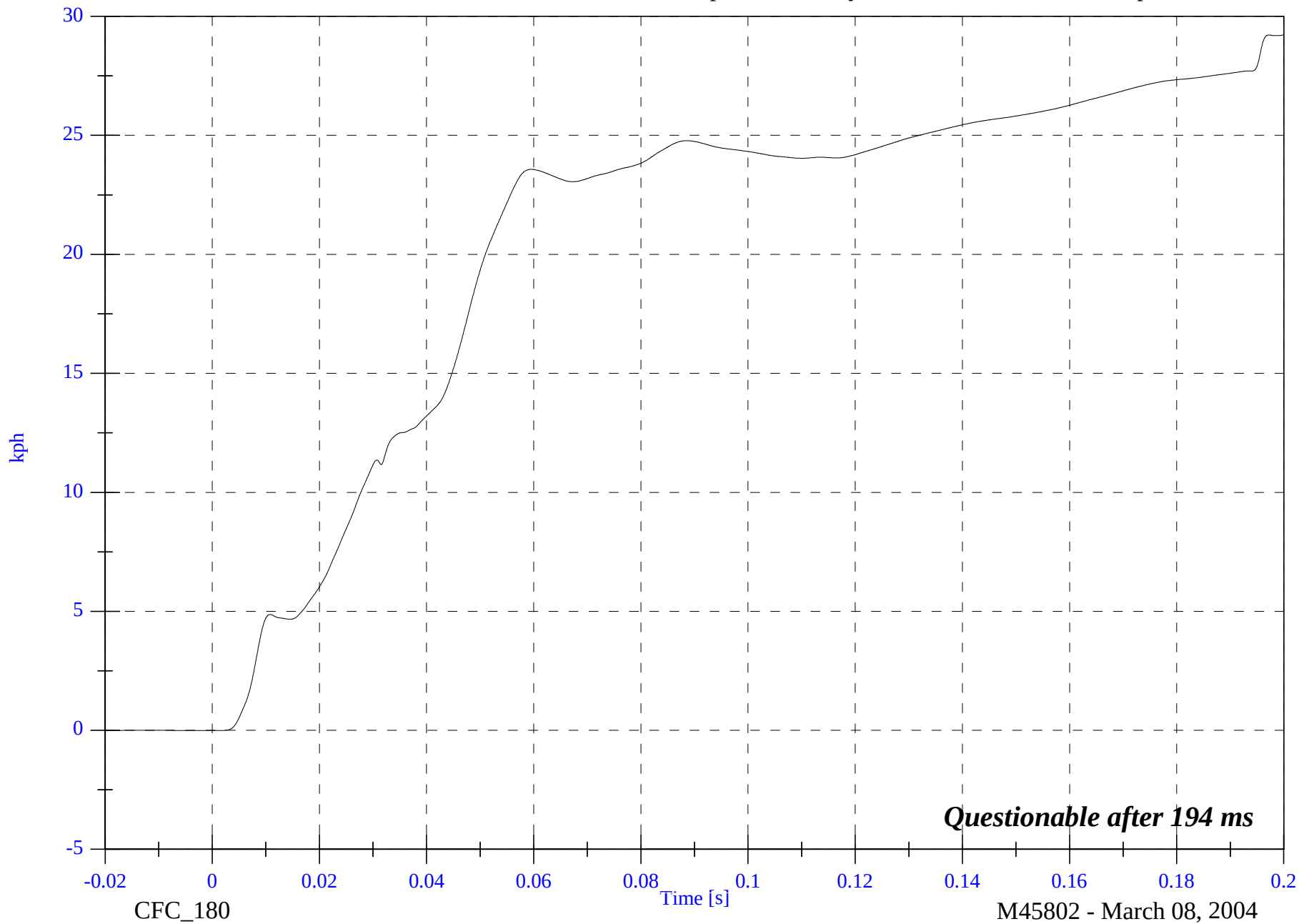
Max: 29.2 [kph] at 0.200 [s]

V2 A3 Rear Floorpan Y Velocity

Min: -0.0 [kph] at 0.001 [s]

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2004 SNCAP Test 2 2004 VW Touareg

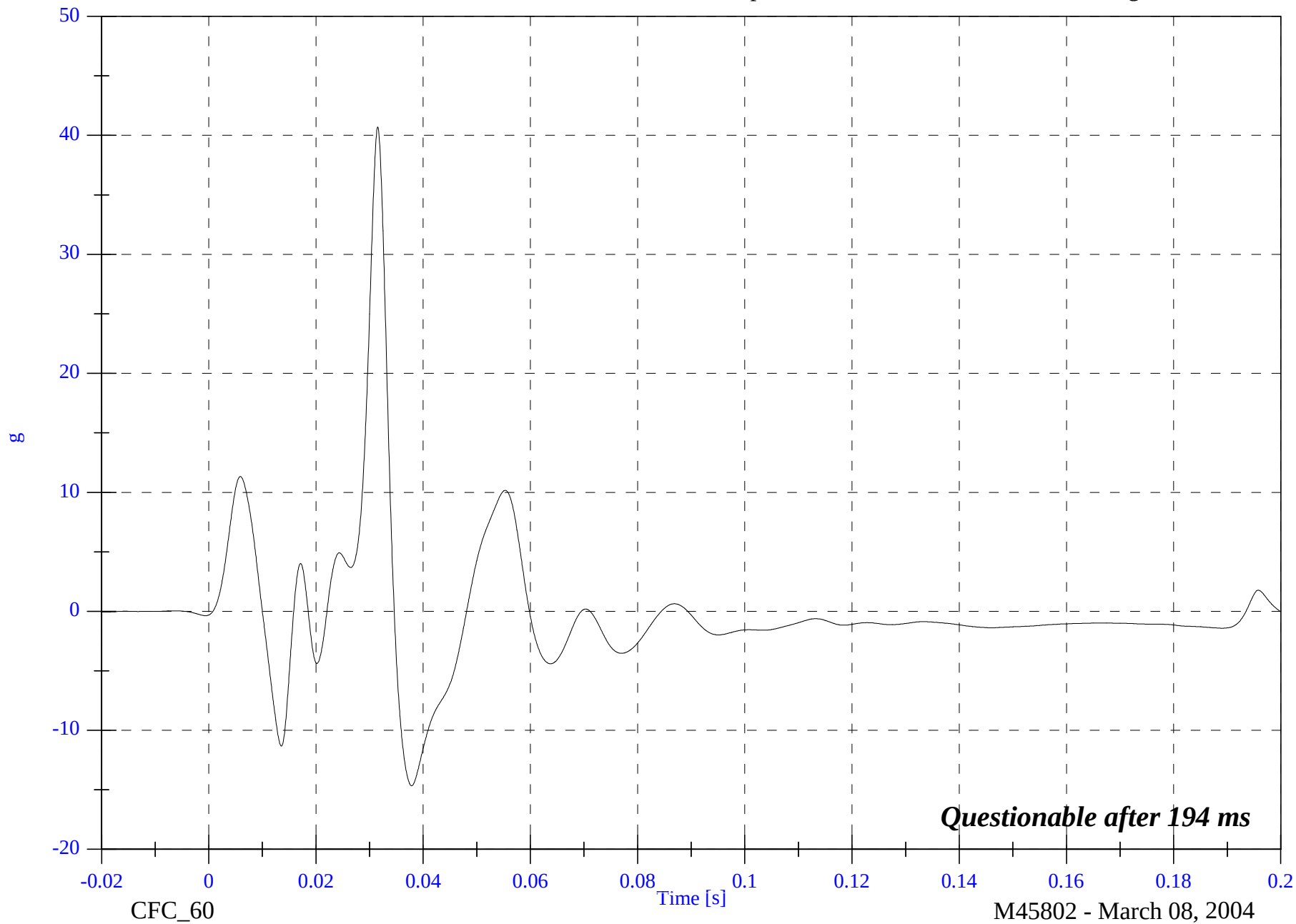
V2 A3 Rear Floorplan Z

Max: 40.7 [g] at 0.031 [s]

Min: -14.7 [g] at 0.038 [s]

B-78

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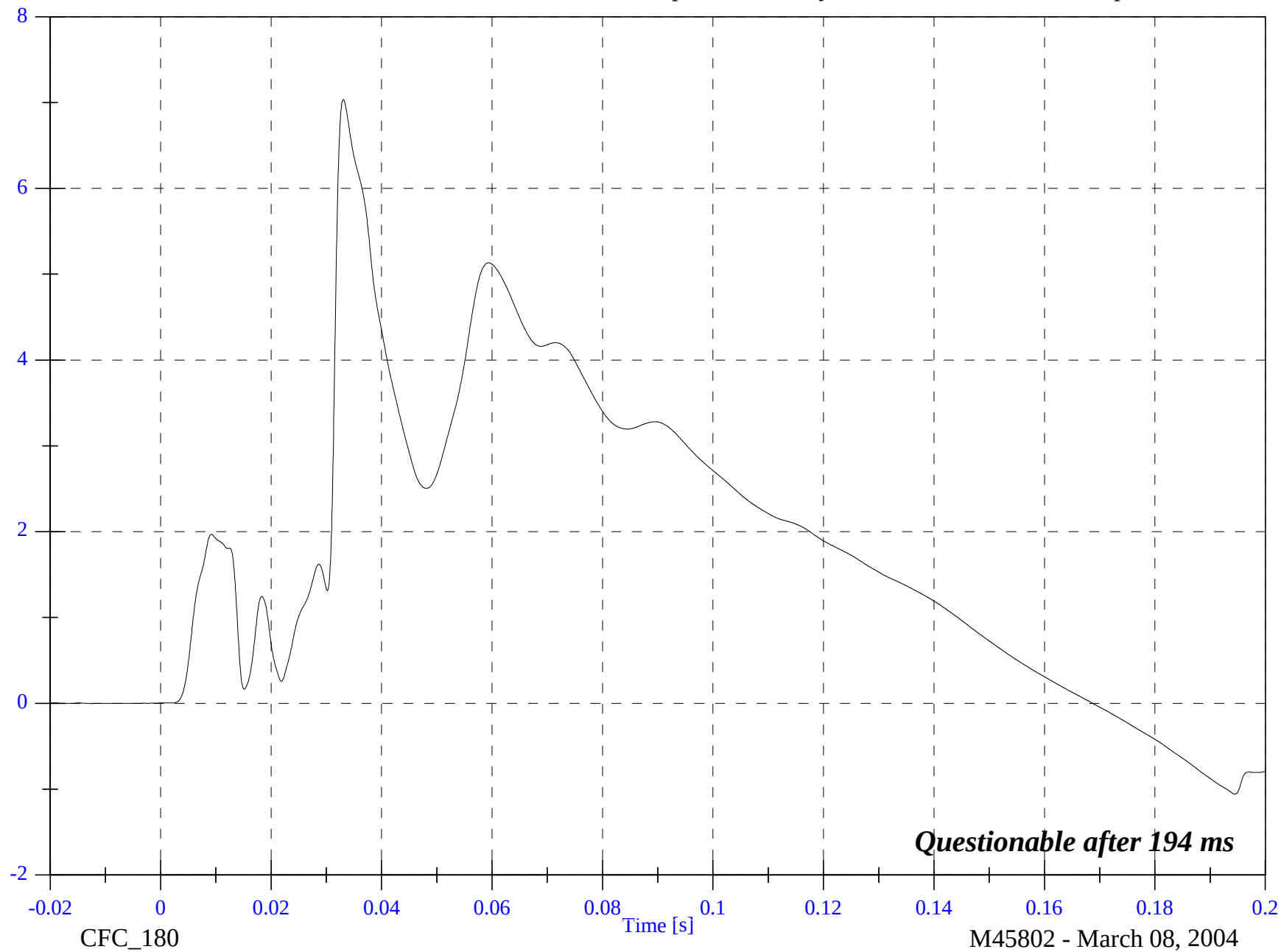


2004 SNCAP Test 2 2004 VW Touareg

Max: 7.0 [kph] at 0.033 [s]

V2 A3 Rear Floorplan Z Velocity

Min: -1.1 [kph] at 0.194 [s]



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2004 SNCAP Test 2 2004 VW Touareg

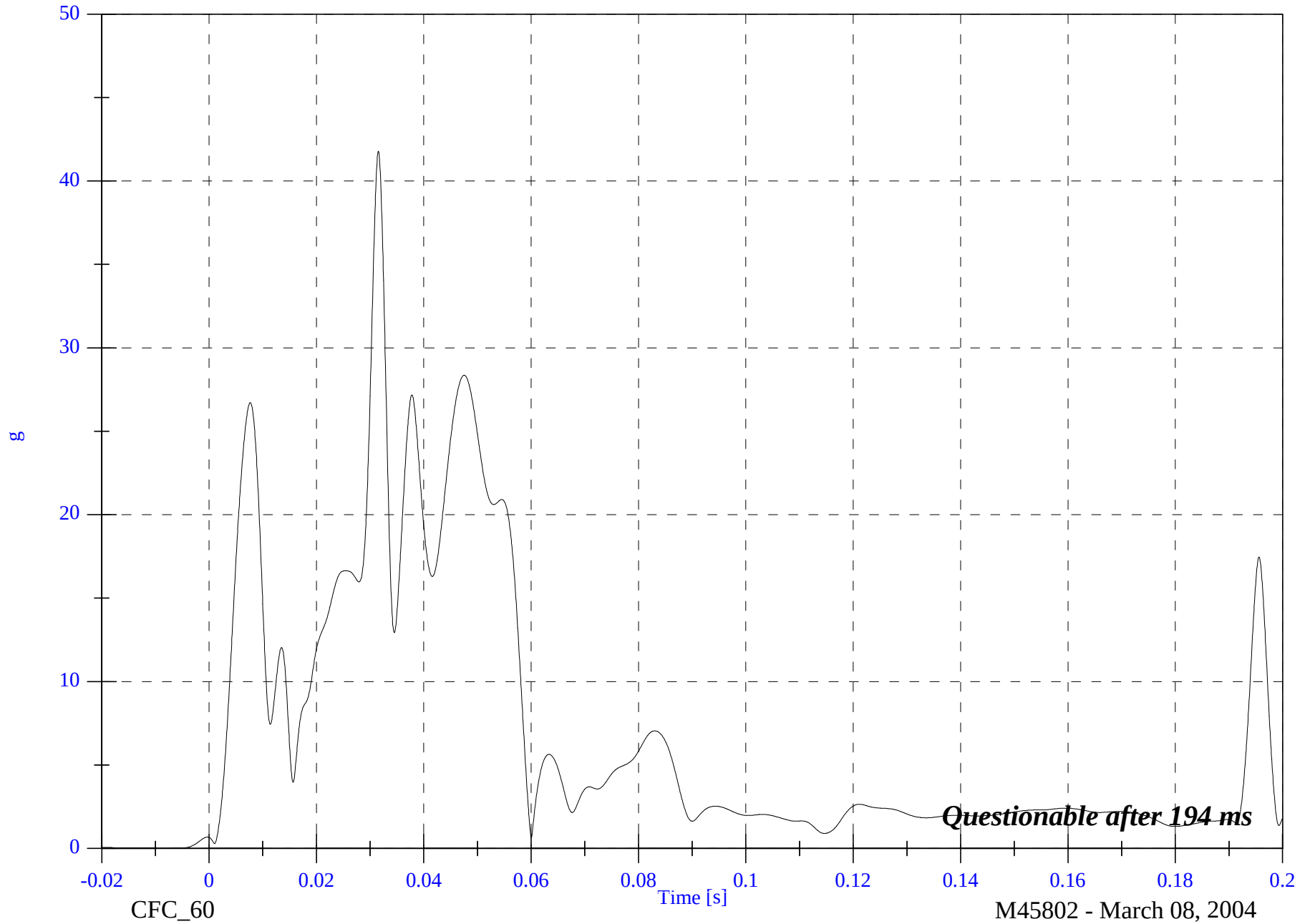
V2 A3 Rear Floorpan Resultant

Max: 41.8 [g] at 0.032 [s]

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

B-80

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2004 SNCAP Test 2 2004 VW Touareg

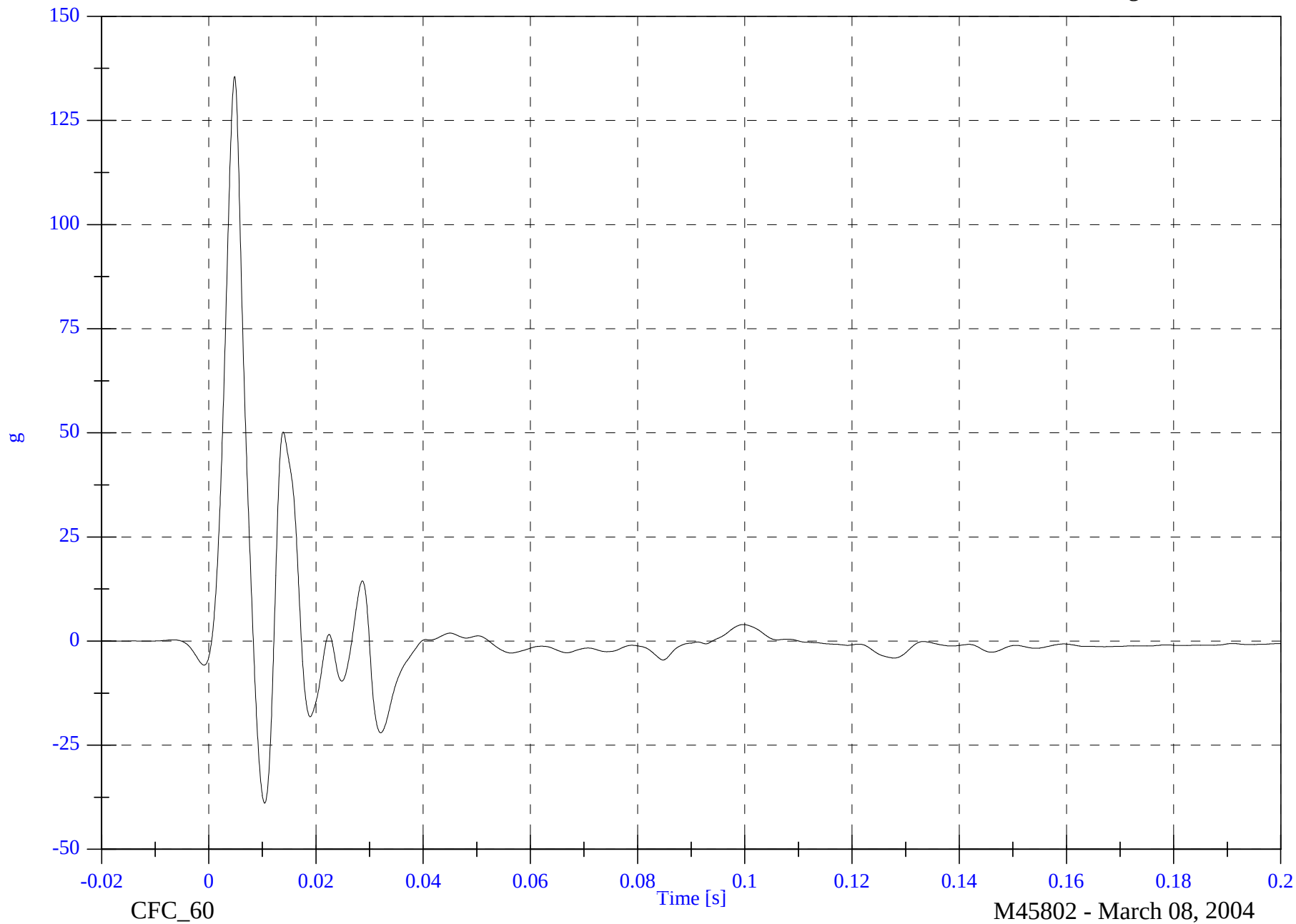
V2 A4 Left Rear Sill Y

Max: 135.5 [g] at 0.005 [s]

Min: -38.9 [g] at 0.010 [s]

B-81

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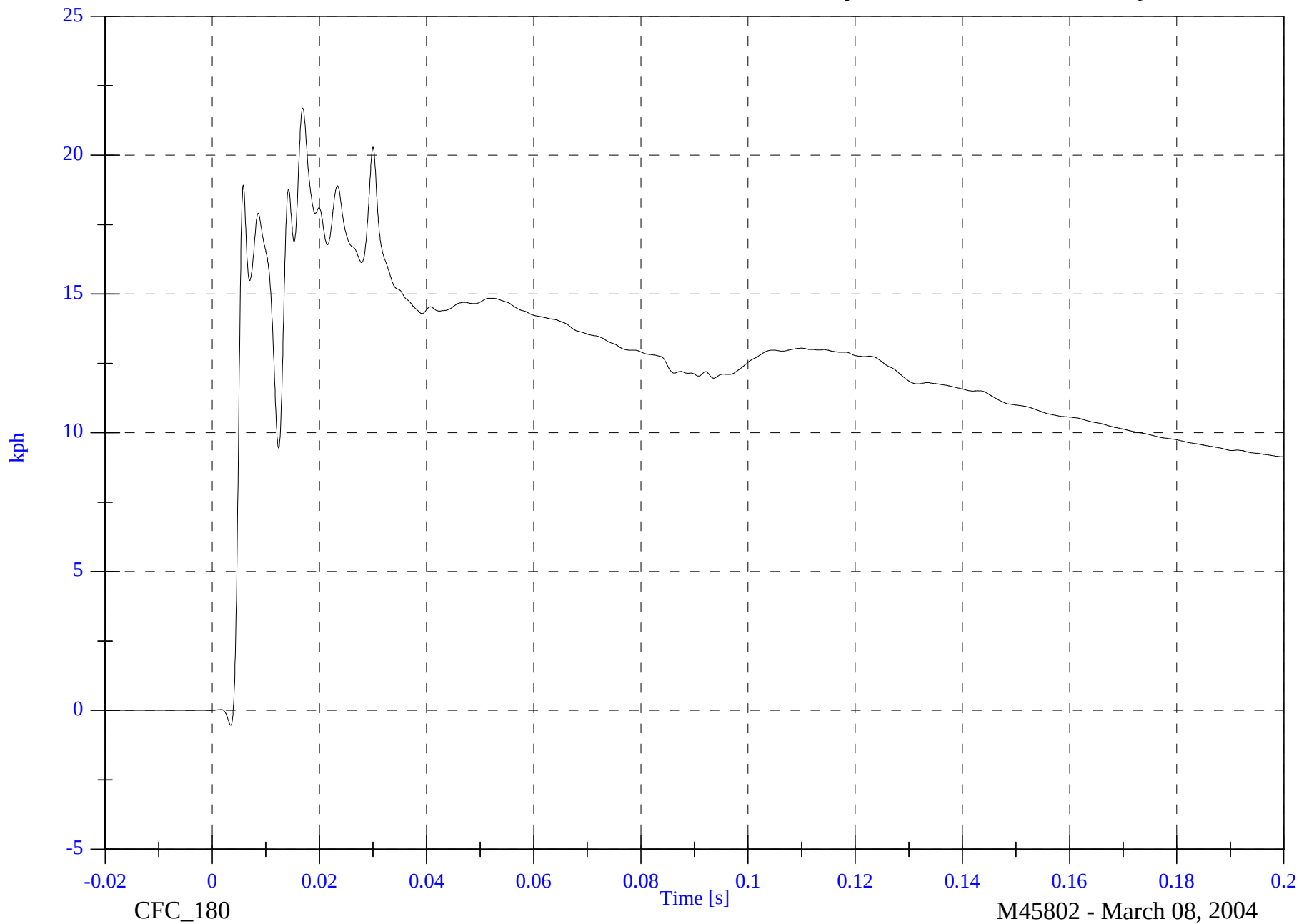


2004 SNCAP Test 2 2004 VW Touareg

V2 A4 Left Rear Sill Y Velocity

Max: 21.7 [kph] at 0.017 [s]

Min: -0.5 [kph] at 0.003 [s]



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2004 SNCAP Test 2 2004 VW Touareg

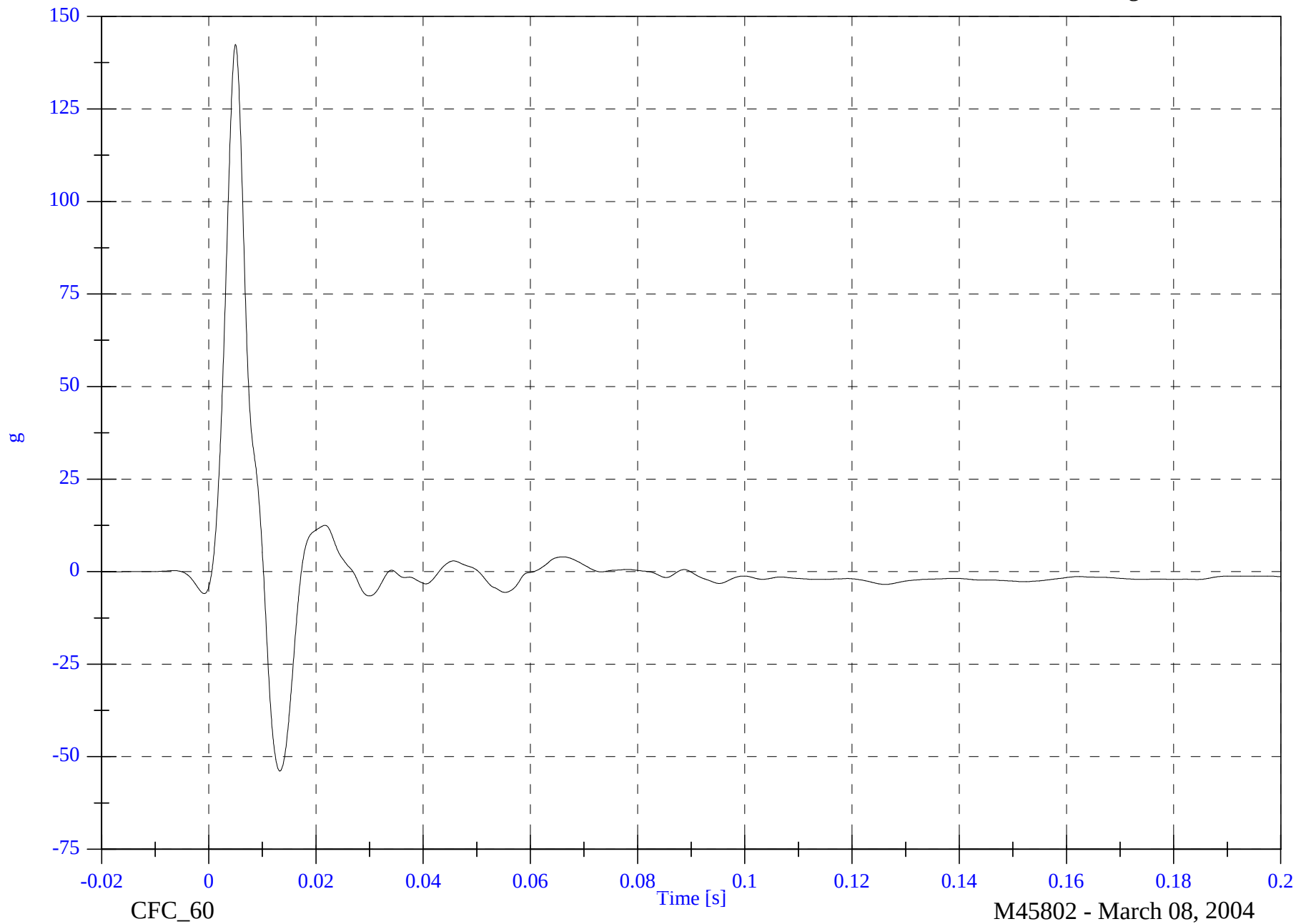
V2 A5 Left Front Sill Y

Max: 142.4 [g] at 0.005 [s]

Min: -53.9 [g] at 0.013 [s]

B-83

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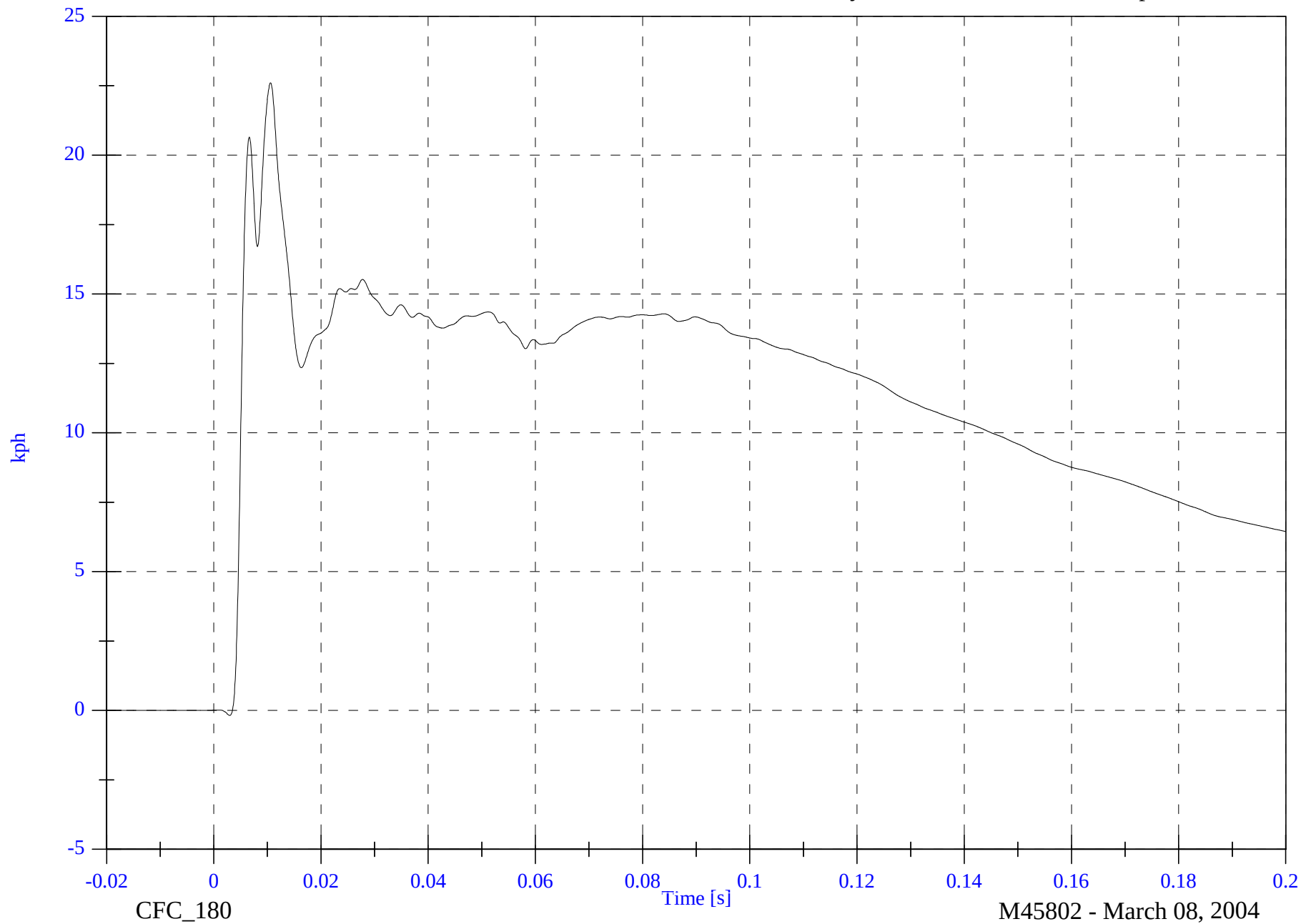


2004 SNCAP Test 2 2004 VW Touareg

V2 A5 Left Front Sill Y Velocity

Max: 22.6 [kph] at 0.011 [s]

Min: -0.2 [kph] at 0.003 [s]



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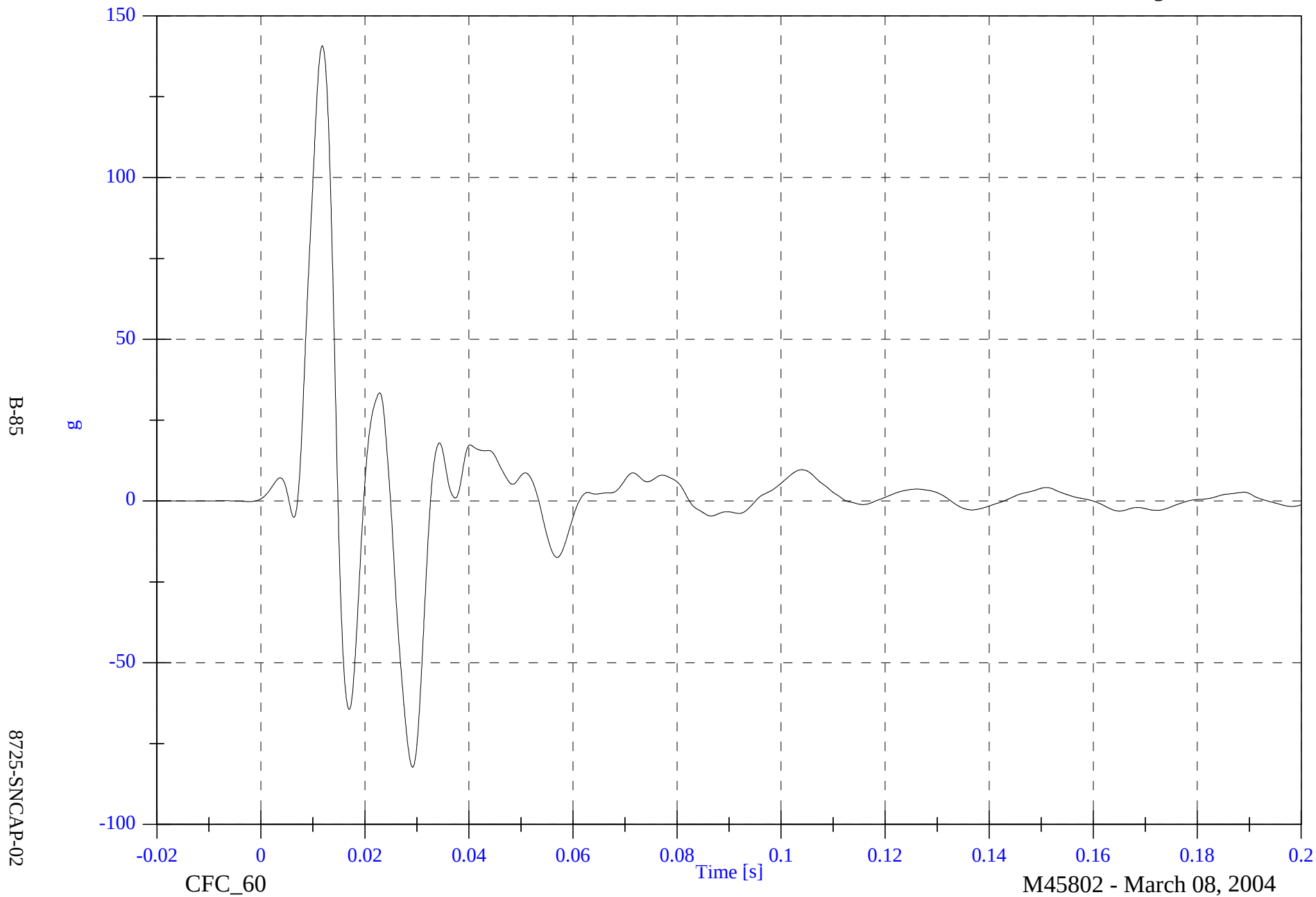
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V2 A6 Left Front Door C/L Y

Max: 140.8 [g] at 0.012 [s]

Min: -82.3 [g] at 0.029 [s]



2004 SNCAP Test 2 2004 VW Touareg

V2 A6 Left Front Door C/L Y Velocity

Max: 26.7 [kph] at 0.014 [s]

Min: -1.1 [kph] at 0.008 [s]

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2004 SNCAP Test 2 2004 VW Touareg

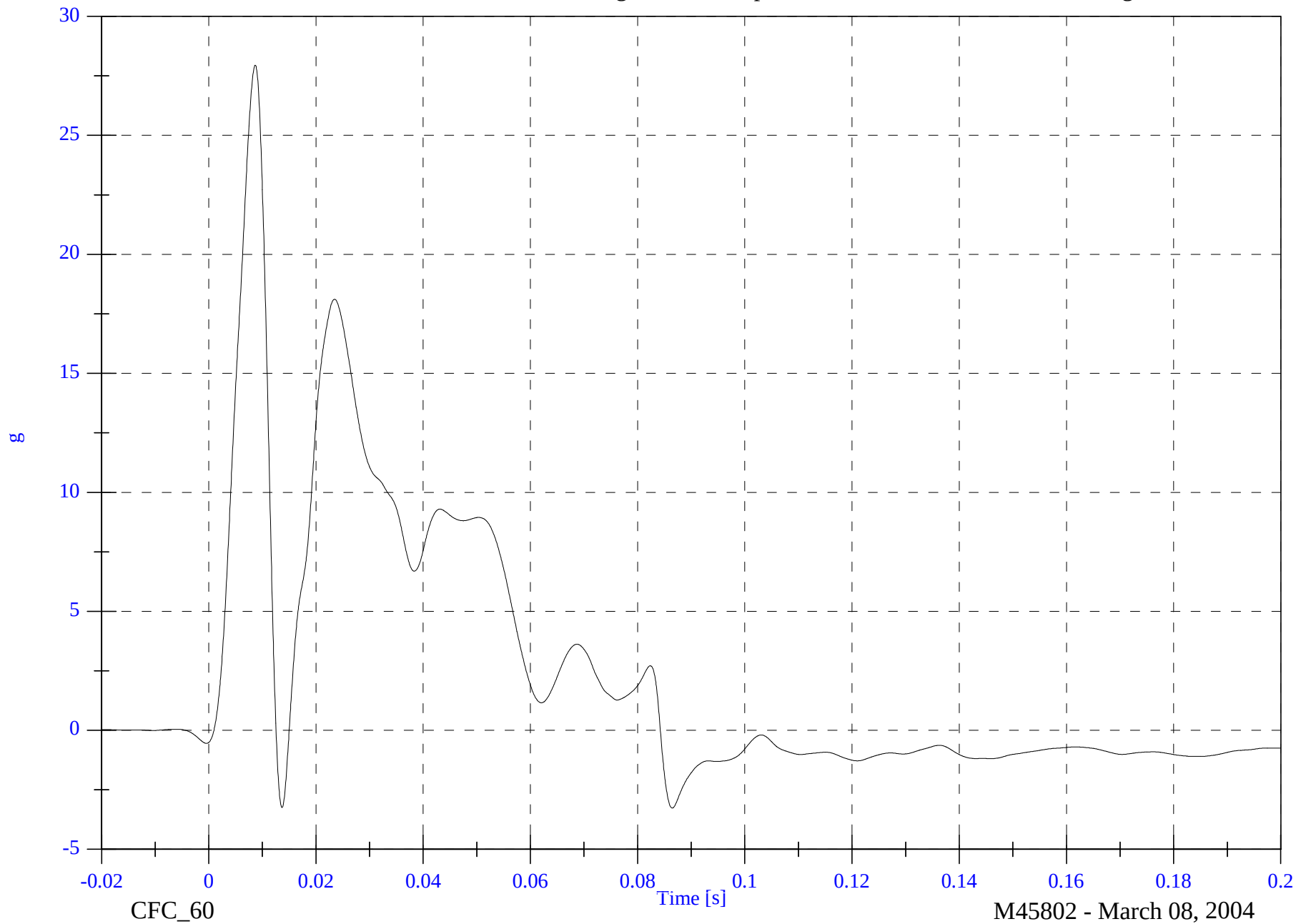
V2 A7 Right Rear Compartment Y

Max: 27.9 [g] at 0.009 [s]

Min: -3.3 [g] at 0.086 [s]

B-87

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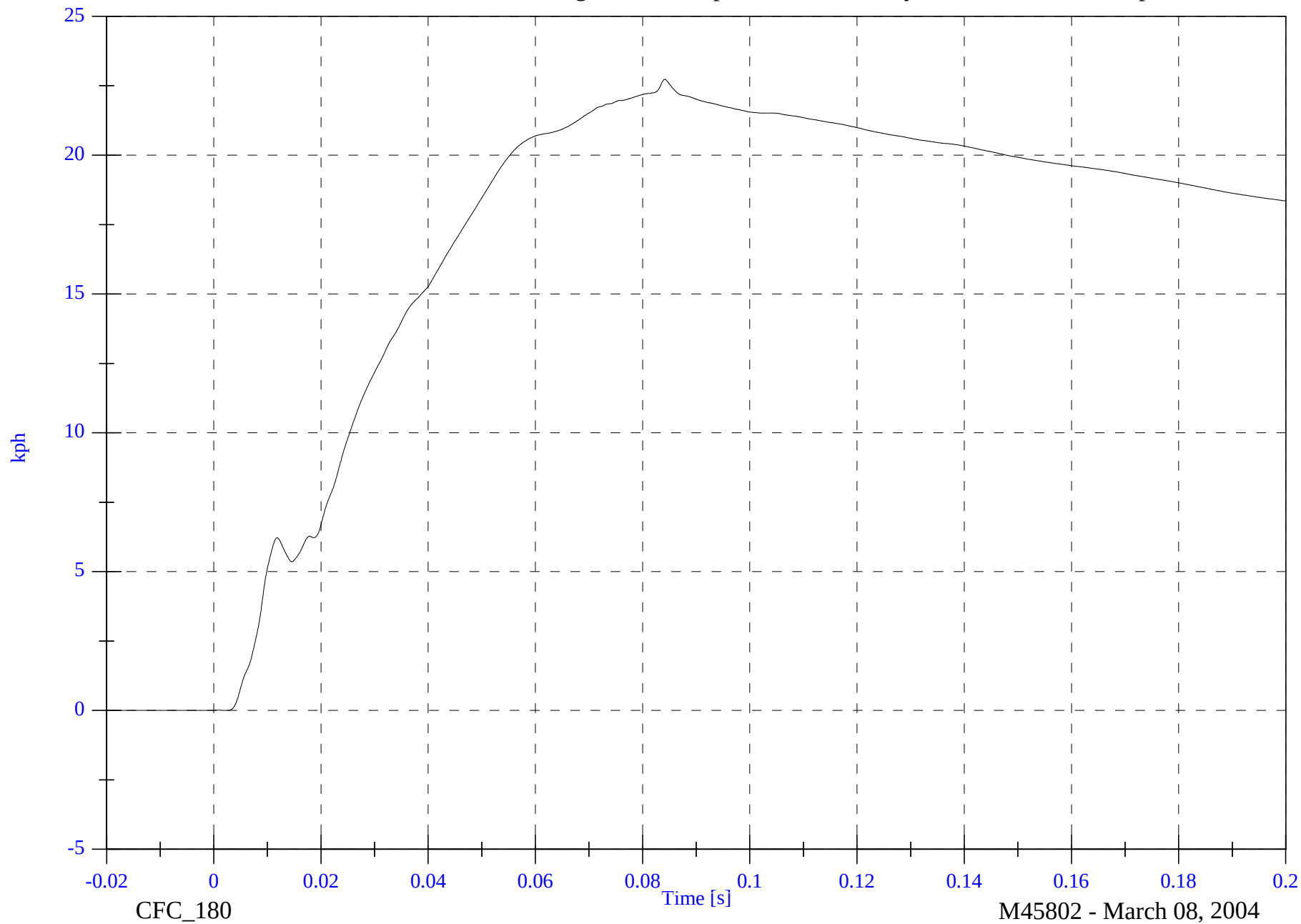


2004 SNCAP Test 2 2004 VW Touareg

V2 A7 Right Rear Compartment Y Velocity

Max: 22.7 [kph] at 0.084 [s]

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



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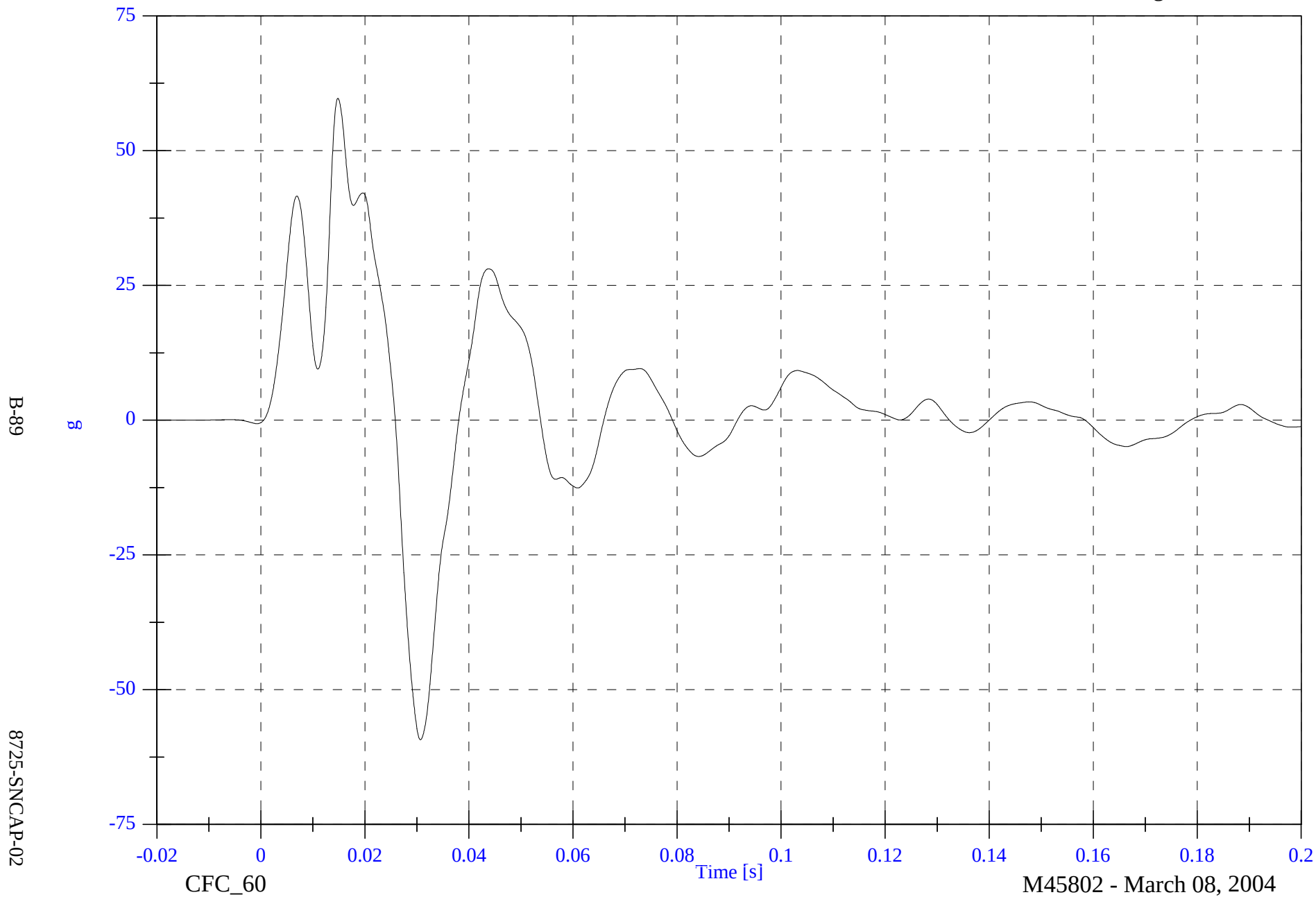
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2004 SENCAP Test 2 2004 VW Touareg

V2 A8 Left Front Door Midrear Y

Max: 59.7 [g] at 0.015 [s]

Min: -59.3 [g] at 0.031 [s]



2004 SNCAP Test 2 2004 VW Touareg

V2 A8 Left Front Door Midrear Y Velocity

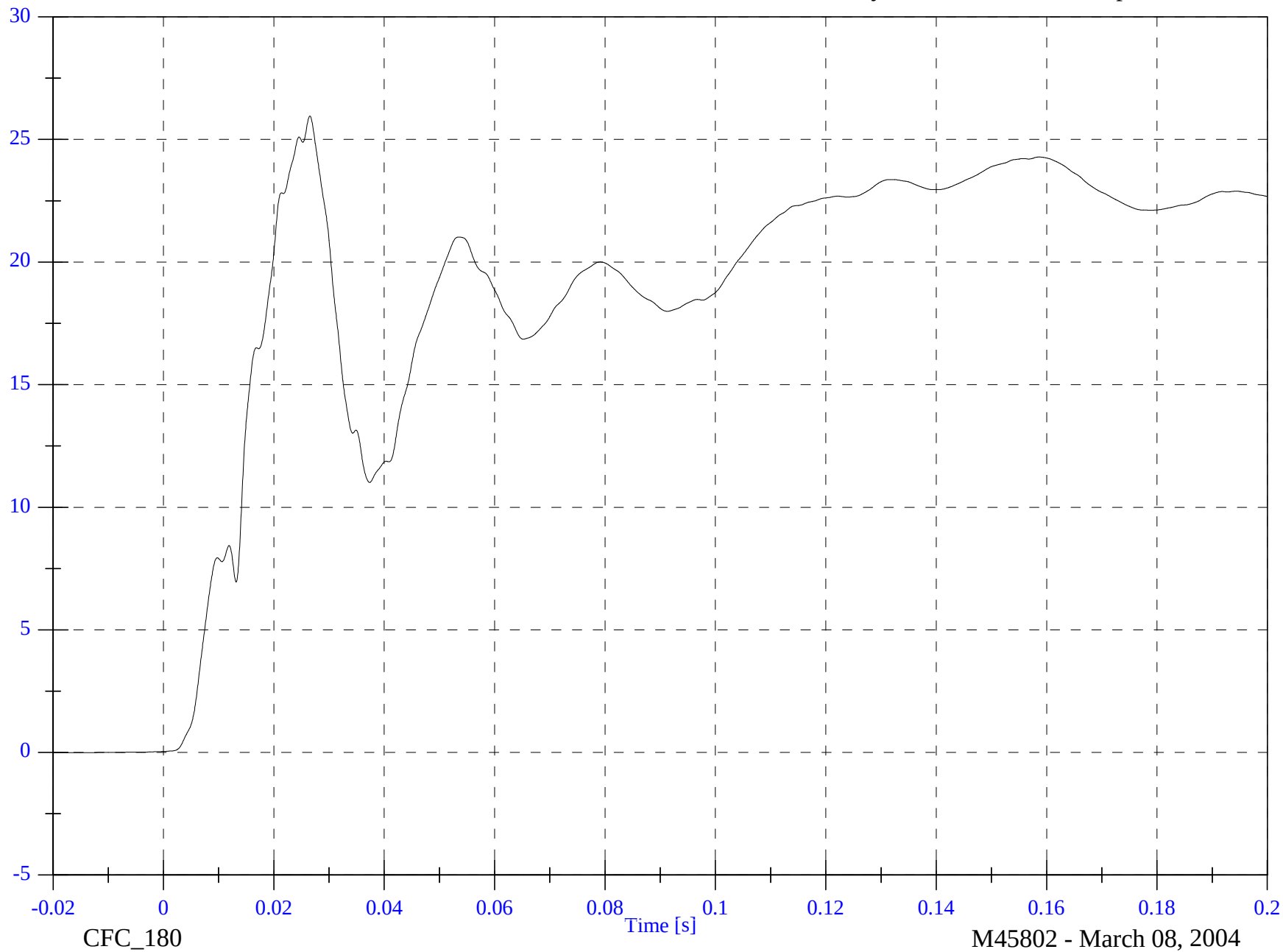
Max: 26.0 [kph] at 0.026 [s]

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

B-90

kph

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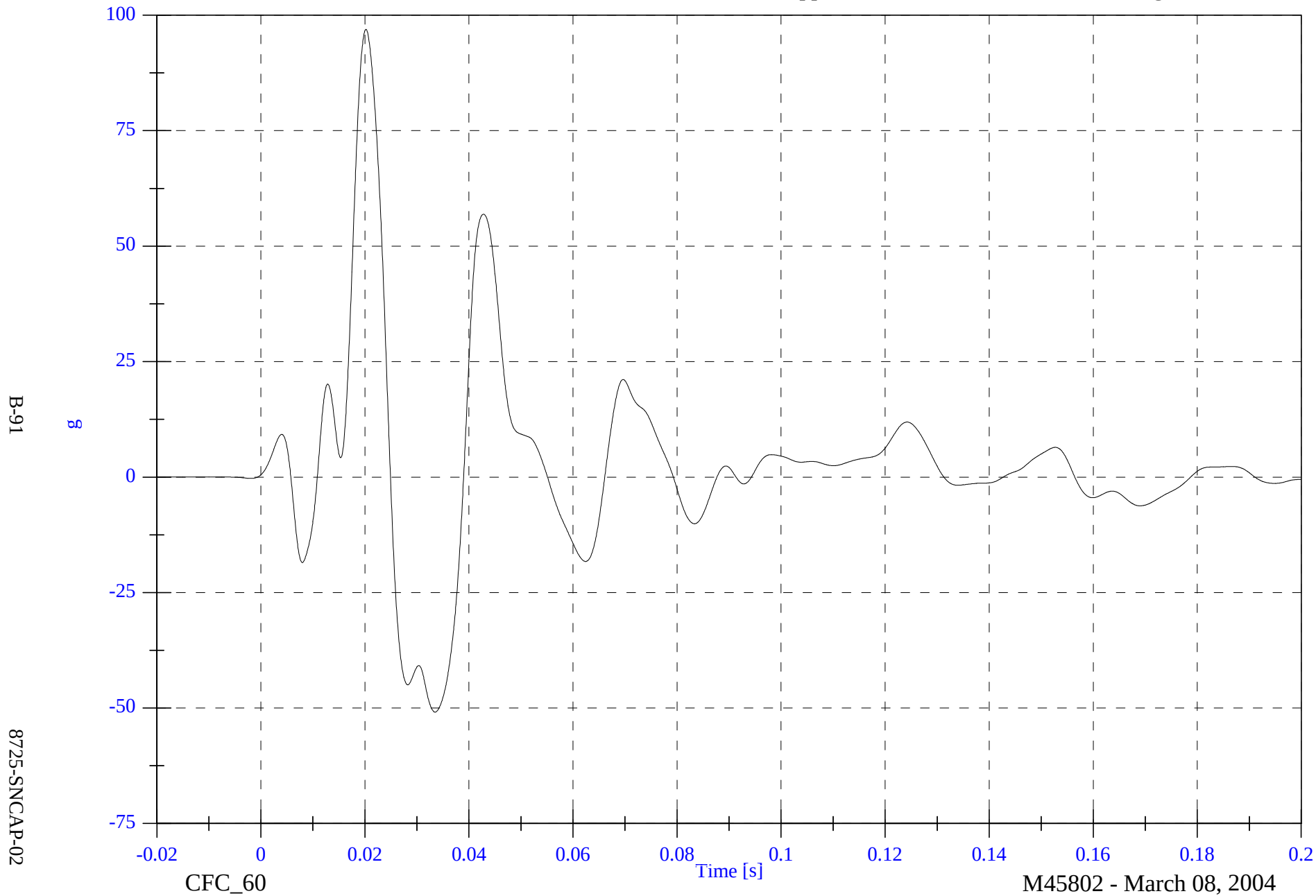


2004 SNCAP Test 2 2004 VW Touareg

V2 A9 Left Front Door Upper C/L Y

Max: 96.9 [g] at 0.020 [s]

Min: -50.9 [g] at 0.034 [s]



2004 SNCAP Test 2 2004 VW Touareg

V2 A9 Left Front Door Upper C/L Y Velocity

Max: 22.1 [kph] at 0.156 [s]

Min: -2.2 [kph] at 0.011 [s]



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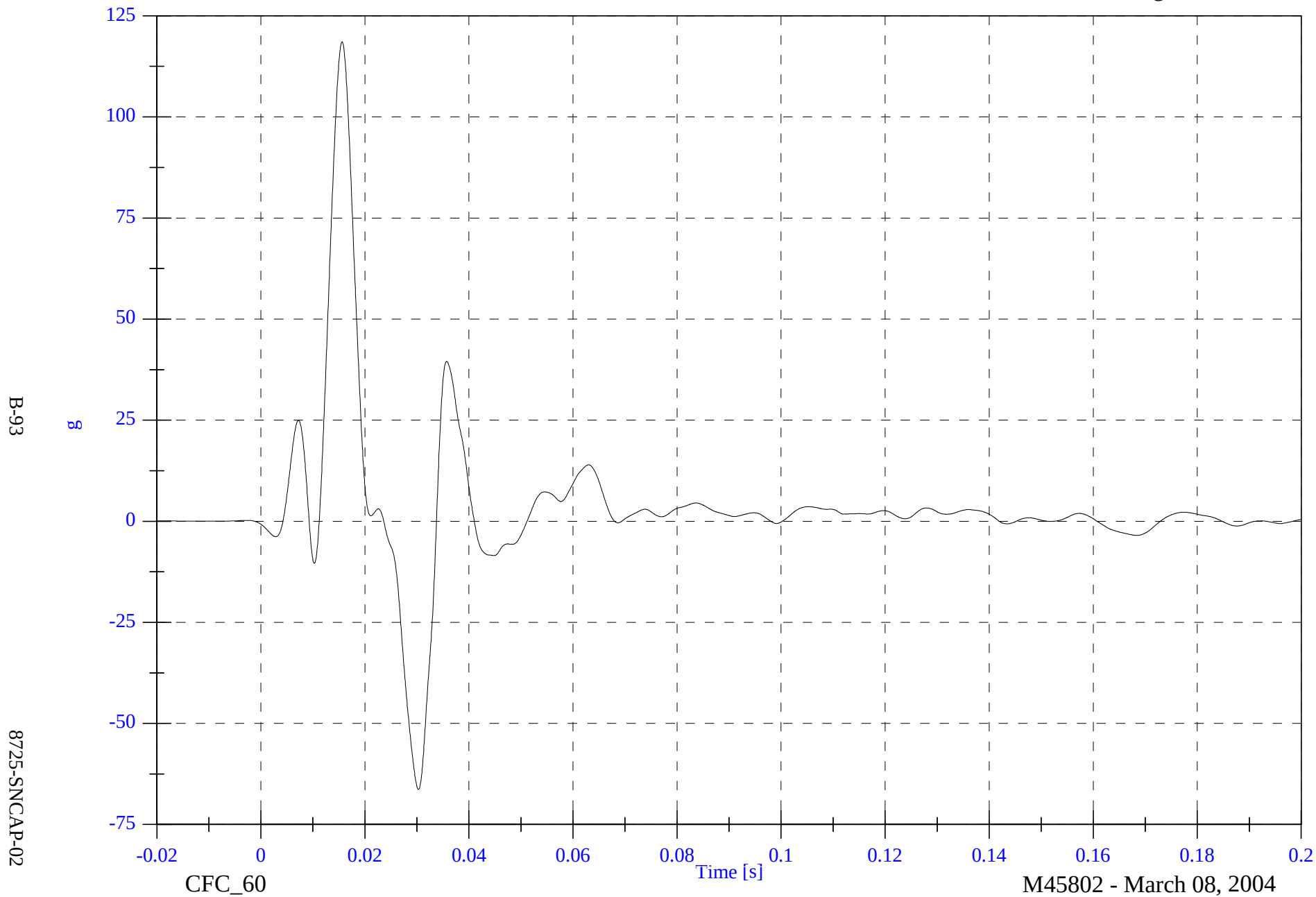
M45802 - March 08, 2004

2004 SENCAP Test 2 2004 VW Touareg

V2 A10 Left Rear Door Midrear Y

Max: 118.6 [g] at 0.016 [s]

Min: -66.4 [g] at 0.030 [s]



2004 SNCAP Test 2 2004 VW Touareg

V2 A10 Left Rear Door Midrear Y Velocity

Max: 25.0 [kph] at 0.160 [s]

Min: -0.8 [kph] at 0.005 [s]

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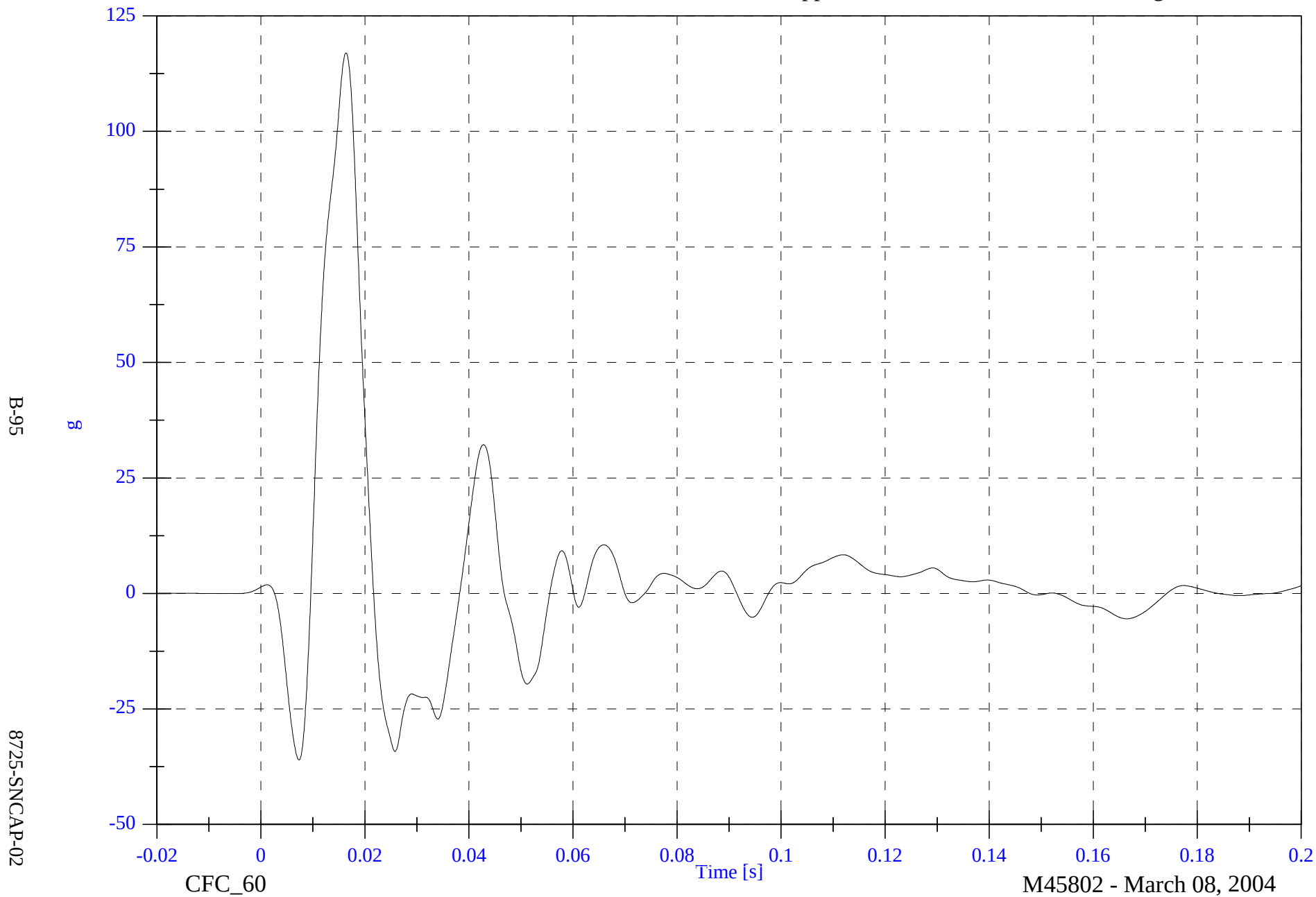


2004 SNCAP Test 2 2004 VW Touareg

Max: 117.0 [g] at 0.016 [s]

V2 A11 Left Rear Door Upper C/L Y

Min: -36.0 [g] at 0.007 [s]

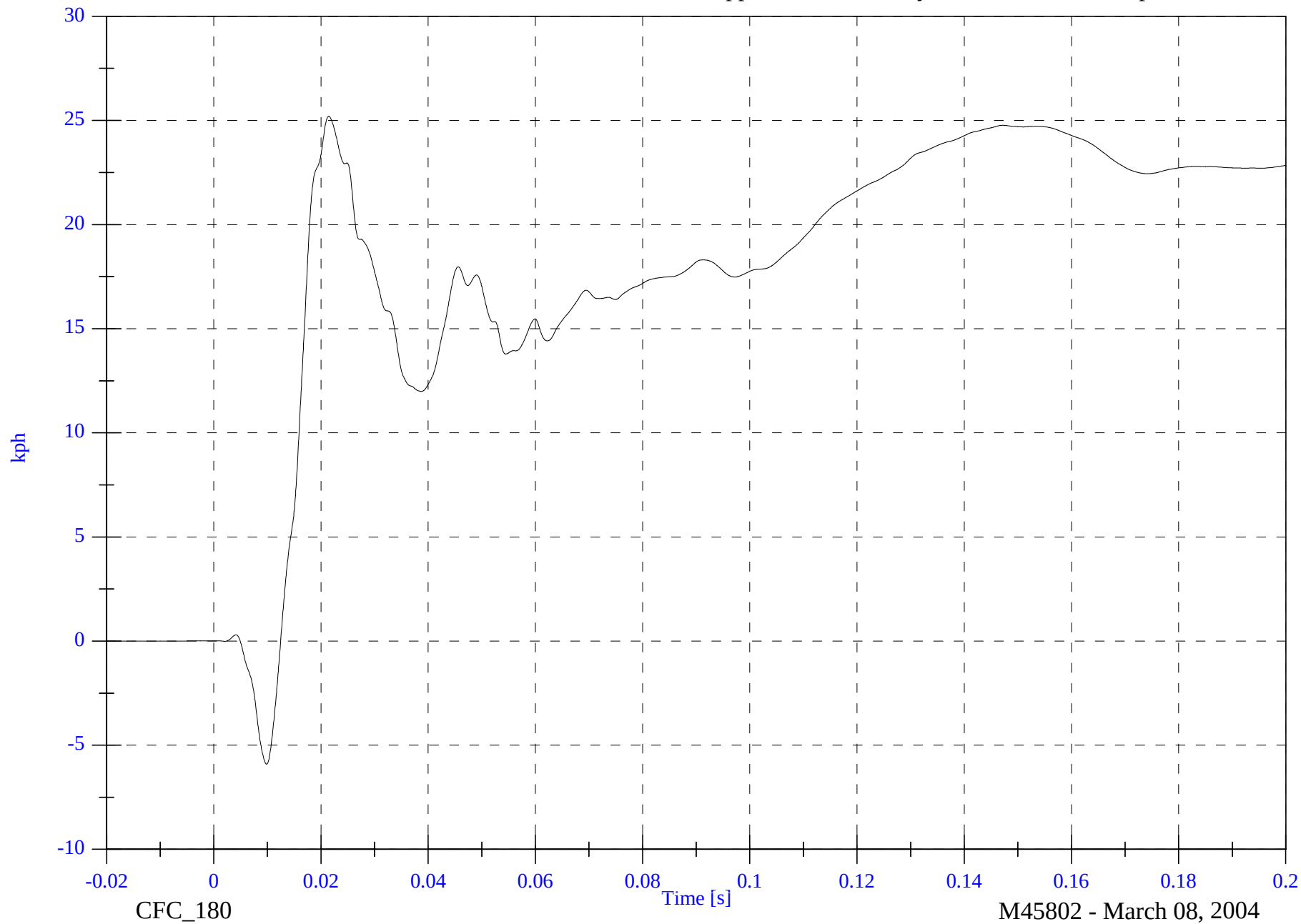


2004 SNCAP Test 2 2004 VW Touareg

V2 A11 Left Rear Door Upper C/L Y Velocity

Max: 25.2 [kph] at 0.021 [s]

Min: -5.9 [kph] at 0.010 [s]



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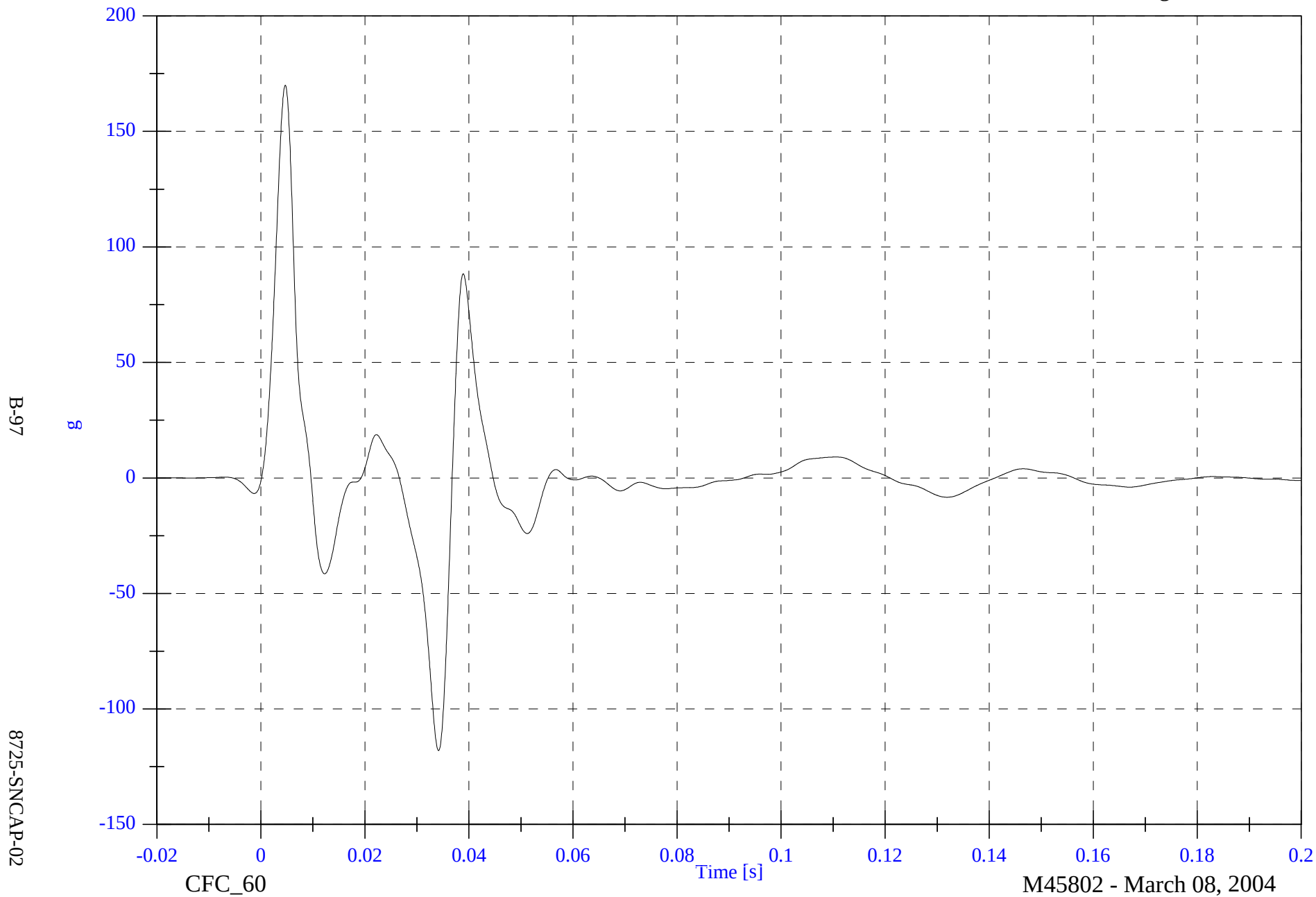
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V2 A12 Left Lower B Post Y

Max: 170.0 [g] at 0.005 [s]

Min: -118.1 [g] at 0.034 [s]



2004 SNCAP Test 2 2004 VW Touareg

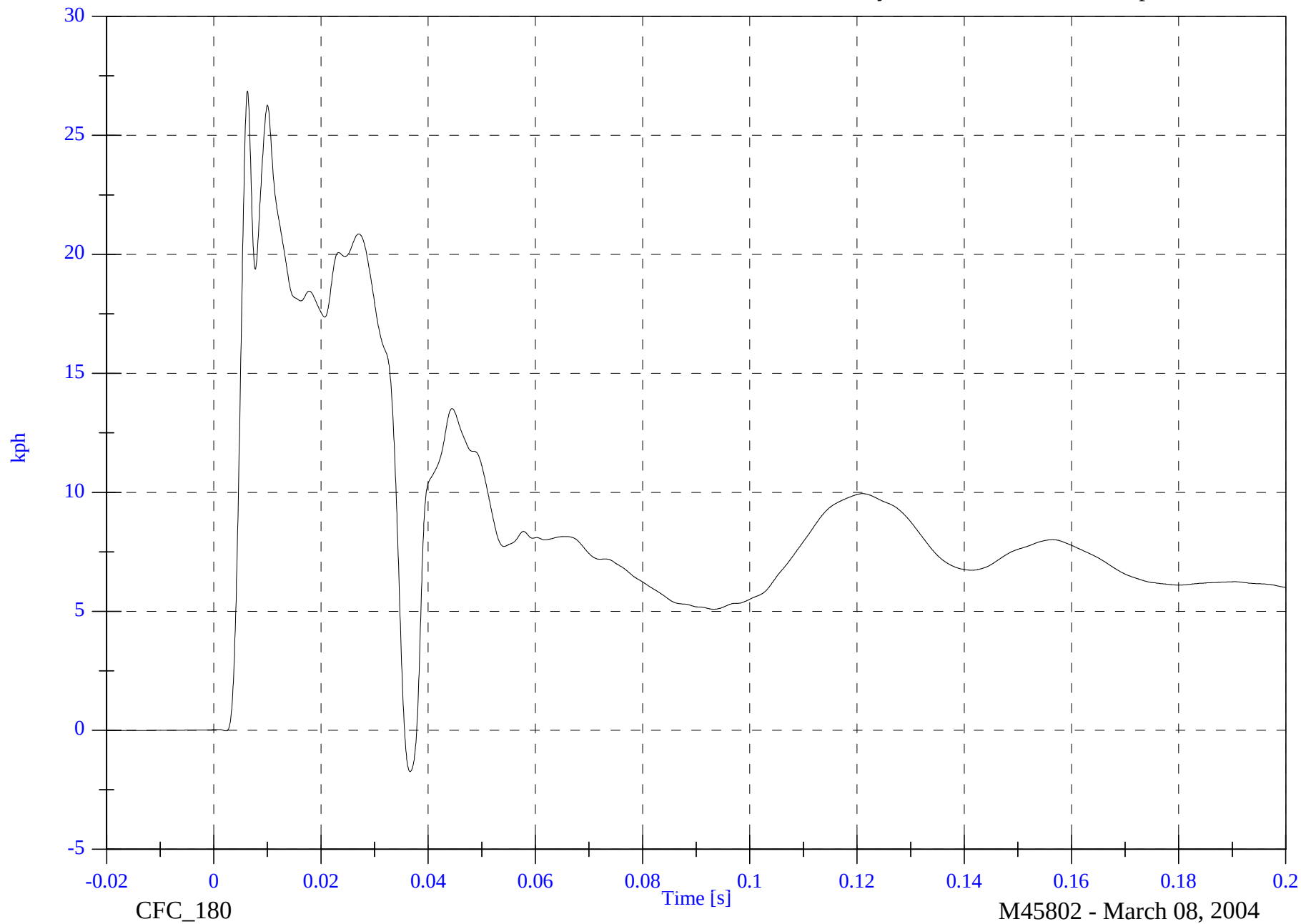
V2 A12 Left Lower B Post Y Velocity

Max: 26.9 [kph] at 0.006 [s]

Min: -1.7 [kph] at 0.037 [s]

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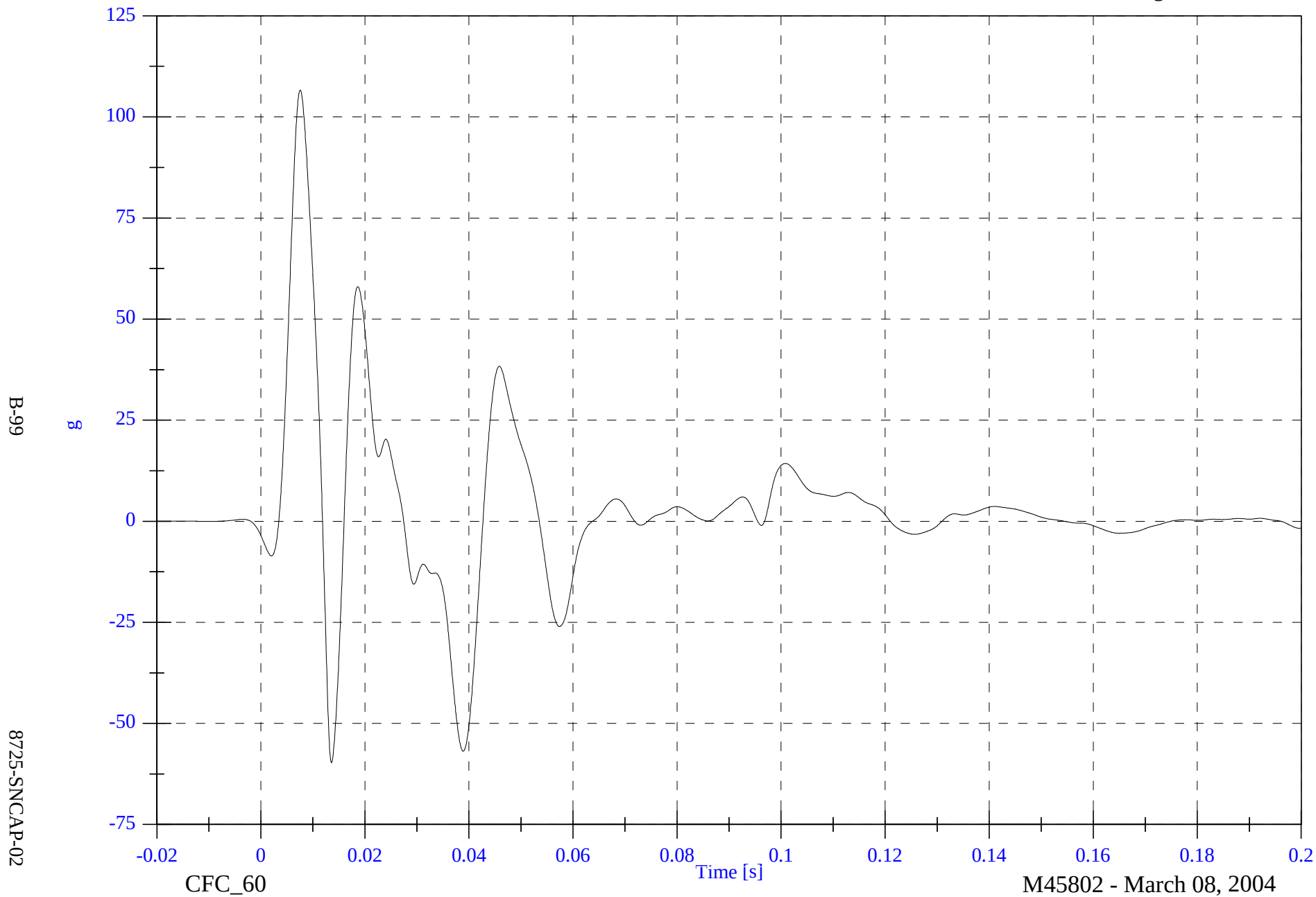
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V2 A13 Left Mid B Post Y

Max: 106.6 [g] at 0.008 [s]

Min: -59.7 [g] at 0.014 [s]

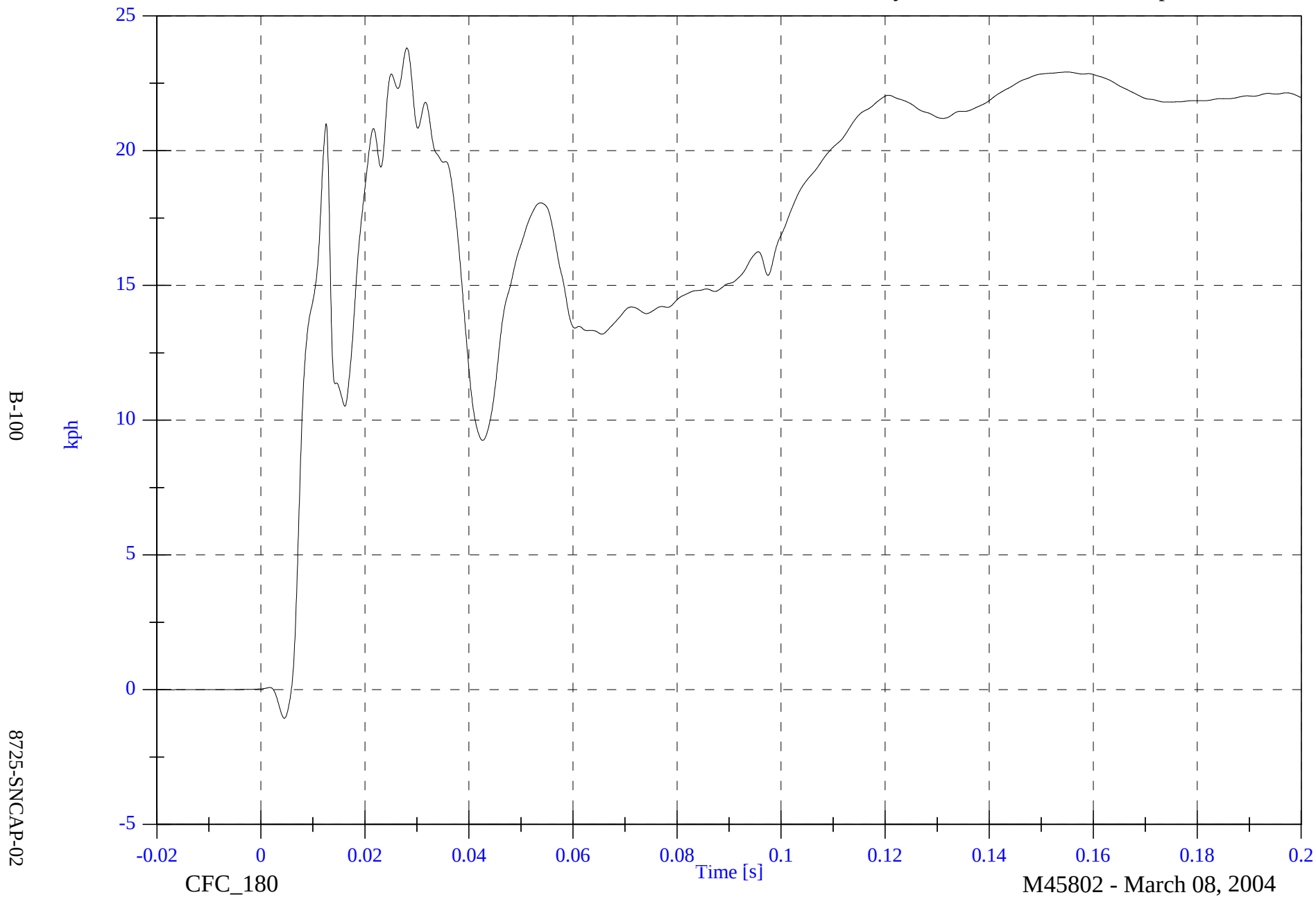


2004 SNCAP Test 2 2004 VW Touareg

V2 A13 Left Mid B Post Y Velocity

Max: 23.8 [kph] at 0.028 [s]

Min: -1.1 [kph] at 0.004 [s]

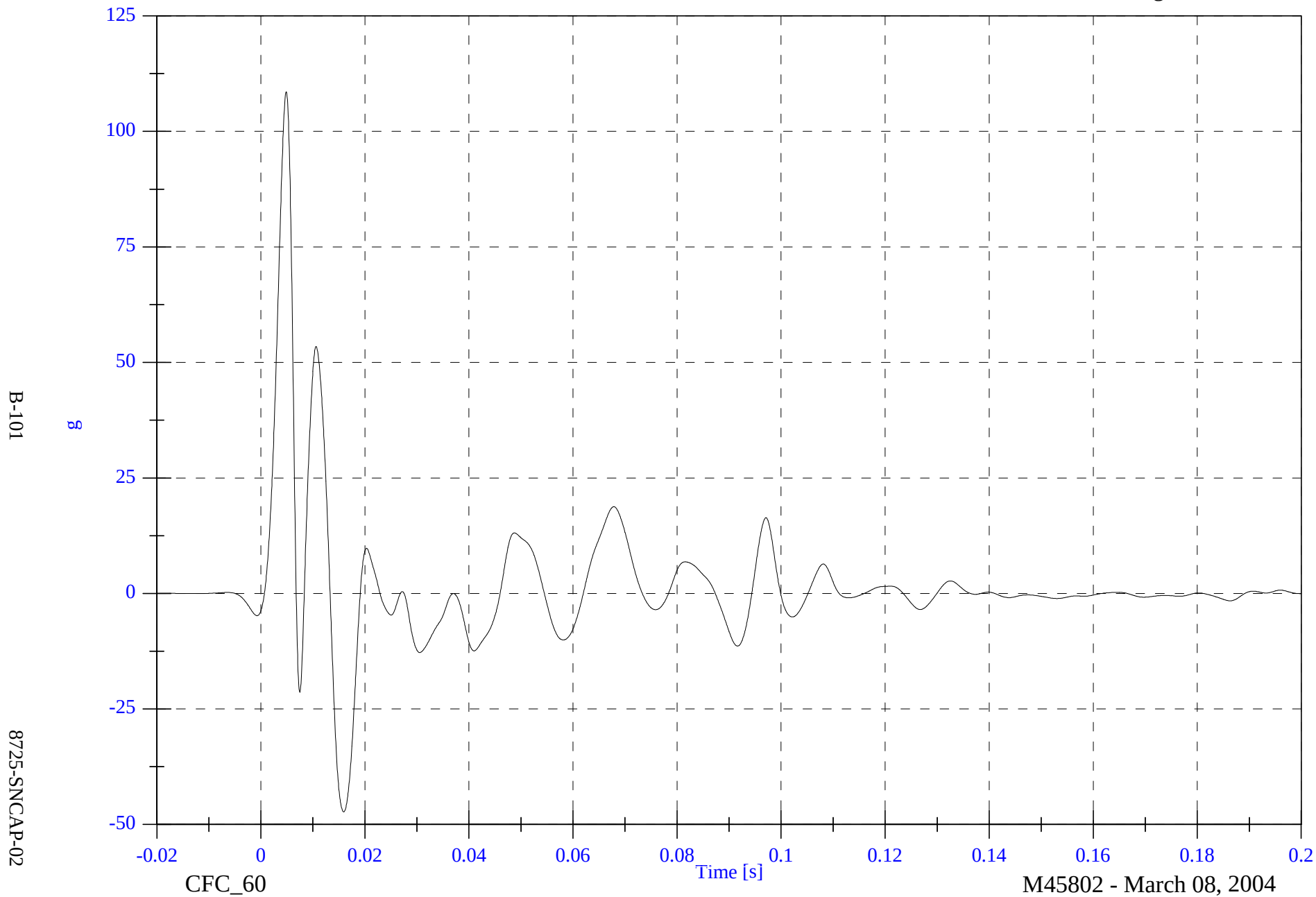


2004 SNCAP Test 2 2004 VW Touareg

V2 A14 Left Lower A Post Y

Max: 108.6 [g] at 0.005 [s]

Min: -47.3 [g] at 0.016 [s]

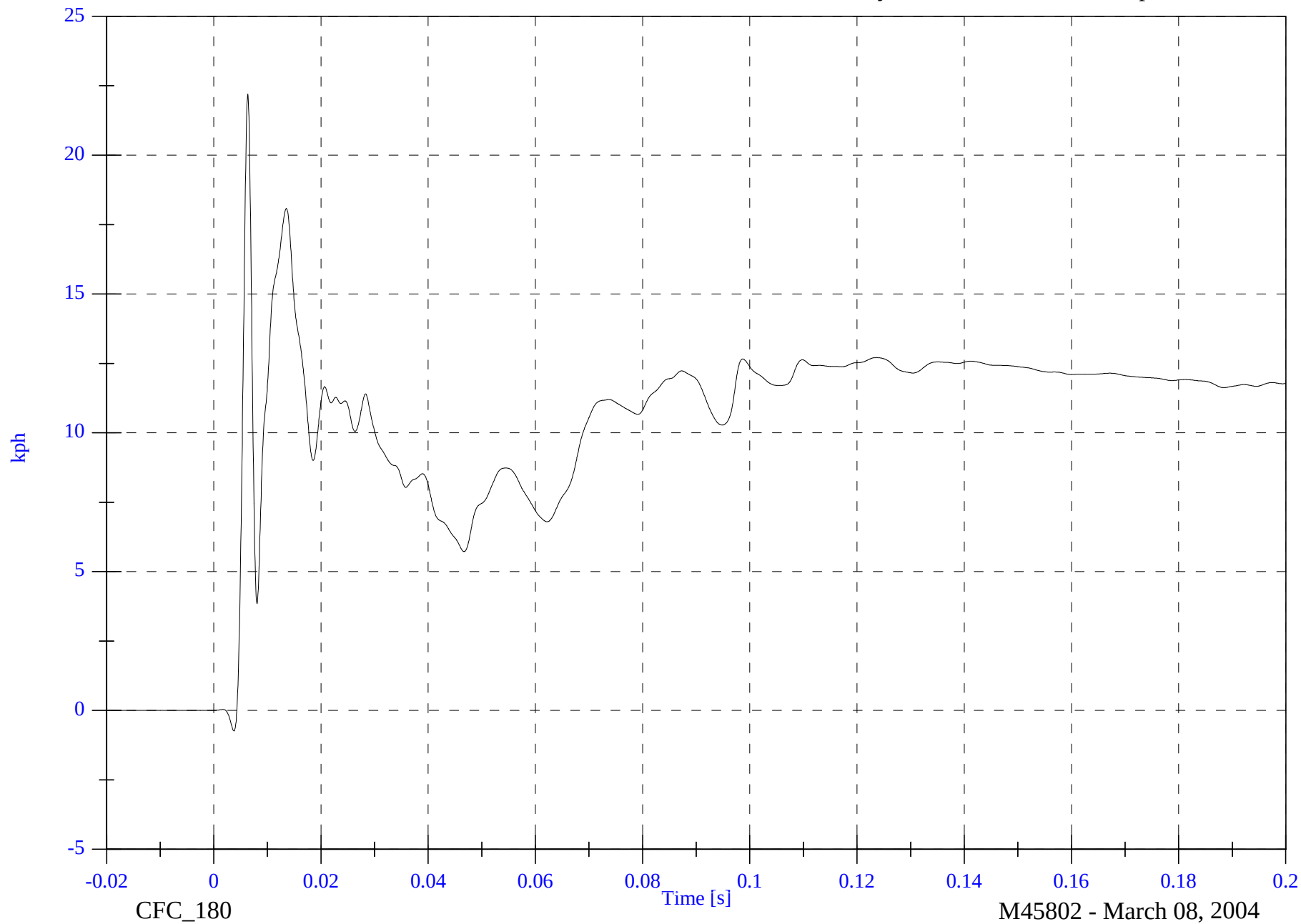


2004 SNCAP Test 2 2004 VW Touareg

V2 A14 Left Lower A Post Y Velocity

Max: 22.2 [kph] at 0.006 [s]

Min: -0.7 [kph] at 0.004 [s]



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V2 A15 Left Mid A Post Y

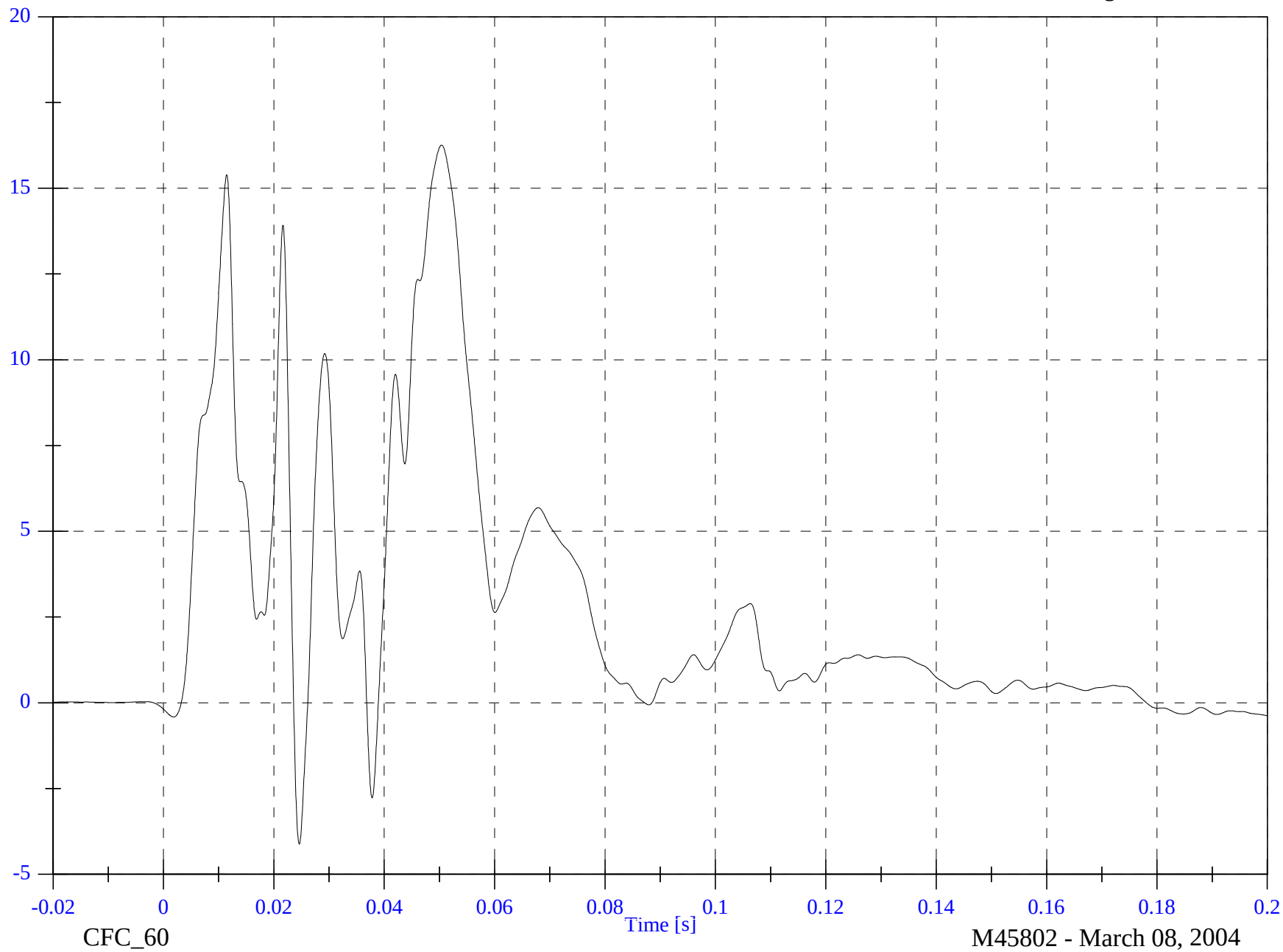
Max: 16.3 [g] at 0.050 [s]

Min: -4.1 [g] at 0.025 [s]

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g



2004 SNCAP Test 2 2004 VW Touareg

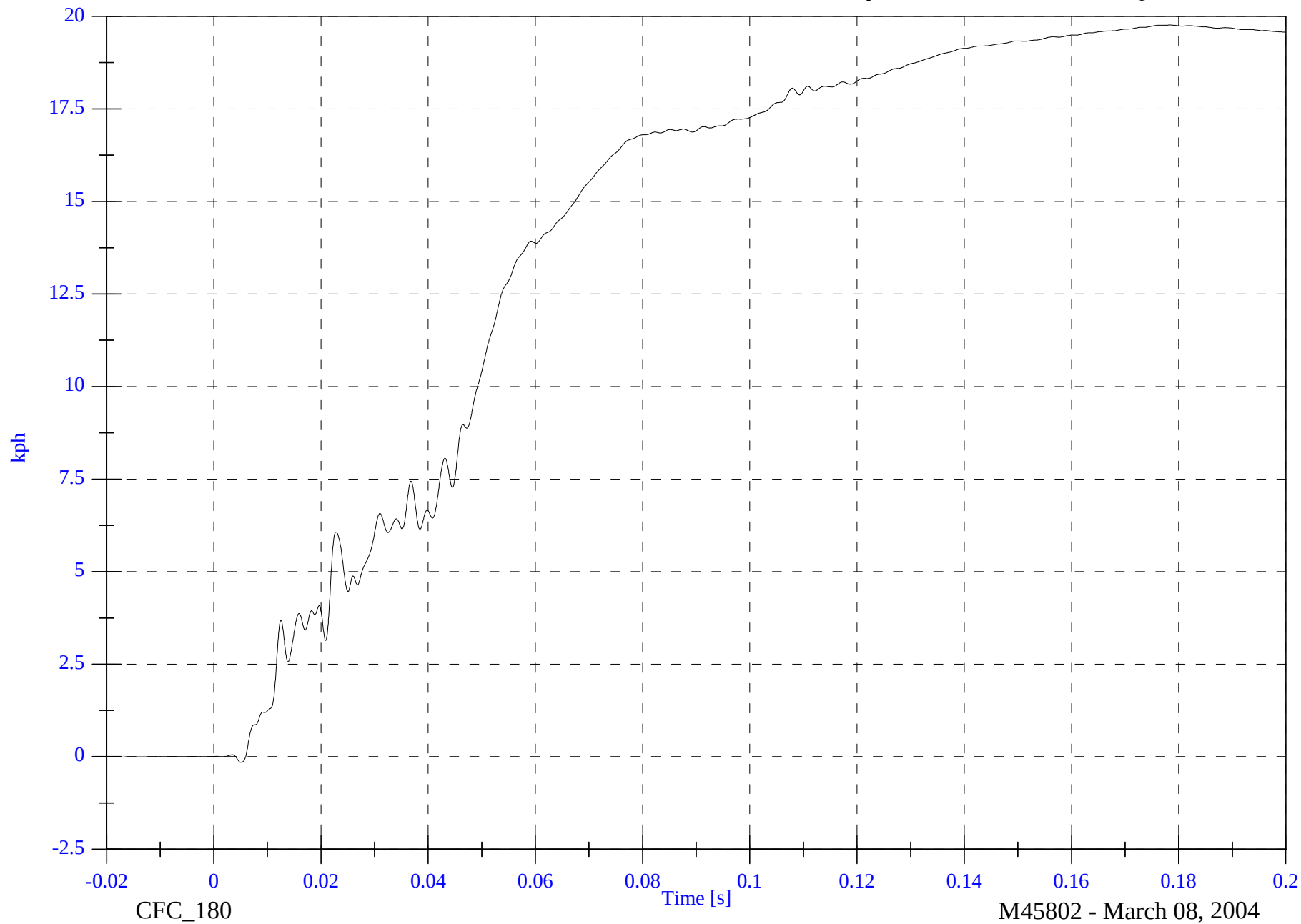
V2 A15 Left Mid A Post Y Velocity

Max: 19.8 [kph] at 0.178 [s]

Min: -0.2 [kph] at 0.005 [s]

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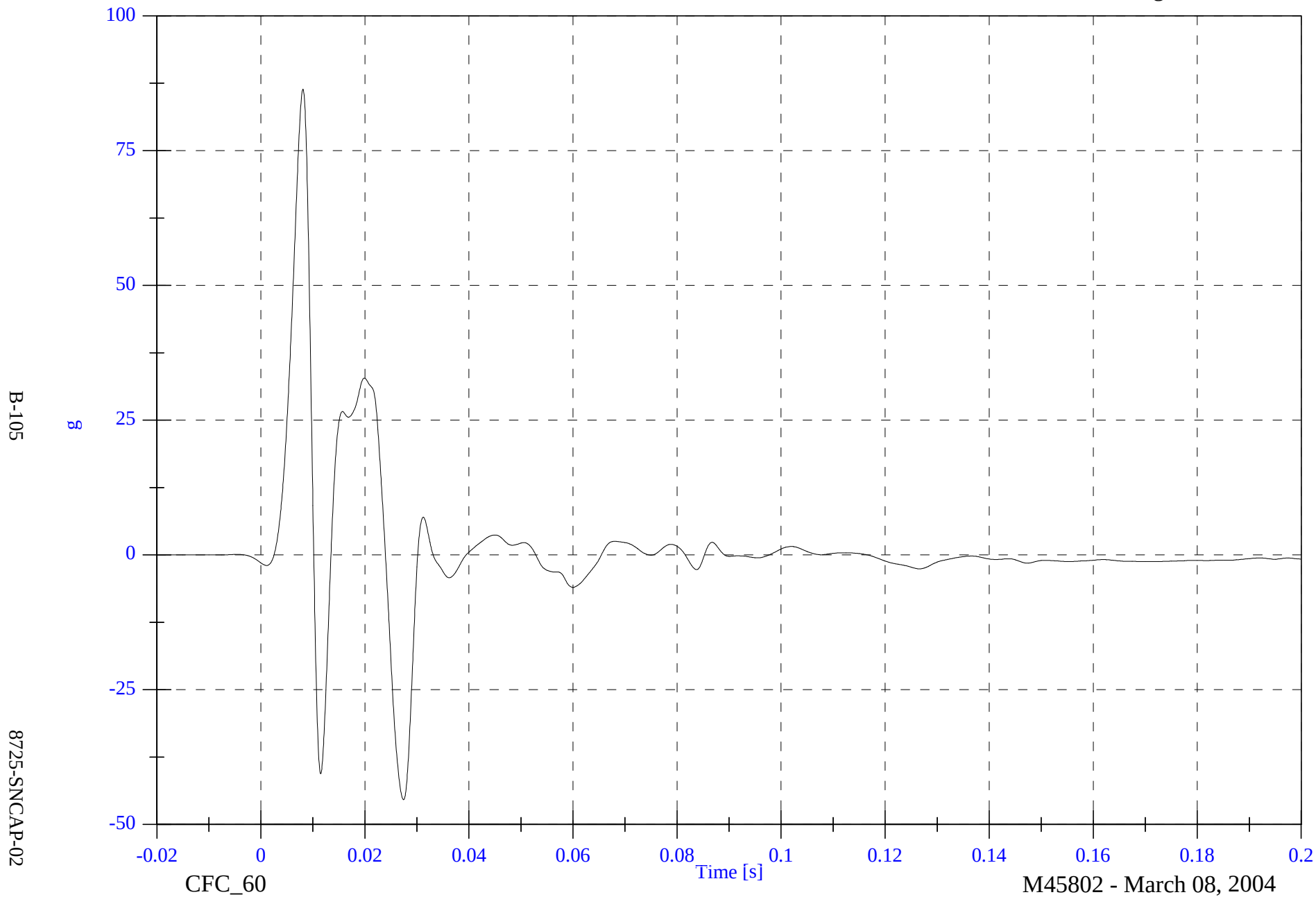


2004 SNCAP Test 2 2004 VW Touareg

V2 A16 Front Seat Track Y

Max: 86.4 [g] at 0.008 [s]

Min: -45.4 [g] at 0.027 [s]

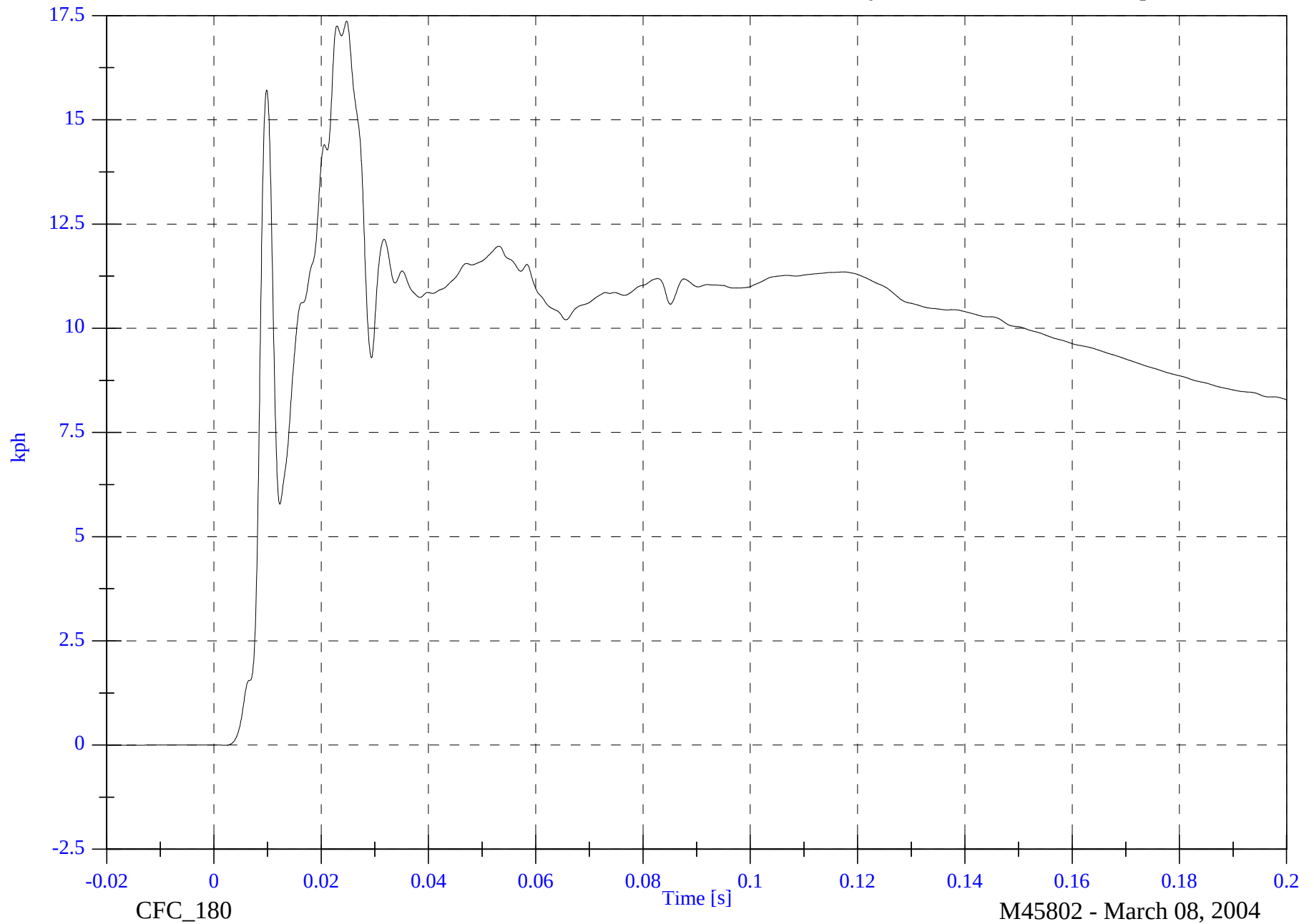


2004 SNCAP Test 2 2004 VW Touareg

Max: 17.4 [kph] at 0.025 [s]

V2 A16 Front Seat Track Y Velocity

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



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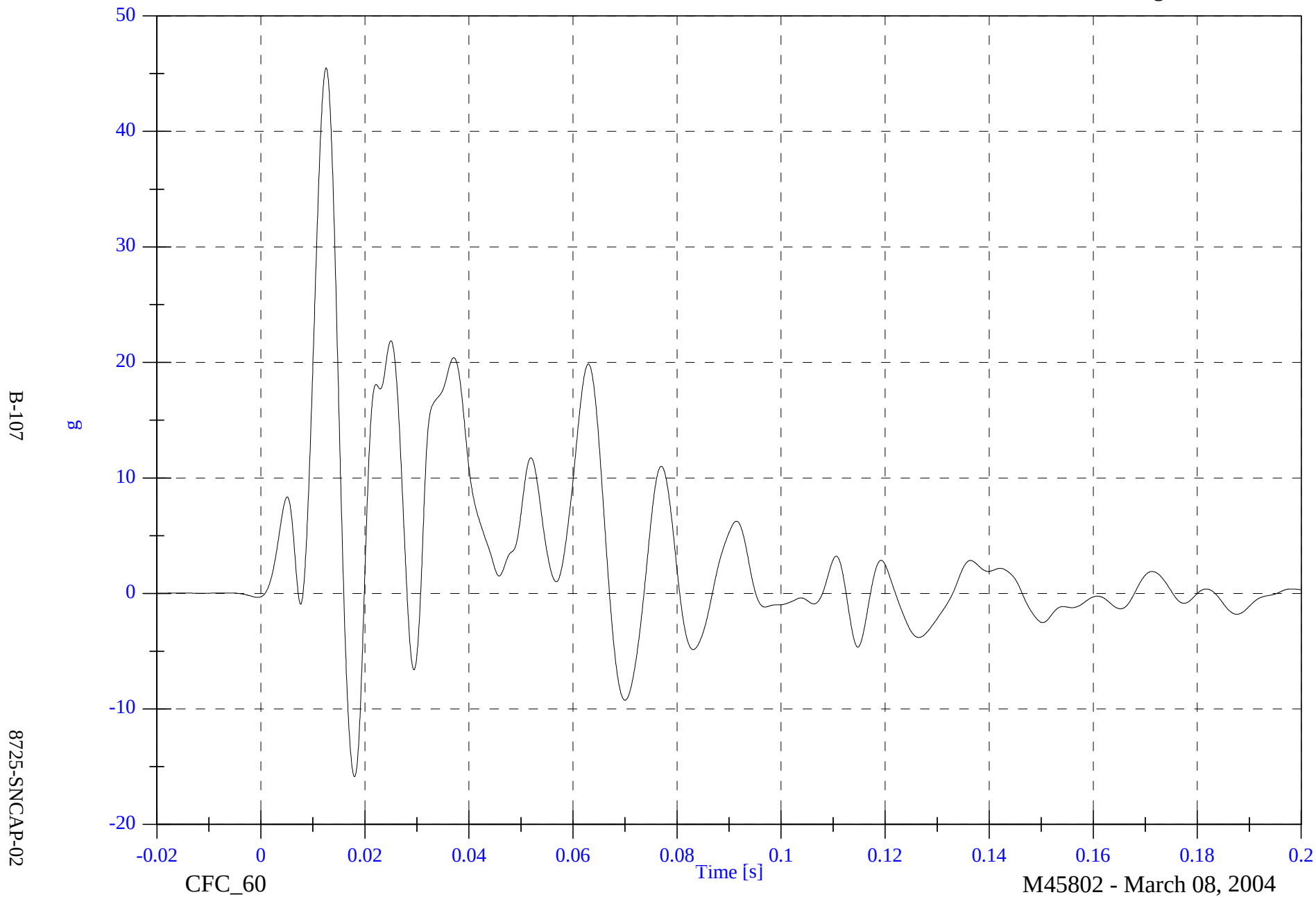
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2004 SNCAP Test 2 2004 VW Touareg

V2 A17 Rear Seat Track Y

Max: 45.5 [g] at 0.013 [s]

Min: -15.9 [g] at 0.018 [s]

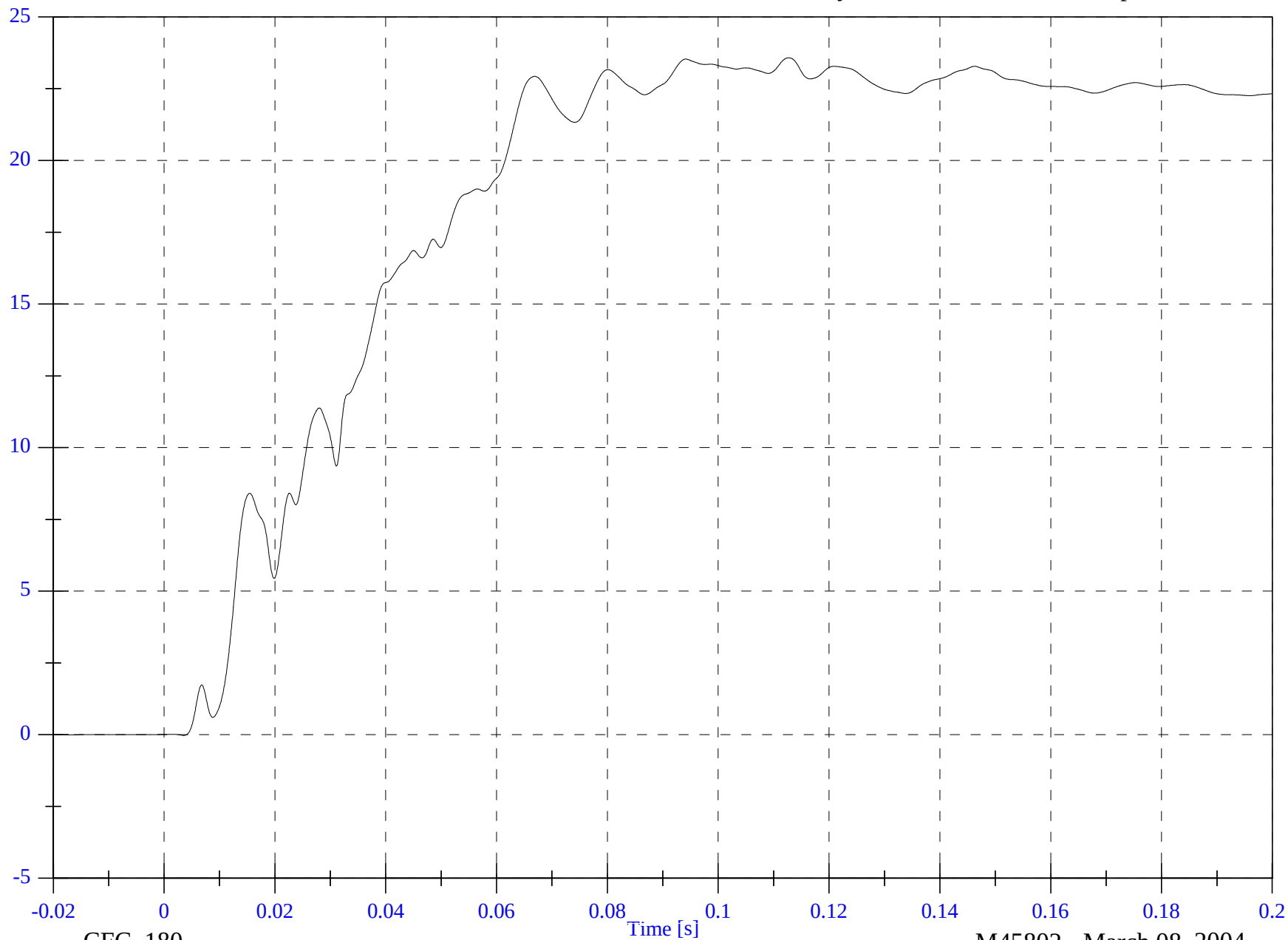


2004 SNCAP Test 2 2004 VW Touareg

V2 A17 Rear Seat Track Y Velocity

Max: 23.6 [kph] at 0.113 [s]

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



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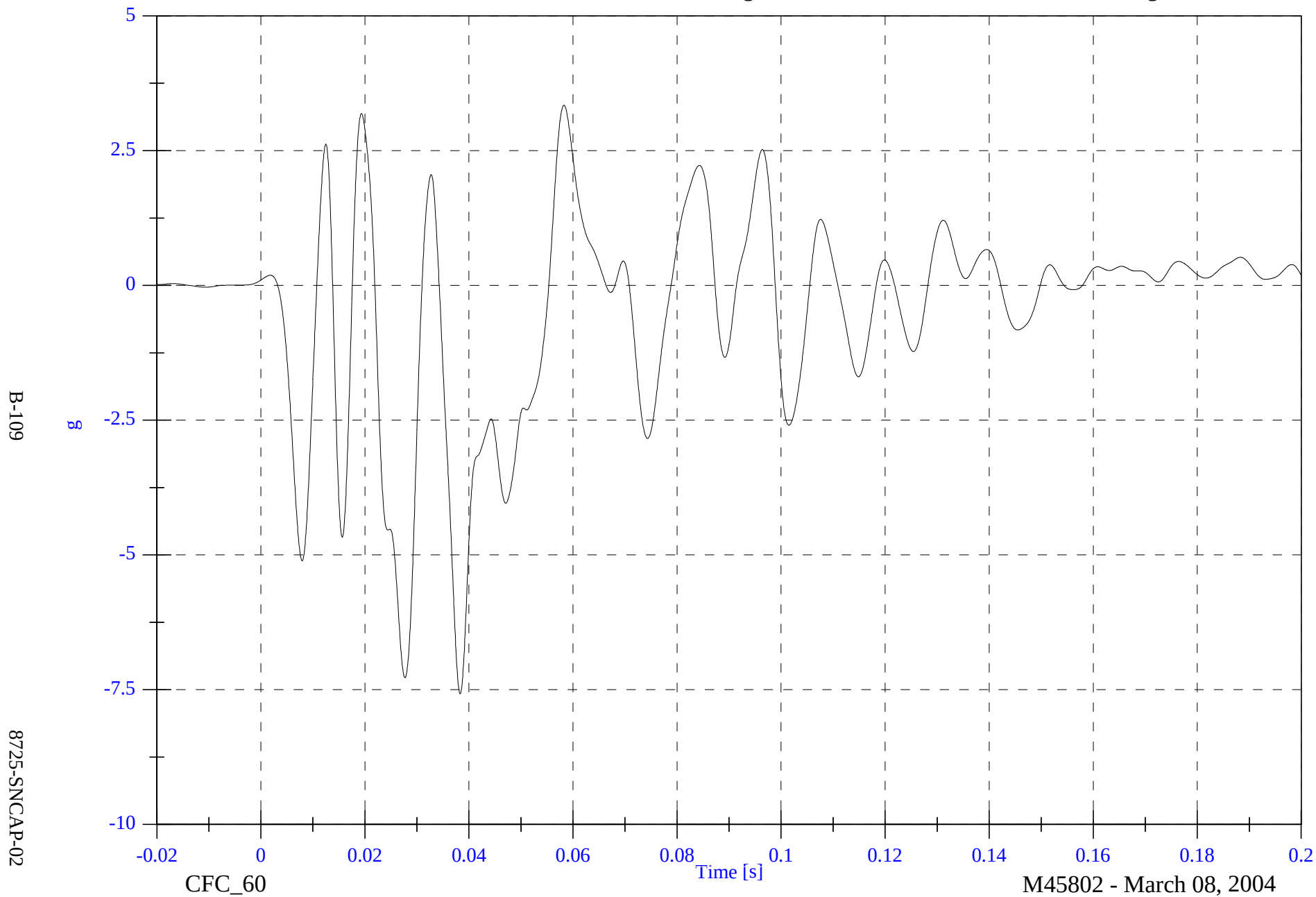
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2004 SNCAP Test 2 2004 VW Touareg

V2 A18 Target CG X

Max: 3.3 [g] at 0.058 [s]

Min: -7.6 [g] at 0.038 [s]



2004 SNCAP Test 2 2004 VW Touareg

V2 A18 Target CG X Velocity

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

Min: -4.4 [kph] at 0.056 [s]

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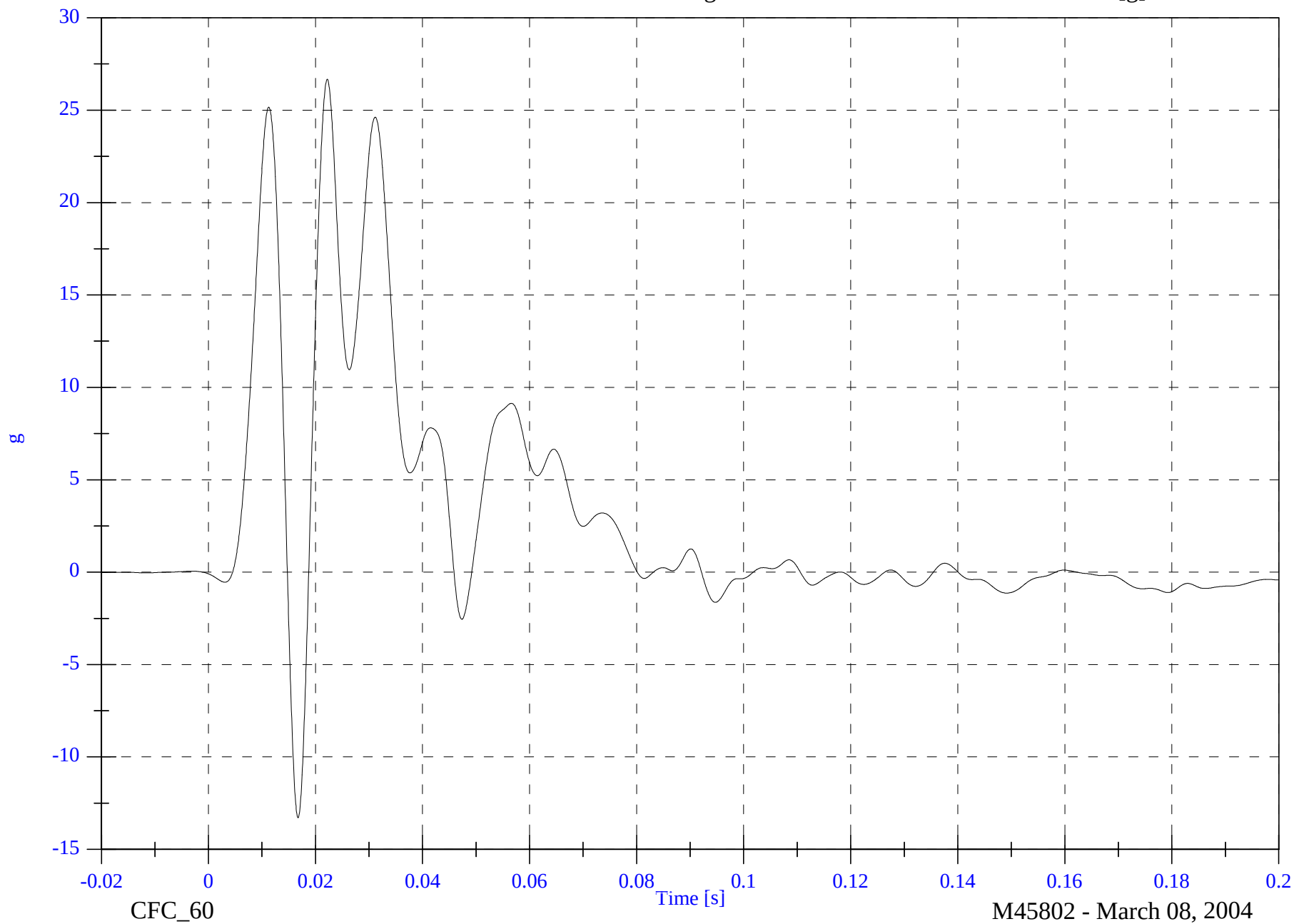
V2 A18 Target CG Y

Max: 26.7 [g] at 0.022 [s]

Min: -13.3 [g] at 0.017 [s]

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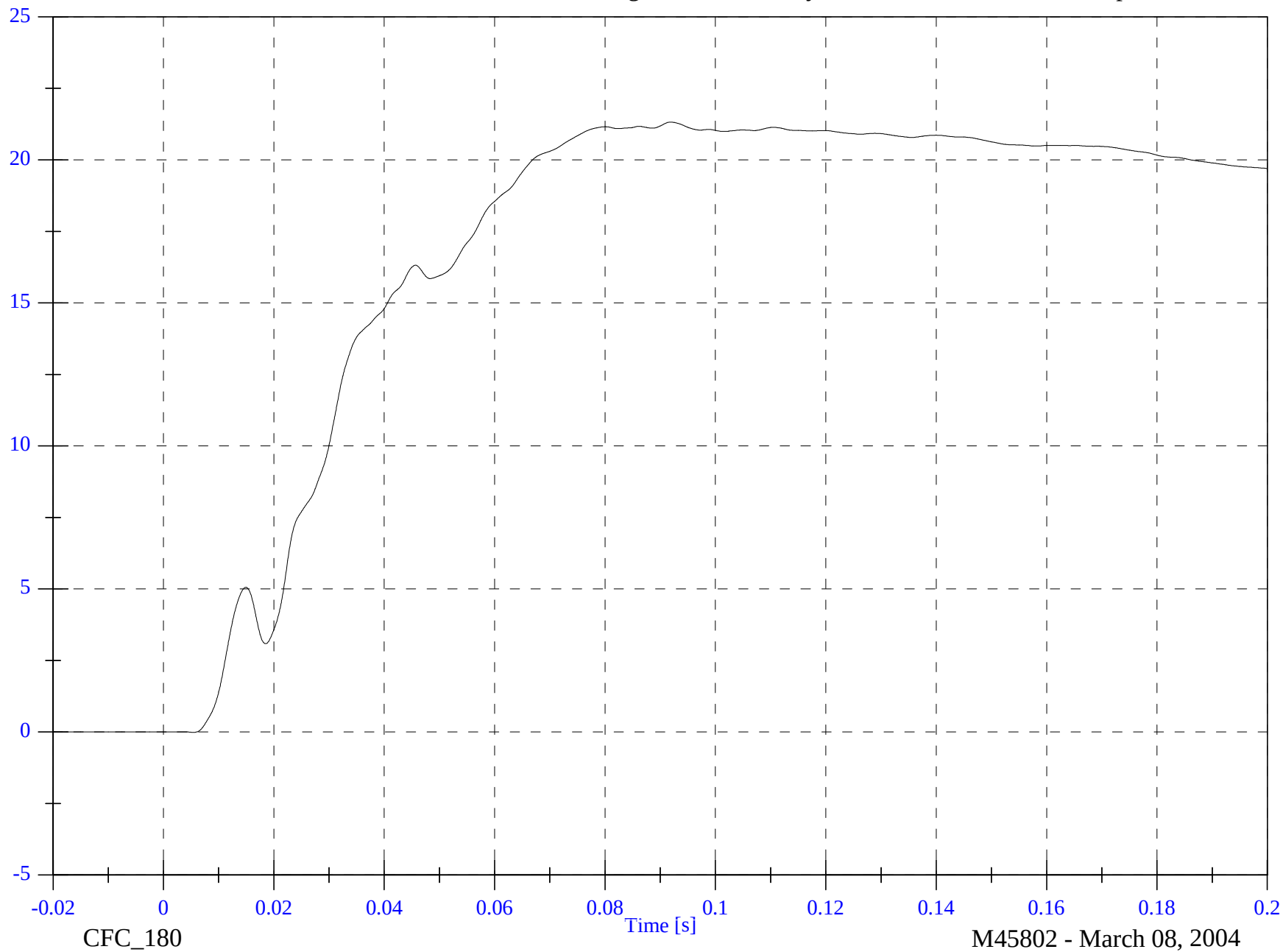


2004 SNCAP Test 2 2004 VW Touareg

V2 A18 Target CG Y Velocity

Max: 21.3 [kph] at 0.092 [s]

Min: -0.0 [kph] at 0.005 [s]



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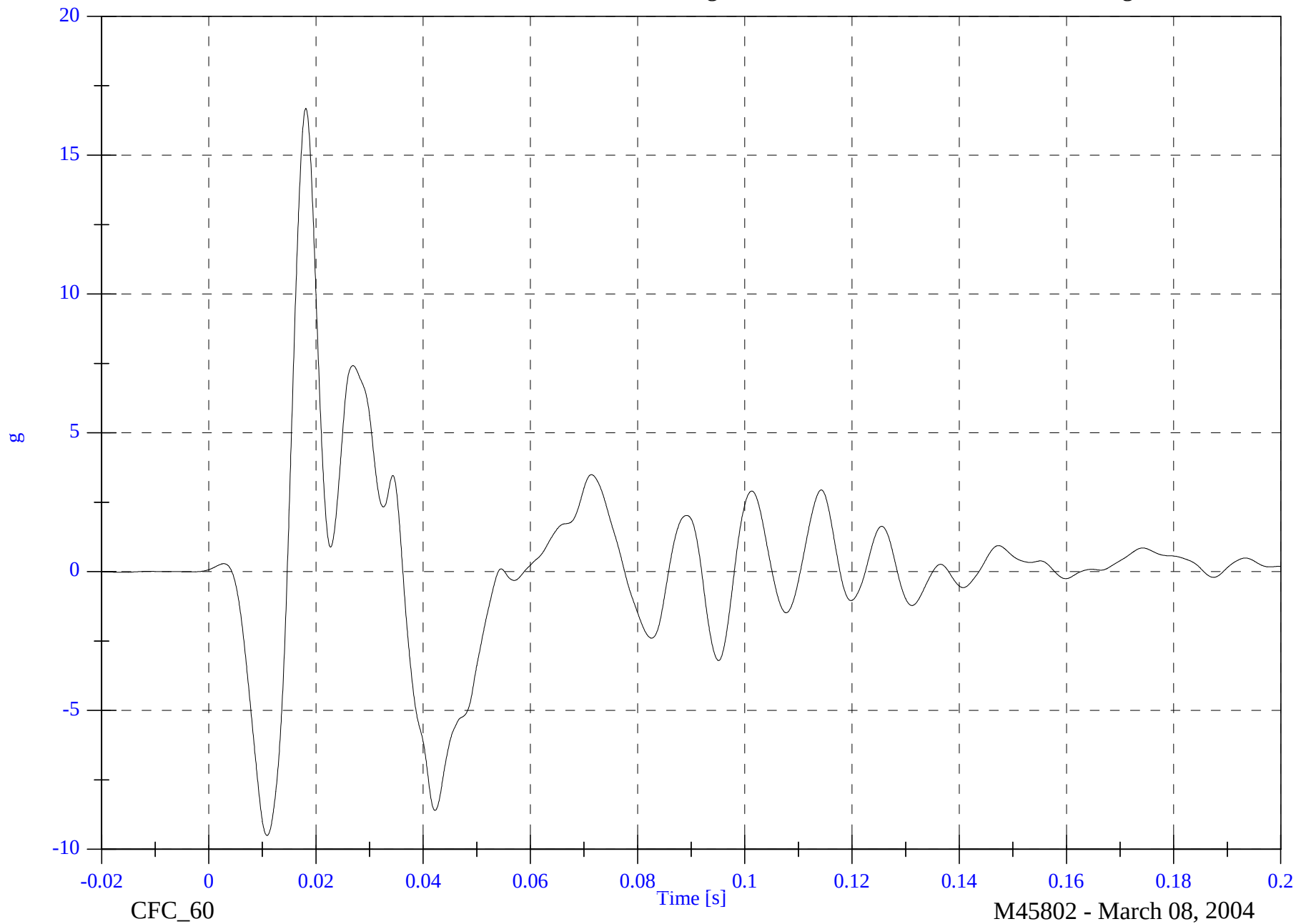
V2 A18 Target CG Z

Max: 16.7 [g] at 0.018 [s]

Min: -9.5 [g] at 0.011 [s]

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2004 SNCAP Test 2 2004 VW Touareg

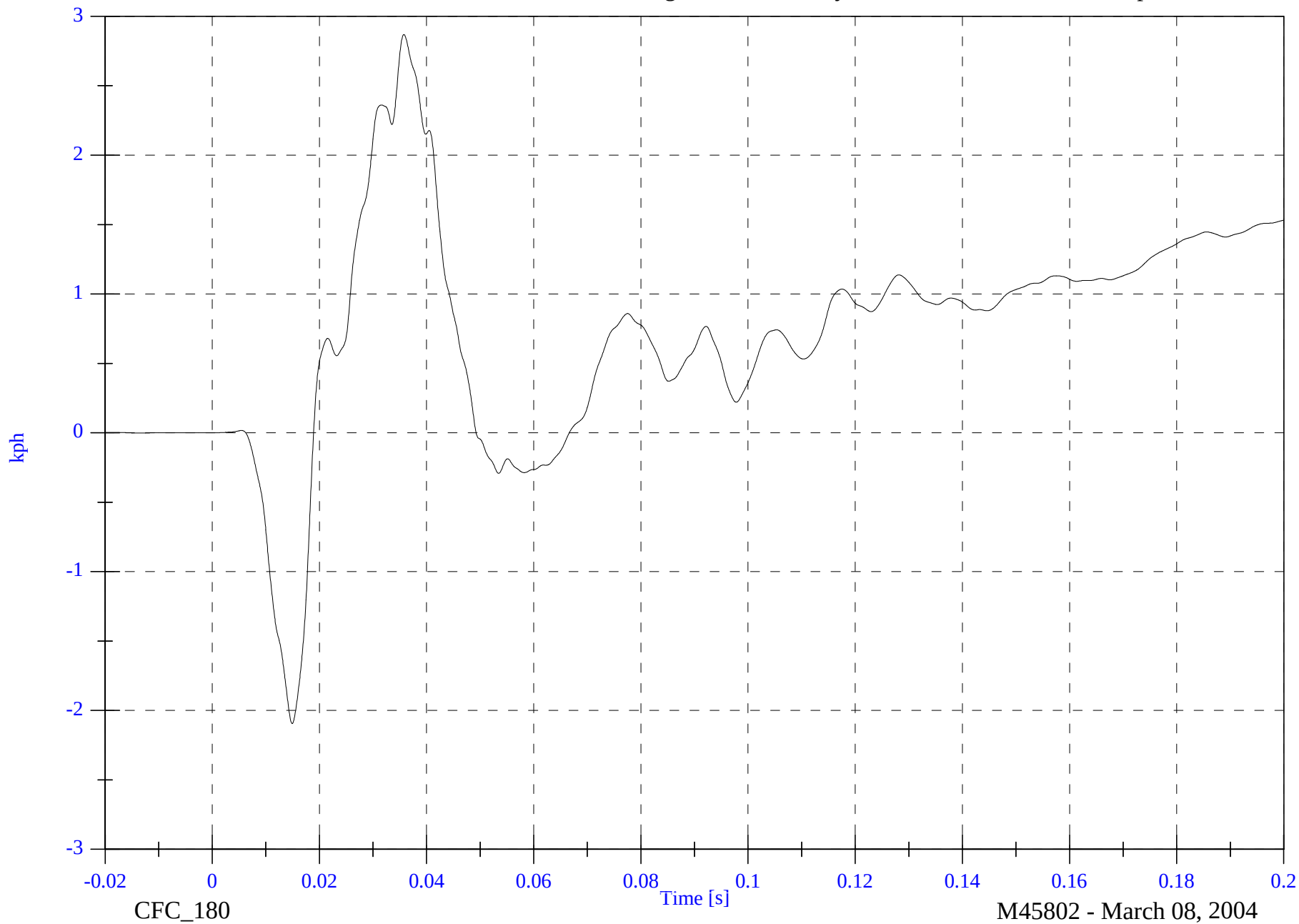
V2 A18 Target CG Z Velocity

Max: 2.9 [kph] at 0.036 [s]

Min: -2.1 [kph] at 0.015 [s]

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2004 SNCAP Test 2 2004 VW Touareg

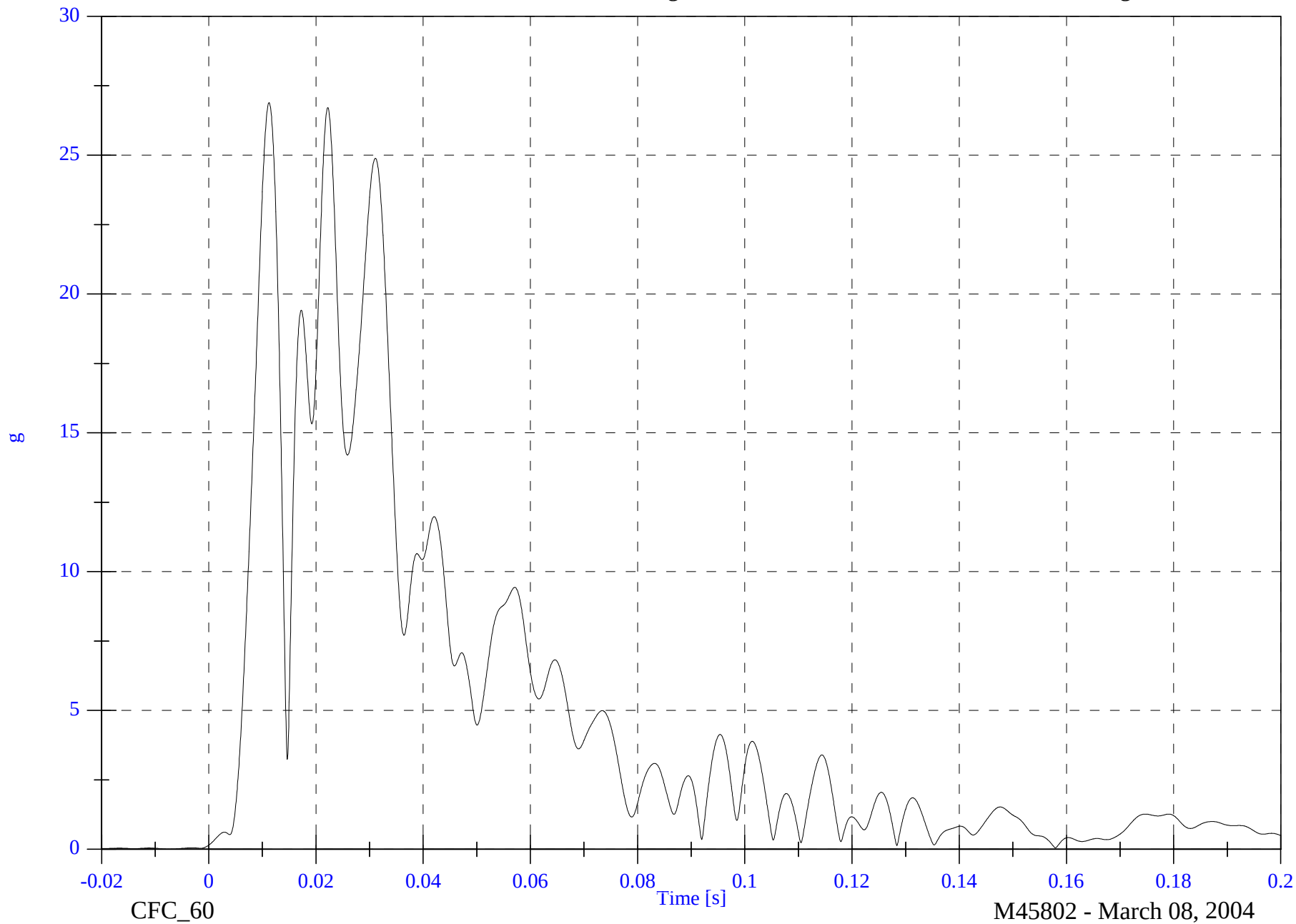
V2 A18 Target CG Resultant

Max: 26.9 [g] at 0.011 [s]

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

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2004 SNCAP Test 2 2004 VW Touareg

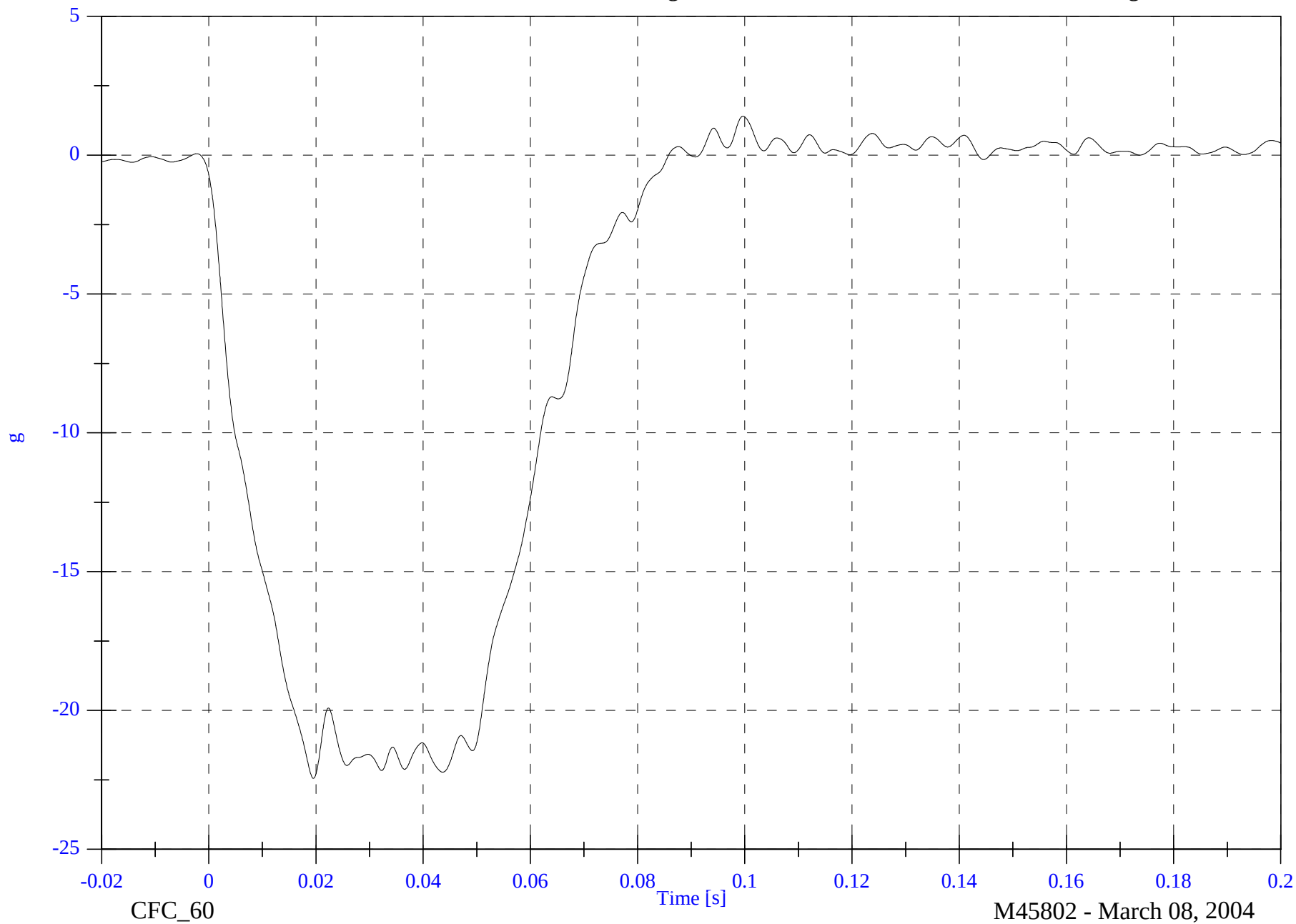
V1 Moving Barrier CG X

Max: 1.4 [g] at 0.100 [s]

Min: -22.4 [g] at 0.019 [s]

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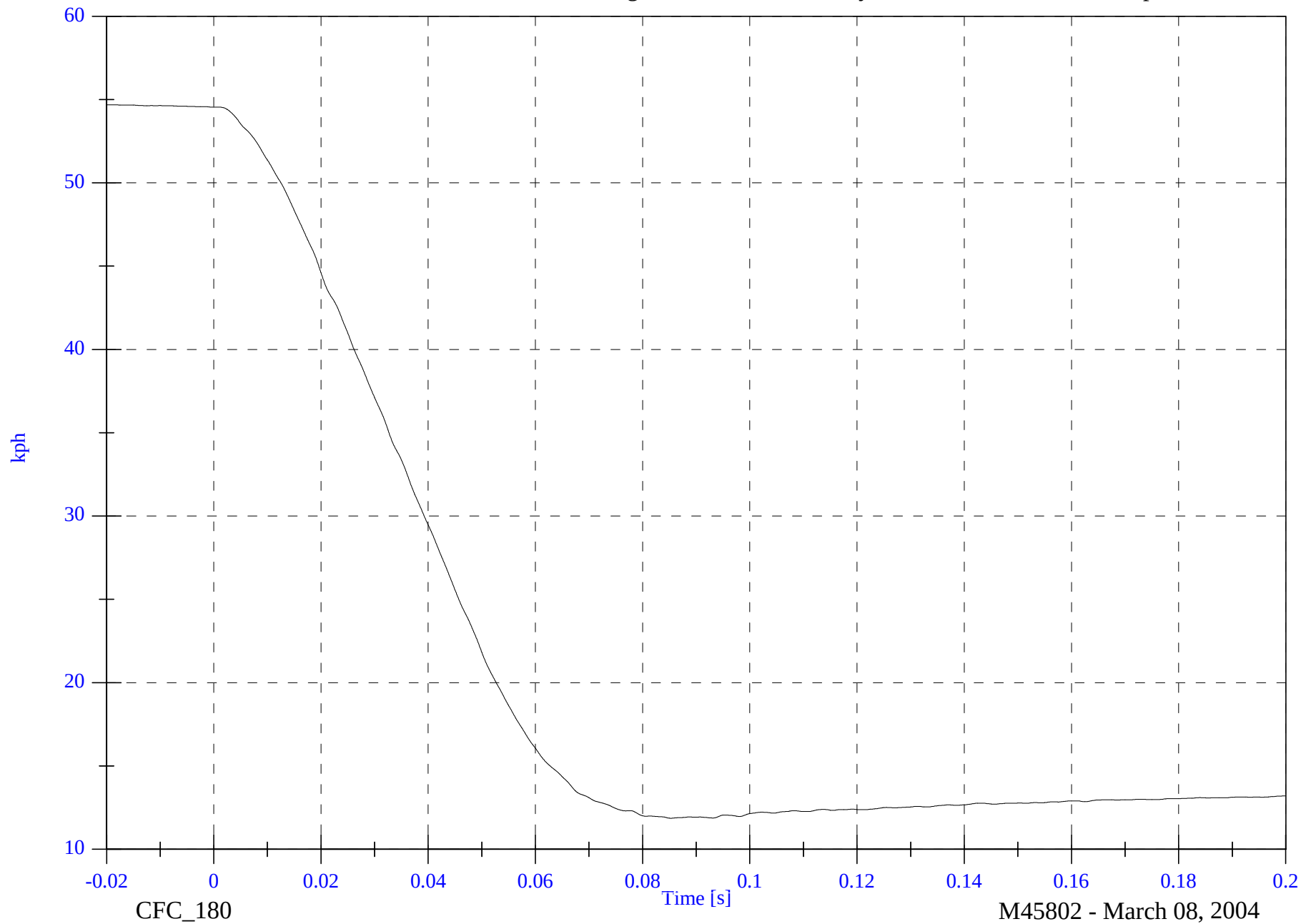


2004 SNCAP Test 2 2004 VW Touareg

Max: 54.7 [kph] at -0.020 [s]

V1 Moving Barrier CG X Velocity

Min: 11.9 [kph] at 0.085 [s]



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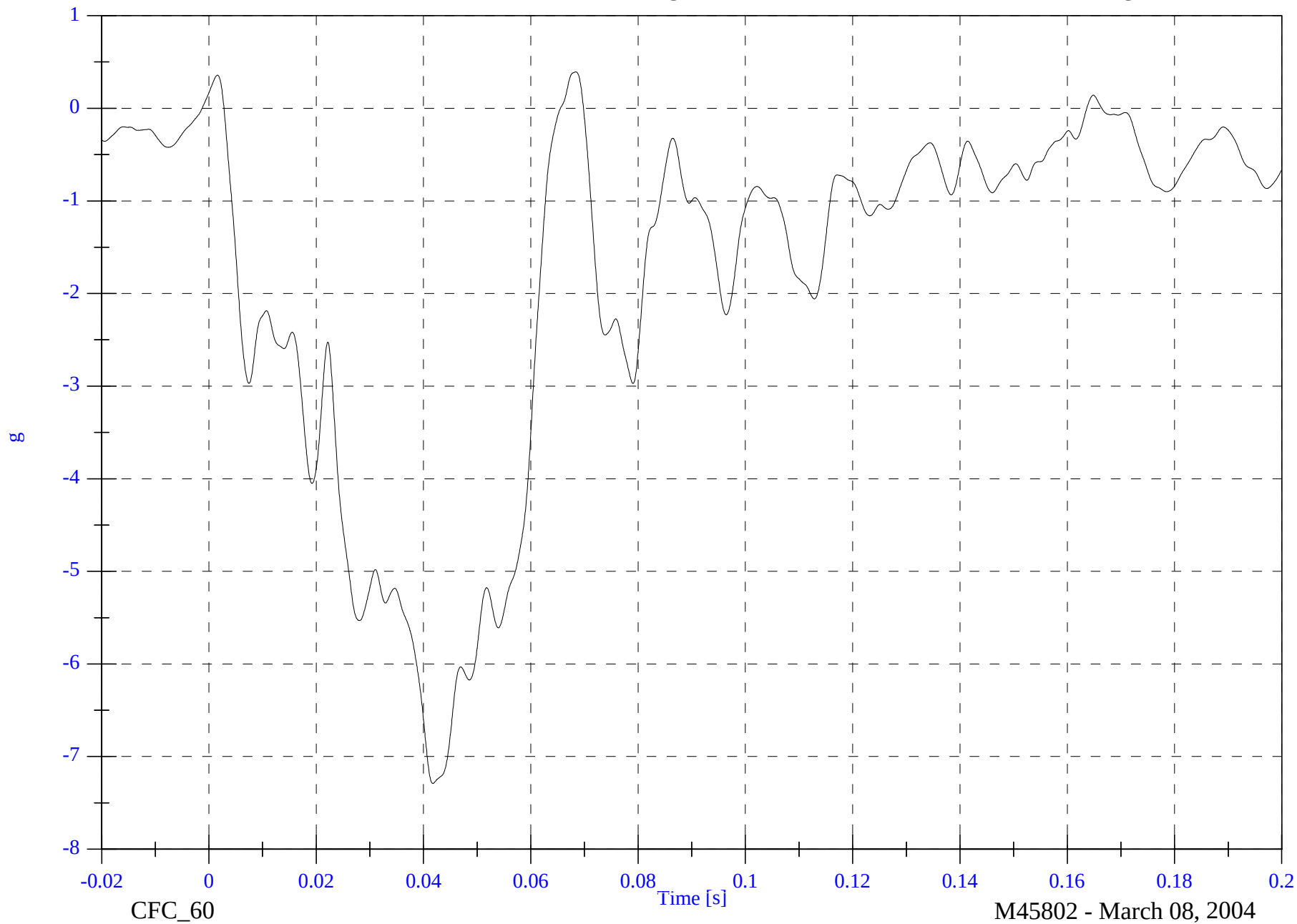
V1 Moving Barrier CG Y

Max: 0.4 [g] at 0.068 [s]

Min: -7.3 [g] at 0.042 [s]

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2004 SNCAP Test 2 2004 VW Touareg

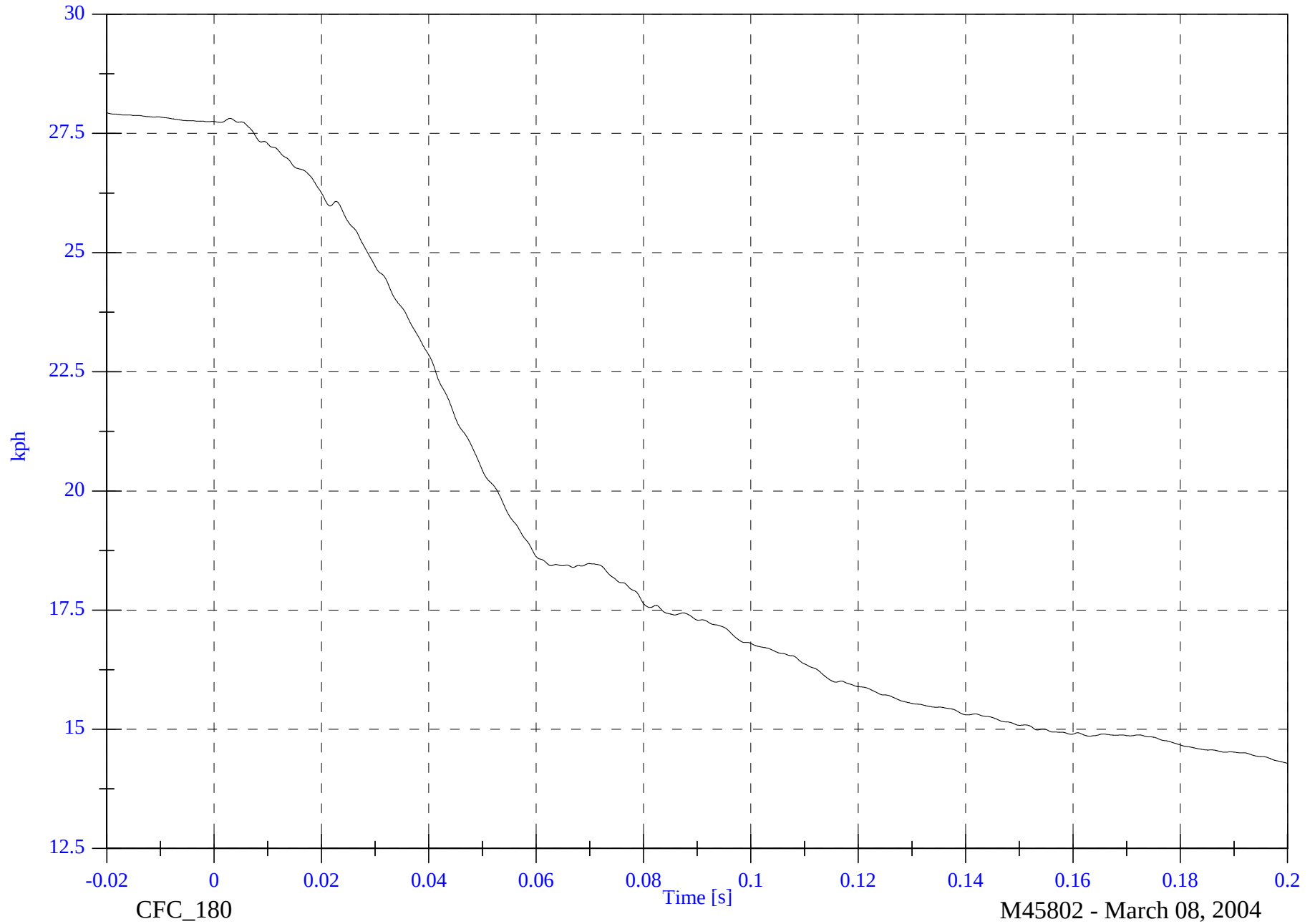
Max: 27.9 [kph] at -0.020 [s]

V1 Moving Barrier CG Y Velocity

Min: 14.3 [kph] at 0.200 [s]

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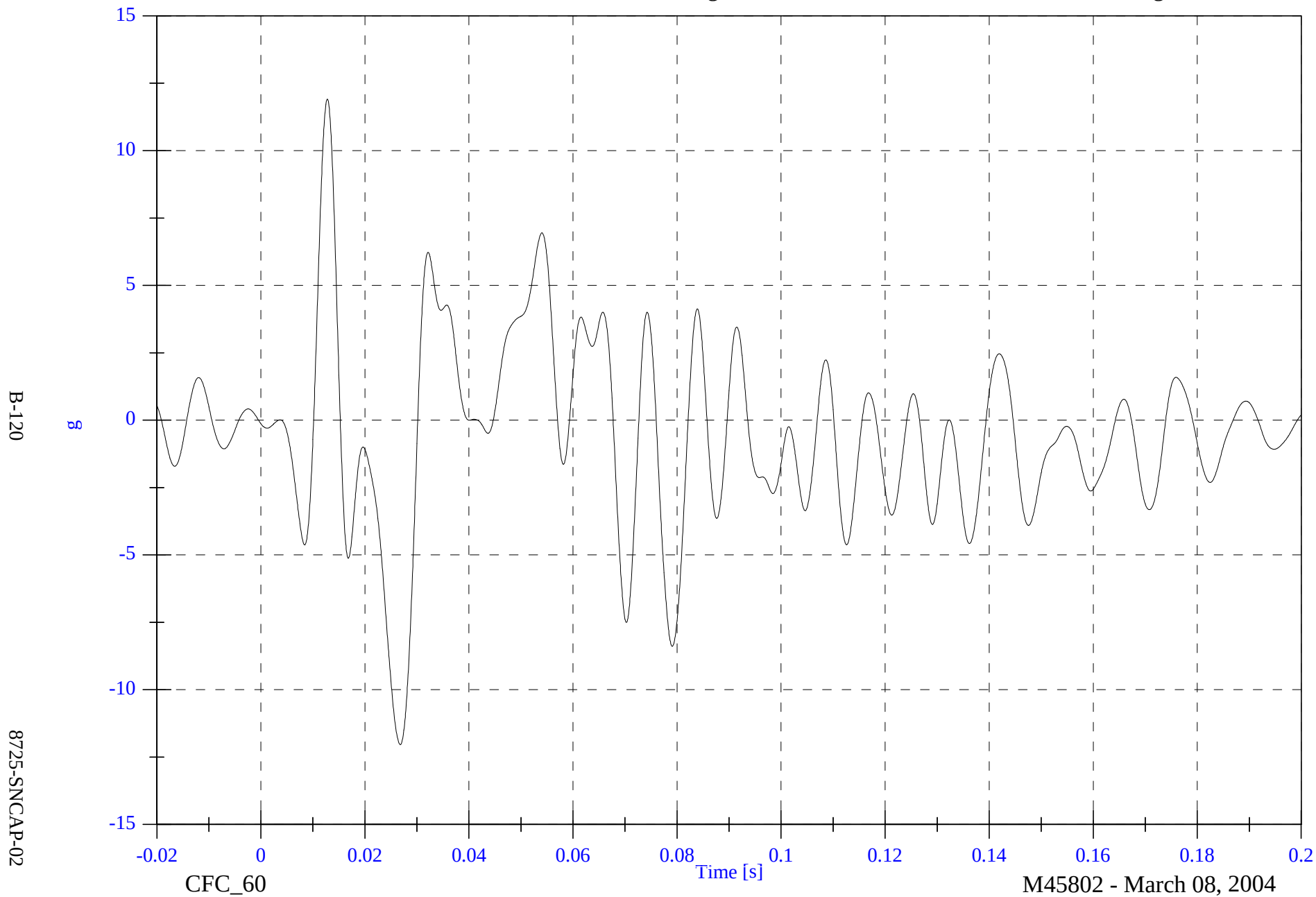


2004 SNCAP Test 2 2004 VW Touareg

V1 Moving Barrier CG Z

Max: 11.9 [g] at 0.013 [s]

Min: -12.0 [g] at 0.027 [s]



2004 SNCAP Test 2 2004 VW Touareg

V1 Moving Barrier CG Z Velocity

Max: 1.6 [kph] at 0.068 [s]

Min: -4.1 [kph] at 0.199 [s]



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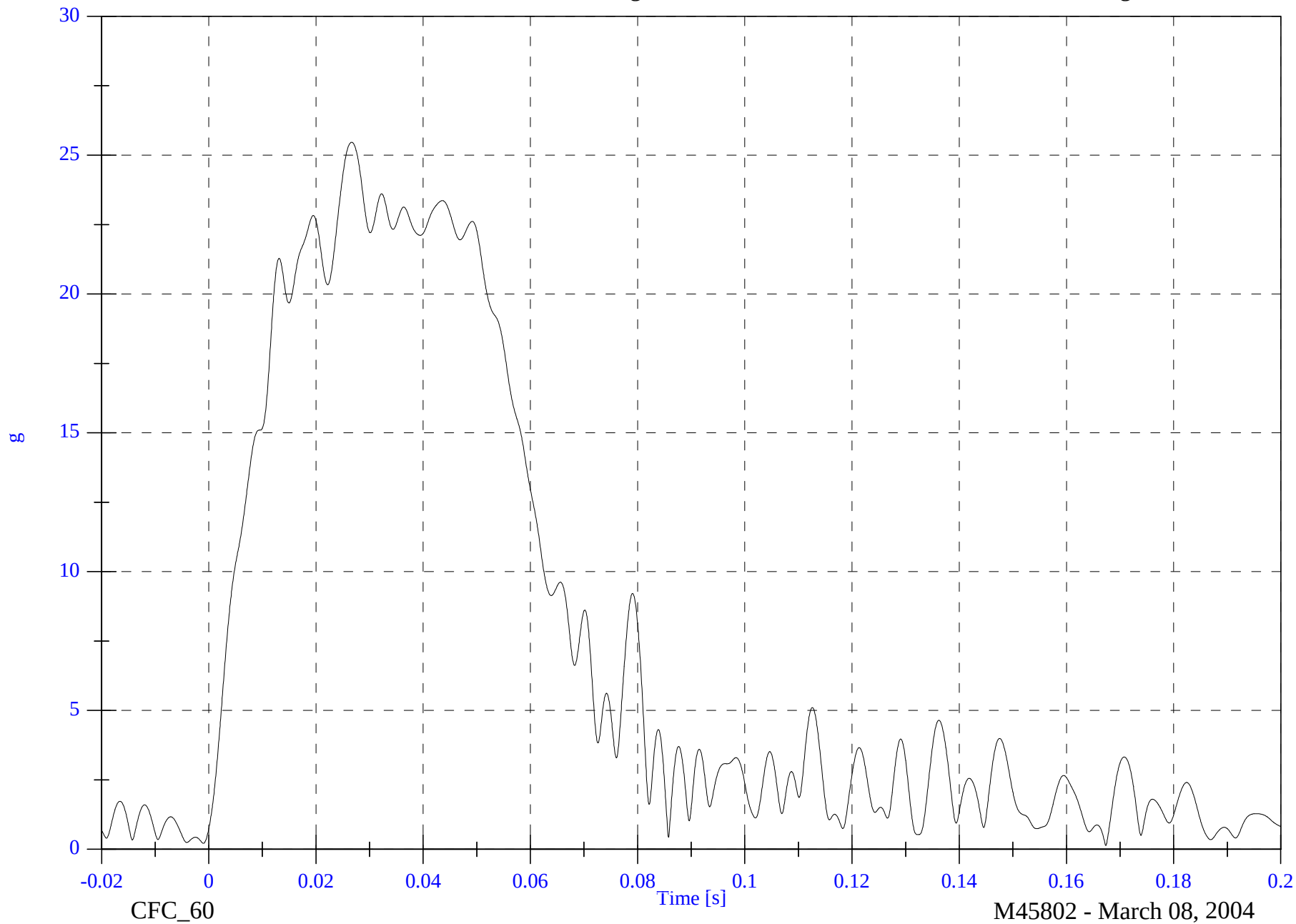
V1 Moving Barrier CG Resultant

Max: 25.5 [g] at 0.027 [s]

Min: 0.1 [g] at 0.167 [s]

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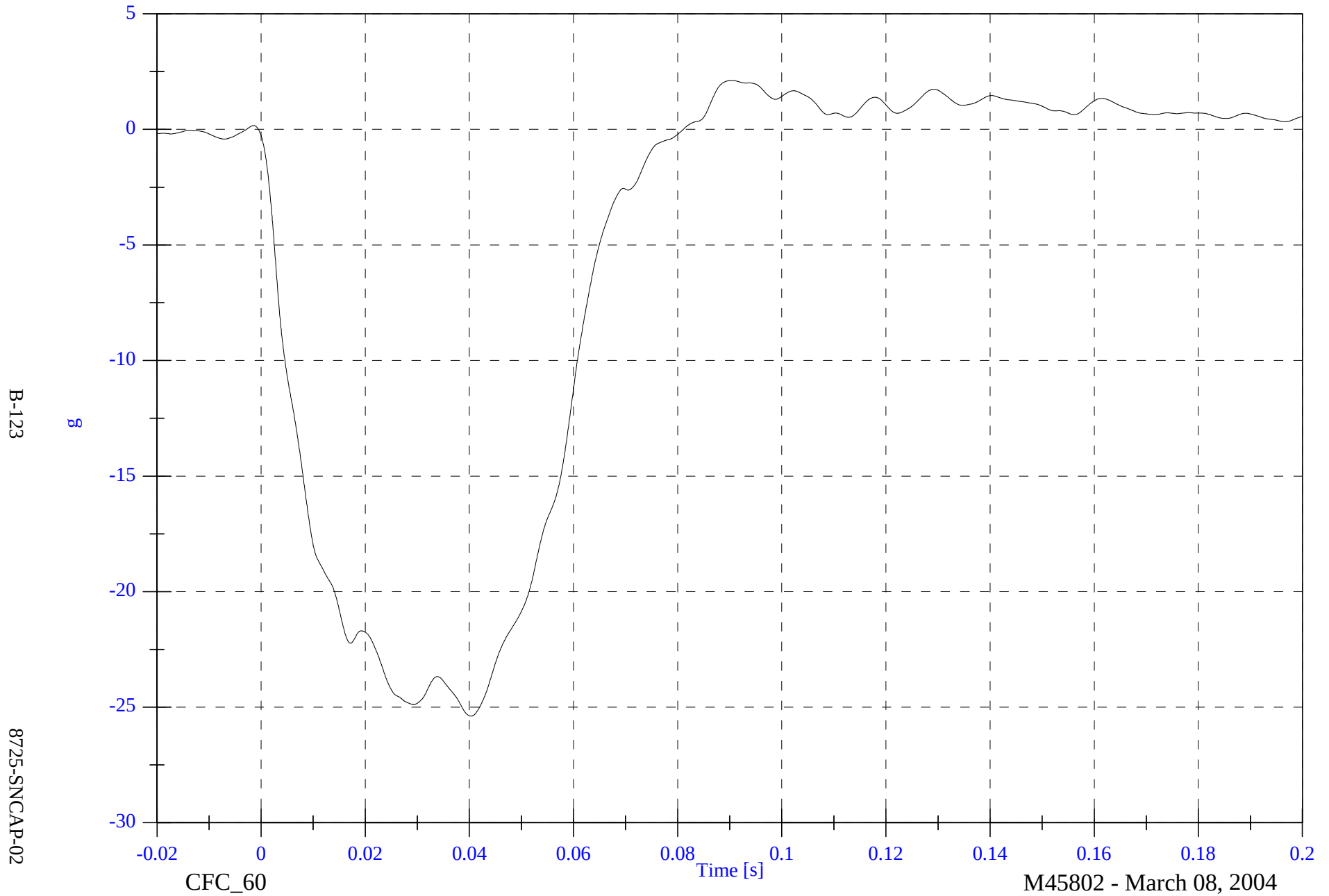


2004 SNCAP Test 2 2004 VW Touareg

V1 Moving Barrier Left Rail X

Max: 2.1 [g] at 0.090 [s]

Min: -25.4 [g] at 0.040 [s]

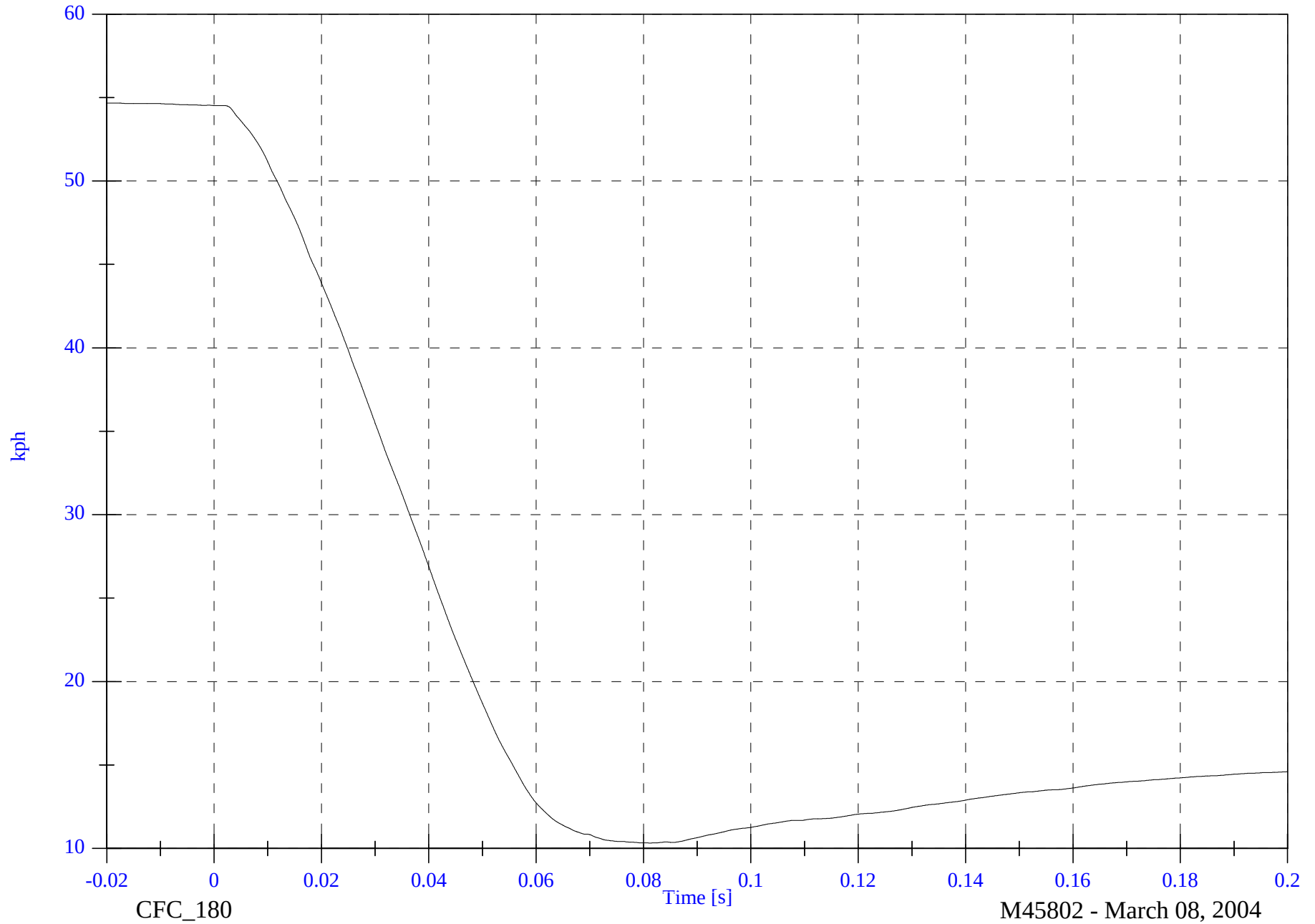


2004 SNCAP Test 2 2004 VW Touareg

V1 Moving Barrier Left Rail X Velocity

Max: 54.7 [kph] at -0.020 [s]

Min: 10.3 [kph] at 0.081 [s]



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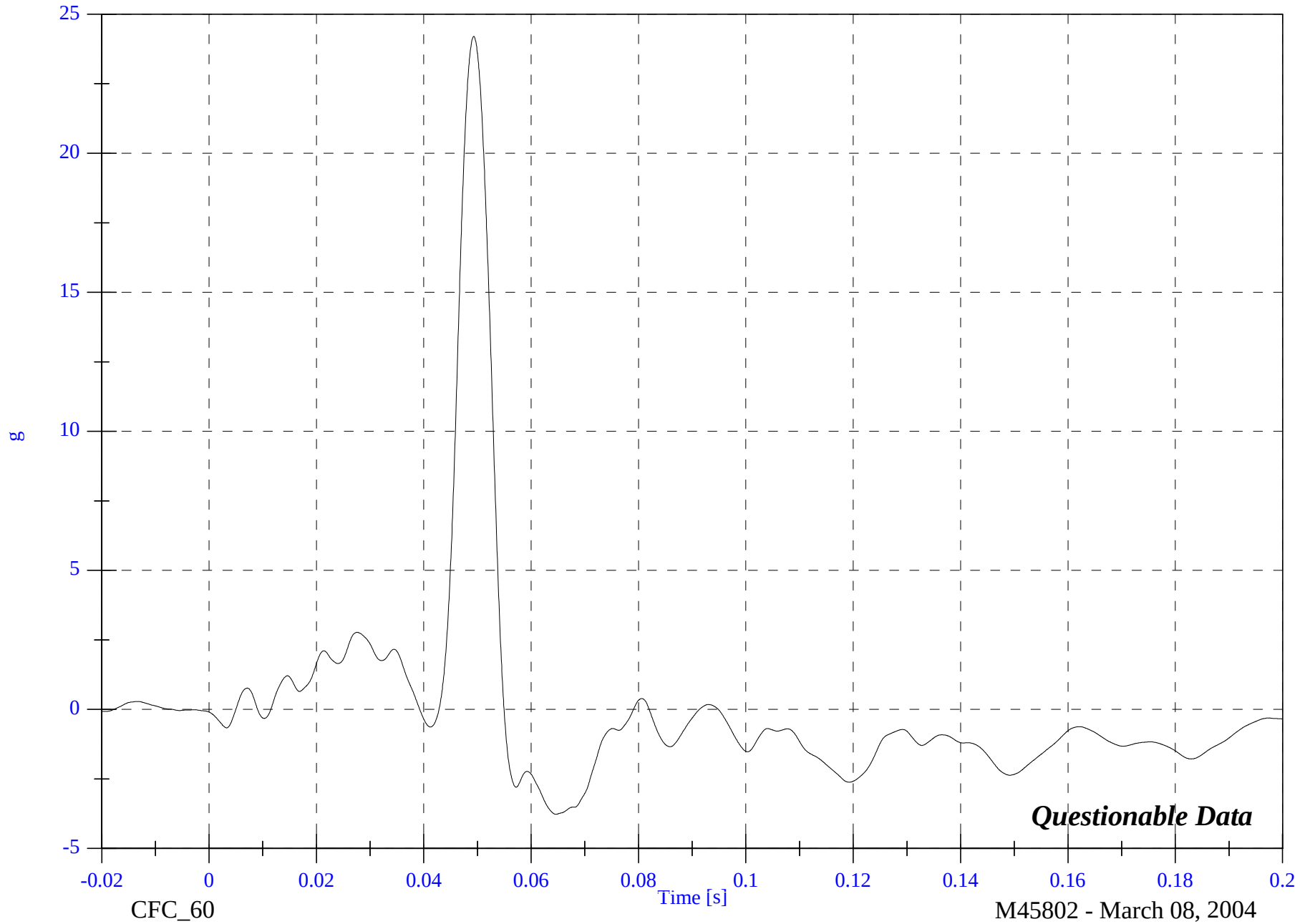
V1 Moving Barrier Left Rail Y

Max: 24.2 [g] at 0.049 [s]

Min: -3.8 [g] at 0.065 [s]

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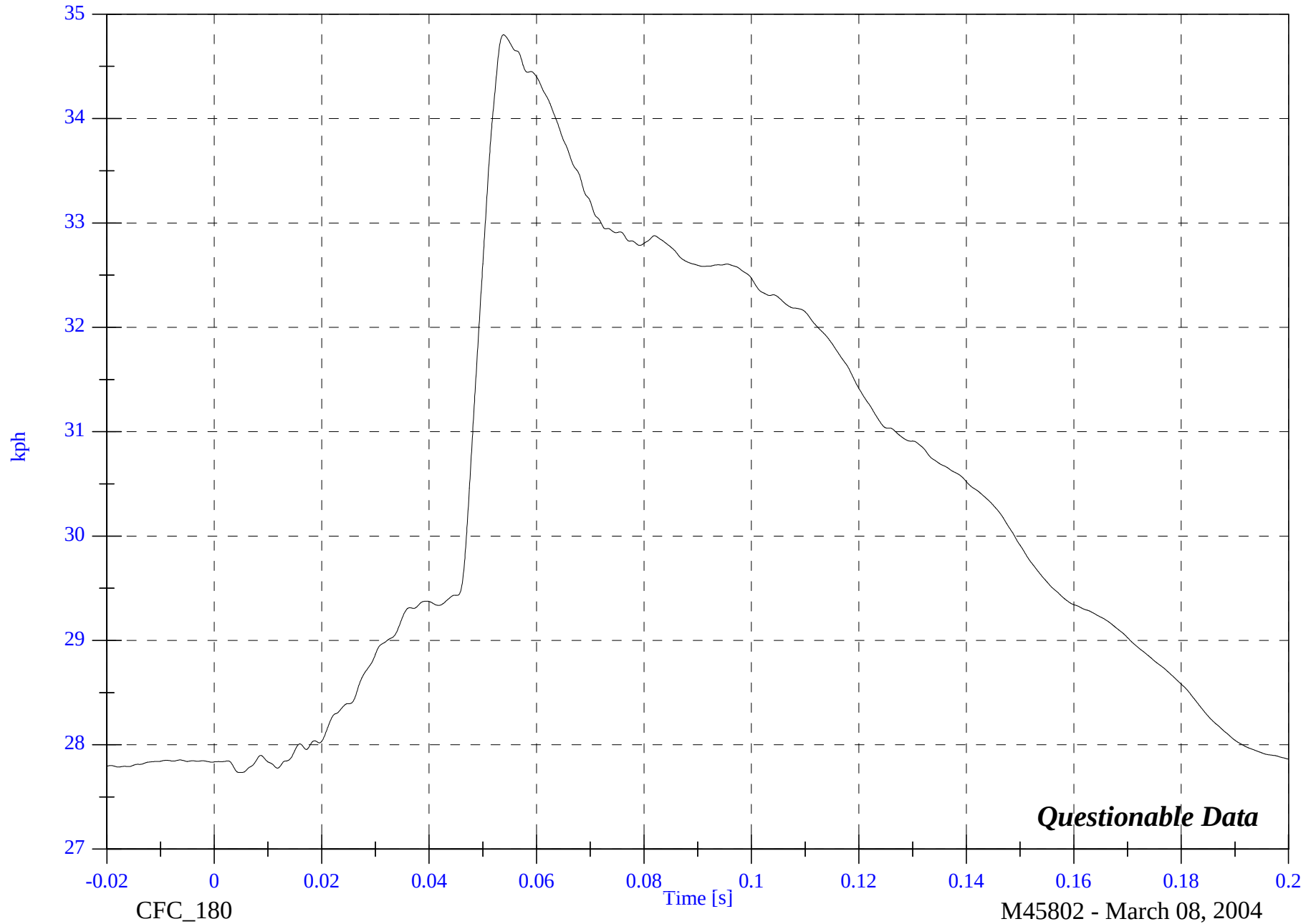


2004 SNCAP Test 2 2004 VW Touareg

Max: 34.8 [kph] at 0.054 [s]

V1 Moving Barrier Left Rail Y Velocity

Min: 27.7 [kph] at 0.005 [s]



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M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

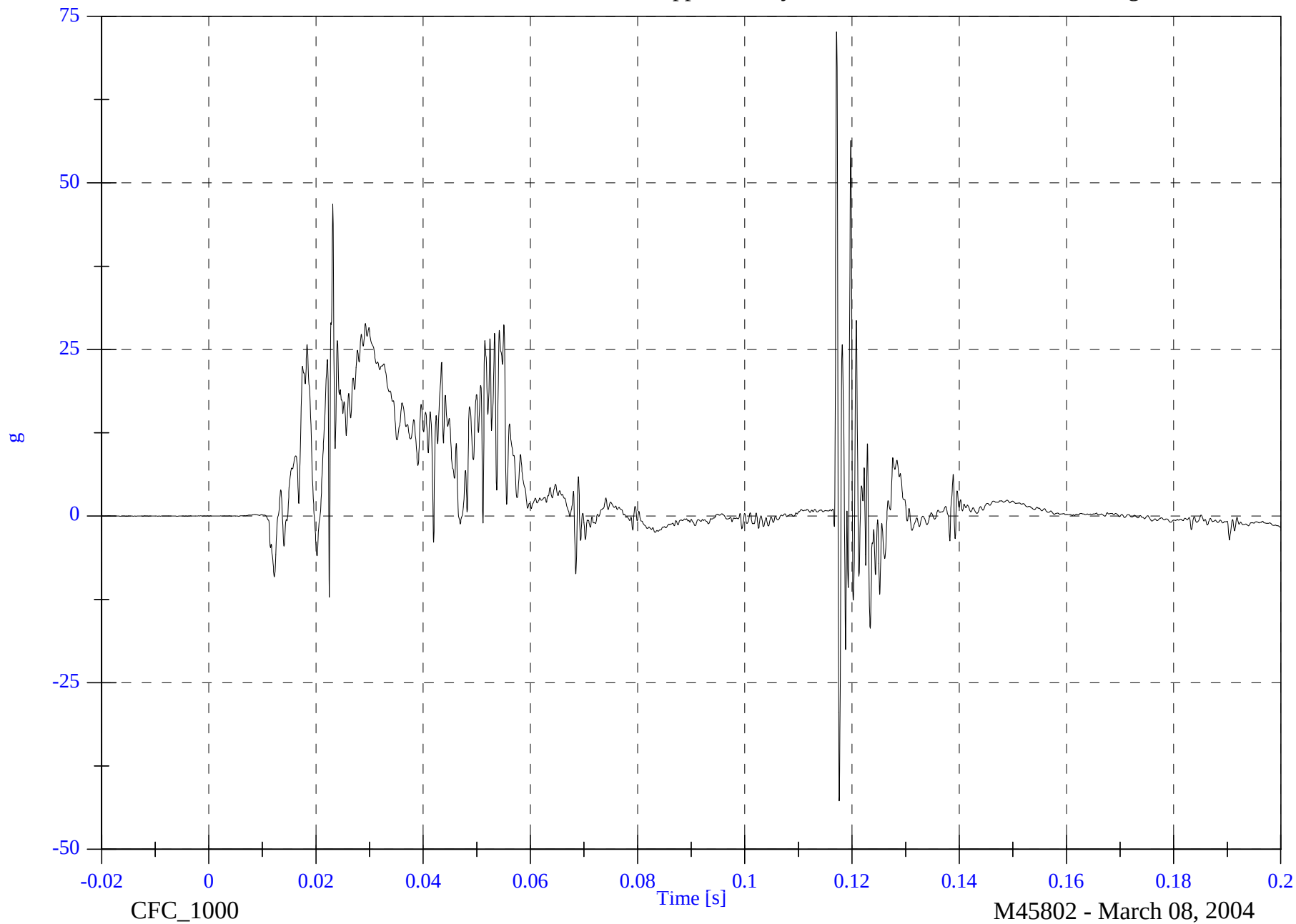
V2P1 Upper Rib Ry

Max: 72.7 [g] at 0.117 [s]

Min: -42.7 [g] at 0.118 [s]

B-127

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

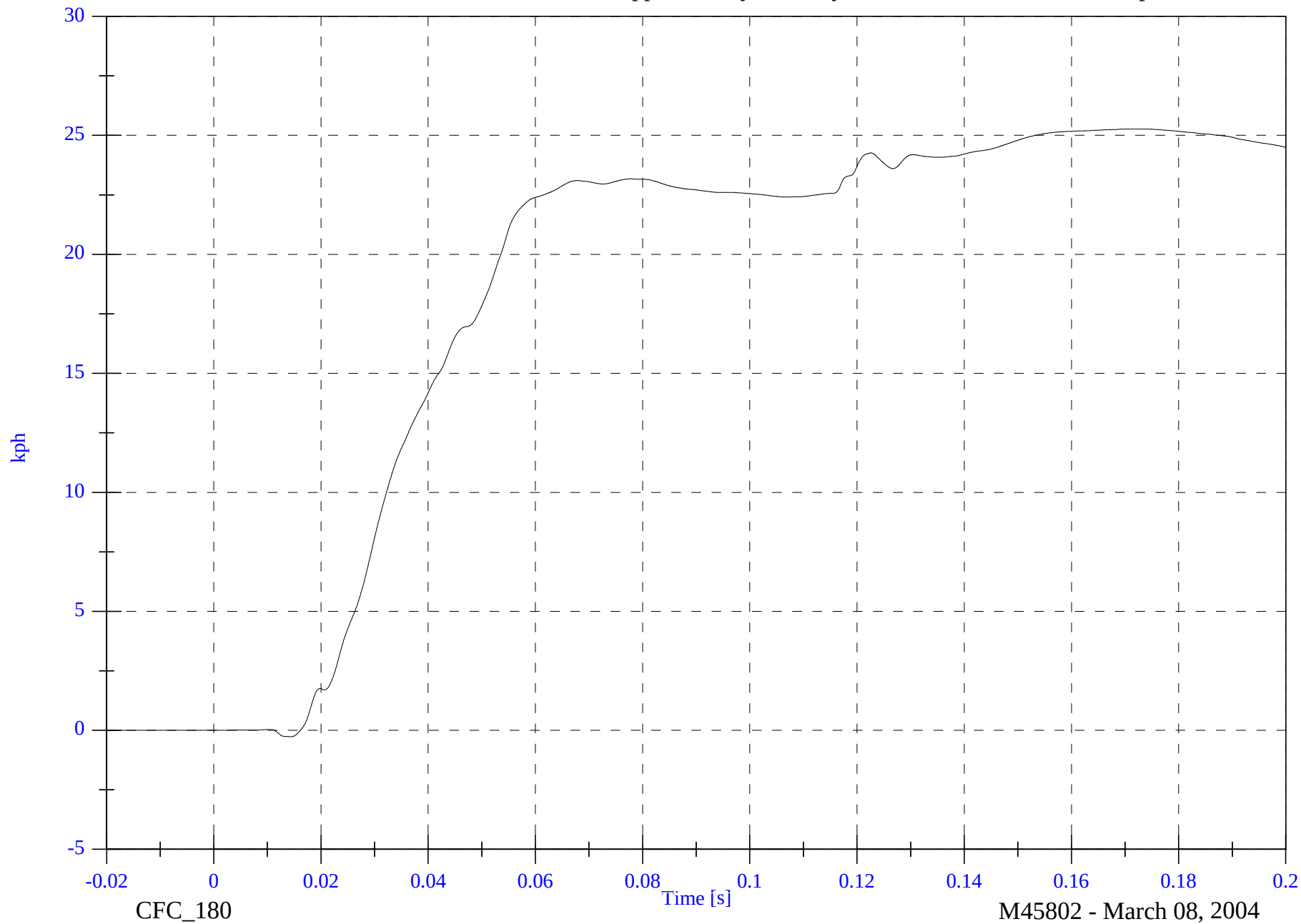
V2P1 Upper Rib Ry Velocity

Max: 25.3 [kph] at 0.172 [s]

Min: -0.3 [kph] at 0.014 [s]

B-128

8725-SNCAP-02

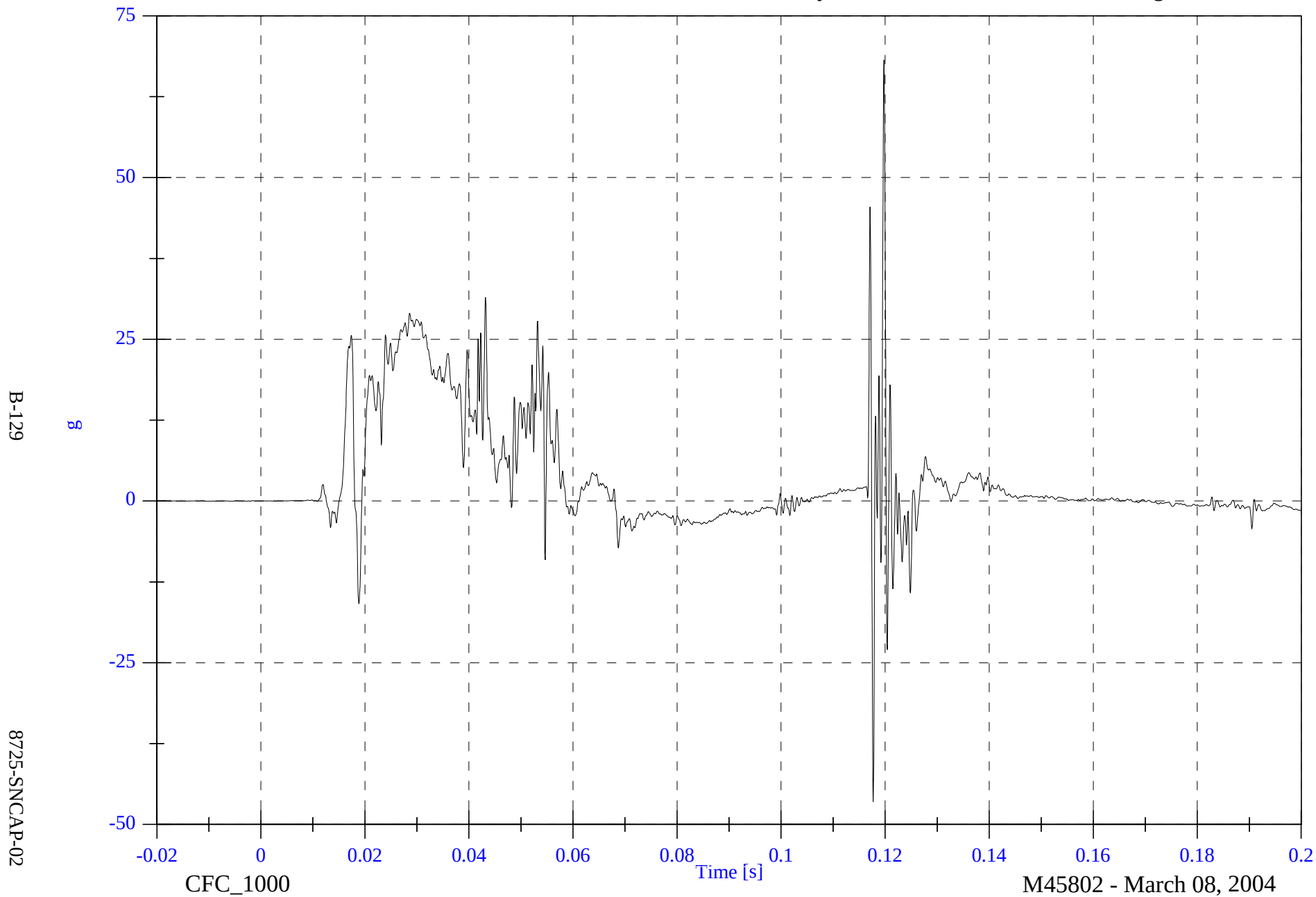


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Lower Rib Ry

Max: 68.2 [g] at 0.120 [s]

Min: -46.5 [g] at 0.118 [s]



2004 SNCAP Test 2 2004 VW Touareg

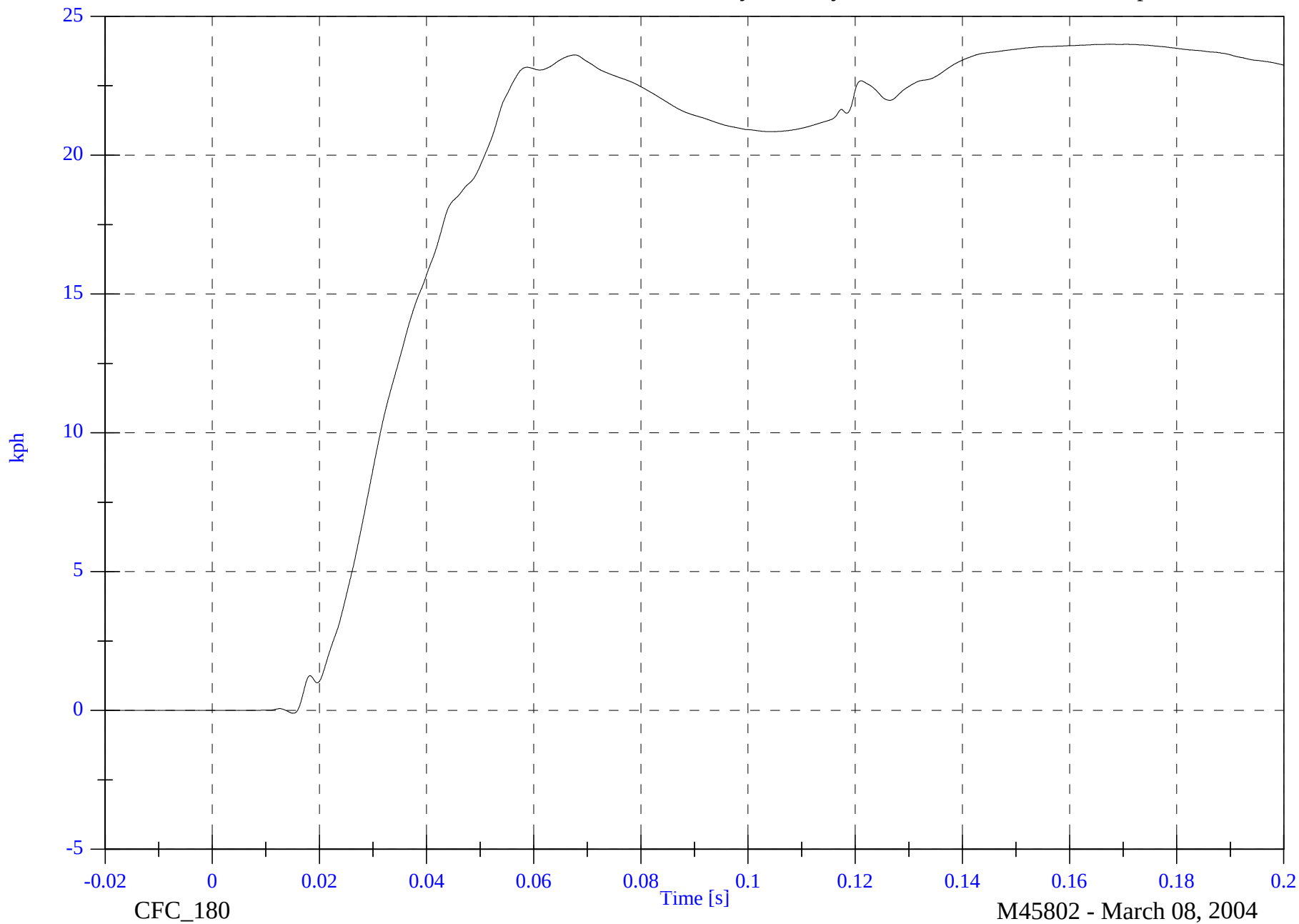
V2P1 Lower Rib Ry Velocity

Max: 24.0 [kph] at 0.168 [s]

Min: -0.1 [kph] at 0.015 [s]

B-130

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

V2P1 Lower Spine Ry

Max: 38.5 [g] at 0.035 [s]

Min: -4.0 [g] at 0.074 [s]

B-131

8725-SNCAP-02

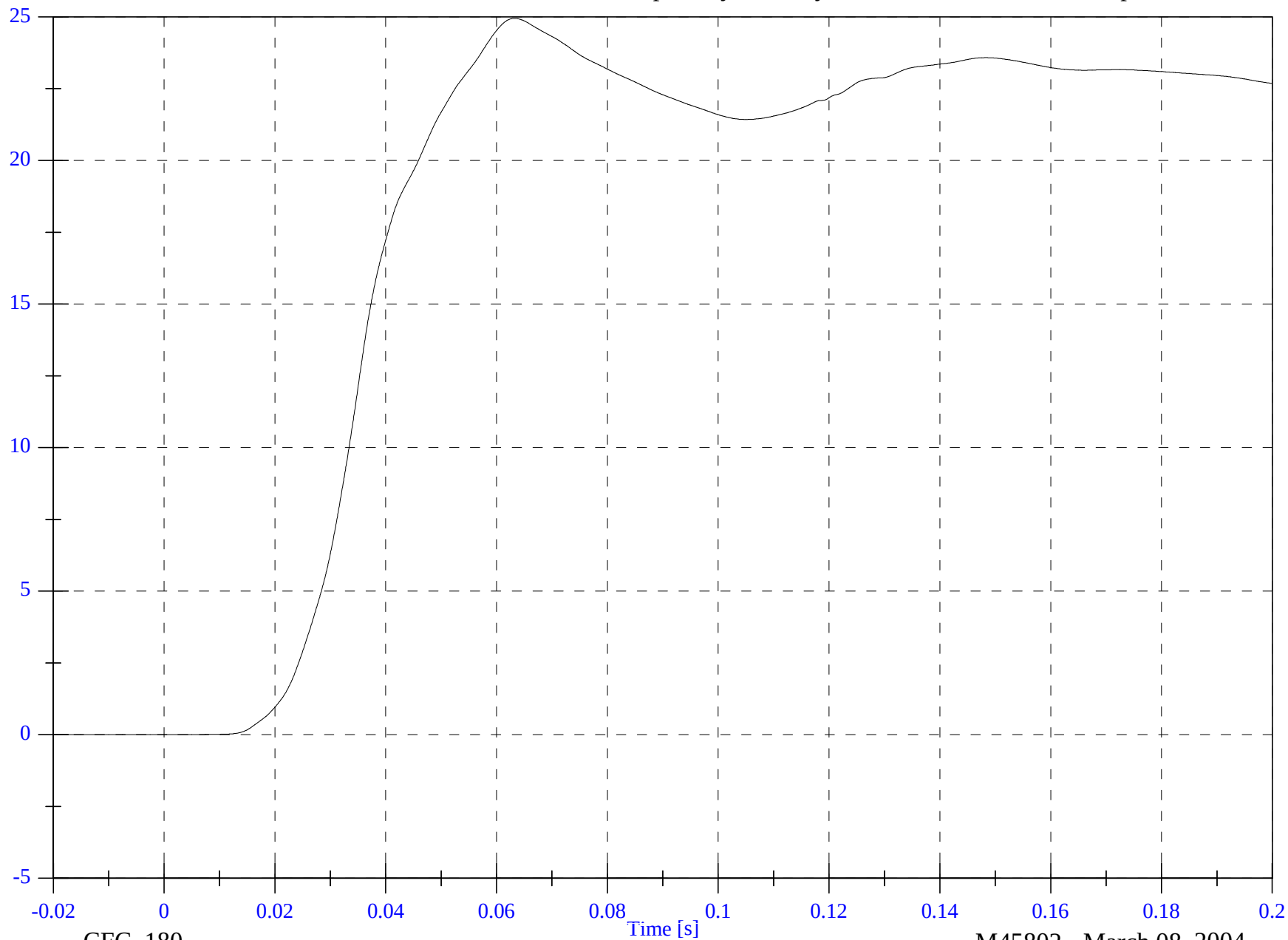


2004 SNCAP Test 2 2004 VW Touareg

V2P1 Lower Spine Ry Velocity

Max: 24.9 [kph] at 0.063 [s]

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



B-132

8725-SNCAP-02

CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

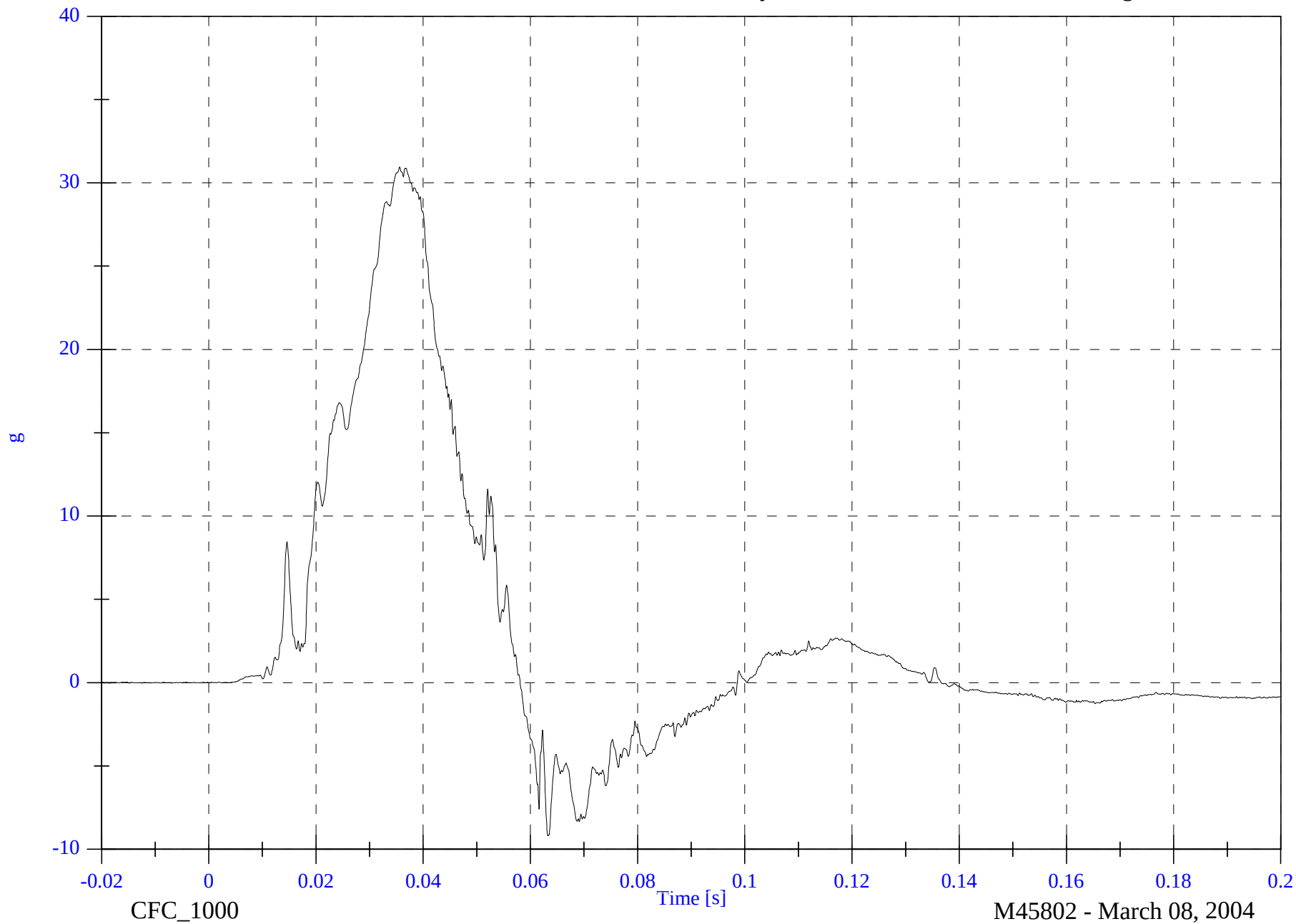
V2P1 Pelvic Ry

Max: 30.9 [g] at 0.036 [s]

Min: -9.2 [g] at 0.063 [s]

B-133

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

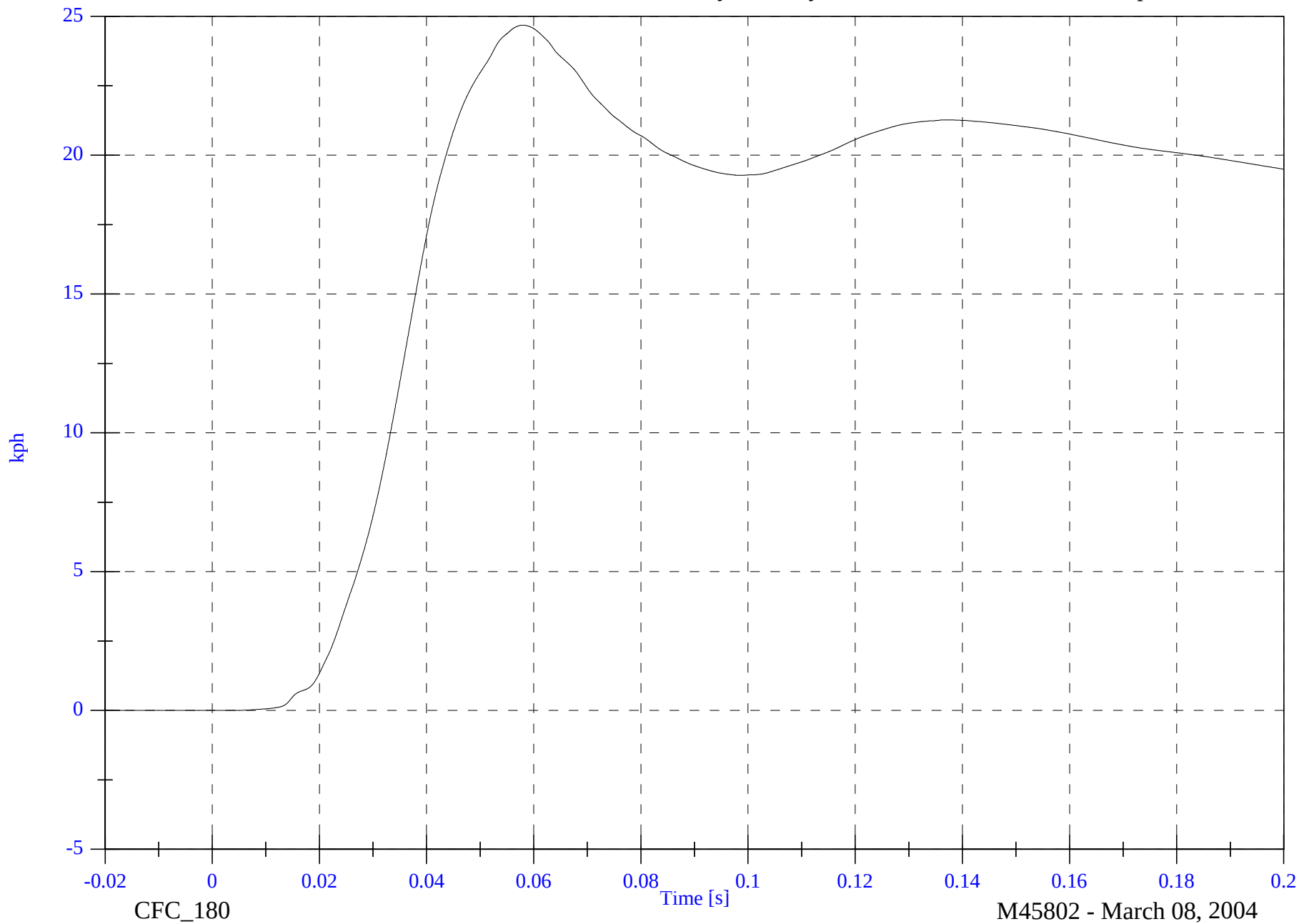
Max: 24.7 [kph] at 0.058 [s]

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

V2P1 Pelvic Ry Velocity

B-134

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

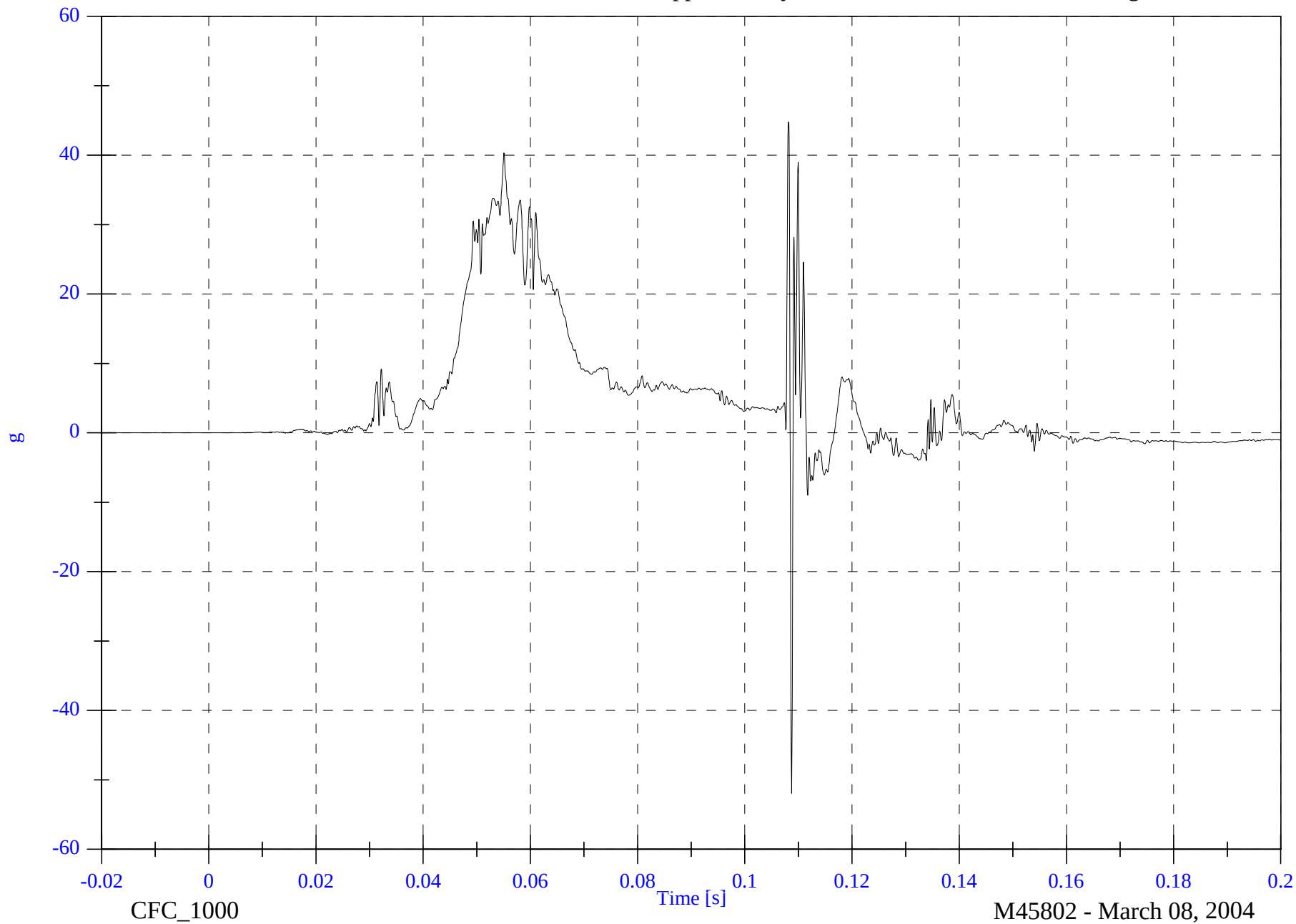
V2P4 Upper Rib Ry

Max: 44.8 [g] at 0.108 [s]

Min: -51.9 [g] at 0.109 [s]

B-135

8725-SNCAP-02

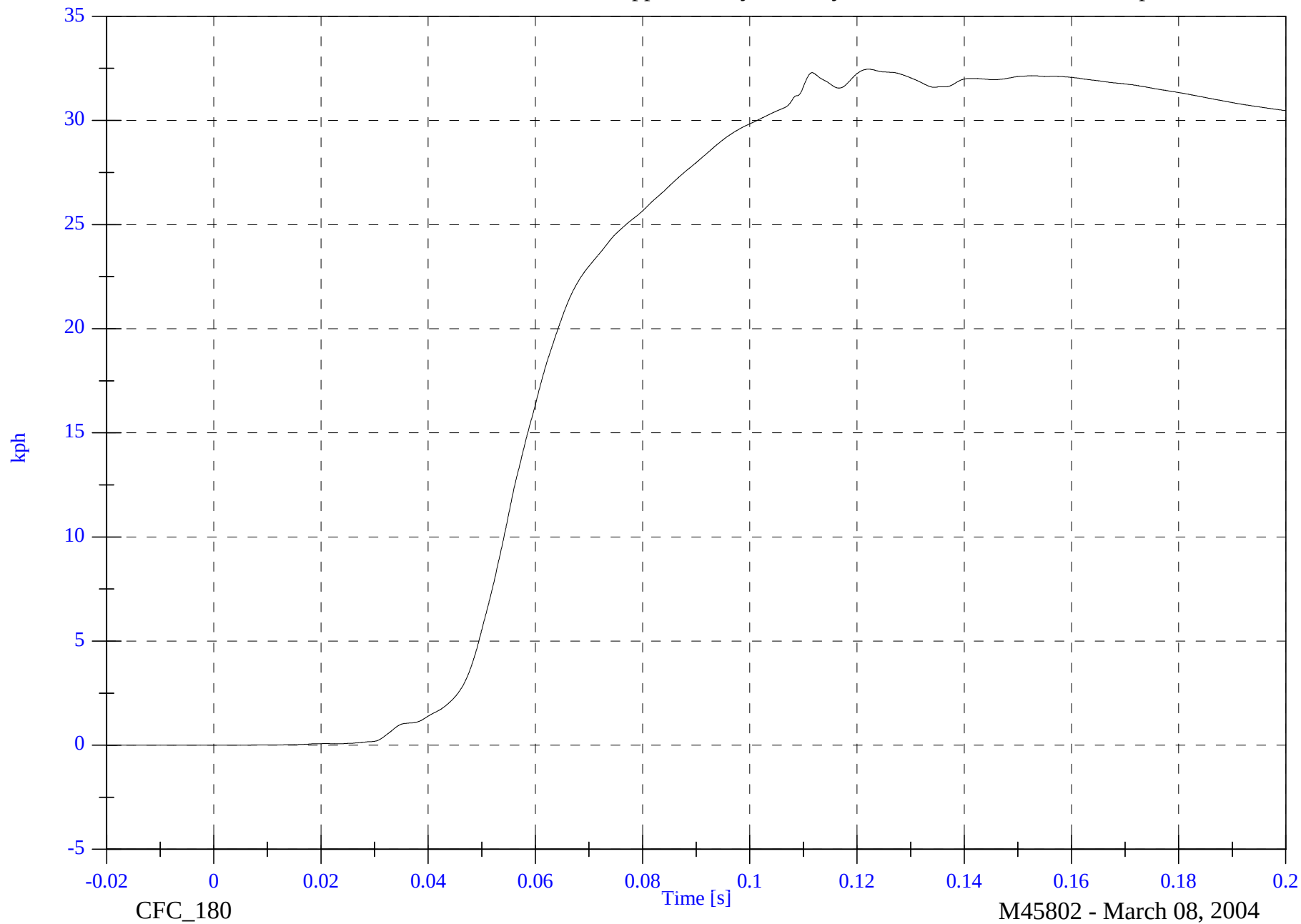


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Upper Rib Ry Velocity

Max: 32.5 [kph] at 0.122 [s]

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



B-136

8725-SNCAP-02

CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

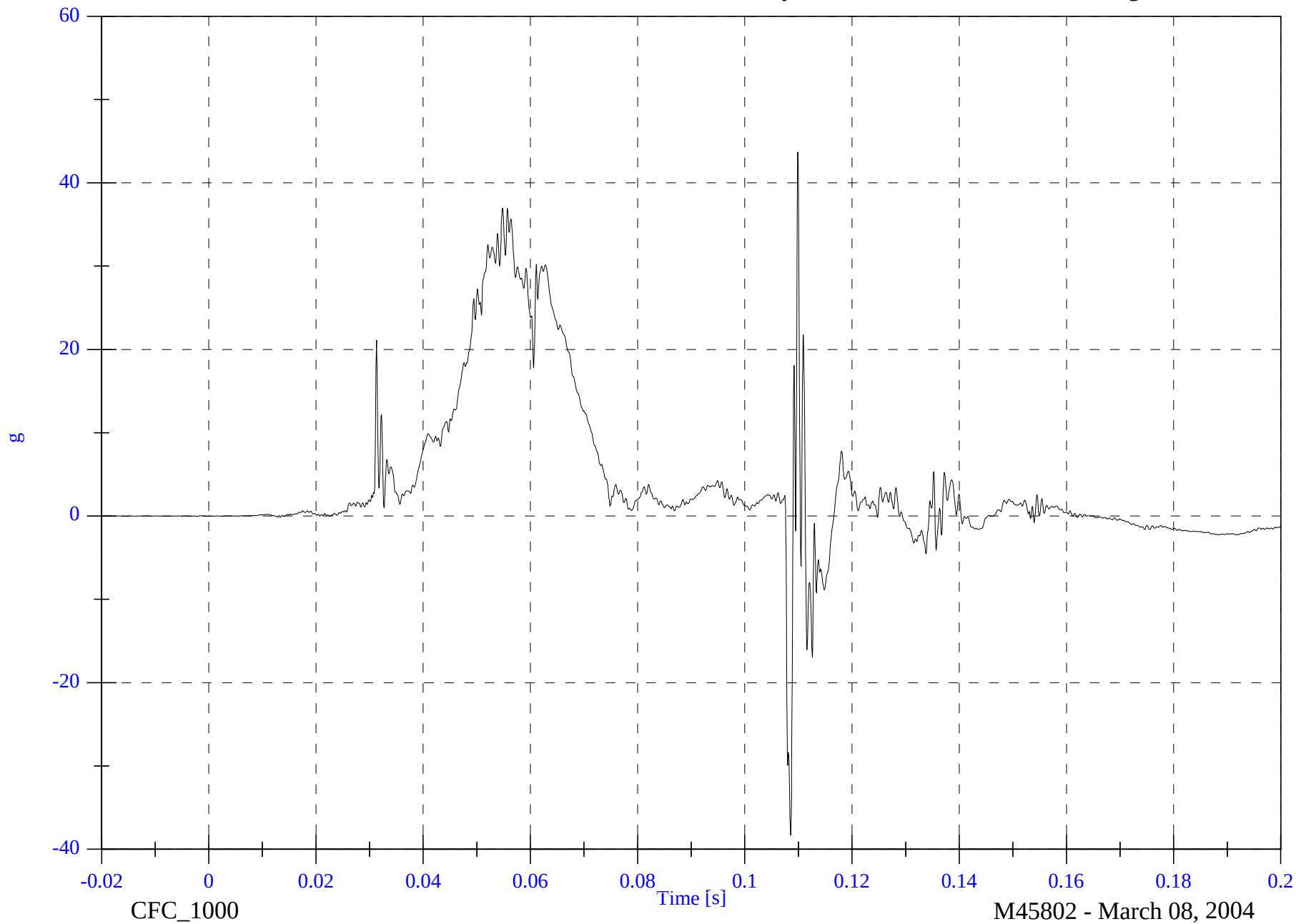
V2P4 Lower Rib Ry

Max: 43.7 [g] at 0.110 [s]

Min: -38.3 [g] at 0.109 [s]

B-137

8725-SNCAP-02

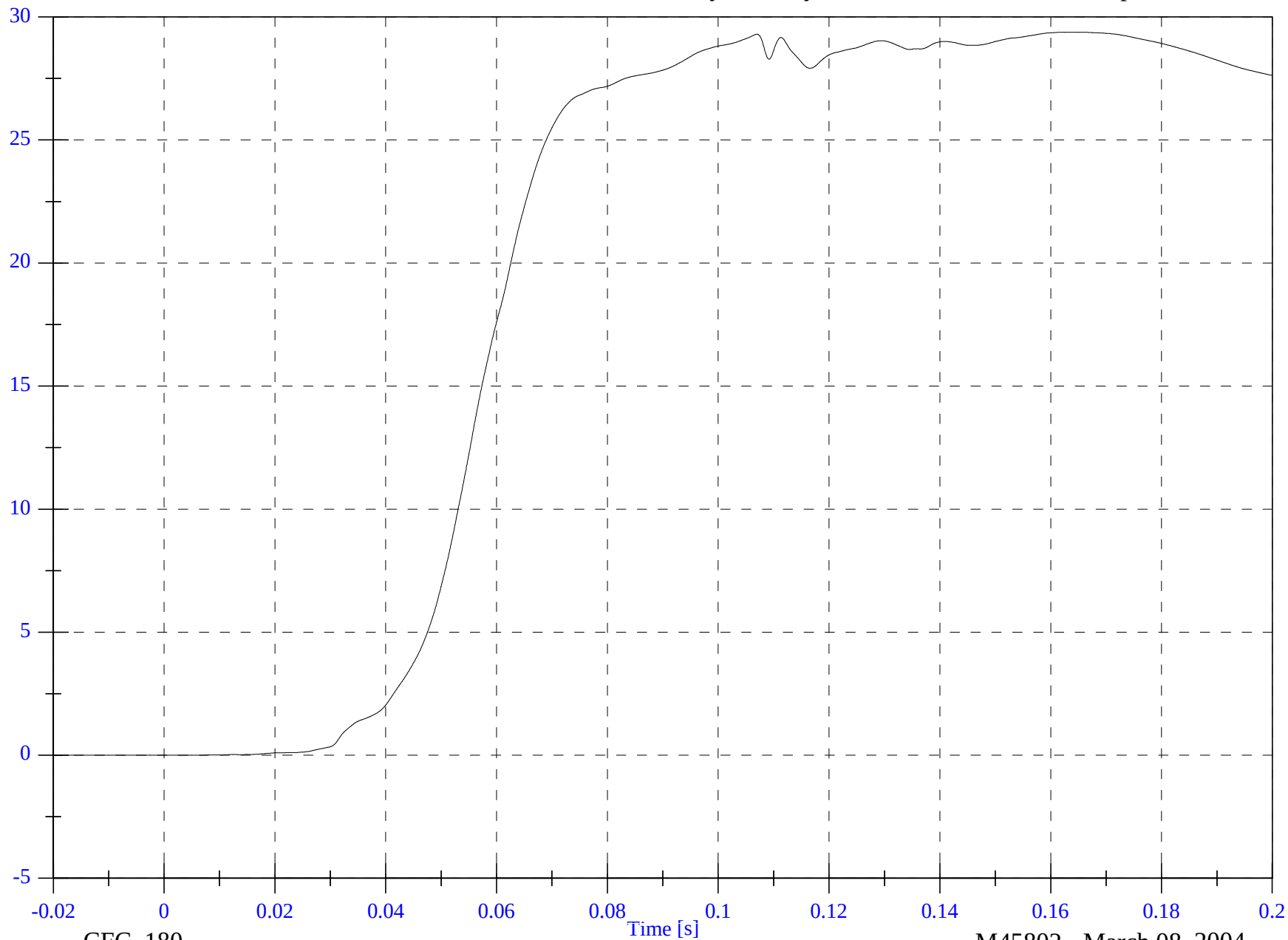


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Lower Rib Ry Velocity

Max: 29.4 [kph] at 0.165 [s]

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



B-138

8725-SNCAP-02

CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

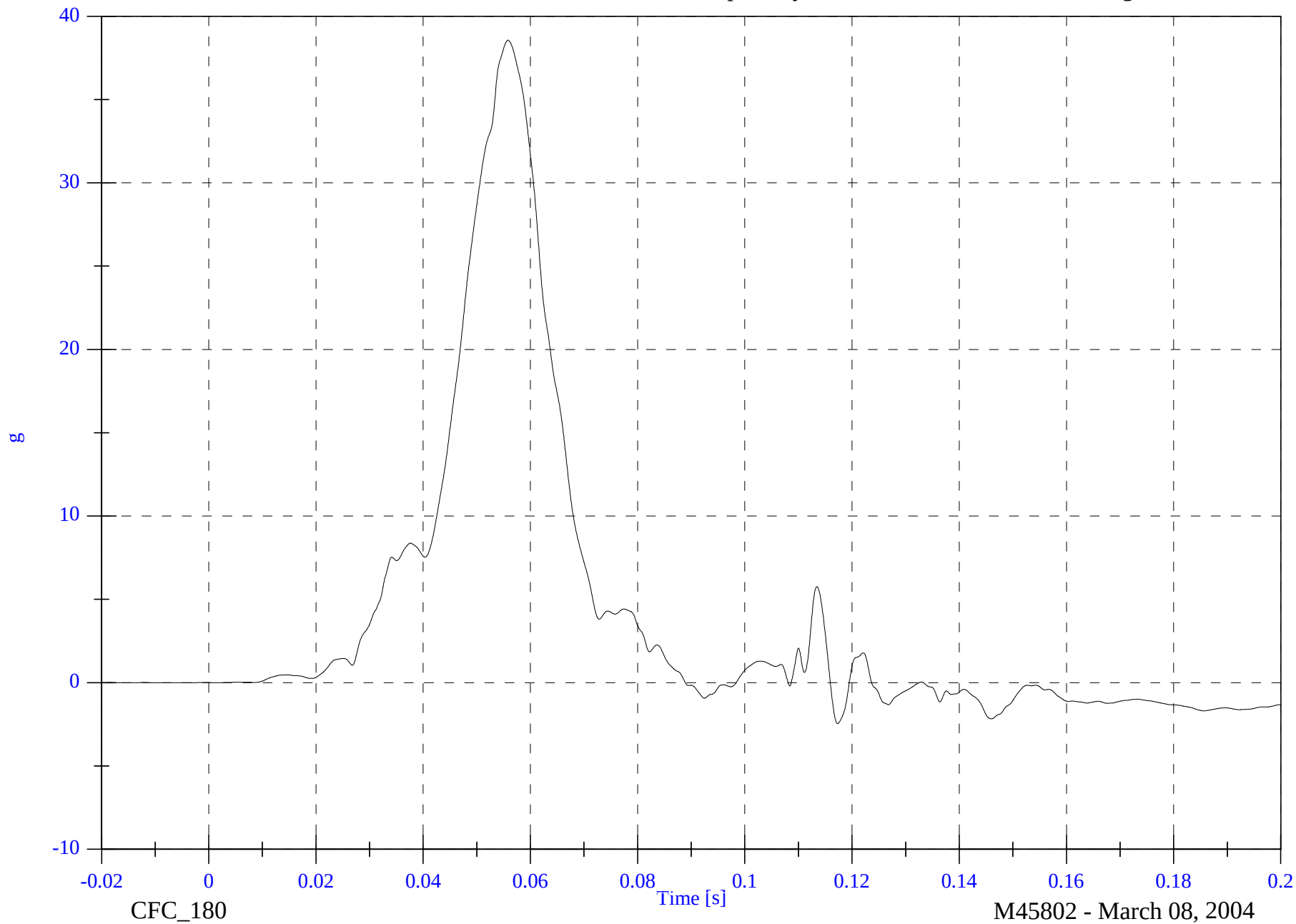
V2P4 Lower Spine Ry

Max: 38.6 [g] at 0.056 [s]

Min: -2.5 [g] at 0.117 [s]

B-139

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

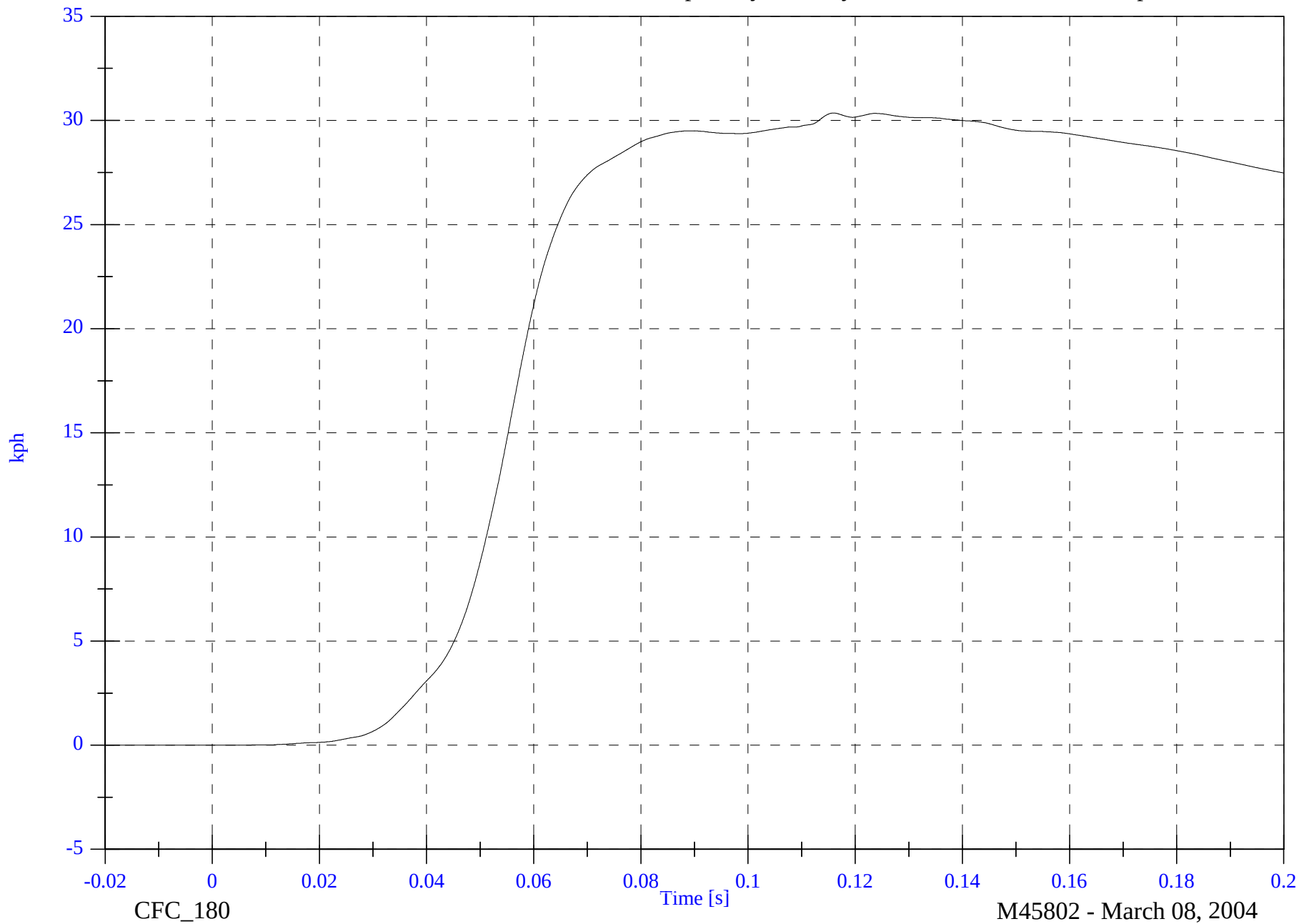
V2P4 Lower Spine Ry Velocity

Max: 30.4 [kph] at 0.116 [s]

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

B-140

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

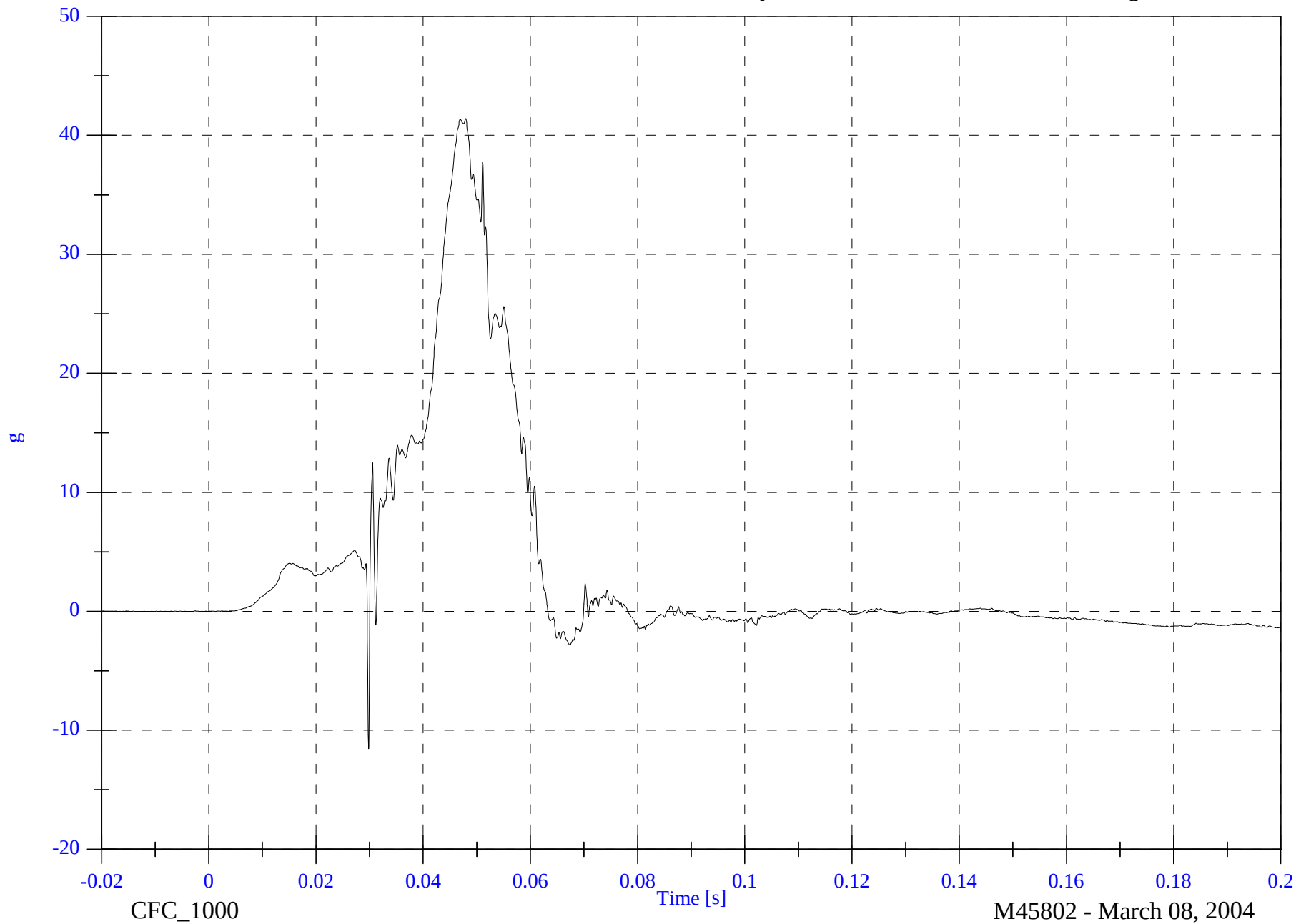
V2P4 Pelvic Ry

Max: 41.4 [g] at 0.048 [s]

Min: -11.6 [g] at 0.030 [s]

B-141

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

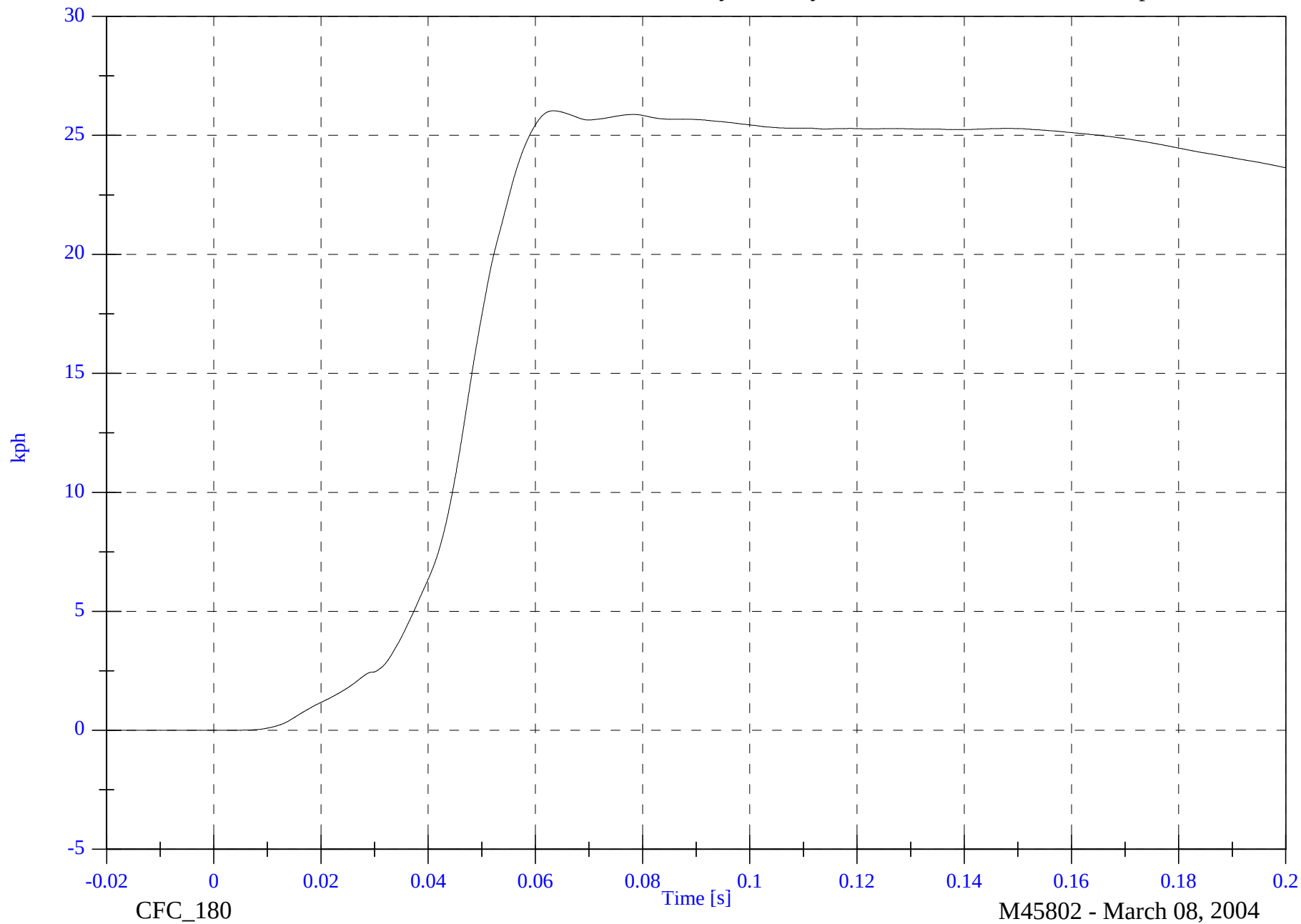
V2P4 Pelvic Ry Velocity

Max: 26.0 [kph] at 0.063 [s]

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

B-142

8725-SNCAP-02



CFC_180

M45802 - March 08, 2004

2004 SNCAP Test 2 2004 VW Touareg

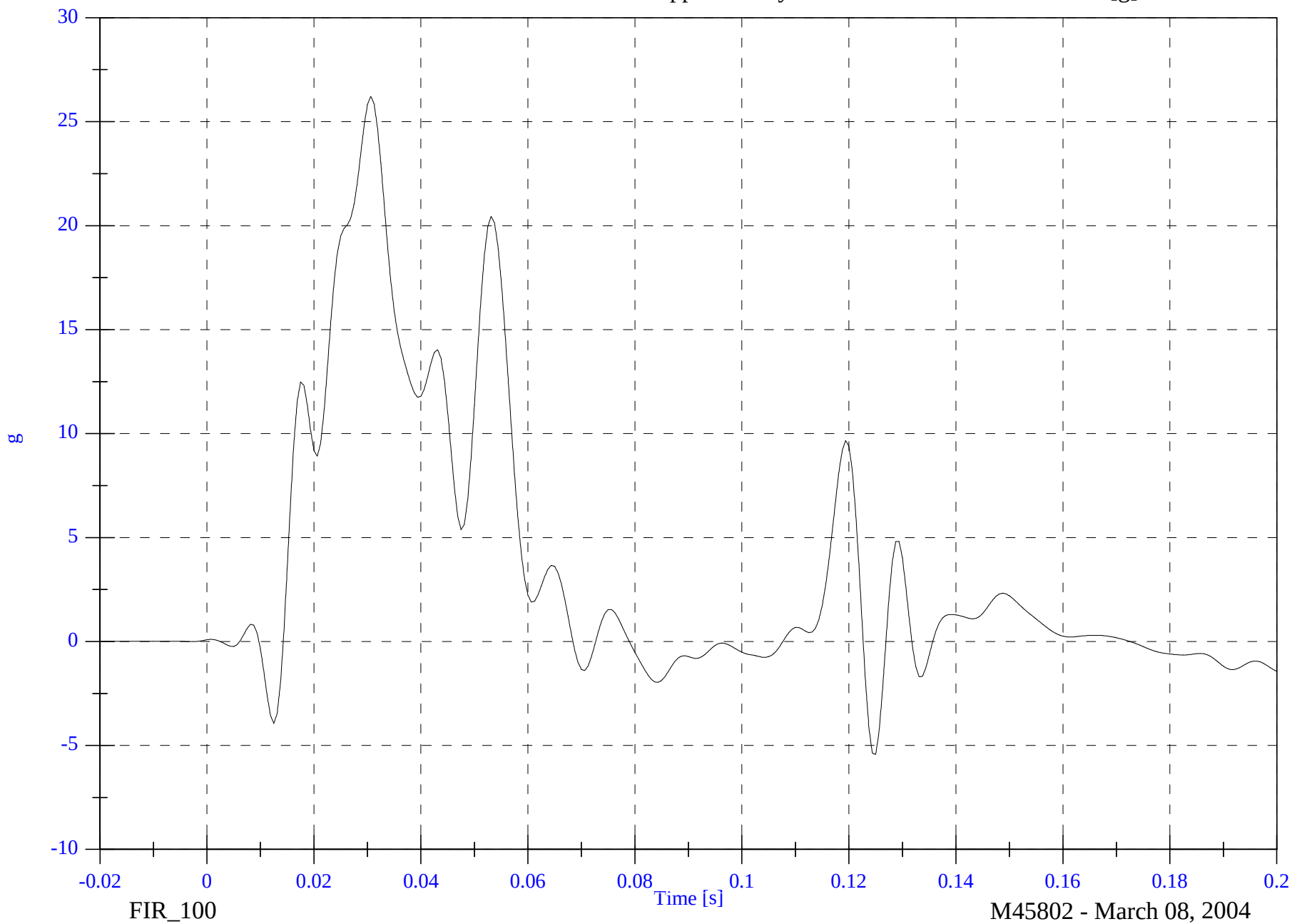
V2P1 Upper Rib Ry

Max: 26.2 [g] at 0.031 [s]

Min: -5.4 [g] at 0.125 [s]

B-143

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

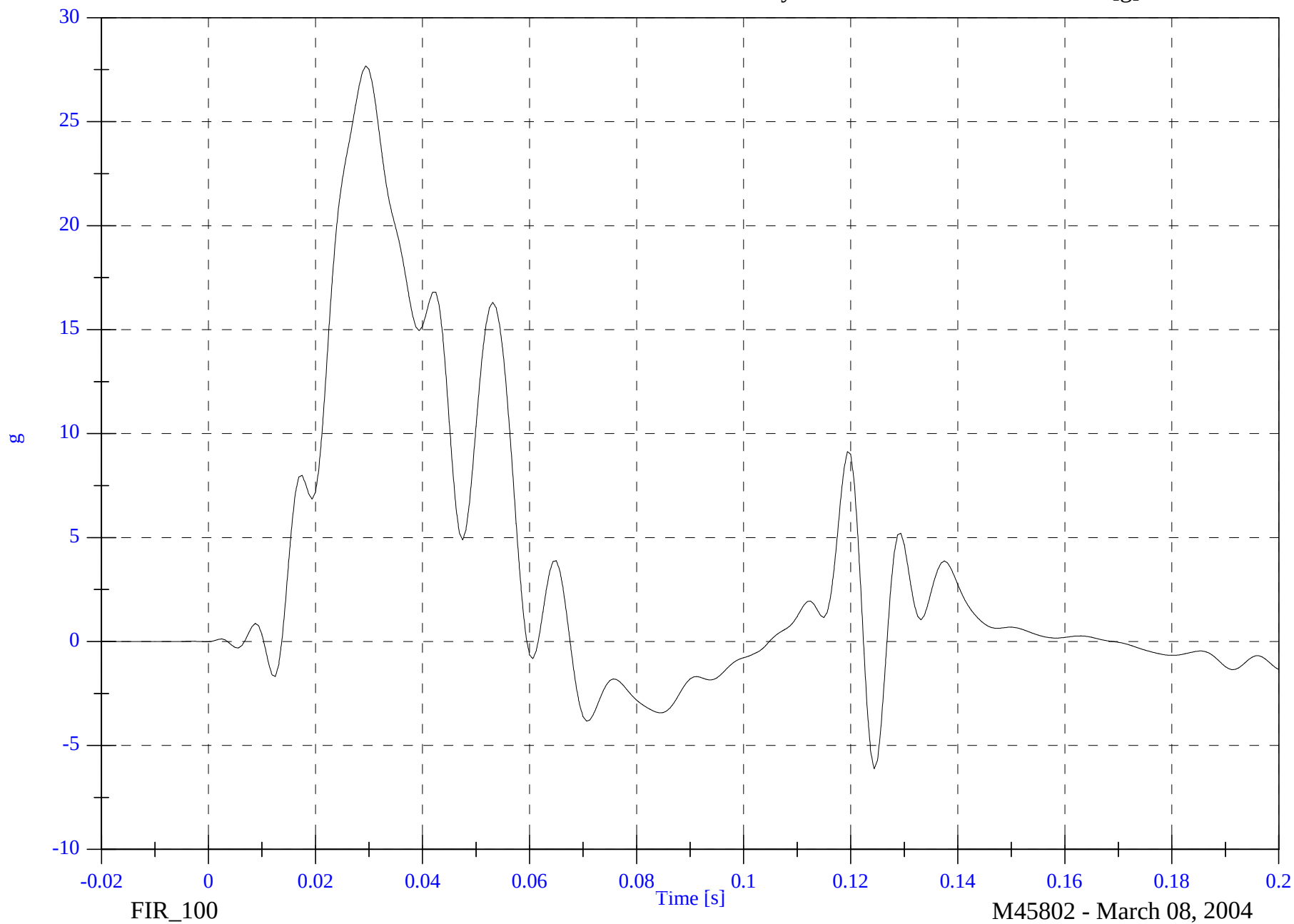
V2P1 Lower Rib Ry

Max: 27.7 [g] at 0.029 [s]

Min: -6.1 [g] at 0.124 [s]

B-144

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

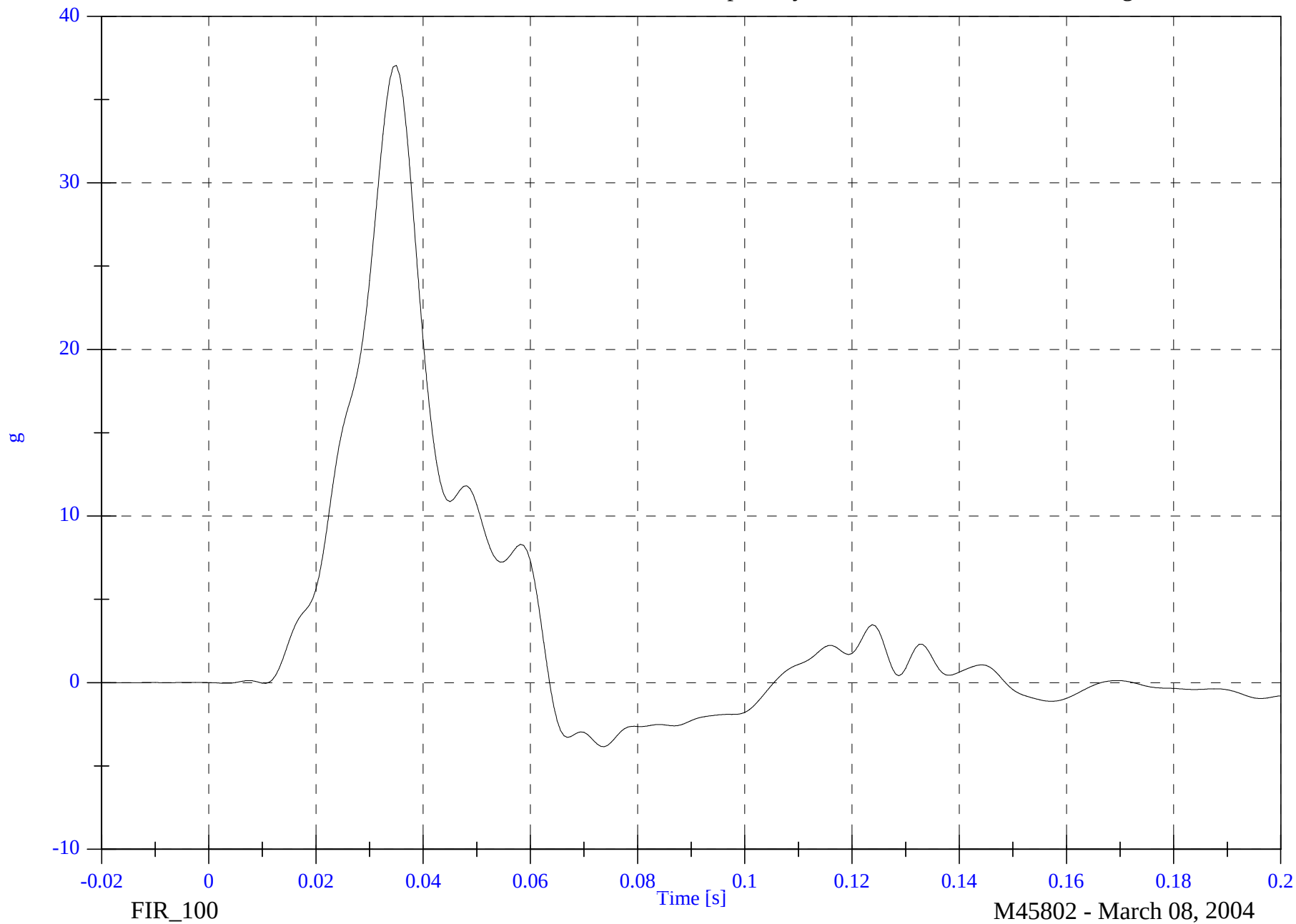
V2P1 Lower Spine Ry

Max: 37.1 [g] at 0.035 [s]

Min: -3.8 [g] at 0.074 [s]

B-145

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

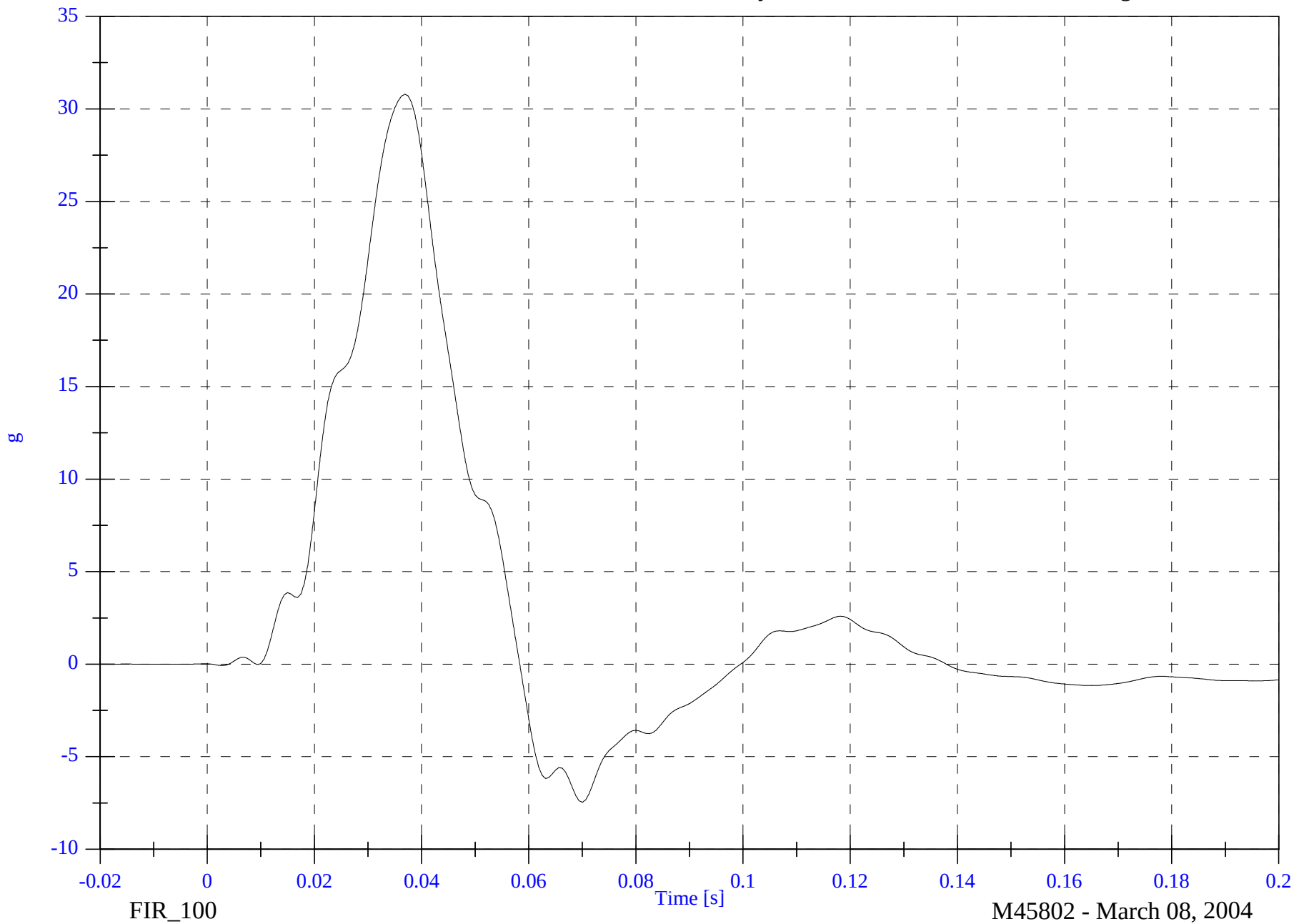
V2P1 Pelvic Ry

Max: 30.8 [g] at 0.037 [s]

Min: -7.5 [g] at 0.070 [s]

B-146

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

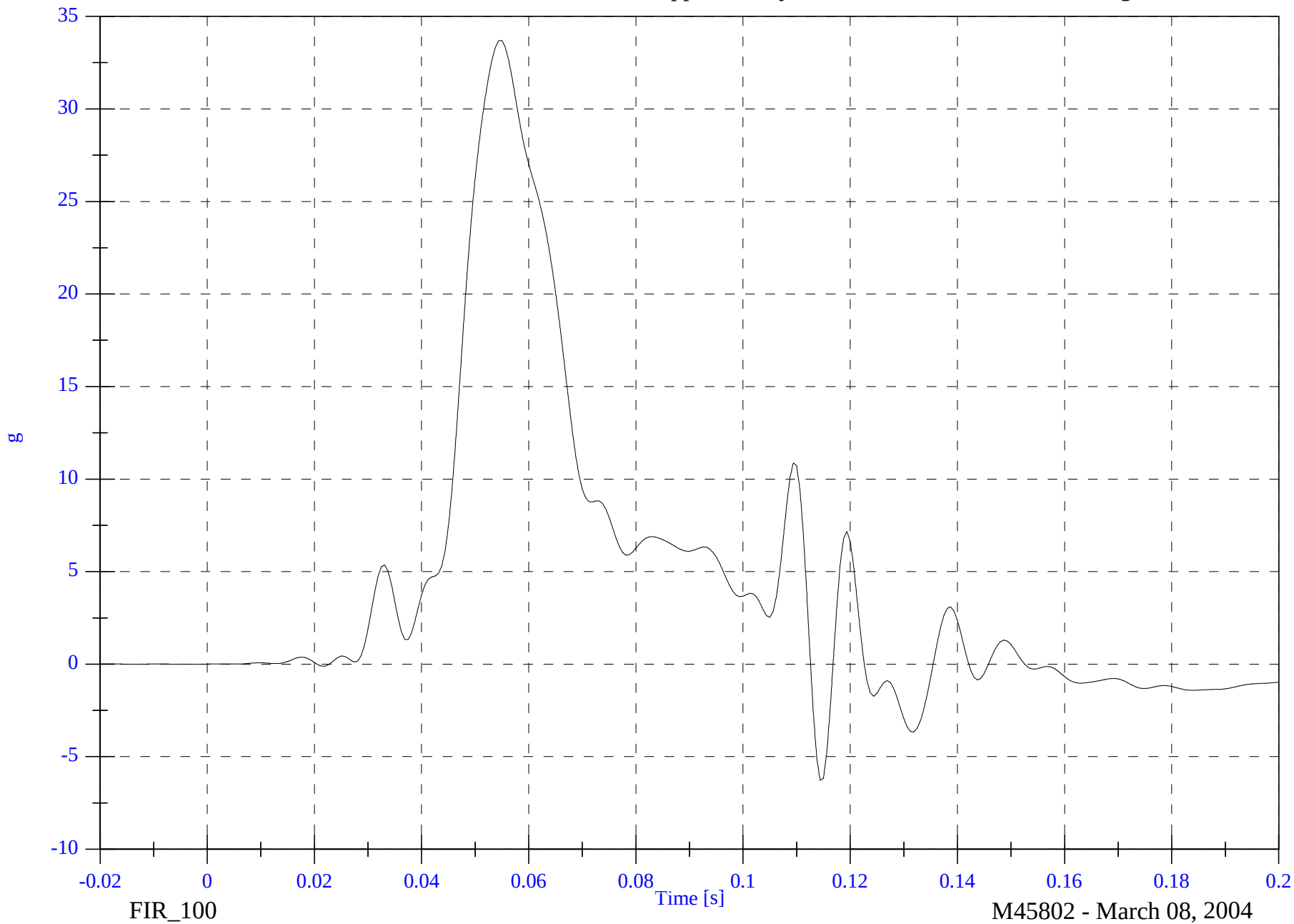
V2P4 Upper Rib Ry

Max: 33.7 [g] at 0.055 [s]

Min: -6.3 [g] at 0.114 [s]

B-147

8725-SNCAP-02

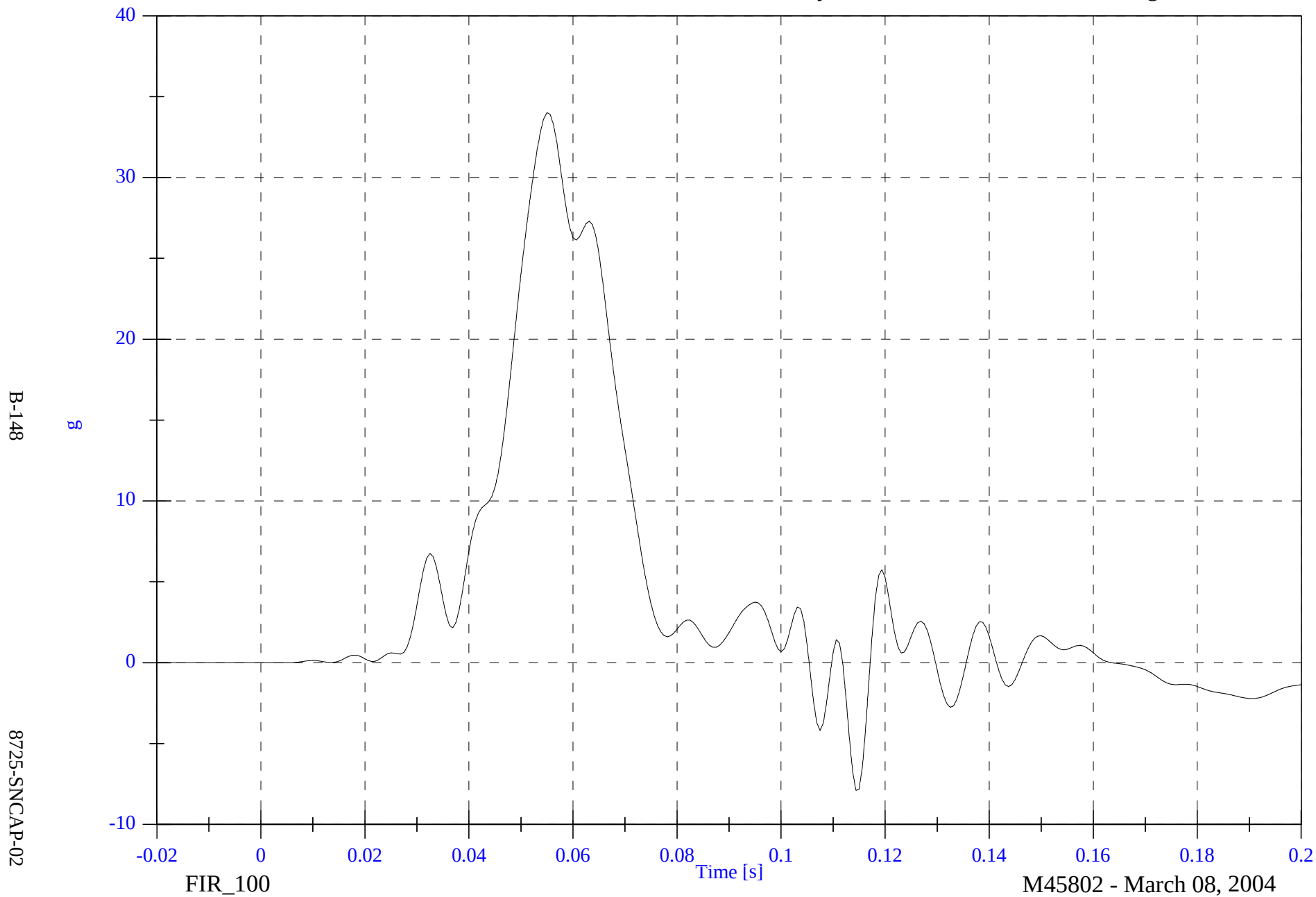


2004 SNCAP Test 2 2004 VW Touareg

V2P4 Lower Rib Ry

Max: 34.0 [g] at 0.055 [s]

Min: -7.9 [g] at 0.114 [s]



2004 SNCAP Test 2 2004 VW Touareg

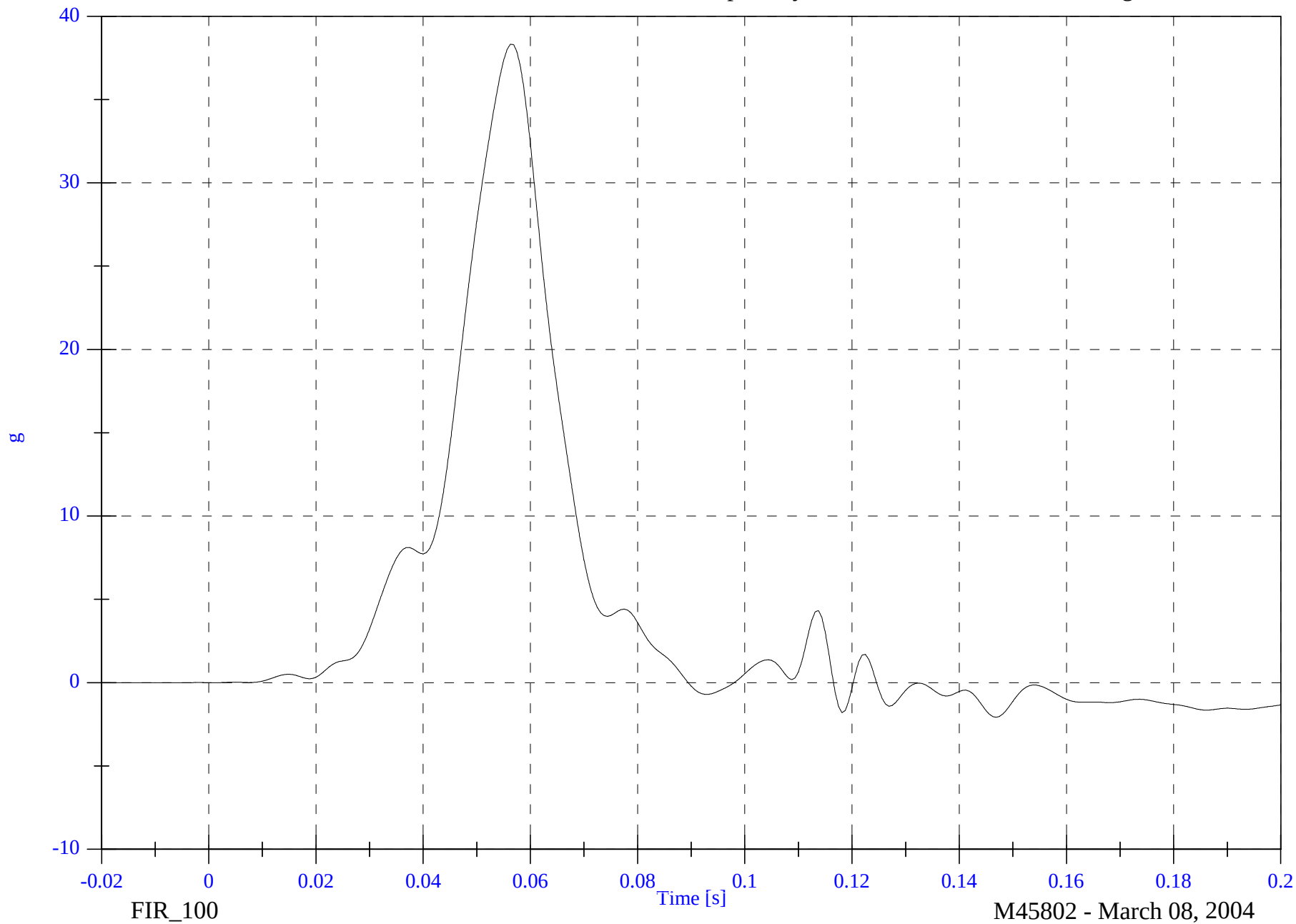
V2P4 Lower Spine Ry

Max: 38.3 [g] at 0.056 [s]

Min: -2.1 [g] at 0.147 [s]

B-149

8725-SNCAP-02



2004 SNCAP Test 2 2004 VW Touareg

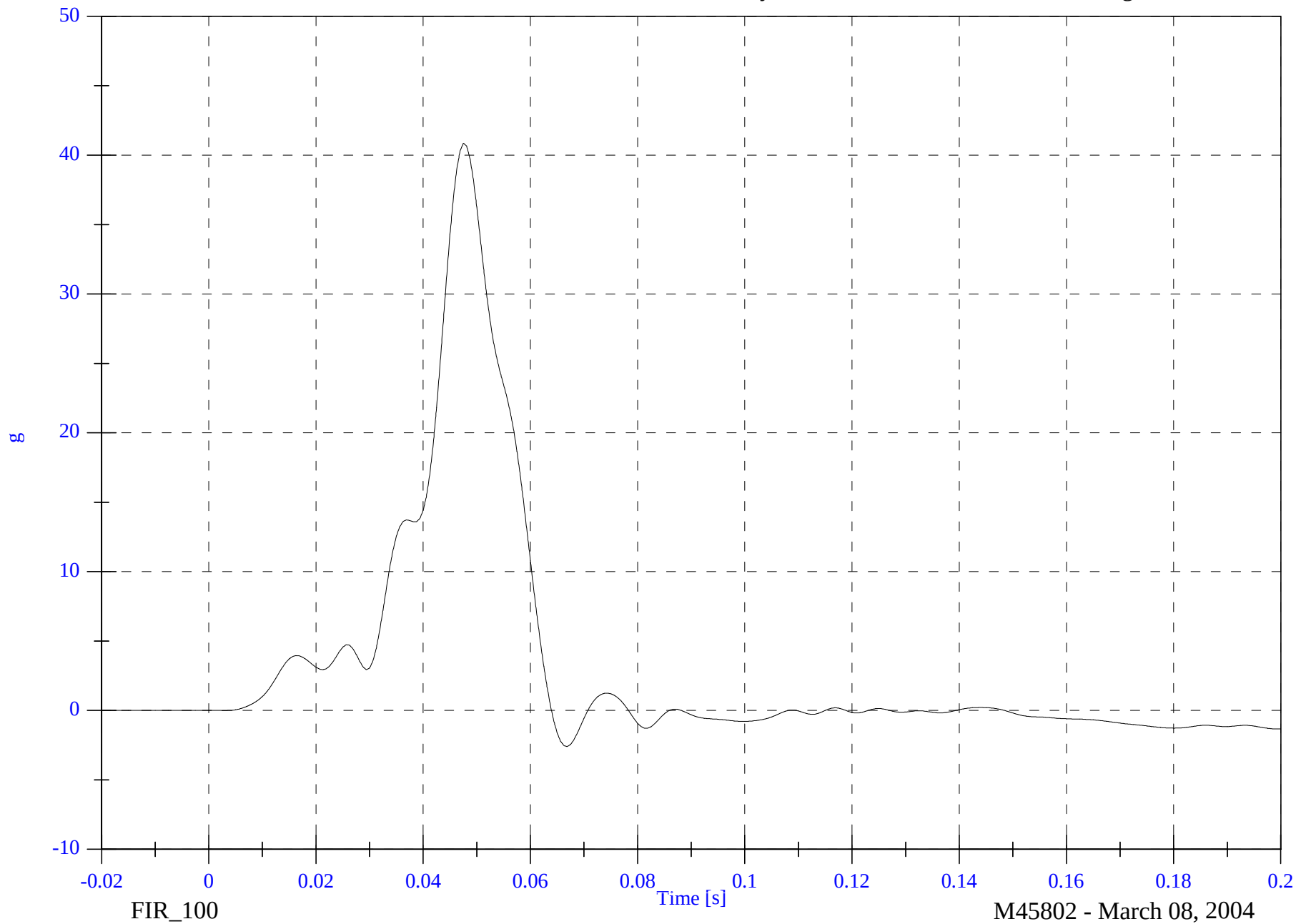
V2P4 Pelvic Ry

Max: 40.9 [g] at 0.047 [s]

Min: -2.6 [g] at 0.067 [s]

B-150

8725-SNCAP-02



APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

Date: March 4, 2004; March 10, 2004 Sequential Test Number: 4;5
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	904	904	902	902
RH- Rib Height (mm)	501 - 521	503	503	506	506
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	516	516
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	371	371	376	376
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	34.0	35.0	33.0	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.31	4.32	4.31
UPPER RIB (g's)	37 - 46	44.28	37.48	42.11	42.46
LOWER RIB (g's)	37 - 46	42.97	37.55	40.88	40.68
LOWER SPINE (g's)	15 - 22	21.65	18.49	21.18	21.19
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	28.0	35.0	38.0	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.30	4.31	4.28
PELVIS (g's)	40 - 60	47.00	42.26	40.96	50.52

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: 4
Date: March 4, 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: 4
Date: March 4, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	904
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	371

REMARKS: None

Shock Low (3.05 m/s)

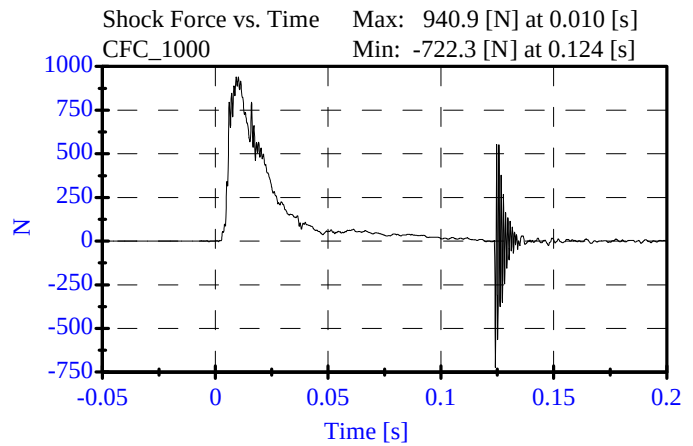
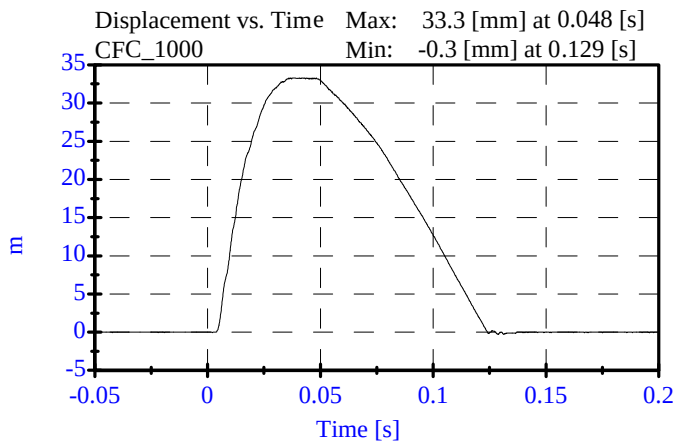
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: September 22, 2003

Sequential Test Number: 1 File: 269SL1 09-22-03
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 %	33.00 %	Passed
Displacement:	30.00-35.00 mm	33.29 mm	Passed
Maximum Force:	836.00-1125.00 N	940.88 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		

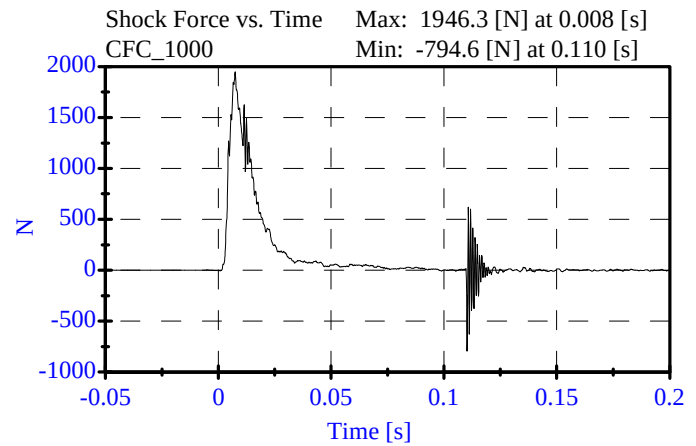
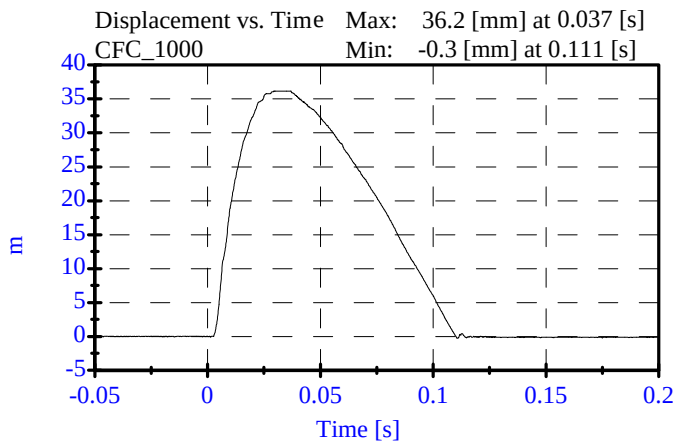


Shock Medium (4.27 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: September 22, 2003

Sequential Test Number: 1 File: 269SM 09-22-03
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 %	33.00 %	Passed
Displacement:	32.00-37.00 mm	36.17 mm	Passed
Maximum Force:	1730.00-2099.00 N	1946.25 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	269		
Damper Setting:	5		

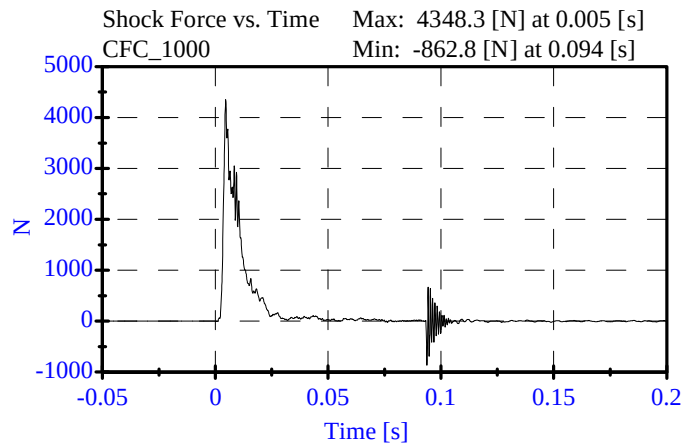
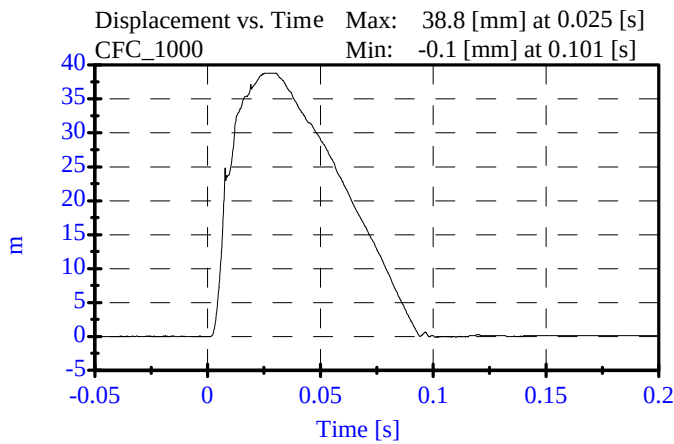


Shock High (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: September 22, 2003

Sequential Test Number: 1 File: 269SH 09-22-03
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 %	33.00 %	Passed
Displacement:	33.00-40.00 mm	38.76 mm	Passed
Maximum Force:	3741.00-4448.00 N	4348.34 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		



Thorax Impact

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

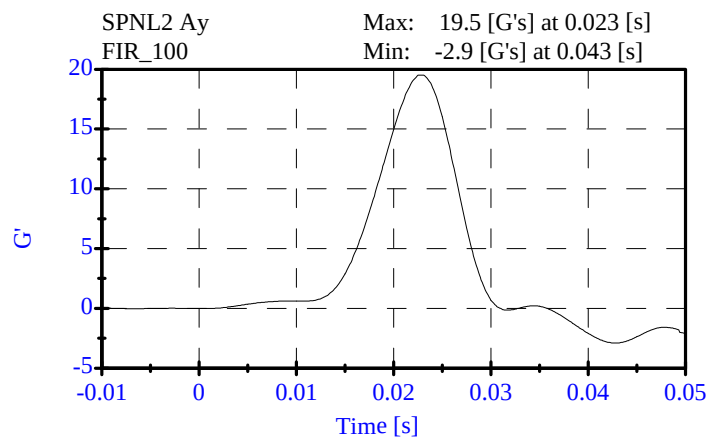
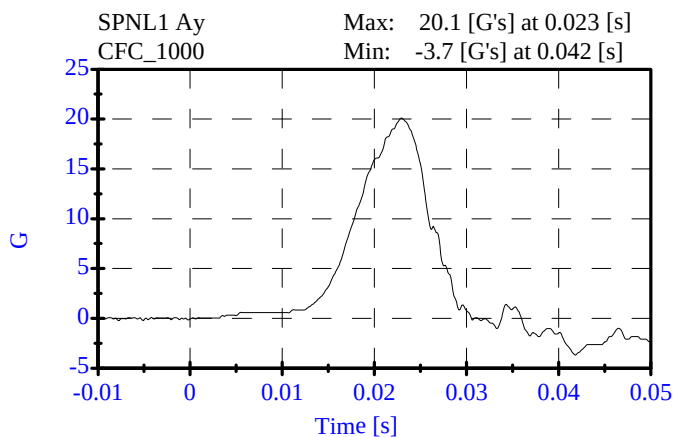
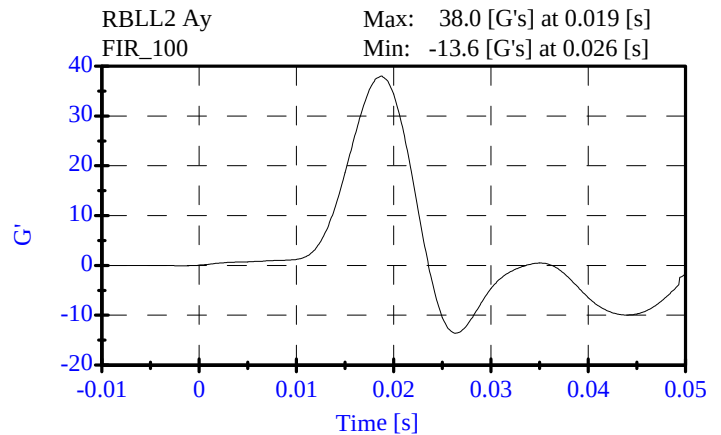
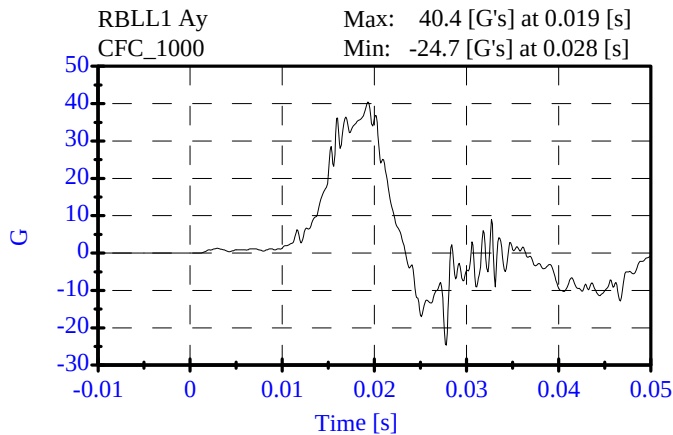
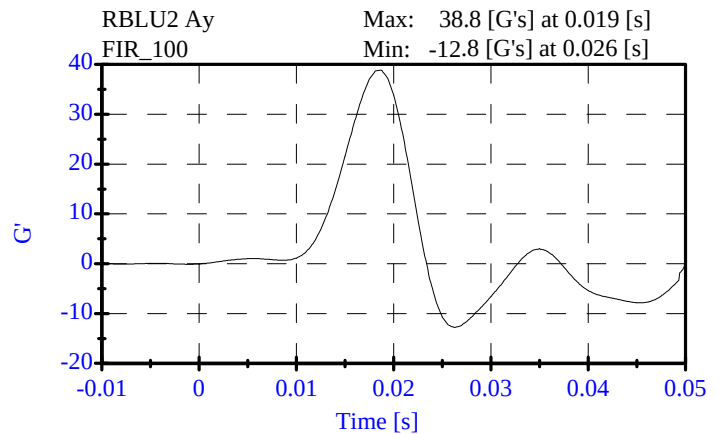
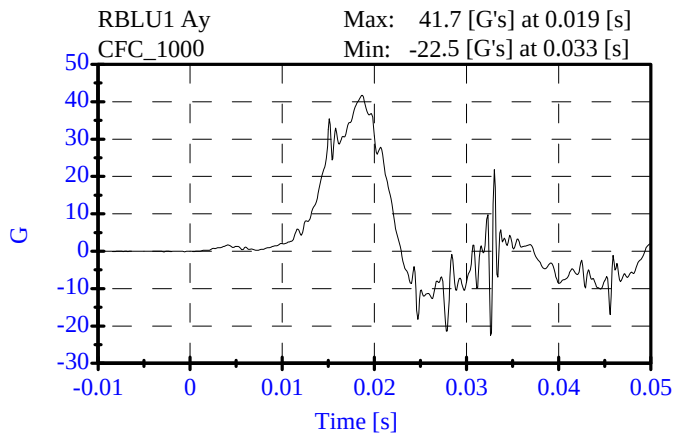
ATD Serial No: 269

Date: March 3, 2004

Sequential Test Number: 1 File: 269T 03-03-04

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 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.33 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.83 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.05 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.53 G's	Passed



Pelvic Impact

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

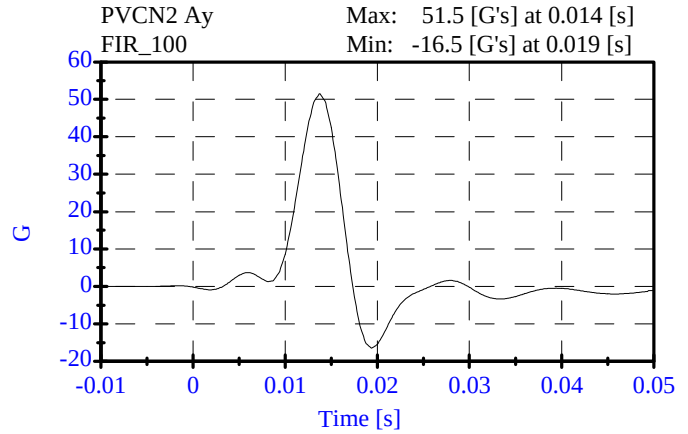
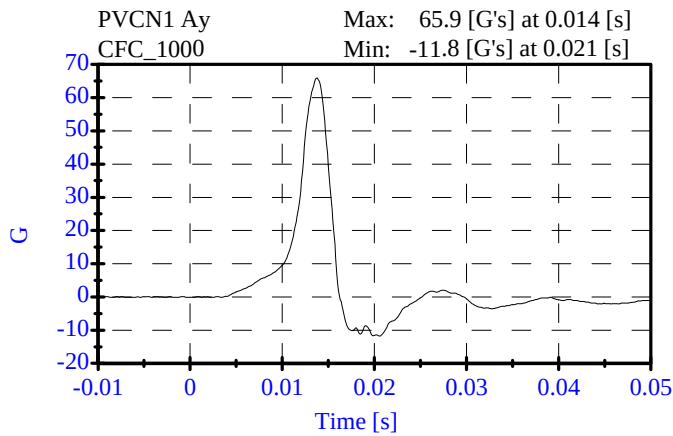
ATD Serial No: 269

Date: March 3, 2004

Sequential Test Number: 1 File: 269P 03-03-04

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 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	51.49 G's	Passed



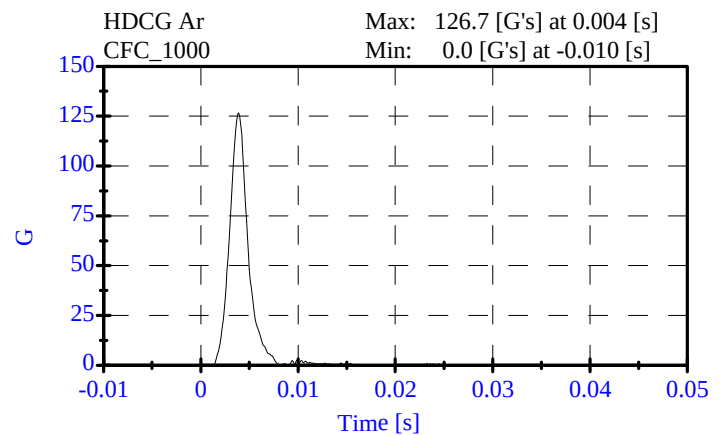
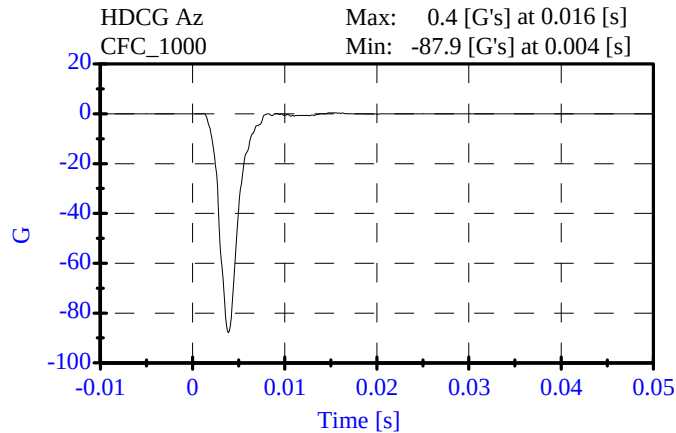
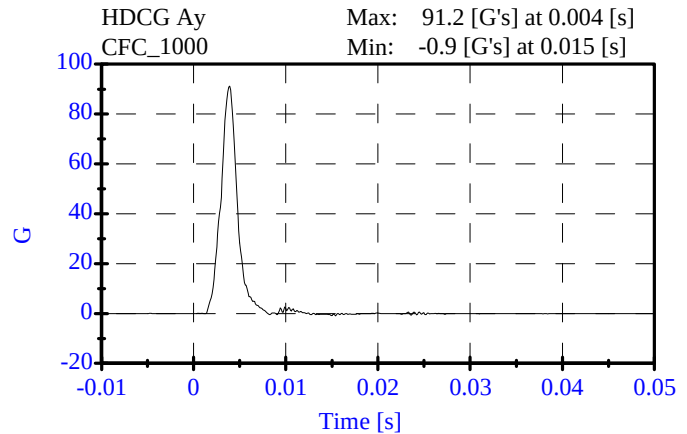
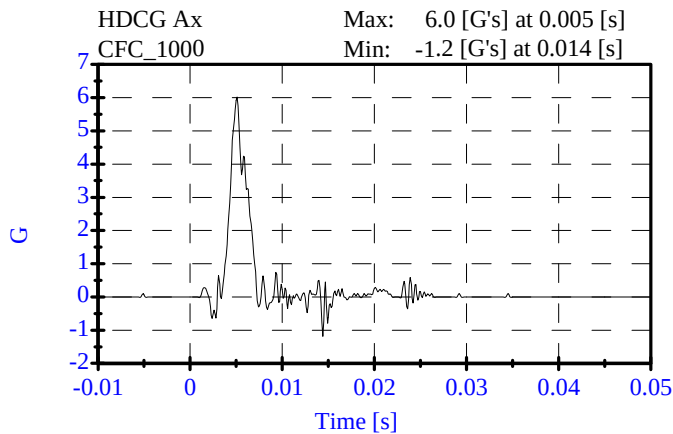
Head Drop **Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: March 2, 2004

Sequential Test Number: 1 File: 269H1 03-02-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	126.65 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	6.02 Gs	Passed
Curve PerCent NonModal:	< 15%	2.20 %	Passed



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

ATD Serial No: 22.65

Date: March 3, 2004

Sequential Test Number: 1 File: 269N 03-03-04

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 %	38.00 %	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	2.06 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.20 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	5.89 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.05 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	64.0-78.0 Deg	71.54 Deg	Passed
Rotation Angle Decay:	50.0-70.0 ms	61.10 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	88.00-108.00 N-m	89.51 N-m	Passed
Occipital Moment Decay:	40.0-60.0 ms	51.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	0.0-20.0 ms	5.80 ms	Passed

Neck Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

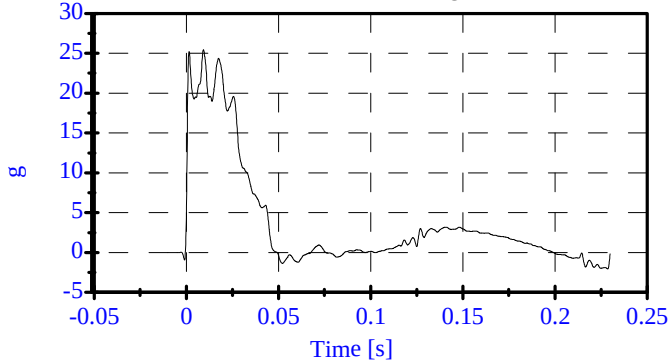
ATD Serial No: 22.65

Date: March 3, 2004

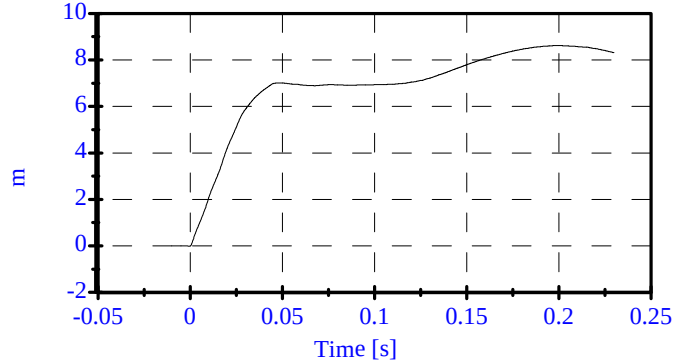
Sequential Test Number: 1 File: 269N 03-03-04

Laboratory Technician: B. Swiecicki

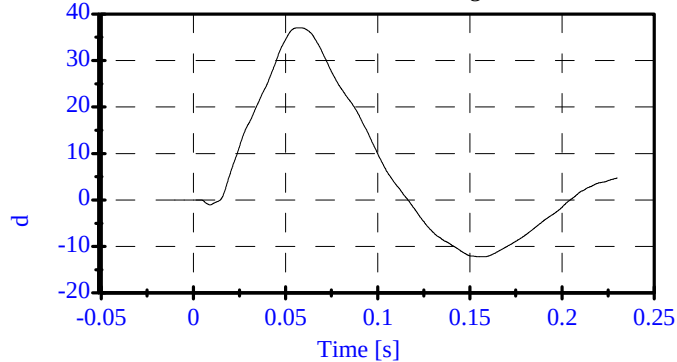
Pend Ax
CFC_180
Max: 25.5 [g's] at 0.009 [s]
Min: -2.0 [g's] at 0.229 [s]



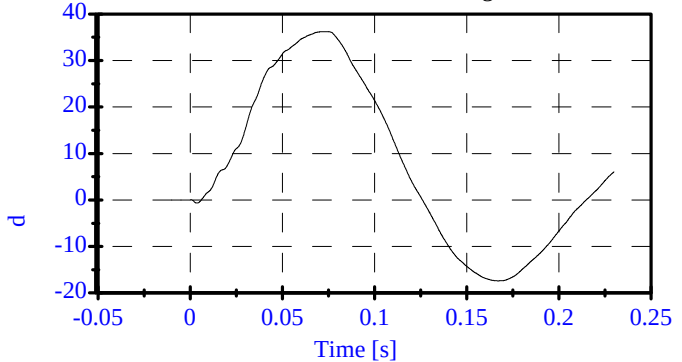
Pend Vx
CFC_180
Max: 8.6 [m/s] at 0.199 [s]
Min: -0.0 [m/s] at -0.001 [s]



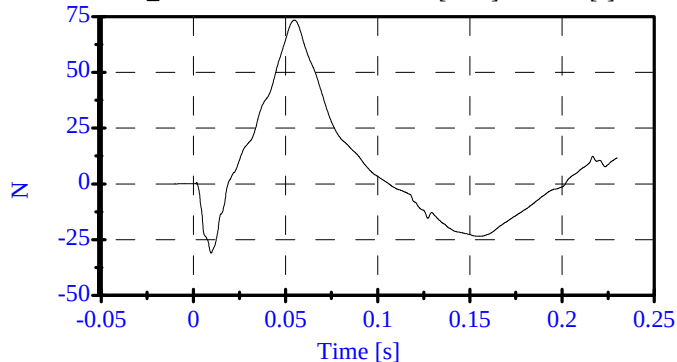
Head Rot
CFC_180
Max: 37.0 [degrees] at 0.056 [s]
Min: -12.2 [degrees] at 0.158 [s]



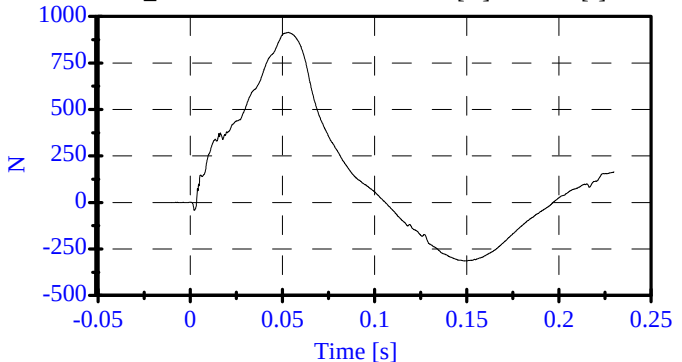
Arm Rot
CFC_180
Max: 36.1 [degrees] at 0.075 [s]
Min: -17.4 [degrees] at 0.167 [s]



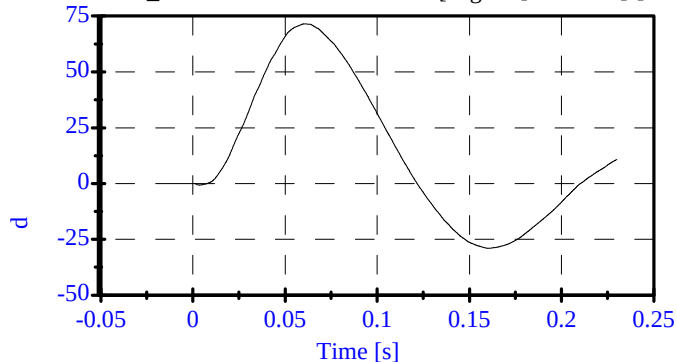
Neck Mx
CFC_600
Max: 73.4 [N-m] at 0.055 [s]
Min: -31.0 [N-m] at 0.010 [s]



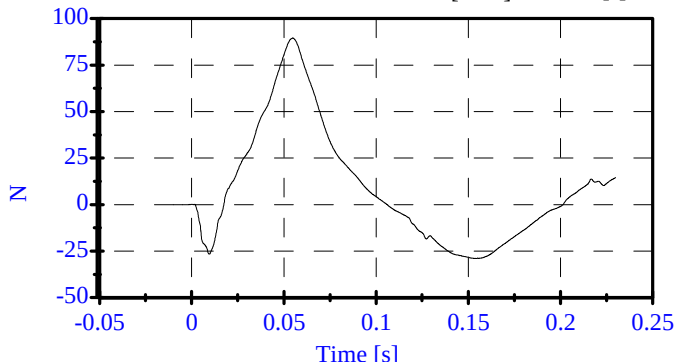
Neck Fy
CFC_1000
Max: 914.1 [N] at 0.053 [s]
Min: -315.2 [N] at 0.149 [s]



Tot Rot
CFC_180
Max: 71.5 [degrees] at 0.061 [s]
Min: -28.9 [degrees] at 0.160 [s]



Mocy
Max: 89.5 [N-m] at 0.055 [s]
Min: -29.0 [N-m] at 0.154 [s]



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

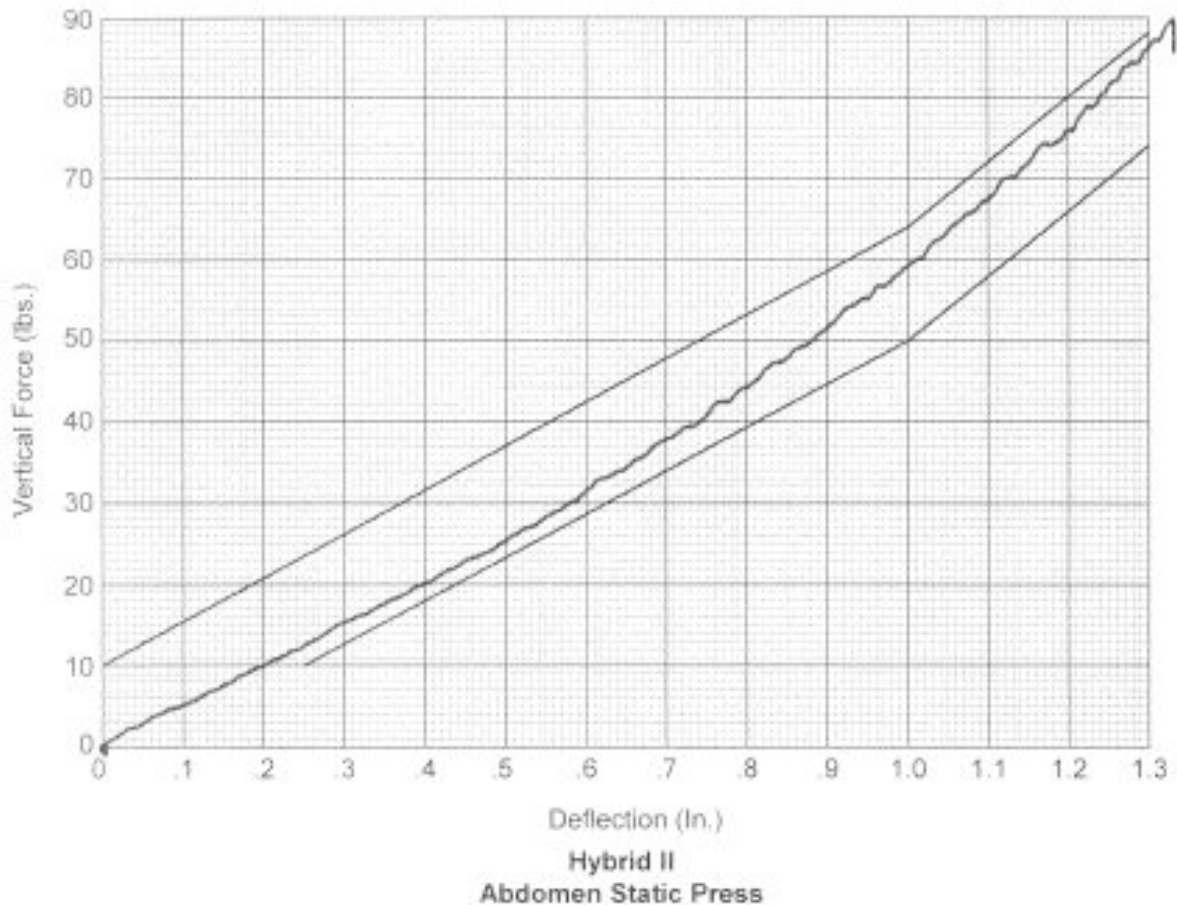
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 4
Date: March 4, 2004	Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0
FORCE @ 13 mm (N)	104 - 162	117.9
FORCE @ 19 mm (N)	163 - 221	182.4
FORCE @ 25 mm (N)	222 - 280	262.4
FORCE @ 33 mm (N)	325 - 391	382.5

REMARKS: None



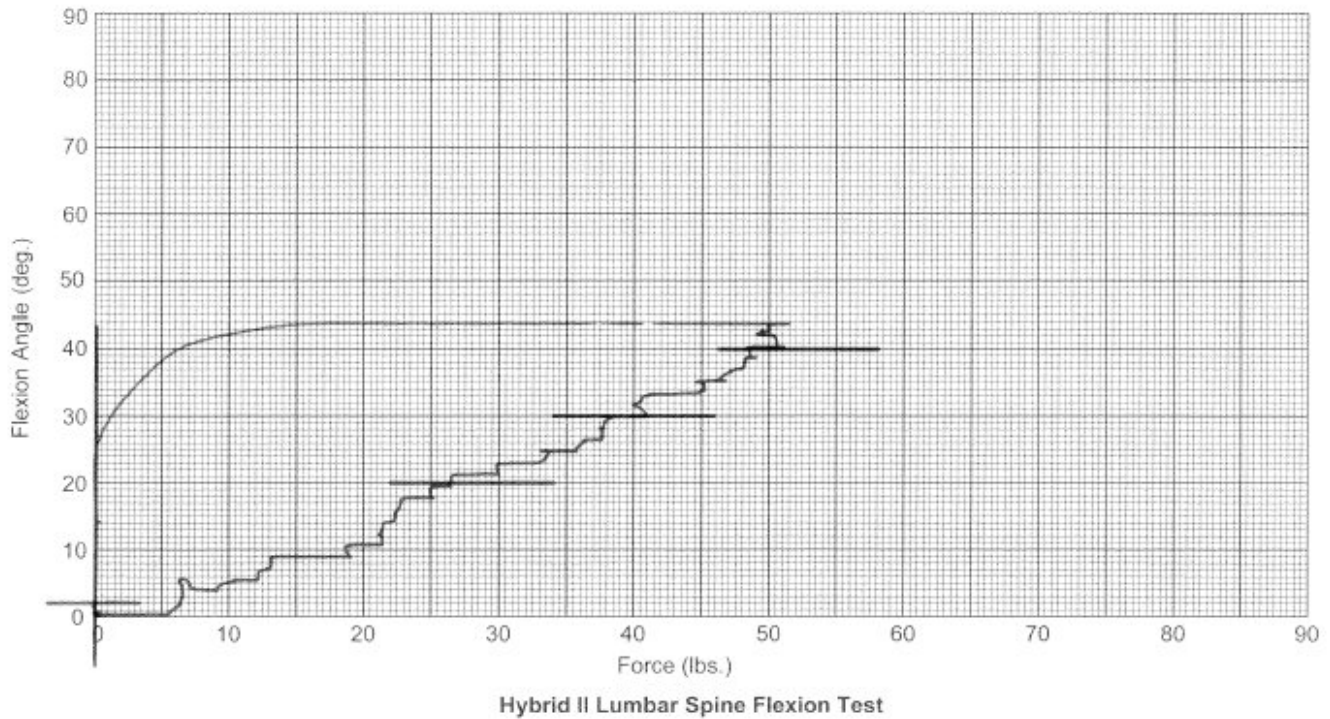
LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.:	269	Sequential Test Number:	4
Date:	March 4, 2004	Laboratory Technician:	B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	183.5
FORCE @ 40° (N)	204.6 - 258	229.1
RETURN ANGLE	12° max.	2°

REMARKS: None



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 4
Date: March 4, 2004 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

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: 4
Date: March 4, 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: 4
Date: March 4, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	506
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	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	376

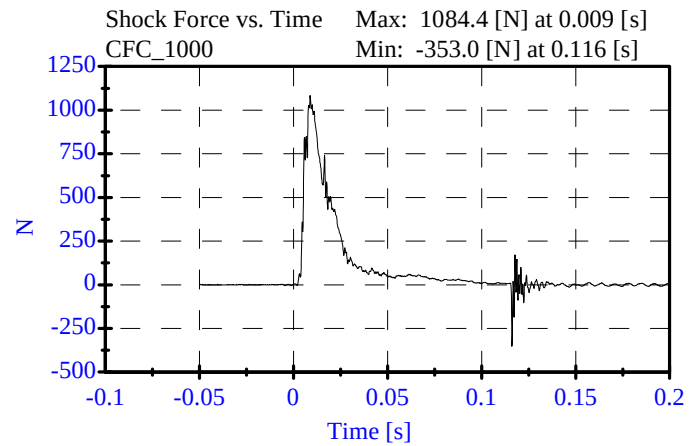
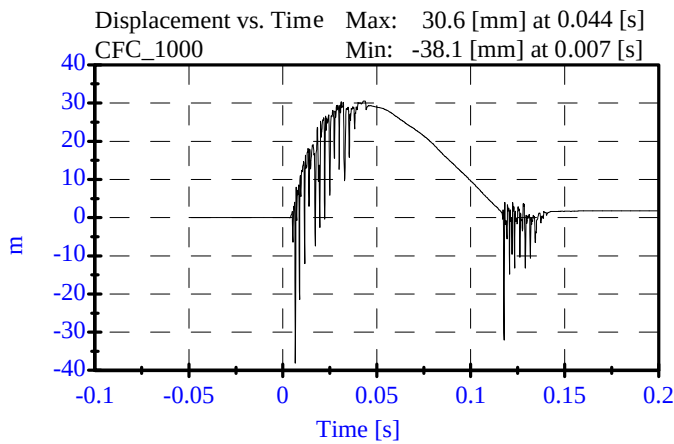
REMARKS: None

SID SHOCK LOW (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: July 15, 2003

Sequential Test Number: 1 File: 270SL2 7-15-03
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 %	27.00 %	Passed
Displacement:	30.00-35.00 mm	30.58 mm	Passed
Maximum Force:	836.00-1125.00 N	1084.44 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		

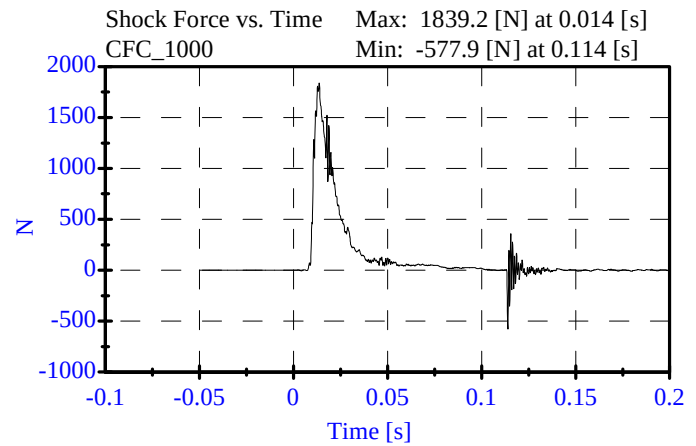
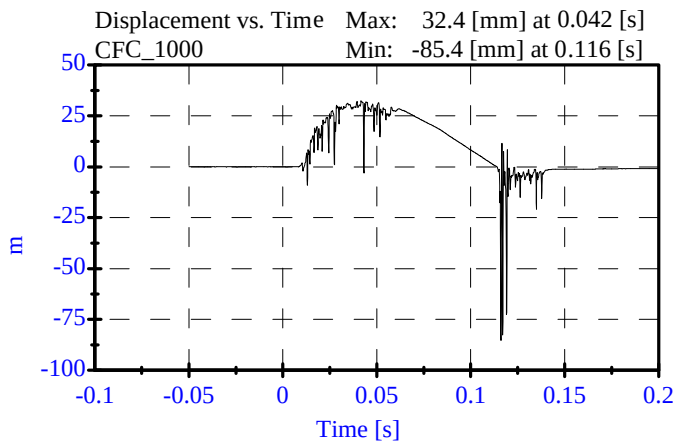


SID SHOCK MED (4.27 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: July, 15, 2003

Sequential Test Number: 1 File: 270SM2 7-15-03
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 %	27.00 %	Passed
Displacement:	32.00-37.00 mm	32.36 mm	Passed
Maximum Force:	1730.00-2099.00 N	1839.24 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock - High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

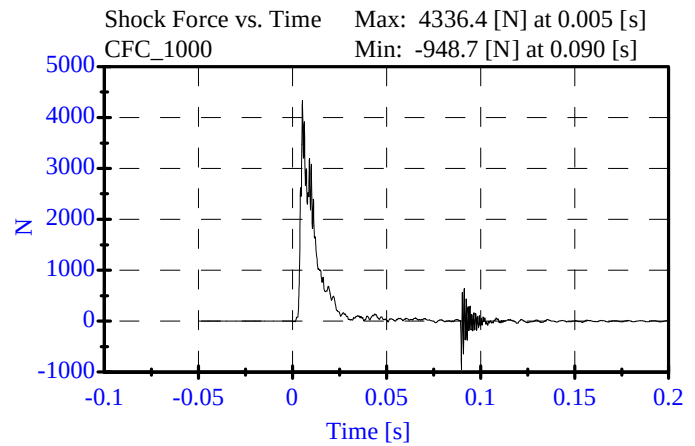
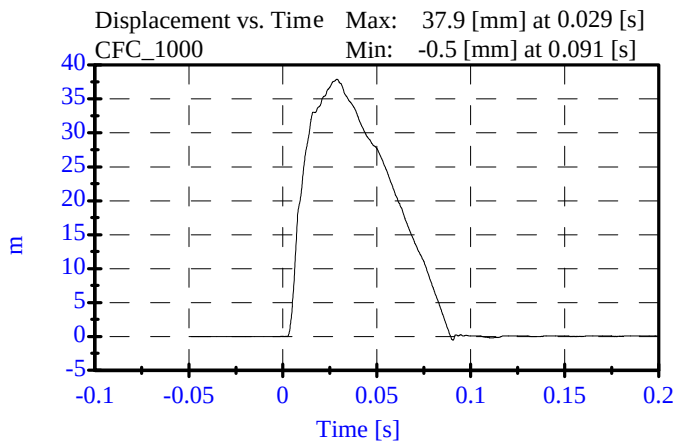
ATD Serial No: 270

Date: July 15, 2003

Sequential Test Number: 1 File: 270SH1 7-15-03

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 %	27.00 %	Passed
Displacement:	33.00-40.00 mm	37.86 mm	Passed
Maximum Force:	3741.00-4448.00 N	4336.39 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		

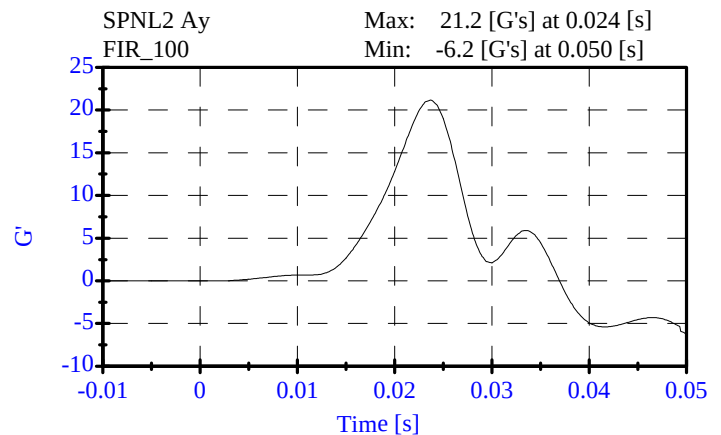
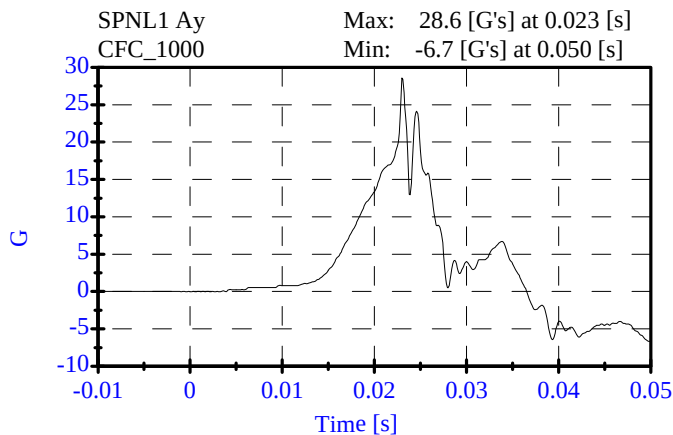
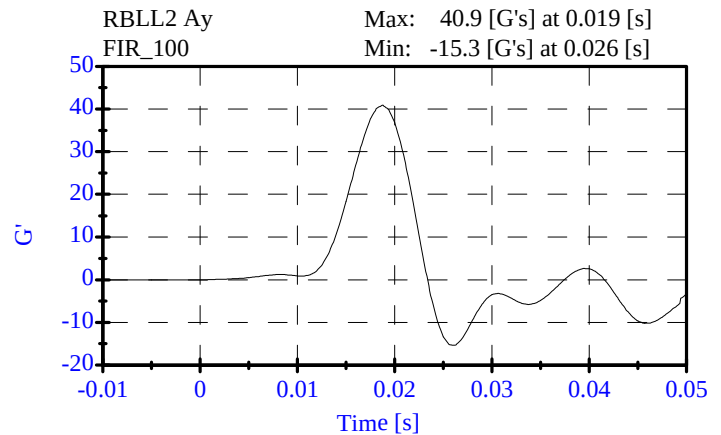
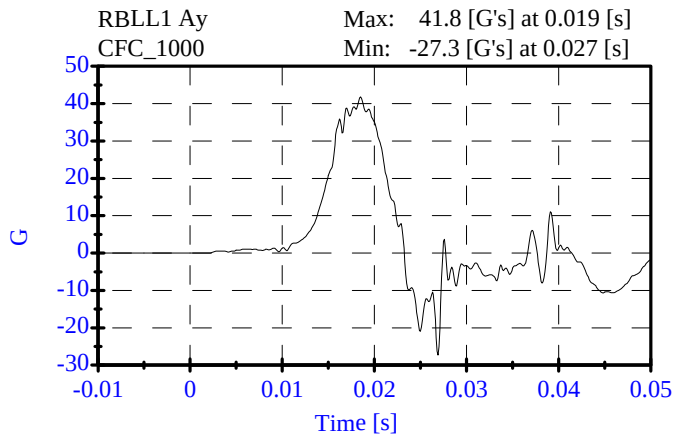
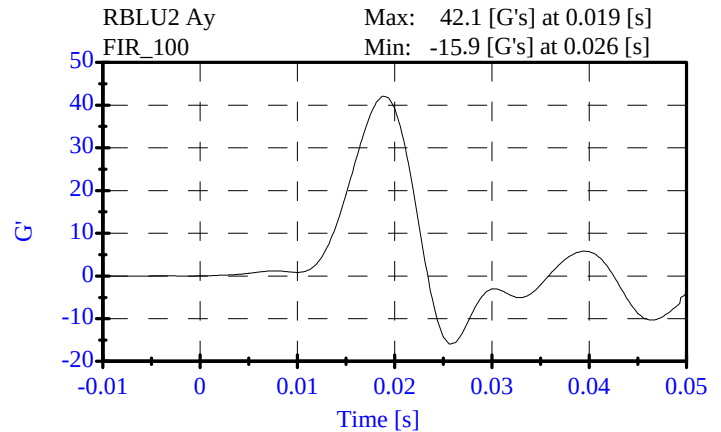
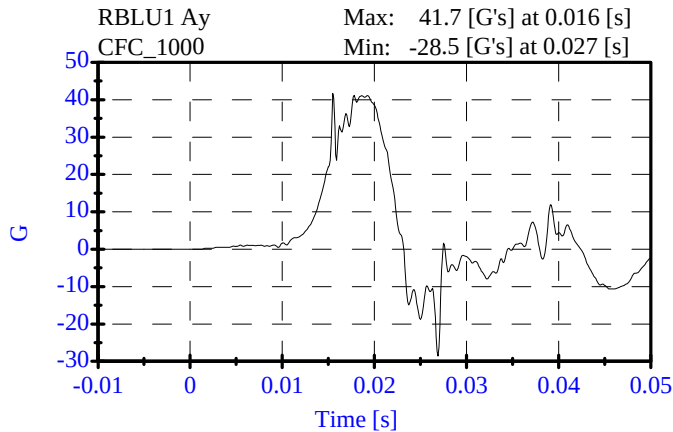


Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: March 4, 2004

Sequential Test Number: 1 File: 270T 03-04-04
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 %	33.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	42.11 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.88 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.18 G's	Passed



Pelvic Impact

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

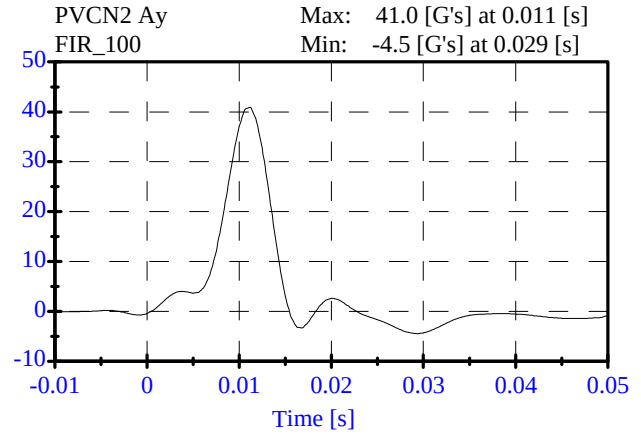
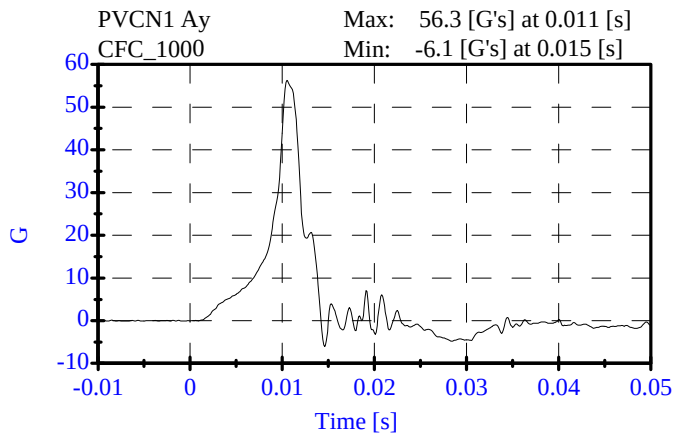
ATD Serial No: 270

Date: March 3, 2004

Sequential Test Number: 1 File: 270P1 03-03-04

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 %	38.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	40.96 G's	Passed



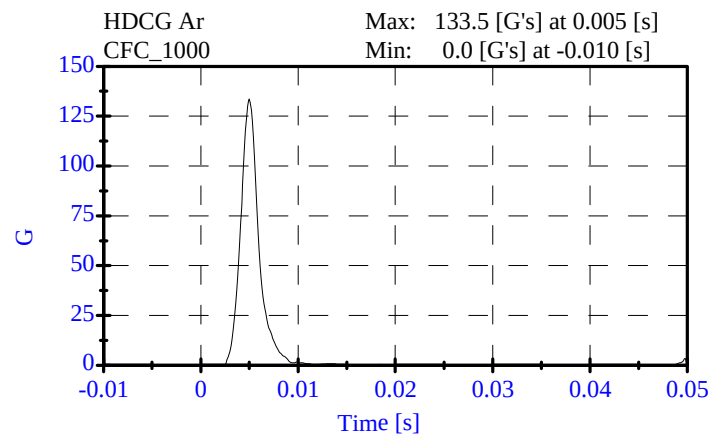
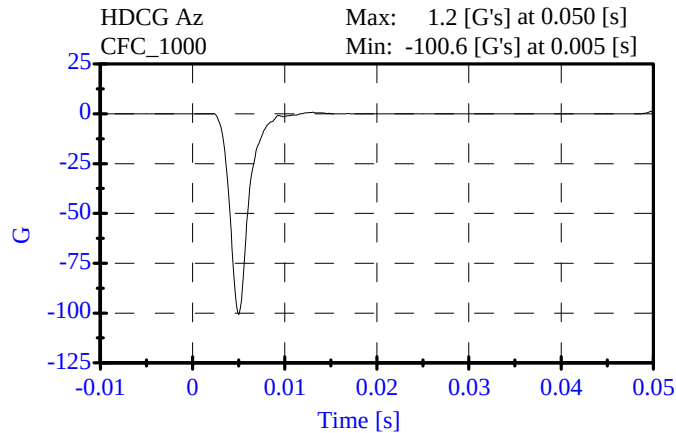
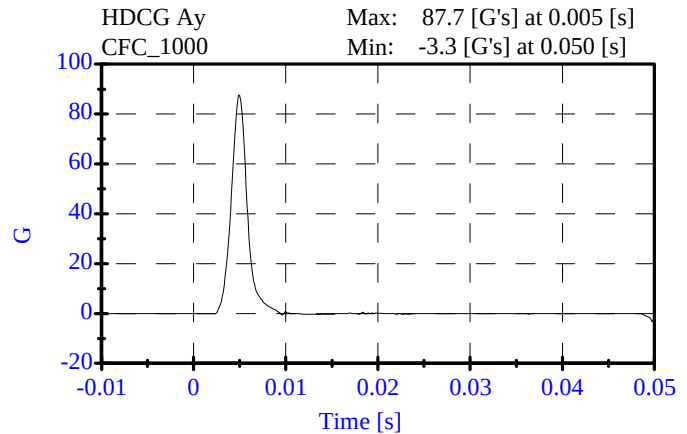
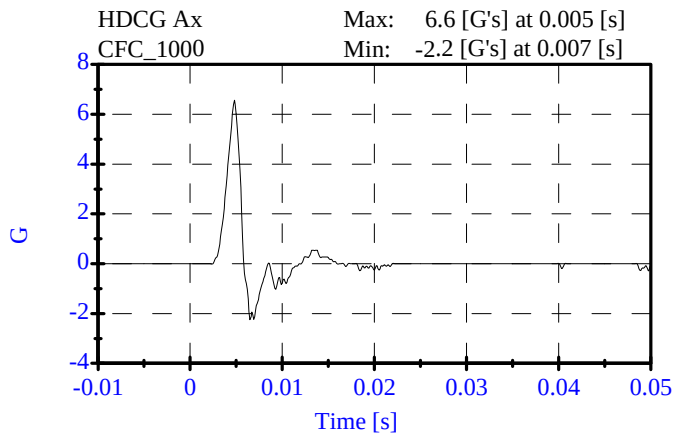
Head Drop Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: March 2, 2004

Sequential Test Number: 1 File: 270H1 03-02-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	133.47 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	6.56 Gs	Passed
Curve PerCent NonModal:	< 15%	2.62 %	Passed



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

ATD Serial No: 270

Date: March 3, 2004

Sequential Test Number: 1 File: 270N 03-03-04

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 %	38.00 %	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	2.08 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.23 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.07 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.08 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	64.0-78.0 Deg	74.58 Deg	Passed
Rotation Angle Decay:	50.0-70.0 ms	63.20 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	88.00-108.00 N-m	88.27 N-m	Passed
Occipital Moment Decay:	40.0-60.0 ms	55.70 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	0.0-20.0 ms	8.40 ms	Passed

Neck Test
Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

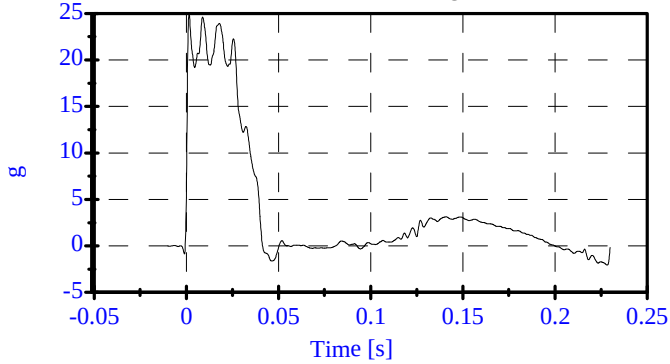
ATD Serial No: 270

Date: March 3, 2004

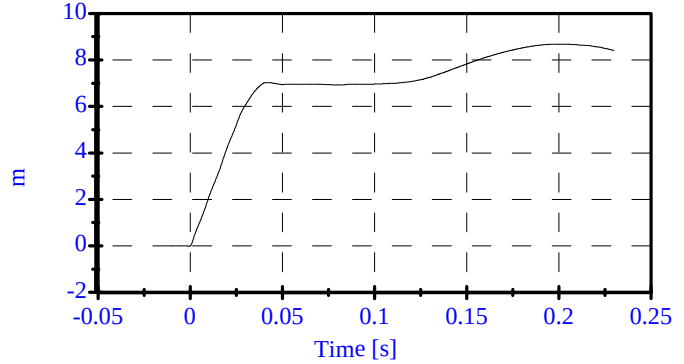
Sequential Test Number: 1 File: 270N 03-03-04

Laboratory Technician: B. Swiecicki

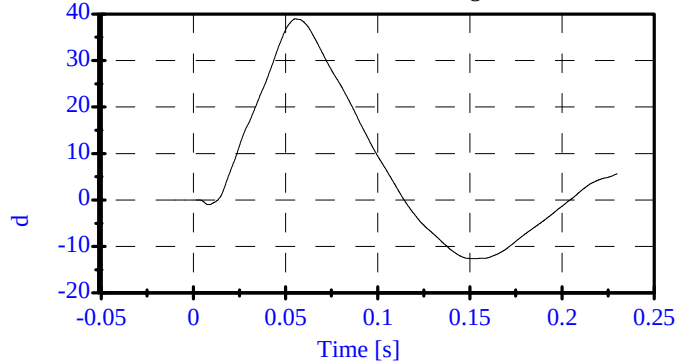
Pend Ax
CFC_180
Max: 24.9 [g's] at 0.002 [s]
Min: -2.1 [g's] at 0.228 [s]



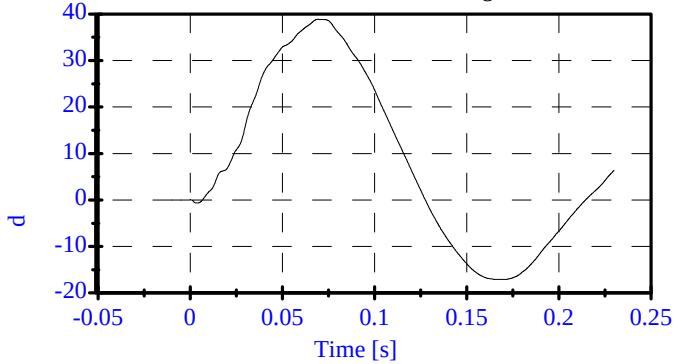
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at -0.001 [s]



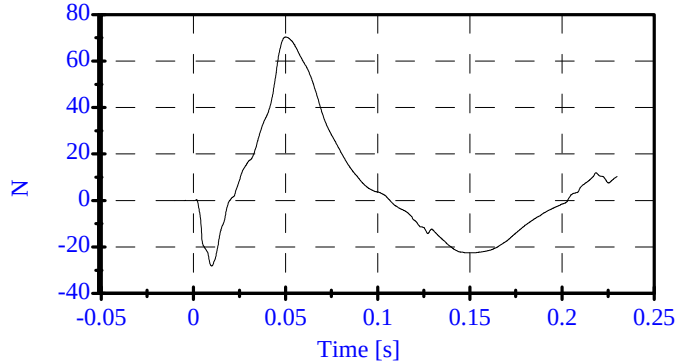
Head Rot
CFC_180
Max: 38.9 [degrees] at 0.055 [s]
Min: -12.6 [degrees] at 0.151 [s]



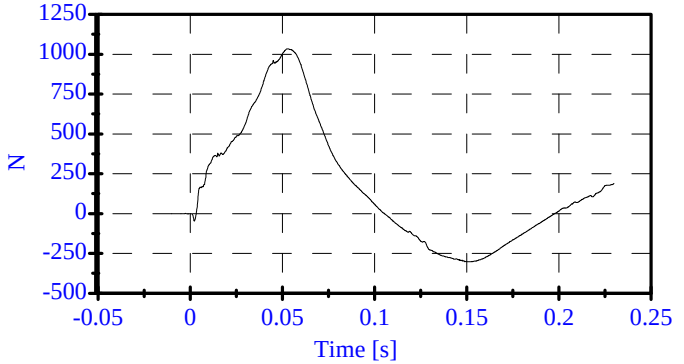
Arm Rot
CFC_180
Max: 38.9 [degrees] at 0.069 [s]
Min: -17.1 [degrees] at 0.166 [s]



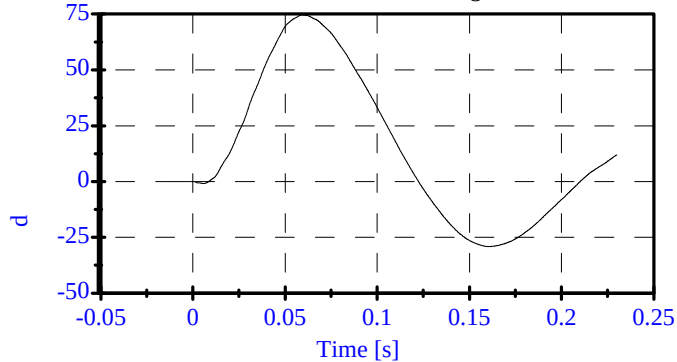
Neck Mx
CFC_600
Max: 70.3 [N-m] at 0.050 [s]
Min: -28.2 [N-m] at 0.010 [s]



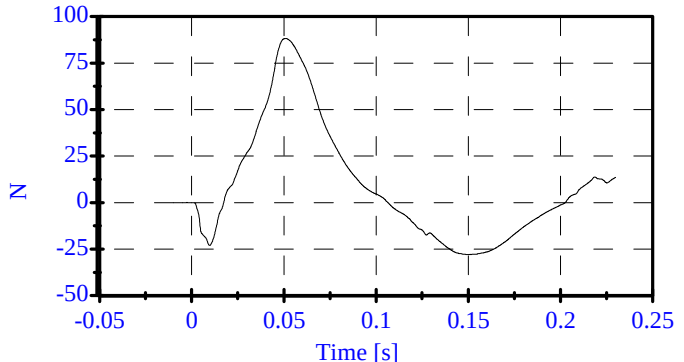
Neck Fy
CFC_1000
Max: 1035.0 [N] at 0.053 [s]
Min: -302.2 [N] at 0.151 [s]



Tot Rot
CFC_180
Max: 74.6 [degrees] at 0.059 [s]
Min: -29.1 [degrees] at 0.160 [s]



Mocy
Max: 88.3 [N-m] at 0.051 [s]
Min: -27.9 [N-m] at 0.149 [s]



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

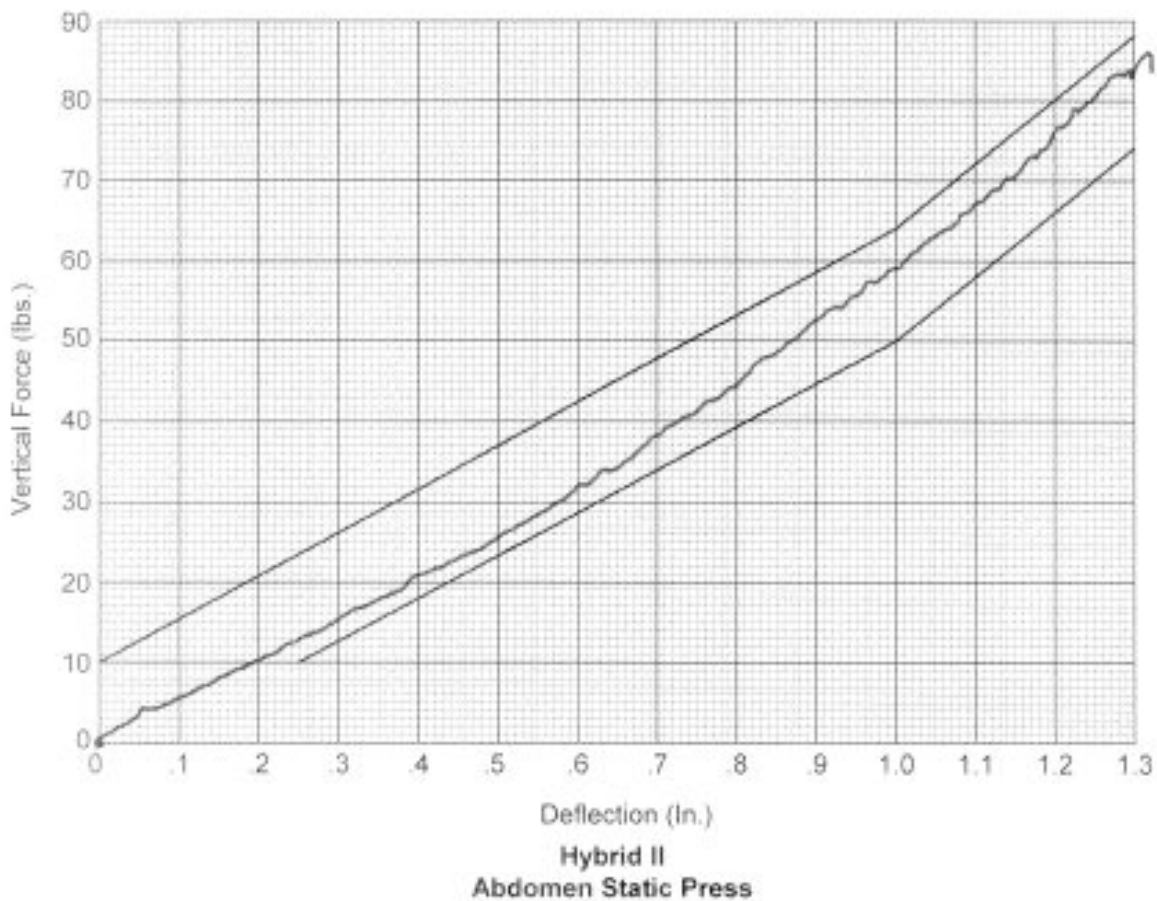
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.:	<u>270</u>	Sequential Test Number:	<u>4</u>
Date:	<u>March 4, 2004</u>	Laboratory Technician:	<u>B. Swiecicki</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0
FORCE @ 13 mm (N)	104 - 162	117.9
FORCE @ 19 mm (N)	163 - 221	182.4
FORCE @ 25 mm (N)	222 - 280	262.4
FORCE @ 33 mm (N)	325 - 391	373.7

REMARKS: None



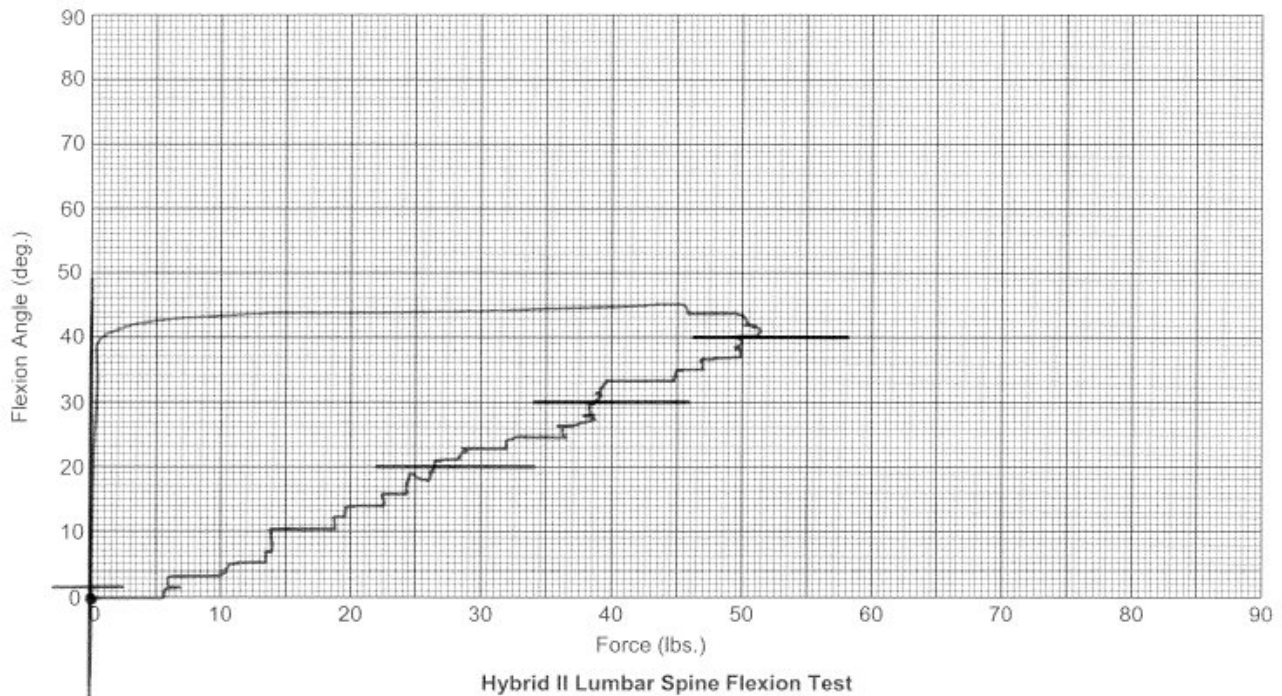
LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270	Sequential Test Number: 4	
Date: March 4, 2004	Laboratory Technician: B. Swiecicki	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	38.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	170.1
FORCE @ 40° (N)	204.6 - 258	228.0
RETURN ANGLE	12° max.	1.75°

REMARKS: None



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 4
Date: March 4, 2004 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.: 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: 5
Date: March 10, 2004 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: 5
Date: March 10, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
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	371

REMARKS: None

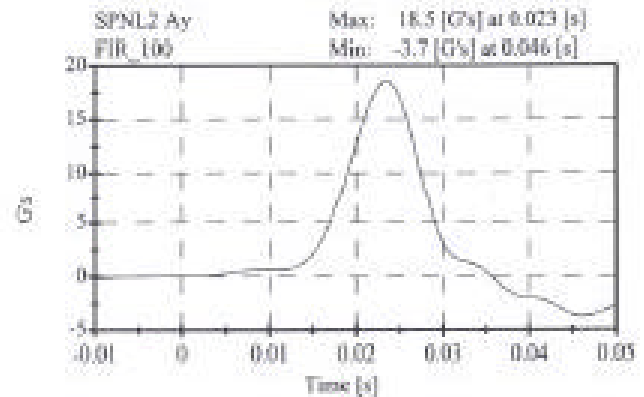
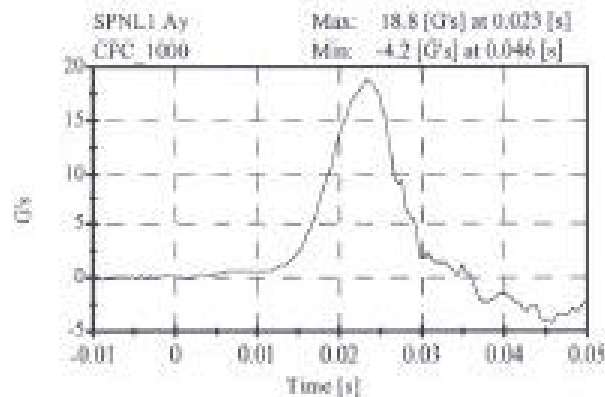
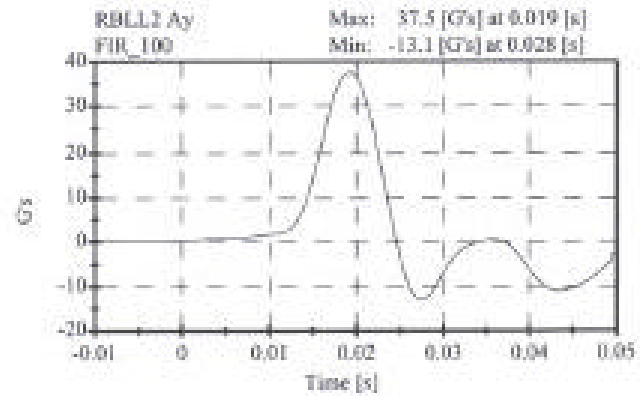
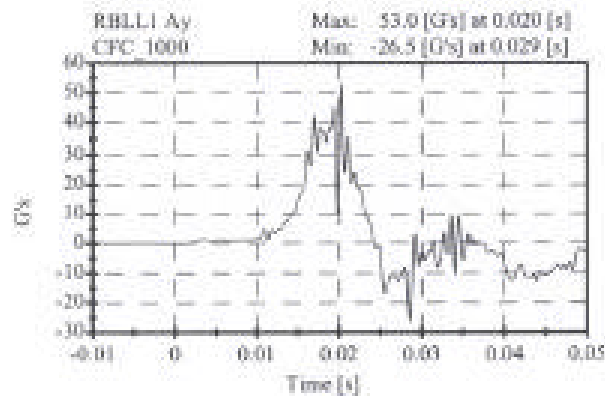
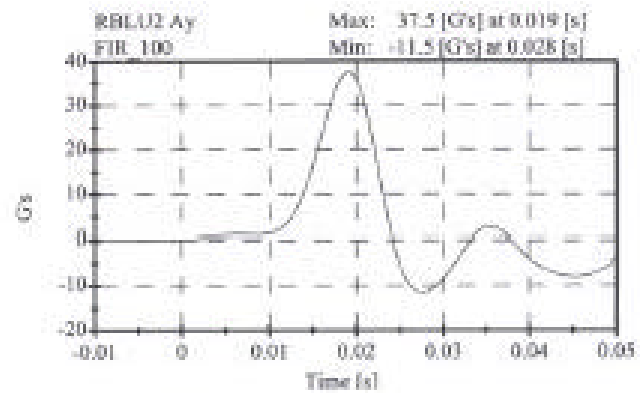
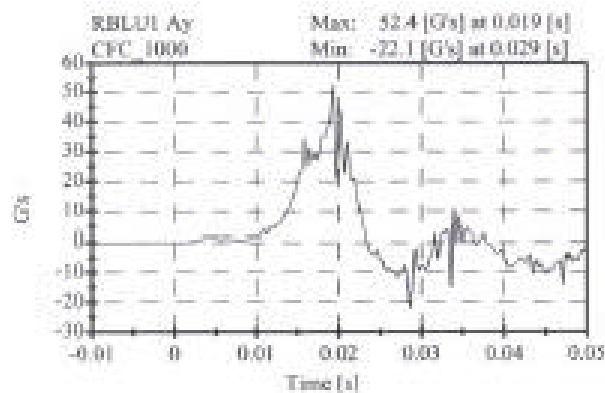
THORAX IMPACT POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-09-04

Sequential Test Number: 1 File: 269T 03-09-04
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 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	37.48 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.55 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.49 G's	Passed



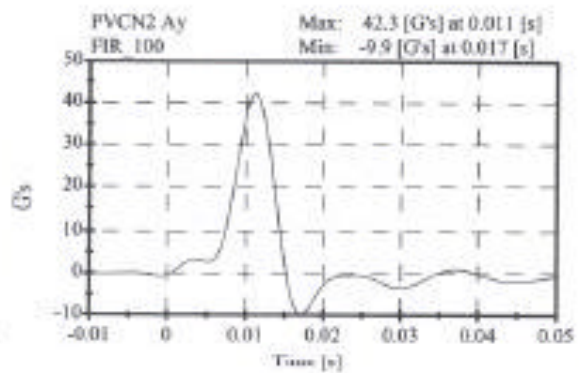
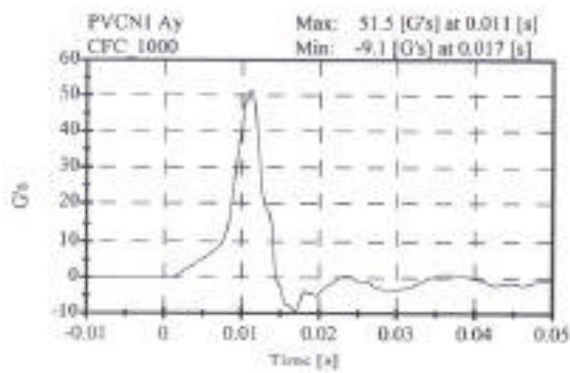
PELVIC IMPACT POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-09-04

Sequential Test Number: 1 File: 269P1 03-09-04
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 %	35.00 %	Passed
Probe Velocity:	4.27-4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	42.26 G's	Passed



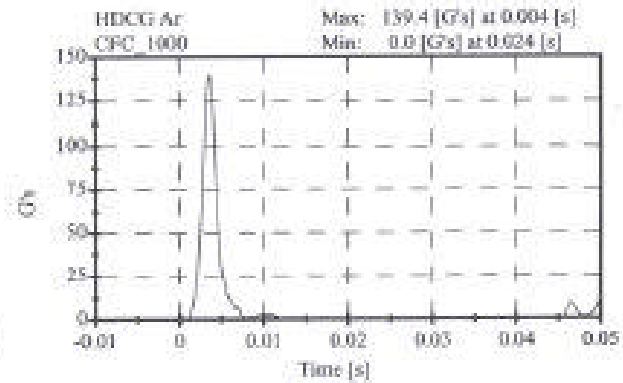
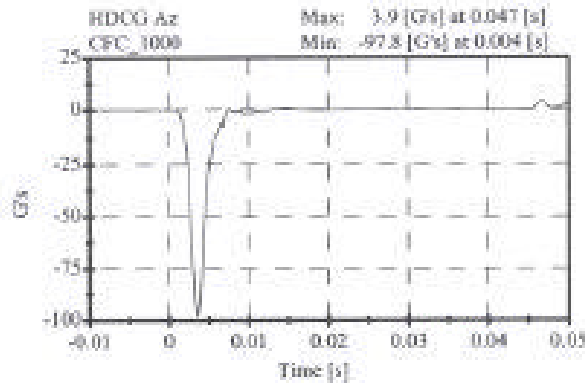
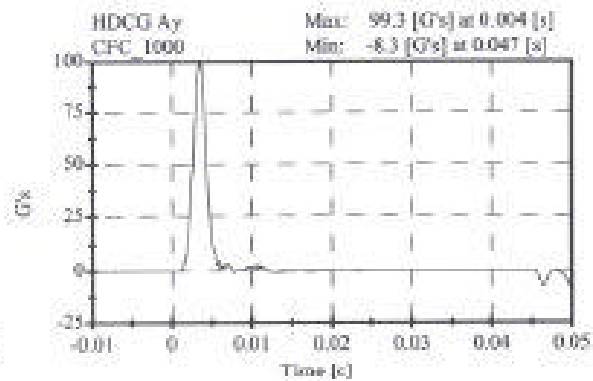
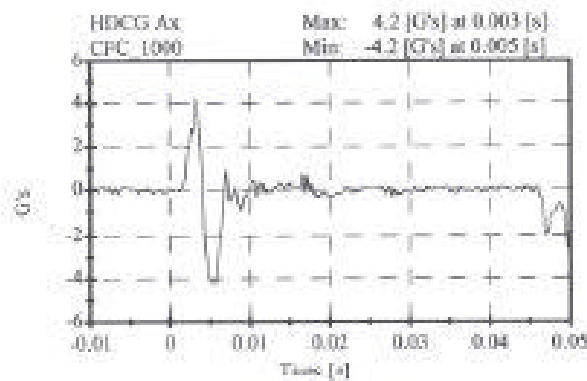
HEAD DROP POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-09-04

Sequential Test Number: 1 File: 269H1 03-09-04
Laboratory Technician: B. Swieciecki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel:	120-150 Gs	139.40 Gs	Passed
Peak Lateral Accel:	15 Gs Max	4.21 Gs	Passed
Curve PerCent NonModal:	< 15%	6.57 %	Passed



**NECK TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 03-09-04

Sequential Test Number: 1 File: 269N 03-09-04
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	7.09 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.18 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.45 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.20 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.02 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	64.0-78.0 Deg	74.99 Deg	Passed
Rotation Angle Decay:	50.0-70.0 ms	61.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	88.00-108.00 N-m	89.38 N-m	Passed
Occipital Moment Decay:	40.0-60.0 ms	55.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	0.0-20.0 ms	10.00 ms	Passed

NECK TEST POST TEST

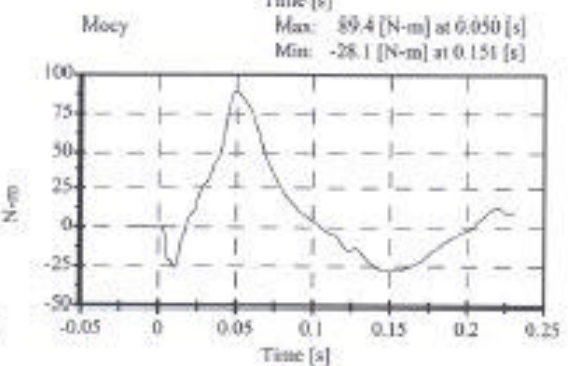
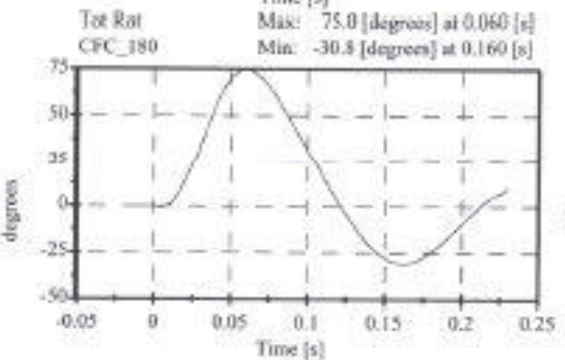
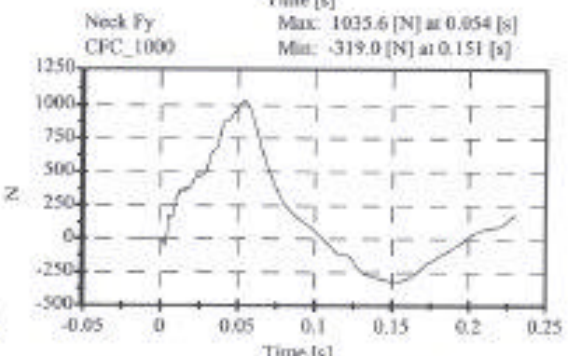
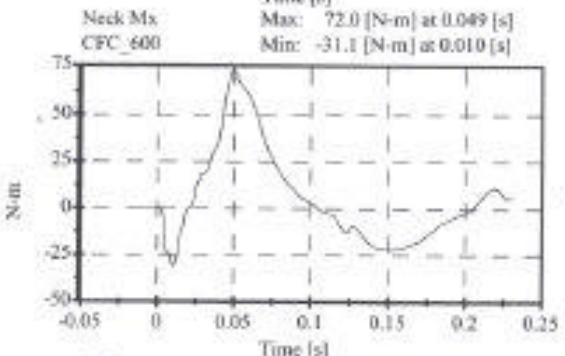
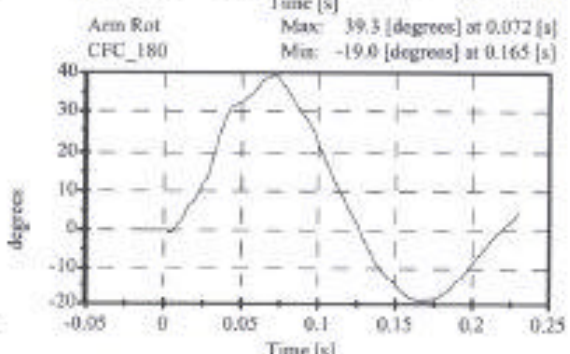
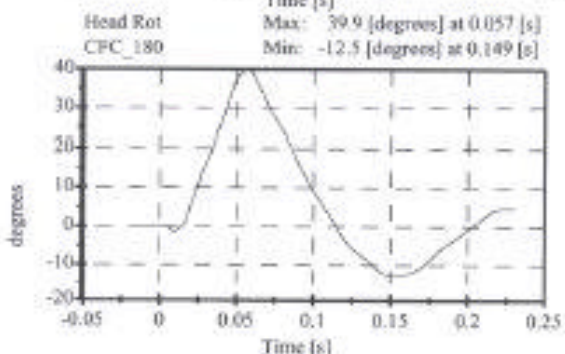
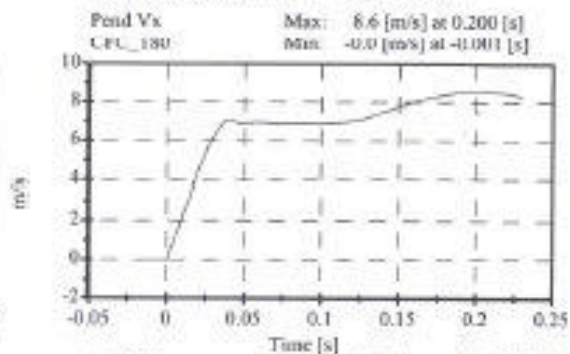
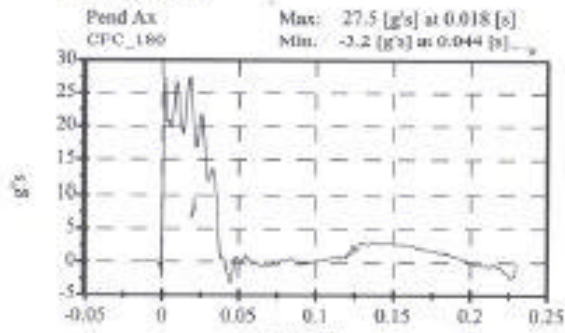
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

Date: 03-09-04

Sequential Test Number: 1 File: 269N 03-09-04

Laboratory Technician: B. Swiecicki



**ABDOMINAL COMPRESSION TEST
POST TEST**

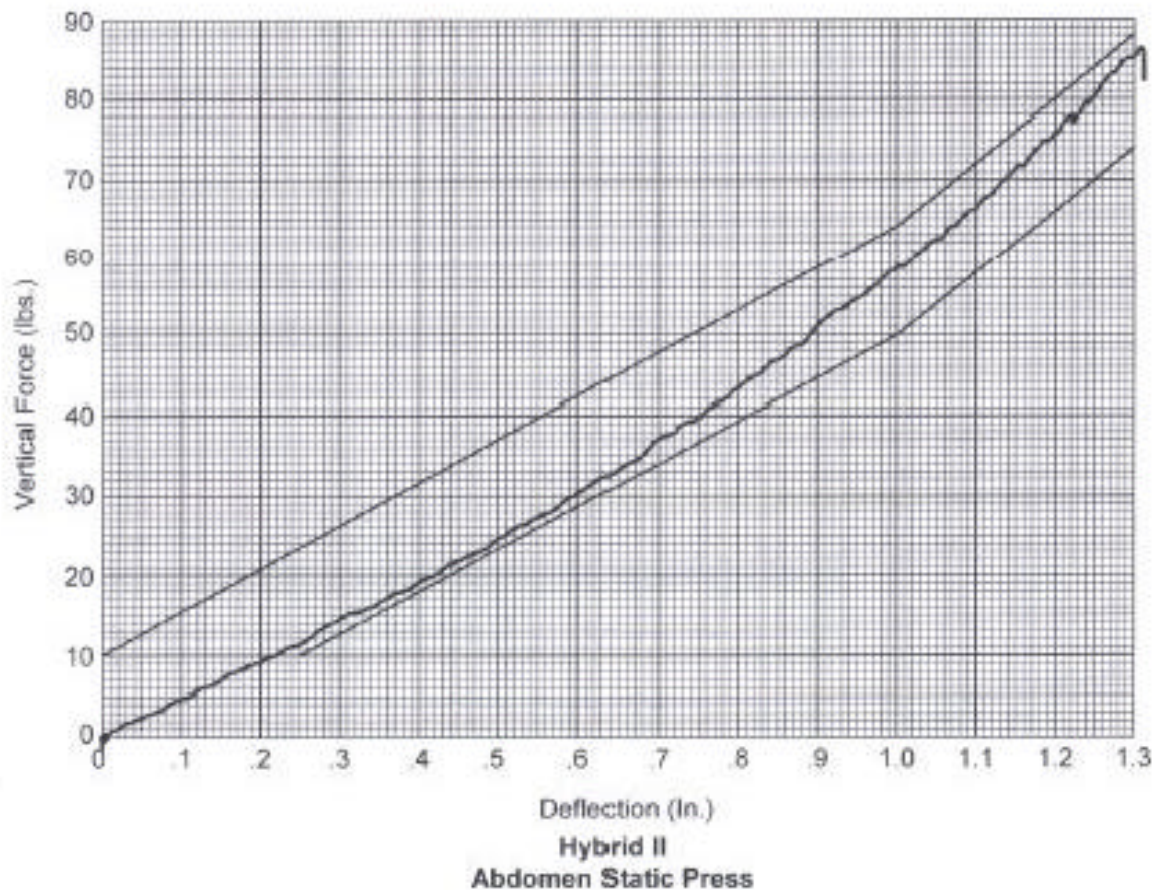
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: <u>269</u>	Sequential Test Number: <u>5</u>	
Date: <u>March 10, 2004</u>	Laboratory Technician: <u>B. Swiecicki</u>	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 13 mm (N)	104 - 162	111.2
FORCE @ 19 mm (N)	163 - 221	117.9
FORCE @ 25 mm (N)	222 - 280	261.1
FORCE @ 33 mm (N)	325 - 391	378.1

REMARKS: None



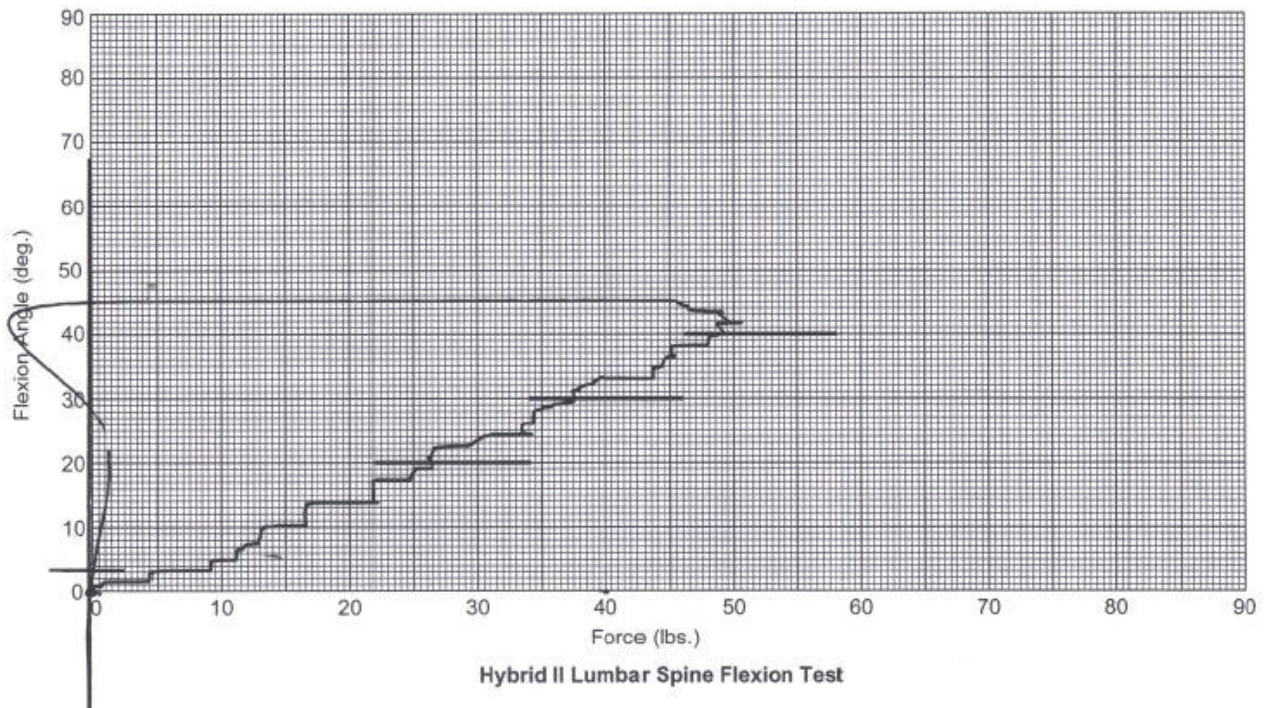
LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 5	
Date: March 10, 2004	Laboratory Technician: B. Swiecicki	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	166.8
FORCE @ 40° (N)	204.6 - 258	219.3
RETURN ANGLE	12° max.	3°

REMARKS: None



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 5
Date: March 10, 2004 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: 5
Date: March 10, 2004 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: 5
Date: March 10, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	506
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	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	376

REMARKS: None

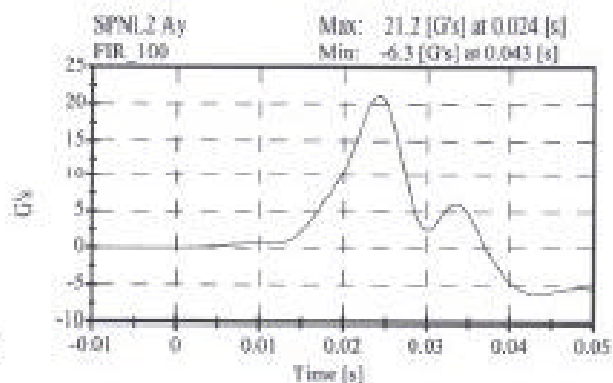
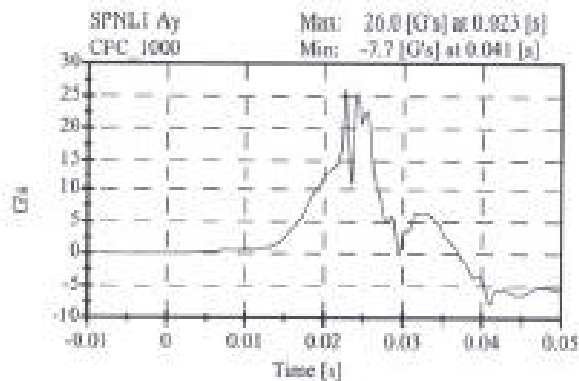
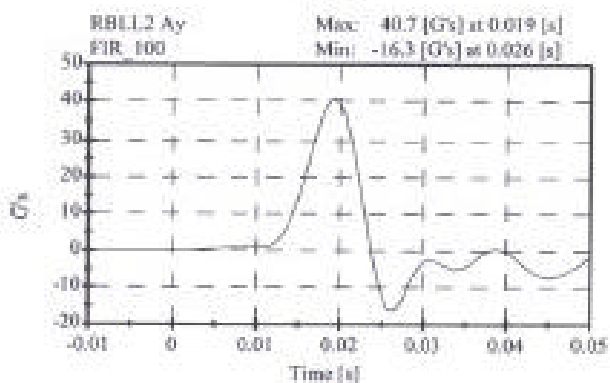
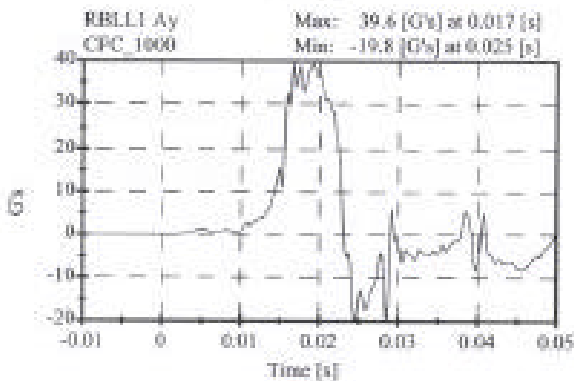
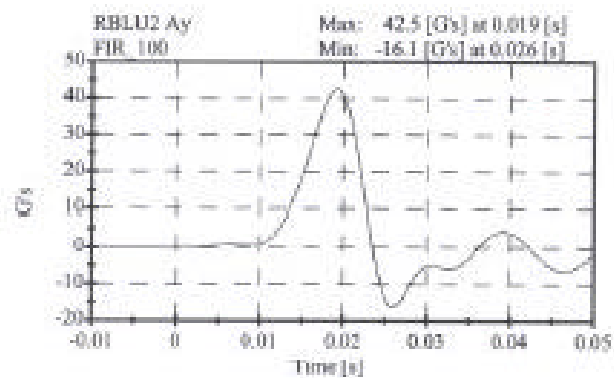
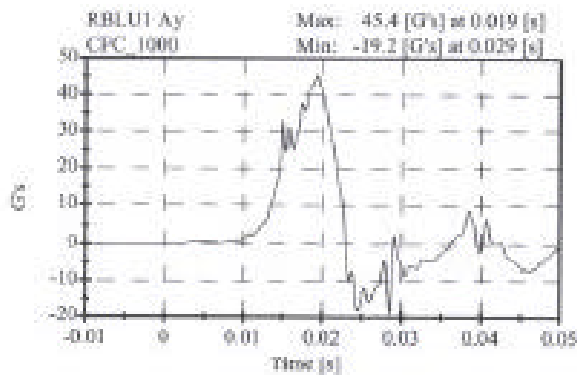
THORAX IMPACT POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 03-09-04

Sequential Test Number: 1 File: 270T 03-09-04
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 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.31 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	42.46 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	40.68 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.19 G's	Passed



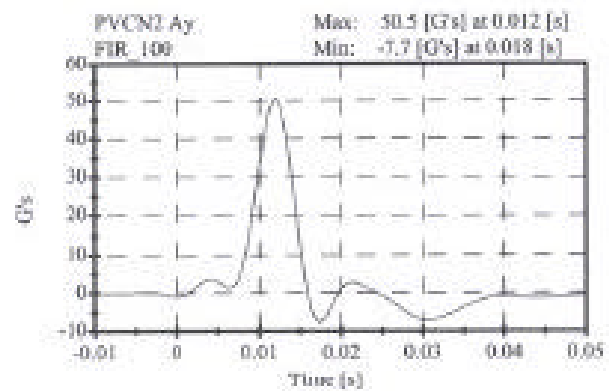
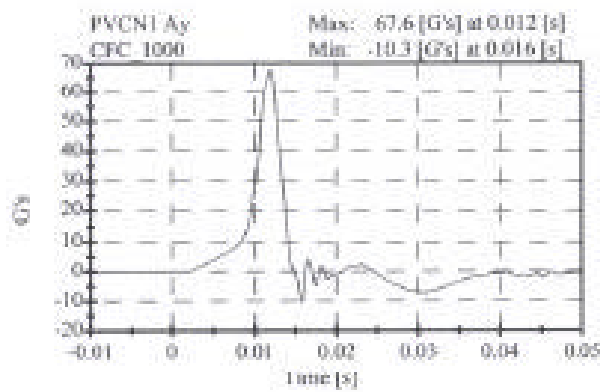
PELVIC IMPACT POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 03-09-04

Sequential Test Number: 1 File: 270P 03-09-04
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 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	50.52 G's	Passed



HEAD DROP POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

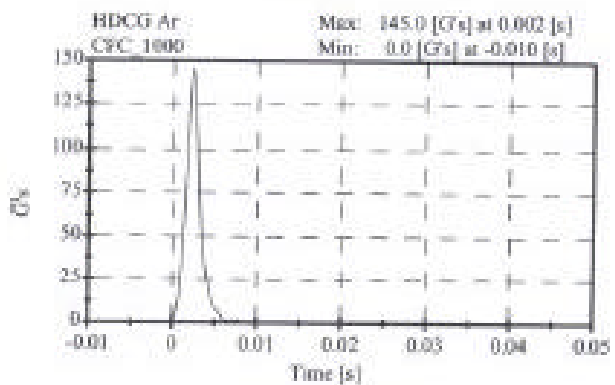
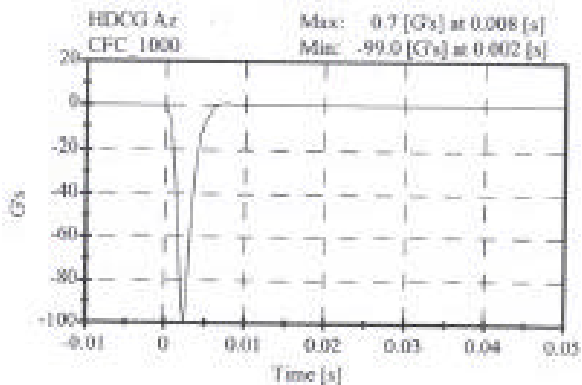
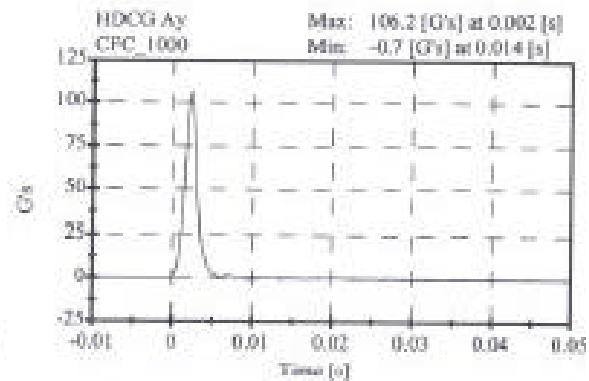
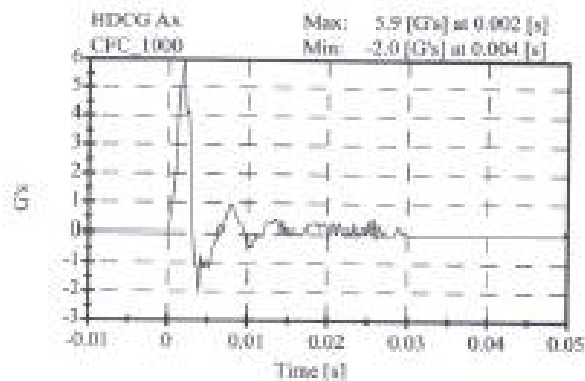
ATD Serial No: 270

Date: 03-09-04

Sequential Test Number: 1 File: 270H 03-09-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	20.6-22.2 °C	21.1 °C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	145.04 Gs	Passed
Peak Lateral Accel.:	15 Gs Max.	5.93 Gs	Passed
Curve PerCent NonModal:	< 13%	1.16 %	Passed



NECK TEST POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

Date: 03-09-04

Sequential Test Number: 1 File: 270N 03-09-04

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	6.90 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.12 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.29 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.06 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.05 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	64.0-78.0 Deg	75.31 Deg	Passed
Rotation Angle Decay:	50.0-70.0 ms	61.30 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	88.00-108.00 N-m	88.51 N-m	Passed
Occipital Moment Decay:	40.0-60.0 ms	53.70 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	0.0-20.0 ms	8.40 ms	Passed

NECK TEST POST TEST

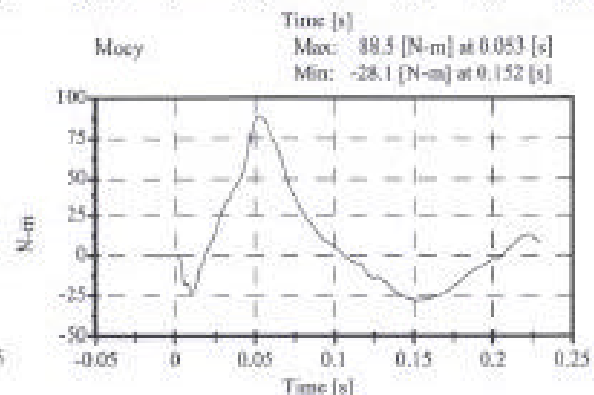
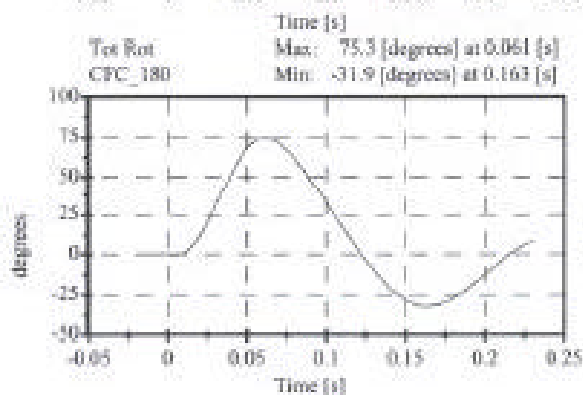
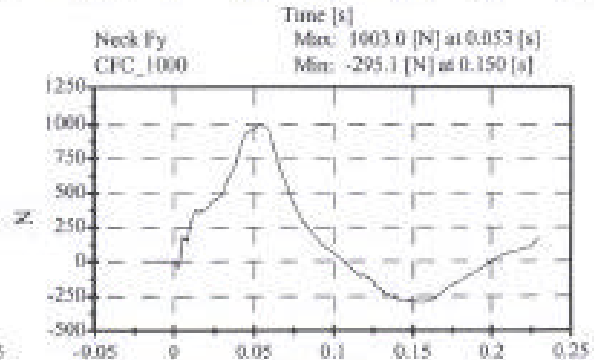
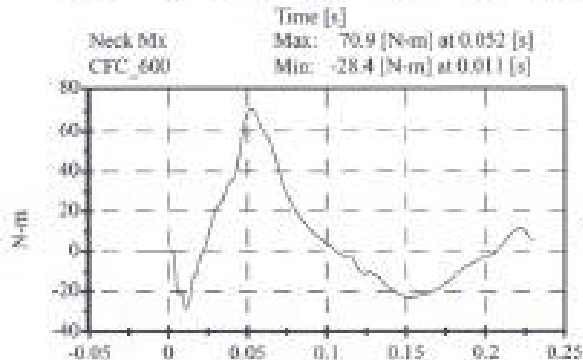
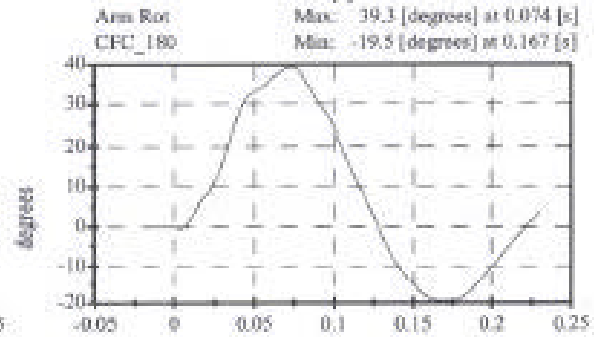
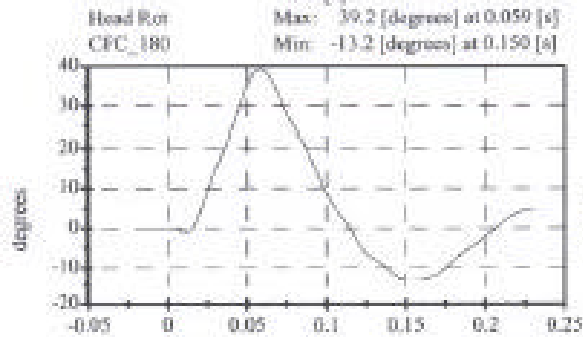
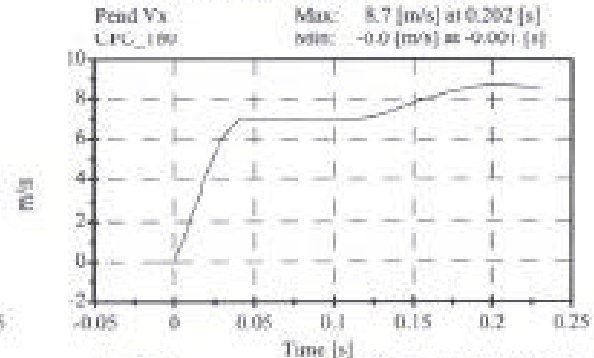
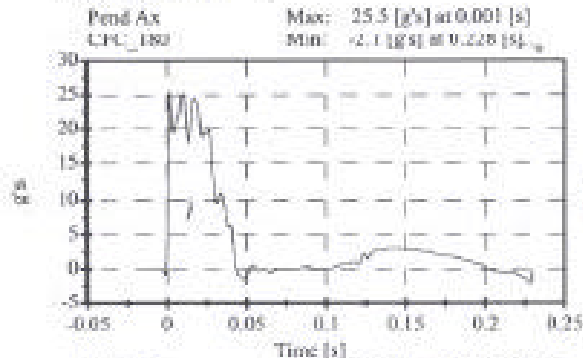
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

Date: 03-09-04

Sequential Test Number: 1 File: 270N 03-09-04

Laboratory Technician: B. Swiecicki



**ABDOMINAL COMPRESSION TEST
POST TEST**

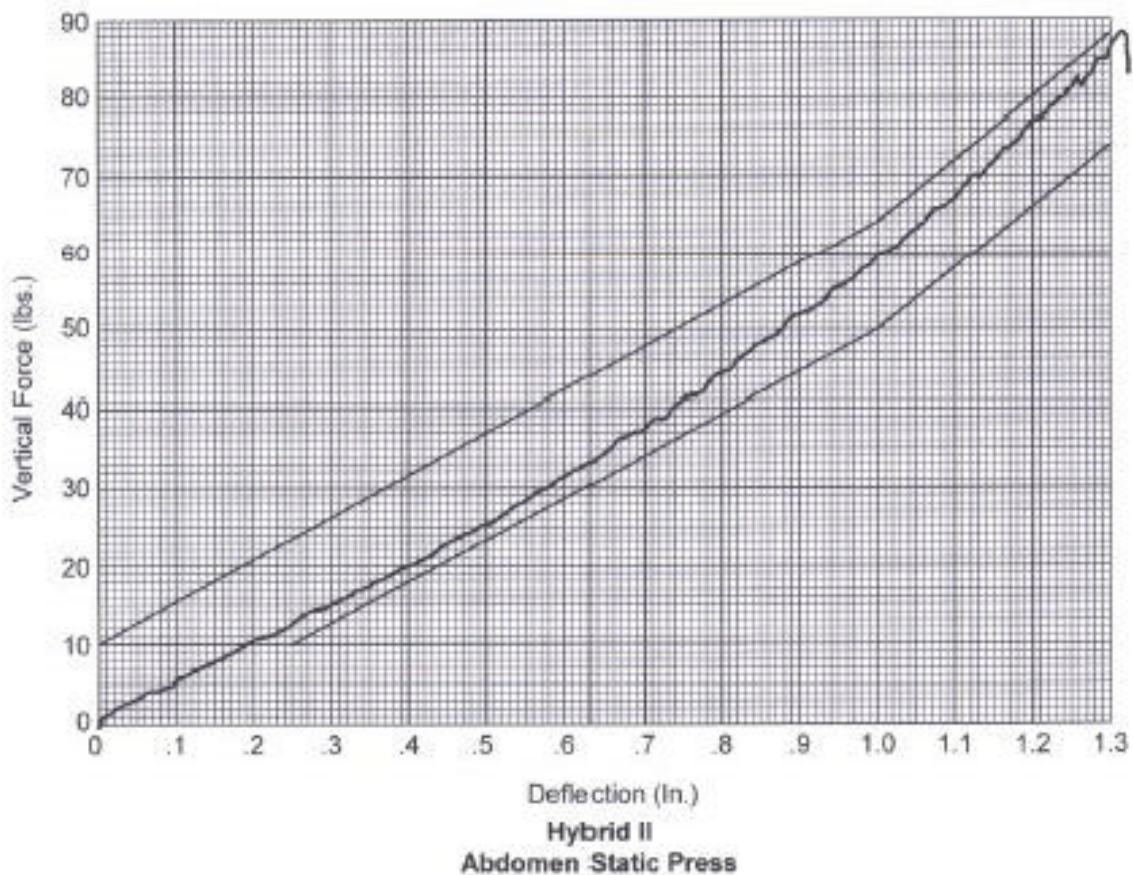
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.:	<u>270</u>	Sequential Test Number:	<u>5</u>
Date:	<u>March 10, 2004</u>	Laboratory Technician:	<u>B. Swiecicki</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 13 mm (N)	104 - 162	114.8
FORCE @ 19 mm (N)	163 - 221	183.3
FORCE @ 25 mm (N)	222 - 280	264.7
FORCE @ 33 mm (N)	325 - 391	385.7

REMARKS: None



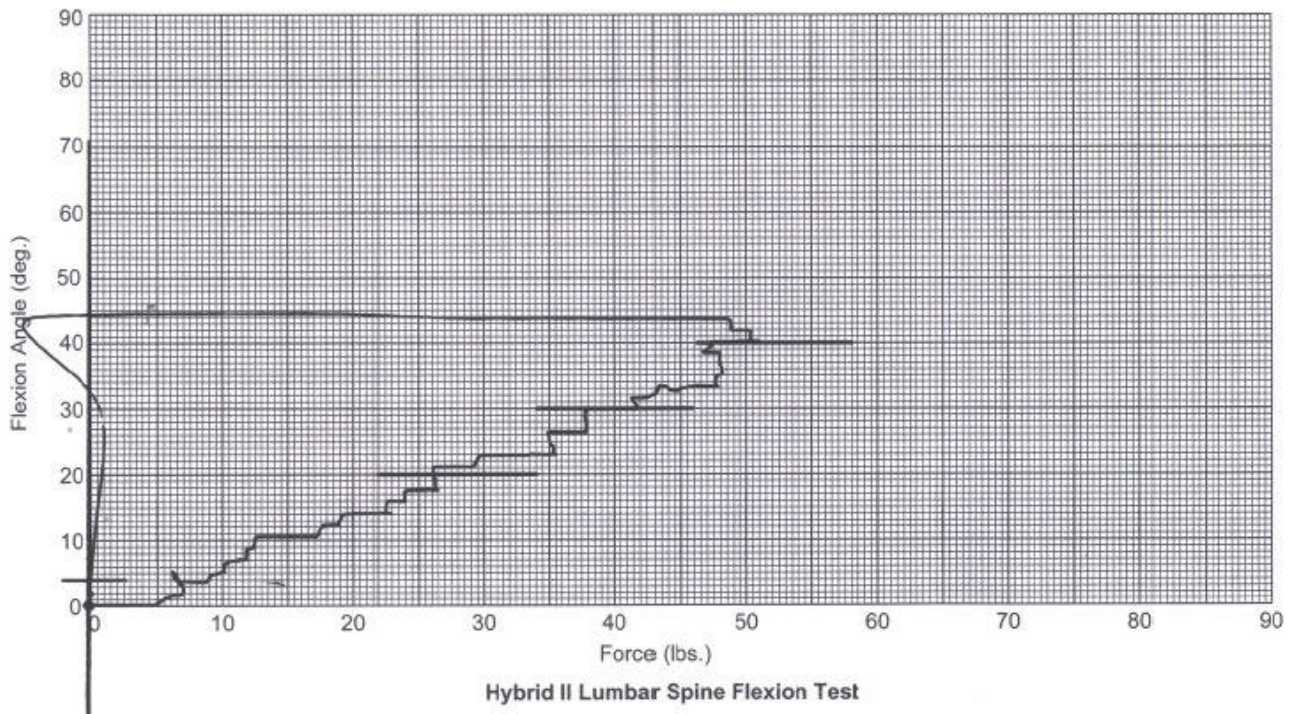
LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 5
Date: March 10, 2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	115.7
FORCE @ 30° (N)	151.2 - 204.6	185.9
FORCE @ 40° (N)	204.6 - 258	224.2
RETURN ANGLE	12° max.	4°

REMARKS: None



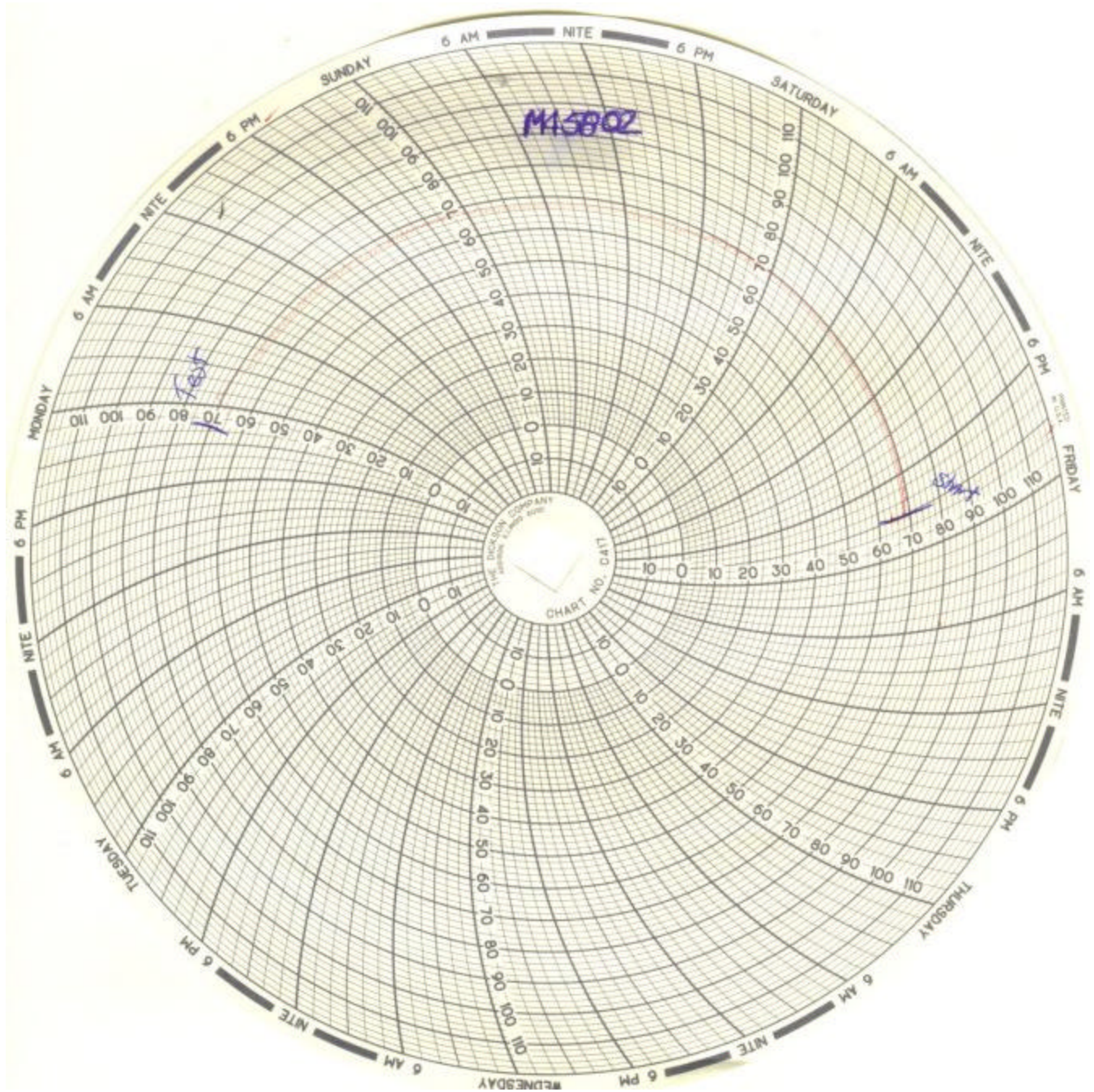
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 5
Date: March 10, 2004 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-P23161	ENDEVCO	11-Sep-03
HEAD AY	AC-P24011	ENDEVCO	18-Sep-03
HEAD AZ	AC-P19111	ENDEVCO	11-Sep-03
UPPER NECK FX	LC-440Fx	DENTON	18-Jun-03
UPPER NECK FY	LC-440Fy	DENTON	18-Jun-03
UPPER NECK FZ	LC-440Fz	DENTON	18-Jun-03
UPPER NECK MX	LC-440Mx	DENTON	18-Jun-03
UPPER NECK MY	LC-440My	DENTON	18-Jun-03
UPPER NECK MZ	LC-440Mz	DENTON	18-Jun-03
UPPER RIB	AC-P16862	ENDEVCO	16-Sep-03
LOWER RIB	AC-P16656	ENDEVCO	16-Sep-03
LOWER SPINE	AC-P16866	ENDEVCO	16-Sep-03
PELVIS	AC-P16676	ENDEVCO	16-Sep-03
UPPER RIB REDUNDANT	AC-P23156	ENDEVCO	16-Sep-03
LOWER RIB REDUNDANT	AC-P16645	ENDEVCO	16-Sep-03
LOWER SPINE REDUNDANT	AC-P19343	ENDEVCO	16-Sep-03
PELVIS REDUNDANT	AC-P16843	ENDEVCO	16-Sep-03

	REAR SID NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P23139	ENDEVCO	10-Sep-03
HEAD AY	AC-P13323	ENDEVCO	10-Sep-03
HEAD AZ	AC-P22943	ENDEVCO	10-Sep-03
UPPER NECK FX	LC-205Fx	DENTON	18-Jun-03
UPPER NECK FY	LC-205Fy	DENTON	18-Jun-03
UPPER NECK FZ	LC-205Fz	DENTON	18-Jun-03
UPPER NECK MX	LC-205Mx	DENTON	18-Jun-03
UPPER NECK MY	LC-205My	DENTON	18-Jun-03
UPPER NECK MZ	LC-205Mz	DENTON	18-Jun-03
UPPER RIB	AC-P18524	ENDEVCO	17-Sep-03
LOWER RIB	AC-P18533	ENDEVCO	17-Sep-03
LOWER SPINE	AC-P18514	ENDEVCO	17-Sep-03
PELVIS	AC-P18519	ENDEVCO	17-Sep-03
UPPER RIB REDUNDANT	AC-P18528	ENDEVCO	17-Sep-03
LOWER RIB REDUNDANT	AC-P18518	ENDEVCO	17-Sep-03
LOWER SPINE REDUNDANT	AC-P18688	ENDEVCO	17-Sep-03
PELVIS REDUNDANT	AC-P18531	ENDEVCO	17-Sep-03

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-J37854	ENDEVCO	22-Sep-03
RIGHT FRONT SILL (Y)	AC-J37980	ENDEVCO	22-Sep-03
RIGHT FRONT SILL (Z)	AC-J38127	ENDEVCO	22-Sep-03
RIGHT REAR SILL (X)	AC-P23873	ENDEVCO	16-Jan-04
RIGHT REAR SILL (Y)	AC-P19246	ENDEVCO	16-Jan-04
RIGHT REAR SILL (Z)	AC-P18682	ENDEVCO	16-Jan-04
REAR FLOORPAN ABOVE AXLE (X)	AC-J33843	ENDEVCO	25-Sep-03
REAR FLOORPAN ABOVE AXLE (Y)	AC-J33198	ENDEVCO	24-Sep-03
REAR FLOORPAN ABOVE AXLE (Z)	AC-BB14	ENDEVCO	25-Sep-03
LEFT REAR SILL (Y)	AC-8083-028	ICS	11-Dec-03
LEFT FRONT SILL (Y)	AC-AN25	ENDEVCO	24-Feb-04
LEFT FRONT DOOR CENTERLINE (Y)	AC-9440-034	GS SENSORS	03-Dec-03
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-F53	ICS	01-Dec-03
MID REAR OF LEFT FRONT DOOR (Y)	AC-9440-011	GS SENSORS	01-Dec-03
LEFT FRONT DOOR UPPER C/L (Y)	AC-9440-017	GS SENSORS	01-Dec-03
MID REAR OF LEFT REAR DOOR (Y)	AC-9440-045	GS SENSORS	16-Dec-03
LEFT REAR DOOR UPPER C/L (Y)	AC-9440-039	GS SENSORS	03-Dec-03
LOWER LEFT B- PILLAR (Y)	AC-9450-039	GS SENSORS	06-Oct-03
MIDDLE LEFT B-PILLAR (Y)	AC-9440-006	GS SENSORS	16-Dec-03
LOWER LEFT A-PILLAR (Y)	AC-9440-024	GS SENSORS	02-Dec-03
UPPER LEFT A-PILLAR (Y)	AC-J31034	ENDEVCO	22-Jan-04
FRONT SEAT TRACK (Y)	AC-P17247	ENDEVCO	29-Sep-03
REAR SEAT TRACK (Y)	AC-8084-041	ICS	11-Dec-03
VEHICLE CG (X)	AC-P15747	ENDEVCO	24-Sep-03
VEHICLE CG (Y)	AC-P18525	ENDEVCO	18-Sep-03
VEHICLE CG (Z)	AC-P14438	ENDEVCO	24-Sep-03
MDB CG (X)	AC-C16433	ENDEVCO	12-Feb-04
MDB CG (Y)	AC-C16416	ENDEVCO	12-Feb-04
MDB CG (Z)	AC-C16499	ENDEVCO	12-Feb-04
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	12-Feb-04
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	12-Feb-04

REMARKS: None