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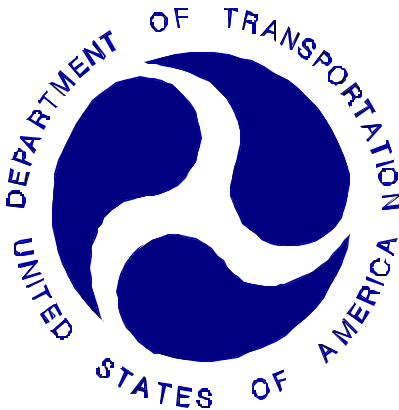
NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

GRACO SNUGRIDE WITH LATCH
SAFETY FIRST FORERUNNER WITH LATCH
2002 CADILLAC DEVILLE 4-DOOR SEDAN

NHTSA NUMBER: M20103

VERIDIAN ENGINEERING TEST NUMBER: 8642-NCAP-14

VERIDIAN ENGINEERING
TRANSPORTATION SCIENCES CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225



May 15, 2002

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

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Prepared By:

James Czarnecki, Project Engineer

Approved By:

David J. Travale, Program Manager
Transportation Sciences Center

Approval Date:

FINAL REPORT ACCEPTANCE BY:

Accepted By:

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15. Supplementary Notes			
16. Abstract A frontal load cell barrier test was conducted on the subject CRS's, GRACO Snugride With Latch and Safety First Forerunner with Latch in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness. This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on May 15, 2002.			
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SECTION 1

PURPOSE AND SUMMARY OF TEST M20103

The purpose of this test was to obtain CRS performance data in a frontal impact NCAP condition.

The 56.6 kph NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

SUMMARY

Both child dummies were instrumented with head, chest, and pelvic triaxial accelerometers. In addition, redundant head z acceleration, upper and lower six axial neck and lower lumbar force and moment load cell sensors were utilized.

The right rear (Position 3) child dummy (serial no. 090) and left rear (Position 4) child dummy (serial no. 093) were calibrated previous to this test. Child dummy certification information is found in section 5.

The right rear child dummy's HIC was 270.4, maximum chest deceleration over 3 ms was 46.6 g's. The left rear child dummy's HIC was 95.8, maximum chest deceleration over 3 ms was 35.4 g's.

SECTION 2

DATA SHEET NO. 1

CRASH TEST SUMMARY

Vehicle NHTSA No.:	M20103	Test Mode:	56.3 kph Frontal Barrier		
Test Date:	May15, 2002	Time:	13:30	Temperature:	21 °C
Vehicle Make/Model/Body Style:	2002 Cadillac DeVille 4-door Sedan				
Vehicle Test Weight:	2045	kg			
Vehicle/Barrier Impact Angle:	0	°			
Impact Velocity:	56.6	kph			
Maximum Static Crush:	642	mm			
Vehicle Rebound:	389	mm			
<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>			
Type:	572E	572E			
Restraint System:	Seatbelt with lap belt pretensioners and force limiters, airbag, knee bolster and adjustable head restraint	Seatbelt with lap belt pretensioners and force limiters, airbag, knee bolster and adjustable head restraint			
Number of Data Channels:	198				
Number of Cameras:	1	Real Time			
	16	High Speed			
<u>DOOR OPENING DATA:</u>	<u>Closed, latched and operable without tools</u> - Left Front				
	<u>Closed, latched and operable without tools</u> - Right Front				
Front Seat(s) Data:	<u>DRIVER</u>	<u>PASSENGER</u>			
Seat Track Failure: (mm of shift)	0	0			
Seat Back Failure:	None	None			
<u>VISIBLE DUMMY CONTACT POINTS:</u>	<u>DRIVER</u>	<u>PASSENGER</u>			
Head:	Airbag with back of head contacting headrest	Airbag with back of head contacting headrest			
Abdomen:	None	None			
Chest:	Airbag	Airbag			
Knees:	Knee Bolster	Knee Bolster			

DATA SHEET NO. 2**GENERAL TEST AND VEHICLE PARAMETER DATA****TEST VEHICLE INFORMATION:**

Year/Make/Model/Body Style : 2002 Cadillac DeVille 4-door Sedan

NHTSA No. : M20103 ; VIN: 1G6KD54YX2U220299 ; Color: Cashmere

Engine Data: 8 cylinders; - CID; 4.6 Liters; - cc

Placement: - Longitudinal or In-Line; X Transverse or Lateral

Transmission Data: 4 speeds; - Manual; X Automatic; X Overdrive

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

Safety Belt Features - Driver X Pretensioner (Lap); X Load Limiter; - Adj. Anchorage

Safety Belt Features - Passenger X Pretensioner (Lap); X Load Limiter; - Adj. Anchorage

Major Options: X A/C; X Pwr.Strg.; X Pwr. Brakes

X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel

Date Received: 5/8/02 ; Odometer Reading 185 km

Selling Dealer: Vallee and Bowe Olds-Cadillac

& Address: 663 Mahtua Ave Woodbury, NJ 08090

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: General Motors Corporation

Date of Manufacture 01/02

GVWR: 2319 kg; GAWR: 1241 kg FRONT; 1078 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load: 210 kpa FRONT

210 kpa REAR

Recommended Tire Size: P225/60R16

* Recommended Cold Tire Pressure: 210 kpa FRONT; 210 kpa REAR

Size of Tires on Test Vehicle: P225/60R16 ; Manufacturer: Michelin

Vehicle Capacity Data:

Type of Front Seats: - Bench; - Bucket; X Split Bench

Number of Occupants: 3 Front; 3 Rear; 6 Total

Vehicle Capacity Weight (VCW) = 496.0 Kg

No. of Occupants x 68.04 kg = 408.24 kg

Rated Cargo/Luggage Weight (RCLW) = 87.76 kg

*Tire pressure used for test

DATA SHEET NO. 2

GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front =	<u>559.5</u>	kg	Right Rear =	<u>345.5</u>	kg
Left Front =	<u>550.5</u>	kg	Left Rear =	<u>357.5</u>	kg
TOTAL FRONT =	<u>1110.0</u>	kg	TOTAL REAR =	<u>703.0</u>	kg
TOTAL DELIVERED WEIGHT =	<u>1813.0</u>	kg			
% of Total Front of Vehicle Weight =	<u>61.2%</u>		% of Total Rear Weight =	<u>38.8%</u>	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	<u>1813.0</u>	kg
Rated Cargo/Luggage Weight (RCLW) =	<u>87.76</u>	kg
Weight of 2 p.572 Dummies @ 76 each =	<u>152</u>	kg
TARGET TEST WEIGHT =	<u>2052.8</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 80.0 KG OF CARGO WEIGHT:

Right Front =	<u>587</u>	kg	Right Rear =	<u>428</u>	kg
Left Front =	<u>608</u>	kg	Left Rear =	<u>422</u>	kg
TOTAL FRONT =	<u>1195.0</u>	kg	TOTAL REAR =	<u>850.0</u>	kg
TOTAL TEST WEIGHT =	<u>2045.0</u>	kg			
% of Total Front Weight =	<u>58.4%</u>	%	% of Total Rear Weight =	<u>41.6%</u>	%
Weight of Ballast Secured in Vehicle Trunk Area =	<u>10</u>	kg			
Vehicle Components Removed for Weight Reduction:	<u>Trunk lid</u>				

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	<u>726</u>	LF	<u>725</u>	RR	<u>735</u>	LR	<u>728</u>
FULLY LOADED:	RF	<u>715</u>	LF	<u>713</u>	RR	<u>704</u>	LR	<u>696</u>
AS TESTED:	RF	<u>715</u>	LF	<u>715</u>	RR	<u>705</u>	LR	<u>698</u>
Vehicle's Wheel Base:	<u>2933</u> mm							
Location of Vehicle's C.G.:	<u>1219</u> mm rearward of front wheel center.							

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual =	<u>68.5</u>	liters
Usable Capacity Figure Furnished by COTR =	<u>68.5</u>	liters
Test Volume Range (92 to 94% of Usable Capacity) =	<u>63.02</u>	to <u>64.39</u> liters
ACTUAL TEST VOLUME=	<u>63.1</u>	liters (with entire fuel system filled)
Test Fluid Type:	<u>Stoddard Solution</u>	; Spec. Grav. = <u>0.764</u>
Kinematic Viscosity =	<u>0.96</u>	centistokes; Color = <u>Orange</u>
Type of Fuel Pump: Electric-	<u>X</u>	; Mechanical- <u>-</u>
Does Electric Pump operate with ignition switch "ON" & engine "OFF"	Yes- <u>X</u>	No- <u>-</u>
Details of Fuel System: Filler is on left side aft of rear axle, fuel tank is centered above rear axle and fuel lines run along left frame rail.		

DATA SHEET NO. 3

POST IMPACT DATA

TYPE OF TEST:

Type of Test: Frontal Barrier Impact Angle: 0°
Test Date: May15, 2002 Time: 13:30 Temperature: 21 °C
Vehicle NHTSA No.: M20103
Required Impact Velocity Range: 55.5 to 57.1 kph

BARRIER IMPACT VELOCITY: (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 56.6 kph; Trap No. 2 = 56.6 kph
Distance from vehicle to barrier: (1) entering trap = 813 mm
(2) exiting trap = 305 mm

VEHICLE STATIC CRUSH: (mm) (For frontal and rear impacts only.)

Vehicle Length:

Pre-Test	Left =	<u>5114</u>	; C/L =	<u>5258</u>	; Right =	<u>5120</u>
Post-Test	Left =	<u>4634</u>	; C/L =	<u>4633</u>	; Right =	<u>4633</u>
Crush	Left =	<u>480</u>	; C/L =	<u>625</u>	; Right =	<u>487</u>
AVERAGE	=	<u>530.67</u>	mm			

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point:

	Left =	<u>380</u>	; C/L =	<u>396</u>	; Right =	<u>392</u>
AVERAGE	=	<u>389</u>	mm			

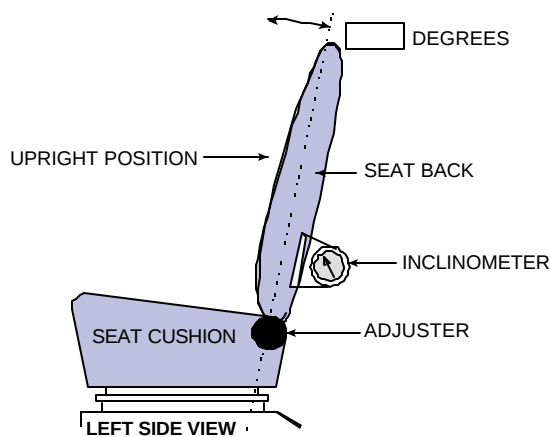
DATA SHEET NO. 4

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2002 Vehicle Model: Cadillac DeVille Body Style : 4-door Sedan

1. 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

Seat back angle for driver's seat: 18.5

Measurement instructions: Place inclinometer along seat back frame and adjust seat angle to 18.5 degrees.

Seat back angle for passenger's seat: 18.5

Measurement instructions: Place inclinometer along seat back frame and adjust seat angle to 18.5 degrees.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Electronic seat adjustment – found full forward and full rearward and bisected distance.

Positioning of the passenger's seat: Electronic seat adjustment – found full forward and full rearward and bisected distance.

3. Fuel Tank Capacity Data

3.1 A. "Usable Capacity" of the standard equipment fuel tank is 68.5 liters

B. "Usable Capacity" of the optional equipment fuel tank is - liters

C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 68.5 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 65.1 liters

3.3 Is vehicle equipped with electric fuel pump? Yes- X ; No- -

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

When ignition is activated, fuel pump starts to cycle fuel.

DATA SHEET NO. 4

TEST VEHICLE INFORMATION (cont.)

4. STEERING COLUMN ADJUSTMENTS:

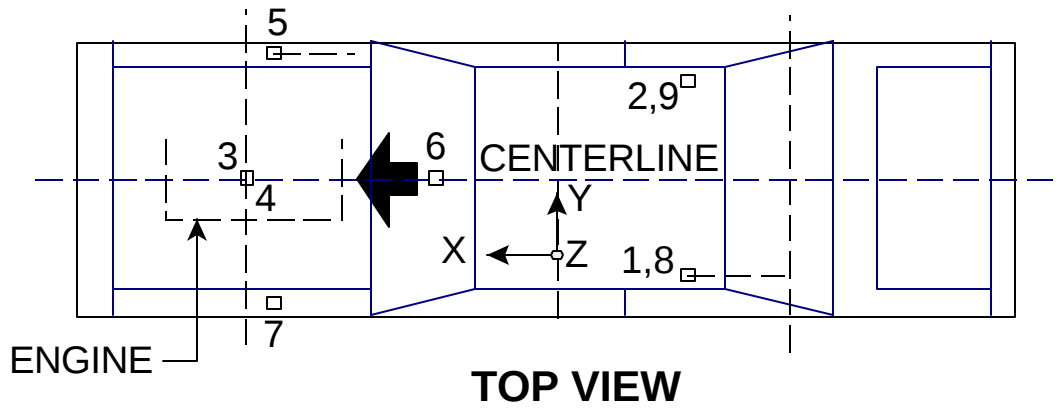
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions: Manual adjustment – place steering wheel 3rd notch down from top notch.

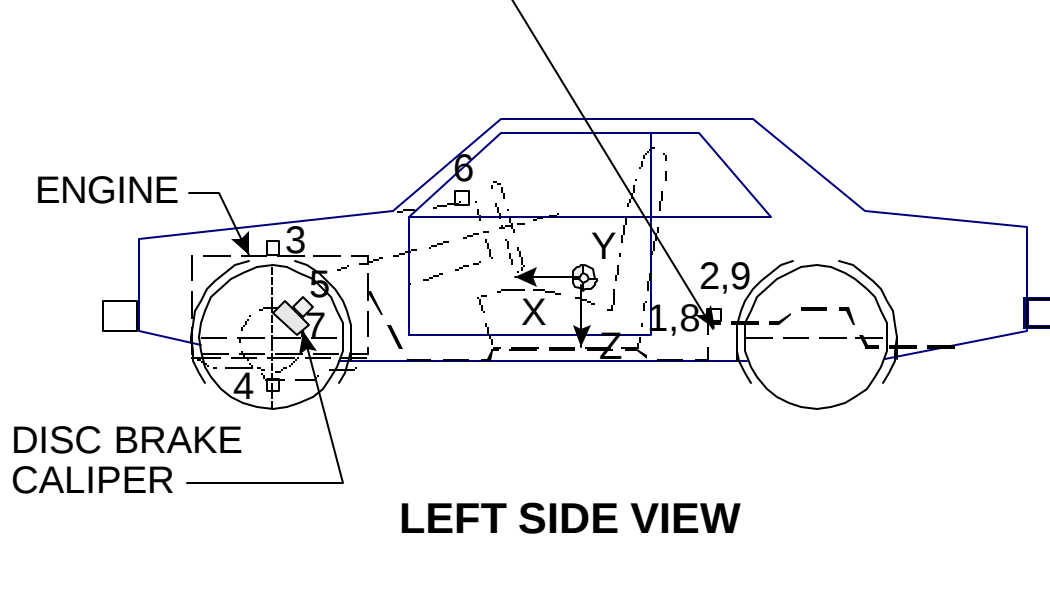
5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: Electronic seat adjustment – found full up and full down and
bisected distance.

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



Note: Vehicle accelerometer location and data summary shown in DATA SHEET NO. 7

DATA SHEET NO. 5
VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY (cont.)

LOCATION		PRE-TEST LENGTH (mm)		
		X	Y	Z
1	Left Rear Seat Cross Member X	2265	-743	-351
2	Right Rear Seat Cross Member X	2258	730	-352
3	Top of Engine Block	4380	366	-762
4	Bottom of Engine	4183	320	-269
5	Disc Brake Caliper @ Right Side	4294	857	-398
6	Instrument Panel	3388	-23	-868
7	Disc Brake Caliper @Left Side	4282	-863	-418
8	Left Rear Seat Cross Member Z	2265	-743	-351
9	Right Rear Seat Cross Member Z	2258	730	-352

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Left Rear Seat Cross Member X	3.5	21.6	-29.2	55.6
2	Right Rear Seat Cross Member X	2.2	138	-30.7	53.5
3	Top of Engine Block	55.1	42.4	-171.1	32.2
4	Bottom of Engine	37.1	43.8	-114	30.9
5	Disc Brake Caliper @ Right Side	7.6	38.6	-110.7	46.9
6	Instrument Panel	94.3	89.4	-126.8	45.7
7	Disc Brake Caliper @Left Side	1481.8	77.7	-151.6	54.5
8	Left Rear Seat Cross Member Z	4.3	52	-10.3	45.9
9	Right Rear Seat Cross Member Z	4.9	25.2	-8.7	62.4

DATA SHEET NO.6
SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC.:

Windshield is bonded in place and covered with a 20 mm molding.

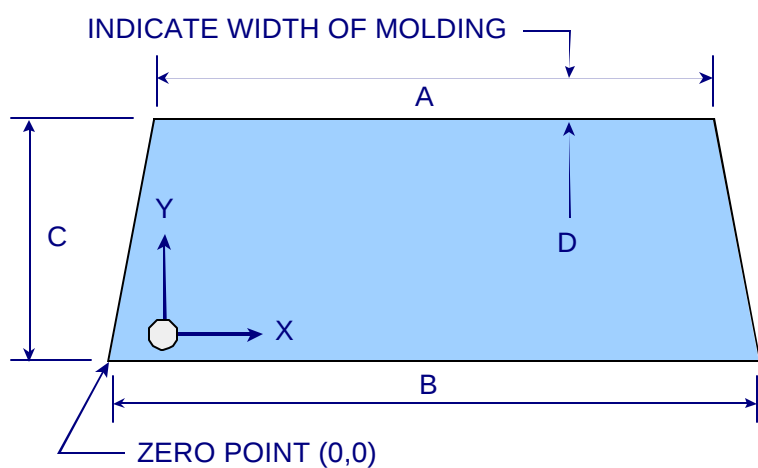
FMVSS 212 REQUIREMENTS:

The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of the windshield for vehicles equipped with automatic restraint systems for front occupants,

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		% OF RETENTION
	PRE-TEST (mm)	POST-TEST (mm)	
RIGHT SIDE	2227	2227	100.0%
LEFT SIDE	2227	2227	100.0%
TOTAL	4454	4454	100.0%

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1274
B	1580
C	800
D	20

FRONT VIEW OF WINDSHIELD

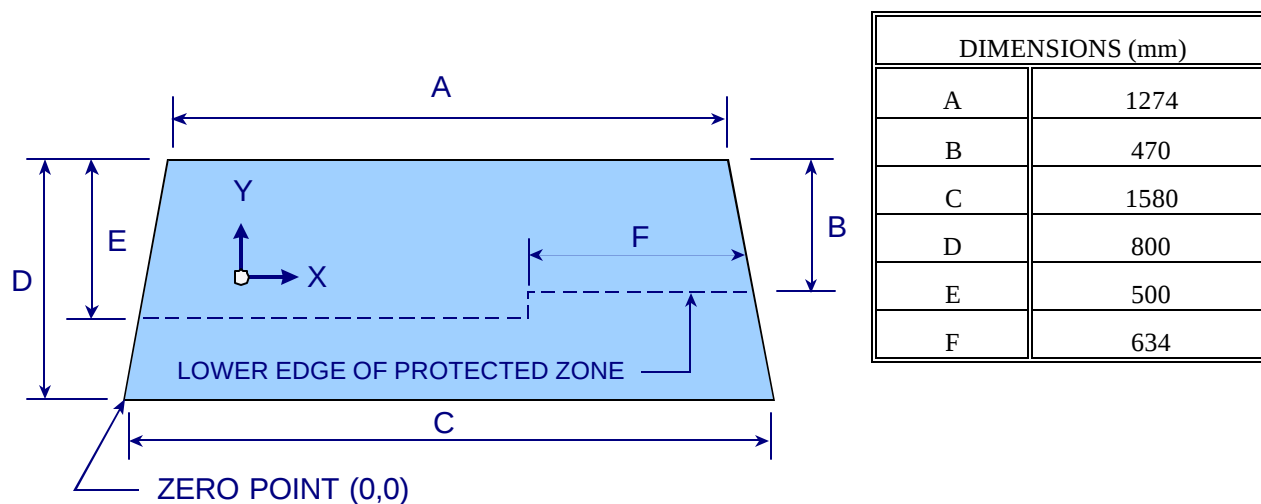
FAILURE DETAILS: None

DATA SHEET NO. 7
FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 165 mm diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points extend the locus line horizontally to the edges of the windshield, then draw a line on the inner surface of the windshield below and 13 mm distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield.

FMVSS 219 TEST DATA:



FRONT VIEW OF WINDSHIELD

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

(Show location of penetration on the above sketch)

COORDINATES		
	X	Y
1.	-	-
2.	-	-
3.	-	-
4.	-	-

DATA SHEET NO. 8

NHTSA TEST No.:

M20103

TEST DATE:

May15, 2002

VEHICLE MAKE/MODEL:

2002 Cadillac DeVille 4-door Sedan

=====

TEST VEHICLE IMPACT TYPE:

X

Frontal (56 kph)

Oblique (48 kph) with _____ deg. barrier face first
contacting _____

—

(driver/passenger) side

—

Rear Moving Barrier (48 kph)

—

Lateral Moving Barrier (32 kph)

1. From impact until vehicle motion ceases

2. For 5 minute period after vehicle motion ceases

3. For next 25 minutes

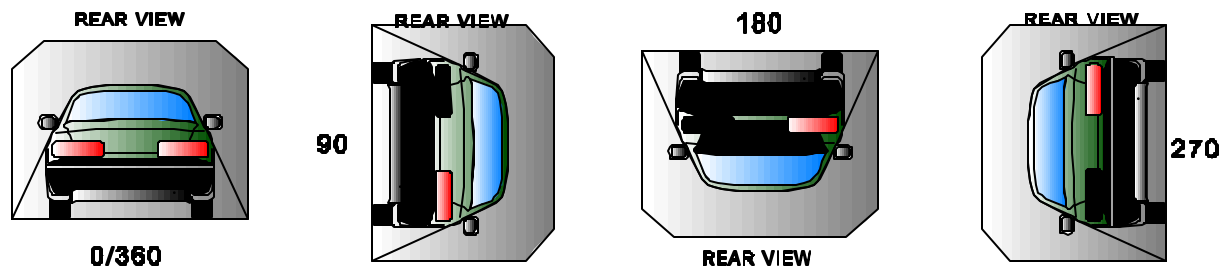
ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 9 ROLLOVER DATA

Vehicle: 2002 Cadillac DeVille 4-door Sedan

NHTSA No.: M20103



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	05	seconds	5	minutes	6	minutes	5	seconds	7	minutes
90° - 180°	1	minutes	08	seconds	5	minutes	6	minutes	8	seconds	7	minutes
180°-270°	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
270°-360°	1	minutes	07	seconds	5	minutes	6	minutes	7	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:

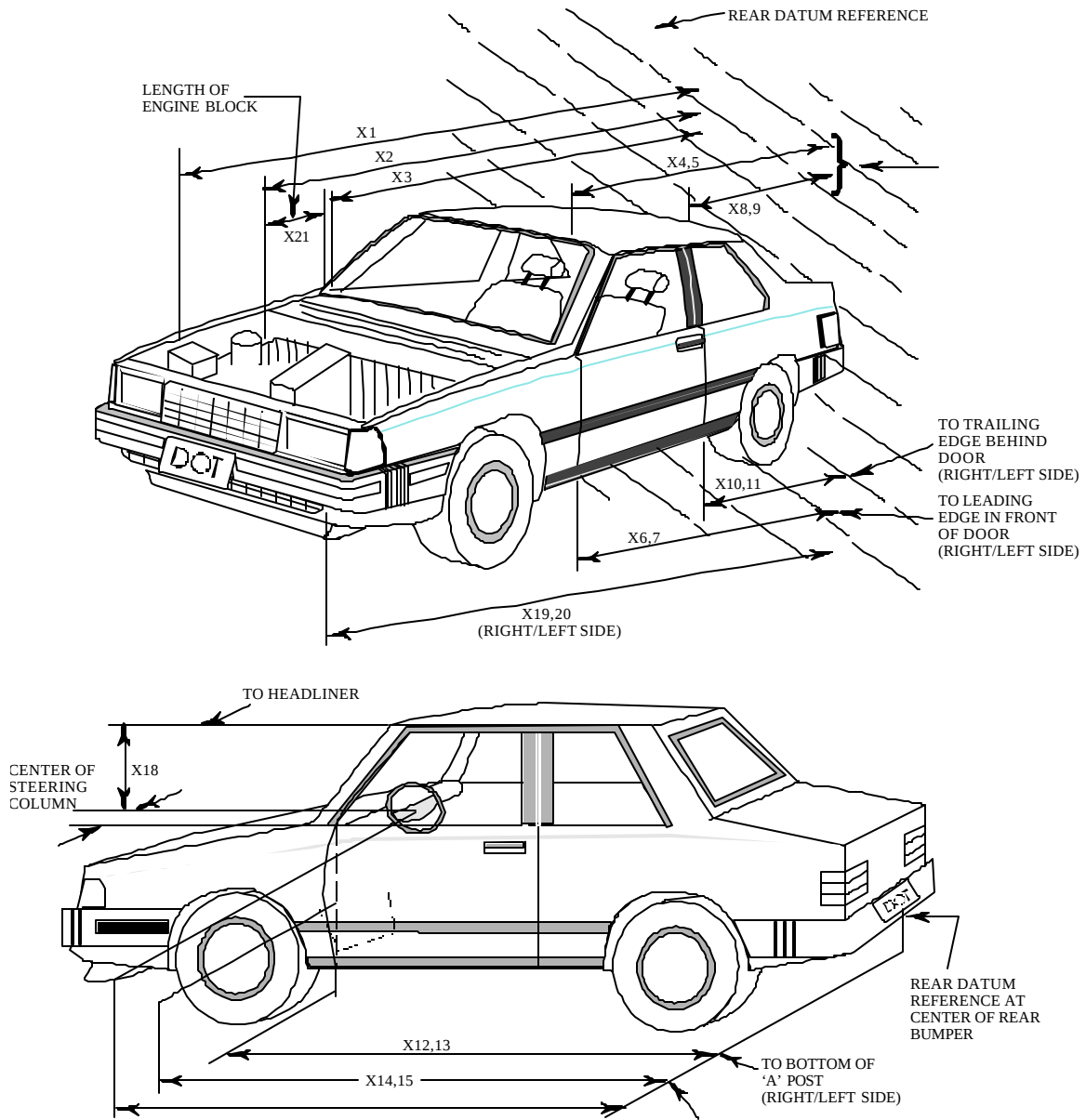
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	-
90° - 180°	0	0	0	-
180°-270°	0	0	0	-
270°-360°	0	0	0	-

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

DATA SHEET NO. 10
TEST VEHICLE MEASUREMENTS

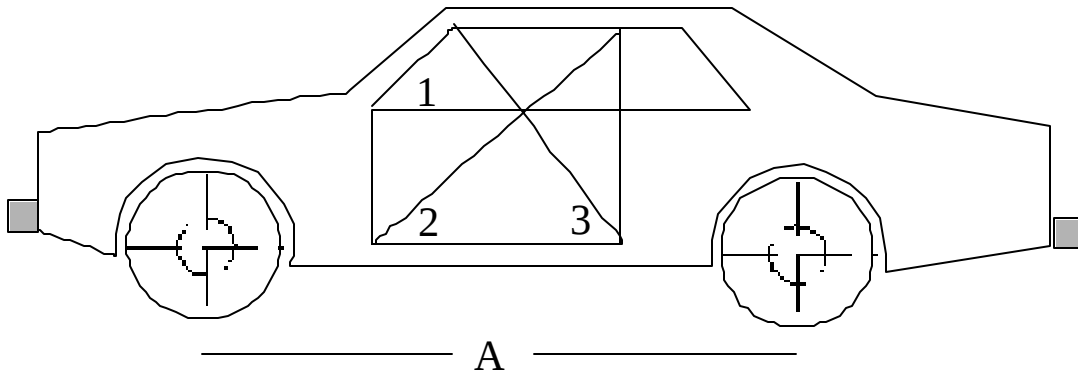


DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5254	4629	625
X2	Rear Surface of Vehicle to Front of Engine	4657	4358	299
X3	Rear Surface of Vehicle to Firewall	4110	3980	130
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3646	3643	3
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3649	3645	4
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3641	3631	10
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3643	3631	12
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2525	2521	4
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2526	2525	1
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2496	2495	1
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2505	2496	9
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3697	3690	7
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3706	3703	3
X14	Rear Surface of Vehicle to Firewall, Right Side	4111	3951	160
X15	Rear Surface of Vehicle to Firewall, Left Side	4095	4020	75
X16	Rear Surface of Vehicle to Steering Column	3171	3127	44
X17	Center of Steering Column to "A" Post	316	308	8
X18	Center of Steering Column to Headliner	379	382	-3
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5146	4650	496
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5137	4656	481
X21	Length of Engine Block	576	408	168
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3401	3361	40
CD	Rear Surface of Vehicle to Center of Dash Panel	3413	3372	41
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3395	3360	35

All Dimensions in mm

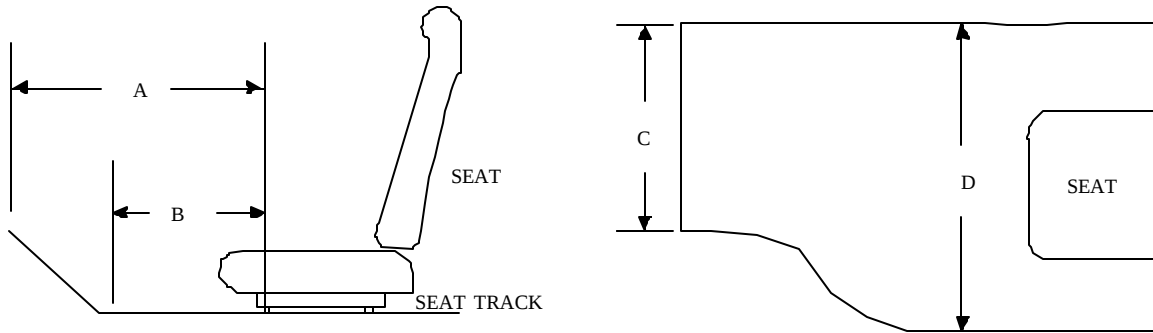
DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	962	1439	968	969	1415	976
AFTER TEST	959	1443	967	959	1421	964
DIFFERENCE	3	-4	1	10	-6	12

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2931	2932
AFTER TEST	2831	2818
DIFFERENCE	100	114

DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC FOOTWELL DEFORMATION



DRIVER

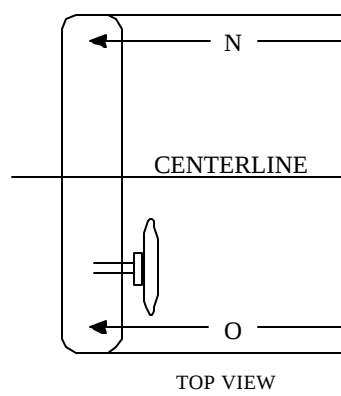
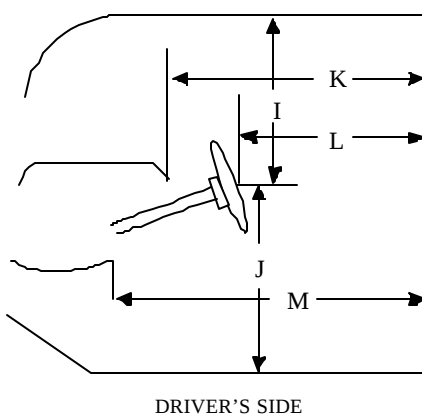
Measurement	Pre-Test	Post-Test	Difference
A	709	602	107
B	581	542	39
C	467	430	37
D	478	481	-3

PASSENGER

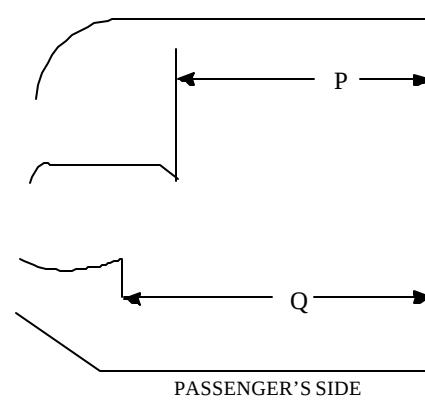
Measurement	Pre-Test	Post-Test	Difference
A	682	582	100
B	572	512	60
C	503	435	68
D	490	452	38

Units = mm

DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC PASSENGER COMPARTMENT INTRUSION



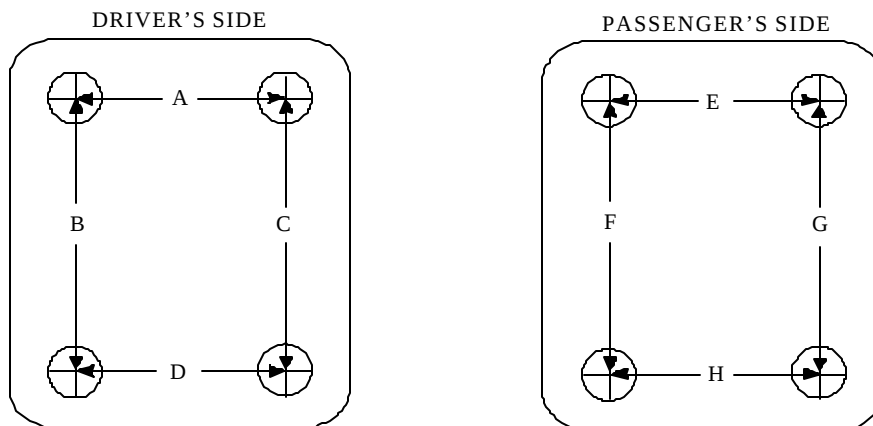
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	379	382	-3
J	674	717	-43
K	1835	1822	13
L	1657	1617	40
M	1877	1832	45
N	1887	1851	36
O	1881	1850	31
P = K (PASS.)	1836	1793	43
Q = M (PASS.)	1875	1831	44

Units = mm

DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)
FLOORBOARD DEFORMATION

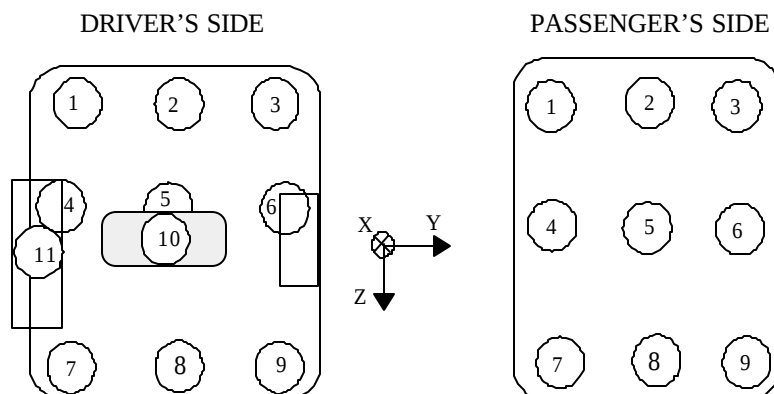


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	467	430	37
B	348	353	-5
C	306	330	-24
D	478	481	-3
E	503	435	68
F	373	361	12
G	290	307	-17
H	490	452	38

Units = mm

DATA SHEET NO.10
VEHICLE MEASUREMENTS (cont.)
TOE-PAN INTRUSION



Driver Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3806	3745	61	430	415	15
2	3794	3683	111	425	413	12
3	3815	3707	108	400	383	17
4	3735	3677	58	370	338	32
5	3734	3663	71	358	328	30
6	3729	3564	165	326	261	65
7	3656	3612	44	302	271	31
8	3666	3623	43	300	246	54
9	3678	3565	113	293	210	83
10	3674	3523	151	460	462	-2
11	3676	3642	34	367	336	31

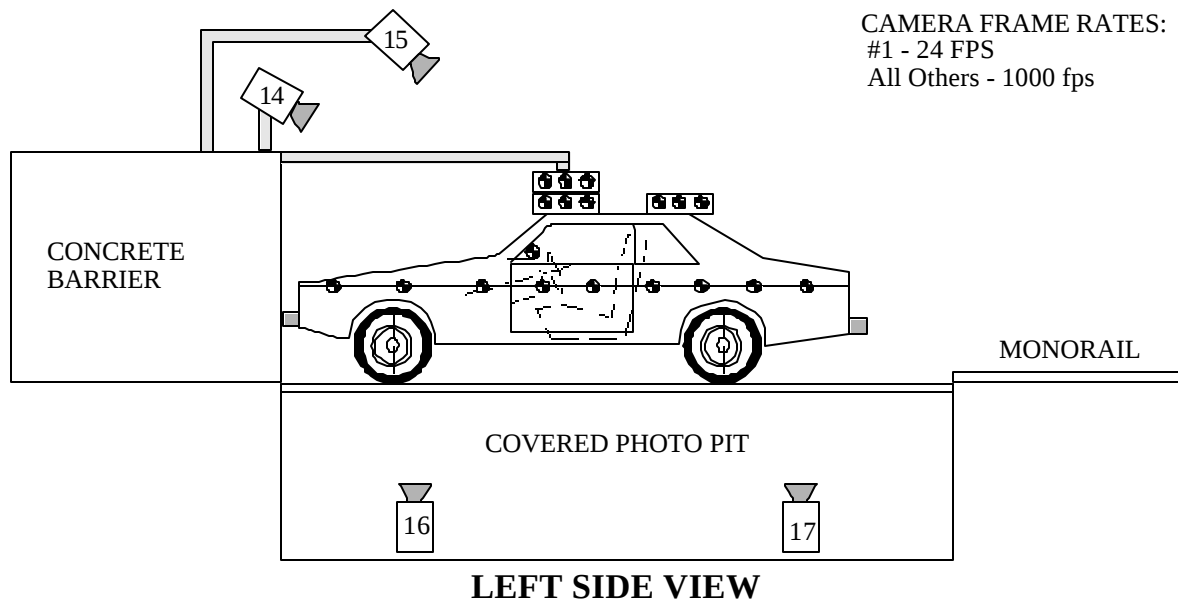
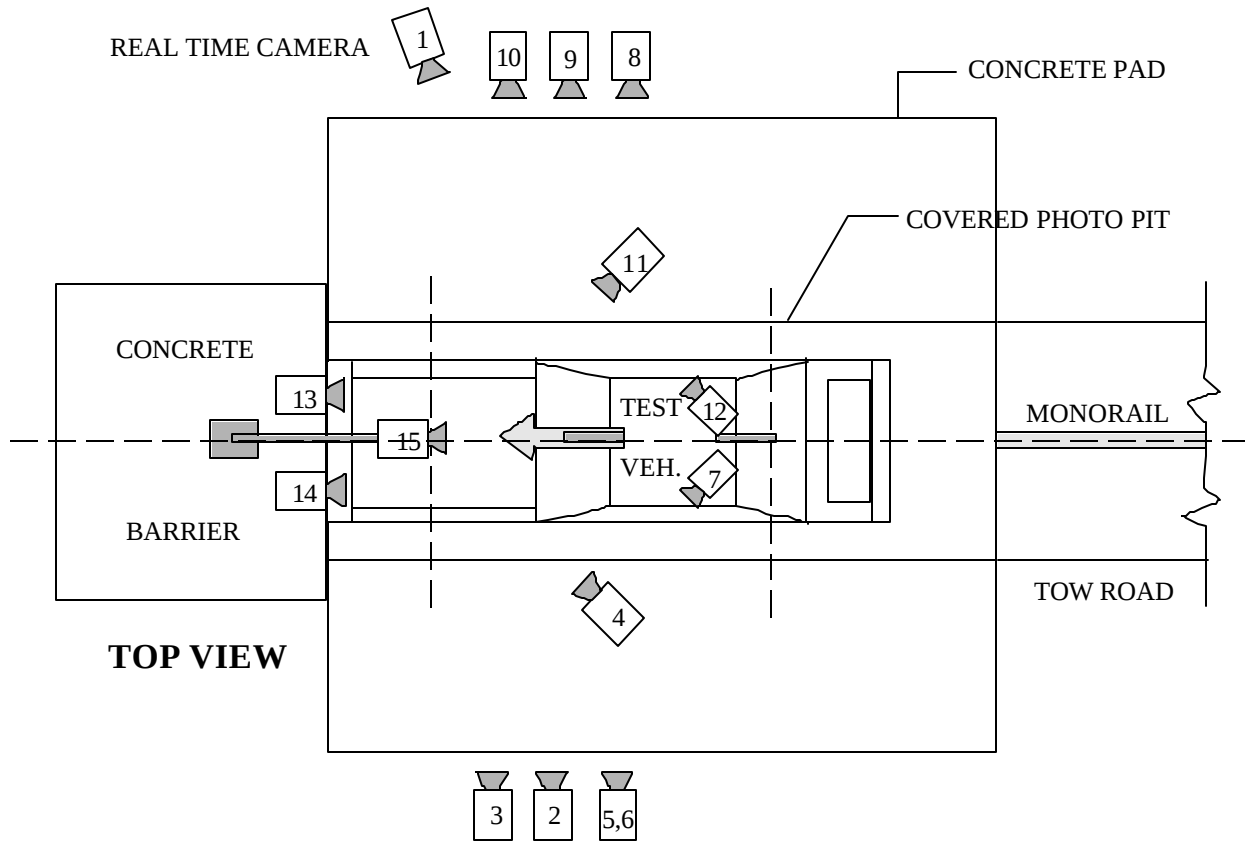
Passenger Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3777	3673	104	405	399	6
2	3770	3661	109	399	414	-15
3	3759	3643	116	436	440	-4
4	3701	3638	63	346	325	21
5	3727	3626	101	361	360	1
6	3711	3619	92	383	365	18
7	3658	3596	62	309	260	49
8	3661	3591	70	306	268	38
9	3656	3600	56	307	270	37

Reference: SAE: X = Rear Bumper (Positive: forward); Z = Ground (Positive: down)

**DATA SHEET NO.11
HIGH-SPEED CAMERA LOCATIONS**

NOTE: Camera information shown in DATA SHEET NO. 11.



DATA SHEET NO.11
HIGH-SPEED CAMERA LOCATIONS (cont.)

NHTSA Test No.: M20103 Vehicle: 2002 Cadillac DeVille 4-door Sedan

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE (deg)**	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	7342	2106	1079	1.5	6934	12.5	1010
3	Left Side View	8599	1051	1089	3.0	8191	25	1000
4	Driver and Interior View	7715	2753	1999	10.1	-	25	1050
5	Steering Column (Bottom)	7949	2245	1164	3.7	7541	25	1010
6	Steering Column (Top)	7949	2245	1768	8.5	7541	25	1015
7	Left Belt	-	-	-	-	-	13	-
8	Overall Right Side	7430	2164	1143	1.1	7730	12.5	1010
9	Right Side View	8435	1375	1096	1.6	8735	25	1015
10	Right Passenger View	8191	2097	1421	3.4	8491	35	1000
11	Passenger and Interior View	7717	2807	1973	8.2	-	25	1000
12	Right Belt	-	-	-	-	-	13	-
13	Passenger Front View	620	-92	1987	39	-	13	1005
14	Driver Front View	620	-92	1987	37	-	13	1000
15	Windshield View	0	-530	3374	53	-	13	1000
16	Pit View of Engine	0	615	-3048	90	-	13	1010
17	Pit View of Fuel Tank	0		-3048	90	-	13	1005

*X = film plane to monorail centerline ** = referenced to horizontal plane

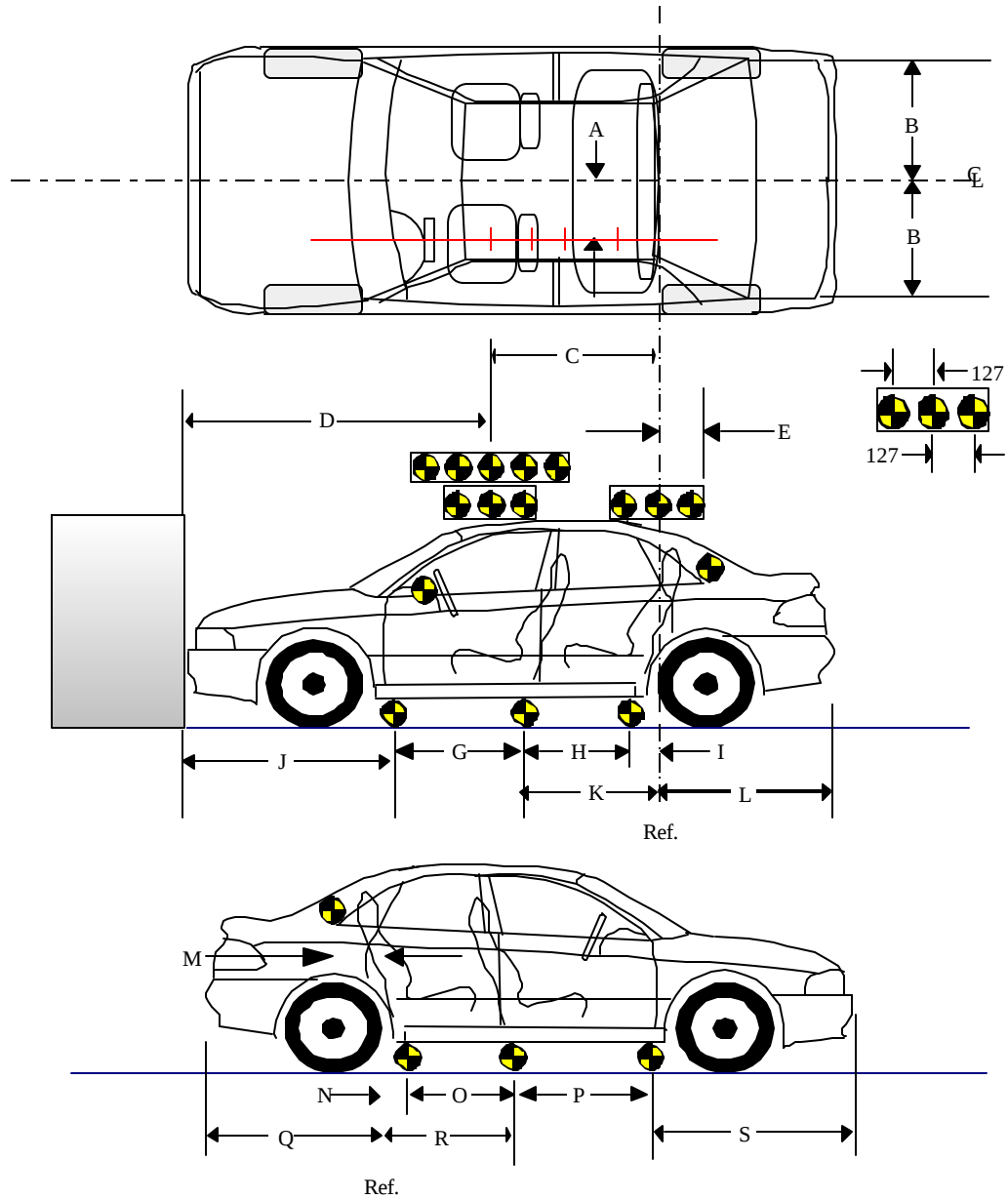
Y = film plane to impact location N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 12
VEHICLE REFERENCE PHOTO TARGET LOCATIONS

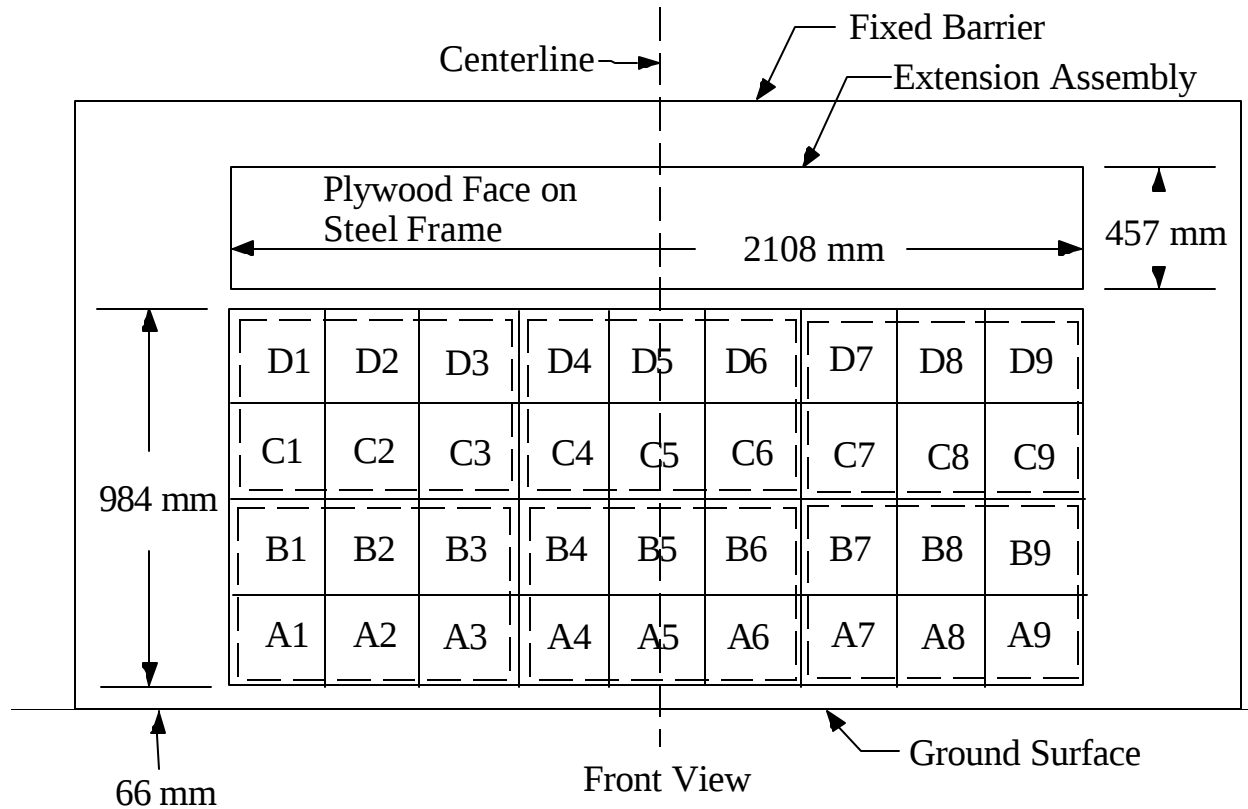
(Dimensions in millimeters)

A	376
B	708
C	1221
D	2485
E	304
F	1767
G	1008
H	981
I	97
J	1565
K	1078
L	1602
M	335
N	130
O	995
P	993
Q	1570
R	1125
S	1565



DATA SHEET NO. 13
LOAD CELL LOCATIONS ON FIXED BARRIER

36 Load Cells
 4 Rows
 9 Columns
 6 Groupings (6 cells/group)



6 GROUPS OF 6 LOAD CELLS EACH

Group 4 C1 thru D3	Group 5 C4 thru D6	Group 6 C7 thru D9
Group 1 A1 thru B3	Group 2 A4 thru B6	Group 3 A7 thru B9

The following data is presented in Appendix B:

- (1) Data from 36 individual load cells
- (2) Total or Sum of 36 individual load cells
- (3) Data from 6 Groupings shown above (6 cells/group)

DATA SHEET NO. 14
POST TEST AIR BAG DATA

NHTSA No.: M20103; Test Date: May15, 2002; Technician: James Czarnecki

Vehicle Model Year/Make/Model: 2002 Cadillac DeVille 4-door Sedan

A. No. of vent holes: 2 -Driver 2 -Passenger

B. Size of vent holes: (mm²) 35 -Driver 55 -Passenger

C. Total vent area: (mm²) 70 -Driver 110 -Passenger

D. Deflated air bag length and width dimensions or, if round, diameter. (mm)

Driver: - -Height; - -Width; 600 -Depth

Passenger: 500 -Height; 600 -Width; 580 -Depth

E. Is the air bag tethered?

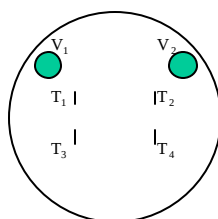
Driver: X -Yes; - -No; If yes, record length of tether- 240

Passenger: X -Yes; - -No; If yes, record length of tether- 400

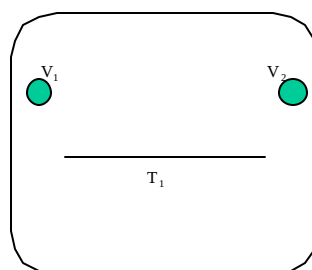
Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.

(Note: Not to scale; V_n = Vent hole_n, T_n = Tether_n).

Driver



Passenger



F. Record part numbers and manufacturer name of the air bag and gas generator.

Driver: Air bag: TRCA21383458

Generator: AB7470Q6U63X50

Passenger: Air bag: GXKMZH02BRT

Generator: AL1672M3009Y1179

DATA SHEET NO. 15
ACCIDENT INVESTIGATION DIVISION DATA
FOR FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Cadillac DeVille 4-door Sedan

NHTSA Test No.: M20103 VIN: 1G6KD54YX2U220299

Model Year: 2002 Build Date: 01/02 Test Date: May15, 2002

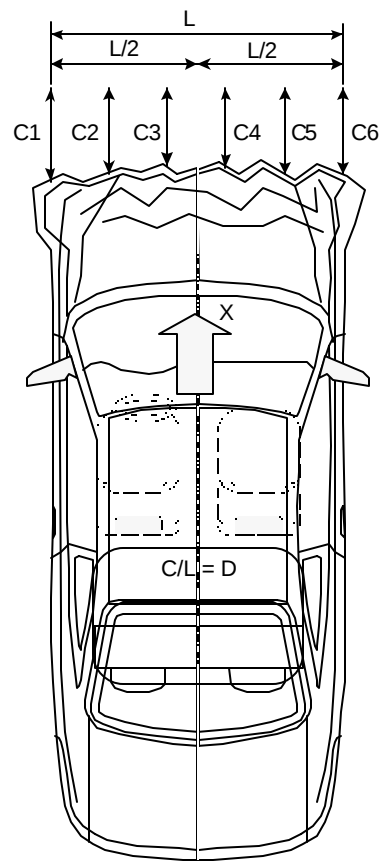
Vehicle Size Category: Passenger Car Test Weight: 2045 kg

Vehicle Wheelbase: 2933 mm; Front Overhang: 1090 mm; Overall Width: 1892 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions

	PRE (mm)	POST (mm)	DIFF (mm)
C1 =	5079	4631	448
C2 =	5191	4675	516
C3 =	5243	4647	596
C4 =	5241	4657	584
C5 =	5197	4671	526
C6 =	5085	4618	467



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region:

L1=	<u>1453</u>	mm
L2=	<u>726.5</u>	mm
L5=	<u>290.6</u>	mm

CRS TEST SUMMARY

DESCRIPTION	Position #3 CRS	Position #4 CRS
ATD Type/Serial No.	CRABI/090	CRABI/093
Restraint System:	Safety First Forerunner with Latch	GRACO Snugride With Latch

POST TEST DOOR OPENING

POST TEST SEAT DATA

VISIBLE DUMMY CONTACT POINTS

8642-NCAP-14

DATA SHEET NO. 17

CRS PARAMETER DATA

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Delivered Weight of Vehicle with Maximum Fluids = 1812.5 kg (A)

AS TESTED WEIGHT OF VEHICLE (2 ATDs + 2 CRABI w/ CRS +CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>608</u>	kg	Left Rear	=	<u>422</u>	kg
Right Front	=	<u>587</u>	kg	Right Rear	=	<u>428</u>	kg
TOTAL FRONT	=	<u>1195.0</u>	kg	TOTAL REAR	=	<u>850.0</u>	kg
TOTAL TEST WEIGHT =		<u>2045.0</u>	kg				

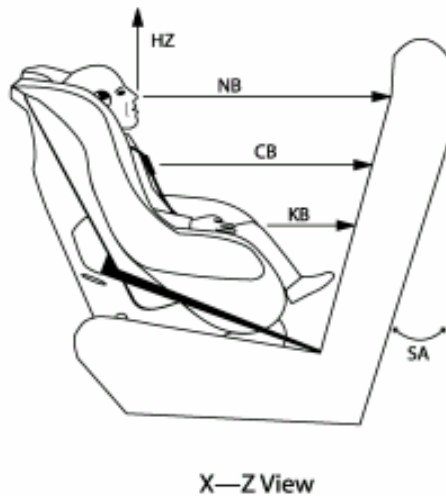
DATA SHEET NO. 18

CHILD DUMMY POSITIONING IN VEHICLE

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103

Dummy Measurements for Rear-facing CRS Passengers



HZ	-	Head to Roof
NB	-	Nose to Front of Back Seat
CB	-	Chest to Front of Back Seat
KB	-	Knee to Front of Back Seat
SA	-	Seat Back Angle

Measurement	Pre-Test (mm)		Post Test (mm)	
	P3 CRS (090)	P4 CRS (093)	P3 CRS (090)	P4 CRS (093)
SA	56°	55°	59°	* ⁰
HZ	431	415	467	*
NB	510	510	575	*
CB	410	400	455	*
KB – LEFT	200	190	240	*
KB – RIGHT	200	190	240	*

All dimensions in mm (unless noted)

P3 – Right Rear Passenger (CRS #1)

P4 – Left Rear Passenger (CRS #2)

* CRS seat released from base

DATA SHEET 19

CHILD DUMMY INJURY CRITERIA VALUES

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103

DESCRIPTION	Unit	MAXIMUM VALUE							
		Position #3				Position #4			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head X	g	41.8	84.9	-4.6	189.7	21.1	68.3	-6.2	212.5
Head Y	g	6.1	82.7	-1.7	74.4	12.8	242.8	-12.3	208.4
Head Z	g	43.6	66.9	-3.1	155.3	40.4	129.6	-29.9	183.8
Head Resultant	g	54.0	84.9	0.0	-43.7	42.0	129.6	0.0	-37.0
Redundant Head Z	g	37.5	69.4	-3.8	155.7	42.2	90.3	-26.9	188.8
Upper Neck Fx	N	46.7	110.5	-176.8	66.6	41.4	122.3	-192.7	85.1
Upper Neck Fy	N	96.8	78.0	-23.8	58.4	43.5	252.2	-73.2	142.3
Upper Neck Fz	N	153.6	66.8	-75.0	157.3	103.4	76.3	-664.3	208.1
Upper Neck F Resultant	N	166.8	66.7	0.5	-43.3	112.7	76.3	0.5	-47.9
Upper Neck Mx	N-m	1.8	129.5	-2.5	77.1	*	*	*	*
Upper Neck My	N-m	5.1	205.7	-5.2	64.6	12.6	208.4	-7.9	91.1
Upper Neck Mz	N-m	0.6	70.5	-0.6	206.3	5.4	287.3	-4.6	206.8
Upper Neck M Resultant	N-m	5.2	64.6	0.0	-39.4	*	*	*	*
Lower Neck Fx	N	382.8	86.1	-64.8	183.1	109.0	207.9	-125.4	256.3
Lower Neck Fy	N	70.3	77.0	-11.6	49.3	45.7	252.9	-65.2	140.0
Lower Neck Fz	N	239.3	66.3	-54.9	156.3	158.7	75.4	-643.6	208.7
Lower Neck F Resultant	N	276.2	66.4	0.2	-43.5	161.6	75.4	0.1	-47.3
Lower Neck Mx	N-m	3.6	77.5	-0.9	50.2	5.3	253.6	-4.1	141.8
Lower Neck My	N-m	8.9	196.1	-11.2	85.9	9.3	214.1	-3.1	103.2
Lower Neck Mz	N-m	1.5	74.7	-0.7	187.2	3.1	289.1	-3.0	204.6
Lower Neck M Resultant	N-m	11.5	79.4	0.0	-41.0	9.8	213.8	0.0	-49.3
Chest X	g	44.2	86.5	-5.1	175.4	28.8	63.1	-17.7	134.3
Chest Y	g	6.3	100.4	-5.0	80.8	5.9	152.4	-16.6	195.3
Chest Z	g	28.6	65.4	-5.1	158.7	26.9	75.4	-23.9	191.4
Chest Resultant	g	47.9	86.5	0.0	-27.2	35.8	71.2	0.0	-48.8
Lumbar Fx	N	40.8	159.2	-97.3	66.7	243.0	199.2	-303.5	69.5
Lumbar Fy	N	38.9	103.0	-14.6	137.6	58.5	176.1	-50.8	195.5
Lumbar Fz	N	263.8	90.1	-120.5	157.0	472.4	105.3	-473.4	200.8
Lumbar F Resultant	N	277.6	84.7	0.1	-43.3	530.9	200.1	0.0	-46.5
Lumbar Mx	N-m	2.3	104.8	-0.7	220.6	1.9	176.3	-1.9	117.6
Lumbar My	N-m	4.0	69.5	-1.4	160.8	8.3	136.8	-3.2	199.7
Lumbar Mz	N-m	0.3	98.6	-0.7	81.9	0.5	276.1	-2.3	178.4
Lumbar M Resultant	N-m	4.1	69.5	0.0	-49.2	8.4	136.8	0.0	-46.6
Pelvic X	g	30.2	85.6	-6.8	275.7	50.9	76.1	-19.0	189.1
Pelvic Y	g	8.0	101.3	-7.7	77.5	15.2	172.4	-18.1	182.4
Pelvic Z	g	37.3	66.2	-7.9	156.0	28.0	62.4	-20.2	127.9
Pelvic Resultant	g	45.2	85.7	0.0	-28.7	56.1	76.1	0.0	-47.7

* Not Accurate - Data Spikes Present

DATA SHEET 19

CHILD DUMMY INJURY CRITERIA VALUES (CONTINUED)

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103

	HEAD INJURY CRITERIA (HIC15)			
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration (g's) t ₁ to t ₂
Position #3 - Right	270.4	77.7	92.7	50.4
Position #4 - Left	95.8	61.6	76.6	33.3

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 15 milliseconds.

	CLIP SUMMARY*			
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #3 - Right	46.6	84.8	87.8	490.4
Position #4 - Left	35.4	69.9	72.9	386.4

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

Position 3 Neck Injury Summary (CRABI – In Position)

Nij V10	Nij	Time (ms)	Z Force (N)	X Force (N)	Y Moment (N-m)
Ntf	0.6	81.5	897.5	-36.1	0.0
Nte	1.0	64.6	1139.0	-170.3	-4.2
Ncf	0.1	155.8	-71.1	-48.0	1.7
Nce	0.0	-42.6	-0.7	0.4	0.0

Peak Tension (CFC1000) 1154.0 N

Peak Compression (CFC1000) 75.6 N

Critical Values

Nij Intercepts				Peak Limits	
Tension (CVt)	1460 N	Extension (mCVe)	17 N-m	Tension	780 N
Compression (CVc)	1460 N	Flexion (mCVf)	43 N-m	Compression	-960 N

Condyle Offset -0.0058

Position 4 Neck Injury Summary (CRABI – In Position)

Nij V10	Nij	Time (ms)	Z Force (N)	X Force (N)	Y Moment (N-m)
Ntf	0.4	116.7	639.7	10.8	0.2
Nte	1.1	91.1	994.0	-180.3	-6.8
Ncf	0.8	208.0	-661.2	-65.8	12.8
Nce	0.1	186.5	-118.2	23.5	0.0

Peak Tension (CFC1000) 1104.0 N

Peak Compression (CFC1000) 686.8 N

Critical Values

Nij Intercepts				Peak Limits	
Tension (CVt)	1460 N	Extension (mCVe)	17 N-m	Tension	780 N
Compression (CVc)	1460 N	Flexion (mCVf)	43 N-m	Compression	-960 N

Condyle Offset -0.0058

DATA SHEET NO. 20

CRS PERFORMANCE DATA

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103

		MAXIMUM VALUE			
DESCRIPTION	Unit	Positive	Time (ms)	Negative	Time (ms)
P4 CRS X	g	10.5	101.9	-41.8	94.2
P4 CRS Y	g	8.2	116.5	-9.8	123.6
P4 CRS Z	g	22.6	166.4	-38.3	100.7
P4 CRS Resultant	g	43.7	94.4	0.1	-25.3

DATA SHEET NO. 20

CRS PERFORMANCE DATA (CONTINUED)

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103

POSITION #3 CRS POST-TEST INSPECTION (Model No. 02-925-BRD)

LOCATION	DAMAGE	REMARKS
Upper Tether Strap	None	
Upper Tether Buckle	None	
Upper Tether Hook	None	
Vehicle Upper Tether Anchor	None	
Lower Anchor Strap	None	
Lower Anchor Buckle	None	
Lower Anchor Hooks	None	
Vehicle Lower CRS Anchors	None	
Five Point Harness Connections	None	
Cracks on CRS	None	
Fabric Tears on CRS	None	
Vehicle Seat Structure	None	
Vehicle Seat Fabric Tears	None	
Child Dummy	None	

POSITION #4 CRS POST-TEST INSPECTION (Model No. 8446VIN)

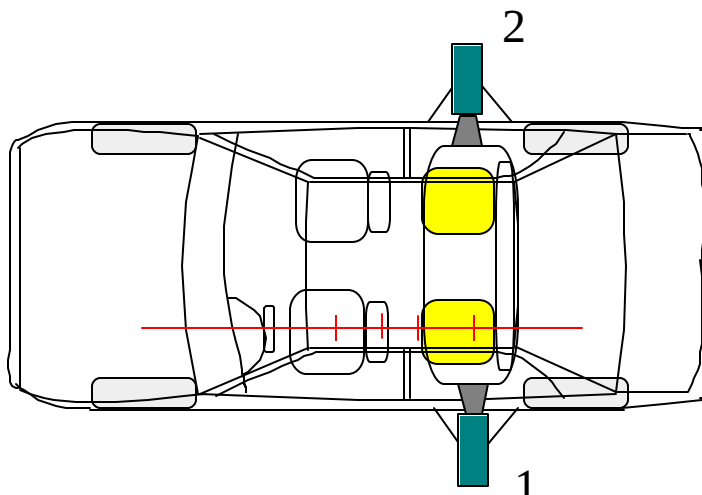
LOCATION	DAMAGE	REMARKS
Upper Tether Strap	None	
Upper Tether Buckle	None	
Upper Tether Hook	None	
Vehicle Upper Tether Anchor	None	
Lower Anchor Strap	None	
Lower Anchor Buckle	None	
Lower Anchor Hooks	None	
Vehicle Lower CRS Anchors	None	
Five Point Harness Connections	None	
Cracks on CRS	None	
Fabric Tears on CRS	None	
Vehicle Seat Structure	None	
Vehicle Seat Fabric Tears	None	
Child Dummy	None	

DATA SHEET NO. 21

CRS CAMERA DATA

CRS: GRACO Snugride With Latch and Safety First Forerunner with Latch

NHTSA No. M20103



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Left side CRS lateral view	2952	2859	2527	27	13	505
2	Right side CRS lateral view	2955	2612	2534	29	13	500

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

X = + Forward

Y = + To Right

Z = + Down

SECTION 3

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

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Figure 3-1: LOAD CELL LOCATIONS.



Figure 3-2: PRE-TEST FRONT VIEW



Figure 3-3: POST-TEST FRONT VIEW.



Figure 3-4: PRE-TEST LEFT SIDE VIEW



Figure 3-5: POST-TEST LEFT SIDE VIEW



Figure 3-6: PRE-TEST RIGHT SIDE VIEW



Figure 3-7: POST-TEST RIGHT SIDE VIEW



Figure 3-8: PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure 3-9: POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure 3-10: PRE-TEST LEFT REAR THREE-QUARTER VIEW



Figure 3-11: POST-TEST LEFT REAR THREE-QUARTER VIEW



Figure 3-12: PRE-TEST WINDSHIELD VIEW



Figure 3-13: POST-TEST WINDSHIELD VIEW



Figure 3-14: PRE-TEST ENGINE COMPARTMENT VIEW



Figure 3-15: FUEL CAP VIEW

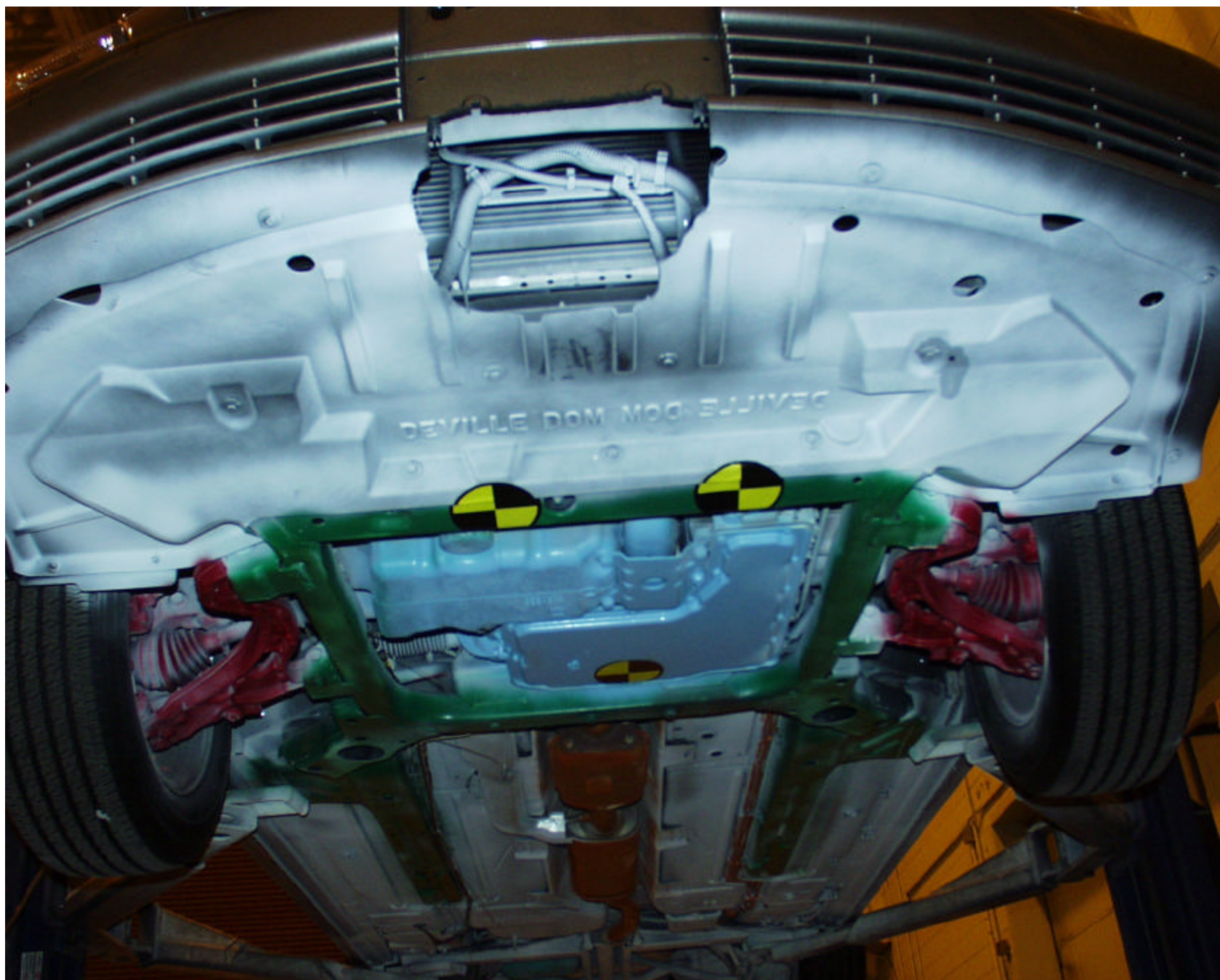


Figure 3-16: PRE-TEST FRONT UNDERBODY VIEW

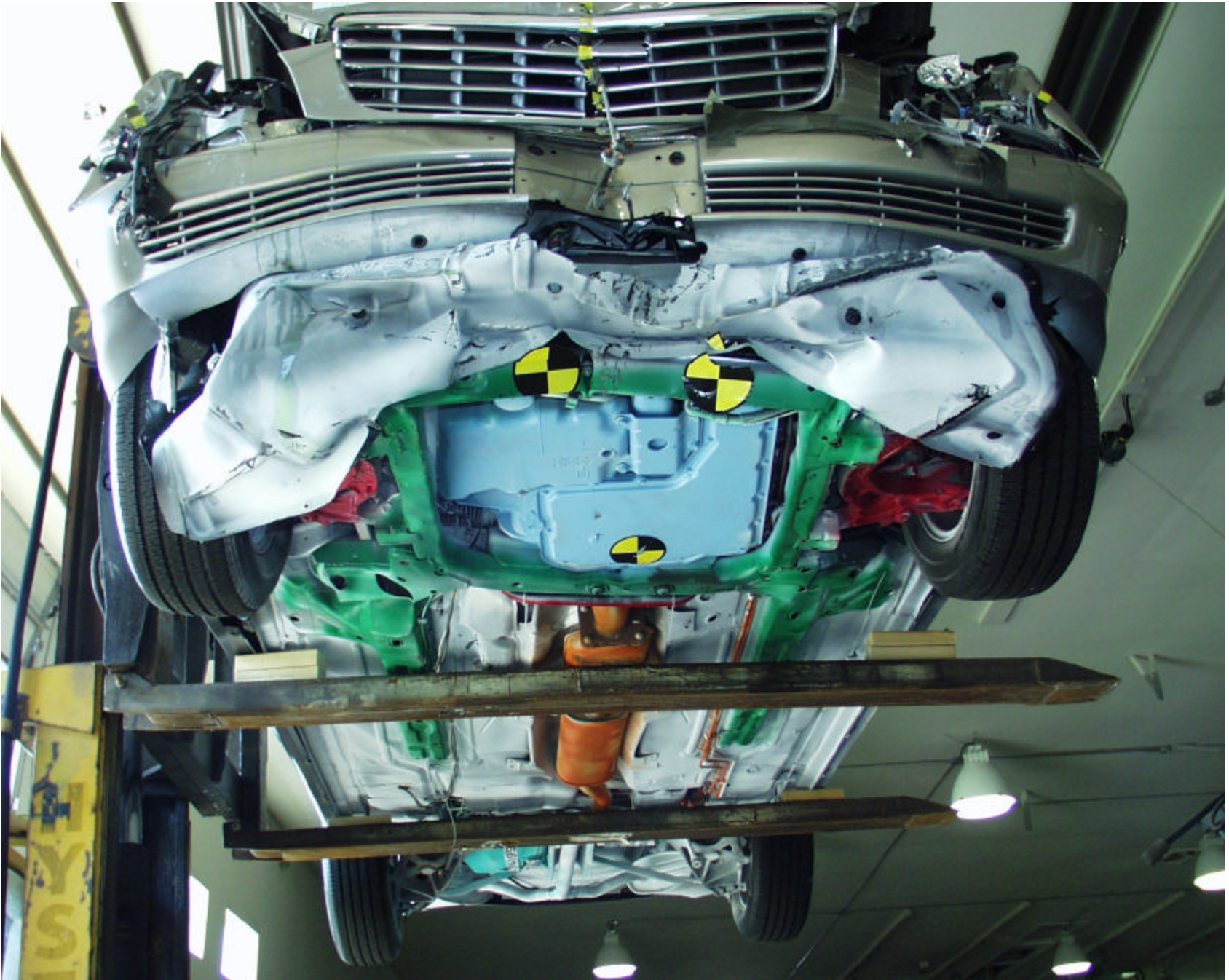


Figure 3-17: POST-TEST FRONT UNDERBODY VIEW



Figure 3-18: PRE-TEST FRONT SIDE UNDERBODY VIEW



Figure 3-19: POST-TEST FRONT SIDE UNDERBODY VIEW



Figure 3-20: PRE-TEST REAR UNDERBODY VIEW



Figure 3-21: POST-TEST REAR UNDERBODY VIEW



Figure 3-22: PRE-TEST DRIVER FLOOR PAN VIEW



Figure 3-23: POST-TEST DRIVER FLOOR PAN VIEW



Figure 3-24: PRE-TEST PASSENGER FLOOR PAN VIEW



Figure 3-25: POST-TEST PASSENGER FLOOR PAN VIEW



Figure 3-26: ROLLOVER VIEW



Figure 3-27: IMPACT VIEW

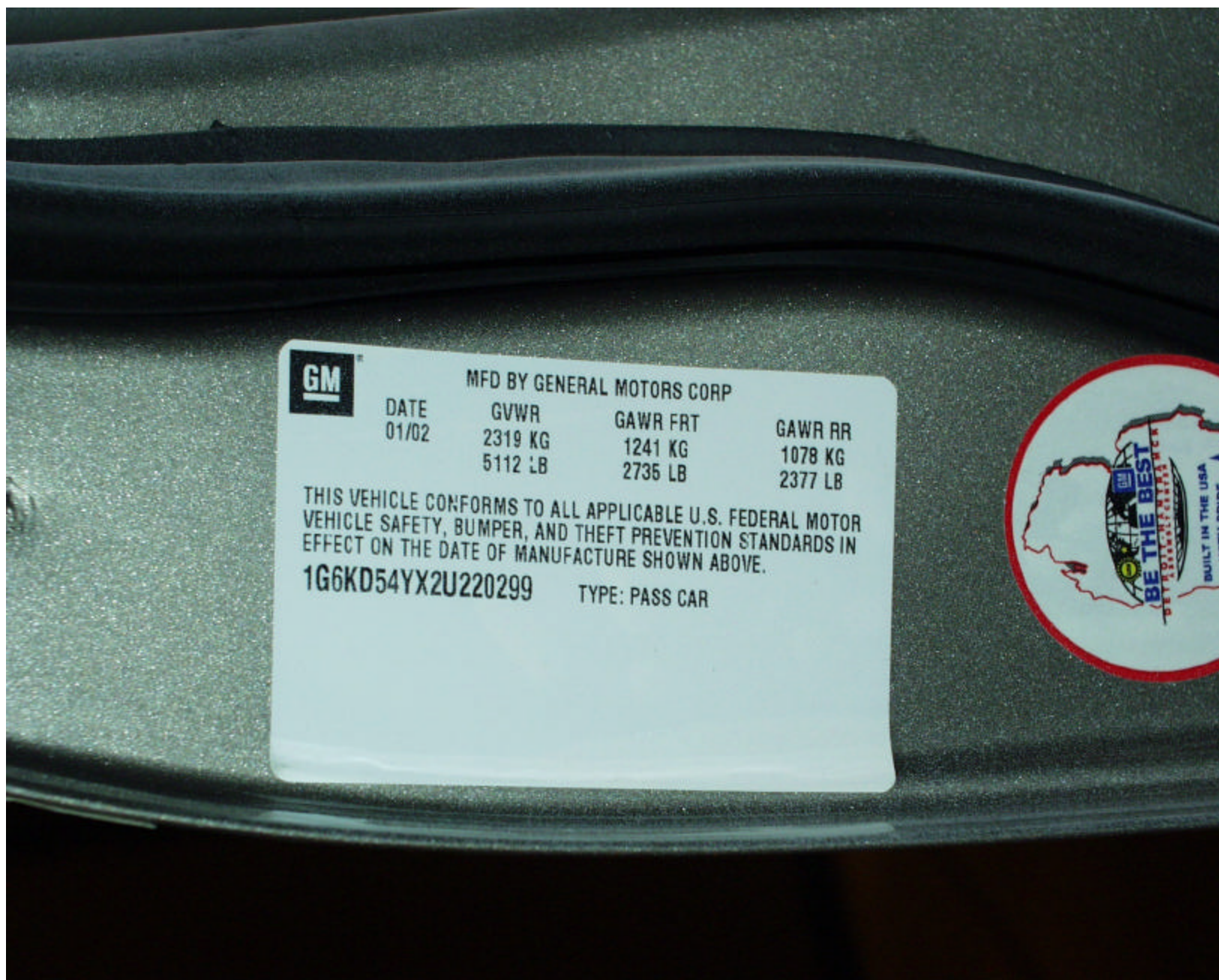


Figure 3-28: VEHICLE PLACARD



TIRE – LOADING INFORMATION

OCCUPANTS				VEHICLE CAP. WT.	
FRT.	CTR.	RR.	TOTAL	KG	LBS
3	0	3	6	496	1093

MAX. LOADING @ GVWR SAME AS VEHICLE CAPACITY WEIGHT.

1G6KD54YX2U220299

MODEL: KD69 KAP

	TIRE SIZE	SPEED RTG	COLD TIRE PRESSURE
FRT	P225/60R16	S	210KPA(30PSI)
RR	P225/60R16	S	210KPA(30PSI)
SPA	T125/70R16	M	420KPA(60PSI)

IF TIRES ARE HOT, ADD 28KPA(4PSI).

See Owner's Manual  for tire pressure needed at 160 Km/H (100 mph) or higher speeds, where legal, and for additional tire information.

Figure 3-29: TIRE PLACARD



Figure 3-30 CLOSE-UP VIEW OF POSITION 3 CRS LABEL



Figure 3-31 PRE-TEST FRONTAL VIEW OF POSITION 3 CRS



Figure 3-32 POST-TEST FRONTAL VIEW OF POSITION 3 CRS



Figure 3-33 PRE-TEST REAR VIEW OF POSITION 3 CRS



Figure 3-34 POST-TEST REAR VIEW OF POSITION 3 CRS



Figure 3-35 PRE-TEST LEFT SIDE VIEW OF POSITION 3 CRS



Figure 3-36 POST-TEST LEFT SIDE VIEW OF POSITION 3 CRS



Figure 3-37 PRE-TEST RIGHT SIDE VIEW OF POSITION 3 CRS



Figure 3-38 POST-TEST RIGHT SIDE VIEW OF POSITION 3 CRS



Figure 3-39 CLOSE-UP VIEW OF POSITION 4 CRS LABEL



Figure 3-40 PRE-TEST FRONTAL VIEW OF POSITION 4 CRS



Figure 3-41 POST-TEST FRONTAL VIEW OF POSITION 4 CRS



Figure 3-42 PRE-TEST REAR VIEW OF POSITION 4 CRS



Figure 3-43 POST-TEST REAR VIEW OF POSITION 4 CRS



Figure 3-44 PRE-TEST LEFT SIDE VIEW OF POSITION 4 CRS



Figure 3-45 POST-TEST LEFT SIDE VIEW OF POSITION 4 CRS



Figure 3-46 PRE-TEST RIGHT SIDE VIEW OF POSITION 4 CRS



Figure 3-47 POST-TEST RIGHT SIDE VIEW OF POSITION 4 CRS



Figure 3-48 PRE-TEST POSITION 3 LEFT SIDE VIEW



Figure 3-49 POST-TEST POSITION 3 LEFT SIDE VIEW



Figure 3-50 PRE-TEST POSITION 4 LEFT SIDE VIEW



Figure 3-51 POST-TEST POSITION 4 LEFT SIDE VIEW



Figure 3-52 PRE-TEST POSITION 3 RIGHT SIDE VIEW



Figure 3-53 POST-TEST POSITION 3 RIGHT SIDE VIEW



Figure 3-54 PRE-TEST POSITION 4 RIGHT SIDE VIEW



Figure 3-55 POST-TEST POSITION 4 RIGHT SIDE VIEW



Figure 3-56 PRE-TEST POSITION 3 REAR VIEW



Figure 3-57 POST-TEST POSITION 3 REAR VIEW



Figure 3-58 PRE-TEST POSITION 4 REAR VIEW



Figure 3-59 POST-TEST POSITION 4 REAR VIEW

SECTION 4

VEHICLE, BARRIER, CHILD DUMMY RESPONSE AND CRS DATA TRACES

TABLE OF DATA PLOTS

PLOT	PLOT NAME[UNITS, CHANNEL FILTER CLASS]	PAGE
1	Left Rear #1x [g, CFC_60]	4-6
2	Left Rear #1x Velocity [kph, CFC_180]	4-7
3	Left Rear #1x Displacement [mm, CFC_180]	4-8
4	Right Rear #2x [g, CFC_60]	4-9
5	Right Rear #2x Velocity [kph, CFC_180]	4-10
6	Right Rear #2x Displacement [mm, CFC_180]	4-11
7	Engine Top #3x [g, CFC_60]	4-12
8	Engine Top #3x Velocity [kph, CFC_180]	4-13
9	Engine Top #3x Displacement [mm, CFC_180]	4-14
10	Engine Bottom #4x [g, CFC_60]	4-15
11	Engine Bottom #4x Velocity [kph, CFC_180]	4-16
12	Engine Bottom #4x Displacement [mm, CFC_180]	4-17
13	Right Caliper #5x [g, CFC_60]	4-18
14	Right Caliper #5x Velocity [kph, CFC_180]	4-19
15	Right Caliper #5x Displacement [mm, CFC_180]	4-20
16	Instrument Panel #6x [g, CFC_60]	4-21
17	Instrument Panel #6x Velocity [kph, CFC_180]	4-22
18	Instrument Panel #6x Displacement [mm, CFC_180]	4-23
19	Left Caliper #7x [g, CFC_60]	4-24
20	Left Caliper #7x Velocity [kph, CFC_180]	4-25
21	Left Caliper #7x Displacement [mm, CFC_180]	4-26
22	Left Rear #8z [g, CFC_60]	4-27
23	Left Rear #8z Velocity [kph, CFC_180]	4-28
24	Left Rear #8z Displacement [mm, CFC_180]	4-29
25	Right Rear #9z [g, CFC_60]	4-30
26	Right Rear #9z Velocity [kph, CFC_180]	4-31
27	Right Rear #9z Displacement [mm, CFC_180]	4-32
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29	Barrier Load Cell A2 Fx [N, CFC_60]	4-34
30	Barrier Load Cell A3 Fx [N, CFC_60]	4-35
31	Barrier Load Cell A4 Fx [N, CFC_60]	4-36
32	Barrier Load Cell A5 Fx [N, CFC_60]	4-37
33	Barrier Load Cell A6 Fx [N, CFC_60]	4-38
34	Barrier Load Cell A7 Fx [N, CFC_60]	4-39
35	Barrier Load Cell A8 Fx [N, CFC_60]	4-40
36	Barrier Load Cell A9 Fx [N, CFC_60]	4-41
37	Barrier Load Cell B1 Fx [N, CFC_60]	4-42
38	Barrier Load Cell B2 Fx [N, CFC_60]	4-43
39	Barrier Load Cell B3 Fx [N, CFC_60]	4-44
40	Barrier Load Cell B4 Fx [N, CFC_60]	4-45
41	Barrier Load Cell B5 Fx [N, CFC_60]	4-46
42	Barrier Load Cell B6 Fx [N, CFC_60]	4-47
43	Barrier Load Cell B7 Fx [N, CFC_60]	4-48
44	Barrier Load Cell B8 Fx [N, CFC_60]	4-49

45	Barrier Load Cell B9 Fx [N, CFC_60]	4-50
46	Barrier Load Cell C1 Fx [N, CFC_60]	4-51
47	Barrier Load Cell C2 Fx [N, CFC_60]	4-52
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49	Barrier Load Cell C4 Fx [N, CFC_60]	4-54
50	Barrier Load Cell C5 Fx [N, CFC_60]	4-55
51	Barrier Load Cell C6 Fx [N, CFC_60]	4-56
52	Barrier Load Cell C7 Fx [N, CFC_60]	4-57
53	Barrier Load Cell C8 Fx [N, CFC_60]	4-58
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58	Barrier Load Cell D4 Fx [N, CFC_60]	4-63
59	Barrier Load Cell D5 Fx [N, CFC_60]	4-64
60	Barrier Load Cell D6 Fx [N, CFC_60]	4-65
61	Barrier Load Cell D7 Fx [N, CFC_60]	4-66
62	Barrier Load Cell D8 Fx [N, CFC_60]	4-67
63	Barrier Load Cell D9 Fx [N, CFC_60]	4-68
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73	P3 Head z [g, CFC_1000]	4-78
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75	P3 Head Red z [g, CFC_1000]	4-80
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77	P3 Upper Neck Fy [N, CFC_1000]	4-82
78	P3 Upper Neck Fz [N, CFC_1000]	4-83
79	P3 Upper Neck F Resultant [N, CFC_1000]	4-84
80	P3 Upper Neck Mx [N-m, CFC_600]	4-85
81	P3 Upper Neck My [N-m, CFC_600]	4-86
82	P3 Upper Neck Mz [N-m, CFC_600]	4-87
83	P3 Upper Neck M Resultant [N-m, CFC_600]	4-88
84	P3 Lower Neck Fx [N, CFC_1000]	4-89
85	P3 Lower Neck Fy [N, CFC_1000]	4-90
86	P3 Lower Neck Fz [N, CFC_1000]	4-91
87	P3 Lower Neck F Resultant [N, CFC_1000]	4-92
88	P3 Lower Neck Mx [N-m, CFC_600]	4-93
89	P3 Lower Neck My [N-m, CFC_600]	4-94
90	P3 Lower Neck Mz [N-m, CFC_600]	4-95
91	P3 Lower Neck M Resultant [N-m, CFC_600]	4-96
92	P3 Chest x [g, CFC_180]	4-97
93	P3 Chest y [g, CFC_180]	4-98

94	P3 Chest z [g, CFC_180]	4-99
95	P3 Chest Resultant [g, CFC_180]	4-100
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97	P3 Lumbar Fy [N, CFC_1000]	4-102
98	P3 Lumbar Fz [N, CFC_1000]	4-103
99	P3 Lumbar F Resultant [N, CFC_1000]	4-104
100	P3 Lumbar Mx [N-m, CFC_1000]	4-105
101	P3 Lumbar My [N-m, CFC_1000]	4-106
102	P3 Lumbar Mz [N-m, CFC_1000]	4-107
103	P3 Lumbar M Resultant [N-m, CFC_1000]	4-108
104	P3 Pelvic x [g, CFC_1000]	4-109
105	P3 Pelvic y [g, CFC_1000]	4-110
106	P3 Pelvic z [g, CFC_1000]	4-111
107	P3 Pelvic Resultant [g, CFC_1000]	4-112
108	P4 Head x [g, CFC_1000]	4-113
109	P4 Head y [g, CFC_1000]	4-114
110	P4 Head z [g, CFC_1000]	4-115
111	P4 Head Resultant [g, CFC_1000]	4-116
112	P4 Head Red z [g, CFC_1000]	4-117
113	P4 Upper Neck Fx [N, CFC_1000]	4-118
114	P4 Upper Neck Fy [N, CFC_1000]	4-119
115	P4 Upper Neck Fz [N, CFC_1000]	4-120
116	P4 Upper Neck F Resultant [N, CFC_1000]	4-121
117	P4 Upper Neck Mx [N-m, CFC_600]	4-122
118	P4 Upper Neck My [N-m, CFC_600]	4-123
119	P4 Upper Neck Mz [N-m, CFC_600]	4-124
120	P4 Upper Neck M Resultant [N-m, CFC_600]	4-125
121	P4 Lower Neck Fx [N, CFC_1000]	4-126
122	P4 Lower Neck Fy [N, CFC_1000]	4-127
123	P4 Lower Neck Fz [N, CFC_1000]	4-128
124	P4 Lower Neck F Resultant [N, CFC_1000]	4-129
125	P4 Lower Neck Mx [N-m, CFC_600]	4-130
126	P4 Lower Neck My [N-m, CFC_600]	4-131
127	P4 Lower Neck Mz [N-m, CFC_600]	4-132
128	P4 Lower Neck M Resultant [N-m, CFC_600]	4-133
129	P4 Chest x [g, CFC_180]	4-134
130	P4 Chest y [g, CFC_180]	4-135
131	P4 Chest z [g, CFC_180]	4-136
132	P4 Chest Resultant [g, CFC_180]	4-137
133	P4 Lumbar Fx [N, CFC_1000]	4-138
134	P4 Lumbar Fy [N, CFC_1000]	4-139
135	P4 Lumbar Fz [N, CFC_1000]	4-140
136	P4 Lumbar F Resultant [N, CFC_1000]	4-141
137	P4 Lumbar Mx [N-m, CFC_1000]	4-142
138	P4 Lumbar My [N-m, CFC_1000]	4-143
139	P4 Lumbar Mz [N-m, CFC_1000]	4-144
140	P4 Lumbar M Resultant [N-m, CFC_1000]	4-145
141	P4 Pelvic x [g, CFC_1000]	4-146
142	P4 Pelvic y [g, CFC_1000]	4-147

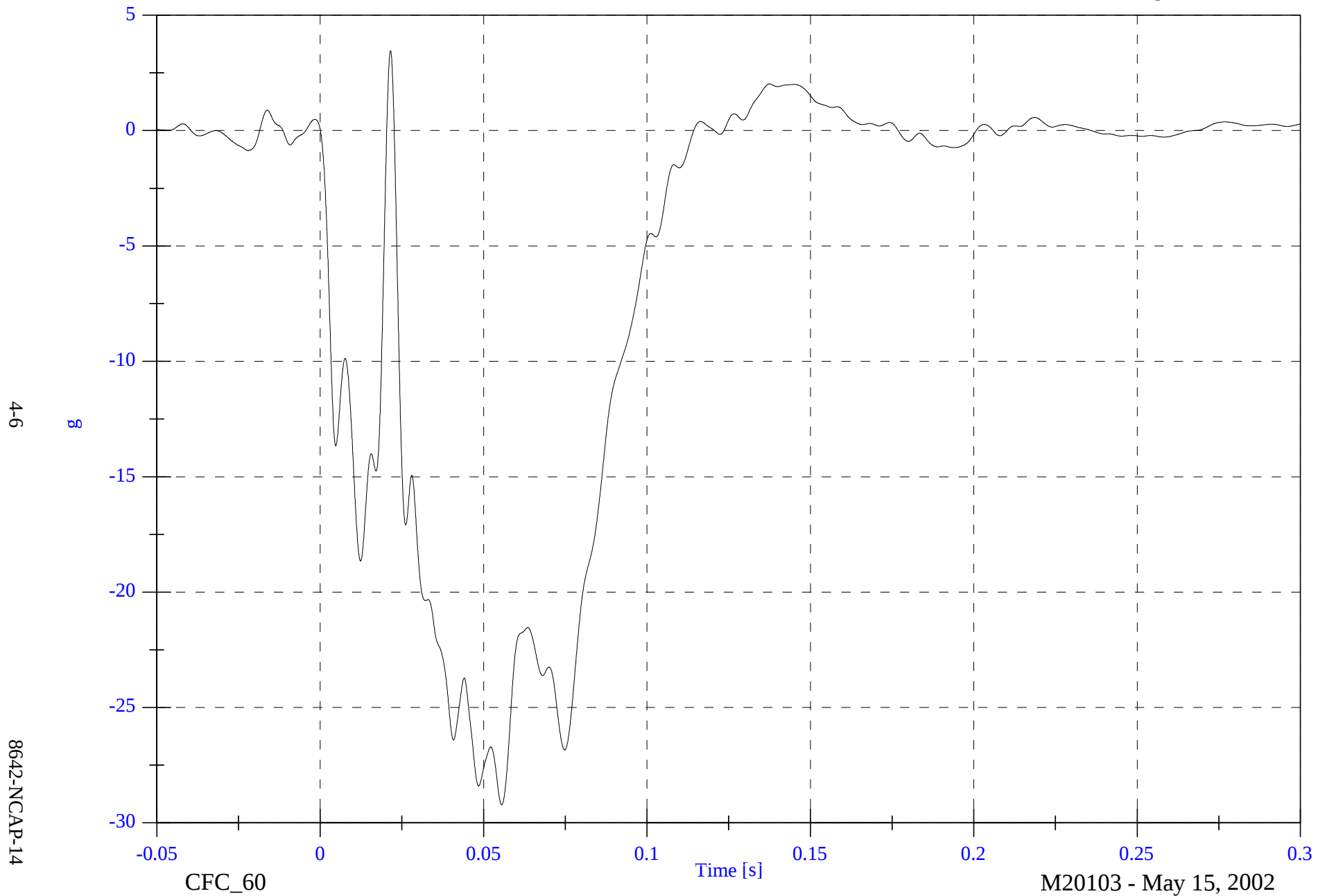
143	P4 Pelvic z [g, CFC_1000]	4-148
144	P4 Pelvic Resultant [g, CFC_1000]	4-149
145	P4 Child Seat x [g, CFC_60]	4-150
146	P4 Child Seat x Velocity [kph, CFC_180]	4-151
147	P4 Child Seat x Displacement [mm, CFC_180]	4-152
148	P4 Child Seat y [g, CFC_60]	4-153
149	P4 Child Seat y Velocity [kph, CFC_180]	4-154
150	P4 Child Seat y Displacement [mm, CFC_180]	4-155
151	P4 Child Seat z [g, CFC_60]	4-156
152	P4 Child Seat z Velocity [kph, CFC_180]	4-157
153	P4 Child Seat z Displacement [mm, CFC_180]	4-158
154	P4 Child Seat Resultant [g, CFC_60]	4-159

2002 NCAP Test 14 2002 Cadillac Deville

Max: 3.5 [g] at 0.022 [s]

Min: -29.2 [g] at 0.056 [s]

Left Rear #1x

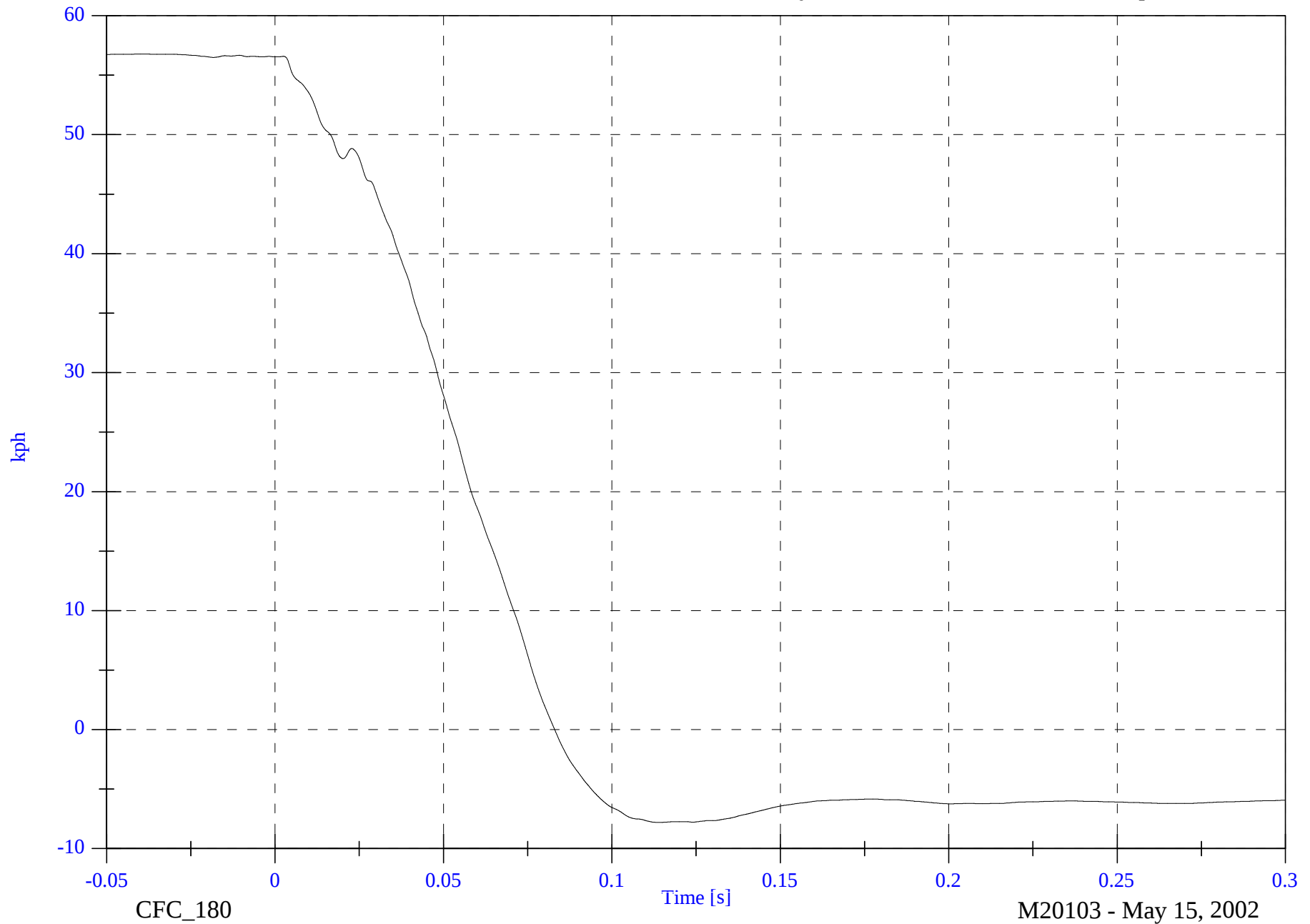


2002 NCAP Test 14 2002 Cadillac Deville

Max: 56.8 [kph] at -0.040 [s]

Min: -7.8 [kph] at 0.114 [s]

Left Rear #1x Velocity



4-7

8642-NCAP-14

CFC_180

Time [s]

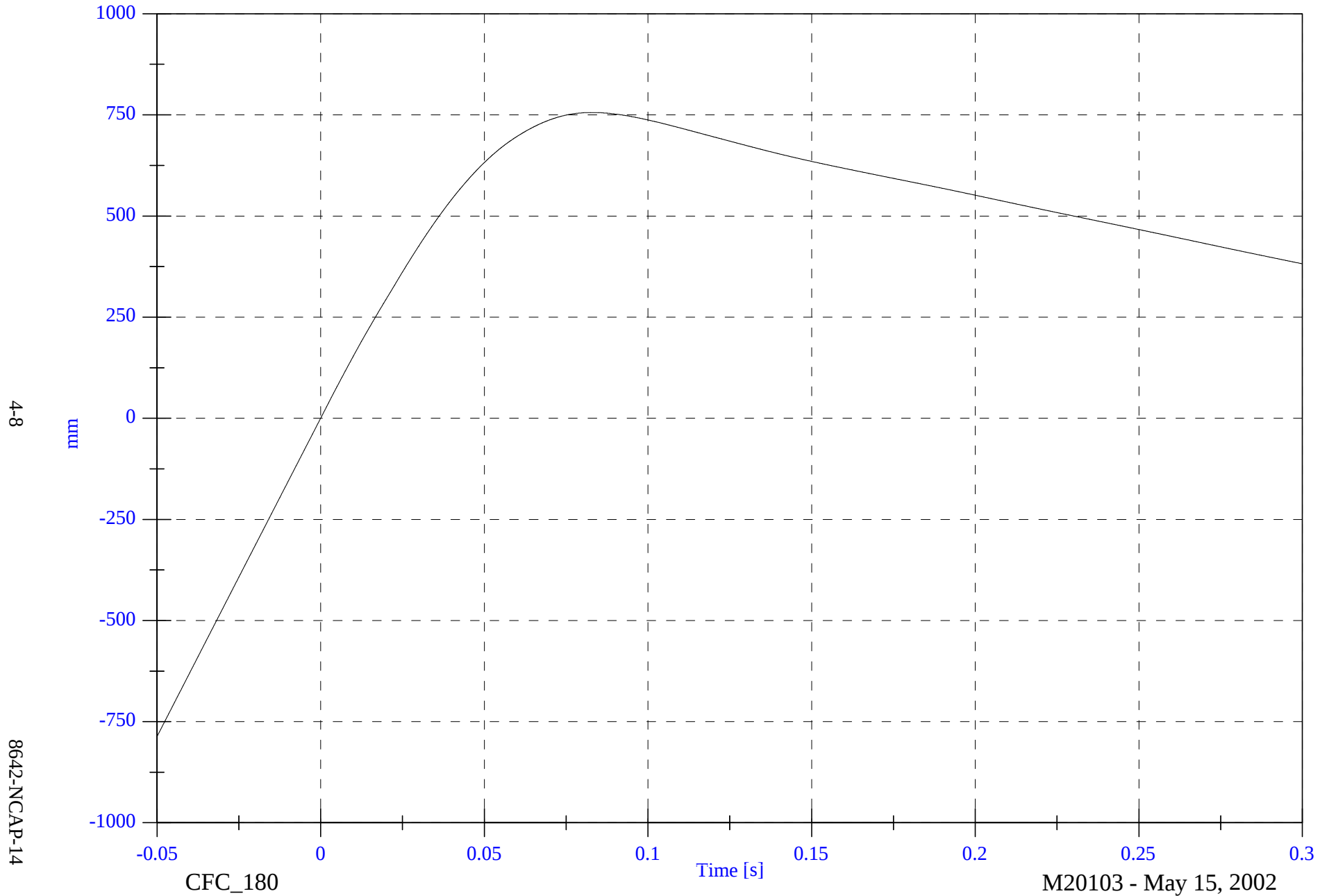
M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

Max: 756.0 [mm] at 0.083 [s]

Min: -787.0 [mm] at -0.050 [s]

Left Rear #1x Displacement

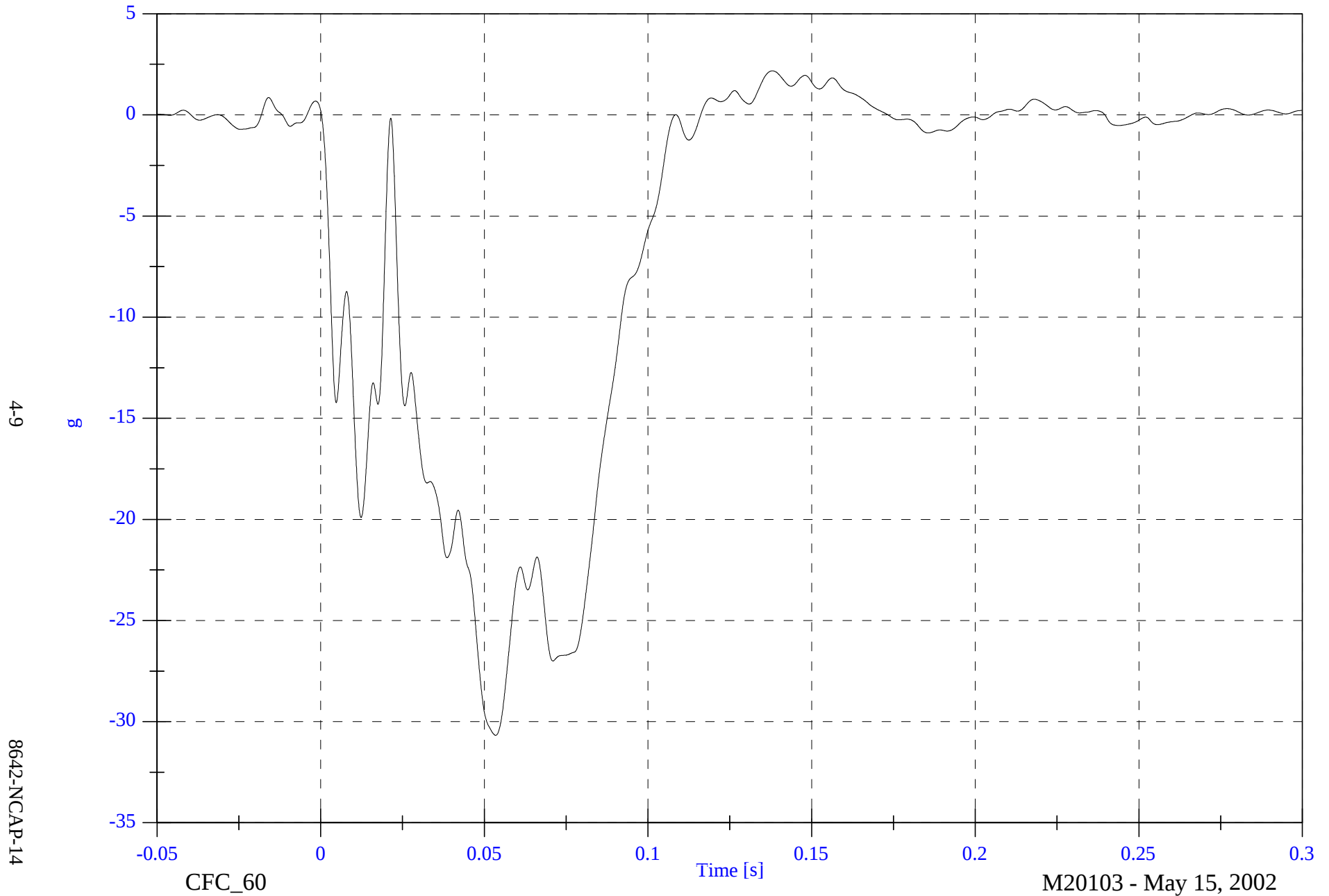


2002 NCAP Test 14 2002 Cadillac Deville

Right Rear #2x

Max: 2.2 [g] at 0.138 [s]

Min: -30.7 [g] at 0.053 [s]

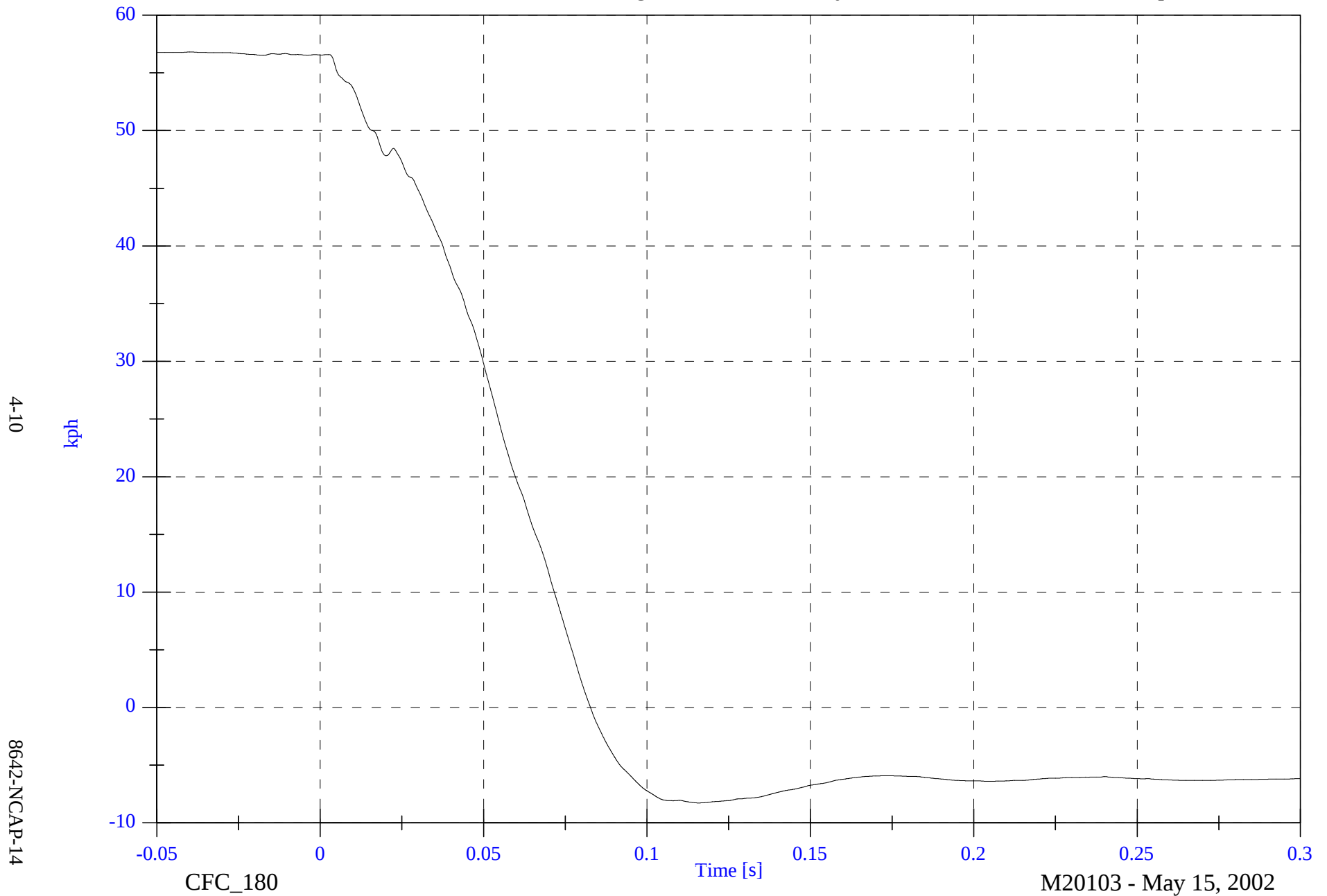


2002 NCAP Test 14 2002 Cadillac Deville

Max: 56.8 [kph] at -0.039 [s]

Min: -8.3 [kph] at 0.116 [s]

Right Rear #2x Velocity



2002 NCAP Test 14 2002 Cadillac Deville

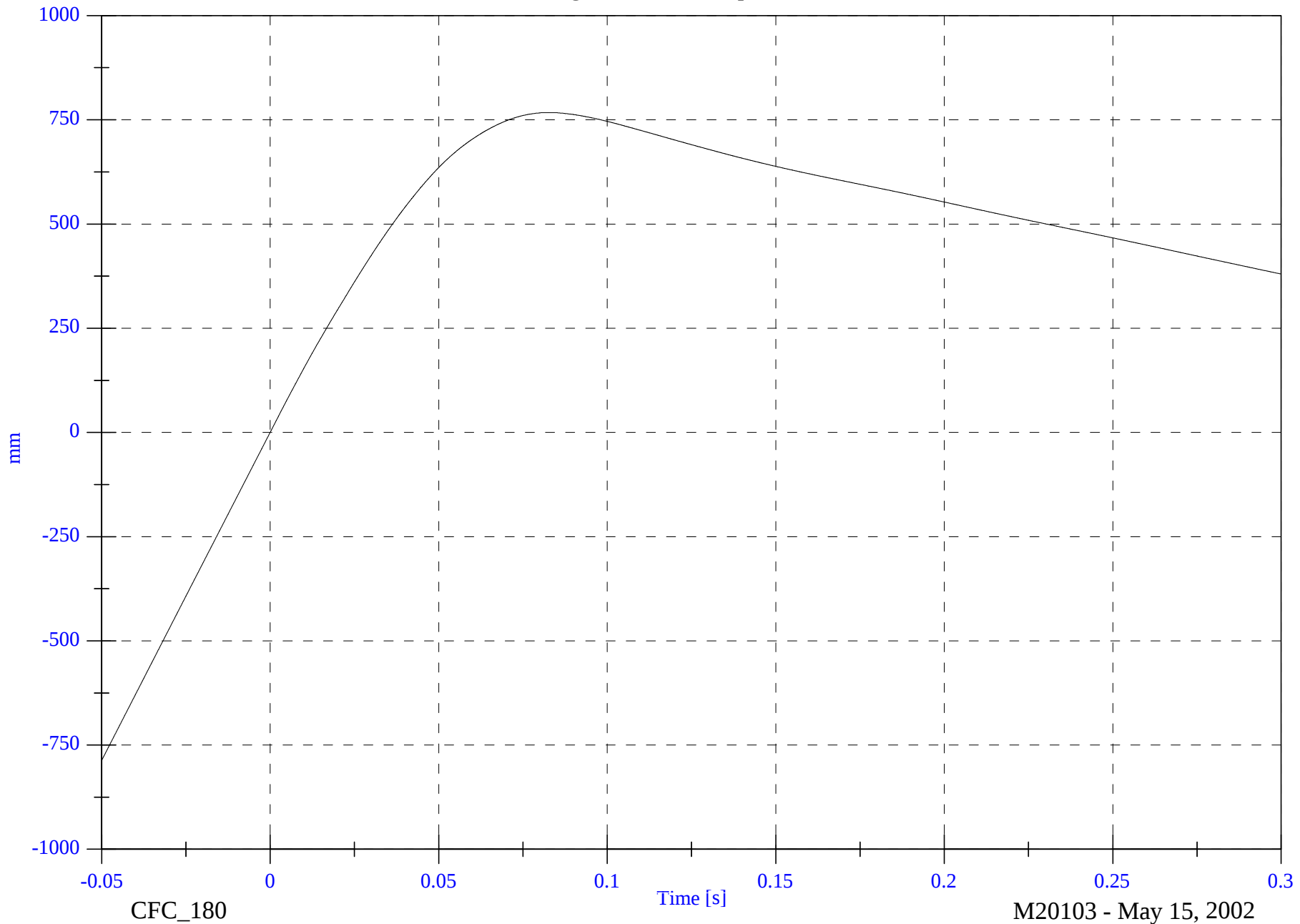
Right Rear #2x Displacement

Max: 767.4 [mm] at 0.083 [s]

Min: -787.2 [mm] at -0.050 [s]

4-11

8642-NCAP-14



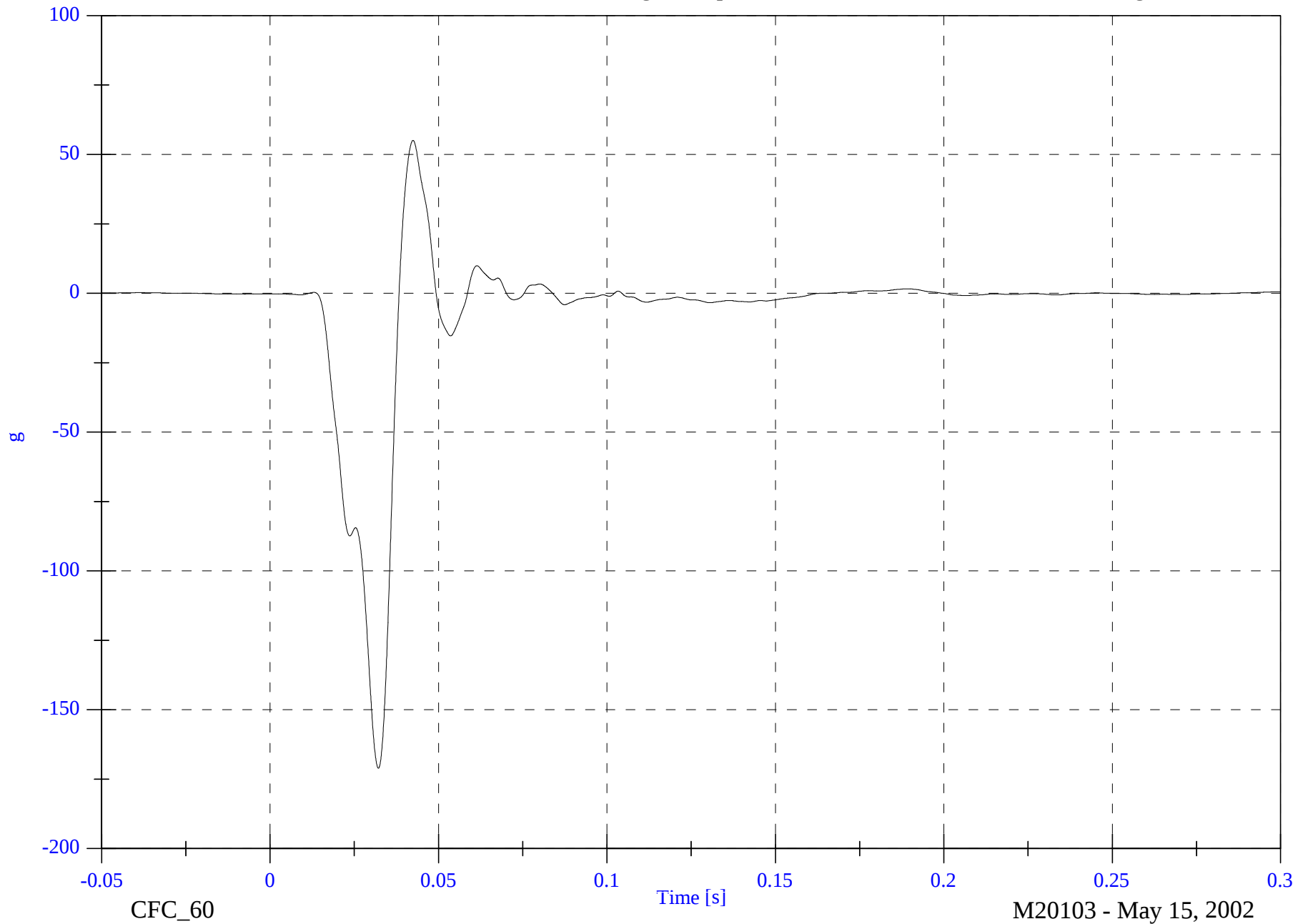
2002 NCAP Test 14 2002 Cadillac Deville

Engine Top #3x

Max: 55.1 [g] at 0.042 [s]
Min: -171.1 [g] at 0.032 [s]

4-12

8642-NCAP-14

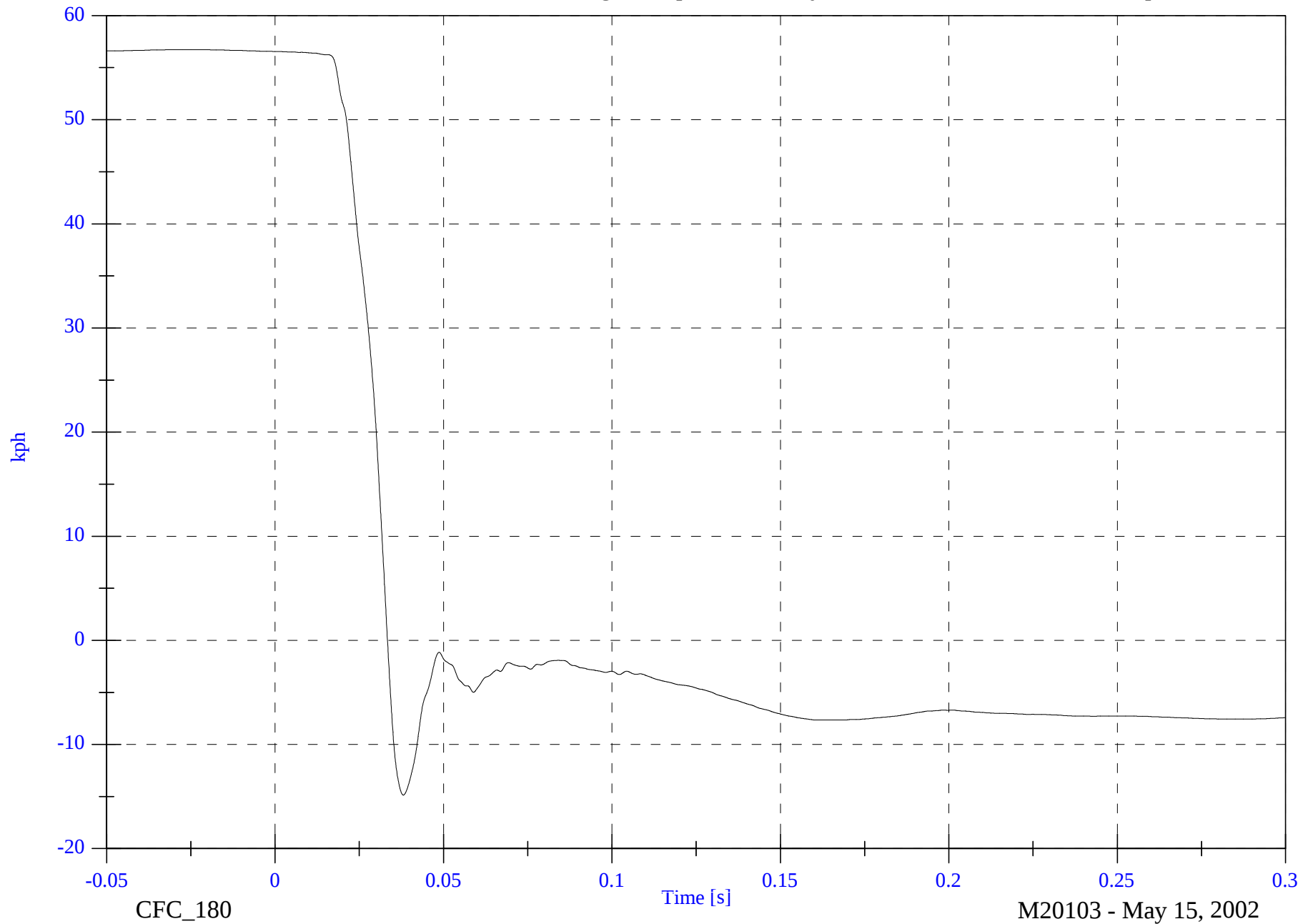


2002 NCAP Test 14 2002 Cadillac Deville

Max: 56.7 [kph] at -0.029 [s]

Min: -14.9 [kph] at 0.038 [s]

Engine Top #3x Velocity



4-13

8642-NCAP-14

CFC_180

Time [s]

M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

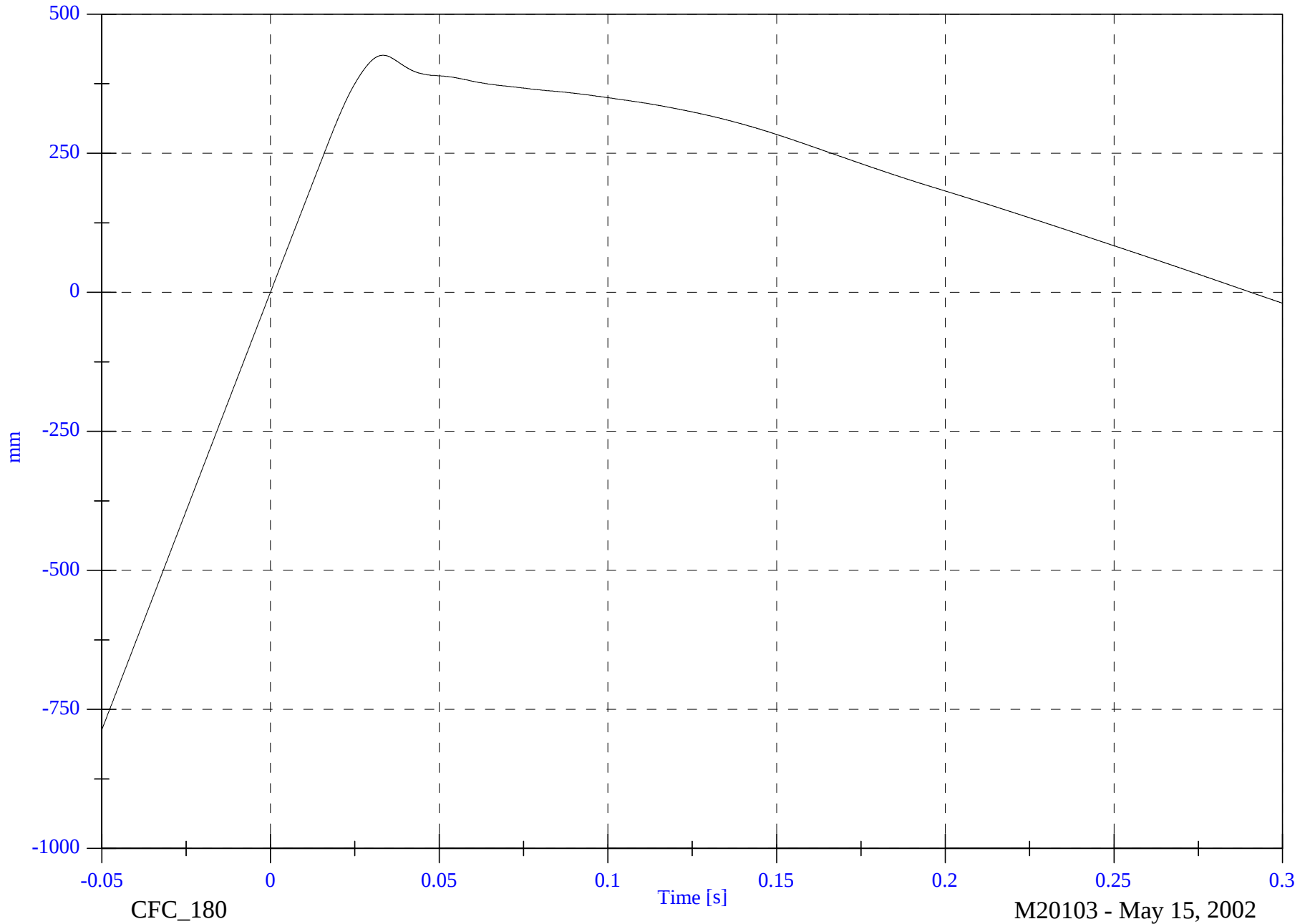
Engine Top #3x Displacement

Max: 426.3 [mm] at 0.033 [s]

Min: -787.0 [mm] at -0.050 [s]

4-14

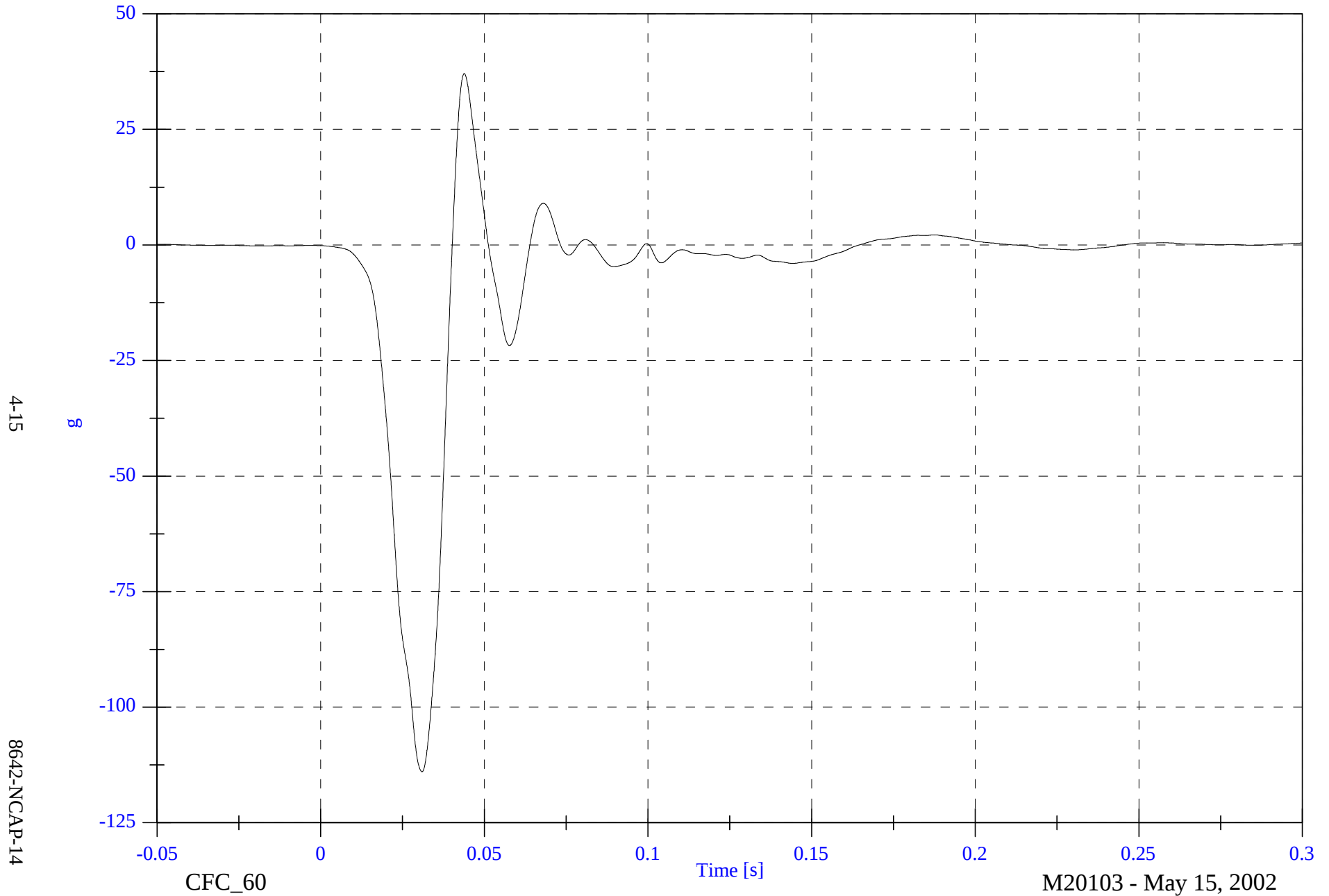
8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

Engine Bottom #4x

Max: 37.1 [g] at 0.044 [s]
Min: -114.0 [g] at 0.031 [s]



2002 NCAP Test 14 2002 Cadillac Deville

Max: 56.8 [kph] at -0.042 [s]

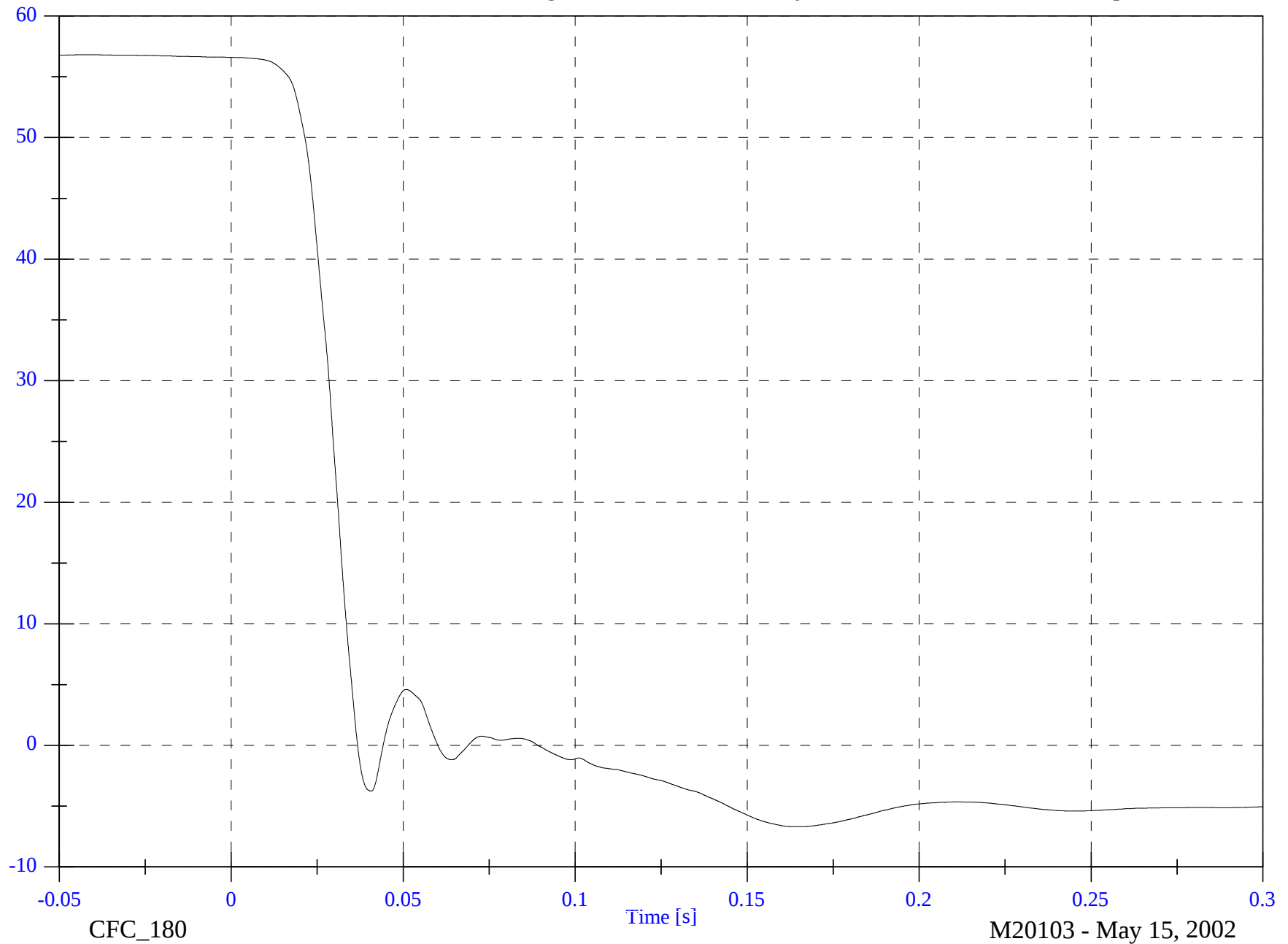
Engine Bottom #4x Velocity

Min: -6.7 [kph] at 0.165 [s]

4-16

kph

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

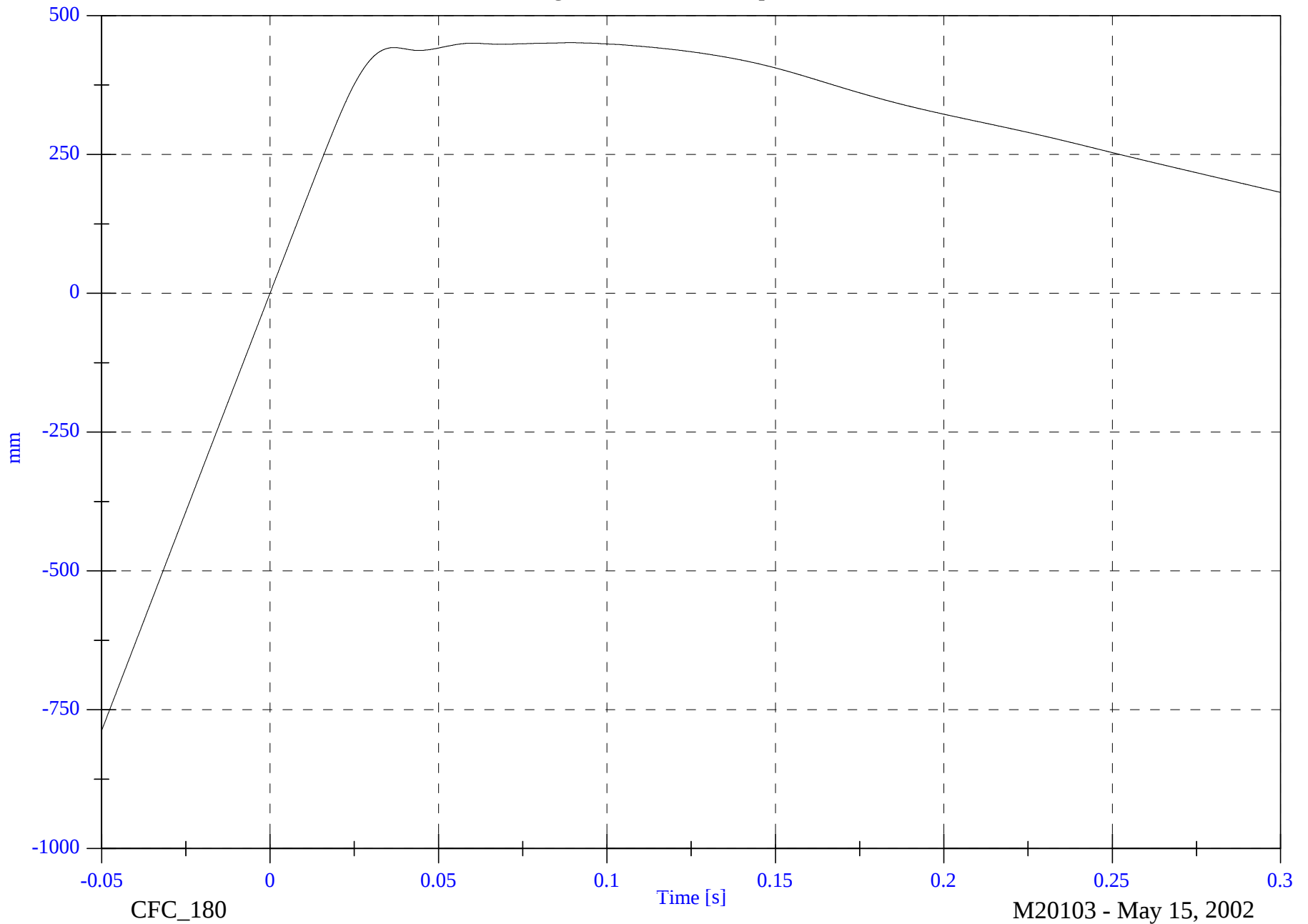
Engine Bottom #4x Displacement

Max: 451.2 [mm] at 0.089 [s]

Min: -787.9 [mm] at -0.050 [s]

4-17

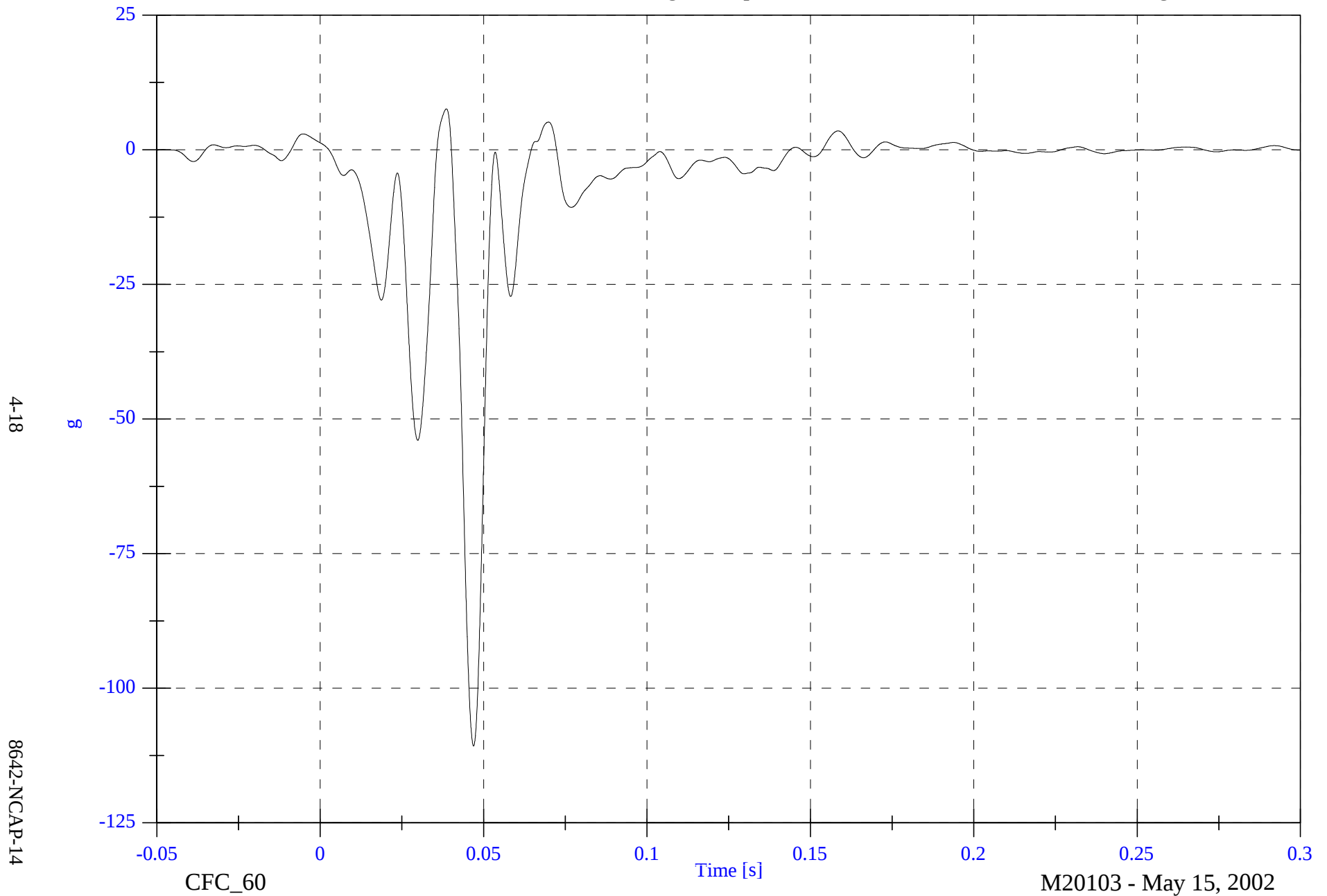
8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

Max: 7.6 [g] at 0.039 [s]
Min: -110.7 [g] at 0.047 [s]

Right Caliper #5x

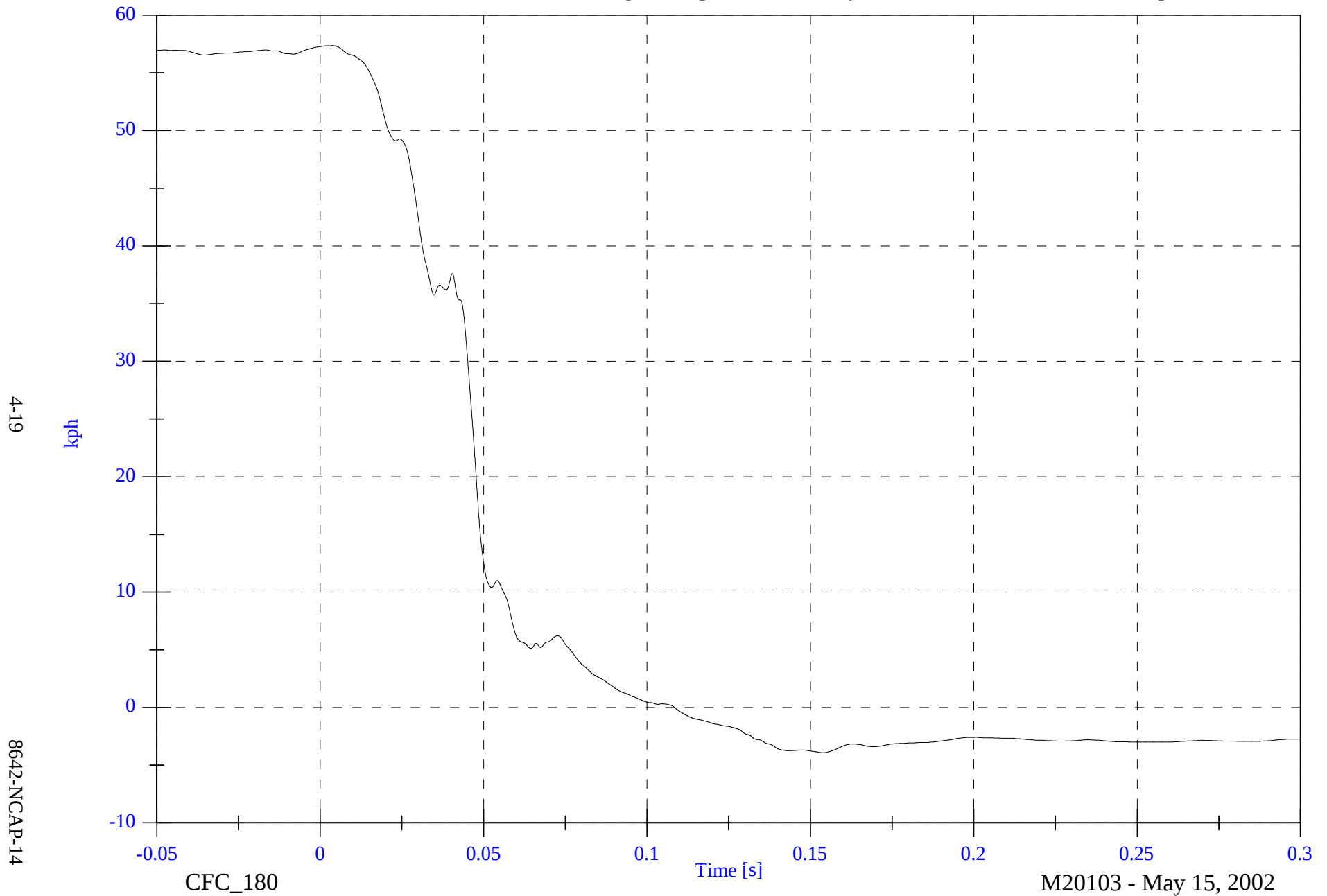


2002 NCAP Test 14 2002 Cadillac Deville

Max: 57.4 [kph] at 0.004 [s]

Min: -3.9 [kph] at 0.154 [s]

Right Caliper #5x Velocity

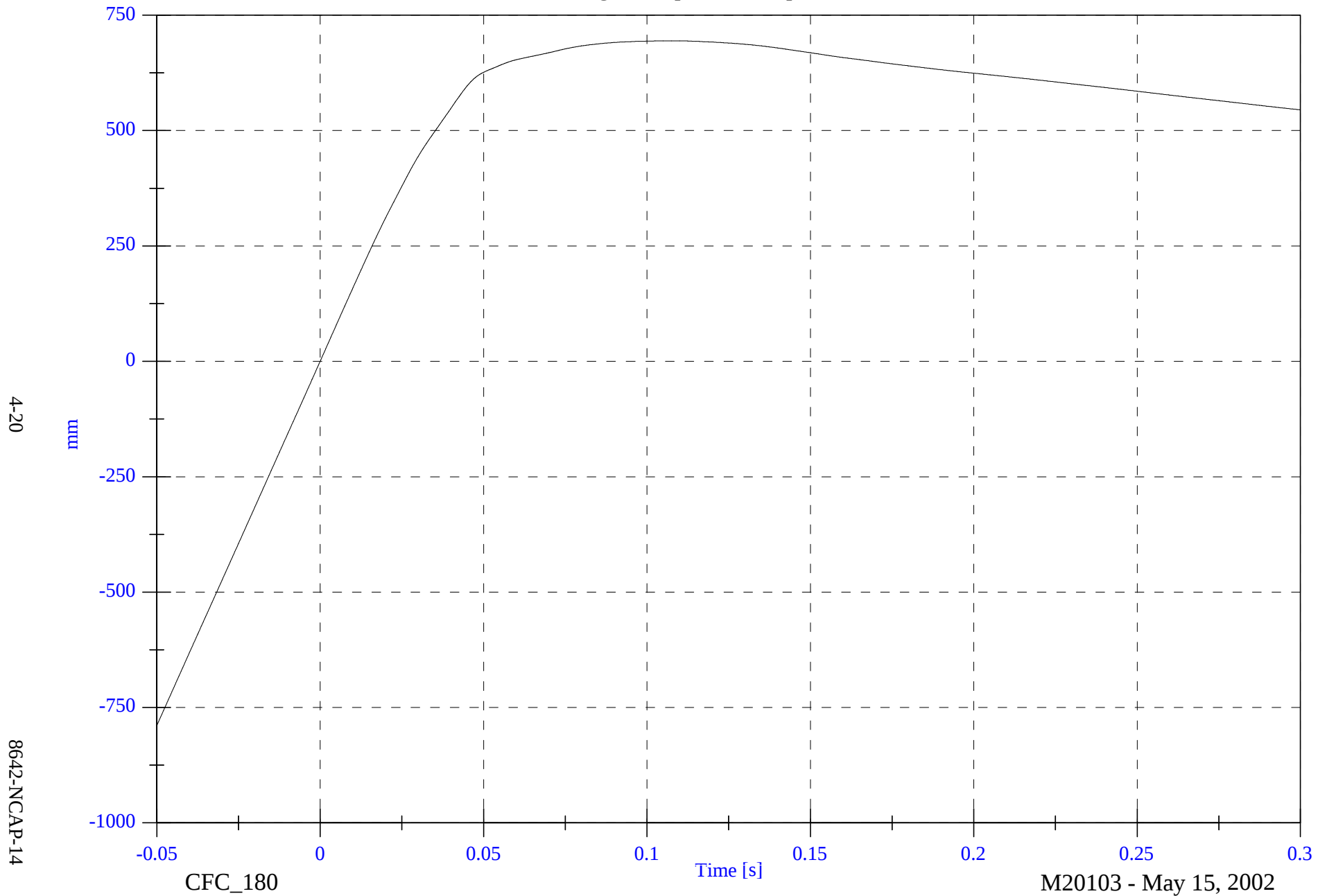


2002 NCAP Test 14 2002 Cadillac Deville

Max: 694.3 [mm] at 0.109 [s]

Min: -789.4 [mm] at -0.050 [s]

Right Caliper #5x Displacement



2002 NCAP Test 14 2002 Cadillac Deville

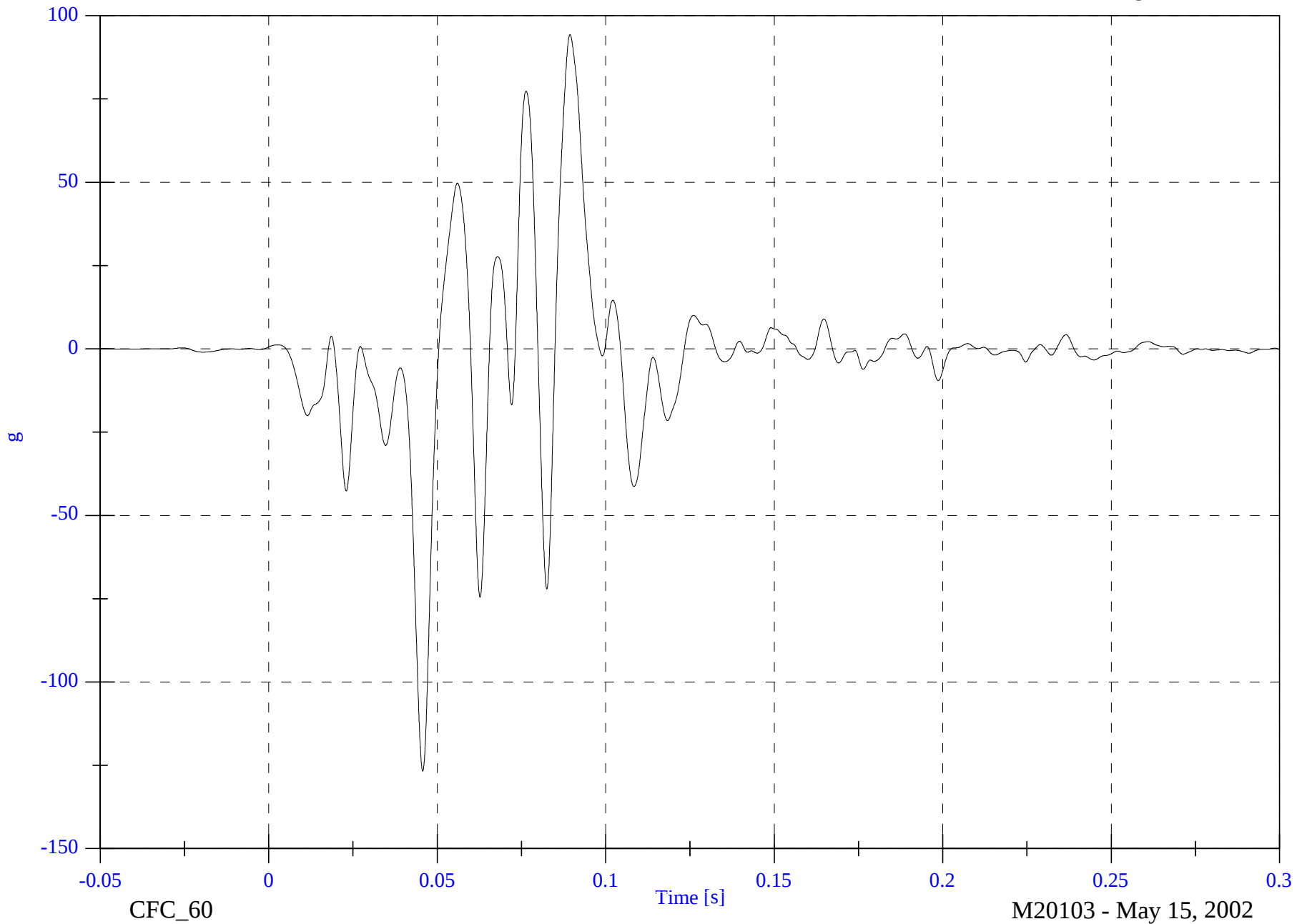
Max: 94.3 [g] at 0.089 [s]

Min: -126.8 [g] at 0.046 [s]

Instrument Panel #6x

4-21

8642-NCAP-14

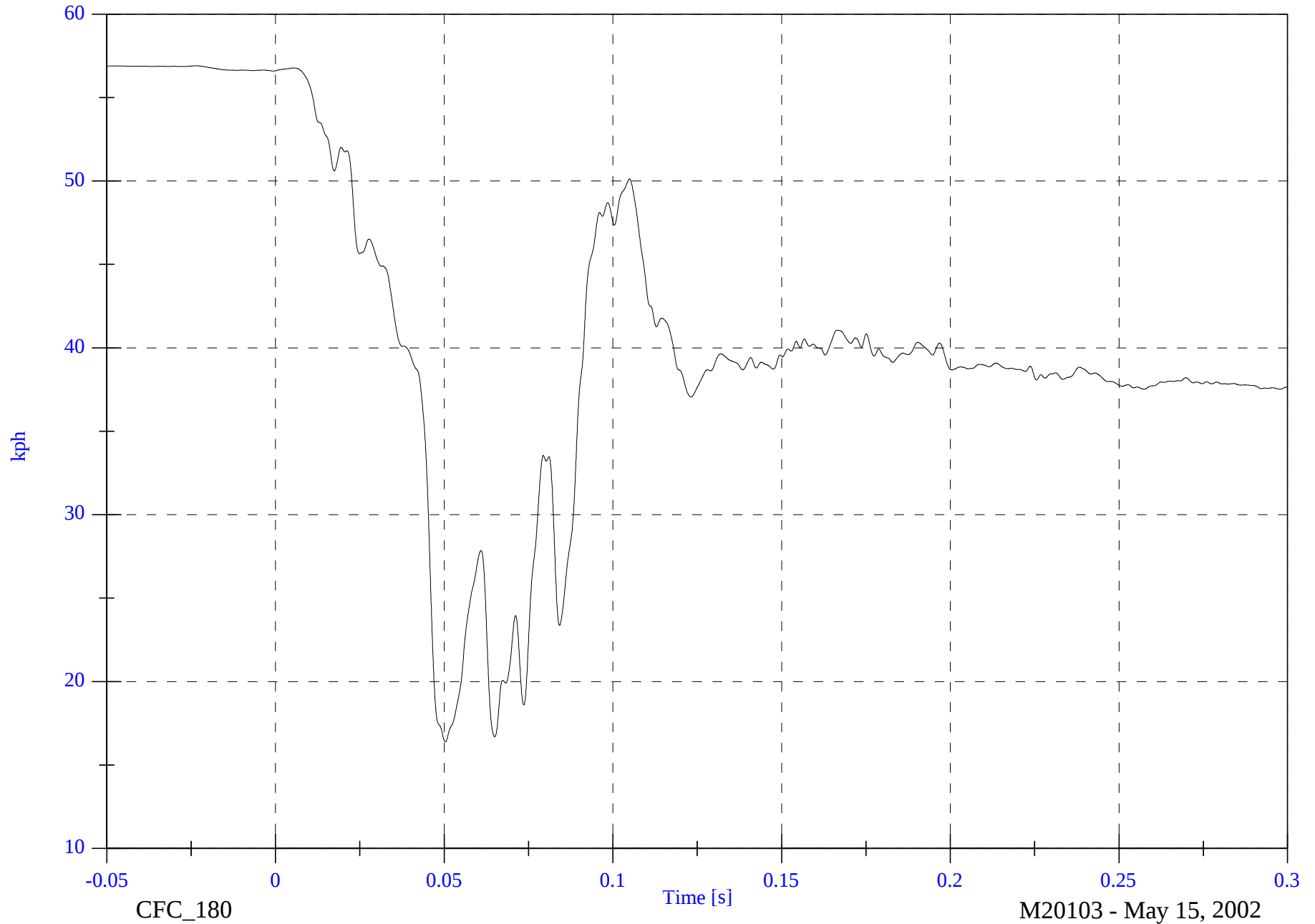


2002 NCAP Test 14 2002 Cadillac Deville

Max: 56.9 [kph] at -0.023 [s]

Instrument Panel #6x Velocity

Min: 16.4 [kph] at 0.050 [s]



4-22

8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

Max: 3216.1 [mm] at 0.300 [s]

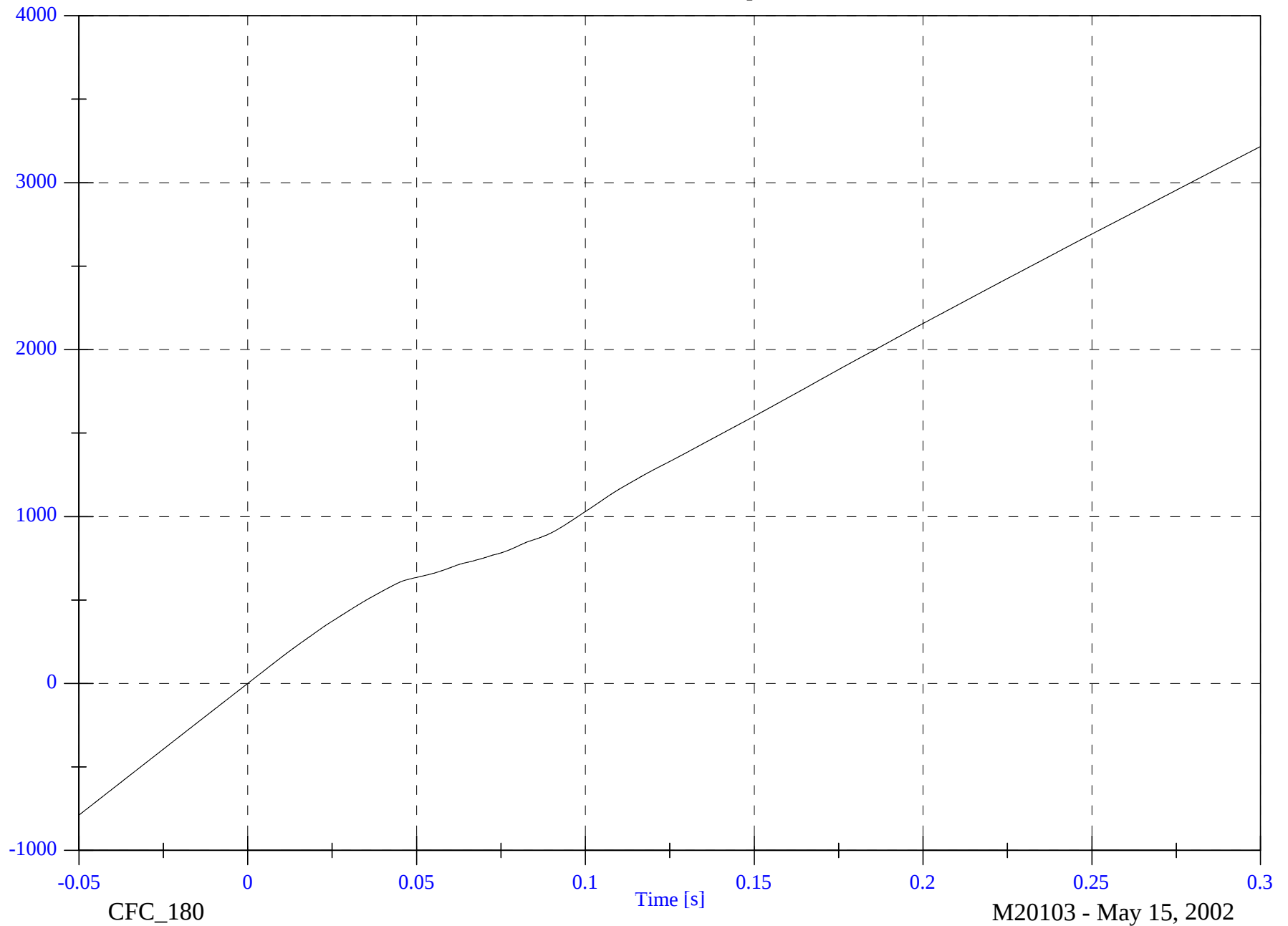
Instrument Panel #6x Displacement

Min: -788.8 [mm] at -0.050 [s]

4-23

mm

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

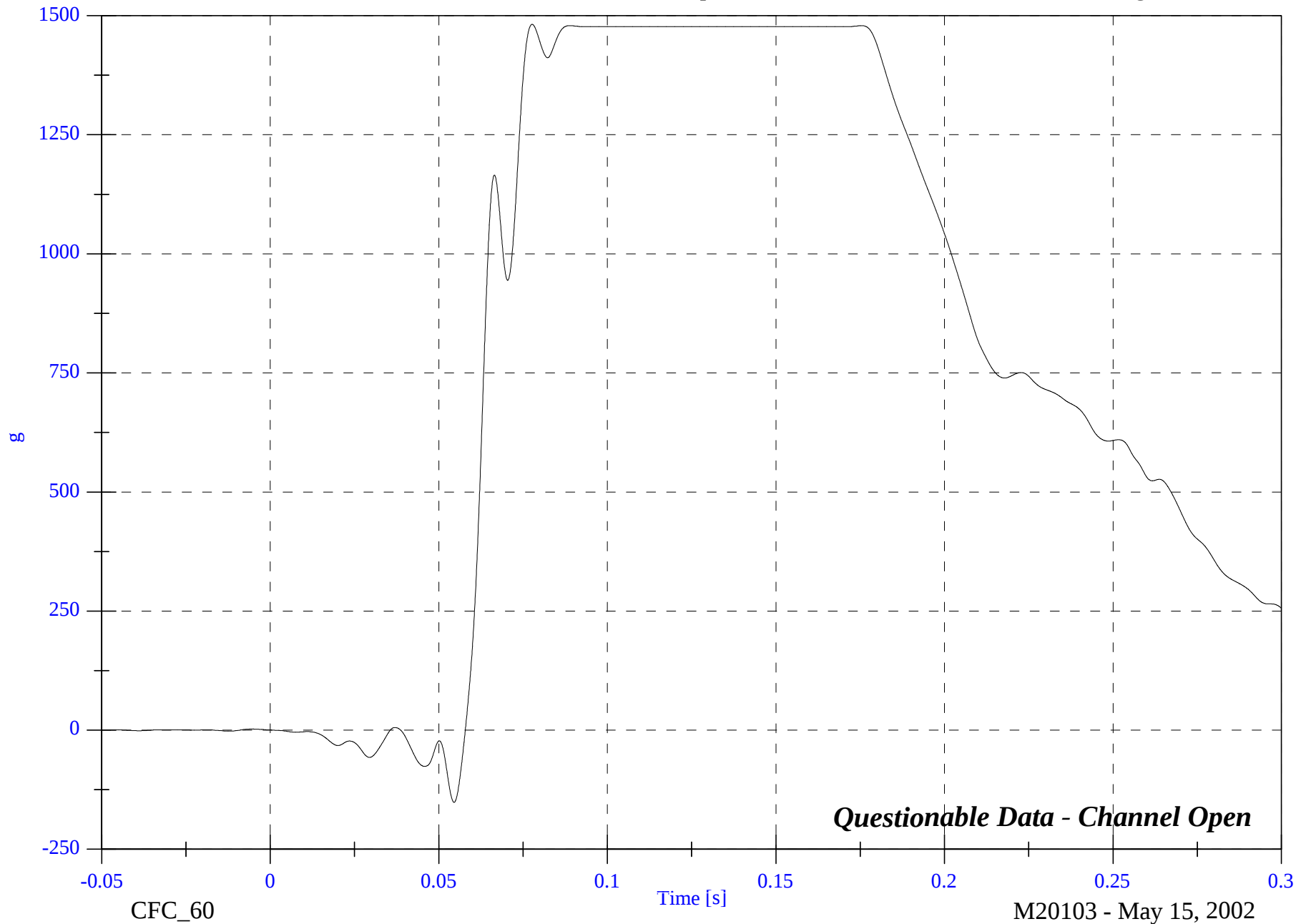
Max: 1481.8 [g] at 0.078 [s]

Min: -151.6 [g] at 0.055 [s]

Left Caliper #7x

4-24

8642-NCAP-14

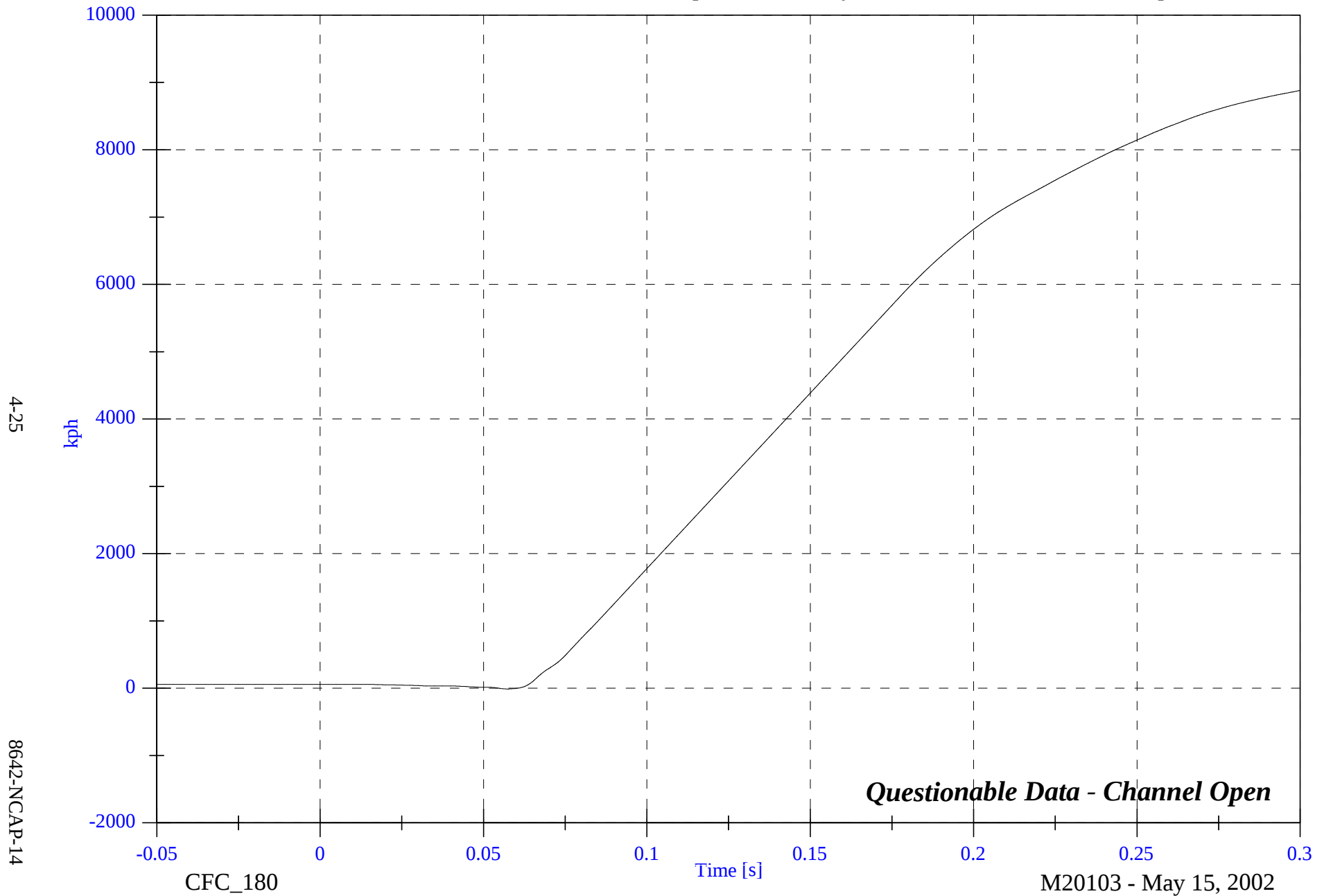


2002 NCAP Test 14 2002 Cadillac Deville

Max: 8880.7 [kph] at 0.300 [s]

Left Caliper #7x Velocity

Min: -9.9 [kph] at 0.057 [s]



2002 NCAP Test 14 2002 Cadillac Deville

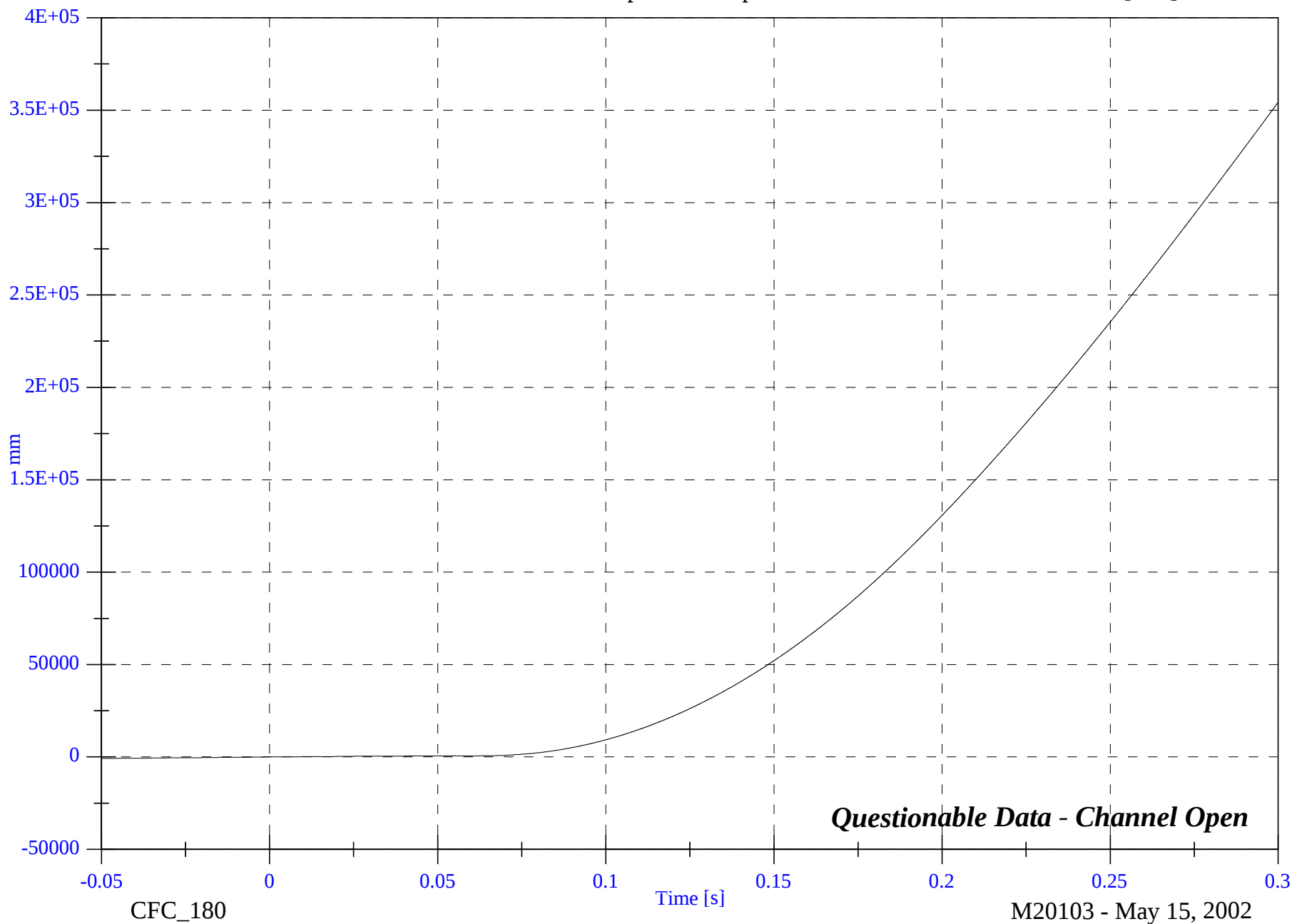
Max: 354237.7 [mm] at 0.300 [s]

Left Caliper #7x Displacement

Min: -789.4 [mm] at -0.050 [s]

4-26

8642-NCAP-14

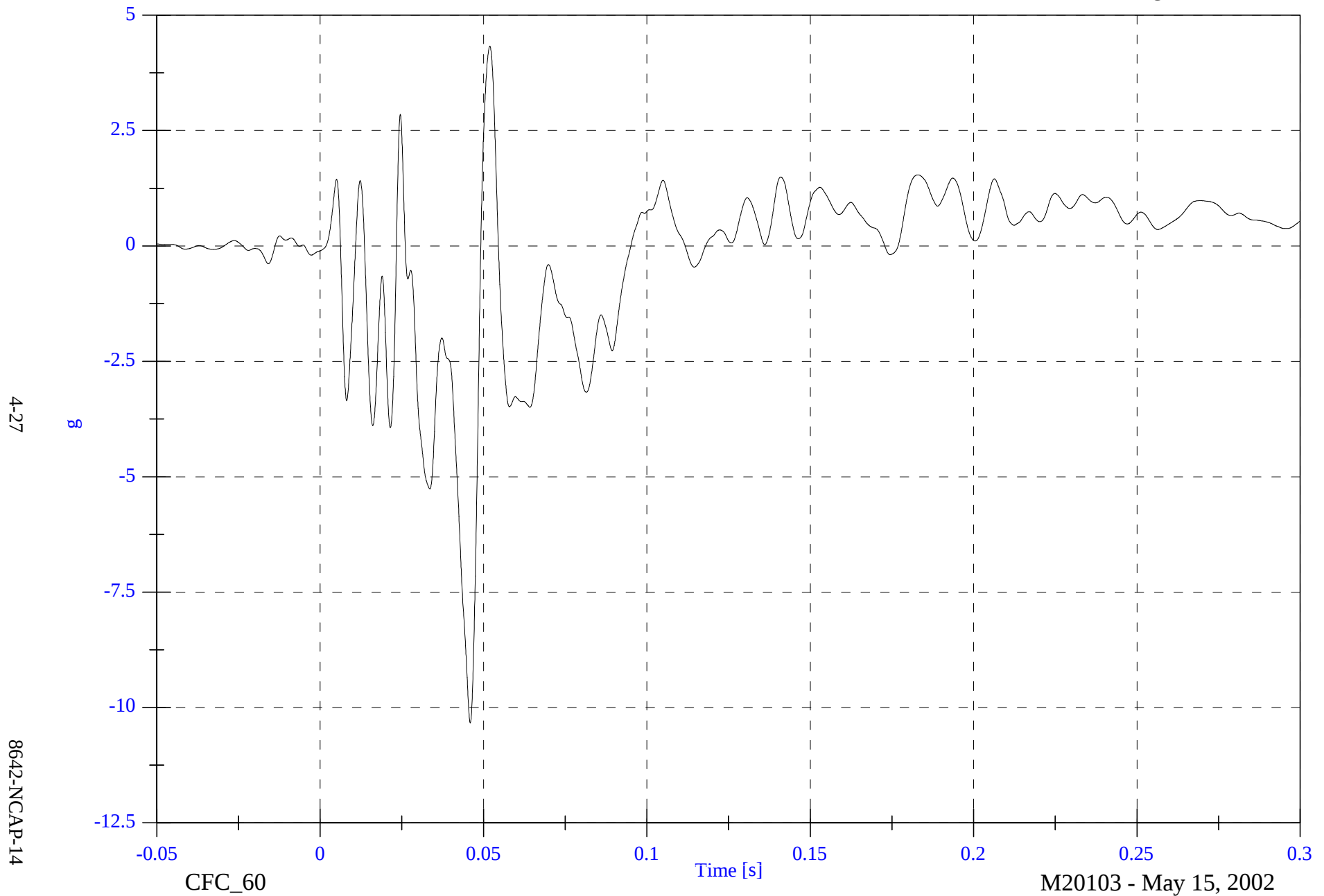


2002 NCAP Test 14 2002 Cadillac Deville

Max: 4.3 [g] at 0.052 [s]

Min: -10.3 [g] at 0.046 [s]

Left Rear #8z

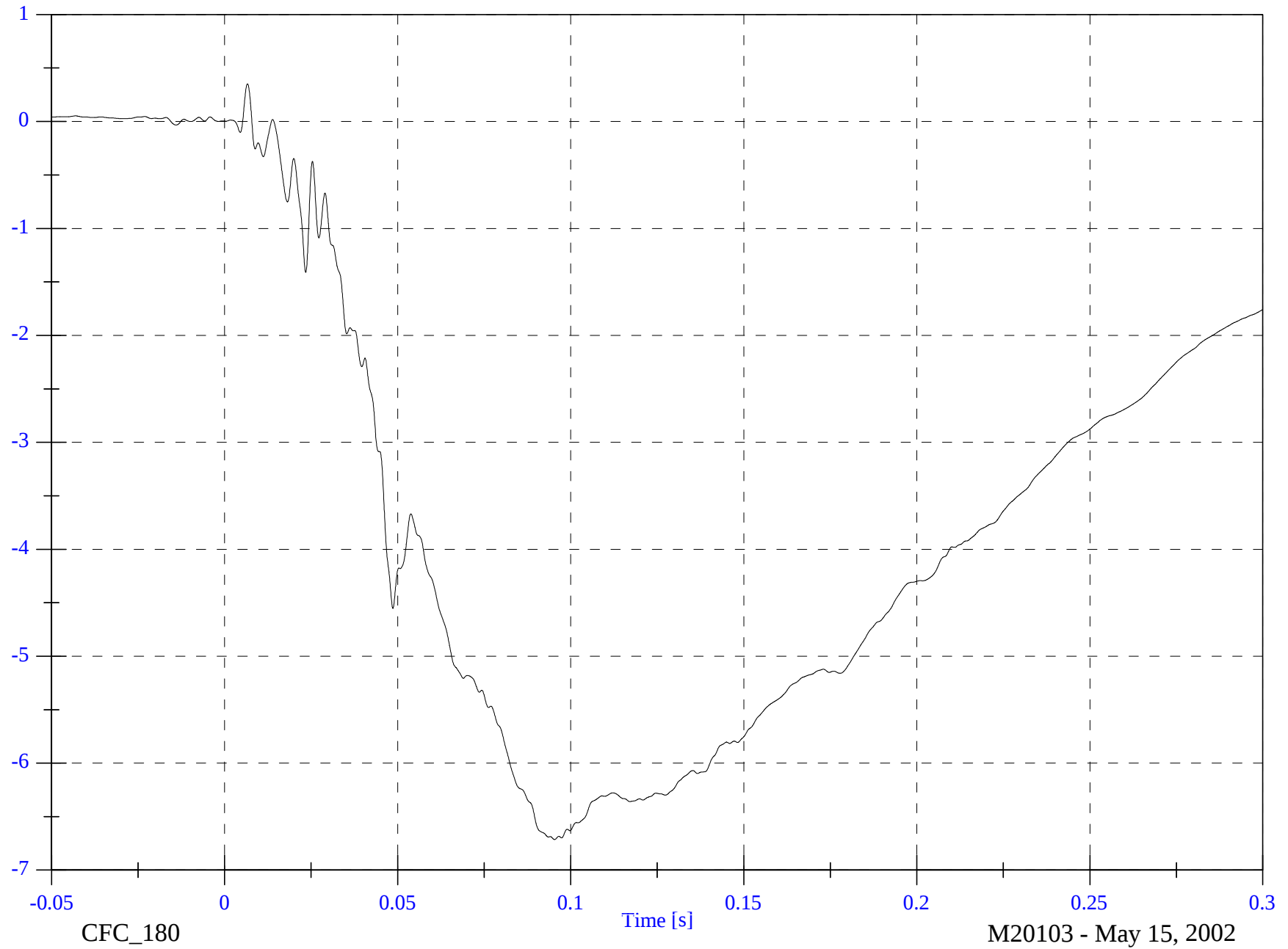


2002 NCAP Test 14 2002 Cadillac Deville

Max: 0.4 [kph] at 0.007 [s]

Min: -6.7 [kph] at 0.095 [s]

Left Rear #8z Velocity



4-28

8642-NCAP-14

CFC_180

Time [s]

M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

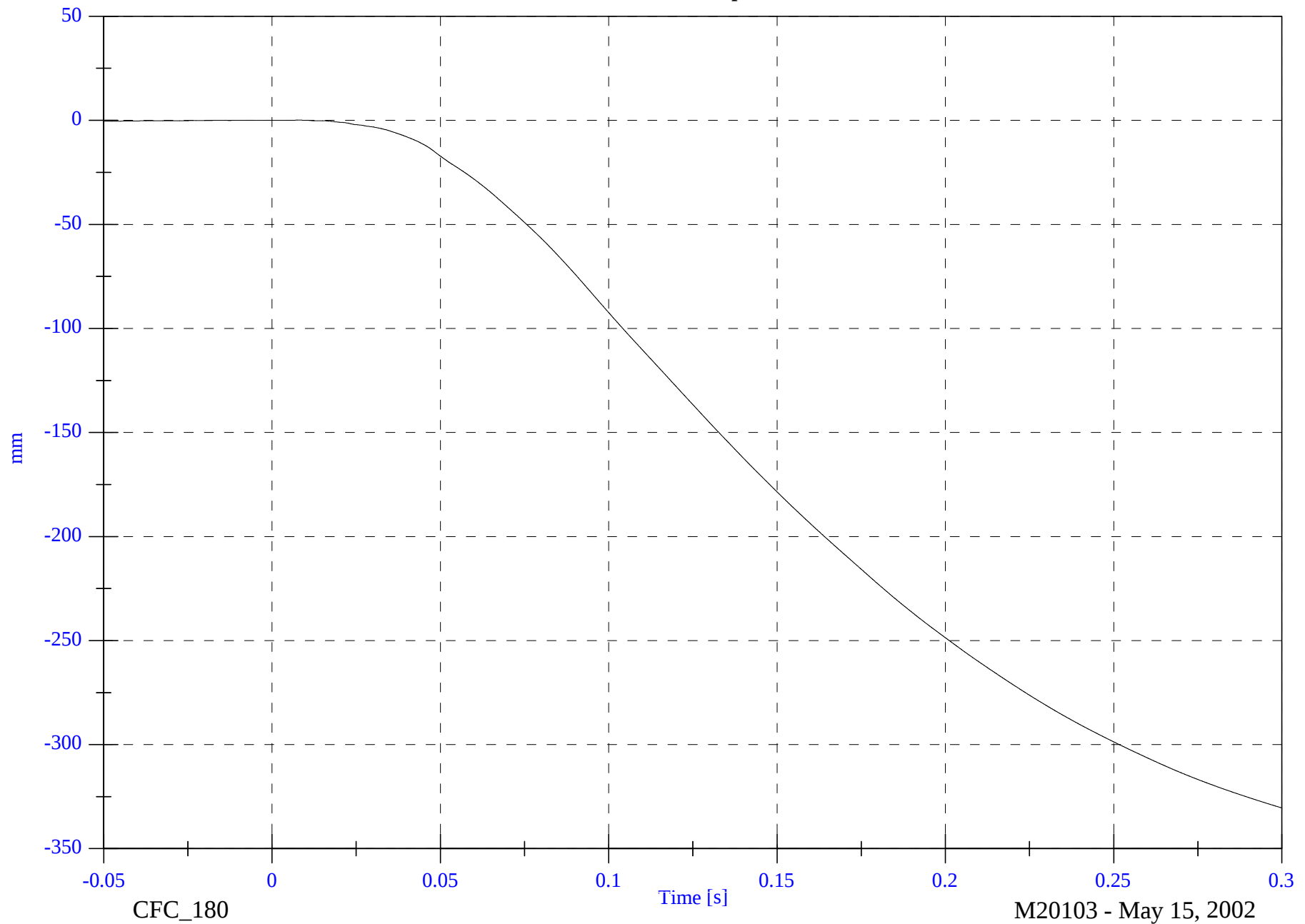
Max: 0.1 [mm] at 0.008 [s]

Left Rear #8z Displacement

Min: -330.5 [mm] at 0.300 [s]

4-29

8642-NCAP-14

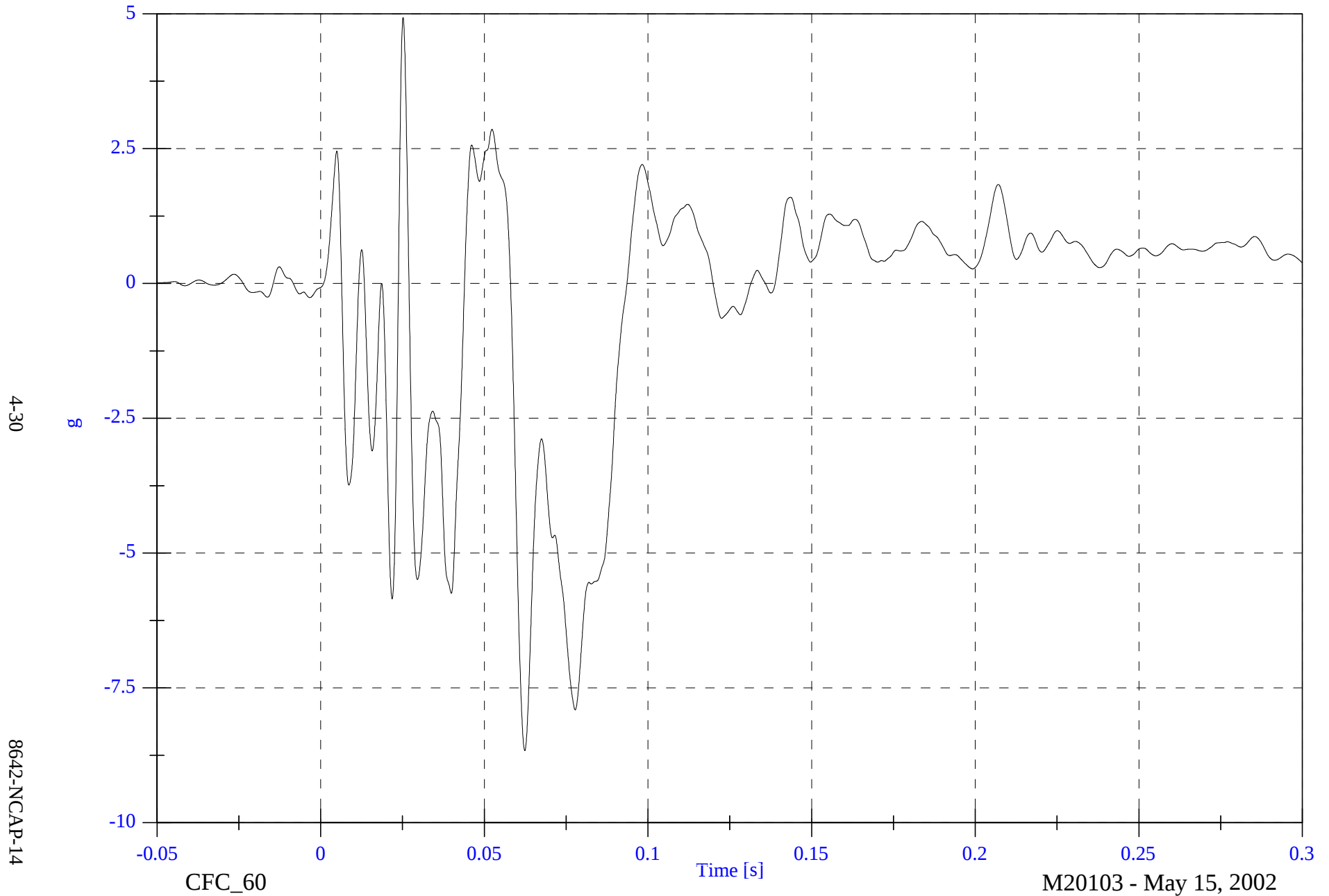


2002 NCAP Test 14 2002 Cadillac Deville

Max: 4.9 [g] at 0.025 [s]

Min: -8.7 [g] at 0.062 [s]

Right Rear #9z



2002 NCAP Test 14 2002 Cadillac Deville

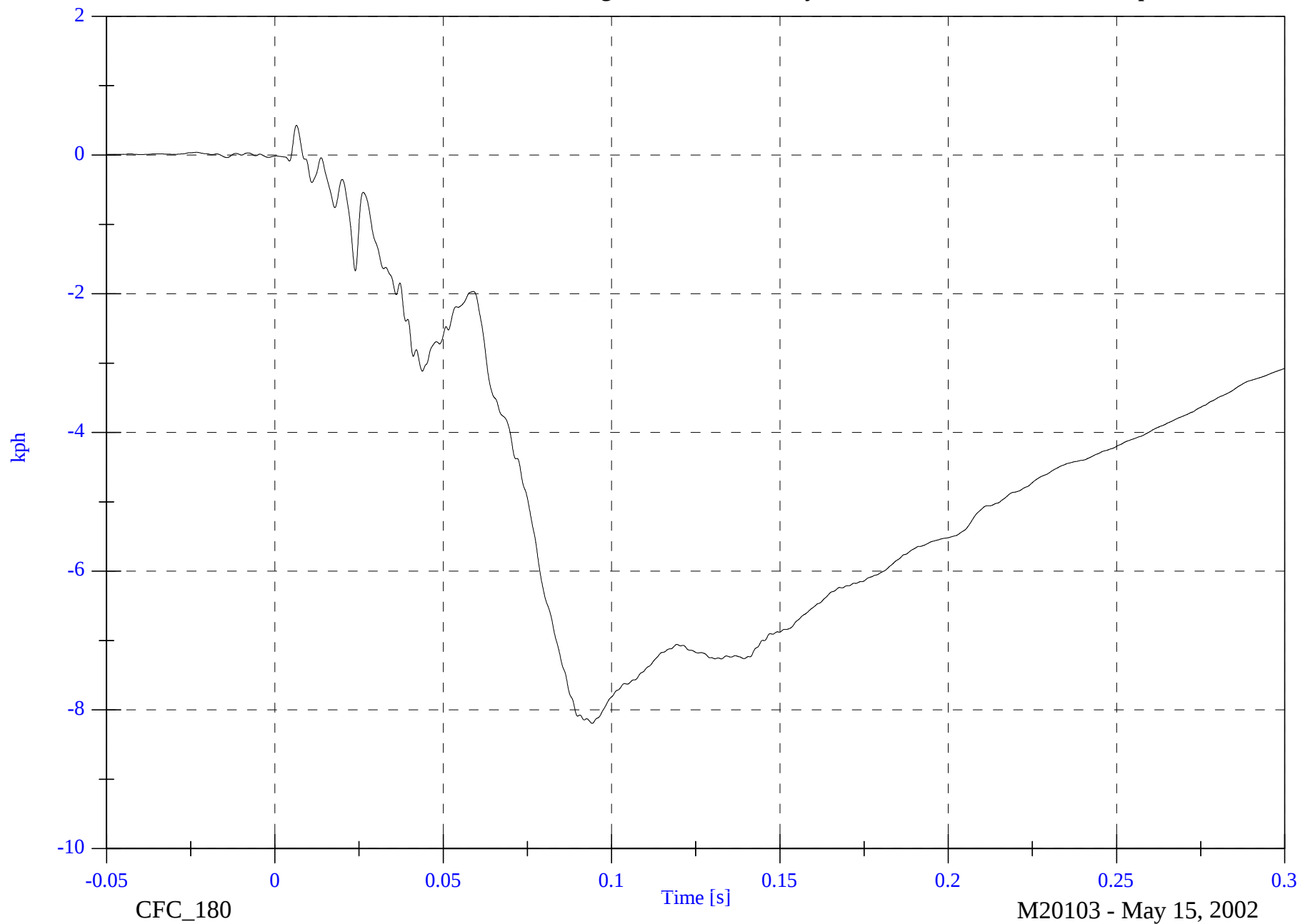
Max: 0.4 [kph] at 0.006 [s]

Min: -8.2 [kph] at 0.094 [s]

Right Rear #9z Velocity

4-31

8642-NCAP-14



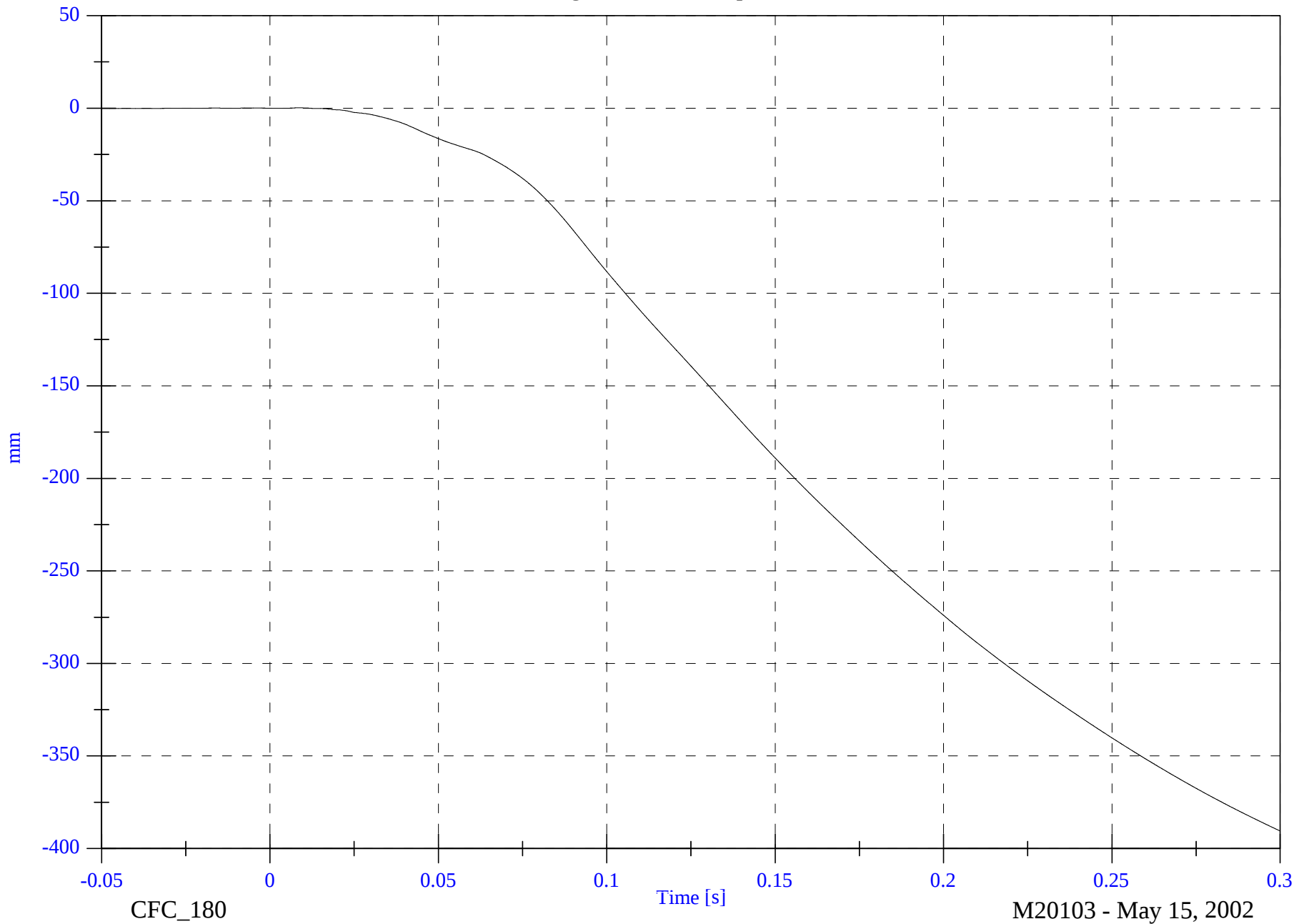
2002 NCAP Test 14 2002 Cadillac Deville

Right Rear #9z Displacement

Max: 0.2 [mm] at 0.008 [s]
Min: -390.5 [mm] at 0.300 [s]

4-32

8642-NCAP-14



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

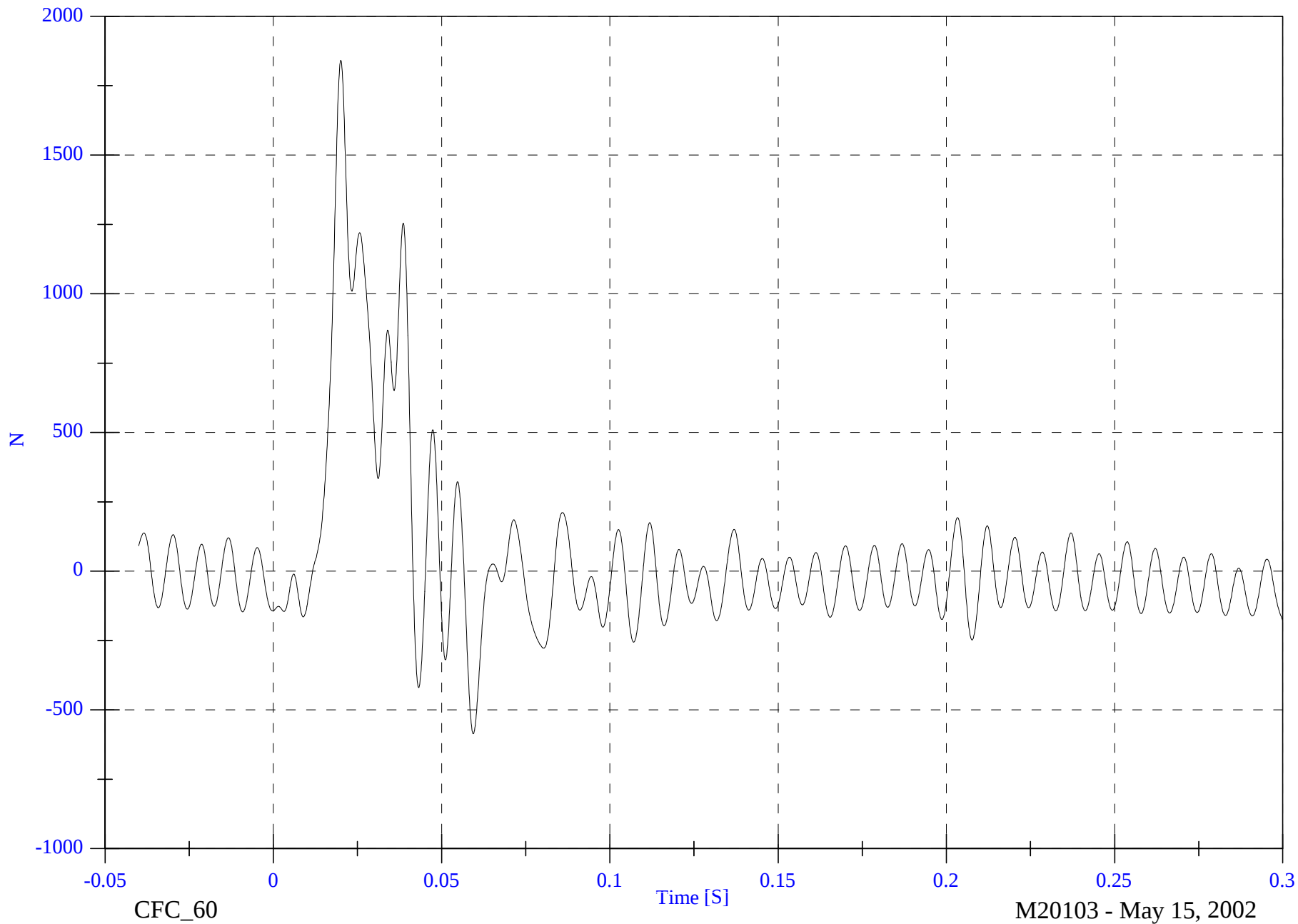
Barrier Load Cell A1 Fx

Max: 1840.9 [N] at 0.020 [S]

Min: -585.7 [N] at 0.059 [S]

4-33

8642-NCAP-14



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

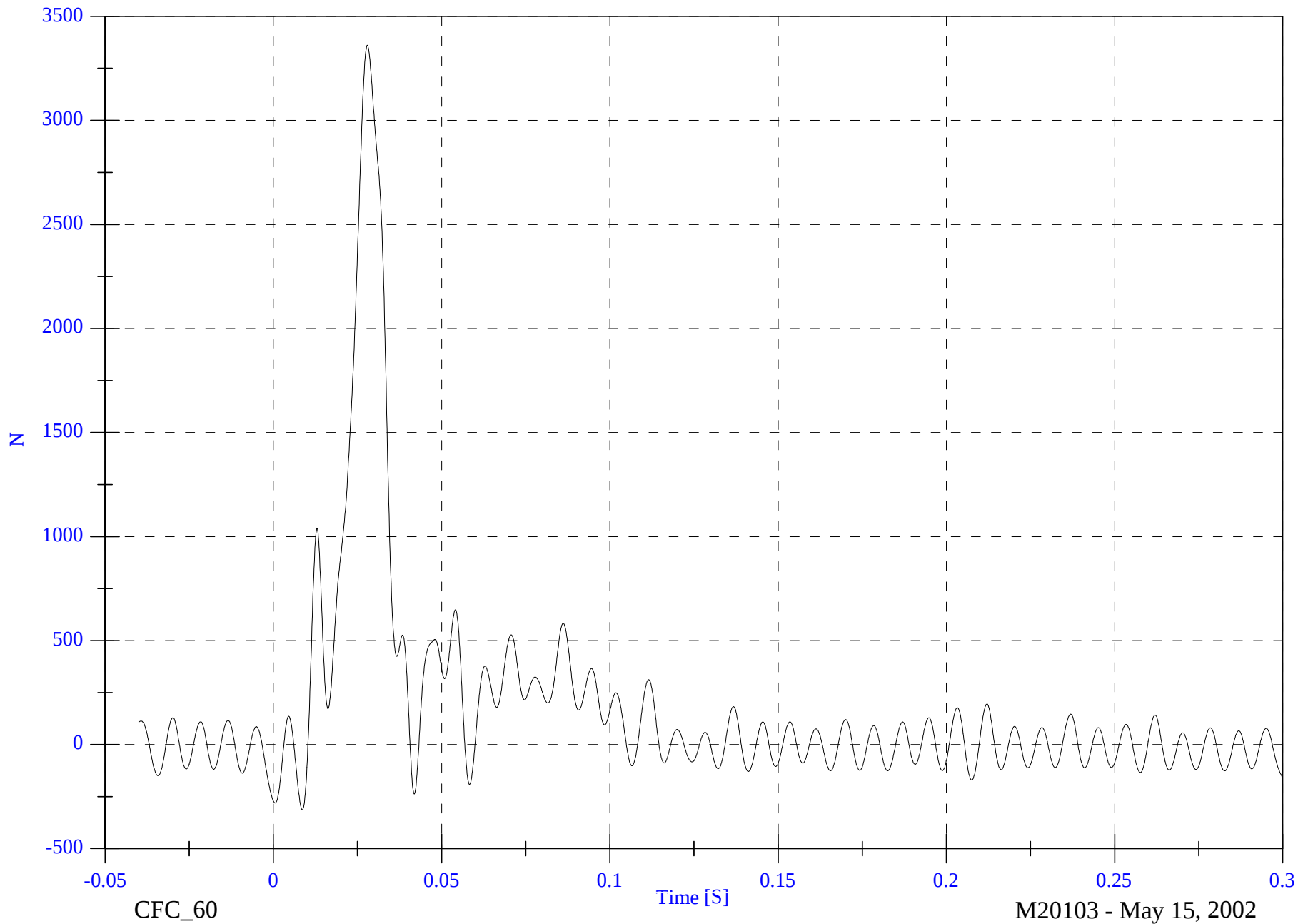
Barrier Load Cell A2 Fx

Max: 3361.0 [N] at 0.028 [S]

Min: -314.3 [N] at 0.009 [S]

4-34

8642-NCAP-14

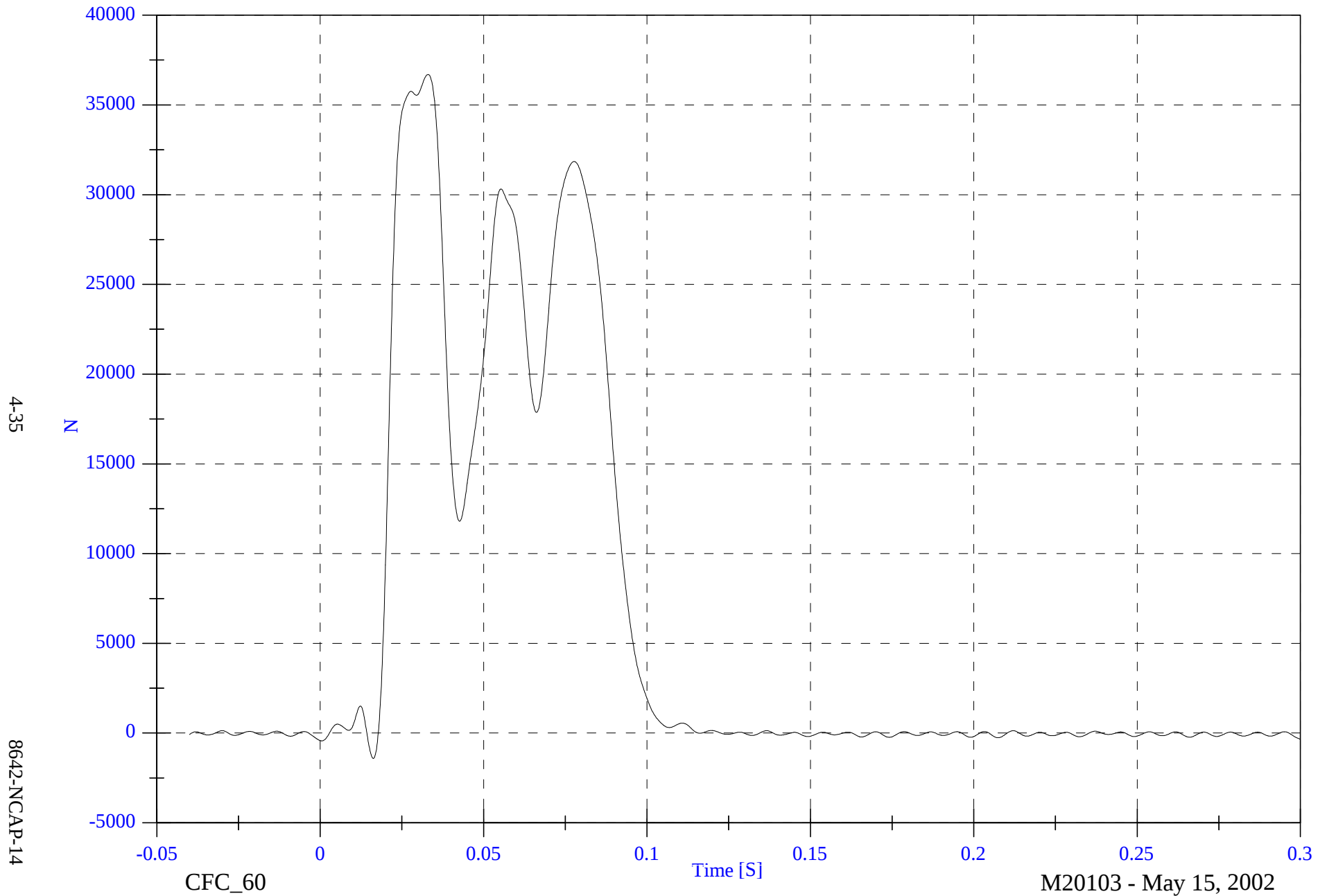


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell A3 Fx

Max: 36694.1 [N] at 0.033 [S]

Min: -1407.9 [N] at 0.016 [S]



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

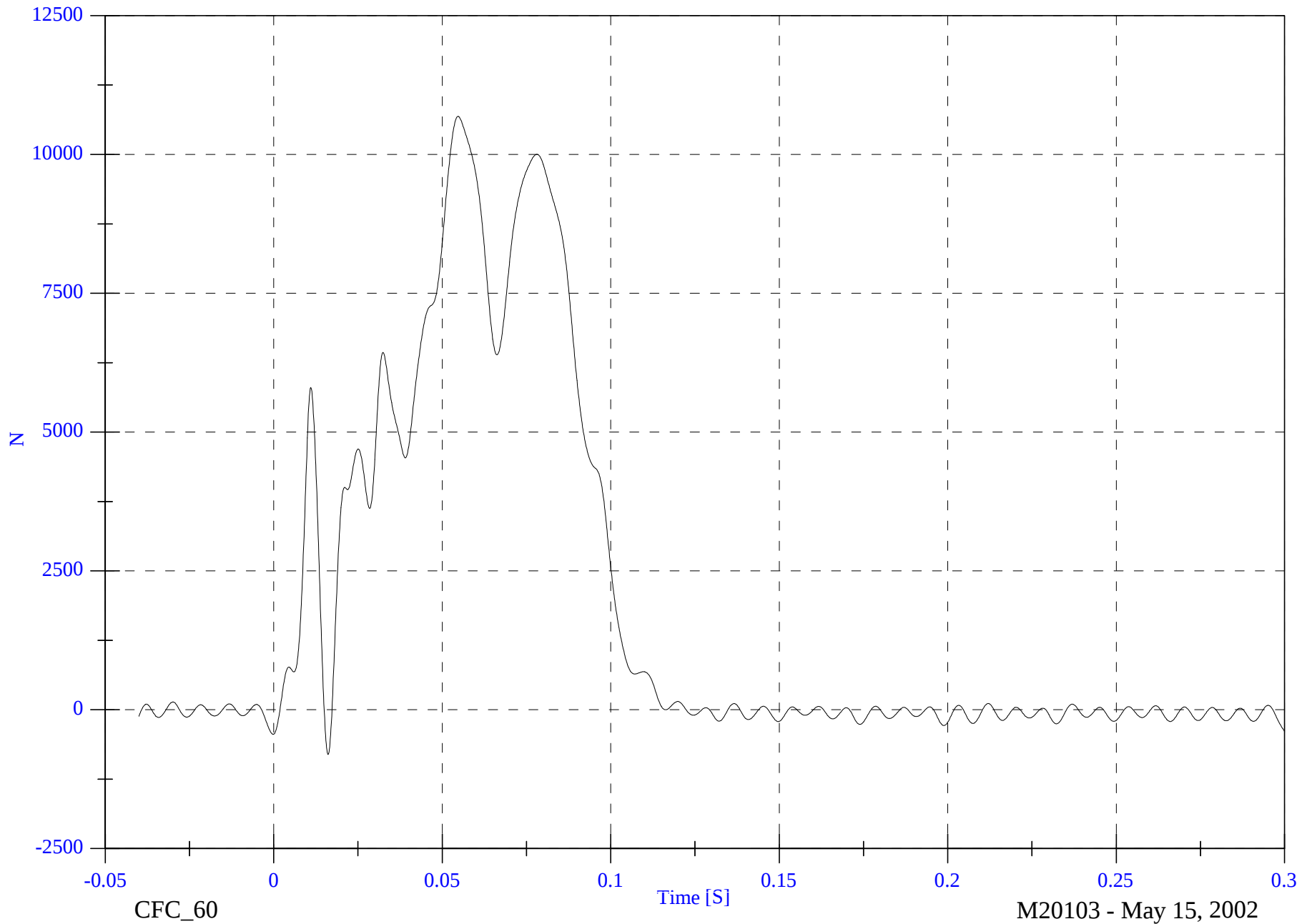
Barrier Load Cell A4 Fx

Max: 10686.4 [N] at 0.055 [S]

Min: -805.1 [N] at 0.016 [S]

4-36

8642-NCAP-14

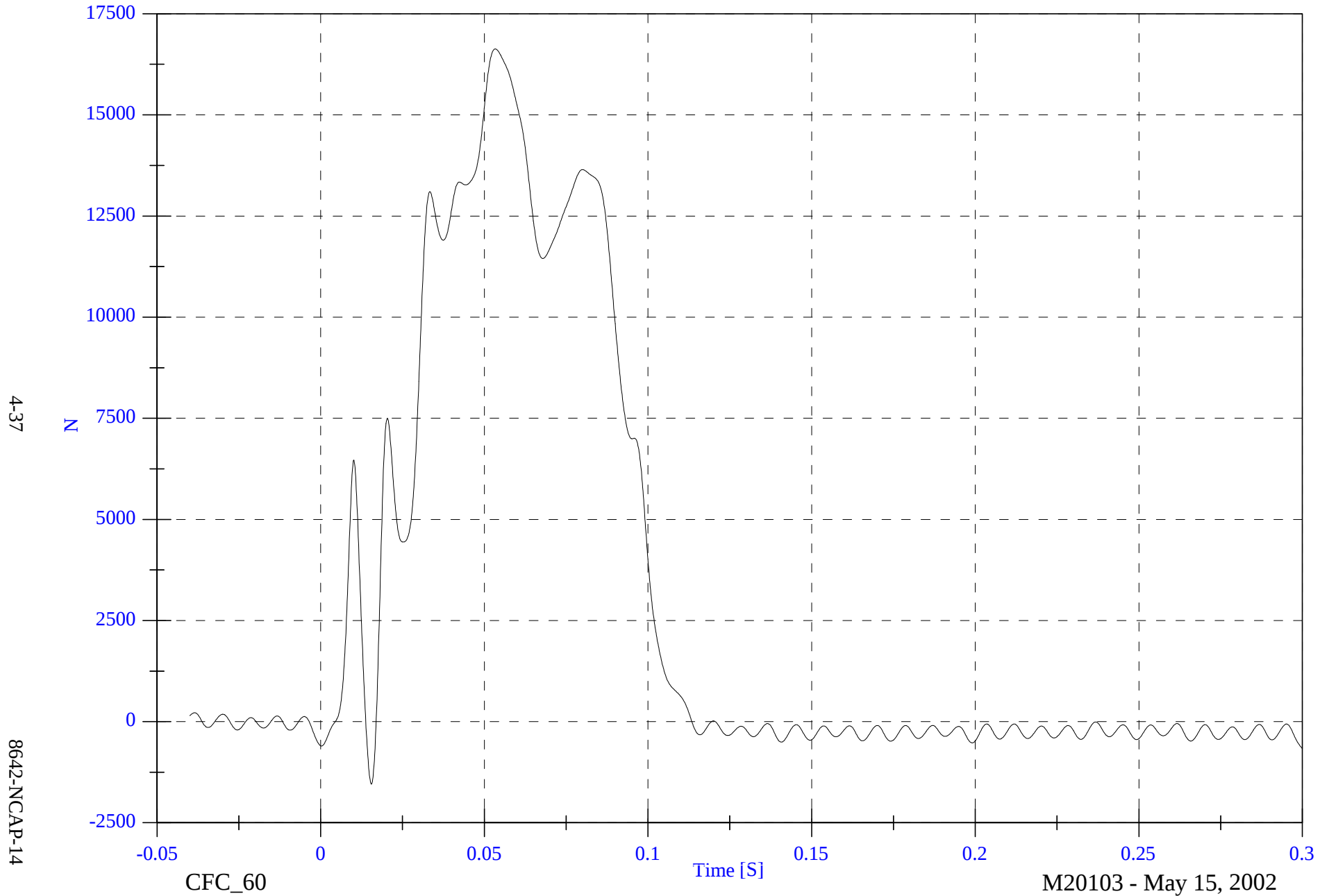


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell A5 Fx

Max: 16630.5 [N] at 0.053 [S]

Min: -1545.4 [N] at 0.015 [S]



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

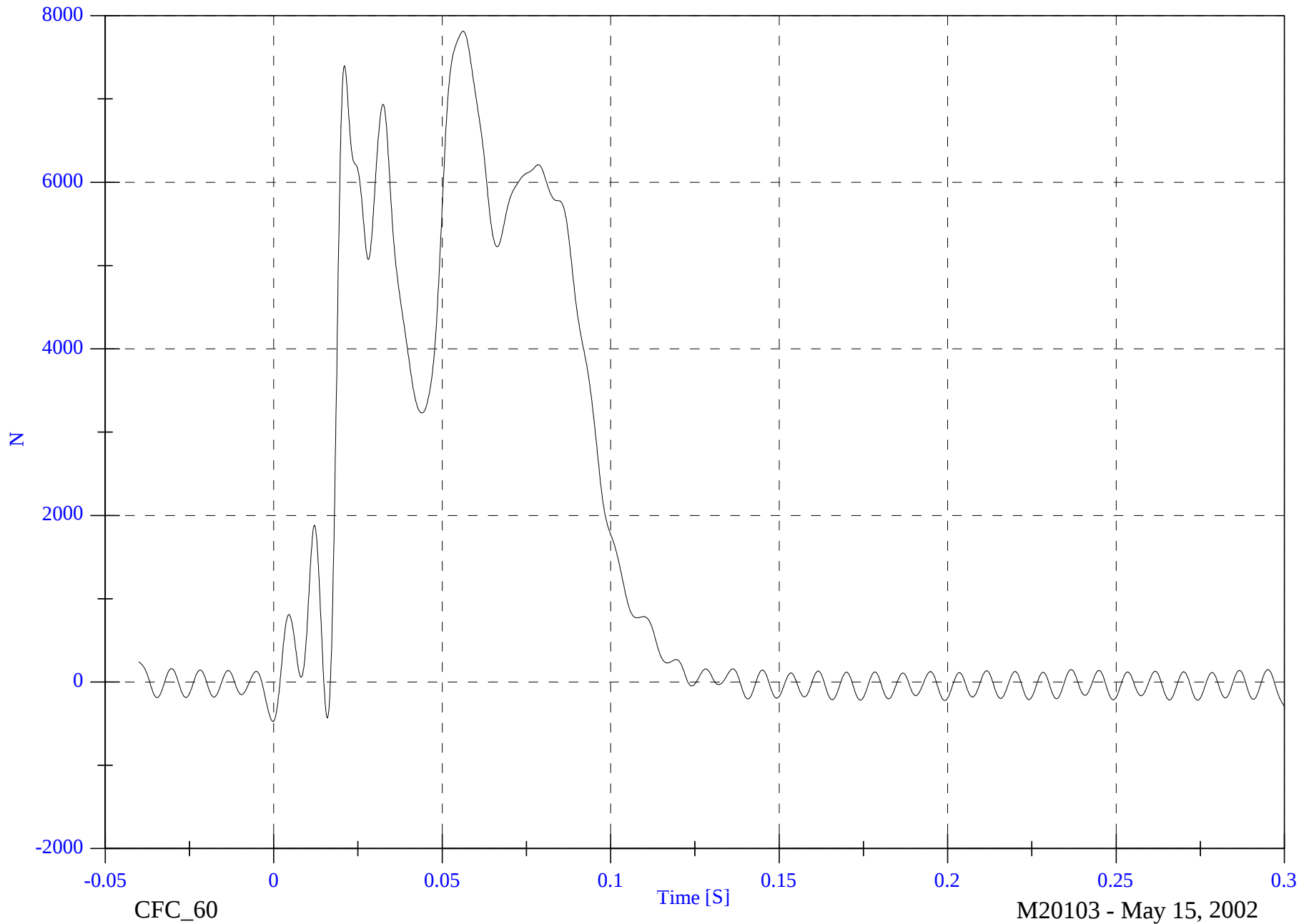
Barrier Load Cell A6 Fx

Max: 7812.4 [N] at 0.056 [S]

Min: -473.8 [N] at -0.000 [S]

4-38

8642-NCAP-14

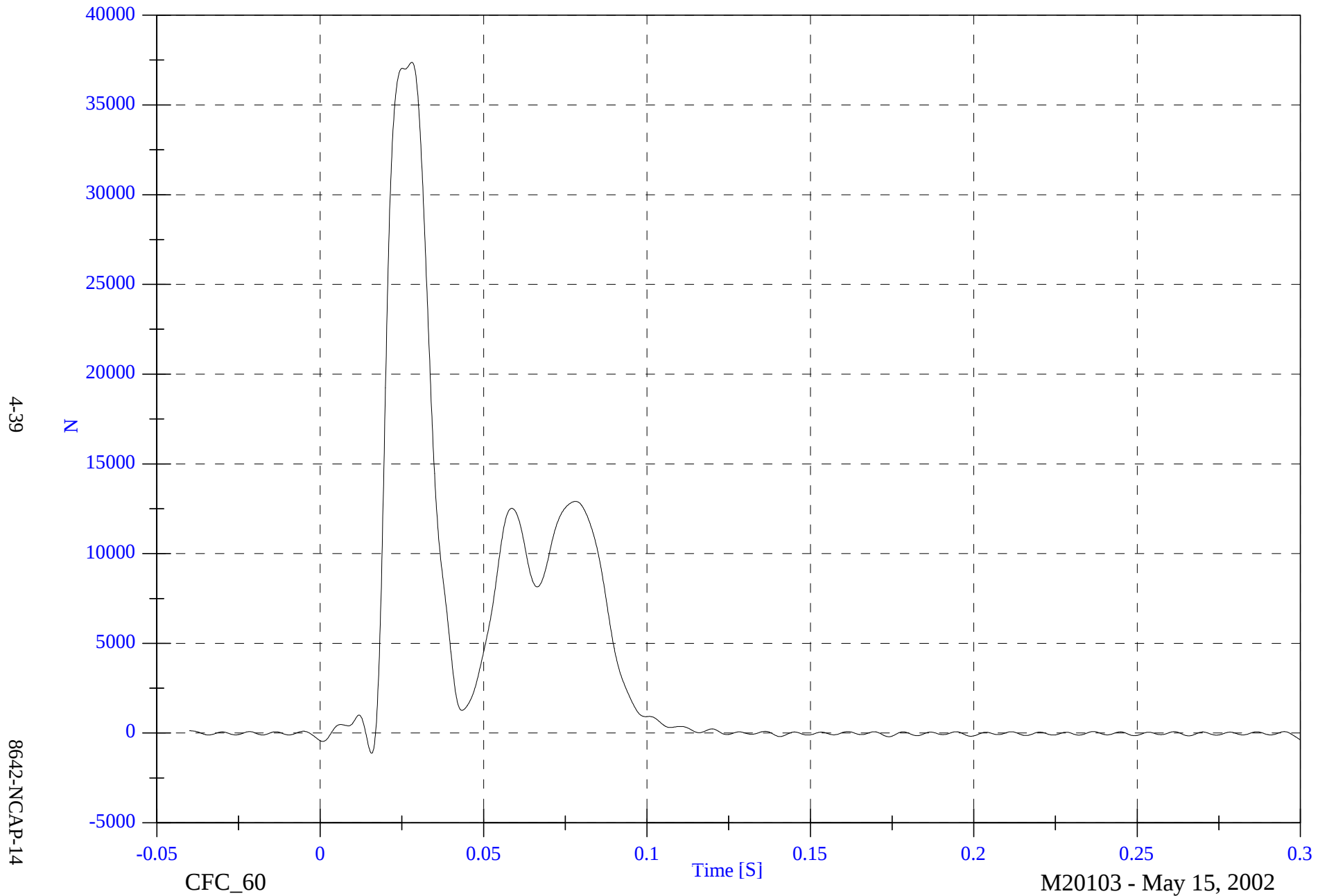


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell A7 Fx

Max: 37371.3 [N] at 0.028 [S]

Min: -1123.4 [N] at 0.016 [S]

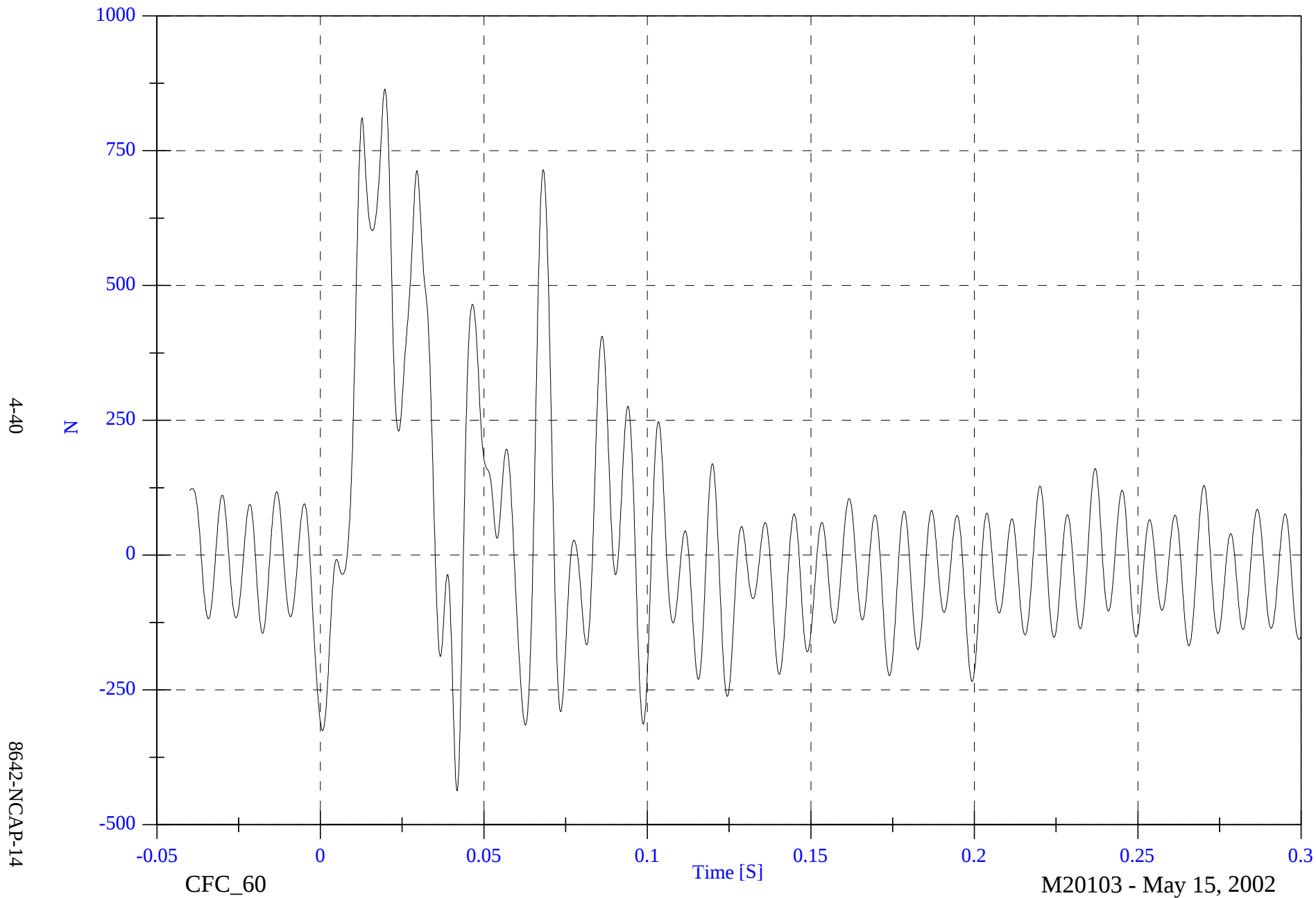


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell A8 Fx

Max: 864.4 [N] at 0.020 [S]

Min: -437.2 [N] at 0.042 [S]

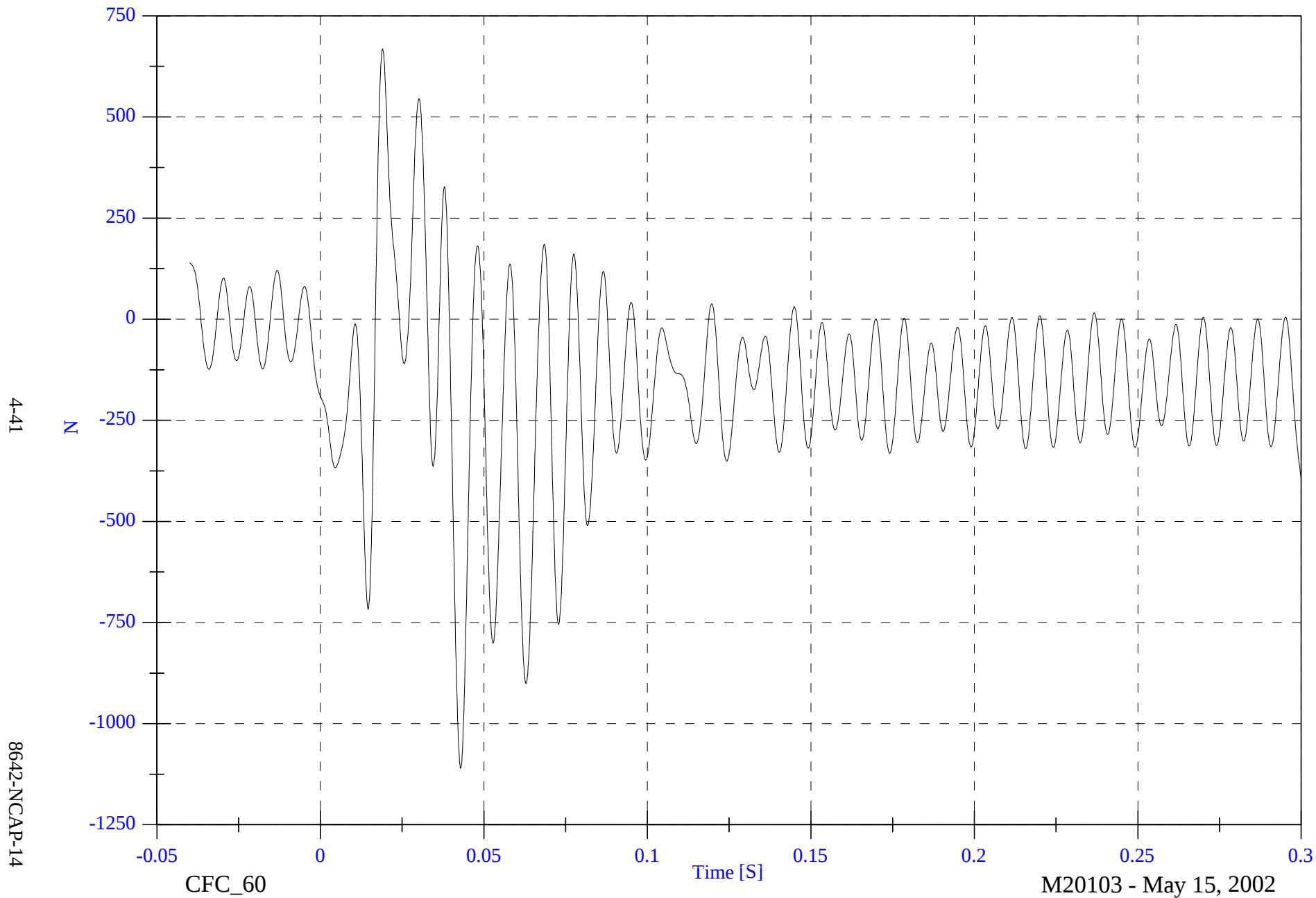


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell A9 Fx

Max: 668.7 [N] at 0.019 [S]

Min: -1110.0 [N] at 0.043 [S]

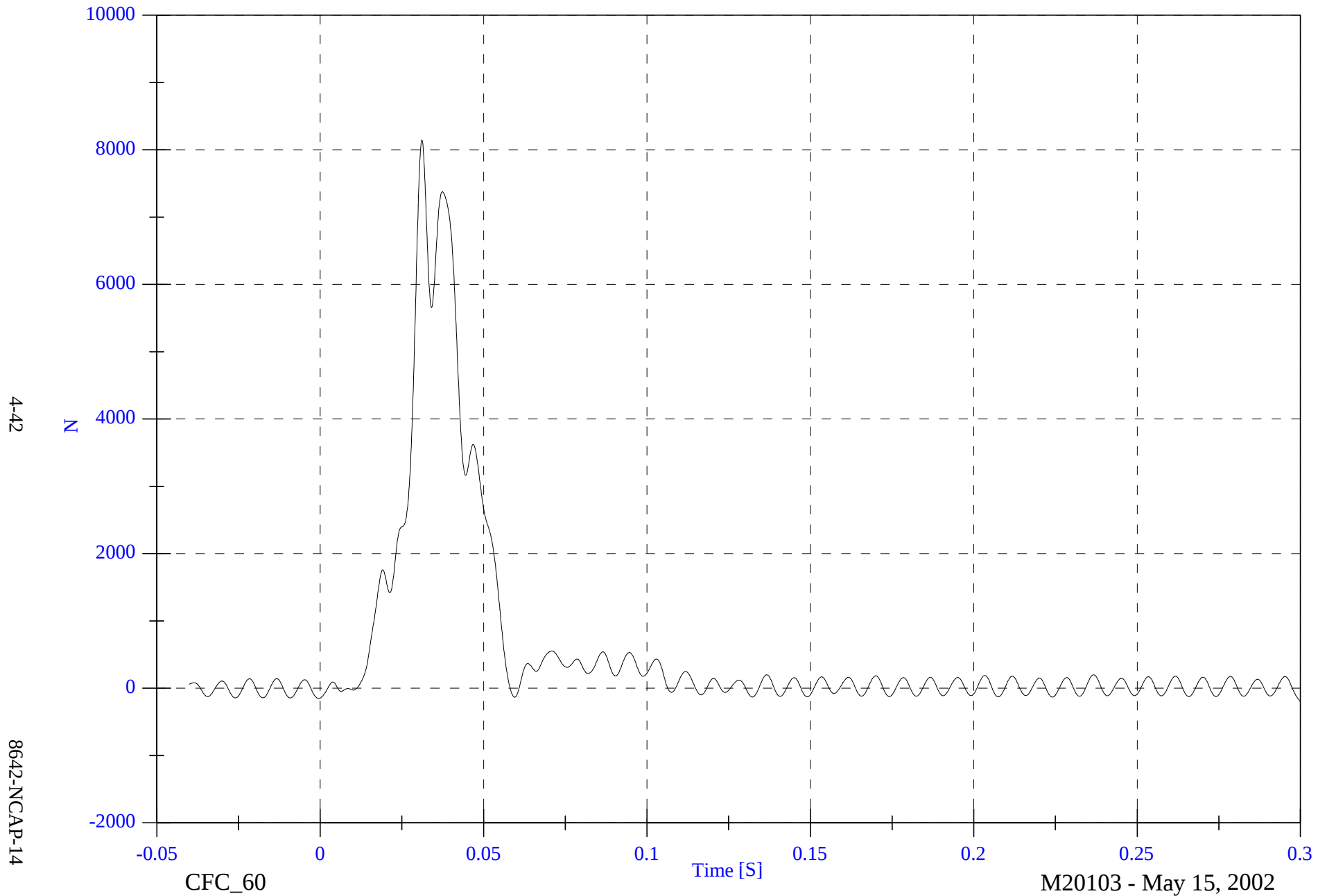


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B1 Fx

Max: 8142.9 [N] at 0.031 [S]

Min: -195.0 [N] at 0.300 [S]

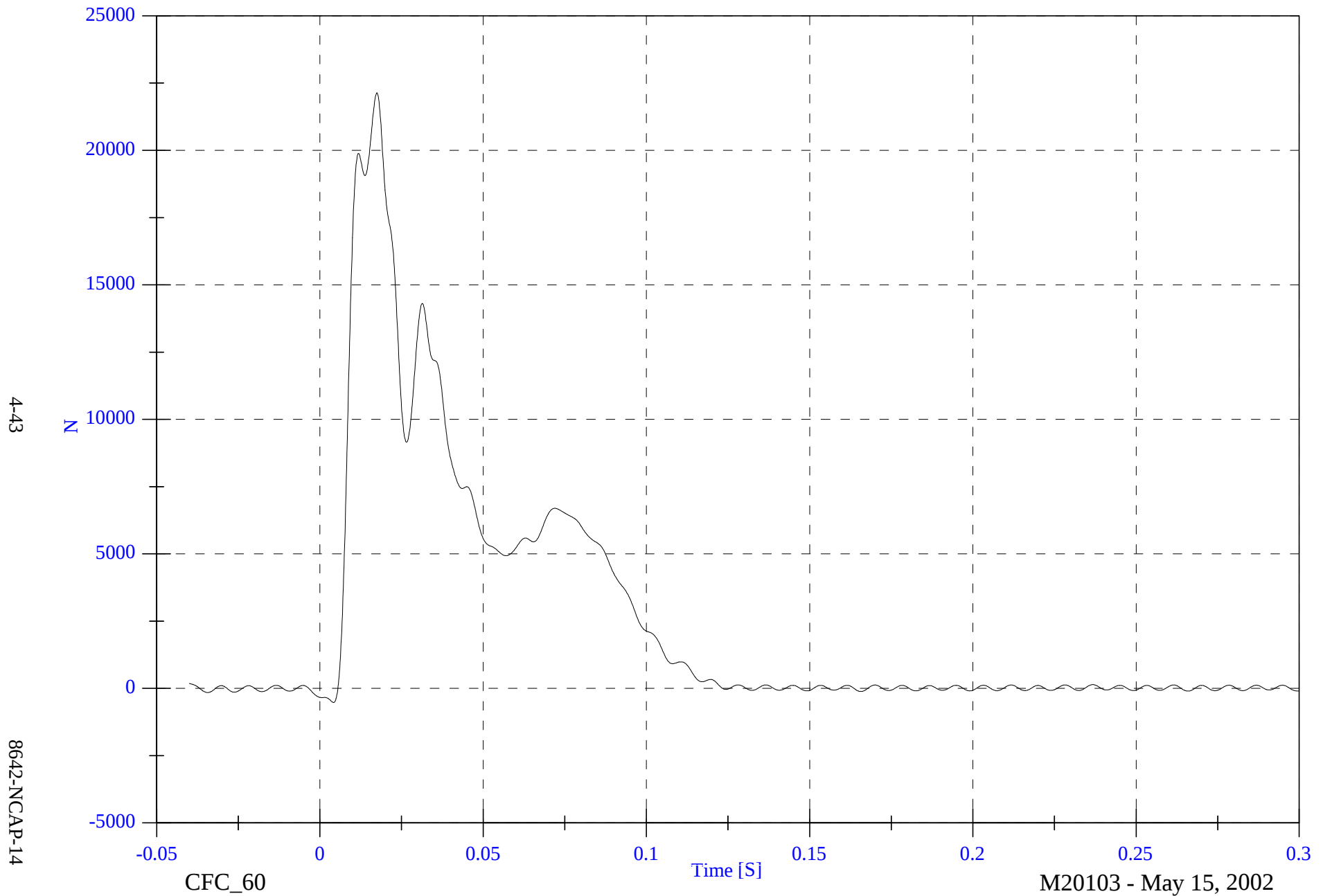


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B2 Fx

Max: 22135.4 [N] at 0.017 [S]

Min: -522.3 [N] at 0.004 [S]

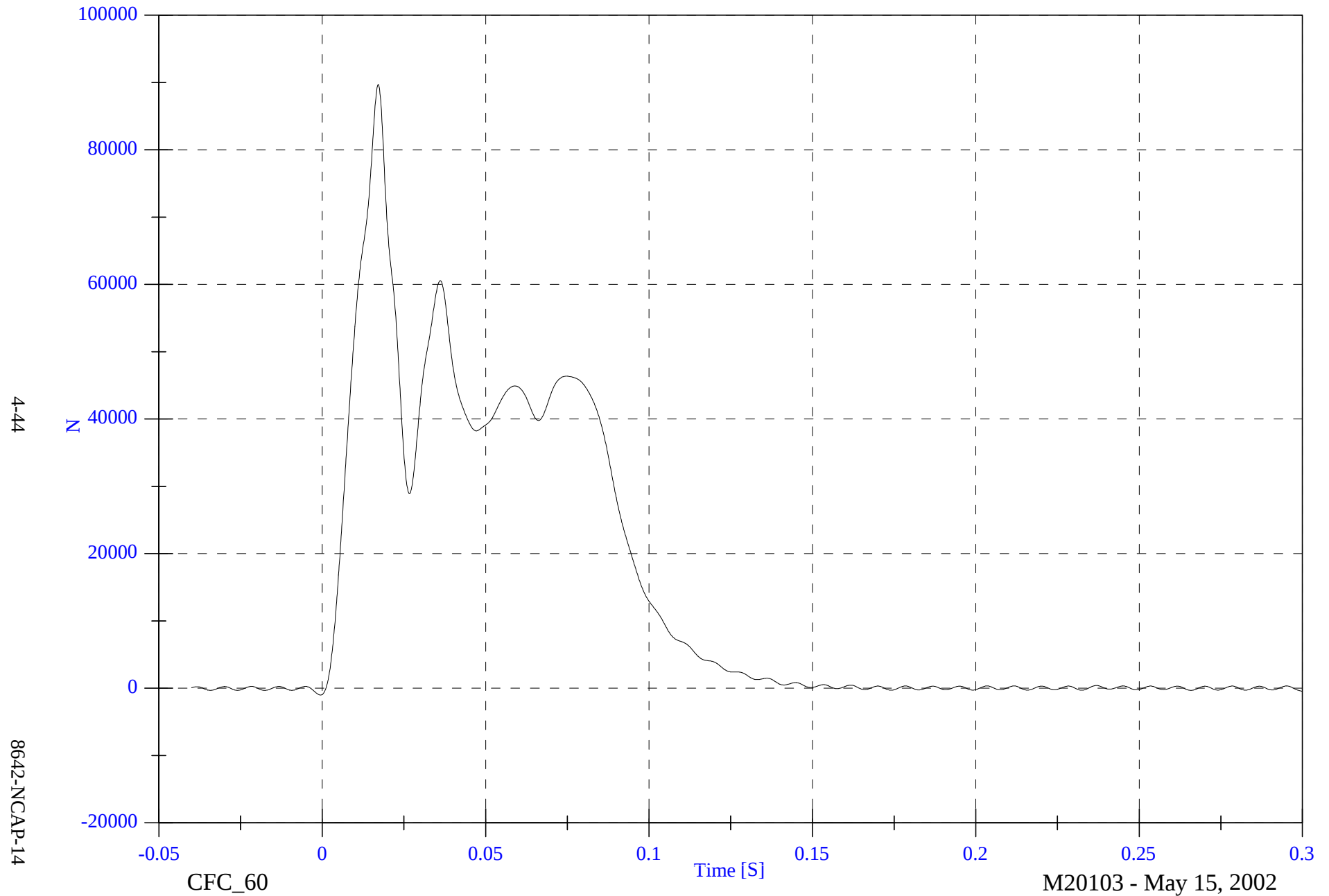


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B3 Fx

Max: 89674.0 [N] at 0.017 [S]

Min: -1010.6 [N] at -0.001 [S]

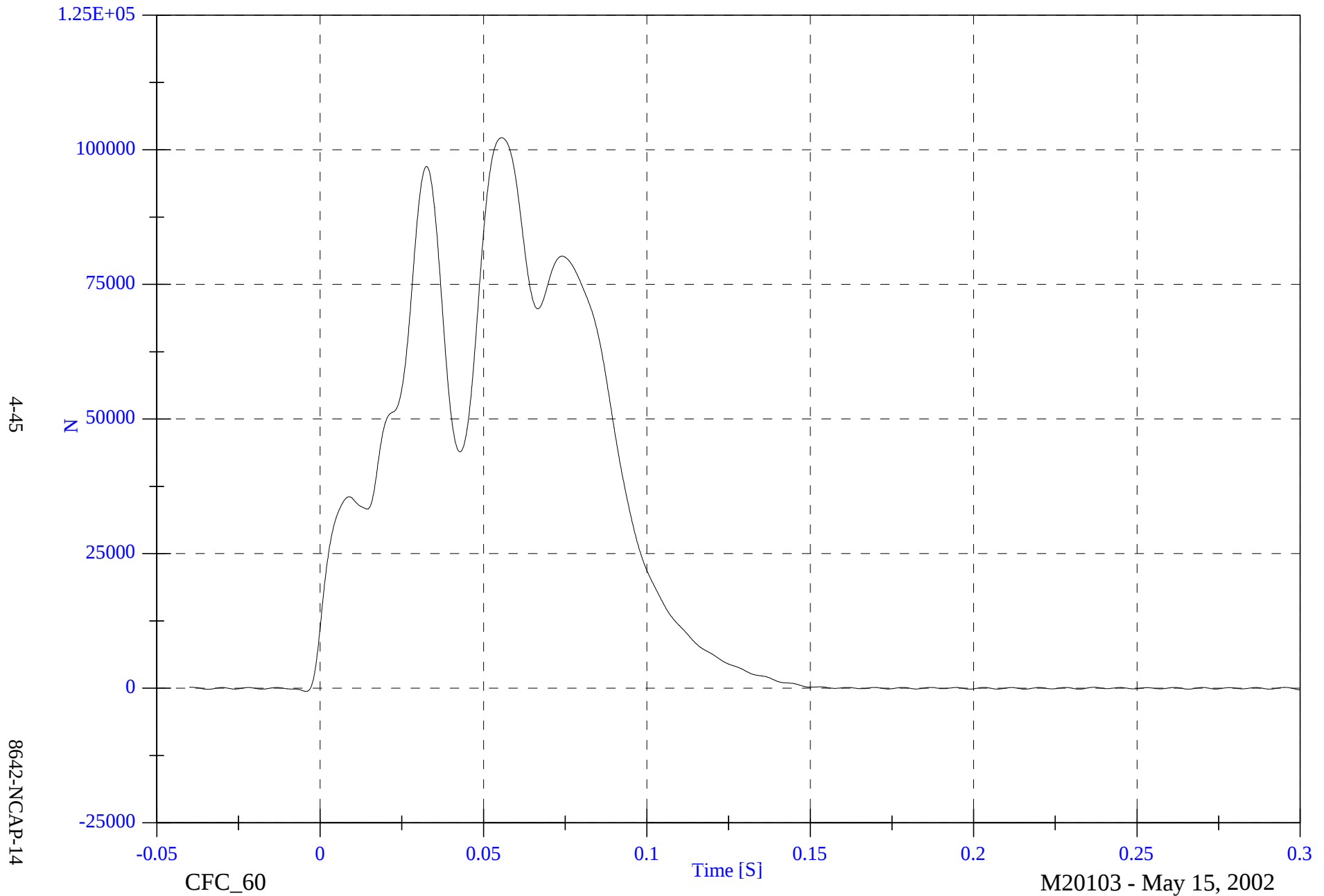


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B4 Fx

Max: 102237.8 [N] at 0.056 [S]

Min: -592.0 [N] at -0.004 [S]

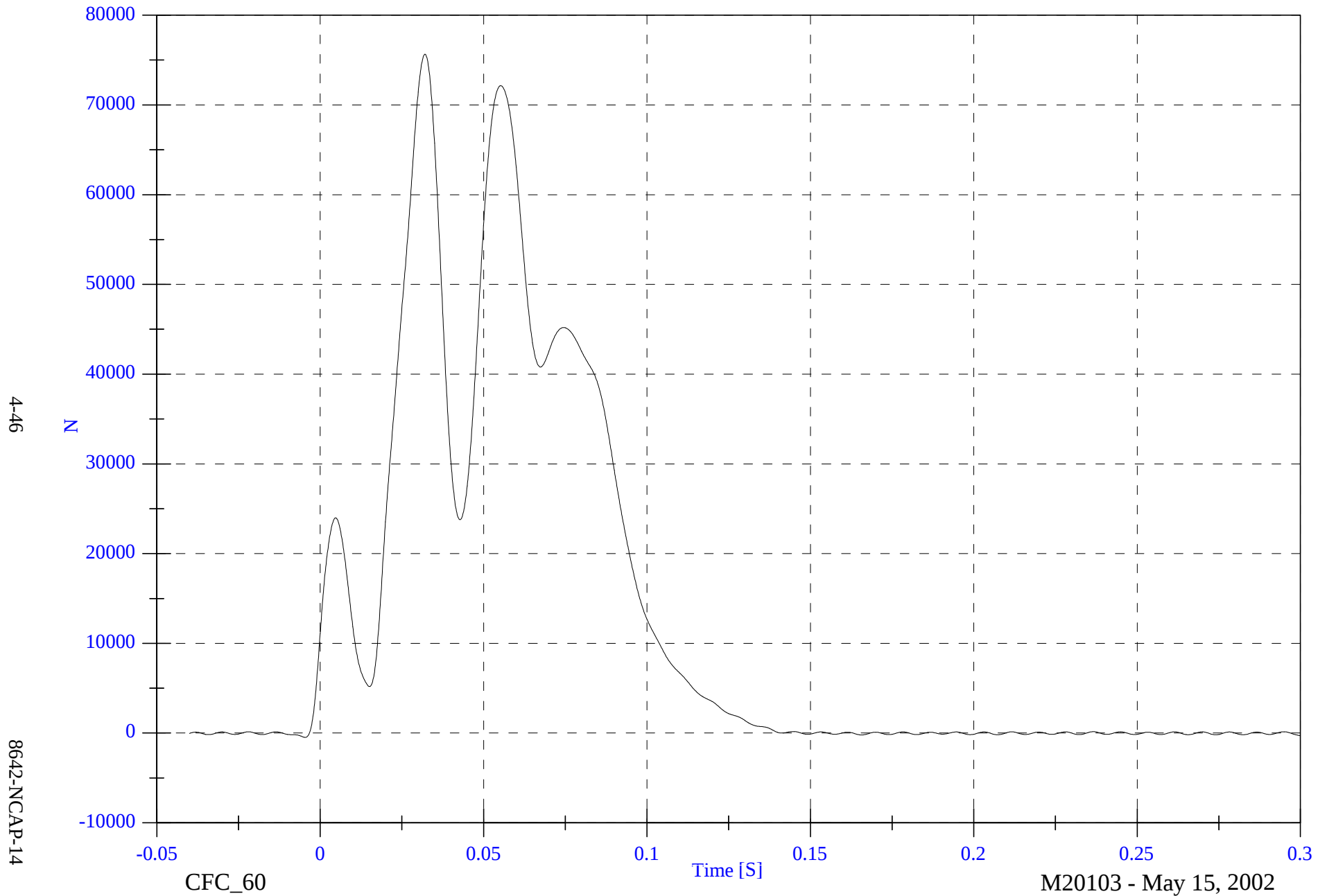


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B5 Fx

Max: 75648.6 [N] at 0.032 [S]

Min: -478.9 [N] at -0.005 [S]

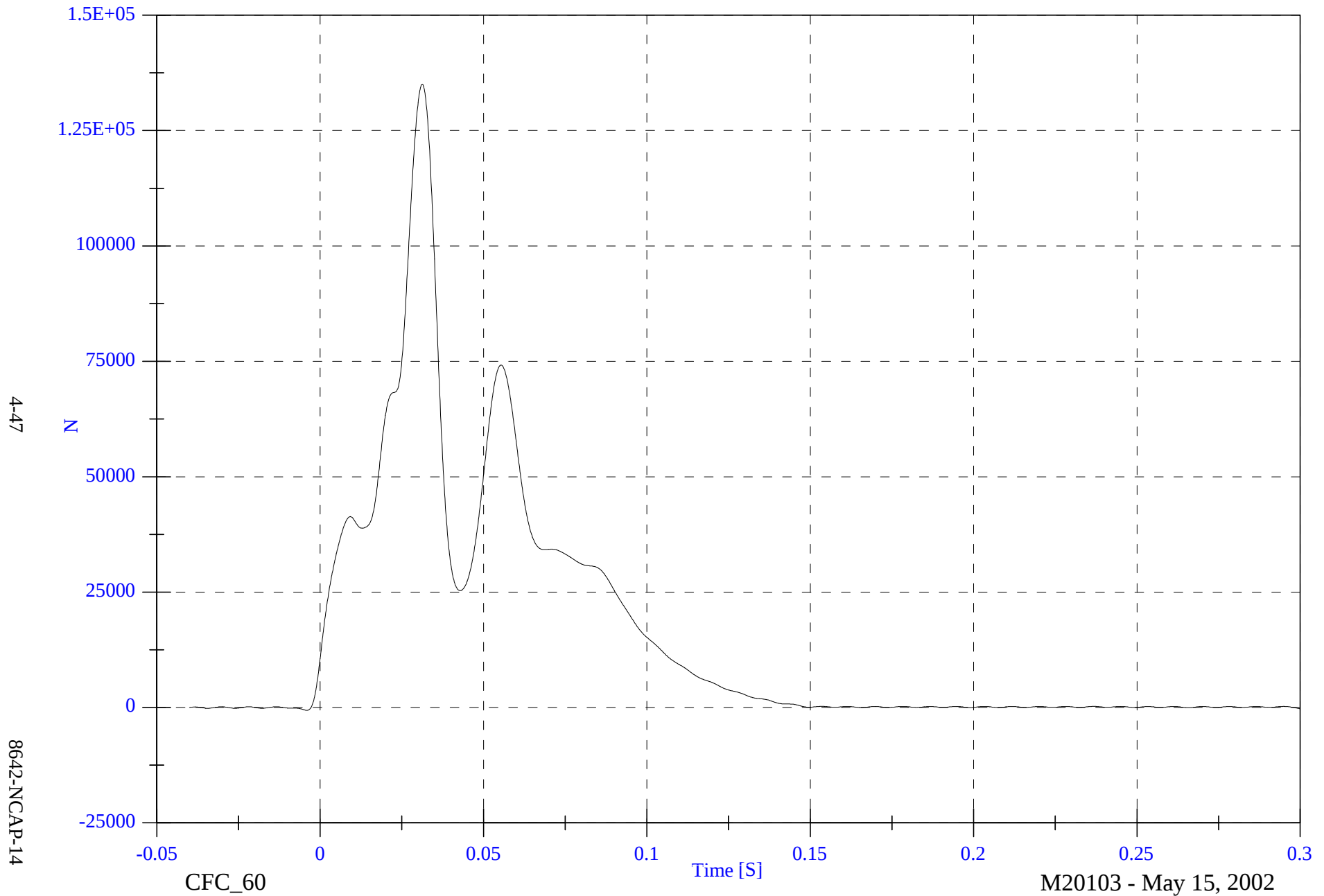


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B6 Fx

Max: 135048.7 [N] at 0.031 [S]

Min: -619.5 [N] at -0.004 [S]

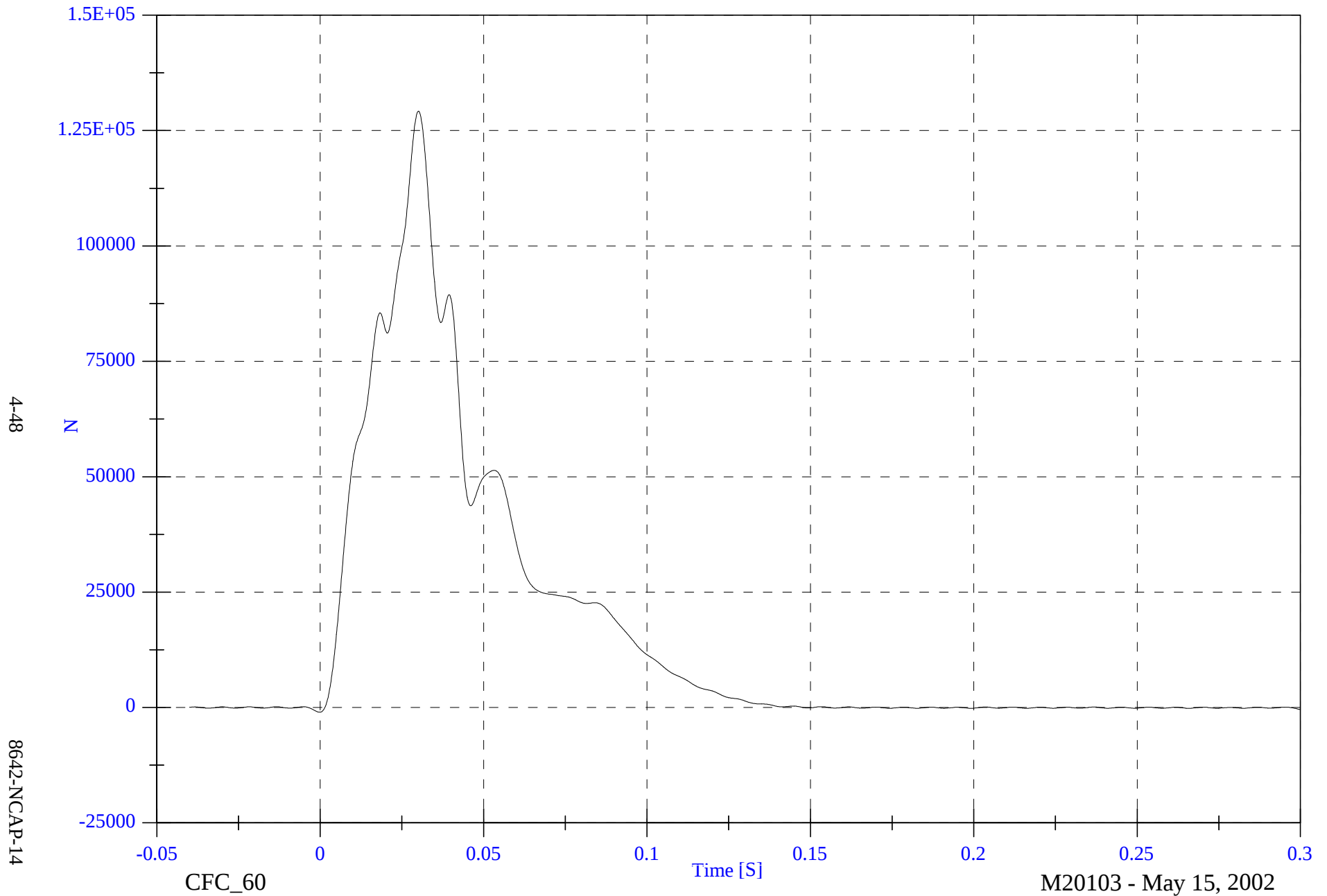


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B7 Fx

Max: 129201.2 [N] at 0.030 [S]

Min: -1034.8 [N] at -0.000 [S]

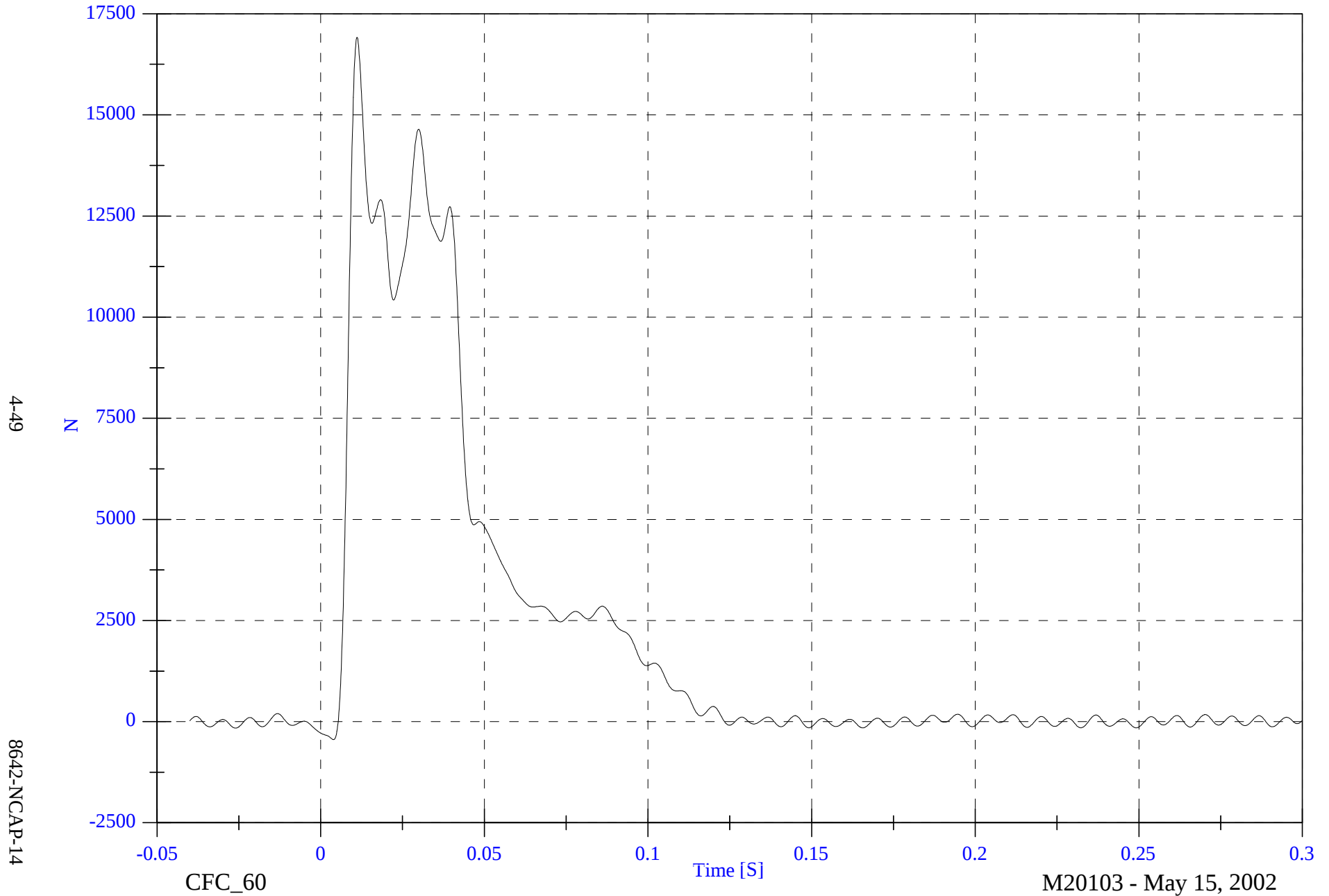


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B8 Fx

Max: 16918.9 [N] at 0.011 [S]

Min: -443.1 [N] at 0.004 [S]

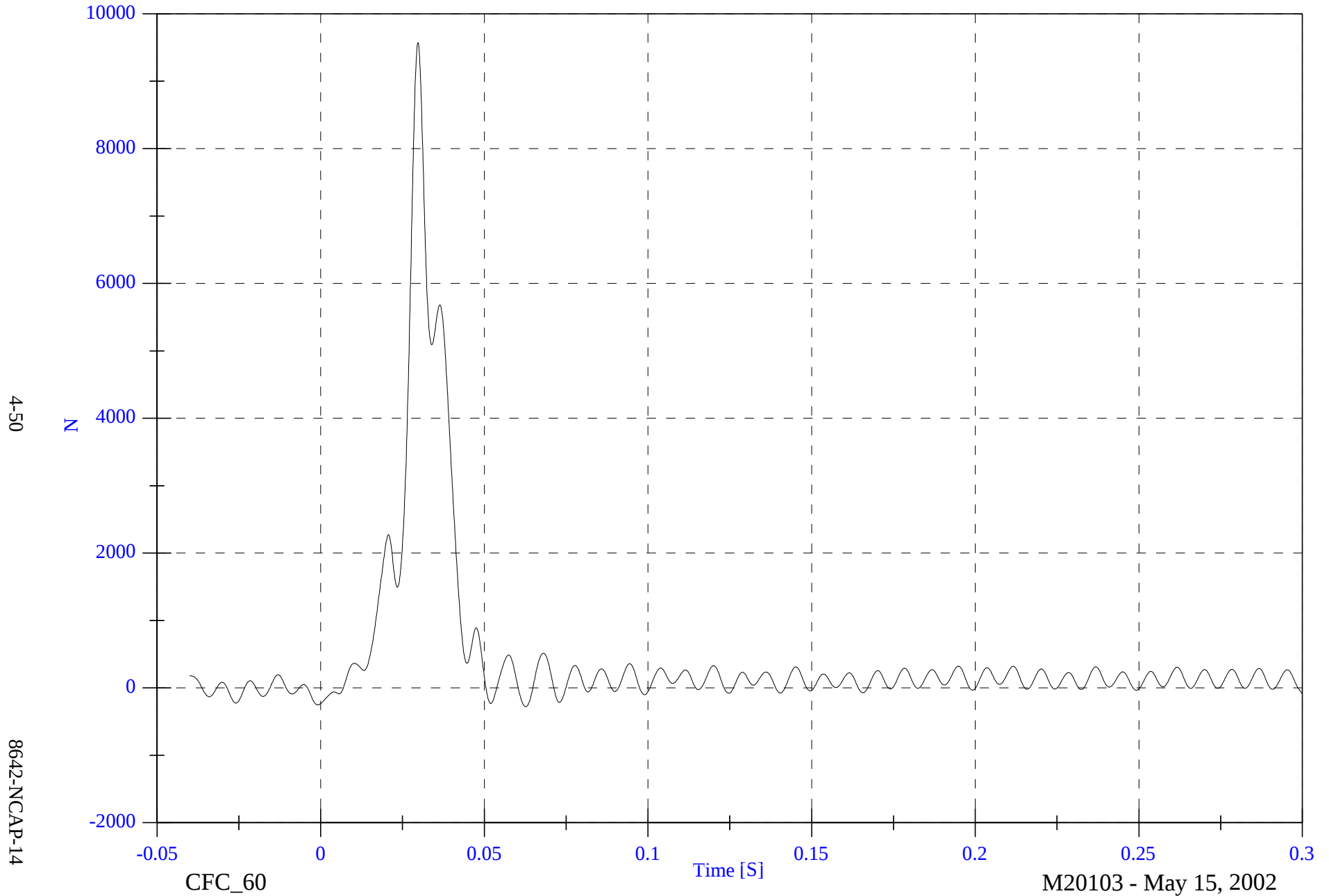


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell B9 Fx

Max: 9571.6 [N] at 0.030 [S]

Min: -278.6 [N] at 0.063 [S]



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

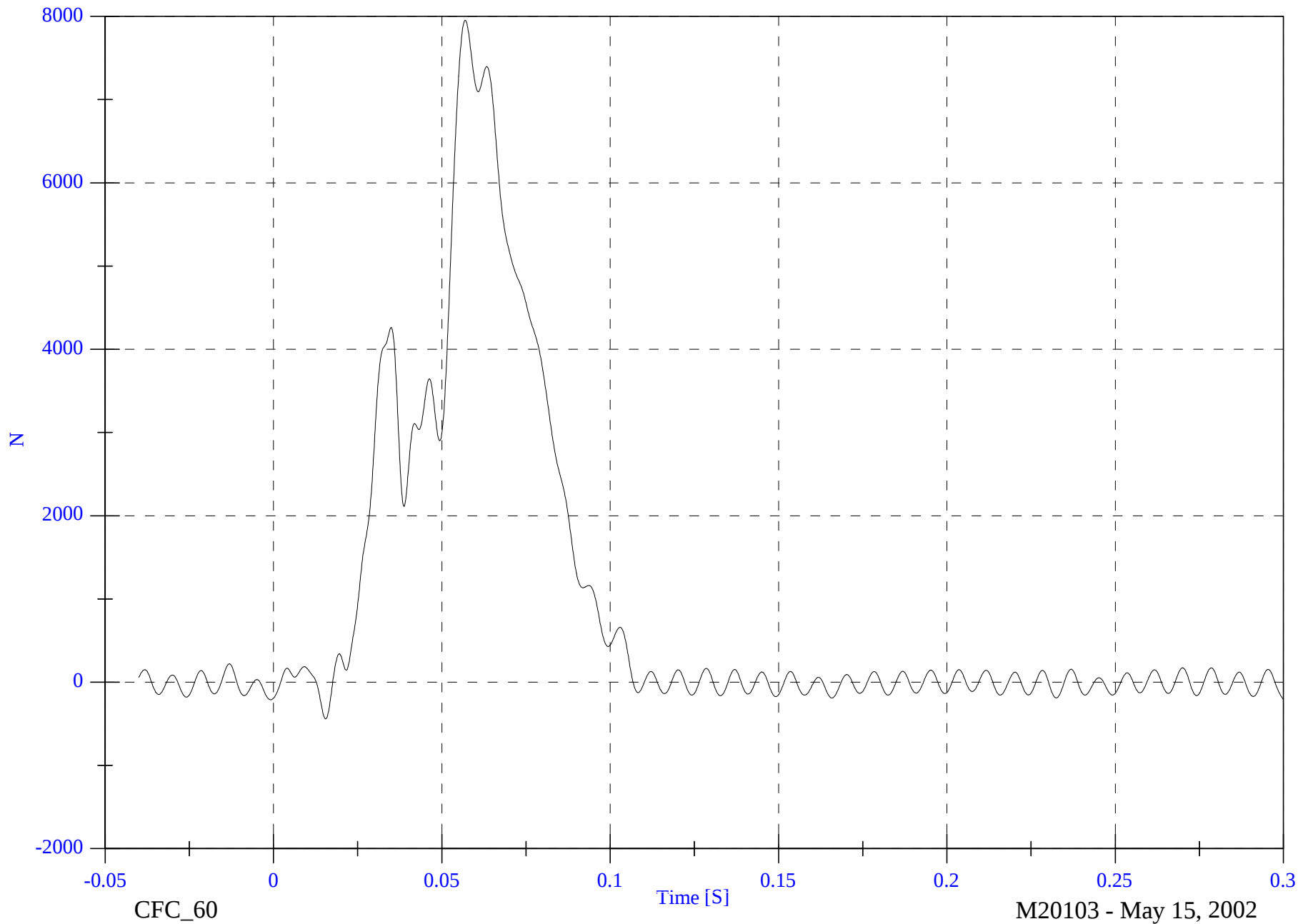
Barrier Load Cell C1 Fx

Max: 7951.8 [N] at 0.057 [S]

Min: -440.9 [N] at 0.015 [S]

4-51

8642-NCAP-14

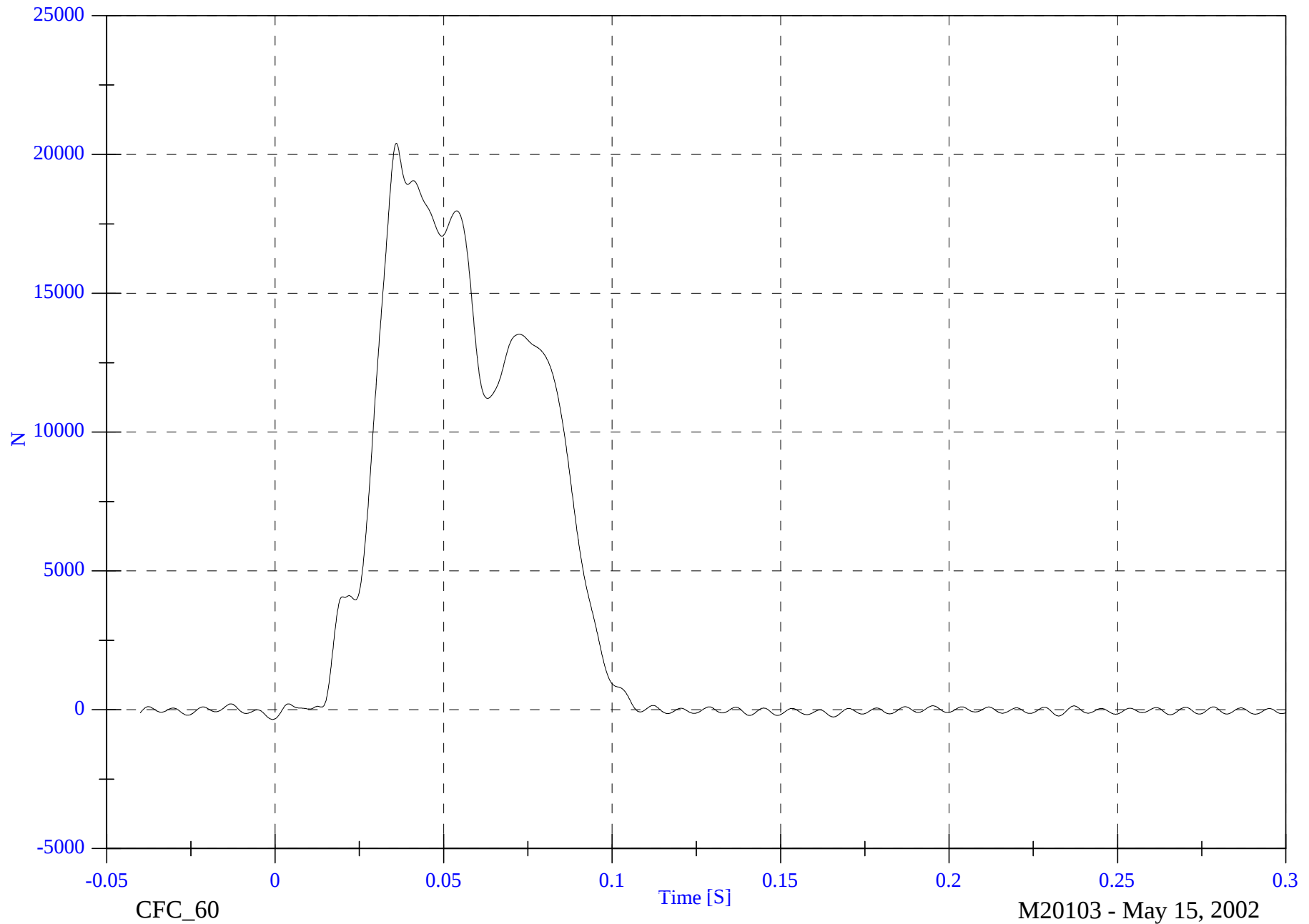


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C2 Fx

Max: 20405.5 [N] at 0.036 [S]

Min: -347.5 [N] at -0.001 [S]



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

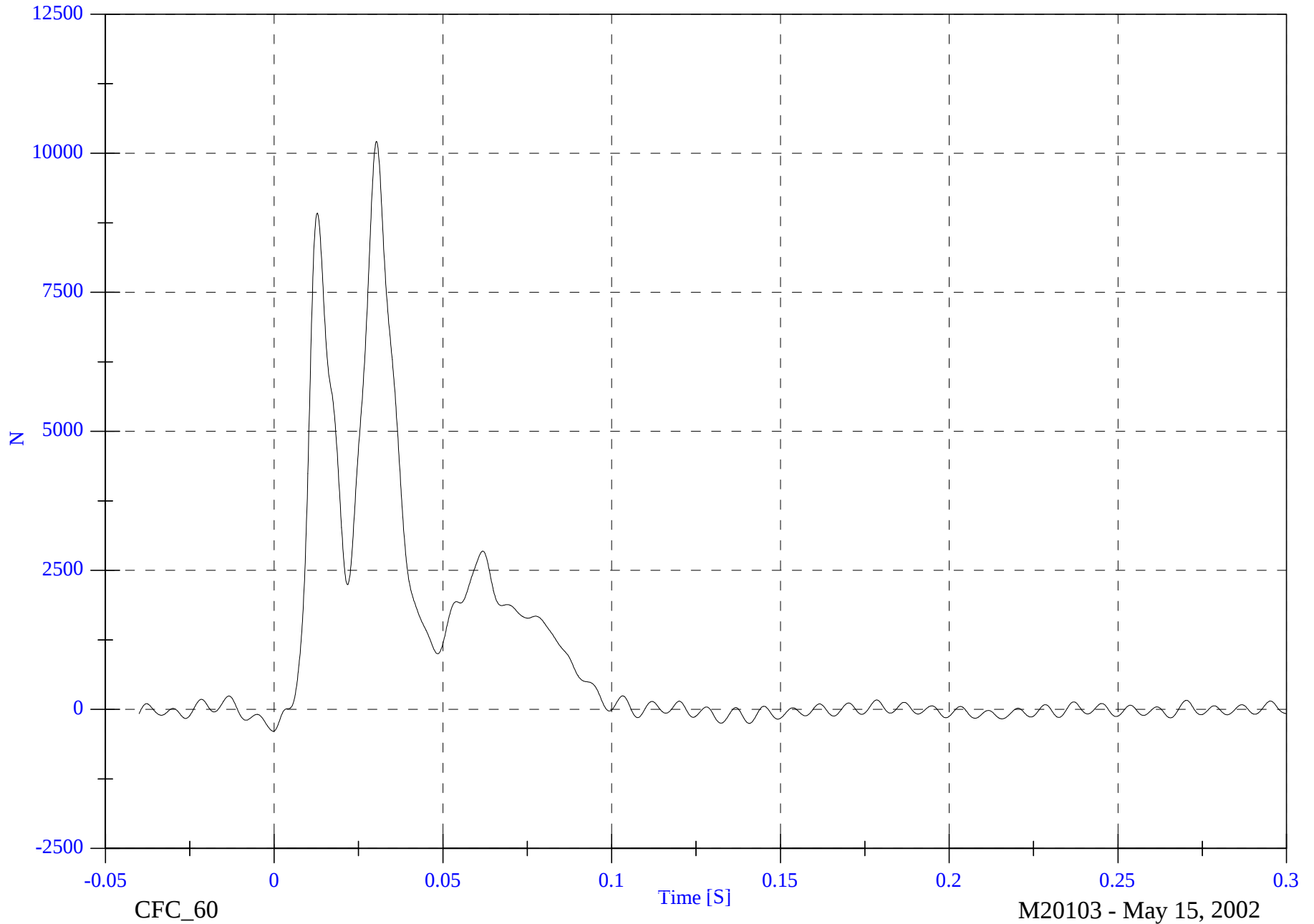
Barrier Load Cell C3 Fx

Max: 10214.5 [N] at 0.030 [S]

Min: -391.8 [N] at -0.000 [S]

4-53

8642-NCAP-14

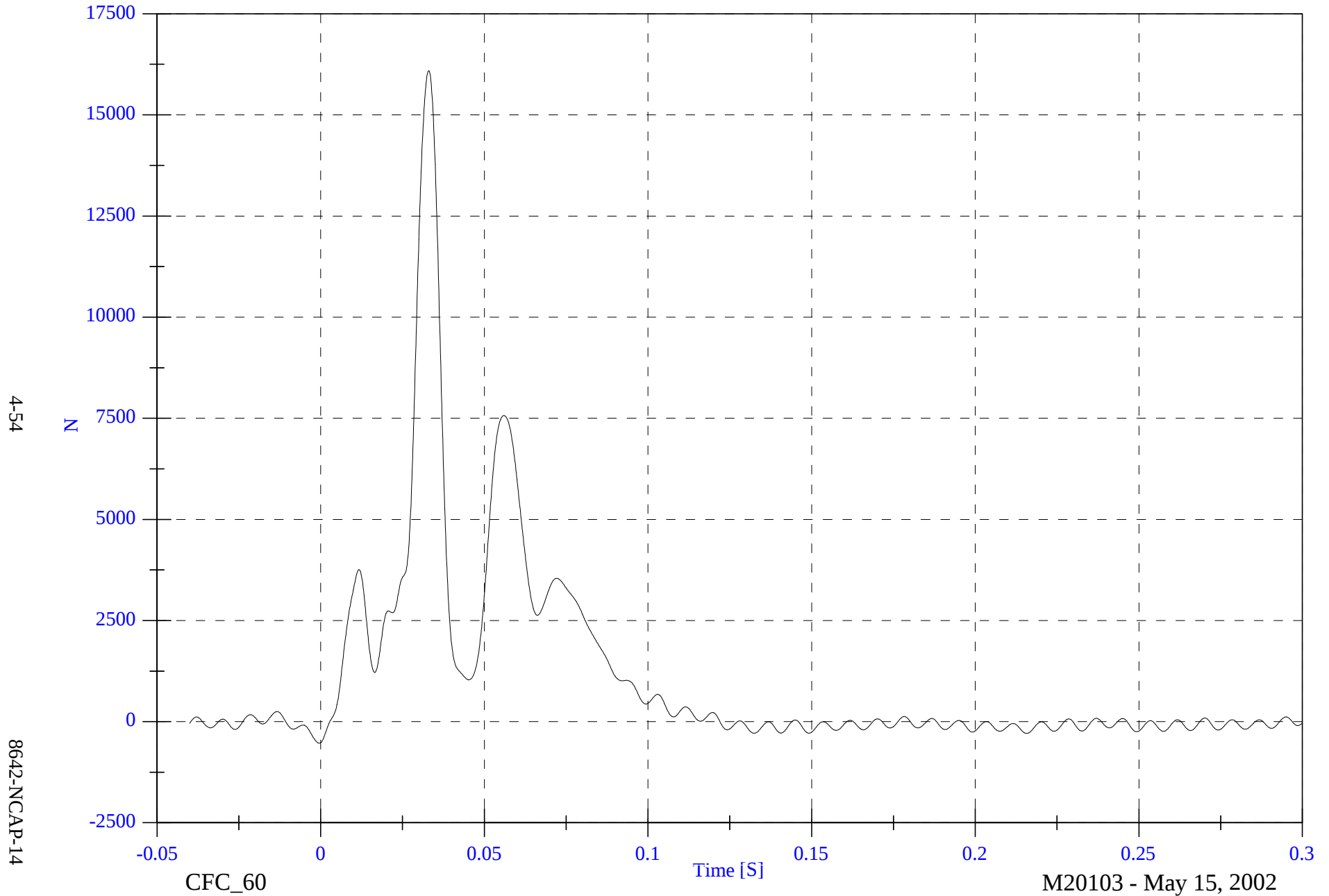


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C4 Fx

Max: 16095.7 [N] at 0.033 [S]

Min: -534.4 [N] at -0.000 [S]

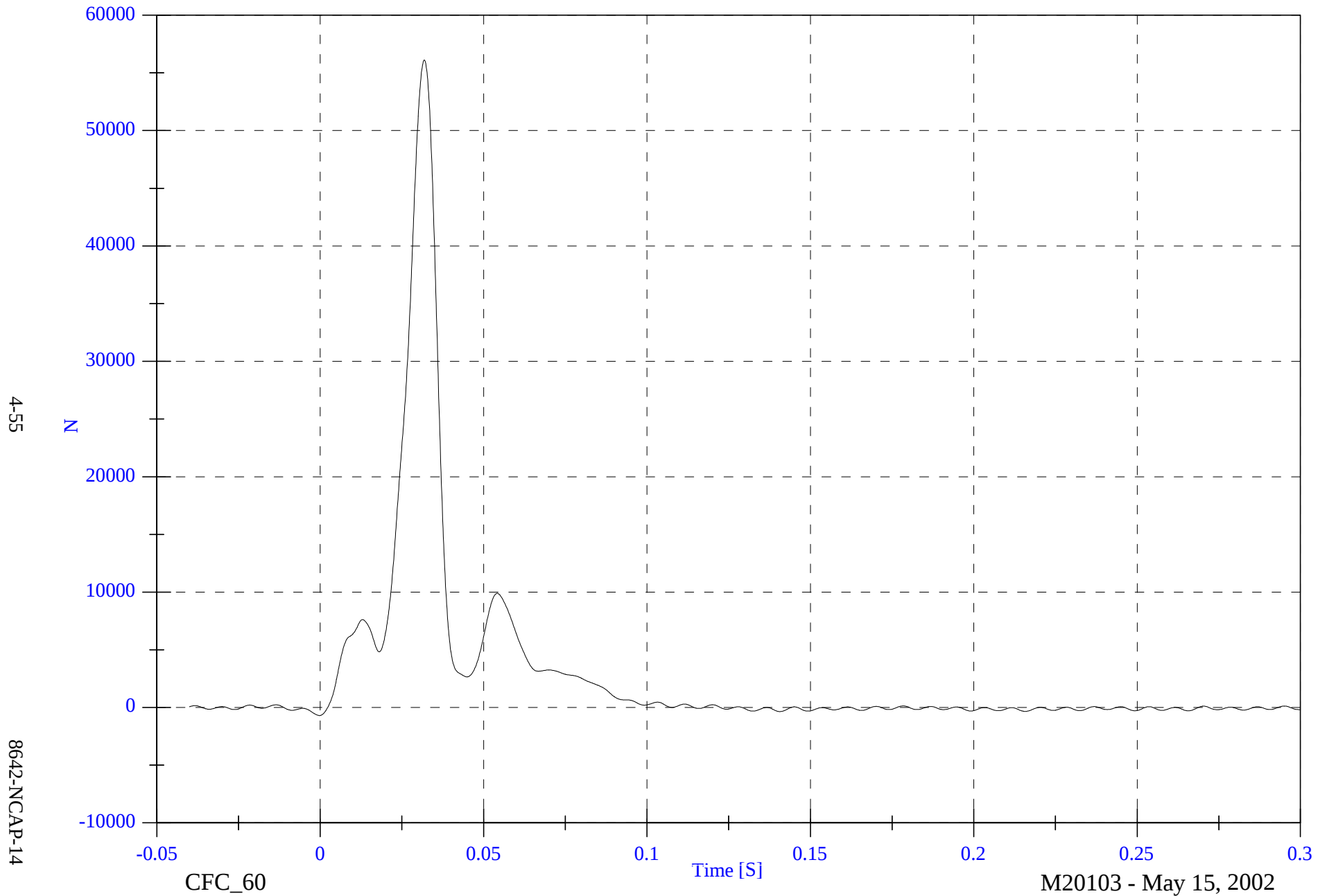


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C5 Fx

Max: 56110.7 [N] at 0.032 [S]

Min: -696.3 [N] at -0.000 [S]

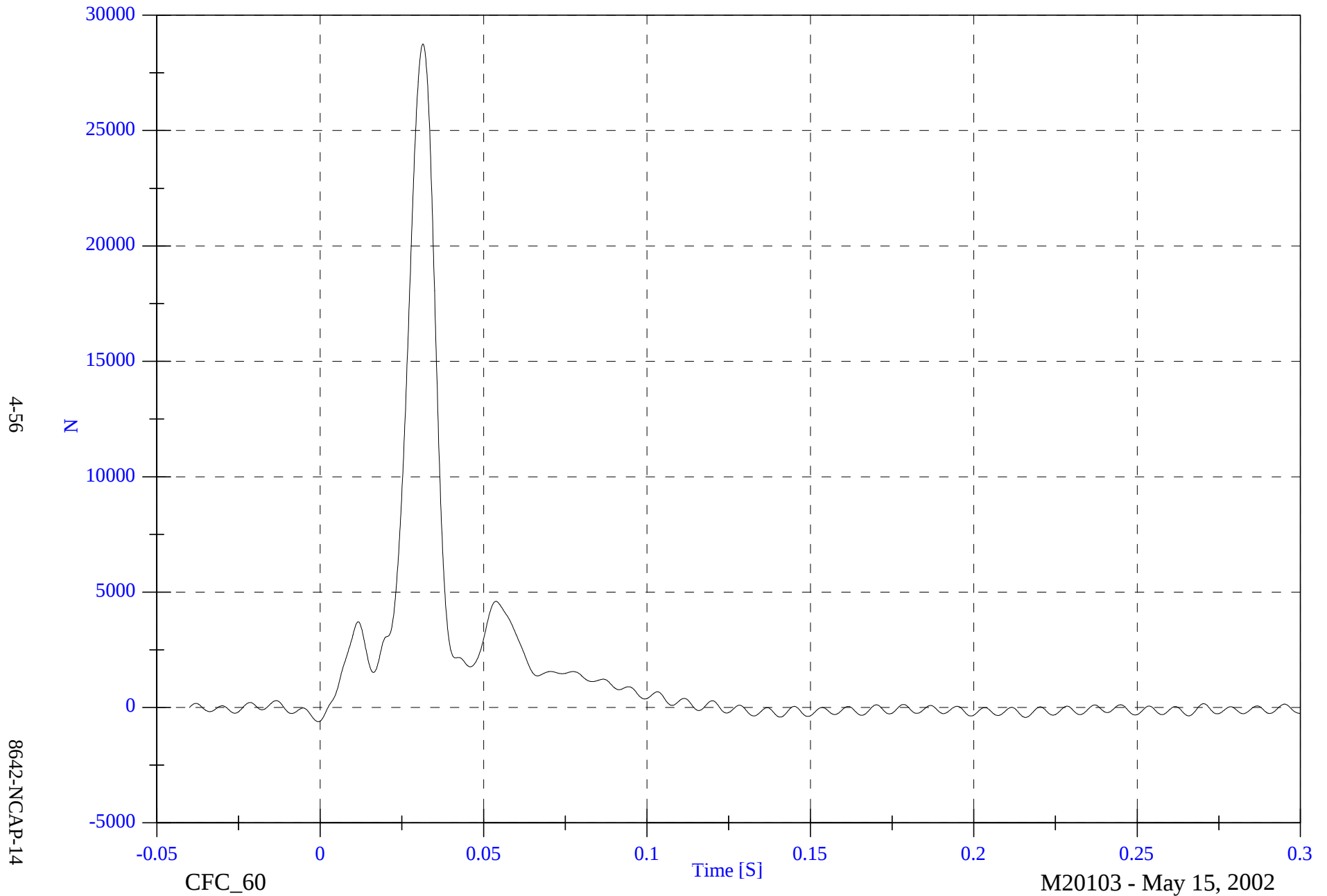


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C6 Fx

Max: 28753.4 [N] at 0.031 [S]

Min: -616.5 [N] at -0.001 [S]

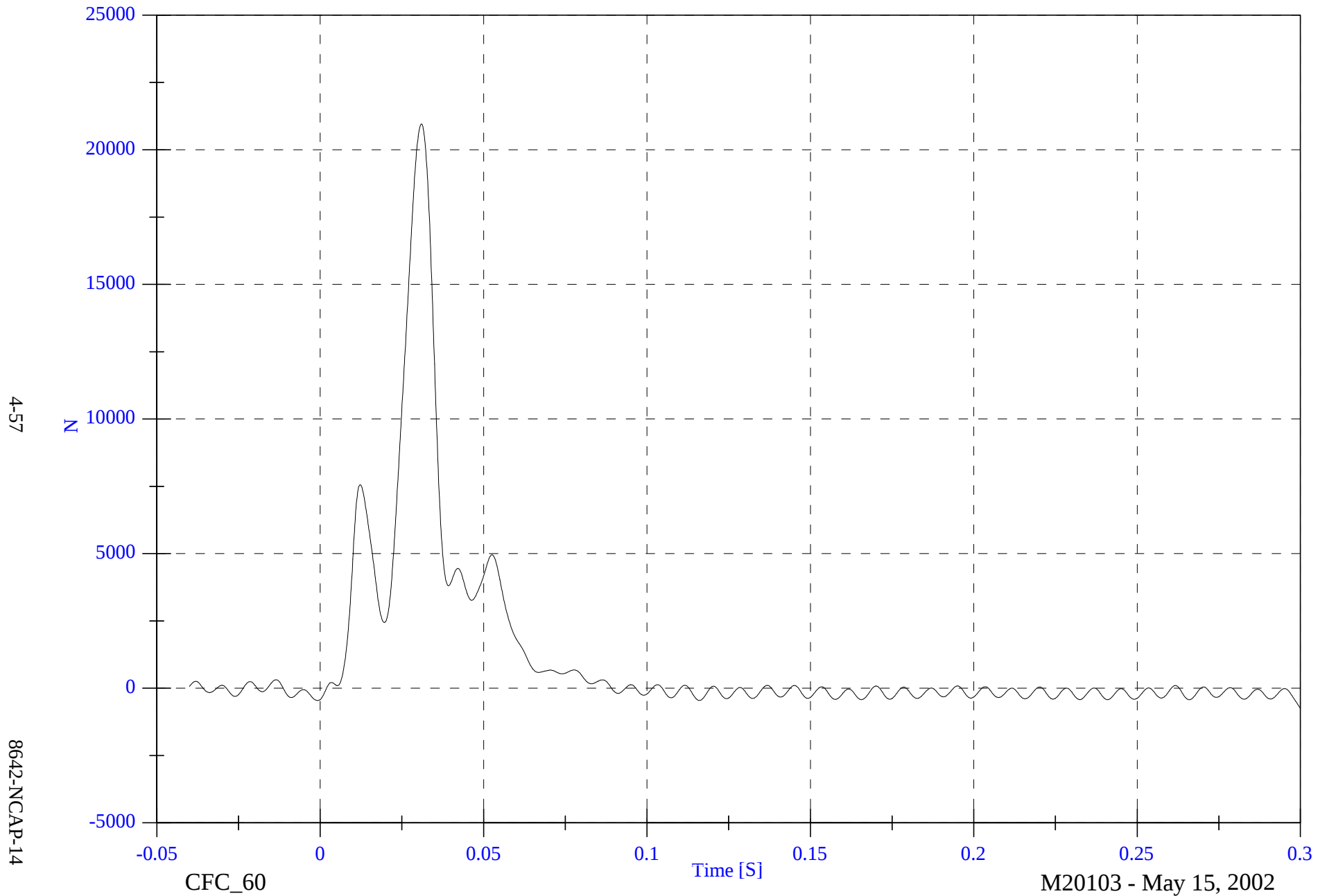


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C7 Fx

Max: 20957.9 [N] at 0.031 [S]

Min: -741.0 [N] at 0.300 [S]

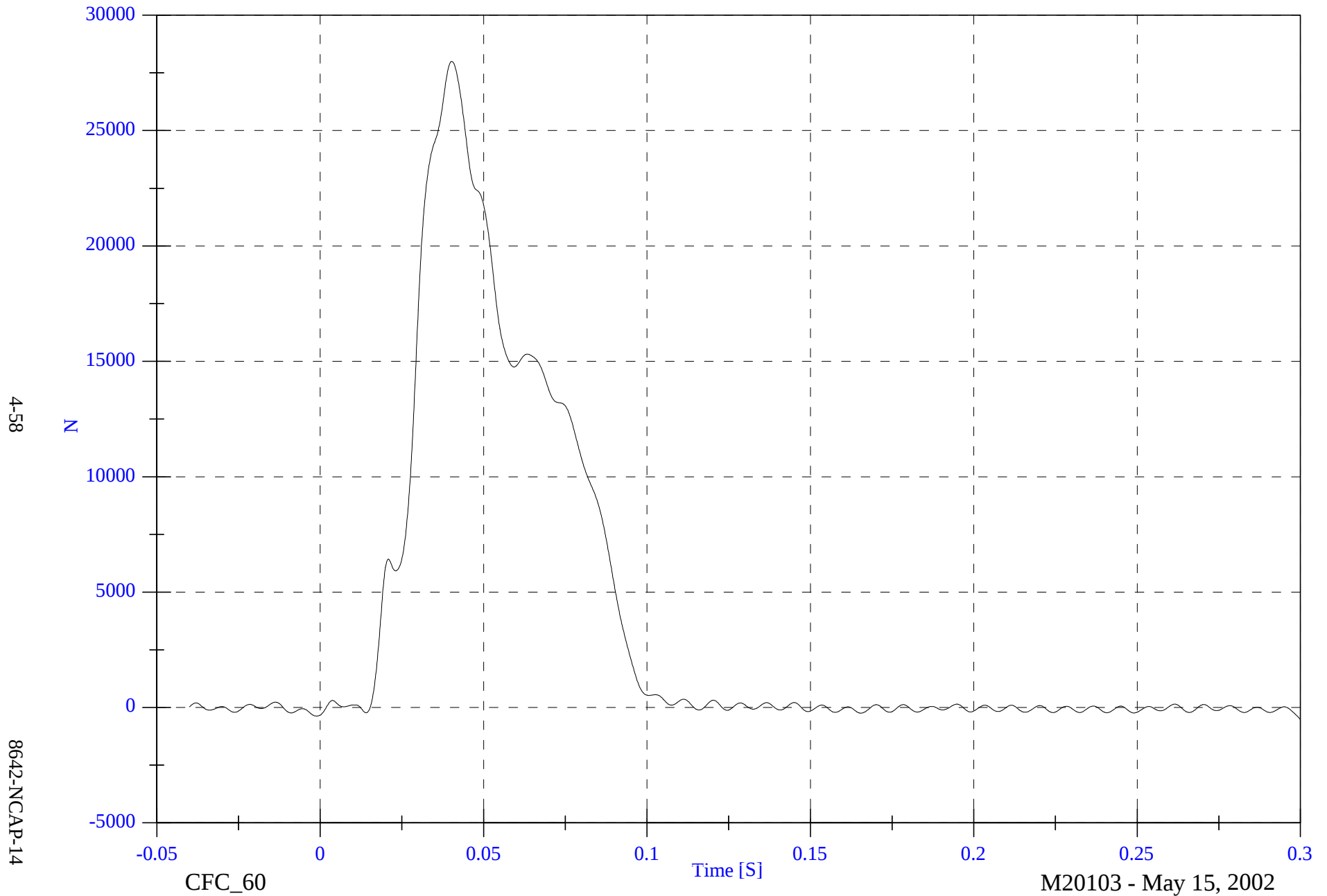


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C8 Fx

Max: 27996.1 [N] at 0.040 [S]

Min: -514.6 [N] at 0.300 [S]

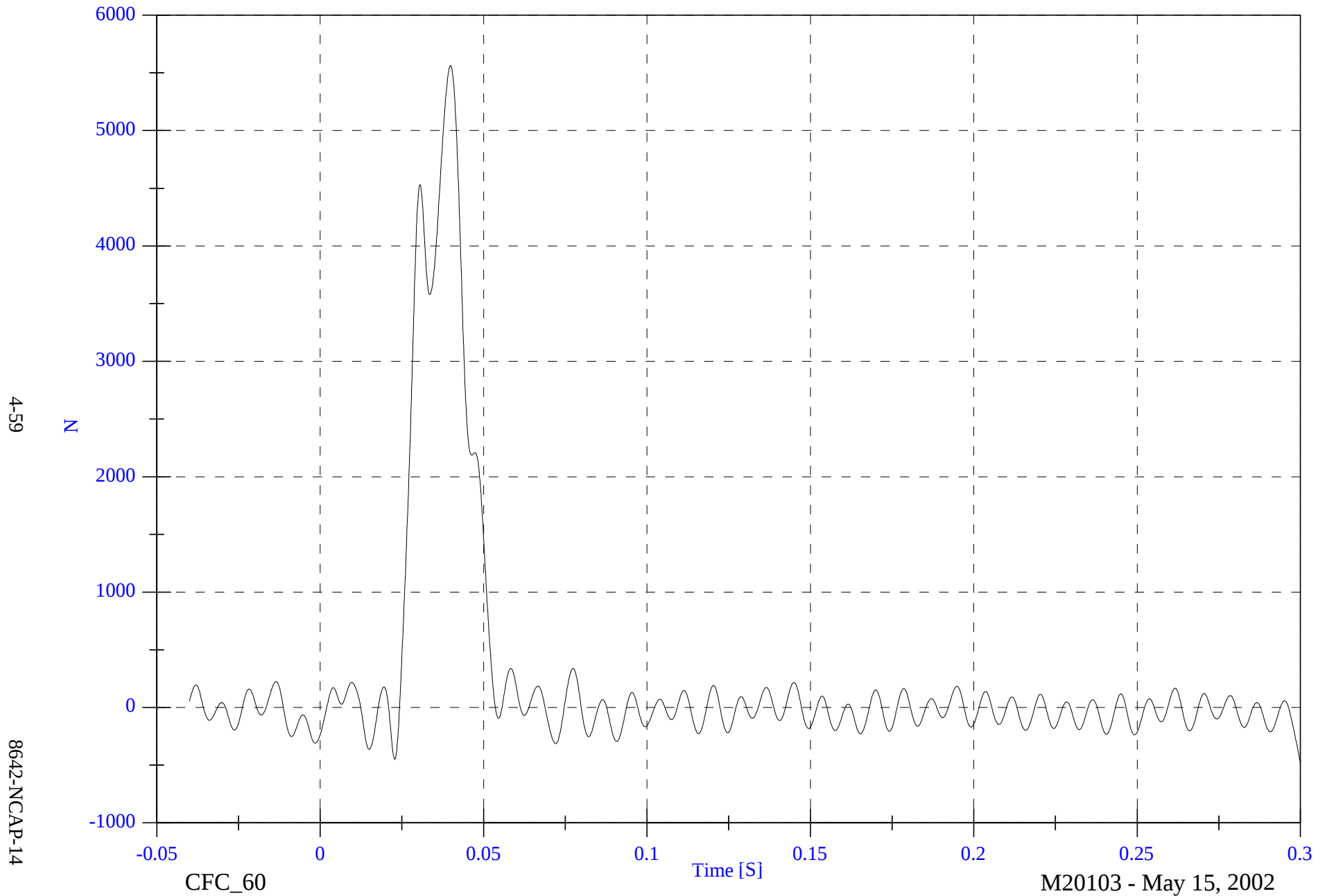


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell C9 Fx

Max: 5562.5 [N] at 0.040 [S]

Min: -473.9 [N] at 0.300 [S]

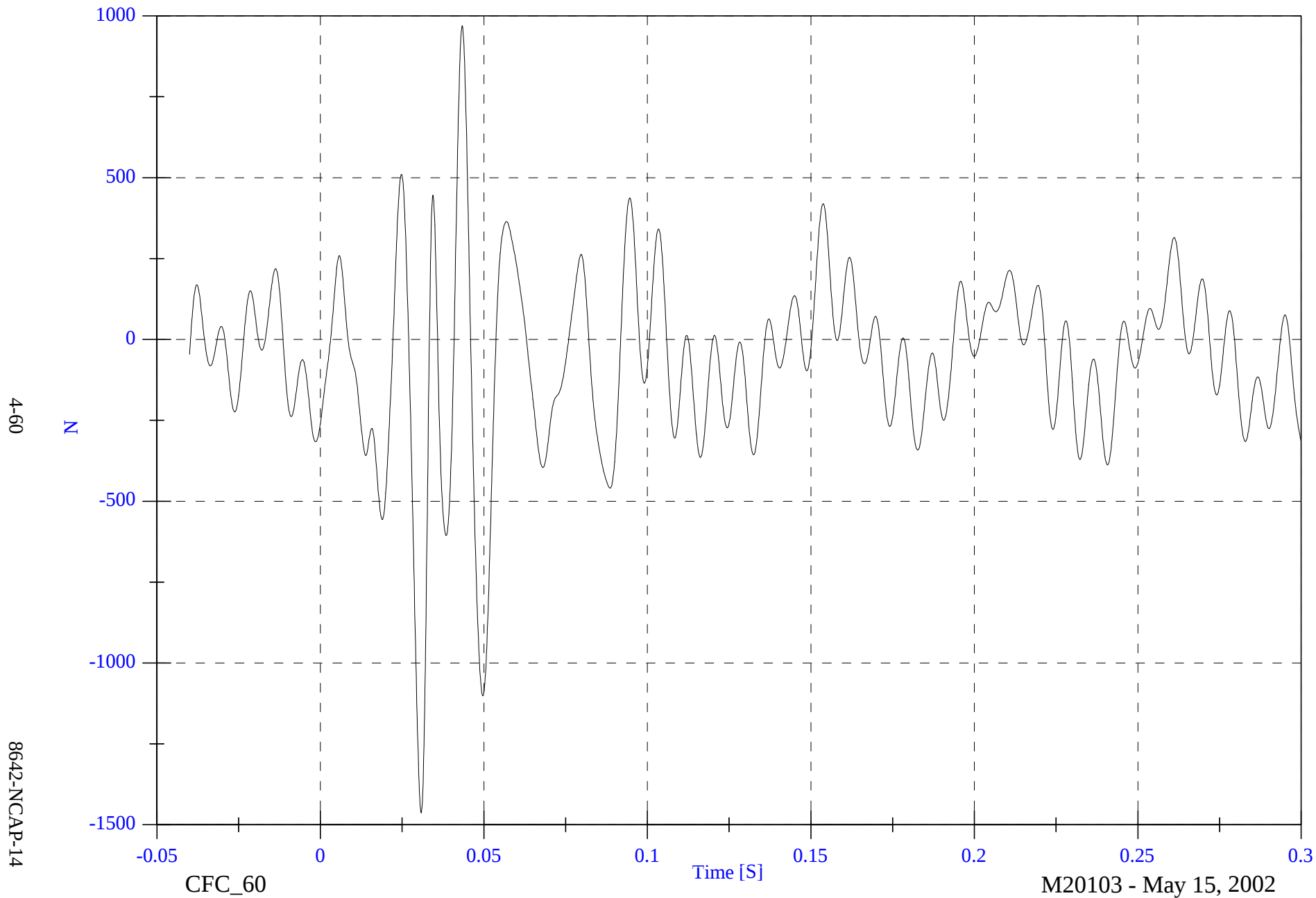


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell D1 Fx

Max: 969.3 [N] at 0.043 [S]

Min: -1463.5 [N] at 0.031 [S]



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

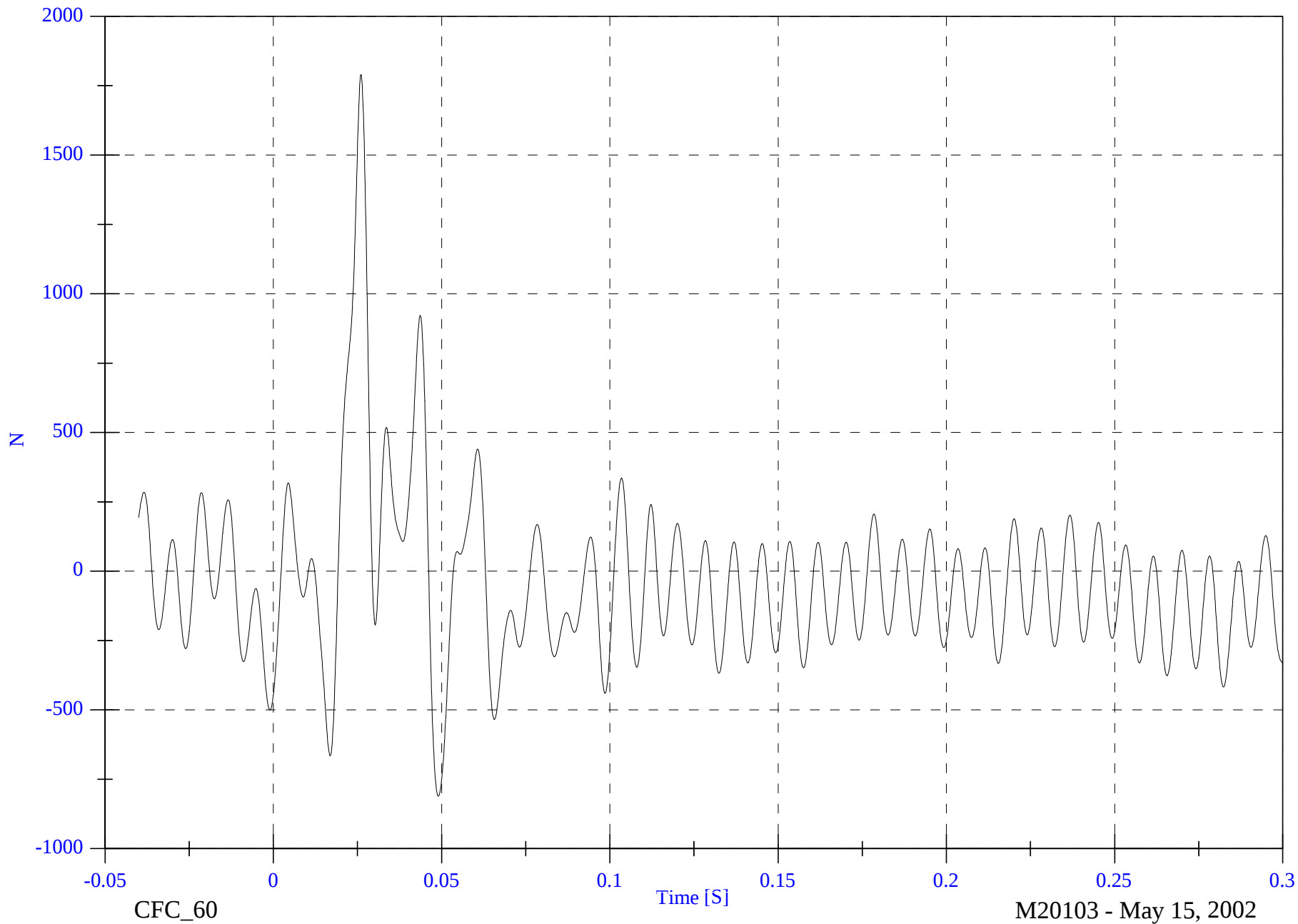
Barrier Load Cell D2 Fx

Max: 1790.5 [N] at 0.026 [S]

Min: -810.9 [N] at 0.049 [S]

4-61

8642-NCAP-14



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

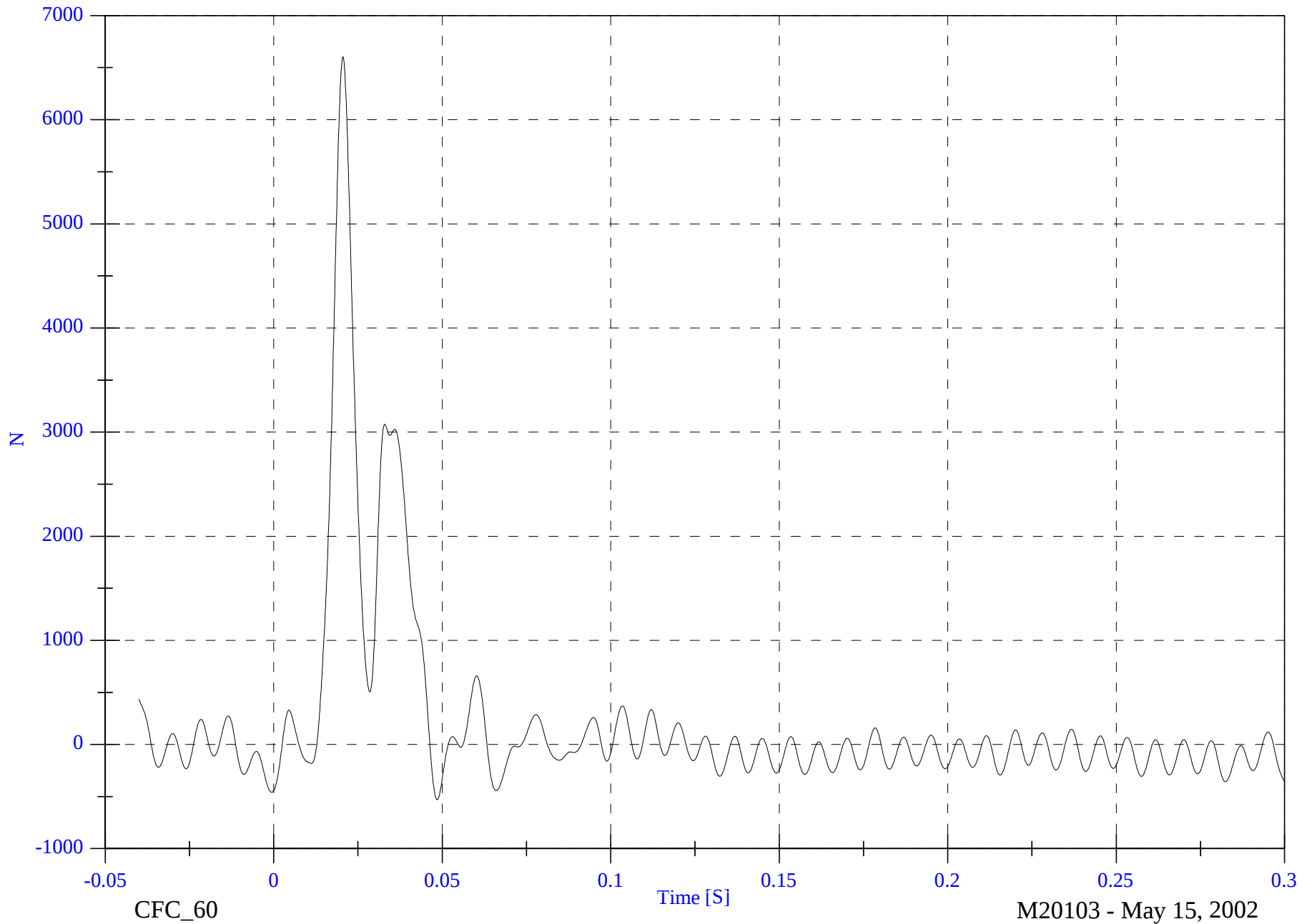
Barrier Load Cell D3 Fx

Max: 6605.0 [N] at 0.021 [S]

Min: -531.1 [N] at 0.048 [S]

4-62

8642-NCAP-14



NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

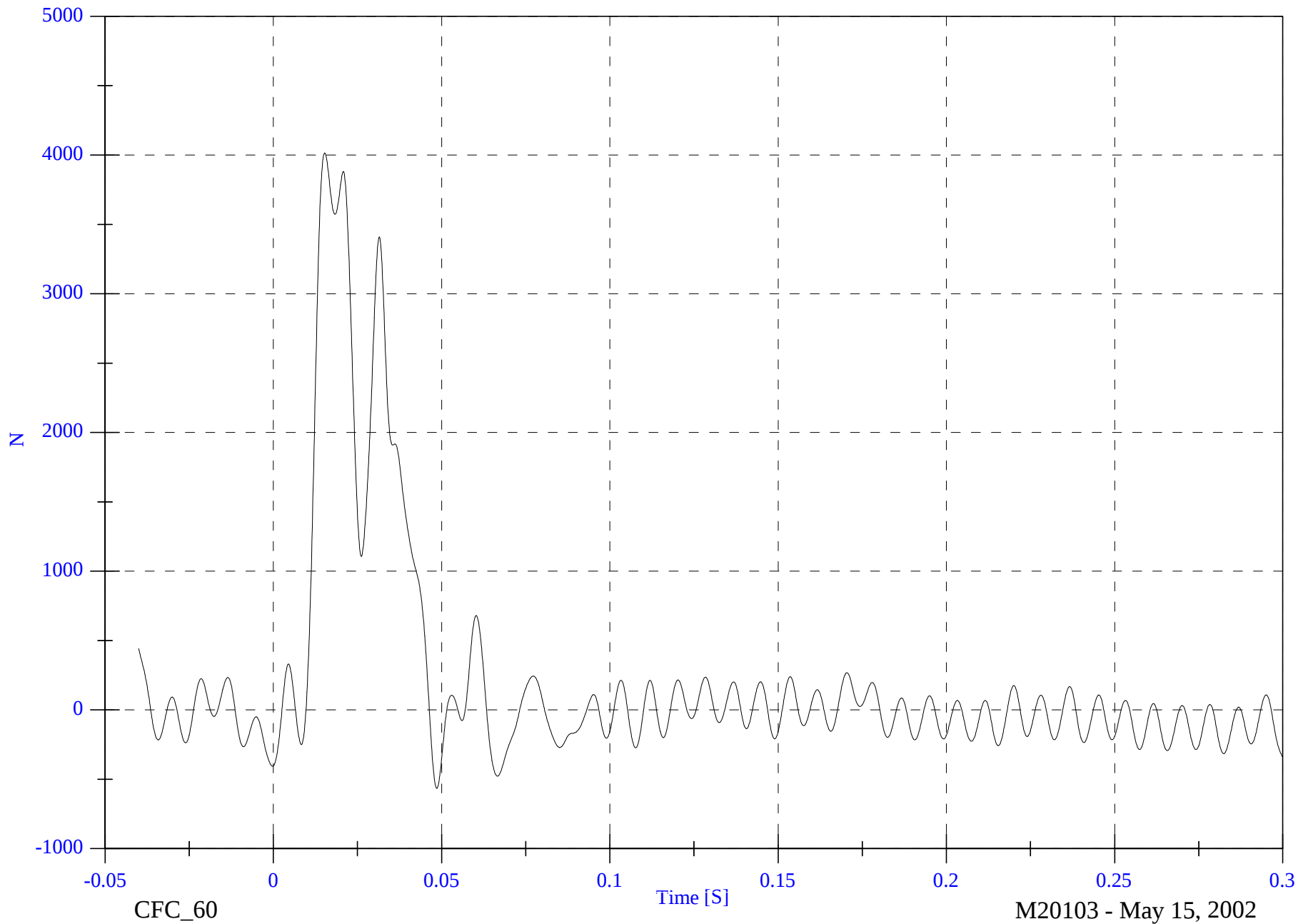
Barrier Load Cell D4 Fx

Max: 4014.9 [N] at 0.015 [S]

Min: -565.7 [N] at 0.049 [S]

4-63

8642-NCAP-14

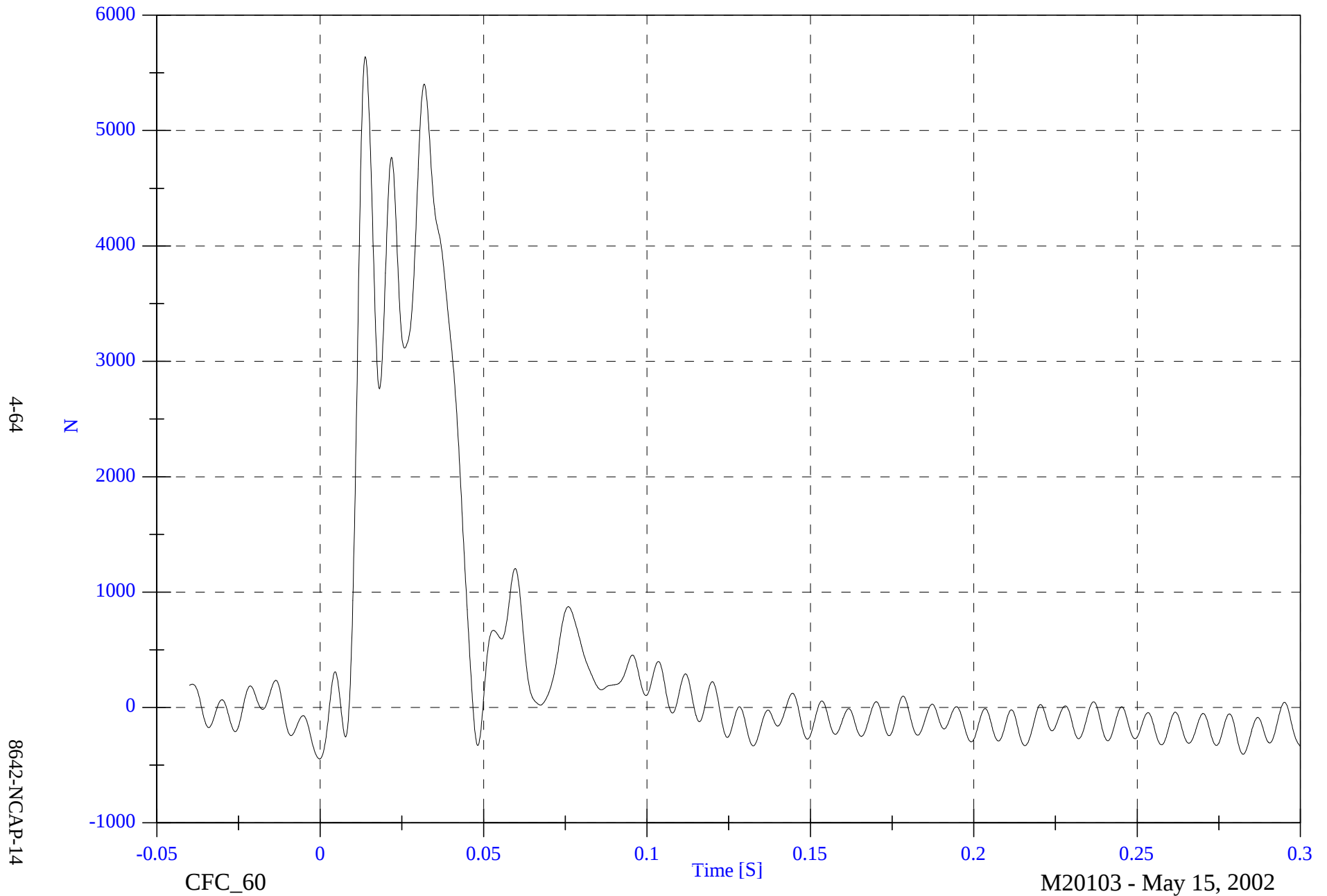


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell D5 Fx

Max: 5640.4 [N] at 0.014 [S]

Min: -445.4 [N] at -0.000 [S]

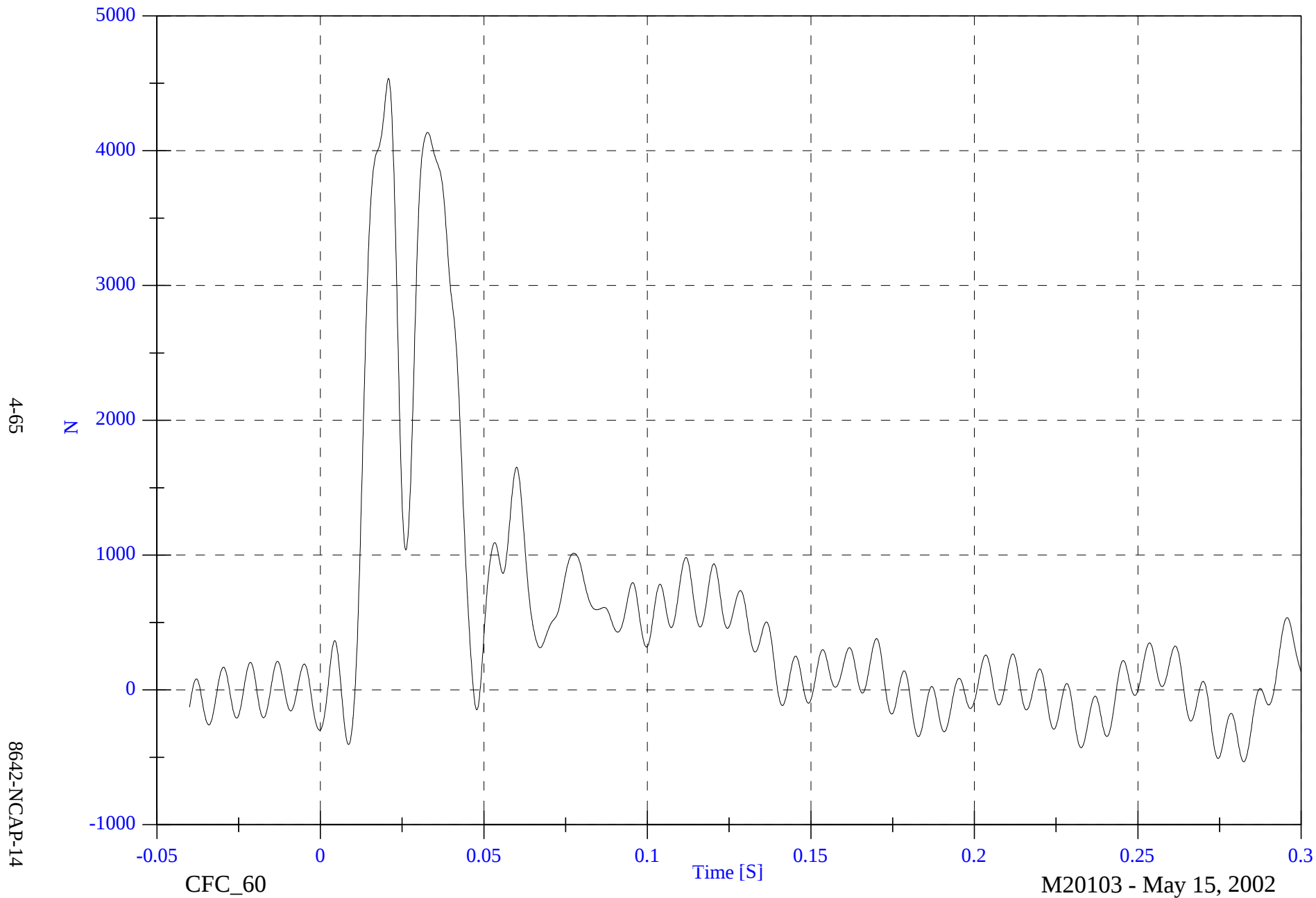


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell D6 Fx

Max: 4535.4 [N] at 0.021 [S]

Min: -532.7 [N] at 0.282 [S]

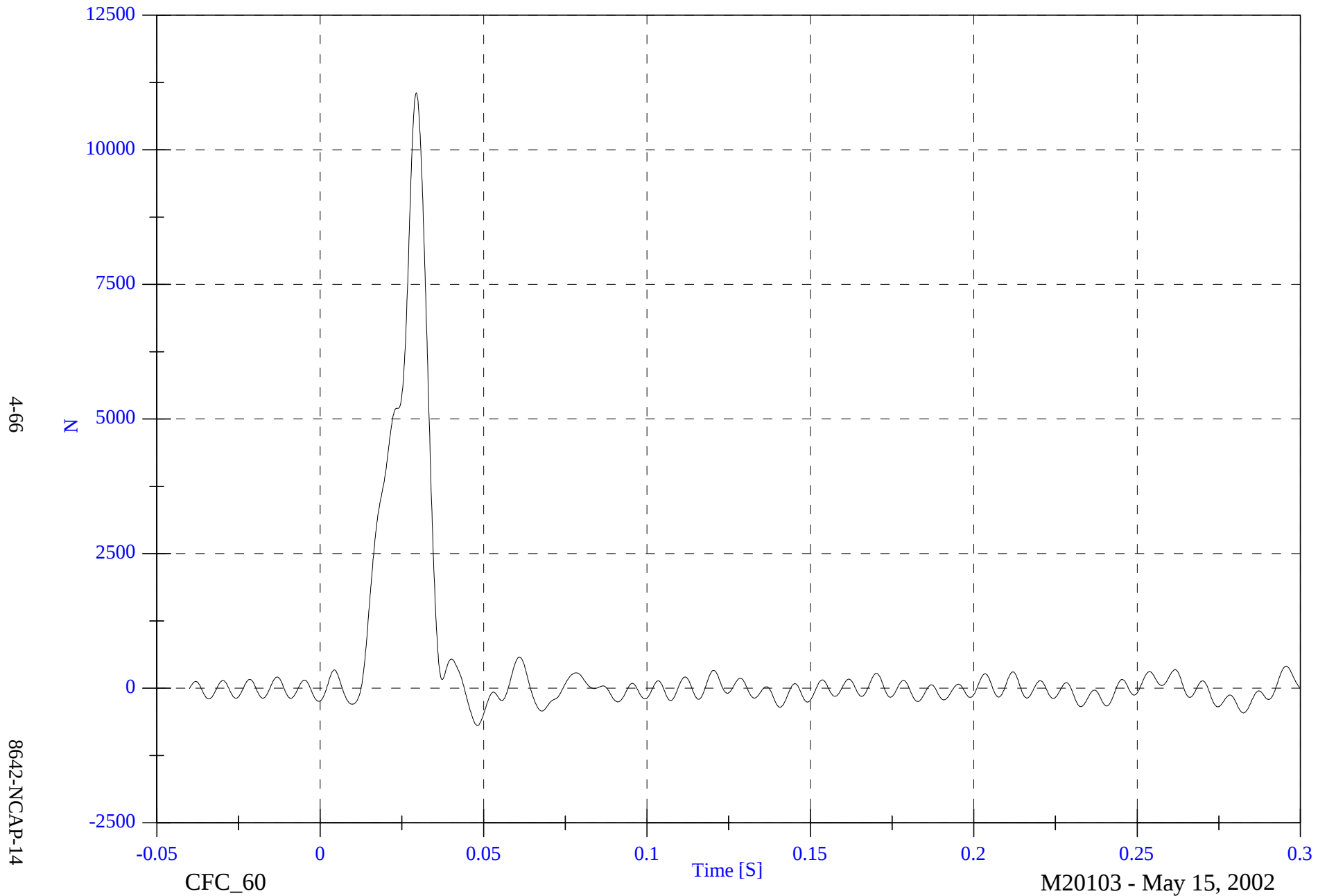


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell D7 Fx

Max: 11058.9 [N] at 0.029 [S]

Min: -692.7 [N] at 0.048 [S]

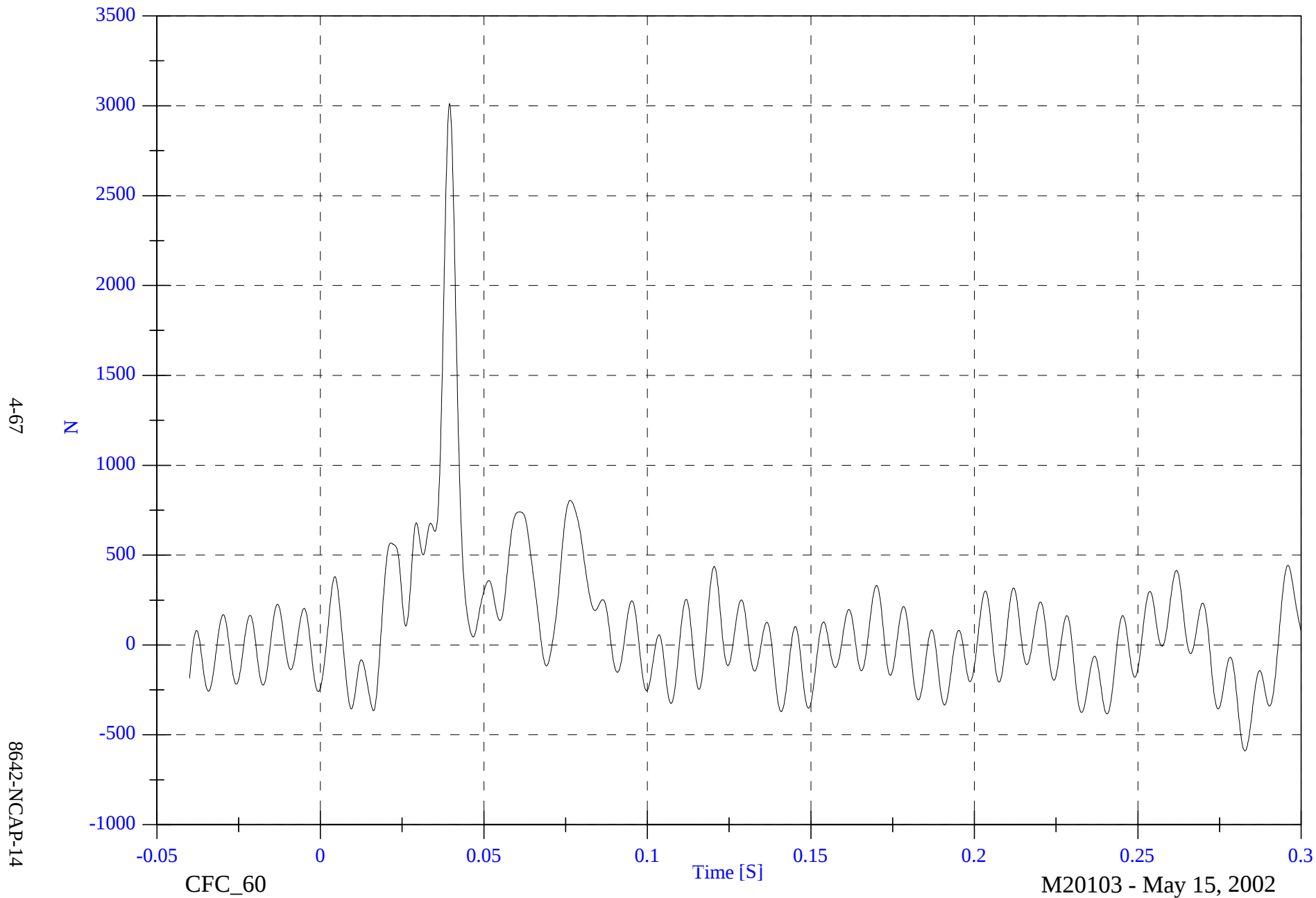


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell D8 Fx

Max: 3011.9 [N] at 0.039 [S]

Min: -589.2 [N] at 0.283 [S]

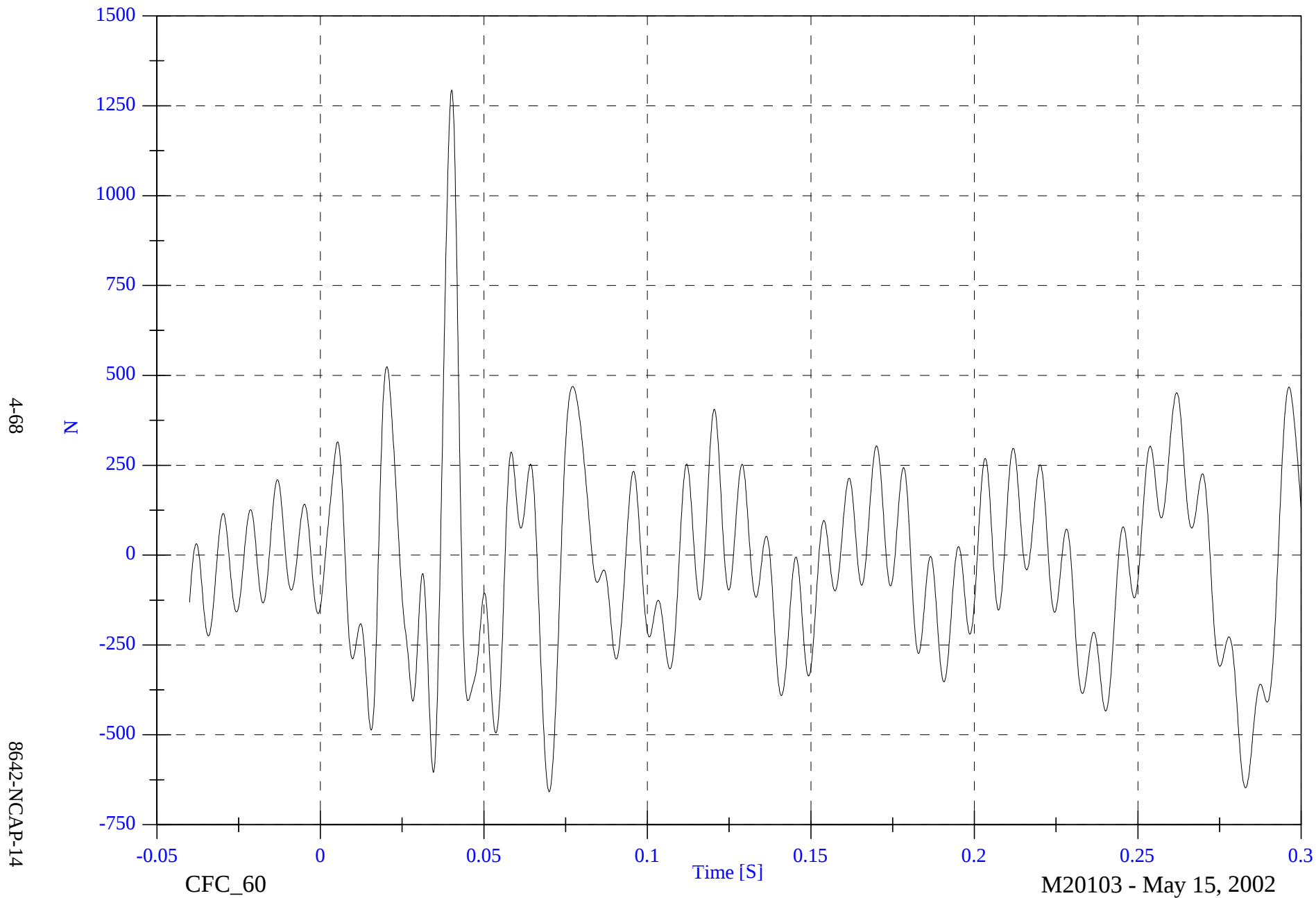


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Barrier Load Cell D9 Fx

Max: 1293.8 [N] at 0.040 [S]

Min: -658.1 [N] at 0.070 [S]

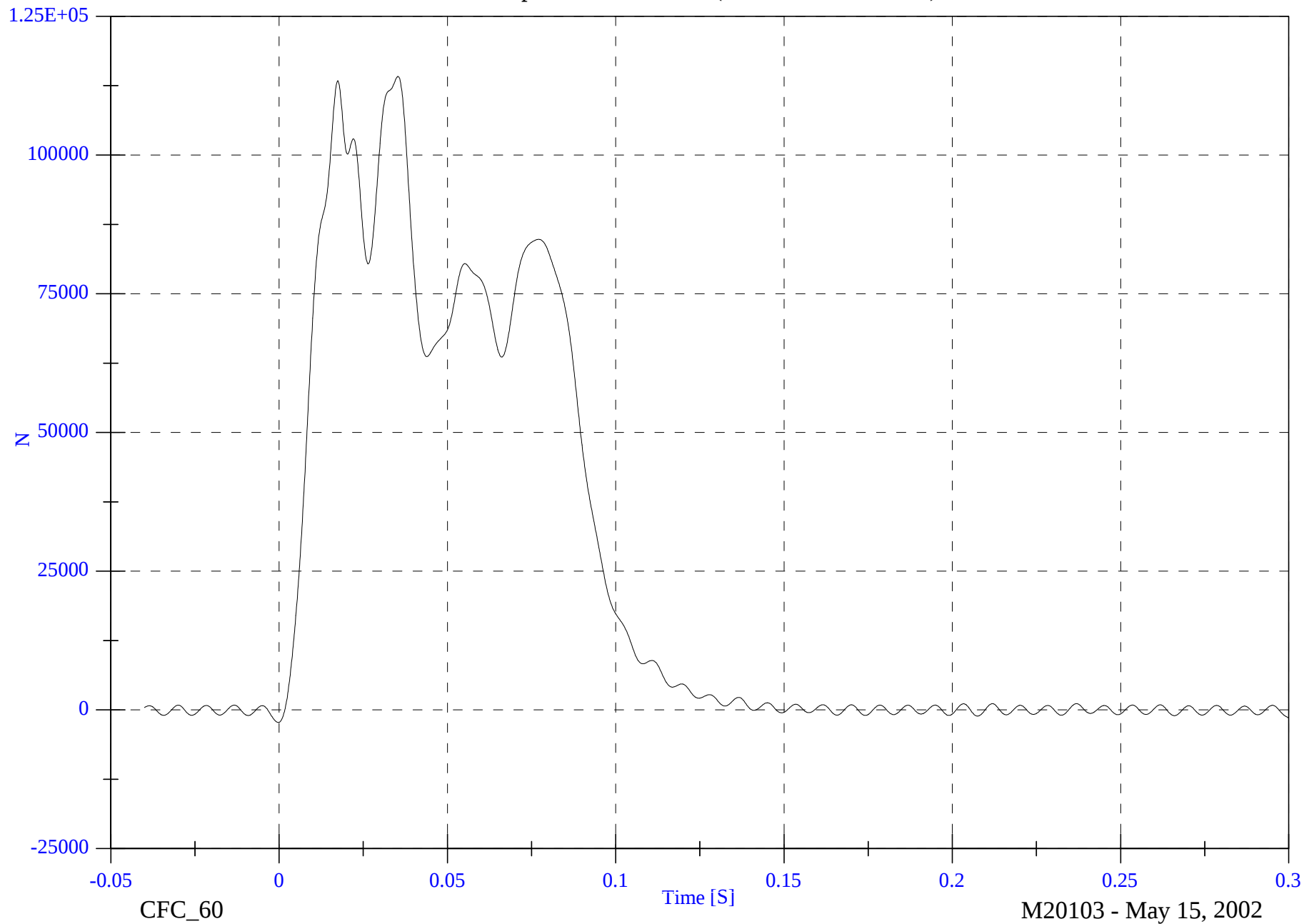


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Max: 114176.7 [N] at 0.035 [S]

Group 1 Load Cell Sum (A1,A2,A3,B1,B2,B3)

Min: -2268.0 [N] at -0.000 [S]



4-69

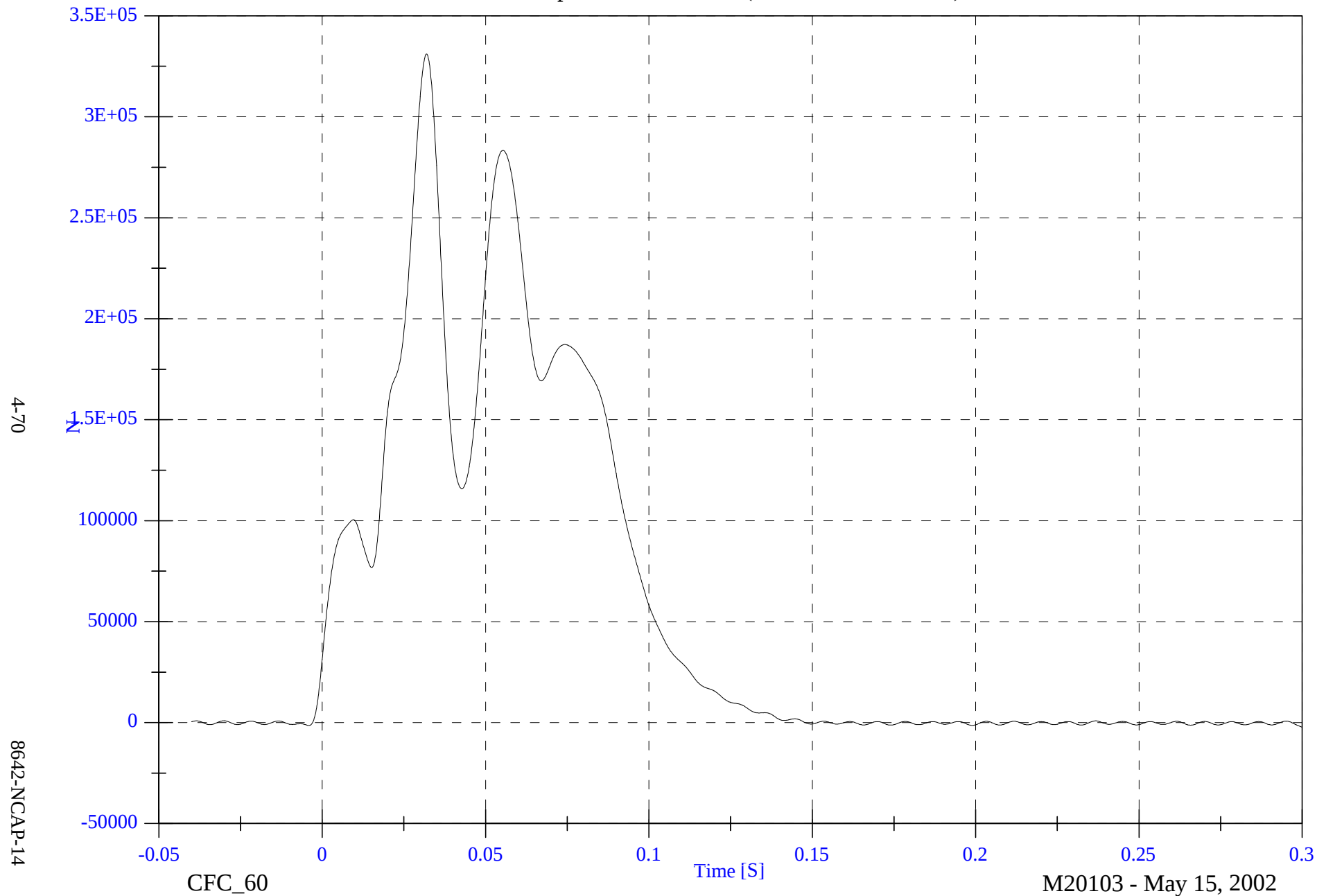
8642-NCAP-14

NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Group 2 Load Cell Sum (A4,A5,A6,B4,B5,B6)

Max: 331118.2 [N] at 0.032 [S]

Min: -2229.1 [N] at 0.300 [S]

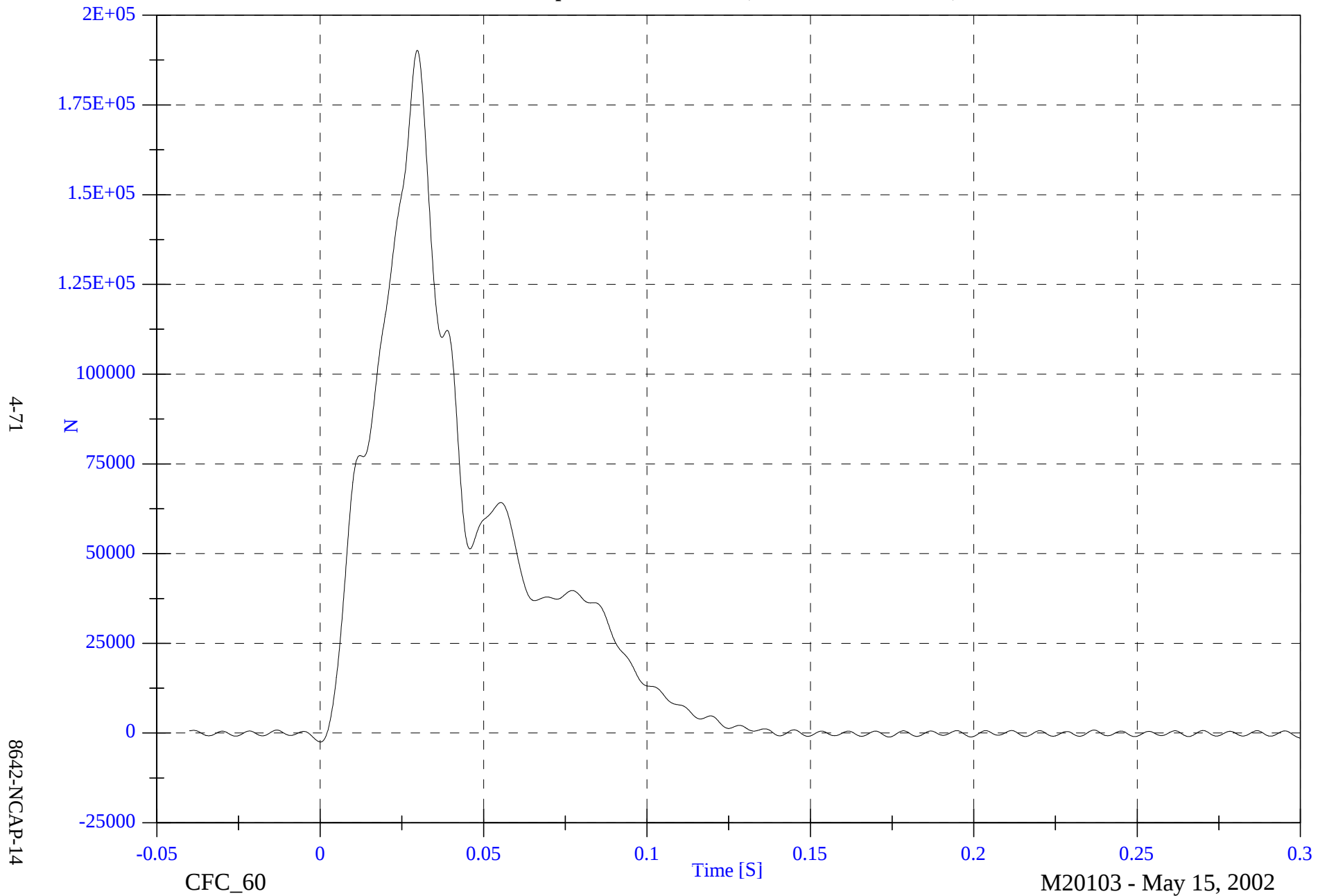


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)

Max: 190193.1 [N] at 0.030 [S]

Min: -2473.3 [N] at 0.000 [S]

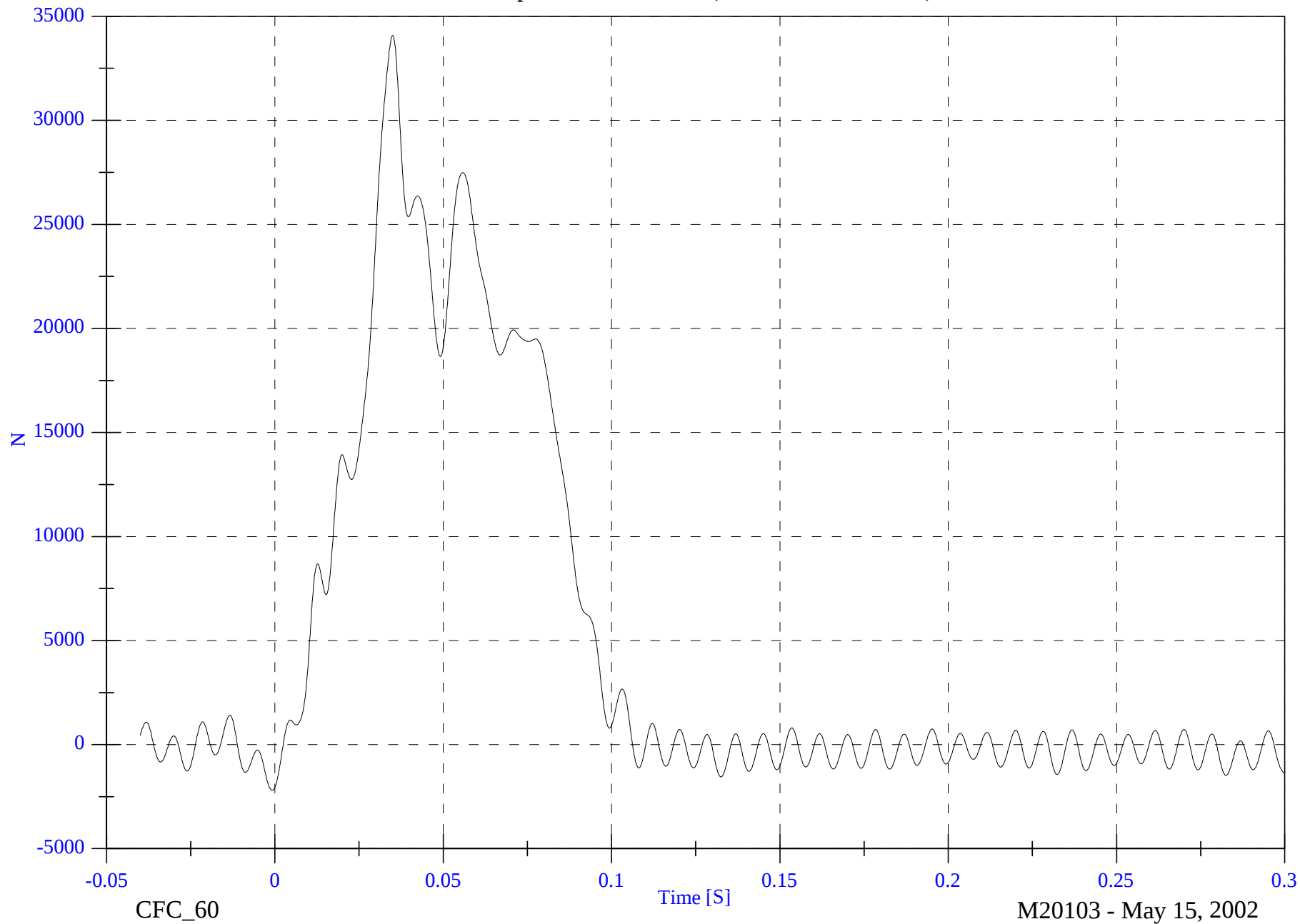


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Group 4 Load Cell Sum (C1,C2,C3,D1,D2,D3)

Max: 34074.4 [N] at 0.035 [S]

Min: -2197.6 [N] at -0.001 [S]



4-72

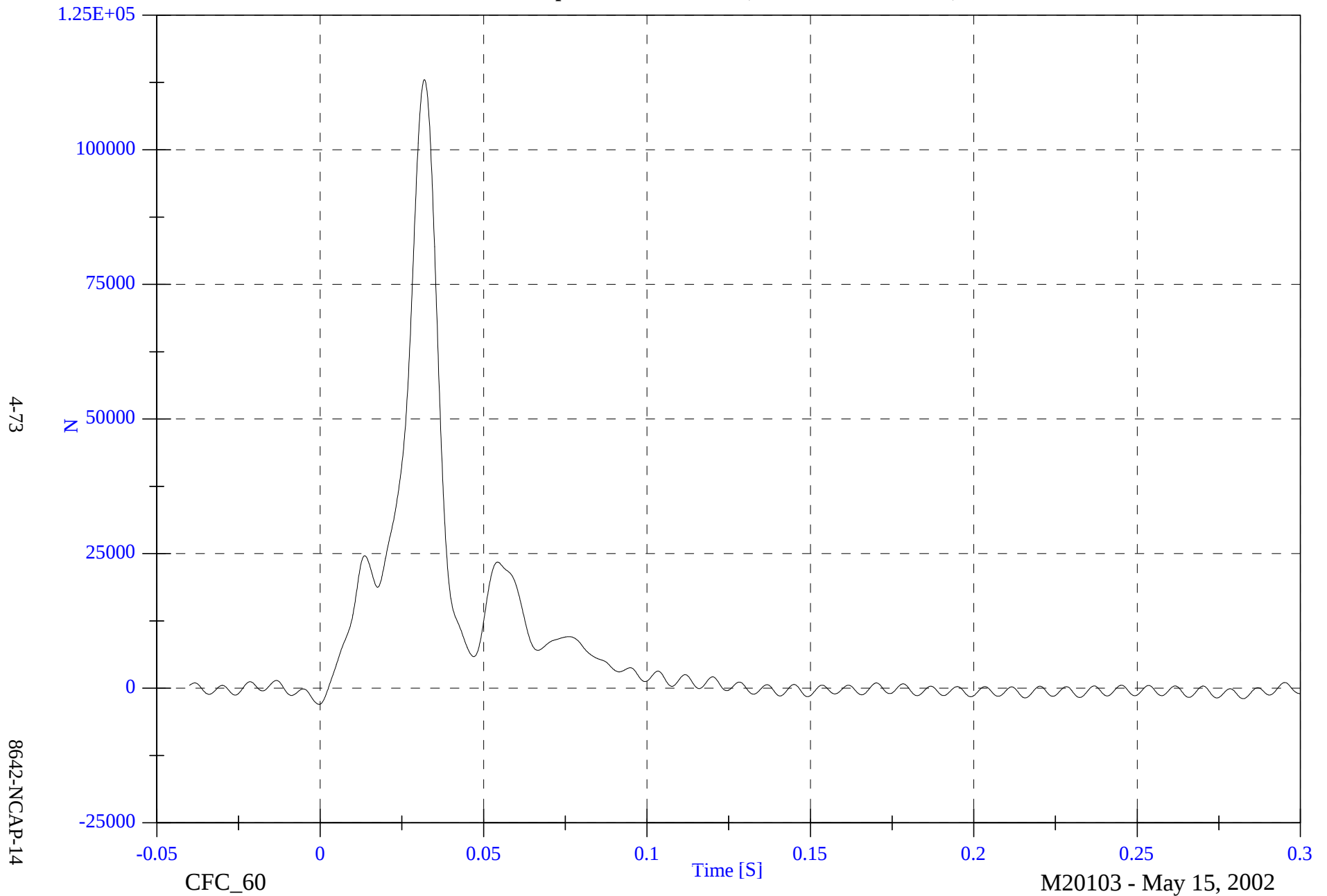
8642-NCAP-14

NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Group 5 Load Cell Sum (C4,C5,C6,D4,D5,D6)

Max: 113027.2 [N] at 0.032 [S]

Min: -2990.6 [N] at -0.000 [S]

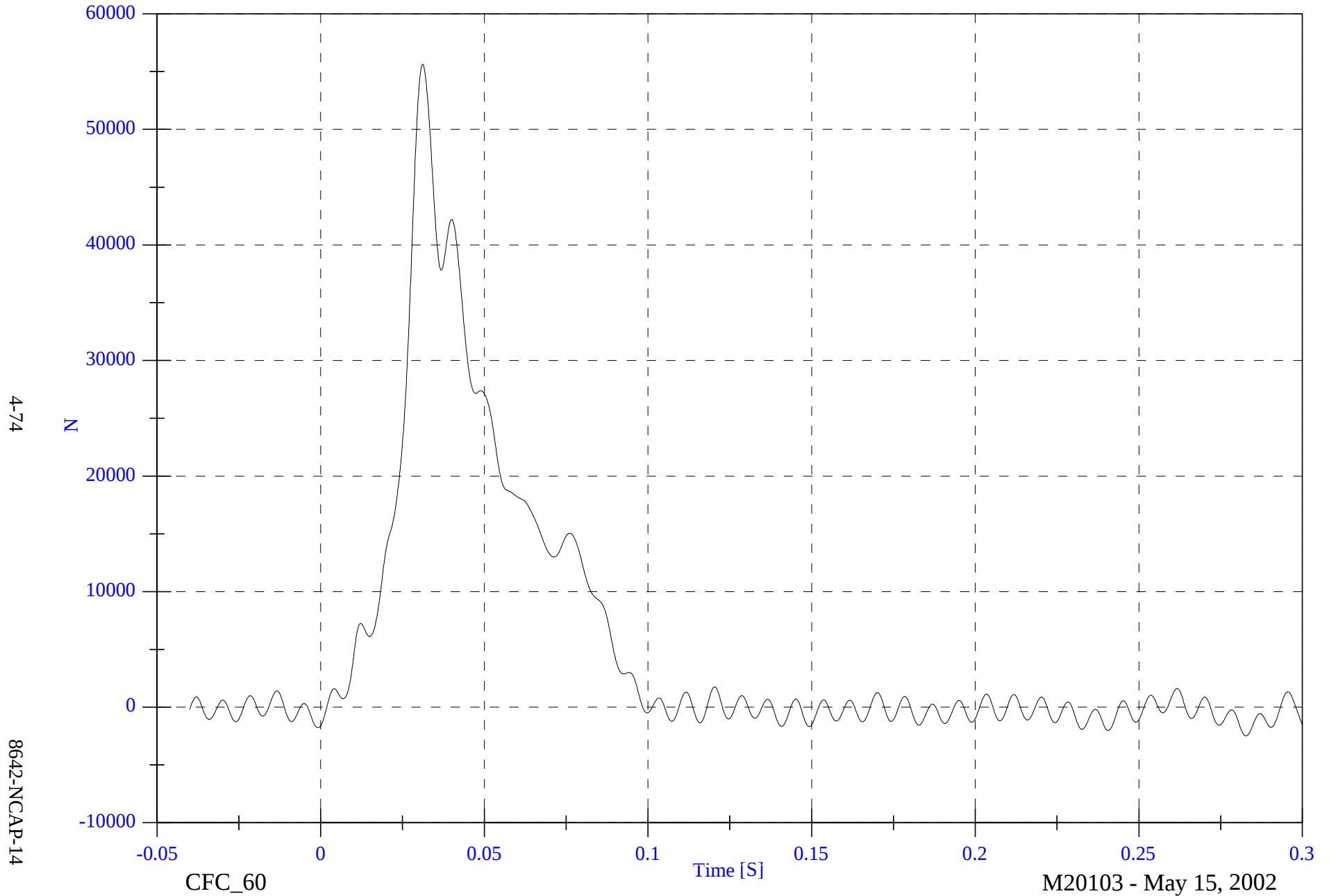


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Group 6 Load Cell Sum (C7,C8,C9,D7,D8,D9)

Max: 55621.0 [N] at 0.031 [S]

Min: -2484.9 [N] at 0.283 [S]

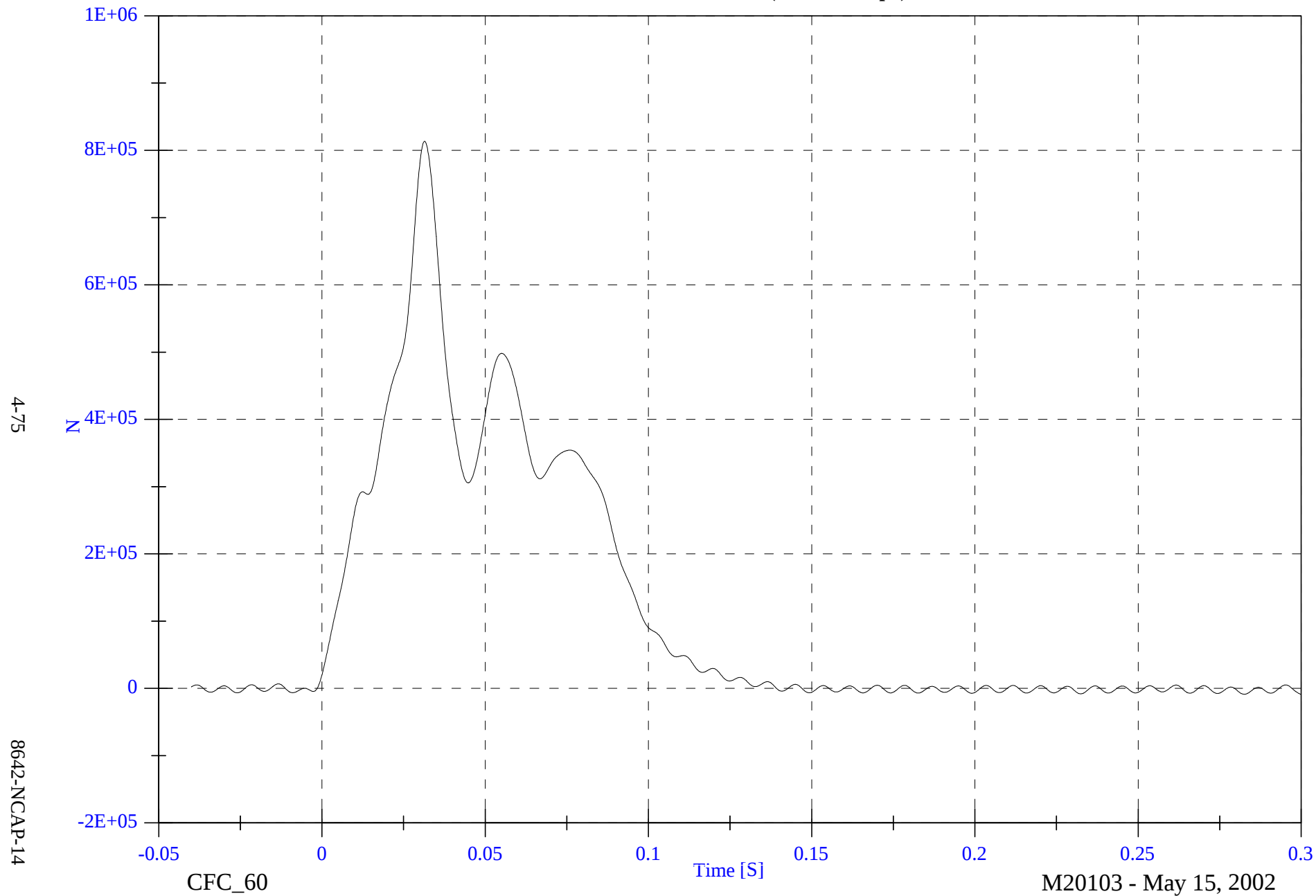


NCAP TEST #14 - 2002 Cadillac Deville 4-door Sedan

Total Load Cell Sum (All 6 Groups)

Max: 813449.0 [N] at 0.031 [S]

Min: -9036.4 [N] at 0.300 [S]

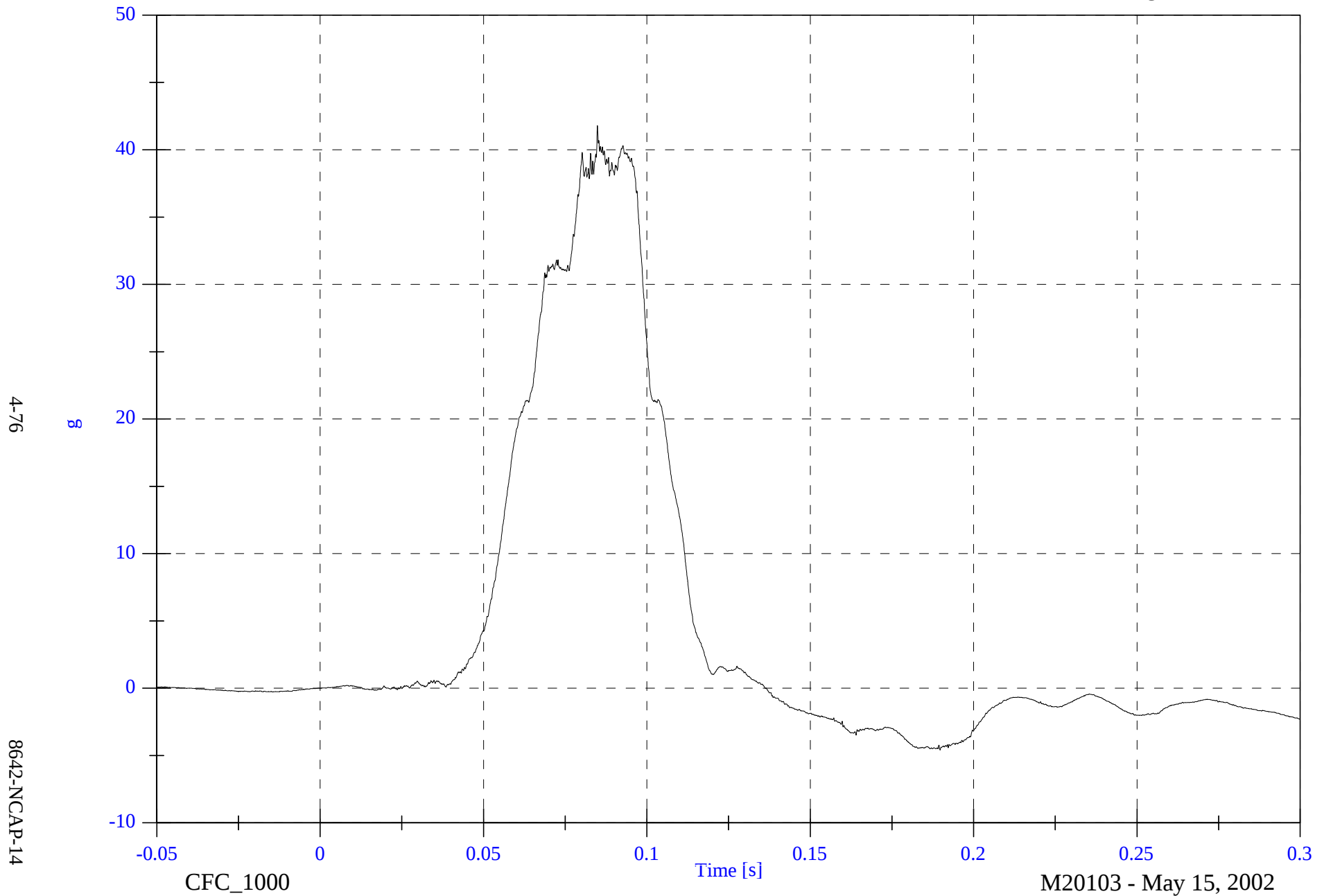


2002 NCAP Test 14 2002 Cadillac Deville

Max: 41.8 [g] at 0.085 [s]

Min: -4.6 [g] at 0.190 [s]

P3 Head x

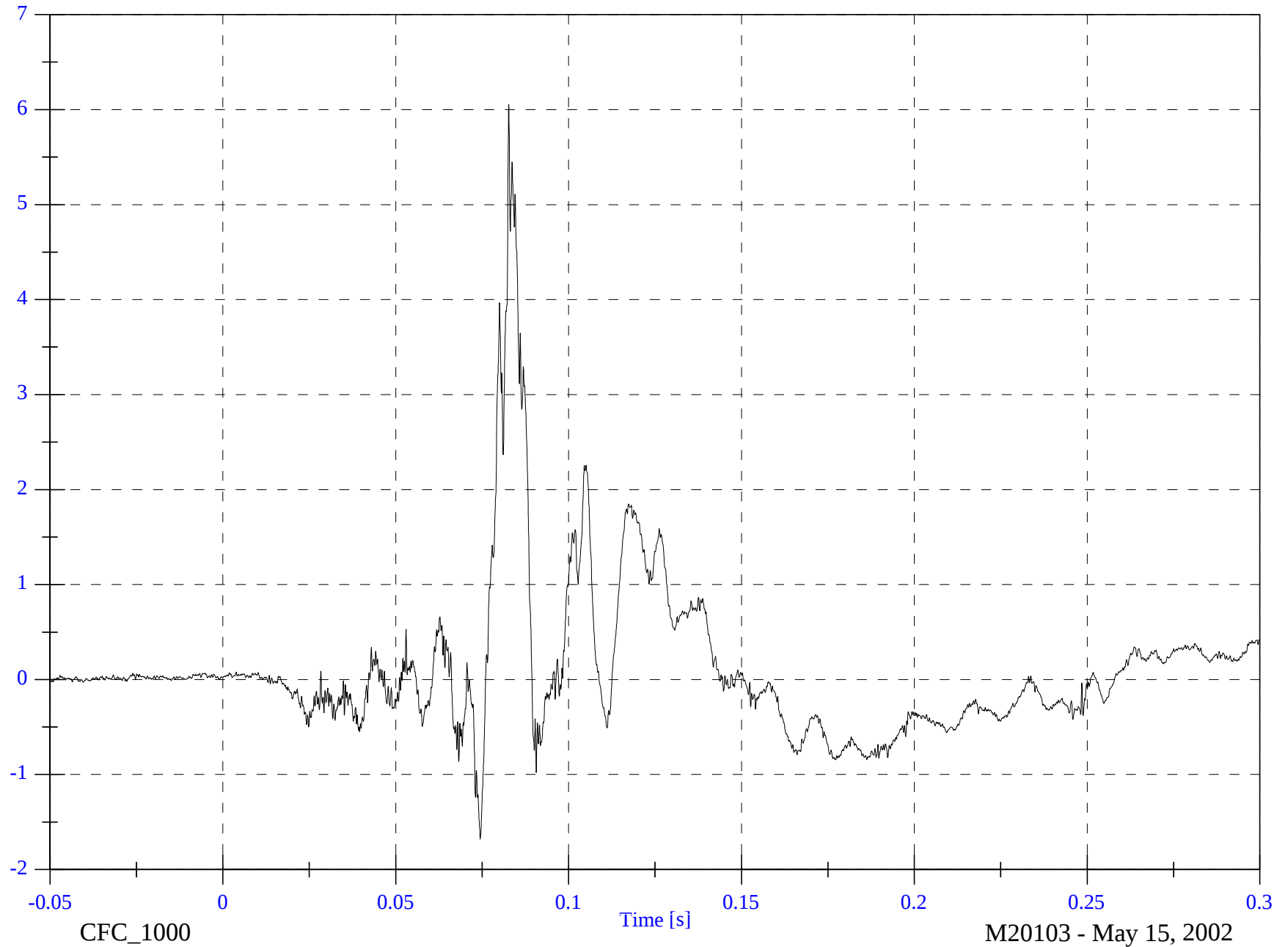


2002 NCAP Test 14 2002 Cadillac Deville

Max: 6.1 [g] at 0.083 [s]

Min: -1.7 [g] at 0.074 [s]

P3 Head y



4-77

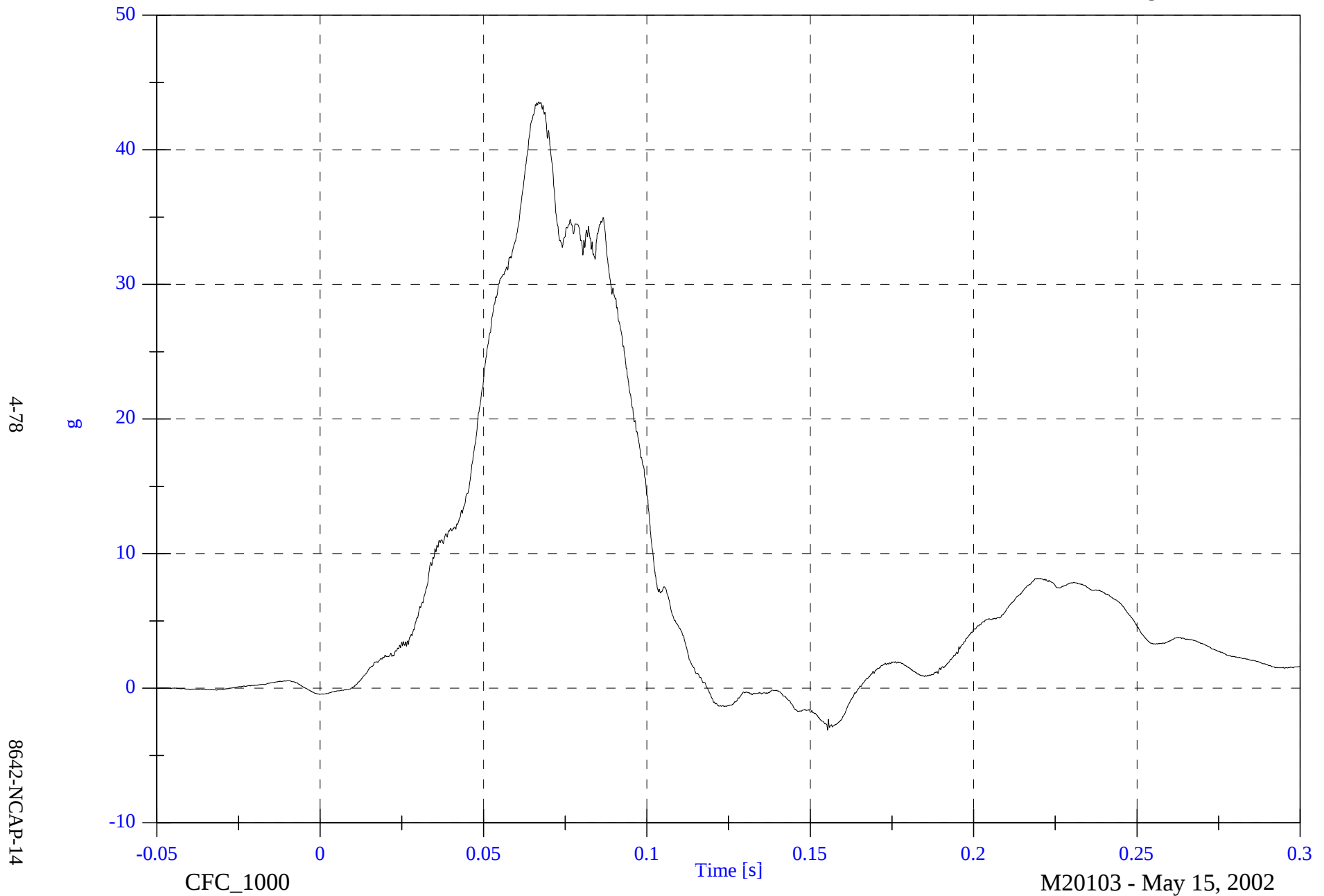
8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

Max: 43.6 [g] at 0.067 [s]

Min: -3.1 [g] at 0.155 [s]

P3 Head z



2002 NCAP Test 14 2002 Cadillac Deville

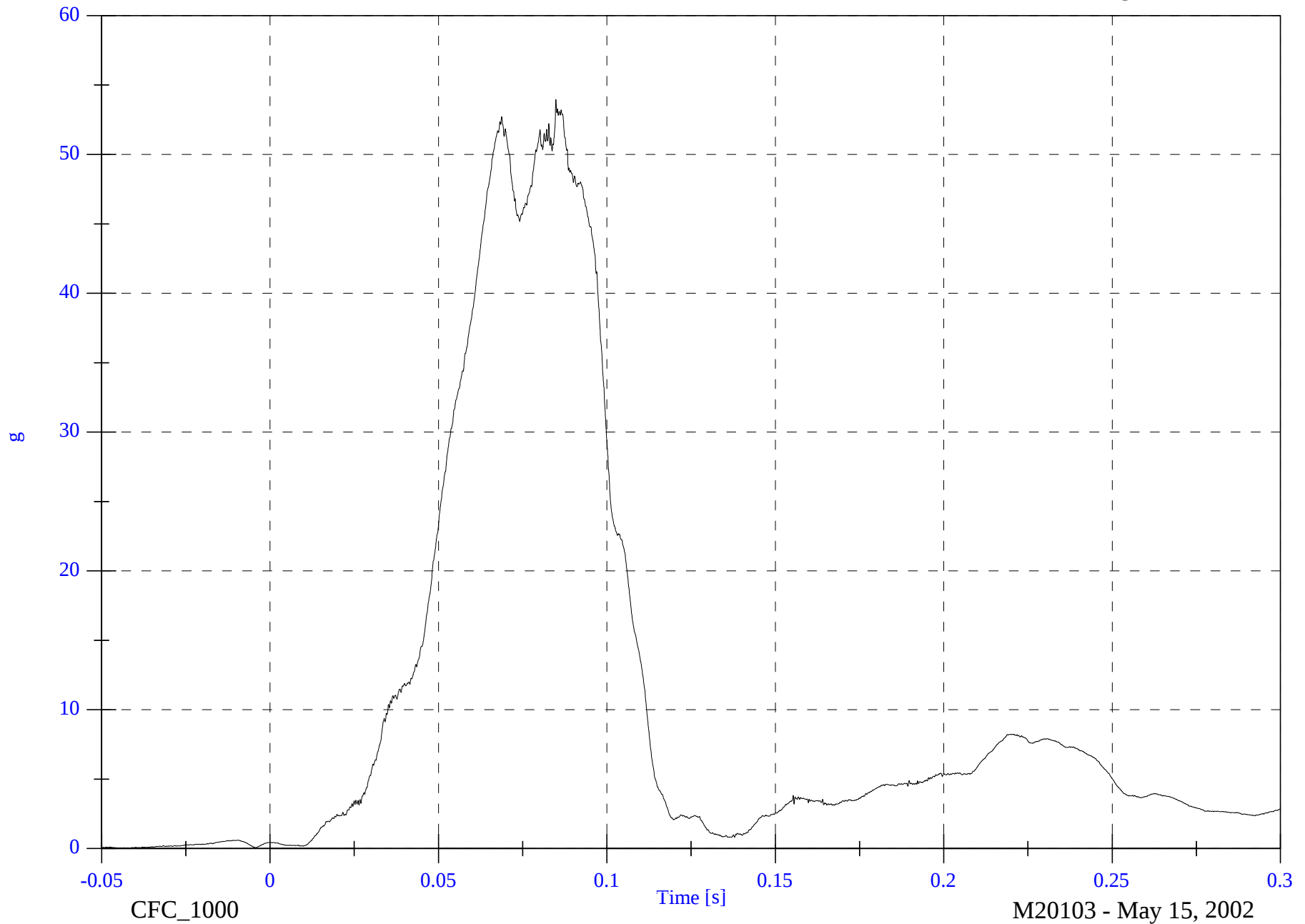
P3 Head Resultant

Max: 54.0 [g] at 0.085 [s]

Min: 0.0 [g] at -0.044 [s]

4-79

8642-NCAP-14

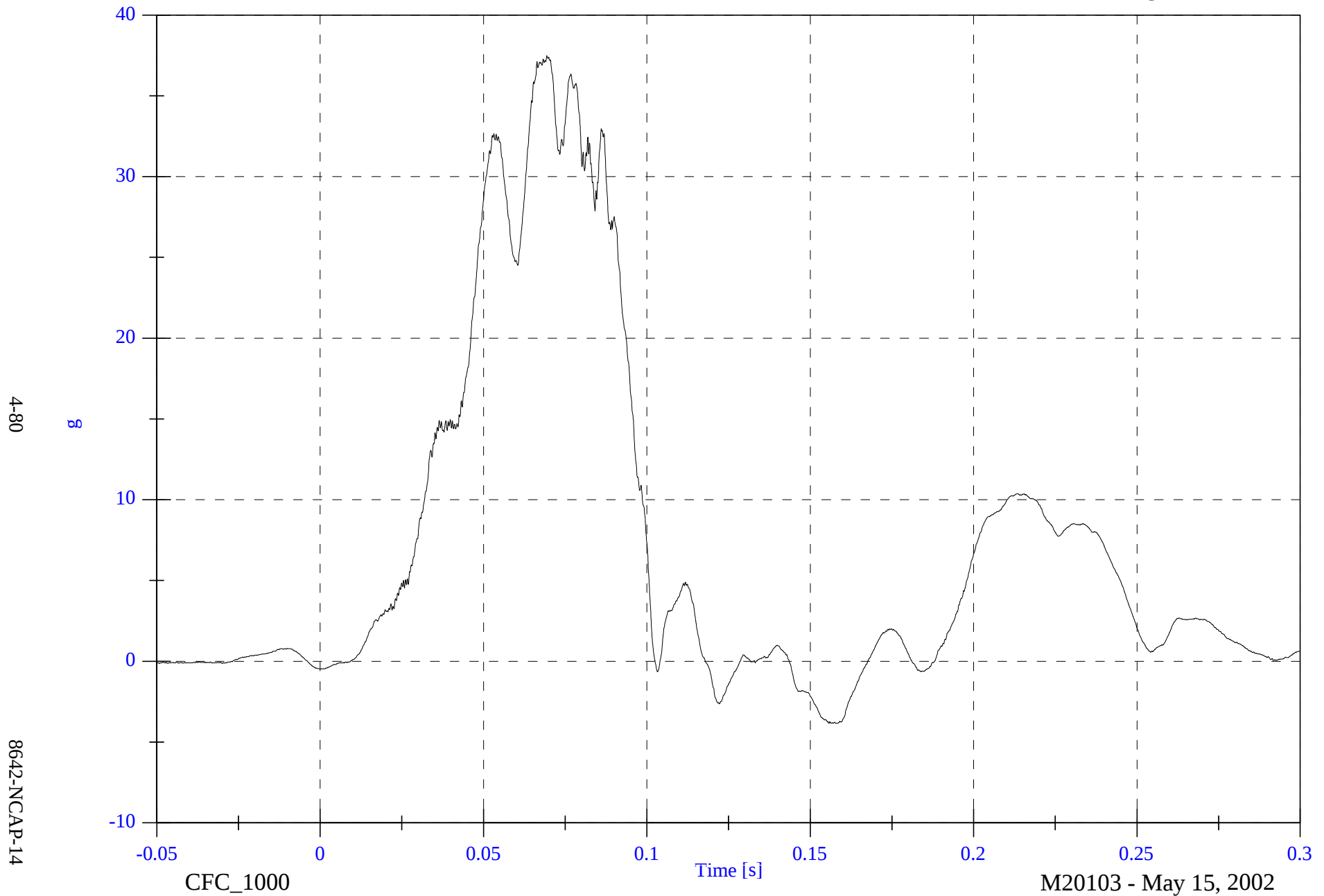


2002 NCAP Test 14 2002 Cadillac Deville

Max: 37.5 [g] at 0.069 [s]

Min: -3.8 [g] at 0.156 [s]

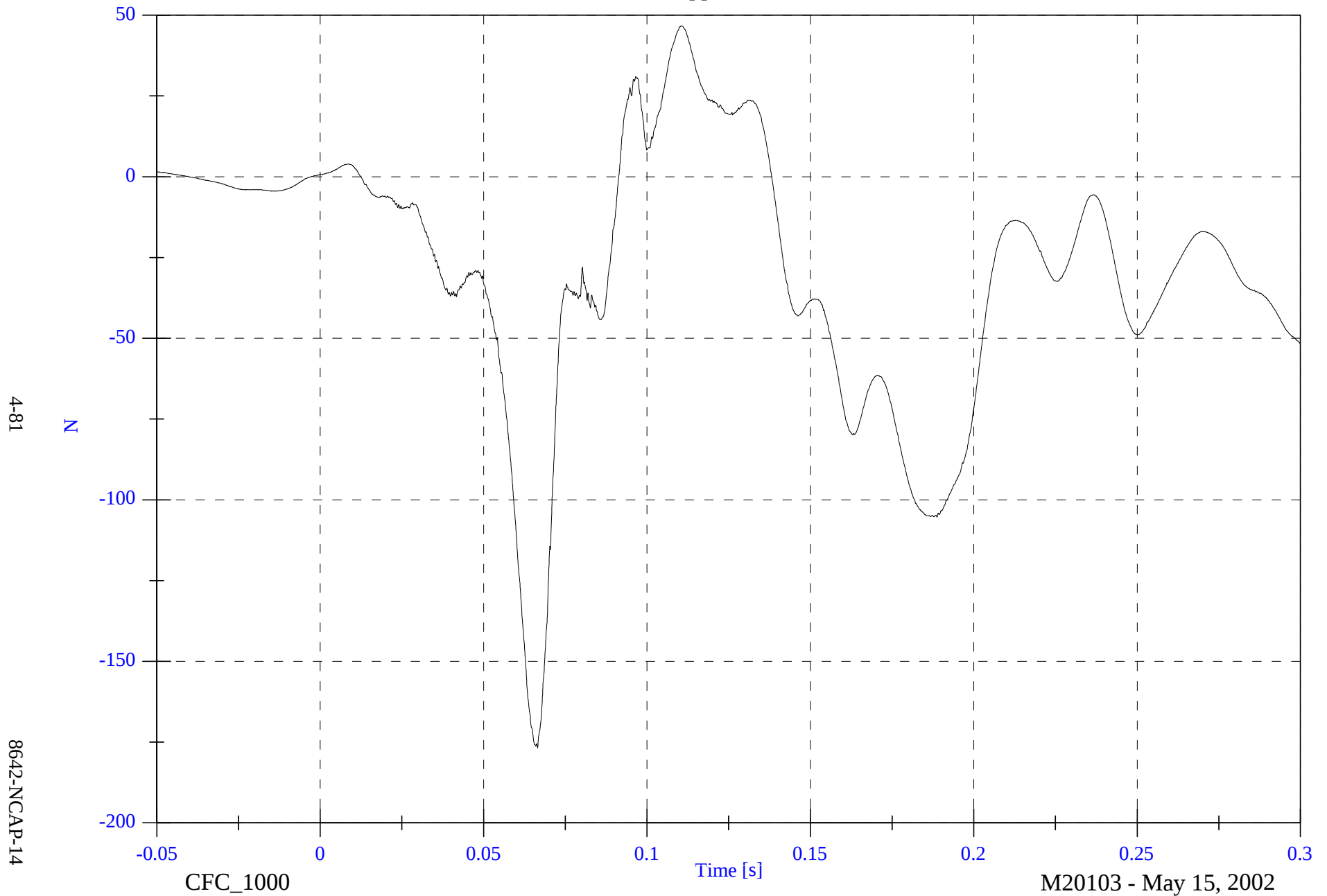
P3 Head Red z



2002 NCAP Test 14 2002 Cadillac Deville

Max: 46.7 [N] at 0.111 [s]
Min: -176.8 [N] at 0.067 [s]

P3 Upper Neck Fx

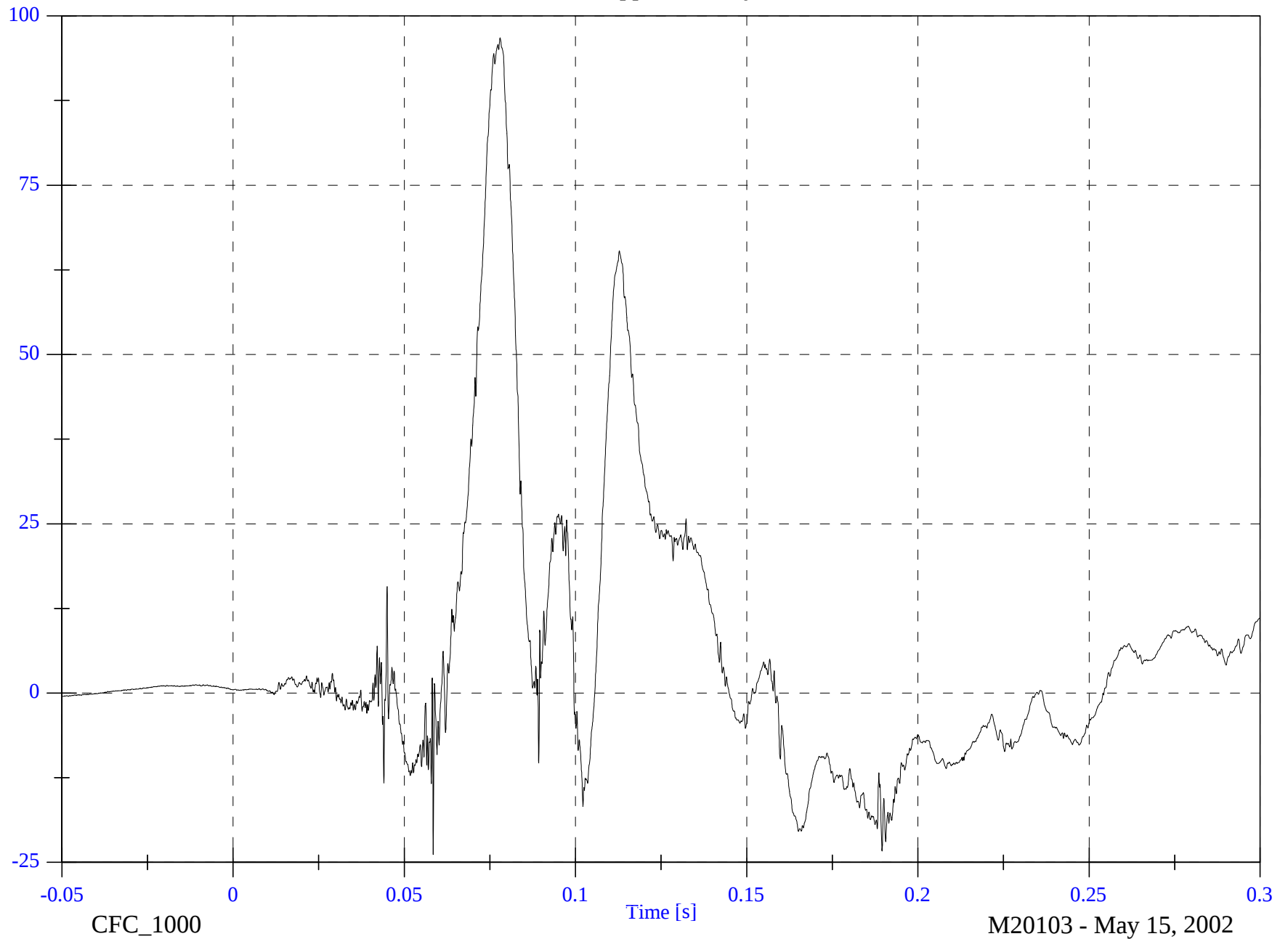


2002 NCAP Test 14 2002 Cadillac Deville

Max: 96.8 [N] at 0.078 [s]

Min: -23.8 [N] at 0.058 [s]

P3 Upper Neck Fy



4-82

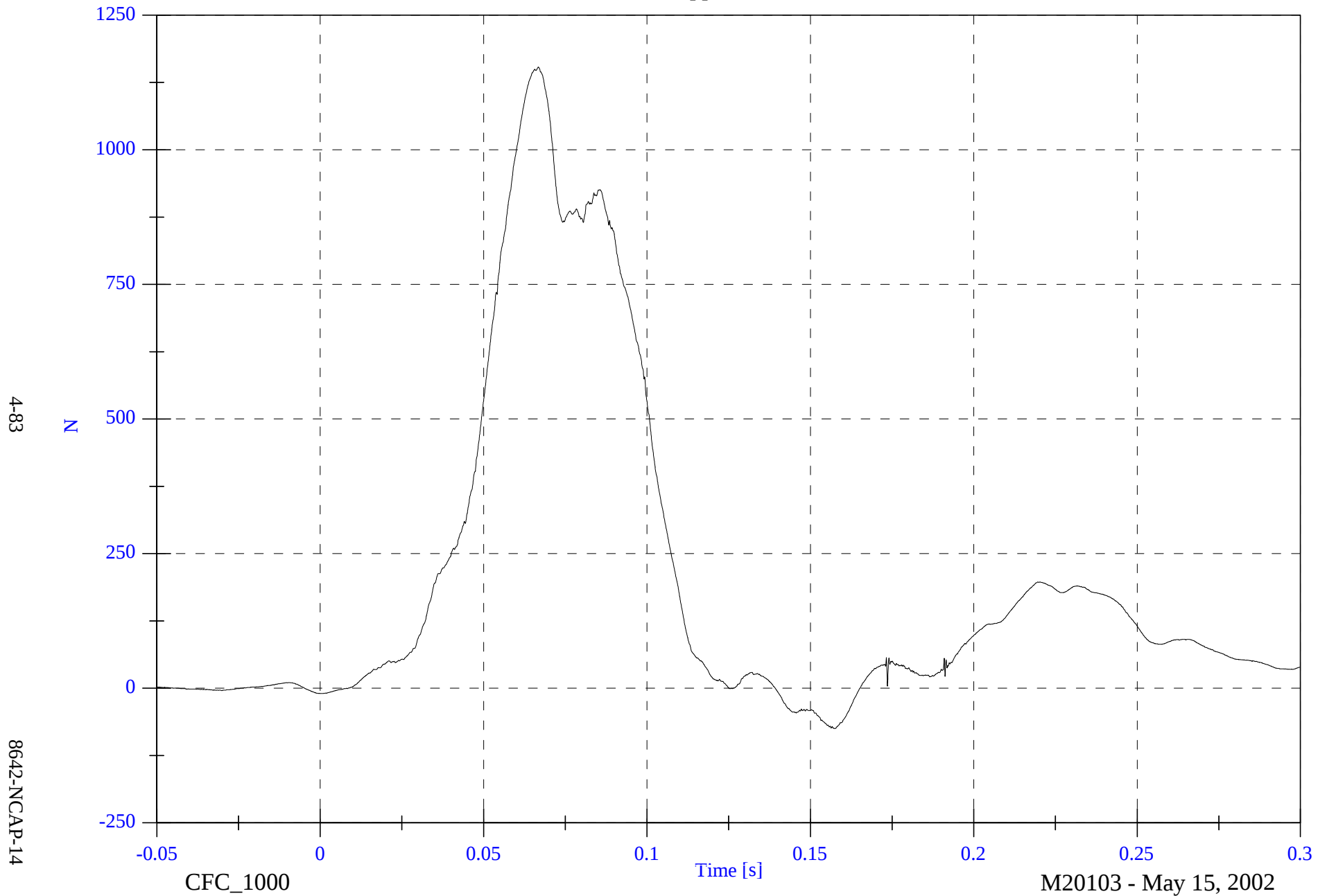
8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

Max: 1153.6 [N] at 0.067 [s]

Min: -75.0 [N] at 0.157 [s]

P3 Upper Neck Fz



2002 NCAP Test 14 2002 Cadillac Deville

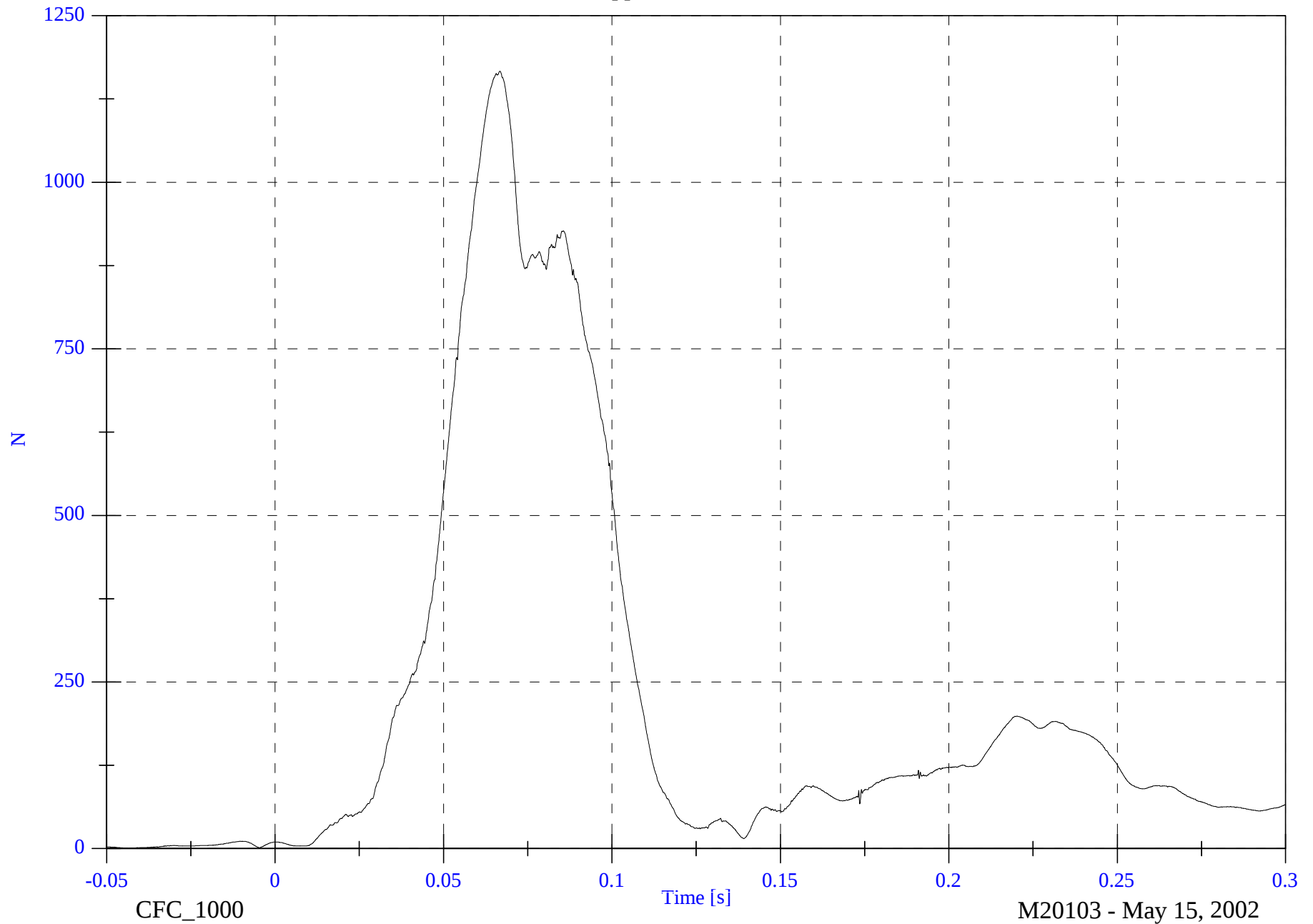
Max: 1166.8 [N] at 0.067 [s]

P3 Upper Neck F Resultant

Min: 0.5 [N] at -0.043 [s]

4-84

8642-NCAP-14

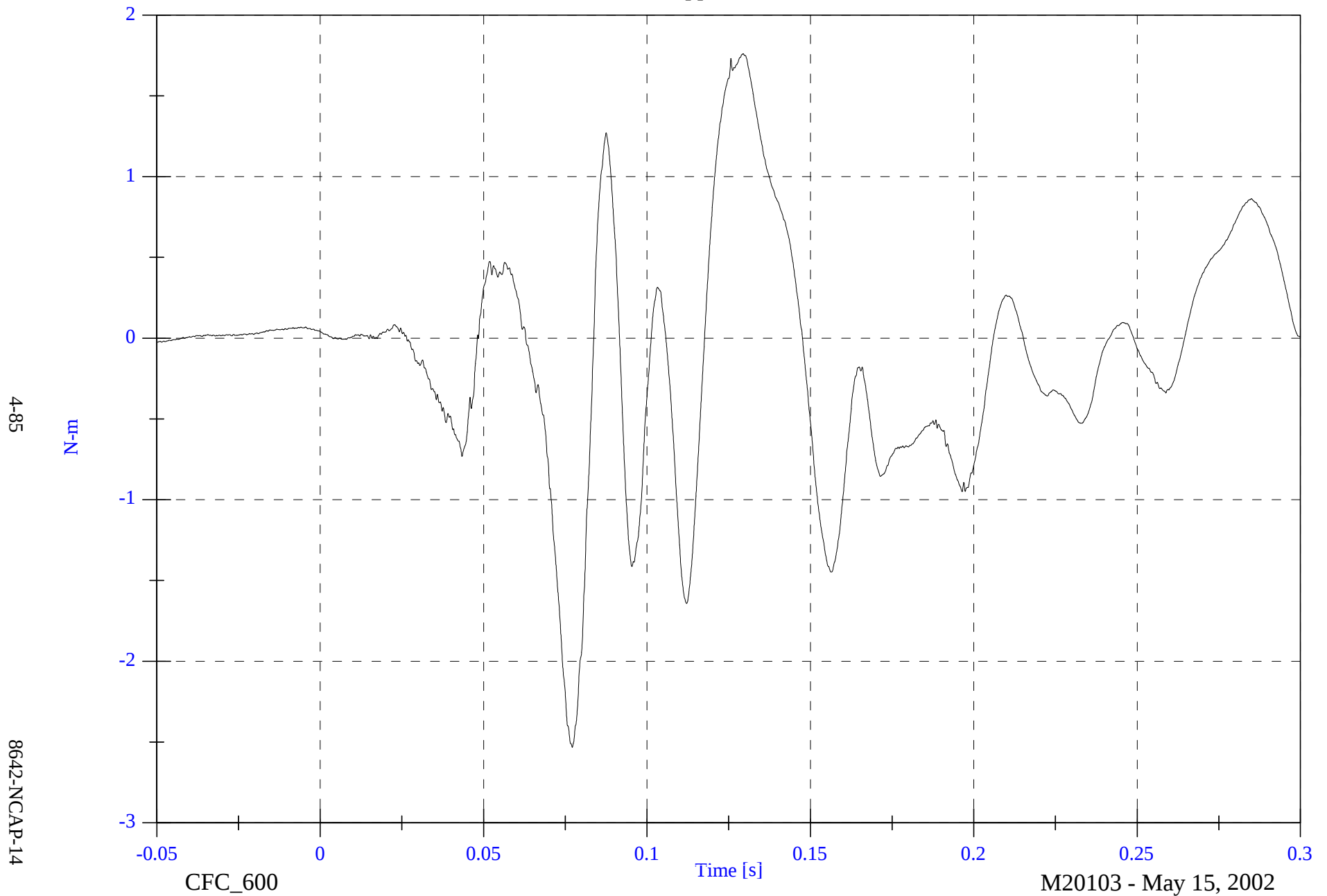


2002 NCAP Test 14 2002 Cadillac Deville

Max: 1.8 [N-m] at 0.129 [s]

Min: -2.5 [N-m] at 0.077 [s]

P3 Upper Neck Mx



2002 NCAP Test 14 2002 Cadillac Deville

P3 Upper Neck My

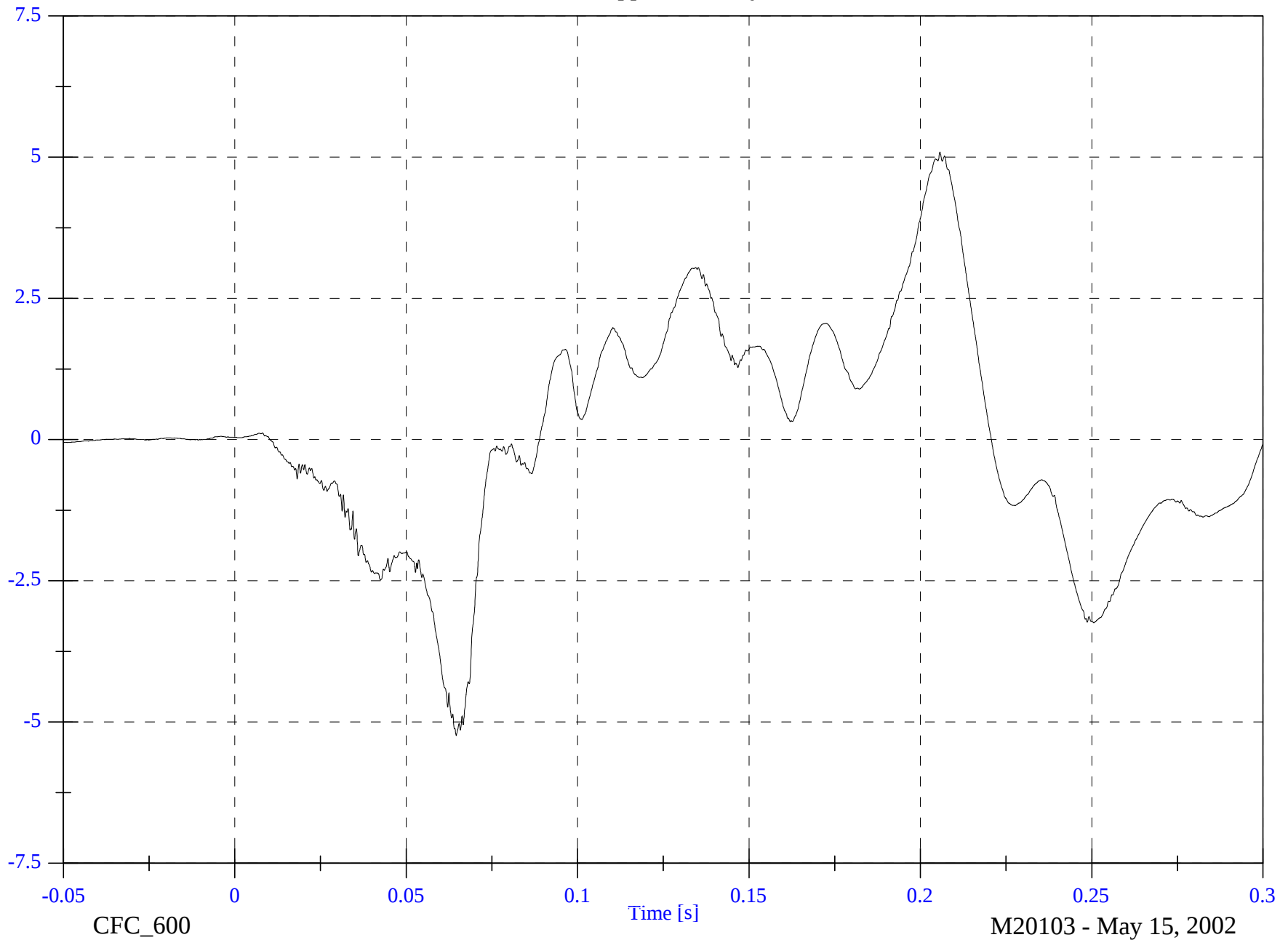
Max: 5.1 [N-m] at 0.206 [s]

Min: -5.2 [N-m] at 0.065 [s]

4-86

N-m

8642-NCAP-14

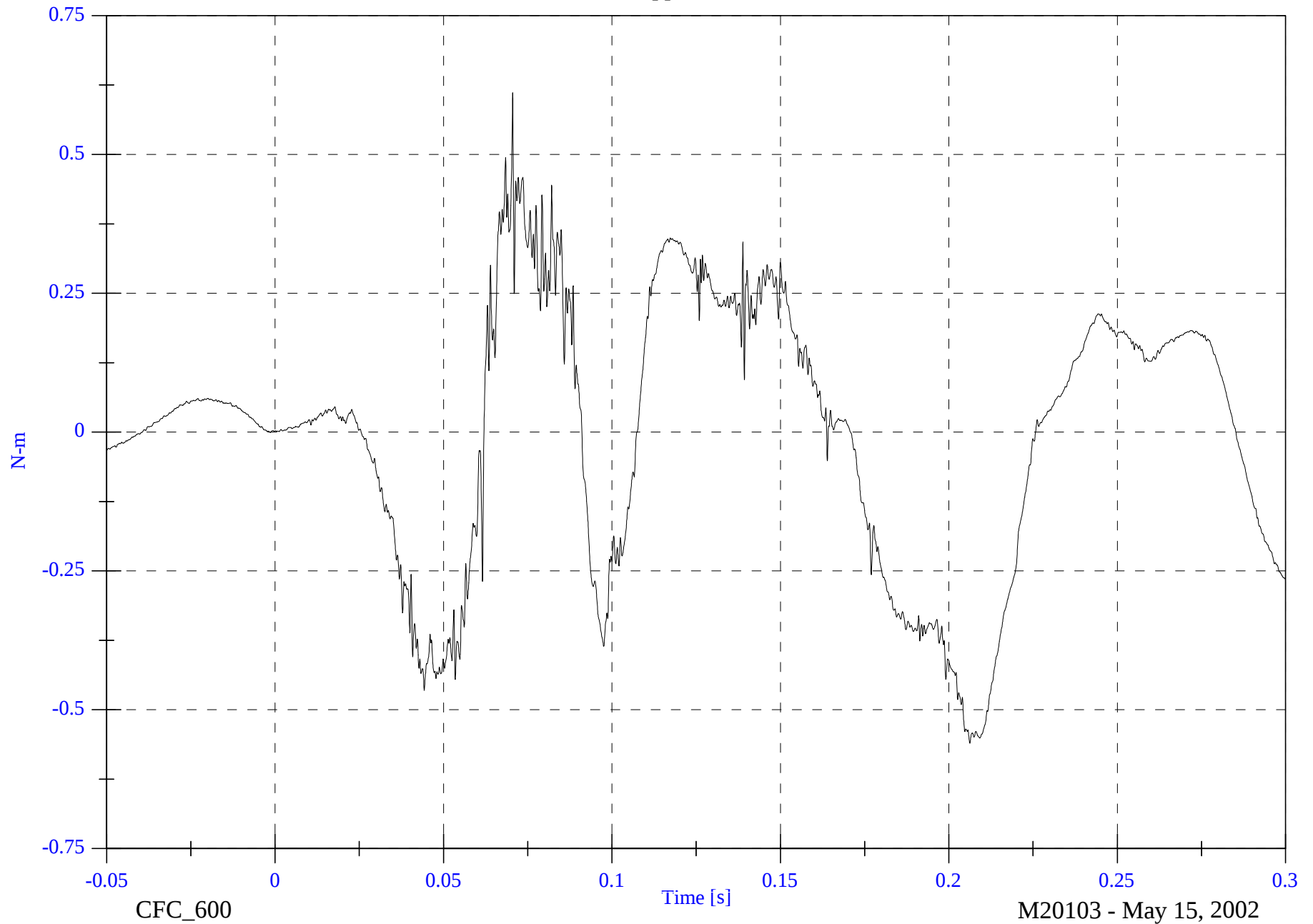


2002 NCAP Test 14 2002 Cadillac Deville

P3 Upper Neck Mz

Max: 0.6 [N-m] at 0.071 [s]

Min: -0.6 [N-m] at 0.206 [s]



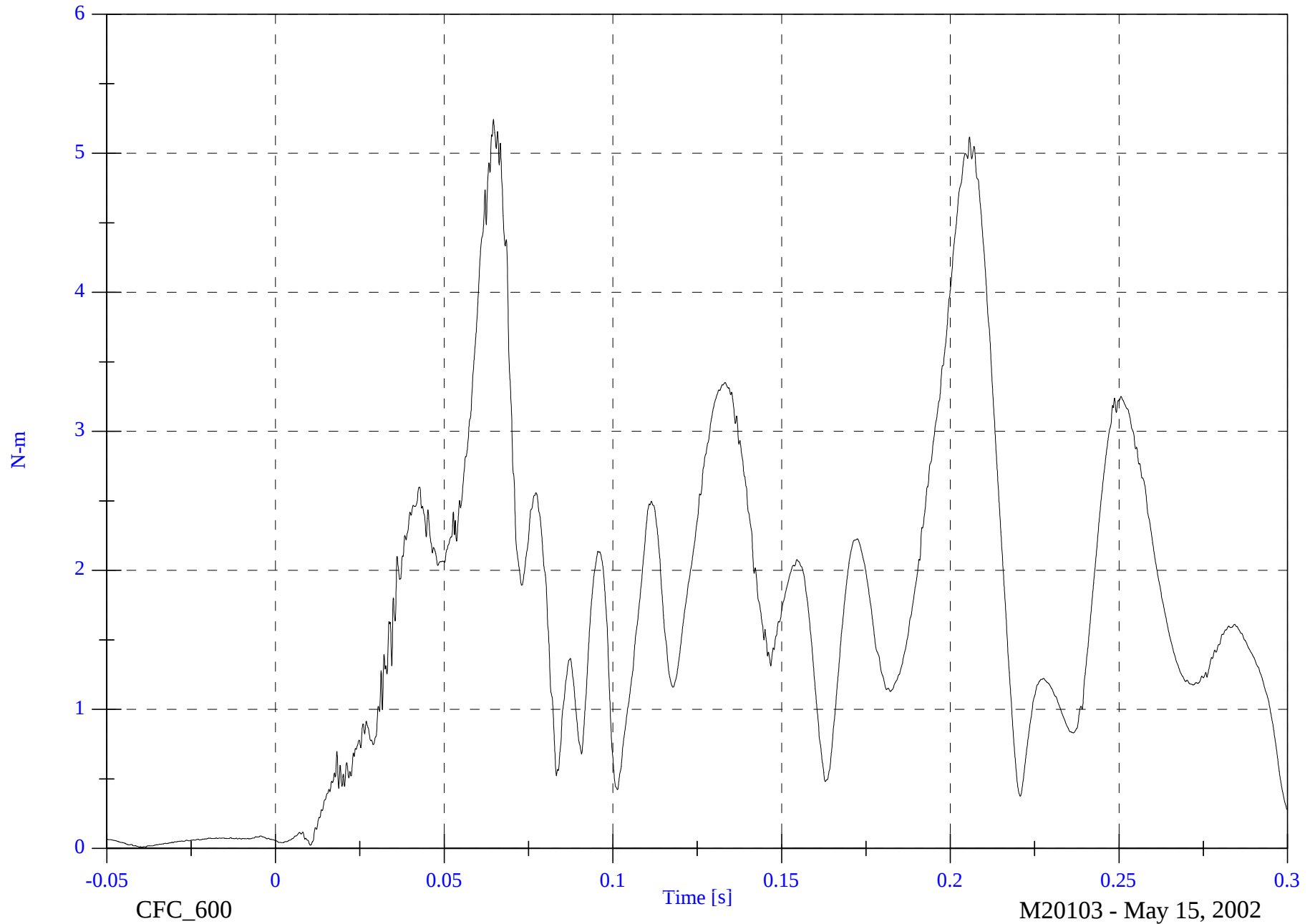
4-87

8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

P3 Upper Neck M Resultant

Max: 5.2 [N-m] at 0.065 [s]
Min: 0.0 [N-m] at -0.039 [s]



4-88

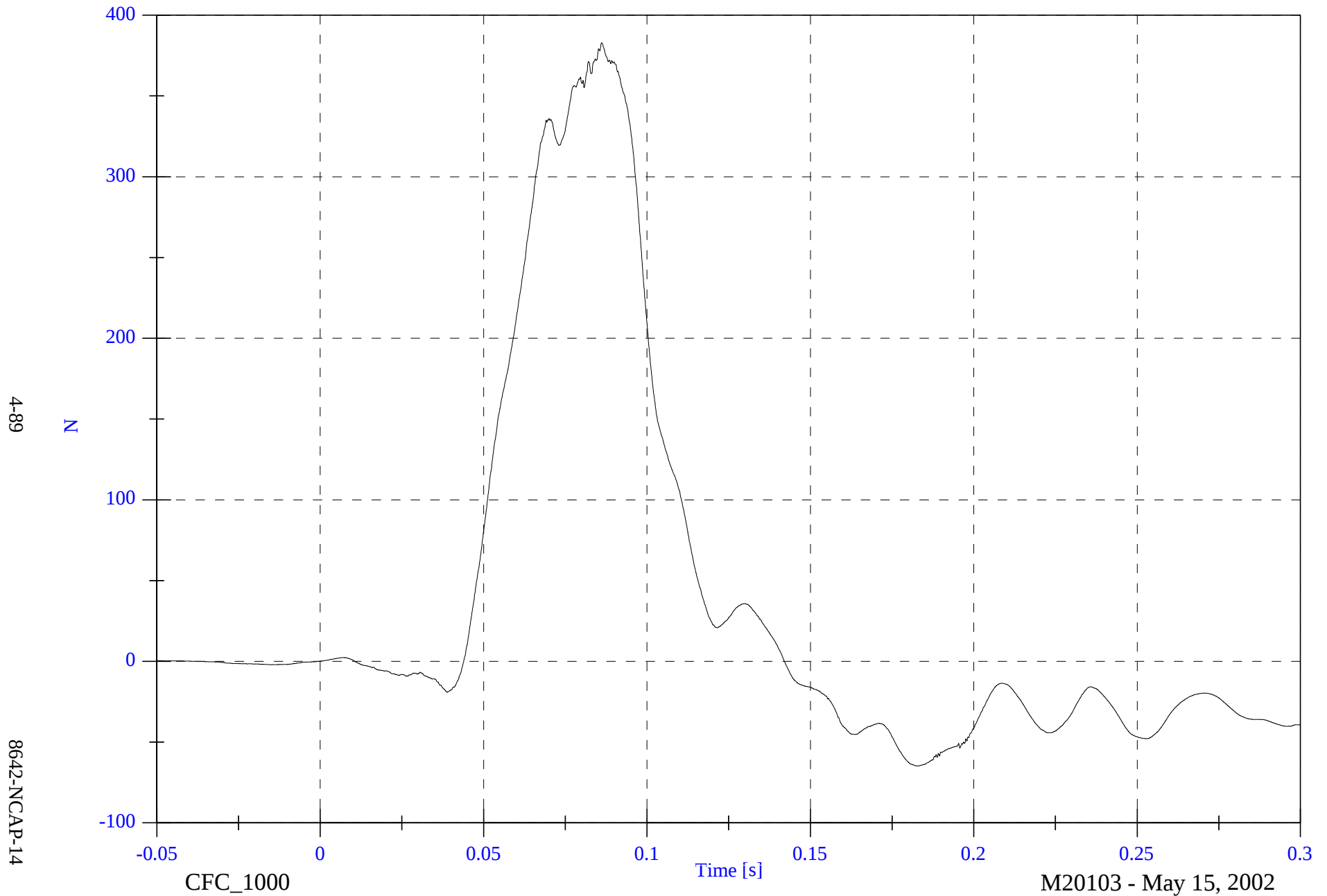
8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

Max: 382.8 [N] at 0.086 [s]

Min: -64.8 [N] at 0.183 [s]

P3 Lower Neck Fx

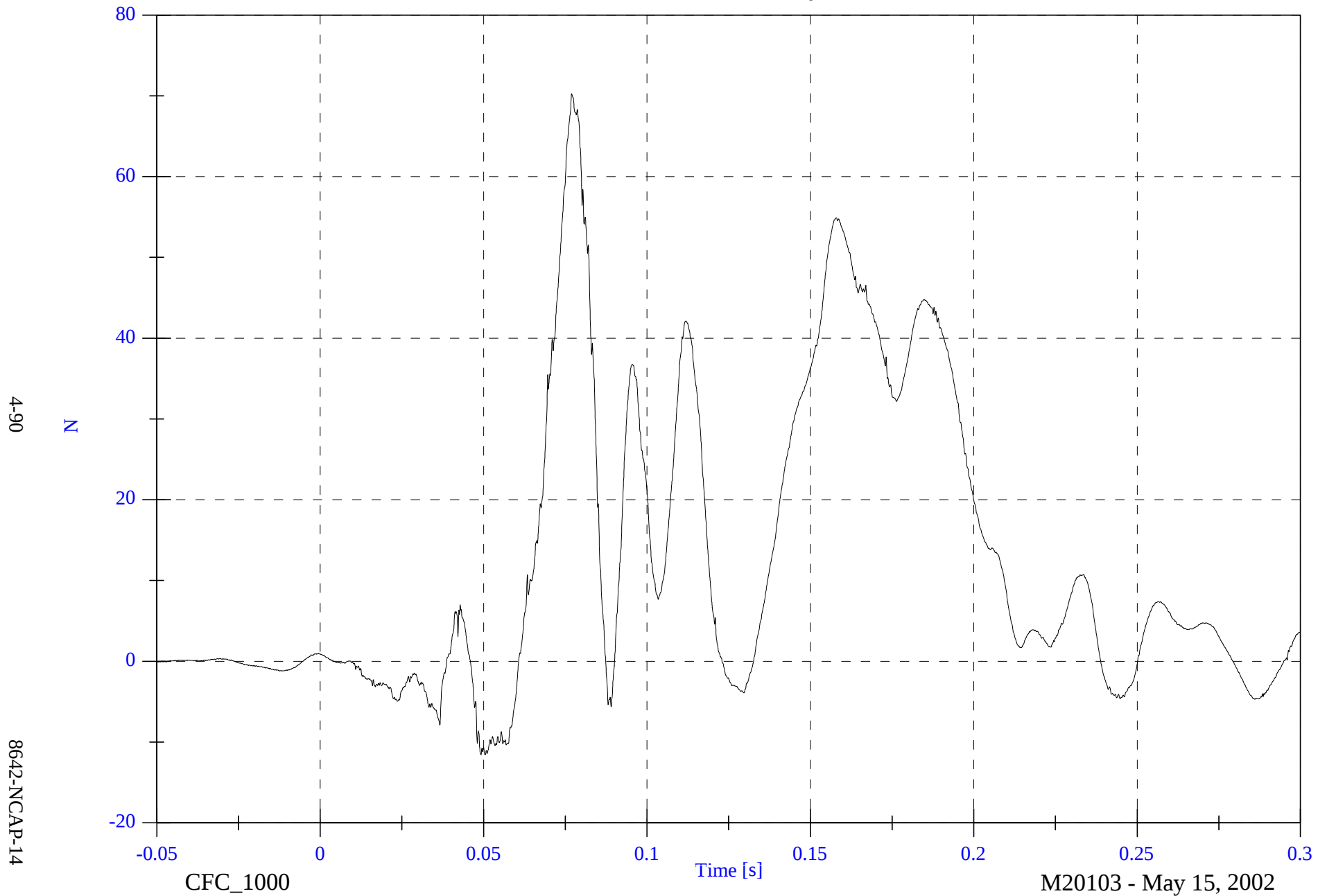


2002 NCAP Test 14 2002 Cadillac Deville

Max: 70.3 [N] at 0.077 [s]

Min: -11.6 [N] at 0.049 [s]

P3 Lower Neck Fy

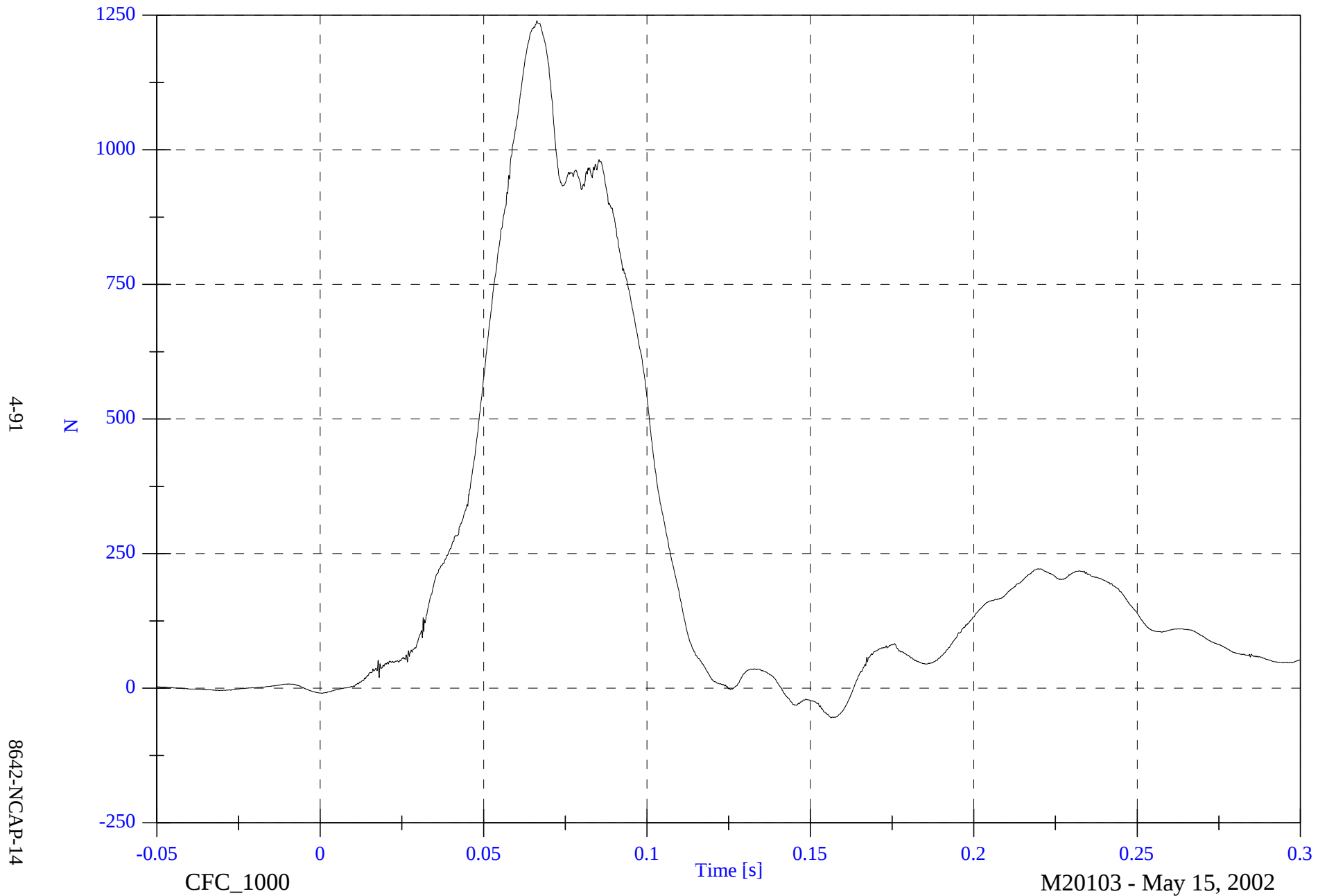


2002 NCAP Test 14 2002 Cadillac Deville

Max: 1239.3 [N] at 0.066 [s]

Min: -54.9 [N] at 0.156 [s]

P3 Lower Neck Fz



2002 NCAP Test 14 2002 Cadillac Deville

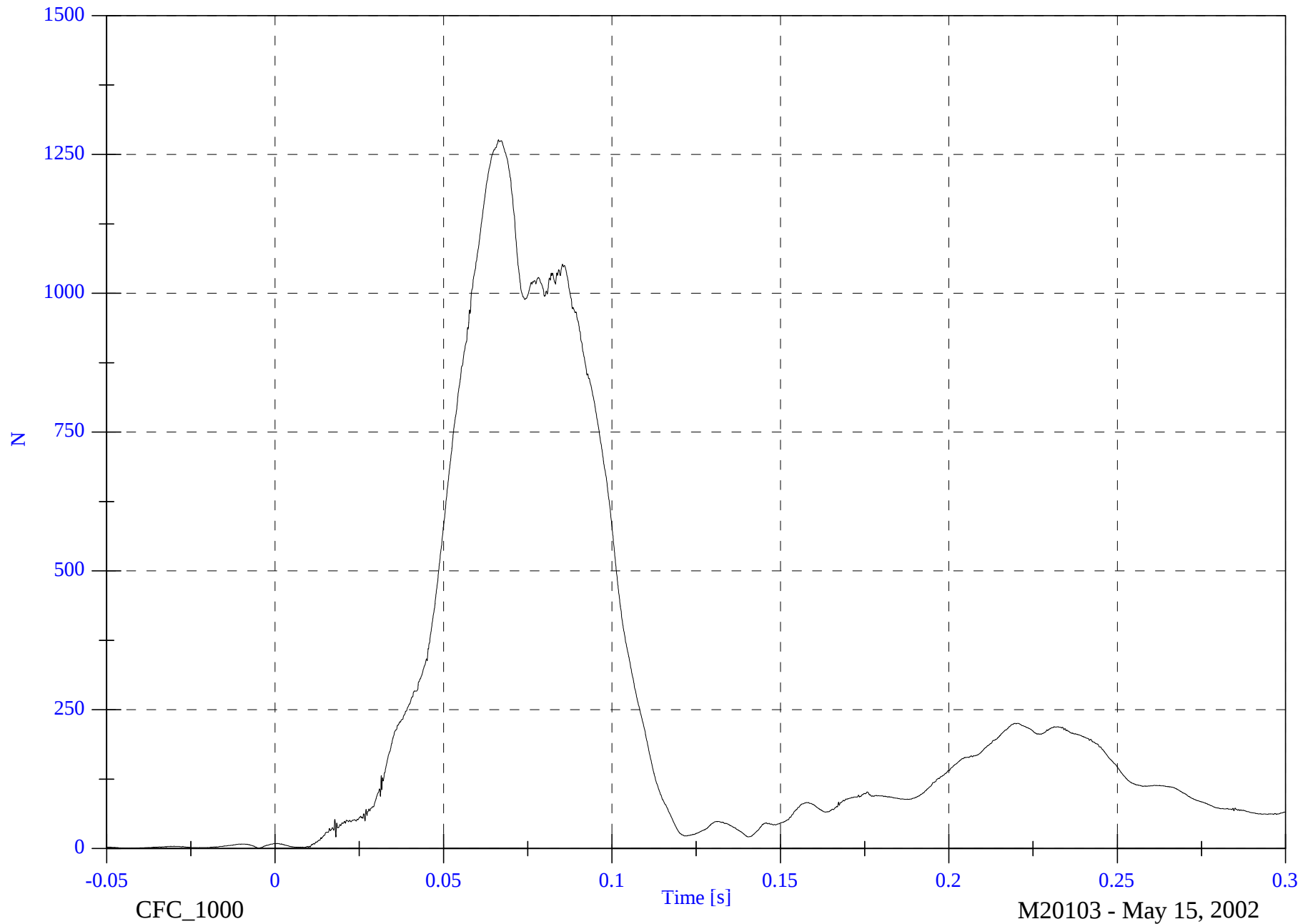
Max: 1276.2 [N] at 0.066 [s]

P3 Lower Neck F Resultant

Min: 0.2 [N] at -0.044 [s]

4-92

8642-NCAP-14

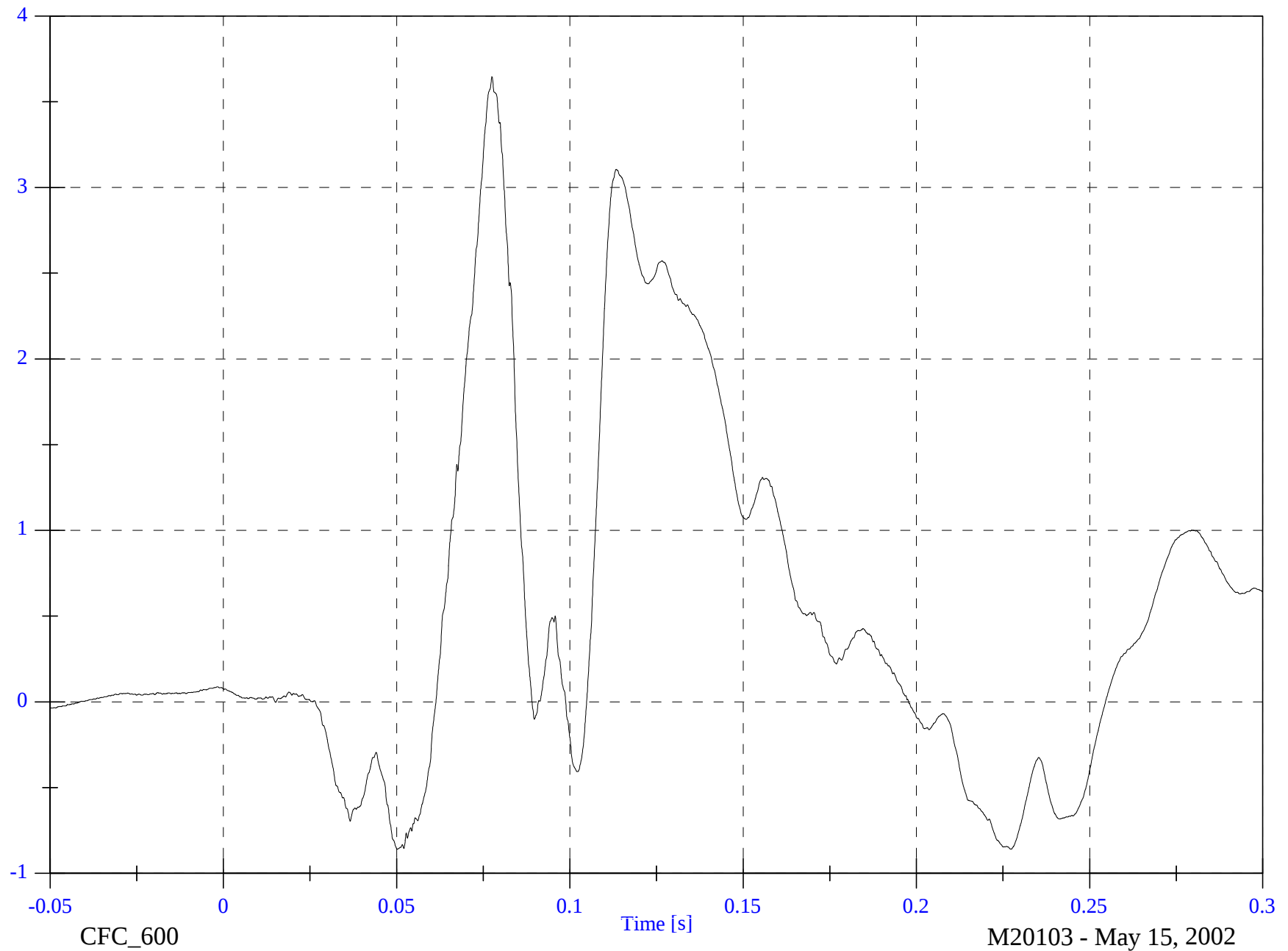


2002 NCAP Test 14 2002 Cadillac Deville

Max: 3.6 [N-m] at 0.078 [s]

Min: -0.9 [N-m] at 0.050 [s]

P3 Lower Neck Mx



4-93

N-m

8642-NCAP-14

CFC_600

Time [s]

M20103 - May 15, 2002

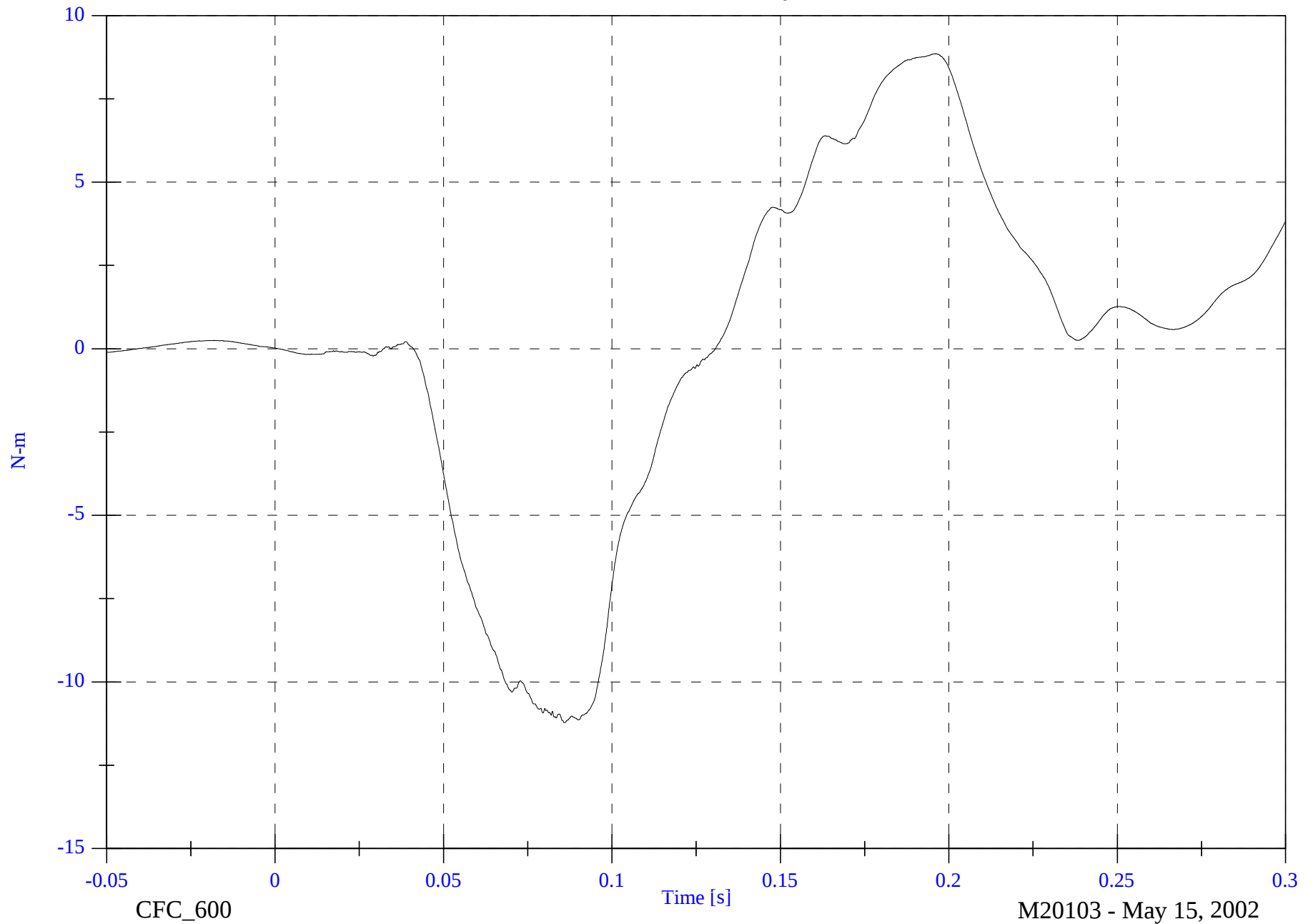
2002 NCAP Test 14 2002 Cadillac Deville

P3 Lower Neck My

Max: 8.9 [N-m] at 0.196 [s]
Min: -11.2 [N-m] at 0.086 [s]

4-94

8642-NCAP-14

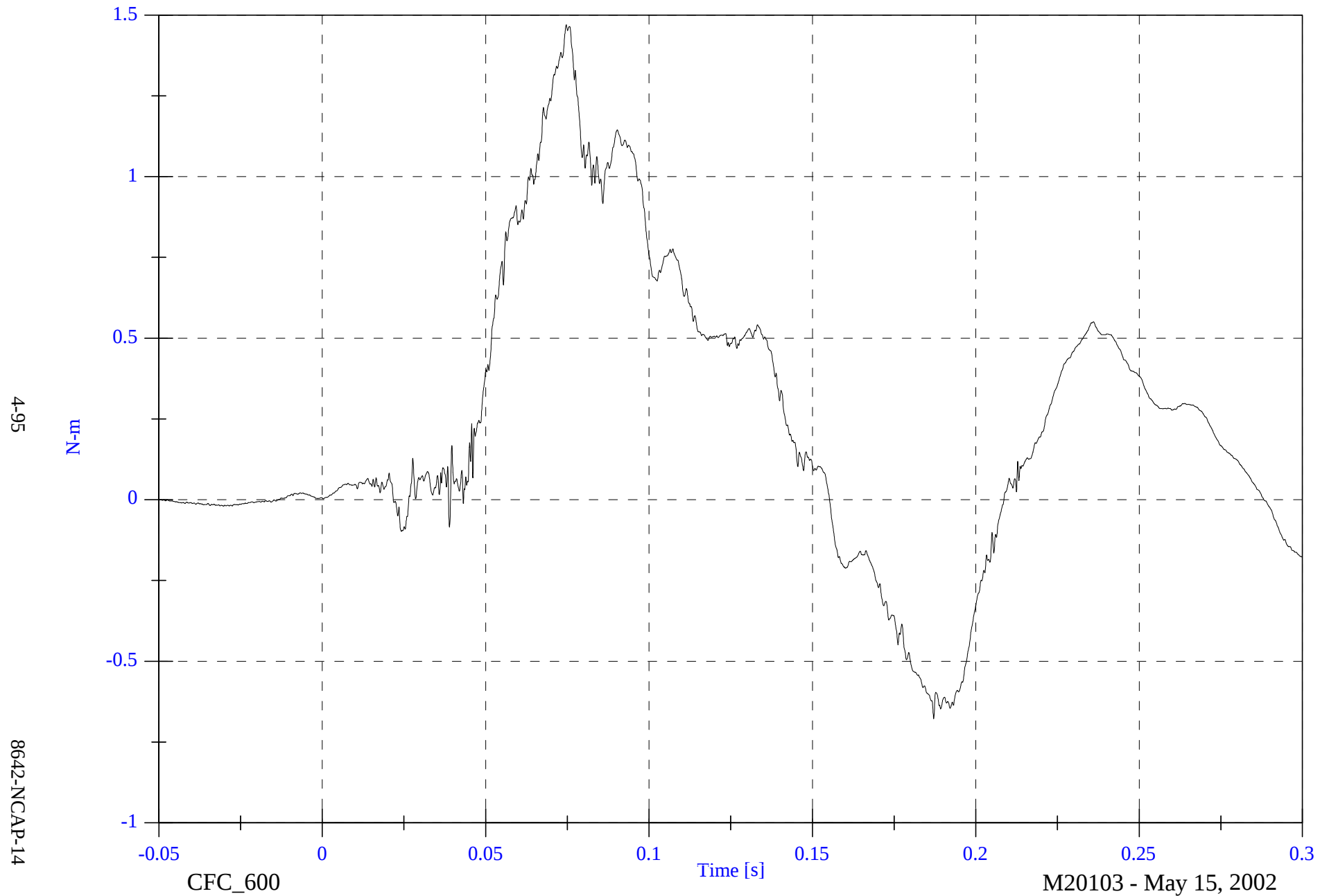


2002 NCAP Test 14 2002 Cadillac Deville

Max: 1.5 [N-m] at 0.075 [s]

Min: -0.7 [N-m] at 0.187 [s]

P3 Lower Neck Mz



2002 NCAP Test 14 2002 Cadillac Deville

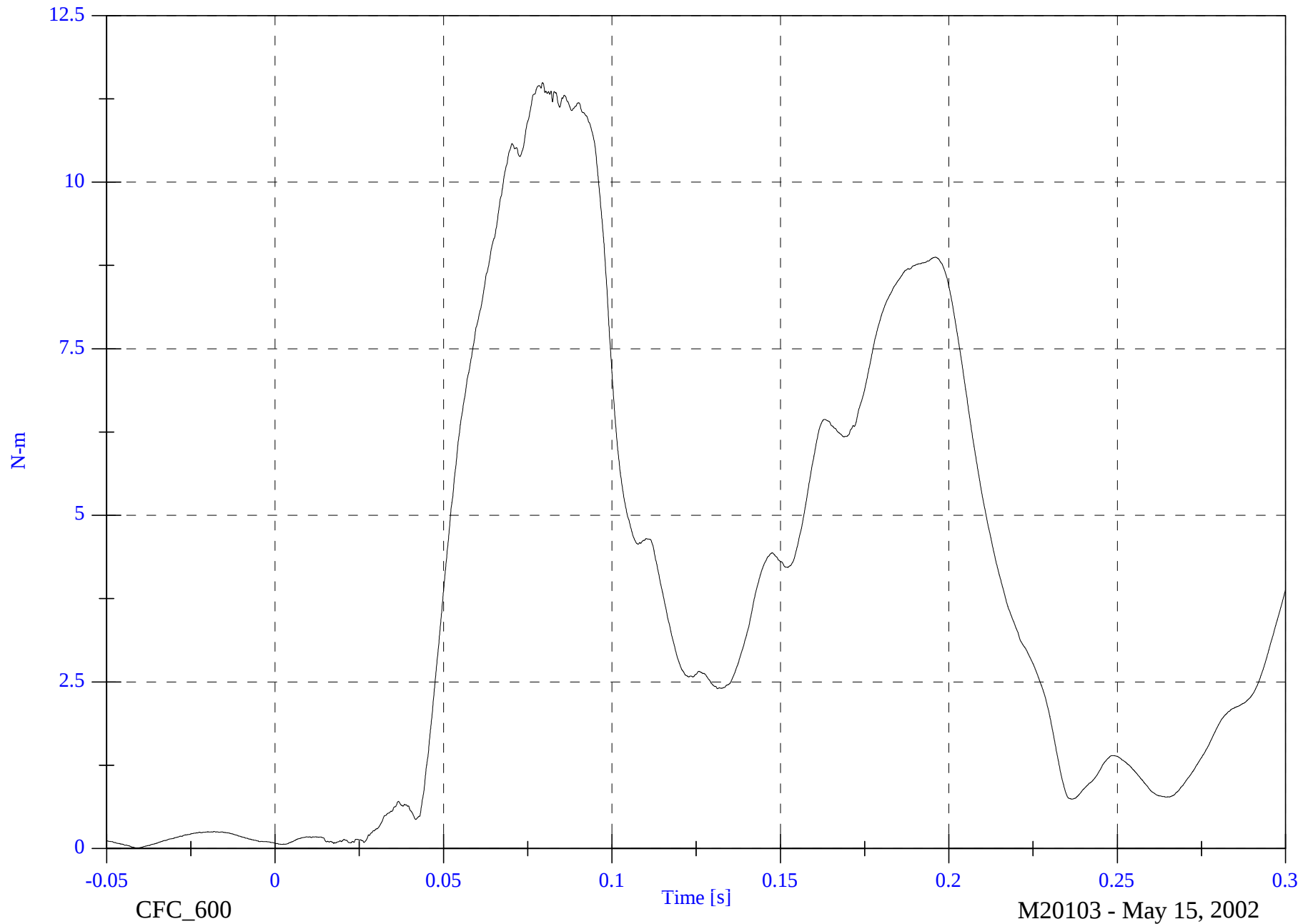
P3 Lower Neck M Resultant

Max: 11.5 [N-m] at 0.079 [s]

Min: 0.0 [N-m] at -0.041 [s]

4-96

8642-NCAP-14

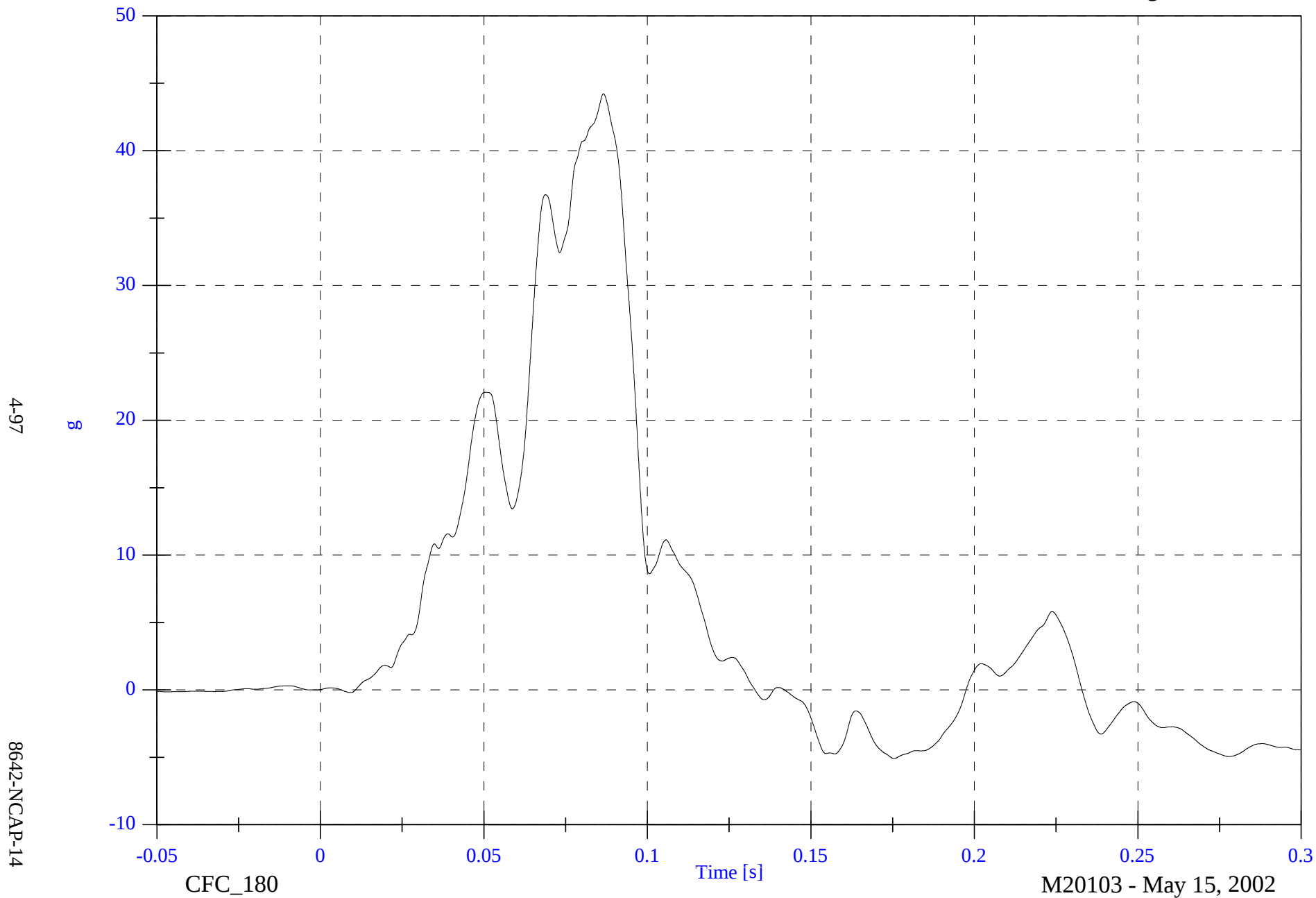


2002 NCAP Test 14 2002 Cadillac Deville

Max: 44.2 [g] at 0.087 [s]

Min: -5.1 [g] at 0.175 [s]

P3 Chest x

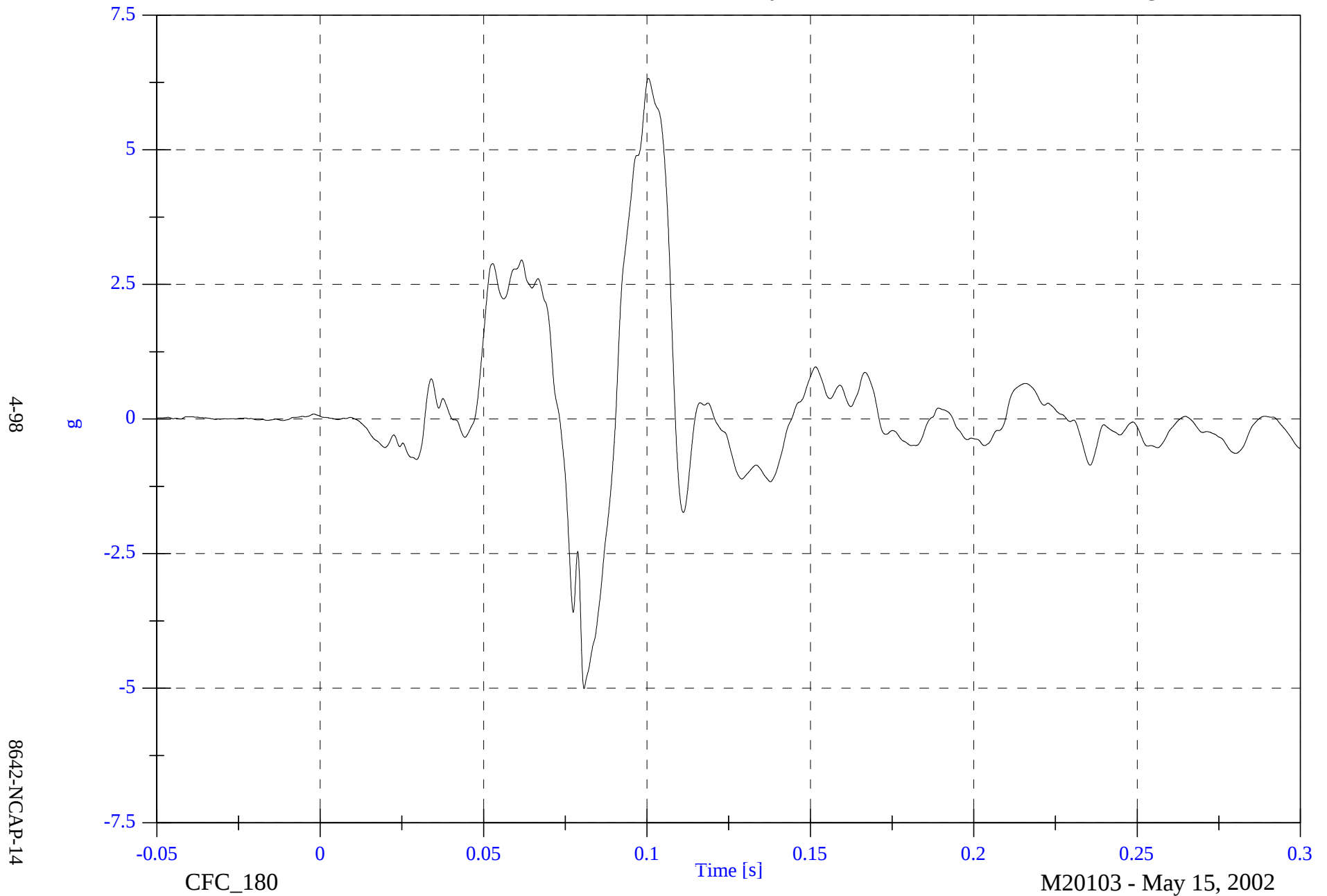


2002 NCAP Test 14 2002 Cadillac Deville

Max: 6.3 [g] at 0.100 [s]

Min: -5.0 [g] at 0.081 [s]

P3 Chest y

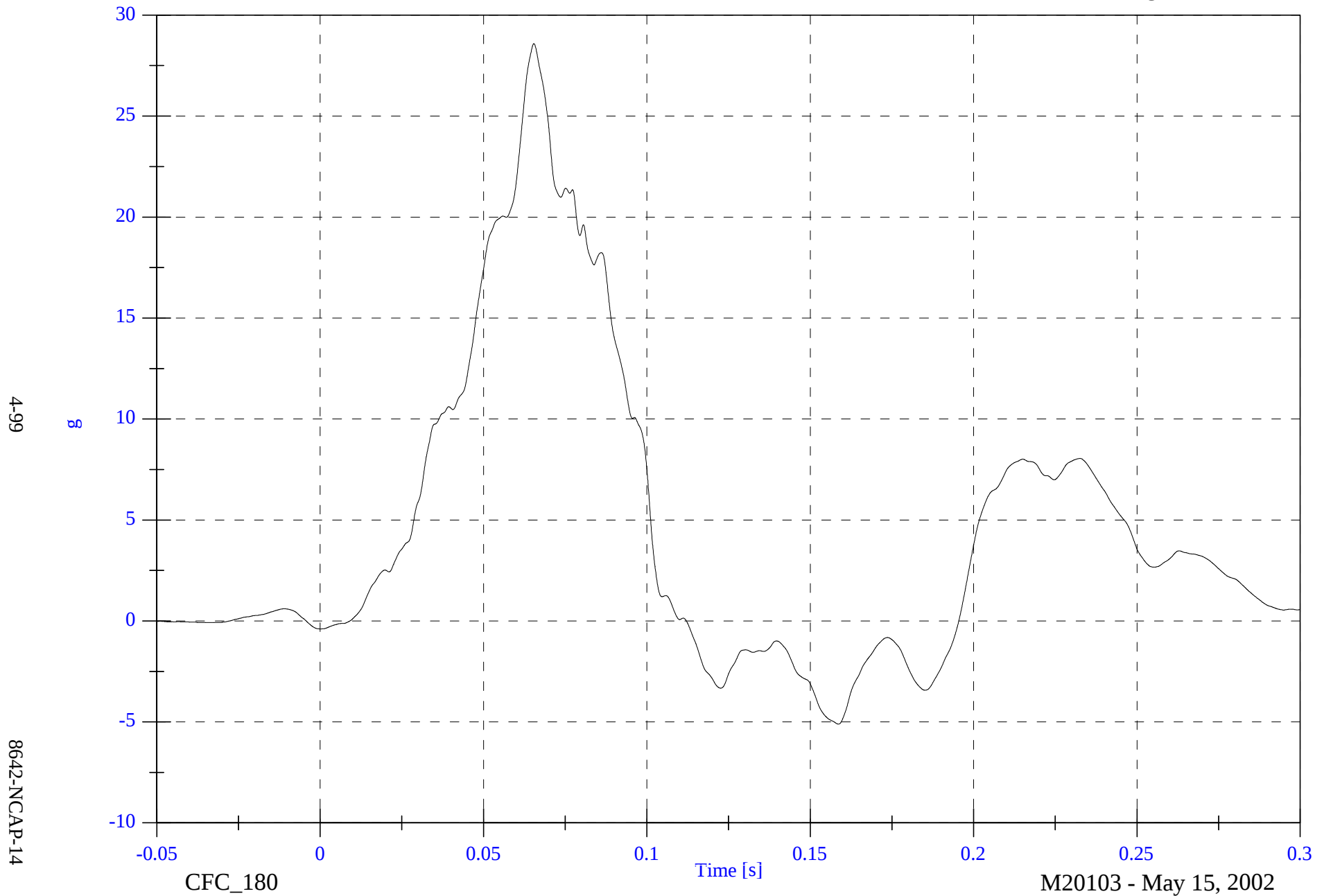


2002 NCAP Test 14 2002 Cadillac Deville

Max: 28.6 [g] at 0.065 [s]

Min: -5.1 [g] at 0.159 [s]

P3 Chest z



2002 NCAP Test 14 2002 Cadillac Deville

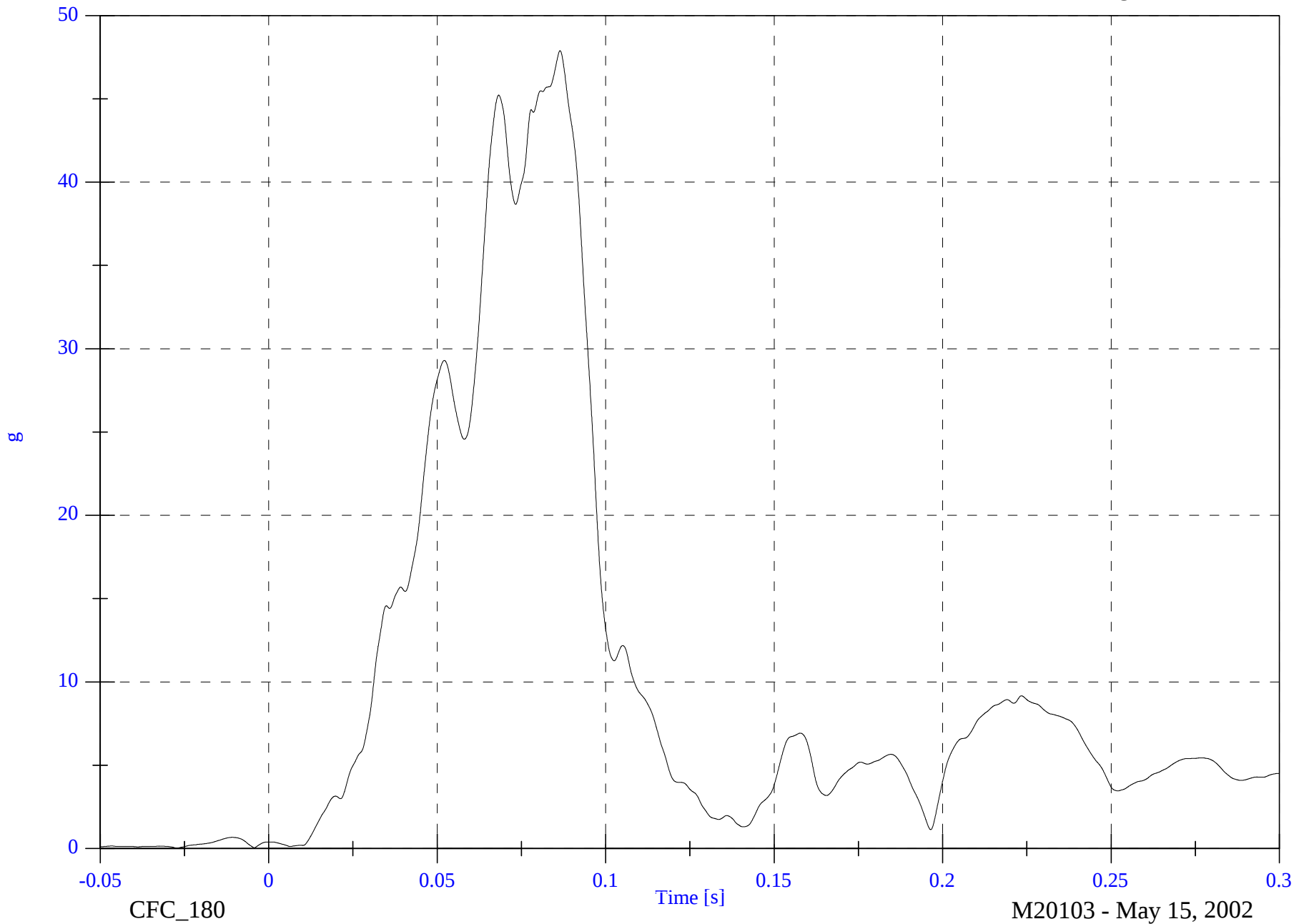
P3 Chest Resultant

Max: 47.9 [g] at 0.087 [s]

Min: 0.0 [g] at -0.027 [s]

4-100

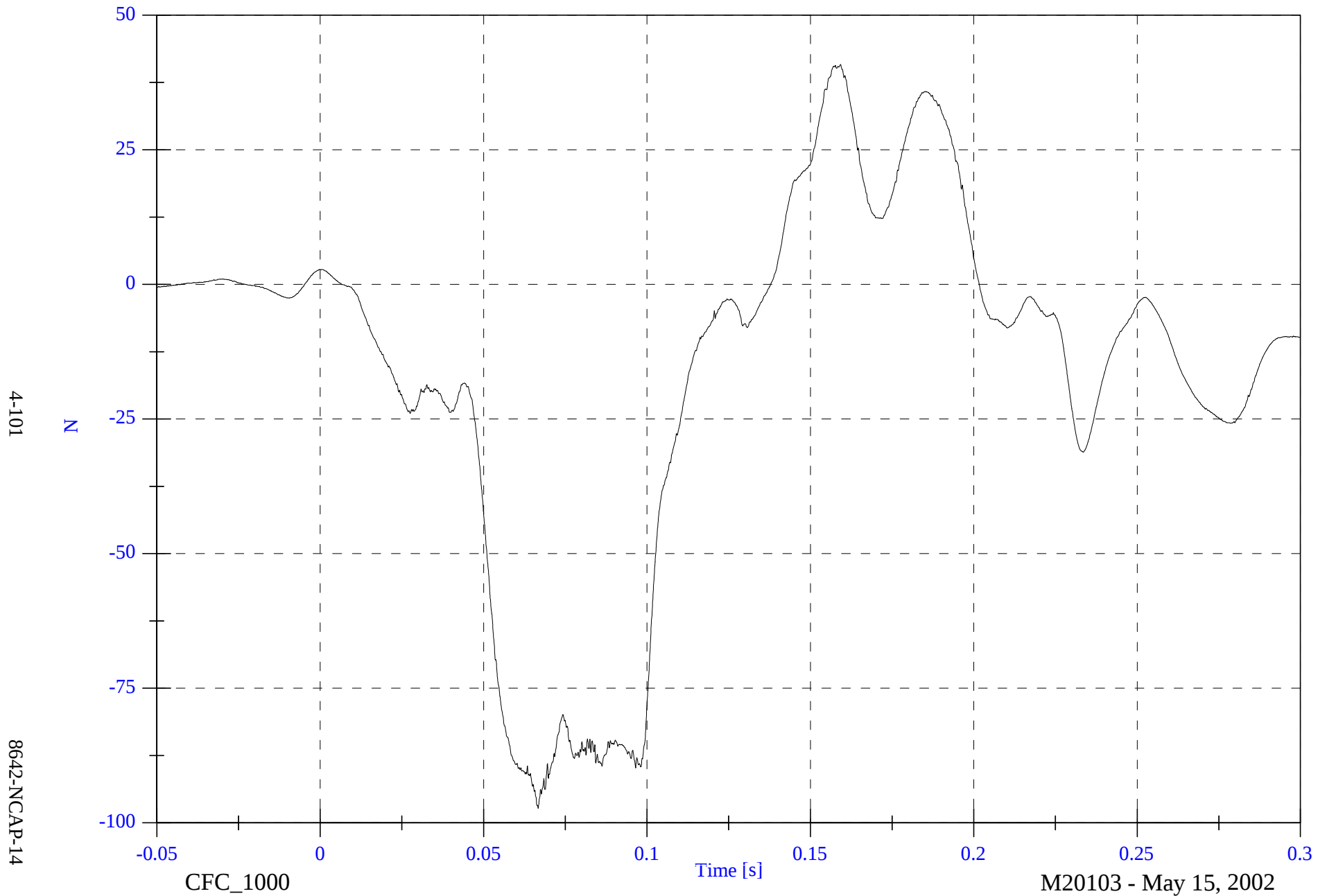
8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

Max: 40.8 [N] at 0.159 [s]
Min: -97.3 [N] at 0.067 [s]

P3 Lumbar Fx

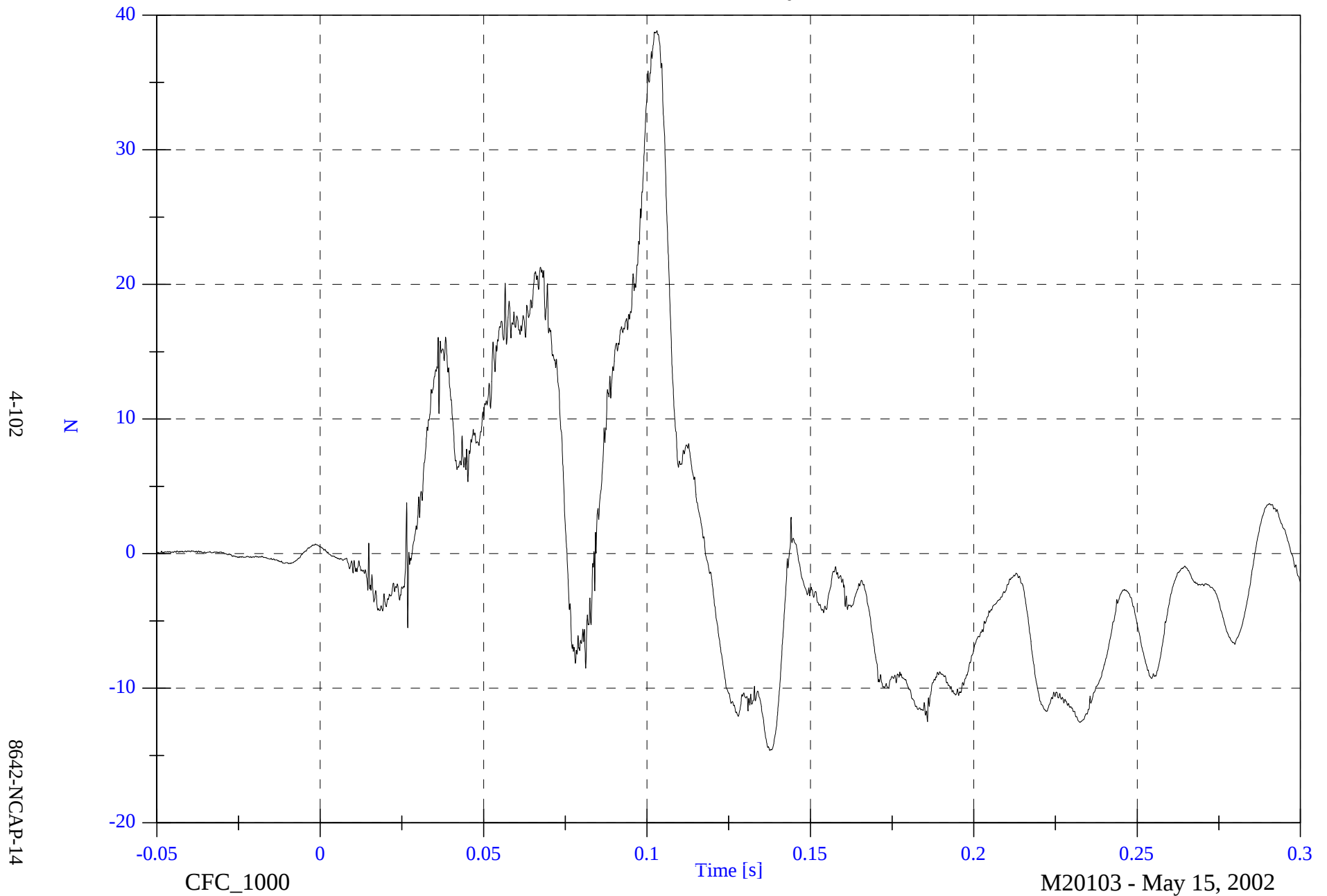


2002 NCAP Test 14 2002 Cadillac Deville

Max: 38.9 [N] at 0.103 [s]

Min: -14.6 [N] at 0.138 [s]

P3 Lumbar Fy

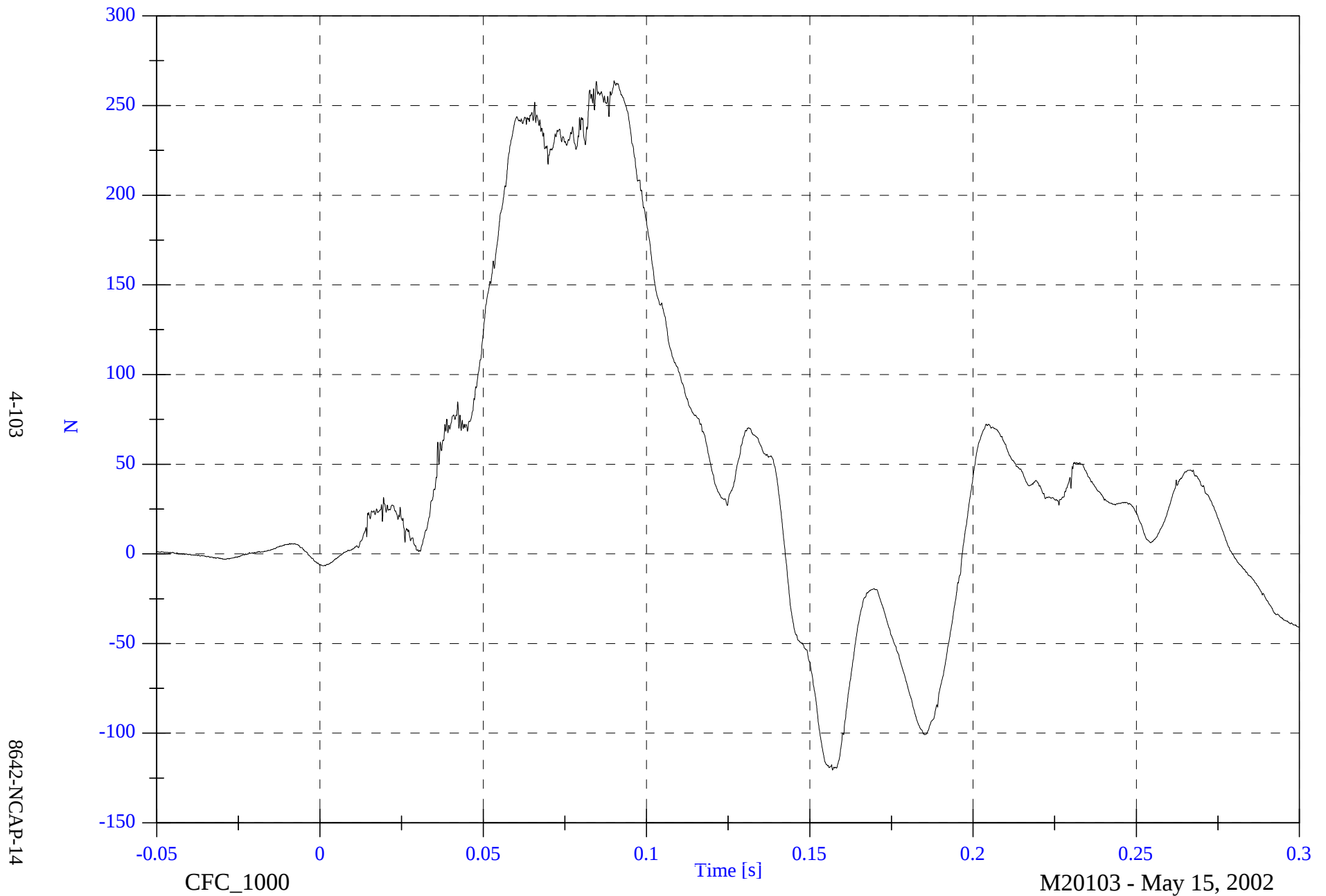


2002 NCAP Test 14 2002 Cadillac Deville

Max: 263.8 [N] at 0.090 [s]

Min: -120.5 [N] at 0.157 [s]

P3 Lumbar Fz

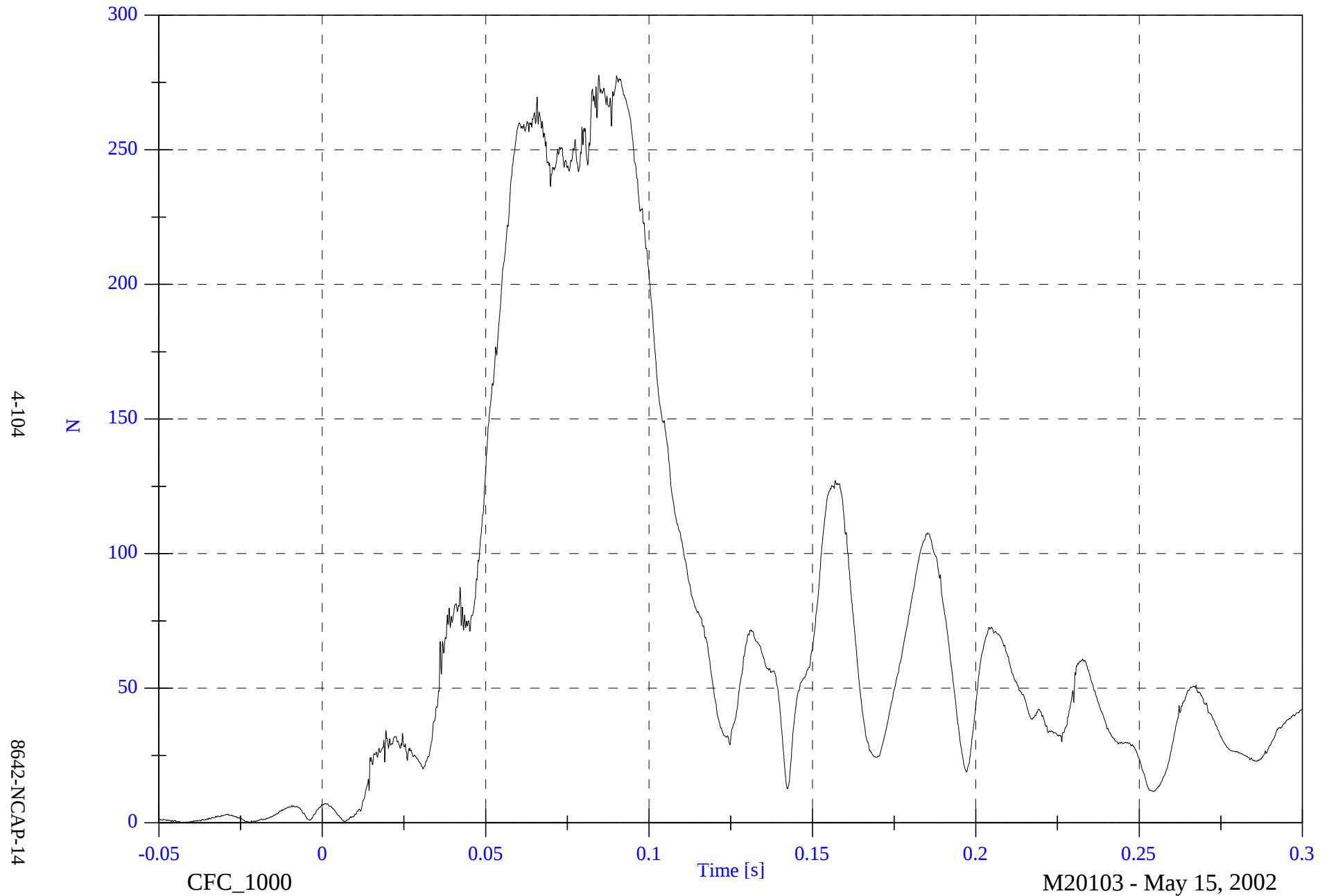


2002 NCAP Test 14 2002 Cadillac Deville

Max: 277.6 [N] at 0.085 [s]

Min: 0.1 [N] at -0.043 [s]

P3 Lumbar F Resultant

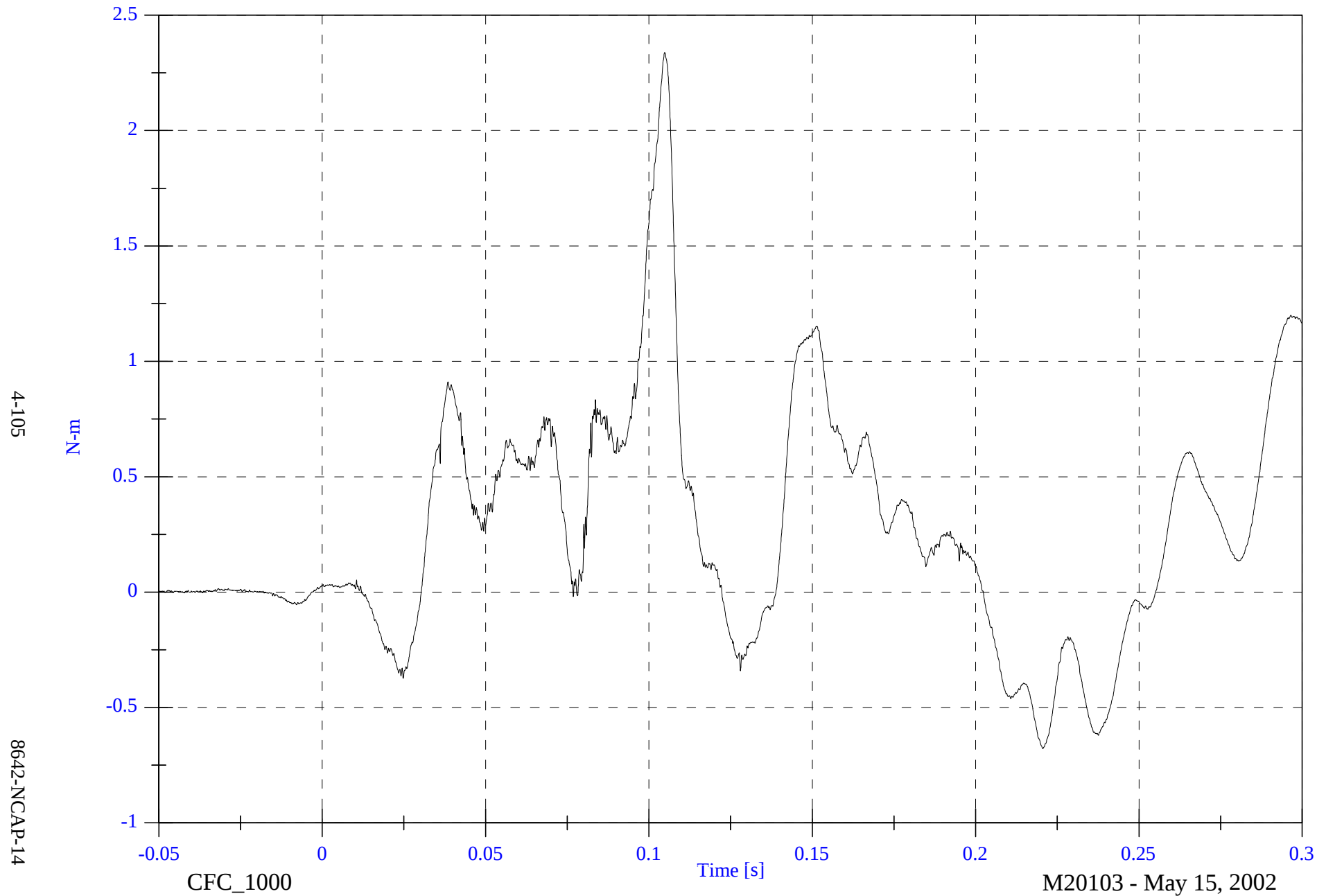


2002 NCAP Test 14 2002 Cadillac Deville

Max: 2.3 [N-m] at 0.105 [s]

Min: -0.7 [N-m] at 0.221 [s]

P3 Lumbar Mx



2002 NCAP Test 14 2002 Cadillac Deville

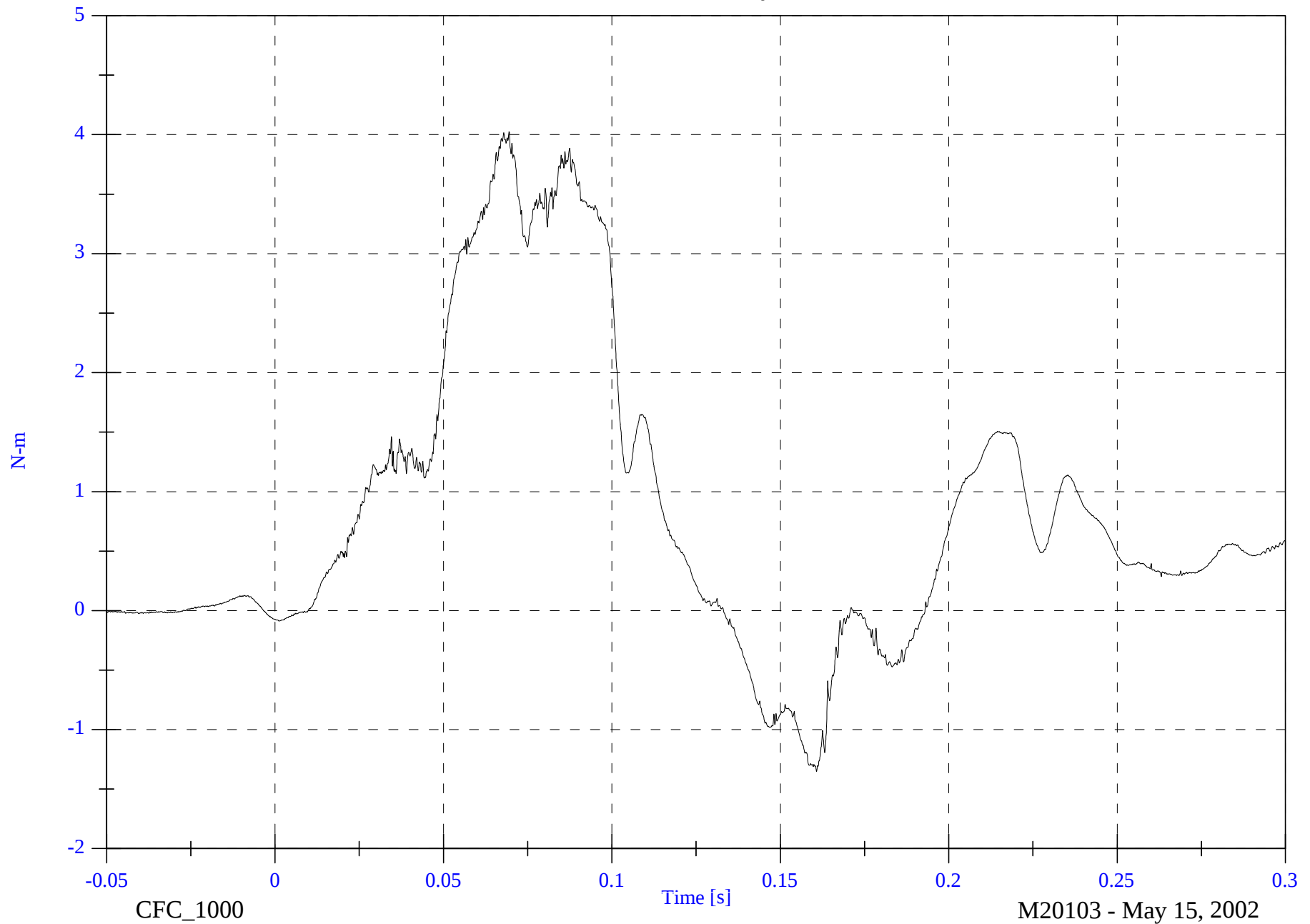
P3 Lumbar My

Max: 4.0 [N-m] at 0.070 [s]

Min: -1.4 [N-m] at 0.161 [s]

4-106

8642-NCAP-14

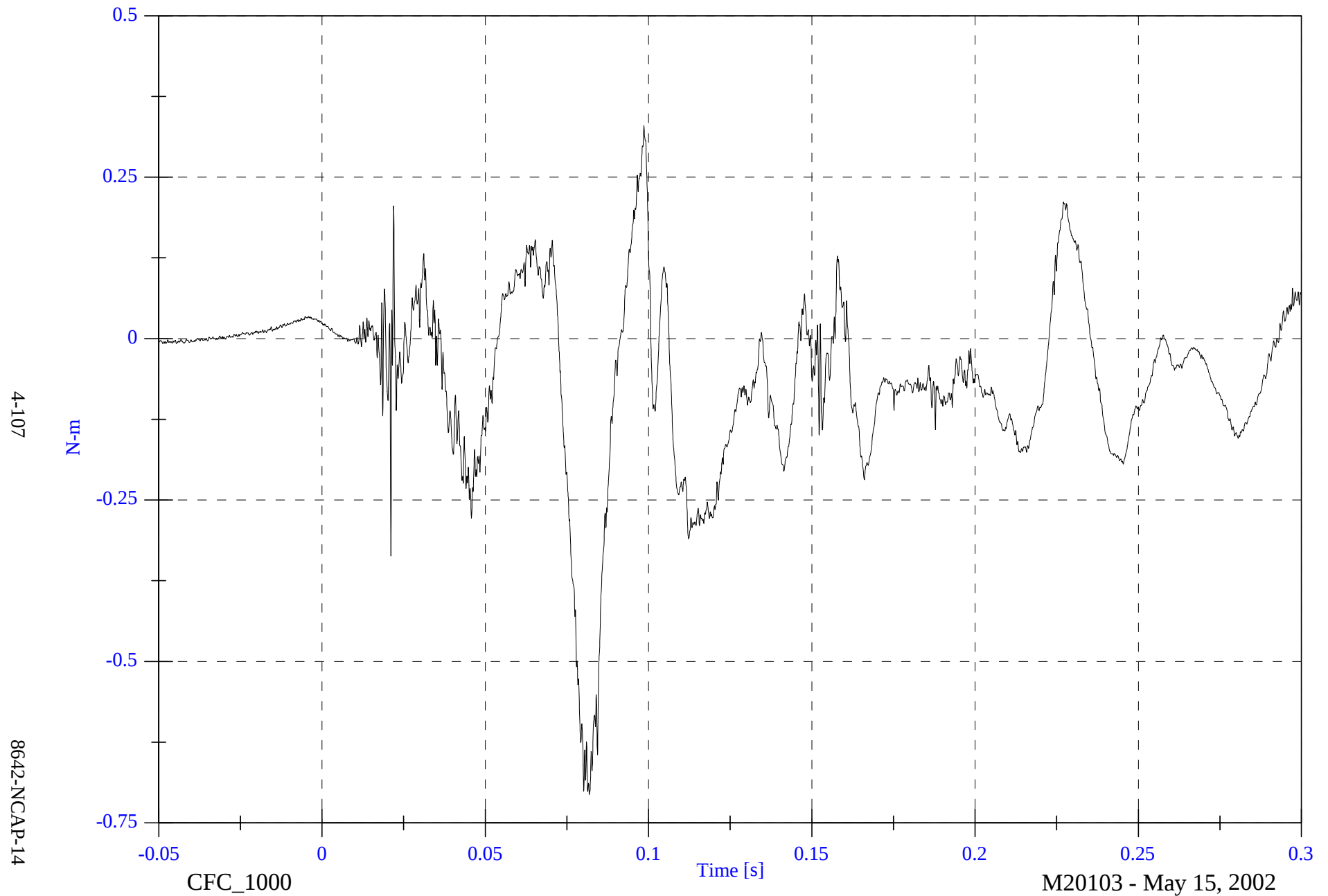


2002 NCAP Test 14 2002 Cadillac Deville

Max: 0.3 [N-m] at 0.099 [s]

Min: -0.7 [N-m] at 0.082 [s]

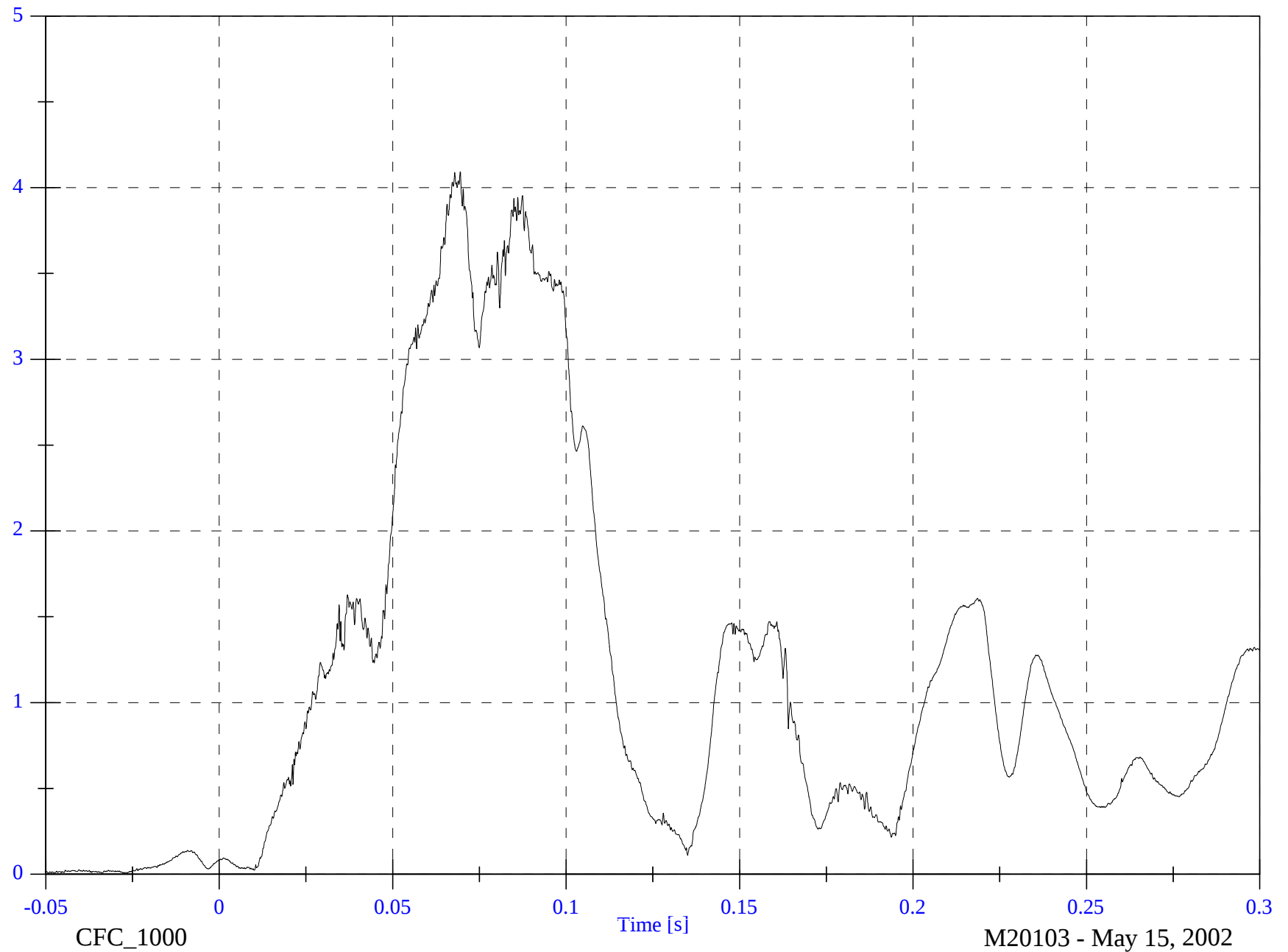
P3 Lumbar Mz



2002 NCAP Test 14 2002 Cadillac Deville

P3 Lumbar M Resultant

Max: 4.1 [N-m] at 0.070 [s]
Min: 0.0 [N-m] at -0.049 [s]



4-108

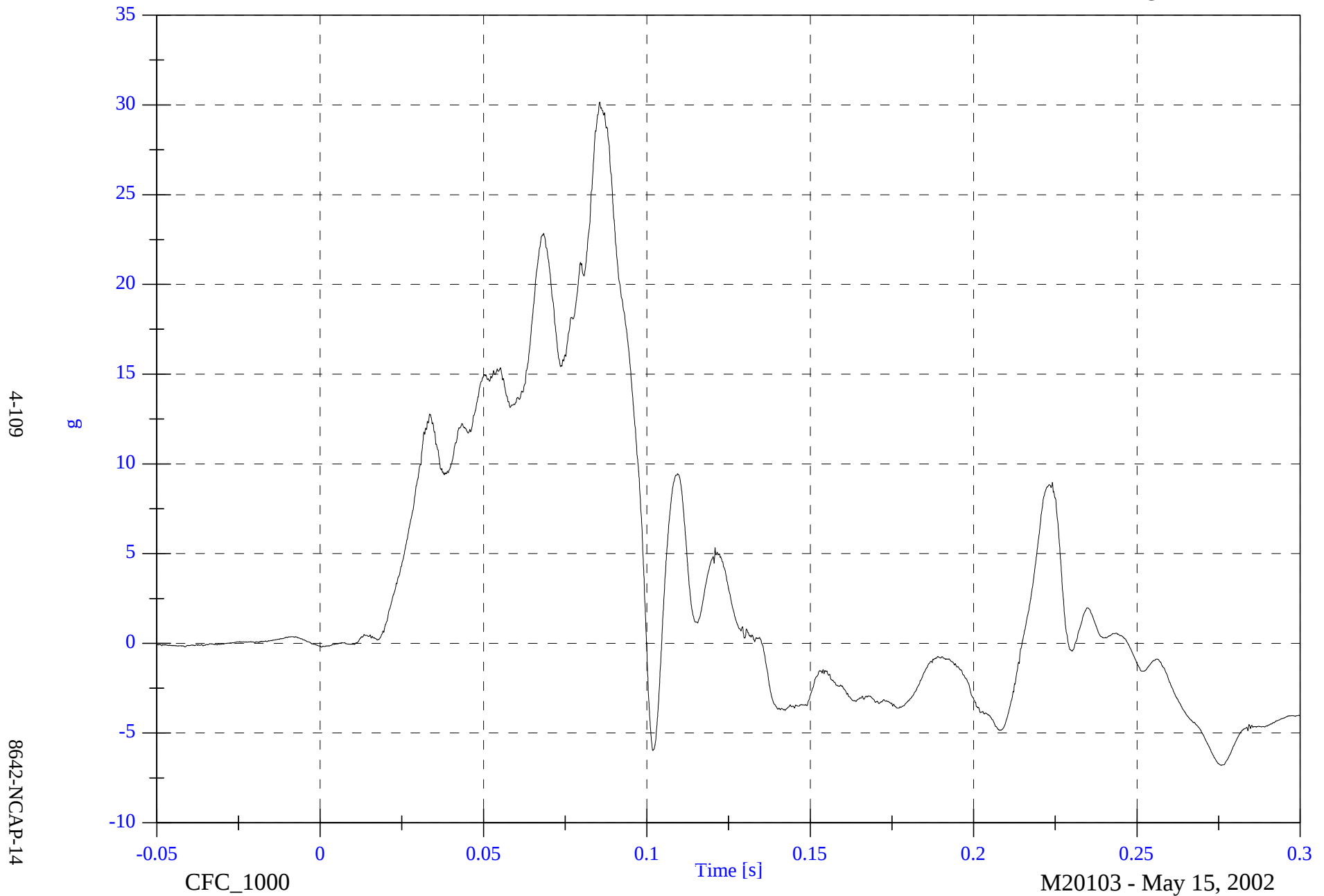
8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

Max: 30.2 [g] at 0.086 [s]

Min: -6.8 [g] at 0.276 [s]

P3 Pelvic x

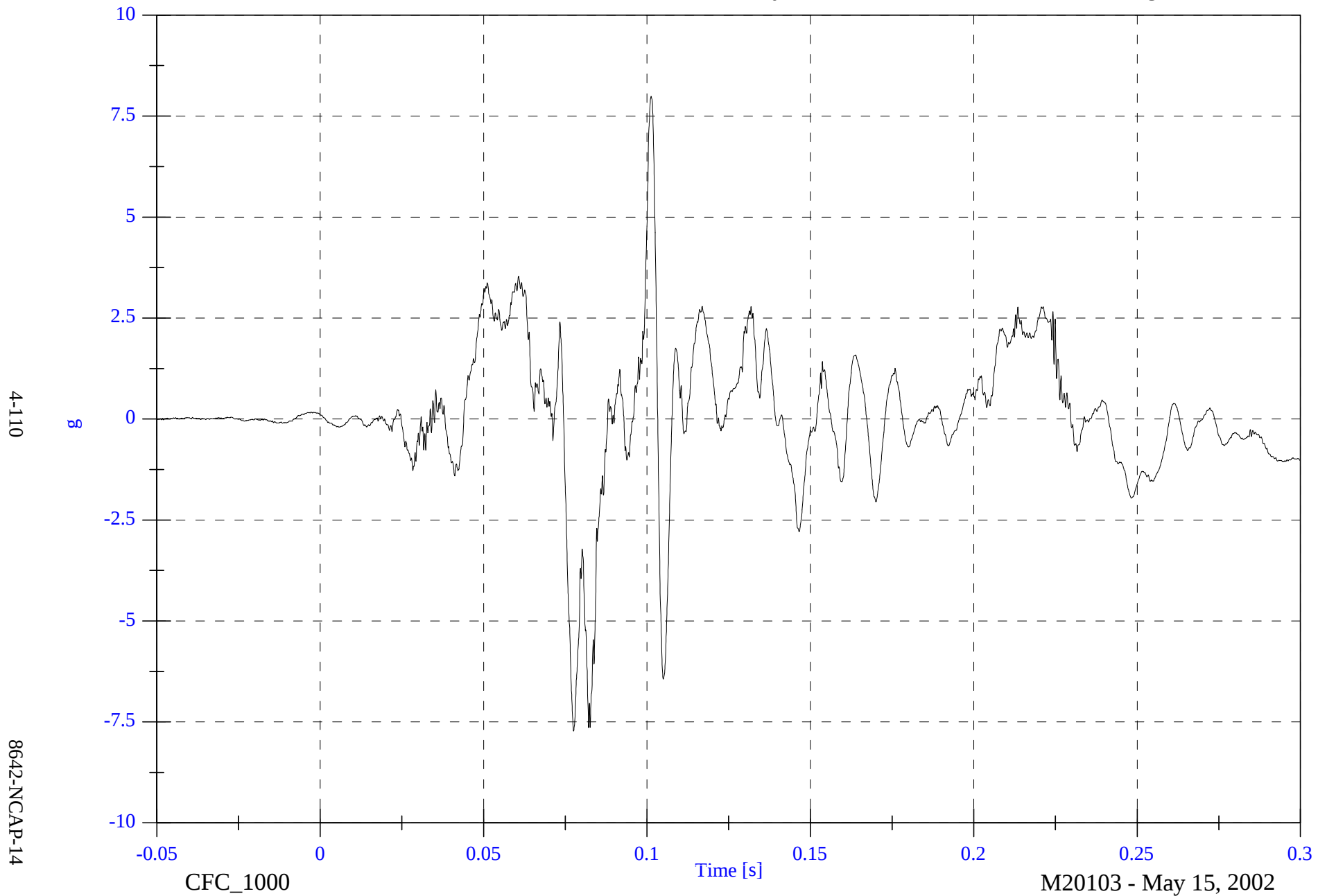


2002 NCAP Test 14 2002 Cadillac Deville

Max: 8.0 [g] at 0.101 [s]

Min: -7.7 [g] at 0.078 [s]

P3 Pelvic y



2002 NCAP Test 14 2002 Cadillac Deville

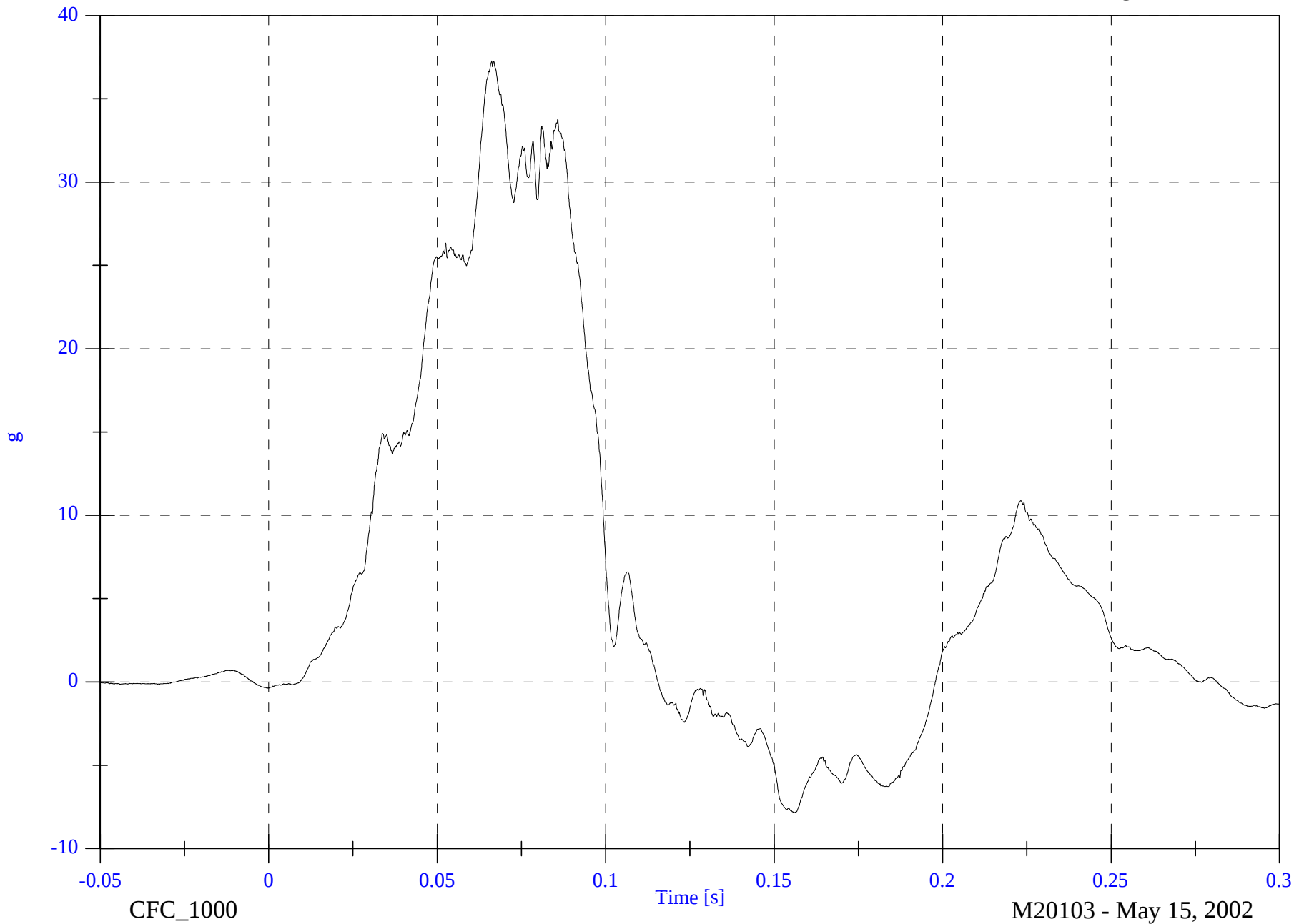
Max: 37.3 [g] at 0.066 [s]

Min: -7.9 [g] at 0.156 [s]

P3 Pelvic z

4-111

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

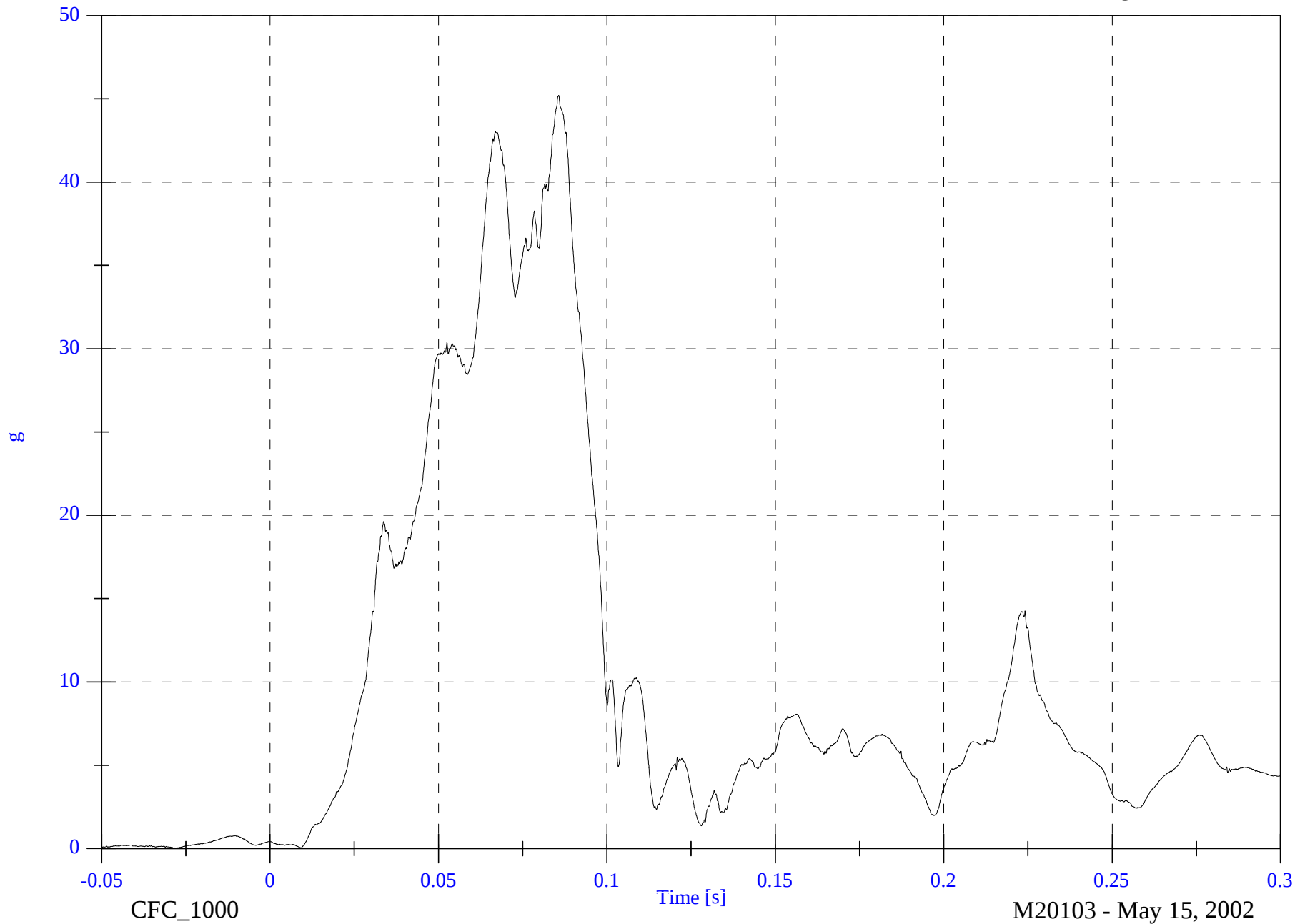
P3 Pelvic Resultant

Max: 45.2 [g] at 0.086 [s]

Min: 0.0 [g] at -0.029 [s]

4-112

8642-NCAP-14

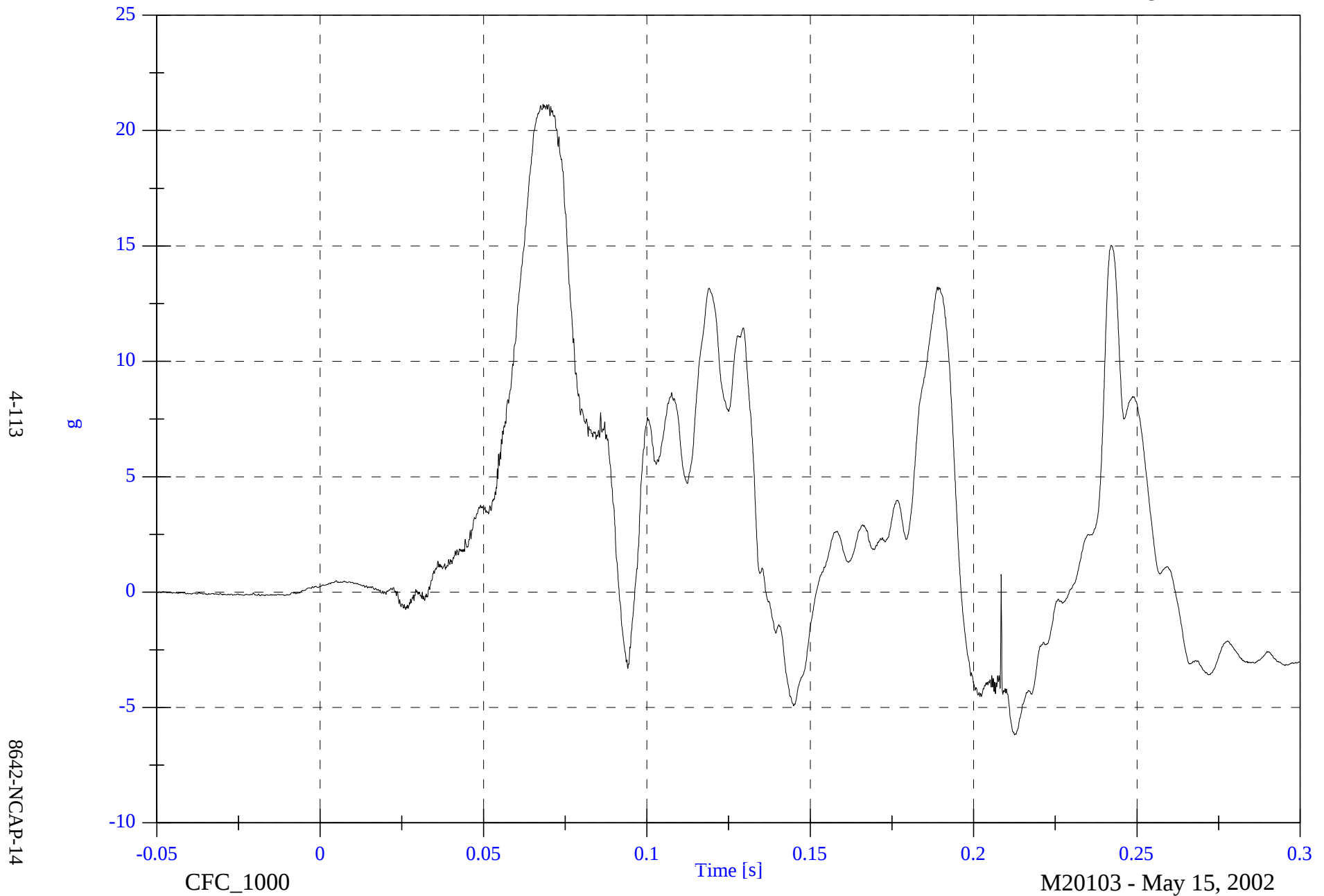


2002 NCAP Test 14 2002 Cadillac Deville

Max: 21.1 [g] at 0.068 [s]

Min: -6.2 [g] at 0.213 [s]

P4 Head x



2002 NCAP Test 14 2002 Cadillac Deville

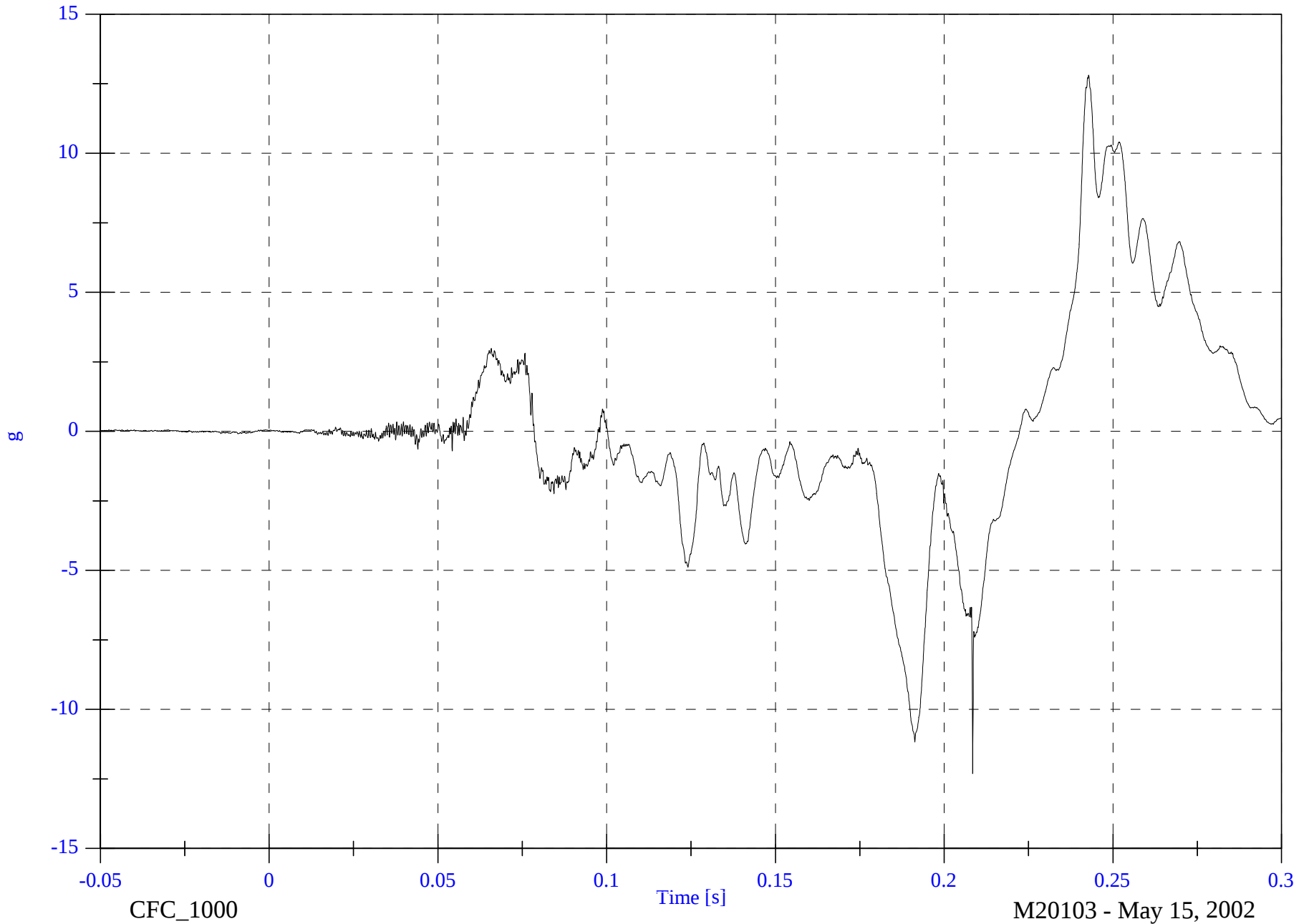
P4 Head y

Max: 12.8 [g] at 0.243 [s]

Min: -12.3 [g] at 0.208 [s]

4-114

8642-NCAP-14

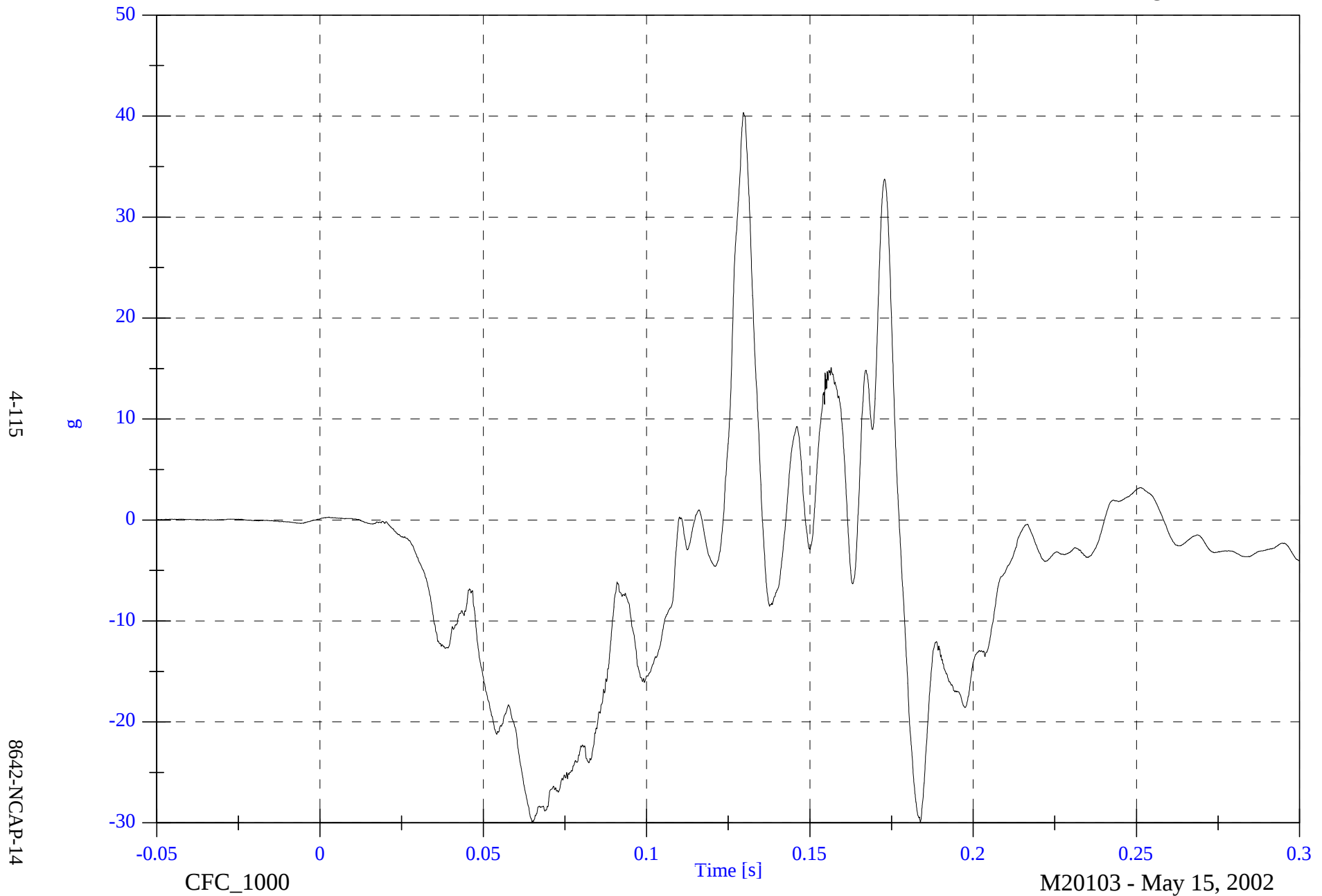


2002 NCAP Test 14 2002 Cadillac Deville

Max: 40.4 [g] at 0.130 [s]

Min: -29.9 [g] at 0.184 [s]

P4 Head z



2002 NCAP Test 14 2002 Cadillac Deville

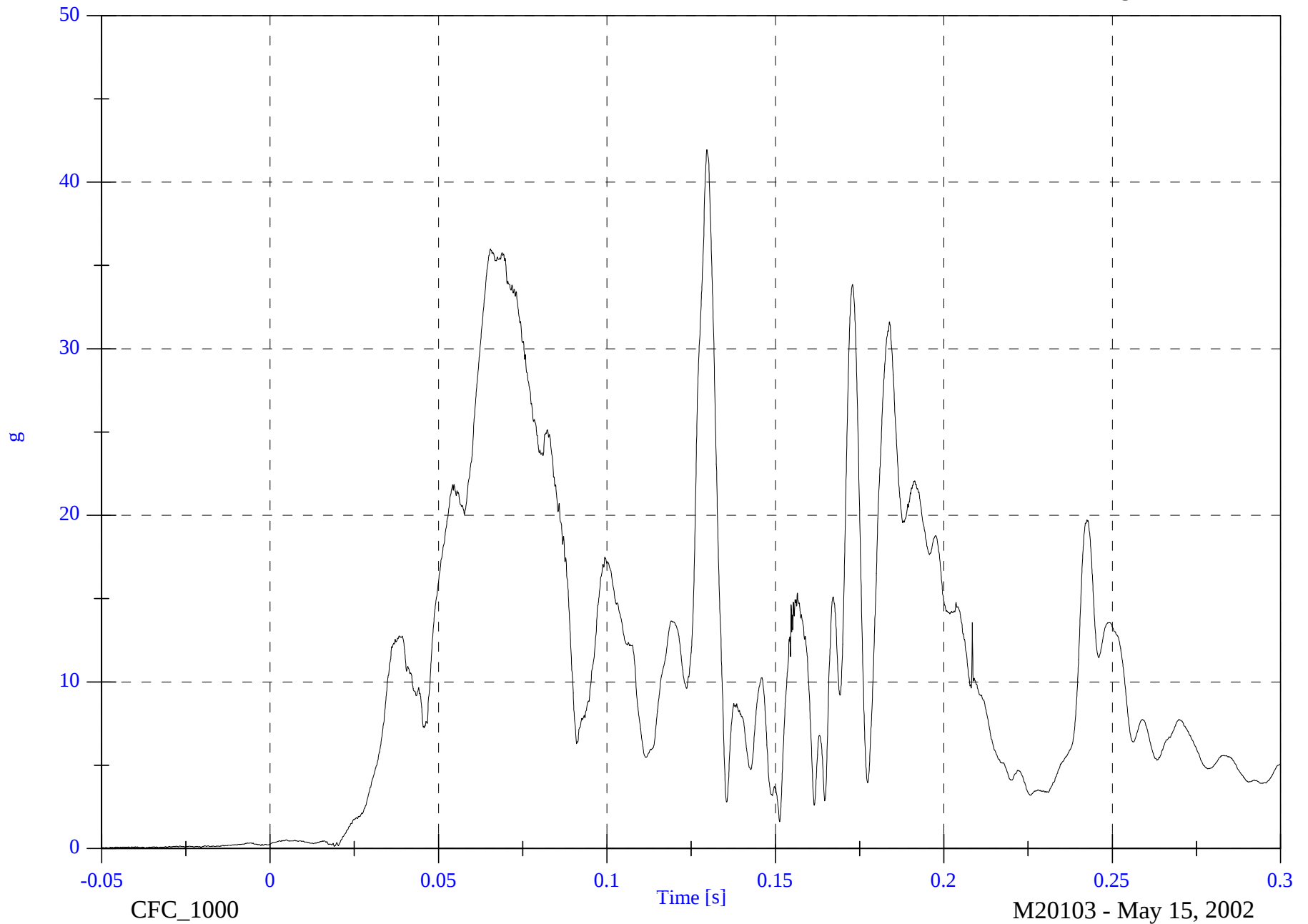
P4 Head Resultant

Max: 42.0 [g] at 0.130 [s]

Min: 0.0 [g] at -0.037 [s]

4-116

8642-NCAP-14

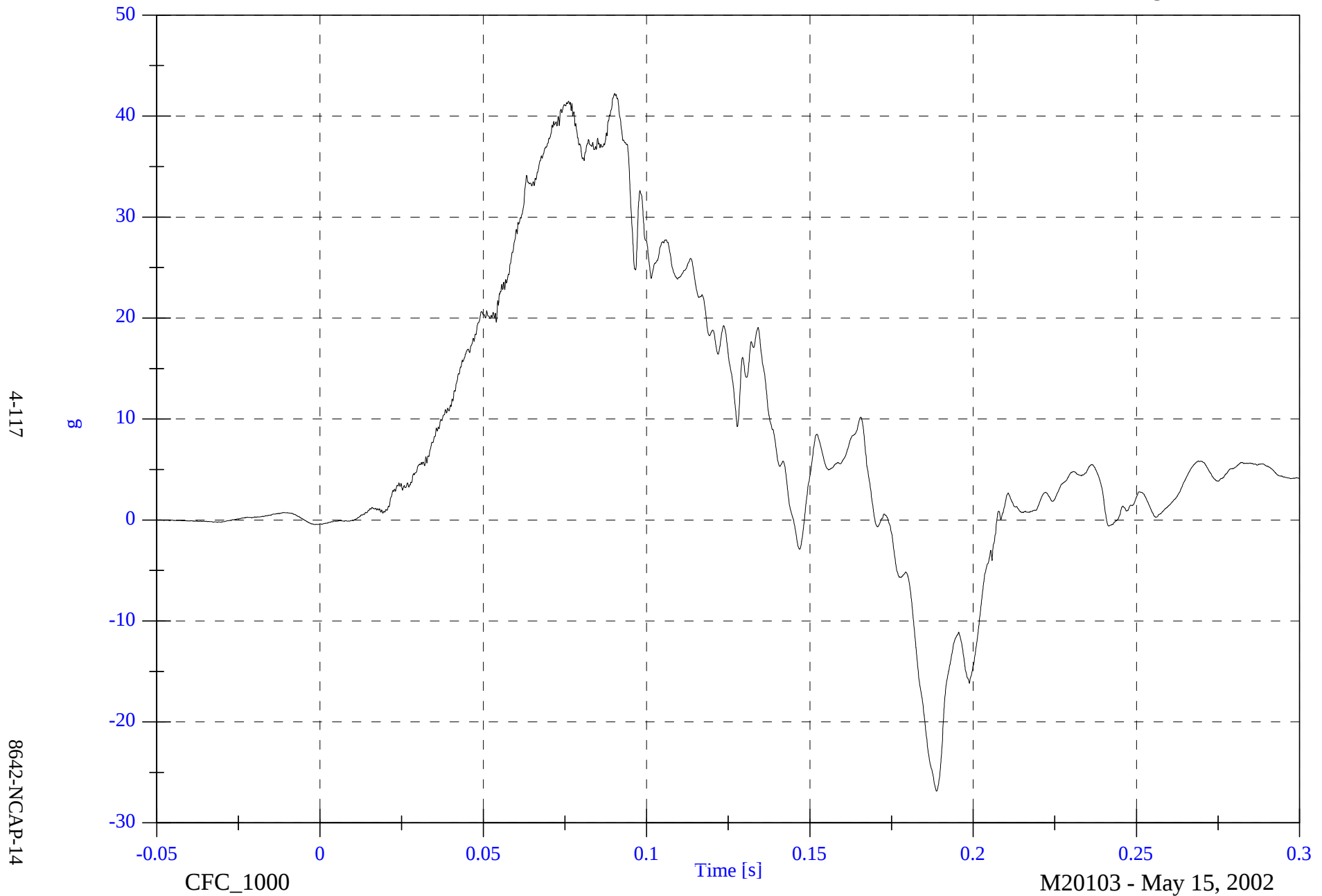


2002 NCAP Test 14 2002 Cadillac Deville

Max: 42.2 [g] at 0.090 [s]

Min: -26.9 [g] at 0.189 [s]

P4 Head Red z

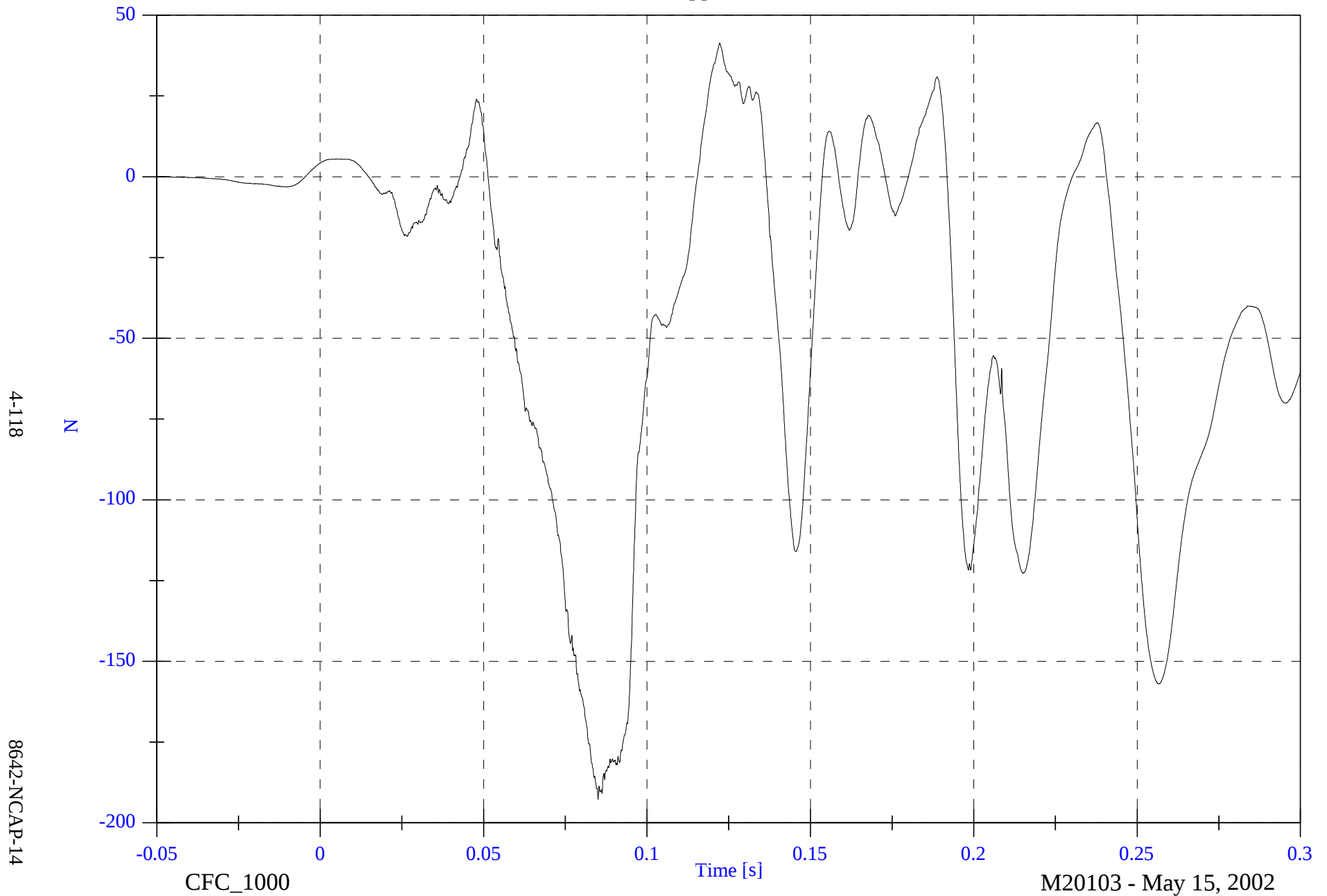


2002 NCAP Test 14 2002 Cadillac Deville

Max: 41.4 [N] at 0.122 [s]

Min: -192.7 [N] at 0.085 [s]

P4 Upper Neck Fx



2002 NCAP Test 14 2002 Cadillac Deville

P4 Upper Neck Fy

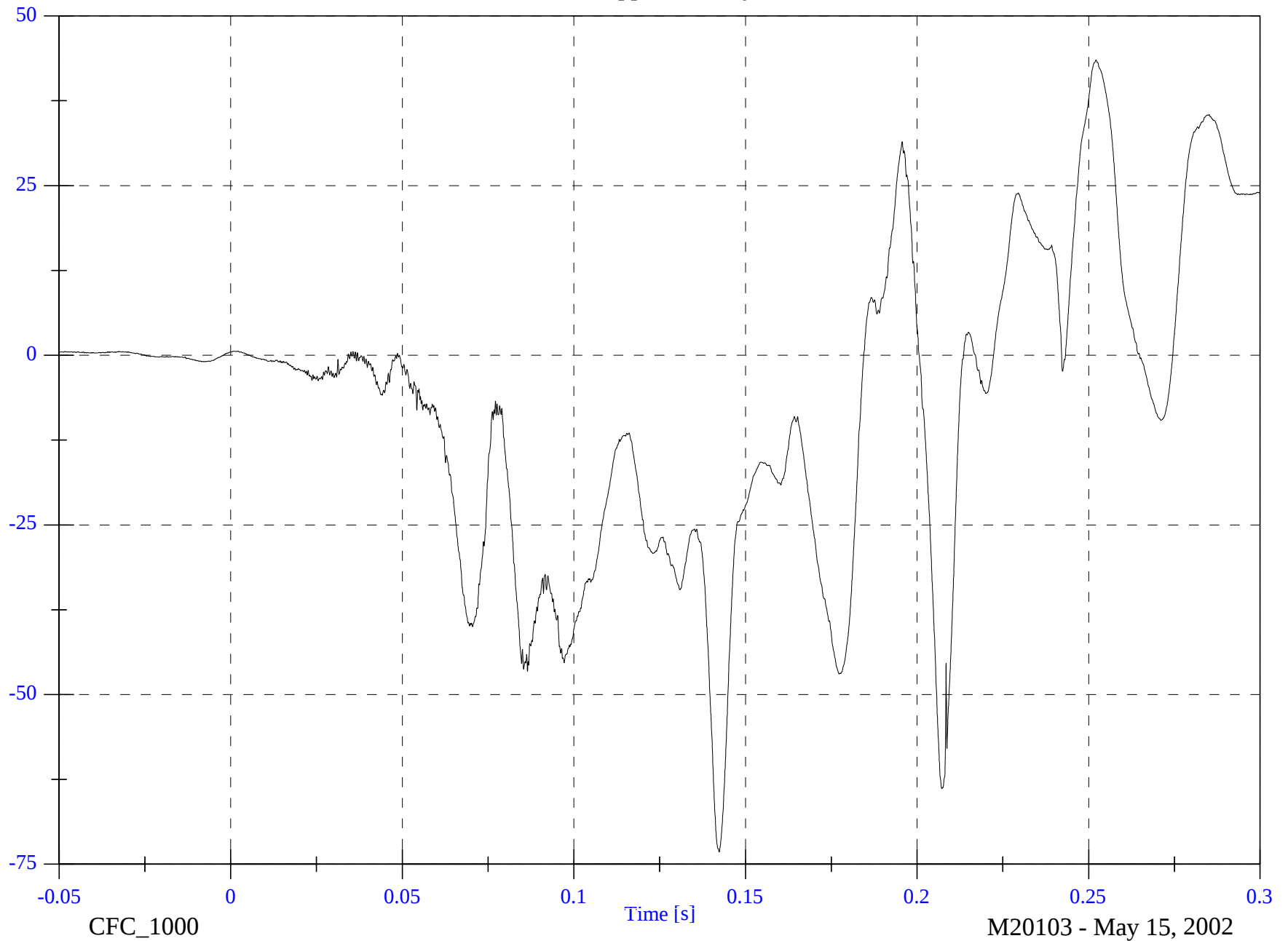
Max: 43.5 [N] at 0.252 [s]

Min: -73.2 [N] at 0.142 [s]

4-119

N

8642-NCAP-14

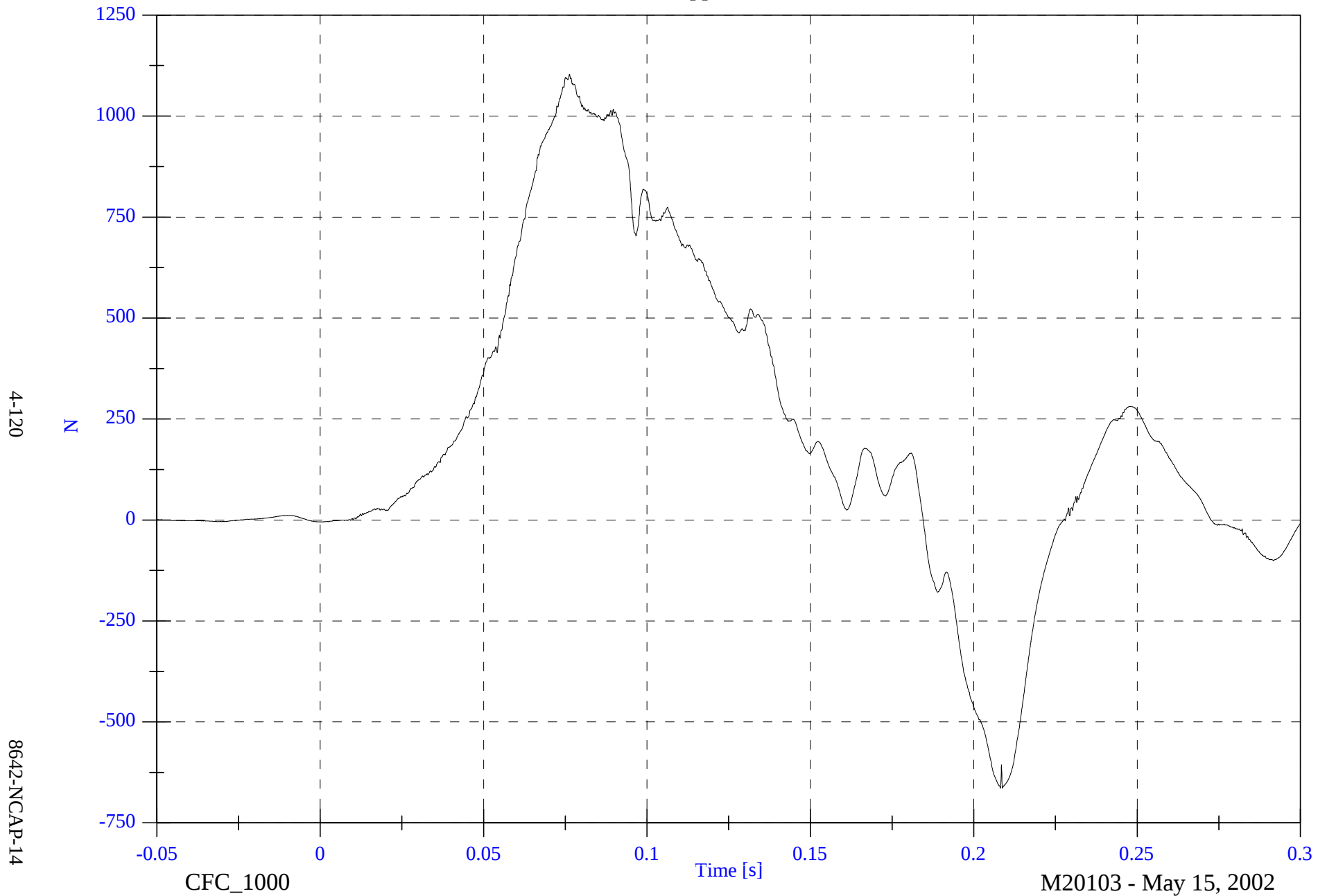


2002 NCAP Test 14 2002 Cadillac Deville

Max: 1103.4 [N] at 0.076 [s]

Min: -664.3 [N] at 0.208 [s]

P4 Upper Neck Fz



2002 NCAP Test 14 2002 Cadillac Deville

Max: 1112.7 [N] at 0.076 [s]

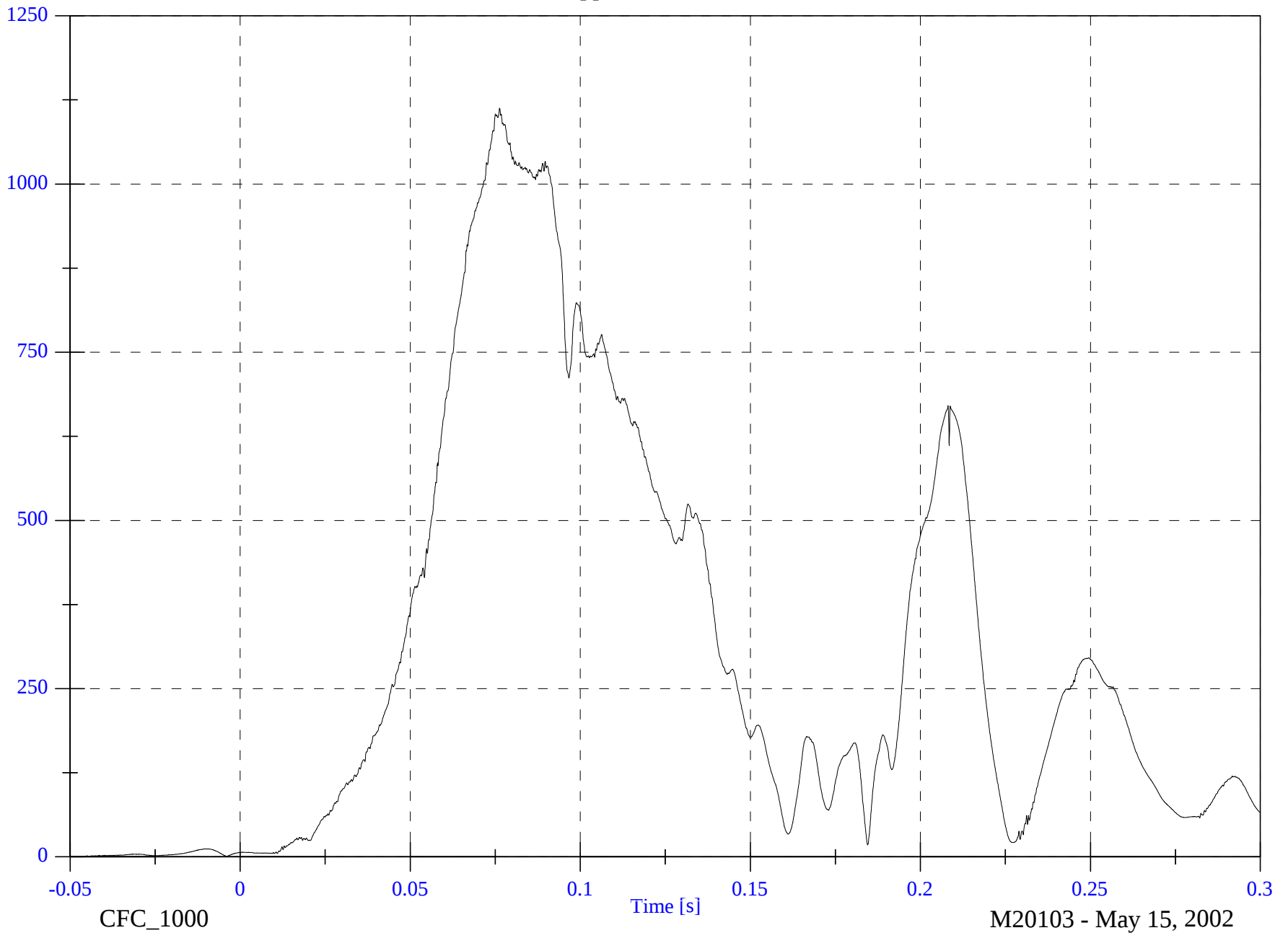
P4 Upper Neck F Resultant

Min: 0.5 [N] at -0.048 [s]

4-121

N

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

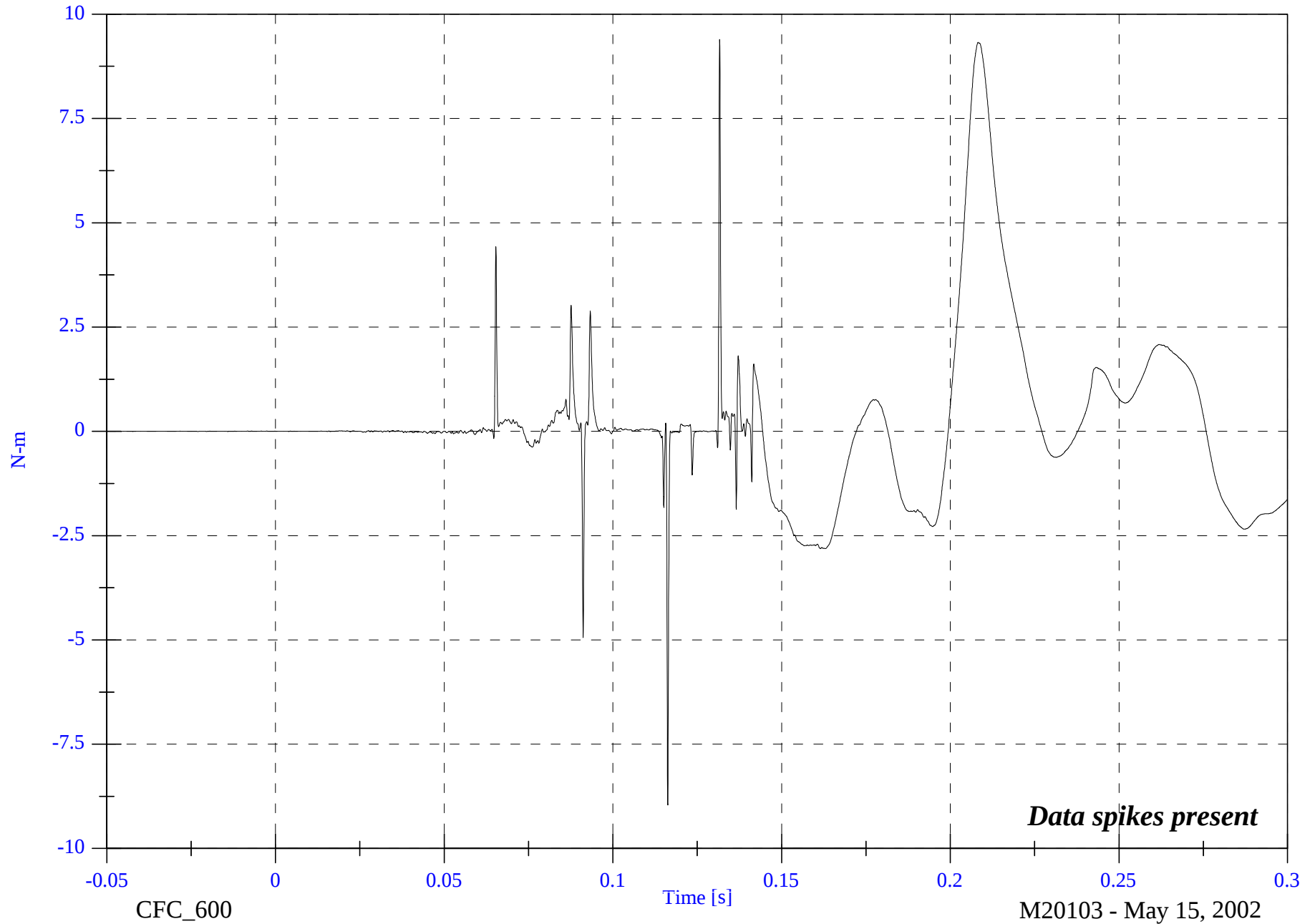
P4 Upper Neck Mx

Max: 9.4 [N-m] at 0.132 [s]

Min: -9.0 [N-m] at 0.116 [s]

4-122

8642-NCAP-14



CFC_600

M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

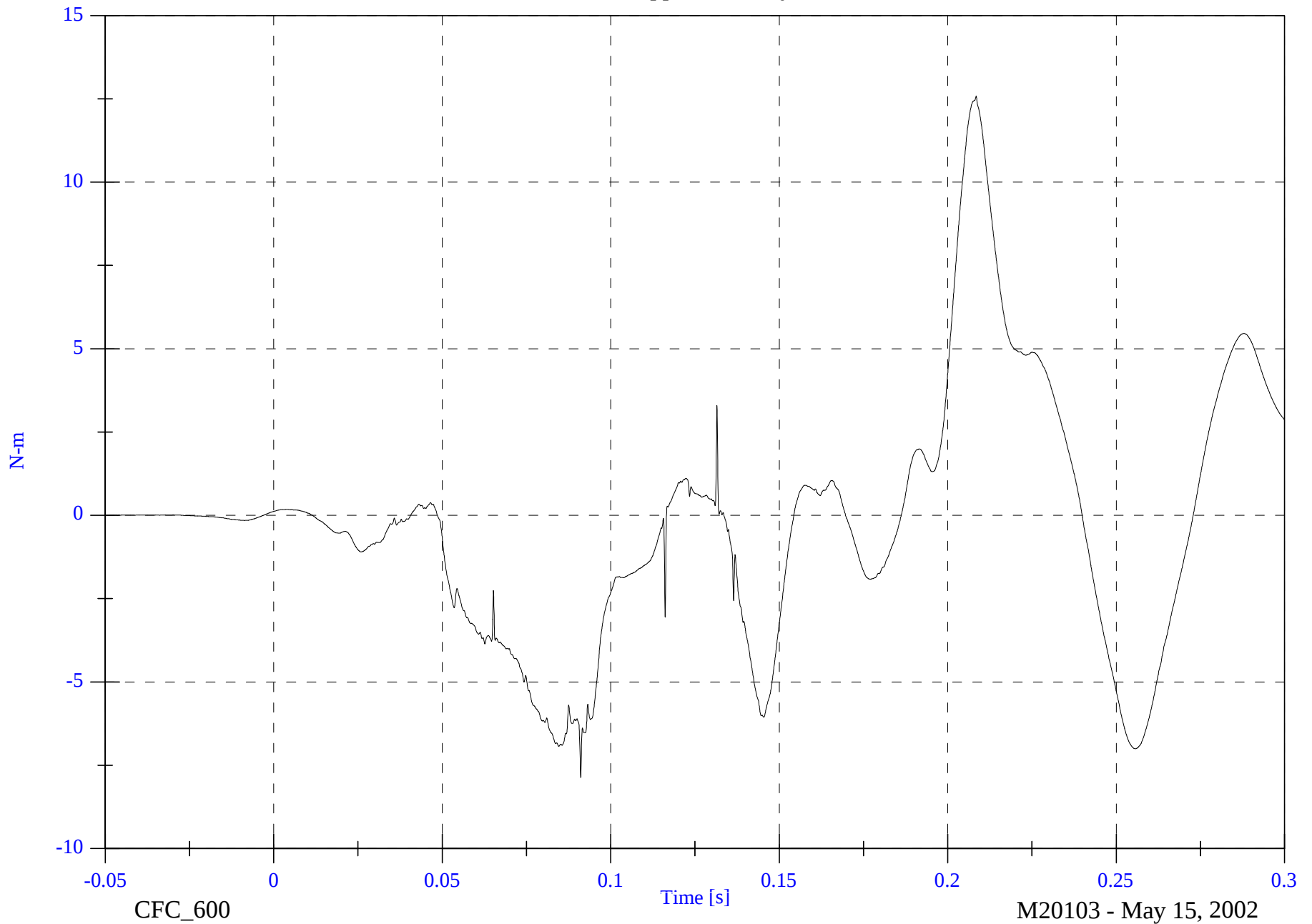
Max: 12.6 [N-m] at 0.208 [s]

Min: -7.9 [N-m] at 0.091 [s]

P4 Upper Neck My

4-123

8642-NCAP-14

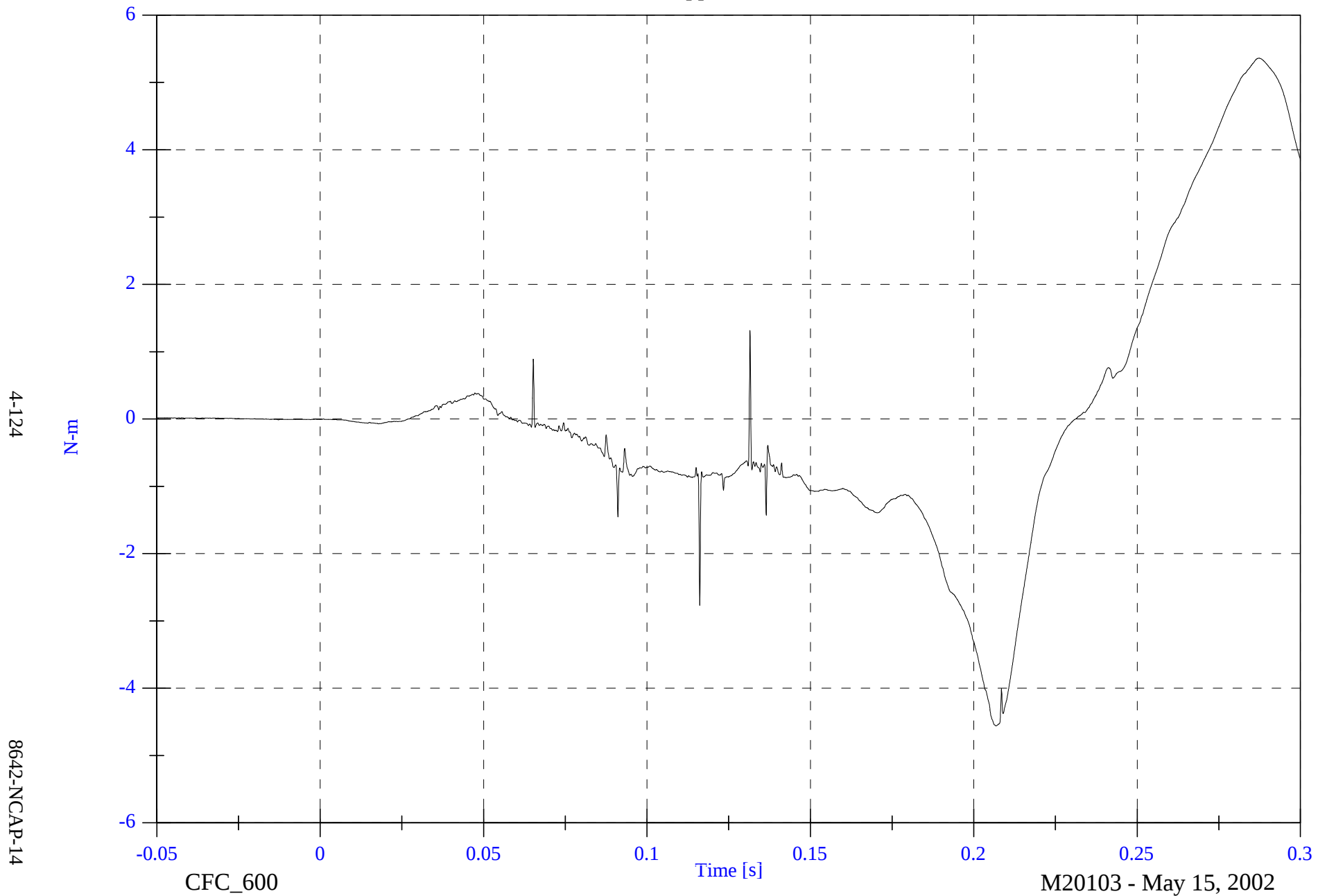


2002 NCAP Test 14 2002 Cadillac Deville

Max: 5.4 [N-m] at 0.287 [s]

Min: -4.6 [N-m] at 0.207 [s]

P4 Upper Neck Mz



2002 NCAP Test 14 2002 Cadillac Deville

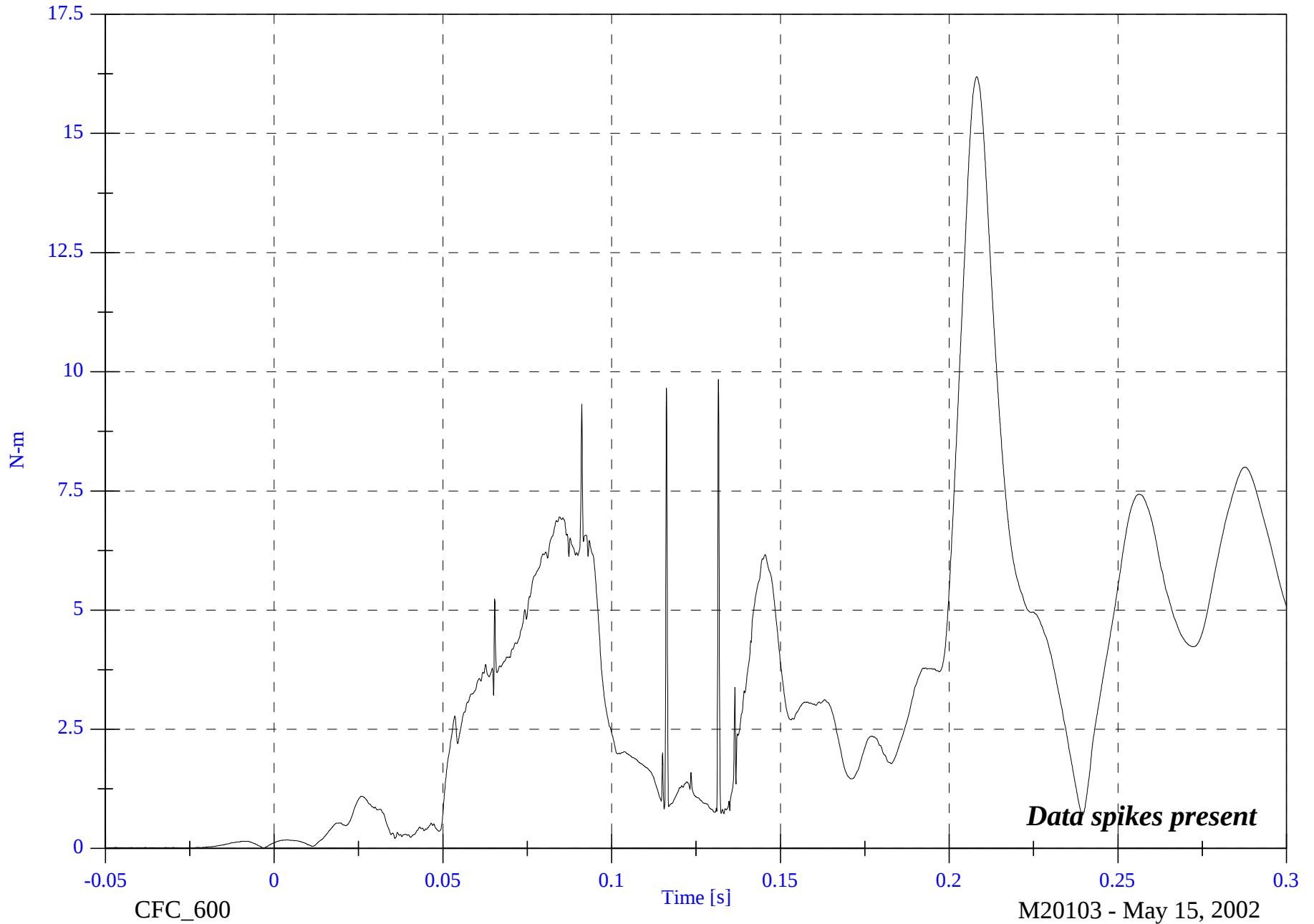
P4 Upper Neck M Resultant

Max: 16.2 [N-m] at 0.208 [s]

Min: 0.0 [N-m] at -0.026 [s]

4-125

8642-NCAP-14

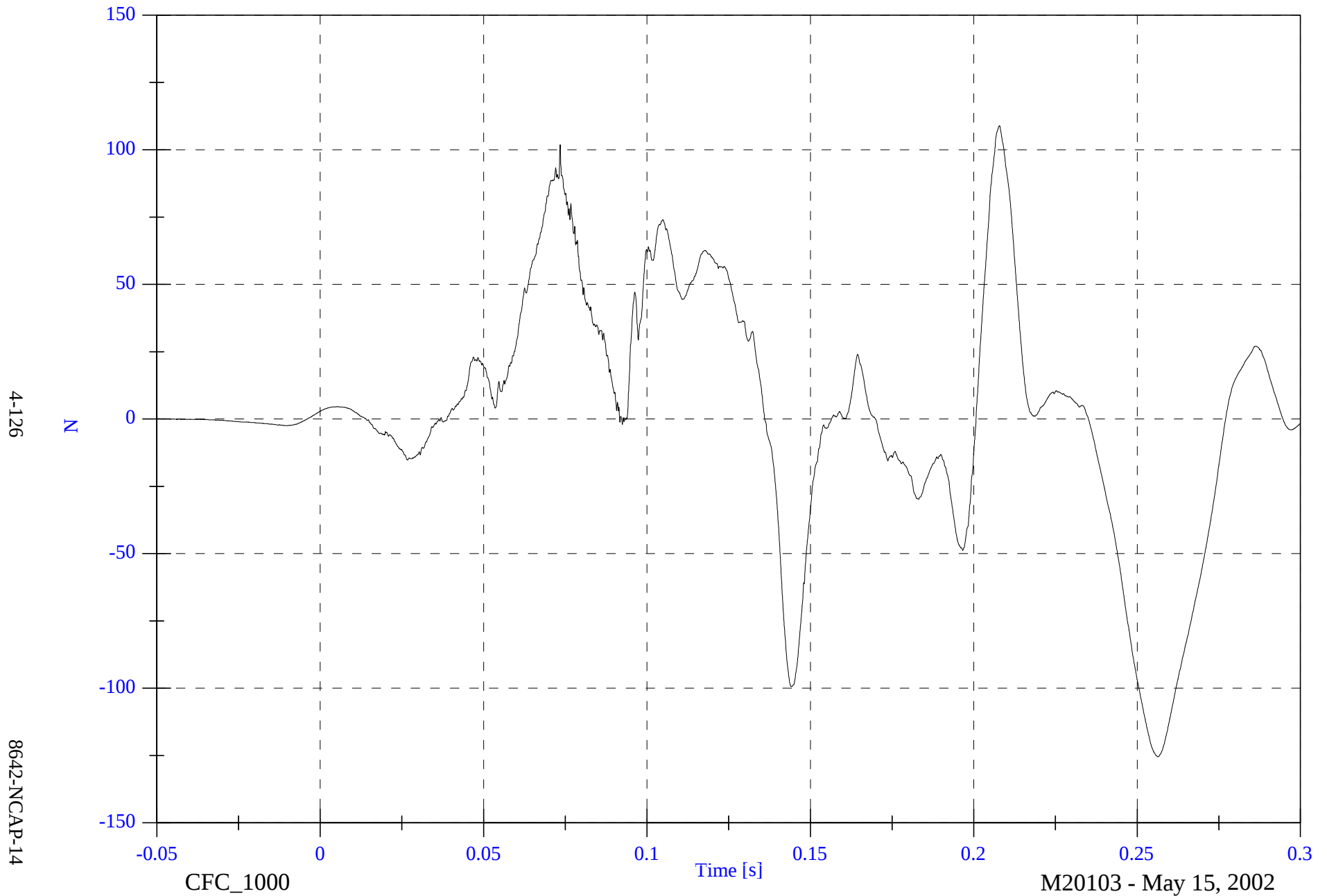


2002 NCAP Test 14 2002 Cadillac Deville

P4 Lower Neck Fx

Max: 109.0 [N] at 0.208 [s]

Min: -125.4 [N] at 0.256 [s]



2002 NCAP Test 14 2002 Cadillac Deville

P4 Lower Neck Fy

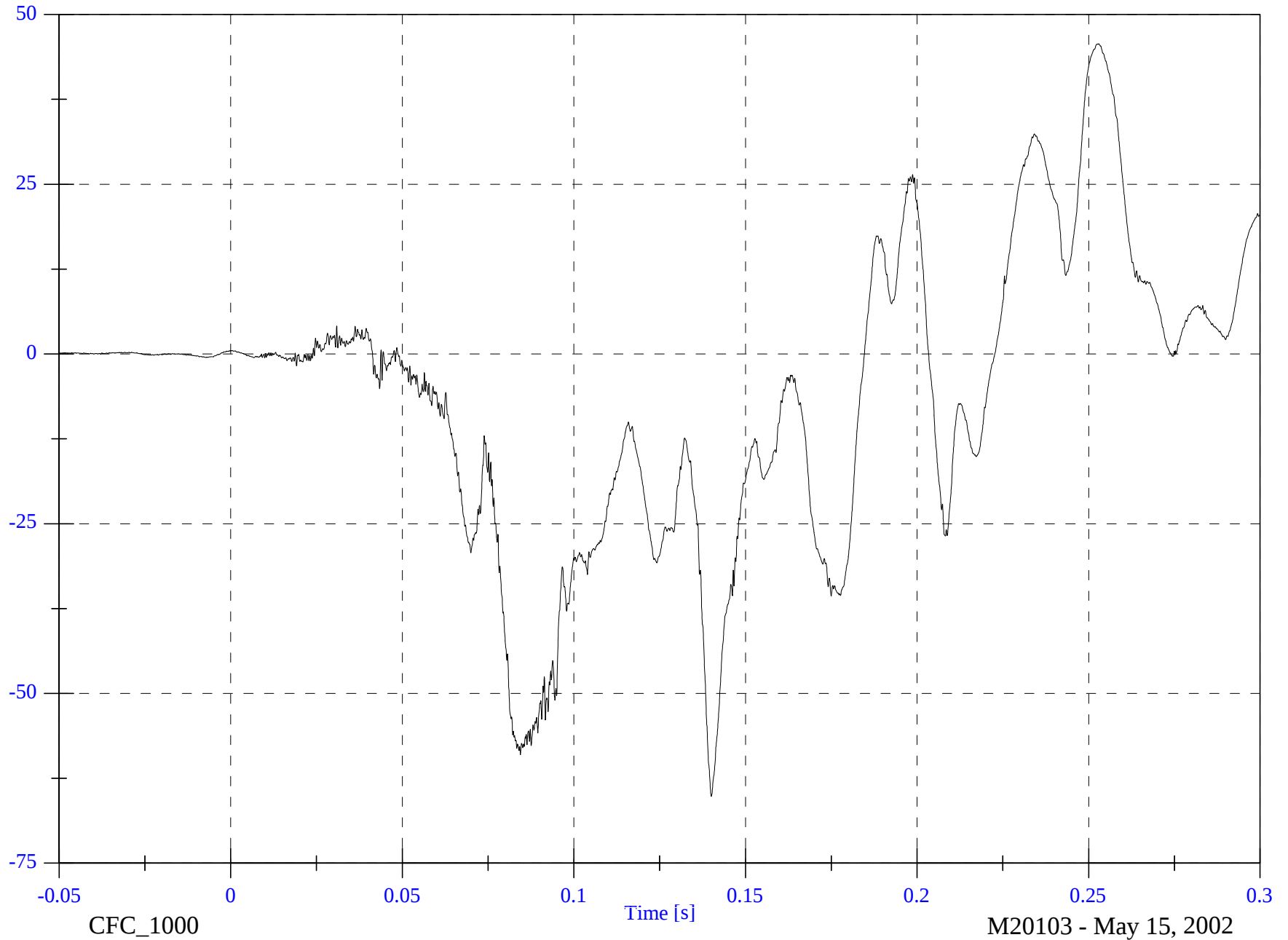
Max: 45.7 [N] at 0.253 [s]

Min: -65.2 [N] at 0.140 [s]

4-127

8642-NCAP-14

N

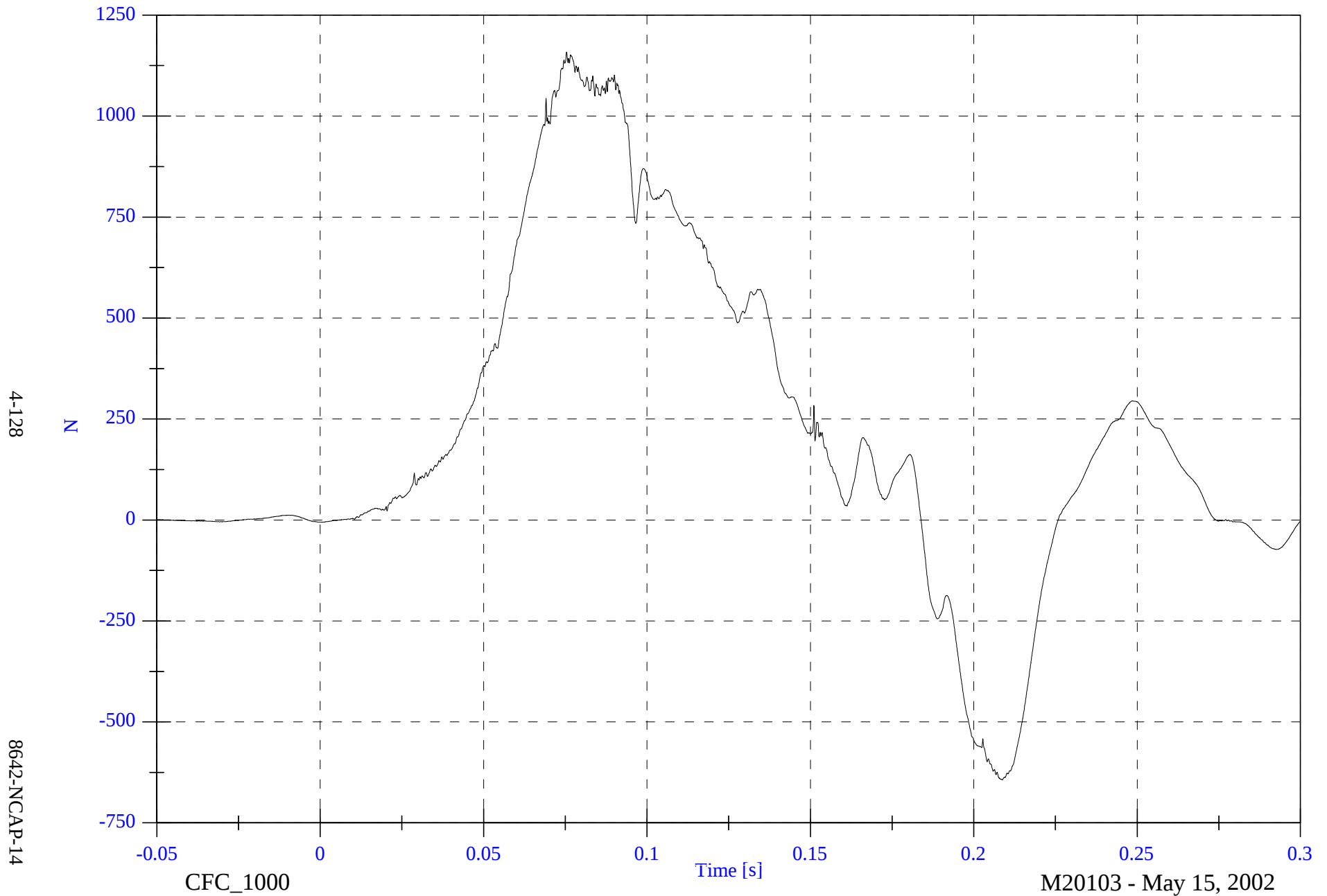


2002 NCAP Test 14 2002 Cadillac Deville

Max: 1158.7 [N] at 0.075 [s]

Min: -643.6 [N] at 0.209 [s]

P4 Lower Neck Fz



2002 NCAP Test 14 2002 Cadillac Deville

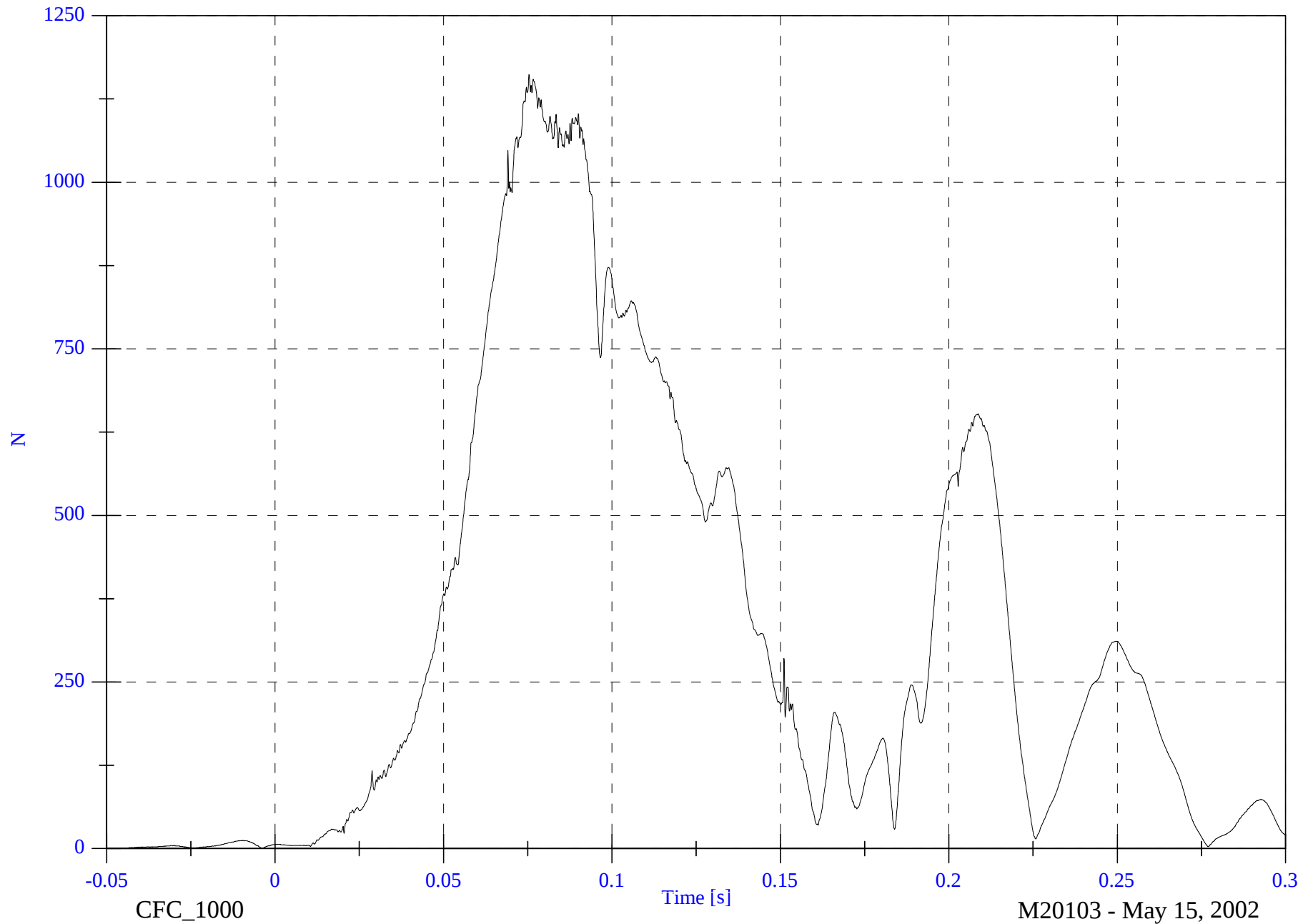
Max: 1161.6 [N] at 0.075 [s]

P4 Lower Neck F Resultant

Min: 0.1 [N] at -0.047 [s]

4-129

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

P4 Lower Neck Mx

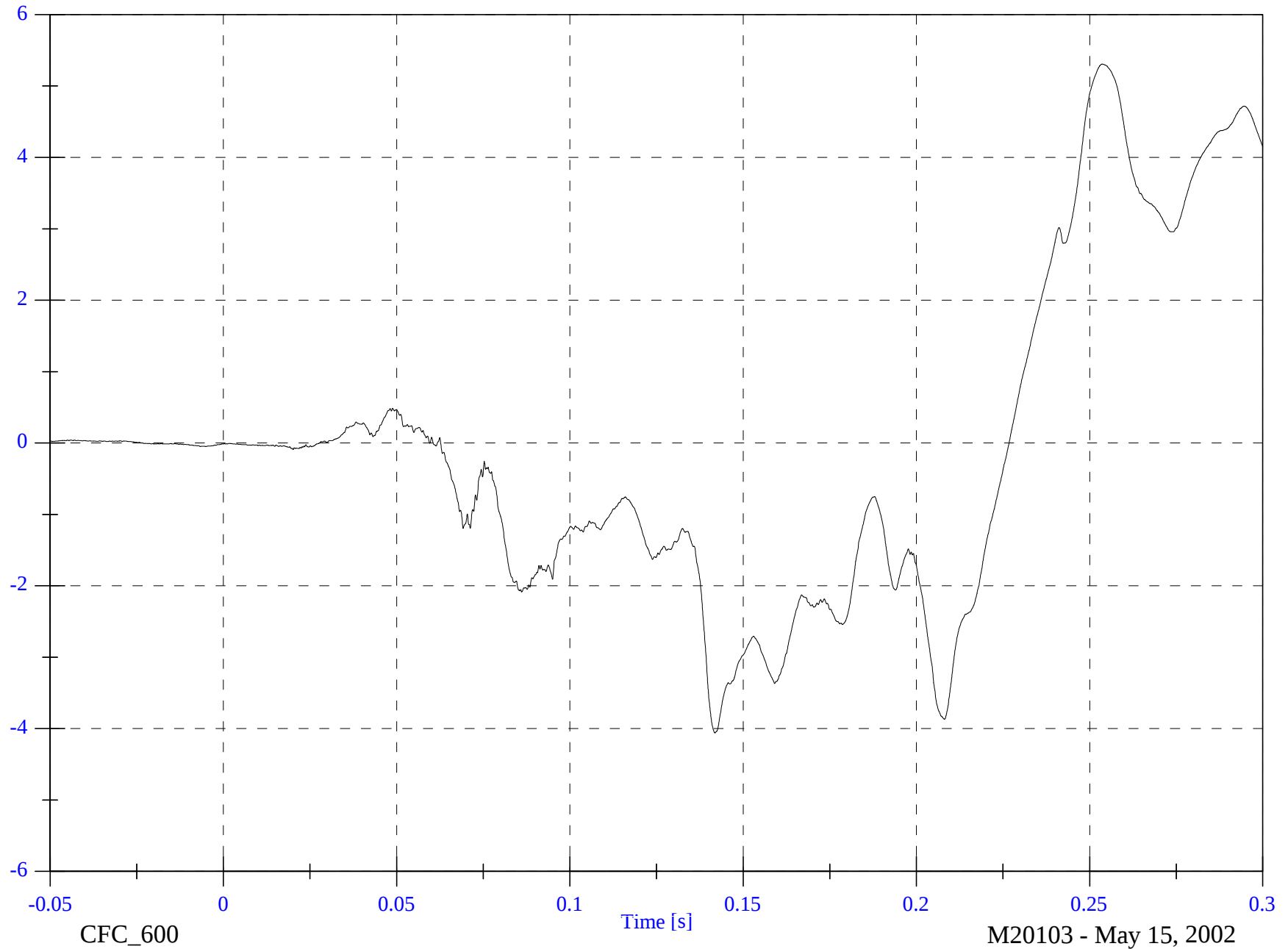
Max: 5.3 [N-m] at 0.254 [s]

Min: -4.1 [N-m] at 0.142 [s]

4-130

N-m

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

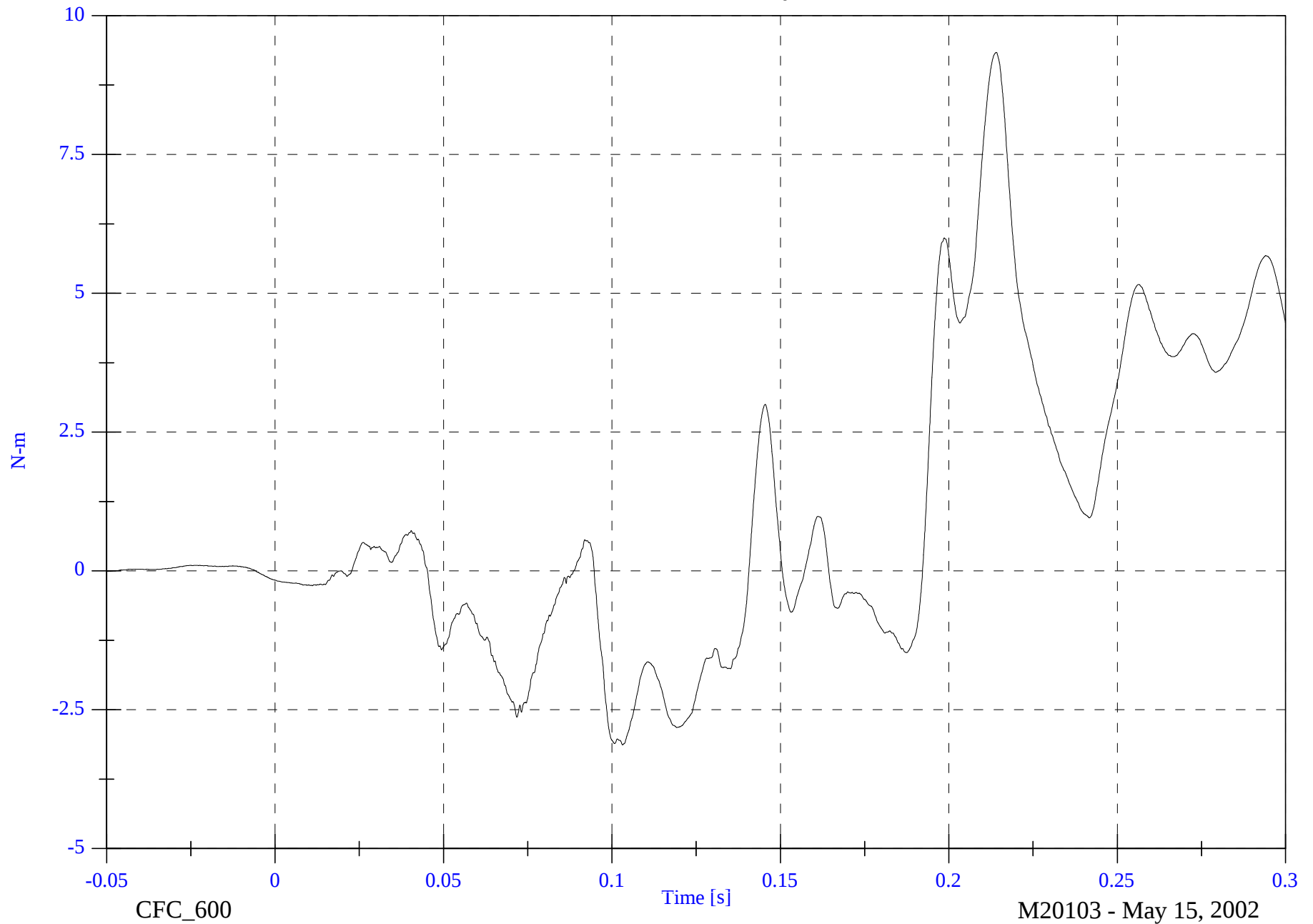
P4 Lower Neck My

Max: 9.3 [N-m] at 0.214 [s]

Min: -3.1 [N-m] at 0.103 [s]

4-131

8642-NCAP-14



2002 NCAP Test 14 2002 Cadillac Deville

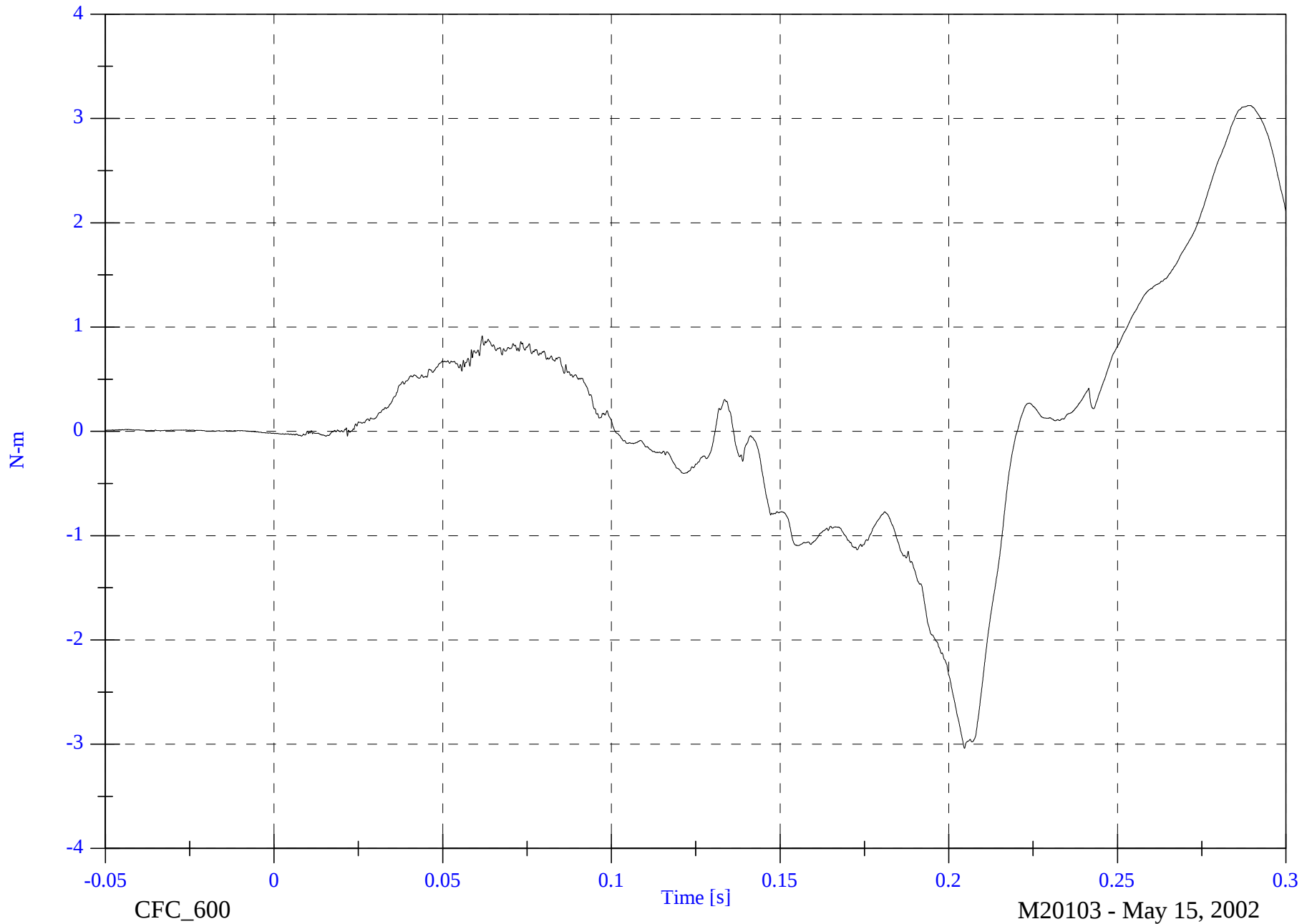
P4 Lower Neck Mz

Max: 3.1 [N-m] at 0.289 [s]

Min: -3.0 [N-m] at 0.205 [s]

4-132

8642-NCAP-14

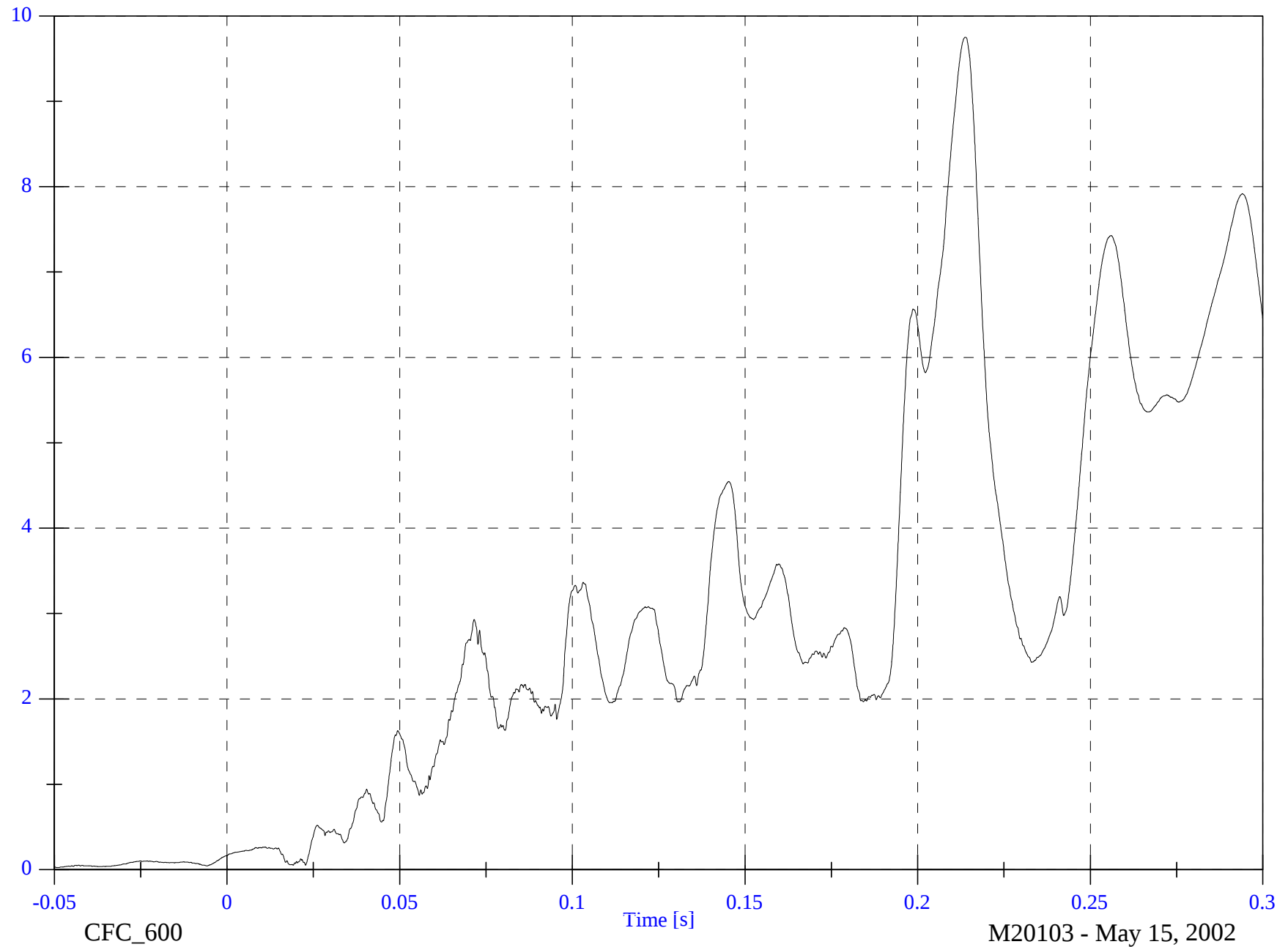


2002 NCAP Test 14 2002 Cadillac Deville

P4 Lower Neck M Resultant

Max: 9.8 [N-m] at 0.214 [s]

Min: 0.0 [N-m] at -0.049 [s]



4-133

8642-NCAP-14

CFC_600

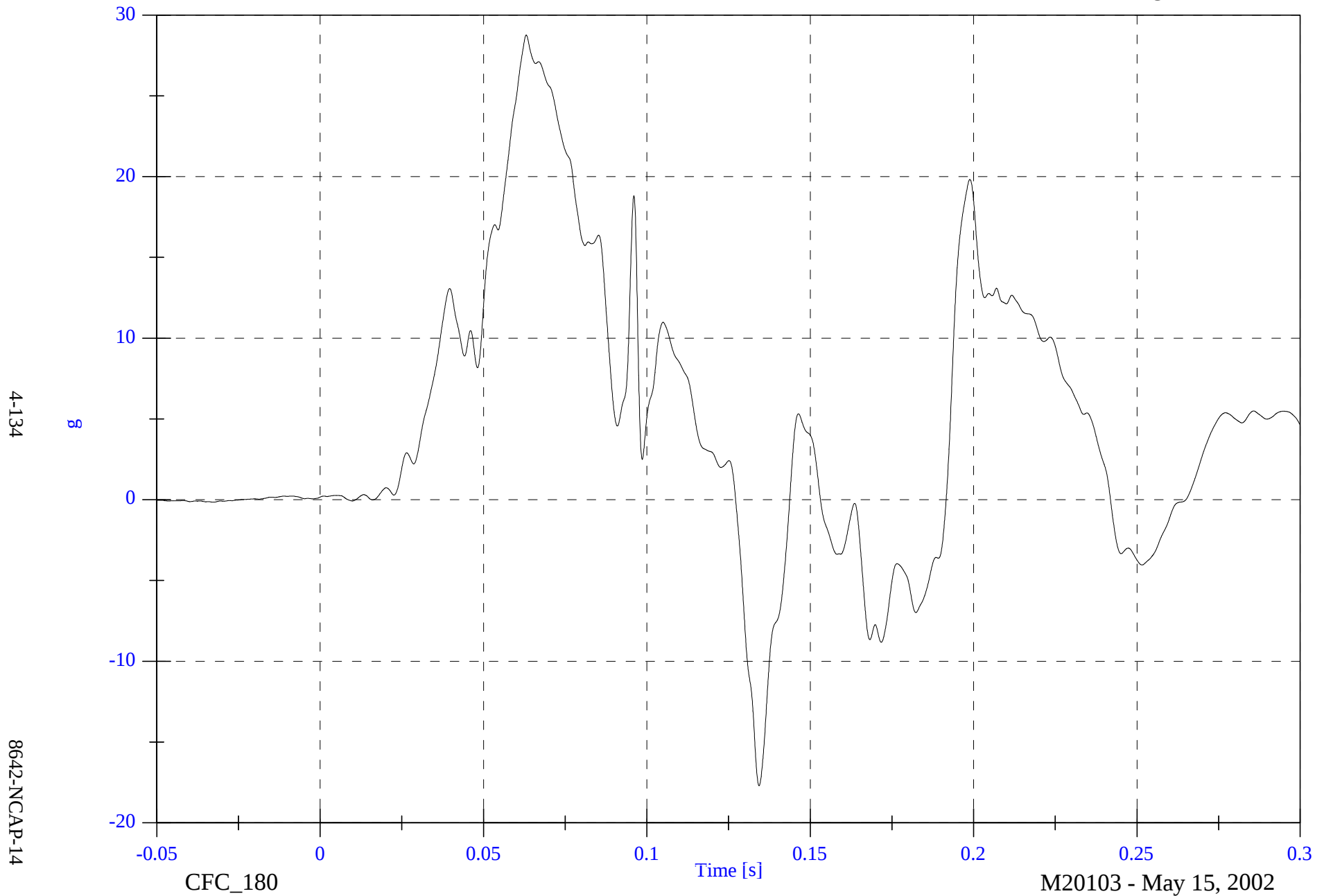
M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

Max: 28.8 [g] at 0.063 [s]

Min: -17.7 [g] at 0.134 [s]

P4 Chest x

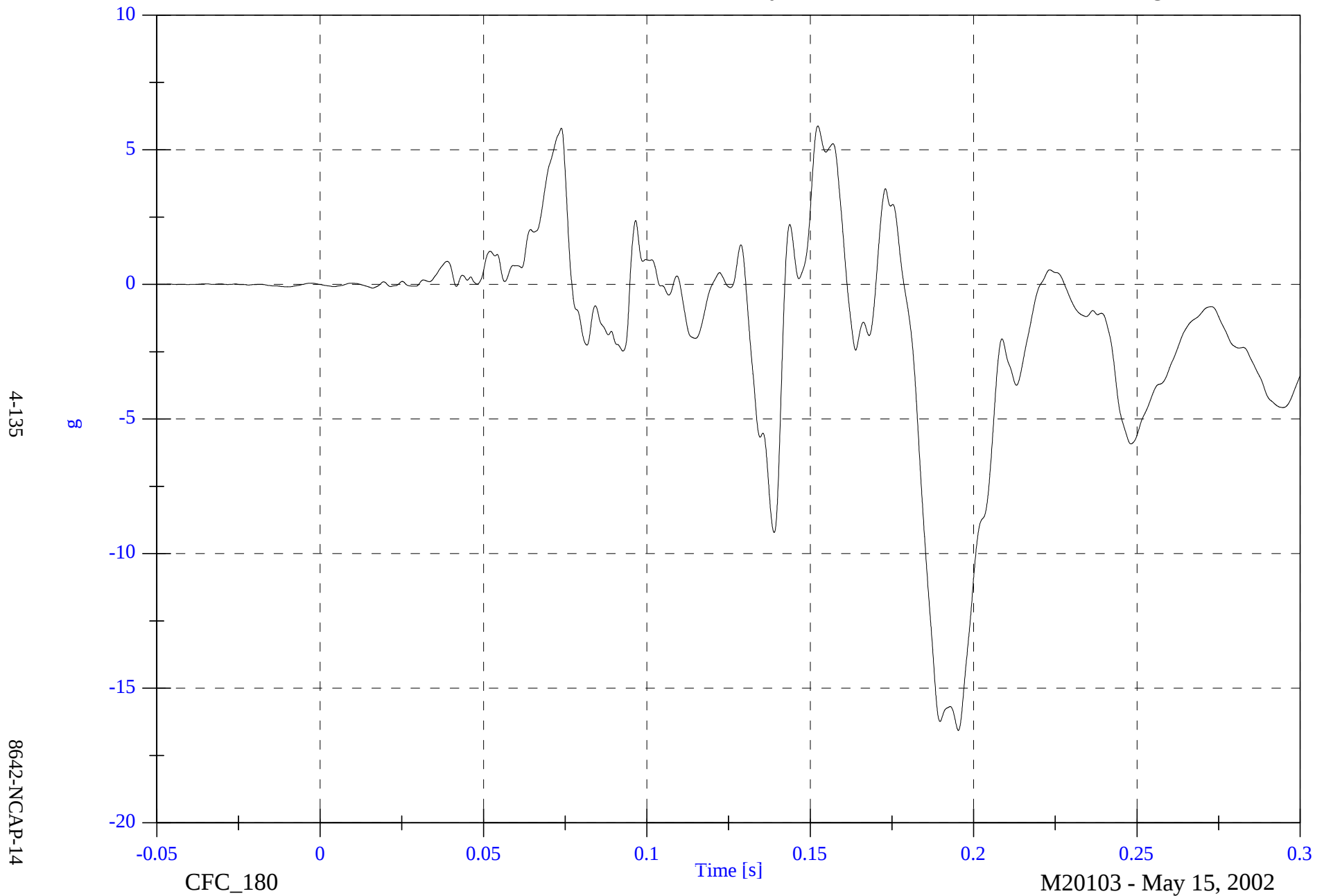


2002 NCAP Test 14 2002 Cadillac Deville

Max: 5.9 [g] at 0.152 [s]

Min: -16.6 [g] at 0.195 [s]

P4 Chest y

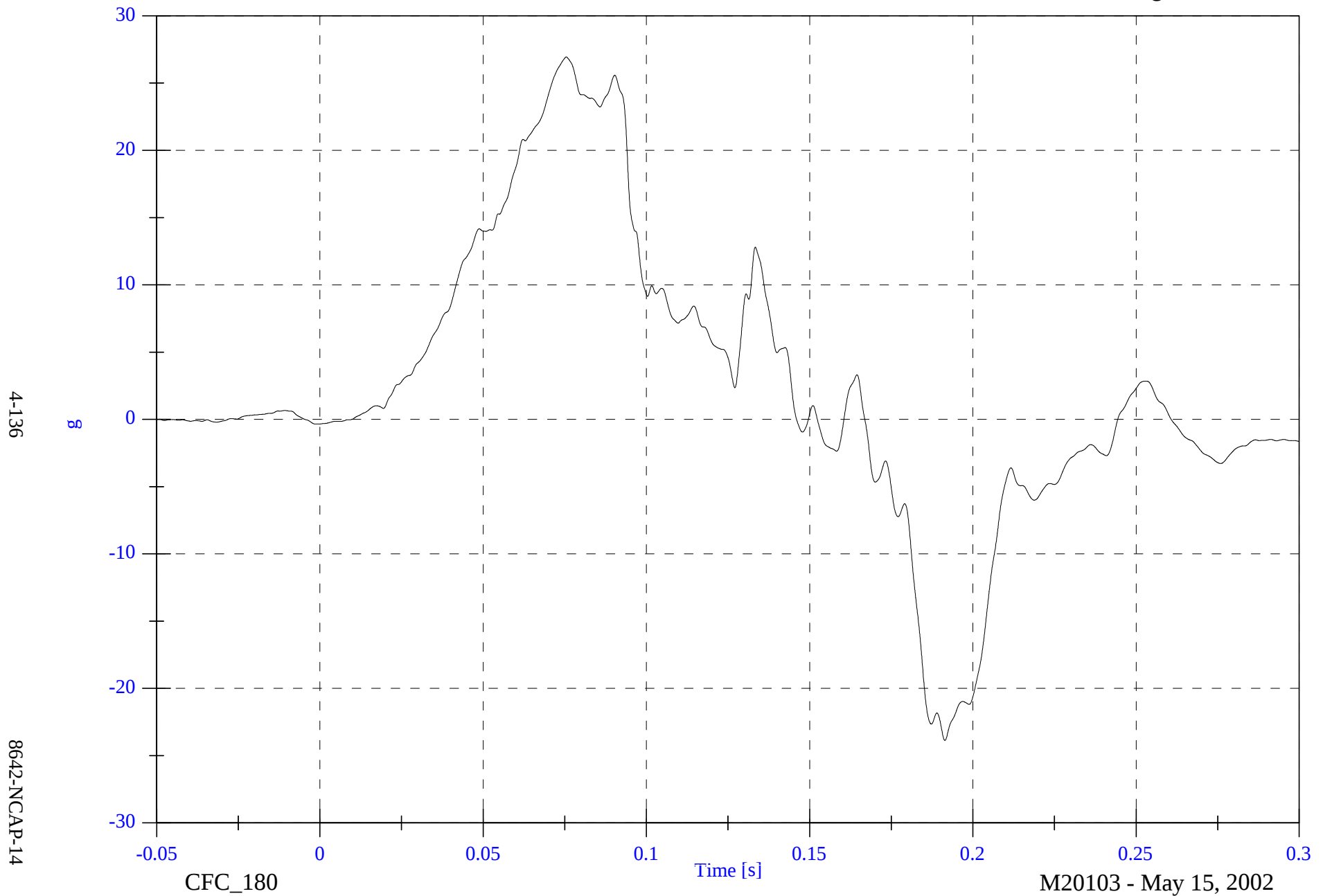


2002 NCAP Test 14 2002 Cadillac Deville

Max: 26.9 [g] at 0.075 [s]

Min: -23.9 [g] at 0.191 [s]

P4 Chest z



2002 NCAP Test 14 2002 Cadillac Deville

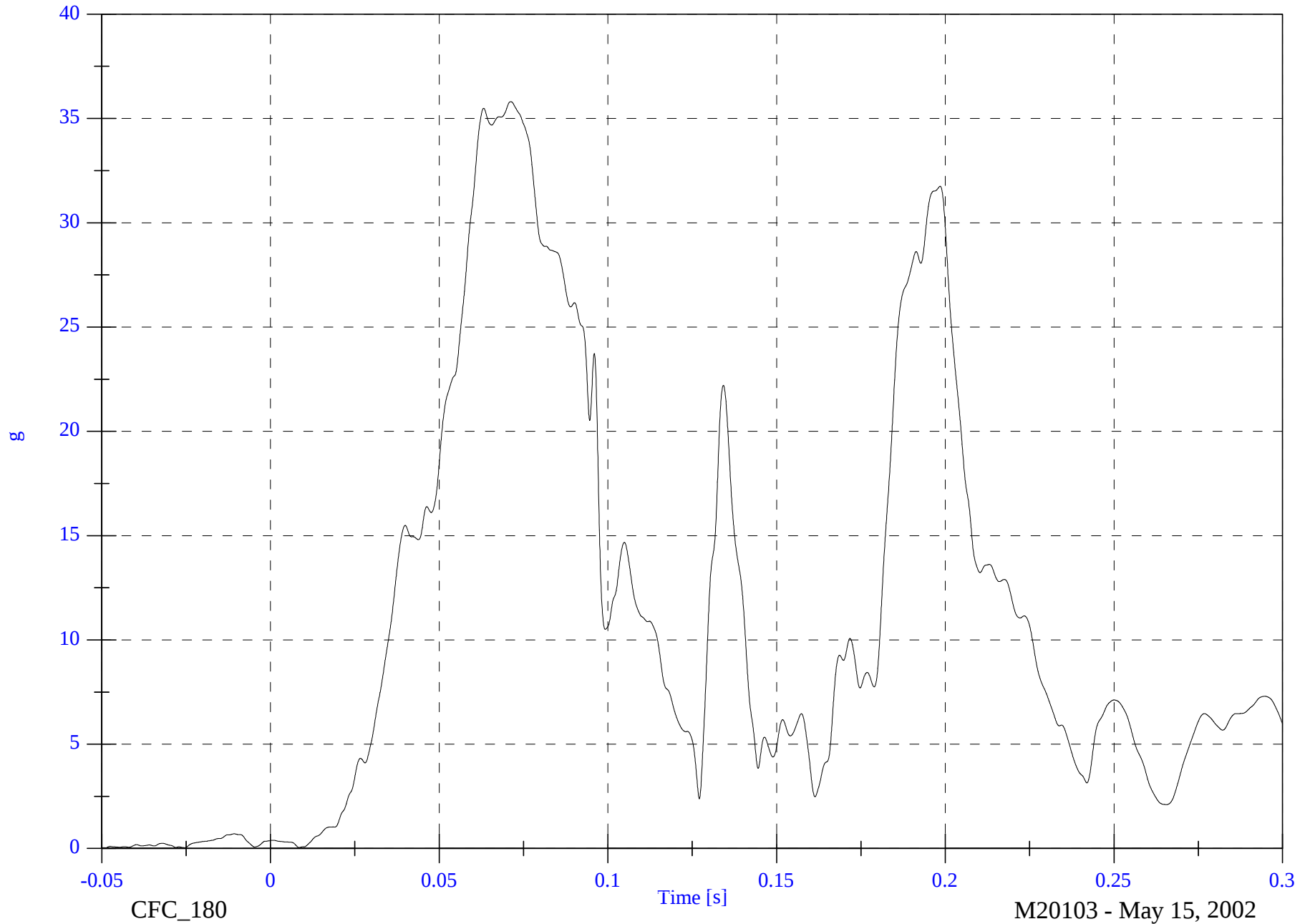
P4 Chest Resultant

Max: 35.8 [g] at 0.071 [s]

Min: 0.0 [g] at -0.049 [s]

4-137

8642-NCAP-14

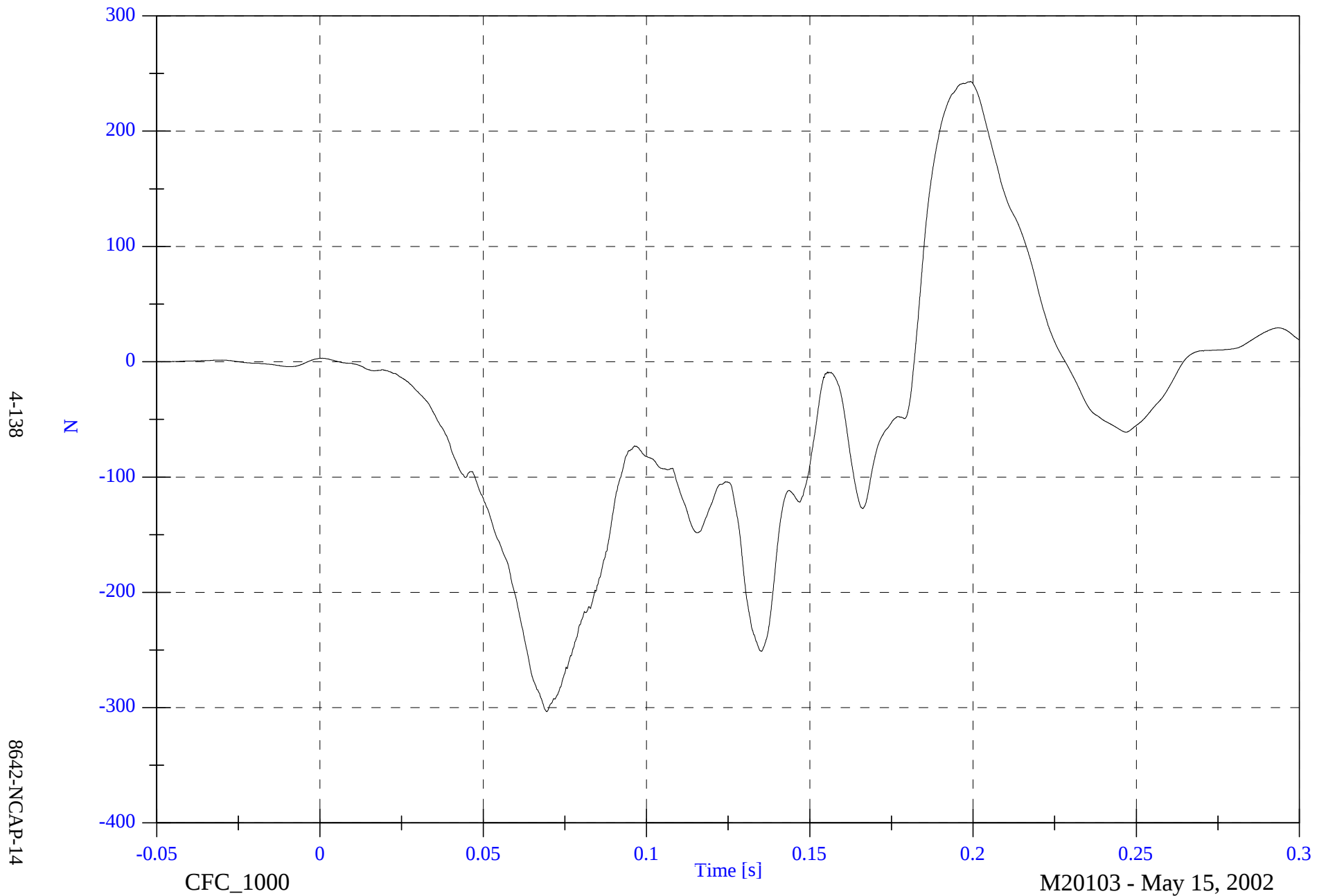


2002 NCAP Test 14 2002 Cadillac Deville

P4 Lumbar Fx

Max: 243.0 [N] at 0.199 [s]

Min: -303.5 [N] at 0.069 [s]

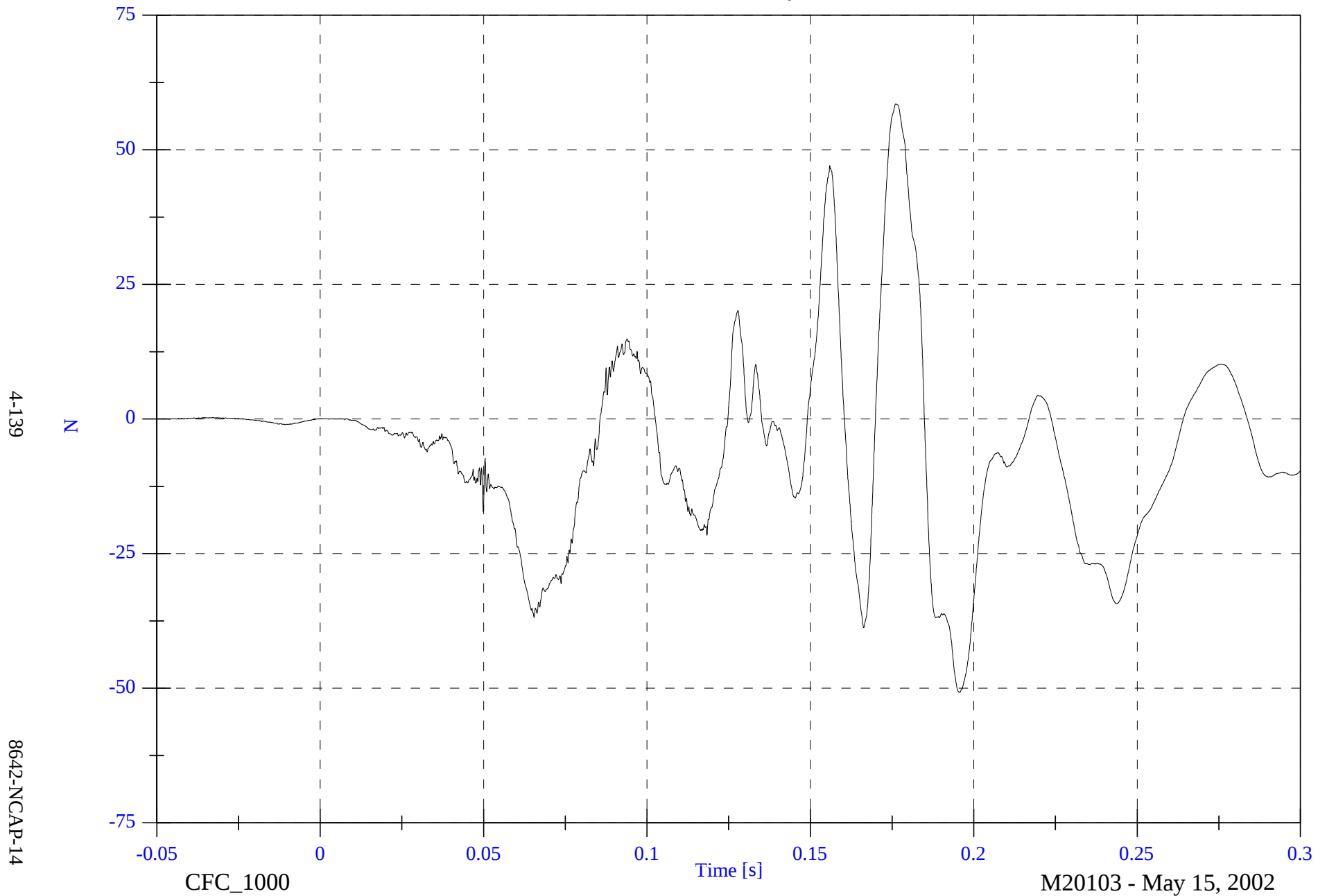


2002 NCAP Test 14 2002 Cadillac Deville

Max: 58.5 [N] at 0.176 [s]

Min: -50.8 [N] at 0.196 [s]

P4 Lumbar Fy

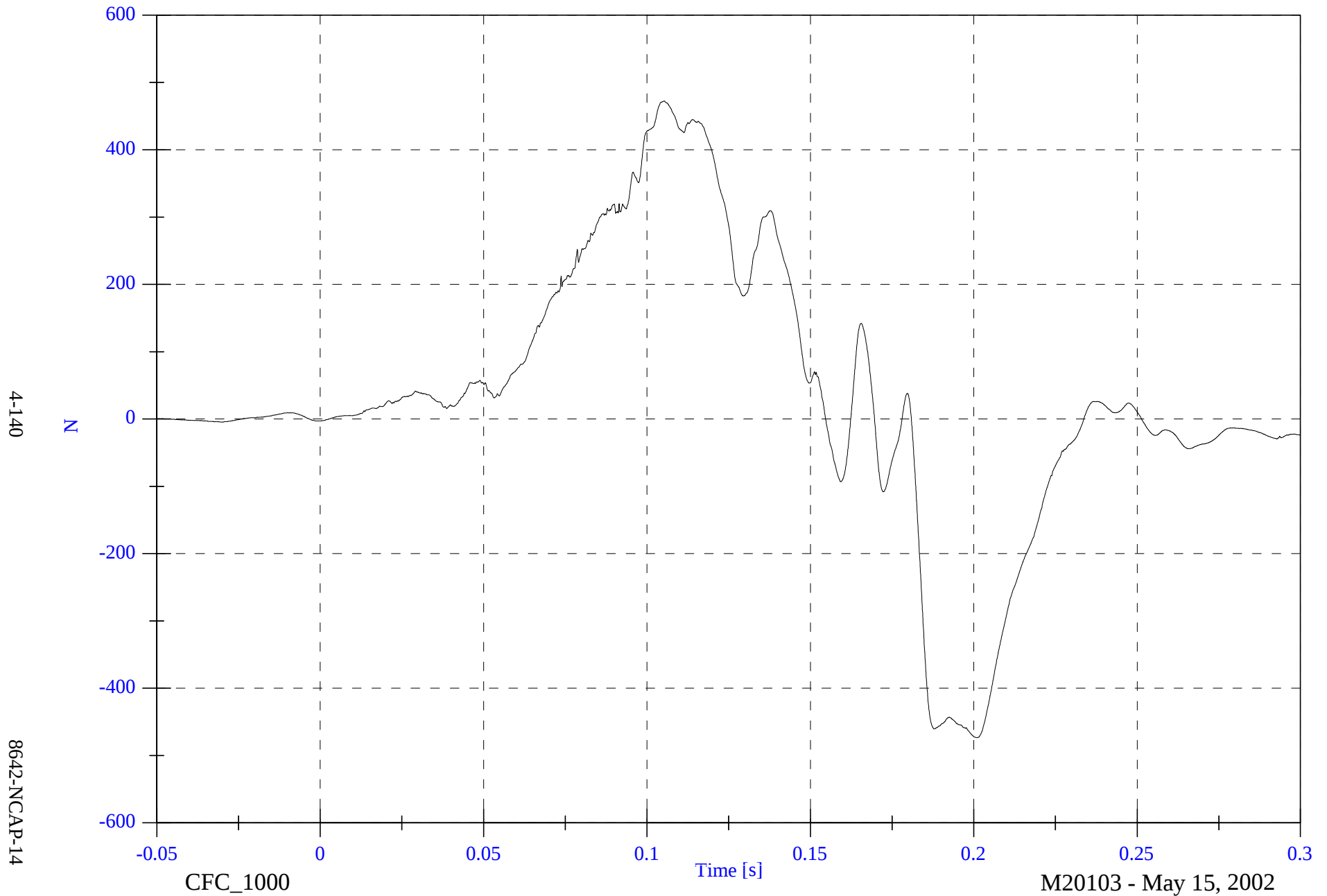


2002 NCAP Test 14 2002 Cadillac Deville

Max: 472.4 [N] at 0.105 [s]

Min: -473.4 [N] at 0.201 [s]

P4 Lumbar Fz



2002 NCAP Test 14 2002 Cadillac Deville

Max: 530.9 [N] at 0.200 [s]

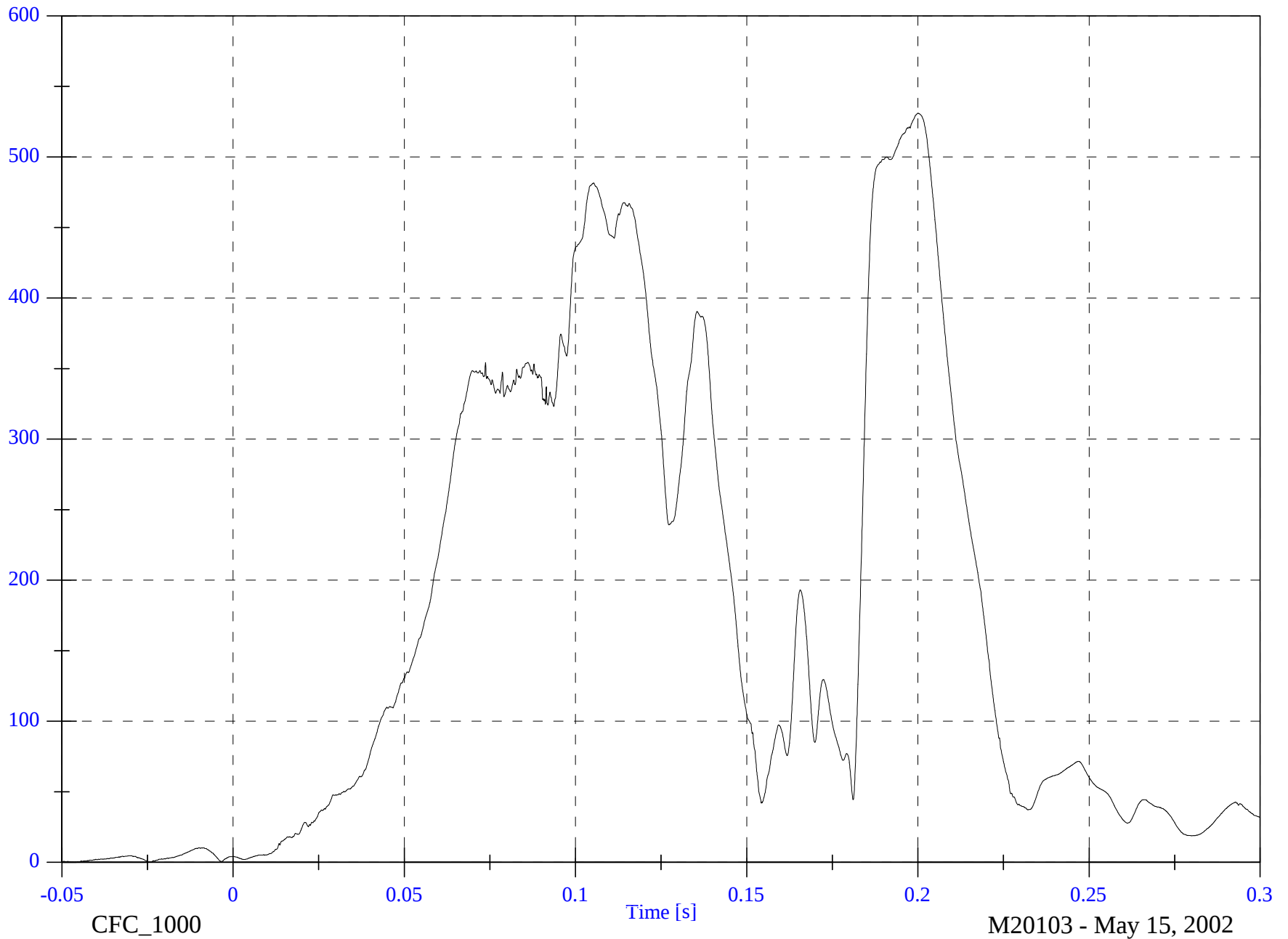
P4 Lumbar F Resultant

Min: 0.0 [N] at -0.046 [s]

4-141

N

8642-NCAP-14



Max: 1.9 [N-m] at 0.176 [s]

Min: -1.9 [N-m] at 0.118 [s]

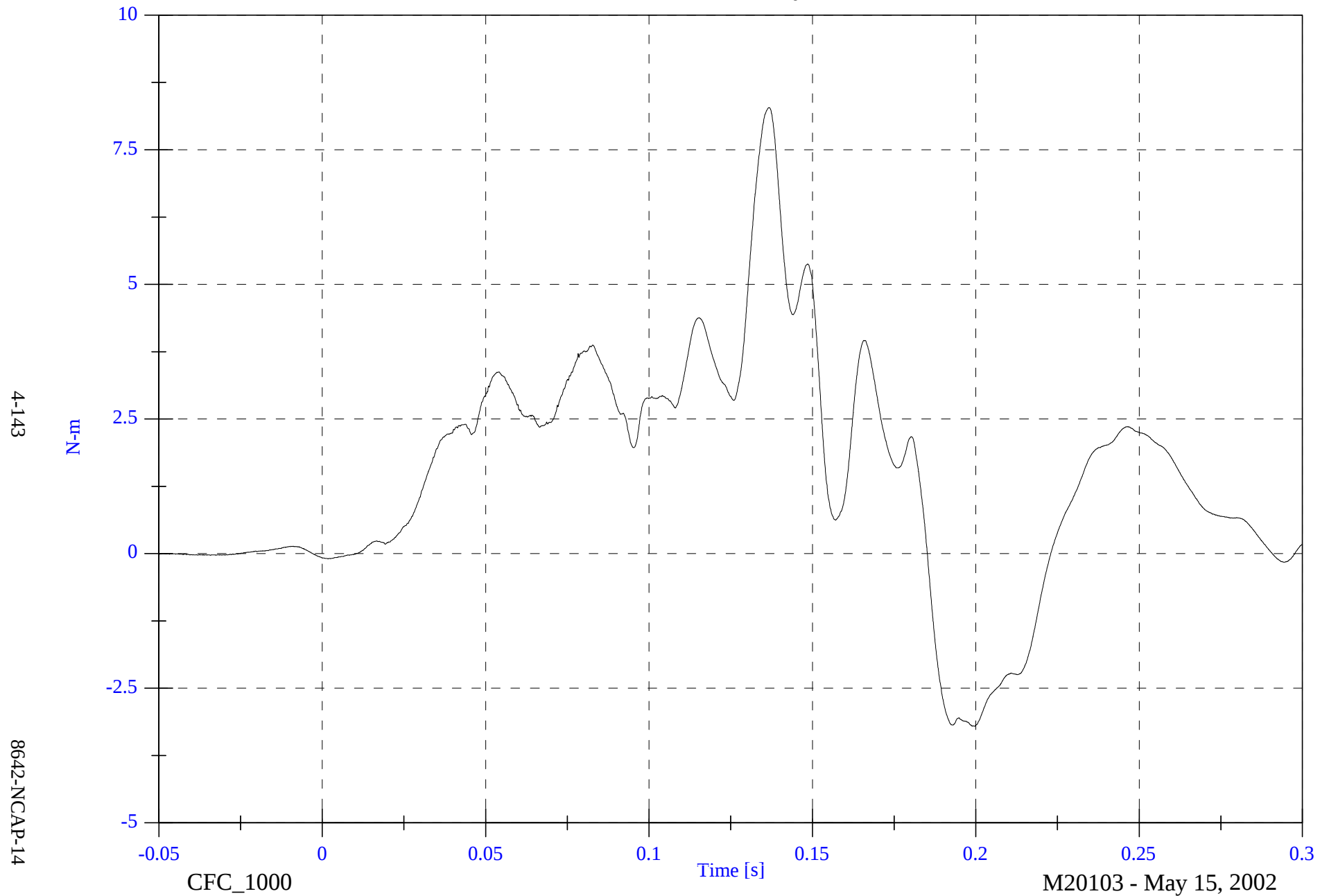


2002 NCAP Test 14 2002 Cadillac Deville

Max: 8.3 [N-m] at 0.137 [s]

Min: -3.2 [N-m] at 0.200 [s]

P4 Lumbar My

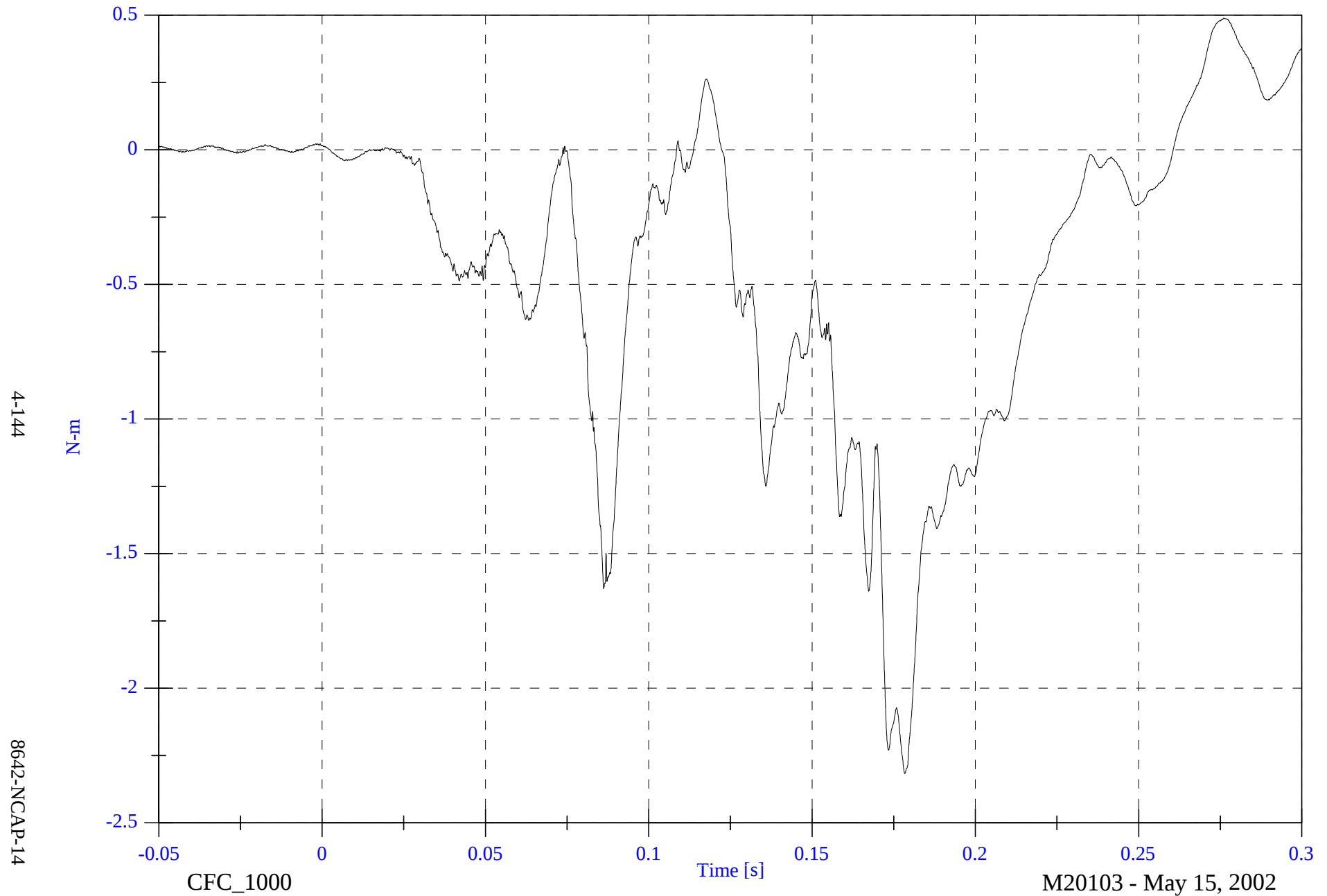


2002 NCAP Test 14 2002 Cadillac Deville

P4 Lumbar Mz

Max: 0.5 [N-m] at 0.276 [s]

Min: -2.3 [N-m] at 0.178 [s]

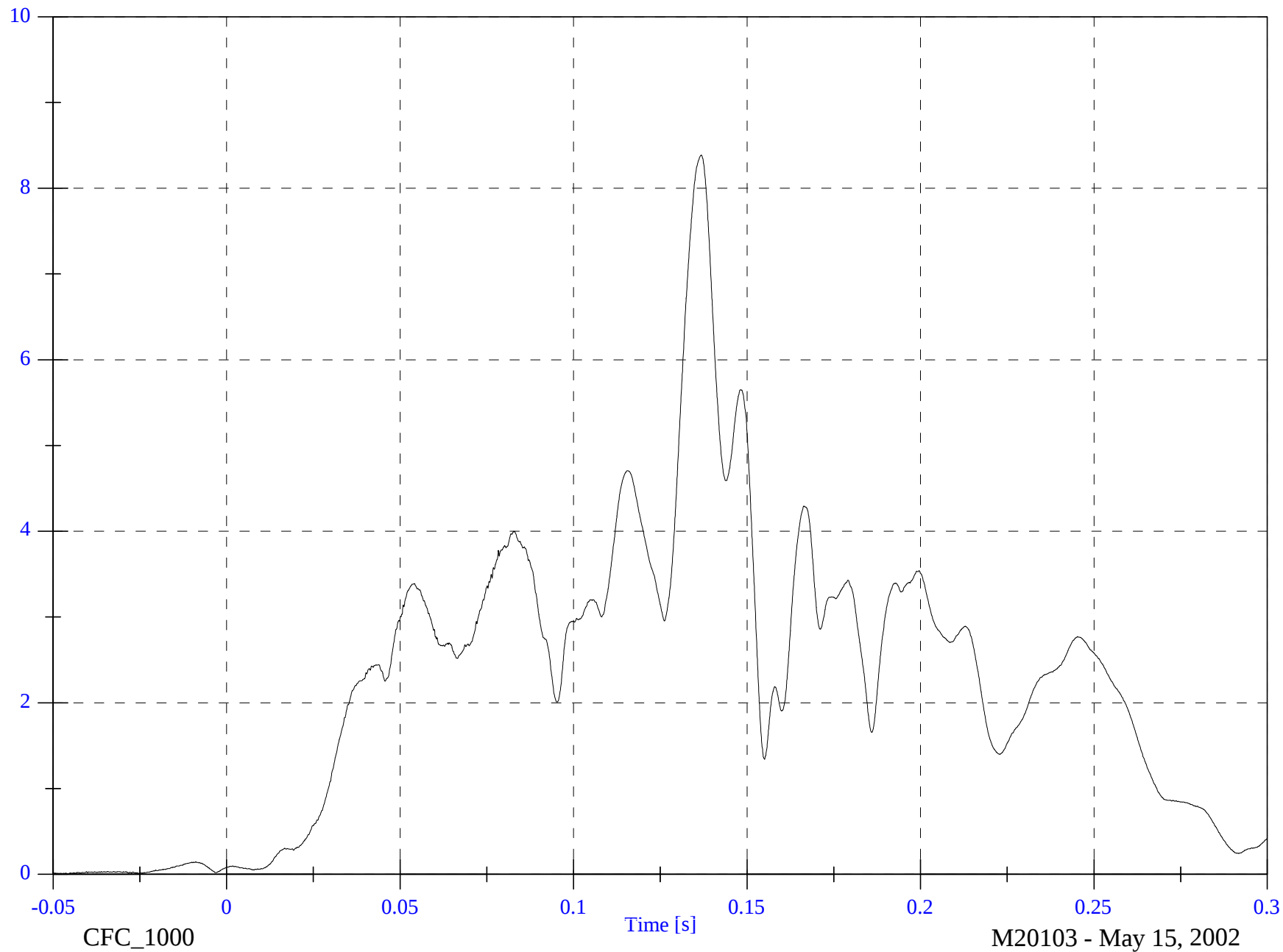


2002 NCAP Test 14 2002 Cadillac Deville

P4 Lumbar M Resultant

Max: 8.4 [N-m] at 0.137 [s]

Min: 0.0 [N-m] at -0.047 [s]



4-145

8642-NCAP-14

CFC_1000

M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

Max: 50.9 [g] at 0.076 [s]

Min: -19.0 [g] at 0.189 [s]

P4 Pelvic x

4-146

8642-NCAP-14

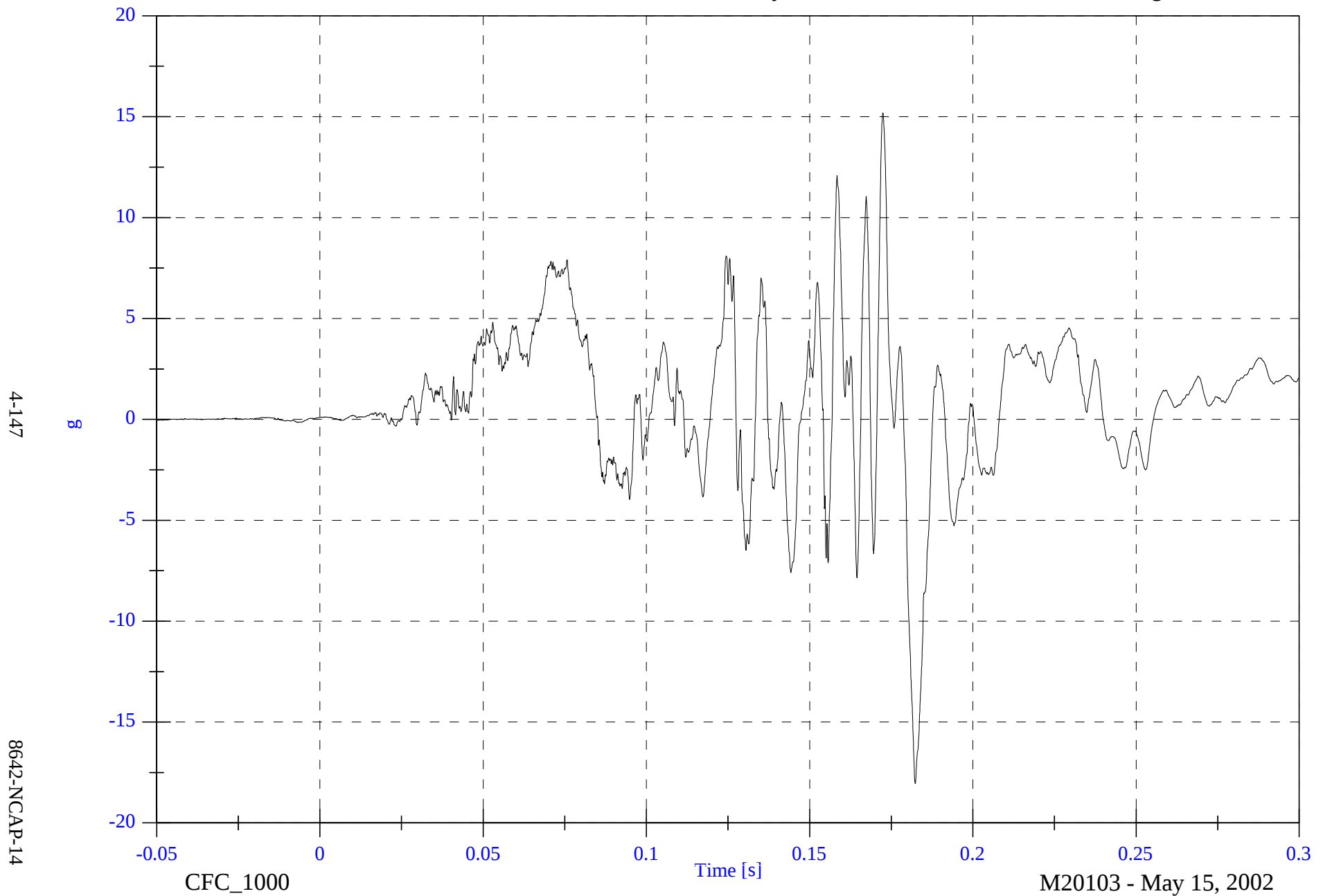


2002 NCAP Test 14 2002 Cadillac Deville

Max: 15.2 [g] at 0.172 [s]

Min: -18.1 [g] at 0.182 [s]

P4 Pelvic y

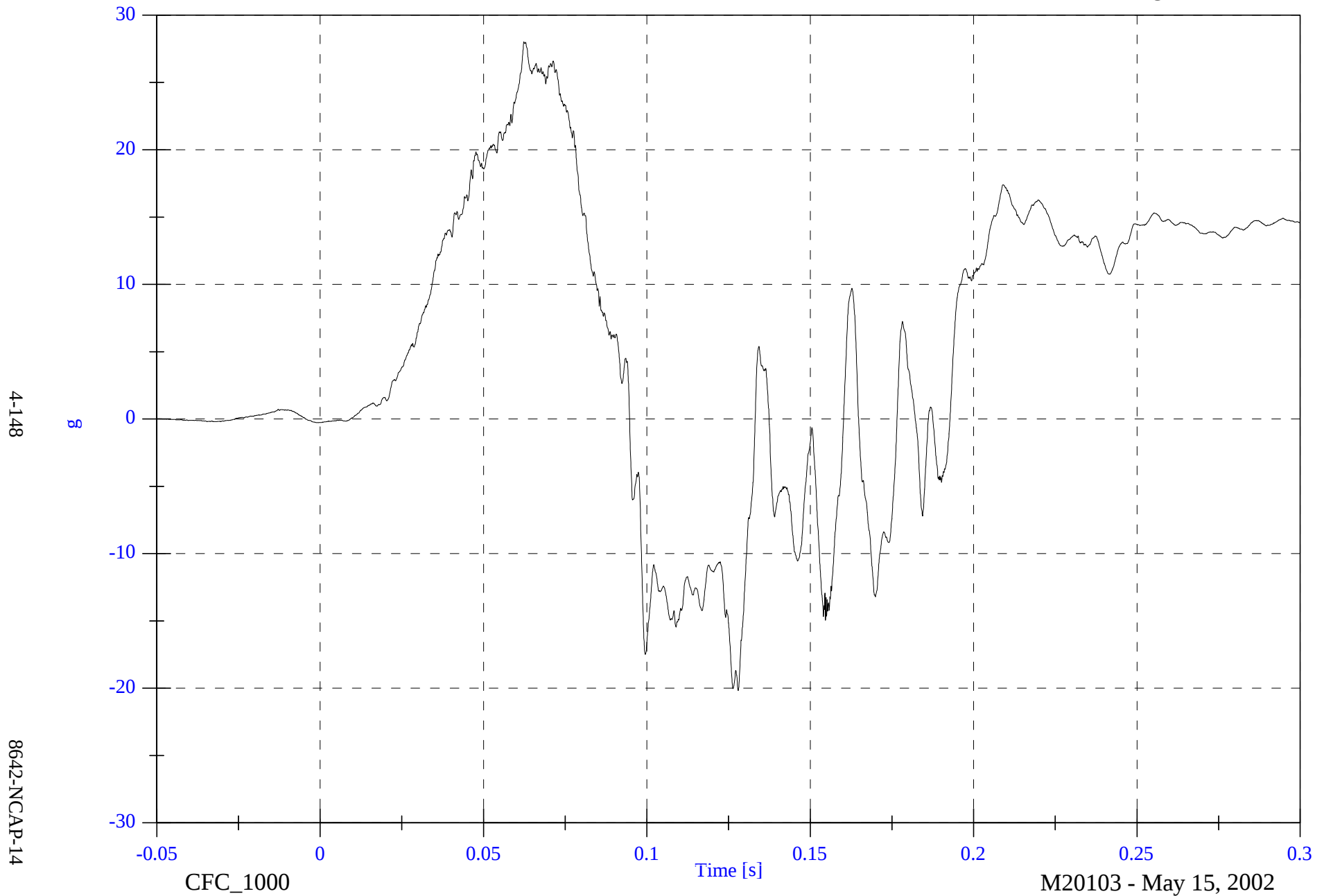


2002 NCAP Test 14 2002 Cadillac Deville

Max: 28.0 [g] at 0.062 [s]

Min: -20.2 [g] at 0.128 [s]

P4 Pelvic z



2002 NCAP Test 14 2002 Cadillac Deville

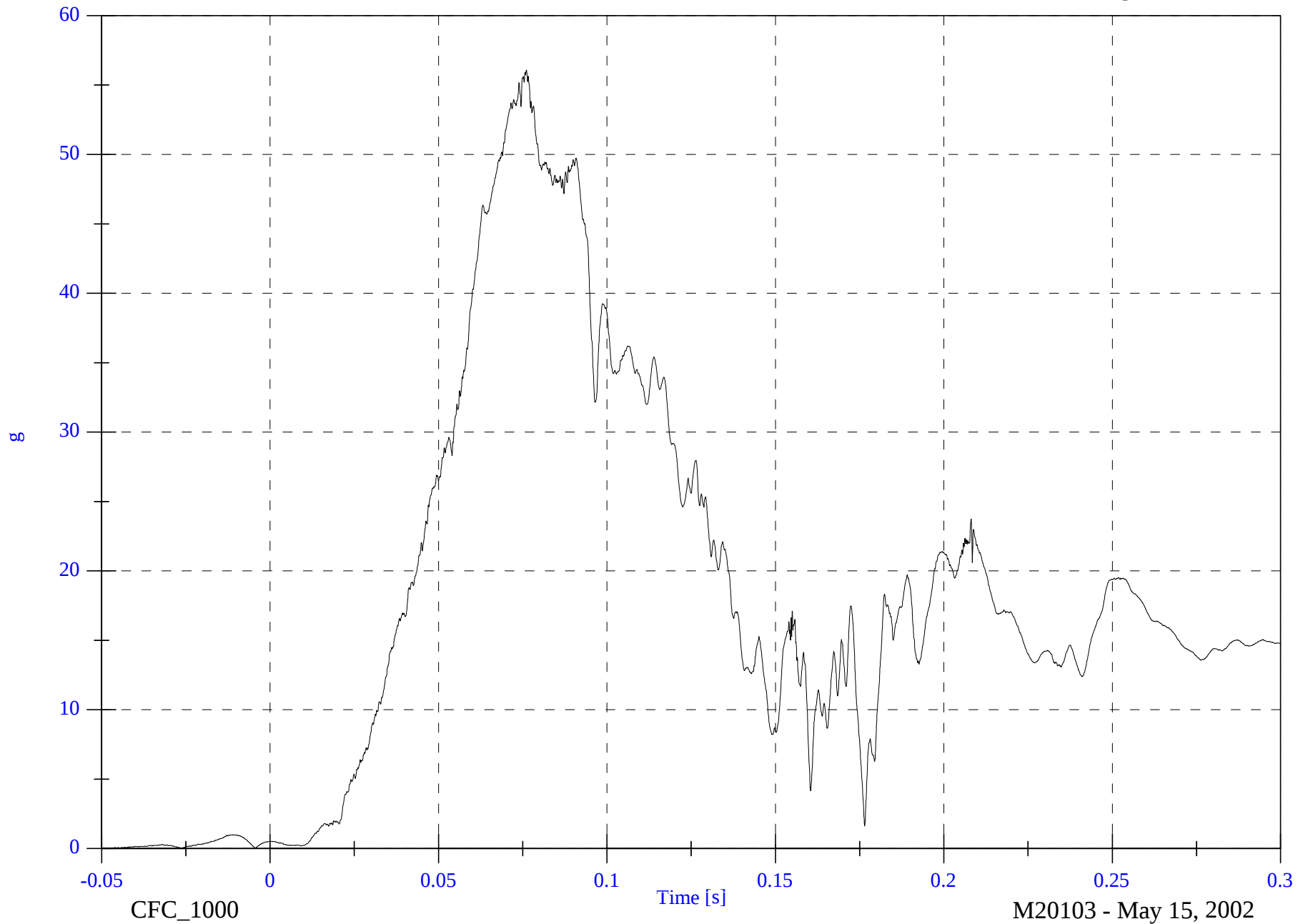
P4 Pelvic Resultant

Max: 56.1 [g] at 0.076 [s]

Min: 0.0 [g] at -0.048 [s]

4-149

8642-NCAP-14

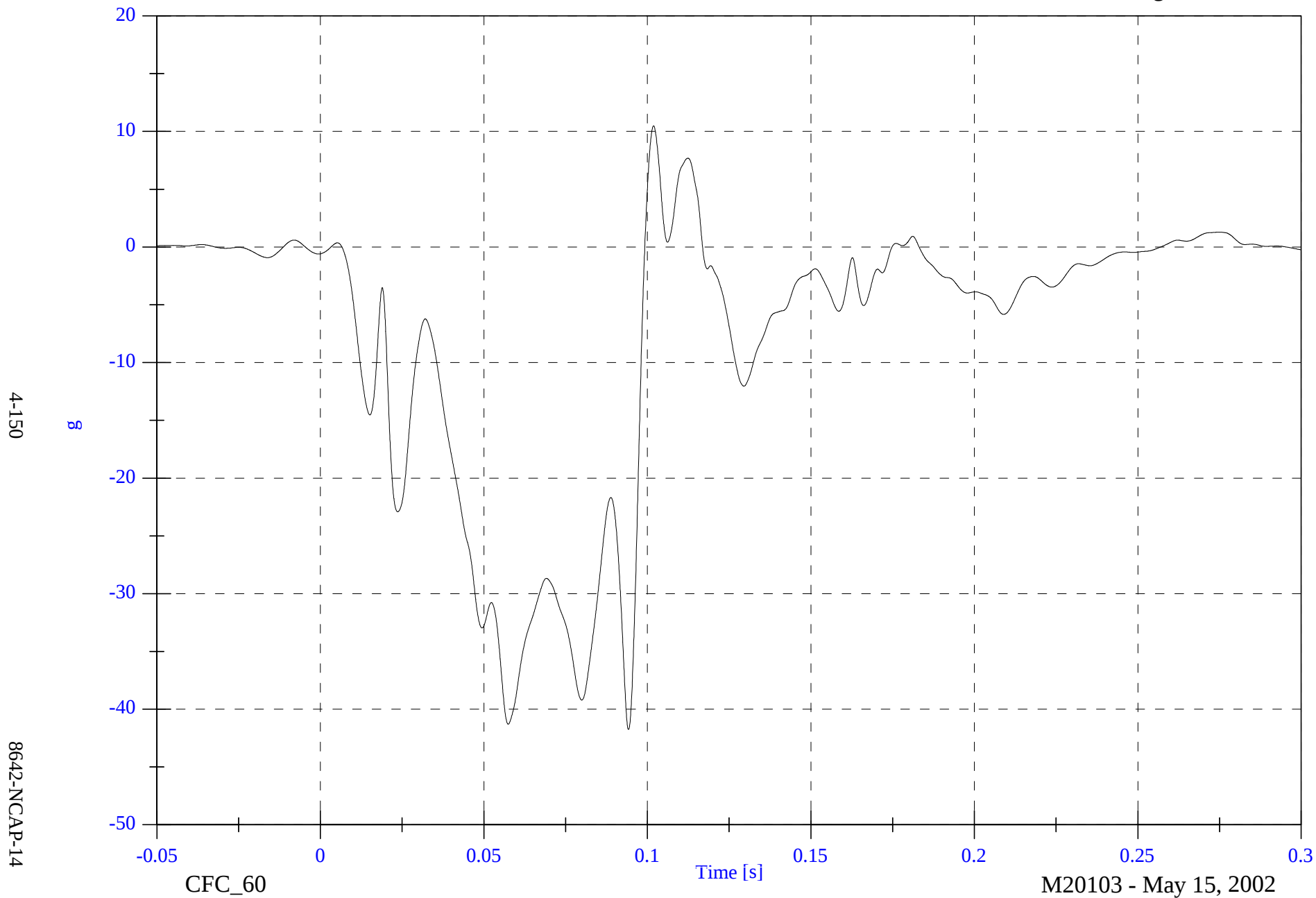


2002 NCAP Test 14 2002 Cadillac Deville

Max: 10.5 [g] at 0.102 [s]

Min: -41.8 [g] at 0.094 [s]

P4 Child Seat x

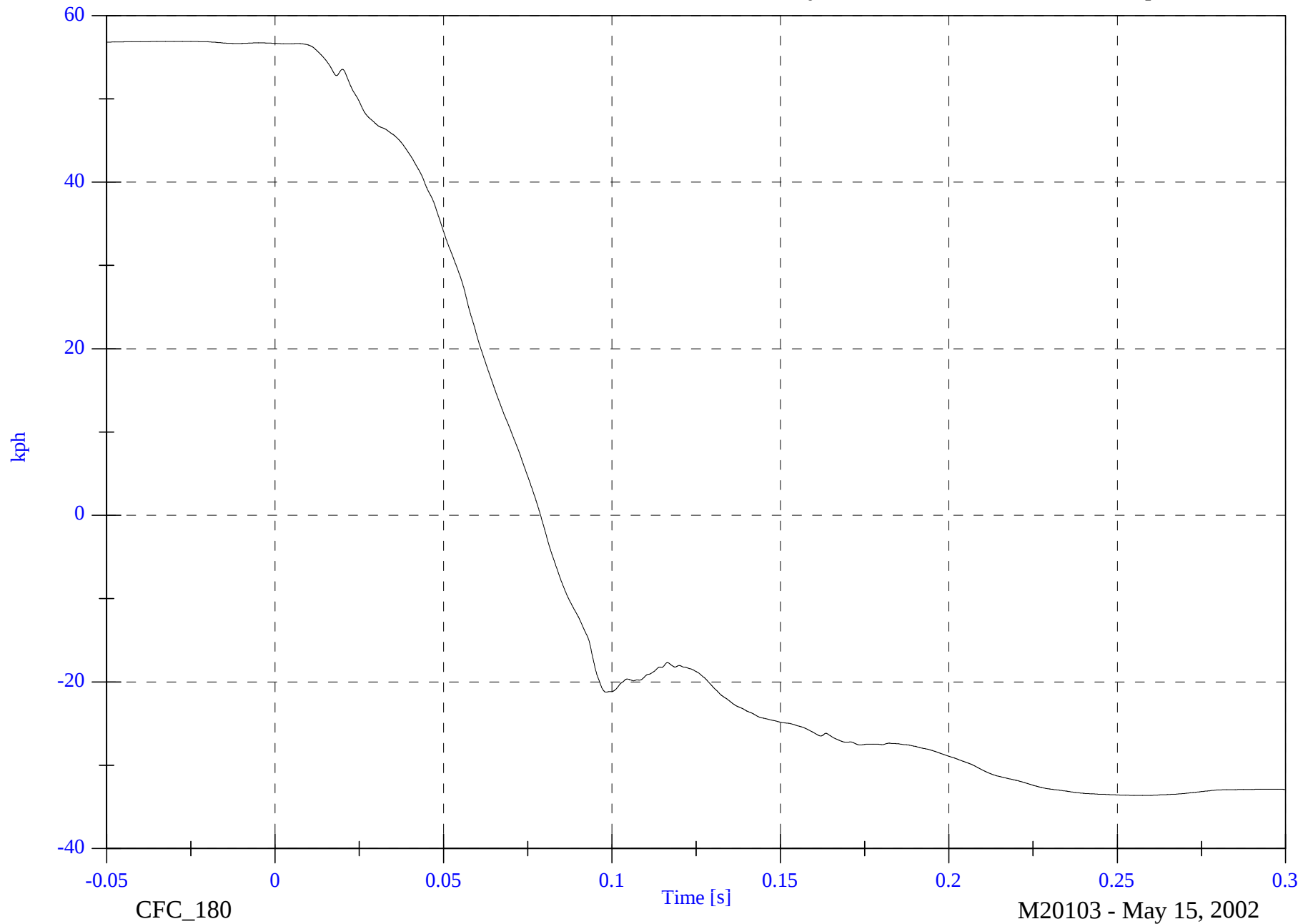


2002 NCAP Test 14 2002 Cadillac Deville

Max: 56.9 [kph] at -0.032 [s]

Min: -33.6 [kph] at 0.257 [s]

P4 Child Seat x Velocity



4-151

8642-NCAP-14

CFC_180

Time [s]

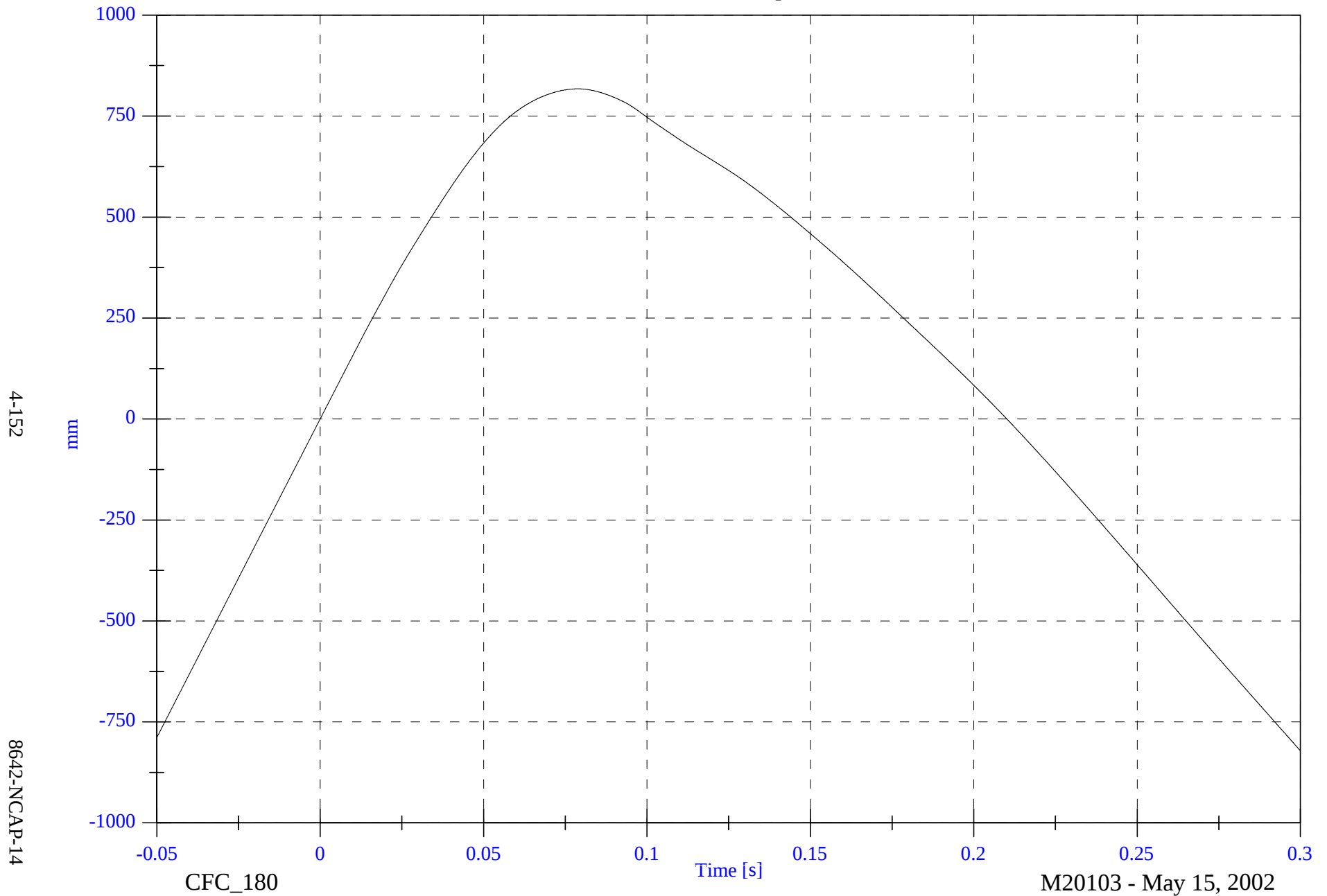
M20103 - May 15, 2002

2002 NCAP Test 14 2002 Cadillac Deville

Max: 817.5 [mm] at 0.079 [s]

P4 Child Seat x Displacement

Min: -821.5 [mm] at 0.300 [s]

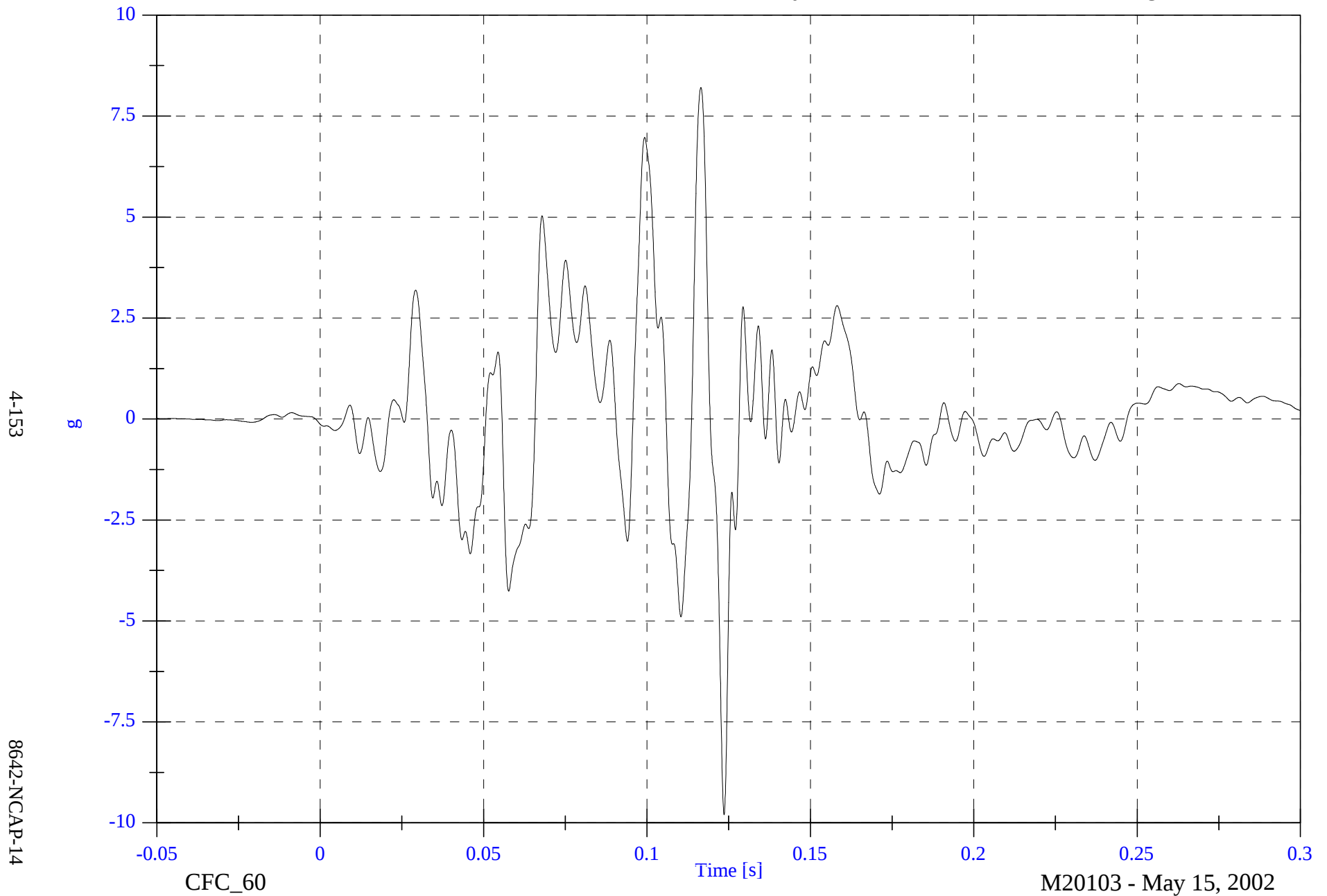


2002 NCAP Test 14 2002 Cadillac Deville

Max: 8.2 [g] at 0.117 [s]

Min: -9.8 [g] at 0.124 [s]

P4 Child Seat y



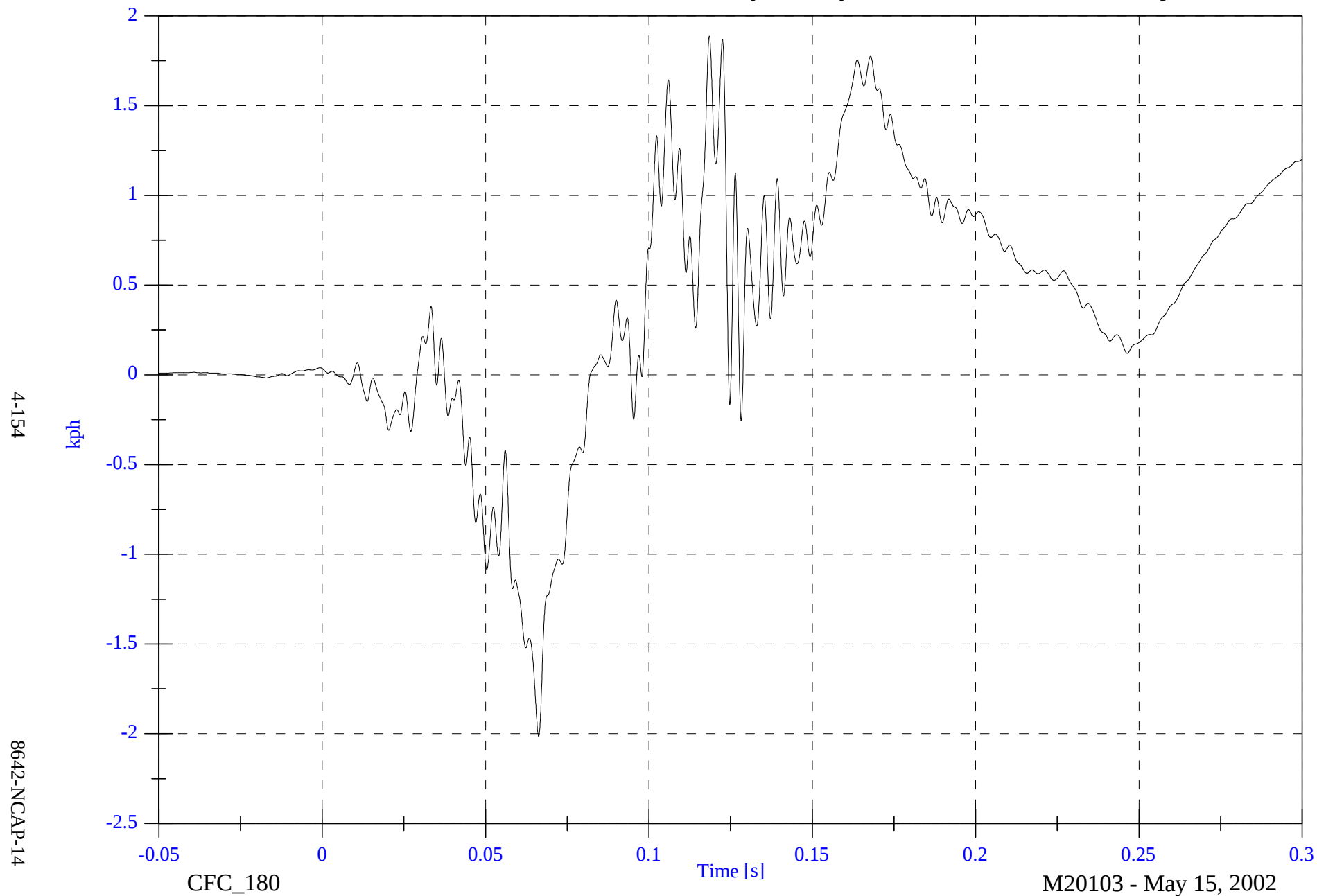
8642-NCAP-14

2002 NCAP Test 14 2002 Cadillac Deville

Max: 1.9 [kph] at 0.118 [s]

Min: -2.0 [kph] at 0.066 [s]

P4 Child Seat y Velocity



2002 NCAP Test 14 2002 Cadillac Deville

Max: 35.6 [mm] at 0.300 [s]

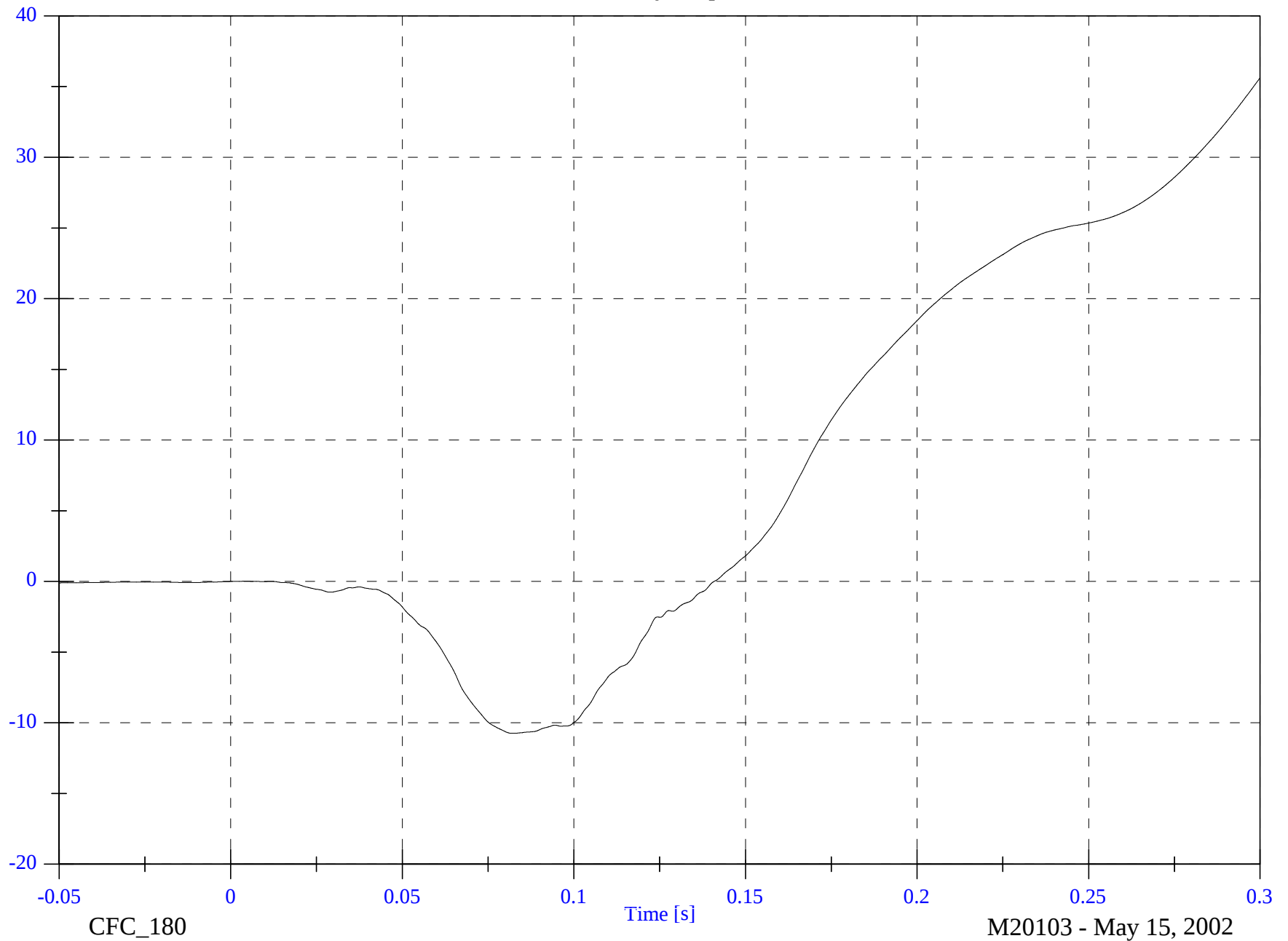
P4 Child Seat y Displacement

Min: -10.7 [mm] at 0.082 [s]

4-155

mm

8642-NCAP-14

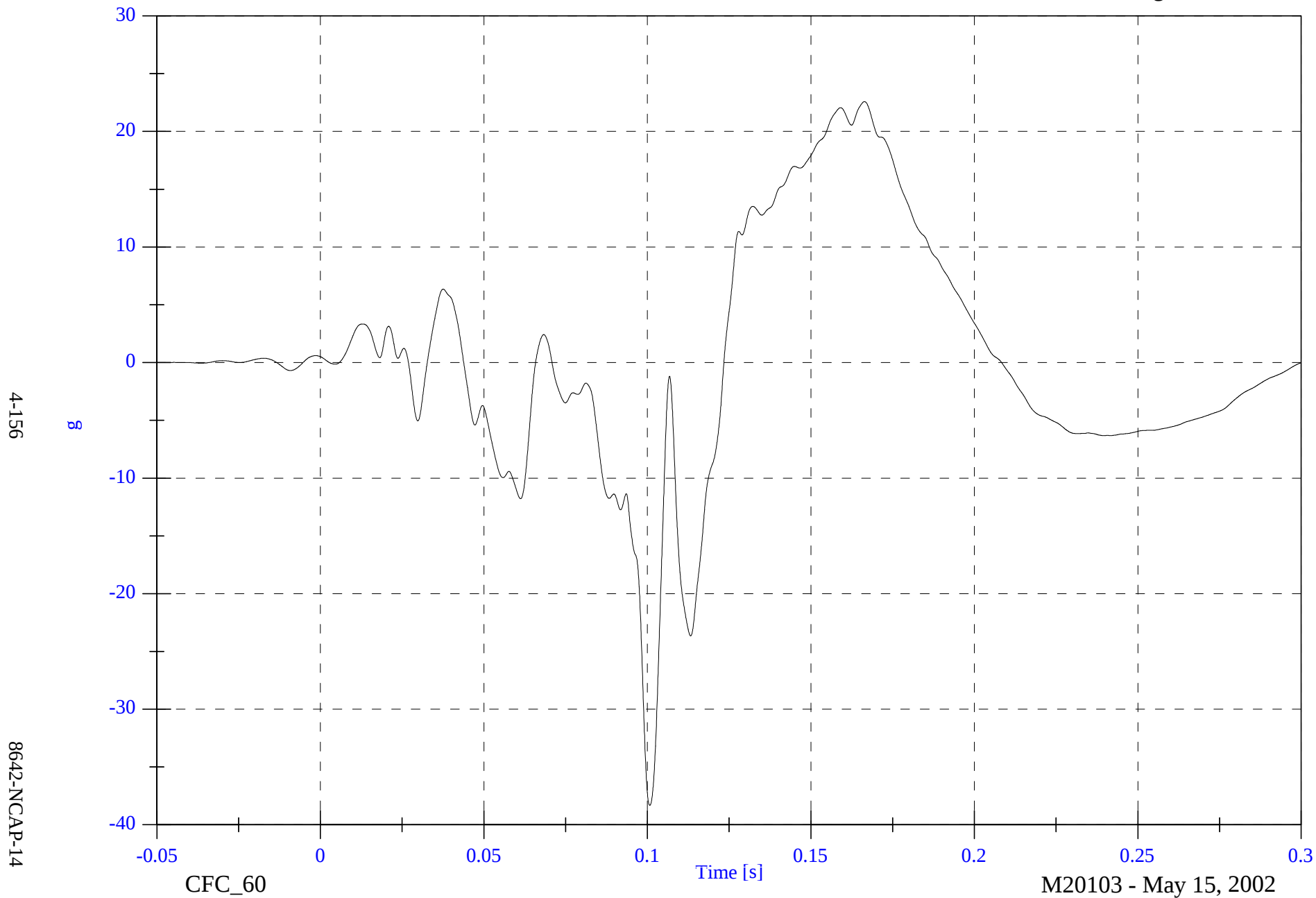


2002 NCAP Test 14 2002 Cadillac Deville

P4 Child Seat z

Max: 22.6 [g] at 0.166 [s]

Min: -38.3 [g] at 0.101 [s]

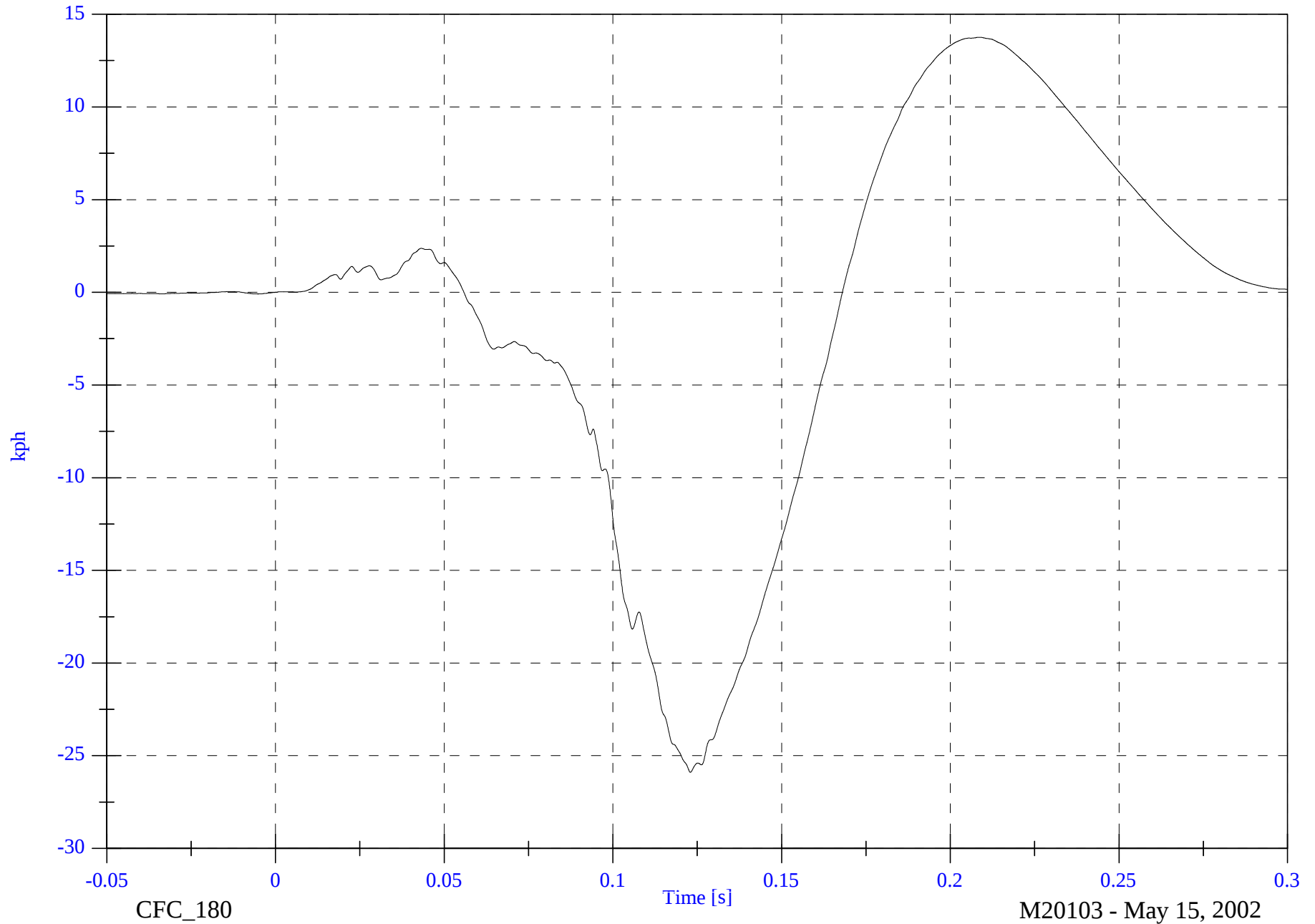


2002 NCAP Test 14 2002 Cadillac Deville

P4 Child Seat z Velocity

Max: 13.8 [kph] at 0.209 [s]

Min: -25.9 [kph] at 0.123 [s]

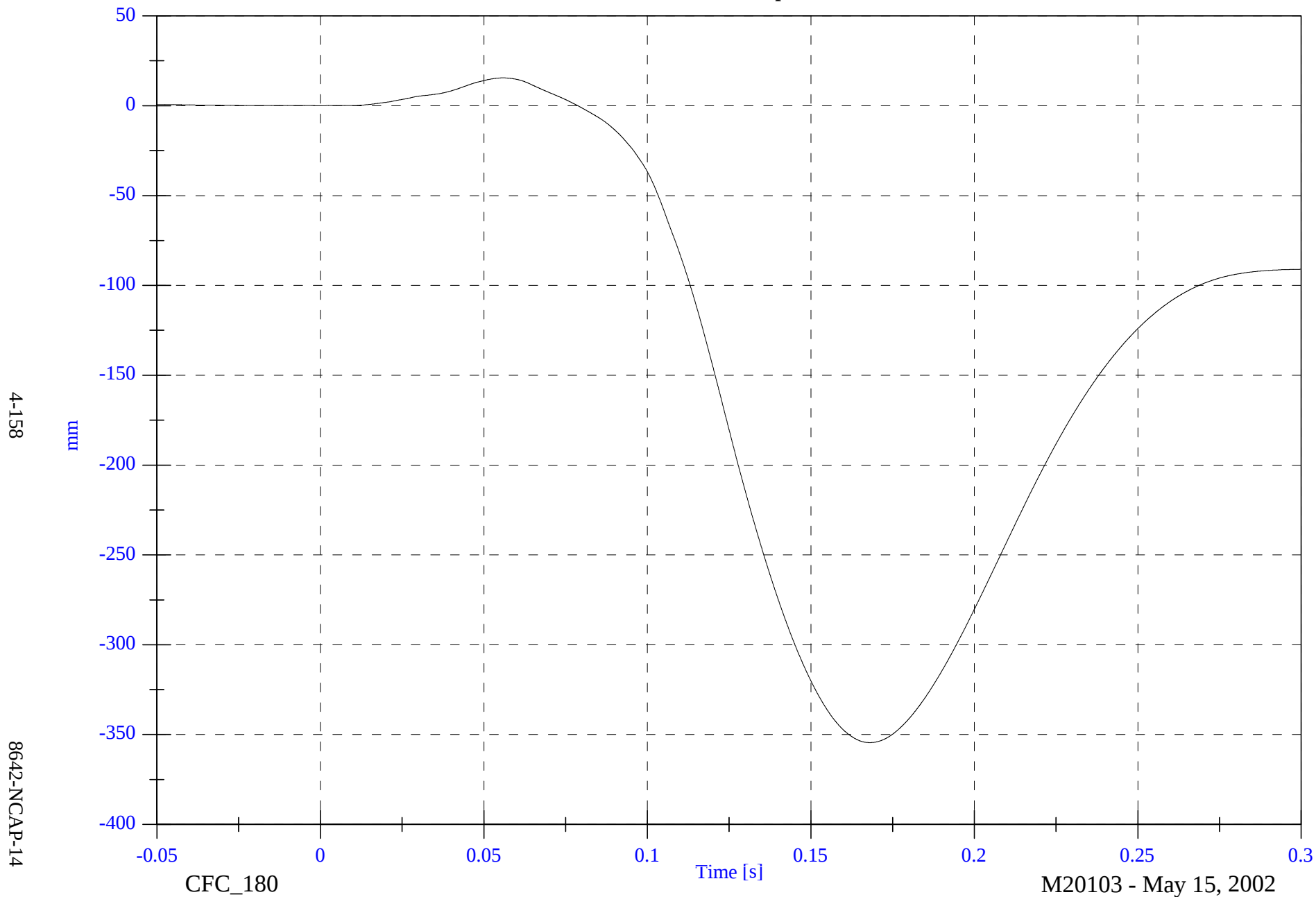


2002 NCAP Test 14 2002 Cadillac Deville

P4 Child Seat z Displacement

Max: 15.5 [mm] at 0.056 [s]

Min: -354.5 [mm] at 0.168 [s]



2002 NCAP Test 14 2002 Cadillac Deville

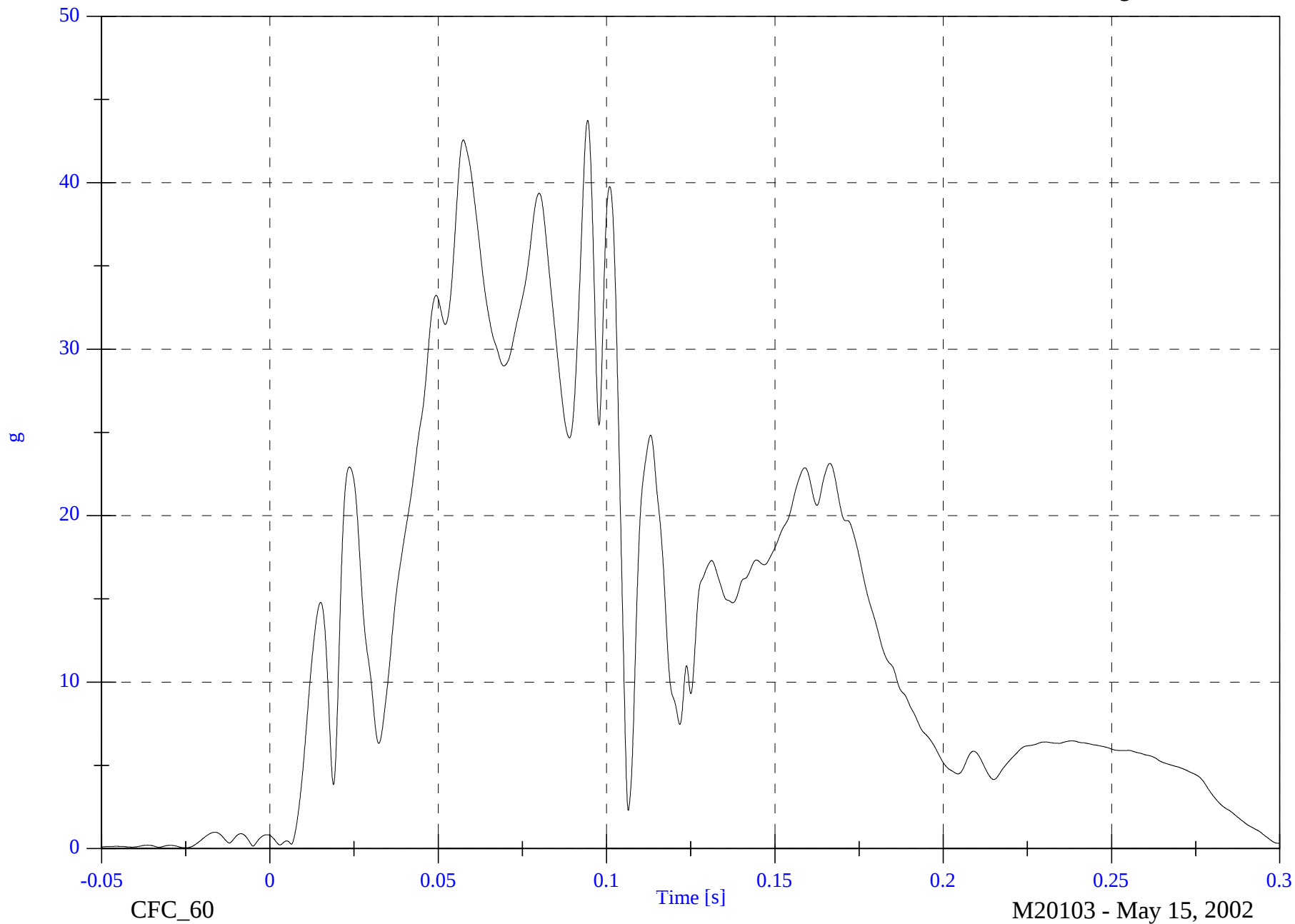
P4 Child Seat Resultant

Max: 43.7 [g] at 0.094 [s]

Min: 0.1 [g] at -0.025 [s]

4-159

8642-NCAP-14



SECTION 5

CHILD DUMMY CALIBRATION INFORMATION

Dummies were certified by the VRTC prior to the test program.
Certification details can be found in the copy of the bound report.

SECTION 6

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE INSTRUMENTATION

	POSITION #3 (RIGHT) SERIAL NO.: 090		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
Left Seat Rear Crossmember X	ICS	AC-X86	25-Apr-02
Right Rear Seat Crossmember X	ICS	AC-X83	15-Jan-02
Top of Engine	ENDEVCO	AC-P18792	27-Feb-02
Bottom of Engine	ENDEVCO	AC-J26604	25-Apr-02
Right Disc Brake Caliper	ENDEVCO	AC-J32965	25-Mar-02
Instrument Panel	ENDEVCO	AC-P17286	11-Feb-02
Left Disc Brake Caliper	ENDEVCO	AC-P18536	27-Feb-02
Left Seat Rear Crossmember Z	ICS	AC-Y13	11-Feb-02
Right Seat Rear Crossmember Z	ICS	AC-D82	04-Apr-02

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

CRABI INSTRUMENTATION

	POSITION #3 (RIGHT) SERIAL NO.: 090		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	ENTRAN	AC-00L13-F33	22-Jan-02
HEAD AY	ENTRAN	AC-98H10-F01	22-Jan-02
HEAD AZ	ENTRAN	AC-01J02-F08	22-Jan-02
HEAD RAZ	ENTRAN	AC-98H13-F15	22-Jan-02
UPPER NECK FX	DENTON	LC-276Fx	14-Jan-02
UPPER NECK FY	DENTON	LC-276Fy	14-Jan-02
UPPER NECK FZ	DENTON	LC-276Fz	14-Jan-02
UPPER NECK MX	DENTON	LC-276Mx	14-Jan-02
UPPER NECK MY	DENTON	LC-276My	14-Jan-02
UPPER NECK MZ	DENTON	LC-276Mz	14-Jan-02
LOWER NECK FX	DENTON	LC-281Fx	15-Jan-02
LOWER NECK FY	DENTON	LC-281Fy	15-Jan-02
LOWER NECK FZ	DENTON	LC-281Fz	15-Jan-02
LOWER NECK MX	DENTON	LC-281Mx	15-Jan-02
LOWER NECK MY	DENTON	LC-281My	15-Jan-02
LOWER NECK MZ	DENTON	LC-281Mz	15-Jan-02
CHEST AX	ENTRAN	AC-01G25-N18	24-Jan-02
CHEST AY	ENTRAN	AC-98H10-F18	22-Jan-02
CHEST AZ	ENTRAN	AC-01G25-N04	25-Jan-02
LUMBAR FX	DENTON	LC-278Fx	14-Jan-02
LUMBAR FY	DENTON	LC-278Fy	14-Jan-02
LUMBAR FZ	DENTON	LC-278Fz	14-Jan-02
LUMBAR MX	DENTON	LC-278Mx	14-Jan-02
LUMBAR MY	DENTON	LC-278My	14-Jan-02
LUMBAR MZ	DENTON	LC-278Mz	14-Jan-02
PELVIS AX	ENTRAN	AC-00L20-A15	22-Jan-02
PELVIS AY	ENTRAN	AC-01G18-F02	22-Jan-02
PELVIS AZ	ENTRAN	AC-00L20-A14	22-Jan-02
TETHER	-	-	-

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

CRABI INSTRUMENTATION

	POSITION #4 (LEFT) SERIAL NO.: 093		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	ENTRAN	AC-B02A25-N05	08-Feb-02
HEAD AY	ENTRAN	AC-B02A18-N13	08-Feb-02
HEAD AZ	ENTRAN	AC-B02A18-N03	11-Feb-02
HEAD RAZ	ENTRAN	AC-B02A25-N01	08-Feb-02
UPPER NECK FX	DENTON	LC-282-FX	15-Jan-02
UPPER NECK FY	DENTON	LC-282-FY	15-Jan-02
UPPER NECK FZ	DENTON	LC-282-FZ	15-Jan-02
UPPER NECK MX	DENTON	LC-282-MX	15-Jan-02
UPPER NECK MY	DENTON	LC-282-MY	15-Jan-02
UPPER NECK MZ	DENTON	LC-282-MZ	15-Jan-02
LOWER NECK FX	DENTON	LC-279-FX	15-Jan-02
LOWER NECK FY	DENTON	LC-279-FY	15-Jan-02
LOWER NECK FZ	DENTON	LC-279-FZ	15-Jan-02
LOWER NECK MX	DENTON	LC-279-MX	15-Jan-02
LOWER NECK MY	DENTON	LC-279-MY	15-Jan-02
LOWER NECK MZ	DENTON	LC-279-MZ	15-Jan-02
CHEST AX	ENTRAN	AC-B02A09-F05	08-Feb-02
CHEST AY	ENTRAN	AC-02A16-A13	30-Jan-02
CHEST AZ	ENTRAN	AC-B02A09-F04	08-Feb-02
PELVIS AX	DENTON	LC-211-FX	05-Jan-02
PELVIS AY	DENTON	LC-211-FY	05-Jan-02
PELVIS AZ	DENTON	LC-211-FZ	05-Jan-02
LUMBAR FX	DENTON	LC-211-MX	05-Jan-02
LUMBAR FY	DENTON	LC-211-MY	05-Jan-02
LUMBAR FZ	DENTON	LC-211-MZ	05-Jan-02
LUMBAR MX	ENTRAN	AC-02A18-N03	01-Feb-02
LUMBAR MY	ENTRAN	AC-B02A25-N04	08-Feb-02
LUMBAR MZ	ENTRAN	AC-B02A18-N14	08-Feb-02
TETHER	-	-	-

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
P4 CRS (X)	ENDEVCO	AC-P23471	26-Feb-02
P4 CRS (Y)	ENDEVCO	AC-P22943	26-Feb-02
P4 CRS (Z)	ENDEVCO	AC-P18948	26-Feb-02

REMARKS: None