

**Vehicle Research and Test Center
2004 Jeep Liberty 4-door MPV
into a Flat Frontal Barrier at 56.3 km/h
TRC Inc. Test Number: 040824**

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Section 1.0

Purpose and Test Procedure

Purpose

This test was conducted for National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc). The purpose of this test was to determine the vehicle and occupant response of the subject vehicle, a 2004 Jeep Liberty 4-door MPV.

Test Procedure

This test was conducted per VRTC instructions. Data was obtained relative to FMVSS 208, "Occupant Crash Protection".

The test vehicle was instrumented with nine (9) accelerometers to measure longitudinal axis accelerations; two (2) accelerometers to measure lateral axis accelerations; two (2) accelerometers to measure vertical axis accelerations, two (2) seat belt load cells and four (4) airbag event data channels. The vehicle's specified impact velocity range was 55.5 to 57.1 km/h. The vehicle impacted a flat frontal barrier equipped with one hundred thirty-four (134) load cells.

The test vehicle contained three (3) Part 572O small adult female anthropomorphic test devices (dummies). The dummies were positioned in the left front, right front, and right rear outboard designated seating positions according to the dummy placement procedure specified in NHTSA Laboratory Test Procedure TP-208-12. The right rear passenger dummy was positioned using the draft TP-208-12 procedure dated February 15, 2004.

The driver dummy was instrumented with head (primary and redundant), chest (primary and redundant), pelvis, left foot, and right foot accelerometers to measure longitudinal, lateral, and vertical accelerations; upper and lower neck load cells to measure forces and moments; a chest displacement potentiometer to measure chest deflection; left and right femur load cells to measure axial forces, knee potentiometers to measure displacements, and upper and lower tibia load cells to measure forces and moments.

The right front passenger dummy was instrumented with head (primary and redundant) chest (primary and redundant) and pelvis accelerometers to measure longitudinal, lateral, and vertical accelerations; upper and lower neck load cells to measure forces and moments; a chest displacement potentiometer to measure chest deflection; and left and right femur load cells to measure axial forces.

The right rear passenger dummy was instrumented with head, chest, and pelvis accelerometers to measure longitudinal, lateral, and vertical accelerations; upper and lower neck load cells to measure forces and moments; a chest displacement potentiometer to measure chest deflection; and left and right femur load cells to measure axial forces.

The 267 data channels were digitally sampled and recorded at 12,500 samples per second and processed per the NHTSA Laboratory Test Procedure.

The crash event was recorded by one (1) real-time panning motion picture camera, nine (9) high-speed digital motion picture cameras operating at 1,000 frames per second.

The vehicle and occupant data are summarized in Section 2.0. The vehicle, occupant, and camera measurements are presented in Section 3.0. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the dummy certification data. Appendix D contains miscellaneous test information. Appendix E contains an INSIA report that was the basis for the Structural Measurements presented in Table 9 of this report.

Section 2.0

Load Cell Barrier Impact Test Summary

Test Results Summary

This 56.3 km/h frontal load cell barrier test was conducted by TRC Inc. on August 24, 2004.

The test vehicle, a 2004 Jeep Liberty 4-door MPV, was equipped with a 6-cylinder engine, automatic transmission, power steering, and power brakes. The vehicle's test weight was 2038.4 kg. The vehicle's fuel system contained 68.6 liters of Stoddard for the test. The vehicle's impact speed was 56.1 km/h. The vehicle's maximum static crush was 490 mm.

The driver's 36 ms Head Injury Criteria (HIC) was 452. The driver's 15 ms Head Injury Criteria (HIC) was 233. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 44.8 g. The driver's maximum chest deflection was 31 mm. The driver's left and right femur maximum axial compression forces were 2281 N and 3073 N, respectively. The driver's neck injury criteria (NIJ) were: tension-extension 0.78, tension-flexion 0.17, compression-extension 0.35 and compression-flexion 0.00. The driver's tibia indices were: upper left leg 0.70, upper right leg 0.56, lower left leg 0.93, and lower right leg 0.50.

The right front passenger's 36 ms HIC was 762. The right front passenger's 15 ms HIC was 529. The right front passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 42.8 g. The right front passenger's maximum chest deflection was 24 mm. The right front passenger's left and right femur maximum axial compression forces were 2949 N and 3586 N, respectively. The right front passenger's NIJ were: tension-extension 0.73, tension-flexion 0.21, compression-extension 0.78 and compression-flexion 0.03.

The right rear passenger's 36 ms HIC was 1103. The right rear passenger's 15 ms HIC was 662. The right rear passenger's chest maximum resultant acceleration with three (3) ms minimum duration was 51.2 g. The right rear passenger's maximum chest deflection was 49 mm. The right rear passenger's left and right femur maximum axial compression

forces were 118 N and 178 N, respectively. The left and right femur maximum axial tensal forces were 2765 N and 3996 N, respectively. The right rear passenger's NIJ were: tension-extension 0.92, tension-flexion 0.81, compression-extension 0.32 and compression-flexion 0.00.

Data Acquisition Explanations

The driver dummy's left upper tibia Z-axis force channel, TBLZF1, exceeded full-scale between approximately 220 and 230 milliseconds. The dummy tibia indices were not affected.

The vehicle's right rear seat crossmember X-axis acceleration channel, RSXXG, exceeded full-scale at approximately 113 milliseconds and recorded no useful data after that.

The vehicle's top of engine X-axis acceleration channel, TENXG, recorded questionable data after approximately 100 milliseconds and recorded no useful data after that.

The vehicle's bottom of engine X-axis acceleration channel, BENXG, recorded questionable data after approximately 55 milliseconds and recorded no useful data after that.

The onboard high-speed digital camera view of the rear seat passenger dummy did not record an image during the test event.

Table 1 Crash Test Summary

Test type:	Flat Frontal Load Cell Barrier	
Test date:	08/24/04	
Test time:	12:11	
Ambient temperature:	21° C	
Vehicle:	2004 Jeep Liberty 4-door MPV	
Vehicle test weight:	2038.4 kg	
Impact angle: ¹	0°	
Impact velocity: ²	Primary = 56.1 km/h Secondary = 56.1 km/h	
Maximum static crush:	490 mm	
Average rebound:	1090 mm	
Dummies:	Driver #416	Passenger #048
Type:	Hybrid III 5th	Hybrid III 5th
Location:	Left front	Right front
Restraint:	3-point seat belt, airbag	3-point seat belt, airbag
Number of data channels:	62	30
Dummies:	2 nd Row Right Passenger #070	
Type:	Hybrid III 5 th	
Location:	Right rear	
Restraint:	3-point seat belt	
Number of data channels:	24	
Number of cameras:		
High-speed	9	
Real-time	1	

¹ With respect to tow track centerline.

² Speed trap measurement ($\pm$.08 km/h accuracy)

Table 2 Test Vehicle Information

Vehicle manufacturer:	DaimlerChrysler Corporation		
Make/model:	Jeep/Liberty		
VIN:	1J4GK48K34W287921		
Model year:	2004		
Body style:	4 door MPV		
Color:	Light khaki		
Engine data:			
Type:	V		
Cylinders:	6		
Displacement:	3.7 liters		
Transmission data:	<u> 4 </u> Speed, <u> </u> FWD,	<u> </u> Manual, <u> X </u> RWD,	<u> X </u> Automatic, <u> </u> 4WD
Date vehicle received:	08/18/04		
Odometer reading:	303 miles		
Dealer's name and address:	Vehicle provided by VRTC		

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	No
Power seats	No	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	Yes
Other	Yes		

Certification data from vehicle's label:

Vehicle manufactured by:	DaimlerChrysler Corporation	
Date of manufacture:	04/2004	
VIN:	1J4GK48K34W287921	
GVWR:	2427 kg	(5350 lbs.)
GAWR: Front:	1248 kg	(2750 lbs.)
Rear:	1429 kg	(3150 lbs.)

Table 2 Test Vehicle Information, continued

Tires on vehicle (mfr., line, size): Goodyear, Wrangler ST, P215/75R16

Tire pressure with maximum
capacity vehicle load:

Front: 300 kPa
Rear: 300 kPa

Spare tire (mfr., line, size): Goodyear, Wrangler ST, P215/75R16

Type of seats: Front: Bucket
Rear: Split bench

Type of front seat backs: Manual adjustable

Maximum width: 1760 mm

Wheelbase: 2640 mm

Location of "Recommended Tire Pressure" label:

The label was located on the driver door.

Data from vehicle's "Recommended Tire Pressure" label:

Recommended tire size: P215/75R16

Recommended cold

tire pressure: Front: 33 psi (227 kPa)
tire pressure: Rear: 33 psi (227 kPa)

Seating capacity: Front: 2
Rear: 3
Total: 5

Vehicle capacity weight: 522 kg

Test vehicle attitude:

Delivered attitude:	LF	807 mm;	RF	816 mm;	LR	797 mm;	RR	827 mm
Fully loaded attitude	LF	800 mm;	RF	802 mm;	LR	768 mm;	RR	778 mm
Pre-test attitude:	LF	794 mm;	RF	811 mm;	LR	755 mm;	RR	774 mm
Post-test attitude:	LF	832 mm;	RF	846 mm;	LR	783 mm;	RR	771 mm

Table 2 Test Vehicle Information, continued

Weight of test vehicle as received (with maximum fluids):

Right front	447.4	kg	Right rear	399.8	kg
Left front	451.0	kg	Left rear	419.8	kg
Total front weight	898.4	kg	(52.3 % of total vehicle weight)		
Total rear weight	819.6	kg	(47.7 % of total vehicle weight)		
Total delivered weight	1718.0	kg			

Calculation of test vehicle's target test weight:

GVWR = Gross Vehicle Weight Rating = 2427 kg

UDW = Unloaded Delivered Weight = 1718 kg

VCW = Vehicle Capacity Weight = 522 kg

DSC = Designated Seating Capacity = 5

RCLW = Rated Cargo and Luggage Weight = 182 kg

Target test weight = UDW + RCLW + (No. of Part 572O dummies X 49 kg)

Target test weight = 1718 + 182 + (3) 49 = 2047 kg

Weight of test vehicle with required dummies and 173.4 kg of cargo weight:

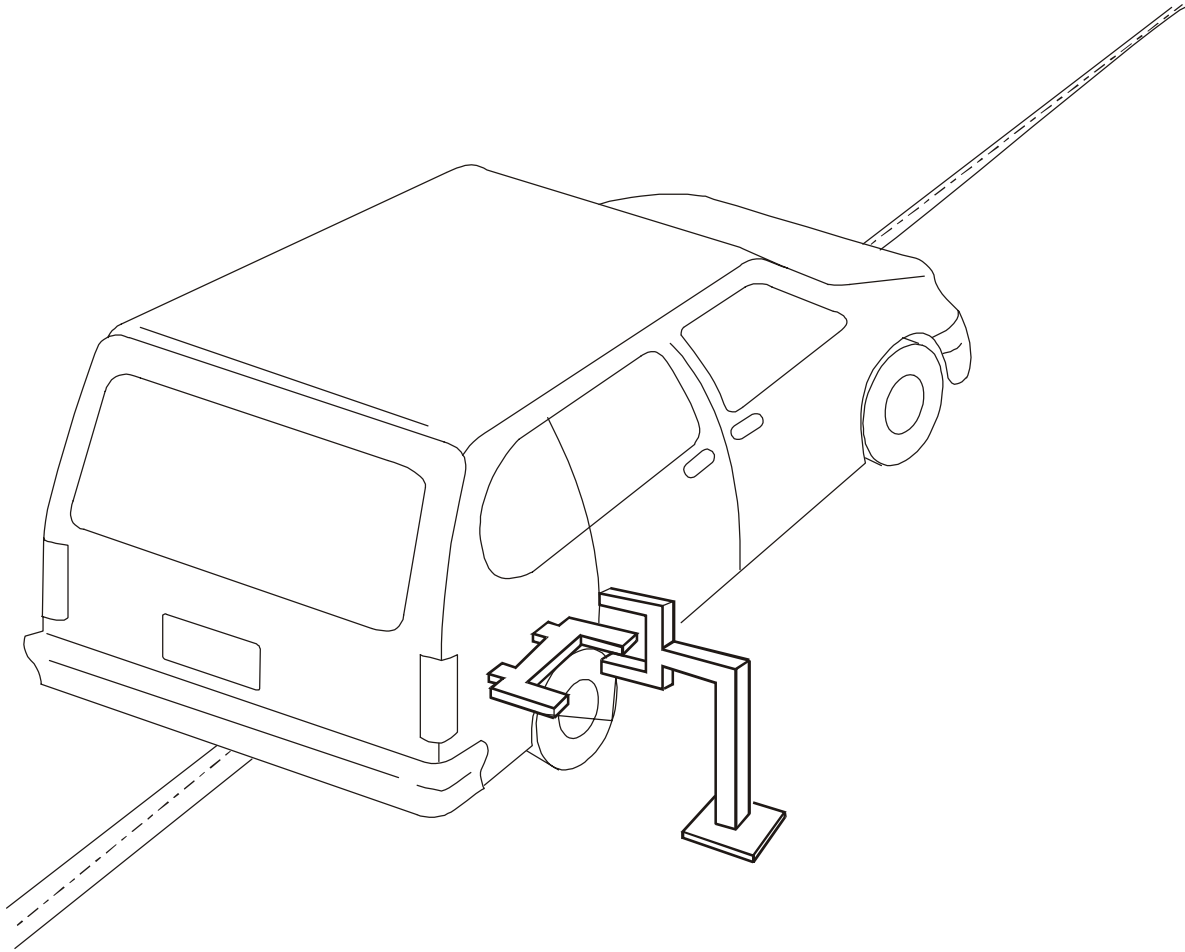
Right front	454.6	kg	Right rear	546.0	kg
Left front	475.8	kg	Left rear	562.0	kg
Total front weight	930.4	kg	(45.6% of total vehicle weight)		
Total rear weight	1108.0	kg	(54.4% of total vehicle weight)		
Total test weight	2038.4	kg			

Distance of the CG behind front axle: 1435 mm

Weight of ballast secured in vehicle: 4.1 kg on spare tire rack

Components removed to meet target test weight: Spare tire

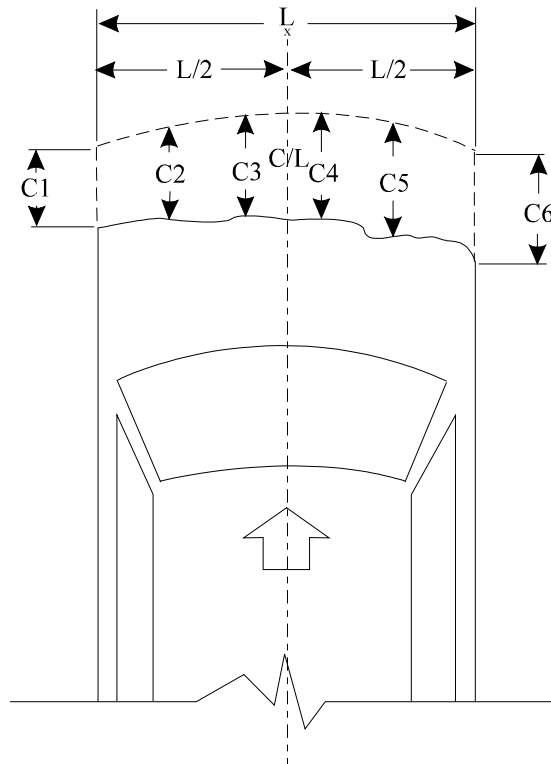
Figure 1 Impact Velocity Measurement System



The final vane clears the final emitter/receiver pair 50 mm before impact.

The vanes have 610 mm spacing.

Figure 2 Vehicle Crush

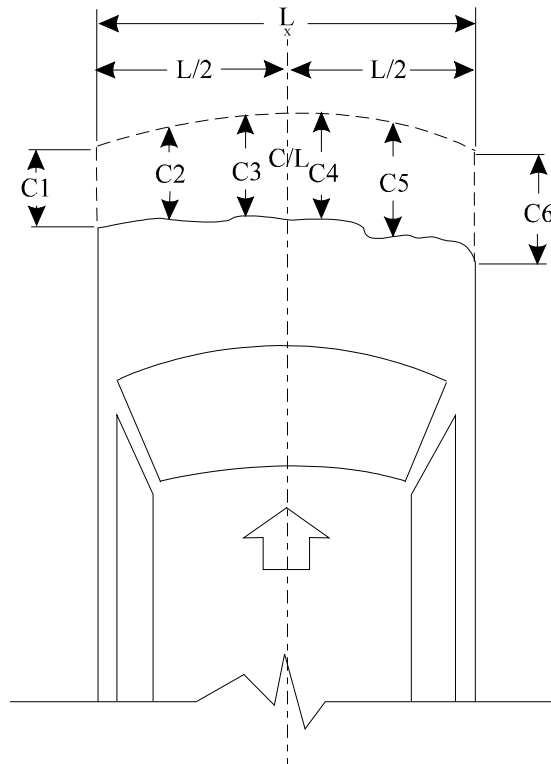


Notes: L is pre-test length of contact surface.
C1 through C6 are spaced equally apart.
CL is vehicle centerline.
Measured with bumper fascia.

Vehicle: 2004 Jeep Liberty 4-door MPV

	Pre-test	Post-test	Crush
L	1524 mm		
C1	4067 mm	3757 mm	310 mm
C2	4197 mm	3713 mm	484 mm
C3	4207 mm	3762 mm	445 mm
C4	4207 mm	3817 mm	390 mm
C5	4197 mm	3857 mm	340 mm
C6	4067 mm	3834 mm	233 mm
CL	4207 mm	3795 mm	412 mm

Figure 2 Vehicle Crush, continued



Notes: L is pre-test length of contact surface.
 $C1$ through $C6$ are spaced equally apart.
 CL is vehicle centerline.
 Measured without bumper fascia.

Vehicle: 2004 Jeep Liberty 4-door MPV

	Pre-test	Post-test	Crush ¹
L	1415 mm		
$C1$	4012 mm	3619 mm	393 mm
$C2$	4107 mm	3638 mm	469 mm
$C3$	4112 mm	3628 mm	484 mm
$C4$	4112 mm	3634 mm	478 mm
$C5$	4107 mm	3647 mm	460 mm
$C6$	4007 mm	3616 mm	391 mm
CL	4112 mm	3645 mm	467 mm

¹ The difference for points $C1$, 3-6, measured without the bumper fascia, are included in the NHTSA Database Submission as Damage Profile Distance 1, 3-6.

Figure 3 Vehicle Accelerometer Placement

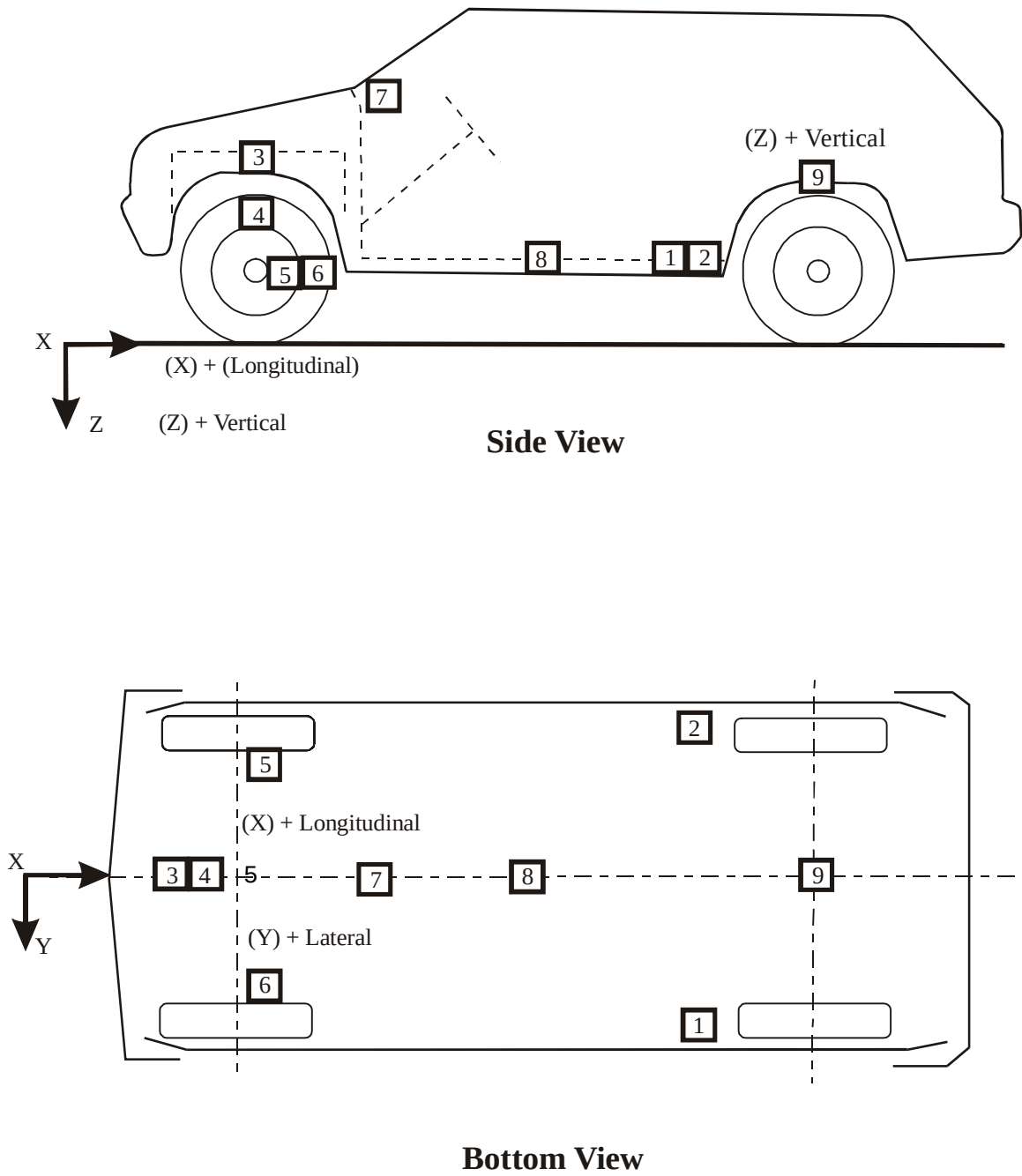


Table 3 Vehicle Accelerometer Locations and Data Summary

Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	Left Rear Seat Crossmember	1547	-600	-390				
	Longitudinal X				1.4	118.2	34.5	36.3
2	Right Rear Seat Crossmember	1557	600	-392				
	Longitudinal ¹ X				----	----	----	----
3	Top of Engine	3504	-233	-875				
	Longitudinal ¹ X				----	----	----	----
4	Bottom of Engine	3357	48	-345				
	Longitudinal ¹ X				----	----	----	----
5	Right Front Brake Caliper	3372	615	-360				
	Longitudinal X				41.3	53.6	115.1	36.5
6	Left Front Brake Caliper	3372	-615	-355				
	Longitudinal X				54.2	55.0	103.4	39.0
7	Instrument Panel Top Center	2742	0	-1180				
	Longitudinal X				10.3	81.8	81.9	51.5

Table 3 Vehicle Accelerometer Locations and Data Summary, continued

Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
8	Vehicle Center of Gravity	2286	0	-700				
	Longitudinal X				19.1	84.3	52.3	57.7
	Lateral Y				33.8	56.4	27.4	62.6
	Vertical Z				27.6	50.7	27.7	57.0
	Resultant				66.7	56.9		
9	Rear Deck	217	0	-662				
	Longitudinal X				1.3	119.7	32.4	7.0
	Lateral Y				5.3	53.4	3.0	33.0
	Vertical Z				16.0	81.2	21.9	7.1
	Resultant				39.2	7.0		

*Reference: X = Rear Bumper (+ Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

All measurements accurate to within ± 3 mm.

¹ See Data Acquisition Explanations

Table 4 Post-Impact Data

Visible dummy contact points:

	<u>Driver</u>	<u>Right Front Passenger</u>	<u>Right Rear Passenger</u>
Head	Airbag, head restraint	Airbag, head restraint	Head restraint
Chest	Airbag	Airbag	None
Abdomen	Airbag	Airbag	None
Left knee	Knee bolster	Glove box	None
Right knee	Knee bolster	Glove box	None

Door opening:

	<u>Left</u>	<u>Right</u>
Front	Easy	Easy
Rear	Easy	Easy

Seat back failure:

Left	None
Right	None

Seat track shift:

Left	None
Right	None

Glazing damage: None

Other notable impact effects: None

Table 5 Dummy Data Summary

<u>Maximum Acceleration¹</u>								
	Head				Chest			
	X	Y	Z	R	X	Y	Z	R
Driver	-51.9 g	11.9 g	-22.2 g	52.0 g	-44.6 g	-7.7 g	-20.1 g	45.5 g
Passenger	-68.8 g	11.8 g	29.8 g	70.8 g	-43.4 g	10.8 g	-18.2 g	44.1 g
Right Rear Passenger	-38.5 g	10.6 g	69.0 g	75.4 g	-51.6 g	-9.4 g	-10.6 g	51.7 g

<u>Maximum Femur Compressive Force</u>		
	Left Femur	Right Femur
Driver	2281 N	3073 N
Passenger	2949 N	3586 N
Right Rear Passenger	118 N	178 N

<u>Head Injury Criteria²</u>			
36 millisecond			
	HIC	Start Time t ₁	End Time t ₂
Driver	452	36.56 ms	72.56 ms
Passenger	762	51.84 ms	87.84 ms
Right Rear Passenger	1103	60.88 ms	96.88 ms
15 millisecond			
	HIC	Start Time t ₁	End Time t ₂
Driver	233	44.96 ms	60.00 ms
Passenger	529	63.12 ms	78.16 ms
Right Rear Passenger	662	76.72 ms	91.76 ms

Table 5 Dummy Data Summary, Cont'd.

Chest Maximum Resultant Acceleration³

	Acceleration	Start Time t ₁	End Time t ₂
Driver	44.8 g	47.97 ms	50.93 ms
Passenger	42.8 g	42.36 ms	45.36 ms
Right Rear Passenger	51.2 g	49.85 ms	52.85 ms

Maximum Chest Deflection

Driver	31 mm
Passenger	24 mm
Right Rear Passenger	49 mm

Neck Injury Calculations (Nij)²

	NTF	NTE	NCF	NCE
Driver	0.17	0.78	0.00	0.35
Passenger	0.21	0.73	0.03	0.78
Right Rear Passenger	0.81	0.92	0.00	0.32

Upper Neck Axial Force

	Tension	Compression
Driver	1755 N	721 N
Passenger	1369 N	823 N
Right Rear Passenger	2520 N	212 N

¹ See Report Sign Convention in Appendix D.

² As defined in FMVSS No. 208.

³ Defined as equal to or exceeding 0.003 sec. duration.

Figure 4 Load Cell Barrier Mnemonics

Row	Column															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
9						LC0906	LC0907	LC0908	LC0909	LC0910	LC0911					
8	LC0801	LC0802	LC0803	LC0804	LC0805	LC0806	LC0807	LC0808	LC0809	LC0810	LC0811	LC0812	LC0813	LC0814	LC0815	LC0816
7	LC0701	LC0702	LC0703	LC0704	LC0705	LC0706	LC0707	LC0708	LC0709	LC0710	LC0711	LC0712	LC0713	LC0714	LC0715	LC0716
6	LC0601	LC0602	LC0603	LC0604	LC0605	LC0606	LC0607	LC0608	LC0609	LC0610	LC0611	LC0612	LC0613	LC0614	LC0615	LC0616
5	LC0501	LC0502	LC0503	LC0504	LC0505	LC0506	LC0507	LC0508	LC0509	LC0510	LC0511	LC0512	LC0513	LC0514	LC0515	LC0516
4	LC0401	LC0402	LC0403	LC0404	LC0405	LC0406	LC0407	LC0408	LC0409	LC0410	LC0411	LC0412	LC0413	LC0414	LC0415	LC0416
3	LC0301	LC0302	LC0303	LC0304	LC0305	LC0306	LC0307	LC0308	LC0309	LC0310	LC0311	LC0312	LC0313	LC0314	LC0315	LC0316
2	LC0201	LC0202	LC0203	LC0204	LC0205	LC0206	LC0207	LC0208	LC0209	LC0210	LC0211	LC0212	LC0213	LC0214	LC0215	LC0216
1	LC0101	LC0102	LC0103	LC0104	LC0105	LC0106	LC0107	LC0108	LC0109	LC0110	LC0111	LC0112	LC0113	LC0114	LC0115	LC0116

Figure 5 Load Cell Barrier Configuration

					109	044	134	115	110	064					
133	039	085	059	116	013	119	107	095	103	129	058	126	108	025	070
027	111	072	106	056	114	068	157	049	131	018	084	062	078	127	021
036	052	010	034	026	022	030	016	035	092	043	076	001	087	096	015
090	065	079	055	031	054	050	089	130	082	083	123	032	121	009	037
040	007	071	094	067	086	118	101	073	047	099	080	097	048	061	005
125	004	051	042	011	117	066	045	077	029	100	102	091	012	017	081
120	063	124	093	046	122	002	060	105	020	069	041	112	074	128	075
053	008	028	038	003	014	024	006	132	023	033	019	113	098	104	088

LOAD CELL SERIAL NUMBERS



Track C/L

Table 6 Load Cell Barrier Data Summary

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 1	1	174	13.2	-232	8.6
	2	270	13.5	-2,177	38.2
	3	404	4.4	-1,480	81.4
	4	366	3.8	-701	9.6
	5	381	14.9	-838	9.7
	6	608	15.2	-1,234	9.9
	7	657	15.4	-1,392	10.0
	8	924	15.9	-9,049	24.4
	9	721	15.6	-1,360	10.2
	10	741	15.8	-1,187	10.2
	11	697	15.8	-981	10.4
	12	651	15.8	-776	10.6
	13	689	15.8	-458	10.6
	14	548	15.8	-1,999	42.9
	15	241	15.5	-2,535	41.3
	16	146	15.4	-93	10.6

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 2	1	189	13.0	-867	72.9
	2	227	3.9	-6,629	81.0
	3	281	3.6	-1,424	81.8
	4	371	3.3	-747	9.4
	5	466	3.3	-6,538	74.2
	6	493	3.4	-19,522	75.7
	7	515	3.5	-3,169	32.3
	8	520	3.8	-2,762	85.0
	9	609	15.4	-2,559	32.4
	10	500	15.4	-3,481	32.6
	11	584	25.7	-27,950	71.4
	12	322	2.9	-756	75.0
	13	380	15.3	-410	29.8
	14	327	15.2	-2,911	76.9
	15	193	15.2	-3,978	75.8
	16	165	14.6	-49	37.2

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 3	1	186	3.8	-1,316	38.0
	2	299	3.6	-2,525	72.9
	3	358	3.3	-6,234	37.4
	4	433	3.0	-2,630	40.9
	5	412	2.6	-42,303	33.8
	6	522	3.0	-19,076	36.1
	7	562	3.3	-3,686	33.1
	8	483	3.3	-4,205	69.0
	9	493	2.7	-2,521	68.4
	10	508	2.5	-3,353	33.4
	11	630	25.8	-29,680	34.1
	12	407	2.2	-9,770	33.7
	13	319	2.7	-1,481	37.2
	14	161	2.8	-6,148	37.5
	15	164	14.7	-4,538	37.2
	16	86	14.5	-307	38.3

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 4	1	235	12.4	-1,420	39.9
	2	311	3.7	-4,483	39.9
	3	484	3.4	-13,169	17.7
	4	323	-0.9	-13,911	9.7
	5	2,023	-0.7	-153,180	32.5
	6	255	-2.2	-45,296	37.0
	7	265	-3.2	-10,930	31.1
	8	382	-3.6	-13,575	60.7
	9	330	-3.4	-16,727	60.6
	10	376	-3.2	-26,434	60.1
	11	1,440	-0.5	-96,843	32.9
	12	1,221	-1.4	-113,112	33.4
	13	386	2.2	-5,577	9.1
	14	190	3.0	-9,108	16.2
	15	101	21.8	-3,697	39.4
	16	223	21.8	-909	37.7

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 5	1	255	12.2	-821	37.1
	2	351	3.8	-530	25.5
	3	485	3.5	-3,129	28.8
	4	225	1.6	-2,284	8.2
	5	44	137.0	-10,027	24.6
	6	776	3.3	-7,217	40.3
	7	588	3.1	-4,612	40.6
	8	526	3.2	-21,067	39.8
	9	494	2.6	-19,783	40.7
	10	470	2.5	-20,883	41.2
	11	530	2.6	-14,108	22.6
	12	113	-1.5	-18,353	23.2
	13	318	2.6	-1,238	15.9
	14	187	2.6	-3,279	30.8
	15	255	21.4	-697	27.4
	16	247	21.7	-496	36.8

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 6	1	341	12.0	-338	7.8
	2	325	3.9	-429	7.8
	3	444	3.7	-14,056	33.1
	4	561	3.7	-2,548	43.2
	5	564	3.3	-1,676	16.7
	6	564	3.4	-1,103	39.8
	7	531	3.4	-995	41.0
	8	447	3.4	-27,378	39.8
	9	367	2.6	-16,420	39.4
	10	362	2.3	-1,666	41.4
	11	306	2.2	-3,184	41.7
	12	273	2.2	-977	16.7
	13	247	2.6	-12,410	31.8
	14	140	2.8	-8,325	31.8
	15	285	21.4	-405	26.8
	16	388	21.5	-262	16.9

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 7	1	208	4.3	-935	52.3
	2	364	4.3	-5,120	37.8
	3	425	3.9	-23,406	37.7
	4	446	3.9	-5,966	27.8
	5	448	3.8	-3,100	40.7
	6	482	3.8	-4,478	38.4
	7	426	3.8	-4,401	15.8
	8	418	4.0	-8,058	14.3
	9	338	3.3	-6,450	14.9
	10	306	2.8	-5,554	16.0
	11	268	2.6	-2,276	17.3
	12	211	2.6	-1,643	26.2
	13	225	11.9	-15,011	29.9
	14	349	12.2	-23,366	35.2
	15	296	21.4	-1,301	37.0
	16	364	21.5	-291	17.0

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 8	1	210	20.5	-188	8.2
	2	278	4.9	-179	8.4
	3	434	14.6	-6,579	22.5
	4	320	14.0	-7,033	23.1
	5	458	13.6	-3,702	29.3
	6	372	13.4	-1,120	30.2
	7	349	4.5	-1,275	23.7
	8	273	3.9	-1,386	22.9
	9	239	3.4	-1,564	22.8
	10	184	3.0	-790	22.6
	11	122	0.5	-381	41.0
	12	150	2.9	-2,760	24.6
	13	93	15.5	-9,202	22.9
	14	159	12.0	-2,658	22.2
	15	337	21.5	-177	17.4
	16	306	21.7	-273	17.4

Table 6 Load Cell Barrier Data Summary, continued

Location	Column	Positive Direction		Negative Direction	
		Max. (N)	Time (ms)	Max. (N)	Time (ms)
Load Cell Row 9	6	277	5.8	-2,211	32.8
	7	281	5.6	-2,669	36.3
	8	256	5.6	-1,129	31.9
	9	159	4.5	-1,462	32.2
	10	102	3.7	-3,187	54.0
	11	86	3.3	-9,683	36.8

Section 3.0

Vehicle, Occupant, and Camera Measurements

Table 7 Fuel System Data

Vehicle year/make/ model/body style:	2004/Jeep/Liberty/4 door MPV
Fuel system capacity:	73.8 liters (from owner's manual)
Usable capacity:	73.8 liters
Test volume range:	67.9 liters to 69.4 liters (92% to 94% of usable)
Actual test volume:	68.5 liters
Test fluid type:	Stoddard
Specific gravity:	0.764
Kinematic viscosity:	0.99 centistoke
Test fluid color:	Purple
Did electric fuel pump operate with ignition switch "on" and the engine not operating?	No
Details of fuel system:	The fuel tank is located under the cargo area. The fuel filler neck is located in the left rear quarter panel. The fuel filler cap is located at the exterior end of the fuel filler neck. The fuel lines run forward along the inside left frame rail.

Figure 6 Pre-Test And Post-Test Measurement Points

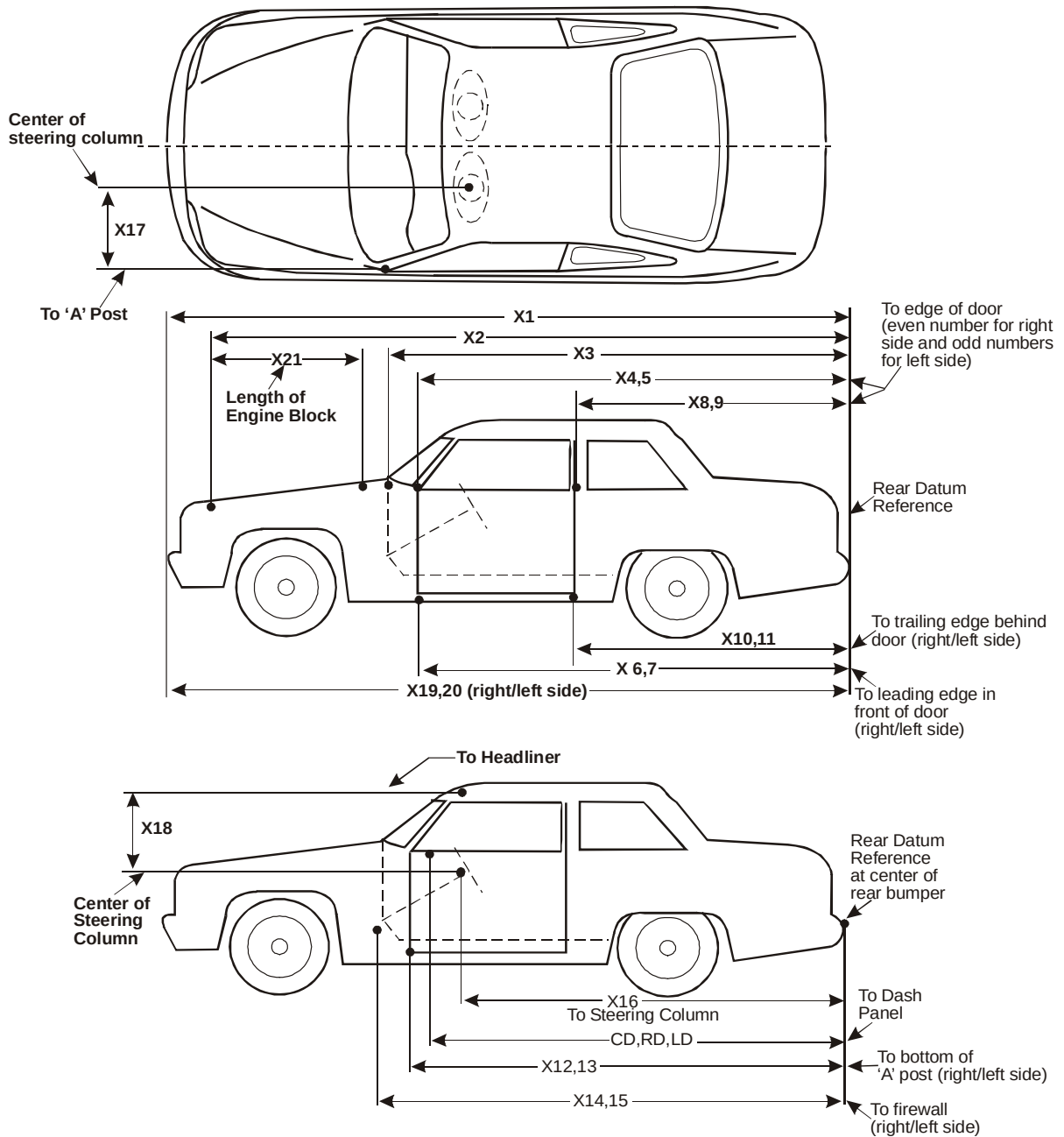


Table 8 Impacted Vehicle Measurements

Vehicle Make/Model: 2004 Jeep Liberty 4-door MPV

Test Number: 040824

No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4207	3795	412
X2	Rear Surface of Vehicle to Front of Engine Block	3427	3287	140
X3	Rear Surface of Vehicle to Firewall	3117	3057	60
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	2837	2825	12
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	2832	2827	5
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	2832	2794	38
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	2822	2791	31
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	1852	1840	12
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	1845	1841	4
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	1879	1847	32
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	1868	1842	26
X12	Rear Surface of Vehicle to Bottom of " A " Post on Right Side	2817	2803	14
X13	Rear Surface of Vehicle to Bottom of " A " Post on Left Side	2807	2792	15
X14	Rear Surface of Vehicle to Firewall-Right Side	3157	3142	15
X15	Rear Surface of Vehicle to Firewall-Left Side	3156	3117	39
X16	Rear Surface of Vehicle to Steering Wheel Center	2407	2350	57
X17	Center of Steering Column to " A " Post	282	258	24
X18	Center of Steering Column to Headliner	470	506	-36
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4067	3834	233
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4067	3757	310
X21	Length of Engine Block	570	571	-1

All measurements are in millimeters.

Table 9 Vehicle Structural Measurements¹

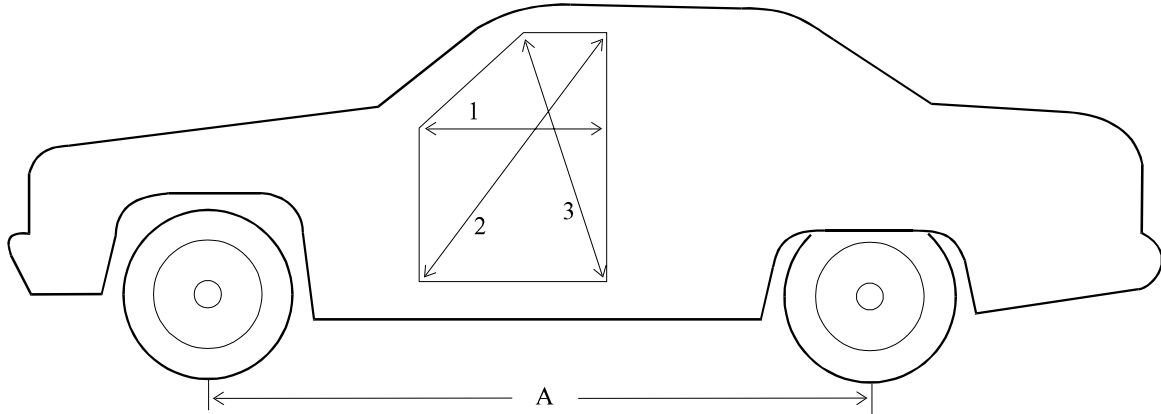
	Elements	Pre-Test
1	Total Length	4207
2	Total Width	1760
3	Bumper Top Height	618
4	Bumper Bottom Height	488
5	Longitudinal Member Top Height	588
6	Longitudinal Member Bottom Height	487
7	Distance Between Longitudinal Members	872
7'	Longitudinal Member Width	88
8	Engine Top Height	914
9	Engine Bottom Height	245
10	Engine and Gearbox Width	328
11	Front Bumper - Engine Distance	610
12	Front Shock Absorber Fixing Height	747
13	Bonnet Leading Edge Height	912
14	Front Shock Absorber Fixing Width	798
15	Front Bumper - Front Axle Distance	730
16	Front Axle - A Pillar Distance	660
17	A Pillar - B Pillar Distance	990
18	B Pillar - Rear Axle Distance	959
19	B Pillar - C Pillar Distance	850
20	Roof Sill Bottom Height	1596
21	Roof Sill Top Height	1631
22	Floor Sill Bottom Height	421
23	Floor Sill Top Height	446

All distance measurements are in millimeters.

¹ Taken from INSIA report, “Structural Survey of Cars, Methodology of the Main Resistant Elements in the Car Body”, March 1999. This report is included in Appendix E.

Figure 7 Vehicle Intrusion Measurements

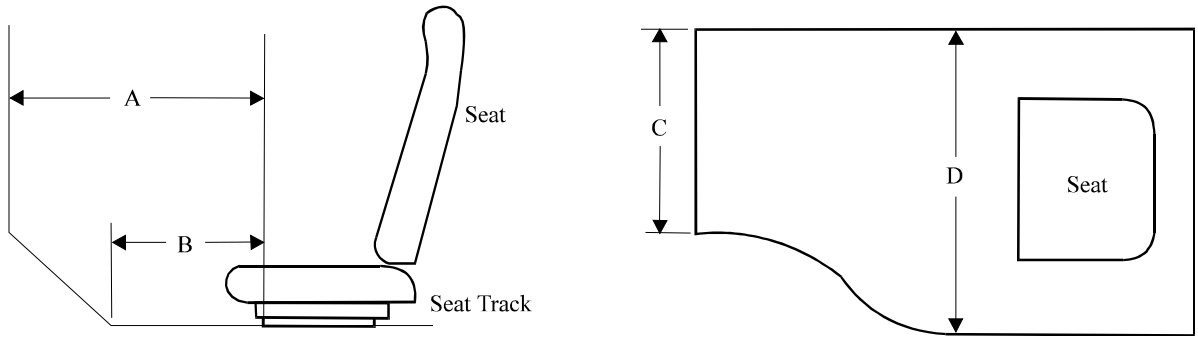
Door Opening Width



Units (mm)	Left			Right		
Measurement	1	2	3	1	2	3
Pre-Test	955 mm	1468 mm	1145 mm	947 mm	1450 mm	1133 mm
Post-Test	946 mm	1476 mm	1162 mm	940mm	1435 mm	1145 mm
Difference	9 mm	-8 mm	-17 mm	7 mm	15 mm	-12 mm

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	2640 mm	2640 mm
Post-Test	2570 mm	2575 mm
Difference	70 mm	65 mm

Figure 8 Vehicle Intrusion Measurements
Static Footwell Deformation



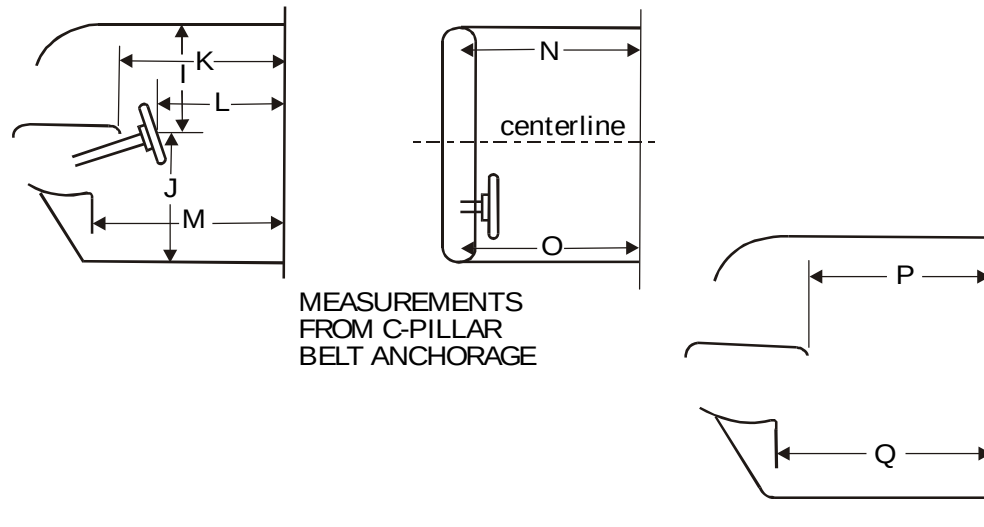
Driver's Side

Measurement	Pre-Test	Post-Test	Difference
A	745 mm	718 mm	27 mm
B	544 mm	533 mm	11 mm
C	355 mm	360 mm	-5 mm
D	245 mm	245 mm	0 mm

Passenger's Side

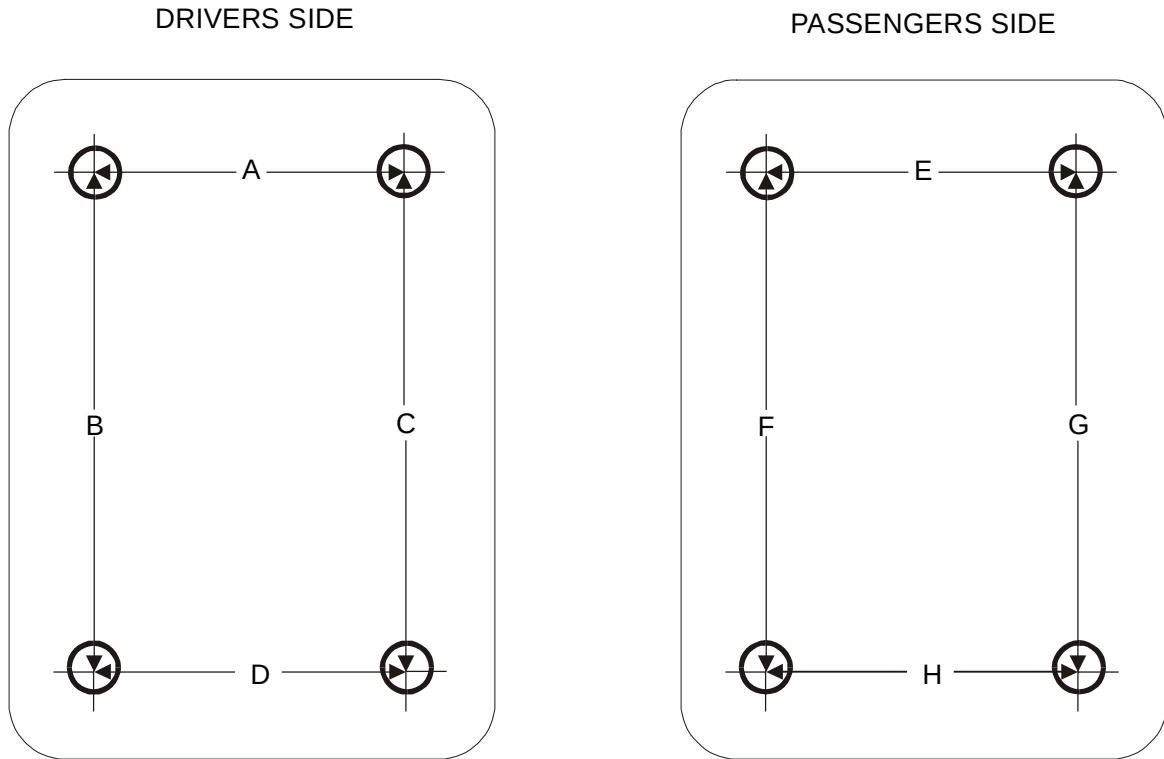
Measurement	Pre-Test	Post-Test	Difference
A	720 mm	715 mm	5 mm
B	610 mm	645 mm	-35 mm
C	305 mm	305 mm	0 mm
D	300 mm	300 mm	0 mm

Figure 9 Vehicle Intrusion Measurements
Static Passenger Compartment Intrusion



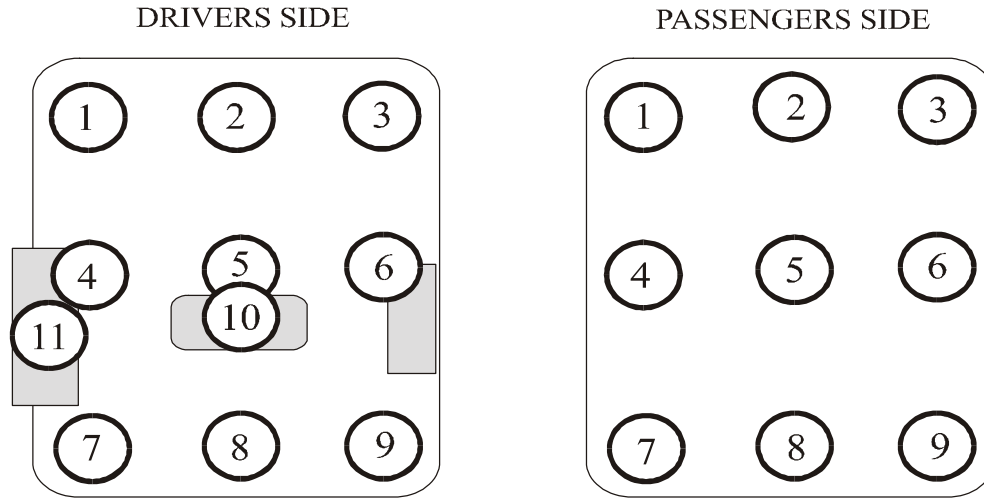
Measurement	Pre-Test	Post-Test	Difference
I	470 mm	506 mm	-36 mm
J	690 mm	717 mm	-27 mm
K (driver's side)	1705 mm	1697 mm	8 mm
L	1500 mm	1643 mm	-143 mm
M (driver's side)	1755 mm	1745 mm	10 mm
N (passenger's side)	1720 mm	1689 mm	31 mm
O (driver's side)	1660 mm	1645 mm	15 mm
P (passenger's side)	1705 mm	1700 mm	5 mm
Q (passenger's side)	1770 mm	1747 mm	23 mm

Figure 10 Vehicle Floorboard Deformation



Measurement	Pre-Test	Post-Test	Difference
A	355 mm	360 mm	-5 mm
B	444 mm	441 mm	3 mm
C	444 mm	438 mm	6 mm
D	245 mm	245 mm	0 mm
E	305 mm	305 mm	0 mm
F	430 mm	430 mm	0 mm
G	470 mm	470 mm	0 mm
H	300 mm	300 mm	0 mm

Figure 11 Vehicle Toeboard Measurements



Driver Toe Pan			
Pre-Test			
Index	Xmm	Ymm	Zmm
1	3070	-588	-75
2	3086	-421	-55
3	3051	-229	-65
4	3029	-600	9
5	2986	-405	29
6	2971	-230	31
7	2867	-604	99
8	2862	-404	95
9	2859	-245	85
10	2852	-411	-93
11	2985	-537	39

Driver Toe Pan			
Post-Test			
Xmm	Ymm	Zmm	
3052	-571	-115	
3034	-411	-95	
3032	-215	-106	
3030	-579	-22	
2982	-386	0	
2965	-213	1	
2874	-587	73	
2865	-387	74	
2859	-228	64	
2808	-406	-132	
2986	-518	9	

Difference			
Xmm	Ymm	Zmm	
18	-17	40	
52	-10	40	
19	-14	41	
-1	-21	31	
4	-19	29	
6	-17	30	
-7	-17	26	
-3	-17	21	
0	-17	21	
44	-5	39	
-1	-19	30	

Passenger Toe Pan			
Pre-Test			
Index	Xmm	Ymm	Zmm
1	3064	363	-38
2	3079	468	-55
3	3052	649	-43
4	2988	364	24
5	2991	481	22
6	3006	645	16
7	2906	361	74
8	2913	489	78
9	2934	659	72

Passenger Toe Pan			
Post-Test			
Xmm	Ymm	Zmm	
3034	376	-81	
3020	477	-94	
3027	655	-71	
2972	369	-7	
2978	485	-4	
3002	649	-5	
2900	364	56	
2909	493	59	
2935	663	55	

Difference			
Xmm	Ymm	Zmm	
30	-13	43	
59	-9	39	
25	-6	28	
16	-5	31	
13	-4	26	
4	-4	21	
6	-3	18	
4	-4	19	
-1	-4	17	

Reference: +X forward from rear bumper; +Y rightward from vehicle centerline; +Z downward from vehicle reference point

Table 10 Vehicle Intrusion of Upper Instrument Panel

Driver Instrument Panel - Lower

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
Left	2614	-512	-350	2613	-501	-386	1	-11	36
Right	2625	-212	-347	2597	-204	-371	28	-8	24

Driver Knees

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
Left	2604	-527	-407	2599	-519	-440	5	-8	33
Right	2613	-215	-412	2576	-205	-434	37	-10	22

Passenger Knees

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
Left	2604	349	-437	2583	372	-468	21	-23	31
Right	2595	537	-426	2578	559	-452	17	-22	26

Steering Column

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	2391	-377	-589	2330	-345	-600	61	-32	11

Driver Front Outboard Seat Attachment Bolt

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	2335	-554	45	2344	-542	32	-9	-12	13

Passenger Front Outboard Seat Attachment Bolt

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	2330	578	41	2330	582	42	0	-4	-1

Knee intrusions are points measured pre and post, which are located just above where the four knees would be expected to contact the instrument panel.

+X: Forward from rear bumper

+Y: Rightward from centerline

+Z: Downward from vehicle reference point

Table 11 Frontal Profile Measurements

Bottom of Front Bumper

Pre-Test				Post-Test			Difference ¹		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	4062	-760	-514	3769	-688	-496	293	-72	-18
2	4192	-460	-526	3702	-440	-512	490	-20	-14
3	4202	-153	-517	3764	-152	-515	438	-1	-2
4	4202	153	-541	3822	153	-527	380	0	-14
5	4192	458	-542	3850	459	-534	342	-1	-8
6	4062	757	-514	3836	734	-519	226	23	5

Top of Front Bumper

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	4067	-763	-592	3742	-698	-568	325	-65	-24
2	4197	-460	-589	3721	-442	-578	476	-18	-11
3	4207	-155	-585	3766	-152	-585	441	-3	0
4	4207	153	-590	3822	153	-595	385	0	5
5	4197	460	-594	3862	464	-606	335	-4	12
6	4067	765	-594	3837	745	-599	230	20	5

Center of Grill

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	3985	-675	-762	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²
2	4042	-465	-768	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²
3	4082	-155	-784	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²
4	4082	155	-784	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²
5	4042	464	-771	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²
6	3987	664	-768	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²	N/A ²

Front of Hood

Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	3942	-650	-951	3665	-644	-1140	277	-6	189
2	3989	-455	-950	4070	-452	-1069	-81	-3	119
3	4037	-150	-935	3673	-149	-998	364	-1	63
4	4032	155	-935	3652	151	-990	380	4	55
5	3987	455	-953	3647	451	-1016	340	4	63
6	3937	660	-962	3649	651	-1102	288	9	140

¹ The difference for point C2, measured at the top of the bumper, is included in the NHTSA Database Submission as Damage Profile Distance 2.

² Measurement point could not be located post-test.

Table 12 Additional Requested Measurements

Type of measurement	
Height of the lowest edge of the bottom row of load cells	130 mm
Height of lowest structure on test vehicle	300 mm
Mid-hood height of test vehicle	1105 mm
Height of test vehicle hood 2 feet rearward of front bumper	1095 mm

Vertical impact point deviation - Vehicle 18 mm high at impact

Table 13 Dummy Measurement Data For Front Seat Occupants

Designation	Type of Measurement	Driver (Serial #416)	Front Passenger (Serial #048)
WA	Windshield angle	43.0°	N/A
SWA	Steering wheel angle	23.2°	N/A
SCA	Steering column angle	66.8°	N/A
SA ¹	Seat back angle	27.7°	21.9°
HZ	Head to roof	270 mm	225 mm
HH	Head to header	375 mm	331 mm
HW	Head to windshield	560 mm	487 mm
HR	Head to side header	280 mm	253 mm
NR	Nose to rim	285 mm	N/A
NA	Nose to rim angle	12.6°	N/A
CD	Chest to dash	445 mm	379 mm
CS	Steering wheel to chest	225 mm	N/A
RA	Rim to abdomen	90 mm	N/A
KDL	Left knee to dash	90 mm	93 mm
KDR	Right knee to dash	90 mm	86 mm
KDA	Outboard knee to dash angle	18.8°	7.0°
PA	Pelvic angle	21.1°	19.9°
TA	Tibia angle	69.8°	64.6°
KK	Knee to knee	170 mm	170 mm
ST ²	Striker to head	560 mm	574 mm
	Striker to head angle	-72.9°	-68.7°
SK ²	Striker to knee	647 mm	643 mm
	Striker to knee angle	-4.8°	-3.0°
SH ²	Striker to H-point	310 mm	321 mm
	Striker to H-point angle	5.5°	6.3°
SHY	Striker to H-point (Y dir.)	230 mm	231 mm
HS	Head to side window	365 mm	329 mm
HD	H-point to door	215 mm	217 mm
AD	Arm to door	150 mm	156 mm

The seat back angle (SA°) is measured relative to vertical, all other angles are measured relative to horizontal.

¹ Measured at the head restraint support post.

² A negative angle indicates the measurement point was above the striker.

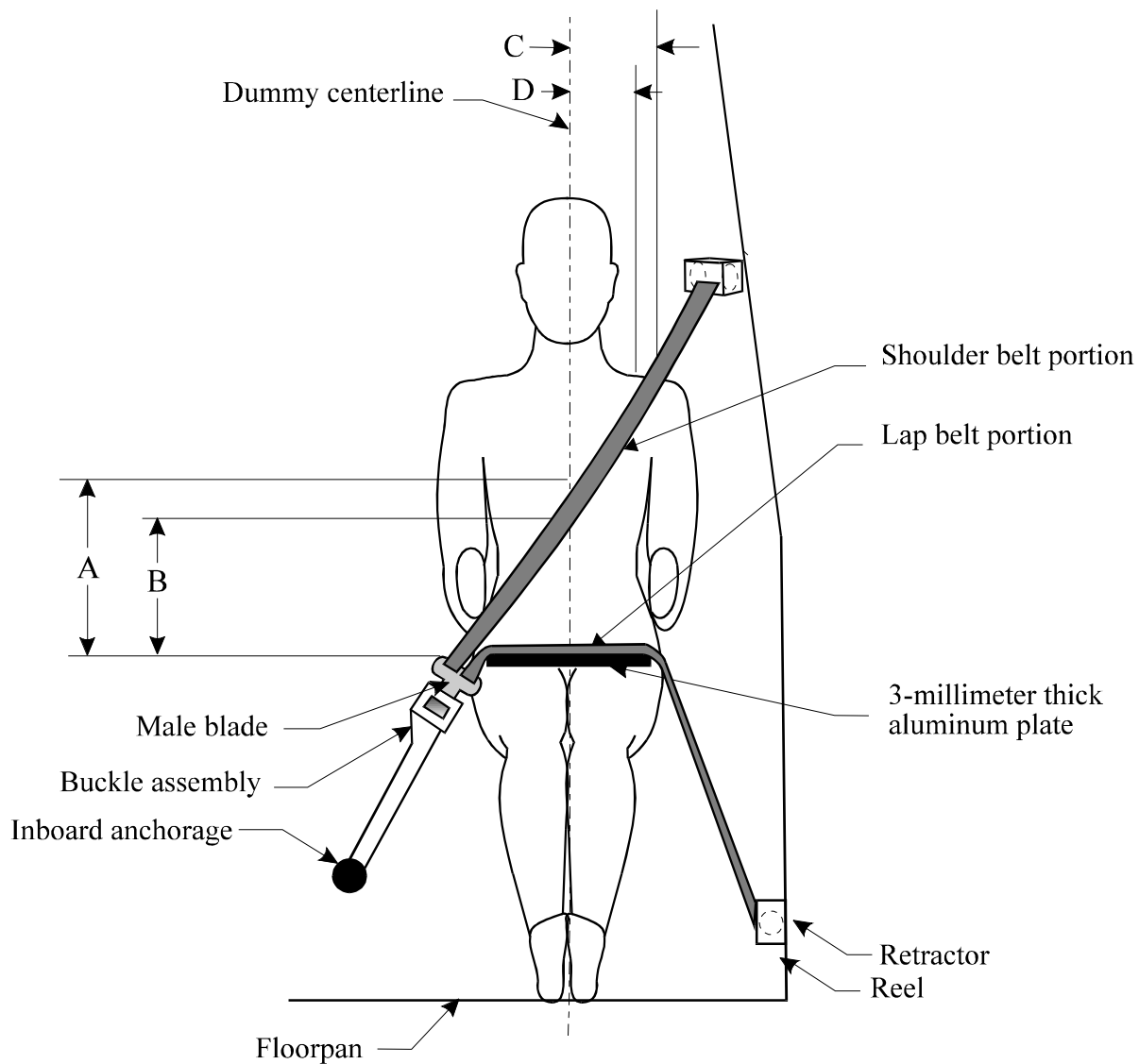
Table 13 Dummy Measurement Data for Front Seat Occupants, continued

Designation	Type of Measurement	Right Rear Passenger (Serial #070)
WA	Windshield angle	N/A
SWA	Steering wheel angle	N/A
SCA	Steering column angle	N/A
SA	Seat back angle	27.8°
HZ	Head to roof	390 mm
HH	Head to top of seat head restraint	658 mm
HW	Head to windshield	N/A
HR	Head to side header	325 mm
NR	Nose to rim	N/A
NA	Nose to rim angle	N/A
CD	Chest to dash	N/A
CS	Steering wheel to chest	N/A
RA	Rim to abdomen	N/A
KDL	Left knee to seat back	355 mm
KDR	Right knee to seat back	379 mm
KDA	Outboard knee to seat back angle	0.8°
PA	Pelvic angle	21.8°
TA	Tibia angle	82.2°
KK	Knee to knee	165 mm
ST	Striker to head	331 mm
	Striker to head angle ¹	74.8°
SK	Striker to knee	570 mm
	Striker to knee angle ¹	13.9°
SH	Striker to H-point	335 mm
	Striker to H-point angle ¹	43.6°
SHY	Striker to H-point (Y dir.)	250 mm
HS	Head to side window	385 mm
HD	H-point to door	183 mm
AD	Arm to door	131 mm

The seat back angle (SA°) is measured relative to vertical, all other angles are measured relative to horizontal.

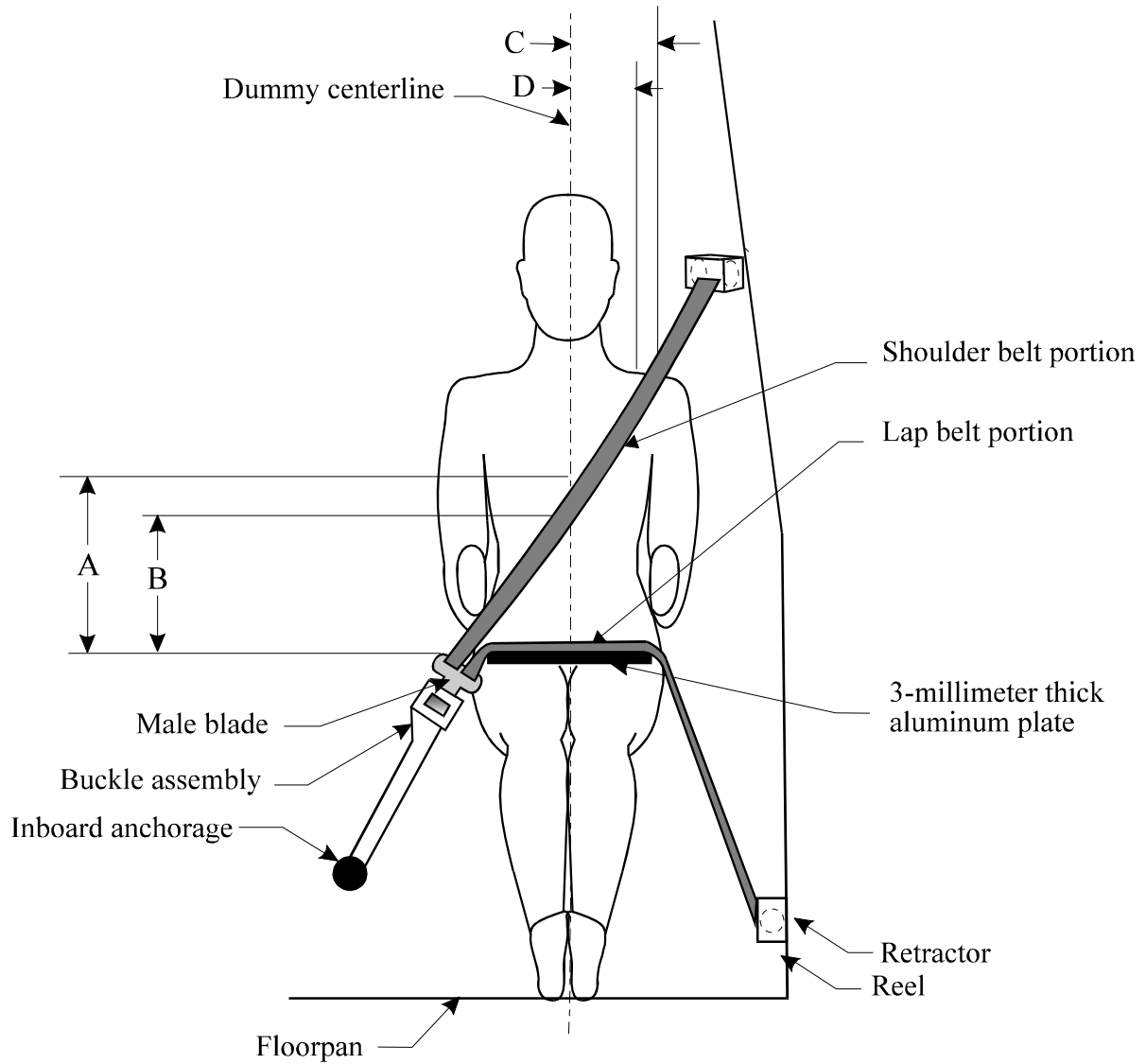
¹ A negative angle indicates that the measurement point was located above the striker.

Figure 12 Seat Belt Positioning Data



	Driver Dummy	Front Passenger Dummy
A - Top surface of aluminum plate to belt upper edge	270 mm	285 mm
B - Top surface of aluminum plate to belt lower edge	200 mm	220 mm
C - Dummy centerline to outer edge of belt at chest flesh top	150 mm	125 mm
D - Dummy centerline to inner edge of belt at chest flesh top	95 mm	65 mm

Figure 12 Seat Belt Positioning Data, continued



	Right Rear Passenger Dummy
A - Top surface of aluminum plate to belt upper edge	265 mm
B - Top surface of aluminum plate to belt lower edge	185 mm
C - Dummy centerline to outer edge of belt at chest flesh top	150 mm
D - Dummy centerline to inner edge of belt at chest flesh top	90 mm

Figure 13 Camera Positions

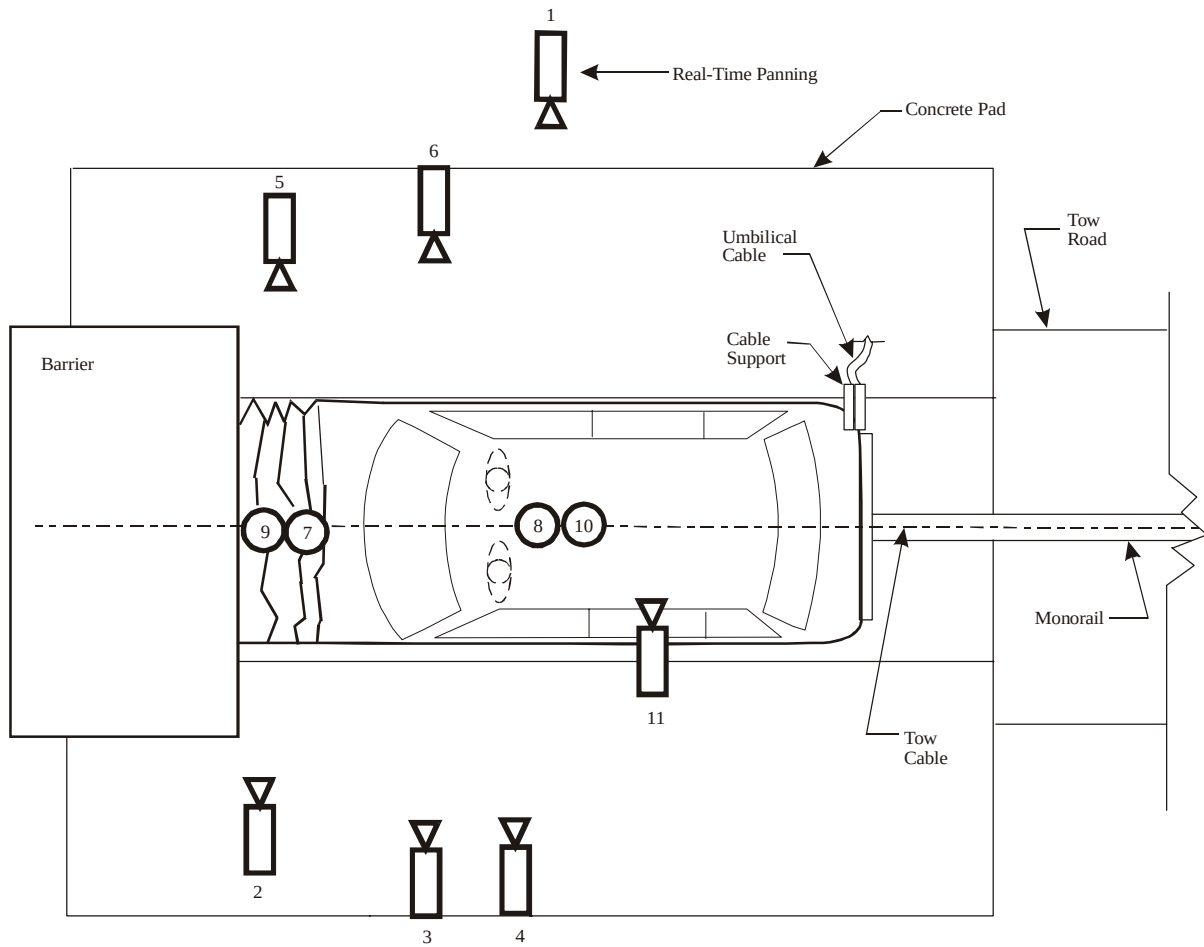


Table 14 Camera Information

Camera Number	Location	Type	Lens (mm)	Speed (frames/s)	Purpose of Camera Data
1	Panning	Panasonic	Zoom	30	Vehicle dynamics
2	Left side barrier face	Visario	50	1000	Vehicle crush
3	Left side perpendicular	Visario	20	1000	Vehicle dynamics
4	Left side	Redlake	25	1000	Dummy kinematics
5	Right side barrier face	Visario	50	1000	Vehicle crush
6	Right side perpendicular	Visario	25	1000	Vehicle dynamics
7	Overhead tight	Visario	50	1000	Vehicle crush
8	Overhead wide	Visario	25	1000	Vehicle crush
9	Underbody tight	Redlake	17	1000	Vehicle crush
10	Underbody wide	Redlake	8.5	1000	Vehicle crush
11	Left view of rear passenger	Redlake	8	N/A ¹	Dummy kinematics

¹ See Data Acquisition Explanations

Appendix A

Photographs



Figure A-1 Pre-Test Front View



Figure A-2 Post-Test Front View



Figure A-3 Pre-Test Left Front View



Figure A-4 Post-Test Left Front View



Figure A-5 Pre-Test Left Side View



Figure A-6 Post-Test Left Side View



Figure A-7 Post-Test Rear View

Intentionally Left Blank



Figure A-8 Pre-Test Right Rear View



Figure A-9 Post-Test Right Rear View



Figure A-10 Pre-Test Right Side View



Figure A-11 Post-Test Right Side View



Figure A-12 Post-Test Right Front View

Intentionally Left Blank



Figure A-13 Pre-Test Overhead View

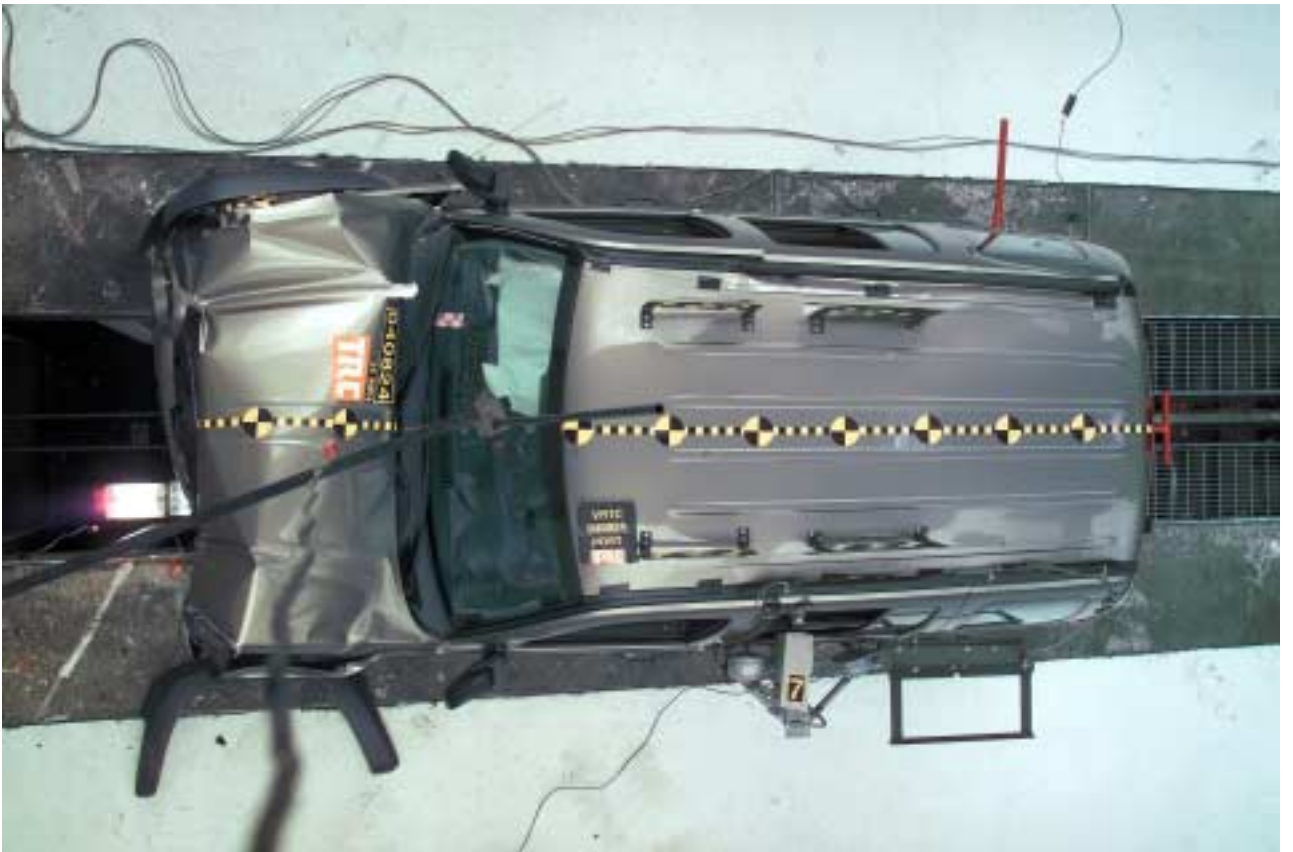


Figure A-14 Post-Test Overhead View



Figure A-15 Post-Test Overhead Close-up View

Intentionally Left Blank



Figure A-16 Pre-Test Front Underbody View



Figure A-17 Post-Test Front Underbody View



Figure A-18 Pre-Test Front Mid Underbody View



Figure A-19 Post-Test Front Mid Underbody View

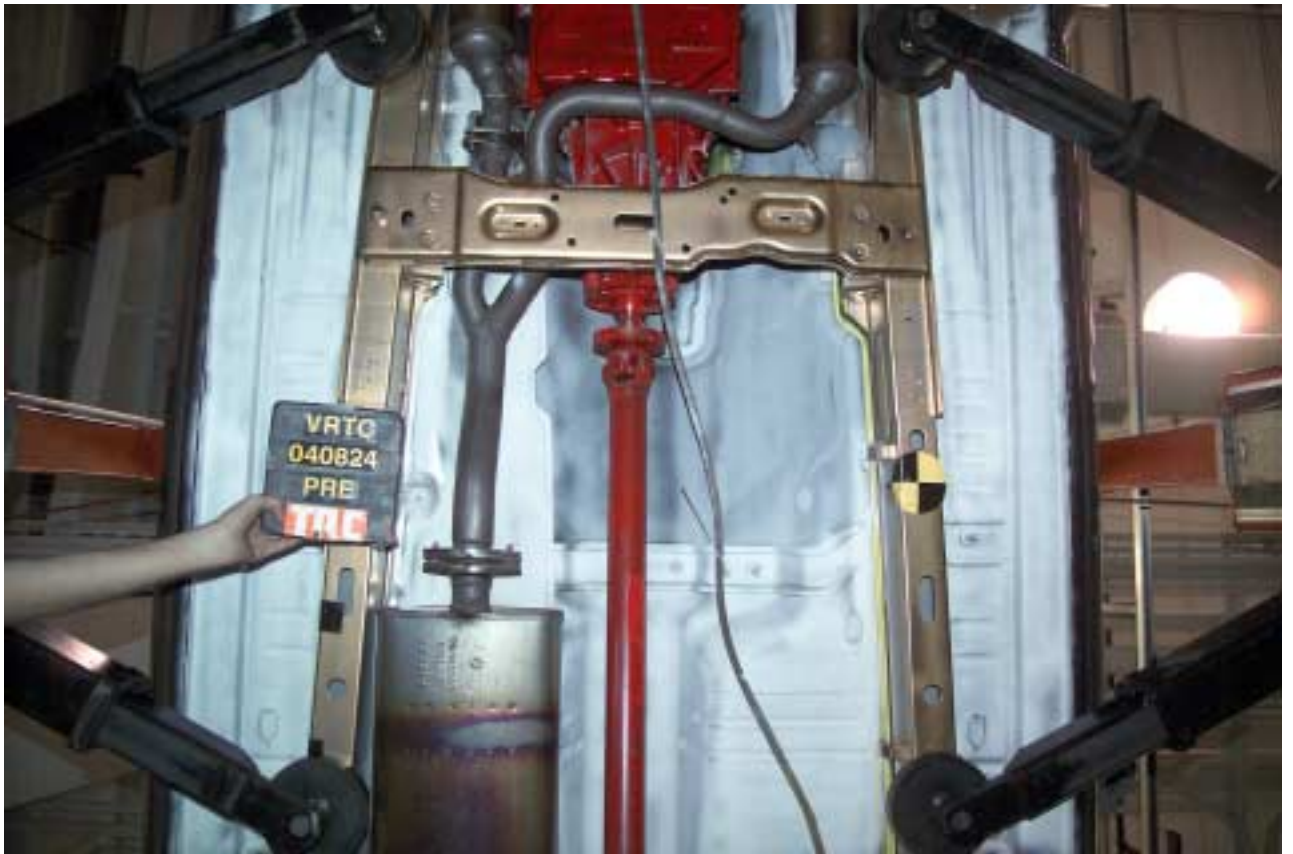


Figure A-20 Pre-Test Mid Underbody View



Figure A-21 Post-Test Mid Underbody View

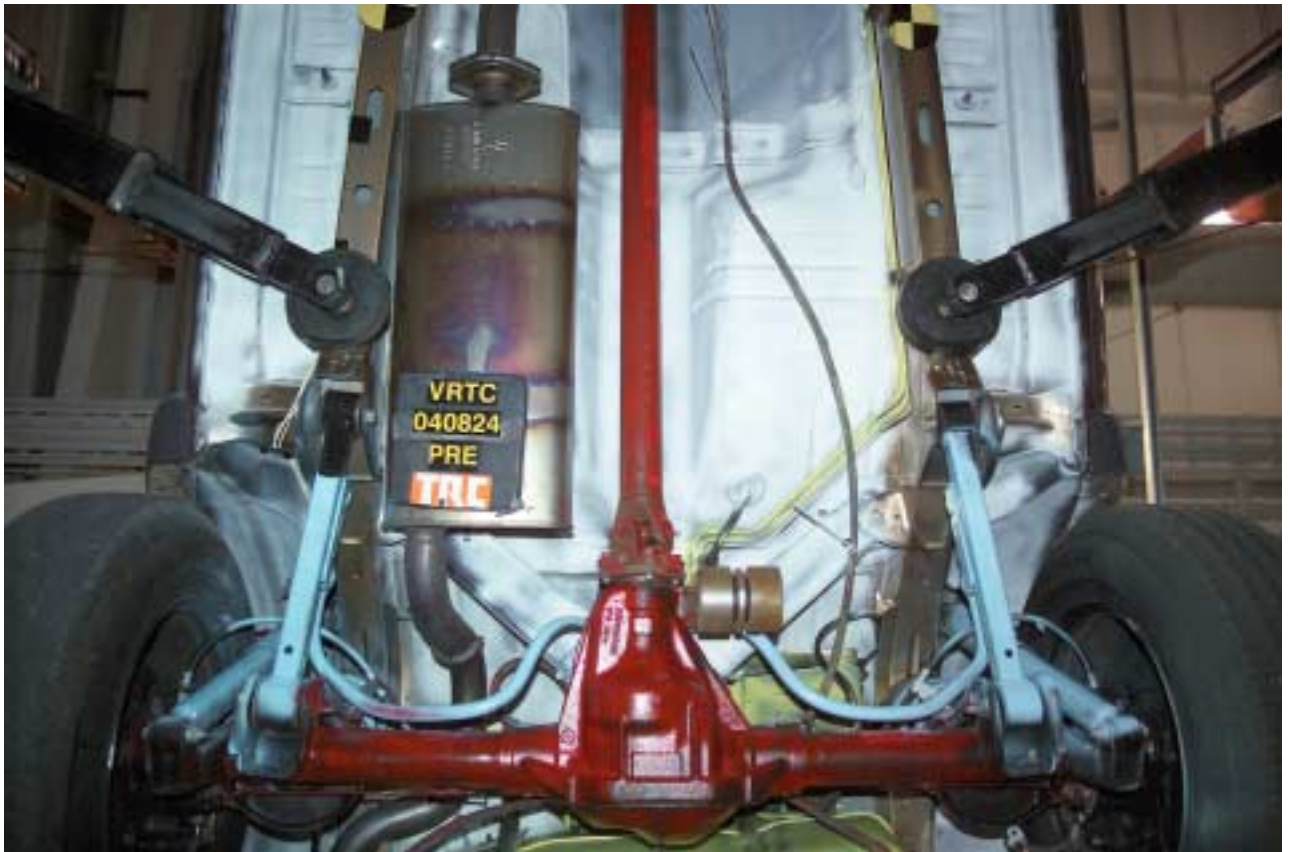


Figure A-22 Pre-Test Rear Mid Underbody View

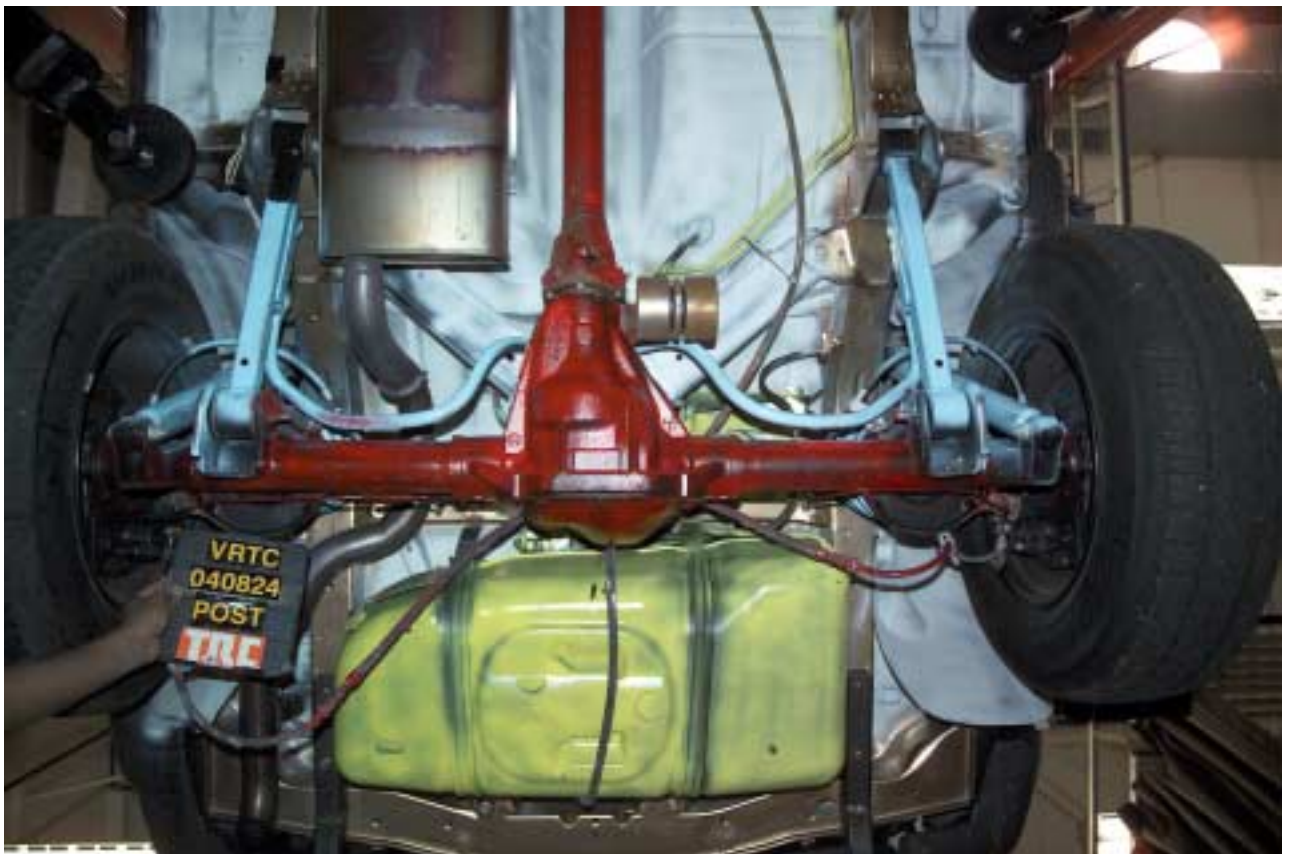


Figure A-23 Post-Test Rear Mid Underbody View

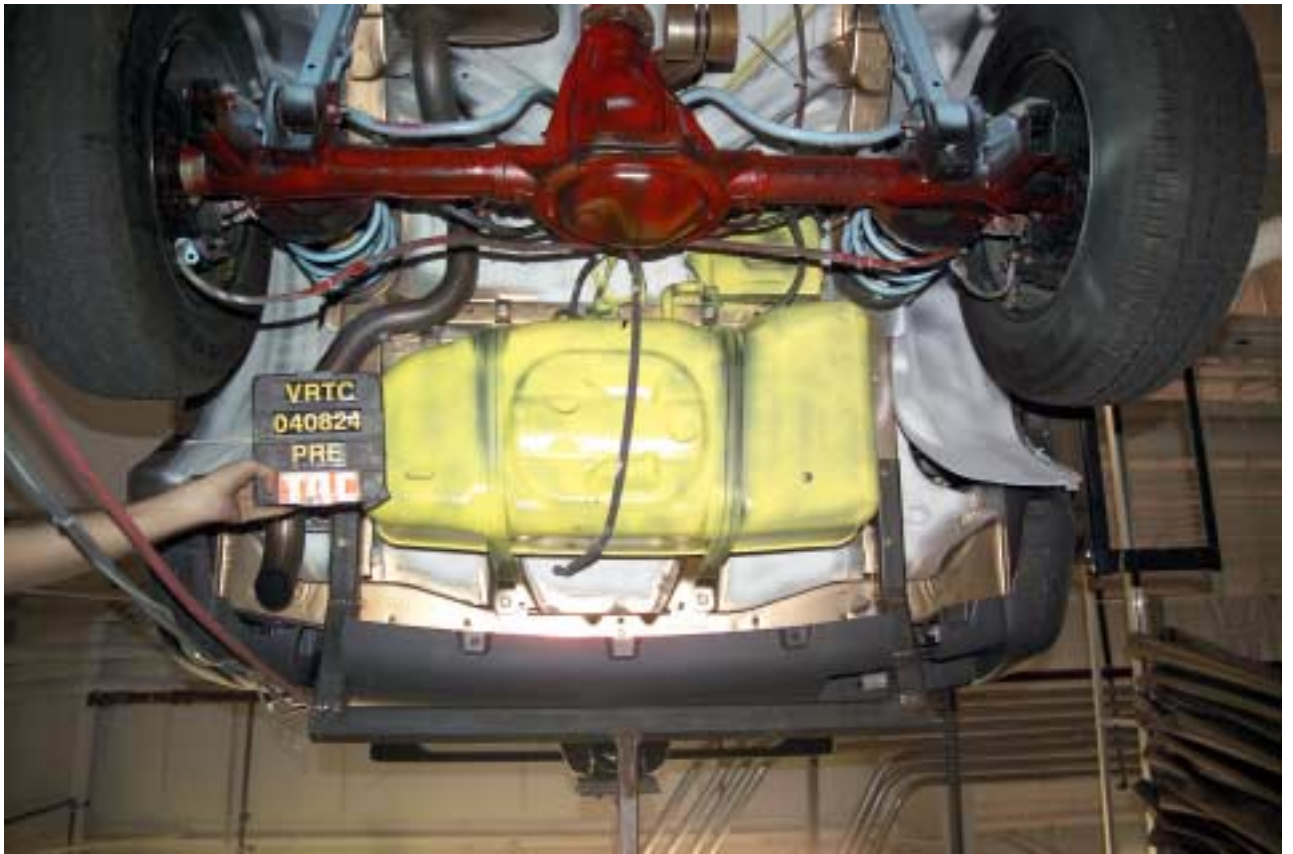


Figure A-24 Pre-Test Rear Underbody View



Figure A-25 Post-Test Rear Underbody View



Figure A-26 Pre-Test Fuel Tank View

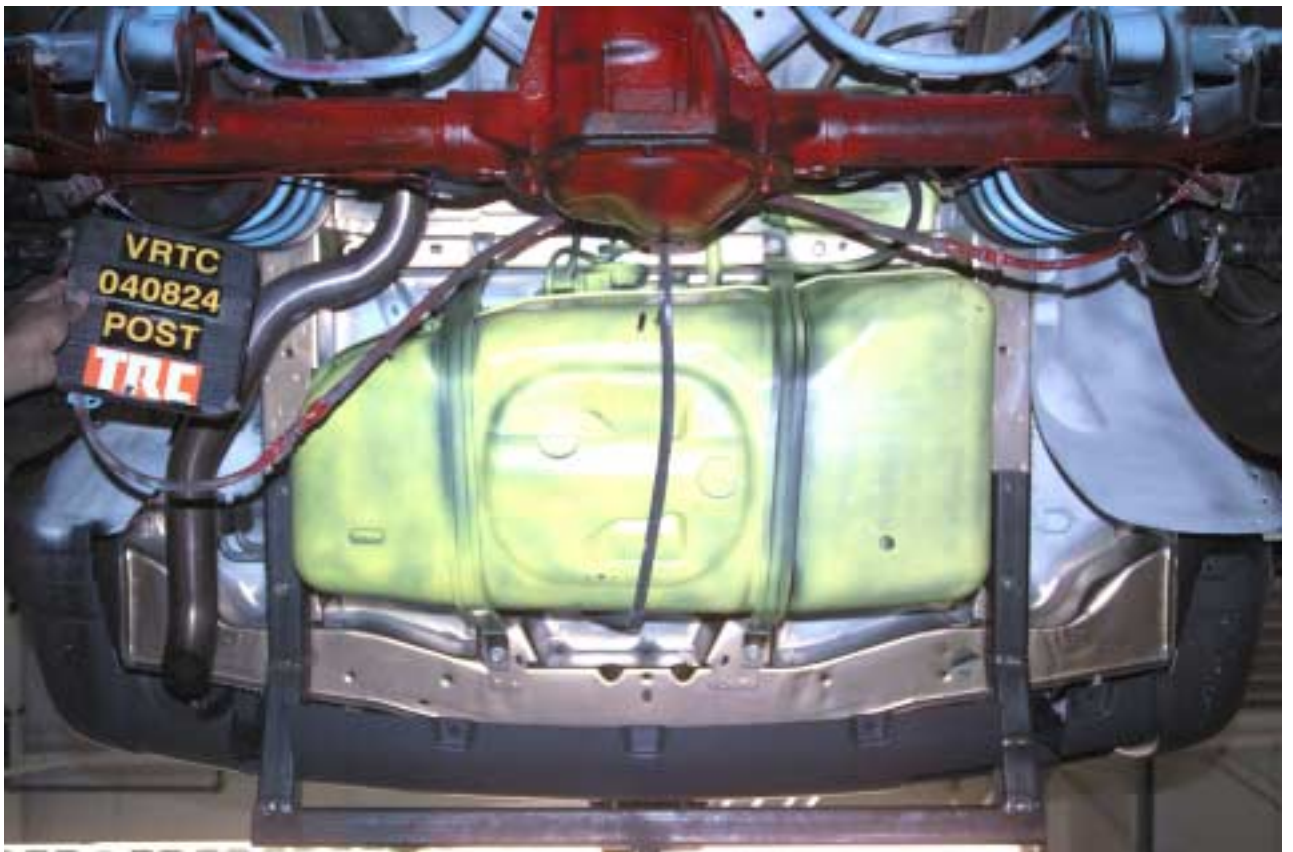


Figure A-27 Post-Test Fuel Tank View



Figure A-28 Pre-Test Fuel Filler Neck View



Figure A-29 Post-Test Fuel Filler Neck View



Figure A-30 Pre-Test Fuel Filler Cap View



Figure A-31 Post-Test Fuel Filler Cap View



Figure A-32 Pre-Test Engine Compartment View

Intentionally Left Blank



Figure A-33 Pre-Test Windshield View



Figure A-34 Post-Test Windshield View



Figure A-35 Pre-Test Driver and Passenger Dummies Front View



Figure A-36 Post-Test Driver and Passenger Dummies Front View

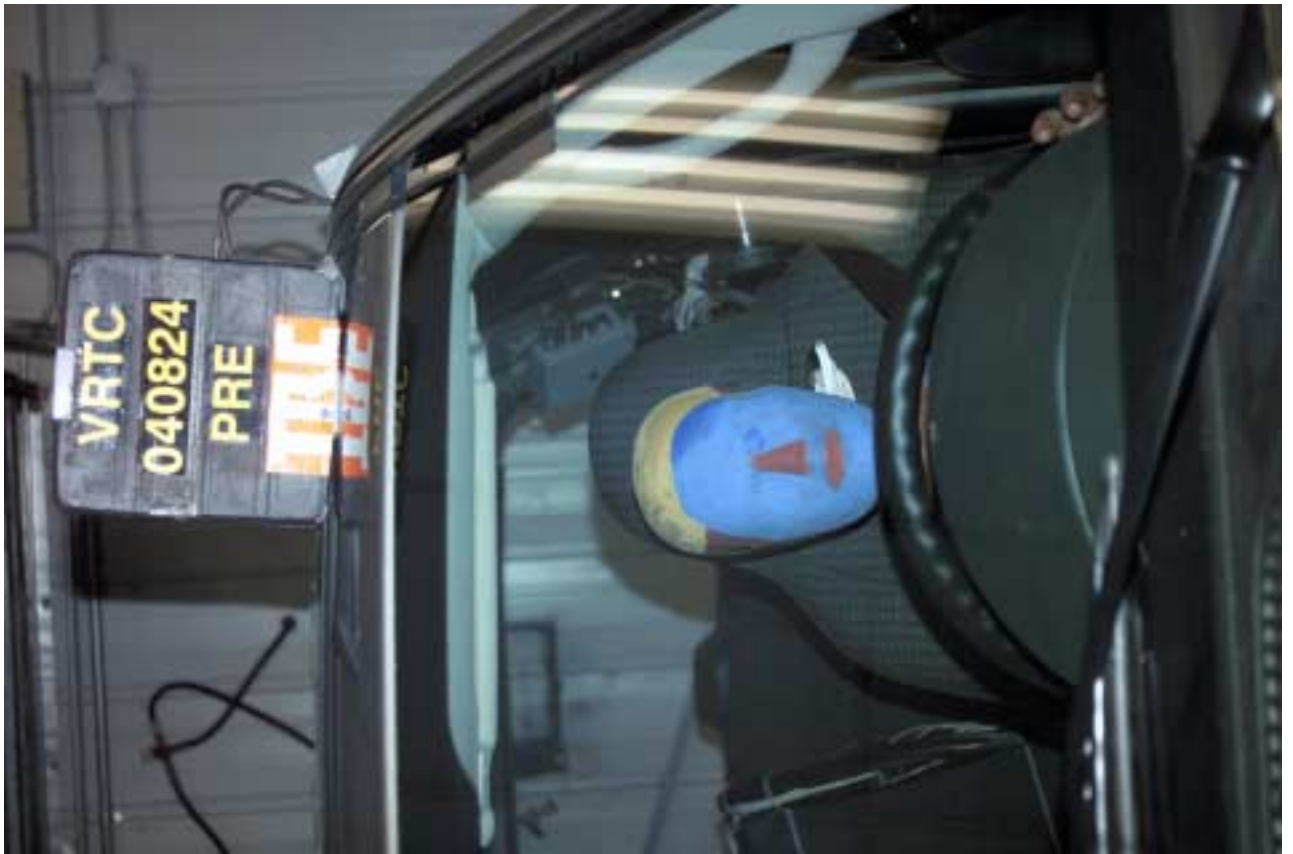


Figure A-37 Pre-Test Driver Dummy Position - View 1



Figure A-38 Post-Test Driver Dummy Position - View 1



Figure A-39 Pre-Test Driver Dummy Position - View 2



Figure A-40 Post-Test Driver Dummy Position - View 2



Figure A-41 Pre-Test Driver Dummy Position - View 3



Figure A-42 Post-Test Driver Dummy Position - View 3



Figure A-43 Pre-Test Driver Dummy Position - View 4



Figure A-44 Post-Test Driver Dummy Position - View 4



Figure A-45 Pre-Test Driver Dummy Knee Position View



Figure A-46 Post-Test Driver Dummy Knee Position View



Figure A-47 Post-Test Driver Dummy Overall View



Figure A-48 Post-Test Driver Dummy Head Contact - View 1



Figure A-49 Post-Test Driver Dummy Head Contact - View 2



Figure A-50 Post-Test Driver Dummy Head Contact - View 3

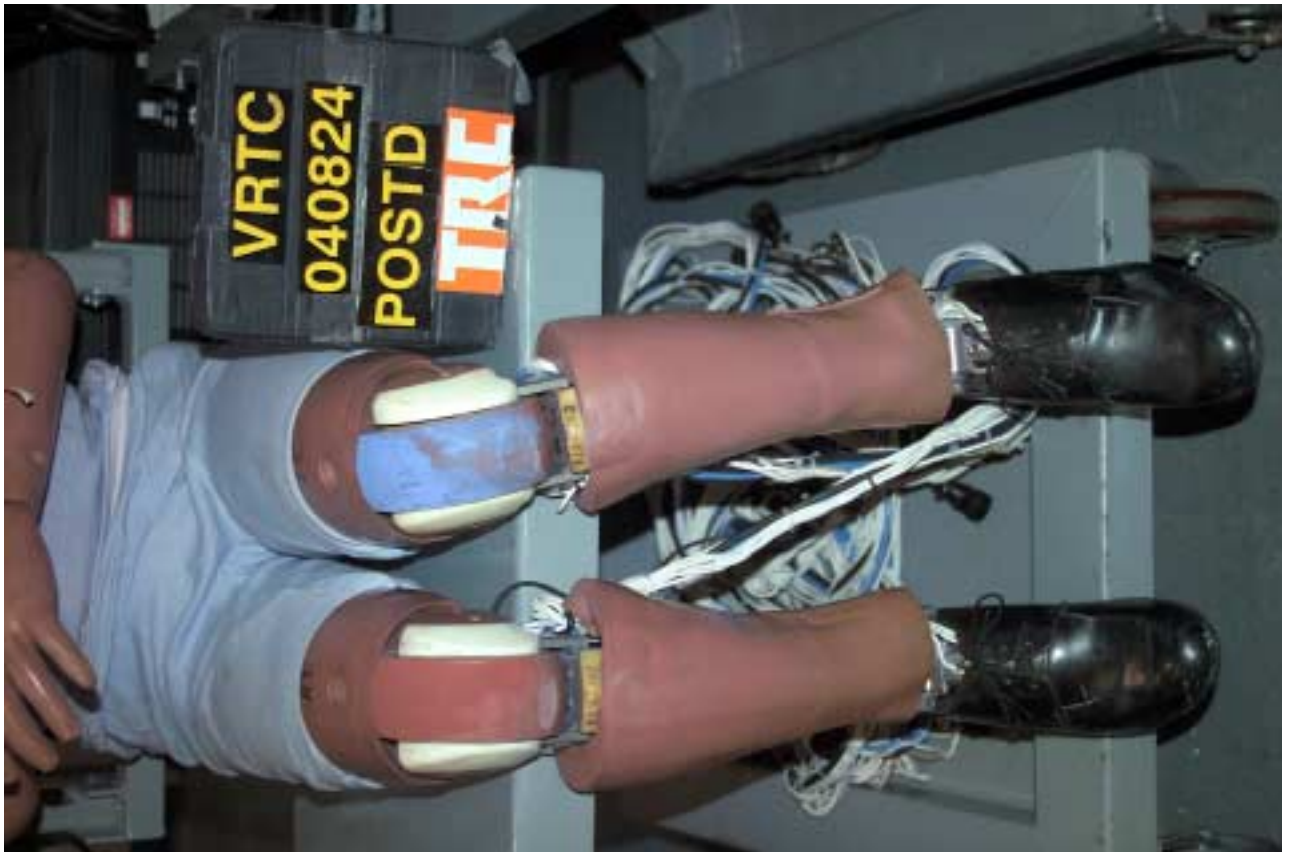


Figure A-51 Post-Test Driver Dummy Knee Contact - View 1



Figure A-52 Post-Test Driver Dummy Knee Contact - View 2



Figure A-53 Pre-Test Front Passenger Dummy Position - View 1



Figure A-54 Post-Test Front Passenger Dummy Position - View 1



Figure A-55 Pre-Test Front Passenger Dummy Position - View 2



Figure A-56 Post-Test Front Passenger Dummy Position - View 2



Figure A-57 Pre-Test Front Passenger Dummy Position - View 3



Figure A-58 Post-Test Front Passenger Dummy Position - View 3



Figure A-59 Pre-Test Front Passenger Dummy Position - View 4



Figure A-60 Post-Test Front Passenger Dummy Position - View 4



Figure A-61 Pre-Test Front Passenger Dummy Knee Position View



Figure A-62 Post-Test Front Passenger Dummy Knee Position View



Figure A-63 Post-Test Front Passenger Dummy Overall View



Figure A-64 Post-Test Front Passenger Dummy Head Contact - View 1



Figure A-65 Post-Test Front Passenger Dummy Head Contact - View 2



Figure A-66 Post-Test Front Passenger Dummy Head Contact - View 3



Figure A-67 Post-Test Front Passenger Dummy Knee Contact - View 1



Figure A-68 Post-Test Front Passenger Dummy Knee Contact - View 2



Figure A-69 Pre-Test Rear Passenger Dummy - View 1



Figure A-70 Post-Test Rear Passenger Dummy - View 1



Figure A-71 Pre-Test Rear Passenger Dummy - View 2



Figure A-72 Post-Test Rear Passenger Dummy - View 2



Figure A-73 Pre-Test Rear Passenger Dummy - View 3



Figure A-74 Post-Test Rear Passenger Dummy - View 3



Figure A-75 Post-Test Rear Passenger Dummy Overall View



Figure A-76 Post-Test Rear Passenger Dummy Head Contact - View 1



Figure A-77 Post-Test Rear Passenger Dummy Head Contact - View 2



Figure A-78 Post-Test Rear Passenger Dummy Head Contact - View 3



Figure A-79 Post-Test Rear Passenger Dummy Knee Contact View

Intentionally Left Blank



Figure A-80 Vehicle Certification Label View



Figure A-81 Vehicle Tire Load Label View



Figure A-82 Pre-Test Ballast View

Intentionally Left Blank

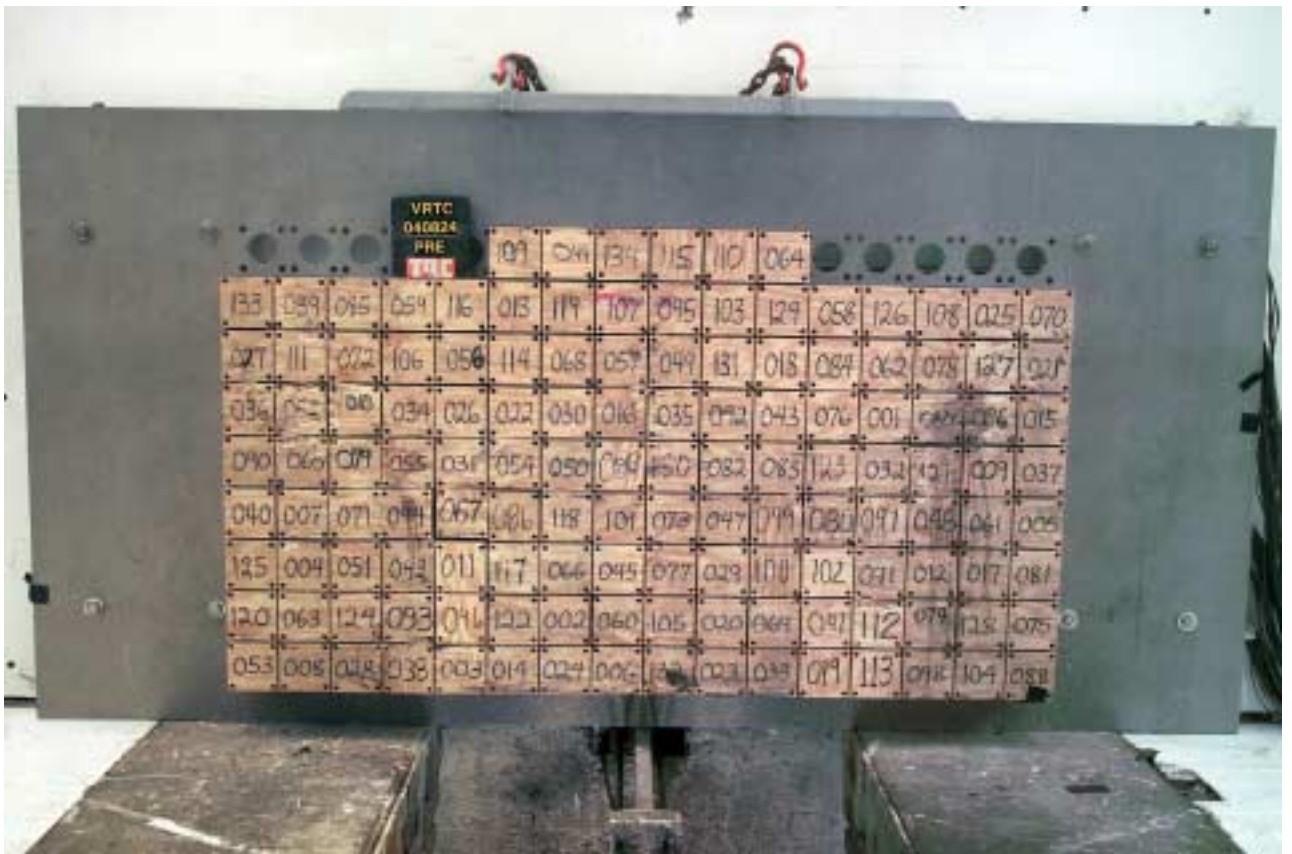


Figure A-83 Pre-Test Barrier View



Figure A-84 Post-Test Barrier View

Appendix B

Data Plots



Transportation Research Center, Inc.

Head Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

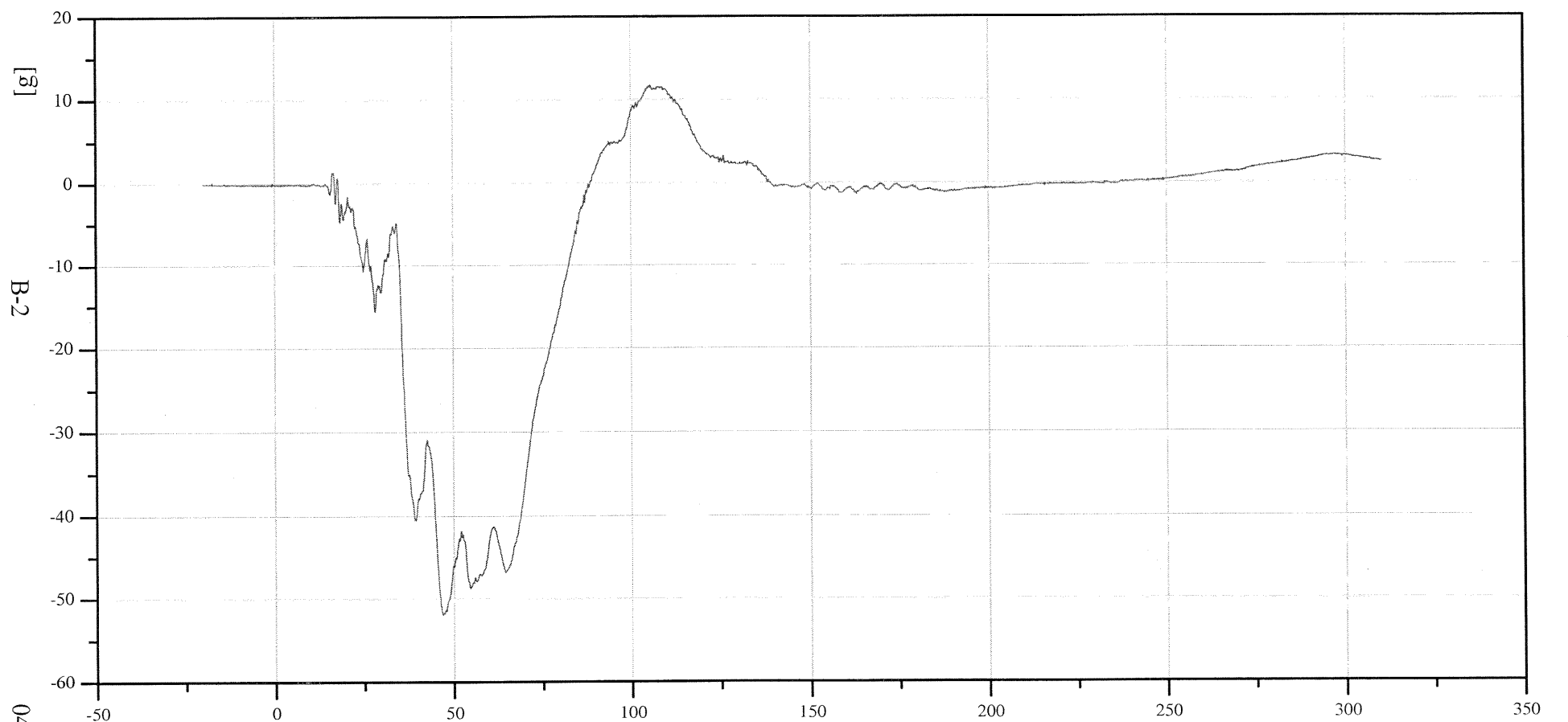
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDXG1



<Min Value>

-51.94 g at 46.96 ms

<Max Value>

11.67 g at 105.52 ms

Time [ms]

040824

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

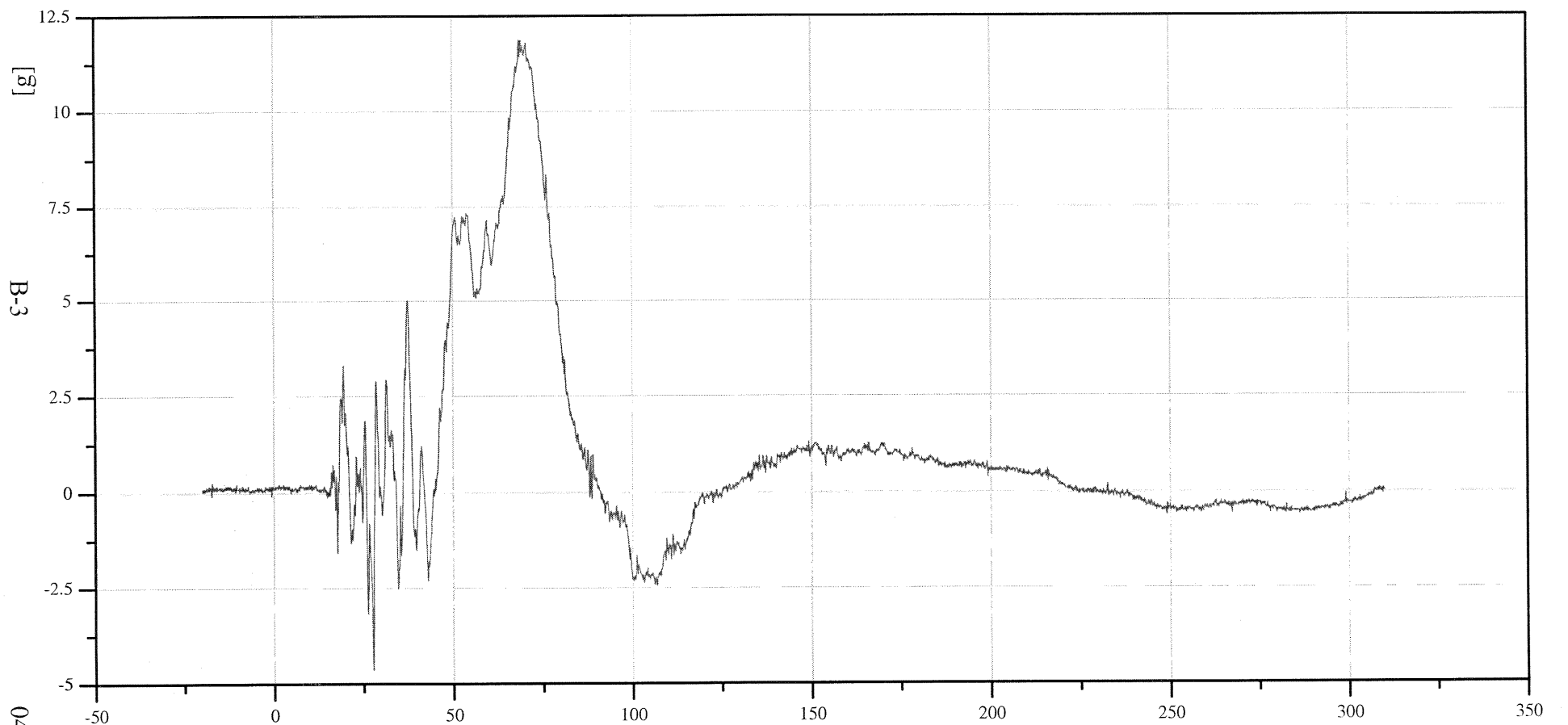
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDYG1



<Min Value>

-4.62 g at 27.68 ms

<Max Value>

11.86 g at 68.64 ms

Time [ms]

040824

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

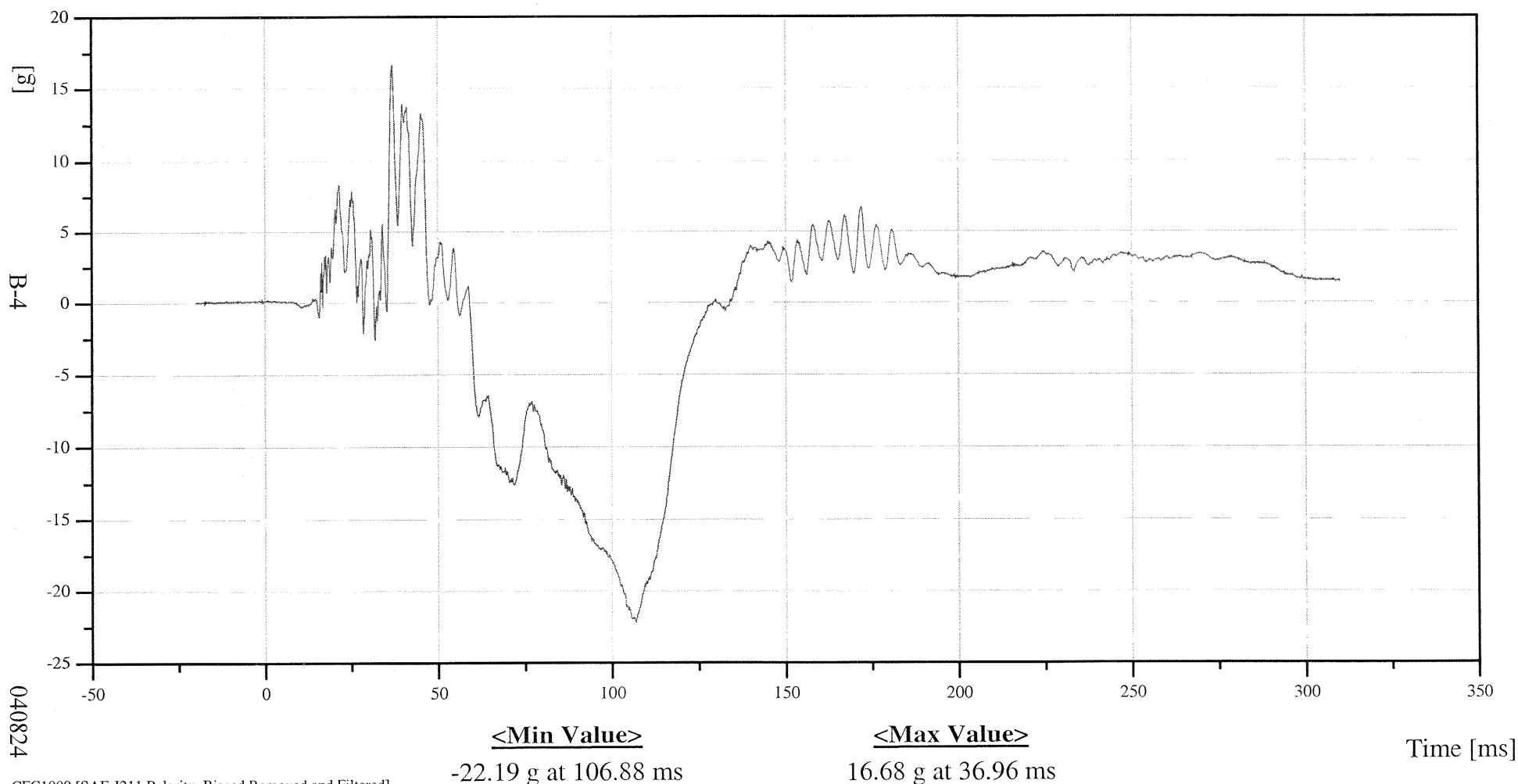
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDZG1





Transportation Research Center, Inc.

Head Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

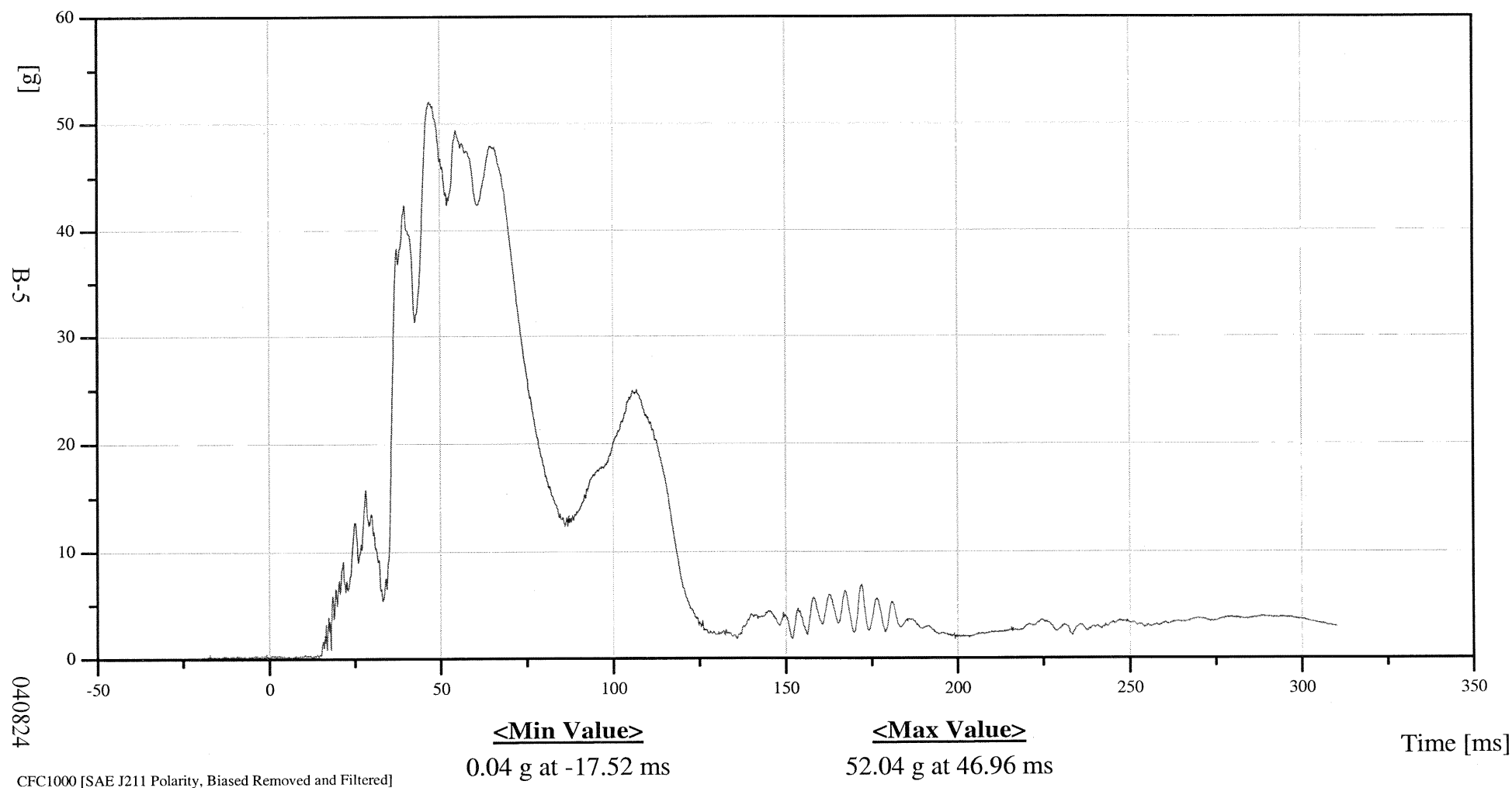
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDRG1





Transportation Research Center, Inc.

Head Accel Red X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

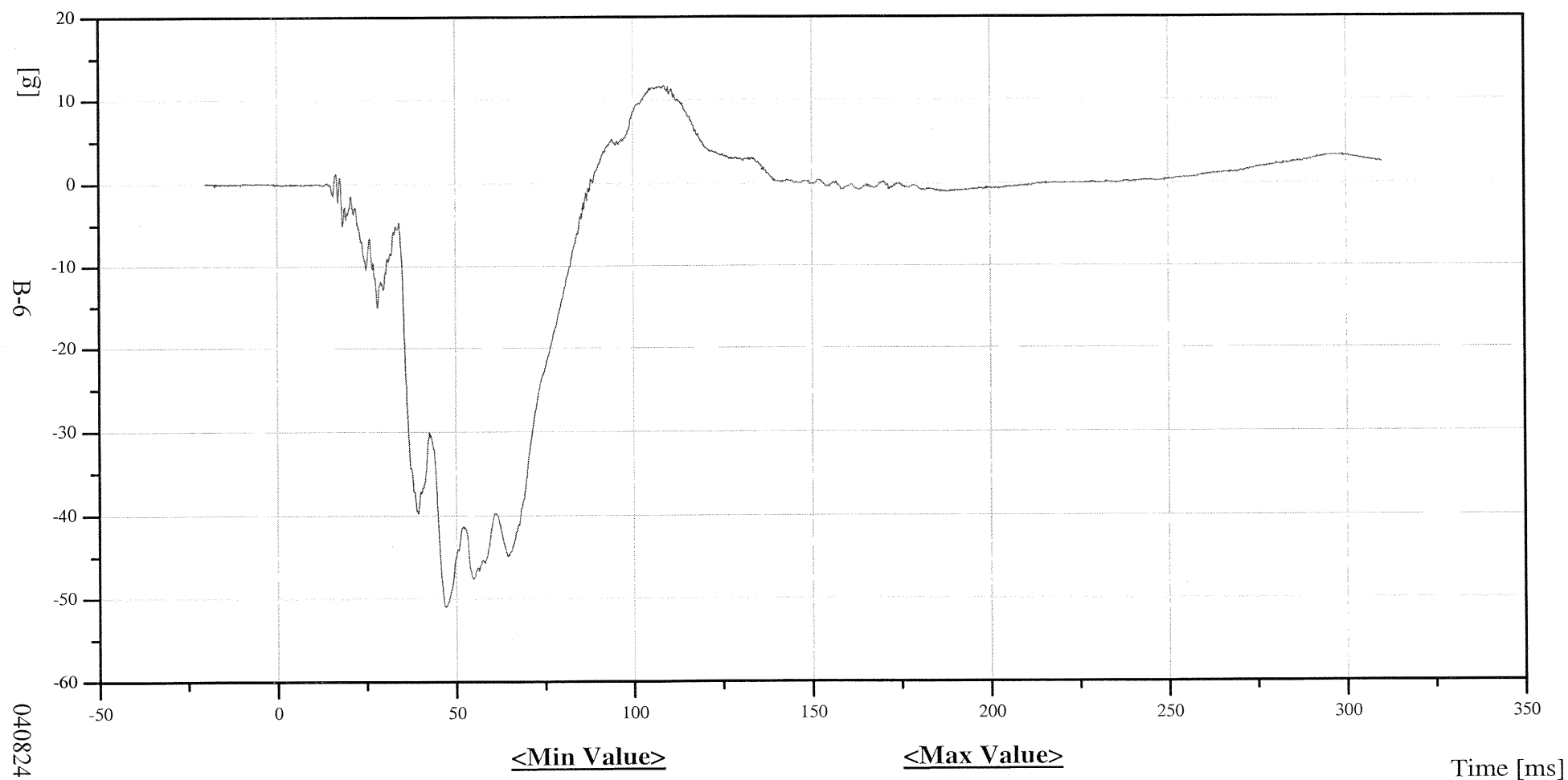
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDXR1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Red Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

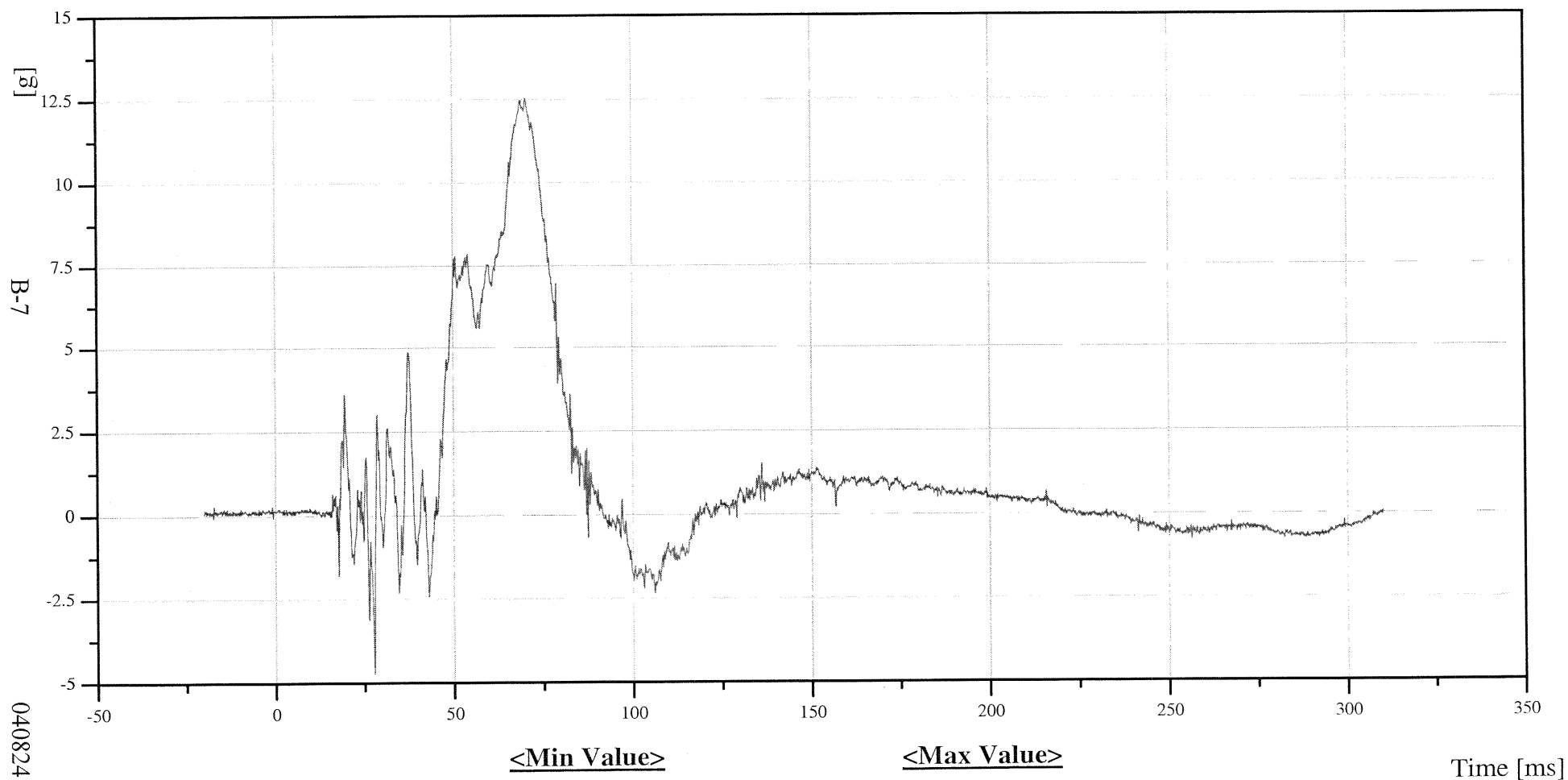
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDYR1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Red Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

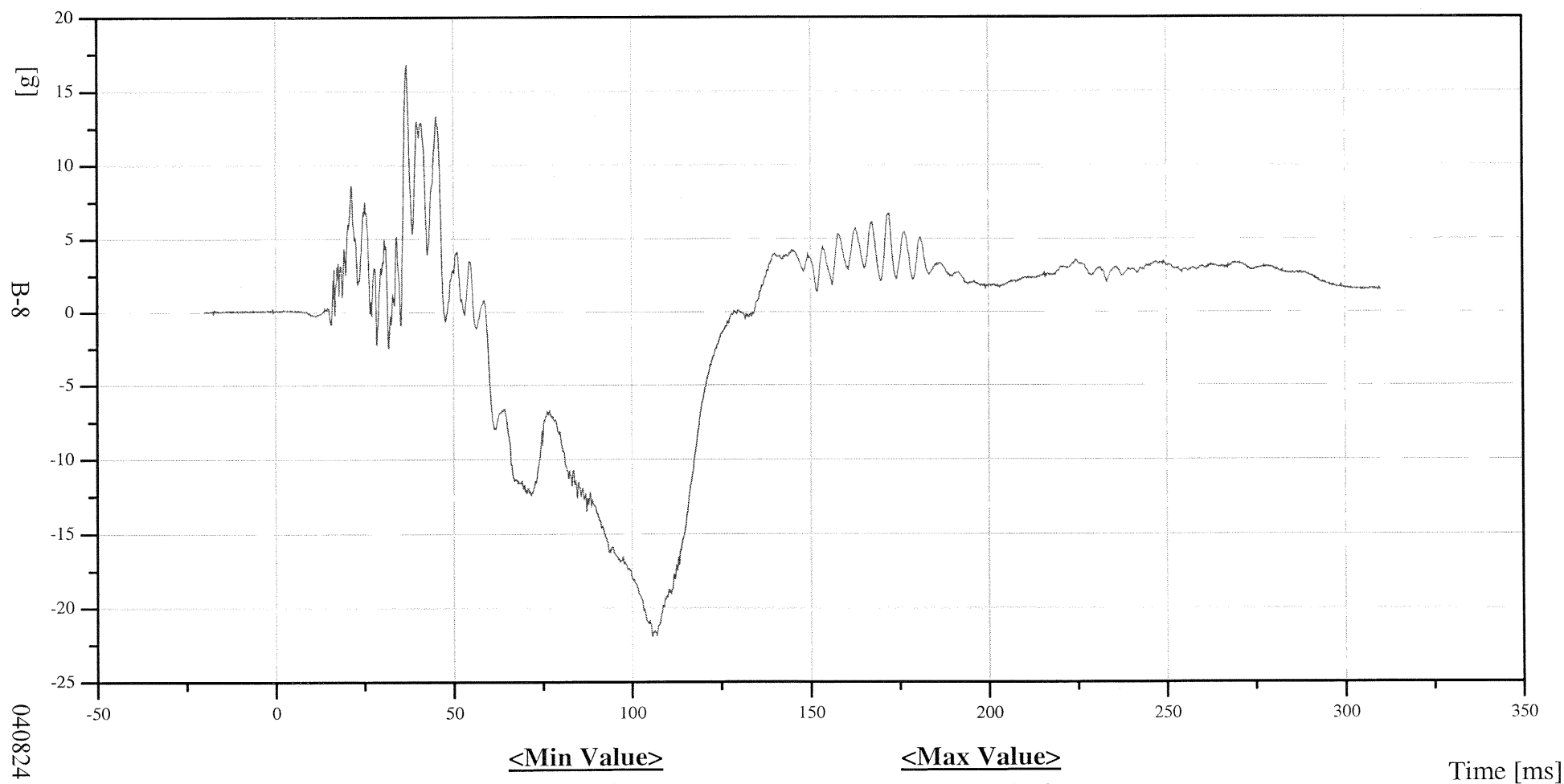
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDZR1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

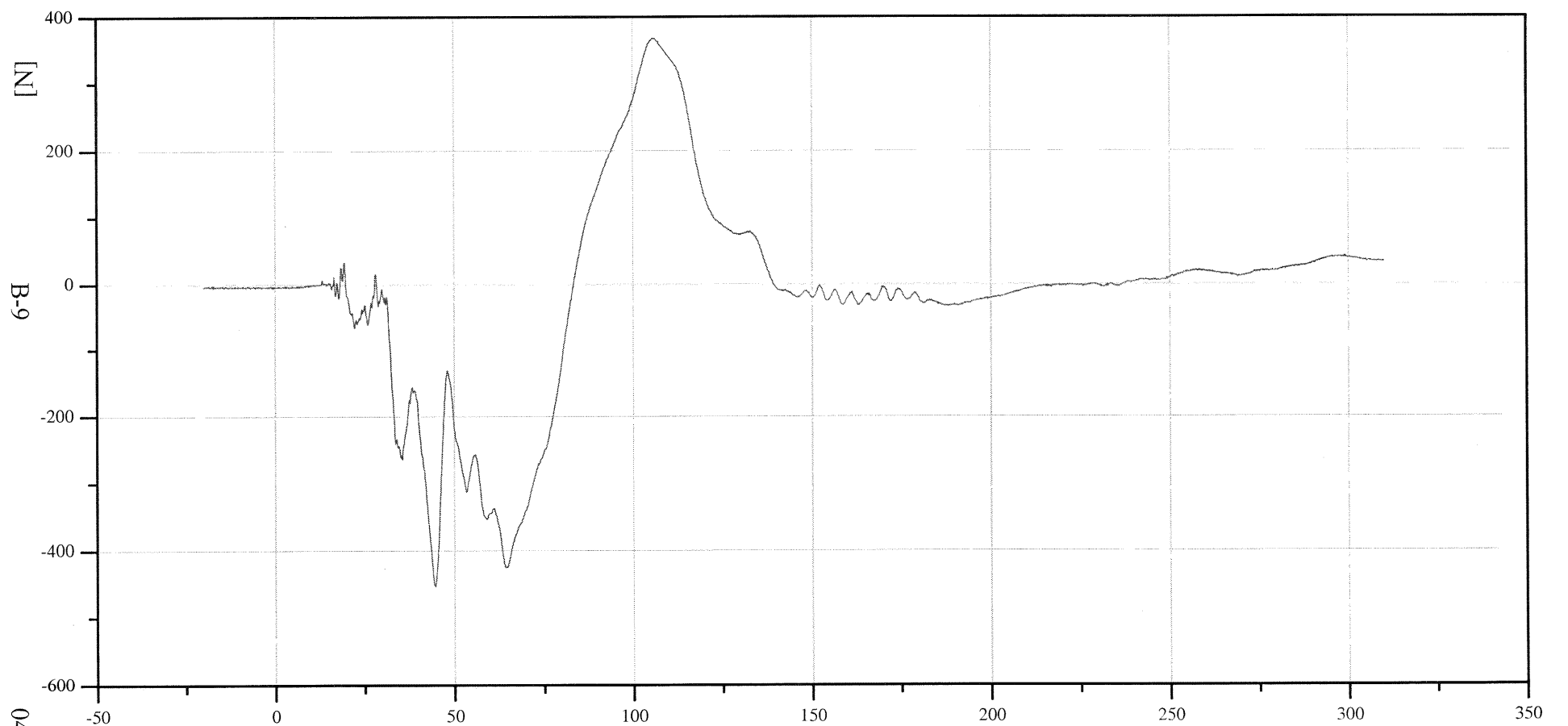
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKXF1



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<Max Value>

368.36 N at 105.76 ms

Time [ms]

040824

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Force Y

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

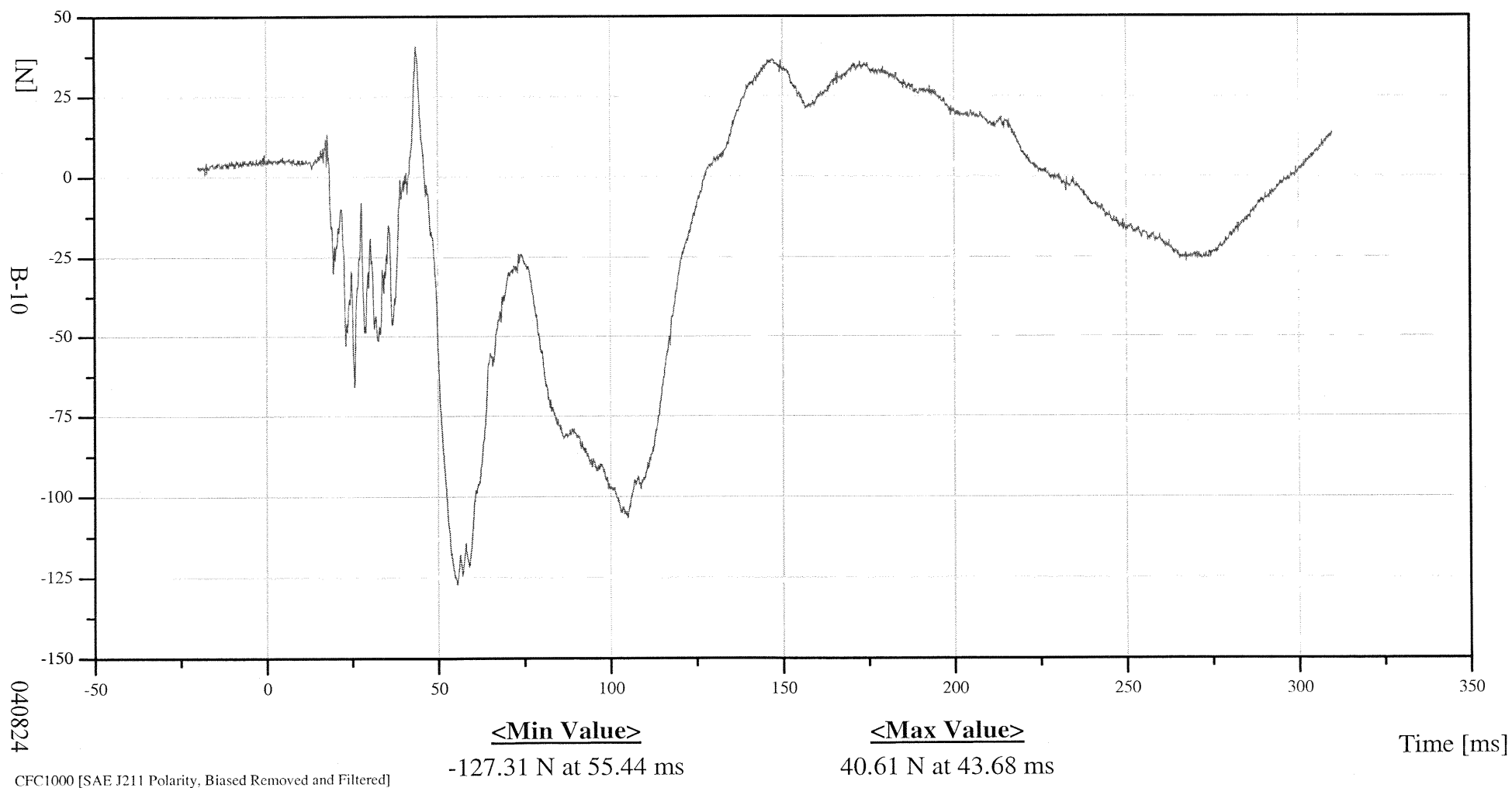
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKYF1





Transportation Research Center, Inc.

Neck Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

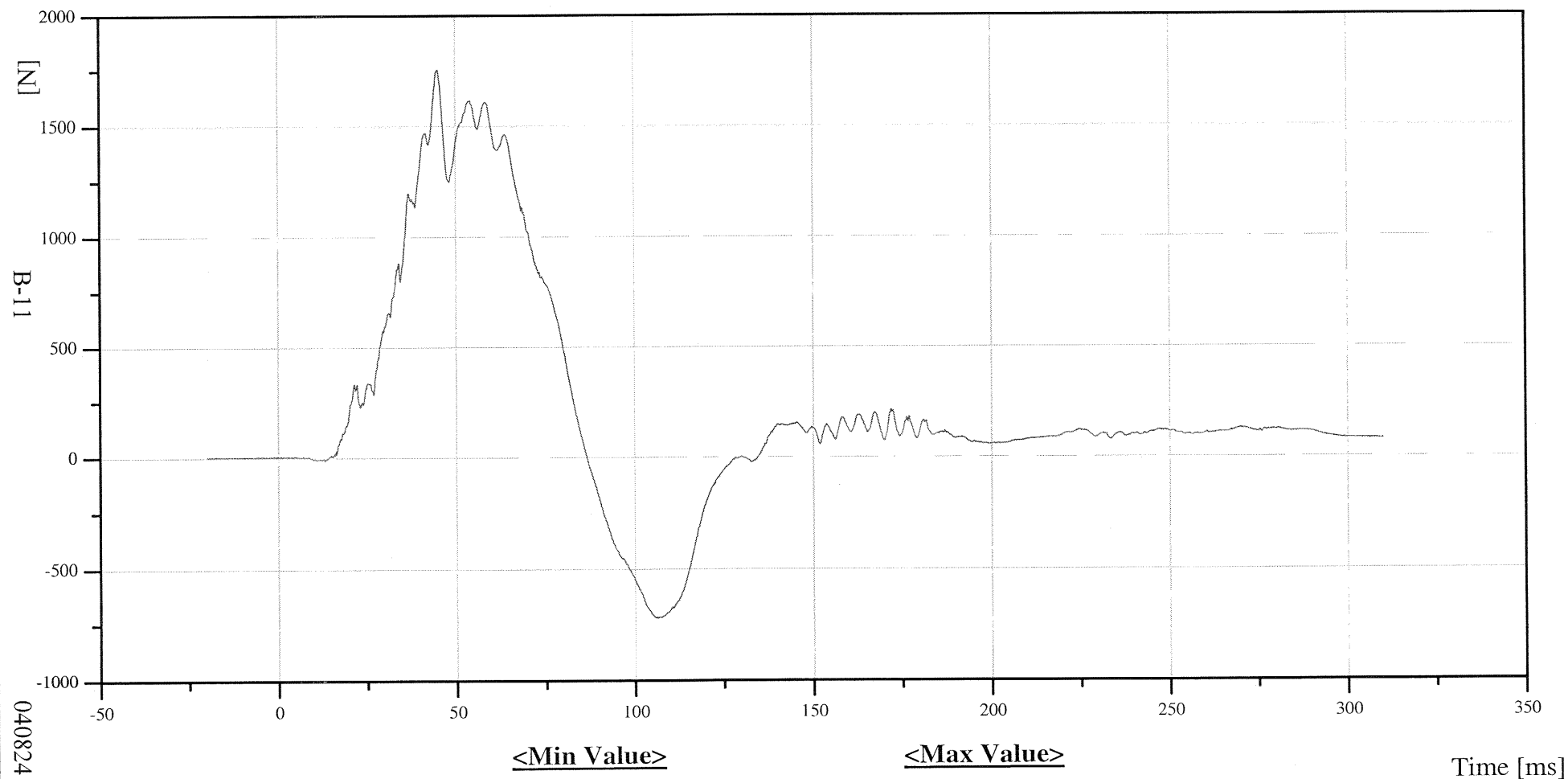
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKZF1





Transportation Research Center, Inc.

Neck Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

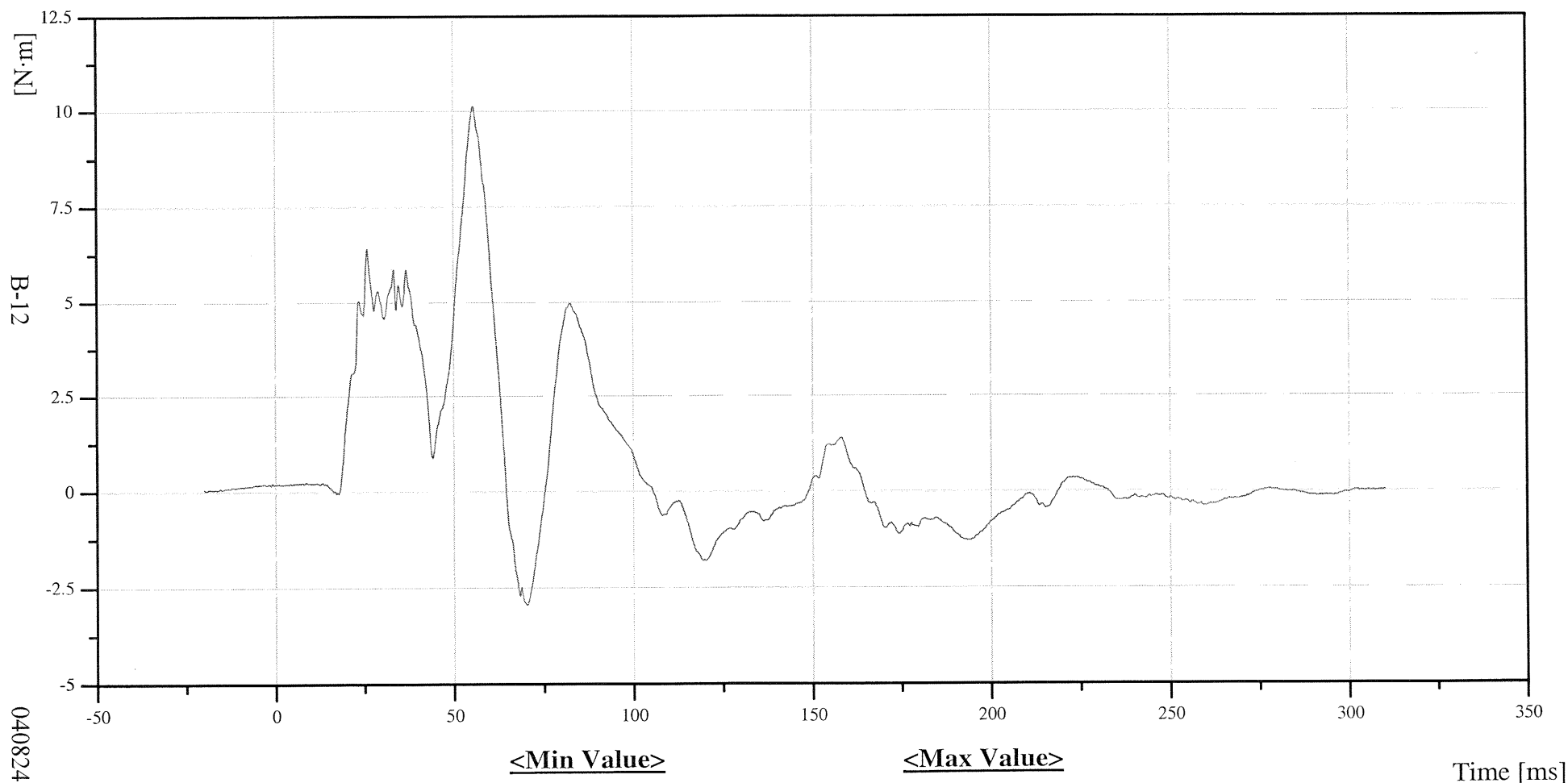
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKXM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

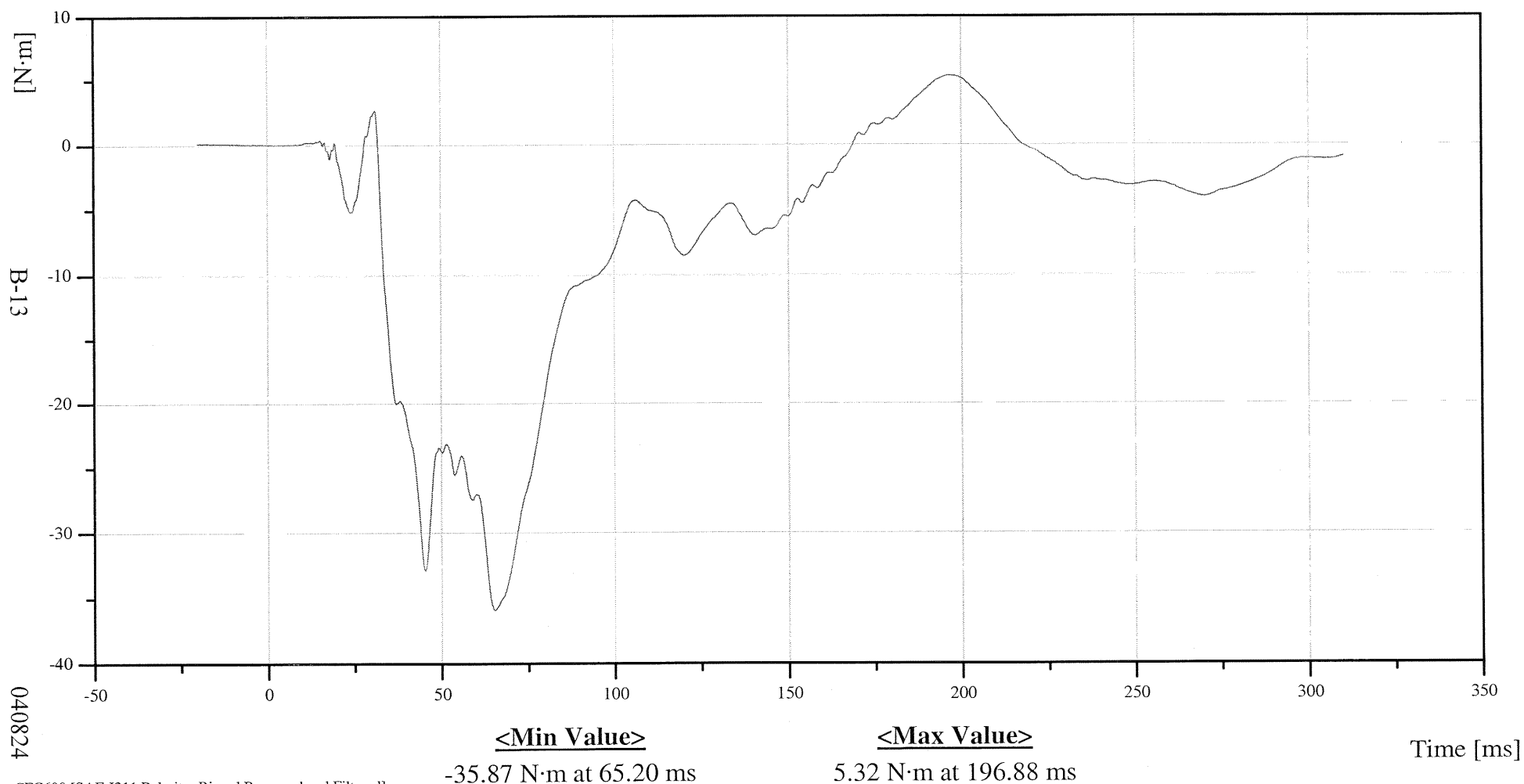
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKYM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Moment Z

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

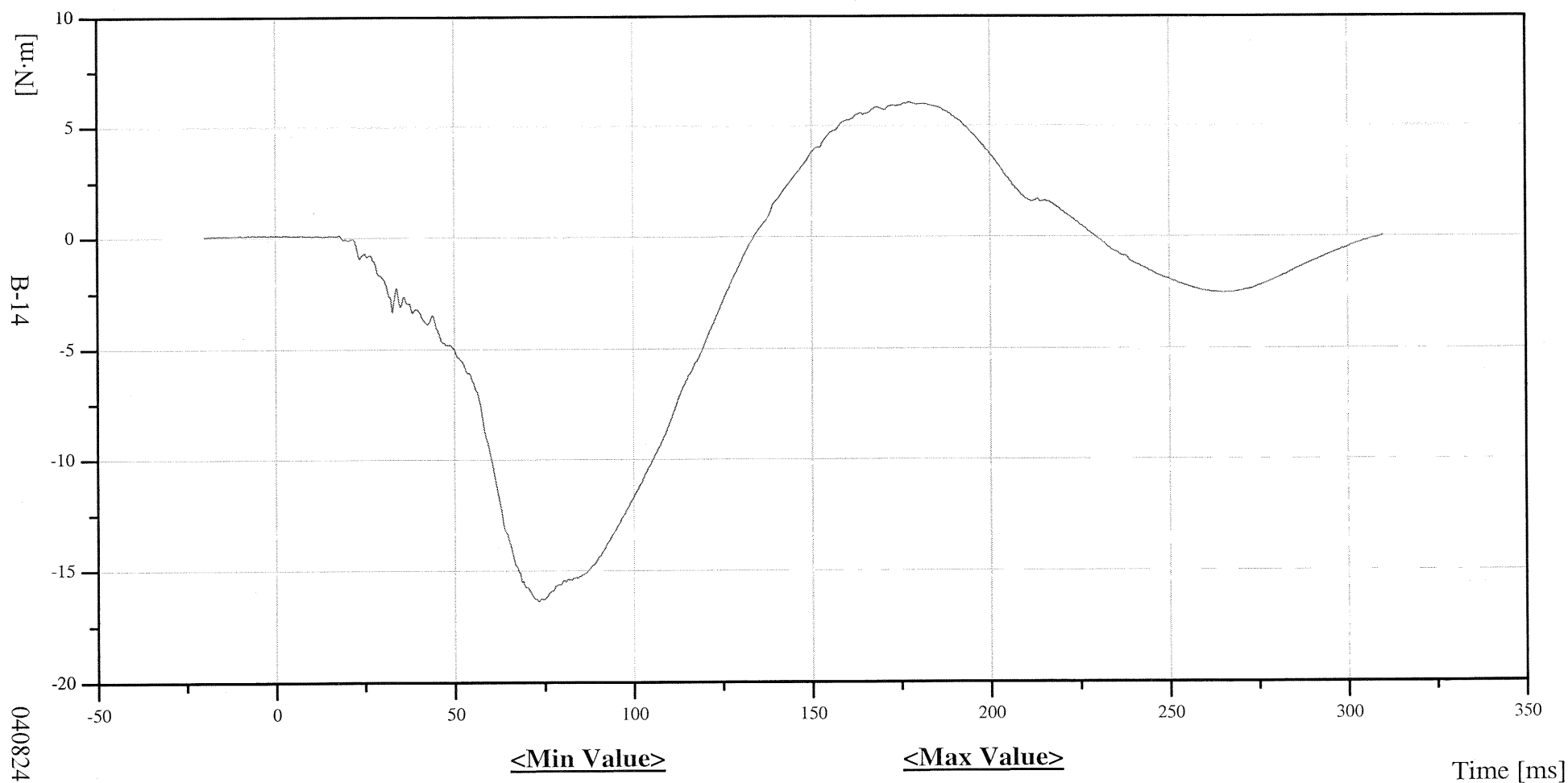
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKZM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force X

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

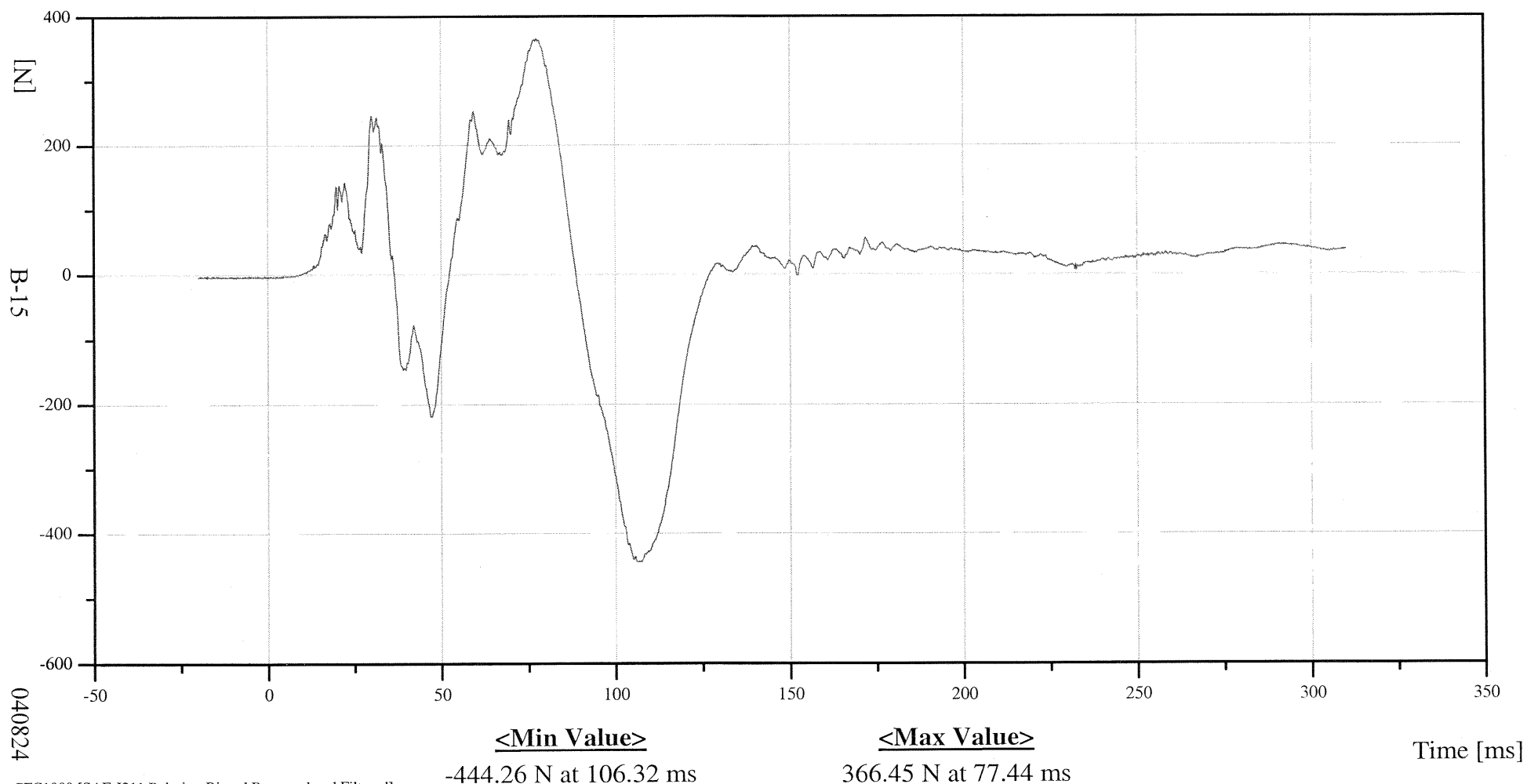
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLXF1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

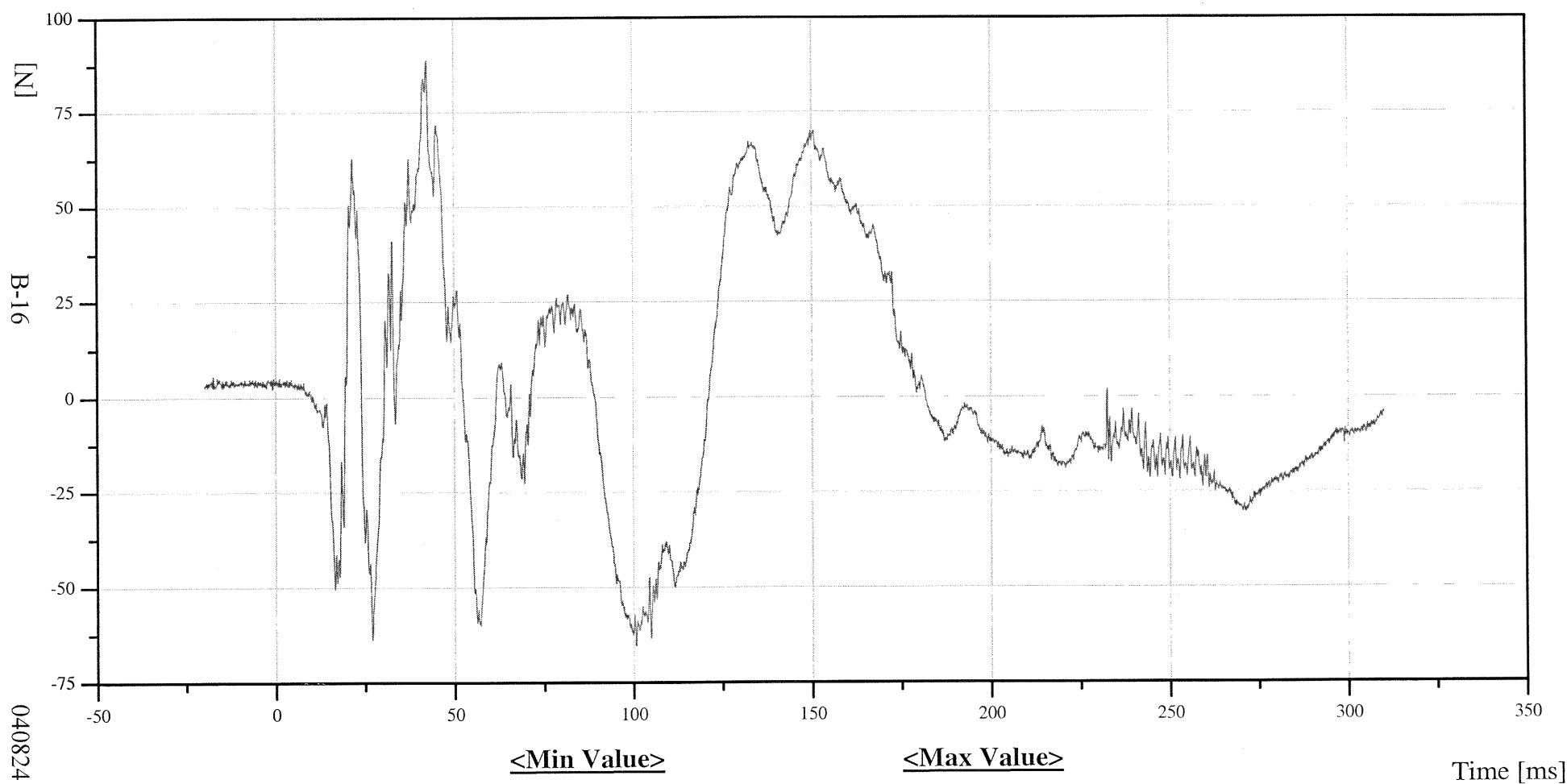
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLYF1



-65.42 N at 100.72 ms

88.81 N at 42.40 ms

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

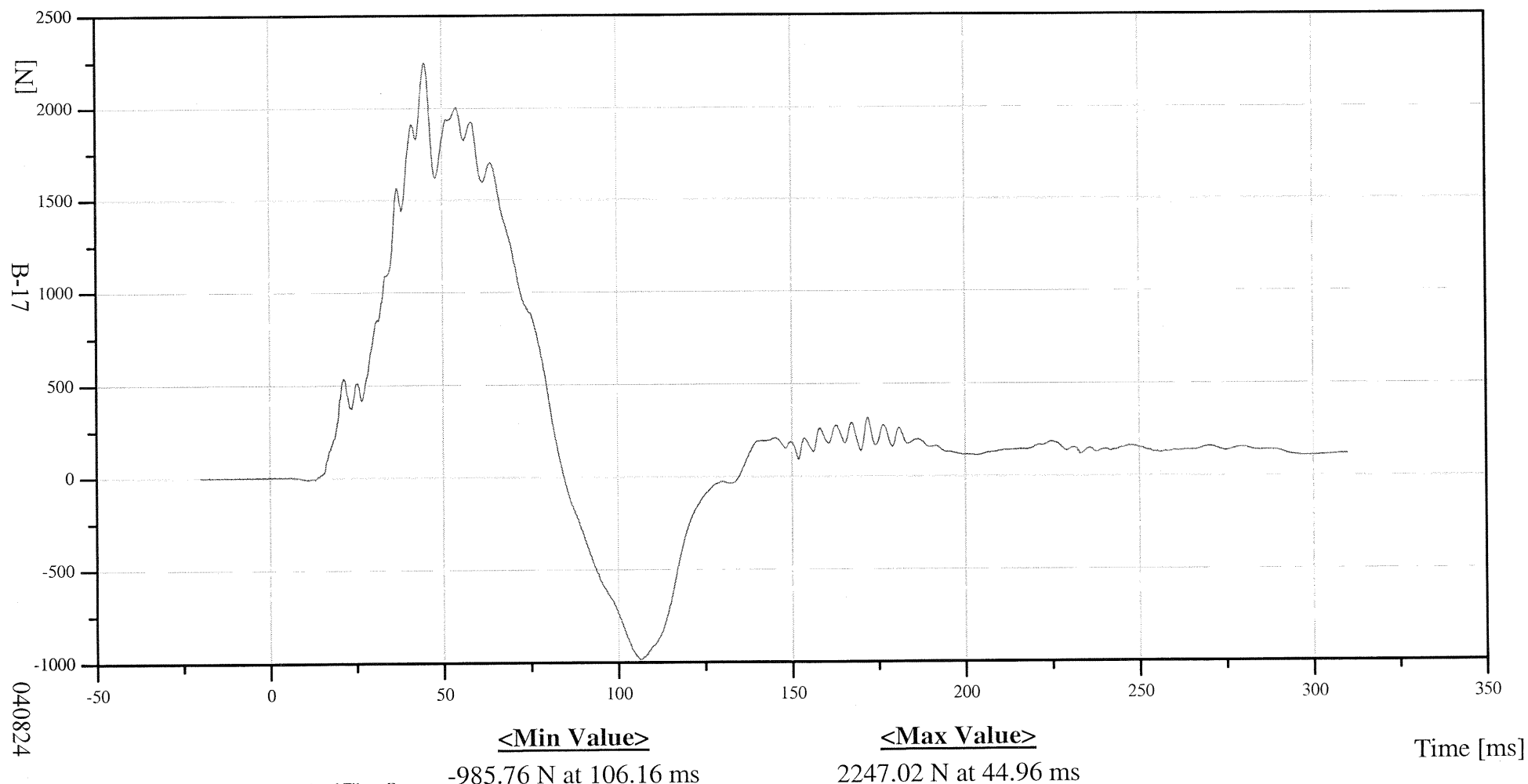
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLZF1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

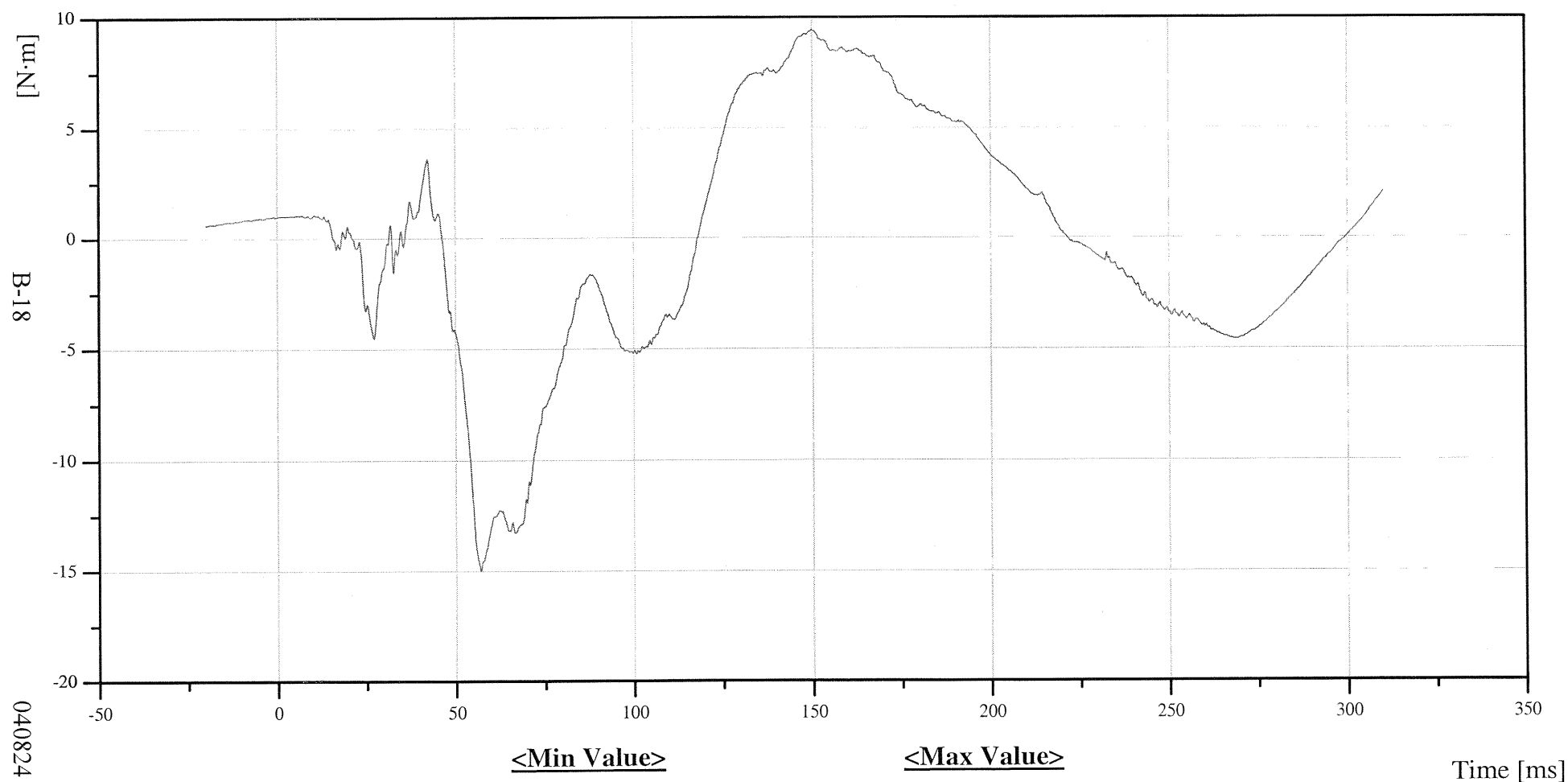
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLXM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]

-15.01 N·m at 56.88 ms

9.42 N·m at 149.92 ms



Transportation Research Center, Inc.

Neck Lwr Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

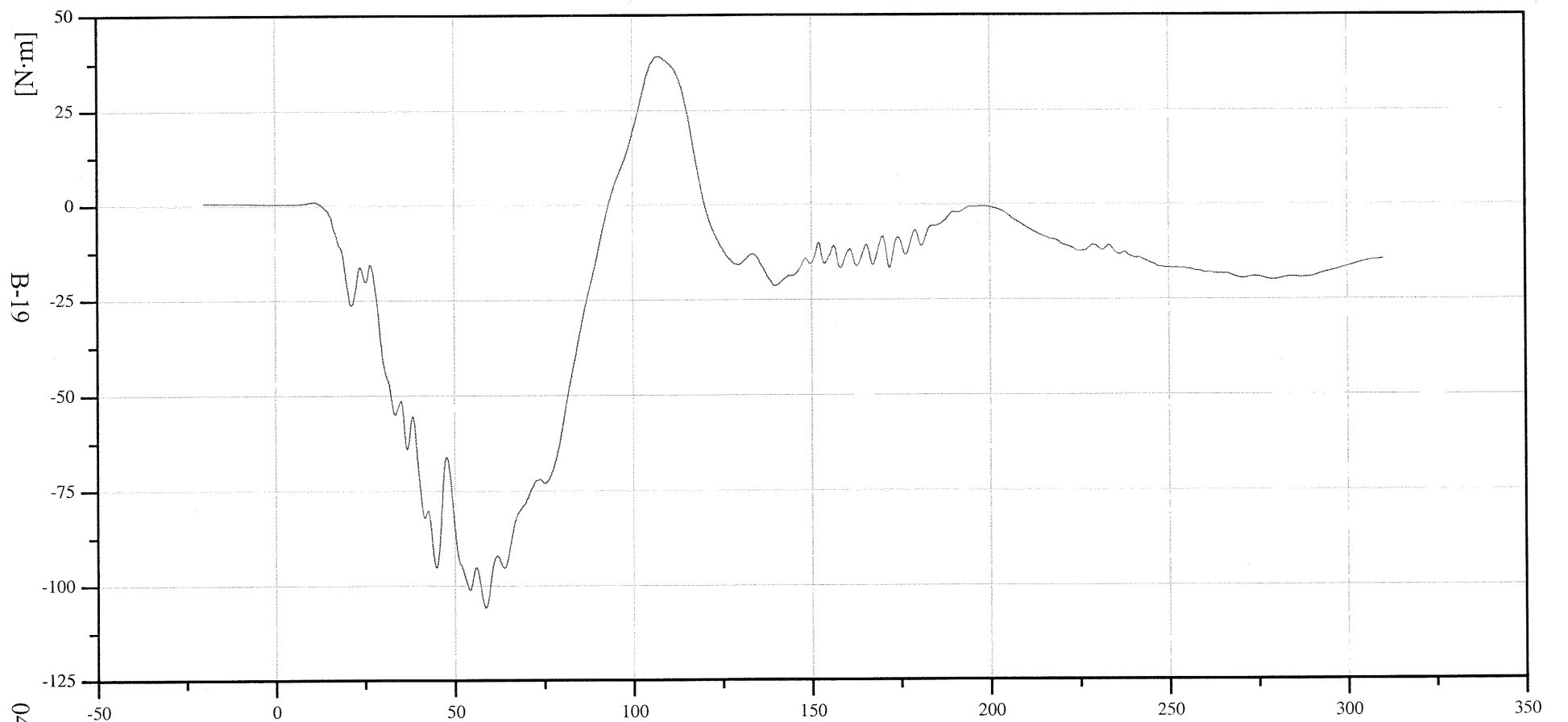
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLYM1



<Min Value>

-105.77 N·m at 58.48 ms

<Max Value>

39.31 N·m at 107.60 ms

Time [ms]

040824

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Moment Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

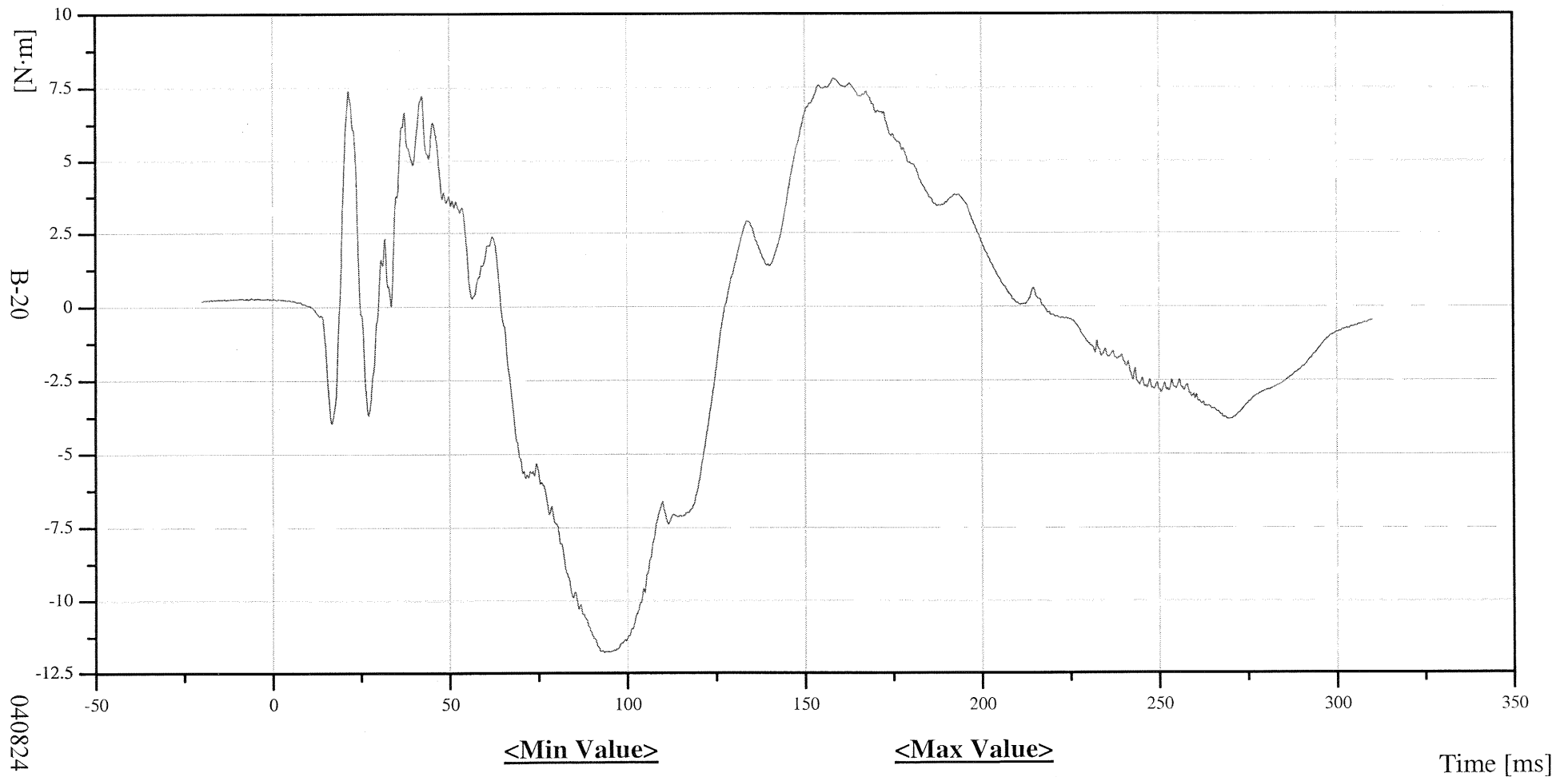
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLZM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

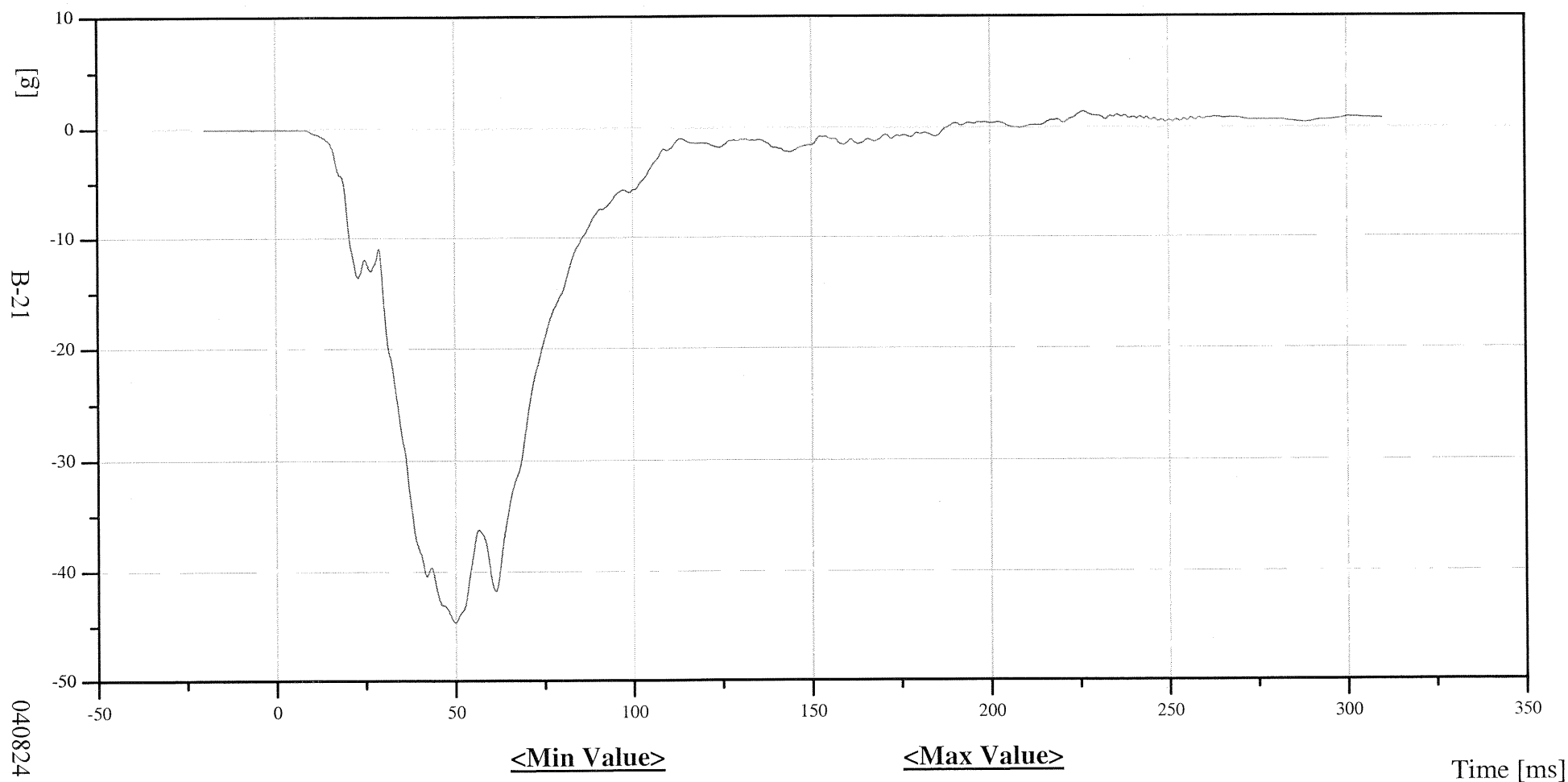
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXG1



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

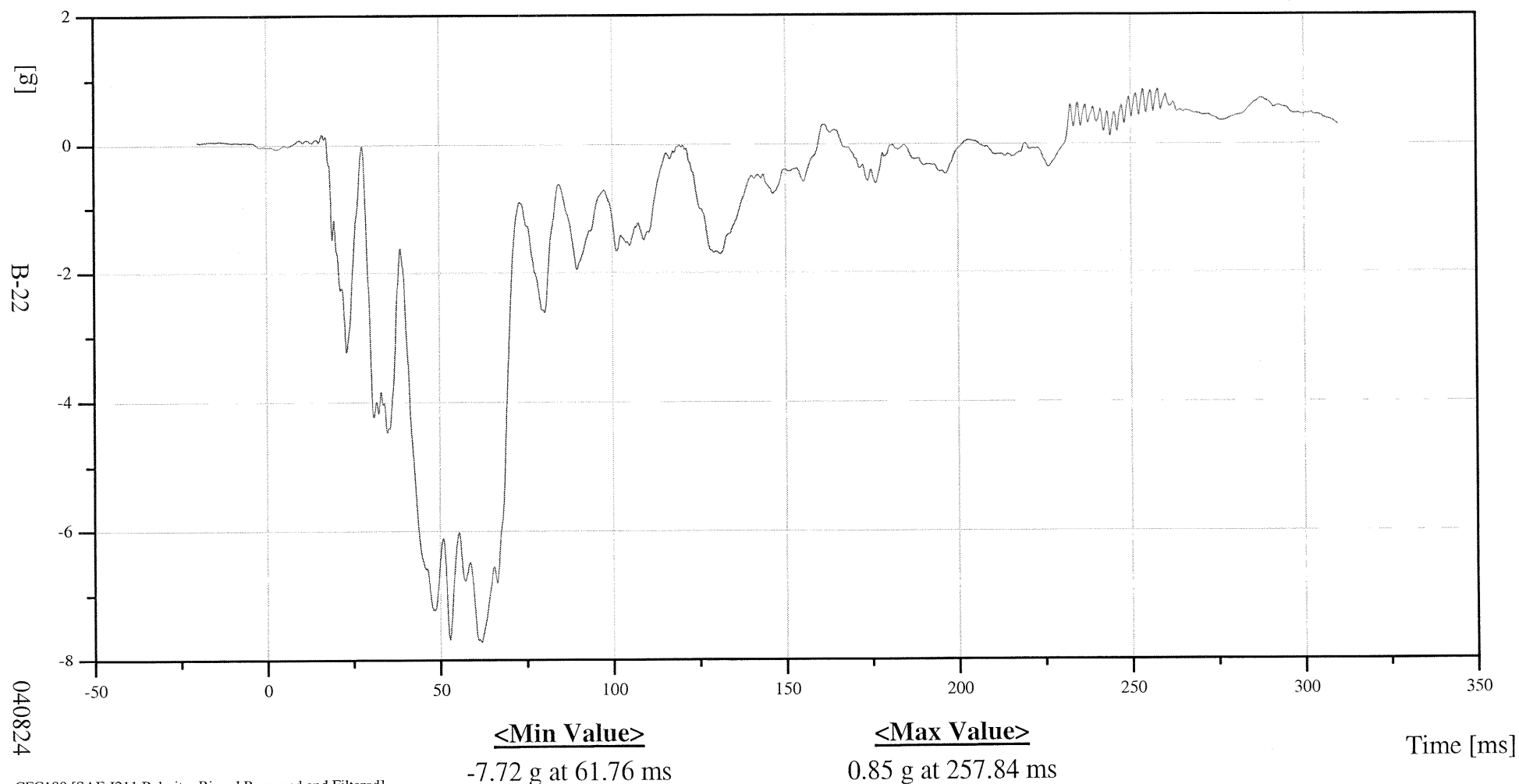
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTYG1



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

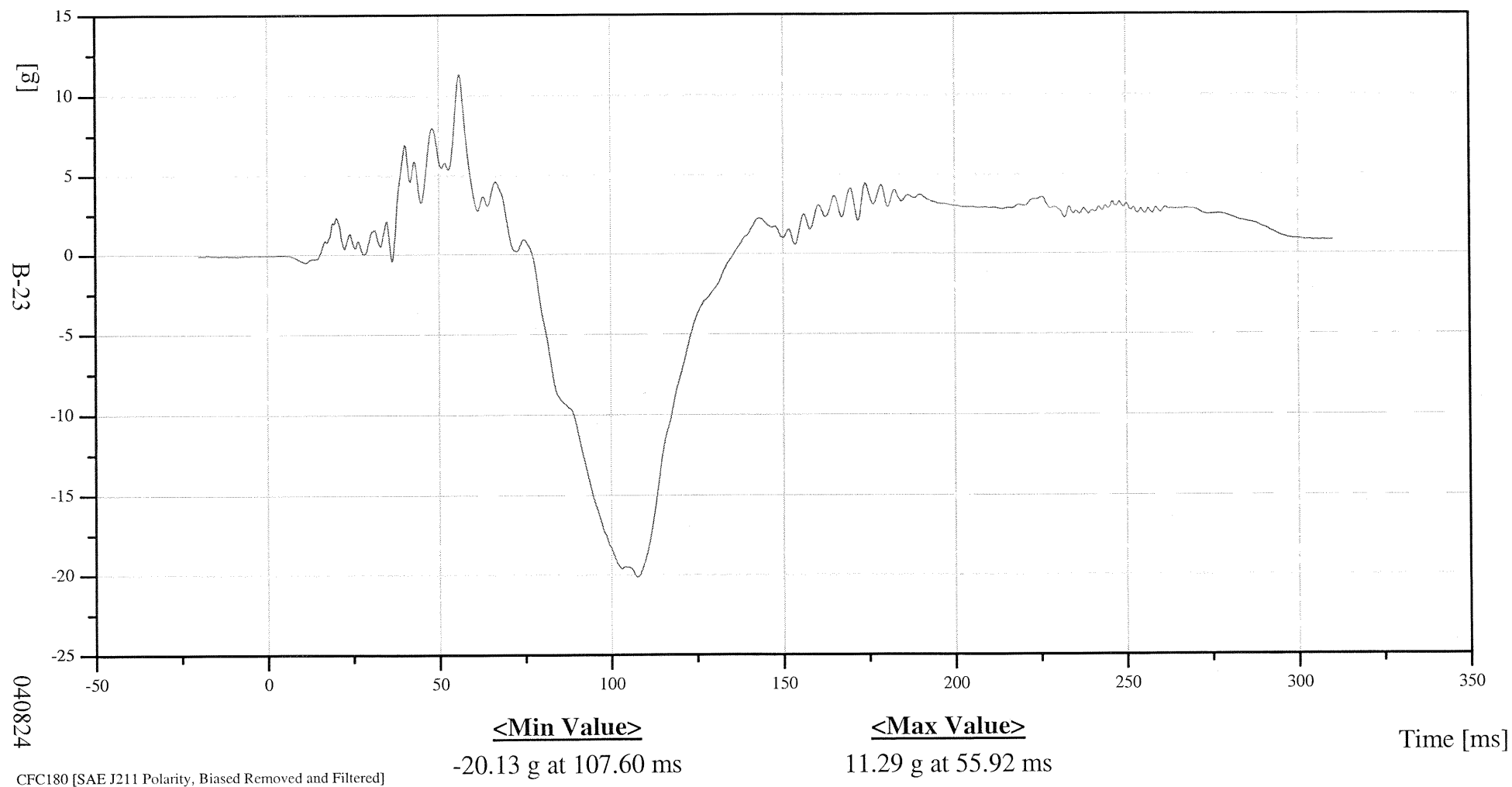
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTZG1





Transportation Research Center, Inc.

Chest Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

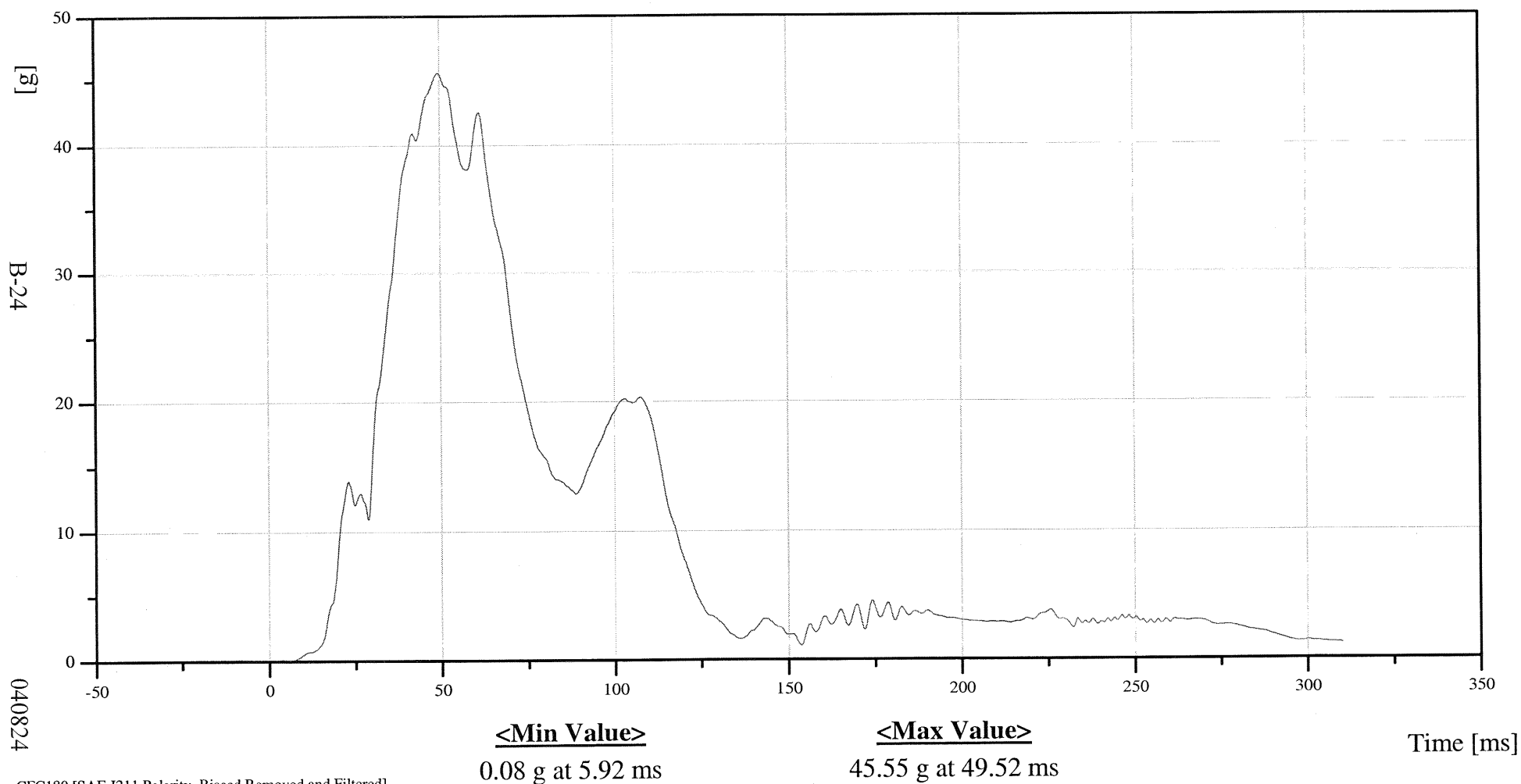
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTRG1





Transportation Research Center, Inc.

Chest Accel Red X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

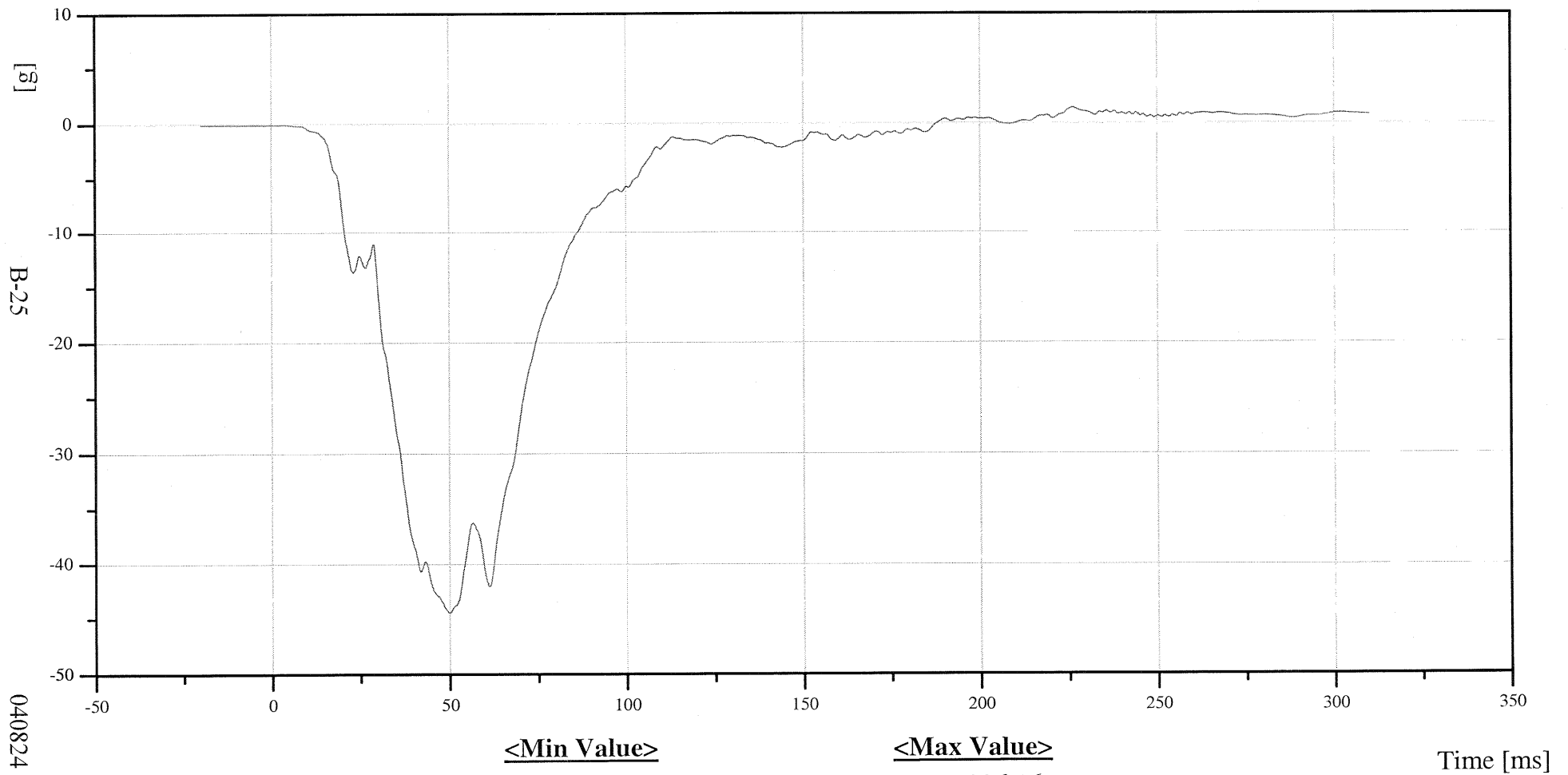
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXR1



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel Red Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

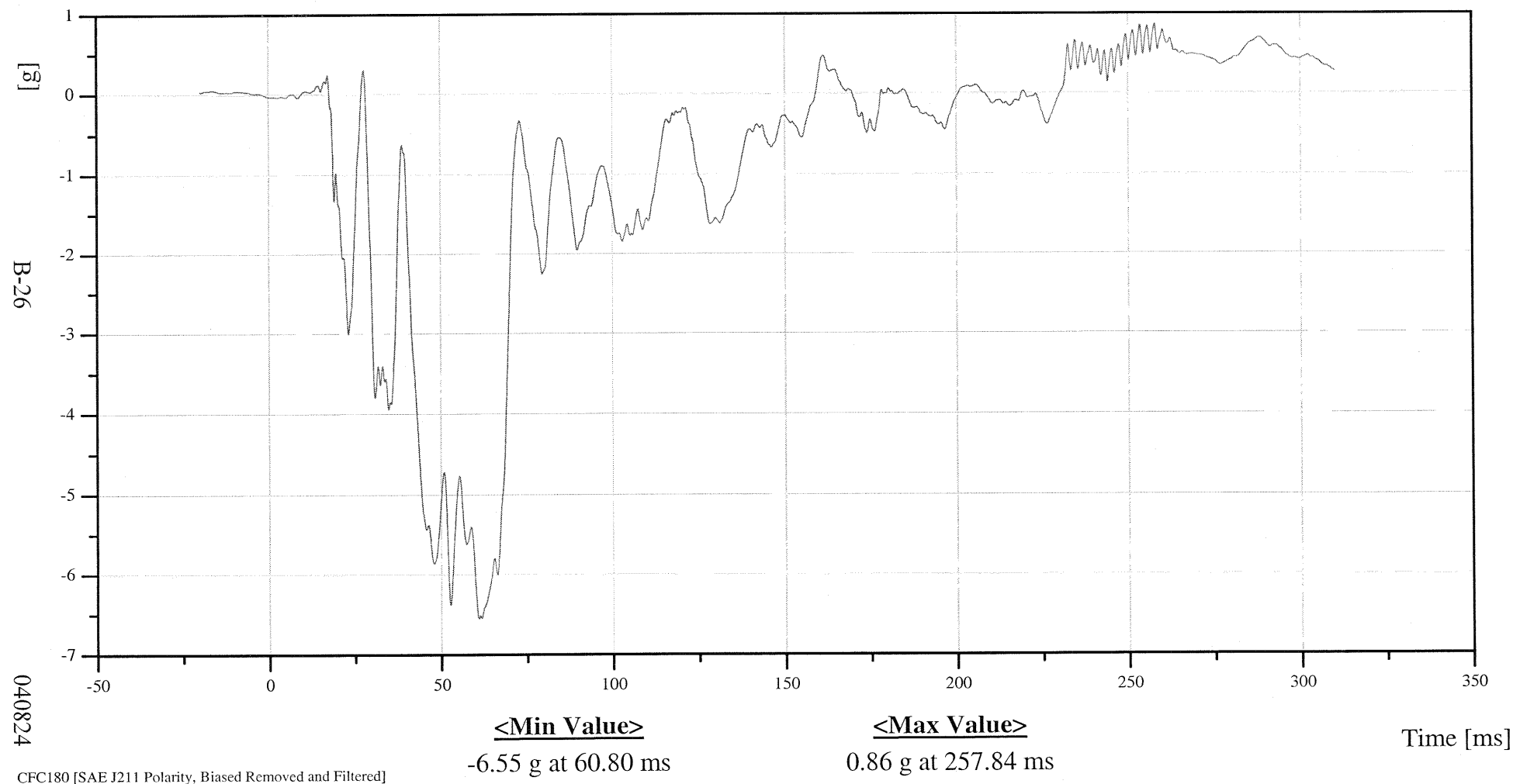
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTYR1





Transportation Research Center, Inc.

Chest Accel Red Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

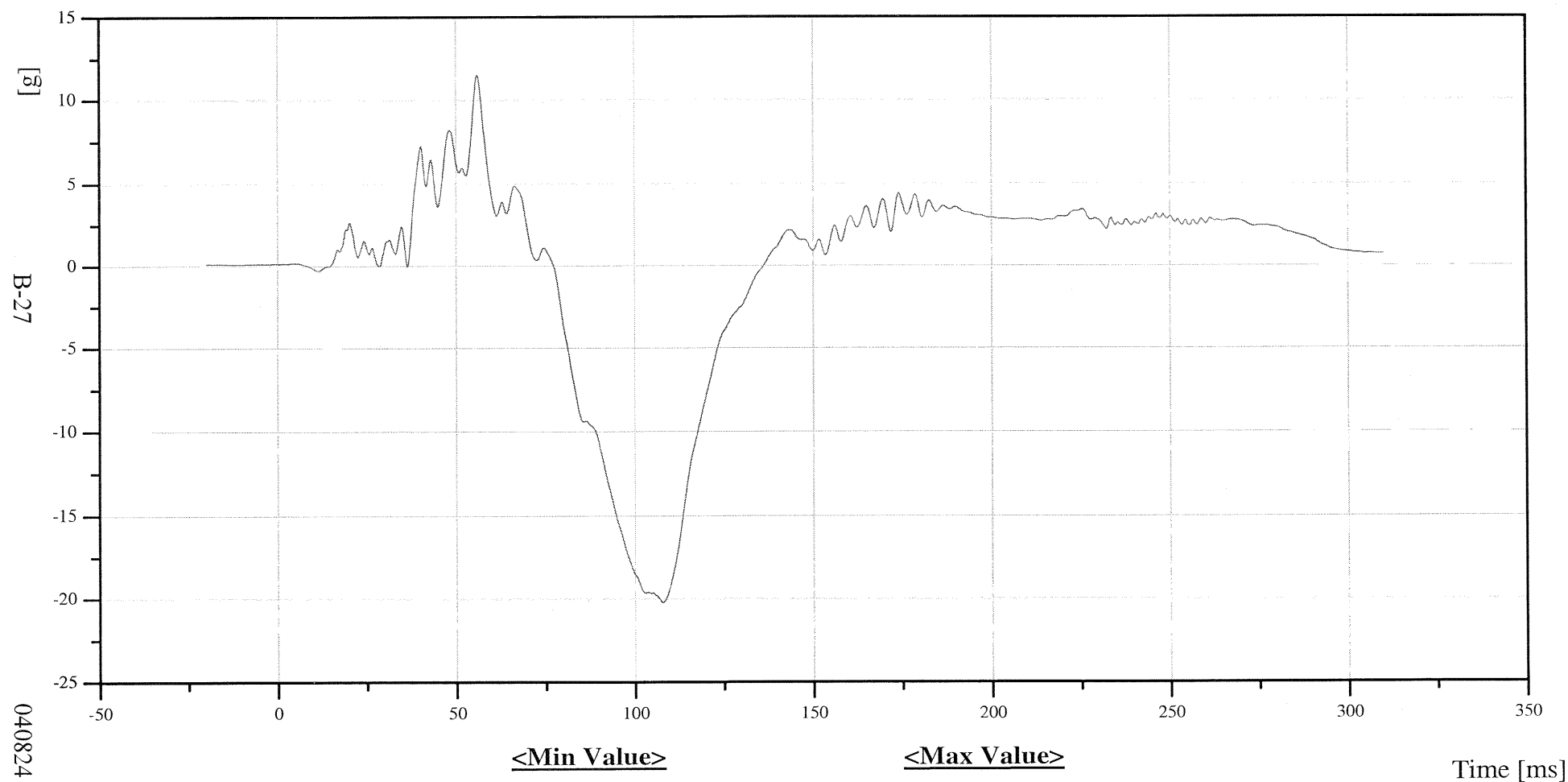
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTZR1



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Deflection X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

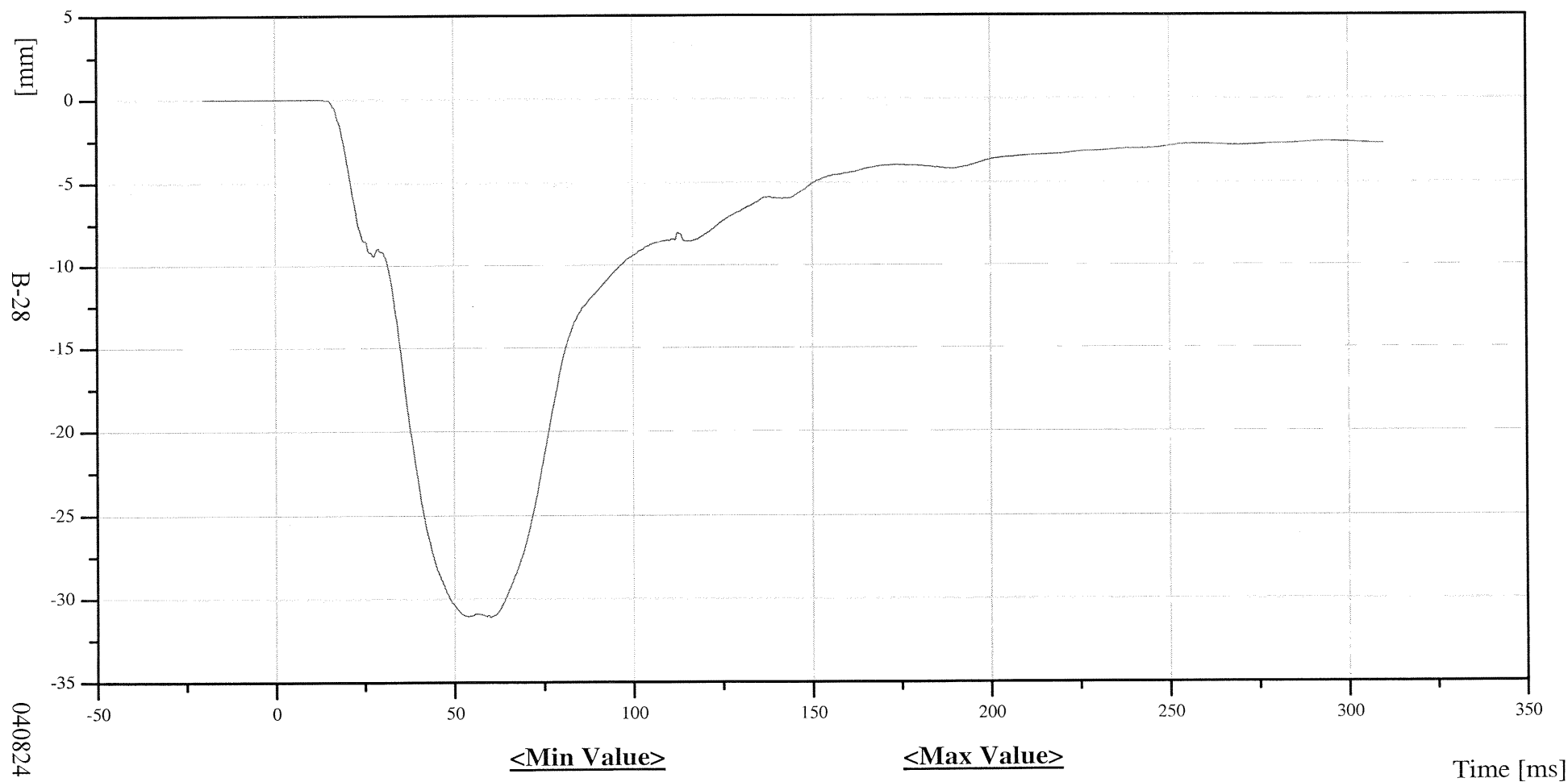
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXD1



040824

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

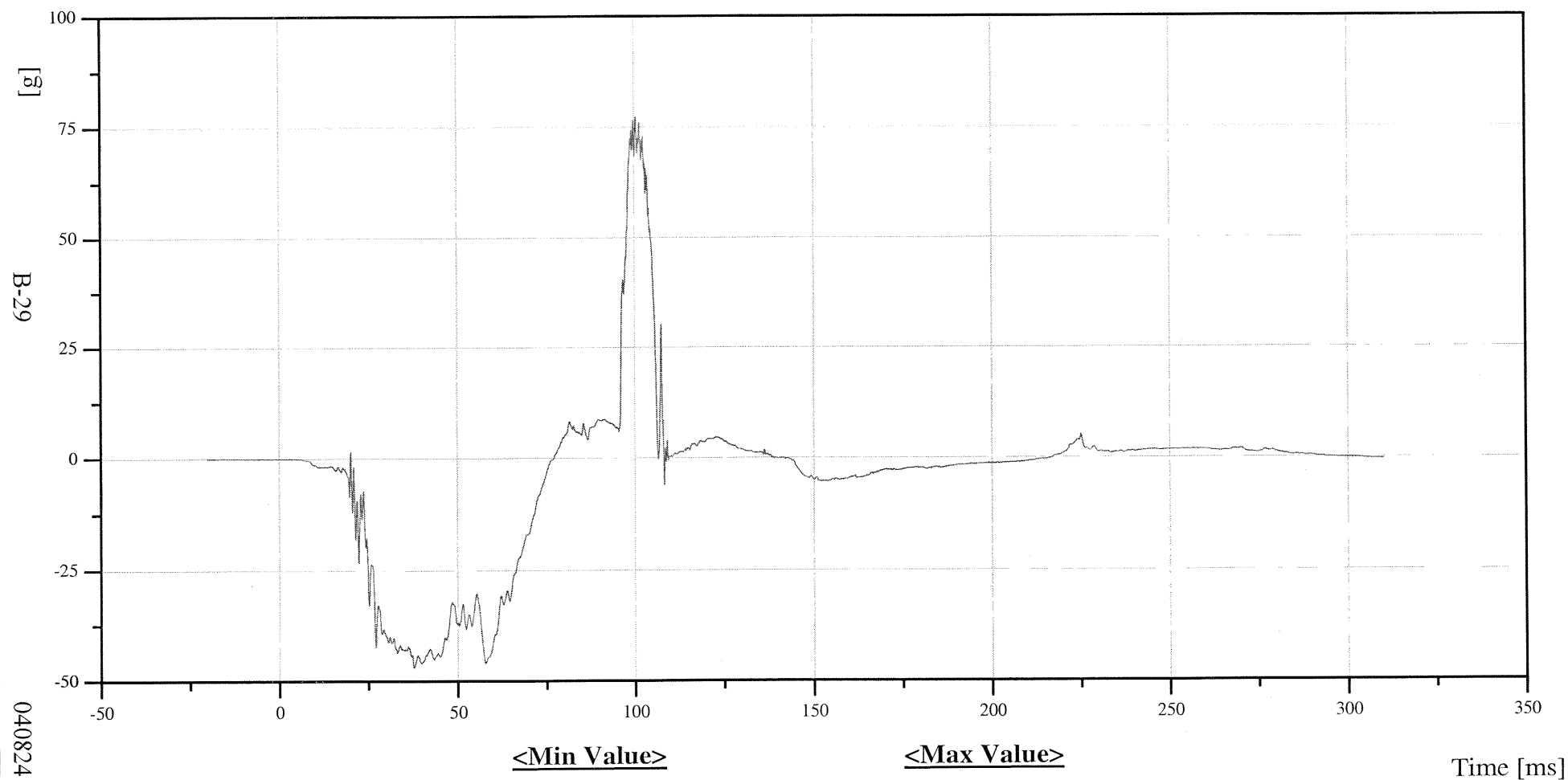
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVXG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]

-46.80 g at 37.68 ms

77.36 g at 100.48 ms



Transportation Research Center, Inc.

Pelvis Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

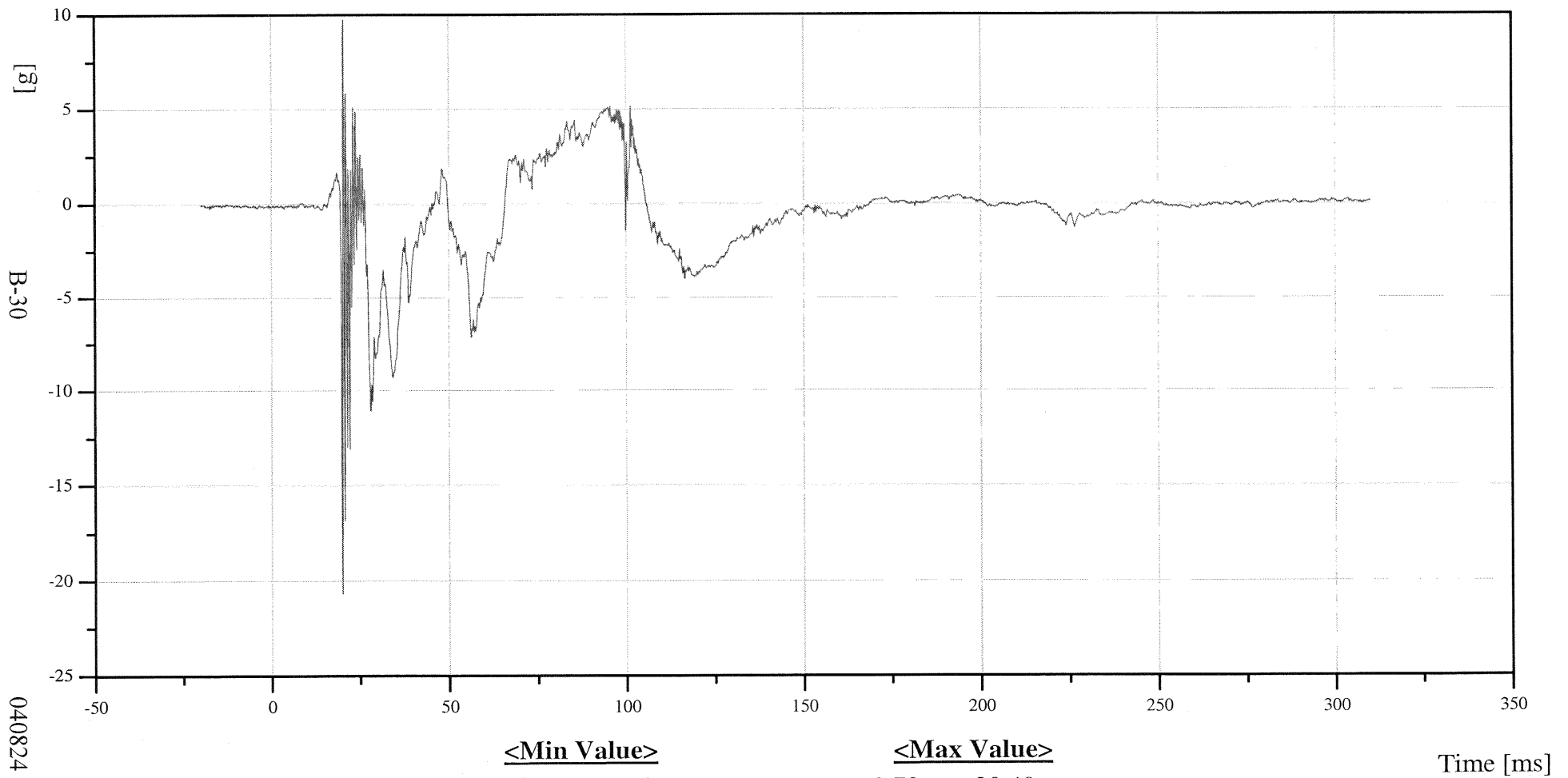
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVYG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

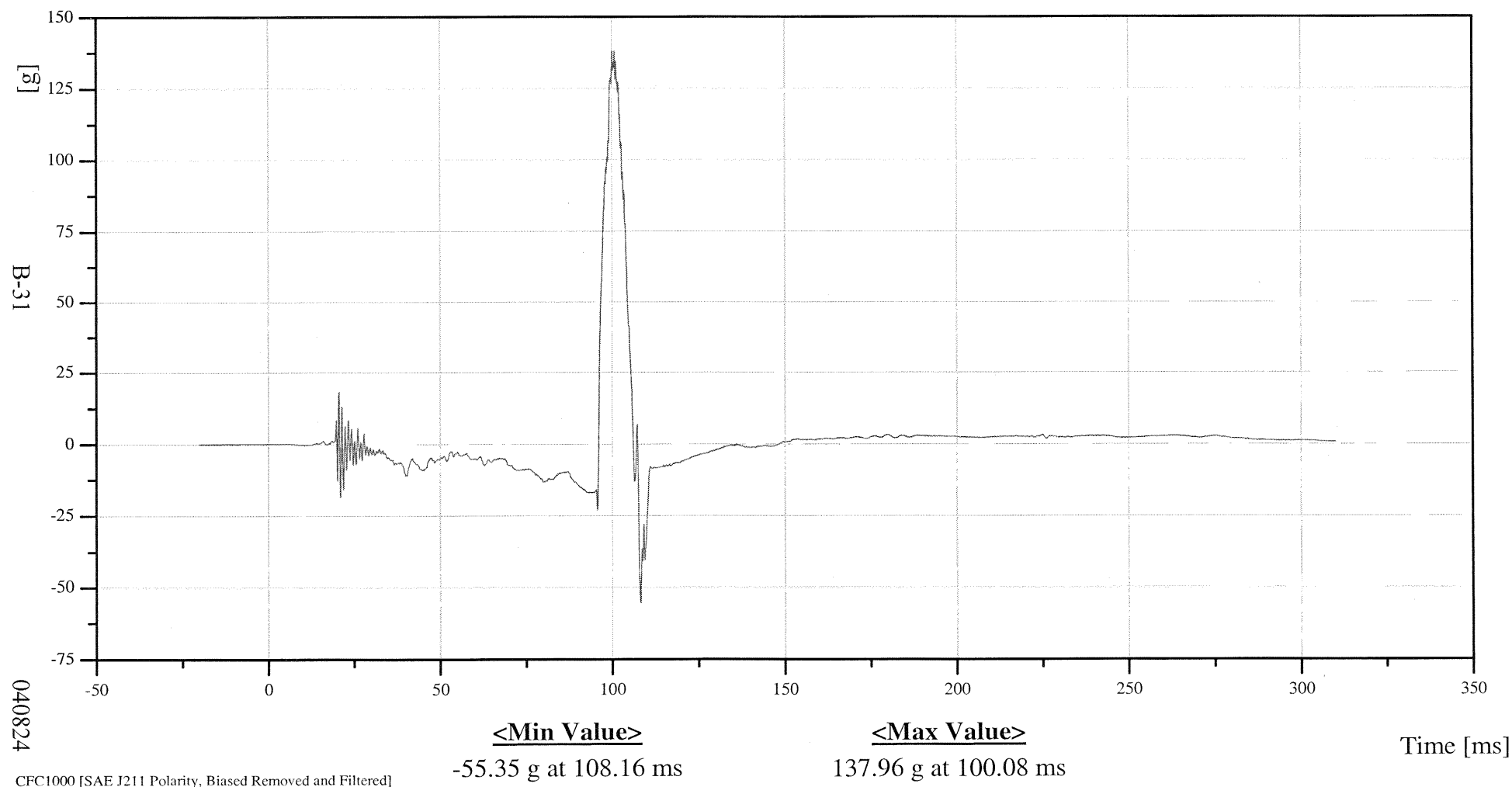
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVZG1





Transportation Research Center, Inc.

Pelvis Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

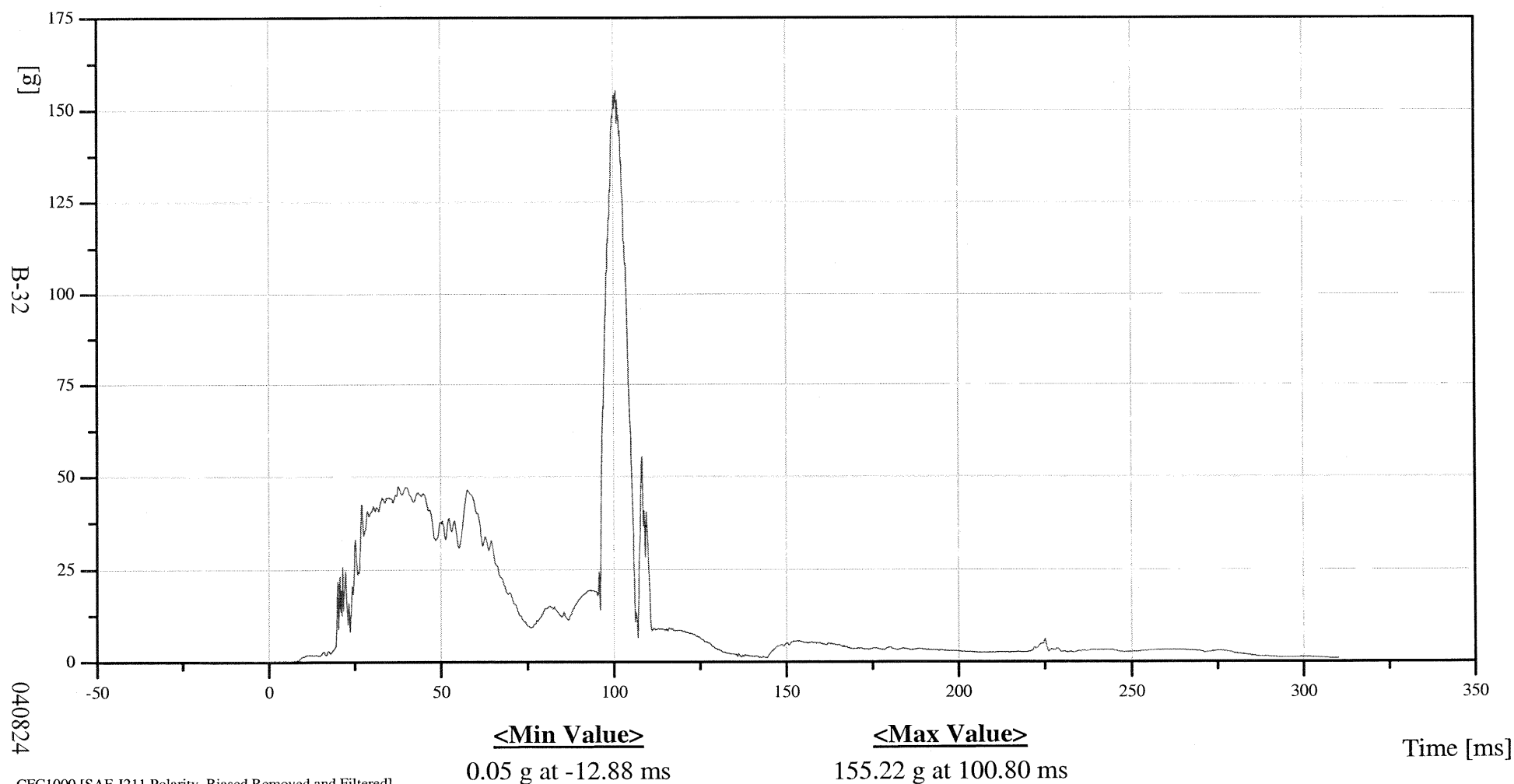
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVRG1





Transportation Research Center, Inc.

Left Femur Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

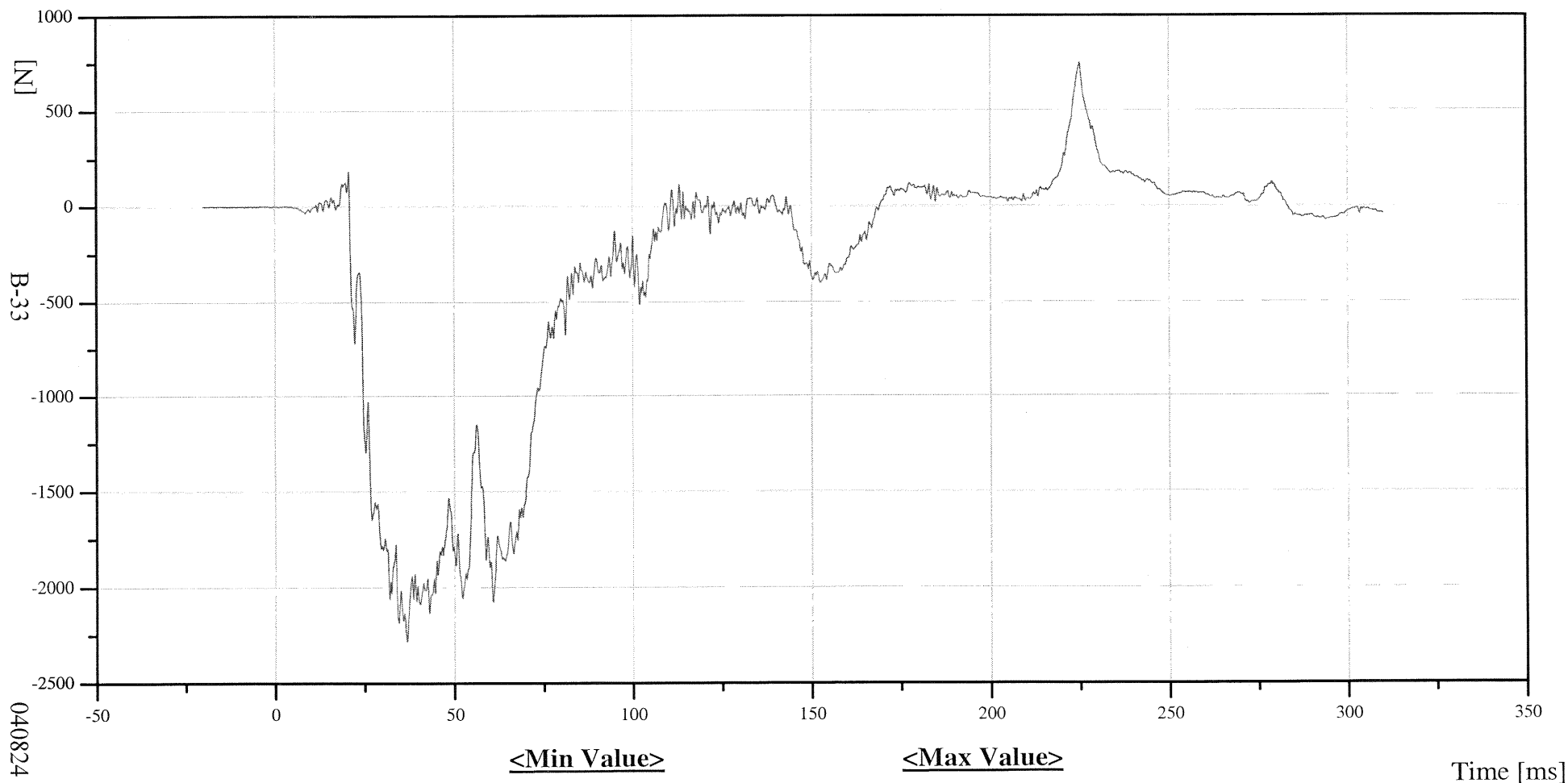
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LFMZ1



040824

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Knee Displacement

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

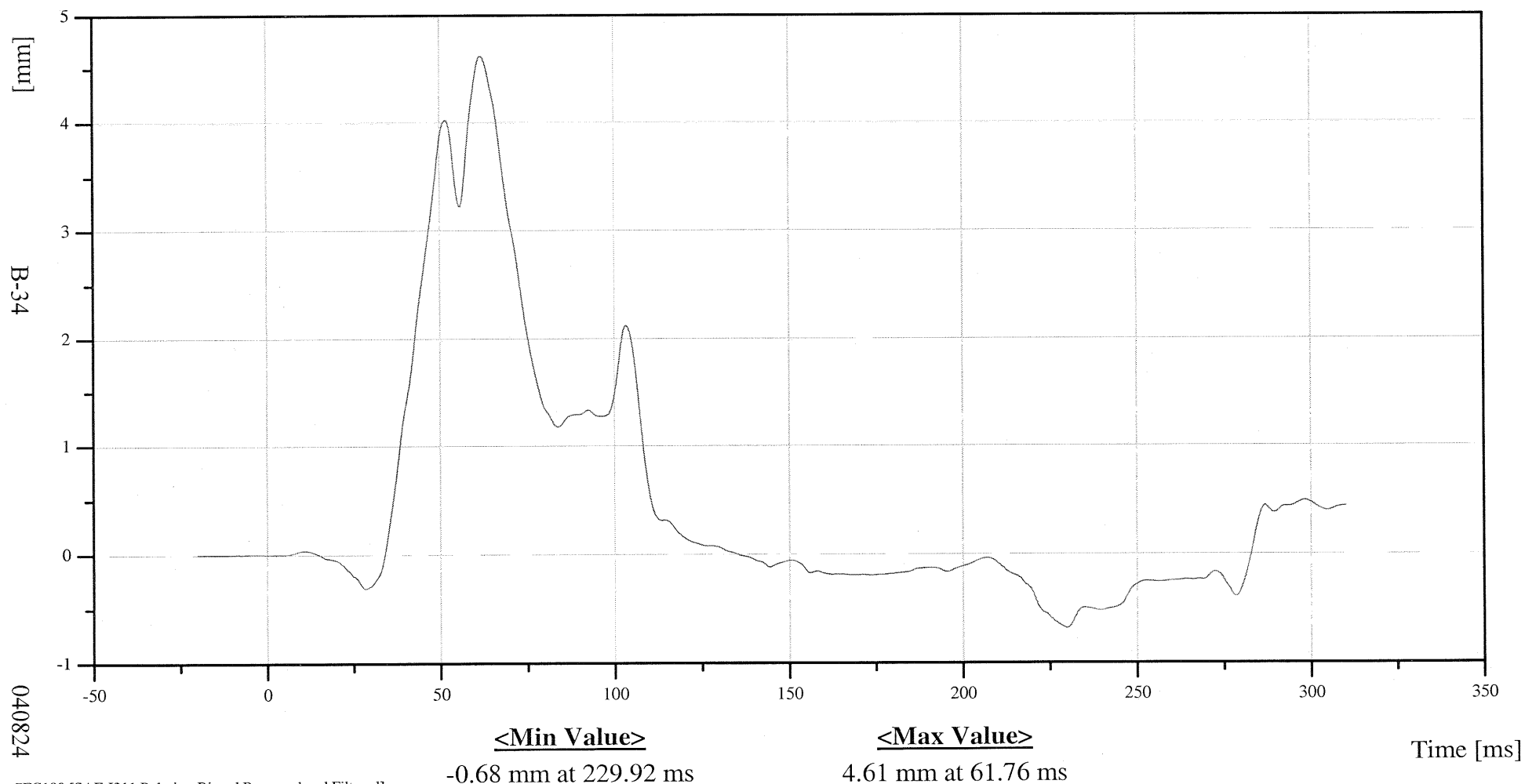
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

KNLXD1



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Up'r Tibia Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

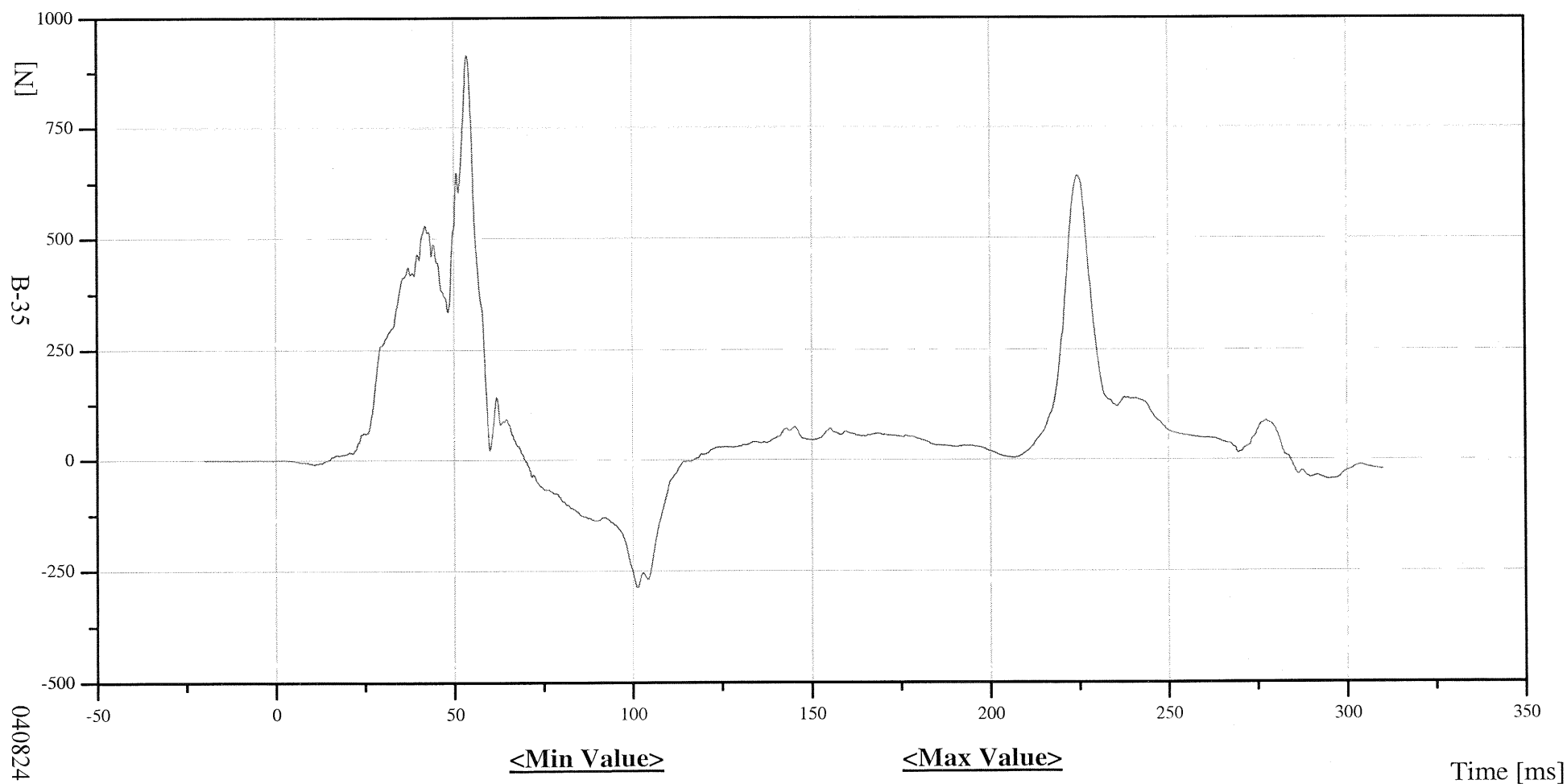
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBLXF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Upr Tibia Force Z

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

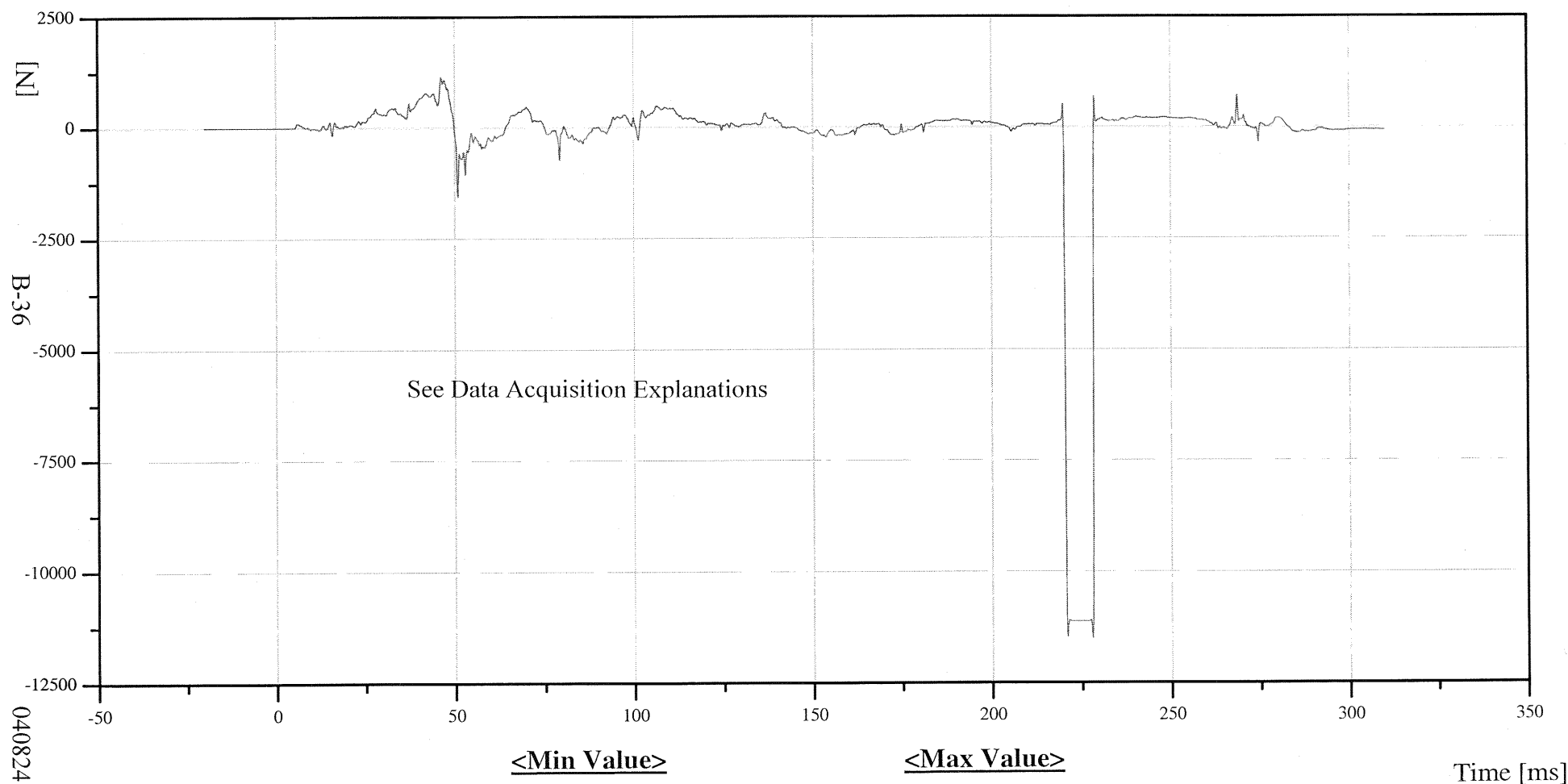
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBLZF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Upr Tibia Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

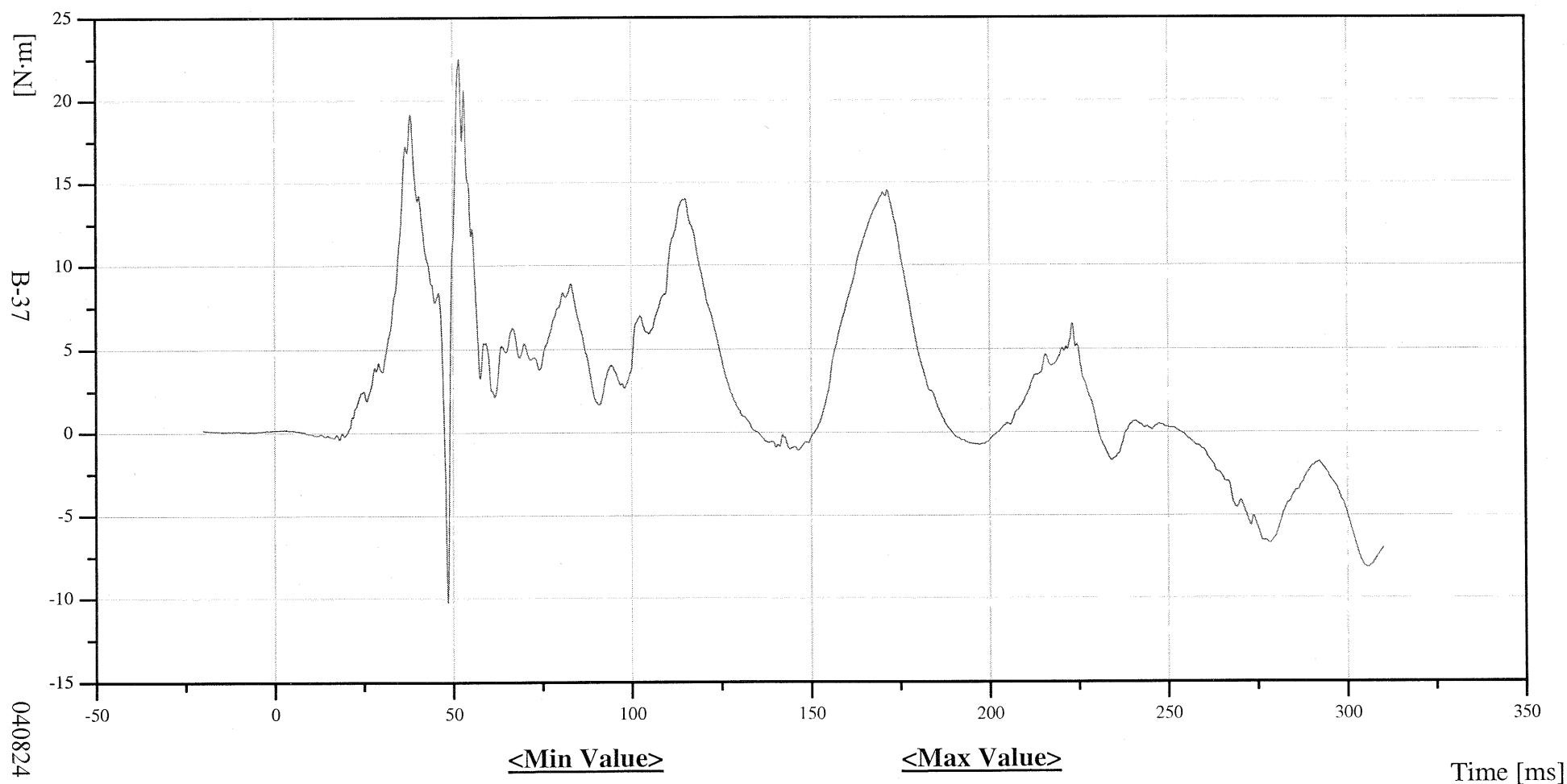
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBLXM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Upr Tibia Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

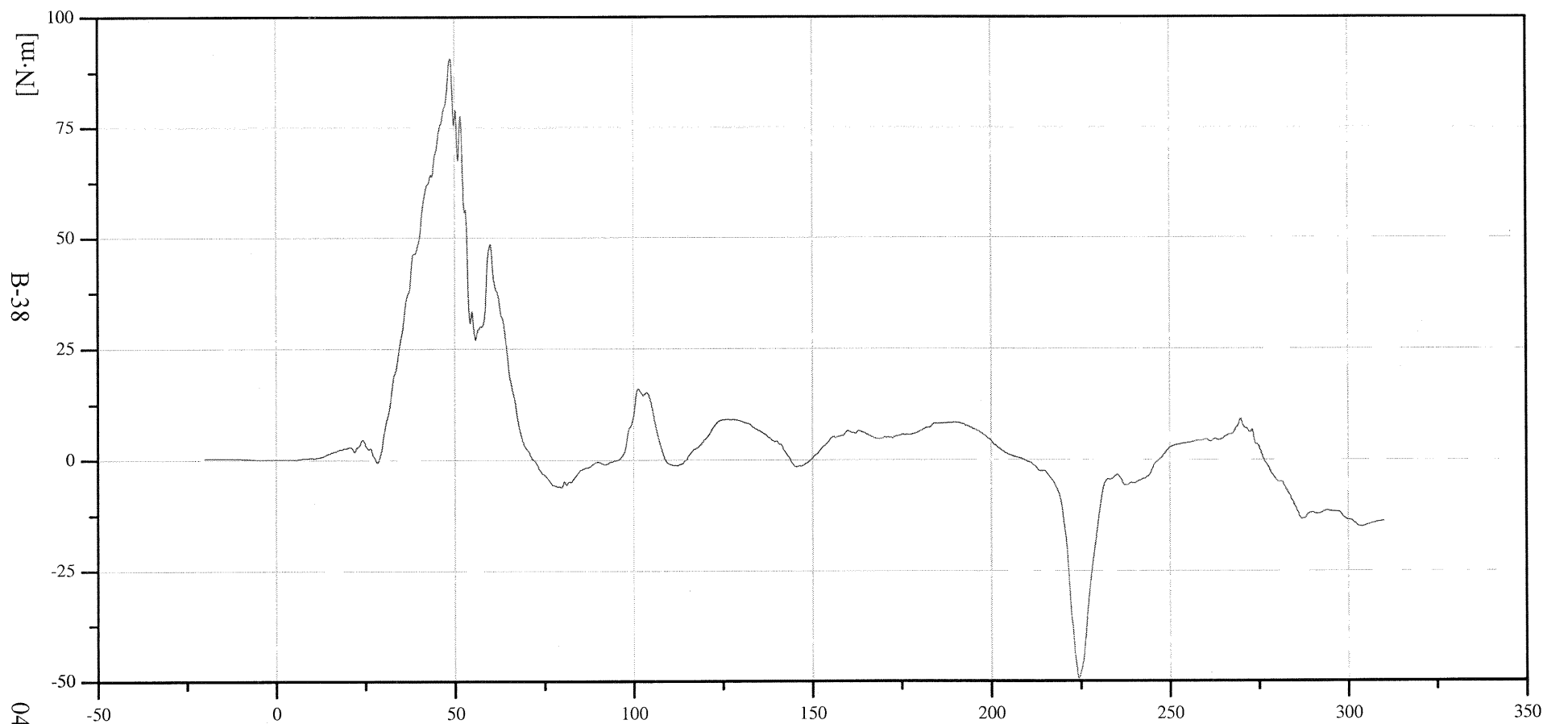
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBLYM1



<Min Value>

-49.56 N·m at 224.32 ms

<Max Value>

90.71 N·m at 48.80 ms

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Tibia Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

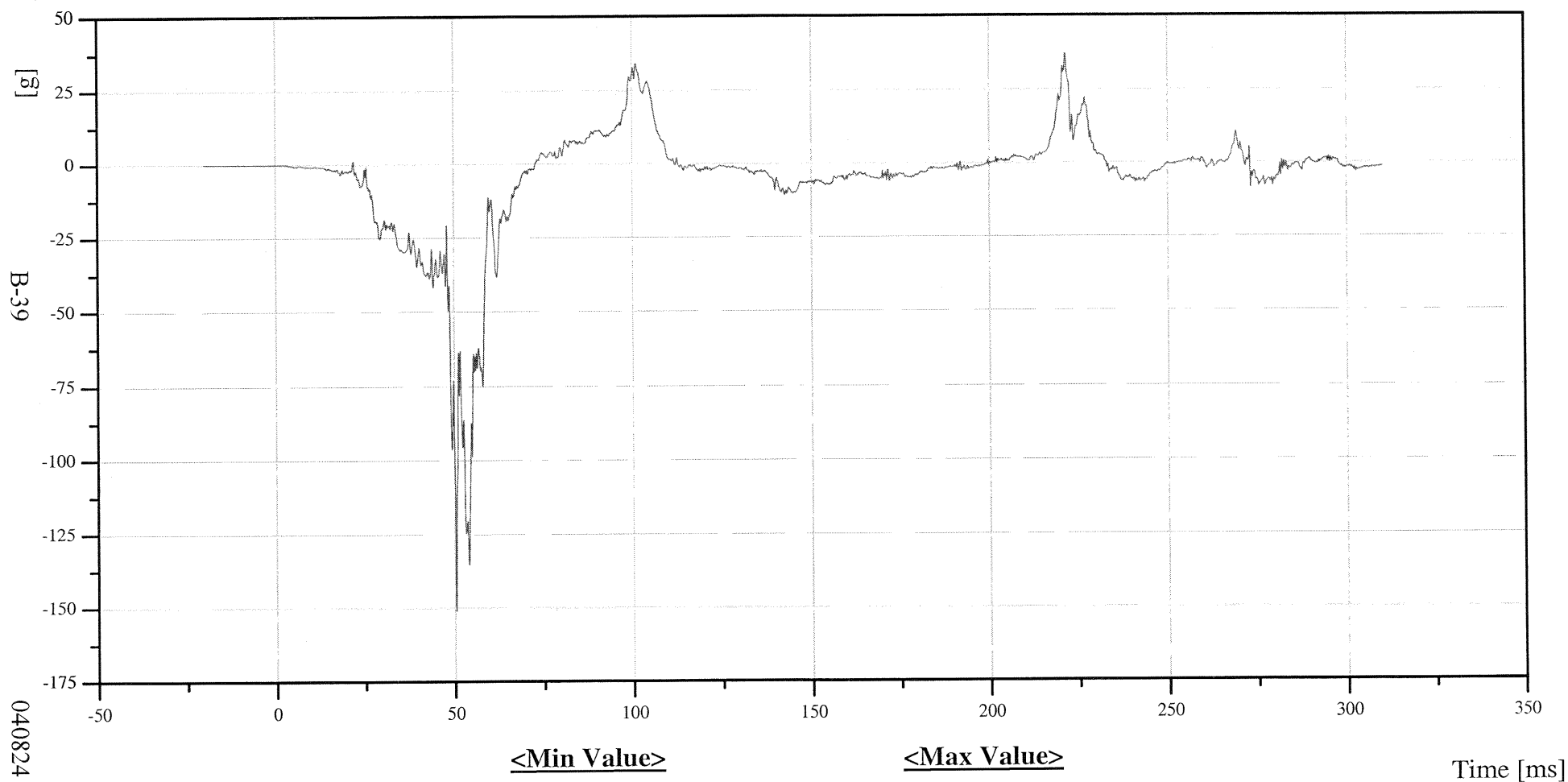
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBLXG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Tibia Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

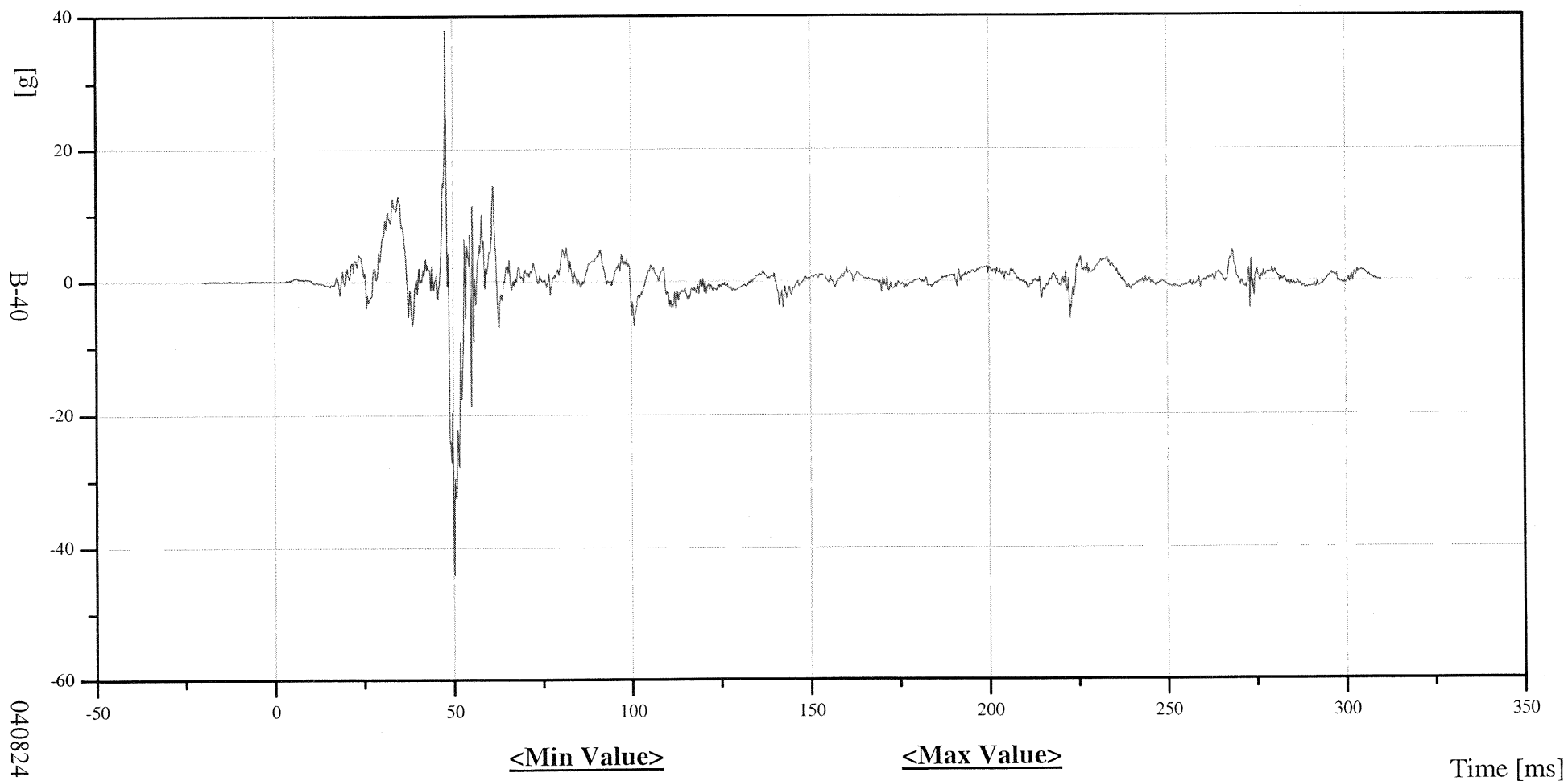
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBLYG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Lwr Tibia Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

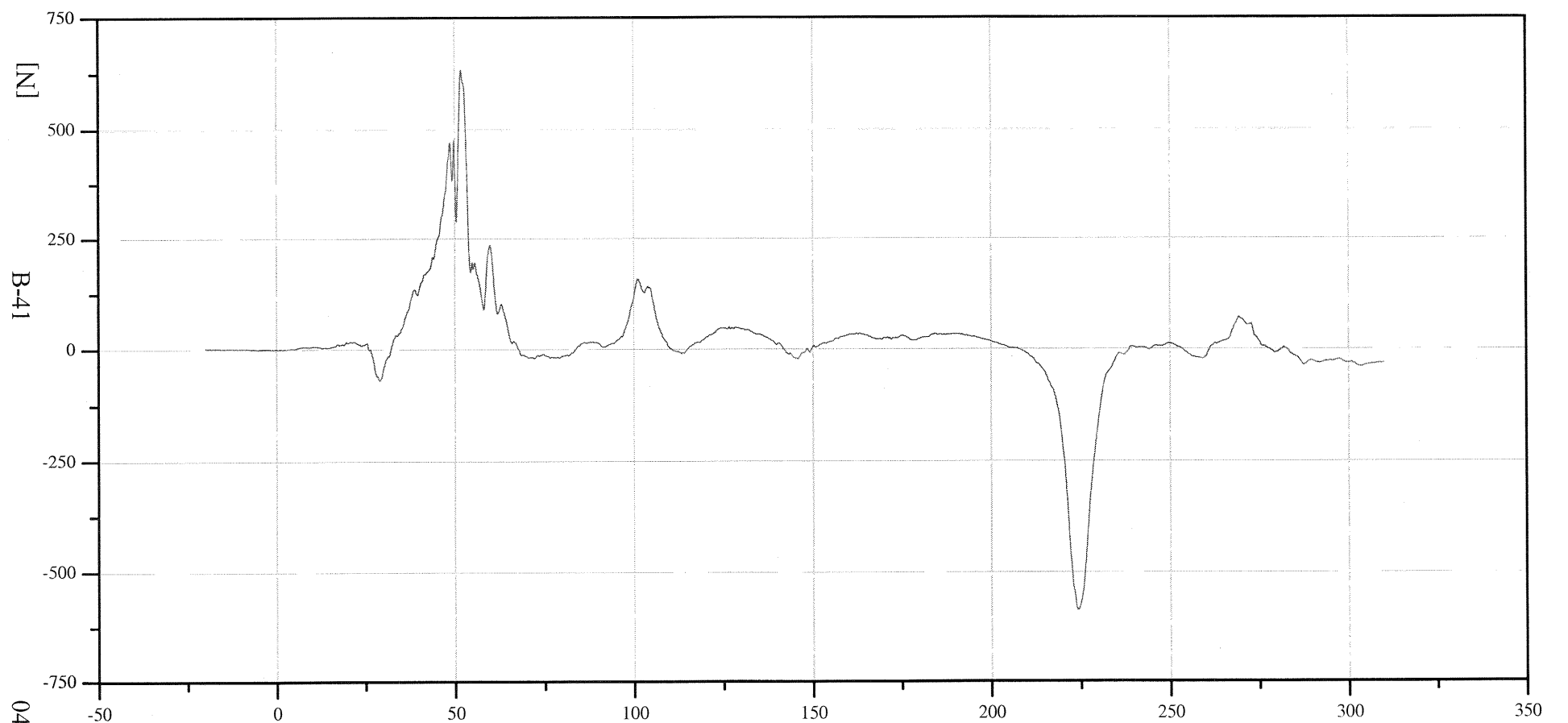
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANLXF1



<Min Value>

-585.43 N at 224.08 ms

<Max Value>

633.59 N at 51.68 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Lwr Tibia Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

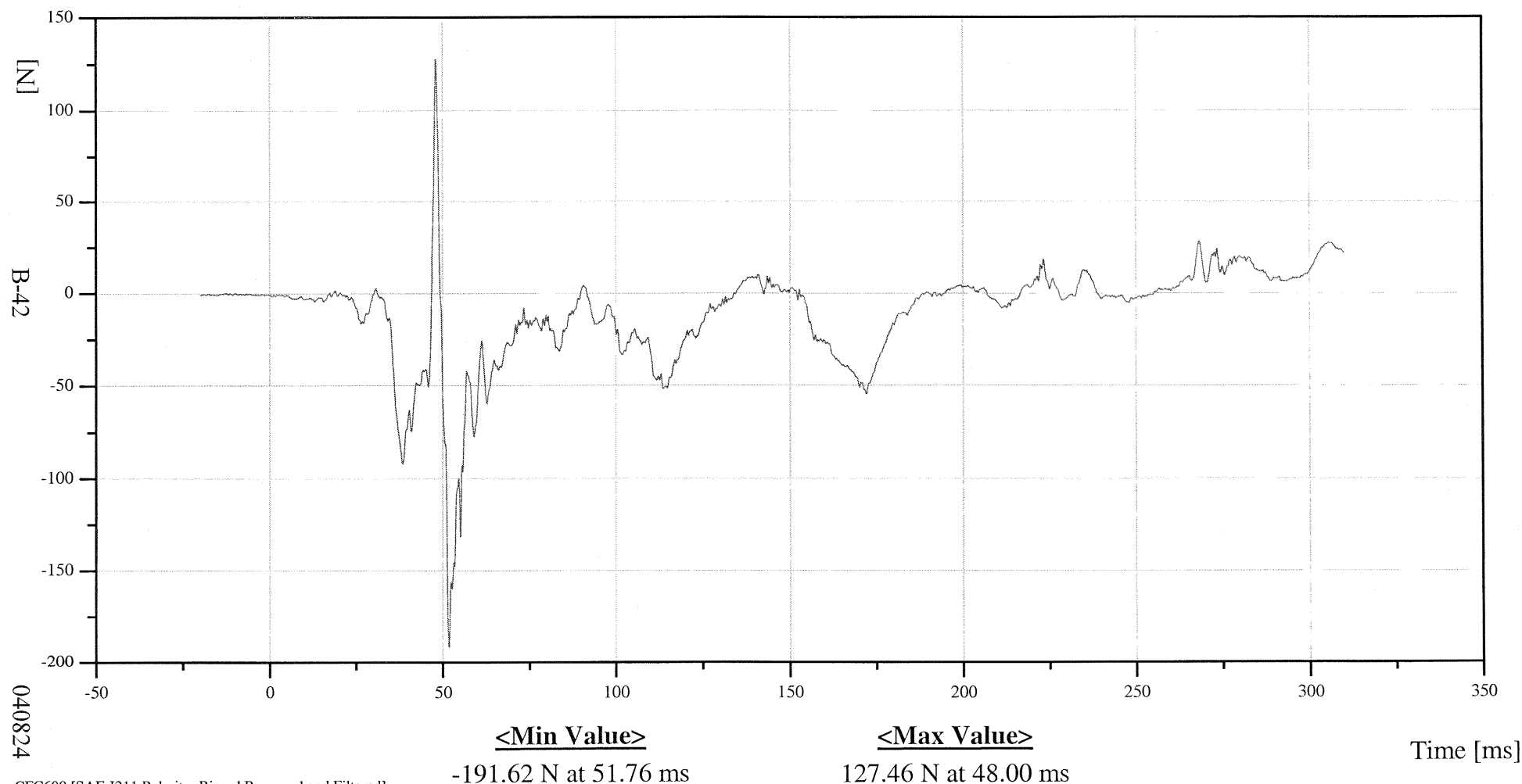
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANLYF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Lwr Tibia Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

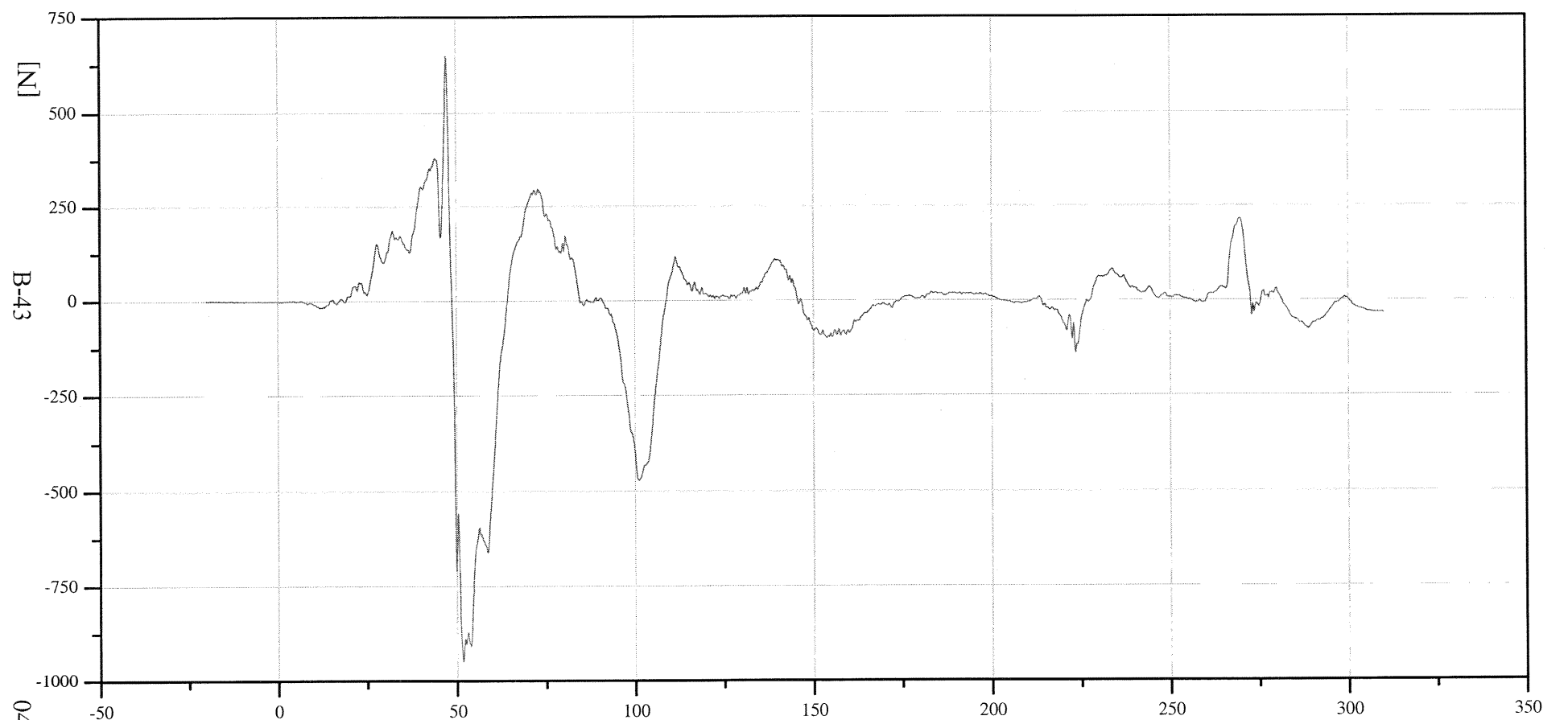
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANLZF1



<Min Value>

-948.40 N at 51.60 ms

<Max Value>

646.82 N at 47.28 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Lwr Tibia Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

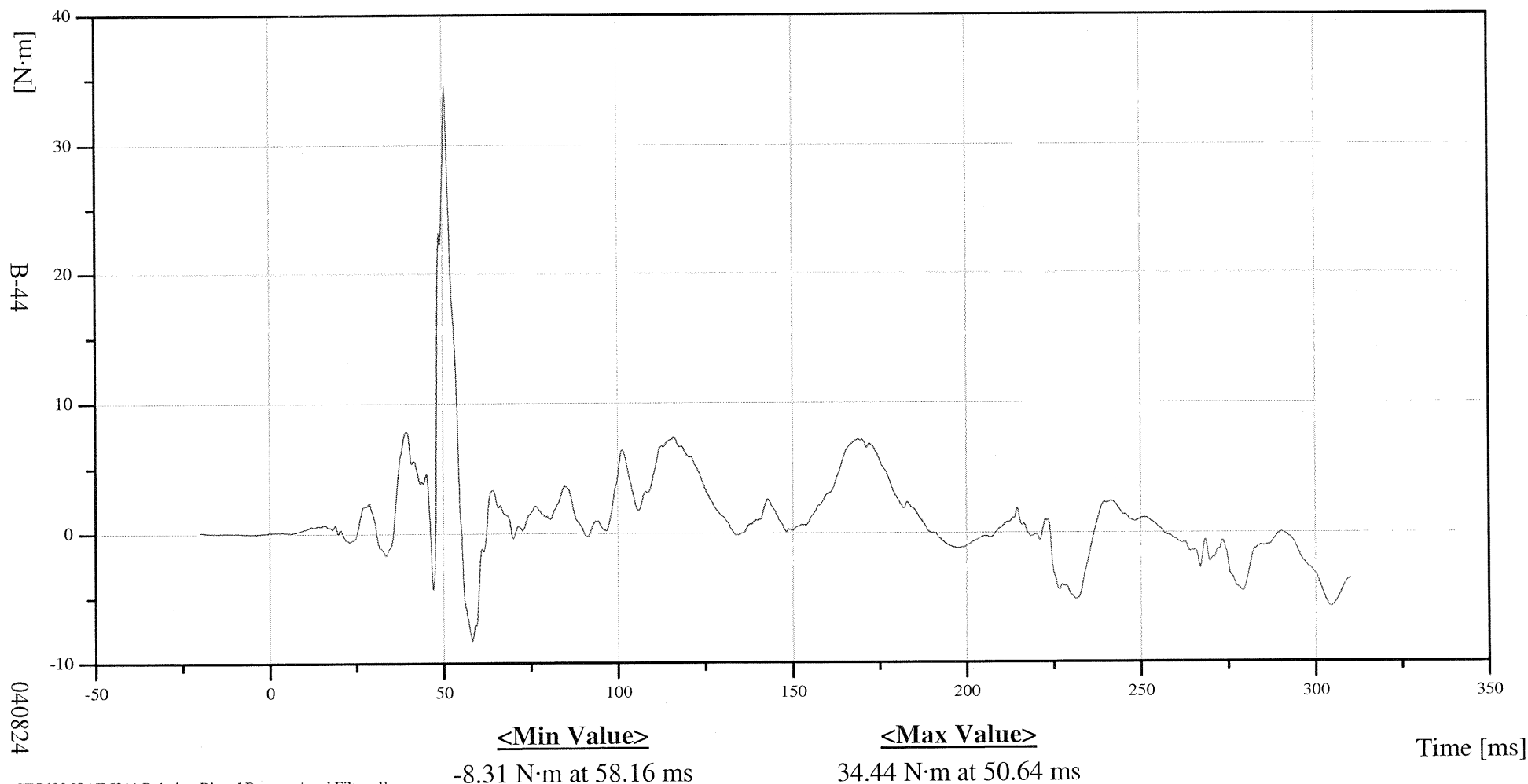
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANLXM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Lwr Tibia Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

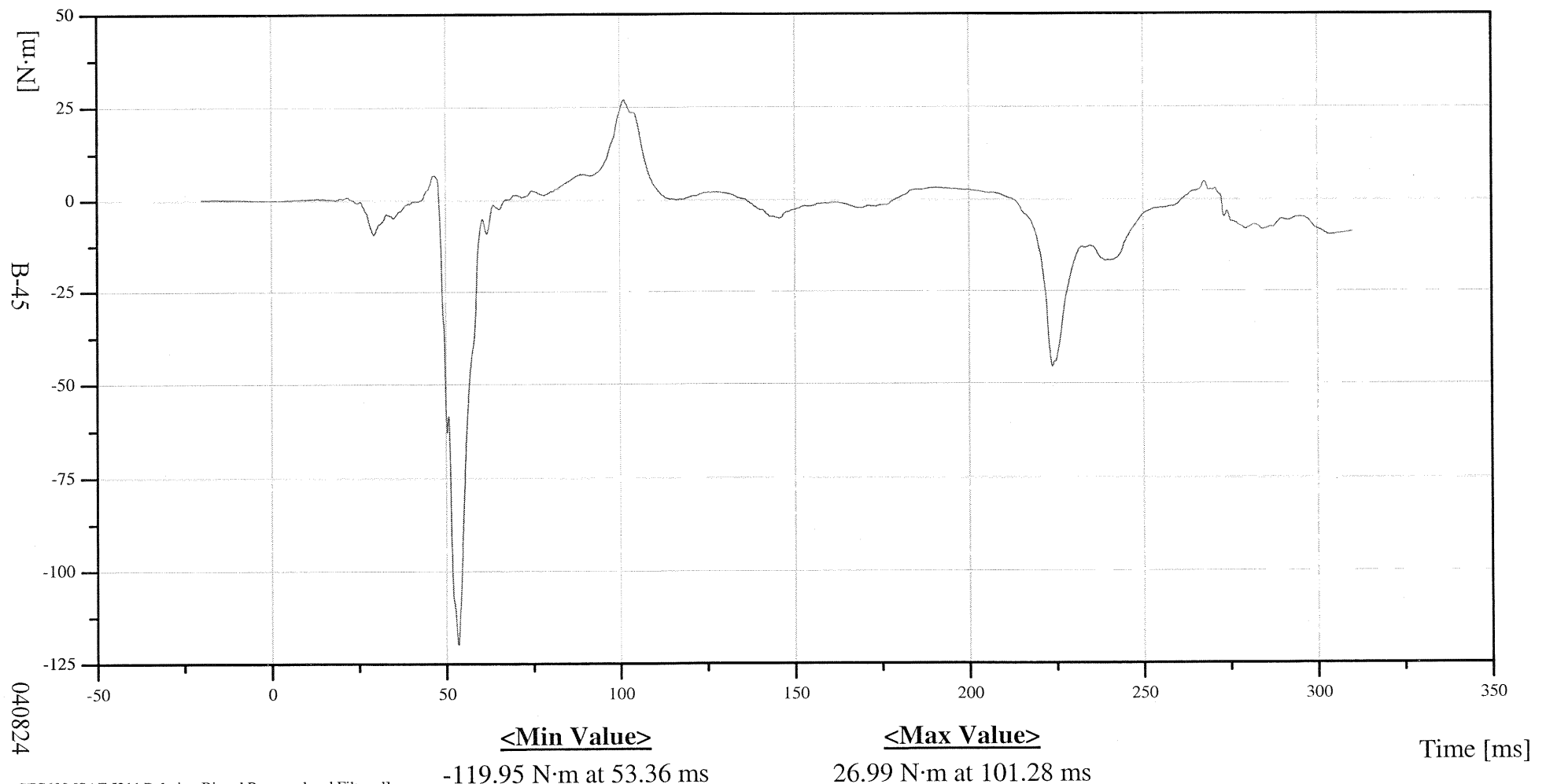
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANLYM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Foot Accel X

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

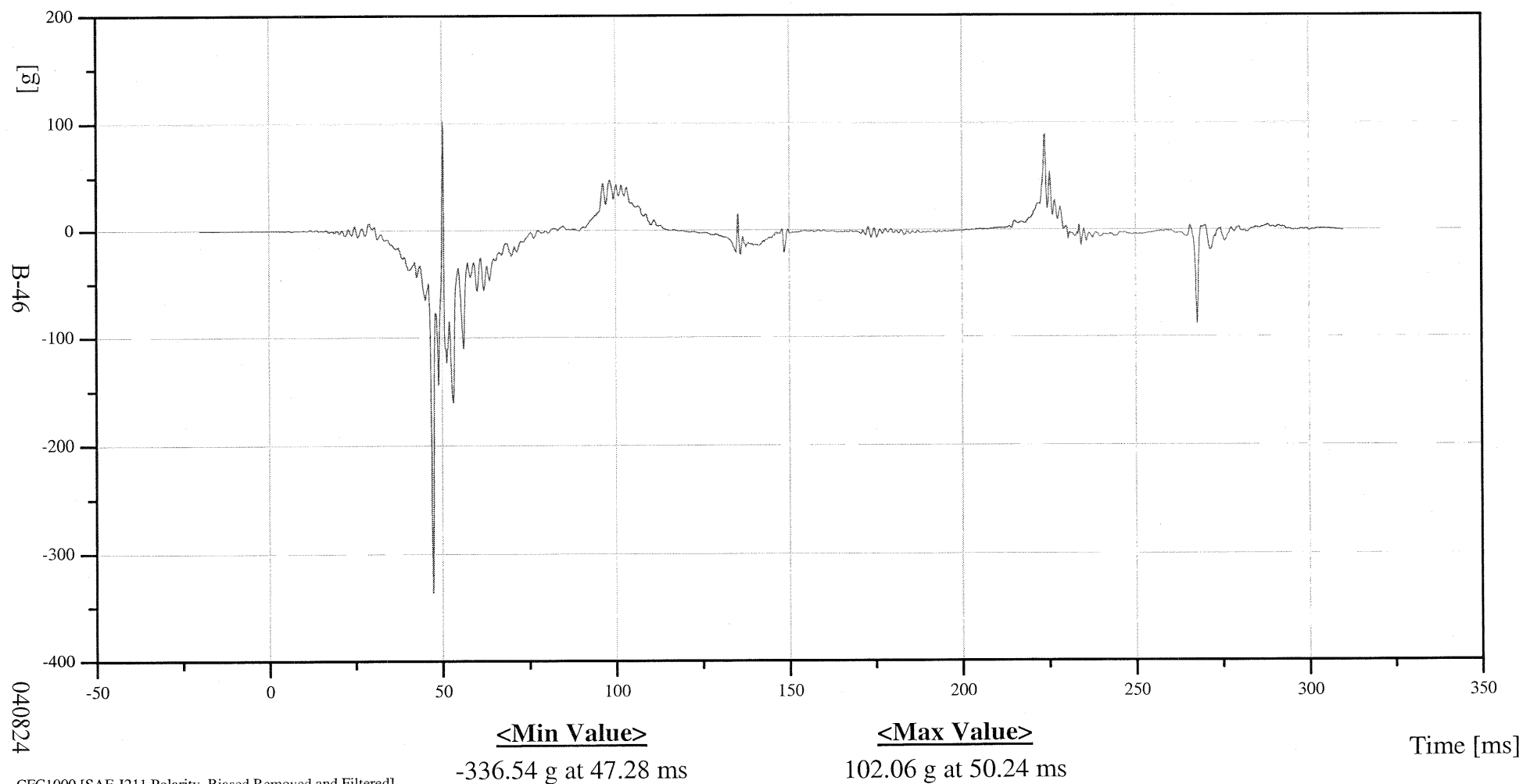
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTLXG1





Transportation Research Center, Inc.

Left Foot Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

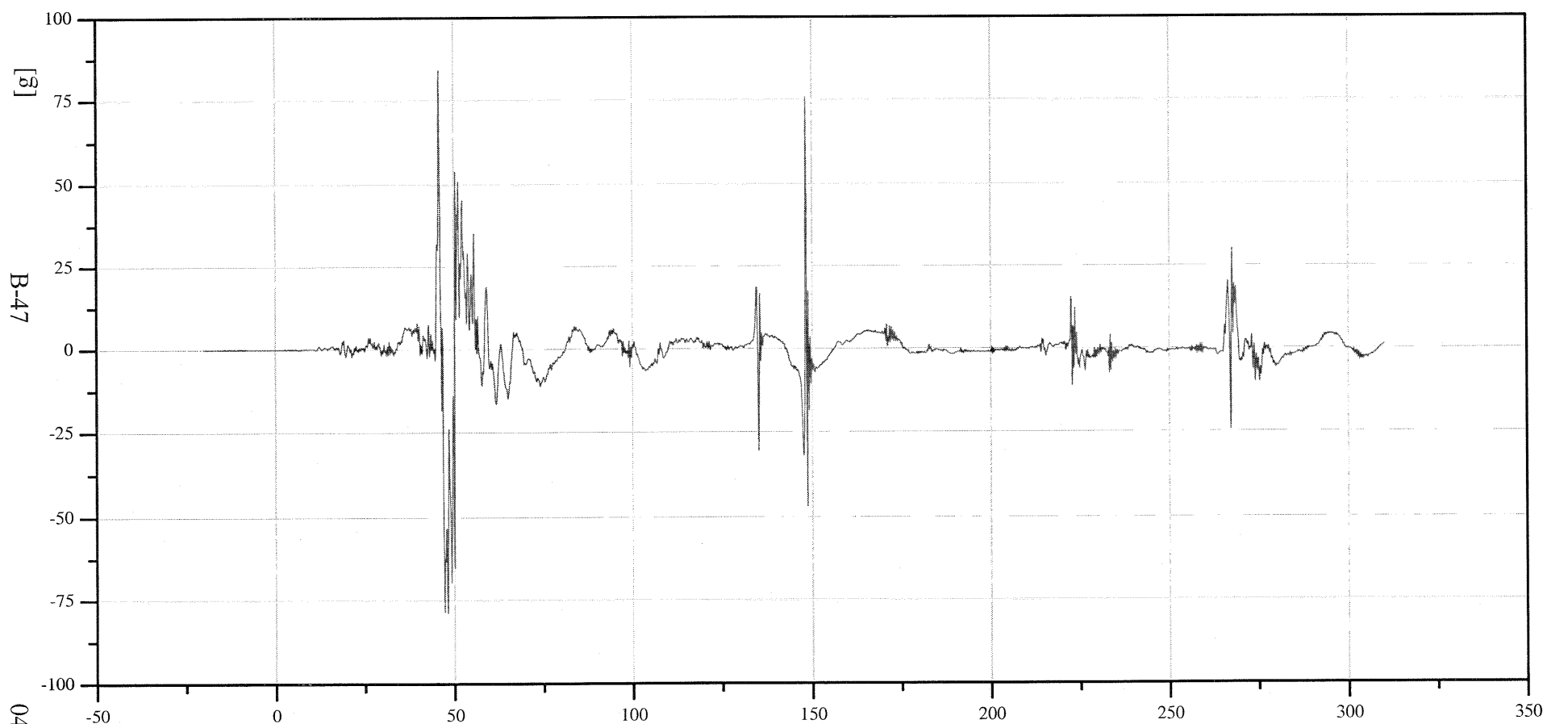
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTLYG1



<Min Value>

-78.75 g at 48.08 ms

<Max Value>

83.97 g at 45.92 ms

Time [ms]

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Left Foot Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

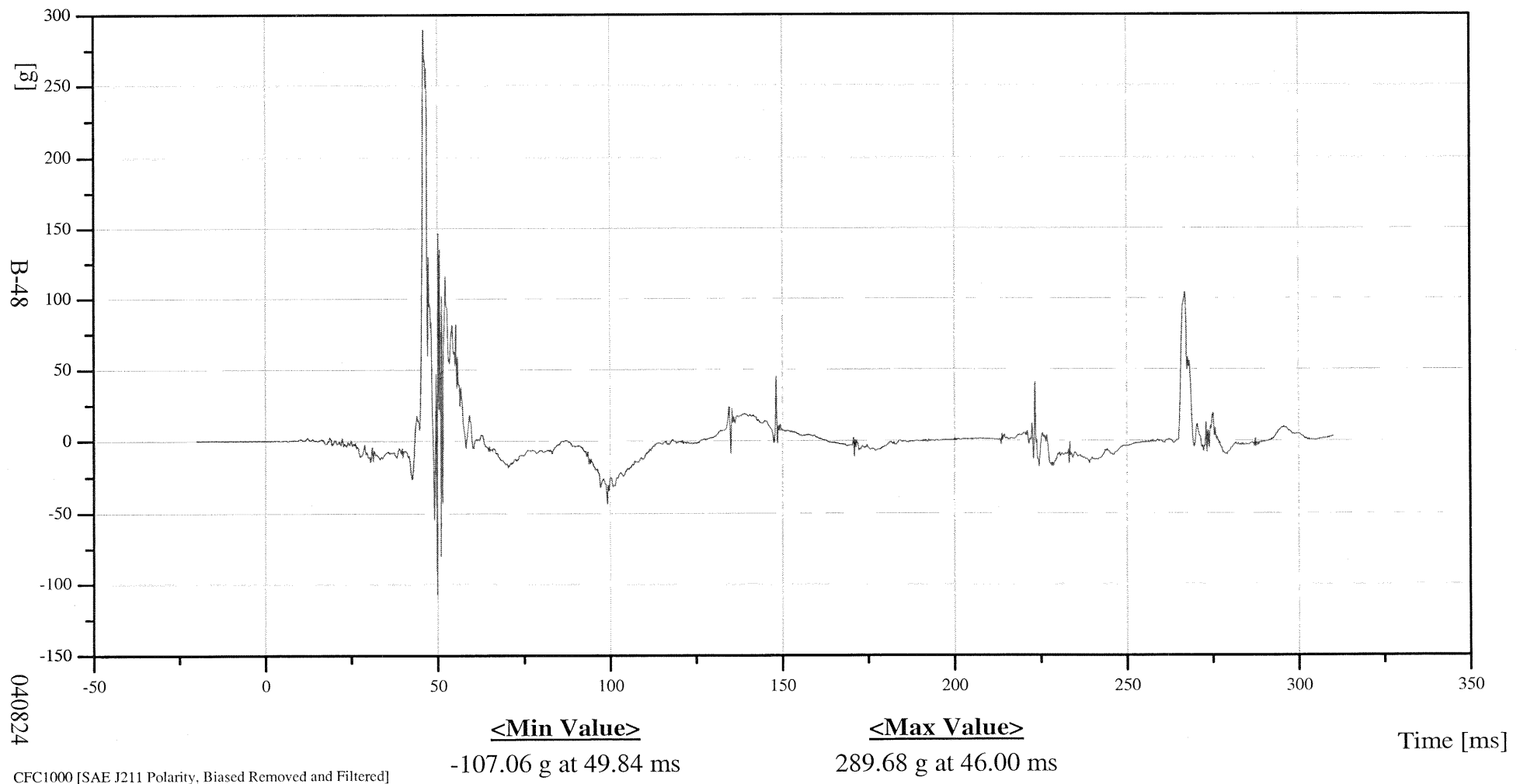
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTLZG1





Transportation Research Center, Inc.

Left Foot Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

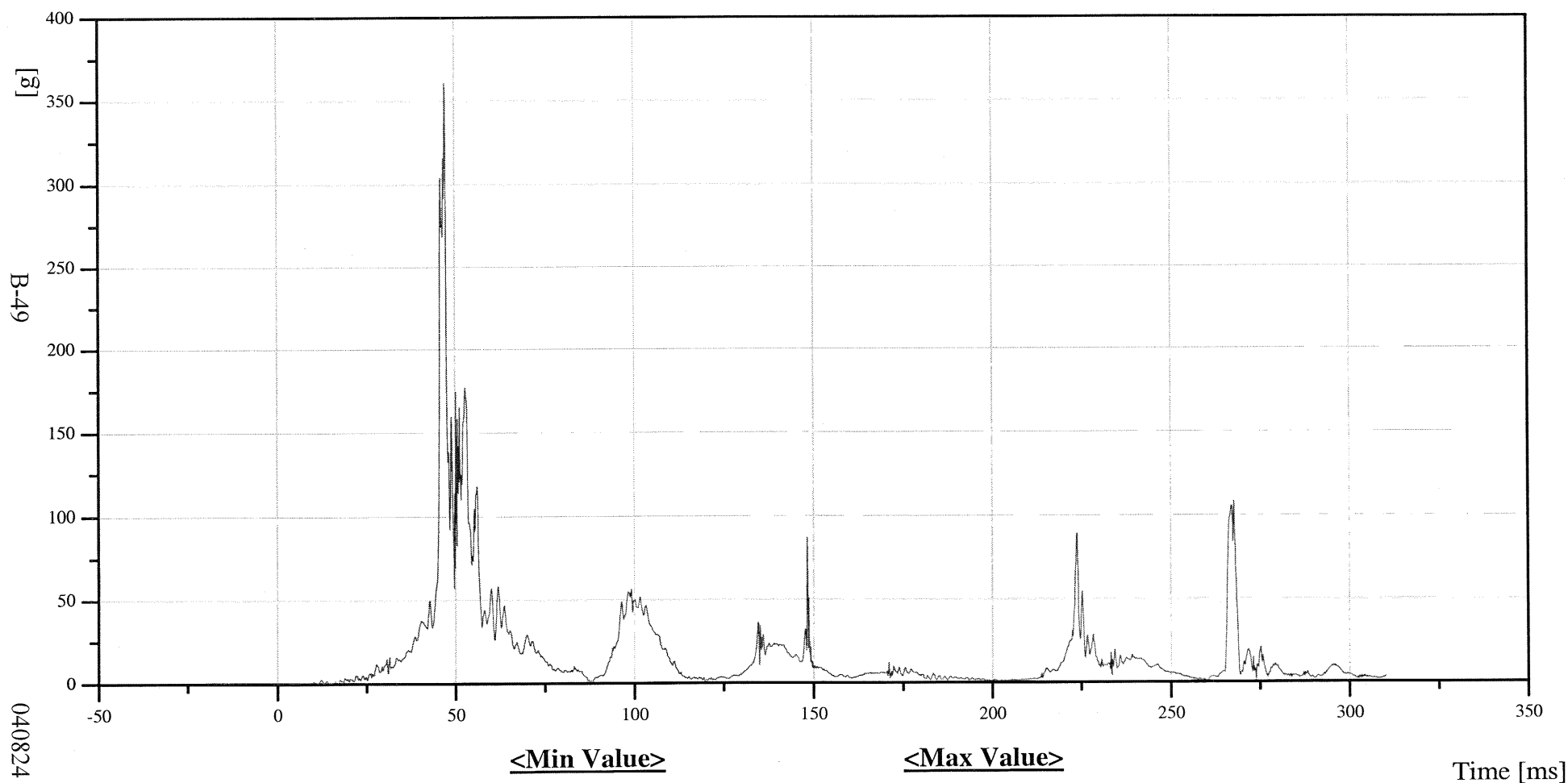
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTLRG1



040824

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]

<Min Value>
0.02 g at -0.40 ms

<Max Value>
360.68 g at 47.28 ms

Time [ms]



Transportation Research Center, Inc.

Right Femur Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

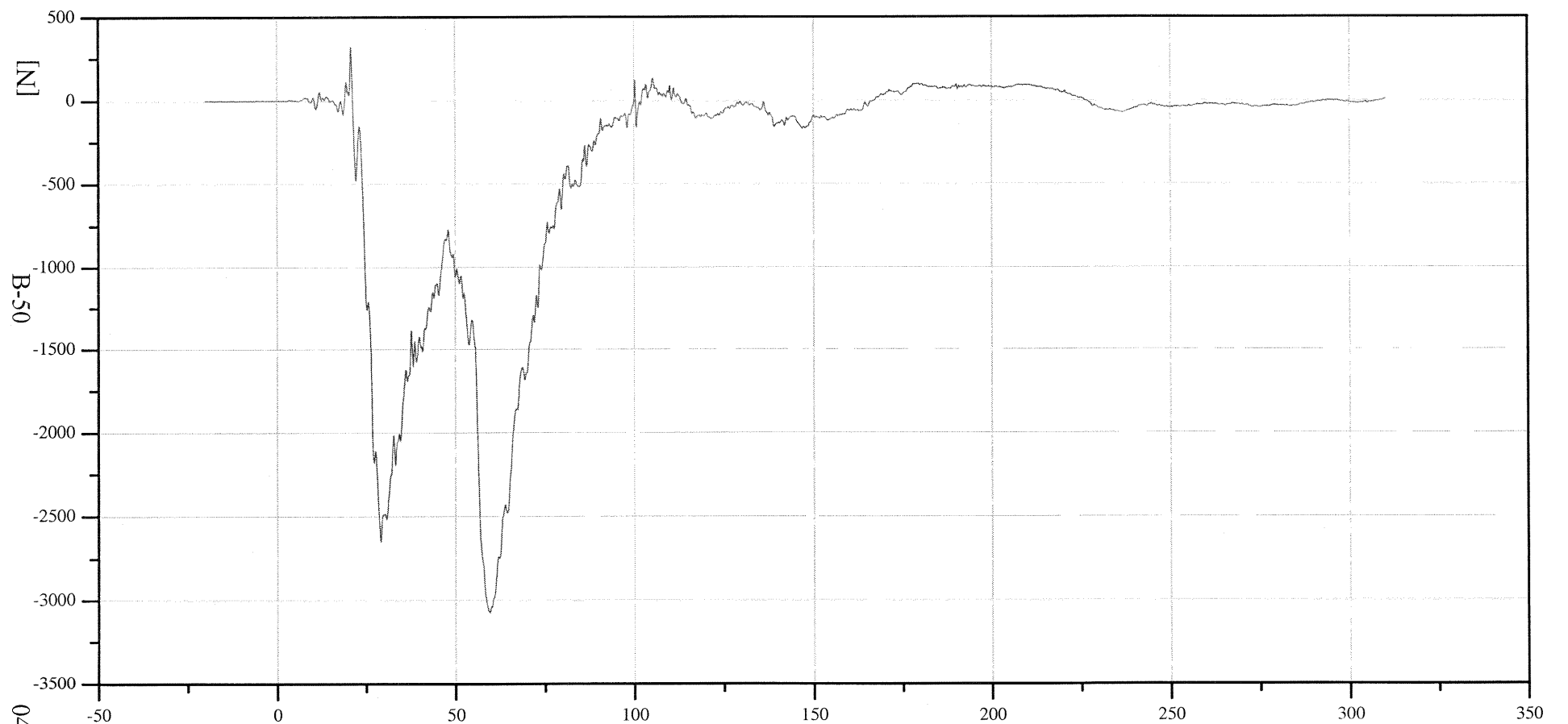
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RFMZ1



<Min Value>

-3073.37 N at 59.44 ms

<Max Value>

319.54 N at 20.88 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Knee Displacement

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

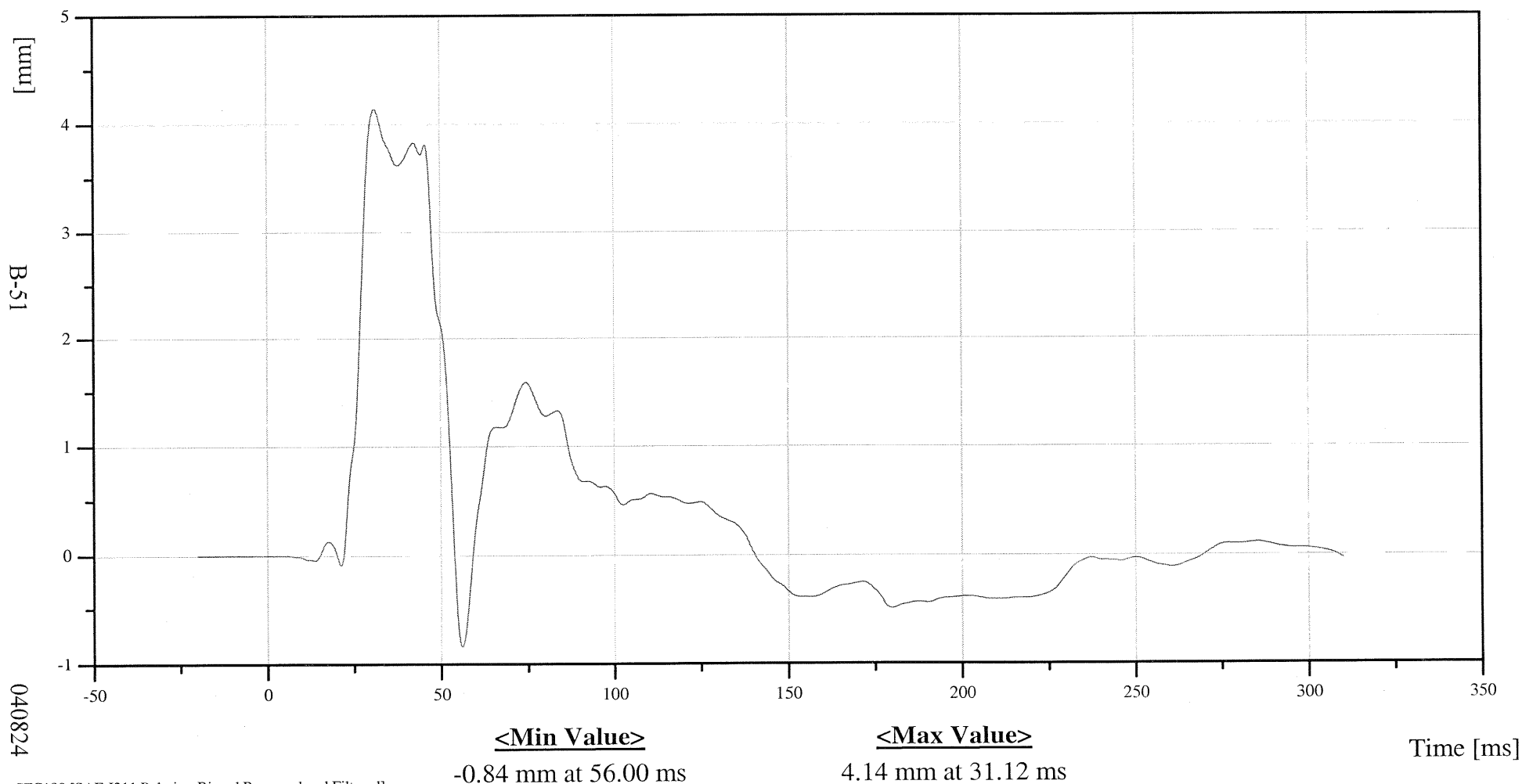
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

KNR XD1



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Upr Tibia Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

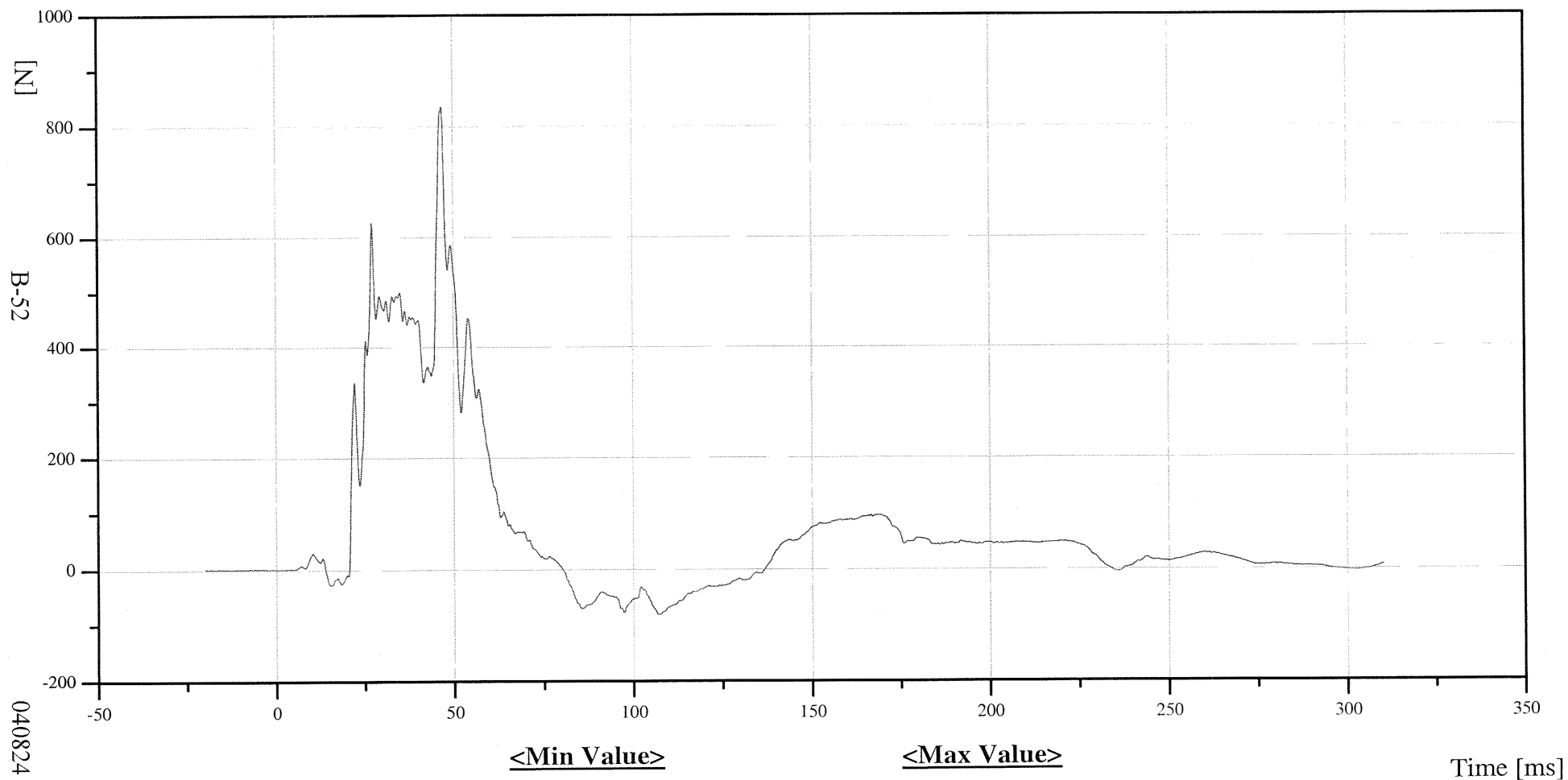
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBRXF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Upr Tibia Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

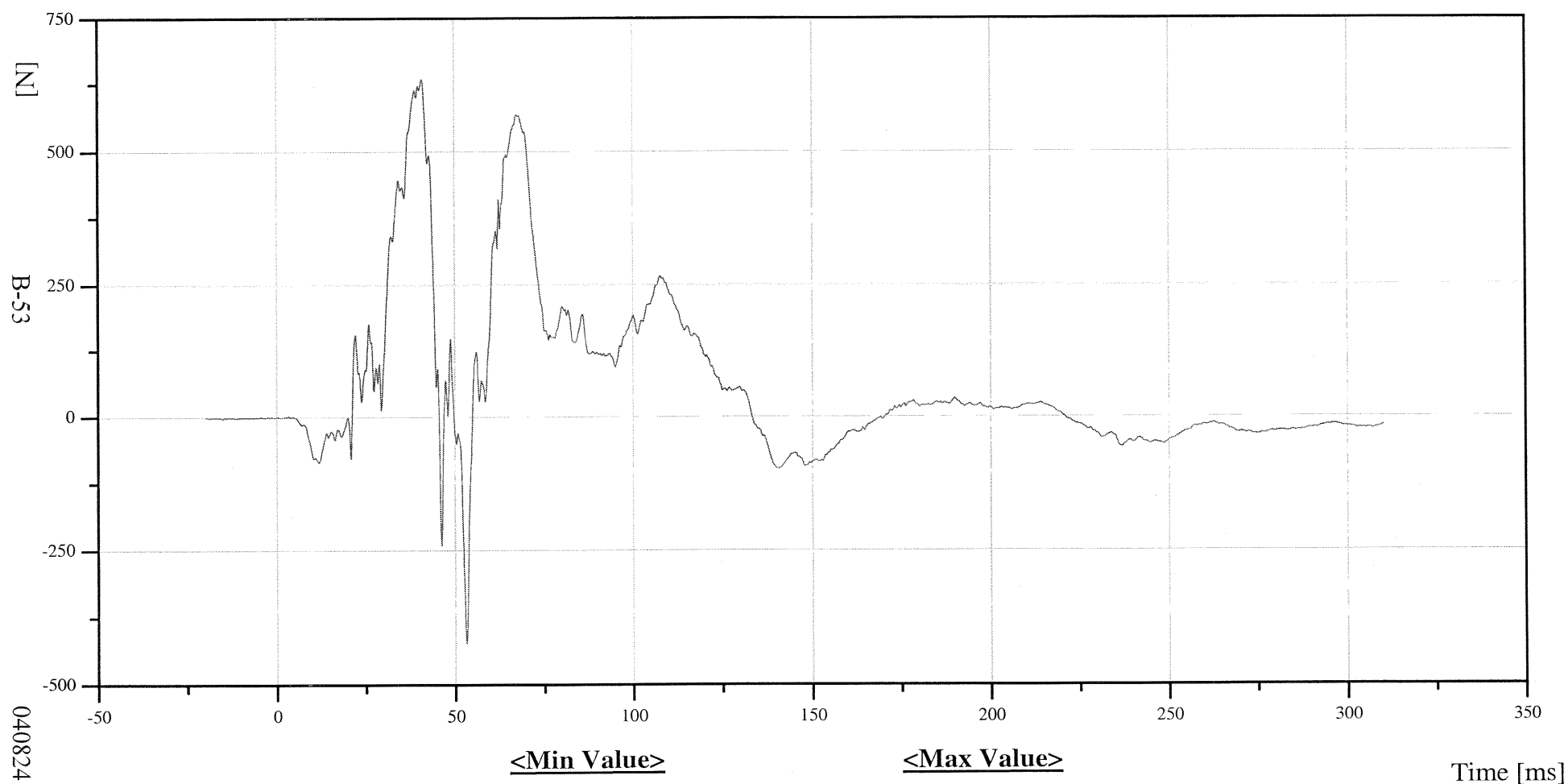
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBRZF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Upr Tibia Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

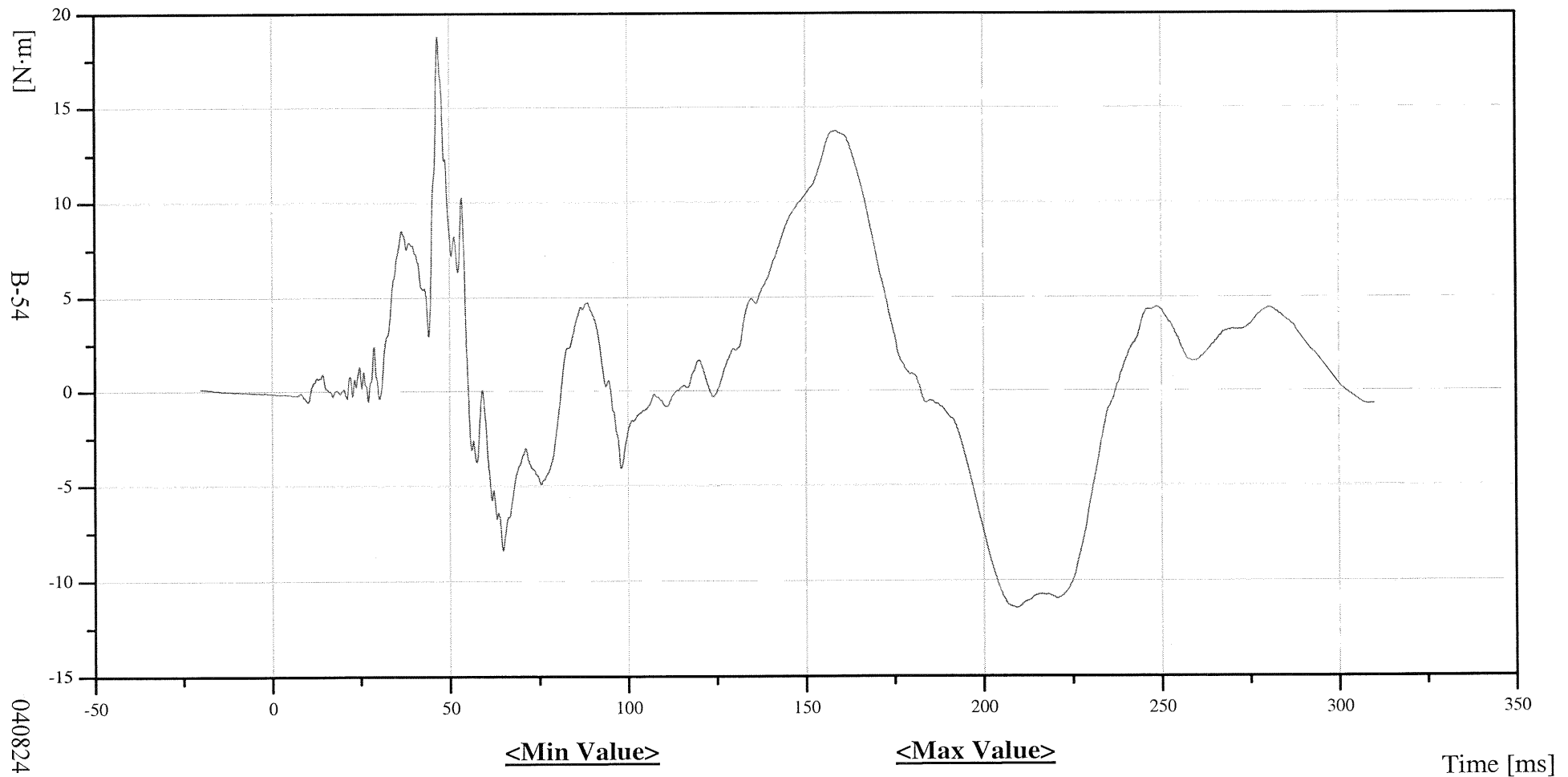
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBRXM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Upr Tibia Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

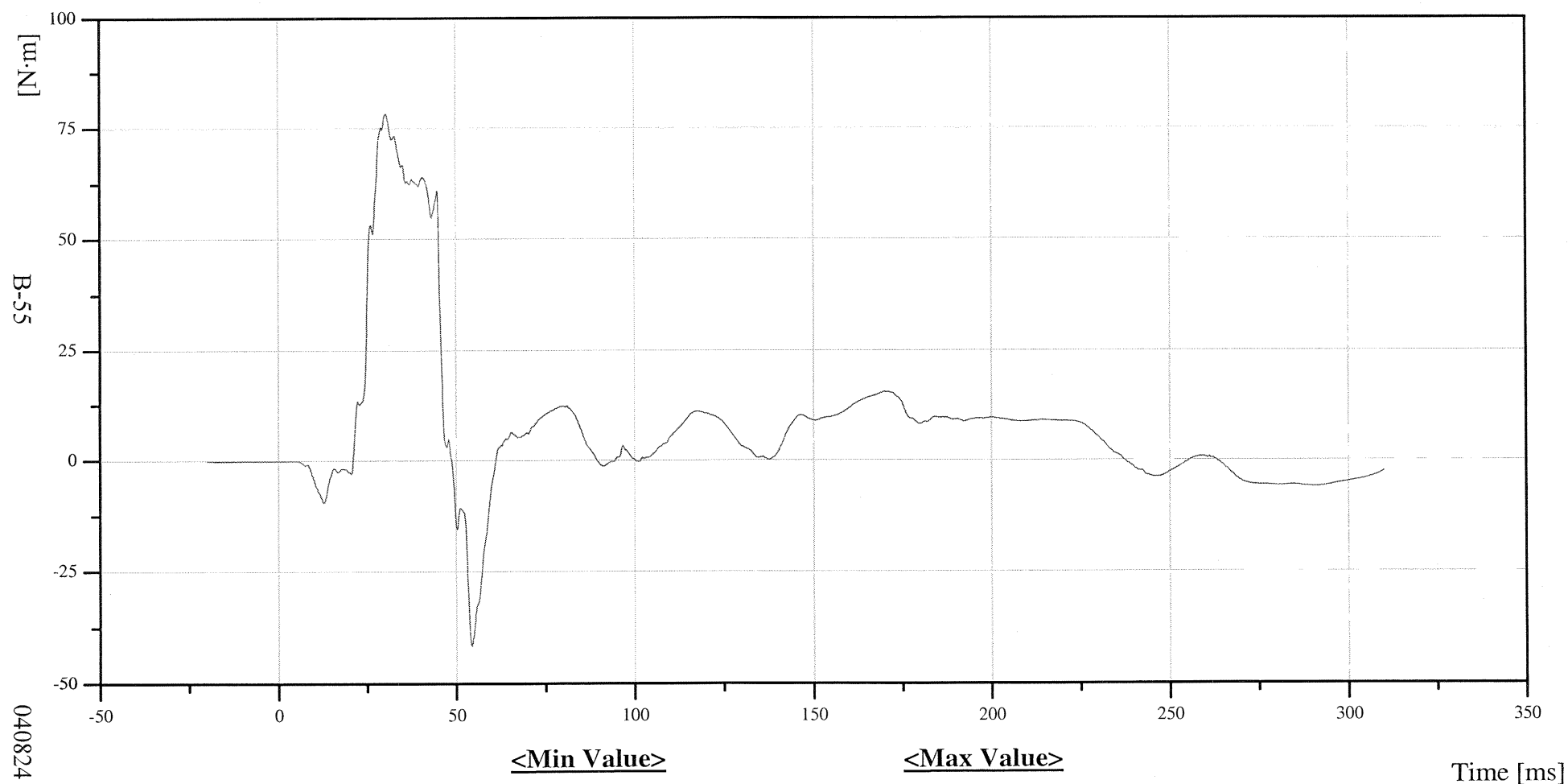
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBR YM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Tibia Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

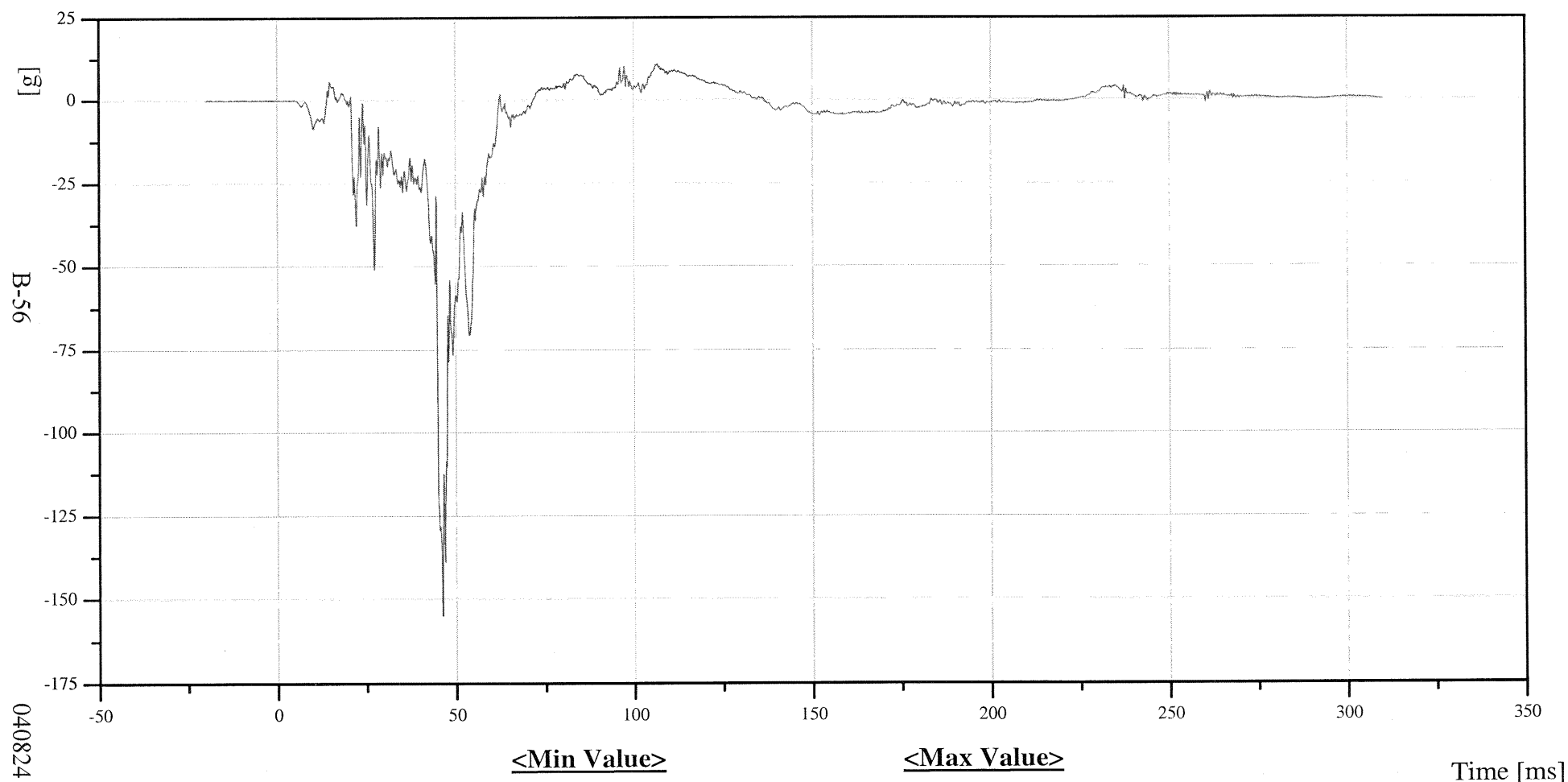
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBRXG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]

-155.00 g at 46.16 ms

10.85 g at 106.80 ms



Transportation Research Center, Inc.

Right Tibia Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

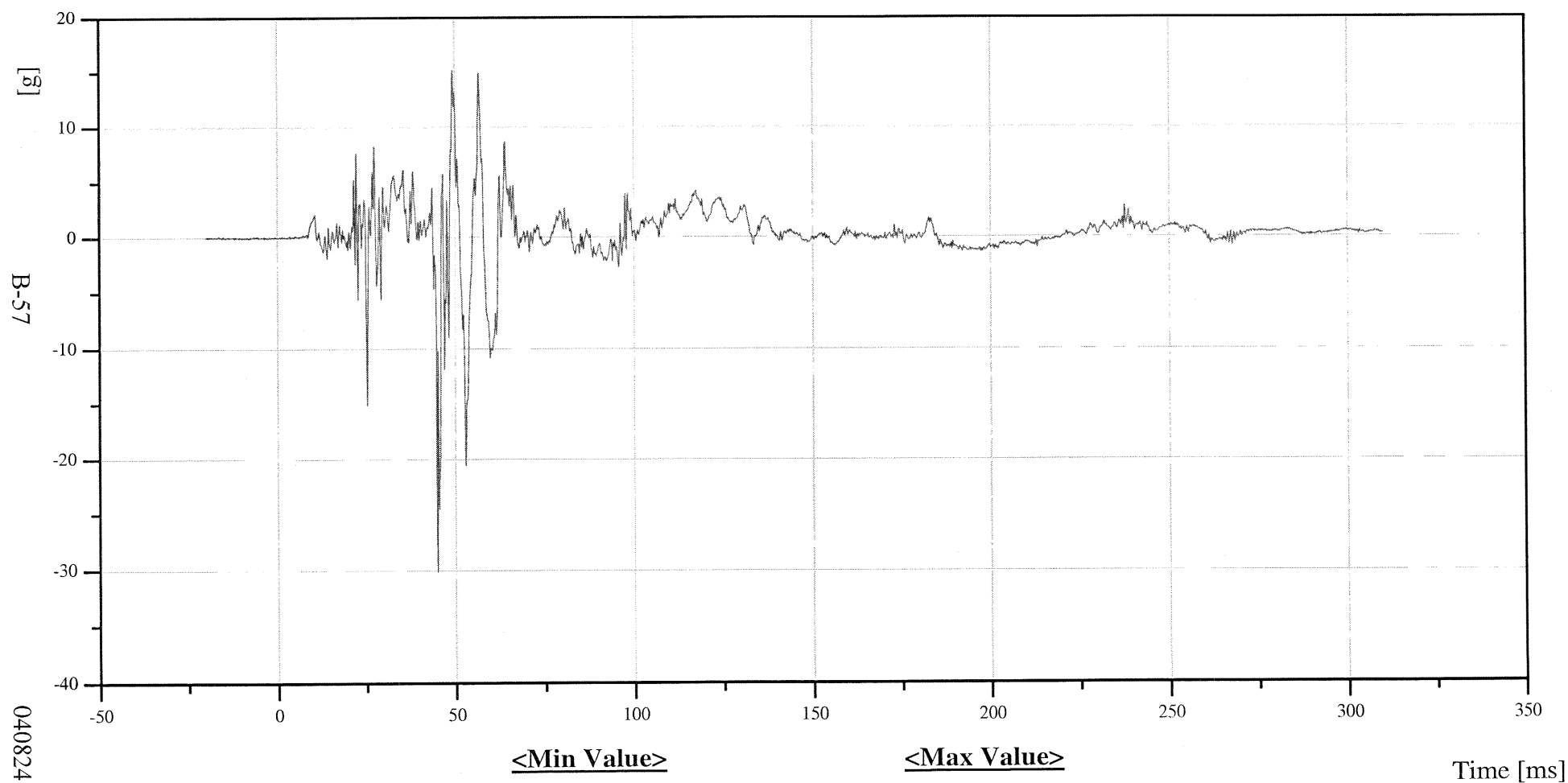
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TBRYG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]

<Min Value>
-30.16 g at 44.88 ms

<Max Value>
15.17 g at 49.36 ms



Transportation Research Center, Inc.

Right Lwr Tibia Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

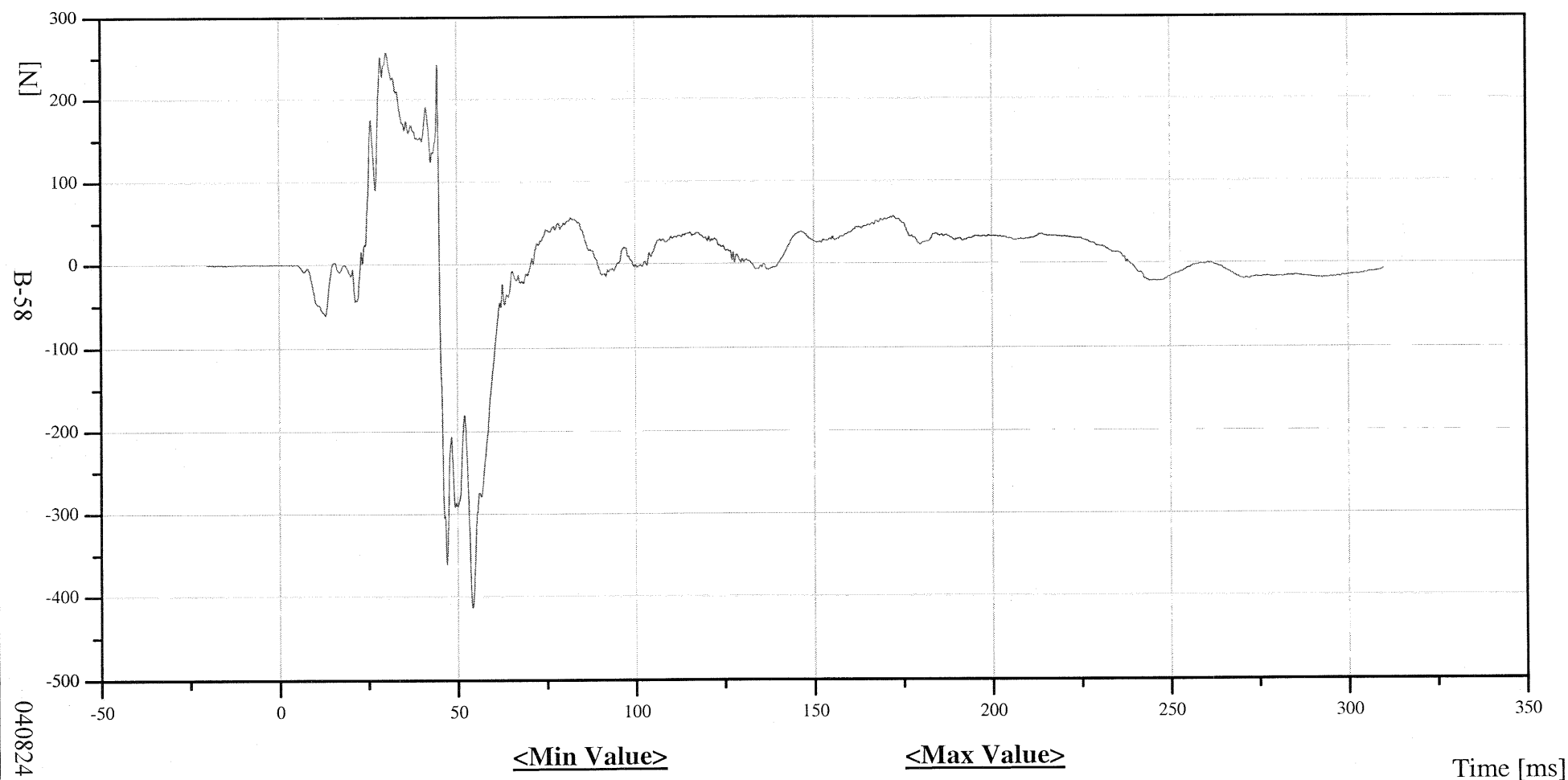
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANRXF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Lwr Tibia Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

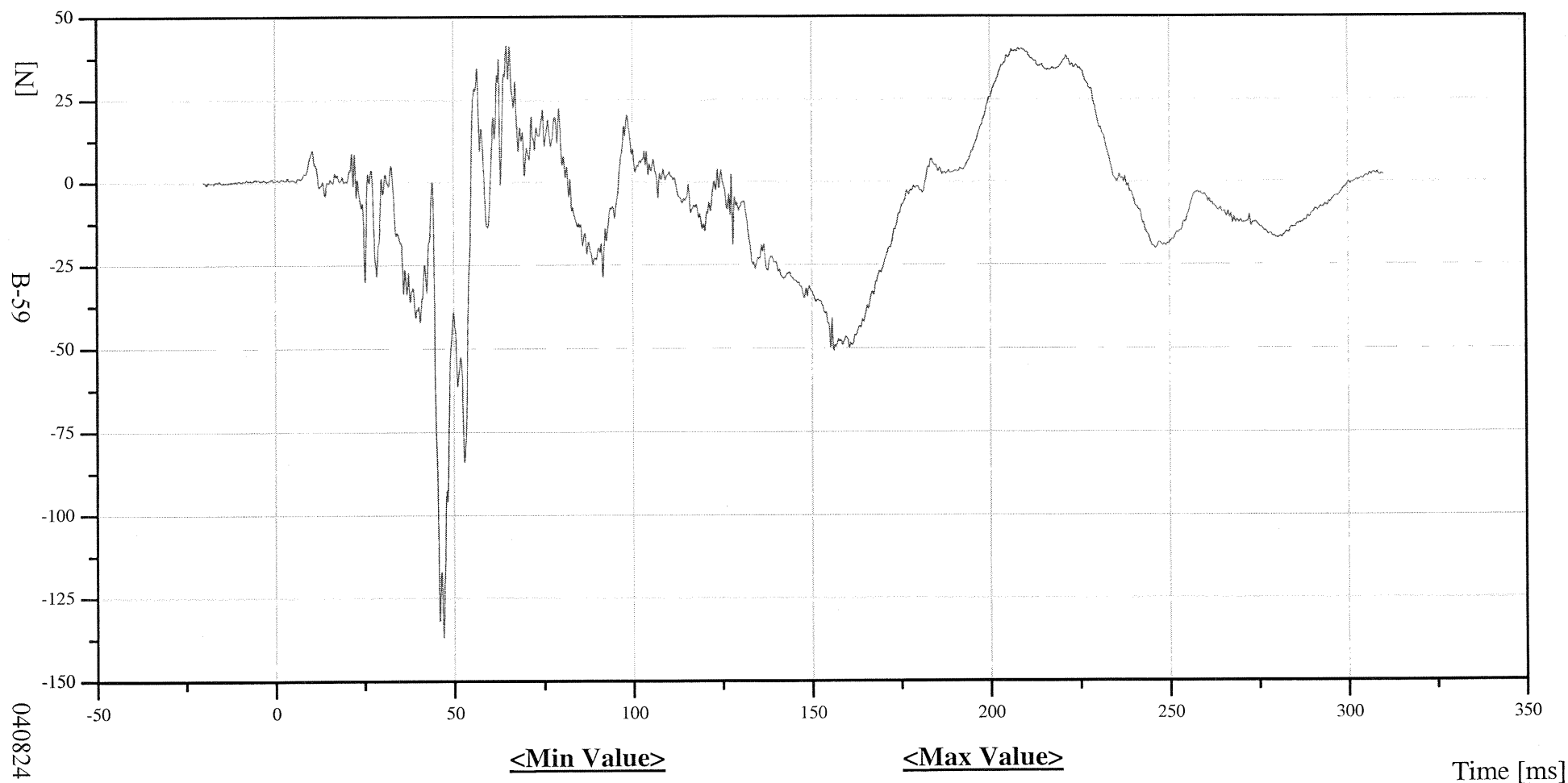
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANRYF1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Lwr Tibia Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

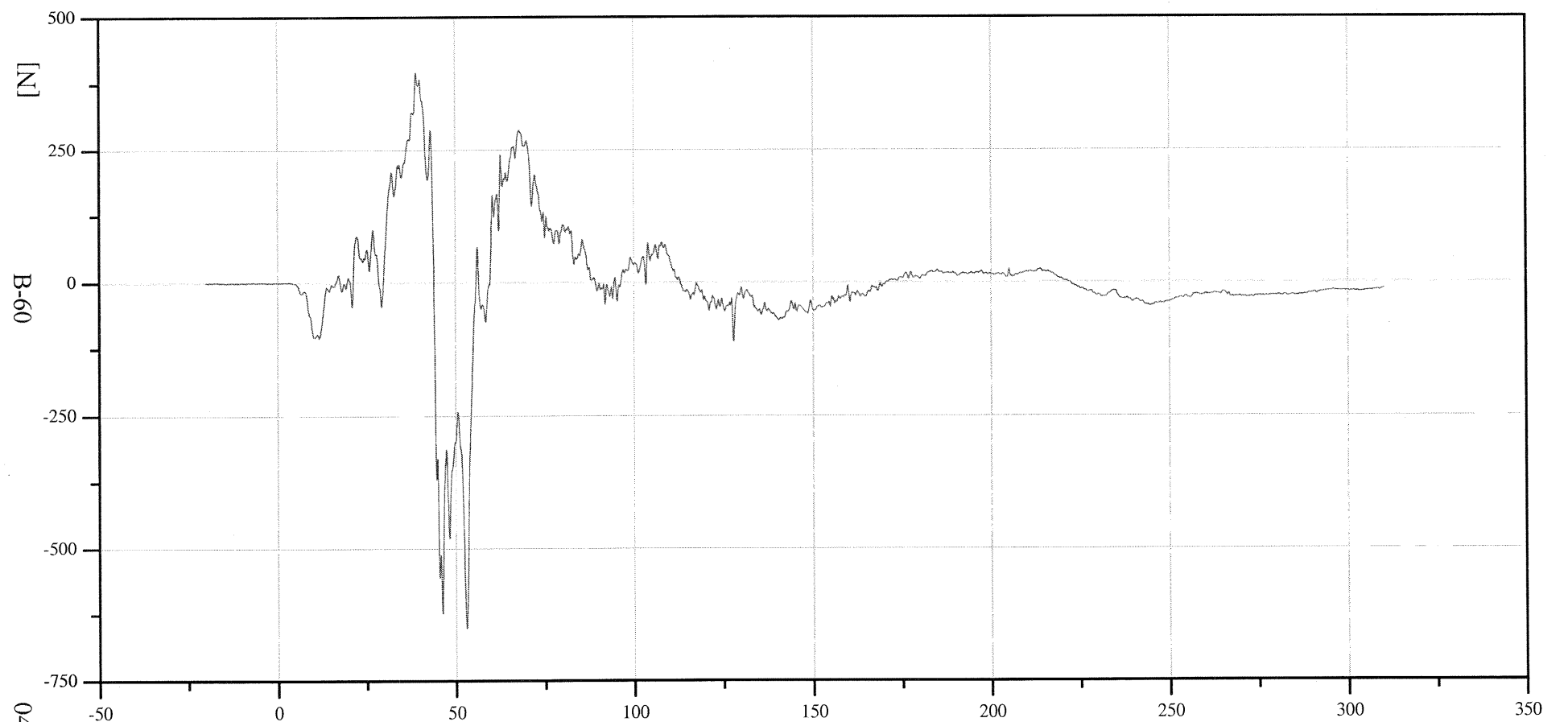
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANRZF1



<Min Value>

-651.21 N at 52.96 ms

<Max Value>

397.07 N at 39.04 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Lwr Tibia Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

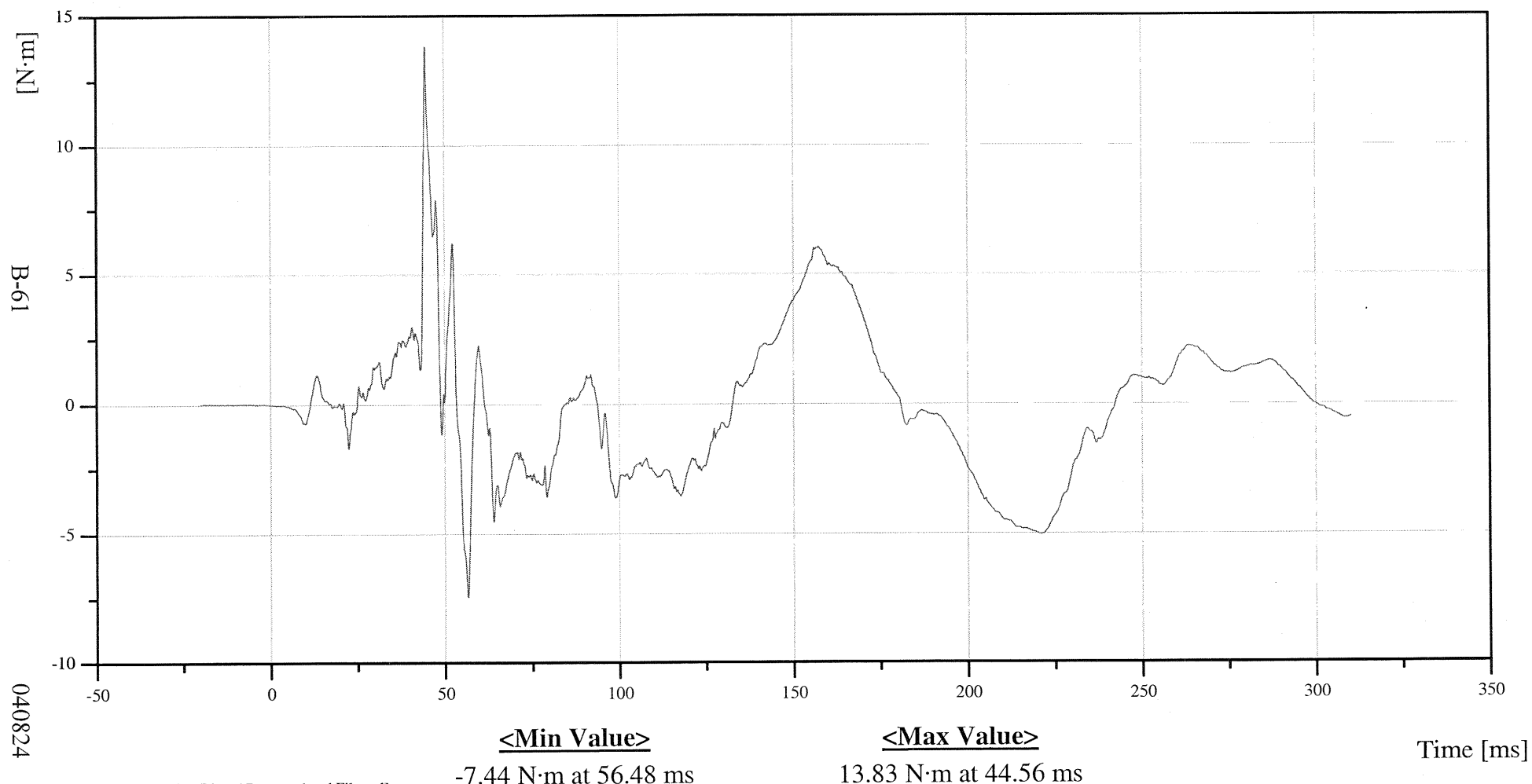
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANRXM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Lwr Tibia Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

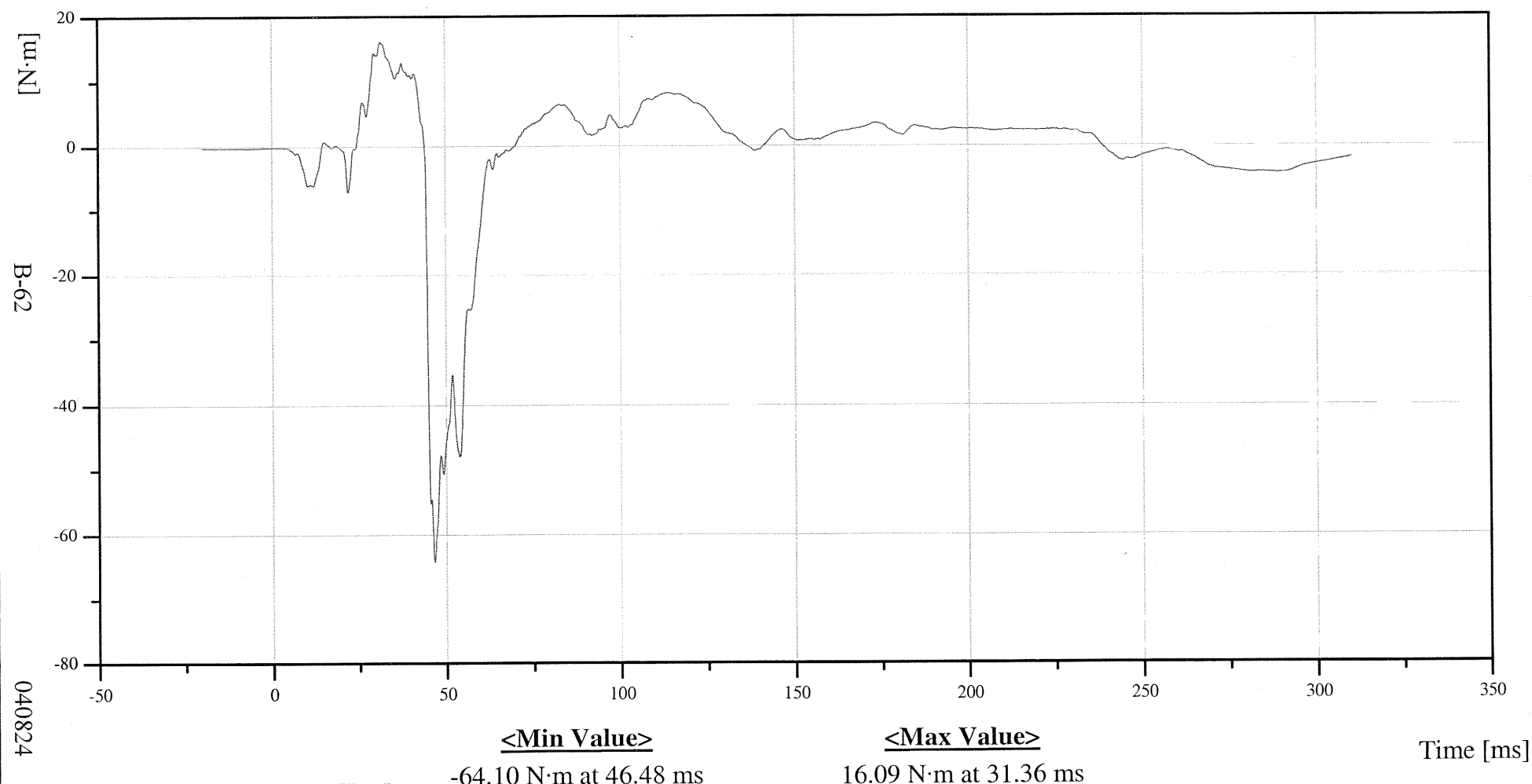
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

ANRYM1



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Foot Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

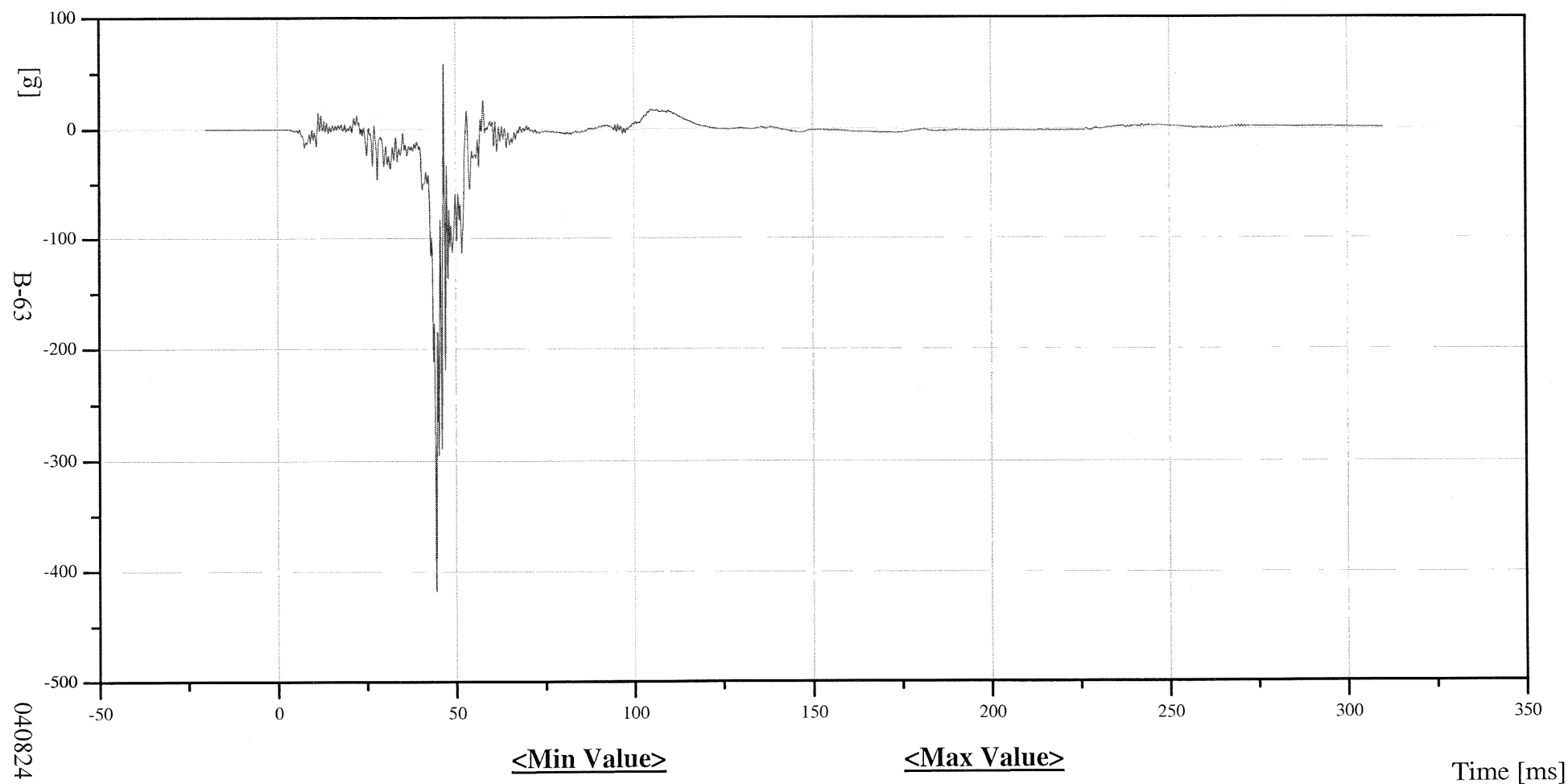
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTRXG1



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Foot Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

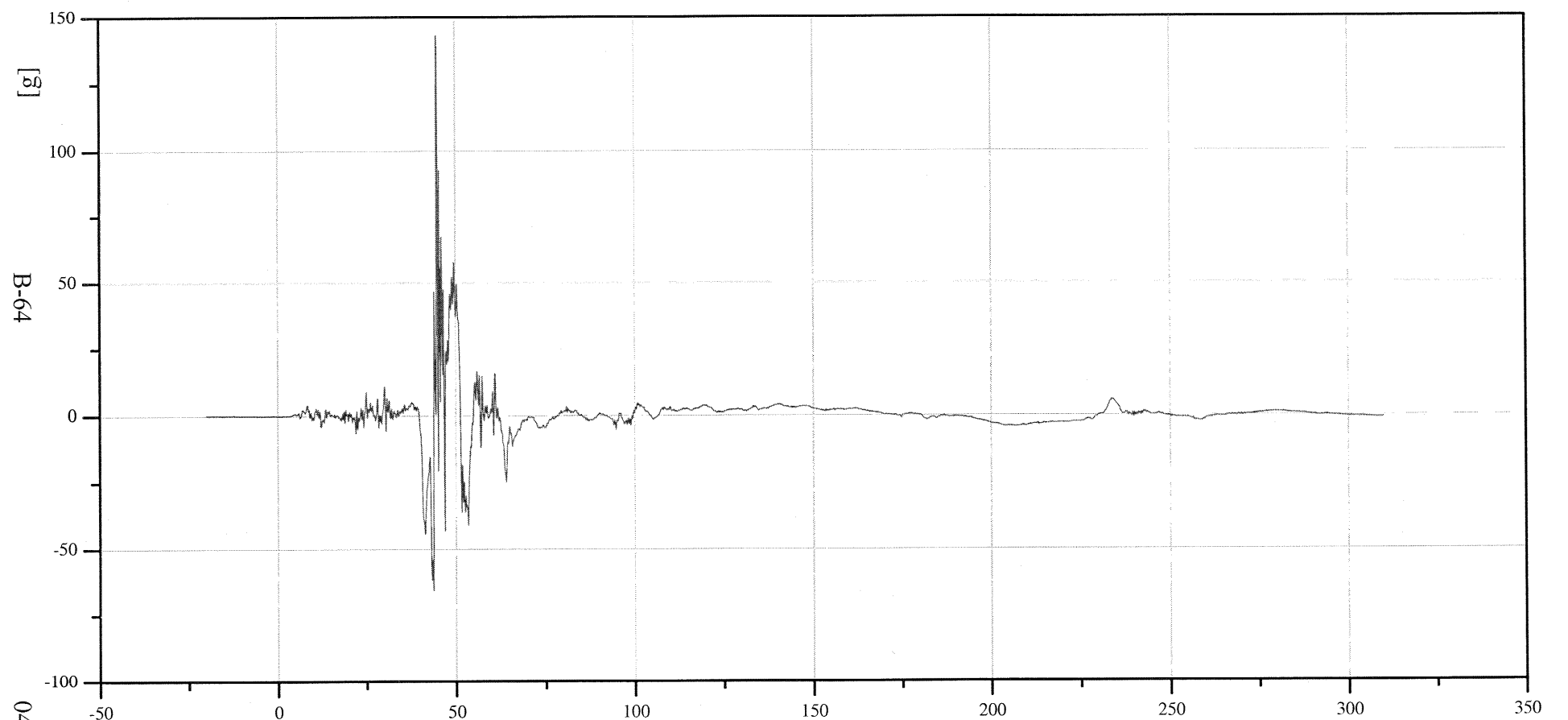
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTRYG1



<Min Value>

-65.59 g at 43.68 ms

<Max Value>

142.91 g at 44.80 ms

Time [ms]

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Foot Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

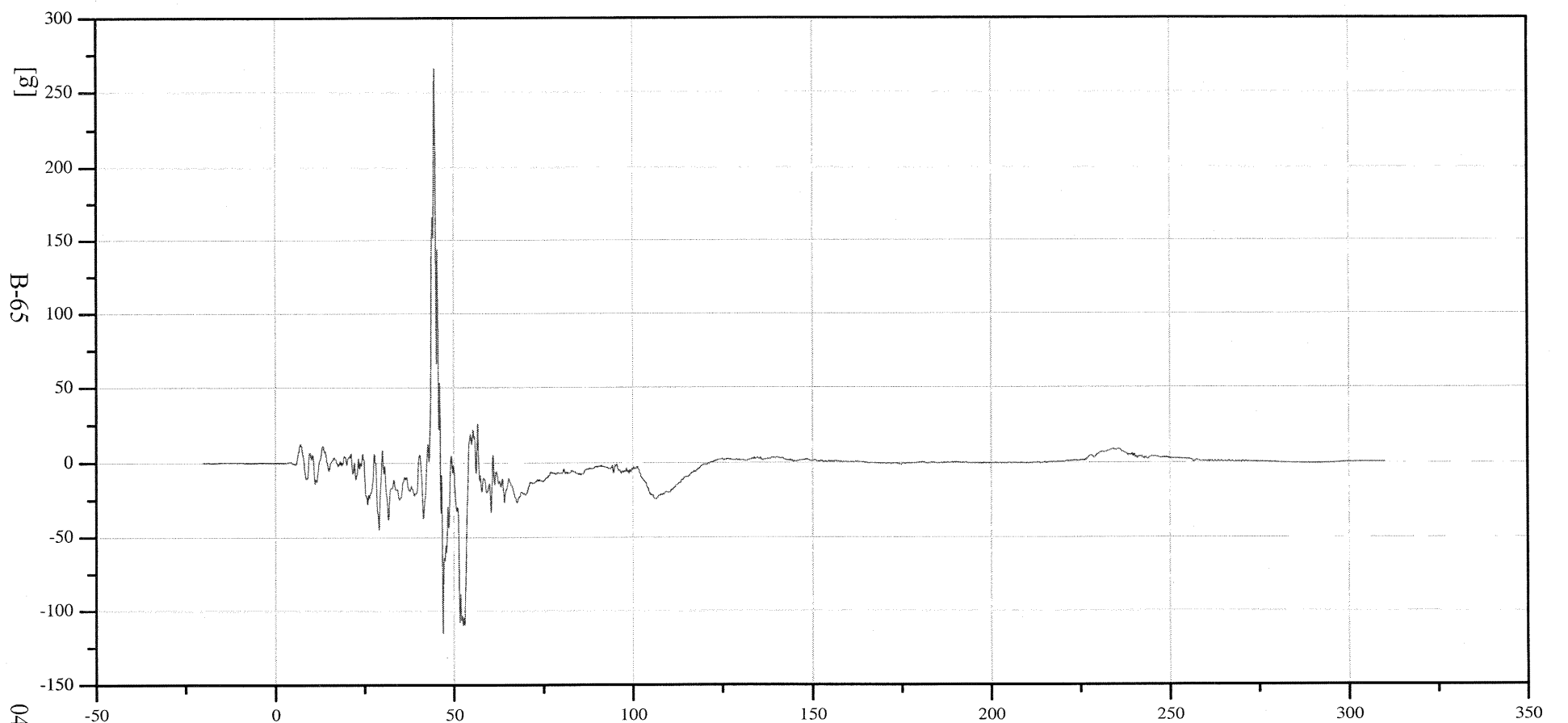
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTRZG1



<Min Value>

-115.07 g at 46.88 ms

<Max Value>

265.63 g at 44.64 ms

Time [ms]

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Foot Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

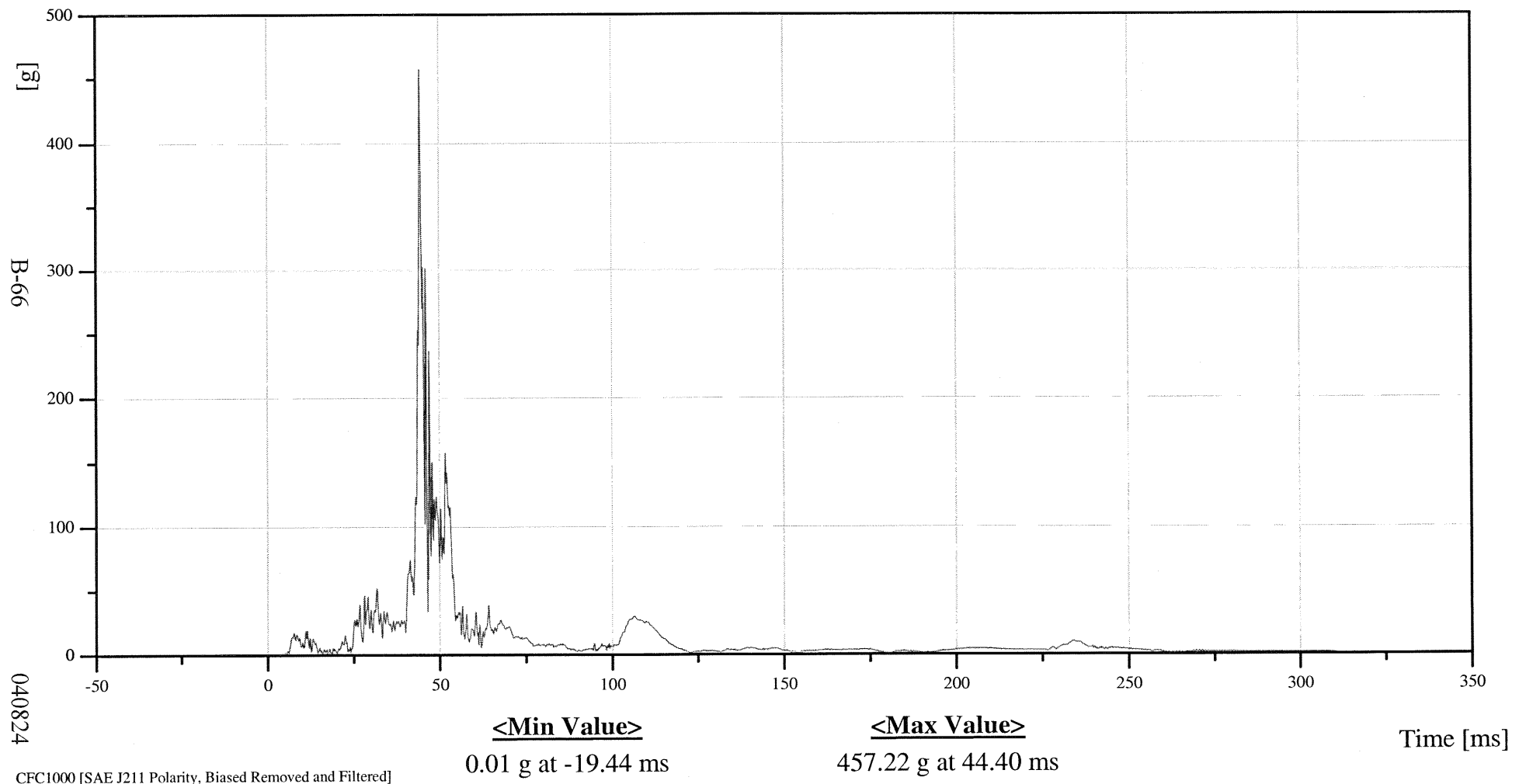
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

FTRRG1





Transportation Research Center, Inc.

Head Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

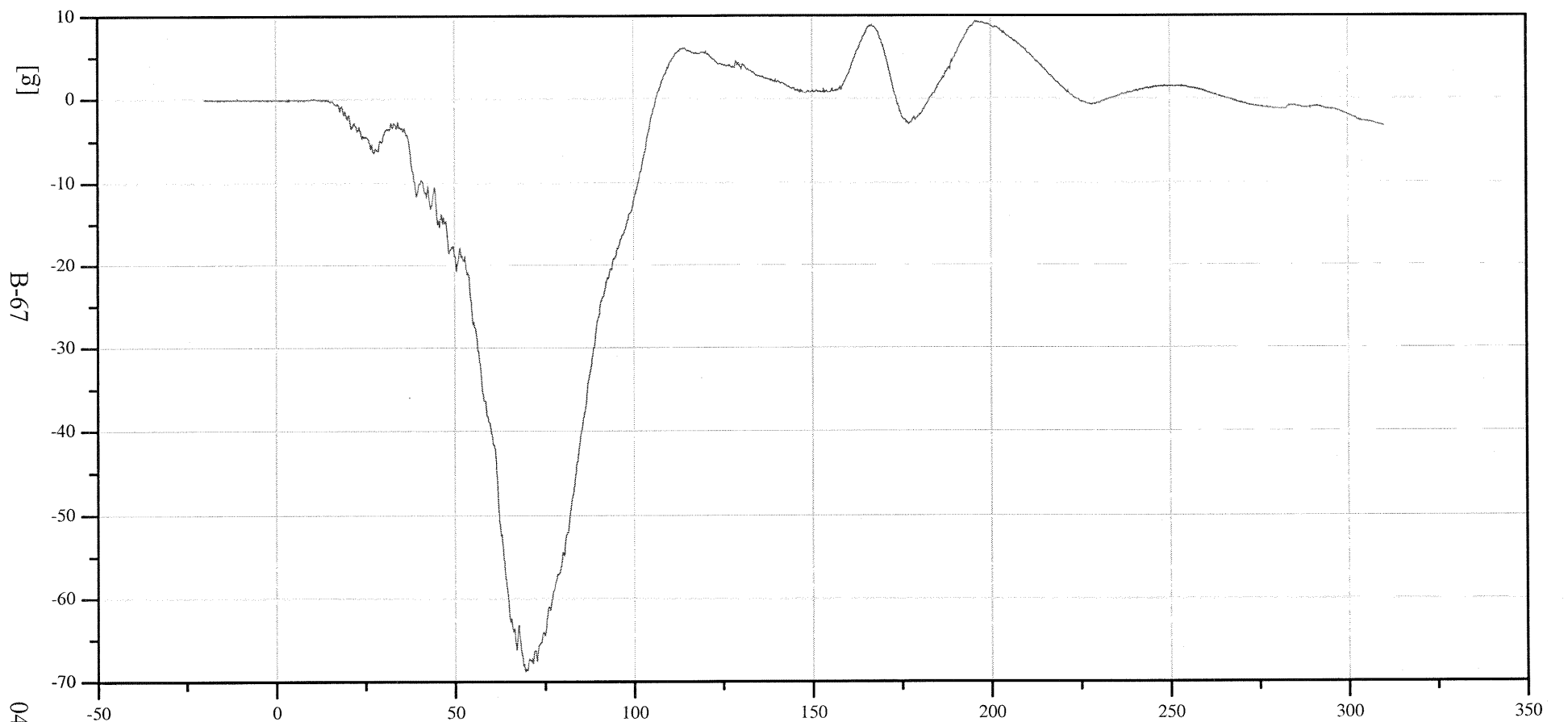
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDXG2



<Min Value>

-68.76 g at 69.44 ms

<Max Value>

9.34 g at 195.76 ms

Time [ms]

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

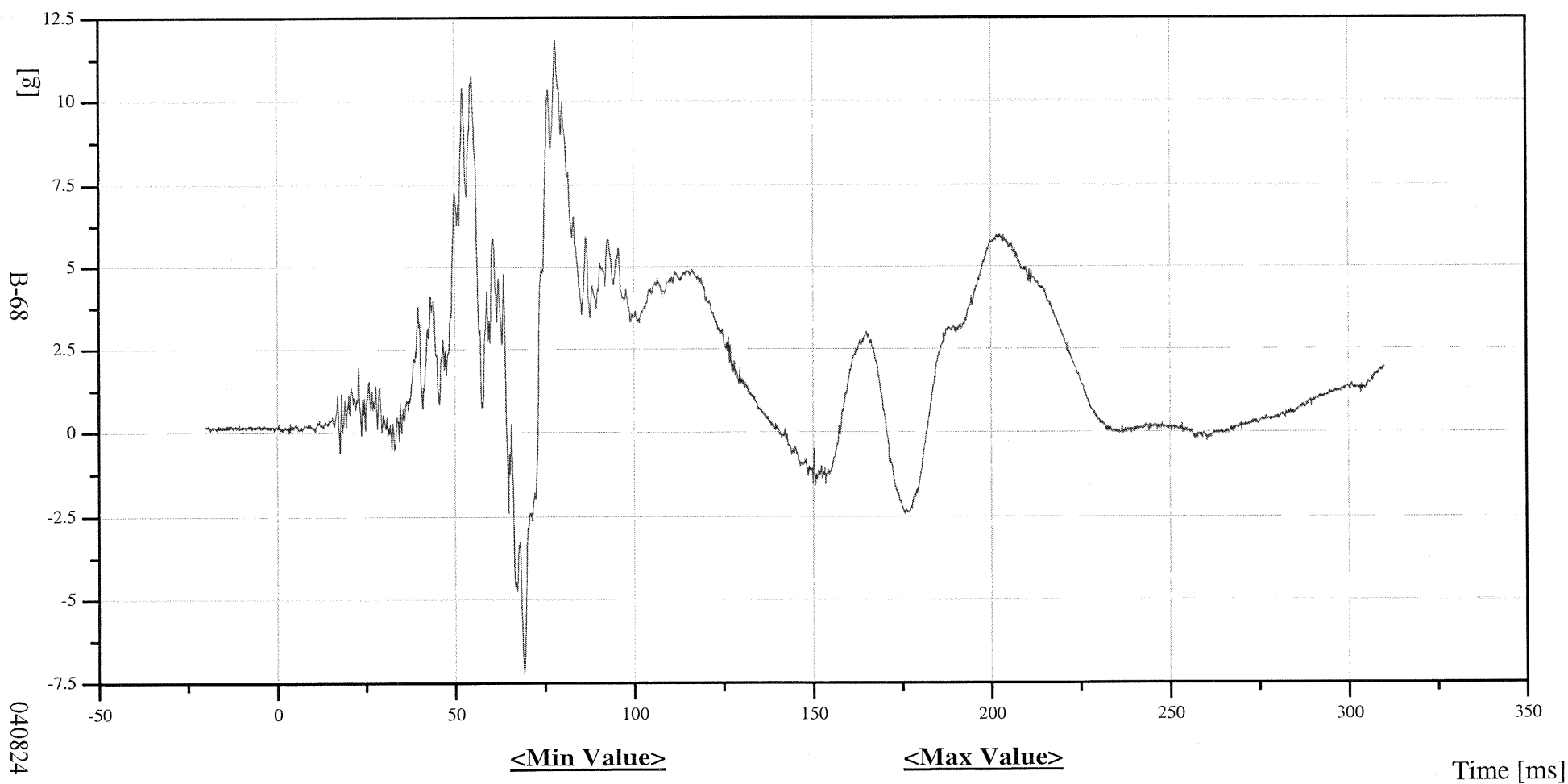
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDYG2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

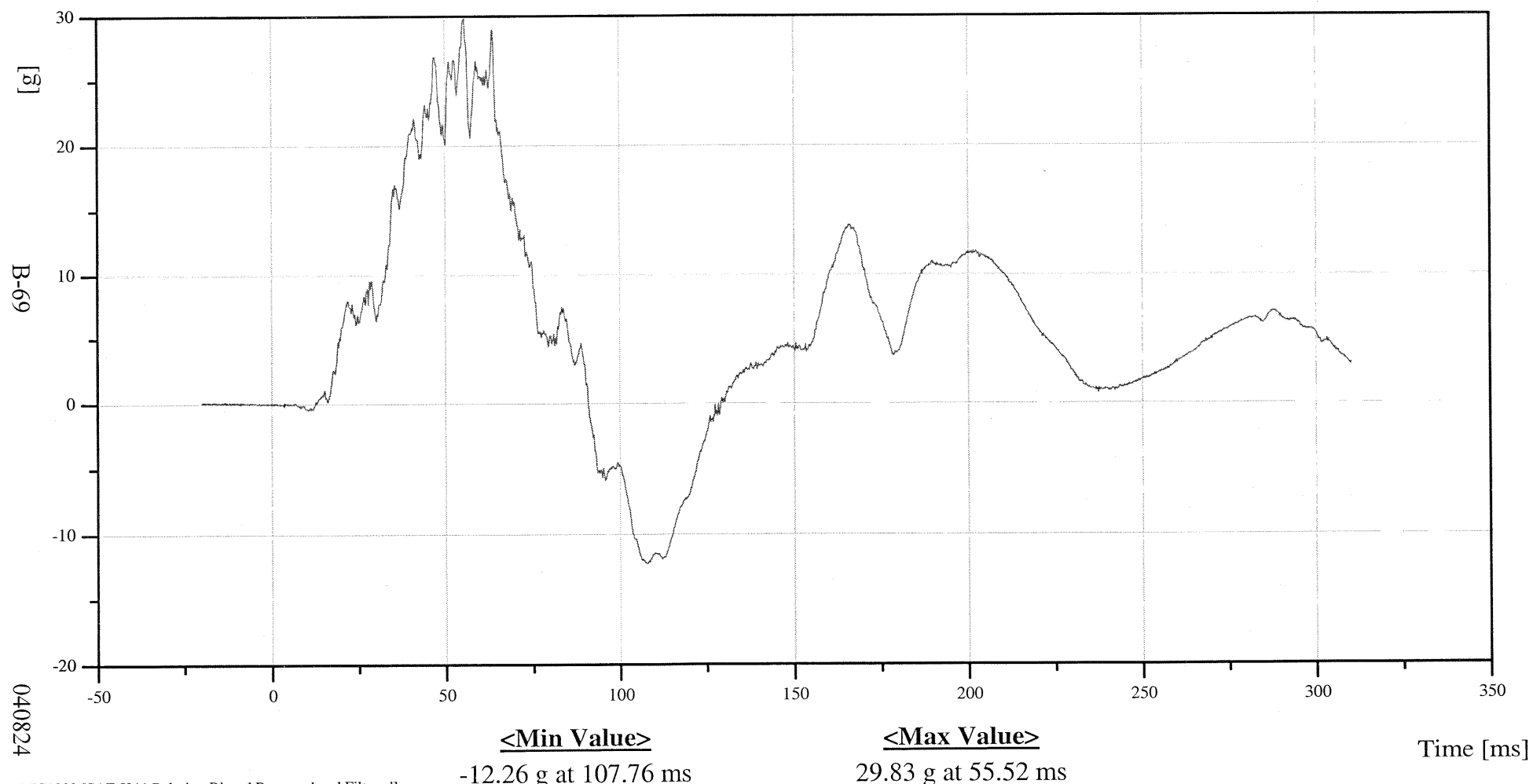
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDZG2





Transportation Research Center, Inc.

Head Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

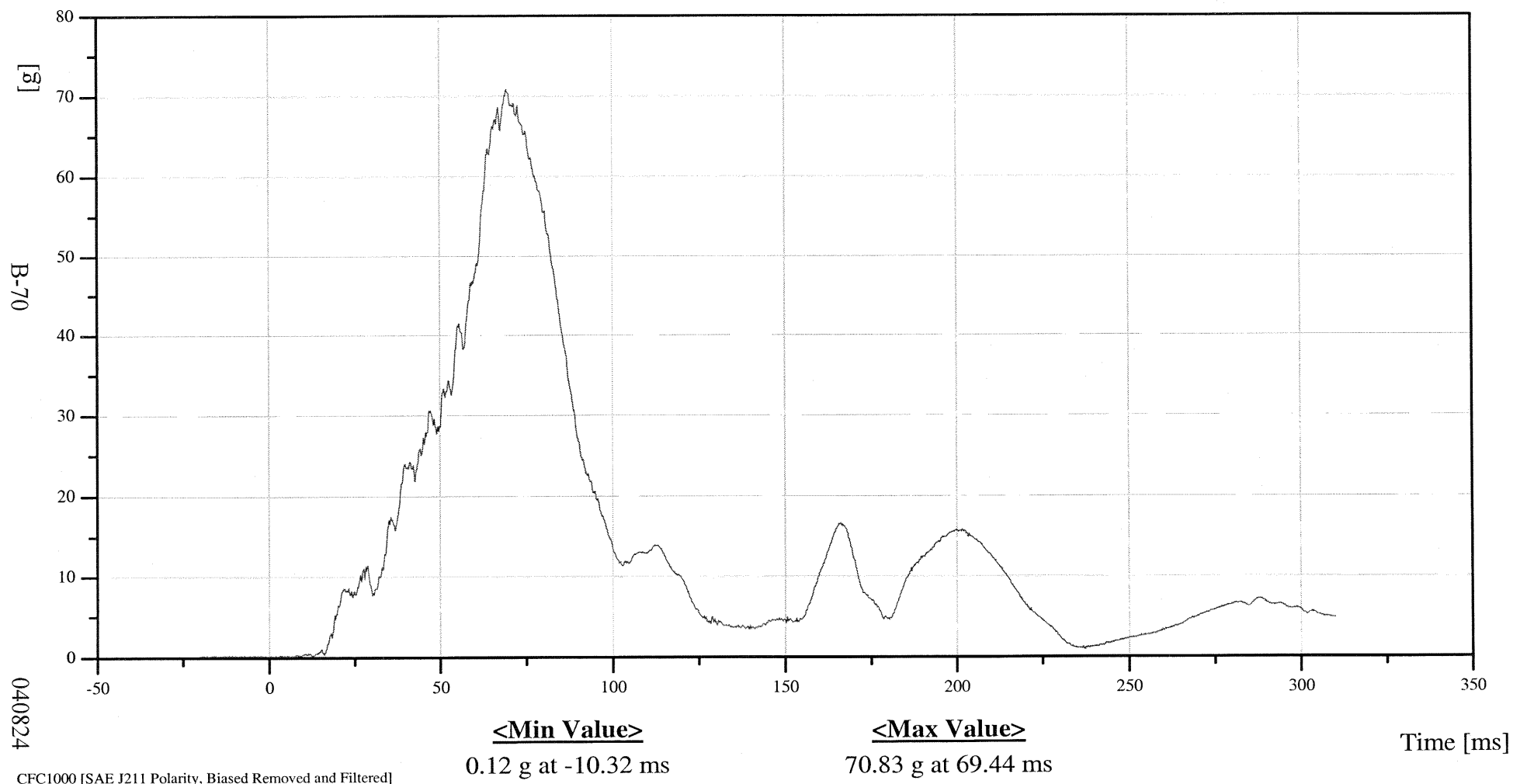
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDRG2





Transportation Research Center, Inc.

Head Accel Red X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

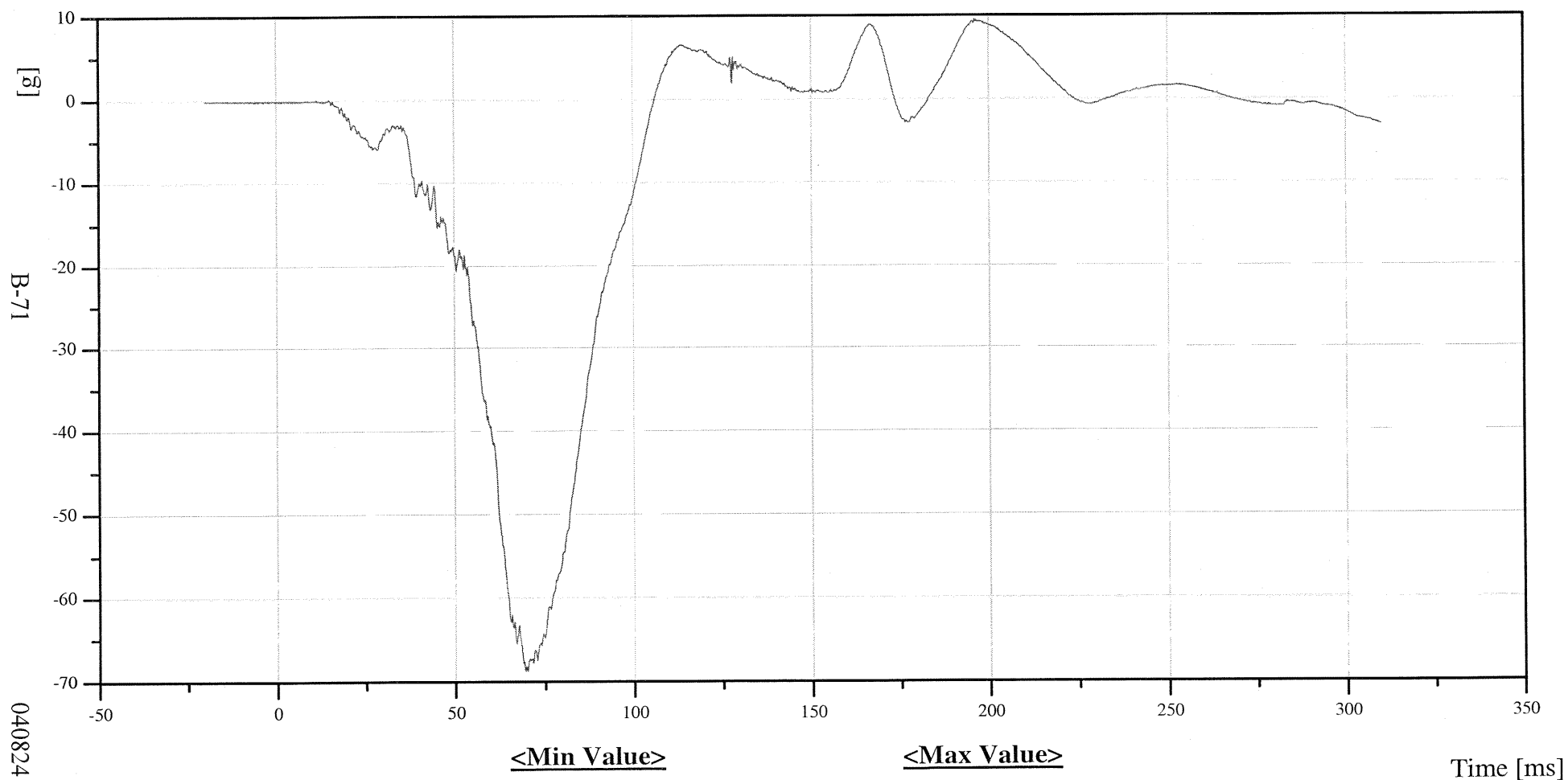
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDXR2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Red Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

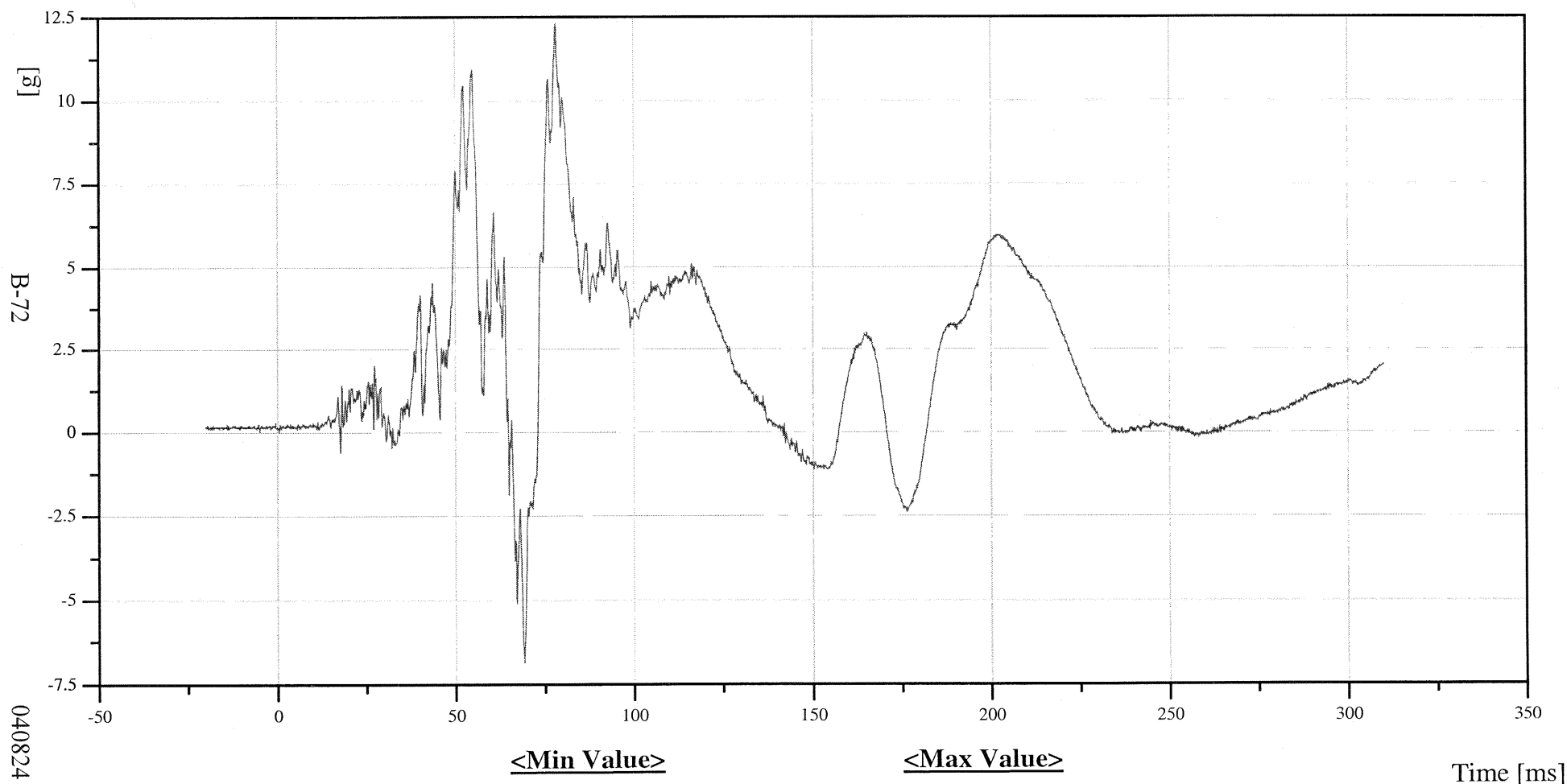
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDYR2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Red Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

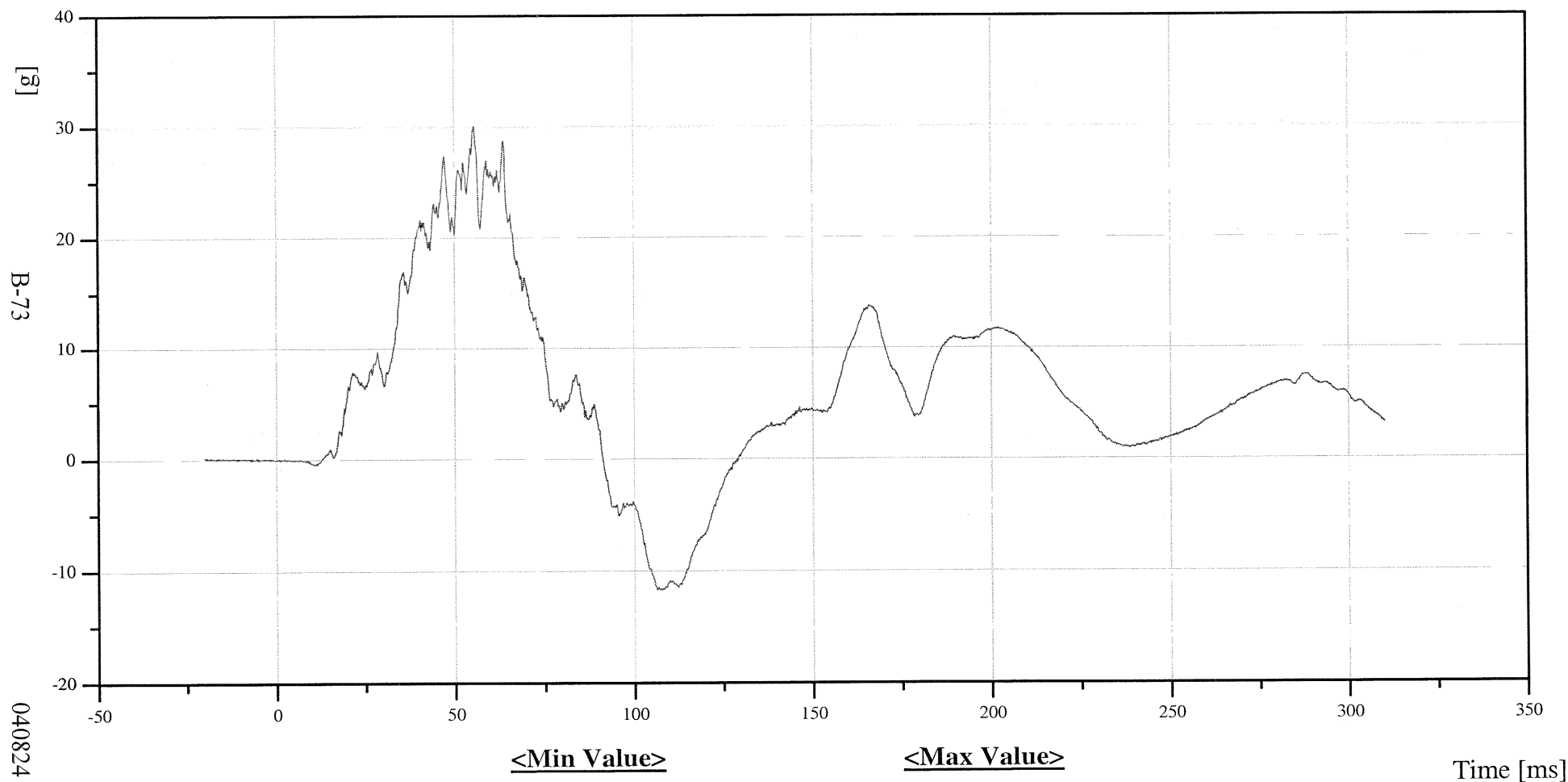
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDZR2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

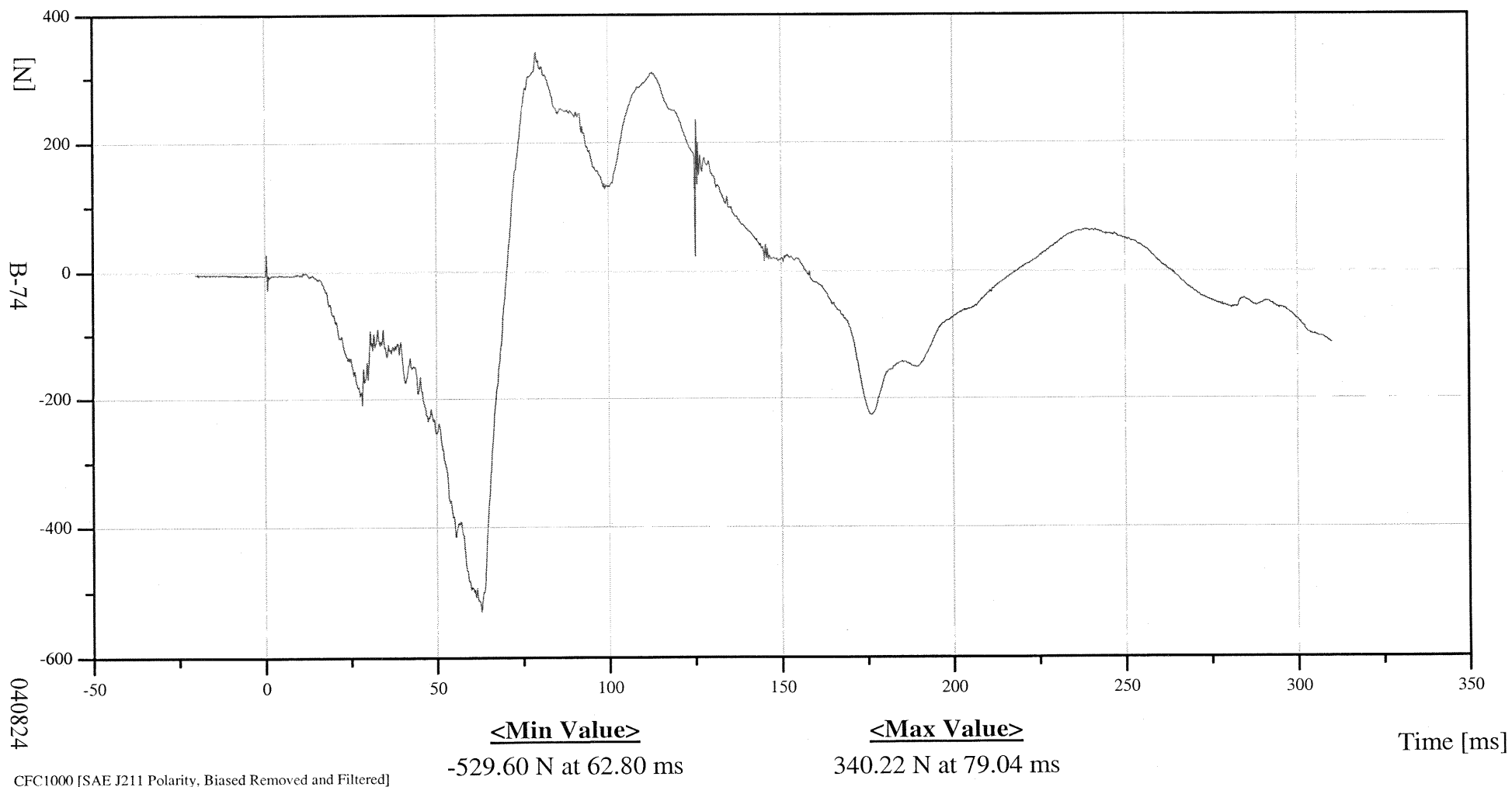
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKXF2





Transportation Research Center, Inc.

Neck Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

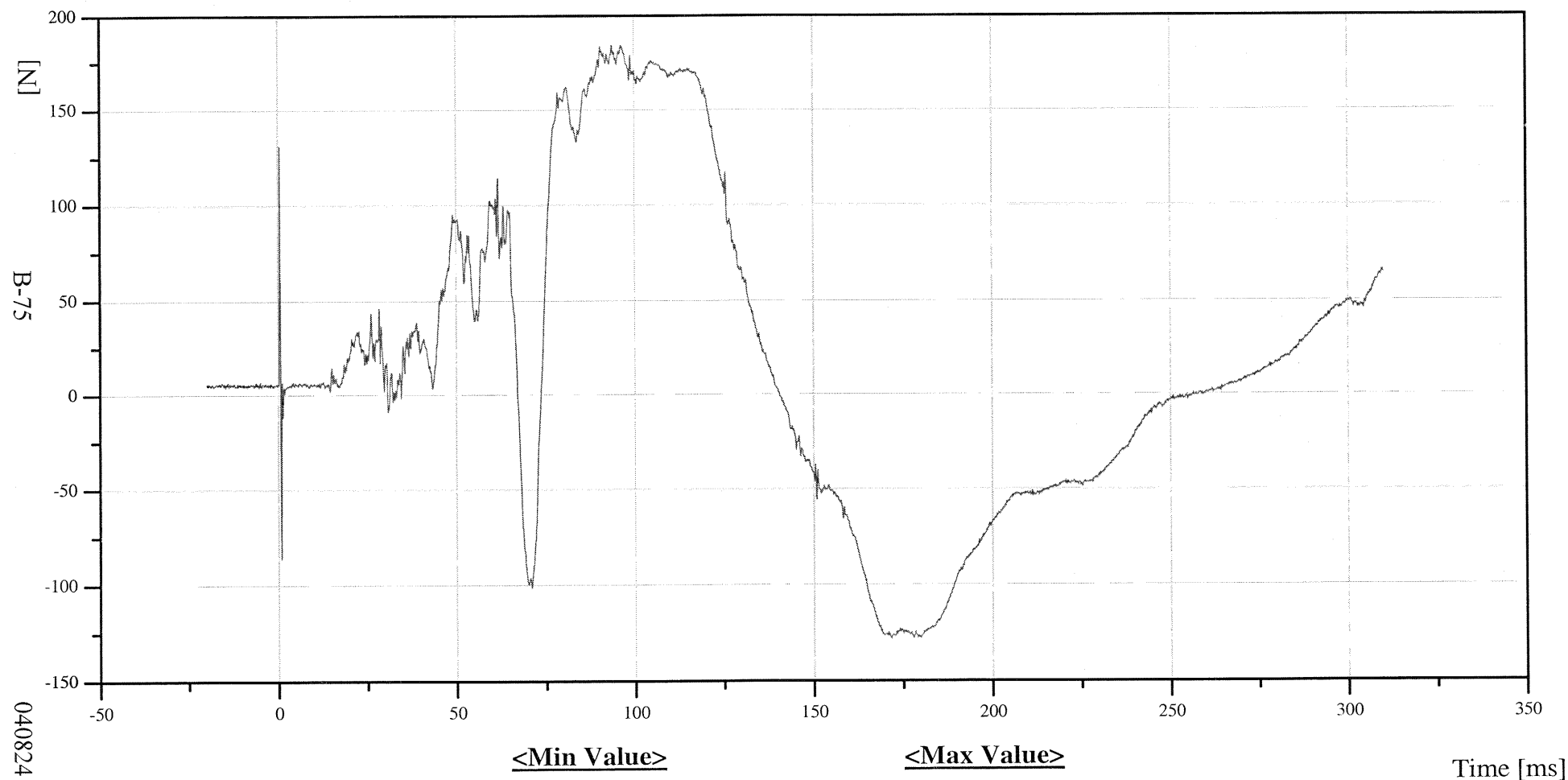
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKYF2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

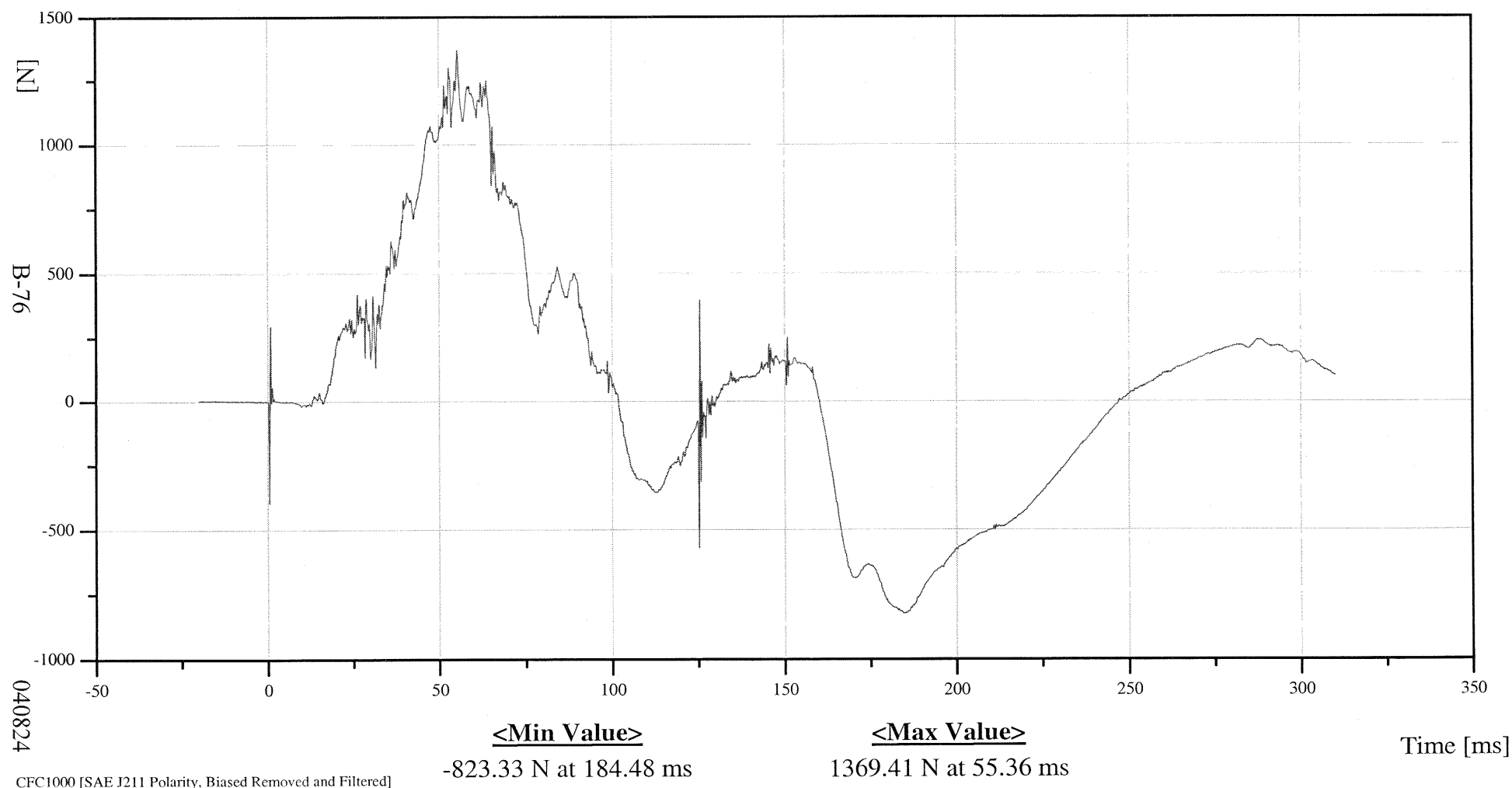
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKZF2





Transportation Research Center, Inc.

Neck Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

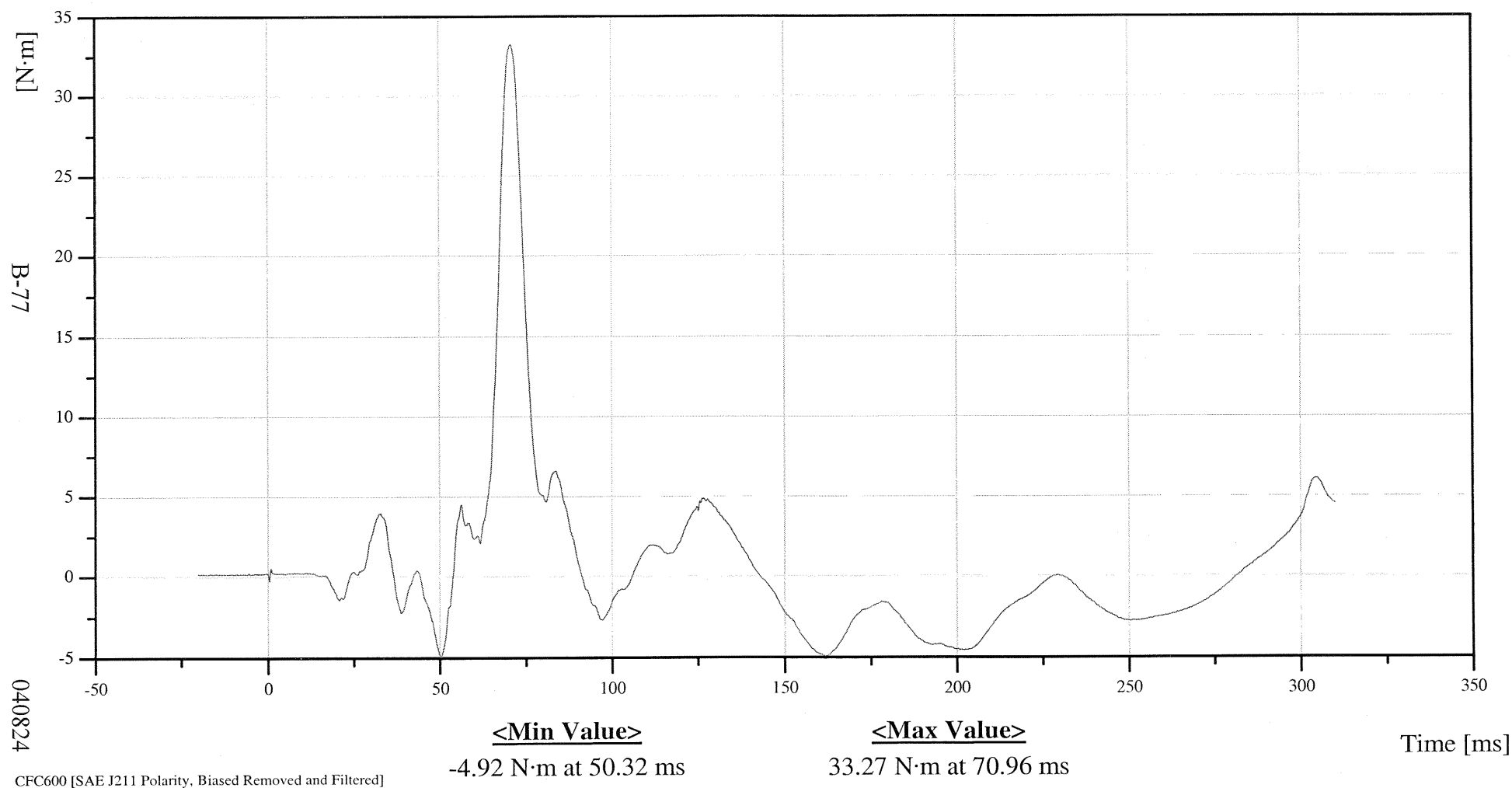
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKXM2





Transportation Research Center, Inc.

Neck Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

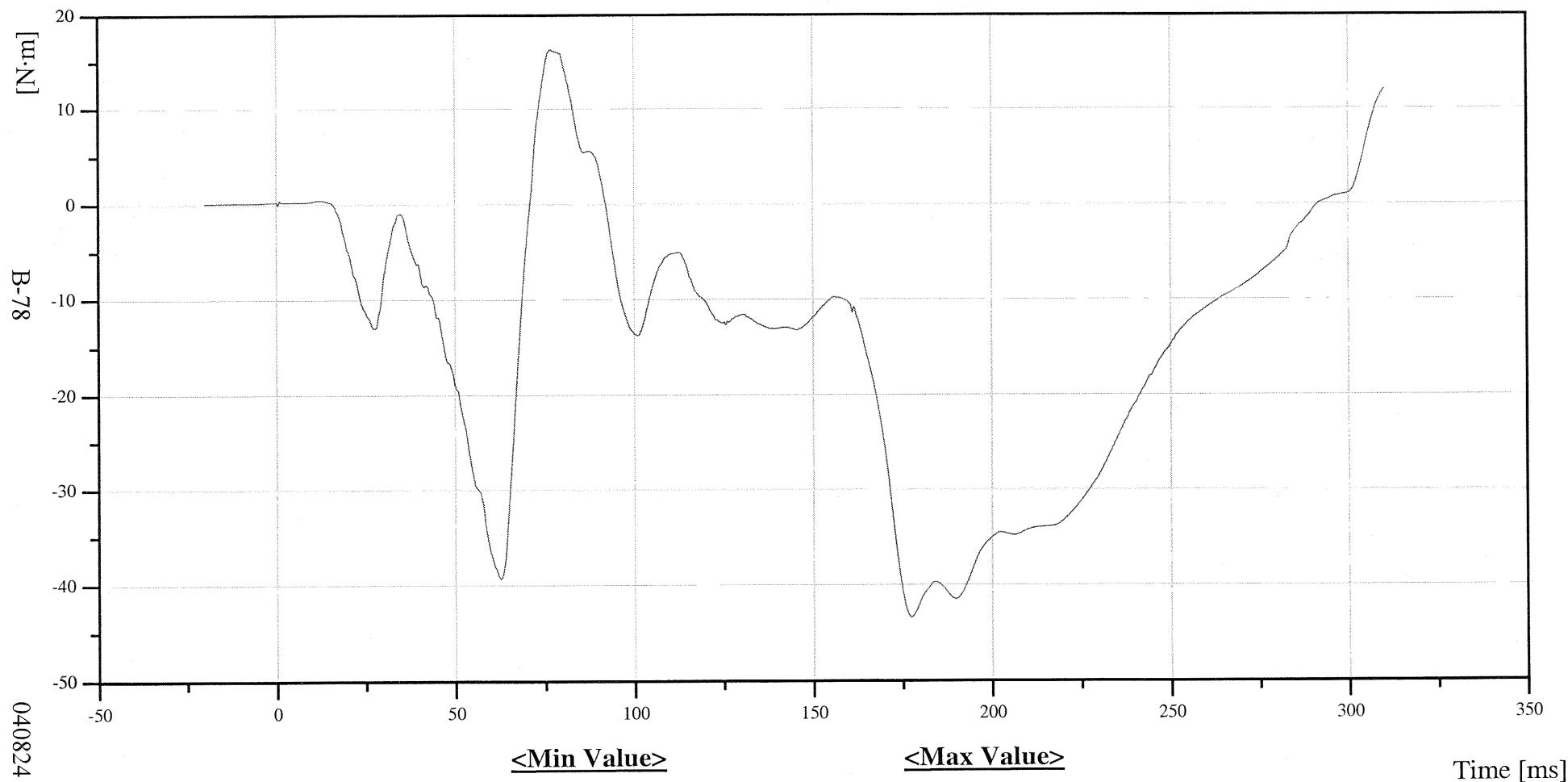
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKYM2



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Moment Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

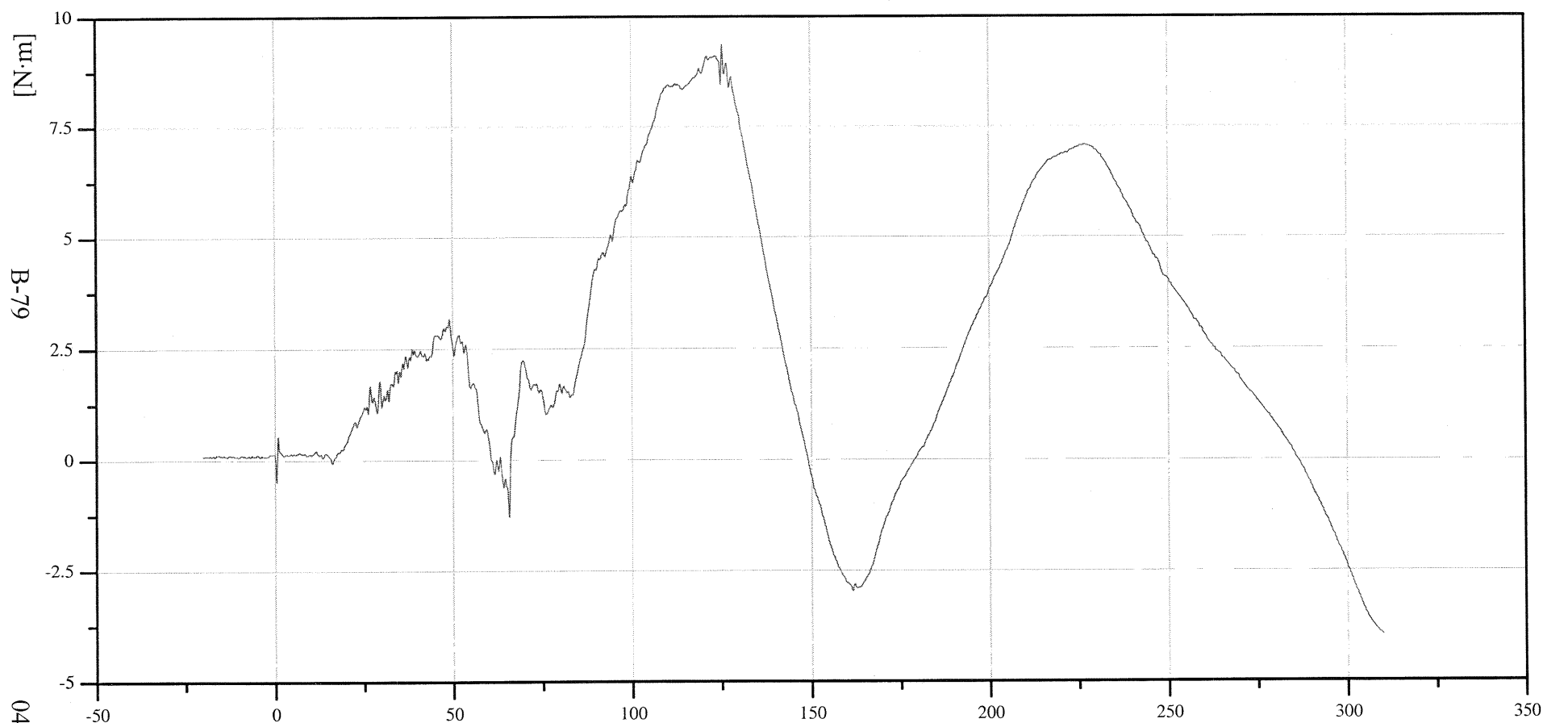
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKZM2



<Min Value>

-3.96 N·m at 310.00 ms

<Max Value>

9.35 N·m at 125.52 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

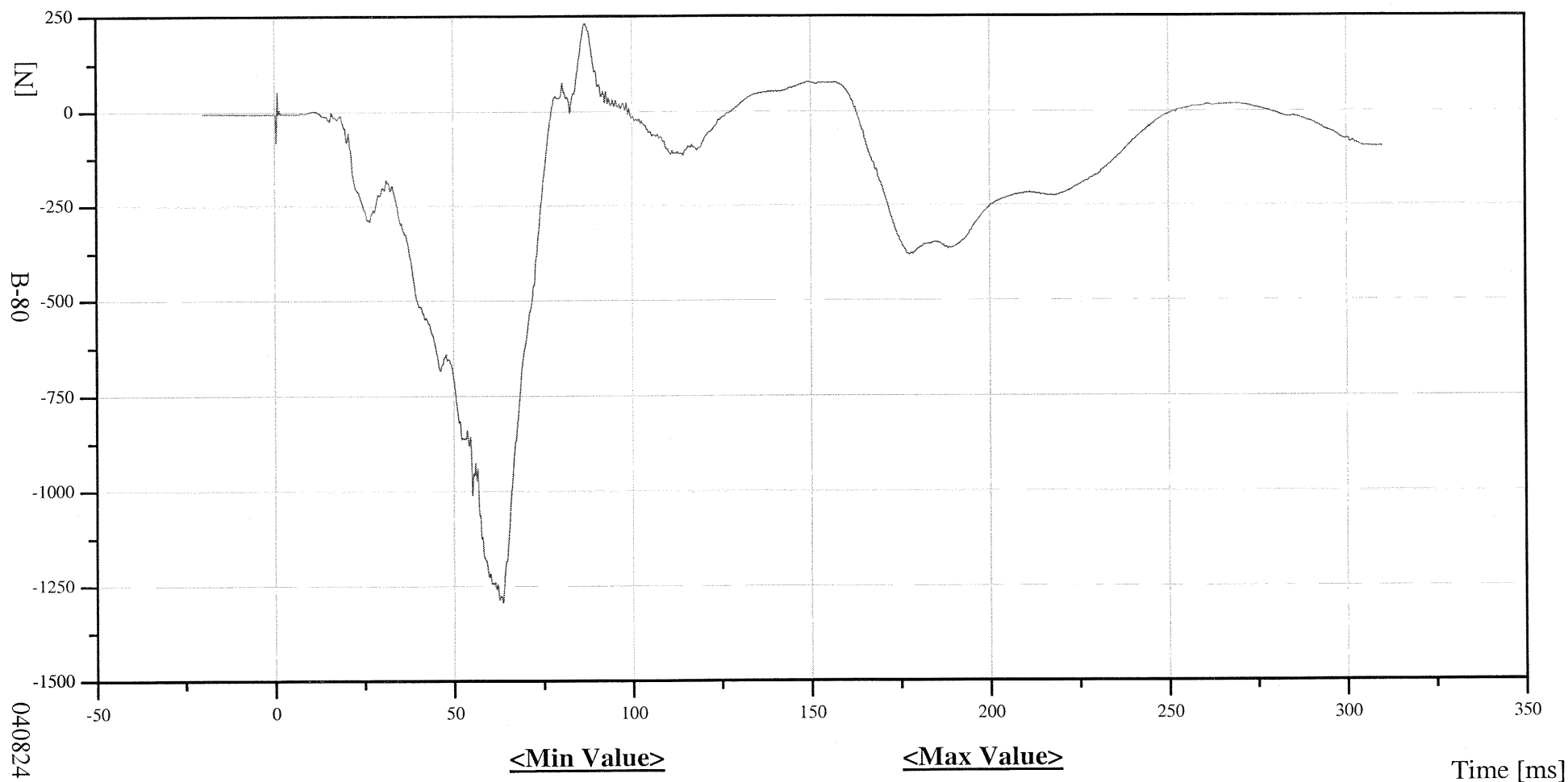
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLXF2



040824 CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

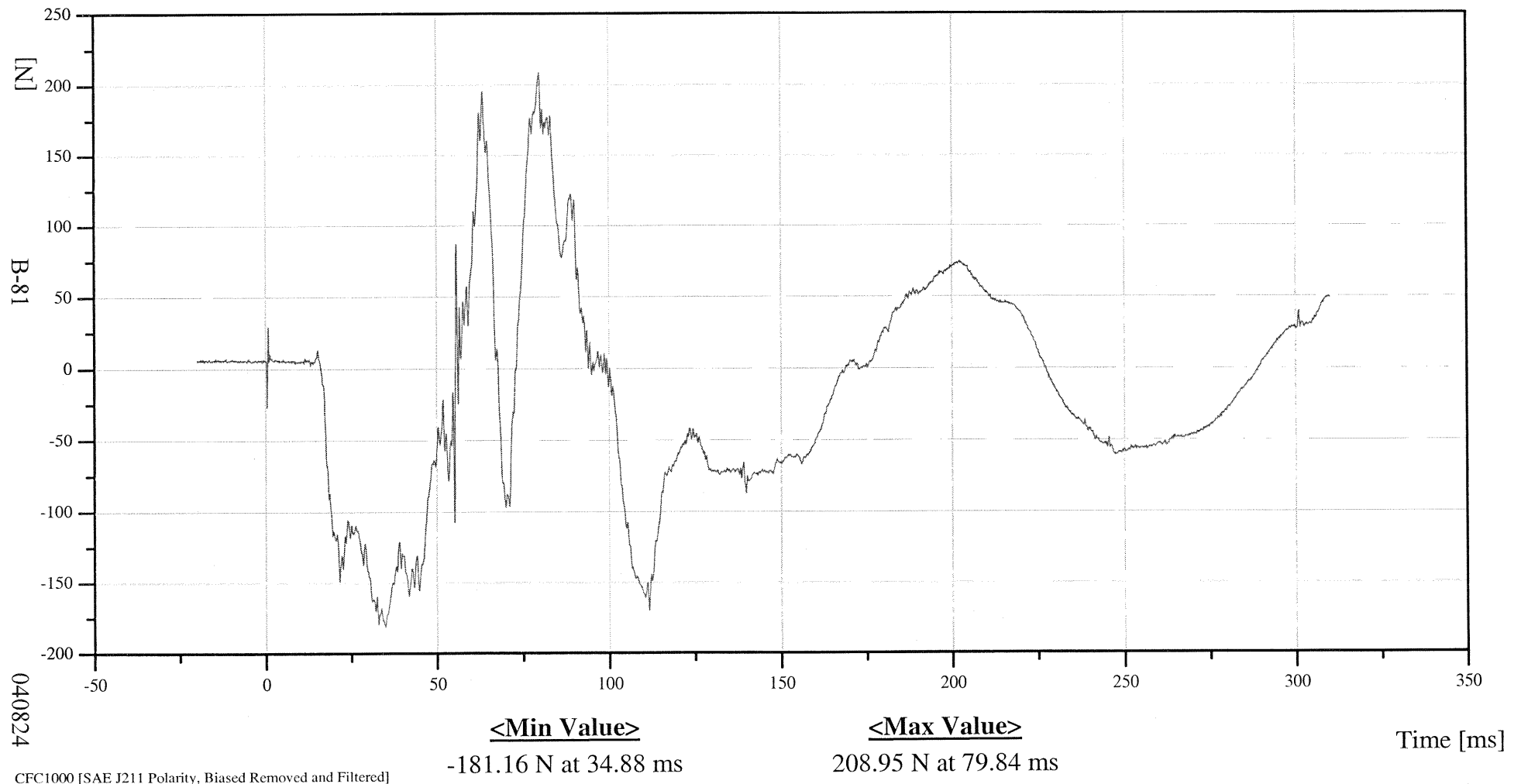
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLYF2





Transportation Research Center, Inc.

Neck Lwr Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

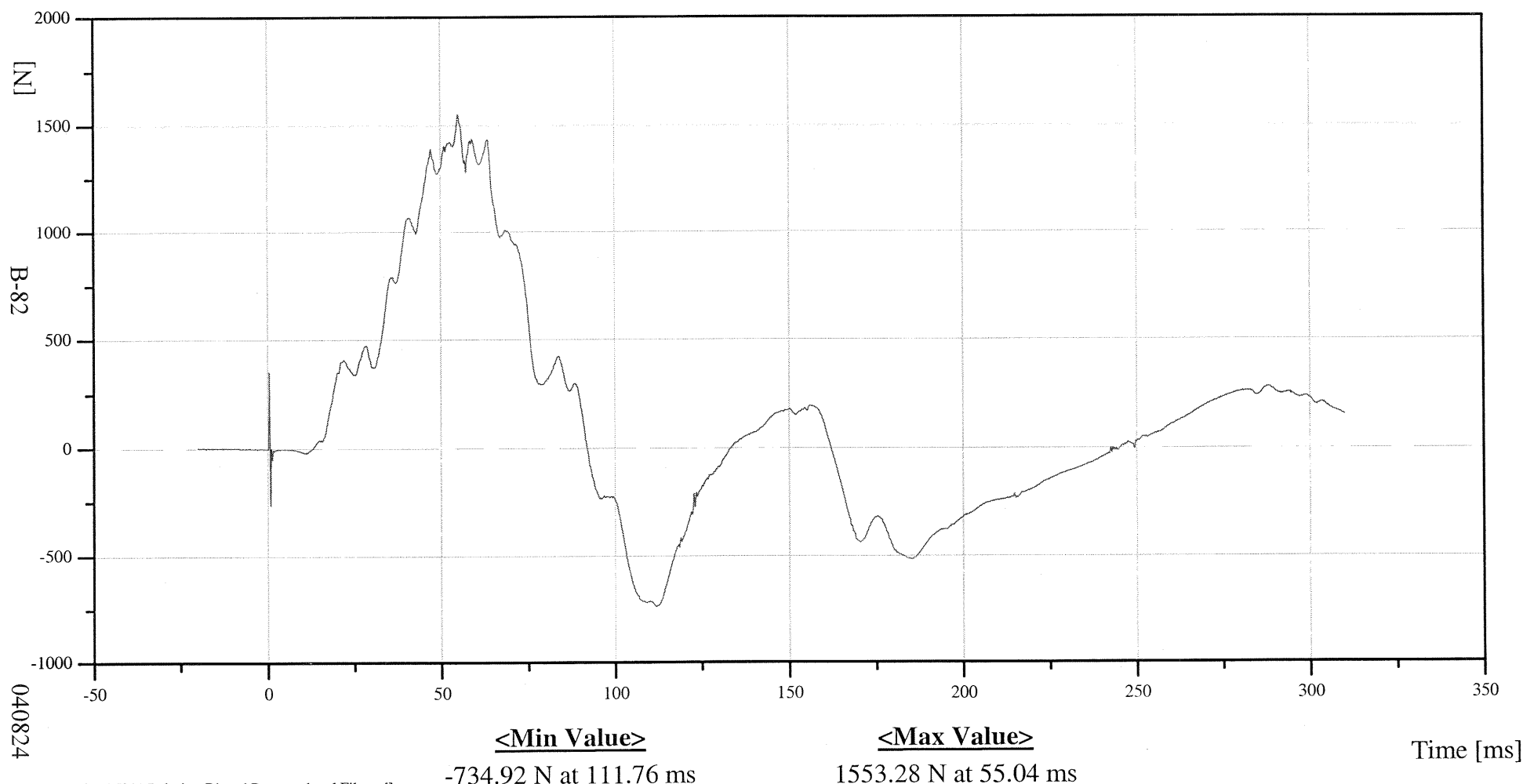
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLZF2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

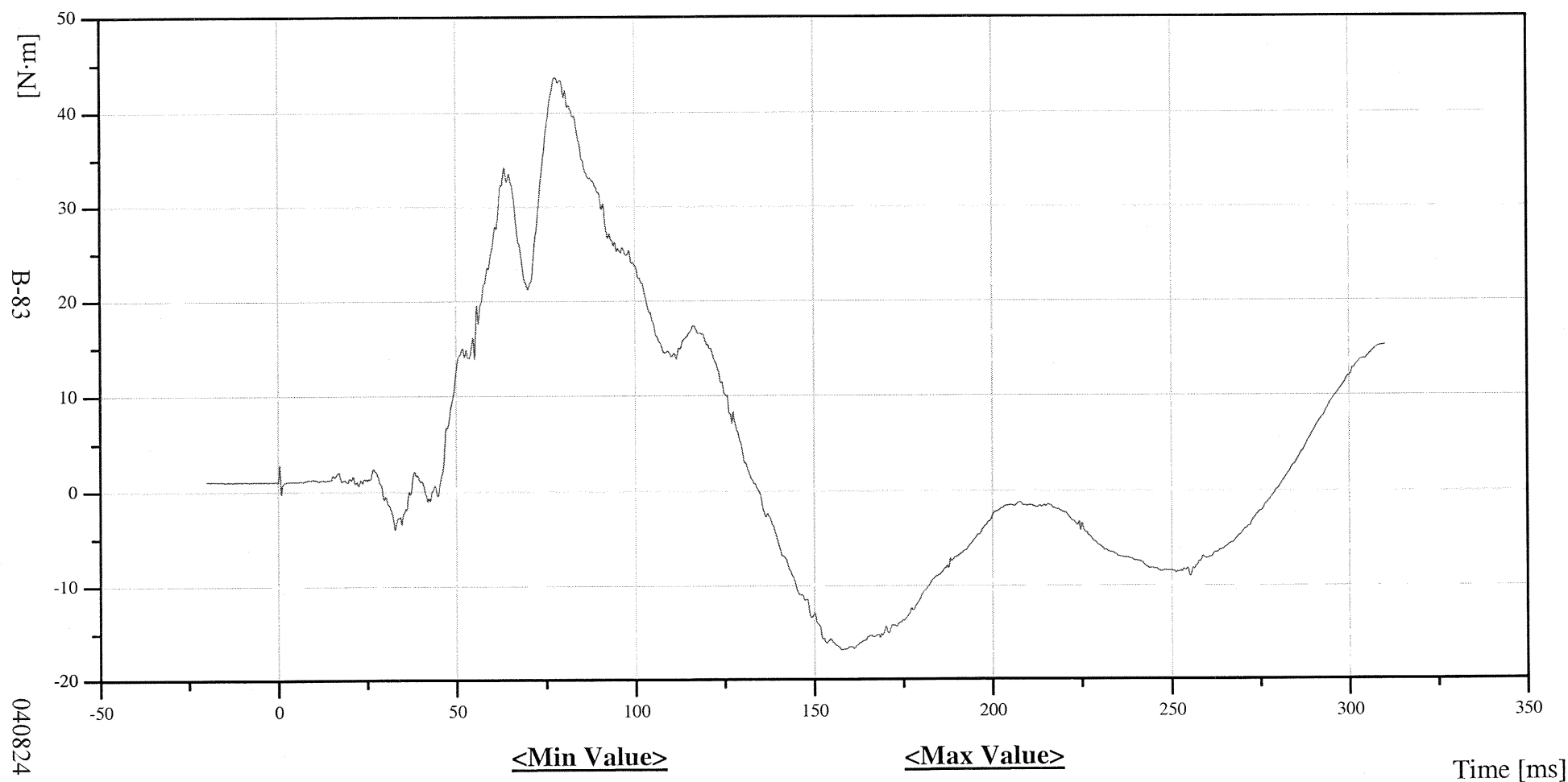
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLXM2



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

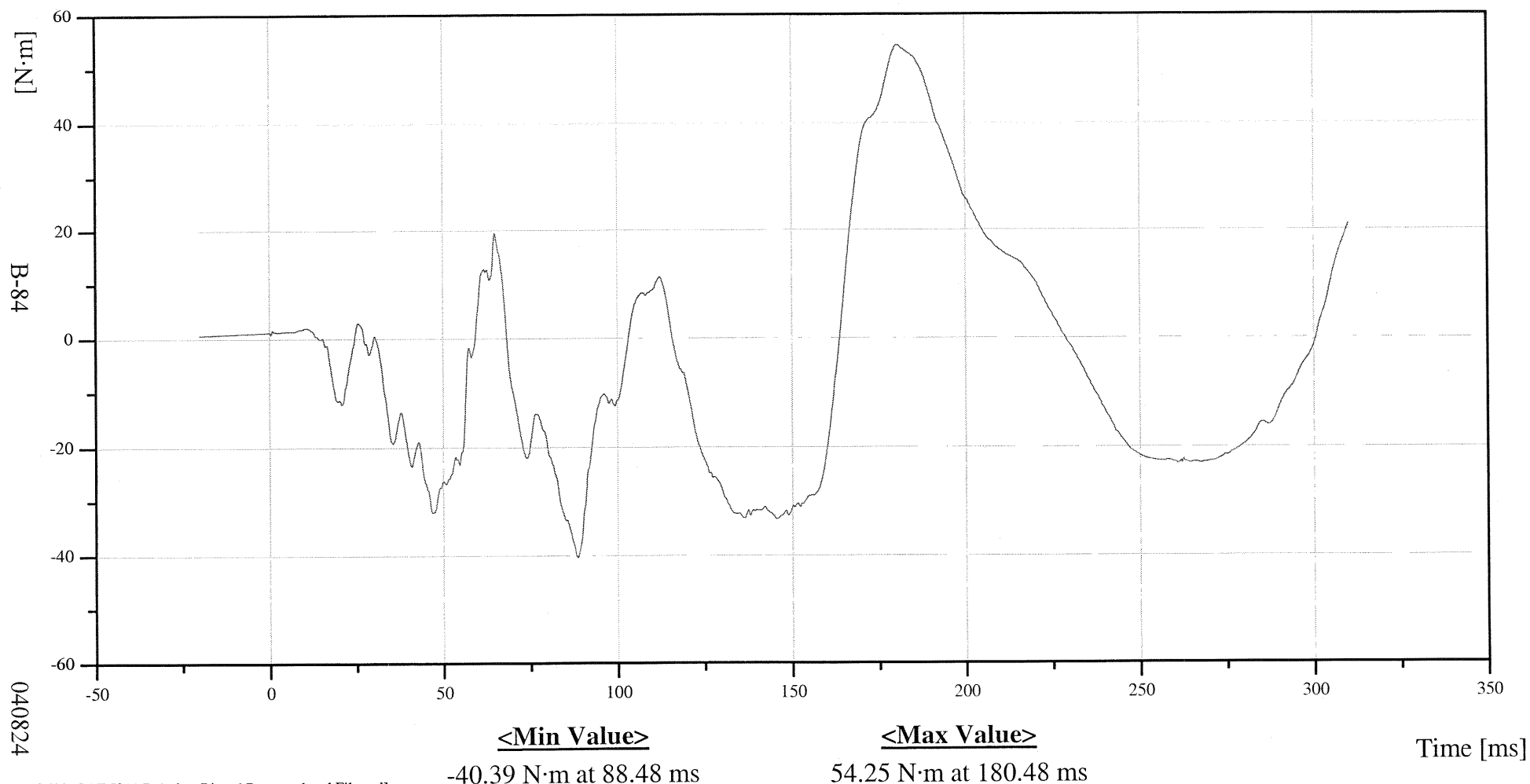
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLYM2



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Moment Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

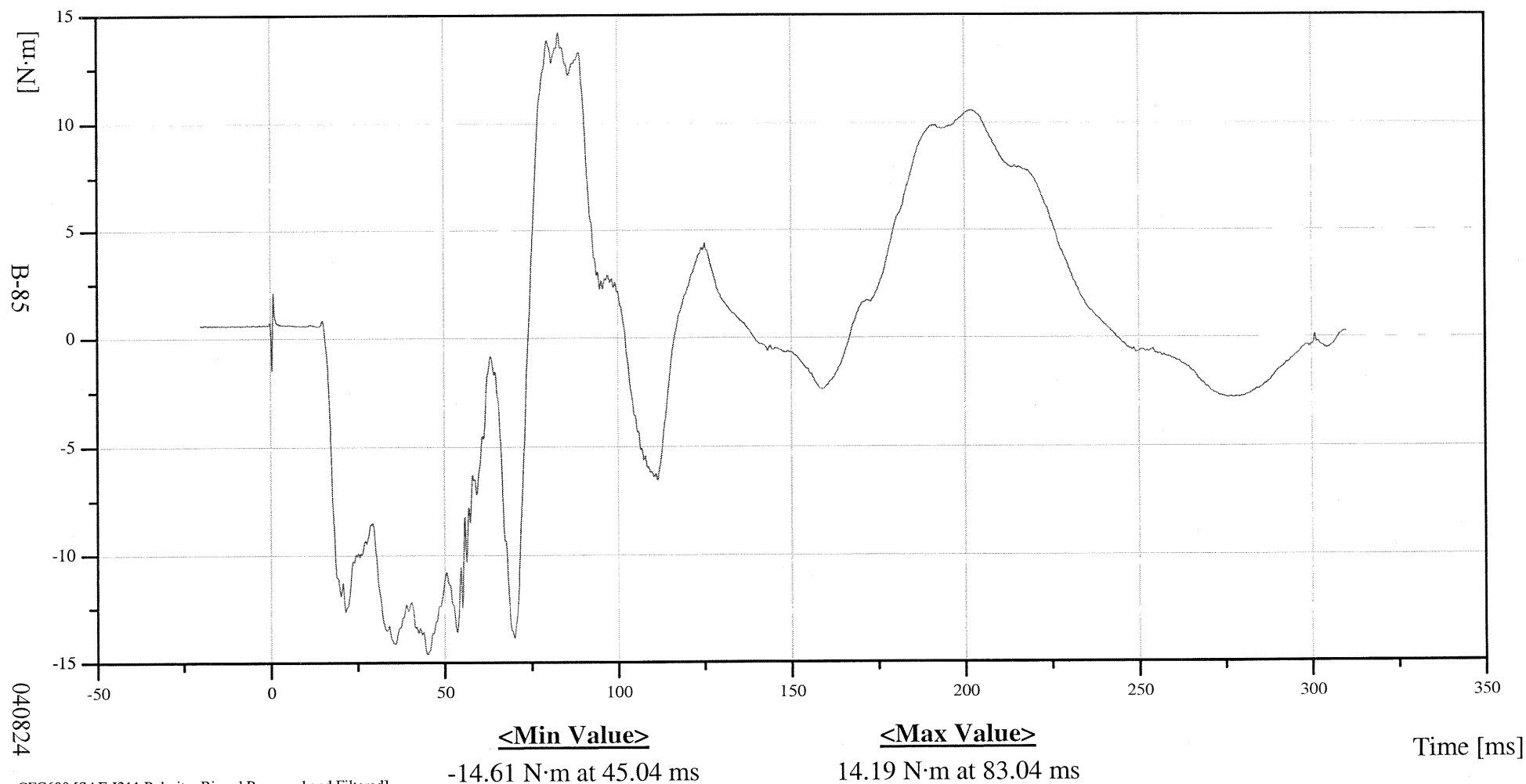
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLZM2



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

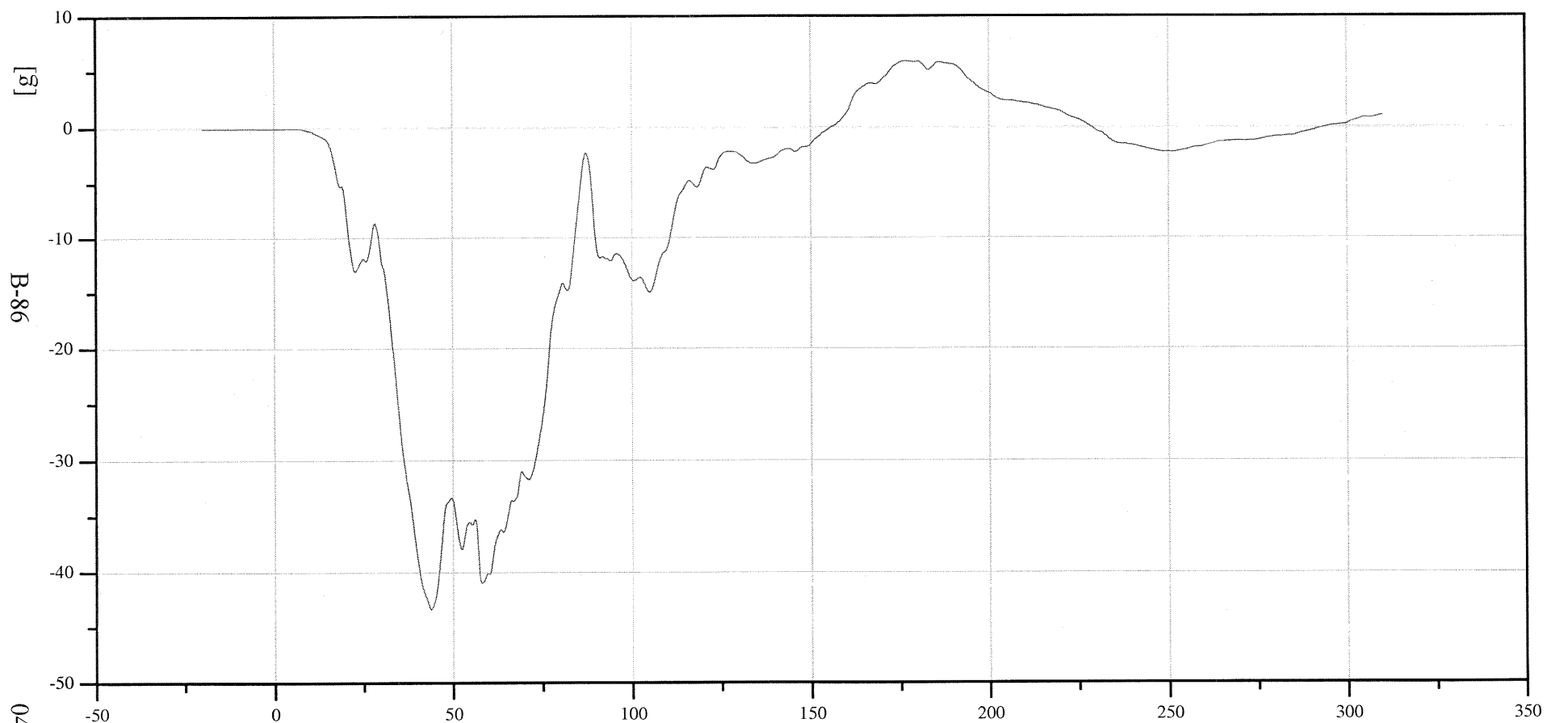
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXG2



<Min Value>

-43.36 g at 43.84 ms

<Max Value>

5.89 g at 176.64 ms

Time [ms]

CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

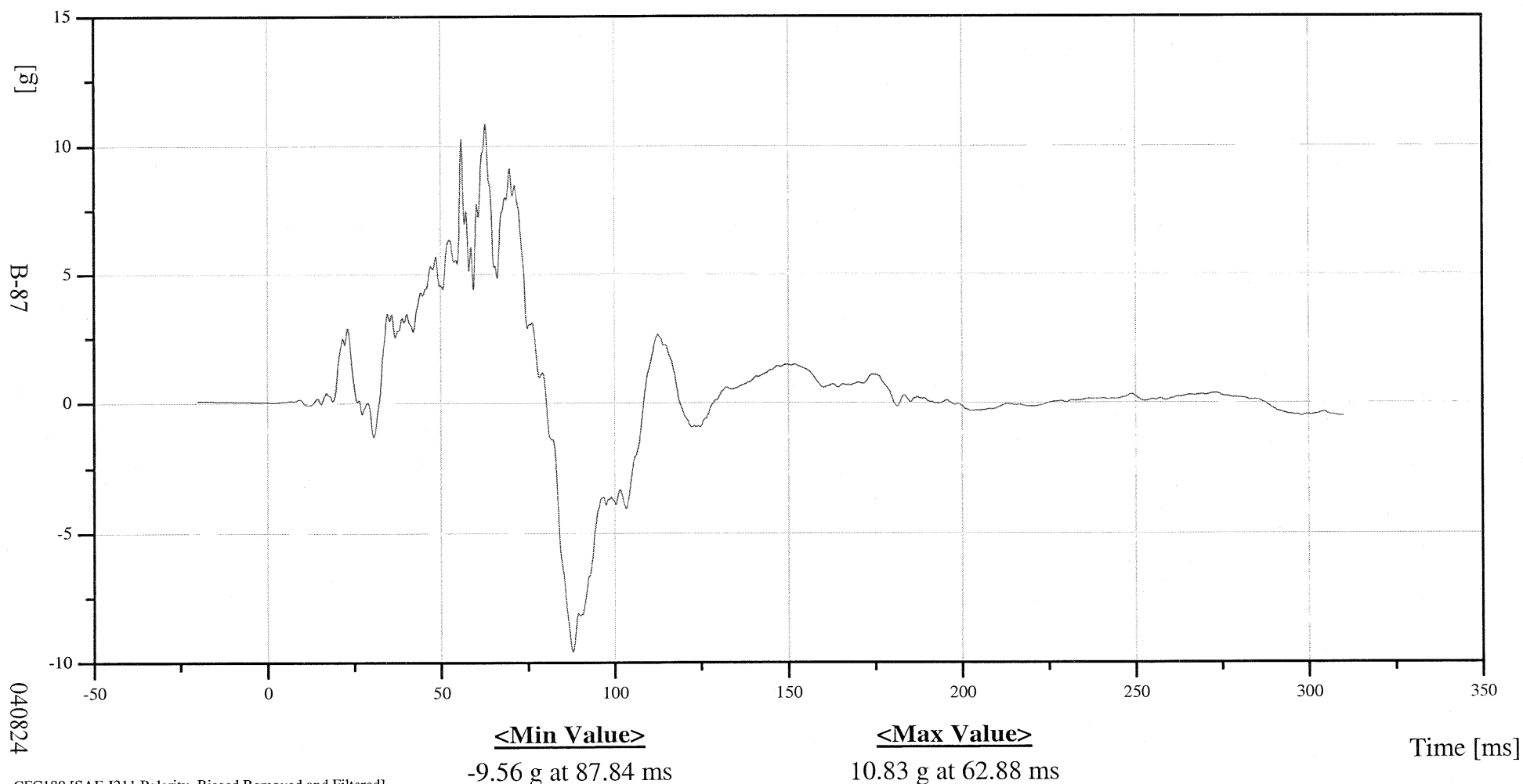
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTYG2





Transportation Research Center, Inc.

Chest Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

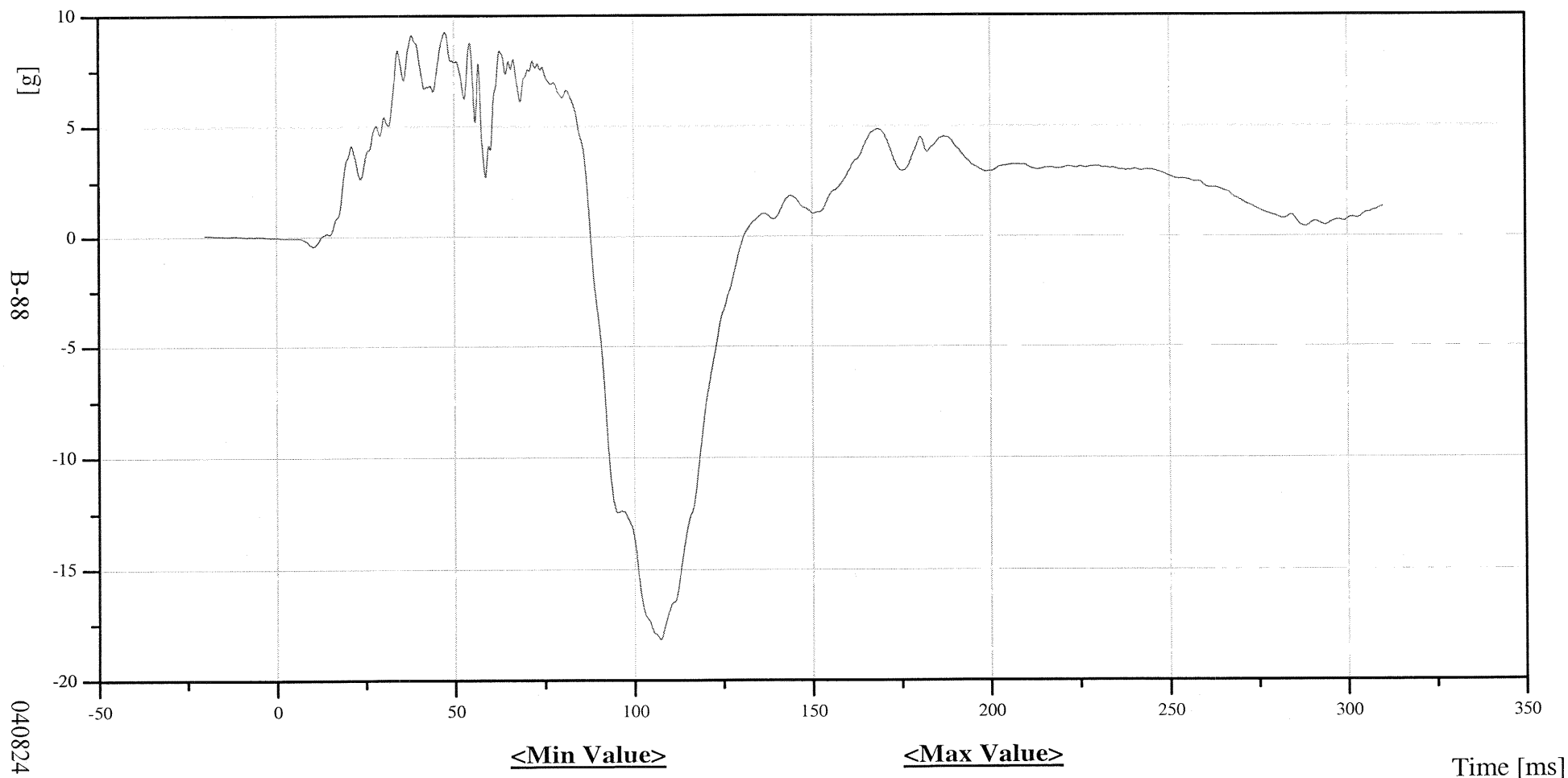
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTZG2



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

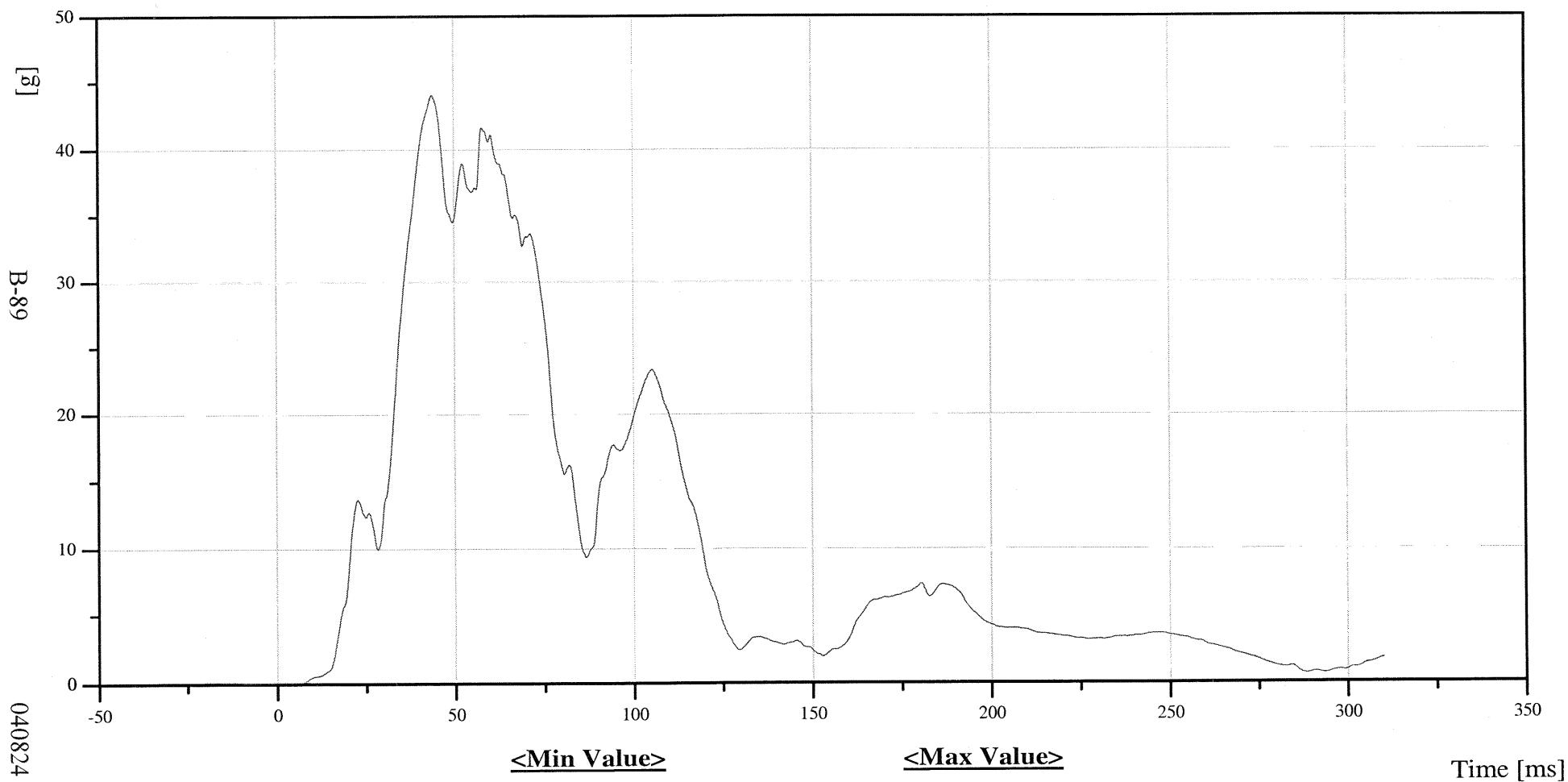
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTRG2



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel Red X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

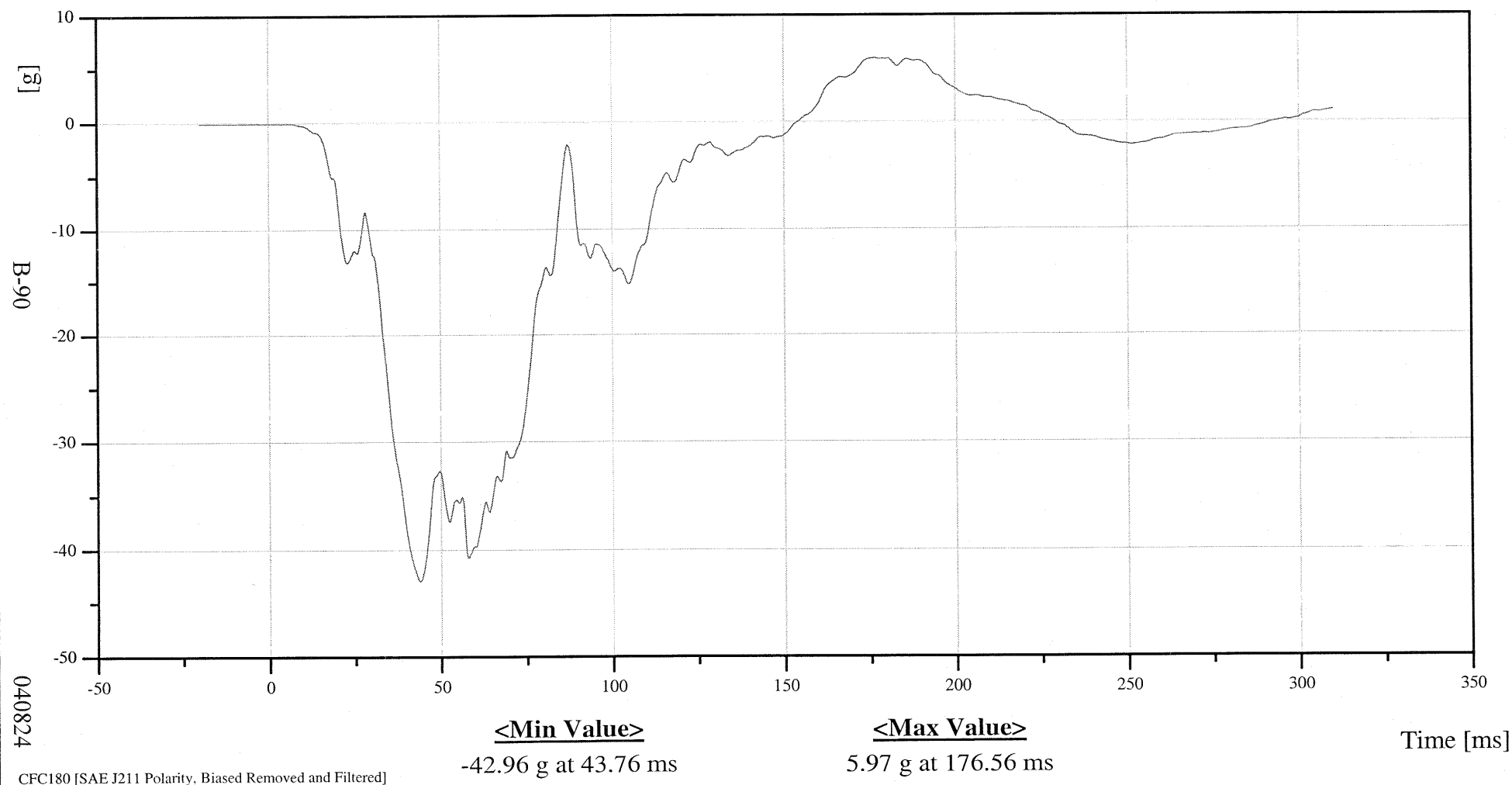
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXR2





Transportation Research Center, Inc.

Chest Accel Red Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

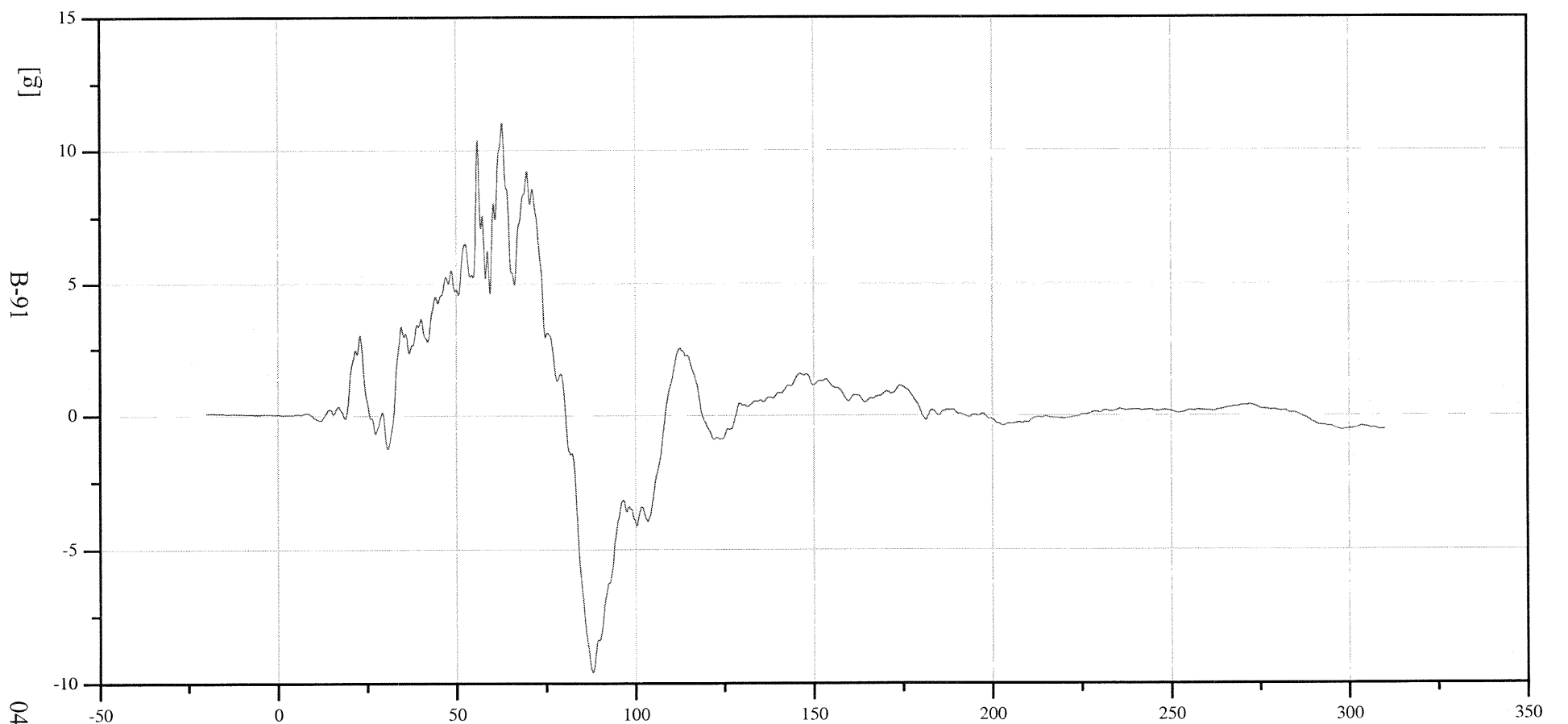
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTYR2



<Min Value>

-9.55 g at 87.92 ms

<Max Value>

11.00 g at 62.88 ms

CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel Red Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

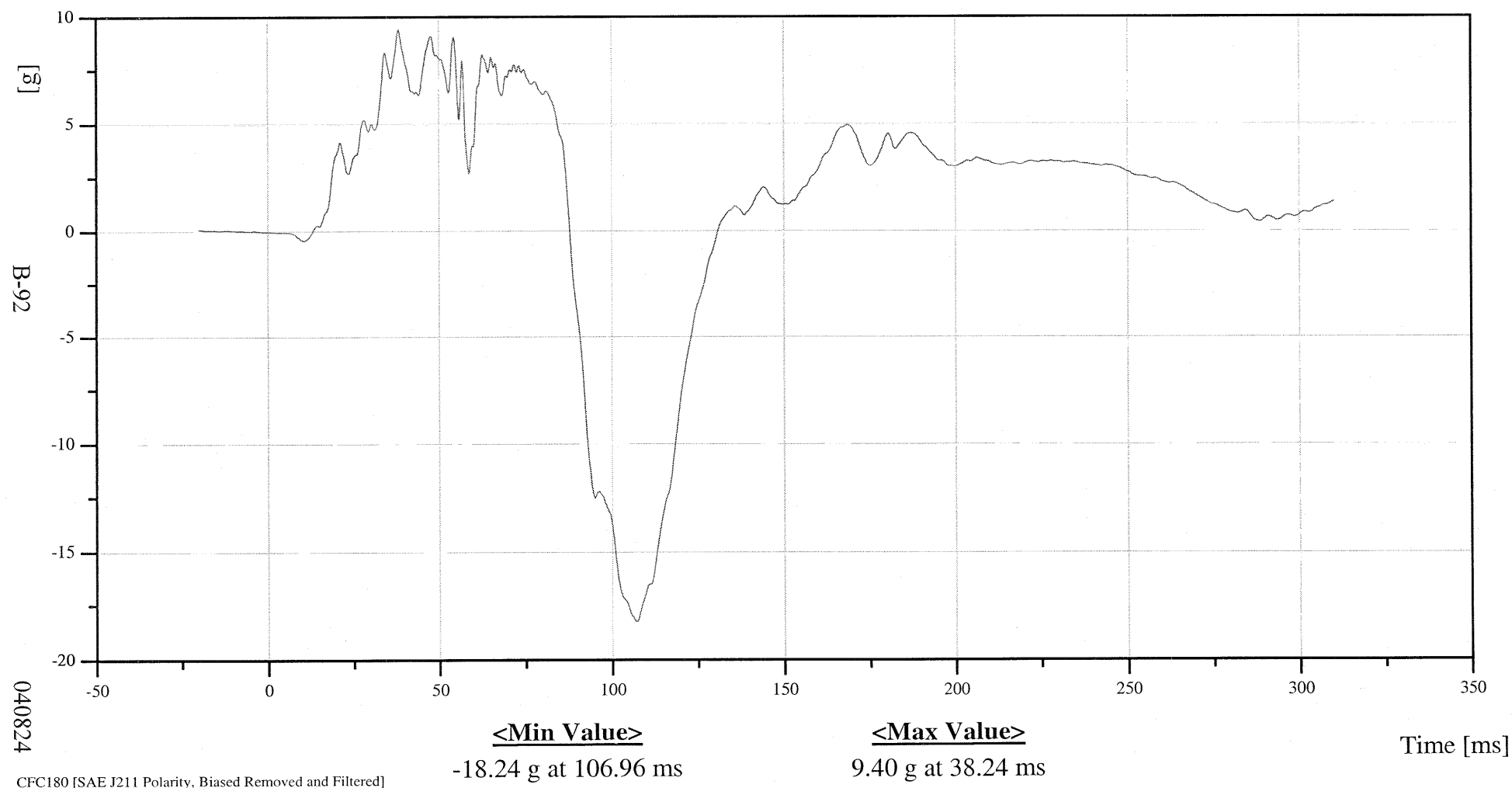
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTZR2





Transportation Research Center, Inc.

Chest Deflection X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

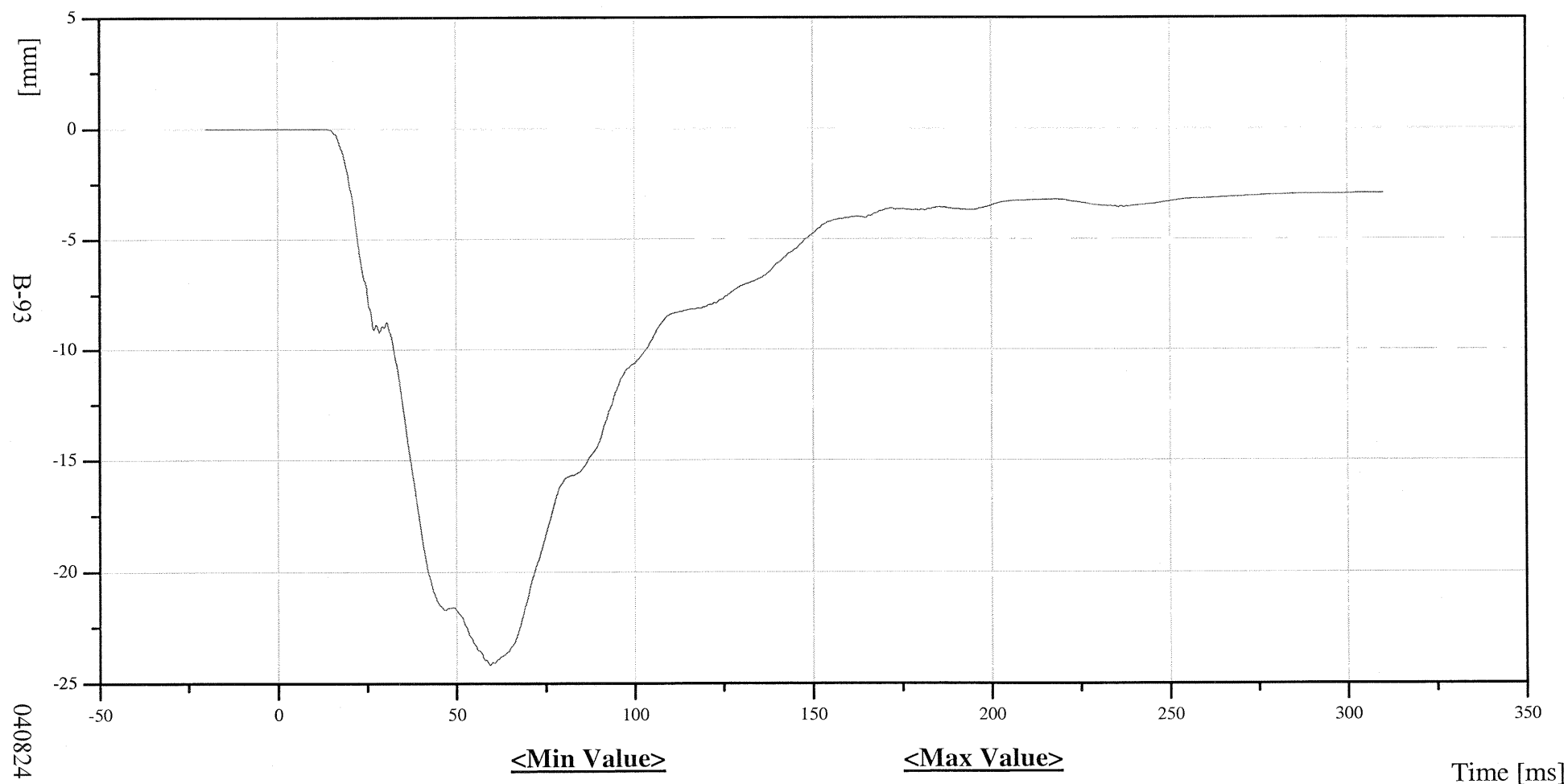
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXD2



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

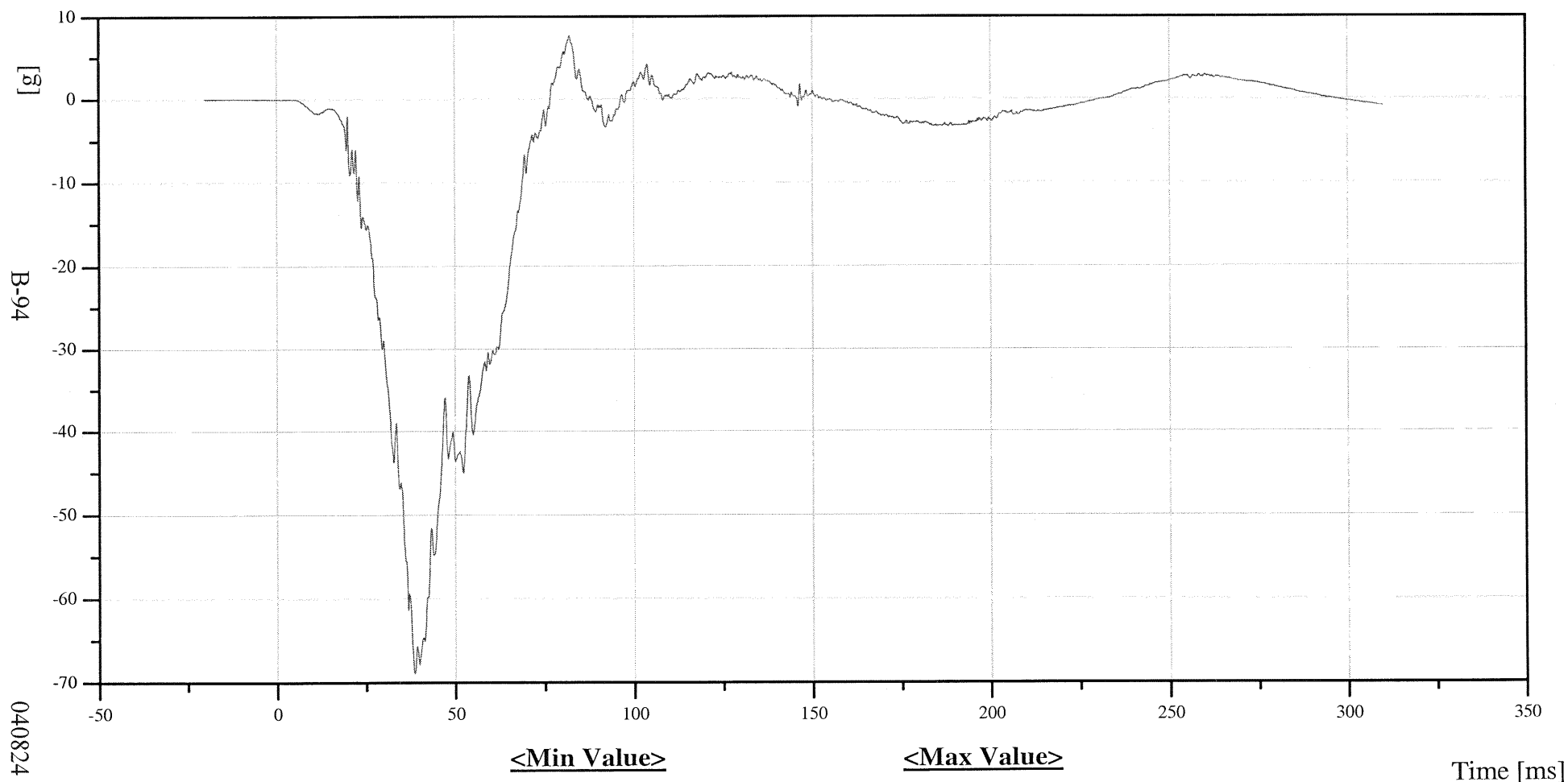
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVXG2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

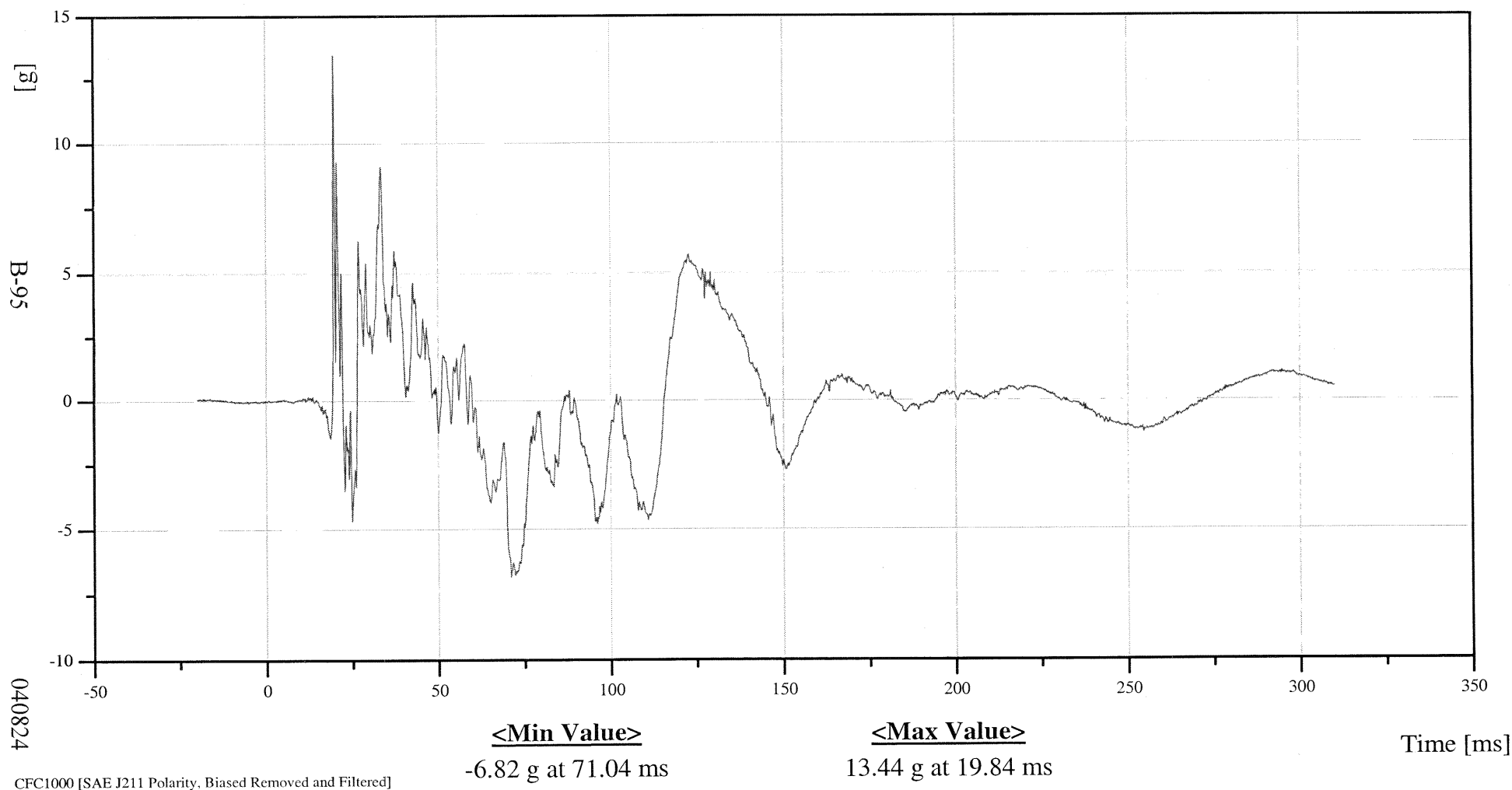
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVYG2





Transportation Research Center, Inc.

Pelvis Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

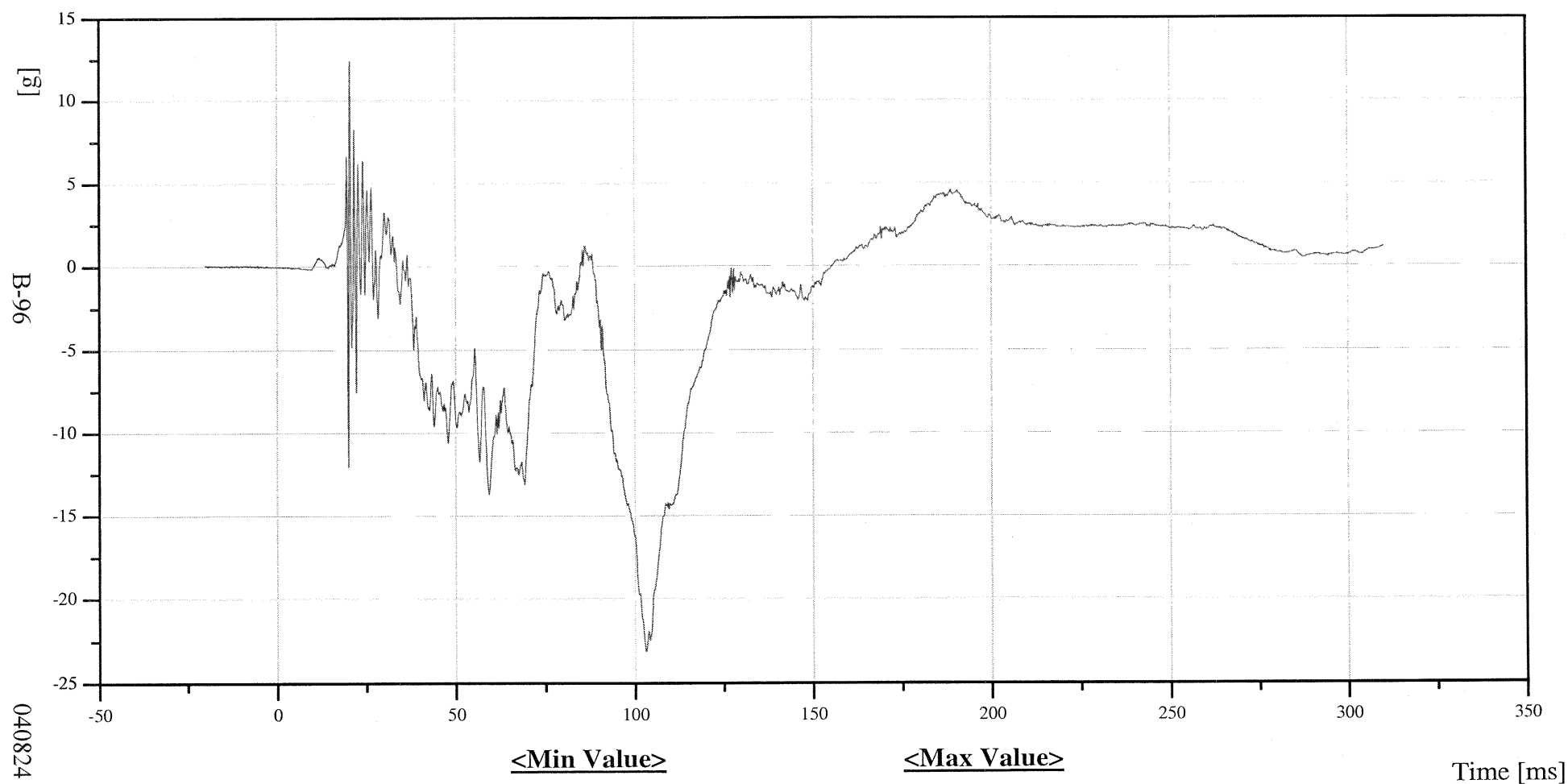
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVZG2



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

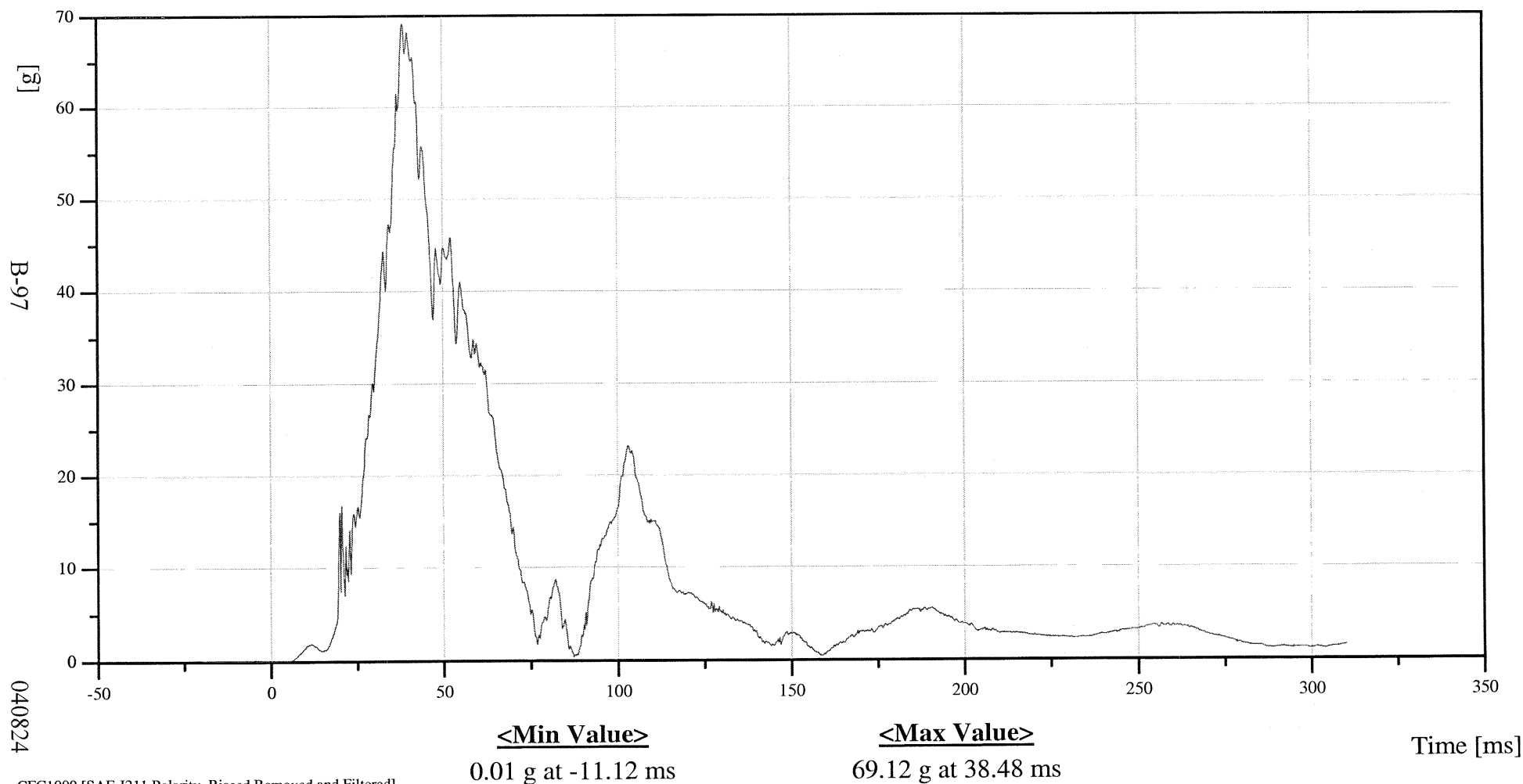
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVRG2





Transportation Research Center, Inc.

Left Femur Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

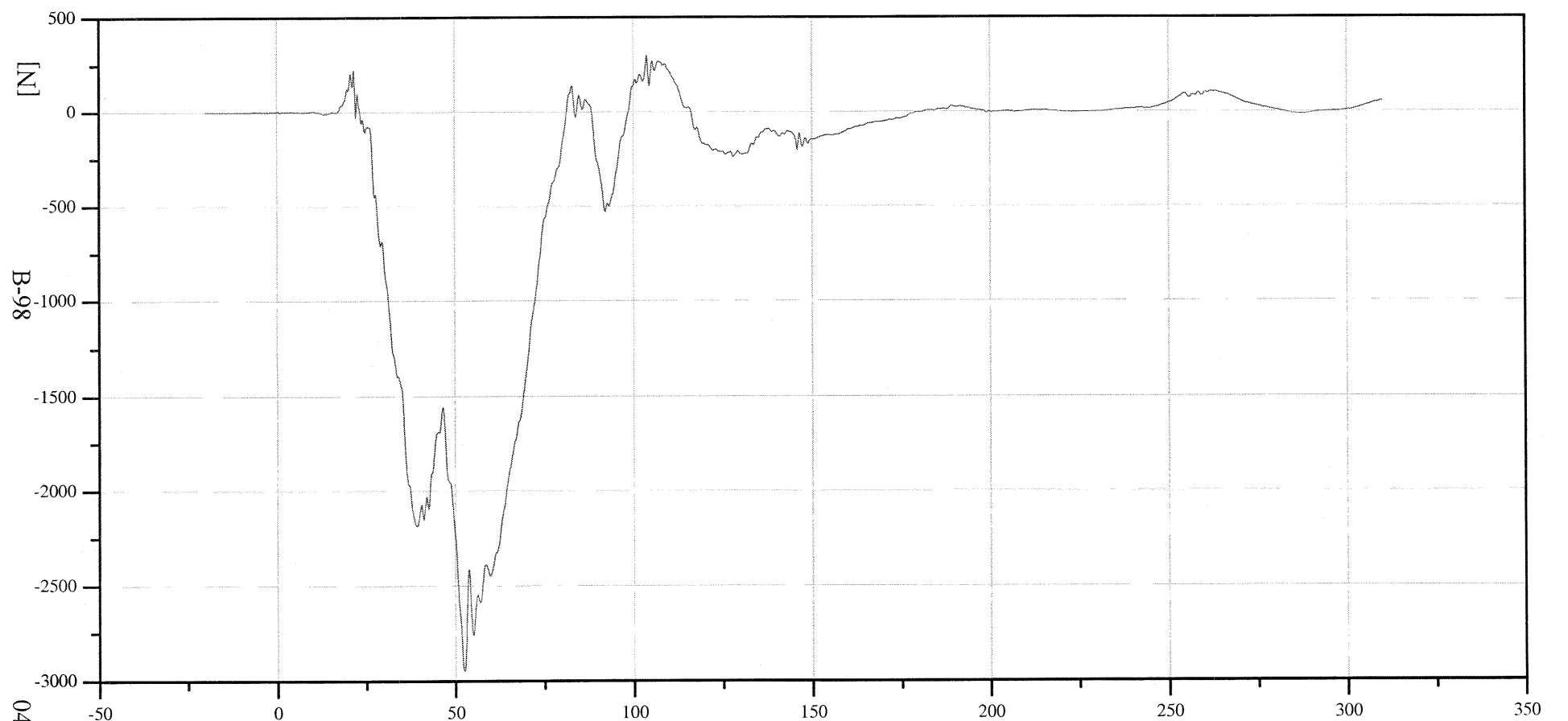
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LFMZ F2



040824

<Min Value>

-2949.47 N at 52.48 ms

<Max Value>

297.55 N at 103.76 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Femur Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

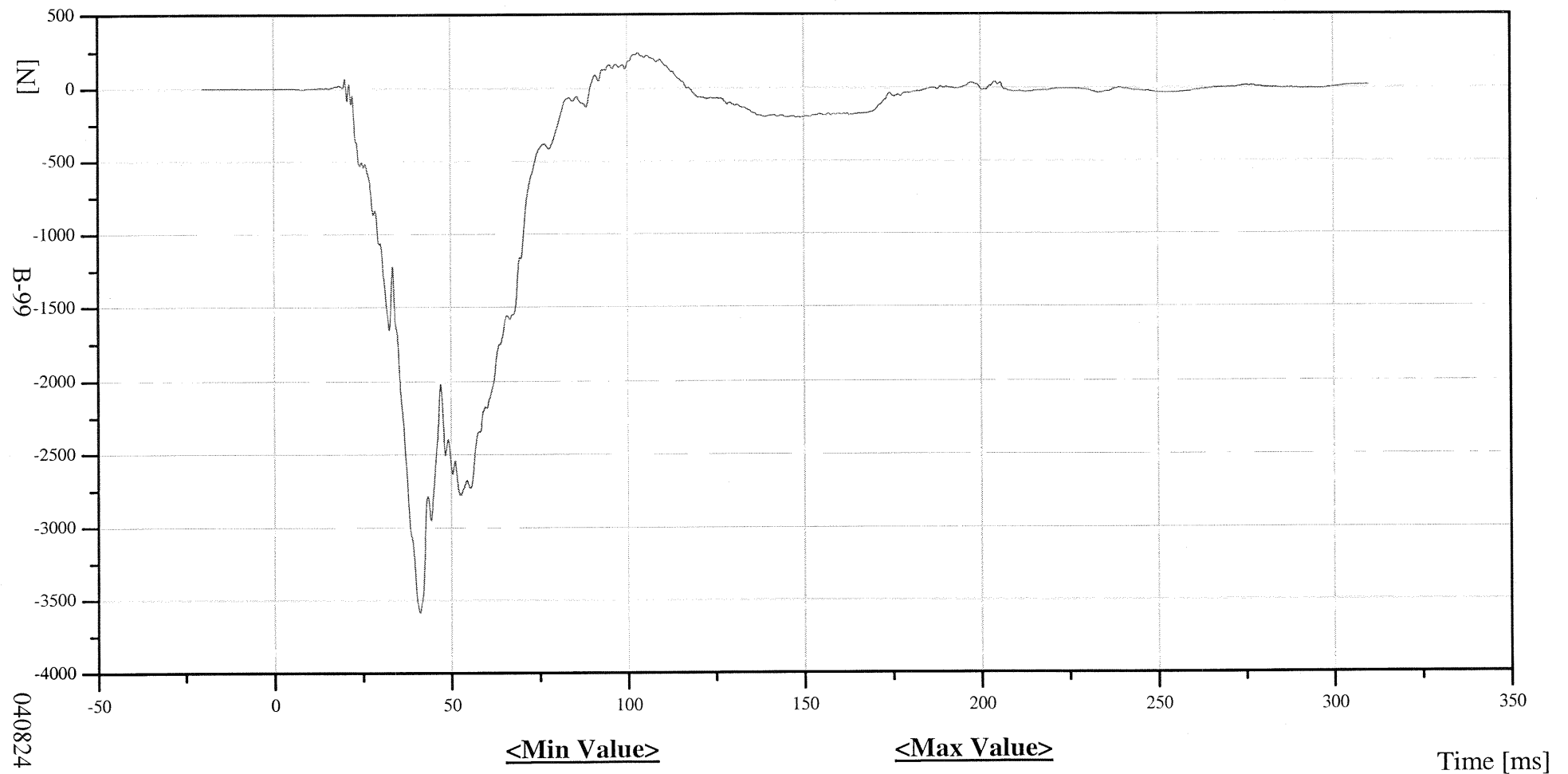
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RFMZ2



040824

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

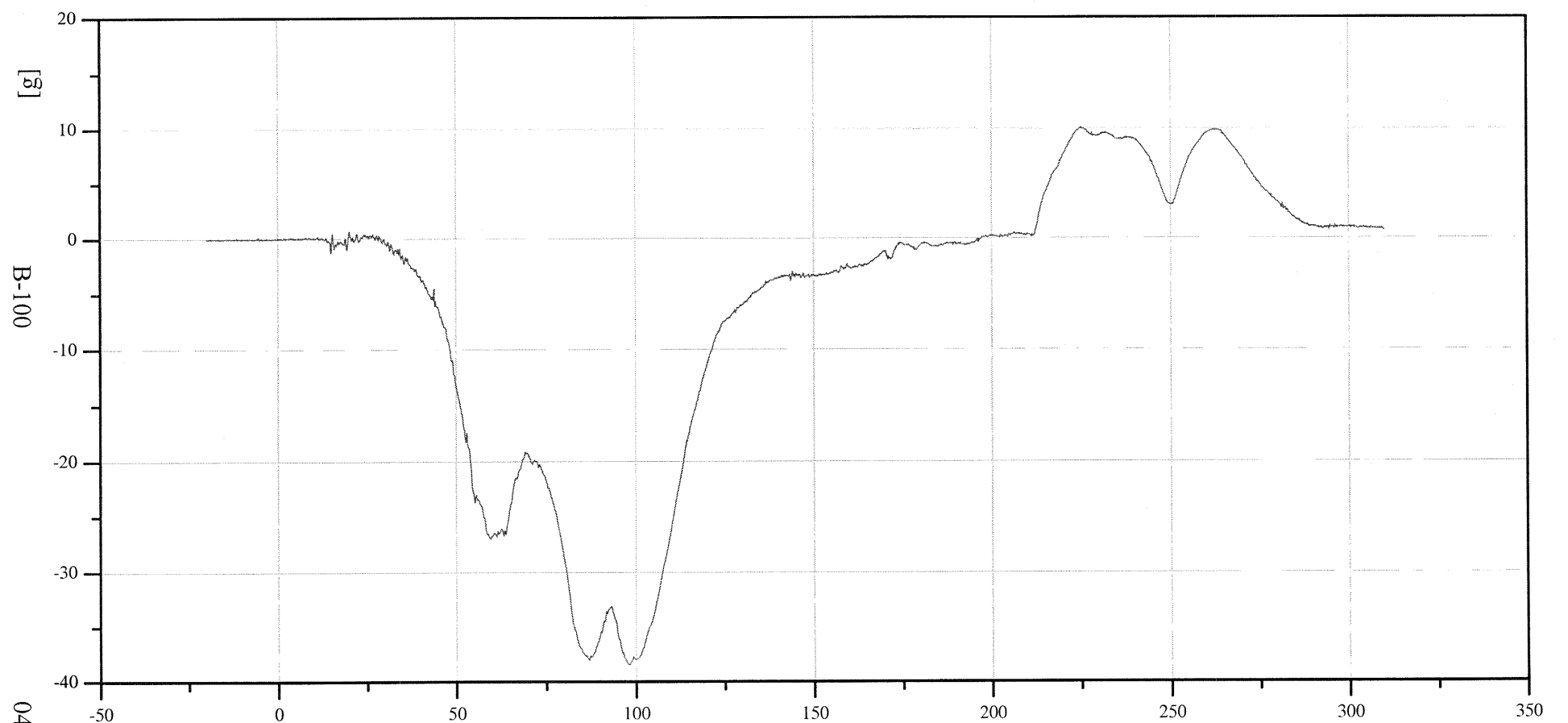
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDXG3



<Min Value>

-38.49 g at 97.84 ms

<Max Value>

10.11 g at 225.20 ms

Time [ms]

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Head Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

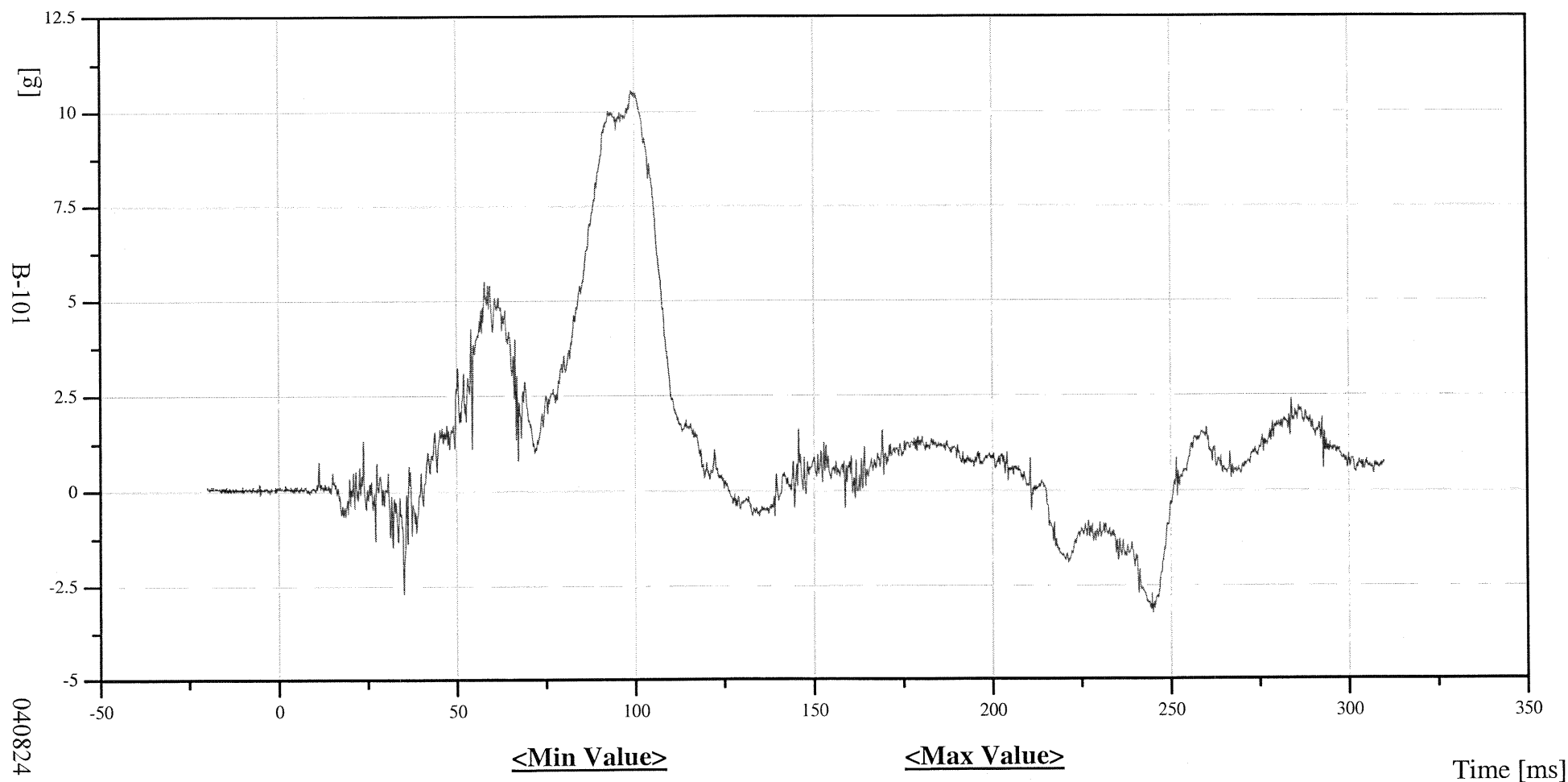
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDYG3



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]

-3.22 g at 244.96 ms

10.56 g at 99.12 ms



Transportation Research Center, Inc.

Head Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

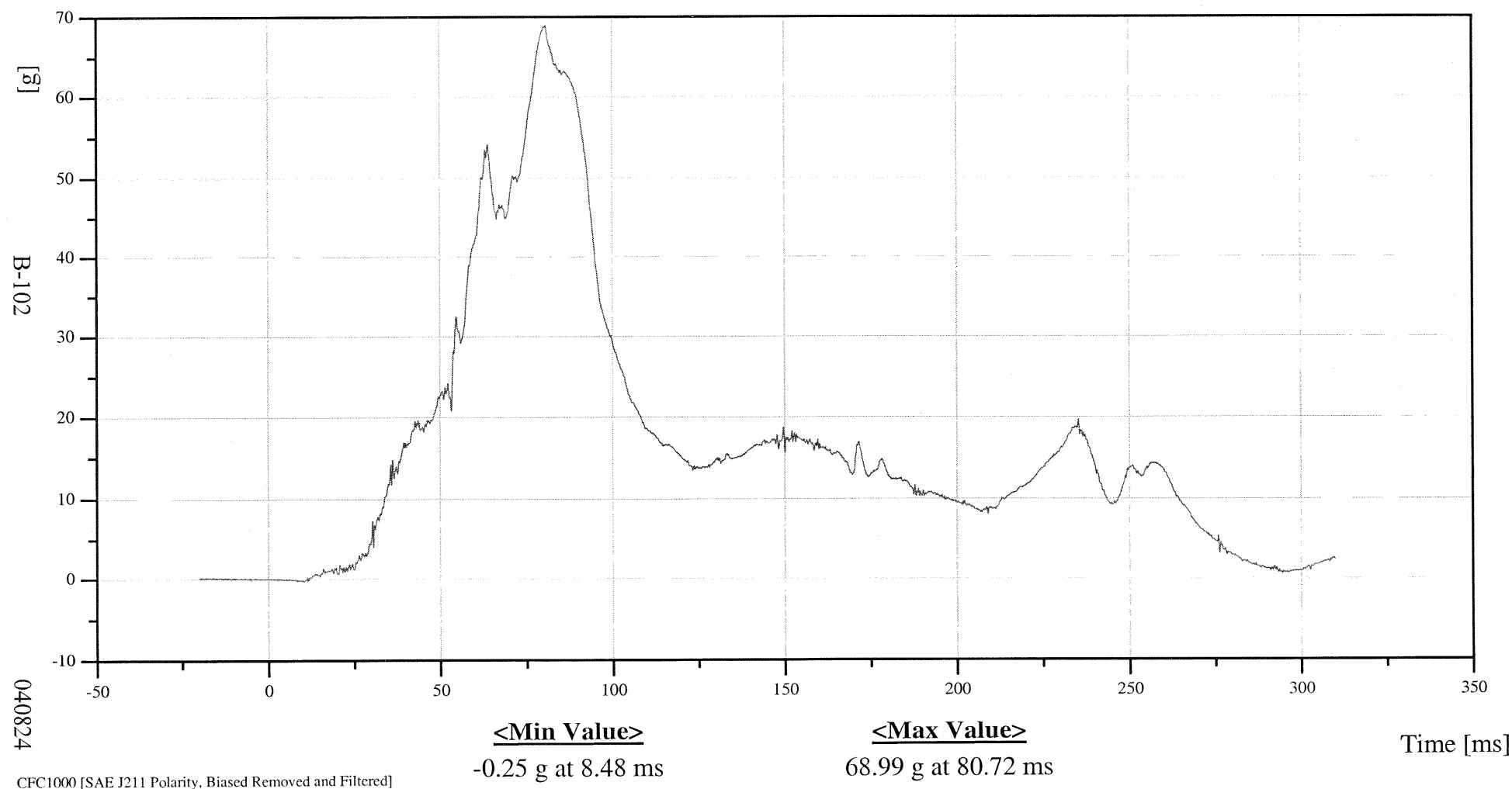
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDZG3





Transportation Research Center, Inc.

Head Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

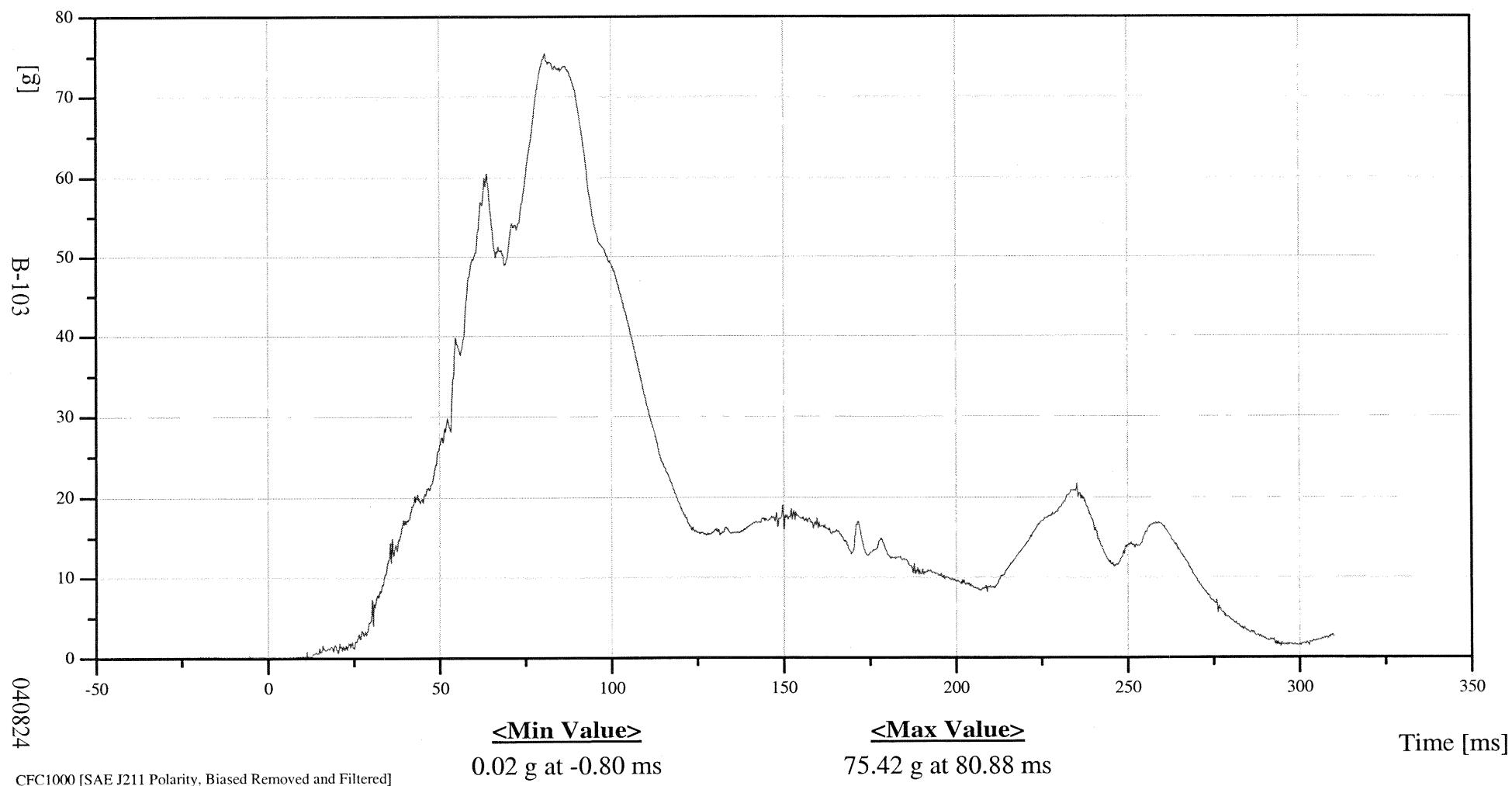
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

HEDRG3





Transportation Research Center, Inc.

Neck Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

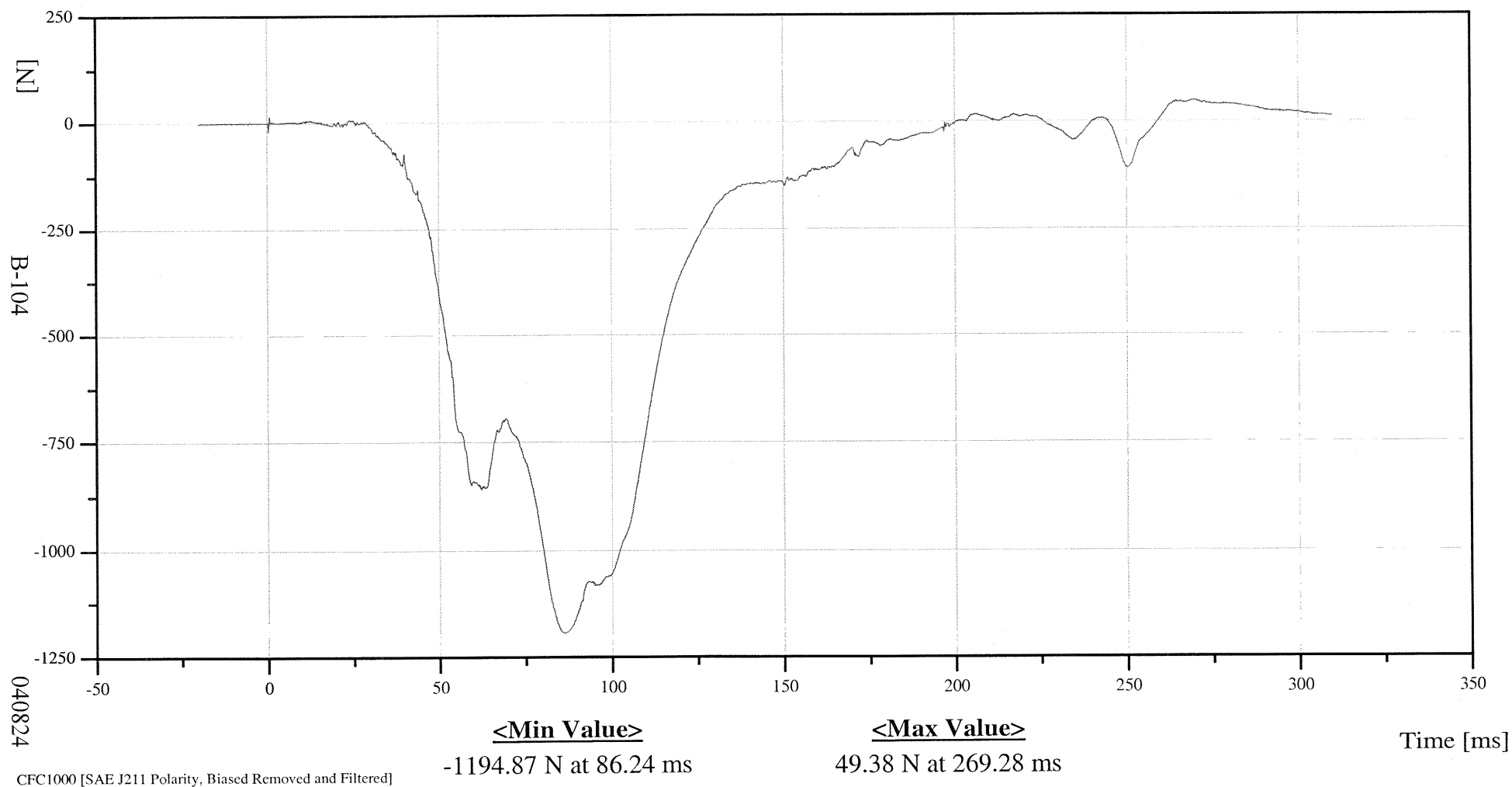
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKXF3





Transportation Research Center, Inc.

Neck Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

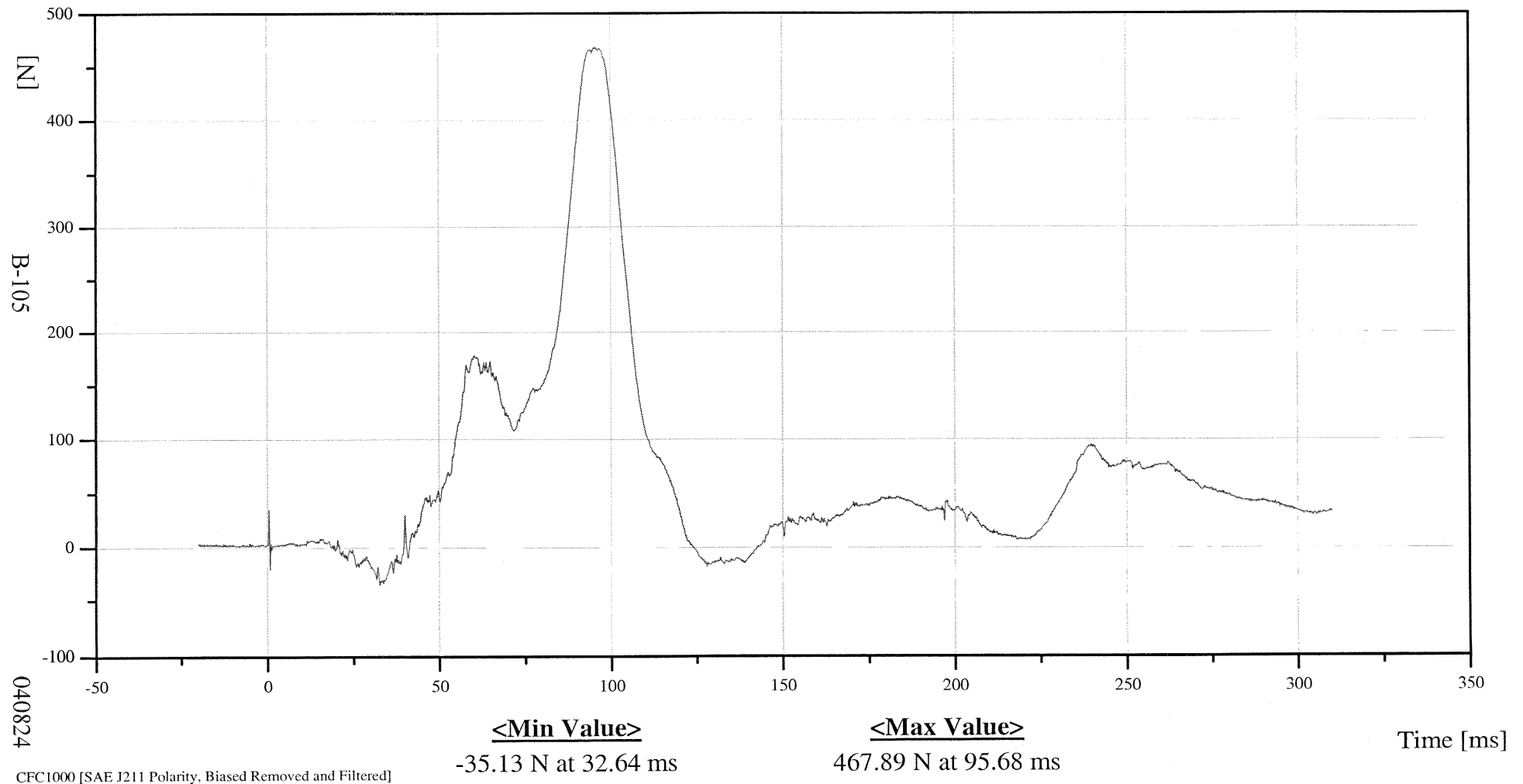
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKYF3





Transportation Research Center, Inc.

Neck Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

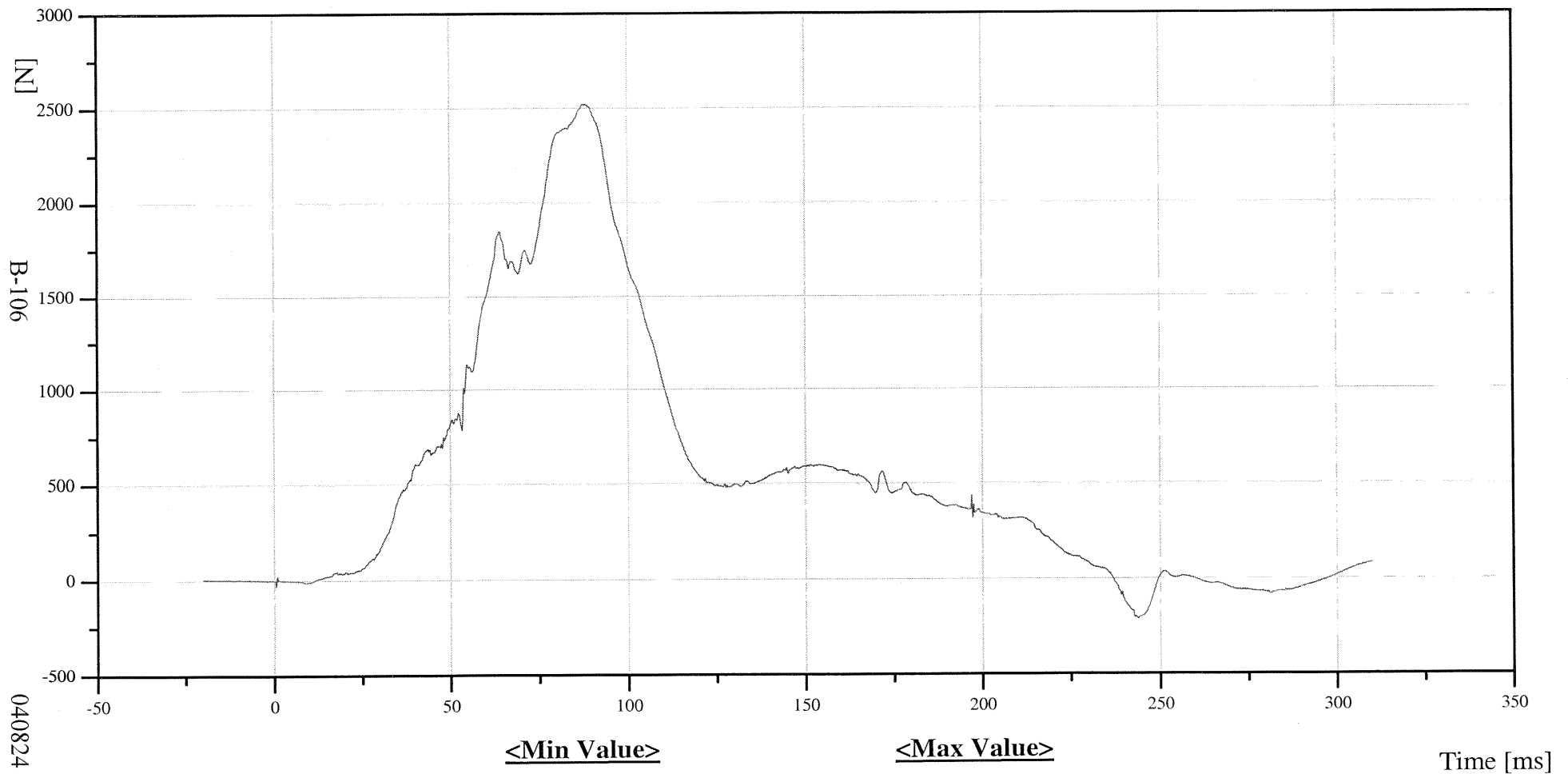
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKZF3



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

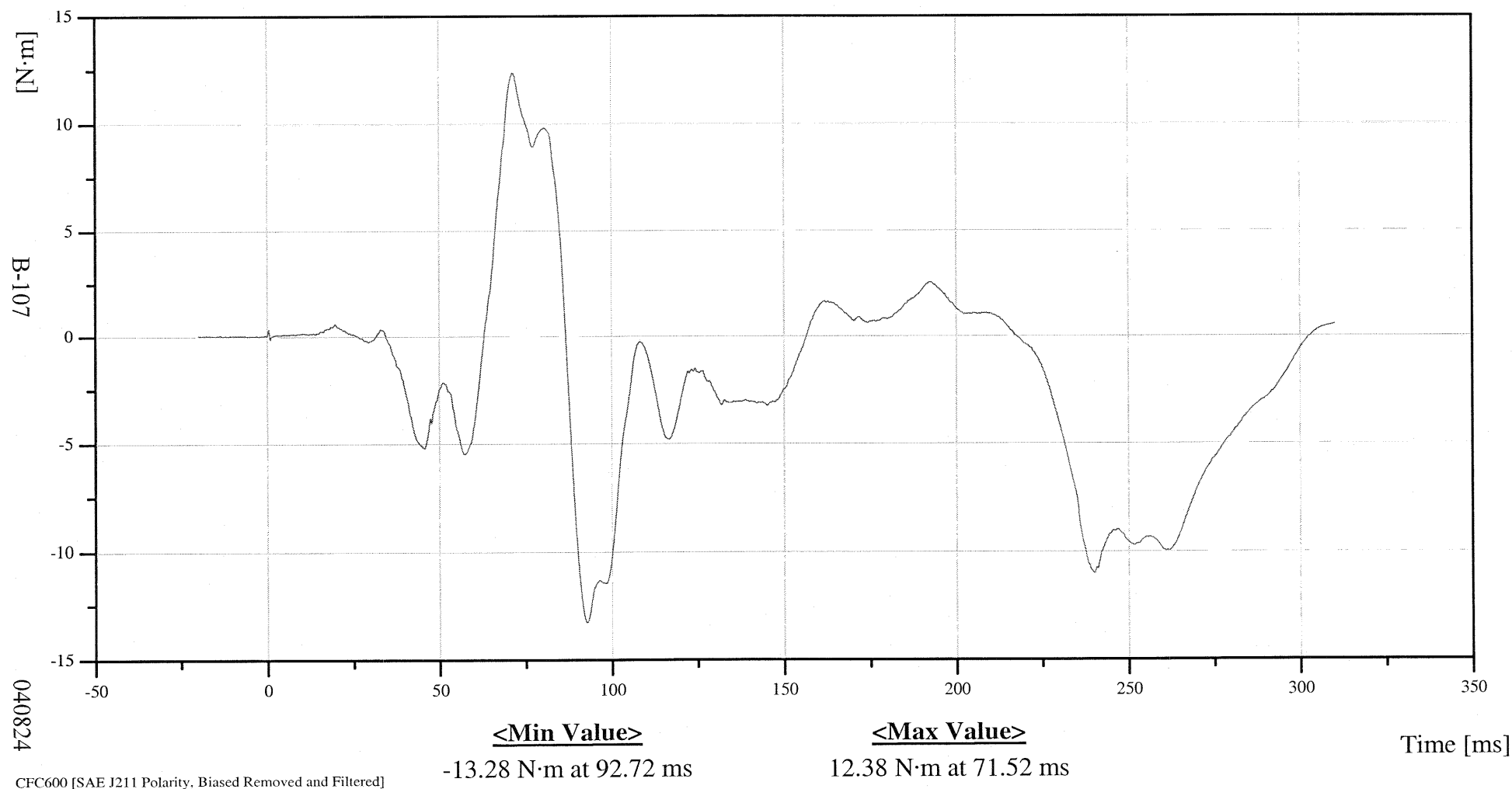
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKXM3





Transportation Research Center, Inc.

Neck Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

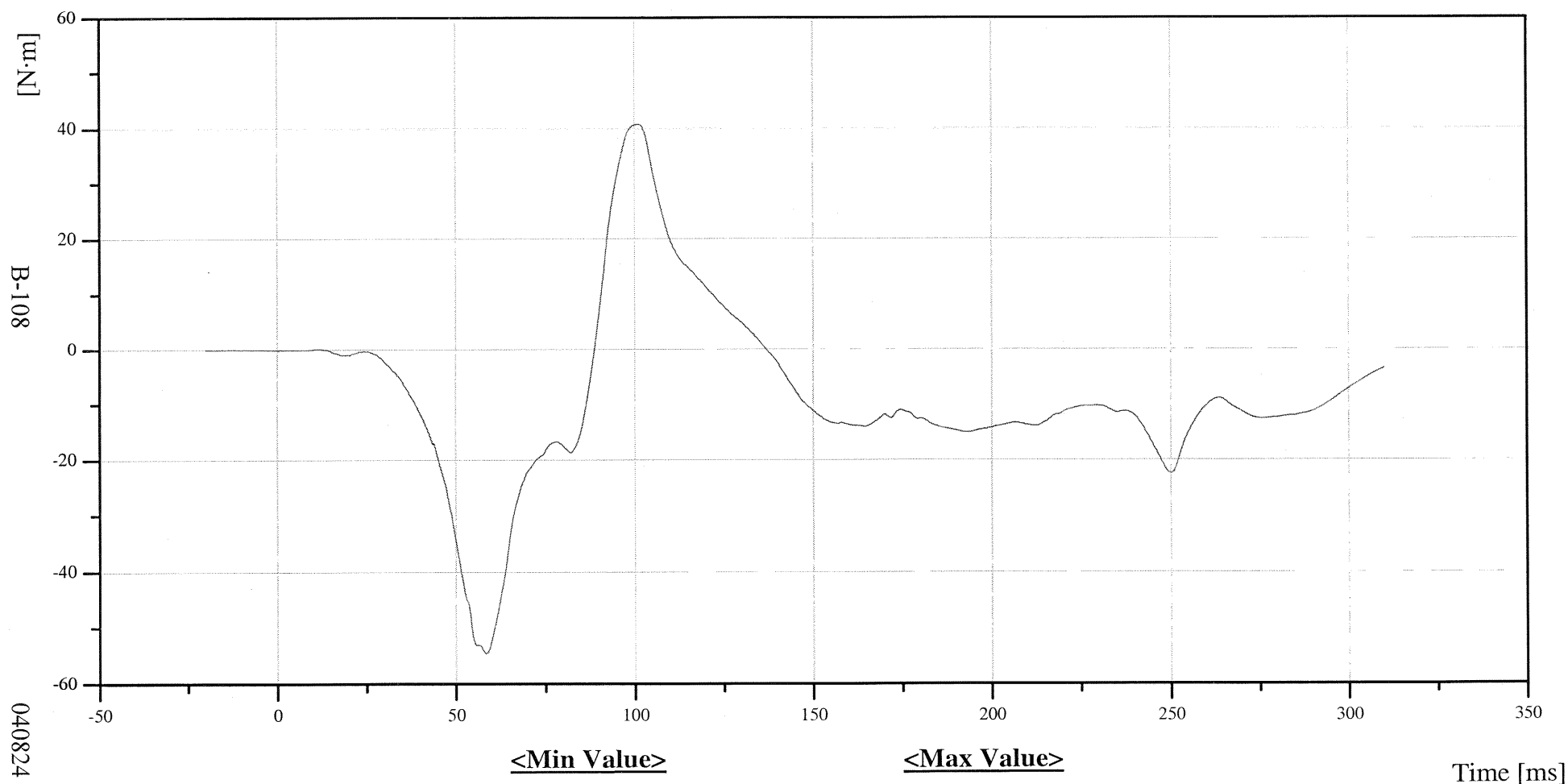
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKYM3



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Moment Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

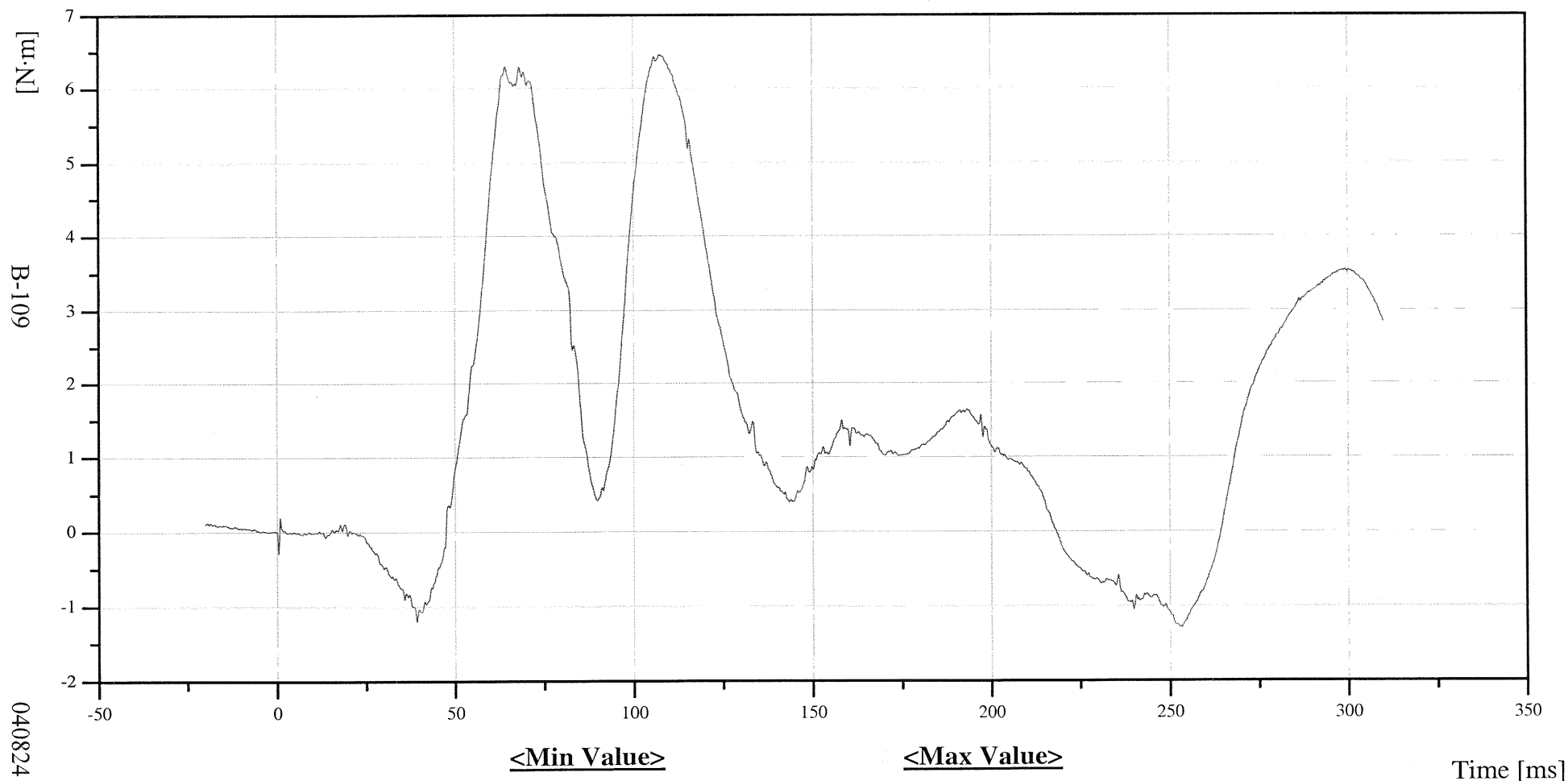
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NEKZM3



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

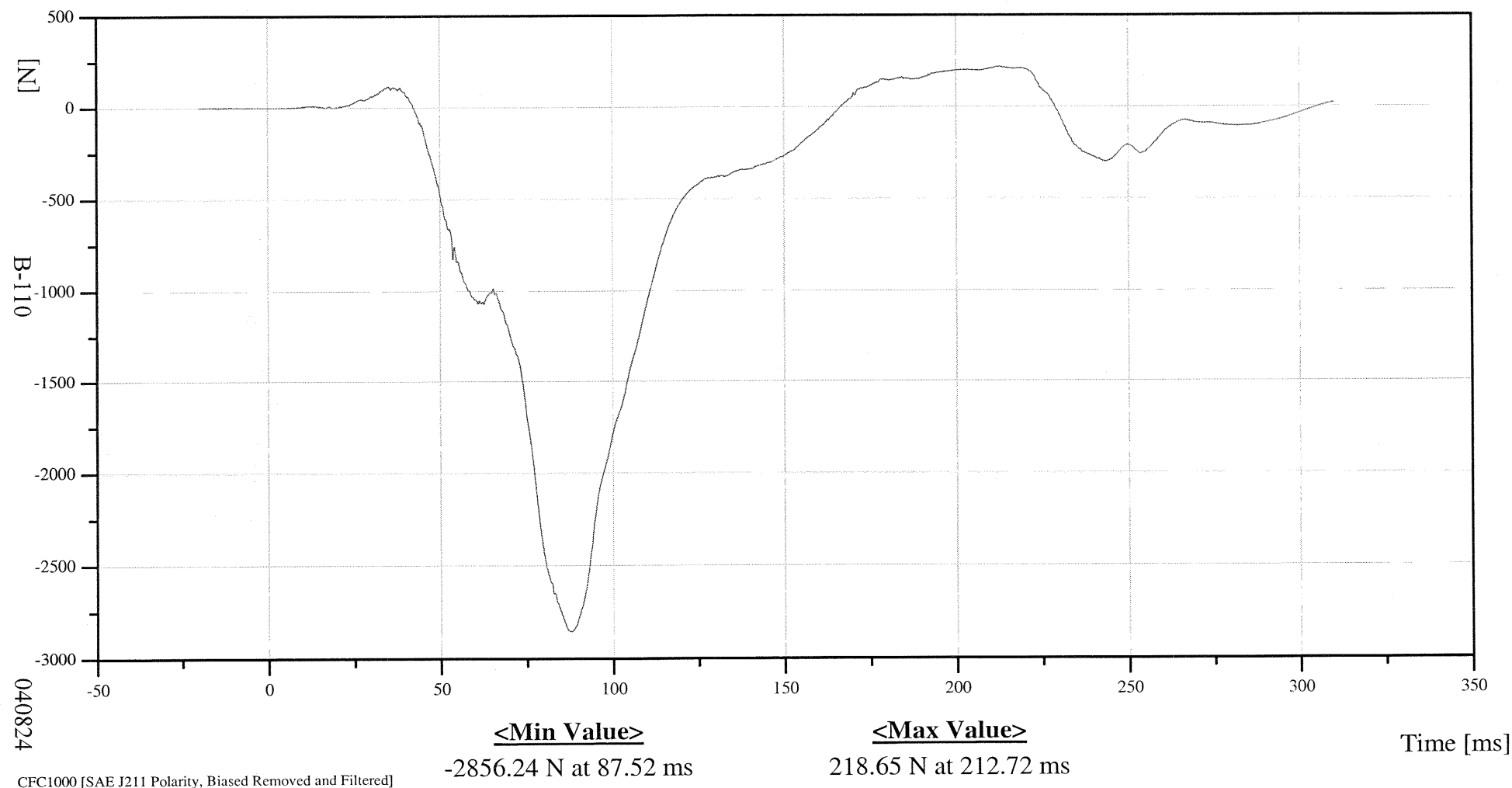
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLXF3





Transportation Research Center, Inc.

Neck Lwr Force Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

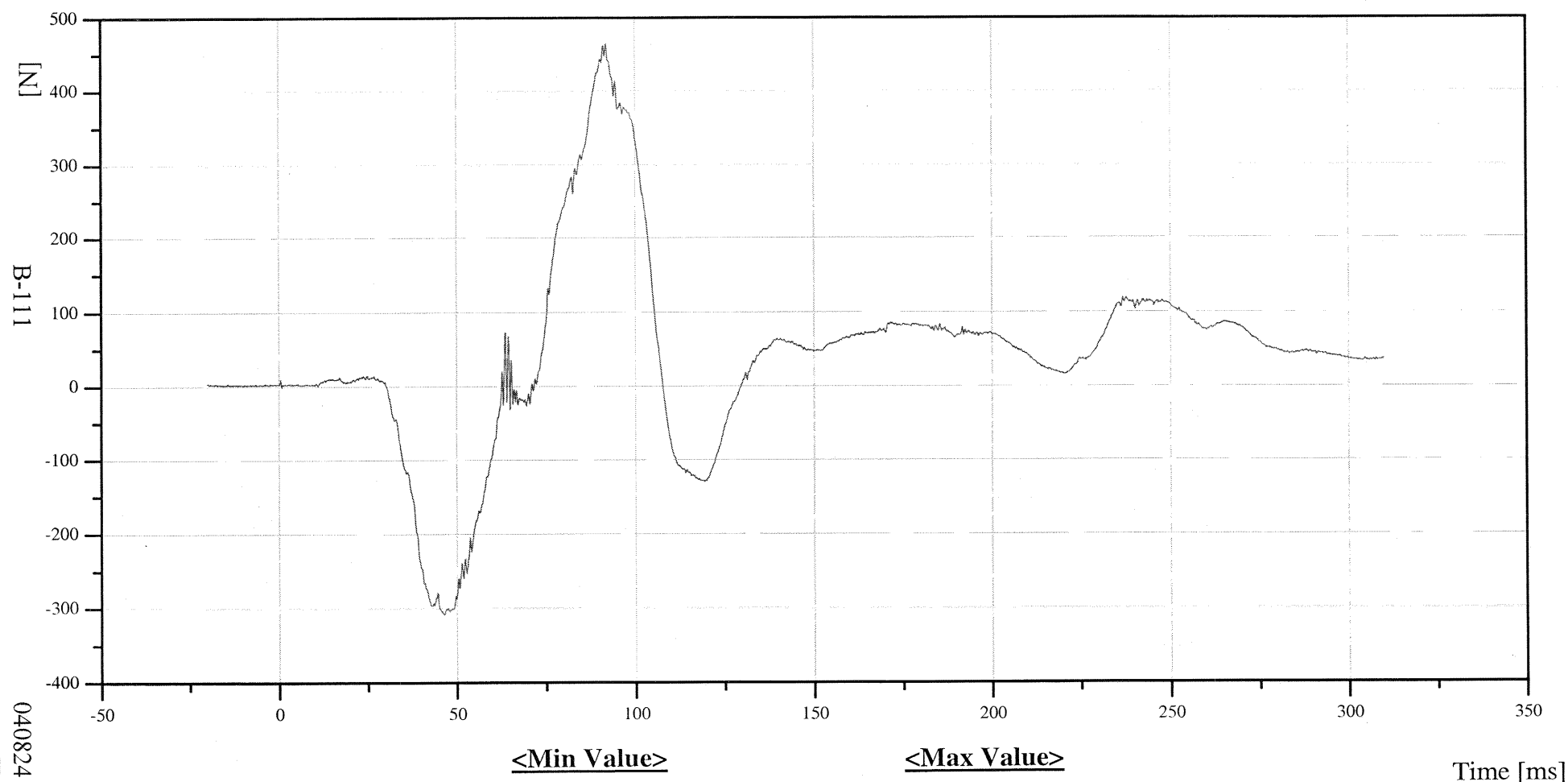
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLYF3



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

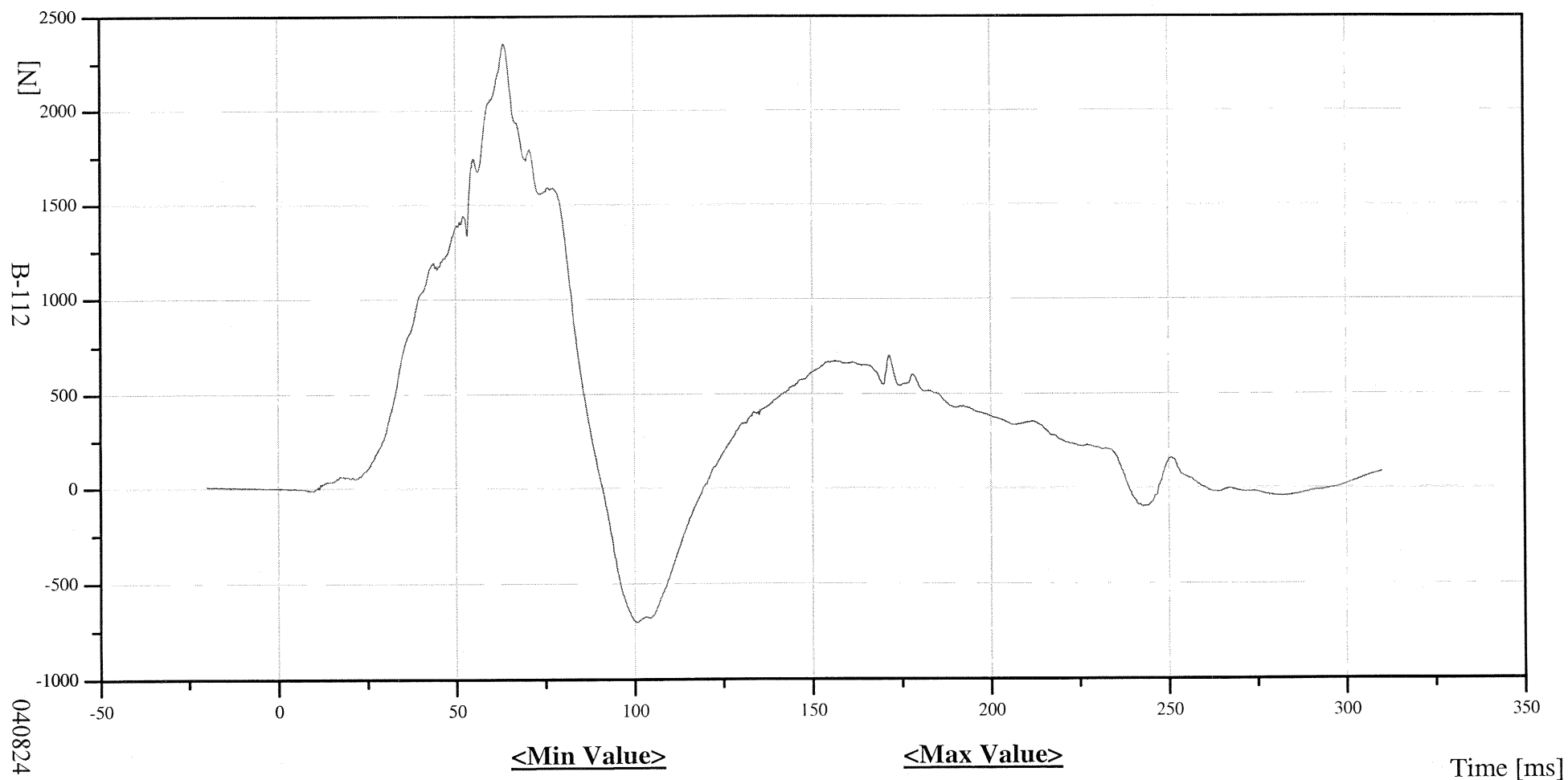
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLZF3



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]

-701.46 N at 100.72 ms

2354.98 N at 63.60 ms



Transportation Research Center, Inc.

Neck Lwr Moment X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

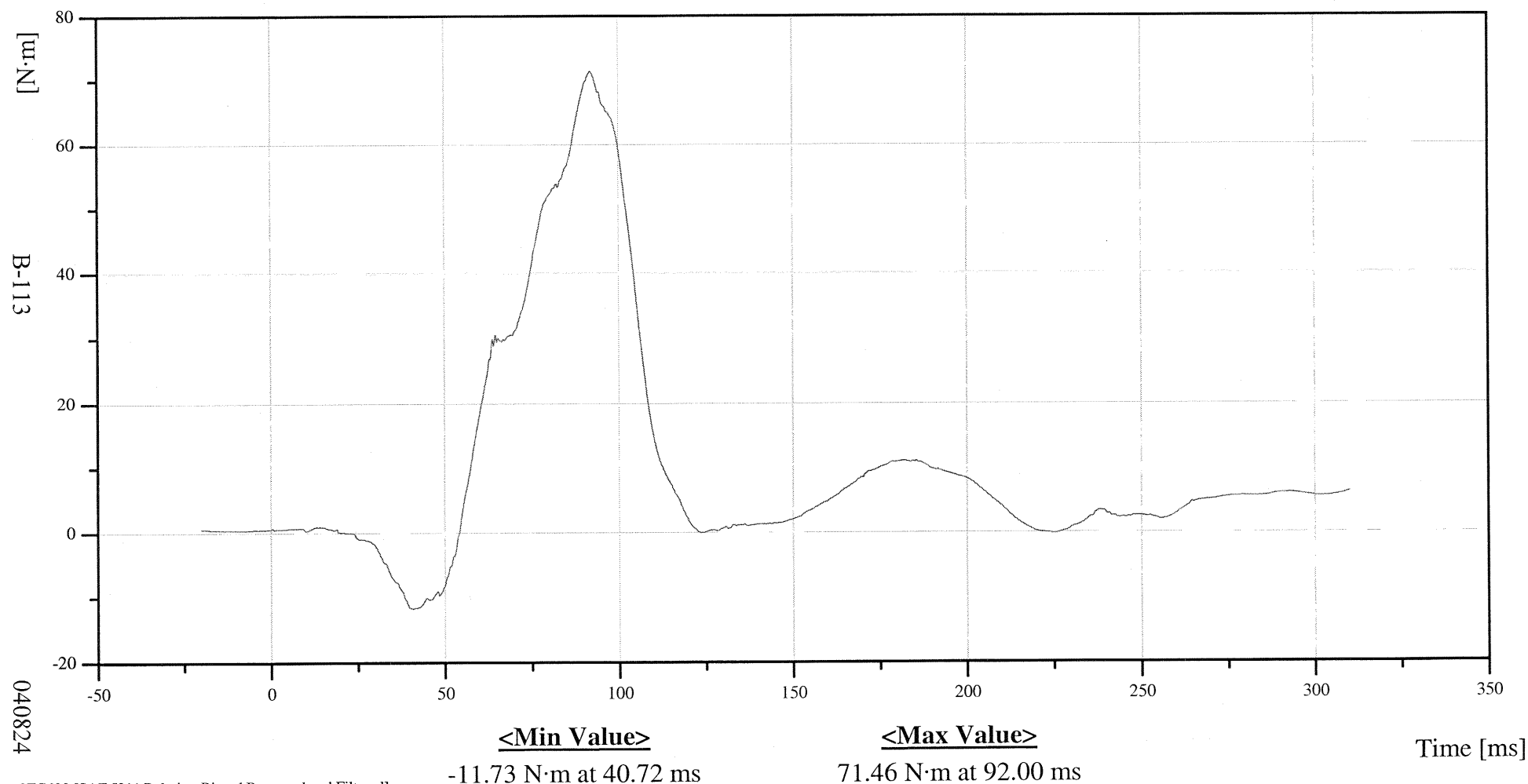
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLXM3



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Neck Lwr Moment Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

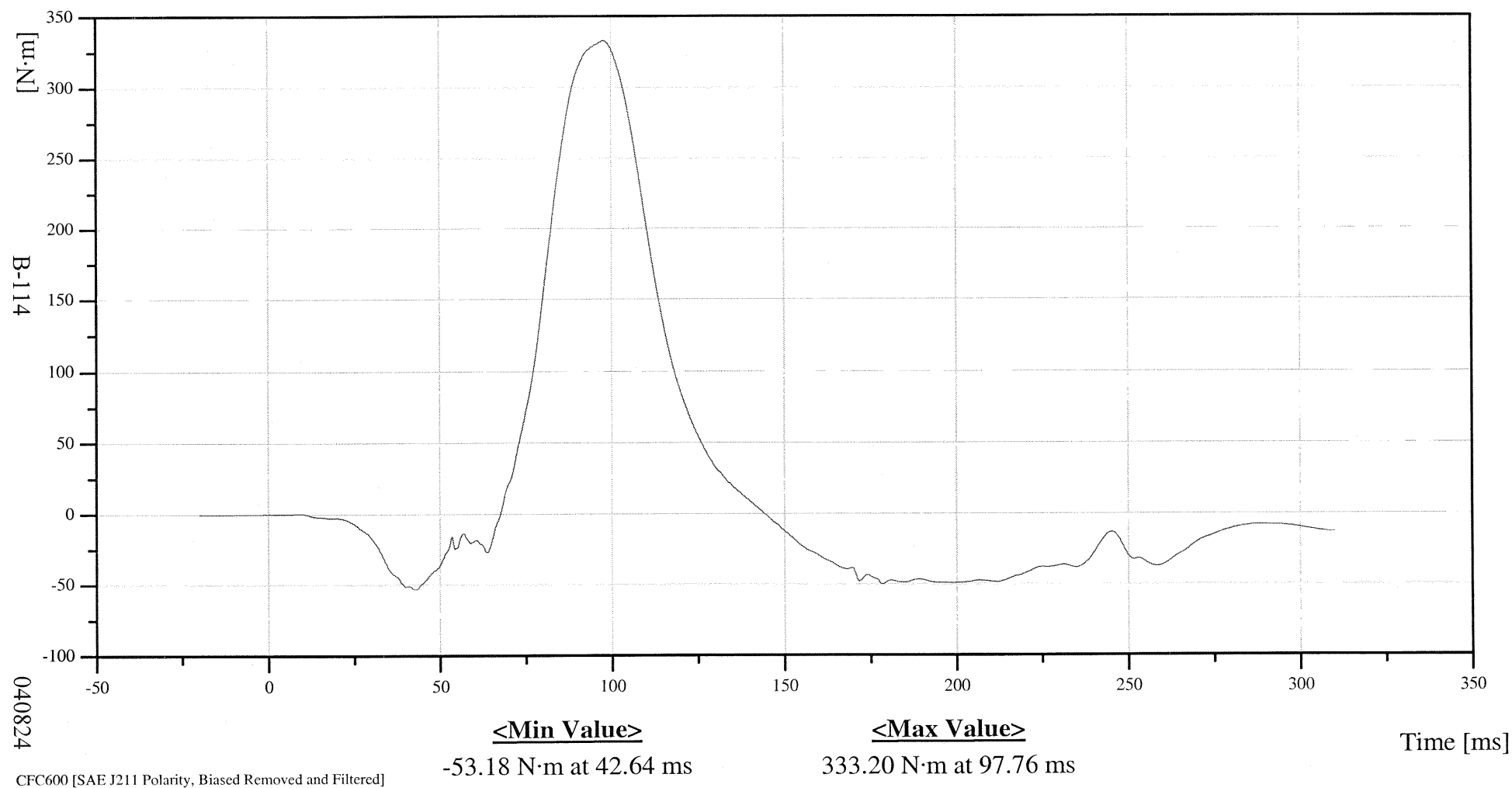
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLYM3





Transportation Research Center, Inc.

Neck Lwr Moment Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

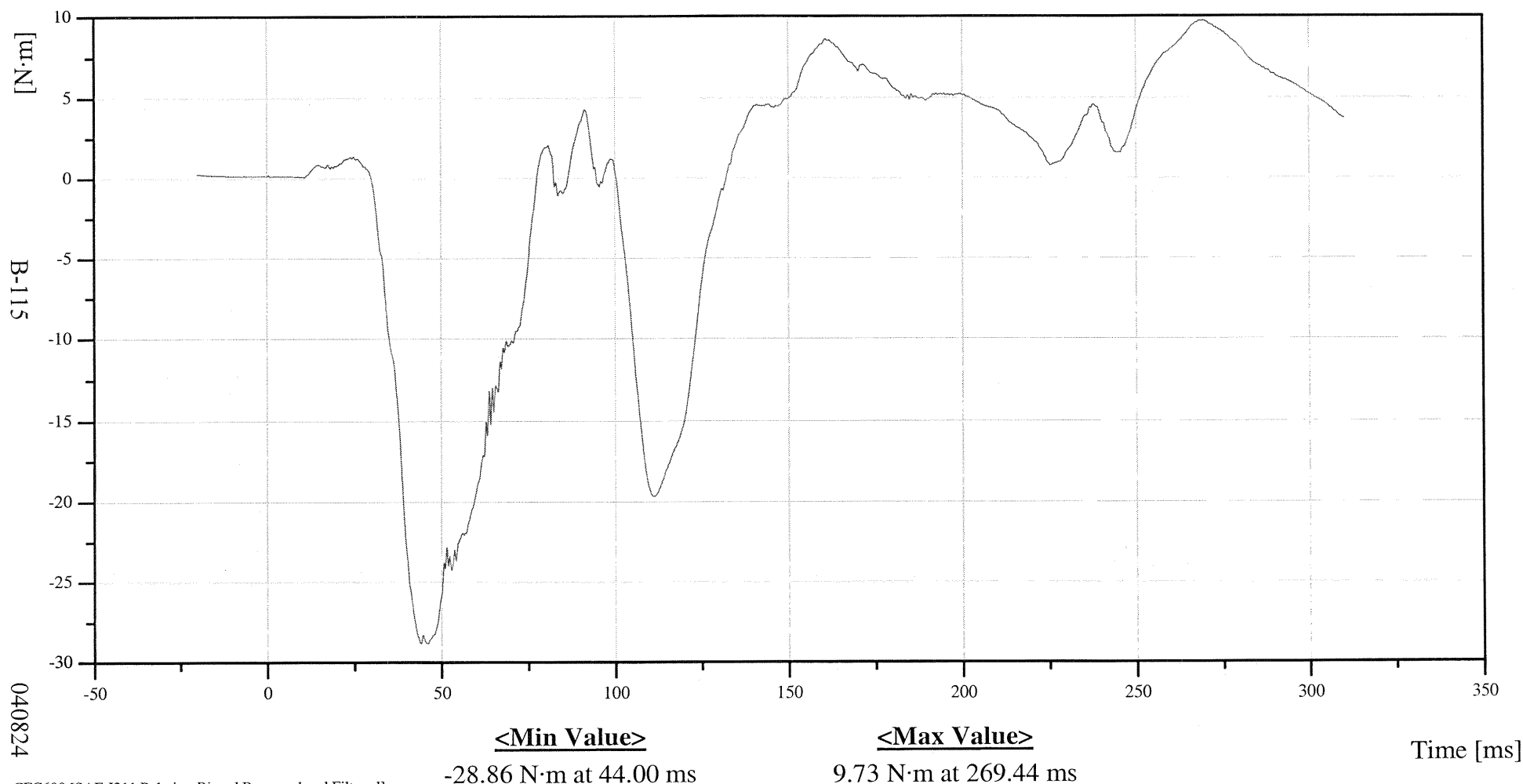
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

NKLZM3



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

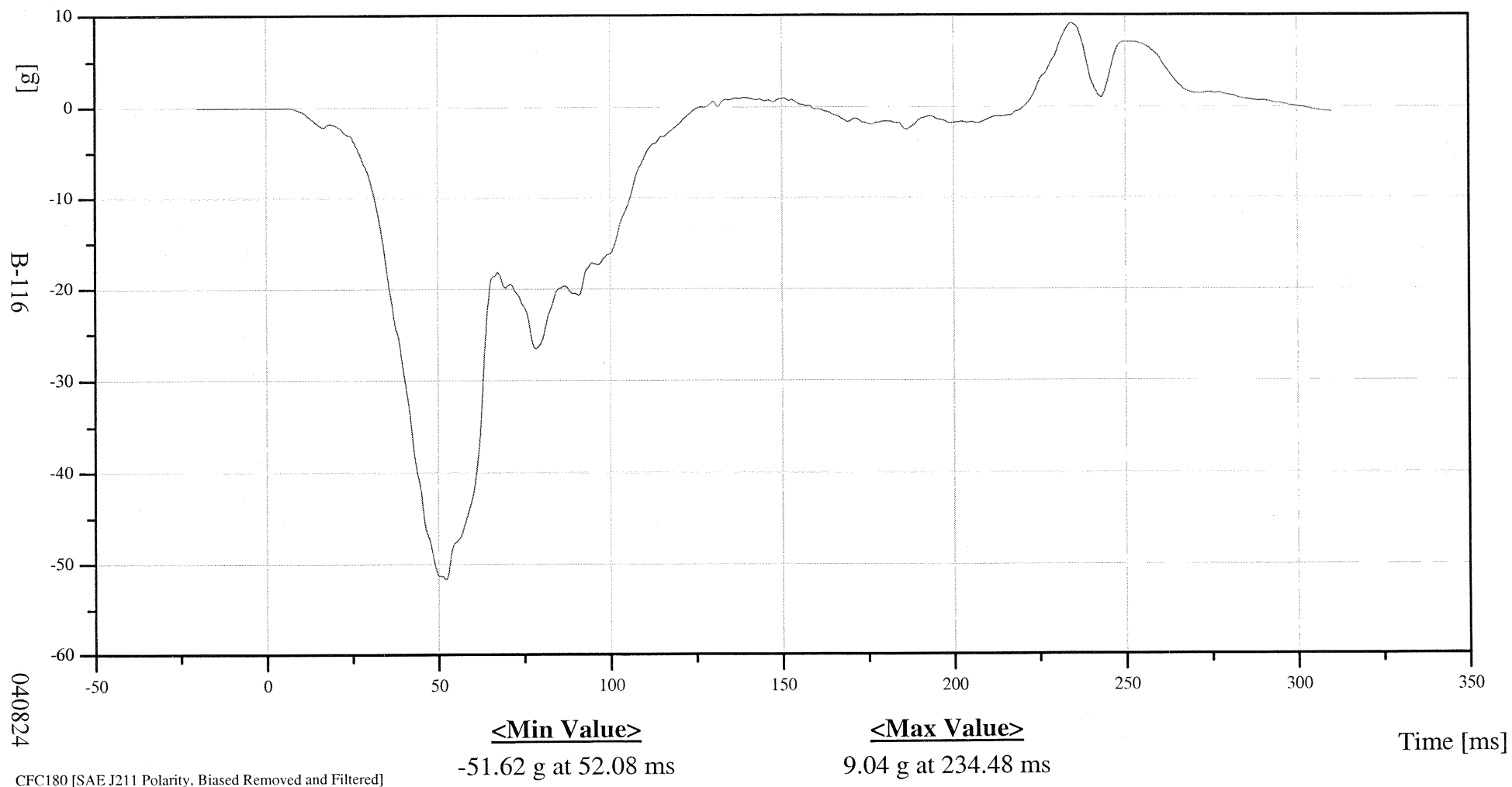
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXG3





Transportation Research Center, Inc.

Chest Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

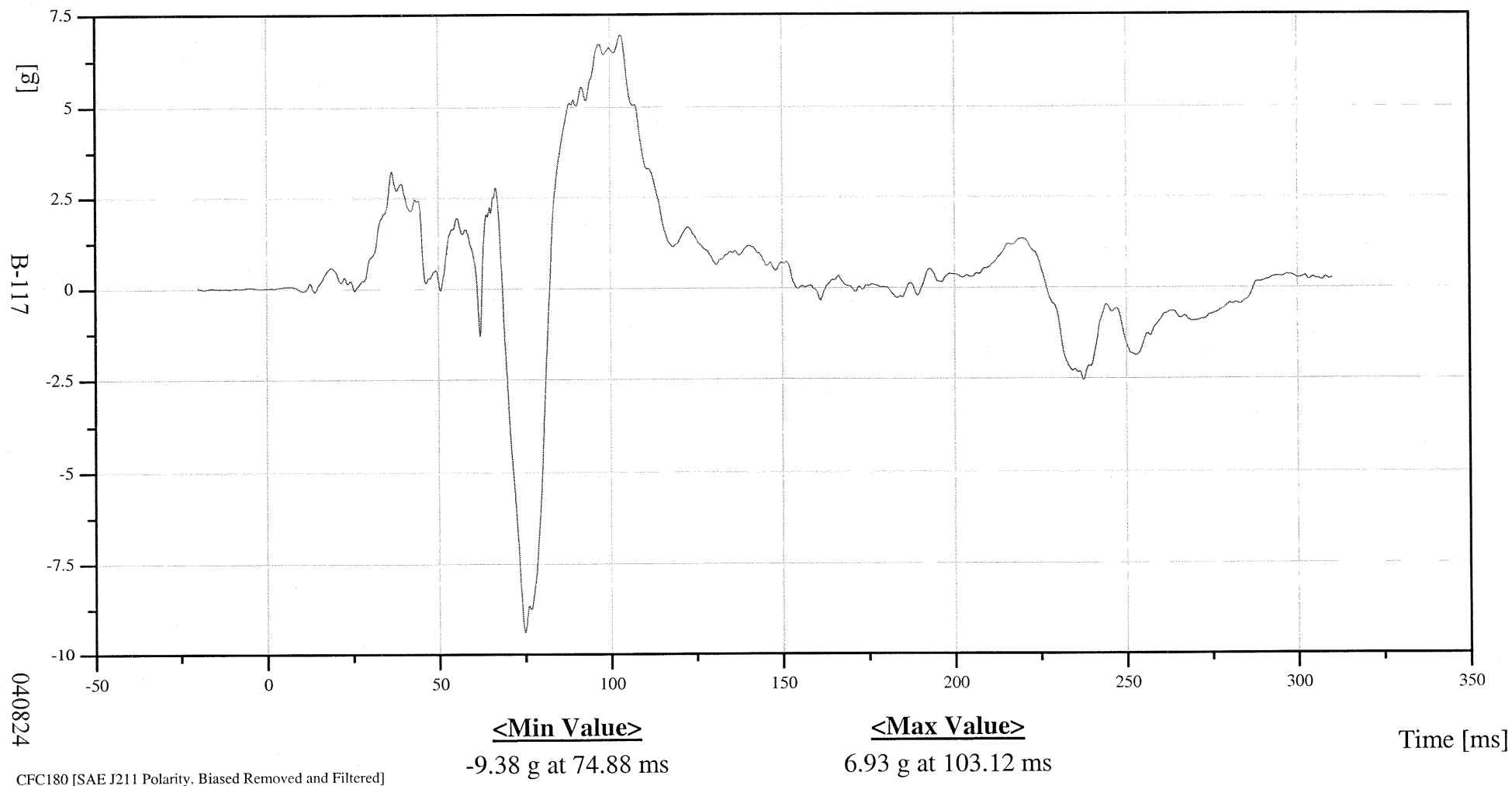
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTYG3





Transportation Research Center, Inc.

Chest Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

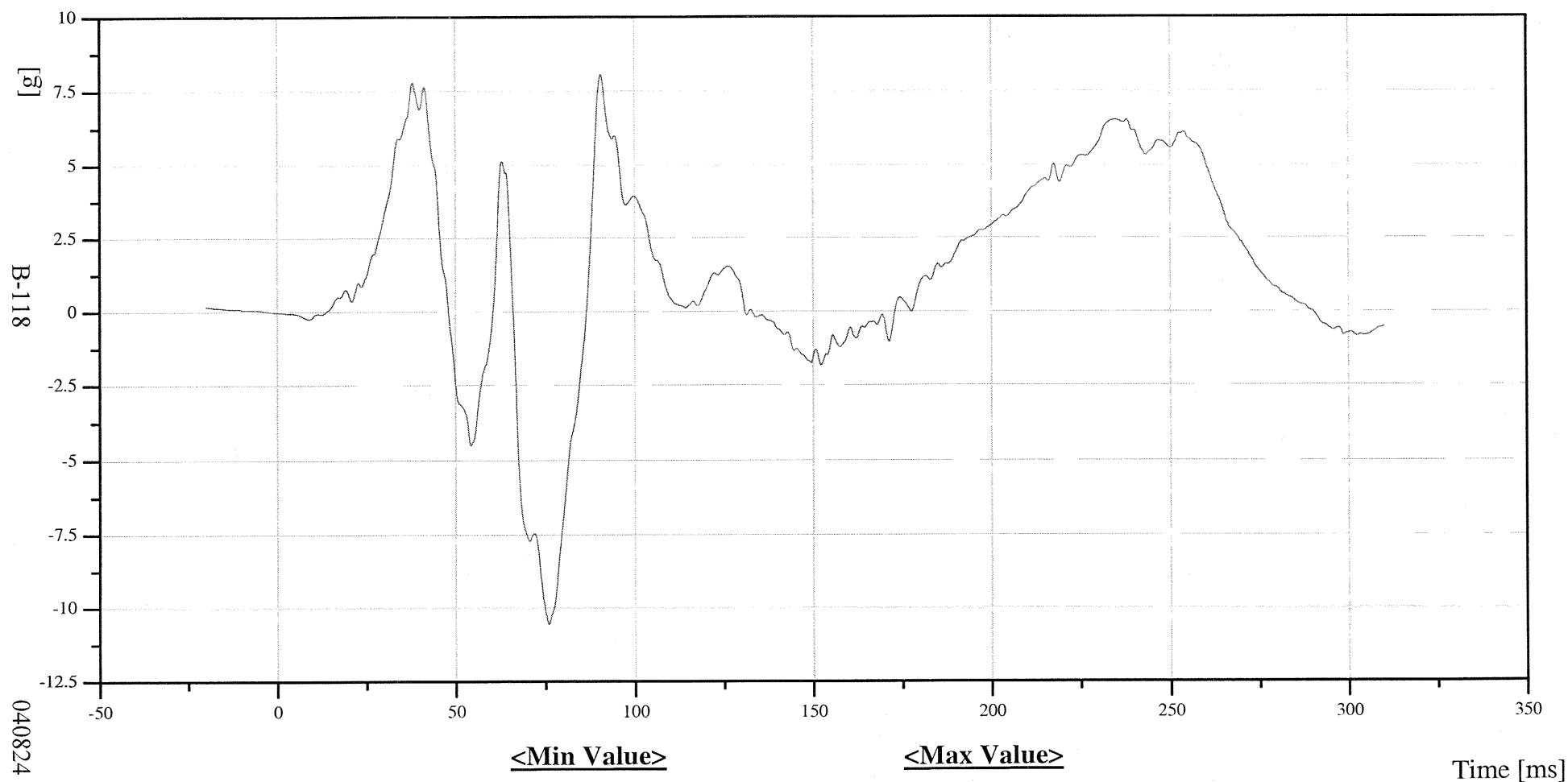
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTZG3



CFC180 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Chest Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

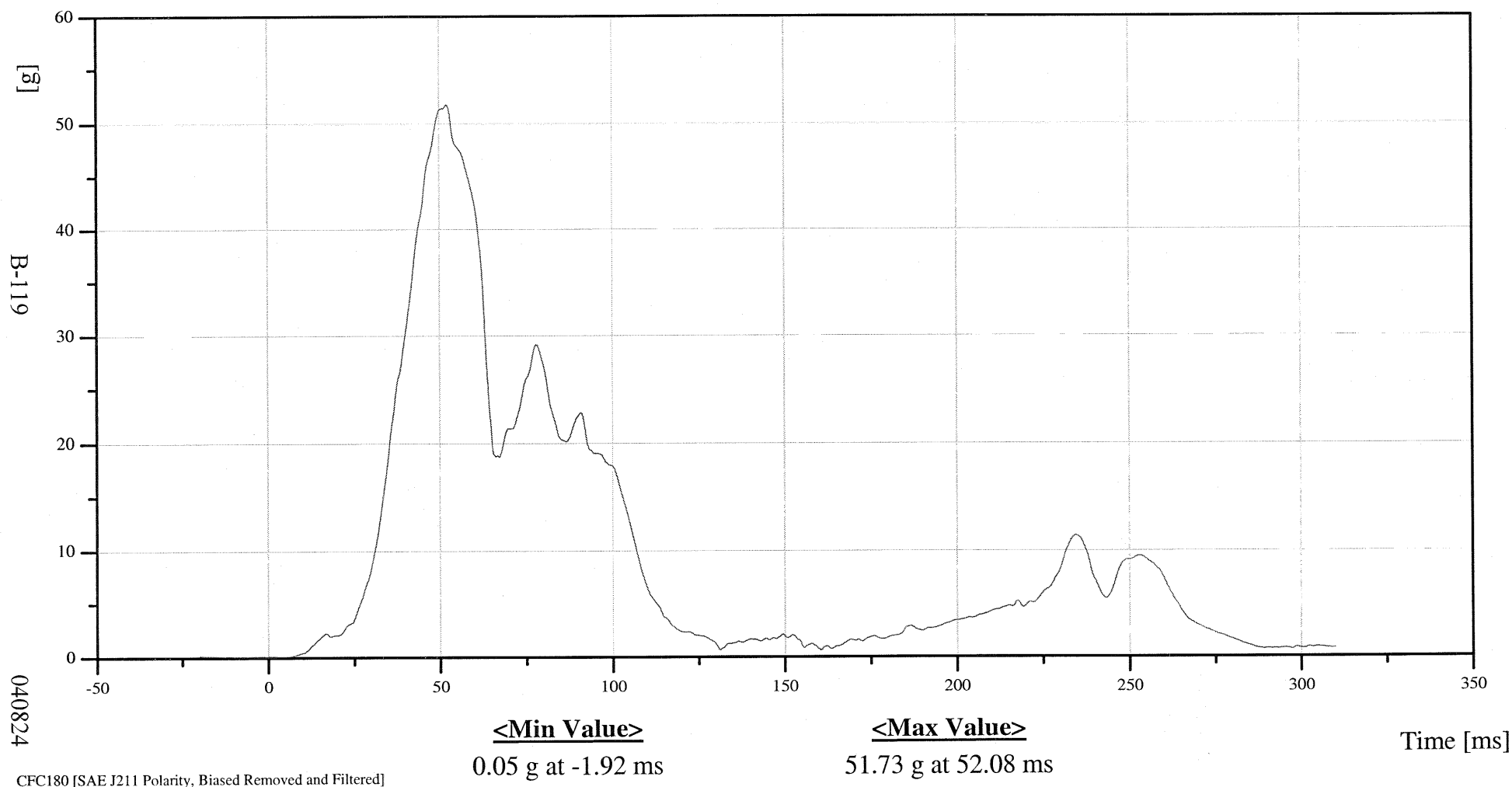
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTRG3





Transportation Research Center, Inc.

Chest Deflection X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

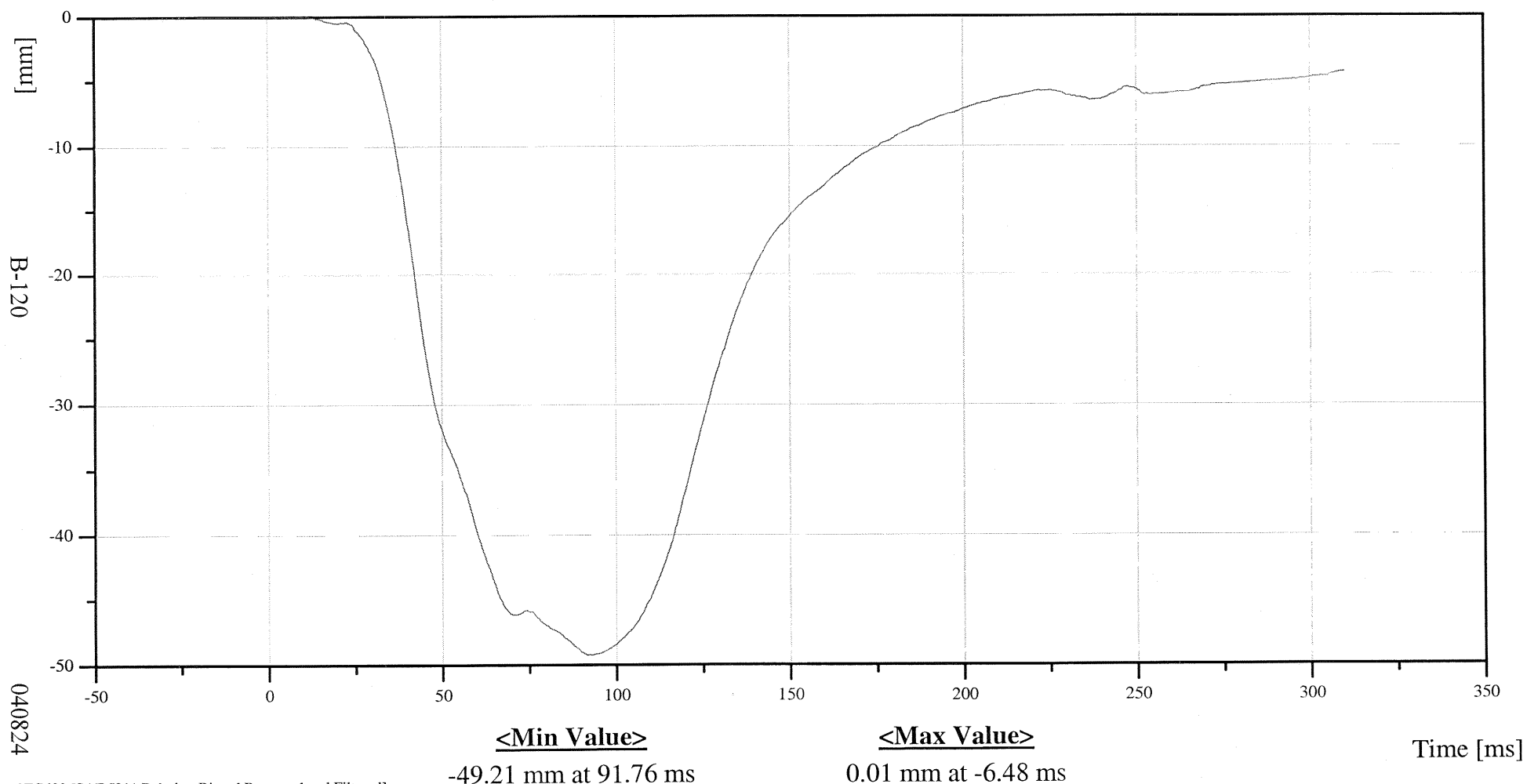
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

CSTXD3



CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel X

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

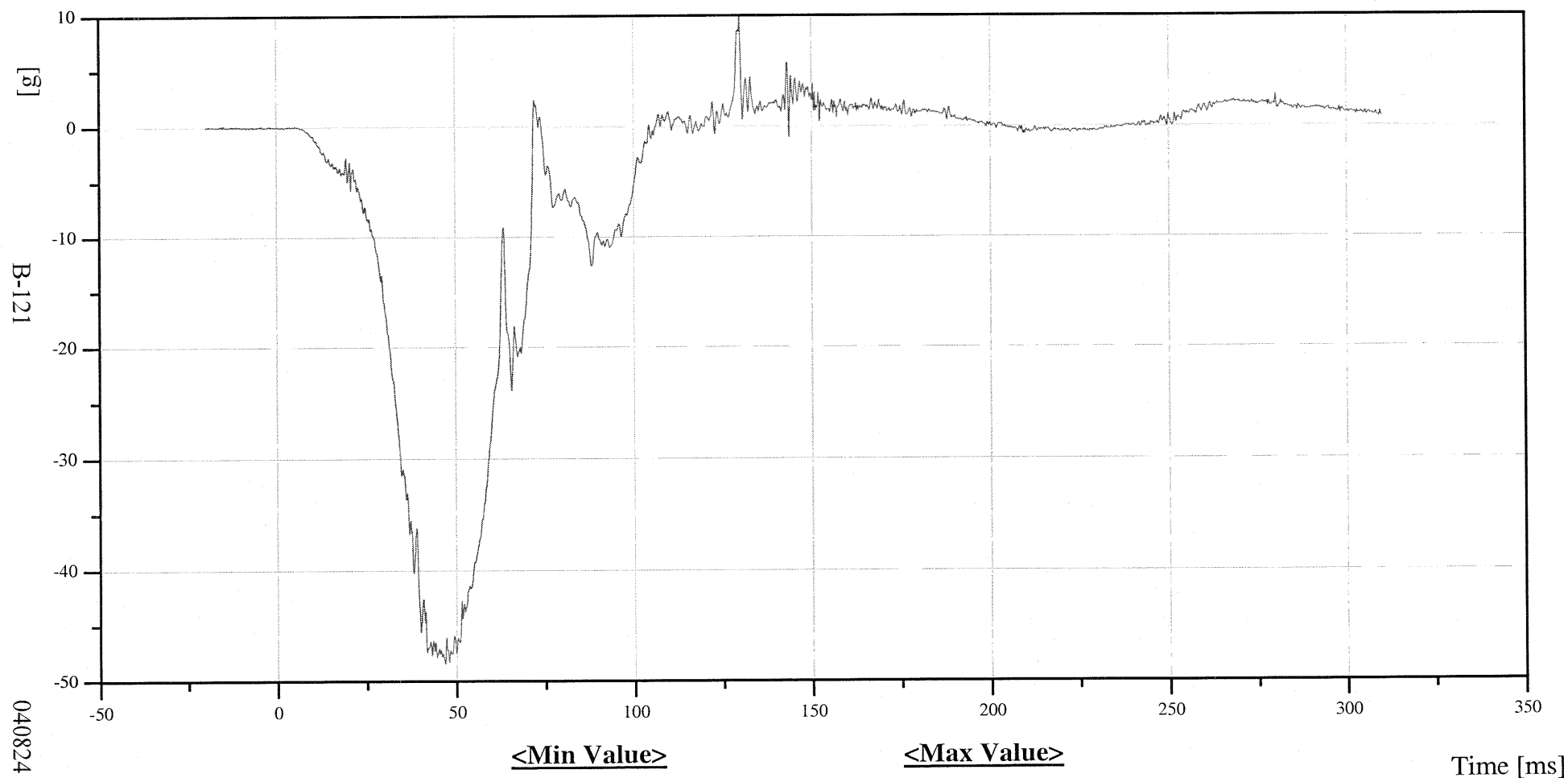
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVXG3



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel Y

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

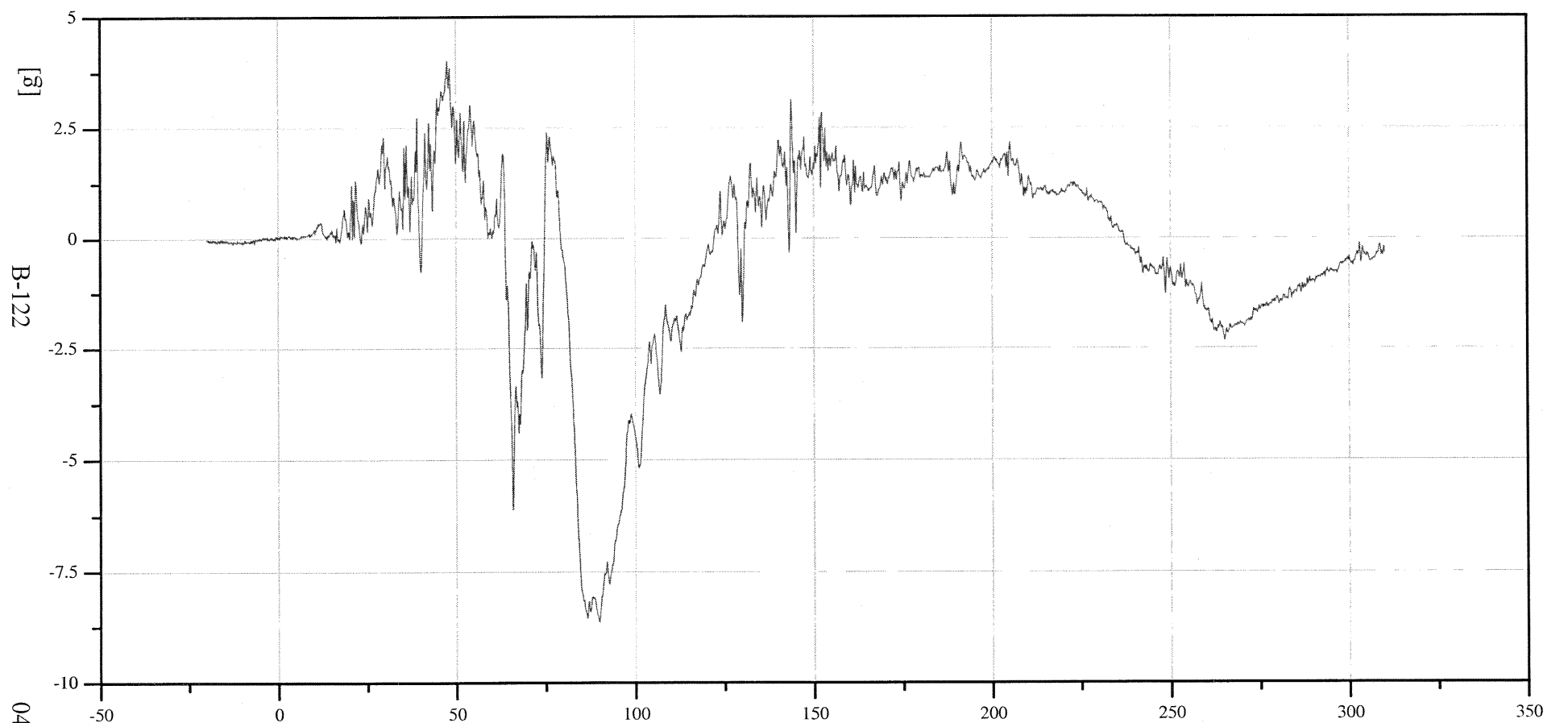
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVYG3



<Min Value>

-8.64 g at 89.92 ms

<Max Value>

4.02 g at 47.52 ms

CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Accel Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

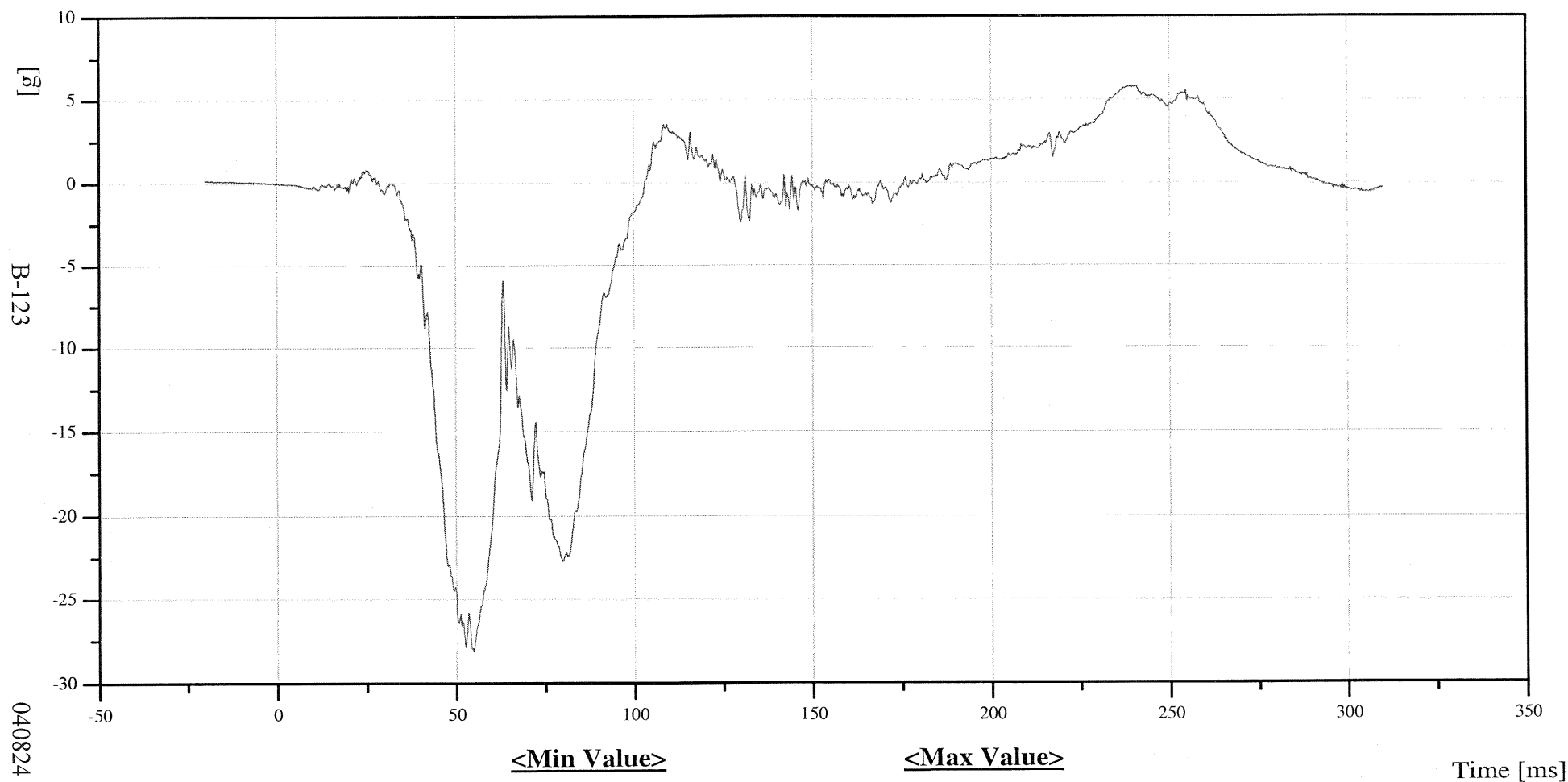
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVZG3



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Pelvis Resultant Acceleration

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

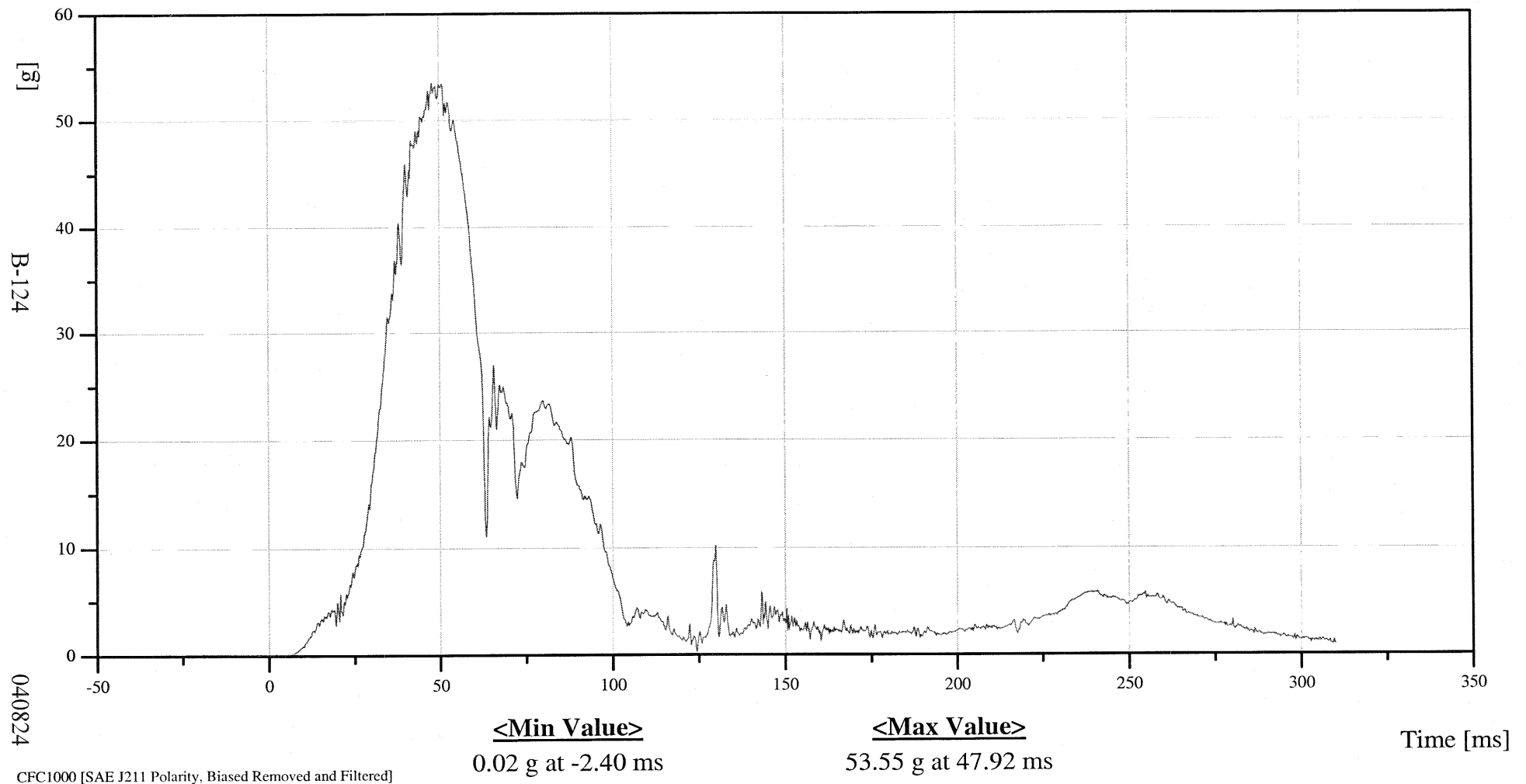
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PEVRG3





Transportation Research Center, Inc.

Left Femur Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

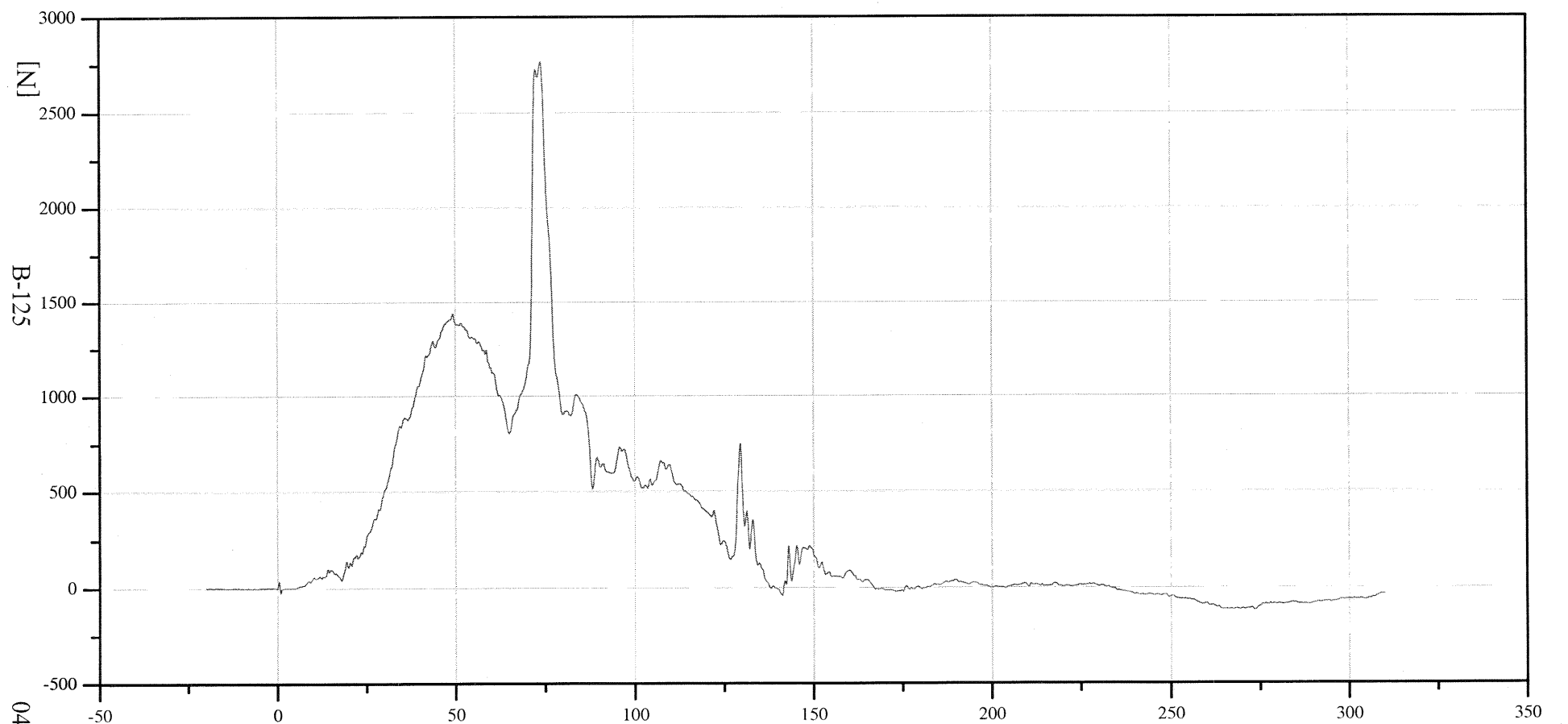
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LFMZ F3



040824

<Min Value>

-118.37 N at 273.36 ms

<Max Value>

2764.76 N at 74.00 ms

Time [ms]

CFC600 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Right Femur Force Z

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

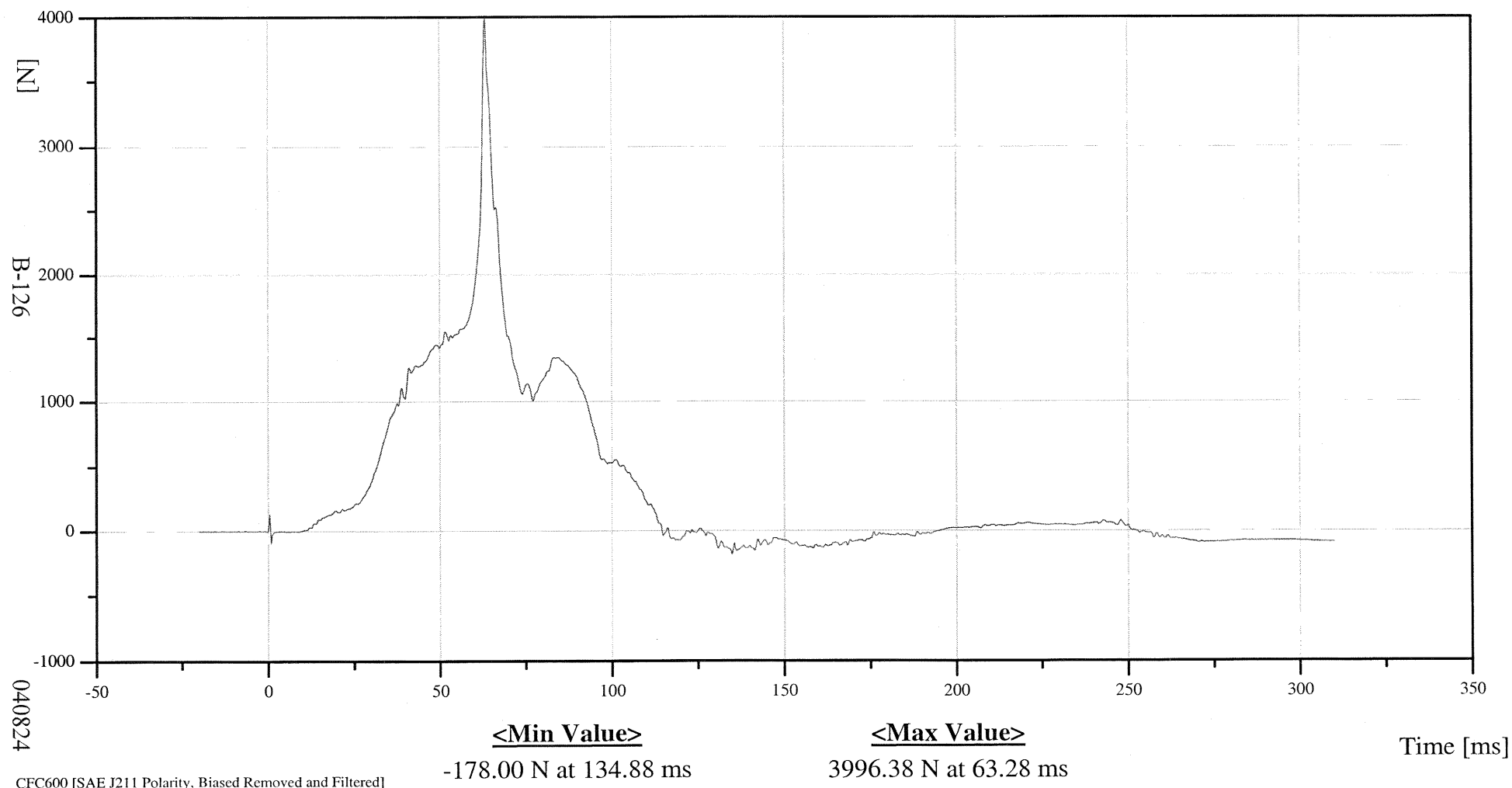
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RFMZF3





Transportation Research Center, Inc.

Left RR Seat X-member X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

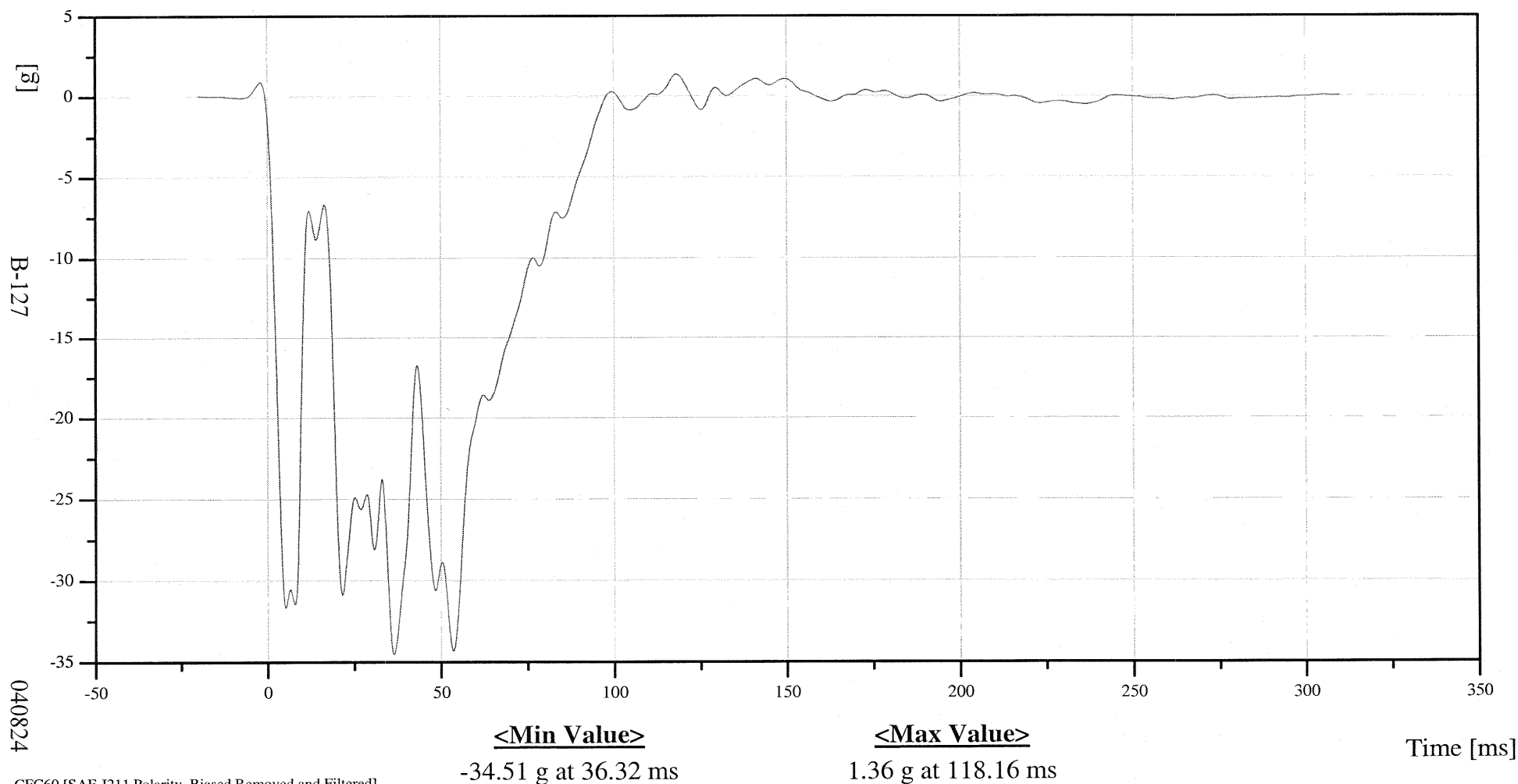
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LSXXG





Transportation Research Center, Inc.

Right RR Seat X-member X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

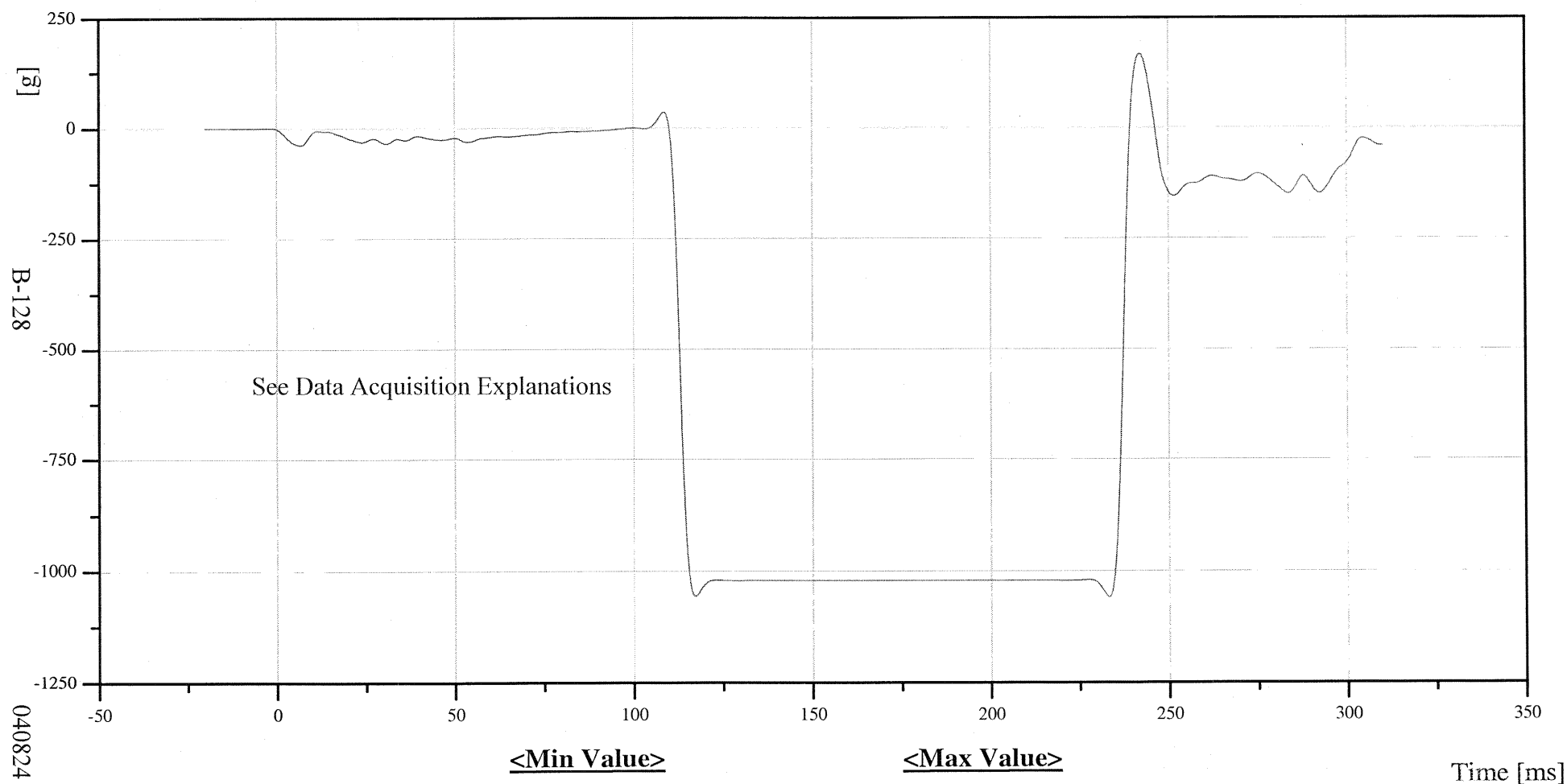
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RSXXG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Top Engine X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

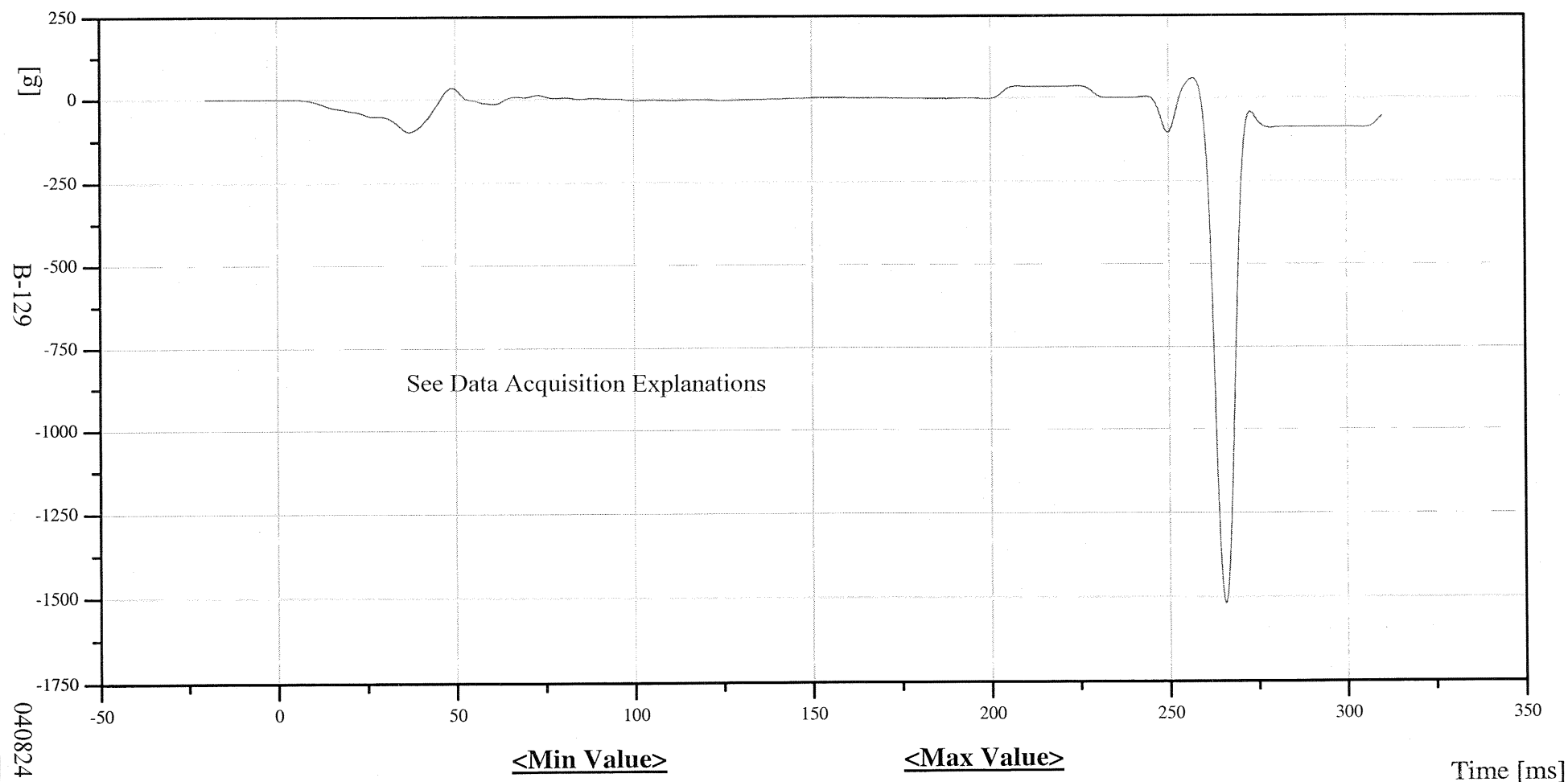
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

TENXG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Bottom Engine X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

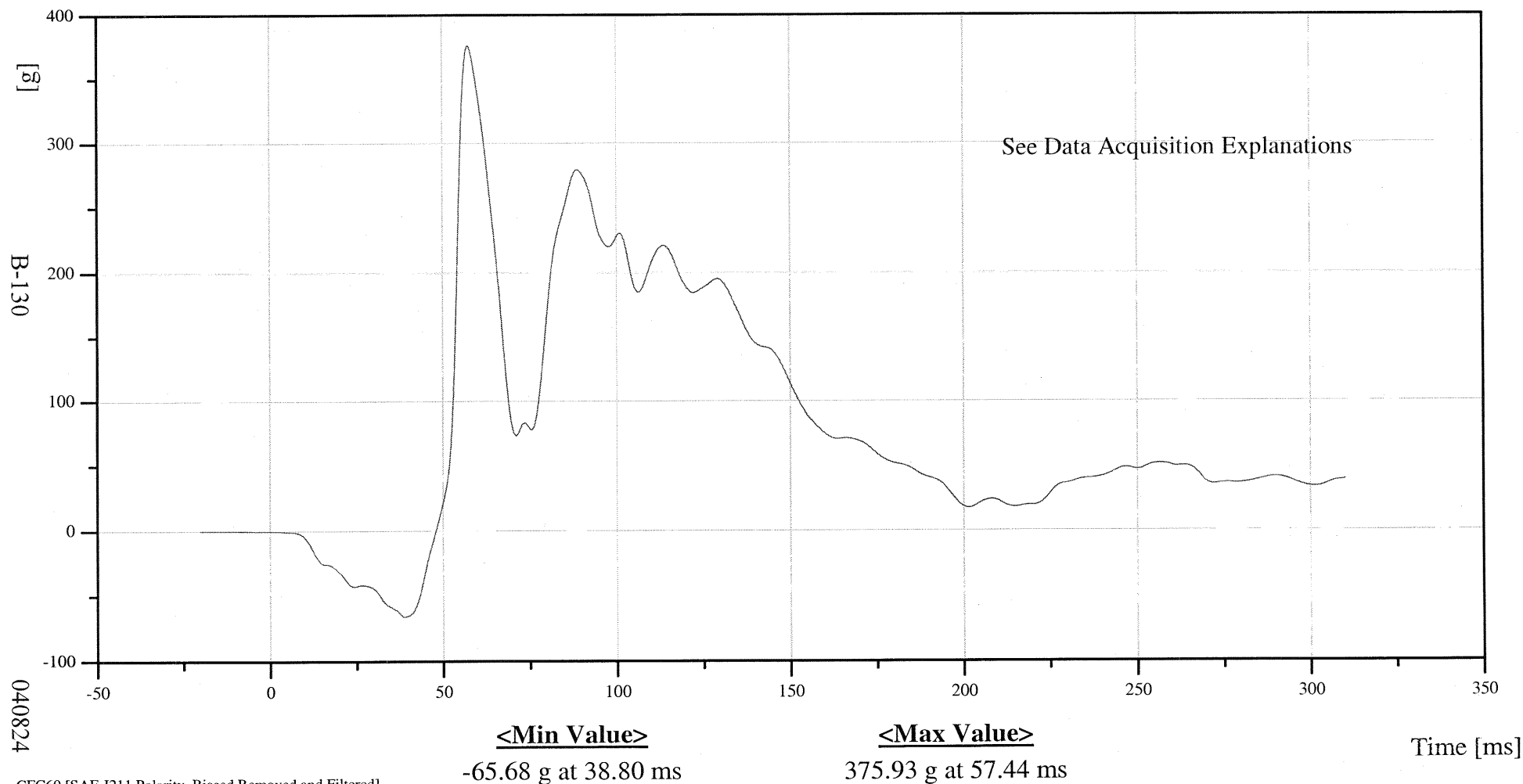
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

BENXG





Transportation Research Center, Inc.

Right FR Brake Caliper X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

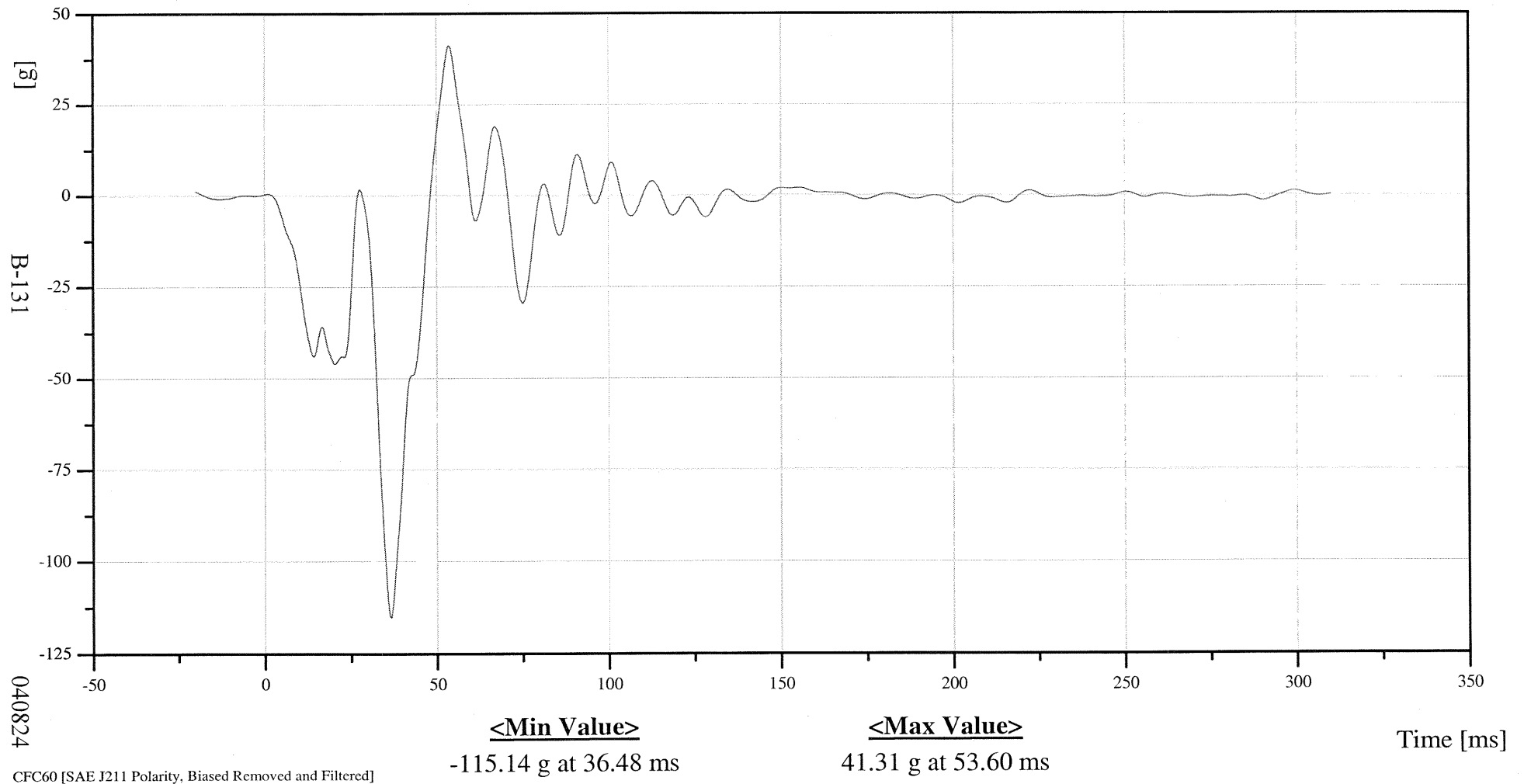
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RFCXG





Transportation Research Center, Inc.

Left FR Brake Caliper X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

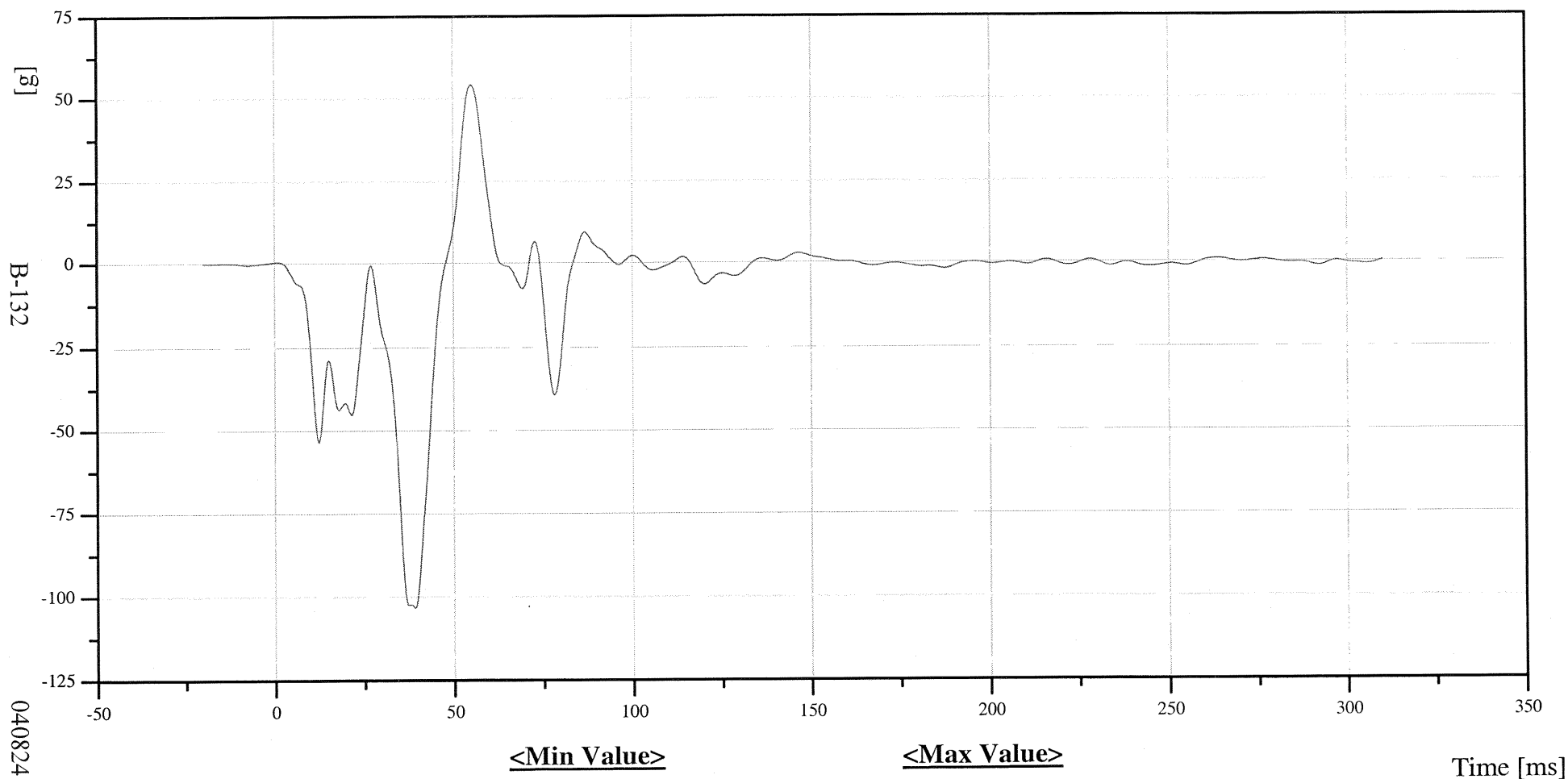
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LFCXG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]

-103.42 g at 38.96 ms

54.22 g at 55.04 ms



Transportation Research Center, Inc.

Instrument Panel Top Center X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

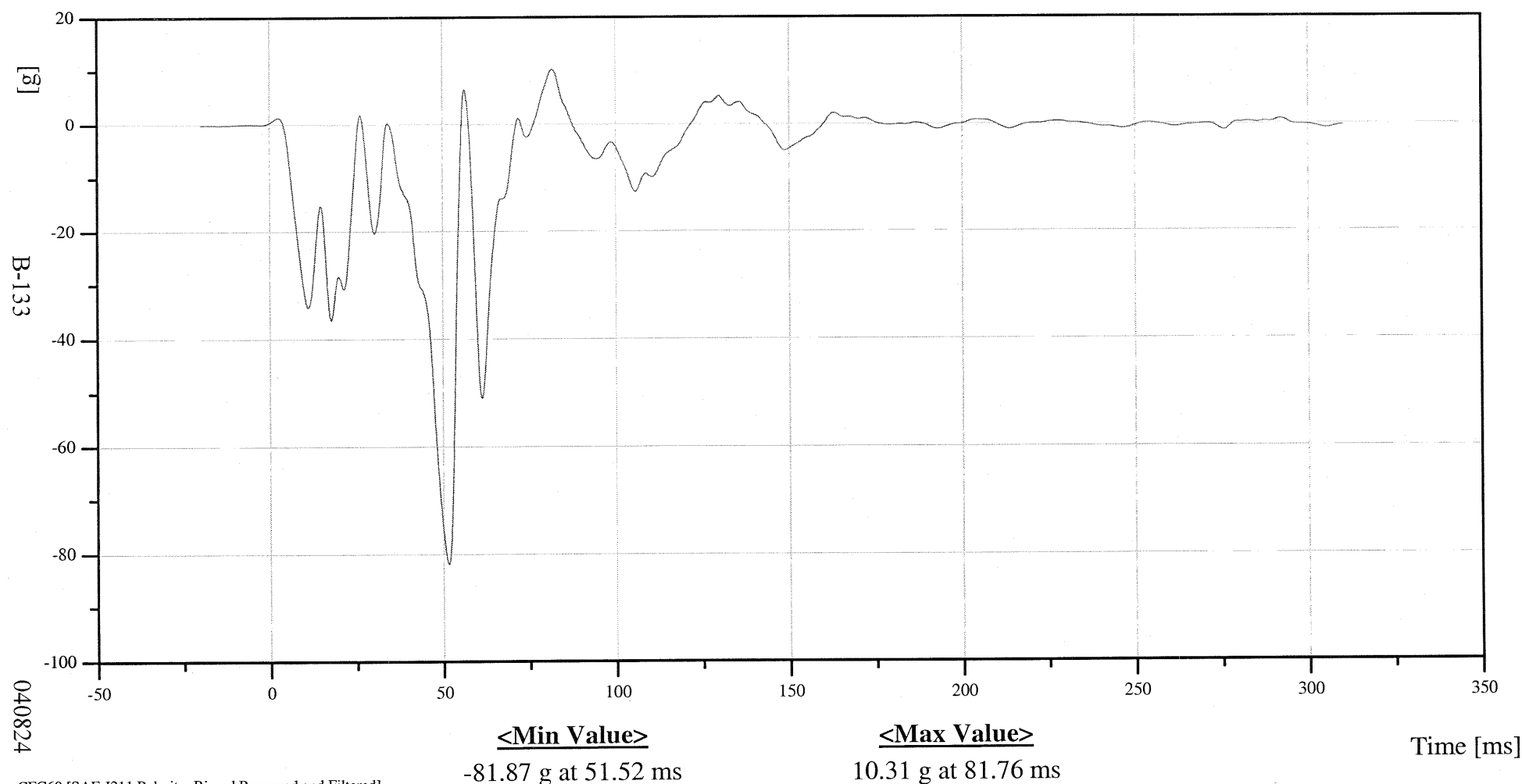
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

DPCXG





Transportation Research Center, Inc.

Vehicle CG X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

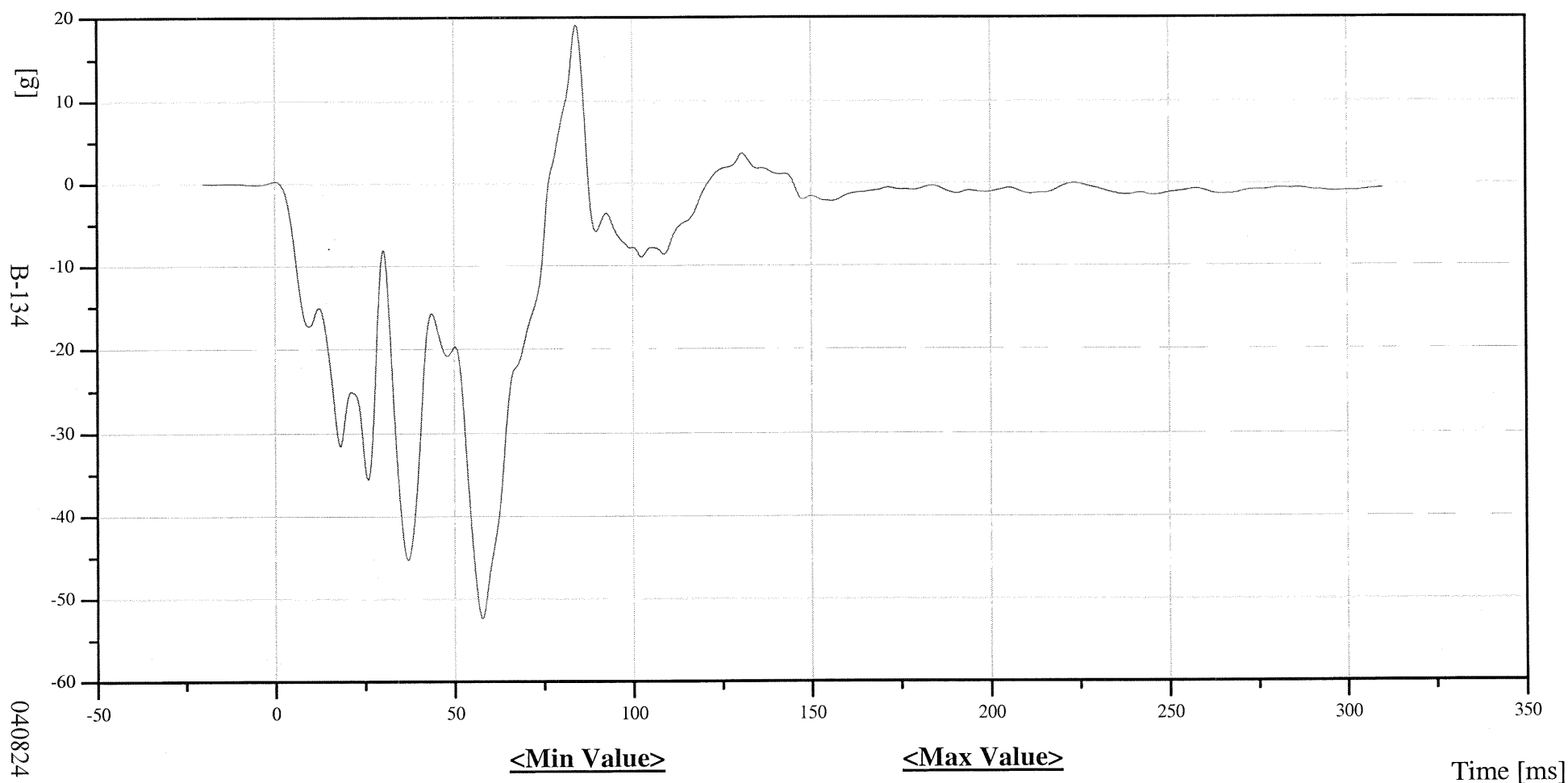
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

VCGXG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Vehicle CG Y Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

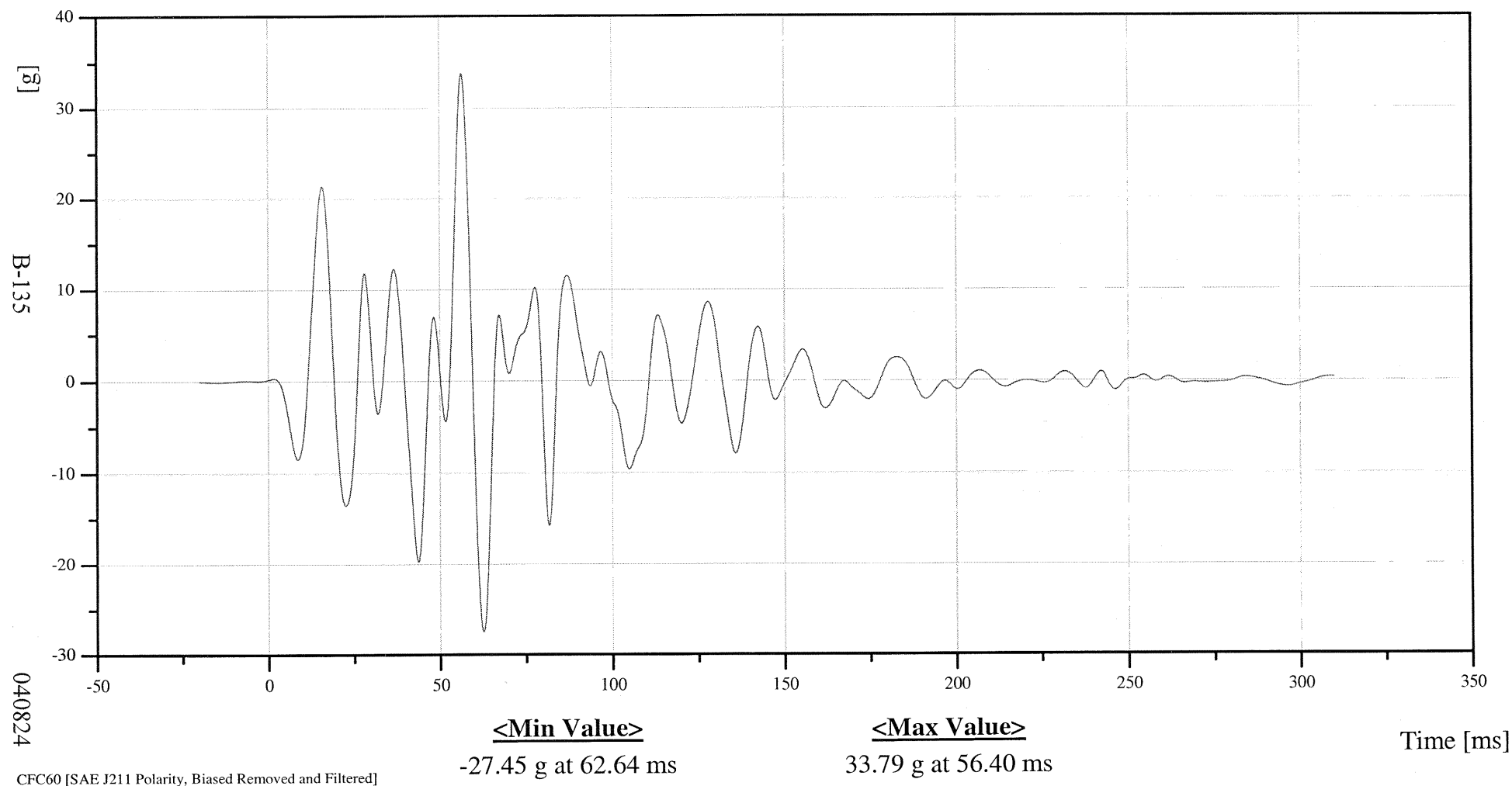
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

VCGYG





Transportation Research Center, Inc.

Vehicle CG Z Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

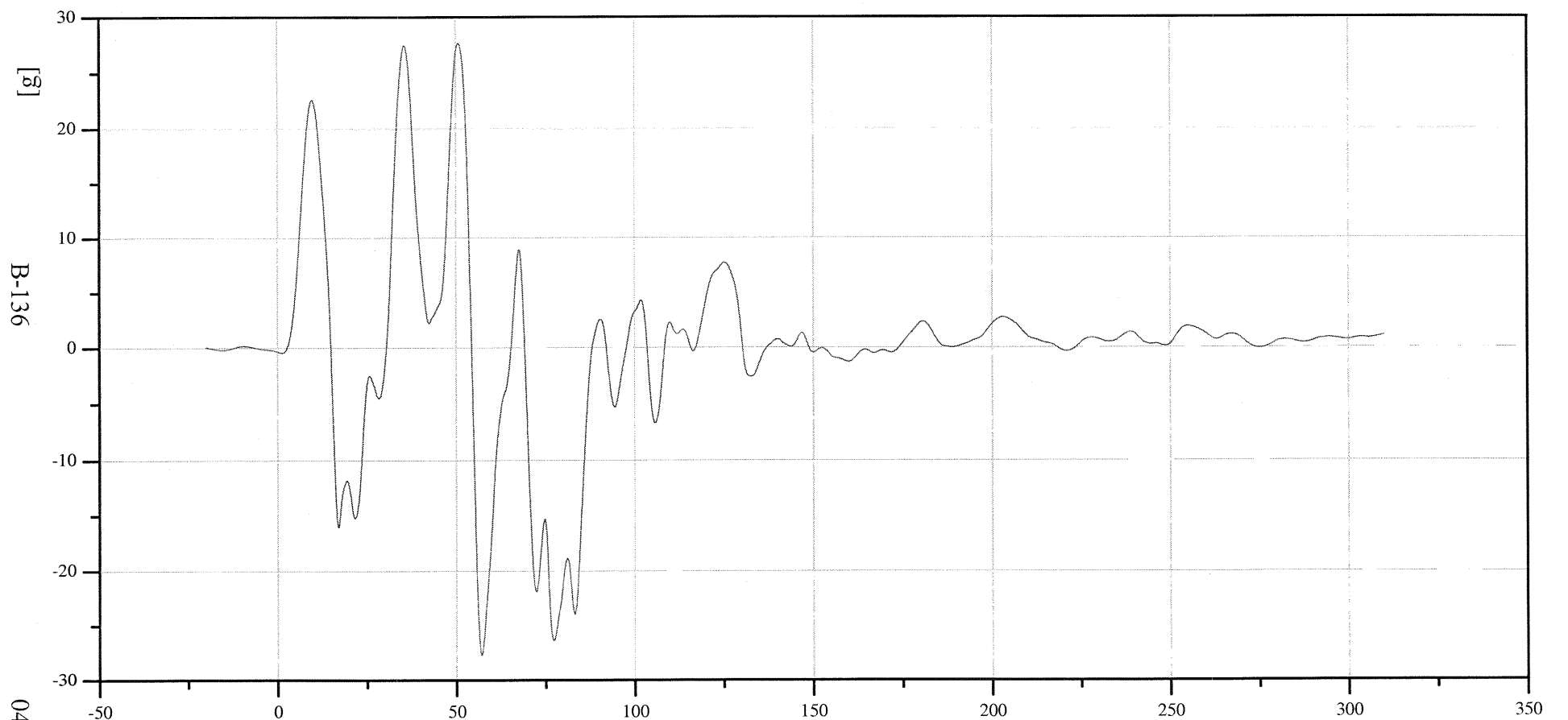
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

VCGZG



<Min Value>

-27.68 g at 57.04 ms

<Max Value>

27.63 g at 50.72 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

VEHICLE CG RESULTANT ACCELERATION

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

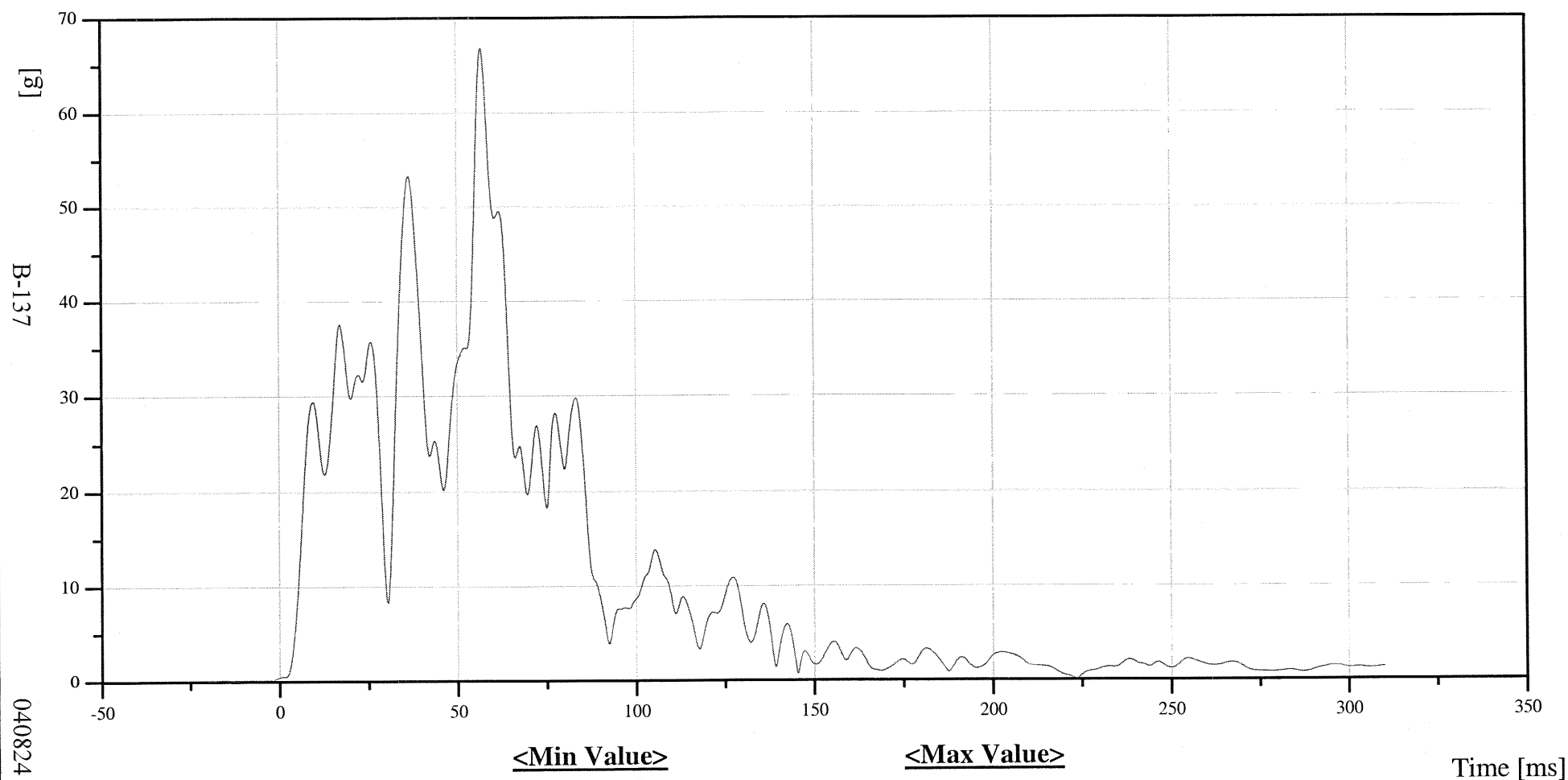
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

VCGRG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Vehicle RR deck X Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

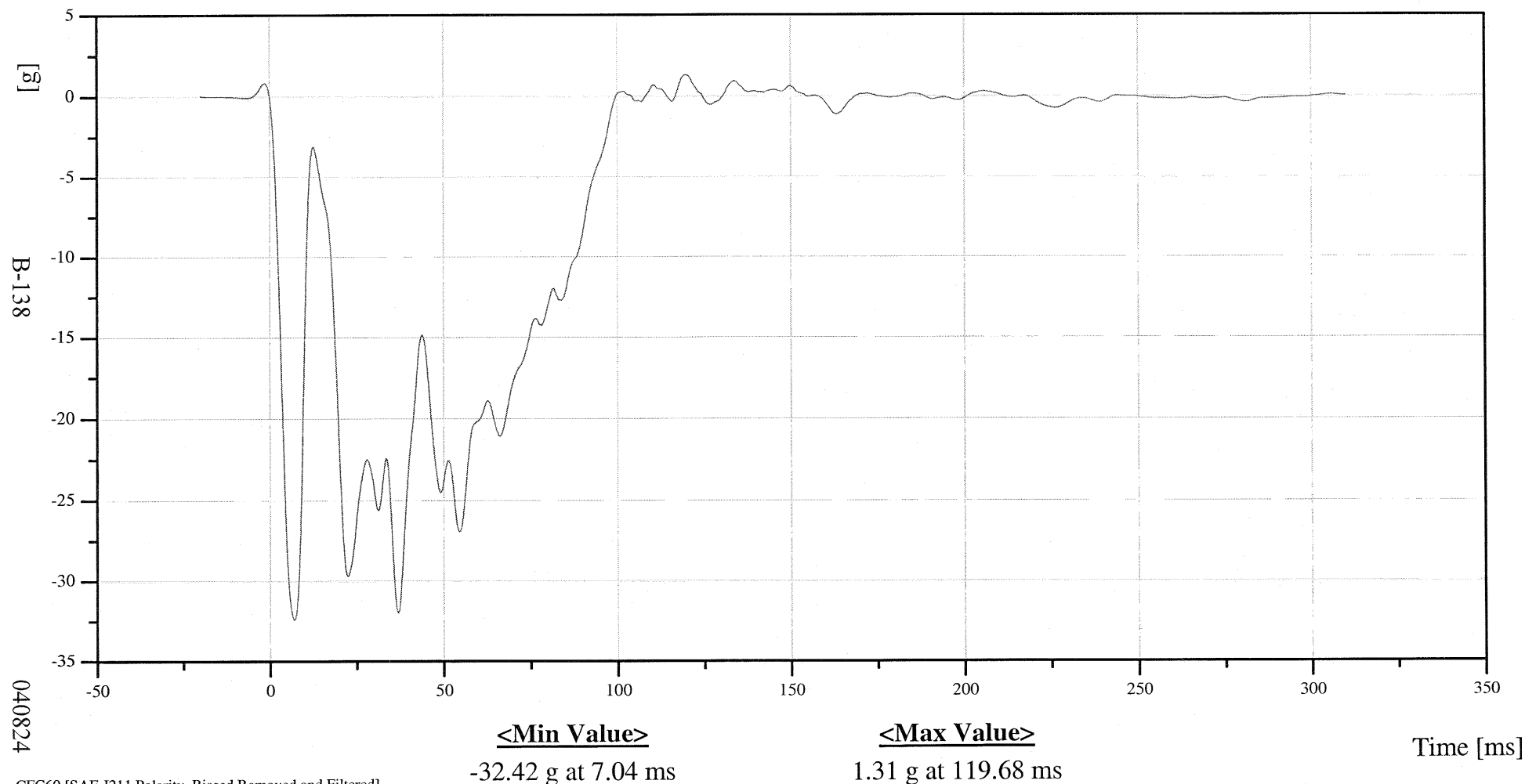
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RDKXG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

Vehicle RR deck Yacc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

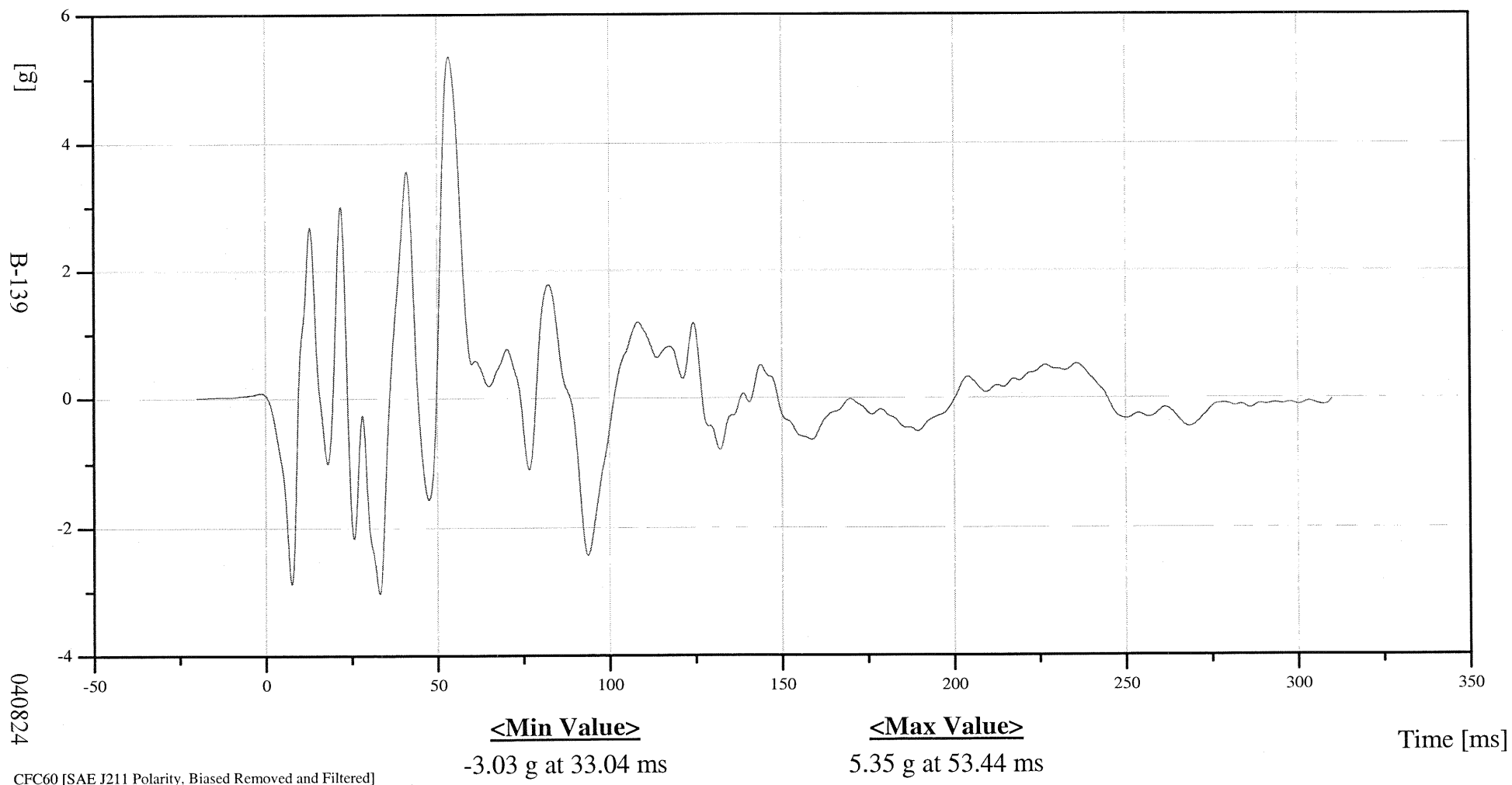
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RDKYG





Transportation Research Center, Inc.

Vehicle RR deck Z Acc

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

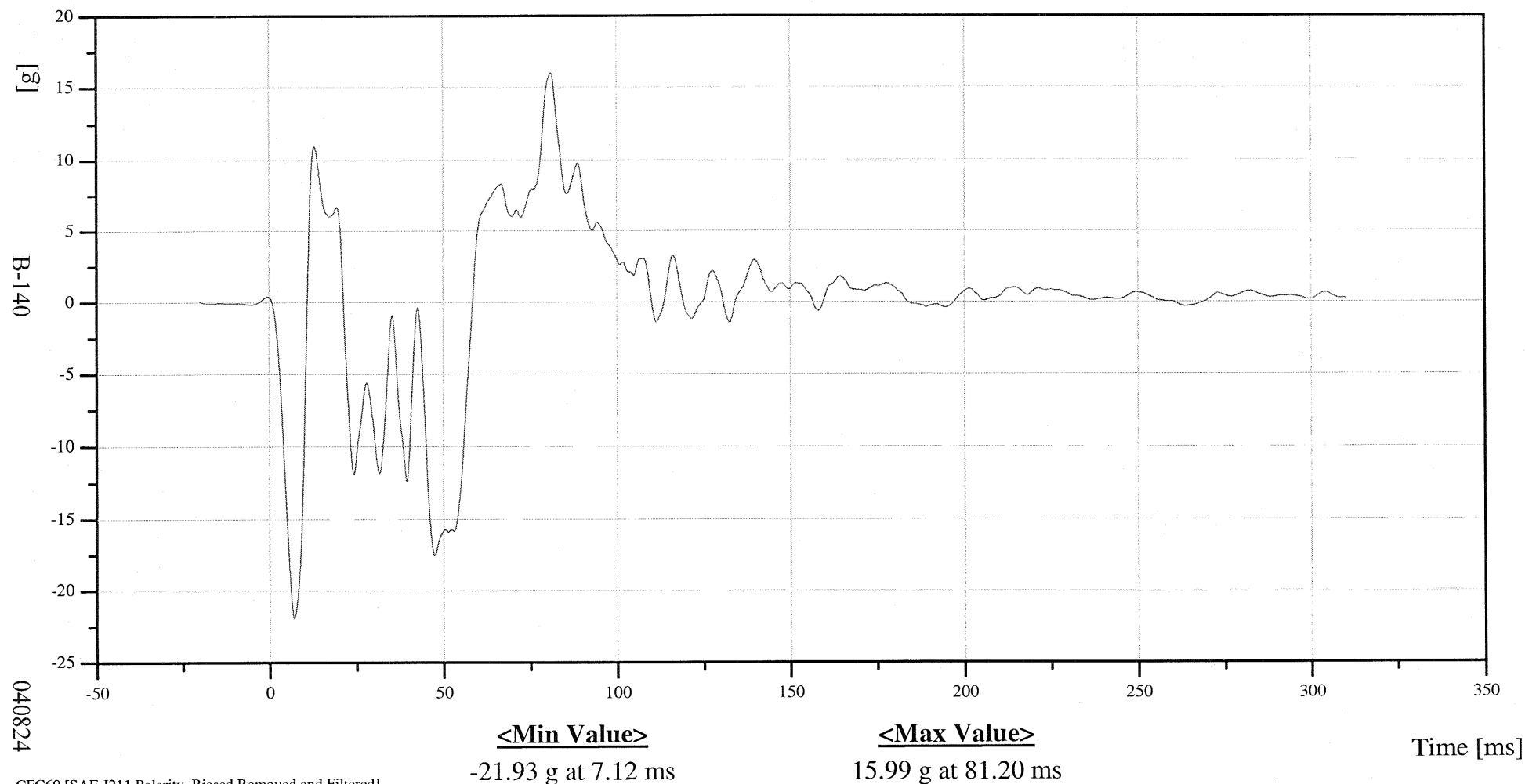
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RDKZG



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

RR DECK RESULTANT ACCELERATION

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

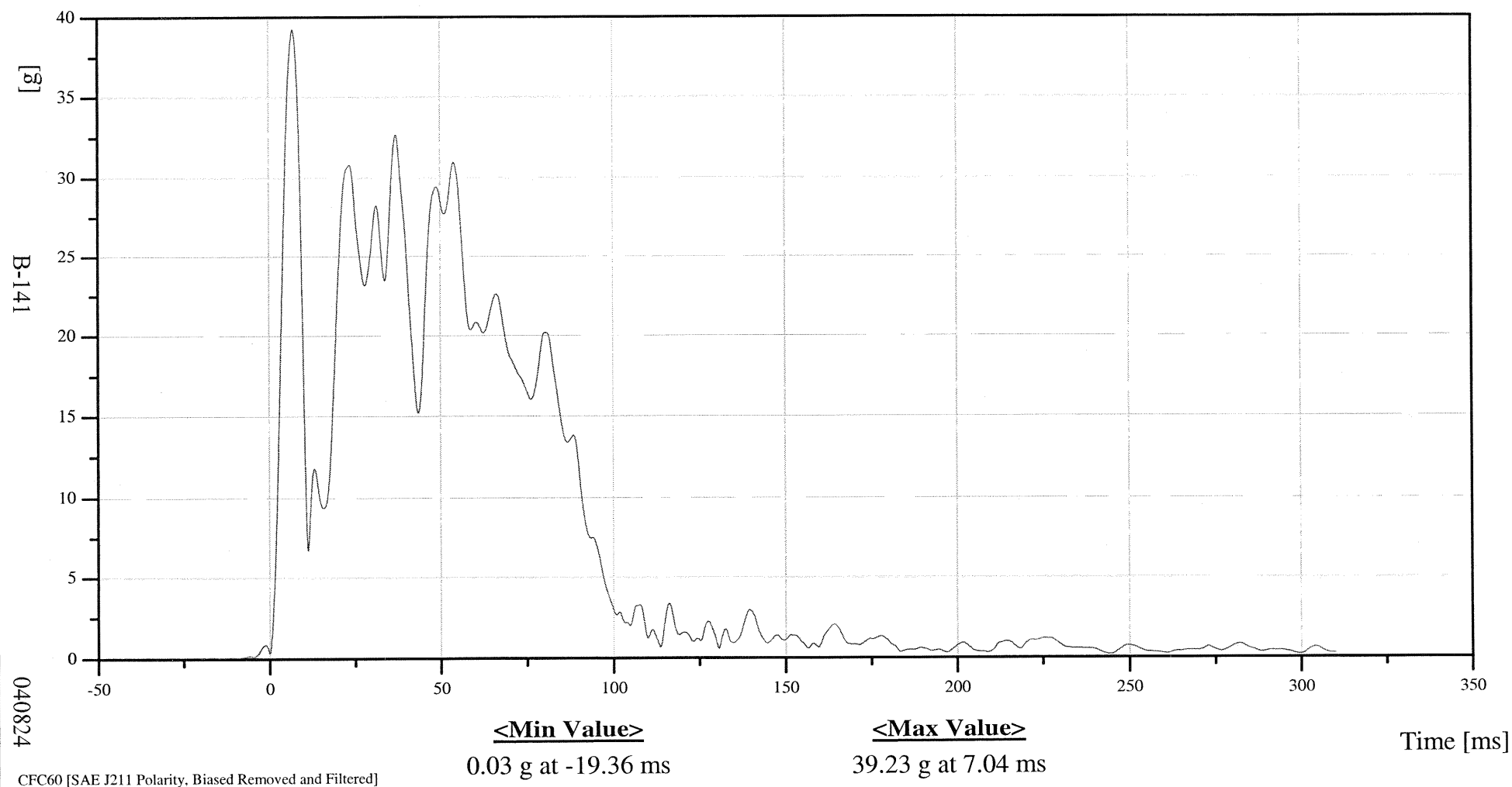
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

RDKRG





Transportation Research Center, Inc.

RT RR PASS. SHLDR BELT FORCE

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

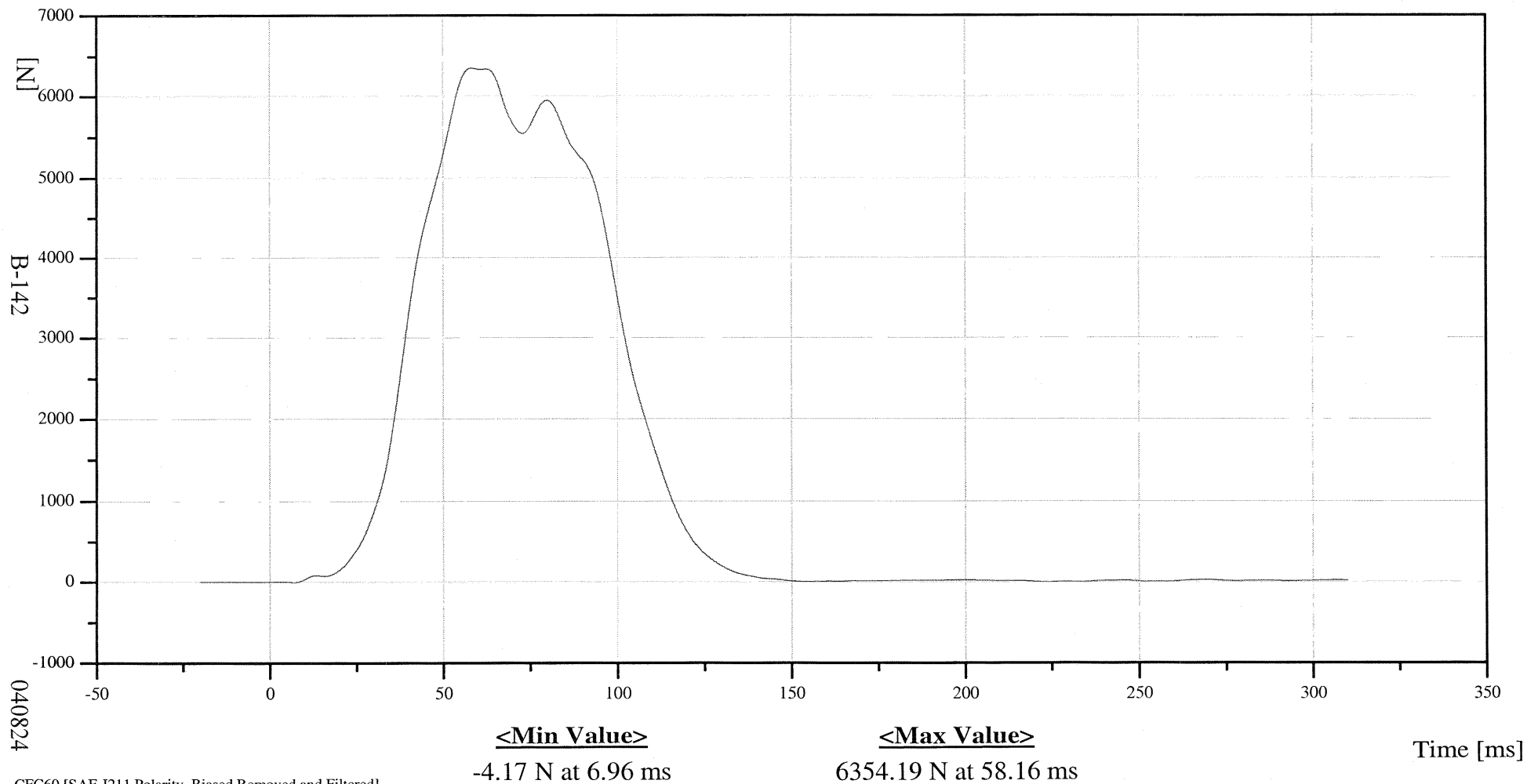
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

SHBF3



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

RT RR PASS. LAP BELT FORCE

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

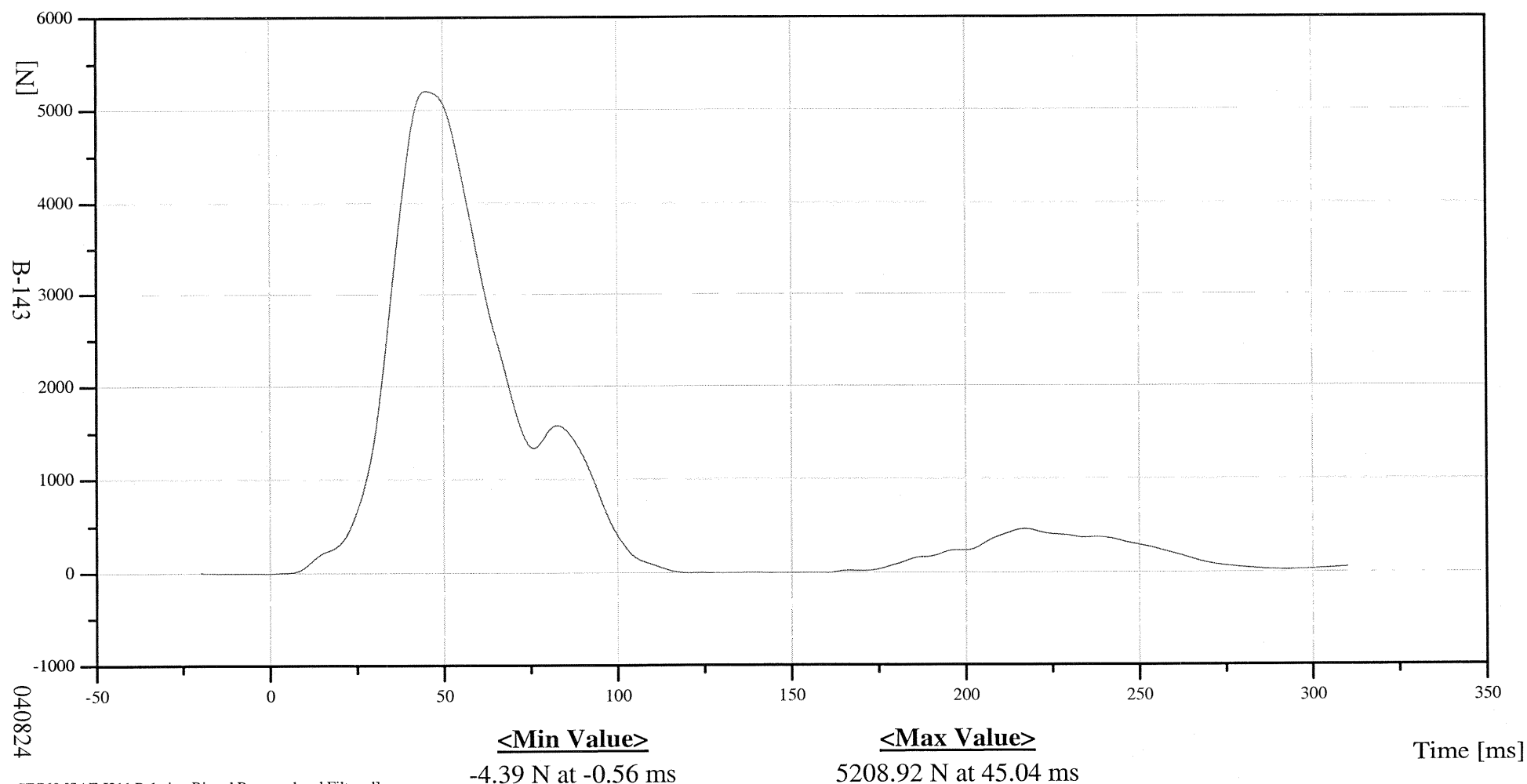
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LBOF3



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

DRIVER AIRBAG EVENT- WIRE A

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

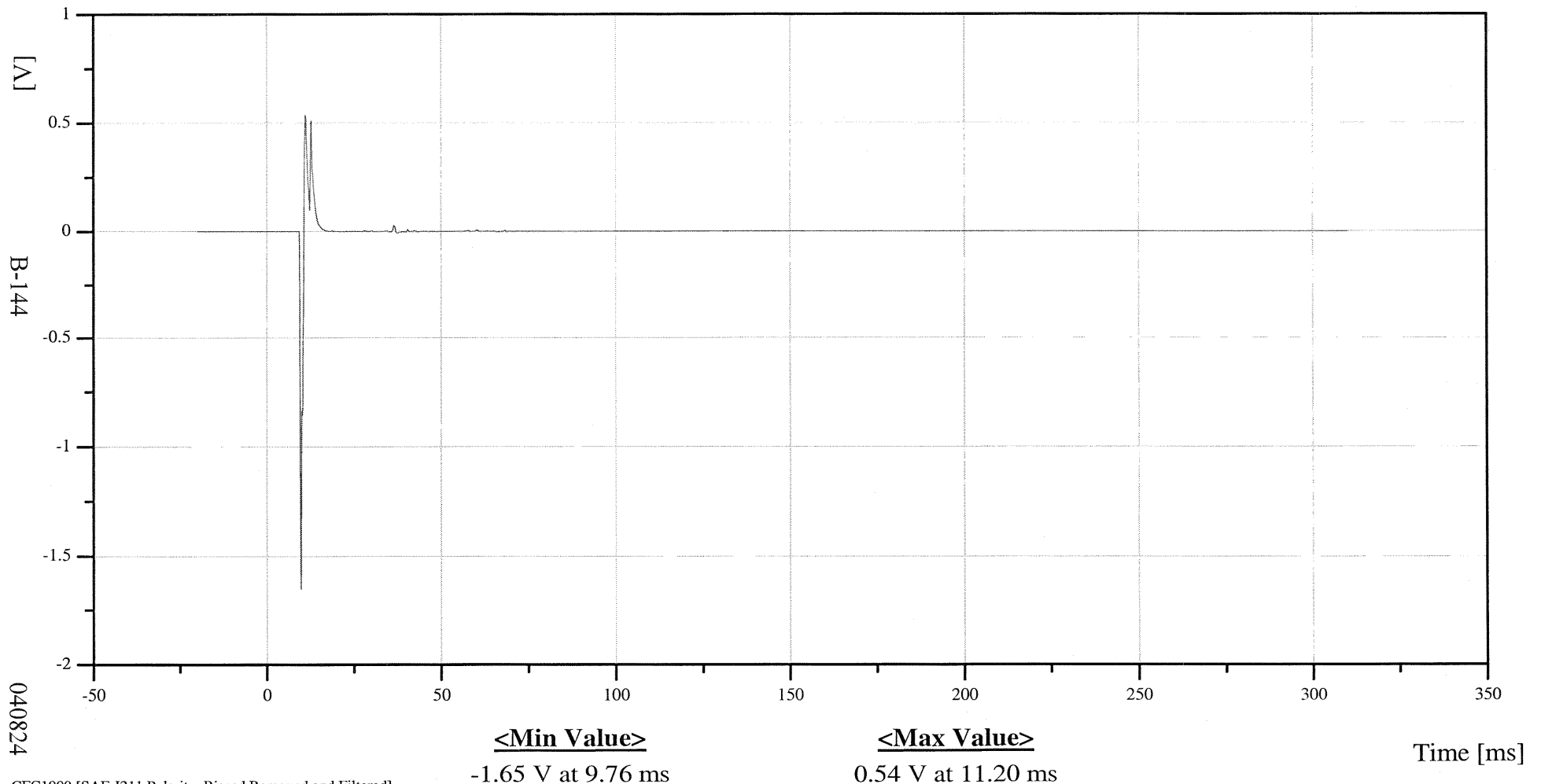
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

DABETA





Transportation Research Center, Inc.

DRIVER AIRBAG EVENT- WIRE B

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

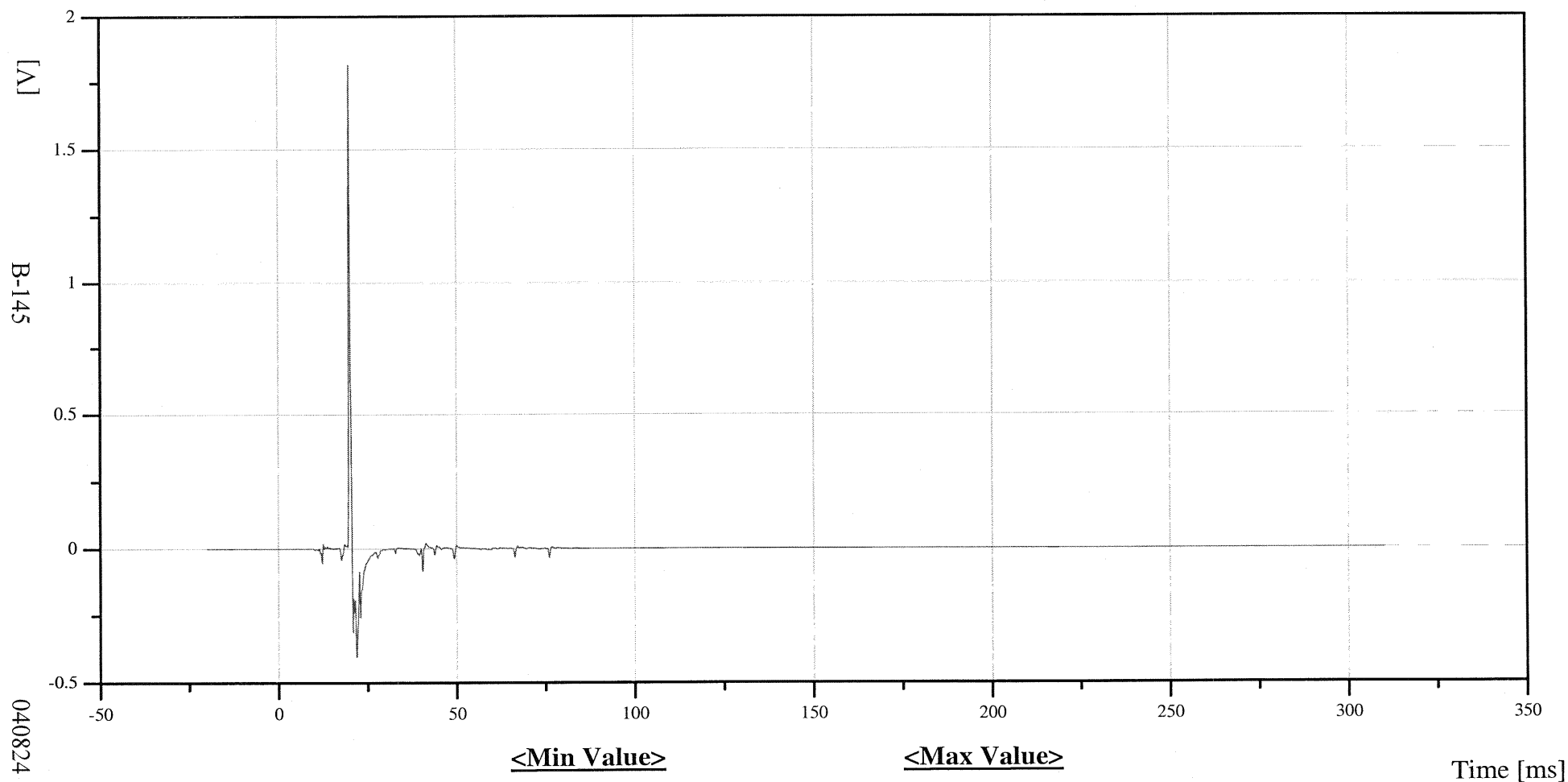
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

DABETB



CFC1000 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

PASSENGER AIRBAG EVENT - WIRE A

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

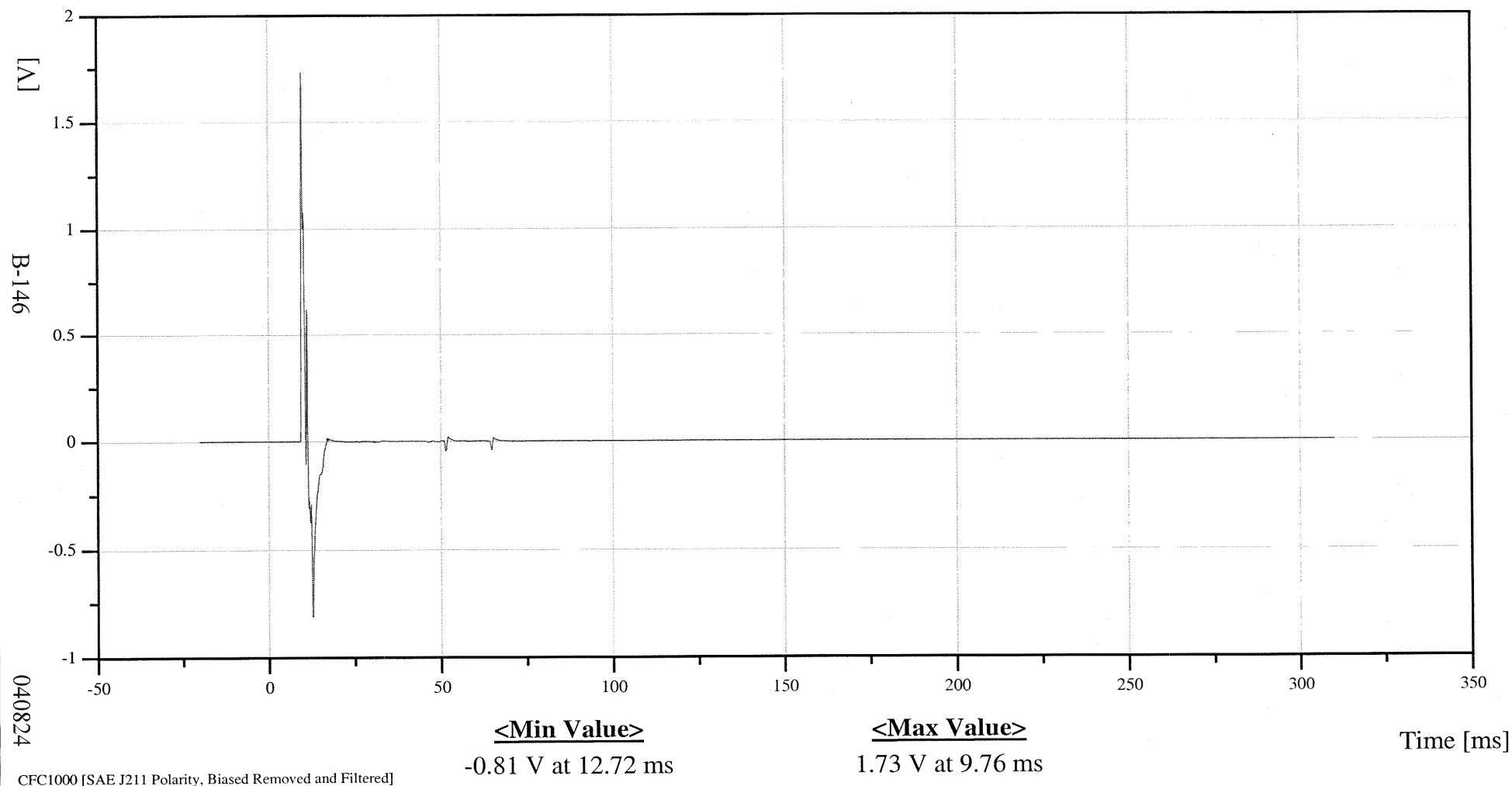
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PABETA





Transportation Research Center, Inc.

PASSENGER AIRBAG EVENT - WIRE B

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

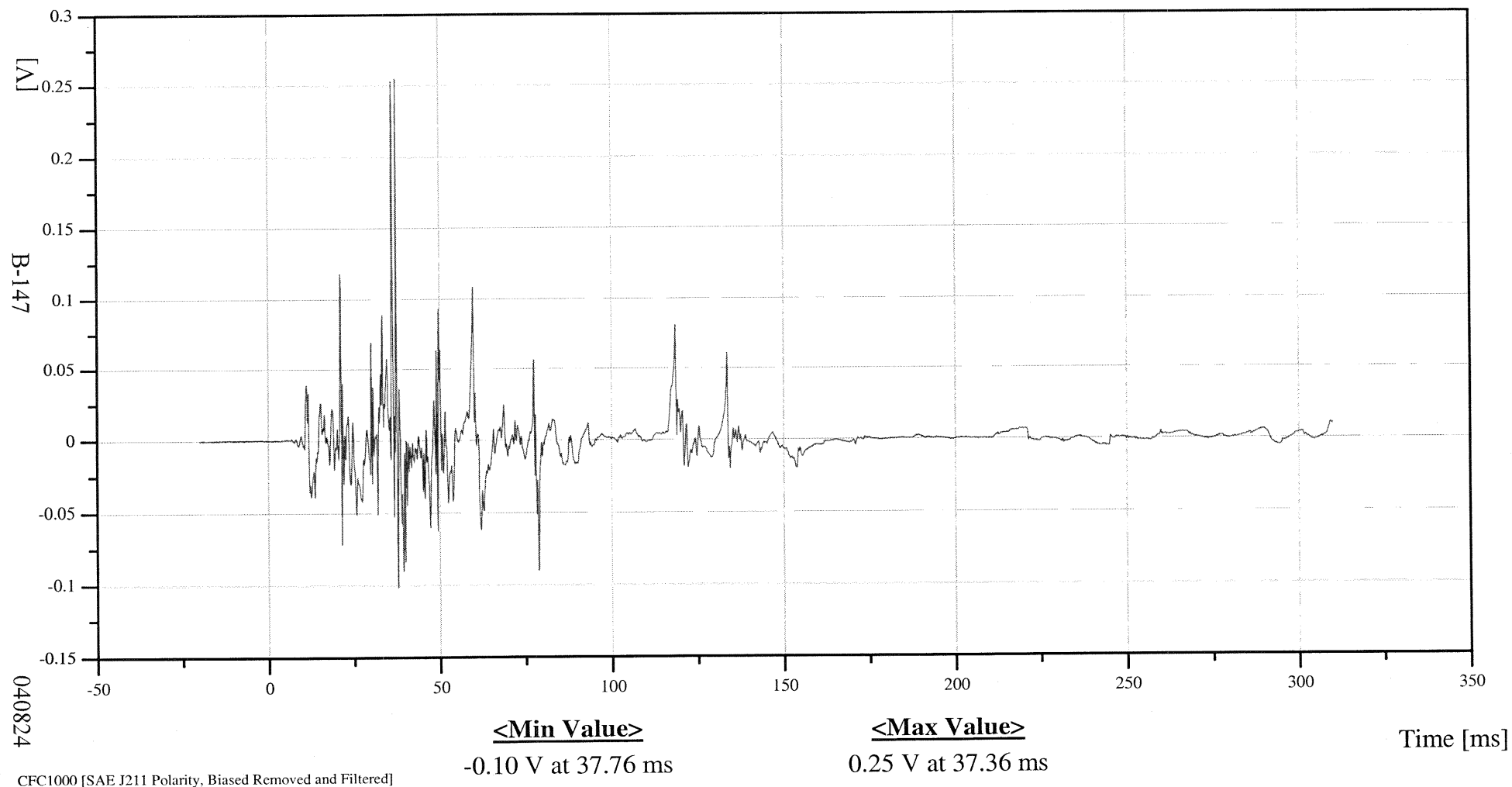
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

PABETB





Transportation Research Center, Inc.

ROW 1 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

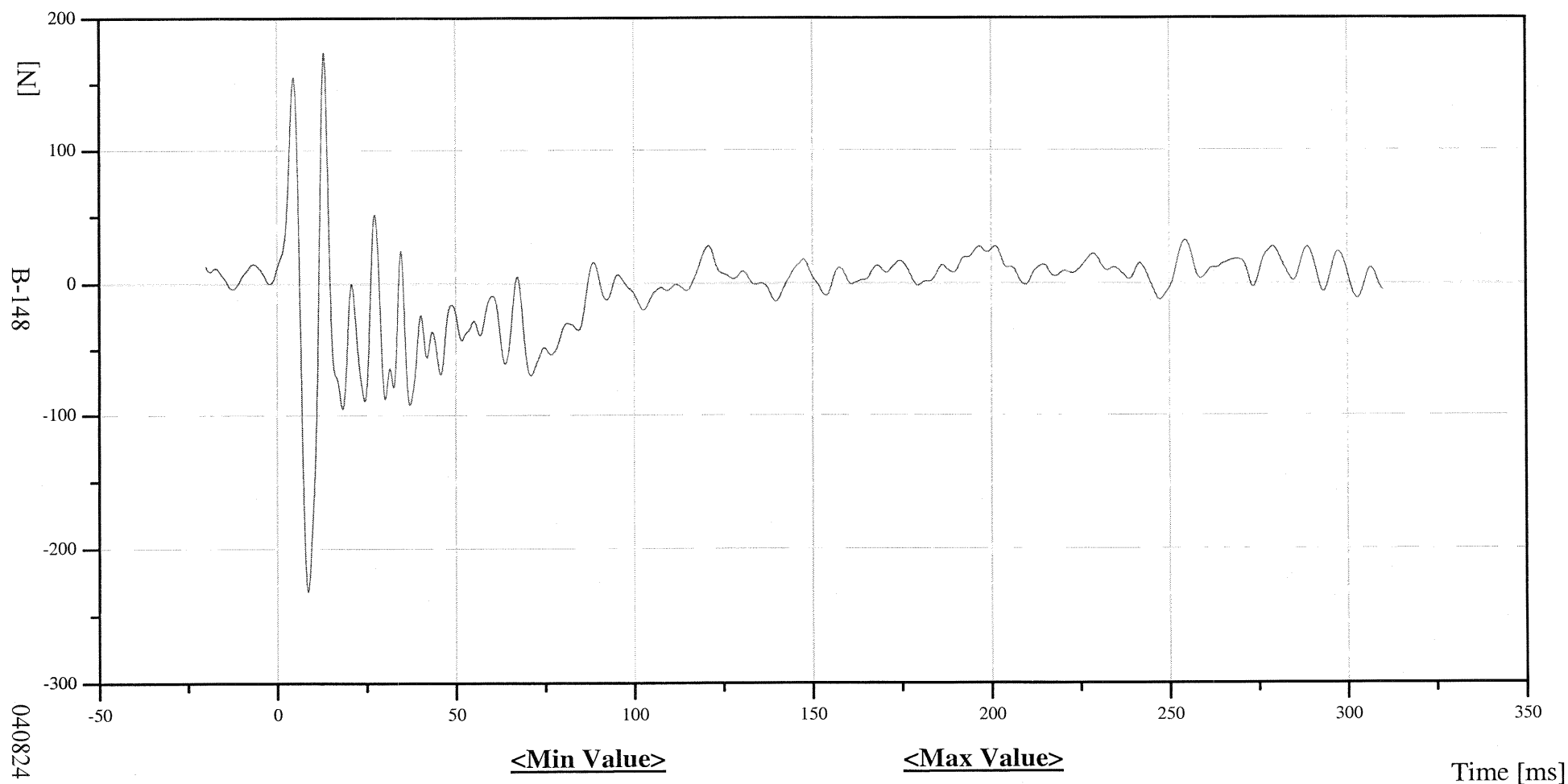
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0101



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 2

Date: 08/24/2004
Time: 12:21:31

Test Lab: CTF

Customer: VRTC

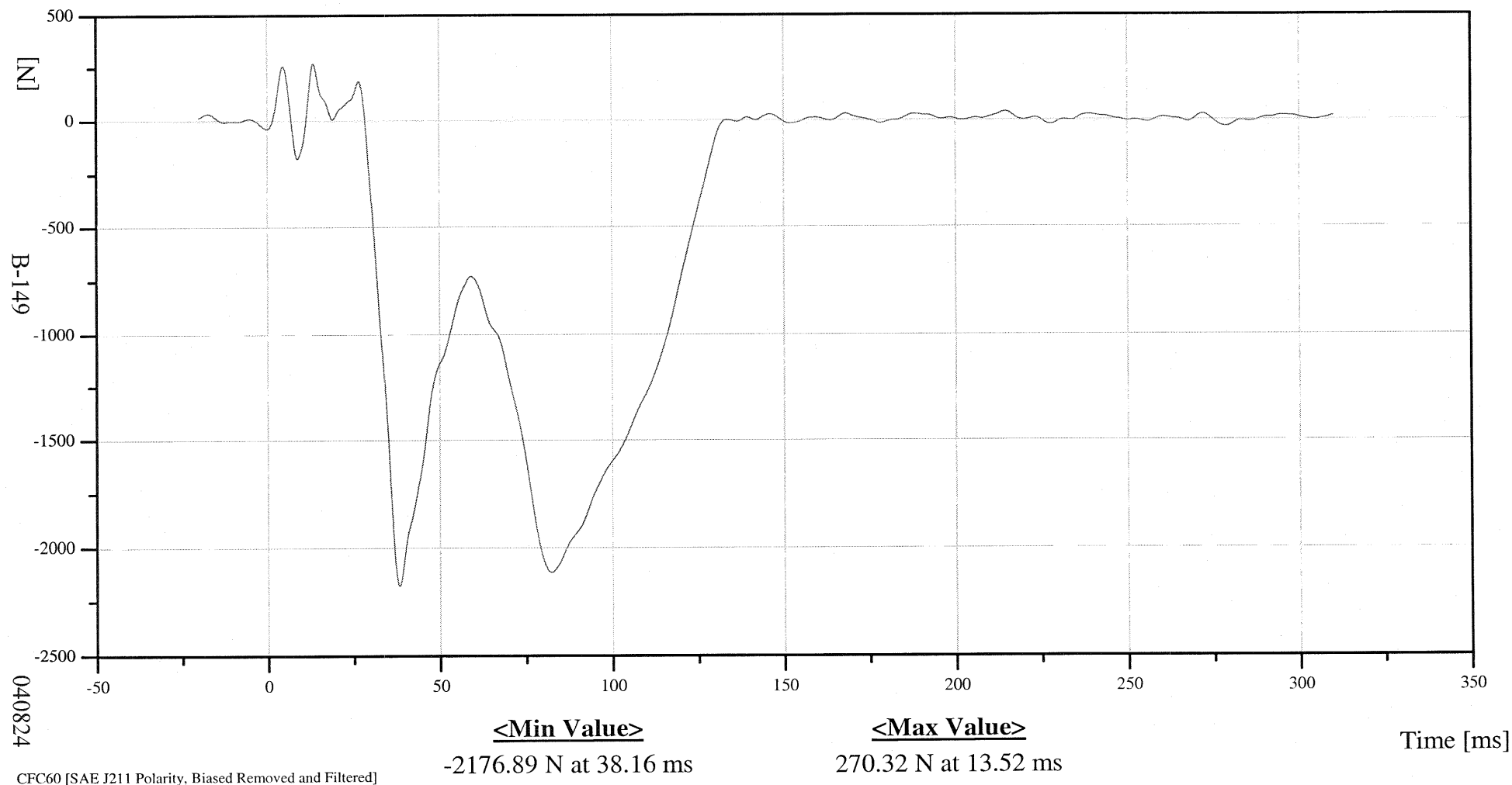
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0102





Transportation Research Center, Inc.

ROW 1 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

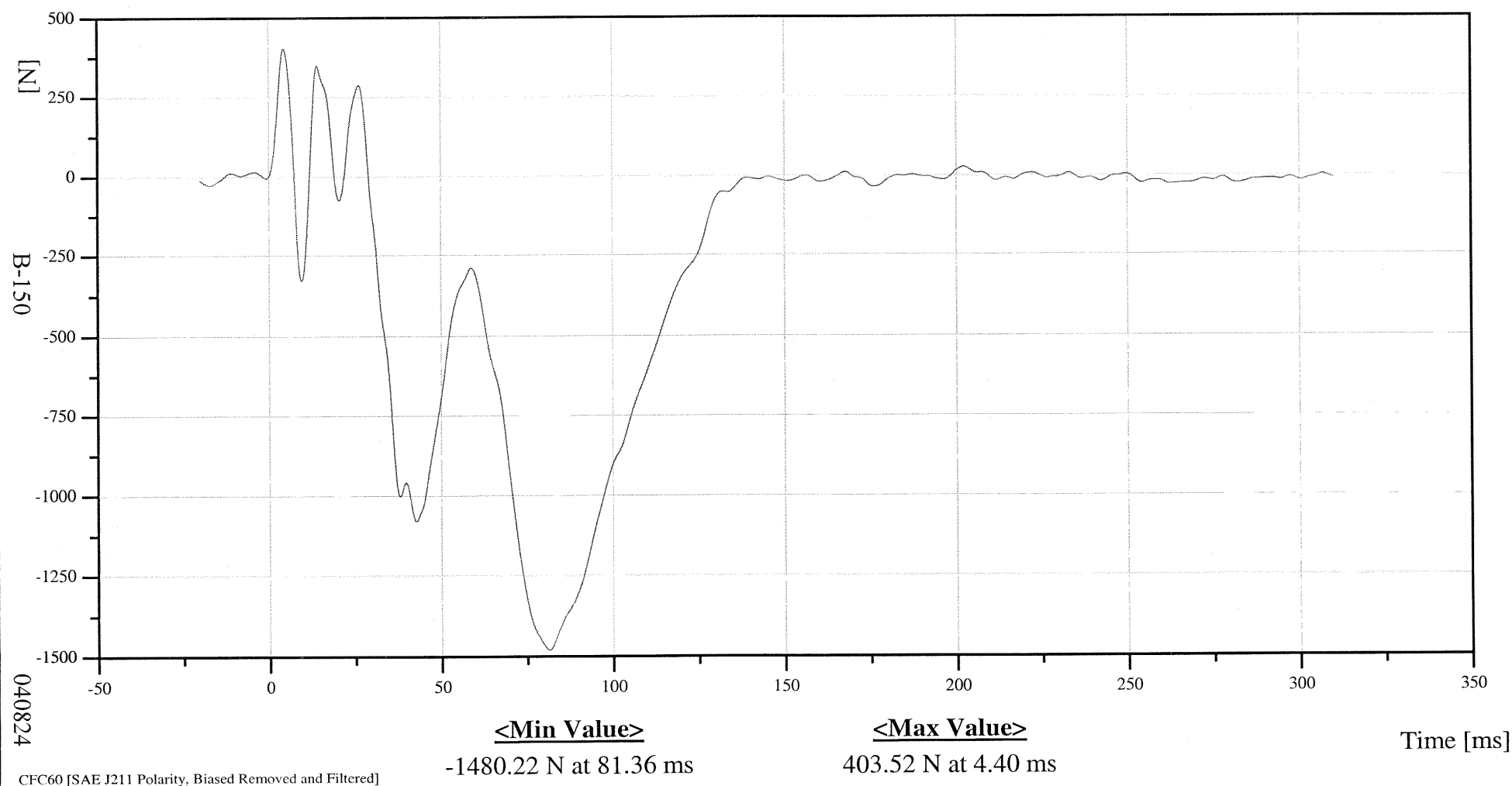
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0103





Transportation Research Center, Inc.

ROW 1 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

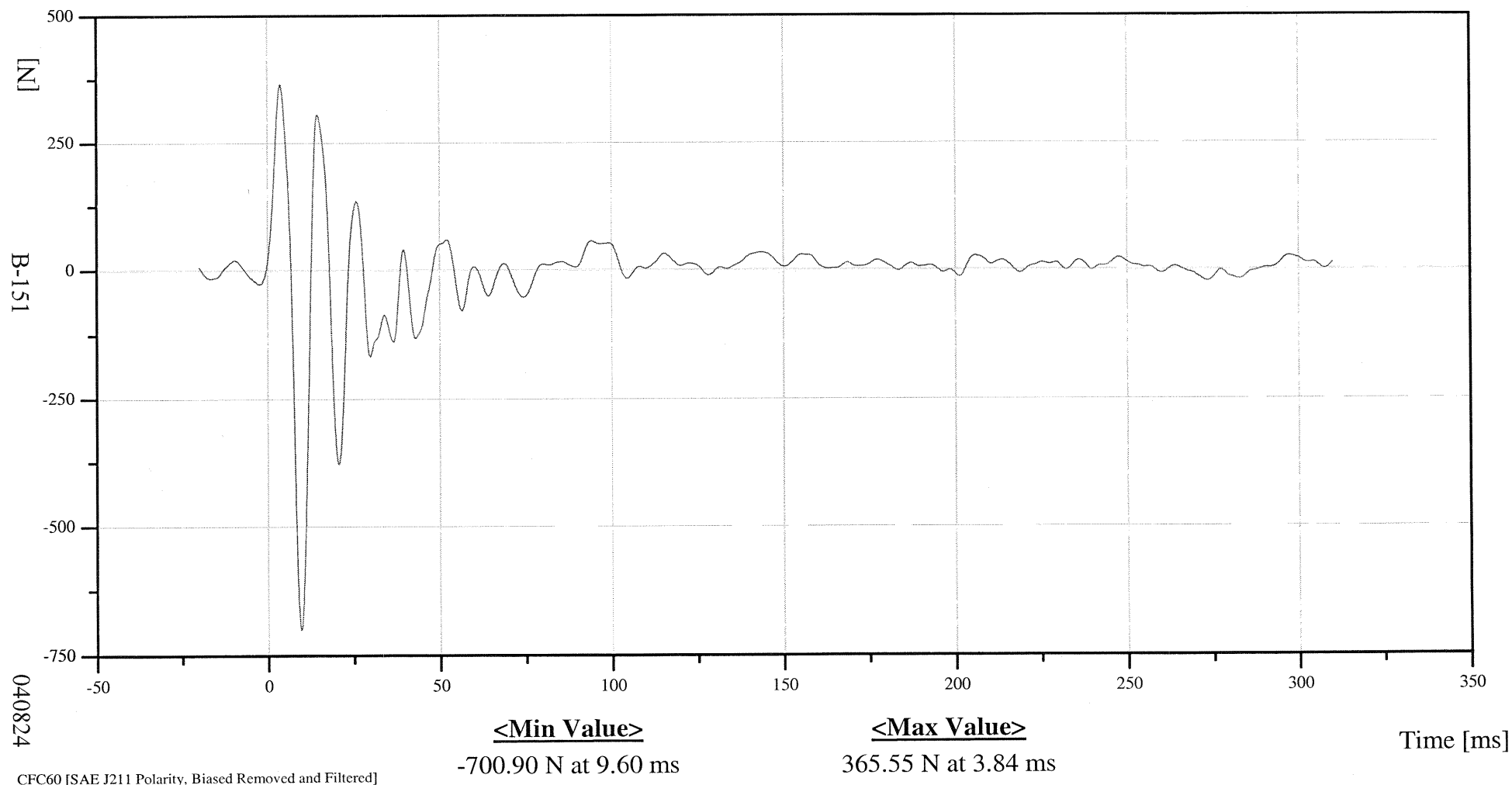
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0104





Transportation Research Center, Inc.

ROW 1 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

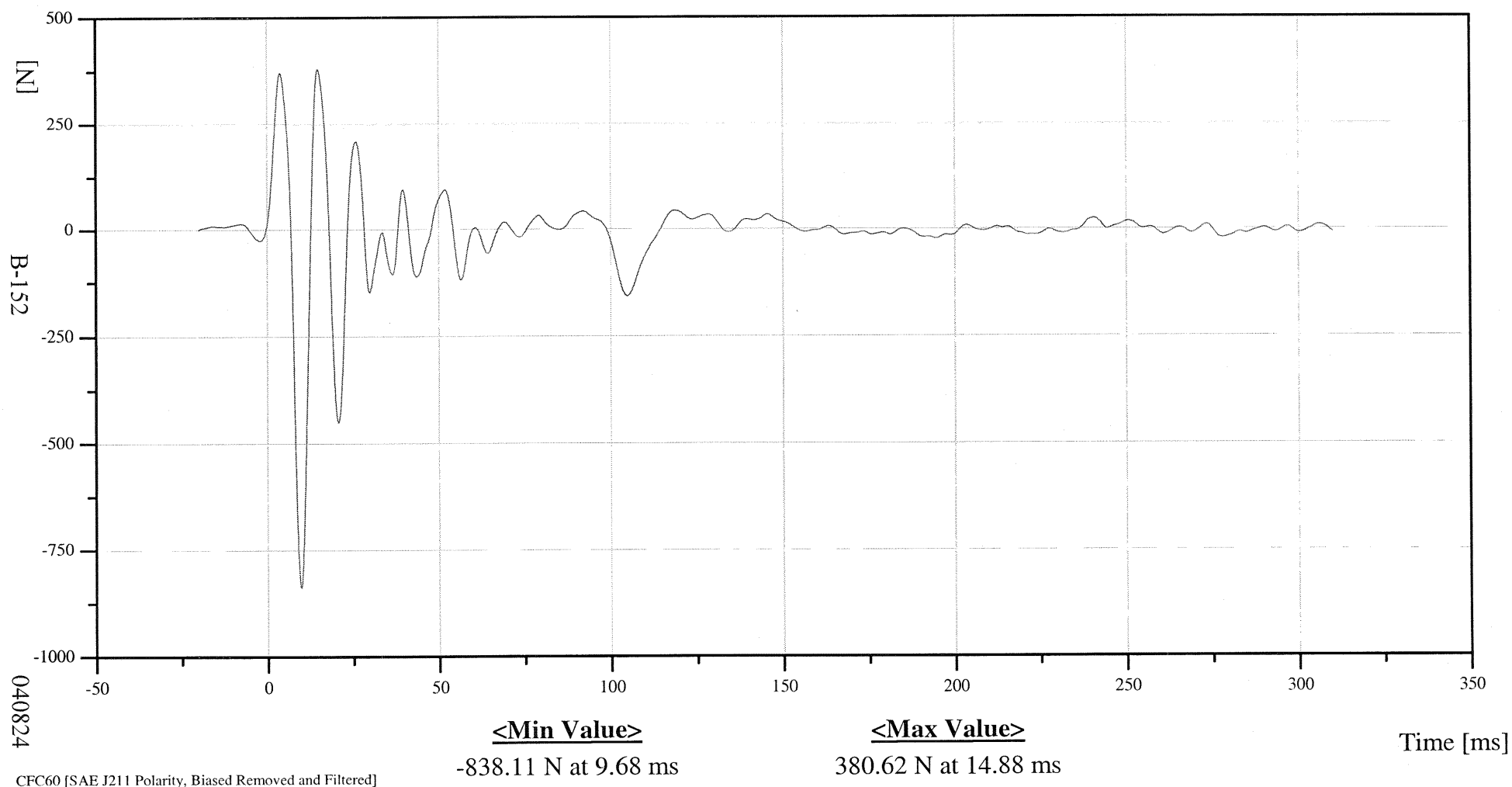
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0105





Transportation Research Center, Inc.

ROW 1 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

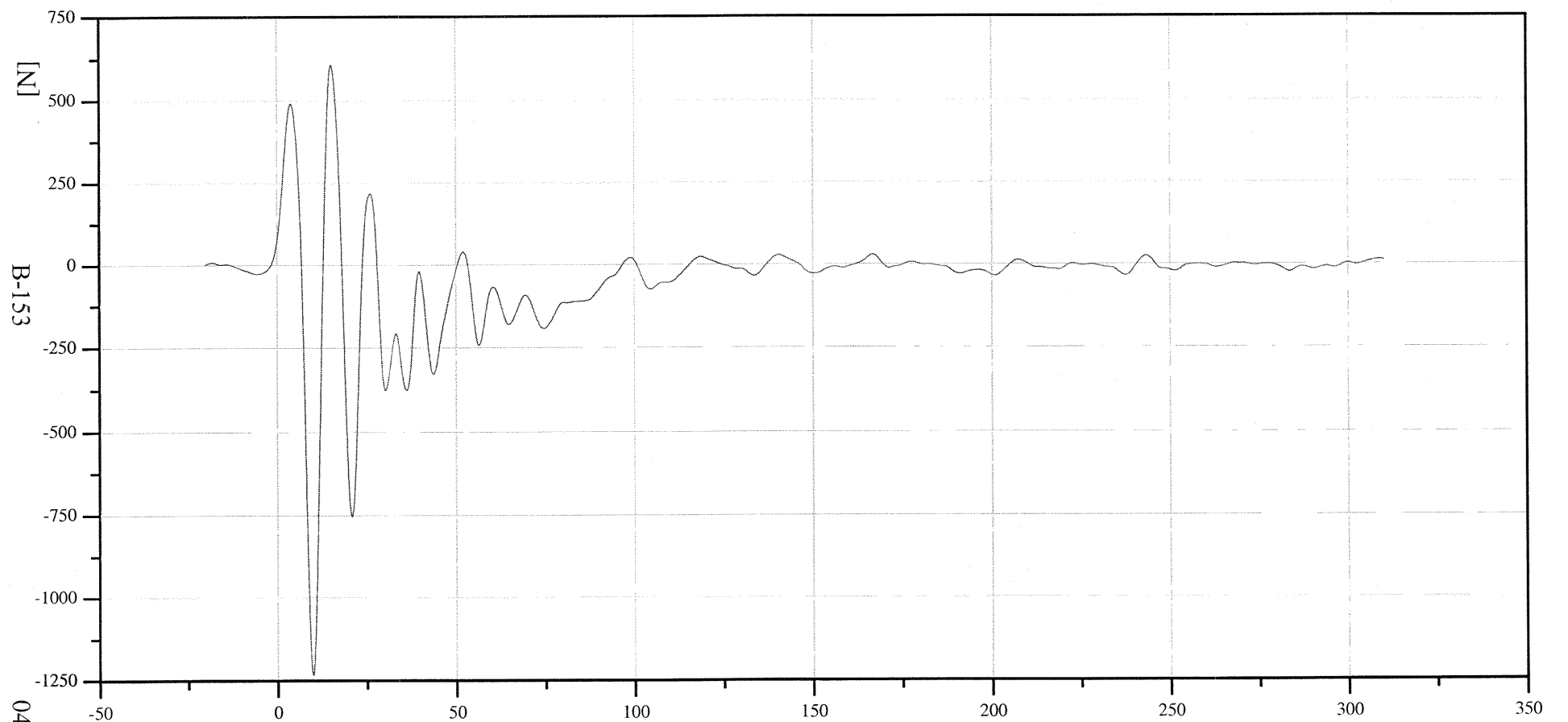
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0106



<Min Value>

-1234.38 N at 9.92 ms

<Max Value>

608.26 N at 15.20 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

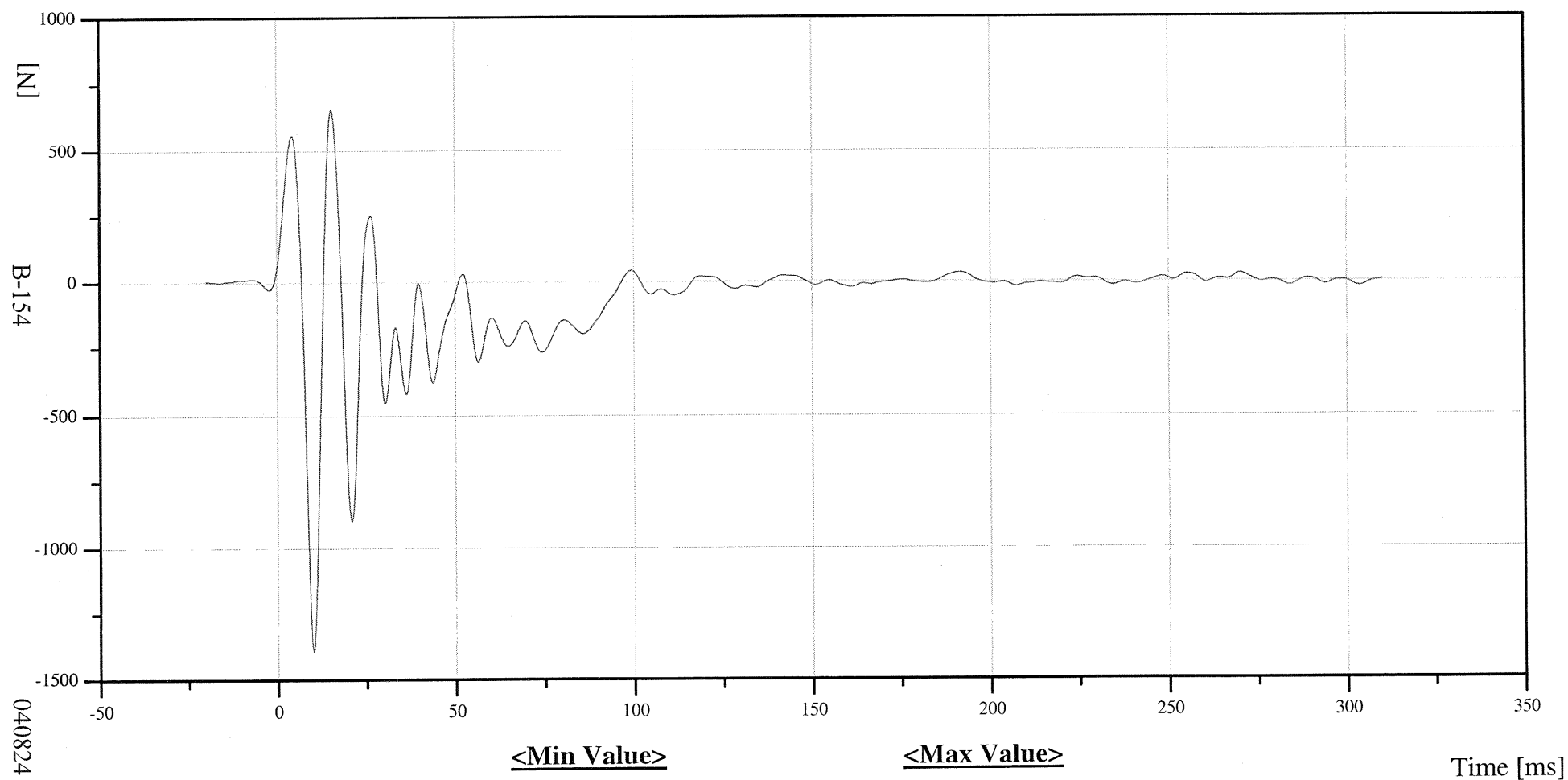
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0107



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

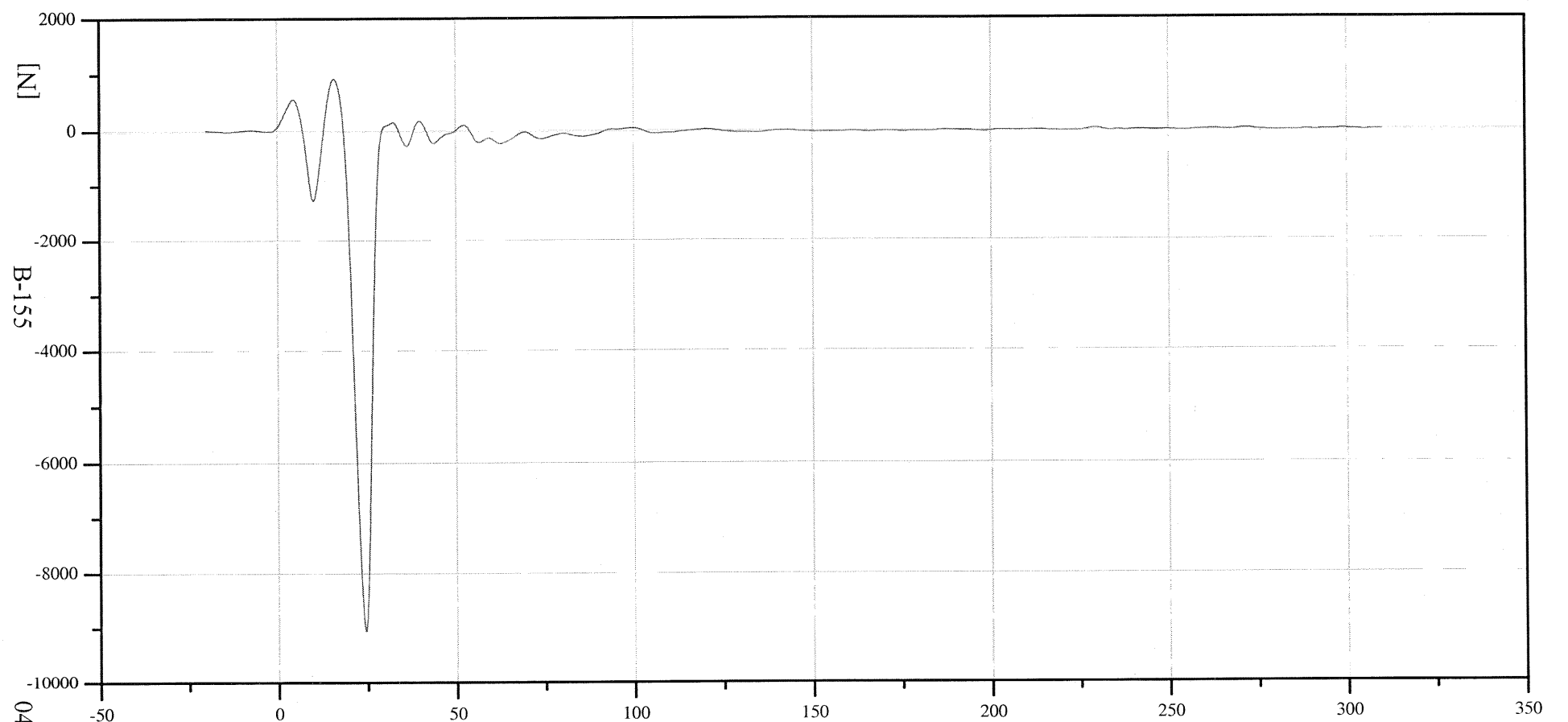
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0108



<Min Value>

-9049.25 N at 24.40 ms

<Max Value>

924.12 N at 15.92 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

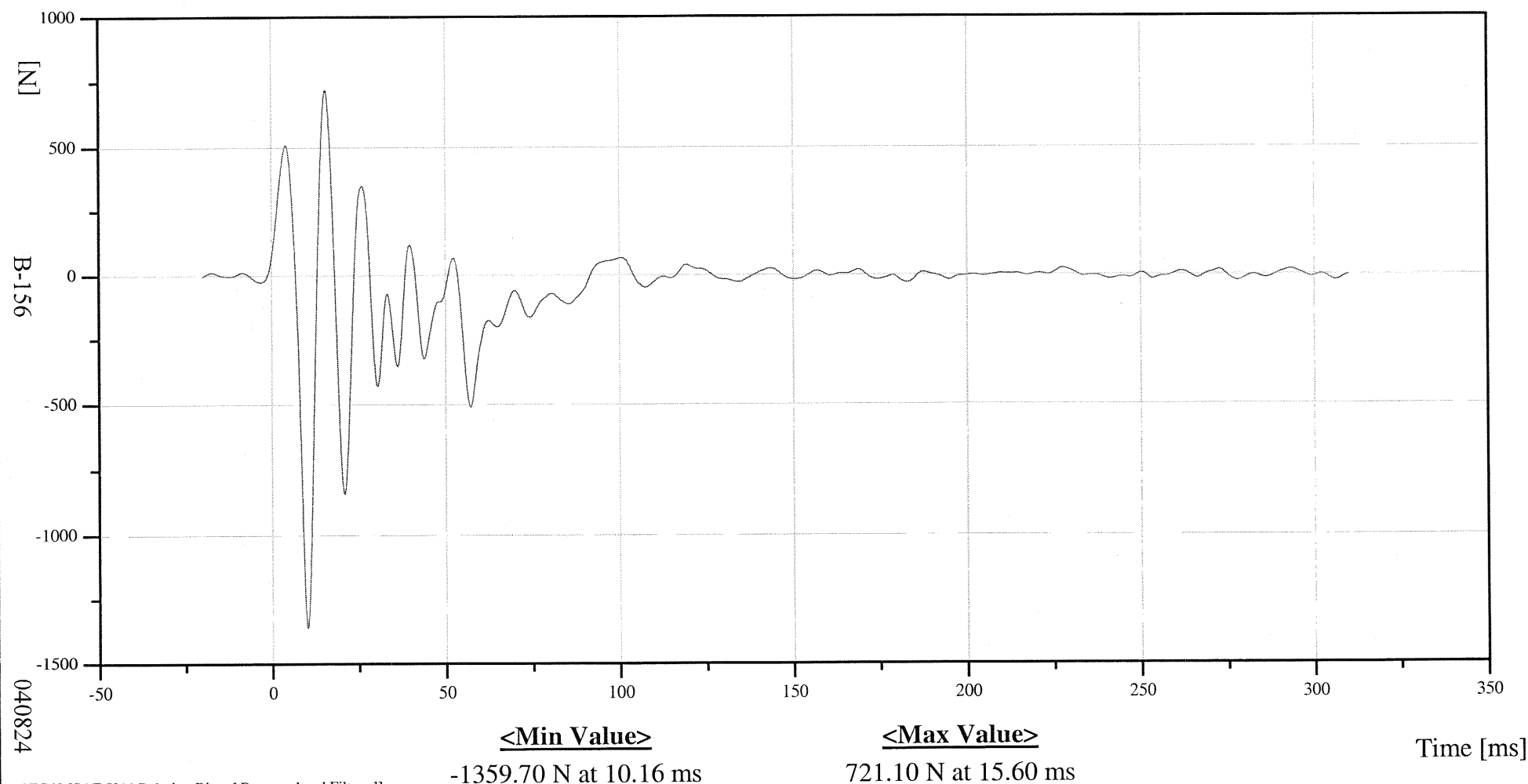
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0109





Transportation Research Center, Inc.

ROW 1 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

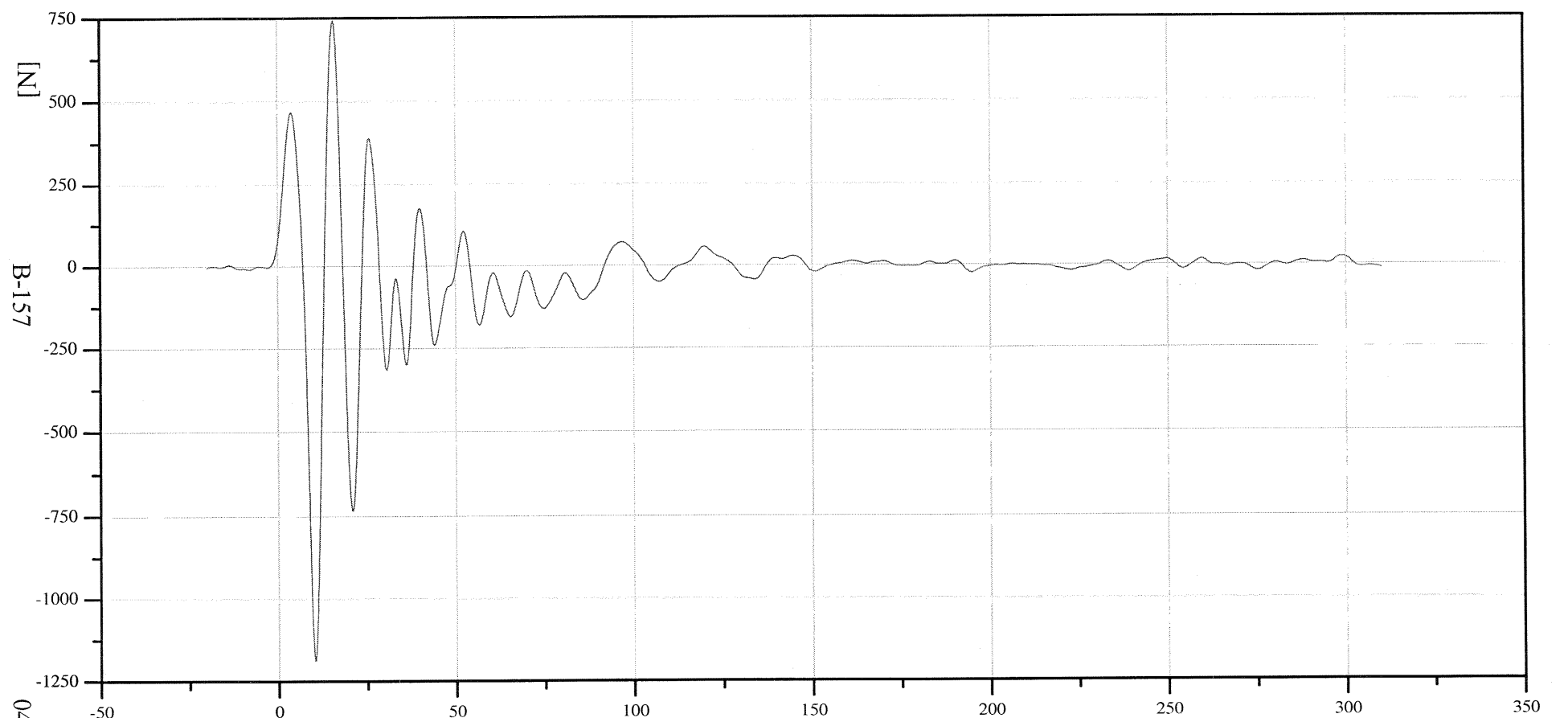
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0110



<Min Value>

-1187.15 N at 10.24 ms

<Max Value>

741.11 N at 15.76 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

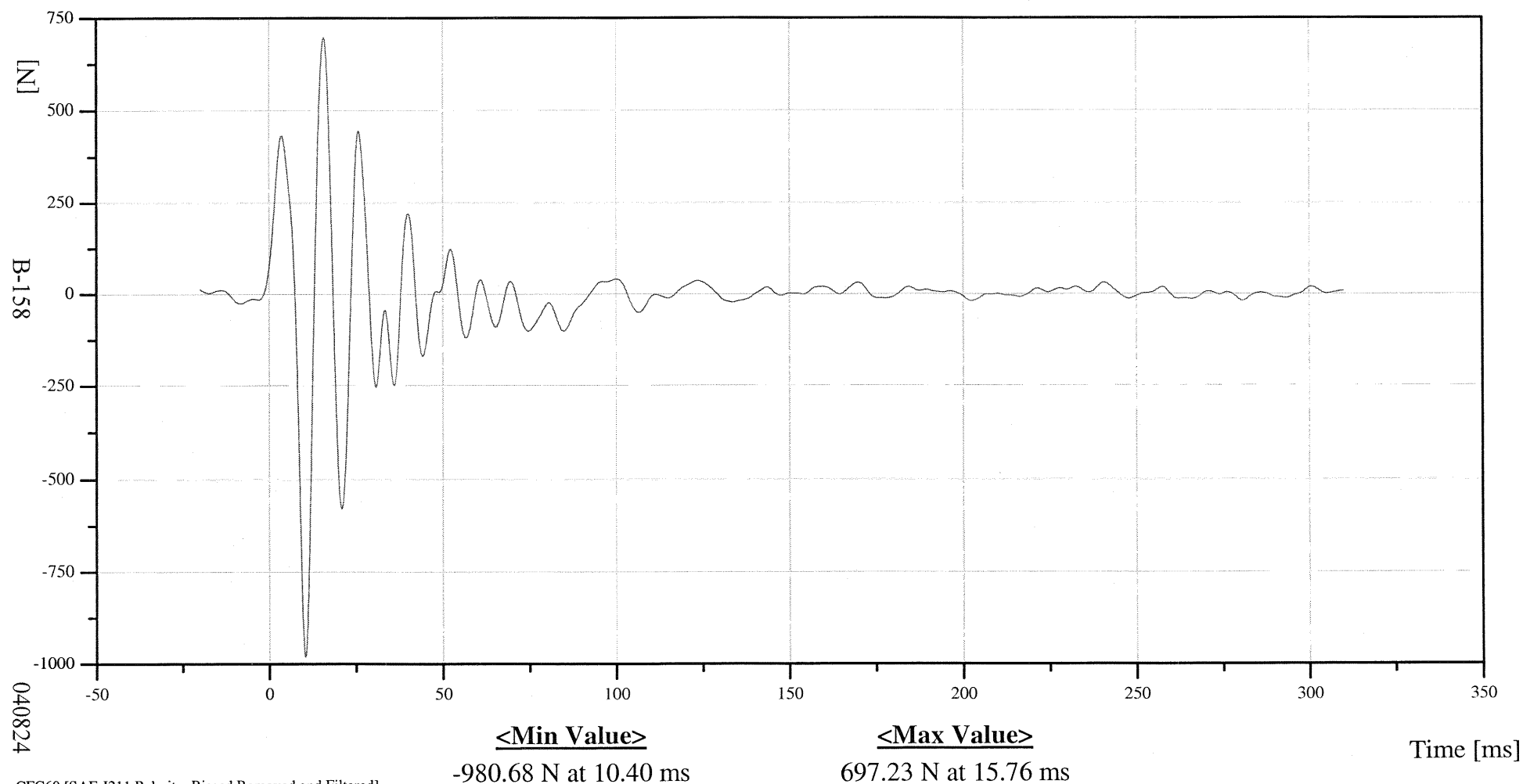
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0111





Transportation Research Center, Inc.

ROW 1 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

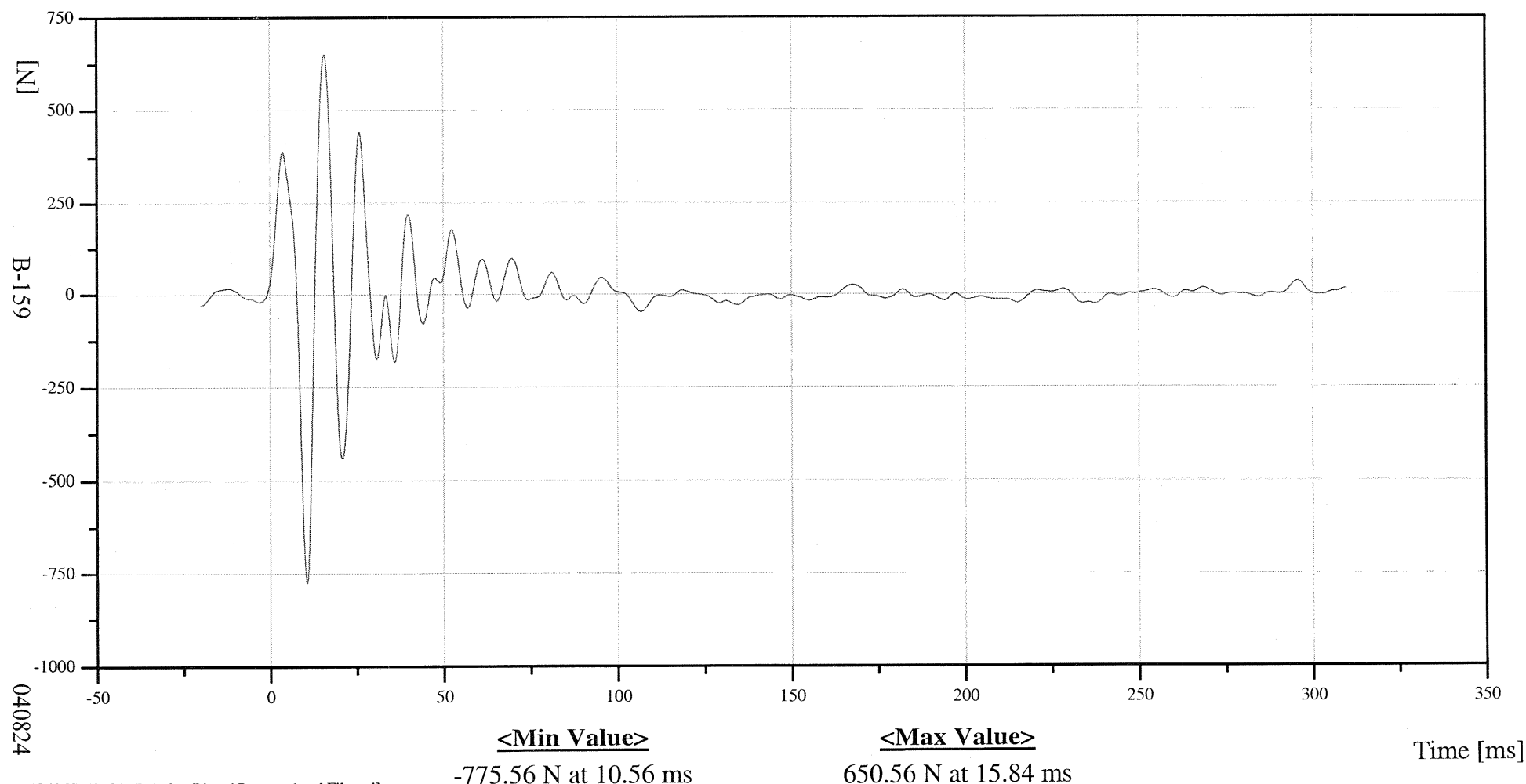
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0112



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

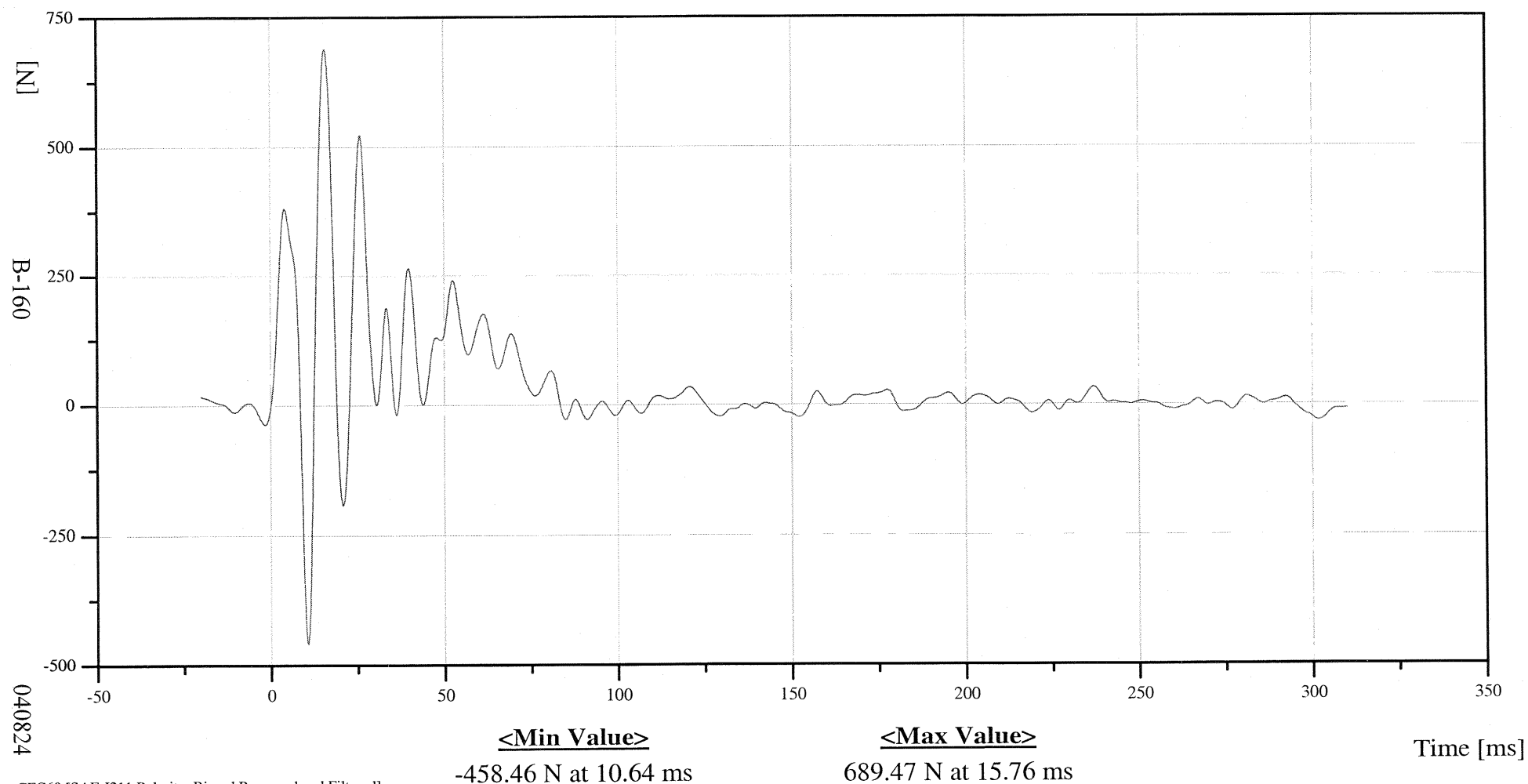
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0113





Transportation Research Center, Inc.

ROW 1 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

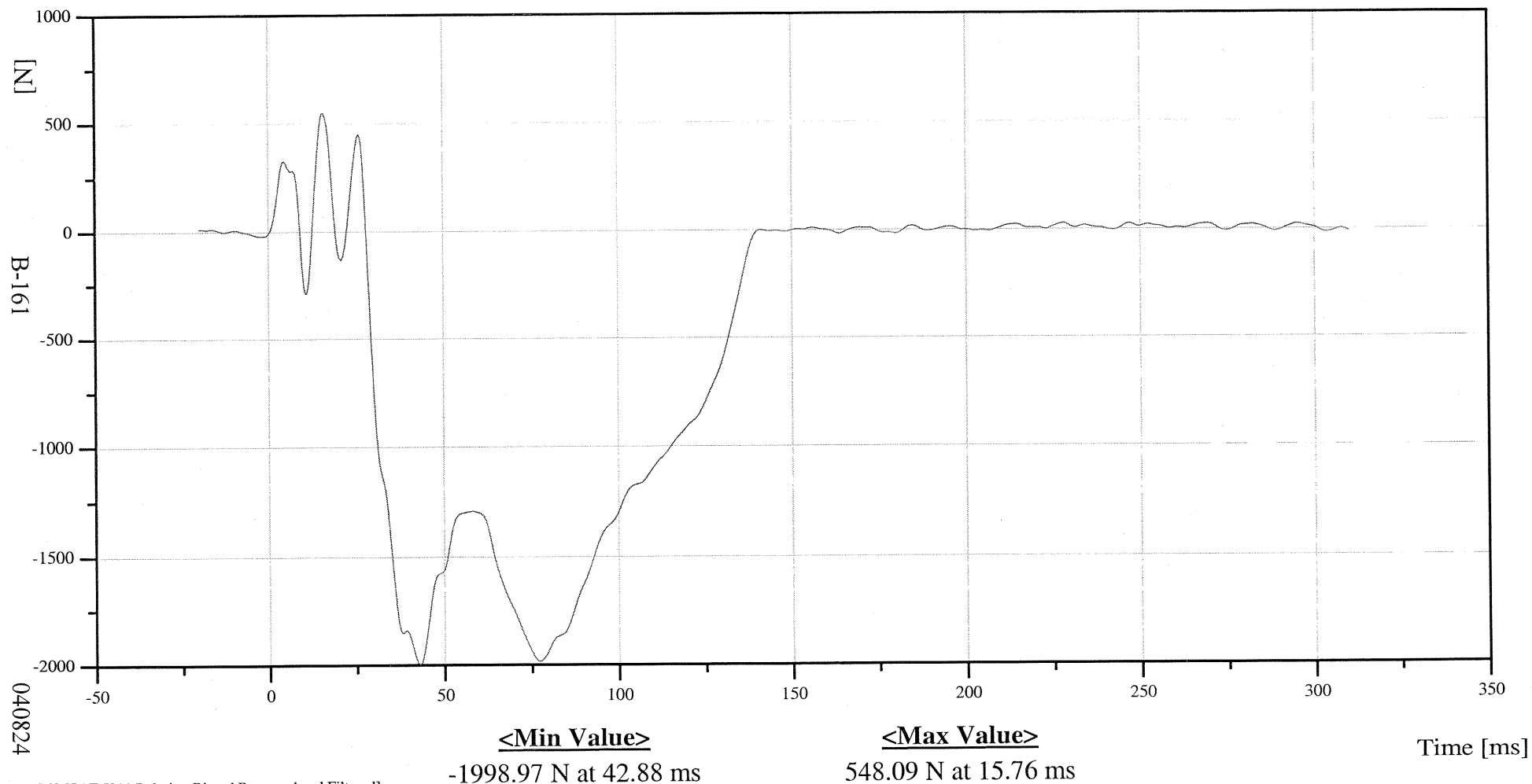
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0114





Transportation Research Center, Inc.

ROW 1 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

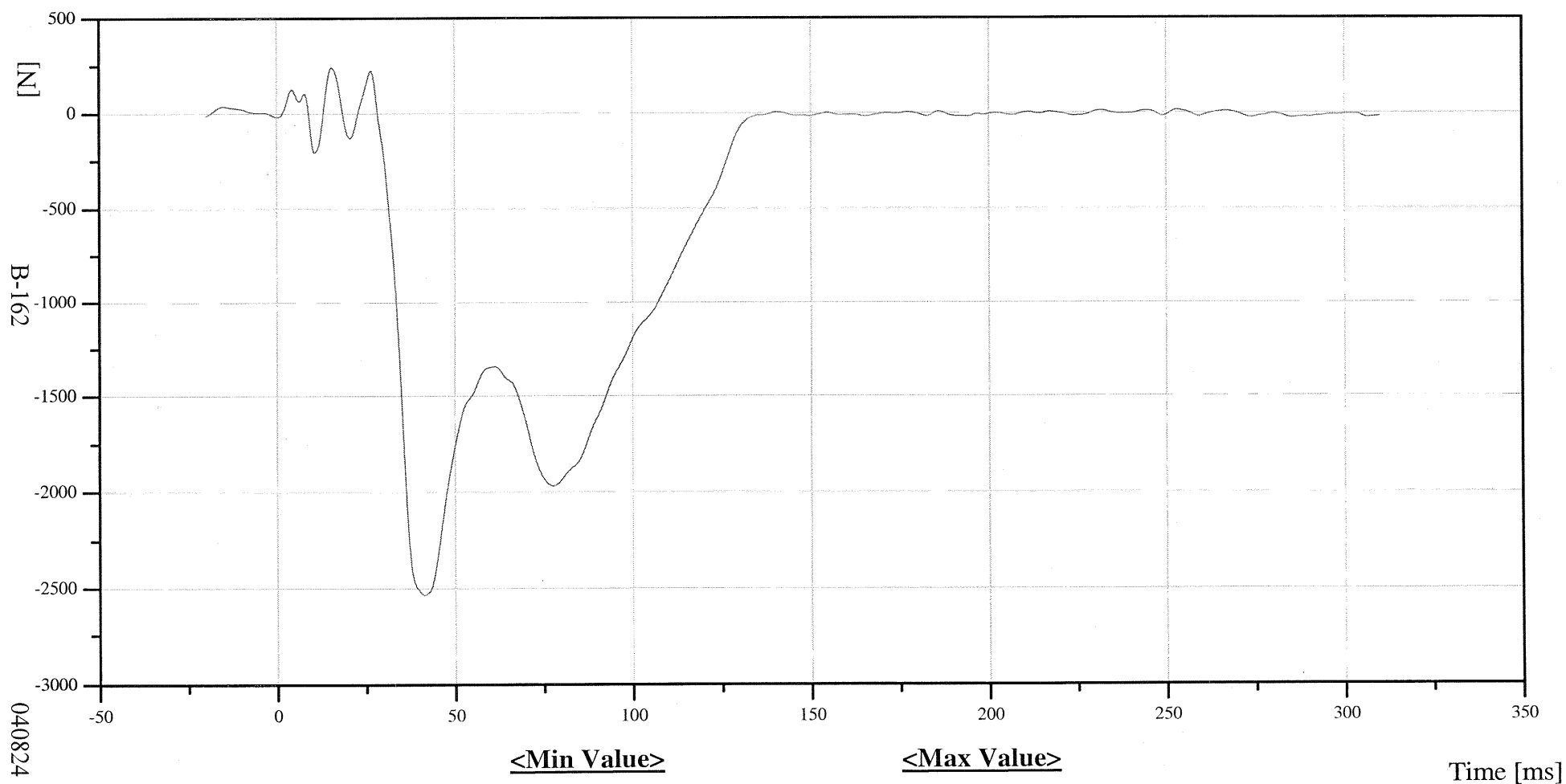
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0115



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 1 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

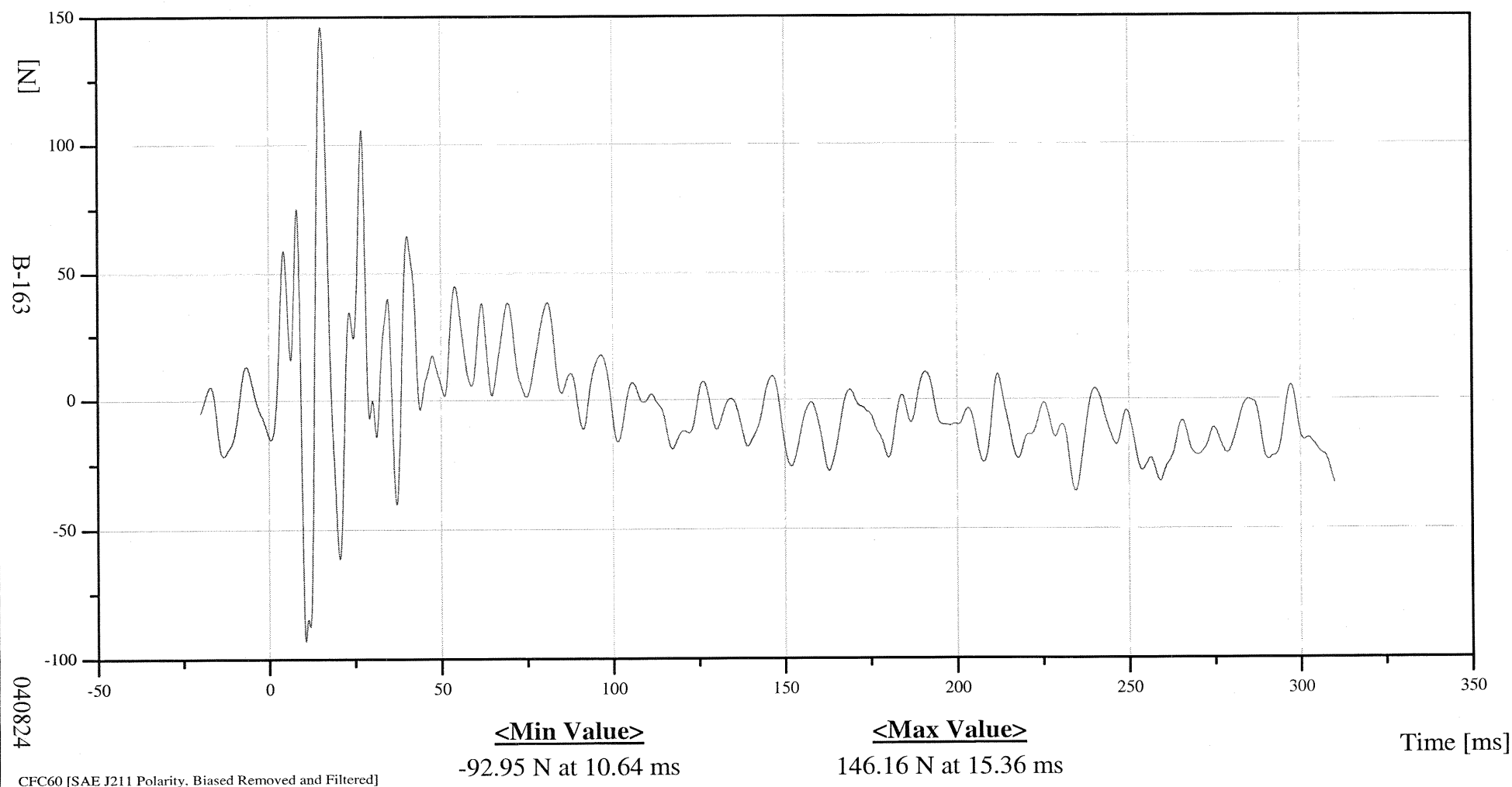
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0116





Transportation Research Center, Inc.

ROW 2 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

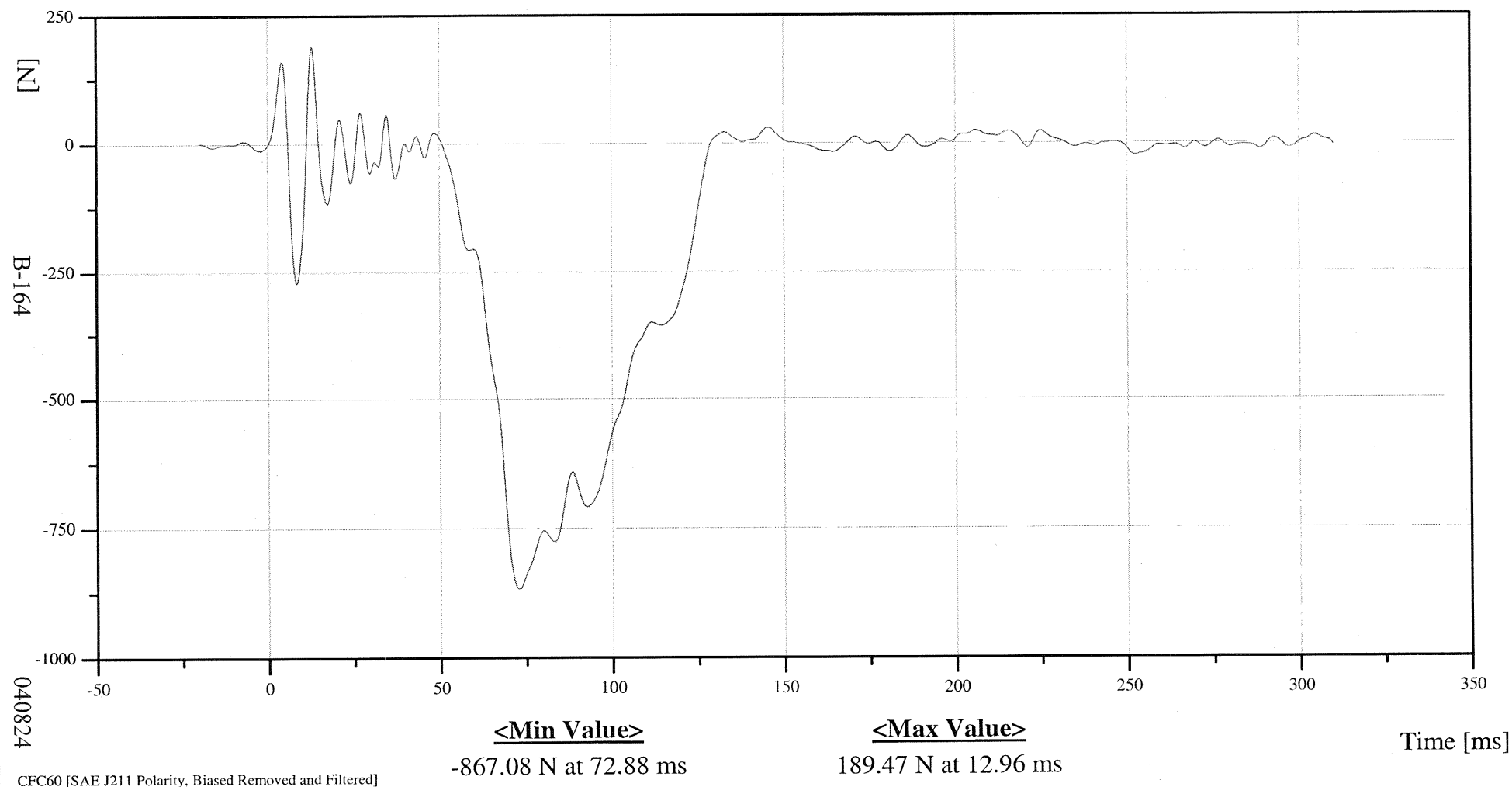
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0201





Transportation Research Center, Inc.

ROW 2 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

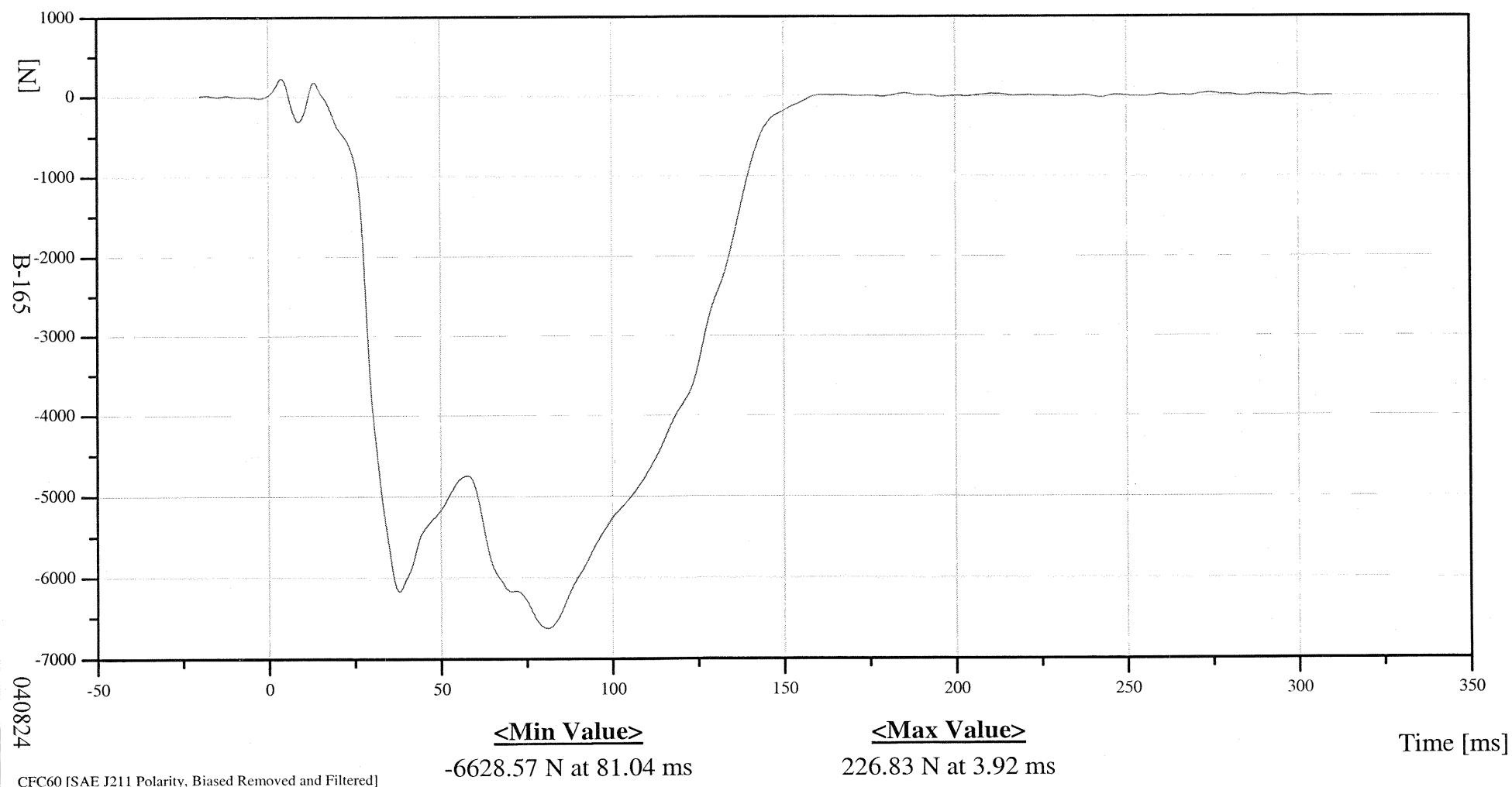
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0202





Transportation Research Center, Inc.

ROW 2 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

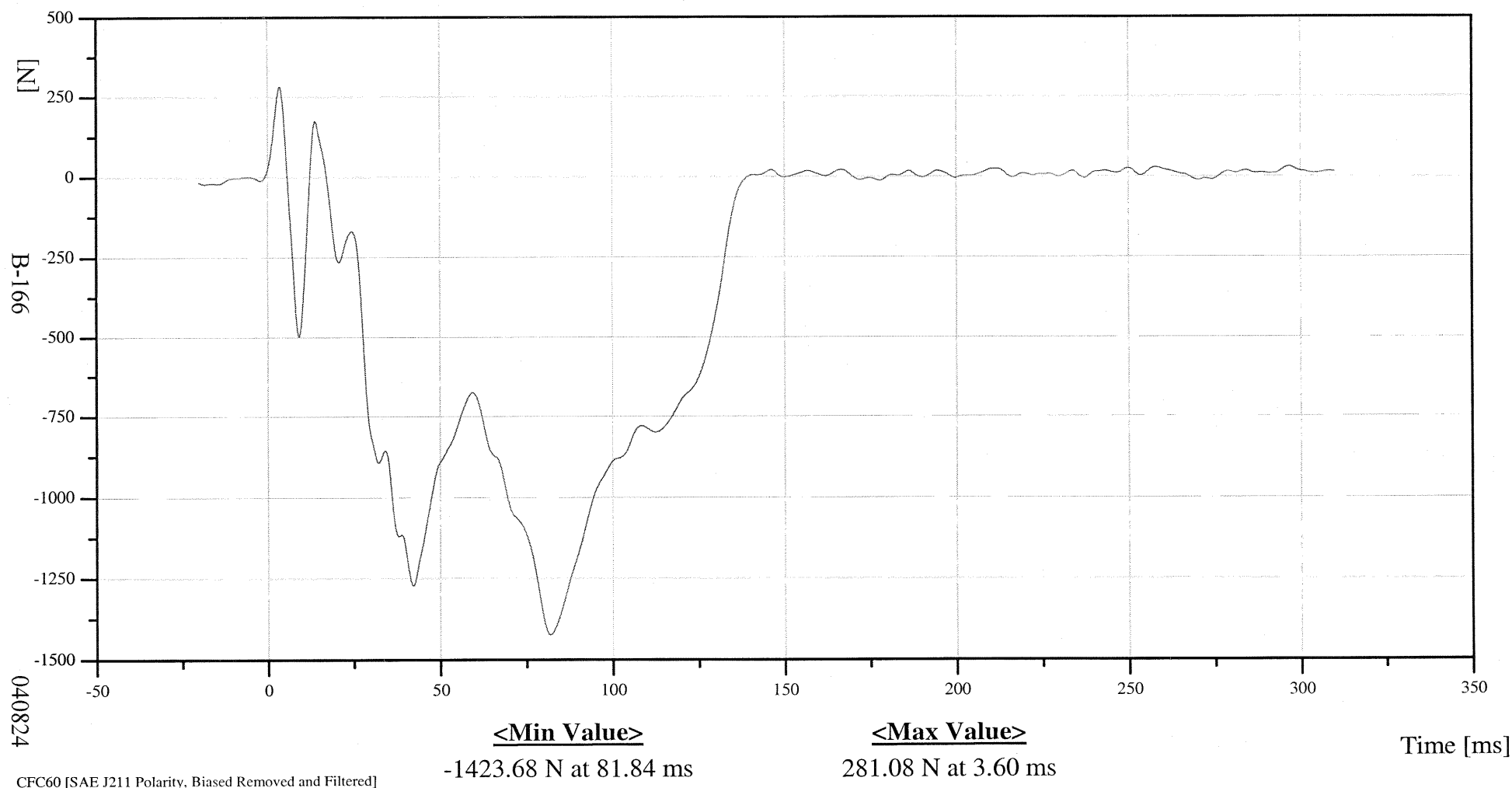
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0203





Transportation Research Center, Inc.

ROW 2 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

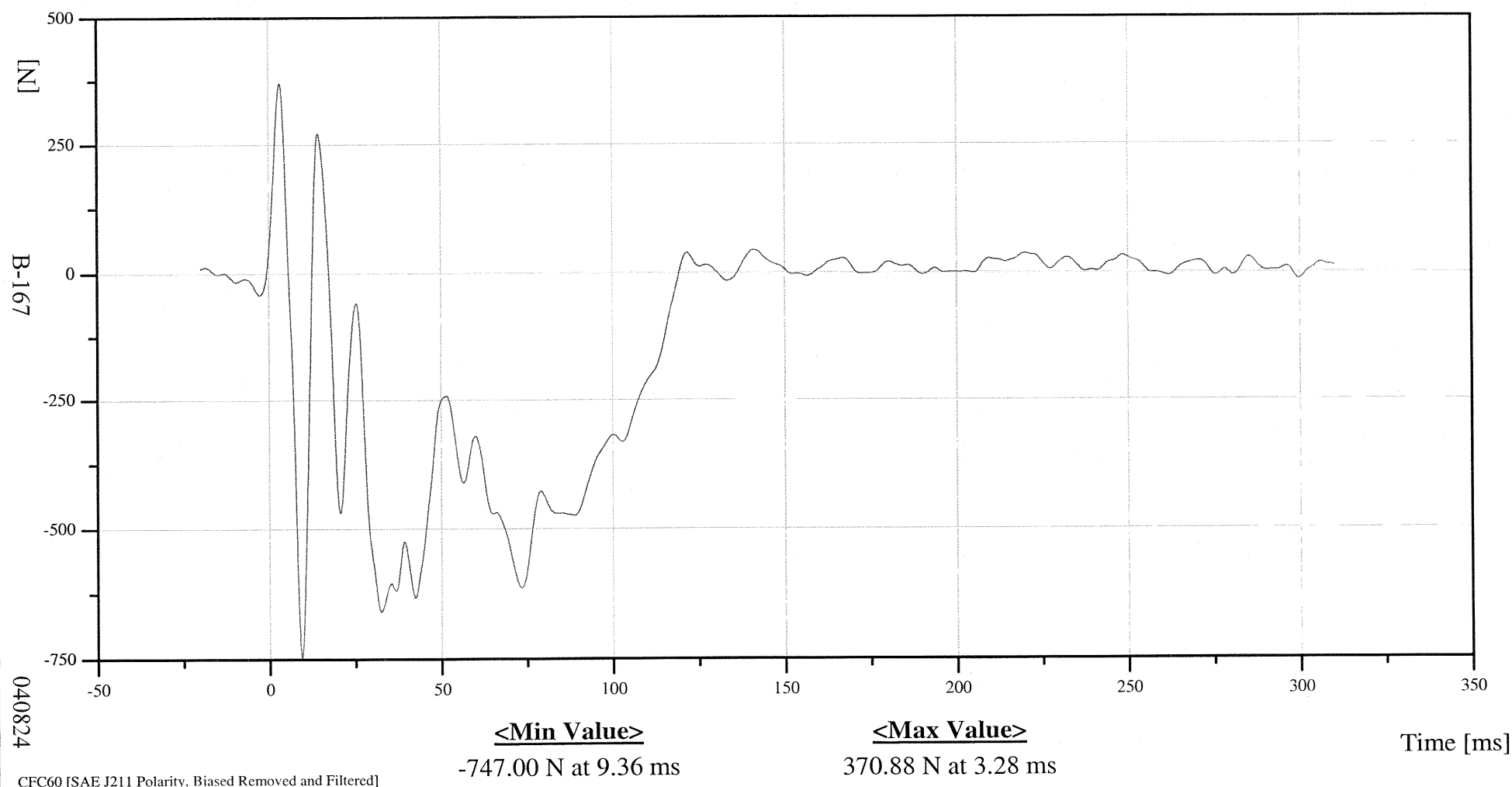
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0204





Transportation Research Center, Inc.

ROW 2 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

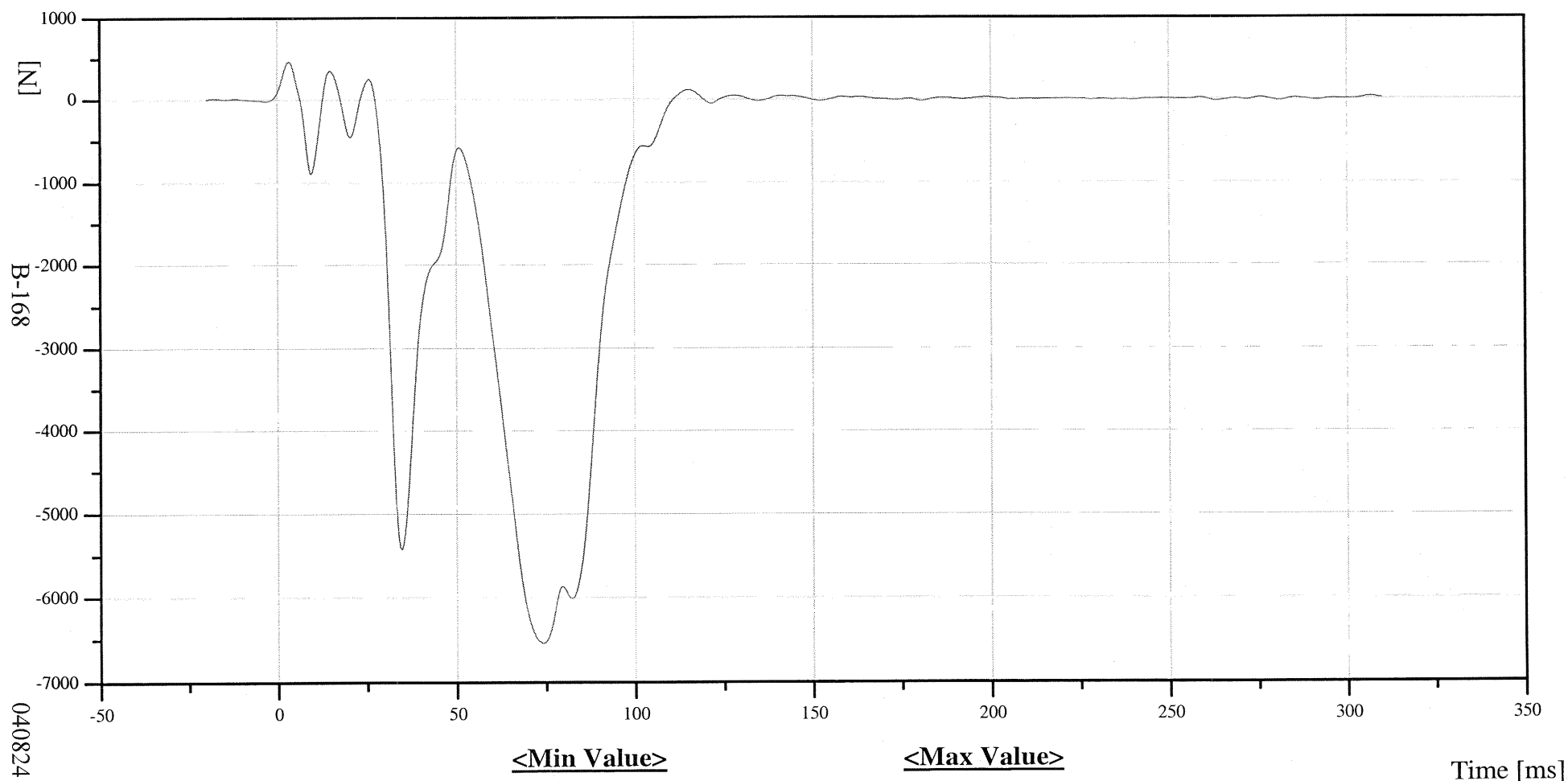
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0205



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 2 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

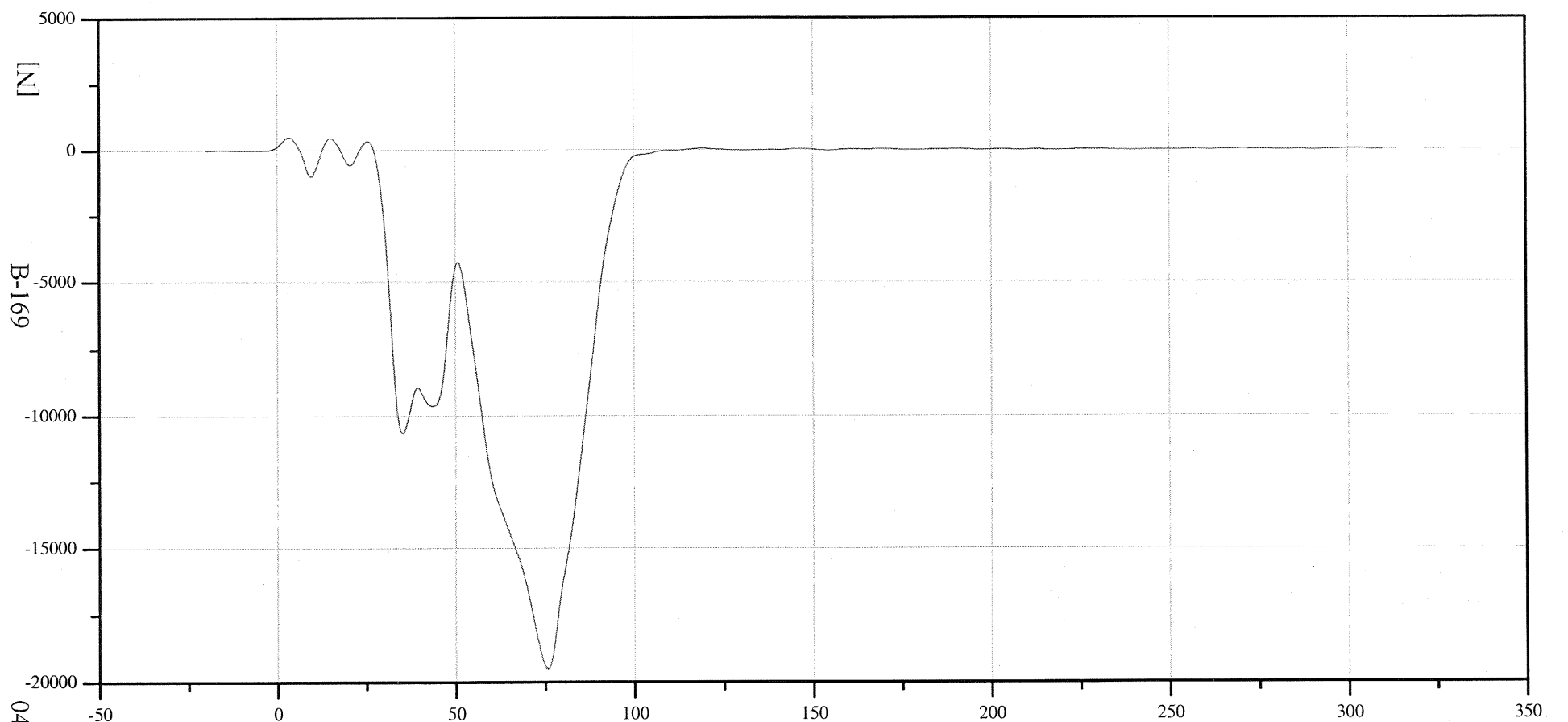
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0206



<Min Value>

-19522.46 N at 75.68 ms

<Max Value>

493.49 N at 3.36 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 2 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

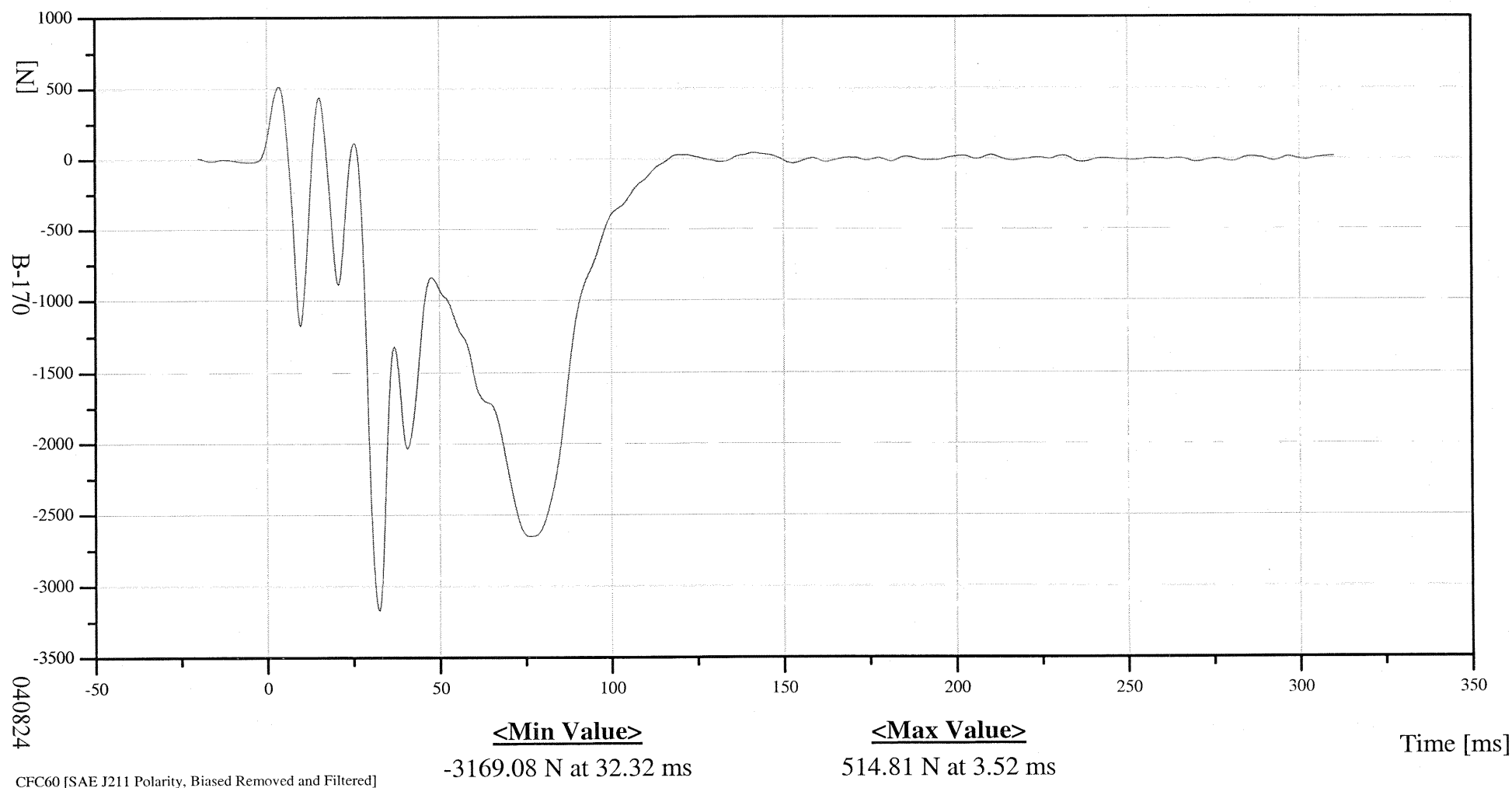
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0207





Transportation Research Center, Inc.

ROW 2 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

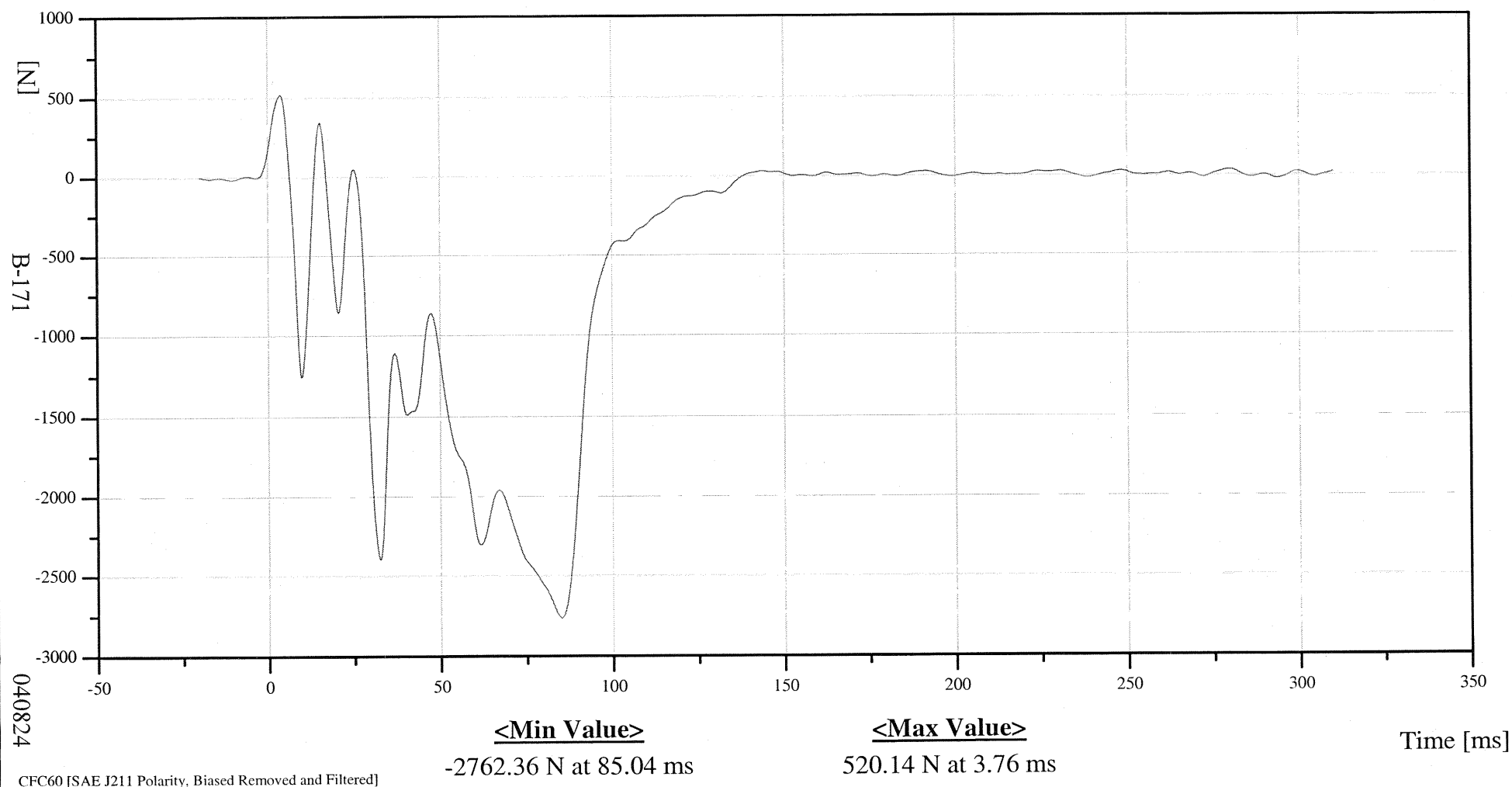
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0208





Transportation Research Center, Inc.

ROW 2 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

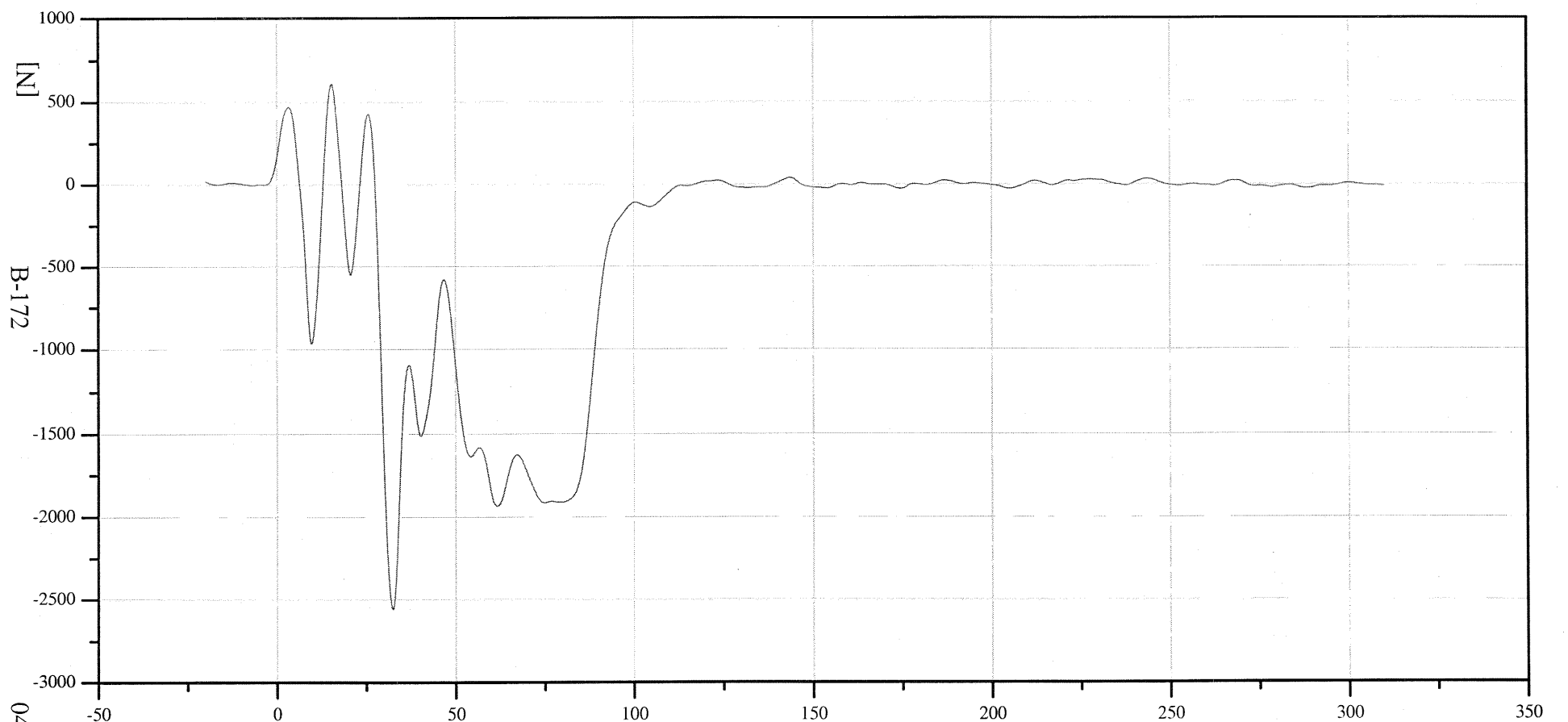
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0209



<Min Value>

-2558.66 N at 32.40 ms

<Max Value>

608.55 N at 15.44 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 2 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

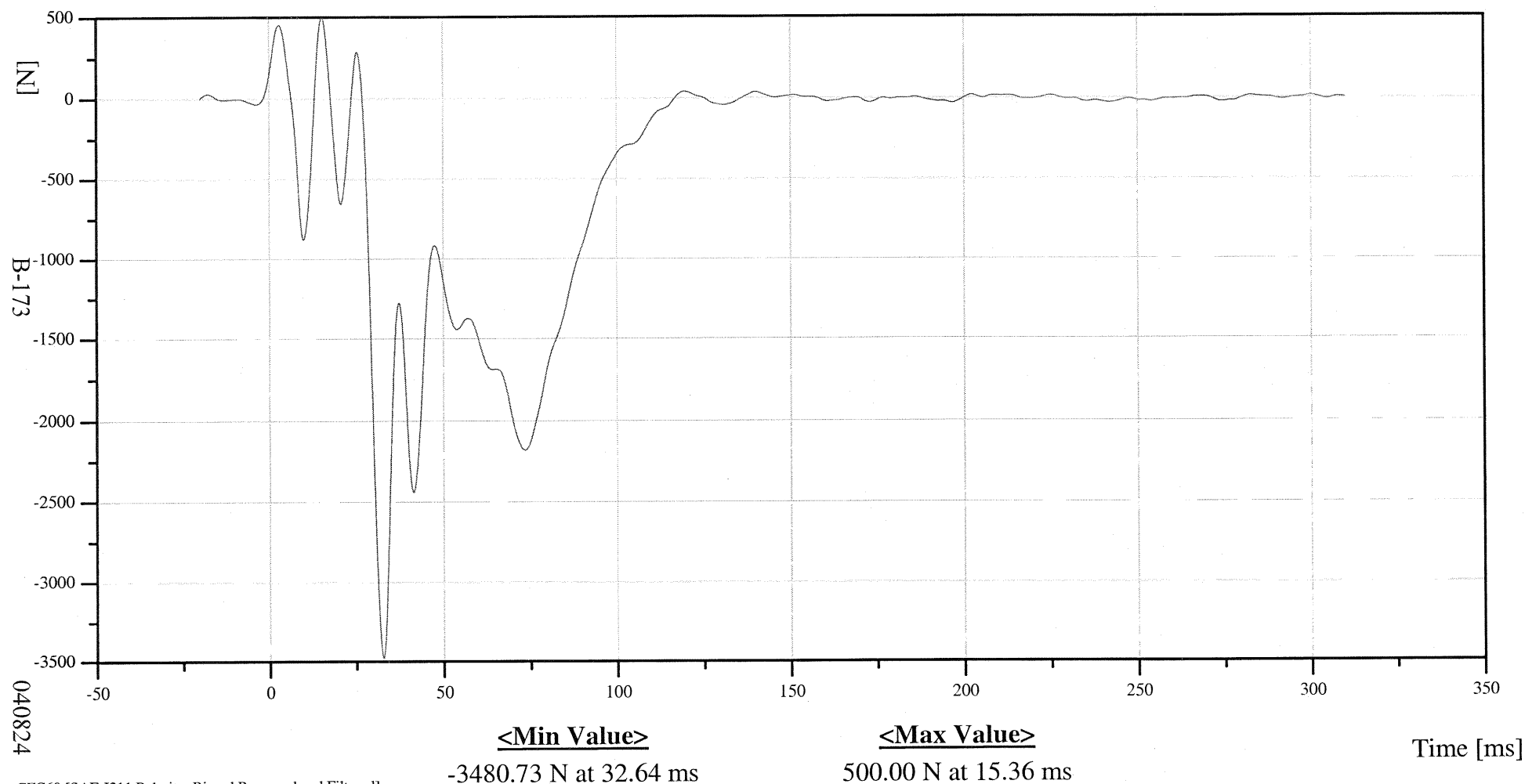
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0210





Transportation Research Center, Inc.

ROW 2 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

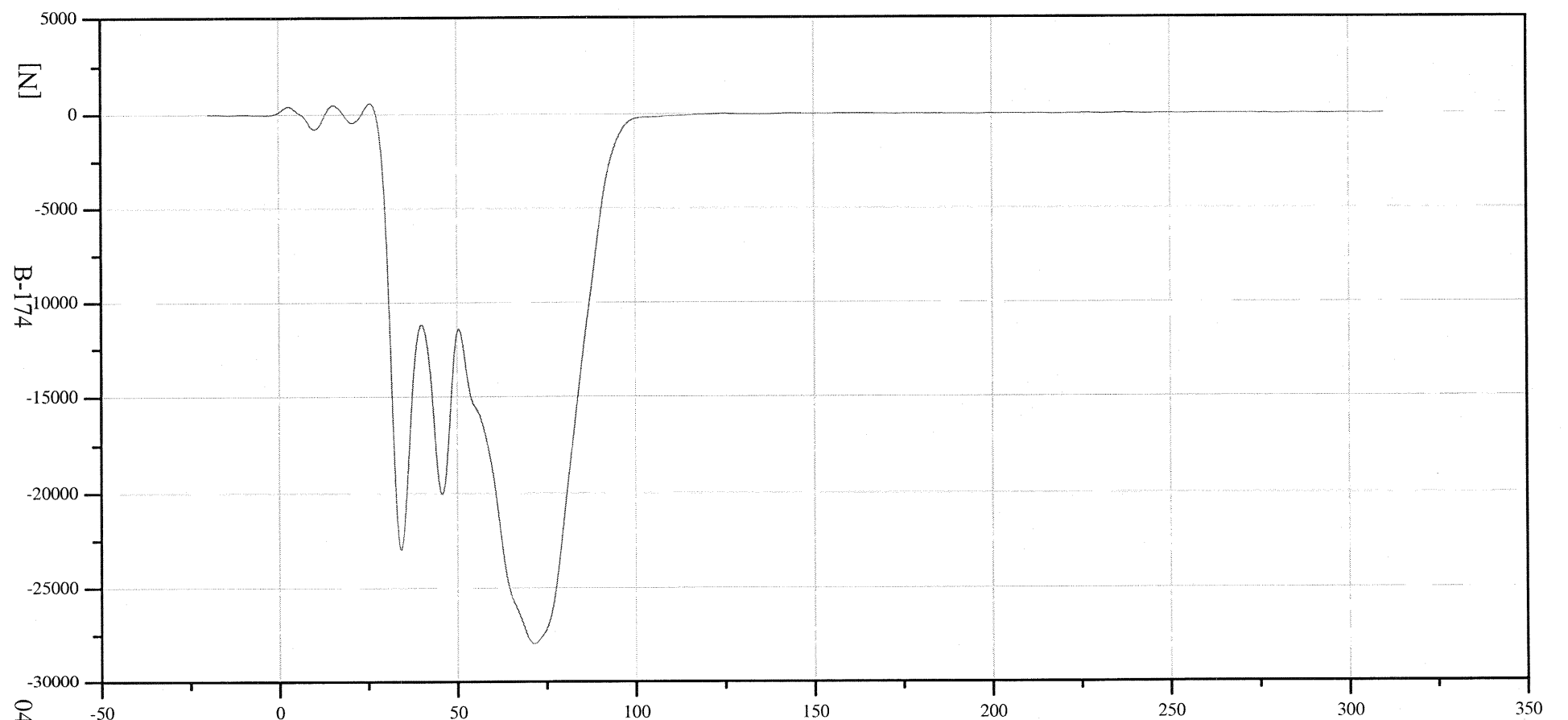
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0211



<Min Value>

-27949.80 N at 71.44 ms

<Max Value>

584.33 N at 25.68 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 2 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

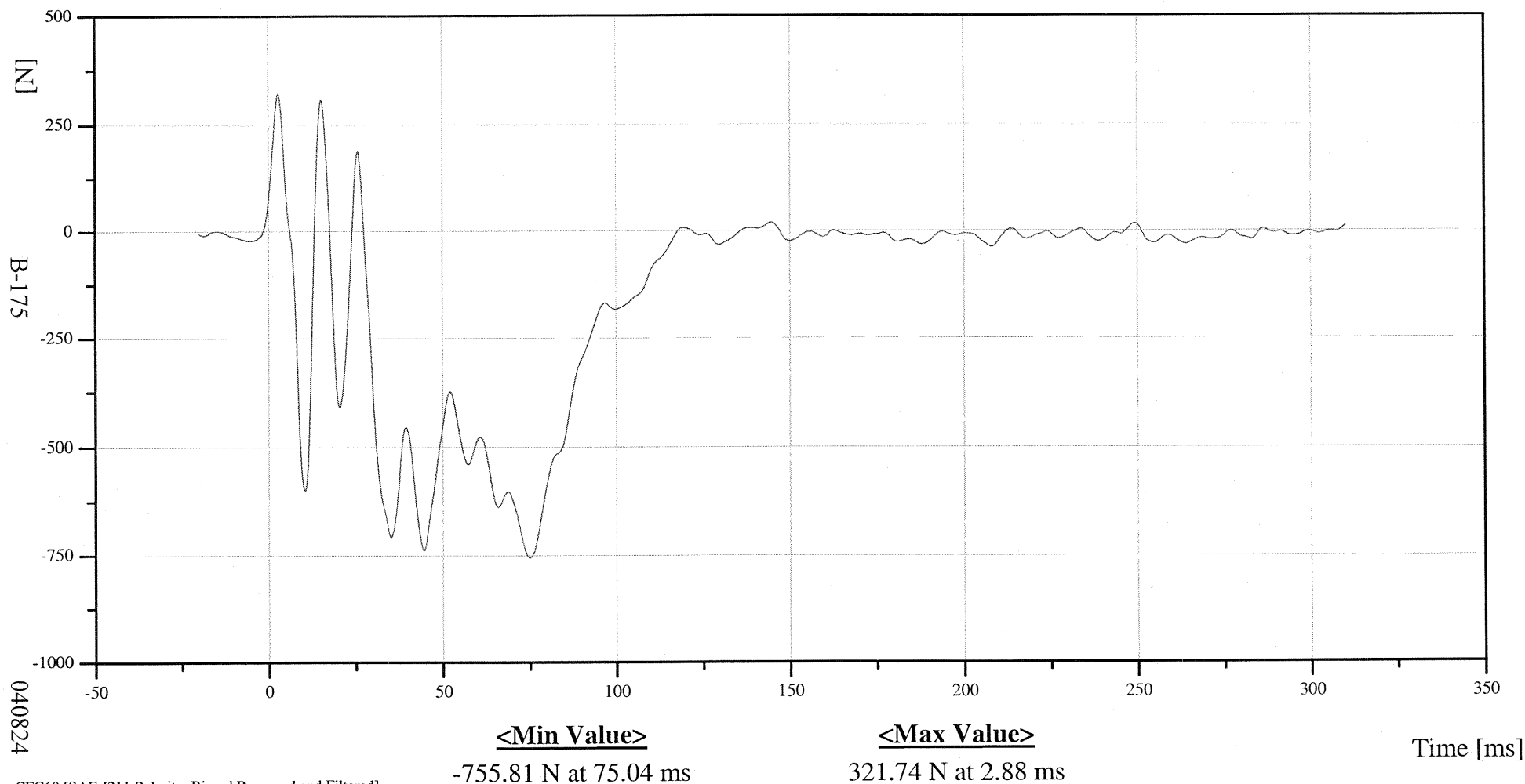
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0212



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 2 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

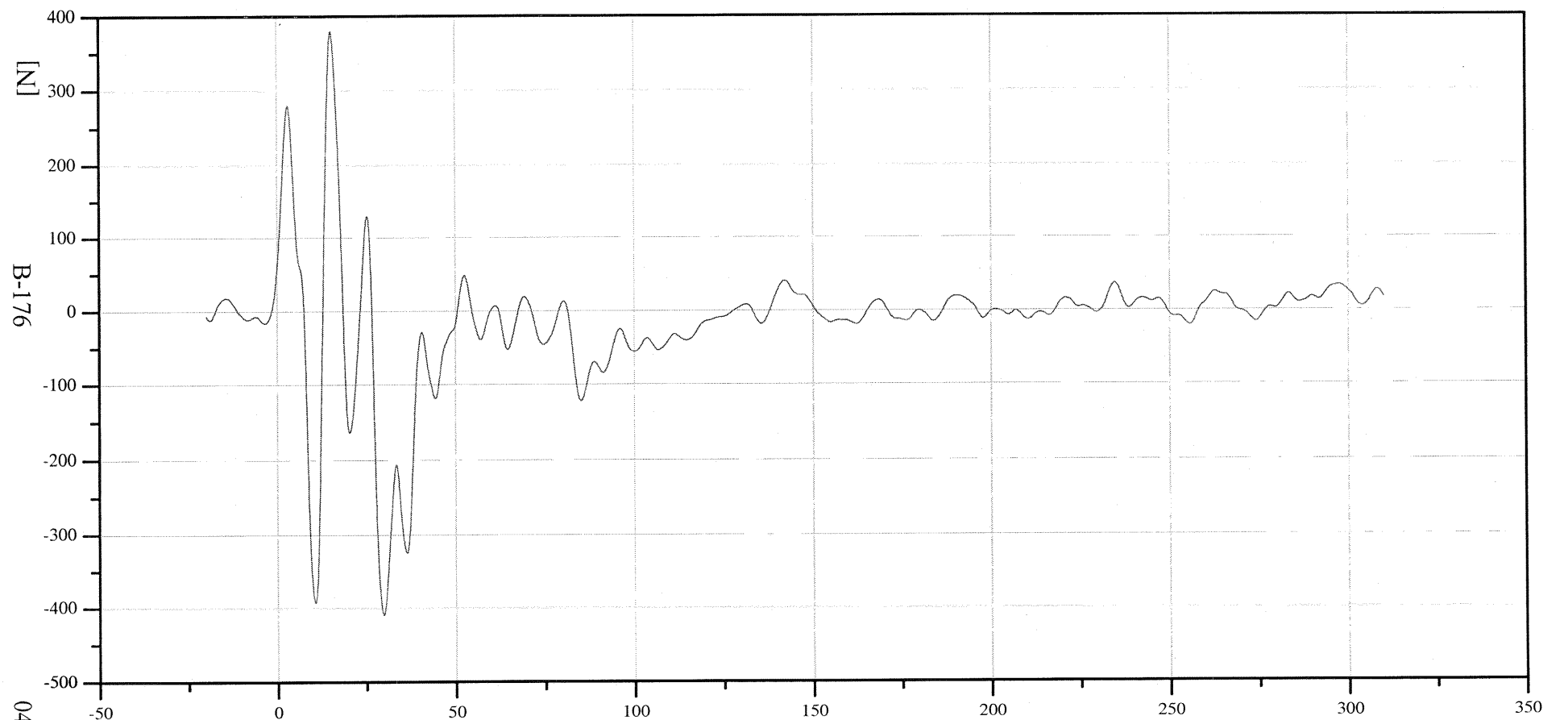
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0213



<Min Value>

-409.54 N at 29.76 ms

<Max Value>

379.73 N at 15.28 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



ROW 2 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Transportation Research Center, Inc.

Test Lab: CTF

Customer: VRTC

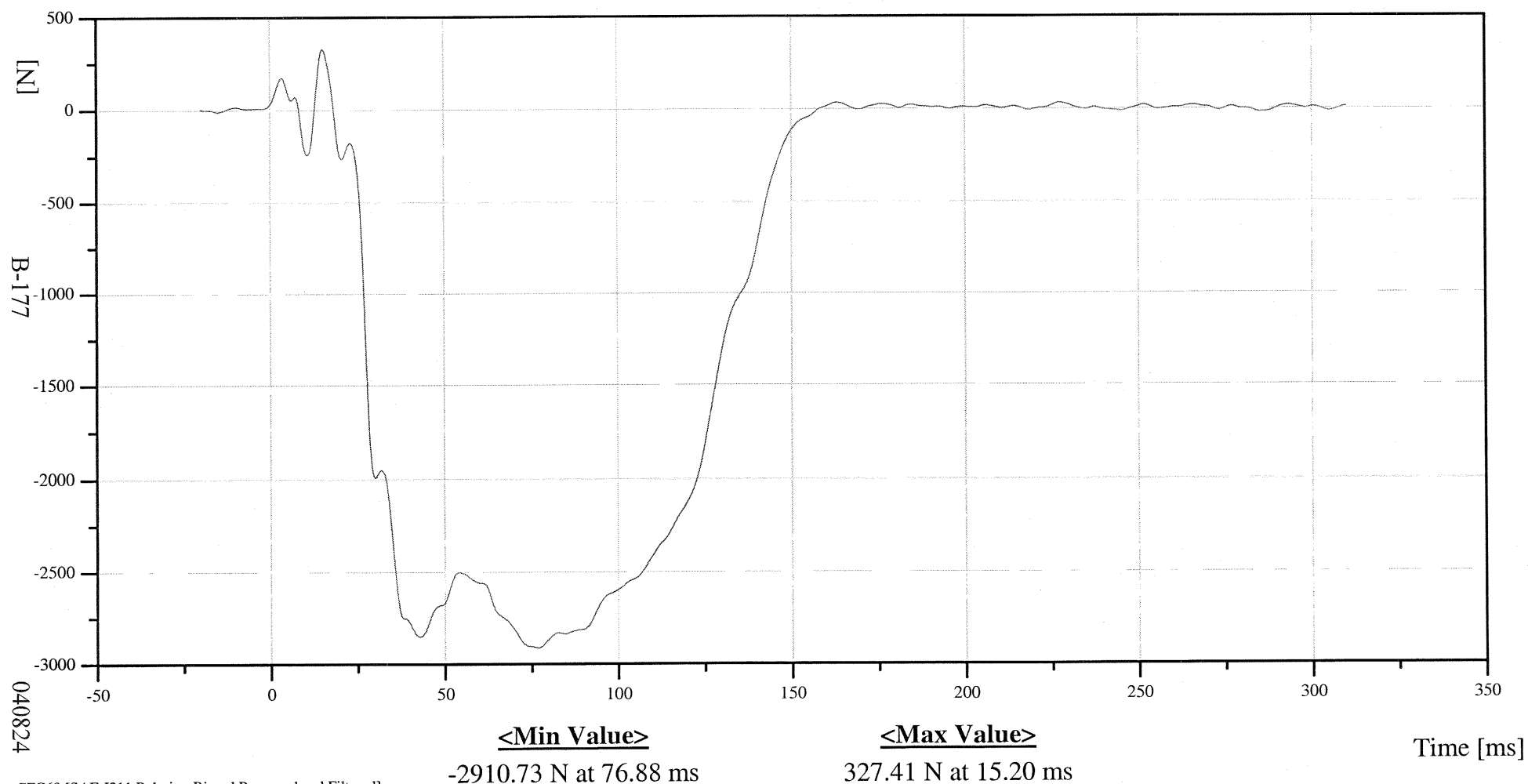
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0214





Transportation Research Center, Inc.

ROW 2 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

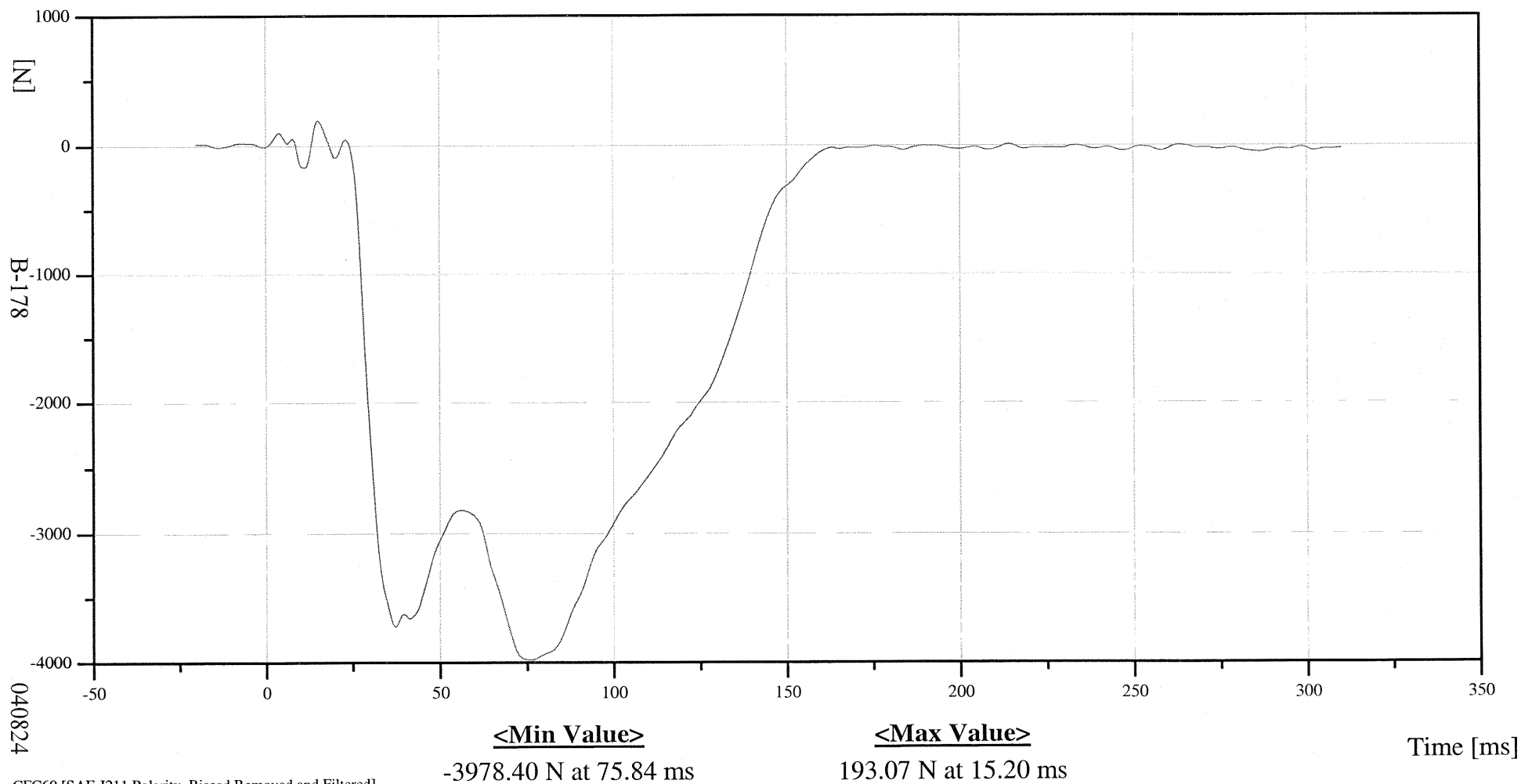
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0215



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 2 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

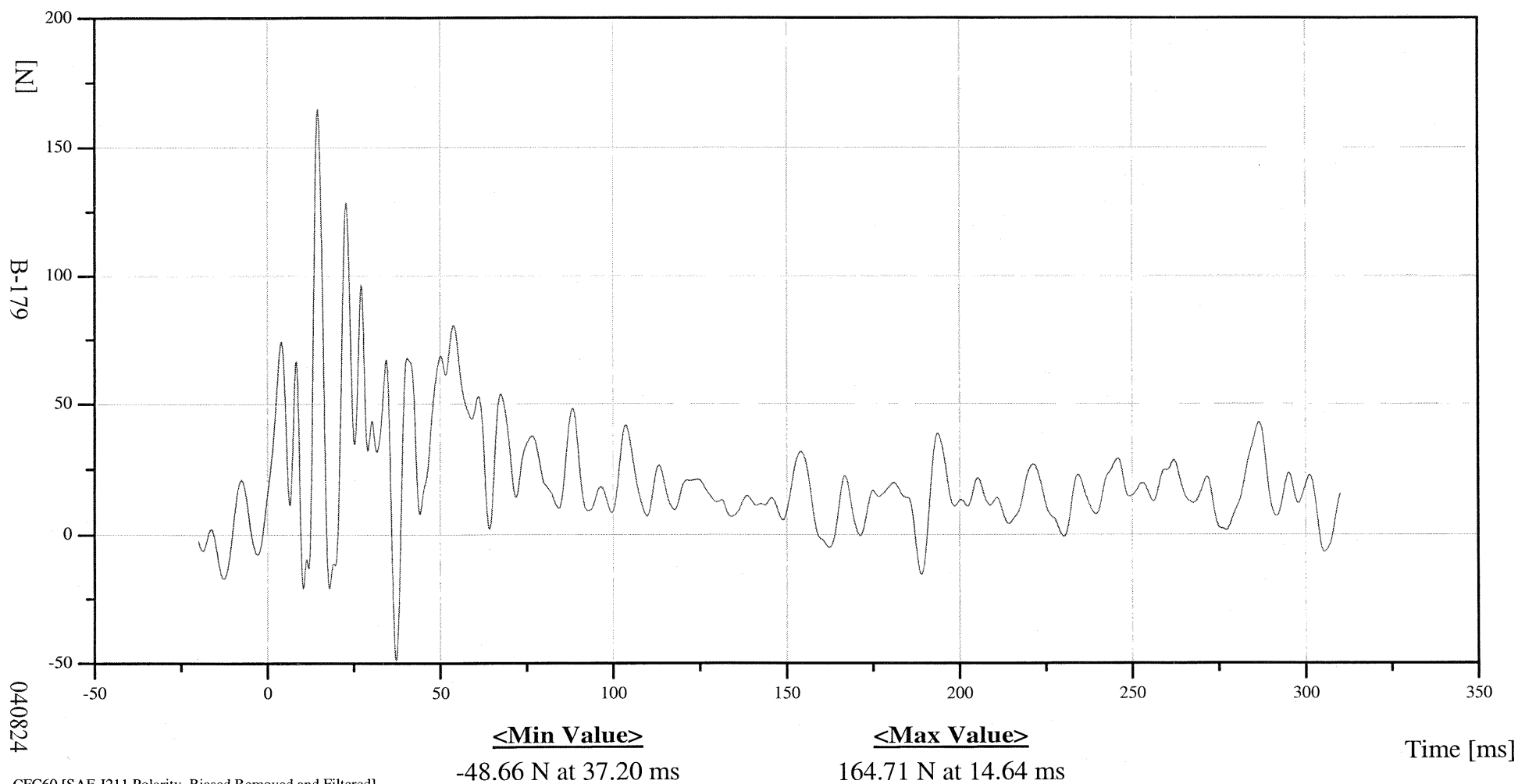
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0216





Transportation Research Center, Inc.

ROW 3 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

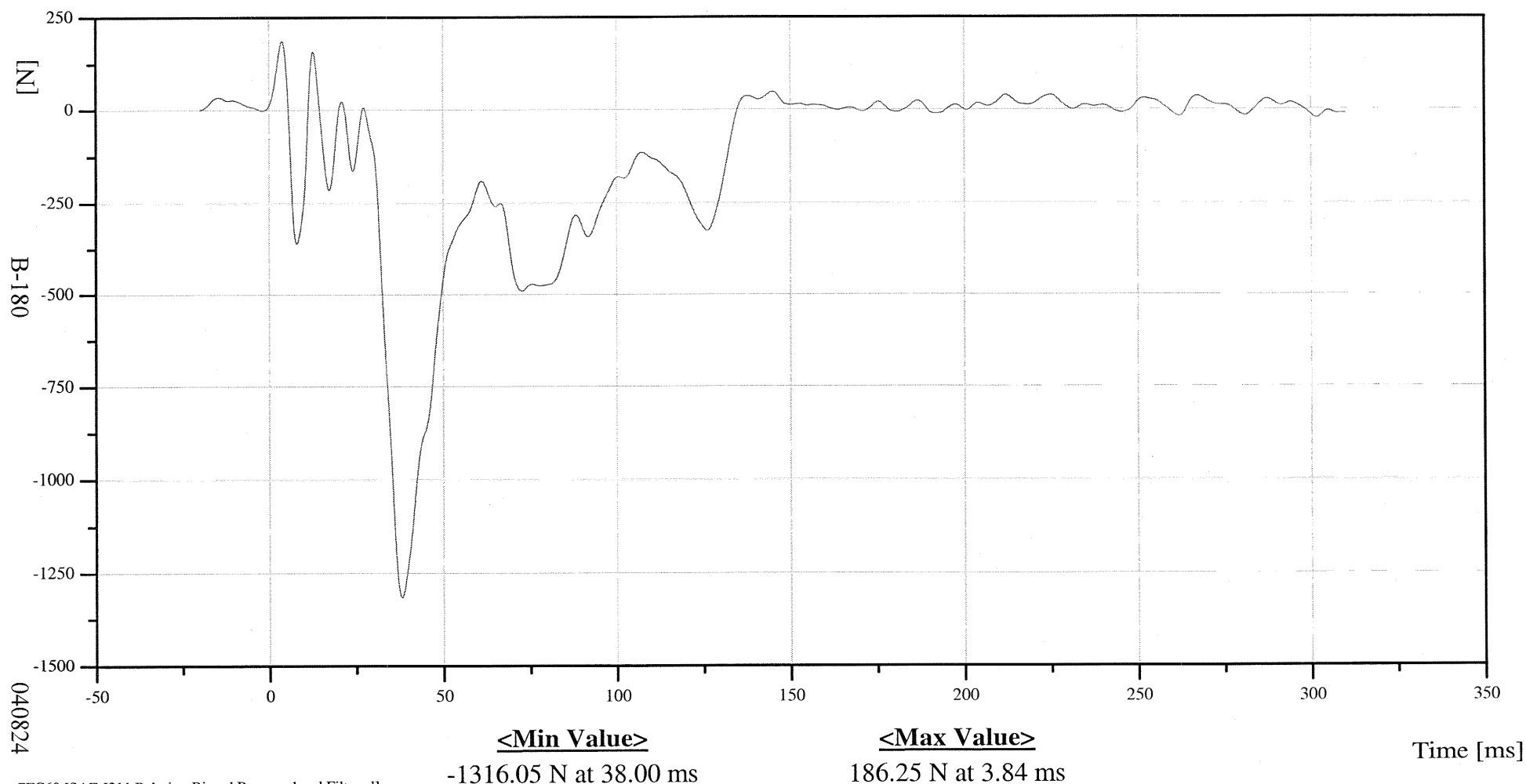
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0301



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

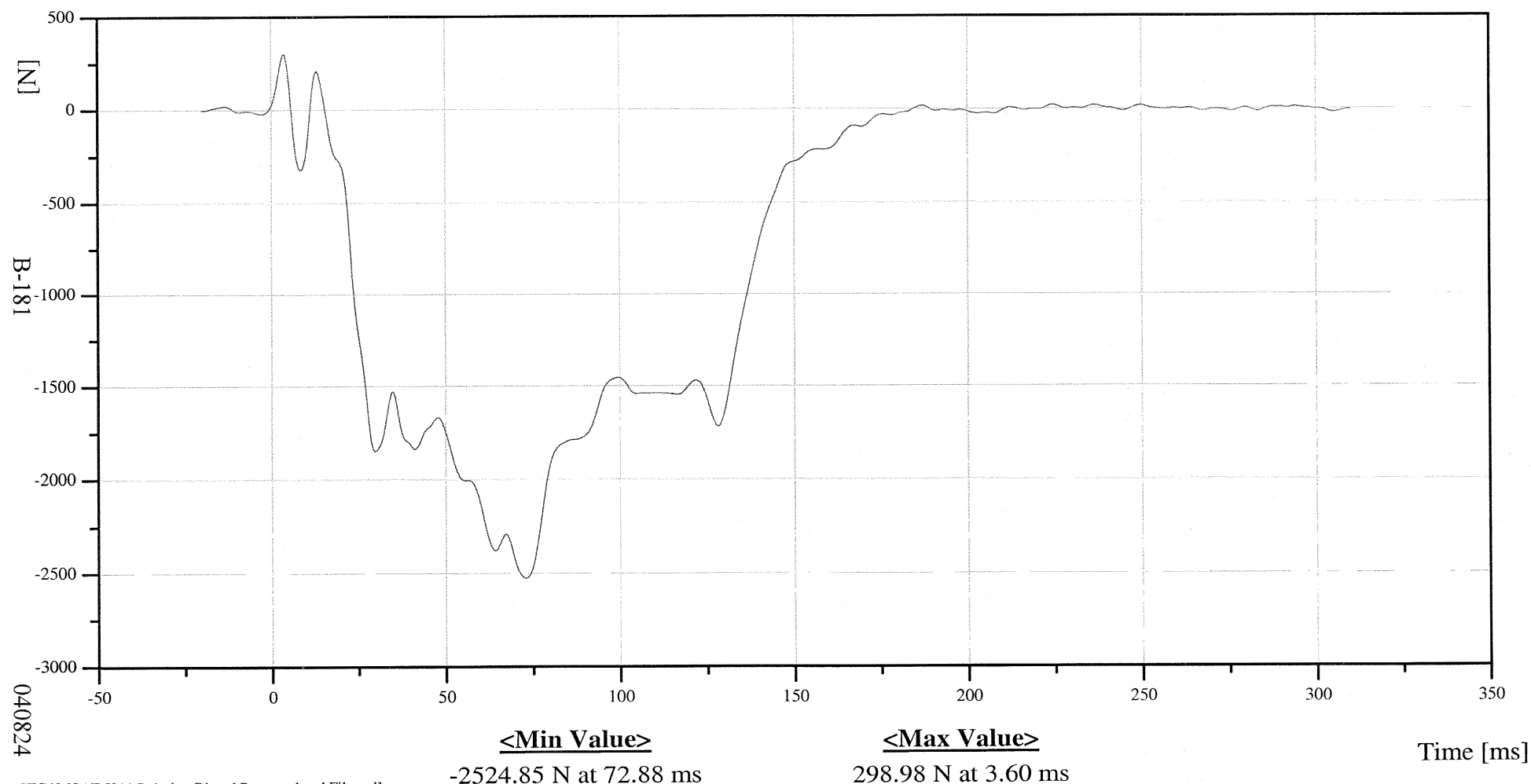
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0302





Transportation Research Center, Inc.

ROW 3 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

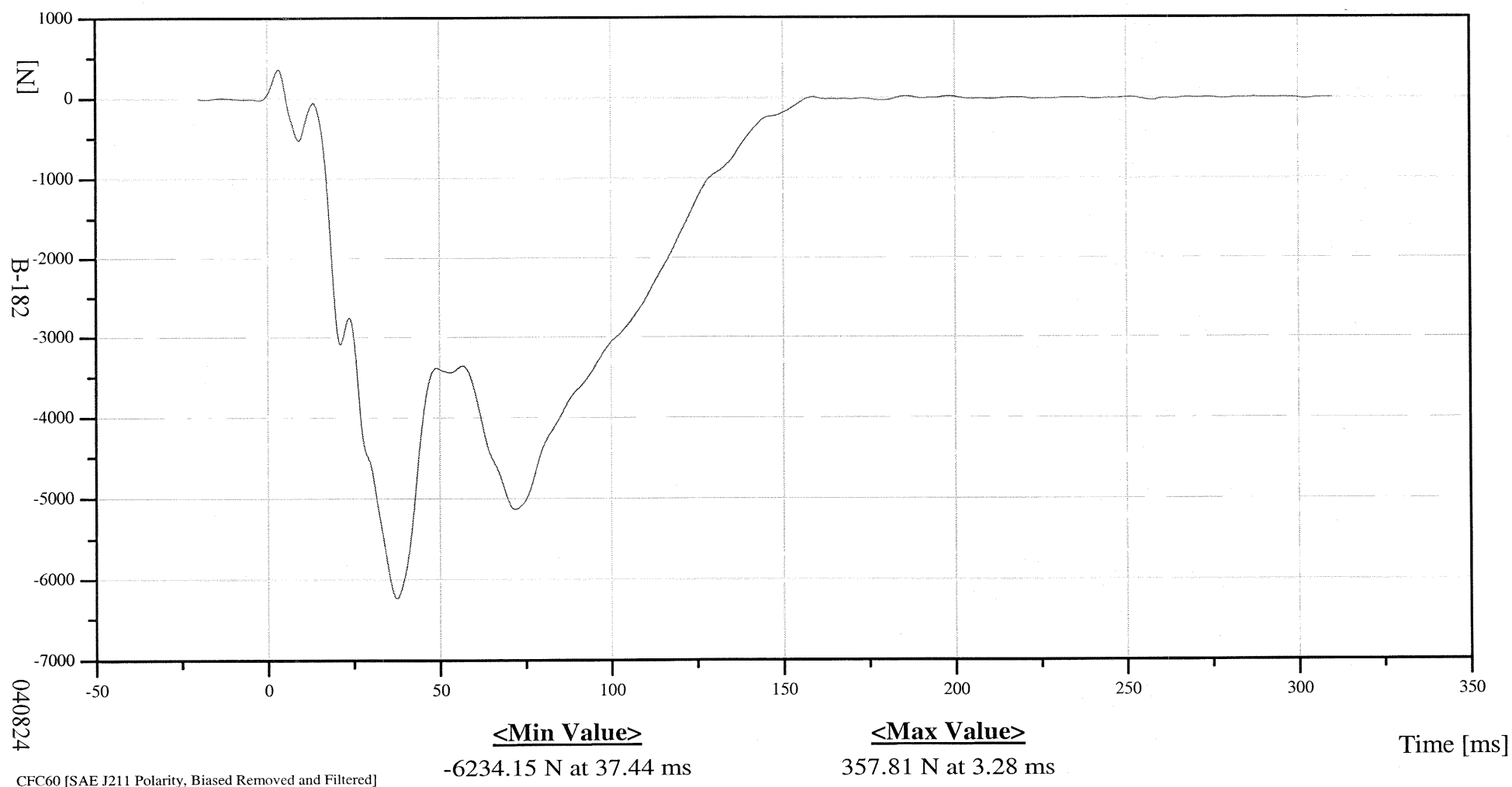
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0303





Transportation Research Center, Inc.

ROW 3 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

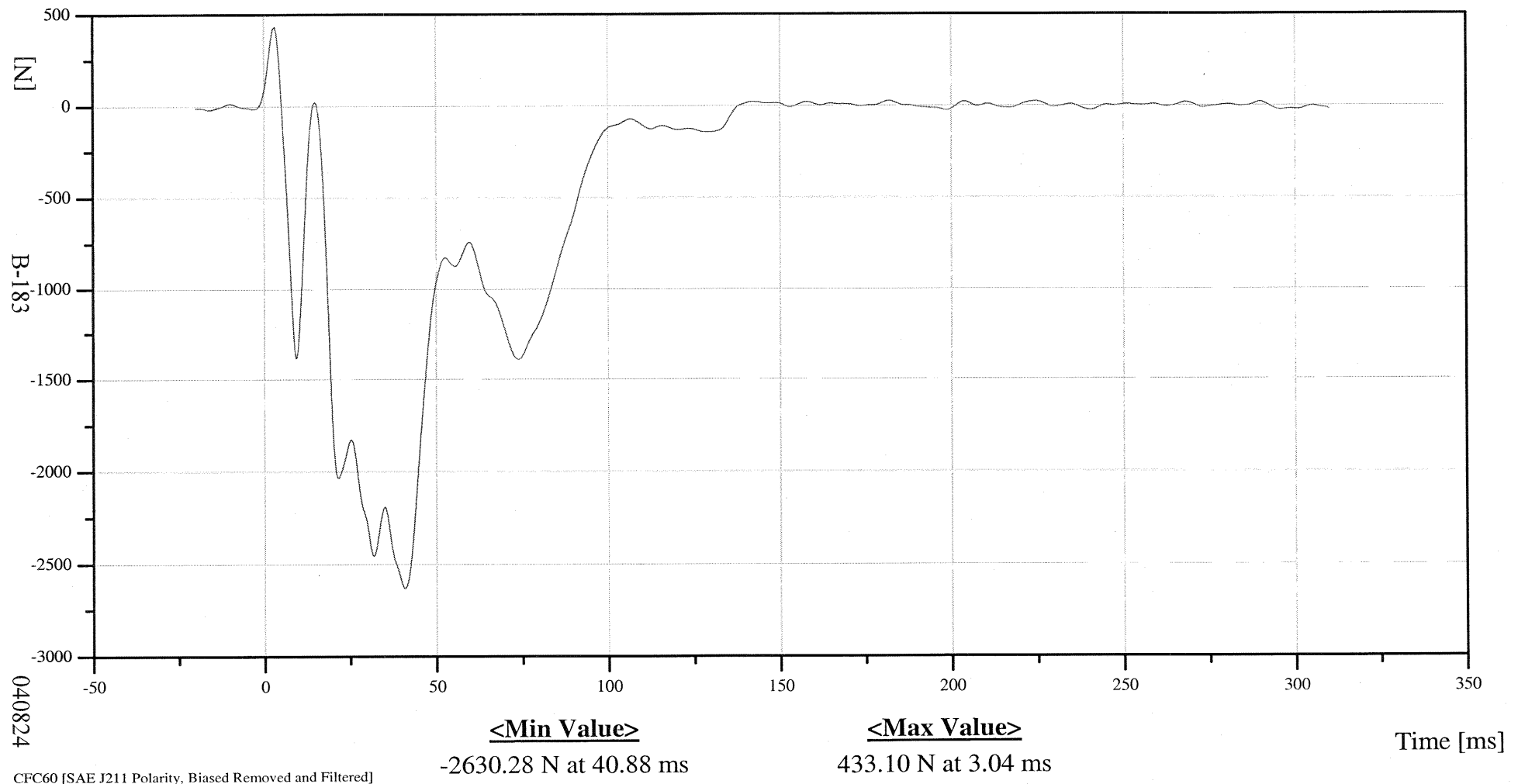
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0304





Transportation Research Center, Inc.

ROW 3 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

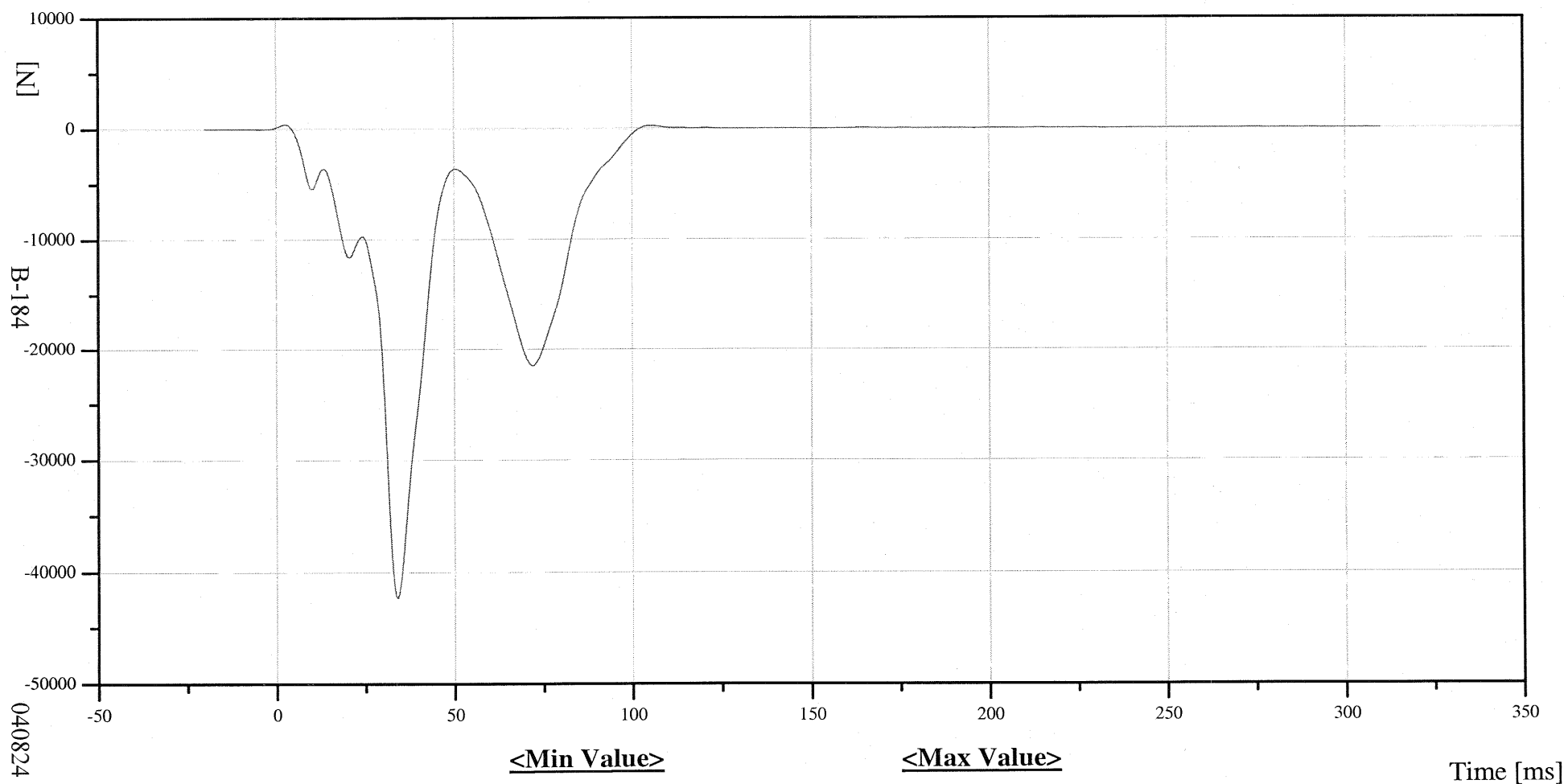
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0305



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

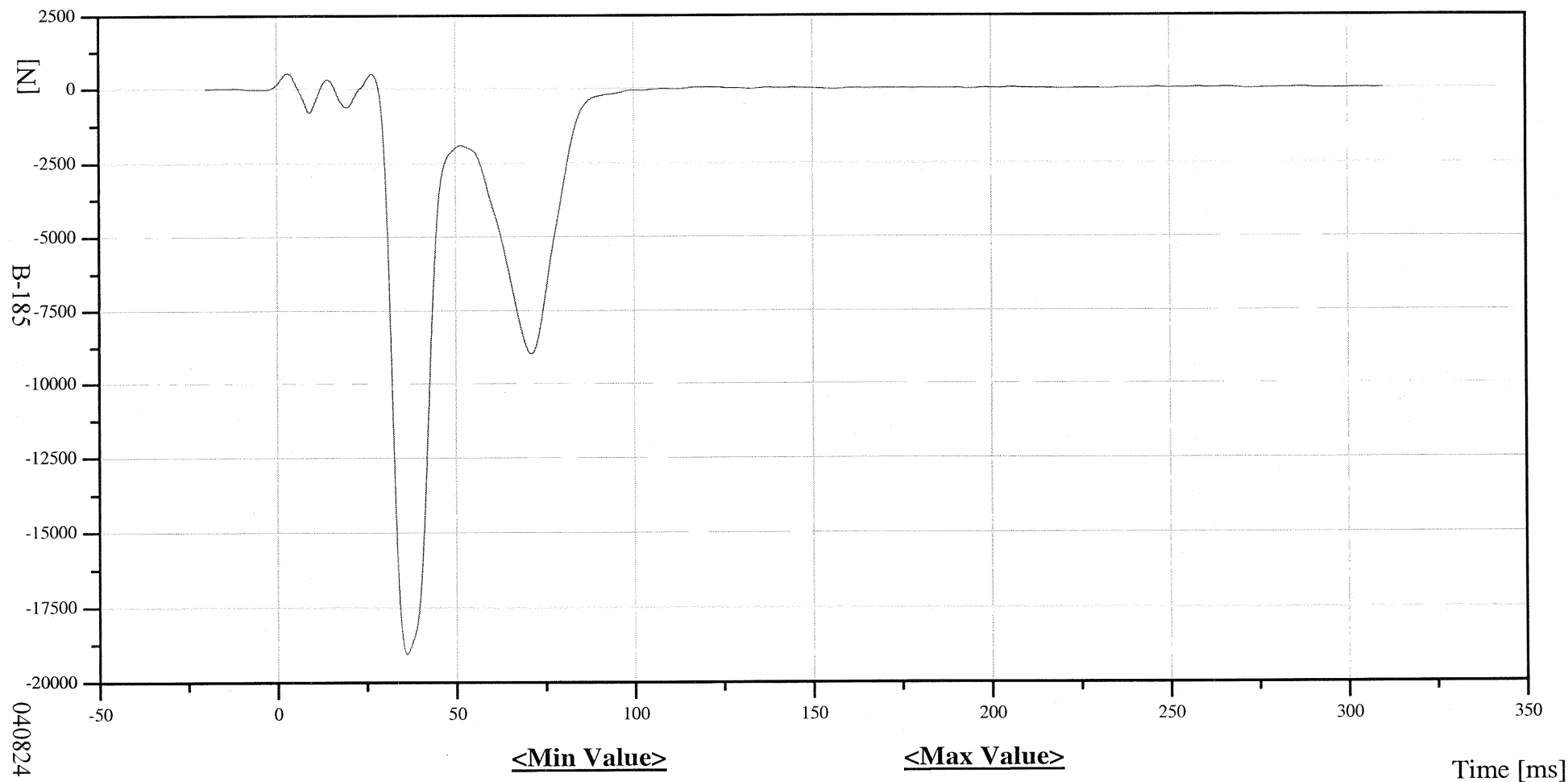
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0306



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

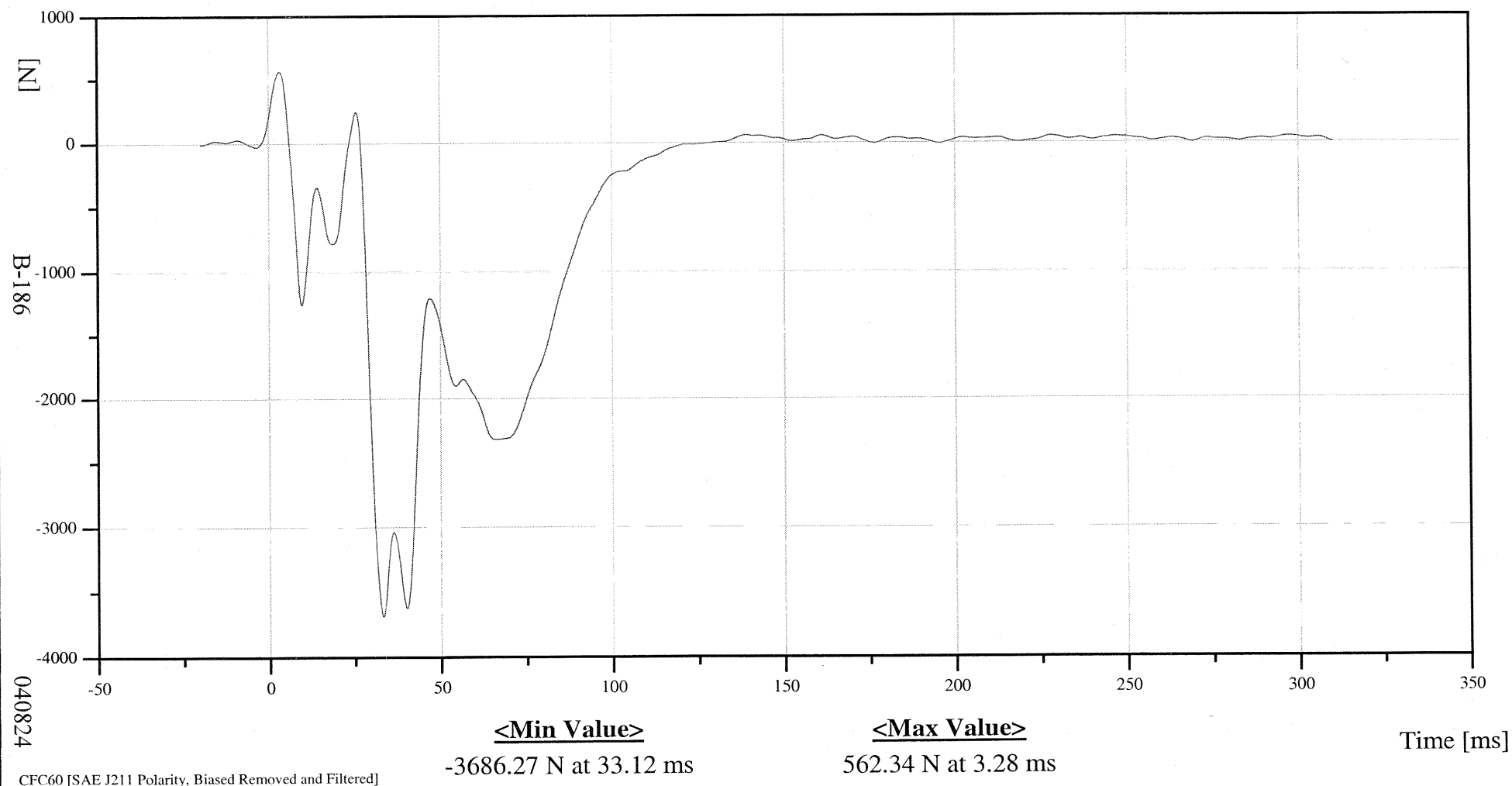
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0307





Transportation Research Center, Inc.

ROW 3 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

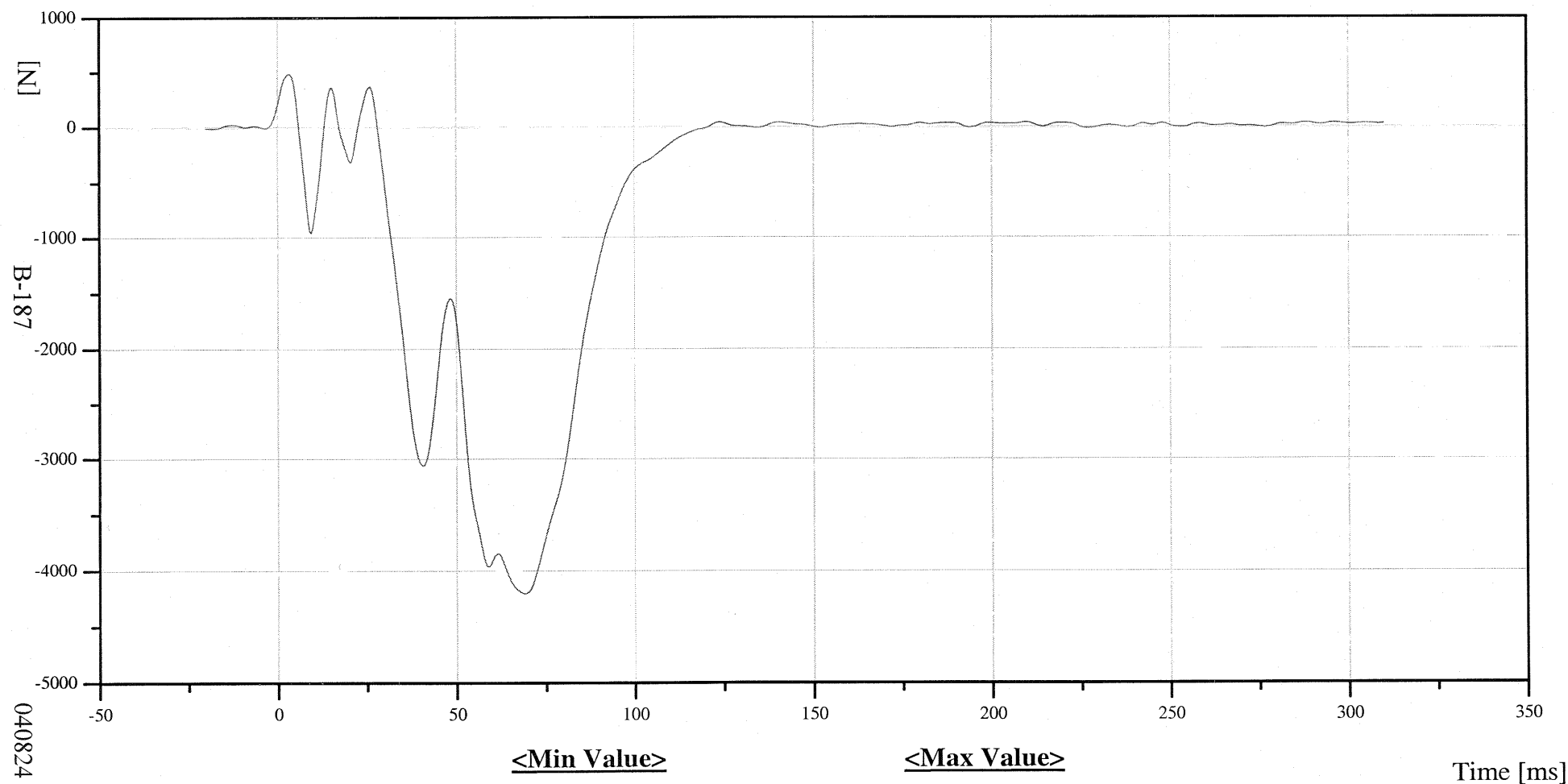
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0308



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

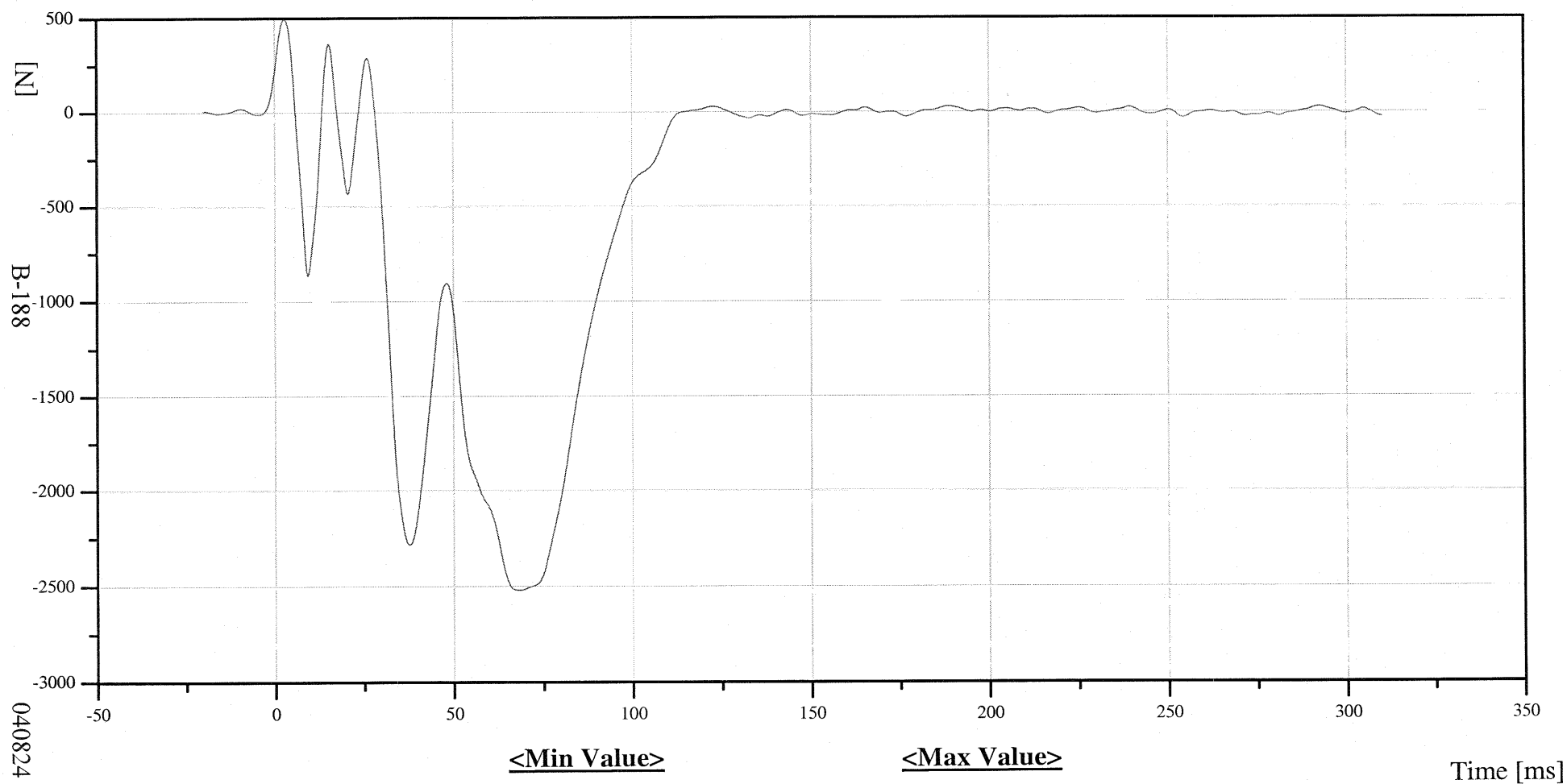
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0309



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

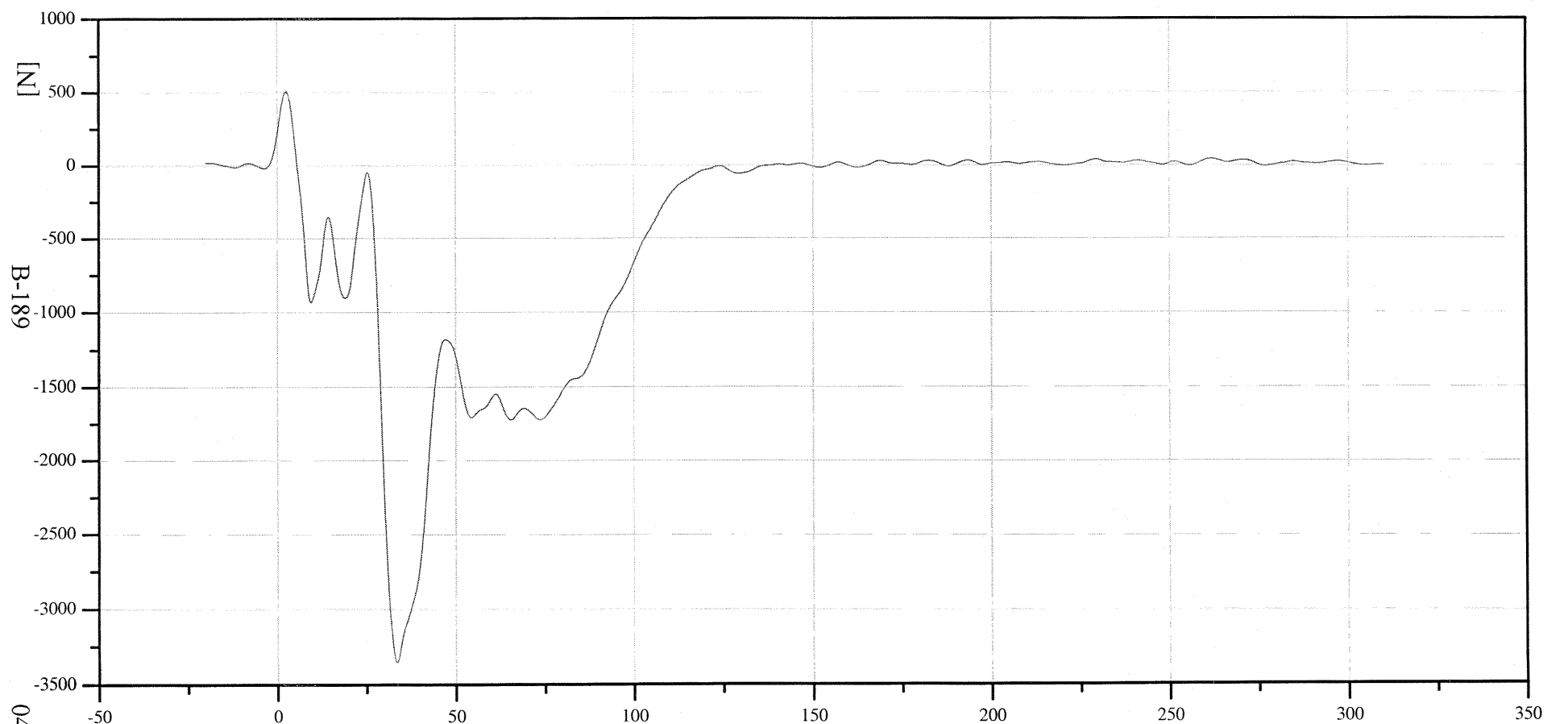
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0310



<Min Value>

-3353.11 N at 33.44 ms

<Max Value>

507.61 N at 2.48 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

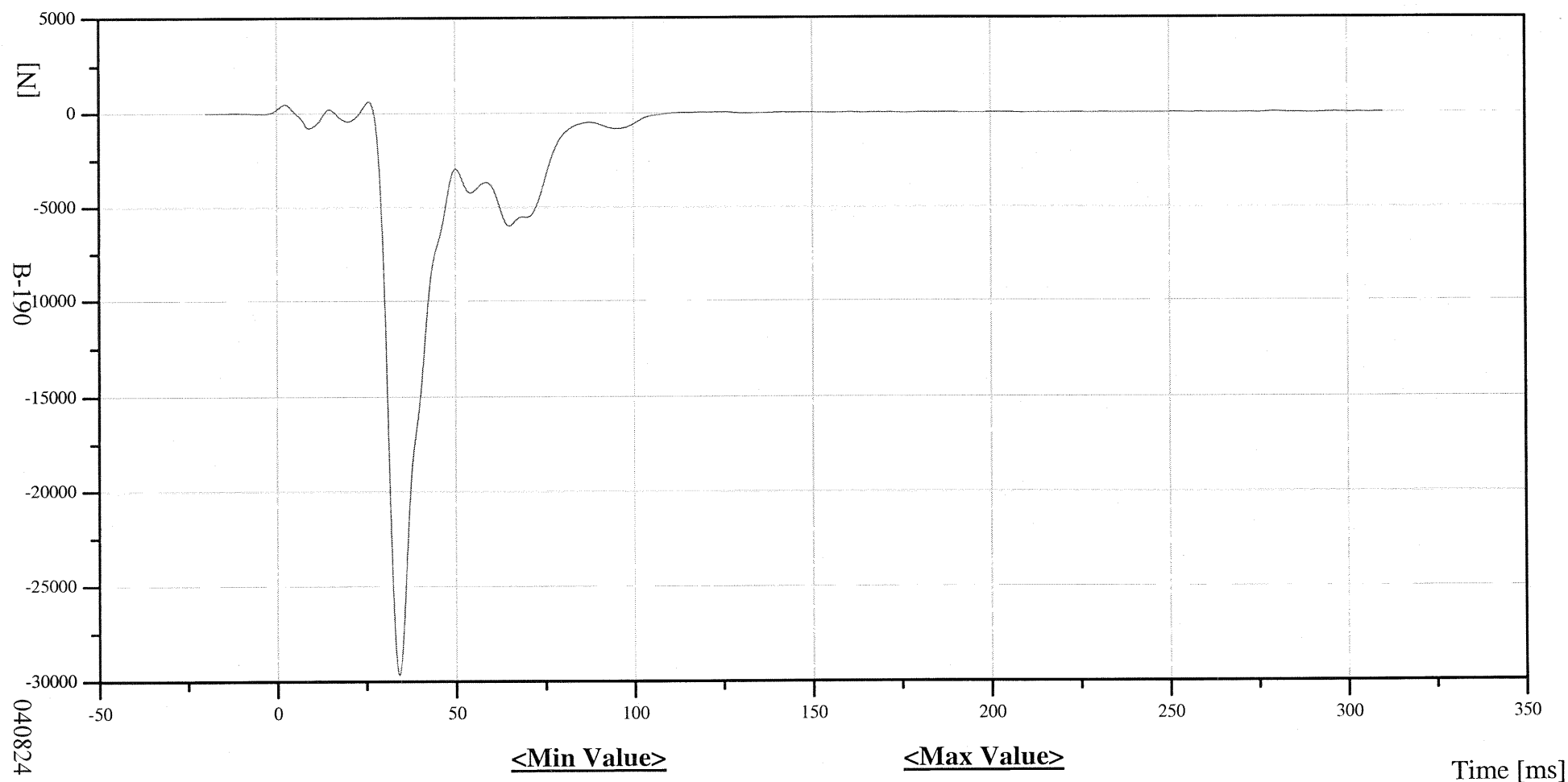
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0311



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

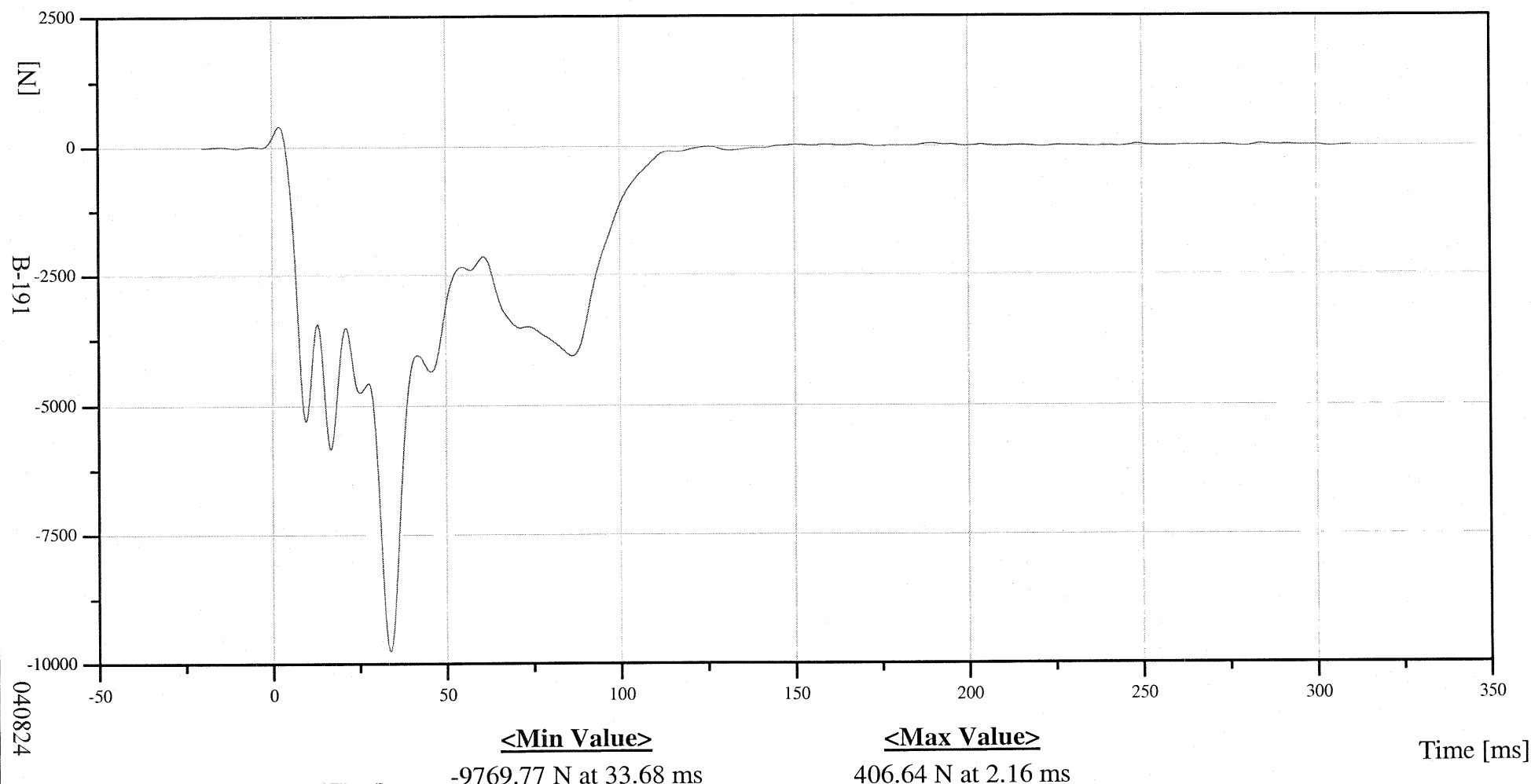
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0312





Transportation Research Center, Inc.

ROW 3 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

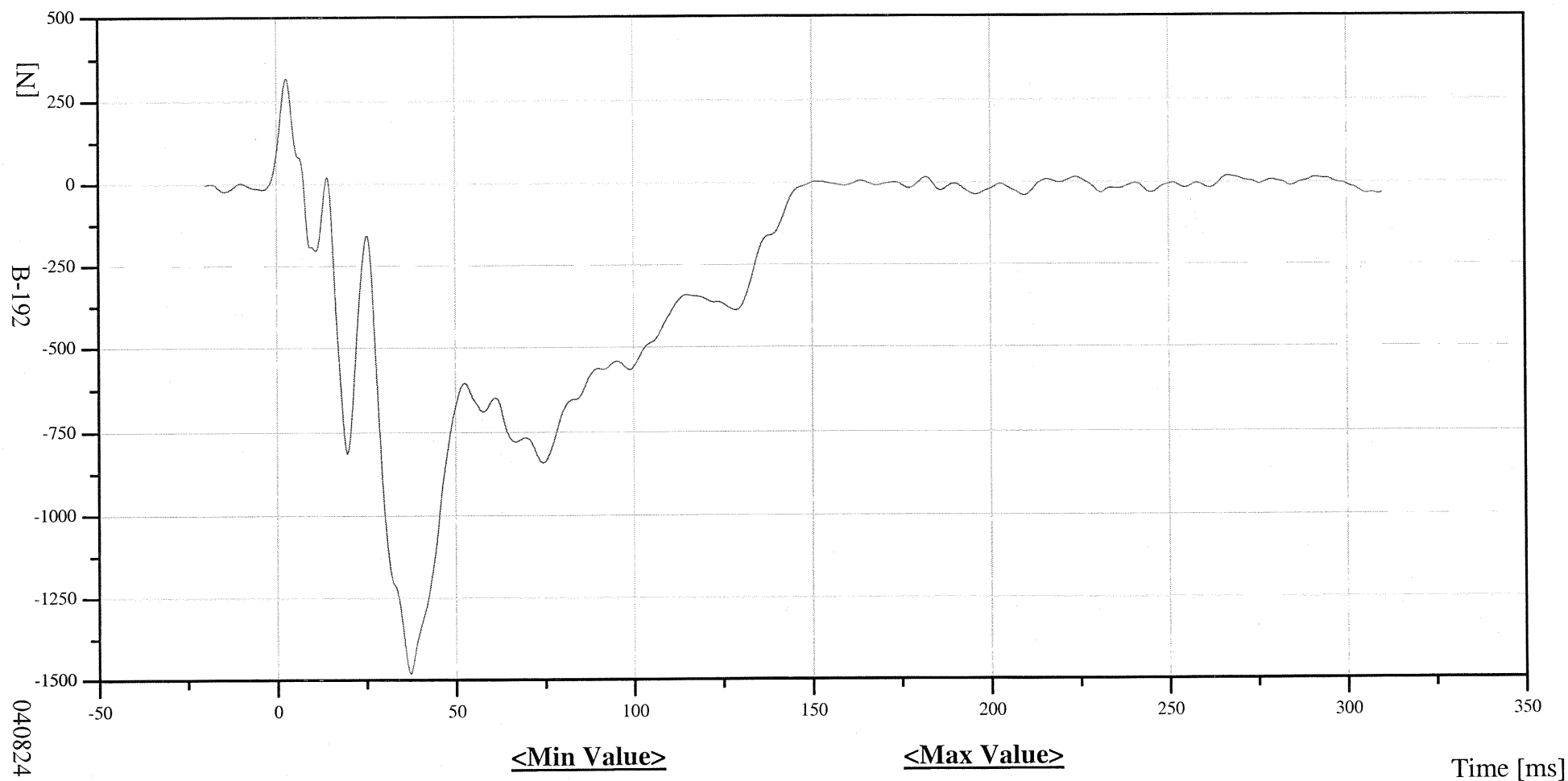
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0313



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

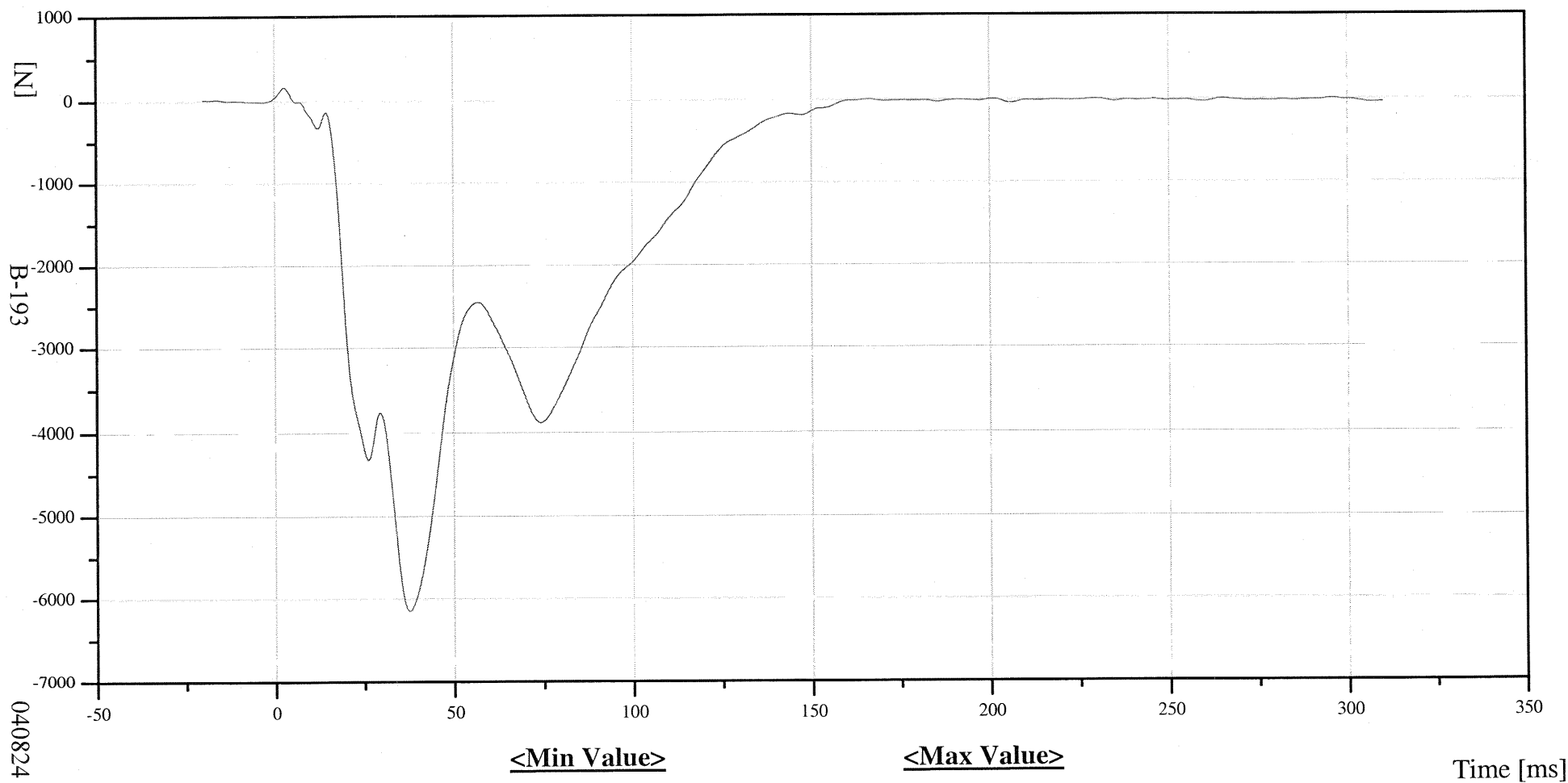
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0314



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 3 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

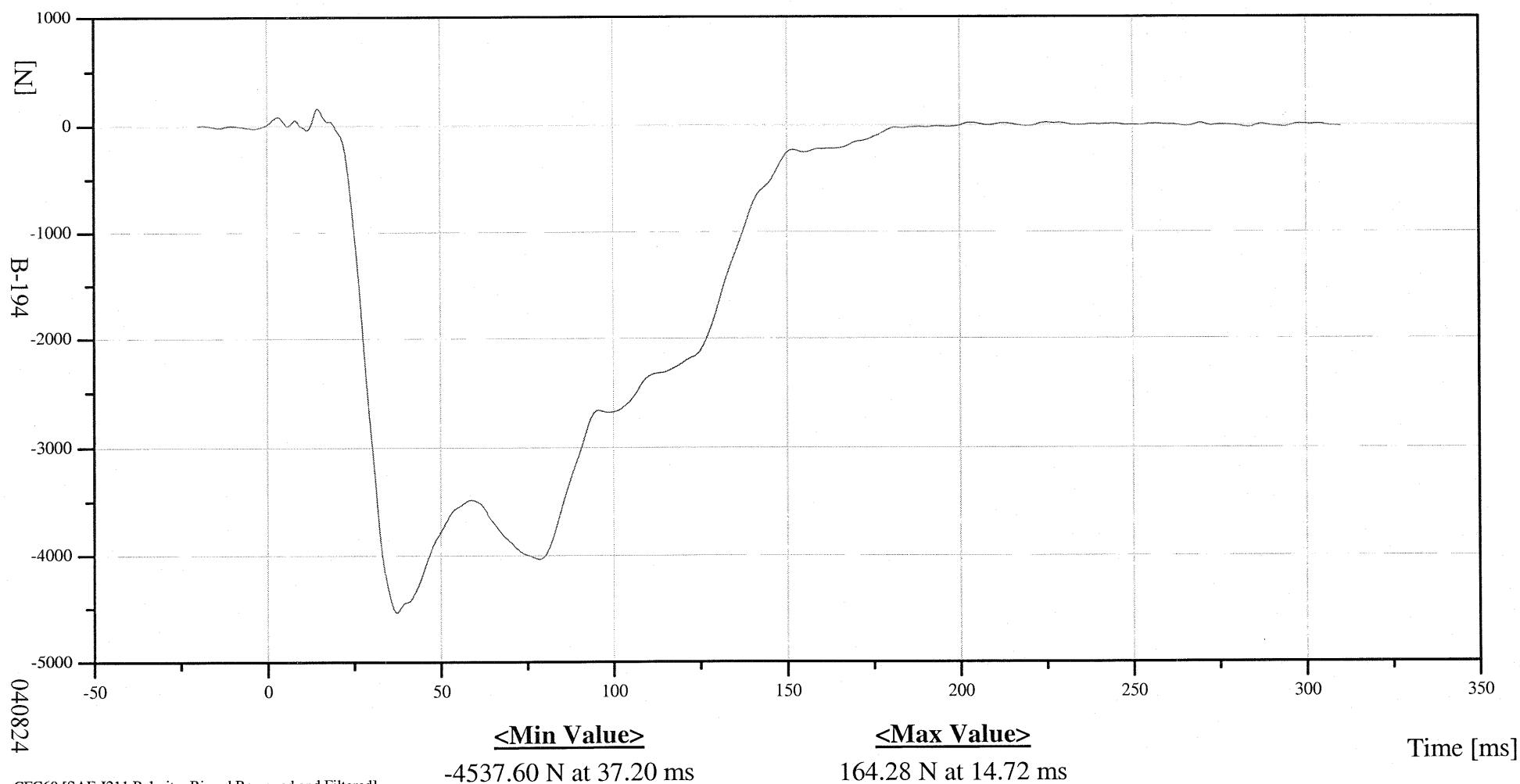
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0315





Transportation Research Center, Inc.

ROW 3 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

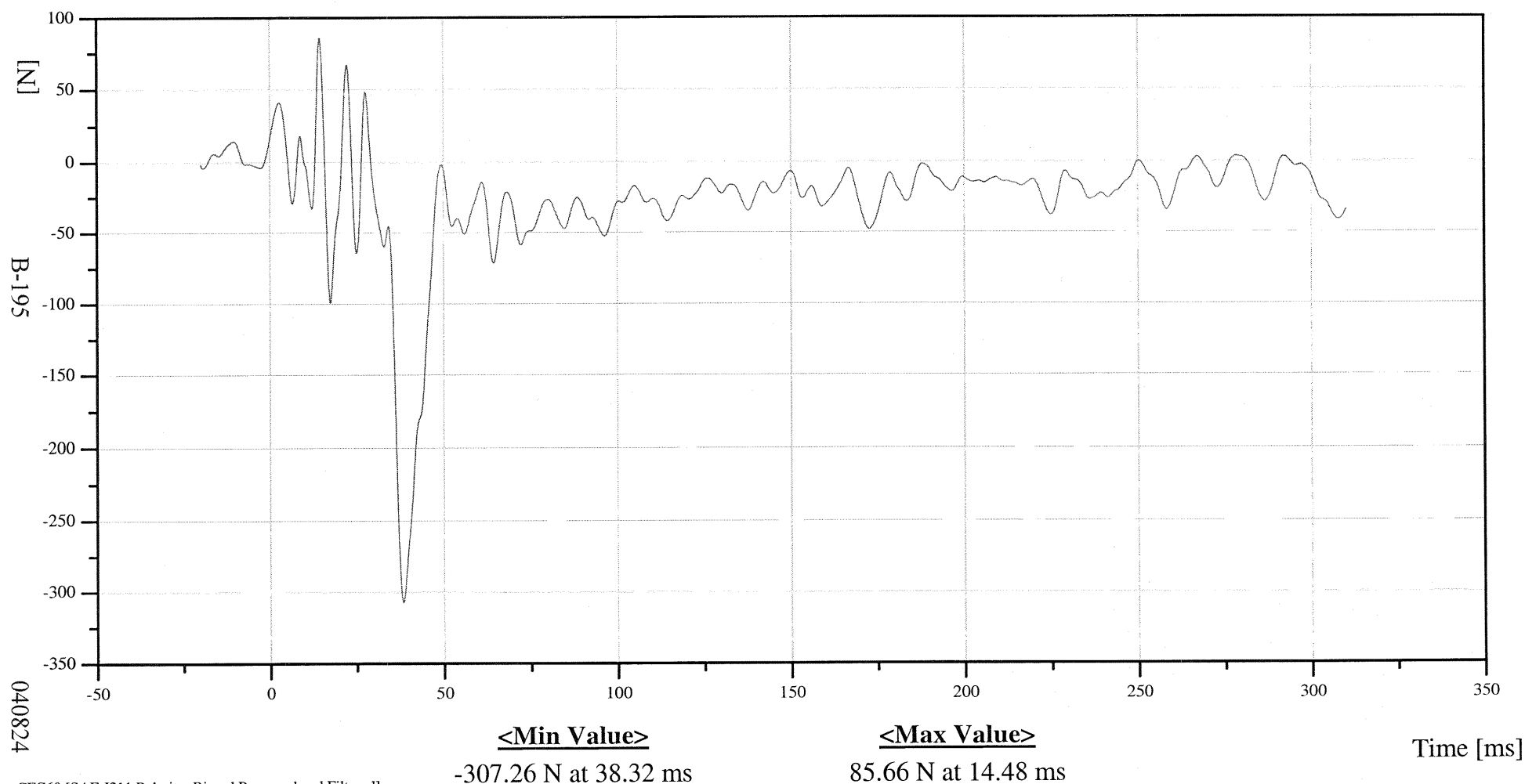
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0316





Transportation Research Center, Inc.

ROW 4 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

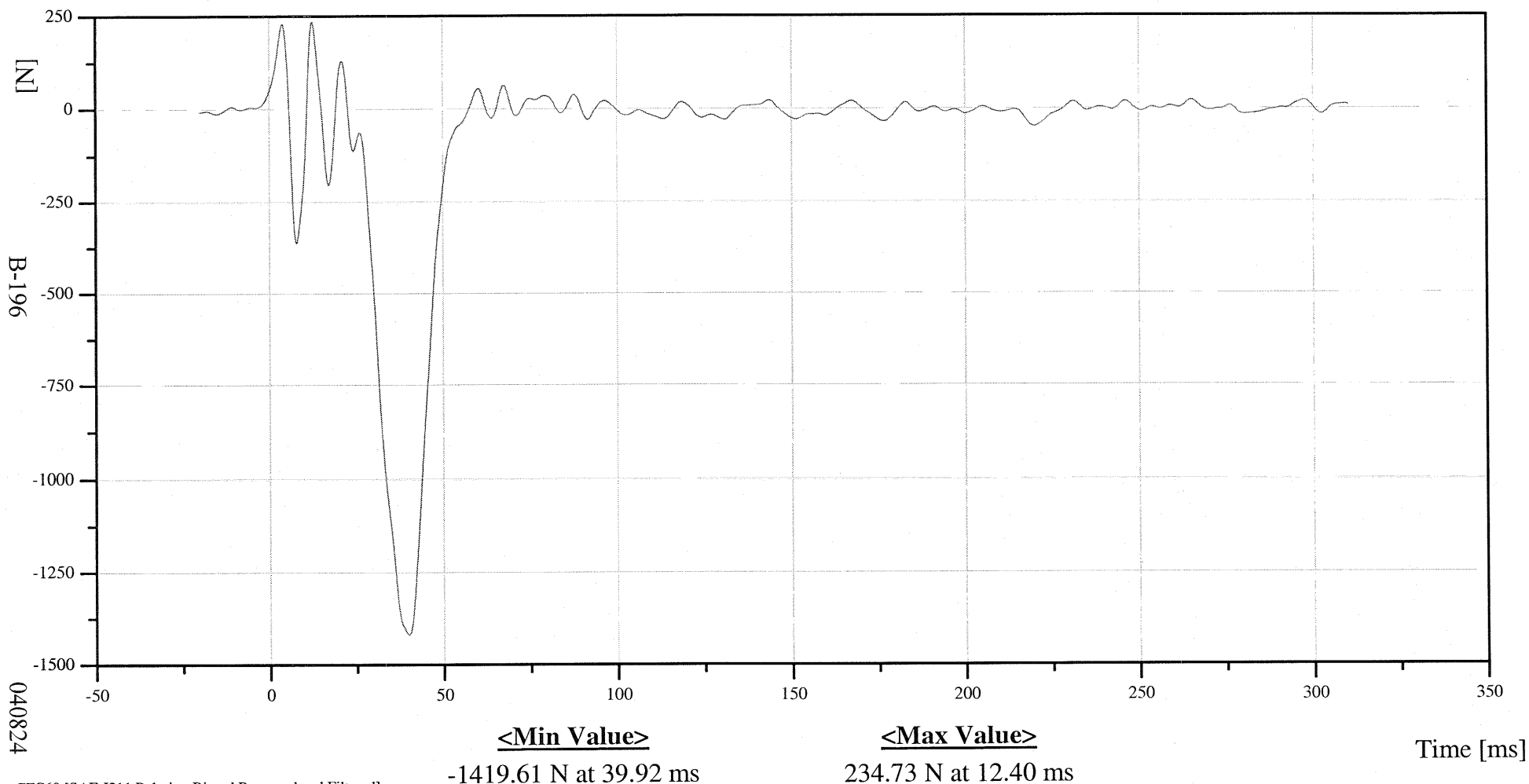
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0401



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

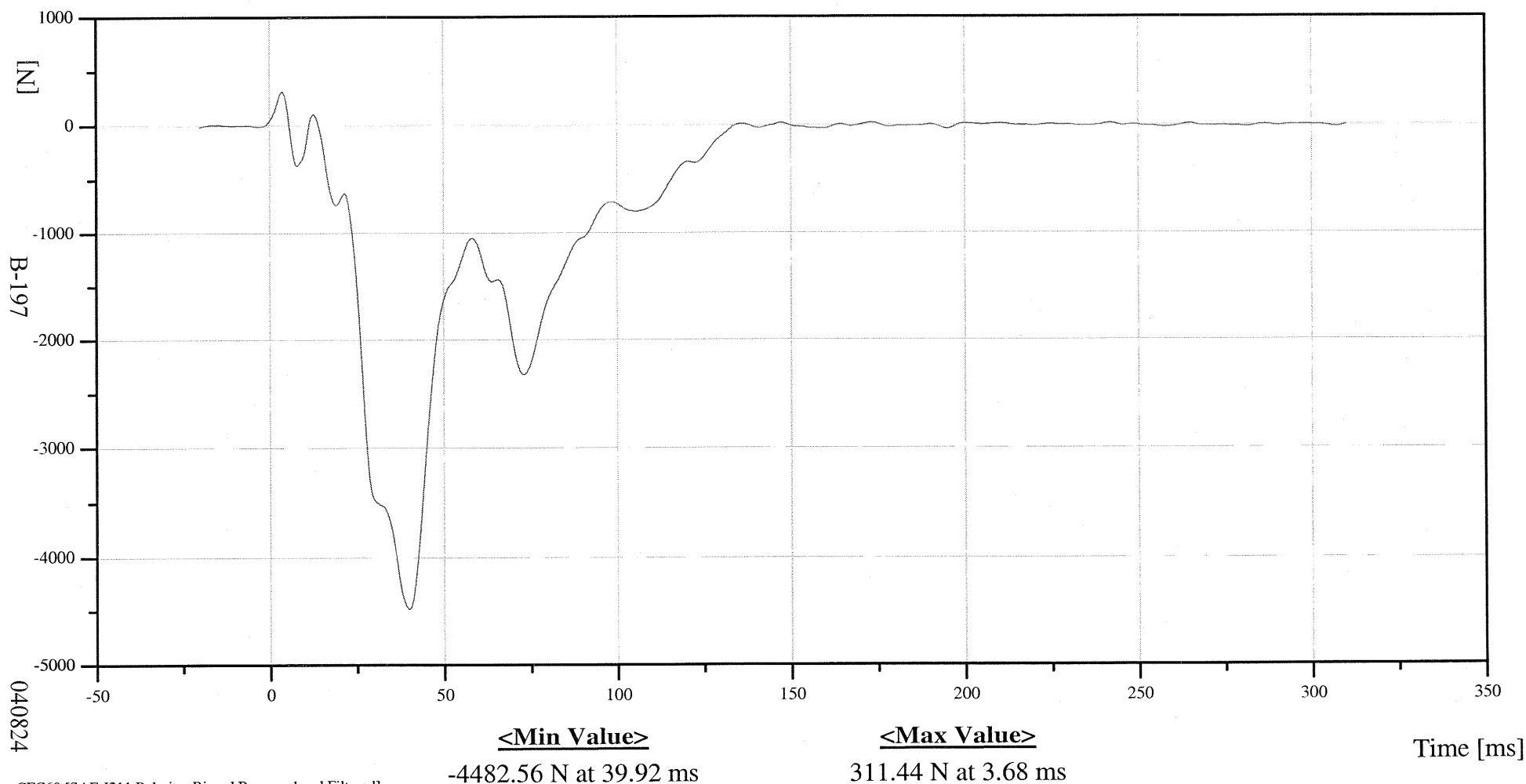
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0402





Transportation Research Center, Inc.

ROW 4 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

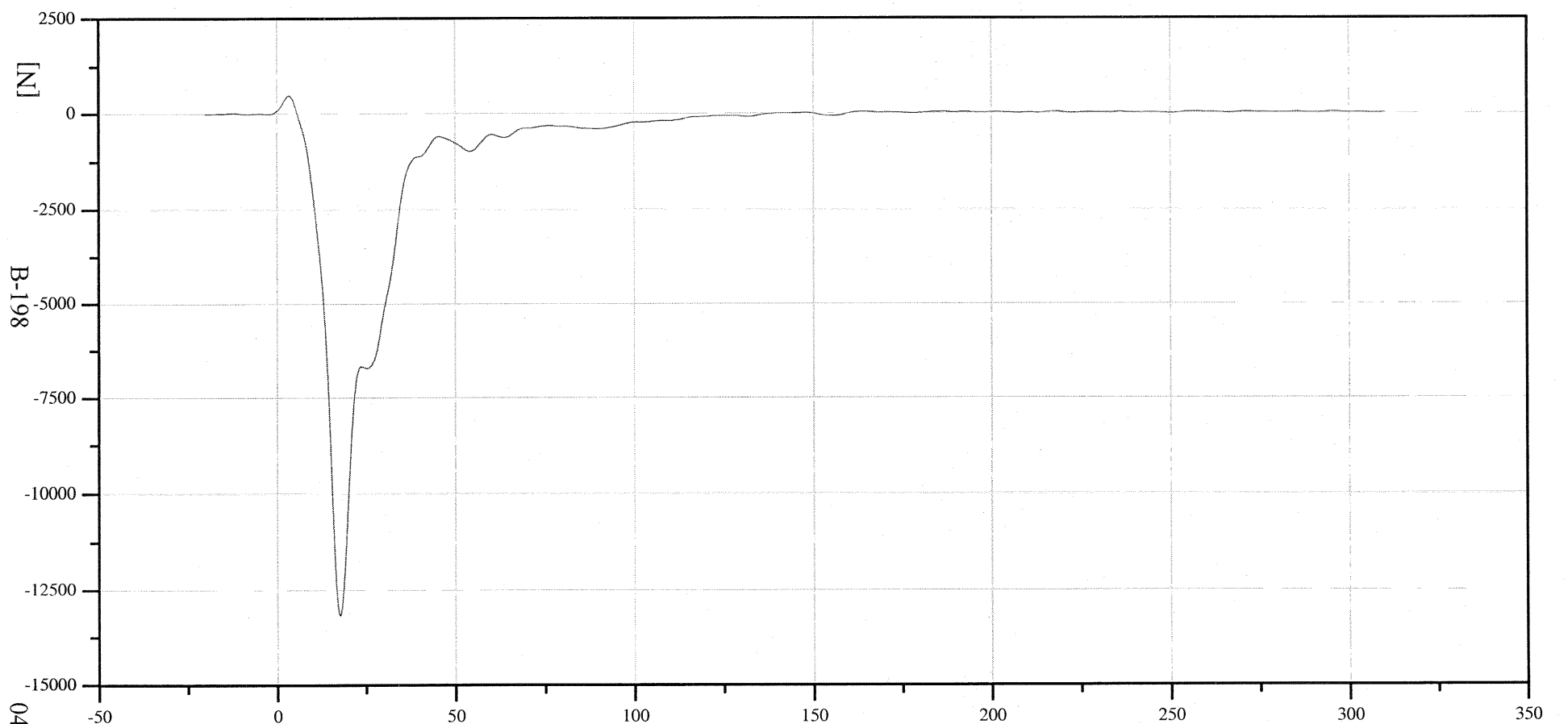
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0403



040824

<Min Value>

-13168.61 N at 17.68 ms

<Max Value>

484.43 N at 3.44 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

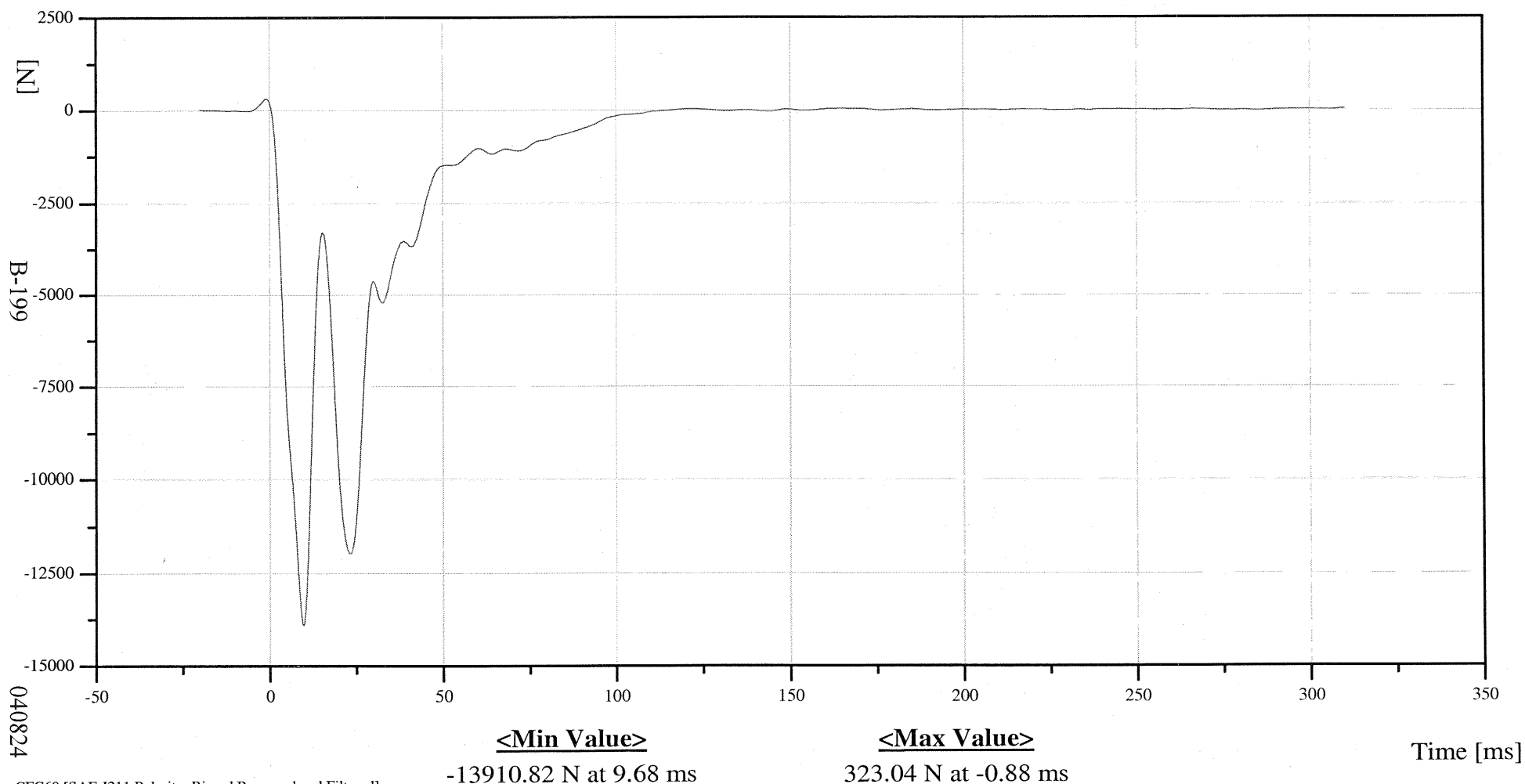
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0404



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

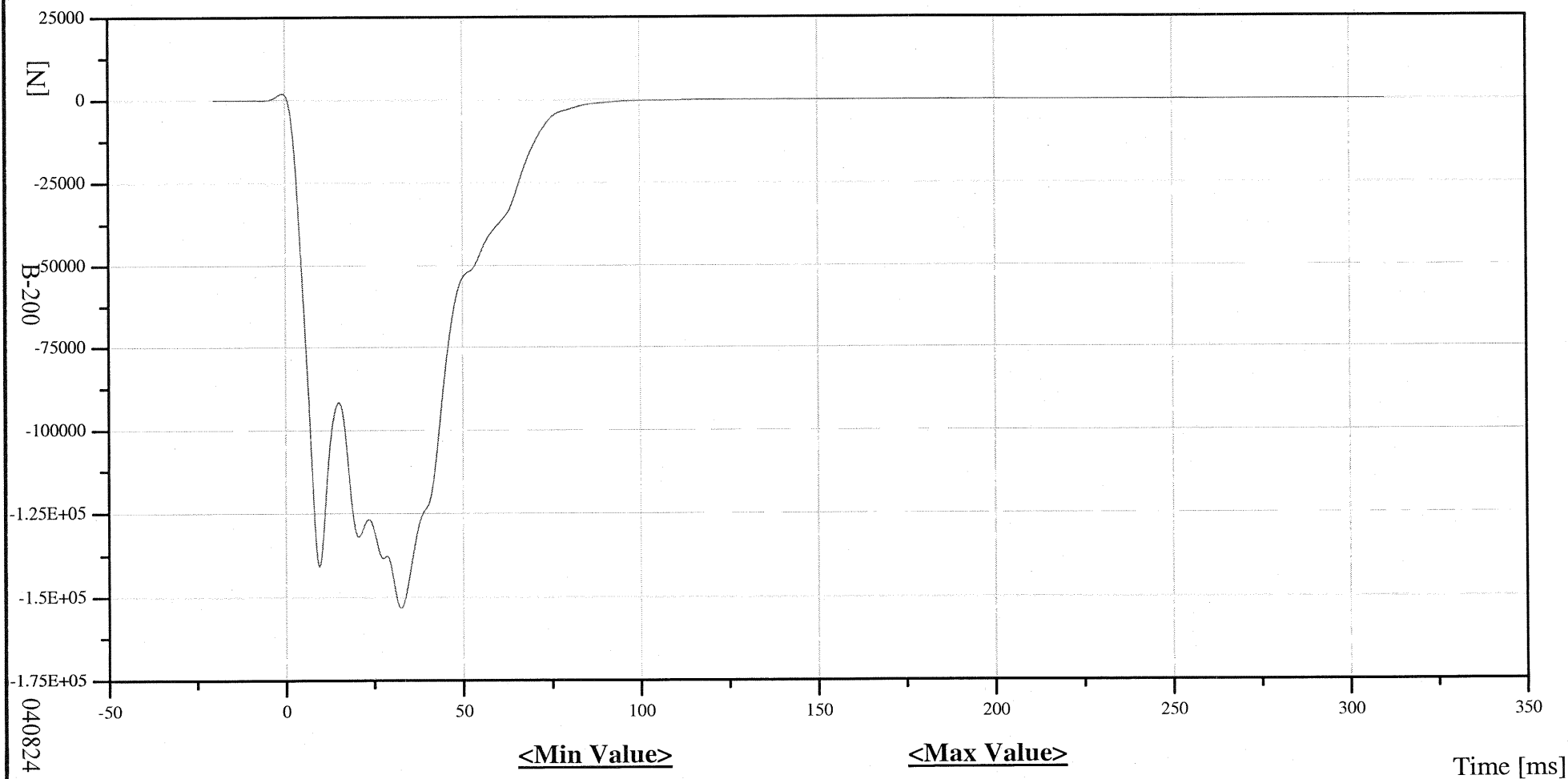
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0405



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

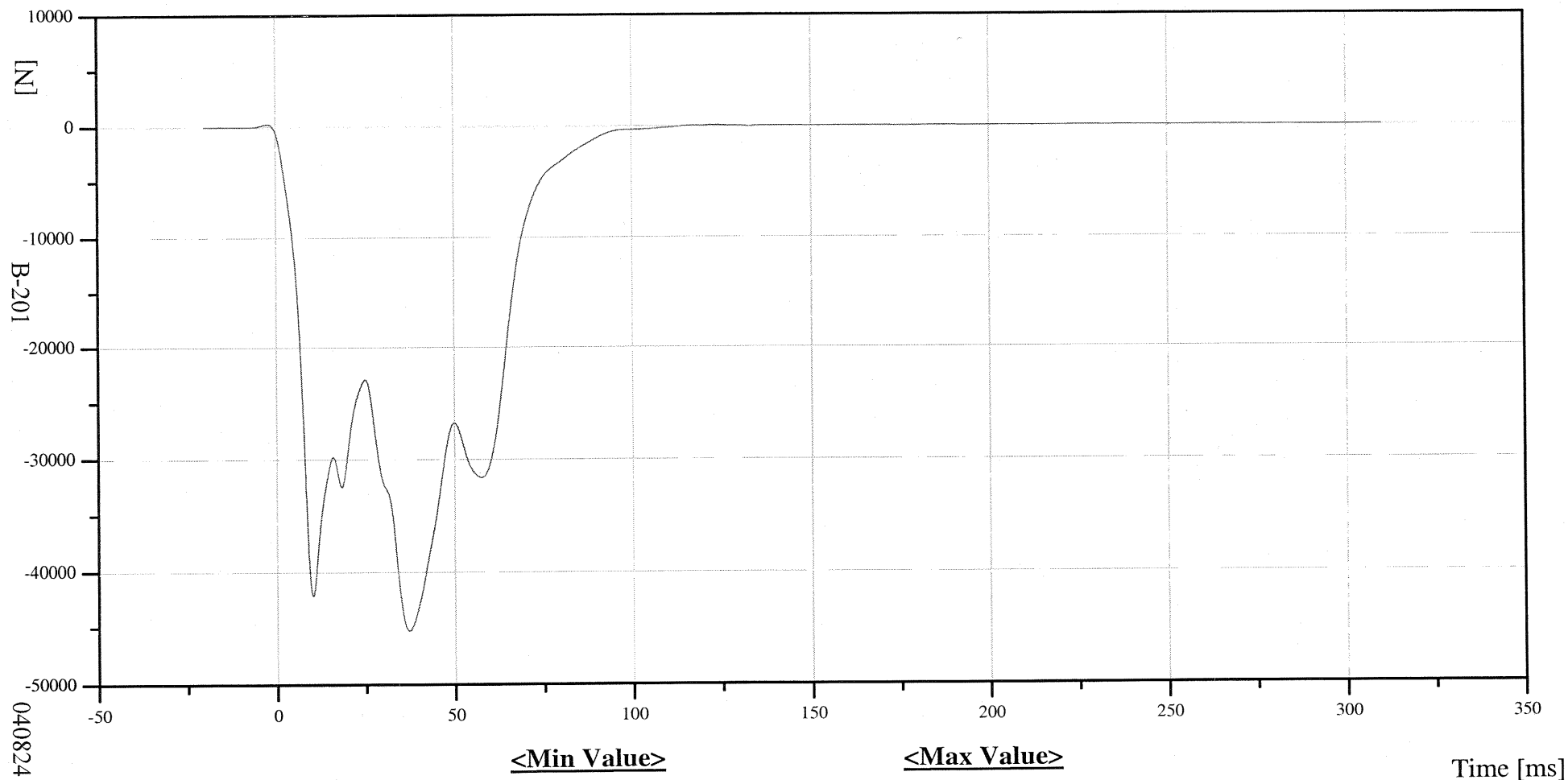
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0406



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

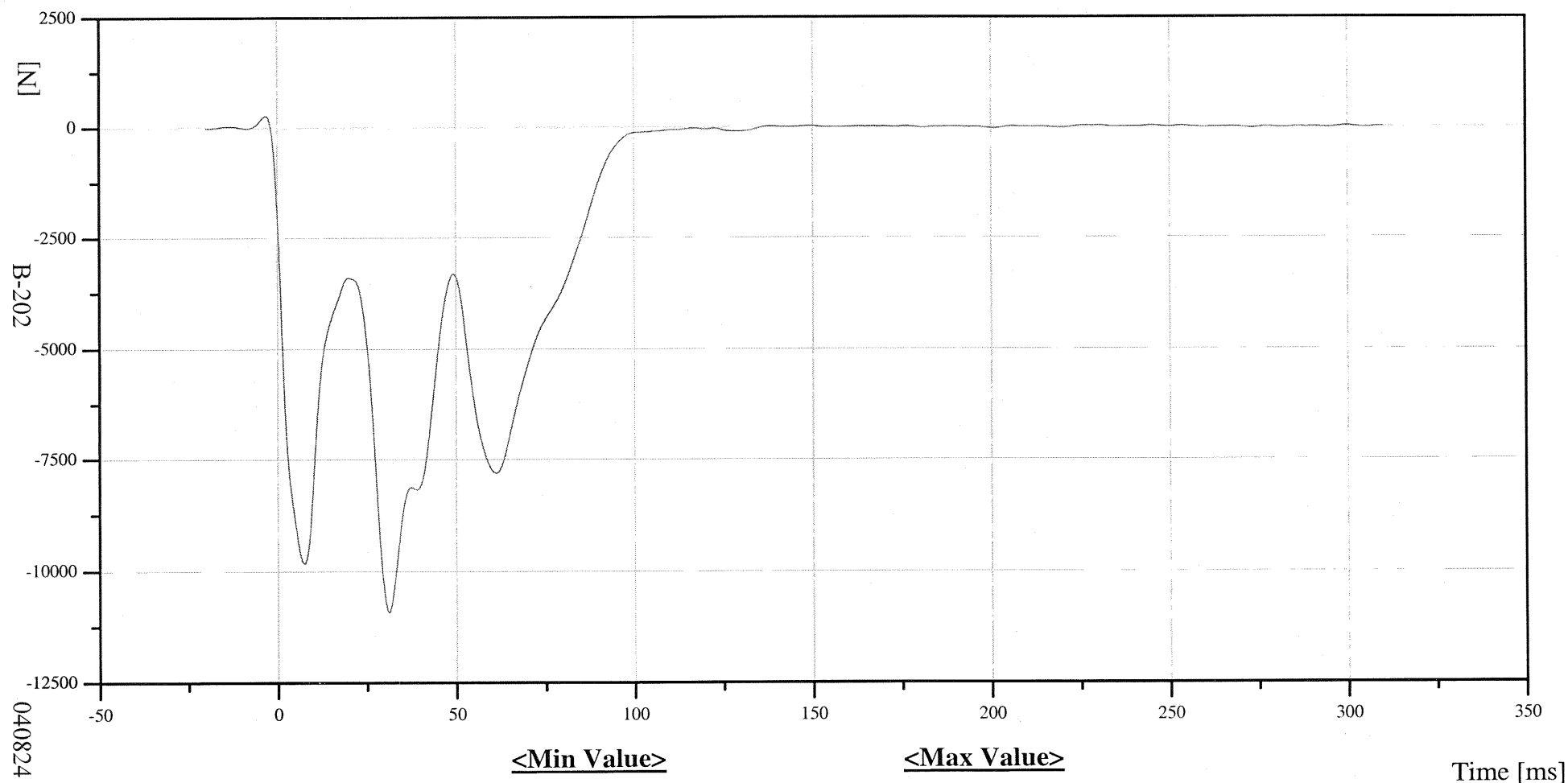
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0407



040824

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

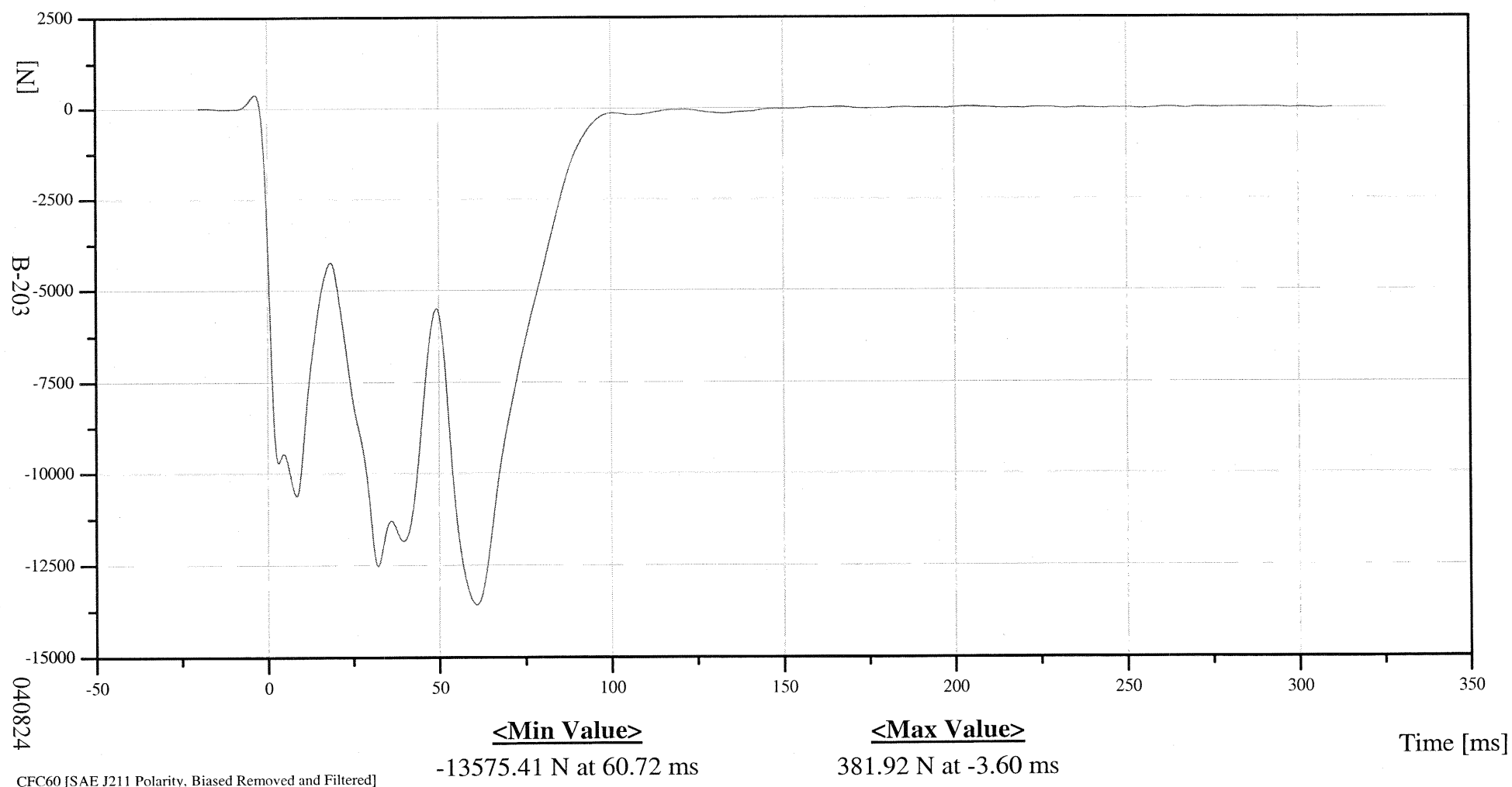
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0408





Transportation Research Center, Inc.

ROW 4 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

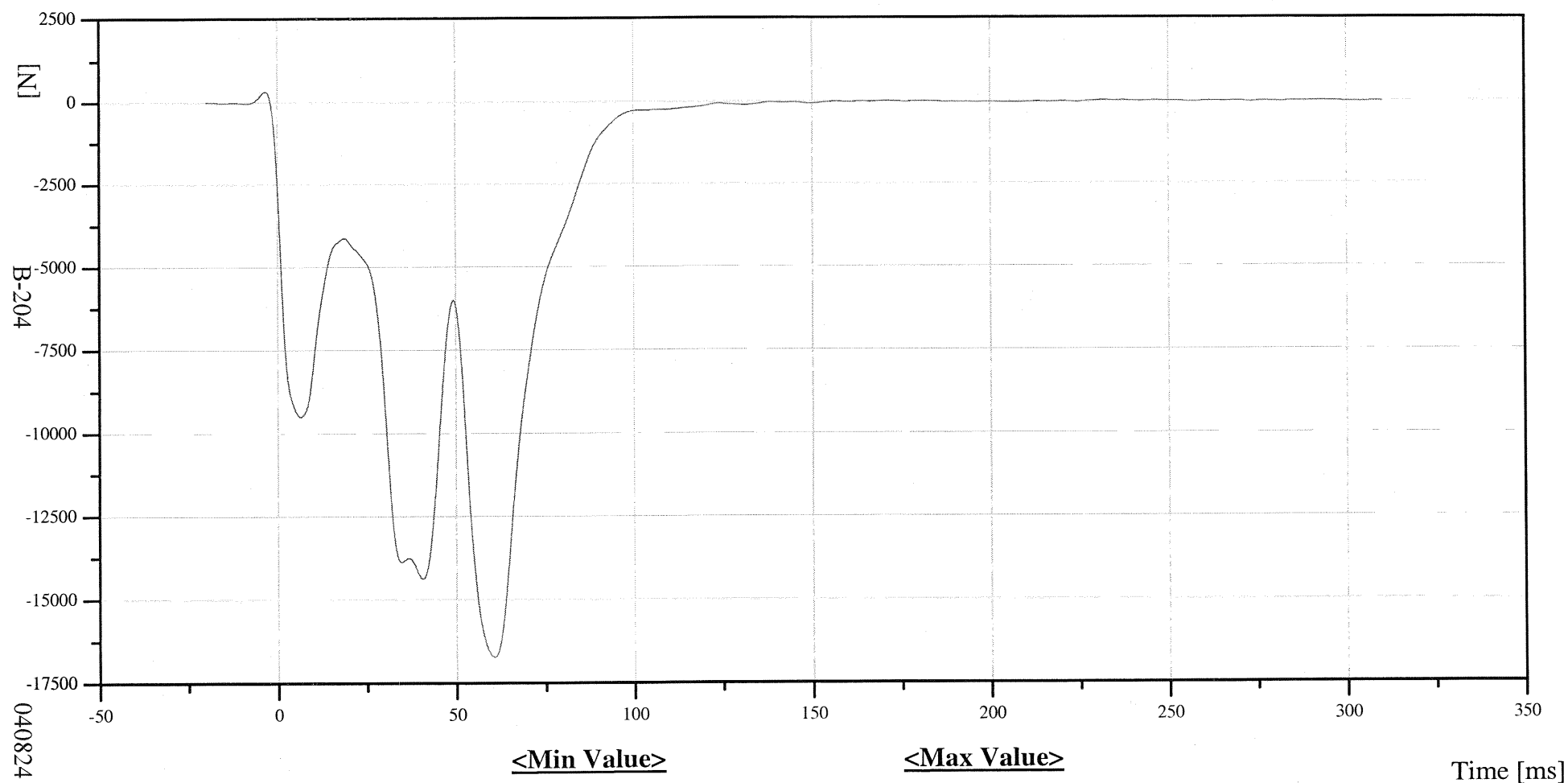
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0409



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

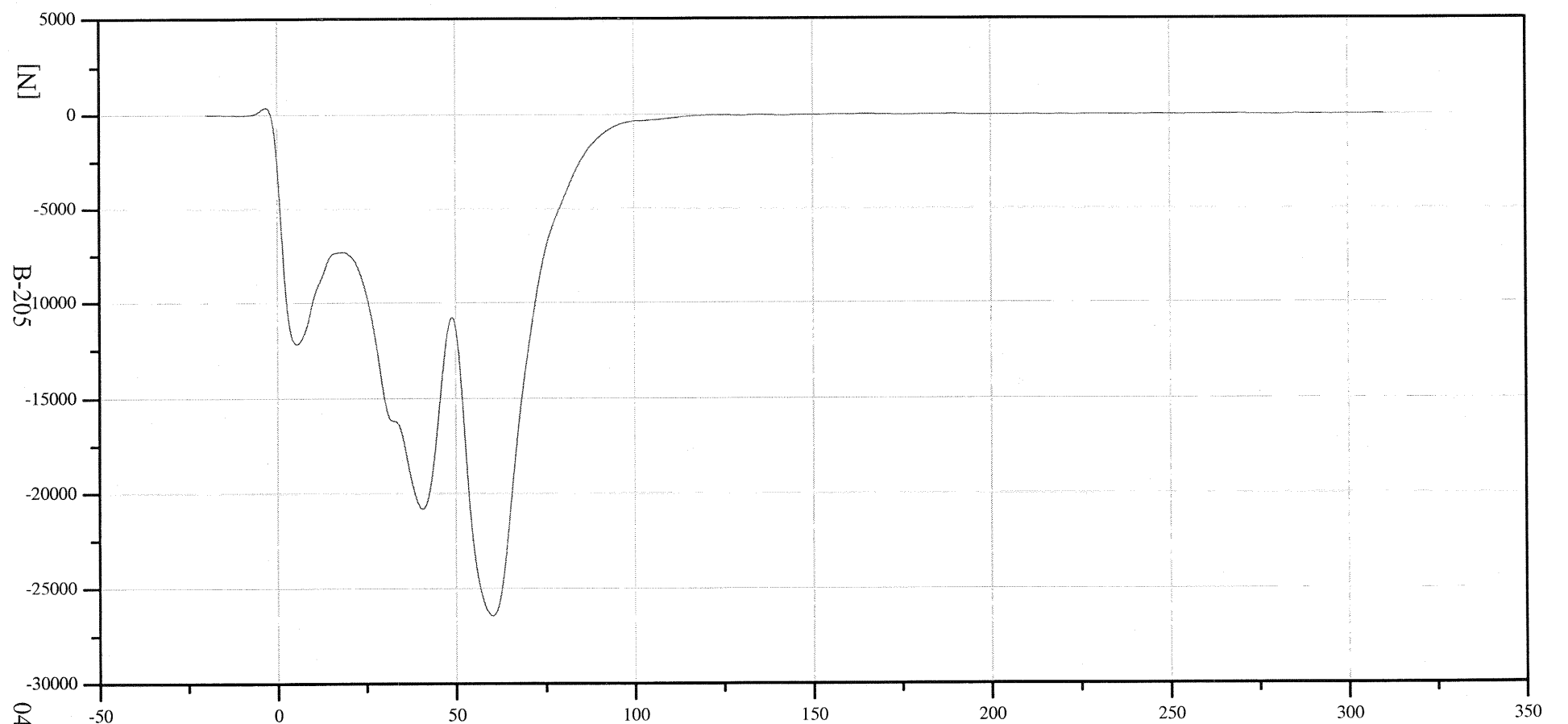
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0410



<Min Value>

-26433.68 N at 60.08 ms

<Max Value>

375.74 N at -3.20 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

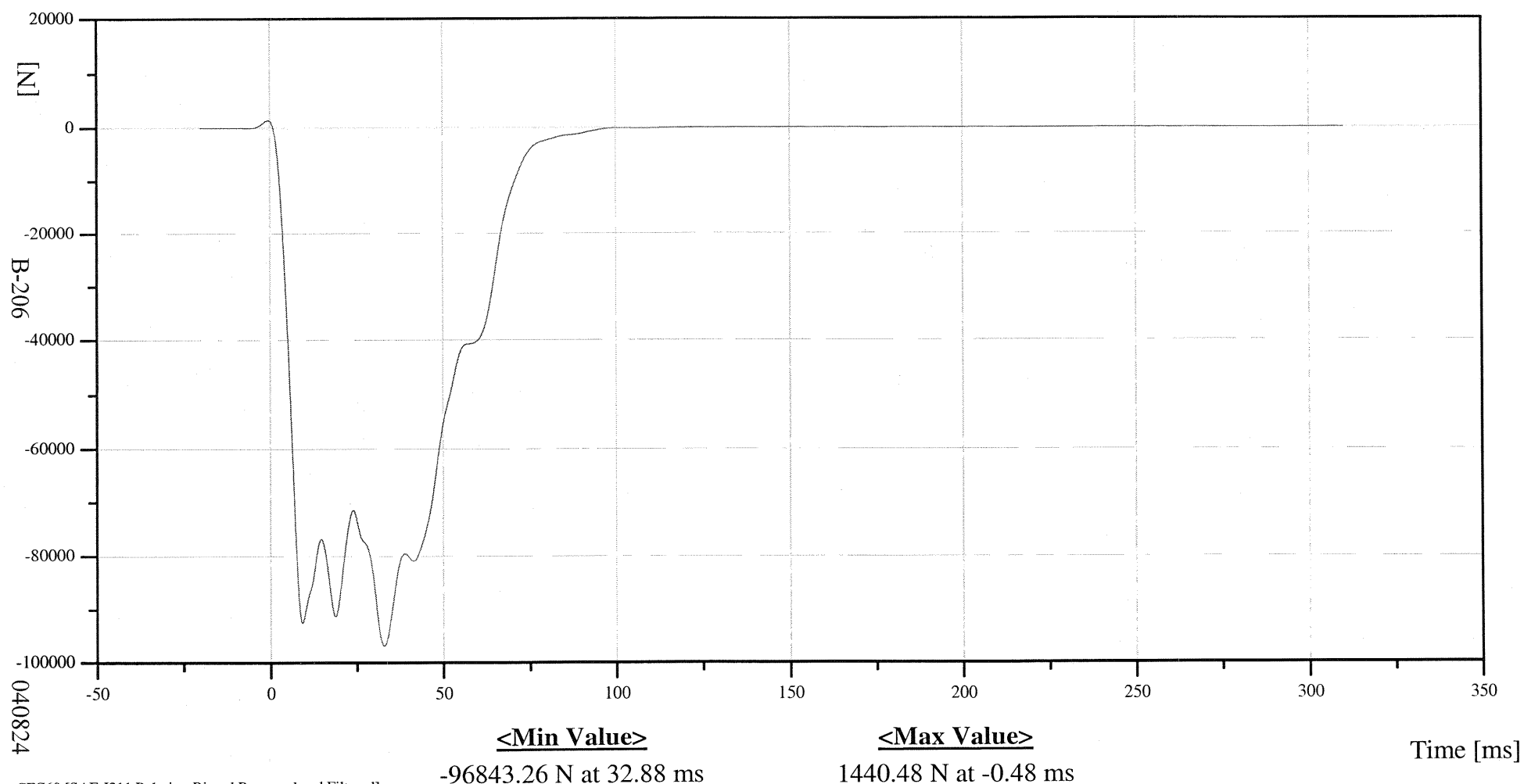
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0411





Transportation Research Center, Inc.

ROW 4 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

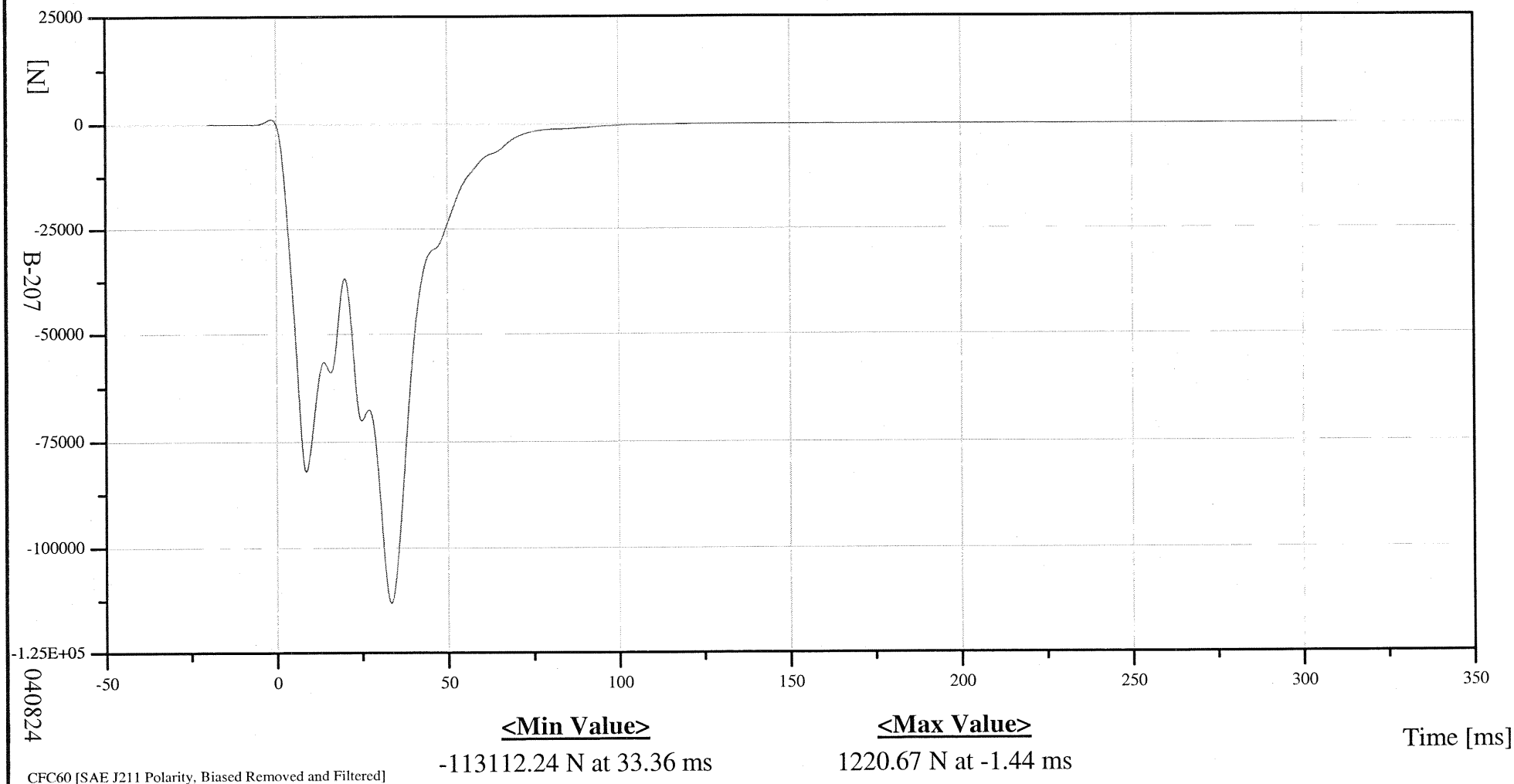
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0412





Transportation Research Center, Inc.

ROW 4 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

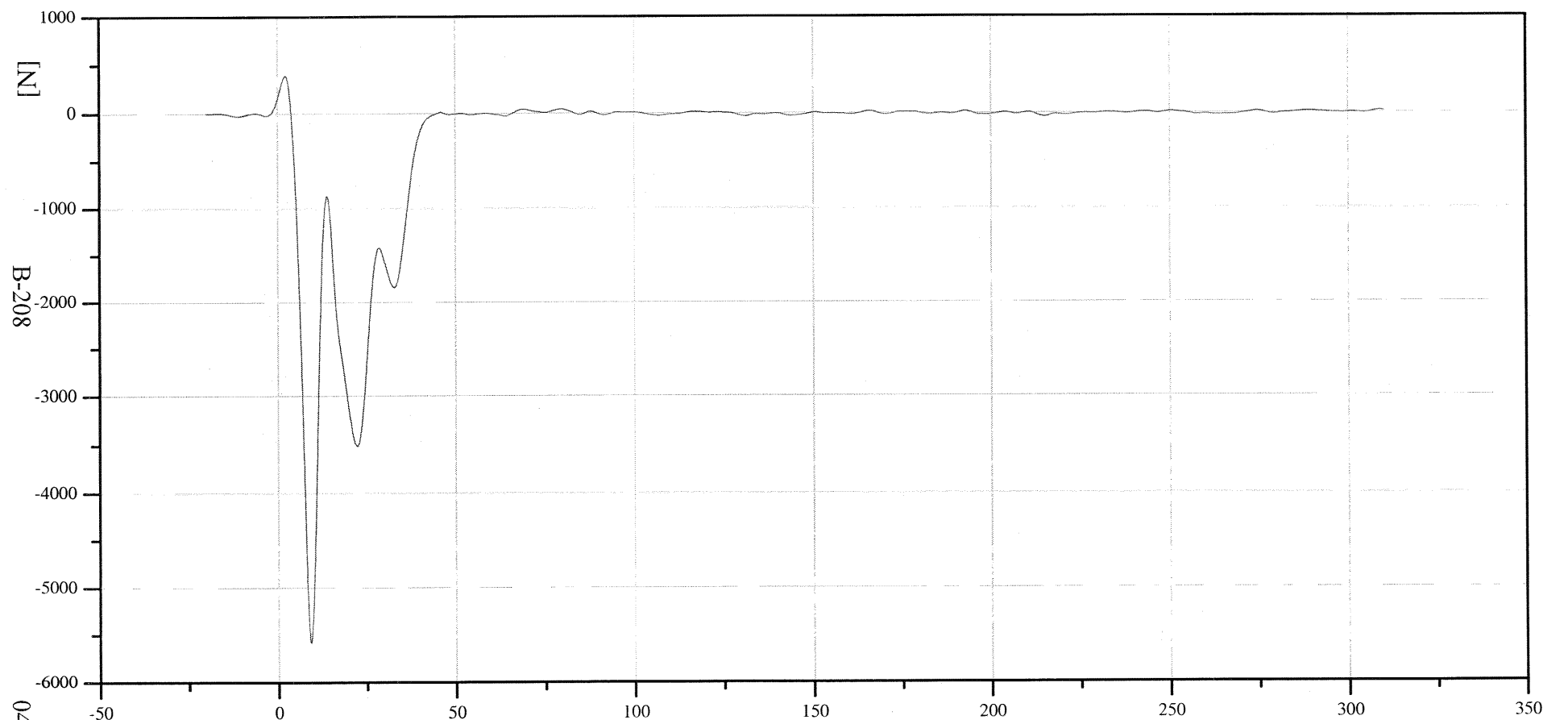
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0413



<Min Value>

-5577.36 N at 9.12 ms

<Max Value>

386.19 N at 2.24 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



ROW 4 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Transportation Research Center, Inc.

Test Lab: CTF

Customer: VRTC

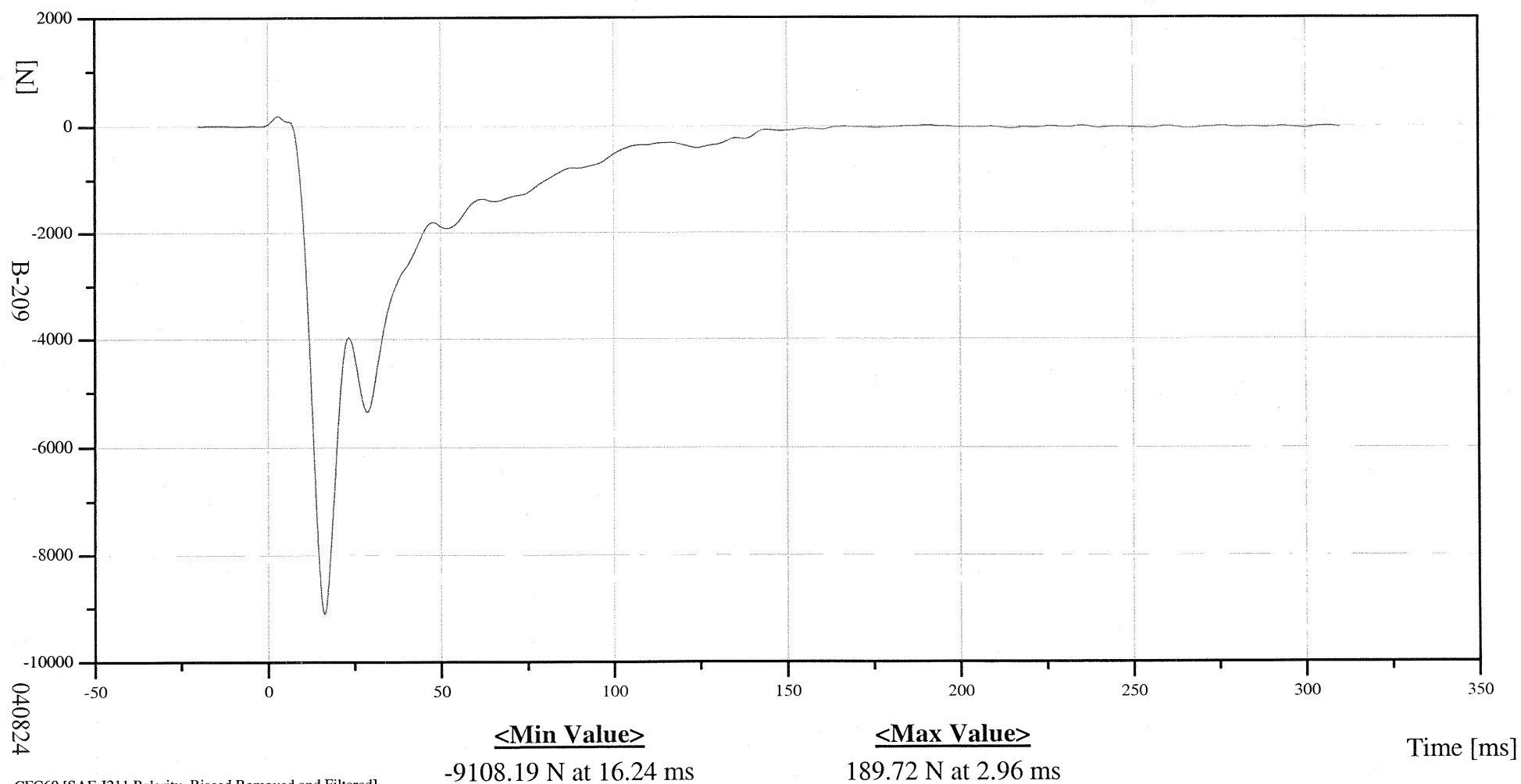
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0414



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

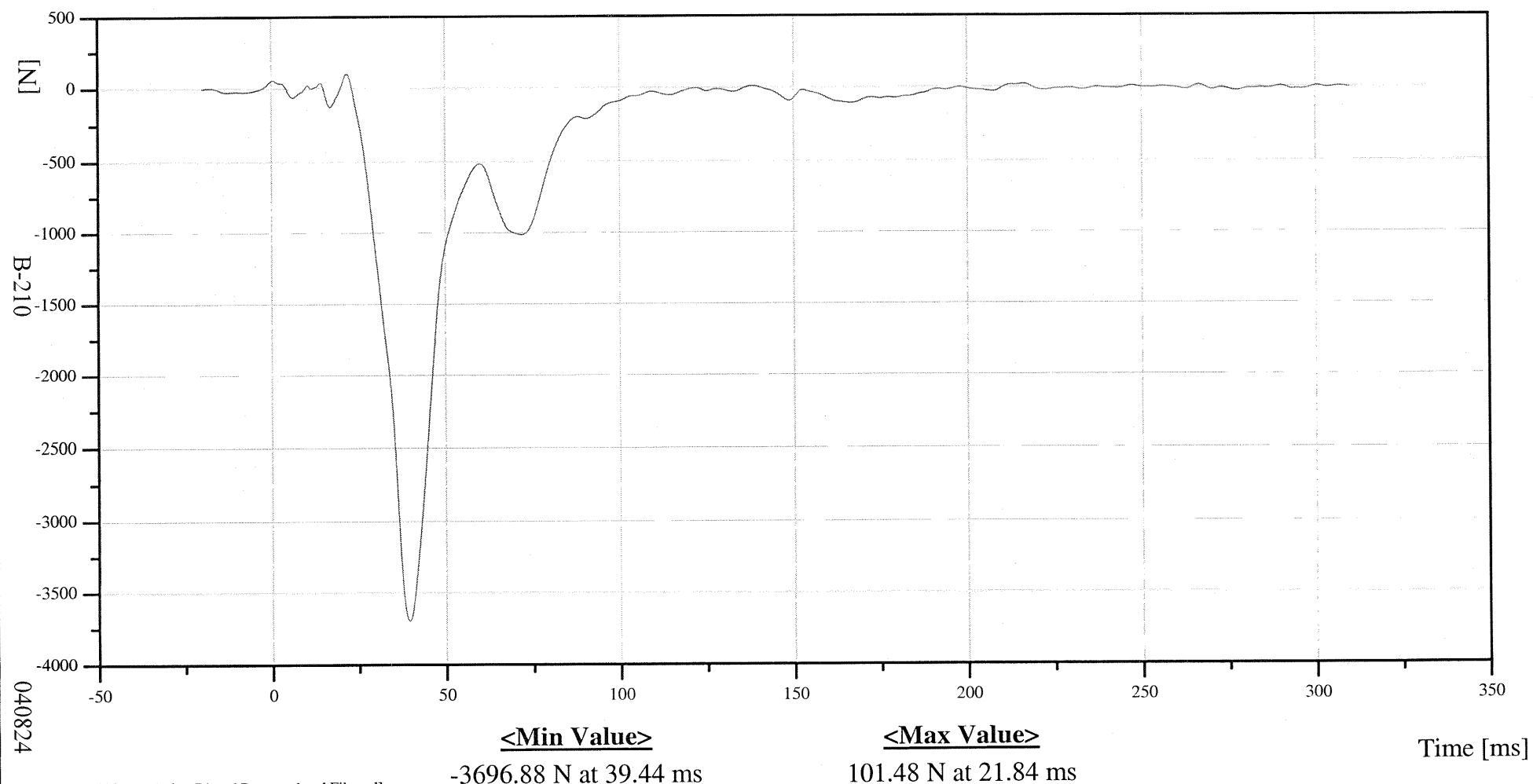
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0415



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 4 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

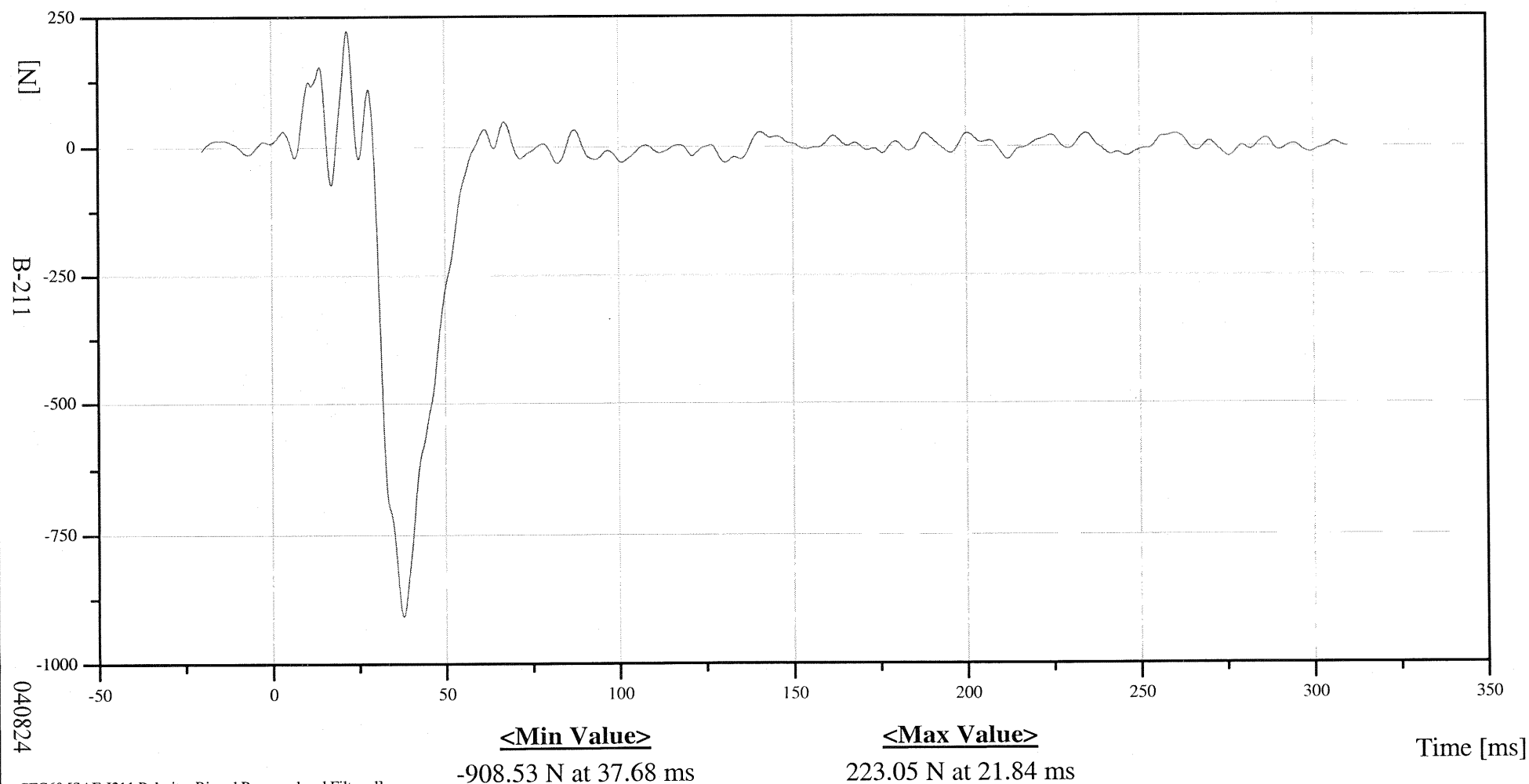
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0416





Transportation Research Center, Inc.

ROW 5 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

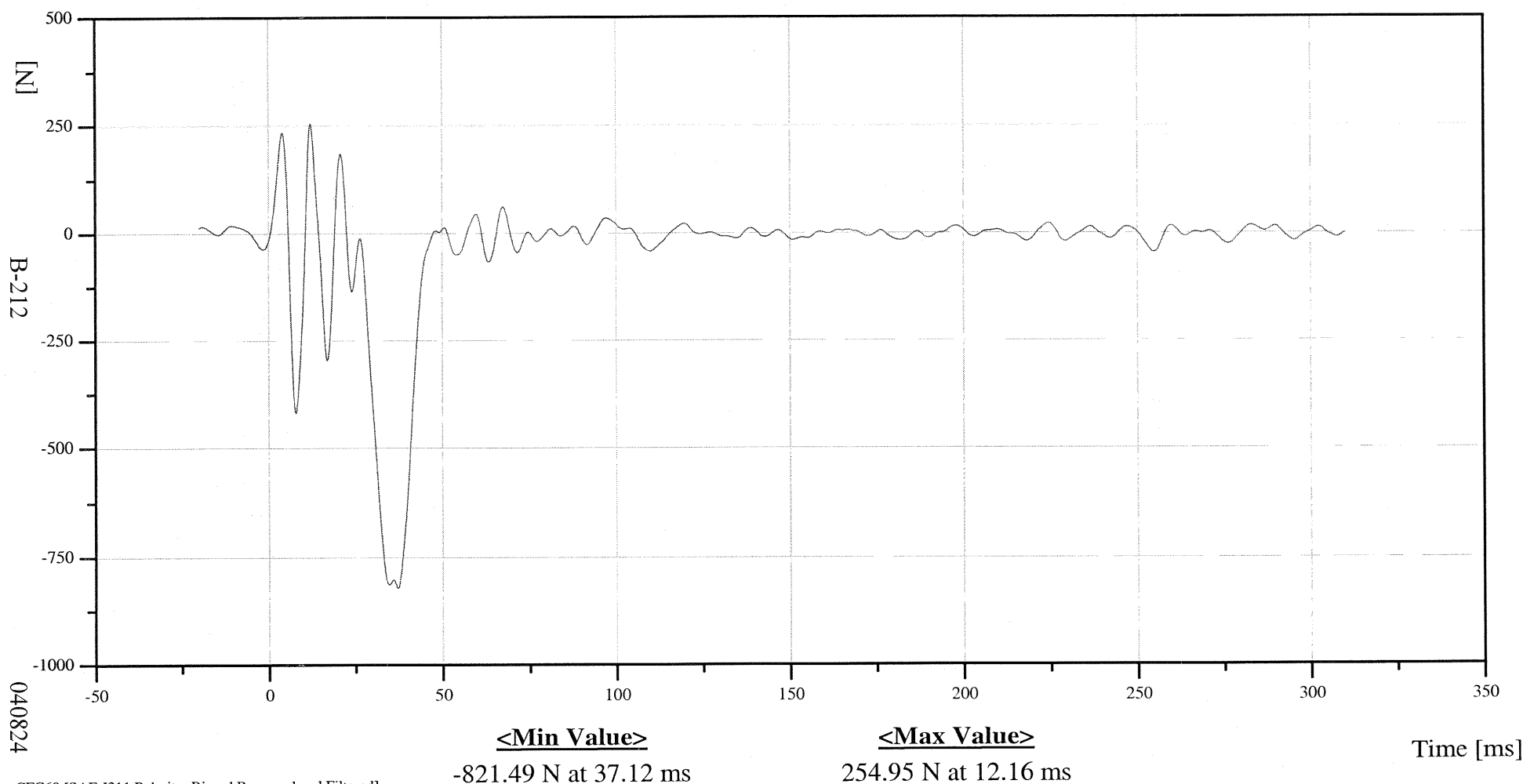
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0501





Transportation Research Center, Inc.

ROW 5 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

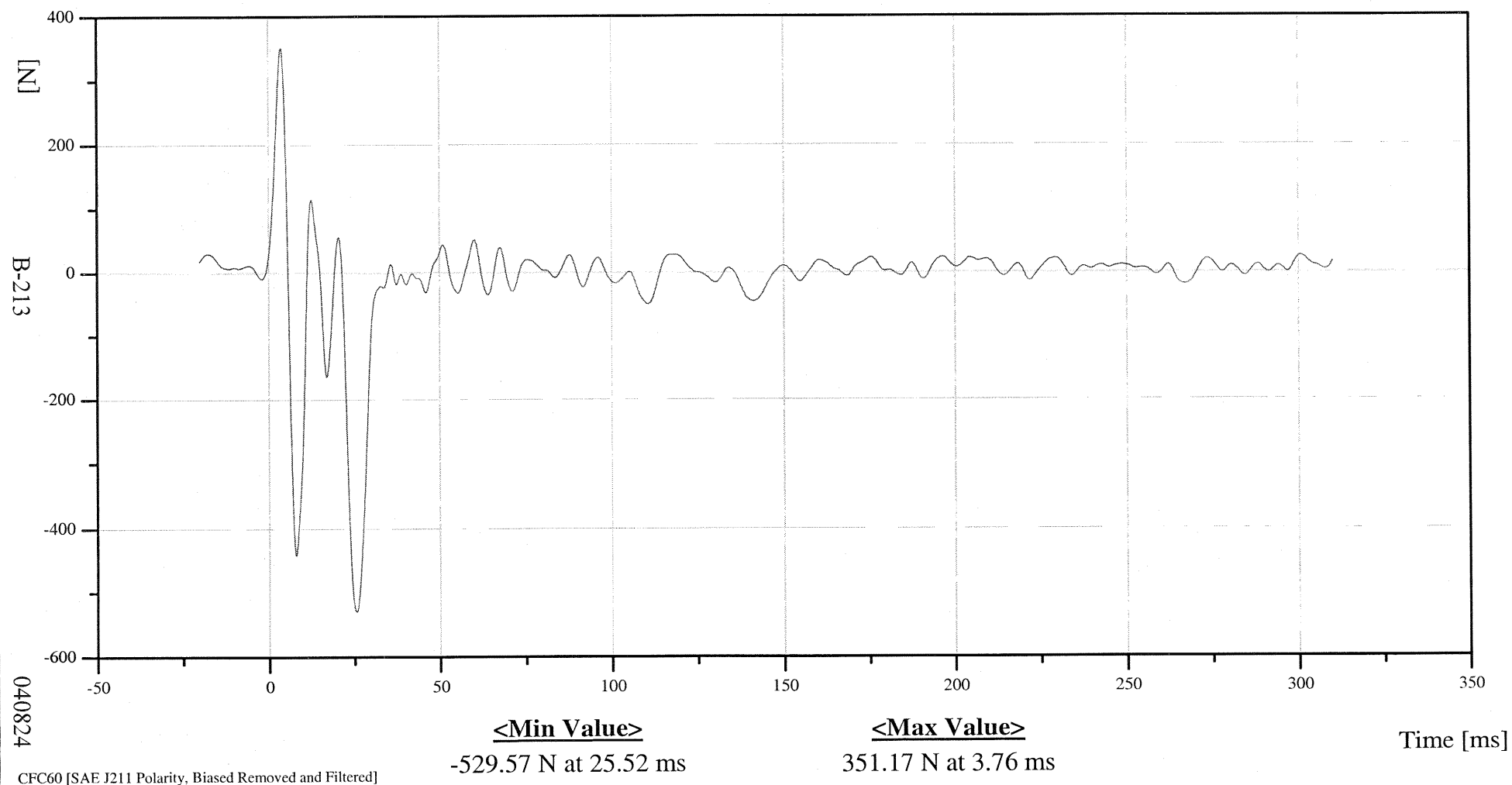
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0502





Transportation Research Center, Inc.

ROW 5 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

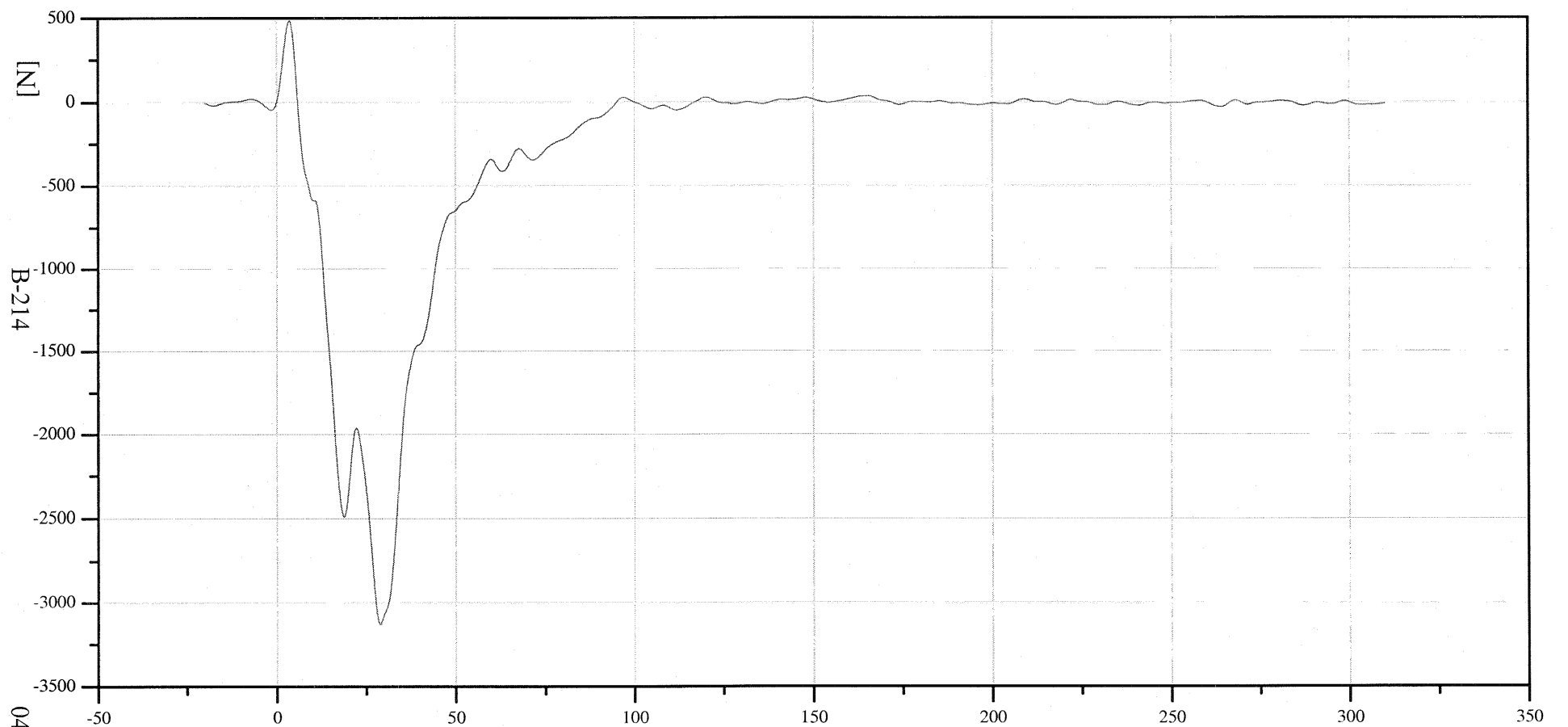
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0503



040824

<Min Value>

-3129.19 N at 28.80 ms

<Max Value>

484.59 N at 3.52 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

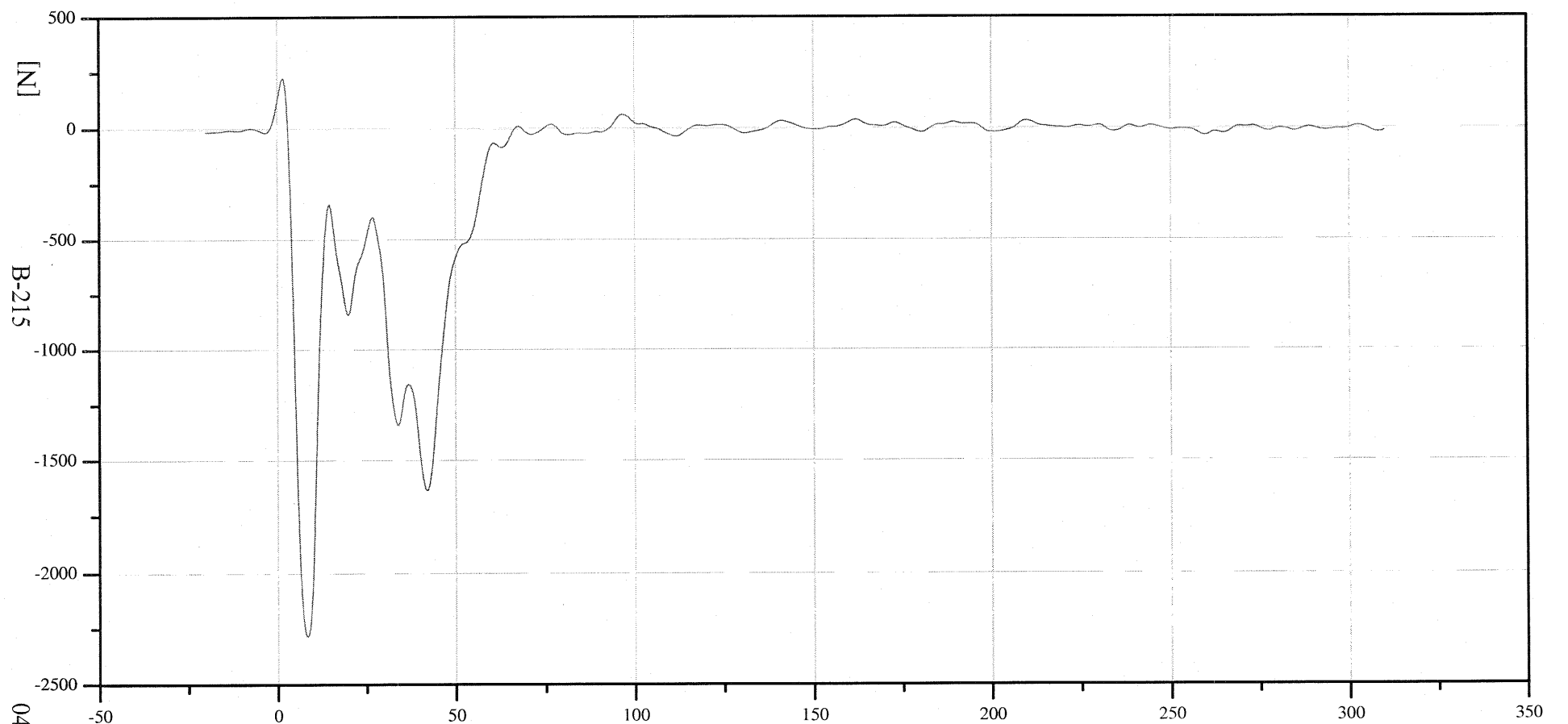
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0504



<Min Value>

-2284.14 N at 8.24 ms

<Max Value>

224.84 N at 1.60 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

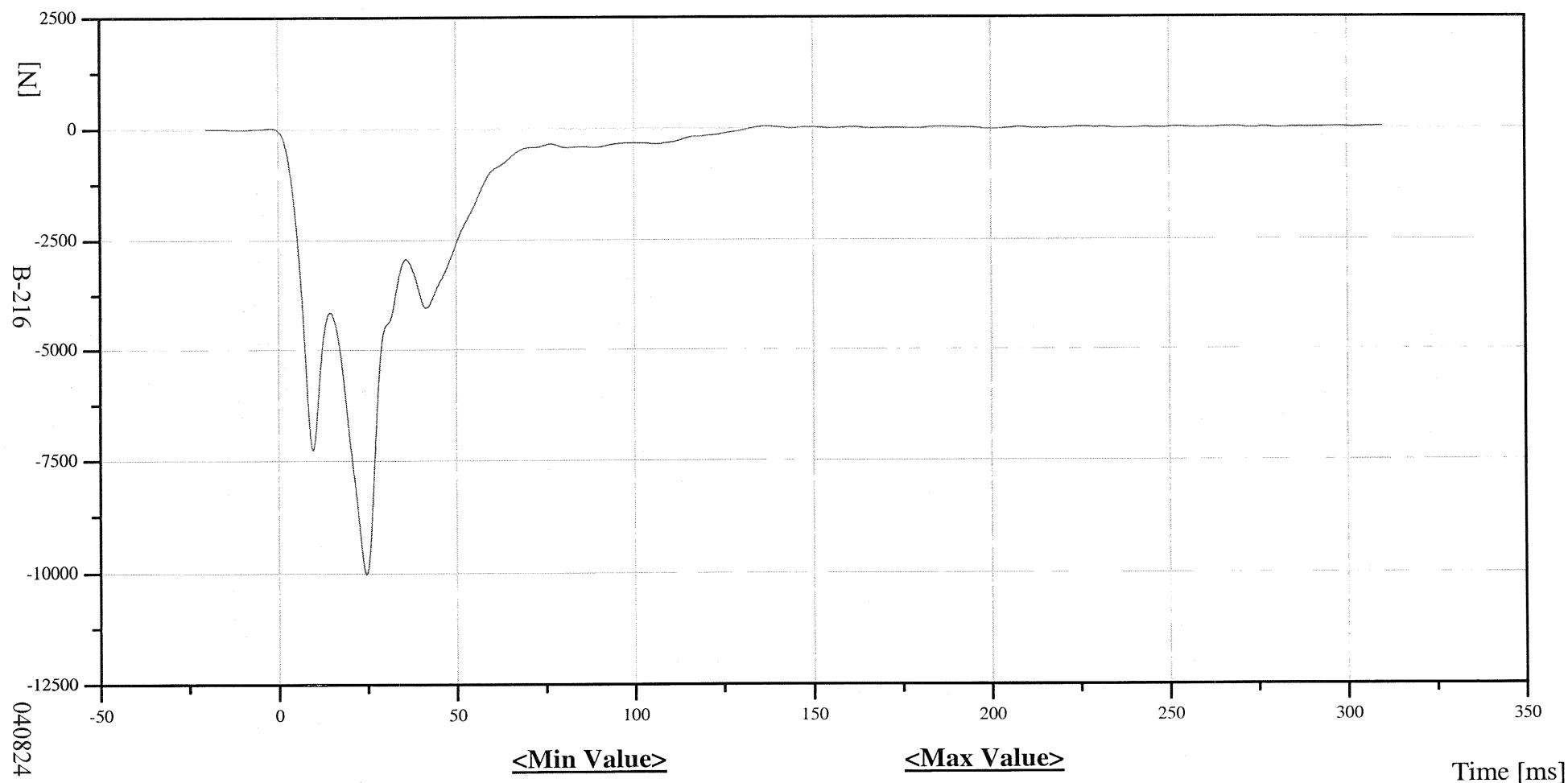
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0505



-10027.50 N at 24.56 ms

43.68 N at 136.96 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

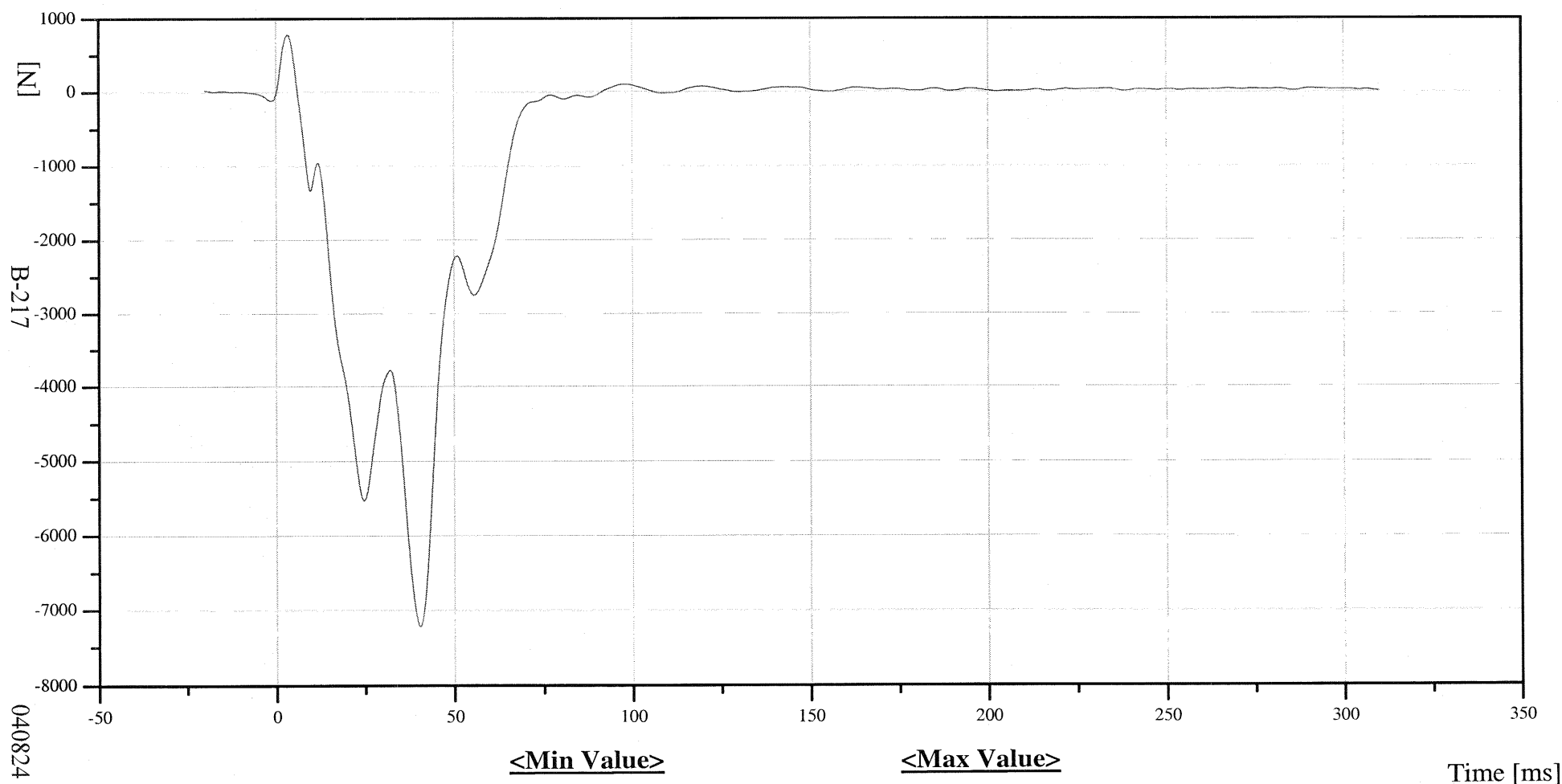
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0506



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

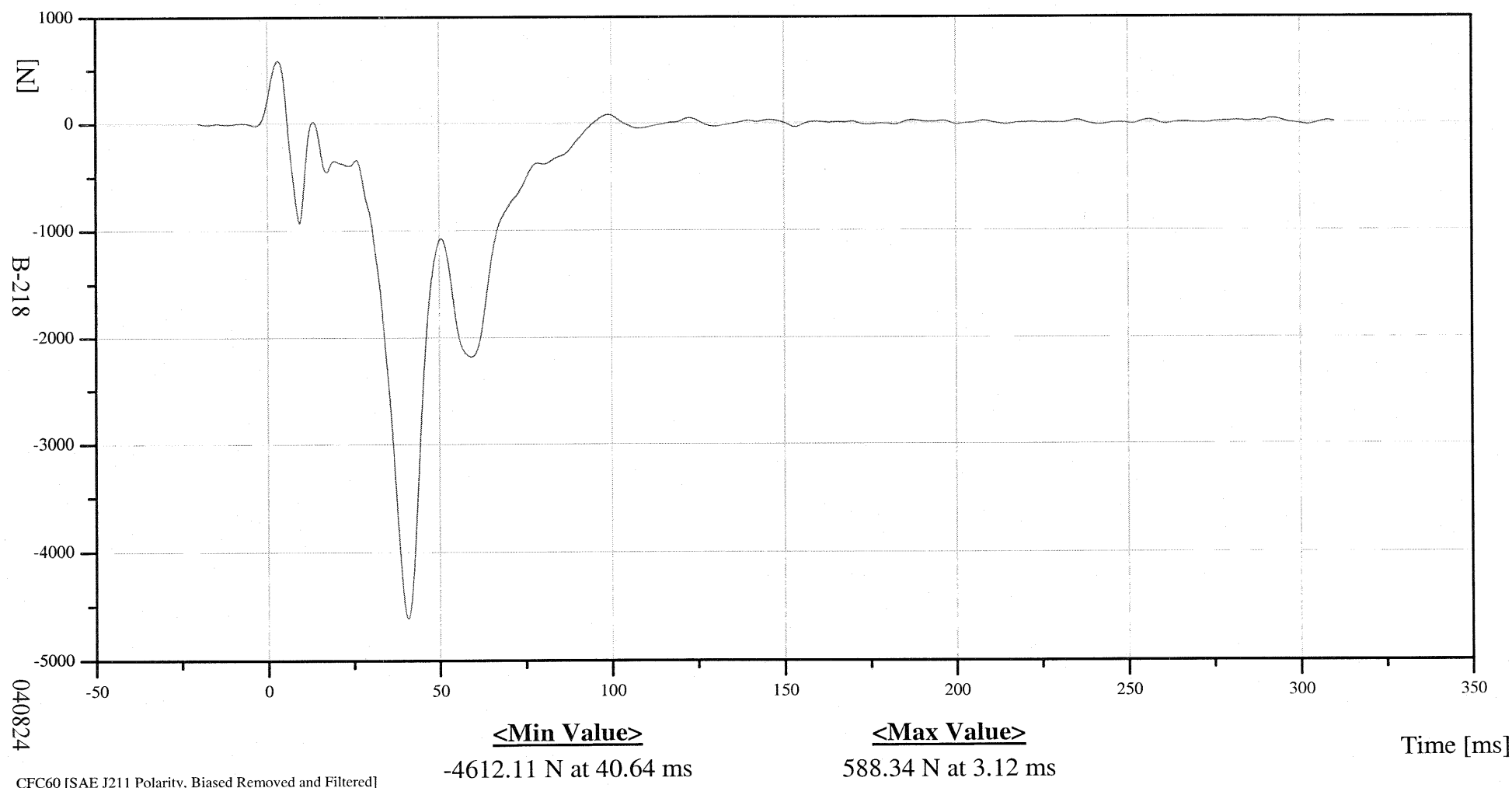
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0507





Transportation Research Center, Inc.

ROW 5 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

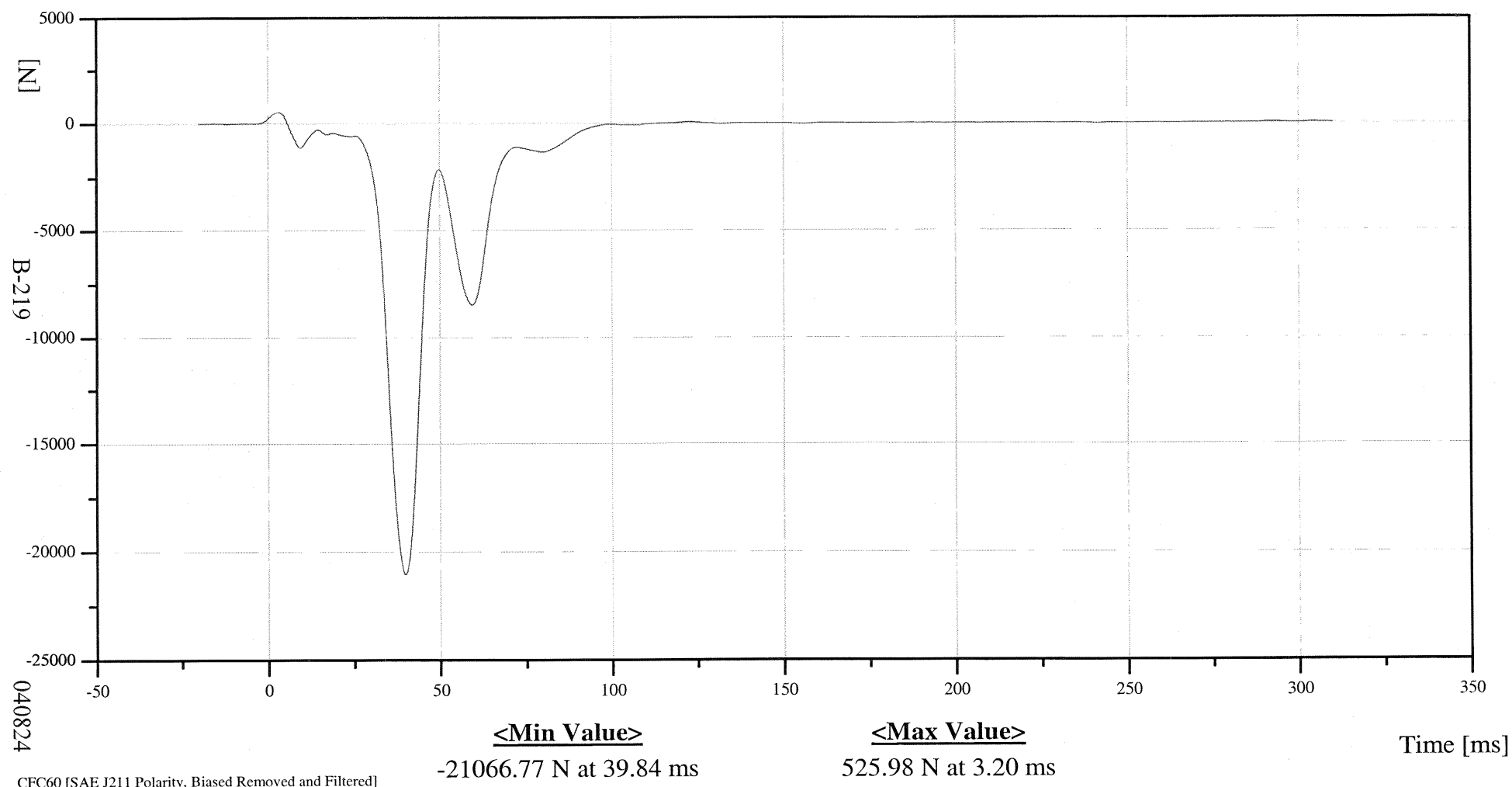
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0508





Transportation Research Center, Inc.

ROW 5 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

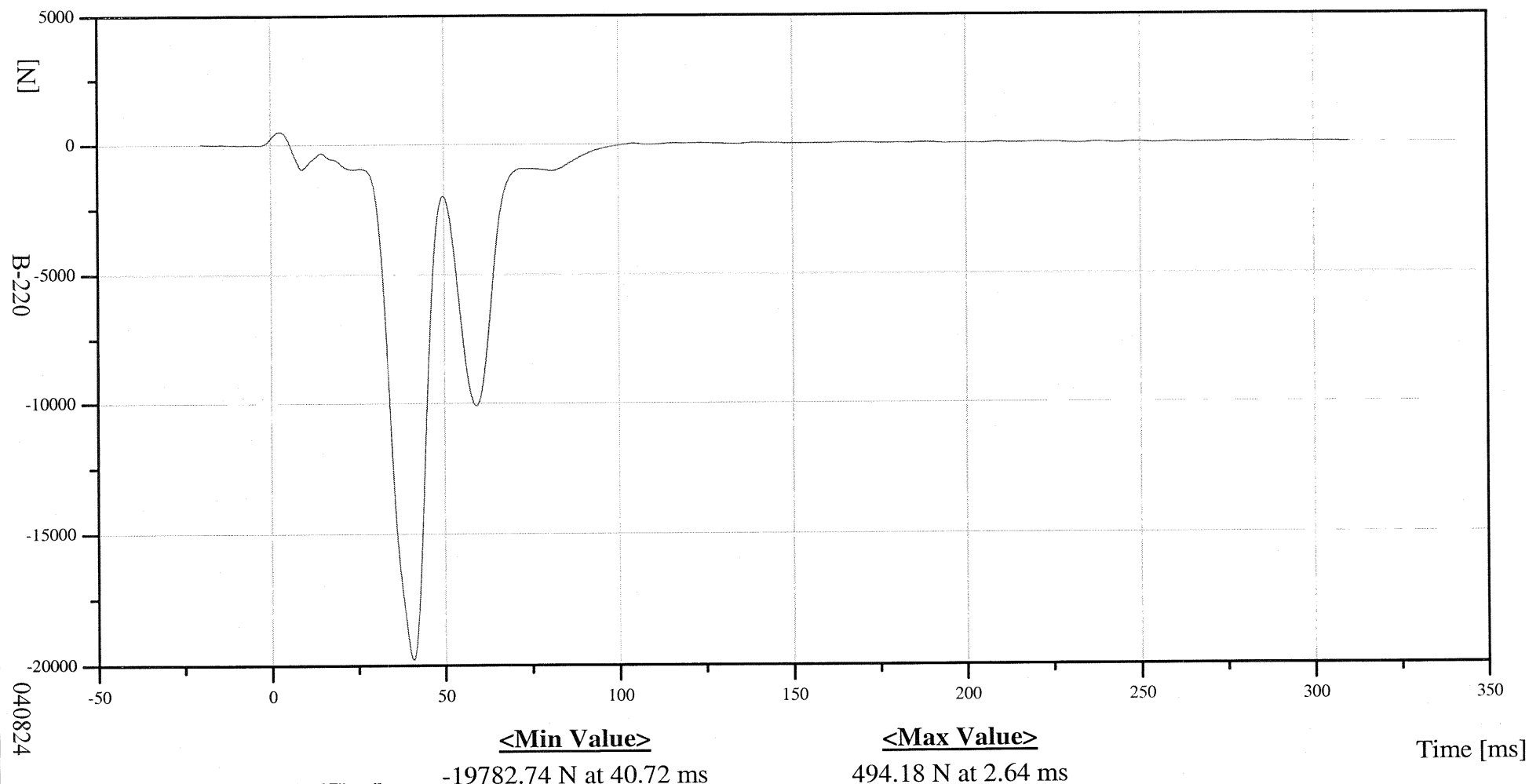
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0509



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

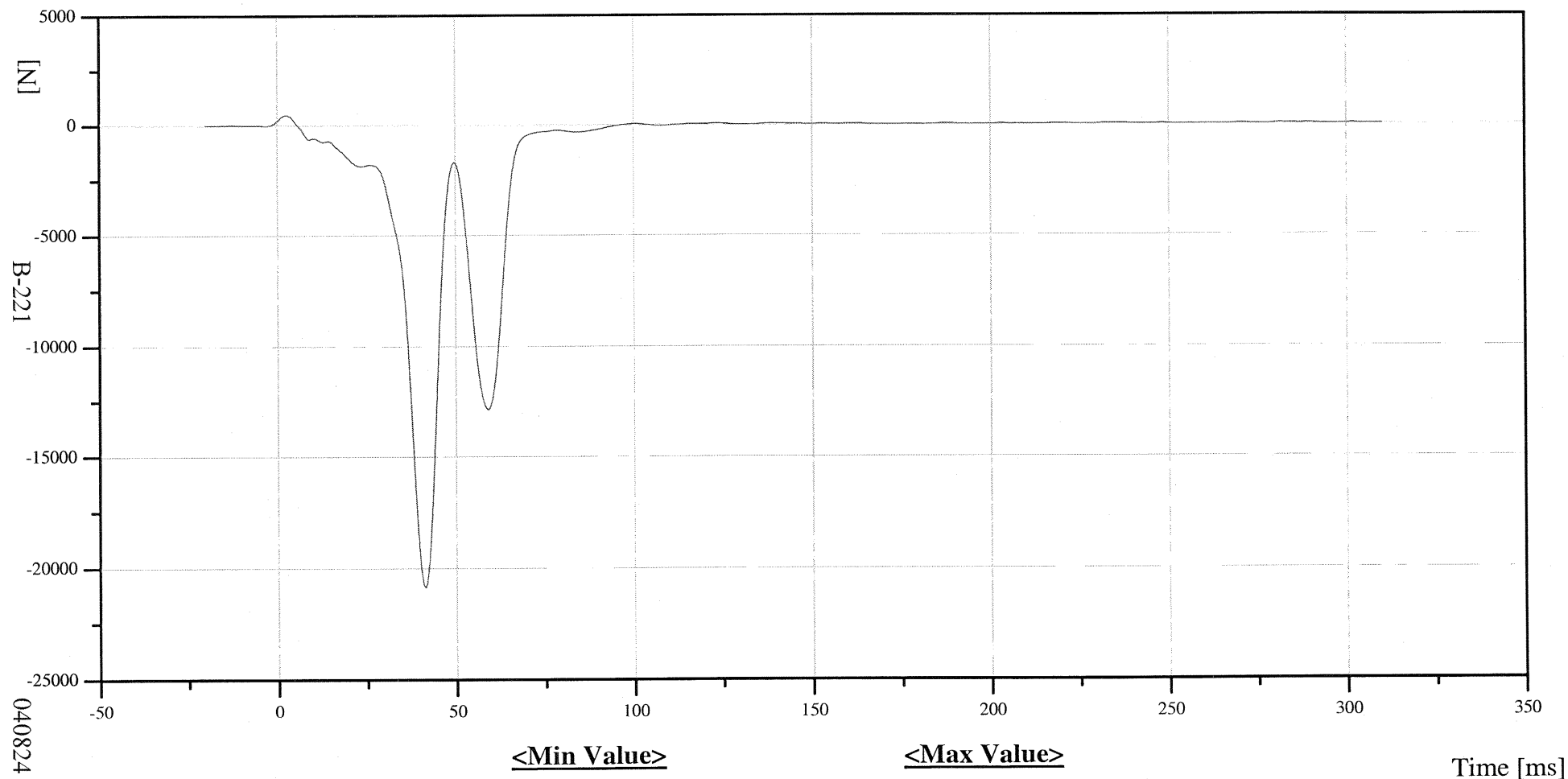
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0510



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

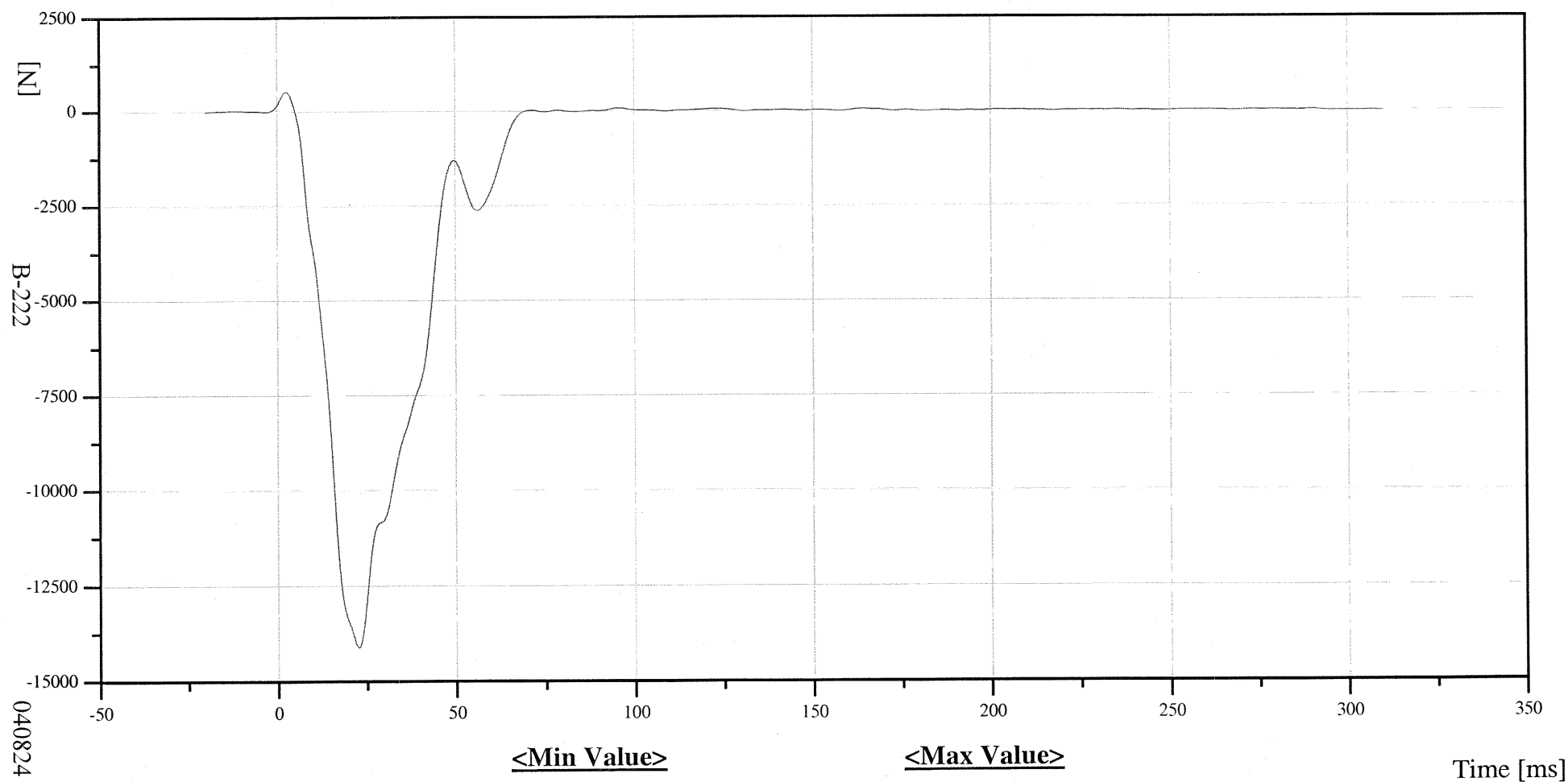
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0511



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

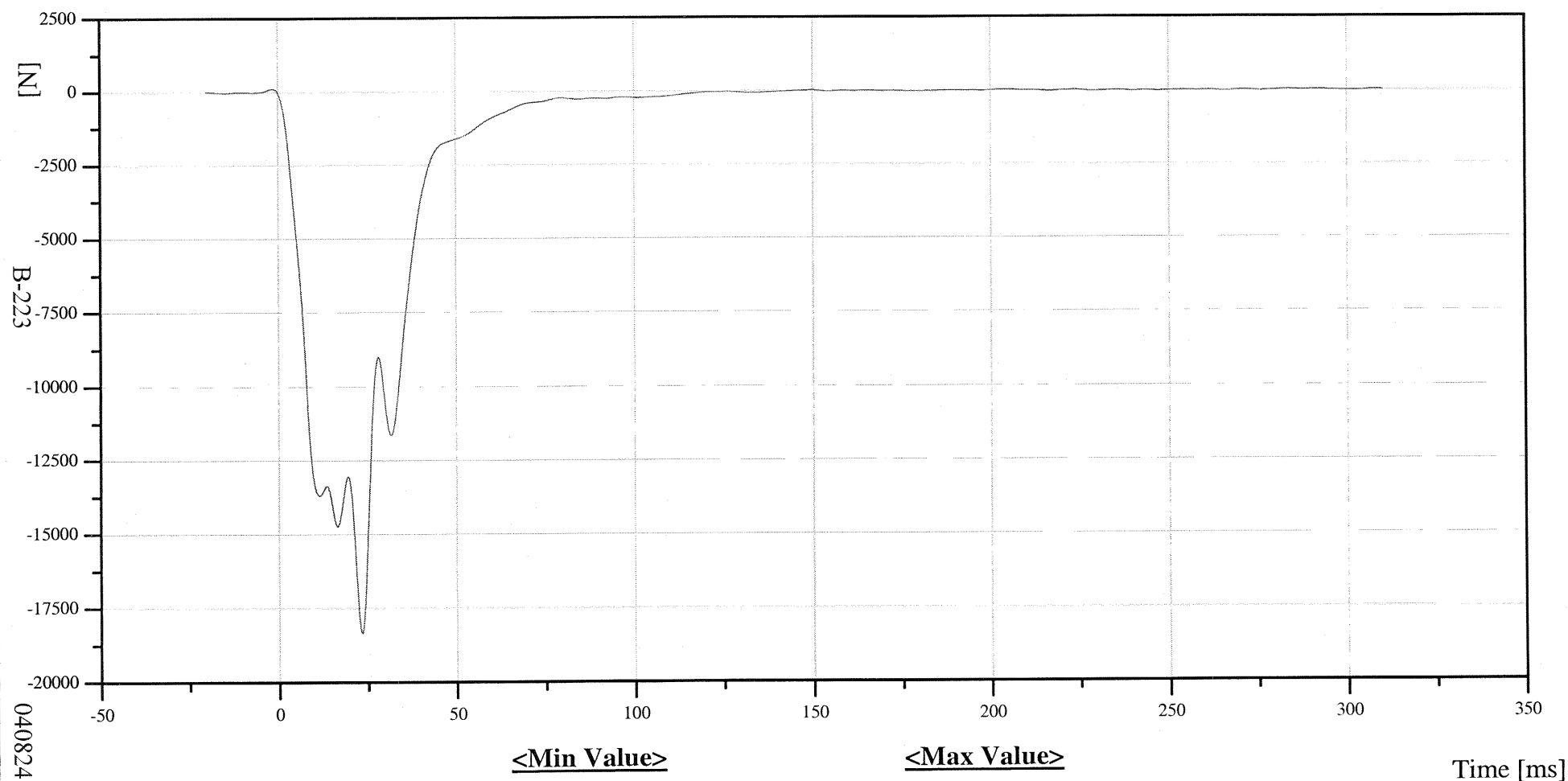
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0512



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

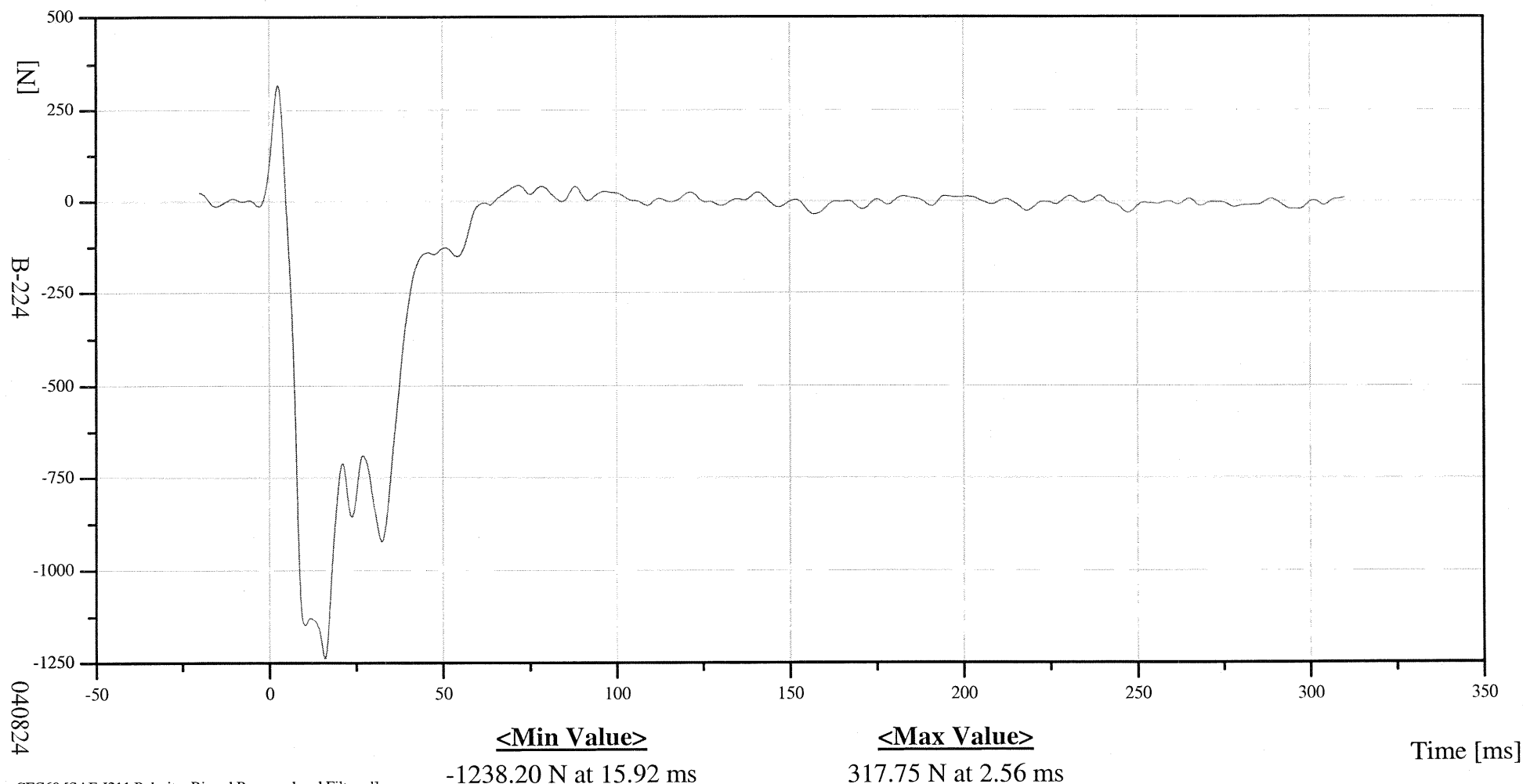
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0513



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

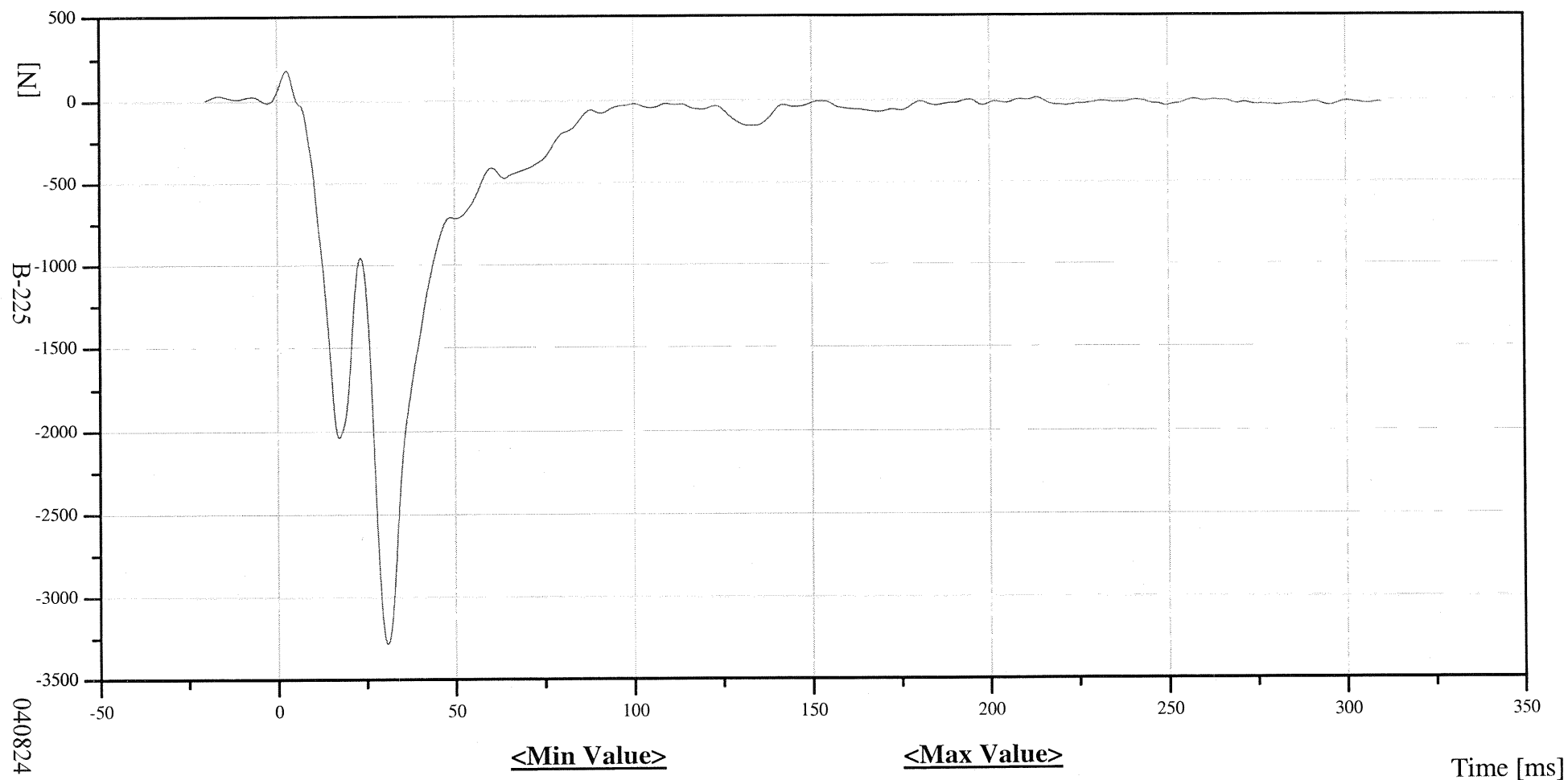
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0514



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

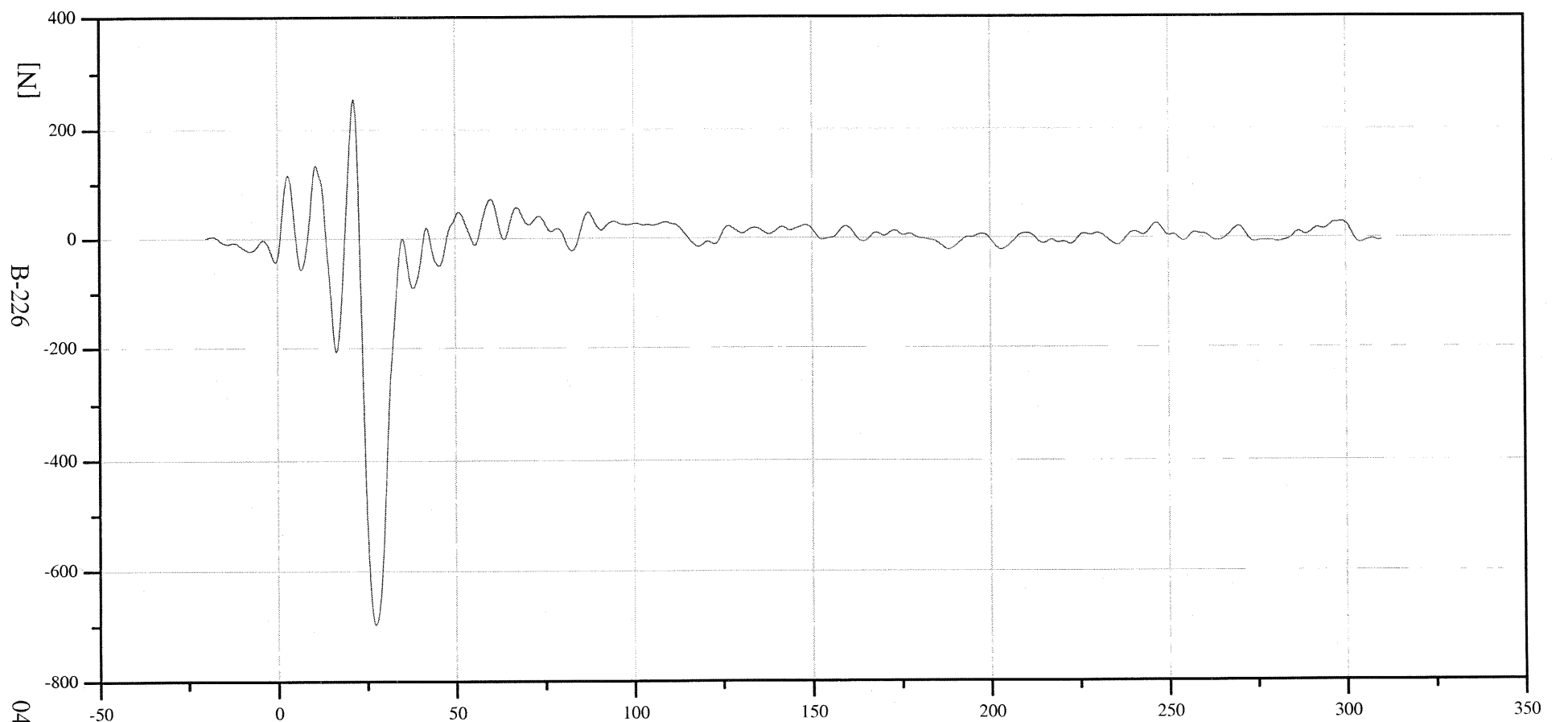
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0515



<Min Value>

-696.70 N at 27.36 ms

<Max Value>

255.40 N at 21.36 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 5 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

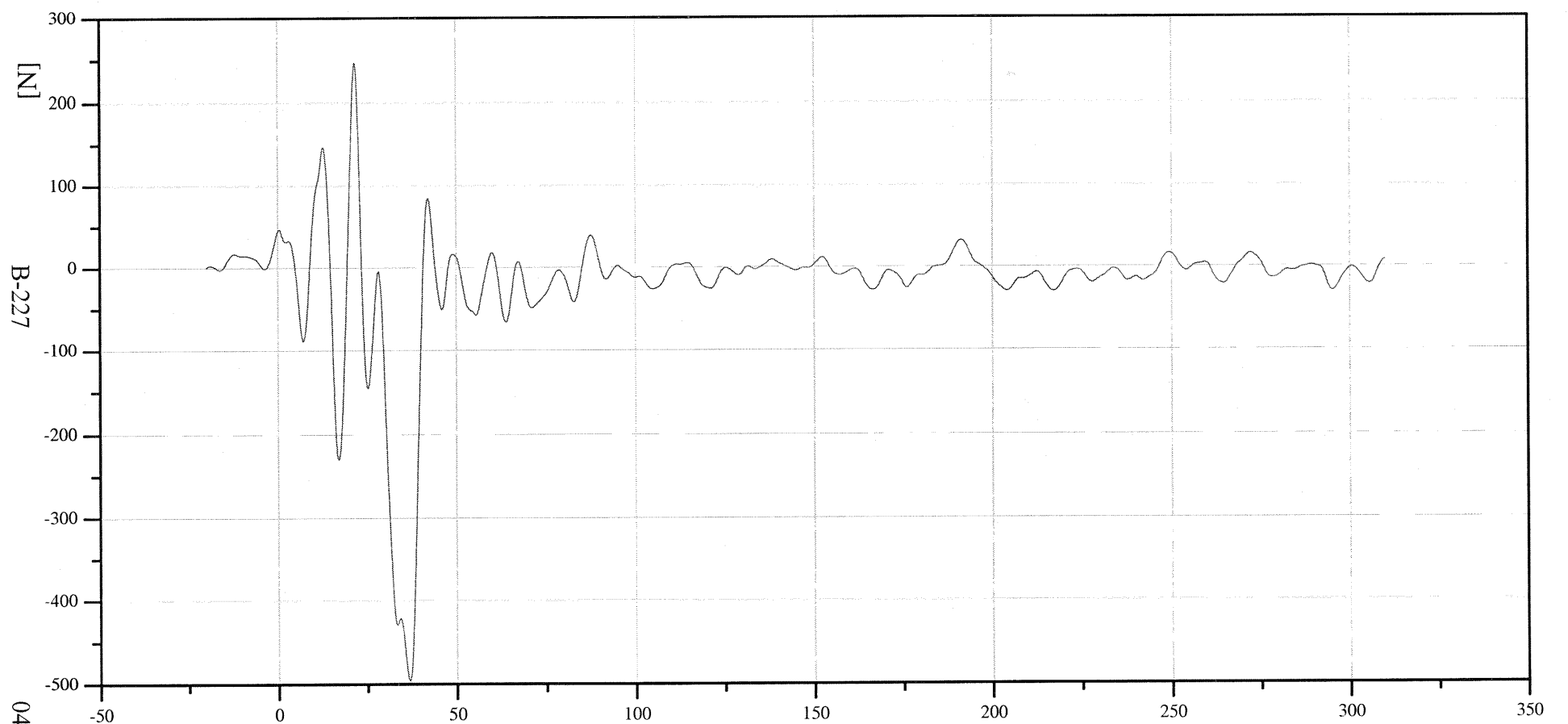
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0516



<Min Value>

-496.35 N at 36.80 ms

<Max Value>

246.82 N at 21.68 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

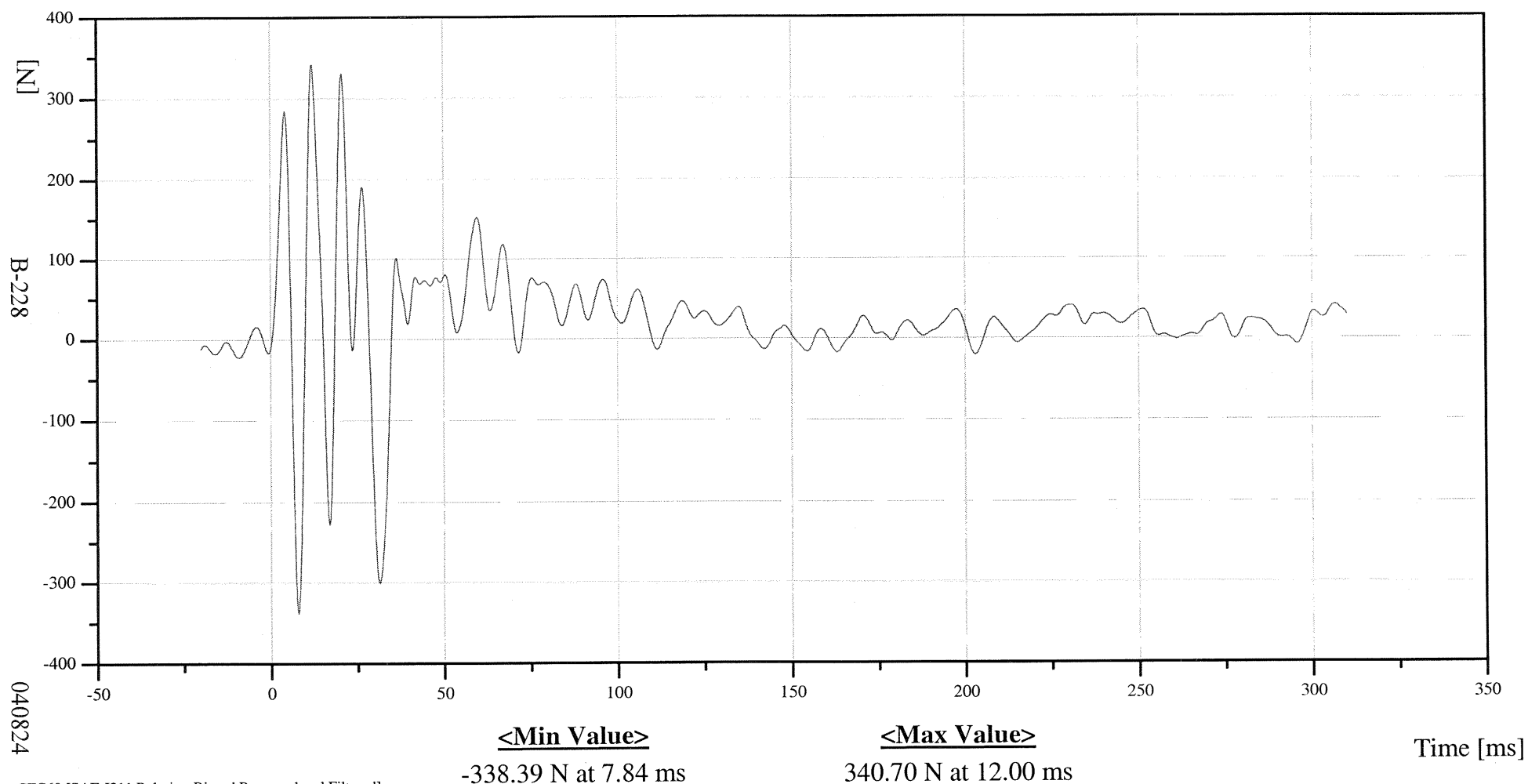
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0601



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

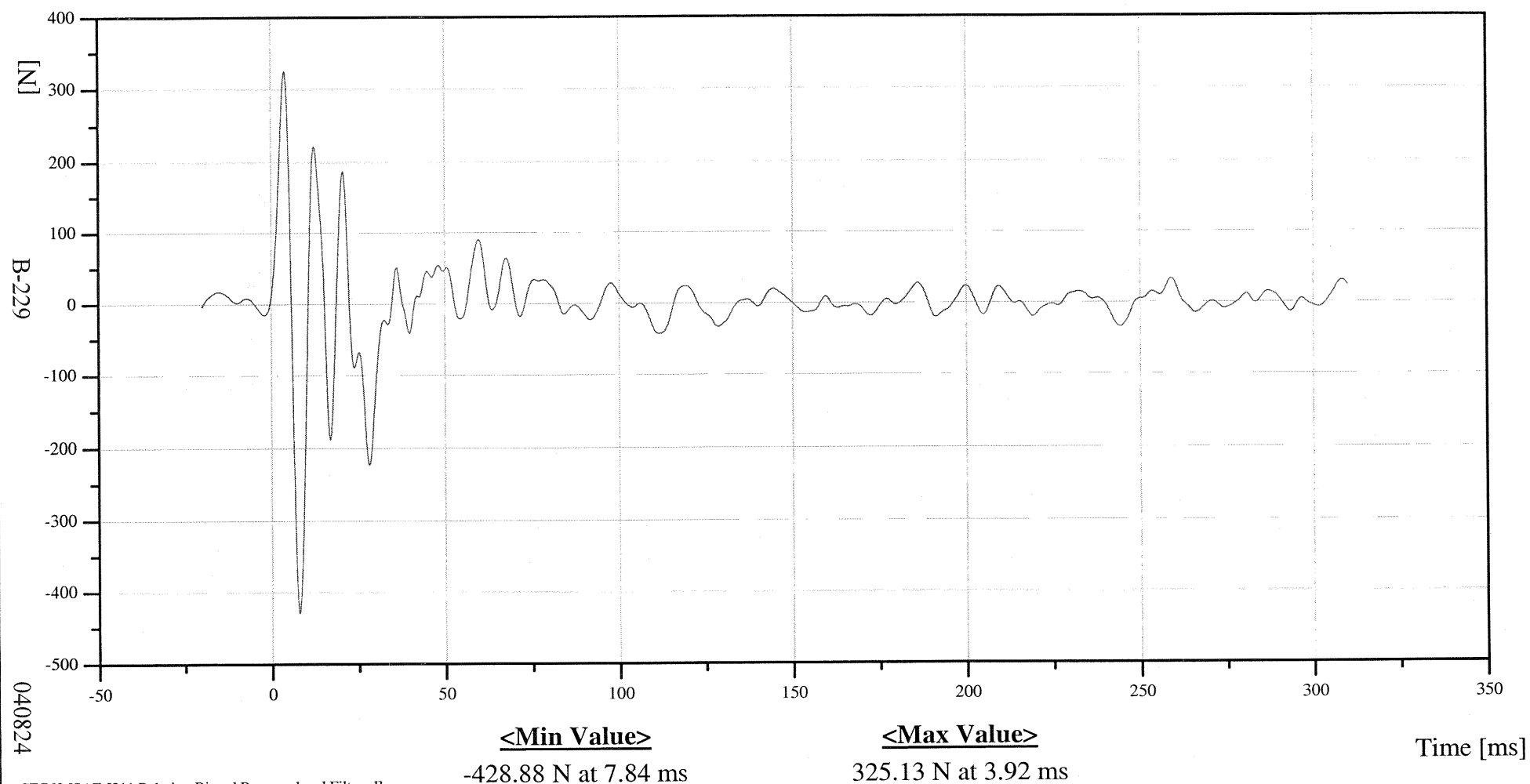
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0602



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

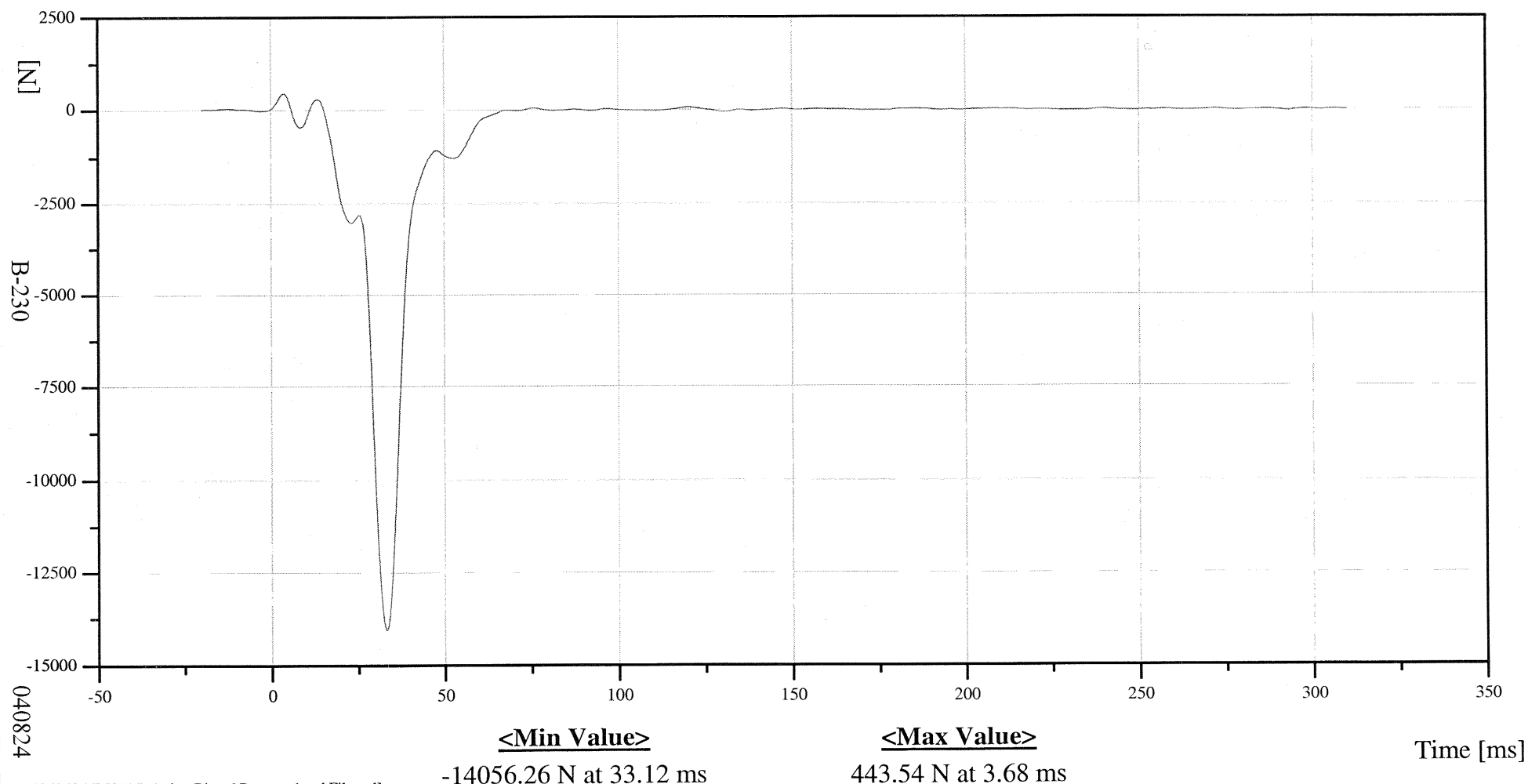
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0603



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

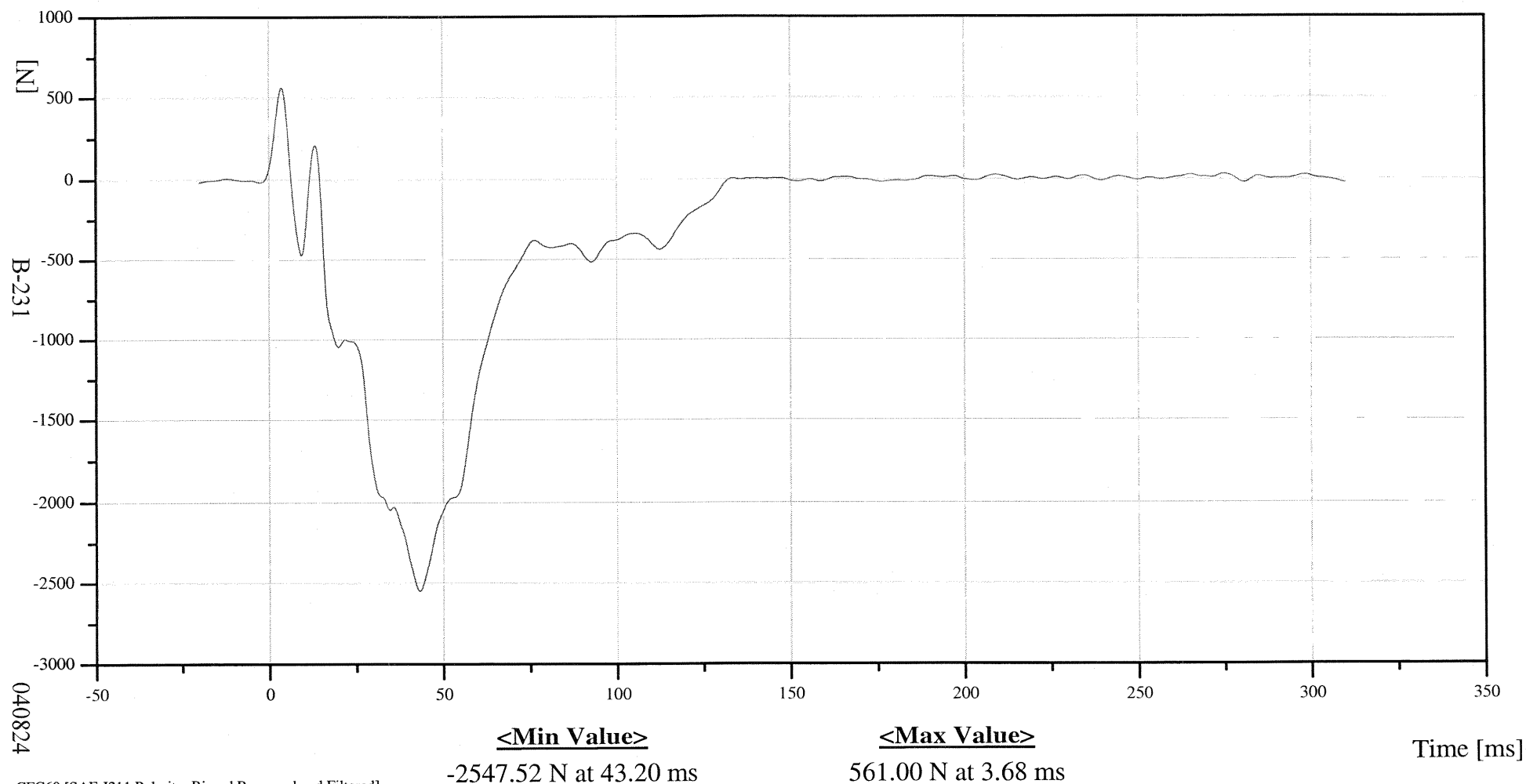
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0604





Transportation Research Center, Inc.

ROW 6 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

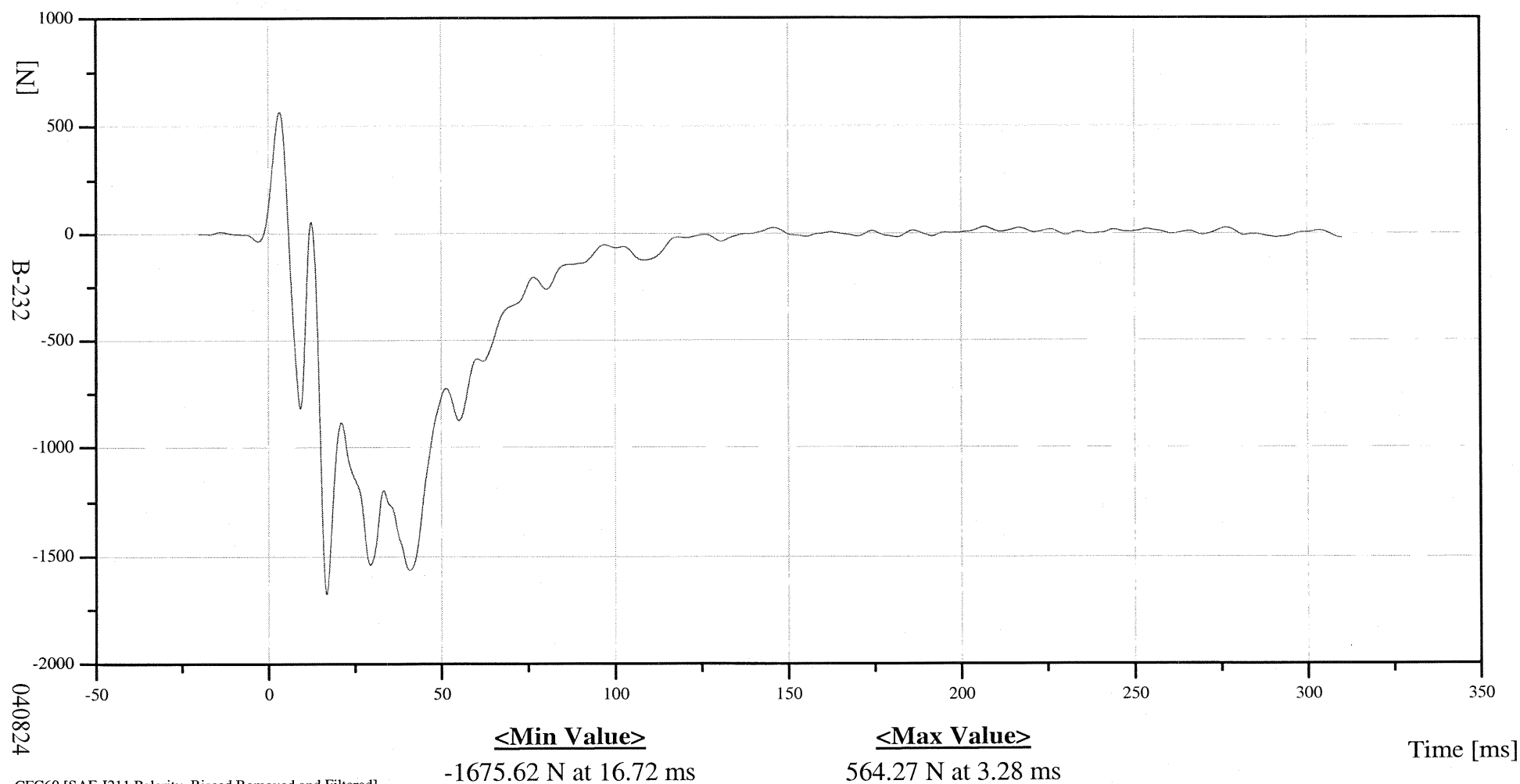
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0605



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

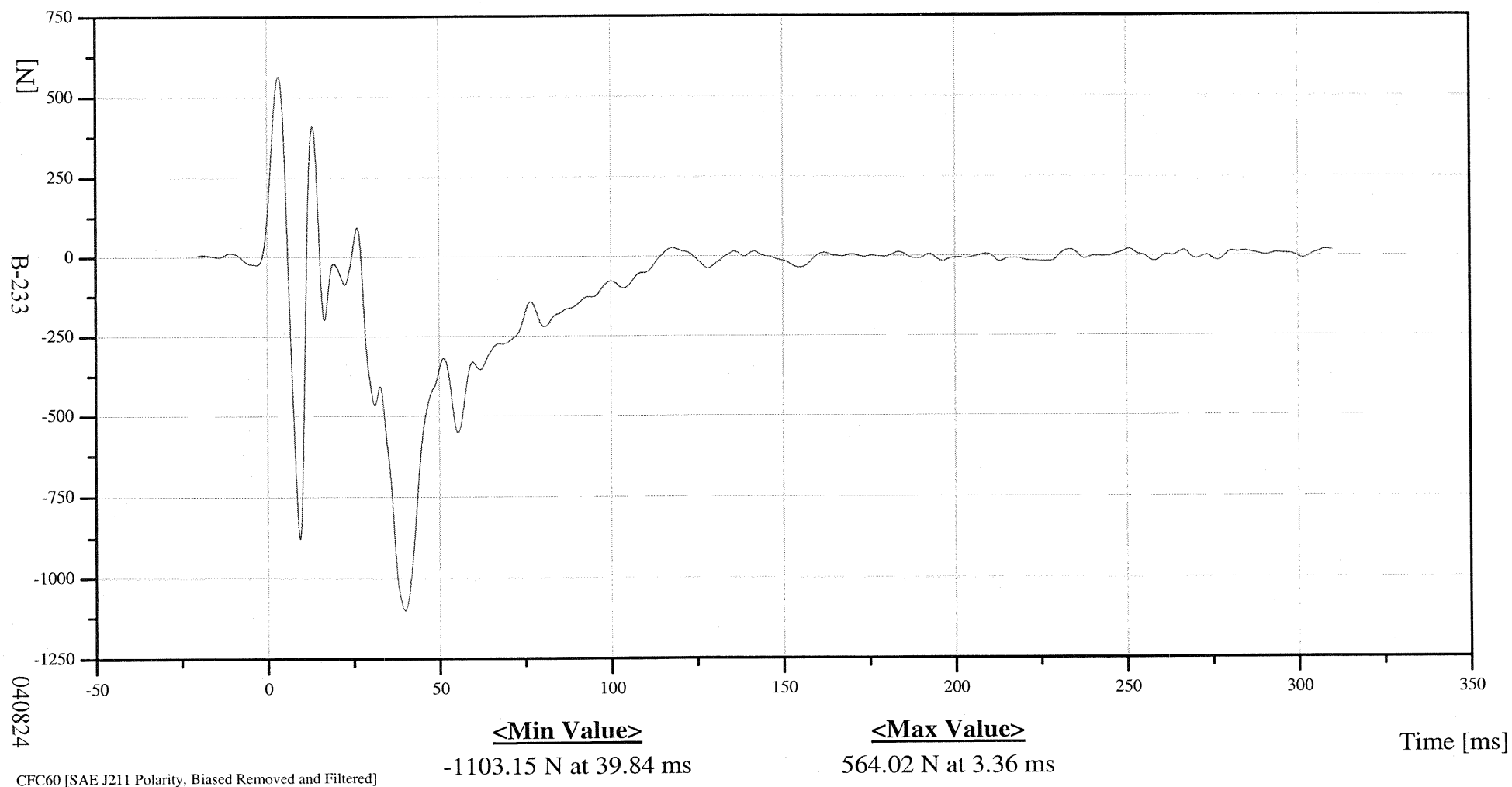
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0606





Transportation Research Center, Inc.

ROW 6 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

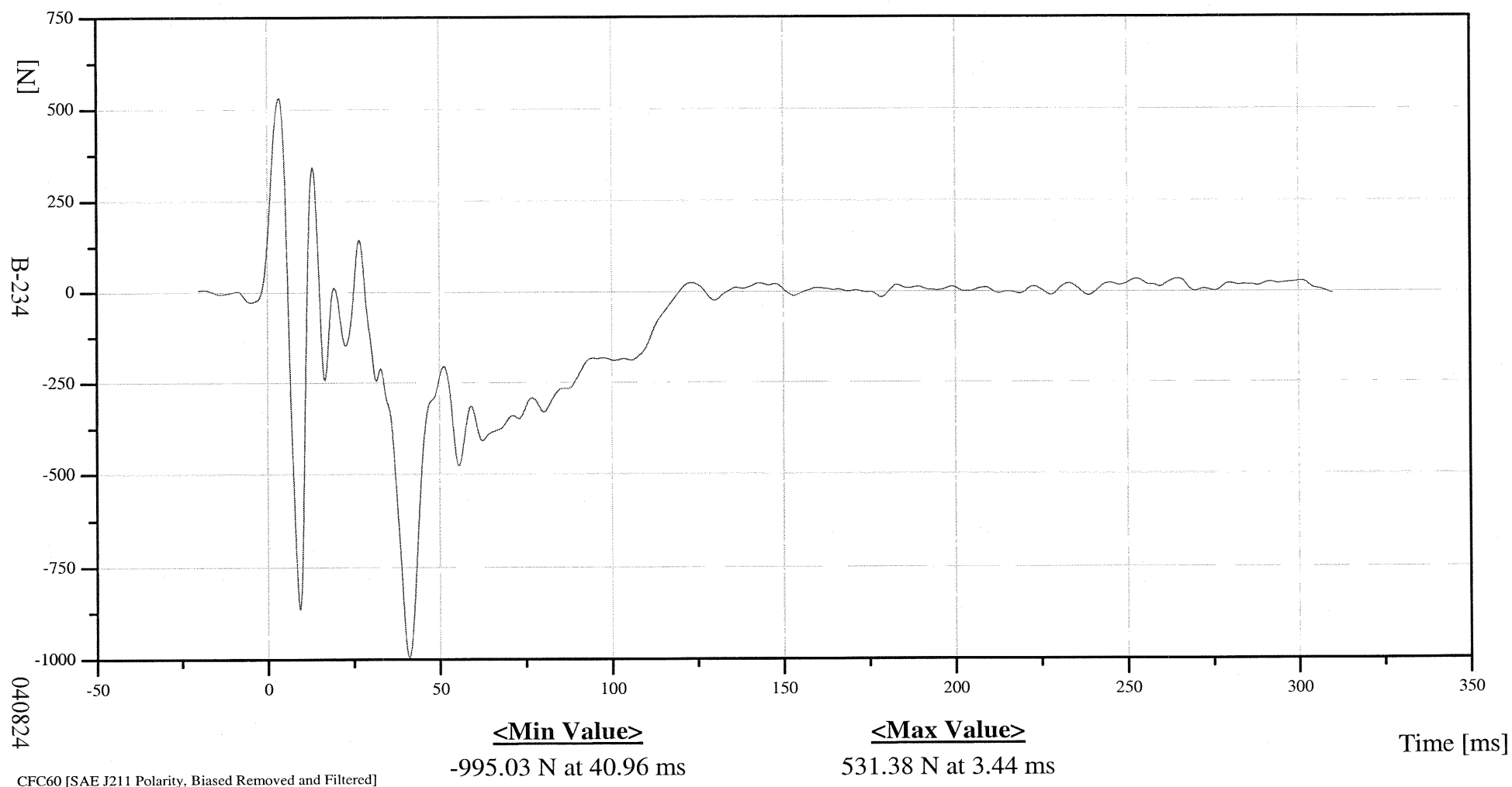
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0607





Transportation Research Center, Inc.

ROW 6 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

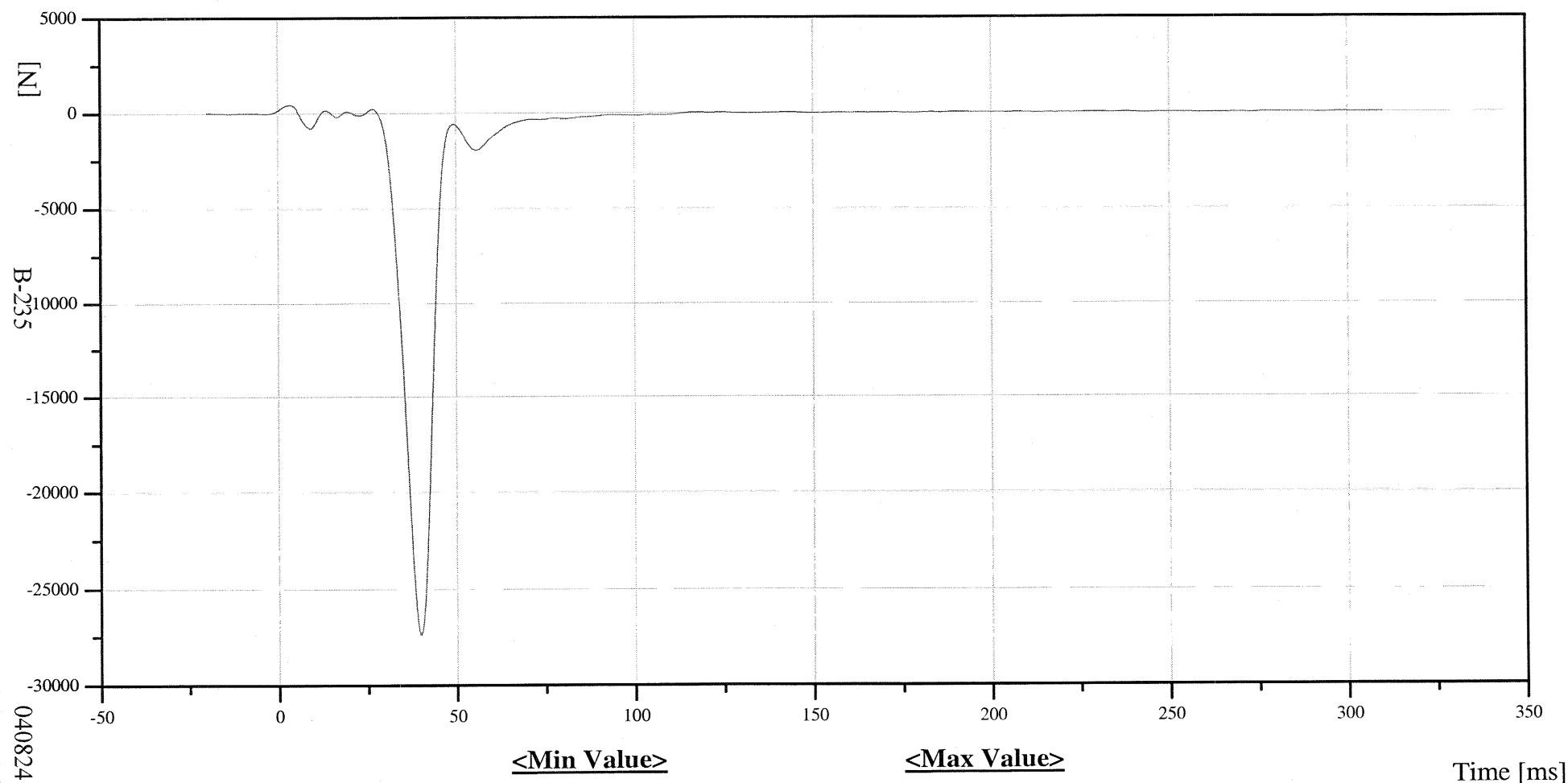
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0608



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

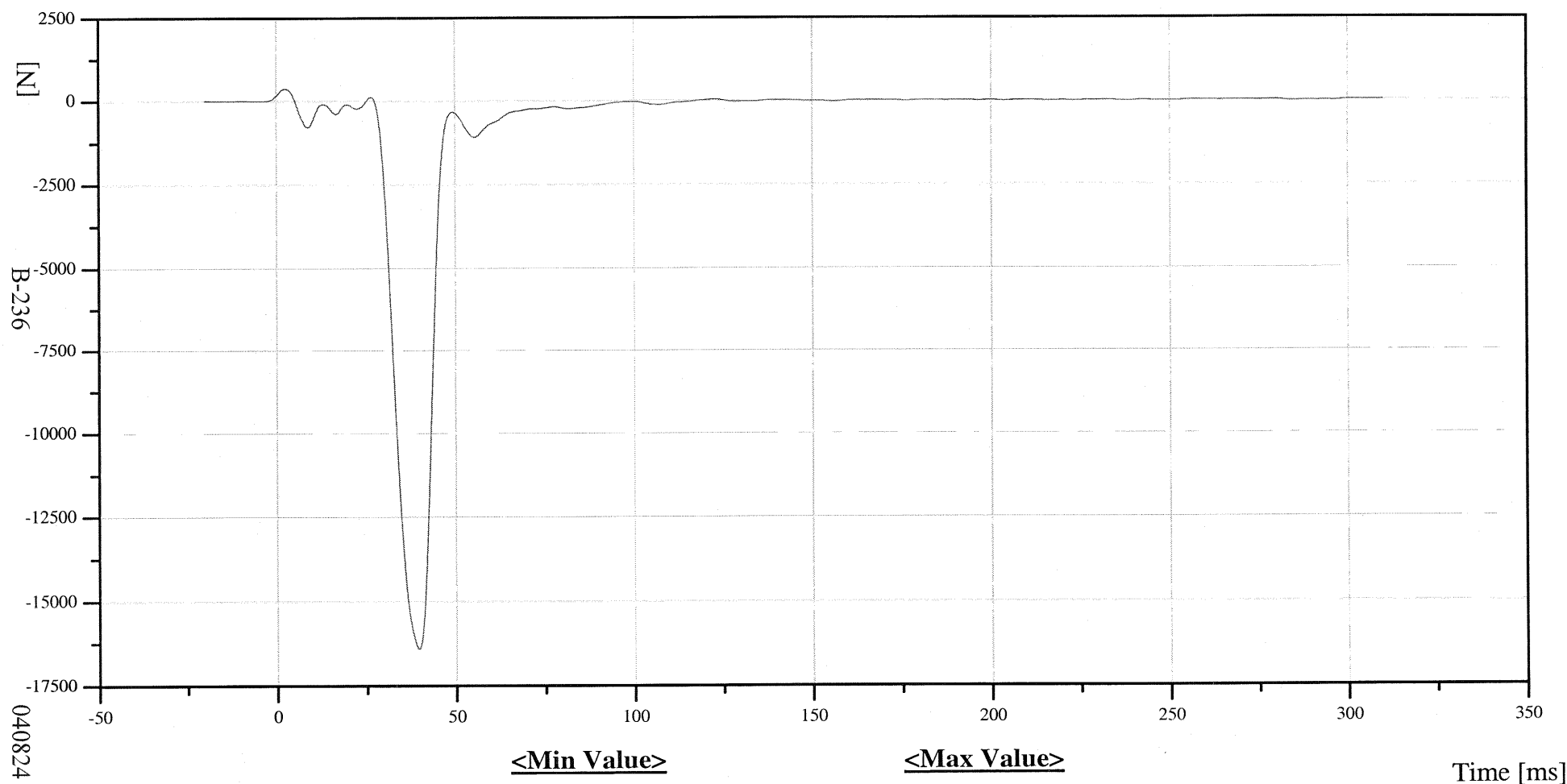
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0609



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

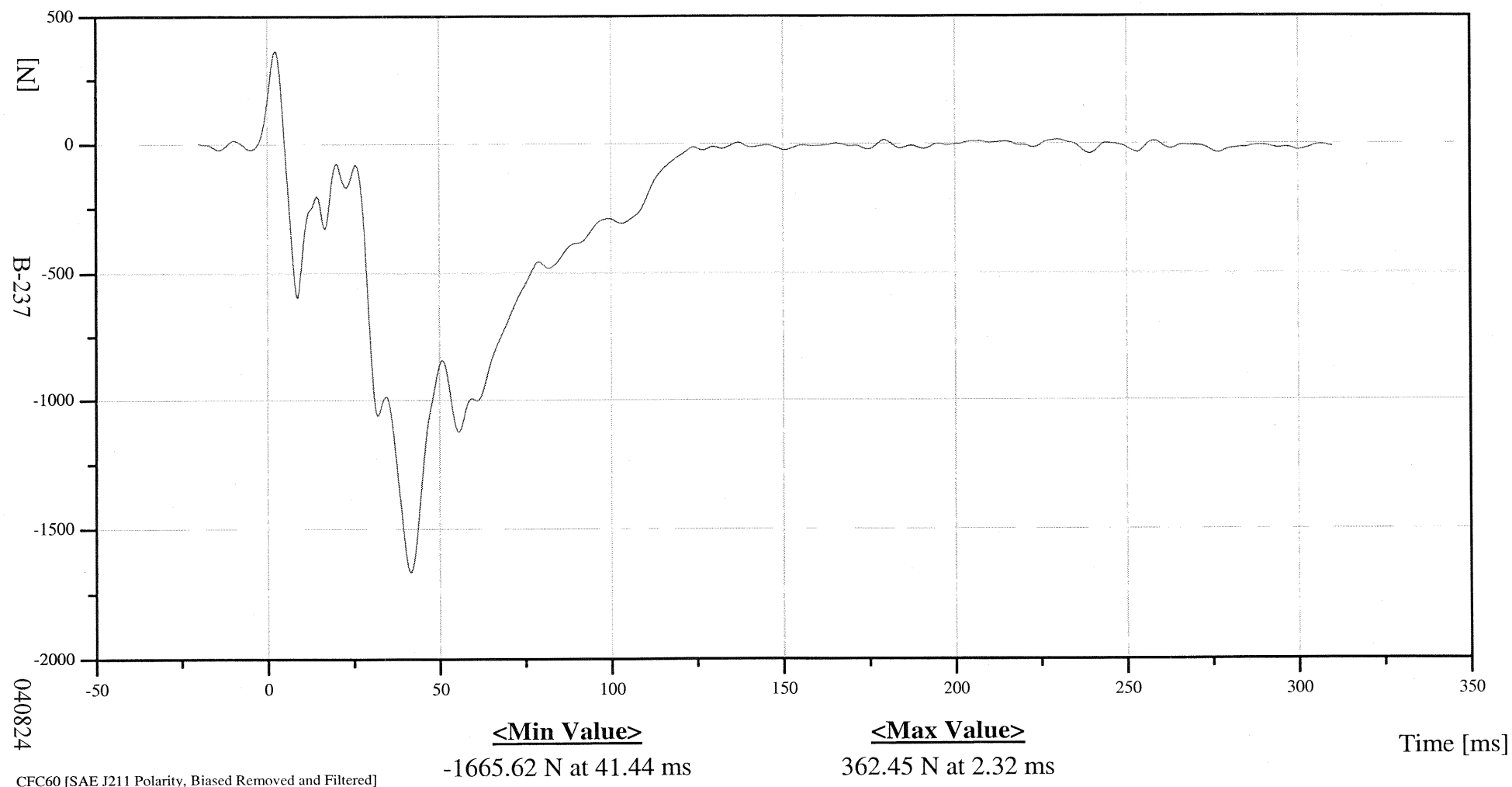
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0610





Transportation Research Center, Inc.

ROW 6 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

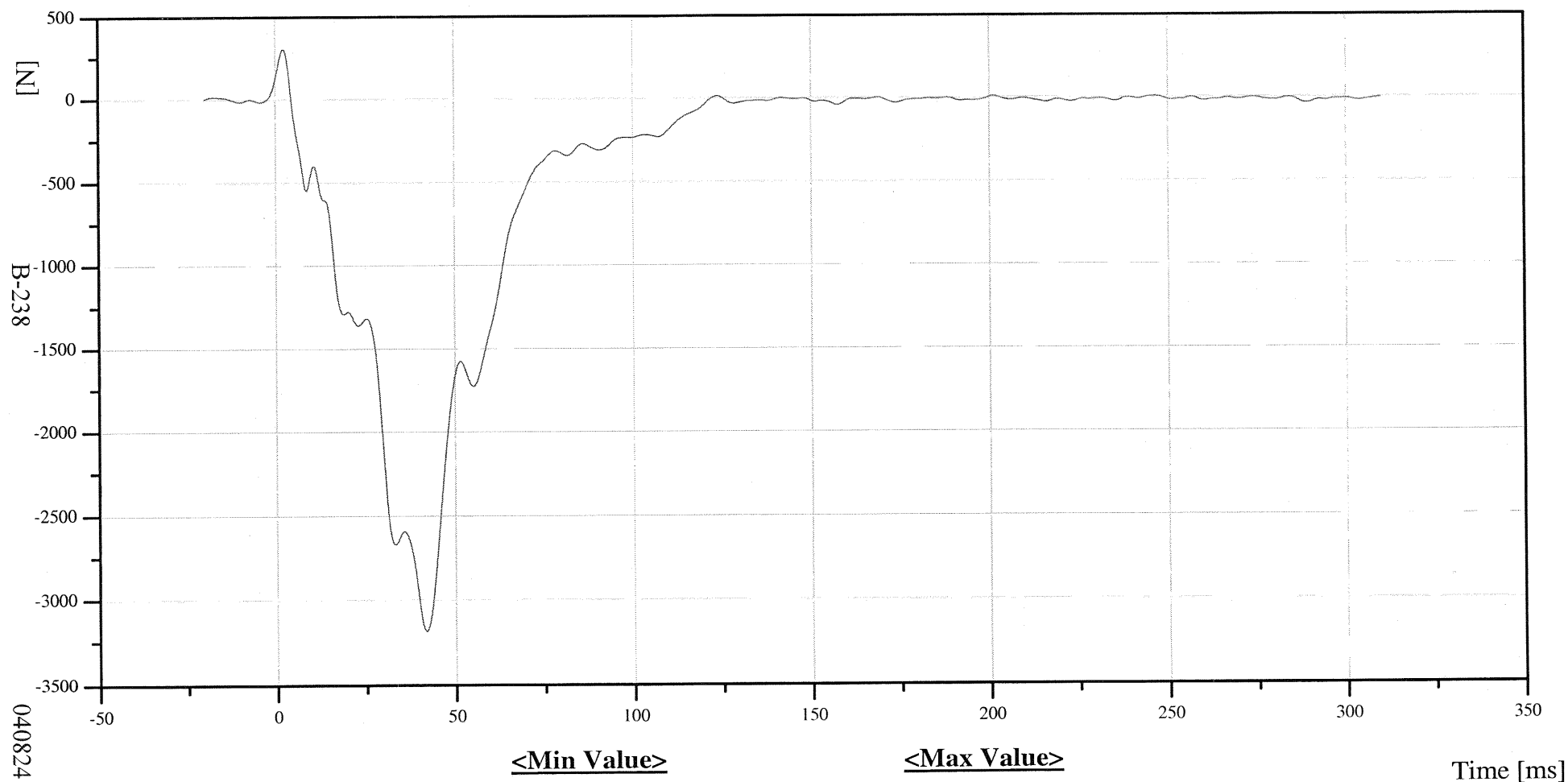
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0611



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

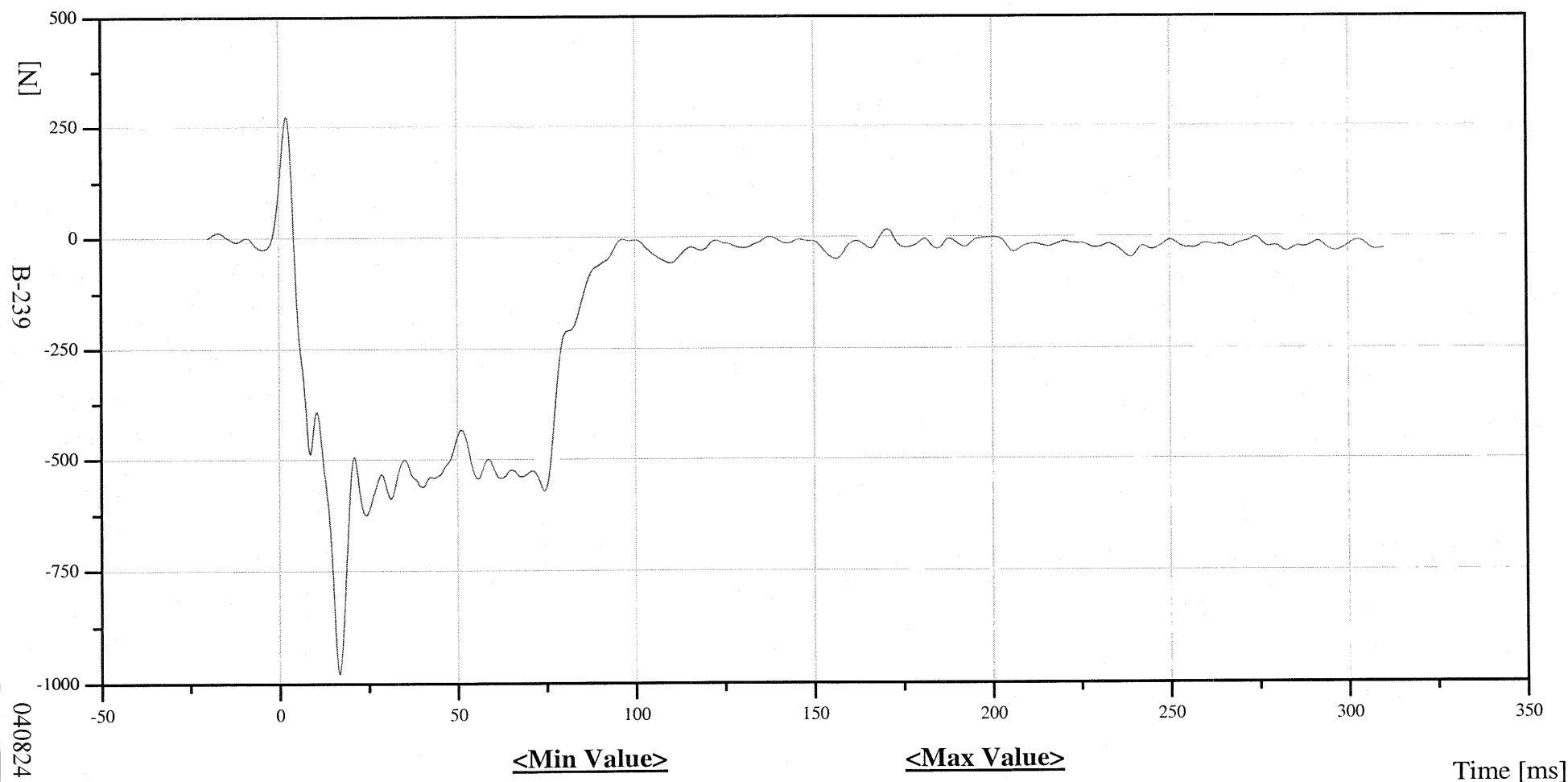
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0612



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



ROW 6 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Transportation Research Center, Inc.

Test Lab: CTF

Customer: VRTC

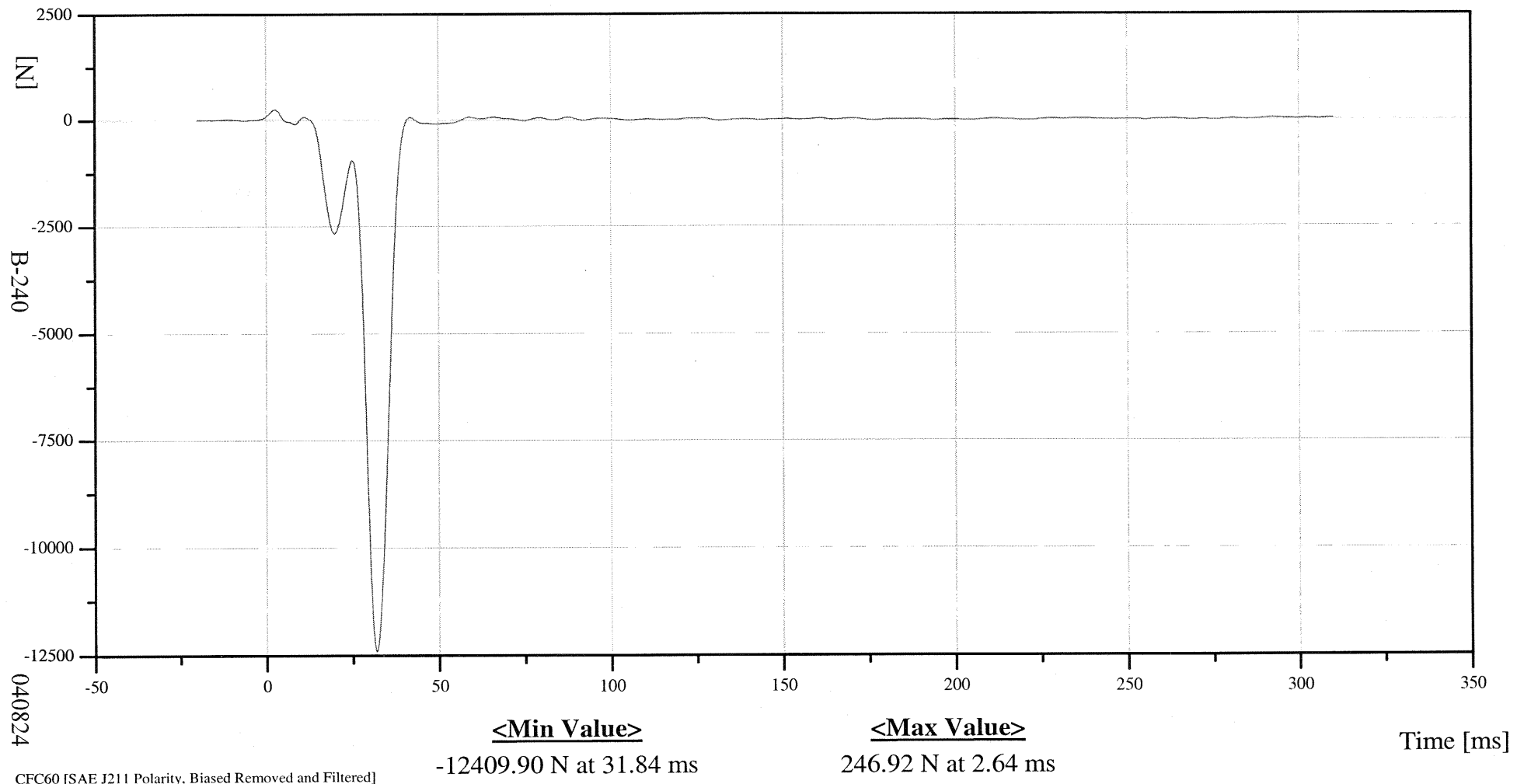
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0613





Transportation Research Center, Inc.

ROW 6 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

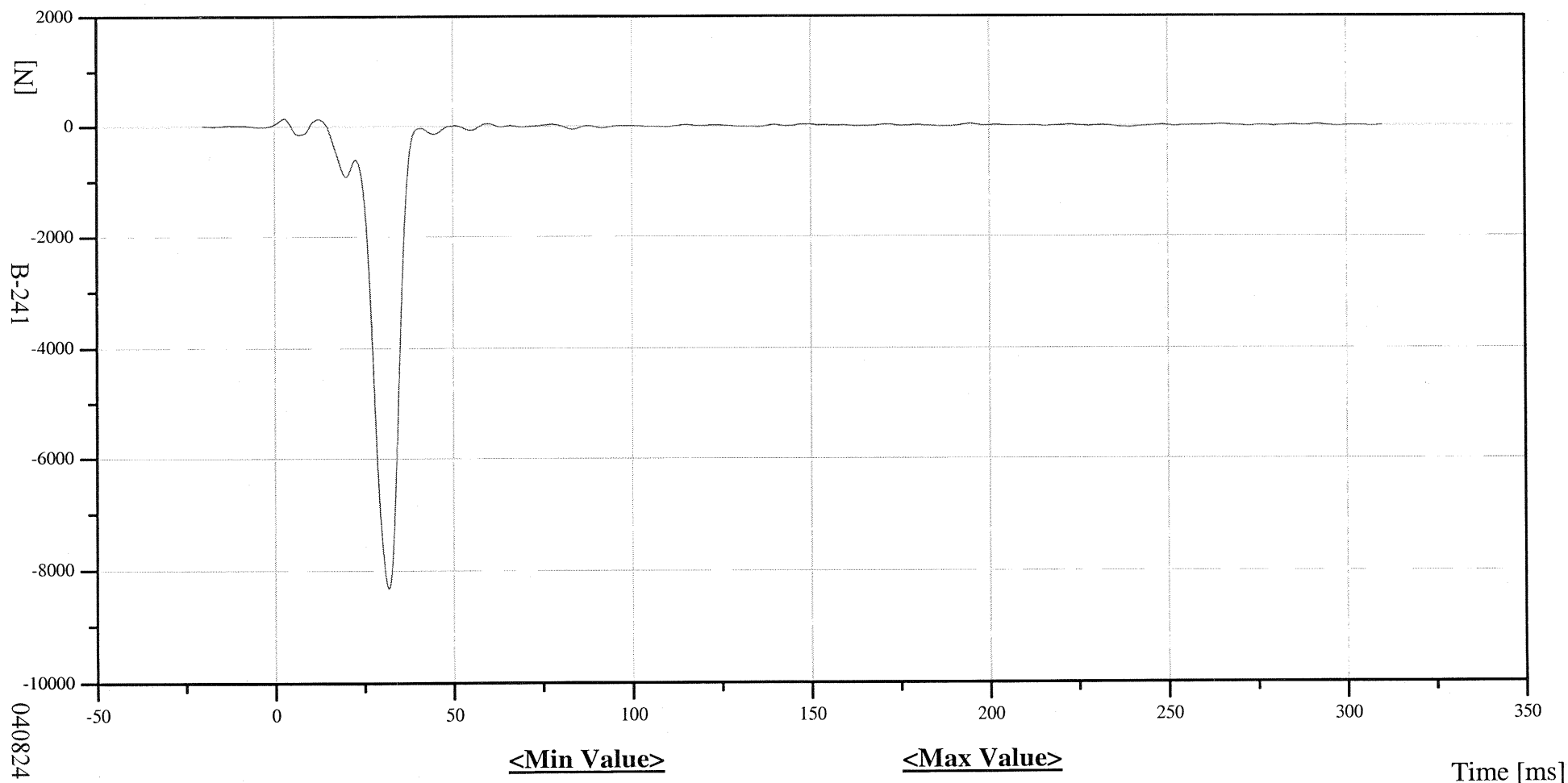
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0614



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

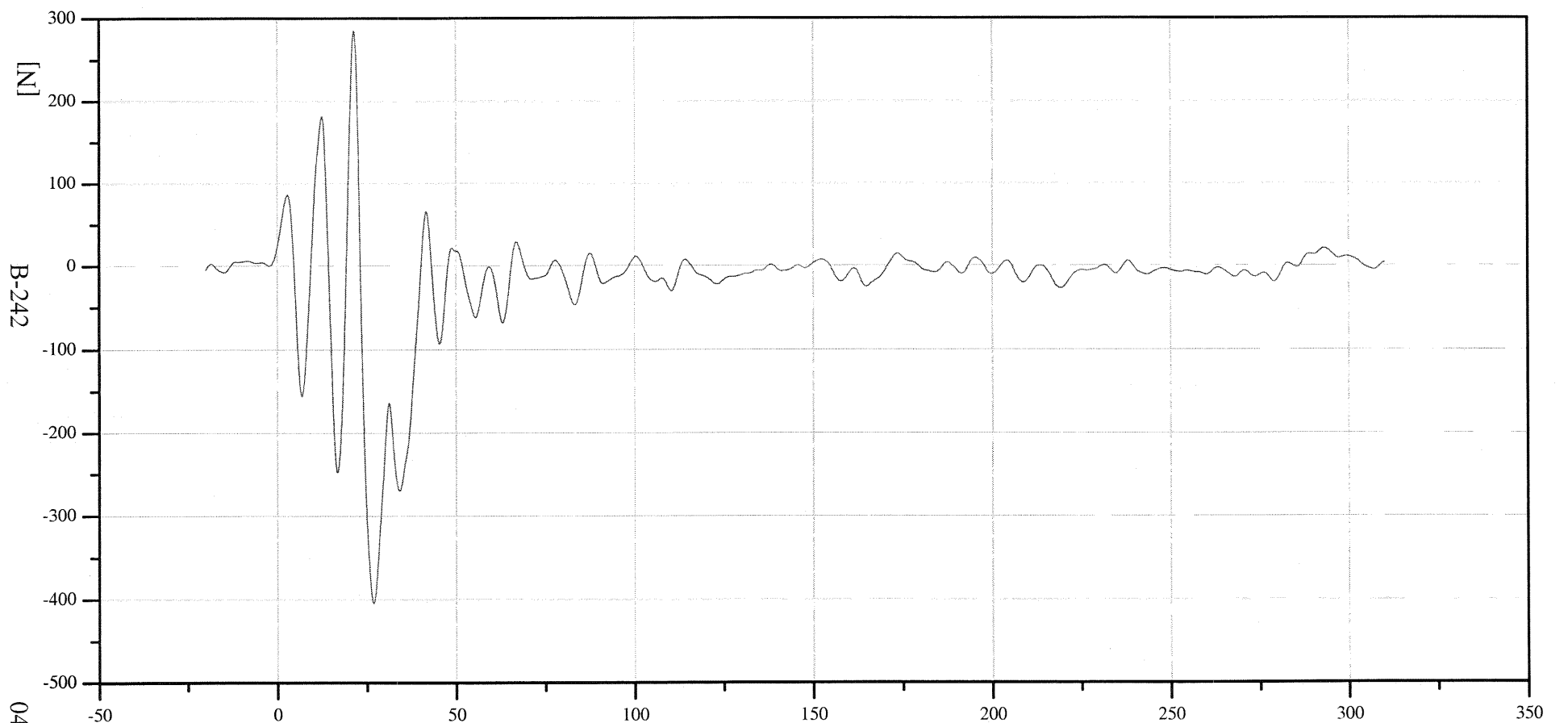
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0615



<Min Value>

-404.59 N at 26.80 ms

<Max Value>

285.35 N at 21.44 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 6 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

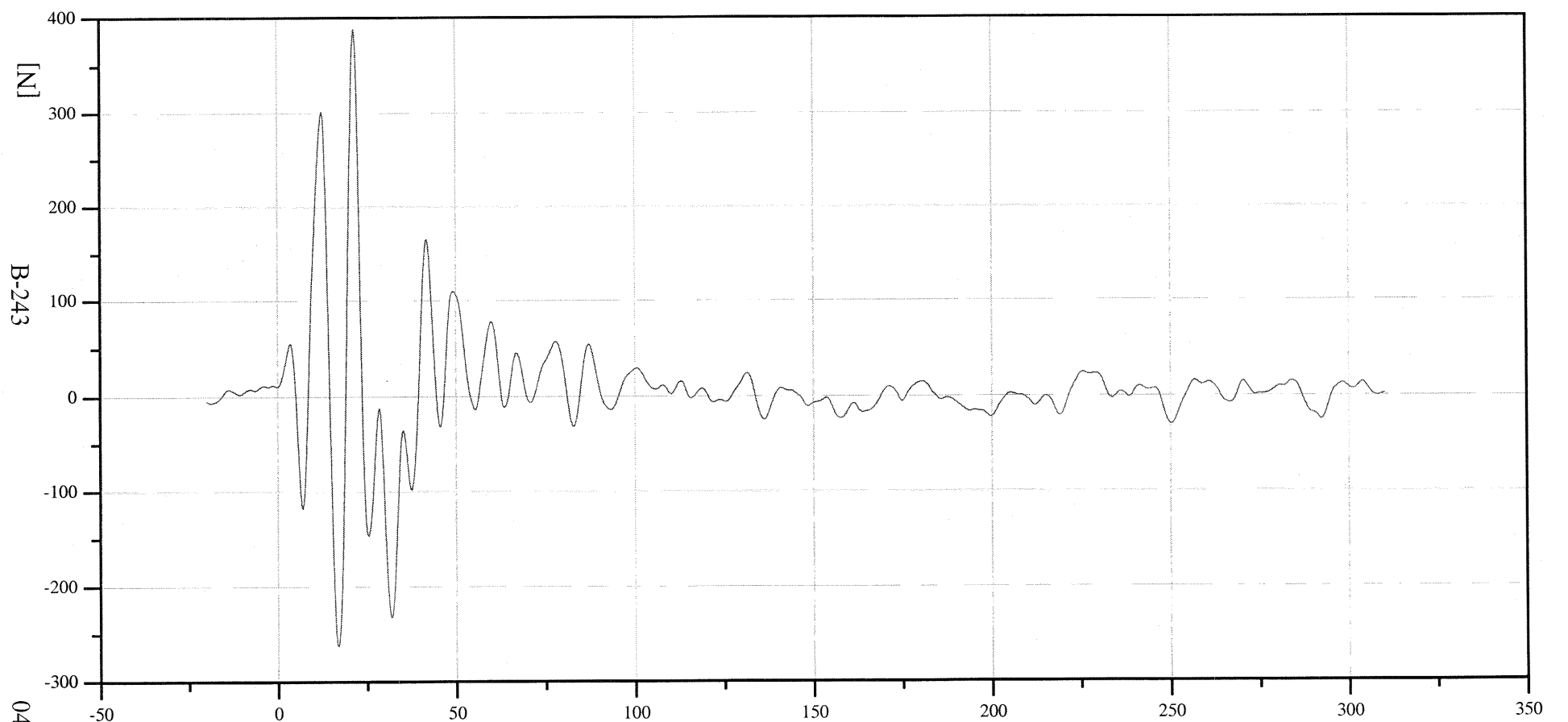
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0616



<Min Value>

-262.43 N at 16.88 ms

<Max Value>

387.81 N at 21.52 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

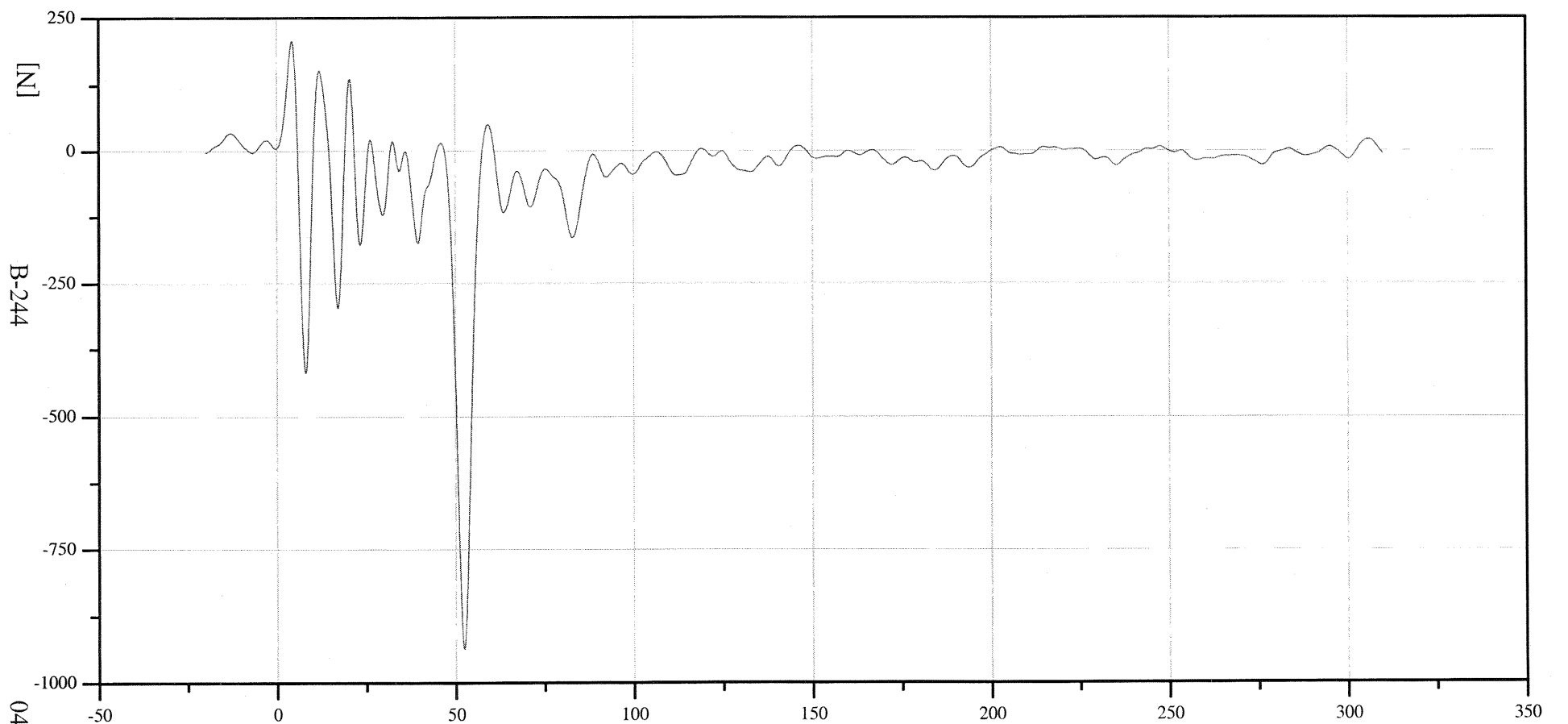
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0701



<Min Value>

-934.80 N at 52.32 ms

<Max Value>

207.60 N at 4.32 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

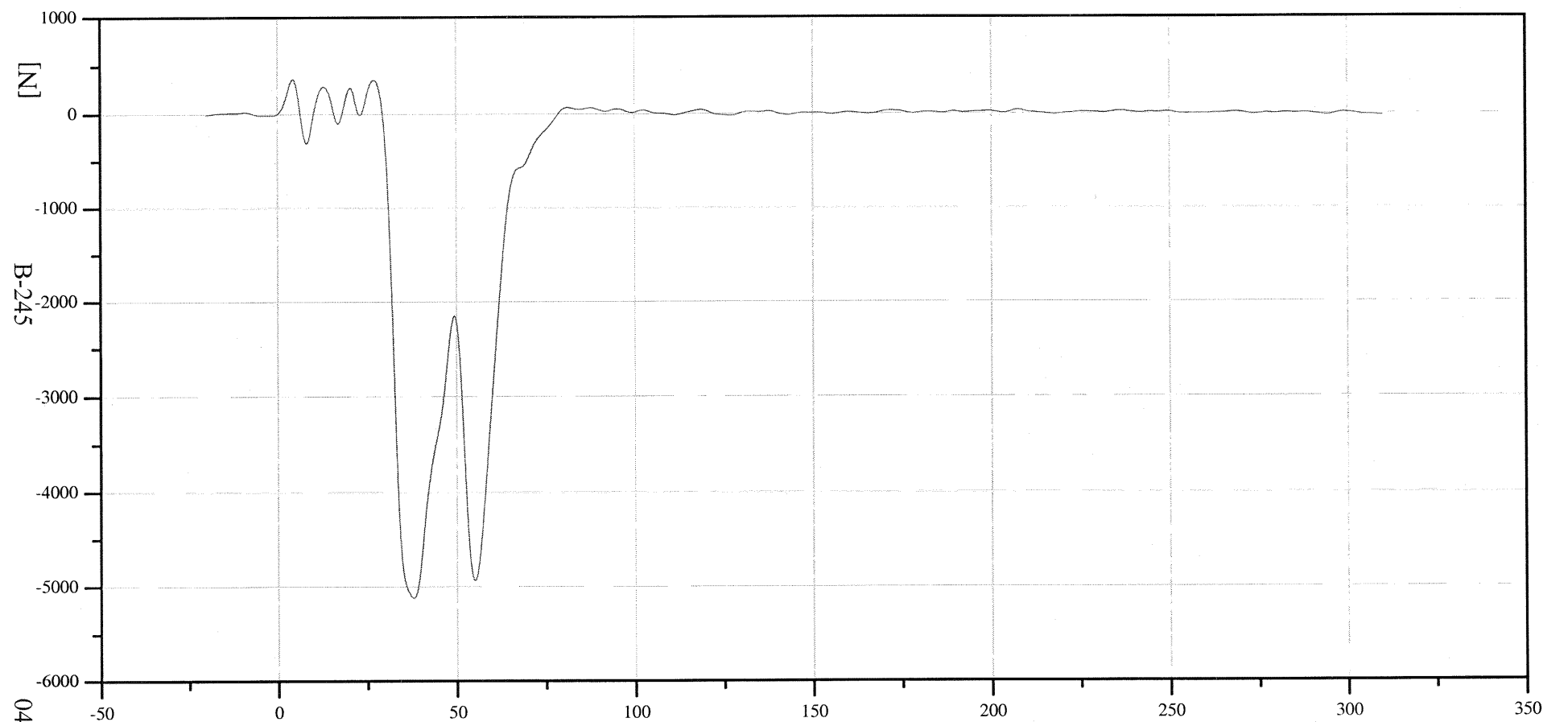
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0702



040824

<Min Value>

-5119.55 N at 37.76 ms

<Max Value>

364.30 N at 4.32 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

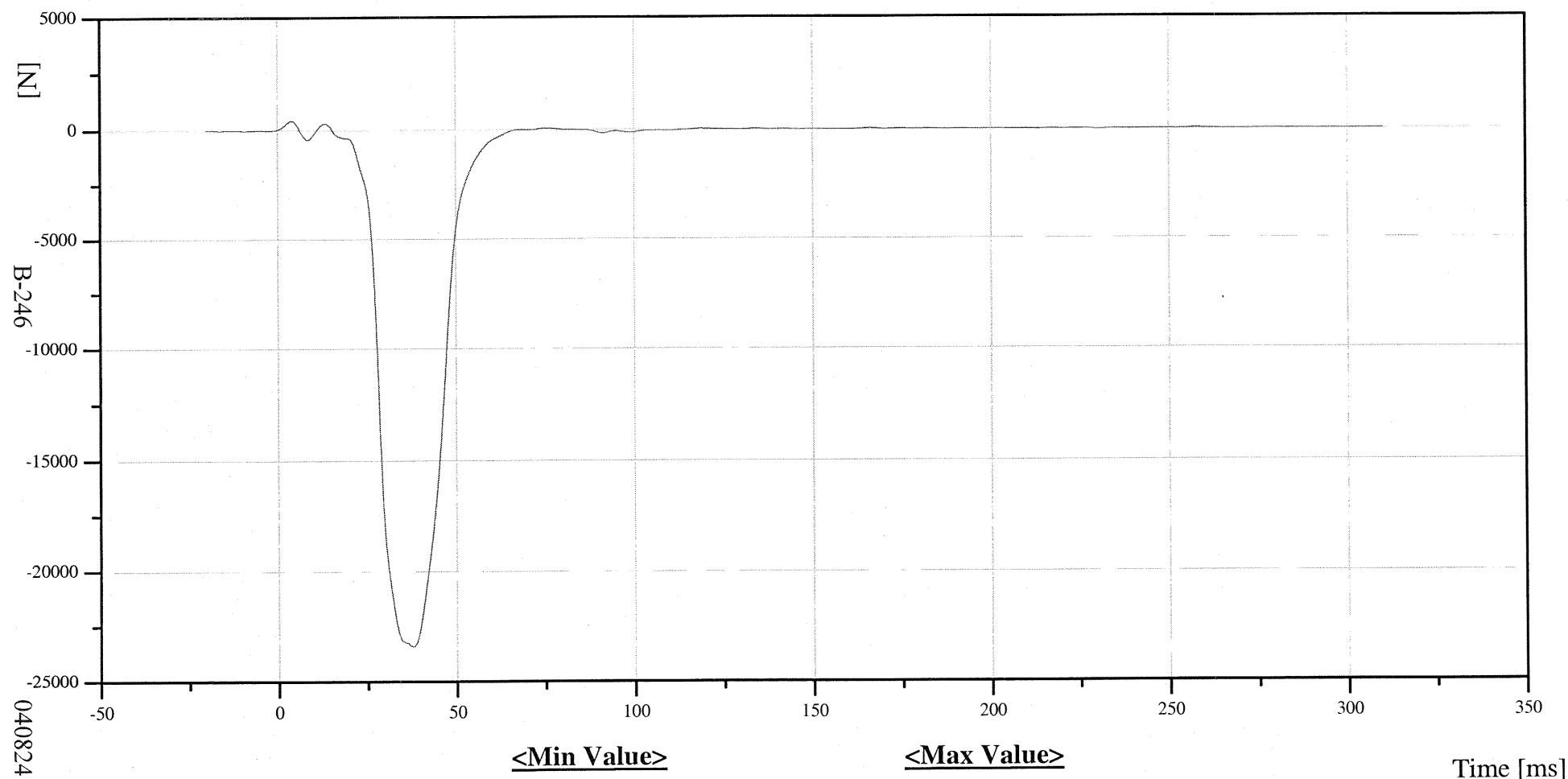
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0703



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

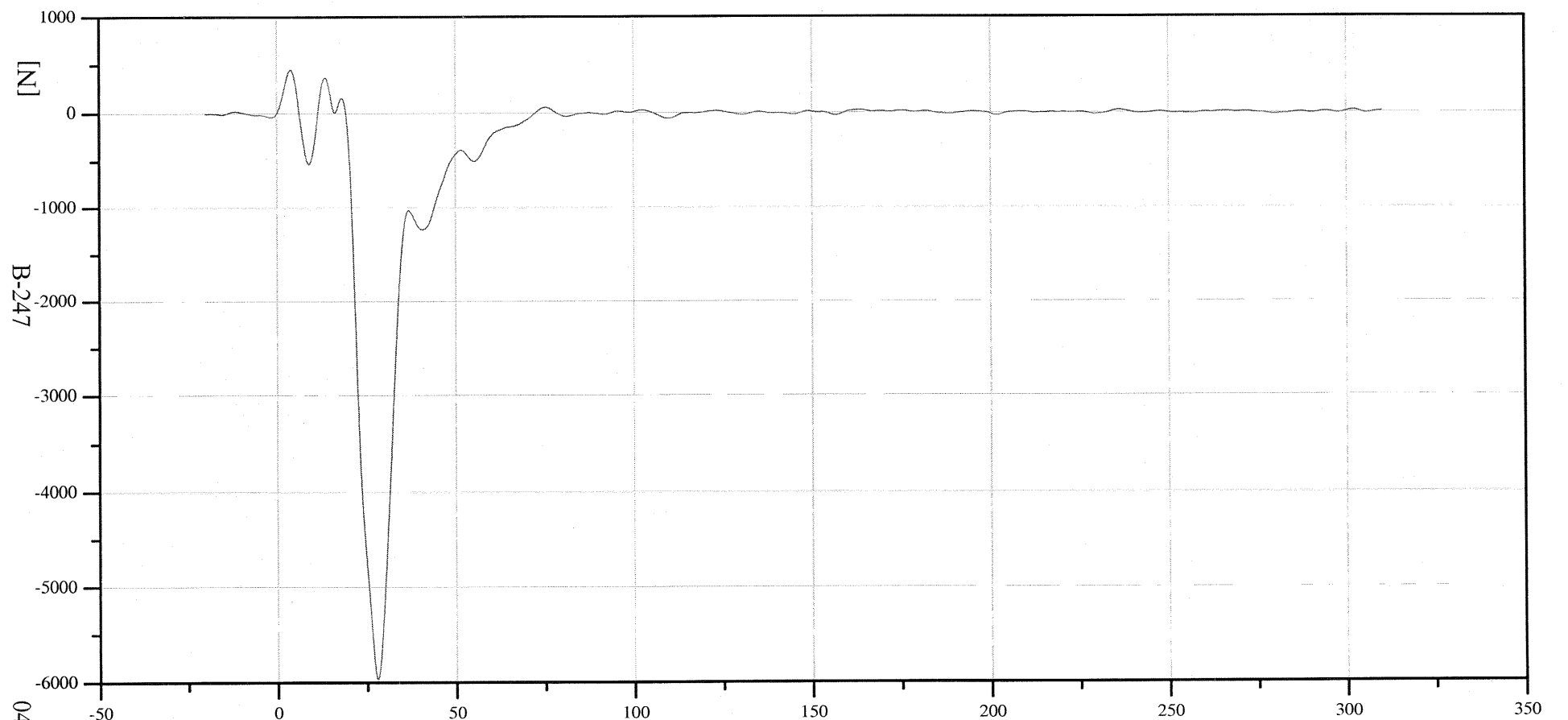
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0704



<Min Value>

-5965.84 N at 27.84 ms

<Max Value>

445.94 N at 3.92 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

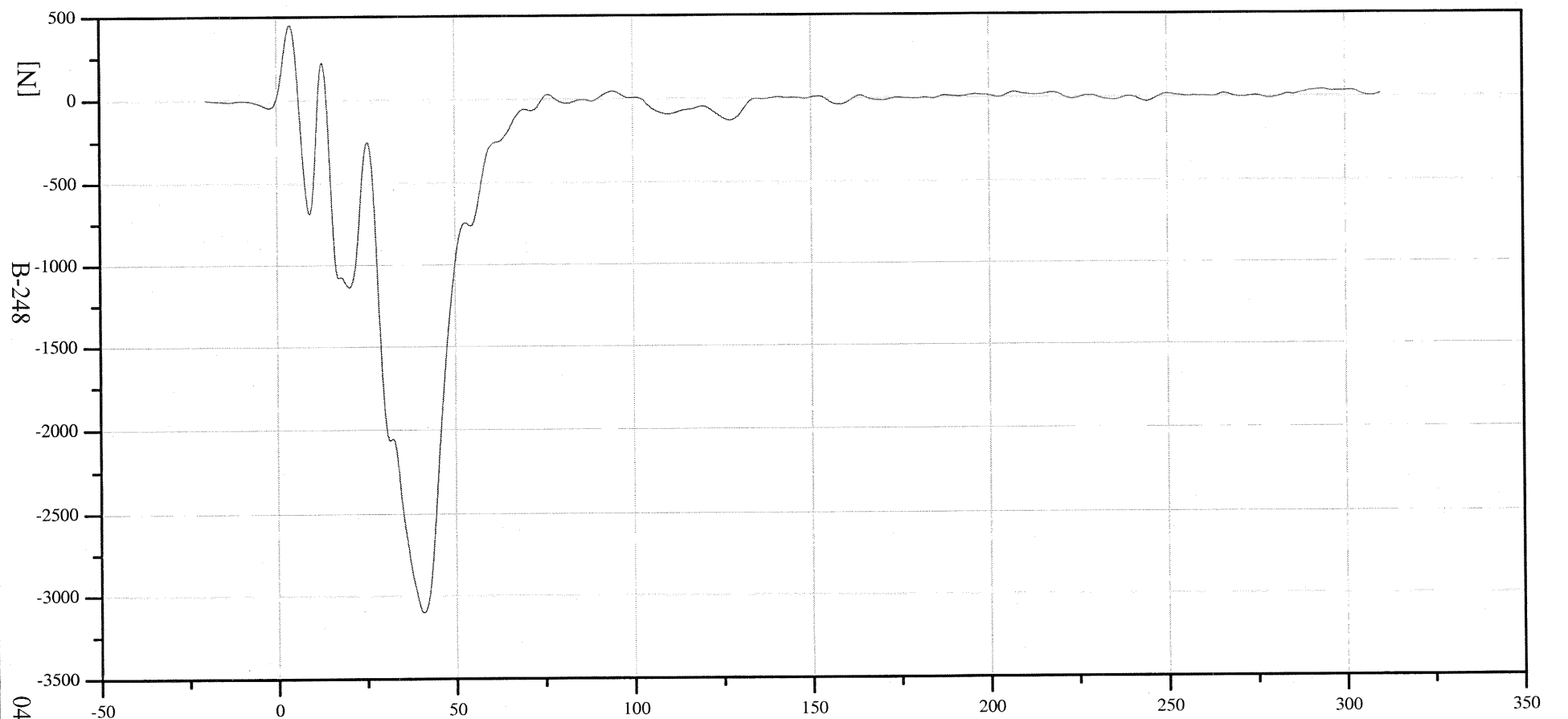
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0705



<Min Value>

-3100.09 N at 40.72 ms

<Max Value>

448.48 N at 3.84 ms

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

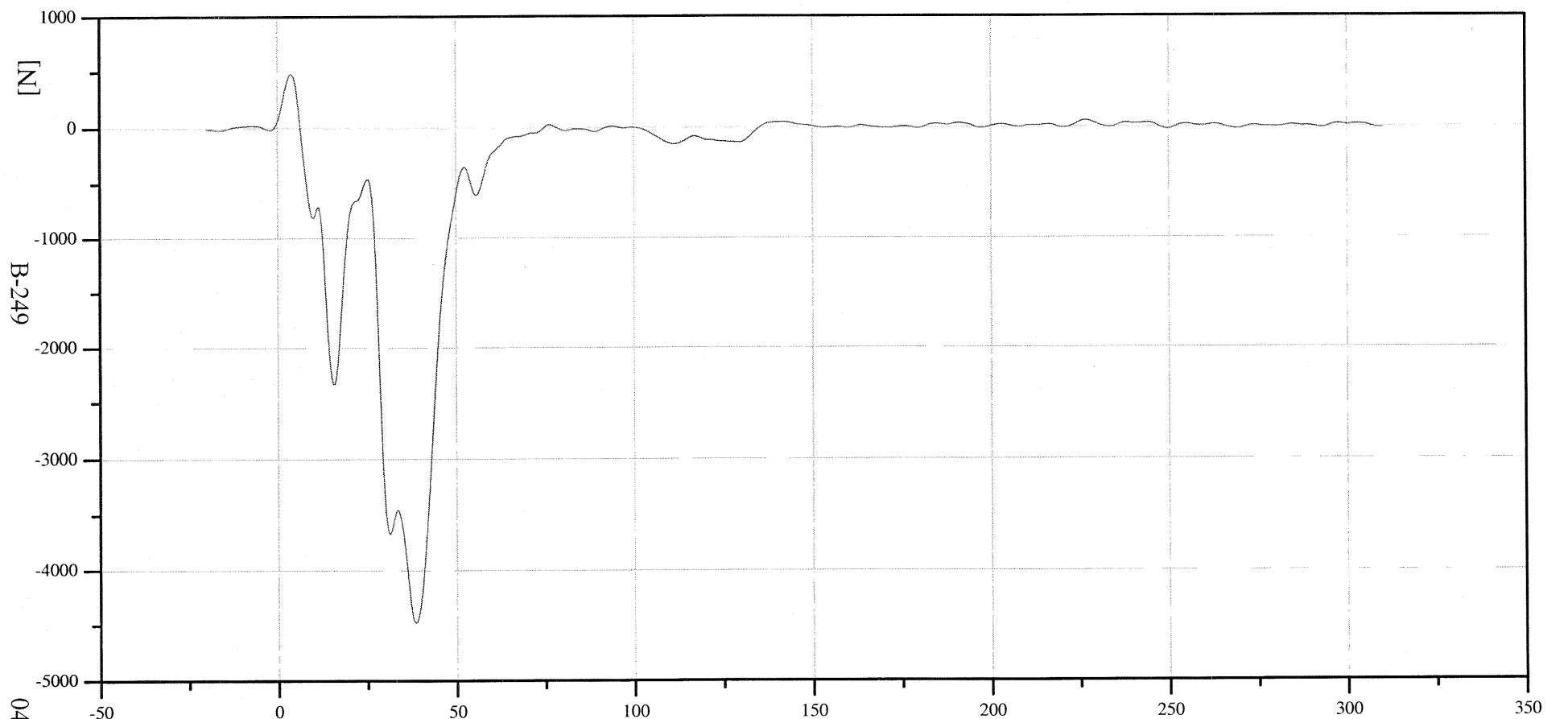
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0706



<Min Value>

-4477.53 N at 38.40 ms

<Max Value>

481.76 N at 3.84 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

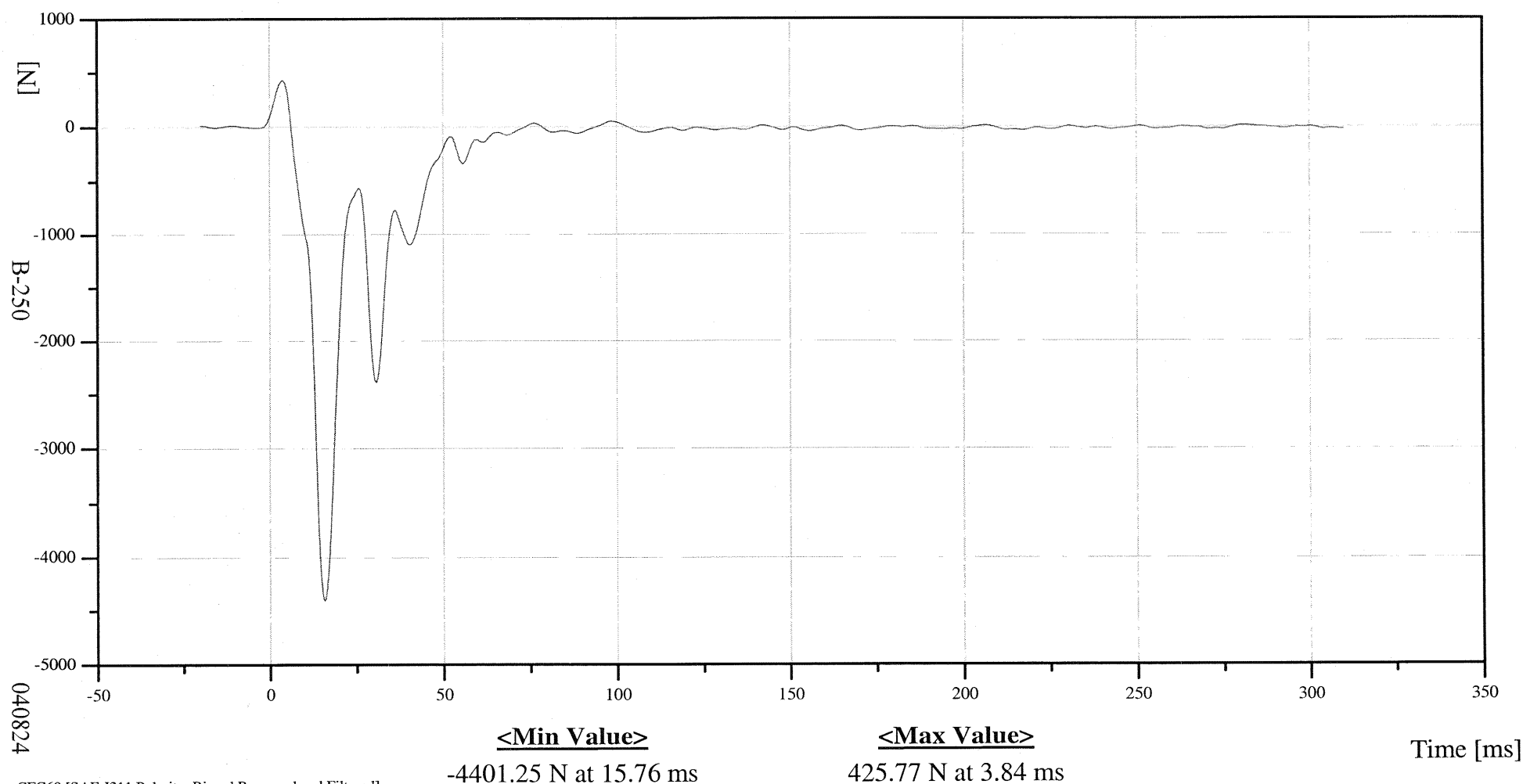
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0707





Transportation Research Center, Inc.

ROW 7 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

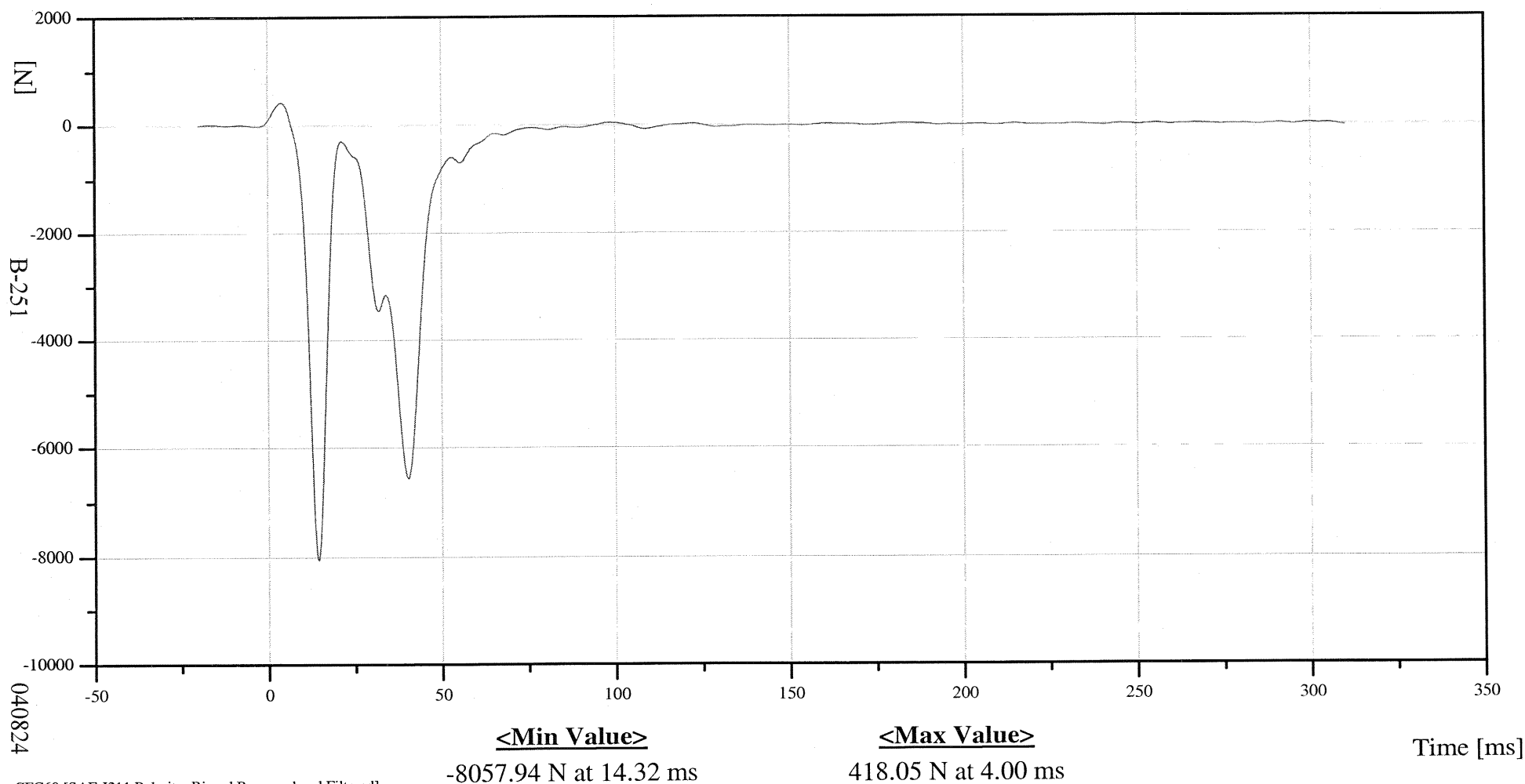
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0708



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

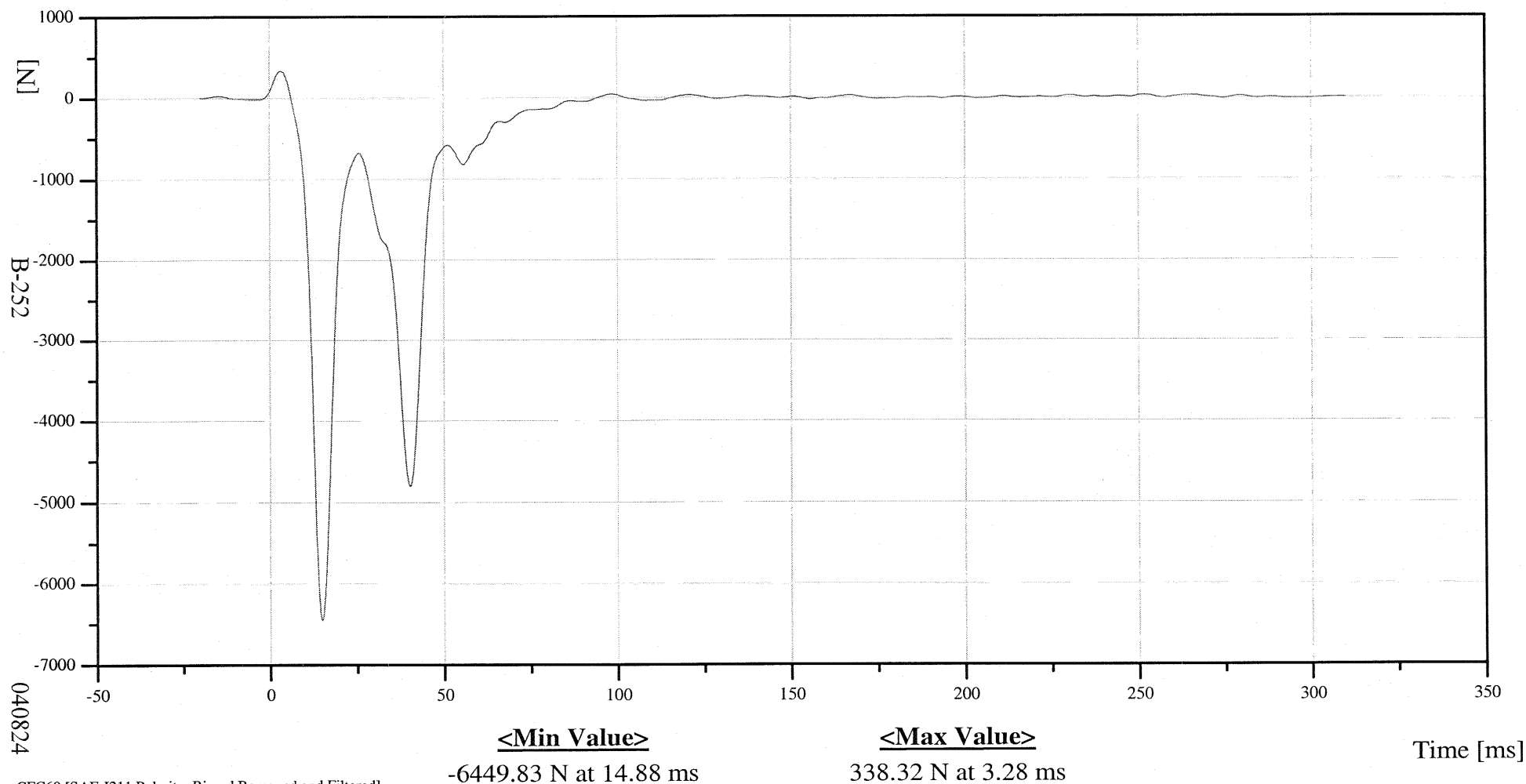
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0709





Transportation Research Center, Inc.

ROW 7 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

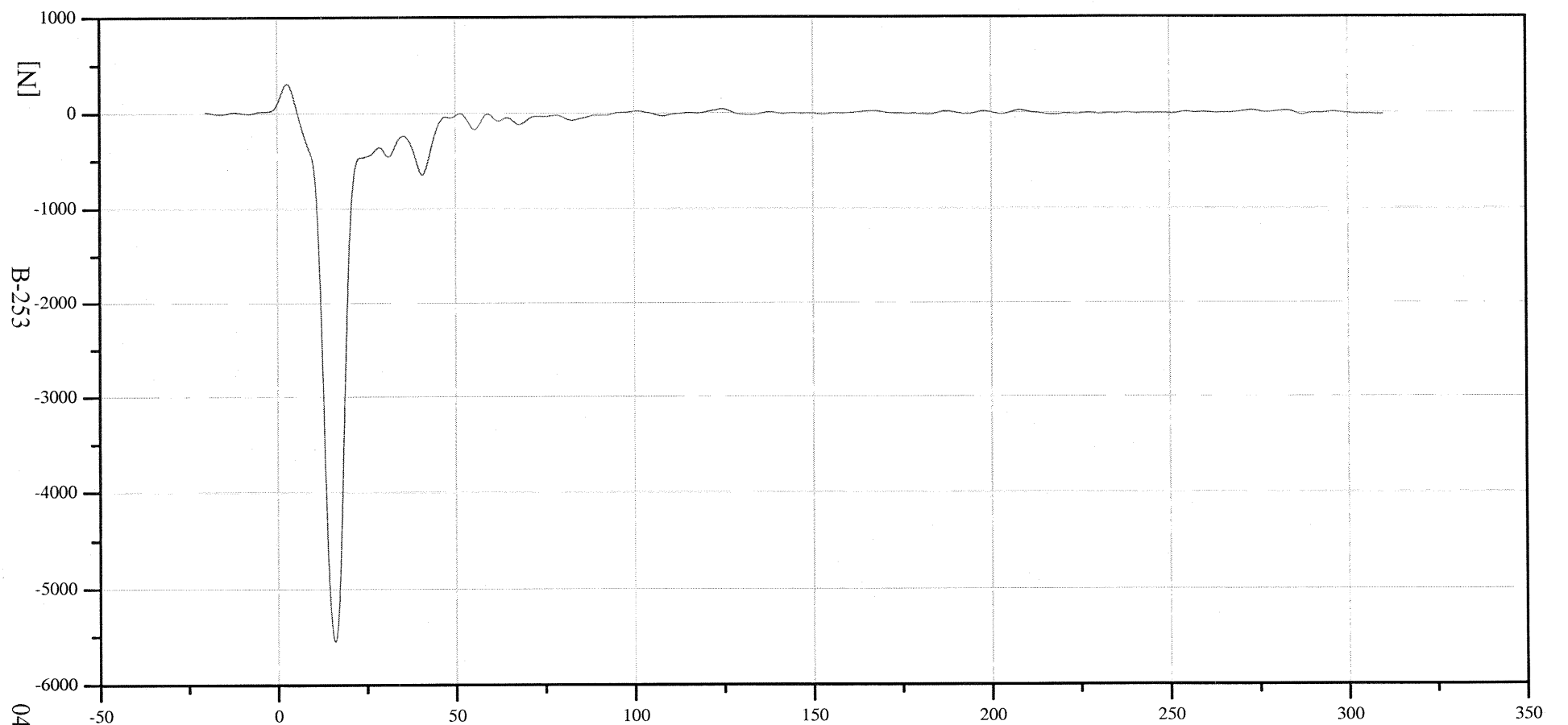
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0710



<Min Value>

-5553.98 N at 16.00 ms

<Max Value>

306.09 N at 2.80 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

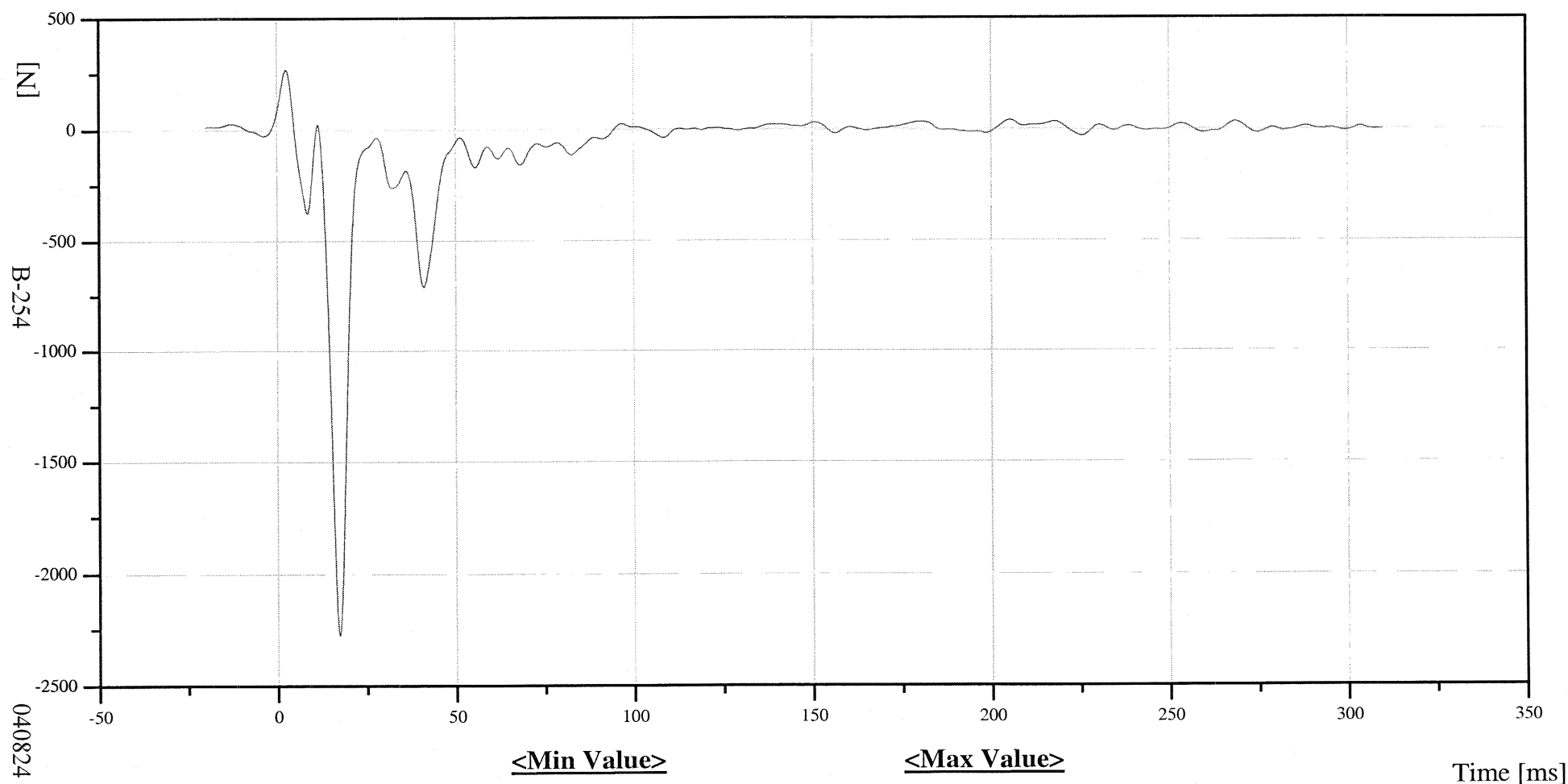
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0711



040824

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

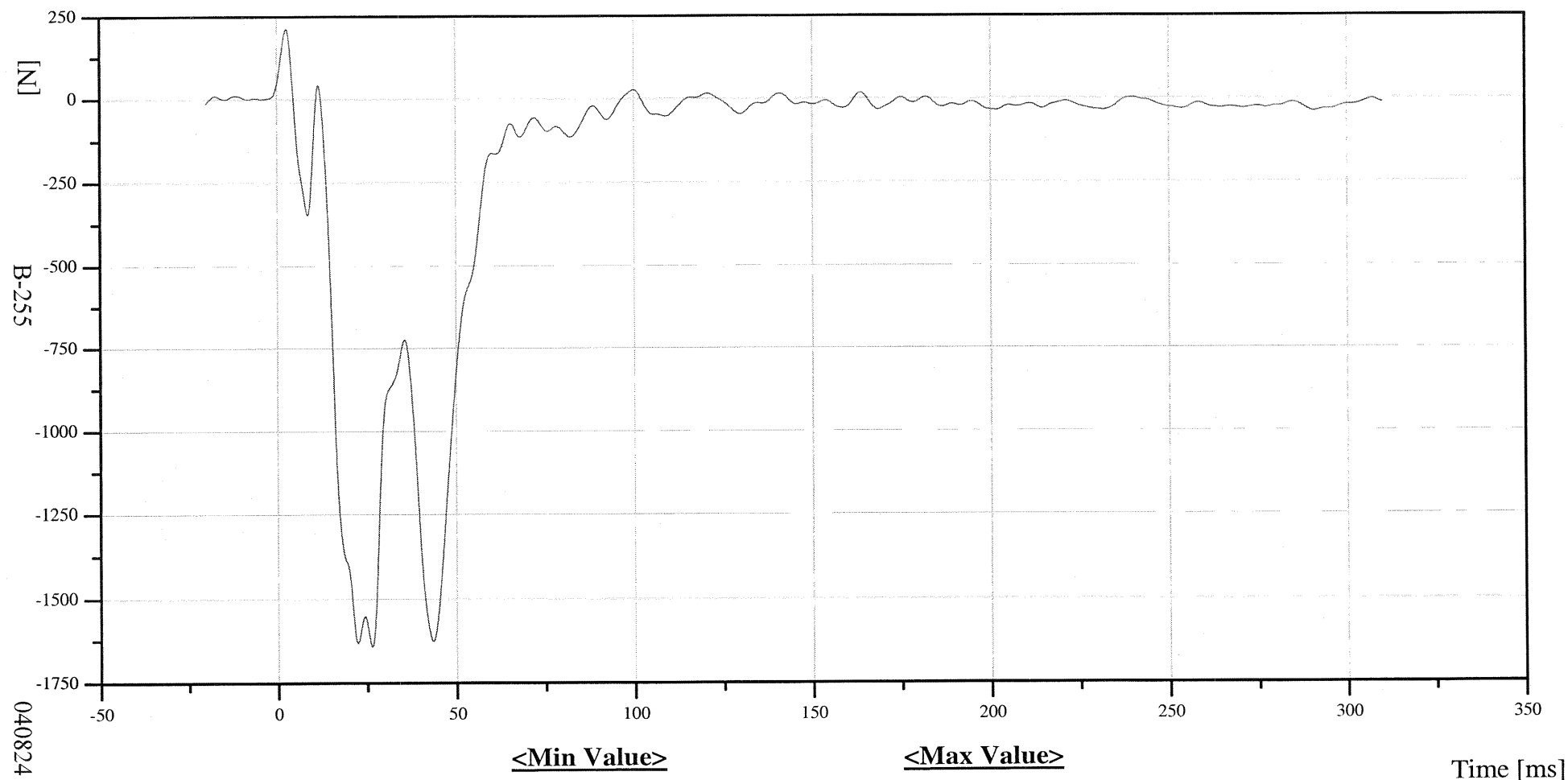
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0712



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

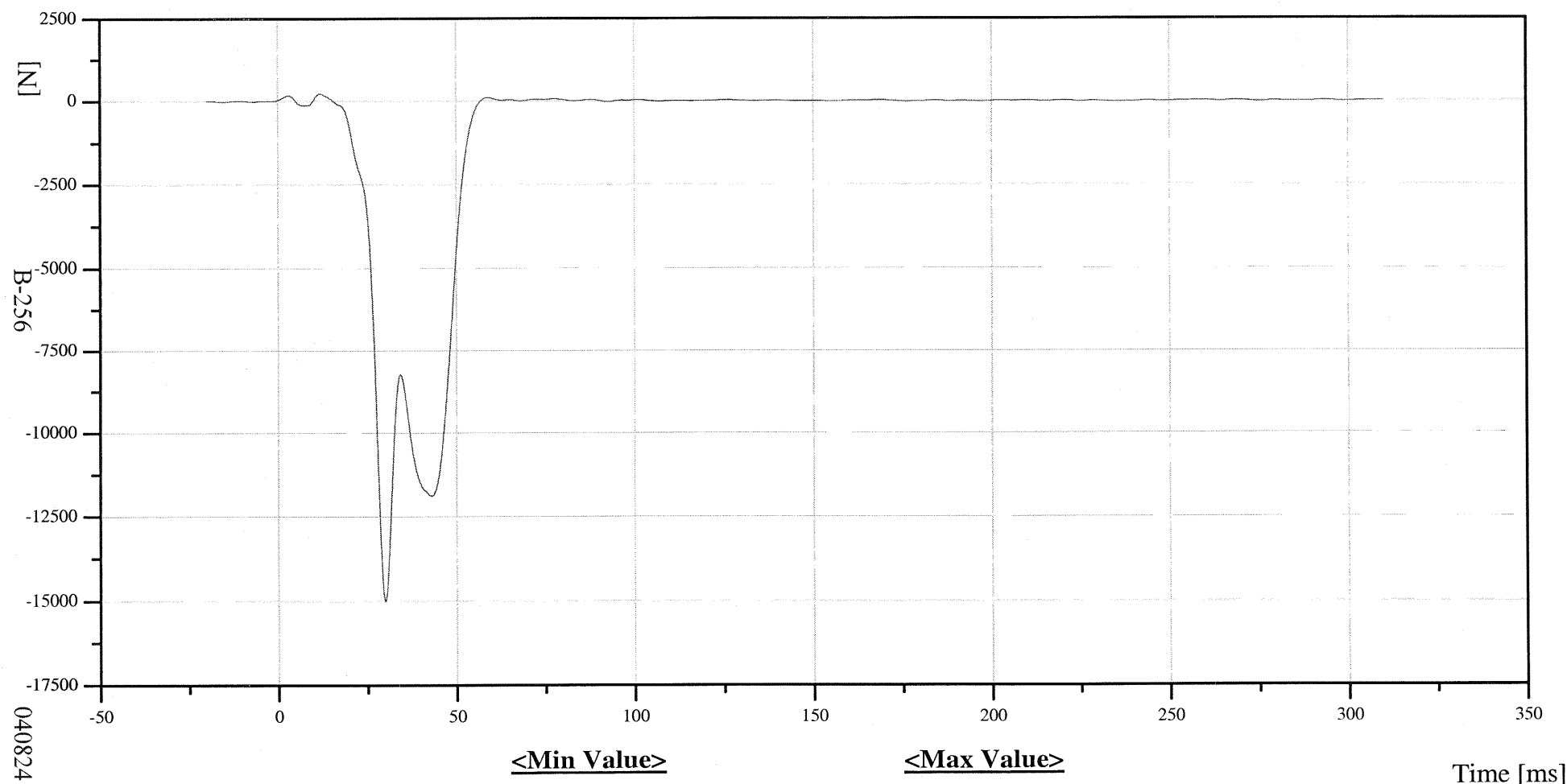
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0713



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

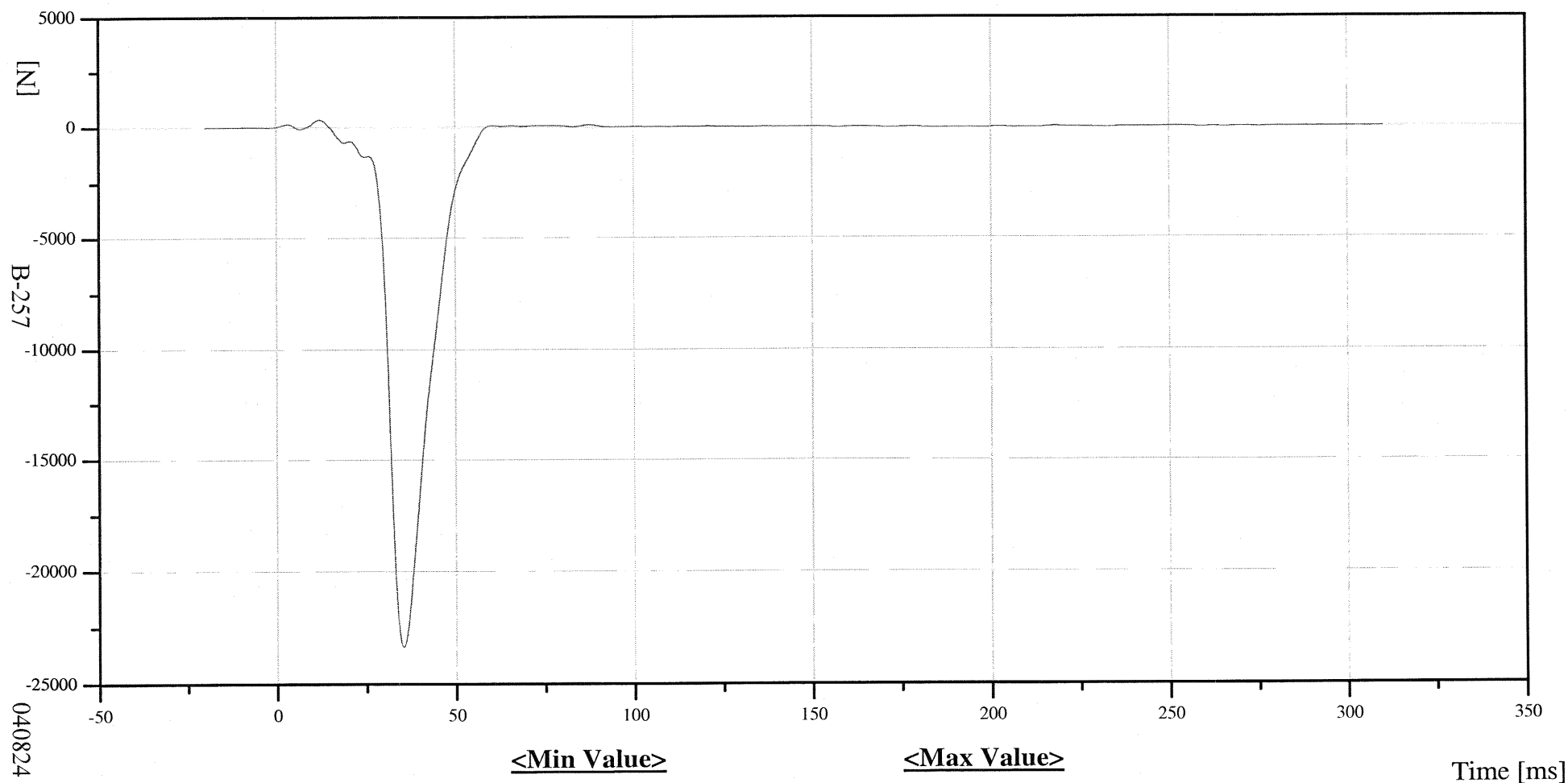
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0714



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 7 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

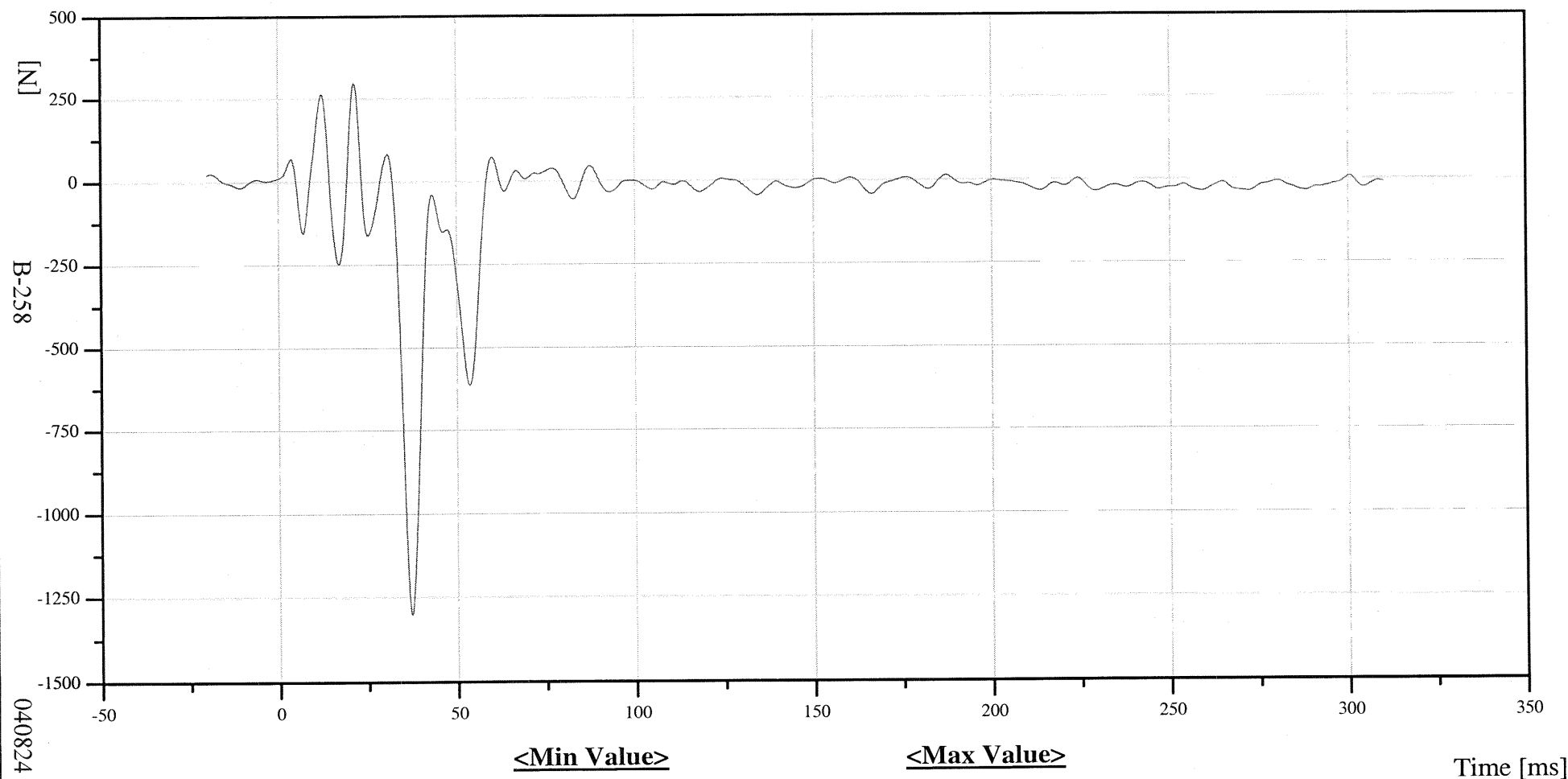
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0715



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]

-1301.30 N at 37.04 ms

295.76 N at 21.44 ms



Transportation Research Center, Inc.

ROW 7 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

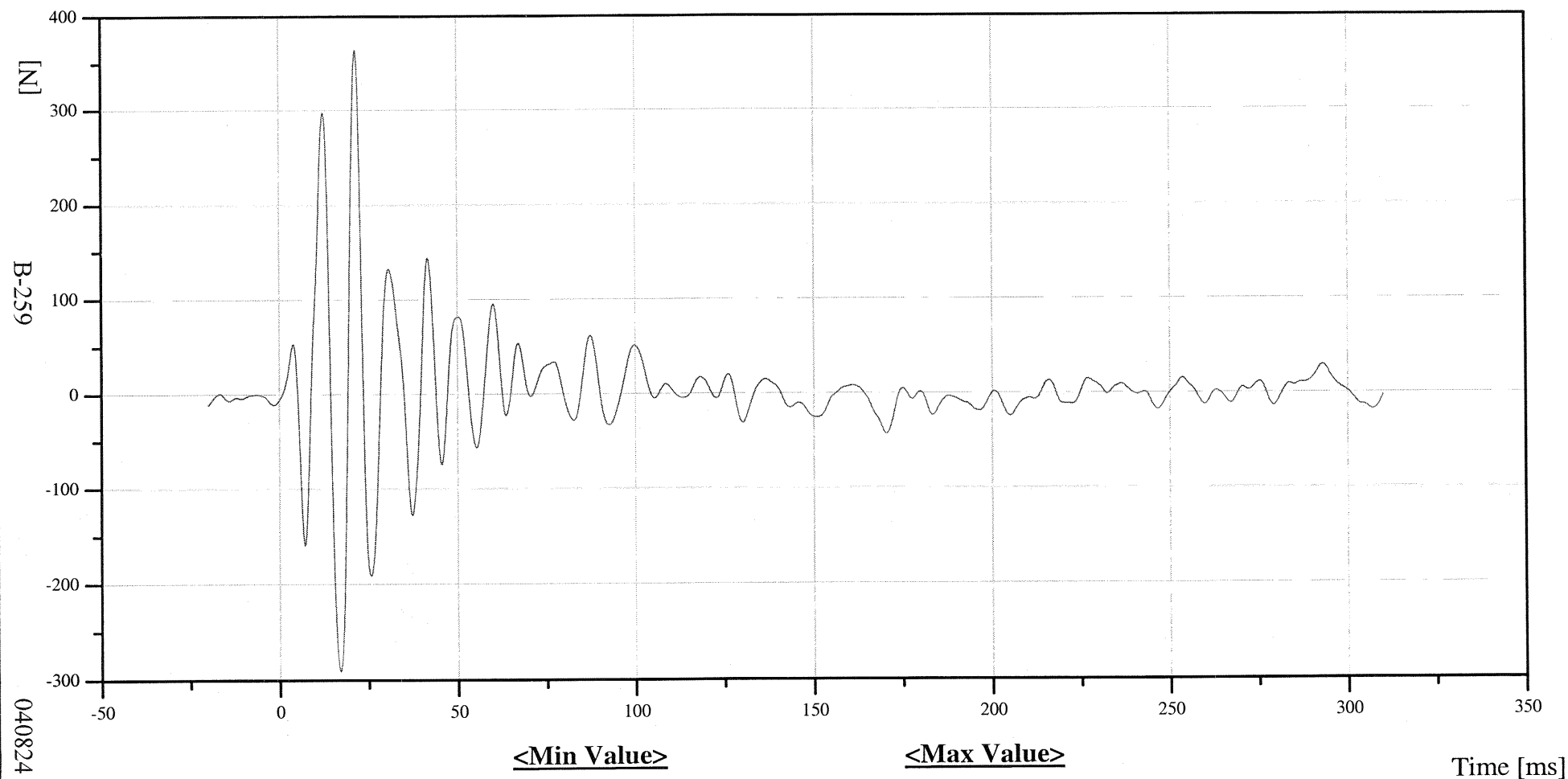
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0716



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 1

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

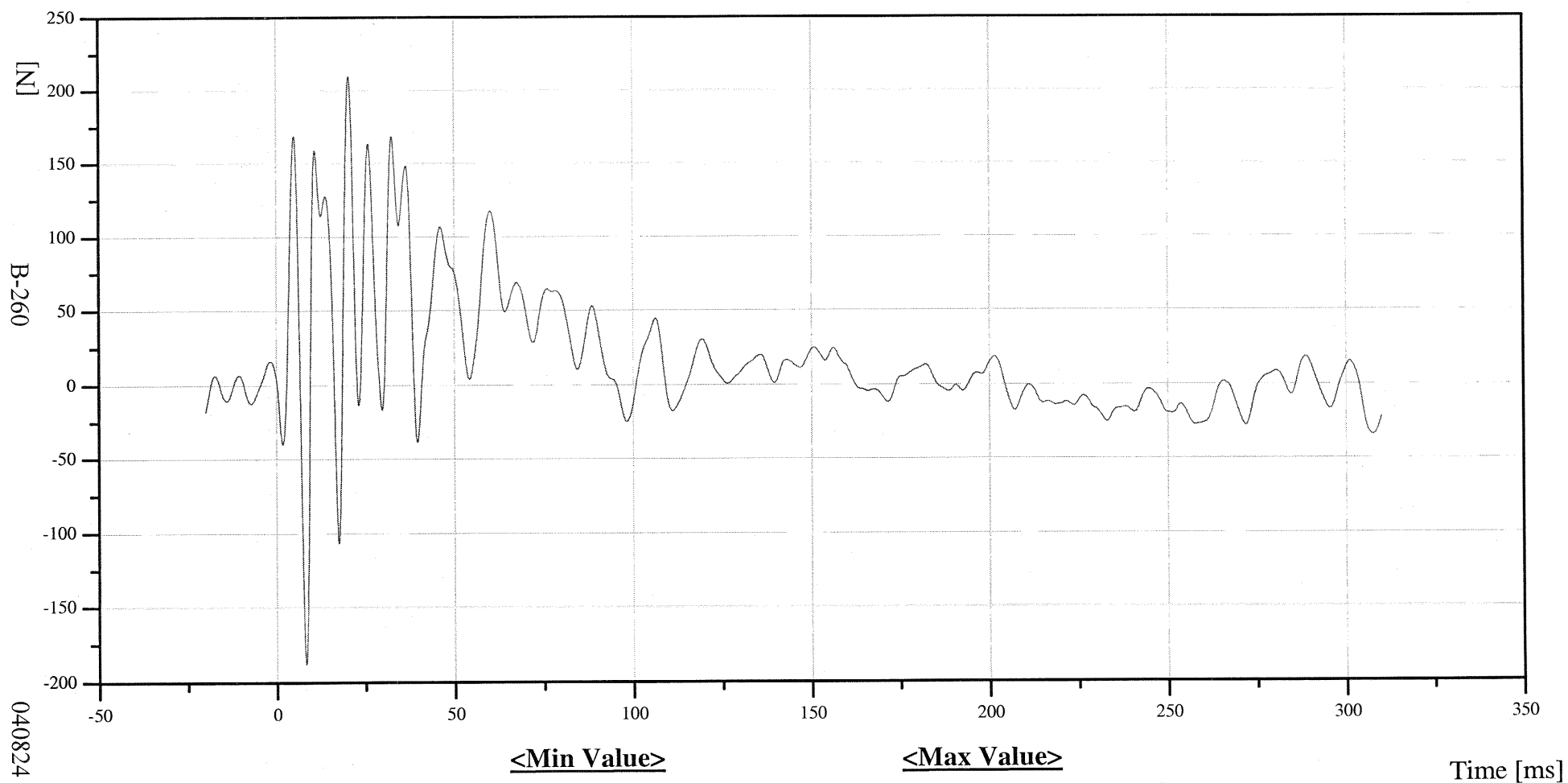
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0801



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 2

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

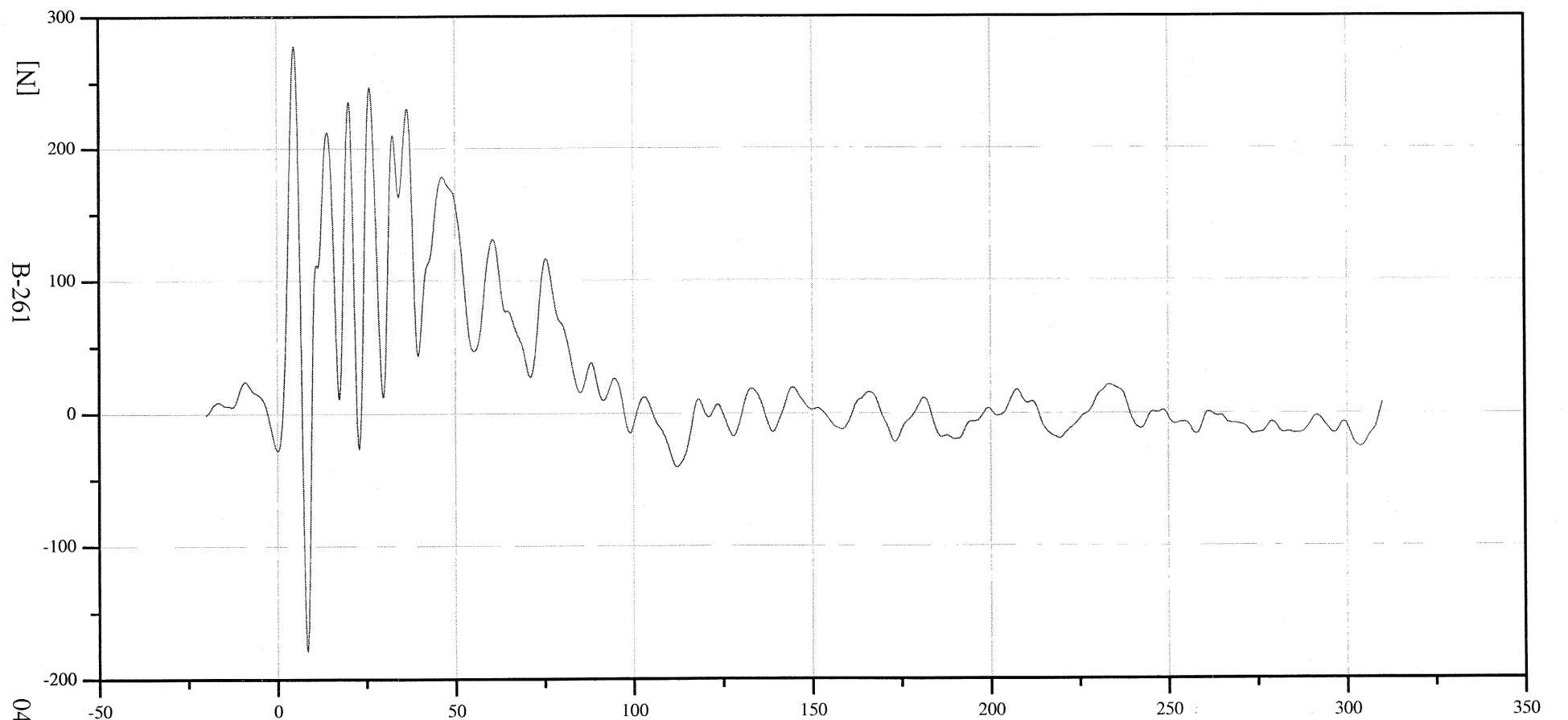
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0802



<Min Value>

-178.96 N at 8.40 ms

<Max Value>

277.79 N at 4.88 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 3

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

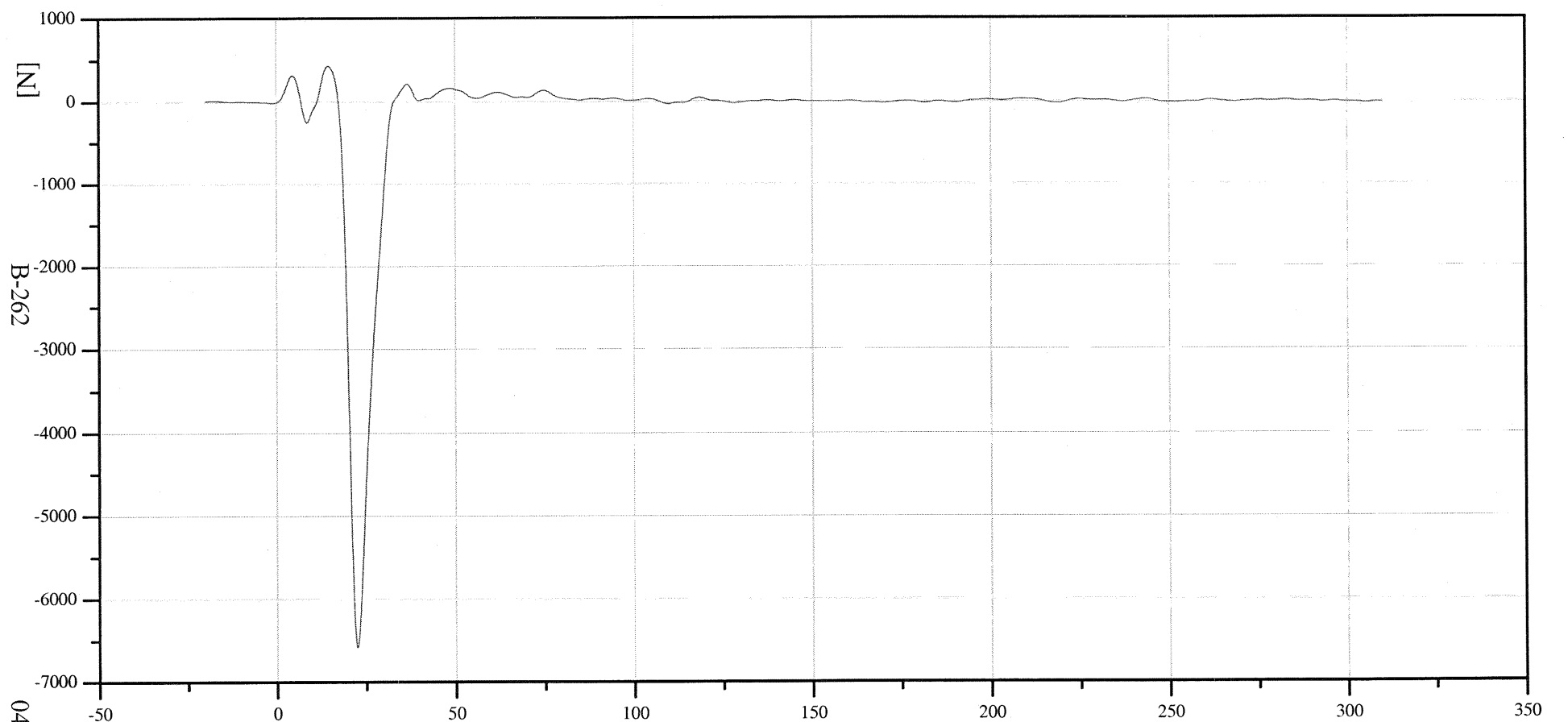
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0803



<Min Value>

-6578.65 N at 22.48 ms

<Max Value>

434.28 N at 14.64 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 4

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

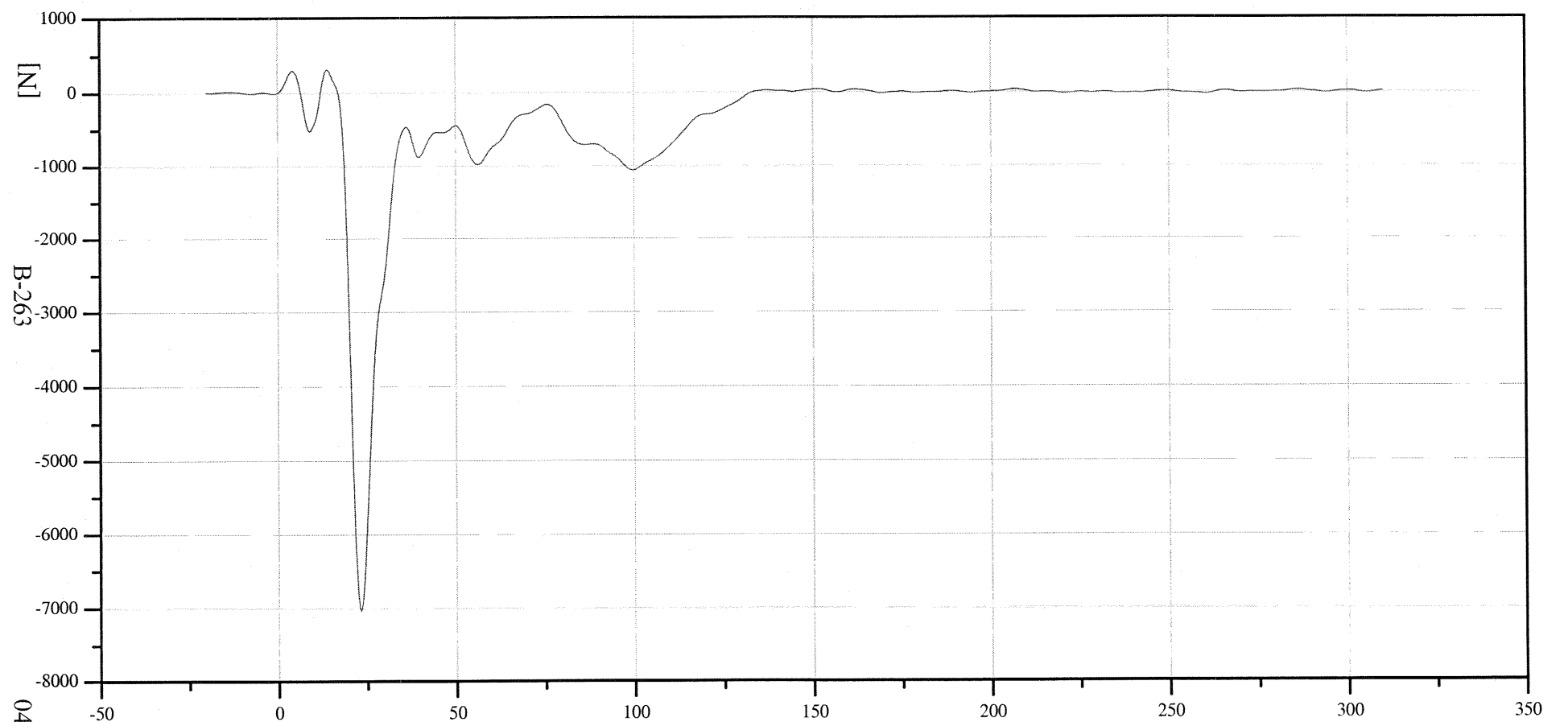
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0804



<Min Value>

-7033.04 N at 23.12 ms

<Max Value>

319.73 N at 14.00 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 5

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

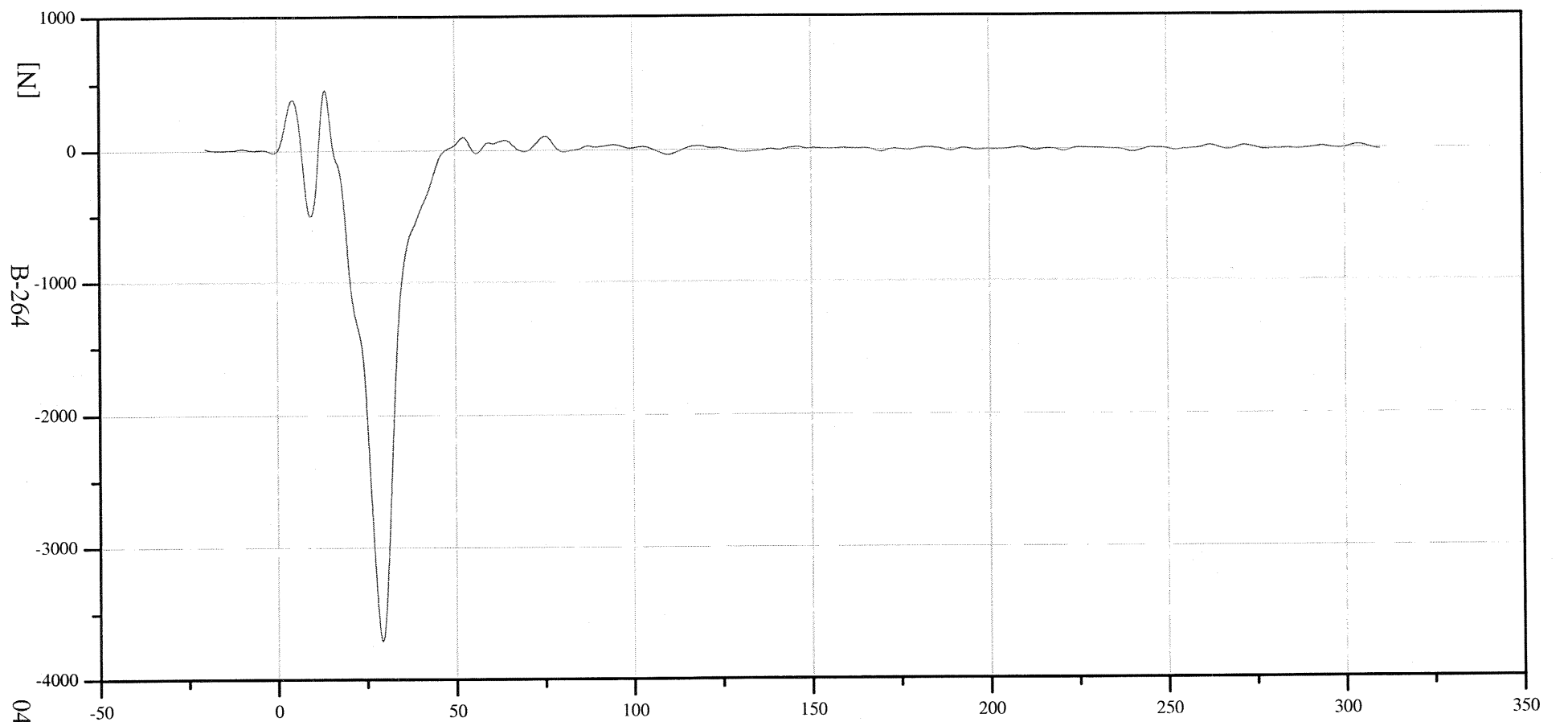
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0805



<Min Value>

-3701.87 N at 29.28 ms

<Max Value>

458.24 N at 13.60 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

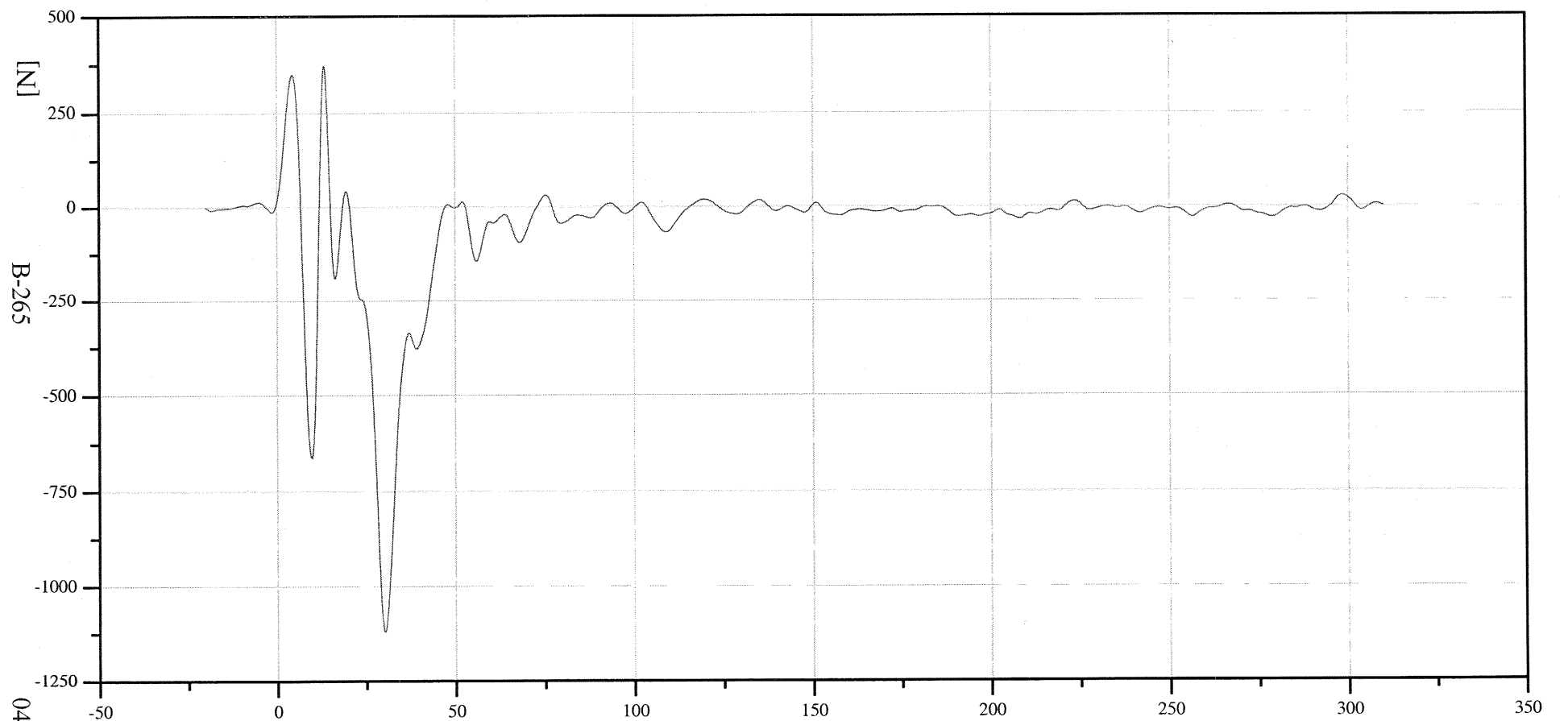
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0806



<Min Value>

-1120.16 N at 30.16 ms

<Max Value>

371.63 N at 13.36 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

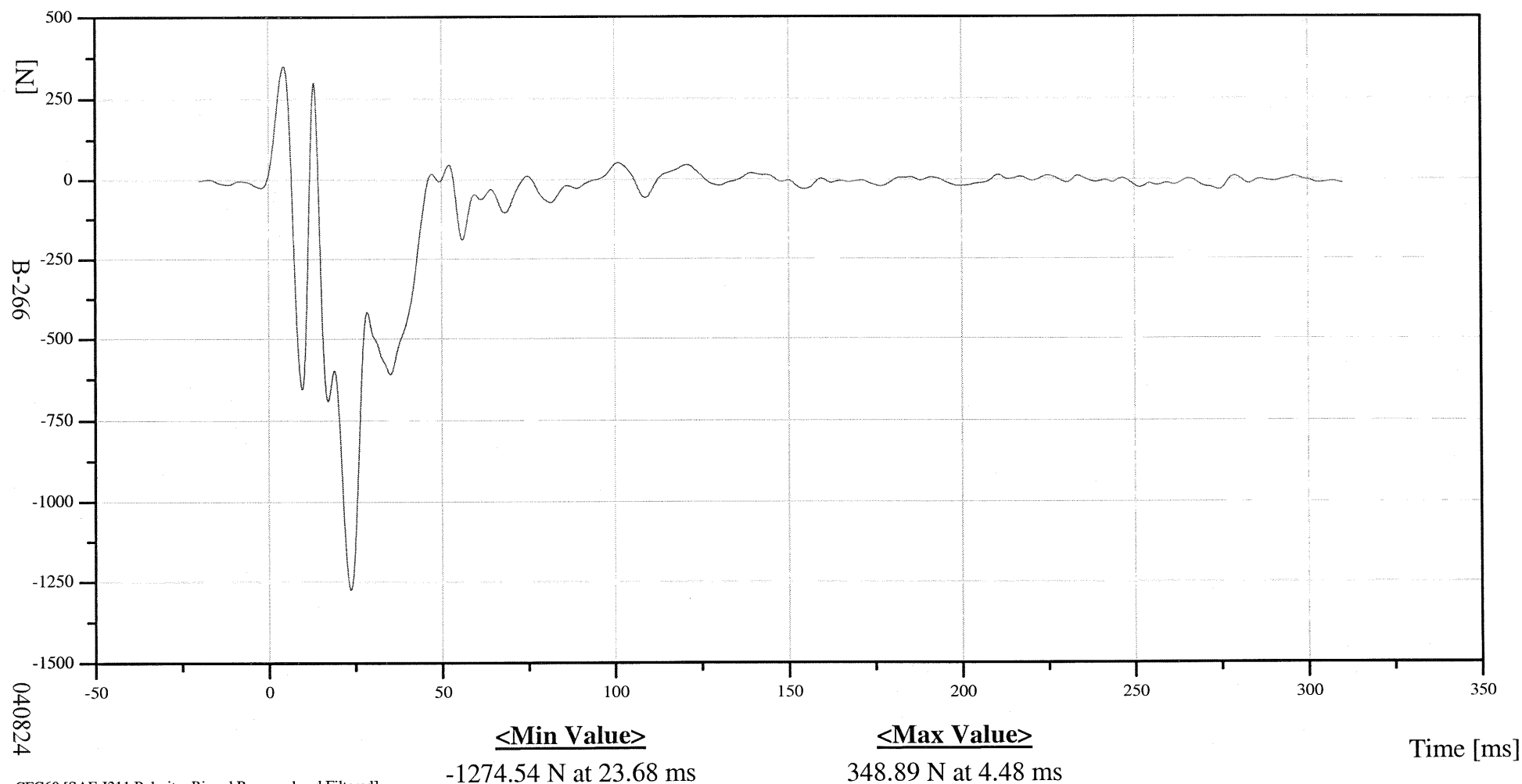
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0807



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

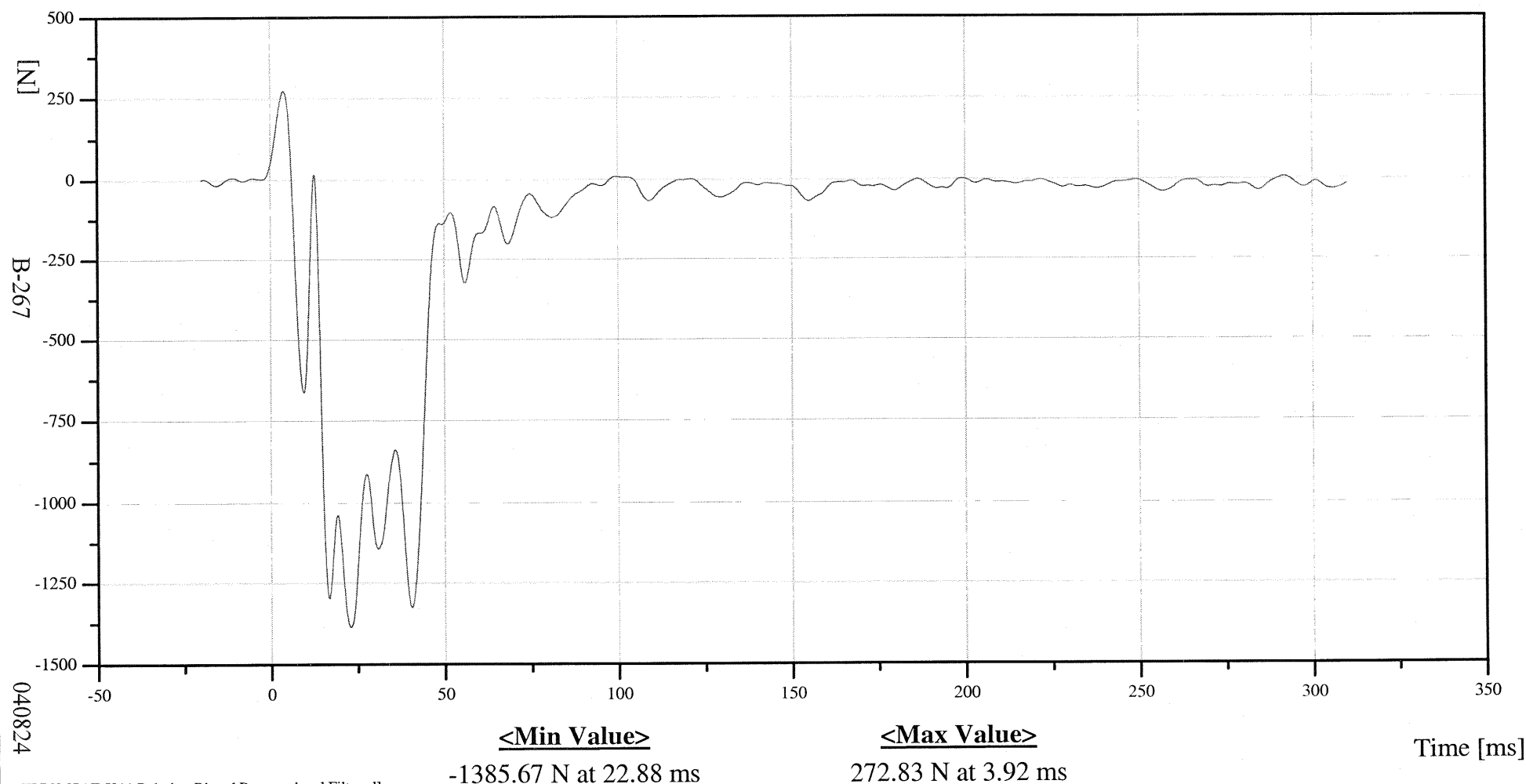
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0808





Transportation Research Center, Inc.

ROW 8 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

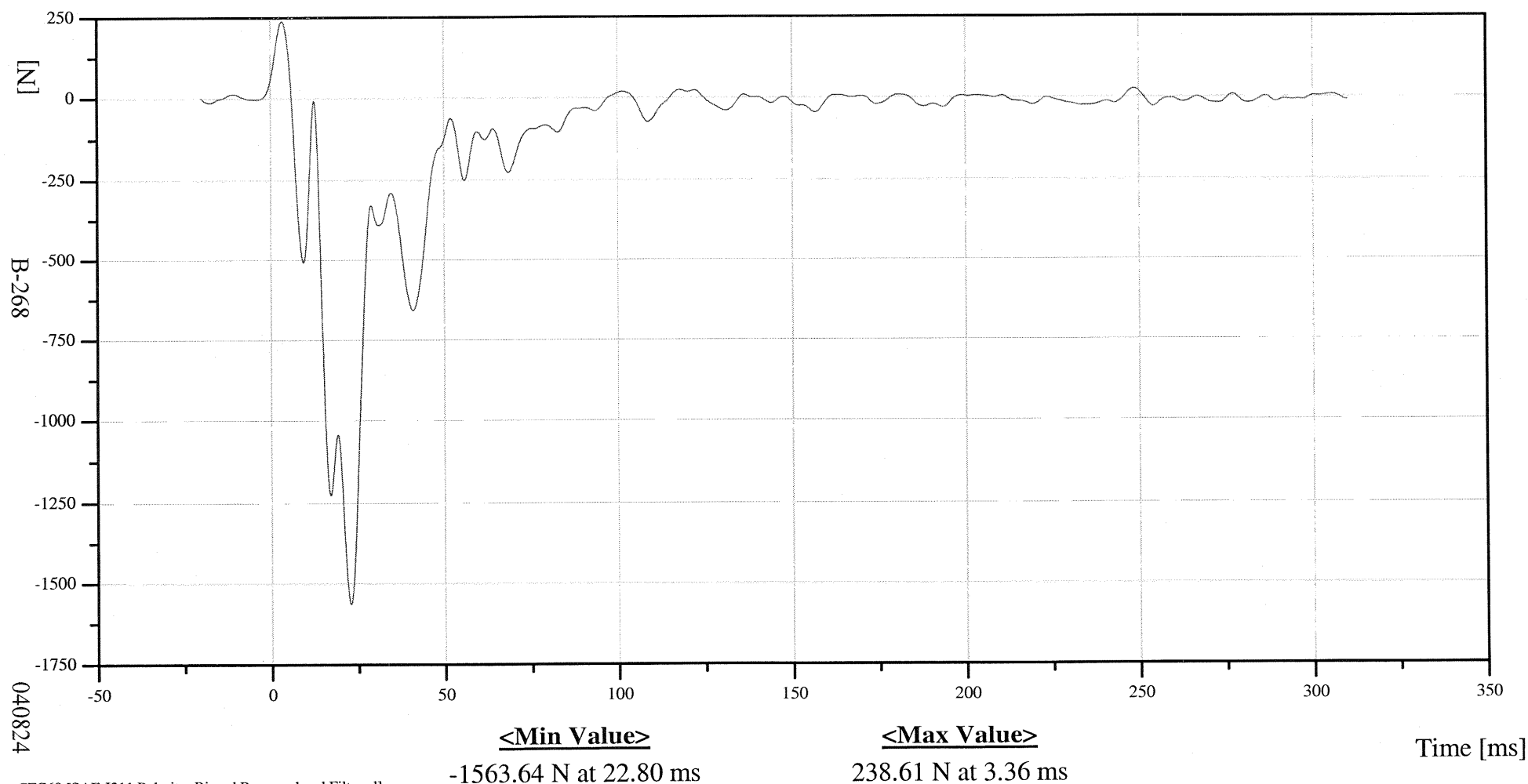
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0809



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

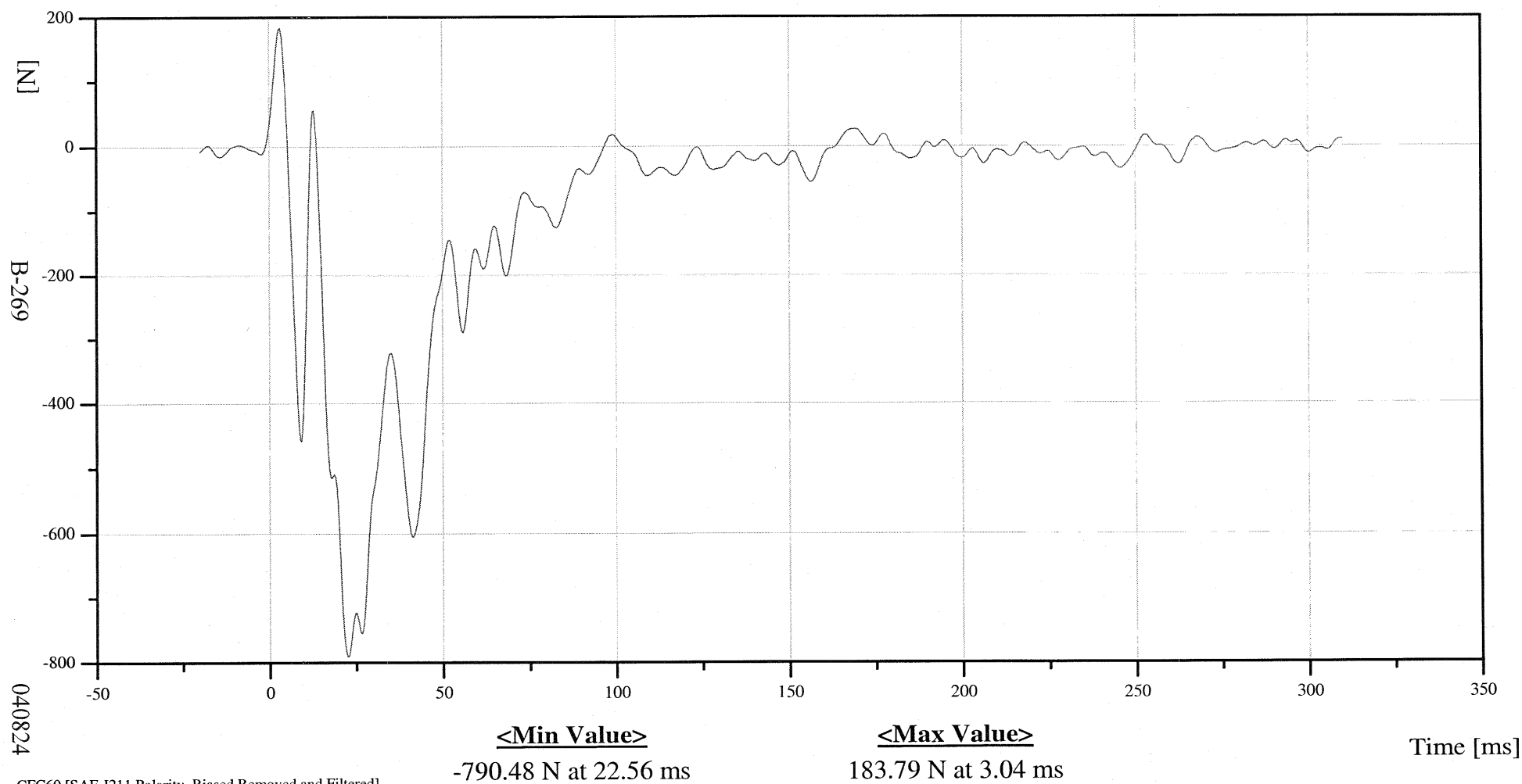
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0810



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

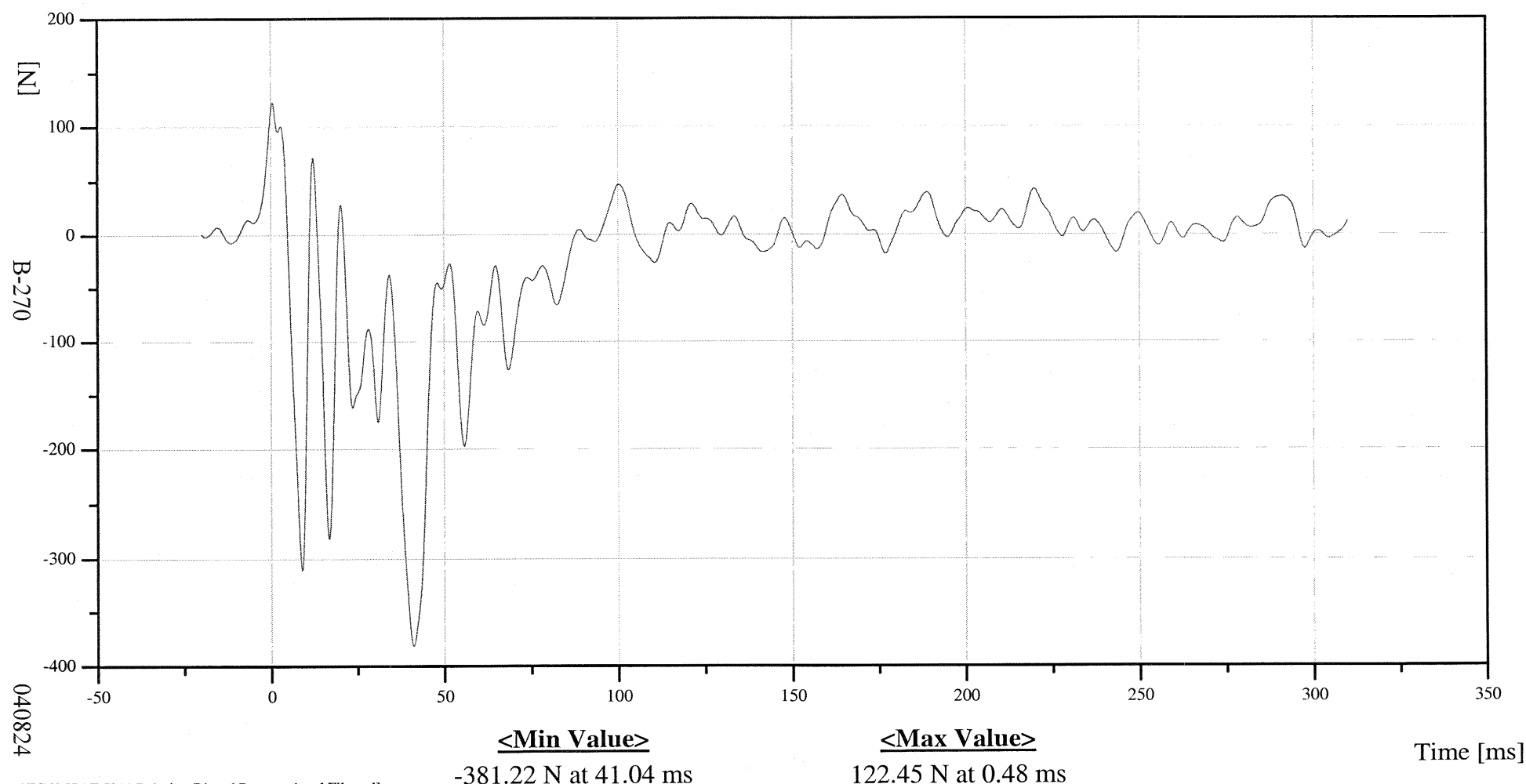
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0811



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 12

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

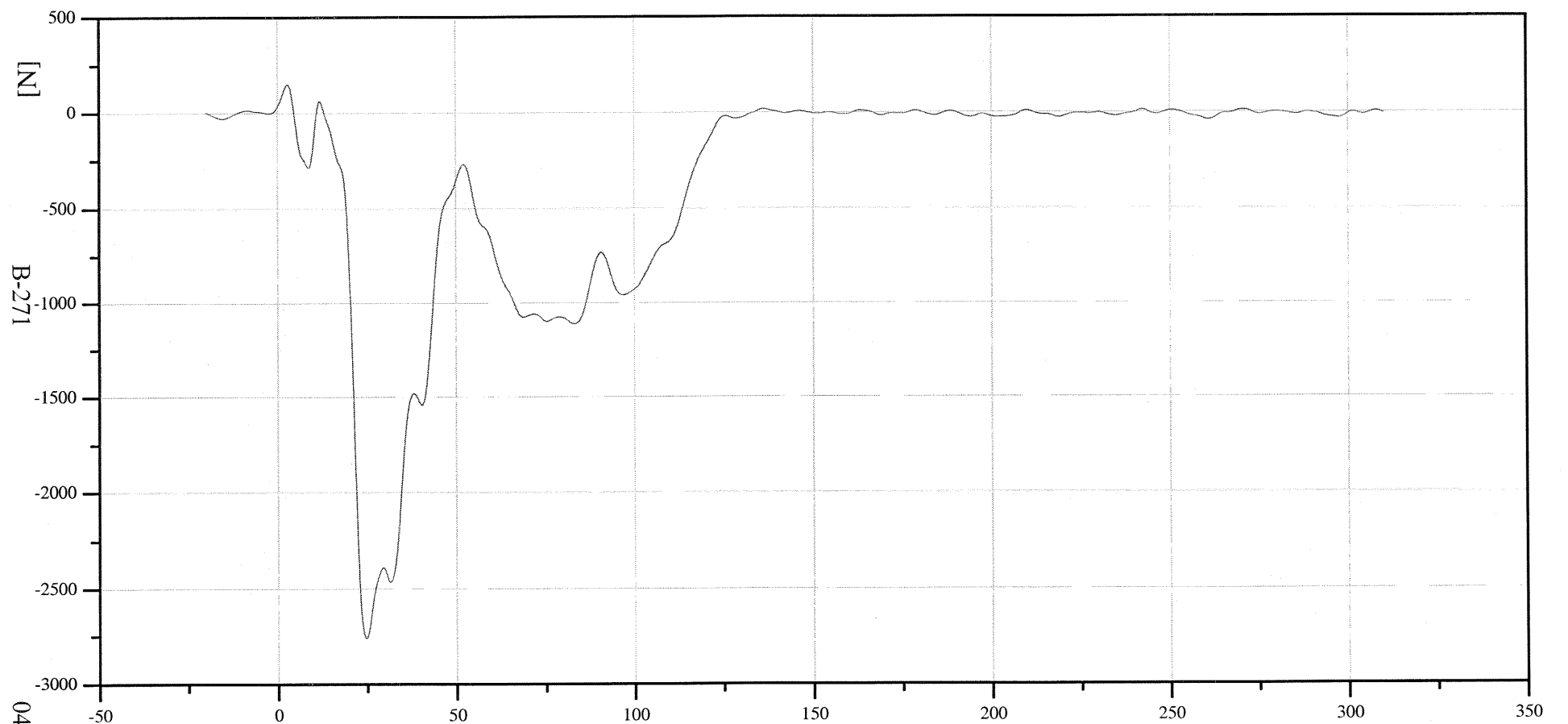
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0812



<Min Value>

-2759.91 N at 24.64 ms

<Max Value>

150.23 N at 2.88 ms

Time [ms]

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 13

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

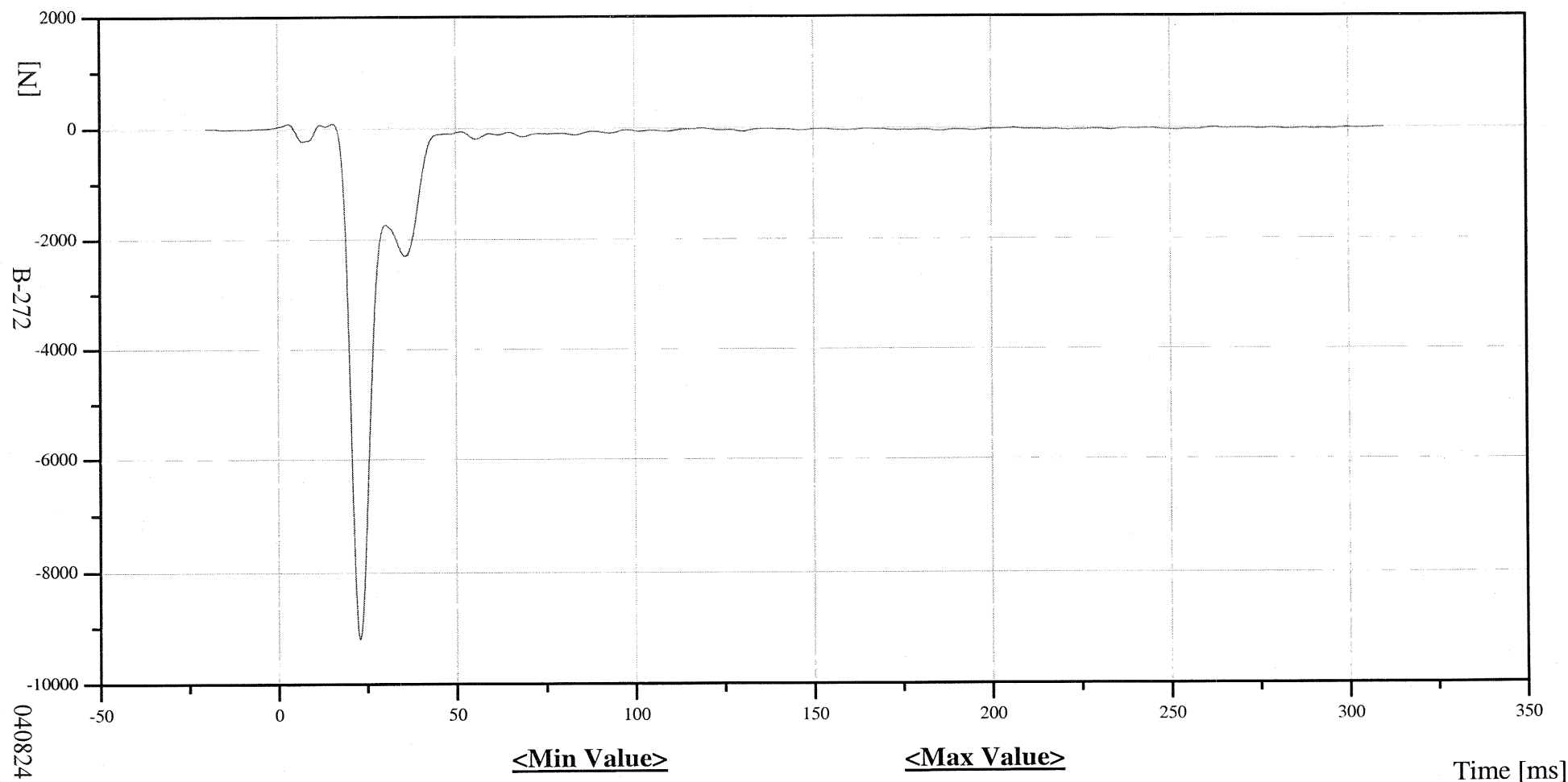
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0813



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 14

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

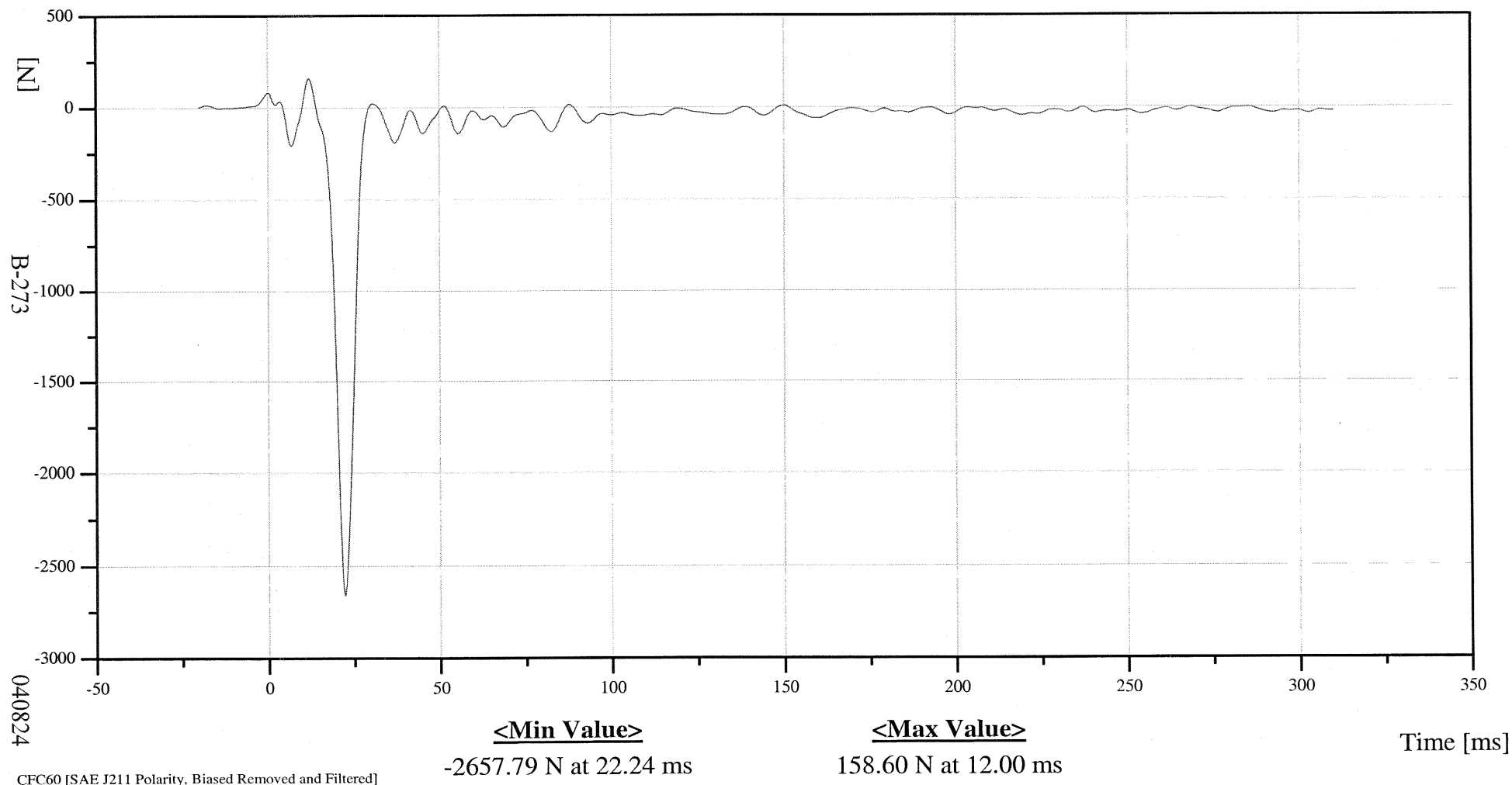
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0814





Transportation Research Center, Inc.

ROW 8 COLUMN 15

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

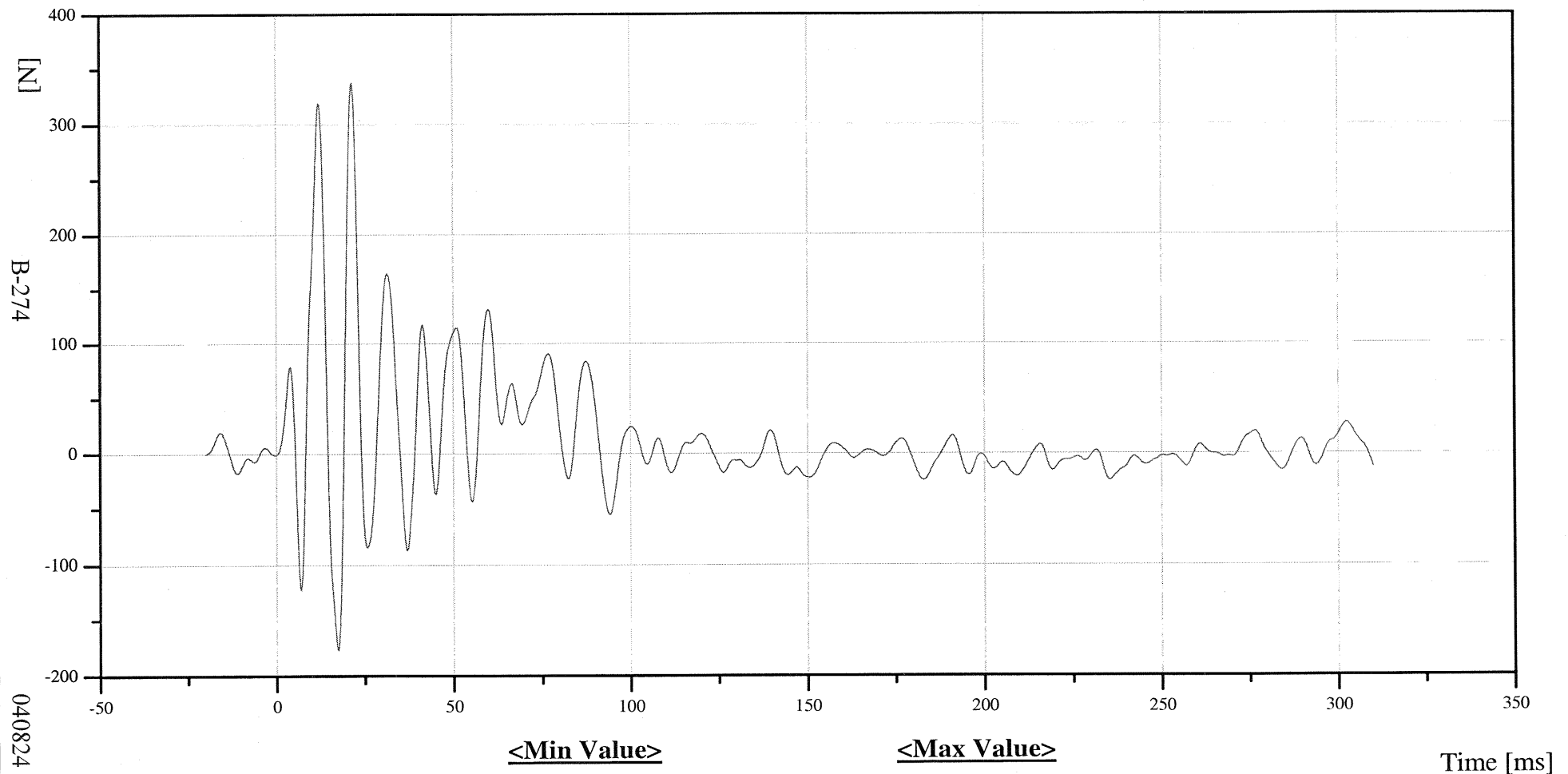
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0815



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 8 COLUMN 16

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

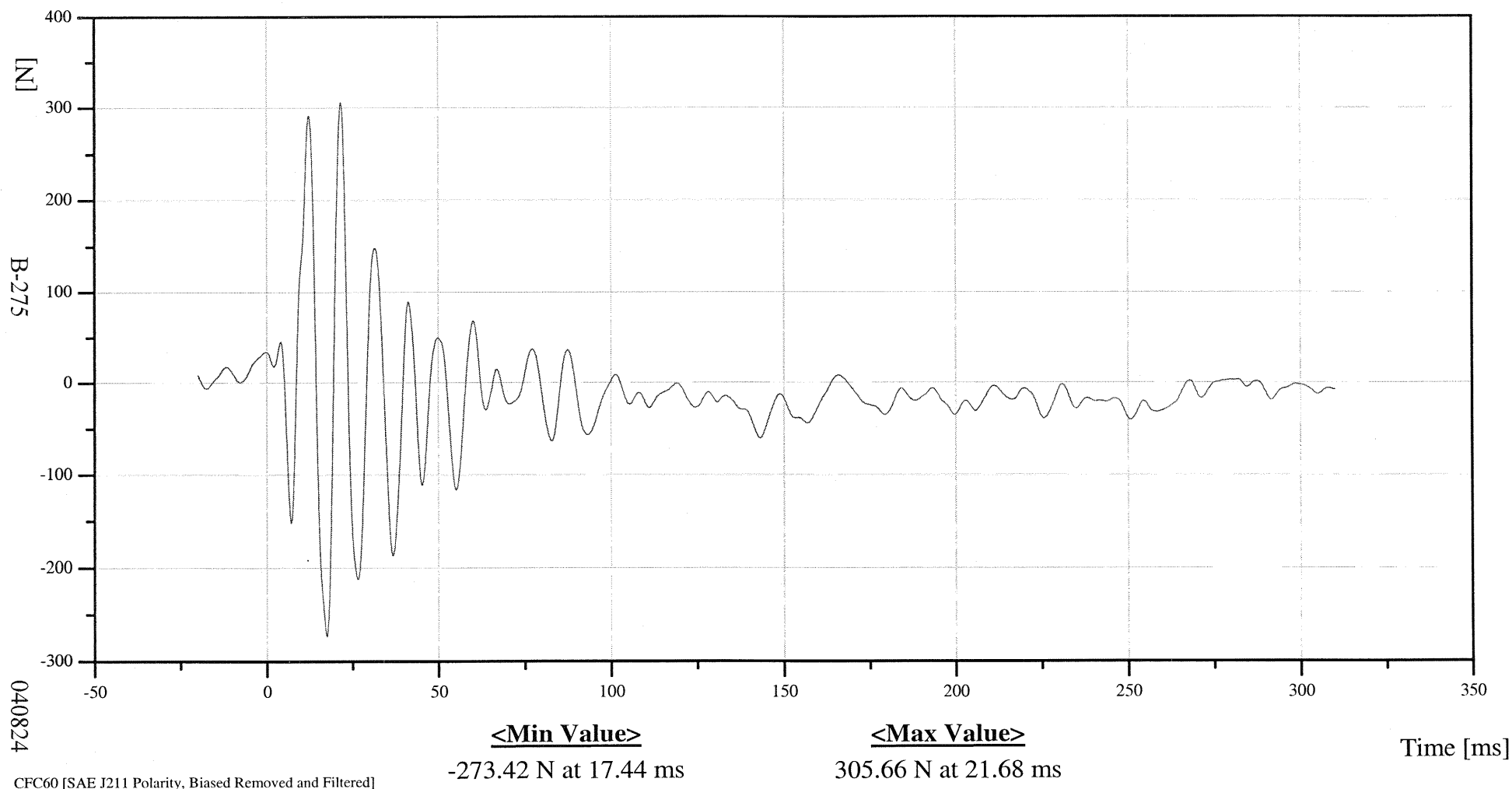
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0816





Transportation Research Center, Inc.

ROW 9 COLUMN 6

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

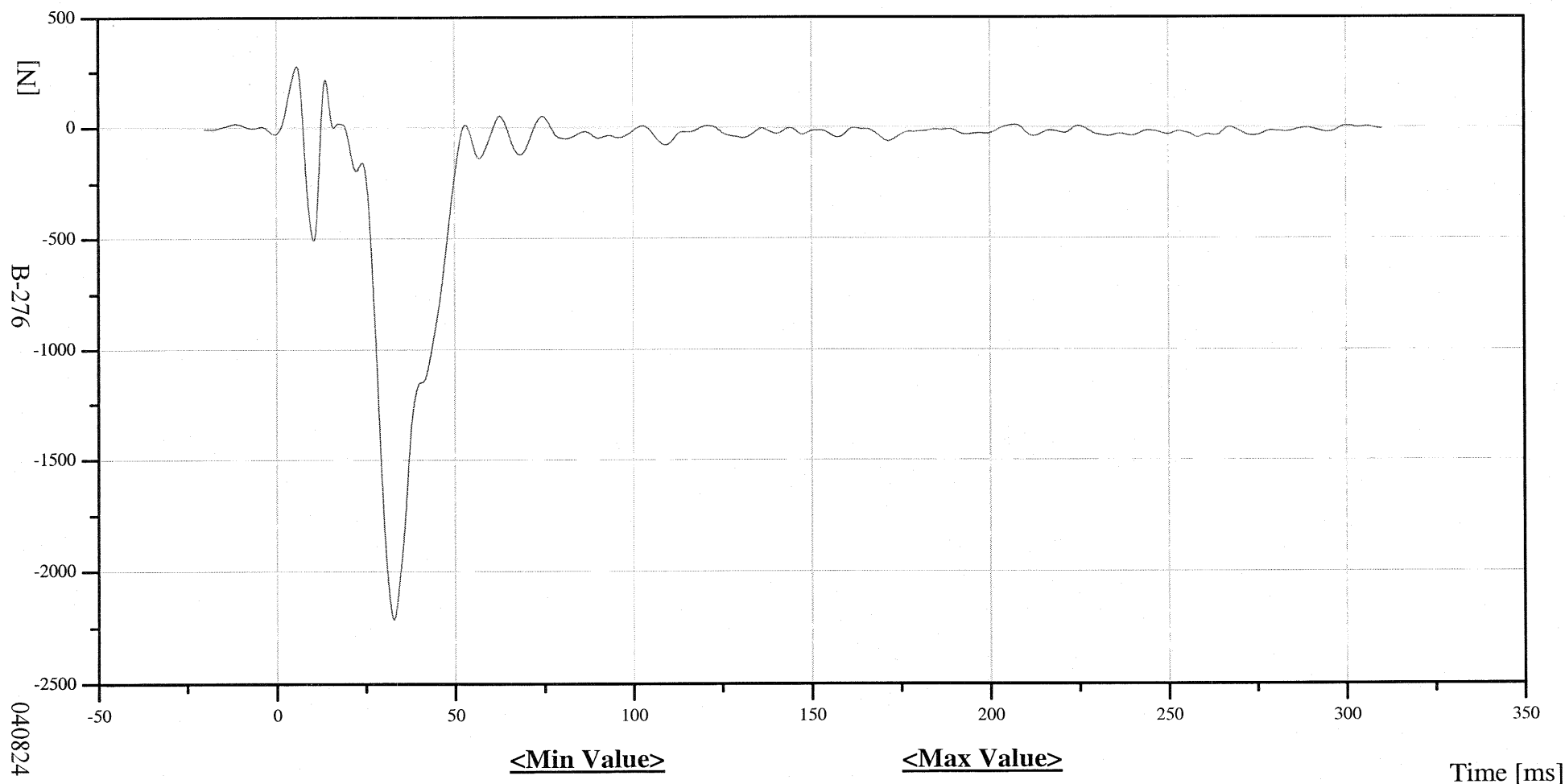
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0906



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 9 COLUMN 7

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

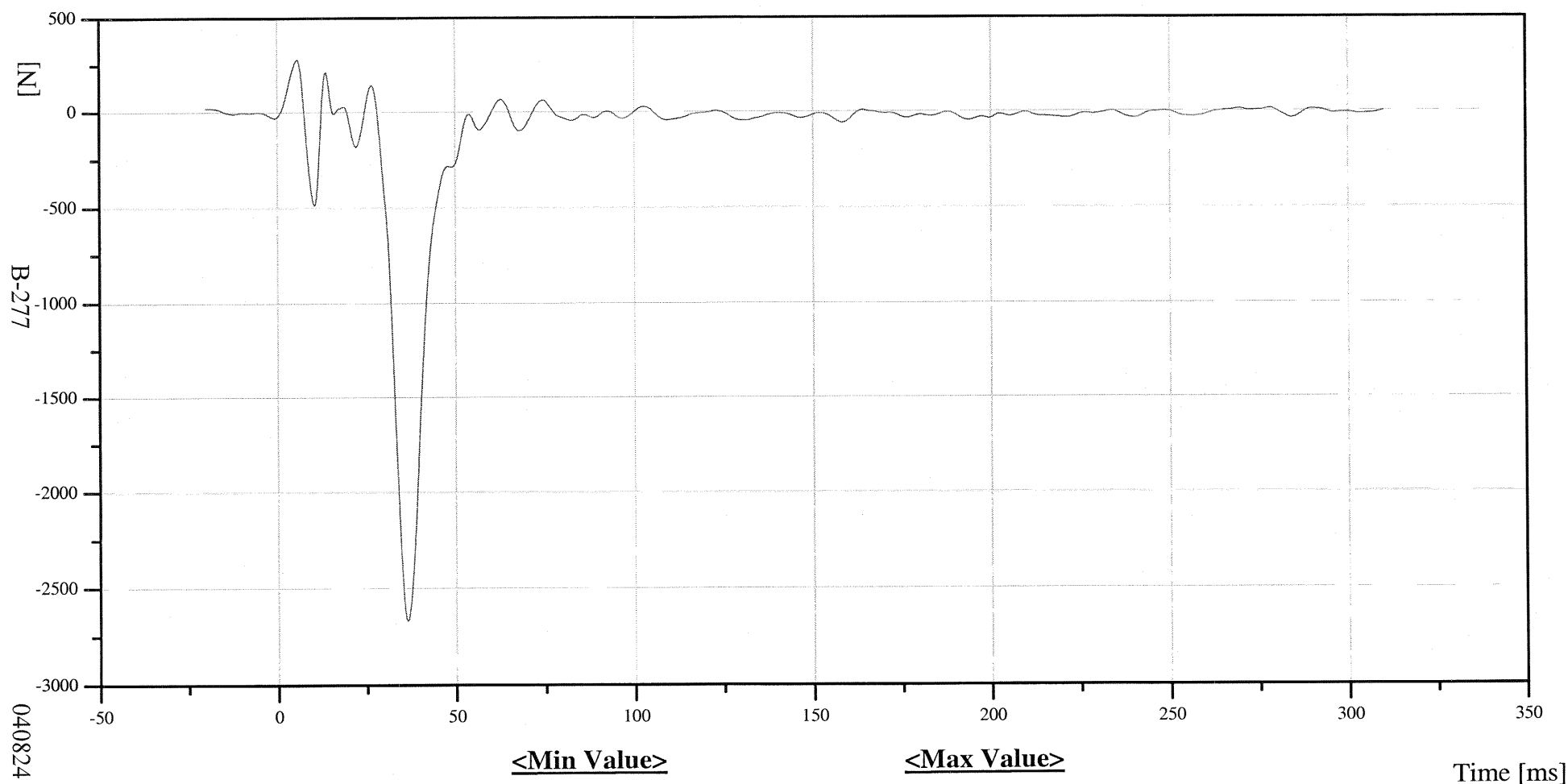
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0907



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 9 COLUMN 8

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

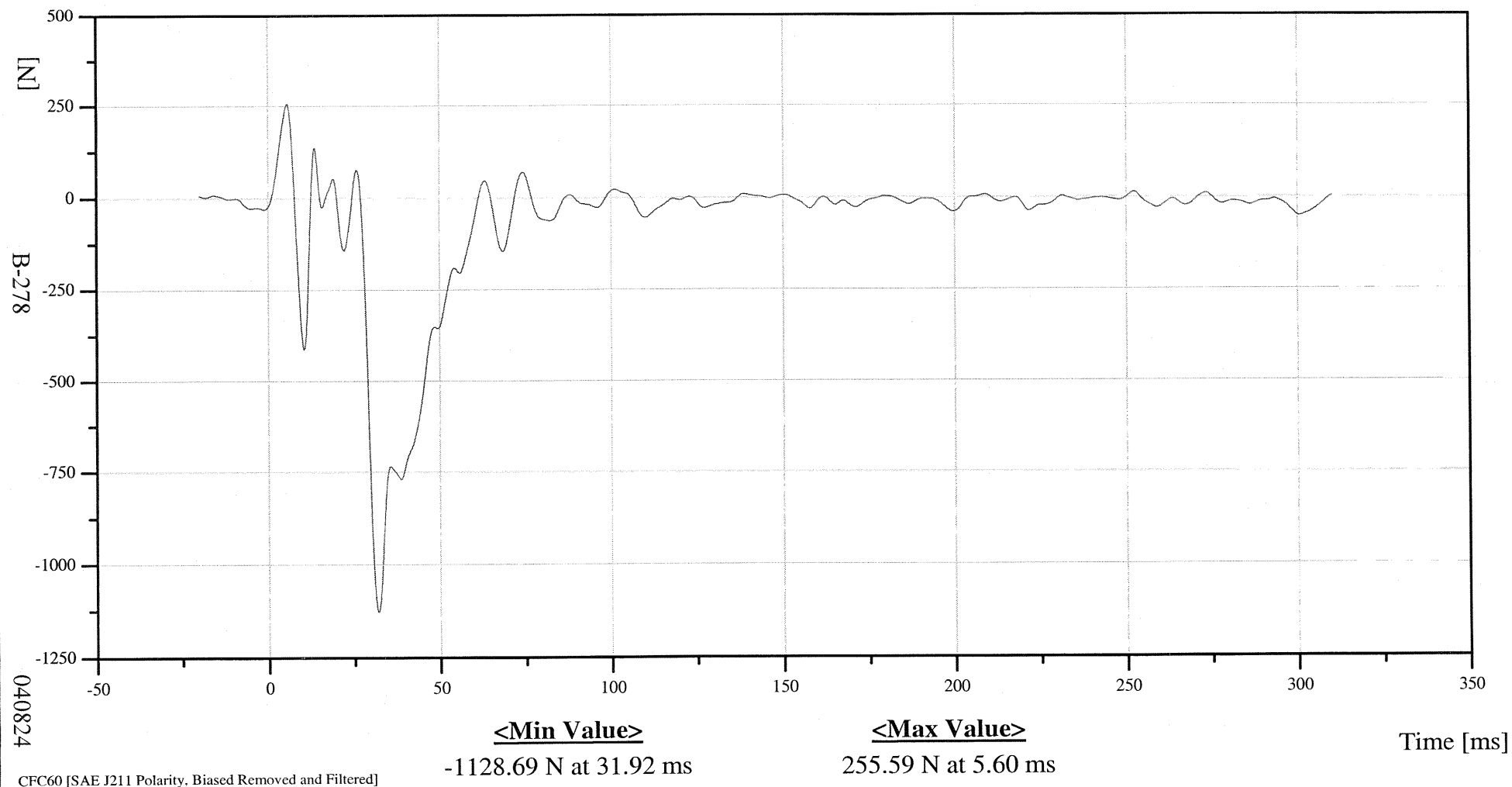
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0908





Transportation Research Center, Inc.

ROW 9 COLUMN 9

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

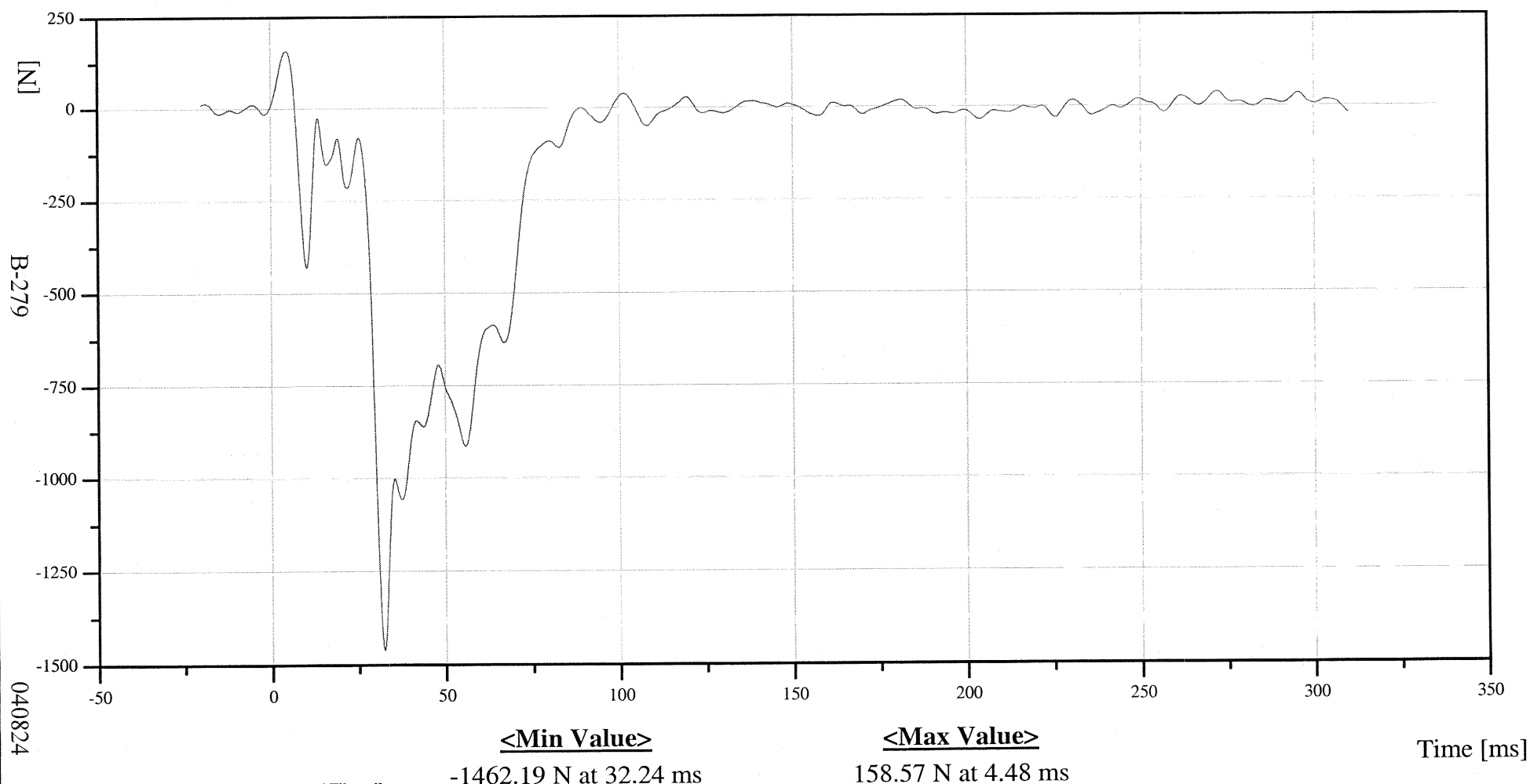
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0909



CFC60 [SAE J211 Polarity, Biased Removed and Filtered]



Transportation Research Center, Inc.

ROW 9 COLUMN 10

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

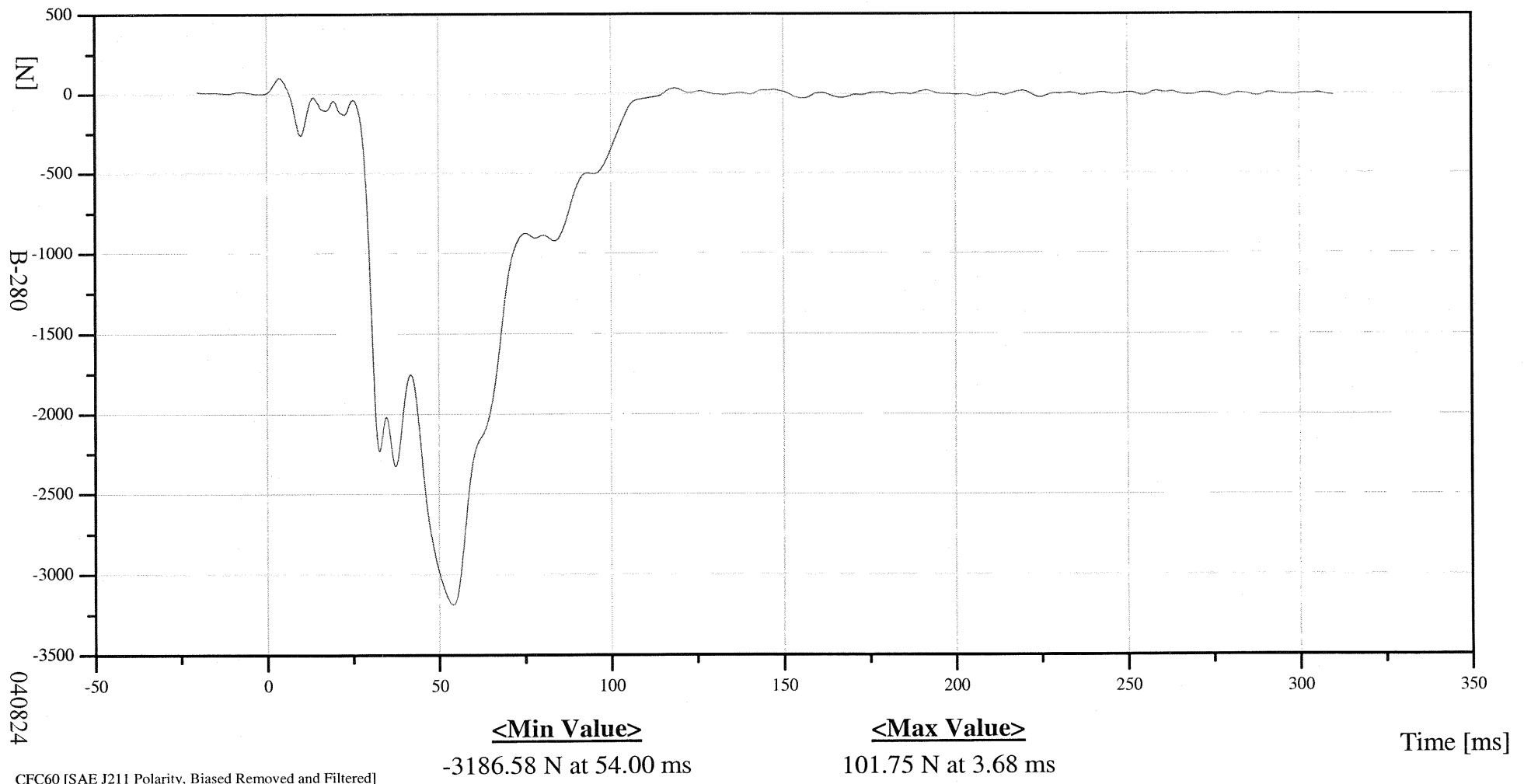
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0910





Transportation Research Center, Inc.

ROW 9 COLUMN 11

Date: 08/24/2004

Time: 12:21:31

Test Lab: CTF

Customer: VRTC

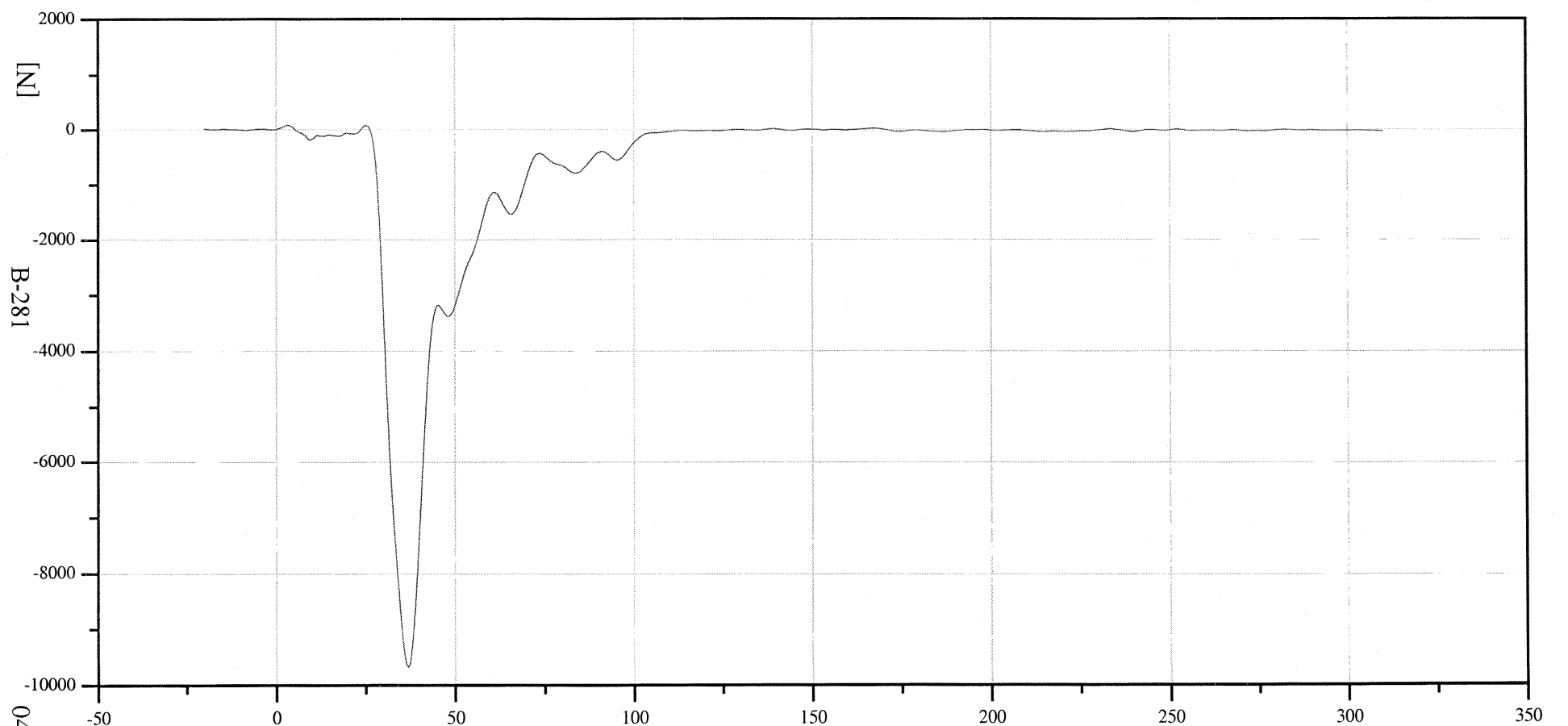
Test Number: 040824

Position #1 - HIII 5th Female (416)

Position #2 - HIII 5th Female (048)

Position #3 - HIII 5th Female (070)

LC0911



040824

CFC60 [SAE J211 Polarity, Biased Removed and Filtered]

<Min Value>

-9682.78 N at 36.80 ms

<Max Value>

85.71 N at 3.28 ms

Time [ms]

Appendix C

Dummy Certification Data

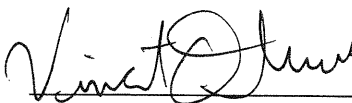
Pre-Test Calibration

Driver Dummy S/N 416

Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 416 Calibration No. 26

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	784	Yes
B	Shoulder Pivot Height	431.8 - 457.2	449	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	146	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	82	Yes
F	Thigh Clearance	119.4 - 134.6	125	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	249	Yes
H	Head Back to Backline	43.2 - 48.2	47	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	281	Yes
J	Elbow Rest Height	182.8 - 203.2	195	Yes
K	Buttock Knee Length	520.7 - 546.1	540	Yes
L	Popliteal Height	355.6 - 376.0	356	Yes
M	Knee Pivot Height	393.7 - 419.1	407	Yes
N	Buttock Popliteal Height	414.0 - 439.4	429	Yes
O	Chest Depth without Jacket	175.3 - 190.5	180	Yes
P	Foot Length	218.5 - 233.7	222	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	476	Yes
S	Head Breadth	137.1 - 147.3	144	Yes
T	Head Depth	177.8 - 188.0	182	Yes
U	Hip Breadth	299.7 - 314.9	300	Yes
V	Shoulder Breadth	350.5 - 365.7	360	Yes
W	Foot Breadth	78.8 - 94.0	85	Yes
X	Head Circumference	528.3 - 548.7	543	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	873	Yes
Z	Waist Circumference	759.5 - 789.9	771	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	340	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Technician



Approved



Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 2

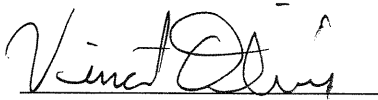
Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Peak Resultant Acceleration	250 - 300 g	290.4 g	Yes
Peak Lateral Acceleration	15 g Max	-5.0 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes

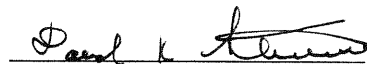
Test meets specifications.

Comments:

Technician



Approved



08.09.2004 13:44:39 607

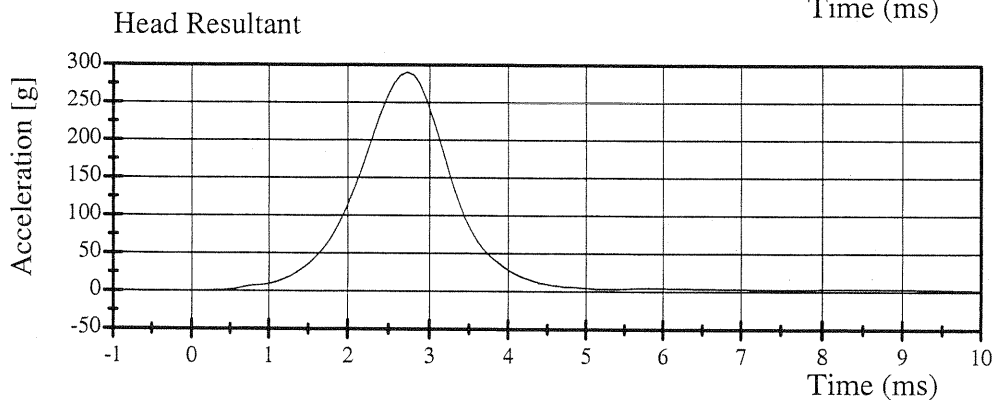
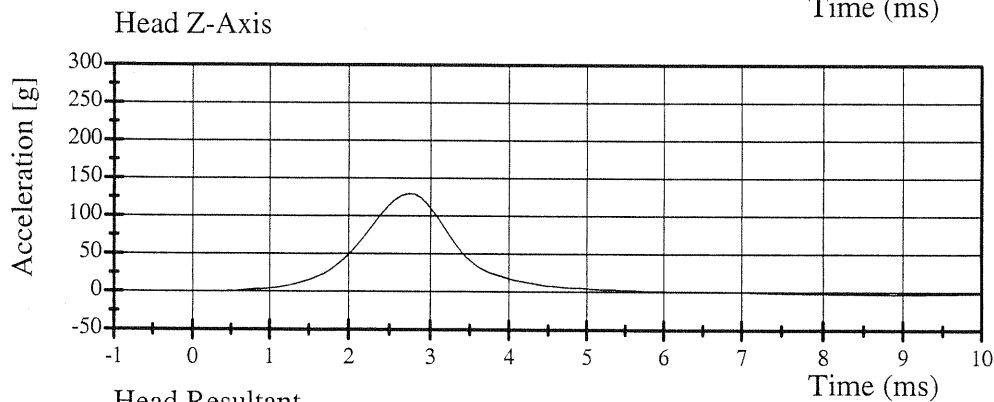
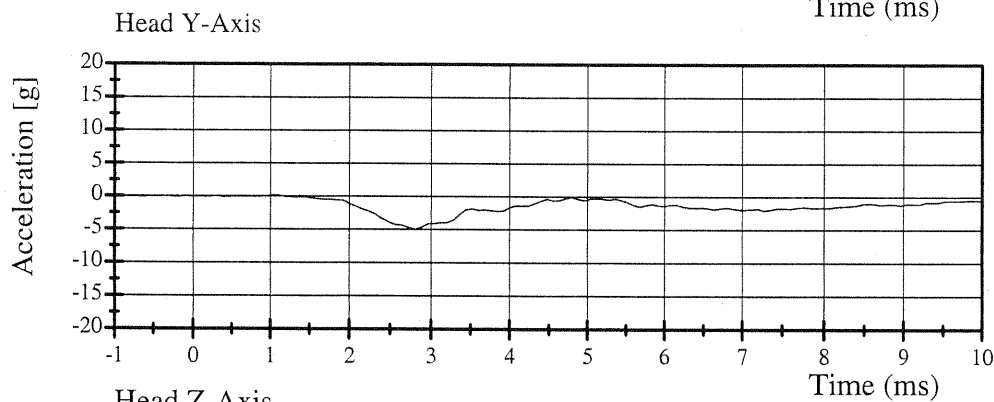
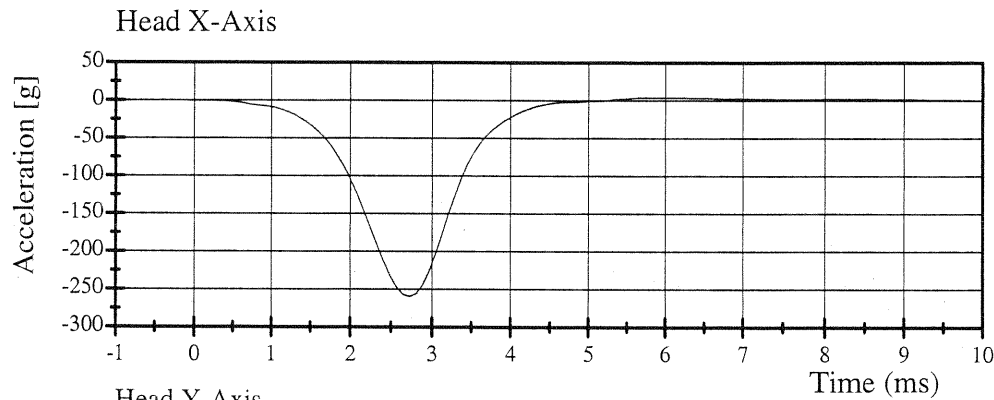


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 2

Test Date 08/09/2004



08.09.2004 13:44:40 607



Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	22.0 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.10 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.36 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.60 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.62 m/s	Yes
Peak D Plane Rotation	77 - 91 °	80.4 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	73.60 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	87.28 ms	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliver

Approved

Paul A. Bennett

08.09.2004 07:45:27 509



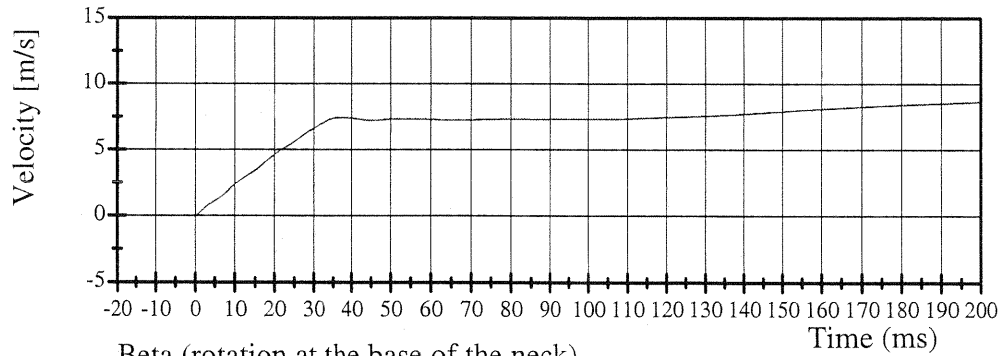
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Integrated Pendulum Velocity

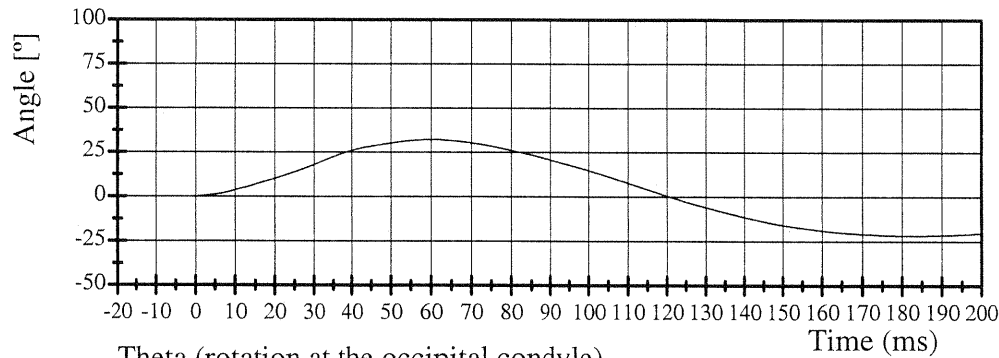


Filter Class: 180

Max: 9.3 m/s at 959.3 ms

Min: -0.0 m/s at -0.6 ms

Beta (rotation at the base of the neck)

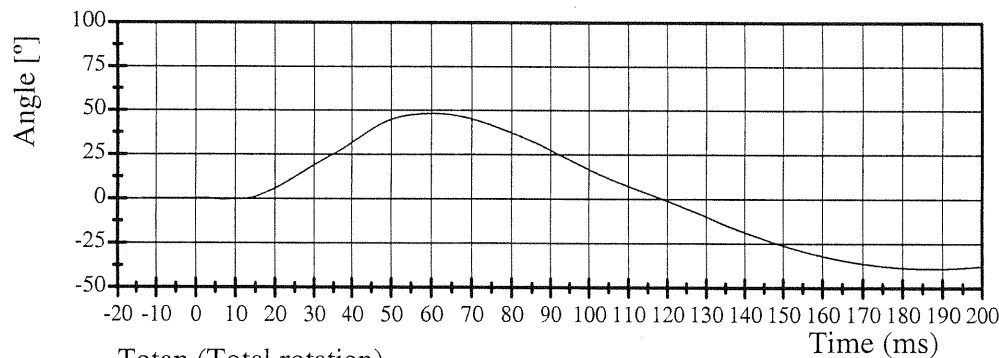


Filter Class: 60

Max: 32.3 ° at 60.1 ms

Min: -21.8 ° at 182.4 ms

Theta (rotation at the occipital condyle)

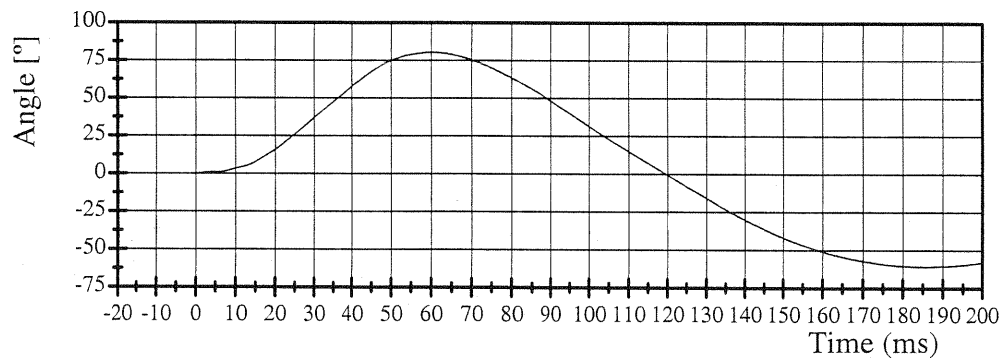


Filter Class: 60

Max: 48.2 ° at 60.3 ms

Min: -39.0 ° at 187.7 ms

Totan (Total rotation)



Filter Class: 60

Max: 80.4 ° at 60.2 ms

Min: -60.7 ° at 185.6 ms

08.09.2004 07:45:28 509



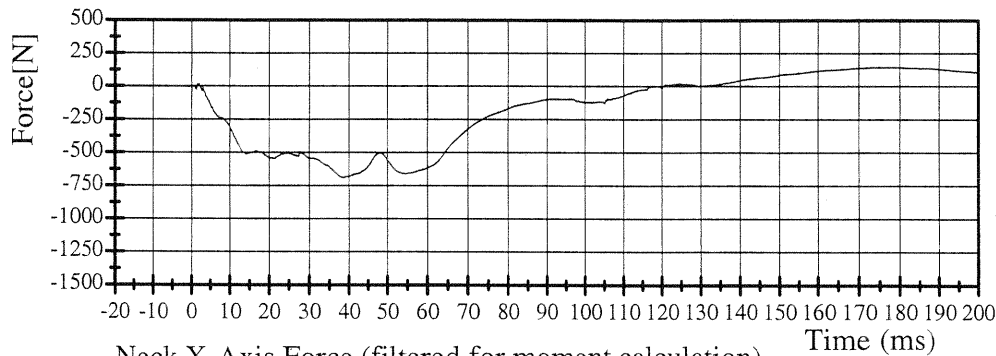
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Neck X-Axis Force

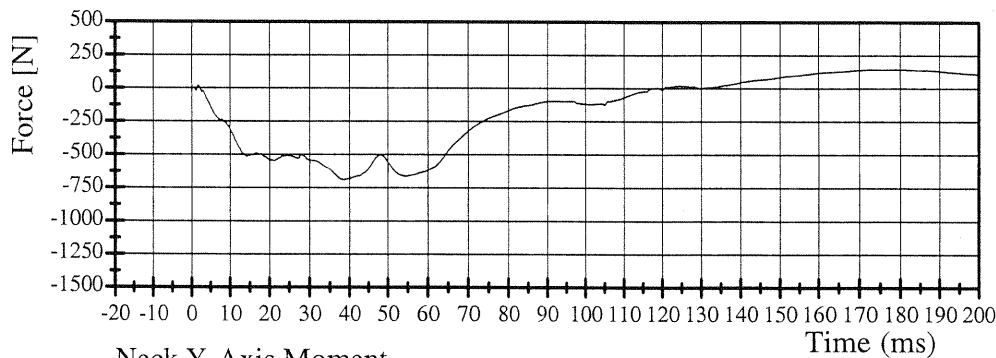


Filter Class: 1000

Max: 145.0 N at 178.0 ms

Min: -687.9 N at 38.6 ms

Neck X-Axis Force (filtered for moment calculation)

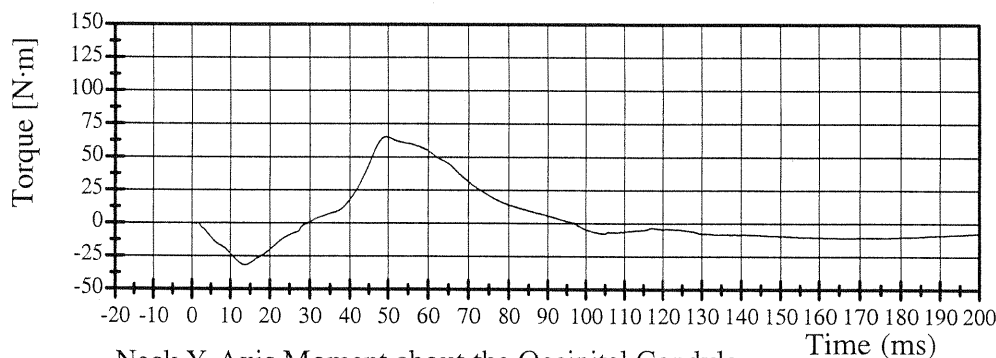


Filter Class: 600

Max: 144.2 N at 179.8 ms

Min: -687.9 N at 38.6 ms

Neck Y-Axis Moment

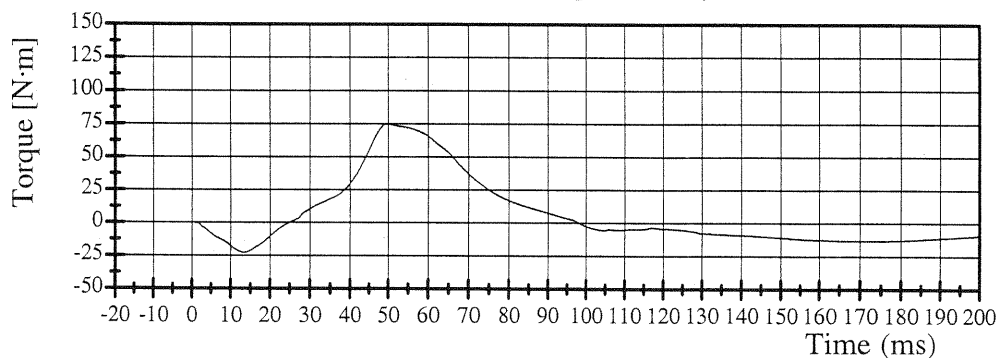


Filter Class: 600

Max: 65.3 N·m at 49.4 ms

Min: -31.5 N·m at 13.8 ms

Neck Y-Axis Moment about the Occipital Condyle



Filter Class: 600

Max: 74.9 N·m at 49.9 ms

Min: -22.6 N·m at 13.4 ms

Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

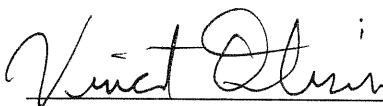
Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.08 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.89 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.64 m/s	Yes
30 ms	4.60 - 5.60 m/s	5.26 m/s	Yes
Peak D Plane Rotation	99 - 114 °	105.8 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-60.79 N·m	Yes
Negative Moment Decay Time To -10 N·m	94 - 114 ms	103.28 ms	Yes

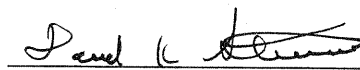
Test meets specifications.

Comments:

Technician



Approved



08.09.2004 08:31:42 597

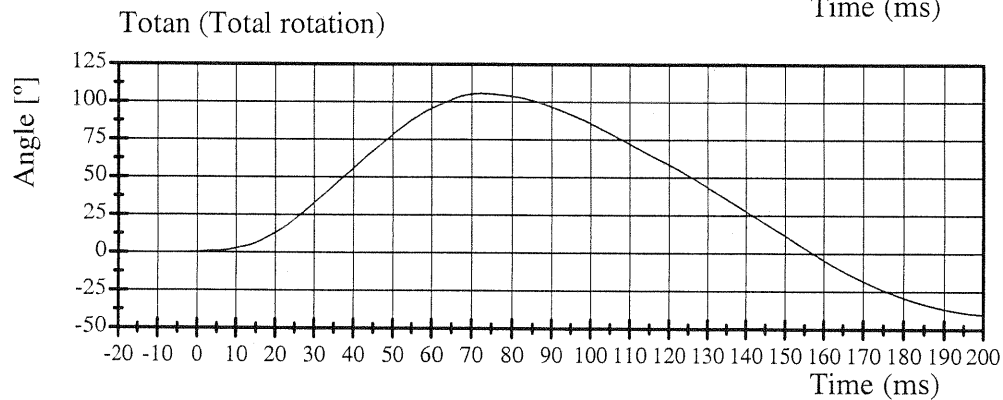
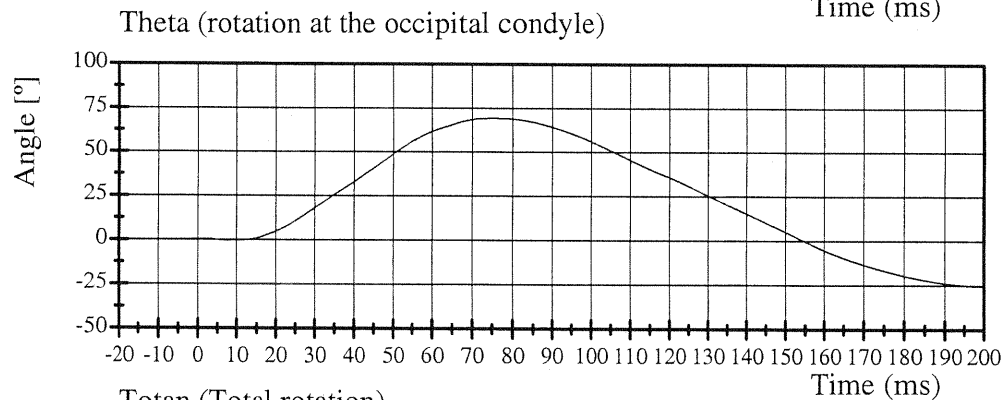
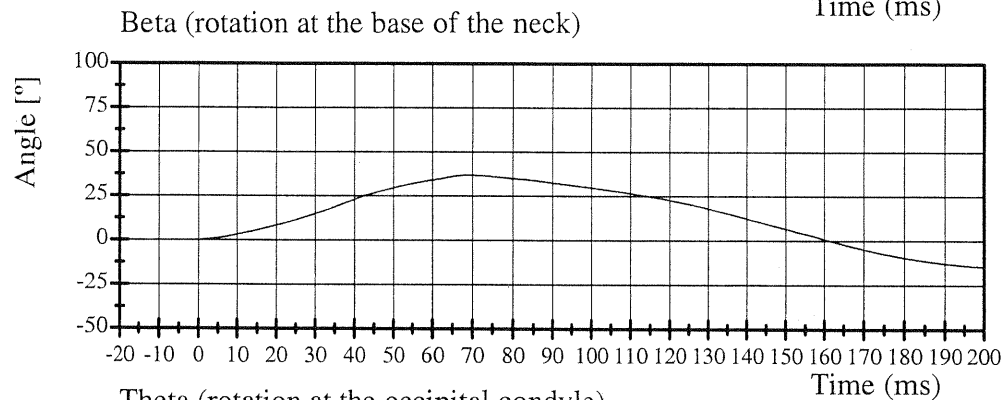
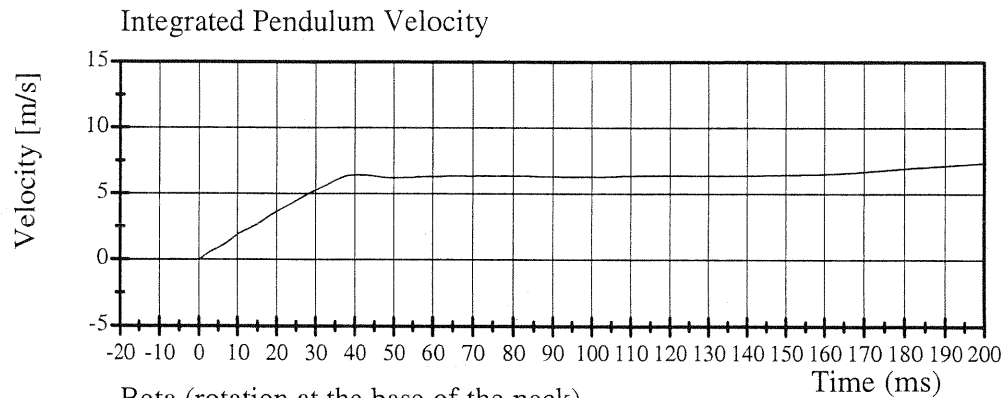


Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004



08.09.2004 08:31:43 597



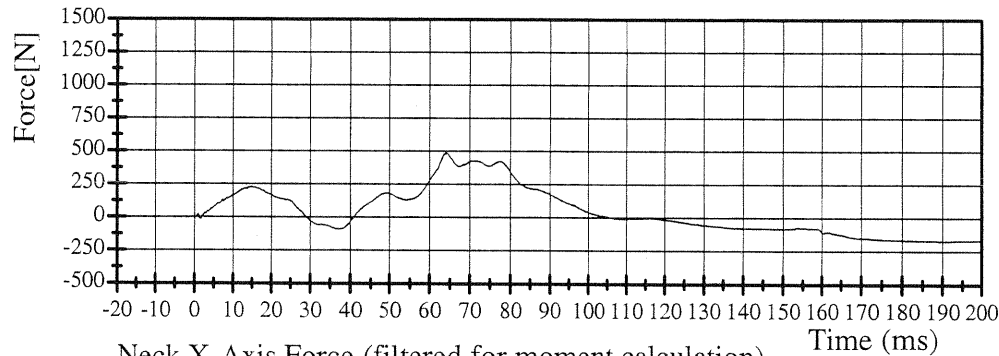
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Neck X-Axis Force

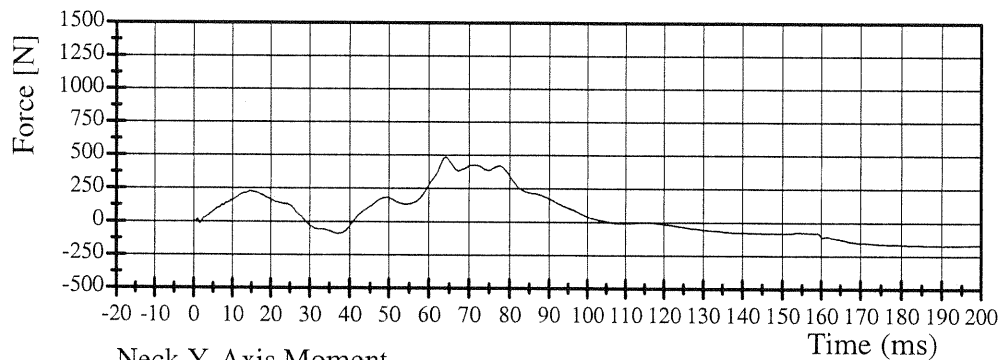


Filter Class: 1000

Max: 484.3 N at 64.1 ms

Min: -172.1 N at 191.6 ms

Neck X-Axis Force (filtered for moment calculation)

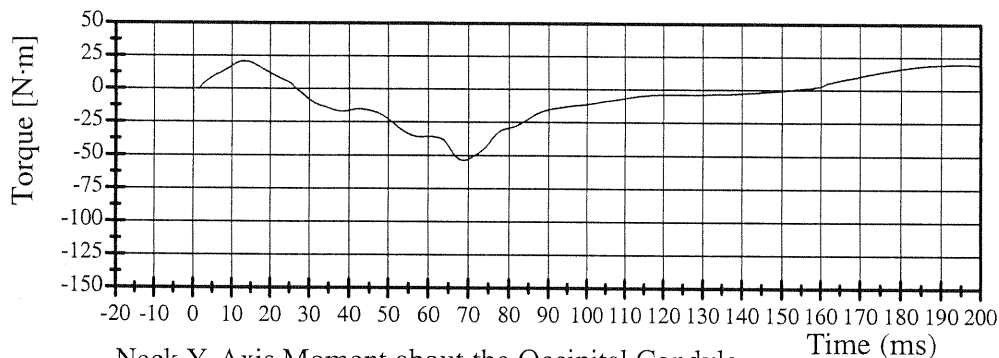


Filter Class: 600

Max: 484.0 N at 64.2 ms

Min: -171.7 N at 191.5 ms

Neck Y-Axis Moment

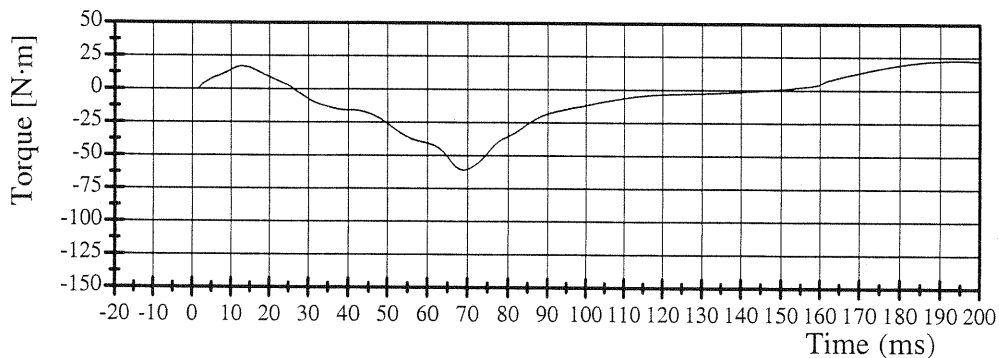


Filter Class: 600

Max: 20.9 N·m at 13.0 ms

Min: -53.6 N·m at 68.9 ms

Neck Y-Axis Moment about the Occipital Condyle



Filter Class: 600

Max: 22.7 N·m at 195.3 ms

Min: -60.8 N·m at 69.0 ms

Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/10/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.60 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-52.7 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4279 N	Yes
Peak Force Between 18 mm and 50 mm	4600 N	4266 N	Yes
Internal Hysteresis	69 - 85 %	71 %	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliver

Approved

Paul A. Hume

08.10.2004 10:45:47 1011



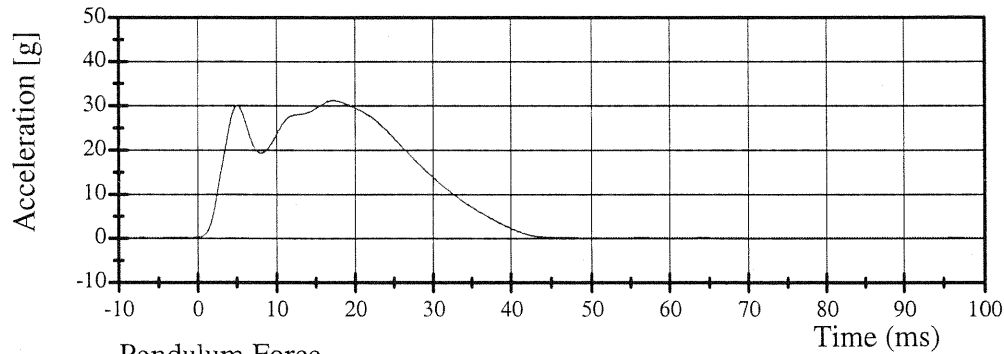
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/10/2004

Pendulum Deceleration

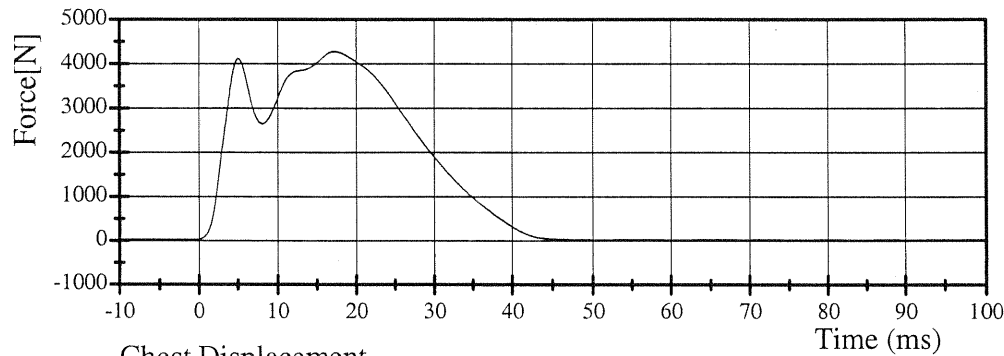


Filter Class: 180

Max: 31.2 g at 17.3 ms

Min: -1.5 g at 444.6 ms

Pendulum Force

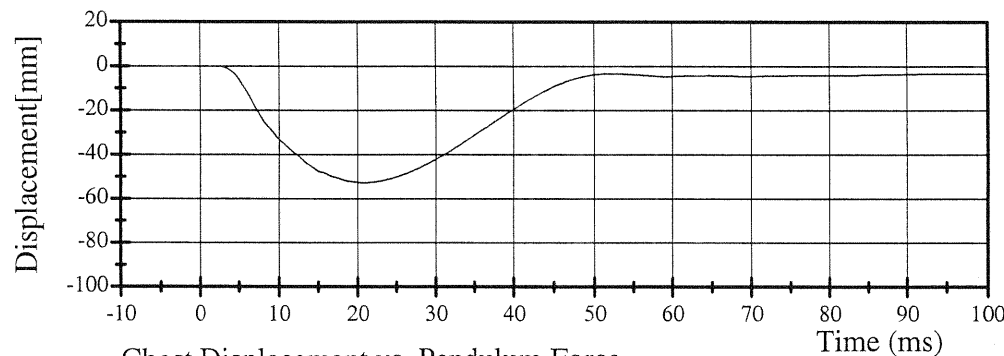


Filter Class: 180

Max: 4279.1 N at 17.3 ms

Min: -200.2 N at 444.6 ms

Chest Displacement

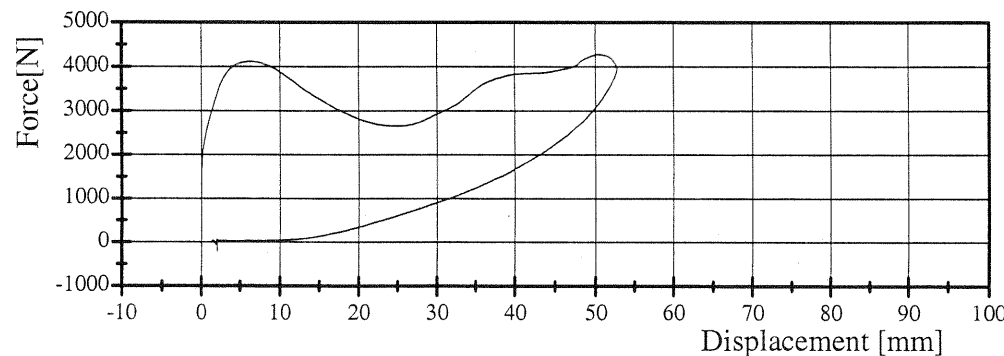


Filter Class: 600

Max: 0.0 mm at -63.8 ms

Min: -52.7 mm at 20.9 ms

Chest Displacement vs. Pendulum Force



08.10.2004 10:45:48 1011



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 10-Aug-04

TRC, INC. TEST NO: 416C26TF1 572 O SN416 TORSO FLEX CAL 26

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	21.6 ° C
RELATIVE HUMIDITY	10 – 70 %	59 %
INITIAL ANGLE OF UNSUPPORTED DUMMY	$\leq 20^{\circ}$ REFERENCED TO VERTICAL	17.8°
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	387.8N
RETURN ANGLE		22.5°
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	4.7 °
RATE	0.5° - 1.5°/sec	0.98 °/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.08 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3625 N	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliver

Approved

David H. Johnson

08.09.2004 13:31:19 1848



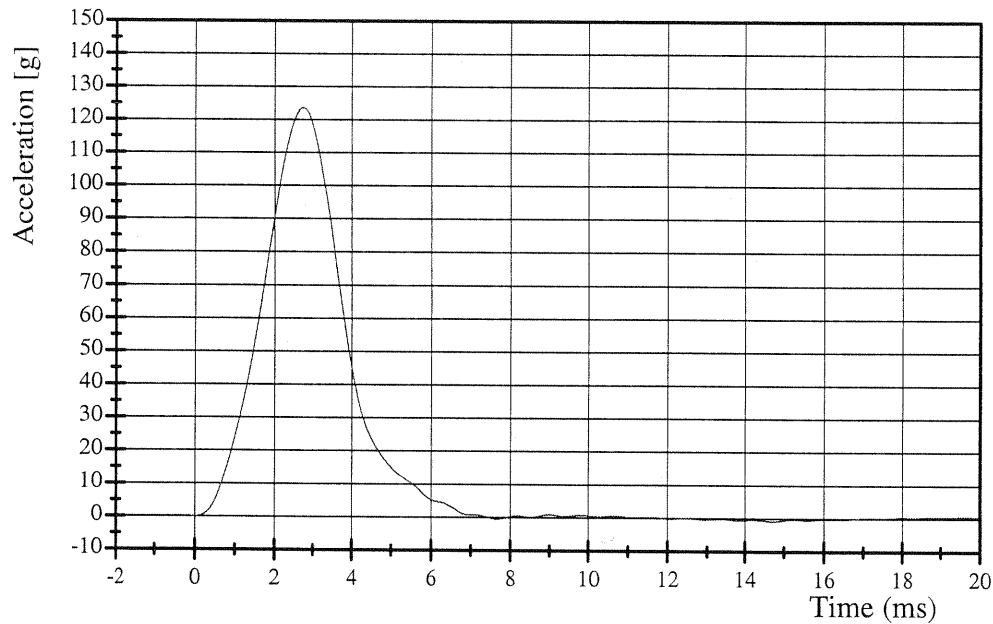
Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Pendulum Deceleration

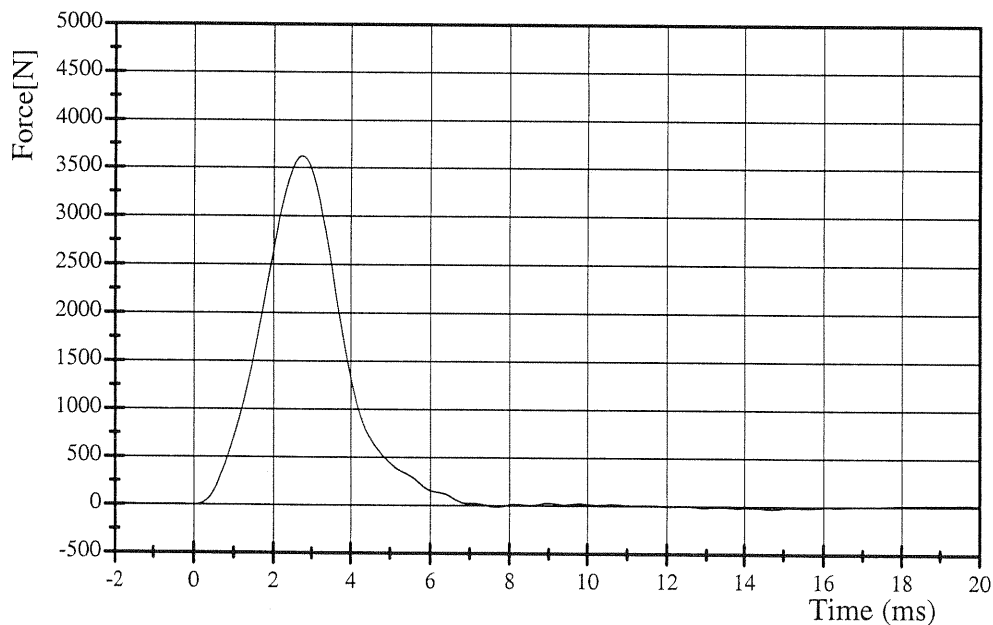


Filter Class: 600

Max: 123.6 g at 2.7 ms

Min: -0.9 g at 14.7 ms

Pendulum Force



Filter Class: 600

Max: 3625.2 N at 2.7 ms

Min: -25.0 N at 14.7 ms

08.09.2004 13:31:20 1848



Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.08 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3578 N	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliver

Approved

David A. Brown

08.09.2004 13:39:07 1850

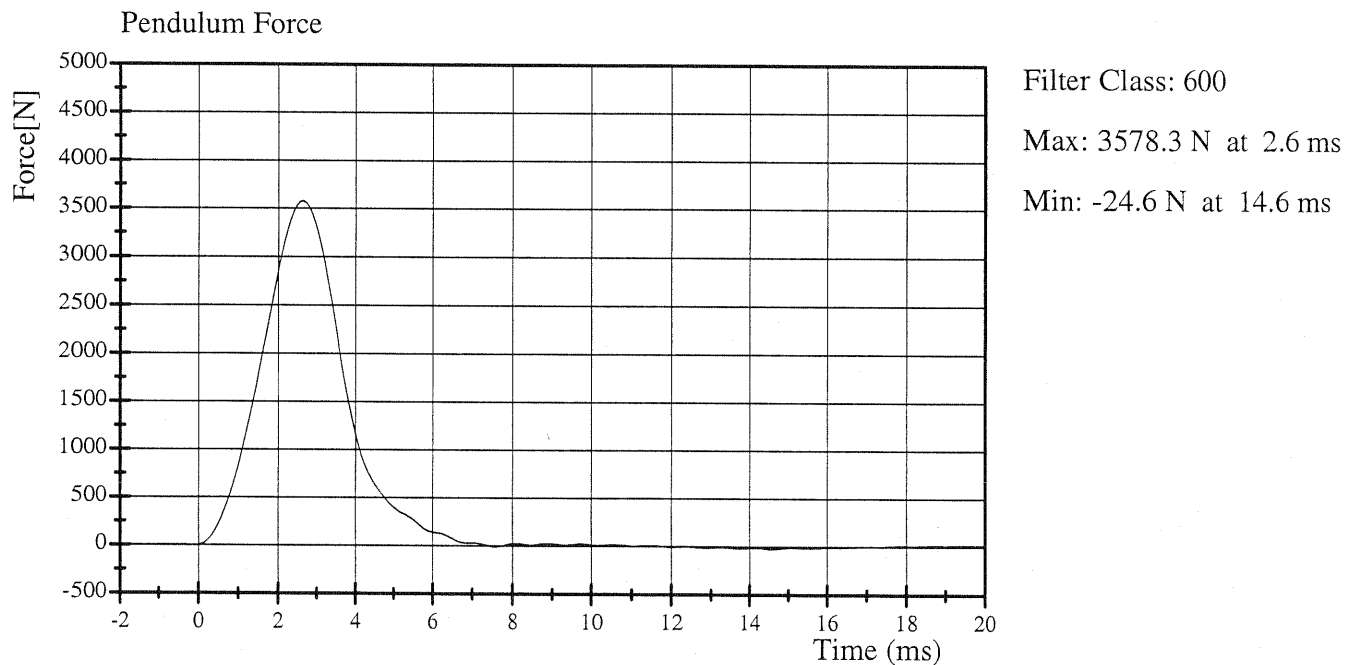
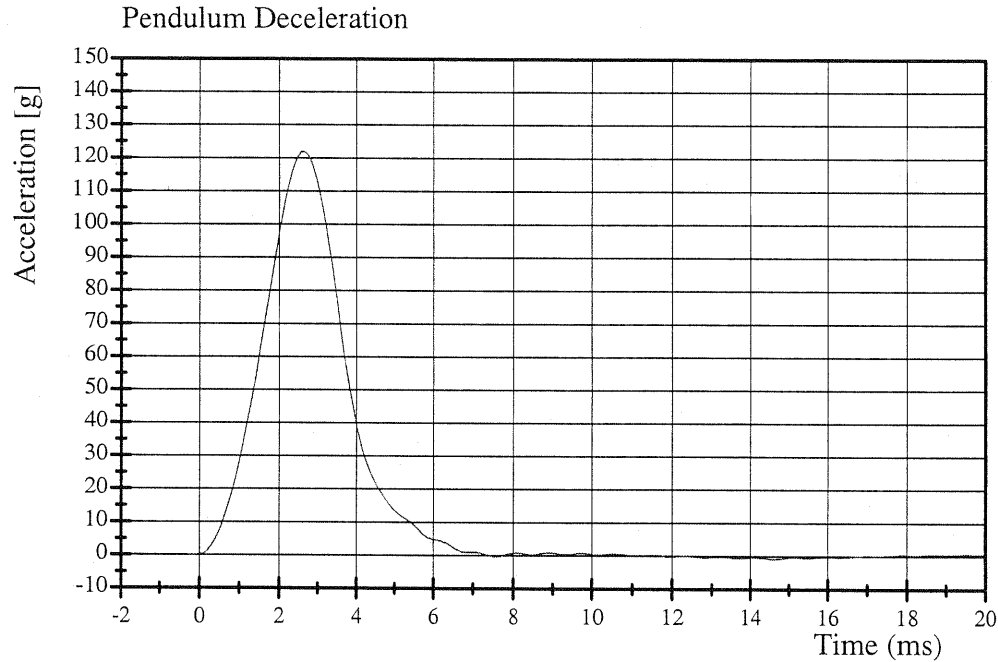


Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/09/2004



08.09.2004 13:39:08 1850



Transportation Research Center Inc.

5720 Thor Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 2

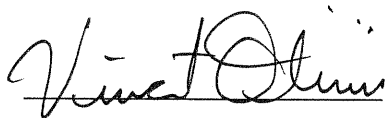
Test Date 08/10/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.78 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-13.7 mm	Yes

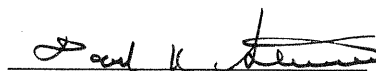
Test meets specifications.

Comments:

Technician



Approved



08.10.2004 07:48:17 1182

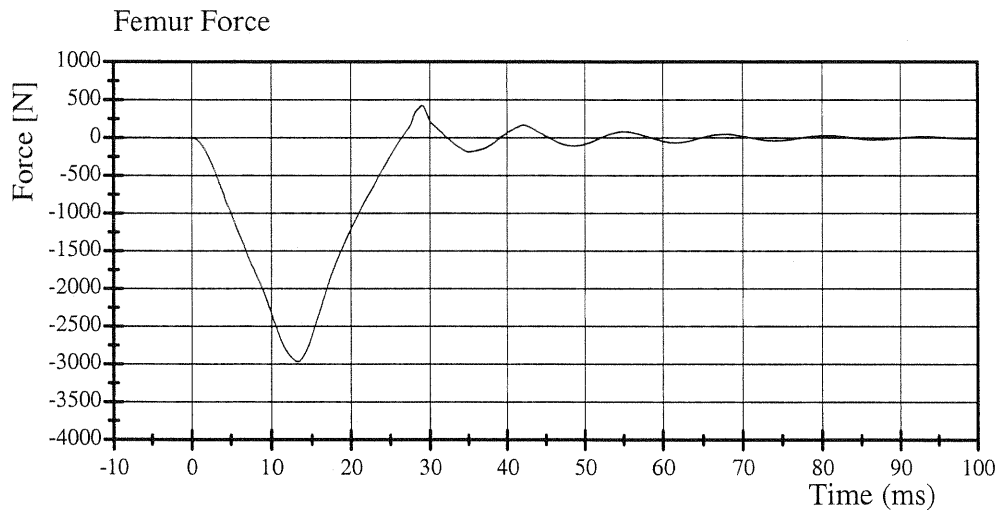


Transportation Research Center Inc.

5720 Thor Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 2

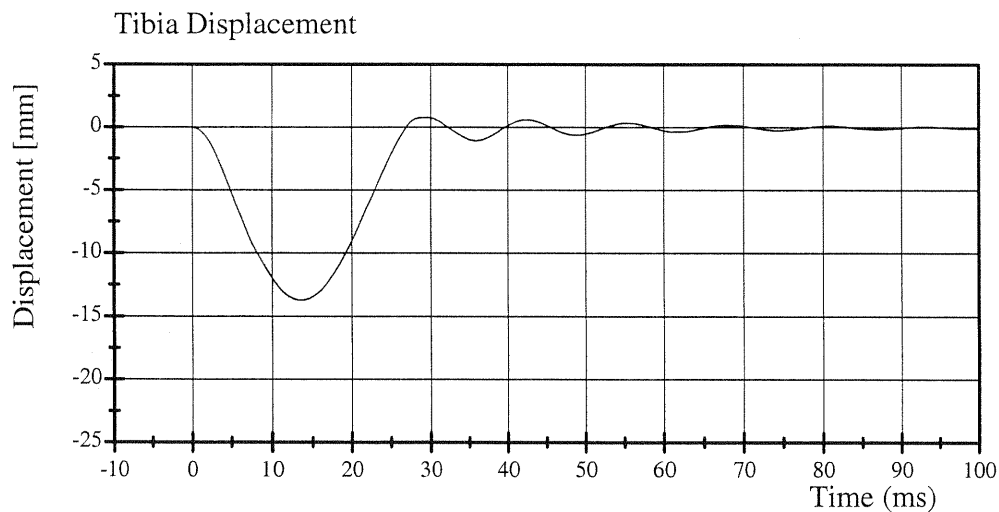
Test Date 08/10/2004



Filter Class: 600

Max: 425.8 N at 29.0 ms

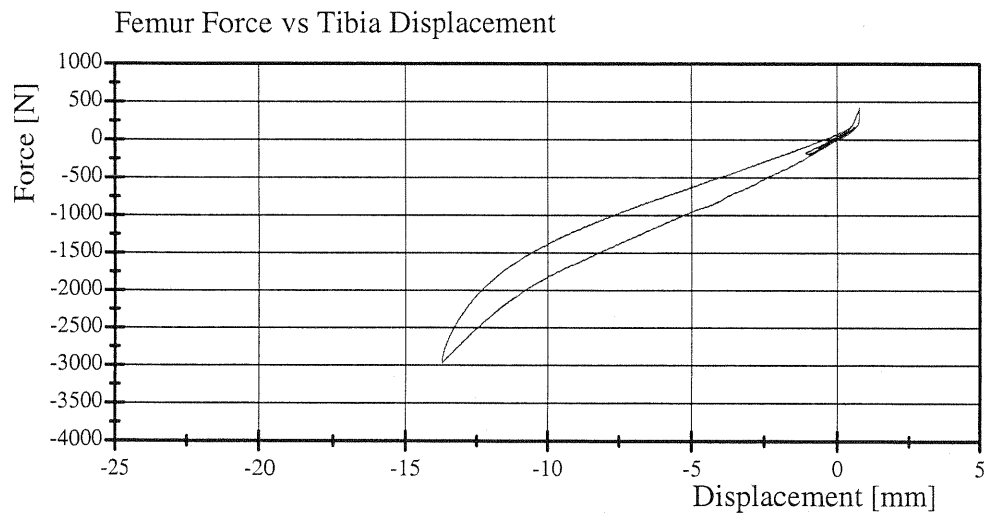
Min: -2969.4 N at 13.2 ms



Filter Class: 180

Max: 0.8 mm at 29.3 ms

Min: -13.7 mm at 13.5 ms



08.10.2004 07:48:18 1182



Transportation Research Center Inc.

5720 Thor Right Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

Test Date 08/10/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.78 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-13.2 mm	Yes

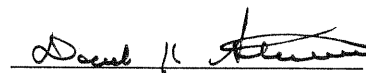
Test meets specifications.

Comments:

Technician



Approved



08.10.2004 08:23:02 1181

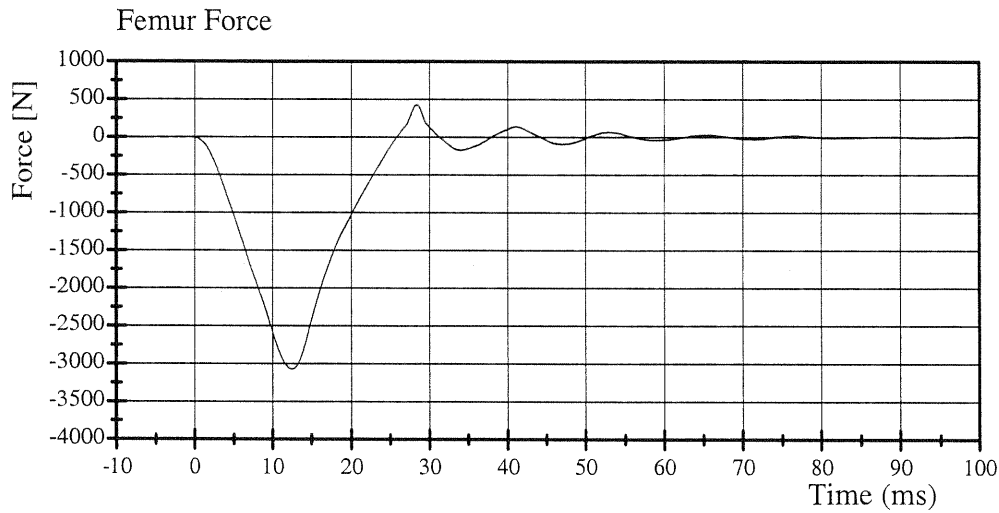


Transportation Research Center Inc.

5720 Thor Right Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 26 - 1

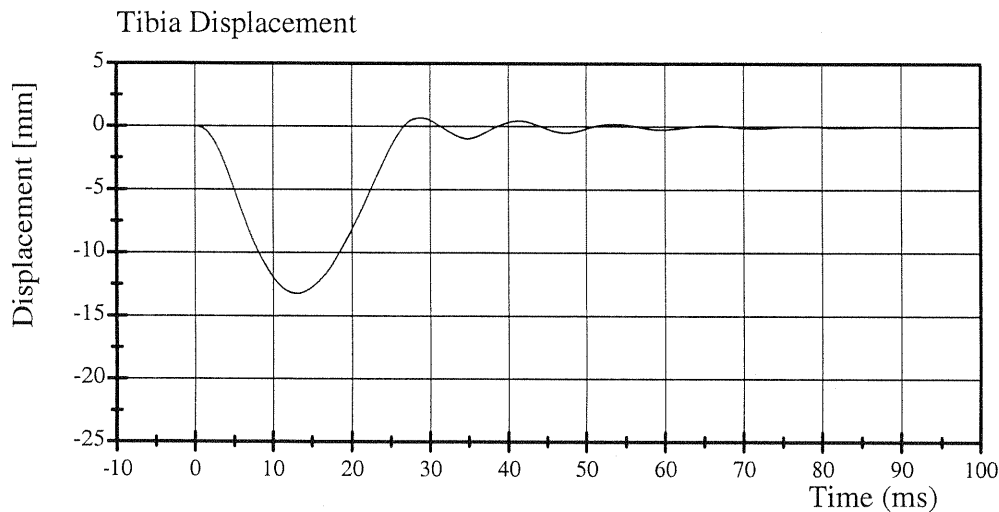
Test Date 08/10/2004



Filter Class: 600

Max: 432.1 N at 28.3 ms

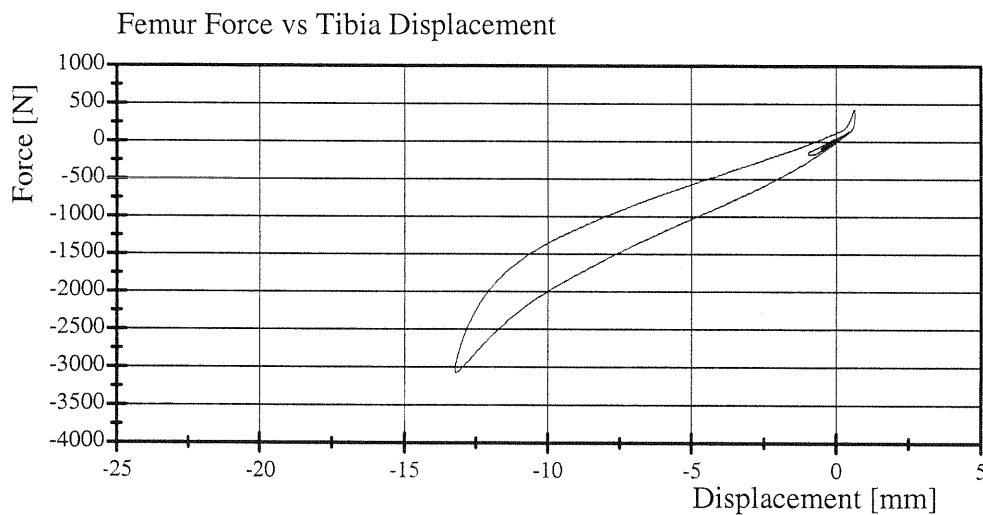
Min: -3071.9 N at 12.5 ms



Filter Class: 180

Max: 0.7 mm at 28.8 ms

Min: -13.2 mm at 13.0 ms



08.10.2004 08:23:03 1181



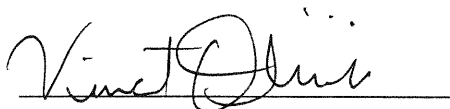
Pre-Test Calibration

Front Passenger Dummy S/N 048

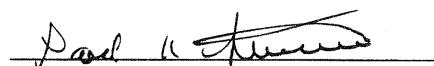
Transportation Research Center Inc.
5720 HIII 5th Dummy
External Dimensions
Serial No. 048 Calibration No. 17

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	786	Yes
B	Shoulder Pivot Height	431.8 - 457.2	448	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	146	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	78	Yes
F	Thigh Clearance	119.4 - 134.6	127	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	247	Yes
H	Head Back to Backline	43.2 - 48.2	44	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	284	Yes
J	Elbow Rest Height	182.8 - 203.2	192	Yes
K	Buttock Knee Length	520.7 - 546.1	543	Yes
L	Popliteal Height	355.6 - 376.0	357	Yes
M	Knee Pivot Height	393.7 - 419.1	396	Yes
N	Buttock Popliteal Length	414.0 - 439.4	428	Yes
O	Chest Depth without Jacket	175.3 - 190.5	184	Yes
P	Foot Length	218.5 - 233.7	220	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	482	Yes
S	Head Breadth	137.1 - 147.3	140	Yes
T	Head Depth	177.8 - 188.0	184	Yes
U	Hip Breadth	299.7 - 314.9	303	Yes
V	Shoulder Breadth	350.5 - 365.7	360	Yes
W	Foot Breadth	78.8 - 94.0	83	Yes
X	Head Circumference	528.3 - 548.7	543	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	860	Yes
Z	Waist Circumference	759.5 - 789.9	786	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	350	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Technician



Approved



Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 1

Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Peak Resultant Acceleration	250 - 300 g	260.4 g	Yes
Peak Lateral Acceleration	15 g Max	2.6 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes

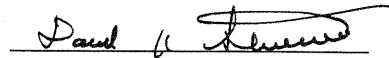
Test meets specifications.

Comments:

Technician



Approved



08.13.2004 09:27:09 611

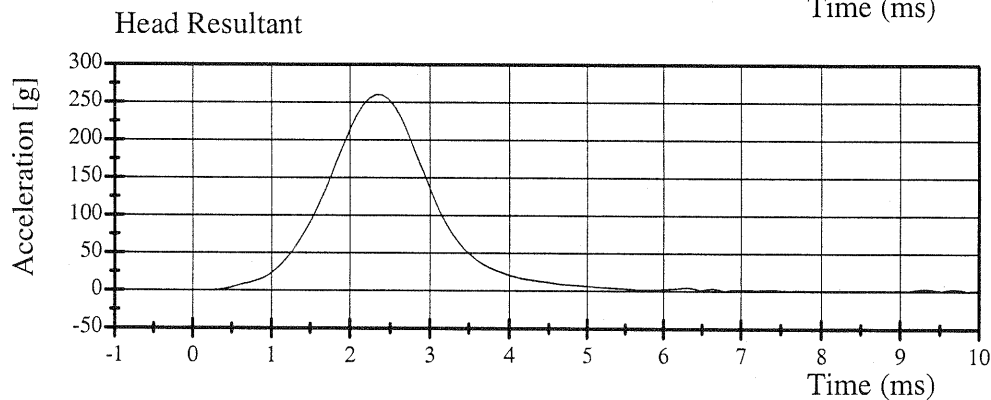
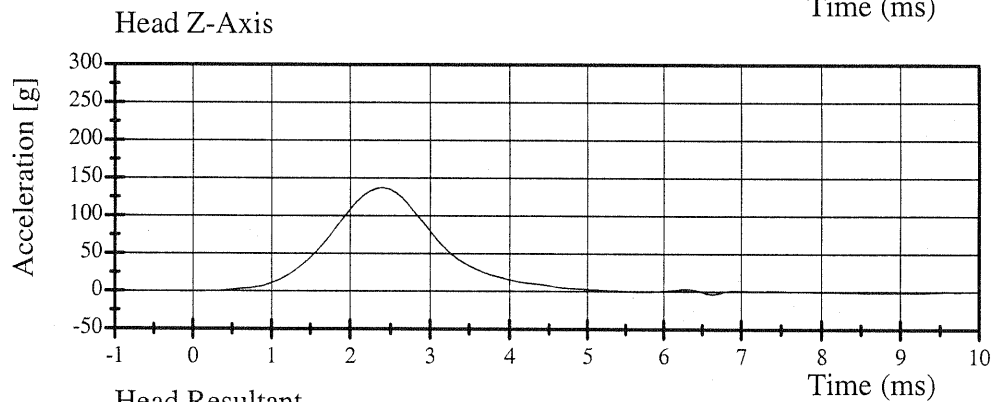
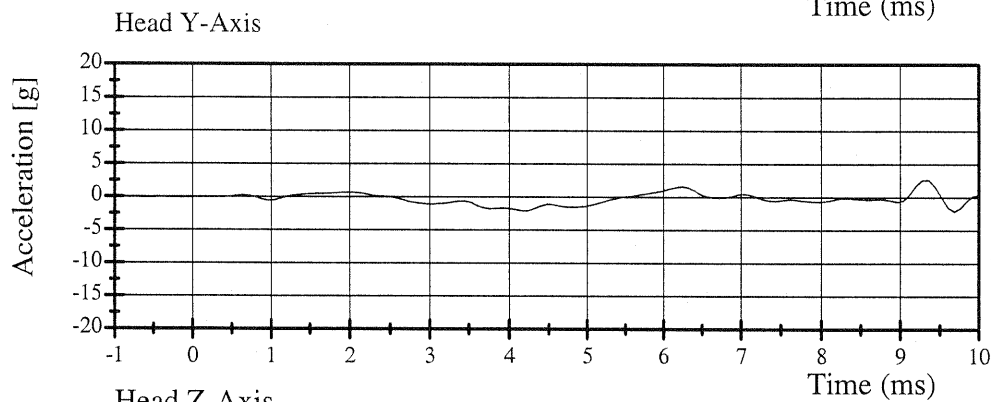
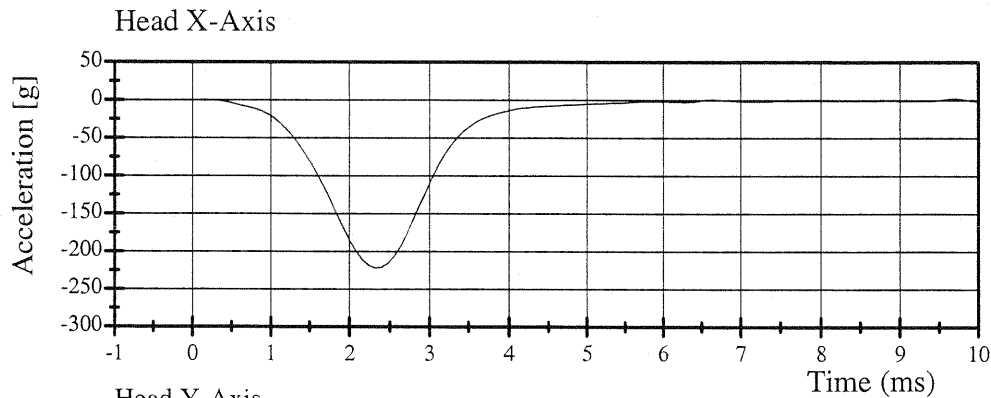


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 1

Test Date 08/13/2004



08.13.2004 09:27:10 611



Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

HIII 5th Female Serial No. 048 Calibration No. 17 - 2

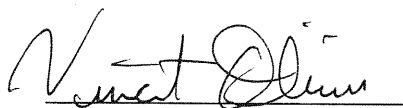
Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.10 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.49 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.86 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.98 m/s	Yes
Peak D Plane Rotation	77 - 91 °	82.0 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	79.09 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	87.76 ms	Yes

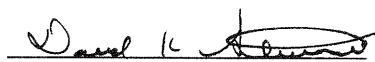
Test meets specifications.

Comments:

Technician



Approved



08.13.2004 11:20:46 508



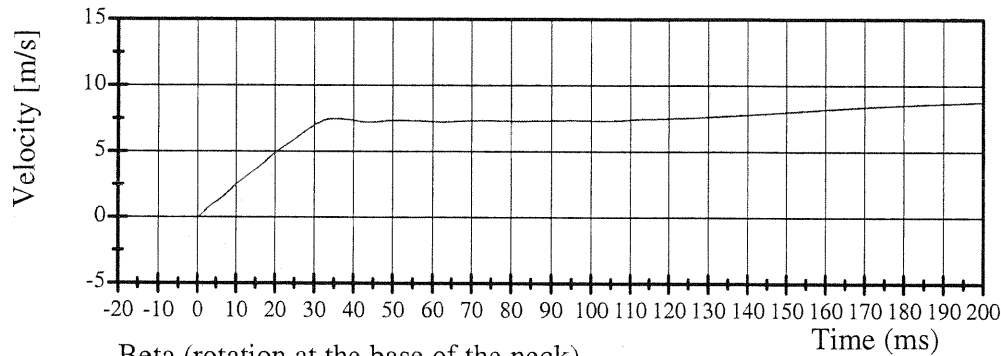
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 2

Test Date 08/13/2004

Integrated Pendulum Velocity

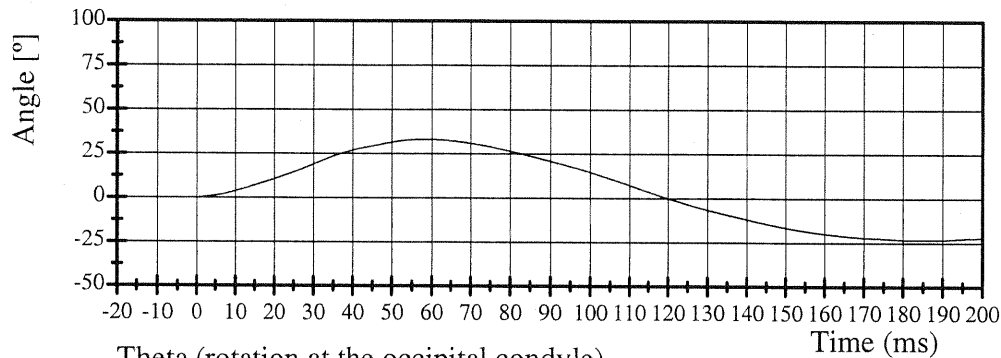


Filter Class: 180

Max: 9.5 m/s at 959.4 ms

Min: -0.0 m/s at -0.6 ms

Beta (rotation at the base of the neck)

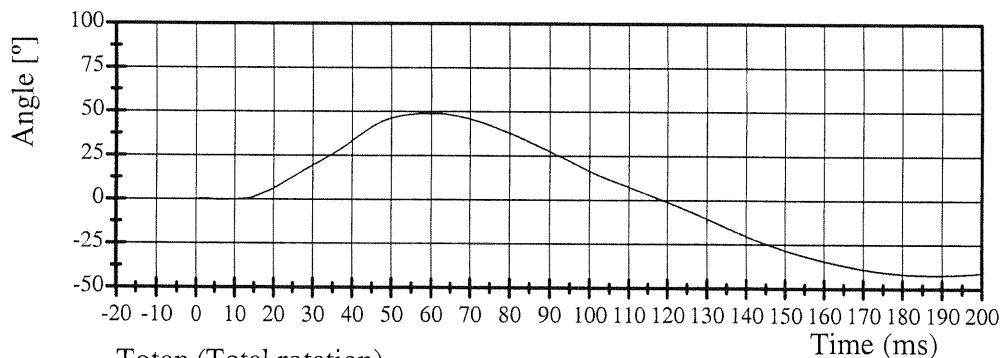


Filter Class: 60

Max: 33.1 ° at 58.5 ms

Min: -23.3 ° at 185.0 ms

Theta (rotation at the occipital condyle)

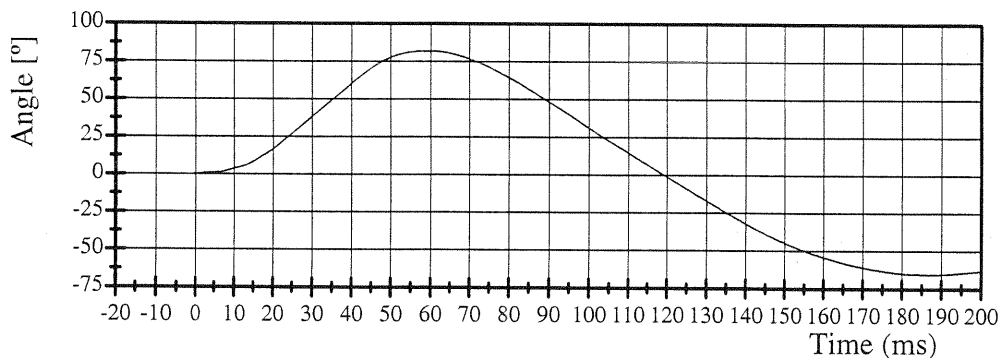


Filter Class: 60

Max: 48.9 ° at 59.8 ms

Min: -42.2 ° at 188.1 ms

Totan (Total rotation)



Filter Class: 60

Max: 82.0 ° at 59.2 ms

Min: -65.5 ° at 187.3 ms

08.13.2004 11:20:47 508



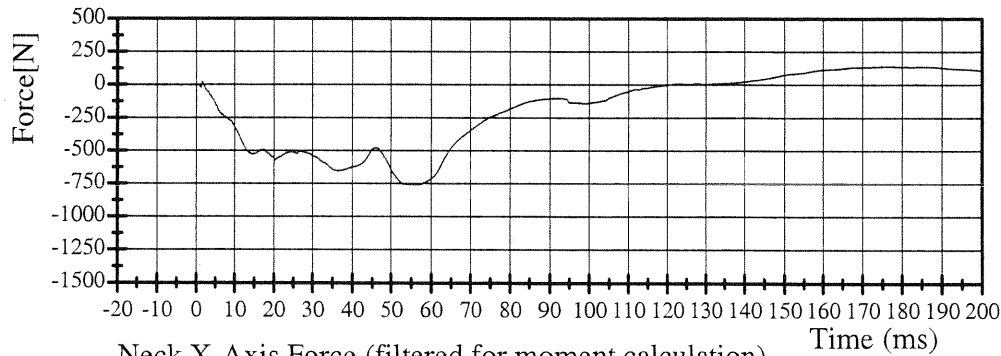
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 2

Test Date 08/13/2004

Neck X-Axis Force

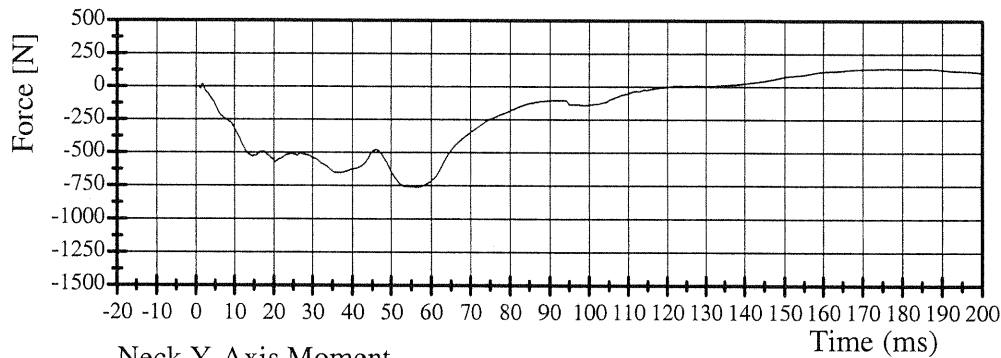


Filter Class: 1000

Max: 140.4 N at 176.0 ms

Min: -759.2 N at 56.6 ms

Neck X-Axis Force (filtered for moment calculation)

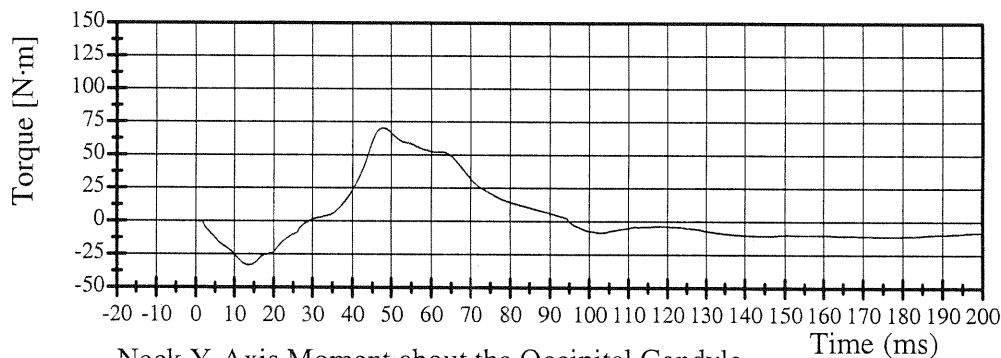


Filter Class: 600

Max: 140.3 N at 176.2 ms

Min: -759.0 N at 56.6 ms

Neck Y-Axis Moment

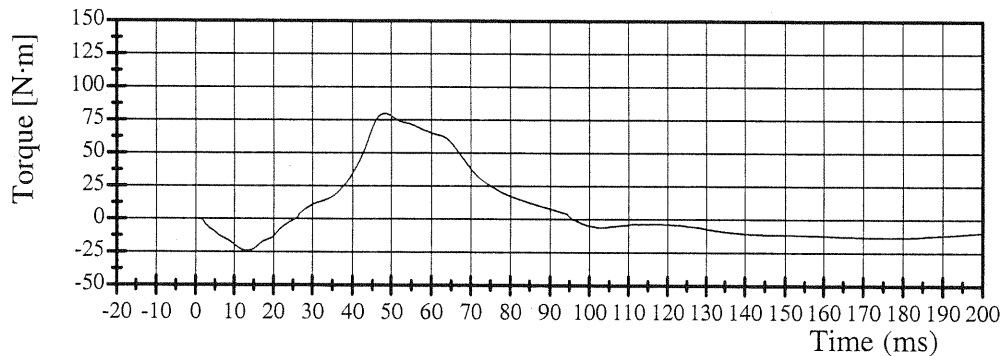


Filter Class: 600

Max: 70.3 N·m at 47.8 ms

Min: -33.1 N·m at 13.6 ms

Neck Y-Axis Moment about the Occipital Condyle



Filter Class: 600

Max: 79.9 N·m at 48.3 ms

Min: -24.0 N·m at 13.3 ms

08.13.2004 11:20:48 508



Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

HIII 5th Female Serial No. 048 Calibration No. 17 - 4

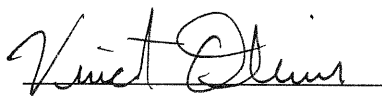
Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.08 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.75 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.41 m/s	Yes
30 ms	4.60 - 5.60 m/s	4.98 m/s	Yes
Peak D Plane Rotation	99 - 114 °	109.0 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-61.40 N·m	Yes
Negative Moment Decay Time To -10 N·m	94 - 114 ms	109.92 ms	Yes

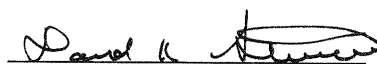
Test meets specifications.

Comments:

Technician



Approved



08.13.2004 13:56:55 595



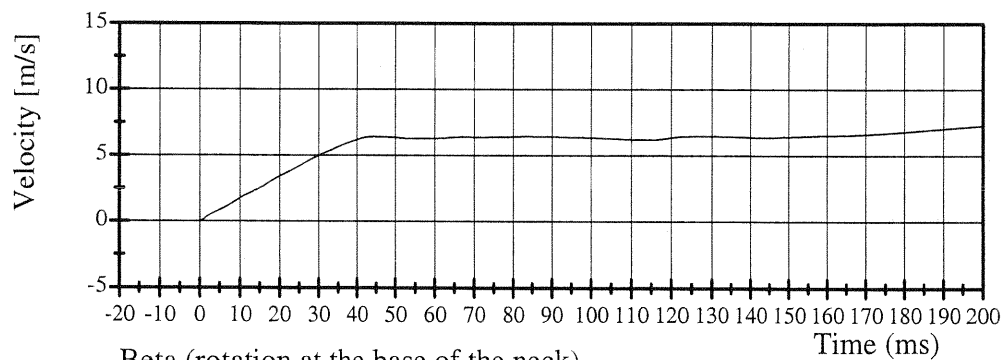
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 4

Test Date 08/13/2004

Integrated Pendulum Velocity

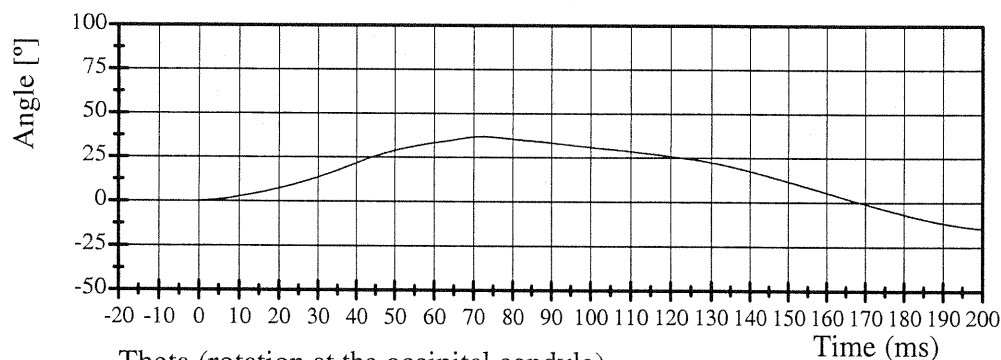


Filter Class: 180

Max: 8.2 m/s at 952.4 ms

Min: -0.0 m/s at -20.4 ms

Beta (rotation at the base of the neck)

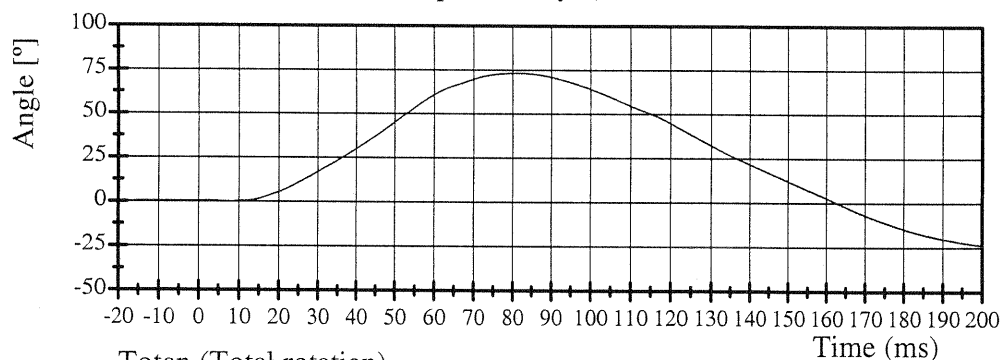


Filter Class: 60

Max: 36.9 ° at 72.0 ms

Min: -16.2 ° at 213.1 ms

Theta (rotation at the occipital condyle)

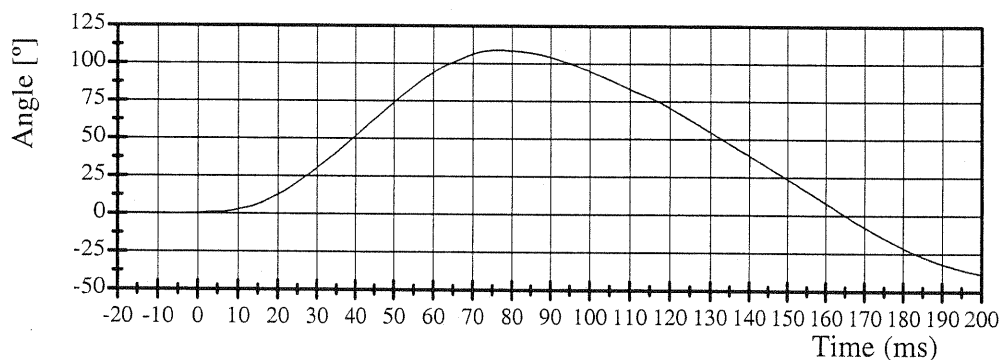


Filter Class: 60

Max: 73.1 ° at 81.4 ms

Min: -25.2 ° at 211.6 ms

Totan (Total rotation)



Filter Class: 60

Max: 109.0 ° at 76.2 ms

Min: -41.4 ° at 212.1 ms

08.13.2004 13:56:56 595



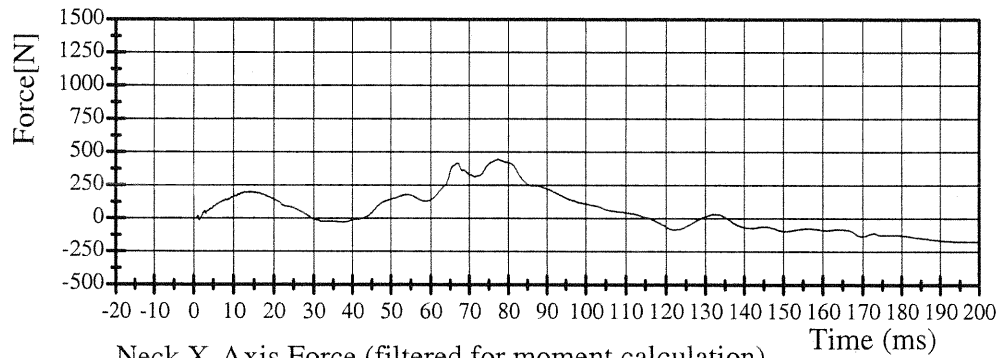
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 4

Test Date 08/13/2004

Neck X-Axis Force

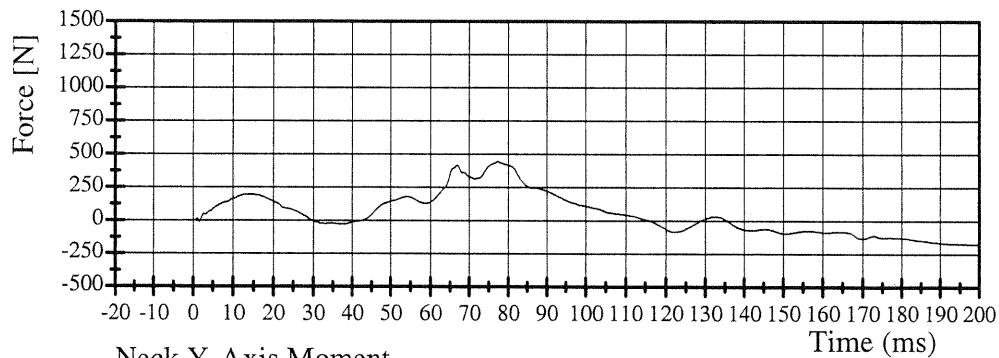


Filter Class: 1000

Max: 446.9 N at 77.4 ms

Min: -176.1 N at 199.0 ms

Neck X-Axis Force (filtered for moment calculation)

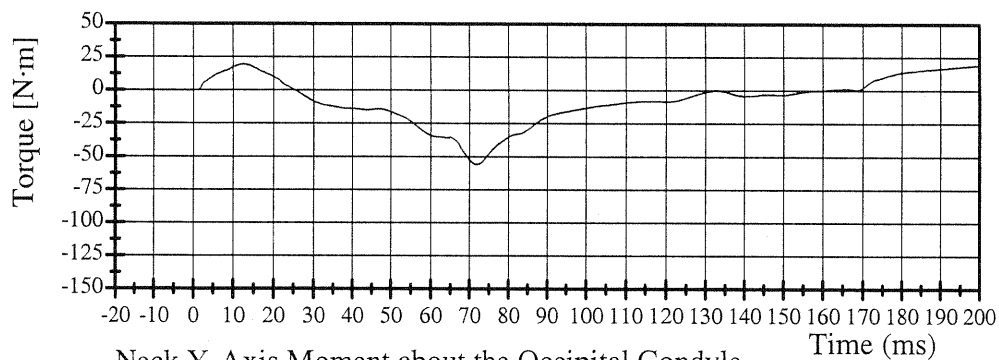


Filter Class: 600

Max: 445.4 N at 77.4 ms

Min: -175.1 N at 199.1 ms

Neck Y-Axis Moment

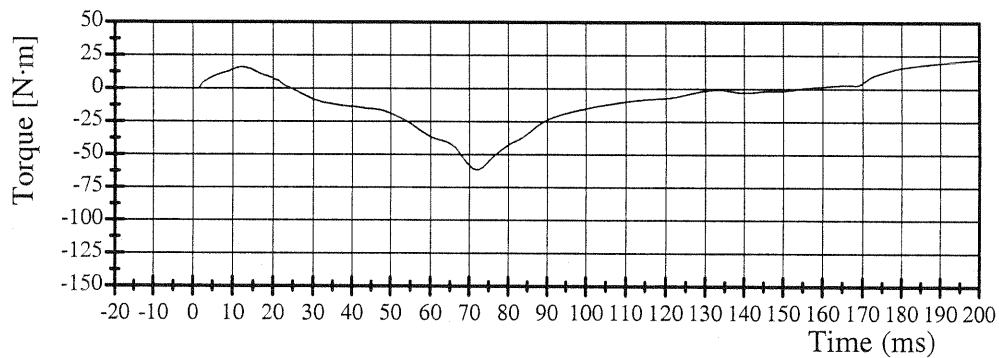


Filter Class: 600

Max: 19.9 N·m at 205.3 ms

Min: -55.7 N·m at 71.8 ms

Neck Y-Axis Moment about the Occipital Condyle



Filter Class: 600

Max: 22.9 N·m at 205.2 ms

Min: -61.4 N·m at 71.8 ms

08.13.2004 13:56:57 595



Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 2

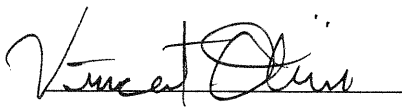
Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.71 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-56.2 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4374 N	Yes
Peak Force Between 18 mm and 50 mm	4600 N	4265 N	Yes
Internal Hysteresis	69 - 85 %	74 %	Yes

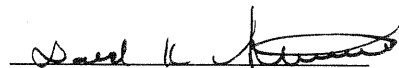
Test meets specifications.

Comments:

Technician



Approved



08.13.2004 08:50:40 988



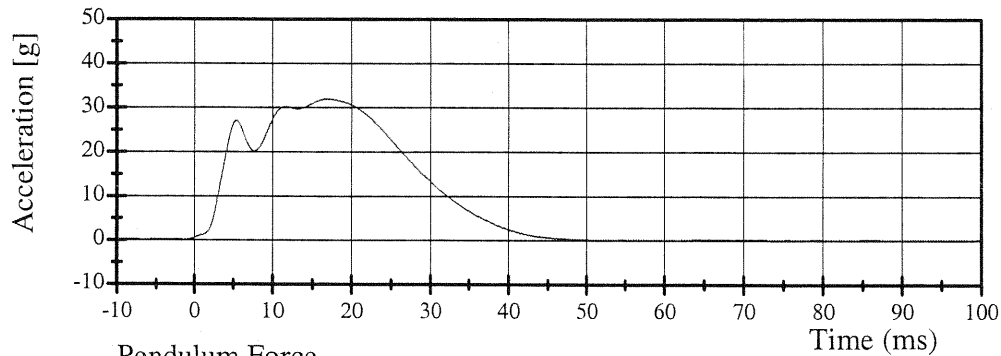
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 2

Test Date 08/13/2004

Pendulum Deceleration

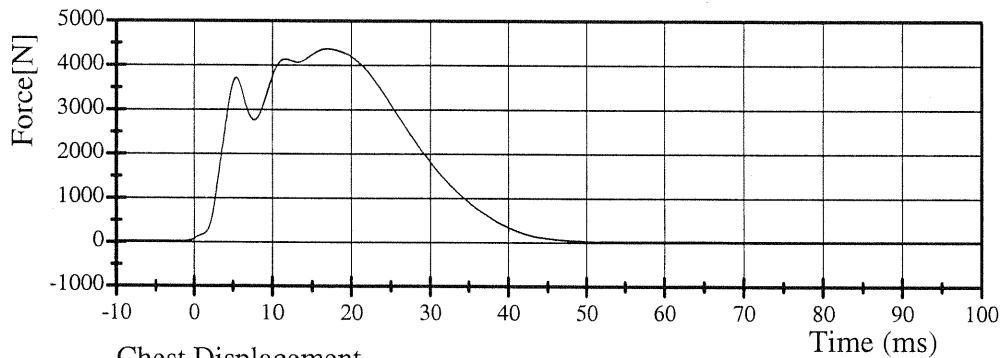


Filter Class: 180

Max: 31.9 g at 17.0 ms

Min: -0.3 g at 205.3 ms

Pendulum Force

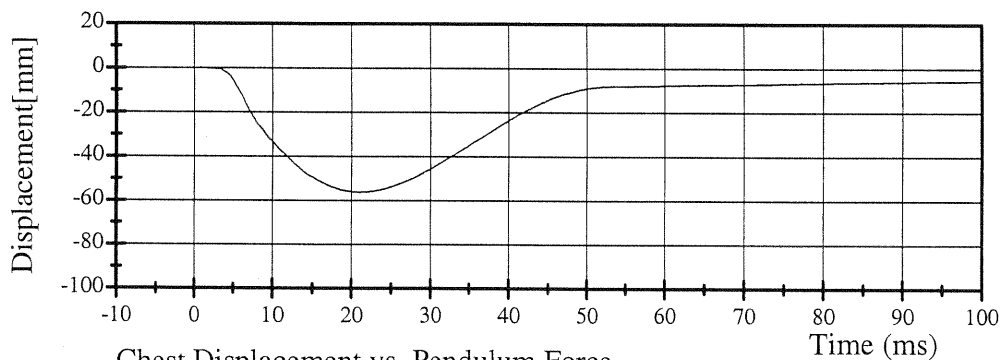


Filter Class: 180

Max: 4373.8 N at 17.0 ms

Min: -46.2 N at 205.3 ms

Chest Displacement

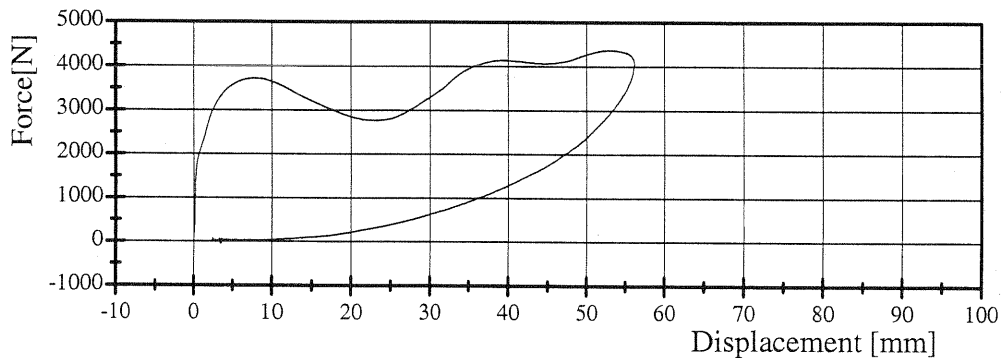


Filter Class: 600

Max: 0.0 mm at -64.4 ms

Min: -56.2 mm at 21.0 ms

Chest Displacement vs. Pendulum Force



08.13.2004 08:50:41 988



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 12-Aug-04

TRC, INC.

TEST NO: 048C17TF1

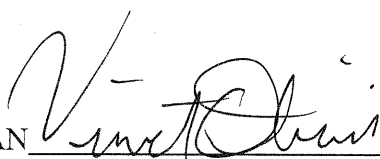
572 O SN048 TORSO FLEX CAL 17

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	21.4 ° C
RELATIVE HUMIDITY	10 – 70 %	47 %
INITIAL ANGLE OF UNSUPPORTRED DUMMY	<= 20° REFERENCED TO VERTICAL	15.9 °
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	339.0 N
RETURN ANGLE		22.1 °
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	6.2 °
RATE	0.5° - 1.5 °/sec	0.98°/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 1

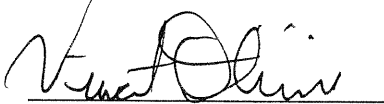
Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.11 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3470 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.13.2004 12:58:34 1774



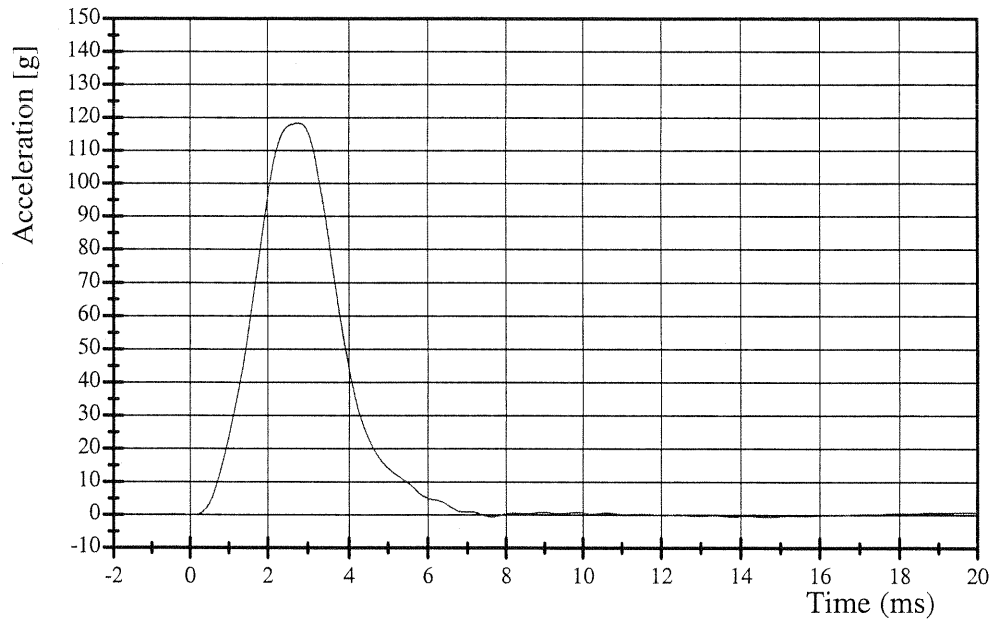
Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 1

Test Date 08/13/2004

Pendulum Deceleration

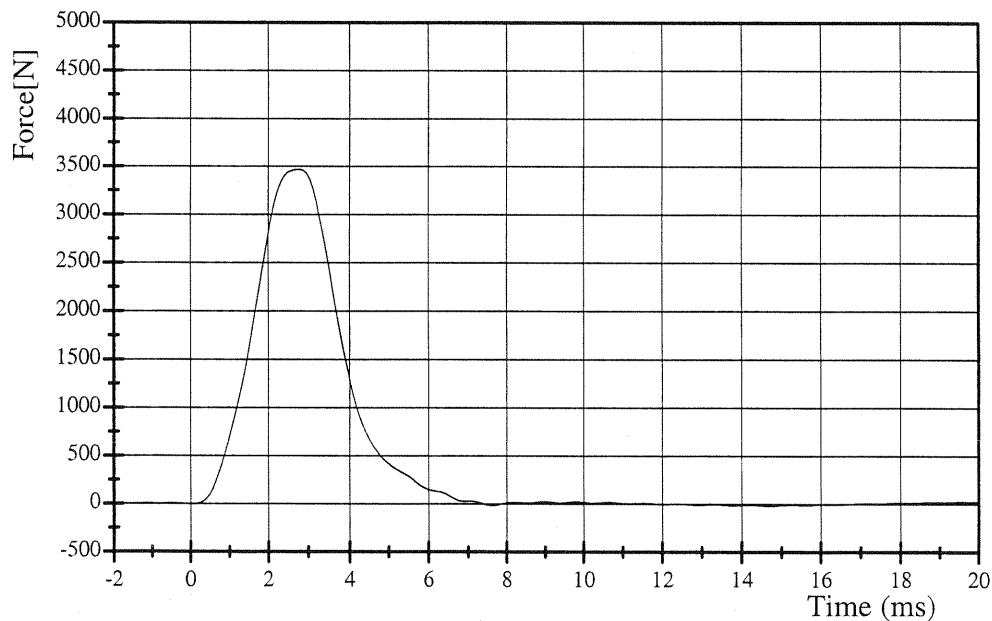


Filter Class: 600

Max: 118.3 g at 2.8 ms

Min: -0.6 g at 14.7 ms

Pendulum Force



Filter Class: 600

Max: 3469.8 N at 2.8 ms

Min: -18.6 N at 14.7 ms

08.13.2004 12:58:35 1774



Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 1

Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.11 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3662 N	Yes

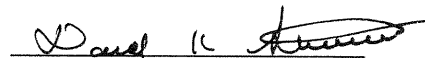
Test meets specifications.

Comments:

Technician



Approved



08.13.2004 13:02:30 1775



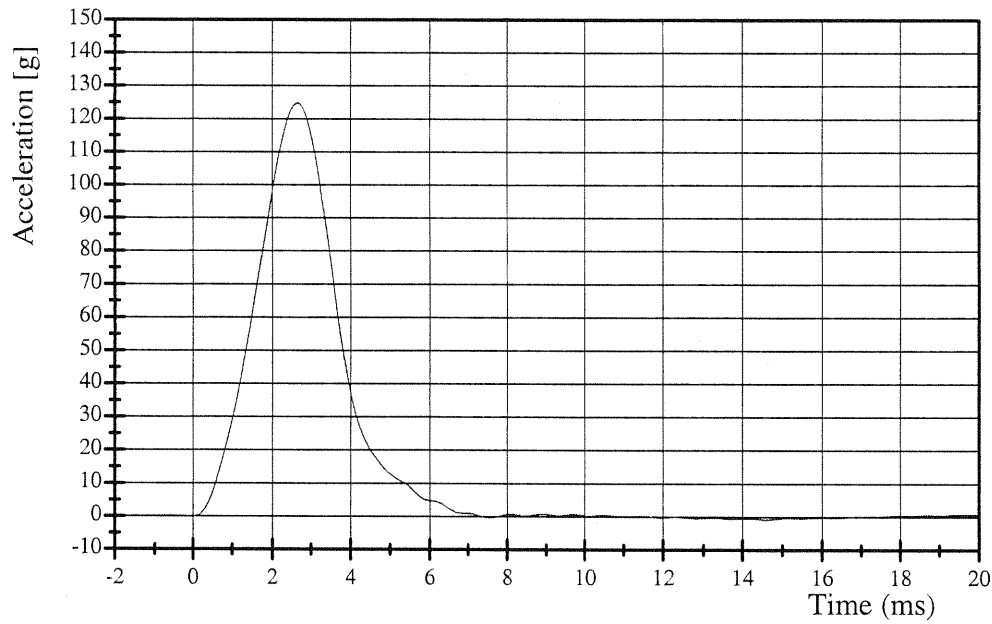
Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 048 Calibration No. 17 - 1

Test Date 08/13/2004

Pendulum Deceleration

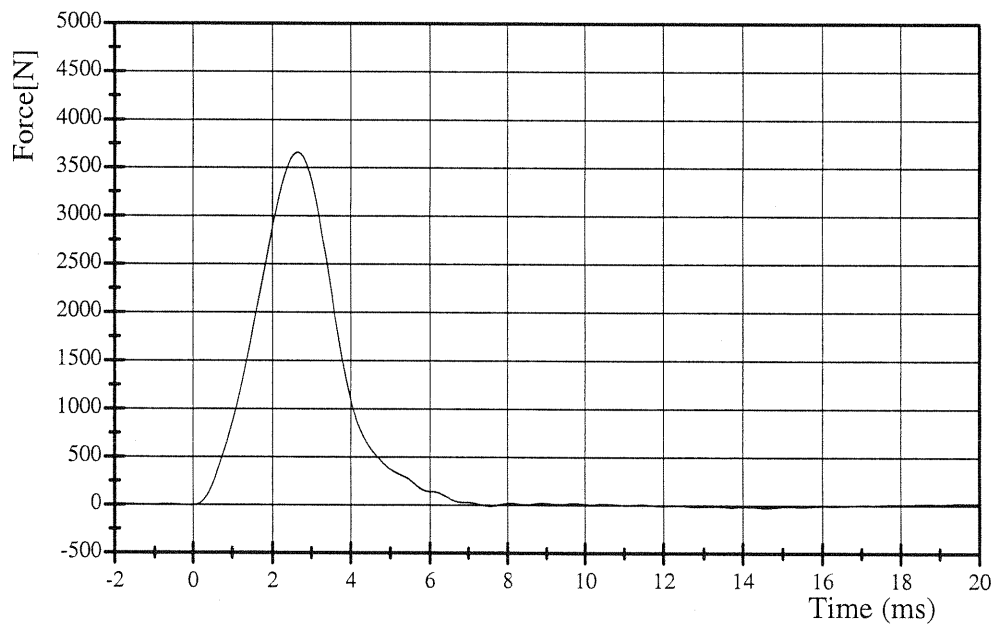


Filter Class: 600

Max: 124.9 g at 2.6 ms

Min: -0.8 g at 14.6 ms

Pendulum Force



Filter Class: 600

Max: 3662.2 N at 2.6 ms

Min: -24.2 N at 14.6 ms

08.13.2004 13:02:31 1775



Pre-Test Calibration

Right Rear Passenger Dummy S/N 070

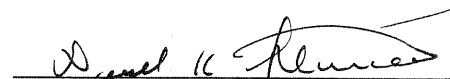
Transportation Research Center Inc.
5720 HHH 5th Female Dummy
External Dimensions
Serial No. 070 Calibration No. 05
Date:

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	786	Yes
B	Shoulder Pivot Height	431.8 - 457.2	449	Yes
C	Hip Pivot Height	81.3 - 86.3	86	Yes
D	Hip Pivot from Backline	144.8 - 149.8	147	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	77	Yes
F	Thigh Clearance	119.4 - 134.6	128	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	247	Yes
H	Head Back to Backline	43.2 - 48.2	45	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	280	Yes
J	Elbow Rest Height	182.8 - 203.2	194	Yes
K	Buttock Knee Length	520.7 - 546.1	539	Yes
L	Popliteal Height	355.6 - 376.0	358	Yes
M	Knee Pivot Height	393.7 - 419.1	397	Yes
N	Buttock Popliteal Height	414.0 - 439.4	417	Yes
O	Chest Depth without Jacket	175.3 - 190.5	184	Yes
P	Foot Length	218.5 - 233.7	220	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	477	Yes
S	Head Breadth	137.1 - 147.3	140	Yes
T	Head Depth	177.8 - 188.0	181	Yes
U	Hip Breadth	299.7 - 314.9	303	Yes
V	Shoulder Breadth	350.5 - 365.7	360	Yes
W	Foot Breadth	78.8 - 94.0	85	Yes
X	Head Circumference	528.3 - 548.7	542	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	860	Yes
Z	Waist Circumference	759.5 - 789.9	777	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	350	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Technician



Approved



Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 070 Calibration No. 06 - 1

Test Date 08/13/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Peak Resultant Acceleration	250 - 300 g	253.7 g	Yes
Peak Lateral Acceleration	15 g Max	5.4 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliveri

Approved

Paul W. Hume

08.13.2004 11:34:57 611

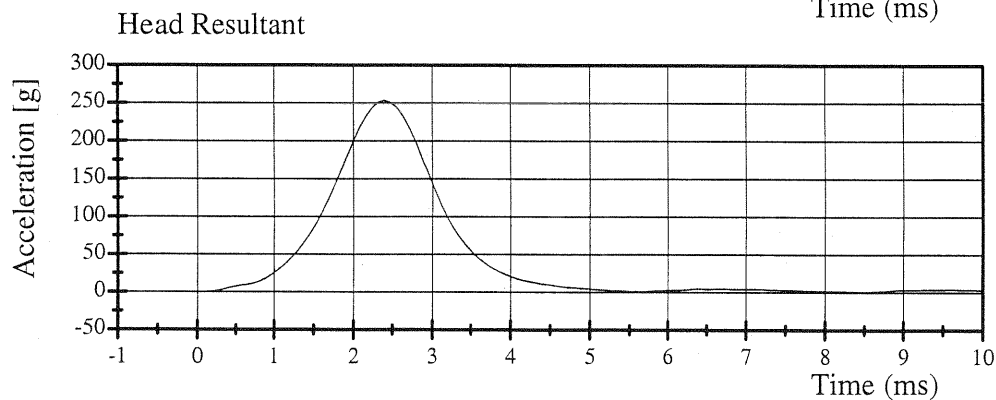
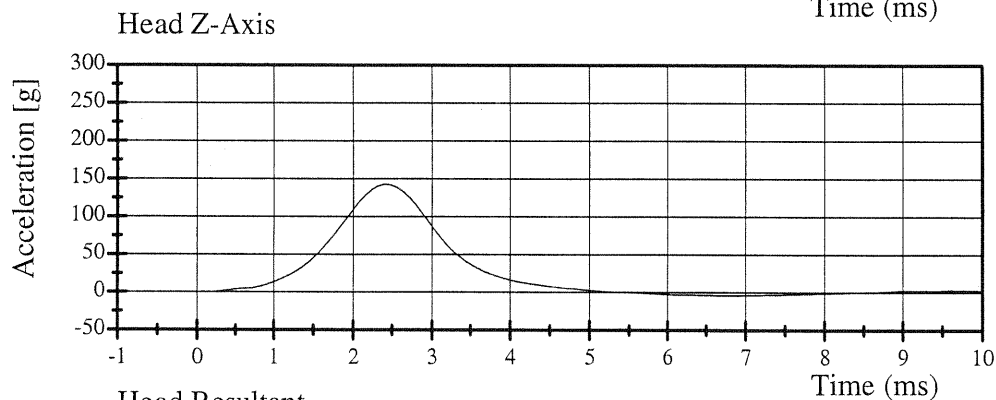
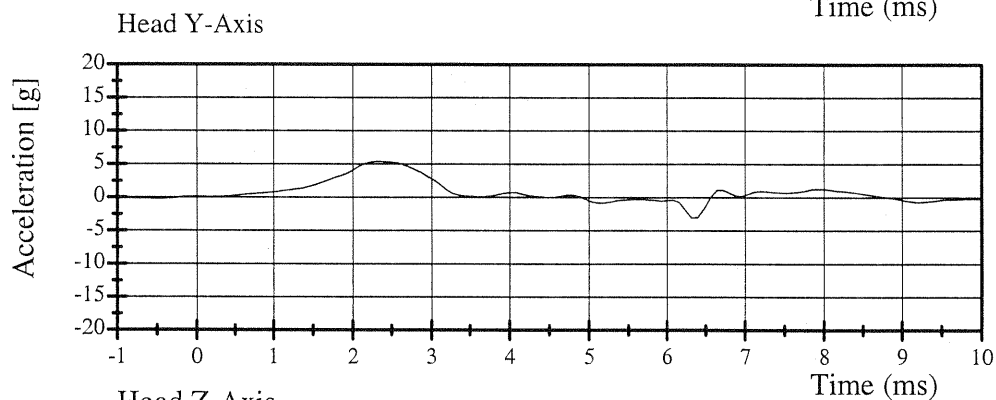
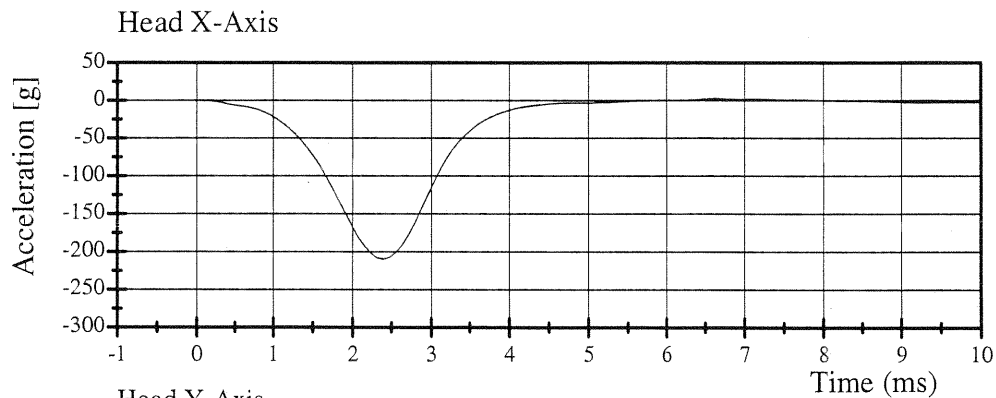


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 070 Calibration No. 06 - 1

Test Date 08/13/2004



08.13.2004 11:34:58 611



Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

HIII 5th Female Serial No. 070 Calibration No. 05 - 2

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.10 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.46 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.80 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.85 m/s	Yes
Peak D Plane Rotation	77 - 91 °	85.1 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	69.10 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	91.04 ms	Yes

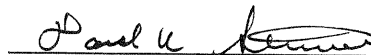
Test meets specifications.

Comments:

Technician



Approved



08.09.2004 11:59:04 511

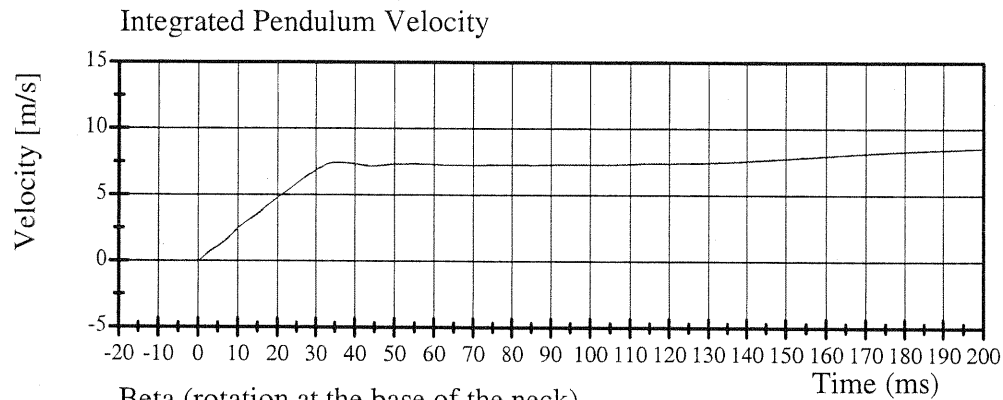


Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 2

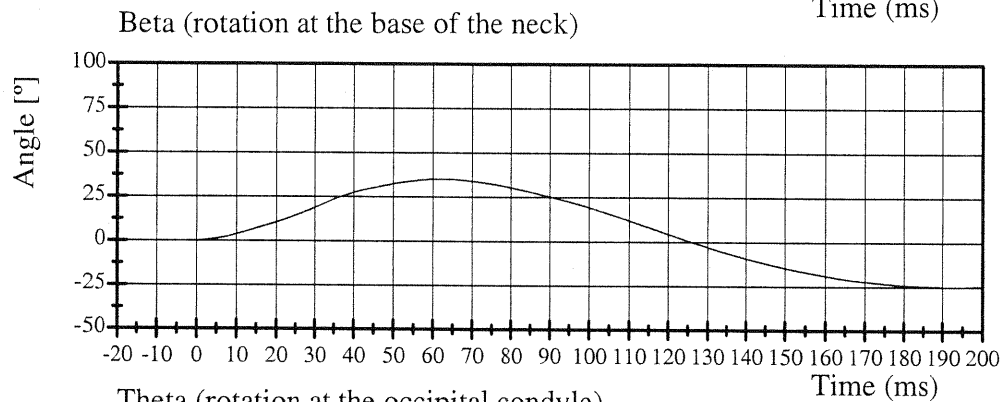
Test Date 08/09/2004



Filter Class: 180

Max: 9.2 m/s at 273.4 ms

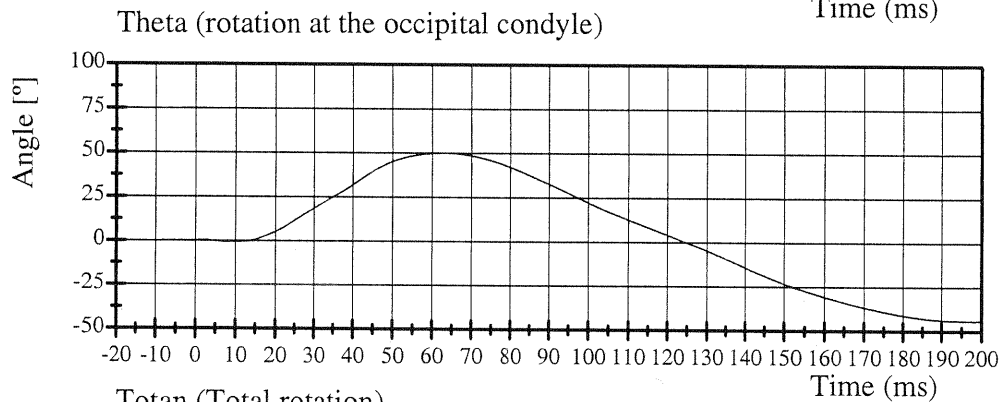
Min: -0.0 m/s at -0.6 ms



Filter Class: 60

Max: 35.1 ° at 62.2 ms

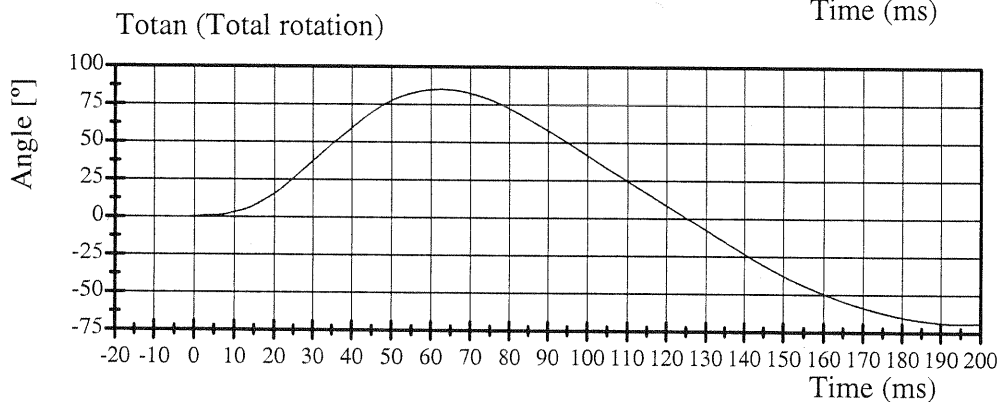
Min: -25.1 ° at 193.0 ms



Filter Class: 60

Max: 50.0 ° at 63.1 ms

Min: -44.1 ° at 198.1 ms



Filter Class: 60

Max: 85.1 ° at 62.7 ms

Min: -69.1 ° at 194.4 ms

08.09.2004 11:59:05 511



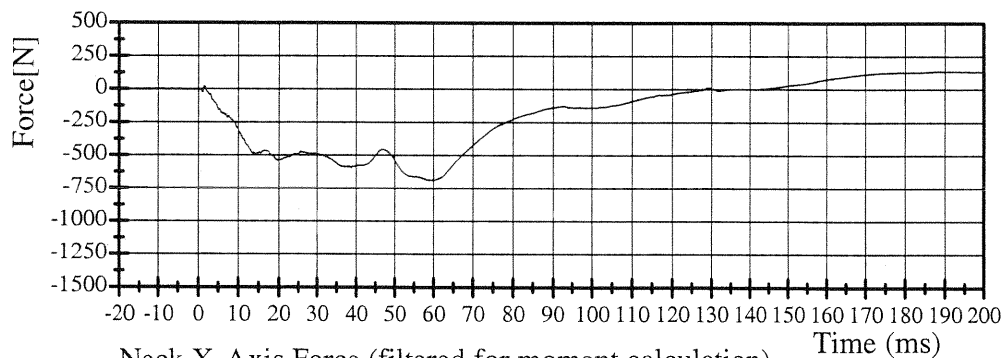
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 2

Test Date 08/09/2004

Neck X-Axis Force

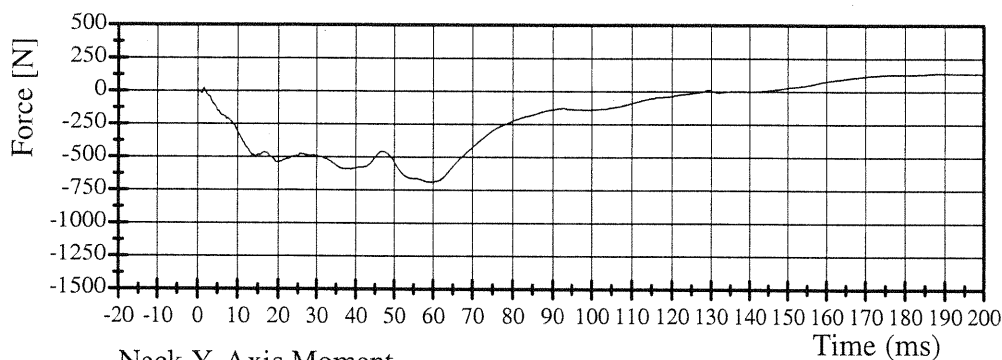


Filter Class: 1000

Max: 138.8 N at 188.9 ms

Min: -688.8 N at 59.4 ms

Neck X-Axis Force (filtered for moment calculation)

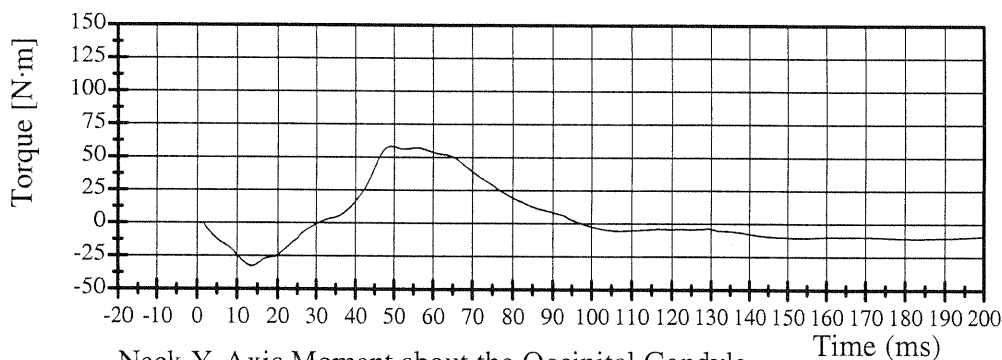


Filter Class: 600

Max: 138.2 N at 188.9 ms

Min: -688.6 N at 59.4 ms

Neck Y-Axis Moment

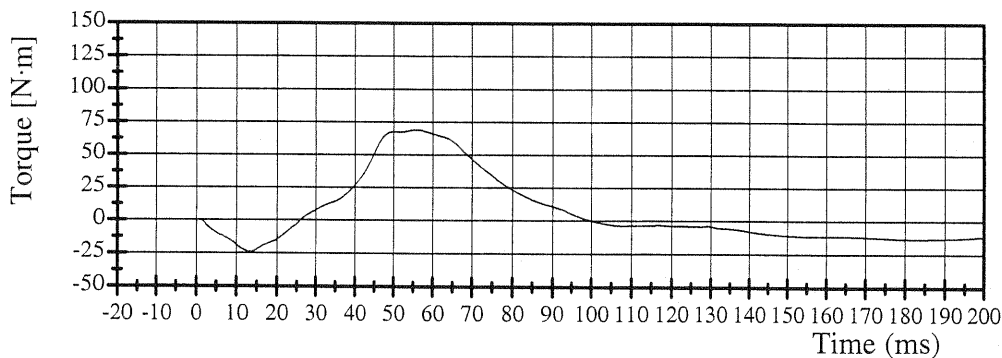


Filter Class: 600

Max: 58.3 N·m at 49.4 ms

Min: -32.7 N·m at 13.4 ms

Neck Y-Axis Moment about the Occipital Condyle



Filter Class: 600

Max: 69.1 N·m at 55.8 ms

Min: -24.1 N·m at 13.3 ms

Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.11 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.74 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.47 m/s	Yes
30 ms	4.60 - 5.60 m/s	5.15 m/s	Yes
Peak D Plane Rotation	99 - 114 °	113.2 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-60.11 N·m	Yes
Negative Moment Decay Time To -10 N·m	94 - 114 ms	111.04 ms	Yes

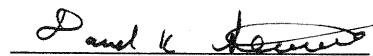
Test meets specifications.

Comments:

Technician



Approved



08.09.2004 12:29:10 592



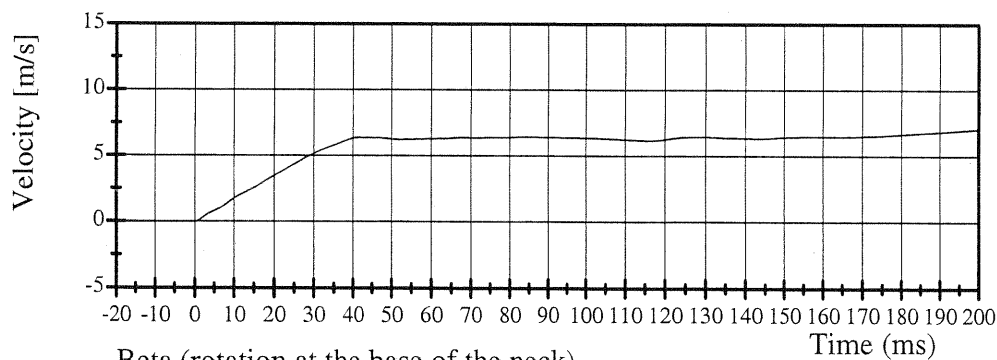
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004

Integrated Pendulum Velocity

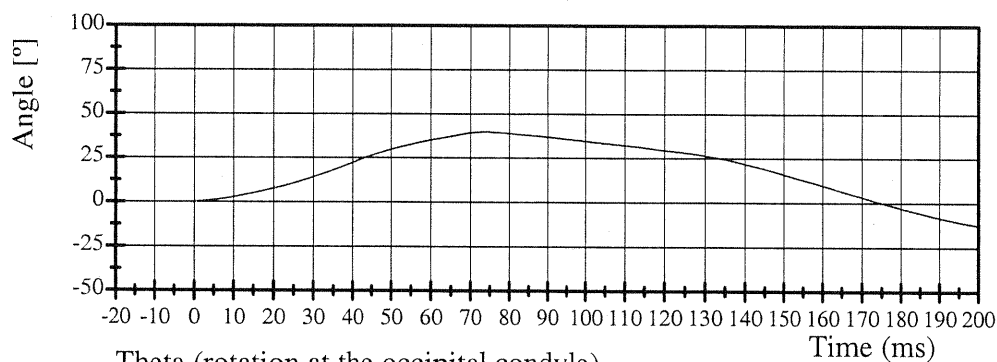


Filter Class: 180

Max: 8.2 m/s at 952.6 ms

Min: -0.0 m/s at -0.2 ms

Beta (rotation at the base of the neck)

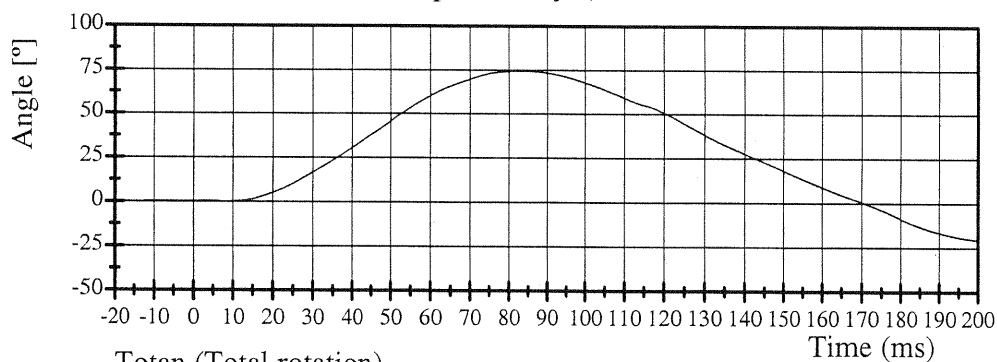


Filter Class: 60

Max: 39.7 ° at 73.8 ms

Min: -16.3 ° at 221.2 ms

Theta (rotation at the occipital condyle)

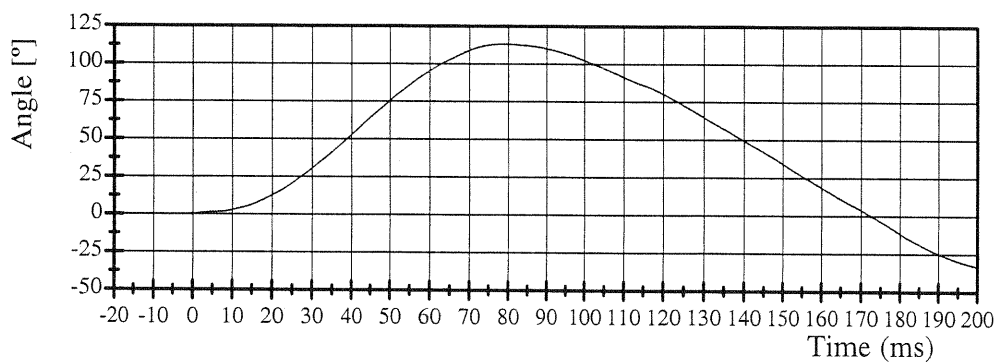


Filter Class: 60

Max: 74.4 ° at 83.2 ms

Min: -24.8 ° at 222.5 ms

Totan (Total rotation)



Filter Class: 60

Max: 113.2 ° at 79.1 ms

Min: -41.1 ° at 221.8 ms

08.09.2004 12:29:10 592

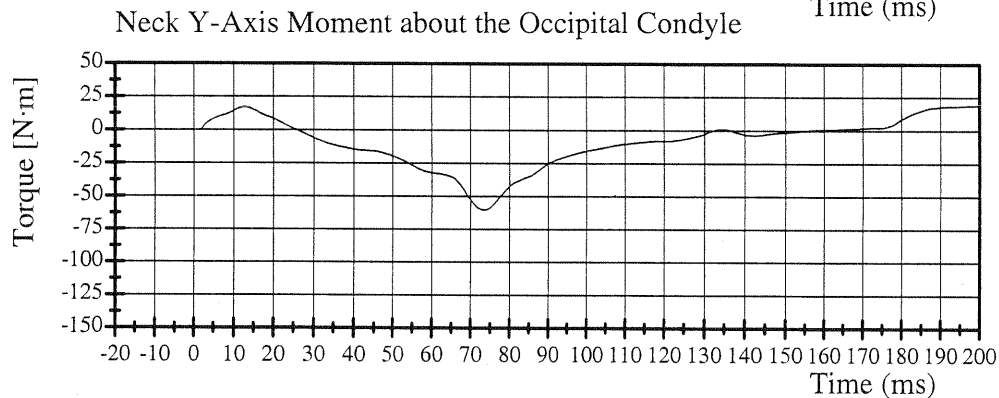
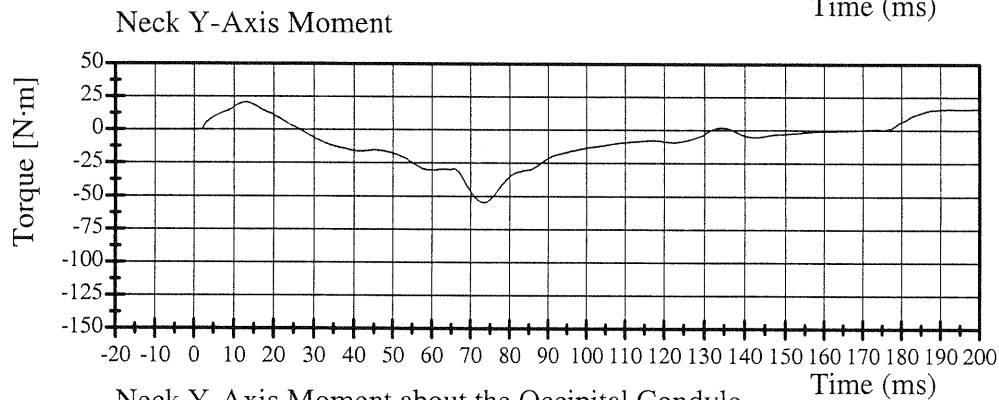
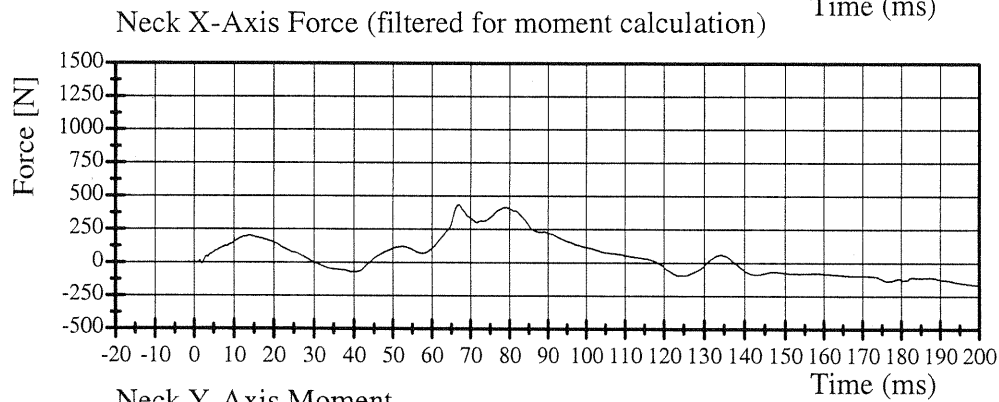
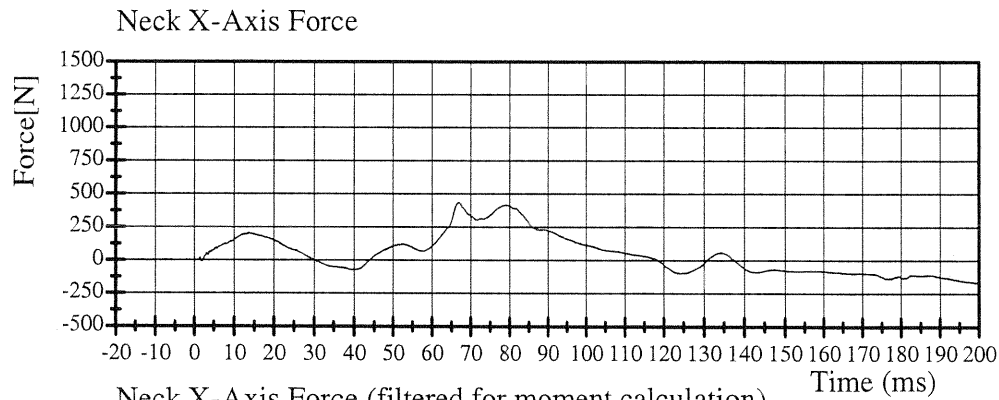


Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004



08.09.2004 12:29:12 592



Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/10/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.74 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-54.9 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4274 N	Yes
Peak Force Between 18 mm and 50 mm	4600 N	4225 N	Yes
Internal Hysteresis	69 - 85 %	73 %	Yes

Test meets specifications.

Comments:

Technician

Vincent D. Stinson

Approved

Paul H. Stinson

08.10.2004 07:39:37 1016



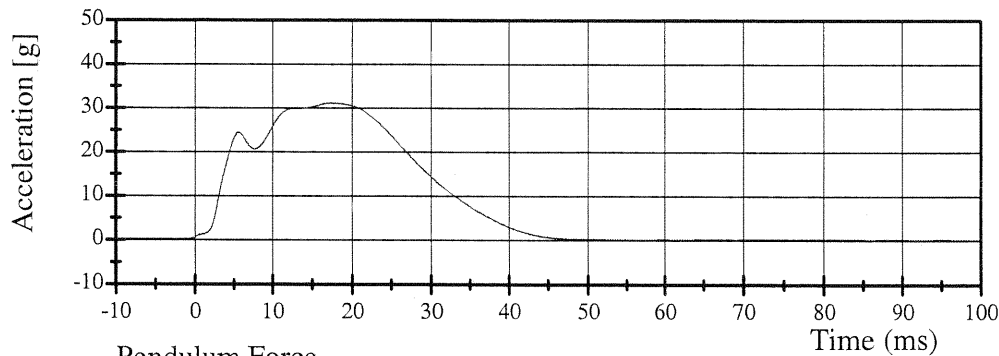
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/10/2004

Pendulum Deceleration

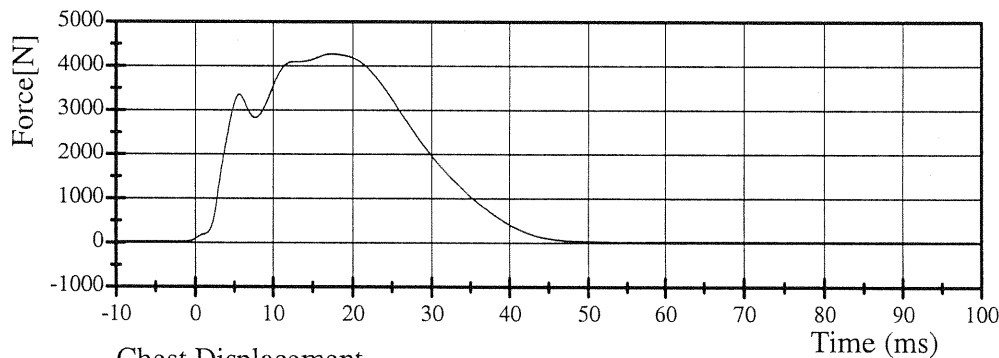


Filter Class: 180

Max: 31.2 g at 17.4 ms

Min: -0.2 g at 245.1 ms

Pendulum Force

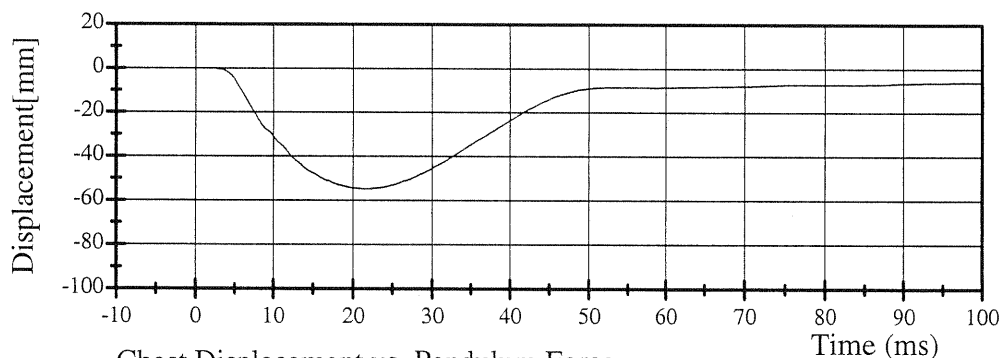


Filter Class: 180

Max: 4273.5 N at 17.4 ms

Min: -29.0 N at 245.1 ms

Chest Displacement

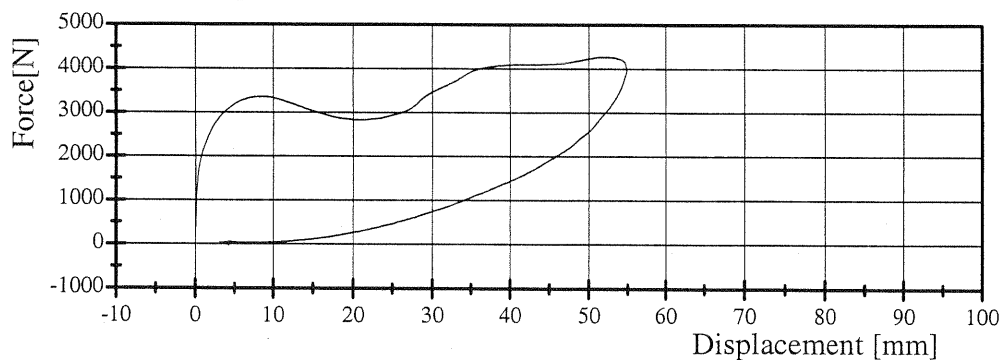


Filter Class: 600

Max: 0.0 mm at -45.4 ms

Min: -54.9 mm at 21.8 ms

Chest Displacement vs. Pendulum Force



08.10.2004 07:39:38 1016



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 09-Aug-04

TRC, INC. TEST NO: 070C05TF2 572 O SN070 TORSO FLEX CAL 05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	21.4° C
RELATIVE HUMIDITY	10 – 70 %	52 %
INITIAL ANGLE OF UNSUPPORTRED DUMMY	$\leq 20^\circ$ REFERENCED TO VERTICAL	19.0 °
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	330.6 N
RETURN ANGLE		23.6 °
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	4.6 °
RATE	0.5° - 1.5°/sec	0.96 °/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN

Vince Oliver

Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.07 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3714 N	Yes

Test meets specifications.

Comments:

Technician

Vincent D. Davis

Approved

David C. Lewis

08.09.2004 13:22:26 1850



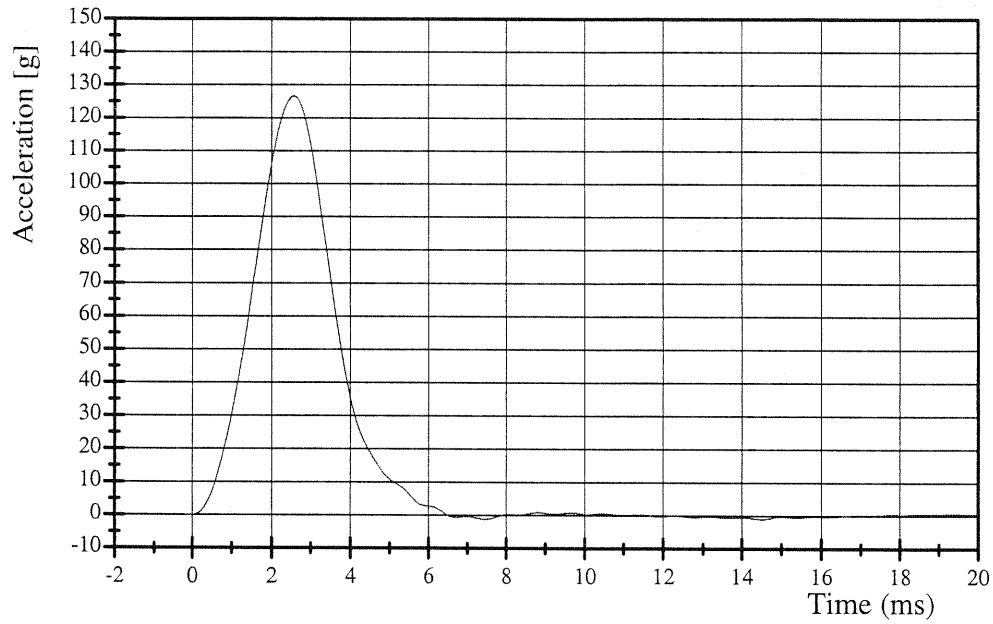
Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004

Pendulum Deceleration

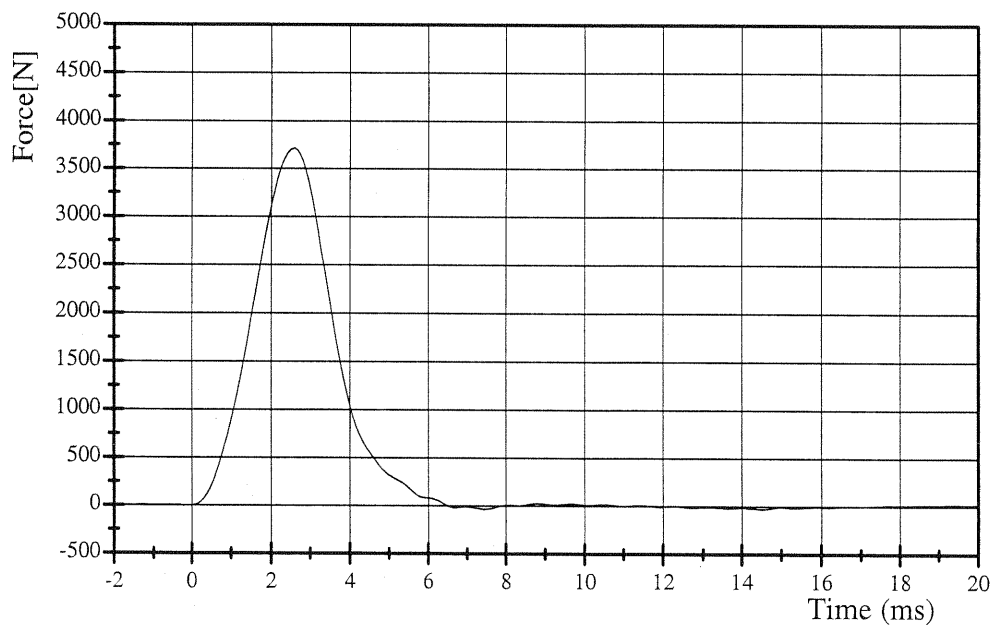


Filter Class: 600

Max: 126.7 g at 2.6 ms

Min: -1.2 g at 7.4 ms

Pendulum Force



Filter Class: 600

Max: 3714.4 N at 2.6 ms

Min: -35.3 N at 7.4 ms

08.09.2004 13:22:27 1850



Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.08 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3661 N	Yes

Test meets specifications.

Comments:

Technician

Vincent Dine

Approved

David C. Hammer

08.11.2004 14:31:31 1848



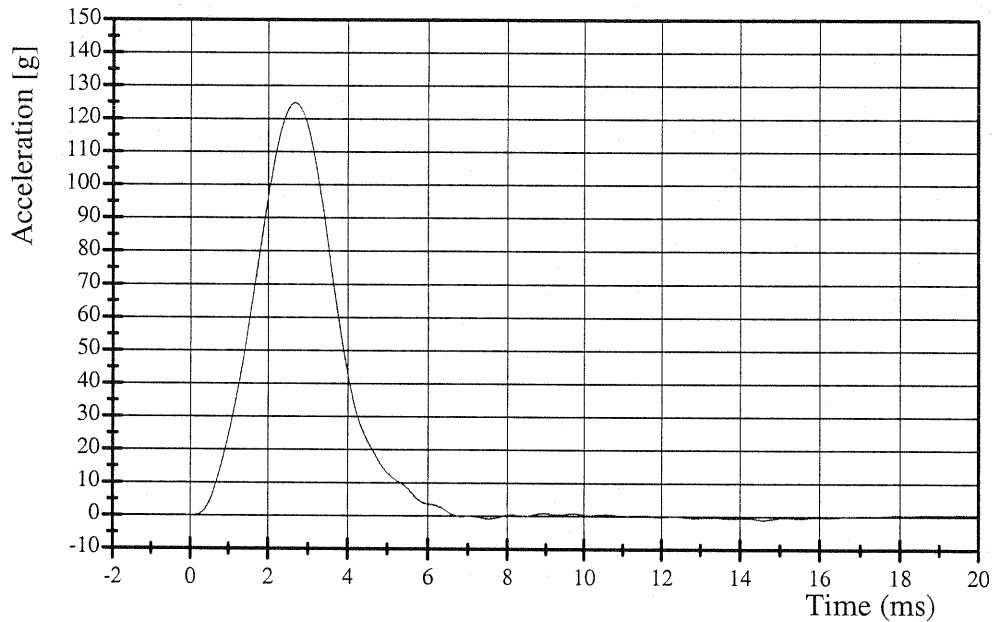
Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 070 Calibration No. 05 - 1

Test Date 08/09/2004

Pendulum Deceleration

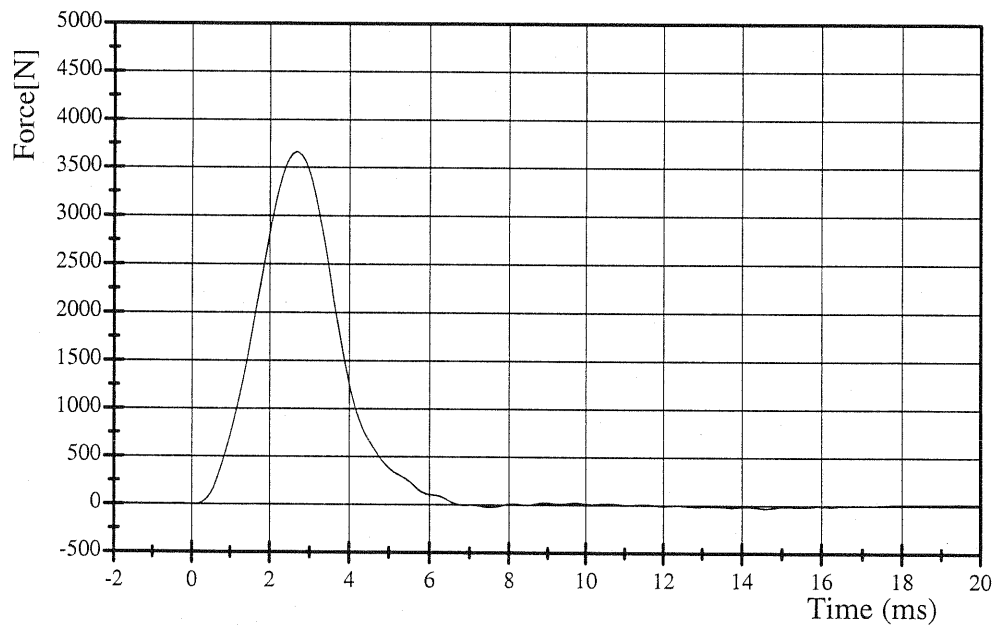


Filter Class: 600

Max: 124.9 g at 2.6 ms

Min: -1.0 g at 14.6 ms

Pendulum Force



Filter Class: 600

Max: 3661.2 N at 2.6 ms

Min: -29.3 N at 14.6 ms

08.11.2004 14:31:32 1848



Post-Test Calibration

Right Rear Passenger Dummy S/N 070

Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 070 Calibration No. 07 - 1

Test Date 08/25/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	60 %	Yes
Peak Resultant Acceleration	250 - 300 g	263.5 g	Yes
Peak Lateral Acceleration	15 g Max	5.8 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes

Test meets specifications.

Comments:

Technician

John K. Clunty

Approved

Paul H. Kerner

08.25.2004 10:10:29 607

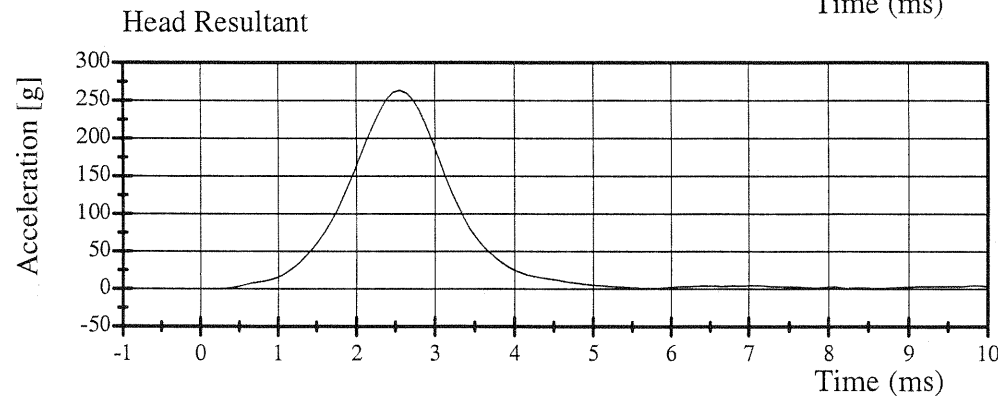
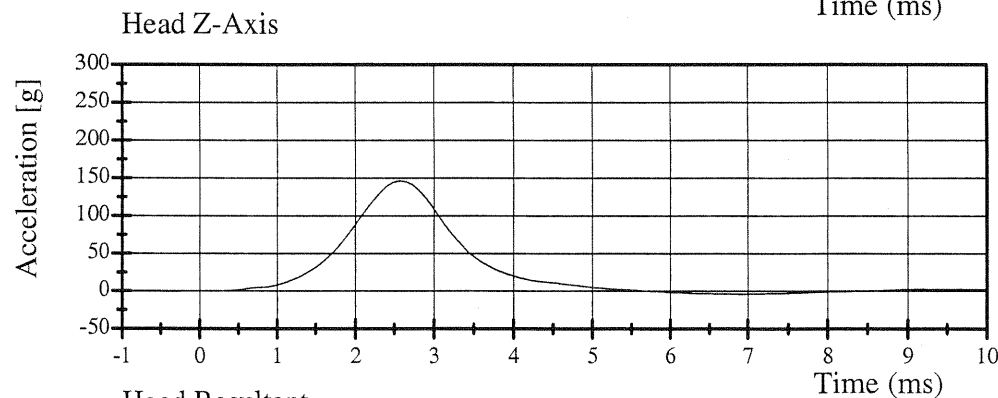
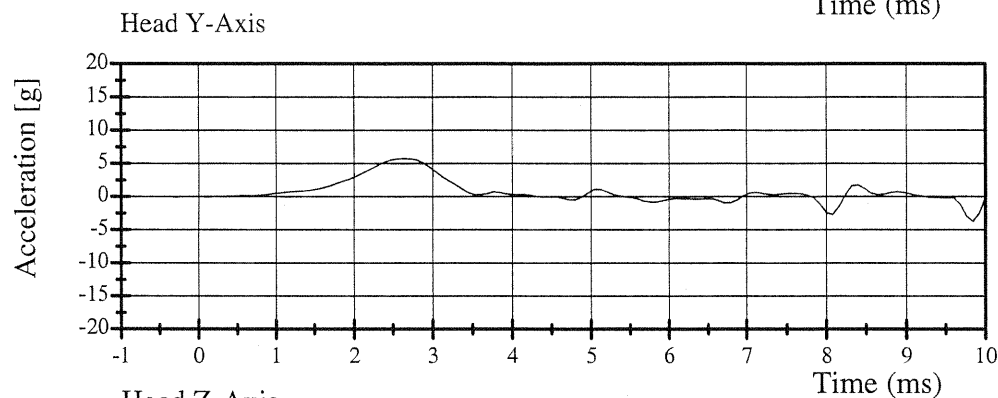
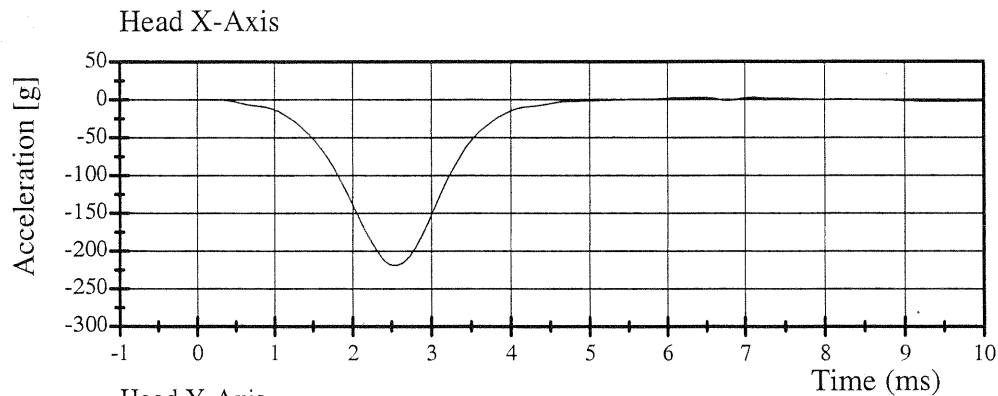


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 070 Calibration No. 07 - 1

Test Date 08/25/2004



08.25.2004 10:10:30 607



Appendix D

Miscellaneous Test Information

Channel Report

8/24/2004 7:58:26 AM

Name of Test 040824

System MINIDAU

Name of DAU DAU8

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
8001	03E03E20-N20	HEDXG1	Head Accel X	Fwd	1185.0024 g	+	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8002	02A18-N10	HEDYG1	Head Accel Y	Lft	1189.6176 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8003	02A09-F15	HEDZG1	Head Accel Z	Up	1203.9580 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8004	01L26-F02	HEDXR1	Head Accel Red X	Rwd	1212.6207 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8005	02A09-F13	HEDYR1	Head Accel Red Y	Lft	1197.6681 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8006	02A16-A06	HEDZR1	Head Accel Red Z	Up	1202.5322 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8007	IF-205-161-FX	NEKXF1	Neck Force X	Hd	13342.908 N	-	1/8/2004	OK 416v	FTSS	IF-205
8008	IF-205-161-FY	NEKYF1	Neck Force Y	Hd	13322.883 N	+	1/8/2004	OK 416v	FTSS	IF-205
8009	IF-205-161-FZ	NEKZF1	Neck Force Z	Hd	20037.217 N	+	1/8/2004	OK 416v	FTSS	IF-205
8010	IF-205-161-MX	NEKXM1	Neck Moment X	Rt Ear	423.35854 N·m	-	1/8/2004	OK 416v	FTSS	IF-205
8011	IF-205-161-MY	NEKYM1	Neck Moment Y	Chin	424.87566 N·m	+	1/8/2004	OK 416v	FTSS	IF-205
8012	IF-205-161-MZ	NEKZM1	Neck Moment Z	Chn	423.27097 N·m	+	1/8/2004	OK 416v	FTSS	IF-205
8013	3251-108-FX	NKLXF1	Neck Lwr Force X	Hd	13349.505 N	-	1/7/2004	OK 416v	Denton	3251
8014	3251-108-FY	NKLYF1	Neck Lwr Force Y	Hd	13370.705 N	+	1/7/2004	OK 416v	Denton	3251
8015	3251-108-FZ	NKLZF1	Neck Lwr Force Z	Hd	20002.203 N	+	1/7/2004	OK 416v	Denton	3251
8016	3251-108-MX	NKLXM1	Neck Lwr Moment X	Rt Ear	423.32409 N·m	-	1/7/2004	OK 416v	Denton	3251
8017	3251-108-MY	NKLYM1	Neck Lwr Moment Y	Chn	423.92659 N·m	+	1/7/2004	OK 416v	Denton	3251
8018	3251-108-MZ	NKLZM1	Neck Lwr Moment Z	Chn	423.28812 N·m	+	1/7/2004	OK 416v	Denton	3251
8019	02A16-A04	CSTXG1	Chest Accel X	Fwd	597.41687 g	+	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8020	C02B19-F02	CSTYG1	Chest Accel Y	Lft	594.09529 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8021	C02B19-F06	CSTZG1	Chest Accel Z	Up	603.36517 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8022	B02A25-N08	CSTXR1	Chest Accel Red X	Rwd	596.85290 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8023	03E03E19-N02	CSTYR1	Chest Accel Red Y	Lft	602.06281 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8024	C02B19-F04	CSTZR1	Chest Accel Red Z	Up	594.40801 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8025	14CB1-2897-416	CSTXD1	Chest Deflection X 516	Strnm	99.386887 mm	+	1/8/2004	OK 416v	Servo	14CB1-2897
8026	C02B19-F03	PEVXG1	Pelvis Accel X	Rwd	604.16536 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8027	02A16-A27	PEVYG1	Pelvis Accel Y	Lft	603.51452 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8028	C02B19-F01	PEVZG1	Pelvis Accel Z	Up	602.46152 g	-	7/7/2004	OK 416v	Entran	EGE-73B6Q-200
8029	2430-736	LFMZFI	Left Femur Force Z #8	Knee	33358.582 N	+	1/8/2004	OK 416v	GSE	2430
8030	150-121VR-0226	KNLXD1	Left Knee Displacement	Tib	39.857385 mm	+	5/29/2003	--- 416v	Space Age	150-0121VR
8031	4825J-91-FX	TBLXF1	Left Upr Tibia Force X	Tib	11089.730 N	+	9/4/2003	OK 416v	Denton	4825J
8032	4825J-91-FZ	TBLZF1	Left Upr Tibia Force Z	Tib	11122.449 N	+	9/4/2003	OK 416v	Denton	4825J

D-2

040824

Channel Report

8/24/2004 7:58:27 AM

Name of Test 040824

System MINIDAU

Name of DAU DAU9

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
9001	4825J-91-MX	TBLXM1	Left Upr Tibia Moment X	Ank	394.68354	N·m	+ 9/4/2003	OK 416v	Denton	4825J
9002	4825J-91-MY	TBLYM1	Left Upr Tibia Moment Y	Ank	395.93577	N·m	+ 9/4/2003	OK 416v	Denton	4825J
9003	99H30-Z01	TBLXG1	Left Tibia Accel X	Fwd	1178.0918	g	+ 7/12/2004	OK 416v	Entran	EGE-73BQE0-20
9004	99108-F26	TBLYG1	Left Tibia Accel Y	Rt	1206.2800	g	+ 7/12/2004	OK 416v	Entran	EGE-73BQE0-20
9005	4826J-92-FX	ANLXF1	Left Lwr Tibia Force X	Ank	11120.247	N	+ 9/4/2003	OK 416v	Denton	4826J
9006	4826J-92-FY	ANLYF1	Left Lwr Tibia Force Y	Ank	11113.246	N	+ 9/4/2003	OK 416v	Denton	4826J
9007	4826J-92-FZ	ANLZF1	Left Lwr Tibia Force Z	Ank	11117.123	N	+ 9/4/2003	OK 416v	Denton	4826J
9008	4826J-92-MX	ANLXM1	Left Lwr Tibia Moment X	Ank	394.88912	N·m	+ 9/4/2003	OK 416v	Denton	4826J
9009	4826J-92-MY	ANLYM1	Left Lwr Tibia Moment Y	Ank	397.10098	N·m	+ 9/4/2003	OK 416v	Denton	4826J
9010	00L13-F29	FTLXG1	Left Foot Accel X	Fwd	1205.9032	g	+ 7/9/2004	OK 416v	Entran	EGE-73B6Q-200
9011	01G25-N08	FTLYG1	Left Foot Accel Y	Rt	1216.4583	g	+ 7/9/2004	OK 416v	Entran	EGE-73B6Q-200
9012	BD88J	FTLZG1	Left Foot Accel Z	Dn	1179.0812	g	+ 7/20/2004	OK 416v	Endevco	7264-2KM5T
9013	2430-742	RFMZF1	Right Femur Force Z 507	Knee	33376.618	N	+ 1/8/2004	OK 416v	GSE	2430
9014	150-121VL-0205	KNRXD1	Right Knee Displacement	Tib	39.915491	mm	+ 5/29/2003	--- 416v	Space Age	150-0121VL
9015	4825J-90-FX	TBRXF1	Right Upr Tibia Force X	Tib	11127.487	N	+ 9/3/2003	OK 416v	Denton	4825J
9016	4825J-90-FZ	TBRZF1	Right Upr Tibia Force Z	Tib	11114.040	N	+ 9/3/2003	OK 416v	Denton	4825J
9017	4825J-90-MX	TBRXM1	Right Upr Tibia Moment X	Ank	394.78389	N·m	+ 9/3/2003	OK 416v	Denton	4825J
9018	4825J-90-MY	TBRYM1	Right Upr Tibia Moment Y	Ank	396.99520	N·m	+ 9/3/2003	OK 416v	Denton	4825J
9019	02102110-N18	TBRXG1	Right Tibia Accel X	Fwd	1201.5377	g	+ 7/8/2004	OK 416v	Entran	EGE-73B6Q-200
9020	98H10-F05	TBRYG1	Right Tibia Accel Y	Rt	1199.9110	g	+ 6/30/2004	OK 416v	Entran	EGE-73BQ-2000
9021	4826J-93-FX	ANRXF1	Right Lwr Tibia Force X	Ank	11108.760	N	+ 9/4/2003	OK 416v	Denton	4826J
9022	4826J-93-FY	ANRYF1	Right Lwr Tibia Force Y	Ank	11106.480	N	+ 9/4/2003	OK 416v	Denton	4826J
9023	4826J-93-FZ	ANRZF1	Right Lwr Tibia Force Z	Ank	11110.160	N	+ 9/4/2003	OK 416v	Denton	4826J
9024	4826J-93-MX	ANRXM1	Right Lwr Tibia Moment X	Ank	395.33504	N·m	+ 9/4/2003	OK 416v	Denton	4826J
9025	4826J-93-MY	ANRYM1	Right Lwr Tibia Moment Y	Ank	396.87121	N·m	+ 9/4/2003	OK 416v	Denton	4826J
9026	02102105-F18	FTRXG1	Right Foot Accel X	Fwd	1210.2817	g	+ 7/9/2004	OK 416v	Entran	EGE-73B6Q-200
9027	02102105-F03	FTRYG1	Right Foot Accel Y	Rt	1195.4963	g	+ 7/9/2004	OK 416v	Entran	EGE-73B6Q-200
9028	00L13-F72	FTRZG1	Right Foot Accel Z	Dn	1177.8749	g	+ 7/9/2004	OK 416v	Entran	EGE-73B6Q-200
9030	P28853	HEDXG2	Head Accel X	Rwd	1222.6632	g	- 8/16/2004	OK 048tr	Endevco	7264C-2K-2-180
9031	P28852	HEDYG2	Head Accel Y	Lft	1213.2465	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
9032	P28760	HEDZG2	Head Accel Z	Up	1175.7357	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180

D-5

040824

Channel Report

8/24/2004 7:58:27 AM

Name of Test 040824

System MINIDAU

Name of DAU DAUA

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	P29631	HEDXR2	Head Accel X Red	Rwd	1214.8013	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0002	P30332	HEDYR2	Head Accel Y Red	Lt	1223.5844	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0003	P30408	HEDZR2	Head Accel Z Red	Up	1226.4554	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0004	1716A-858-FX	NEKXF2	Neck Force X	Hd	13312.532	N	- 8/13/2004	OK 048tr	Denton	1716A
0005	1716A-858-FY	NEKYF2	Neck Force Y	Hd	13312.255	N	+ 8/13/2004	OK 048tr	Denton	1716A
0006	1716A-858-FZ	NEKZF2	Neck Force Z	Hd	20014.385	N	+ 8/13/2004	OK 048tr	Denton	1716A
0007	1716A-858-MX	NEKXM2	Neck Moment X	Rt Ear	424.71383	N·m	- 8/13/2004	OK 048tr	Denton	1716A
0008	1716A-858-MY	NEKYM2	Neck Moment Y	Chn	423.28840	N·m	+ 8/13/2004	OK 048tr	Denton	1716A
0009	1716A-858-MZ	NEKZM2	Neck Moment Z	Chn	424.47299	N·m	+ 8/13/2004	OK 048tr	Denton	1716A
0010	5045J-78-FX	NKLXF2	Neck Lwr Force X	Hd	13355.815	N	+ 10/22/2003	OK 048tr	Denton	5045J
0011	5045J-78-FY	NKLYF2	Neck Lwr Force Y	Hd	13371.441	N	+ 10/22/2003	OK 048tr	Denton	5045J
0012	5045J-78-FZ	NKLZF2	Neck Lwr Force Z	Hd	20042.675	N	+ 10/22/2003	OK 048tr	Denton	5045J
0013	5045J-78-MX	NKLXM2	Neck Lwr Moment X	Lt Ear	423.76725	N·m	+ 10/22/2003	OK 048tr	Denton	5045J
0014	5045J-78-MY	NKLYM2	Neck Lwr Moment Y	Chn	424.04552	N·m	+ 10/22/2003	OK 048tr	Denton	5045J
0015	5045J-78-MZ	NKLZM2	Neck Lwr Moment Z	Chn	423.68498	N·m	+ 10/22/2003	OK 048tr	Denton	5045J
0016	P28854	CSTXG2	Chest Accel X	Fwd	597.77831	g	+ 8/16/2004	OK 048tr	Endevco	7264C-2K-2-180
0017	P28381	CSTYG2	Chest Accel Y	Lft	604.91393	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0018	P28297	CSTZG2	Chest Accel Z	Up	597.83108	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0019	P33910	CSTXR2	Chest Accel X Red	Rwd	595.97911	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0020	P33845	CSTYR2	Chest Accel Y Red	Lft	601.09834	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0021	P34092	CSTZR2	Chest Accel Z Red	Up	594.35722	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0022	6209-2038-0436	CSTXD2	Chest Deflection X	Strnm	99.969540	mm	+ 8/20/2004	OK 048tr	JDK	6209-2038
0023	P28280	PEVXG2	Pelvis Accel X	Rwd	603.65947	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0024	P28316	PEVYG2	Pelvis Accel Y	Lft	604.71888	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0025	P28400	PEVZG2	Pelvis Accel Z	Up	597.78578	g	- 8/13/2004	OK 048tr	Endevco	7264C-2K-2-180
0026	2121-0160	LFMZ2	Left Femur Force Z	Knee	19992.190	N	+ 8/13/2004	OK 048tr	Denton	2121
0027	2121-0161	RFMZ2	Right Femur Force Z	Knee	20000	N	+ 8/13/2004	OK 048tr	Denton	2121
0028	J18661	HEDXG3	Head Accel X	Rwd	1196.4623	g	- 7/8/2004	OK 070v	Endevco	7264-2000T
0029	AAMD5	HEDYG3	Head Accel Y	Lft	1166.1618	g	- 7/8/2004	OK 070v	Endevco	7264-2000LC
0030	AJ4R6	HEDZG3	Head Accel Z	Up	1176.8004	g	- 7/8/2004	OK 070v	Endevco	7264-2KM5T
0031	1716AJ-1563-FX	NEKXF3	Neck Force X	Hd	13358.937	N	+ 7/7/2004	OK 070v	Denton	1716AJ
0032	1716AJ-1563-FY	NEKYF3	Neck Force Y	Hd	13335.694	N	+ 7/7/2004	OK 070v	Denton	1716AJ

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Channel Report

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Name of Test 040824

System MINIDAU

Name of DAU DAUC

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	1716AJ-1563-FZ	NEKZF3	Neck Force Z	Hd	20004.688	N	+ 7/7/2004	OK 070v	Denton	1716AJ
0002	1716AJ-1563-MX	NEKXM3	Neck Moment X	Lt Ear	424.79089	N·m	+ 7/7/2004	OK 070v	Denton	1716AJ
0003	1716AJ-1563-MY	NEKYM3	Neck Moment Y	Chn	423.76023	N·m	+ 7/7/2004	OK 070v	Denton	1716AJ
0004	1716AJ-1563-MZ	NEKZM3	Neck Moment Z	Chn	424.01586	N·m	+ 7/7/2004	OK 070v	Denton	1716AJ
0005	3251-107-FX	NKLXF3	Neck Lwr Force X	Hd	13336.563	N	- 7/8/2004	OK 070v	Denton	3251
0006	3251-107-FY	NKLYF3	Neck Lwr Force Y	Hd	13321.746	N	+ 7/8/2004	OK 070v	Denton	3251
0007	3251-107-FZ	NKLZF3	Neck Lwr Force Z	Hd	20046.671	N	+ 7/8/2004	OK 070v	Denton	3251
0008	3251-107-MX	NKLXM3	Neck Lwr Moment X	Rt Ear	424.75244	N·m	- 7/8/2004	OK 070v	Denton	3251
0009	3251-107-MY	NKLYM3	Neck Lwr Moment Y	Chn	424.53831	N·m	+ 7/8/2004	OK 070v	Denton	3251
0010	3251-107-MZ	NKLZM3	Neck Lwr Moment Z	Chn	424.25154	N·m	+ 7/8/2004	OK 070v	Denton	3251
0011	AAJY4	CSTXG3	Chest Accel X	Fwd	597.53442	g	+ 7/8/2004	OK 070v	Endevco	7264-2000LC
0012	AKAA4	CSTYG3	Chest Accel Y	Lft	606.99106	g	- 7/8/2004	OK 070v	Endevco	7264-2KM5T
0013	ACC63	CSTZG3	Chest Accel Z	Up	608.38815	g	- 7/8/2004	OK 070v	Endevco	7264-2000T
D-5 0014	14CB1-2897-070	CSTXD3	Chest Deflection X	Strnm	100.66837	mm	+ 7/13/2004	OK 070v	Servo	14CB1-2897
0015	AGN83	PEVXG3	Pelvis Accel X	Rwd	606.23024	g	- 7/8/2004	OK 070v	Endevco	7264-2000LC
0016	J35770	PEVYG3	Pelvis Accel Y	Lft	598.45978	g	- 7/8/2004	OK 070v	Endevco	7264-2000TZ
0017	J20014	PEVZG3	Pelvis Accel Z	Up	604.55779	g	- 7/8/2004	OK 070v	Endevco	7264-2KM5T
0018	IF-625-140-FZ	LFMZ3	Left Femur Force Z	Knee	20028.007	N	+ 7/14/2004	OK 070v	FTSS	IF-625
0019	IF-625-141-FZ	RFMZ3	Right Femur Force Z	Knee	20027.616	N	+ 7/14/2004	OK 070v	FTSS	IF-625
0020	P30424	LSXXG	Left Rear Seat Cross-member	FWD	999.40952	g	+ 8/19/2004	OK -1	Endevco	7264C-2K-2-180
0021	P33092	RSXXG	Right Rear Seat Cross-member	FWD	1021.9622	g	+ 8/19/2004	OK -1	Endevco	7264C-2K-2-180
0022	P29633	TENXG	Top of Engine X-axis	FWD	1504.7988	g	+ 8/19/2004	OK -1	Endevco	7264C-2K-2-180
0023	P34764	BENXG	Bottom of Engine X-axis	FWD	1522.6566	g	+ 7/9/2004	OK -1	Endevco	7264C-2K-2-180
0024	P34978	RFCXG	Right Front Brake Caliper	FWD	997.04003	g	+ 6/7/2004	OK -1	Endevco	7264C-2K-2-180
0025	P34690	LFCXG	Left Front Brake Caliper X-axis	FWD	1012.3378	g	+ 4/19/2004	OK -1	Endevco	7264C-2K-2-180
0026	P34717	DPCXG	Instrument Panel Top Center	RR	986.98795	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180
0027	P37722	VCGXG	VEHICLE CG X-AXIS	FWD	1014.1827	g	+ 6/7/2004	OK -1	Endevco	7264C-2K-2-180
0028	P33562	VCGYG	VEHICLE CG Y-AXIS	RT	1013.7007	g	+ 3/31/2004	OK -1	Endevco	7264C-2K-2-180
0029	P37753	VCGZG	VEHICLE CG Z-AXIS	UP	1012.4980	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180
0030	P30415	RDKXG	RR DECK X-AXIS	FWD	988.94200	g	+ 7/28/2004	OK -1	Endevco	7264C-2K-2-180
0031	P29507	RDKYG	RR DECK Y-AXIS	LT	981.78519	g	- 7/28/2004	OK -1	Endevco	7264C-2K-2-180
0032	P27919	RDKZG	RR DECK Z-AXIS	UP	1010.2285	g	- 7/28/2004	OK -1	Endevco	7264C-2K-2-180

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Channel Report

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Name of Test 040824

System MINIDAU

Name of DAU DAUD

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal.	Group	Mfg.	Model
0001	ABFire1	DABETA	DRIVER AIRBAG EVENT-	IP1	5.12	V	+	4/19/2004	OK	VRTC	FLUKE Y8101A
0002	ABFire2	DABETB	DRIVER AIRBAG EVENT-	IP31	5.12	V	+	4/19/2004	OK	VRTC	FLUKE Y8101A
0003	ABFire3	PABETA	PASSENGER AIRBAG EVENT	J	5.12	V	+	4/19/2004	OK	VRTC	FLUKE Y8101A
0004	ABFire4	PABETB	PASSENGER AIRBAG EVENT	P01	5.12	V	+	4/19/2004	OK	VRTC	FLUKE Y8101A
0005	3419T-829	SHBF3	RT 2ND ROW RR PASS.	1018	13341.011	N	+	6/15/2004	OK	-1	Lebow 3419T
0006	3419T-831	LBOF3	RT 2ND ROW RR PASS. LAP	4A	13336.042	N	+	3/23/2004	OK	-1	Lebow 3419T

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Name of Test 040824

System MINIDAU

Name of DAU DAUE

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	EVENT	EVENT	EVENT		5.12	V	+ 4/19/2004	OK -1	TRC	Event
0002	398390053	LC0101	ROW 1 COLUMN 1		500056.15	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0003	398390008	LC0102	ROW 1 COLUMN 2		500176.82	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0004	398390028	LC0103	ROW 1 COLUMN 3		499943.36	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0005	398390038	LC0104	ROW 1 COLUMN 4		500056.15	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0006	398390003	LC0105	ROW 1 COLUMN 5		500005.61	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0007	398390014	LC0106	ROW 1 COLUMN 6		499994.14	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0008	398390024	LC0107	ROW 1 COLUMN 7		499692.08	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0009	398390006	LC0108	ROW 1 COLUMN 8		499822.32	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0010	398390132	LC0109	ROW 1 COLUMN 9		499750.85	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0011	398390023	LC0110	ROW 1 COLUMN 10		499692.08	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0012	398390033	LC0111	ROW 1 COLUMN 11		499933.11	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0013	398390019	LC0112	ROW 1 COLUMN 12		500122.10	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0014	398390113	LC0113	ROW 1 COLUMN 13		500176.82	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0015	398390098	LC0114	ROW 1 COLUMN 14		500125.03	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0016	398390104	LC0115	ROW 1 COLUMN 15		499816.96	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0017	398390088	LC0116	ROW 1 COLUMN 16		499750.85	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0018	398390120	LC0201	ROW 2 COLUMN 1		499822.32	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0019	398390063	LC0202	ROW 2 COLUMN 2		500252.81	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0020	398390124	LC0203	ROW 2 COLUMN 3		500176.82	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0021	398390093	LC0204	ROW 2 COLUMN 4		499822.32	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0022	398390046	LC0205	ROW 2 COLUMN 5		500125.03	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0023	398390122	LC0206	ROW 2 COLUMN 6		500176.82	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0024	398390002	LC0207	ROW 2 COLUMN 7		500176.82	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0025	398390060	LC0208	ROW 2 COLUMN 8		500298.02	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0026	398390105	LC0209	ROW 2 COLUMN 9		499933.11	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0027	398390020	LC0210	ROW 2 COLUMN 10		499692.08	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0028	398390069	LC0211	ROW 2 COLUMN 11		500240.10	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0029	398390041	LC0212	ROW 2 COLUMN 12		499816.96	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0030	398390112	LC0213	ROW 2 COLUMN 13		499994.14	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0031	398390074	LC0214	ROW 2 COLUMN 14		500125.03	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875
0032	398390128	LC0215	ROW 2 COLUMN 15		500176.82	N	- 12/10/2003	--- VRTC	KYOWA	F99-1875

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0033	398390075	LC0216	ROW 2 COLUMN 16	500125.03	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0034	398390125	LC0301	ROW 3 COLUMN 1	500176.82	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0035	398390004	LC0302	ROW 3 COLUMN 2	500298.02	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0036	398390051	LC0303	ROW 3 COLUMN 3	500298.02	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0044	398390100	LC0311	ROW 3 COLUMN 11	499874.29	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0045	398390102	LC0312	ROW 3 COLUMN 12	500056.15	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0047	398390091	LC0313	ROW 3 COLUMN 13	500176.82	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875
0048	398390012	LC0314	ROW 3 COLUMN 14	499943.36	N	-	12/10/2003	---	VRTC	KYOWA	F99-1875

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Name of Test 040824

System MINIDAU

Name of DAU DAUF

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	398390017	LC0315	ROW 3 COLUMN 15		500252.81	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0002	398390081	LC0316	ROW 3 COLUMN 16		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0003	398390040	LC0401	ROW 4 COLUMN 1		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0004	398390007	LC0402	ROW 4 COLUMN 2		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0005	398390071	LC0403	ROW 4 COLUMN 3		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0006	398390094	LC0404	ROW 4 COLUMN 4		499994.14	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0007	398390067	LC0405	ROW 4 COLUMN 5		499943.36	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0009	398390086	LC0406	ROW 4 COLUMN 6		500176.82	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0010	398390118	LC0407	ROW 4 COLUMN 7		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0011	398390101	LC0408	ROW 4 COLUMN 8		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0012	398390073	LC0409	ROW 4 COLUMN 9		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0013	398390047	LC0410	ROW 4 COLUMN 10		500298.02	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0014	398390099	LC0411	ROW 4 COLUMN 11		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0015	398390080	LC0412	ROW 4 COLUMN 12		499708.66	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0016	398390097	LC0413	ROW 4 COLUMN 13		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0017	398390048	LC0414	ROW 4 COLUMN 14		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0018	398390061	LC0415	ROW 4 COLUMN 15		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0019	398390005	LC0416	ROW 4 COLUMN 16		500240.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0020	398390090	LC0501	ROW 5 COLUMN 1		500240.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0021	398390065	LC0502	ROW 5 COLUMN 2		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0022	398390079	LC0503	ROW 5 COLUMN 3		499816.96	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0023	398390055	LC0504	ROW 5 COLUMN 4		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0024	398390031	LC0505	ROW 5 COLUMN 5		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0025	398390054	LC0506	ROW 5 COLUMN 6		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0026	398390050	LC0507	ROW 5 COLUMN 7		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0027	398390089	LC0508	ROW 5 COLUMN 8		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0028	398390130	LC0509	ROW 5 COLUMN 9		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0029	398390082	LC0510	ROW 5 COLUMN 10		500005.61	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0030	398390083	LC0511	ROW 5 COLUMN 11		499994.14	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0031	398390123	LC0512	ROW 5 COLUMN 12		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0032	398390032	LC0513	ROW 5 COLUMN 13		499874.29	N	- 12/10/2003	---	VRTC	KYOWA F99-1875

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Channel Report

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Name of Test 040824

System MINIDAU

Name of DAU DAUG

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	398390121	LC0514	ROW 5 COLUMN 14		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0002	398390009	LC0515	ROW 5 COLUMN 15		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0003	398390037	LC0516	ROW 5 COLUMN 16		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0004	398390036	LC0601	ROW 6 COLUMN 1		499994.14	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0005	398390052	LC0602	ROW 6 COLUMN 2		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0006	398390010	LC0603	ROW 6 COLUMN 3		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0007	398390034	LC0604	ROW 6 COLUMN 4		499874.29	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0008	398390026	LC0605	ROW 6 COLUMN 5		500019.53	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0009	398390022	LC0606	ROW 6 COLUMN 6		499994.14	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0010	398390030	LC0607	ROW 6 COLUMN 7		499994.14	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0011	398390016	LC0608	ROW 6 COLUMN 8		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0012	398390035	LC0609	ROW 6 COLUMN 9		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0013	398390092	LC0610	ROW 6 COLUMN 10		500298.02	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0014	398390043	LC0611	ROW 6 COLUMN 11		500176.82	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0015	398390076	LC0612	ROW 6 COLUMN 12		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0016	398390001	LC0613	ROW 6 COLUMN 13		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0017	398390087	LC0614	ROW 6 COLUMN 14		500176.82	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0018	398390096	LC0615	ROW 6 COLUMN 15		499943.36	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0019	398390015	LC0616	ROW 6 COLUMN 16		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0020	398390027	LC0701	ROW 7 COLUMN 1		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0021	398390111	LC0702	ROW 7 COLUMN 2		499994.14	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0022	398390072	LC0703	ROW 7 COLUMN 3		500125.03	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0023	398390106	LC0704	ROW 7 COLUMN 4		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0024	398390056	LC0705	ROW 7 COLUMN 5		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0025	398390114	LC0706	ROW 7 COLUMN 6		499755.97	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0026	398390068	LC0707	ROW 7 COLUMN 7		500331.76	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0027	398390057	LC0708	ROW 7 COLUMN 8		500180.72	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0028	398390049	LC0709	ROW 7 COLUMN 9		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0029	398390131	LC0710	ROW 7 COLUMN 10		500125.03	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0030	398390018	LC0711	ROW 7 COLUMN 11		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0031	398390084	LC0712	ROW 7 COLUMN 12		500122.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0032	398390062	LC0713	ROW 7 COLUMN 13		499874.29	N	- 12/10/2003	---	VRTC	KYOWA F99-1875

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Channel Report

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Name of Test 040824

System MINIDAU

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Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	398390078	LC0714	ROW 7 COLUMN 14		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0002	398390127	LC0715	ROW 7 COLUMN 15		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0003	398390021	LC0716	ROW 7 COLUMN 16		499874.29	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0004	398390133	LC0801	ROW 8 COLUMN 1		499874.29	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0005	398390039	LC0802	ROW 8 COLUMN 2		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0006	398390085	LC0803	ROW 8 COLUMN 3		500298.02	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0007	398390059	LC0804	ROW 8 COLUMN 4		500125.03	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0008	398390116	LC0805	ROW 8 COLUMN 5		500176.82	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0009	398390013	LC0806	ROW 8 COLUMN 6		499933.11	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0010	398390119	LC0807	ROW 8 COLUMN 7		500122.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0011	398390107	LC0808	ROW 8 COLUMN 8		500122.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0012	398390095	LC0809	ROW 8 COLUMN 9		499755.97	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0013	398390103	LC0810	ROW 8 COLUMN 10		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0014	398390129	LC0811	ROW 8 COLUMN 11		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0015	398390058	LC0812	ROW 8 COLUMN 12		499874.29	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0016	398390126	LC0813	ROW 8 COLUMN 13		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0017	398390108	LC0814	ROW 8 COLUMN 14		499755.97	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0018	398390025	LC0815	ROW 8 COLUMN 15		500176.82	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0019	398390070	LC0816	ROW 8 COLUMN 16		500252.81	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0020	398390109	LC0906	ROW 9 COLUMN 6		500122.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0021	398390044	LC0907	ROW 9 COLUMN 7		500122.10	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0022	398390134	LC0908	ROW 9 COLUMN 8		499960.94	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0023	398390115	LC0909	ROW 9 COLUMN 9		499755.97	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0024	398390110	LC0910	ROW 9 COLUMN 10		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0025	398390064	LC0911	ROW 9 COLUMN 11		499943.36	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0026	398390042	LC0304	ROW 3 COLUMN 4		499816.96	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0027	398390011	LC0305	ROW 3 COLUMN 5		500057.13	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0028	398390117	LC0306	ROW 3 COLUMN 6		500298.02	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0029	398390066	LC0307	ROW 3 COLUMN 7		499692.08	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0030	398390045	LC0308	ROW 3 COLUMN 8		499943.36	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0031	398390077	LC0309	ROW 3 COLUMN 9		500056.15	N	- 12/10/2003	---	VRTC	KYOWA F99-1875
0032	398390029	LC0310	ROW 3 COLUMN 10		499750.85	N	- 12/10/2003	---	VRTC	KYOWA F99-1875

Dummy 048tr Type HYBRID III 5th Descriptio TRC - 048t HYBRID III 5th Female w/ Red. accels CAL DUE 8-13-04(DKS 7-21-04)J211

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P28853	Endevco	0.0209379 g	2000	8/16/2004	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P28852	Endevco	0.0234449 g	2000	8/13/2004	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P28760	Endevco	0.027217 g	2000	8/13/2004	Up	1
HEDXR	Head Accel X Red	7264C-2K-2-18	P29631	Endevco	0.0183247 g	2000	8/13/2004	Rwd	1
HEDYR	Head Accel Y Red	7264C-2K-2-18	P30332	Endevco	0.0220233 g	2000	8/13/2004	Lt	1
HEDZR	Head Accel Z Red	7264C-2K-2-18	P30408	Endevco	0.0189756 g	2000	8/13/2004	Up	1
NEKXF	Neck Force X	1716A	1716A-858-FX	Denton	0.0001923 N	8896.4	8/13/2004	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-858-FY	Denton	0.0001904 N	8896.4	8/13/2004	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-858-FZ	Denton	0.0000969 N	13344.6	8/13/2004	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-858-MX	Denton	0.0059094 N·m	282.5	8/13/2004	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-858-MY	Denton	0.0059293 N·m	282.5	8/13/2004	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-858-MZ	Denton	0.0083764 N·m	282.5	8/13/2004	Chn to Lt Shld	0
NKLXF	Neck Lwr Force X	5045J	5045J-78-FX	Denton	0.00017114 N	13344.6	10/22/2003	Hd Rr,Cst Fd	0
NKLYF	Neck Lwr Force Y	5045J	5045J-78-FY	Denton	0.00017248 N	13344.6	10/22/2003	Hd Lt,Cst Rt	0
NKLZF	Neck Lwr Force Z	5045J	5045J-78-FZ	Denton	0.000095319 N	13344.6	10/22/2003	Hd Up,Cst Dn	0
NKLXM	Neck Lwr Moment X	5045J	5045J-78-MX	Denton	0.004195175 N·m	451.9	10/22/2003	Lt Ear to Lt Shld	0
NKLYM	Neck Lwr Moment Y	5045J	5045J-78-MY	Denton	0.004439035 N·m	451.9	10/22/2003	Chn to Strnm	0
NKLZM	Neck Lwr Moment Z	5045J	5045J-78-MZ	Denton	0.0057545 N·m	338.95	10/22/2003	Chn to Lt Shld	0
CSTXG	Chest Accel X	7264C-2K-2-18	P28854	Endevco	0.0225396 g	2000	8/16/2004	Fwd	0
CSTYG	Chest Accel Y	7264C-2K-2-18	P28381	Endevco	0.0217026 g	2000	8/13/2004	Lft	1
CSTZG	Chest Accel Z	7264C-2K-2-18	P28297	Endevco	0.0194643 g	2000	8/13/2004	Up	1
CSTXR	Chest Accel X Red	7264C-2K-2-18	P33910	Endevco	0.0190909 g	2000	8/13/2004	Rwd	1
CSTYR	Chest Accel Y Red	7264C-2K-2-18	P33845	Endevco	0.0198087 g	2000	8/13/2004	Lft	1
CSTZR	Chest Accel Z Red	7264C-2K-2-18	P34092	Endevco	0.0183284 g	2000	8/13/2004	Up	1
CSTXD	Chest Deflection X	6209-2038	6209-2038-0436	JDK	1.6792 mm	100	8/20/2004	Strnm Away Frm Spn	0
PEVXG	Pelvis Accel X	7264C-2K-2-18	P28280	Endevco	0.0217477 g	2000	8/13/2004	Rwd	1

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Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P28316	Endevco	0.0256568 g	2000	8/13/2004	Lft	1
PEVZG	Pelvis Accel Z	7264C-2K-2-18	P28400	Endevco	0.0208901 g	2000	8/13/2004	Up	1
LFMZF	Left Femur Force Z	2121	2121-0160	Denton	0.0000985 N	13344.6	8/13/2004	Knee Fd,Pel Rr	0
RFMZF	Right Femur Force Z	2121	2121-0161	Denton	0.0001 N	13344.6	8/13/2004	Knee Fd,Pel Rr	0

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Dummy	070v	Type	HYBRID III 5th	Description	VRTC - 070v HYBRID III 5th Female ICAL'd 7-7-04 (DKS 7-19-04)J211					
Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip	
HEDXG	Head Accel X	7264-2000T	J18661	Endevco	0.0305663 g	2000	7/8/2004	Rwd	1	
HEDYG	Head Accel Y	7264-2000LC	AAMD5	Endevco	0.0258263 g	2000	7/8/2004	Lft	1	
HEDZG	Head Accel Z	7264-2KM5T	AJ4R6	Endevco	0.0217539 g	2000	7/8/2004	Up	1	
NEKXF	Neck Force X	1716AJ	1716AJ-1563-FX	Denton	0.0001888 N	8896.4	7/7/2004	Hd Rr,Cst Fd	0	
NEKYF	Neck Force Y	1716AJ	1716AJ-1563-FY	Denton	0.0001811 N	8896.4	7/7/2004	Hd Lt,Cst Rt	0	
NEKZF	Neck Force Z	1716AJ	1716AJ-1563-FZ	Denton	0.0000955 N	13344.6	7/7/2004	Hd Up,Cst Dn	0	
NEKXM	Neck Moment X	1716AJ	1716AJ-1563-MX	Denton	0.0058227 N·m	282.5	7/7/2004	Lt Ear to Lt Shld	0	
NEKYM	Neck Moment Y	1716AJ	1716AJ-1563-MY	Denton	0.0058088 N·m	282.5	7/7/2004	Chn to Strnm	0	
NEKZM	Neck Moment Z	1716AJ	1716AJ-1563-MZ	Denton	0.0083276 N·m	282.5	7/7/2004	Chn to Lt Shld	0	
NKLXF	Neck Lwr Force X	3251	3251-107-FX	Denton	0.0001753 N	13345	7/8/2004	Hd Fd,Cst Rr	1	
NKLYF	Neck Lwr Force Y	3251	3251-107-FY	Denton	0.0001763 N	13345	7/8/2004	Hd Lt,Cst Rt	0	
NKLZF	Neck Lwr Force Z	3251	3251-107-FZ	Denton	0.0000953 N	13345	7/8/2004	Hd Up,Cst Dn	0	
NKLXM	Neck Lwr Moment X	3251	3251-107-MX	Denton	0.004336 N·m	452	7/8/2004	Rt Ear to Rt Shld	1	
NKLYM	Neck Lwr Moment Y	3251	3251-107-MY	Denton	0.0043072 N·m	452	7/8/2004	Chn to Strnm	0	
NKLZM	Neck Lwr Moment Z	3251	3251-107-MZ	Denton	0.0056926 N·m	339	7/8/2004	Chn to Lt Shld	0	
CSTXG	Chest Accel X	7264-2000LC	AAJY4	Endevco	0.0267767 g	2000	7/8/2004	Fwd	0	
CSTYG	Chest Accel Y	7264-2KM5T	AKAA4	Endevco	0.0221975 g	2000	7/8/2004	Lft	1	
CSTZG	Chest Accel Z	7264-2000T	ACC63	Endevco	0.024752 g	2000	7/8/2004	Up	1	
CSTXD	Chest Deflection X	14CB1-2897	14CB1-2897-070	Servo	1.72407 mm	100	7/13/2004	Strnm Away Frm Spn	0	
PEVXG	Pelvis Accel X	7264-2000LC	AGN83	Endevco	0.0234601 g	2000	7/8/2004	Rwd	1	
PEVYG	Pelvis Accel Y	7264-2000TZ	J35770	Endevco	0.0244437 g	2000	7/8/2004	Lft	1	
PEVZG	Pelvis Accel Z	7264-2KM5T	J20014	Endevco	0.023525 g	2000	7/8/2004	Up	1	
LFMZF	Left Femur Force Z	IF-625	IF-625-140-FZ	FTSS	0.0000622 N	22240	7/14/2004	Knee Fd,Pel Rr	0	
RFMZF	Right Femur Force Z	IF-625	IF-625-141-FZ	FTSS	0.0000619 N	22240	7/14/2004	Knee Fd,Pel Rr	0	

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Dummy	416v	Type	HYBRID III 5th	Description	VRTC - 416v HYBRID III w/RED.& THOR LEGS ICAL'd 9-4-03 (DKS 7-23-04)J211					
Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip	
HEDXG	Head Accel X	EGE-73B6Q-20	03E03E20-N20	Entran	0.0205746 g	2000	7/7/2004	Fwd	0	
HEDYG	Head Accel Y	EGE-73B6Q-20	02A18-N10	Entran	0.0195632 g	2000	7/7/2004	Lft	1	
HEDZG	Head Accel Z	EGE-73B6Q-20	02A09-F15	Entran	0.0212632 g	2000	7/7/2004	Up	1	
HEDXR	Head Accel Red X	EGE-73B6Q-20	01L26-F02	Entran	0.020106 g	2000	7/7/2004	Rwd	1	
HEDYR	Head Accel Red Y	EGE-73B6Q-20	02A09-F13	Entran	0.0194317 g	2000	7/7/2004	Lft	1	
HEDZR	Head Accel Red Z	EGE-73B6Q-20	02A16-A06	Entran	0.0193531 g	2000	7/7/2004	Up	1	
HD1XG	Head (LT) Accel X	EGE-73B6Q-20	02A16-A19	Entran	0.0210447 g	2000	7/7/2004	Fwd	0	
HD1ZG	Head (LT) Accel Z	EGE-73B6Q-20	02A16-A22	Entran	0.0218403 g	2000	7/7/2004	Up	1	
HD2YG	Head (FT) Accel Y	EGE-73B6Q-20	02A18-N04	Entran	0.0195438 g	2000	7/7/2004	Lft	1	
HD2ZG	Head (FT) Accel Z	EGE-73B6Q-20	02A18-N20	Entran	0.0199345 g	2000	7/7/2004	Up	1	
HD3XG	Head (TP) Accel X	EGE-73B6Q-20	03F03F09-N05	Entran	0.0191798 g	2000	7/7/2004	Fwd	0	
HD3YG	Head (TP) Accel Y	EGE-73BQ-200	98H14-K10	Entran	0.0179668 g	2000	6/30/2004	Lft	1	
NEKXF	Neck Force X	IF-205	IF-205-161-FX	FTSS	0.000186274 N	8896	1/8/2004	Hd Fd,Cst Rr	1	
NEKYF	Neck Force Y	IF-205	IF-205-161-FY	FTSS	0.00017548 N	8896	1/8/2004	Hd Lt,Cst Rt	0	
NEKZF	Neck Force Z	IF-205	IF-205-161-FZ	FTSS	0.000092918 N	13344	1/8/2004	Hd Up,Cst Dn	0	
NEKXM	Neck Moment X	IF-205	IF-205-161-MX	FTSS	0.0058424 N·m	282.5	1/8/2004	Rt Ear to Rt Shld	1	
NEKYM	Neck Moment Y	IF-205	IF-205-161-MY	FTSS	0.00605557 N·m	282.5	1/8/2004	Chin to Strnm	0	
NEKZM	Neck Moment Z	IF-205	IF-205-161-MZ	FTSS	0.0085185 N·m	282.5	1/8/2004	Chn to Lt Shld	0	
NKLXF	Neck Lwr Force X	3251	3251-108-FX	Denton	0.000174334 N	13345	1/7/2004	Hd Fd,Cst Rr	1	
NKLYF	Neck Lwr Force Y	3251	3251-108-FY	Denton	0.00017327 N	13345	1/7/2004	Hd Lt,Cst Rt	0	
NKLZF	Neck Lwr Force Z	3251	3251-108-FZ	Denton	0.00009623 N	13345	1/7/2004	Hd Up,Cst Dn	0	
NKLXM	Neck Lwr Moment X	3251	3251-108-MX	Denton	0.0044466 N·m	452	1/7/2004	Rt Ear to Rt Shld	1	
NKLYM	Neck Lwr Moment Y	3251	3251-108-MY	Denton	0.00426769 N·m	452	1/7/2004	Chn to Strnm	0	
NKLZM	Neck Lwr Moment Z	3251	3251-108-MZ	Denton	0.005282 N·m	339	1/7/2004	Chn to Lt Shld	0	
CSTXG	Chest Accel X	EGE-73B6Q-20	02A16-A04	Entran	0.020903 g	2000	7/7/2004	Fwd	0	
CSTYG	Chest Accel Y	EGE-73B6Q-20	C02B19-F02	Entran	0.0187351 g	2000	7/7/2004	Lft	1	

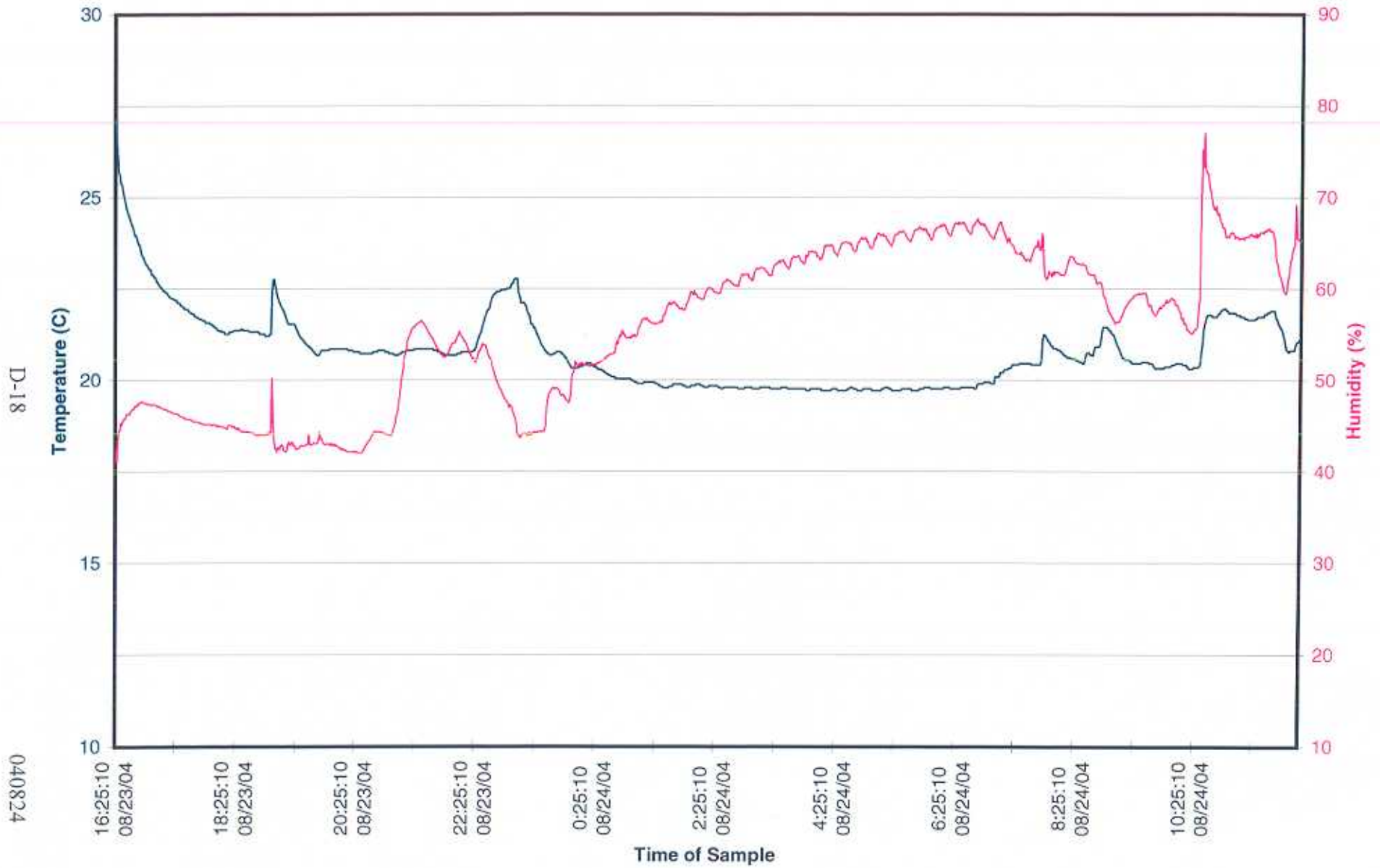
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Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
CSTZG	Chest Accel Z	EGE-73B6Q-20	C02B19-F06	Entran	0.0188572 g	2000	7/7/2004	Up	1
CSTXR	Chest Accel Red X	EGE-73B6Q-20	B02A25-N08	Entran	0.0194962 g	2000	7/7/2004	Rwd	1
CSTYR	Chest Accel Red Y	EGE-73B6Q-20	03E03E19-N02	Entran	0.0223792 g	2000	7/7/2004	Lft	1
CSTZR	Chest Accel Red Z	EGE-73B6Q-20	C02B19-F04	Entran	0.0175788 g	2000	7/7/2004	Up	1
STUXG	Sternum Upr Accel X	EGE-73B6Q-20	B02A09-F08	Entran	0.0209767 g	2000	7/7/2004	Fwd	0
STMXG	Sternum Mid Accel X	EGE-73B6Q-20	02A16-A05	Entran	0.021901 g	2000	7/7/2004	Fwd	0
STLXG	Sternum Lwr Accel X	EGE-73B6Q-20	03F03F09-N18	Entran	0.0168275 g	2000	7/7/2004	Fwd	0
CSTXD	Chest Deflection X 516	14CB1-2897	14CB1-2897-416	Servo	1.7463 mm	100	1/8/2004	Strnm Away Frm Spn	0
!LMBXF	Lumbar Force X	2152	2152-076-FX	Denton	0.000144364 N	13344.6	6/1/2001	Cst Fd,Pel Rr	1
!LMBYF	Lumbar Force Y	2152	2152-076-FY	Denton	0.000143967 N	13344.6	6/1/2001	Cst Lt,Pel Rt	0
!LMBZF	Lumbar Force Z	2152	2152-076-FZ	Denton	0.000058433 N	17793	6/1/2001	Cst Up,Pel Dn	0
!LMBXM	Lumbar Moment X	2152	2152-076-MX	Denton	0.002374243 N·m	677.9	6/1/2001	Rt Shld to Rt Hip	1
!LMBYM	Lumbar Moment Y	2152	2152-076-MY	Denton	0.002370998 N·m	677.9	6/1/2001	Strnm to Frt of Legs	0
PEVXG	Pelvis Accel X	EGE-73B6Q-20	C02B19-F03	Entran	0.0172949 g	2000	7/7/2004	Rwd	1
PEVYG	Pelvis Accel Y	EGE-73B6Q-20	02A16-A27	Entran	0.0212091 g	2000	7/7/2004	Lft	1
PEVZG	Pelvis Accel Z	EGE-73B6Q-20	C02B19-F01	Entran	0.0193147 g	2000	7/7/2004	Up	1
LFMZ	Left Femur Force Z #8	2430	2430-736	GSE	0.000070083 N	13344	1/8/2004	Knee Fd,Pel Rr	0
RFMZ	Right Femur Force Z 507	2430	2430-742	GSE	0.000066696 N	13344	1/8/2004	Knee Fd,Pel Rr	0
KNLXD	Left Knee Displacement	150-0121VR	150-121VR-022653	Space Age	23.356 mm	40	5/29/2003	Tib Fd,Hld Fem	0
TBLXF	Left Upr Tibia Force X	4825J	4825J-91-FX	Denton	0.000266871 N	8896.4	9/4/2003	Tib Fd,Knee Rr	0
TBLZF	Left Upr Tibia Force Z	4825J	4825J-91-FZ	Denton	0.000108313 N	8896.4	9/4/2003	Tib Dn,Knee Up	0
TBLXM	Left Upr Tibia Moment X	4825J	4825J-91-MX	Denton	0.01029557 N·m	282.4	9/4/2003	Ank Lt,Hld Knee	0
TBLYM	Left Upr Tibia Moment Y	4825J	4825J-91-MY	Denton	0.010263008 N·m	282.4	9/4/2003	Ank Fd,Hld Knee	0
TBLXG	Left Tibia Accel X	EGE-73BQE0-	99H30-Z01	Entran	0.0188957 g	2000	7/12/2004	Fwd	0
TBLYG	Left Tibia Accel Y	EGE-73BQE0-	99108-F26	Entran	0.0235803 g	2000	7/12/2004	Rt	0
ANLXF	Left Lwr Tibia Force X	4826J	4826J-92-FX	Denton	0.00026461 N	8896.4	9/4/2003	Ank Fd,Knee Rr	0
ANLYF	Left Lwr Tibia Force Y	4826J	4826J-92-FY	Denton	0.000263263 N	8896.4	9/4/2003	Ank Rt,Knee Lft	0
ANLZF	Left Lwr Tibia Force Z	4826J	4826J-92-FZ	Denton	0.000107605 N	8896.4	9/4/2003	Ank Dn,Knee Up	0

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
ANLXM	Left Lwr Tibia Moment X	4826J	4826J-92-MX	Denton	0.01029021 N·m	282.4	9/4/2003	Ank Lt,Hld Knee	0
ANLYM	Left Lwr Tibia Moment Y	4826J	4826J-92-MY	Denton	0.01039794 N·m	282.4	9/4/2003	Ank Fd,Hld Knee	0
FTLXD	Left Foot Disp. X	PD210-4B	FLX102X	Contelec	3.15 °	318	7/21/2004	Inversion	1
FTLYD	Left Foot Disp. Y	PD210-4B	FLX102Y	Contelec	3.15 °	318	7/21/2004	Dorsiflexion	0
FTLZD	Left Foot Disp. Z	PD210-4B	FLX102Z	Contelec	3.15 °	318	7/21/2004	External Rotation	1
FTLXG	Left Foot Accel X	EGE-73B6Q-20	00L13-F29	Entran	0.0212289 g	2000	7/9/2004	Fwd	0
FTLYG	Left Foot Accel Y	EGE-73B6Q-20	01G25-N08	Entran	0.023383 g	2000	7/9/2004	Rt	0
FTLZG	Left Foot Accel Z	7264-2KM5T	BD88J	Endevco	0.0334028 g	2000	7/20/2004	Dn	0
KNRXD	Right Knee Displacement	150-0121VL	150-121VL-020590	Space Age	23.322 mm	40	5/29/2003	Tib Fd,Hld Fem	0
TBRXF	Right Uptr Tibia Force X	4825J	4825J-90-FX	Denton	0.000267512 N	8896.4	9/3/2003	Tib Fd,Knee Rr	0
TBRZF	Right Uptr Tibia Force Z	4825J	4825J-90-FZ	Denton	0.000108650 N	8896.4	9/3/2003	Tib Dn,Knee Up	0
TBRXM	Right Uptr Tibia Moment X	4825J	4825J-90-MX	Denton	0.010211906 N·m	282.4	9/3/2003	Ank Lt,Hld Knee	0
TBRYM	Right Uptr Tibia Moment Y	4825J	4825J-90-MY	Denton	0.010317505 N·m	282.4	9/3/2003	Ank Fd,Hld Knee	0
TBRXG	Right Tibia Accel X	EGE-73B6Q-20	02I02I10-N18	Entran	0.0224274 g	2000	7/8/2004	Fwd	0
TBRYG	Right Tibia Accel Y	EGE-73BQ-200	98H10-F05	Entran	0.0185521 g	2000	6/30/2004	Rt	0
ANRXF	Right Lwr Tibia Force X	4826J	4826J-93-FX	Denton	0.00026337 N	8896.4	9/4/2003	Ank Fd,Knee Rr	0
ANRYF	Right Lwr Tibia Force Y	4826J	4826J-93-FY	Denton	0.000264938 N	8896.4	9/4/2003	Ank Rt,Knee Lft	0
ANRZF	Right Lwr Tibia Force Z	4826J	4826J-93-FZ	Denton	0.000107672 N	8896.4	9/4/2003	Ank Dn,Knee Up	0
ANRXM	Right Lwr Tibia Moment X	4826J	4826J-93-MX	Denton	0.010118 N·m	282.4	9/4/2003	Ank Lt,Hld Knee	0
ANRYM	Right Lwr Tibia Moment Y	4826J	4826J-93-MY	Denton	0.01040396 N·m	282.4	9/4/2003	Ank Fd,Hld Knee	0
FTRXD	Right Foot Disp. X	PD210-4B	FLX101X	Contelec	3.15 °	318	7/21/2004	Eversion	1
FTRYD	Right Foot Disp. Y	PD210-4B	FLX101Y	Contelec	3.15 °	318	7/21/2004	Dorsiflexion	0
FTRZD	Right Foot Disp. Z	PD210-4B	FLX101Z	Contelec	3.15 °	318	7/21/2004	Internal Rotation	1
FTRXG	Right Foot Accel X	EGE-73B6Q-20	02I02I05-F18	Entran	0.0211521 g	2000	7/9/2004	Fwd	0
FTRYG	Right Foot Accel Y	EGE-73B6Q-20	02I02I05-F03	Entran	0.020394 g	2000	7/9/2004	Rt	0
FTRZG	Right Foot Accel Z	EGE-73B6Q-20	00L13-F72	Entran	0.0206991 g	2000	7/9/2004	Dn	0

2004 JEEP LIBERTY MPV INTO FLAT LCB AT 35 MPH / 040824



Appendix E

INSIA Report on Structural Measurements

STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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March, 1999

REPORT DOCUMENTATION PAGE**Title:**

STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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Supplementary notes:

Under contract to:

THE EUROPEAN COMMUNITY

Project: "Improvement of Crash Compatibility between Cars"

Contract N°: RO – 97 – SC.1064

Abstract:

The main aim of this working package -*Structural Survey of Cars*- is the reduction of incompatibilities, both structural and geometric, between passenger vehicles and their potential collision partners. The understanding of these incompatibilities needs a previous step for the knowledge of the existing car fleet.

Firstly, it is necessary to select the main resistant elements in the car body. These elements have to be chosen from the point of view of the sort of collision that we want to study, that is to say, frontal and side impacts.

Detailed measurements have been taken from exterior and interior elements, spread to a total number of 74 models selected from the main vehicle manufacturers at Spain. All of them are being sold this year. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars will be defined.

This report shows the methodology followed to get these measurements.

Subject terms:

Crash compatibility, geometric compatibility, resistant elements, measure methodology

Date:

March, 1999

1.- METHODOLOGY.

Detailed measurements have been taken from exterior and interior elements. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars have been defined. These elements are presented in the following figures, and have been divided in two main groups according to the vehicle zones studied in this project.

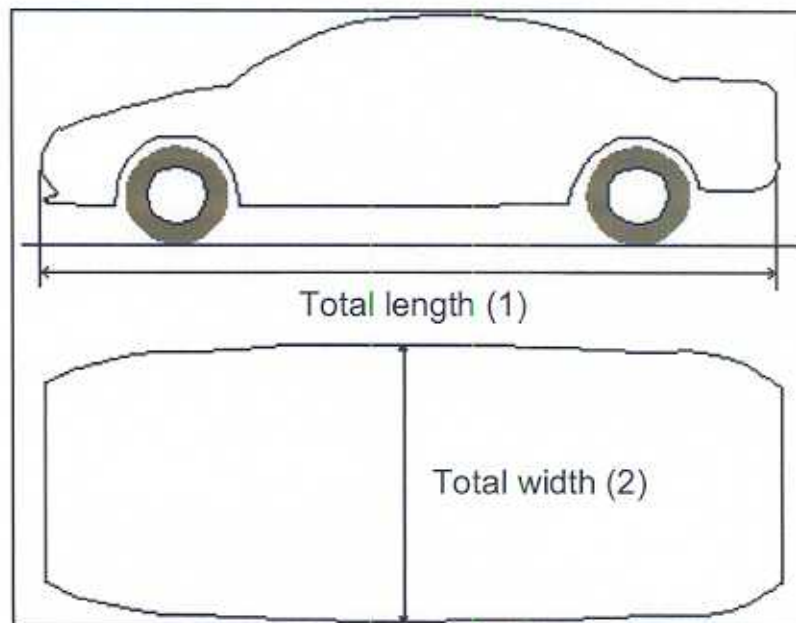


Figure 1.- Definition of the main resistant elements. General dimensions.

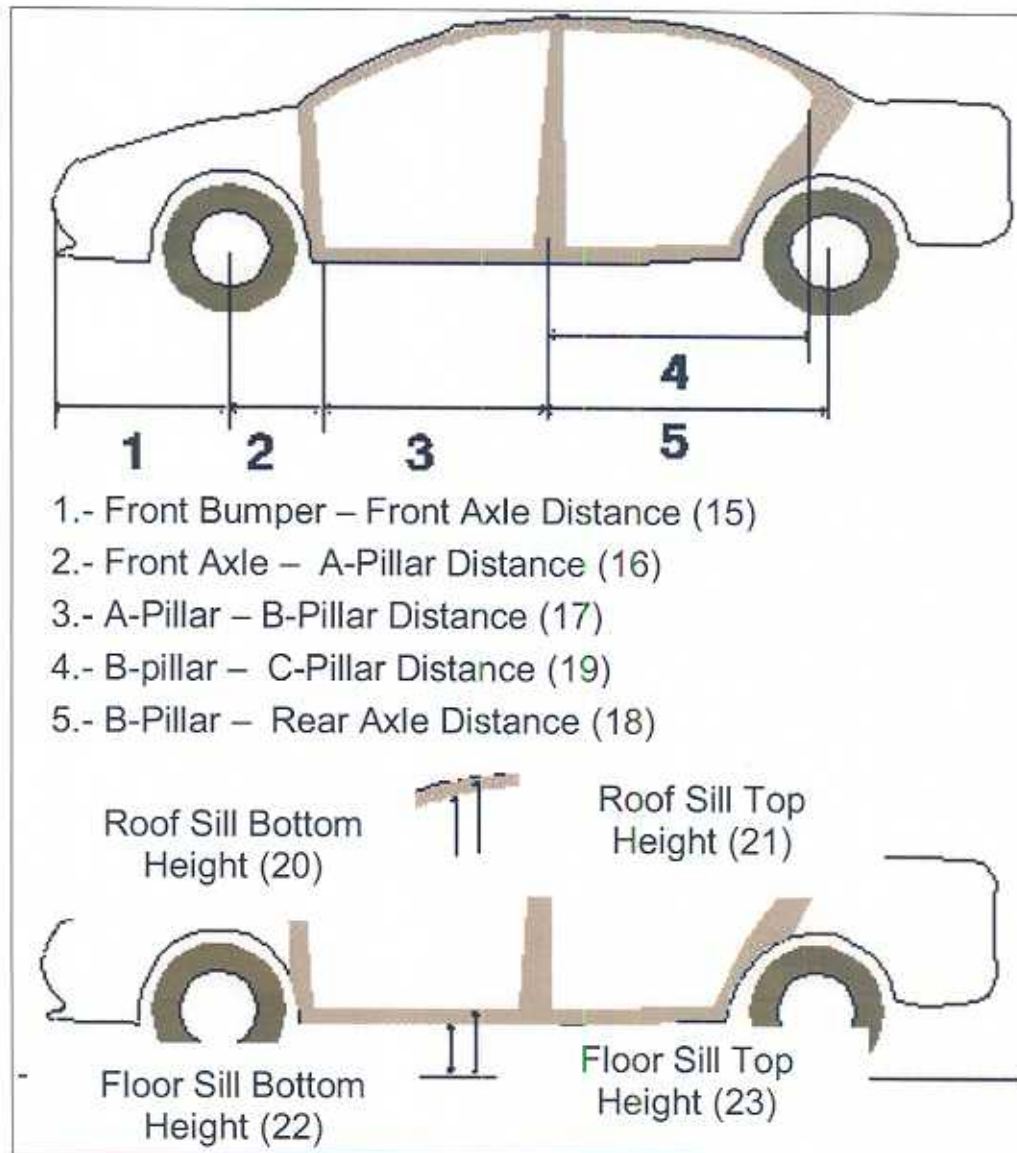


Figure 2.- Definition of the main resistant elements. Side elements.

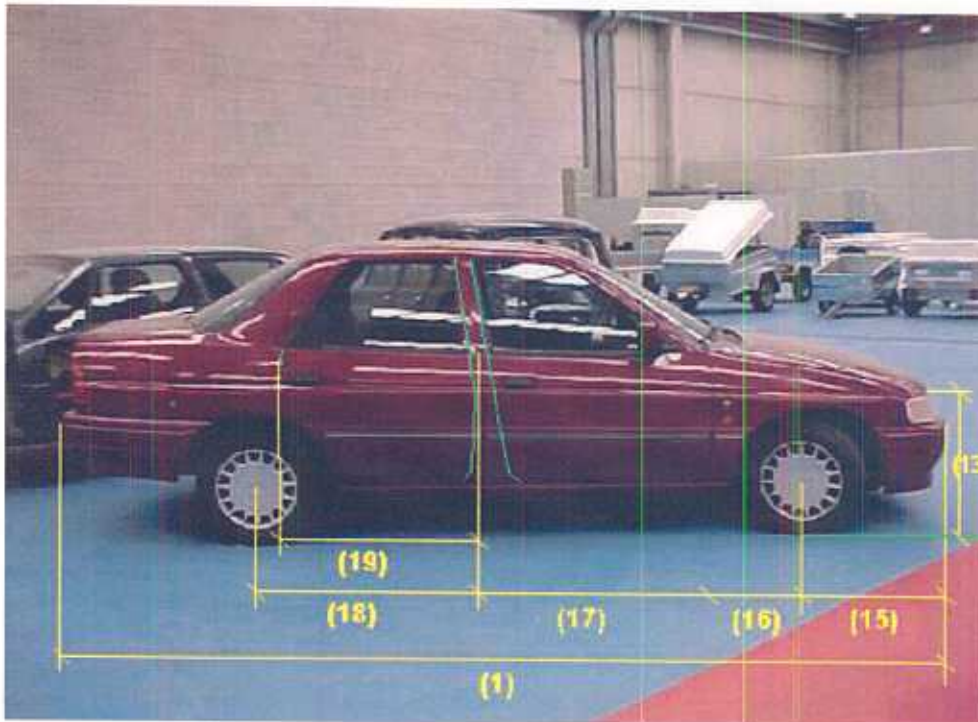


Figure 3.-
Measurements of
the side resistant
elements (outer).

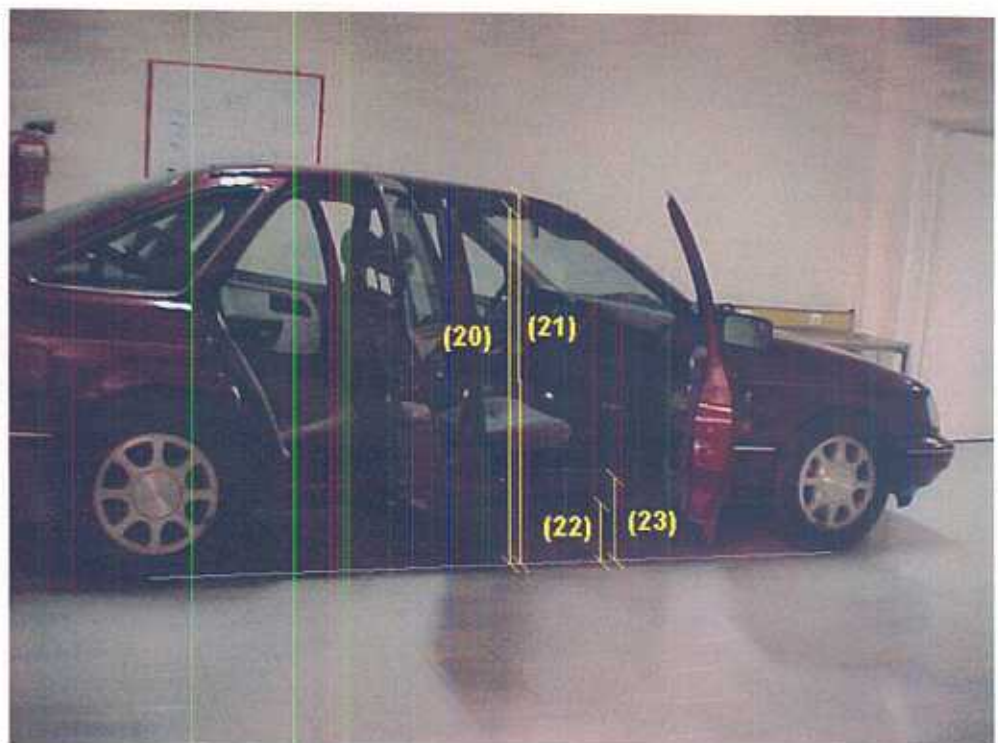


Figure 4.- Measurements
of the side resistant
elements (inner).

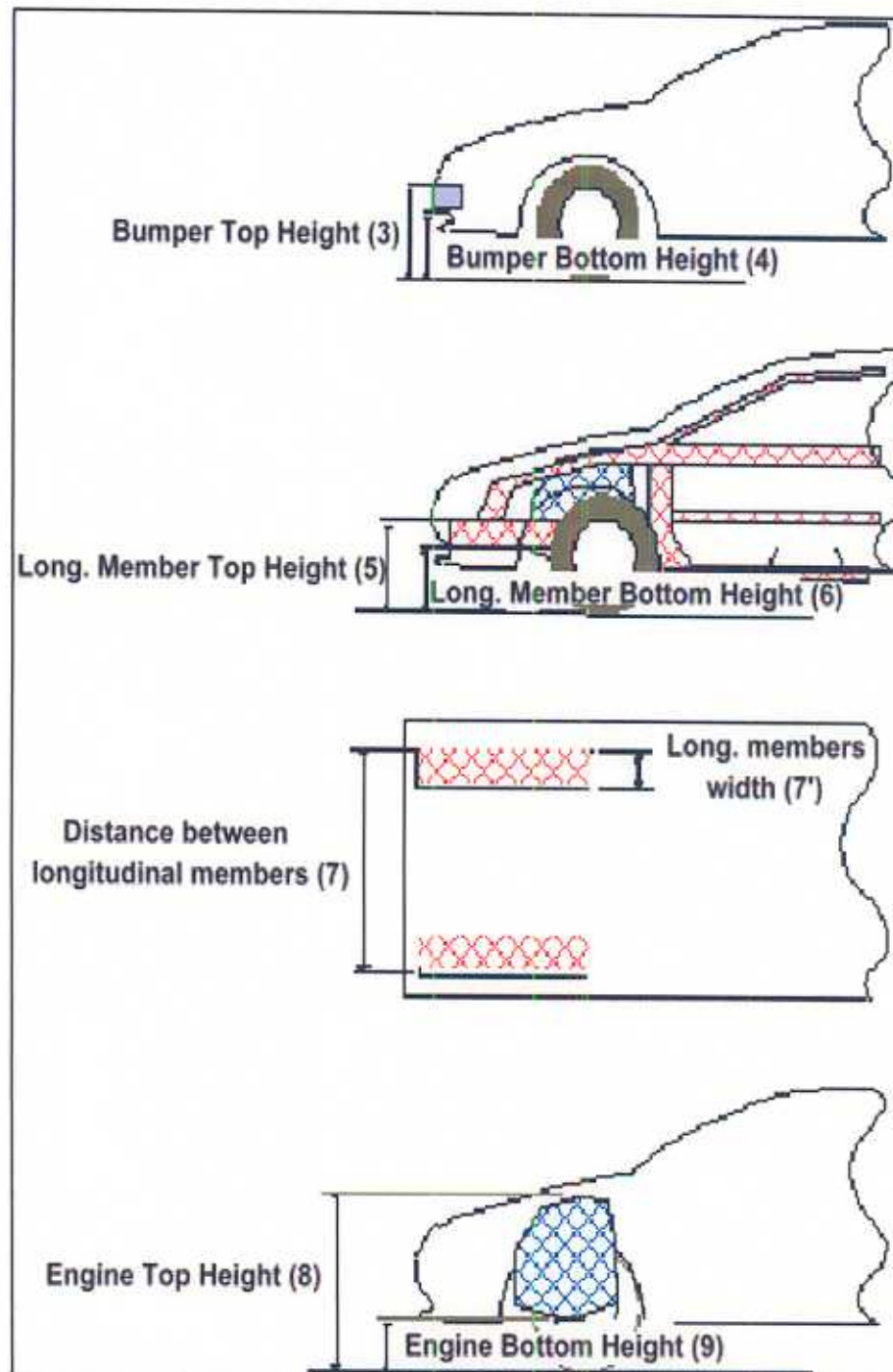


Figure 5.- Definition of the main resistant elements. Front elements.

Figure 6.-
Measurements of the
main resistant elements.
Front elements 1.

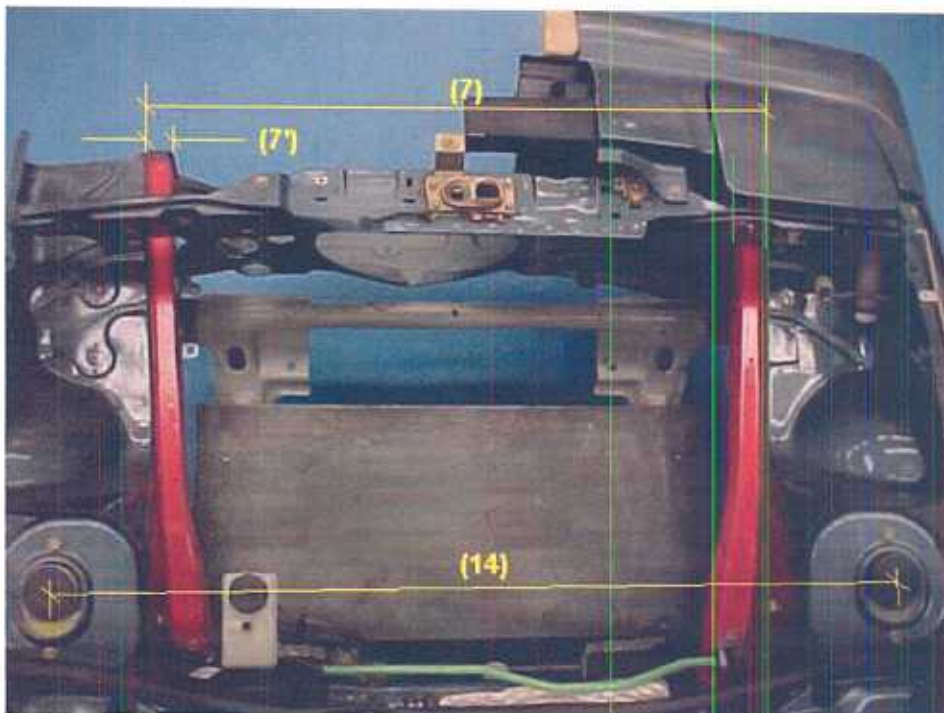
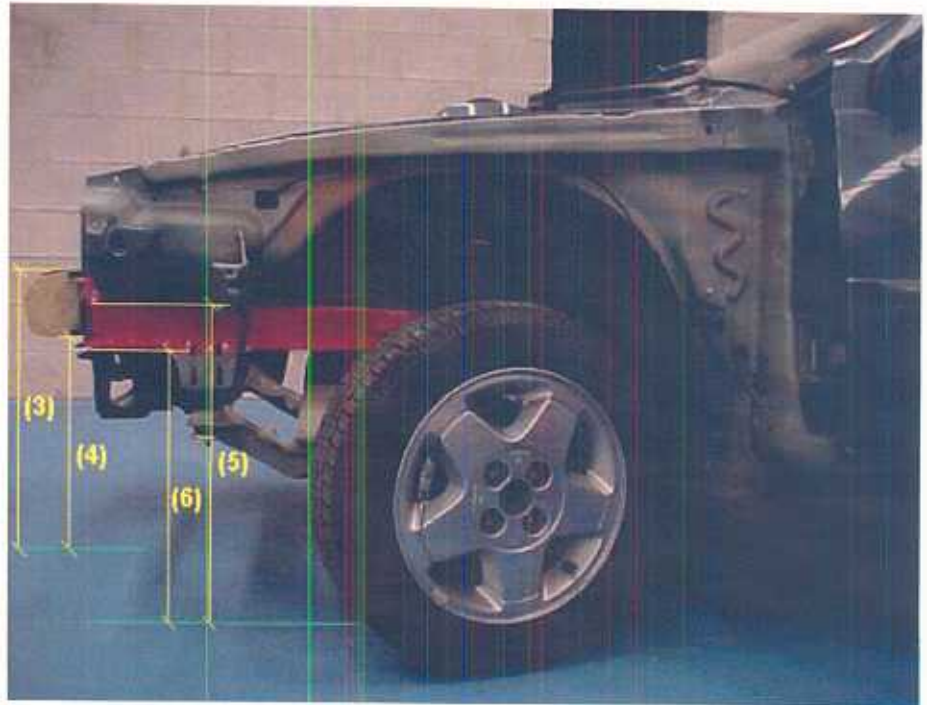


Figure 7.-
Measurements
of the main
resistant
elements. Front
elements 2.

Figure 8.-
Measurements of
the main resistant
elements. Front
elements 3.

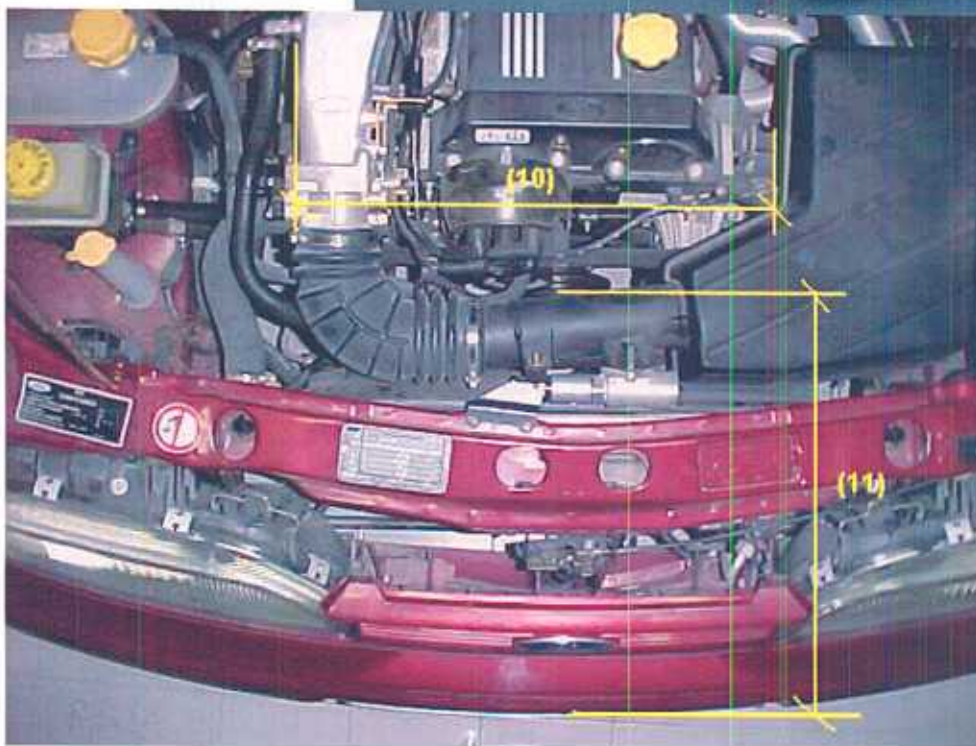
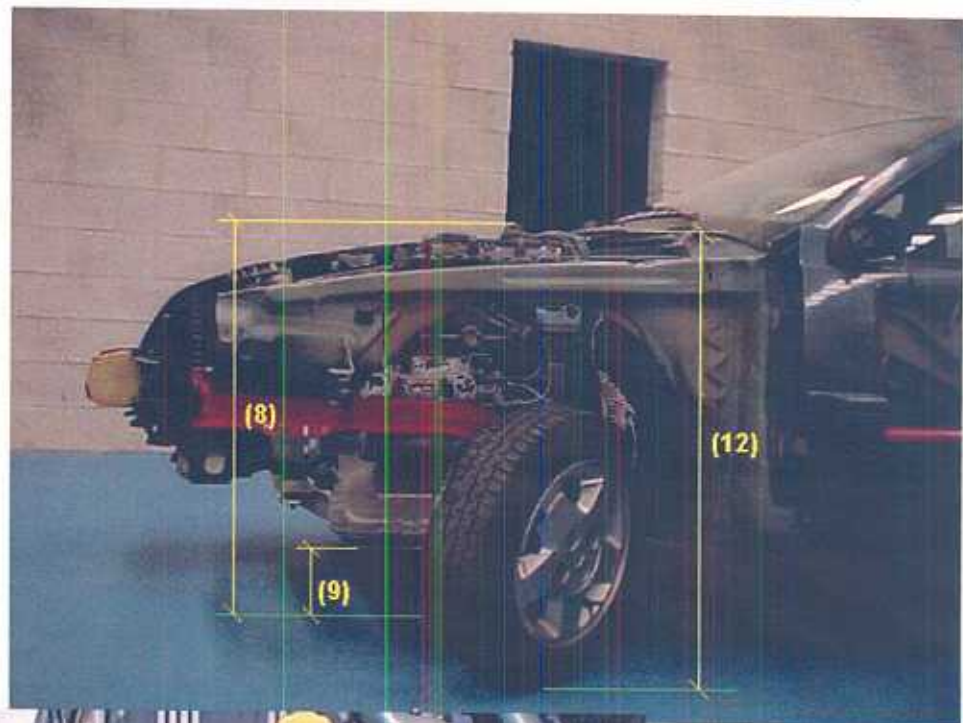


Figure 9.-
Definition of
the main
resistant
elements. Front
elements
(Longitudinal
engine).

The procedure considered to measure these elements is described as follows, where it is indicated the location of these ones in the Excel Sheet (SURVEY.XLS) into brackets:

FRONT ELEMENTS

- **Total Length –(1)- (Side & Front Sheets - C column):** distance between the point in the front bumper further on and the point in the rear bumper further back.
- **Weight (Side & Front Sheets - D column):** mass, including an average driver weight (70 kg), and the fuel tank mass (at half-capacity).
- **Total Width –(2)- (Side & Front Sheets - E column):** distance between the outer side points in a transverse plane of the vehicle (middle plane between the front and rear axles).
- **Bumper bottom height –(4)- (Front Sheet G column):** distance between the ground and the lowest point on the front bumper, being a resistant member (aerodynamic elements under the front bumper are not considered).
- **Bumper top height –(3)- (Front Sheet H column):** distance between the ground and the highest point on the front bumper, being a resistant member (aerodynamic elements are not considered).
- **Longitudinal member top height –(5)- (Front Sheet I column):** distance between the ground and the highest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint (when accessible).
- **Longitudinal member bottom height –(6)- (Front Sheet J column):** distance between the ground and the lowest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint.
- **Distance between longitudinal members (Front Sheet K column):** transverse distance between extreme points in longitudinal members, measured approximately in the front bumper-longitudinal member joint.

Depending on the accessibility of these members, the extreme points are the inner points (I) or the outer points (O).

- **Longitudinal member width -7'- (Front Sheet L column):** width of one of the longitudinal members, measured approximately in the front bumper-longitudinal member joint.

- **Engine top height (8) (Front Sheet N column):** distance between the ground and the highest point on the engine that can be a resistant member in case of accident (usually, the highest point on the head, or the highest point of the inlet or exhaust manifolds).
- **Engine bottom height (9) (Front Sheet M column):** distance between the ground and the lowest point on the engine (usually, the lowest point on the crankcase).
- **Engine and Gearbox width (10) (Front Sheet O & P columns):**
 - *Transverse configuration engine:* distance between extreme points in the gearbox-cylinder block unit or others resistant members attached to the cylinder block unit, i.e. fan belts (from a front point of view).
 - *Longitudinal configuration engine:* distance between extreme points in the cylinder block unit (from a front point of view).
- **Front bumper - Engine distance (11) (Front Sheet Q column):** distance between the point in the front bumper further on and the point in the engine further on that is a resistant element, i.e. the further on point of the exhaust manifold placed in the front of the engine.
- **Front shock absorber fixing width (14) (Front Sheet R column):** transverse distance between the front shock absorber - body car joints.
- **Front shock absorber fixing height (12) (Front Sheet S column):** distance between the ground and the front shock absorber-body car joint.
- **Bonnet leading edge height (Front Sheet T column):** distance between the ground and the bonnet edge further on.

SIDE ELEMENTS

- **Front bumper - Front axle distance (15) (Side Sheet G column):** distance between the point in the front bumper further on and the middle point in the front tyre-road contact patch.
- **Front axle - A Pillar distance (16) (Side Sheet H column):** distance between the middle point in the front tyre-road contact patch and the point in the A-pillar further back.
- **A Pillar - B Pillar distance (17) (Side Sheet I column):** distance between the point in the A-pillar further back and the middle point in the B-pillar.
- **B Pillar - C Pillar distance (19) (Side Sheet J column):** distance between the middle point in the B-pillar and the point in the C-pillar further back (only 4/5-door vehicles).
- **B Pillar - Rear axle distance (18) (Side Sheet K column):** distance between the middle point in the B-pillar and the middle point in the rear tyre-road contact patch.
- **Roof sill bottom height (20) (Side Sheet L column):** distance between the ground and the lowest point on the roof sill, measured in the front door middle point.
- **Roof sill top height (21) (Side Sheet M column):** distance between the ground and the highest point on the roof sill (usually located in the sill-roof joint), measured in the front door middle point.
- **Floor sill bottom height (22) (Side Sheet N column):** distance between the ground and the lowest point on the floor sill, measured in the front door middle point.
- **Floor sill top height (23) (Side Sheet O column):** distance between the ground and the highest point on the floor sill, measured in the front door middle point.

NOTE

- N/A: dimension not available.