

**ENVIRONMENTAL TEST REPORT**

*For*

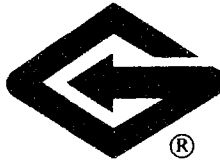
**POSEY COMPANY**

ON

FOUR (4) HIP PROTECTOR FOAM PADS &  
TWO (2) TUBE TREAD FLOOR MATS

# GARWOOD LABORATORIES, INC.

- DSCC-VQ Approved
- Certified to ISO-9002



Tel: 562-949-2727  
Fax: 562-949-8757

Report No.: R25664  
Rev.: N/C  
Page 1 of 7

May 28, 2003

Since 1954

## ENVIRONMENTAL TEST REPORT

ON  
FOUR (4) HIP PROTECTOR FOAM PADS AND  
TWO (2) TUBE TREAD FLOOR MATS  
FOR  
POSEY COMPANY

PERFORMED For: POSEY COMPANY  
5635 Peck Road  
Arcadia, CA 91006

PERFORMED By: GARWOOD LABORATORIES, INC.  
7829 Industry Ave.  
Pico Rivera, CA 90660

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Prepared By:


  
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Approved By:

  
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Approved By:

  
VIC VIRGILIO, Laboratory Manager



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**ENVIRONMENTAL TEST REPORT**

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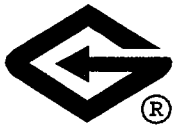
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**ENVIRONMENTAL TEST REPORT**

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**1.0 PURPOSE**

- 1.1 The purpose of this report is to present the procedures employed and the results obtained, while conducting the Environmental Test of Impact Absorption on four (4) Hip Protector Foam Pads, and two (2) Tube Tread Floor Mats noted in Table I, submitted by Posey Company.

**TABLE I**

<b>TUBE TREAD FLOOR MATS</b>
Green
Grey
<b>HIP PROTECTORS</b>
Black
Blue
Red
White

- 1.2 The Environmental Test specified herein was performed in accordance with the references of Para. 2.0 of this report.
- 1.3 The test sequence of the program is noted in Para. 5.0, of this report.

**2.0 REFERENCES**

- 2.1 5078 Posey Company Purchase Order,
- 2.2 S.O.W. Posey Company Statement of Work
- 2.3 ISO 10012-1 Quality Assurance Requirements for Measuring Equipment
- 2.4 ANSI/NCSL Z540-1-1994 Calibration Laboratories and Measuring and Test Equipment General Requirements



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**ENVIRONMENTAL TEST REPORT**

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**3.0 SUMMARY**

- 3.1 Four (4) Hip Protector Foam Pads and two (2) Tube Tread Floor Mats were subjected to and completed the specified Impact Absorption Test with results recorded on accompanying data sheets.
- 3.2 The four (4) Hip Protector Foam Pads and two (2) Tube Tread Floor Mats were subjected to the requirements of the specified Impact Absorption Test, as conducted by Garwood Laboratories, Inc., in accordance with the references shown in Para. 2.0 of this report. Pass or Fail criteria to be determined by Posey Company.
- 3.3 The four (4) Hip Protector Foam Pads and two (2) Tube Tread Floor Mats were then returned to Posey Company for further evaluation after completion of testing.



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**ENVIRONMENTAL TEST REPORT**

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**4.0 TEST CONDITIONS AND EQUIPMENT****4.1 Ambient Conditions:**

Unless otherwise specified herein, all tests were performed at an atmospheric pressure of  $28 \pm 2.5$  inches of mercury absolute, a temperature of  $75 \pm 15^\circ\text{F}$ , and a relative humidity of  $50 \pm 30\%$ .

**4.2 Instrumentation and Equipment:**

4.2.1 Measuring and test equipment utilized in the performance of these tests, was calibrated in accordance with ISO 10012-1, former MIL-STD-45662A, and ANSI/NCSL Z540-1-1994, by Garwood Laboratories, Inc., or a commercial facility, utilizing reference standards (or interim standards) whose calibrations have been certified as being traceable to the National Institute of Standards & Technology (NIST). All reference standards utilized in the above calibration system are supported by certificates, reports, or data sheets attesting to the date, accuracy, and conditions under which the results furnished were obtained. All subordinate standards, measuring and test equipment are supported by like data, when such information is essential to achieve the accuracy control required by the procedure.

4.2.2 Garwood Laboratories, Inc. attests that the commercial sources providing calibration services on the above referenced equipment, other than the NIST Standards, are in fact capable of performing the required services to the satisfaction of Garwood Laboratories, Inc. Quality Assurance. Certifications of all calibrations performed are retained on file in the Garwood Laboratories, Inc. Quality Assurance Department and are available for inspection upon request by customer representatives.

4.2.3 The test equipment utilized during this test program is listed on individual Data Sheets, beginning on page number A1 of Appendix A of this report.

**4.3 Tolerances:**

4.3.1 Unless otherwise stated, test conditions were maintained within the tolerances specified in the references of Para. 2.0 of this report.



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**ENVIRONMENTAL TEST REPORT**

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**5.0 TEST SEQUENCE**

5.1 The Impact Absorption Test was conducted on May 21, 2003.

**6.0 TEST METHODS AND RESULTS****6.1 IMPACT ABSORPTION:**

(Ref.: Posey Co., S.O.W.)

- 6.1.1 Four (4) Hip Protectors, and two (2) Tube Tread Floor Mats, P/N: N/A, S/N: N/A, consisting of the samples noted in Table I, were subjected to the following Impact Absorption Test.
- 6.1.2 Each of the four (4) Hip Protectors and two (2) Tube Tread Floor Mats were placed under an instrumented weight, with a diameter of six (6) inches, weighing 72 Lbs. Prior to test, a baseline drop was performed, dropping the instrumented weight onto the bare surface.
- 6.1.3 The instrumented weight was then raised, using a guided drop tester, to the specified height of twenty-four (24) inches, and dropped on the sample. This was then repeated three (3) times on each sample, for a total of four (4) drops per sample, allowing the material to recover for a minimum period of three (3) minutes between drops.
- 6.1.4 Upon completion of each drop the test items were visually inspected.
- 6.1.5 The four (4) Hip Protectors and two (2) Tube Tread Floor Mats completed the Impact Absorption Test with Impact data recorded on accompanying data sheets. See data sheets.
- 6.1.6 The four (4) Hip Protectors, and two (2) Tube Tread Floor Mats, P/N: N/A, S/N: N/A, consisting of the samples noted in Table I, completed the Impact Absorption Test, as conducted by Garwood Laboratories, Inc., in accordance with Posey Company Statement of Work. All pass or fail criteria to be determined by Posey Company.
- 6.2 The four (4) Hip Protectors and two (2) Tube Tread Floor Mats were returned to Posey Company for evaluation following completion of testing.





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**ENVIRONMENTAL TEST DATA**

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**APPENDIX A**



Since 1954

# GARWOOD LABORATORIES, INC.

TESTING AND ENGINEERING SERVICES

DSCC-VQ Approved  
ISO 9002 Certification

NRTL Recognized

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JOB NO.: 25664  
Page No.: A-1

### \*\*\* CLASSICAL SHOCK DATA SHEET \*\*\*

Customer: Posey Company Date: 21 May 03  
 Test Title: Impact Witness? NO Photos: —  
 Test Item: Hip Protectors / Tubetread Floor Mats Quantity: 6  
 Part/Model No.: N/A Serial No(s): N/A  
 Per Specification: Ref. Posey s.o.w & Report No: R24983-2 Rev.: — Method/Para.: 6.0

Type of Waveform: Half sine Peak Amplitude (g's): 3000  
 Input Direction: Vert only Duration of Pulse (ms): N/A  
 Pulses per Direction: 4 Total Number of Pulses: 24

DATE	TIME	AXIS	SHOCK NO.	LOG ENTRIES	Initials
21 May 03	1400	Vert	—	Begin set-up on a drop tower CH#1	ML
	—		—	Response. Dropping a 6" Diameter	
	—		—	weight weighing 72 lbs. Dropping	
	—		—	from a G-wired 24".	
	1440		—	Obtaining cal pulses	
	ML 1442		—	Completed	
	1448		1	Impact tubetread floor mat (Gray)	
	1452		2	Impact floor mat (Green)	
	1455		3	Impact floor mat (Gray)	
	1458		4	Impact floor mat (Green)	
1501	5	Impact floor mat (Gray)			
1503	6	Impact floor mat (Green)			
1508	7	Impact floor mat (Gray)			
1510	8	Impact floor mat (Green)			
1514	vert	9	Impact Hip pad (Black)	ML	

#### TEST EQUIPMENT LIST

Asset No.	Description	Manufacturer	Model No.	Calibration Date	Cal Recall Date
2552	Control	SD	2552B	12-9-02	6-9-03
2215	Signal Cond.	Dytran	4125	5-24-02	5-24-03
2435	Accelerometer	Dytran	3200AHT	8-27-02	8-27-03
2041	Shock Tower	Turbo Machine	ED50	Maint	only

Sub-Page: 1 of 3 Test Technician(s): ML Test Engineer(s): SGM  
 Inspector: GL DCMC: —



JOB NO.: 25664  
Page No.: A-2

\*\*\* CLASSICAL SHOCK DATA SHEET \*\*\*

Customer: Posey Company Date: 21 May 03  
 Test Title: Impact Witness? NO Photos: —  
 Test Item: Hip Protector / Tubetread Floor Mats Quantity: 6  
 Part/Model No.: N/A Serial No(s): N/A  
 Per Specification: Ref. Posey S.O.W + Report No: R24983-2 Rev.: — Method/Para.: 6.0

Type of Waveform: Half sine Peak Amplitude (g's): 3000  
 Input Direction: Vert Only Duration of Pulse (ms): N/A  
 Pulses per Direction: 4 Total Number of Pulses: 24

DATE	TIME	AXIS	SHOCK NO.	LOG ENTRIES	Initials
21 May 03	1517	Vert	10	Impact Pad (Blue)	MB
	1520		11	Impact Pad (Red)	
	1523		12	Impact Pad (White)	
	1528		13	Impact Pad (Black)	
	1534		14	Impact Pad (Blue)	
	1536		15	Impact Pad (Red)	
	1541		16	Impact Pad (White)	
	1544		17	Impact Pad (Black)	
	1547		18	Impact Pad (Blue)	
	1554		19	Impact Pad (Red)	
	1556		20	Impact Pad (White)	
	1600		21	Impact Pad (Black)	
	1603		22	Impact Pad (Blue)	
	1605		23	Impact Pad (Red)	
	1607		24	Impact Pad (White)	

TEST EQUIPMENT LIST

Asset No.	Description	Manufacturer	Model No.	Calibration Date	Cal Recall Date

Sub-Page: 2 of 3 Test Technician(s): MB Test Engineer(s): SJM  
 Inspector: GL 1 QA DCMC:



JOB NO.: 25664

Page No.: A-3

\*\*\* CLASSICAL SHOCK DATA SHEET \*\*\*

Customer: Posey Company Date: 21 May 03  
 Test Title: Impact Witness? NO Photos: ---  
 Test Item: Hip Protectors / Tube tread Floor Mats Quantity: 6  
 Part/Model No.: N/A Serial No(s): N/A  
 Per Specification: Ref. Posey S.O.W + Report No: R24983 Rev.: --- Method/Para.: 6.0

Type of Waveform: Half sine Peak Amplitude (g's): 3000  
 Input Direction: Vert Only Duration of Pulse (ms): N/A  
 Pulses per Direction: 4 Total Number of Pulses: 24

DATE	TIME	AXIS	SHOCK NO.	LOG ENTRIES	Initials
<u>21 May 03</u>	<u>1607</u>	<u>---</u>	<u>---</u>	<u>Test completed.</u>	<u>MR</u>
<u>Results: Returned to Customer for evaluation</u>					<u>MR</u>
<u>---</u>					<u>MR</u>

TEST EQUIPMENT LIST

Asset No.	Description	Manufacturer	Model No.	Calibration Date	Cal Recall Date

Sub-Page: 3 of 3 Test Technician(s): MR Test Engineer(s): S971  
 Inspector: GL DCMC: ---  
 QA



TESTING SERVICES SINCE 1954

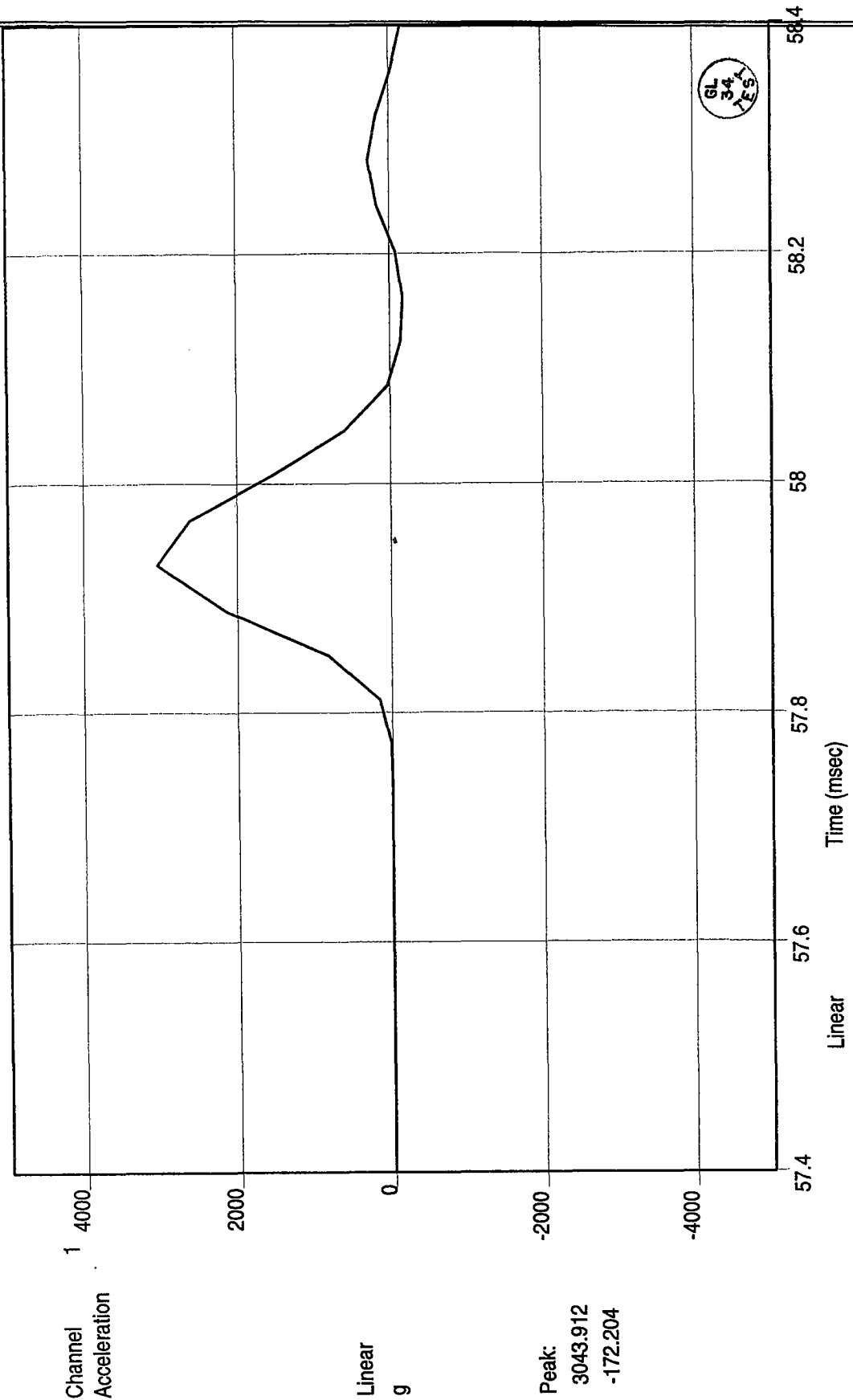
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RESPONSE

25,664 POSEY COMPANY HIP PROTECTORS/TUBE TREAD FLOOR MATS

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Wed May 21 2003

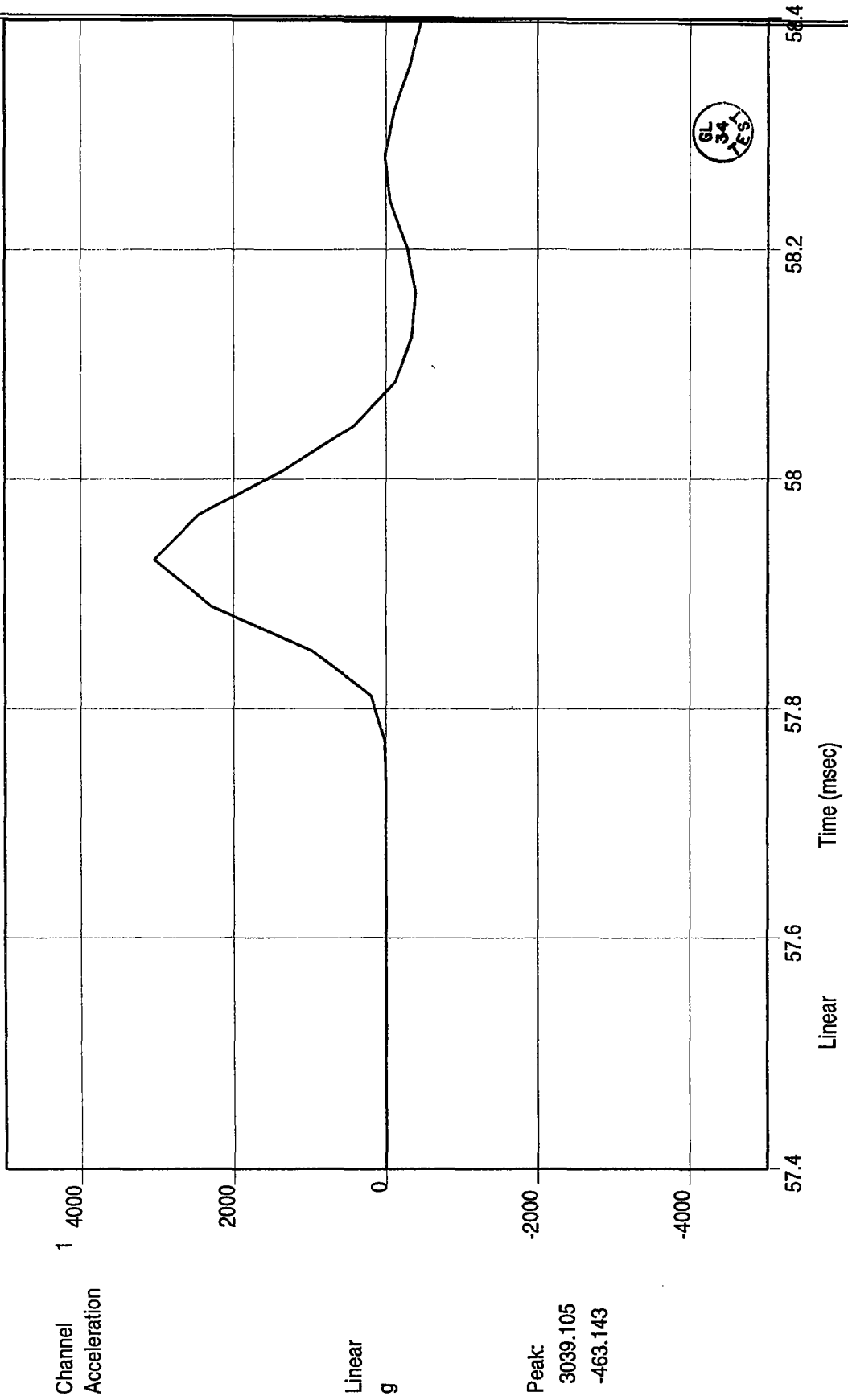
Peak:  
3043.912  
-172.204



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RESPONSE

25,664 POSEY COMPANY HIP PROTECTORS/TUBE TREAD FLOOR MATS

Capture Name: POSEY.002

14:42:45.7  
Wed May 21 2003

Channel  
Acceleration

Linear  
g

Peak:  
3039.105  
-463.143



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**GARWOOD LABORATORIES, INC.** TESTING SERVICES SINCE 1954

Channel  
Acceleration

1  
4000

2000

Linear  
g

0

Peak:

238.363  
-76.093

-4000

57.4 57.5

Linear

58

Time (msec)

58.5

59

59.5

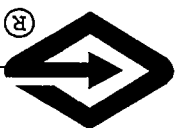
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RESPONSE

14:48:11.3  
Wed May 21 2003

25.664 POSEY COMPANY HIP PROTECTORS/ TUBE TREAD FLOOR MATS  
TUBE TREAD FLOOR MATS ( GRAY )  
Capture Name: POSEY.003





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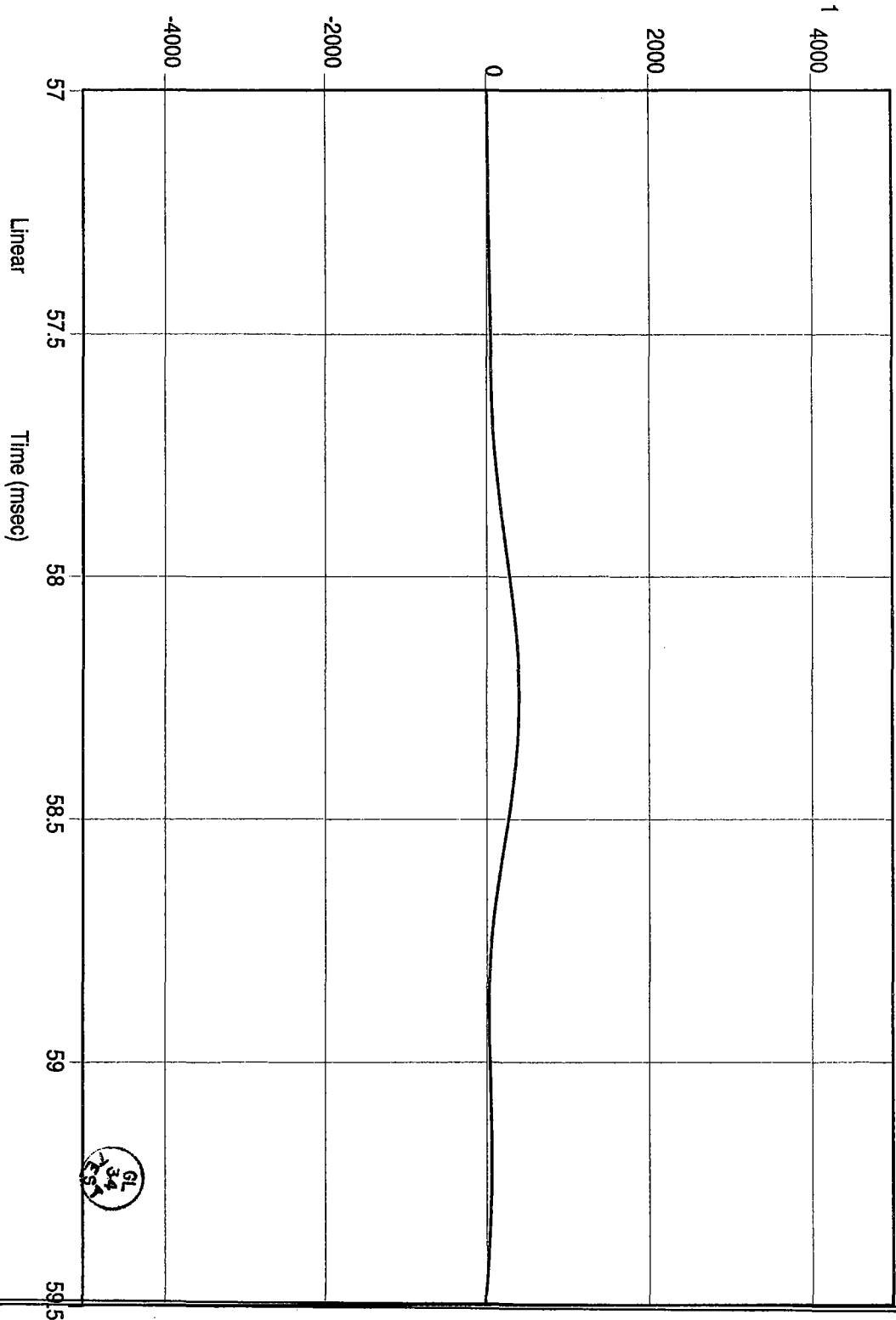
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Channel 1  
Acceleration



14:52:40.3  
Wed May 21 2003

25,664 POSEY COMPANY HIP PROTECTORS/ TUBE TREAD FLOOR MATS  
TUBE TREAD FLOOR MATS ( GREEN )  
Capture Name: POSEY.003  
RESPONSE





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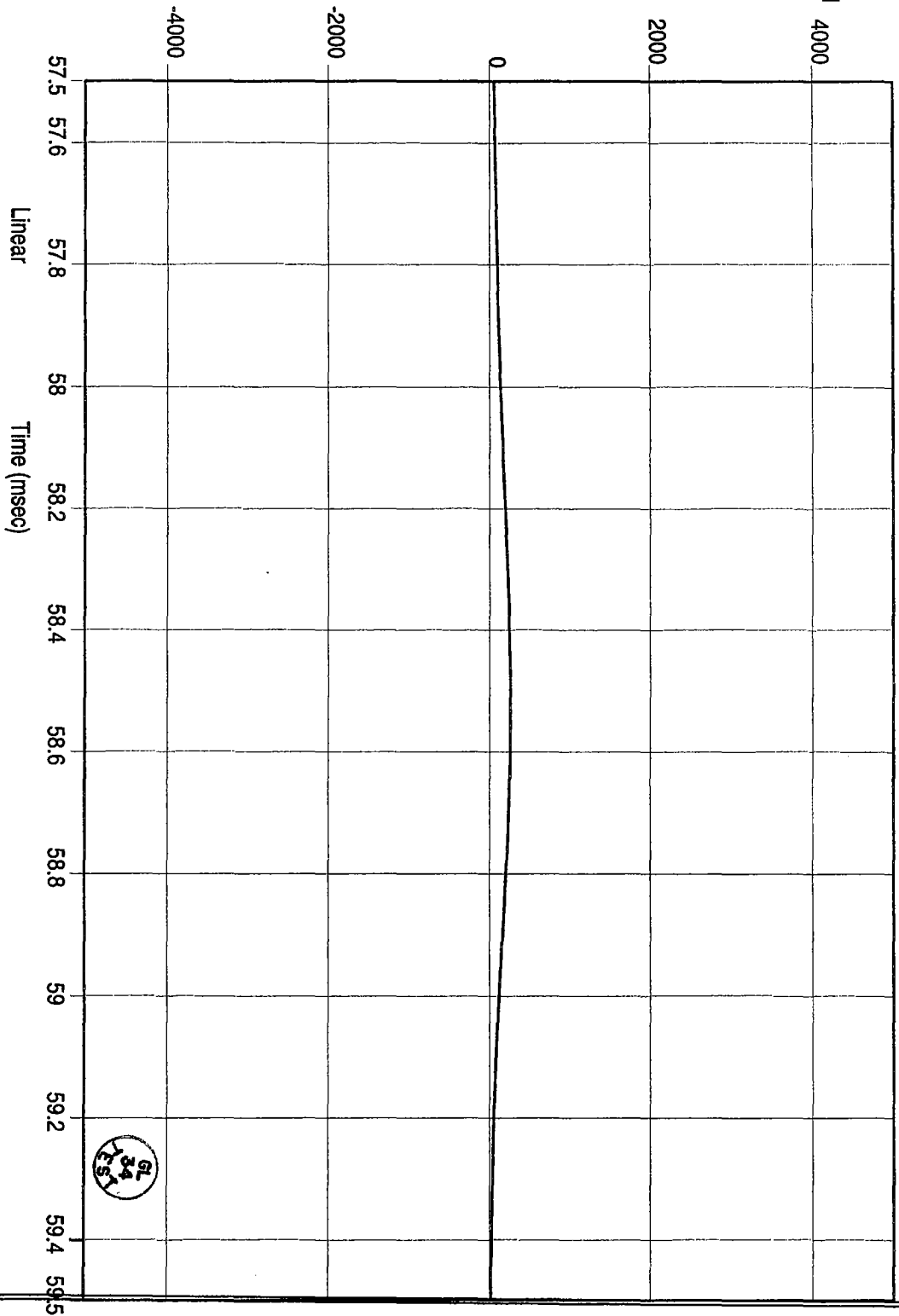
REPORT NO.: R25664  
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**GARWOOD LABORATORIES, INC.** TESTING SERVICES SINCE 1954

Channel 1  
Acceleration

Linear  
g

Peak:  
259.762  
-86.681



14:55:49.2  
Wed May 21 2003

25,664 POSEY COMPANY HIP PROTECTORS/ TUBE TREAD FLOOR MATS  
TUBE TREAD FLOOR MATS (GRAY) #2  
Capture Name: POSEY.003

RESPONSE



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Channel  
Acceleration

1 4000

2000

Linear  
g

0

Peak:

425.327

-152.880

-4000

57

Linear

57.5

Time (msec)

58

58.5

RESPONSE

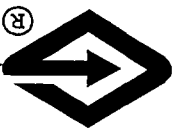
59

59.5



14:58:40.9  
Wed May 21 2003

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TUBE TREAD FLOOR MATS ( GREEN ) #2  
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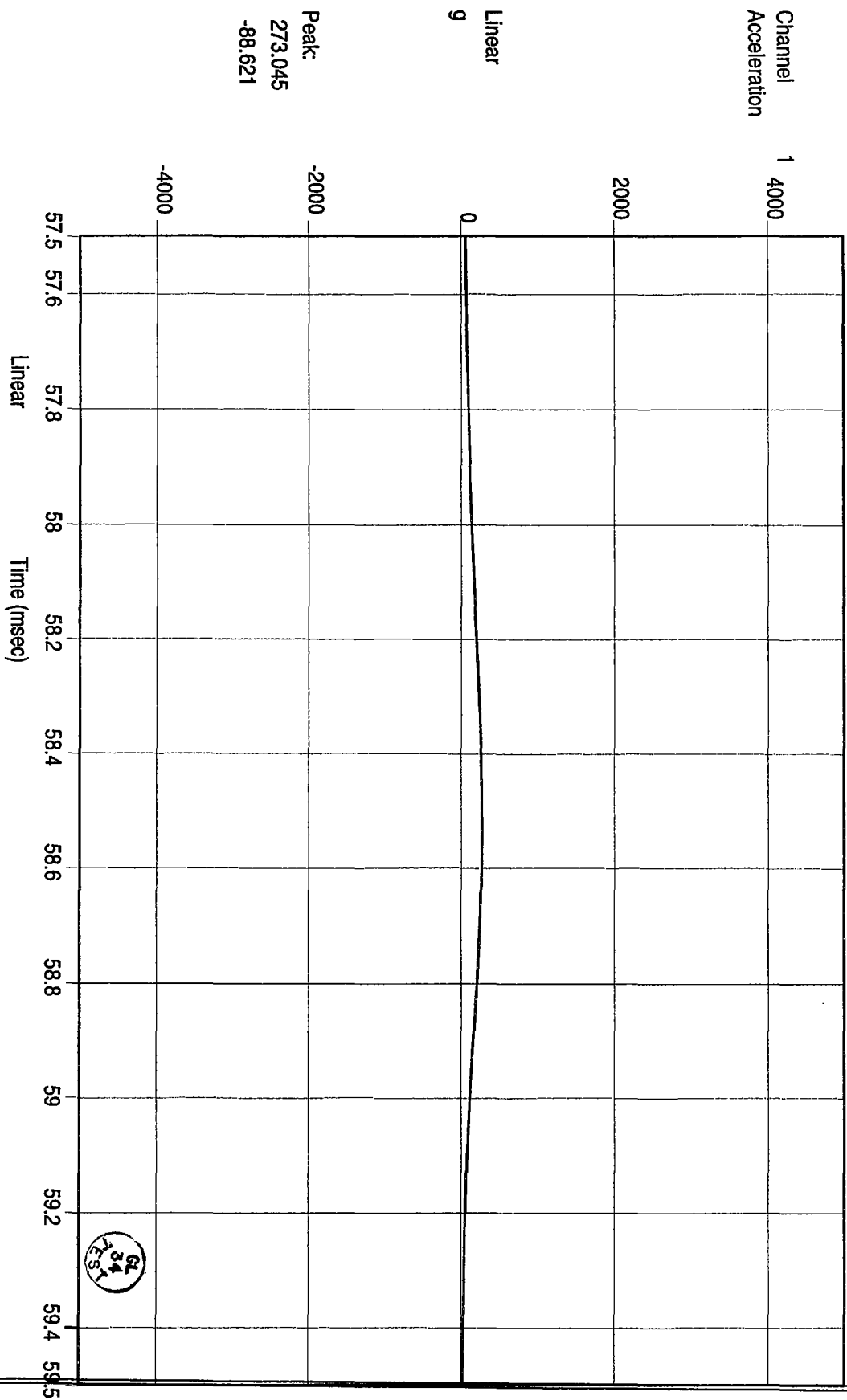


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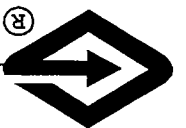
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TESTING SERVICES SINCE 1954 **GARWOOD LABORATORIES, INC.**



15:01:08.6  
Wed May 21 2003

25.664 POSEY COMPANY HIP PROTECTORS/ TUBE TREAD FLOOR MATS  
TUBE TREAD FLOOR MATS (GRAY) #3  
Capture Name: POSEY.003



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Channel  
Acceleration

1 4000

2000

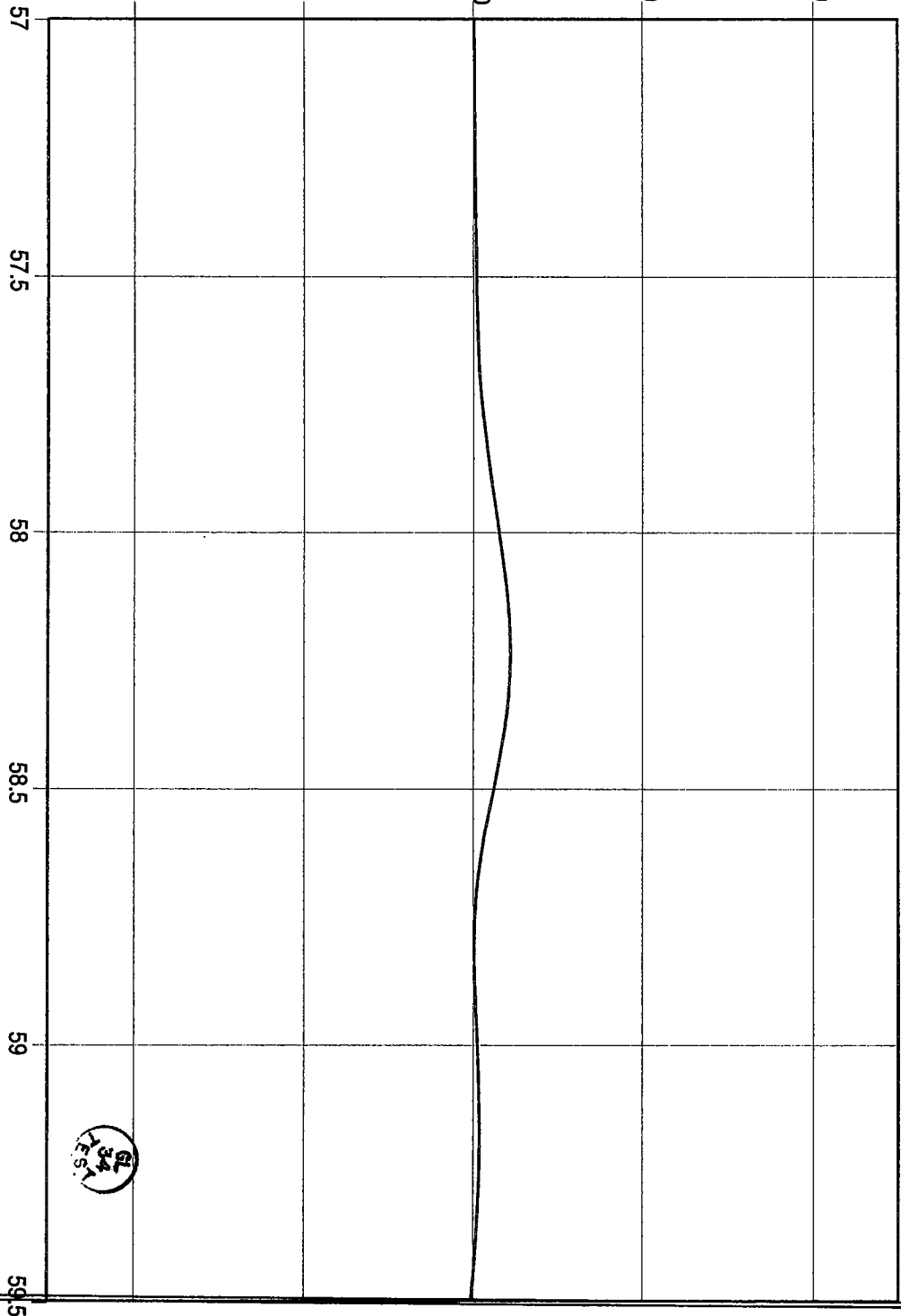
Linear  
g

0

Peak:  
440.036

-160.214

-4000

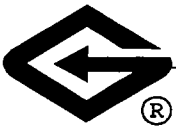


Linear Time (msec)

RESPONSE

15:03:38.6  
Wed May 21 2003

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TUBE TREAD FLOOR MATS (GREEN) #3  
Capture Name: POSEY.003



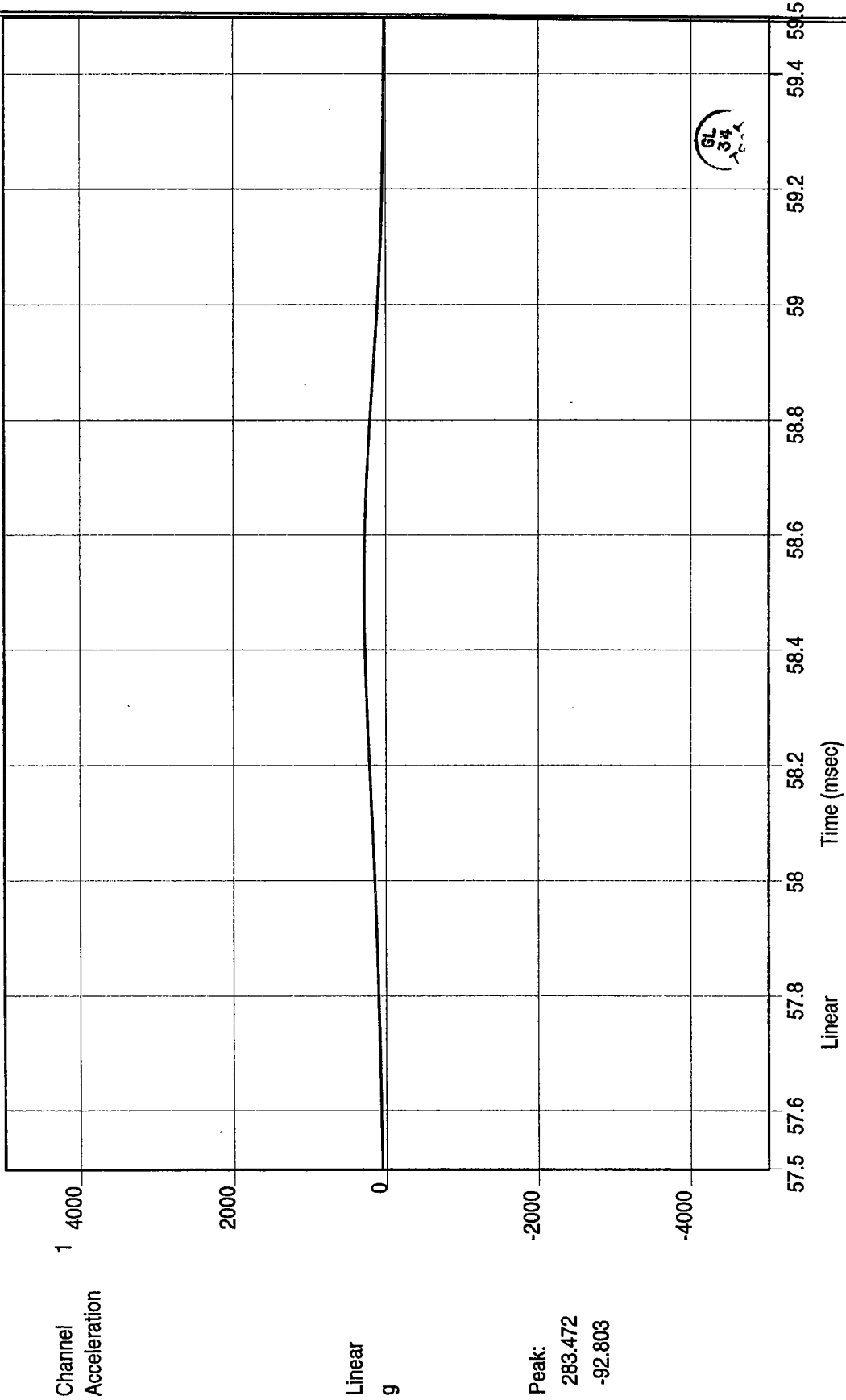
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25,664 POSEY COMPANY HIP PROTECTORS/TUBE TREAD FLOOR MATS  
TUBE TREAD FLOOR MATS ( GRAY ) #4

Capture Name: POSEY.004

15:08:21.2  
Wed May 21 2003

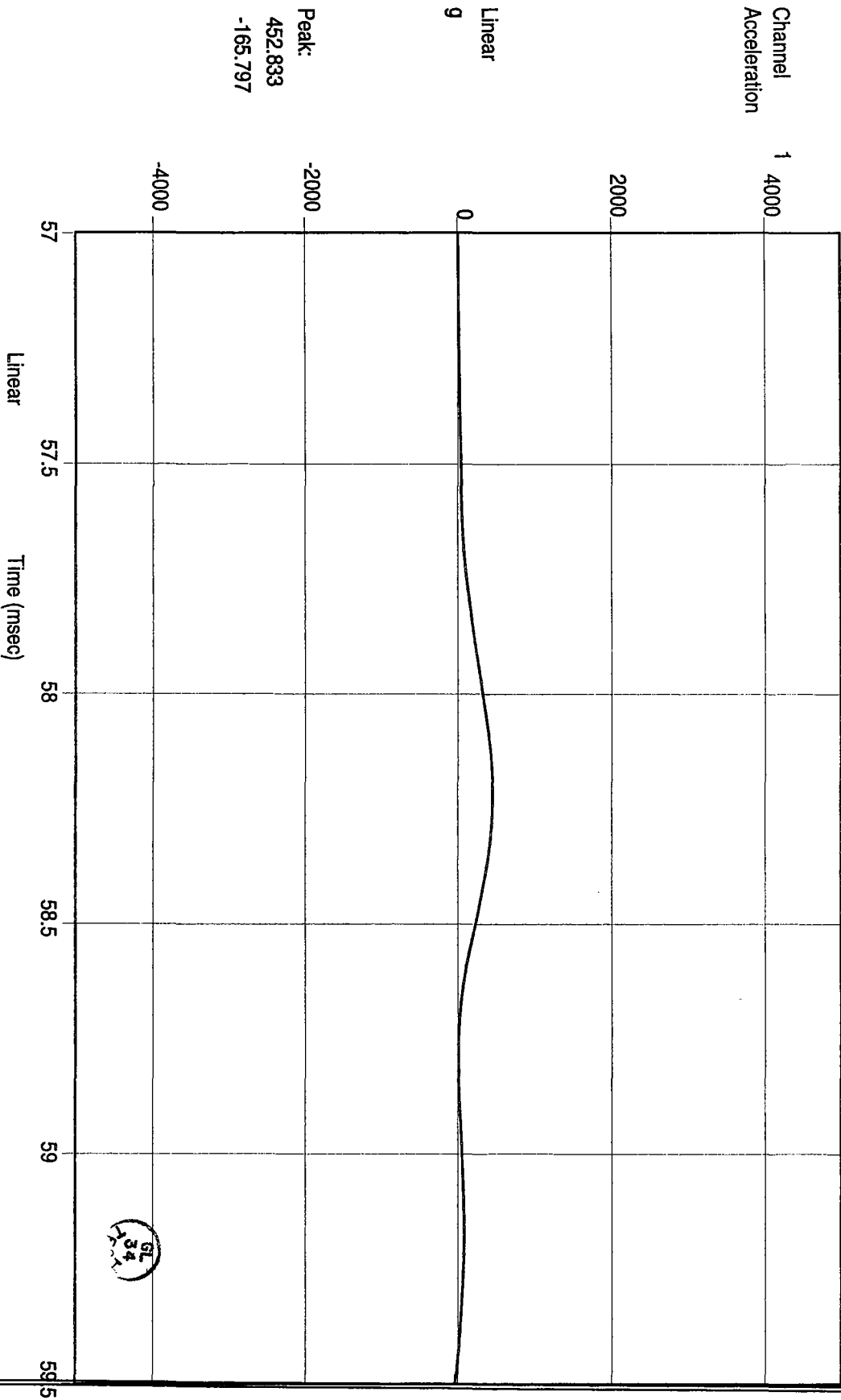


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15:10:38.5  
Wed May 21 2003

25,664 POSEY COMPANY HIP PROTECTORS/TUBE TREAD FLOOR MATS  
TUBE TREAD FLOOR MATS (GREEN) #4  
Capture Name: POSEY.004