

# BLUNT IMPACT PROTECTION

<b>NTS-Belcamp</b> 4603B Compass Point Road Belcamp, MD 21017	Client: Hardhead Veterans Project No.: PH00008992 Test Date: 11/7/2023 Page No.: 1 of 8
Manufacturer: Hardhead Veterans	Sample ID: HHV-1

Sample		
Size: Large Weight: 3.04 lbs. Color: Green	Model: ACH Mfg. Date: NA Lot No.: NA	Date Received: 11/3/2023 Via: UPS Returned: UPS

Setup		
Impact Type: Impact Uni-Axial Drop Mass: 6.362 kg Mount Size: C D.O.T Mount Type: FMVSS218	Time Gate Flag : 25.42 mm Temperature: 71 °F Humidity: 50 % Conditioning: Ambient	Tester: Nick Dawson Recorder: Nick Dawson Filtering: CFC 1000 1650Hz Sensitivity: 10.06 mV/G

## Applicable Standards or Procedures

(1) AR/PD 10-02 Rev A

Requirement Number	Inspection Pass/Fail	Inspection Requirement
1	Pass	There shall be no physical damage to the helmet shell such as shell fracture, defined as a separation/split of the ballistic material through the entire thickness of the helmet shell, or indentation depth in excess of 0.15 inches present after impact testing (delamination and ply separation are permitted).
2	Pass	There should be no damage to any part of the retention system or pad system.

The decision rule used to state compliance is in accordance with the test specification used for testing.

Impact Number	Impact Location	Pass/Fail Criteria <150 G	Peak Acc. (G)	Impact Velocity (ft/s)	Drop Height (in)	Strike Energy (J)	Head Injury Criteria (HIC)	Severity Index (SI)	Impact Deformation (in)
1	Crown	Pass	53.1	10.1	19.9	30.1	85.5	99.1	Not Available
2	Crown	Pass	58.3	10.0	19.9	29.8	105.6	120.2	Available
3	Front	Pass	75.4	10.0	19.9	29.4	141.4	159.9	Not Available
4	Front	Pass	81.5	10.0	19.9	29.5	170.5	195.5	Available
5	Back	Pass	66.2	10.0	19.9	29.5	118.1	144.7	Not Available
6	Back	Pass	78.3	10.1	19.9	30.2	139.0	173.4	Available
7	L Side	Pass	63.2	10.1	19.9	30.0	100.4	122.0	Not Available
8	L Side	Pass	63.5	10.0	19.9	29.8	107.0	120.7	Available
9	R Side	Pass	70.7	10.0	19.9	29.7	158.4	181.0	Not Available
10	R Side	Pass	90.1	10.1	19.9	30.1	211.1	240.8	Available
11	L Nape	Pass	74.4	10.1	19.9	30.0	146.5	171.4	Not Available
12	L Nape	Pass	103.6	10.1	19.9	30.0	162.3	217.4	Available
13	R Nape	Pass	85.3	9.9	19.9	29.2	164.4	193.6	Not Available
14	R Nape	Pass	132.3	9.9	19.9	29.2	297.4	355.4	Available

**Remarks:**  
 The Head Positioning Index (H.P.I) was defined at 2.3 inches and measured from the brim of the helmet to the basic plane on the headform for all impacts.

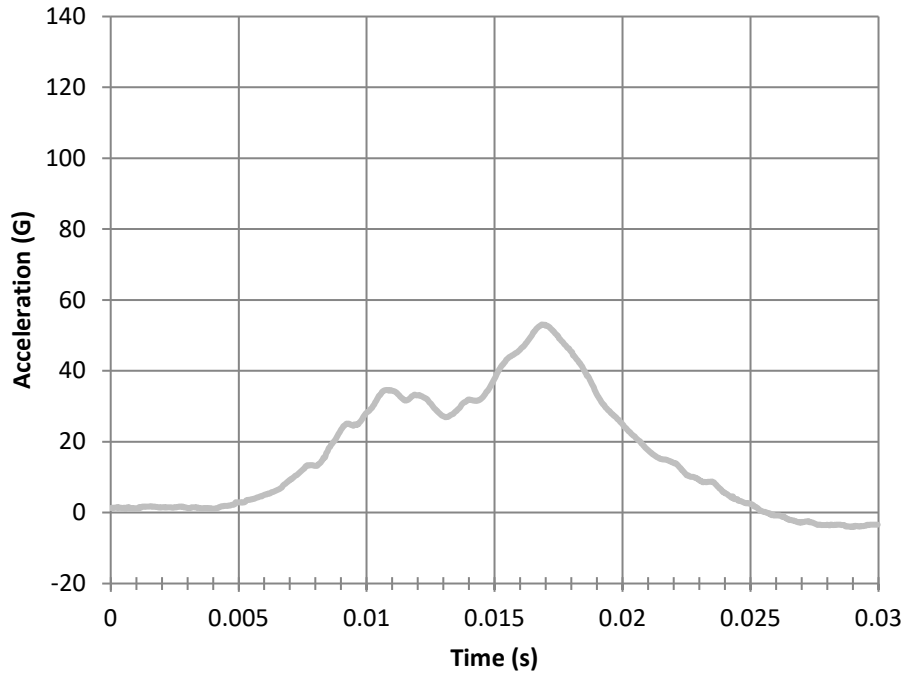
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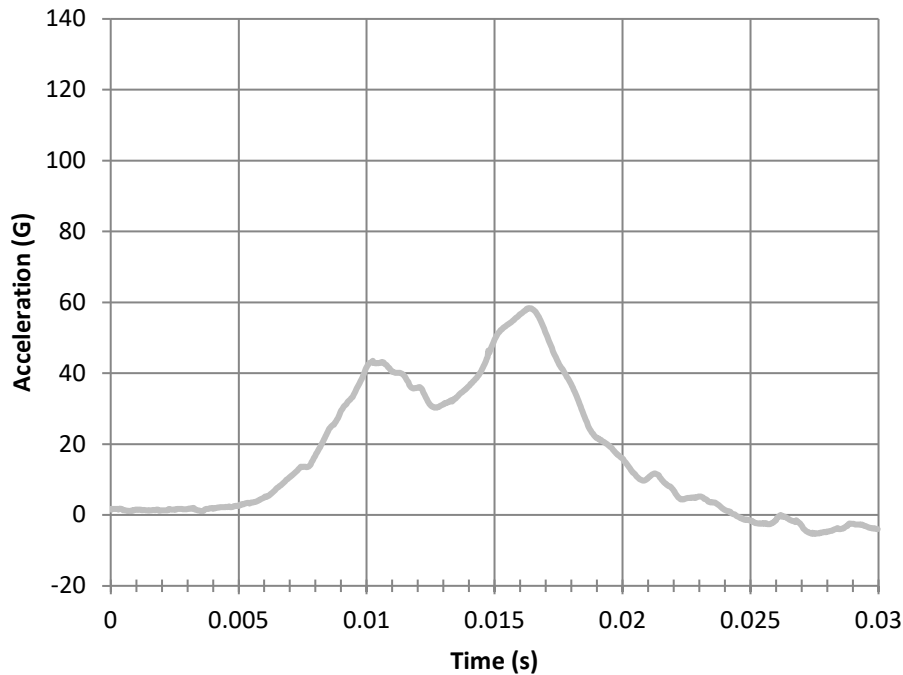
Manufacturer: Hardhead Veterans

Sample ID: HHV-1



Impact Number:	1
Impact Time:	11:27 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	Crown
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.1
Peak Acc. (G):	53.1
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	2
Time:	11:28 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	Crown
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.0
Peak Acc. (G):	58.3
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:

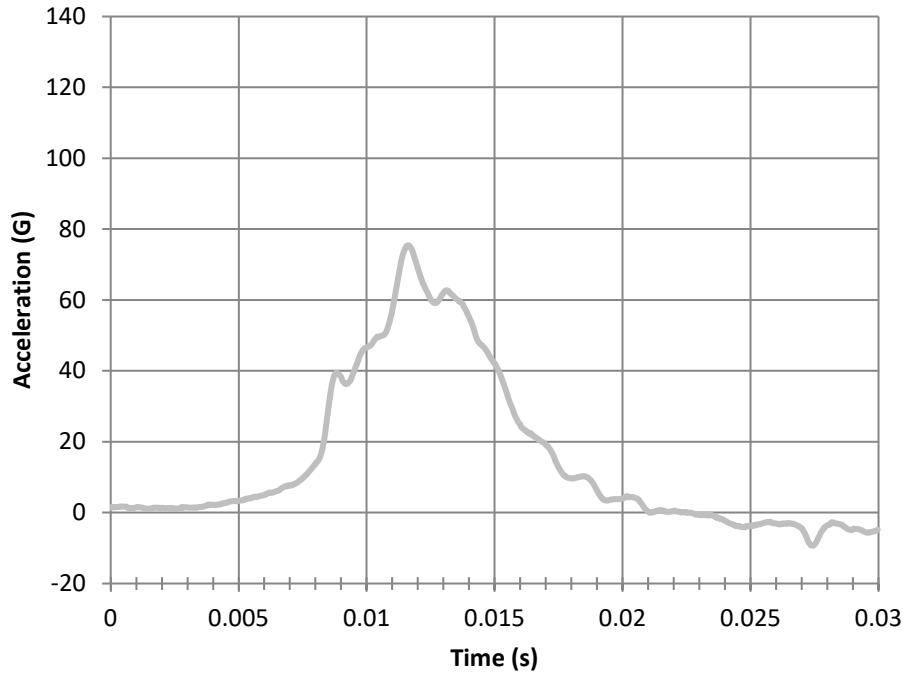
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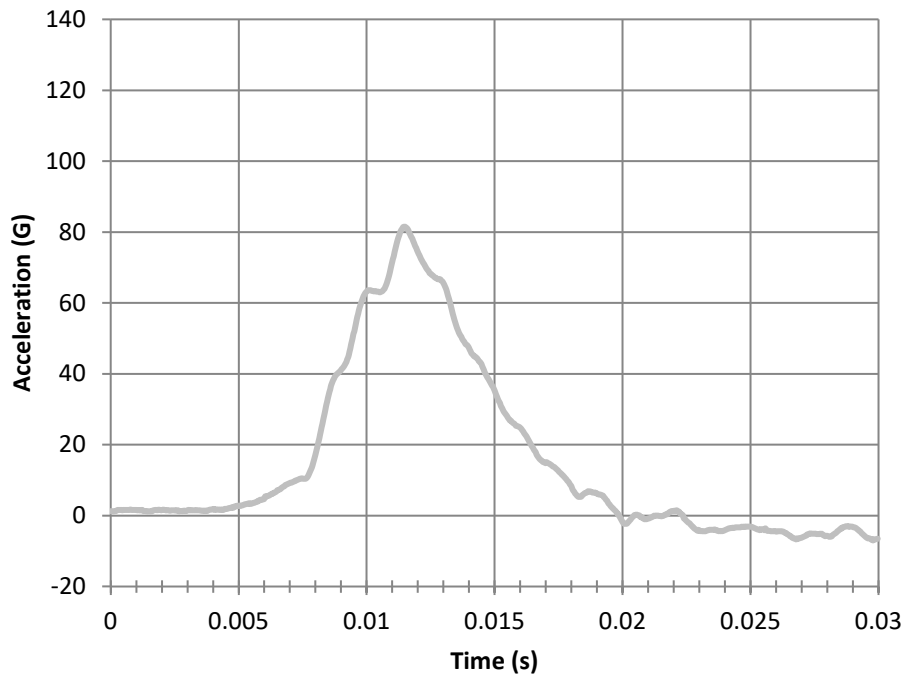
Manufacturer: Hardhead Veterans

Sample ID: HHV-1



Impact Number:	3
Impact Time:	11:31 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	Front
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.0
Peak Acc. (G):	75.4
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	4
Time:	11:32 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	Front
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.0
Peak Acc. (G):	81.5
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:

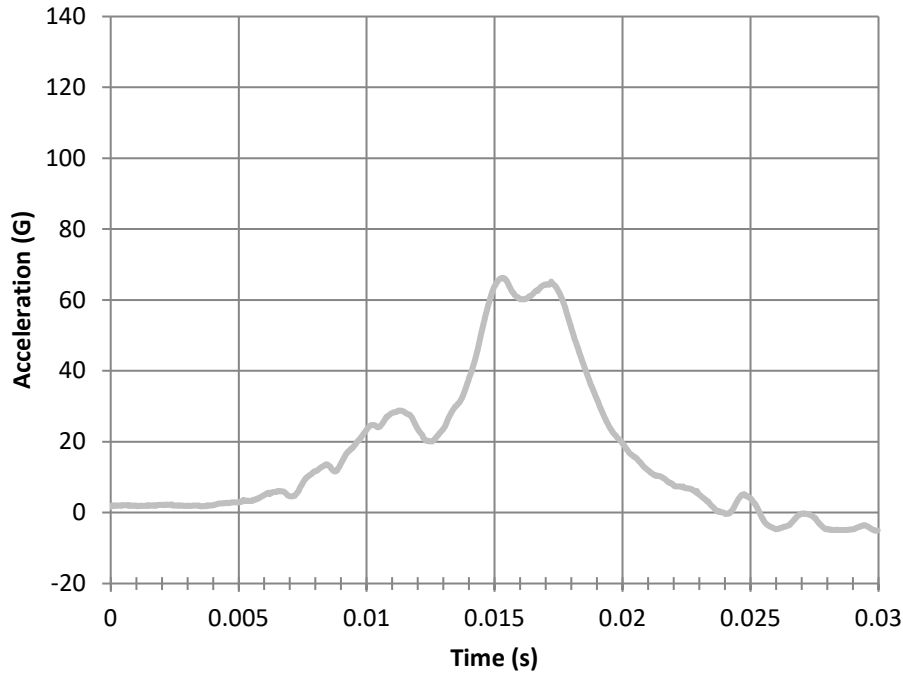
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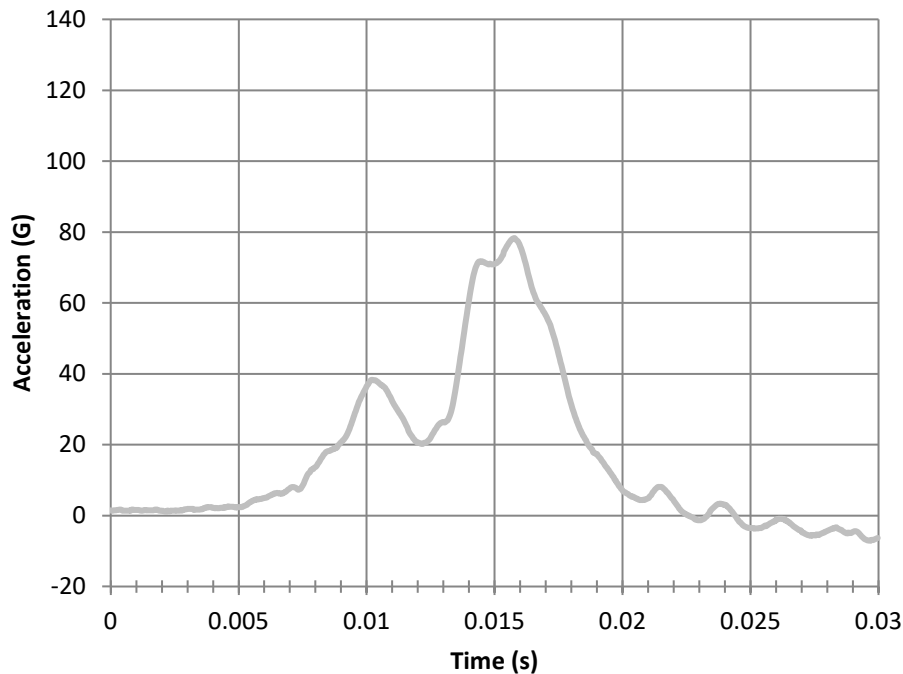
Manufacturer: Hardhead Veterans

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Impact Number:	5
Impact Time:	11:35 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	Back
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.0
Peak Acc. (G):	66.2
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	6
Time:	11:36 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	Back
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.1
Peak Acc. (G):	78.3
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:

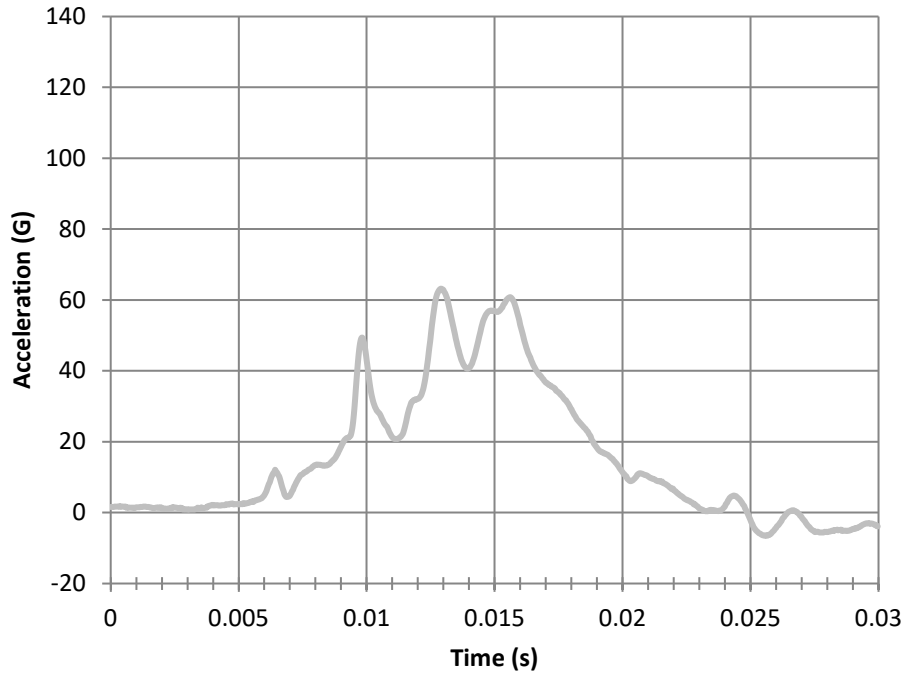
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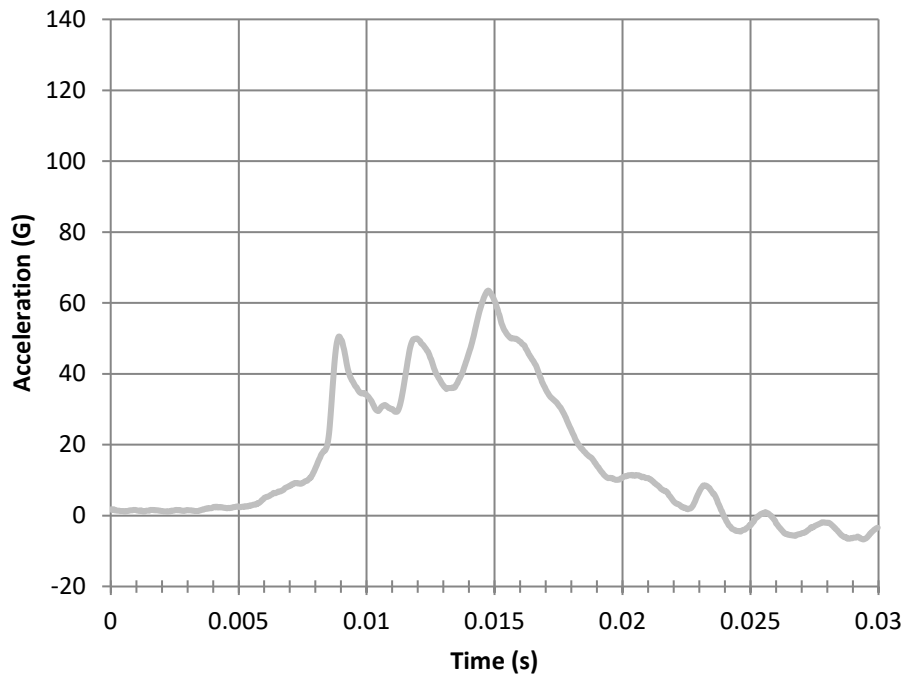
Manufacturer: Hardhead Veterans

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Impact Number:	7
Impact Time:	11:39 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	L Side
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.1
Peak Acc. (G):	63.2
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	8
Time:	11:40 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	L Side
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.0
Peak Acc. (G):	63.5
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:

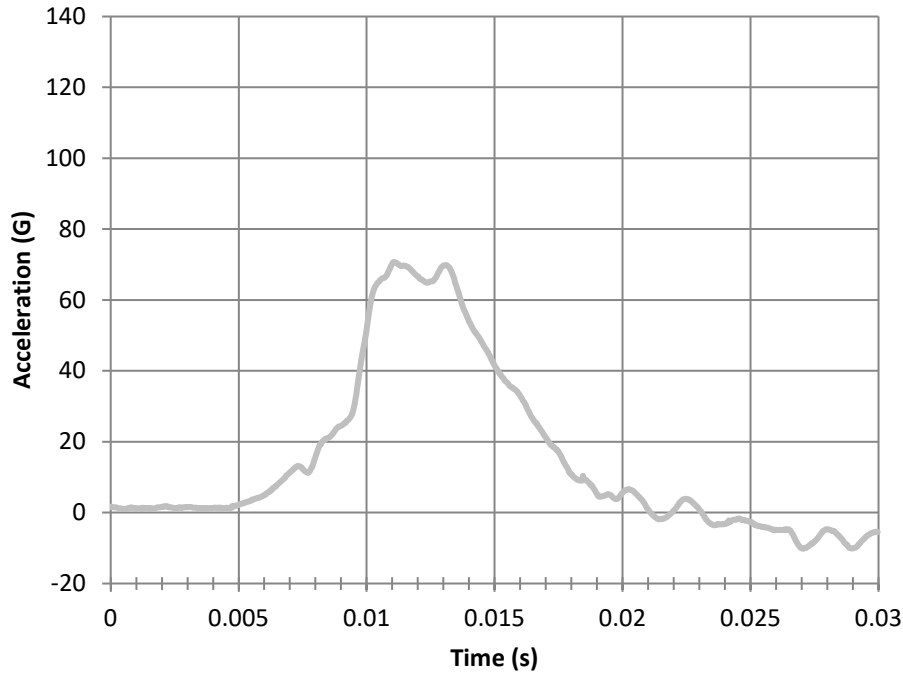
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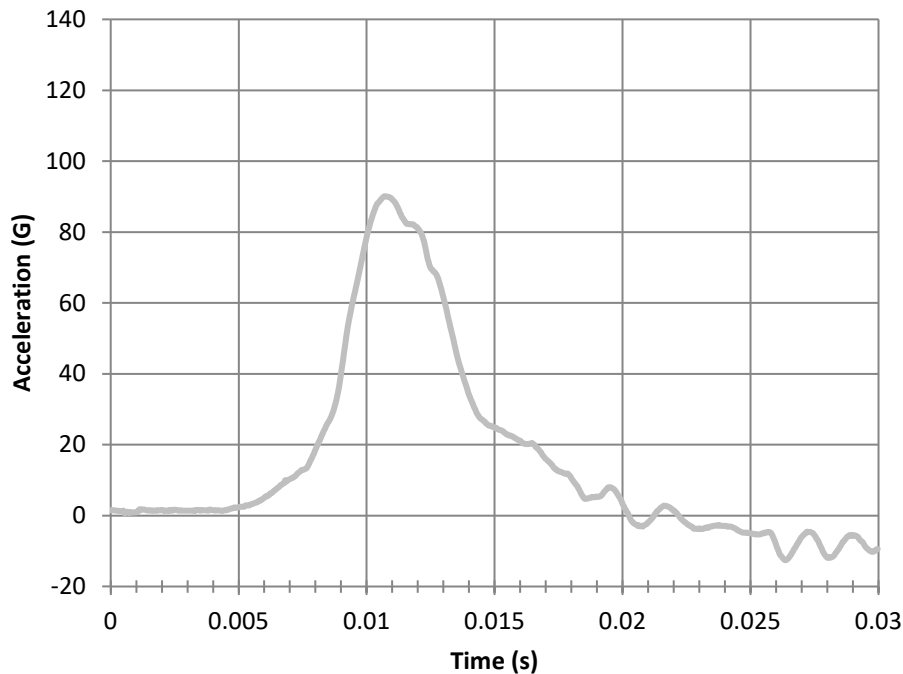
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Impact Number:	9
Impact Time:	11:43 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	R Side
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.0
Peak Acc. (G):	70.7
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	10
Time:	11:44 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	R Side
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.1
Peak Acc. (G):	90.1
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:

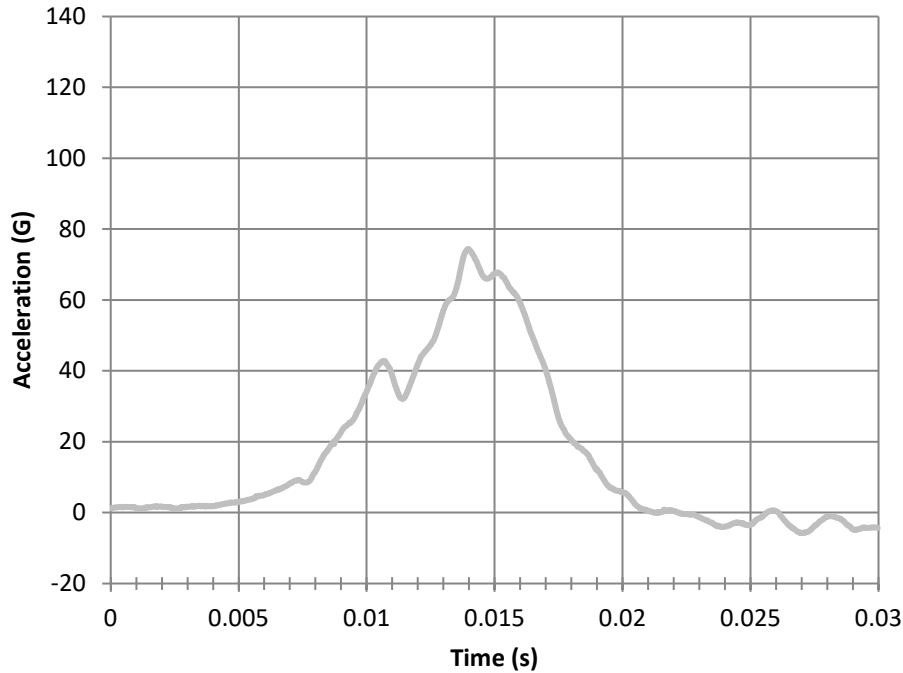
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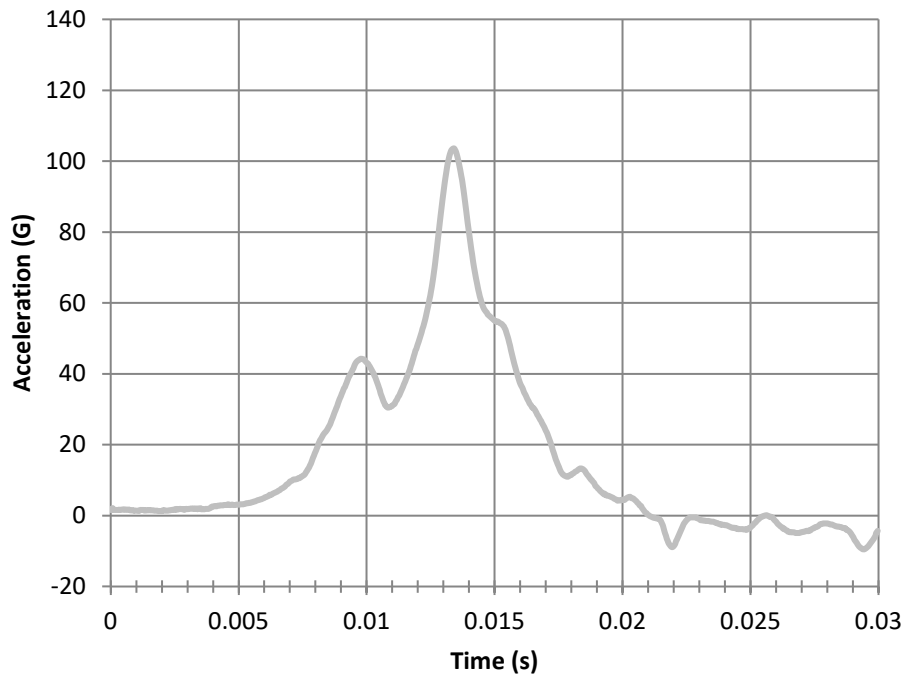
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Impact Number:	11
Impact Time:	11:47 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	L Nape
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.1
Peak Acc. (G):	74.4
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	12
Time:	11:48 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	L Nape
Anvil Type:	Hemi
Impact Velocity (ft/s):	10.1
Peak Acc. (G):	103.6
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:

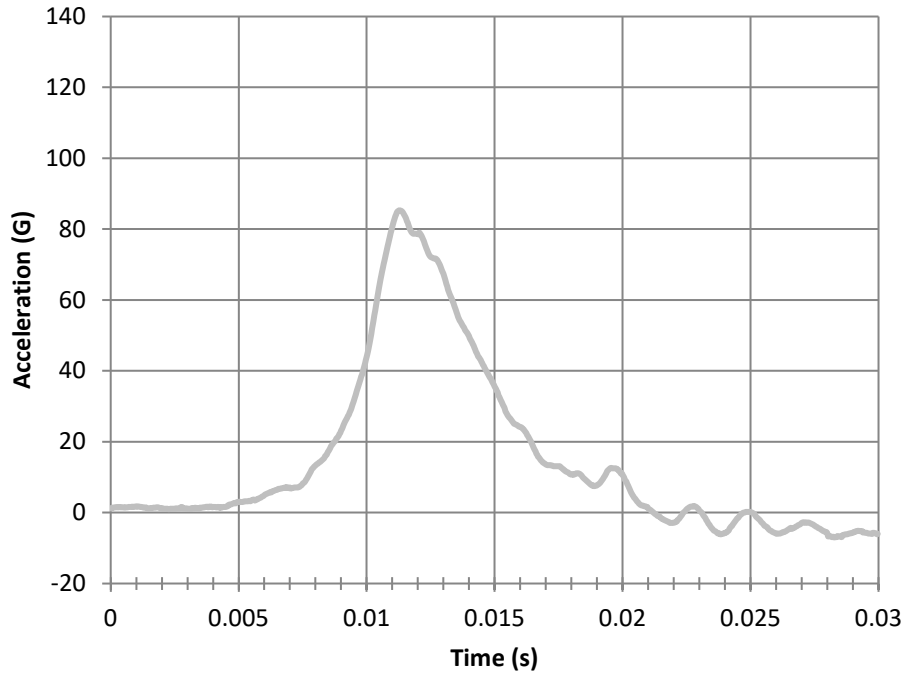
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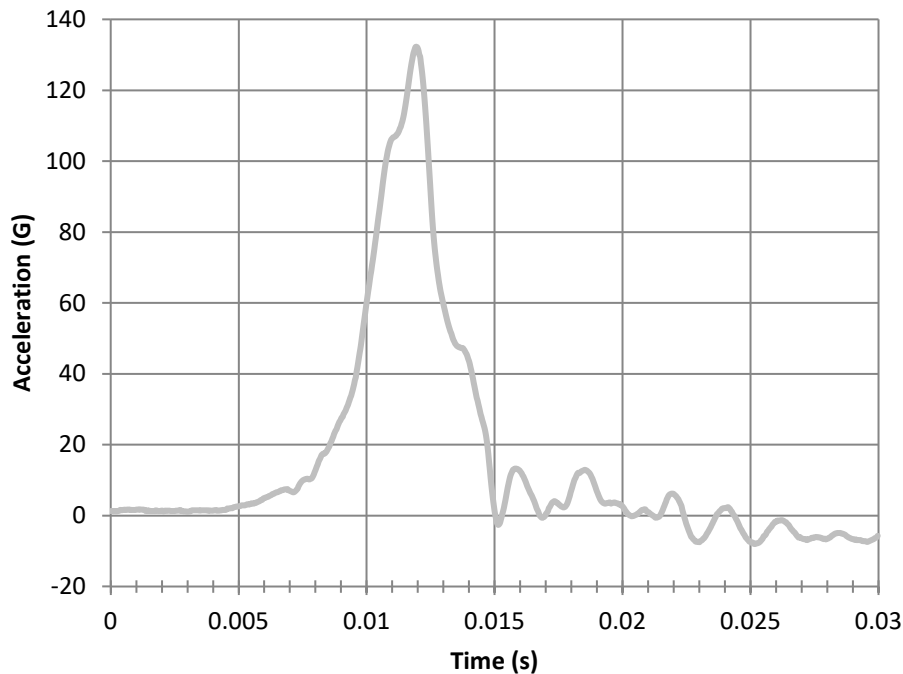
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Impact Number:	13
Impact Time:	11:51 AM
Impact Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	R Nape
Anvil Type:	Hemi
Impact Velocity (ft/s):	9.9
Peak Acc. (G):	85.3
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments:



Impact Number:	14
Time:	11:52 AM
Date:	11/7/2023
Conditioning:	Ambient
Impact Location:	R Nape
Anvil Type:	Hemi
Impact Velocity (ft/s):	9.9
Peak Acc. (G):	132.3
Dwell Time over 150 G (ms):	0
Dwell Time over 200 G(ms):	0

Comments: