

July 5, 2010

Steve Silver, President  
Sani Sport  
4480 Côte de Liesse Rd, Suite 1000  
Montréal, Québec  
Canada H4N 2R1

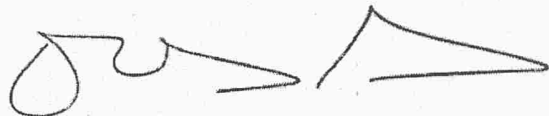
**Re: Testing ballistic resistant vests after ozone anti-bacterial treatment  
Évaluation de gilets pare-balles après traitement anti-bactérien à l'ozone**

Mr Silver,

Biokinetics completed a series of tests to evaluate whether or not there is any performance degradation caused by exposure to ozone during the Sani Sport sanitizing process. Two groups of soft armour, protection level II (NIJ 0101.04), were tested. The first group (8 armour panels) was new, untreated armour. The second group (8 armour panels) was exposed to 10 ozone anti-bacterial treatments using Sani Sport SST equipment (serial number: 10012). Both groups were tested in accordance with the National Institute of Justice (NIJ) standard 0101.04 for the Ballistic Resistance of Personal Body Armour. No bullet perforation occurred and all armour panels met the test requirements of the NIJ 0101.04 standard. No significant difference of the ballistic performance was noted between the two groups of armour tested. Details of the test results can be found in Biokinetics' Report R2010-045.

Biokinetics a complété une série de tests pour évaluer si il existe une dégradation des performances suite à une exposition à l'ozone lors du traitement de désinfection de Sani Sport. Deux groupes d'armures souples de niveau de protection II (NIJ 0101.04) ont été testé. Le premier groupe incluait 8 armures neuves et non traitées. Le deuxième groupe incluait 8 armures qui avaient été exposées à 10 traitements anti-bactériens à l'ozone en utilisant l'équipement Sani Sport SST (numéro de série 10012). Les deux groupes ont été testé selon les procédures de la norme 0101.04 de l'Institut National de Justice américain (NIJ) pour la résistance balistique des gilets pare-balles. Aucune perforation n'est survenue et toutes les armures évaluées ont rencontré les exigences de la norme NIJ 0101.04. Aucune différence significative des performances balistiques n'a été observé entre les deux groupes d'armures testées. Consultez le rapport de Biokinetics R2010-45 pour plus de détails sur les résultats des essais.

Best Regards,



Benoît Anctil, P.Eng.  
Senior Engineer

cc: Tom Reeves

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## Armour Testing Results

Test Type: P-BFS

Standard: NIJ 0101.04

Status: COMMERCIAL IN CONFIDENCE

Report Number: R2010-045

Date: 2010-06-28

Prepared for: TOM REEVES  
SANI SPORT  
4480 COTE DE LIESSE, SUITE 100  
MONTREAL QUEBEC H4M 2R1

Prepared by: Biokinetics and Associates Ltd.  
2470 Don Reid Drive  
Ottawa, Ontario K1H 1E1  
Canada

Phone: 613 736 0384  
Fax: 613 736 0990  
[www.biokinetics.com](http://www.biokinetics.com)

Manager - Defence and Law Enforcement: Benoit Ancil

Manager - Ballistics Laboratory: Doug Baines

## SCOPE

This testing was conducted in accordance with NIJ standard 0101.04 for the Ballistic Resistance of Personal Body Armour.

The purpose of this testing was to evaluate whether or not there is any performance degradation caused by exposure to ozone during the sanitizing process used by the Sani-Sport sanitizing machine.

Two groups of armour were tested. The first group was new, untreated armour and the second group of armour was exposed to the Sani-Sport sanitizing process. Both groups were tested in the wet condition as per NIJ 0101.04.

The Sani-Sport equipment model: SST, serial number: 10012 was used. This equipment was operated by Biokinetics in the presence of Mr. Tom Reeves, Sani-Sport representative.

## Ballistic Test Summary

Sample ID.	Manufacturer	Condition	Projectile	Armour Type	Test Round	Reference Velocity (m/s)	Test Velocity (m/s)		P-BFSmax (mm)	Penetration	Pass / Fail
							Min	Max			
1	Armour of America Canada LTD.	A	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	359	373	32	NO	PASS
2	Armour of America Canada LTD.	A	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	360	368	33	NO	PASS
3	Armour of America Canada LTD.	A	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	360	373	35	NO	PASS
4	Armour of America Canada LTD.	A	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	360	369	35	NO	PASS
5	Armour of America Canada LTD.	B	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	360	367	33	NO	PASS
6	Armour of America Canada LTD.	B	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	361	374	33	NO	PASS
7	Armour of America Canada LTD.	B	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	362	373	34	NO	PASS
8	Armour of America Canada LTD.	B	9mm FMJ RN (124gr)	NIJ 0101.04 / Level II	1	367	360	372	34	NO	PASS
9	Armour of America Canada LTD.	A	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	430	441	38	NO	PASS
10	Armour of America Canada LTD.	A	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	431	442	37	NO	PASS
11	Armour of America Canada LTD.	A	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	430	443	37	NO	PASS
12	Armour of America Canada LTD.	A	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	432	442	38	NO	PASS
13	Armour of America Canada LTD.	B	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	431	442	40	NO	PASS
14	Armour of America Canada LTD.	B	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	432	441	38	NO	PASS
15	Armour of America Canada LTD.	B	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	431	442	37	NO	PASS
16	Armour of America Canada LTD.	B	357 Mag JSP (158 gr)	NIJ 0101.04 / Level II	2	436	432	441	37	NO	PASS

Condition A new

Condition B after 10 cycles of ozone anti-bacterial treatment using Sani-Sport (model no. SST ,serial no. 10012)

Average

33.8 Condition A / 9mm FMJ

33.5 Condition B / 9mm FMJ

37.5 Condition A / 357 MAG

38.0 Condition B / 357 MAG

Biokinetics and Associates Ltd.  
 2470 Don Reid Drive  
 Ottawa, Ontario K1H 1E1  
 Phone: 613 736 0384  
 Fax: 613 736 0990

**Report:** R2010-045  
**Proposal:** P10-47  
**PO:** NA  
**Standard:** NJ 0101.04  
**Contact:** TOM REEVES  
**Company:** SANI SPORT

Sample ID.	Manufacturer	Description	Serial Number:	Lot Number:	Condition	Projectile	Shot / Edge	Reference Velocity	Remark
1	Armour of America Canada LTD.	level II panel	33720 front panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Baseline
2	Armour of America Canada LTD.	level II panel	33720 back panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Baseline
3	Armour of America Canada LTD.	level II panel	33721 front panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Baseline
4	Armour of America Canada LTD.	level II panel	33721 back panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Baseline
5	Armour of America Canada LTD.	level II panel	33724 front panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Sani Sport cleaned
6	Armour of America Canada LTD.	level II panel	33724 back panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Sani Sport cleaned
7	Armour of America Canada LTD.	level II panel	33718 front panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Sani Sport cleaned
8	Armour of America Canada LTD.	level II panel	33718 back panel	10392	Wet conditioned	9mm 124gr FMJ	NA	367 m/s	Sani Sport cleaned
9	Armour of America Canada LTD.	level II panel	33723 front panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Baseline
10	Armour of America Canada LTD.	level II panel	33723 back panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Baseline
11	Armour of America Canada LTD.	level II panel	33719 front panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Baseline
12	Armour of America Canada LTD.	level II panel	33719 back panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Baseline
13	Armour of America Canada LTD.	level II panel	33722 front panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Sani Sport cleaned
14	Armour of America Canada LTD.	level II panel	33722 back panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Sani Sport cleaned
15	Armour of America Canada LTD.	level II panel	33725 front panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Sani Sport cleaned
16	Armour of America Canada LTD.	level II panel	33725 back panel	10392	Wet conditioned	.357 Mag 158gr UCSP	NA	436 m/s	Sani Sport cleaned

**Note:**

Sani-Sport cleaned samples were sanitized using the following equipment:

Model: SST  
 S/N: 10012

## P-BFS Test Data







































2470 Don Reid Drive  
Ottawa, Ontario K1H 1E1  
Phone: 613 736 0384  
Fax: 613 736 0990

## Verification & Calibration

Report: R2010-045

Test ID	BMF #	Pre/Post	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	Average (mm)	Clay (C)
1	1	pre	21	20	20	19	18	19.6	47 3/5
		post	18	17	18	17	16	17.2	42.3
2	2	pre	21	20	20	19	19	19.8	47 3/10
		post	18	18	18	17	17	17.6	43.3
3	5	pre	21	21	20	20	19	20.2	48 1/5
		post	19	18	17	18	17	17.8	45.3
4	3	pre	22	20	22	19	19	20.4	46
		post	20	18	20	17	18	18.6	42.4
5	3	pre	21	20	19	19	21	20.0	46 1/10
		post	18	18	17	16	17	17.2	43.2
6	5	pre	22	21	20	20	19	20.4	46 1/5
		post	19	17	18	18	17	17.8	42.4
7	3	pre	21	20	20	19	19	19.8	46 1/5
		post	18	17	18	17	17	17.4	43.2
8	5	pre	22	19	19	18	18	19.2	46 2/5
		post	18	18	17	18	17	17.6	43.2
9	5	pre	21	18	17	18	18	18.4	46
		post	19	17	17	17	17	17.4	44.2
10	3	pre	20	21	19	20	19	19.8	45 3/5
		post	18	18	17	19	18	18.0	42.3
11	5	pre	21	20	19	19	20	19.8	45 4/5
		post	18	17	18	18	19	18.0	42.6
12	3	pre	20	18	19	18	19	18.8	46 2/5
		post	18	17	18	18	17	17.6	43.1
13	5	pre	21	19	20	19	19	19.6	46 1/10
		post	19	18	18	18	17	18.0	42.6
14	3	pre	20	19	20	18	19	19.2	45 9/10
		post	18	17	19	18	17	17.8	42.3
15	5	pre	21	20	19	19	18	19.4	45 3/5
		post	19	18	18	18	17	18.0	42.3
16	3	pre	20	21	19	19	20	19.8	46 3/10
		post	19	19	18	17	18	18.2	43.3





**Daily Wet Conditioning Spray Calibration**

**Calibration Date:** 06-04-10 | 06-07-10 | 06-08-10 | 06-11-10 | 06-15-10 | 06-16-10

Gauge Location	Interval (min)						
	15	15	15	15	15	15	
1	1.1	1.0	1.0	1.0	0.9	1.0	inches
2	0.8	0.8	0.9	0.8	0.9	0.8	inches
3	1.0	0.9	0.8	0.8	0.9	0.9	inches
4	1.0	0.9	0.8	0.9	0.8	0.8	inches
5	0.8	0.8	1.0	0.8	0.8	0.9	inches
<b>Average:</b>	0.9	0.9	0.9	0.9	0.9	0.9	inches
<b>Requirement:</b>	1.0	1.0	1.0	1.0	1.0	1.0	inches

Wet Immersion requirements: clean potable tap water free of debris

	Required	Observed
Temperature °C	21	
Lower limit	15.2	
Upper limit	23.9	

