



**Sandia National Laboratories**

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19 December 2007

Cellular Bioengineering, Inc.  
Attn: Mike O'Neill  
1946 Young Street, Suite 480  
Honolulu, HI 96826

Dear Mike,

Included in this letter are the results from the second decontamination testing using Decon Gel 1101 on concrete, carbon steel, stainless steel, and Plexiglas coupons contaminated with Am-241, Pu-239 and Cs-137.

The samples and procedures used for this testing were identical to the first coating application and removal and were described in the letter dated October 10, 2007.

The results for the experimental matrix are included with this letter. The % decon was calculated using the equation below:

$$\% \text{ decon} = \frac{\text{Initial Activity} - \text{Final Activity}}{\text{Initial Activity}} \times 100$$

Key: CCs = concrete, cesium; CSCs = carbon steel, cesium; SSCs = stainless steel, cesium; PCs = Plexiglas, cesium; Am = americium, Pu = plutonium, etc.

Please let me know if you have any questions or comments regarding this report. We are happy to conduct any additional tests you might need. If no additional tests are needed, I will proceed with disposing all of the testing materials.

Sincerely,

Kathleen C. Holt-Larese

## Results for 1<sup>st</sup> and 2<sup>nd</sup> Coatings

Cs-137 data

Sample #	Coupon Name	Initial Area	Initial Activity (uCi)	1st Coating			2nd Coating			Diff btwn 1st and 2nd coating
				Final Area (1st coating)	Final Activity (uCi)	% decon	Final Area (2nd coating)	Final Activity (uCi)	% decon	
1	CCs-1	2.46E+04	1.0062	2.04E+04	0.83439	17.07%	1.80E+04	0.7371	26.75%	9.7%
2	CCs-2	2.38E+04	0.9735	2.01E+04	0.82212	15.55%	1.82E+04	0.7453	23.44%	7.9%
7	CSCs-1	2.44E+04	0.9980	2.38E+02	0.00973	99.02%	5.08E+01	0.0021	99.79%	0.8%
8	CSCs-2	2.45E+04	1.0021	3.39E+02	0.01387	98.62%	4.25E+01	0.0017	99.83%	1.2%
13	SSCs-1	2.44E+04	0.9980	9.48E+02	0.03877	96.11%	1.93E+02	0.0079	99.21%	3.1%
14	SSCs-2	2.41E+04	0.9857	4.68E+02	0.01914	98.06%	7.57E+01	0.0031	99.69%	1.6%
19	PCs-1	2.23E+04	0.9121	1.24E+02	0.00507	99.44%	n.d.	0.000586*	>99.94%	0.5%
20	PCs-2	2.33E+04	0.9530	8.83E+01	0.00361	99.62%	n.d.	0.000219*	>99.98%	0.36%

n.d. Not detectable

\* Minimum detectable activity for Cs-137

## Am-241 Results

Sample #	Coupon Name	Initial Counts*	Initial Activity (uCi)	Counts after 1st coating	Activity after 1st decon (uCi)	% decon (1st)	Counts after 2nd coating	Activity after 2nd decon (uCi)	% decon (2nd)	Diff. btwn 1st and 2nd coating
3	CAm-1	351	0.9799	60.4	0.1686	82.79%	21.7	0.0632	93.55%	10.76%
4	CAm-2	318	0.8878	53.4	0.1491	83.21%	17.14	0.0499	94.38%	11.17%
9	CSAm-1	333	0.9939	3.99	0.0119	98.80%	0.246	0.0008	99.92%	1.12%
10	CSAm-2	318	0.9491	10.49	0.0313	96.70%	0.784	0.0026	99.73%	3.03%
15	SSAm-1	351	0.9611	76.5	0.2095	78.21%	53	0.1715	82.16%	3.95%
16	SSAm-2	346	0.9474	62.5	0.1711	81.94%	41.8	0.1352	85.73%	3.79%
21	PAm-1	337	1.0021	3.59	0.0107	98.93%	0.235	0.0007	99.93%	0.99%
22	PAm-2	307	0.9129	3.96	0.0118	98.71%	0.298	0.0009	99.90%	1.19%

\* all counts in k cpm

Pu-239 Results

Sample #	Coupon Name	Initial Counts*	Initial Activity (uCi)	Counts after 1st coating	Activity after 1st decon (uCi)	% decon (1st)	Counts after 2nd coating	Activity after 2nd decon (uCi)	% decon (2nd)	Diff. btwn 1st and 2nd coating
5	CPu-1	350	1.0052	61.3	0.1761	82.49%	24.8	0.0781	92.23%	9.75%
6	CPu-2	314	0.9018	89.6	0.2573	71.46%	46.5	0.1464	83.77%	12.30%
11	CSPu-1	288	0.9834	2.63	0.0090	99.09%	0.222	0.0008	99.92%	0.83%
12	CSPu-2	286	0.9766	6.07	0.0207	97.88%	0.458	0.0017	99.83%	1.95%
17	SSPu-1	326	1.0450	56.6	0.1814	82.64%	20.5	0.0818	92.17%	9.53%
18	SSPu-2	305	0.9777	17.34	0.0556	94.31%	5.26	0.0210	97.85%	3.54%
23	PPu-1	230	0.8585	107.9	0.4027	53.09%	83.3	0.3200	62.72%	9.64%
24	PPu-2	242	0.9033	108.5	0.4050	55.17%	80.6	0.3096	65.72%	10.56%

\* all counts in k cpm