

From: Janine Katanic
Sent: Monday, August 18, 2008 1:52 PM
To: 'James Miller'; Clint Lingren
Cc: Art Howell; Jack Whitten; Anthony Gaines
Subject: re: 08/06/2008 answers from Philotechnics

Mr. Miller:

We have reviewed the Philotechnics 08/06/2008 response to our questions regarding their 1st supplemental decon package.

Regarding the answer for 4.h.:

The response states that: "depending on the material being surveyed, background measurements could fluctuate over a couple hundred cpm." Looking at the supplemental data sheets, it appears that for the handhelds the efficiency is about 25%. So, let's say "a couple hundred cpm" means 200 cpm. If that's the case, taking efficiency into account, this is 800 dpm. Considering that the average surface contamination criteria is 1000 dpm/100 cm², this seems to have implications when trying to apply the free release criteria.

The response furthermore states that "Equipment and supplies composed of high density materials such as steel or iron will have significantly lower background levels than that of lower density such as polypropylene." However, in reviewing the data, lower density objects also had counts rates unreasonably lower than background, i.e., more than 10 standard deviations less than background, for example item 3-0363 "sheet of clear poly" and 3-0365 "pallet of poly sheets."

Regarding the assertion that the background count rate was altered by the type of object being surveyed, this would be a non-issue if the impact of this alteration had been addressed in an appropriately conservative manner.

For example, item 3-0359 "black poly box" was surveyed on March 13 and was determined to have a net beta activity of -486 dpm/100 cm². That same day, item 3-0369, another "black poly box," was surveyed and determined to have a net beta activity of 754 dpm/100 cm². The net difference between these two surveys is 1240 dpm/100 cm². If the black poly boxes truly depress or alter the effective background count rate as much as indicated by the survey of item 3-0359, then item 3-0369 may have been erroneously free-released.

Another example can be seen with items 3-0419, 3-0424, and 3-0425, all labeled "tubes and racks," which indicate that the altered background count rate applicable to "tubes and racks" is effectively >1000 dpm/100 cm² less than that assumed for the calculations. This leads to the conclusion that items 3-0413, 3-0422, also "tubes and racks" (and perhaps others) were erroneously free-released. The fact that other objects had count rates between these two levels does not affect this observation as it can be readily explained by the presence of actual contamination on the objects that results in count rates above "background" but still perhaps below the free-release criteria.

The background count rate for the instruments used for free-release surveys should have been determined in a conservative manner. If it was known, as asserted in this case, that the objects or material type being surveyed impacted this count rate in a non-conservative manner, then it seems prudent that adjustments should have been made for this impact such that the

final calculation of the contamination levels of the objects was determined in an appropriately conservative manner.

The response notes that because the contamination found was surficial in nature, tests for removable contamination are the best indicator for free release. However, whether materials are porous or non-porous, there are two free-release criteria for surface contamination and both must be met.

So again I am left to ask the question were items free released that should not have been free released? Was the methodology used appropriate?

Please provide any comments to this email no later than COB 8/29/08.

Regards,
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