Re: Cu standard

Crawford, Andrew

Thu 12/22/2016 2:07 PM

To:Sylvain, Nicole <nicole.sylvain@usask.ca>;

Cc:Pushie, Jake <jake.pushie@usask.ca>; Mark Hackett <mark.j.hackett@curtin.edu.au>; huishuhou@gmail.com <huishuhou@gmail.com>; George, Graham <graham.george@usask.ca>; Pickering, Ingrid <ingrid.pickering@usask.ca>;

1 attachment

20161218_211828.jpg;

Nicole,

Nothing needs to be changed. MBlank takes the standards and fits them to a curve. This curve is then used to extrapolate and interpolate values (personally, I wouldn't extrapolate ever as it is unreliable - The good news is we didn't have to because all the elements are interpolated).

I disagree with your findings about the Cu standard. I believe it is 74.1 ug/cm^2 Cu and 21 ug/cm^2 S. Please see the image of the thin film from 2-3 (Figure 1 - Thin Film at 2-3 -- I have also attached it); it has a piece missing that Sam cut out for his amalgamation. Also, using these values I obtain the curve below (Figure 2 - Calibration Curve). The data point at ~8000 eV corresponds to the Cu Ka energy. It's placement agrees with the curve. Additionally, I have included the Cu image and S image (Figure 3 - Cu and S images). There is S there.

Please let me know if you have any questions

Figure 1 - Thin Film at 2-3:

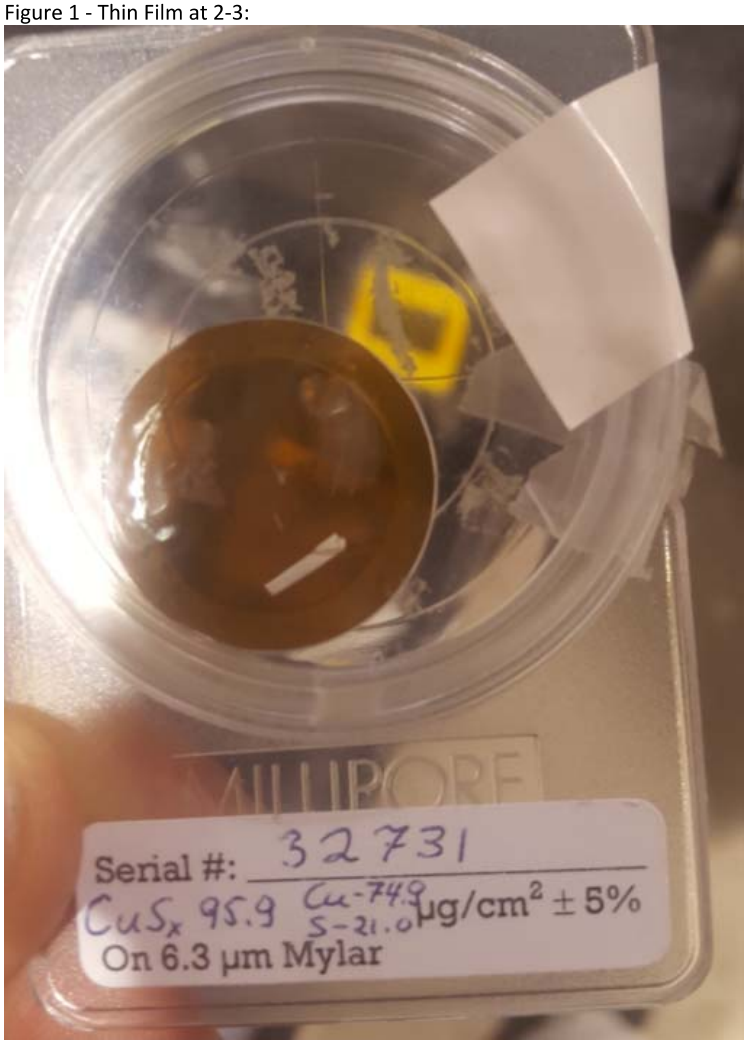


Figure 2 - Calibration Curve:

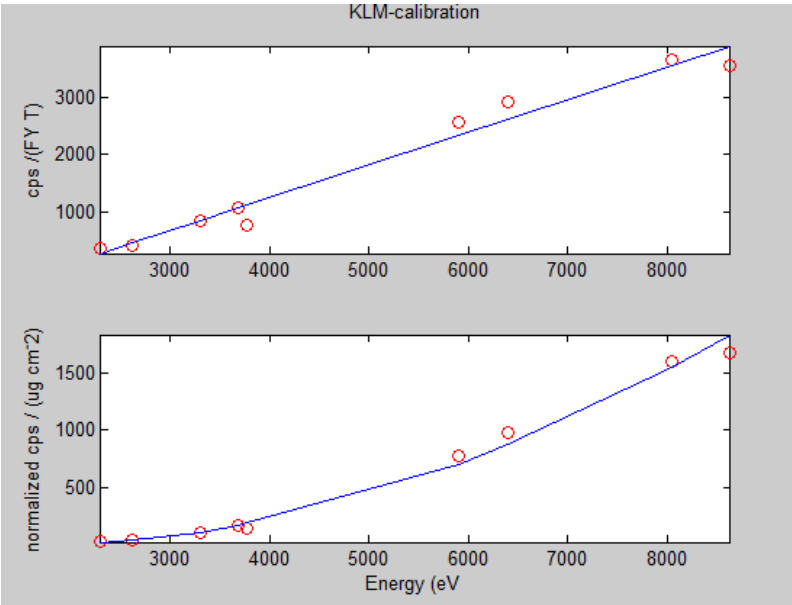
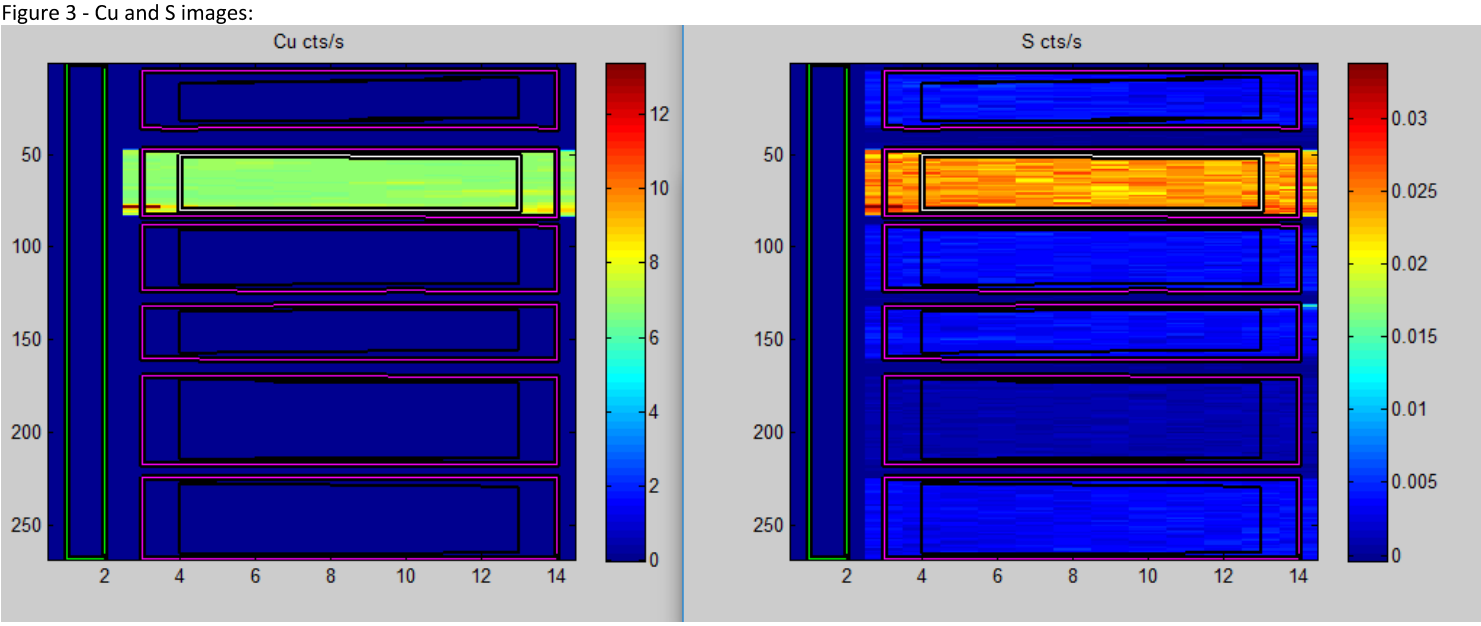


Figure 3 - Cu and S images:



Best Regards,
Andrew

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From: Sylvain, Nicole
Sent: Thursday, December 22, 2016 1:30 PM
To: Crawford, Andrew
Cc: Pushie, Jake; Mark Hackett
Subject: Cu standard

Hi Andrew, we did some digging to verify the CuS concentrations from the plate of standards that we borrow from Sam. According to the manufacturer, that standard is Cu

alone (not CuS) and has a concentration of 49.7ug/cm2 (which was the number we had).

1- This means that we don't have a sulphur standard for past runs. Based on the information you have for the standards, could you extrapolate a sulphur value?
2- Also, knowing that the Cu standard contains only Cu, does the standard fitting parameters that we currently have applied to the stroke files need to be changed?

Thanks!

Nicole Sylvain
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