Indepth look at 4 Albanian samples
For training purposes

This is a detailed look some of the spectra.
The first chart is a look at the overlay at the Rh k backscatter area of the analysis. It is clear that the backscatter from Blaz is much more. The plot on the 3rd page clearly shows the presence of Ca and Fe in Blaz. This indicates that the Cu is covered with foreign material, including lower mass elements like O and C. This is a non uniform material and thus the weight percent in the analysis is wrong. The backscatter for Maliq is typical of a Cu metal alloy. Also only metal atoms show up in the xrf spectra. Even the Maliq spectra indicate some element variation. It is clear that the materials are not uniform from the peak height variation when comparing the raw spectra from a given sample. It is also clear form the elemental list below the alloys from these samples are different.

■ Maliq4687.2
■ Makiq4693.1
■ Maliq4687.1
■ Blaz16391.4(
■ Blaz16391.1(
■ Blaz16391.2(
■ Blaz16391.3(
■ Maliq4693.2

Bold, Italic elements are in the calibration
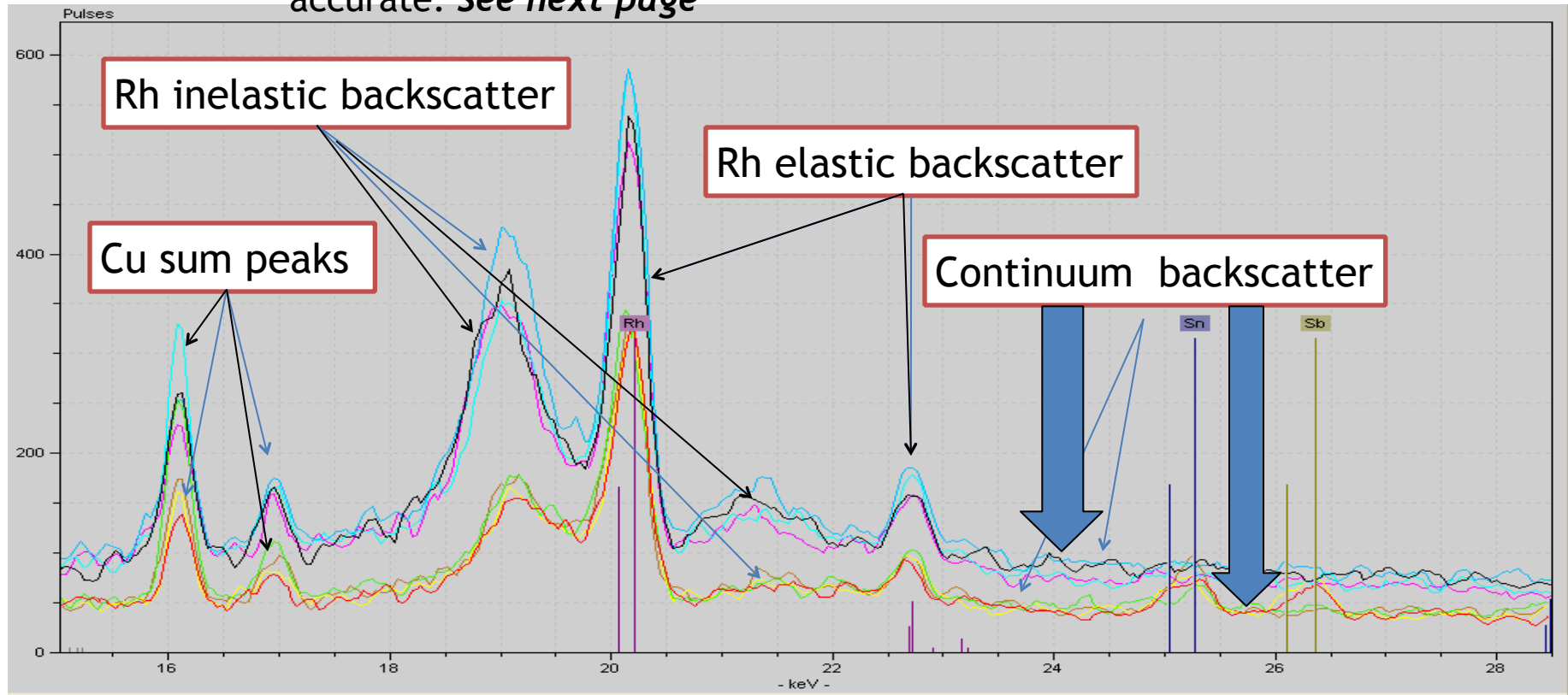
In Blaz there is Ca, Ti, V, Cr, *Fe, Cu*
In Maliq 4687 there is *Fe, Ni, Cu, (Zn), As, Pb, Sn, Sb*
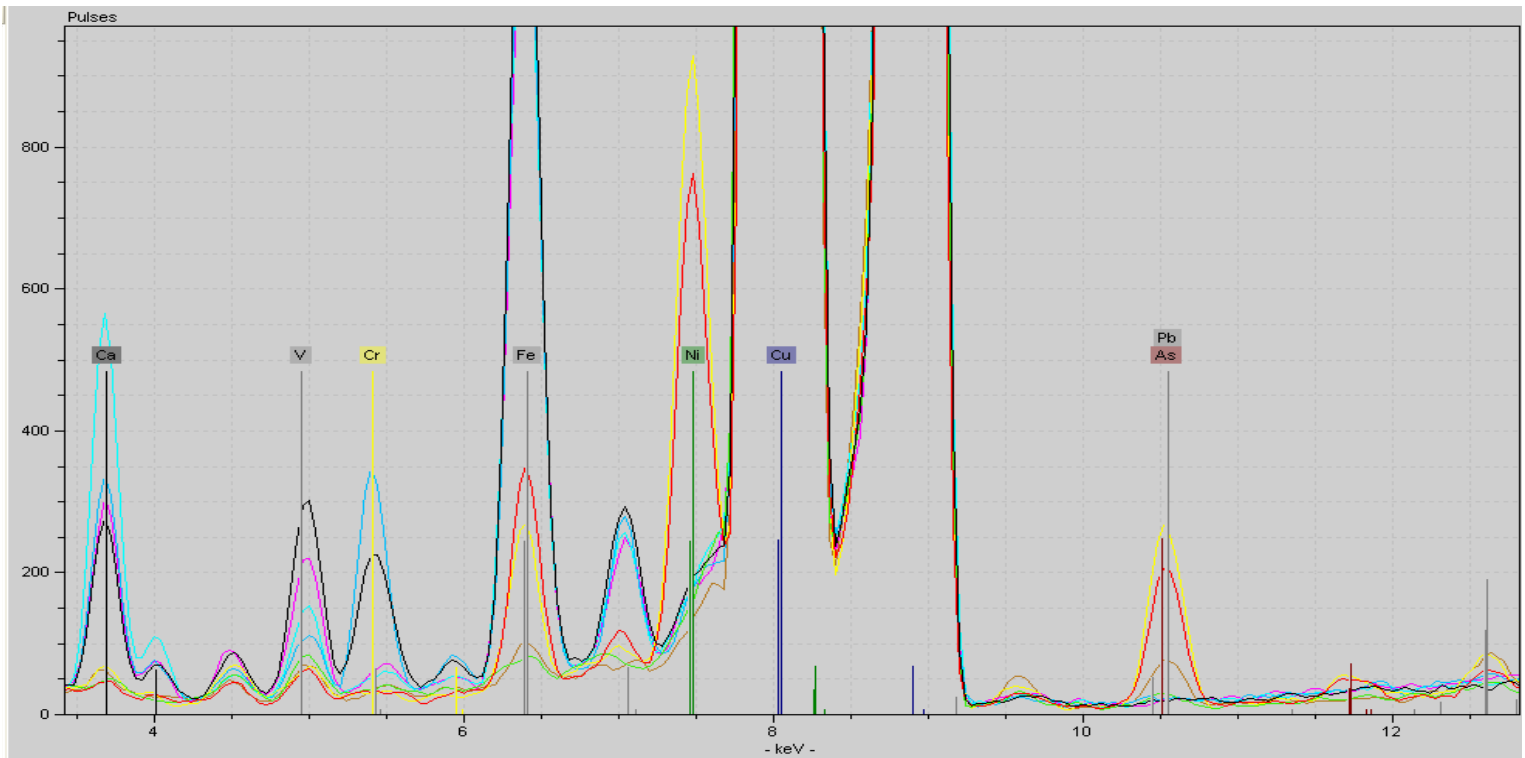In Maliq 4693 there is *Cu, (Zn), Pb, Sn*

Maliq4687.2
Makiq4693.1
Maliq4687.1
Blaz16391.4(
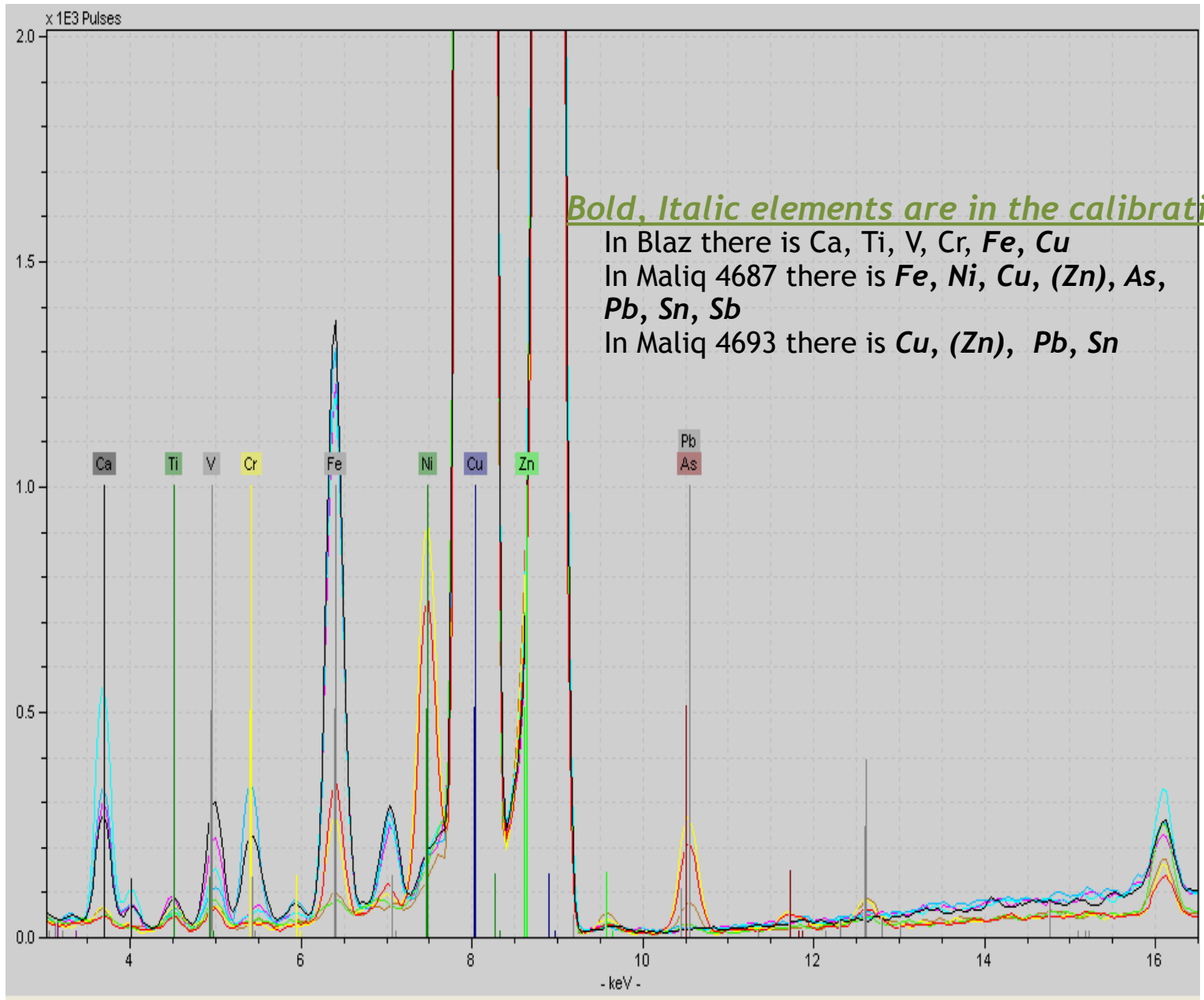Blaz16391.1(
Blaz16391.2(
Blaz16391.3(
Maliq4693.2

Below are the spectra of the analysis listed on the left.
This is a look at the overlay at the Rh k backscatter part of the spectra.
It is clear that the backscatter from Blaz is much more. Also the plot on the next page clearly shows the presence of Ca and Fe. This indicates that the Cu is covered with foreign material, including lower mass elements like O and C. **This is a non uniform material and thus the weight percent in the analysis is wrong on the next page for Blaz**. The backscatter for Maliq is typical of a Cu metal alloy and thus the weight percent numbers are accurate. *See next page*
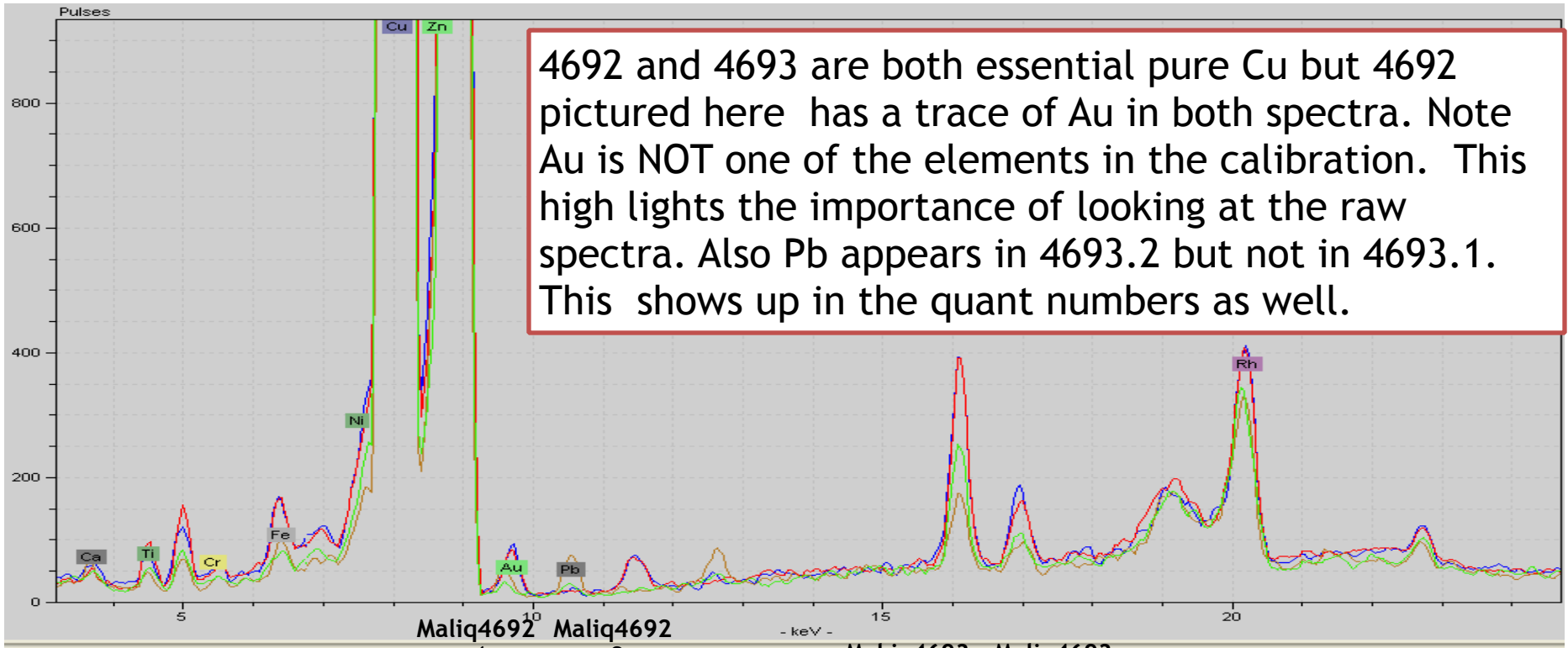

Rh inelastic backscatter

Rh elastic backscatter

Cu sum peaks

Continuum backscatter

	Makiq4693.1	Maliq4693.2
Mn	0.00	0.01
Fe	0.00	0.03
Ni	0.00	0.00
Cu	99.29	97.98
ZnKa	0.00	0.36
ZnKb	0.07	0.58
AsKa	0.00	0.02
AsKb	0.06	0.07
PbLb	0.07	0.22
RhKa	0.00	0.00
Ag	0.01	0.01
Sn	0.14	0.33
Sb	0.07	0.11
SUM	99.72	99.71

	Blaz16391.1	Blaz16391.2	Blaz16391.3	Blaz16391.4		Maliq4687.1	Maliq4687.2
Mn	0.01	0.03	0.05	0.05	Mn	0.00	0.00
Fe	0.84	1.01	1.04	1.03	Fe	0.22	0.31
Ni	0.00	0.00	0.00	0.00	Ni	0.96	0.78
Cu	95.87	94.81	94.93	94.27	Cu	94.71	94.95
ZnKa	0.47	0.64	0.42	0.73	ZnKa	0.17	0.20
ZnKb	0.06	0.18	0.06	0.04	ZnKb	0.32	0.21
AsKa	0.00	0.00	0.00	0.00	AsKa	0.26	0.22
AsKb	0.12	0.17	0.13	0.16	AsKb	0.34	0.35
PbLb	0.00	0.00	0.00	0.00	PbLb	0.19	0.12
RhKa	0.00	0.00	0.00	0.00	RhKa	0.00	0.00
Ag	0.05	0.07	0.08	0.11	Ag	0.01	0.02
Sn	0.21	0.22	0.28	0.26	Sn	0.28	0.31
Sb	0.22	0.30	0.31	0.38	Sb	0.33	0.30
SUM	97.84	97.42	97.30	97.04	SUM	97.79	97.75

Bold, Italic elements are in the calibration
In Blaz there is Ca, Ti, V, Cr, *Fe*, *Cu*
In Maliq 4687 there is *Fe*, *Ni*, *Cu*, *(Zn)*, *As*, *Pb*, *Sn*, *Sb*
In Maliq 4693 there is *Cu*, *(Zn)*, *Pb*, *Sn*

4692 and 4693 are both essential pure Cu but 4692 pictured here has a trace of Au in both spectra. Note Au is NOT one of the elements in the calibration. This high lights the importance of looking at the raw spectra. Also Pb appears in 4693.2 but not in 4693.1. This shows up in the quant numbers as well.

Legend:
- Makiq4693.1
- Maliq4693.2
- Maliq4692.2
- Maliq4692.1

	Maliq4692.1	Maliq4692.2
Mn	-0.01	0.00
Fe	0.04	0.04
Ni	0.00	0.00
Cu	99.46	99.45
ZnKa	0.00	0.00
ZnKb	0.31	0.37
AsKa	0.00	0.00
AsKb	0.15	0.15
PbLb	0.02	0.01
RhKa	0.00	0.00
Ag	0.01	0.01
Sn	0.10	0.05
Sb	0.03	0.03
SUM	100.12	100.12

	Makiq4693.1	Maliq4693.2
Mn	0.00	0.01
Fe	0.00	0.03
Ni	0.00	0.00
Cu	99.29	97.98
ZnKa	0.00	0.36
ZnKb	0.07	0.58
AsKa	0.00	0.02
AsKb	0.06	0.07
PbLb	0.07	0.22
RhKa	0.00	0.00
Ag	0.01	0.01
Sn	0.14	0.33
Sb	0.07	0.11
SUM	99.72	99.71

Maliq 4692