

Calculating scale bars and adding image attributes with Gimp and Xfig ^{iwv}

1 Scale bar for microscope and microprobe images¹

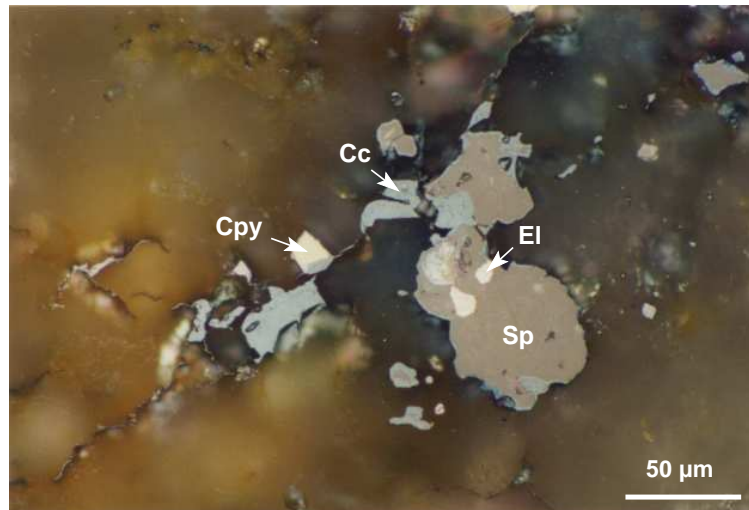


Figure 1: cc-cpy-disease.eps

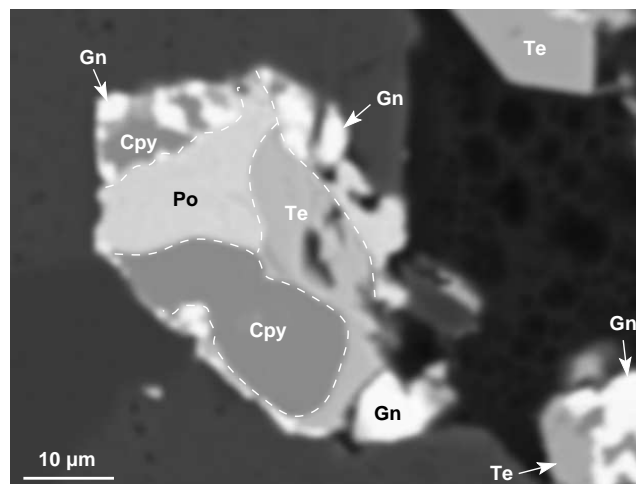


Figure 2: tet-gn-po-1.eps

¹Check the precise distance of a microscopic image before defining the scale bar. Each microscope has a special image length.

Setting: Gimp: scanned photos: *reduce image size into 1756x1196pixel using crop tool, resize it to 628pixel of 150mm width.* BSE images: *crop original BSE image into 1024x767pixel by removing the legends, resize it to 627pixel of 150mm width.* **Xfig:** texts: *Helvetica Bold with 14 pointsize;* lines: *2pt width;* arrows: *1pt thick, 8pt width, 10pt height.* Export into eps image as usual... iww

Table 1: *x*-ordinate in Xfig for scale bar (15cm fotolength), read setting for the photos sizes (photolength was calculated based on Microprobe measurement).

Objective	Photolength (μm)	Length (μm)	Length of Xfig scalebar (pt)
2.5	6500	1000	1040
10	1625	250	1040
20	810	100	832
40	405	50	832
50	325	50	1040

2 Scaling from scanned sample

2.1 Rescaling scanned image into exact postcard size with Gimp

1. Calculate $L' = W * 592/403$ or $W' = L * 403/592$ (depend on wether L or W to be a constant value)
2. Crop image (with Gimp) based on a size $L = L'$ or $W = W'$
3. Save as a different file name
4. Scaling image into length 592 pix, 150 mm and 100 dpi
5. Save as EPS Level 2

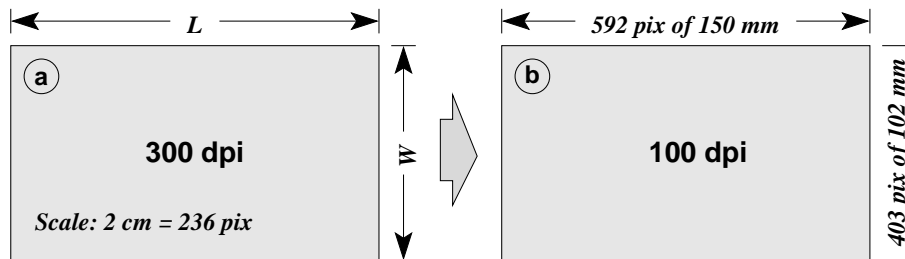


Figure 3: Scaling image scheme. a) Original scanned image. b) Rescaled image

2.2 Adding a scalebar with Xfig

1. Calculate bar length (of 2 cm scalebar) with the formula:

$$L_{bar} = \frac{6779 * 236}{L}$$

2. Make a bar with the length = L_{bar}