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High-resolution two-dimensional quantitative analysis of phosphorus, vanadium and arsenic, and qualitative analysis of sulfide, in a freshwater sediment

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Accessory material

Gel drying procedure

Gels were initially part dried by placing the gel (and backing filter membrane) onto a thick blotting paper, the gels were covered with a plastic film and put under light pressure overnight. This pre-drying step was necessary to avoid inhomogeneous areas forming on the gels. Gels were then transferred to a gel drier (Bio-Rad model 543) at 60ºC for 8 h (A. Widerlund, unpubl. data). When dry, areas of interest on the gel were cut and mounted onto glass microscope slides with double sided adhesive tape.

Laser ablation TRA data processing procedure

The PlasmaLab software package (version 2.5.3.280) enables data processing using a transient time resolved analysis (TRA) application. The software identifies analyte peaks as counts per second (CPS), performs background corrections and calculates peak areas as integrated counts per second. Peak finding was specified as absolute CPS values with the baseline subtracted. Minimum peak width was set at 11 time-slices and peak edge signal averaging was set at two data points. All other values were set at zero and no smoothing was specified. Analyte peaks for one element can be copied to all remaining elements (and other samples if they contain the same number of ablations), provided the position of the analyte peaks does not vary significantly with time. Values for peak areas can then be copied into alternative software (e.g. Excel or SigmaPlot) for data analysis (Warnken et al, 2004).[5]