

Electronic Supplementary Information

Rapid determination of ^{210}Pb and ^{210}Po by sequential cloud point extraction for environmental monitoring

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Table S1. Instrumental parameters for ^{210}Po analysis by alpha-spectrometry

Parameters	Conditions
Instrument	Canberra 7200 alpha spectrometer
Detector (model)	PIPS (A450 18 AM)
Detector size	450 mm ²
Suppression bias	5 V
Pressure	1 Torr
Detector average efficiency	17%
Detector calibration isotopes	^{238}U ; ^{234}U ; ^{239}Pu and ^{241}Am
Sample/detector spacing	5 mm
Disk composition	Silver
Disk diameter	20 mm
Disk thickness	1 mm
Counting time	6 h

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Table S2: Instrumental parameters for ^{210}Pb analysis by mass spectrometry

Parameters	Conditions
Instrument	Agilent 8900 ICP-MS/MS
Sampler Cone	Nickel
Skimmer Cone	Nickel
Extraction Lens	S-Lens
RF Power	1500 W
RF Matching	1.80 V
Sampling Depth	7.0 mm
Carrier Gas flow rate	0.80 L/ Min
Makeup Gas flow rate	0.34 L/ Min
Spray Chamber temperature	2°C
Extract 1	3 V
Extract 2	-230 V
Omega Lens	10 V
Q1 Entrance	0 V
Q1 Exit	1 V
Cell Focus	-8 V
OctP RF	120 V
Energy discrimination	5 V
Deflect	14 V
Q1 Bias	-3 V
Q2 Bias	-15 V
Gas	No gas
Expected Oxide level	0.5 - 1 %
Expected Double Charged ions	0.3 - 0.5 %
Integration time/Mass	20 sec
m/z monitored (Q ₁ and Q ₂)	210