

	BIG 1	CEREGE 2	GET 3	GFZ 4	IFREMER 5	STAIG 6
	15-30 mg / NaOH fusion AG50W - X12	10-20 mg for soil RMs 500 mg for ERM-CD281 calcination 450°C NaOH fusion AG50W - X8	~ 5 mg calcination 450-500°C NaOH fusion AG50W - X12	3-100 mg / NaOH fusion AG50W - X8	~ 5 mg / NaOH + Na ₂ O ₂ fusion AG50W - X12	~ 10 mg calcination 450°C NaOH fusion AG50W - X12
ed for Si purification through column	7.2 µg Spectrophotometer	20 - 150 µg ICP-MS	20-40 µg ICP-OES	4 - 50 µg ICP-OES	30-60 µg MC-ICP-MS	20 µg Spectrophotometer
solutions	< 25 ng Si total	< 30 ng Si total	< 30 ng Si total	< 16 ng Si total	< 20 ng Si total	< 35 ng Si total
e blank	Neptune+ Wet PFA Teflon spray chamber PFA ca. 100 µl/min Regular sampler Ni X skimmer 10 ¹¹ Ω MR yes (Si/Mg ~ 1:1) ~ 3.6 µg/analysis 18-25 V / 2-2.5 ppm 8 V /ppm ²⁸ Si 1% HNO ₃ NBS 28 < 0.07 V	Neptune + Wet Thermo double pass spray chamber PFA ca. 100 µl/min Regular Ni cones 10 ¹¹ Ω MR yes (²⁸ Si/ ²⁴ Mg ~ 1:1) 3 µg/analysis 10-15 V / 2-2.5 ppm 4-5 V /ppm ²⁸ Si 1% HNO ₃ NBS 28 < 0.08 V	Neptune Wet Thermo SIS spray chambe PFA ca. 70 µl/min Regular sampler Ni X skimmer 10 ¹¹ Ω MR-HR yes ~ 3 µg/analysis 14 V / 3 ppm 3-4 V /ppm ²⁸ Si 0.05M HCl NBS 28 ~ 0.05 V	Neptune Plus Semi-dry Apex HF (PFA) ca. 145 µl/min Jet sampler H skimmer 10 ¹¹ Ω MR yes (Si/Mg ~ 1:1) 0.5 µg / analysis 11 V / 0.5 ppm ca. 20 V / ppm ²⁸ Si 0.1M HCl NBS 28 < 0.02 V	Neptune Semi-dry Apex PFA ca. 100 µl/min Regular Ni cones 10 ¹¹ Ω MR yes 0.5 µg/analysis 30-35 V / 2 ppm ca. 10 V / ppm ²⁸ Si 2% HNO ₃ in house 0.04V	Neptune + Wet Thermo SIS spray cham PFA ca. 75 µl/min Ni sampler Ni ¹ H skimmer 10 ¹¹ Ω MR No ~ 1.6 µg/analysis 18 - 20V / 2 ppm ca. 9 V /ppm ²⁸ Si 1% HNO ₃ NBS 28 < 0.1 V
ing analysis	1 block of 20 analysis in dynamic mode with 4 s integration time/cycle	1 block of 36 analysis in dynamic mode with 4 s integration time/cycle	1 block of 25 scans of 8.4ms	1 block of 30 cycles in dynamic mode with 4 s integration time/cycle	1 block of 25 analysis in dynamic mode with 4 s integration time/cycle	1 block of 25 analysis static mode with 8 s integration time/cycle
on used for bracketing intensity ²⁸ Si	Not consecutive on the run, run over several days	On different days	On the same day, not consecutive on the run (except for ERM-CD281 ran on different days)	On different days	On the same day, consecutive on the run	On different days
cedure						
ANALYZED FOR ING THIS STUDY						
SD)	+ 1.20 ± 0.10 % (n=7)	+ 1.25 ± 0.10 % (n=40)	NA	NA	+ 1.26 ± 0.17 % (n=6)	+ 1.24 ± 0.04 % (n=4)
SD)	+ 0.66 ± 0.07 % (n=7)	+ 0.66 ± 0.07 % (n=40)	NA	NA	+ 0.68 ± 0.09 % (n=6)	+ 0.64 ± 0.04 % (n=4)
))	NA	- 0.25 ± 0.11 % (n=14)	NA	- 0.28 ± 0.02 % (n=8)	- 0.24 ± 0.08 % (n=6)	- 0.32 ± 0.04 % (n=8)
))	NA	- 0.12 ± 0.11 % (n=14)	NA	- 0.15 ± 0.05 % (n=8)	- 0.12 ± 0.06 % (n=6)	- 0.16 ± 0.04 % (n=8)

Table 2. Detailed overview of chemical preparation and analytical techniques used by each laboratory.

aliquot amount of the original sample taken for analysis.
intensity refers to the intensity of ²⁸Si measured in the "Si-free" matrix solution used for sample dilution
resolving power RP, defined as $m/\Delta m = m/[m(5\%) - m(95\%)]$, where $m(5\%)$ and $m(95\%)$ are the masses at 5% and 95% peak intensity, respectively, and m is the mass of the peak. LR = low RP (> 1000).