Supplementary Materials

Table S1: Statistical analysis on moisture content data from lots 2 and 3 determined at the 95% CI.

Element	t-test for Means	F-Test for Dataset Comparison[1]	Avg. % Difference[2]
Sr	7.535×10^{-7}	2.953×10^{-14}	19.47
Rb	9.800×10^{-5}	0	19.78
Ca	9.319×10^{-6}	0	19.79
Fe	1.391×10^{-3}	0	22.43
Zn	0.08111	4.119×10^{-9}	23.82
Mn	2.579×10^{-4}	0	24.18
Pb	0.1753	1.128×10^{-12}	24.37
Cu	0.1904	5.173×10^{-6}	26.62
Ni	4.755×10^{-3}	0	45.35
Cr	1.819×10^{-7}	3.599×10^{-11}	50.72

[1]The two datasets used for the statistical tests were wet concentration vs. dry concentration and dry concentration vs. dry concentration.

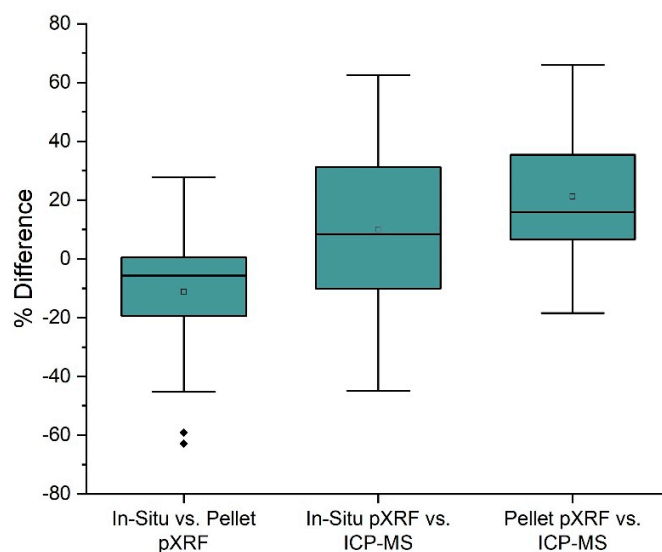[2]The percent difference was calculated for dry vs. wet pXRF measurements.

Figure S1. Boxplot representation of the relative differences between various analysis methods of Pb.
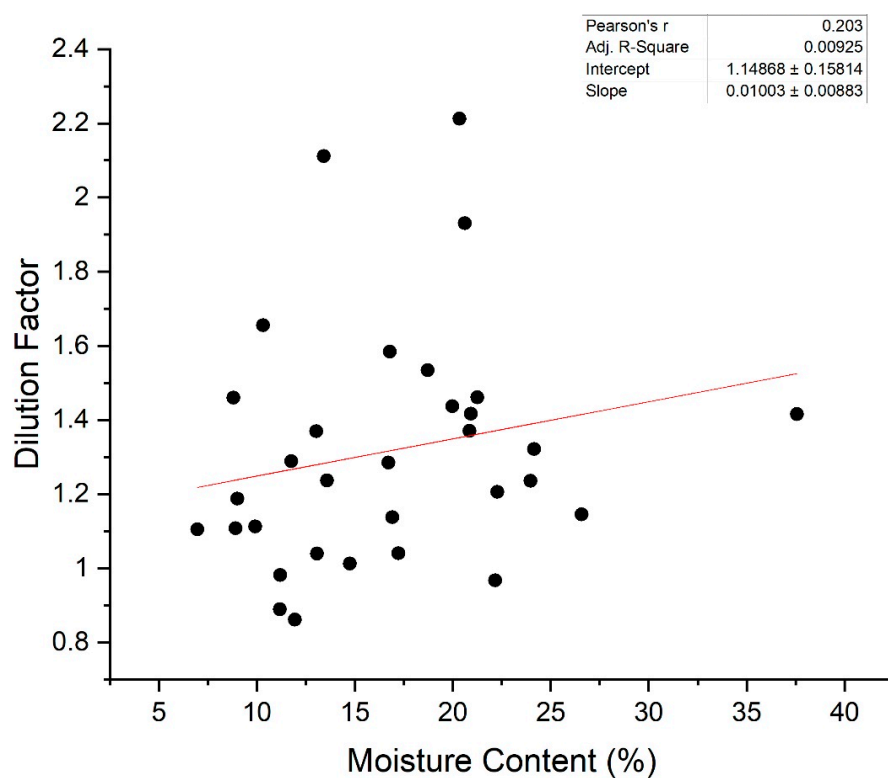
Figure S2. Linear regression for moisture content and dilution factor for Pb measurements, where dilution factor is simply the quotient of the dry Pb concentration and wet Pb concentration.
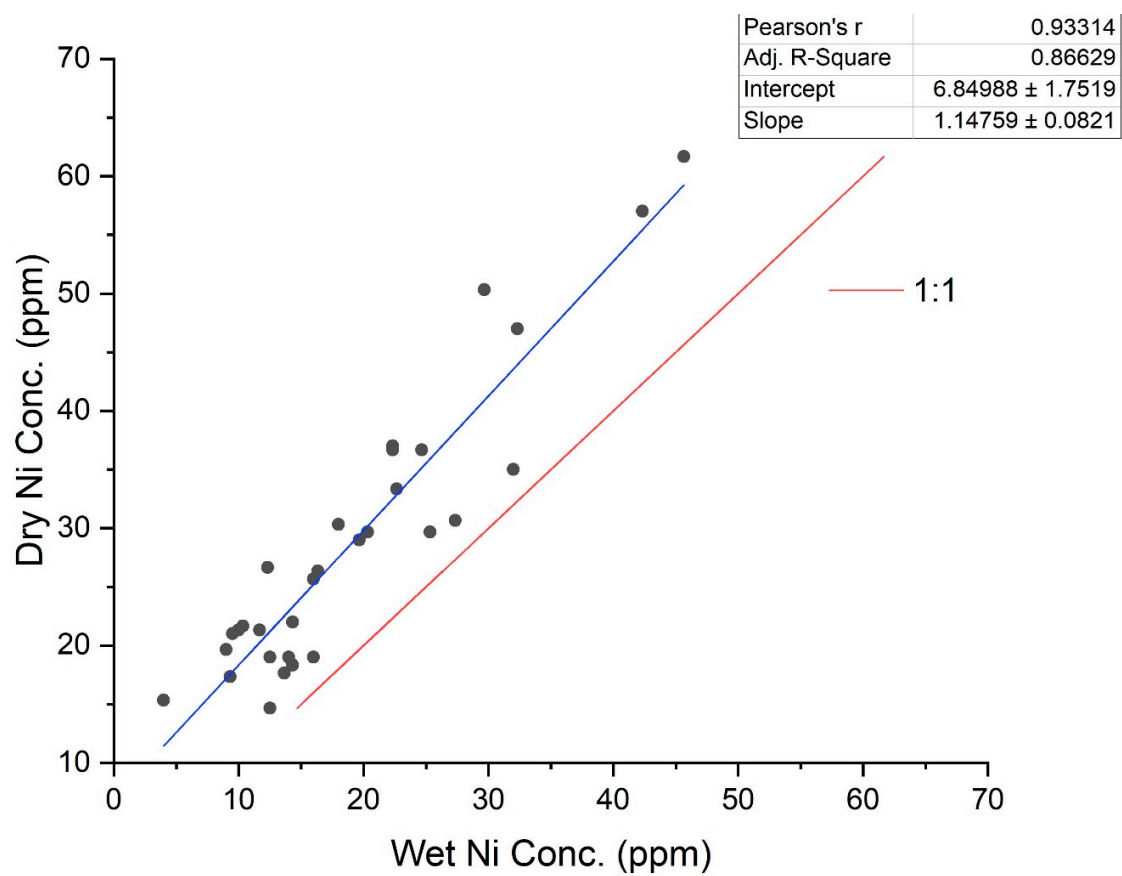
Figure S3. Linear correlation between wet (in-situ) and dry pXRF Ni measurements (n=31, R^2=0.8663) indicated by the blue line; the red line indicates a regression with a slope of 1.
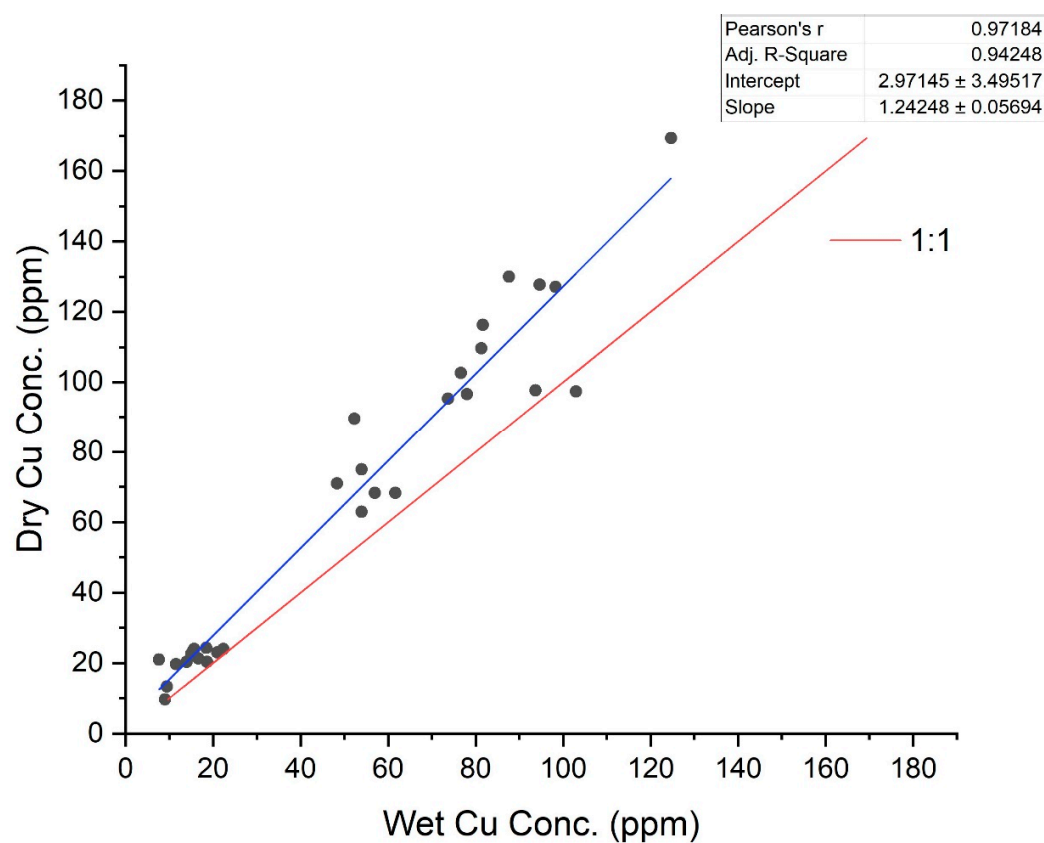
Pearson's r	0.97184
Adj. R-Square	0.94248
Intercept	2.97145 ± 3.49517
Slope	1.24248 ± 0.05694

Figure S4. Linear correlation between wet (in-situ) and dry pXRF Cu measurements (n=30, R^2=0.9425) indicated by the blue line; the red line indicates a regression with a slope of 1
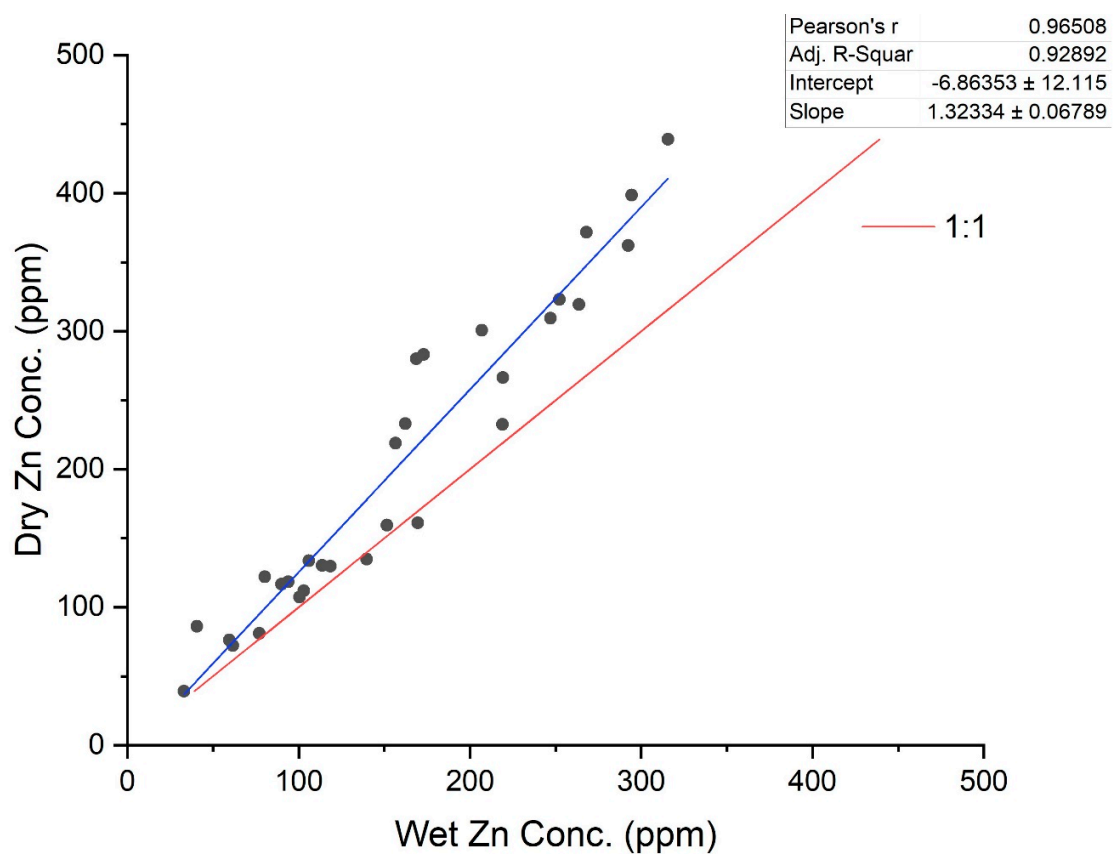
Figure S5. Linear correlation between wet (in-situ) and dry pXRF Zn measurements (n=30, R²=0.9289) indicated by the blue line; the red line indicates a regression with a slope of 1