Table S1 Reference dose (RfD) and slope factor (S_F) of HMs

HMs	Non-carcinogenic reference dose/mg·(kg·d)$^{-1}$			Carcinogenic slope factor/kg·d·mg^{-1}		
	RfD_o	RfD_d	RfD_i	S_{Fo}	S_{Fd}	S_{Fi}
As	3.00E−04	3.00E−04	3.00E−04	1.50E+00	3.66E+00	1.50E+01
Be	2.00E−03	—	2.00E−05	—	—	2.4E+00
Cd	1.00E−03	2.50E−05	5.71 E−05	—	—	6.30E+00
Cr	1.5 E+00	1.95E−02	2.86E−05	—	—	—
Cu	4.00E−02	4.00E−02	—	—	—	—
Hg	1.60E−04	1.60E−04	8.75E−05	—	—	—
Ni	2.00E−02	8.00E−04	2.06E−02	1.70E+00	4.25E+01	9.01E−01
Sb	4.00E−04	—	—	—	—	—
Pb	1.40E−04	1.40E−04	—	—	—	—
Zn	3.00E−01	3.00E−01	3.00E−01	—	—	—

Table S2 Pearson correlation analysis of HMs in soil with TOC and pH

HMs	As	Be	Cd	Cr	Cu	Hg	Ni	Pb	Sb	Zn
TOC	0.730**	0.819**	-0.046	-0.004	-.158	0.416**	0.202	-0.096	-0.003	0.154
pH	0.256	0.219	-0.023	-0.030	-.473**	0.227	0.038	-0.300*	0.318*	-0.057

Note: ** was significantly correlated at the.01 level (bilateral). * significantly correlated at the 0.05 level (bilateral).
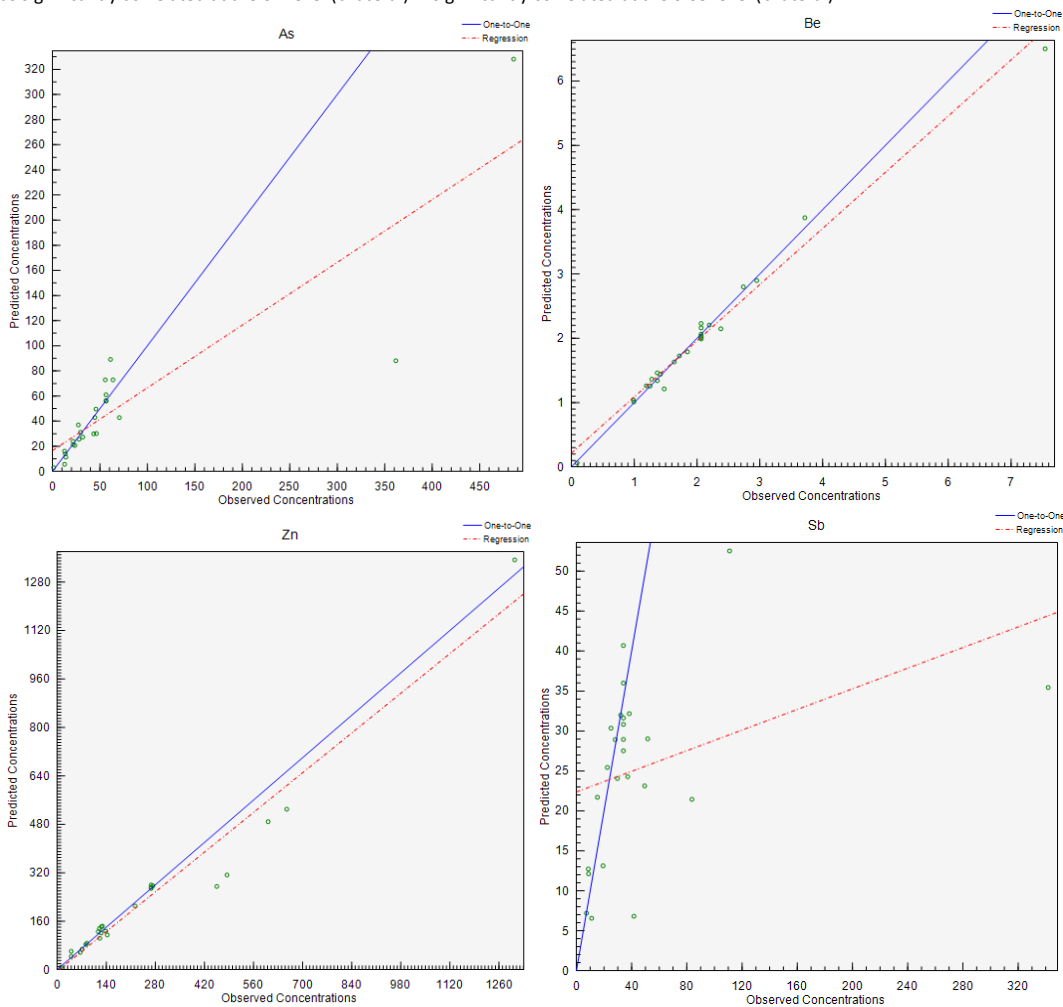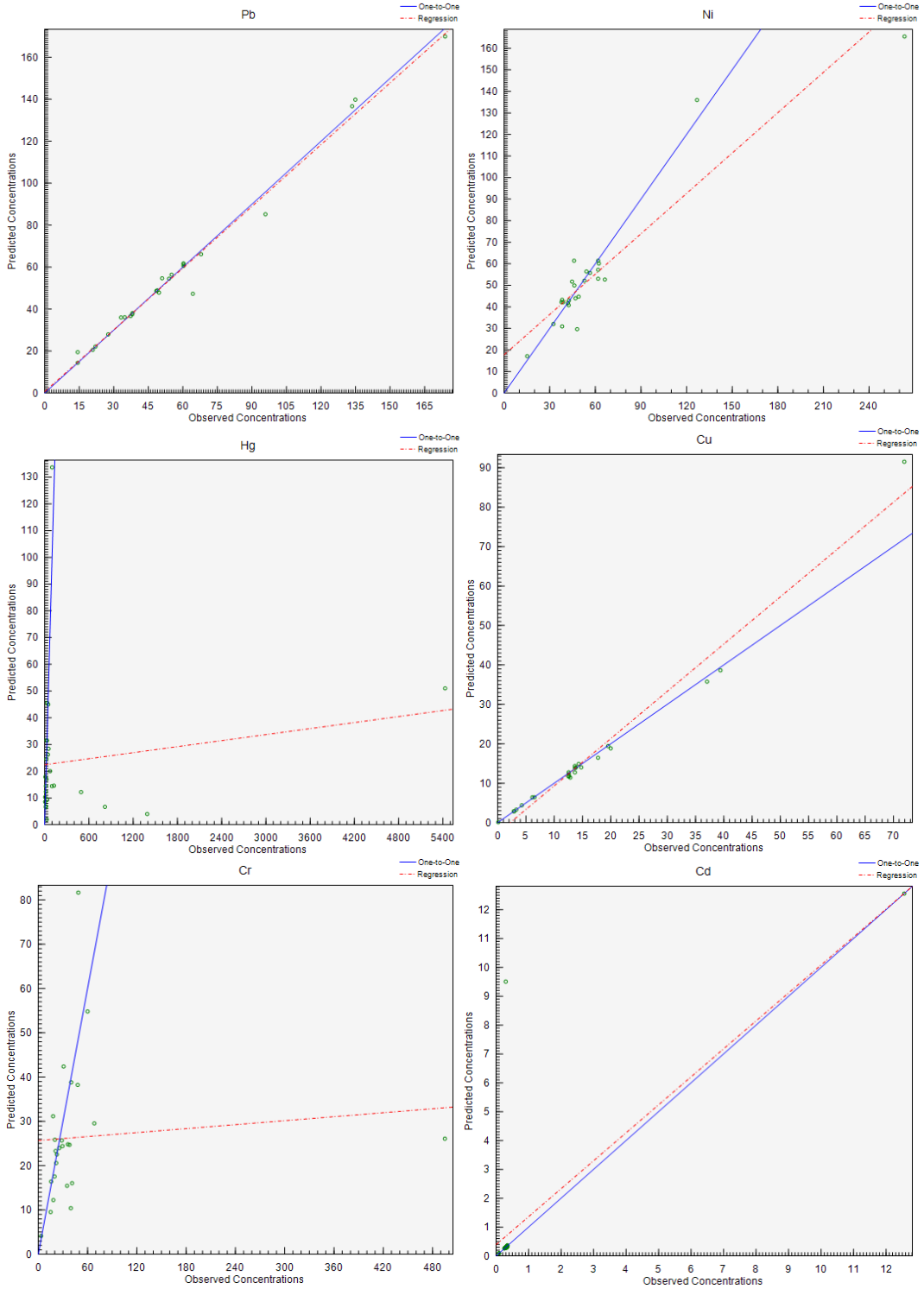
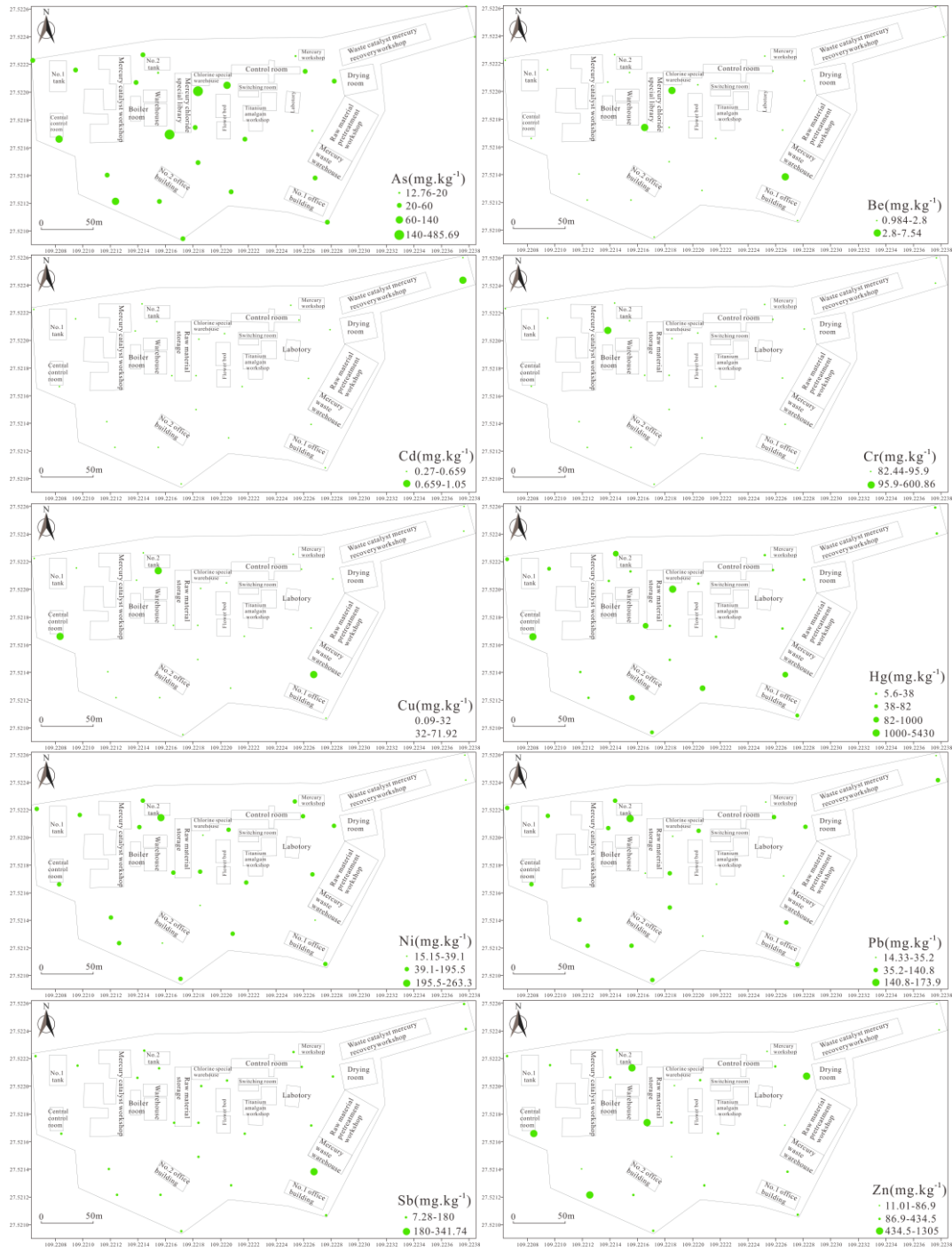Fig.S1 Comparison of ten HMs content predicted by PMF model with measured

Fig.S2 Distribution of ten HMs concentration in twenty-five sampling points