Average concentration ± standard deviation for relevant quality control samples (QCs), reference materials, and Milli-Q (MQ) blanks during dissolved trace metal analyses. A set of air blanks was run every seaFAST run. The limit of detection (LOD) for each dissolved element was calculated as 3 times the average SD of the air blanks. The QC surface seawater used was from the North Pacific (NP) EXPORTS cruise in August 2018. Reference materials (SAFe S, GSP) with consensus values were used. Consensus values for SAFe S and GSP are available on the GEOTRACES website (https://www.geotraces.org/standards-and-reference-materials/).

*Dissolved Co and Cu concentrations are reported for UV-oxidized samples only.
**Consensus values were converted to units of nM (Mn, Fe, Ni, Cu, and Zn) or pM (Co, Cd, and Pb) using average seawater density of 1.025 kg/L.

	Mn (nM)	Fe (nM)	Co* (pM)	Ni (nM)	Cu* (nM)	Zn (nM)	Cd (pM)	Pb (pM)
Dissolved Trace Metals								
Average SD of Air Blank Sets	0.001 (n = 7)	0.009 (n = 7)	0.1 (n = 7)	0.01 (n = 7)	0.004 (n = 7)	0.015 (n = 7)	0.1 (n = 7)	0.4 (n = 7)
LOD	0.002	0.028	0.2	0.02	0.012	0.045	0.2	1.3
NP QC Bottle 1	0.85 ± 0.07 (n = 43)	0.120 ± 0.062 (n = 29)	32.3 ± 3.1 (n = 5)	4.62 ± 0.16 (n = 39)	1.17 ± 0.10 (n = 6)	0.500 ± 0.084 (n = 35)	47.2 ± 4.5 (n = 37)	22.5 ± 2.3 (n = 40)
GSP	0.74 ± 0.09 (n = 16)	0.178 ± 0.058 (n = 14)	7.1 ± 0.6 (n = 7)	2.50 ± 0.21 (n = 16)	0.55 ± 0.04 (n = 8)	0.037 ± 0.031 (n = 9)	1.5 ± 1.4 (n = 4)	68.8 ± 2.6 (n = 13)
GSP, consensus	0.778 ± 0.034 (n = 9)	0.155 ± 0.045 (n = 11)		2.595 ± 0.100 (n = 11)	0.574 ± 0.053 (n = 9)	0.030 ± 0.052 (n = 10)	2 ± 2 (n = 4)	62 ± 5 (n = 11)
SAFe S	0.80 ± 0.07 (n = 9)	0.095 ± 0.017 (n = 9)	4.4 ± 0.7 (n =7)	2.31 ± 0.08 (n = 12)	0.50 ± 0.02 (n = 8)	0.111 ± 0.046 (n = 11)	2.1 ± 1.3 (n = 4)	51.0 ± 1.7 (n = 12)
SAFe S, consensus**	0.81 ± 0.06	0.095 ± 0.008	4.9 ± 1.2	2.34 ± 0.09	0.53 ± 0.05	0.071 ± 0.010	1.1 ± 0.3	49.2 ± 2.3