

- 1 Table S1. Total dissolved Ni (nM) in basal media with and without Fe(III) oxides. Samples
- 2 were prepared in the same manner as enrichment cultures. A subset of samples was acidified in
- 3 HNO₃- prior to filtering and measurement. Error is reported as the standard deviation of triplicate
- 4 measurements. "n.d." indicates not detectable.

Number	Medium	Medium	Medium	Medium	Medium
of needle		+10 mM	+10 mM	+10 mM	+10 mM
exposures		ferrihydrite	goethite	ferrihydrite	goethite
				+ HNO ₃	$+ HNO_3$
1	41 ± 20	32 ± 1	50 ± 36	2365	65*
2	44 ± 13	33 ± 11	52 ± 31	n.d.	n.d.
4	39 ± 9	30 ± 17	33 ± 10	n.d.	n.d.
6	41 ± 18	22 ± 19	33 ± 15	2385	605
8	41 ± 12	40 ± 19	42 ± 23	n.d.	n.d.
10	46 ± 16	38 ± 27	35 ± 4	n.d.	n.d.

^{*}Counts for this measurement were below detection limit of the instrument.

Table S2. Total dissolved Ni (nM) in 2° and 3° enrichment cultures.

Treatme	Enrichment		
		2°	3°
Ferrihydrite	CH ₄ -1	130	241
	CH ₄ -2	150	118
	N ₂ -1	202	96
	N ₂ -2	286	254
Goethite	CH ₄ -1	104	101
	CH ₄ -2	56	117
	N ₂ -1	53	134
	N ₂ -2	54	90