









Methods for Batch Tests

- In the Fe⁰ system, one g of Fe⁰ was reacted with 42 mL of 2 mg L⁻¹ As(V), As(III) or As(V+III) (1:1) in 0.01 M NaCl in head-space-free centrifuge tubes for up to 5 days
- In the Fe oxide system, 0.1 g of oxides was reacted with 2 mg L⁻¹ As(V), As(III) or As(V+III) (1:1) in 0.01 M NaCI in head-space-free centrifuge tubes for 24 h. The pH of suspensions was adjusted with HCl or NaOH
- The suspensions were centrifuged, filtered, and analyzed for As(V) and As(III). The pH and Eh were determined for unfiltered suspensions
- Total dissolved As was determined by ICP-AES. Speciation of As(V) and As(III) was accomplished by IC-GFAAS or IC-HG-AFS



Material	Surface Area (m ² g ⁻¹)	Mn Conc (mg kg ⁻¹)
Fisher Iron	0.091	45
Peerless Iron	2.53	5255
Master Builders Iron	2.33	5645
Aldrich Iron	0.19	3770
Magnetite (Phoenix)	2.43	4439
Magnetite (Connelly CC-1048)	11.2	1974
Hematite (Connelly CC-1049)	5.17	694



















Residence Time (days)	As Sorbed %	1 st Phosphate Desorption % of Sorbed	2 nd Phosphate Desorption % of Sorbed	
		Initial As(V)		
1	73.4	8.82	0.54	
30	99.7	5.72	0.68	
60	100	4.29	0.56	
		Initial As(III)		
1	91.1	10.4	0.57	
30	99.8	5.17	0.69	
60	100	3.19	0.49	



































of Sorbed As on Magnetite (CC-1048)			
Residence Time (days)	As Sorbed %	1 st Phosphate Desorption % of Sorbed	2 nd Phosphate Desorption % of Sorbed
		Initial As(V)	
1	85.3	48.3	4.73
30	99.5	25.7	5.06
60	100	18.2	3.89
		Initial As(III)	
1	71.8	22.6	4.69
30	97.1	16.7	8.40
60	99.2	11.6	6.05

Residence Time (days)	As Sorbed %	1 st Phosphate Desorption % of Sorbed	2 nd Phosphate Desorption % of Sorbed
		Initial As(V)	
1	58.5	62.9	4.58
30	89.8	36.4	5.49
60	91.7	24.4	4.97
		Initial As(III)	
1	68.4	33.8	4.58
30	88.3	24.2	8.14
60	91.3	17.4	7.71















































