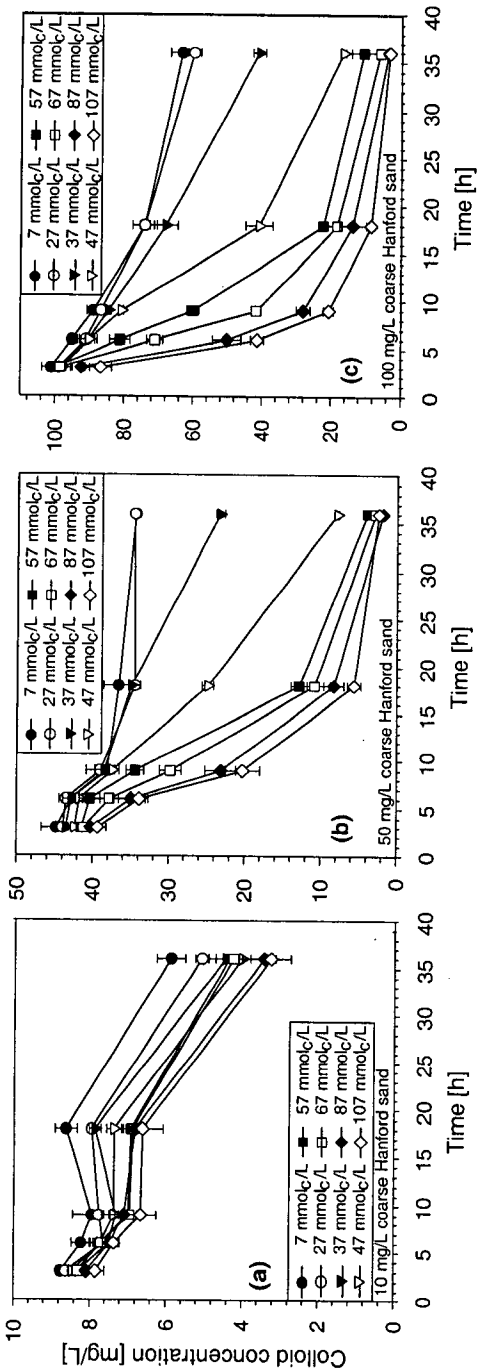

Figure A. Effect of settling time on stability of coarse Hanford colloids in Na electrolyte solutions (SAR = ∞) at pH 10 for different initial colloid concentrations: (a) 10 mg/L, (b) 50 mg/L, and (c) 100 mg/L. Error bars denote $\pm$ one standard deviation.

© 2005 American Chemical Society, Environ. Sci. Technol., Czigany es048714n Supporting Info Page 2

Table A. Electrolyte type and concentrations and initial colloid concentrations of the batch experiments. All solutions were adjusted to pH 10.

Electrolyte[a]	Concentration range used ($mmol_c/L$)	Initial colloid concentration (mg/L)
NaCl, $NaHCO_3$, Na_2CO_3	7–107 (Na)	30–55, 10–400
$CaCl_2$, $Ca(OH)_2$	0.2–2.2 (Ca)	30–55
$CaCl_2$, $NaHCO_3$, Na_2CO_3	0.0–5.0 (Ca); 5.1 (Na)	30–55
NaCl, $CaCl_2$, $NaHCO_3$, Na_2CO_3	0–5 (Ca); 5.1-65.1 (Na)	30–55
Hanford pore water[b]	0–4.4 (Ca); 0.5, 1.0, or 5.1 (Na); 0.2 (K); 0.6 (Mg)	30–55

[a] All experiments were performed at standard atmospheric pressure with 0.00035 atm CO_2 partial pressure.

[b] Synthetic Hanford pore water; all counterions are Cl.

Table B. Properties of colloids used in this study.

Colloid type	Fe[a]	Electrophoretic mobility[b] at pH≈10	Hydrodynamic diameter[b]	Organic C[c]
	(g/kg)	(μm/s)(V/cm)	(nm)	(g/kg)
Montmorillonite (SWy-2)	0.88±0.05	−3.4±0.1	494±26	1.3±0.1
Kaolinite (KGa-1)	0.13±0.01	−5.0±0.1	488±45	0.8±0.3
Coarse Hanford	42.02	−3.4±0.1	566±43	6.8±0.2
Fine Hanford	32.94	−3.6±0.1	592±38	3.8±0.2

[a] "Free" iron oxides determined by citrate-bicarbonate-dithionite method described by Loeppert and Inskeep (*33, p. 647–648*).

[b] measured by dynamic light scattering in 0.01 M NaCl (Malvern Instruments Ltd., Malvern, UK).

[c] measured by dry combustion with a LECO CHN Analyzer (Leco Corporation, St Joseph, MI).