

SUPPLEMENTARY MATERIALS

Input data for running PHREEQCI, mixing of Leviathan AMD with Mountaineer Creek with the precipitation of schwertmannite and basaluminite.

SOLUTION 1 Leviathan Ck

temp 19.5
pH 3.25
pe 12
redox Fe(2)/Fe(3)
units mg/l
density 1
Al 19.8
Ba 0.048
Cd 0.0079
Ca 82.2
Cu 0.231
F 0.52
Fe(2) 9.01
Fe(3) 9.39
Mg 23.6
Mn 3.04
K 4.57
Si 46.4
Na 11.8
Sr 0.708
S(6) 483
Zn
-water 1 # kg

SOLUTION 2 Mountaineer Ck

temp 12.5
pH 8.85
pe 6.7
redox Fe(2)/Fe(3)
units mg/l
density 1
Alkalinity 94.3
Al 0.045
Ba 0.039
Cd 0.0002
Ca 13.7
Cu 0.001
F 0.04
Fe(2) 0.0086
Fe(3) 0.0013
Mg 5.78
Mn 0.022
K 2.29
Si 42.6
Na 6.83
Sr 0.237
S(6) 1.89
-water 1 # kg

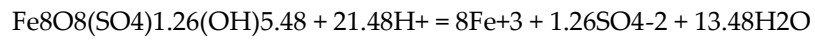
MIX 1

1 0.44

2 0.56

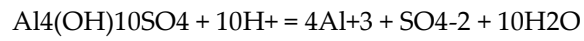
PHASES

Schwertmannite



log_k 18.5

Basaluminite



log_k 24.0

EQUILIBRIUM_PHASES 1

CO2(g) -3.5

O2(g) -0.679

Basaluminite 0 0

Schwertmannite 0 0

END