**Supplement**

Table 1. Measured concentrations and modelled activities (all in mM) of major ions present in test treatments. While manganese concentration was included in activity calculations activities were small and are not shown here.

 Measured concentrations

Treatment K Na Ca Mg SO4 Cl HCO3

Site A control 0.03 0.10 0.56 0.31 0.29 0.02 1.22

Site A 296 0.01 0.11 2.36 1.42 3.27 0.02 1.22

Site A 444 0.05 0.11 3.27 1.98 4.70 0.02 1.22

Site A 667 0.01 0.11 4.79 2.92 7.20 0.02 1.22

Site A 1000 0.05 0.10 6.73 4.10 10.62 0.02 1.22

Site A 1500 0.01 0.11 9.91 6.15 15.97 0.03 1.22

Site B control 0.02 0.03 0.36 0.19 0.08 0.03 0.98

Site B 296 0.03 0.02 2.18 1.32 3.18 0.03 0.98

Site B 444 0.04 0.02 3.14 1.91 4.71 0.02 0.98

Site B 667 0.05 0.03 4.54 2.79 6.99 0.03 0.98

Site B 1000 0.02 0.02 6.56 4.04 10.25 0.02 0.98

Site B 1500 0.02 0.03 9.65 6.09 15.27 0.02 0.98

 Modelled activities

Treatment K Na Ca Mg SO4 Cl HCO3

Site A control 0.02 0.10 0.41 0.24 0.21 0.02 1.11

Site A 296 0.01 0.09 1.20 0.76 1.66 0.02 1.02

Site A 444 0.04 0.09 1.51 0.96 2.16 0.02 1.01

Site A 667 0.00 0.09 1.94 1.25 2.93 0.02 0.96

Site A 1000 0.04 0.09 2.38 1.55 3.87 0.02 0.94

Site A 1500 0.01 0.09 3.03 2.03 5.06 0.02 0.90

Site B control 0.02 0.03 0.29 0.16 0.06 0.03 0.91

Site B 296 0.03 0.02 1.13 0.71 1.65 0.02 0.83

Site B 444 0.03 0.02 1.45 0.93 2.22 0.02 0.78

Site B 667 0.04 0.02 1.86 1.21 2.90 0.03 0.78

Site B 1000 0.02 0.02 2.36 1.55 3.76 0.02 0.75

Site B 1500 0.02 0.02 3.01 2.04 4.86 0.02 0.71