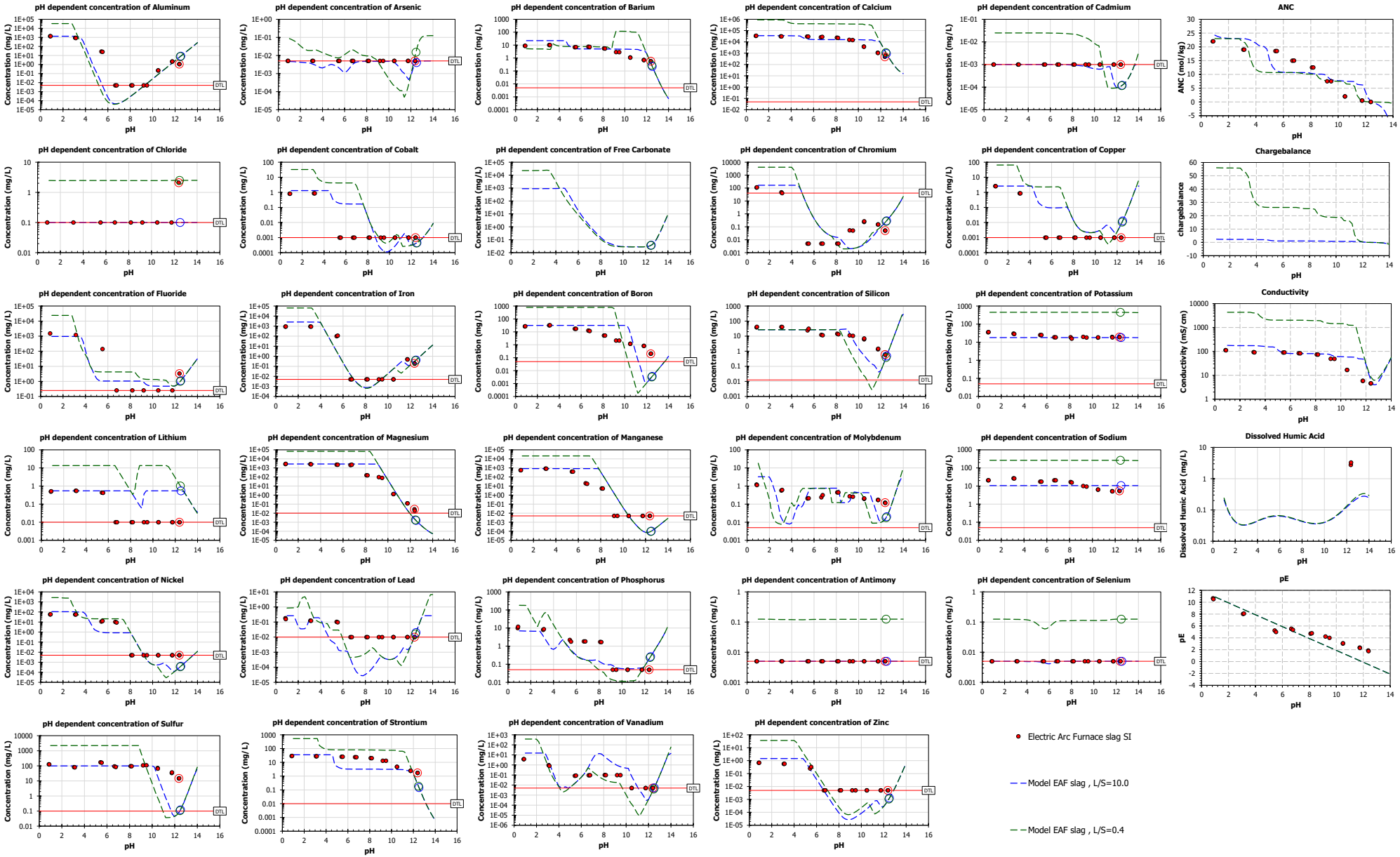
COMPARISON OF pH DEPENDENCE DATA WITH MODEL



Name **Electric Arc Furnace slag SI**

pH Dependent Leaching Test Scenario

Lab Test

Extra L/S Simulation

Lab Test

Model Parameters

Entity	Unit	Default
c0		-5.133
c1		-2.665
c2		0.9538
c3		-0.1487
c4		0.01039
c5		-0.0002650
Clay	mg/kg	1000
Hydrous Ferric Oxide	mg/kg	200.0
L/S	L/kg	9.996
pE		-0.5000
pH		12.39
Solid Humic Acid	mg/kg	14.87
Simulated Low L/S	L/kg	0.4000

Available Content

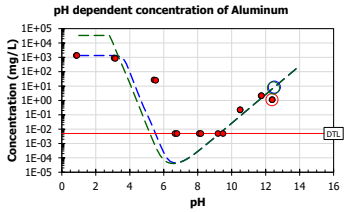
Entity	Unit	Default	Entity	Unit	Default	Entity	Unit	Default	Entity	Unit	Default
Acetic acid	mg/kg	2.220E-07	F	mg/kg	9594	Pb	mg/kg	2.619			
Ag	mg/kg	0.2500	Fe	mg/kg	2.556E+04	PO4	mg/kg	227.9			
Al	mg/kg	1.344E+04	B	mg/kg	315.0	Sb	mg/kg	0.05001			
As	mg/kg	0.05000	Si	mg/kg	2879	Se	mg/kg	0.05000			
Ba	mg/kg	223.0	Hg	mg/kg	2.006E-07	Sn	mg/kg	1.187E-07			
Br	mg/kg	10.00	K	mg/kg	180.0	S	mg/kg	989.9			
Ca	mg/kg	3.568E+05	Li	mg/kg	5.400	Sr	mg/kg	353.8			
Cd	mg/kg	0.01000	Mg	mg/kg	2.727E+04	Th	mg/kg	2.320E-07			
Cl	mg/kg	0.9998	Mn	mg/kg	8440	U	mg/kg	2.380E-07			
Co	mg/kg	13.09	Mo	mg/kg	32.44	V	mg/kg	151.6			
CO32-	mg/kg	2.800E+05	Na	mg/kg	106.0	Zn	mg/kg	14.54			
Cr	mg/kg	1640	Ni	mg/kg	1085						
Cu	mg/kg	26.00	NO3	mg/kg	919.5						

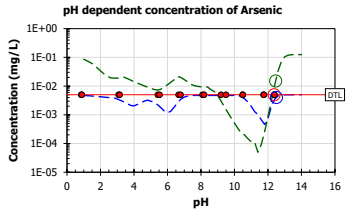
Solid Solutions

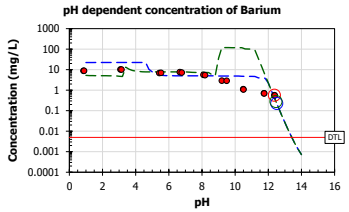
Name	End Member	Log(K)	Reaction
CSHi_ss	Cem07_SiO2[am]_s	24.21	Cem07_SiO2[am]_ss + 2 H2O -> 1 CSHi_ss + 2 H+ + 1 H2SiO4-2
	Cem07_Tob_I_ss	23.87	Cem07_Tob_I_ss -> 1 CSHi_ss + 2 Ca+2 + 0.8 H+ + 1.2 H2O + 2.4 H2SiO4-2
CSHii_ss	Cem07_Jenn_ss	-7.799	Cem07_Jenn_ss + 1.33333 H+ -> 1 CSHii_ss + 1.66667 Ca+2 + 1.76667 H2O + 1 H2SiO4-2
	Cem07_Tob_II_ss	10.36	Cem07_Tob_II_ss -> 1 CSHii_ss + 0.83333 Ca+2 + 0.33333 H+ + 0.16667 H2O + 1 H2SiO4-2
ettr_ss	BO3_Ettringite_ss	-47.59	BO3_Ettringite_ss + 7 H+ + 8 H2O -> 2 Al[OH]4- + 6 Ca+2 + 3 H2BO3- + 1 ettr_ss
	Ettringite_ss	-11.69	Ettringite_ss + 4 H+ + 8 H2O -> 2 Al[OH]4- + 6 Ca+2 + 3 SO4-2 + 1 ettr_ss
	MoO4_Ettringite_ss	-9.592	MoO4_Ettringite_ss + 4 H+ + 8 H2O -> 2 Al[OH]4- + 6 Ca+2 + 3 MoO4-2 + 1 ettr_ss
	VO3_Ettringite_ss	-53.34	VO3_Ettringite_ss + 13 H+ + 2 H2O -> 2 Al[OH]4- + 6 Ca+2 + 3 VO2+ + 1 ettr_ss
Fe_Spinel_ss	FeAl2O4ss	53.47	FeAl2O4ss + 8 H2O -> 2 Al[OH]4- + 1 Fe[OH]4- + 1 Fe_Spinel_ss + 4 H+ + 1 e-
	FeCr2O4ss	162.2	FeCr2O4ss + 8 H2O -> 2 CrO4-2 + 1 Fe[OH]4- + 1 Fe_Spinel_ss + 12 H+ + 7 e-
	FeMoO4ss	45.00	FeMoO4ss + 4 H2O -> 1 Fe[OH]4- + 1 Fe_Spinel_ss + 4 H+ + 1 MoO4-2 + 1 e-
	FeV2O4ss	85.00	FeV2O4ss + 4 H2O -> 1 Fe[OH]4- + 1 Fe_Spinel_ss + 4 H+ + 2 VO2+ + 5 e-
Mg_Spinel_ss	MgAl2O4ss	-3.448	MgAl2O4ss + 8 H2O -> 2 Al[OH]4- + 8 H+ + 1 Mg+2 + 1 Mg_Spinel_ss + 8 e-
	MgCr2O4ss	118.6	MgCr2O4ss + 4 H2O -> 2 CrO4-2 + 8 H+ + 1 Mg+2 + 1 Mg_Spinel_ss + 6 e-
	MgMoO4ss	7.602	MgMoO4ss -> 1 Mg+2 + 1 Mg_Spinel_ss + 1 MoO4-2
	MgV2O4ss	40.00	MgV2O4ss -> 1 Mg+2 + 1 Mg_Spinel_ss + 2 VO2+ + 4 e-

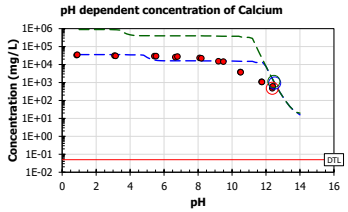
Minerals

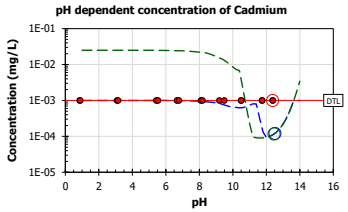
Name	> 1E-13 mol/kg	Log(K)	Reaction
AA_2CaO_Fe2O3_8H2(	Yes	-10.12	AA_2CaO_Fe2O3_8H2O[s] + 2 H+ -> 2 Ca+2 + 2 Fe[OH]4- + 5 H2O
AA_Brucite	Yes	-16.84	AA_Brucite + 2 H+ -> 2 H2O + 1 Mg+2
AA_Calcite	Yes	9.481	AA_Calcite -> 1 CO3-2 + 1 Ca+2
AA_Fe[OH]3[am]	Yes	16.60	AA_Fe[OH]3[am] + 1 H2O -> 1 Fe[OH]4- + 1 H+
AA_Portlandite	Yes	-22.80	AA_Portlandite + 2 H+ -> 1 Ca+2 + 2 H2O
alpha-TCP	Yes	25.50	alpha-TCP -> 3 Ca+2 + 2 PO4-3
BaSrSO4[50%Ba]	Yes	8.221	BaSrSO4[50%Ba] -> 0.5 Ba+2 + 1 SO4-2 + 0.5 Sr+2
Ca[OH]2.Cd[OH]2	Yes	-34.00	Ca[OH]2.Cd[OH]2 + 4 H+ -> 1 Ca+2 + 1 Cd+2 + 4 H2O
Ca[OH]2.Co[OH]2	Yes	-33.22	Ca[OH]2.Co[OH]2 + 4 H+ -> 1 Ca+2 + 1 Co+2 + 4 H2O
Ca[OH]2.Cu[OH]2	Yes	-30.00	Ca[OH]2.Cu[OH]2 + 4 H+ -> 1 Ca+2 + 1 Cu+2 + 4 H2O
Ca[OH]2.Ni[OH]2	Yes	-32.00	Ca[OH]2.Ni[OH]2 + 4 H+ -> 1 Ca+2 + 4 H2O + 1 Ni+2
Ca[OH]2.Pb[OH]2	Yes	-30.00	Ca[OH]2.Pb[OH]2 + 4 H+ -> 1 Ca+2 + 4 H2O + 1 Pb+2
Ca[OH]2.Zn[OH]2	Yes	-30.52	Ca[OH]2.Zn[OH]2 + 4 H+ -> 1 Ca+2 + 4 H2O + 1 Zn+2
Ca2V2O7	Yes	-8.750	Ca2V2O7 + 3 H+ -> 1 Ca+2 + 1.5 H2O + 1 VO2+
Ca3[AsO4]2:6H2O	Yes	18.89	Ca3[AsO4]2:6H2O -> 2 AsO4-3 + 3 Ca+2 + 6 H2O
CaCO3_BaCO3	Yes	23.00	CaCO3_BaCO3 -> 1 Ba+2 + 2 CO3-2 + 1 Ca+2
CaCO3_SrCO3	Yes	23.00	CaCO3_SrCO3 -> 2 CO3-2 + 1 Ca+2 + 1 Sr+2
CaMoO4[c]	Yes	7.940	CaMoO4[c] -> 1 Ca+2 + 1 MoO4-2
Co2SiO4	Yes	6.289	Co2SiO4 + 2 H+ -> 2 Co+2 + 1 H2SiO4-2
Cu[OH]2[s]	Yes	-8.640	Cu[OH]2[s] + 2 H+ -> 1 Cu+2 + 2 H2O
CuHPO4	Yes	26.00	CuHPO4 -> 1 Cu+2 + 1 H+ + 1 PO4-3
Diaspore	Yes	16.13	Diaspore + 2 H2O -> 1 Al[OH]4- + 1 H+
Fluorite	Yes	10.96	Fluorite -> 1 Ca+2 + 2 F-
LDH_Co_zc	Yes	60.01	LDH_Co_zc + 1 H2O -> 1 Al[OH]4- + 3 CO3-2 + 3 Co+2 + 1 H+
LDH_Ni_zc	Yes	57.91	LDH_Ni_zc + 1 H2O -> 1 Al[OH]4- + 3 CO3-2 + 1 H+ + 3 Ni+2
LDH_Zn_zc	Yes	20.91	LDH_Zn_zc + 3 H+ -> 1 Al[OH]4- + 1 CO3-2 + 3 H2O + 3 Zn+2
Li2_CaO_Al2O3_SiO2_8H2O[s]	Yes	22.69	Li2_CaO_Al2O3_SiO2_8H2O[s] -> 2 Al[OH]4- + 1 Ca+2 + 3 H2O + 1 H2SiO4-2 + 2 Li+
Li-Albite[low2]	Yes	86.27	Li-Albite[low2] + 8 H2O -> 1 Al[OH]4- + 6 H+ + 3 H2SiO4-2 + 1 Li+
Manganite	Yes	-25.27	Manganite + 3 H+ + 1 e- -> 2 H2O + 1 Mn+2
Ni[OH]2[s]	Yes	-10.80	Ni[OH]2[s] + 2 H+ -> 2 H2O + 1 Ni+2
NiHPO4	Yes	25.00	NiHPO4 -> 1 H+ + 1 Ni+2 + 1 PO4-3
OCP	Yes	46.90	OCP -> 4 Ca+2 + 1 H+ + 2.5 H2O + 3 PO4-3
PATCH_CSH_ECN	Yes	7.017	PATCH_CSH_ECN -> 1 Ca+2 + 1 H2SiO4-2
Pb[OH]2[C]	Yes	-8.150	Pb[OH]2[C] + 2 H+ -> 2 H2O + 1 Pb+2
Pb2V2O7	Yes	0.9500	Pb2V2O7 + 3 H+ -> 1.5 H2O + 1 Pb+2 + 1 VO2+
Pb3[VO4]2	Yes	-3.070	Pb3[VO4]2 + 4 H+ -> 2 H2O + 1.5 Pb+2 + 1 VO2+
PbHPO4	Yes	28.00	PbHPO4 -> 1 H+ + 1 PO4-3 + 1 Pb+2
PbMoO4[c]	Yes	15.80	PbMoO4[c] -> 1 MoO4-2 + 1 Pb+2
SiO2[a]	Yes	24.64	SiO2[a] + 2 H2O -> 2 H+ + 1 H2SiO4-2

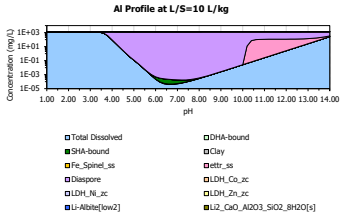

pH dependent concentration of Aluminum
Concentration (mg/L)
pH
DTL

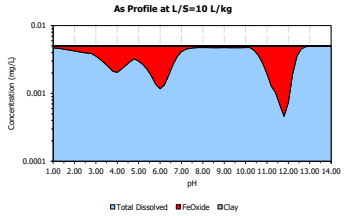

pH dependent concentration of Arsenic
Concentration (mg/L)
pH
DTL

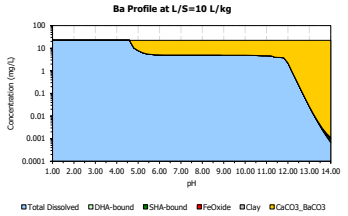

pH dependent concentration of Barium
Concentration (mg/L)
pH
DTL

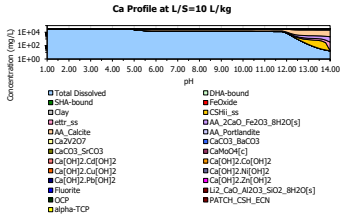

pH dependent concentration of Calcium
Concentration (mg/L)
pH
DTL

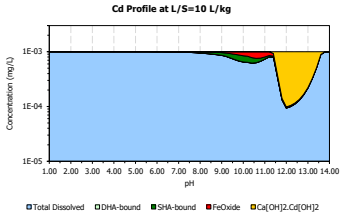

pH dependent concentration of Cadmium
Concentration (mg/L)
pH
DTL

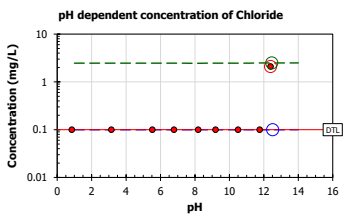

Al Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
Clay
Fe_Spinel_ss
ettr_ss
Diaspore
LDH_Co_zc
LDH_Ni_zc
LDH_Zn_zc
Li-Albite[low2]
Li2_CaO_Al2O3_SiO2_8H2O[s]

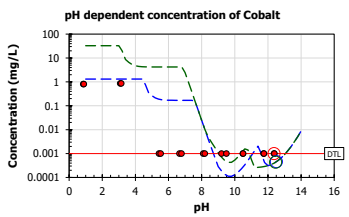

As Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
FeOxide
Clay

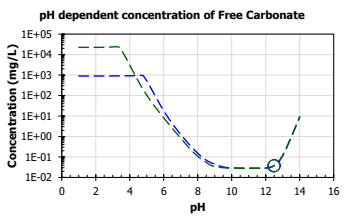

Ba Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
CaCO3_BaCO3

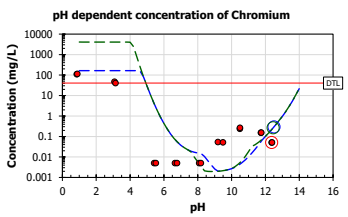

Ca Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
SHA-bound
Clay
ettr_ss
AA_Calcite
Ca2V2O7
CaCO3_SrCO3
Ca[OH]2.Cd[OH]2
Ca[OH]2.Cu[OH]2
Ca[OH]2.Pb[OH]2
Fluorite
OCP
alpha-TCP
DHA-bound
FeOxide
CSHi_ss
AA_2CaO_Fe2O3_8H2O[s]
AA_Portlandite
CaCO3_BaCO3
CaMnO4[c]
Ca[OH]2.Co[OH]2
Ca[OH]2.Ni[OH]2
Ca[OH]2.Zn[OH]2
Li2_CaO_Al2O3_SiO2_8H2O[s]
PATCH_CSH_ECN

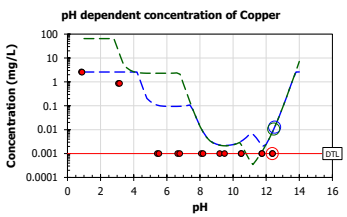

Cd Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Ca[OH]2.Cd[OH]2

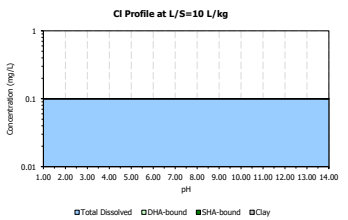

pH dependent concentration of Chloride
Concentration (mg/L)
pH
DTL

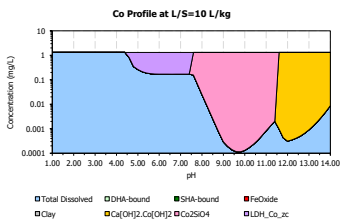

pH dependent concentration of Cobalt
Concentration (mg/L)
pH
DTL

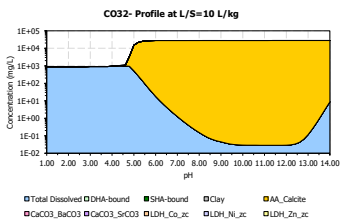

pH dependent concentration of Free Carbonate
Concentration (mg/L)
pH

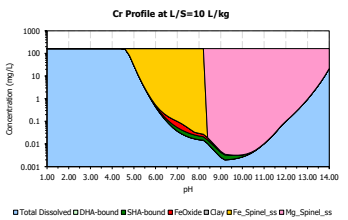

pH dependent concentration of Chromium
Concentration (mg/L)
pH
DTL

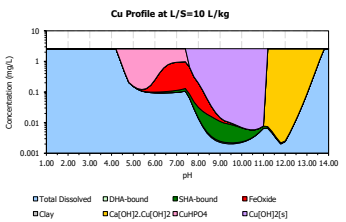

pH dependent concentration of Copper
Concentration (mg/L)
pH
DTL

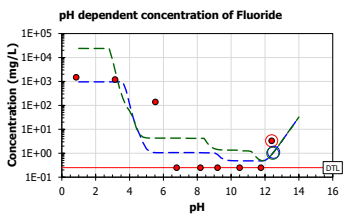

Cl Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
Clay

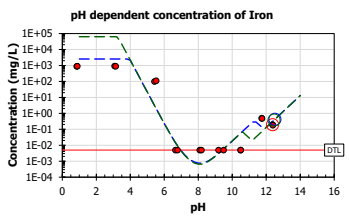

Co Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
Ca[OH]2.Co[OH]2
Co2SiO4
LDH_Co_zc

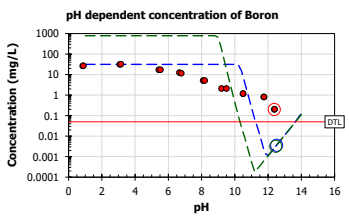

CO32- Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
Clay
AA_Calcite
CaCO3_BaCO3
CaCO3_SrCO3
LDH_Co_zc
LDH_Ni_zc
LDH_Zn_zc

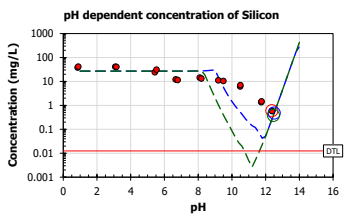

Cr Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
Fe_Spinel_ss
Mg_Spinel_ss

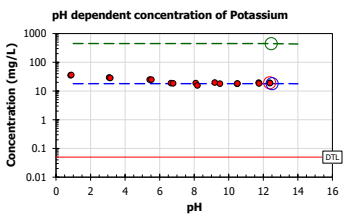

Cu Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
Ca[OH]2.Cu[OH]2
CuHPO4
Cu[OH]2[s]

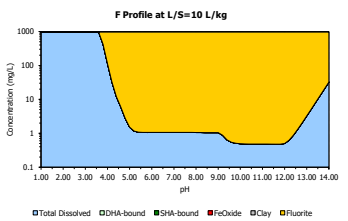

pH dependent concentration of Fluoride
Concentration (mg/L)
pH
DTL

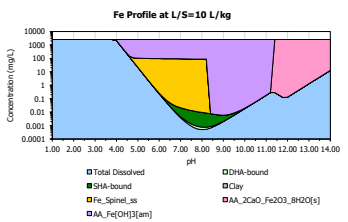

pH dependent concentration of Iron
Concentration (mg/L)
pH
DTL

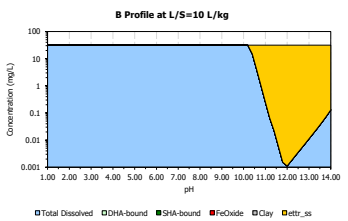

pH dependent concentration of Boron
Concentration (mg/L)
pH
DTL

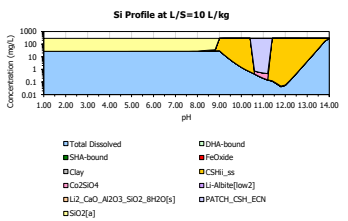

pH dependent concentration of Silicon
Concentration (mg/L)
pH
DTL

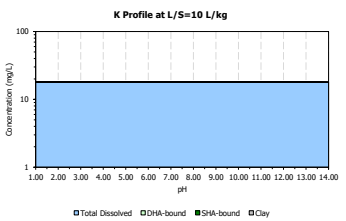

pH dependent concentration of Potassium
Concentration (mg/L)
pH
DTL


F Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
Fluorite

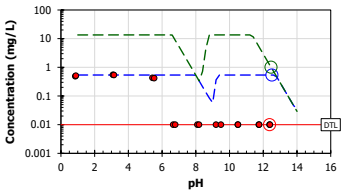

Fe Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
Clay
Fe_Spinel_ss
AA_2CaO_Fe2O3_8H2O[s]
AA_Fe[OH]3[am]


B Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
ettr_ss

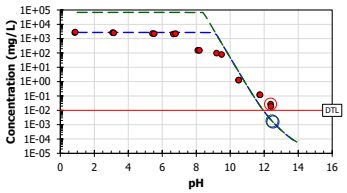

Si Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
FeOxide
Clay
CSHi_ss
Co2SiO4
Li-Albite[low2]
Li2_CaO_Al2O3_SiO2_8H2O[s]
PATCH_CSH_ECN
SiO2[a]


K Profile at L/S=10 L/kg
Concentration (mg/L)
pH
Total Dissolved
DHA-bound
SHA-bound
Clay

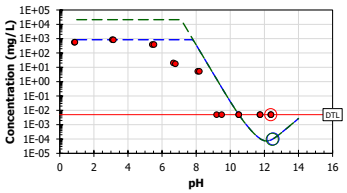
pH dependent concentration of Lithium



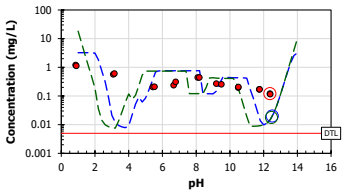
pH dependent concentration of Magnesium



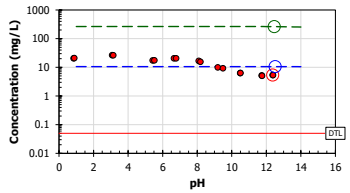
pH dependent concentration of Manganese



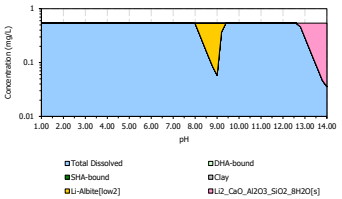
pH dependent concentration of Molybdenum



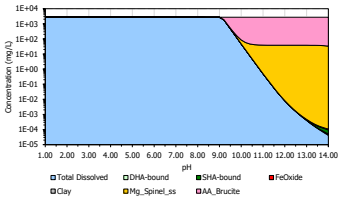
pH dependent concentration of Sodium



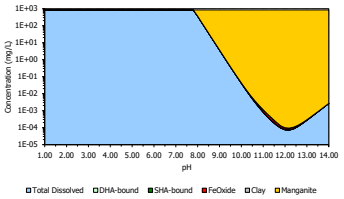
Li Profile at L/S=10 L/kg



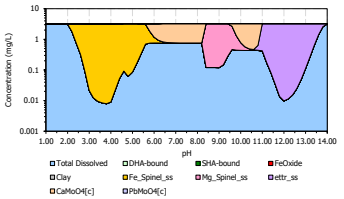
Mg Profile at L/S=10 L/kg



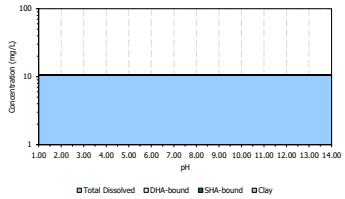
Mn Profile at L/S=10 L/kg



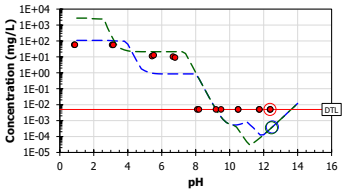
Mo Profile at L/S=10 L/kg



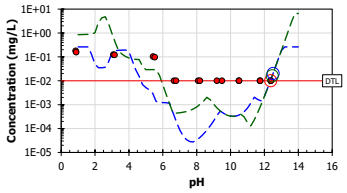
Na Profile at L/S=10 L/kg



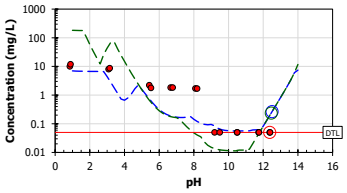
pH dependent concentration of Nickel



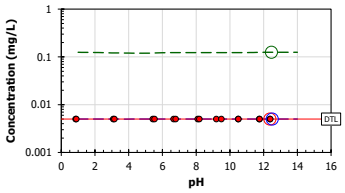
pH dependent concentration of Lead



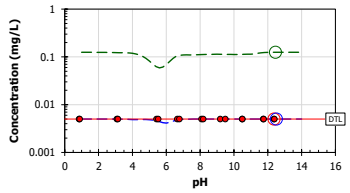
pH dependent concentration of Phosphorus



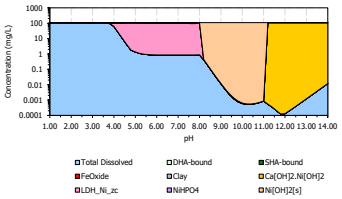
pH dependent concentration of Antimony



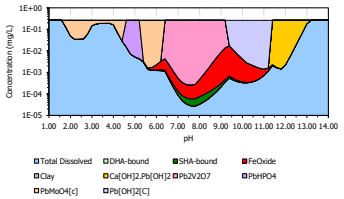
pH dependent concentration of Selenium



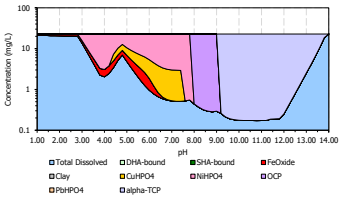
Ni Profile at L/S=10 L/kg



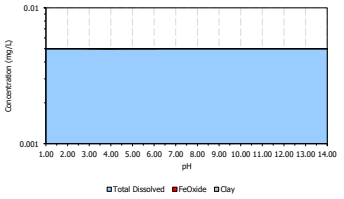
Pb Profile at L/S=10 L/kg



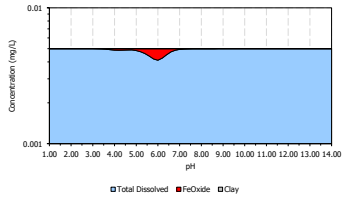
PO4 Profile at L/S=10 L/kg



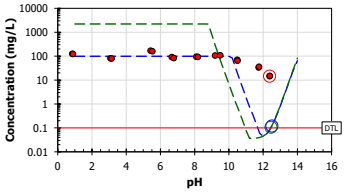
Sb Profile at L/S=10 L/kg



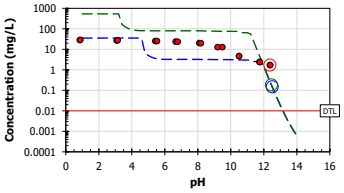
Se Profile at L/S=10 L/kg



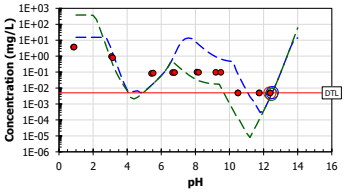
pH dependent concentration of Sulfur



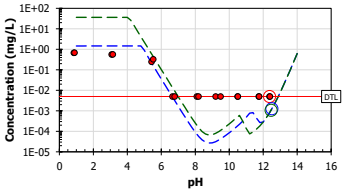
pH dependent concentration of Strontium



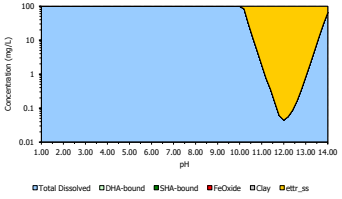
pH dependent concentration of Vanadium



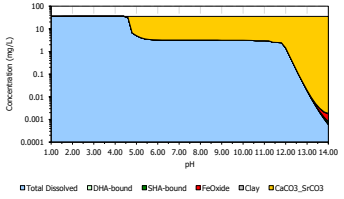
pH dependent concentration of Zinc



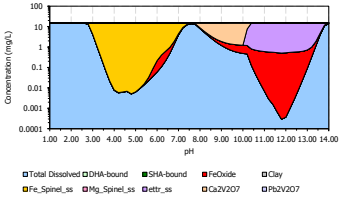
S Profile at L/S=10 L/kg



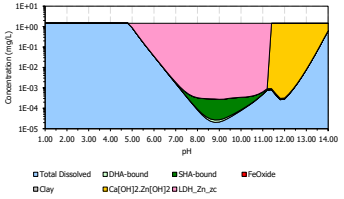
Sr Profile at L/S=10 L/kg



V Profile at L/S=10 L/kg



Zn Profile at L/S=10 L/kg



Name Electric Arc Furnace slag SI

Residual details, concentrations

Residuals as log(model/sample)

Fraction	*9*	*19*	*18*	*8*	*17*	*7*	*16*	*6*	*15*	*5*	*4*	*14*	*13*	*3*	*12*	*2*	*11*	*1*	*Total Avg*
pH	*0.850*	*0.885*	*3.08*	*3.15*	*5.43*	*5.53*	*6.66*	*6.78*	*8.09*	*8.19*	*9.20*	*9.49*	*10.5*	*10.5*	*11.7*	*11.8*	*12.4*	*12.4*	*Deviation*
Al	-0.01	0.00	0.18	0.21	-3.49	-3.74	-2.04	-2.03	-1.17	-1.08	-0.09	0.21	-0.44	-0.44	-0.18	-0.16	0.74	0.75	0.35
As	-0.02	-0.02	-0.17	-0.18	-0.36	-0.41	-0.24	-0.17	-0.02	-0.02	-0.02	-0.02	-0.10	-0.10	-0.98	-1.00	-0.19	-0.17	0.09
B	0.08	0.07	0.00	-0.01	0.27	0.27	0.40	0.43	0.79	0.79	1.18	1.18	0.85	0.81	-2.55	-2.60	-1.88	-1.88	0.28
Ba	0.40	0.40	0.34	0.34	-0.09	-0.11	-0.18	-0.16	-0.05	-0.04	0.23	0.23	0.63	0.64	0.74	0.74	-0.13	-0.16	0.09
Br	0.00	-	-	0.00	-	0.00	-	0.00	-	0.00	0.00	-	-	0.00	-	0.00	-	0.00	0.00
Ca	0.02	0.01	0.06	0.07	-0.22	-0.23	-0.21	-0.24	-0.17	-0.15	0.01	0.03	0.60	0.61	1.07	1.09	0.53	0.39	0.11
Cd	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.03	-0.03	-0.08	-0.13	-0.20	-0.20	-0.75	-0.79	-0.96	-0.96	0.10
Cl	0.00	-	-	0.00	-	0.00	-	0.00	-	0.00	0.00	-	-	0.00	-	0.00	-	-1.32	0.15
Co	0.21	0.21	0.18	0.18	2.27	2.26	2.23	2.23	1.22	1.03	-0.72	-0.90	-0.56	-0.56	-0.26	-0.29	-0.40	-0.39	0.28
CO32-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cr	0.17	0.16	0.54	0.61	2.91	2.72	1.15	1.04	0.48	0.47	-1.42	-1.39	-1.73	-1.78	-0.44	-0.42	0.63	0.65	0.31
Cu	0.00	0.01	0.48	0.48	2.03	2.01	1.98	1.98	1.04	0.91	0.36	0.34	0.52	0.52	0.36	0.34	0.89	0.92	0.25
F	-0.19	-	-	-0.10	-	-2.12	-	0.63	-	0.63	0.55	-	-	0.29	-	0.28	-	-0.58	0.27
Fe	0.46	0.45	0.45	0.46	-1.50	-1.75	0.47	0.28	-0.82	-0.82	-0.21	0.07	1.05	1.06	-0.56	-0.55	0.19	0.25	0.18
Hg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	-0.29	-0.30	-0.22	-0.20	-0.14	-0.14	-0.02	-0.01	-0.02	0.06	-0.04	0.00	0.00	-0.01	-0.03	-0.01	-0.03	-0.02	0.03
Li	0.04	0.02	-0.01	0.00	0.10	0.11	1.73	1.73	1.64	1.54	1.54	1.73	1.73	1.73	1.73	1.73	1.73	1.73	0.33
Mg	0.01	-0.02	0.02	0.04	0.08	0.09	0.11	0.09	1.25	1.26	1.29	0.80	0.60	0.57	-0.74	-0.77	-1.06	-0.93	0.17
Mn	0.18	0.17	0.00	0.01	0.33	0.34	1.62	1.68	1.66	1.48	2.48	1.90	0.02	0.01	-1.66	-1.68	-1.78	-1.77	0.32
Mo	0.43	0.46	-1.52	-1.63	0.25	0.40	0.50	0.39	0.23	0.24	-0.26	0.14	0.34	0.32	-0.97	-1.01	-0.92	-0.88	0.18
Na	-0.29	-0.29	-0.40	-0.39	-0.22	-0.22	-0.29	-0.29	-0.20	-0.17	0.03	0.06	0.23	0.22	0.31	0.32	0.29	0.30	0.06
Ni	0.28	0.27	0.26	0.25	-1.07	-1.14	-1.09	-1.03	2.09	1.95	0.00	-0.46	-0.95	-0.95	-1.53	-1.56	-1.24	-1.22	0.27
NO3	-3.14	-	-	-3.03	-	-3.06	-	-3.05	-	-2.98	-2.72	-	-	-2.10	-	-1.50	-	1.35	0.88
Pb	0.16	0.22	0.11	0.15	-1.58	-1.72	-1.45	-1.67	-2.43	-2.38	-1.45	-1.31	-1.43	-1.43	-0.82	-0.83	0.04	0.08	0.31
PO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Se	0.00	0.00	0.00	0.00	-0.04	-0.05	-0.02	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Si	-0.15	-0.19	-0.18	-0.18	0.05	-0.06	0.34	0.37	0.28	0.32	0.14	-0.25	-1.07	-1.13	-1.43	-1.49	-0.37	-0.31	0.15
Sn	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sr	0.09	0.09	0.11	0.10	-0.85	-0.86	-0.87	-0.87	-0.80	-0.80	-0.62	-0.62	-0.19	-0.19	0.01	0.01	-0.80	-0.83	0.14
Th	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	0.61	0.60	0.42	0.30	-0.74	-0.66	0.86	1.12	1.82	1.75	0.98	0.84	1.19	1.17	-1.12	-1.15	-0.31	-0.26	0.23
Zn	0.33	0.33	0.41	0.41	-0.06	-0.32	-0.03	-0.19	-1.84	-1.93	-2.21	-2.07	-1.44	-1.43	-1.20	-1.22	-0.80	-0.77	0.28
Avg Deviation	0.12	0.05	0.08	0.13	0.26	0.26	0.21	0.22	0.23	0.22	0.20	0.18	0.17	0.17	0.21	0.19	0.18	0.17	0.21