Table A1.1: *Acid-Base Accounting (ABA) with paste pH and location of each sample in the tailings stratigraphy*

ABA from the Piuquenes tailings impoundment/ La Andina											
Sample	zone	pH	Stot	SO4 tot	S (SO4)	S sulfide	S pyrite	SAP	Ctot	CaNP	SNNP
								(Sulfide Acid Pot)	O2	(Carbonat NP)	(Sulfide Net NP)
			%	%	%	%	%	t CaCO3/1000t	%	t CaCO3/1000t	t CaCO3/1000t
A2/020	ox	3.2	0.55	1.524	0.508	0.042	0.078	2.63	0.03	2.56	-0.06
A2/050	ox	2.6	0.64	1.46	0.487	0.153	0.285	9.58	0.04	3.42	-6.17
A2/100	neutr	3.8	1.73	0.493	0.164	1.566	2.911	97.85	0.04	3.42	-94.44
A2/150	neutr	3.5	0.91	0.896	0.299	0.611	1.137	38.21	0.09	7.68	-30.52
A2/200	neutr	4.6	0.68	0.603	0.201	0.479	0.891	29.94	0.23	18.78	-11.15
A2/295	neutr	5	1.3	0.433	0.144	1.156	2.149	72.23	0.37	30.74	-41.49
A2/400	pri	6.3	1.13	0.218	0.073	1.057	1.966	66.08	0.31	25.61	-40.47
A2/500	pri	6.3	0.55	0.148	0.049	0.501	0.931	31.29	0.46	38.42	7.13
A2/700	pri	8.2	1.22	0.137	0.046	1.174	2.184	73.40	0.36	29.88	-43.51
A2/900	pri	8.2	1.01	0.223	0.074	0.936	1.740	58.48	0.04	3.42	-55.06
A4/010	hm	8.4	0.15	0.179	0.060	0.090	0.168	5.65	0.03	2.56	-3.08
A4/035	ox	5.4	0.78	1.327	0.442	0.338	0.628	21.10	0.03	2.56	-18.54
A4/065	ox	3.5	0.74	1.213	0.404	0.336	0.624	20.98	0.03	2.56	-18.42
A4/100	neutr	3.8	1.01	0.487	0.162	0.848	1.576	52.98	0.00	0.17	-52.81
A4/125	neutr	3.8	1.14	0.982	0.327	0.813	1.511	50.79	0.03	2.56	-48.23
A4/200	neutr	4.1	1.11	0.428	0.143	0.967	1.799	60.46	0.09	7.68	-52.77
A4/260	neutr	5	1.29	0.326	0.109	1.181	2.197	73.83	0.08	6.83	-67.00
A4/400	pri	6.6	1.2	0.274	0.091	1.109	2.061	69.29	0.22	17.93	-51.36
A4/600	pri	7.1	1.29	0.262	0.087	1.203	2.236	75.17	0.19	16.22	-58.94
A4/800	pri	8.4	0.84	0.235	0.078	0.762	1.416	47.60	0.19	16.22	-31.38
A4/1000	pri	7.9	1.06	0.267	0.089	0.971	1.805	60.69	0.41	34.15	-26.53
A5/020	ox	2.8	0.7	1.235	0.412	0.288	0.536	18.02	0.17	14.52	-3.51
A5/050	ox	3.5	1.28	0.841	0.280	1.000	1.859	62.48	0.06	5.12	-57.36
A5/140	neutr	3.9	1.23	0.667	0.222	1.008	1.874	62.98	0.00	0.00	-62.98
A5/500	pri	7	1	0.232	0.077	0.923	1.716	57.67	0.00	0.00	-57.67
A5/900	pri	7.8	0.85	0.222	0.074	0.776	1.443	48.50	0.07	5.98	-42.52
ABA from the Cauquenes tailings impoundment/ El Teniente											
Sample	zone	pH	Stot	SO4 tot	S (SO4)	S sulfide	S pyrite	SAP	Ctot	CaNP	SNNP
								(Sulfide Acid Pot)		(Carbonat NP)	(Sulfide Net NP)
Unit			%	%	%	%	%	t CaCO3/1000t	%	t CaCO3/1000t	t CaCO3/1000t
T1/040	ox	2.8	0.66	1.90	0.63	0.03	0.05	1.69	0.08	6.83	5.14
T1/100	ox	2.8	0.84	0.83	0.28	0.56	1.05	35.29	0.00	0.00	-35.29
T1/105	ox	2.8	0.7	1.46	0.49	0.21	0.39	13.25	0.02	1.71	-11.54
T1/200	pri	2.8	1.08	0.42	0.14	0.94	1.75	58.67	0.02	1.71	-56.96
T1/290	pri	3	1.26	0.59	0.20	1.06	1.98	66.44	0.02	1.71	-64.73
T1/400	pri	5	0.9	0.65	0.22	0.68	1.27	42.67	0.01	0.85	-41.81
T1/580	pri	5.4	0.77	0.34	0.11	0.66	1.22	41.08	0.02	1.71	-39.38
T1/800	pri	3.7	0.61	0.41	0.14	0.47	0.88	29.58	0.00	0.00	-29.58
T1/890	pri	3.7	0.89	0.42	0.14	0.75	1.40	46.98	0.02	1.71	-45.27
T2/020	ox	2.7	1.05	2.85	0.95	0.10	0.19	6.33	0.07	5.98	-0.36
T2/070	ox	2.6	0.56	1.38	0.46	0.10	0.19	6.29	0.02	1.71	-4.58
T2/100	ox	2.3	0.52	1.32	0.44	0.08	0.15	5.08	0.01	0.85	-4.23
T2/160	ox	1.7	0.54	1.29	0.43	0.11	0.21	6.98	0.02	1.71	-5.27
T2/190	pre	2.2	0.6	0.38	0.13	0.47	0.88	29.67	0.00	0.00	-29.67
T2/220	pre	2.8	0.5	0.72	0.24	0.26	0.48	16.27	0.04	3.42	-12.86
T2/300	pre	3.4	0.7	0.68	0.23	0.47	0.88	29.58	0.00	0.34	-29.24
T2/400	pri	4.5	0.78	0.32	0.11	0.67	1.25	42.06	0.00	0.26	-41.81
T2/580	pri	4.9	0.74	0.33	0.11	0.63	1.17	39.29	0.03	2.56	-36.73
T2/800	pri	4.6	0.44	0.67	0.22	0.22	0.40	13.48	0.04	3.42	-10.06
T2/1000	pri	3.9	0.52	0.81	0.27	0.25	0.47	15.71	0.04	3.42	-12.29
T3/020	ox	2.9	0.56	1.49	0.50	0.06	0.12	4.00	0.16	13.66	9.66
T3/060	ox	2.9	0.34	0.73	0.24	0.10	0.18	5.96	0.00	0.26	-5.70
T3/100	ox	3.1	0.61	0.77	0.26	0.35	0.65	22.00	0.03	2.56	-19.44
T3/150	ox	3.1	0.52	1.13	0.38	0.14	0.27	8.92	0.03	2.56	-6.36
T3/170	pri	3.4	1.49	0.36	0.12	1.37	2.55	85.69	0.12	10.25	-75.44
T3/300	pri	5	0.59	0.32	0.11	0.48	0.90	30.23	0.02	1.71	-28.52
T3/400	pri	6.1	0.6	0.26	0.09	0.51	0.96	32.15	0.01	0.85	-31.29
T3/595	pri	6.7	0.73	0.33	0.11	0.62	1.16	38.85	0.02	1.71	-37.15
T3/800	pri	6.7	0.43	0.50	0.17	0.26	0.49	16.42	0.03	2.56	-13.86
T3/1000	pri	5	0.54	1.02	0.34	0.20	0.37	12.50	0.04	3.42	-9.08
T4/010	ox	4.12	0.21	0.59	0.20	0.02	0.03	0.94	0.03	2.56	1.62
T4/040	ox	3.8	0.27	0.78	0.26	0.01	0.02	0.60	0.04	3.42	2.81
T4/100	ox	2.9	0.33	0.97	0.32	0.01	0.01	0.44	0.01	0.85	0.42
T4/153	ox	3	0.27	0.71	0.24	0.04	0.07	2.19	0.00	0.34	-1.85
T4/490	pri	3.7	0.84	0.49	0.16	0.68	1.26	42.21	0.04	3.42	-38.79
T4/795	pri	5.3	0.76	0.27	0.09	0.67	1.25	41.88	0.01	0.85	-41.02

Table A1.1: *Acid-Base Accounting (ABA) with paste pH and location of each sample in the tailings stratigraphy*

ABA from the El Salvador impoundment No.1											
Sample	zone	pH	Stot	SO4 tot	S (SO4)	S sulfide	S pyrite	SAP	Ctot	CaNP	SNNP
								(Sulfide Acid Pot)		(Carbonat NP)	(Sulfide Net NP)
			%	%	%	%	%	t CaCO3/1000t	%	t CaCO3/1000t	t CaCO3/1000t
E1/010	ev		6.51	4.022	1.341	5.169	9.612	323.08	0.08	6.66	-316.42
E1/030	ev	3.5	6.8	3.491	1.164	5.636	10.480	352.27	0.15	12.50	-339.78
E1/050	ev	2.6	7.37	11.4	3.800	3.570	6.638	223.13	0.1	8.33	-214.80
E1/100	ev	2.3	5.19	8.126	2.709	2.481	4.614	155.08	0.05	4.17	-150.92
E1/170	ox	2.3	5.81	8.704	2.901	2.909	5.408	181.79	0	0.00	-181.79
E1/200	ox	2.2	6.08	8.635	2.878	3.202	5.953	200.10	0	0.00	-200.10
E1/260	pri	2.5	5.87	7.748	2.583	3.287	6.112	205.46	0	0.00	-205.46
E1/350	pri	2.5	6.83	9.52	3.173	3.657	6.799	228.54	0	0.00	-228.54
E1/482	pri	3.5	8.44	7.719	2.573	5.867	10.909	366.69	0.08	6.66	-360.02
E2/010	ev		13.2	36.6	12.200	1.000	1.859	62.50	0.3	24.99	-37.51
E2/030	ev	2.1	9.39	18.6	6.200	3.190	5.931	199.38	0.2	16.66	-182.72
E2/050	ox	2	7.86	12.6	4.200	3.660	6.805	228.75	0	0.00	-228.75
E2/070	ox	2.1	6.26	6.985	2.328	3.932	7.310	245.73	0	0.00	-245.73
E2/100	ox	2.2	6.15	7.237	2.412	3.738	6.950	233.60	0.1	8.33	-225.27
E2/155	ox	2.1	6.12	8.701	2.900	3.220	5.987	201.23	0	0.00	-201.23
E2/190	ox	2.5	6.05	8.447	2.816	3.234	6.014	202.15	0.14	11.66	-190.48
E2/280	ox	2.8	5.82	9.459	3.153	2.667	4.959	166.69	0	0.00	-166.69
E2/300	ox	2.4	6.06	11	3.667	2.393	4.450	149.58	0	0.00	-149.58
E2/390	ox	2.3	6.78	11.4	3.800	2.980	5.541	186.25	0	0.00	-186.25
E2/500	pri	3.4	6.14	4.859	1.620	4.520	8.405	282.52	0	0.00	-282.52
E3/010	ev		6.44	3.605	1.202	5.238	9.740	327.40	0.22	18.33	-309.07
E3/030	ev	2.4	6.75	3.798	1.266	5.484	10.197	342.75	0.4	33.32	-309.43
E3/100	ev	3.5	7.1	11.1	3.700	3.400	6.322	212.50	0.77	64.14	-148.36
E3/150	ev	3.3	7.97	10.9	3.633	4.337	8.063	271.04	1.12	93.30	-177.75
E3/170	ox	2.4	10.2	18.2	6.067	4.133	7.685	258.33	0.8	66.64	-191.69
E3/200	ox	2.5	6.49	9.94	3.313	3.177	5.907	198.54	1.1	91.63	-106.91
E3/250	ox	2.2	6.41	10.7	3.567	2.843	5.287	177.71	0.92	76.64	-101.07
E3/270	ox	2.2	7.1	13.2	4.400	2.700	5.020	168.75	0.6	49.98	-118.77
E3/300	ox	2.2	8.35	12.5	4.167	4.183	7.778	261.46	1.85	154.11	-107.35
E3/386	ox	2.5	7.6	8.863	2.954	4.646	8.638	290.35	1.66	138.28	-152.08
E3/400	soil	3.9	0.59	1.185	0.395	0.195	0.363	12.19	0.16	13.33	1.14
E4/010	ev		10.7	26.7	8.900	1.800	3.347	112.50	0.22	18.33	-94.17
E4/040	ev	2	9	18.5	6.167	2.833	5.268	177.08	0.25	20.83	-156.26
E4/080	ox	2	5.62	8.237	2.746	2.874	5.344	179.65	0	0.00	-179.65
E4/100	ox	1.9	5.18	8.454	2.818	2.362	4.392	147.63	0	0.00	-147.63
E4/120	ox	2.1	5.52	11.1	3.700	1.820	3.384	113.75	0.32	26.66	-87.09
E4/140	ox	2.2	6.32	7.939	2.646	3.674	6.831	229.60	0.3	24.99	-204.61
E4/200	ox	2.5	6.53	7.984	2.661	3.869	7.193	241.79	0	0.00	-241.79
E4/250	ox	2.5	6.01	9.038	3.013	2.997	5.573	187.33	0	0.00	-187.33
E4/270	soil	3.3	1.5	3.507	1.169	0.331	0.615	20.69	0	0.00	-20.69
Abbreviations: pri = primary zone, ox = oxidation zone, cem = cemented zone, ev = evaporate zone, neutr = neutralization zo											
hm = hematite rich sediment											