

Supplementary Materials

Table S1. Physical-chemical parameters measured for the 121 mine-influenced waters, with the respective class and conversion factor (f) defined according to the HCA. EC – Electrical Conductivity; TDS – Gra = Total Dissolved Solids analyzed by gravimetry; TDS – est = Total Dissolved Solids estimated from EC; TDS_Ac - Total Dissolved Solids estimated from Acidity

Sampling Location	Sample reference	pH	TDS_est (mg L ⁻¹)	TDS_Ac (mg L ⁻¹)	TDS_Gra (mg L ⁻¹)	EC (μ S cm ⁻¹)	Sulfates (mg L ⁻¹)	Acidity (mg L ⁻¹ of CaCO ₃)	Class and f_{median}
Valdarcas mine	V7_05/19	3.11	303.0	332.5	338.1	568.5	203.8	133.0	Orange class – very low contaminated MIW $f=2.5$
Valdarcas mine	V7_06/19	3.19	305.0	335.0	353.5	575.0	198.3	134.0	
Valdarcas mine	V7_11/18	3.41	293.8	390.0	295.8	581.1	210.7	156.0	
Valdarcas mine	V7_01/19	3.32	632.6	407.5	307.4	559.0	152.7	163.0	
Valdarcas mine	V7_09/19	3.27	276.0	350.0	298.6	493.2	196.1	140.0	
Valdarcas mine	V7_07/19	3.39	284.0	315.0	321.1	512.9	196.1	126.0	
Valdarcas mine	V7_08/19	3.18	284.0	320.0	381.1	535.3	209.7	128.0	
Valdarcas mine	V6_12/18	3.10	371.8	430.0	390.8	531.0	245.8	172.0	
Valdarcas mine	V7_04/19	3.19	336.0	372.5	440.3	638.5	211.8	149.0	
Valdarcas mine	V7_02/19	3.43	314.0	432.5	403.6	635.5	213.3	173.0	
Valdarcas mine	V7_03/19	3.35	325.0	370.0	334.7	611.6	221.2	148.0	
Valdarcas mine	V7_10/18	3.41	303.0	307.5	459.7	415.0	217.2	123.0	
Valdarcas mine	V7_12/18	3.34	292.9	362.5	354.7	412.0	201.8	145.0	
São Domingos mine	PAT_6_10/18	4.09	405.2	240.0	510.0	872.0	247.3	96.0	

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Sampling Location	Sample reference	pH	TDS_est (mg L ⁻¹)	TDS_Ac (mg L ⁻¹)	TDS_Gra (mg L ⁻¹)	EC (μ S cm ⁻¹)	Sulfates (mg L ⁻¹)	Acidity (mg L ⁻¹ of CaCO ₃)	Class and f_{median}
Valdarcas mine	V6_02/19	3.19	704.0	1134.0	1166.7	1448.0	675.8	420.0	Green class –low contaminated MIW $f= 2.7$
Valdarcas mine	V9_10/18	2.72	758.3	1080.0	1258.3	1411.0	731.0	400.0	
Valdarcas mine	V4_12/18	3.03	667.6	1417.5	953.3	1565.0	589.4	525.0	
Valdarcas mine	V3_12/18	2.86	729.5	1125.9	1015.6	1302.0	627.0	417.0	
Valdarcas mine	V6_01/19	3.17	628.7	1026.0	1043.9	1242.0	638.9	380.0	
Valdarcas mine	V9_07/19	2.98	714.0	985.5	1091.1	1414.0	593.4	365.0	
Valdarcas mine	V9_08/19	3.84	725.0	1028.7	1145.3	1423.0	619.2	381.0	
Valdarcas mine	V9_06/19	2.91	691.0	950.4	792.8	1419.0	563.9	352.0	
Valdarcas mine	V9_04/19	2.89	688.0	931.5	945.6	1398.0	572.7	345.0	
Valdarcas mine	V9_05/19	3.00	681.0	904.5	1023.9	1371.0	545.2	335.0	
Valdarcas mine	V9_09/19	2.97	698.0	1077.3	1031.4	1388.0	552.9	399.0	
Valdarcas mine	V9_12/18	2.85	656.3	947.7	760.3	1117.0	478.3	351.0	
Valdarcas mine	V9_03/19	2.99	688.0	777.6	676.7	1151.0	516.5	288.0	
Valdarcas mine	V9_11/18	2.92	678.5	1069.2	879.9	1173.0	526.5	396.0	
Valdarcas mine	V9_02/19	3.19	647.0	893.7	814.4	1247.0	489.4	331.0	
Valdarcas mine	V9_01/19	3.17	666.3	993.6	962.2	1266.0	516.3	368.0	
São Domingos mine	PAT_6_02/19	3.00	551.0	793.8	703.9	1298.0	426.5	294.0	
São Domingos mine	PAT_10-11_02/19	4.04	543.0	656.1	746.7	1268	439.3	243	
Campanario mine	C1_02/19	3.20	642.0	361.8	840.0	1091.0	379.5	134.0	
Campanario mine	C1_10/18	3.49	538.9	305.1	814.4	1261.0	573.1	113.0	
São Domingos mine	PAT_10-11_10/18	4.27	624.5	577.8	778.9	1488.0	409.8	214.0	

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Sampling Location	Sample reference	pH	TDS_est (mg L ⁻¹)	TDS_Ac (mg L ⁻¹)	TDS_Gra (mg L ⁻¹)	EC (μ S cm ⁻¹)	Sulfates (mg L ⁻¹)	Acidity (mg L ⁻¹ of CaCO ₃)	Class and <i>f</i> _{median}
Valdarcas mine	V3_05/19	3.01	819.0	1165.5	1156.1	1859.0	793.0	555.0	Blue class – moderate MIW <i>f</i> = 2.1
Valdarcas mine	V3_03/19	2.91	792.0	1291.5	1563.9	1895	829.9	615	
Valdarcas mine	V3_01/19	3.18	910.9	1245.3	1238.1	1751.0	836.0	593.0	
Valdarcas mine	V3_04/19	2.83	810.0	1192.8	1099.4	1754.0	838.2	568.0	
Valdarcas mine	V3_02/19	2.82	856.0	1249.5	1397.3	1789.0	800.5	595.0	
Valdarcas mine	V4_11/18	3.22	719.2	1270.5	1096.1	1793	762.2	605	
Valdarcas mine	V4_01/19	3.19	755.8	1402.8	1471.7	1863.0	896.5	668.0	
Valdarcas mine	V4_02/19	3.20	779.0	1417.5	1591.7	1940.0	899.0	675.0	
Valdarcas mine	V4_09/19	3.10	824.0	1648.5	1703.9	1945.0	932.9	785.0	
Valdarcas mine	V4_04/19	2.83	843.0	1570.8	1596.9	1998.0	1039.8	748.0	
Valdarcas mine	V4_03/19	3.10	849.0	1596.0	1977.2	2077.0	1042.0	760.0	
Valdarcas mine	V4_08/19	3.10	824.0	1738.8	1715.0	2041.0	1011.0	828.0	
São Domingos mine	PAT_10_02/19	2.77	1009.0	1417.5	1520.0	2059.0	958.6	675.0	
São Domingos mine	PAT_5_4/17	2.63	1746.0	2478.0	2414.4	2984.0	1359.7	1180.0	
São Domingos mine	PAT_3-0_6/19	2.70	1347.0	1906.8	1900.0	3118.0	1389.2	908.0	
São Domingos mine	PAT_5_02/19	2.29	1477.0	2772.0	2653.3	3052.0	1738.0	1320.0	
São Domingos mine	PAT_5_12/16	2.68	2040.0	3370.5	3356.7	3291.0	1969.1	1605.0	
Valdarcas mine	V4_07/19	3.07	875.0	1759.8	1774.3	2232.0	1099.6	838.0	
Valdarcas mine	V4_05/19	3.10	905.0	1864.8	1709.8	2240.0	1150.9	888.0	
São Domingos mine	PAT_9-10_02/19	2.80	867.0	1833.3	1760.0	2402.0	1220.8	873.0	
Valdarcas mine	V4_06/19	3.30	877.0	1822.8	1812.8	2315	1168.7	868	
São Domingos mine	PAT_9-10_10/18	4.27	1159.0	1690.5	1503.9	2607.0	1128.3	805.0	
São Domingos mine	PAT_10_10/18	2.38	1165.0	1680.0	1552.2	2579.0	1121.6	800.0	
Valdarcas mine	V4_10/18	3.39	896.8	1770.3	2148.8	2500.0	1092.8	843.0	
São Domingos mine	PAT_3-0_10/19	2.50	1345.0	1402.8	1488.9	2755.0	1027.9	668.0	
São Domingos mine	PAT_3-0_10/18	2.63	1208.0	1291.5	1540.0	2668.0	899.3	615.0	
São Domingos mine	PAT_3-0_02/19	2.21	1105.0	1255.8	1103.3	2428	946.2	598	
São Domingos mine	PAT_6_10/19	2.89	1349.0	852.6	2155.6	2618	1387	406	

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Sampling Location	Sample reference	pH	TDS_est (mg L ⁻¹)	TDS_Ac (mg L ⁻¹)	TDS_Gra (mg L ⁻¹)	EC (μS cm ⁻¹)	Sulfates (mg L ⁻¹)	Acidity (mg L ⁻¹ of CaCO ₃)	Class and f _{median}
Campanario mine	C6_10/19	4.69	1789.0	5098.5	3879.3	3850.0	3264.6	1545.0	Yellow class – contaminated MIW f= 3.3
Campanario mine	C5_10/19	4.18	1828.0	5016.0	4081.1	3948.0	3200.5	1520.0	
Campanario mine	C3_10/19	2.94	1962.0	4999.5	3716.7	3974	3041.2	1515	
Campanario mine	C4_10/19	3.56	1965.0	4976.4	4001.1	3928.0	3003.5	1508.0	
Campanario mine	C5_06/19	3.64	1742.0	5091.9	4973.3	4021	2898.5	1543	
Campanario mine	C2_10/18	2.76	1980.0	4669.5	4663.7	4189.0	2443.6	1415.0	
Campanario mine	C2_02/19	2.96	1964.0	4488.0	5369.2	4080	2574.9	1360	
Campanario mine	C5_02/19	3.81	1765.0	4983.0	5445	3910	2674.6	1510	
Campanario mine	C4_02/19	2.74	1848.0	4950.0	5523.3	3919.0	2676.7	1500.0	
Campanario mine	C6_02/19	4.29	1783.0	5148.0	4492.2	3872	2694.3	1560	
Campanario mine	C3-4_10/18	3.05	1877.0	4752.0	5443.3	3992.0	2699.7	1440.0	
São Domingos mine	PAT_9-10_6/19	2.73	1833.0	5091.9	3616	4038	2492.4	1543	
Campanario mine	C3_10/18	2.95	1895.0	4910.4	4866.7	3999	2585.5	1488	
Campanario mine	C6_10/18	4.69	1731.0	4768.5	5210.2	3848.0	2557.0	1445.0	
Campanario mine	C4_10/18	3.21	1823.0	4785.0	5603.3	3953	2361.9	1450	
Campanario mine	C5_10/18	3.97	1755.0	4851.0	5758.9	3902	2343.3	1470	
Campanario mine	C3_02/19	2.82	1857.0	4917.0	4931.1	3884	2255.3	1490	

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São Domingos mine	PAT_5_10/18	2.33	1714.0	4025.0	3745.6	3993.0	2243.6	1750.0	Brown class – high contaminated MIW <i>f</i> = 2.3
São Domingos mine	PAT_5_9/21	2.50	4038.0	4190.6	4193.8	3856.0	2482.7	1822.0	
São Domingos mine	PAT_5_7/17	2.56	3940.0	9901.5	8181.1	6330.0	5152.4	4305.0	
São Domingos mine	PAT_5_2/18	3.06	2290.0	5934.0	4693.9	4630.0	2623.8	2580.0	
São Domingos mine	PAT_5_6/17	2.62	2800.0	6129.5	4943.3	4593.0	2797.0	2665.0	
São Domingos mine	PAT_S2_6/19	3.10	1598.0	5296.9	4899.3	3960.0	3041.7	2303.0	
Campanario mine	C6_06/19	4.82	1680.0	4795.5	4948.9	4061.0	2956.1	2085.0	
São Domingos mine	PAT_7_sul_9/21	2.18	2737.0	7902.8	5323.9	4930.0	3665.6	3436.0	
Campanario mine	C3_06/19	2.53	2476.0	4795.5	6381.1	5495.0	4354.3	2085.0	
Campanario mine	C2_06/19	2.63	2387.0	4082.5	6372.2	5399.0	4259.1	1775.0	
Campanario mine	C1_10/19	2.60	2250.0	3341.9	5168.3	4565.0	3962.4	1453.0	
Campanario mine	C2_10/19	2.63	2130.0	3231.5	5133.3	4423.0	3727.6	1405.0	
Campanario mine	C4_06/19	2.63	1965.0	3979.0	5381.1	4388.0	3487.3	1730.0	
São Domingos mine	PAT_10_6/19	2.68	2253.0	3875.5	4898.7	5311.0	3161.4	1685.0	

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São Domingos mine	PAT_2_10/18	2.48	4101.0	11455.0	12588.9	9298.0	8825.8	3950.0	Dark green class – very high contaminated MIW <i>f</i> = 2.9
São Domingos mine	PAT_5_10/19	2.16	4412.0	23011.5	16902.2	9290.0	10398.7	7935.0	
São Domingos mine	PAT_2_8/17	2.39	4182.0	11237.5	11745.0	8779.0	6482.4	3875.0	
São Domingos mine	PAT_2_9/17	2.39	3786.0	11426.0	11810.3	8625.0	6698.5	3940.0	
São Domingos mine	PAT_2_7/17	2.87	5660.0	12035.0	11570.0	8591.0	6070.2	4150.0	
São Domingos mine	PAT_2_10/16	2.42	5410.0	12035.0	12885.0	8623.0	6246.7	4150.0	
São Domingos mine	PAT_2_11/16	2.50	5360.0	11904.5	11478.3	8490.0	5709.8	4105.0	
São Domingos mine	PAT_2_5/17	2.82	4670.0	10005.0	10384.4	8056.0	5567.3	3450.0	
São Domingos mine	PAT_2_4/17	3.04	4770.0	9106.0	10820.0	7891.0	5886.5	3140.0	
São Domingos mine	PAT_2_12/16	2.56	4980.0	10860.5	11123.3	8122.0	4742.1	3745.0	
São Domingos mine	PAT_2_6/17	2.96	5200.0	10773.5	11062.2	8530.0	5019.3	3715.0	
São Domingos mine	PAT_9-10_9/21	2.00	4492.0	13458.9	8315.6	9090.0	5154.0	4641.0	
São Domingos mine	PAT_5_8/17	2.09	3319.0	17327.5	10290.0	7471.0	5659.0	5975.0	
São Domingos mine	PAT_5_6/19	2.37	3288.0	16457.5	11419.0	7740.0	6300.4	5675.0	
São Domingos mine	PAT_5_9/17	2.10	3402.0	19995.5	11280.6	7996.0	6564.9	6895.0	
São Domingos mine	PAT_5_10/16	2.33	3205.0	14413.0	9431.7	6762.0	6518.0	4970.0	
São Domingos mine	PAT_5_7/17	2.56	3940.0	12484.5	8181.1	6330.0	5152.4	4305.0	
Campanario mine	C1_06/19	2.50	2820.0	6032.0	8121.9	6438.0	6710.2	2080.0	

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São Domingos mine	PAT_7_2/18	2.05	13512.0	117937.5	120590.0	21830.0	80690.8	78625.0	Red class - extremely contaminated MIW <i>f</i> = 1.5
São Domingos mine	PAT_7_02/19	1.32	13564.0	117750.0	125662.8	27480.0	87799.3	78500.0	
São Domingos mine	PAT_7_4/17	2.48	11900.0	94968.7	115571.7	20940.0	59101.8	63312.5	
São Domingos mine	PAT_7_10/18	0.91	20850.0	205875.0	207417.2	43710.0	146946.8	137250.0	
São Domingos mine	PAT_7_9/21	1.47	19660.0	154050.0	158706.4	38000.0	107962.0	102700.0	
São Domingos mine	PAT_7_5/17	1.26	17450.0	323250.0	392554.4	27720.0	190960.9	215500.0	
São Domingos mine	PAT_7_6/17	0.98	10730.0	625875.0	640085.6	13740.0	310213.2	417250.0	
São Domingos mine	PAT_7_8/17	0.44	8793.0	643875.0	611595.6	16190.0	410600.7	429250.0	

