

Table 1 - Solutions and Solid Materials Chemistry Summary

	Arizona Water Quality Standard	1 Composition of H ₂ SO ₄	2 PLS	3 Raffinate	4 Water Impoundment Solution with 1.6 g/L Lime Treatment	5 Water Impoundment Sediment After Lime Treatment %	6 Groundwater After Block Rising	7 Makeup Water
	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L
Metals								
Aluminum	None	na	2,356	2,332	0.006	6.36%	< 0.2	<2.0
Antimony	0.006	0.05 - 0.15	0.45	0.44	0.45	< 0.01 %	0.0015	<0.2
Arsenic	0.05	0.1 - 0.4	0.78	0.77	0.16	0.02%	< 1.0	<0.0005
Barium	2	na	0.45	0.45	0.0046	< 0.01 %	0.0014	<0.05
Beryllium	0.004	na	0.0001	0.00005	na	< 0.01 %	na	<0.002
Cadmium	0.005	na	0.45	0.45	0.19	< 0.01 %	0.0014	<0.002
Calcium	None	na	507	502	448	7.88%	160	61
Chromium	0.1	na	1.80	1.78	0.25	< 0.01 %	0.0015	<0.03
Cobalt	None	na	6.31	6.24	< 0.001	0.02%	< 0.3	<0.1
Copper	None	0.2 - 0.5	1,275	127.5	2.99	1.51%	0.15	0.044
Iron	None	7 – 15	1,656	1,639.44	0.00003	4.07%	0.016	0.34
Lead	0.05	0.1 - 0.7	1.80	1.78	0.05	0.01%	< 2	<0.02
Magnesium	None	na	1,799	1,781	346	0.03%	6.95	14
Manganese	None	0.05 - 0.15	62	61	10.38	< 0.01 %	0.20	<0.02
Mercury	0.002	na	0.00008	0.00008	0.0001	< 0.01 %	< 0.0001	<0.001
Nickel	0.1	0.07 - 0.20	3.60	3.57	0.62	< 0.01 %	0.0076	<0.05
Potassium	None	na	513	508	186	0.02%	15	6.2
Selenium	0.05	na	0.0020	0.0020	0.002	< 0.01 %	na	<0.04
Silver	None	na	0.45	0.45	0.08	< 0.01 %	< 0.08	<0.1
Sodium	None	na	406	402	701	< 0.01 %	230	120
Thallium	0.002	na	0.45	0.45	1.01	< 0.01 %	< 3	<0.05
Zinc	None	0.05 - 0.75	26	26	4.10	< 0.01 %	< 0.7	0.095
Anions								
Bicarbonate	None	na	< 0.0017	< 0.0017	1.40	< 0.01 %	120	160
Chloride	None	< 1	16	15.8	15.63	< 0.01 %	227	160
Fluoride	4	na	0.025	0.025	0.025	< 0.01 %	na	<0.5
Nitrate	None	< 5	0.82	0.81	0.05	< 0.01 %	na	1.9
Phosphate	None	na	269	267	0.96	0.45%	< 5	<0.5
Sulfate	None	1.77 x 10 ⁶	30,954	30,644	6,981	79.55%	630	76
Sulfurous Acid	None	2.0 - 15	na	na	na	na	na	na
Field Parameters								
TDS	None	na	39,527	33,383	5886	na	1,304	550
pH	None	na	1.73	1.64	7.02	na	6.22	7.2
Radiochemicals								
Uranium	None	na	0.0013	0.0012	0.0013	< 0.01 %	< 1	0.013