

Microbially-enhanced vanadium mining and bioremediation under micro- and Mars gravity on the International Space Station

Cockell, Santomartino et al., 2021

Supplementary Material

Supplementary Table 1. Bioleaching and control leaching of vanadium from basalt on the International Space Station (ISS) and on Earth. Total quantity (ng in bulk fluid) of vanadium in each of the experimental flight and ground control samples at the end of the experiment for each of the three organisms examined and sterile samples. The numbers of the experimental units are also shown. ‘Cont.’ means contamination and sample was discarded.

		Sample 1	Unit No.	Sample 2	Unit No.	Sample 3	Unit No.	Mean	sd
<i>S. desiccabilis</i>	Microgravity	22.211	133/1	19.668	130/1	17.631	130/2	19.837	2.295
	Mars gravity	20.815	143/1	26.213	142/1	23.325	142/2	23.451	2.701
	Earth gravity	23.291	137/1	20.931	118/1	20.271	118/2	21.497	1.588
<i>B. subtilis</i>	Microgravity	34.062	131/1	30.780	134/1	26.300	134/2	30.381	3.897
	Mars gravity	18.890	145/1	28.444	144/1	24.145	144/2	23.826	4.785
	Earth gravity	24.907	121/1	19.595	138/1	23.974	138/1	22.825	2.836
<i>C. metallidurans</i>	Microgravity	12.371	117/1	12.249	132/1	14.953	132/2	13.191	1.527
	Mars gravity	10.278	148/1	12.204	147/1	11.193	147/2	11.225	0.964
	Earth gravity	16.511	141/1	9.0560	140/1	14.053	140/2	13.207	3.799
Non-biological control	Microgravity	13.690	133/2	7.7642	117/2	Cont.	131/2	10.727	4.190
	Mars gravity	14.394	143/2	9.9212	145/2	8.2076	148/2	10.841	3.194
	Earth gravity	13.344	137/2	9.0497	121/2	8.5081	134/2	10.301	2.649
Ground 1 x g experiment	<i>S. desiccabilis</i>	26.909	154/1	21.283	153/1	19.889	153/2	22.694	3.717
	<i>B. subtilis</i>	21.589	156/1	25.477	155/1	21.363	155/2	22.810	2.313
	<i>C. metallidurans</i>	9.5152	158/1	12.367	157/1	8.9014	157/2	10.261	1.849
	Control (non-biology)	17.632	154/2	5.7486	158/2	Cont.	156/2	11.690	8.402

