

**Table S1** The relative abundance of the dominant phyla in soils across different soil layers and reclaimed times.

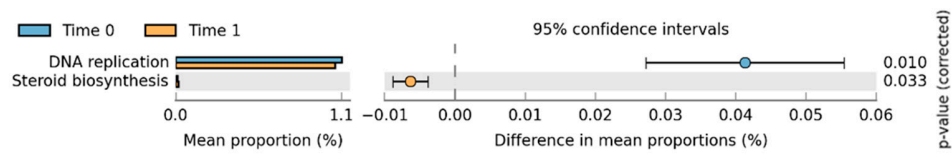
Soil depths/Reclaimed times	0-20 cm			20-40 cm		
	Time 0	Time 1	Time 2	Time 0	Time 1	Time 2
Proteobacteria	50.61±1.02 b	51.91±0.63 b	58.68±0.81 a	48.59±2.14 A	47.44±2.43 A	53.07±3.07 A
Acidobacteria	10.62±0.83 a	7.44±0.23 b	6.10±0.20 b	15.25±1.38 A	8.70±1.08 B	9.91±0.29 B
Gemmatimonadetes	10.25±0.79 a	2.66±0.24 b	1.65±0.19 b	10.30±1.99 A	3.74±0.60 B	6.01±1.33 AB
Bacteroidetes	8.54±0.79 ab	10.53±0.55 a	7.69±0.33 b	2.98±0.49 B	8.09±1.40 A	2.90±0.84 B
Chloroflexi	4.36±0.58 b	9.46±0.72 a	8.22±0.30 a	6.71±0.48 A	9.48±0.96 A	7.78±1.19 A
Planctomycetes	5.13±0.16 a	3.17±0.03 b	3.53±0.10 b	4.43±0.36 A	3.73±0.33 A	4.12±0.49 A
Nitrospirae	0.57±0.11 a	1.29±0.35 a	1.22±0.21 a	1.72±0.25 A	2.75±1.14 A	3.94±0.73 A
Actinobacteria	3.59±0.19 a	2.04±0.29 b	3.96±0.46 a	2.24±0.33 A	2.20±0.42 A	2.02±0.17 A
Firmicutes	0.18±0.07 b	2.71±0.05 a	2.06±0.28 a	0.14±0.07 A	1.94±0.86 A	0.91±0.04 A
WS3	1.76±0.18 a	0.70±0.08 b	0.57±0.02 b	1.30±0.17 A	1.06±0.02 A	1.22±0.42 A

Values are means ± SE. Different lowercase and uppercase letters indicate significant differences among different reclamation times at 0-20 and 20-40 cm depth, respectively ( $p < 0.05$ ).

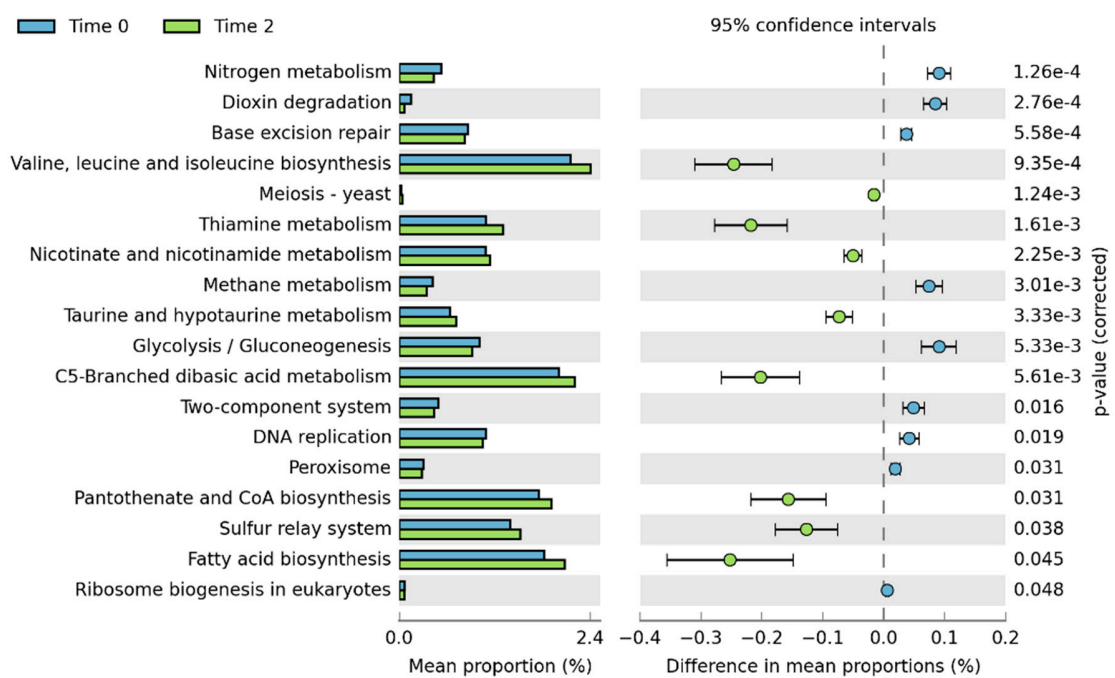
**Table S2** The relative abundance of the dominant class (top 20) in soils across different soil layers and reclaimed times.

Layer/Reclaimed sites	0-20 cm			20-40 cm		
	Time 0	Time 1	Time 2	Time 0	Time 1	Time 2
Gammaproteobacteria	24.10±1.16 a	20.45±0.53 b	22.13±0.53 ab	19.42±1.03 A	16.35±2.77 A	16.90±1.39 A
Deltaproteobacteria	7.80±0.95 b	12.26±1.82 ab	15.02±1.17 a	12.80±0.53 A	16.43±1.51 AB	20.33±0.21 A
Alphaproteobacteria	15.48±0.82 a	6.91±0.26 b	8.82±1.32 b	14.14±1.16 A	7.20±0.53 B	11.43±0.91 A
Betaproteobacteria	2.53±0.07 b	11.98±1.01 a	11.90±1.51 a	1.39±0.50 A	6.94±2.88 A	3.78±2.26 A
Anaerolineae	2.96±0.46 b	8.44±0.84 a	7.25±0.43 a	4.35±0.51 A	8.03±0.83 AB	6.34±1.01 B
Nitrospira	0.57±0.11 a	1.29±0.35 a	1.22±0.21 a	1.72±0.25 A	2.75±1.14 A	3.94±0.73 A
Gemm-2	4.59±0.18 a	0.66±0.18 b	0.55±0.12 b	3.28±0.63 A	0.85±0.06 B	1.03±0.11 B
Rhodothermi	3.86±0.57 a	1.07±0.30 b	0.40±0.15 b	1.69±0.42 A	0.83±0.27 AB	0.23±0.01 B
Sva0725	2.77±0.59 a	1.86±0.20 a	1.29±0.26 a	4.49±0.40 A	1.91±0.79 B	2.28±0.42 B
Bacteroidia	0.00±0.00 b	3.23±0.65 a	2.58±0.51 a	0.01±0.01 A	2.56±1.17 A	0.63±0.24 A
Flavobacteriia	2.32±0.17 a	2.68±0.79 a	2.88±0.70 a	0.27±0.17 B	2.69±0.27 A	1.22±0.26 B
Gemm-5	2.38±0.42 a	0.77±0.16 b	0.17±0.13 b	1.84±0.90 A	0.54±0.17 A	0.22±0.07 A
Phycisphaerae	1.82±0.24 a	1.94±0.10 a	1.96±0.13 a	2.68±0.33 A	2.63±0.32 A	2.50±0.32 A
Cytophagia	1.37±0.14 a	1.98±0.41 a	1.32±0.17 a	0.63±0.18 A	1.11±0.02 A	0.59±0.31 A
Acidobacteria-6	1.67±0.30 a	1.83±0.18 a	1.31±0.22 a	2.07±0.24 A	1.59±0.15 A	2.05±0.33 A
Gemm-4	1.35±0.11 a	0.32±0.04 b	0.21±0.07 b	1.96±0.22 A	0.75±0.23 A	1.23±0.52 A
Gemm-1	0.94±0.07 a	0.48±0.12 a	0.56±0.12 a	1.21±0.14 A	0.80±0.18 A	1.84±0.41 A
Actinobacteria	0.51±0.06 b	0.60±0.10 b	1.69±0.33 a	0.96±0.31 A	0.92±0.27 A	1.11±0.12 A
OS-K	0.03±0.02 b	0.31±0.10 b	0.96±0.13 a	0.67±0.06 A	1.23±0.54 A	1.01±0.43 A
PRR-12	1.77±0.18 a	0.70±0.08 b	0.57±0.02 b	1.30±0.17 A	1.06±0.02 A	1.22±0.42 A

Values are means ± SE. Different lowercase and uppercase letters indicate significant differences among different reclamation times at 0-20 and 20-40 cm depth, respectively ( $p < 0.05$ ).



**Figure S1.** Different bacterial functional groups between Time 0 and Time 1.



**Figure S2.** Different bacterial functional groups between Time 0 and Time 2.