

Supplementary Table 3- Assignment of brine seawater interface unique 16S rRNA to bacterial taxonomic groups

Taxonomical groups *	Unique ATII- I	Unique DD- I	Unique KB- U	Unique KB- L
Marine Group I	0.09%	4.67%	6.53%	6.48%
Deep Sea Euryarcheotic Group	0.00%	0.00%	0.04%	0.20%
Halobacteriaceae	0.00%	0.26%	0.00%	0.00%
Miscellaneous Euryarcheotic Group	0.00%	0.09%	0.12%	0.28%
Marine Benthic Group_E	0.16%	0.00%	0.00%	0.52%
South African Goldmine Group	0.01%	1.44%	0.00%	0.15%
Acidobacteriaceae	0.00%	0.47%	0.01%	0.05%
<i>Iamia</i>	0.01%	0.26%	1.36%	0.13%
Acidimicrobiales	0.04%	0.18%	0.39%	0.01%
<i>Georgenia</i>	0.00%	0.50%	0.00%	0.00%
<i>Brevibacterium</i>	0.00%	0.70%	0.00%	0.00%
<i>Brachybacterium</i>	0.00%	0.29%	0.00%	0.00%
<i>Cellulosimicrobium</i>	0.00%	0.29%	0.00%	0.00%
Marinilabiaceae	0.00%	0.00%	0.00%	0.27%
<i>Owenweeksia</i>	0.00%	0.00%	0.28%	0.04%
Sphingobacteriaceae	0.00%	0.29%	0.00%	0.00%
<i>Simkania</i>	0.00%	0.00%	0.01%	0.18%
Dehalogenimonas	0.04%	0.00%	0.05%	0.37%
SAR202	0.08%	2.96%	0.23%	0.00%
Cyanobacteria	0.00%	0.32%	0.00%	0.00%
SAR406	12.73%	6.34%	27.42%	4.42%
Deferribacterales	0.00%	0.79%	0.07%	0.01%
<i>Virgibacillus picturae</i>	0.00%	0.23%	0.00%	0.00%
<i>Paenibacillus</i>	0.00%	0.41%	0.00%	0.00%
<i>Fusibacter</i>	0.00%	0.00%	0.00%	0.13%
Syntrophomonadaceae	0.00%	0.00%	0.02%	0.18%
<i>Fusobacteria</i>	0.01%	0.00%	0.02%	0.23%
Gemmatimonadetes	0.00%	0.82%	0.04%	0.06%
<i>Nitrospira</i>	0.00%	2.55%	0.02%	0.00%
OD1	0.19%	1.97%	7.04%	25.83%
OP11	0.00%	0.00%	0.00%	0.19%
OP1	0.01%	0.00%	0.07%	1.33%
OP3	0.02%	0.00%	1.97%	14.07%
OP8	0.00%	0.00%	0.04%	0.27%
Phycisphaeraceae	0.00%	0.09%	0.13%	0.16%
Phycisphaerae	0.00%	0.00%	0.04%	0.56%

Planctomycetaceae	0.00%	0.03%	0.26%	0.11%
<i>Candidatus scalindua</i>	1.55%	0.00%	14.70%	0.33%
<i>Brevundimonas</i>	0.01%	1.73%	0.00%	0.00%
<i>Devosia</i>	0.00%	0.23%	0.00%	0.00%
<i>Aminobacter</i>	0.01%	0.26%	0.00%	0.00%
<i>Phyllobacterium myrsinacearum</i>	10.24%	0.03%	0.00%	0.00%
<i>Phyllobacterium</i>	53.99%	0.09%	0.00%	0.00%
<i>Ensifer</i>	0.00%	2.05%	0.00%	0.00%
<i>Rhizobium</i>	0.00%	0.76%	0.00%	0.00%
Rhodobacteraceae	0.03%	0.03%	0.04%	0.72%
<i>Defluviicoccus</i>	0.01%	0.21%	0.33%	0.07%
Rhodospirillaceae	0.07%	3.55%	2.00%	0.42%
Rhodospirillales	0.00%	0.23%	0.00%	0.00%
<i>Pelagibacter</i>	0.00%	21.40%	0.83%	0.02%
SAR11	0.01%	0.79%	0.21%	0.01%
<i>Rickettsiales</i>	0.00%	3.35%	0.16%	0.05%
Alphaproteobacteria	0.00%	0.47%	0.06%	0.01%
<i>Achromobacter</i>	0.00%	2.29%	0.00%	0.00%
<i>Bordetella</i>	0.00%	0.21%	0.00%	0.00%
<i>Cupriavidus</i>	1.45%	0.06%	0.00%	0.00%
<i>Limnobacter</i>	0.00%	0.00%	0.01%	0.29%
<i>Ralstonia</i>	0.28%	0.09%	0.00%	0.01%
<i>Acidovorax</i>	0.00%	0.00%	0.00%	0.56%
Bacteriovoraceae	0.01%	0.18%	0.00%	0.19%
Desulfarculaceae	0.01%	0.00%	0.43%	0.35%
Desulfobacteraceae	0.01%	0.00%	2.11%	2.97%
<i>Nitrospina</i>	0.27%	0.21%	4.15%	0.08%
<i>Myxococcus</i>	0.00%	3.05%	0.00%	0.00%
Myxococcales	0.00%	0.73%	0.01%	0.03%
SAR324	0.01%	3.29%	1.70%	0.01%
Deltaproteobacteria	0.11%	0.50%	0.84%	1.66%
<i>Sulfurimonas</i>	0.17%	0.00%	0.56%	0.18%
<i>Sulfurovum</i>	0.00%	0.00%	0.70%	2.51%
<i>Alteromonas</i>	0.11%	2.29%	0.00%	0.01%
<i>Teredinibacter</i>	0.00%	0.26%	0.00%	0.00%
<i>Idiomarina</i>	0.01%	0.94%	0.00%	0.01%
<i>Coxiella</i>	0.00%	0.91%	0.02%	0.08%
Legionellaceae	0.00%	0.03%	0.02%	0.25%
<i>Methylobacter luteus</i>	0.00%	0.00%	1.87%	0.05%
<i>Methylobacter</i>	0.00%	0.00%	1.03%	0.05%
<i>Halomonas</i>	0.01%	0.47%	0.00%	0.02%

<i>Marinomonas</i>	0.01%	0.32%	0.00%	0.00%
<i>Oceanobacter</i>	0.00%	0.41%	0.00%	0.00%
<i>Pseudospirillum</i>	0.00%	0.26%	0.06%	0.00%
SAR86	0.00%	1.67%	0.01%	0.00%
Oceanospirillales	0.05%	0.47%	0.04%	0.00%
<i>Acinetobacter</i>	0.01%	0.03%	0.01%	0.27%
<i>Enhydrobacter</i>	16.90%	0.00%	0.00%	0.00%
<i>Pseudomonas putida</i>	0.00%	0.23%	0.00%	0.00%
<i>Pseudomonas</i>	0.02%	0.91%	0.00%	0.05%
Salinisphaeraceae	0.00%	2.08%	0.02%	0.00%
<i>Mariprofundus</i>	0.88%	0.00%	5.13%	0.10%
<i>aminisulfidivoran</i>	0.00%	0.00%	1.46%	0.30%
<i>Methylophaga</i>	0.00%	0.00%	0.85%	0.05%
<i>Piscirickettsia</i>	0.00%	0.35%	0.00%	0.00%
<i>Pyura chilensis</i>	0.00%	0.00%	0.02%	0.52%
Thiomicrospira	0.00%	0.00%	0.02%	0.34%
<i>Leucothrix</i>	0.21%	0.00%	0.00%	0.00%
Sinobacteraceae	0.00%	0.44%	0.27%	0.08%
Stenotrophomonas	0.00%	0.70%	0.00%	0.00%
Gammaproteobacteria	0.00%	0.88%	0.78%	0.38%
Spirochaeta	0.00%	0.00%	0.23%	0.36%
Spirochaetes	0.00%	0.00%	0.44%	1.45%
TM6	0.01%	0.12%	0.07%	2.09%
WS3	0.01%	0.09%	0.04%	1.77%
Bacteria**	0.09%	0.29%	5.02%	20.50%
Unknown***	0.03%	14.06%	7.58%	4.56%

*Based on VAMPS taxonomical classification after removing 16S rRNA similar to ATII water column and statically filtered through fisher exact test

**Bacteria = pyrotags that are assigned to bacterial origin

***Unknown = pyrotags that are assigned to unknown origin