

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Overviews of all geochemical and quantitative PCR data.

File Name: Supplementary Data 2

Description: Phylogenetic summary tables of Bacteria, Archaea, and specifically methane-cycling archaea.

File Name: Supplementary Data 3

Description: Read contributions of phylogenetically annotated bacterial ZOTUs across all samples.

File Name: Supplementary Data 4

Description: Read contributions of phylogenetically annotated archaeal ZOTUs across all samples.