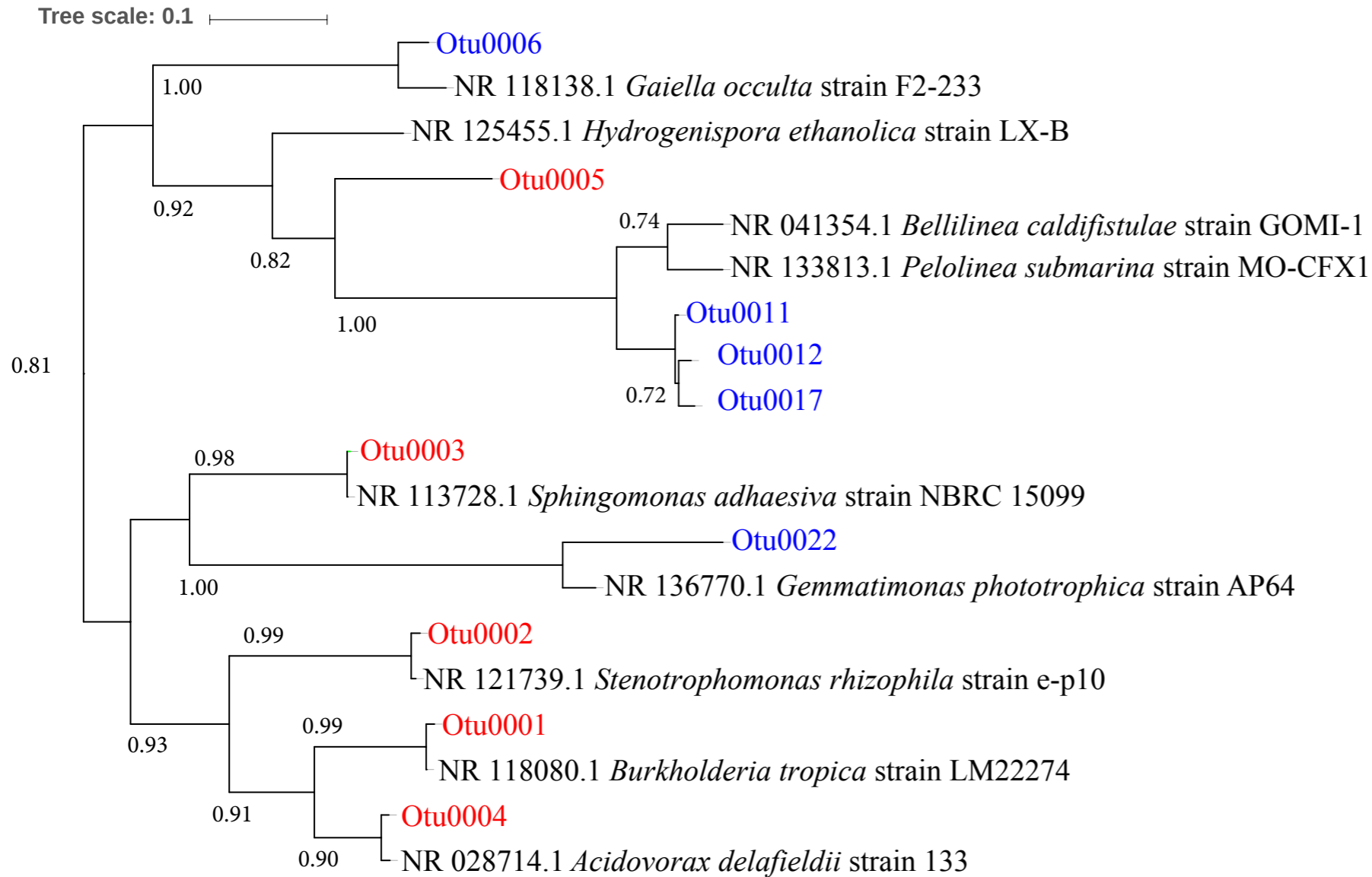
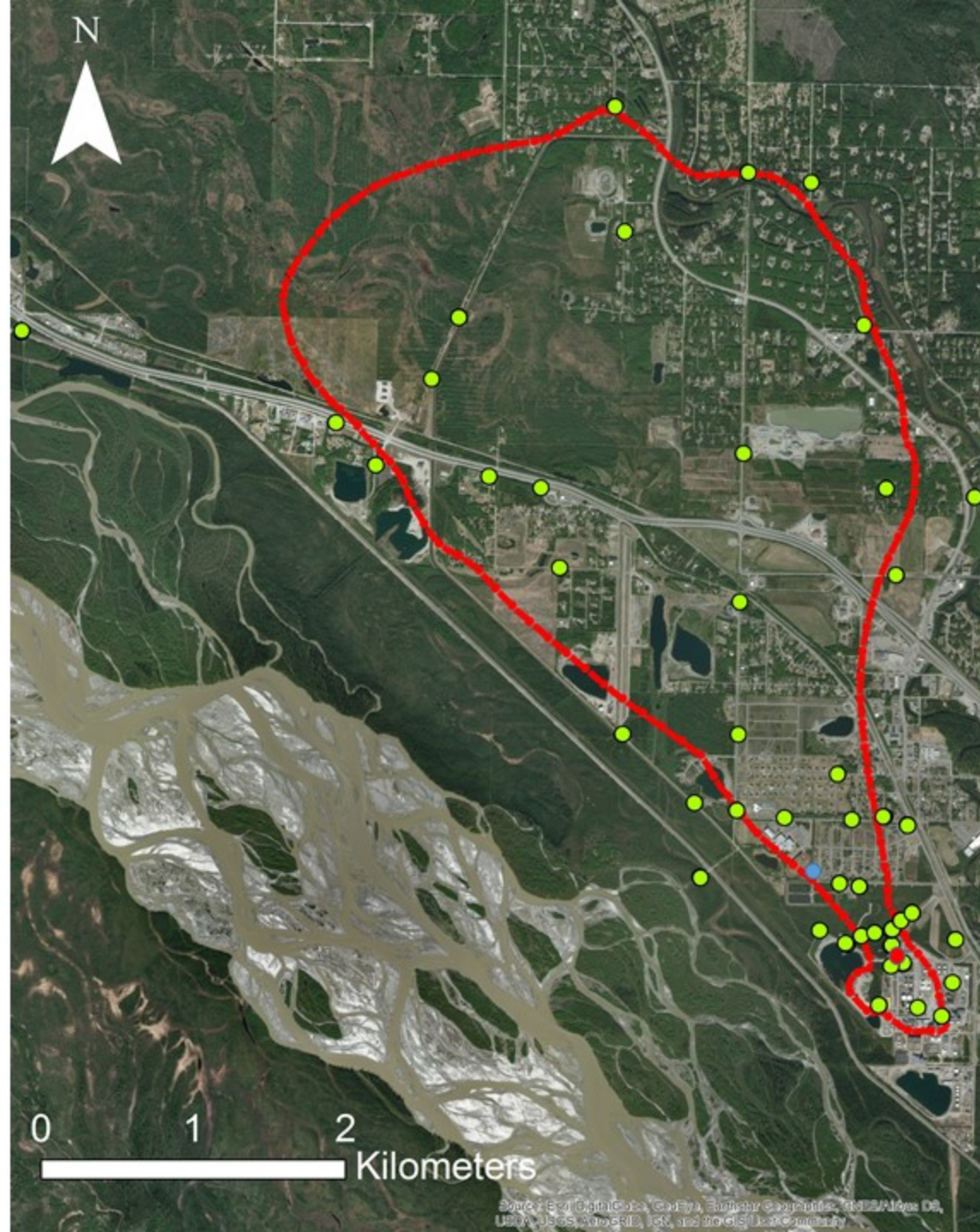


Supplementary Figure 4-1: NMS plot of microbial communities associated with the experimental air sparging station. Axis 1 explains 62.1% of the variability and axis 2 explains 18.9% of the variability. Red lines represent Pearson and Kendall correlations with environmental variables water table elevation (NMS1 $R^2 = 0.388$), manganese (NMS1 $R^2 = 0.227$), and temperature (NMS1 $R^2 = 0.213$).



Supplementary Figure 4-2: Phylogenetic tree of the five most abundant OTUs in the sediment-groundwater comparison samples and their closest relatives in the BLAST database. OTUs in red represent dominant members of the sediment (attached) community and OTUs in blue represent dominant members of the groundwater (suspended) community. SH-aLRT node confidence values > 0.70 are shown.



Supplementary Figure 4-3: Map of sulfolane plume in North Pole, Alaska. The red outline represents the extent of detectable sulfolane in the groundwater. The yellow dots represent monitoring wells sampled. The blue dot represents the small region of the plume where the sediment-groundwater comparison study was conducted. The red dot represents the location of the experimental air-sparging system.