F. Data Management and Handling.

All field data will be sent to the Biological and Chemical Oceanography Data Management Office (BCO-DMO), which requires all field data to be submitted two years after each field program ends. For our previous EPR and Lau Basin studies supported by MGG, we have provided meta- and derived data to MGDS through the RIDGE2000 Program Data Portal, which is using our compliance as an example for others to follow for their data submissions. All field data will contain time, depth, biological substrate (as necessary), XY and lat/lon stamps followed by the concentration of each chemical species with normal statistical procedures to calculate averages and statistics such as the relative standard deviation for replicate measurements. The methods with their detection limits are also provided. All this information to be supplied to BCO-DMO allows others to access the data and use it for data integration purposes, and our data has been accessed often based on information provided by MGDS.

We have provided photographs of sampling and instrument deployment to the MGDS for previous field work. We will do so to BCO-DMO.

Data from laboratory experiments such as Mn(III) formation and stability studies will be made available upon publication in the referred literature, and some journals permit data table placement into supporting information. Kinetic experiments will be treated using standard chemical kinetic theory. Because we will perform temperature studies, we will be able to calculate the energy of activation using Arrhenius plots ($\ln k$ vs T^{-1}) and the entropy of activation using Eyring plots [$\ln (k/T)$ vs T^{-1}]. These data permit the determination of electron transfer reactions as inner sphere or outer sphere. If the reaction is inner sphere, then the reaction is a surface controlled reaction (see Luther and Popp, 2002).

We expect to publish all data in peer reviewed journals.

Luther, III, G. W. and J. I. Popp. 2002. Kinetics of the abiotic reduction of polymeric manganese dioxide by nitrite: an anaerobic nitrification reaction. *Aquatic Geochemistry*, Vol. 8, 15-36.