

## ***Interactive comment on “Integrative analysis of the interactions between *Geobacter* spp. and sulfate-reducing bacteria during uranium bioremediation” by M. Barlett et al.***

**M. Barlett et al.**

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*1. Pg. 11340, l. 24: did you really purge with 95:5 CO<sub>2</sub>:N<sub>2</sub>? This is a very high CO<sub>2</sub> concentration (e.g., extreme) and I wonder why it was chosen as it does not reflect in situ conditions.*

- The reviewer is correct. This is a typo.
- It should be the reverse 95:5 N<sub>2</sub>:CO<sub>2</sub>, which would reflect subsurface conditions.
- We have corrected it in the revised manuscript.

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2. Pg. 11342, l. 20: do you mean Fe(III) which cannot be reduced by Geobacter?

- This is in fact referencing the Fe(II) fraction which cannot be further reduced by Geobacter since it is already in a reduced state. To clarify that, we will change the line to: “the remaining 2.25mM are Fe(II) which is already in a reduced form and cannot be further reduced by Geobacter .”

3. Please use consistent definitions and capitalization for the different iron fractions. In some cases you use “Hard-to-Use Fe(III)” and in others it is defined as “Difficult-to-Use”. Please be consistent in both the text and the figure legends.

- As per reviewer’s suggestion, we have changed everything to “Hard-to-Use Fe(III)”.

4. Section 2.3 Analytical Methods would be best moved up before the simulation methods so that it is Section 2.2.

- We have made the change as per reviewer’s suggestion.

5. Pg. 11345, l. 19: change to predict

- We have made the change as per reviewer’s suggestion.

6. Pg. 11346, l. 15: you state here that 0, 5, 50, 95, and 100% Geobacter were given at the onset of this set of simulations but Fig. 3 shows 0, 10, 50, 90, and 100% Geobacter. Which is the correct amount of Geobacter? Please correct in the text of section 3.2

- The figure is correct in that 0, 10, 50, 90, 100% Geobacter was used.

- We have corrected this mistake in the text.

7. *References: Please italicize species names and use proper capitalization of the author names, e.g., Pernthaler et al. reference.*

- We have checked over the references and made the change as per reviewer's suggestion.

8. *Figure 1: it would be helpful to have more days labeled on the x-axis so that the figure is comparable to the other figures.*

- We have made the change as per reviewer's suggestion.

9. *Figure 4: please add a and b to the panels and revise the figure legend to reflect the data presented.*

- We have made the change as per reviewer's suggestion.

10. *Figure 5: please add a and b to the panels.*

- We have made the change as per reviewer's suggestion.

11. *Supplementary Figure S4 is not referenced in the text. Please add a reference as it supports your story.*

- We have cited this figure in Section 3.3.
- We have added the sentence "Similarly, simulation showed that if Fe(III) is added to the sediment at the beginning of the experiment, additional Geobacter biomass is produced, leading to faster utilization of Fe(III) but have little effect on the utilization of sulfate" to Section 3.3.

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