

The authors present a revised version of the manuscript. They have addressed many of the previous comments, but the manuscript still needs improvement. The following comments need to be addressed:

1. Is the term "DOC or DOM" missing in the title?
2. Please summarise the abstract. Usually, it should not exceed 200 words (standard of many journals but please check with the handling editor).
3. Lines 75-81. This manuscript does not address differences in degradation between POC and DOC; therefore, mentioning this in the introduction is completely irrelevant. The authors can simply explain in the methods section why samples were filtered.
4. Line 91. Consider changing "elevated" for "high".
5. Line 94. Please improve clarity.
6. The link between degradation and trace metals is still not clear in the manuscript. The topic is barely mentioned in the introduction and it appears after explaining the study design and the first hypothesis. In my opinion, this remains the main issue of the manuscript, not because of the lack of novelty but rather the lack of a coherent story. The authors should either address a) spatial and temporal patterns in degradation, or b) the relationship between degradation and trace metals. This would also solve the issues of readability and length of the document.
7. Line 280. The acronym "GET" is not used anywhere else in the manuscript, please delete.
8. The discussion is not easy to follow. The authors organised the results based on the parameters measured (concentrations, bacterial number, trace metals, optical parameters, etc), which results in text repetition. This is clear in the discussion, where once again it is mentioned which and where the degradation rates were higher or lower. Instead, the results should be presented as biodegradation (all the results), and then photodegradation (all results). In the next section, the authors can discuss properly and compare between the two. Overall, the manuscript can be simplified, which would make the scientific message clearer and stronger.
9. Section 4.2. This is another example of the lack of a clear message in the manuscript. Are the CO₂ fluxes important in this paper? Because according to the aims and hypotheses, the focus of the paper are the degradation rates (lines 137-142) and partitioning of trace elements (lines 151-153). Yet, this section is as long as section 4.3, which is actually related to a hypothesis.
10. Lines 663-674. The conclusions are not just another summary of the results. What are the broader implications of the study and the recommendations?
11. Figure 5.D. The upper error bar of the piezometer at time 1 is outside the scale.
12. Figure 6.D. The lower error bar of the piezometer at time 2 is outside the scale.