Response to Reviewer 1 Comments

Point 1: It is suggested to simplify the contents of Table 4, and the current table 4 is somewhat jumbled.

Response 1: Thanks for your suggestion. We redrew the Table 4 to make it more clear.

Point 2: Recommends that the content of the conclusions in part 5 be streamlined, with consideration given to reducing the number of articles in the conclusions.

Response 2: Thanks for your suggestion. We have streamlined the conclusion section and reduced the number of entries appropriately.

Point 3: How is the number of freeze-thaw cycles determined in the simulation?

Response 3: Thanks for your questions. According to the actual situation of the mine in an alpine area, and considering the influence of a larger number of freezing-thawing cycles on tailings dam, the current one is selected.

Point 4: There is an author's name in the introduction with irregularities in case.

Response 4: Thanks for your suggestion. We've made changes and checked the rest.