Response to Reviewer 2 Comments

Comments: This ms presents key data on a newly discover deposit in this region. There is considerable key data presented to support the model presented. Ce/Ce* redox ref on zircon should be Smythe & Brenan (2016) now. They really need a strong English author to read the manuscript before resubmission. Also, there are numerous typos and poor formatting. Check figures for typos.

Dear reviewer:

Thank you for this constructive comment. Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our research. We have studied comments carefully and have made correction which we hope meet with approval. Revised portion are marked in red in the paper. The main corrections in the paper and the responds to the comments are as following:

Point 1: Ce/Ce* redox ref on zircon should be Smythe & Brenan (2016) now.

Response 1: Thank the reviewer for this constructive comment. As reviewer suggested that Smythe & Brenan (2016) improved methods of calculate the Ce/Ce* redox ref on zircon, and we have studied methods carefully. However, this method relies heavily on the water content of magma, but the initial water content of the Magushan magma cannot be estimated, and the measured value cannot represent the initial water content of magma. In addition, owing to the late alteration, the water content of samples would be changed, so it cannot be calculated by method of Smythe & Brenan (2016).

References for this section:

Point 2: They really need a strong English author to read the manuscript before resubmission.

Response 2: Thank the reviewer for this valuable comment. It really true as reviewer mentioned that the poor English writing in the Ms. We tried our best to improve the English writing and made some changes in the manuscript. These changes will not influence the content and framework of the paper. And here we did not list the changes but remarked in red in revised paper.

Point 3: Also, there are numerous typos and poor formatting. Check figures for typos.
Response 3: Thank the reviewer for this valuable comment. We are very sorry for our negligence of numerous typos and poor formatting. We have made correction in the manuscript carefully according to the reviewer’s suggestion. These changes remarked in red in revised paper. We went over all figures carefully and made a few changes, listed in Fig.1, Fig.2, Fig.4, Fig.5, Fig.8, Fig.9, Fig.10, Fig.12, Fig.13, Fig.14, Fig.15, and Table1.

Special thanks to you for your good comments.