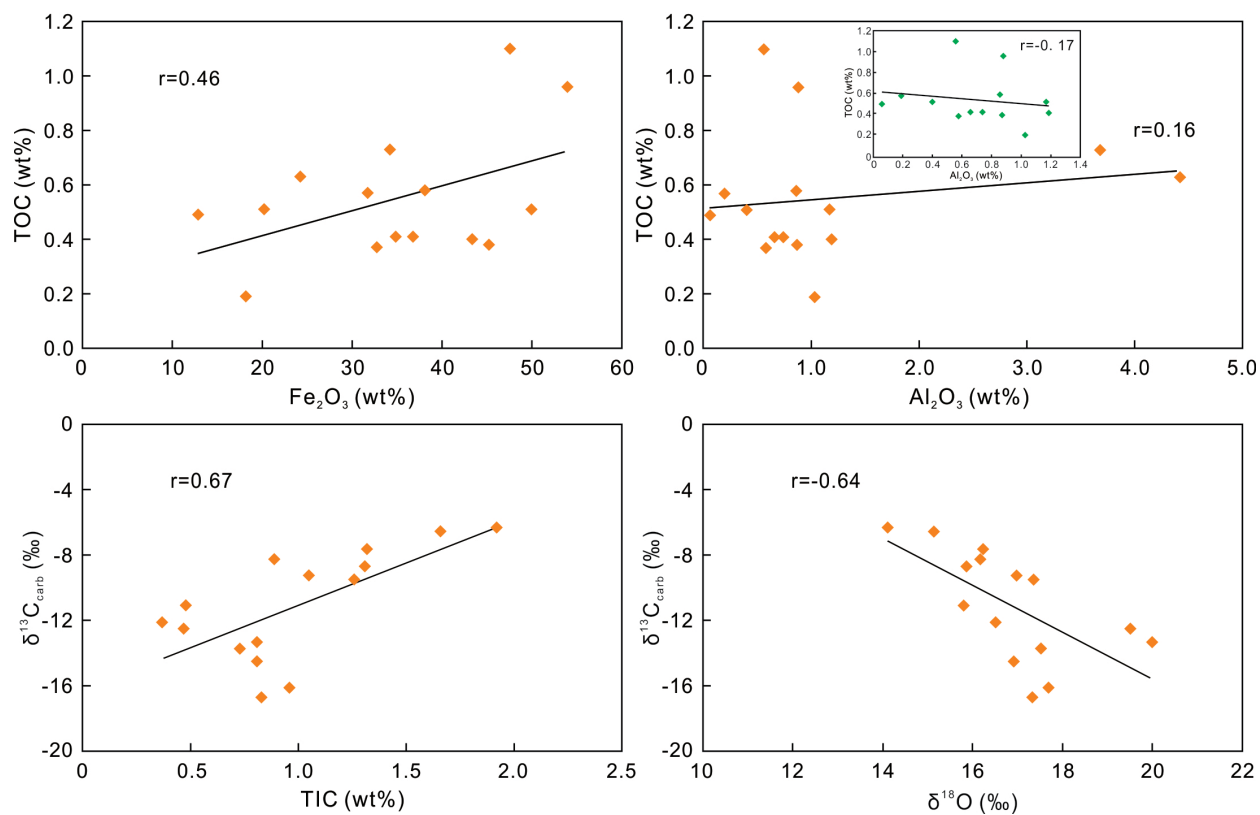
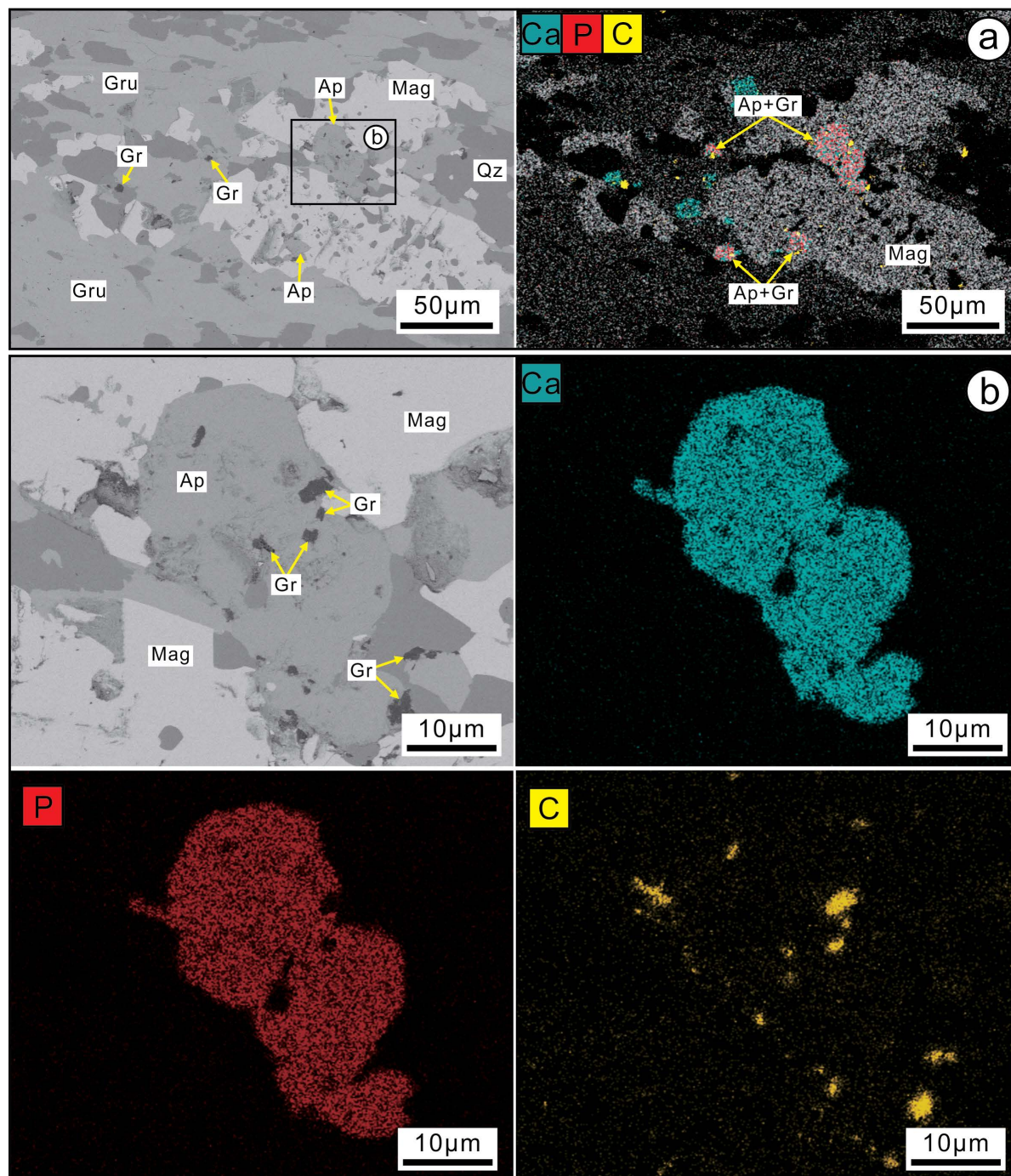


**FIGURE S1.** Simplified geological map of the Zhalanzhangzi BIF showing the geologic context of the study area and locations of the two drill cores.



**FIGURE S2.** Cross-plot for selected data in the Zhalaizhangzi BIF. The inset shows the correlation between TOC and  $\text{Al}_2\text{O}_3$  excluding the two samples with high  $\text{Al}_2\text{O}_3$  contents.



**FIGURE S3.** Cross-plot for selected data in the Zhilanzhangzi BIF. The inset shows the correlation between TOC and  $\text{Al}_2\text{O}_3$  excluding the two samples with high  $\text{Al}_2\text{O}_3$  contents.