SUPPLEMENTARY INFORMATION: Cambrian foreland phosphogenesis in the Khuvsgul Basin of Mongolia

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This supplementary information includes a simplified geological map highlighting the structural features of the Khoridol-Saridag and portions of the Northern mapping regions (fig. SI1) of the Khuvsgul Group study area, a geological map of the Northern mapping region (fig. SI2), and a geological map of the Darkhat Valley mapping region (fig. SI3). Figure captions for each supplemental map are collated below.

Also included are several tables detailing the locations of all measured sections referenced in the text (Table SI1), all carbonate chemostratigraphic data (Table SI2), all geochronological data (Table SI3), and all parameters used to build the tectonic subsidence model for the Khuvsgul Group (Table SI4).

Code used to generate figures for the main manuscript text can be accessed at:

[*https://github.com/eliel-anttila*](https://github.com/eliel-anttila)

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**SUPPLEMENTARY FIGURE CAPTIONS**

Figure SI1. Simplified geological map of the Khoridol Saridag and a portion of the Northern mapping areas, highlighting structural data. Structures and data associated with dominantly E-W trending compression (D1) are colored dark blue, while structures and data associated with later NNE-SSW-trending compression (D2) are colored red. Purple structures and data indicate D1 structures that were subsequently deformed during D2. The position of the Arcai Thrust, which superimposes the para-allochthonous Khuvsgul Group strata that make up the Khoridol Saridag Range atop autocthonous Darkhat Group and Khuvsgul Group sequences, is indicated by the black arrows towards the top of the map.

Figure SI2. Original geological map of the Northern mapping region.

Figure SI3. Original geological map of the Darkhat Valley mapping region.

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