*Widespread and persistent deposition of iron formations for two billion years*

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**Overview:** The iron formation (IF) compilation was assembled by the authors from the existing literature to understand if preservation biases affected the record of iron formations.

**Methodology**: We collected the most recent estimates of the initial IF masses, which were estimated using the observed thicknesses and areal extents of each IF. Unless otherwise noted, mass estimates are taken from Bekker et al. (2014), Huston and Logan (2004), and Isley (1995), based on original estimates by James (1983). Other mass estimates are shown in fourth mass column ‘2018 compiled’ and referenced in the Notes section. Formations mentioned by previous compilations but not given a mass estimate were assigned a mass estimate of 0.01 Gt for the purposes of showing the reported presence of these small formations. Ages of each IF were constrained using relevant geochronological age constraints (cited for each IF in Notes). Units of age estimates are in million years ago or mega-annum (Ma) and masses are shown in gigatons (Gt).

**Table S1 (raw format)**

*Column Headings:*

Iron Formation refers to place or name of iron formation;

Age (Ma) refers to Age in millions of years ago;

Age Error (Ma) refers to uncertainty in age from relevant age constraints – generally this is a +/- potential error but in rare cases this is listed as separate upper and lower age constraints;

Mass (Gt) Bekker (2014) shows the mass estimates compiled and used by Bekker et al. (2014), with the unknown (small) formations also shown with the arbitrary and small 0.01 Gt mass that Johnson and Molnar assigned;

Mass (Gt) Huston & Logan (2004) shows the mass estimates compiled and used by Huston and Logan (2004), with the formations listed as small shown also with the arbitrary 0.01 Gt mass that Johnson and Molnar assigned;

Mass (Gt) Isley (1995) shows the mass estimates compiled and used by Isley (1995), with the formations listed as small shown also with the arbitrary 0.01 Gt mass that Johnson and Molnar assigned;

Mass (Gt) 2018 compiled shows the mass used in Johnson and Molnar (2019) Figure 3 and includes iron formations and corresponding mass estimates that were not reported in previous compilation but are shown as primary literature citations in the ‘Notes and references’ column;

Notes and references indicates the literature used to assign age constraints and mass estimates for each iron formation.

ª indicates iron formations excluded from Figure 2 in Johnson and Molnar (2019) due to the exclusion of China and the former USSR in Hurley and Rand (1969).

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