**Weiss, B. P. et al. (2010) Paleomagnetism of Impact Spherules from Lonar Crater, India: No evidence for impact-generated fields**

## Captions for Supplementary Material

**Table S1.** This supplementary Excel file contains the remanence and hysteresis measurements of Lonar spherules and impactites measured for this study. The columns contain the following information: A) Sample name, B) Mass of parent sample, C) Mass of sample [values equal those in (B) for all spherules which were not broken in the laboratory], D) brief description of sample E) Lists whether AF demagnetization was conducted and field of highest AF step, F) Lists whether thermal demagnetization was conducted and temperature of highest thermal demagnetization step, G) MAD of least squares fit to best-defined component, H) ratio of NRM after demagnetization to initial NRM, $NRM_f/NRM_0$, I) NRM magnitude, J) NRM per unit parent mass, K) sIRM as measured with 2G Superconducting Rock Magnetometer, L) sIRM per unit parent mass, M) NRM/sIRM, N) S ratio, O) MDF of an IRM acquired in a 200 mT dc field, P) MDF of an ARM acquired in an ac field of 200 mT and a dc field of 2 mT, Q) Results of Lowrie-Fuller test (ARM > IRM means ARM is more stable than IRM, IRM > ARM means IRM is more stable than ARM, ARM = IRM means ARM and IRM are similarly stable), R) Angle of moment after application of an ARM acquired in an ac field of 200 mT and a dc field of 2 mT (approximate orientation 85-90°), S) Angle of moment after application of an sIRM (approximate orientation 85-90°), T) Coercivity of remanence, U) Cisowski *R* value, V) sIRM as measured with vibrating sample magnetometer, W) saturation magnetization, X) Coercivity, Y) Ratio of saturation remanence to sIRM, Z) Ratio of coercivity of remanence to coercivity.

**Movie S1.** Calculations of ballistic ejecta for Lonar crater. The timescale for ballistic ejecta formation was determined from numerical simulations of a Lonar size impact event using the shock physics code CTH [1]. Movie S1 presents an example two-dimensional calculation of a 70-m diameter basalt bolide impacting a basalt half space at 20 km/s (from [2]). Although the exact impact conditions are unknown, the ejecta formation time scales with the size of the final crater. Materials were modeled using the quasi-static rheological model for basalt from Senft and Stewart [3] and the CTH SESAME tabular equation of state for basalt (a density-scaled version of the $SiO_2$ equation of state by Kerley [4]). **References** [1] J.M. McGlaun, S.L. Thompson, M.G. Elrick, CTH: A 3-dimensional shock-wave physics code, Int. J. Impact. Eng. 10(1990) 351-360. [2] K.L. Louzada, B.P. Weiss, A.C. Maloof, S.T. Stewart, N. Swanson-Hysell, S.A. Soule, Paleomagnetism of Lonar impact crater, India, Earth Planet. Sci. Lett. 275(2008) 309319.

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