Supplement to: Chronology of Lake El'gygytgyn sediments

N.R. Nowaczyk^{1,*}, E.M. Haltia^{1,2}, D. Ulbricht^{1,3}, V. Wennrich⁴, M.A. Sauerbrey⁴, P. Rosén⁵, H. Vogel^{4,6}, A. Francke⁴, C. Meyer-Jacob^{4,7}, A.A. Andreev⁴, A.V. Lozhkin⁸

- 1) Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences, Section 5.2 – Climate Dynamics and Landscape Evolution, Telegrafenberg, D-14473 Potsdam, Germany.
- *) corresponding author: norbert.nowaczyk@gfz-potsdam.de
- 2) now at: Lund University, Department of Geology - Quaternary Sciences, Sölvegatan 12, SE-223 62 Lund, Sweden.
- 3) now at: Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences, Centre for Geoinformation Technology CeGIT, Telegrafenberg, D-14473 Potsdam, Germany.
D-14473 Potsdam.
- 4) University of Cologne, Institute of Geology and Mineralogy, Zùlpicher Straße 49A, D-50674 Köln, Germany.
- 5) Umeå University, Climate Impacts Research Centre (CIRC), SE-981 07 Abisko, Sweden.
- 6) now at: Institute of Geological Sciences, University of Bern, Baltzerstraße 1+3, Bern, Switzerland.
- 7) now at: Umeå University, Ecology and Environmental Sciences, SE-981 07 Abisko, Sweden.
- 8) NEISRI, Russian Academy of Science, Magadan 685000, Russia.

The first seven pages of this file show data graphs of the ICDP Site 5011 composite record for the last 3.6 Ma, covering 600 kyrs each. There is always an overlap of 100 kyr to the subsequent page. The last page is poster-sized, showing the data on a time axis from 0 to 3.6 Ma. In all supplemental graphs there is the same sequence of data:

- a) Northern hemisphere cumulative summer insolation (May to August) for 67.5°N, according to Laskar et al. (2004).
- b) High-resolution record of magnetic susceptibility.
- c) Total organic carbon (TOC).
- d) Inclination of the characteristic remanent magnetisation (ChRM) and associated polarity pattern. Grey (black in A0 plot) indicates normal polarity, white indicates reversed polarity,
- e) Marine benthic oxygen isotope stack LR04 by Lisiecki and Raymo (2005), with numbers/labels indicating marine isotope stages,
- f) Tree pollen percentages: The first 430 ka include also data from PG1351 and Lz1024.
- g) Ratio of silica to titanium (Si/Ti) obtained from X-ray fluorescence scanning (XRF, counts).
- h) Biogenic silica (BSi, weight-%), inferred from Fourier transform infrared spectroscopy (FTIRS).
- i) Hue angle (color), obtained from color photospectrometry.
- j) Grain size data from principle component analysis, with negative (positive) values representing fine (coarse) grained sediments.

References:

- Laskar, J., Robutel, P., Joutel, F., Gastineau, M. Correia, A.C.M., and Levrard, B.: A long-term numerical solution for the insolation quantities of the Earth. *Astron. Astrophys.*, **428**, 261-285, 2004.
- Lisiecki, L.E. and Raymo, M.E.: A Pliocene-Pleistocene stack of 57 globally distributed benthic $\delta^{18}\text{O}$ records. *Paleoceanography*, **20**, PA1003, doi: 10.1029/2004PA001071, 2005.

ICDP site 5011-1, Lake El'gygytyn

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The 3600 000 years long paleoclimate record from Lake El'gygytgyn - Far East Russian Arctic (67° 30' N, 172° 6' E)

- a) Northern hemisphere cumulative summer insolation (May to August) for 67.5°, according to Laskar et al. (2004)
- b) High-resolution record of magnetic susceptibility.
- c) Total organic carbon (TOC).
- d) Inclination of the characteristic remanent magnetisation (ChRM) and associated polarity pattern.
- e) Black indicates normal polarity, white indicates reversed polarity.
- f) Marine benthic oxygen isotope stage LR04 by Lisiecki and Raymo (2005), with numbers/labels indicating marine isotope stages.
- g) Tree & shrub pollen percentages. The first 430 ka include also data from PG1351 and LT1024.
- h) Ratio of silica to titanium (Si/Ti) obtained from X-ray fluorescence scanning (XRF, counts).
- i) Biogenic silica (BSi, weight-%), inferred from Fourier transform infrared spectroscopy (FTIRs).
- j) Hue angle (color), obtained from color photometry.
- k) Grain size distribution (GSD) component analysis, with negative (positive) values representing fine (coarse) grained sediments.

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