

***Supplementary Material***  
***of***

***Wetterich et al.***

***Paleo-ecology of the Yedoma Ice Complex on Sobo-Sise Island***

***(Eastern Lena Delta, Siberian Arctic)***

**Supplementary Table 1:** List of mammal bone findings in summer 2018 at the Sobo-Sise Yedoma cliff.

No.	Sample ID	Taxon	Skeleton part	Preservation
1	SOB18-bone-01	<i>Rangifer tarandus</i>	skull	damaged (most likely modern)
2	SOB18-bone-02	<i>Mammuthus primigenius</i>	tusk	fragment
3	SOB18-bone-03	<i>Mammuthus primigenius</i>	pelvis	fragment
4	SOB18-bone-04	<i>Mammuthus primigenius</i>	humerus	distal fragment
5	SOB18-bone-05A	<i>Mammuthus primigenius</i>	astragalus	complete
6	SOB18-bone-05B	<i>Mammuthus primigenius</i>	metapodiale	complete
7	SOB18-bone-06	<i>Bison priscus</i>	femur	distal fragment
8	SOB18-bone-07	<i>Mammuthus primigenius</i>	metapodiale	complete
9	SOB18-bone-08	<i>Rangifer tarandus</i>	humerus	complete
10	SOB18-bone-09	<i>Rangifer tarandus</i>	femur	distal fragment
11	SOB18-bone-10	<i>Coleodonta antiquitatis</i>	metatarsale	damaged

**Supplementary Table 2:** Diatom species found in the Holocene cover deposits of unit C of the Sobo-Sise Yedoma record in alphabetical order.

No.	Diatom taxon
1	<i>Caloneis silicula</i> (Ehrb.) Cl.
2	<i>Cymbella</i> sp.
3	<i>Diploneis elliptica</i> (Kütz.) Cl.
4	<i>Ellerbeckia arenaria</i> (D. Moore ex Ralfs) Dorofeyuk & Kulikovskiy 2012
5	<i>Epithemia adnata</i> (Kützing) Brébisson 1838
6	<i>Eunotia subarcuatoides</i> Alles, Nörpel & Lange-Bertalot 1991
7	<i>Eunotia serra</i> Ehrenberg 1837
8	<i>Eunotia bilunaris</i> (Ehrenberg) Schaarschmidt 1880
9	<i>Fragilaria capucina</i> Desmazières 1830
10	<i>Fragilaria exigua</i> Grunow 1878
11	<i>Fragilaria</i> sp.
12	<i>Hannaea arcus</i> (Ehrenberg) R.M.Patrick 1966
13	<i>Hantzschia amphioxys</i> (Ehrenberg) Grunow 1880
14	<i>Navicula digitoradiata</i> (W. Gregory) Ralfs 1861
15	<i>Navicula vulpina</i> Kützing 1844
16	<i>Pantocsekiella ocellata</i> (Pantocsek) K. T. Kiss & Ács 2016
17	<i>Planothidium lanceolatum</i> (Brébisson ex Kützing) Lange-Bertalot 1999
18	<i>Pinnularia gibba</i> Ehrberg
19	<i>Pinnularia alpina</i> W. Smith 1853
20	<i>Pinnularia borealis</i> Ehrenberg 1843
21	<i>Pinnularia</i> sp.
22	<i>Stauroneis anceps</i> Ehrenberg 1843
23	<i>Staurosirella pinnata</i> (Ehrenberg) D. M. Williams & Round 1988
24	<i>Surirella brebissonii</i> Krammer & Lange-Bertalot 1987
25	<i>Tabellaria flocculosa</i> (Roth) Kützing 1844

**Supplementary Table 3:** Ecological characteristics of the diatom assemblage of the Sobo-Sise Yedoma record (MIS 1, unit C) based on Barinova (2006).

<b>Diatom ecology parameter</b>	<b>Ecological group</b>	<b>% of the overall number of taxa</b>
Habitat	benthic	64
	planktonic-benthic	20
	not specified	16
Salinity	oligohalobic	64
	indifferent	4
	halophilic	16
	halophobic	4
	mesohalobic	12
pH	alkaliphilic	32
	alkalibiontic	8
	acidophilic	20
	acidobiontic	4
	indifferent	16
	not specified	20
Geographic distribution	boreal	8
	cosmopolitan	60
	arctic-alpine	8
	not specified	24