SUPPLEMENTAL INFORMATION:

A biomarker record of Lake El'gygytgyn, Far East Russian Arctic: Investigating sources of organic matter and carbon cycling during marine isotope stages 1-3

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Core LZ1029 Normal alkane concentrations (µg /g TLE)

Sample ID	Sample depth (cm)	Sample age (yrs)	C21	C23	C25	C27	C29	C31	C33
LE 007	14	3235		10456.3	12501.2	18262.3	15571.0	11522.1	2387.4
LE 019	38	6579		2654.5	3947.0	6760.8	7763.5	7769.3	1750.3
LE 027	54	9979		700.4	1292.2	2495.9	3387.7	4022.0	916.6
LE 037	74	13368		905.0	1565.0	2782.9	3880.5	4529.2	1069.3
LE 047	94	16326		790.0	1371.0	2021.7	2708.1	3341.8	984.9
LE 057	114	19276		1387.6	2122.1	2449.4	2407.3	2212.2	608.8
LE 067	134	21455	4302.7	3508.8	3395.8	3464.1	2799.7	2389.2	534.9
LE 077	154	26017	2648.7	2113.5	3098.1	4445.0	4436.8	4808.6	1183.4
LE 087	174	31809	762.0	1201.0	2072.8	3358.0	3882.6	4855.1	1307.0
LE 097	194	37600			1622.8	1680.9	2319.5	2813.5	691.2
LE 108	216	44020			1159.5	2104.5	3187.0	3933.0	897.5
LE 117	234	49379			719.4	1409.5	2200.3	2862.9	625.1
LE 127	254	55333			1424.4	2296.6	3006.6	4128.4	1162.9
LE 137	274	61287		1327.7	2500.8	3792.5	3979.6	4465.4	1478.9

Core LZ1029 Fatty acid concentrations (µg /g TLE)

Sample ID	Sample depth (cm)	Sample age (yrs)	C14	C16	C18	C20	C22	C24	C26	C28	C30	C32
LE 007	14	3235	322.0	1027.5	809.9	858.6	2528.6	9506.1	13281.1	11239.0	3153.9	548.1
LE 019	38	6579	92.4	675.4	663.5	774.9	2116.2	7609.2	11246.7	9230.1	3147.0	
LE 027	54	9979	72.8	374.3	302.8	263.8	617.4	2296.6	4481.4	4859.6	1744.2	521.2
LE 037	74	13368	90.3	489.5	397.9	466.3	972.2	3648.3	6793.4	6071.4	2408.0	645.4
LE 047	94	16326	71.0	382.6	310.1	313.0	644.9	2386.9	4094.0	3339.0	1226.0	313.0
LE 057	114	19276	145.0	576.1	446.2	1379.1	2416.5	6722.4	11081.9	7595.0	3452.0	528.1
LE 067	134	21455	249.9	827.2	697.8	2954.8	3882.3	5974.8	9073.9	5505.3	2227.1	448.3
LE 077	154	26017	206.0	899.2	733.6	2121.0	3095.4	7380.7	9545.9	7757.8	2722.0	660.3
LE 087	174	31809	173.5	734.9	661.5	1553.0	2318.9	5960.8	8076.6	7166.8	2561.5	768.7
LE 097	194	37600	124.6	518.5	366.4	478.2	764.9	2088.5	3123.7	2733.4	992.1	287.6
LE 108	216	44020	100.9	662.2	503.6	327.2	536.9	1581.8	2651.1	2523.5	1011.6	307.3
LE 117	234	49379	140.1	982.1	685.2	292.3	450.7	1090.2	2096.6	1959.6	787.2	213.2
LE 127	254	55333	75.6	610.1	453.6	331.2	570.5	1857.4	3498.8	3524.0	1567.6	539.9
LE 137	274	61287	56.7	452.0	396.7	359.8	664.2	2797.7	3817.7	3629.3	1681.5	611.5

Core LZ1029 Normal alcohol concentrations (µg/g TLE)

Sample ID	Sample depth (cm)	Sample age (yrs)	C21	C22	C24	C26	C28
LE 007	14	3235	1551.8	2192.8	2124.8	3664.7	4841.0
LE 019	38	6579	1038.4	1410.9	3604.8	4359.3	5169.4
LE 027	54	9979	665.1	755.5	6677.4	271.4	443.4
LE 037	74	13368	834.0	662.9	1422.7	834.0	979.5
LE 047	94	16326	910.0	1225.4	2259.0	481.4	485.3
LE 057	114	19276	2872.3	375.3	509.4	357.5	421.6

LE 067	134	21455	1368.3	4803.8	3096.2	2484.7	1830.9
LE 077	154	26017	3937.4	680.0	1726.5	922.2	2235.9
LE 087	174	31809	2164.6	699.5	1045.5	1931.8	3384.1
LE 097	194	37600	852.9	800.3	2198.0	687.8	1107.3
LE 108	216	44020	489.7	595.4	6188.1	533.0	914.8
LE 117	234	49379	305.0	612.7	4566.5	311.3	439.2
LE 127	254	55333	387.3	812.4	4212.2	864.6	795.5
LE 137	274	61287	866.9	773.3	6120.8	589.5	567.2

Core LZ1029 Alkane $\delta^{13}C$ values (‰)

Sample ID	Sample depth (cm)	Sample age (yrs)	C21	C23	C25	C27	C29	C31	C33
LE 007	14	3235	-30.871	-32.925	-33.274	-32.836	-32.593	-32.987	
LE 019	38	6579	-32.171	-32.353	-32.928	-32.671	-32.72	-33.246	-33.96
LE 027	54	9979		-31.666	-33.044	-33.039	-33.239	-33.757	-34.067
LE 037	74	13368		-32.219	-32.856	-32.992	-33.216	-33.57	-34.276
LE 047	94	16326			-34.122	-33.54	-33.452	-33.778	-34.576
LE 057	114	19276	-38.114	-35.418	-35.856	-34.268	-33.194	-33.539	-34.358
LE 067	134	21455	-40.244	-35.352	-35.857	-34.458	-33.198	-33.633	-34.797
LE 077	154	26017	-36.355	-34.475	-34.794	-33.995	-33.171	-33.777	
LE 087	174	31809	-38.253	-33.982	-33.966	-33.589	-33.073	-33.53	-34.507
LE 097	194	37600				-34.57	-35.161	-37.684	-40.14
LE 108	216	44020				-33.232	-32.827	-33.467	-33.71
LE 117	234	49379				-33.182	-33.452	-33.702	-34.249
LE 127	254	55333			-32.758	-33.116	-33.225	-33.498	-34.387
LE 137	274	61287			-32.434	-32.951	-33.3	-33.678	-34.476

Core LZ1029 Fatty Acid $\delta^{13}C$ values (‰)

Sample ID	Sample depth (cm)	Sample age (yrs)	C14	C16	C18	C20	C22	C24	C26	C28	C30
LE 007	14	3235	-29.174	-29.565	-30.209	-33.260	-32.677	-33.184	-33.818	-34.048	-35.151
LE 019	38	6579	-28.501	-27.542	-29.775	-33.110	-32.650	-33.044	-33.689	-33.897	-34.228
LE 027	54	9979	-25.931	-26.375	-27.956	-33.707	-32.981	-32.911	-33.515	-33.431	-34.131
LE 037	74	13368	-28.318	-28.514	-30.003	-33.689	-33.451	-33.617	-34.167	-33.778	-34.387
LE 047	94	16326	-28.931	-26.825	-28.912	-36.139	-36.418	-36.287	-36.600	-35.419	-33.361
LE 057	114	19276	-32.585	-31.718	-35.388	-41.823	-40.453	-38.686	-39.462	-36.921	-32.215
LE 067	134	21455	-32.457	-31.874	-36.993	-43.204	-42.646	-38.968	-39.803	-37.483	-32.603
LE 077	154	26017	-27.859	-28.612	-32.968	-41.710	-41.000	-38.093	-37.937	-37.053	-32.408
LE 087	174	31809	-28.677	-29.530	-32.780	-39.451	-38.601	-36.922	-36.357	-32.880	-32.636
LE 097	194	37600	-25.768	-26.387	-28.582	-37.400	-36.688	-35.791	-35.479	-34.261	-32.413
LE 108	216	44020	-24.818	-25.405	-25.294	-34.668	-34.316	-34.092	-34.229	-33.976	-34.211
LE 117	234	49379	-24.089	-24.396	-24.332	-34.621	-33.947	-34.399	-34.604	-33.870	-34.875
LE 127	254	55333		-27.885	-28.017	-34.119	-34.434	-35.368	-34.412	-34.381	-33.718
LE 137	274	61287		-27.256		-36.428	-35.675	-34.666	-34.680	-34.114	-33.701

Core LZ1029 Normal alcohol $\delta^{13}C$ values (‰)

Sample ID	Sample depth (cm)	Sample age (yrs)	C21	C22	C24	C26	C28
LE 007	14	3235	-31.107	-28.273	-28.723	-33.450	-32.945
LE 019	38	6579	-27.780	-28.419	-28.471	-33.595	-33.161
LE 027	54	9979	-27.683	-28.522	-27.763	-36.571	-33.814
LE 037	74	13368	-27.646	-28.050	-32.421	-32.532	-32.986

LE 047	94	16326	-27.859		-28.131	-37.680	-35.994
LE 057	114	19276	-42.166	-43.501	-38.267	-37.287	-41.698
LE 067	134	21455	-34.196	-46.095	-43.815	-36.300	-36.191
LE 077	154	26017		-44.276	-41.085	-35.458	-34.984
LE 087	174	31809					-43.458
LE 097	194	37600	-27.655	-28.124	-28.655		
LE 108	216	44020	-29.008	-29.568	-29.186		
LE 117	234	49379	-31.423	-31.224	-29.847		
LE 127	254	55333	-29.711	-30.314	-30.008		
LE 137	274	61287	-29.442	-29.651	-29.254	-32.442	-32.557