Appendix A. Analytical details for the SIMS oxygen isotope analysis.

Sample ID & spot #	Sequence in session	Drift corrected $^{18}O/^{16}O*$			Samples $\delta^{18}O$ (‰)			Standards $\delta^{18}O$ (‰)			Stage position		Field aperture centering	
											x	y	X	Y
Session 1														
915ox_857_@25	1	0.00200914	±	31				9.78	±	0.28	-3998	562	-15	1
915ox_857_@26	2	0.00200906	±	38				9.74	±	0.30	-3998	502	-20	0
n3602ox-01	3	0.00200158	±	20	5.98	±	0.25				2190	-2126	54	-7
n3602ox-02	4	0.00200101	±	22	5.69	±	0.25				1849	-2049	43	-9
n3602ox-03	5	0.00200162	±	36	6.00	±	0.29				1634	-2092	43	-9
n3602ox-04	6	0.00200156	±	32	5.97	±	0.28				1457	-2153	43	-10
915ox_857_@27	7	0.00200999	±	41				10.20	±	0.31	-3998	442	-21	1
915ox_857_@28	8	0.00200909	±	38				9.75	±	0.30	-3998	382	-21	0
n3602ox-05	9	0.00200087	±	22	5.62	±	0.25				897	-2230	37	-9
n3602ox-06	10	0.00200119	±	24	5.78	±	0.26				558	-2077	34	-11
n3602ox-07	11	0.00200035	±	30	5.36	±	0.27				210	-2197	30	-13
n3602ox-08	12	0.00200035	±	31	5.36	±	0.28				-241	-2126	25	-12
915ox_857_@29	13	0.00200991	±	34				10.17	±	0.29	-4058	442	-21	0
915ox_857_@30	14	0.00200933	±	34				9.87	±	0.28	-4058	502	-17	-1
n3602ox-09	15	0.00200276	±	40	6.57	±	0.30				-554	-2124	18	-14
n3602ox-10	16	0.00200089	±	27	5.63	±	0.26				-772	-2237	19	-15
n3602ox-11	17	0.00200156	±	36	5.97	±	0.29				-1115	-2116	13	-14
n3602ox-12	18	0.00200134	±	29	5.86	±	0.27				-1472	-2091	10	-14
915ox_857_@31	19	0.00200963	±	24				10.02	±	0.26	-4058	562	-19	-1
915ox_857_@32	20	0.00200956	±	23				9.99	±	0.26	-4058	622	-16	-1
n3602ox-13a	21	0.00200112	±	28	5.75	±	0.27				-1632	-2182	9	-13
n3602ox-13b	22	0.00200358	±	27	6.98	±	0.27				-1688	-2223	10	-12
n3602ox-14	23	0.00200252	±	32	6.45	±	0.28				-1799	-2274	8	-12
n3603ox-01	24	0.00200294	±	37	6.66	±	0.29				1966	-1616	46	-6
915ox_857_@33	*25*	*0.00201056*	*±*	*41*				*10.49*	*±*	*0.31*	*-4118*	*682*	*-13*	*-2*
915ox_857_@34	*26*	*0.00201121*	*±*	*41*				*10.82*	*±*	*0.31*	*-4118*	*622*	*-15*	*0*
n3603ox-02	27	0.00200339	±	33	6.89	±	0.28				1761	-1606	42	-7
n3603ox-03	28	0.00200453	±	26	7.46	±	0.26				1496	-1504	41	-5
n3603ox-04	29	0.00200453	±	28	7.46	±	0.27				1111	-1499	34	-8
n3603ox-05	30	0.00200480	±	50	7.60	±	0.34				878	-1482	33	-11
915ox_857_@35	*31*	*0.00201119*	*±*	*30*				*10.81*	*±*	*0.27*	*-4118*	*562*	*-19*	*0*
915ox_857_@36	32	0.00200912	±	28				9.77	±	0.27	-4118	502	-19	1
n3603ox-06	33	0.00200354	±	42	6.97	±	0.31				606	-1493	30	-9
n3603ox-07	34	0.00200350	±	26	6.95	±	0.26				420	-1600	27	-12
n3603ox-08	35	0.00200432	±	33	7.35	±	0.28				182	-1562	24	-12
n3603ox-09	36	0.00200396	±	36	7.18	±	0.29				-104	-1608	26	-11
915ox_857_@37	37	0.00200972	±	26				10.07	±	0.26	-4118	442	-22	1
915ox_857_@38	38	0.00200968	±	40				10.05	±	0.30	-4118	382	-21	0
n3603ox-10	39	0.00200462	±	40	7.51	±	0.30				-406	-1619	21	-10
n3603ox-11	40	0.00200268	±	37	6.53	±	0.29				-527	-1561	18	-11
n3603ox-12	41	0.00200443	±	28	7.41	±	0.27				-600	-1521	17	-10
n3603ox-13	42	0.00200520	±	32	7.80	±	0.28				-916	-1551	16	-9
915ox_857_@39	43	0.00200916	±	35				9.79	±	0.29	-4178	382	-21	0
915ox_857_@40	44	0.00200934	±	29				9.88	±	0.27	-4178	442	-19	1
n3603ox-14	45	0.00200501	±	34	7.70	±	0.28				-1061	-1559	13	-11
n3603ox-15	46	0.00200372	±	37	7.06	±	0.29				-1323	-1514	11	-11
n3603ox-16	47	0.00200316	±	42	6.78	±	0.31				-1623	-1618	10	-10

Sample ID & spot #	Sequence in session	Drift corrected $^{18}O/^{16}O$*			Samples $\delta^{18}O$ (‰)			Standards $\delta^{18}O$ (‰)			Stage position		Field aperture centering	
											x	y	X	Y
Session 1 continued														
n3604ox-01	48	0.00200503	±	33	7.71	±	0.28				1509	-1042	38	-6
915ox_857_ @41	*49*	*0.00201117*	*±*	*33*				*10.80*	*±*	*0.28*	*-4178*	*502*	*-19*	*2*
915ox_857_ @42	*50*	*0.00201258*	*±*	*48*				*11.51*	*±*	*0.33*	*-4178*	*562*	*-15*	*3*
n3604ox-02a	51	0.00200524	±	38	7.82	±	0.30				1106	-992	34	-5
n3604ox-02b	52	0.00200440	±	38	7.40	±	0.30				1119	-1028	34	-7
n3604ox-03a	53	0.00200606	±	36	8.23	±	0.29				870	-894	32	-5
n3604ox-03b	54	0.00200433	±	43	7.36	±	0.31				912	-857	32	-4
915ox_857_ @43	*55*	*0.00201121*	*±*	*46*				*10.82*	*±*	*0.32*	*-4238*	*382*	*-18*	*3*
915ox_857_ @44	56	0.00200978	±	40				10.10	±	0.30	-4456	-419	-23	-4
n3604ox-04	57	0.00200556	±	28	7.98	±	0.27				586	-1002	28	-6
n3604ox-05	58	0.00200541	±	24	7.91	±	0.26				439	-1009	27	-6
n3604ox-06	59	0.00200485	±	27	7.62	±	0.27				-172	-888	25	-5
n3604ox-07	60	0.00200506	±	35	7.73	±	0.29				-235	-1073	22	-7
915ox_857_ @45	61	0.00200945	±	53				9.93	±	0.35	-4516	-419	-22	-4
915ox_857_ @46	62	0.00200841	±	34				9.41	±	0.28	-4516	-479	-23	-5
n3604ox-08	63	0.00200586	±	34	8.13	±	0.28				-617	-988	19	-6
n3604ox-09a	64	0.00200463	±	46	7.51	±	0.32				-898	-959	14	-6
n3604ox-09b	65	0.00200535	±	31	7.87	±	0.27				-904	-1004	15	-4
n3604ox-10a	66	0.00200510	±	36	7.75	±	0.29				-972	-987	13	-8
915ox_857_ @47	*67*	*0.00200825*	*±*	*39*				*9.33*	*±*	*0.30*	*-4576*	*-599*	*-23*	*-8*
915ox_857_ @48	68	0.00200847	±	37				9.44	±	0.29	-4576	-539	-23	-9
n3604ox-10b	69	0.00200675	±	50	8.58	±	0.34				-1005	-958	14	-7
n3604ox-11	70	0.00200571	±	34	8.05	±	0.28				-1709	-1069	10	-6
n3604ox-12	71	0.00200627	±	23	8.34	±	0.26				-1731	-890	9	-5
n3605ox-01	72	0.00200356	±	33	6.97	±	0.28				1989	-543	43	-1
915ox_857_ @49	73	0.00200880	±	49				9.61	±	0.33	-4576	-479	-23	-8
915ox_857_ @50	74	0.00200905	±	48				9.73	±	0.33	-4576	-419	-24	-6
n3605ox-02	75	0.00200375	±	32	7.07	±	0.28				1882	-548	41	-2
n3605ox-03	76	0.00200411	±	38	7.25	±	0.30				1691	-530	39	-1
n3605ox-04	77	0.00200349	±	41	6.94	±	0.30				1468	-490	39	-3
n3605ox-05	78	0.00200330	±	27	6.84	±	0.27				1325	-496	34	-4
915ox_857_ @51	*79*	*0.00200944*	*±*	*42*				*9.93*	*±*	*0.31*	*-4576*	*-359*	*-25*	*-6*
915ox_857_ @52	80	0.00201107	±	32				10.75	±	0.28	-4636	-299	-23	-4
n3605ox-06	81	0.00200283	±	31	6.61	±	0.27				1149	-457	32	-4
n3605ox-07	82	0.00200478	±	45	7.59	±	0.32				1097	-426	31	-4
n3605ox-08	83	0.00200345	±	37	6.92	±	0.29				740	-517	28	-6
n3605ox-09	84	0.00200411	±	33	7.25	±	0.28				422	-451	23	-4
915ox_857_ @53	85	0.00200981	±	53				10.11	±	0.35	-4636	-359	-23	-6
915ox_857_ @54	86	0.00200891	±	31				9.66	±	0.28	-4636	-419	-23	-5
n3605ox-10	87	0.00200386	±	25	7.12	±	0.26				348	-537	26	-3
n3605ox-11	88	0.00200440	±	30	7.40	±	0.27				132	-561	24	-4
n3605ox-12	89	0.00200465	±	46	7.52	±	0.32				-280	-501	20	-4
n3605ox-13	90	0.00200469	±	22	7.54	±	0.25				-425	-458	19	-4
915ox_857_ @55	91	0.00200867	±	47				9.54	±	0.33	-4636	-479	-24	-7
915ox_857_ @56	92	0.00200864	±	34				9.53	±	0.28	-4636	-539	-20	-7
n3605ox-14	93	0.00200320	±	44	6.79	±	0.32				-553	-508	16	-4
n3605ox-15	94	0.00200412	±	34	7.26	±	0.28				-1305	-391	11	-4
n3605ox-16	95	0.00200343	±	36	6.91	±	0.29				-1448	-353	9	-5

Sample ID & spot #	Sequence in session	Drift corrected ¹⁸O/¹⁶O*	*Samples* δ¹⁸O (‰)	*Standards* δ¹⁸O (‰)	Stage position x	y	Field aperture centering X	Y
Session 1 continued								
n3606ox-01	96	0.00200389 ± 52	7.14 ± 0.34		2498	70	47	4
915ox_857_@57	97	0.00200876 ± 40		9.59 ± 0.30	-4636	-599	-21	-8
915ox_857_@58	98	0.00200851 ± 42		9.46 ± 0.31	-4696	-419	-23	-4
n3606ox-02	99	0.00200302 ± 41	6.70 ± 0.30		2245	-11	44	1
n3606ox-03	100	0.00200229 ± 37	6.34 ± 0.29		1717	-11	40	-2
n3606ox-04	101	0.00200359 ± 22	6.99 ± 0.25		996	189	29	0
n3606ox-05	102	0.00200359 ± 35	6.99 ± 0.29		707	188	28	1
915ox_857_@59	103	0.00200963 ± 43		10.03 ± 0.31	-4696	-359	-24	-6
915ox_857_ @60	*104*	*0.00201033 ± 42*		*10.38 ± 0.31*	*-4756*	*-359*	*-22*	*-5*
n3606ox-06	105	0.00200367 ± 31	7.03 ± 0.27		467	217	25	2
n3606ox-07	106	0.00200325 ± 44	6.82 ± 0.32		469	-5	26	0
n3606ox-08	107	0.00200390 ± 32	7.15 ± 0.28		7	324	23	5
n3606ox-09	108	0.00200379 ± 30	7.09 ± 0.27		-198	66	21	0
915ox_857_@61	109	0.00200969 ± 47		10.05 ± 0.33	-4756	-419	-24	-4
915ox_857_@62	110	0.00200945 ± 56		9.94 ± 0.36	-4756	-479	-24	-7
n3606ox-10	111	0.00200296 ± 54	6.67 ± 0.35		-318	352	19	3
n3606ox-11	112	0.00200349 ± 33	6.94 ± 0.28		-394	247	18	2
n3606ox-12	113	0.00200394 ± 46	7.16 ± 0.32		-544	279	16	0
n3606ox-13	114	0.00200280 ± 28	6.59 ± 0.27		-910	336	14	4
915ox_857_@63	115	0.00200982 ± 43		10.12 ± 0.31	-4903	-606	-25	-5
915ox_857_@64	116	0.00200892 ± 46		9.67 ± 0.32	-4934	-650	-25	-6
n3606ox-14	117	0.00200276 ± 46	6.57 ± 0.32		-1400	294	11	0
n3606ox-15	118	0.00200307 ± 35	6.73 ± 0.29		-1526	205	10	-1
n3606ox-16	119	0.00200369 ± 48	7.04 ± 0.33		-1689	292	8	0
915ox_857_@65	121	0.00200986 ± 50		10.14 ± 0.34	-4994	-691	-24	-5
915ox_857_@66	122	0.00200892 ± 27		9.67 ± 0.27	-4919	30	-23	-5
Session 2								
915ox_857_@87	31	0.00201003 ± 37		9.97 ± 0.35	-5061	-1646	-37	-12
915ox_857_@88	*32*	*0.00201113 ± 27*		*10.52 ± 0.32*	*-5319*	*677*	*-38*	*-7*
n3603ox-17	33	0.00200394 ± 32	6.91 ± 0.33		996	-1500	19	-10
n3603ox-18	34	0.00200470 ± 34	7.29 ± 0.34		124	-1521	10	-13
n3603ox-19	35	0.00200456 ± 22	7.22 ± 0.31		-1701	-1542	-7	-14
n3603ox-20	36	0.00200427 ± 25	7.07 ± 0.32		-1824	-1645	-8	-14
915ox_857_@89	37	0.00200939 ± 33		9.65 ± 0.34	-5047	1620	-41	-4
915ox_857_@90	38	0.00200909 ± 19		9.50 ± 0.31	-4451	1914	-35	0

*Absolute 1σ error given at x10⁸.

External 1σ error of δ¹⁸O values was 0.17 ‰ in session 1 and 0.29 ‰ in session 2.

The applied drift correction (‰/run) was 0.002.

Italics denote rejected standard runs.

Notes:

Samples are labeled according to the NORDSIM labfile system, n3602 corresponds to sample A1271, n3603 to A1933, n3604 to A1360, n3605 to A1306 and n3606 to A118.

Analyses were performed at the same time with samples from other projects, which accounts for the missing sample numbers in the end of session 1 and at the beginning of session 2 sequence.