Munroe, J.S., and Laabs, B.J.C., 2019, Multiproxy lacustrine records of post-glacial environmental change from the Uinta Mountains, Utah, USA: GSA Bulletin, https://doi.org/10.1130/B35056.1.

Data Repository

Supplemental Figures:

DR1. Land-cover types in the watersheds surrounding the cored lakes
DR2. The coring platform on the shore of North Star Lake (04-09, H)
DR3. Annotated standard template for presenting multiproxy records from the Uinta lake cores
DR4. Core 04-01 (A), Marshall Lake
DR5. Core 04-02 (B), Hoover Lake
DR6. Core 04-03 (C), Pyramid Lake
DR7. Core 04-04 (D), Elbow Lake
DR8. Core 04-06 (E), Swasey Lake
DR9. Core 04-07 (F), Spider Lake
DR10. Core 04-08 (G), Little Superior Lake
DR11. Core 04-09 (H), North Star Lake
DR12. Core 05-01 (I), Reader Lake
DR13. Core 05-02 (J), Ostler Lake
DR14. Core 05-03 (K), Kermsuh Lake
DR15. Core 05-04 (L), Ryder Lake
DR16. Core 05-05 (M), Lower Red Castle Lake
DR17. Core 05-06 (N), Bald Lake
DR18. Core 05-07 (O), Hessie Lake
DR19. Core 05-08 (P), Dead Horse Lake
DR20. Core 05-09d (Q), Island Lake
DR21. Core 05-09e (R), Island Lake
DR22. Core 05-10 (S), Taylor Lake
DR23. Core 06-01 (T), Upper Lily Lake
DR24. Core 98-01 (U), Hacking Lake
DR25. Normalized rare earth element (REE) patterns for Rare earth element abundances, normalized to a chondrite standard1, in submicron material from Uinta lake sediment samples compared to an array of Uinta soil samples. In both types of samples, submicron material was separated by dispersion in distilled water and centrifuging before analysis with ICP-MS.

Supplemental Tables:

Table DR1. Radiocarbon dates for Uinta Mountain lake cores
Table DR2. Characteristics of depth-age models for the Uinta Mountain lake cores
Table DR3. Relationship between %LOI anid C:N in Uinta Mountain lake cores

Supplemental Data:

Uinta-Lake-Dataset.xlxs

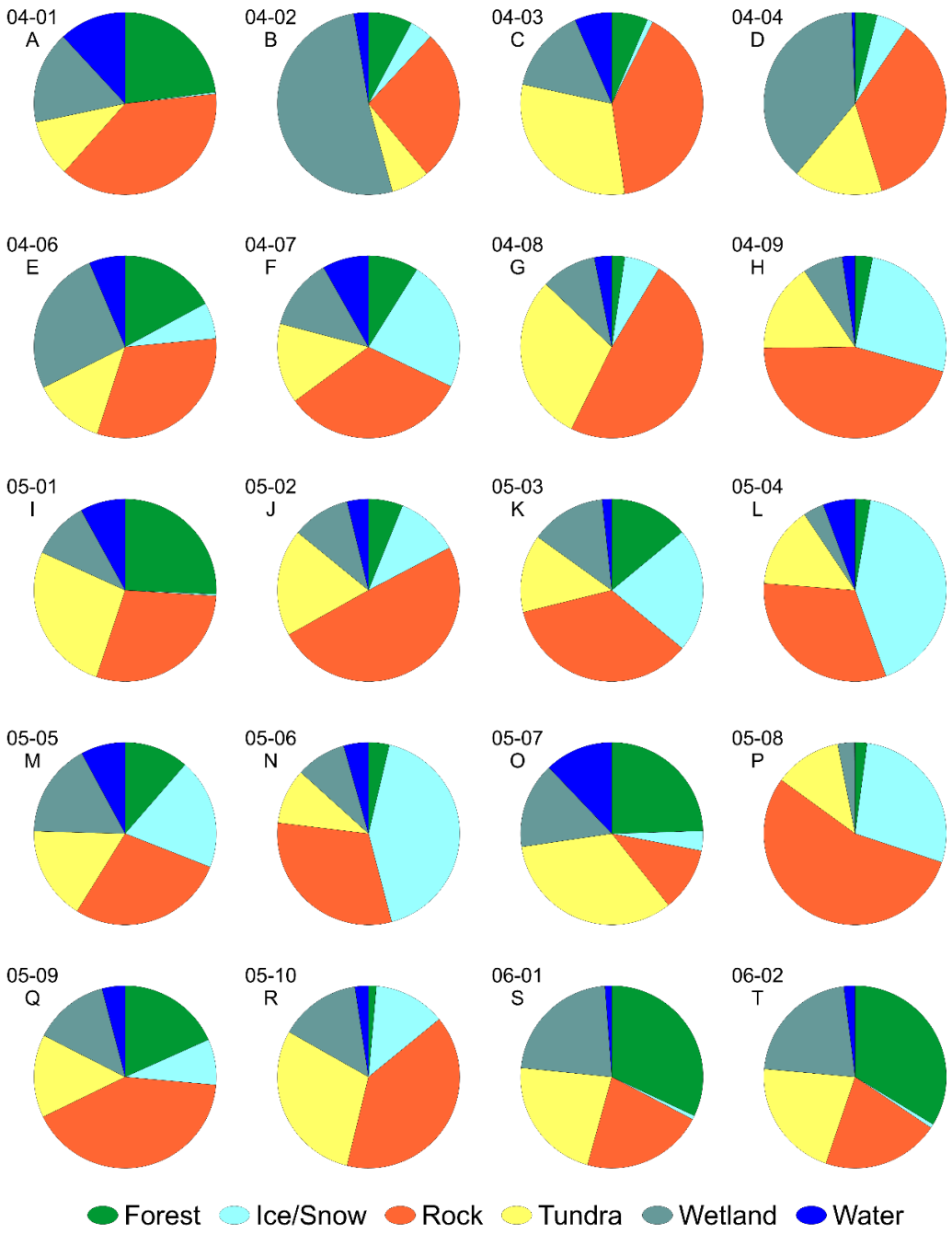

Figure DR1. Distribution of land-cover types in the watersheds surrounding the cored lakes calculated from Landsat imagery through supervised classification[2]. Lake names are keyed to Table 1, and letters are keyed to Figure 1.

[2] Munroe, J.S., 2019, Hydrogeomorphic controls on Holocene lacustrine loss-on-ignition records: *Journal of Paleolimnology*, v. 61, p. 53–68.

Figure DR2. The coring platform on the shore of North Star Lake (04-09, H) in July, 2004. The platform, which was specifically designed for this project, disassembles to individual components sized for transport by pack animal, and supports a crew of 3 people. Note the GPS antennae on top of the tripod, which is linked to the digital depth finder.

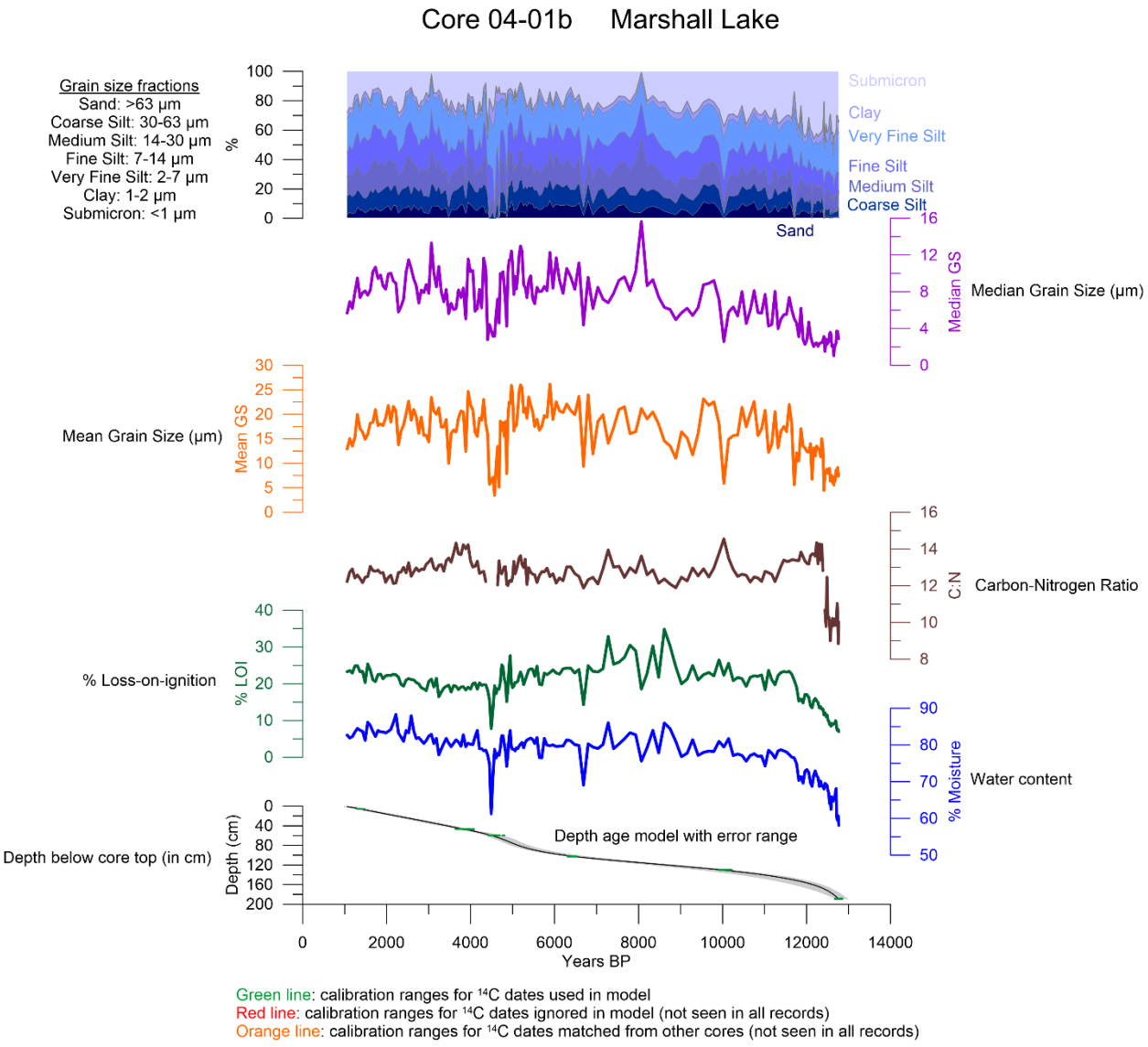

Figure DR3. Annotated standard template for presenting the multiproxy records from the Uinta lake cores in the following figures.

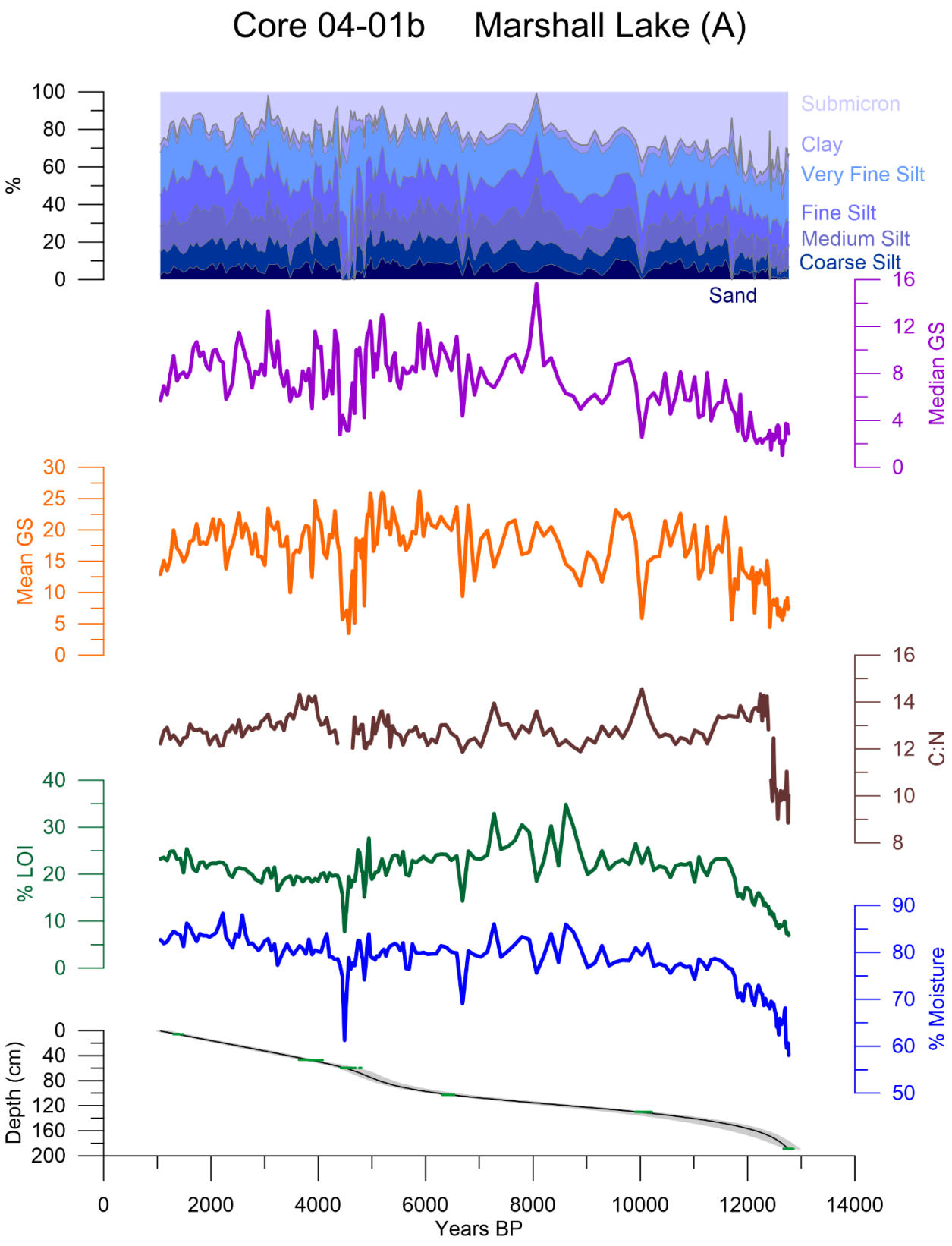
Core 04-01b Marshall Lake (A)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
16
12
8
4
0
Mean GS
30
25
20
15
10
5
0
C:N
16
14
12
10
8
% LOI
40
30
20
10
0
% Moisture
90
80
70
60
50
Depth (cm)
0
40
80
120
160
200
0
2000
4000
6000
8000
10000
12000
14000
Years BP

Figure DR4

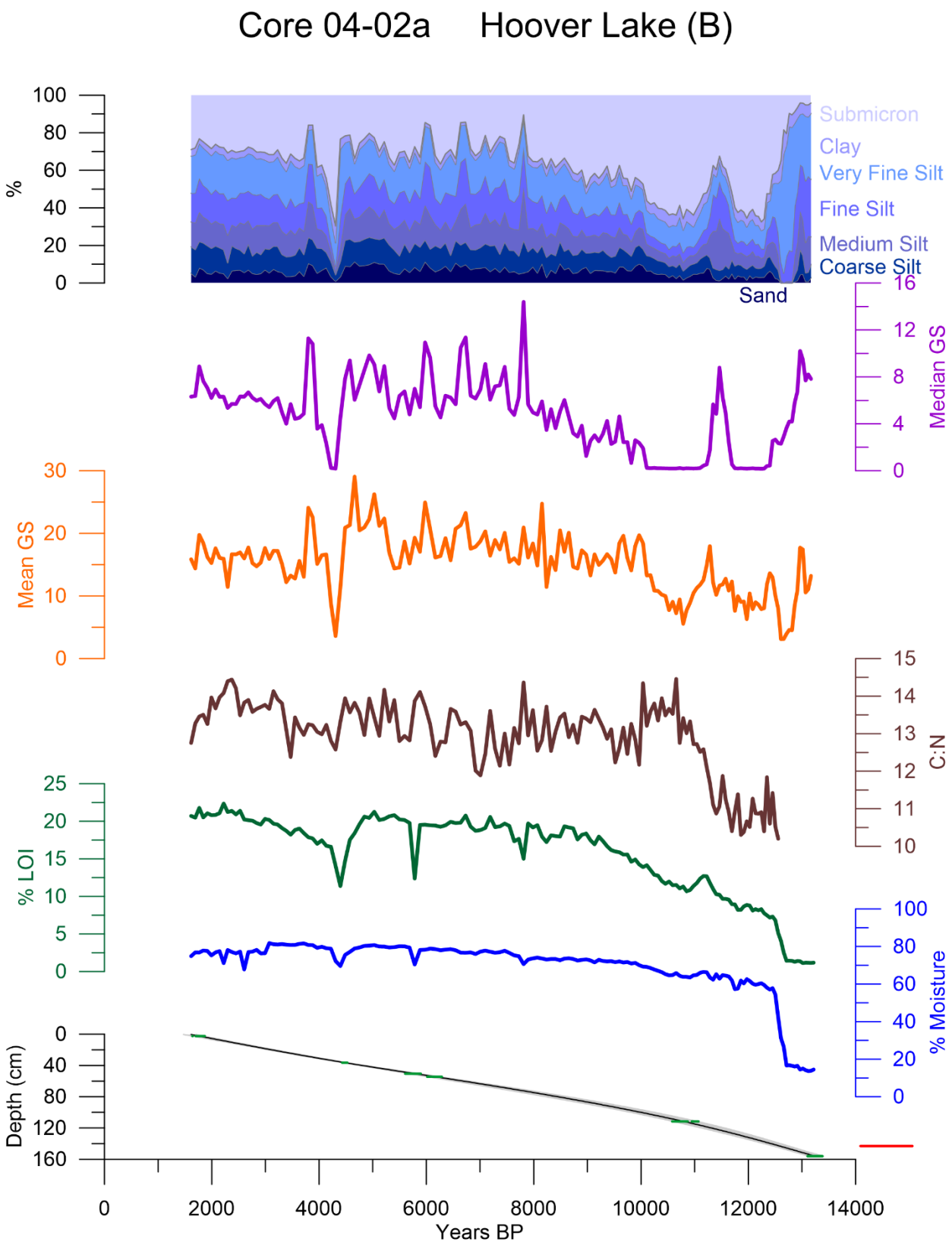
Core 04-02a Hoover Lake (B)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
16
12
8
4
0
Mean GS
30
20
10
0
C:N
15
14
13
12
11
10
% LOI
25
20
15
10
5
0
% Moisture
100
80
60
40
20
0
Depth (cm)
0
40
80
120
160
0
2000
4000
6000
8000
10000
12000
14000
Years BP

Figure DR5

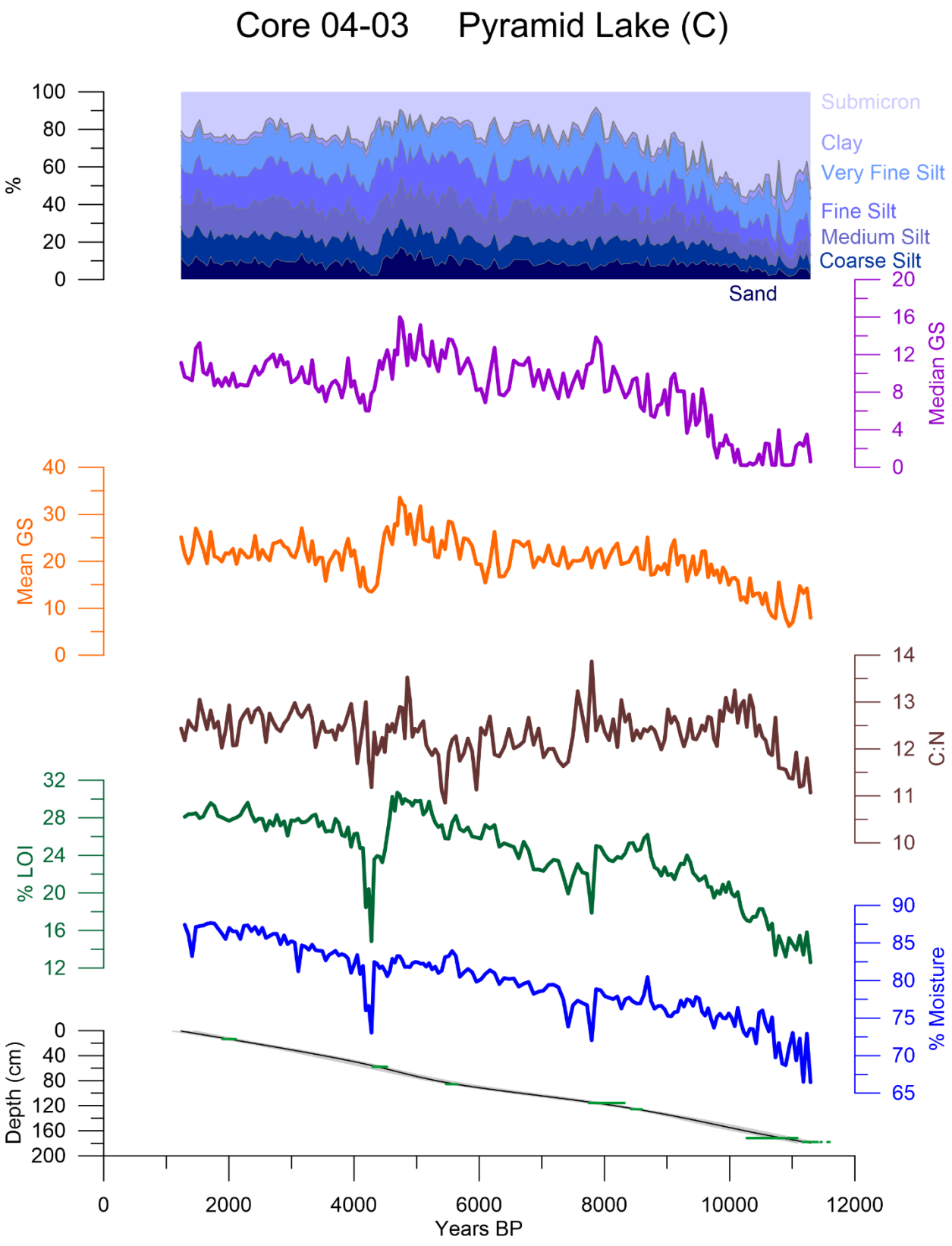
Core 04-03 Pyramid Lake (C)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
20
16
12
8
4
0
Mean GS
40
30
20
10
0
C:N
14
13
12
11
10
% LOI
32
28
24
20
16
12
% Moisture
90
85
80
75
70
65
Depth (cm)
0
40
80
120
160
200
0
2000
4000
6000
8000
10000
12000
Years BP

Figure DR6

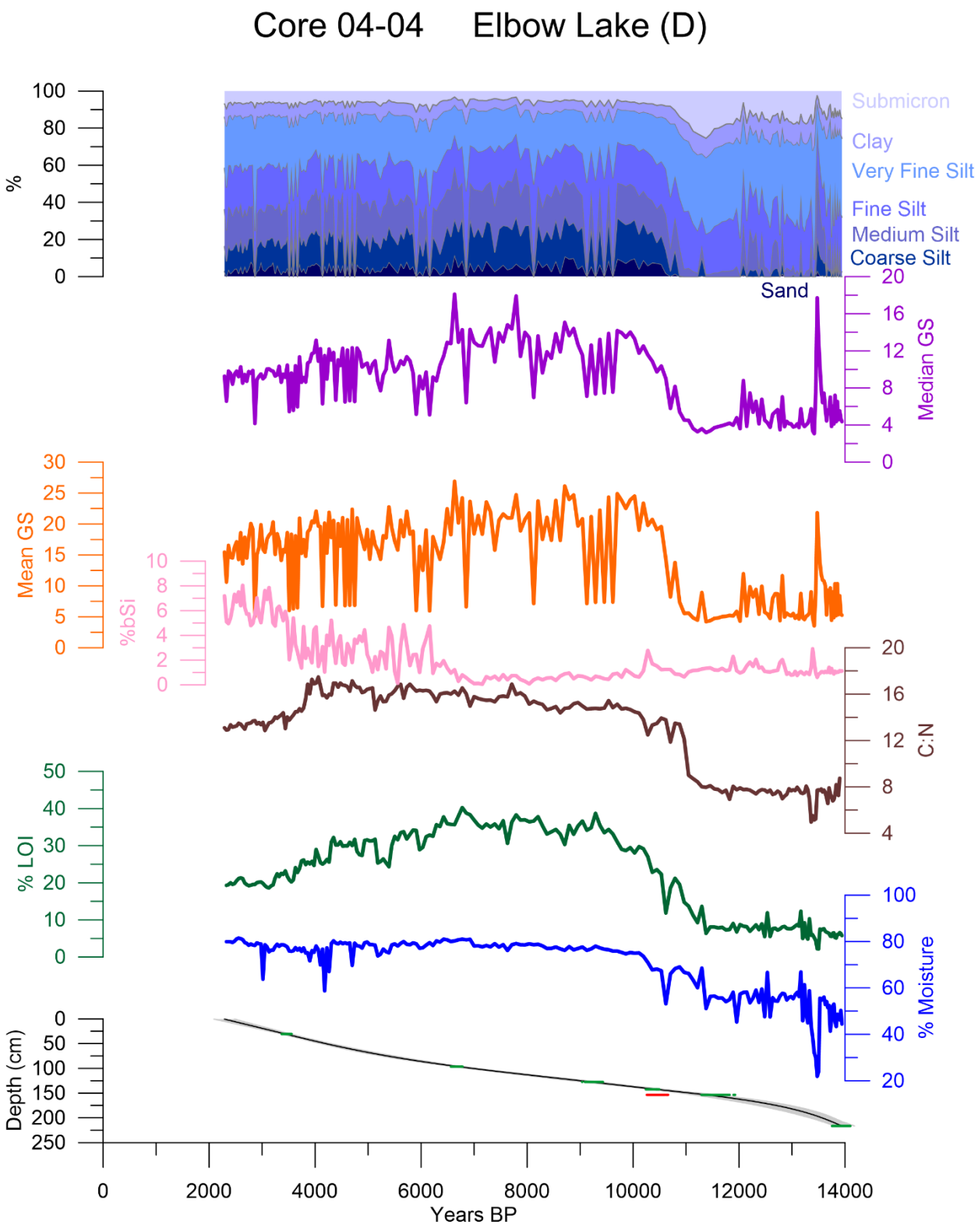
Core 04-04 Elbow Lake (D)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
%bSi
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR7

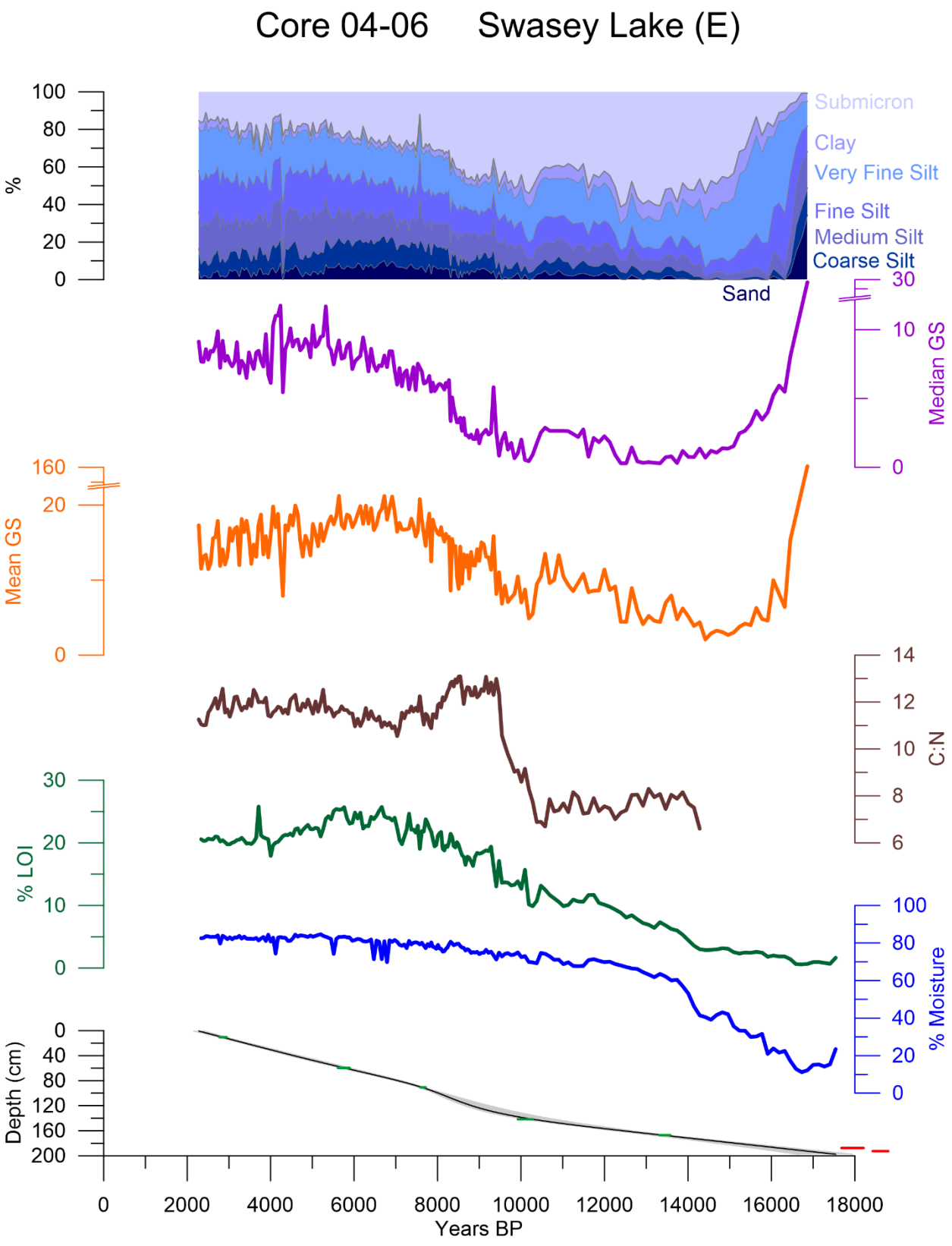
Core 04-06 Swasey Lake (E)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
30
10
0
Mean GS
160
20
0
C:N
14
12
10
8
6
% LOI
30
20
10
0
% Moisture
100
80
60
40
20
0
Depth (cm)
0
40
80
120
160
200
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
Years BP

Figure DR8

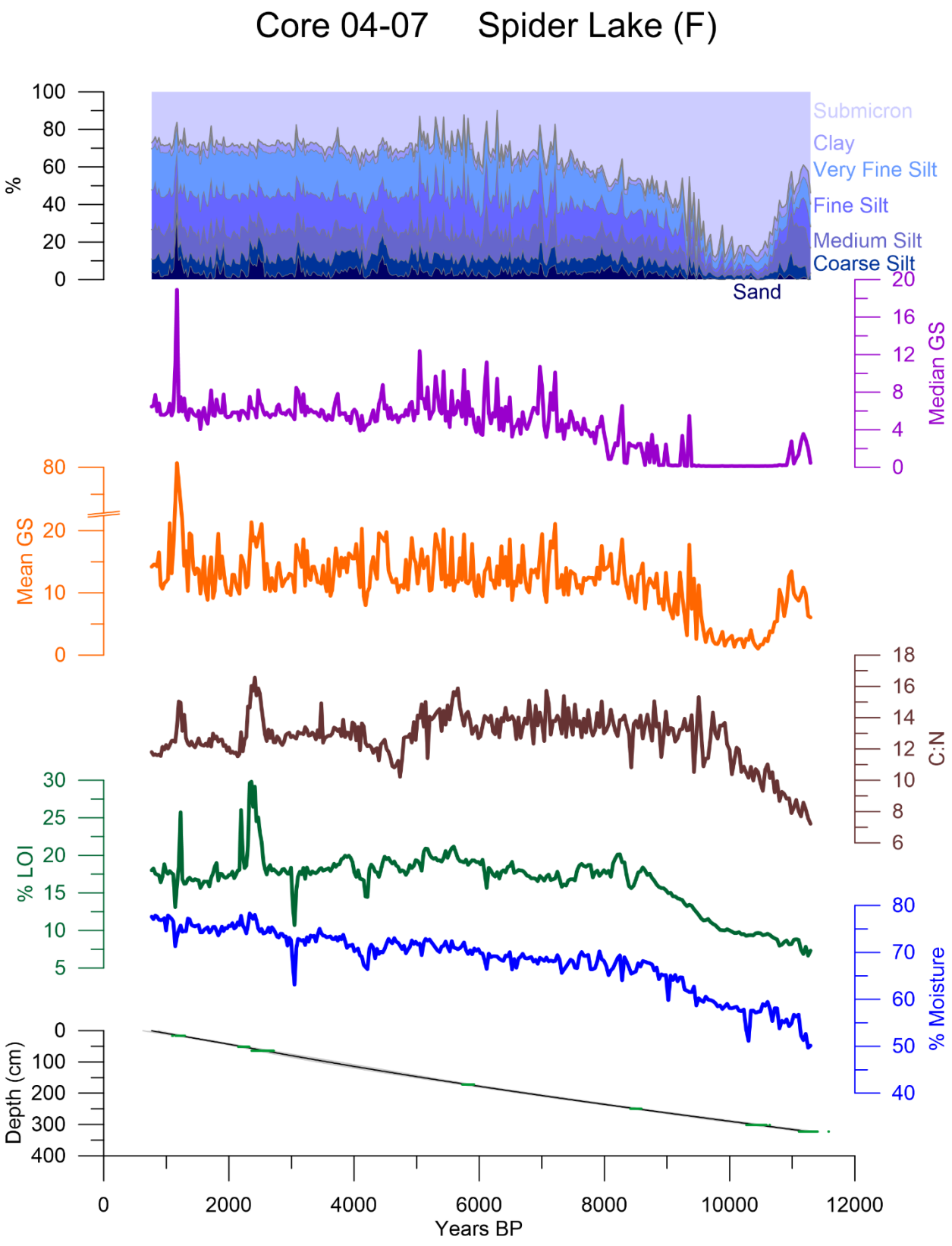
Core 04-07 Spider Lake (F)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR9

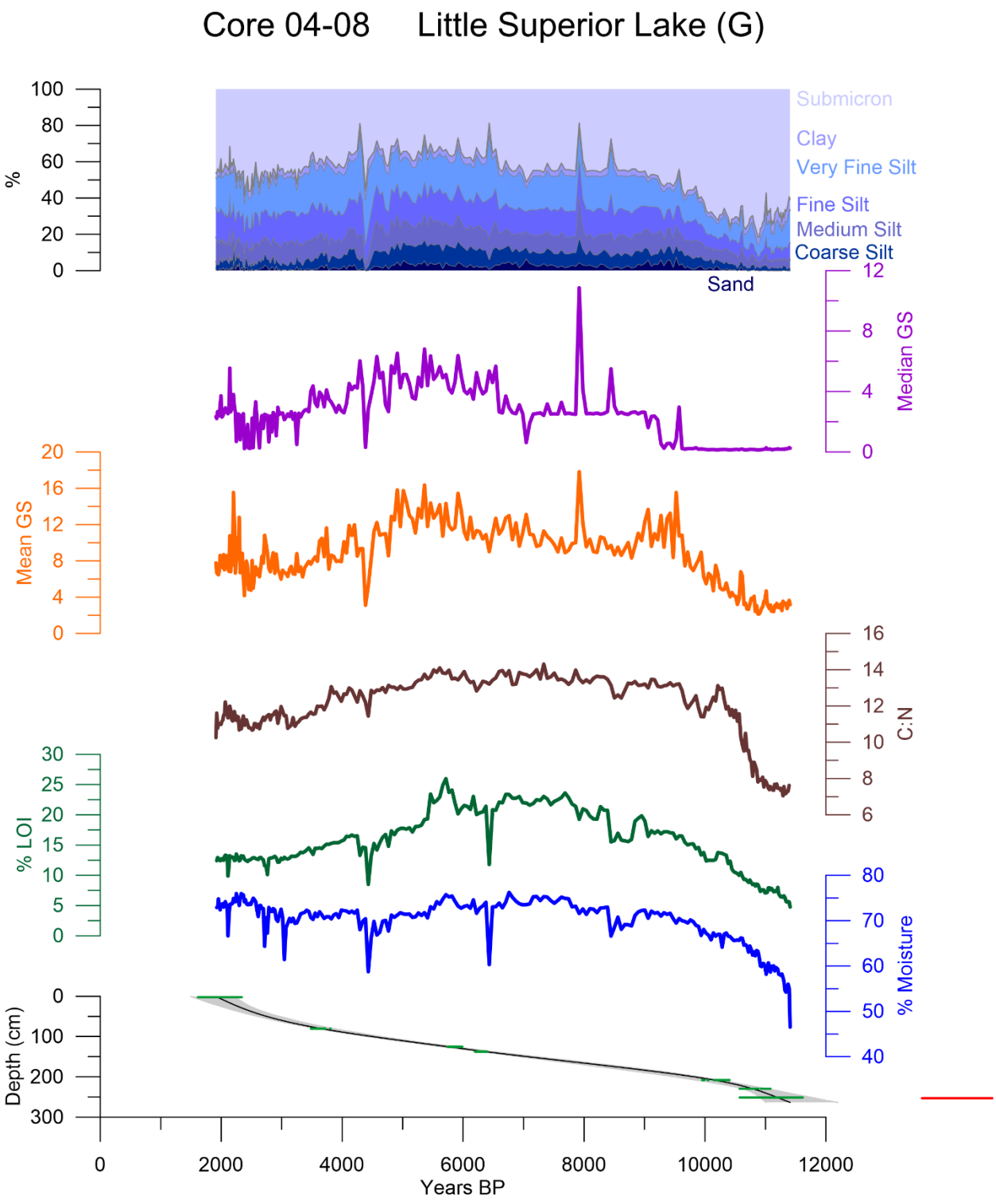
Core 04-08 Little Superior Lake (G)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR10

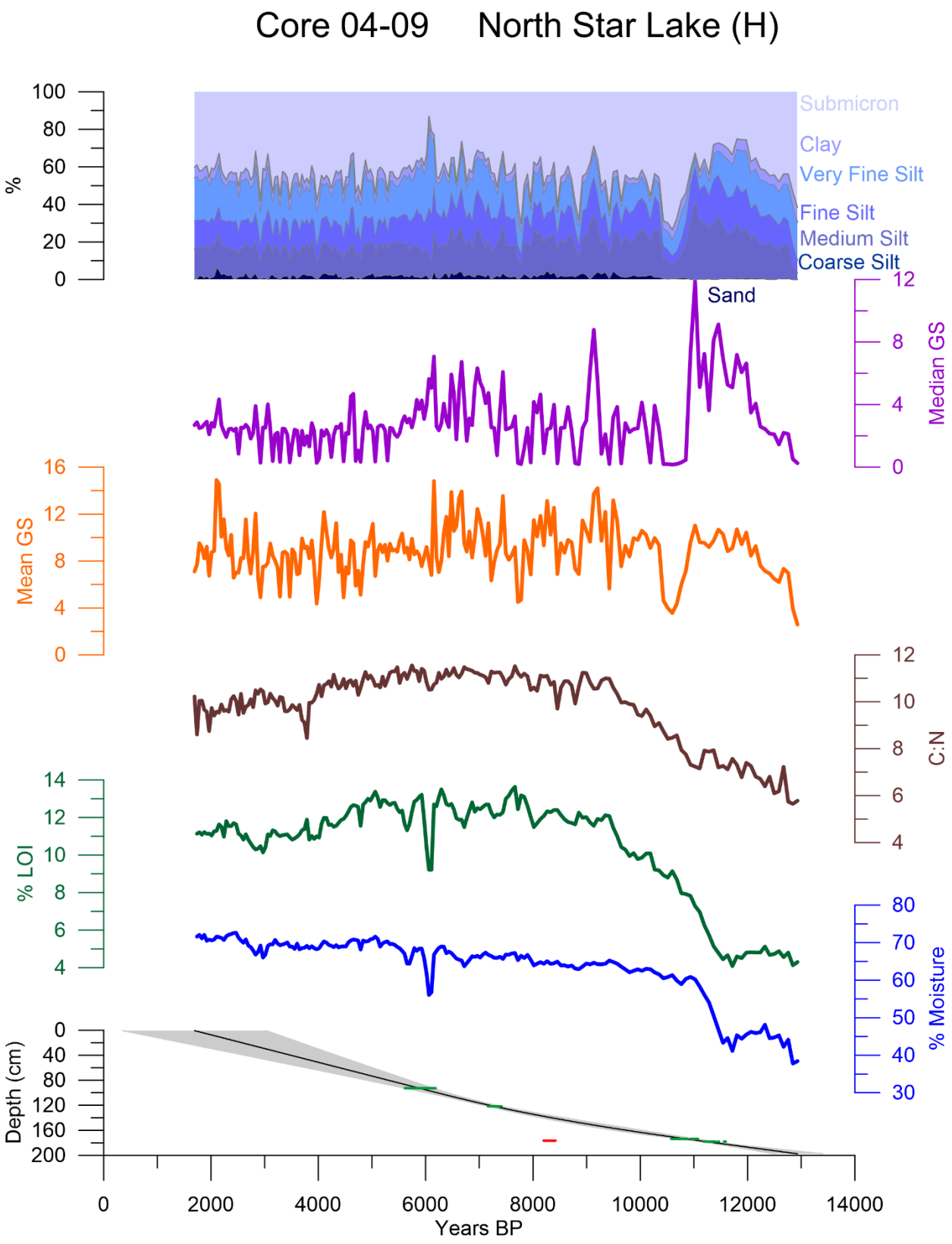
Core 04-09 North Star Lake (H)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR11

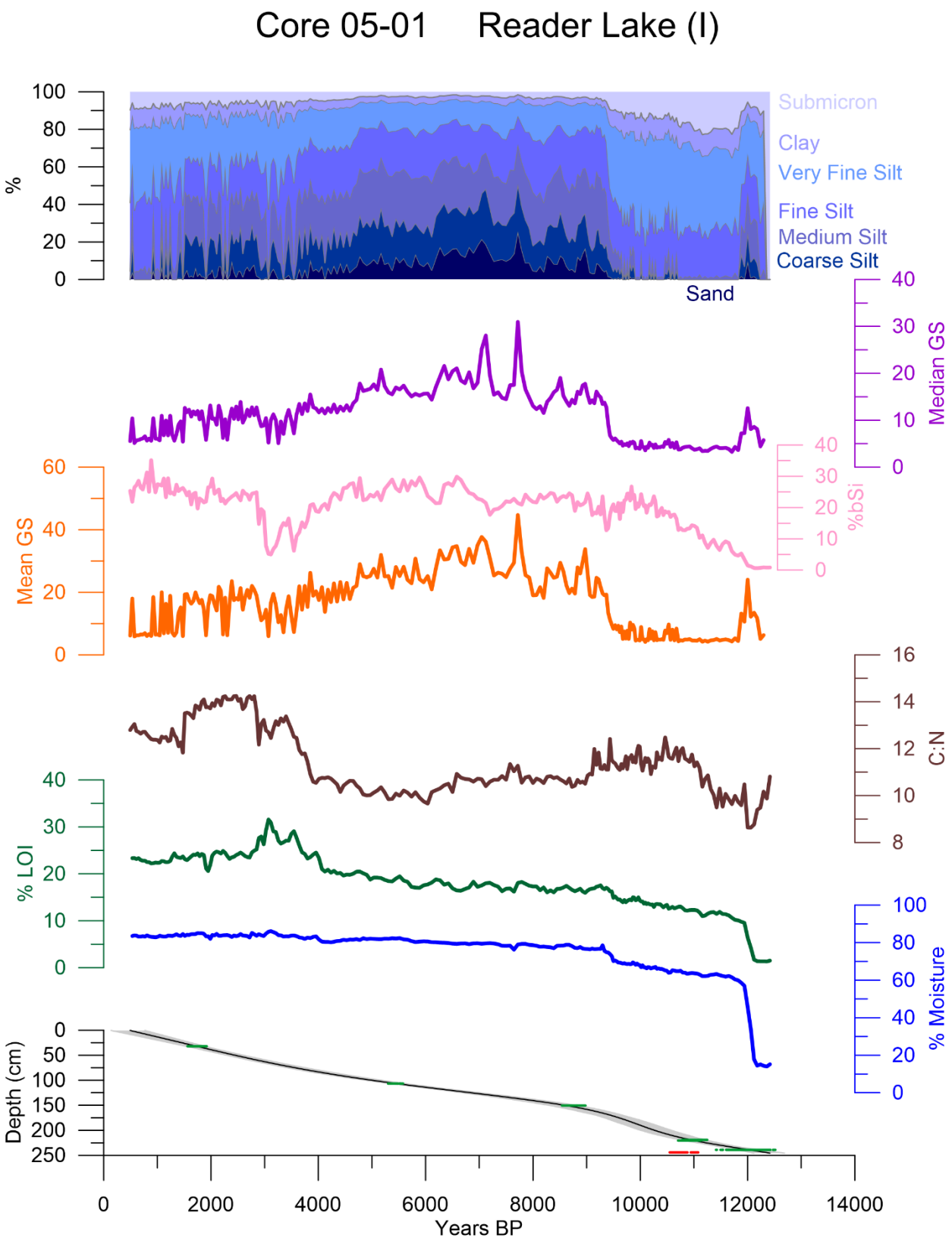
Core 05-01 Reader Lake (I)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
%bSi
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR12

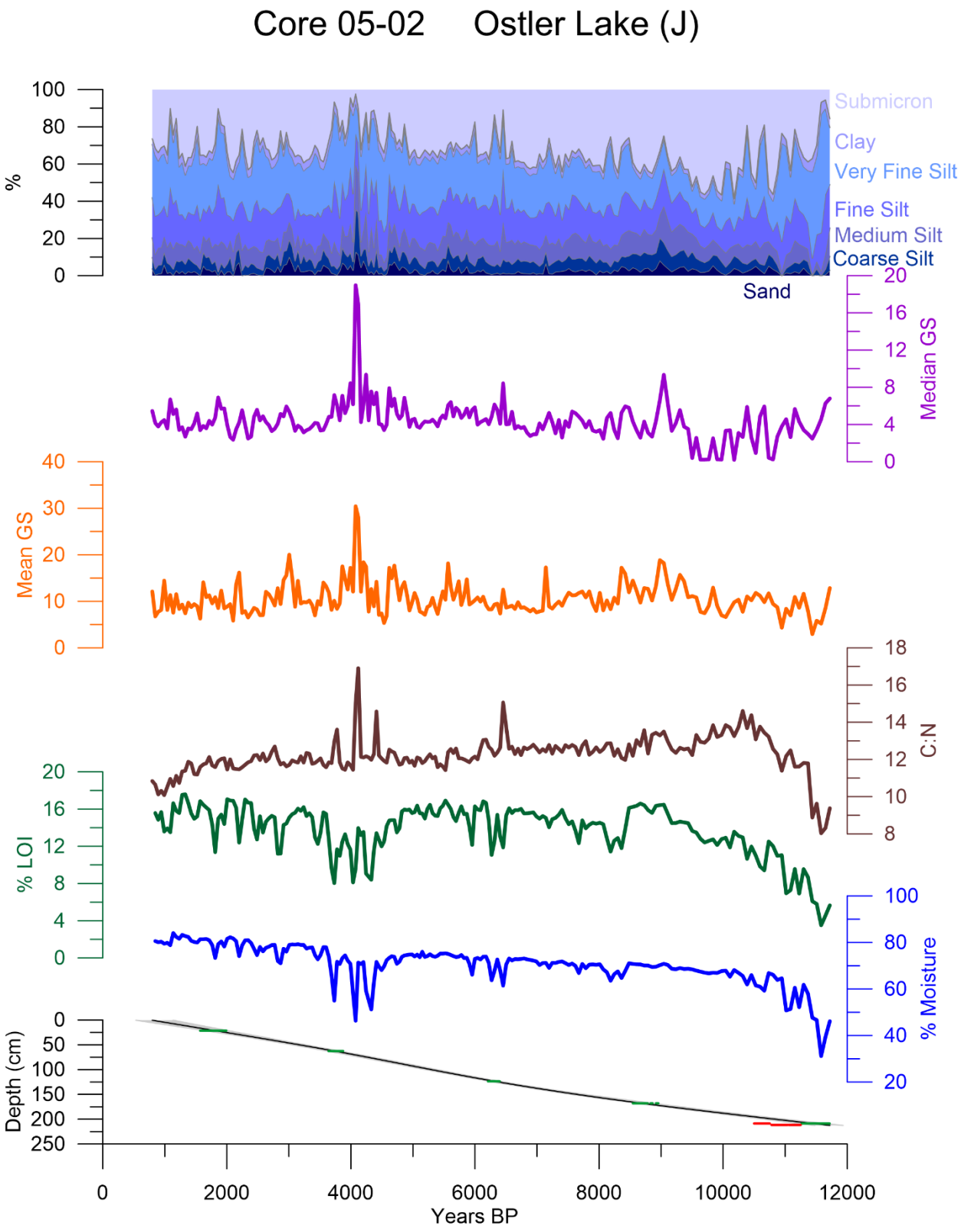
Core 05-02 Ostler Lake (J)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR13

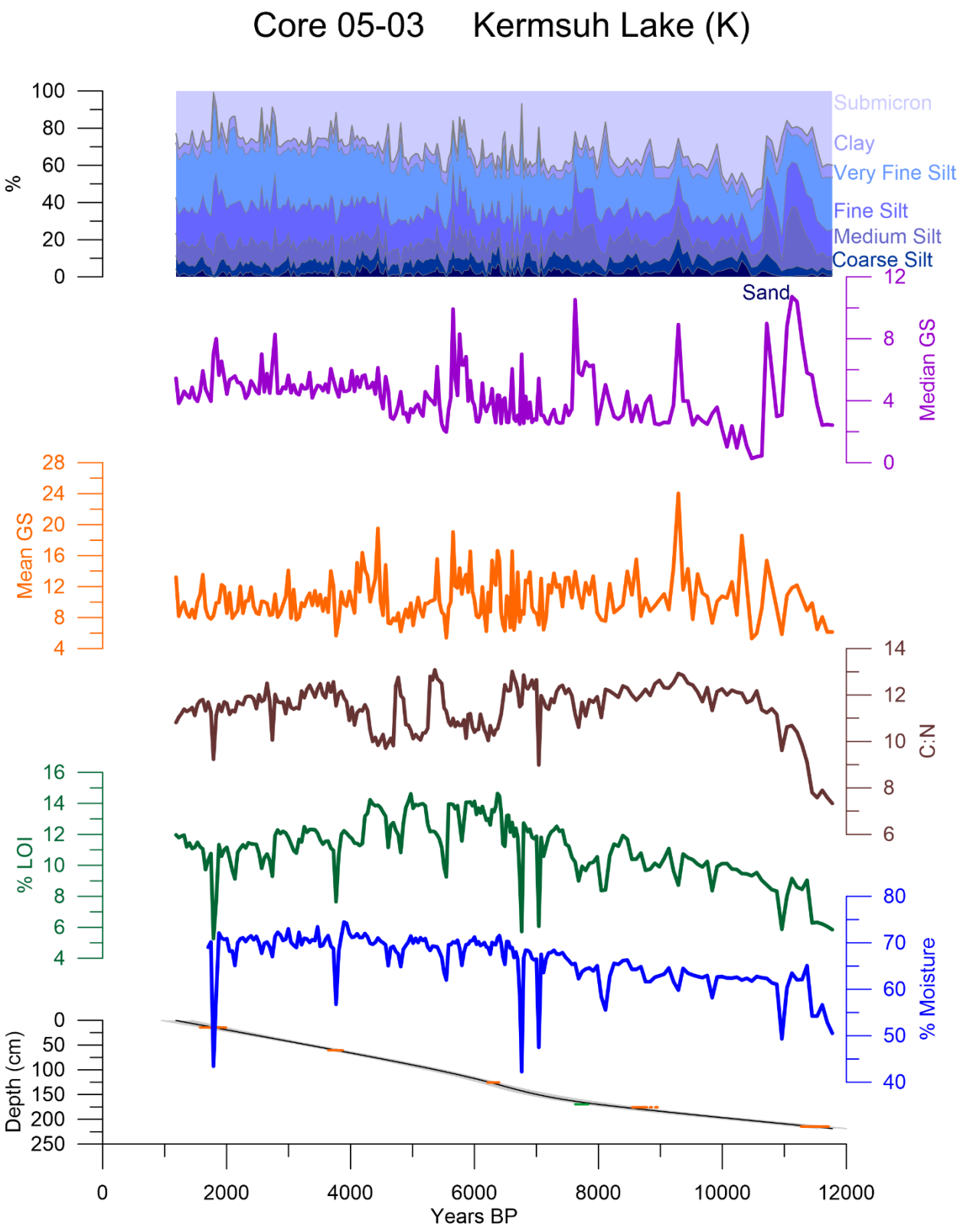
Core 05-03 Kermsuh Lake (K)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR14

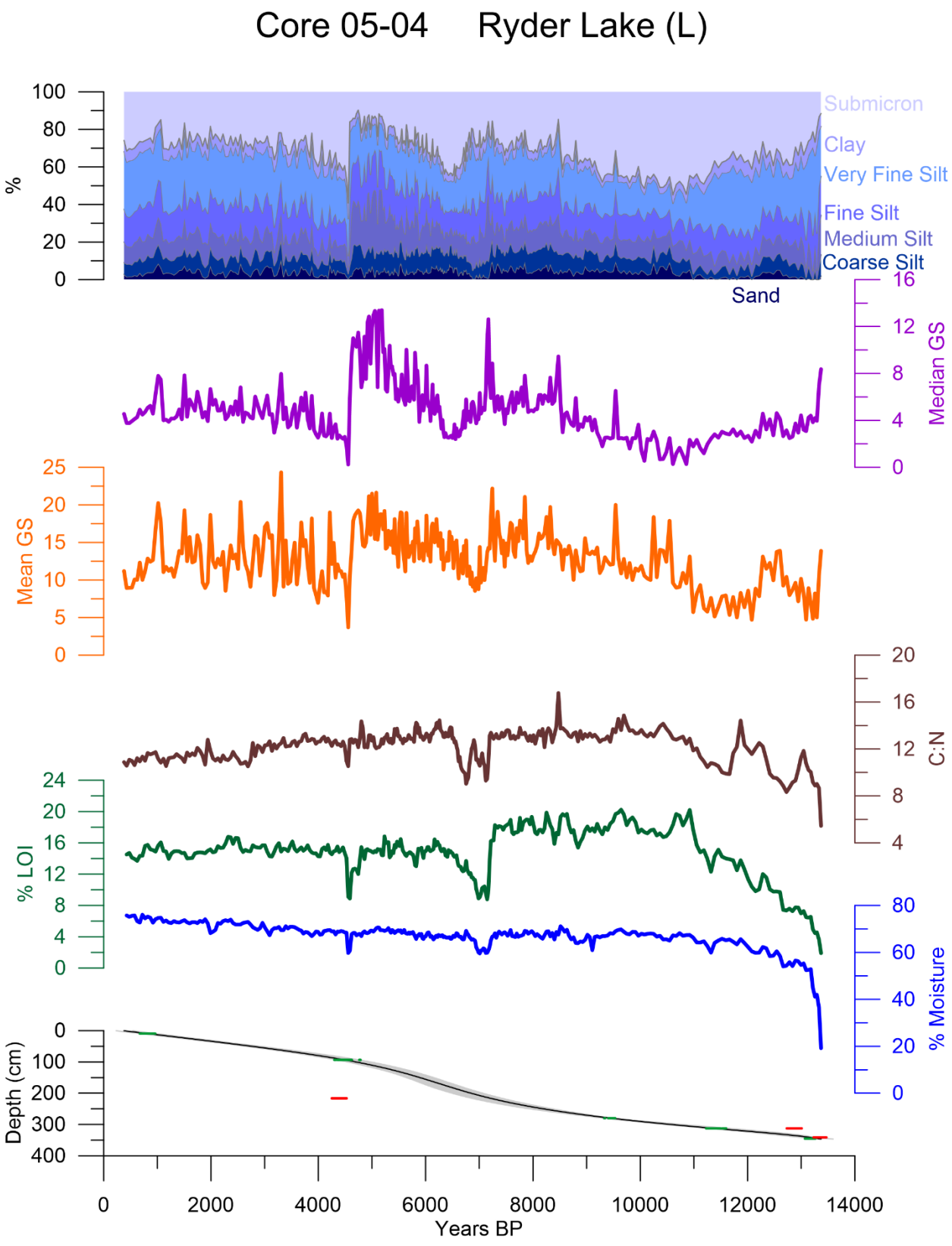
Core 05-04 Ryder Lake (L)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR15

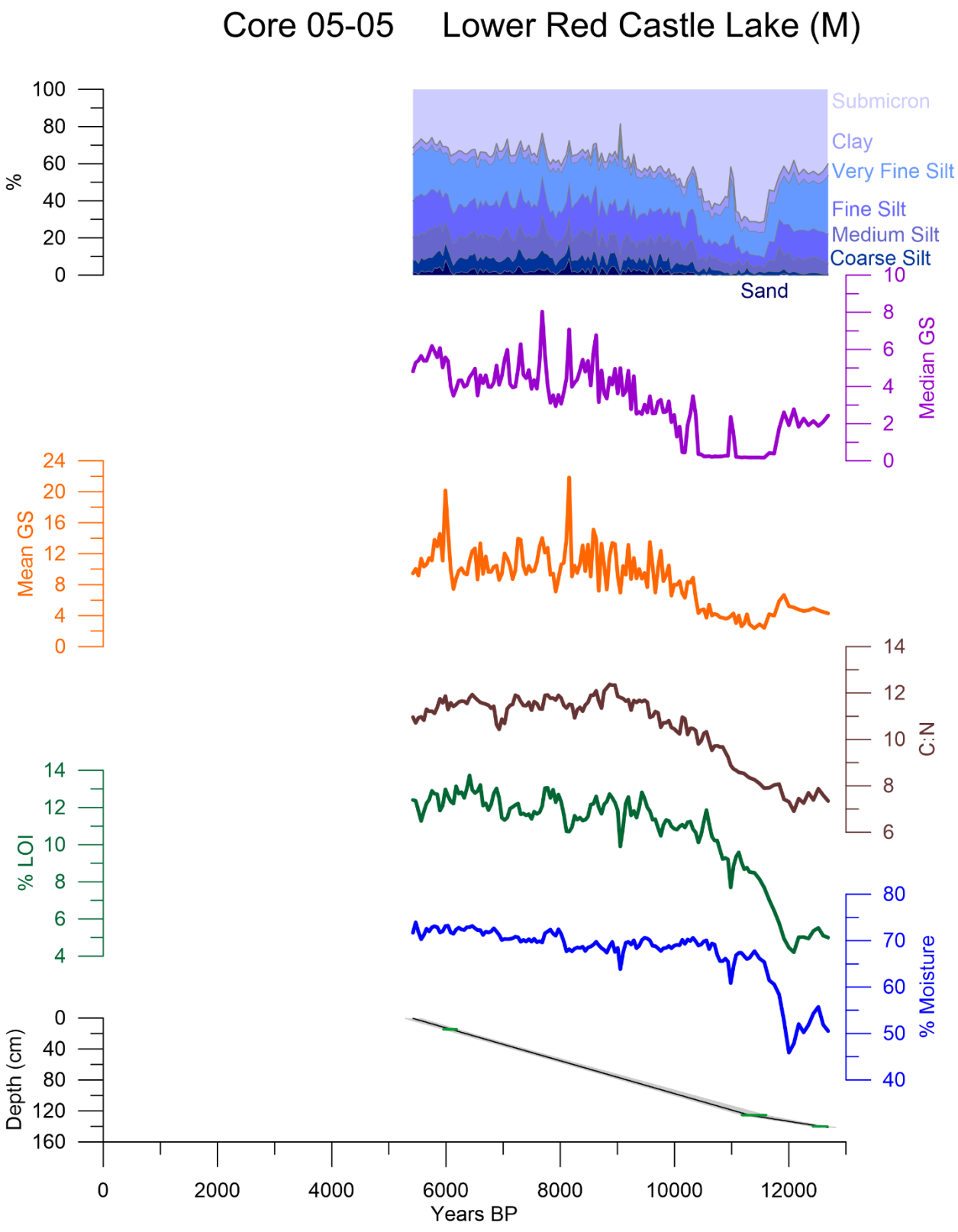
Core 05-05 Lower Red Castle Lake (M)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
10
8
6
4
2
0
Mean GS
24
20
16
12
8
4
0
C:N
14
12
10
8
6
% LOI
14
12
10
8
6
4
% Moisture
80
70
60
50
40
Depth (cm)
0
40
80
120
160
0
2000
4000
6000
8000
10000
12000
Years BP

Figure DR16

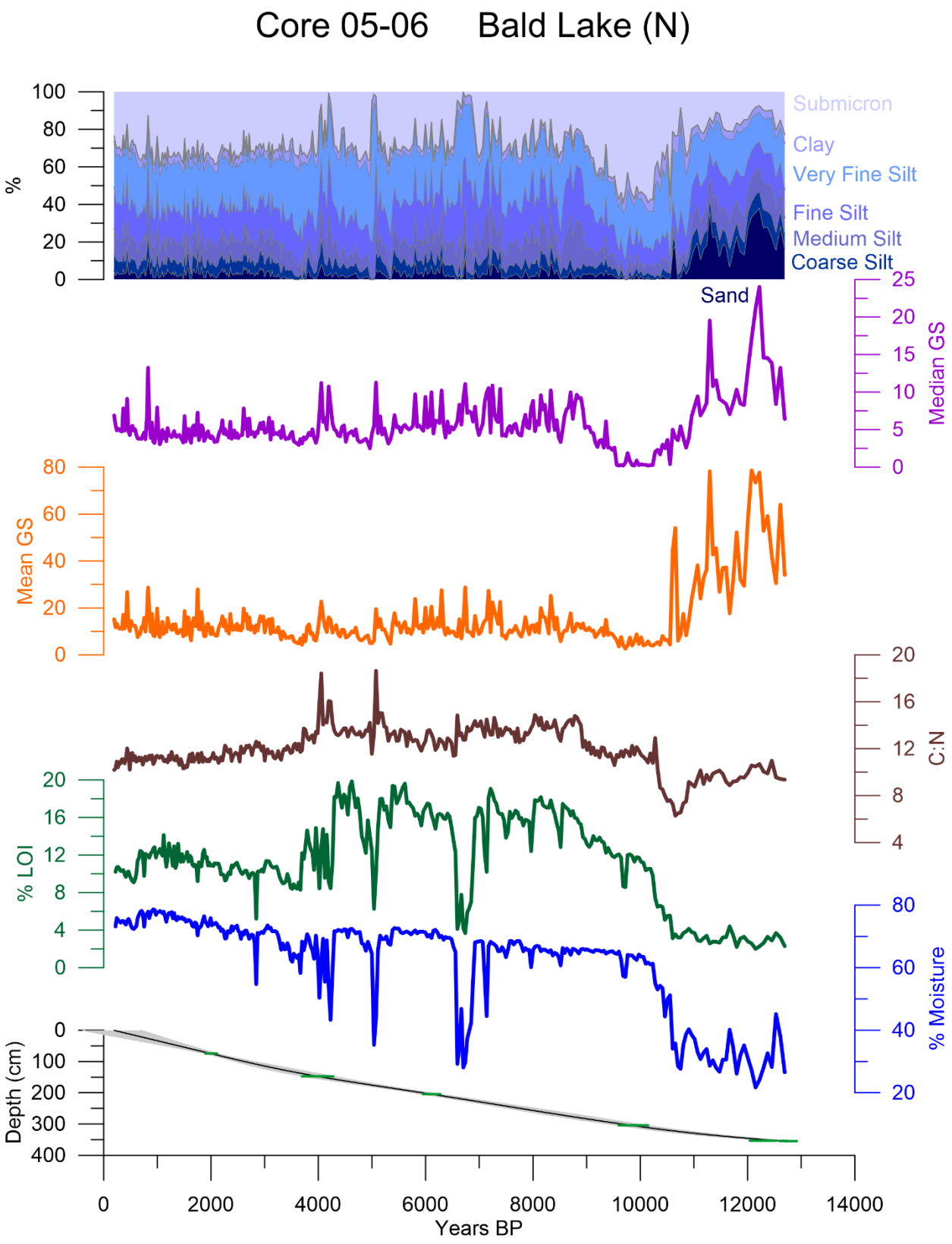
Core 05-06 Bald Lake (N)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR17

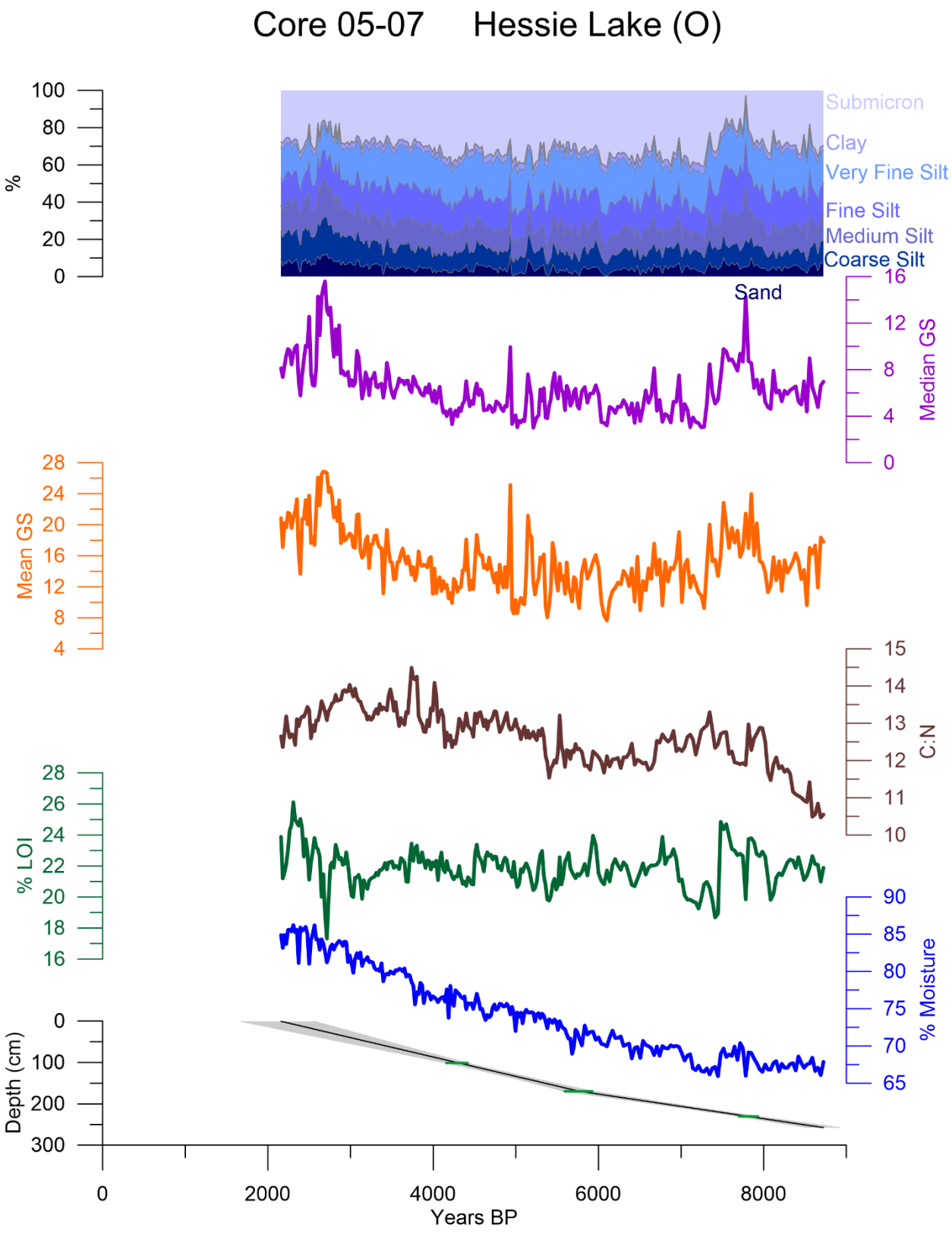
Core 05-07 Hessie Lake (O)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR18

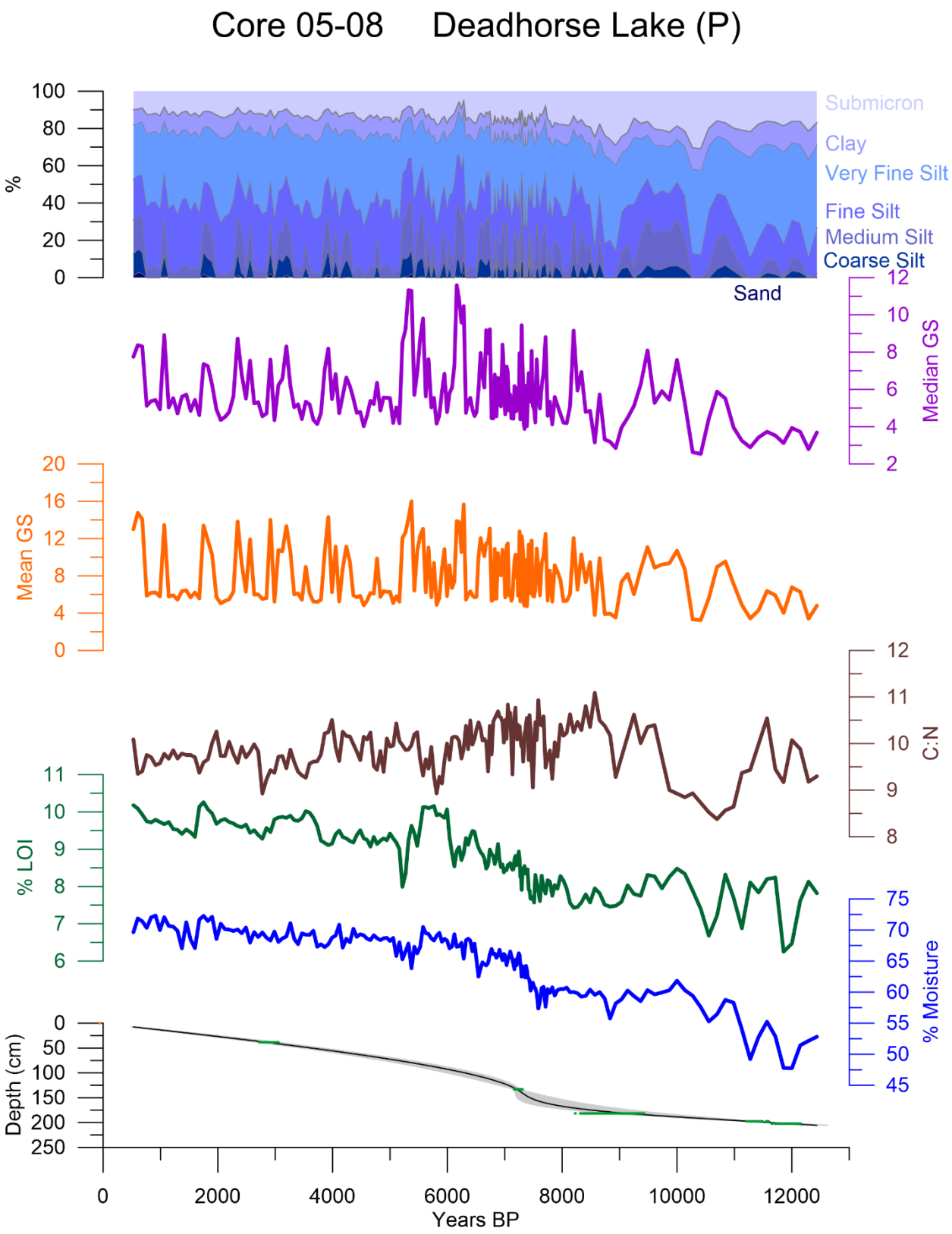
Core 05-08 Deadhorse Lake (P)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR19

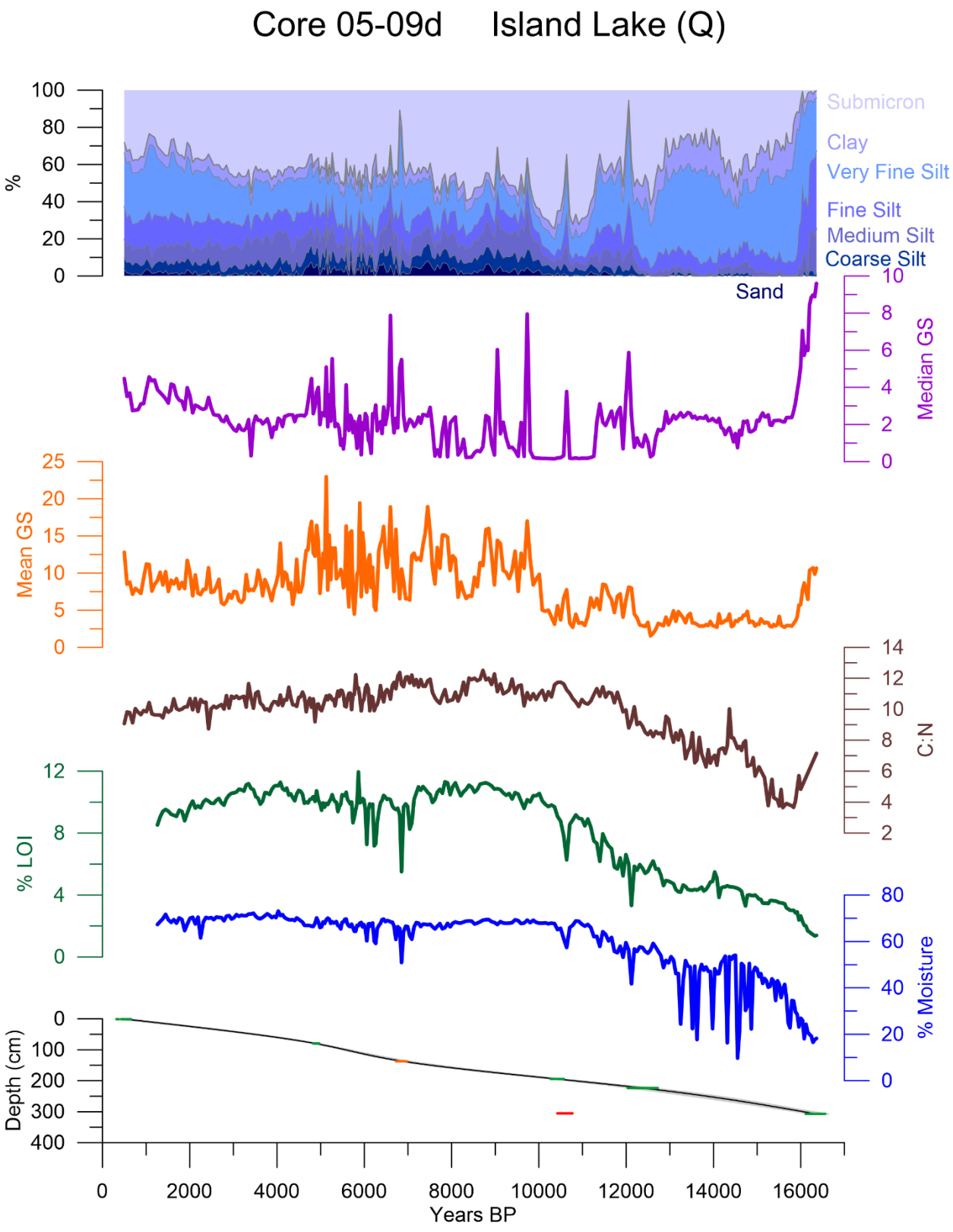
Core 05-09d Island Lake (Q)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR20

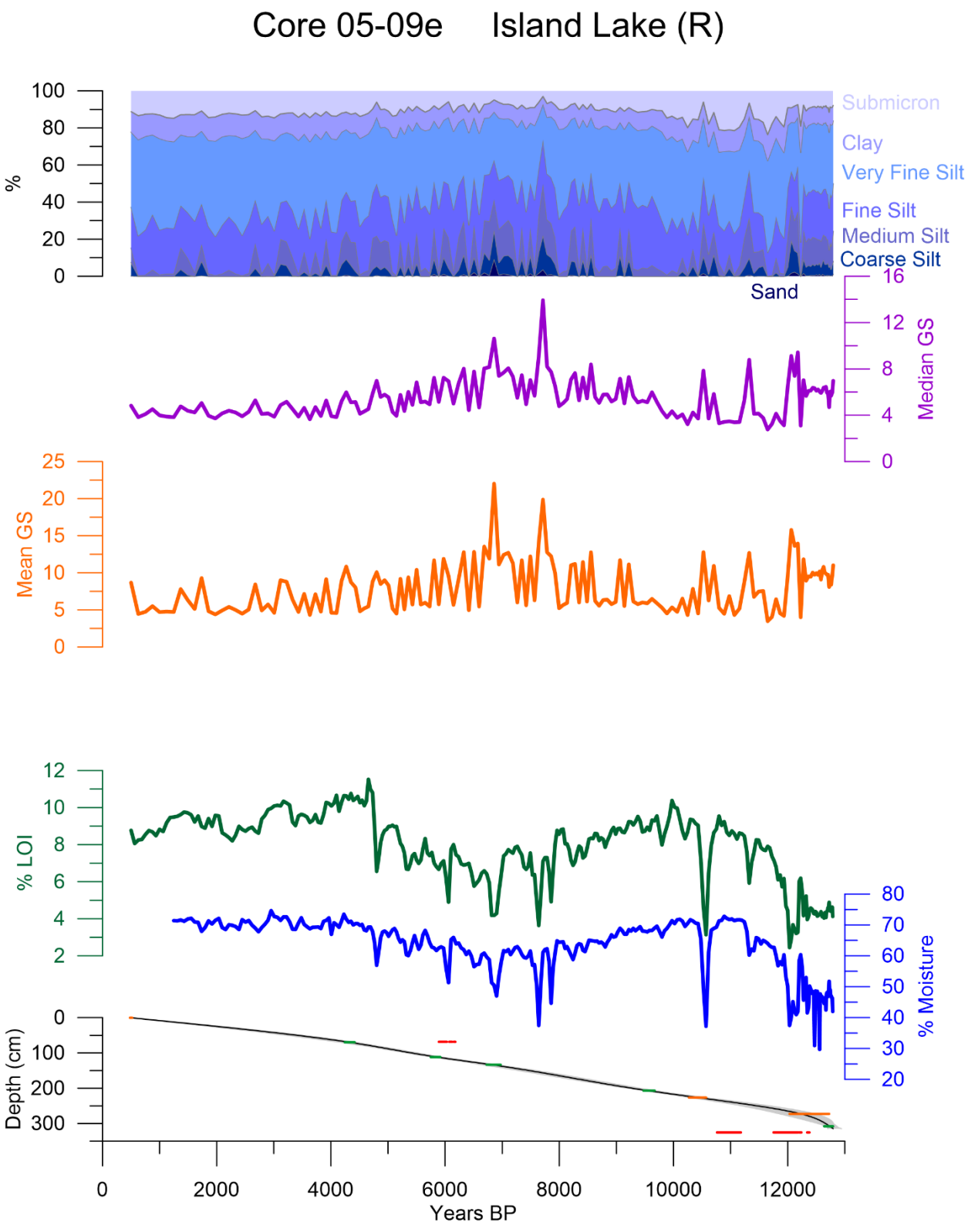
Core 05-09e Island Lake (R)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
16
12
8
4
0
Median GS
25
20
15
10
5
0
Mean GS
12
10
8
6
4
2
% LOI
80
70
60
50
40
30
20
% Moisture
0
100
200
300
Depth (cm)
0
2000
4000
6000
8000
10000
12000
Years BP

Figure DR21

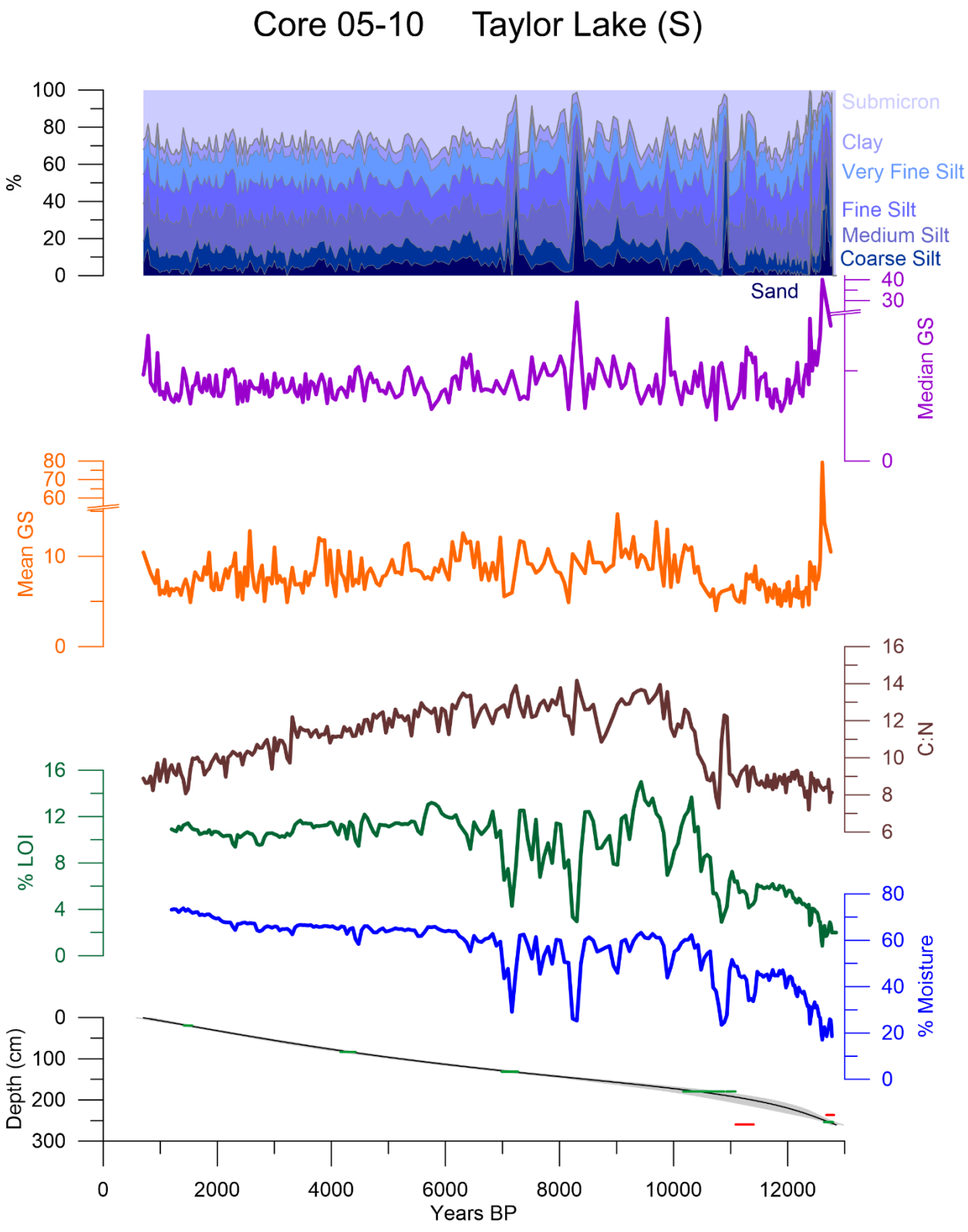
Core 05-10 Taylor Lake (S)
%
100
80
60
40
20
0
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
40
30
Median GS
0
80
70
60
Mean GS
10
0
16
14
12
10
8
6
C:N
16
12
8
4
0
% LOI
80
60
40
20
0
% Moisture
0
100
200
300
Depth (cm)
0
2000
4000
6000
8000
10000
12000
Years BP

Figure DR22

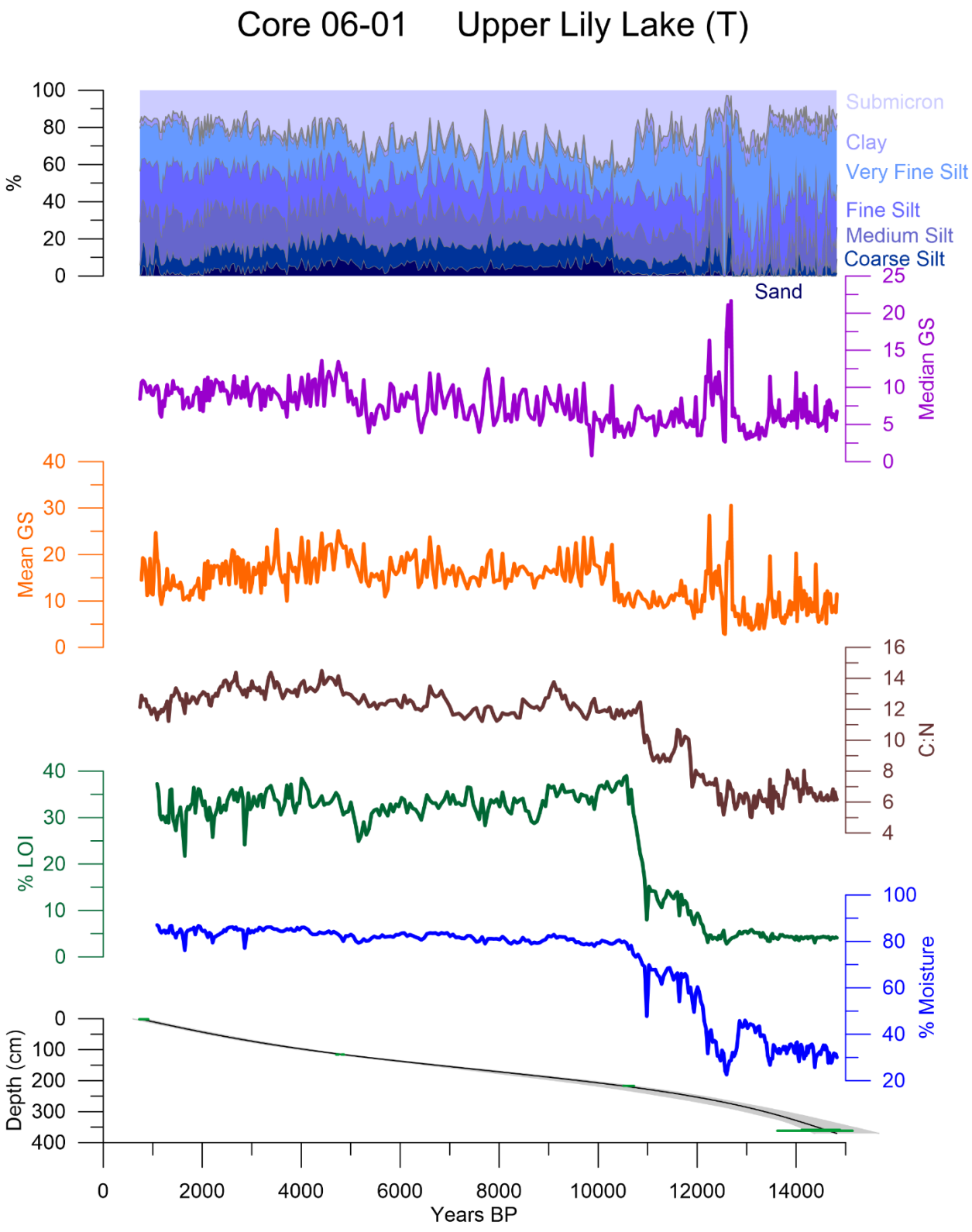
Core 06-01 Upper Lily Lake (T)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
C:N
% LOI
% Moisture
Depth (cm)
Years BP

Figure DR23

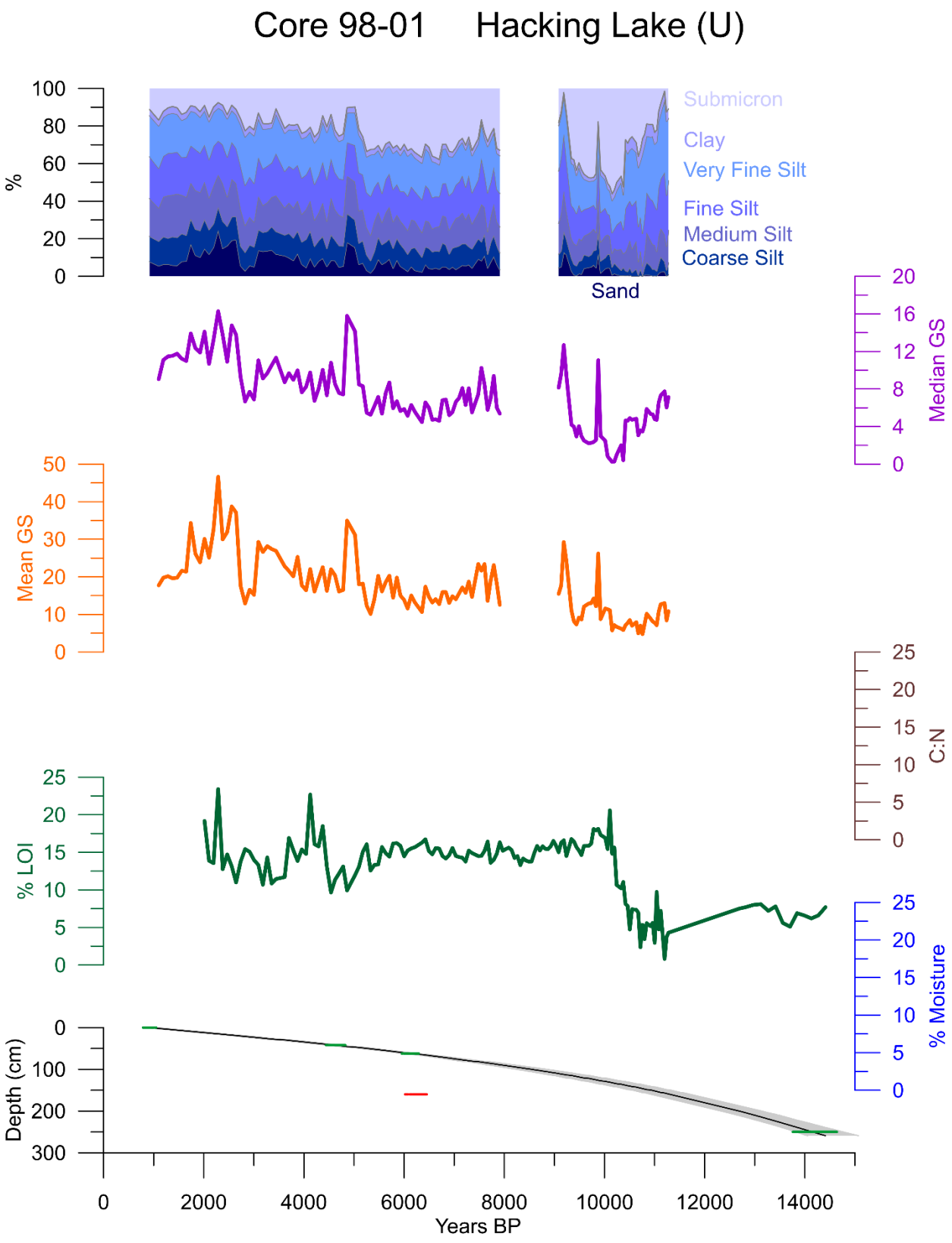
Core 98-01 Hacking Lake (U)
%
Submicron
Clay
Very Fine Silt
Fine Silt
Medium Silt
Coarse Silt
Sand
Median GS
Mean GS
% LOI
C:N
% Moisture
Depth (cm)
Years BP

Figure DR24

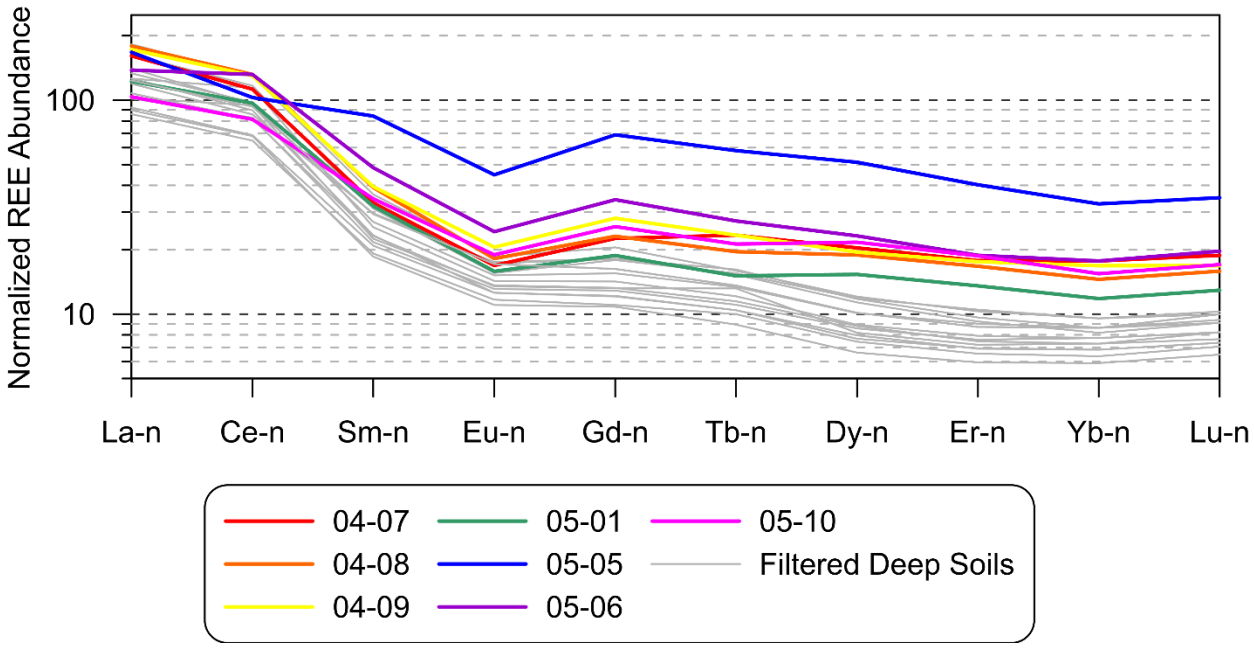
Normalized REE Abundance
100
10
La-n
Ce-n
Sm-n
Eu-n
Gd-n
Tb-n
Dy-n
Er-n
Yb-n
Lu-n
04-07
04-08
04-09
05-01
05-05
05-06
05-10
Filtered Deep Soils

Figure DR25

Table DR1. Radiocarbon Dates for Uinta Mountain Lake Cores

Sample Name	Lab ID	Age	Error	Material*	$\delta^{13}C$	from	to	Probability	median	Age
--	--	yrs	yrs	--	‰	yrs BP	yrs BP	%	yrs BP	Model**
04-01b_5-6	AA-62135	1475	35	needle	-28.11	1480 1420	1460 1290	1.1 94.3	1360	X
04-01b_46-47	AA-62136	3464	39	needle	-26.11	3840	3630	95.4	3740	X
04-01b_46-48b	AA-62137	3615	42	bulk	-27.95	4090 4010	4030 3830	9.3 86.1	3930	X
04-01b59-60	OS-53975	4040	50	wood	-26.56	4810 4700	4760 4670	7.9 2.3	4520	X
04-01b102-103	OS-54187	5640	50	wood	-21.5	4650 6540	4410 6300	85.2 95.4	6420	X
04-01b_130	AA-62138	8935	52	wood	-24.21	10230	9900	95.4	10050	X
04-01b_188-190b	AA-62139	10856	63	bulk	-22.86	12870	12670	95.4	12740	X
04-02a_2-3	AA-62140	1835	36	needle	-25.18	1870 1650	1690 1630	94.0 1.4	1770	X
04-02_36-37	Beta-255412	4020	20	needle	-23.7	4530	4420	95.4	4480	X
04-02_50-51	OS-54167	4990	75	needles	-23.85	5900	5600	95.4	5730	X
04-02a_54-55	AA-62141	5391	44	needle	-24.67	6290 6160 6090	6170 6100 6010	68.3 14.6 12.5	6210	X
04-02a_111-112	AA-62142	9482	54	needle	-26.56	11080 10880	10940 10570	23.6 71.8	10750	X
04-02a_143-144b	AA-62143	12410	120	bulk	-23.08	15060	14090	95.4	14530	--
04-02_156	OS-54088	11400	65	pollen	-25.13	13390	13100	95.4	13240	X
04_03_13-14	AA-62264	2032	42	needle	-23.76	2120	1890	95.4	1990	X
04-03_57-58	OS-54011	3970	40	needles	-23.92	4530	4290	95.4	4440	X
04_03_85-86	AA-62265	4831	42	wood	-27.4	5660 5560	5570 5470	46.3 49.1	5550	X
04-03_115-116	OS-54262	7190	140	misc	-21.31	8330	7740	95.4	8020	X
04_03_125-126	AA-62266	7741	48	wood	-23.31	8600	8420	95.4	8520	X
04-03_171-172	OS-54251	9390	120	needles	-24.46	11090 10890	10920 10260	12.6 82.8	10630	X
04_03_177-179	AA-62267	9845	64	bulk	-28.35	11600 11480 11410	11550 11440 11150	1.6 1.0 92.9	11260	X
04_04_30-31	AA-62734	3218	40	daphnia	-27.89	3560	3360	95.4	3440	X
04_04_96-97	AA-62735	5863	44	needle	-23.4	6790	6560	95.4	6680	X
04-04_127-128	OS-54192	8270	55	needle	-22.69	9440 9050	9080 9030	95.1 0.3	9260	X
04_04_142-143	AA-62736	9188	54	needle	-26.43	10500	10240	95.4	10350	X
04-04_153-154-DE	OS-54166	10050	60	daphnia	-27.54	11930 11830	11890 11280	1.6 93.8	11570	X
04-04_153-154-pollen	OS-54306	9280	65	pollen	-26.2	10660 10600	10620 10260	2.8 92.6	10460	--
04_04_216-217	AA-62737	12068	72	daphnia	-18.38	14110	13750	95.4	13920	X
04_06_10-11	AA-62798	2756	39	needles	-26.81	2950	2770	95.4	2850	X
04_06_59-60	AA-62797	4995	41	needles	-23.83	5900	5610	95.4	5720	X
04-06_90-91	Beta-319431	6820	40	needle	-23.8	7720	7580	95.4	7650	X
04_06_141-142	AA-62799	9025	59	daphnia	-24.53	10290 10070	10110 9920	78.2 17.2	10200	X

04_06_166-168	AA-62800	11632	64	daphnia	-23.59	13580	13310	95.4	13460	X
04-06_185-190	OS-55207	14750	90	pollen	-24.66	18210	17680	95.4	17950	--
04-06_190-195	OS-54030	15350	80	pollen	-24.61	18800	18430	95.4	18620	--
						1300	1170	92.9		
04_07_16-17	AA-63503	1288	38	needle	-25.12	1160	1140	1.1	1230	X
						1110	1090	1.4		
04-07_51-52	OS-54103	2220	35	needles	-24.33	2330	2140	95.4	2230	X
04-07_64-65	OS-54191	2470	45	wood/needles	-21.48	2720	2370	95.4	2560	X
04_07_172-173	AA-63504	5078	44	wood	-22.01	5920	5720	95.4	5820	X
04-07_249-250	OS-54190	7720	55	needles	-24	8600	8410	95.4	8500	X
04_07_301-302	AA-63505	9277	56	wood	-21.67	10650	10630	0.8	10460	X
						10590	10260	94.6		
04_07_331-334	AA-63506	9827	67	daphnia	-27.4	11600	11560	0.7	11240	X
						11410	11100	94.7		
04_08_2-3	AA-64117	2010	160	misc	-24.53	2350	1600	95.4	1980	X
						3820	3800	0.7		
04_08_80-81	AA-64118	3381	41	wood	-22.65	3730	3550	89.7	3620	X
						3540	3480	4.9		
04-08_125-126	OS-54001	5130	50	wood	-25.45	5990	5740	95.4	5870	X
04-08_137-138	OS-53973	5490	55	wood	-26.86	6400	6190	95.4	6290	X
						10410	10140	91.9		
04-08_204-212	Beta-255413	9060	60	needles	-23.9	10060	10040	0.9	10220	X
						10030	10010	0.2		
						9990	9940	2.4		
04_08_229-230	AA-64120	9483	64	wod	-25.4	11090	10920	27.0	10760	X
						10890	10570	68.4		
04-08_250-252	OS-55897	9700	170	daphnia	-25	11700	11670	0.4	11050	X
						11630	10570	95.0		
04-08_252-254	OS-54250	12150	160	daphnia	-27.34	14750	13590	95.4	14070	--
04_08_255-256	AA-64121	13610	350	daphnia	-26.4	17480	15450	95.4	16460	--
04_09_92-93	AA-65027	5130	130	carex	-24.8	6190	5600	95.4	5880	X
04_09_121-122	AA-65028	6334	58	needle	-24	7420	7160	95.4	7270	X
04_09_173-174	AA-65029	9481	58	daphnia	-25	11080	10930	24.6	10750	X
						10880	10570	70.8		
04_09_176-177	AA-65030	7527	55	daphnia	-22.6	8420	8200	95.4	8350	--
						11600	11550	1.9		
04-09_177-179	OS-54194	9860	60	daphnia	-21.49	11480	11440	1.1	11270	X
						11410	11170	92.4		
05-01b_31-33	OS-54821	1820	80	misc	-25.23	1930	1560	95.4	1750	X
05-01b_106-107	OS-53964	4660	55	needle	-25.32	5590	5510	12.0	5400	X
						5490	5290	83.4		
05-01b_150-151	OS-54188	7860	65	needle	-26.11	8980	8530	95.4	8680	X
05-01b_218-220	OS-55206	9700	70	pollen	-25.78	11250	11060	59.5	11110	X
						11040	10780	35.9		
05-01b_220-221	OS-54085	9560	60	needle	-23.18	11140	10700	95.4	10920	X
						12060	11600	92.1		
05-01b_238-240-DE	OS-55443	10150	55	daphnia	-25.9	11550	11490	2.6	11820	X
						11430	11410	0.7		
05-01b_238-240-pollen	OS-55187	10400	50	pollen	-25.33	12530	12470	4.4	12270	X
						12430	12060	91.0		
05-01b_242-246	OS-54031	9460	60	pollen	-24.73	11080	10940	16.3	10710	--
						10880	10550	79.1		
05-02_21-22	OS-56140	1860	90	needle	-25.23	2000	1570	95.4	1790	X

05-02_62-63	OS-55674	3490	45	misc	-22.91	3880	3640	95.4	3760	X
05-02_123-124	OS-55454	5500	45	wood	-23.86	6410 6250	6260 6210	81.3 14.1	6300	X
05-02_168	OS-55449	7860	45	wood	-24.17	8970 8900 8870 8790	8910 8880 8830 8540	2.8 0.2 2.9 89.5	8650	X
05-02_207-210-twig	OS-55419	10000	55	wood	-27.7	11750 11720	11740 11260	0.3 95.1	11480	X
05-02_207-210-pollen	OS-55208	9390	50	pollen	-25.27	10750	10500	95.4	10620	--
05-02_210-213	OS-55209	9700	40	pollen	-24.86	11230 10950	11070 10870	84.2 11.2	11150	X
05-03_169-170	OS-58882	6890	45	needle	-24.31	7840 7640	7650 7620	93.7 1.7	7720	X
05-04d_9-10	OS-56145	890	95	needle	-24.69	970	660	95.4	820	X
05-04d_93-94	OS-55675	4010	50	needle	-25.09	4790 4630 4330	4760 4350 4290	2.8 90.8 1.8	4490	X
05-04d_216-217	OS-55655	3950	40	wood	-25.2	4530	4250	95.4	4410	--
05-04d_280	OS-55448	8440	45	wood	-21.48	9540 9350	9400 9320	92.8 2.6	9470	X
05-04d_312-313	OS-55506	9920	50	wood/needle	-26.06	11610 11500	11520 11220	8.1 87.3	11320	X
05-04d_312-313	OS-55651	11000	50	daphnia	-27.71	13010	12730	95.4	12860	--
05-04d_339-343	OS-55210	11500	55	pollen	-25	13470	13230	95.4	13350	X
05-04d_343-347	OS-55198	11300	55	pollen	-24.97	13270	13060	95.4	13150	X
05-05_14-15	OS-58744	5300	35	wood	-26.62	6190 5970	5980 5950	93.7 1.7	6080	X
05-05_125-126	OS-58745	9870	70	wood	-24.77	11610 11500	11520 11170	6.1 89.3	11290	X
05-05_137-142	Beta-336513	10580	50	misc	-22.9	12680	12420	95.4	12570	X
05-06_74-75	OS-54168	2030	40	needle	-22.42	2120	1890	95.4	1980	X
05-06_147-148	OS-54824	3650	100	needle	-25	4290 4260	4270 3690	0.4 95.0	3980	X
05-06_204-205	OS-54013	5330	60	needle	-25.71	6280 5970	5980 5940	93.2 2.3	6110	X
05-06_303-305	OS-54095	8790	55	cone	-24.08	10150 9960	9980 9590	14.3 81.2	9820	X
05-06_352-353.5	OS-55200	10400	65	pollen	-25.13	12530	12030	95.4	12270	X
05-06_353.5-355	OS-55654	10750	55	daphnia	-22.75	12750	12590	95.4	12690	X
05-06_353.5-355	OS-54204	10900	60	pollen	-24.94	12930	12690	95.4	12770	X
05-07_101-102	Beta-336515	3880	40	needles	--	4420 4210	4220 4150	88.3 7.1	4320	X
05-07_169-170	OS-59221	5010	95	wood	-24.9	5940	5580	95.4	5760	X
05-07_230-231	OS-58736	6980	45	carex	-13.41	7940 7880	7890 7690	14.3 81.1	7810	X
05-08_31-32	OS-59227	2720	85	needle	-25.46	3070	2710	95.4	2840	X
05-08_126	OS-58746	6290	40	wood	-21.95	7320	7150	95.4	7220	X
05-08_174-175	OS-59244	7890	250	charcoal	-23.18	9430 8250	8300 8210	94.7 0.7	8780	X
05-08_190-191	OS-58887	9910	50	daphnia	-22.7	11610 11500	11540 11210	5.2 90.2	11310	X

05-08_191-199	Beta-255414	10220	60	daphnia	-23.3	12160 11670	11690 11640	1.0	11930	X
05-09d_1	OS-54259	495	80	needle	-26.09	660 380	420 320	87.4 8.0	530	X
05-09d_79-80	OS-54414	4310	40	needle	-25.55	4980	4820	95.4	4870	X
05-09d_195-196	OS-54096	9260	55	wood	-26.34	10580	10260	95.4	10440	X
05-09d_223-224	OS-54813	10550	150	needle	-24.71	12730	12010	95.4	12450	X
05-09d_304-306	OS-54195	9390	60	pollen	-25.29	10770	10420	95.4	10620	--
05-09d_306-308	OS-111364	13550	60	pollen	-24.66	16570	16100	95.4	16320	X
05-09e_68-69	OS-54086	5200	40	needles	-22.82	6180 6120	6150 6070	1.9 3.9	5960	--
05-09e_69-70	Beta-319432	3890	30	misc	-23.3	6030 4420	5890 4240	89.6 95.4	4330	X
05-09e_111-112	OS-54433	5100	35	wood	-22.81	5920	5740	95.4	5820	X
05-09e_143	OS-54189	6000	50	wood	-23.8	6980	6710	95.4	6840	X
05-09e_220	OS-54097	8570	60	cone	-21.19	9680	9470	95.4	9540	X
05-09e_320-321	OS-55197	10550	55	pollen	-25.49	12680	12390	95.4	12530	X
05-09e_320-321	OS-55450	10800	60	daphnia	-25.96	12800	12630	95.4	12710	X
05-09e_324-326	OS-55420	10250	55	daphnia	-24.94	12380 12240	12340 12200	1.1 1.6	11990	--
05-09e_324-326	OS-54028	9620	55	pollen	-25.64	12180 11180	11750 10760	92.7 95.4	10950	--
05-10b_19-20	OS-54010	1610	30	needle	-23.86	1560	1410	95.4	1490	X
05-10b_90-91	OS-54094	3890	40	wood	-23.81	4430 4200	4220 4150	91.1 4.4	4330	X
05-10b_140-141	OS-53976	6240	60	needles	-25.2	7280	6970	95.4	7160	X
05-10b_188	OS-56141	9270	160	needle	-25	11090	10160	95.4	10480	X
05-10b_245-246	OS-54012	10850	70	misc	-25.38	12900	12650	95.4	12740	--
05-10b_258-266	OS-55453	10800	60	daphnia	-16.92	12800	12630	95.4	12710	X
05-10b_267-270	OS-55927	9800	65	daphnia	-19.41	11400	11090	95.4	11220	--
05-10b_267-270	OS-54029	13850	65	pollen	-24.7	17030	16490	95.4	16770	--
06-01_1-2	OS-58079	880	35	needle	-24.23	920	720	95.4	790	X
06-01_115-116	Beta-319433	4250	30	misc	-25	4870 4760 4670	4810 4700 4660	80.7 14.3 0.4	4840	X
06-01_216-217	OS-58078	9390	45	wood	-24.45	10730	10500	95.4	10620	X
06-01_257-258	OS-59799	12900	200	needle	-23.61	16080	14700	95.4	15420	--
06-01_357-361	Beta-252959	12380	80	misc		14900	14100	95.4	14450	X
06-01_361-363	OS-59807	12250	230	misc	-26.44	15140 13680	13700 13620	94.6 0.8	14320	X
06-01_367-369	OS-57988	24400	100	daphnia	-30.59	28720	28160	95.4	28460	--
HL-465	AA-32838	1000	55	wood	--	1060 1010	1020 780	3.4 92.0	910	X
HL-506	AA-32839	4105	70	needle	--	4830	4440	95.4	4640	X
HL-528	AA-32840	5365	75	wood	--	6300 5970	5980 5940	93.9 1.5	6140	X
HL-625	AA-32842	5495	75	misc	--	6450 6160 6080	6170 6110 6060	91.4 2.5 0.5	6300	--
HL-715	AA-35250	12190	120	daphnia	--	6050 14660	6020 13750	1.0 95.4	14100	X

* "needle" = conifer needle, "bulk" = bulk organic matter, "misc" = unidentified, "daphnia" = daphnia ephippia,

pollen = concentrated pollen, "carex" = sedge fragments, "cone" = conifer cone
** "X" = used in depth-age model, "--" = not used in depth-age model

Table DR2. Characteristics of Depth-Age Models for Uinta Mountain Lake Cores

Fig. 1 Code	Core	Lake Name	Spline Fit	# of 14C ages per model	# of 14C ages ignored	# of all ages* per model	Upward** Extrapolation	Downward** Extrapolation
A	04-01	Marshall	6.94	7	0	9	0	1
B	04-02	Hoover	4.58	6	1	6	2	0
C	04-03	Pyramid	10.71	7	0	7	13	2
D	04-04	Elbow	4.85	6	1	6	30	0
E	04-06	Swasey	6.59	5	2	5	10	31
F	04-07	Spider	5.32	7	0	7	16	1
G	04-08	Little Superior	8.38	7	2	7	2	13
H	04-09	North Star	2.37	4	1	4	92	20
I	05-01	Reader	8.49	6	1	6	31	7
J	05-02	Ostler	2.07	5	1	5	21	3
K	05-03	Kermsuh	24.69	6	0	6	14	4
L	05-04	Ryder	11.16	6	2	6	9	2
M	05-05	Lower Red Castle	1.46	3	0	3	14	2
N	05-06	Bald	12.64	7	0	7	74	0
O	05-07	Hessie	2.13	3	0	3	101	27
P	05-08	Deadhorse	4.15	5	0	6	0	0
Q	05-09d	Island	4.59	6	1	6	1	1
R	05-09e	Island	10.14	7	3	8	0	19
S	05-10	Taylor	4.84	5	3	5	19	16
T	06-01	Upper Lily	14.26	4	2	4	1	12
U	98-01	Hacking	1.88	4	1	4	0	9

*including ages from other cores matched by comparison of LOI patterns
**cm of extrapolation necessary in CLAM to extend the depth-age model to the ultimate core top and base

Table DR3. Relationships Between %LOI and C:N in Uinta Mountain Lake Cores

Fig. 1 Code*	Lake Name	Lake ID	Spearman r	r^2	P-value	# of Inflows	Note
G	Little Superior	04-08	0.922	0.850	0.000	3	Major inflow
D	Elbow	04-04	0.842	0.709	0.000	1	Major inflow
H	North Star	04-09	0.825	0.681	0.000	1	Major inflow
M	Lower Red Castle	05-05	0.795	0.632	0.000	1	Major inflow
S	Upper Lily Pad	06-01	0.744	0.554	0.000	0	Productive meadow to west, steep slopes on south side
Q	Island	05-09	0.661	0.437	0.000	2	Major inflow
N	Bald	05-06	0.643	0.413	0.000	0	Steep slopes on west side, no inflow
L	Ryder	05-04	0.632	0.399	0.000	1	Waterfall inflow
B	Hoover	04-02	0.578	0.334	0.000	2	Major inflow
I	Reader	05-01	0.562	0.316	0.000	0	Steep slopes on north side
R	Taylor	05-10	0.536	0.287	0.000	0	Steep slopes on west side
F	Spider	04-07	0.456	0.208	0.000	2	Multiple inflows
E	Swasey	04-06	0.308	0.095	0.000	0	Several streams on west end
C	05-087	04-03	0.216	0.047	0.004	0	No real inflow
O	Hessie	05-07	0.146	0.021	0.019	0	No real inflow
A	Marshall	04-01	0.031	0.001	0.674	0	Small inlet on SW corner
J	Ostler	05-02	-0.087	0.008	0.205	0	Weak inflow
K	Kermsuh	05-03	-0.139	0.019	0.040	2	Weak inflow
P	Deadhorse	05-08	-0.293	0.086	0.000	0	Rock glaciers and talus into lake

*C:N was not measured in cores 98-01 (U) and 05-09e (R)