Core no. 12309-2 K.C. N 26° 50.3' W 15° 06.6': 2820 m b.s.l.
12309-3 S.C 2760 m b.s.l.

Age control: Date: 4/08/1993

- *C. wuellerstorfi* and *U. peregrina* $\delta^{18}O$ records for -2 (Zahn-Knoll, 1986; Winn et al., 1991)
- AMS ^{14}C analogue stratigraphy.
- ^{14}C ages of total organic carbon for -2 (Geyh, 1979).
- ^{14}C ages of $CaCO_3$ >125µm and <125µm for -3 (Lutze et al., 1979).

Core fit :

- 202 cm in core -2 = 12 cm in core -3, based on ^{14}C ages, $\%CaCO_3$, wt. % >6 µm of carbonate free silt, planktonic and benthic $\delta^{13}C$ and $\delta^{18}O$ stratigraphy, assemblage record of benthic and planktonic foraminifera and pelagic gastropods (Lutze et al., 1979).
- Hiatus at 11 cm in core -3. Top 11 cm of core -3 are correlated with top 11 cm of core -2 (Lutze et al., 1979) based on arenaceous foraminifera.

Surface sediment age :

- Zero, based on assumption that ^{14}C age at 3 cm in -2 is from a bioturbationally mixed layer.
- Benthic foraminiferal fauna indicates well preserved sediment surface (Lutze et al., 1979).

Age/depth correlation :

Comp. depth	^{14}C age	Error ±	Calendar years		Sed.rate	Original interval/ material/	Core no.	Remarks
[cm]	[ky BP]		[ka]		[cm/ky]	$\delta^{18}O$ stratigraphy		
0			0				-2	
2.5	2.295	480	1.89	a)	-.-	0- 5 cm organic carbon	-2	ignored, mixed layer
35	5.70	430	6.18	a)	5.65	30- 40 cm, org. carbon	-2	
45	8.60	135	9.53	a)	-.-	40- 50 cm carb. >63µm	-2	fairly good, ignored
51.25	9.1		10.04	b)	4.2	AMS ^{14}C analogue	-2	
75	10.48	160	11.85	a)	13.1	70- 80 cm, org. carbon	-2	
148.75	14.8		18.3	b)	11.4	AMS ^{14}C analogue	-2	
231	22.21	+2470 /-1890	25.71	a)	-.-	39-43 cm; $CaCO_3$ > 125µm, plankt. forams	-3	mean:25.485 ka, ignored,
	21.76	+3310 /-2340	25.26	a)	-.-	39-43 cm; $CaCO_3$ > 125µm, plankt. forams	-3	problems of exact corefit
262.5	25.5		29.5	b)	10.16	AMS ^{14}C analogue	-2	

a) see Winn et al. (1991).
b) after Bard et al. (1990).

Remarks :

- ^{230}Th und ^{231}Pa fluxes (Mangini and Haass, 1983) in -3 indicate average sedimentation rates of 12.1 to 9.1 cm/ka between 80 cm and 160 cm down core.

Original references:

- Sarnthein, M., Winn, K., Jung, S.J.A., Duplessy, J.-A., Labeyrie, L., Erlenkeuser, H. & Ganssen, G. (1994): Changes in east Atlantic deepwater circulation over the last 30,000 years: Eight time slice reconstructions.- Paleoceanography, 9, 209-267.
- Winn, K., Sarnthein, M. & Erlenkeuser, H. (1991): $\delta^{18}O$ stratigraphy and chronology of Kiel sediment cores from the East Atlantic.- Ber.-Rep. Geol. Paläont. Inst. Univ. Kiel, 45, 99 pp.
- Zahn-Knoll, R. (1986): Spätquartäre Entwicklung von Küstenauftrieb und Tiefenwasserzirkulation im Nordost-Atlantik. Rekonstruktion anhand stabiler Isotope kalkschaliger Foraminiferen.- Diss. Univ. Kiel, 111 pp.
- Geyh, M.A. (1979): ^{14}C routine dating of marine sediments. In: A. Berger & H.E. Suess (eds.), *Radiocarbon dating: Proceedings, 9th International conference, Los Angeles (La Jolla), 1976*.- Univ. California Press, Berkeley, 470-491.
- Lutze, G.F., Sarnthein, M., Koopmann, M., Pflaumann, U., Erlenkeuser, H. & Thiede, J. (1979): Meteor core 12309: Late Pleistocene reference section for interpretation of the Neogene of site 397.- Init. Rep. DSDP, XLVII, 727-239.

LGM time slice:

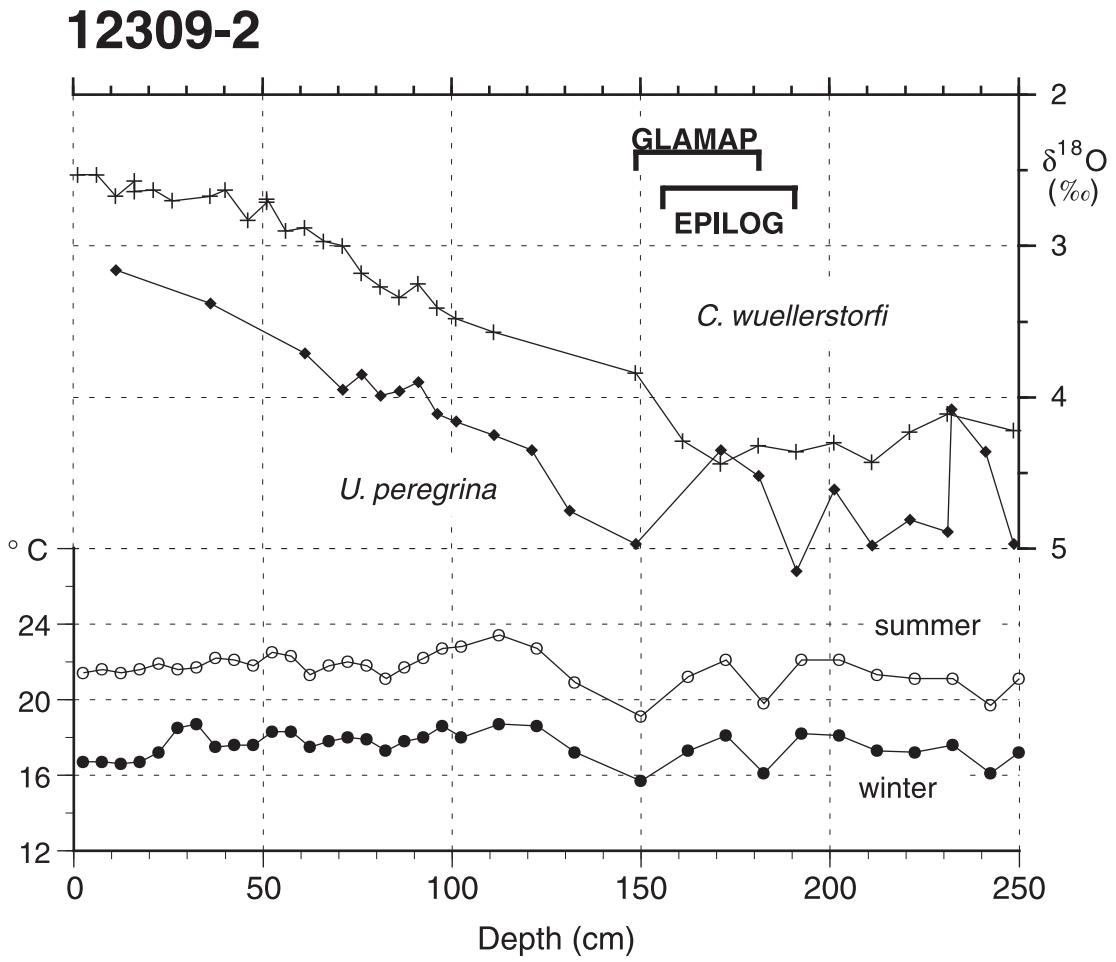
- GLAMAP: (in core -2) 148.75-181.25 cm orig. depth.
- EPILOG: (in core -2) 156-191.5 cm orig. depth.

LGM foraminifera counts: Thiede (JT)

- GLAMAP: (in core -2) 150, 162.5, 172.5 cm orig. depth.
- EPILOG: (in core -2) 162.5, 172.5, 182.5 cm orig. depth.

References for faunal analysis:

- Thiede, J. (1977): Appendix to: The North Atlantic eastern boundary current system during Glacials and Interglacials (last 150,000 years). Aspects of the variability of the Glacial and Interglacial North Atlantic eastern boundary current (last 150,000 years).- "Meteor" Forsch. Ergebn. C, 28, 1-36.


12309-2
GLAMAP
EPILOG
C. wuellerstorfi
U. peregrina
δ18O
(‰)
2
3
4
5
° C
24
20
16
12
summer
winter
0
50
100
150
200
250
Depth (cm)