

GULF OF MEXICO  
ORCA BASIN

## EN32-PC6

The study of this core was undertaken in cooperation with James Kennett. The purpose was to establish the chronology of the Mississippi River melt water record (see Figs 7, 8; Table 6).

## REFERENCES

- Broecker, W S, André, M, Wolfli, W, Oeschger, H, Bonani, G, Kennett, J and Peteet, D, in press, The chronology of the last deglaciation: Implications to the cause of the Younger Dryas event: *Paleoceanography*.
- Kennett, J P, Elmstrom, K and Penrose, N, 1985, The last deglaciation in Orca Basin, Gulf of Mexico: High-resolution planktonic foraminiferal changes: *Paleogeog, Paleoclimatol, Paleocol*, v 50, p 189–216.
- Leventer, A, Williams, D F and Kennett, J P, 1982, Dynamics of the Laurentide ice sheet during the last deglaciation: Evidence from the Gulf of Mexico: *Earth & Planetary Sci Letters*, v 59, p 11–17.
- 1983, Relationships between anoxia, glacial meltwater and microfossil preservation in the Orca Basin, Gulf of Mexico: *Marine Geology*, v 53, p 23–40.

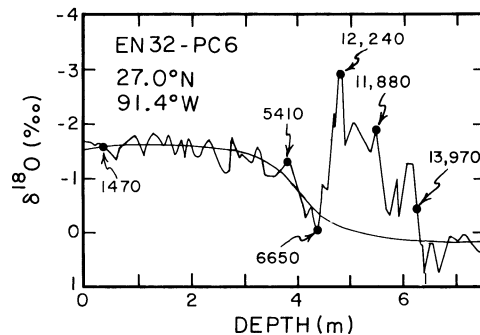


Fig 7. The  $^{18}\text{O}/^{16}\text{O}$  record obtained on the shells of the planktonic species *G. ruber* from a Gulf of Mexico deep-sea core raised in the Orca Basin (Leventer, Williams & Kennett, 1982). The smooth curve shows the record expected was the core from the open ocean. The large anomaly to more negative  $\delta^{18}\text{O}$  values is attributed to the discharge of glacial melt water from the Mississippi River. The  $^{14}\text{C}$  analyses were carried out on hand-picked planktonic shells.

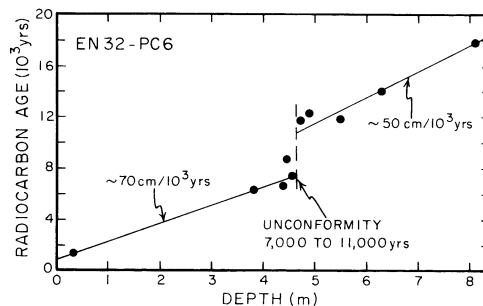


Fig 8.  $^{14}\text{C}$  age vs depth in Gulf of Mexico core EN32-PC6. The results suggest that a section of the record from ca 7000 BP to ca 11,000 BP is missing. The  $^{14}\text{C}$  ages have not been corrected for the air-surface-sea age difference.

TABLE 6

EN32-PC6 Gulf of Mexico Orca Basin  
Location (26°57'N, 91°21'W) Depth 2280m

Depth (cm)	Coarse fraction (%)	Foram sp	Abund (no./gm)	Abund (mgm/gm)	No. tests analyzed	Weight analyzed (mgm)	Date of AMS analysis	Age (yr)	Ref*
23-29	-	<u>M plank</u> **	-	-	-	10.2	Mar 87	1470 ± 120	12
380-382	-	<u>M plank</u>	-	-	-	14.5	Mar 87	5410 ± 130	12
437-438	-	<u>M plank</u>	-	-	-	-	Sept 85	6650 ± 110	12
442-443	0.41	<u>M plank</u>	-	-	-	-	Oct 86	8780 ± 180	12
456-458	-	<u>M plank</u>	-	-	-	7.2	Mar 87	7360 ± 160	12
470-472	-	<u>M plank</u>	-	-	-	13.4	Mar 87	11,690 ± 210	12
485-487	-	<u>G ruber</u>	-	-	-	-	May 85	12,240 ± 150	12
547-548	-	<u>G ruber</u>	-	-	-	8.0	Jan 87	11,880 ± 210	12
627-629	-	<u>M plank</u>	-	-	-	-	Aug 86	13,970 ± 410	12
808-810	-	<u>M plank</u>	-	-	-	7.7	Mar 87	17,860 ± 370	12

\*Publication no. in which radiocarbon date has been published (see References cited)

\*\*M plank = mixed planktonic species

## ARCTIC OCEAN

## FL-124

This study was undertaken in cooperation with David Clark of the University of Wisconsin in order to confirm the previous estimates of low sedimentation rates in the Arctic Basin (see Table 7).

## REFERENCES

- Clark, D L, Andrée, M, Broecker, W S, Mix, A, Bonani, G, Hofmann, H J, Morenzoni, E, Nessi, M, Suter, M and Wolfli, W, 1986, Arctic Ocean chronology confirmed by accelerator <sup>14</sup>C dating: Geophysical Research Letters, v 13, no. 4, p 319-321.

TABLE 7

FL-124 Arctic Ocean  
Location (78°14'N, 174°42'W) Depth 1517m

Depth (cm)	Coarse fraction (%)	Foram sp	Abund (no./gm)	Abund (mgm/gm)	No. tests analyzed	Weight analyzed (mgm)	Date of AMS analysis	Age (years)	Ref*
0-1	-	<u>N pach(s)</u>	-	-	-	-	May 85	9130 ± 120	8
2-3	-	"	-	-	-	-	"	15310 ± 210	8
4-5	-	"	-	-	-	-	"	31720 ± 1280	8
8-9	-	"	-	-	-	-	"	>41100	8

\*Publication no. in which radiocarbon date has been published (see References cited)