

Table 1. Radiocarbon dates from the lakes

Site	Level depth, cm b.s.	Substrate	$^{13}\text{C}/^{12}\text{C}$	Radiocarbon age B.P.	2 Sigma calibrated age B.P.	Lab no.
Ixtacyola Center						
	0-10	Sediment	-19.6	101.3 ± 0.8 pMC	—	Beta-172847
	300	Sediment	-19.0	5510 ± 40	6390 to 6270	Beta-152916
	300-310	Sediment	-16.8	5700 ± 40	6610 to 6590 and 6570 to 6400	Beta-164557
	520-530	Pollen	-25.0	5110 ± 160	6270 to 5580	Beta-164561
	520-530	Sediment	-18.2	6190 ± 40	7230 to 6980	Beta-164558
	540-550	Sediment	-20.2	6340 ± 40	7320 to 7220	Beta-167244
	540-550	Sediment	-20.2	7050 ± 210	8330 to 7500	Beta-167244
	600-610	Sediment	-21.5	8210 ± 40	9290 to 9030	Beta-167245
	620-630	Pollen	-23.6	6120 ± 40	7160 to 7110 and 7100 to 6880	Beta-196250
	640-650	Sediment	-20.5	9770 ± 50	11230 to 11140	Beta-167246
	675-680	Sediment	-18.0	9860 ± 50	11290 to 11180	Beta-152915
	725-745	Sediment	-21.1	11110 ± 80	13370 to 13270 and 13210 to 12890	Beta-161408
Ixtacyola Edge						
	Pozo Sur 410	Sediment	-17.0	7560 ± 40	8410 to 8330	Beta-164560
	Pozo Sur 420-430	Pollen	—	6290 ± 40	7280 to 7170	Beta-199286
	Pozo Sur 430-440	Sediment	-15.1	9390 ± 50	10720 to 10500	Beta-190111
	Pozo N-1 290-300	Sediment	-17.9	5450 ± 50	6310 to 6180	Beta-188990
	Pozo N-1, 440-450	Sediment	-16.3	7070 ± 40	7960 to 7800	Beta-164559
	Pozo N-1, 490-500	Sediment	-16.3	7900 ± 50	8990 to 8580	Beta-164556
	Pozo N-3 280-290	Sediment	-16.4	5400 ± 100	6400 to 5930	Beta-187495
Ixtapa						
	843-860	Phytoliths	-25.0	14090 ± 60	17260 to 16510	Beta-190110
	500-510	Phytoliths	-25.0	10850 ± 50	13,100 to 13,080 and 13,020 to 12,810 and	Beta-190109

					12730 to 12650	
190-200	Sediment	-15.7	2240 ± 40		2340 to 2140	Beta-188986
440-450	Sediment	-18.1	5050 ± 40		5910 to 5670	Beta-187494
640-650	Sediment	-16.5	8300 ± 60		9470 to 9120	Beta-188987

Tuxpan

Core 1, 10	Sediment	-19.3	1010 ± 30		960 to 910 (AD 990-1040)	Beta-144637
Core 1, 113-114	Sediment	-23.5	1360 ± 60		1350 to 1175 (AD 600-775)	Beta-135027
Core 1, 223	Sediment	-19.4	1740 ± 40		1725 to 1545 (AD 225-405)	Beta-135028
Core 2, 430-431	Pollen	-26.5	2210 ± 40		2330 to 2120	Beta-194683
Core 2, 440-450	Sediment	-22.0	2840 ± 60		3140 to 2790	Beta-135029
Core 5, 99.5-110.5	Sediment	-18.6	1400 ± 40		1350 to 1270 (AD 600-680)	Beta-210887
Core 5, 572-573	Sediment	-23.9	2800 ± 40		2980 to 2790	Beta-210886
Core 5, 570-575	Pollen	-	2610 ± 40		2780 to 2730	Beta-216367
Core 5, 595-605	Pollen	-26.9	2680 ± 40		2850 to 2750	Beta-221301
Edge, 150-160	Sediment	-13.8	3820 ± 40		4380 to 4090	Beta-195842
Edge, 280-290	Phytoliths	-	10630 ± 300		13190 to 11550 and 11490 to 11430	Beta-195843
Edge, 280-290	Sediment (Humin)	-12.6	4160 ± 50		4840 to 4530	Beta-219779
Edge, 300-310	Phytoliths	-25.0	8860 ± 250		10560 to 9420	Beta-194681
Edge, 310-320	Sediment	-16.6	5110 ± 40		5930 to 5740	Beta-152918

Chaucles

190-200	Pollen	-19.7	1500 ± 40		1500 to 1310	Beta-221670
240-250	Sediment (Humin)	-22.7	3100 ± 50		3400 to 3210	Beta-219778
240-250	Sediment	-15.9	3530 ± 60		3970 to 3650	Beta-188988

All dates except Beta-187495 and 187494 are AMS determinations. The edge holes at Ixtacyola called Pozo Sur and Pozo Norte have parallel records, with bedrock at a depth of 7–7.5 m b.s. that is overlain by 2 to 3 meters of sediments consisting of light to medium

grey mottled clays containing sands and gravels, and showing increasing oxidation with depth. These sediments were deposited before the edges of the basin were inundated by rising water levels, further indicating that during its earliest history the basin held little water or was completely dry. At 4.5 m (Pozo Sur) and 5 m (Pozo Norte), sediments change to a black silty clay indicative of permanent standing water. A date of 6290 ± 40 B.P. on pollen grains was obtained from a depth of 4.2 - 4.3 m at Pozo Sur.