

Supplementary Materials: Element Patterns of Primary Low-Magnesium Calcite from the Seafloor of the Gulf of Mexico

Huiwen Huang, Xudong Wang, Shanggui Gong, Nicola Krake, Daniel Birgel, Jörn Peckmann, Duofu Chen and Dong Feng

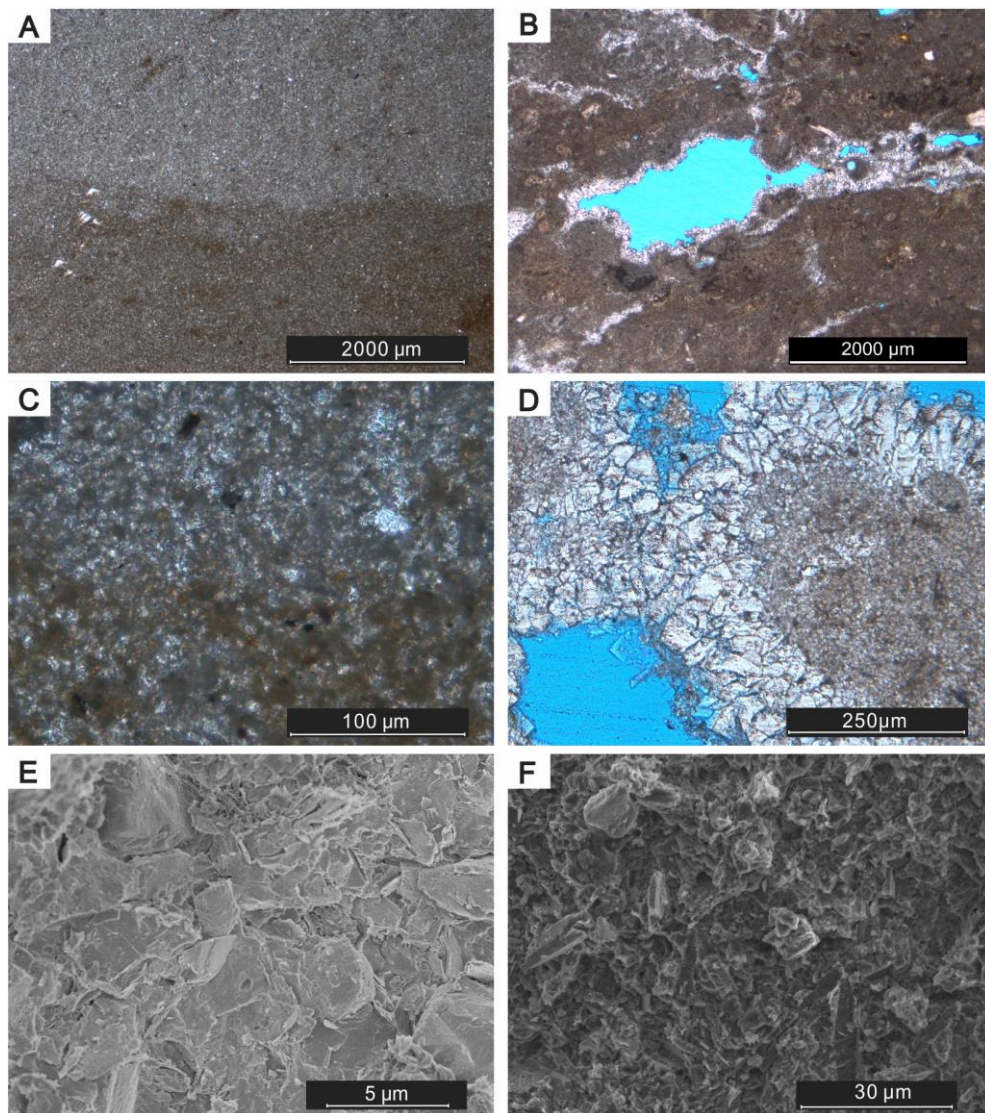


Figure S1. Thin section (A–D; plane polarized light) and scanning electron microscopy (E and F) photomicrographs of carbonates. A, C and E: Sample D1S2 is dominated by homogeneous micrite cementing detrital minerals. B, D, and F: Sample 4193 is dominated by clotted micrite and an isopachous rim of microspar. Neomorphic textures are not recognized in the studied carbonates.

Table S1. The element contents (wt %) of point analyses in low-Magnesium calcite.

Sample ID	Point ID	Na ₂ O	P ₂ O ₅	FeO	CaO	MgO	SiO ₂	MnO	K ₂ O	Al ₂ O ₃	TiO ₂	SO ₃	BaO	SrO	CO ₂	Total	Note
D1S2	D1S2-a	0.17	0.01	2.97	45.7	0.84	4.14	0.15	0.21	1.07	n.d.	0.08	0.16	n.d.	44.5	100	micrite
	D1S2-b	0.09	0.03	3.66	49.7	0.81	3.44	0.23	0.16	0.56	0.05	0.06	0.14	0.01	41.1	100	micrite
	D1S2-c	0.66	n.d.	6.72	35.1	1.66	4.20	0.24	0.28	2.32	n.d.	0.17	n.d.	n.d.	48.6	100	micrite
	D1S2-d	0.19	0.04	5.78	41.9	1.21	3.17	0.18	0.34	1.92	n.d.	0.11	0.28	0.01	44.9	100	micrite
	D1S2-e	0.33	n.d.	64.6	4.83	0.45	1.53	0.06	0.10	0.74	0.02	76.63	0.15	0.03	n.d.	149*	Fe-sulfide
	D1S2-f	8.39	n.d.	0.95	7.80	0.19	58.6	n.d.	0.11	25.42	n.d.	n.d.	0.02	0.07	n.d.	102	silicate
4193	4193-a	0.53	0.04	n.d.	6.91	0.28	0.50	0.07	0.15	0.21	0.17	21.95	57.50	1.15	10.5	100	barite
	4193-b	0.24	n.d.	0.25	47.4	0.94	1.95	0.59	0.12	0.85	n.d.	0.70	1.90	0.10	45.0	100	pellet
	4193-c	0.48	0.03	0.02	50.4	0.42	0.04	0.11	n.d.	0.01	n.d.	0.10	0.12	0.06	48.3	100	pellet
	4193-d	0.21	0.04	0.15	50.2	1.93	2.72	0.76	0.24	1.03	n.d.	0.05	0.28	0.01	42.4	100	micrite
	4193-e	0.20	0.03	0.08	52.4	0.97	0.56	0.88	0.04	0.35	n.d.	0.13	0.26	n.d.	44.1	100	micrite
	4193-f	0.17	0.02	0.02	51.8	1.10	0.17	2.08	0.01	0.04	0.09	0.02	0.19	0.05	44.3	100	micrite
	4193-g	0.13	0.04	0.40	47.7	1.86	2.77	0.62	0.13	1.30	0.08	0.03	0.28	0.04	44.6	100	micrite
	4193-h	0.27	0.02	0.10	45.2	1.59	1.41	0.62	0.09	0.43	0.15	0.06	0.28	0.02	49.8	100	micrite
	4193-i	0.11	0.02	0.02	54.0	1.57	n.d.	0.58	0.01	n.d.	n.d.	n.d.	0.42	0.10	43.1	100	microspar
	4193-j	0.04	0.01	n.d.	49.8	1.21	n.d.	0.70	0.01	0.01	n.d.	0.01	n.d.	0.05	48.2	100	microspar
	4193-k	0.11	0.03	0.24	48.5	1.81	1.81	0.46	0.11	0.56	0.09	0.05	0.33	0.04	45.9	100	microspar
	4193-l	n.d.	n.d.	n.d.	52.5	1.39	n.d.	0.49	0.01	0.02	0.02	n.d.	0.02	0.03	45.5	100	microspar

n.d.: not detected. *The results in this study are calculated using the methods for oxysalt, hence the content of sulfide is not provided.