Supplementary material for:

Mg isotope response to dolomitization in hinterland-attached carbonate platforms: Outlook of δ^{26}Mg as a tracer of basin restriction and seawater Mg/Ca ratio

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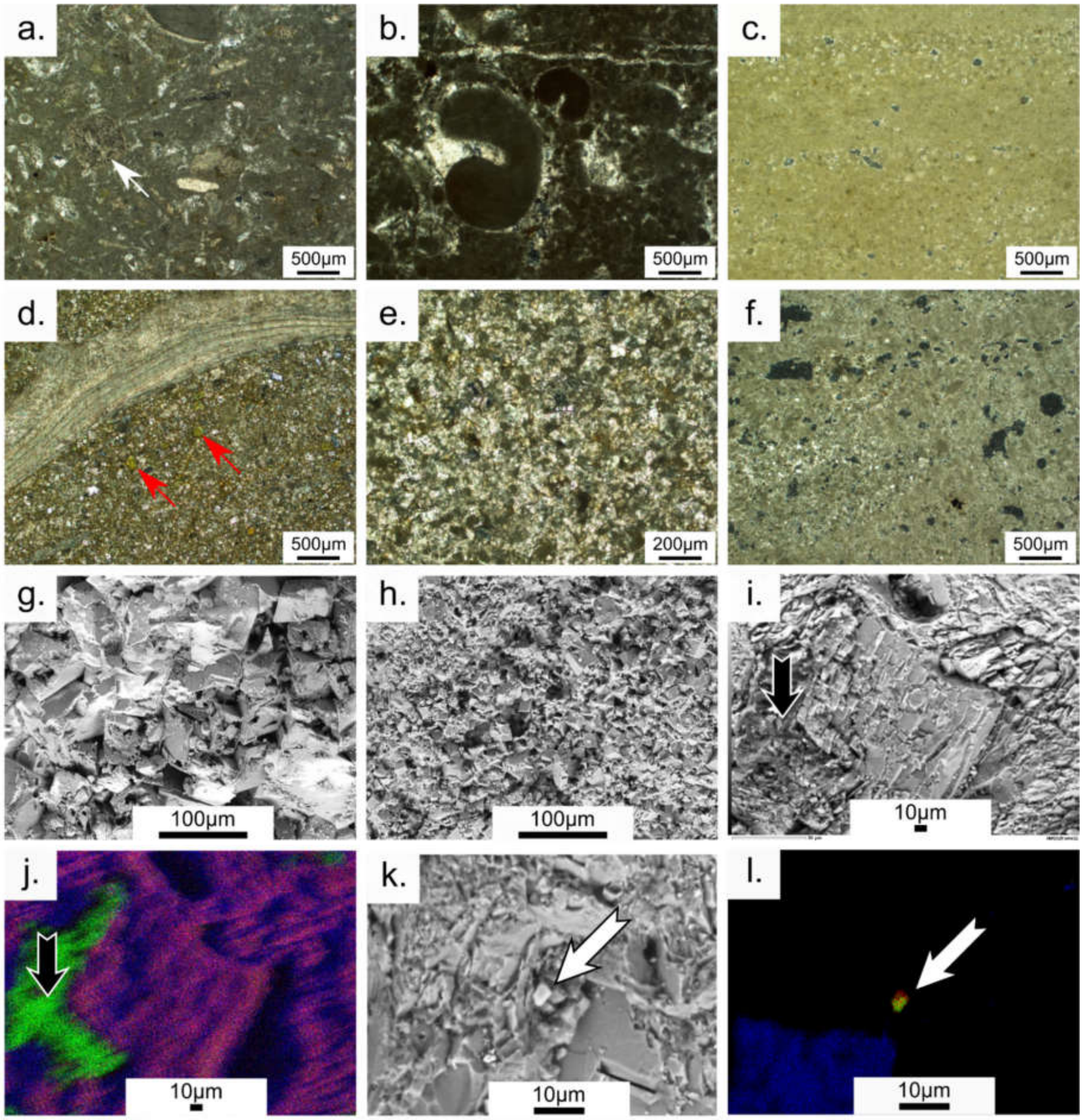

Figure S1: petrographic and SEM photomicrographs: a. Fossiliferous packstone, white arrow indicates an echinoderm plate; b. Gastropod/peloid rich packstone; c. Alternating lamina of mudstone and wackestone; d. Detrital rich floatstone with a rudist fragment, arrows indicate glauconite grains; e. dolomitic sparstone; f. peloidal microbialites, note the fenestral porosity; f. Backscatter electron image of a large end member of dolomitic crystal size; h. Backscatter electron image of small to intermediate range of dolomite crystal size, Figs. S1f and h are on the same scale for compression; i. Backscatter electron image of dolomite crystal, to the left of the crystal a low-density mass noted by an arrow; j. EDS map of Fig. S1i, red annotates Mg, blue Ca and green C, the arrow indicates the same low-density patch as in Fig. S1i, probably organic matter; k. backscatter electron image of dolomite mass, arrow annotate high-density crystal in the center of the frame; EDS map of Fig. S1k, red annotates Cl, blue Si, and green Na, the arrow indicates the high-density crystal as in Fig. S1k – halite.

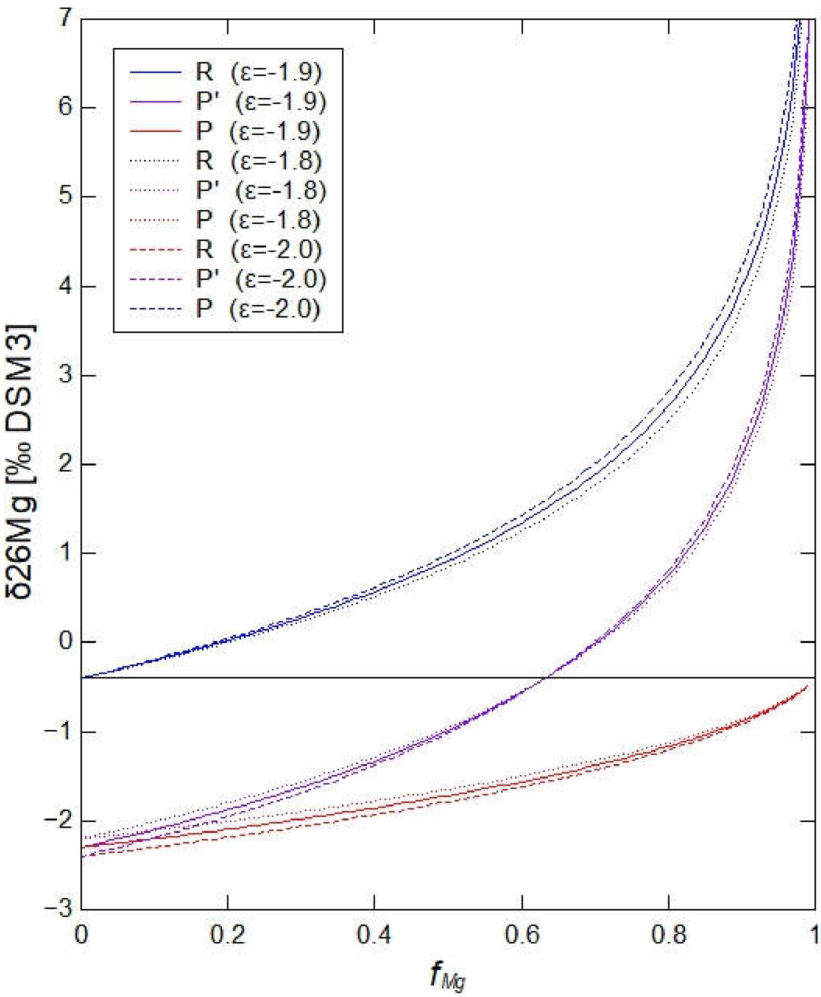

Figure S2: Sensitivity analysis for Rayleigh distillation of Mg isotopes in a closed system for α=0.9982 (ε=-1.8‰), α=0.9981 (ε=-1.9‰) and α=0.9980 (ε=-2.0‰).

Table S1: Mg isotope compositions and external precisions of standards and test solutions passed through ion-exchange chromatography.

Sample	$\delta^{26}Mg$	2σ	$\delta^{25}Mg$	2σ	N
Isotope standards in this study					
Cambridge 1	-2.59	0.07	-1.33	0.05	16
DSM3	0.00	0.08	0.01	0.05	16
Test solutions processed by the ion-exchange procedure					
IAPSO seawater	-0.80	0.06	-0.42	0.04	19
DTS-2b	-0.28	0.04	-0.14	0.03	9
BIR	-0.28	0.10	-0.15	0.06	3
Isotope compositions of standards in references					
HPS909104 (Li et al., 2012)	-0.67	0.13	-0.34	0.08	48
Cambridge 1 (Hippler et al., 2009)	-2.58	0.04	-1.34	0.02	56
Cambridge 1 (Li et al., 2012)	-2.57	0.12	-1.33	0.1	87
Cambridge 1 (Chopra et al., 2012)	-2.60	0.15	-1.34	0.09	576
Cambridge 1 (An et al., 2014)	-2.597	0.042	-1.343	0.036	49
DSM3 (Tipper et al., 2010)	0.00	0.05	0.00	0.03	100
DSM3 (Li et al., 2012)	0.02	0.13	0.00	0.09	109
IAPSO seawater (Hippler et al., 2009)	-0.8	0.05	-0.42	0.02	10
BHVO-2 (Huang et al., 2012)	-0.24	0.08	-0.12	0.05	> 20
BHVO-2 (Pogge von Strandmann et al., 2011)	-0.26	0.06	-0.14	0.04	4
BIR (Shen et al., 2013)	-0.30	0.04	-0.16	0.03	3
DST-2(Bizzaro et al., 2011)	-0.23	0.03	-0.12	0.02	7
DST-2(Teng et al., 2010)	-0.31	0.05	-0.16	0.04	7

Reference for table S1:

An, Y., Wu, F., Xiang, Y., Nan, X., Yu, X., Yang, J., Yu, H., Xie, L., Huang, F., 2014. High-precision Mg isotope analyses of low-Mg rocks by MC-ICP-MS. Chemical Geology 390, 9-21.

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Chopra, R., Richter, F.M., Bruce Watson, E., Scullard, C.R., 2012. Magnesium isotope fractionation by chemical diffusion in natural settings and in laboratory analogues. Geochimica et Cosmochimica Acta 88, 1-18.

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Tipper, E.T., Gaillardet, J., Louvat, P., Capmas, F., White, A.F., 2010. Mg isotope constraints on soil pore-fluid chemistry: Evidence from Santa Cruz, California. Geochimica et Cosmochimica Acta 74, 3883-3896.

Table S2: Tabled database for results presented in this study (in order of presentation in the text): Relative proportion of calcite in carbonate minerals [Cal/(cal+dolo)], Sr concentration (ppm), Mn concentration (ppm), V/Cr ratio (ppm/ppm), Ni/Co ratio (ppm/ppm), Ce/Ce*, $\delta^{13}C$ (‰ VPDB) and 1σ; $\delta^{18}O$ (‰ VPDB) and 1σ; post correction $^{87}Sr/^{86}Sr$ Initial Value and 1 standard error; $\delta^{26}Mg$ and $\delta^{25}Mg$ (both in ‰ DSM3) and 2σ.

Sample ID	Calc /(Calc +dolo)	MgCO3 in dolomite (%mol)	Sr(ppm)	Mn(ppm)	V/Cr	Ni/Co	Ce/Ce*	$\delta^{13}C$ (VPDB)	1σ	$\delta^{18}O$ (VPDB)	1σ	$^{87}Sr/^{86}Sr$ Initial Value	1σ	$\delta^{26}Mg_{DSM3}$	2σ	$\delta^{25}Mg_{DSM3}$	2σ	n
MG88	1.00		498.62	158.67	4.00	9.87	0.60	0.93	0.04	-6.14	0.03	0.707445	07					
MG87	1.00		439.73	166.01	1.03	110.58	0.82	0.43	0.12	-6.43	0.13	0.707493	05					
MG86	0.97	48.13	377.03	196.60	3.62	8.86	0.96	1.33	0.11	-5.12	0.09	0.707507	08					
MG85	1.00		418.40	147.98	2.02	21.34	0.71	0.81	0.08	-6.67	0.07	0.707490	07					
MG84	1.00		505.25	143.41	1.99	10.08	0.88	0.88	0.08	-6.31	0.05	0.707493	06					
MG83	0.54	47.77	355.66	188.89	1.83	9.41	1.02	2.84	0.13	-2.46	0.08	0.707441	05					
MG82	0.97	48.03	376.80	144.46	1.61	10.21	0.75	1.06	0.07	-5.93	0.08	0.707486	06					
MG81	1.00		337.73	137.65	1.76	15.34	0.63	0.49	0.07	-7.36	0.09	0.707510	06					
MG80	0.63	48.30	226.93	1076.77	2.56	27.09	0.63	-0.33	0.07	-4.98	0.06	0.707674	04					
MG79	0.09	48.17	282.39	1008.68	3.34	5.53	0.12	2.39	0.05	-1.48	0.10	0.707588	03	-2.18	0.01	-1.13	0.04	2
MG78	0.57	48.10	286.74	697.75	3.22	6.57	0.44	0.35	0.10	-3.85	0.09	0.707689	05					
MG77	0.00	48.23	372.23	316.11	2.63	7.61	0.91	2.72	0.13	0.42	0.11	0.707382	04	-2.21	0.02	-1.14	0.04	2
MG76	0.01	51.43	247.74	233.73	1.68	6.60	1.00	2.16	0.12	-0.02	0.08	0.707384	04	-1.82	0.03	-0.94	0.03	2
MG75	0.11	50.60	217.18	196.62	1.38	6.77	0.97	0.96	0.12	-0.79	0.14	0.707420	04	-2.02	0.09	-1.05	0.04	2
MG74	0.00	50.67	313.49	211.15	1.60	6.01	0.98	1.73	0.14	-0.68	0.11	0.707410	05	-1.85	0.07	-0.95	0.04	2
MG73	0.00	53.43	117.38	277.45	2.11	6.36	0.98	1.42	0.13	-0.96	0.14	0.707374	04	-1.76	0.08	-0.90	0.04	2
MG72	0.00	53.37	117.14	233.31	4.04	8.42	1.14	0.53	0.11	-1.04	0.08	0.707385	04	-1.76	0.04	-0.90	0.00	2
MG71	0.00	53.40	170.77	272.33	3.72	7.26	1.14	0.19	0.11	-0.28	0.13	0.707380	04	-1.98	0.02	-1.03	0.02	2
MG70	0.00	51.43	184.50	594.07	3.02	5.42	1.40	0.02	0.14	-0.64	0.14	0.707409	04	-1.93	0.03	-1.00	0.02	2
MG69	0.00	53.37	131.36	463.06	3.50	8.27	1.22	0.65	0.11	-0.87	0.10	0.707385	04	-1.88	0.09	-0.97	0.04	2
MG68	0.00	53.37	149.74	510.28	3.41	6.53	1.30	0.57	0.12	-0.90	0.10	0.707324	05	-1.91	0.08	-0.99	0.03	2
MG67	0.08	51.57	171.08	388.62	2.57	5.75	1.47	0.11	0.09	-1.29	0.08	0.707496	06	-1.71	0.05	-0.88	0.03	2
MG66	0.00	51.57	109.68	473.52	2.50	6.99	1.21	0.67	0.08	-1.02	0.06			-1.52	0.02	-0.79	0.00	2
MG65	0.00	53.40	118.86	466.64	1.33	7.63	1.31	0.79	0.09	-1.04	0.09	0.707397	09	-1.82	0.02	-0.93	0.00	2

Sample ID	Calc /(Calc +dolo)	MgCO3 in dolomite (%mol)	Sr(ppm)	Mn(ppm)	V/Cr	Ni/Co	Ce/Ce*	$\delta^{13}C$ (VPDB)	1σ	$\delta^{18}O$ (VPDB)	1σ	$^{87}Sr/^{86}Sr$ Initial Value	1σ	$\delta^{26}Mg_{DSM3}$	2σ	$\delta^{25}Mg_{DSM3}$	2σ	n
MG64	0.00	53.37	123.83	531.11	3.44	5.32	1.29	0.45	0.10	-0.58	0.08			-1.65	0.02	-0.84	0.01	2
MG63	0.00	53.40	127.58	344.25	2.92	7.00	1.21	0.23	0.04	-0.22	0.04	0.707385	04	-1.99	0.07	-1.02	0.03	2
MG62	0.00	53.43	144.72	511.99	3.61	6.46	1.39	-0.22	0.09	-0.24	0.09	0.707404	03	-1.99	0.06	-1.04	0.01	2
MG61	0.00	51.43	121.91	363.95	3.34	10.28	0.84	1.64	0.13	-1.21	0.12	0.707401	04	-1.78	0.07	-0.92	0.06	2
MG60	0.00	53.37	126.05	369.96	1.25	6.33	1.45	-0.46	0.11	-0.62	0.14	0.707404	05	-1.84	0.02	-0.94	0.03	2
MG59	0.07	50.53	162.54	152.14	0.30	197.87	1.16	2.07	0.13	-0.65	0.12	0.707448	03	-2.18	0.03	-1.12	0.06	2
MG58	0.00	48.03	355.45	196.25	3.16	6.45	1.05	2.87	0.11	0.46	0.14	0.707366	04	-2.14	0.09	-1.10	0.01	2
MG57	0.02	50.33	319.01	327.96	5.56	12.15	1.53	2.38	0.08	-0.28	0.06	0.707432	05	-2.21	0.06	-1.14	0.01	2
MG56	0.00	48.37	330.38	396.79	4.00	12.20	1.37	2.36	0.10	-0.05	0.07	0.707398	05	-2.06	0.05	-1.05	0.05	2
MG55	0.00	51.47	125.62	534.98	3.63	7.68	1.33	0.85	0.07	-2.10	0.06	0.707405	04	-1.80	0.03	-0.93	0.01	2
MG54	0.00	53.47	107.99	356.50	3.56	10.41	1.41	0.51	0.14	0.91	0.14	0.707386	04	-1.95	0.04	-1.02	0.02	2
MG53	0.00	51.50	125.79	423.47	4.29	6.39	1.33	1.05	0.08	0.61	0.05	0.707404	04	-1.72	0.05	-0.90	0.06	2
MG52	0.00	53.37	123.71	455.29	2.47	5.32	1.45	0.15	0.09	1.12	0.08	0.707385	03	-1.79	0.03	-0.93	0.03	2
MG51			146.89	168.16	2.02	4.23	0.78	-5.33	0.54	-4.68	0.42							
MG50	0.00	51.53	128.16	775.88	1.36	12.97	1.29	0.14	0.10	1.47	0.08			-1.95	0.16	-1.01	0.13	2
MG49	0.00	51.00	171.56	689.22	1.85	4.77	1.33	-0.33	0.10	1.69	0.10	0.707444	03	-2.16	0.01	-1.12	0.03	2
MG48	0.00	51.10	163.44	638.11	1.78	11.02	1.36	-1.09	0.11	1.30	0.06	0.707451	04	-1.90	0.04	-0.99	0.02	2
MG47	0.00	51.13	243.42	1262.87	3.69	5.60	1.42	-5.33	0.06	1.22	0.09	0.707417	06	-2.08	0.07	-1.06	0.04	2
MG46	0.00	51.53	108.59	680.38	3.61	11.39	1.30	-0.02	0.06	0.63	0.05	0.707396	06	-1.90	0.03	-0.99	0.06	2
MG45	0.00	50.43	173.58	973.91	3.16	3.63	1.28	-1.01	0.16	1.14	0.13	0.707400	04	-2.00	0.00	-1.04	0.02	2
MG44	0.00	48.33	179.39	989.74	3.58	6.04	1.30	-0.99	0.12	1.45	0.08	0.707395	07	-2.03	0.01	-1.04	0.04	2
MG43	0.00	48.17	197.89	987.75	3.21	11.23	1.32	-1.62	0.09	1.73	0.08	0.707409	05	-1.95	0.03	-1.01	0.05	2
MG42	0.00	51.00	138.56	654.70	3.15	5.77	1.44	0.68	0.09	1.60	0.10	0.707399	05	-1.95	0.13	-1.01	0.05	2
MG41	0.00	50.93	172.84	509.83	2.85	6.00	1.44	1.33	0.10	1.48	0.13	0.707445	04	-1.99	0.00	-1.02	0.01	2
MG40	0.17	47.83	250.28	873.76	1.24	14.04	0.67	0.81	0.07	0.24	0.03	0.707471	04	-2.02	0.06	-1.04	0.01	2
MG39	0.00	48.17	253.94	1311.05	1.64	12.45	1.27	2.35	0.10	-0.60	0.08	0.707451	05	-2.11	0.03	-1.08	0.07	2
MG38	0.76	47.90	144.07	537.80	0.92	9.97	0.39	-0.49	0.09	-6.43	0.08	0.707837	04					
MG37	0.47	47.90	212.24	673.46	1.03	8.90		0.85	0.08	-4.02	0.07	0.707611	05					
MG36	0.00	50.70	162.23	632.70	1.13	4.11	1.32	3.13	0.16	-1.17	0.14	0.707412	05	-1.95	0.08	-0.99	0.04	2

Sample ID	Calc /(Calc +dolo)	MgCO3 in dolomite (%mol)	Sr(ppm)	Mn(ppm)	V/Cr	Ni/Co	Ce/Ce*	$\delta^{13}C$ (VPDB)	1σ	$\delta^{18}O$ (VPDB)	1σ	$^{87}Sr/^{86}Sr$ Initial Value	1σ	$\delta^{26}Mg_{DSM3}$	2σ	$\delta^{25}Mg_{DSM3}$	2σ	n
MG35	0.00	47.87	206.40	513.90	1.73	6.46	1.26	2.97	0.05	-0.24	0.04	0.707386	04	-1.92	0.00	-0.96	0.01	2
MG34	0.00	48.00	198.94	523.99	1.62	6.32	1.21	2.93	0.11	-0.20	0.09	0.707395	06	-1.95	0.02	-1.02	0.03	2
MG33	0.00	48.17	270.13	803.12	0.80	4.54	1.33	2.42	0.13	-0.38	0.12	0.707431	04	-2.08	0.01	-1.10	0.03	2
MG32	0.47	48.10	199.95	523.03	1.45	9.56	1.14	-0.98	0.10	-3.19	0.11	0.707672	06					
MG31	0.03	47.83	196.27	804.46	1.73	7.62	1.08	2.71	0.11	-0.75	0.05	0.707420	04	-1.91	0.09	-0.99	0.02	2
MG30	1.00		234.40	473.07	1.78	24.24	0.70	0.42	0.08	-7.30	0.09	0.707682	05					
MG29	1.00		261.48	342.01	1.67	21.78	0.91	1.11	0.13	-6.58	0.09	0.707599	05					
MG28	1.00		227.61	217.48	1.22	13.19	0.52	0.06	0.14	-7.76	0.17	0.707731	05					
MG27	1.00		273.80	327.90	2.88	9.61	1.01	0.97	0.12	-7.24	0.12	0.707620	05					
MG26	1.00		248.07	229.62	2.51	11.55	0.88	0.49	0.12	-6.97	0.11							
MG25	1.00		233.51	239.66	1.99	11.23	0.85	0.46	0.11	-6.64	0.18	0.707627	07					
MG24	0.24	47.67	222.95	834.70	1.21	4.88	1.39	1.79	0.08	-1.59	0.09	0.707464	06	-2.01	0.02	-1.04	0.03	2
MG23	0.44	47.67	293.62	748.39	1.59	11.00	1.44	0.84	0.11	-1.47	0.11							
MG22	0.83	47.70	375.73	780.33	1.58	7.18	1.29	0.62	0.11	0.91	0.09	0.707467	03					
MG21	0.95	47.73	486.12	466.33	1.28	10.57	1.37	1.28	0.11	0.63	0.10	0.707459	04					
MG20	0.00	47.60	251.65	616.59	2.56	11.60	0.89	2.40	0.10	3.51	0.09	0.707430	05	-1.96	0.03	-1.00	0.01	2
MG19	0.00	47.97	330.44	421.58	4.36	10.00	1.18	0.91	0.13	4.45	0.13	0.707426	03	-1.98	0.05	-1.04	0.06	2
MG18	1.00		319.10	553.74	2.31	15.12	1.32	-0.89	0.06	-0.94	0.05	0.707533	04					
MG17	1.00		436.41	596.26	0.88	4.86	1.44	-0.45	0.07	-0.76	0.08	0.707515	05					
MG16	1.00		344.81	553.20	0.81	5.68	1.41	-0.94	0.12	-0.66	0.07	0.707556	05					
MG15C	1.00		388.74	473.44	1.40	14.05	1.35	-1.29	0.10	0.07	0.13	0.707485	04					
MG15B	1.00		467.09	423.81	1.34	10.43	1.37	-1.38	0.10	0.09	0.13	0.707475	03					
MG15	1.00		426.51	392.78	1.16	8.55	1.35	0.45	0.07	-0.48	0.04	0.707496	04					
MG14	0.00	47.57	347.09	701.37	0.83	3.32	1.34	1.78	0.11	3.53	0.08	0.707413	03	-1.84	0.05	-0.97	0.04	2
MG13	1.00		306.31	426.28	2.05	5.43	1.38	-0.48	0.15	-2.37	0.21	0.707590	05					
MG12	1.00		287.73	320.32	2.25	13.20	1.35	0.11	0.12	-1.33	0.19	0.707557	05					
MG11	1.00		357.08	420.50	1.72	14.59	1.32	0.93	0.08	-0.30	0.10	0.707479	04					
MG10	1.00		352.06	489.19	0.97	7.27	1.42	0.92	0.10	-0.21	0.11	0.707476	04					
MG09	0.67	47.57	309.87	526.67	2.14	14.98	1.27	1.28	0.12	1.01	0.13	0.707486	04					

Sample ID	Calc /(Calc +dolo)	MgCO3 in dolomite (%mol)	Sr(ppm)	Mn(ppm)	V/Cr	Ni/Co	Ce/Ce*	$\delta^{13}C$ (VPDB)	1σ	$\delta^{18}O$ (VPDB)	1σ	$^{87}Sr/^{86}Sr$ Initial Value	1σ	$\delta^{26}Mg_{DSM3}$	2σ	$\delta^{25}Mg_{DSM3}$	2σ	n
MG08	1.00		339.24	509.79	1.89	9.45	1.15	1.72	0.08	-1.30	0.07	0.707536	04					
MG07	1.00		402.13	512.78	2.60	8.81	1.20	1.22	0.07	-5.36	0.11	0.707591	04					
MG06	0.00	47.57	281.94	1075.79	0.99	4.61	1.35	1.89	0.09	-0.88	0.14	0.707427	03	-1.96	0.07	-1.02	0.00	2
MG05	1.00							0.83	0.10	-4.69	0.13							
MG04	1.00		323.07	692.54	1.16	9.11	1.57	0.86	0.10	-5.15	0.09	0.707530	04					
MG03	1.00		337.65	606.45	0.92	5.82	1.46	1.19	0.11	-5.78	0.14	0.707588	04					
MG02	1.00		177.09	878.21	2.32	11.22	1.25	-0.62	0.07	-7.76	0.06	0.707890	04					
MG01	0.07	44.47	261.54	2266.56	0.70	8.93	1.43	-1.05	0.12	-0.50	0.14	0.707432	06	-2.30	0.09	-1.19	0.03	2
MG-A	1.00		331.54	478.96	0.99	7.64	1.08	0.10	0.07	-5.51	0.08							
MG-B	1.00		341.02	551.01	0.94	5.30	1.06	0.03	0.06	-5.04	0.07							
MG-C	1.00		347.78	602.90	1.88	5.41	1.09	0.15	0.06	-5.00	0.07							
MG-D	1.00		342.95	469.22	2.22	8.18	1.06	0.50	0.09	-4.59	0.09							
MG-E	0.98	48.20	347.01	486.94	1.94	8.22	1.06	-0.16	2.13	-2.86	3.86							
MG-F	0.60	47.97	328.21	564.22	2.09	3.67	1.07	0.85	0.04	-2.47	0.06							
MG-G	0.32	47.90	387.93	722.22	1.12	6.92	1.06	1.16	0.08	-1.39	0.09							
MG-H	0.27	47.90	389.68	739.53	1.13	6.21	1.06	1.62	0.09	-0.87	0.11			-2.05	0.07	-1.05	0.05	2
MG-I	0.47	47.90	358.43	654.21	1.15	7.37	1.04	0.95	0.07	-2.18	0.08							
MG-J	0.63	47.97	375.64	682.85	1.06	6.16	1.03	0.57	0.09	-2.80	0.09							
MG-K	0.82	48.00	411.48	599.86	1.49	48.65	1.02	0.70	0.06	-3.47	0.08							
MG_RF_69								-2.24	0.05	-1.55	0.15							
MG_RF_66								-1.74	0.09	-2.03	0.15							
MG_RF_64R								-0.63	0.36	-2.20	0.09							
MG_RF_62								-1.43	0.06	-1.92	0.11							
MG_RF_52								-1.72	0.13	-1.55	0.20							
MG_RF_51R								-0.20	0.17	-1.05	0.15							
MG_RF_51M								1.36	0.20	-0.81	0.12							
MG_RF_51B								1.60	0.04	-0.53	0.08							

Sample ID	Calc /(Calc +dolo)	MgCO3 in dolomite (%mol)	Sr(ppm)	Mn(ppm)	V/Cr	Ni/Co	Ce/Ce*	$\delta^{13}C$ (VPDB)	1σ	$\delta^{18}O$ (VPDB)	1σ	$^{87}Sr/^{86}Sr$ Initial Value	1σ	$\delta^{26}Mg_{DSM3}$	2σ	$\delta^{25}Mg_{DSM3}$	2σ	n
MG_RF_50R4								2.27	0.09	-0.43	0.08							
MG_RF_50R3								2.54	0.11	-0.74	0.17							
MG_RF_50R2								3.04	0.11	-1.09	0.12							
MG_RF_45R								0.35	0.10	-2.15	0.09							
MG_OB_mg2p7								0.78	0.22	-0.25	0.16							
MG_OB_mg2p6p2								1.62	0.12	0.48	0.16							
MG_OB_mg2p6p1								1.59	0.32	0.34	0.81							
MG_OB_mg2p5								0.75	0.11	-0.77	0.14							
MG_OB_mg2p4								2.96	0.10	0.14	0.25							
MG_OB_mg2p3								3.64	0.10	0.33	0.38							
MG_OB_mg2p2								3.51	0.12	0.01	0.21							
MG_OB_mg2p1								2.79	0.19	-1.17	0.20							
MG_RF_45								0.26	0.08	-1.39	0.08							
MG_RF_37B								1.86	0.15	-2.20	0.05							
MG_RF_36R								2.33	0.07	-2.21	0.06							
MG_RF_36M								2.39	0.11	-2.19	0.09							
MG_RF_35M								0.54	0.22	-2.18	0.11							
MG_RF_35B								-0.85	0.11	-1.88	0.10							
MG_RF_33								-0.33	0.11	-1.45	0.12							
MG_RF_32								-0.36	0.15	-1.06	0.17							
MG_RF_31								-0.01	0.21	-0.62	0.21							
MG_OB_30.6								-0.42	0.18	-0.81	0.24							
MG_OB_30.5								-0.40	0.13	-0.86	0.12							
MG_OB_30.4								-0.25	0.15	-0.72	0.15							
MG_OB_30.1								-0.17	0.22	-0.56	0.22							
MG_RF_29R								-0.32	0.07	-0.30	0.06							
MG_RF_29M								-0.42	0.16	-0.09	0.14							
MG_RF_28M								0.82	0.20	-1.07	0.23							
MG_RF_28B								1.36	0.17	-0.13	0.27							

Sample ID	Calc /(Calc +dolo)	MgCO3 in dolomite (%mol)	Sr(ppm)	Mn(ppm)	V/Cr	Ni/Co	Ce/Ce*	$\delta^{13}C$ (VPDB)	1σ	$\delta^{18}O$ (VPDB)	1σ	$^{87}Sr/^{86}Sr$ Initial Value	1σ	$\delta^{26}Mg_{DSM3}$	2σ	$\delta^{25}Mg_{DSM3}$	2σ	n
MG_RF_26								1.67	0.19	-1.63	0.28							
MG_RF_25								1.95	0.14	-2.18	0.17							
MG_RF_24								1.77	0.13	-2.16	0.07							
MG_RF_22								0.78	0.17	-1.59	0.19							
MG_RF_21								1.24	0.03	-1.36	0.11							
MG_RF_20								1.73	0.19	-0.76	0.20							
MG_RF_17R								2.03	0.23	-1.17	0.29							
MG_RF_17M								1.77	0.11	-1.88	0.21							
MG_RF_17B								1.72	0.18	-1.98	0.20							
MG_OB_16.4								1.88	0.26	-1.82	0.20							
MG_OB_16.3								2.43	0.13	-1.59	0.16							
MG_OB_16.1								2.47	0.13	-1.44	0.10							
MG_RF_15M								2.59	0.11	-1.38	0.13							
MG_RF_15B								2.54	0.18	-1.30	0.18							
MG_RF_13								1.22	0.04	-1.76	0.06							
MG_RF_12R								2.07	0.15	-1.85	0.15							
MG_RF_12B								1.77	0.13	-1.87	0.13							
MG_RF_11								2.66	0.09	-1.71	0.10							
MG_RF_10R								2.12	0.21	-1.40	0.21							
MG_RF_10B																		