

# Data report: calcium carbonate and total organic carbon records from IODP Expedition 339 Sites U1385 and U1391<sup>1</sup>

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## Abstract

Sedimentary inorganic calcium carbonate  $\text{CaCO}_3$  and total organic carbon (TOC) are two of the most commonly used indicators of past oceanic productivity. In this report, we present  $\text{CaCO}_3$  and TOC records from Integrated Ocean Drilling Program Expedition 339 Sites U1385 and U1391 drilled in the southwest Iberian margin. Identified as a key region to establish the marine-ice-terrestrial linkages crucial for understanding the Earth's climate system, this margin is also characterized by seasonal coastal upwelling-related high primary production. These IODP sites constitute a depth transect across a productivity gradient allowing for the investigation of the impact of climate variations on marine production and preservation.

A total of 420 samples were analyzed for the 75–100 meters composite depth (mcd) interval at Site U1385 and for the 160–220 mcd interval at Site U1391. Results show at least two scales of variability for both  $\text{CaCO}_3$  and TOC, which are comparable between sites but have a better-defined long-term trend on the  $\text{CaCO}_3$  record.

## Introduction

Sedimentary inorganic  $\text{CaCO}_3$  and total organic carbon (TOC) content in ocean sediments are qualitative indicators of past changes in marine production, which in turn is linked to the global carbon cycle. When coupled with isotopic data and other independent productivity proxies, they provide important information for understanding how marine ecosystems responded to past climate variability (Sarmiento and Gruber, 2006).

The Iberian margin is a coastal upwelling region where productivity increases in response to coastal upwelling generated by wind intensity and direction, and although upwelling centers are mainly coastal, upwelled water spreads offshore through filaments that can extend as far as 200 km offshore depending on the intensity of the northerly winds (Fiúza, 1983; Relvas et al., 2009). Sites U1385 and U1391 are located in the area influenced by the Cape Sines and Cape St. Vicente filaments (Sousa and Bricaud, 1992). The study of productivity proxies in these sedimentary sequences will provide information on past productivity and upwelling intensity. This report provides data on sedimentary

<sup>1</sup>Abrantes, F., 2016. Data report: calcium carbonate and total organic carbon records from IODP Expedition 339 Sites U1395 and U1391. In Stow, D.A.V., Hernández-Molina, F.J., Alvarez Zarikian, C.A., and the Expedition 339 Scientists, *Proceedings of the Integrated Ocean Drilling Program, 339*: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.339.201.2016

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CaCO<sub>3</sub> and TOC measured at Sites U1385 (75–100 meters composite depth [mcd]) and U1391 (160–220 mcd).

## Methods and materials

Sites U1385 (37°34.285'N, 10°7.562'W; 2578 meters below sea level [mbsl]) and U1391 (37°21.5322'N, 9°24.6558'W; 1080 mbsl) were drilled on the West Iberian margin as part of Integrated Ocean Drilling Program Expedition 339 (see the “[Expedition 339 summary](#)” chapter [Expedition 339 Scientists, 2013]). CaCO<sub>3</sub> and TOC contents were determined for a total of 195 levels between 75 and 100 mcd at Site U1385 and 225 levels between 160 and 220 mcd at Site U1391 (Tables [T1](#), [T2](#)).

The 2 cm<sup>3</sup> sediment samples from each level were dried and then powdered and homogenized on a Fritsch Pulverizette 7 rotary mortar. Three replicates of 2 mg subsamples per level were then analyzed for total carbon using a CHNS-932 LECO elemental analyzer. The same set of samples was later subject to combustion for 8 h through a predefined stepwise increase in temperature up to 400°C and reanalyzed for inorganic carbon. The organic carbon content was determined by the difference between total carbon and inorganic carbon (TOC = TC – IC). Data are presented in weight percent. The relative precision of repeated measurements of both samples and standards was 0.03 wt%. Analyses were done in the sedimentology and micropaleontology laboratory of the Marine Geology Division at the Portuguese Institute for the Ocean and Atmosphere (IPMA).

## Results

Results of sedimentary inorganic and total organic carbon from Sites U1385 (75–100 mcd) and U1391 (160–220 mcd) are compiled in Tables [T1](#) and [T2](#) and presented in Figures [F1](#) and [F2](#).

CaCO<sub>3</sub> values vary between 10 and 50 wt%, whereas TOC values oscillate between 0.5 and 2 wt% along the analyzed intervals at both sites. A visual evaluation of the records reveals two levels of fluctuations in both TOC and CaCO<sub>3</sub>, also at both locations. However, at the longer wave variability, CaCO<sub>3</sub> con-

tents show larger amplitude of variation than TOC (Figs. [F1](#), [F2](#)).

## Acknowledgments

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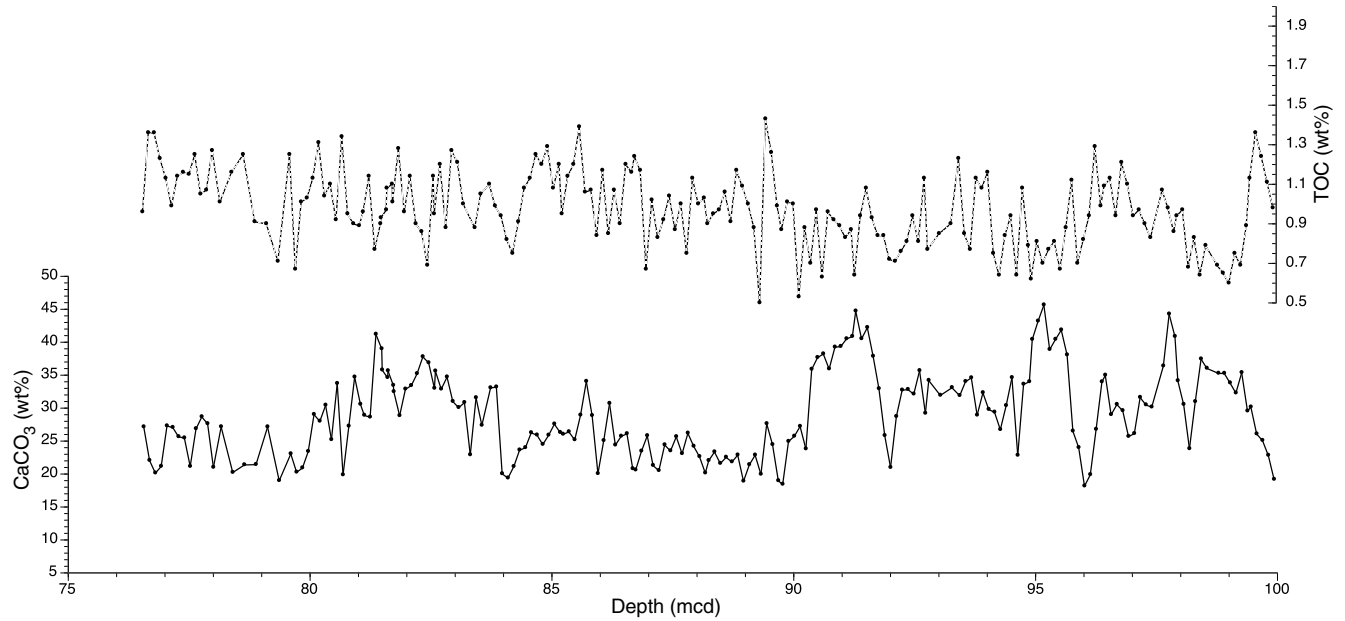
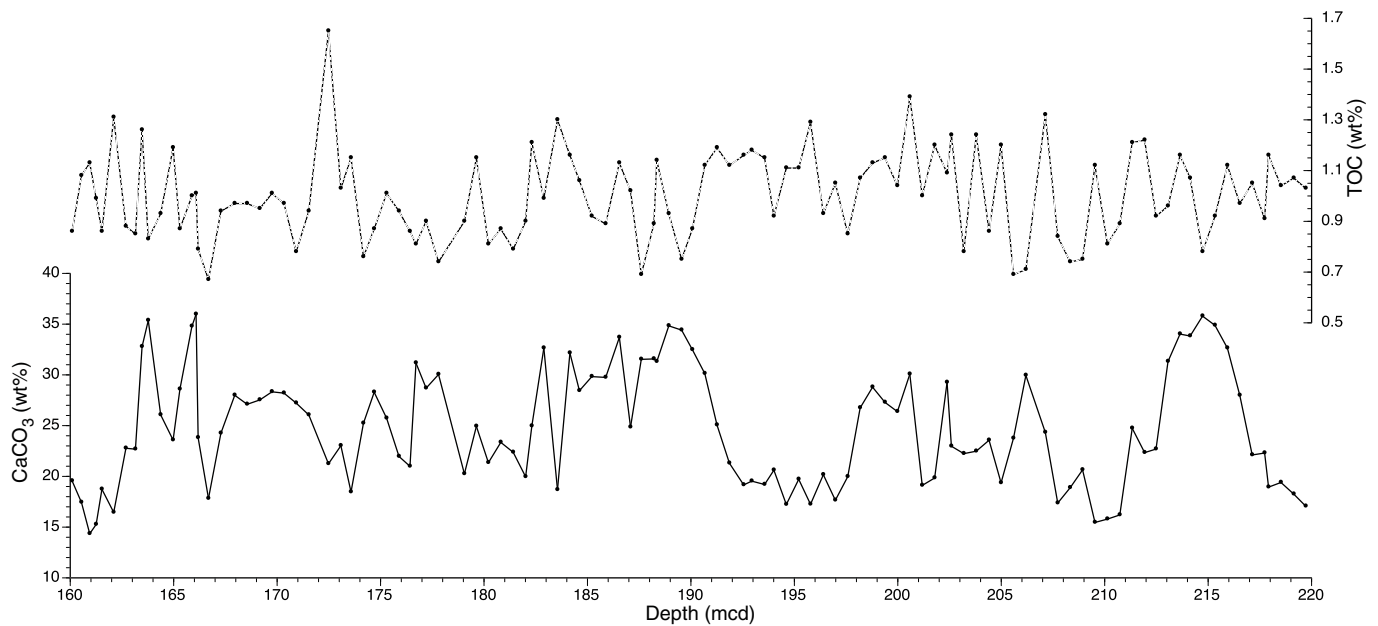
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**Figure F1.** Calcium carbonate and total organic carbon (TOC) from 75 to 100 mcd, Site U1385.**Figure F2.** Calcium carbonate and total organic carbon (TOC) records from 160 to 220 mcd, Site U1391.

**Table T1.** Calcium carbonate and total organic carbon (TOC) concentrations from 75 to 100 mcd, Site U1385. (Continued on next page.)

Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)	Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)
339-					U1385D-10H-1, 109-110	80.99	84.81	1.20	24.48
U1385D-9H-3, 1-2	73.45	76.56	0.96	27.14	U1385D-10H-1, 121-122	81.11	84.93	1.29	25.88
U1385D-9H-3, 13-14	73.57	76.68	1.36	22.05	U1385D-10H-1, 133-134	81.23	85.05	1.08	27.57
U1385D-9H-3, 25-26	73.69	76.80	1.36	20.14	U1385D-10H-1, 145-146	81.35	85.17	1.20	26.29
U1385D-9H-3, 37-38	73.81	76.92	1.23	21.15	U1385D-10H-2, 1-2	81.41	85.23	0.95	26.02
U1385D-9H-3, 49-50	73.93	77.04	1.13	27.29	U1385D-10H-2, 13-14	81.53	85.35	1.14	26.39
U1385D-9H-3, 61-62	74.05	77.16	0.99	27.05	U1385D-10H-2, 25-26	81.65	85.47	1.20	25.18
U1385D-9H-3, 73-74	74.17	77.28	1.14	25.65	U1385D-10H-2, 37-38	81.77	85.59	1.39	28.92
U1385D-9H-3, 85-86	74.29	77.40	1.16	25.46	U1385D-10H-2, 49-50	81.89	85.71	1.06	34.04
U1385D-9H-3, 97-98	74.41	77.52	1.15	21.14	U1385D-10H-2, 61-62	82.01	85.83	1.07	28.86
U1385D-9H-3, 109-110	74.53	77.64	1.25	26.86	U1385D-10H-2, 73-74	82.13	85.95	0.84	20.05
U1385D-9H-3, 121-122	74.65	77.76	1.05	28.67	U1385D-10H-2, 85-86	82.25	86.07	1.17	25.06
U1385D-9H-3, 133-134	74.77	77.88	1.07	27.62	U1385D-10H-2, 97-98	82.37	86.19	0.85	30.70
U1385D-9H-3, 145-146	74.89	78.00	1.27	21.00	U1385D-10H-2, 109-110	82.49	86.31	1.07	24.38
U1385D-9H-4, 7-8	75.05	78.16	1.01	27.15	U1385D-10H-2, 121-122	82.61	86.43	0.90	25.72
U1385D-9H-4, 31-32	75.29	78.40	1.16	20.23	U1385D-10H-2, 133-134	82.73	86.55	1.20	26.10
U1385D-9H-4, 55-56	75.53	78.64	1.25	21.38	U1385D-10H-2, 145-146	82.85	86.67	1.16	20.79
U1385D-9H-4, 79-80	75.77	78.88	0.91	21.43	U1385D-10H-3, 1-2	82.97	86.73	1.24	20.60
U1385D-9H-4, 103-104	76.01	79.12	0.90	27.14	U1385D-10H-3, 13-14	83.03	86.85	1.17	23.46
U1385D-9H-4, 127-128	76.25	79.36	0.71	18.99	U1385D-10H-3, 25-26	83.15	86.97	0.67	25.80
U1385D-9H-5, 1-2	76.49	79.60	1.25	23.05	U1385D-10H-3, 37-38	83.27	87.09	1.02	21.29
U1385D-9H-5, 13-14	76.61	79.72	0.67	20.27	U1385D-10H-3, 49-50	83.39	87.21	0.83	20.51
U1385D-9H-5, 25-26	76.73	79.84	1.01	20.91	U1385D-10H-3, 61-62	83.51	87.33	0.92	24.41
U1385D-9H-5, 37-38	76.85	79.96	1.03	23.41	U1385D-10H-3, 73-74	83.63	87.45	1.04	23.50
U1385D-9H-5, 49-50	76.97	80.08	1.13	29.02	U1385D-10H-3, 85-86	83.75	87.57	0.87	25.65
U1385D-9H-5, 61-62	77.09	80.20	1.31	28.00	U1385D-10H-3, 97-98	83.87	87.69	1.00	23.08
U1385D-9H-5, 73-74	77.21	80.32	1.04	30.43	U1385D-10H-3, 109-110	83.99	87.81	0.75	26.19
U1385D-9H-5, 85-86	77.33	80.44	1.10	25.20	U1385D-10H-3, 121-122	84.11	87.93	1.13	24.20
U1385D-9H-5, 97-98	77.45	80.56	0.92	33.72	U1385D-10H-3, 133-134	84.23	88.05	1.00	22.63
U1385D-9H-5, 109-110	77.57	80.68	1.34	19.86	U1385D-10H-3, 145-146	84.35	88.17	1.03	20.14
U1385D-9H-5, 121-122	77.69	80.80	0.95	27.25	U1385D-10H-4, 1-2	84.47	88.29	0.90	22.03
U1385D-9H-5, 133-134	77.81	80.92	0.90	34.70	U1385D-10H-4, 13-14	84.59	88.36	0.95	23.34
U1385D-9H-5, 145-146	77.93	81.04	0.89	30.57	U1385D-10H-4, 25-26	84.66	88.48	0.97	21.60
U1385D-9H-6, 1-2	78.01	81.12	0.96	28.90	U1385D-10H-4, 37-38	84.78	88.60	1.06	22.53
U1385D-9H-6, 13-14	78.13	81.24	1.14	28.62	U1385D-10H-4, 49-50	84.90	88.72	0.91	21.83
U1385D-9H-6, 25-26	78.25	81.36	0.77	41.19	U1385D-10H-4, 61-62	85.02	88.84	1.17	22.87
U1385D-9H-6, 37-38	78.37	81.48	0.90	38.99	U1385D-10H-4, 73-74	85.14	88.96	1.09	18.90
U1385E-9H-6, 37-38	72.20	81.49	0.93	35.77	U1385D-10H-4, 85-86	85.26	89.08	1.00	21.40
U1385D-9H-6, 49-50	78.49	81.60	0.97	34.62	U1385D-10H-4, 97-98	85.38	89.20	0.88	22.86
U1385E-9H-6, 49-50	72.32	81.61	1.08	35.65	U1385D-10H-4, 109-110	85.50	89.32	0.50	19.95
U1385D-9H-6, 61-62	78.61	81.72	1.10	33.44	U1385D-10H-4, 121-122	85.62	89.44	1.43	27.62
U1385E-9H-6, 61-62	72.44	81.73	1.01	32.48	U1385D-10H-4, 133-134	85.74	89.56	1.26	24.45
U1385D-9H-6, 73-74	72.56	81.85	1.28	28.84	U1385D-10H-4, 145-146	85.86	89.68	0.99	18.97
U1385E-9H-6, 85-86	72.68	81.97	0.96	32.87	U1385D-10H-5, 1-2	85.95	89.77	0.87	18.43
U1385D-9H-6, 97-98	72.80	82.09	1.14	33.40	U1385D-10H-5, 13-14	86.07	89.89	1.01	24.93
U1385E-9H-6, 109-110	72.92	82.21	0.90	35.21	U1385D-10H-5, 25-26	86.19	90.01	1.00	25.72
U1385D-9H-6, 121-122	73.04	82.33	0.86	37.78	U1385D-10H-5, 37-38	86.31	90.13	0.53	27.21
U1385E-9H-6, 133-134	73.16	82.45	0.69	36.86	U1385D-10H-5, 49-50	86.43	90.25	0.88	23.80
U1385D-9H-6, 145-146	73.28	82.57	1.14	32.99	U1385D-10H-5, 61-62	86.55	90.37	0.70	35.88
U1385E-9H-7, 1-2	73.30	82.59	0.95	35.61	U1385D-10H-5, 73-74	86.67	90.49	0.97	37.66
U1385D-9H-7, 13-14	73.42	82.71	1.20	32.87	U1385D-10H-5, 85-86	86.79	90.61	0.63	38.21
U1385E-9H-7, 25-26	73.54	82.83	0.88	34.71	U1385D-10H-5, 97-98	86.91	90.73	0.96	35.93
U1385D-9H-7, 37-38	73.66	82.95	1.27	31.00	U1385D-10H-5, 109-110	87.03	90.85	0.92	39.24
U1385E-9H-7, 49-50	73.78	83.07	1.21	30.07	U1385D-10H-5, 121-122	87.15	90.97	0.89	39.34
U1385D-9H-7, 61-62	73.90	83.19	1.00	30.83	U1385D-10H-5, 133-134	87.27	91.09	0.83	40.50
U1385E-9H-7, 73-74	74.02	83.31	2.03	22.90	U1385D-10H-5, 145-146	87.39	91.21	0.87	40.86
U1385D-9H-7, 85-86	74.14	83.43	0.88	31.56	U1385D-10H-6, 1-2	87.46	91.28	0.64	44.71
U1385E-9H-7, 97-98	74.26	83.55	1.05	27.38	U1385D-10H-6, 13-14	87.58	91.40	0.94	40.51
U1385D-10H-1, 1-2	79.91	83.73	1.10	33.06	U1385D-10H-6, 25-26	87.70	91.52	1.08	42.21
U1385D-10H-1, 13-14	80.03	83.85	0.99	33.19	U1385D-10H-6, 37-38	87.82	91.64	0.93	37.85
U1385D-10H-1, 25-26	80.15	83.97	0.94	20.03	U1385D-10H-6, 49-50	87.94	91.76	0.84	32.93
U1385D-10H-1, 37-38	80.27	84.09	0.82	19.38	U1385D-10H-6, 61-62	88.06	91.88	0.84	25.82
U1385D-10H-1, 49-50	80.39	84.21	0.75	21.12	U1385D-10H-6, 73-74	88.18	92.00	0.72	20.98
U1385D-10H-1, 61-62	80.51	84.33	0.91	23.63	U1385D-10H-6, 85-86	88.30	92.12	0.71	28.71
U1385D-10H-1, 73-74	80.63	84.45	1.08	23.98	U1385D-10H-6, 97-98	88.42	92.24	0.76	32.72
U1385D-10H-1, 85-86	80.75	84.57	1.13	26.25	U1385D-10H-6, 109-110	88.54	92.36	0.81	32.81
U1385D-10H-1, 97-98	80.87	84.69	1.25	25.90	U1385D-10H-6, 121-122	88.66	92.48	0.94	32.12



Table T1 (continued).

Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)	Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)
U1385D-10H-6, 133–134	88.78	92.60	0.81	35.67	U1385E-11H-2, 133–134	85.33	96.25	1.29	26.77
U1385D-10H-6, 145–146	88.90	92.72	1.13	29.20	U1385E-11H-2, 145–146	85.45	96.37	0.99	33.97
U1385D-10H-7, 1–2	88.97	92.79	0.77	34.19	U1385E-11H-3, 1–2	85.52	96.44	1.09	34.98
U1385D-10H-7, 13–14	89.09	92.91	2.22	20.57	U1385E-11H-3, 13–14	85.64	96.56	1.13	29.00
U1385D-10H-7, 25–26	89.21	93.03	0.85	31.93	U1385E-11H-3, 25–26	85.76	96.68	0.94	30.54
U1385D-10H-7, 37–38	89.33	93.15	2.72	12.12	U1385E-11H-3, 37–38	85.88	96.80	1.21	29.60
U1385D-10H-7, 49–50	89.45	93.27	0.90	33.09	U1385E-11H-3, 49–50	86.00	96.92	1.10	25.69
U1385E-11H-1, 1–2	82.51	93.43	1.23	31.89	U1385E-11H-3, 61–62	86.12	97.04	0.94	26.12
U1385E-11H-1, 13–14	82.63	93.55	0.85	34.02	U1385E-11H-3, 73–74	86.24	97.16	0.97	31.61
U1385E-11H-1, 25–26	82.75	93.67	0.77	34.58	U1385E-11H-3, 85–86	86.36	97.28	0.90	30.48
U1385E-11H-1, 37–38	82.87	93.79	1.13	28.92	U1385E-11H-3, 97–98	86.48	97.40	0.83	30.15
U1385E-11H-1, 49–50	82.99	93.91	1.08	32.32	U1385E-11H-3, 121–122	86.72	97.64	1.07	36.38
U1385E-11H-1, 61–62	83.11	94.03	1.16	29.79	U1385E-11H-3, 133–134	86.84	97.76	0.98	44.26
U1385E-11H-1, 73–74	83.23	94.15	0.75	29.37	U1385E-11H-3, 145–146	86.96	97.88	0.86	40.86
U1385E-11H-1, 85–86	83.35	94.27	0.64	26.73	U1385E-11H-4, 1–2	87.02	97.94	0.94	34.14
U1385E-11H-1, 97–98	83.47	94.39	0.84	30.37	U1385E-11H-4, 13–14	87.14	98.06	0.97	30.55
U1385E-11H-1, 109–110	83.59	94.51	0.94	34.61	U1385E-11H-4, 25–26	87.26	98.18	0.68	23.82
U1385E-11H-1, 121–122	83.71	94.63	0.64	22.83	U1385E-11H-4, 37–38	87.38	98.30	0.83	30.97
U1385E-11H-1, 133–134	83.83	94.75	1.08	33.61	U1385E-11H-4, 49–50	87.50	98.42	0.64	37.44
U1385E-11H-1, 145–146	83.95	94.87	0.79	33.99	U1385E-11H-4, 61–62	87.62	98.54	0.79	36.03
U1385E-11H-2, 1–2	84.01	94.93	0.62	40.41	U1385E-11H-4, 85–86	87.86	98.78	0.69	35.27
U1385E-11H-2, 13–14	84.13	95.05	0.81	43.19	U1385E-11H-4, 97–98	87.98	98.90	0.65	35.26
U1385E-11H-2, 25–26	84.25	95.17	0.70	45.64	U1385E-11H-4, 109–110	88.10	99.02	0.60	33.81
U1385E-11H-2, 37–38	84.37	95.29	0.77	38.88	U1385E-11H-4, 121–122	88.22	99.14	0.75	32.28
U1385E-11H-2, 49–50	84.49	95.41	0.81	40.42	U1385E-11H-4, 133–134	88.34	99.26	0.69	35.37
U1385E-11H-2, 61–62	84.61	95.53	0.67	41.84	U1385E-11H-4, 145–146	88.46	99.38	0.89	29.55
U1385E-11H-2, 73–74	84.73	95.65	0.88	38.06	U1385E-11H-5, 1–2	88.53	99.45	1.13	30.15
U1385E-11H-2, 85–86	84.85	95.77	1.12	26.50	U1385E-11H-5, 13–14	88.65	99.57	1.36	26.07
U1385E-11H-2, 97–98	84.97	95.89	0.70	24.00	U1385E-11H-5, 25–26	88.77	99.69	1.24	25.08
U1385E-11H-2, 109–110	85.09	96.01	0.82	18.17	U1385E-11H-5, 37–38	88.89	99.81	1.11	22.83
U1385E-11H-2, 121–122	85.21	96.13	0.94	19.89	U1385E-11H-5, 49–50	89.01	99.93	0.98	19.18

**Table T2.** Calcium carbonate and total organic carbon (TOC) concentrations from 160 to 220 mcd, Site U1391. (Continued on next page.)

Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)	Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)
339-					U1391A-14H-3, 90–91	121.84	133.45	1.72	15.26
U1391A-11H-2, 120–121	92.21	100.02	1.18	23.90	U1391A-14H-4, 2–3	122.42	134.03	1.26	26.73
U1391A-11H-3, 30–31	92.68	100.49	1.33	20.76	U1391A-14H-4, 46–47	122.86	134.47	1.10	21.55
U1391A-11H-3, 75–76	93.13	100.94	1.34	20.11	U1391A-14H-4, 106–107	123.46	135.07	1.37	30.00
U1391A-11H-4, 0–1	93.68	101.49	1.61	17.00	U1391A-14H-5, 15–16	123.95	135.56	1.16	30.30
U1391A-11H-4, 45–46	94.13	101.94	1.29	19.79	U1391A-14H-5, 75–76	124.55	136.16	1.08	36.34
U1391A-11H-4, 105–106	94.73	102.54	0.41	29.59	U1391B-14H-1, 59–60	124.09	136.56	1.03	35.21
U1391A-11H-5, 15–16	95.28	103.09	0.62	37.00	U1391A-14H-5, 119–120	124.99	136.60	1.21	37.25
U1391A-11H-5, 60–61	95.73	103.54	0.78	36.26	U1391B-14H-1, 118–119	124.68	137.15	1.13	39.73
U1391B-11H-1, 120–121	96.20	103.85	1.62	19.70	U1391B-14H-2, 30–31	125.22	137.69	1.20	40.03
U1391B-11H-2, 30–31	96.71	104.36	0.68	26.95	U1391B-14H-2, 90–91	125.82	138.29	1.09	39.24
U1391B-11H-2, 90–91	97.31	104.96	0.62	26.42	U1391B-14H-3, 2–3	126.36	138.83	1.05	38.59
U1391B-11H-3, 15–16	97.98	105.63	0.67	25.79	U1391B-14H-3, 59–60	126.93	139.40	1.11	38.96
U1391B-11H-3, 75–76	98.58	106.23	0.75	27.43	U1391B-14H-3, 119–120	127.53	140.00	1.12	32.79
U1391B-11H-3, 135–136	99.18	106.83	0.96	19.04	U1391B-14H-4, 30–31	128.06	140.53	1.08	26.49
U1391B-11H-4, 45–46	99.69	107.34	0.68	29.45	U1391B-14H-4, 90–91	128.66	141.13	0.99	29.13
U1391B-11H-4, 105–106	100.29	107.94	0.81	21.75	U1391B-14H-5, 2–3	129.19	141.66	1.12	40.14
U1391B-11H-5, 15–16	100.81	108.46	0.78	22.76	U1391B-14H-5, 59–60	129.76	142.23	1.09	32.95
U1391A-12H-2, 60–61	100.29	109.01	0.59	37.62	U1391B-14H-5, 119–120	130.36	142.83	1.08	26.55
U1391B-11H-5, 75–76	101.41	109.06	0.94	31.76	U1391B-14H-6, 30–31	130.92	143.39	0.79	21.78
U1391A-12H-2, 105–106	100.74	109.46	1.08	32.78	U1391B-14H-6, 90–91	131.52	143.99	0.76	24.25
U1391A-12H-3, 15–16	101.25	109.97	0.83	19.82	U1391A-15H-1, 90–91	128.50	144.04	0.99	22.04
U1391A-12H-3, 75–76	101.85	110.57	1.10	41.05	U1391A-15H-1, 135–136	128.95	144.49	1.33	17.31
U1391A-12H-3, 120–121	102.30	111.02	0.83	39.74	U1391A-15H-2, 46–47	129.51	145.05	0.94	17.62
U1391A-12H-4, 30–31	102.73	111.45	1.04	33.70	U1391A-15H-2, 90–91	129.95	145.49	0.78	23.43
U1391A-12H-4, 75–76	103.18	111.90	0.85	22.73	U1391A-15H-2, 135–136	130.40	145.94	0.86	32.29
U1391A-12H-4, 135–136	103.78	112.50	1.10	23.58	U1391A-15H-3, 46–47	130.89	146.43	1.23	33.96
U1391A-12H-5, 45–46	104.26	112.98	1.16	34.64	U1391A-15H-3, 106–107	131.49	147.03	0.82	23.55
U1391A-12H-5, 105–106	104.86	113.58	1.00	27.54	U1391A-15H-4, 15–16	131.98	147.52	2.10	23.37
U1391A-12H-6, 30–31	105.37	114.09	0.76	22.81	U1391A-15H-4, 59–60	132.42	147.96	0.61	31.86
U1391A-12H-6, 75–76	105.82	114.54	0.90	19.71	U1391A-15H-4, 106–107	132.89	148.43	0.68	24.75
U1391A-12H-6, 105–106	106.12	114.84	1.20	34.59	U1391A-15H-4, 15–16	133.41	148.95	0.78	24.70
U1391B-12H-2, 15–16	106.07	115.16	1.44	32.93	U1391A-15H-5, 75–76	134.01	149.55	0.69	20.38
U1391B-12H-2, 75–76	106.67	115.76	1.30	37.42	U1391A-15H-4, 59–60	132.42	147.96	0.61	31.86
U1391B-12H-2, 135–136	107.27	116.36	1.12	38.16	U1391A-15H-5, 15–16	133.41	148.95	0.78	24.70
U1391B-12H-3, 45–46	107.78	116.87	1.16	36.68	U1391A-15H-5, 75–76	134.01	149.55	0.69	20.38
U1391B-12H-3, 105–106	108.38	117.47	1.35	34.07	U1391A-15H-5, 135–136	134.61	150.15	0.75	19.00
U1391B-12H-4, 15–16	108.89	117.98	1.29	35.39	U1391A-15H-6, 30–31	135.03	150.57	0.92	21.46
U1391B-12H-4, 75–76	109.49	118.58	1.22	36.34	U1391B-15H-2, 119–120	134.62	150.88	1.09	29.37
U1391B-12H-4, 135–136	110.09	119.18	1.36	35.66	U1391B-15H-3, 30–31	135.10	151.36	0.99	24.91
U1391B-12H-5, 45–46	110.61	119.70	1.22	36.35	U1391B-15H-3, 90–91	135.70	151.96	0.76	19.18
U1391A-13H-2, 75–76	110.49	120.24	1.10	37.23	U1391B-15H-4, 0–1	136.21	152.47	1.14	16.26
U1391B-12H-5, 105–106	111.21	120.30	0.95	44.06	U1391B-15H-4, 59–60	136.80	153.06	0.99	26.92
U1391A-13H-2, 105–106	110.79	120.54	1.01	37.46	U1391B-15H-4, 120–121	137.41	153.67	1.22	27.09
U1391A-13H-3, 15–16	111.30	121.05	1.00	36.25	U1391B-15H-5, 30–31	138.01	154.27	0.88	27.72
U1391A-13H-3, 60–61	111.75	121.50	1.21	36.77	U1391B-15H-5, 90–91	138.61	154.87	0.82	29.37
U1391A-13H-3, 105–106	112.20	121.95	1.10	39.64	U1391B-15H-6, 2–3	139.20	155.46	1.02	27.93
U1391A-13H-4, 30–31	112.81	122.56	1.05	37.99	U1391B-15H-6, 60–61	139.78	156.04	1.05	25.98
U1391A-13H-4, 75–76	113.26	123.01	1.05	41.09	U1391B-15H-6, 120–121	140.38	156.64	1.71	18.62
U1391A-13H-4, 120–121	113.71	123.46	1.05	33.02	U1391B-15H-7, 30–31	140.94	157.20	0.96	26.06
U1391A-13H-5, 45–46	114.27	124.02	1.57	26.17	U1391B-15H-7, 89–90	141.53	157.79	0.79	27.54
U1391A-13H-5, 90–91	114.72	124.47	1.61	32.59	U1391A-16H-2, 32–33	137.85	158.09	1.15	24.54
U1391A-13H-6, 0–1	115.20	124.95	0.60	29.75	U1391A-16H-2, 75–76	138.28	158.52	0.90	27.60
U1391A-13H-6, 60–61	115.80	125.55	0.78	17.41	U1391A-16H-2, 132–133	138.85	159.09	1.29	26.77
U1391A-13H-6, 105–106	116.25	126.00	0.77	23.33	U1391A-16H-3, 30–31	139.25	159.49	1.13	17.78
U1391B-13H-3, 90–91	117.72	127.19	1.18	33.01	U1391A-16H-3, 90–91	139.85	160.09	0.86	19.55
U1391B-13H-4, 0–1	118.23	127.70	1.18	31.35	U1391A-16H-3, 135–136	140.30	160.54	1.08	17.44
U1391B-13H-4, 60–61	118.83	128.30	0.89	28.70	U1391A-16H-4, 31–32	140.70	160.94	1.13	14.35
U1391B-13H-4, 120–121	119.43	128.90	1.19	32.71	U1391A-16H-4, 62–63	141.01	161.25	0.99	15.26
U1391B-13H-5, 30–31	119.94	129.41	1.16	36.56	U1391A-16H-4, 90–91	141.29	161.53	0.86	18.73
U1391B-13H-5, 90–91	120.54	130.01	0.94	37.79	U1391A-16H-5, 0–1	141.86	162.10	1.31	16.45
U1391B-13H-6, 0–1	121.07	130.54	1.11	34.57	U1391A-16H-5, 59–60	142.45	162.69	0.88	22.77
U1391A-14H-1, 119–120	119.29	130.90	1.08	33.99	U1391A-16H-5, 105–106	142.91	163.15	0.85	22.68
U1391A-14H-2, 30–31	119.83	131.44	1.12	30.91	U1391A-16H-6, 0–1	143.23	163.47	1.26	32.78
U1391A-14H-2, 75–76	120.28	131.89	1.29	34.03	U1391A-16H-6, 30–31	143.53	163.77	0.83	35.36
U1391A-14H-2, 135–136	120.88	132.49	1.17	39.55	U1391A-16H-6, 90–91	144.13	164.37	0.93	26.06
U1391A-14H-3, 46–47	121.40	133.01	0.84	18.76	U1391A-16H-6, 150–151	144.73	164.97	1.19	23.58
					U1391A-16H-7, 30–31	145.06	165.30	0.87	28.59
					U1391A-16H-7, 88–89	145.64	165.88	1.00	34.79
					U1391B-16H-2, 15–16	144.07	166.08	1.01	35.97



Table T2 (continued).

Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)	Hole, core, section, interval (cm)	Top depth (mbsf)	Top depth (mcd)	TOC (wt%)	CaCO <sub>3</sub> (wt%)
U1391A-16H-7, 118–119	145.94	166.18	0.79	23.81	U1391A-19H-2, 92–93	167.83	193.56	1.15	19.20
U1391B-16H-2, 75–76	144.67	166.68	0.67	17.82	U1391A-19H-3, 0–1	168.28	194.01	0.92	20.61
U1391B-16H-2, 135–136	145.27	167.28	0.94	24.25	U1391A-19H-3, 60–61	168.88	194.61	1.11	17.23
U1391B-16H-3, 60–61	145.94	167.95	0.97	27.99	U1391A-19H-3, 120–121	169.48	195.21	1.11	19.71
U1391B-16H-3, 120–121	146.54	168.55	0.97	27.10	U1391A-19H-4, 30–31	170.05	195.78	1.29	17.25
U1391B-16H-4, 30–31	147.15	169.16	0.95	27.53	U1391A-19H-4, 92–93	170.67	196.40	0.93	20.16
U1391B-16H-4, 89–90	147.74	169.75	1.01	28.33	U1391A-20X-1, 15–16	171.25	196.98	1.05	17.65
U1391B-16H-5, 0–1	148.32	170.33	0.97	28.20	U1391A-20X-1, 75–76	171.85	197.58	0.85	19.97
U1391B-16H-5, 59–60	148.91	170.92	0.78	27.22	U1391A-20X-1, 135–136	172.45	198.18	1.07	26.75
U1391B-16H-5, 120–121	149.52	171.53	0.94	26.05	U1391A-20X-2, 45–46	173.05	198.78	1.13	28.79
U1391A-17H-2, 75–76	148.75	172.48	1.65	21.24	U1391A-20X-2, 105–106	173.65	199.38	1.15	27.29
U1391A-17H-2, 135–136	149.35	173.08	1.03	23.02	U1391A-20X-3, 15–16	174.25	199.98	1.04	26.38
U1391A-17H-3, 45–46	149.84	173.57	1.15	18.46	U1391A-20X-3, 75–76	174.85	200.58	1.39	30.07
U1391A-17H-3, 105–106	150.44	174.17	0.76	25.23	U1391A-20X-3, 135–136	175.45	201.18	1.00	19.11
U1391A-17H-4, 15–16	150.96	174.69	0.87	28.29	U1391A-20X-4, 45–46	176.05	201.78	1.20	19.84
U1391A-17H-4, 75–76	151.56	175.29	1.01	25.73	U1391A-20X-4, 105–106	176.65	202.38	1.09	29.26
U1391A-17H-4, 135–136	152.16	175.89	0.94	21.96	U1391B-20X-2, 60–61	176.56	202.59	1.24	22.97
U1391B-17H-5, 45–46	152.69	176.42	0.86	20.99	U1391B-20X-2, 120–121	177.16	203.19	0.78	22.24
U1391B-17H-1, 90–91	152.9	176.71	0.81	31.17	U1391B-20X-3, 30–31	177.76	203.79	1.24	22.48
U1391B-17H-2, 0–1	153.39	177.20	0.90	28.69	U1391B-20X-3, 92–93	178.38	204.41	0.86	23.56
U1391B-17H-2, 60–61	153.99	177.80	0.74	30.04	U1391B-20X-4, 0–1	178.96	204.99	1.20	19.36
U1391B-17H-3, 45–46	155.24	179.05	0.90	20.25	U1391B-20X-4, 60–61	179.56	205.59	0.69	23.75
U1391B-17H-3, 103–104	155.82	179.63	1.15	24.93	U1391B-20X-4, 120–121	180.16	206.19	0.71	29.95
U1391B-17H-4, 15–16	156.40	180.21	0.81	21.35	U1391A-21X-1, 45–46	181.15	207.13	1.32	24.33
U1391B-17H-4, 75–76	157.00	180.81	0.87	23.35	U1391A-21X-1, 105–106	181.75	207.73	0.84	17.37
U1391B-17H-4, 135–136	157.60	181.41	0.79	22.37	U1391A-21X-2, 15–16	182.35	208.33	0.74	18.88
U1391B-17H-5, 45–46	158.20	182.01	0.90	19.96	U1391A-21X-2, 75–76	182.95	208.93	0.75	20.64
U1391A-18H-2, 45–46	157.58	182.31	1.21	24.96	U1391A-21X-2, 135–136	183.55	209.53	1.12	15.46
U1391A-18H-2, 103–104	158.16	182.89	0.99	32.64	U1391A-21X-3, 45–46	184.15	210.13	0.81	15.79
U1391A-18H-3, 30–31	158.82	183.55	1.30	18.68	U1391A-21X-3, 105–106	184.75	210.73	0.89	16.20
U1391A-18H-3, 90–91	159.42	184.15	1.16	32.15	U1391A-21X-4, 15–16	185.35	211.33	1.21	24.74
U1391A-18H-4, 15–16	159.88	184.61	1.06	28.44	U1391A-21X-4, 75–76	185.95	211.93	1.22	22.34
U1391A-18H-4, 75–76	160.48	185.21	0.92	29.83	U1391A-21X-4, 130–132	186.50	212.48	0.92	22.69
U1391A-18H-5, 0–1	161.15	185.88	0.89	29.75	U1391A-21X-5, 45–46	187.08	213.06	0.96	31.32
U1391A-18H-5, 66–67	161.81	186.54	1.13	33.69	U1391B-21X-1, 92–93	186.02	213.64	1.16	34.02
U1391A-18H-5, 120–121	162.35	187.08	1.02	24.85	U1391B-21X-2, 15–16	186.51	214.13	1.07	33.83
U1391A-18H-6, 29–30	162.87	187.60	0.69	31.53	U1391B-21X-2, 75–76	187.11	214.73	0.78	35.79
U1391A-18H-6, 90–91	163.48	188.21	0.89	31.57	U1391B-21X-2, 135–136	187.71	215.33	0.92	34.88
U1391B-18H-2, 2–3	162.93	188.35	1.14	31.31	U1391B-21X-3, 45–46	188.31	215.93	1.12	32.64
U1391B-18H-2, 60–61	163.51	188.93	0.93	34.83	U1391B-21X-3, 105–106	188.91	216.53	0.97	27.98
U1391B-18H-2, 122–123	164.13	189.55	0.75	34.41	U1391B-21X-4, 15–16	189.51	217.13	1.05	22.11
U1391B-18H-3, 45–46	164.65	190.07	0.87	32.48	U1391B-21X-4, 75–76	190.11	217.73	0.91	22.30
U1391B-18H-3, 105–106	165.25	190.67	1.12	30.13	U1391A-22X-2, 120–121	191.95	217.92	1.16	18.94
U1391B-18H-4, 30–31	165.84	191.26	1.19	25.06	U1391A-22X-3, 30–31	192.55	218.52	1.04	19.40
U1391B-18H-4, 90–91	166.44	191.86	1.12	21.30	U1391A-22X-3, 92–93	193.17	219.14	1.07	18.25
U1391A-19H-1, 122–123	166.82	192.55	1.16	19.16	U1391A-22X-4, 0–1	193.75	219.72	1.03	17.06
U1391A-19H-2, 30–31	167.21	192.94	1.18	19.53					